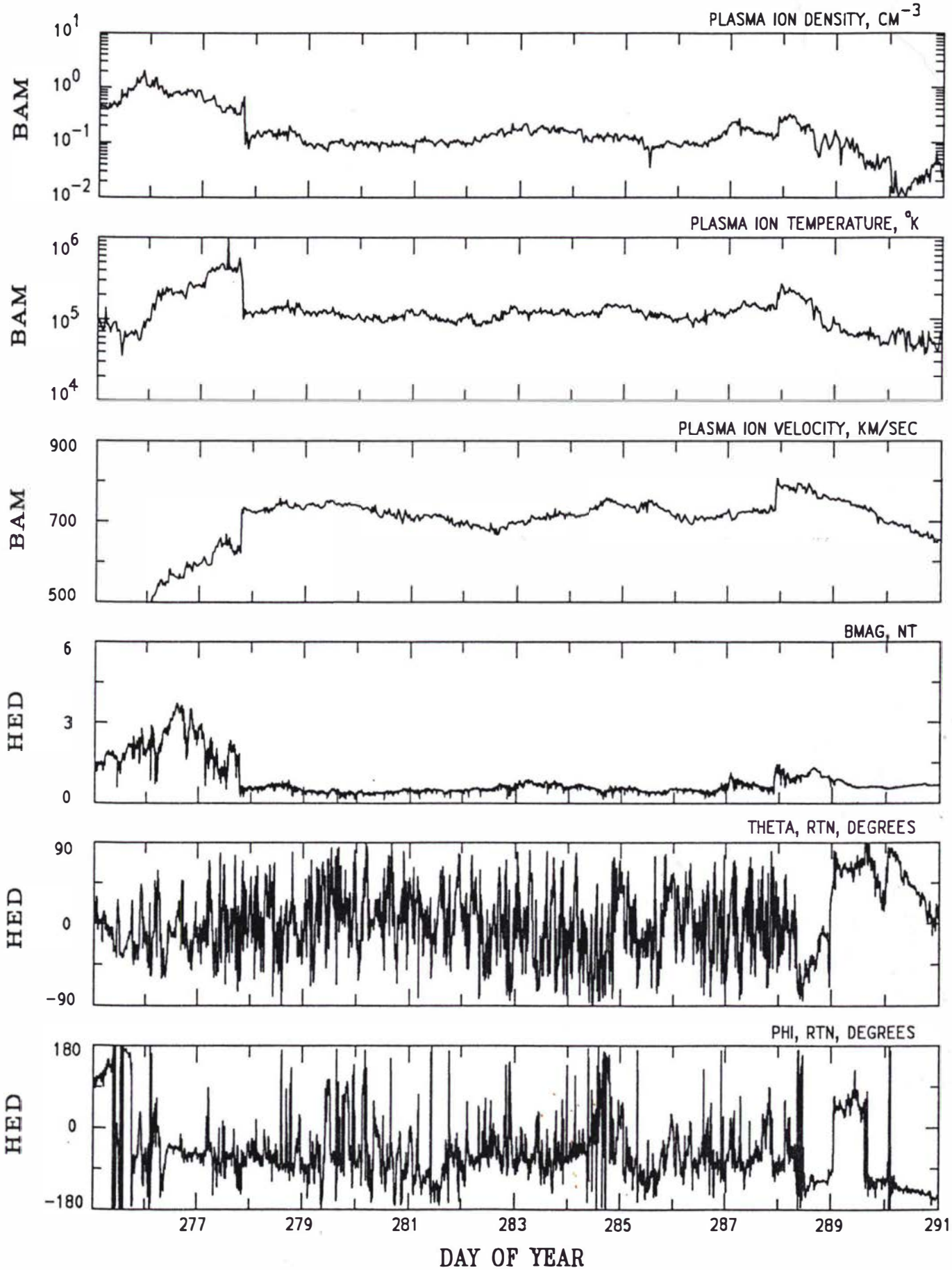
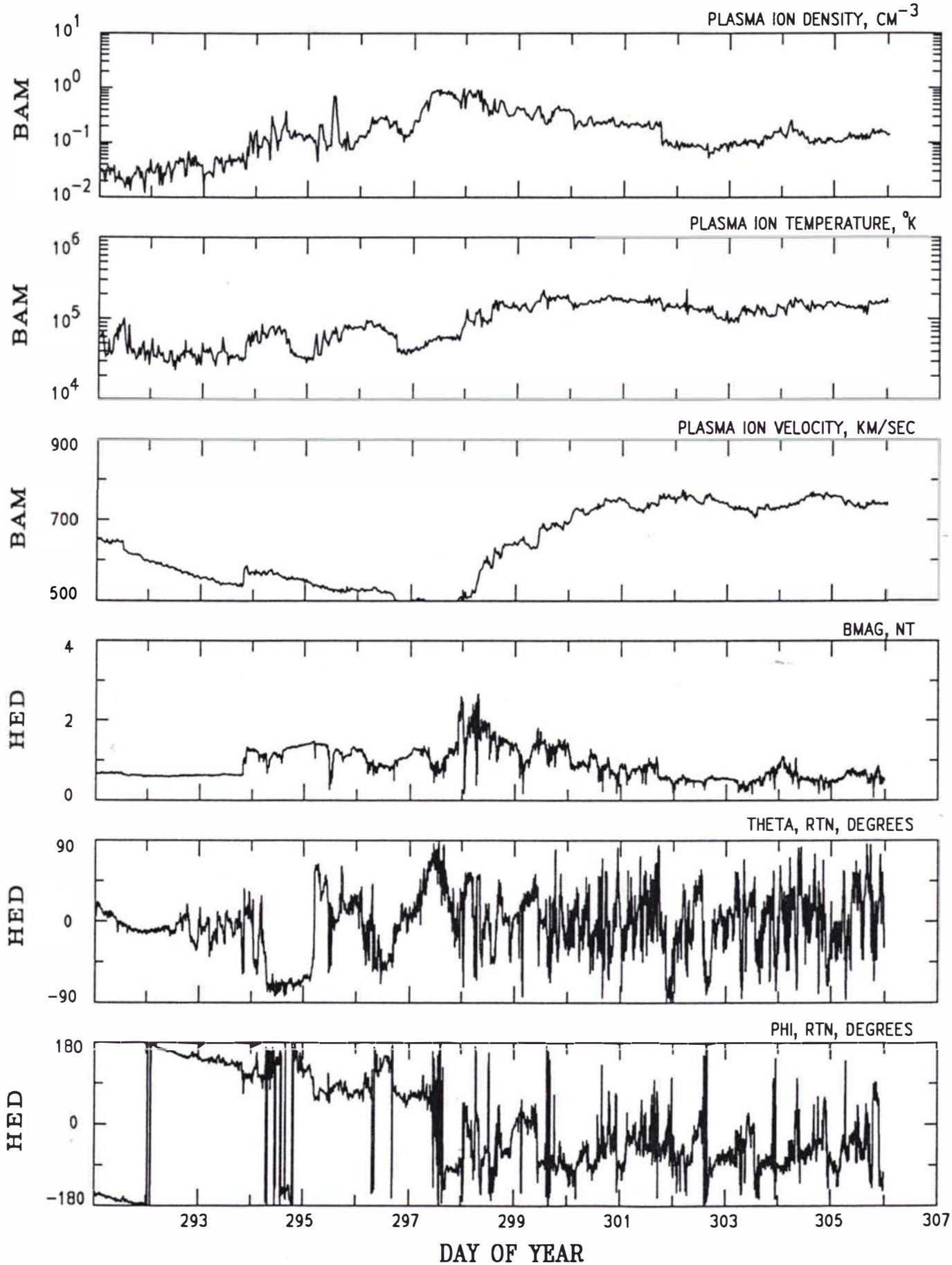
ULYSSES CDR – SOLAR WIND PLASMA AND MAGNETIC FIELD

96 275 OCT 1 00:00:00.000 – 96 291 OCT 17 00:00:00.000



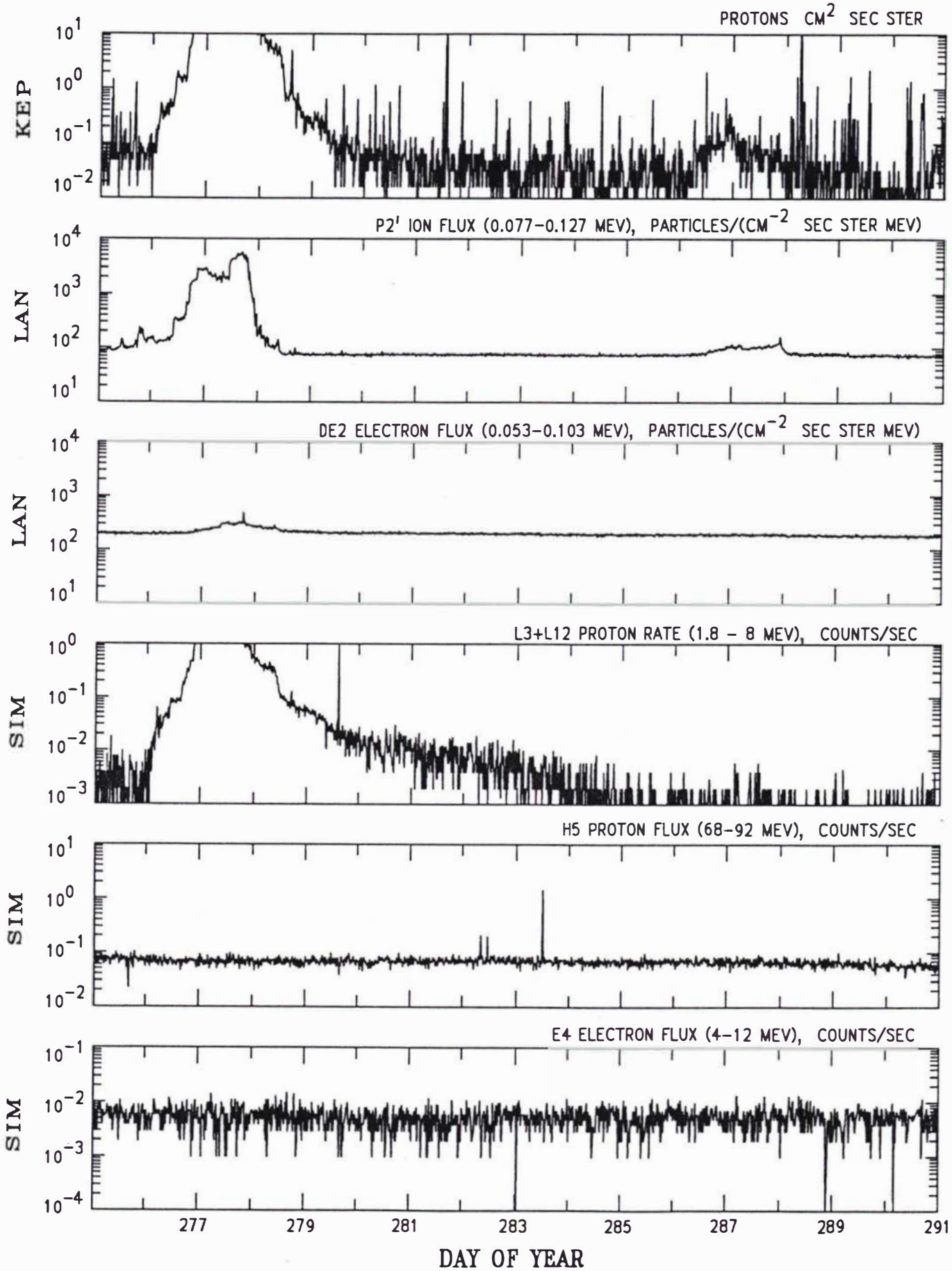
ULYSSES CDR – SOLAR WIND PLASMA AND MAGNETIC FIELD

96 291 OCT 17 00:00:00.000 – 96 307 NOV 2 00:00:00.000



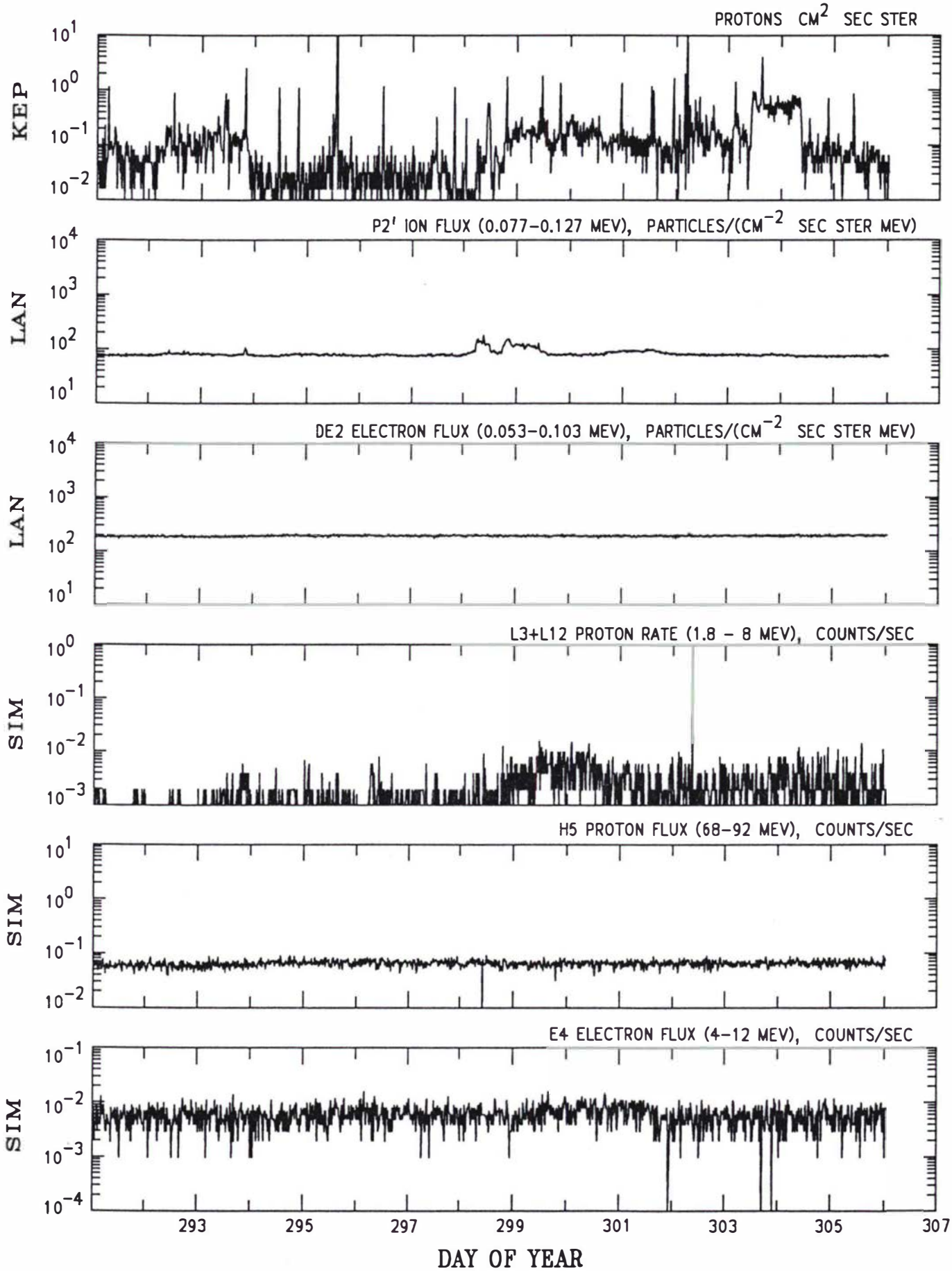
ULYSSES CDR – ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

96 275 OCT 1 00:00:00.000 – 96 291 OCT 17 00:00:00.000



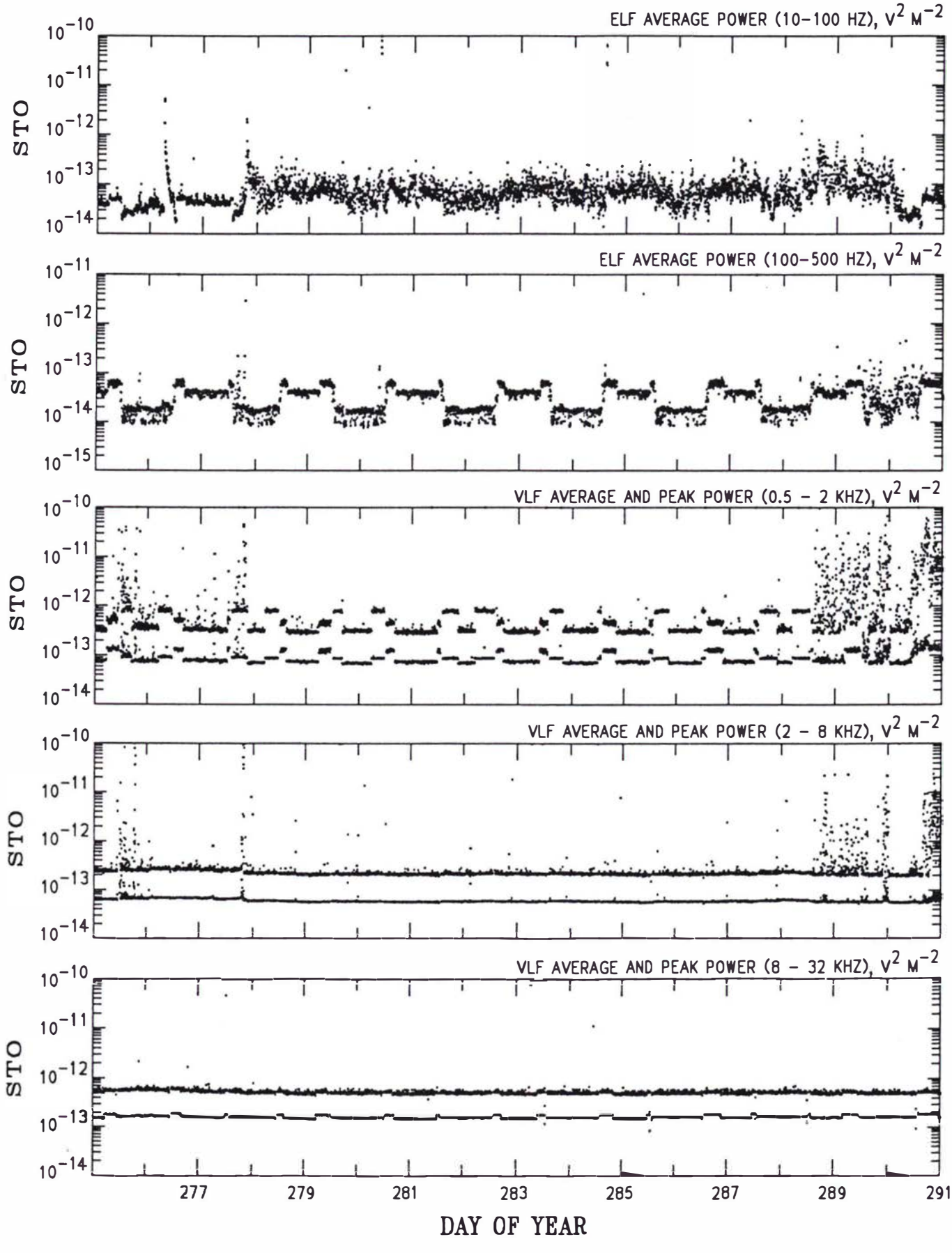
ULYSSES CDR – ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

96 291 OCT 17 00:00:00.000 – 96 307 NOV 2 00:00:00.000



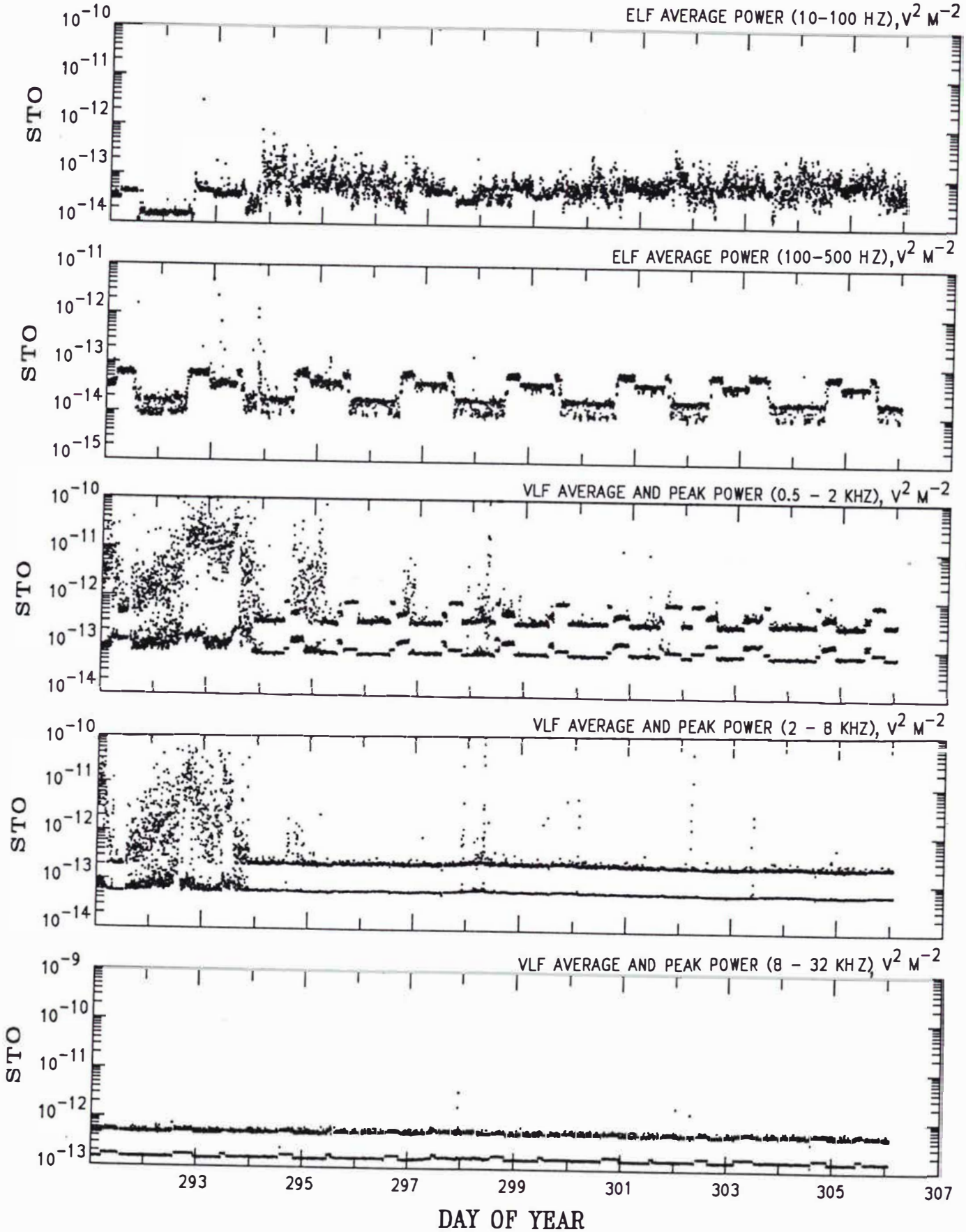
ULYSSES CDR – PLASMA WAVE

96 275 OCT 1 00:00:00.000 – 96 291 OCT 17 00:00:00.000



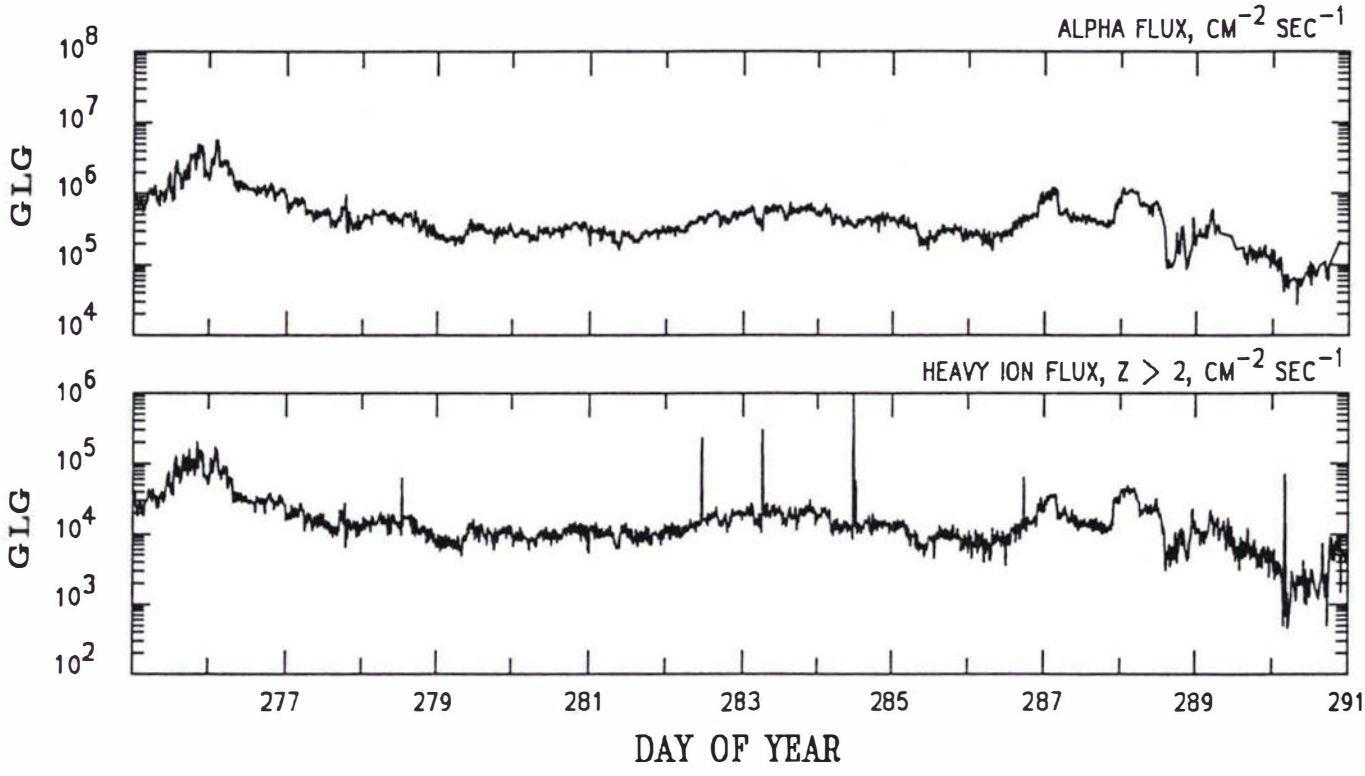
ULYSSES CDR – PLASMA WAVE

96 291 OCT 17 00:00:00.000 – 96 307 NOV 2 00:00:00.000



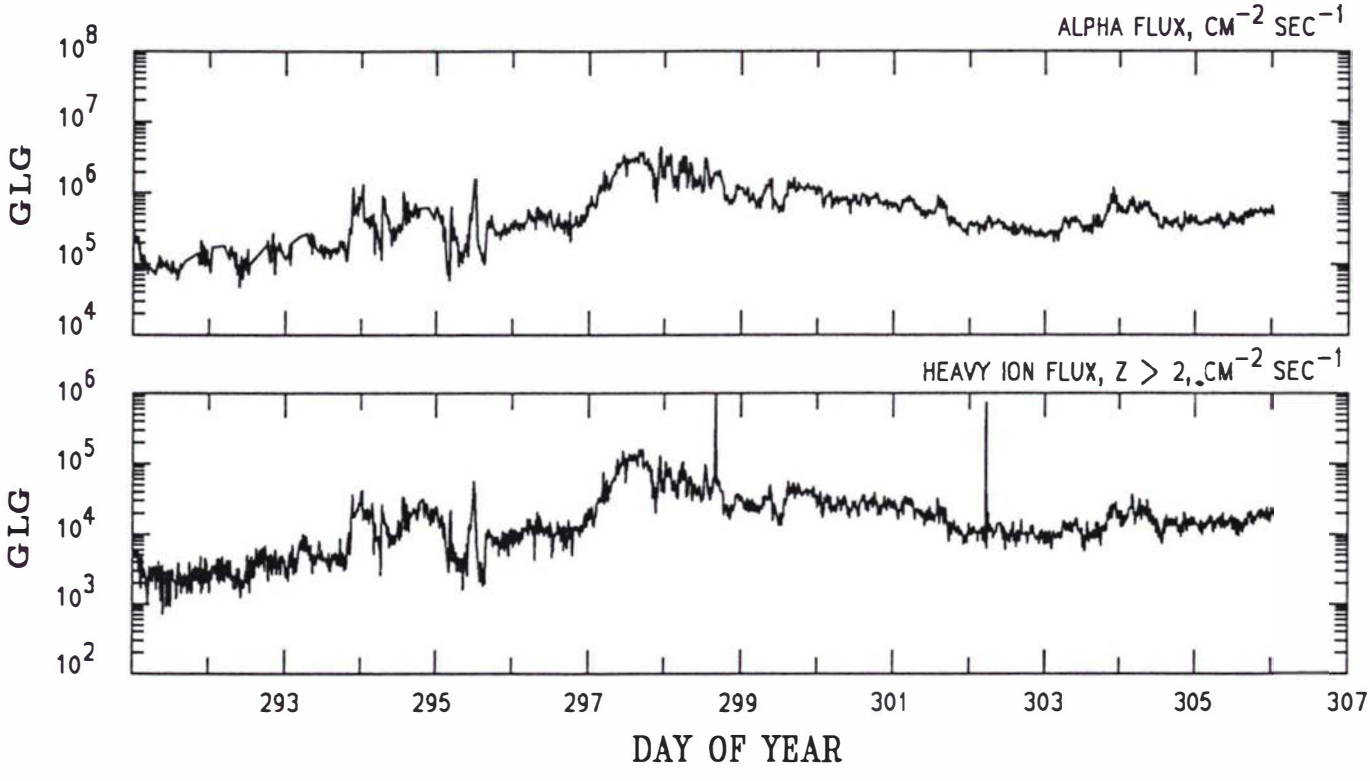
ULYSSES CDR – SOLAR WIND ION COMPOSITION

96 275 OCT 1 00:00:00.000 – 96 291 OCT 17 00:00:00.000

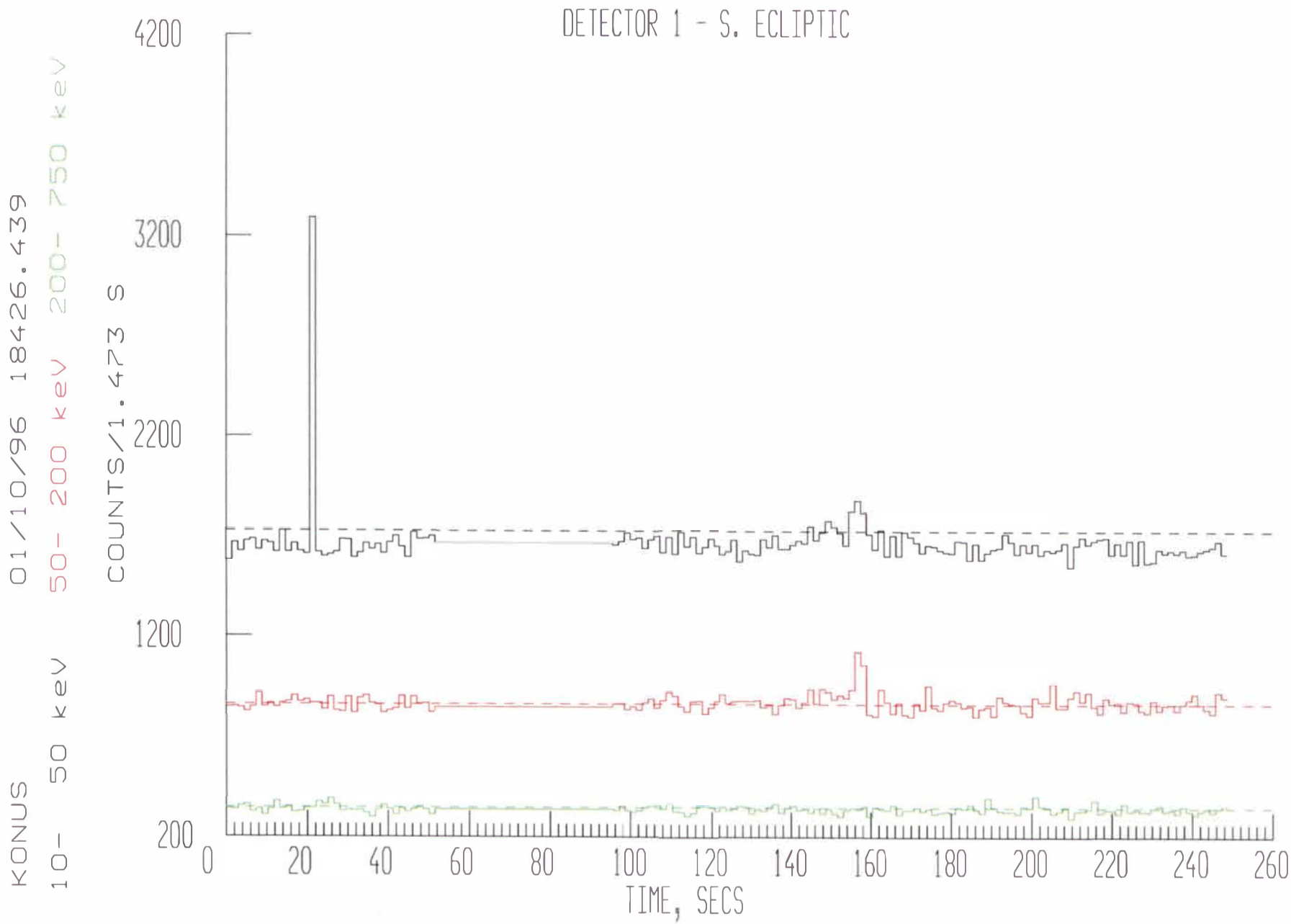


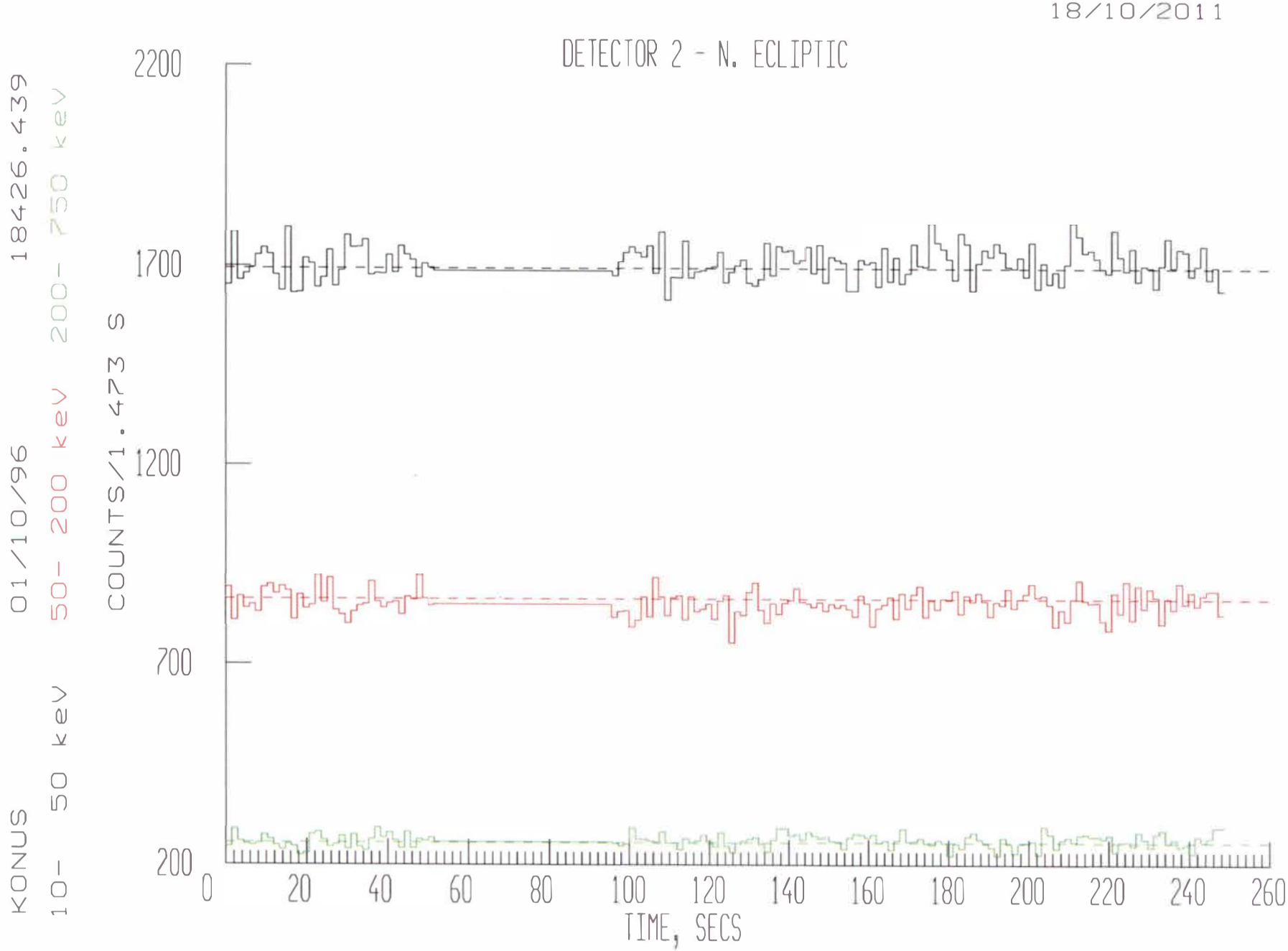
ULYSSES CDR – SOLAR WIND ION COMPOSITION

96 291 OCT 17 00:00:00.000 – 96 307 NOV 2 00:00:00.000

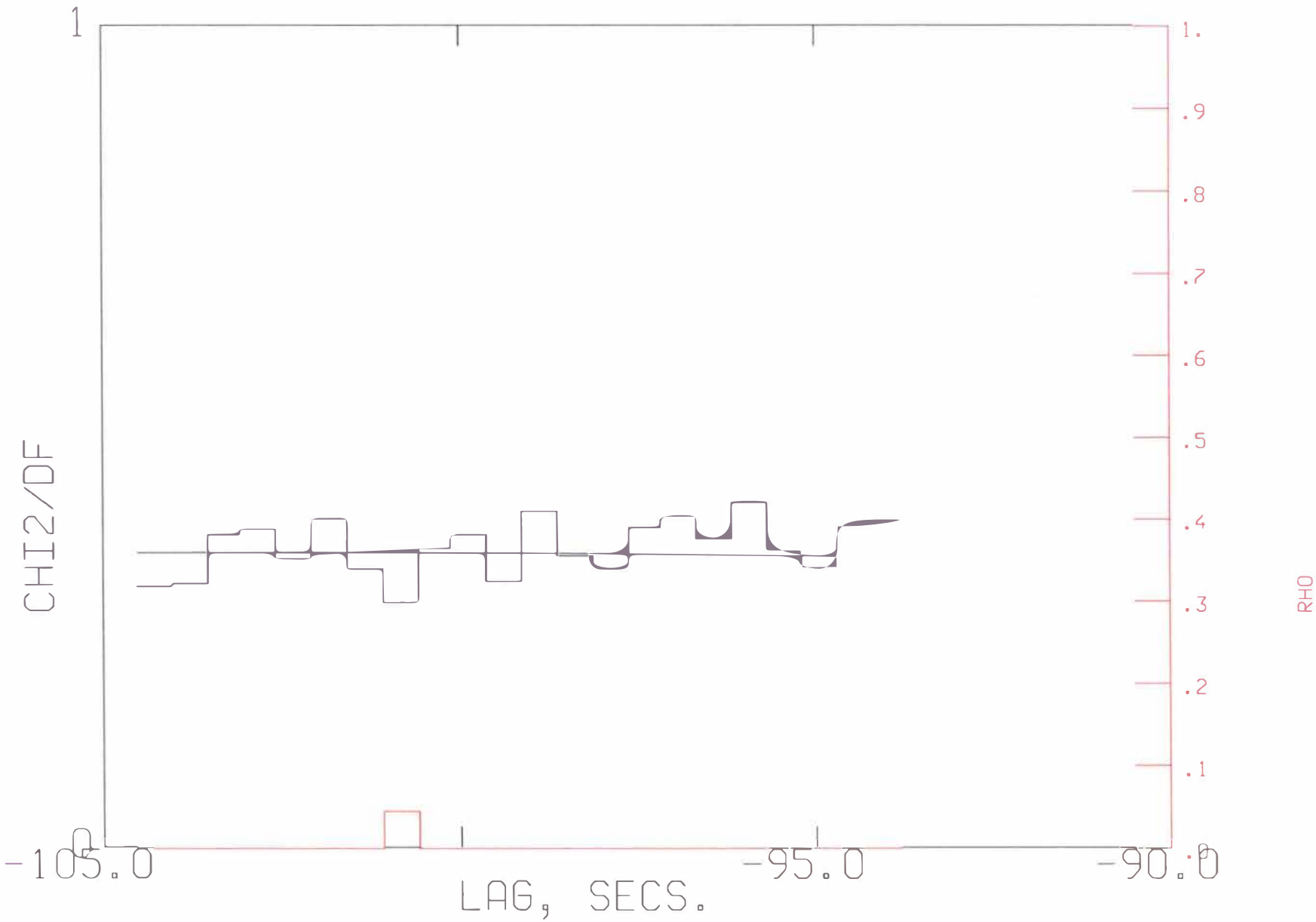


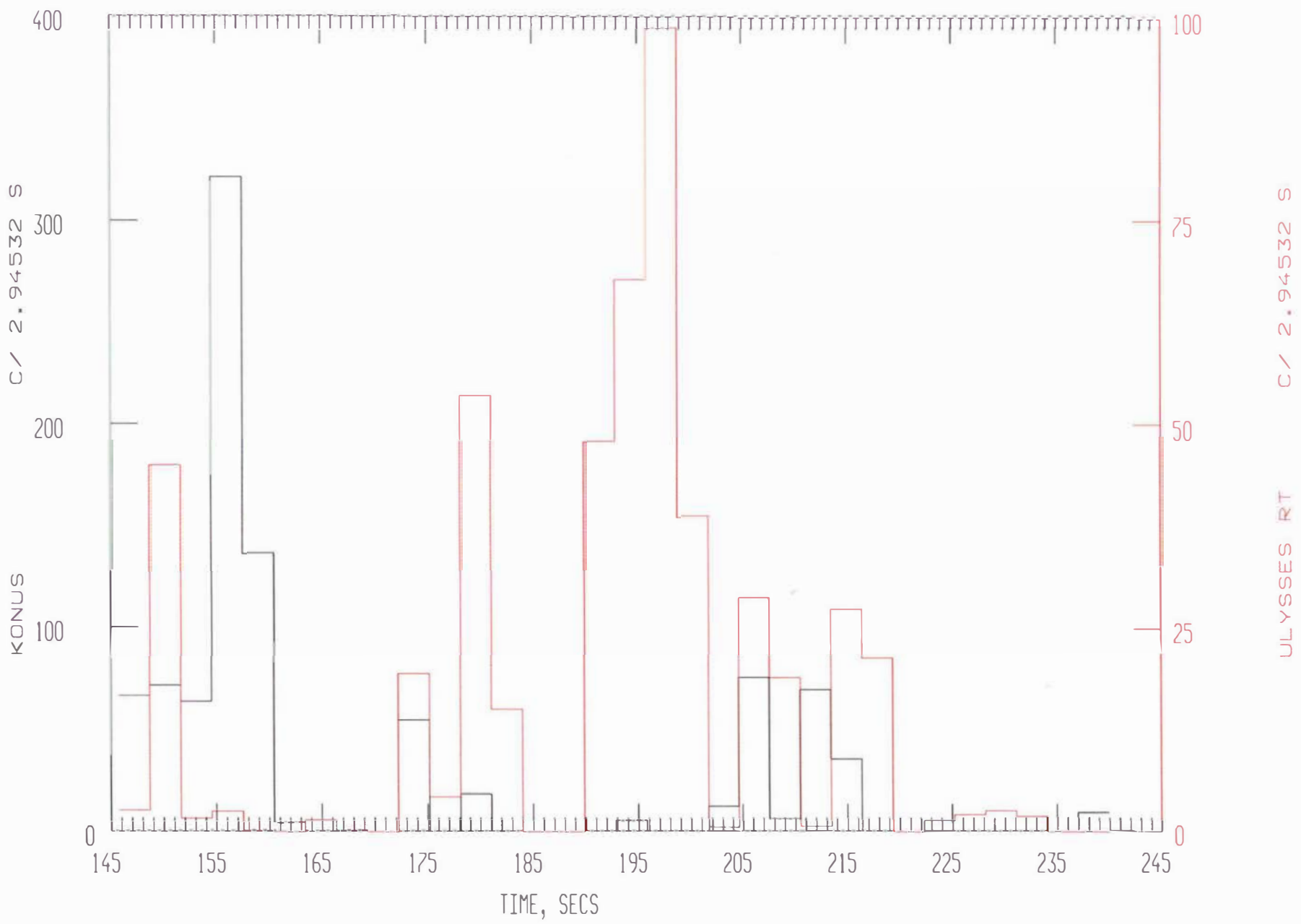
18/10/2011


DETECTOR 1 - S. ECLIPTIC
KONUS 01/10/96 18426.439
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
4200
3200
2200
1200
200
0
20
40
60
80
100
120
140
160
180
200
220
240
260
TIME, SECS


18/10/2011
DETECTOR 2 - N. ECLIPTIC
KONUS 01/10/96 18426.439
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
20
40
60
80
100
120
140
160
180
200
220
240
260
TIME, SECS

KONUS -ULYSSES RT CORRELATION 01/10/96 18426.439




KONUS -ULYSSES RT CORRELATION 01/10/96 18426.439 18/10/11
400
300
200
100
0
C/ 2.94532 S
KONUS
100
75
50
25
0
C/ 2.94532 S
ULYSSES RT
145
155
165
175
185
195
205
215
225
235
245
TIME, SECS

KONUS 19961001 16298

ULYSSES RT

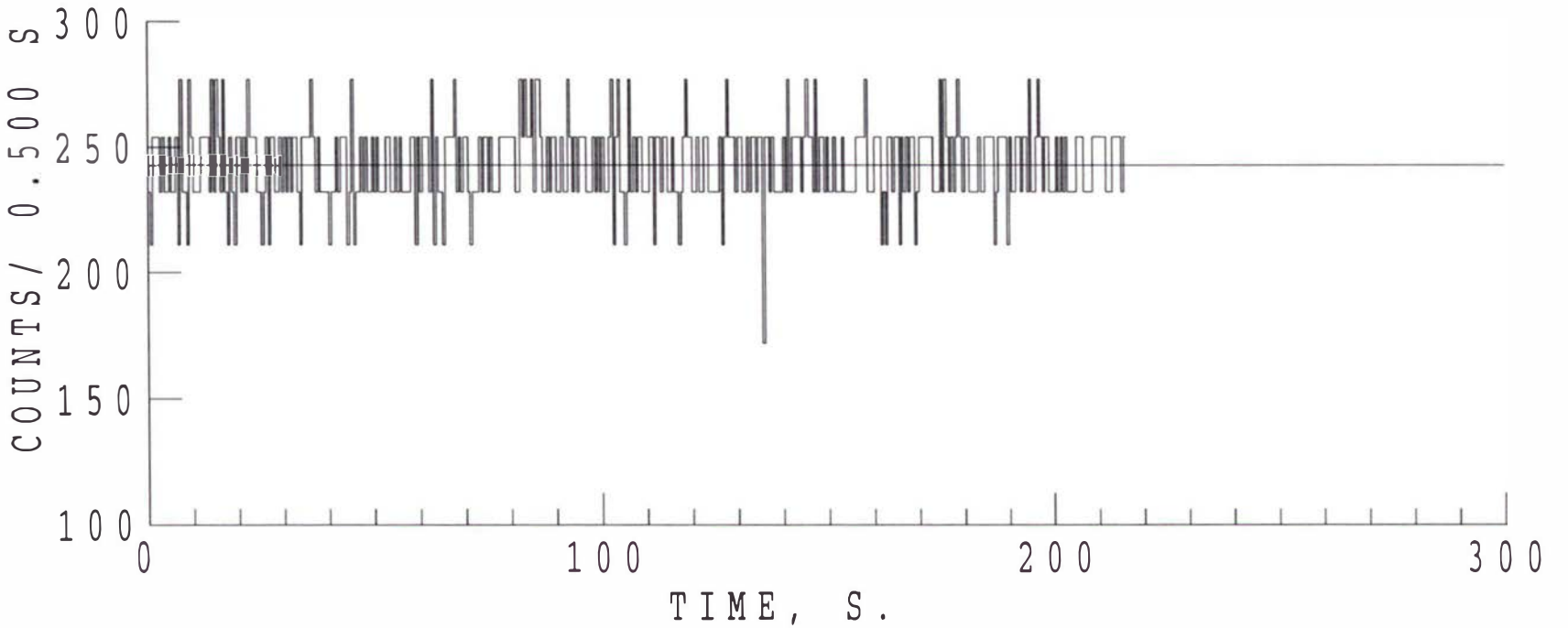
12/10/11

01/10/96 16200.333 s

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



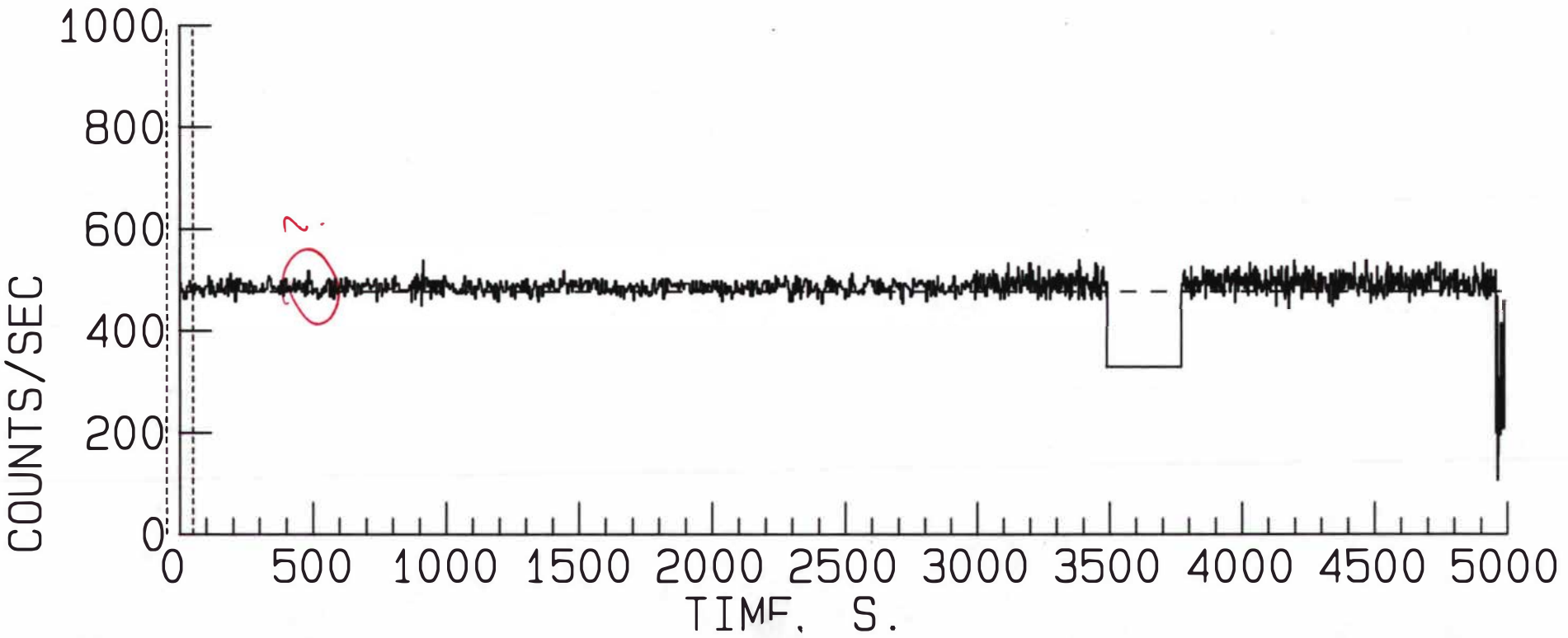
ULYSSES RT

1/10/96 15948.333 s

INTERVALS REGROUPED BY 9

21- 145 keV

1/ 2/ 0



From RICHARDSON@ssl.msfc.nasa.gov Wed Oct 2 09:30 PDT 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA10255; Wed, 2 Oct 1996 09:30:10 -0700
Date: Wed, 2 Oct 1996 11:30:05 -0500 (CDT)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961002113005.23a09e45@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5620
Content-Type: text
Content-Length: 1135
X-Lines: 26

****
BATSEARCH PROGRAM
****

BATSE BURST # 5620
EVENT OF 1996 OCT 1 DAY OF YEAR=275
EVENT CROSSING TIME AT BATSE : 73813. S. OR 20:30:13.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 63.000 38.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/10/ 96 IS:
RA= 171.920 DEC= 33.395 DIST= 5.122 AU
BATSE-ULYSSES DISTANCE = 766200799. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 97.21 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -320.86 SECS.
CROSSING TIME AT ULYSSES IS 73492. S. OR 20:24:52 +/- 485.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/10/ 96 IS:
RA= 135.836 DEC= 18.068 DIST= 1.944 AU
MARS-BATSE DISTANCE = 290870368. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.33 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -399.76 SECS.
CROSSING TIME AT MARS IS 73413. S. OR 20:23:33 +/- 147.42 SECONDS

BATSE BURST TRIGGER
NO.: 5620

TIME: TJD=0357 SECONDS=73813

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=39.2 AZIMUTH=254.4 ERROR=6.6 DEGREES

COMMENTS:
GRB. SINGLE PULSE. DUR.~0.06 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5620	961001	10357	73813	10000	063	+38	.06

BATSE# 5620

ULYSSES RT 28/ 3/97

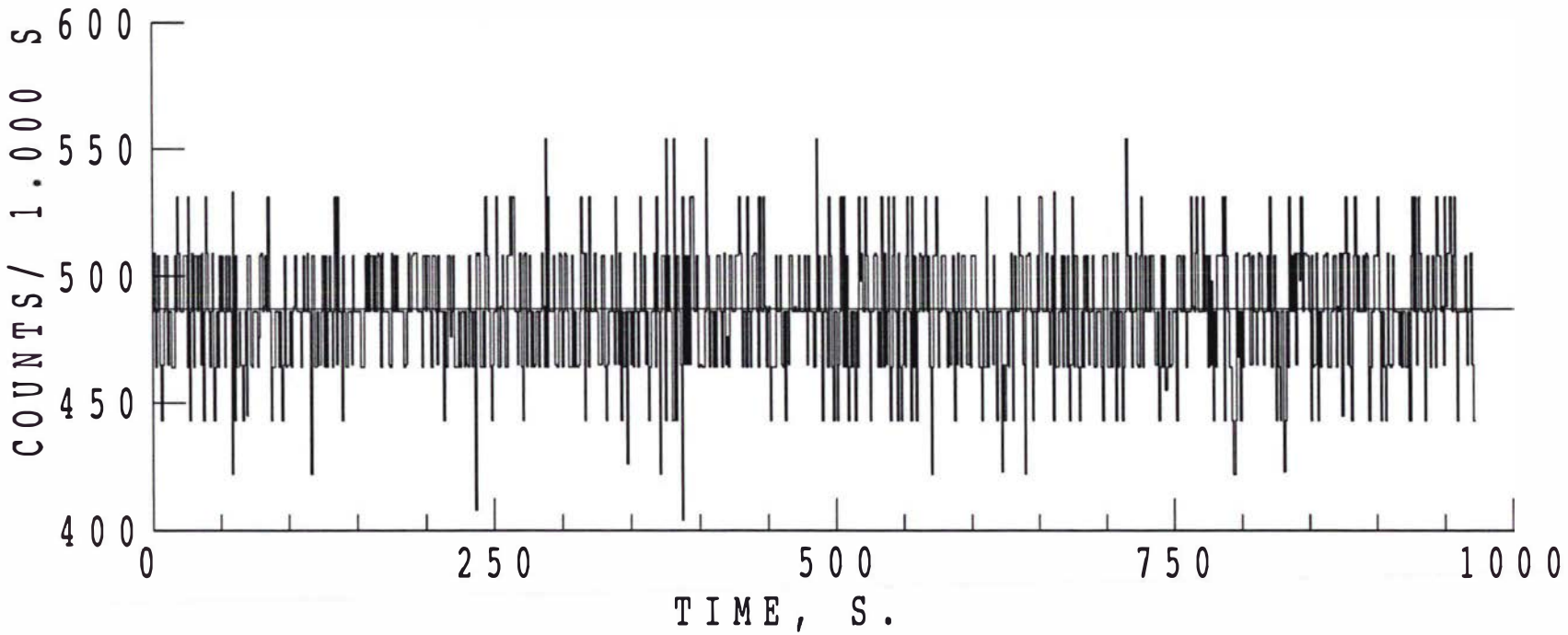
1/10/96 73008.055 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@ssl.msfc.nasa.gov Wed Oct 2 07:20 PDT 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA09034; Wed, 2 Oct 1996 07:20:26 -0700
From: RICHARDSON@ssl.msfc.nasa.gov
Date: Wed, 2 Oct 1996 9:20:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961002092022.22e264e2@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5621
Content-Type: text
Content-Length: 1135
X-Lines: 26

```
        ******************
        *BATSEARCH PROGRAM*
        ******************

 BATSE BURST #    5621
 EVENT OF 1996 OCT  1 DAY OF YEAR=275
 EVENT CROSSING TIME AT BATSE     : 75185. S. OR 20:53:05.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  43.000   59.000
 BATSE PEAK COUNTING RATE:  75000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  1/10/  96 IS:
 RA=  171.922 DEC=   33.394 DIST=    5.122 AU
 BATSE-ULYSSES DISTANCE =  766193095. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=101.63 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -515.29 SECS.
 CROSSING TIME AT ULYSSES    IS 74670. S. OR   20:44:29 +/-  476.78 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  1/10/  96 IS:
 RA=  135.836 DEC=   18.068 DIST=    1.944 AU
 MARS-BATSE DISTANCE =  290870368. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.98 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -234.42 SECS.
 CROSSING TIME AT MARS       IS 74951. S. OR   20:49:10 +/-  159.90 SECONDS


                BATSE BURST TRIGGER
NO.: 5621

TIME: TJD=0357 SECONDS=75185

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=14.7   AZIMUTH=251.3  ERROR=0.2   DEGREES

COMMENTS:
GRB. STRONG EVENT WITH LOTS OF STRUCTURE.  DUR.~19SEC. VISIBLE ABOVE 300KEV.


 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5621   961001   10357   75185    75000   043   +59     19
```

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	[illegible]	RI
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI	KA
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	[illegible]	RI
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	[illegible]	RI
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig	KA
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	[illegible]	NO
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	[illegible]	RI
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	[illegible]	RI
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	[illegible]	RI
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	[illegible]	RI
96	10	17	42405.539	S1					0.3	1.5	396	[illegible]	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	[illegible]	RI
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	[illegible]	RI
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	[illegible]	RI
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	[illegible]	NO
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	[illegible]	RI

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	SearRI	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	SearRI	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	SearRI	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

Helio corr removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

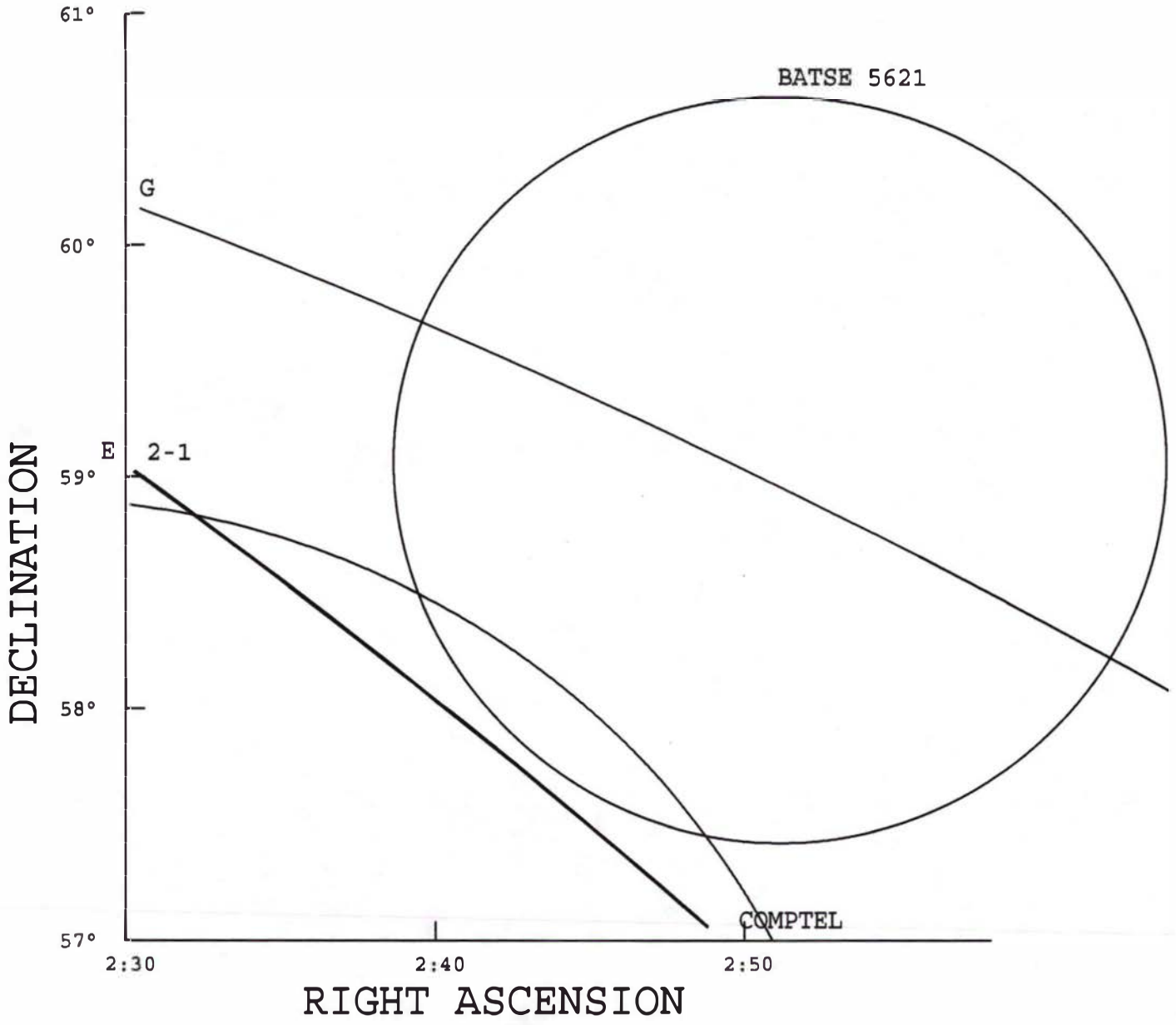
☐ Geocentric time used?

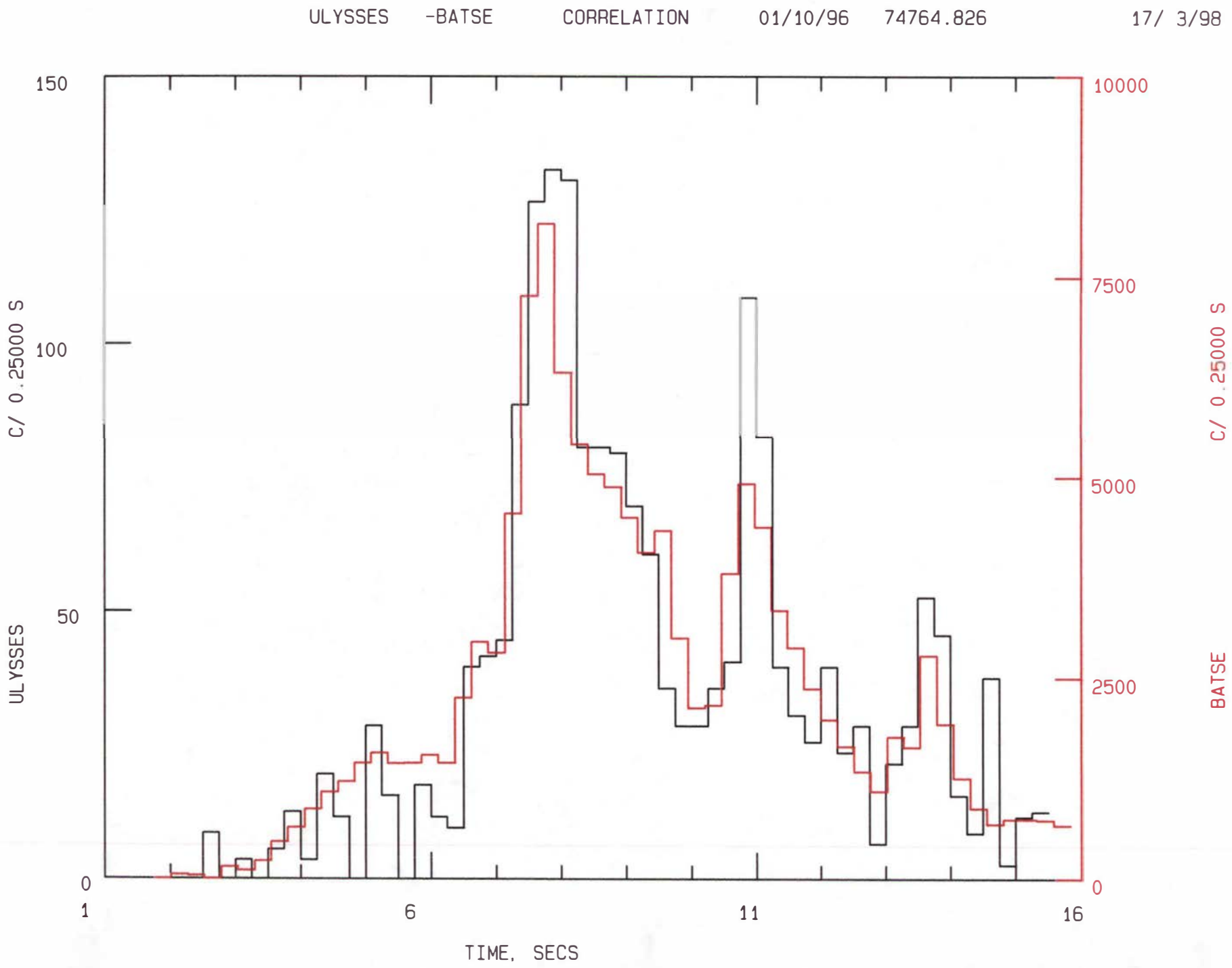
☑ ACCESS database updated?

EVENT OF OCT 1, 1996 20:46

17/ 2/ 0

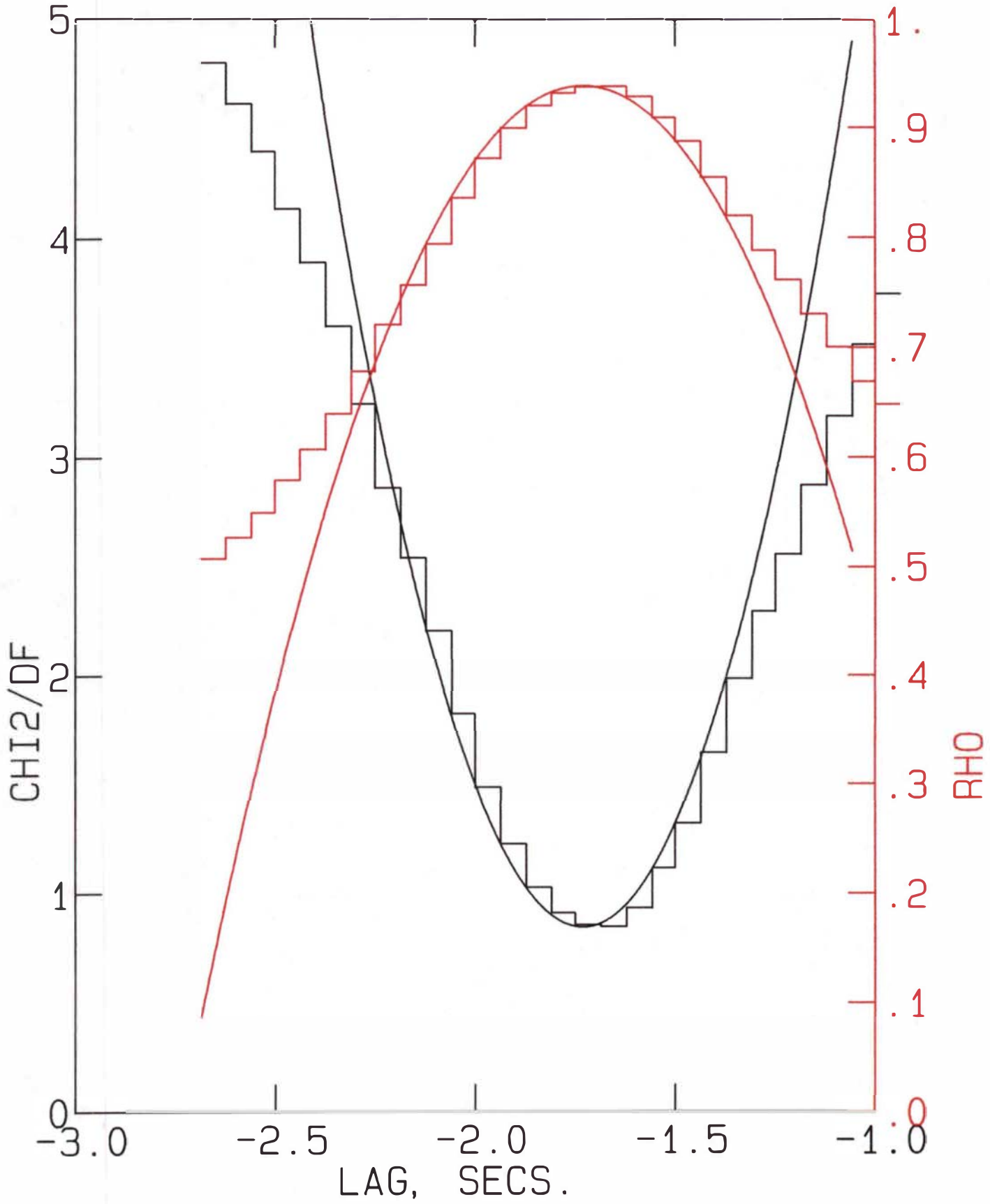
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE

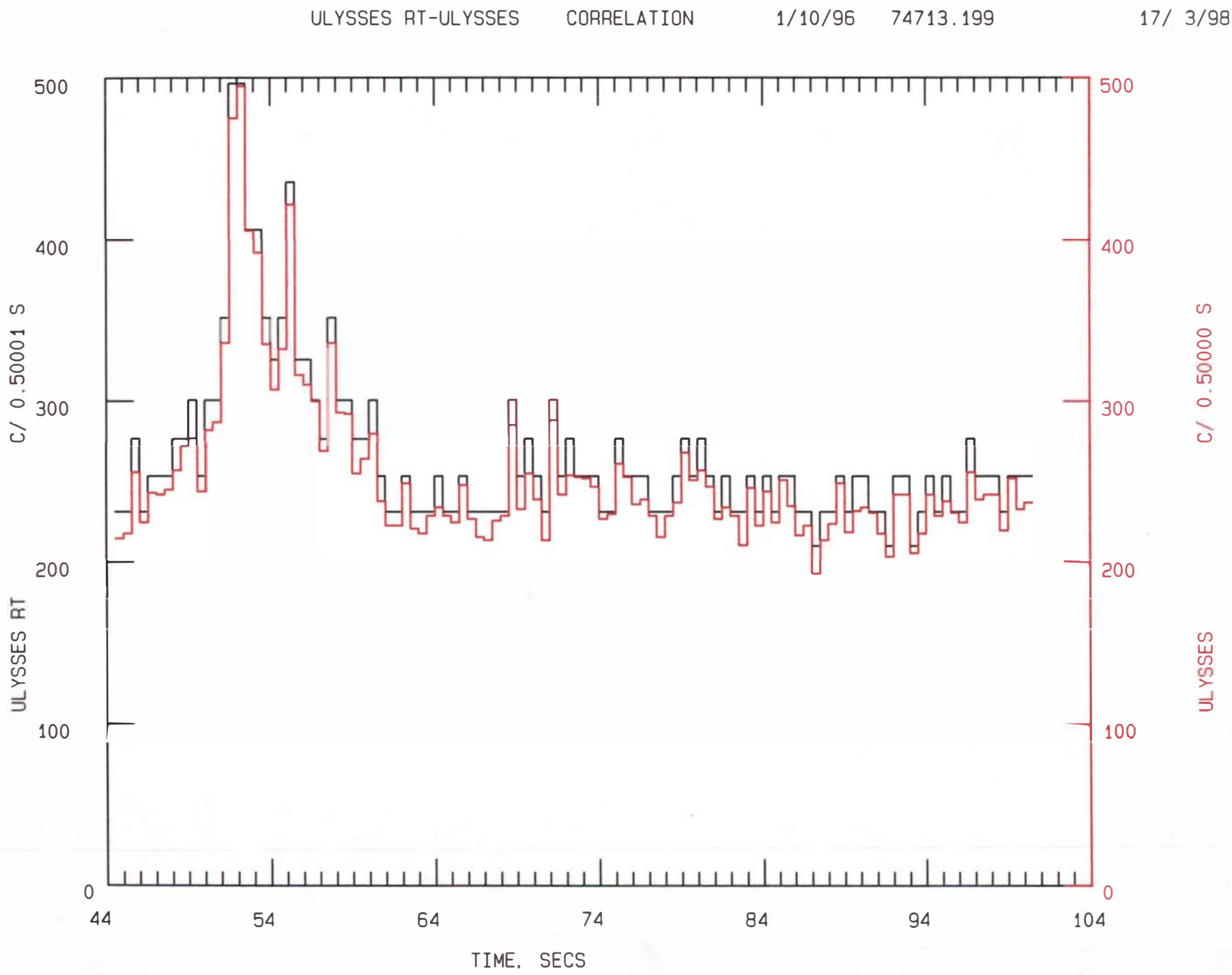



ULYSSES -BATSE CORRELATION 01/10/96 74764.826 17/ 3/98
150
100
50
0
C/ 0.25000 S
ULYSSES
10000
7500
5000
2500
0
C/ 0.25000 S
BATSE
1
6
11
16
TIME, SECS

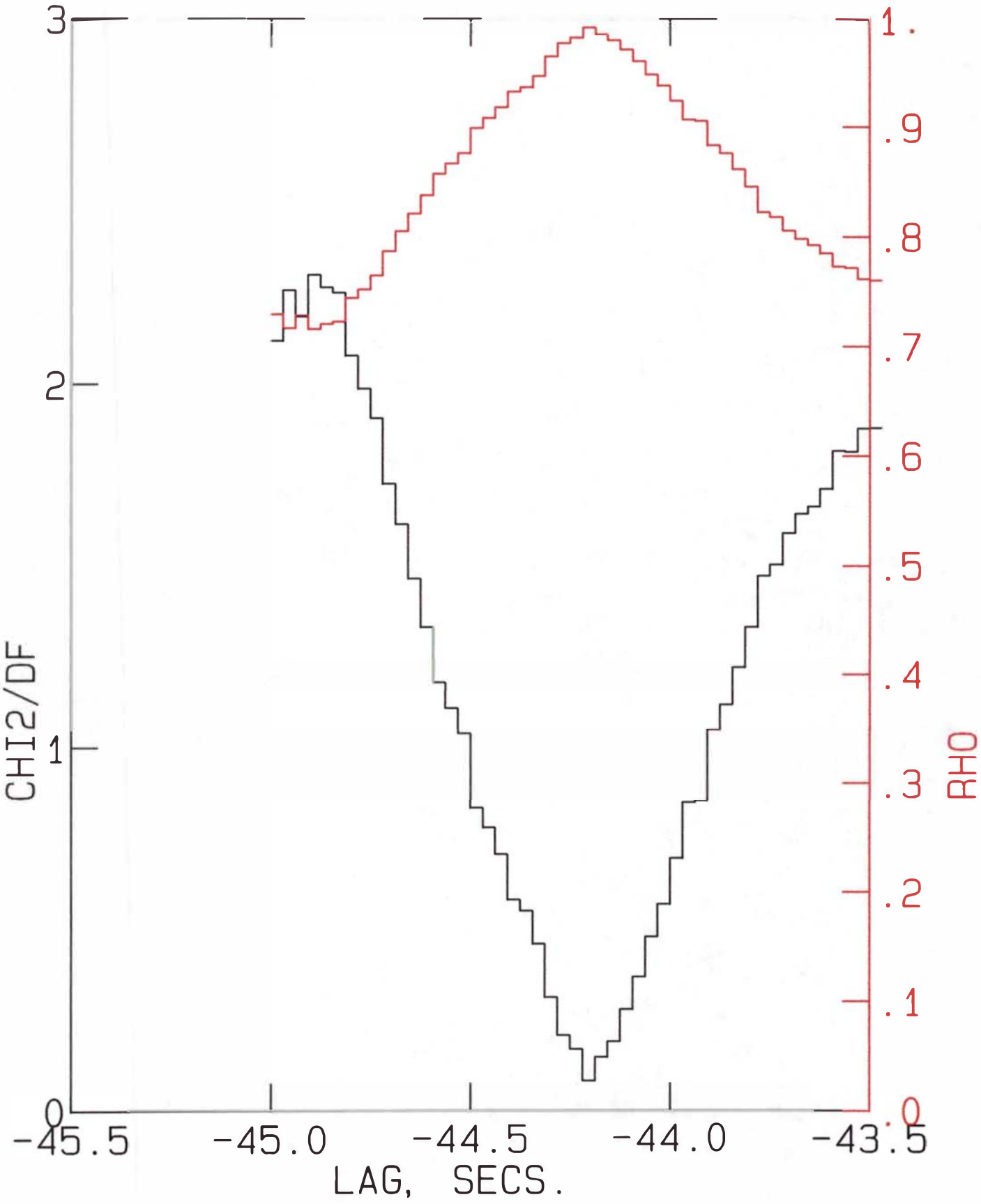
17/ 3/98

ULYSSES -BATSE CORRELATION 01/10/96 74764.826




ULYSSES RT-ULYSSES CORRELATION 1/10/96 74713.199 17/ 3/98
500
400
300
200
100
0
C/ 0.50001 S
ULYSSES RT
500
400
300
200
100
0
C/ 0.50000 S
ULYSSES
44
54
64
74
84
94
104
TIME, SECS

ULYSSES RT-ULYSSES CORRELATION 1/10/96 74713.199

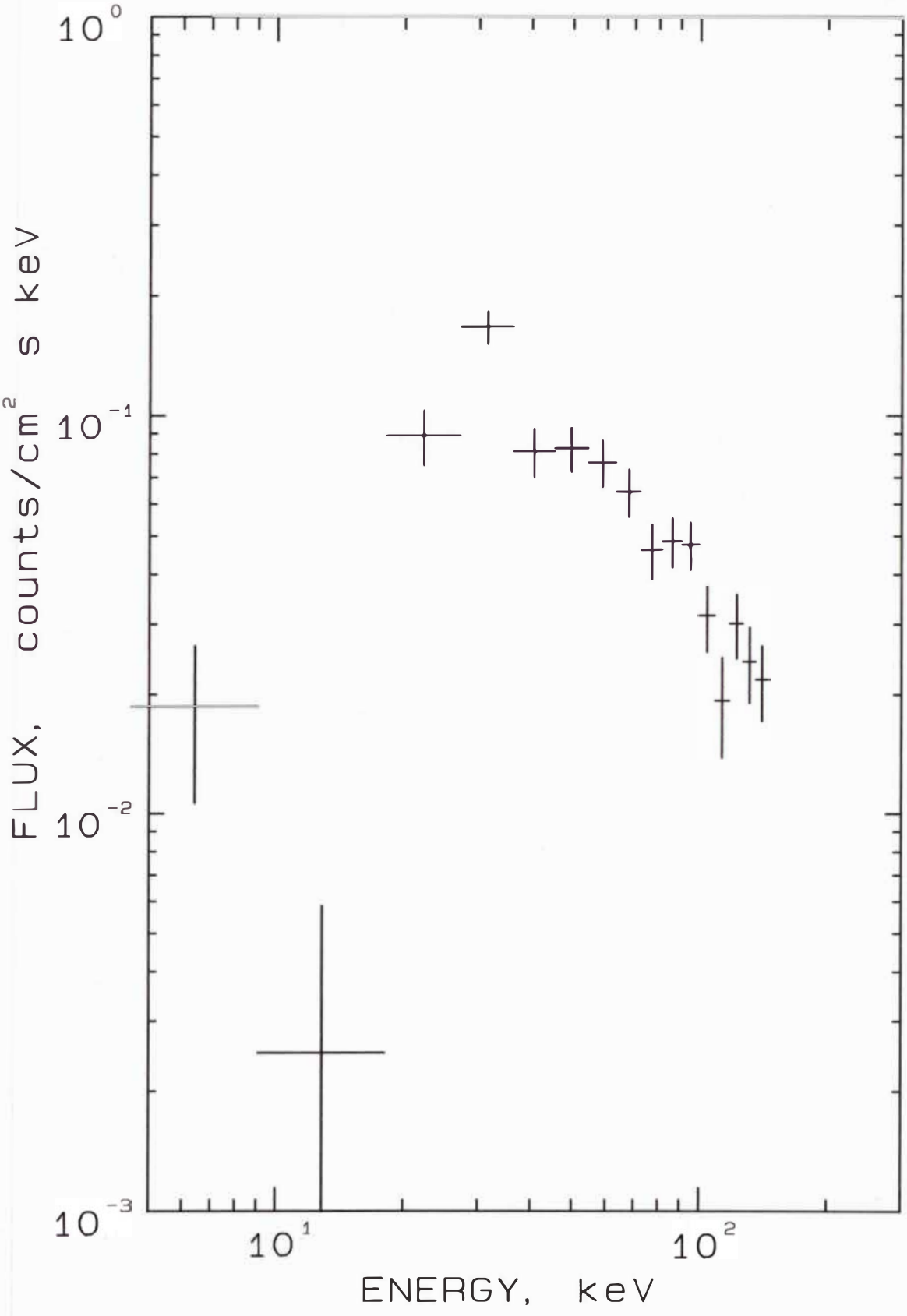


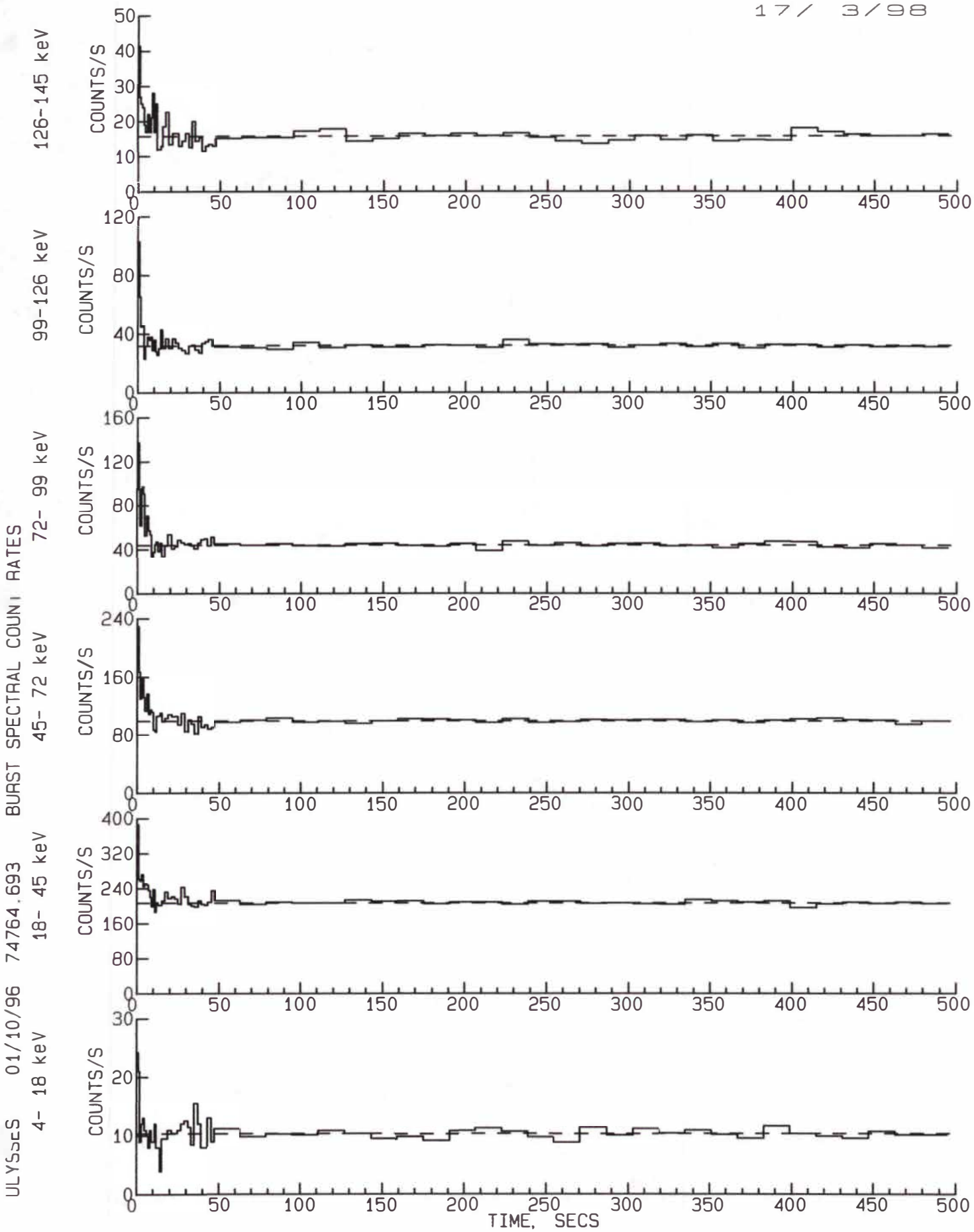
BHD
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0

ULYSSES 01/10/96 74764.693

17/ 3/98

SPECTRUM INTEGRATED OVER 20.9 SECONDS, INTERVALS 2 TO 20




17/ 3/98
ULYSSES 01/10/96 74764.693 BURST SPECTRAL COUNT RATES
126-145 keV
99-126 keV
72- 99 keV
45- 72 keV
18- 45 keV
4- 18 keV
COUNTS/S
TIME, SECS

ULYSSES 01/10/96 Ttrig=74764.826

21- 145 keV

COUNTS/0.031 S

COUNTS/0.125 S

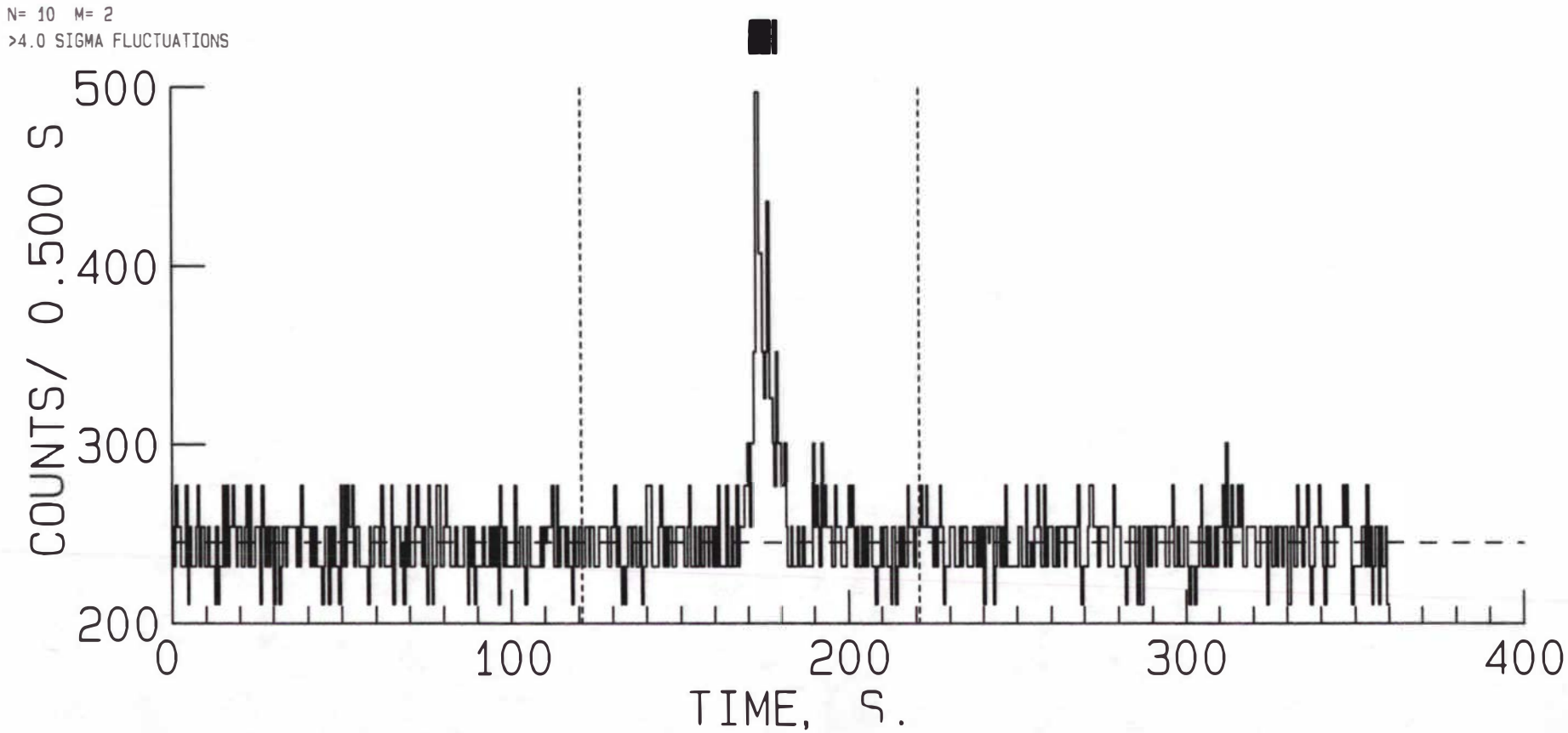
17/ 3/**

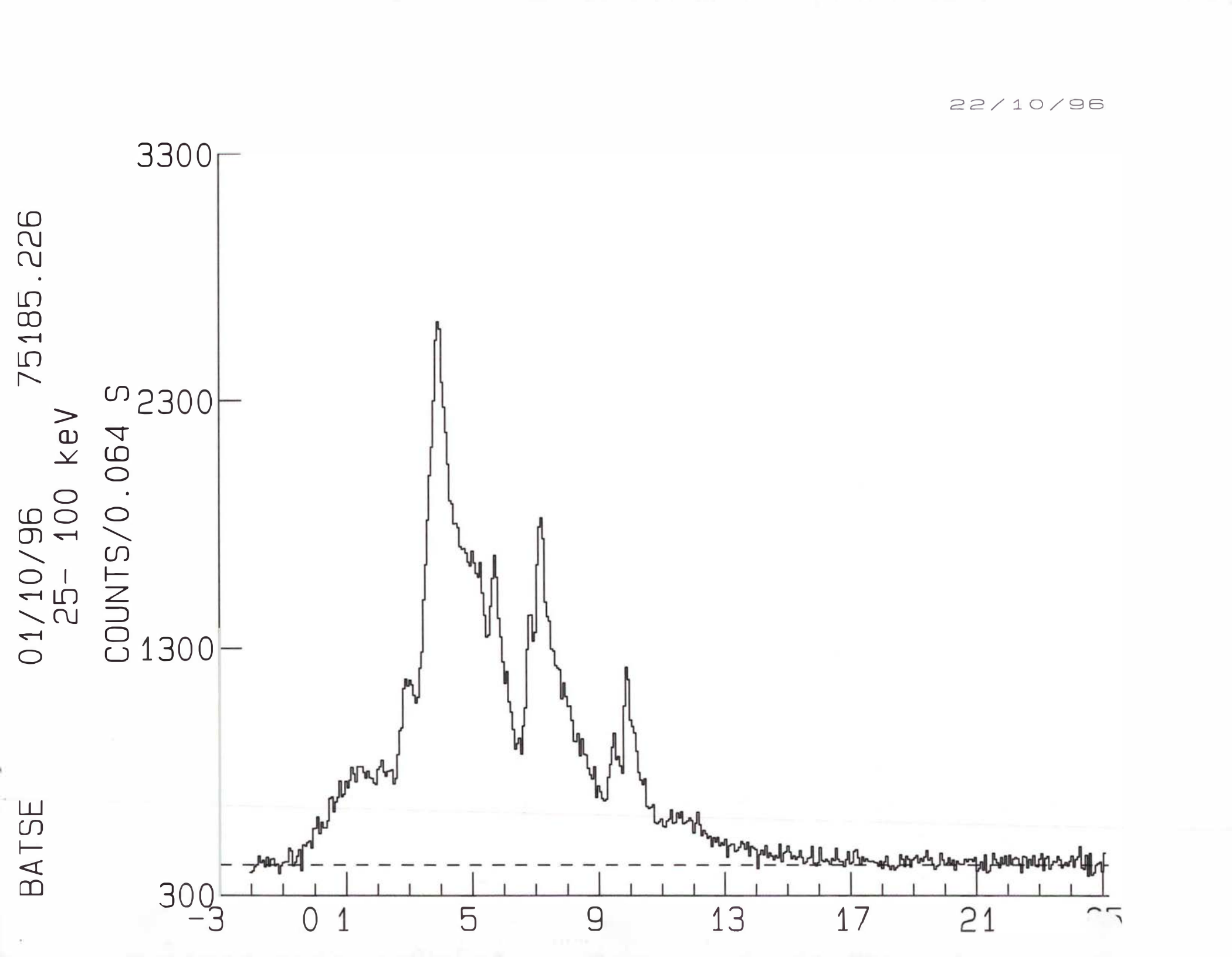
ULYSSES RT

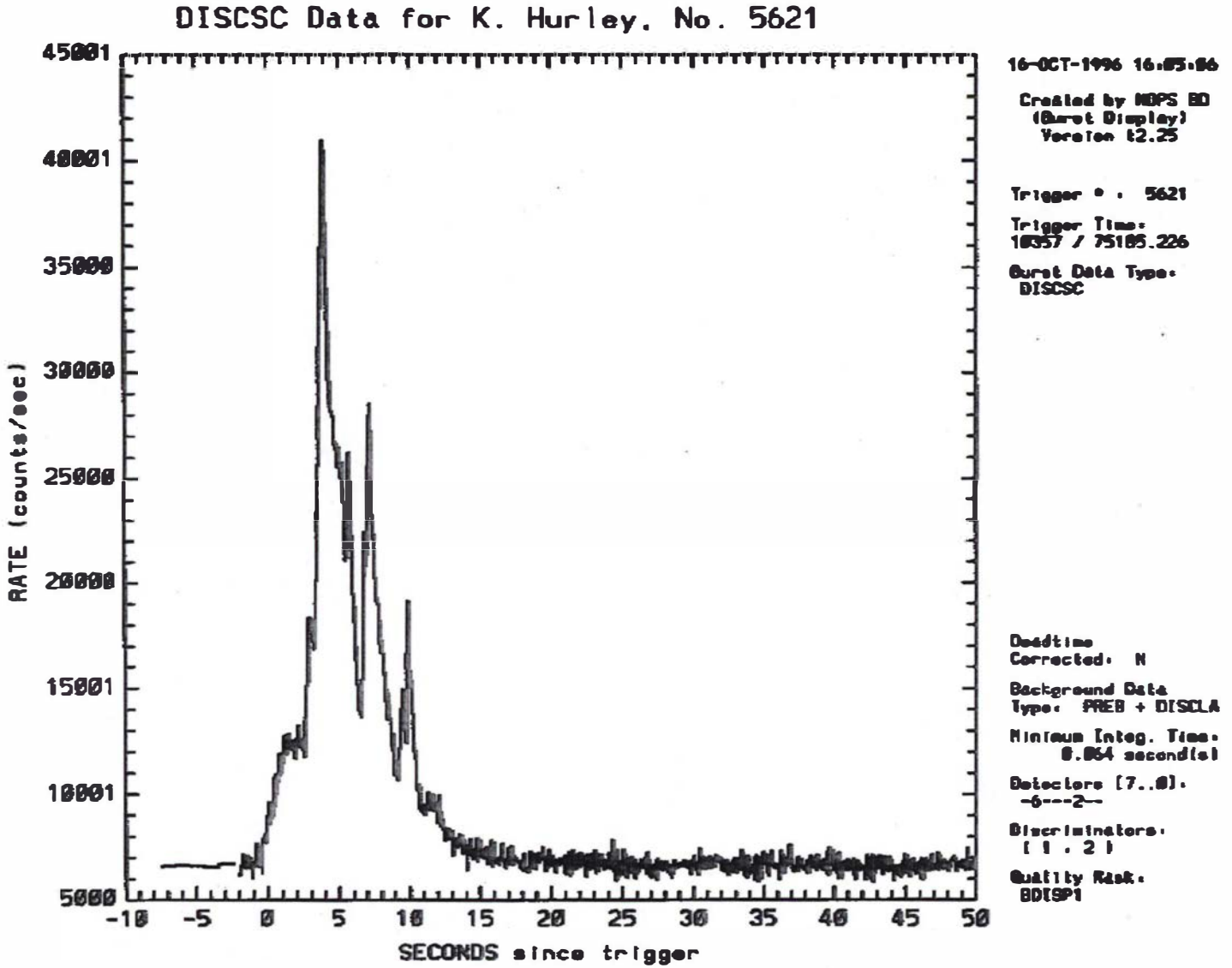
17/ 3/98

1/10/96 74592.076 s

21- 145 keV




22/10/96
BATSE 01/10/96 75185.226
25- 100 keV
COUNTS/0.064 S
3300
2300
1300
300
-3
0 1
5
9
13
17
21


DISCSC Data for K. Hurley, No. 5621
RATE (counts/sec)
45001
40001
35000
30000
25000
20000
15001
10001
5000
-10
-5
0
5
10
15
20
25
30
35
40
45
50
SECONDS since trigger
16-OCT-1996 16:05:06
Created by MOPS BD
(Burst Display)
Version 2.25
Trigger # : 5621
Trigger Time:
10357 / 75105.226
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)
Detectors [7..0]:
-6---2-
Discriminators:
[1 , 2]
Quality Mask:
BDISP1

```
From rbruser@comptel.sr.unh.edu Tue Oct  1 14:02 PDT 1996
Resent-Date: Tue, 1 Oct 1996 17:01:37 -0400 (EDT)
Old-Return-Path: <rbruser>
Subject: GRB961001: COMPTEL BURST POSITION NOTICE
   m: burst@comptel.sr.unh.edu (UNH/COMPTEL Burst Group)
Date: Tue, 1 Oct 1996 17:01:37 -0400 (EDT)
To: burstauto@comptel.sr.unh.edu
Resent-Message-Id: <"Jg7Jp2.0.sN2.rQOKo"@comptel>
Resent-From: burstauto@comptel.sr.unh.edu
X-Mailing-List: <burstauto@comptel.sr.unh.edu> archive/latest/41
X-Loop: burstauto@comptel.sr.unh.edu
Resent-Sender: burstauto-request@comptel.sr.unh.edu

NOTICE_HEAD: COMPTEL BURST POSITION NOTICE: GRB961001
NOTICE_TYPE: INITIAL
NOTICE_DATE: Tue Oct  1 21:01:36 GMT 1996
ORIG_SENDER: burst@comptel.unh.edu
RBR_VERSION: SRCRBR version 11.0-COMPASS
**************************************************
BURST_DATE : 10357 TJD; 01-Oct-1996
BURST_TIME : 75185.22 sec; 20:53:05.22 UT
--------------------------------------------------
BURST_SCZEN:  16.60 deg     {OScan= -10.21}
BURST_SCAZI: 127.18 deg     {XScan= -13.16}
BURST_CLASS: WEAK    (Approx   31 events)
BURST_DETEC: WEAK    (Approx  4.3 sigma)
**************************************************
COORD_J2000: [RAsc       Decl] [RAsc            Decl]
============ ================= ====================
  XPOS_J20 : [ 36.63d  54.91d] [ 2h26m31s  54d54'21"]
  ------------------------------------------------
ERRBOX1_J20: [ 46.70d  55.37d] [ 3h06m48s  55d22'30"]
ERRBOX2_J20: [ 43.30d  59.34d] [ 2h53m12s  59d20'34"]
ERRBOX3_J20: [ 30.50d  55.07d] [ 2h01m59s  55d04'17"]
ERRBOX4_J20: [ 34.68d  51.50d] [ 2h18m43s  51d30'06"]
**************************************************
COORD_B1950: [RAsc       Decl] [RAsc            Decl]
============ ================= ====================
MAXPOS_B50 : [ 35.78d  54.67d] [ 2h23m07s  54d40'19"]
--------------------------------------------------
ERRBOX1_B50: [ 45.79d  55.17d] [ 3h03m09s  55d10'29"]
ERRBOX2_B50: [ 42.36d  59.13d] [ 2h49m26s  59d07'49"]
ERRBOX3_B50: [ 29.68d  54.82d] [ 1h58m43s  54d49'15"]
ERRBOX4_B50: [ 33.87d  51.26d] [ 2h15m28s  51d15'45"]
--------------------------------------------------
NOTE01-----: Error box indicates 2-sigma statistical
NOTE02-----: confidence limits only.
NOTE03-----:          -----
NOTE04-----: Please DO NOT reply to this message!
NOTE05-----: Address questions to either:
NOTE06-----: Alanna Connors(aconnors@comptel.unh.edu)
NOTE07-----: Bernie McNamara(bmcnamar@nmsu.edu)
**************************************************
```

```
From rbruser@comptel.sr.unh.edu Tue Oct  1 14:09 PDT 1996
Resent-Date: Tue, 1 Oct 1996 17:08:56 -0400 (EDT)
Old-Return-Path: <rbruser>
Subject: GRB961001: COMPTEL BURST POSITION NOTICE
   m: burst@comptel.sr.unh.edu (UNH/COMPTEL Burst Group)
Date: Tue, 1 Oct 1996 17:08:56 -0400 (EDT)
To: burstauto@comptel.sr.unh.edu
Resent-Message-Id: <"A03rL2.0.9V2.iXOKo"@comptel>
Resent-From: burstauto@comptel.sr.unh.edu
X-Mailing-List: <burstauto@comptel.sr.unh.edu> archive/latest/42
X-Loop: burstauto@comptel.sr.unh.edu
Resent-Sender: burstauto-request@comptel.sr.unh.edu

NOTICE_HEAD: COMPTEL BURST POSITION NOTICE: GRB961001
NOTICE_TYPE: UPDATE1 (includes error contour points)
NOTICE_DATE: Tue Oct  1 21:08:56 GMT 1996
ORIG_SENDER: burst@comptel.unh.edu
RBR_VERSION: SRCRBR version 11.0-COMPASS
**************************************************
BURST_DATE : 10357 TJD; 01-Oct-1996
BURST_TIME : 75185.22 sec; 20:53:05.22 UT
--------------------------------------------------
BURST_SCZEN:  16.59 deg     {OScan= -10.16}
BURST_SCAZI: 126.97 deg     {XScan= -13.19}
BURST_CLASS: WEAK    (Approx   31 events)
BURST_DETEC: WEAK    (Approx  4.3 sigma)
**************************************************
COORD_J2000: [RAsc       Decl] [RAsc            Decl]
============ ================= ====================
  {POS_J20 : [ 36.72d  54.94d] [ 2h26m53s  54d56'17"]
  --------------------------------------------------
ERRBOX1_J20: [ 46.73d  54.55d] [ 3h06m56s  54d32'53"]
ERRBOX2_J20: [ 44.34d  59.02d] [ 2h57m22s  59d01'22"]
ERRBOX3_J20: [ 30.19d  55.76d] [ 2h00m47s  55d45'37"]
ERRBOX4_J20: [ 33.83d  51.61d] [ 2h15m20s  51d36'31"]
**************************************************
COORD_B1950: [RAsc       Decl] [RAsc            Decl]
============ ================= ====================
MAXPOS_B50 : [ 35.87d  54.70d] [ 2h23m28s  54d42'17"]
--------------------------------------------------
ERRBOX1_B50: [ 45.83d  54.35d] [ 3h03m19s  54d20'53"]
ERRBOX2_B50: [ 43.40d  58.81d] [ 2h53m36s  58d48'51"]
ERRBOX3_B50: [ 29.37d  55.51d] [ 1h57m30s  55d30'32"]
ERRBOX4_B50: [ 33.02d  51.37d] [ 2h12m06s  51d22'01"]
--------------------------------------------------
NOTE01-----: Error box indicates 2-sigma statistical
NOTE02-----: confidence limits only.
NOTE03-----:          -----
NOTE04-----: Please DO NOT reply to this message!
NOTE05-----: Address questions to either:
NOTE06-----: Alanna Connors(aconnors@comptel.unh.edu)
NOTE07-----: Bernie McNamara(bmcnamar@nmsu.edu)
**************************************************
Burst location uncertainty contour (2-sigma) follows.
 50 contour points, J2000 coordinates in deg
    IP    RAsc    Decl      IP    RAsc    Decl
--------------------------------------------------
    01    38.06   52.77     26    38.46   56.81
    02    38.66   52.94     27    37.68   56.68
    03    39.21   53.16     28    36.87   56.69
```

04	39.76	53.39	29	36.07	56.75
05	40.29	53.63	30	35.30	56.76
06	40.79	53.91	31	34.53	56.69
07	41.38	54.11	32	33.76	56.67
08	41.99	54.29	33	33.00	56.59
09	42.60	54.47	34	32.31	56.31
10	43.23	54.68	35	31.74	55.96
11	43.69	55.00	36	31.59	55.49
12	44.04	55.37	37	31.59	55.25
13	44.49	55.70	38	31.72	55.02
14	44.95	56.04	39	31.91	54.60
15	45.32	56.41	40	32.02	54.17
16	45.40	56.83	41	32.17	53.75
17	45.35	57.25	42	32.42	53.34
18	44.70	57.57	43	32.66	53.16
19	43.89	57.74	44	32.98	53.03
20	43.06	57.94	45	33.67	52.84
21	42.16	57.89	46	34.39	52.70
22	41.30	57.81	47	35.12	52.61
23	40.47	57.66	48	35.86	52.57
24	39.75	57.40	49	36.61	52.56
25	39.12	57.08	50	37.35	52.62

From rbruser@comptel.sr.unh.edu Tue Oct 1 18:18 PDT 1996
Resent-Date: Tue, 1 Oct 1996 21:16:59 -0400 (EDT)
Old-Return-Path: <rbruser>
Subject: GRB961001: update with 2nd likely position
    burstmail@comptel.sr.unh.edu
Date: Tue, 1 Oct 1996 21:16:59 -0400 (EDT)
From: "Rapid Burst Response User" <rbruser@comptel.sr.unh.edu>
Mime-Version: 1.0
Content-Transfer-Encoding: 7bit
Resent-Message-Id: <"cmkZE.0.5V4.EASKo"@comptel>
Resent-From: burstmail@comptel.sr.unh.edu
X-Mailing-List: <burstmail@comptel.sr.unh.edu> archive/latest/6
X-Loop: burstmail@comptel.sr.unh.edu
Resent-Sender: burstmail-request@comptel.sr.unh.edu

Dear Gamma-Ray Burst Observer,

For completeness, we are sending you the 2-sigma position contours
for a second highly probable position in the GRB961001 likelihood map.
Multiple peaks can sometimes happen when there are few COMPTEL events.
The first position we sent to you was coincident with the BACODINE position.
This second one is about 10 degrees away; but based on COMPTEL data alone,
using more stringent time cuts around the peak, it can appear more probable.

Good burst hunting! Let us know how yur observations turn out!

Alanna Connors and Marc Kippen

TICE_HEAD: COMPTEL BURST POSITION NOTICE: GRB961001
TICE_TYPE: UPDATE1 (includes error contour points)
NOTICE_DATE: Tue Oct 1 22:06:55 GMT 1996
ORIG_SENDER: burst@comptel.unh.edu
RBR_VERSION: SRCRBR version 11.0-COMPASS
****
BURST_DATE : 10357 TJD; 01-Oct-1996
BURST_TIME : 75185.22 sec; 20:53:05.22 UT

BURST_SCZEN: 5.98 deg   {OScan= -0.92}
BURST_SCAZI: 98.85 deg   {XScan= -5.91}
BURST_CLASS: WEAK   (Approx   30 events)
BURST_DETEC: MEDIUM (Approx 5.1 sigma)
****
COORD_J2000: [RAsc   Decl] [RAsc   Decl]
============ ================ ====================
MAXPOS_J20 : [31.83d 66.36d] [2h07m19s 66d21'23"]

ERRBOX1_J20: [41.71d 66.17d] [2h46m50s 66d10'02"]
ERRBOX2_J20: [27.93d 69.97d] [1h51m44s 69d58'06"]
ERRBOX3_J20: [21.77d 65.41d] [1h27m06s 65d24'45"]
ERRBOX4_J20: [34.28d 62.20d] [2h17m06s 62d11'53"]
****
COORD_B1950: [RAsc   Decl] [RAsc   Decl]
============ ================ ====================
MAXPOS_B50 : [30.88d 66.11d] [2h03m30s 66d06'33"]

ERRBOX1_B50: [40.67d 65.95d] [2h42m41s 65d56'58"]
ERRBOX2_B50: [26.96d 69.71d] [1h47m50s 69d42'41"]
ERRBOX3_B50: [20.94d 65.14d] [1h23m45s 65d08'33"]
ERRBOX4_B50: [33.36d 61.96d] [2h13m27s 61d57'26"]

NOTE01-----: Error box indicates 2-sigma statistical
NOTE02-----: confidence limits only.
NOTE03-----:
NOTE04-----: Please DO NOT reply to this message!
NOTE05-----: Address questions to either:
NOTE06-----: Alanna Connors(aconnors@comptel.unh.edu)
NOTE07-----: Bernie McNamara(bmcnamar@nmsu.edu)

Burst location uncertainty contour (2-sigma) follows.
50 contour points, J2000 coordinates in deg

IP	RAsc	Decl	IP	RAsc	Decl
01	35.80	63.14	26	26.45	68.51
02	36.12	63.45	27	25.91	68.35
03	36.25	63.78	28	25.37	68.19
04	36.23	64.12	29	24.93	68.00
05	36.37	64.45	30	24.78	67.62
06	36.43	64.79	31	24.82	67.25
07	36.63	65.11	32	24.84	66.87
08	36.80	65.44	33	25.14	66.51
09	36.84	65.77	34	25.55	66.17
10	36.80	66.11	35	26.05	65.85
11	36.69	66.44	36	26.70	65.59
12	36.43	66.76	37	27.25	65.29
13	36.31	67.10	38	27.69	64.98
14	36.24	67.44	39	28.19	64.68
15	35.98	67.77	40	28.58	64.36
16	35.56	68.08	41	29.07	64.07
17	34.93	68.33	42	29.70	63.84
18	33.73	68.58	43	30.26	63.57
19	32.48	68.79	44	30.83	63.31
20	31.12	68.90	45	31.46	63.09
21	29.72	68.92	46	32.54	62.91
22	29.04	68.86	47	33.65	62.78
23	28.38	68.78	48	34.24	62.79
24	27.69	68.73	49	34.81	62.86
25	27.03	68.65	50	35.35	62.96

From gus.macintosh@jpl.nasa.gov Fri Sep 27 14:37 PDT 1996
X-Sender: jmacinto@pop.jpl.nasa.gov
Mime-Version: 1.0
Date: Fri, 27 Sep 1996 14:42:03 -0700
    khurley@sunspot.ssl.berkeley.edu
From: Gus Macintosh <gus.macintosh@jpl.nasa.gov>
Subject: HUS Datation Test
Cc: Springer@pop.jpl.nasa.gov,
        gov@jpl.nasa.gov.Sun.K.Wong@cc2mhb.jpl.nasas.gov.Anthony.G.Knight@cc2mhb.jpl.nasa.gov

Dear Dr. Hurley,

For your information, the planned HUS Datation test will take place on Tuesday 1st. October (Day 275) during the scheduled DSS-61 pass. The initial commanding starts at 0505z and the complete test will consist of 13 measurements, terminating with the commands to reconfigure back to normal operating mode being transmitted at 1545z.

On completion of the test, the Ulysses NOPE will contact you with the results of the exercise and provide you with the additional information that you require.

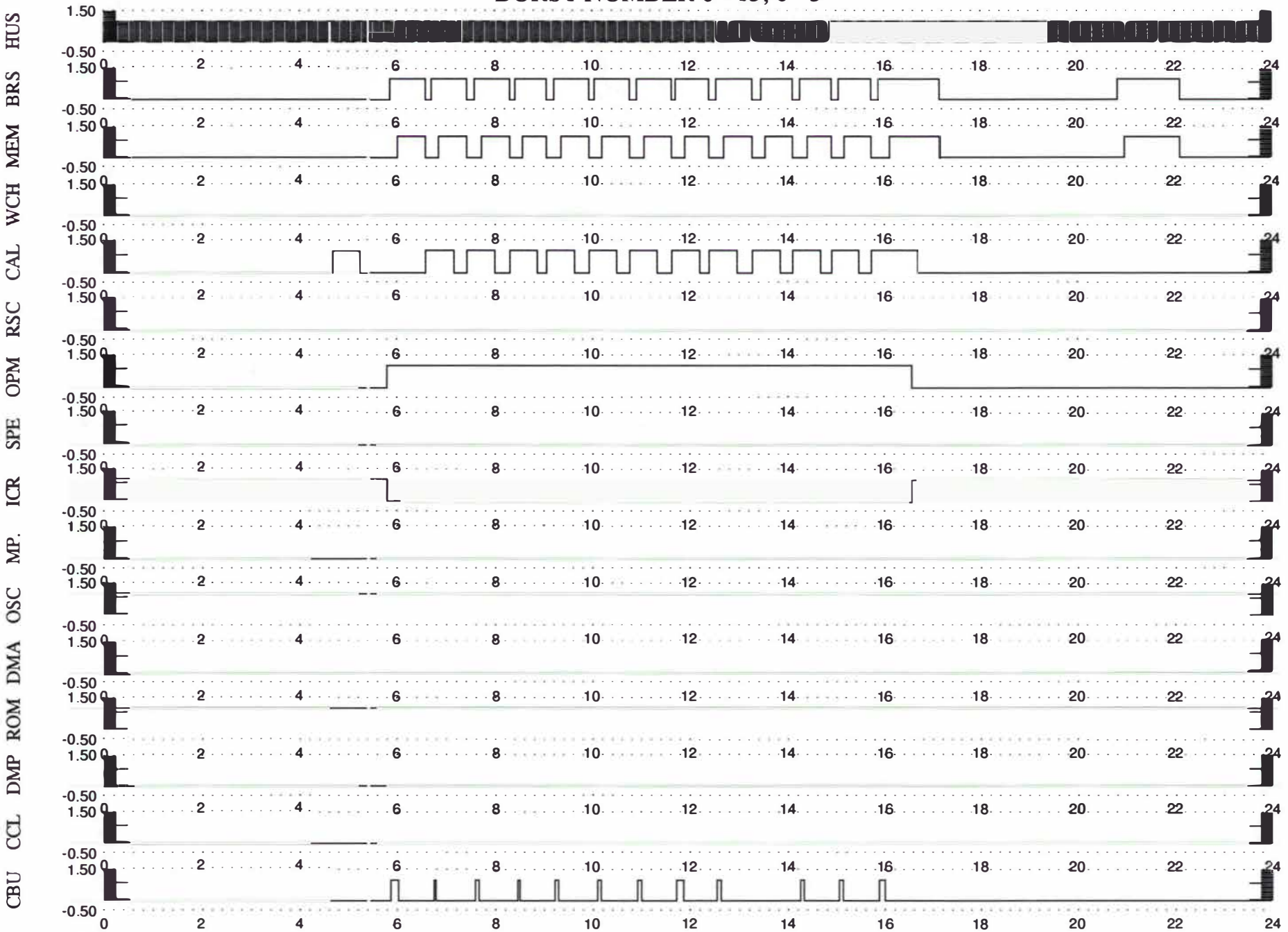
Regards,

Gus Macintosh

Gus Macintosh
Ulysses Spacecraft Analyst MOD/ESOC/ESA @JPL
email: gus.macintosh@jpl.nasa.gov or gusmac@vividnet.com

HUS MODES EDR day 275, year 1996 to day 275, year 1996 3/29/97

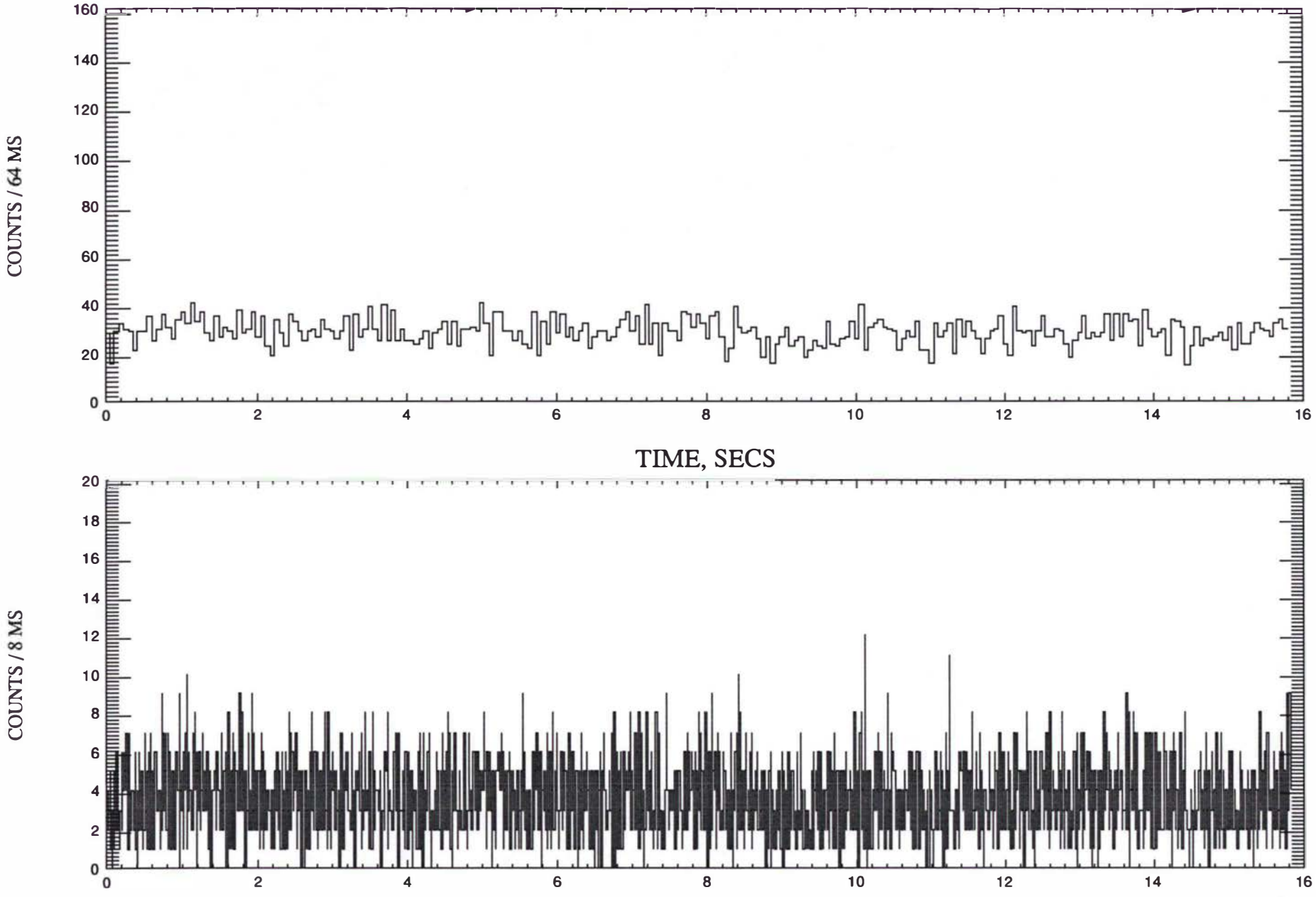
BURST NUMBER 6 - 15, 0 - 3



UNIVI AL TIME

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

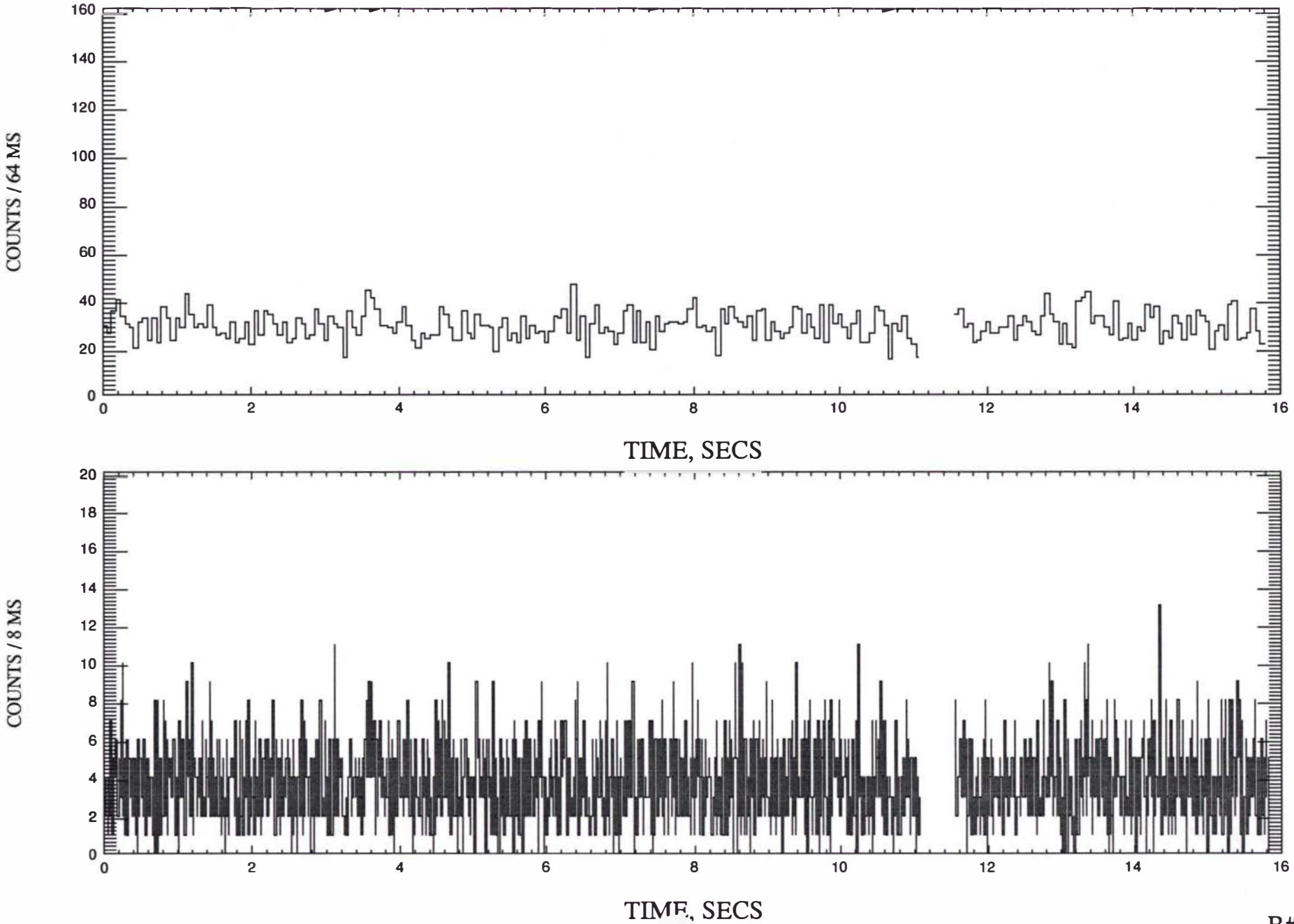
Burst Counter 6 at UT= 5.881716321309 h=21174.179 s 05:52:54.179



B# 1

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

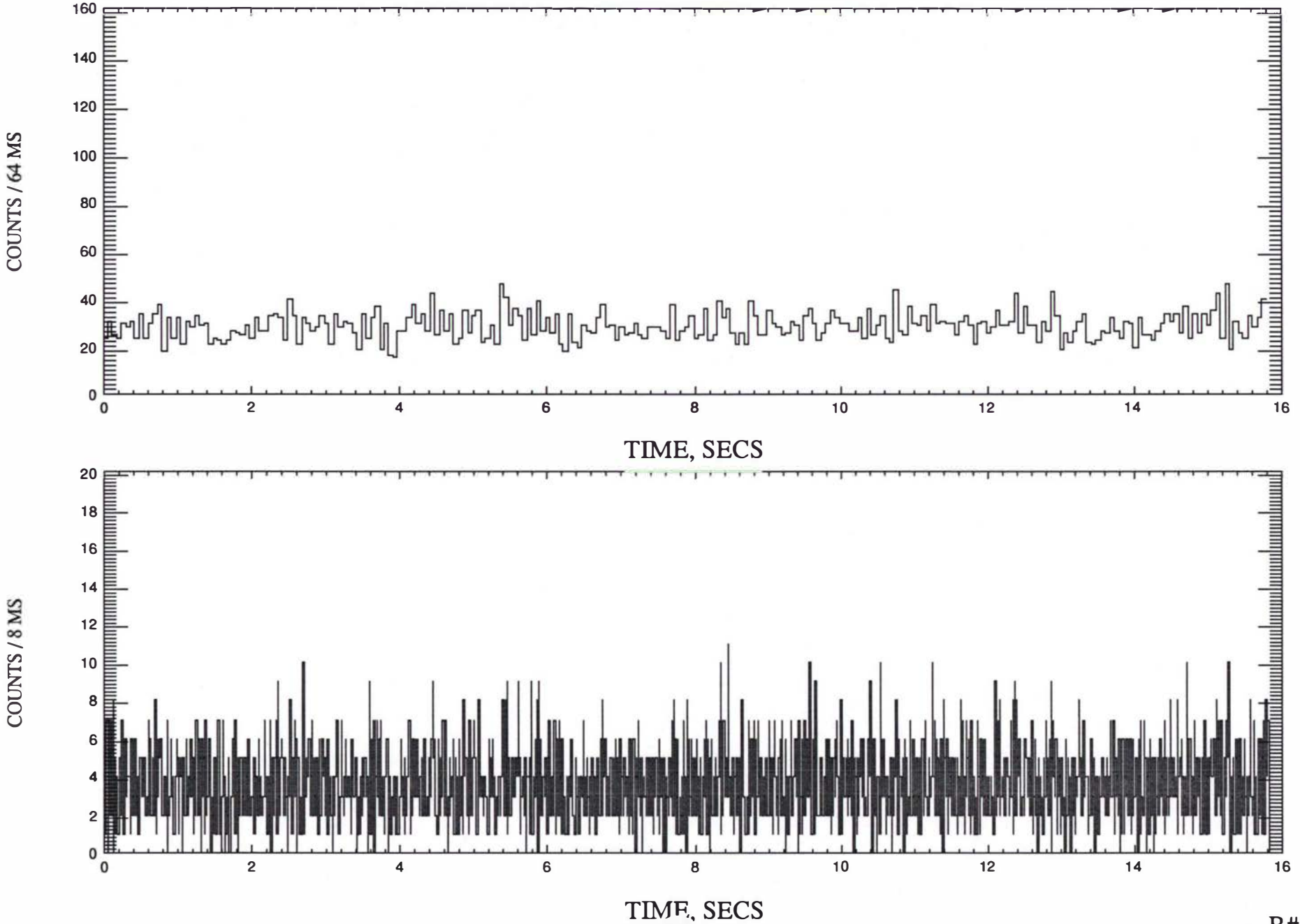
Burst Counter 7 at UT= 6.715025770399 h=24174.093 s 06:42:54.093



B# 2

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

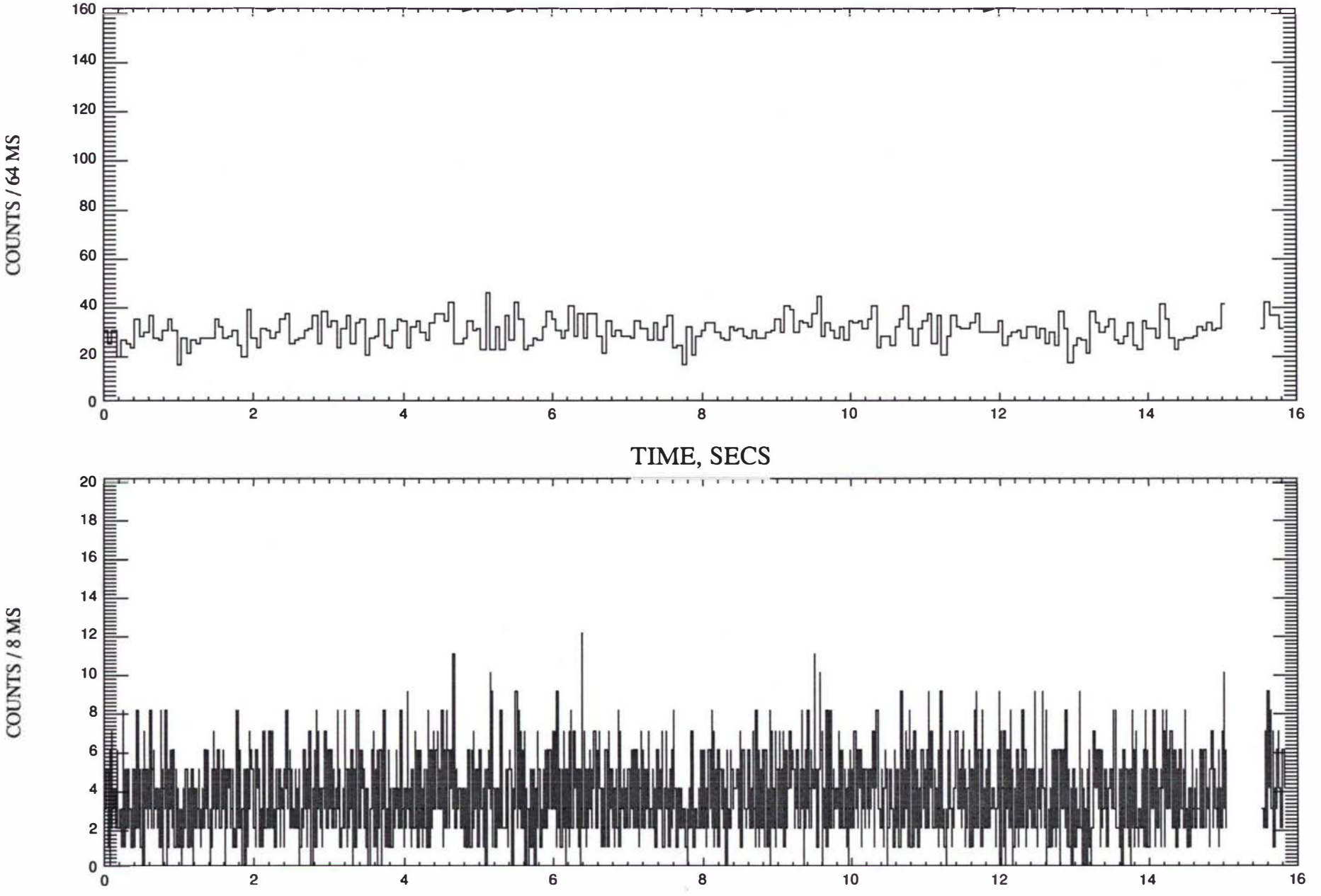
Burst Counter 8 at UT= 7.548335219489 h=27174.007 s 07:32:54.007



B# 3

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

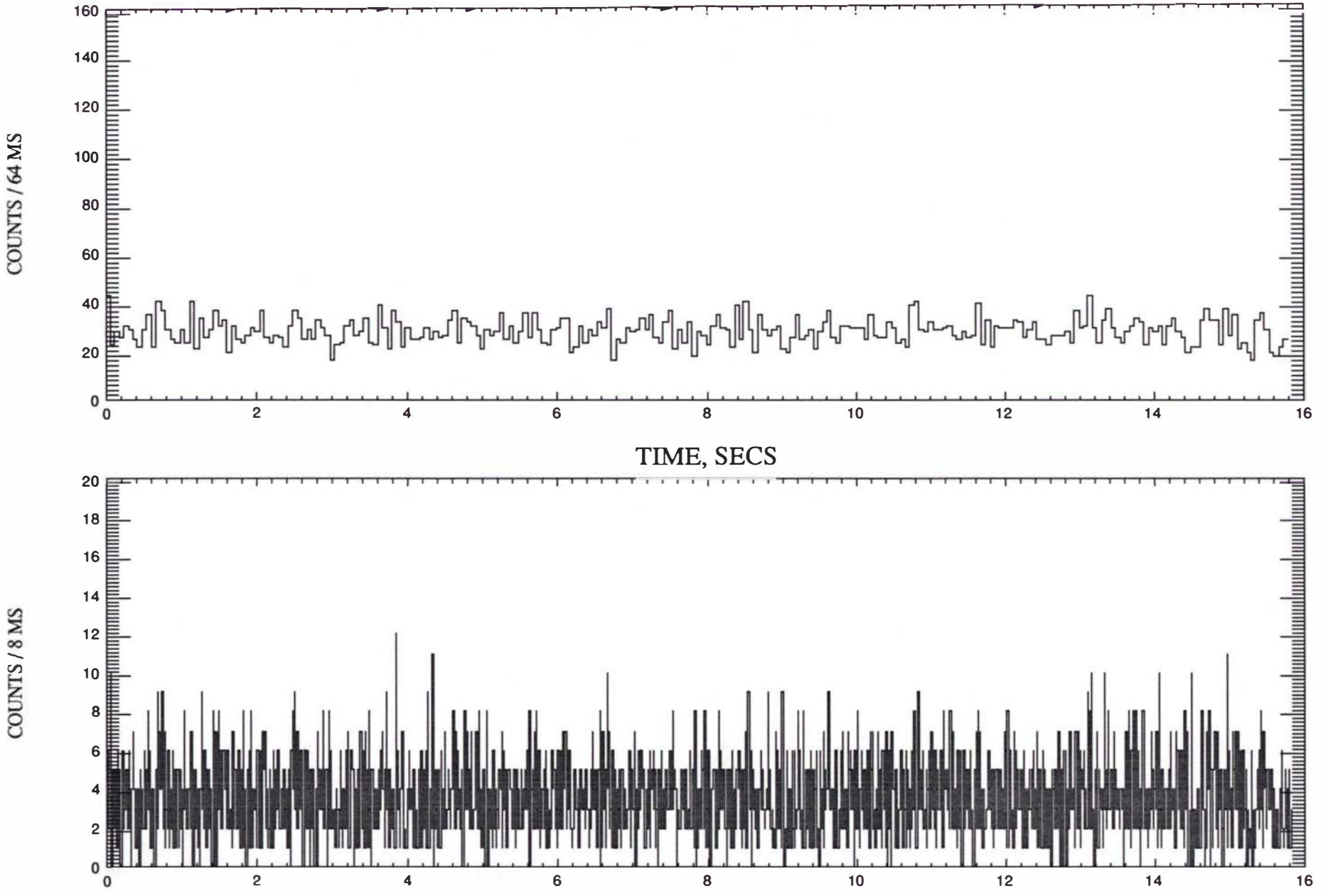
Burst Counter 9 at UT= 8.381679390801 h=30174.046 s 08:22:54.046



B# 4

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

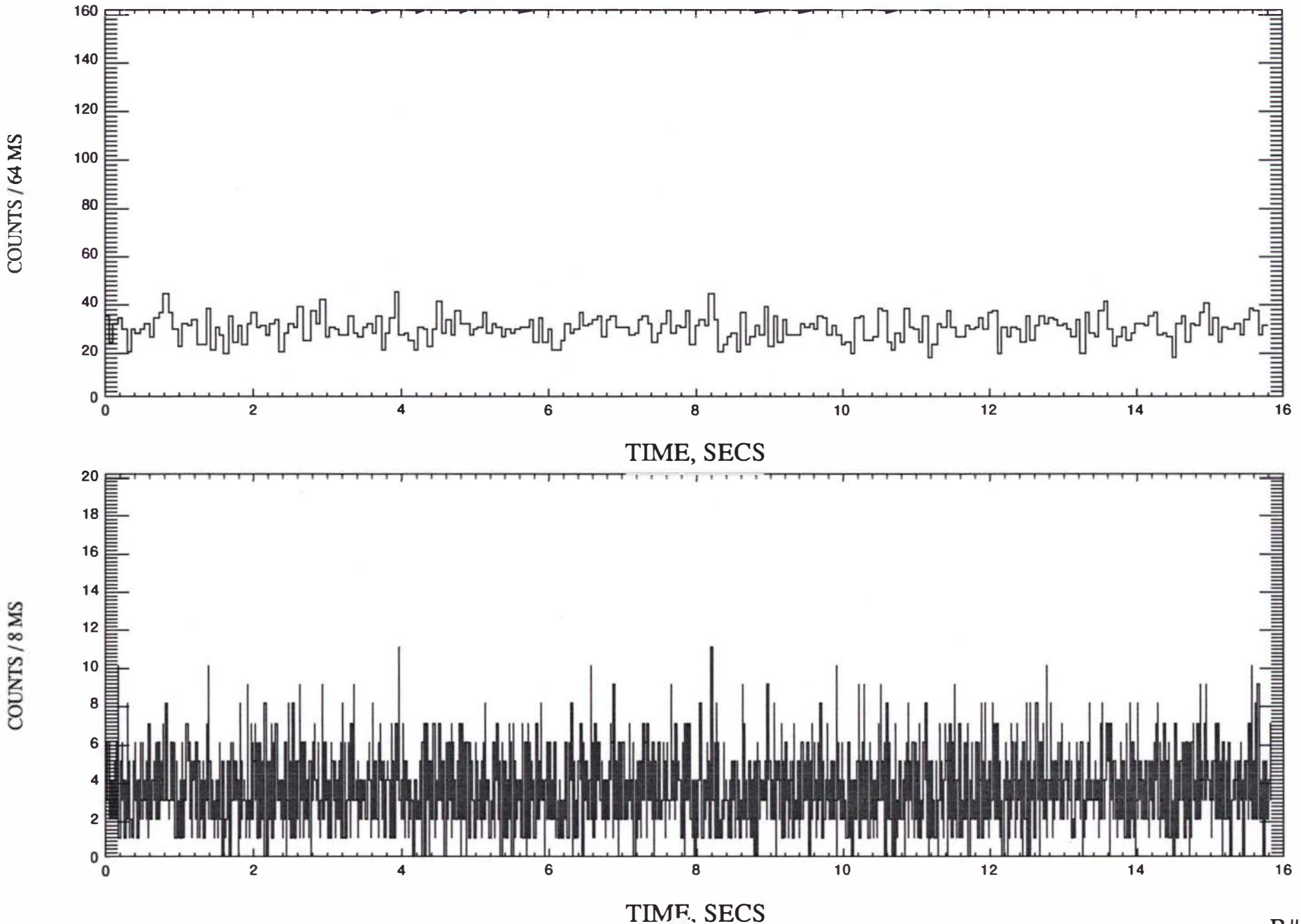
Burst Counter 10 at UT= 9.214987932841 h=33173.957 s 09:12:53.957



B# 5

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

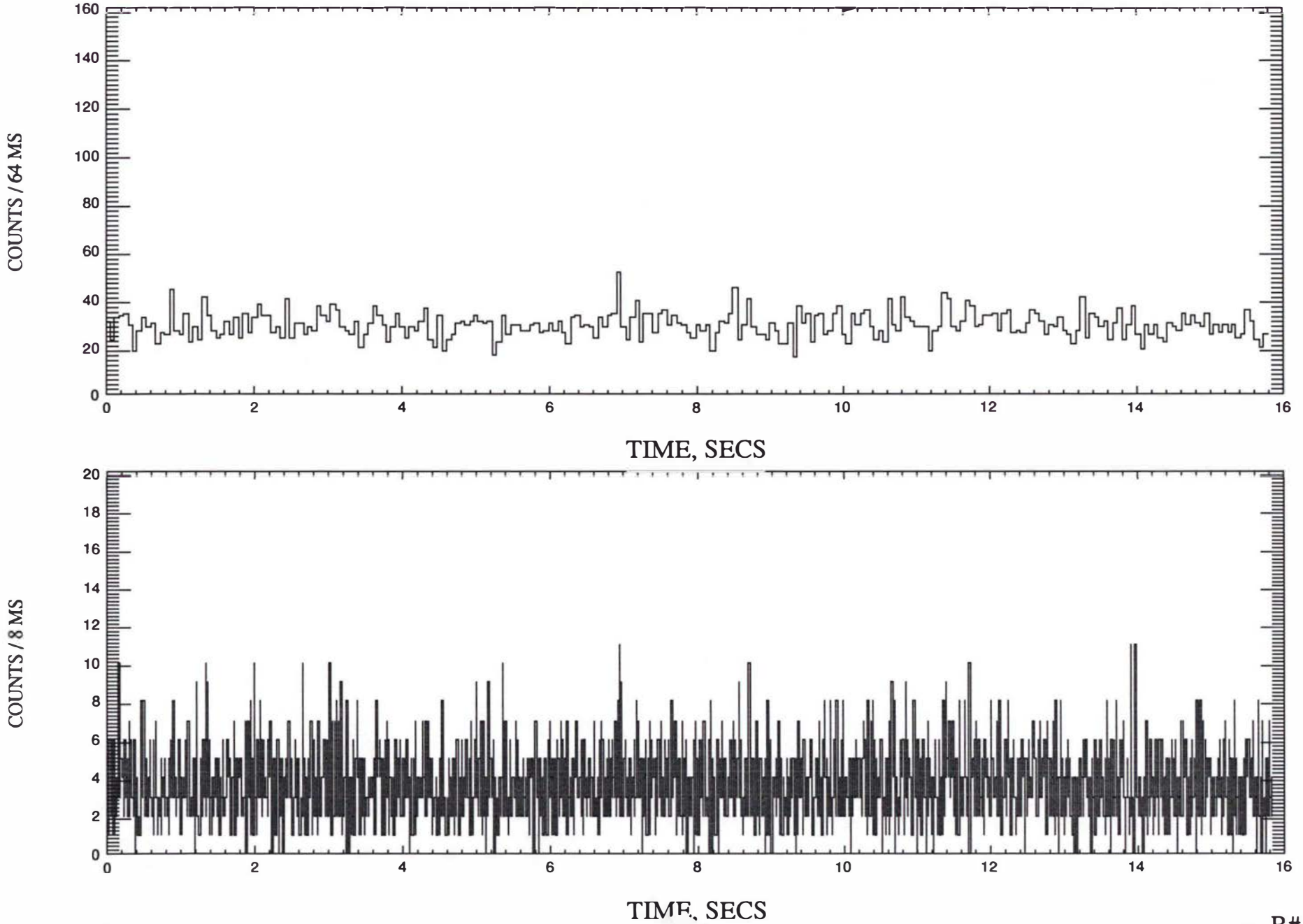
Burst Counter 11 at UT=10.048297381931 h=36173.871 s 10:02:53.871



B# 6

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

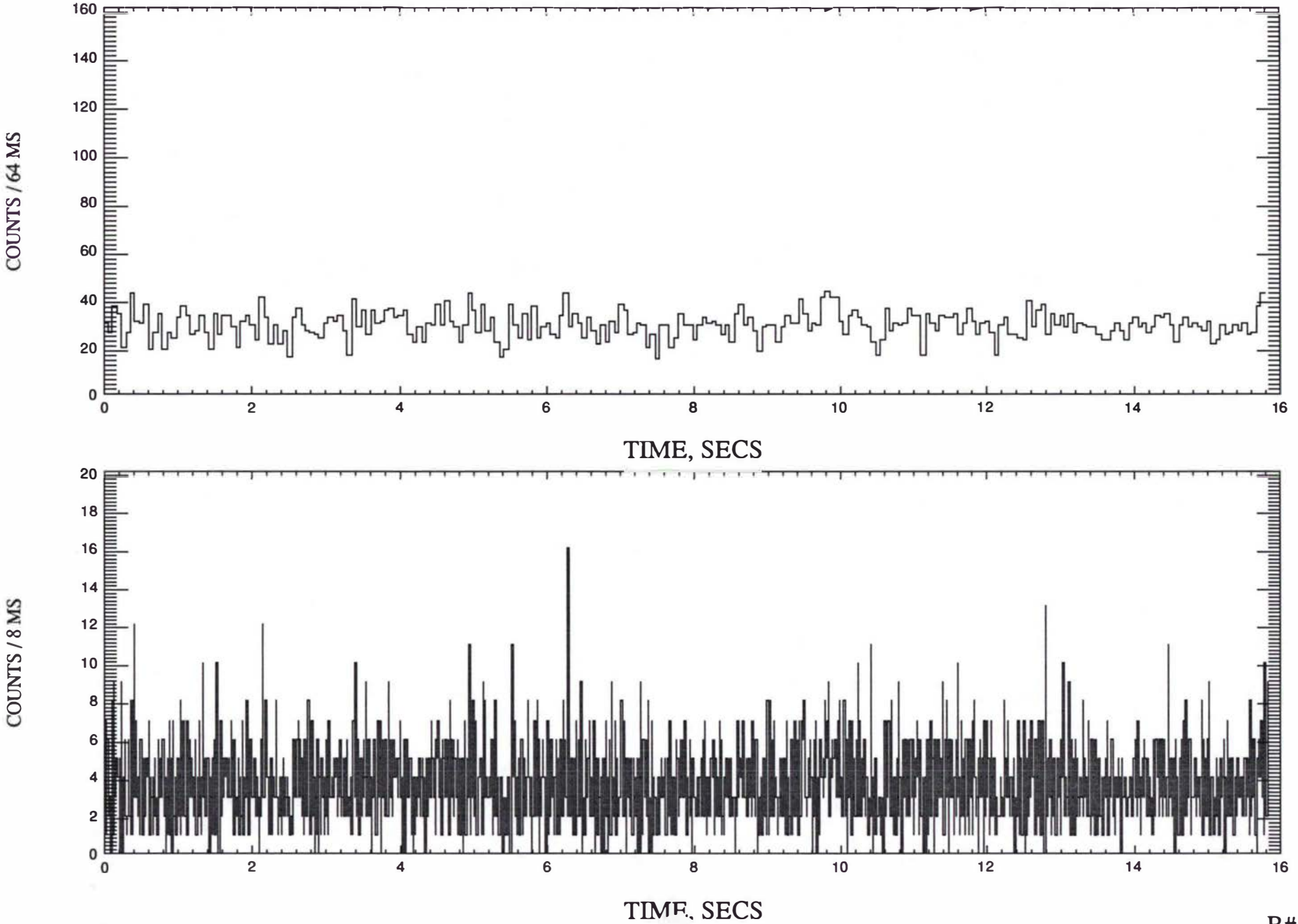
Burst Counter 12 at UT=10.881641553243 h=39173.910 s 10:52:53.910



B# 7

HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

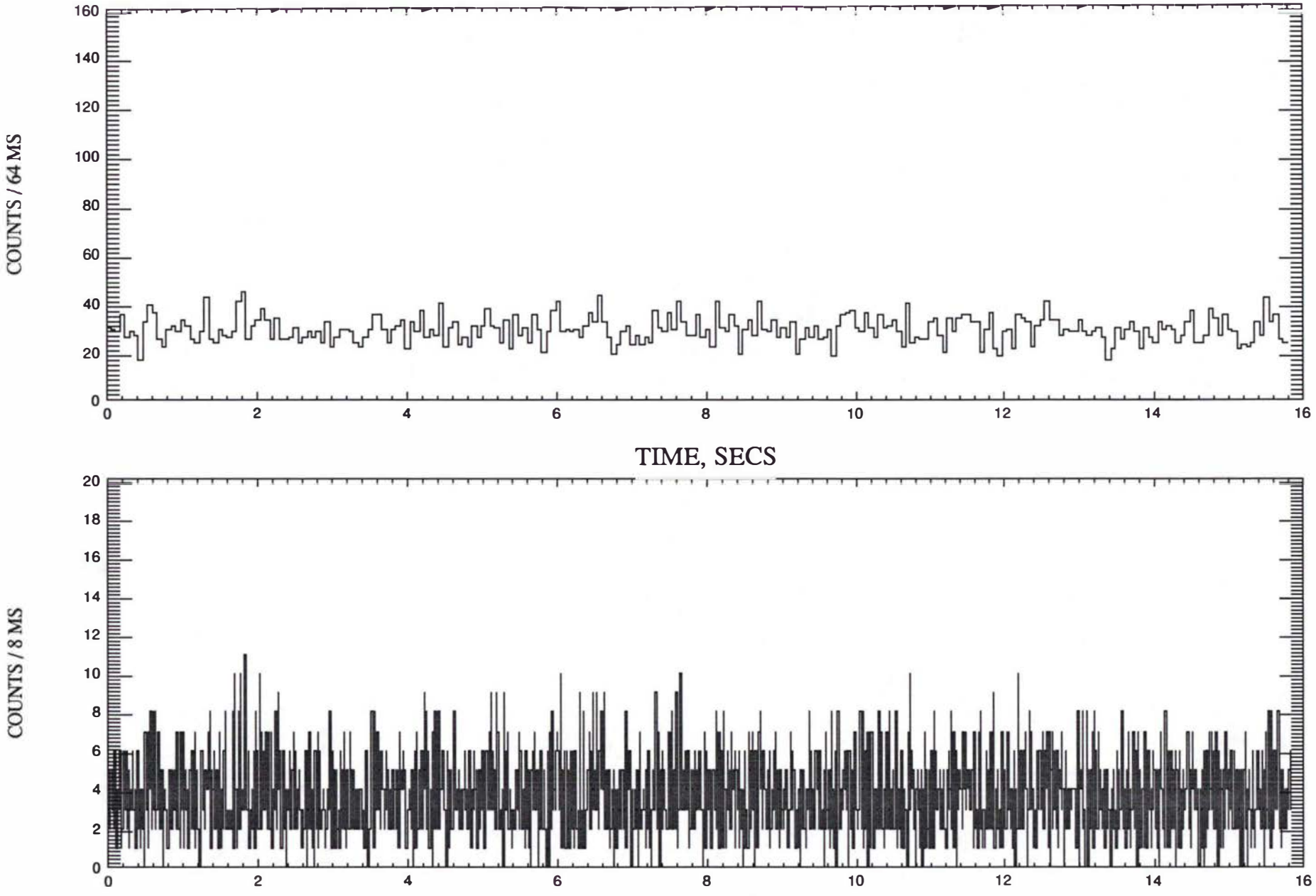
Burst Counter 13 at UT=11.714915377299 h=42173.695 s 11:42:53.695



B# 8

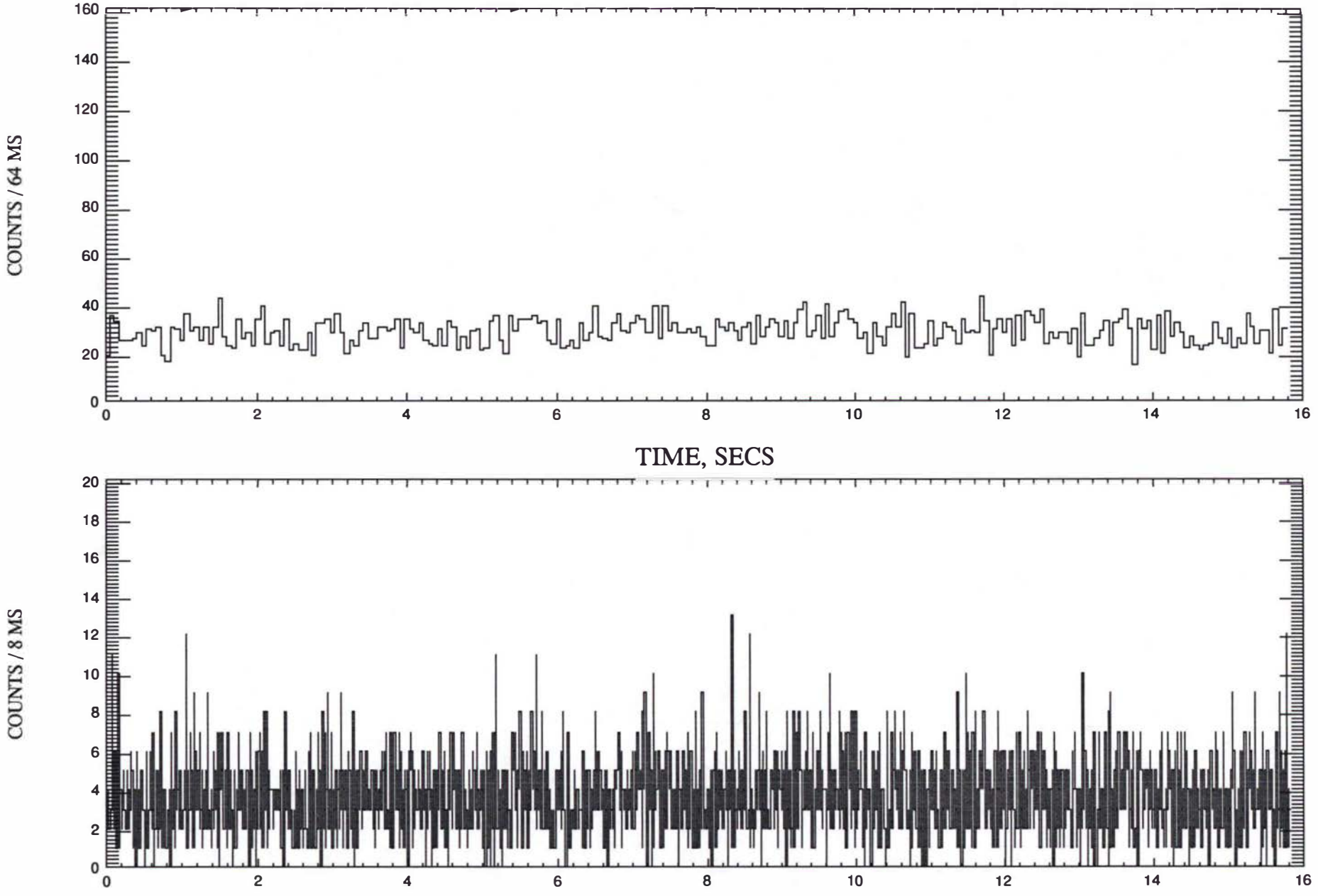
HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

Burst Counter 14 at UT=12.548224826389 h=45173.609 s 12:32:53.609



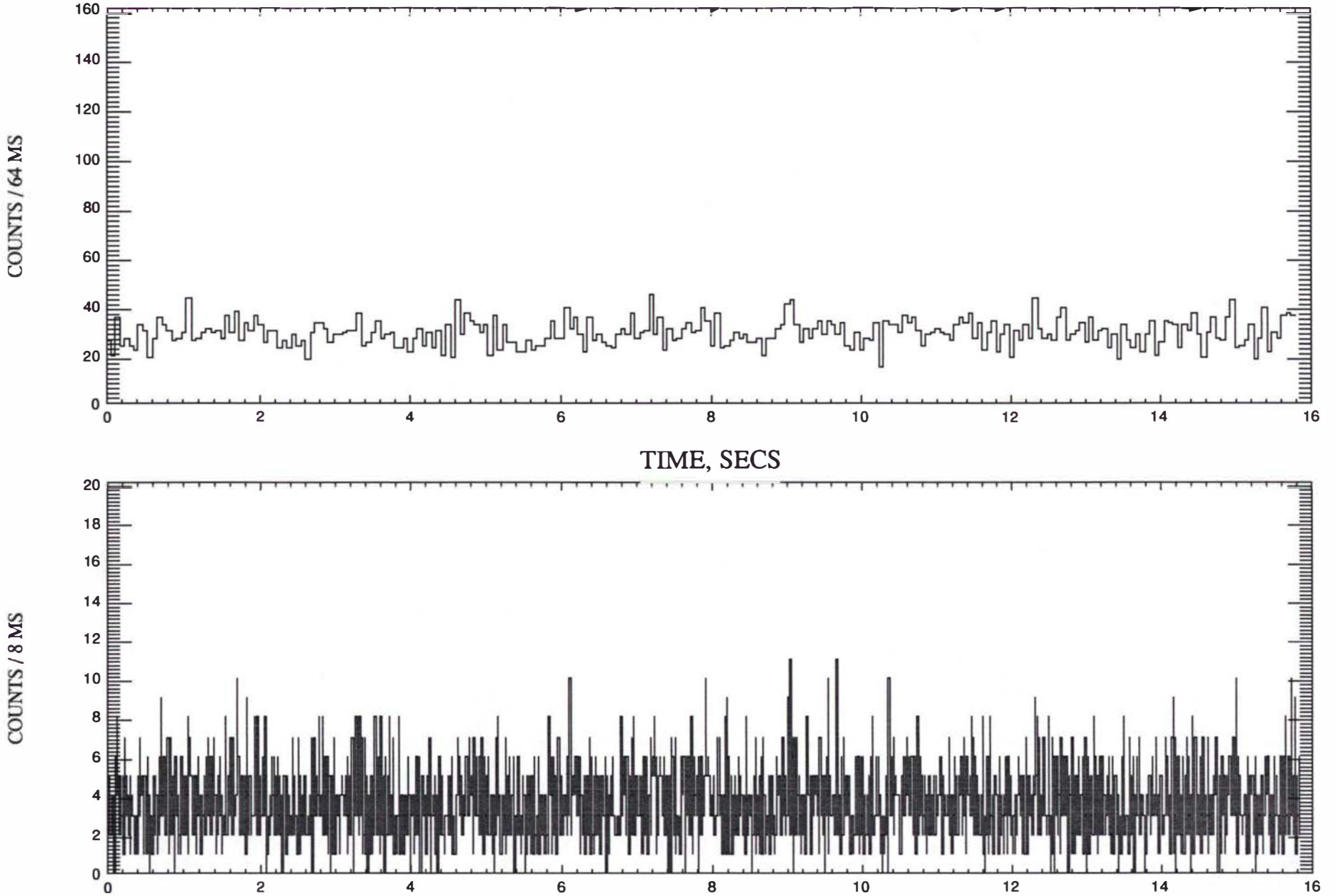
B# 9

Burst Counter 15 at UT=13.381568997701 h=48173.648 s 13:22:53.648



HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

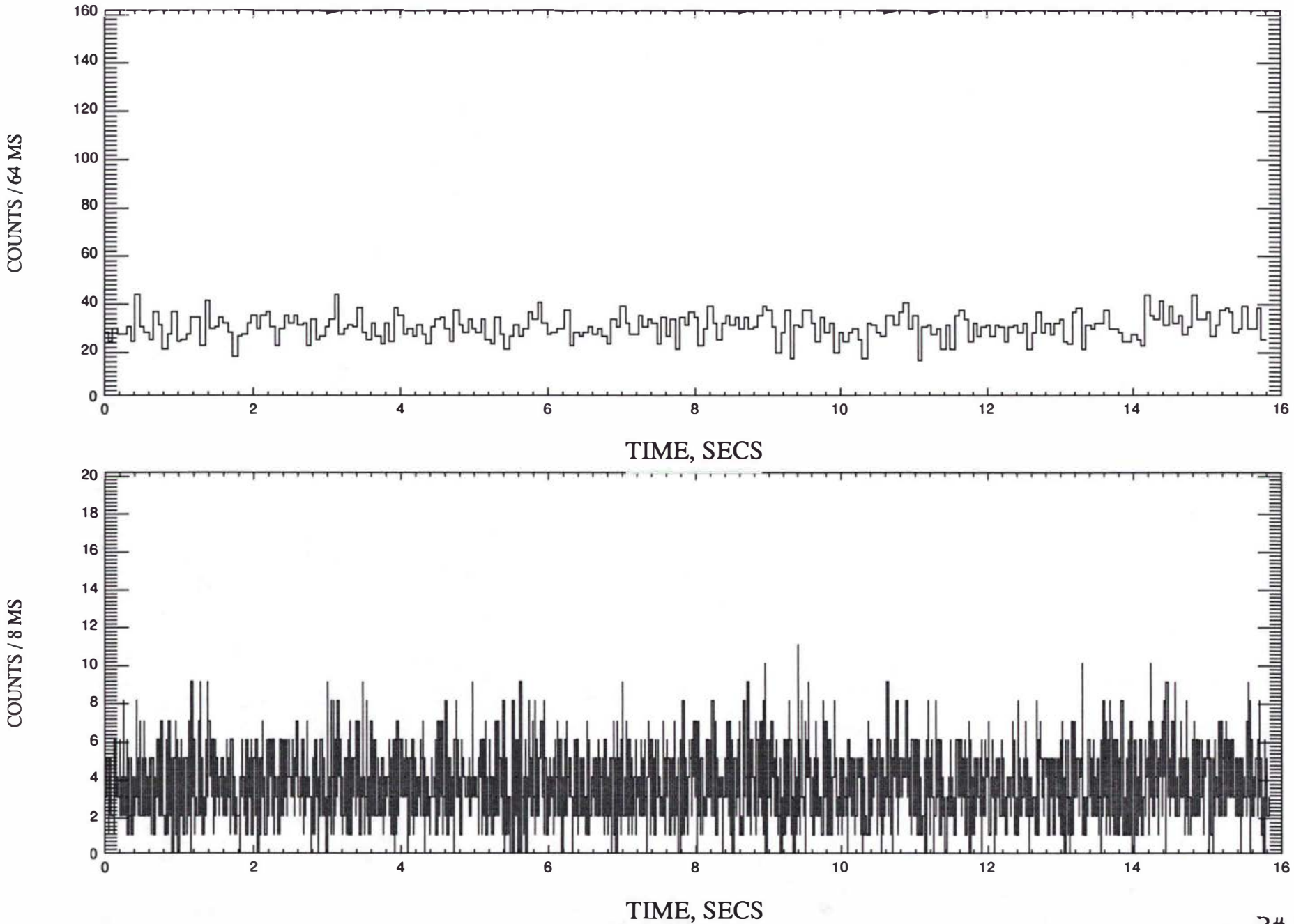
Burst Counter 0 at UT=14.214878442552 h=51173.562 s 14:12:53.562



R# 11

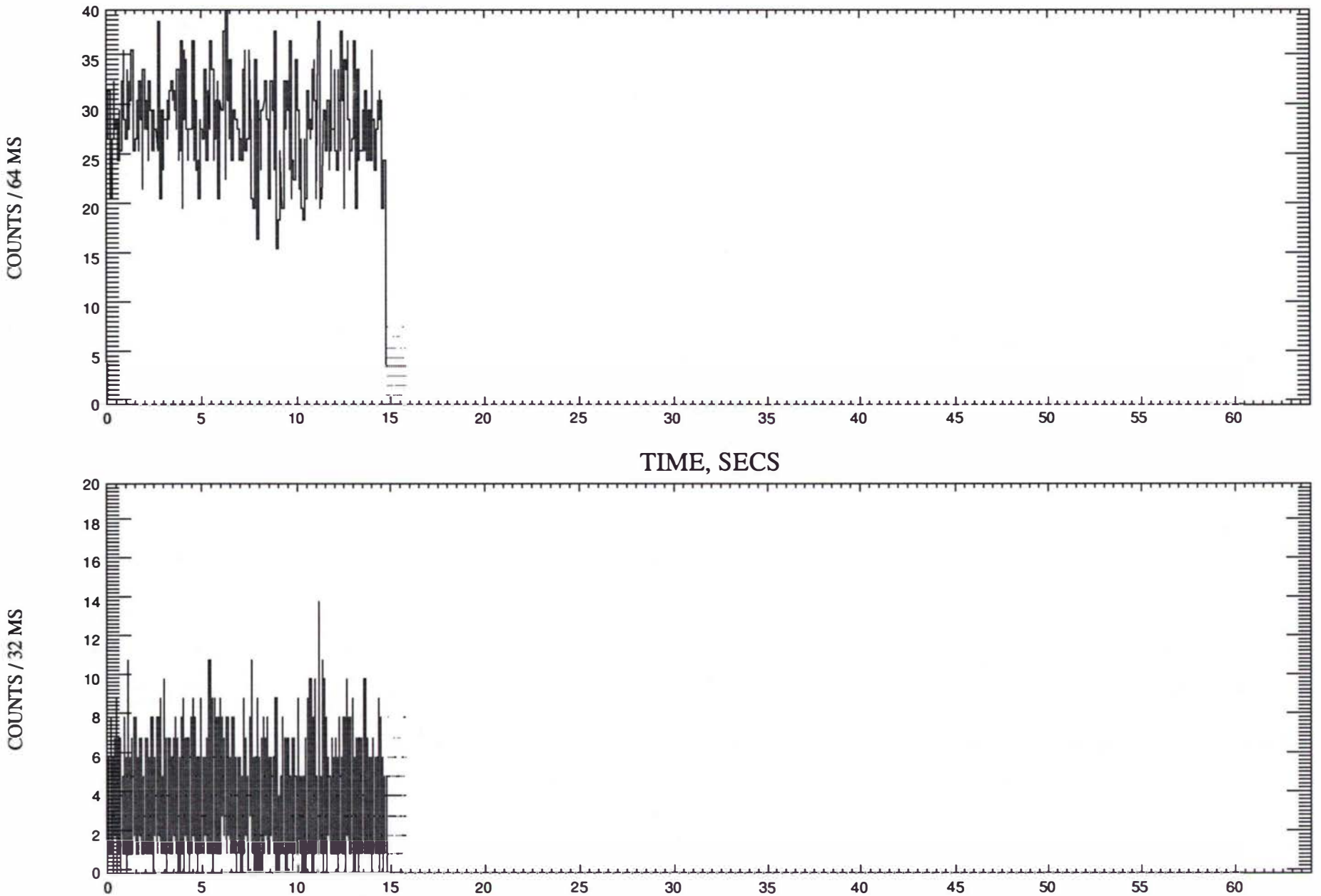
HUS 2A TRIGGERED DATA EDR day 275, year 1996 3/29/97

Burst Counter 1 at UT=15.048186988831 h=54173.473 s 15:02:53.473

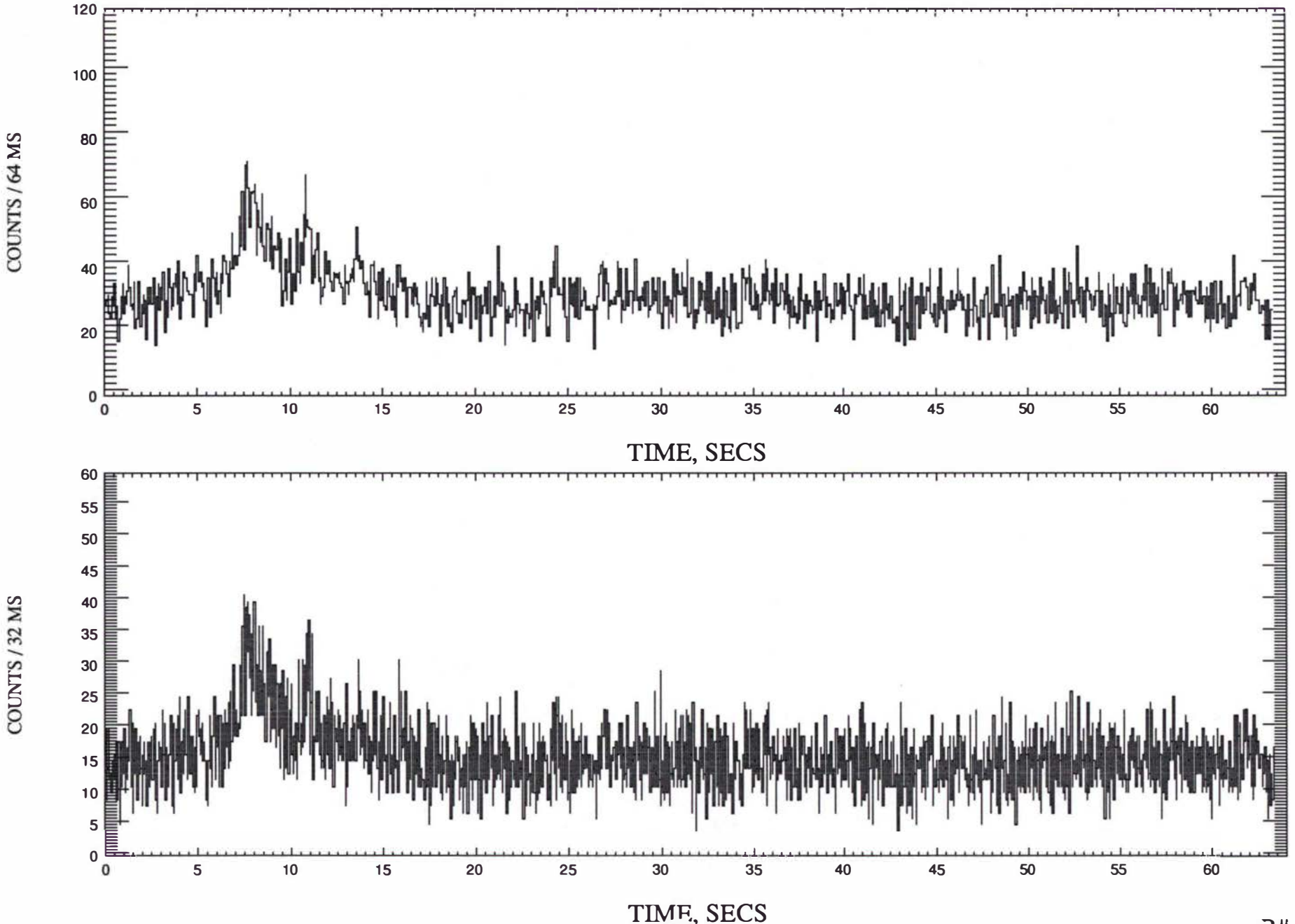


R# 12

Burst Counter 2 at UT=15.881496437920 h=57173.387 s 15:52:53.387

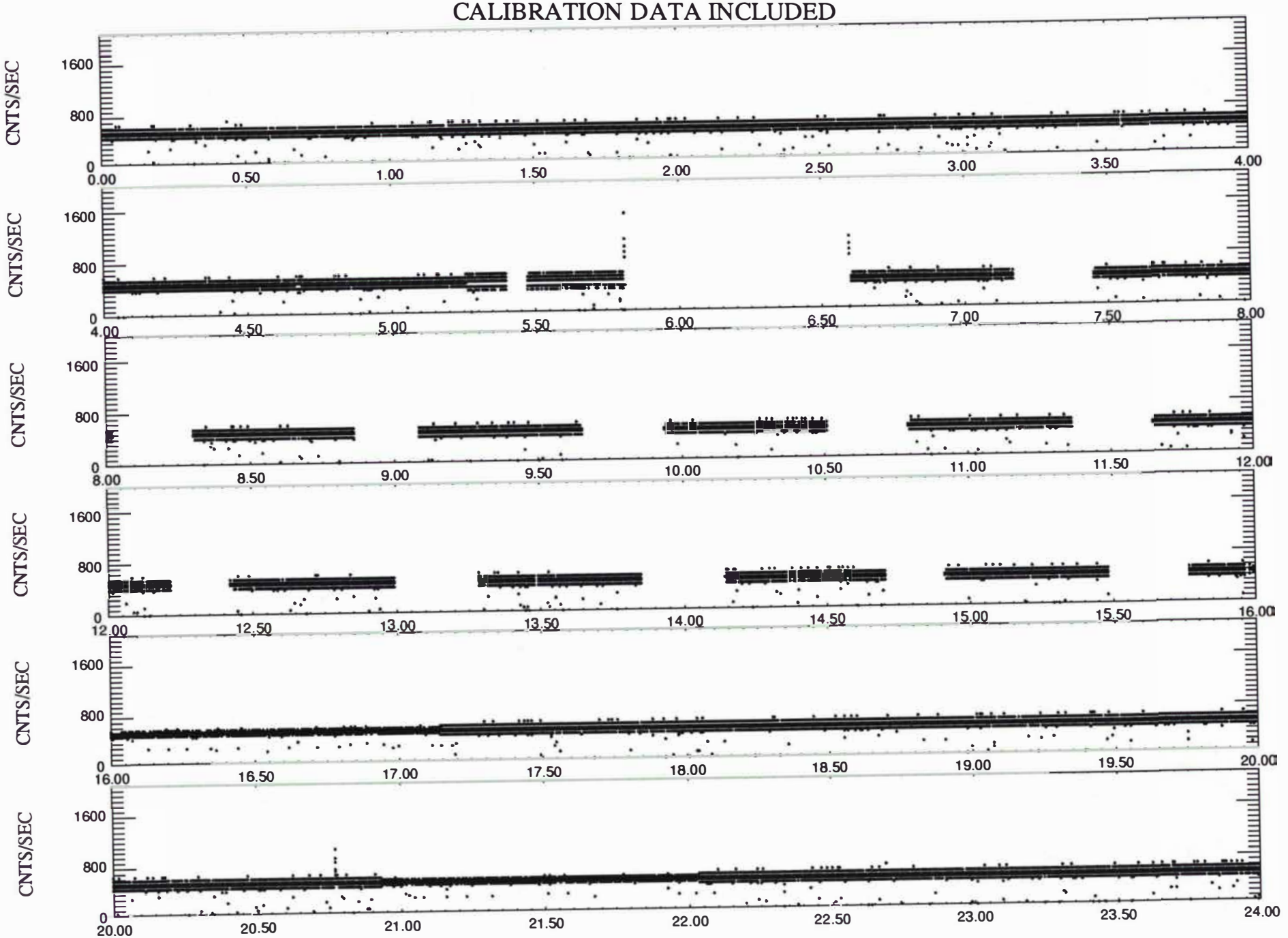


Burst Counter 3 at UT=20.767970386081 h=74764.693 s 20:46:04.693



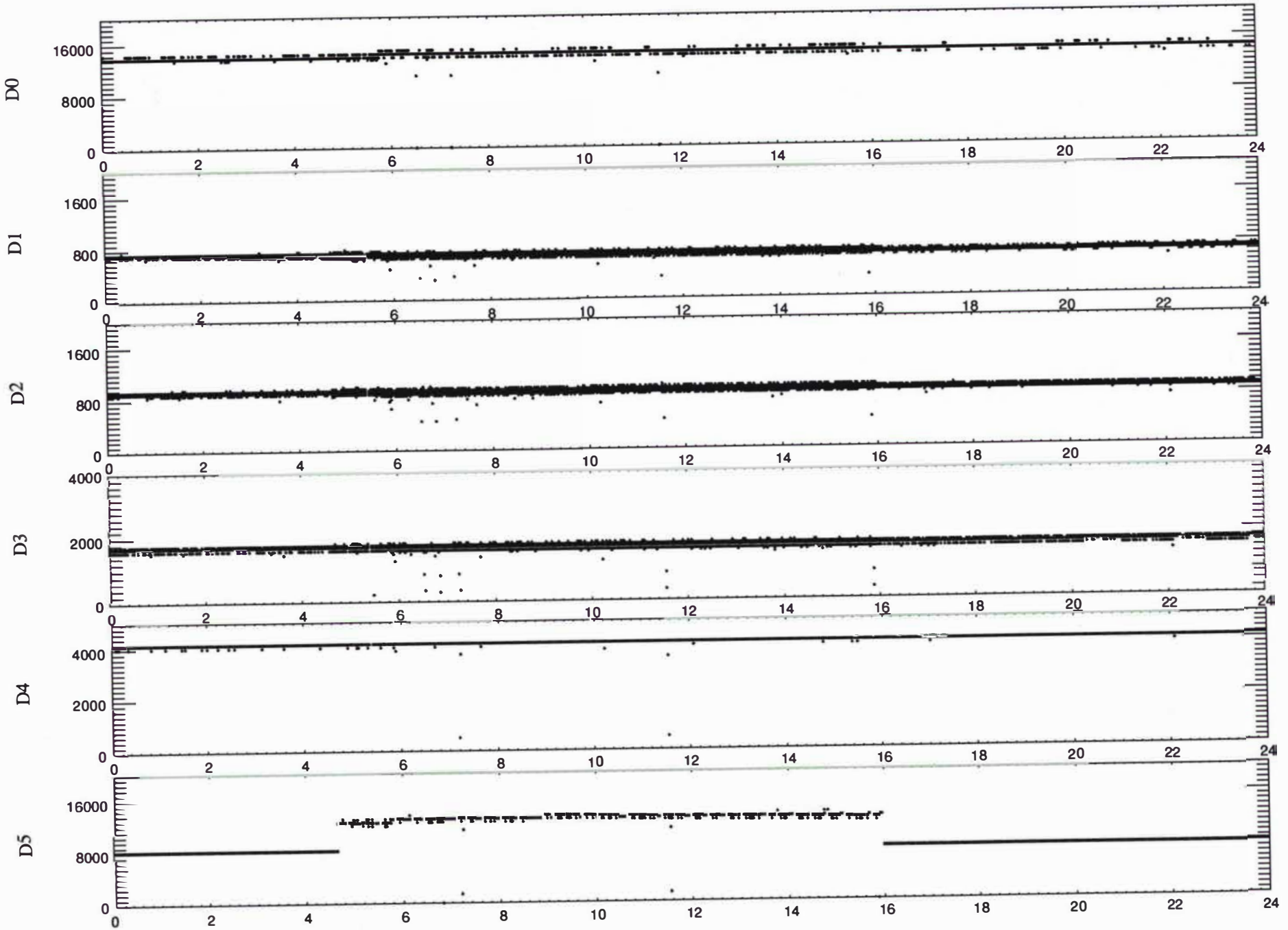
HUS 2A, MODE 1, NOT AVERAGED EDR day 275, year 1996 to day 275, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 275, year 1996 to day 275, year 1996 3/29/97



From DEAL@ssl.msfc.nasa.gov Fri Oct 4 11:44 PDT 1996
Return-Path: <DEAL@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA10216; Fri, 4 Oct 1996 11:44:00 -0700
Date: Fri, 4 Oct 1996 13:43:54 -0500 (CDT)
From: DEAL@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961004134354.23a0a4d9@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5622
Content-Type: text
Content-Length: 1135
X-Lines: 26

****
BATSEARCH PROGRAM
****

BATSE BURST # 5622
EVENT OF 1996 OCT 2 DAY OF YEAR=276
EVENT CROSSING TIME AT BATSE : 61133. S. OR 16:58:53.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 130.000 30.000
BATSE PEAK COUNTING RATE: 1800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/10/ 96 IS:
RA= 172.067 DEC= 33.323 DIST= 5.118 AU
BATSE-ULYSSES DISTANCE = 765711442. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=144.28 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2073.65 SECS.
CROSSING TIME AT ULYSSES IS 59059. S. OR 16:24:19 +/- 277.40 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/10/ 96 IS:
RA= 136.445 DEC= 17.908 DIST= 1.938 AU
MARS-BATSE DISTANCE = 289887424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=166.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -940.47 SECS.
CROSSING TIME AT MARS IS 60193. S. OR 16:43:12 +/- 24.75 SECONDS

BATSE BURST TRIGGER
NO.: 5622

TIME: TJD=0358 SECONDS=61133

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=69.4 AZIMUTH=313.4 ERROR=6.2 DEGREES

COMMENTS:
GRB LASTING ~ 155 S. WEAK DOUBLE PEAK. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5622	961002	10358	61133	1800	130	+30	155

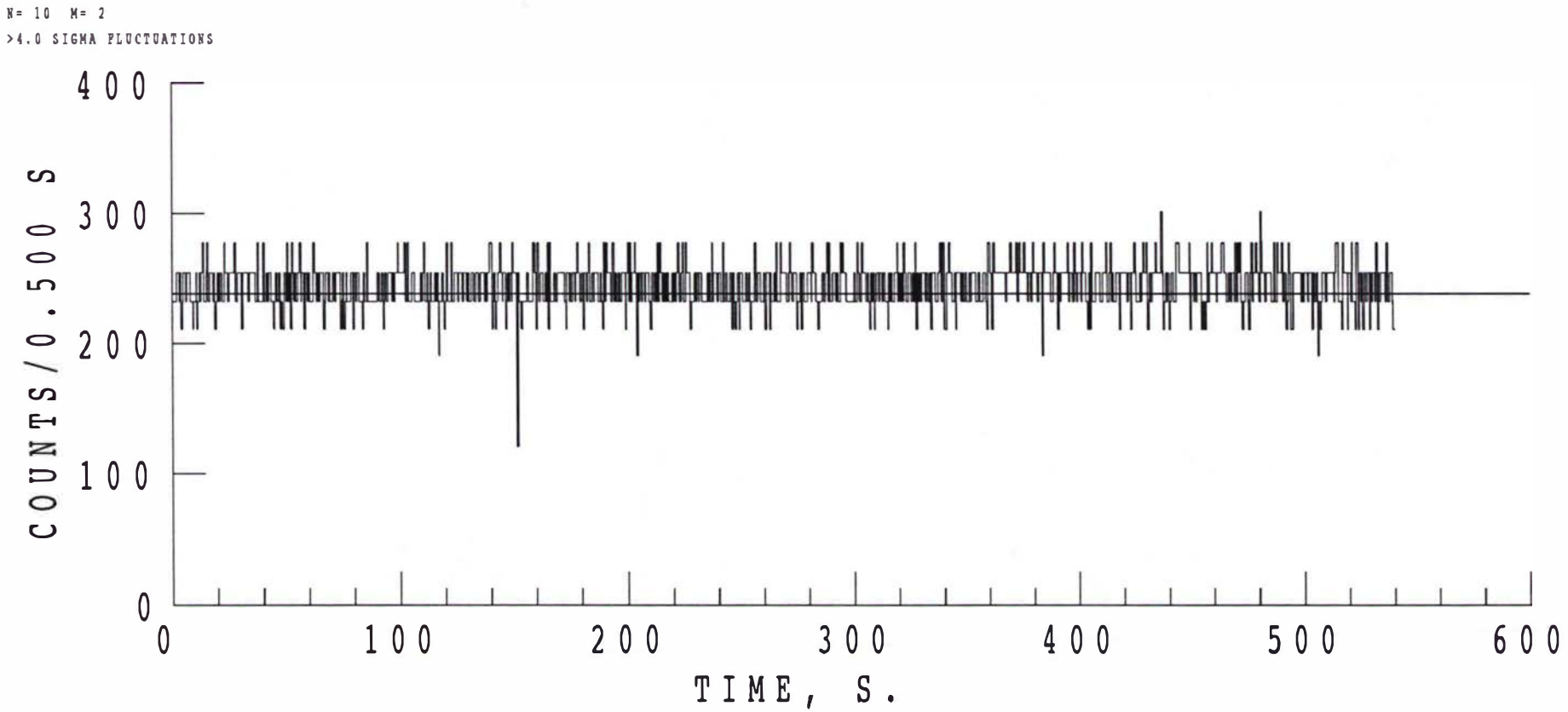
BATSE# 5622

4/10/96

ULYSSES RT

2/10/96 58788.473 s

0- 0 keV



Helio corr removed

Date: Feb 3 '92

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors? N/A

☐ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)?

☐ BATSE ephemeris for T_0?

☐ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included?

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

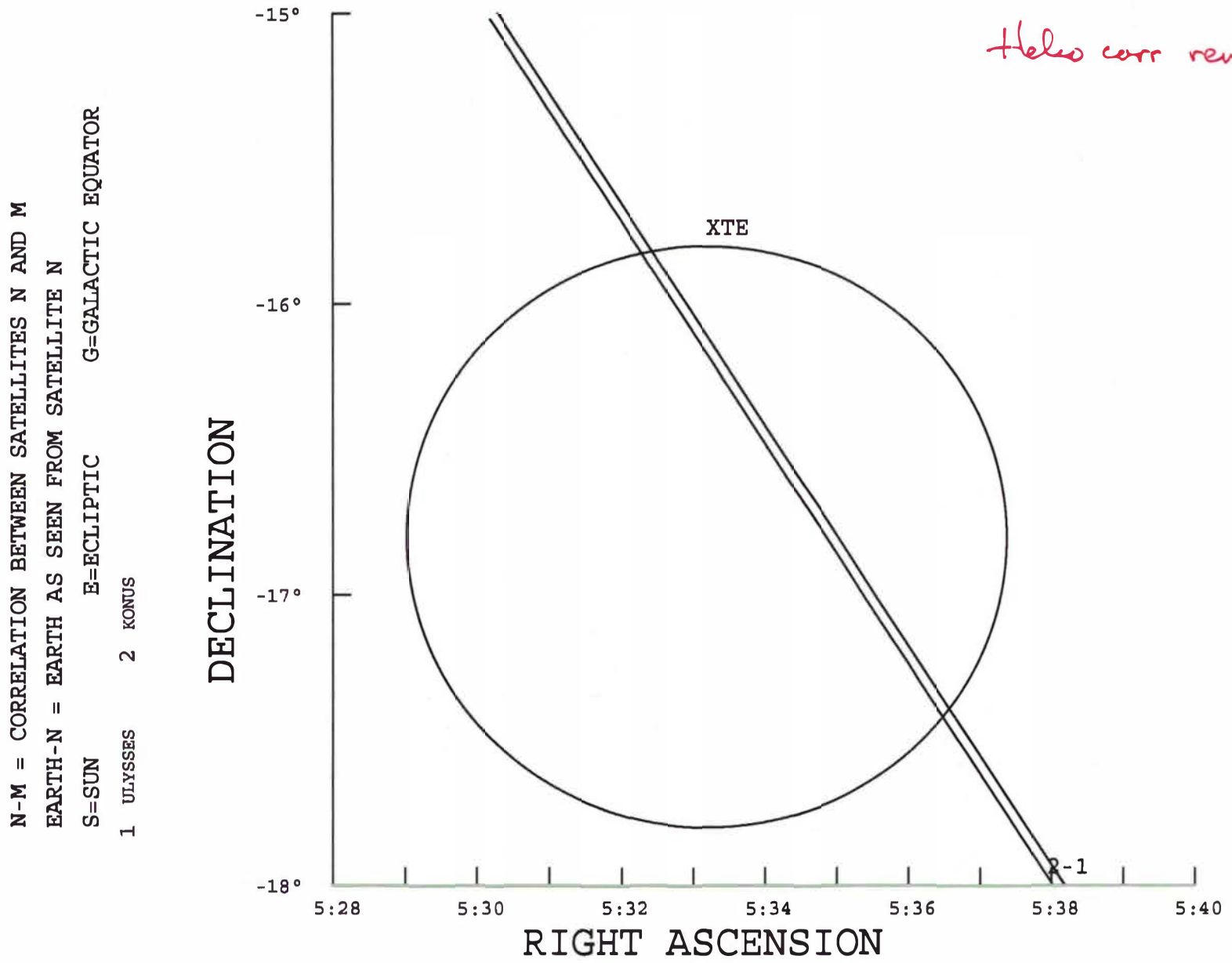
☐ 2000 coordinates used?

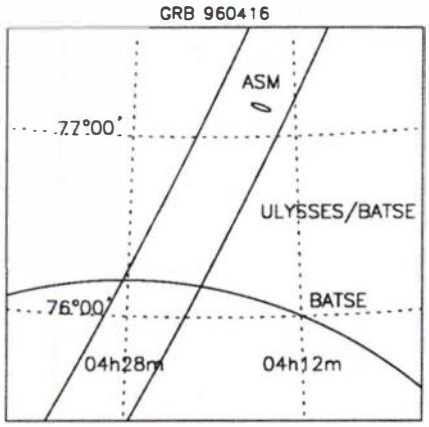
☐ Geocentric time used?

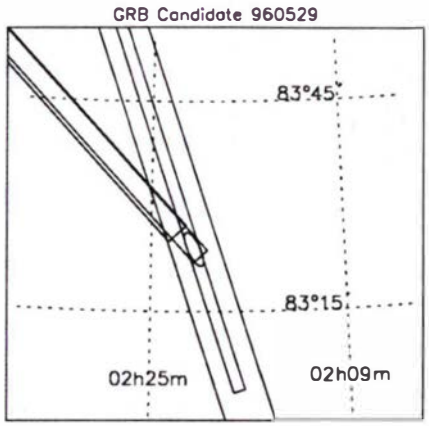
☑ ACCESS database updated?

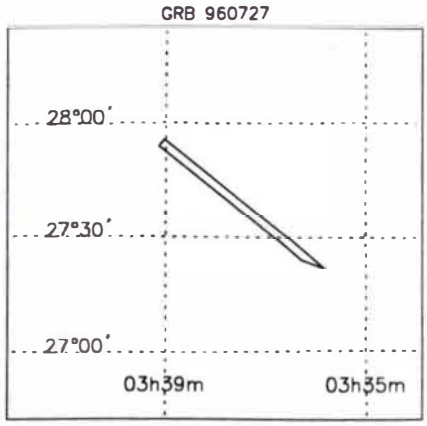
EVENT OF OCT 2, 1996 20:59

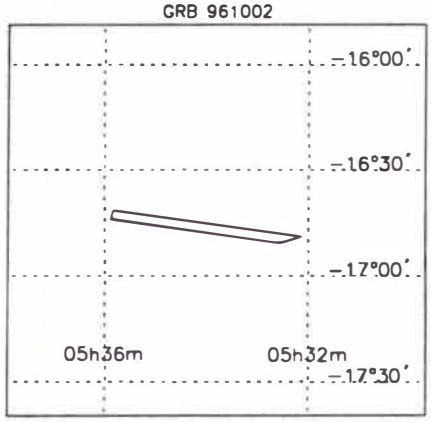
3/ 2/99

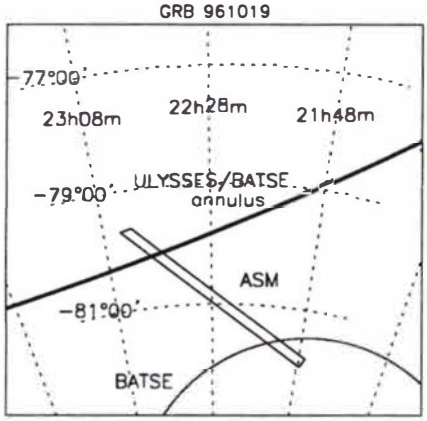


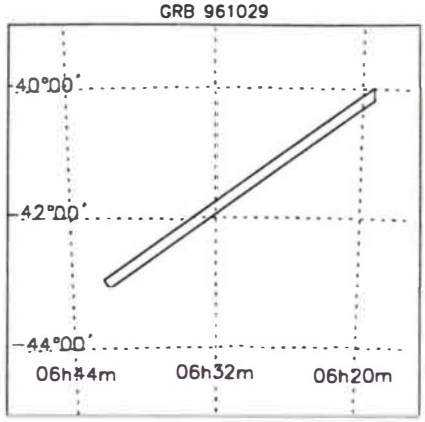

GRB 960416
ASM
77°00′
ULYSSES/BATSE
76°00′
BATSE
04h28m
04h12m

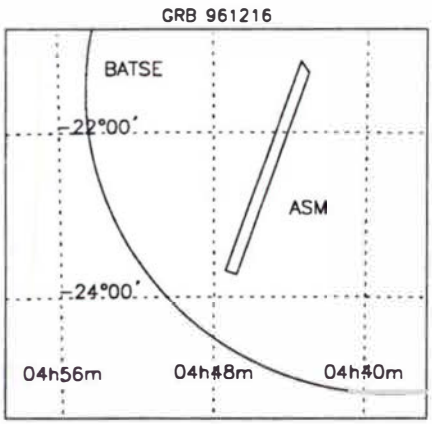

GRB Candidate 960529
83°45′
83°15′
02h25m
02h09m

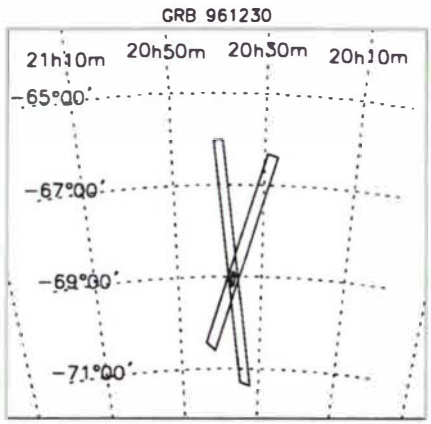

GRB 960727
28°00′
27°30′
27°00′
03h39m
03h35m

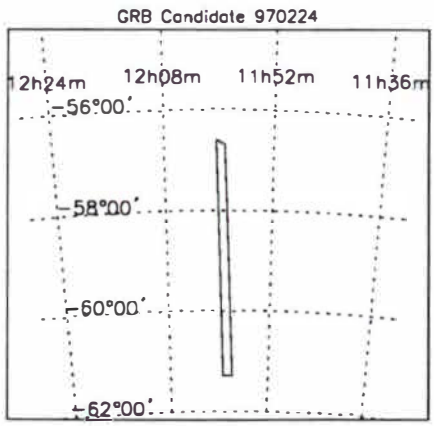

GRB 961002
−16°00′
−16°30′
−17°00′
−17°30′
05h36m
05h32m

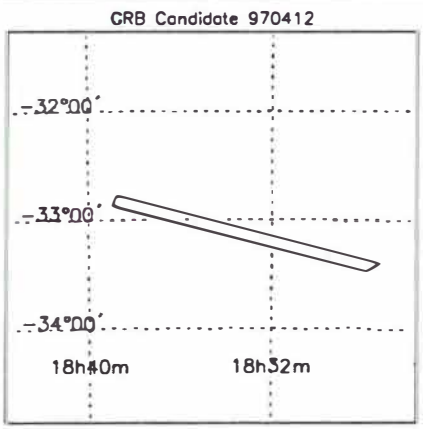

GRB 961019
−77°00′
23h08m
22h28m
21h48m
−79°00′
ULYSSES/BATSE
annulus
ASM
−81°00′
BATSE

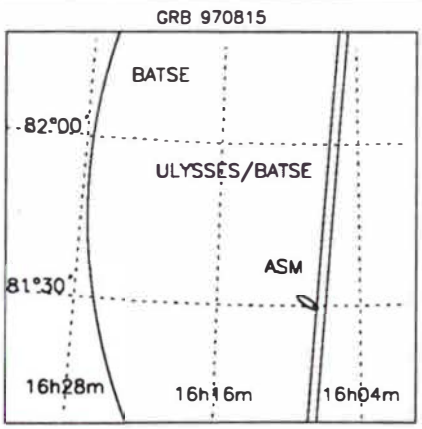

GRB 961029
40°00′
42°00′
44°00′
06h44m
06h32m
06h20m

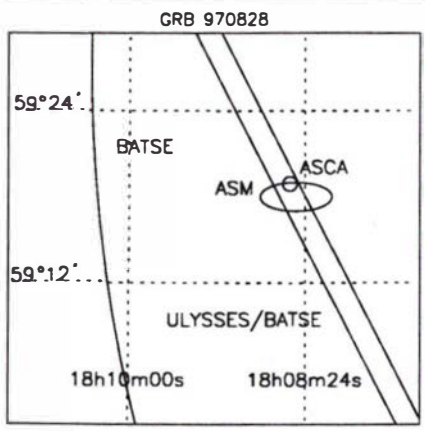

GRB 961216
BATSE
−22°00′
ASM
−24°00′
04h56m
04h48m
04h40m


GRB 961230
21h10m
20h50m
20h30m
20h10m
−65°00′
−67°00′
−69°00′
−71°00′


GRB Candidate 970224
12h24m
12h08m
11h52m
11h36m
−56°00′
−58°00′
−60°00′
−62°00′


GRB Candidate 970412
−32°00′
−33°00′
−34°00′
18h40m
18h32m

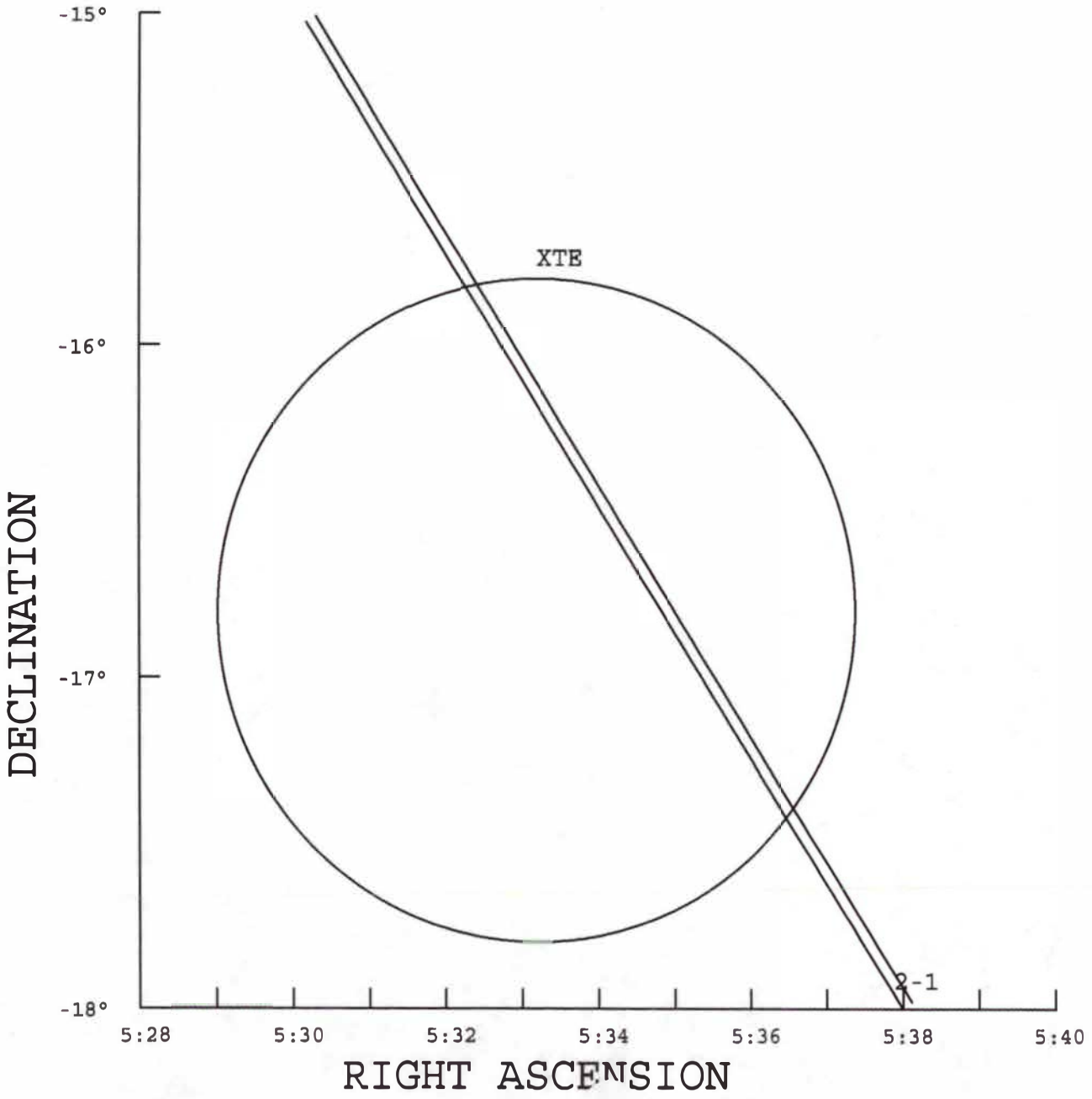

GRB 970815
BATSE
82°00′
ULYSSES/BATSE
ASM
81°30′
16h28m
16h16m
16h04m

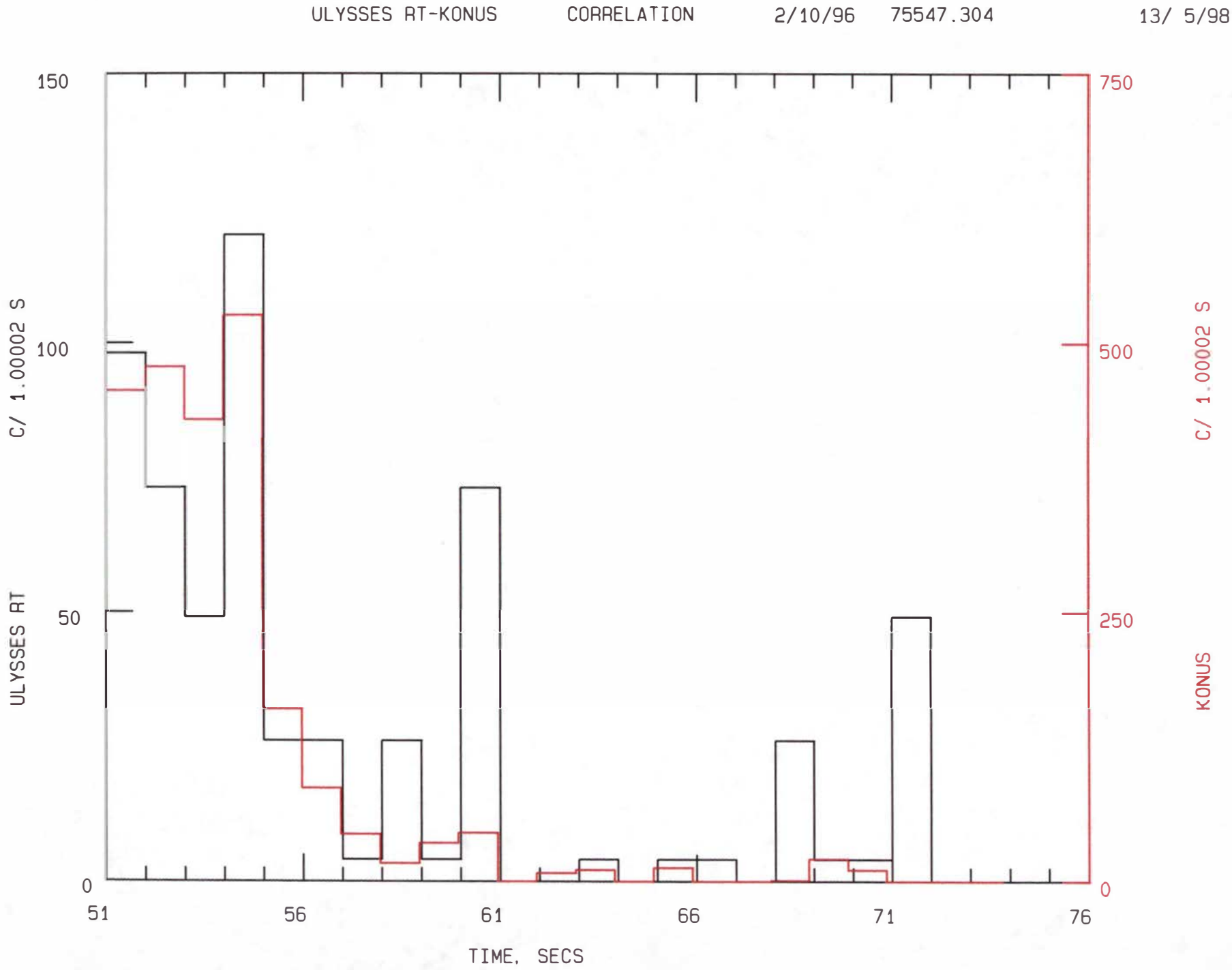

GRB 970828
59°24′
BATSE
ASCA
ASM
59°12′
ULYSSES/BATSE
18h10m00s
18h08m24s

EVENT OF OCT 2, 1996 20:59

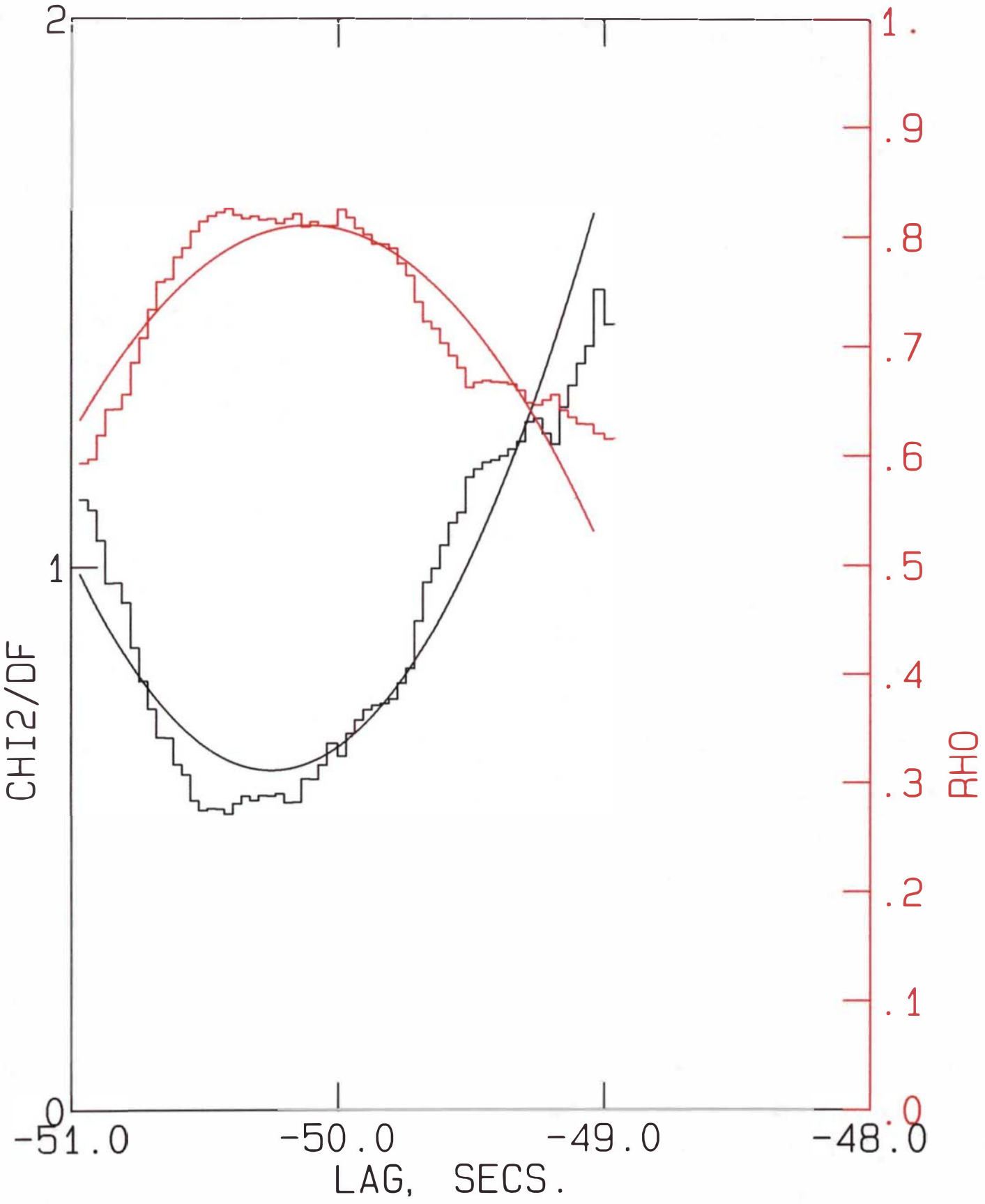
13/ 5/98

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS




ULYSSES RT-KONUS CORRELATION 2/10/96 75547.304 13/ 5/98
150
100
50
0
ULYSSES RT
C/ 1.00002 S
750
500
250
0
KONUS
C/ 1.00002 S
51
56
61
66
71
76
TIME, SECS

ULYSSES RT-KONUS CORRELATION 2/10/96 75547.304



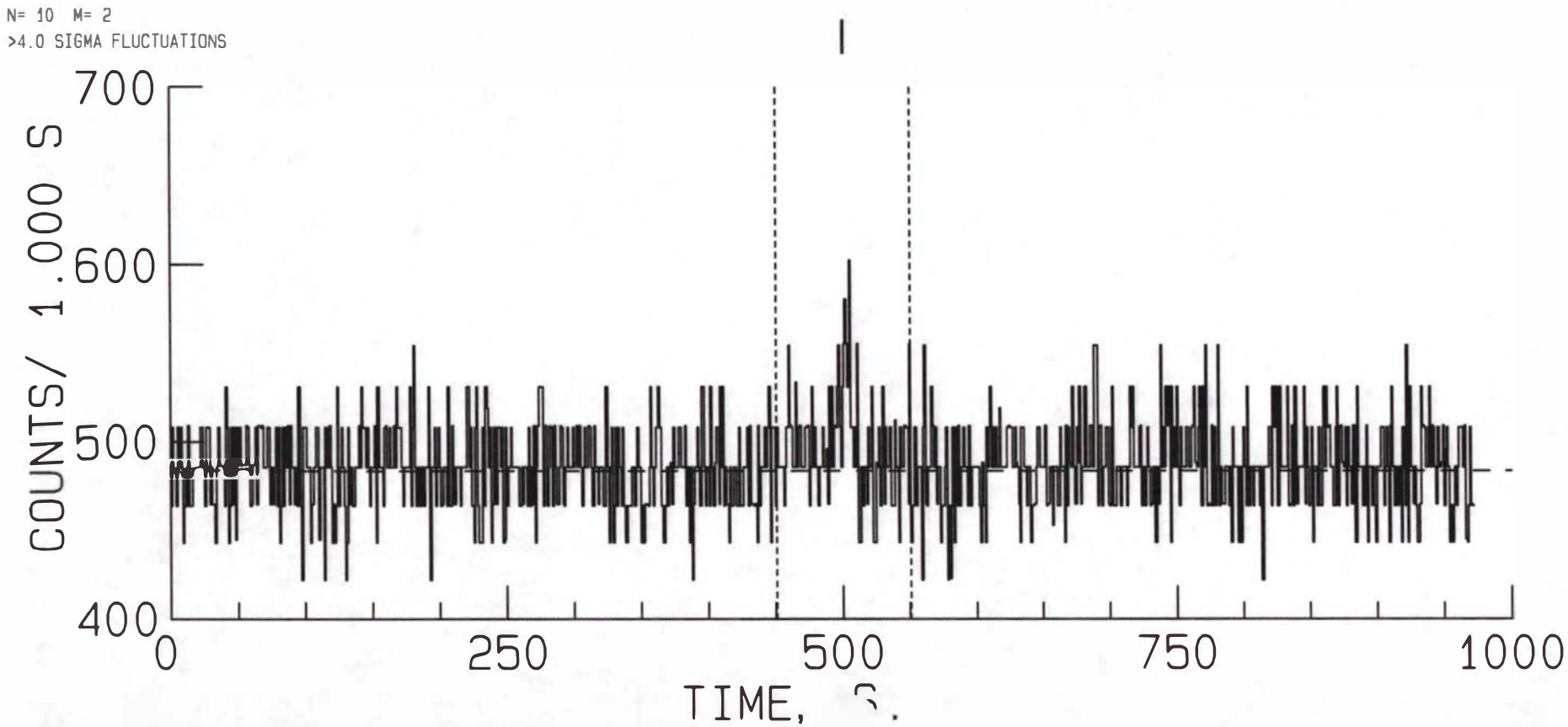
ULYSSES RT

13/ 5/98

2/10/96 75096.178 s

0.500 S INTERVALS REGROUPED BY 2

21- 147 keV



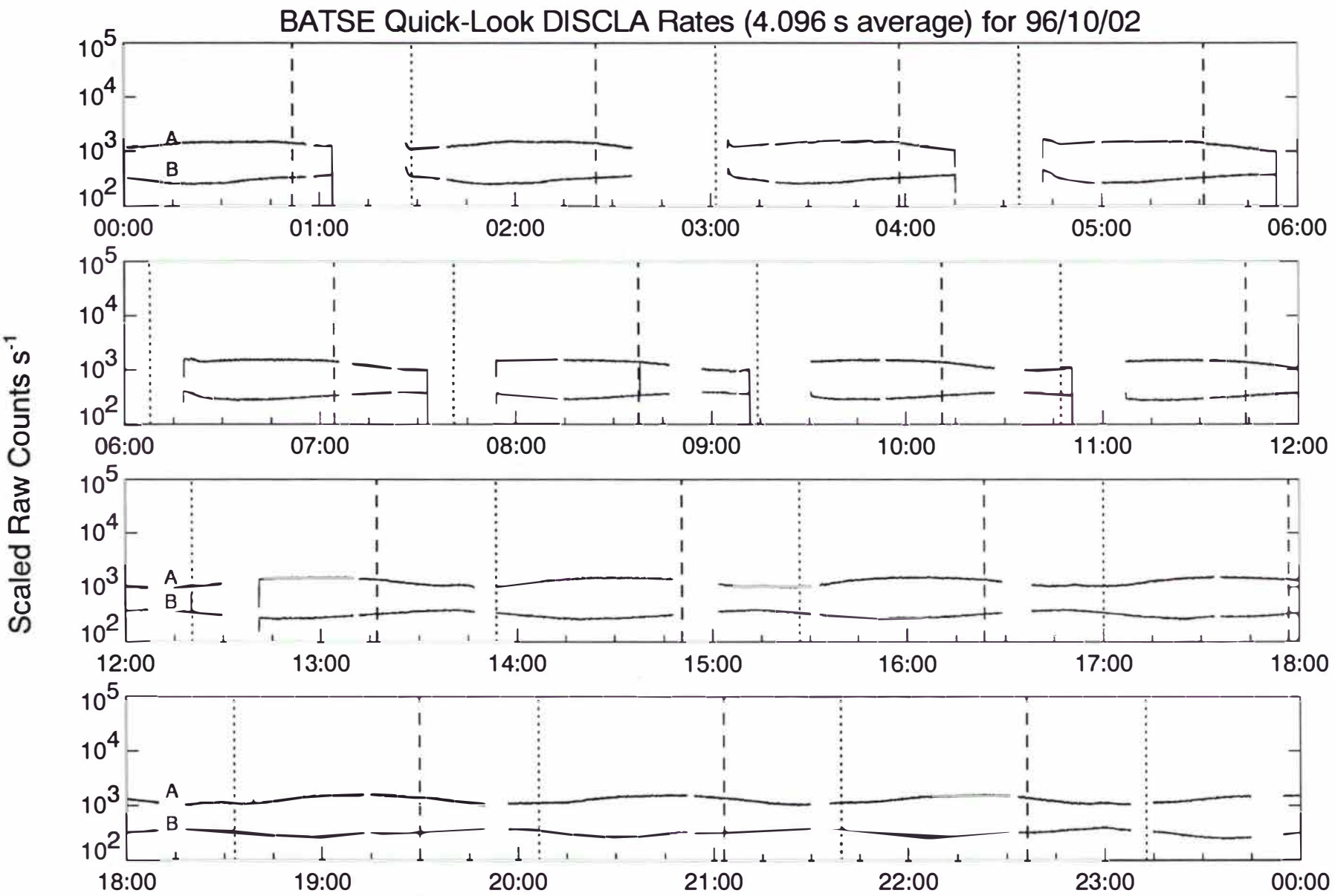
From David.M.Palmer.1@gsfc.nasa.gov Fri Sep 26 07:53 PDT 1997
X-Sender: palmer@lheapop.gsfc.nasa.gov
Mime-Version: 1.0
Date: Fri, 26 Sep 1997 10:53:49 -0400
    cline@apache.gsfc.nasa.gov, Butterworth@lheavx.gsfc.nasa.gov,
        khurley@sunspot.ssl.berkeley.edu
From: David Palmer <David.M.Palmer.1@gsfc.nasa.gov>
Subject: Re: THIS IS THE CORRECT LIST
Cc: kraken@rosserv.gsfc.nasa.gov, helmut.seifert.1@gsfc.nasa.gov,
        bonnard@rosserv.gsfc.nasa.gov

>>Dear Tom,
>>
>>In the list of XTE events I sent you yesterday, I thought that the
>>time in seconds of day was given. In fact, it was the Julian day.
>>Here is the correct list
>>
>>YY MM DD SOD   RA   DEC   S/C
>>96 05 29 20054 35.5 83.5 'XTE'
>>96 04 08 68196 110.5 -03.8 'XTE'
>>96 07 30 02545 100.8 -19.5 'XTE'
>>96 10 02 75222 83.3 -16.8 'XTE'
>>97 04 12 24132 283.8 -31.8 'XTE'
>>96 10 29 68696 97.5 -41.7 'XTE'
>>97 02 24 26044 179.8 -58.7 'XTE'
>>96 12 30 07472 309.0 -69.0 'XTE'
>>
>>Kevin
>
>-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

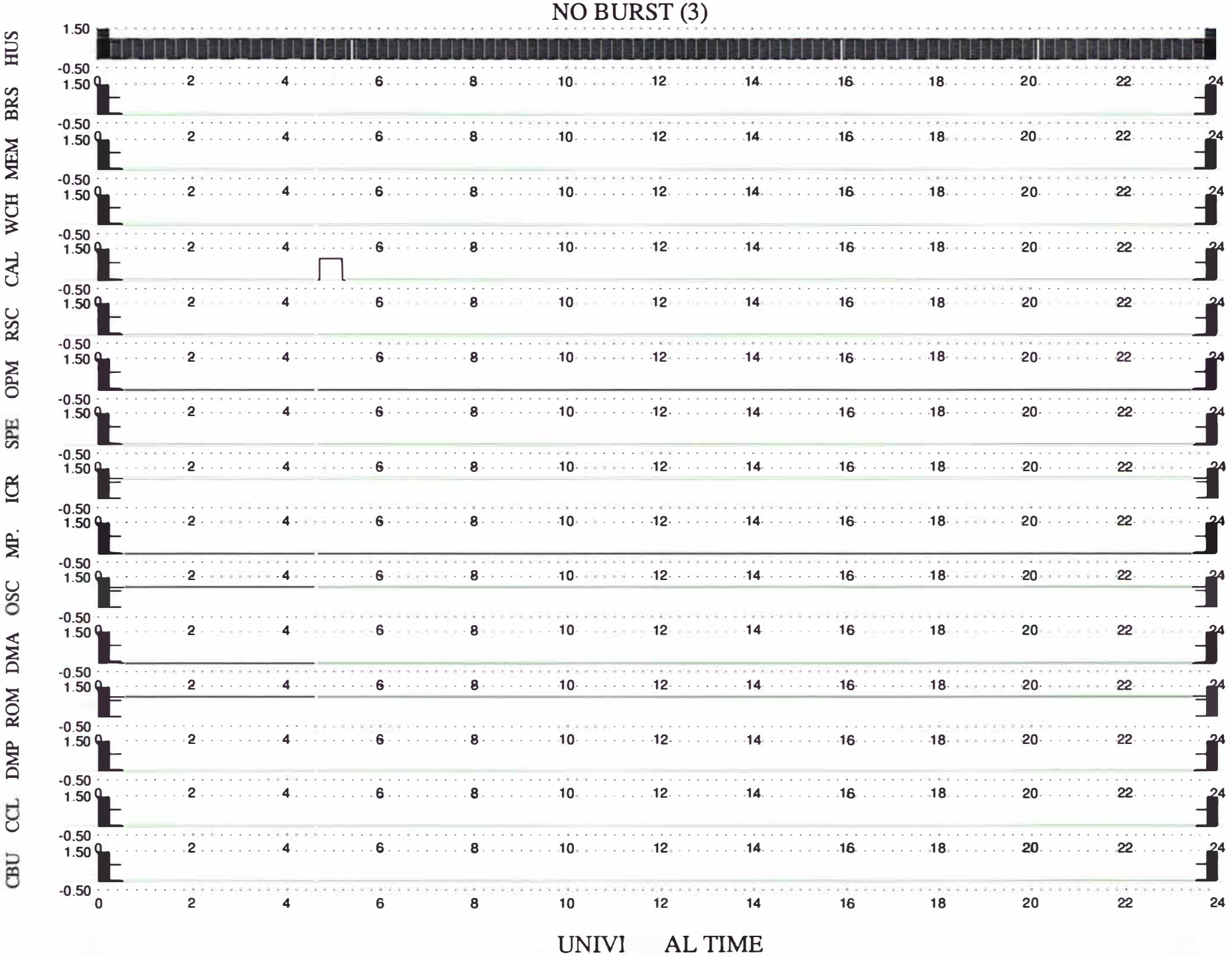
TGRS triggered on 961022_75222 and 961029_68696

961029_68696 is one of the 'Gang of Four'. Accurate locations would be
very useful in settling the repeater question.

David Palmer
palmer@lheamail.gsfc.nasa.gov
USA (301) 286-2739 Voice
USA (301) 286-1684 Fax

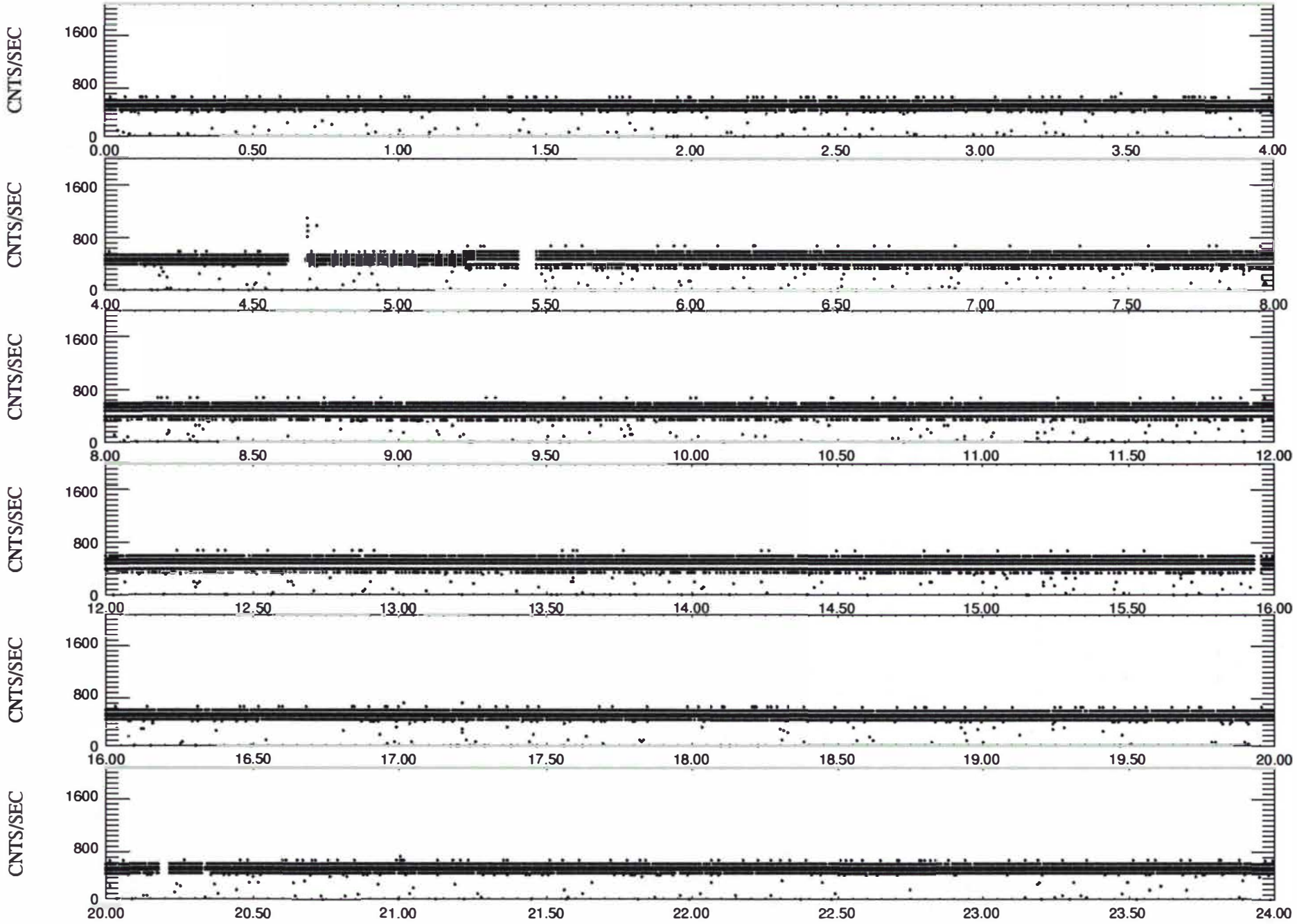

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/02
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/04, 1003 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 276, year 1996 to day 276, year 1996 3/29/97



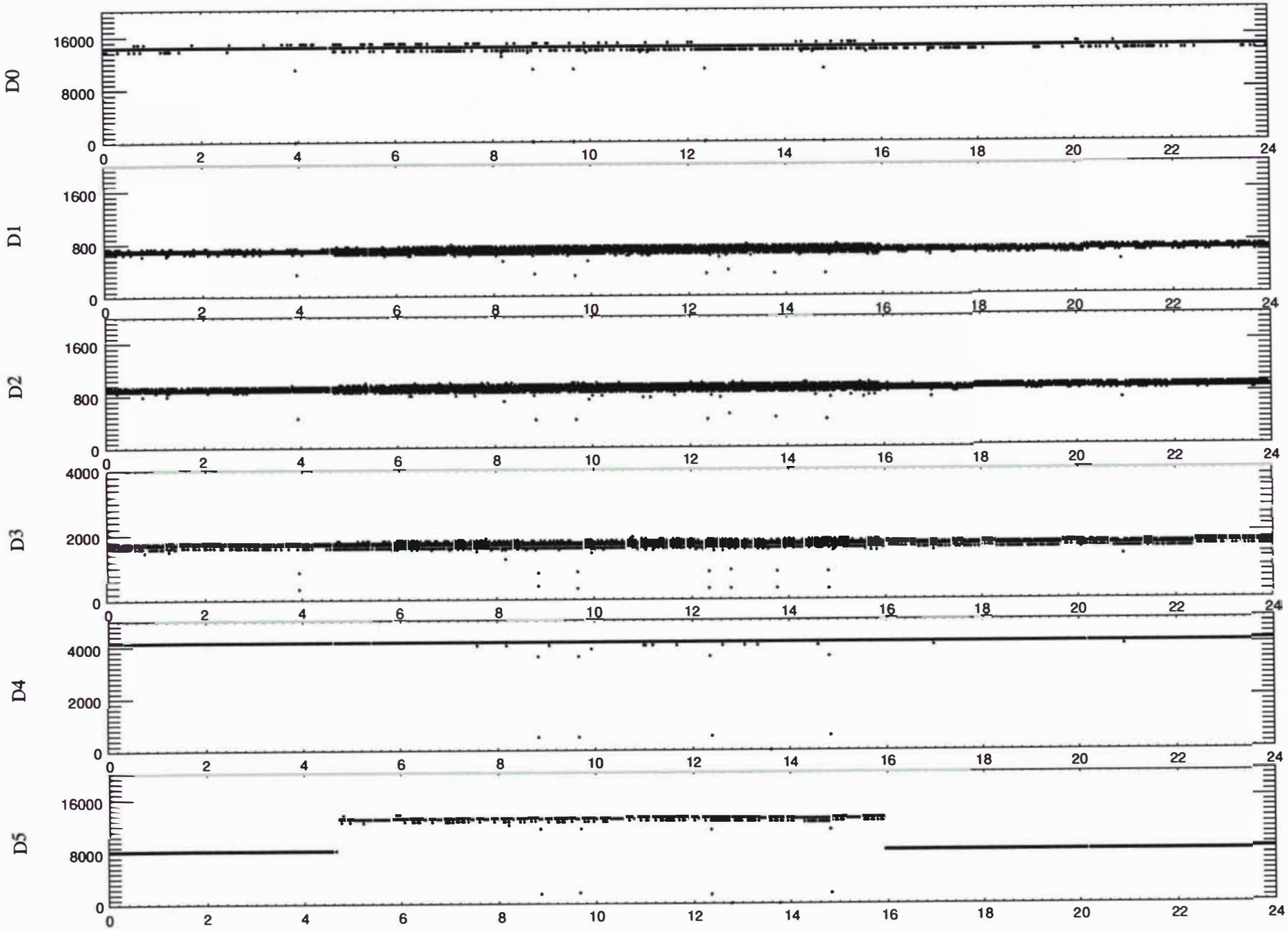
HUS 2A, MODE 1, NOT AVERAGED EDR day 276, year 1996 to day 276, year 1996 3/29/97

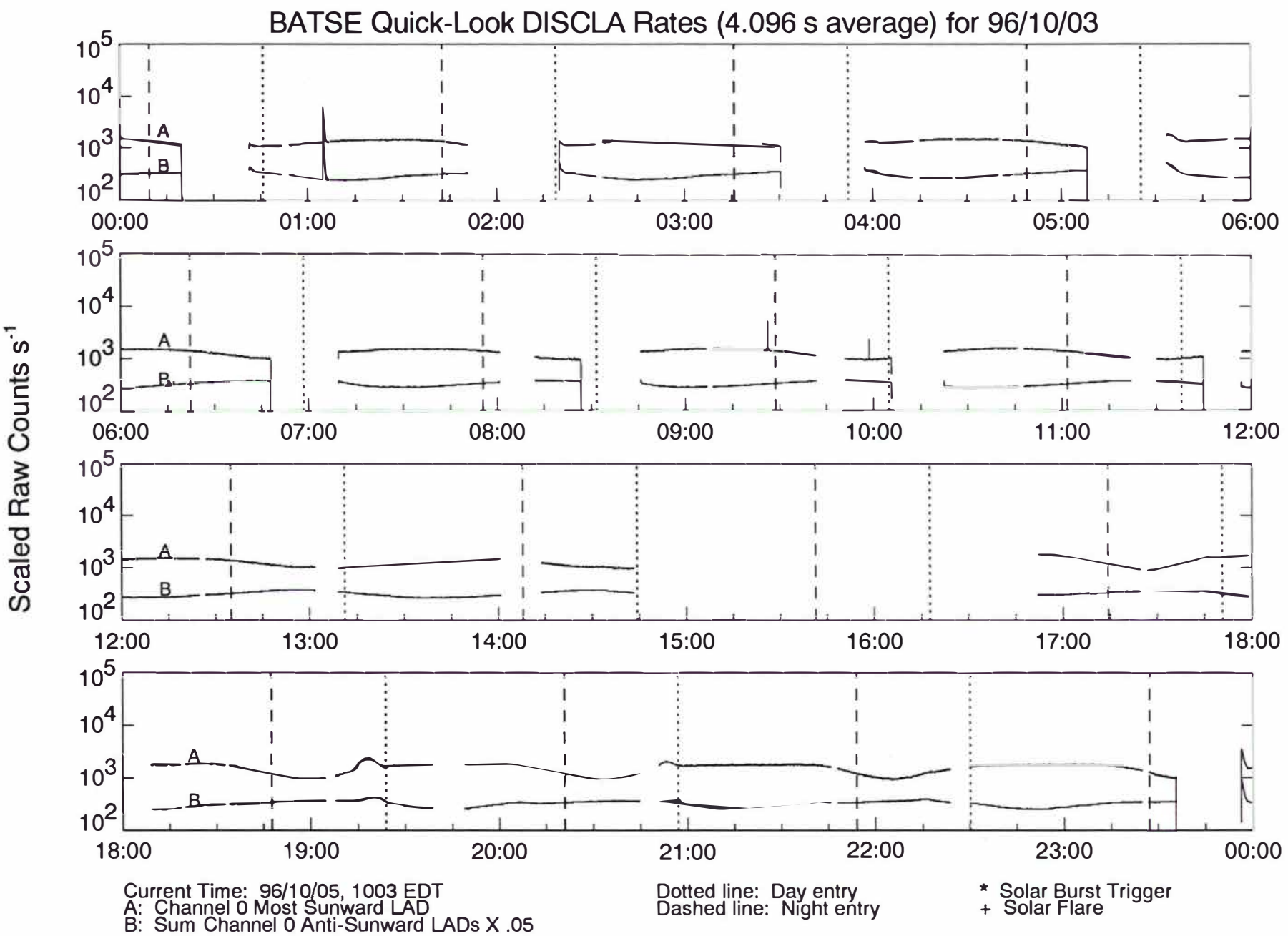
CALIBRATION DATA INCLUDED



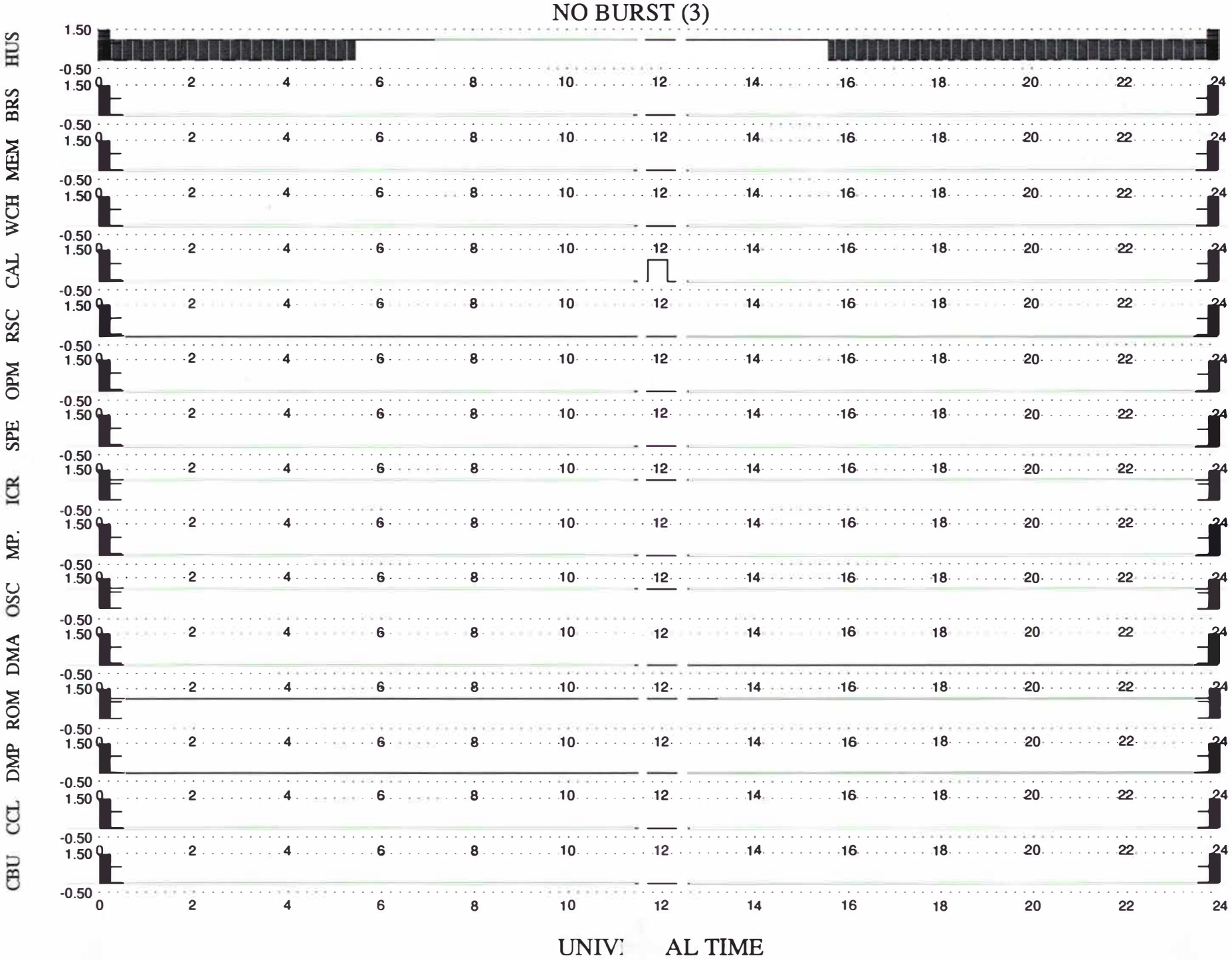
UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 276, year 1996 to day 276, year 1996 3/29/97



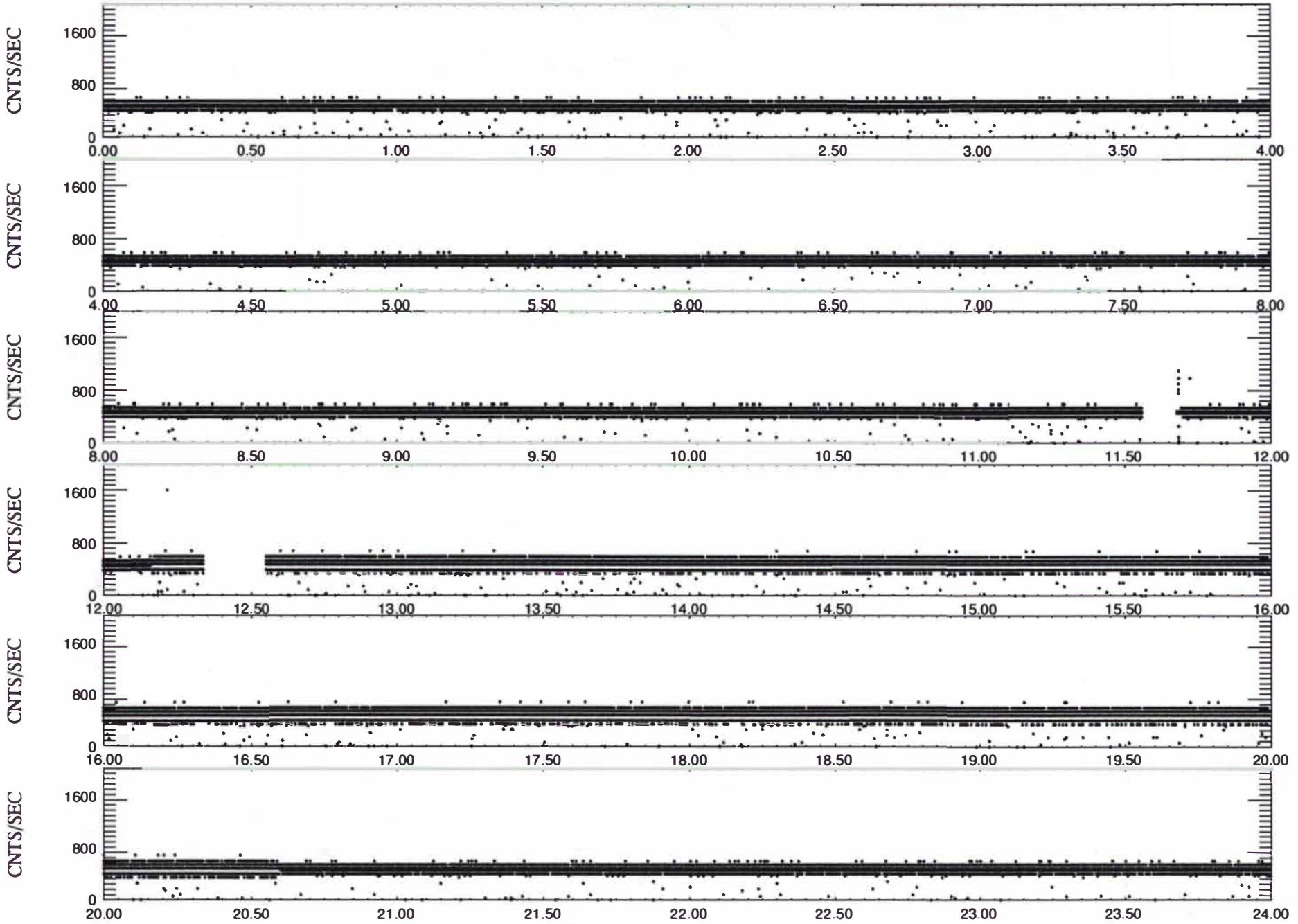

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/03
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/05, 1003 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 277, year 1996 to day 277, year 1996 3/29/97



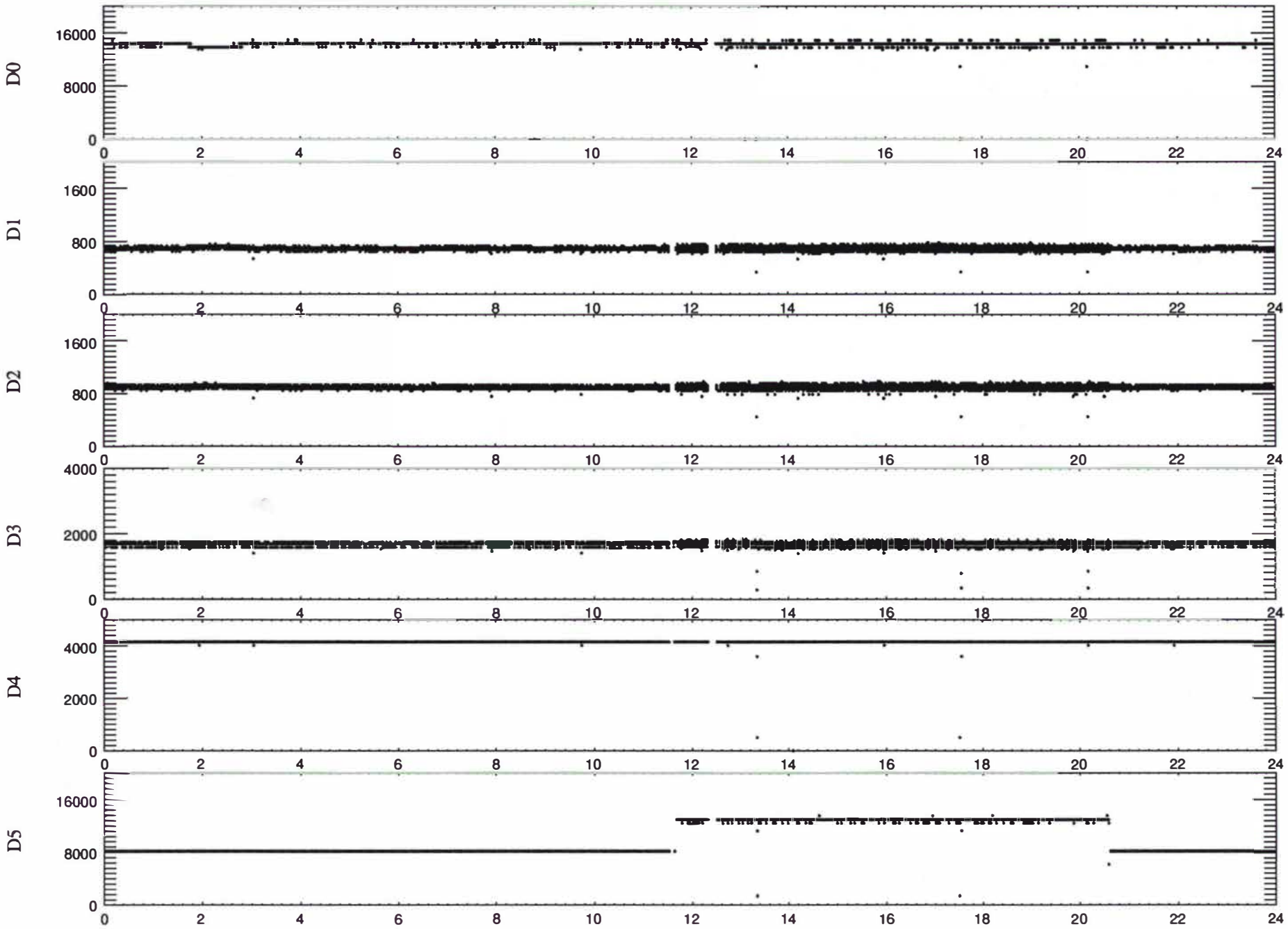
HUS 2A, MODE 1, NOT AVERAGED EDR day 277, year 1996 to day 277, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 277, year 1996 to day 277, year 1996 3/29/97



From SURASAK@SSLLES.MSFC.NASA.GOV Tue Oct 8 09:39 PDT 1996
Return-Path: <SURASAK@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA12188; Tue, 8 Oct 1996 09:39:51 -0700
From: SURASAK@SSLLES.MSFC.NASA.GOV
Date: Tue, 8 Oct 1996 11:39:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961008113947.23a0a6ae@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5623
Content-Type: text
Content-Length: 1135
X-Lines: 26

****
BATSEARCH PROGRAM
****

BATSE BURST # 5623
EVENT OF 1996 OCT 4 DAY OF YEAR=278
EVENT CROSSING TIME AT BATSE : 68314. S. OR 18:58:34.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 81.000 -35.000
BATSE PEAK COUNTING RATE: 5500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/10/ 96 IS:
RA= 172.424 DEC= 33.149 DIST= 5.110 AU
BATSE-ULYSSES DISTANCE = 764427557. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 70.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 843.22 SECS.
CROSSING TIME AT ULYSSES IS 69157. S. OR 19:12:37 +/- 480.59 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/10/ 96 IS:
RA= 137.656 DEC= 17.583 DIST= 1.924 AU
MARS-BATSE DISTANCE = 287897024. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.83 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -245.80 SECS.
CROSSING TIME AT MARS IS 68068. S. OR 18:54:28 +/- 157.44 SECONDS

BATSE BURST TRIGGER

NO.: 5623

TIME: TJD=0360 SECONDS=68314

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=52.8 AZIMUTH=167.4 ERROR=5.686 DEGREES

COMMENTS:
GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR~4S. MAIN PEAK HAS DUR~0.3S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5623	961004	10360	68314	5500	081	-35	4

BATSE# 5623

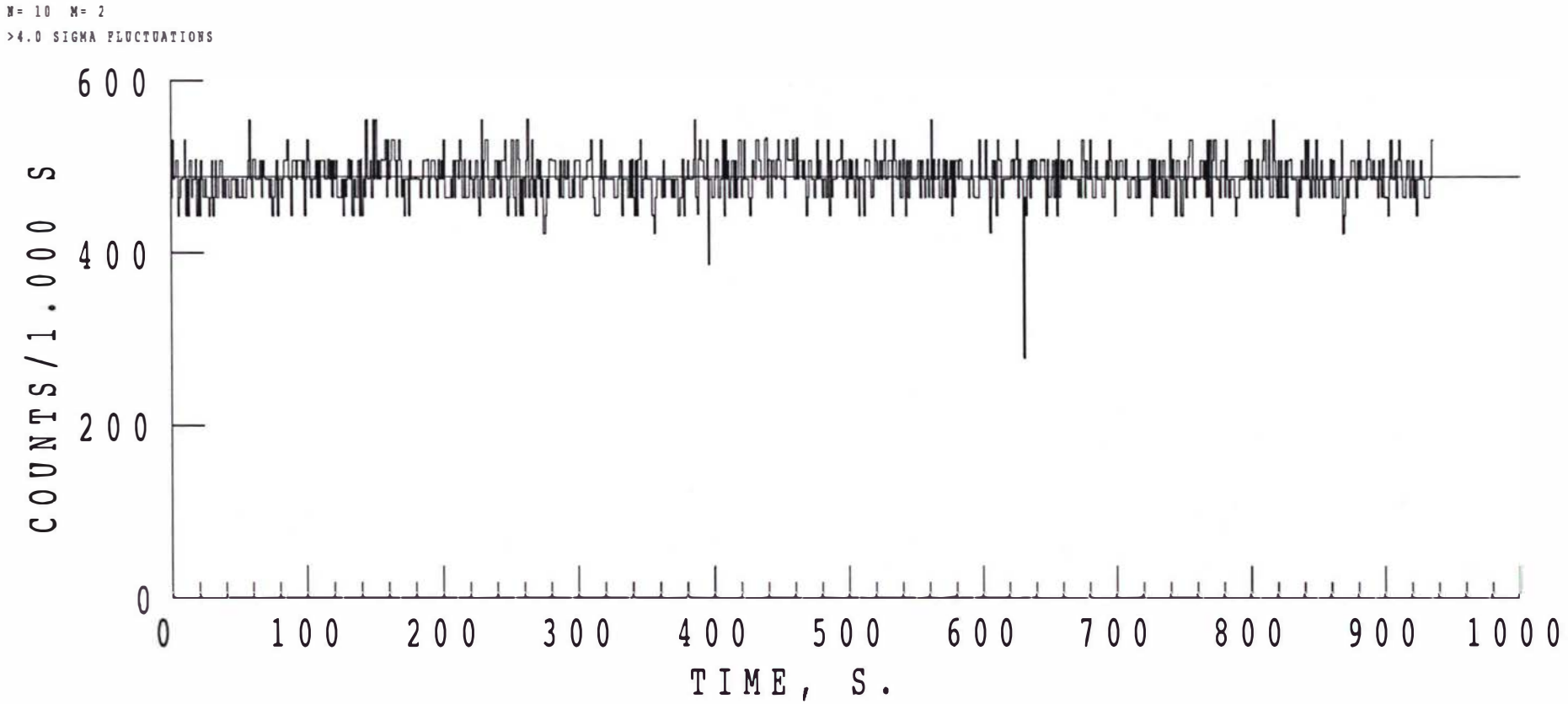
10/10/96

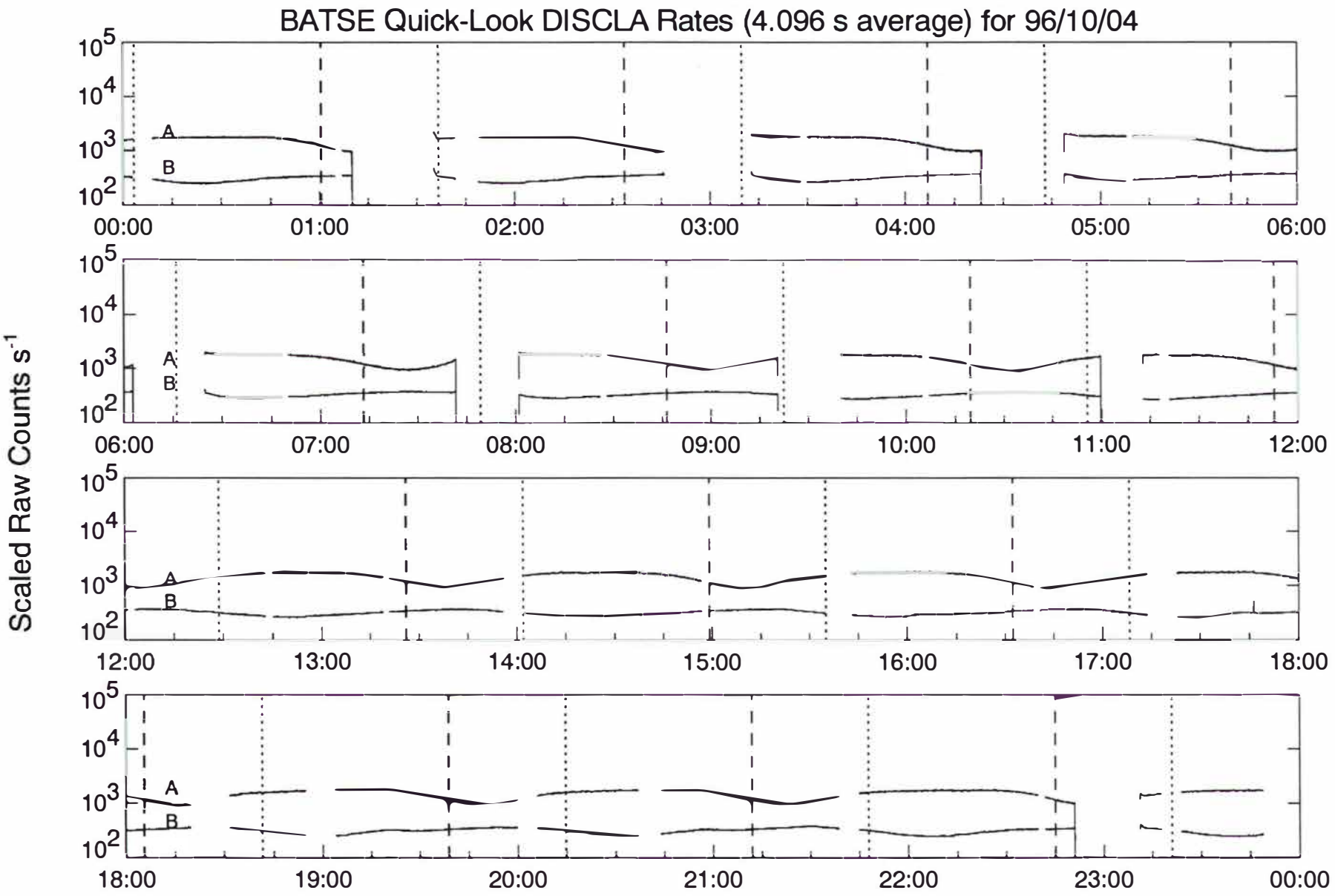
ULYSSES RT

4/10/96 68688.289 s

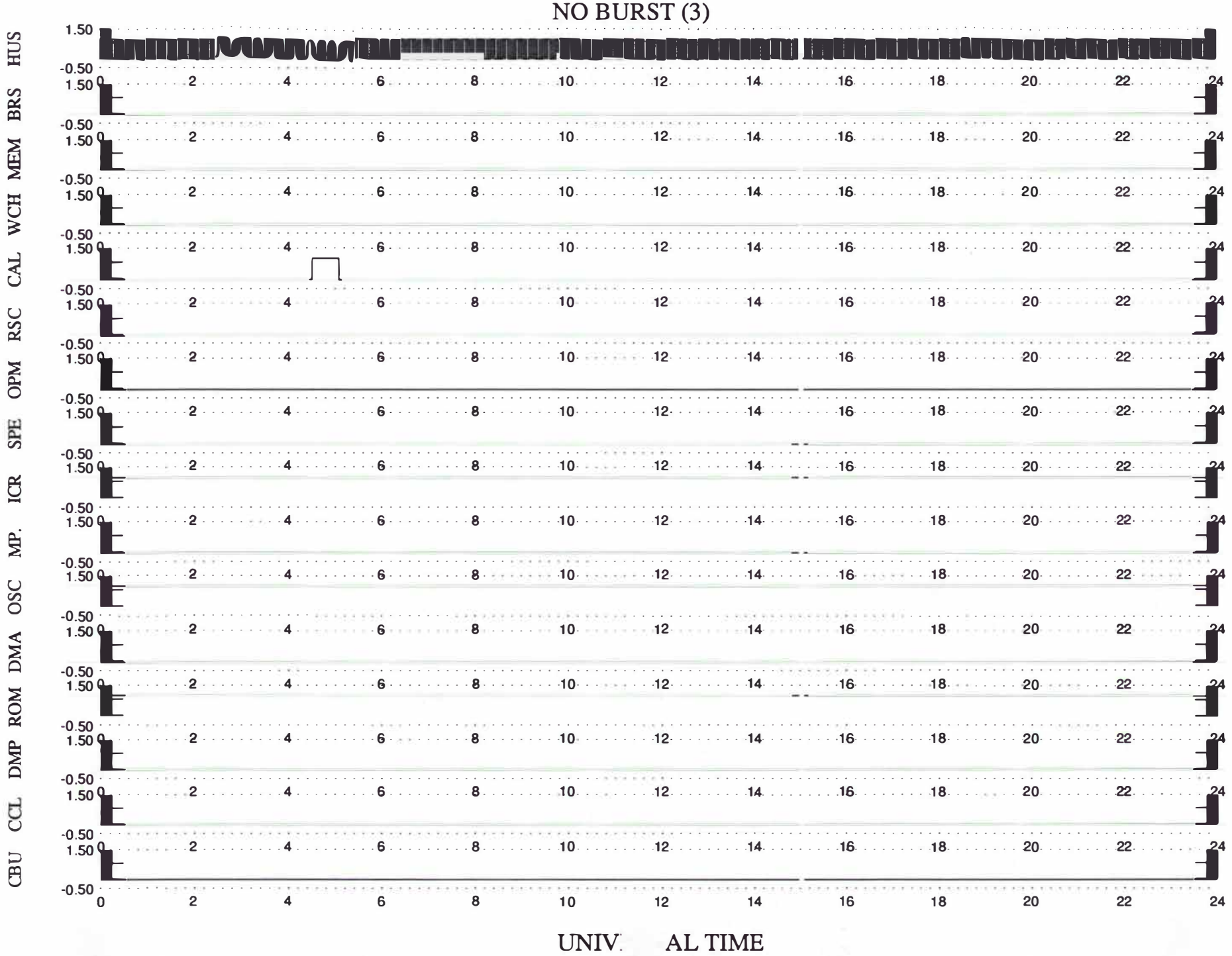
0.500 S INTERVALS REGROUPED BY 2

0- 0 keV



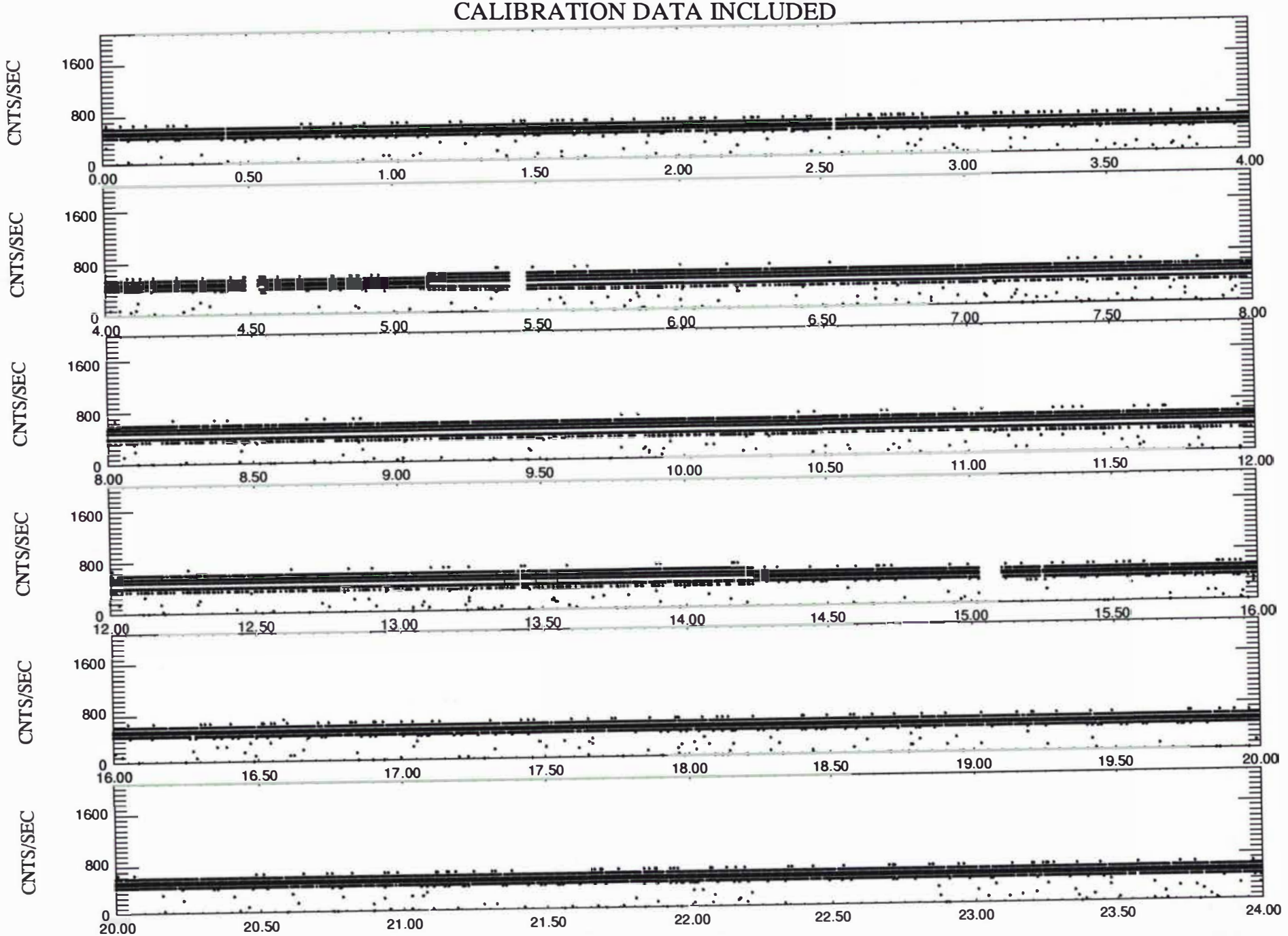

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/04
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/06, 1003 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 278, year 1996 to day 278, year 1996 3/29/97



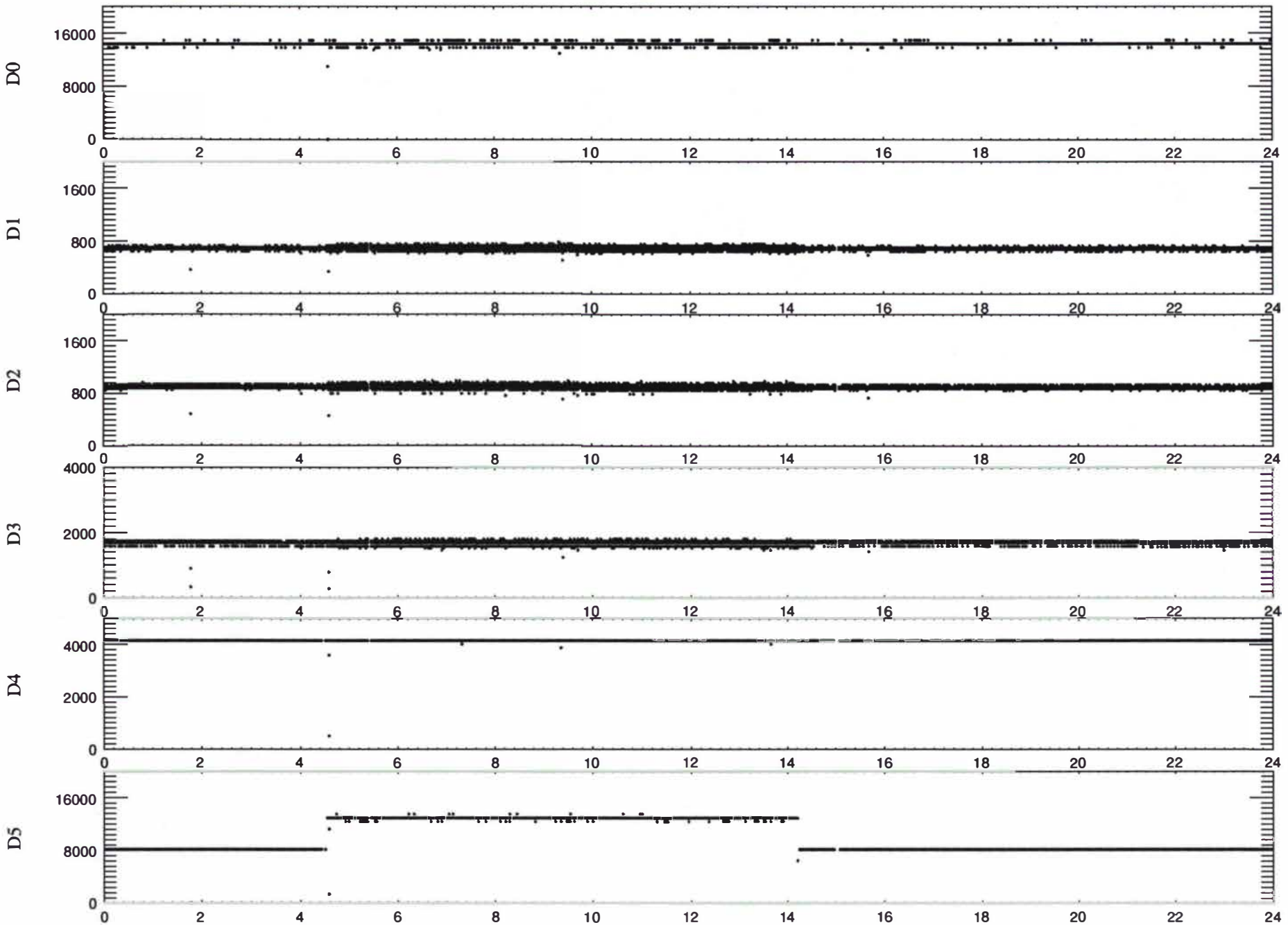
HUS 2A, MODE 1, NOT AVERAGED EDR day 278, year 1996 to day 278, year 1996 3/29/97

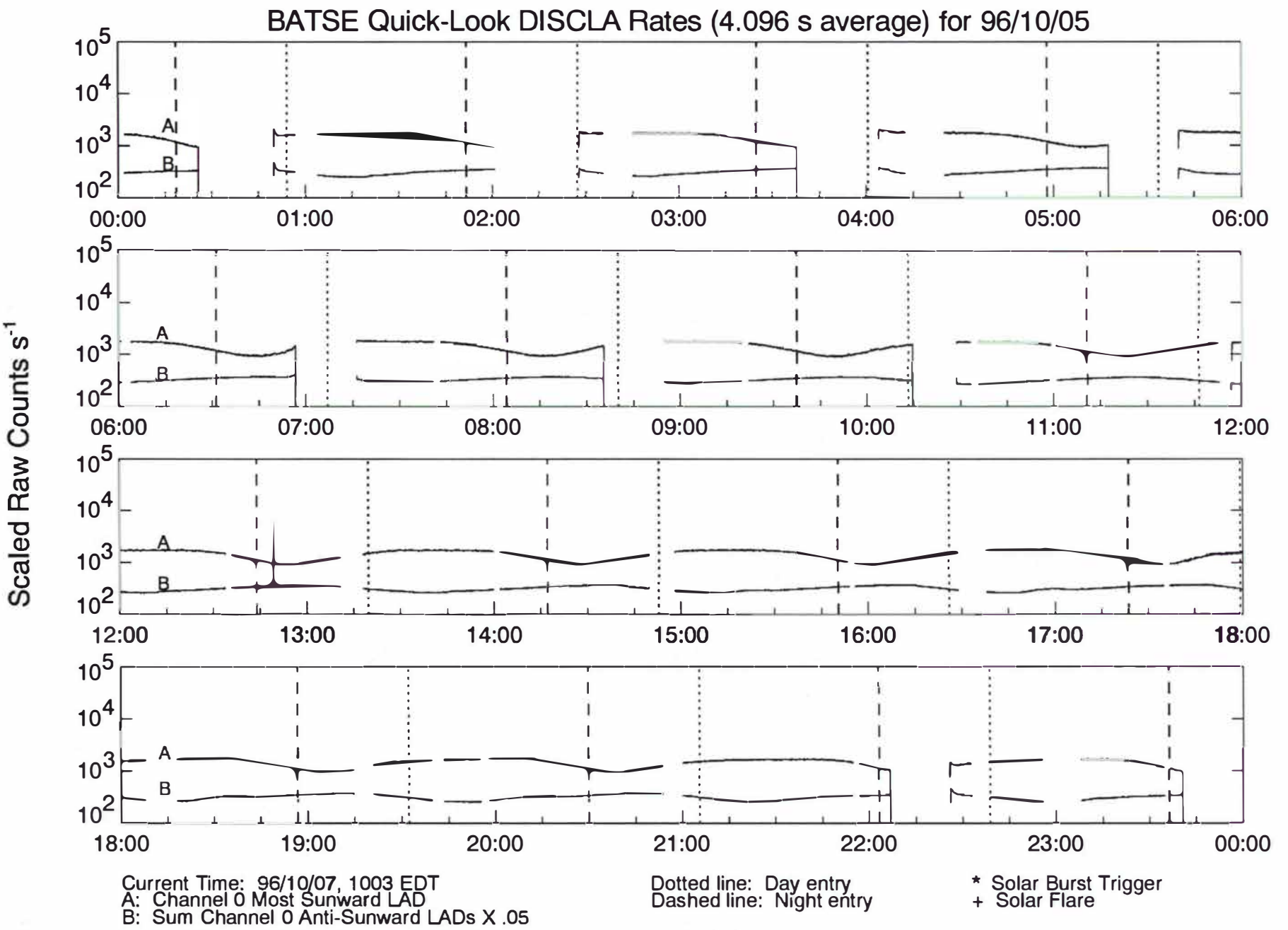
CALIBRATION DATA INCLUDED



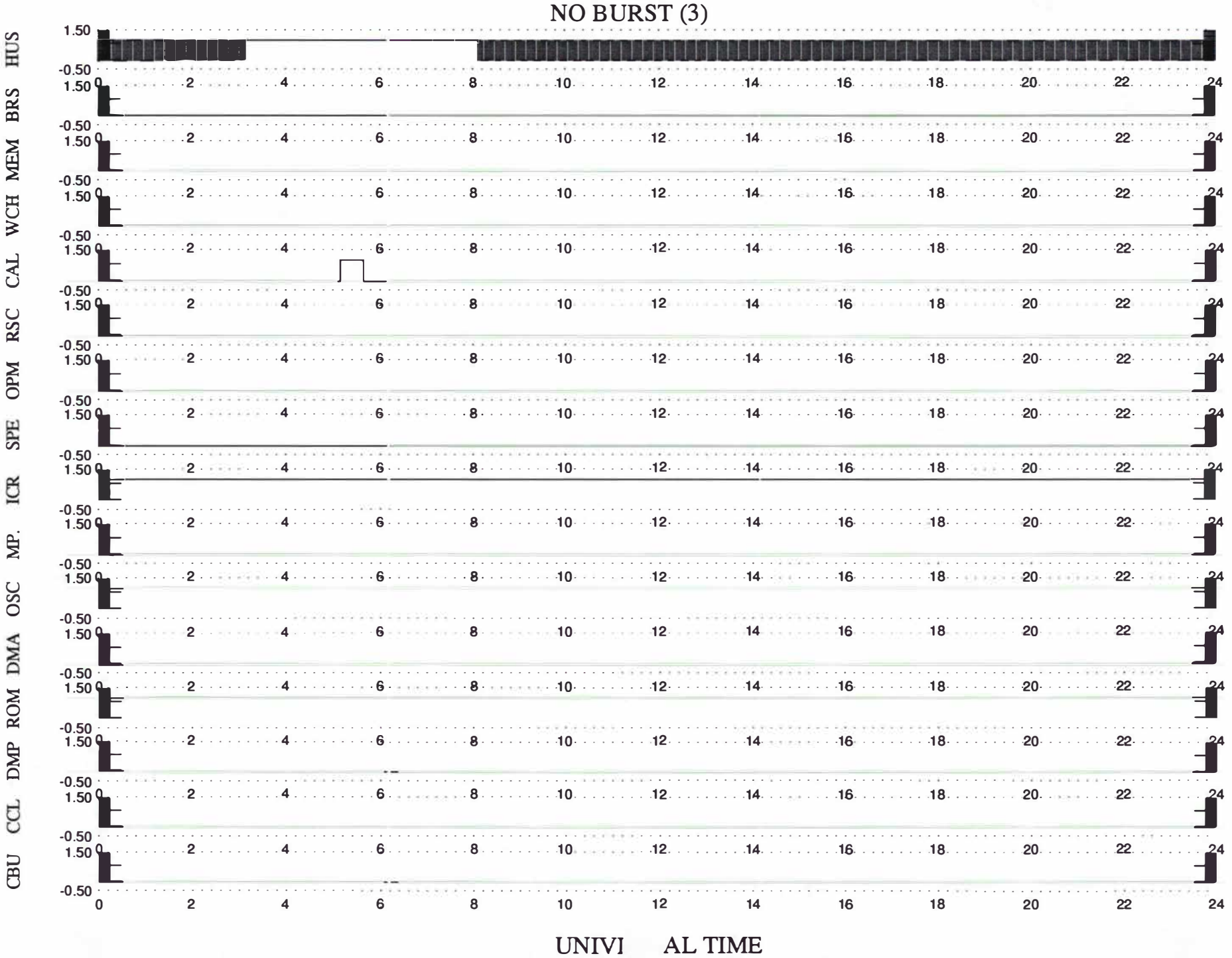
UNIV AL TIME

HUS 2B COUNTS / SEC EDR day 278, year 1996 to day 278, year 1996 3/29/97



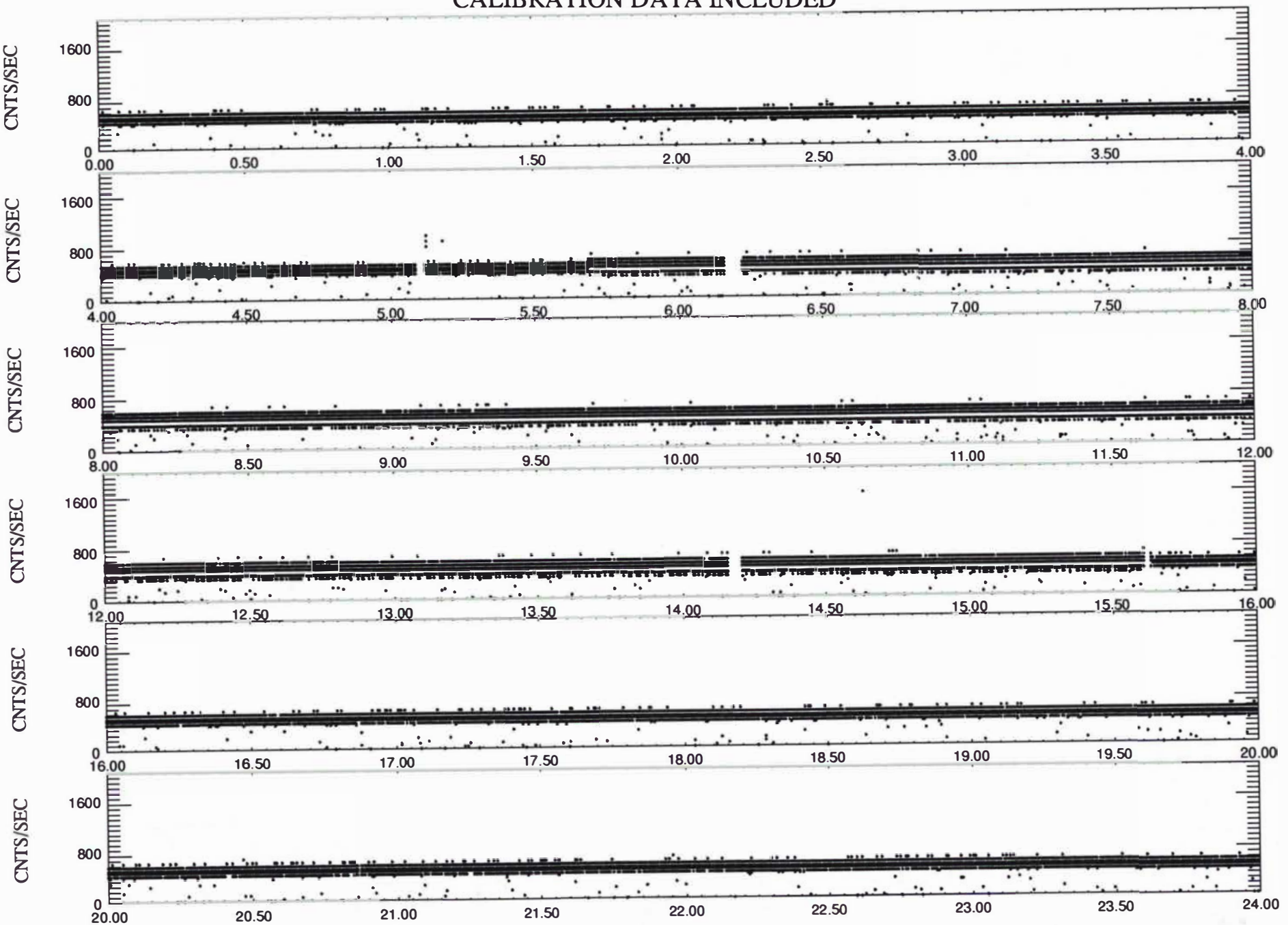

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/05
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/07, 1003 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 279, year 1996 to day 279, year 1996 3/29/97



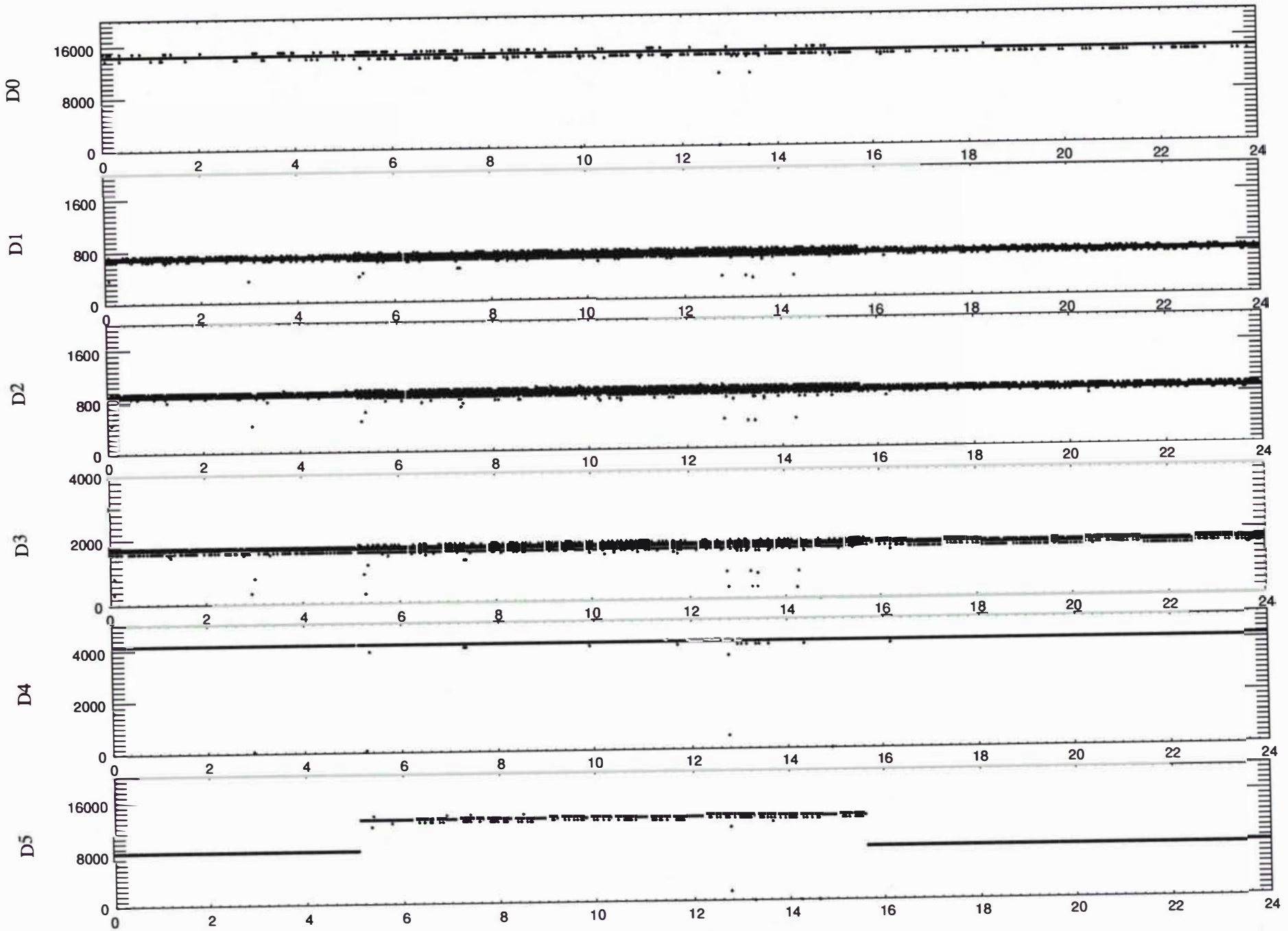
HUS 2A, MODE 1, NOT AVERAGED EDR day 279, year 1996 to day 279, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 279, year 1996 to day 279, year 1996 3/29/97



From RICHARDSON@ssl.msfc.nasa.gov Tue Oct 8 11:04 PDT 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA13032; Tue, 8 Oct 1996 11:04:24 -0700
Date: Tue, 8 Oct 1996 13:04:18 -0500 (CDT)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961008130418.23a0a71d@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5624
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5624
EVENT OF 1996 OCT 6 DAY OF YEAR=280
EVENT CROSSING TIME AT BATSE : 32164. S. OR 08:56:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 275.000 -29.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/10/ 96 IS:
RA= 172.693 DEC= 33.023 DIST= 5.103 AU
BATSE-ULYSSES DISTANCE = 763366095. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 65.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1070.78 SECS.
CROSSING TIME AT ULYSSES IS 33235. S. OR 09:13:54 +/- 467.35 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/10/ 96 IS:
RA= 138.857 DEC= 17.253 DIST= 1.911 AU
MARS-BATSE DISTANCE = 285873856. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 41.75 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 711.44 SECS.
CROSSING TIME AT MARS IS 32875. S. OR 09:07:55 +/- 121.04 SECONDS

BATSE BURST TRIGGER
NO.: 5624

TIME: TJD=0362 SECONDS=32164

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=79.8 AZIMUTH=298.7 ERROR=1.7 DEGREES

COMMENTS:
GRB. PRE-CURSOR AT ~T-105SEC. WITH DUR.~5SEC. MAIN EVENT STARTS AT ~T-10SEC.
WITH DUR.~40SEC. TOTAL DUR.~135SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5624	961006	10362	32164	6000	275	-29	135

Helio corr removed

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

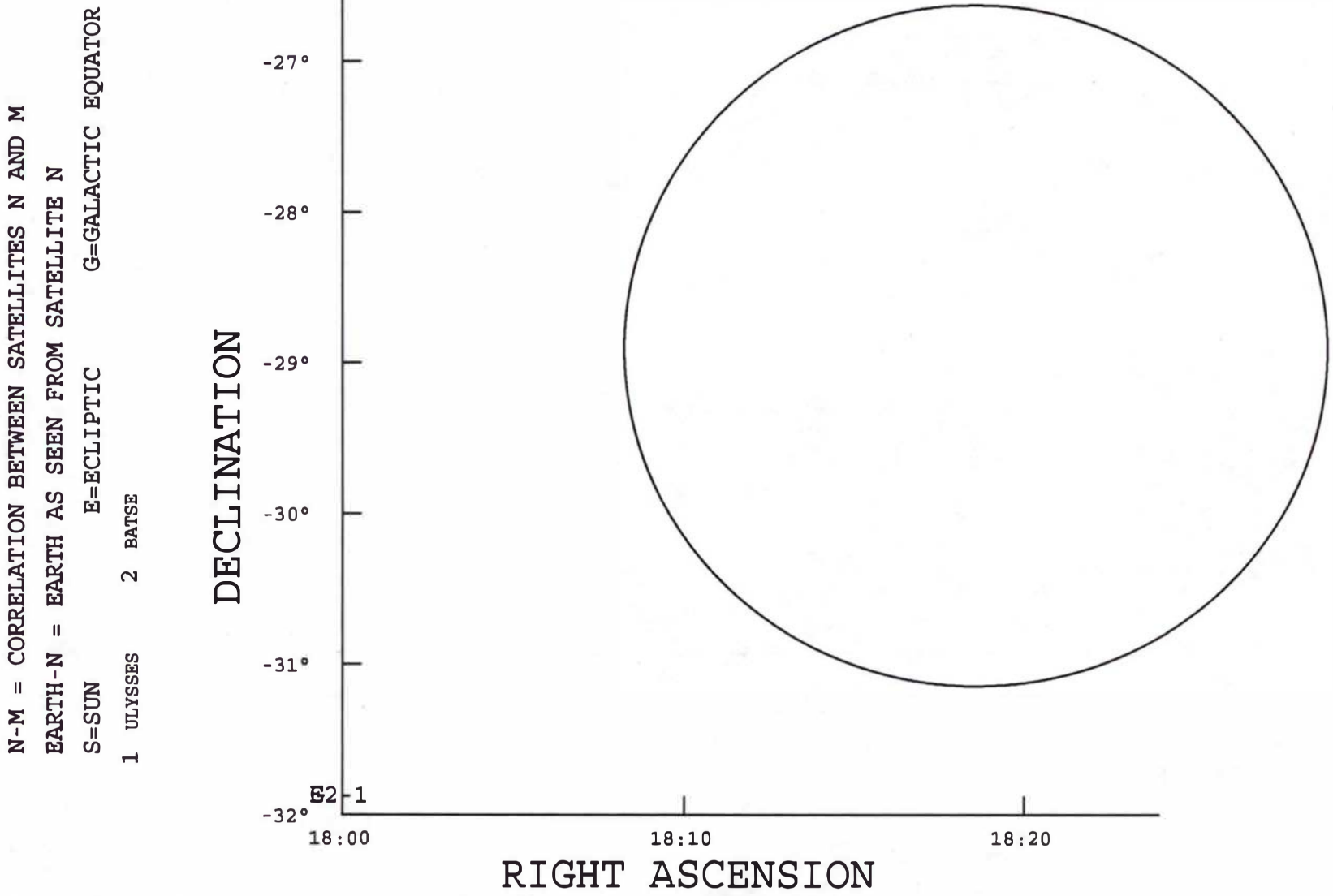
☐ 2000 coordinates used?

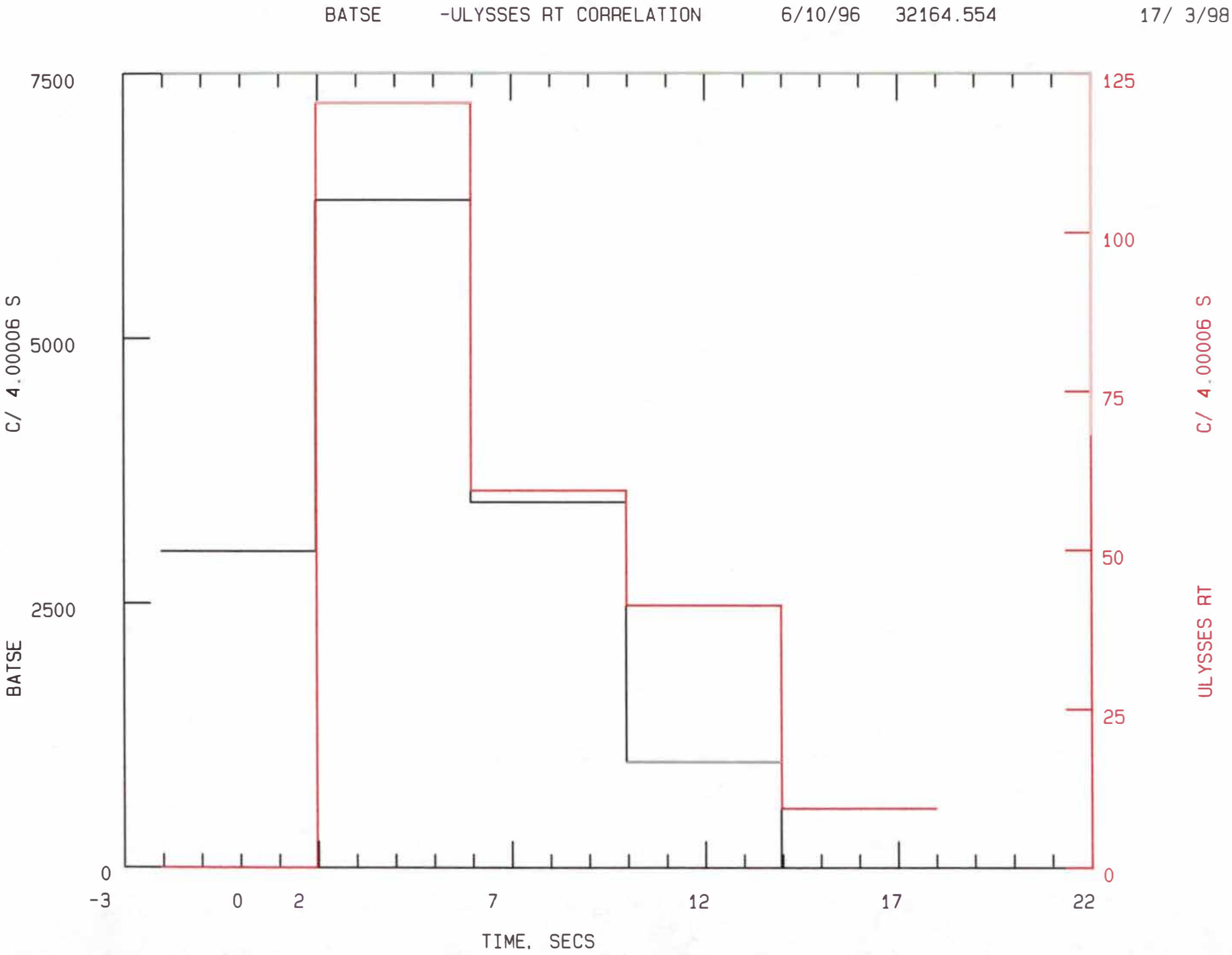
☐ Geocentric time used?

☑ ACCESS database updated?

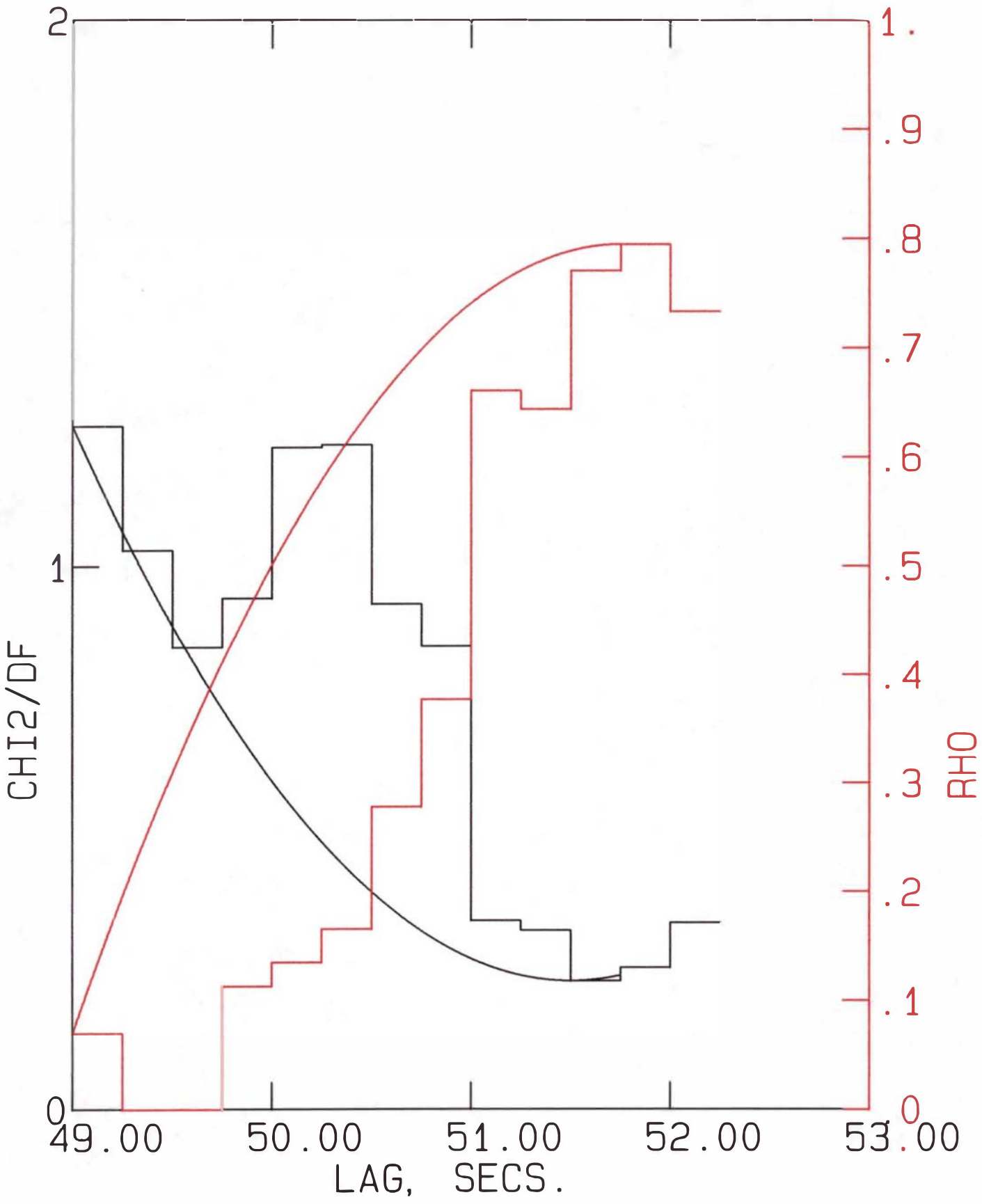
EVENT OF OCT 6, 1996 9:15

17/ 2/ 0




BATSE -ULYSSES RT CORRELATION 6/10/96 32164.554 17/ 3/98
7500
5000
2500
0
C/ 4.00006 S
BATSE
125
100
75
50
25
0
C/ 4.00006 S
ULYSSES RT
-3
0
2
7
12
17
22
TIME, SECS

BATSE -ULYSSES RT CORRELATION 6/10/96 32164.554

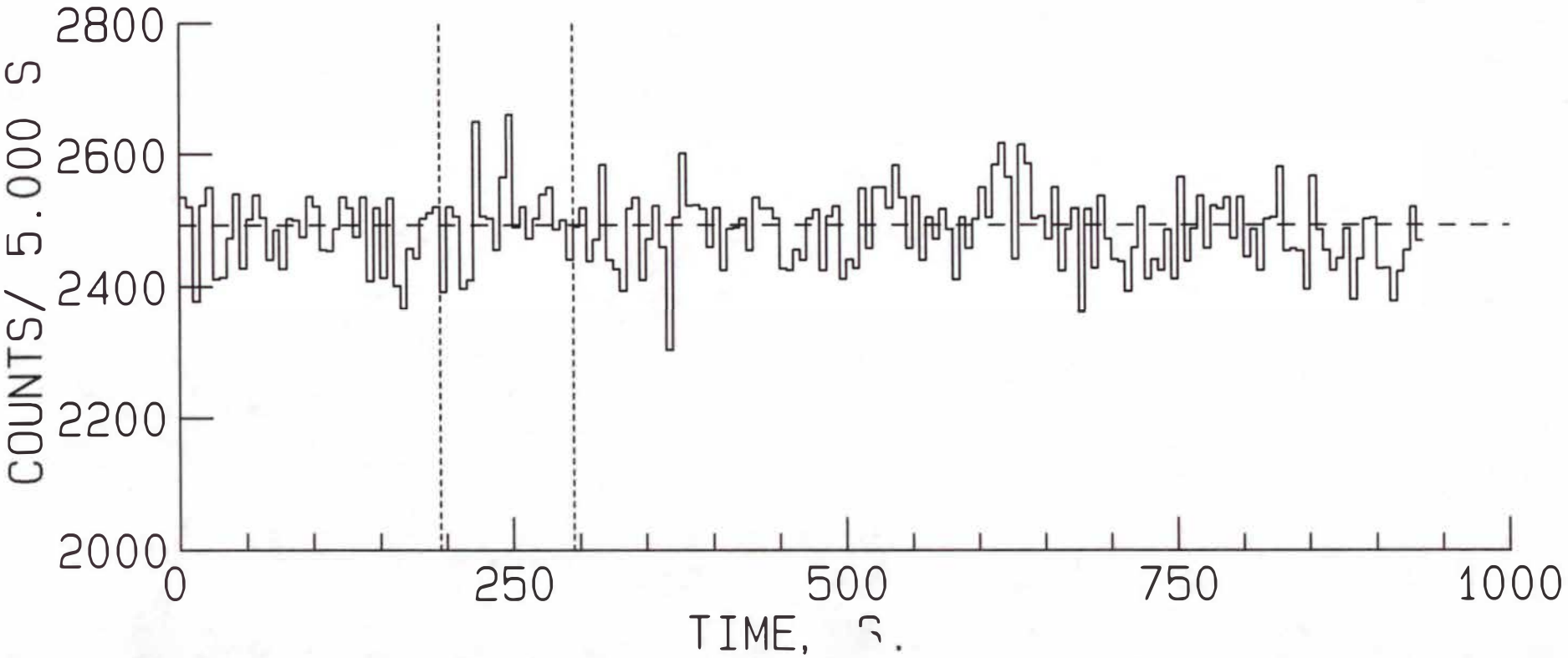


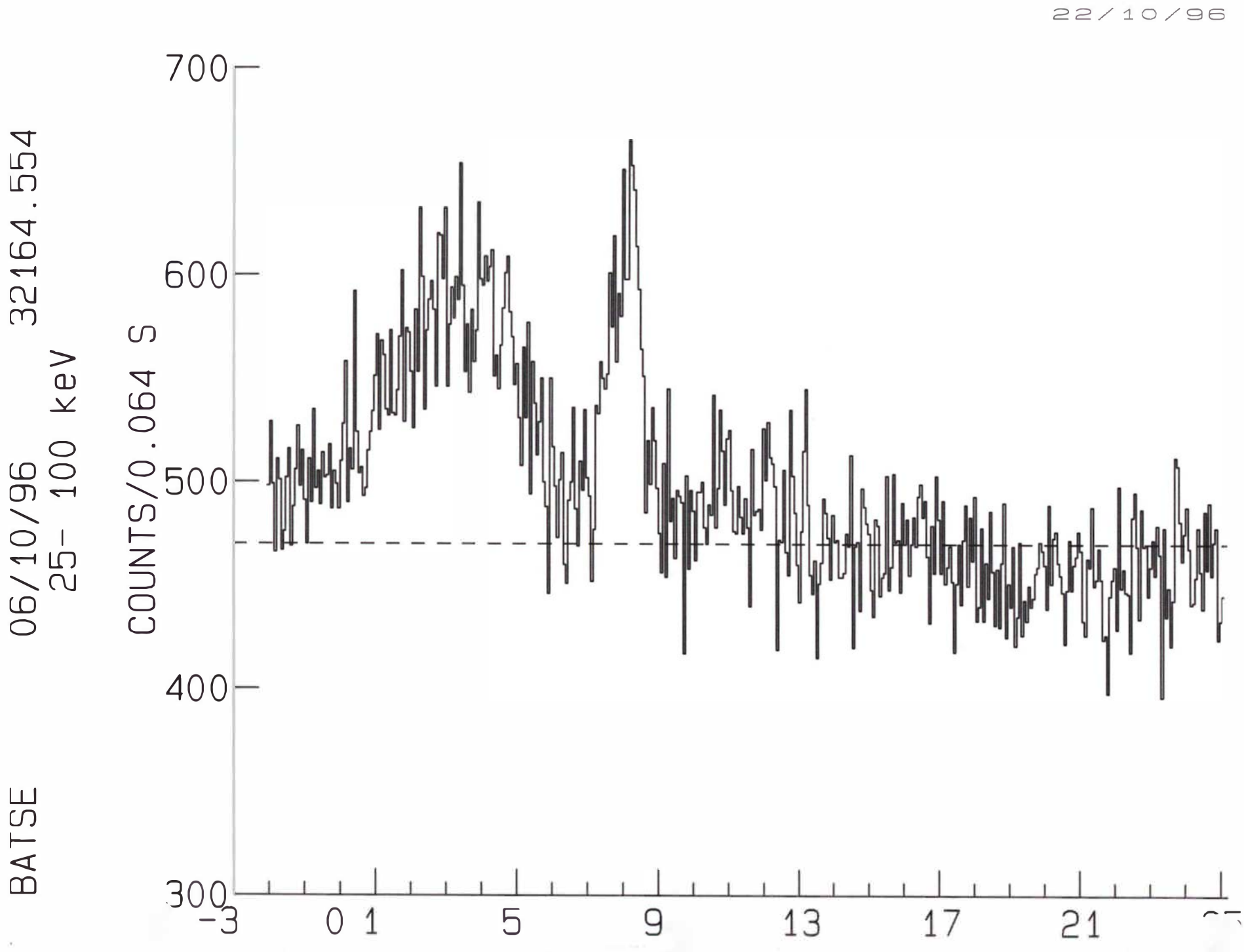
ULYSSES RT 17/ 3/98

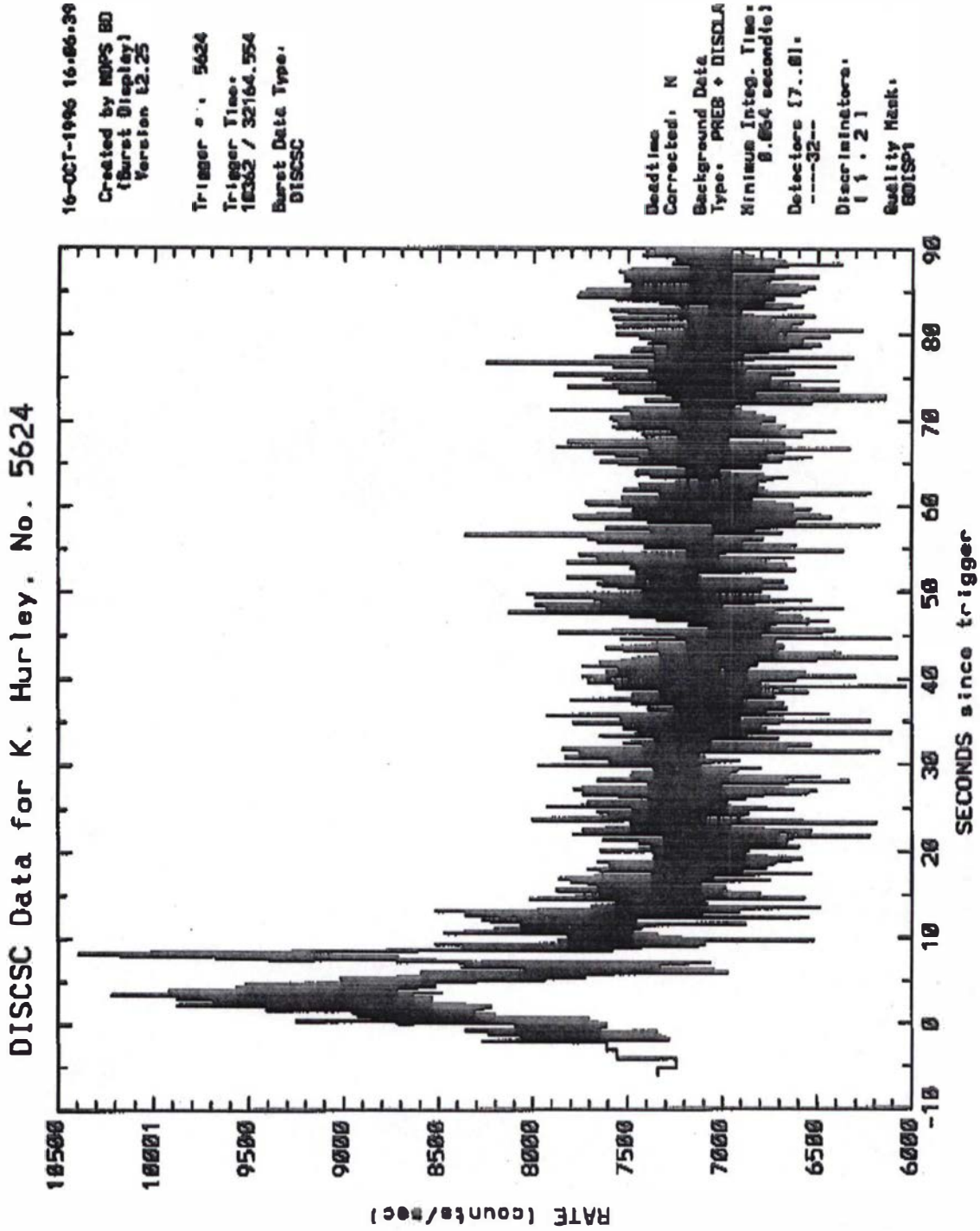
6/10/96 32760.031 s

0.250 S INTERVALS REGROUPED BY 20

21- 146 keV




22/10/96
BATSE
06/10/96
25- 100 keV
32164.554
COUNTS/0.064 S
700
600
500
400
300
-3
0 1
5
9
13
17
21


DISCSC Data for K. Hurley, No. 5624
16-OCT-1996 16:06:39
Created by MDPS BD
(Burst Display)
Version t2.25
Trigger #: 5624
Trigger Time:
18382 / 32164.554
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISDLA
Minimum Integ. Time:
0.064 seconds
Detectors [7..0]:
----32--
Discriminators:
[1 . 2]
Quality Mask:
BDISP1
RATE (counts/sec)
SECONDS since trigger
10500
10001
9500
9000
8500
8000
7500
7000
6500
6000
-10
0
10
20
30
40
50
60
70
80
90

From BUTTERWORTH@lheavx.gsfc.nasa.gov Mon Oct 14 22:24 PDT 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 15 Oct 1996 1:21:47 -0400 (EDT)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
        yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
        CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov,
        TEEGARDEN@lheavx.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
Subject: Ulysses events on 961006 and 961007 were not detected by Konus

Hi Everyone,

Konus did not trigger on these days, nor are there indications of a GRB in
the waiting-mode data (accumulated every 1.5 seconds). On 961006 there was
a loss of telemetry for about one minute centered on 13:26 UT.

Paul.

Date: Mon, 14 Oct 1996 18:17:49 -0700
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199610150117.SAA13000@scylla.berkeley.edu>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
        butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
        kmarar@isac.ernet.in, bonnard@lheamail.gsfc.nasa.gov,
        jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
        filippo@botes1.tesre.bo.cnr.it
Subject: GRB 961006 & 961007
MIME-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed two weak, 32 ms long bursts October 6 1996 at
13:21 and October 7 1996 at 20:47 Ulysses time. The spacecraft was
about 25750 light seconds from Earth.

Were these events detected by anyone else?

CC: ulyssesbursts alias list
    (barthelmy, butterworth, cline, frontera, marar, teegarden, terrell, yoshimori)

From RICHARDSON@ssl.msfc.nasa.gov Tue Oct 8 11:06 PDT 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA13052; Tue, 8 Oct 1996 11:06:14 -0700
Date: Tue, 8 Oct 1996 13:06:08 -0500 (CDT)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961008130608.23a0a71d@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5625
Content-Type: text
Content-Length: 1135
X-Lines: 26

****
BATSEARCH PROGRAM
****

BATSE BURST # 5625
EVENT OF 1996 OCT 6 DAY OF YEAR=280
EVENT CROSSING TIME AT BATSE : 69076. S. OR 19:11:16.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 104.000 -30.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/10/ 96 IS:
RA= 172.764 DEC= 32.989 DIST= 5.101 AU
BATSE-ULYSSES DISTANCE = 763069627. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 23.25 SECS.
CROSSING TIME AT ULYSSES IS 69099. S. OR 19:11:39 +/- 492.24 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/10/ 96 IS:
RA= 138.857 DEC= 17.253 DIST= 1.911 AU
MARS-BATSE DISTANCE = 285873856. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=122.03 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -505.75 SECS.
CROSSING TIME AT MARS IS 68570. S. OR 19:02:50 +/- 132.67 SECONDS

BATSE BURST TRIGGER

NO.: 5625

TIME: TJD=0362 SECONDS=69076

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=44.4 AZIMUTH=142.2 ERROR=3.9 DEGREES

COMMENTS:
GRB. WEAK SINGLE PULSE, NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5625	961006	10362	69076	2000	104	-30	15

BATSE# 5625

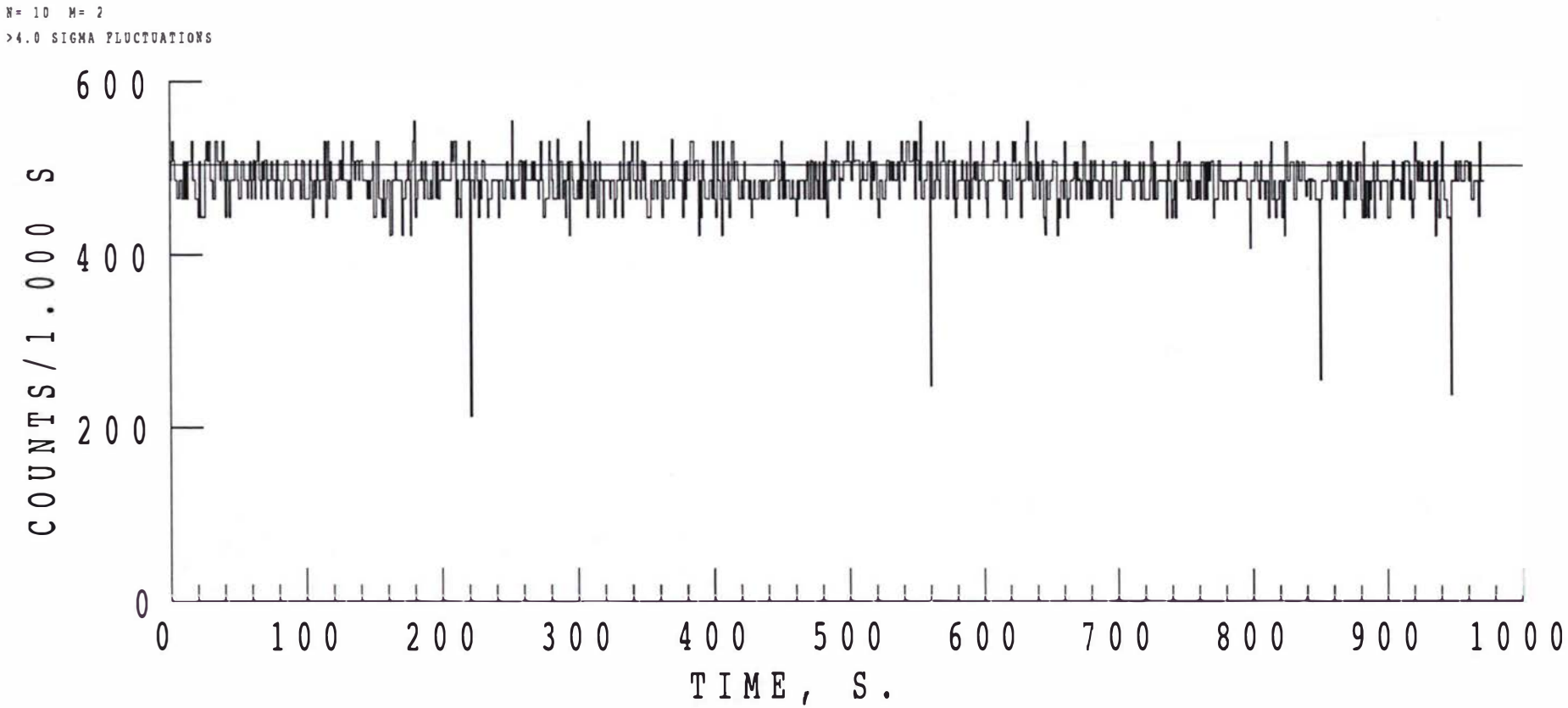
14/10/96

ULYSSES RT

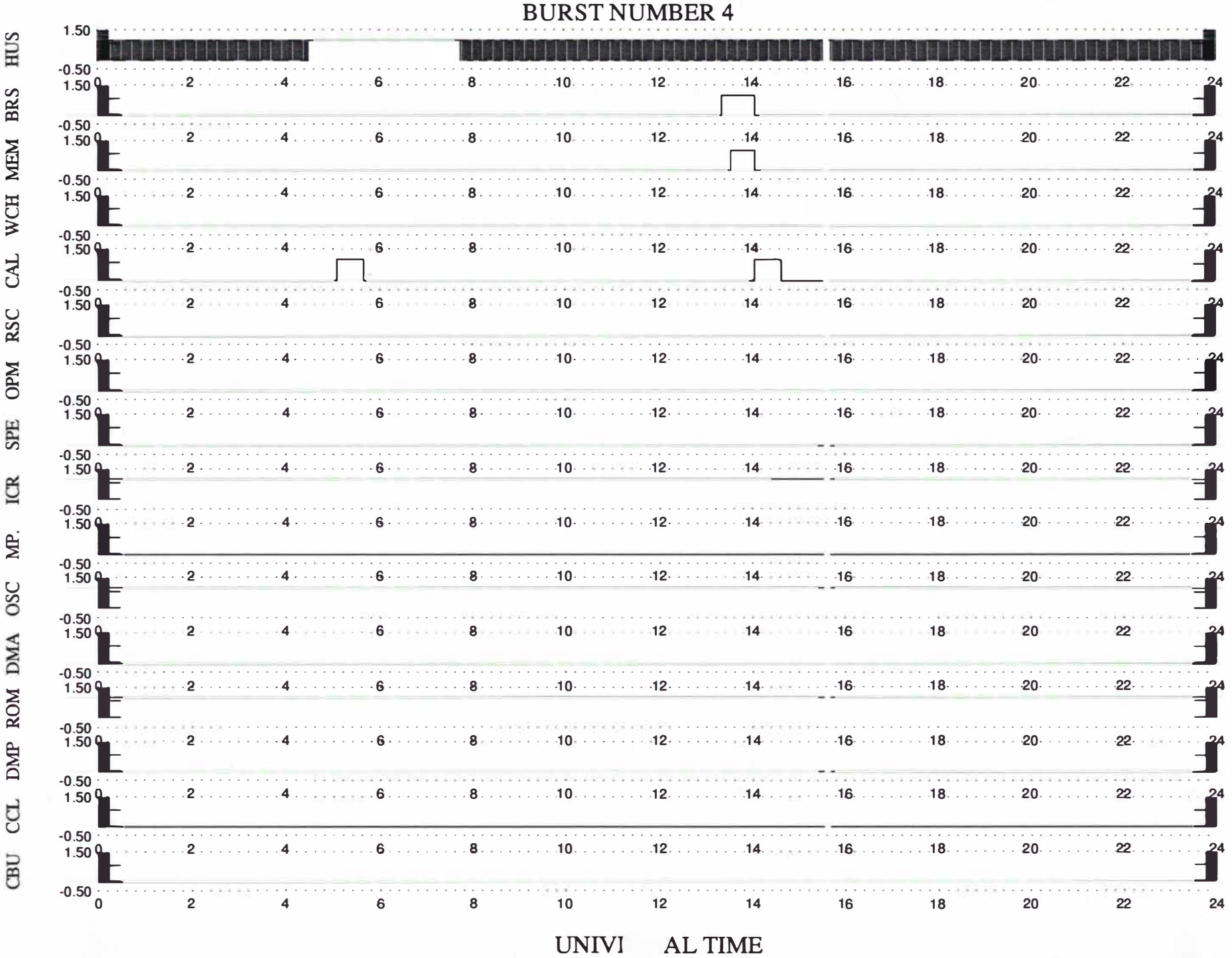
6/10/96 68616.438 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

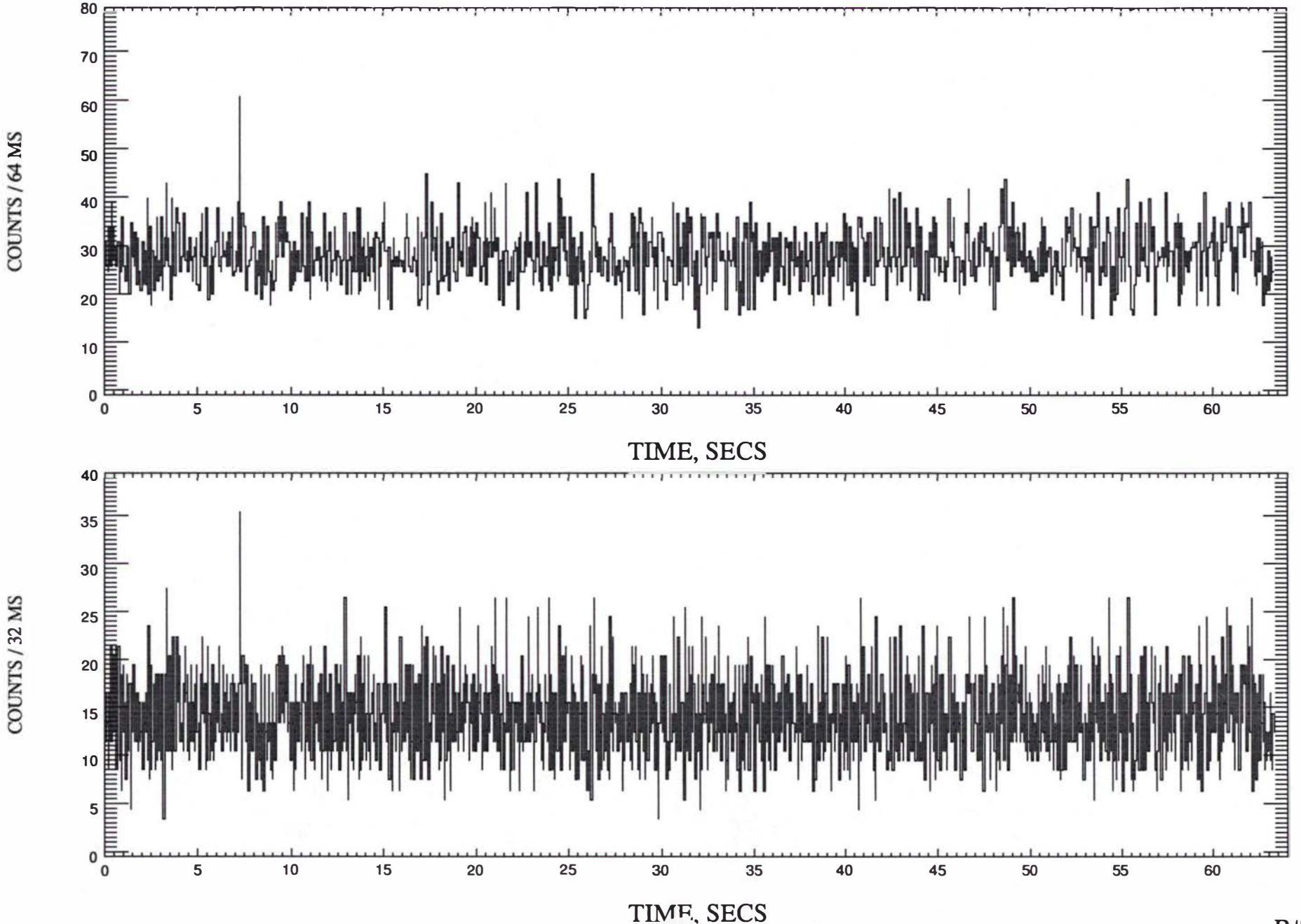


HUS MODES EDR day 280, year 1996 to day 280, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 280, year 1996 3/29/97

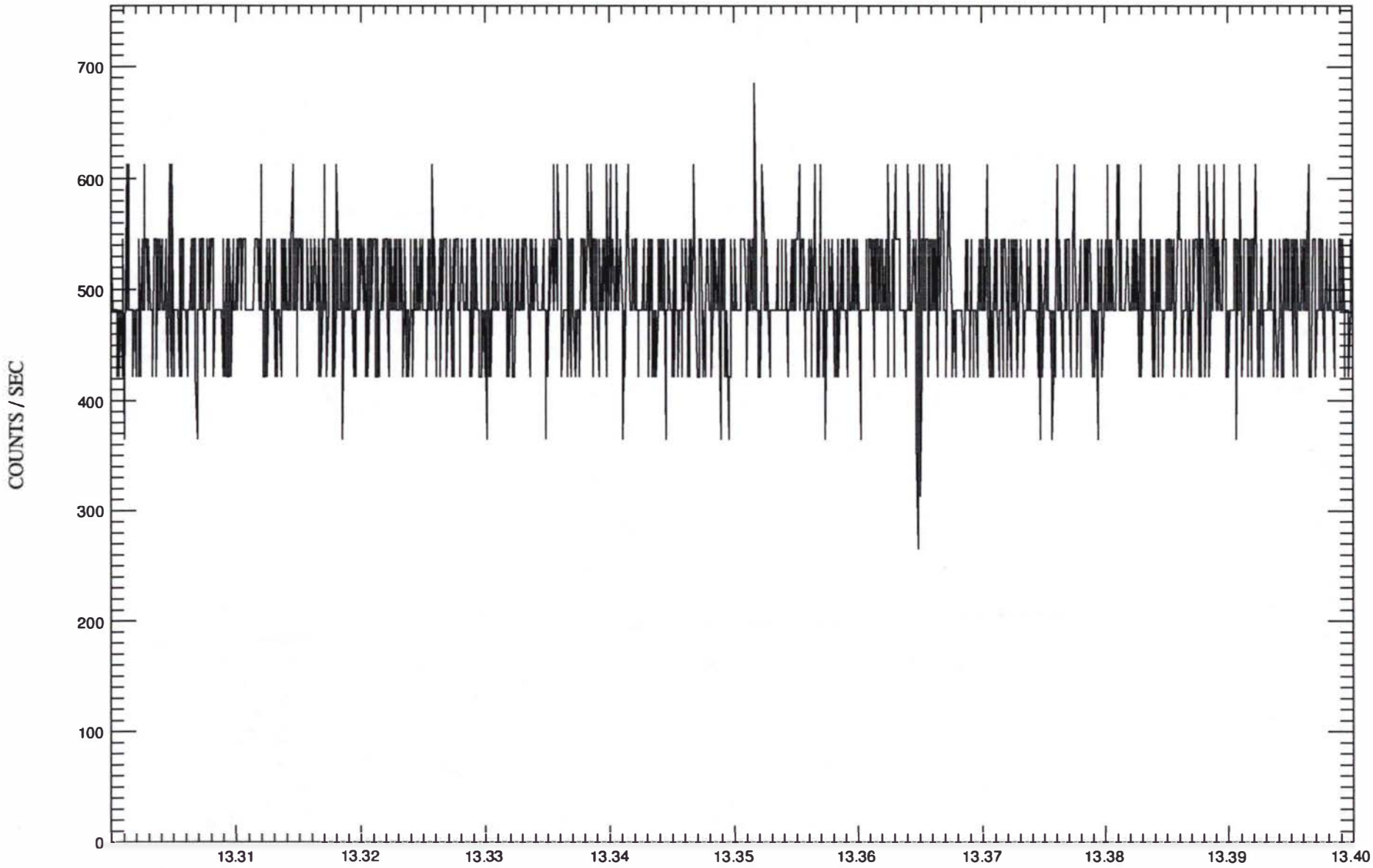
Burst Counter 4 at UT=13.351830791897 h=48066.591 s 13:21:06.591



B# 1

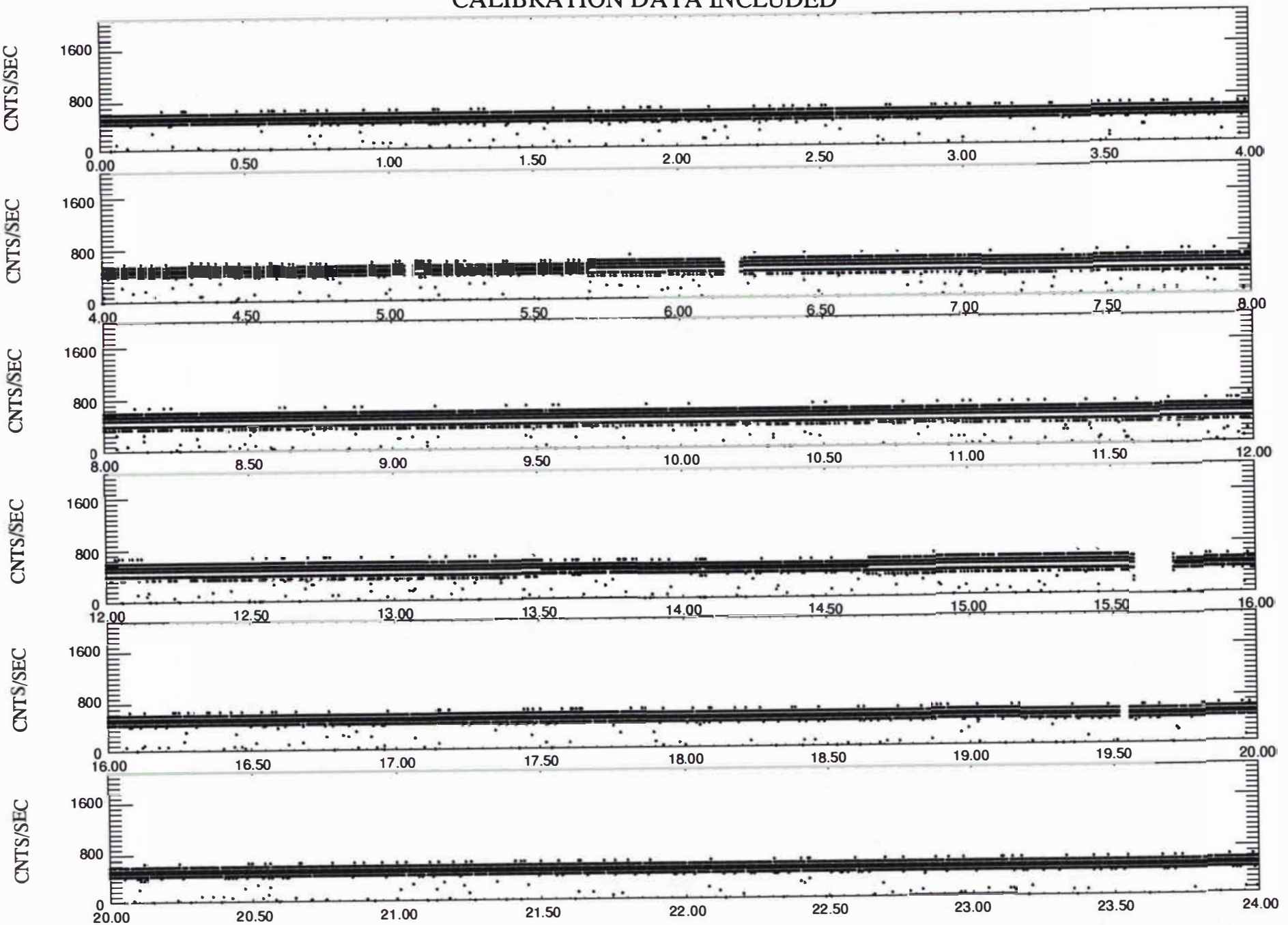
HUS 2A, MODE 1, NOT AVERAGED EDR day 280, year 1996 to day 280, year 1996 3/29/97

CALIBRATION DATA INCLUDED



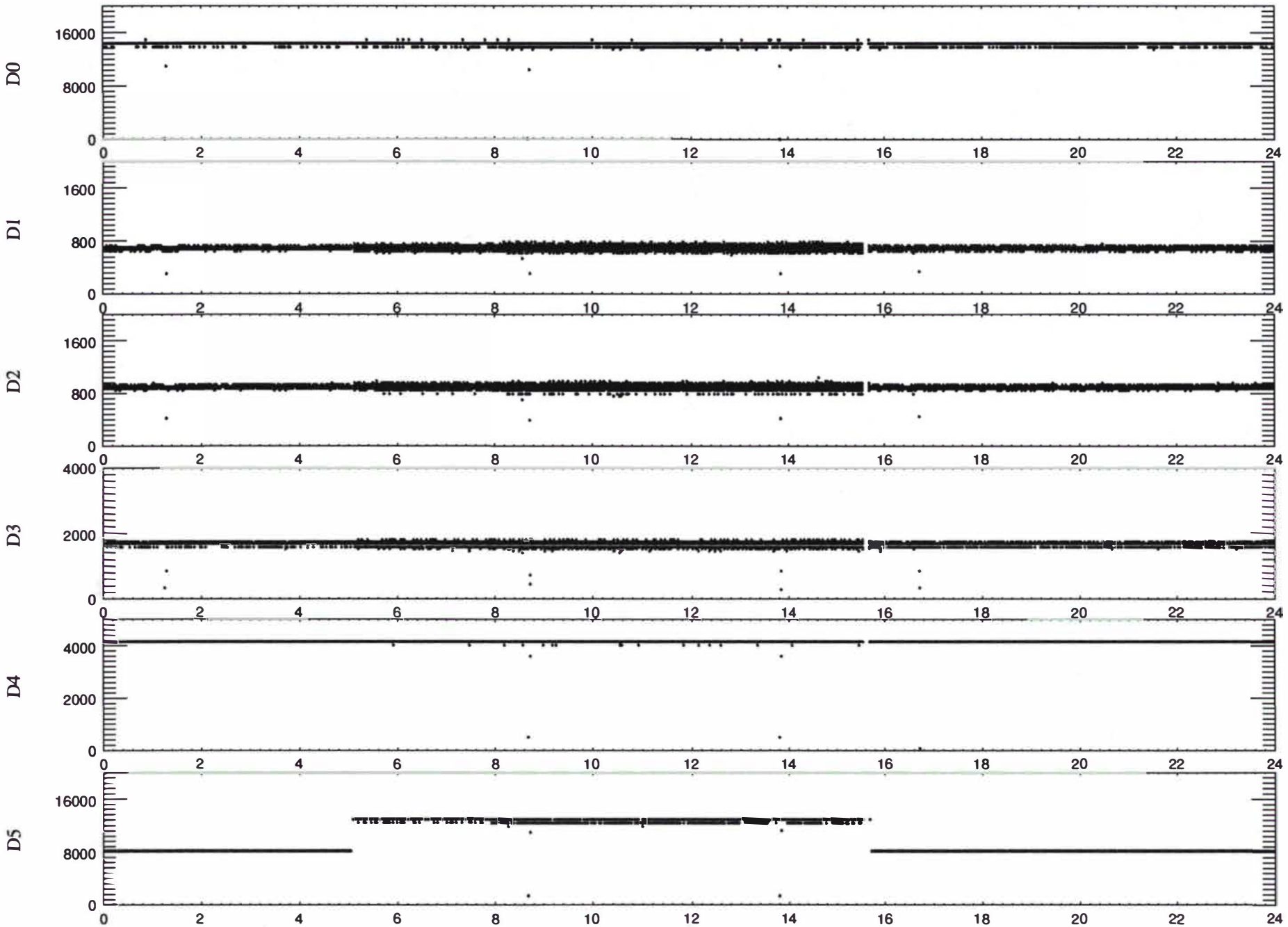
HUS 2A, MODE 1, NOT AVERAGED EDR day 280, year 1996 to day 280, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 280, year 1996 to day 280, year 1996 3/29/97



From BUTTERWORTH@lheavx.gsfc.nasa.gov Mon Oct 14 22:24 PDT 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 15 Oct 1996 1:21:47 -0400 (EDT)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
        yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
        CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov,
        TEEGARDEN@lheavx.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
Subject: Ulysses events on 961006 and 961007 were not detected by Konus

Hi Everyone,

Konus did not trigger on these days, nor are there indications of a GRB in
the waiting-mode data (accumulated every 1.5 seconds). On 961006 there was
a loss of telemetry for about one minute centered on 13:26 UT.

Paul.

Date: Mon, 14 Oct 1996 18:17:49 -0700
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199610150117.SAA13000@scylla.berkeley.edu>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
        butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
        kmarar@isac.ernet.in, bonnard@lheamail.gsfc.nasa.gov,
        jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
        filippo@botes1.tesre.bo.cnr.it
bject: GRB 961006 & 961007
Sun-Charset: US-ASCII

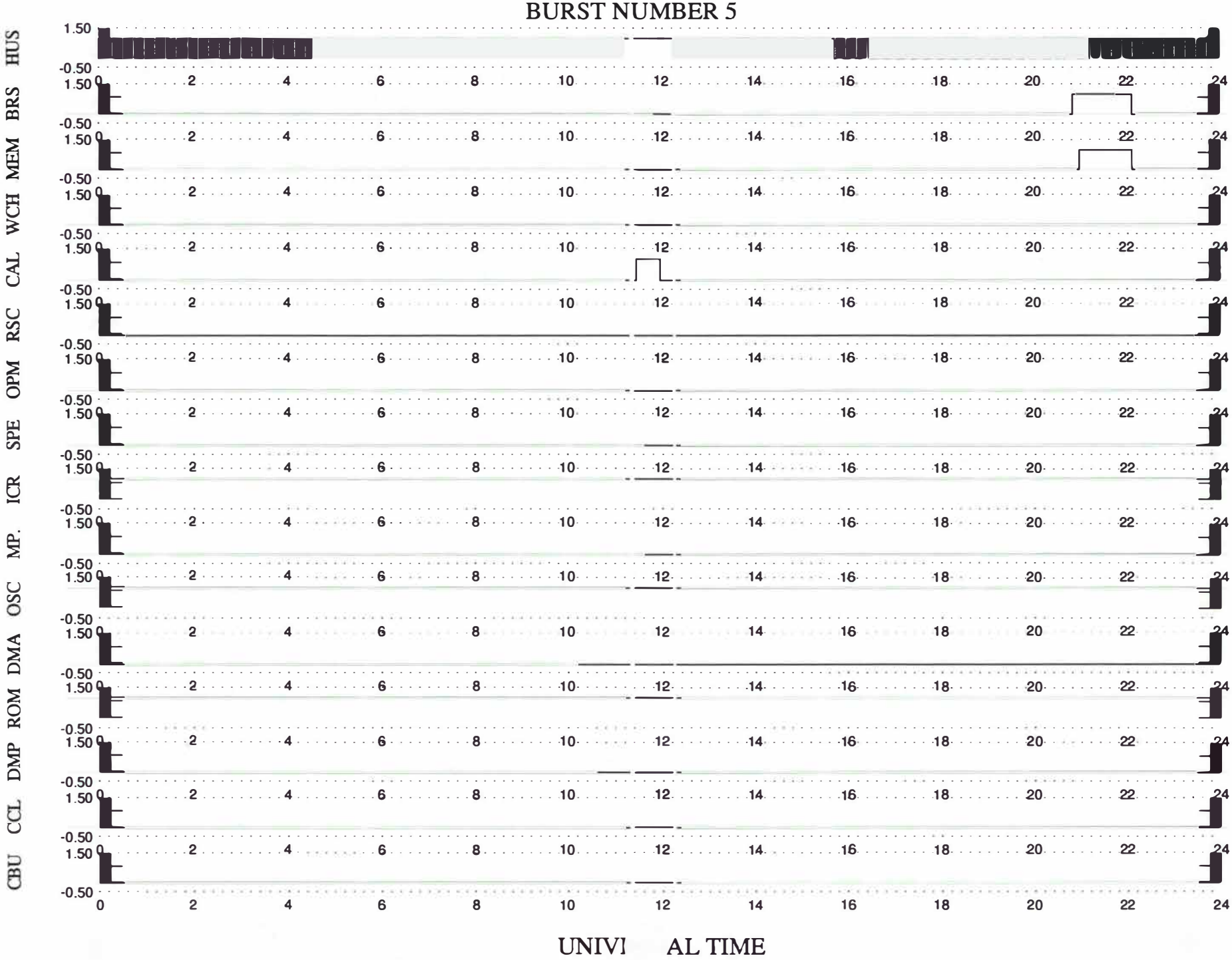
ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed two weak, 32 ms long bursts October 6 1996 at
13:21 and October 7 1996 at 20:47 Ulysses time.   The spacecraft was
about 25750 light seconds from Earth.

Were these events detected by anyone else?

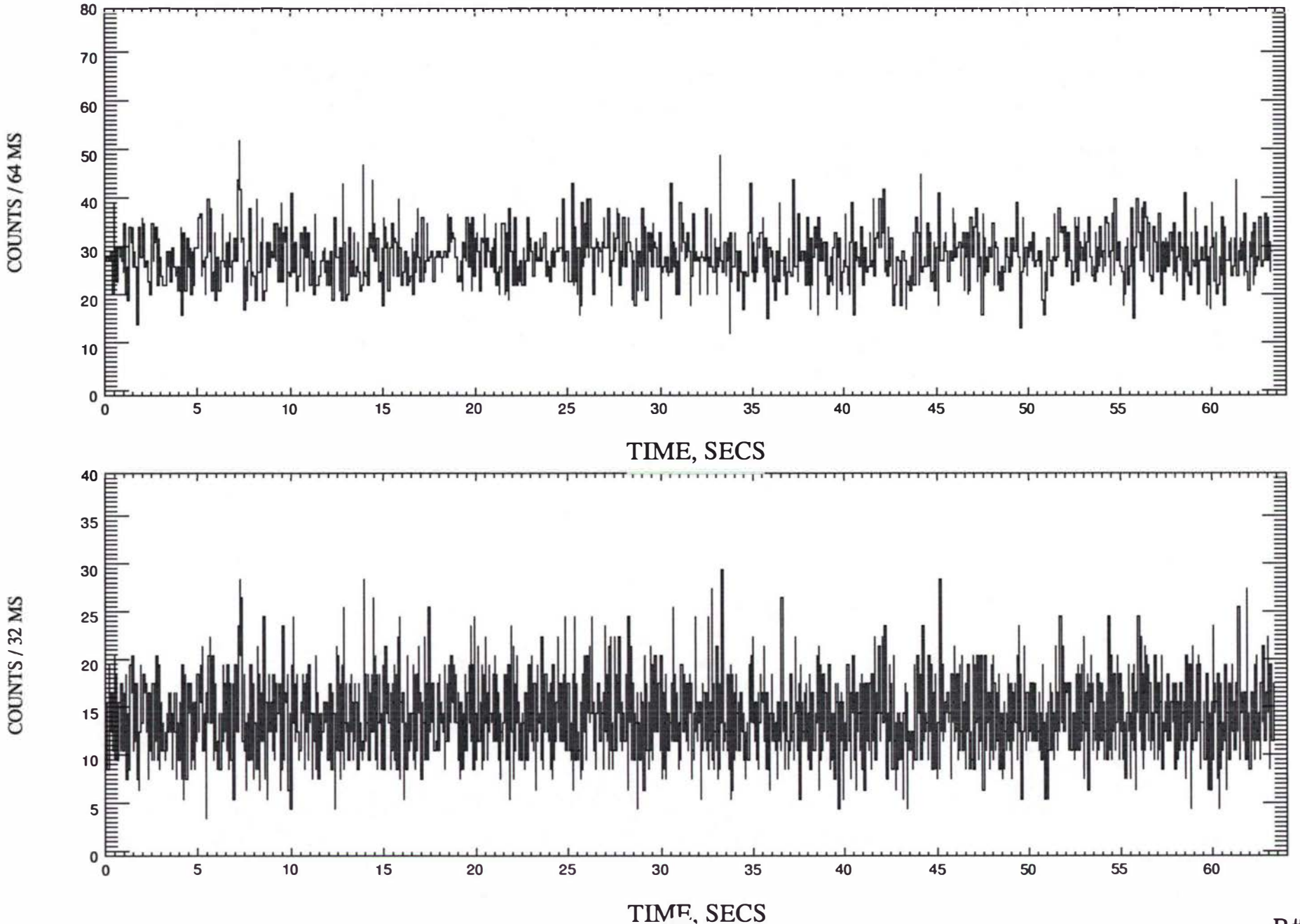
CC: ulyssesbursts alias list
    (barthelmy, butterworth, cline, frontera, marar, teegarden, terrell, yoshimori)

HUS MODES EDR day 281, year 1996 to day 281, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 281, year 1996 3/29/97

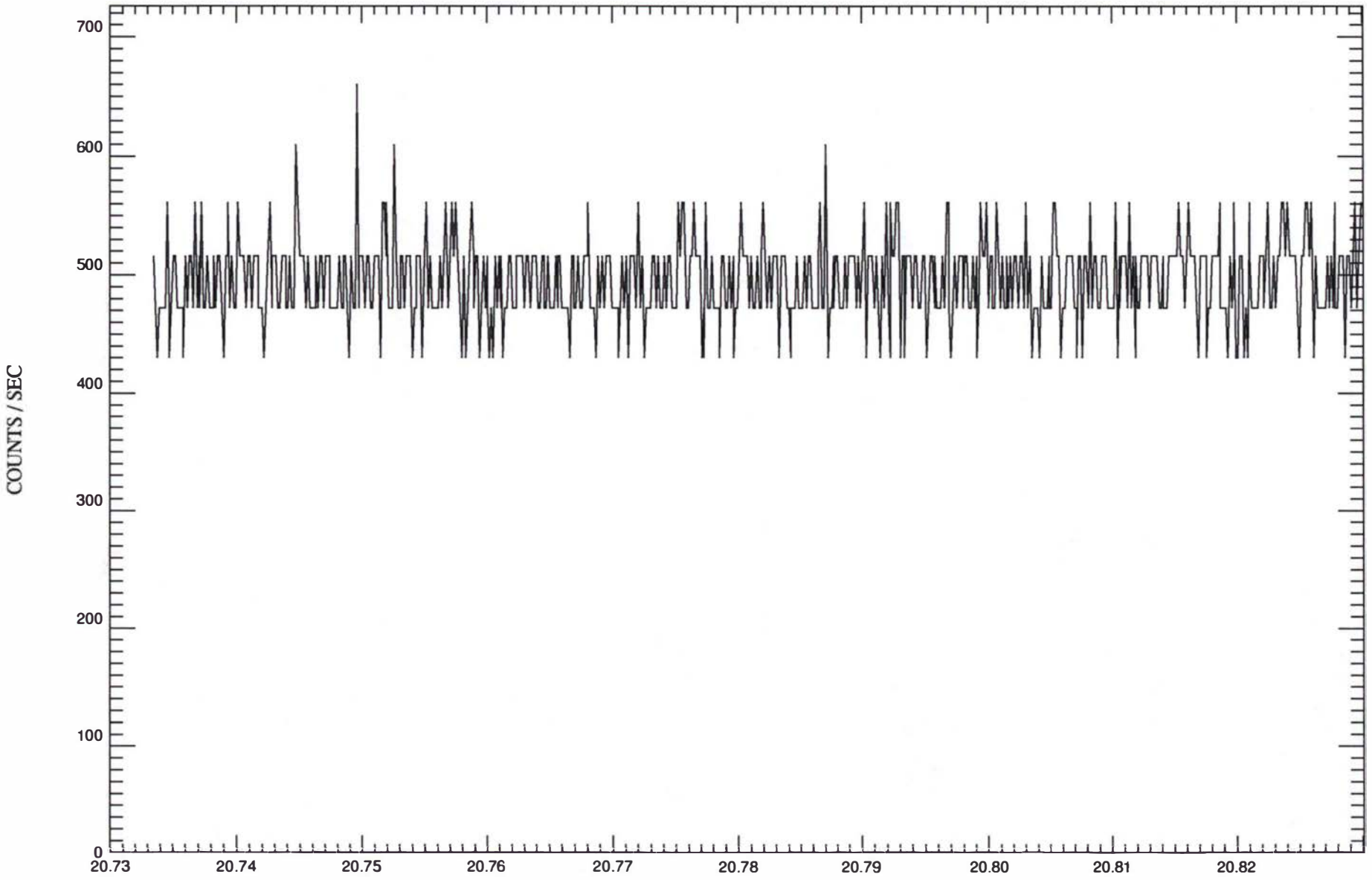
Burst Counter 5 at UT=20.783877970378 h=74821.961 s 20:47:01.961



B# 1

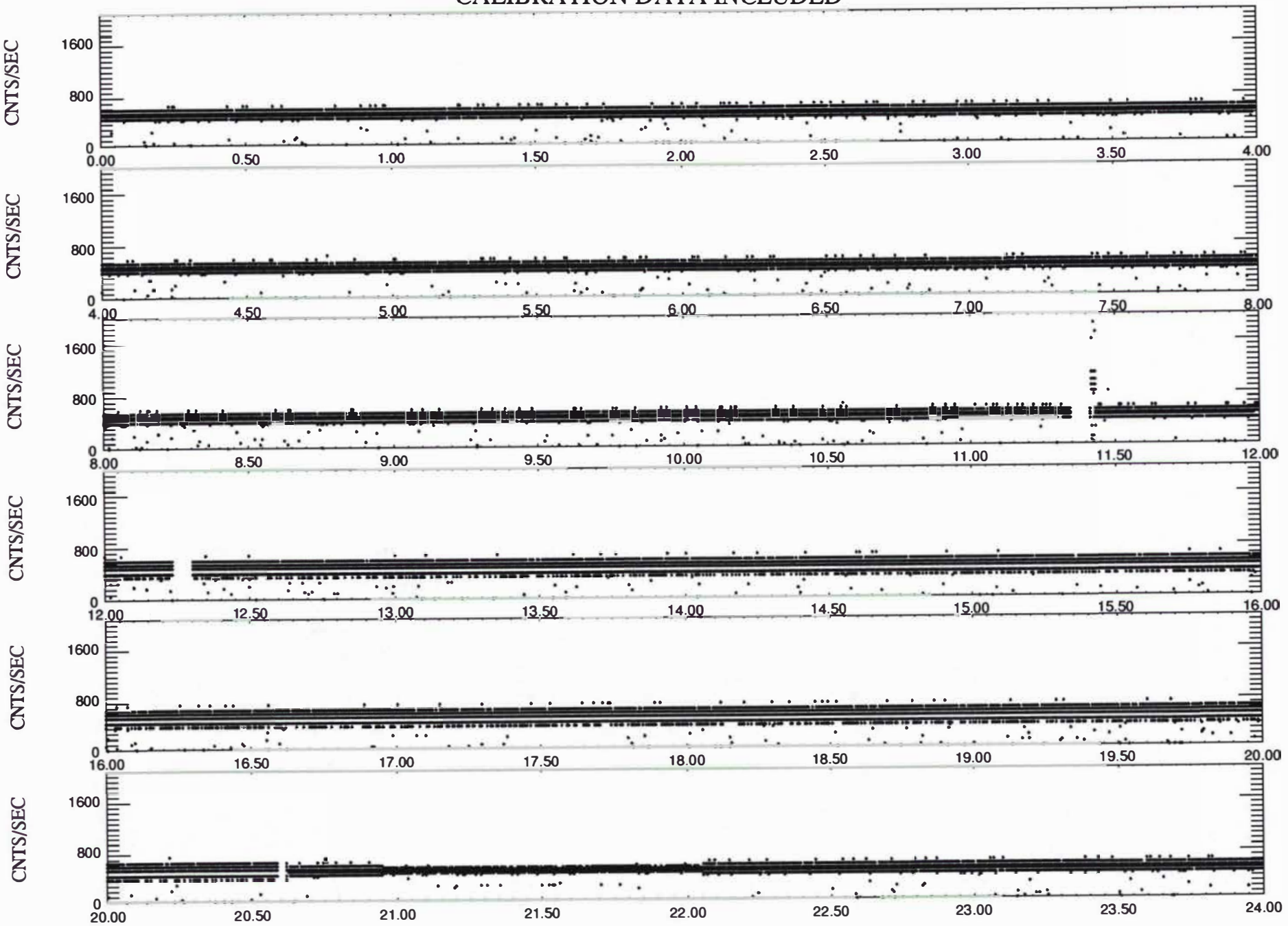
HUS 2A, MODE 1, NOT AVERAGED EDR day 281, year 1996 to day 281, year 1996 3/29/97

CALIBRATION DATA INCLUDED



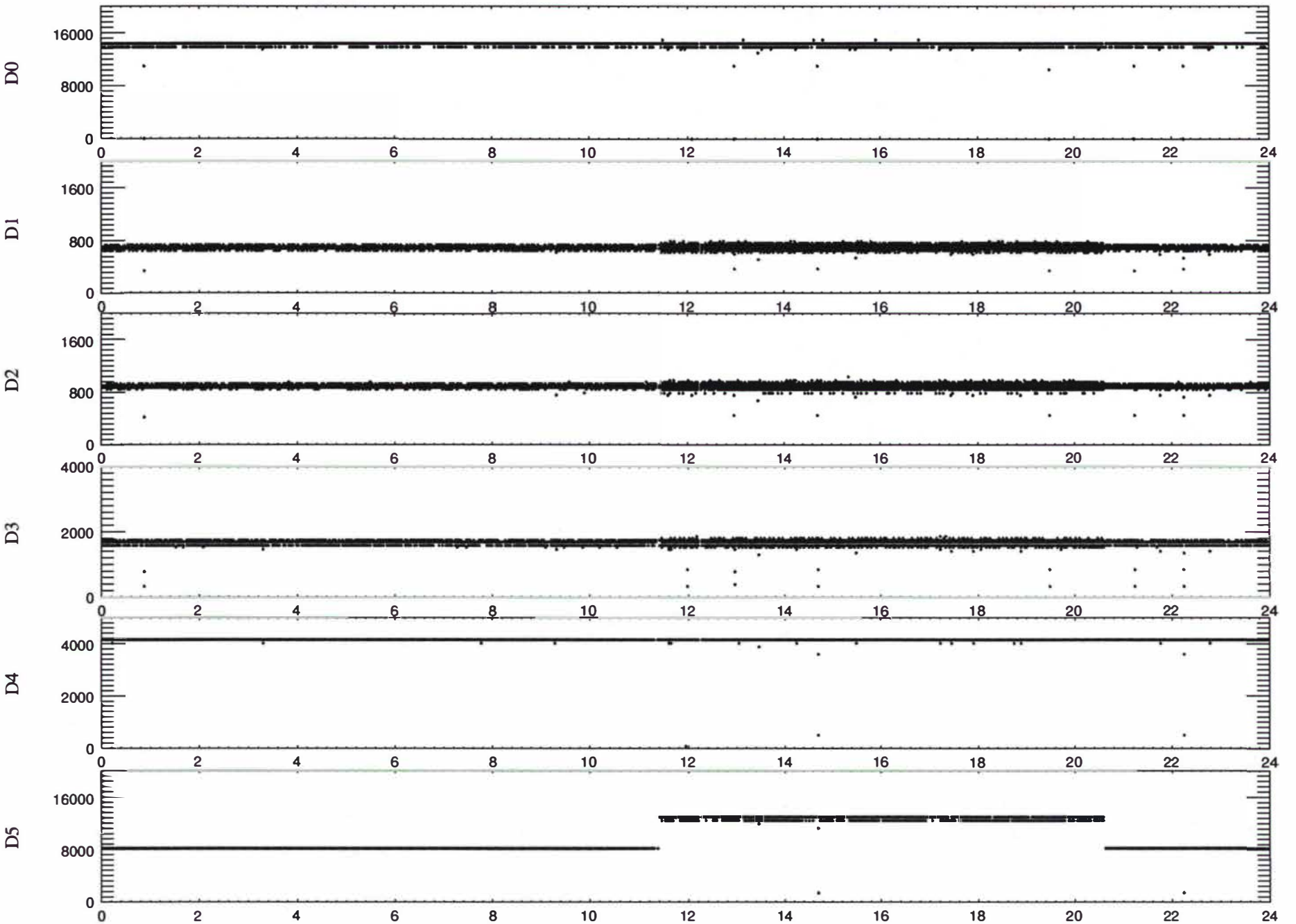
HUS 2A, MODE 1, NOT AVERAGED EDR day 281, year 1996 to day 281, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV/ AL TIME

HUS 2B COUNTS / SEC EDR day 281, year 1996 to day 281, year 1996 3/29/97



From WOODSP@ssl.msfc.nasa.gov Wed Oct 9 09:15 PDT 1996
Return-Path: <WOODSP@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA26350; Wed, 9 Oct 1996 09:15:28 -0700
From: WOODSP@ssl.msfc.nasa.gov
Date: Wed, 9 Oct 1996 11:15:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961009111522.22e2de83@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5626
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5626
EVENT OF 1996 OCT 8 DAY OF YEAR=282
EVENT CROSSING TIME AT BATSE : 19260. S. OR 05:21:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 259.000 30.000
BATSE PEAK COUNTING RATE: 2400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/10/ 96 IS:
RA= 173.001 DEC= 32.879 DIST= 5.094 AU
BATSE-ULYSSES DISTANCE = 762036414. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -818.95 SECS.
CROSSING TIME AT ULYSSES IS 18441. S. OR 05:07:21 +/- 455.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/10/ 96 IS:
RA= 140.049 DEC= 16.918 DIST= 1.897 AU
MARS-BATSE DISTANCE = 283817920. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.19 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 241.95 SECS.
CROSSING TIME AT MARS IS 19502. S. OR 05:25:01 +/- 162.58 SECONDS

BATSE BURST TRIGGER
NO.: 5626

TIME: TJD=0364 SECONDS=19260

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.6 AZIMUTH=344.3 ERROR=4.8 DEGREES

COMMENTS:
GRB LASTING ~ 15 SEC. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5626	961008	10364	19260	2400	259	+30	15

BATSE# 5626

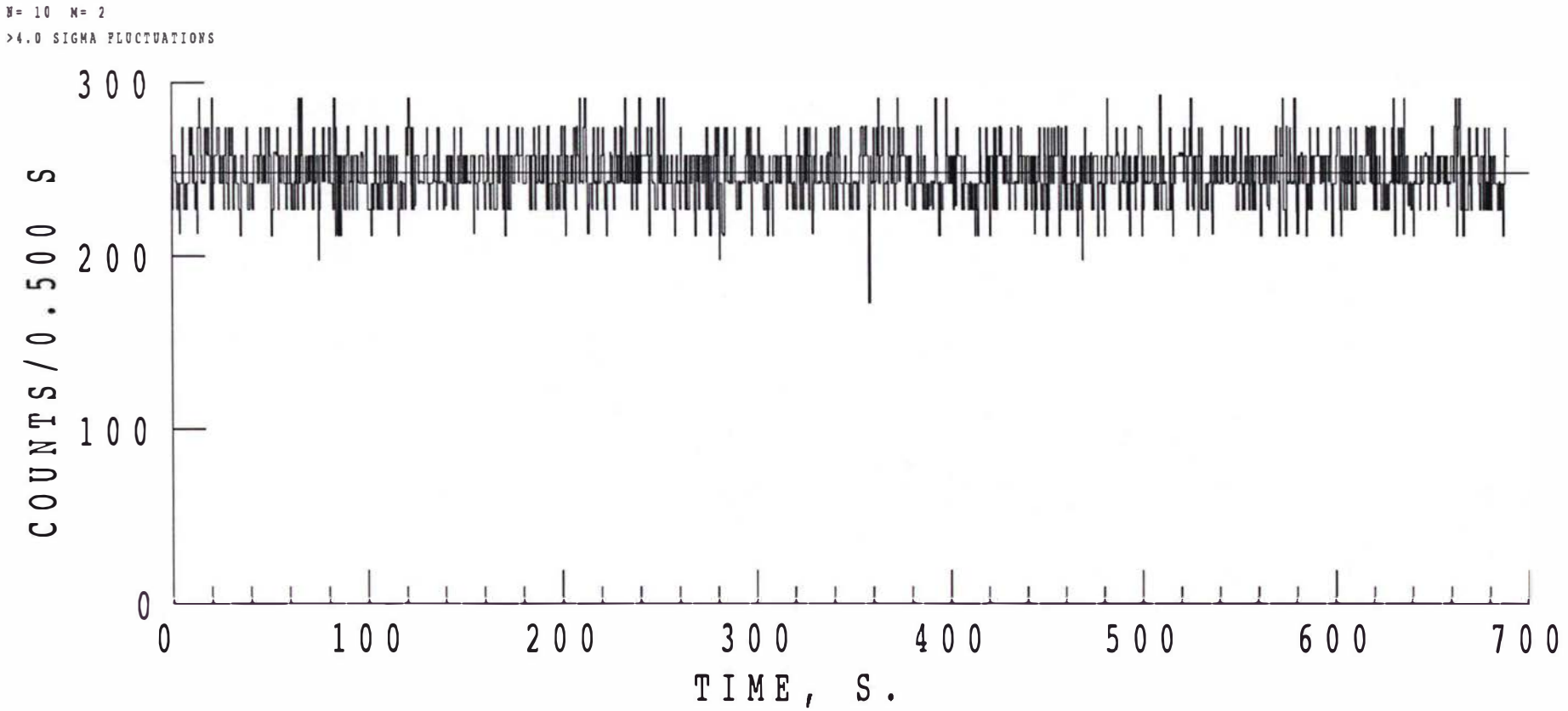
14/10/96

ULYSSES RT

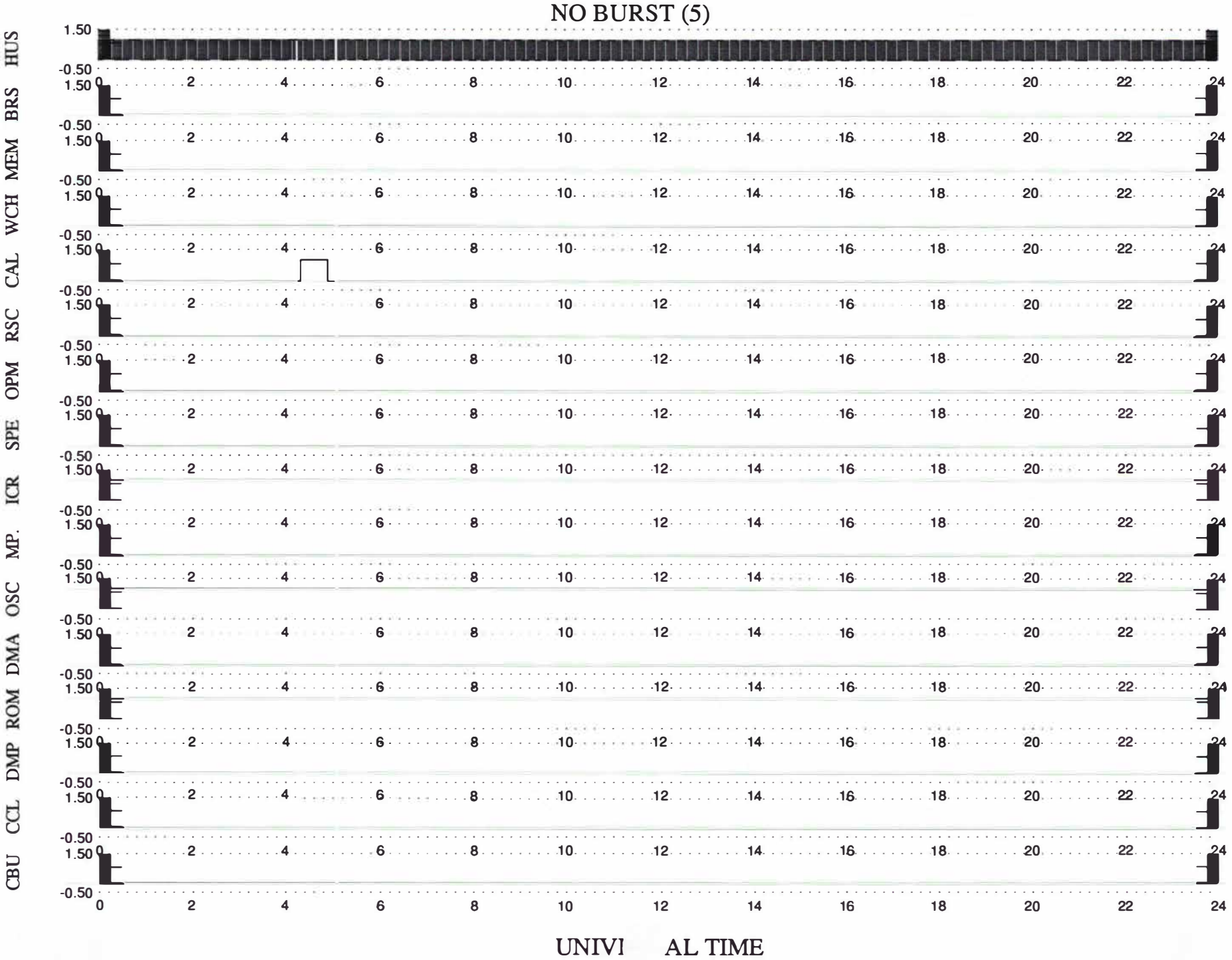
8/10/96 18000.217 s

0.250 S INTERVALS REGROUPED BY 2

0- 0 keV

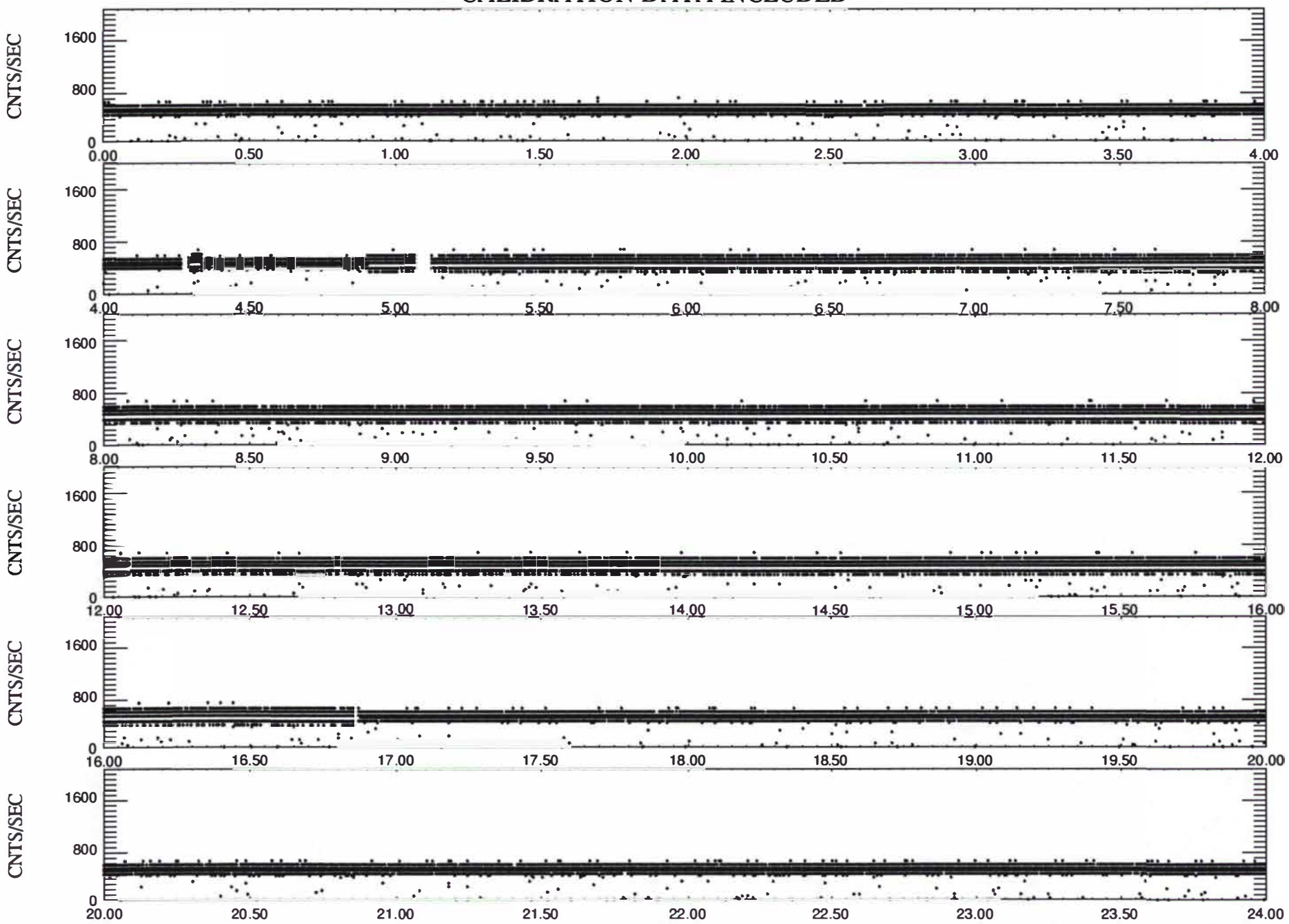


HUS MODES EDR day 282, year 1996 to day 282, year 1996 3/29/97



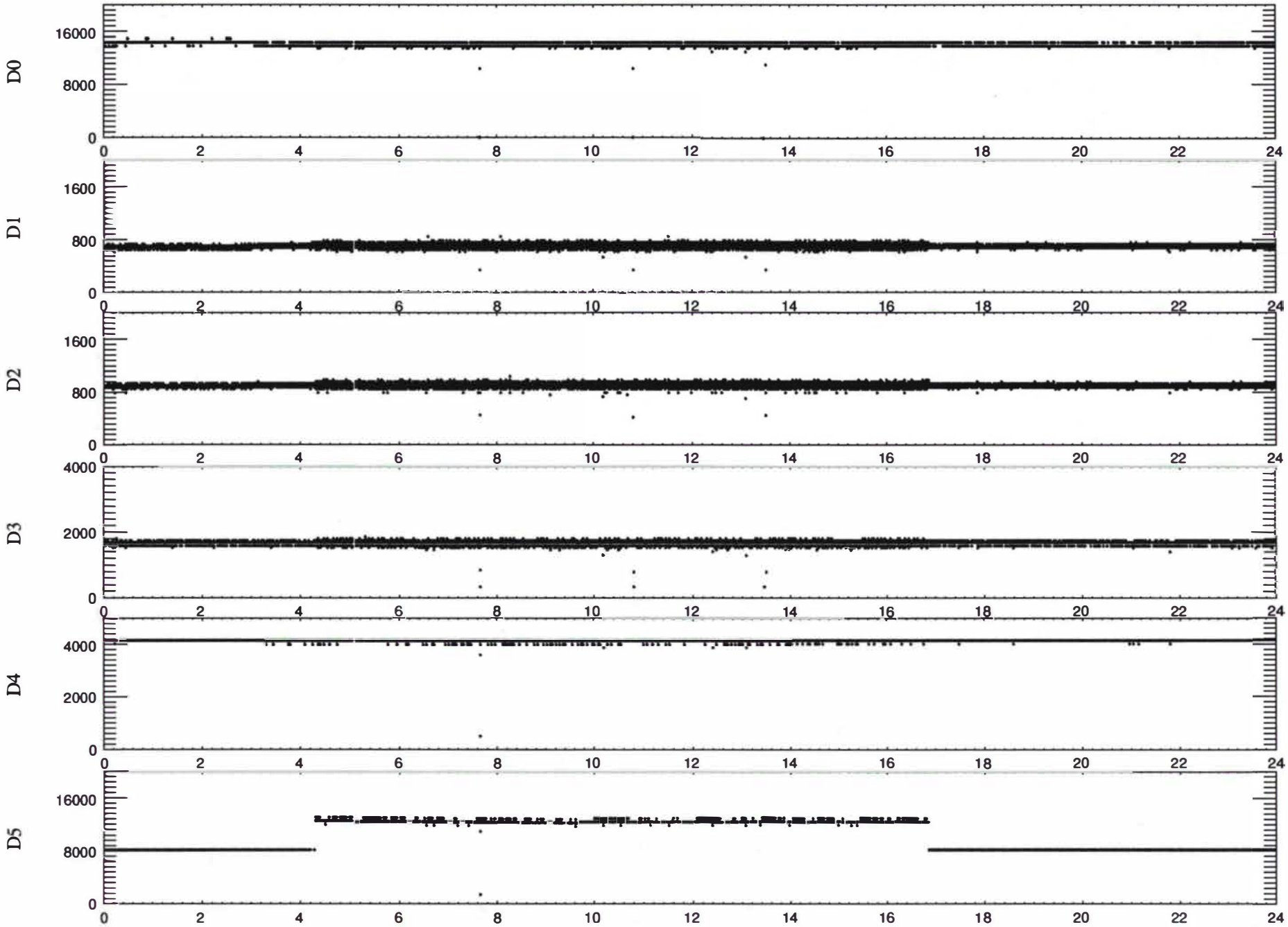
HUS 2A, MODE 1, NOT AVERAGED EDR day 282, year 1996 to day 282, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 282, year 1996 to day 282, year 1996 3/29/97



From SURASAK@ssl.msfc.nasa.gov Fri Oct 11 17:00 PDT 1996
From: SURASAK@ssl.msfc.nasa.gov
Date: Fri, 11 Oct 1996 14:01:15 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 5627

```
         ******************
         *BATSEARCH PROGRAM*
         ******************

 BATSE BURST #    5627
 EVENT OF 1996 OCT  9 DAY OF YEAR=283
 EVENT CROSSING TIME AT BATSE     :  7449. S. OR 02:04:09.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 218.000  -26.000
 BATSE PEAK COUNTING RATE:   2150    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  9/10/  96 IS:
 RA=  173.144 DEC=   32.814 DIST=    5.089 AU
 BATSE-ULYSSES DISTANCE =  761384484. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.33 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -756.63 SECS.
 CROSSING TIME AT ULYSSES    IS  6692. S. OR   01:51:32 +/-  459.42 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  9/10/  96 IS:
 RA=  140.641 DEC=   16.749 DIST=    1.890 AU
 MARS-BATSE DISTANCE =  282777728. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.56 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  -58.49 SECS.
 CROSSING TIME AT MARS       IS  7391. S. OR   02:03:10 +/-  162.56 SECONDS


                 BATSE BURST TRIGGER
NO.: 5627

TIME: TJD=0365 SECONDS=7449

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=53.4   AZIMUTH=345.1  ERROR=7.988 DEGREES

COMMENTS:
GRB. DUR~5S. SINGLE PULSE. NOT VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5627   961009   10365   07449     2150   218   -26      5
```

BATSE# 5627

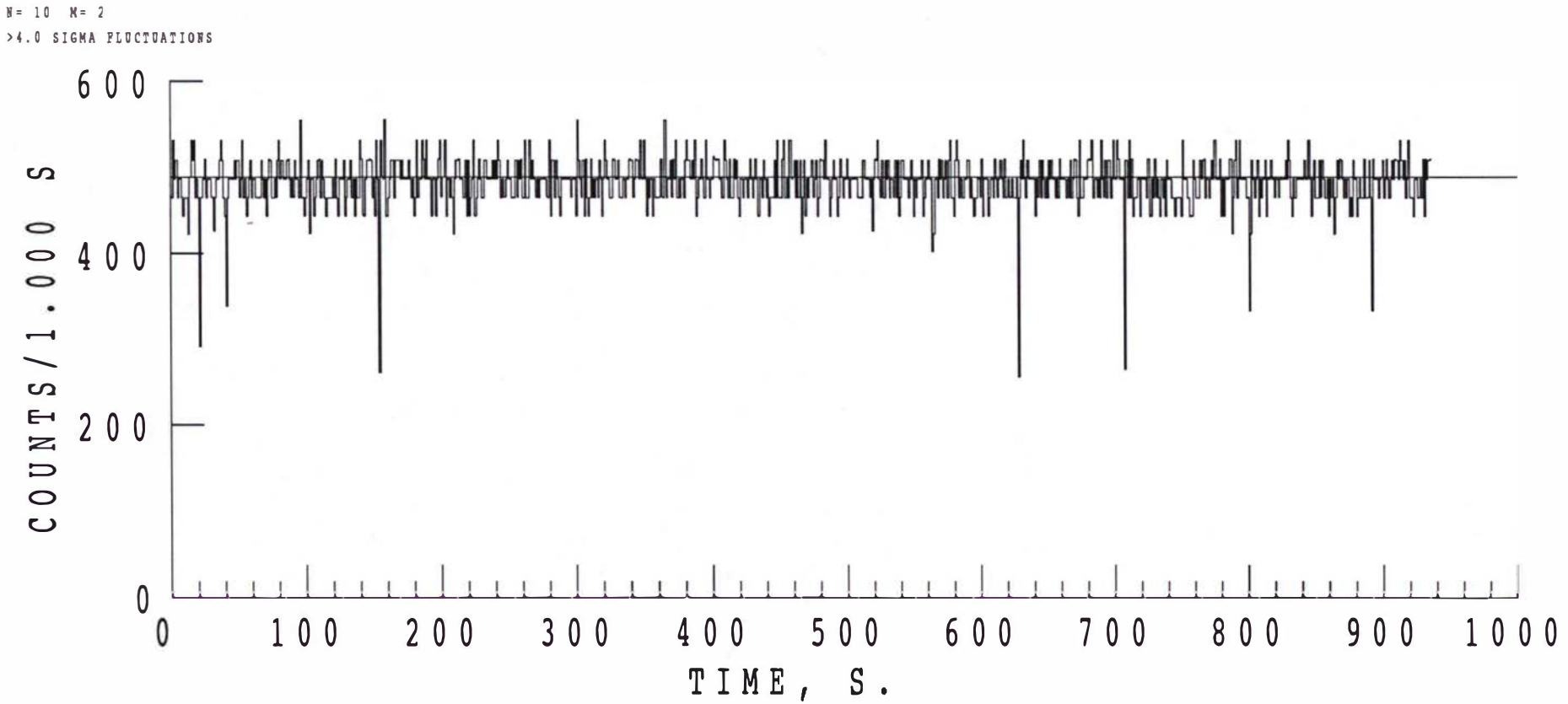
14/10/96

ULYSSES RT

9/10/96 6228.400 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV



From SURASAK@SSLLES.MSFC.NASA.GOV Fri Oct 11 17:08 PDT 1996
Date: Fri, 11 Oct 1996 10:52:50 -0500 (CDT)
From: SURASAK@ssl.msfc.nasa.gov
o: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 5628

****
BATSEARCH PROGRAM
****

Trigger

BATSE BURST # 5628
EVENT OF 1996 OCT 9 DAY OF YEAR=283
EVENT CROSSING TIME AT BATSE : 33553. S. OR 09:19:13.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 94.000 80.000
BATSE PEAK COUNTING RATE: 31500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 9/10/ 96 IS:
RA= 173.193 DEC= 32.791 DIST= 5.088 AU
BATSE-ULYSSES DISTANCE = 761149080. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=124.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1423.62 SECS.
CROSSING TIME AT ULYSSES IS 32129. S. OR 08:55:29 +/- 393.36 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 9/10/ 96 IS:
RA= 140.641 DEC= 16.749 DIST= 1.890 AU
MARS-BATSE DISTANCE = 282777728. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=113.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -375.38 SECS.
CROSSING TIME AT MARS IS 33178. S. OR 09:12:57 +/- 144.53 SECONDS

BATSE BURST TRIGGER
NO.: 5628

TIME: TJD=0365 SECONDS=33553

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=141.8 AZIMUTH=82 ERROR=0.921 DEGREES

COMMENTS:
GRB. DUR~27S. SINGLE PULSE WITH SUBSTRUCTURE. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5628	961009	10365	33553	31500	094	+80	27

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	~~Search + 5549~~	RI
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	~~Search + 5580~~	RI
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	~~Search + 5585~~	RI
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	~~Search + 5605~~	NO
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	~~Search + 5610~~	RI
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	~~Search + 5615~~	RI
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5612
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	~~Search + 5626~~	RI
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	~~Search + 5640~~	RI
96	10	17	42405.539	S1					0.3	1.5	396	~~Search + 5645~~	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	~~Search + 5650~~	RI
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	~~Search + 5655~~	RI
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	~~Search + 5660~~	RI
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	~~Search + 5670~~	NO
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	~~Search + 5675~~	RI

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

											BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search RI		
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO		
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	search RI		
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO		4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA		4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI		4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI		4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig		4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Search RI		NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI		4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig		NO

Helio corr removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

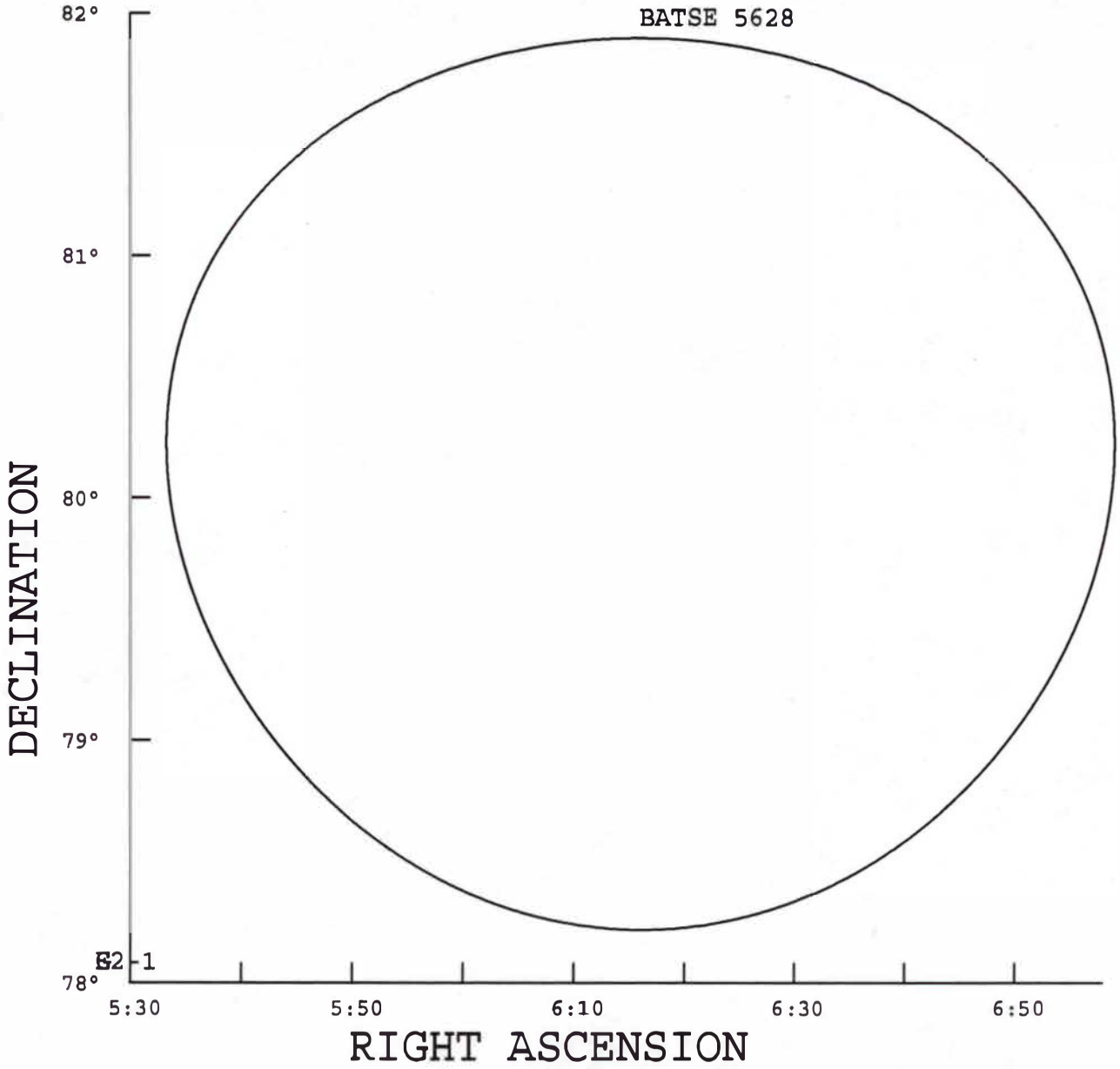
☐ Geocentric time used?

☑ ACCESS database updated?

EVENT OF OCT 9, 1996 8:58

17/ 2/ 0

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE

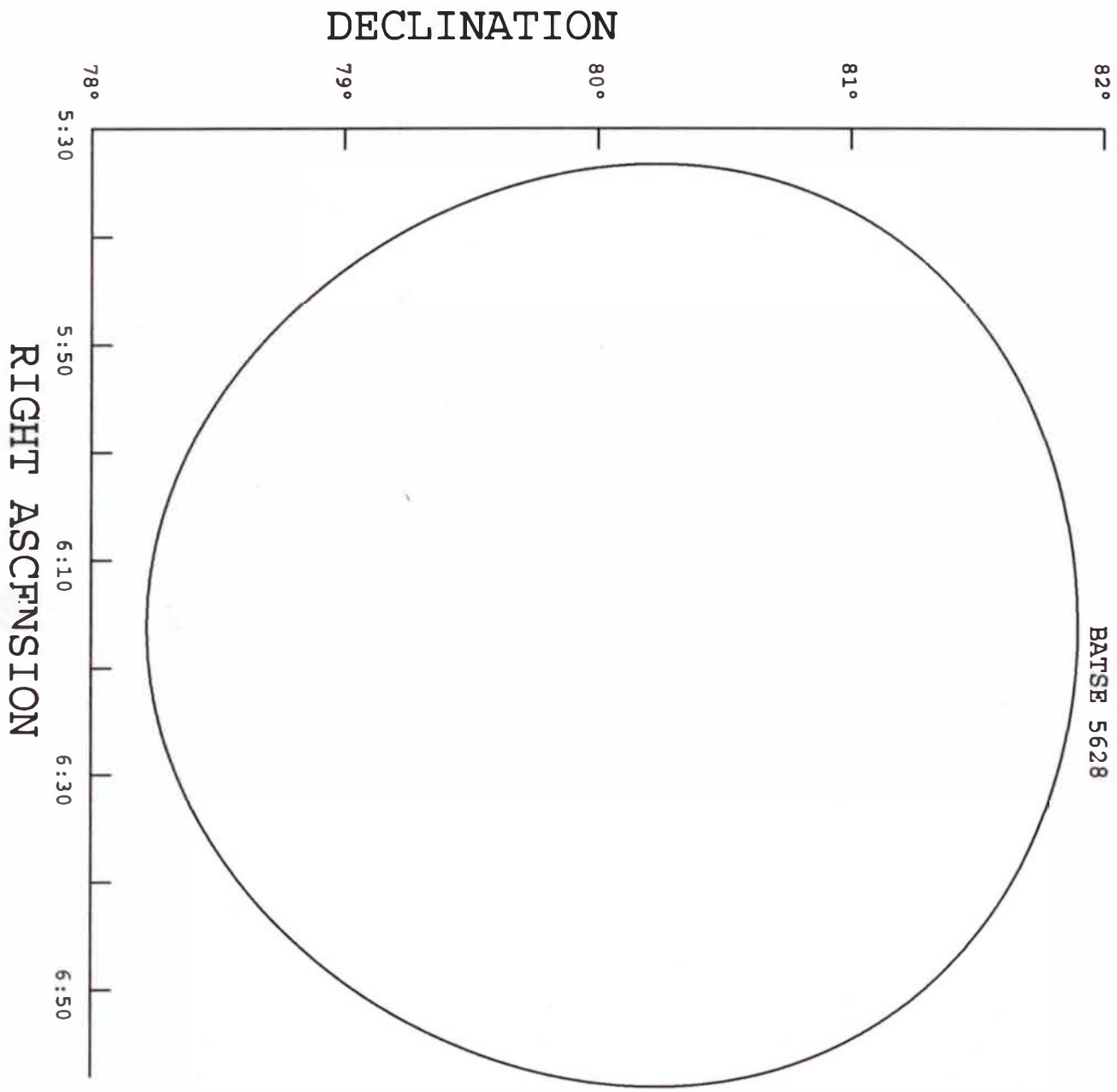


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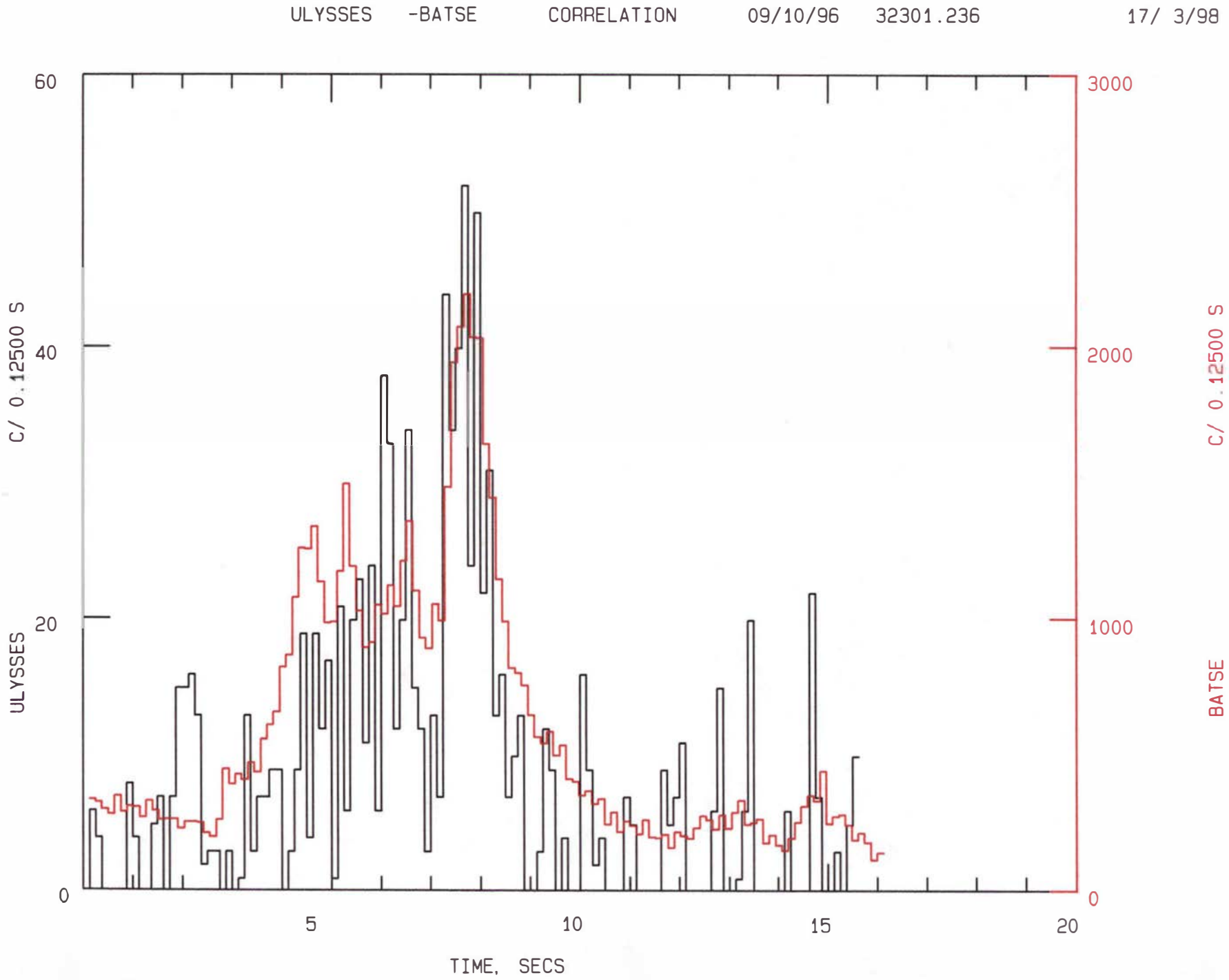
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR

1 ULYSSES 2 BATSE

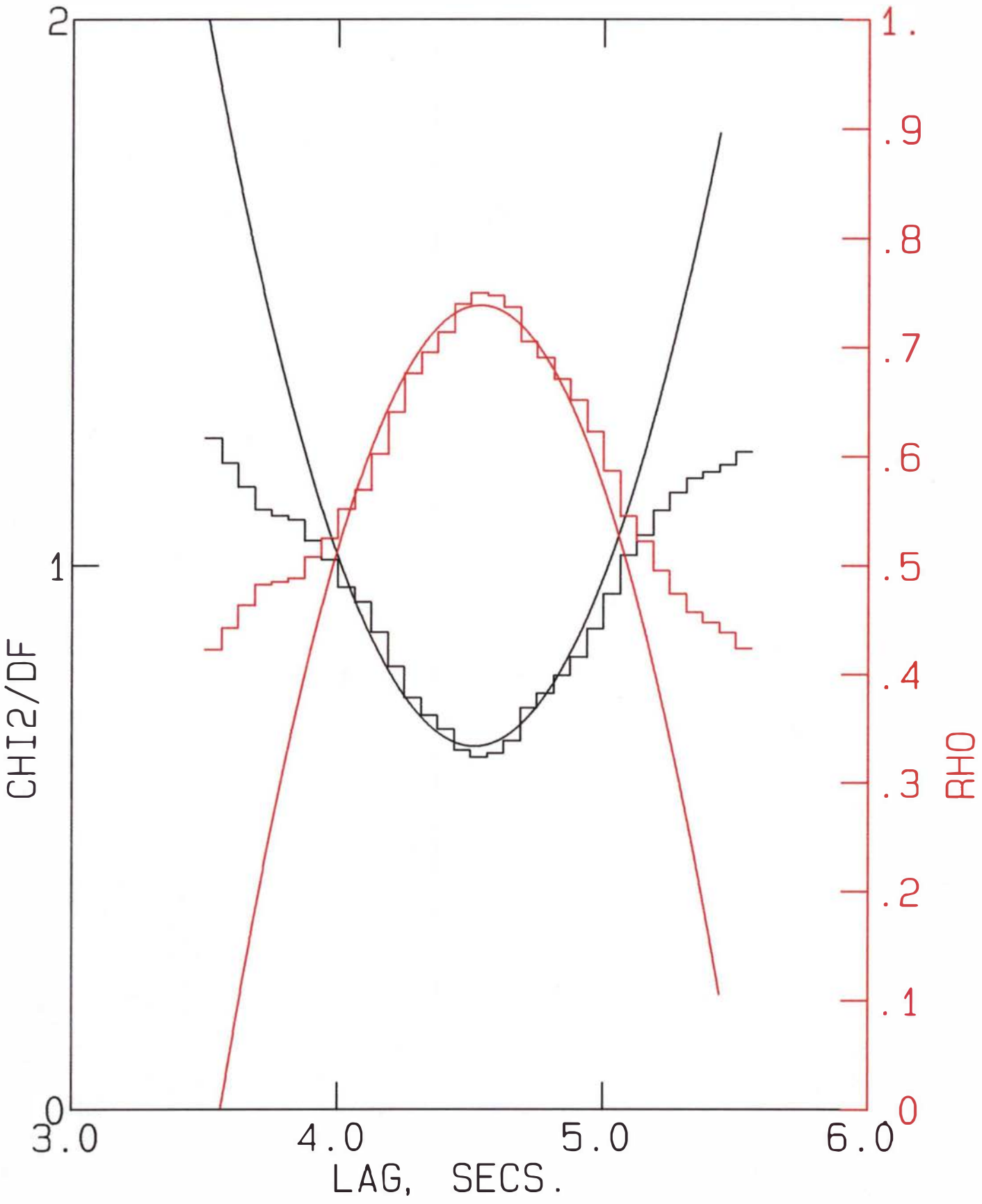


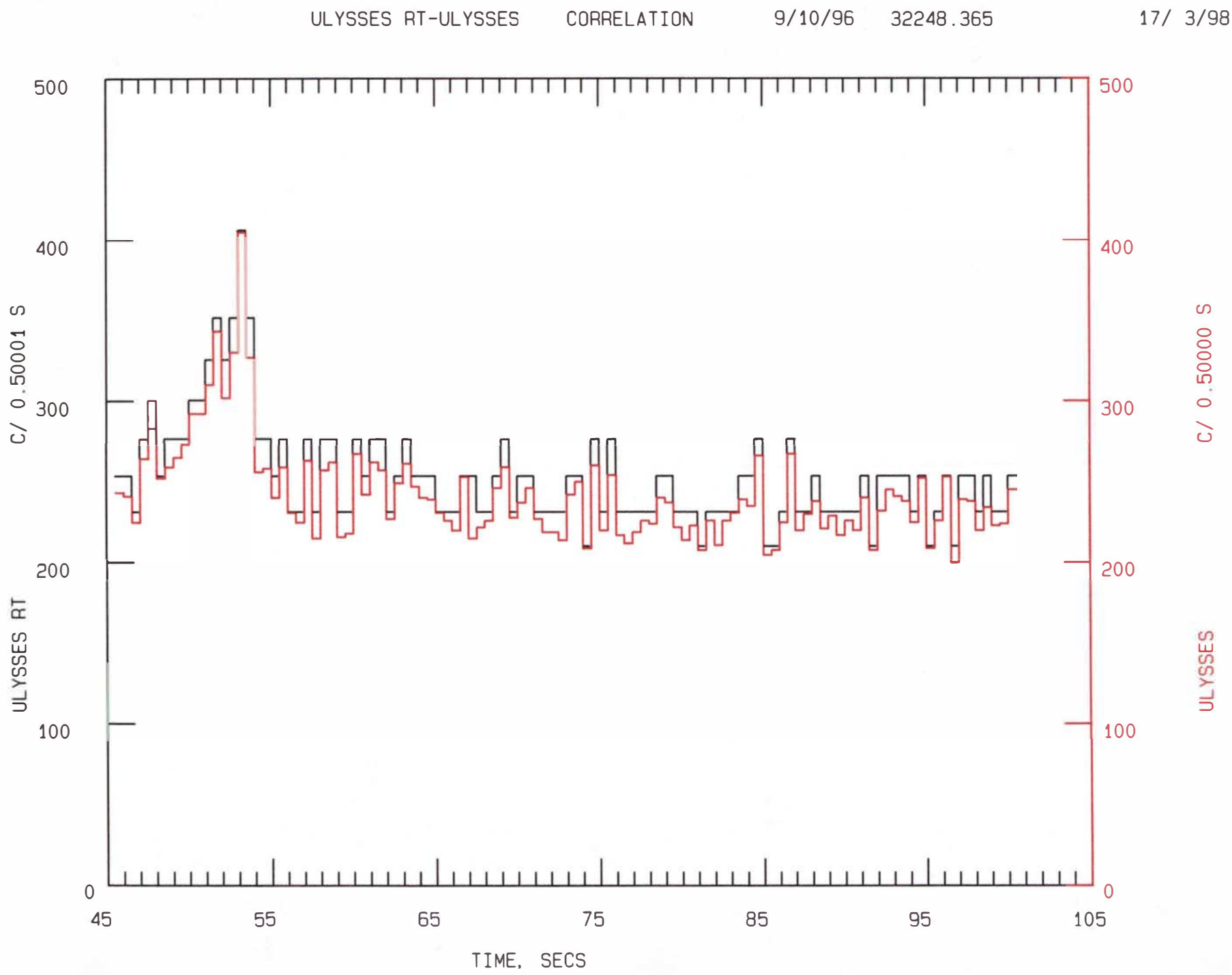
EVENT OF OCT 9, 1996 8:58

17/ 3/98

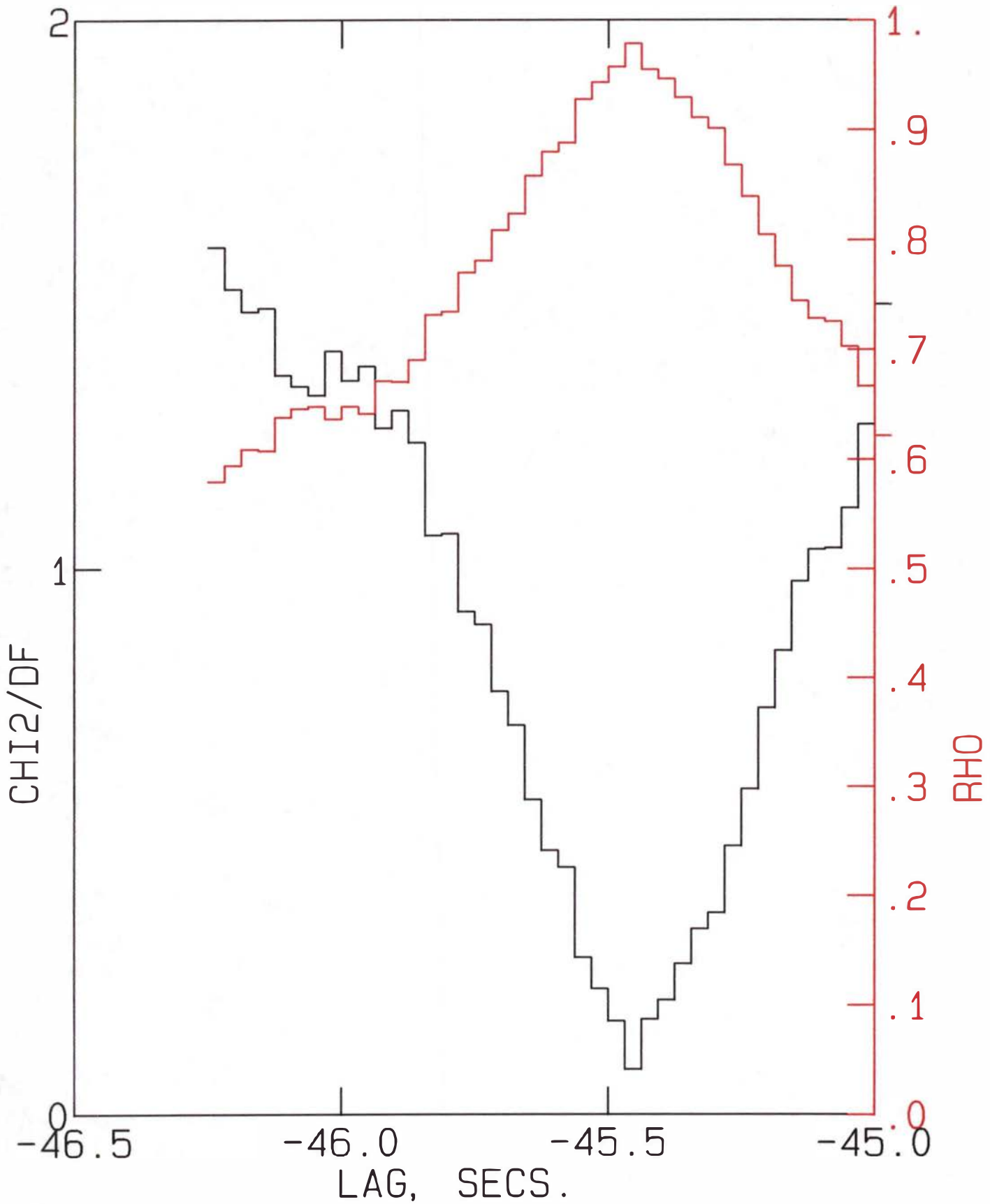

ULYSSES -BATSE CORRELATION 09/10/96 32301.236 17/ 3/98
60
40
20
0
3000
2000
1000
0
C/ 0.12500 S
ULYSSES
C/ 0.12500 S
BATSE
5
10
15
20
TIME, SECS

ULYSSES -BATSE CORRELATION 09/10/96 32301.236




ULYSSES RT-ULYSSES CORRELATION 9/10/96 32248.365 17/ 3/98
500
400
300
200
100
0
C/ 0.50001 S
ULYSSES RT
C/ 0.50000 S
ULYSSES
45
55
65
75
85
95
105
TIME, SECS

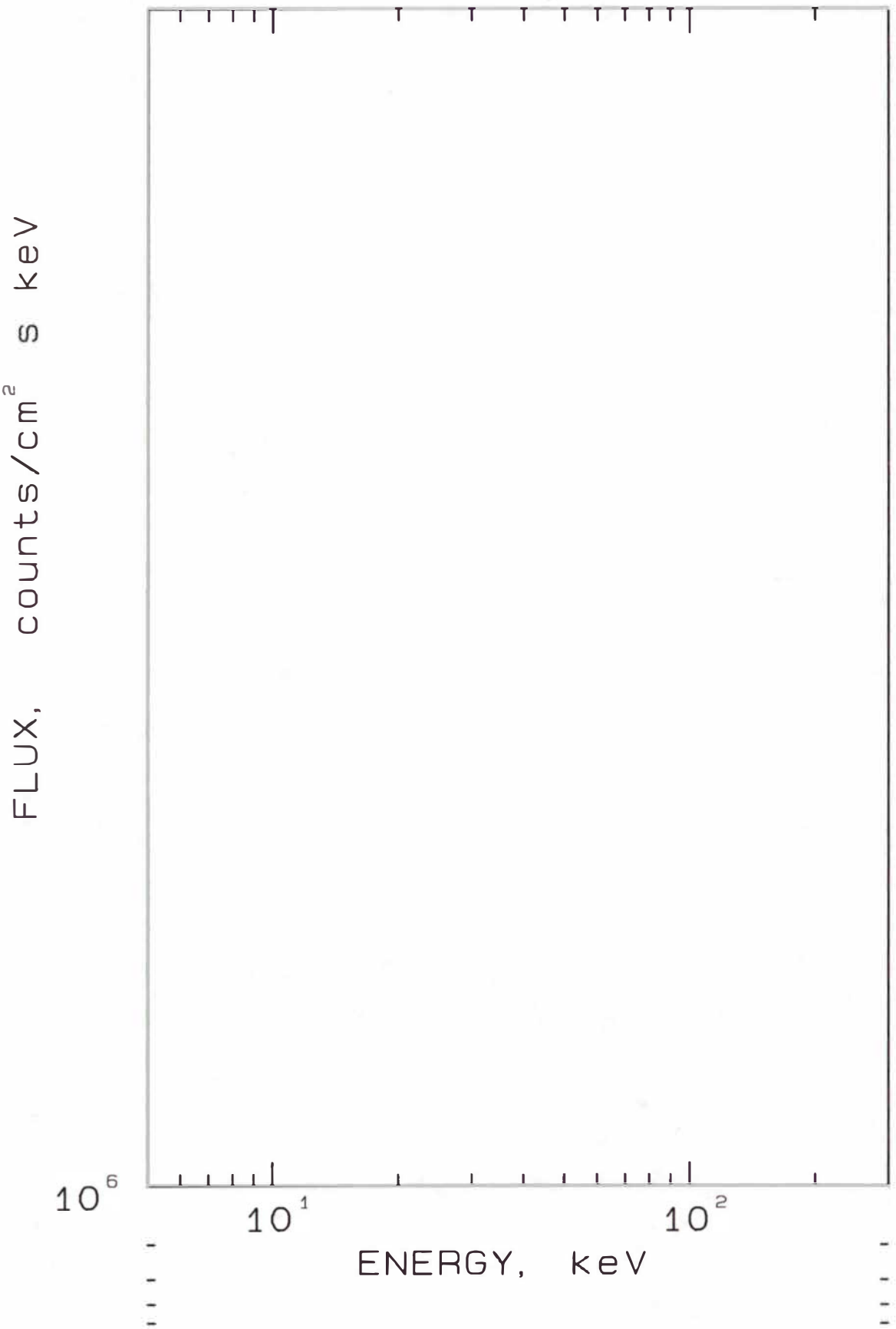
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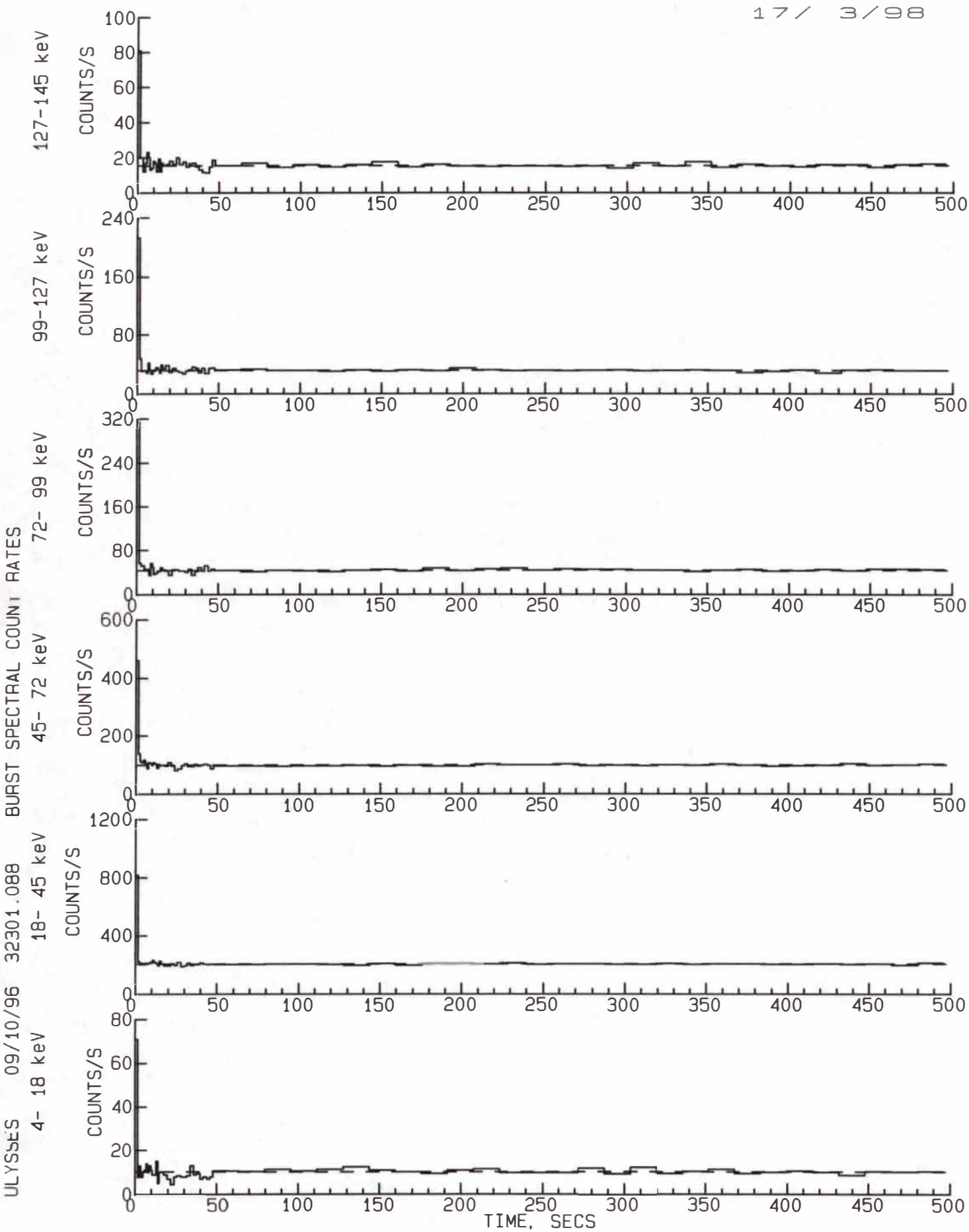


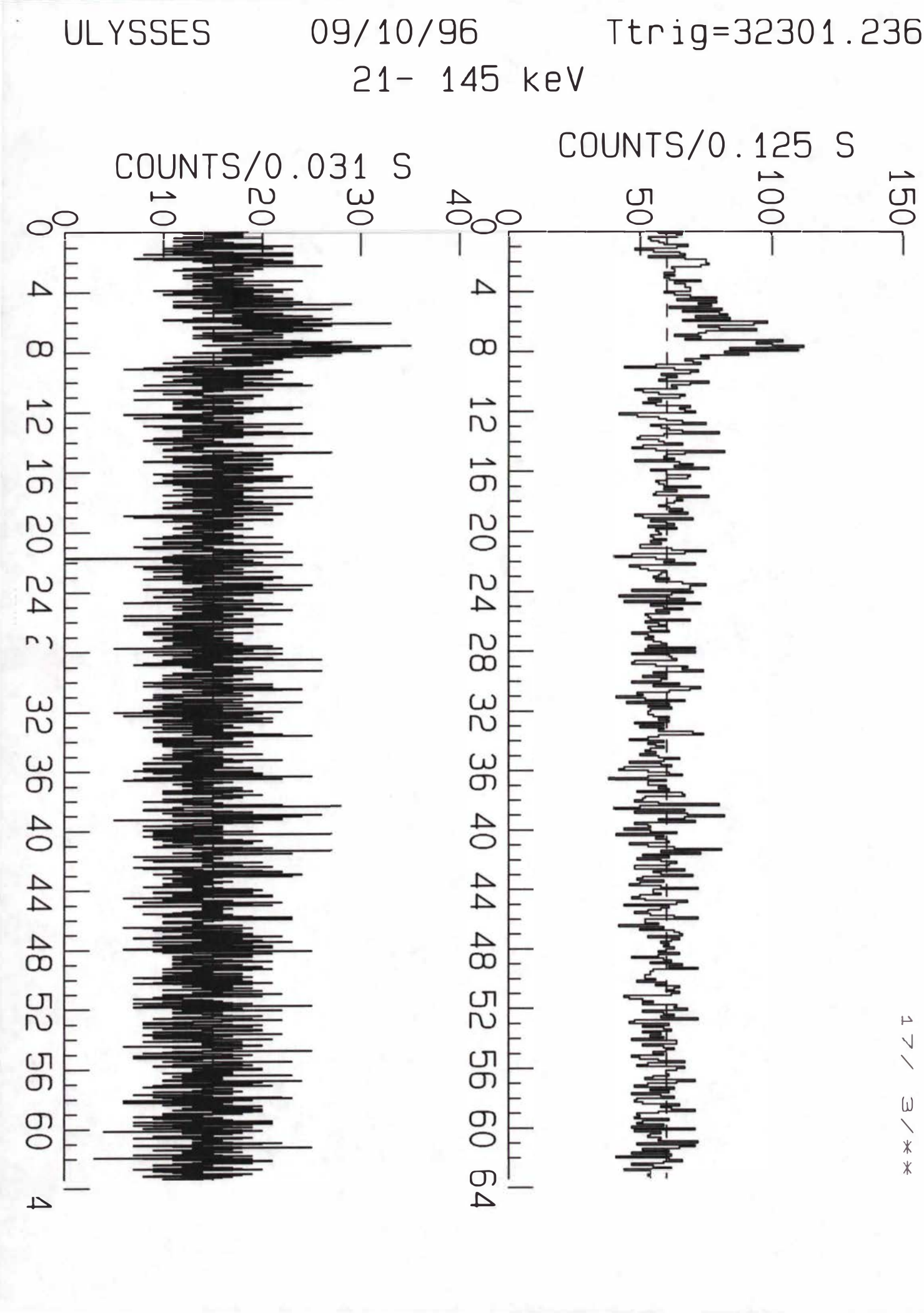
ULYSSES 09/10/96 32301.088

17/ 3/98

SPECTRUM INTEGRATED OVER 21.7 SECONDS. INTERVALS 2 TO 20




17/ 3/98
ULYSSES 09/10/96 32301.088 BURST SPECTRAL COUNT RATES
4- 18 keV
18- 45 keV
45- 72 keV
72- 99 keV
99-127 keV
127-145 keV
COUNTS/S
TIME, SECS

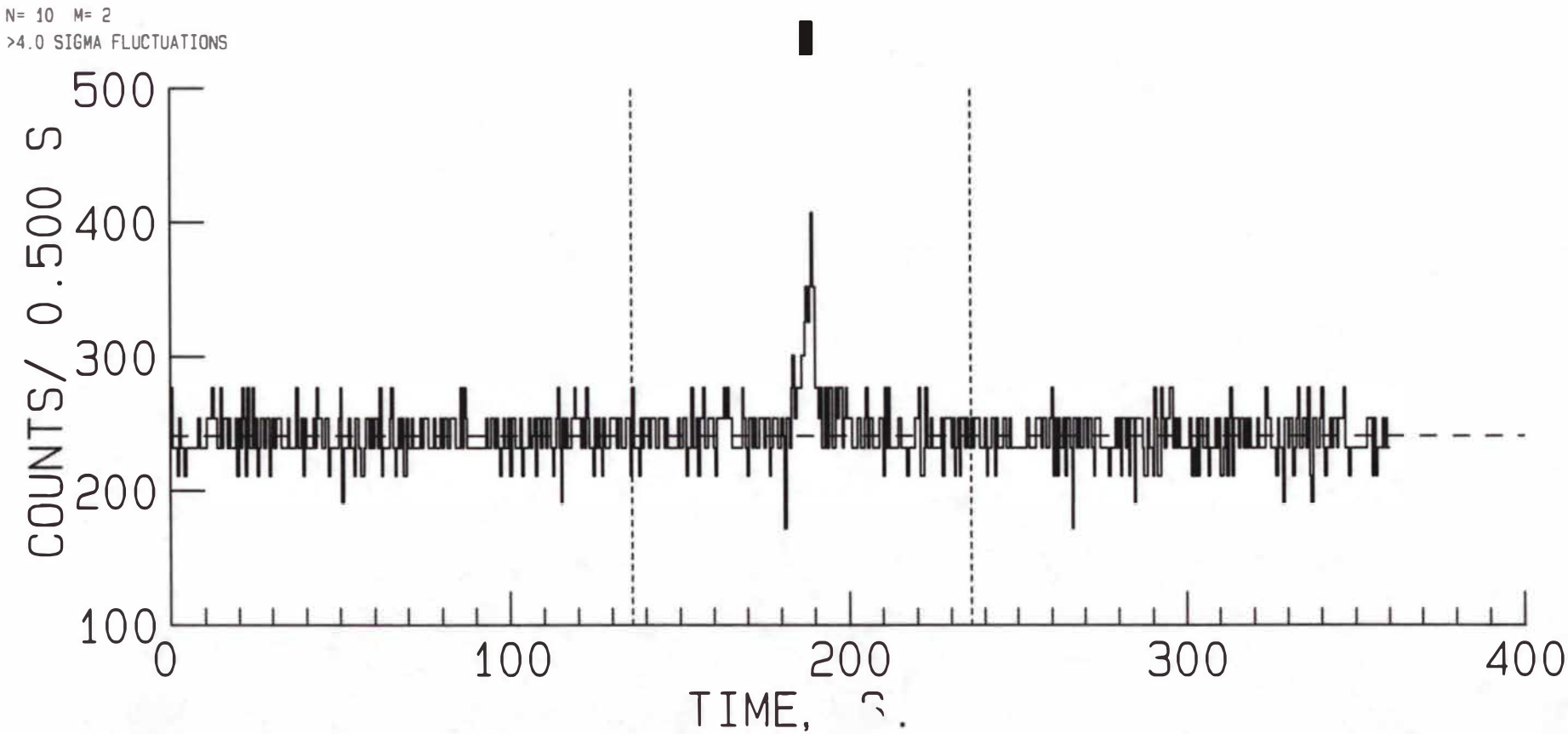

ULYSSES 09/10/96 Ttrig=32301.236
21- 145 keV
COUNTS/0.031 S
COUNTS/0.125 S
0 10 20 30 40
0 50 100 150
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64
0 4 8 12 16 20 24 32 36 40 44 48 52 56 60 64

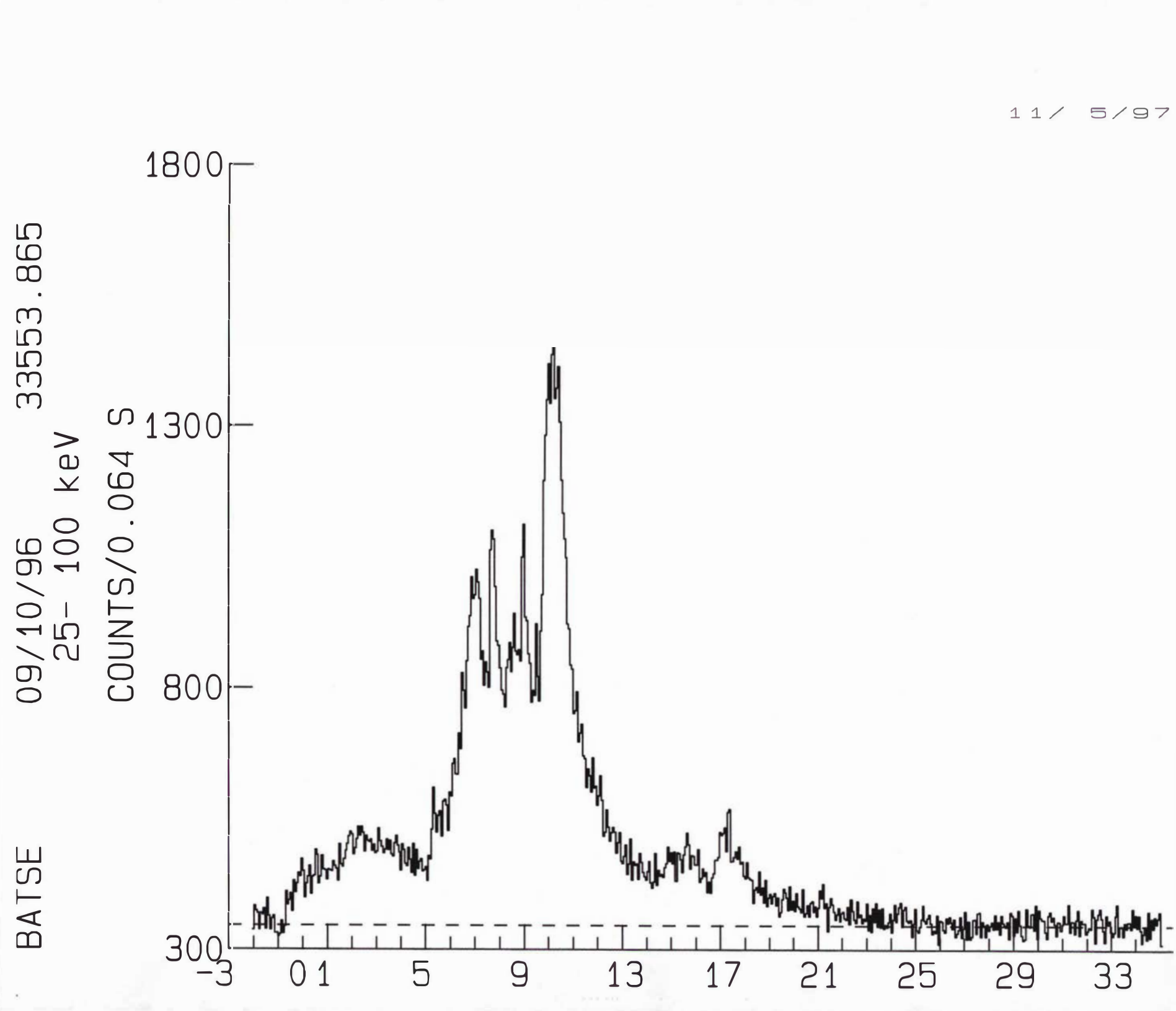
ULYSSES RT

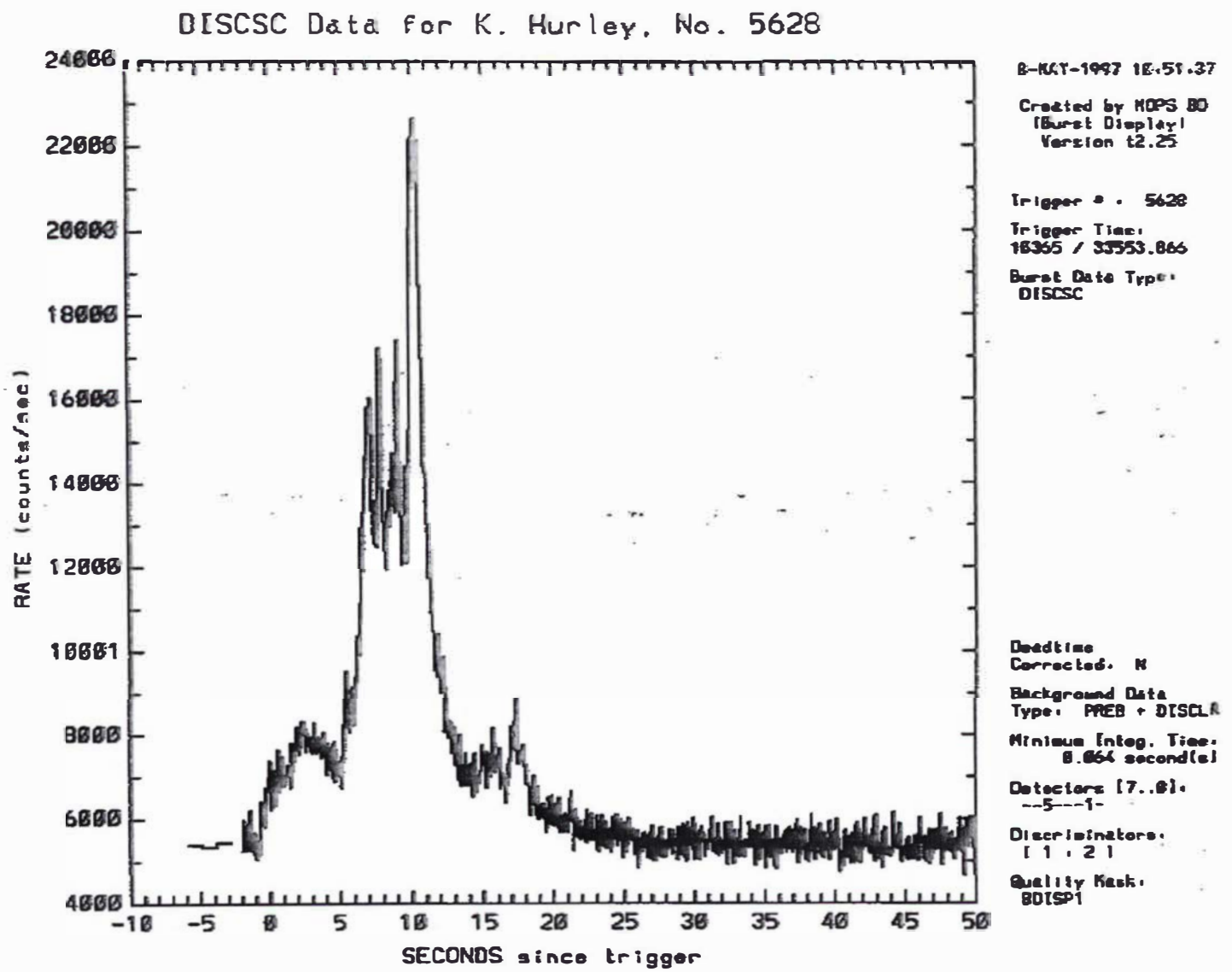
17/ 3/98

9/10/96 32112.220 s

21- 145 keV




11/ 5/97
BATSE 09/10/96 33553.865
25- 100 keV
COUNTS/0.064 S
1800
1300
800
300
-3
01
5
9
13
17
21
25
29
33


DISCSC Data for K. Hurley, No. 5628
RATE (counts/sec)
SECONDS since trigger
8-MAY-1997 18:51:37
Created by MOPS 80
(Burst Display)
Version t2.25
Trigger # : 5628
Trigger Time:
18365 / 33553.866
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)
Detectors [7..0]:
--5---1-
Discriminators:
[1 : 2]
Quality Mask:
BDISP1

From SURASAK@ssl.msfc.nasa.gov Fri Oct 11 16:49 PDT 1996
From: SURASAK@ssl.msfc.nasa.gov
Date: Fri, 11 Oct 1996 11:02:58 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 5629

```
         ********************
         *BATSEARCH PROGRAM*
         ********************

 BATSE BURST #    5629
 EVENT OF 1996 OCT  9 DAY OF YEAR=283
 EVENT CROSSING TIME AT BATSE     : 49065. S. OR 13:37:45.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 130.000  -80.000
 BATSE PEAK COUNTING RATE:  24000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  9/10/  96 IS:
 RA=  173.223 DEC=   32.778 DIST=    5.087 AU
 BATSE-ULYSSES DISTANCE =  761007409. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 64.74 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1083.34 SECS.
 CROSSING TIME AT ULYSSES    IS 50148. S. OR   13:55:48 +/-  465.02 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  9/10/  96 IS:
 RA=  140.641 DEC=   16.749 DIST=    1.890 AU
 MARS-BATSE DISTANCE =  282777728. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.09 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  113.56 SECS.
 CROSSING TIME AT MARS       IS 49179. S. OR   13:39:38 +/-  164.30 SECONDS



                BATSE BURST TRIGGER
NO.: 5629

TIME: TJD=0365 SECONDS=49065

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=24     AZIMUTH=237.6  ERROR=0.367 DEGREES

COMMENTS:
GRB. DUR~30S. MULTI PEAK. VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5629   961009   10365   49065    24000   130   -80     30
```

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	[illegible]	RI
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	[illegible]	RI
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	[illegible]	RI
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	[illegible]	NO
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	[illegible]	RI
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	[illegible]	RI
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5611
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5613
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	[illegible]	RI
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	[illegible]	RI
96	10	17	42405.539	S1					0.3	1.5	396	[illegible]	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	[illegible]	RI
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	[illegible]	RI
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	[illegible]	RI
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	[illegible]	NO
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	[illegible]	RI

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
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96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	~~Sea RI~~	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Sea RI	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

Helio corr removed 17/2/00

Date: Mar 17 '98

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1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

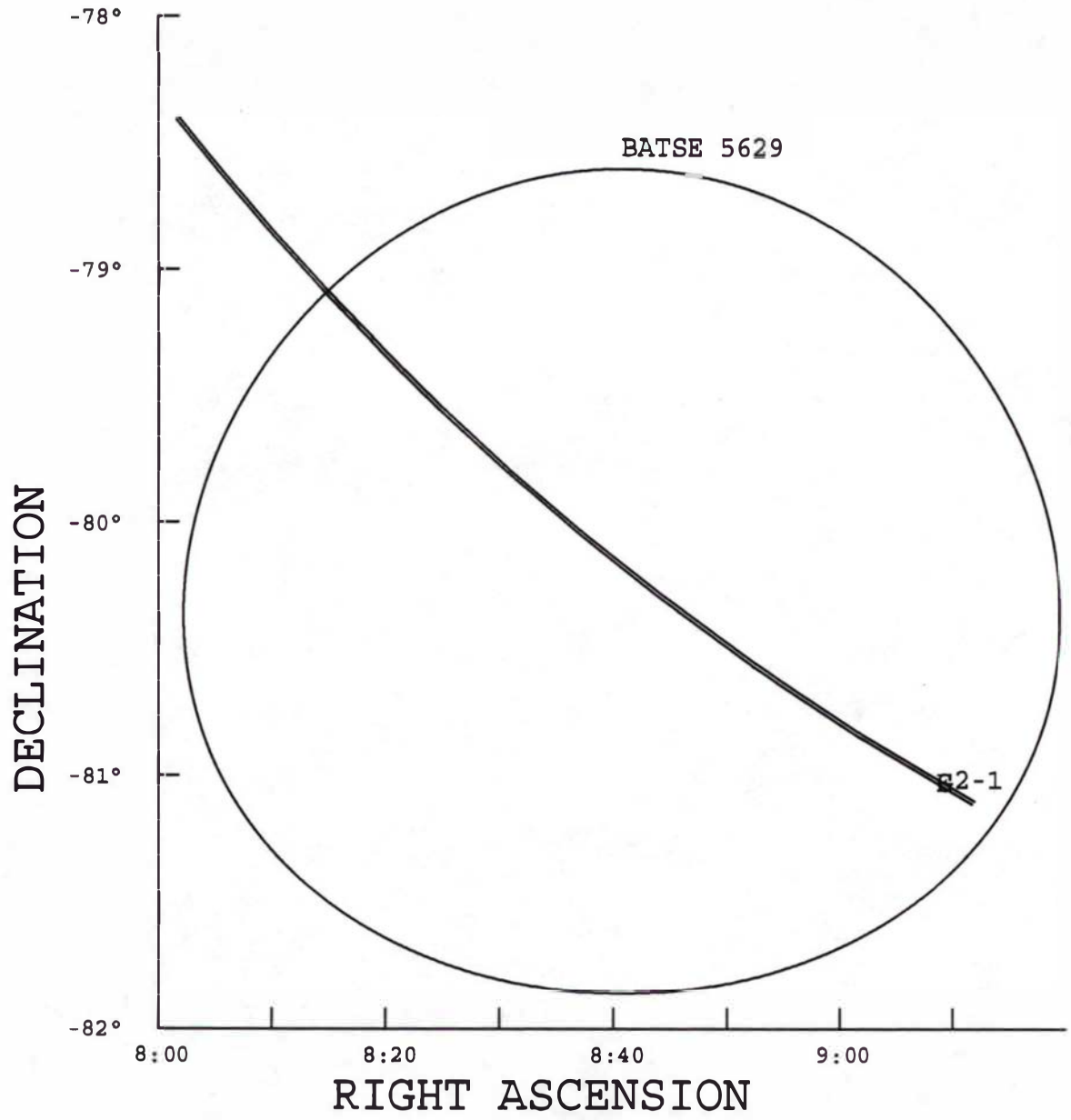
☐ 2000 coordinates used?

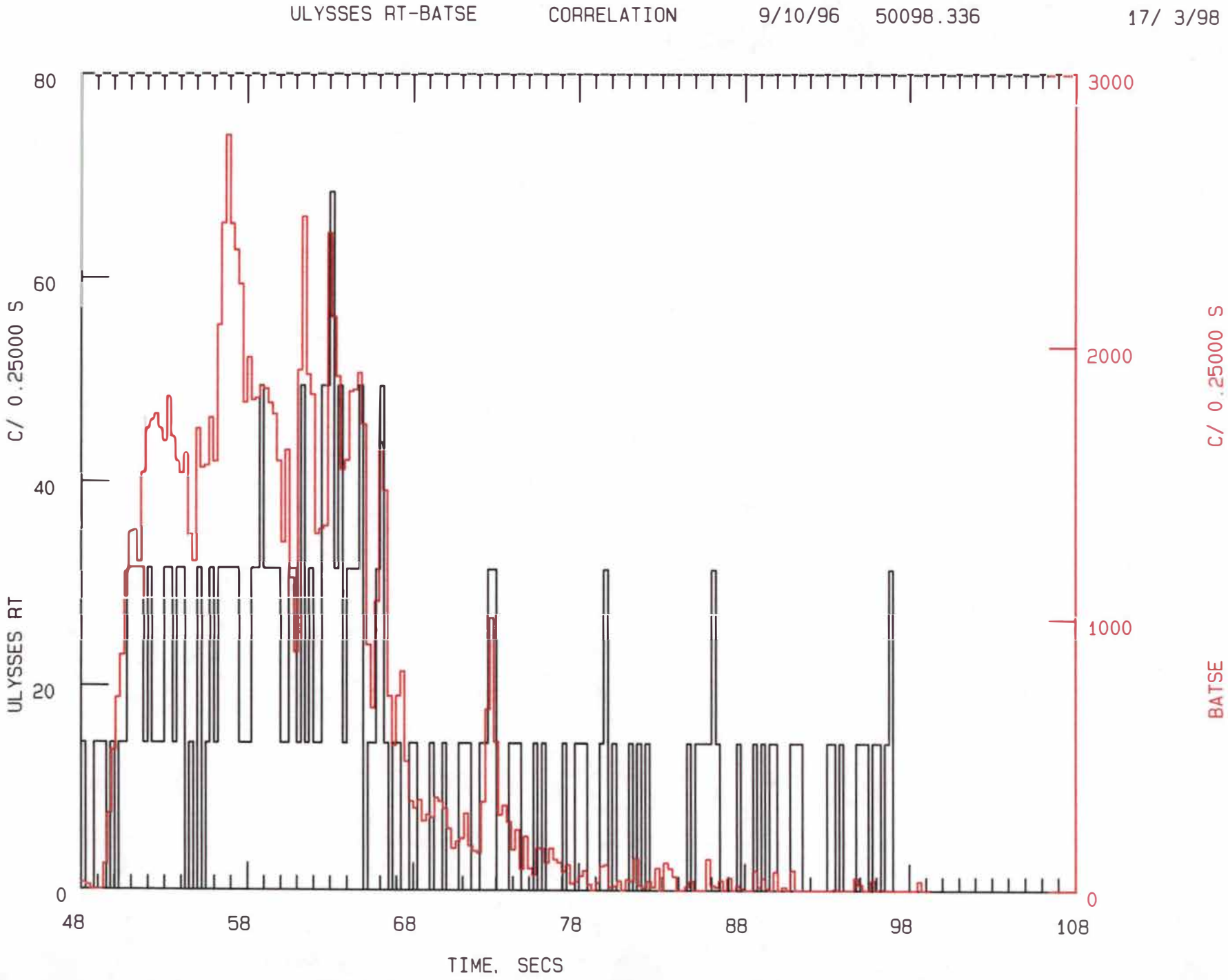
☐ Geocentric time used?

☑ ACCESS database updated?

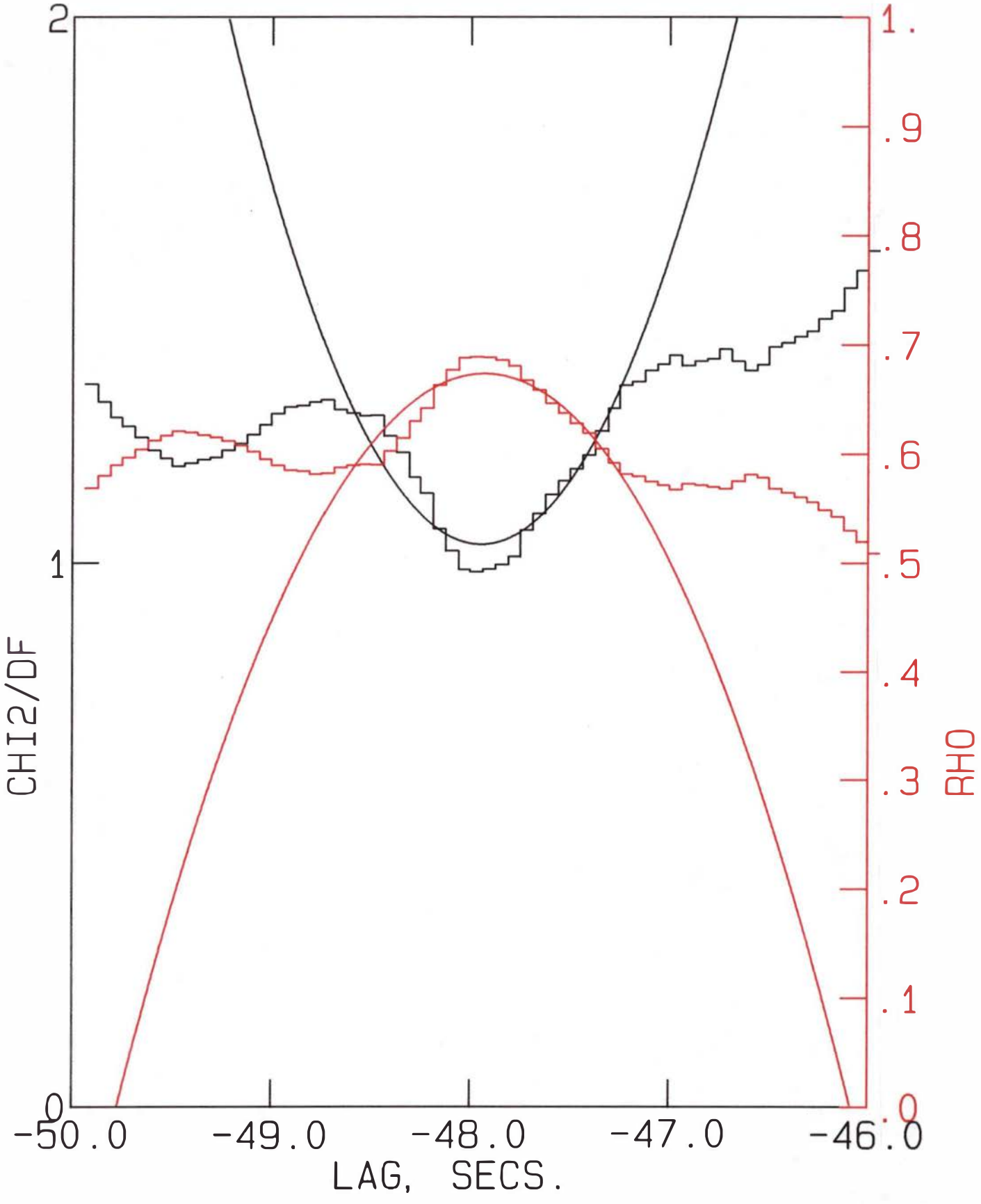
EVENT OF OCT 9, 1996 13:54

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE




ULYSSES RT-BATSE CORRELATION 9/10/96 50098.336 17/ 3/98
80
60
40
20
0
C/ 0.25000 S
ULYSSES RT
3000
2000
1000
0
C/ 0.25000 S
BATSE
48
58
68
78
88
98
108
TIME, SECS

ULYSSES RT-BATSE CORRELATION 9/10/96 50098.336



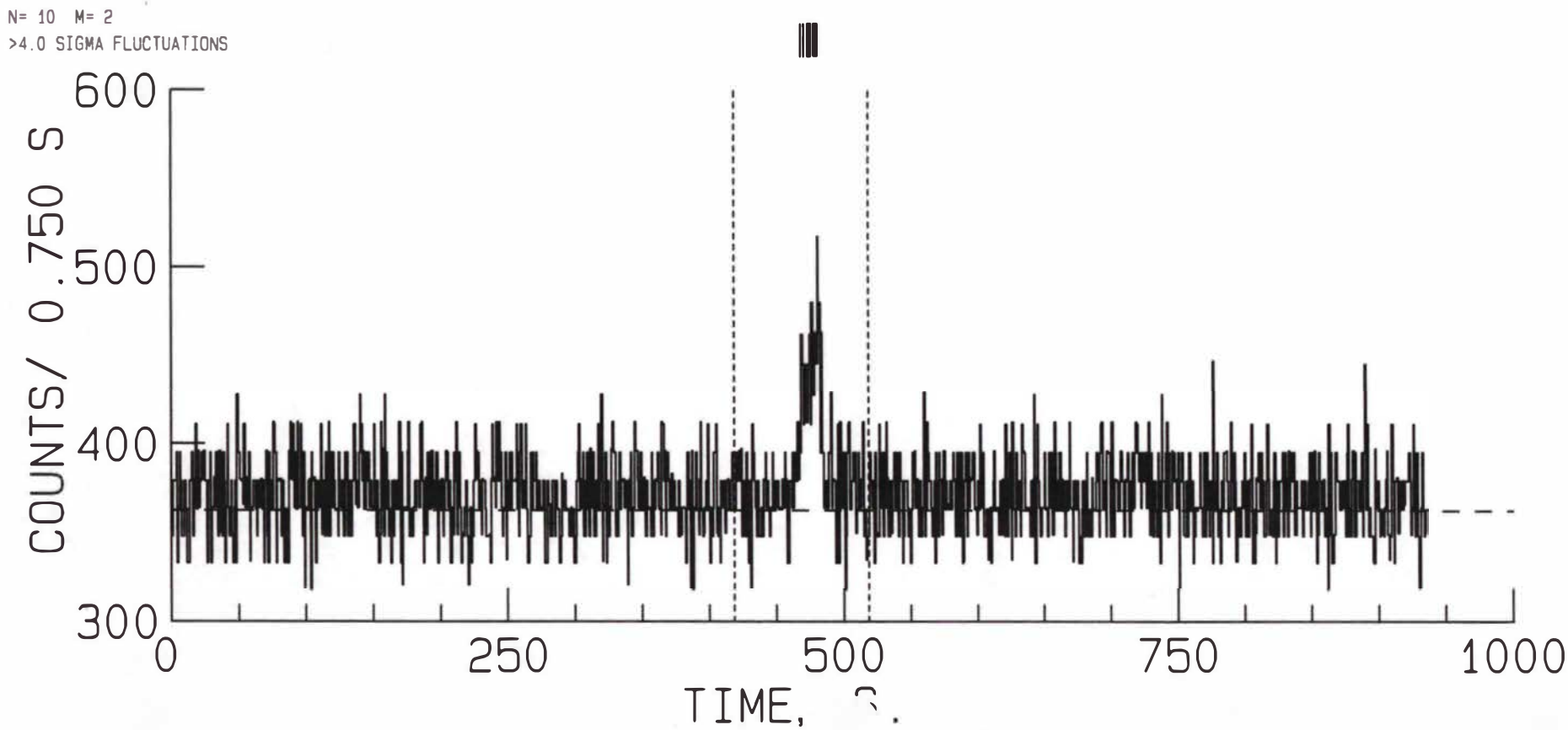
ULYSSES RT

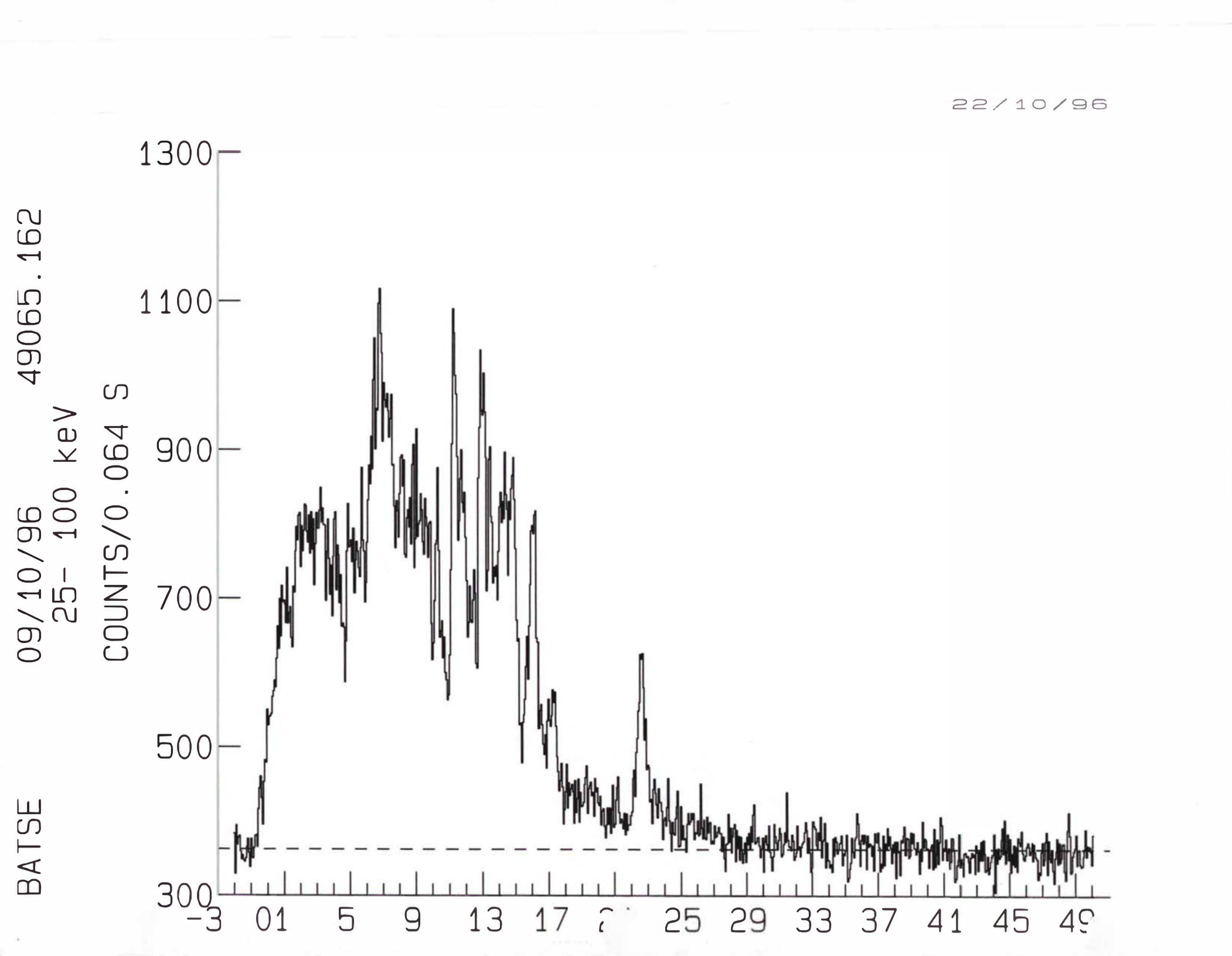
17/ 3/98

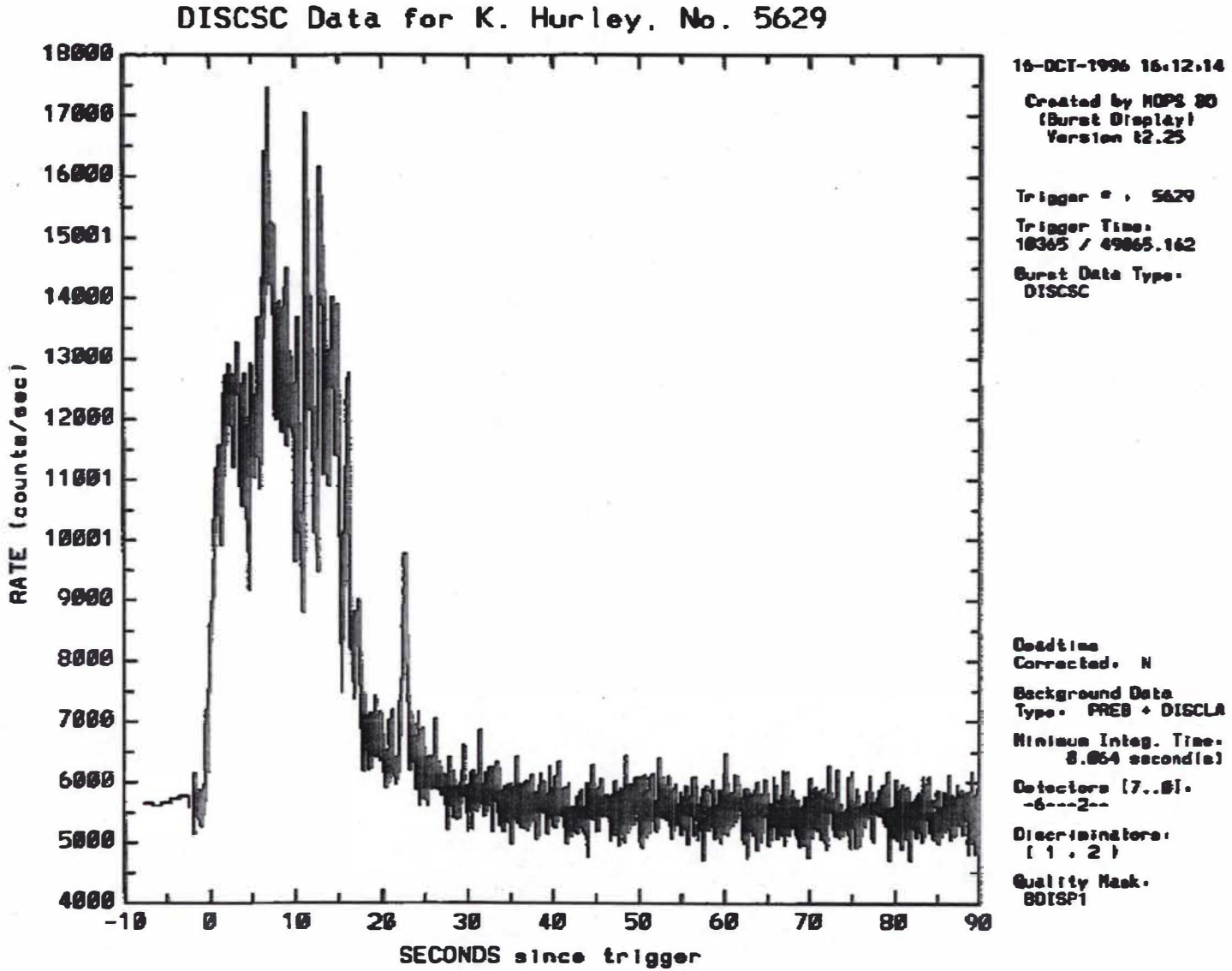
9/10/96 49680.195 s

0.250 S INTERVALS REGROUPED BY 3

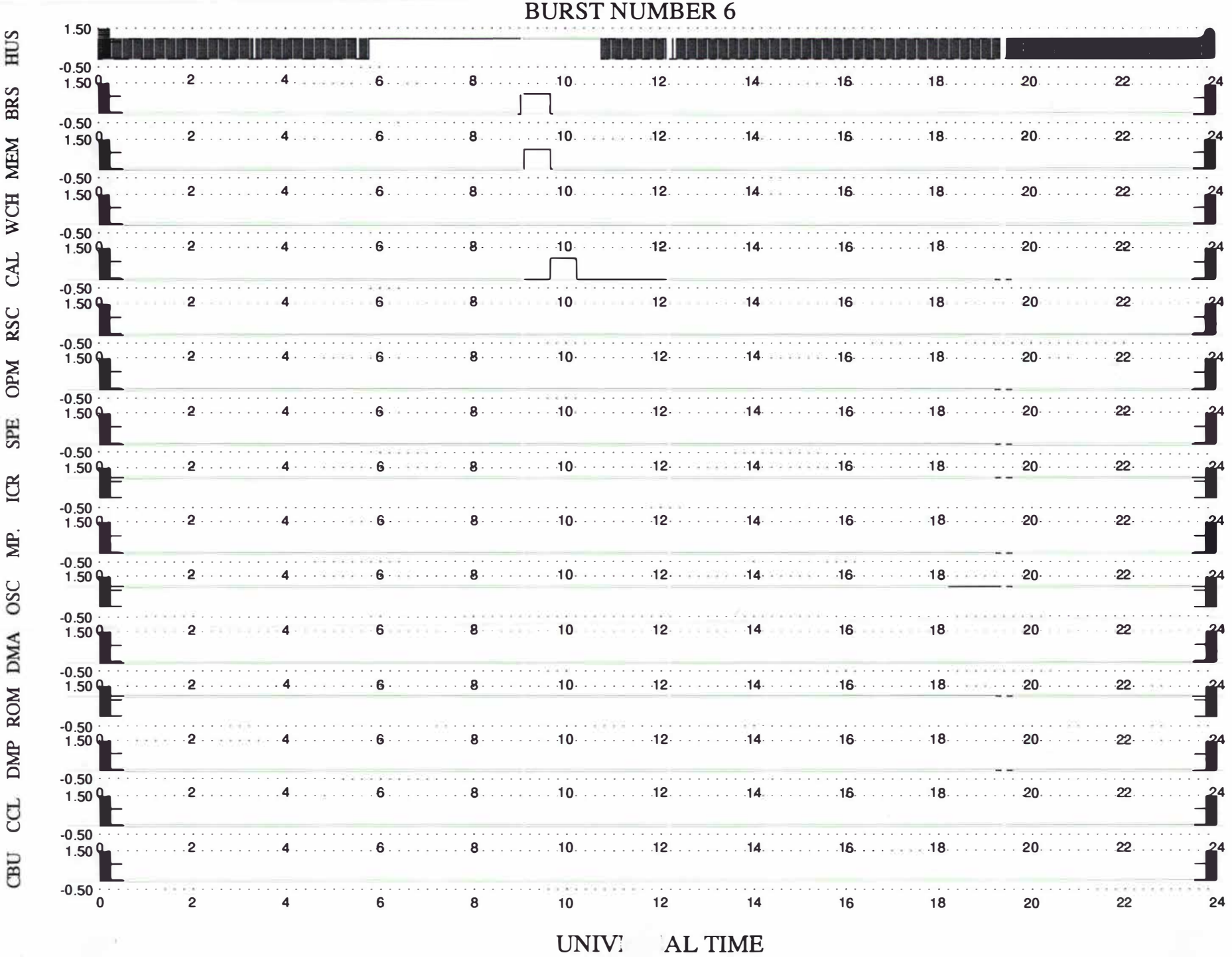
21- 145 keV




22/10/96
BATSE 09/10/96 49065.162
25- 100 keV
COUNTS/0.064 S
1300
1100
900
700
500
300
-3
01
5
9
13
17
25
29
33
37
41
45

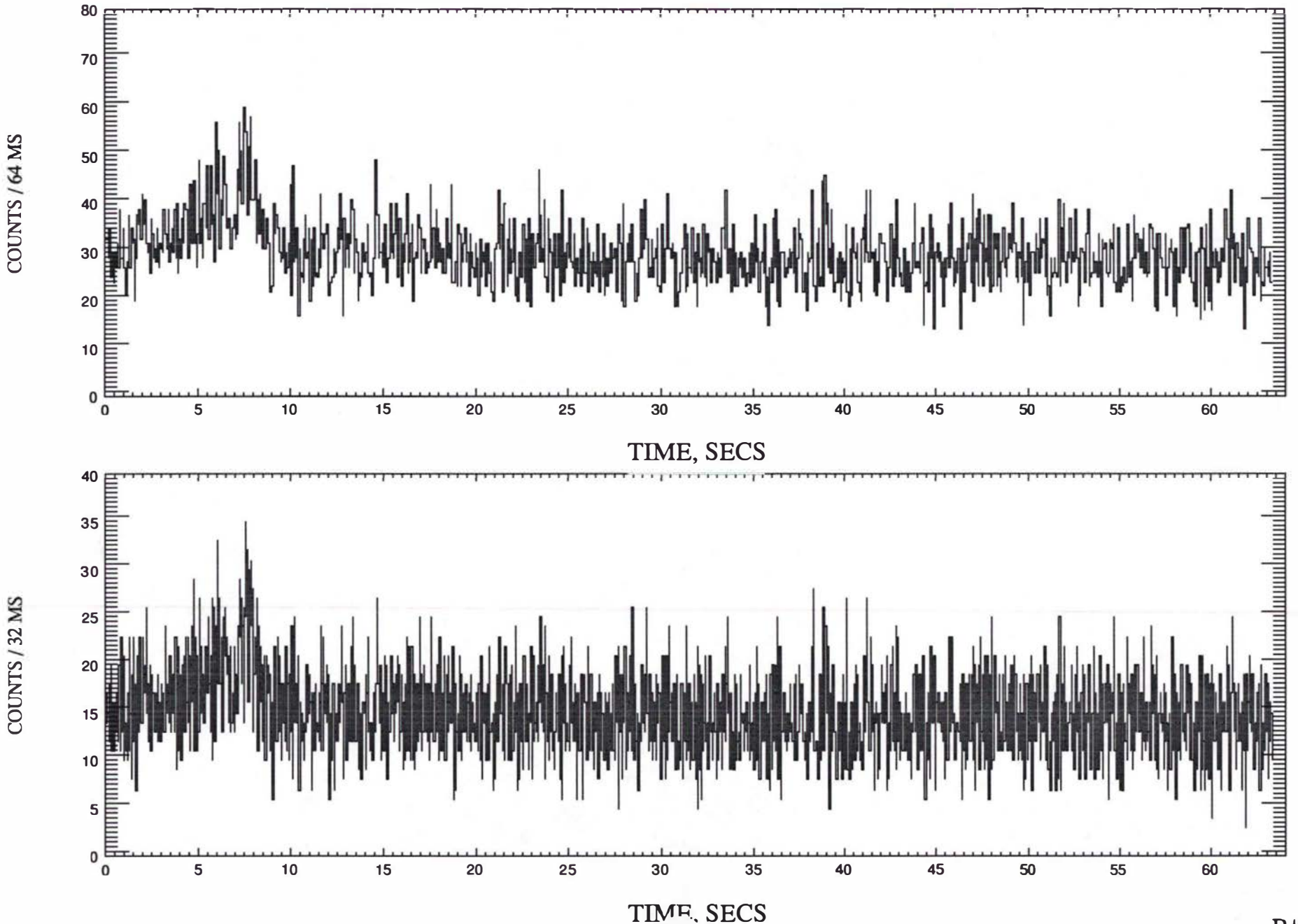

DISCSC Data for K. Hurley, No. 5629
RATE (counts/sec)
SECONDS since trigger
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
-10
0
10
20
30
40
50
60
70
80
90
16-OCT-1996 16:12:14
Created by HOPS 80
(Burst Display)
Version t2.25
Trigger # : 5629
Trigger Time:
10365 / 49865.162
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
8.064 second(s)
Detectors [7..0]:
-6---2--
Discriminators:
[1 , 2]
Quality Mask:
BDISP1

HUS MODES EDR day 283, year 1996 to day 283, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 283, year 1996 3/29/97

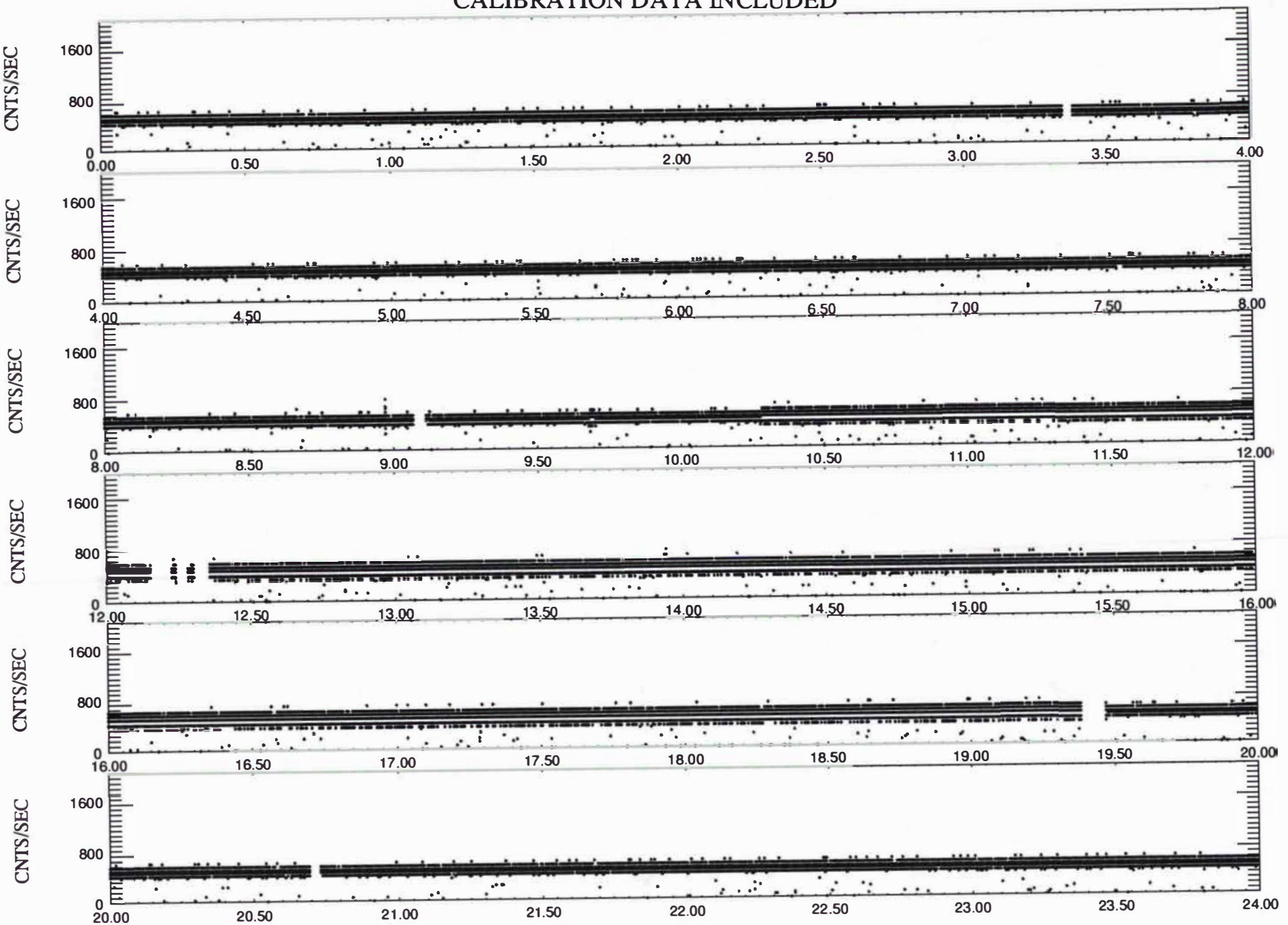
Burst Counter 6 at UT= 8.972524439494 h=32301.088 s 08:58:21.088



B# 1

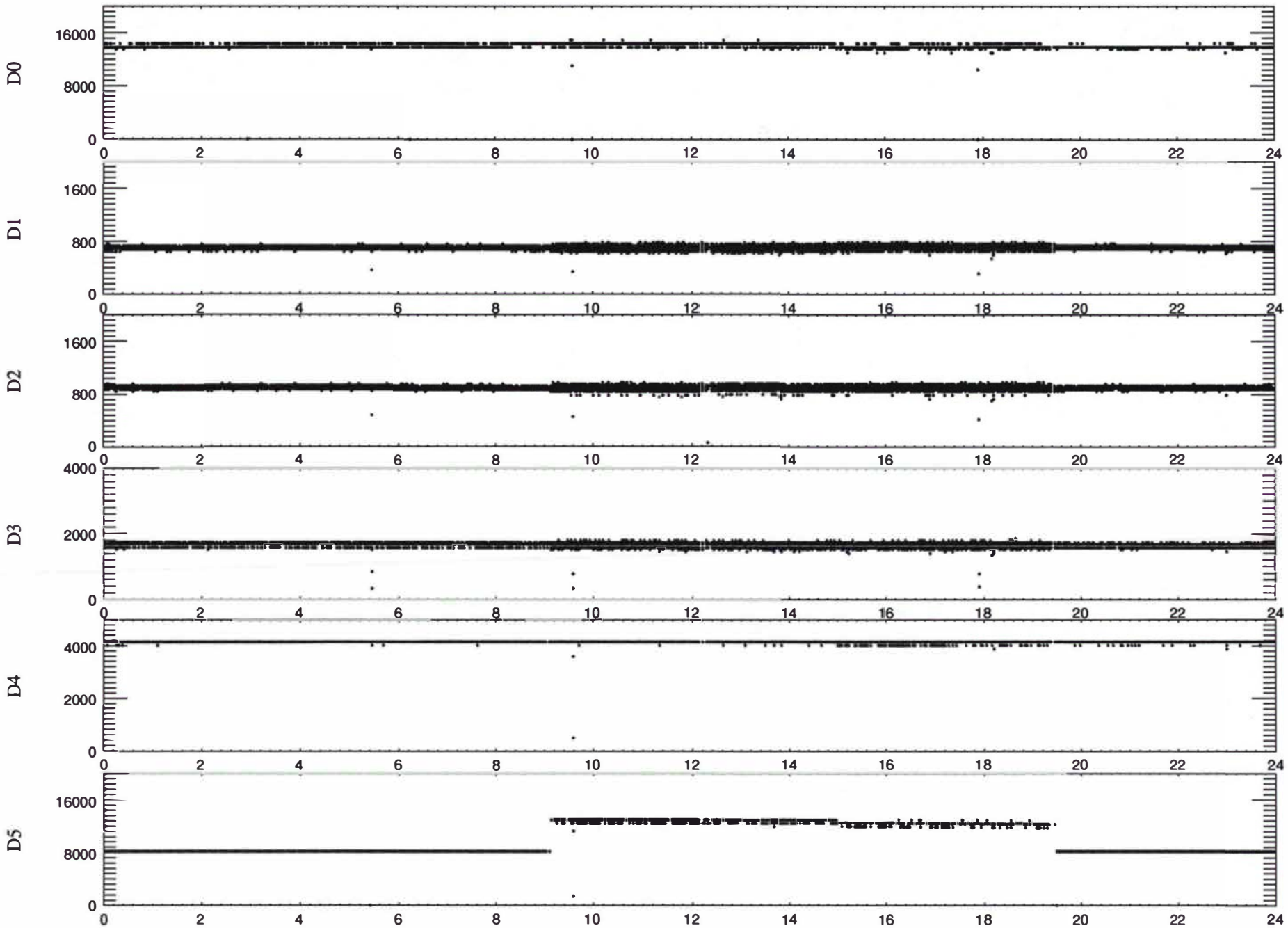
HUS 2A, MODE 1, NOT AVERAGED EDR day 283, year 1996 to day 283, year 1996 3/29/97

CALIBRATION DATA INCLUDED

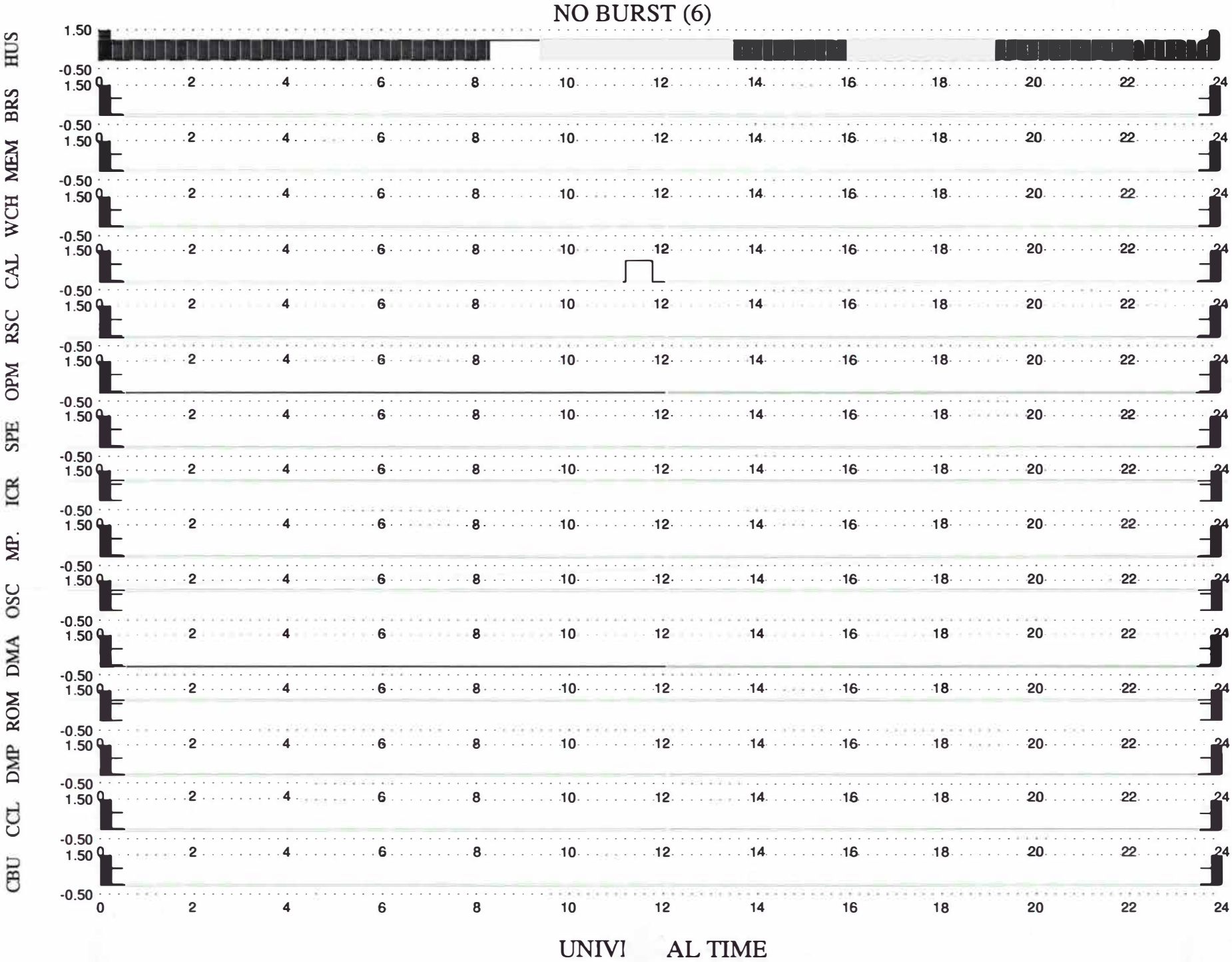


UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 283, year 1996 to day 283, year 1996 3/29/97

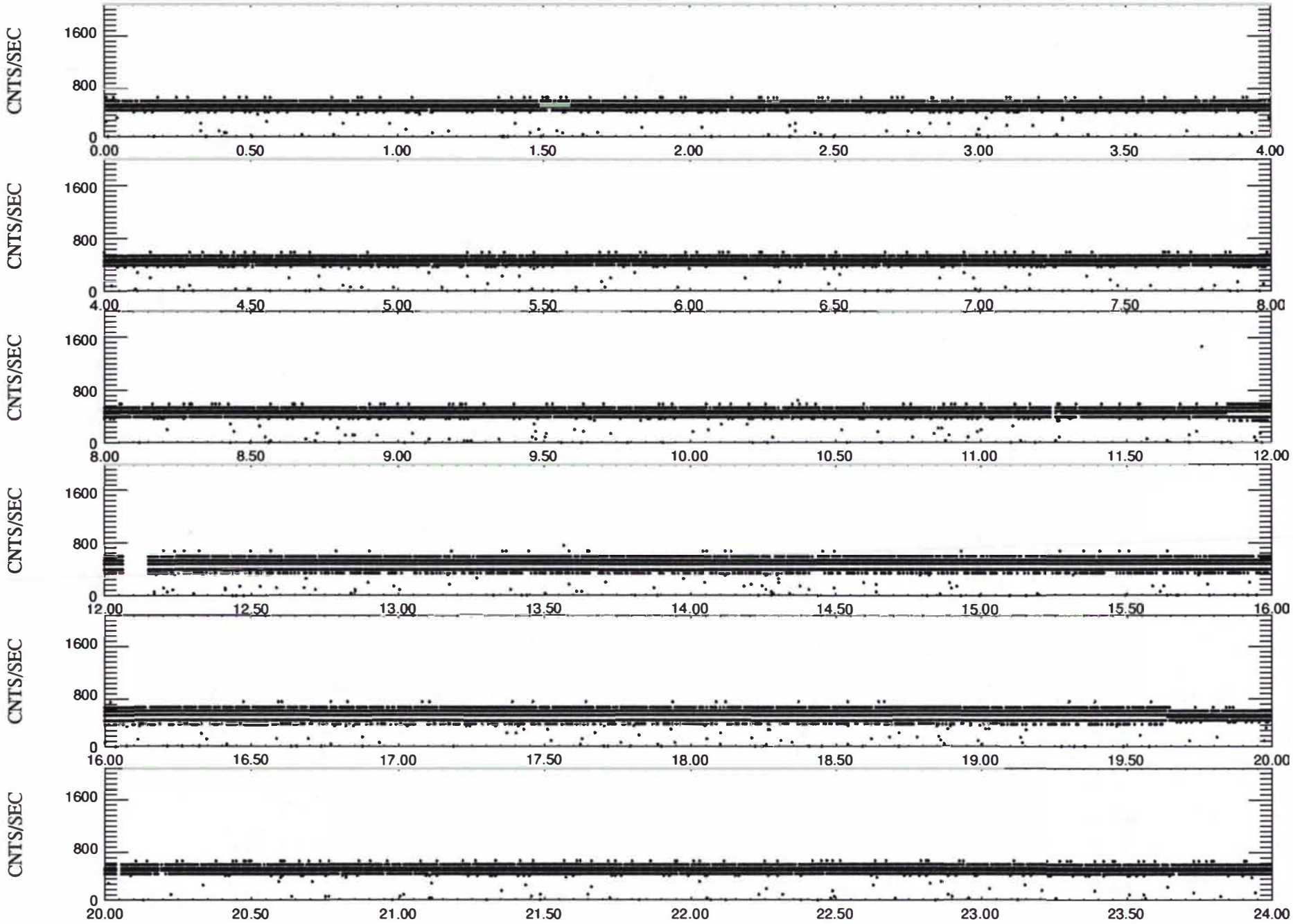


HUS MODES EDR day 284, year 1996 to day 284, year 1996 3/29/97



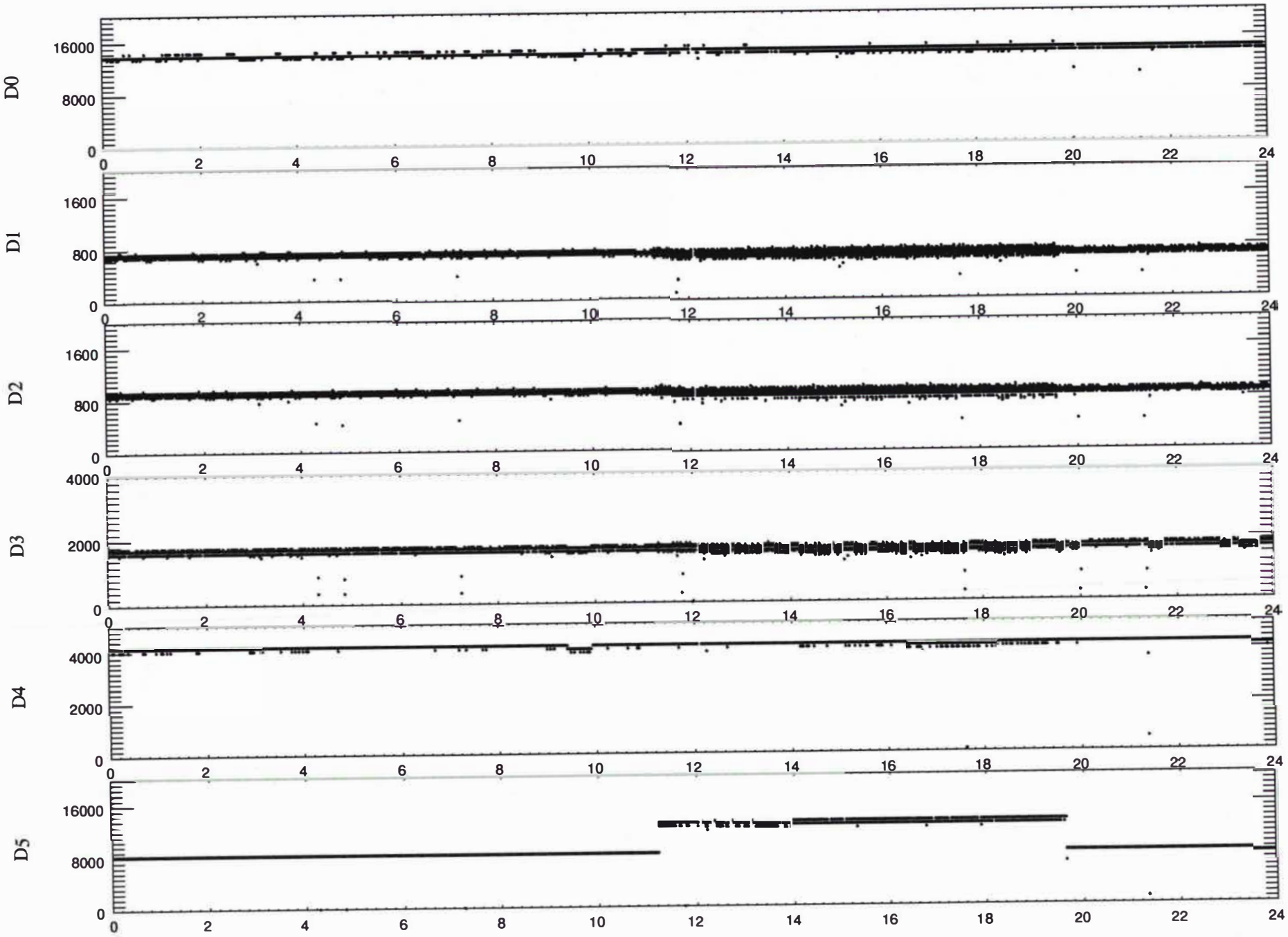
HUS 2A, MODE 1, NOT AVERAGED EDR day 284, year 1996 to day 284, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV' AL TIME

HUS 2B COUNTS / SEC EDR day 284, year 1996 to day 284, year 1996 3/29/97



From murakami@astro.isas.ac.jp Thu Mar 13 16:39 PST 1997
Date: Fri, 14 Mar 1997 09:39:03 +0900
From: Toshio MURAKAMI <murakami@astro.isas.ac.jp>
Mime-Version: 1.0
    khurley@sunspot.ssl.berkeley.edu
Subject: Thanks

Dear Kevin-san,

Thank you for your efforts. Mr. Matsumoto reports me now that very rough duration was about 400 sec. So I now believe that this is not related your slight excess. This was a little bit longer as the standard gamma-ray bursts.

By the way, we will soon release our IAUC. We have concluded the we have detected the flux from SAX burst position. The flux level was roughly 1x10-13 erg/sec/cm2 2-10 keV.

Best regards
Toshio Murakami

From murakami@astro.isas.ac.jp Tue Mar 11 03:43 PST 1997
Date: Tue, 11 Mar 1997 20:42:54 +0900
From: Toshio MURAKAMI <murakami@astro.isas.ac.jp>
Mime-Version: 1.0
    khurley@sunspot.ssl.berkeley.edu
Subject: strange events
Cc: murakami@astro.isas.ac.jp

Dear Kevin-san,

I have a report of some strange event on ASCA. I very much appreciate
for checking your data whether the existing GRB or no.

The event occured on Oct. 11 at 05:25:23 (UT) in 1996 at ASCA. = 19523 s

Is there any exisitng GRB in Ulysses and or TGRES ?
Thank you for your checking.

Regards
Toshio Murakami

```
          ********************
          *BATSEARCH PROGRAM*
          ********************

    SE BURST #          0
EVENT OF 1996 OCT 11 DAY OF YEAR=285
EVENT CROSSING TIME AT BATSE ASCA : 19523. S. OR 05:25:23.0
COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION:  86.800  -25.200
BATSE PEAK COUNTING RATE: 0          C/S

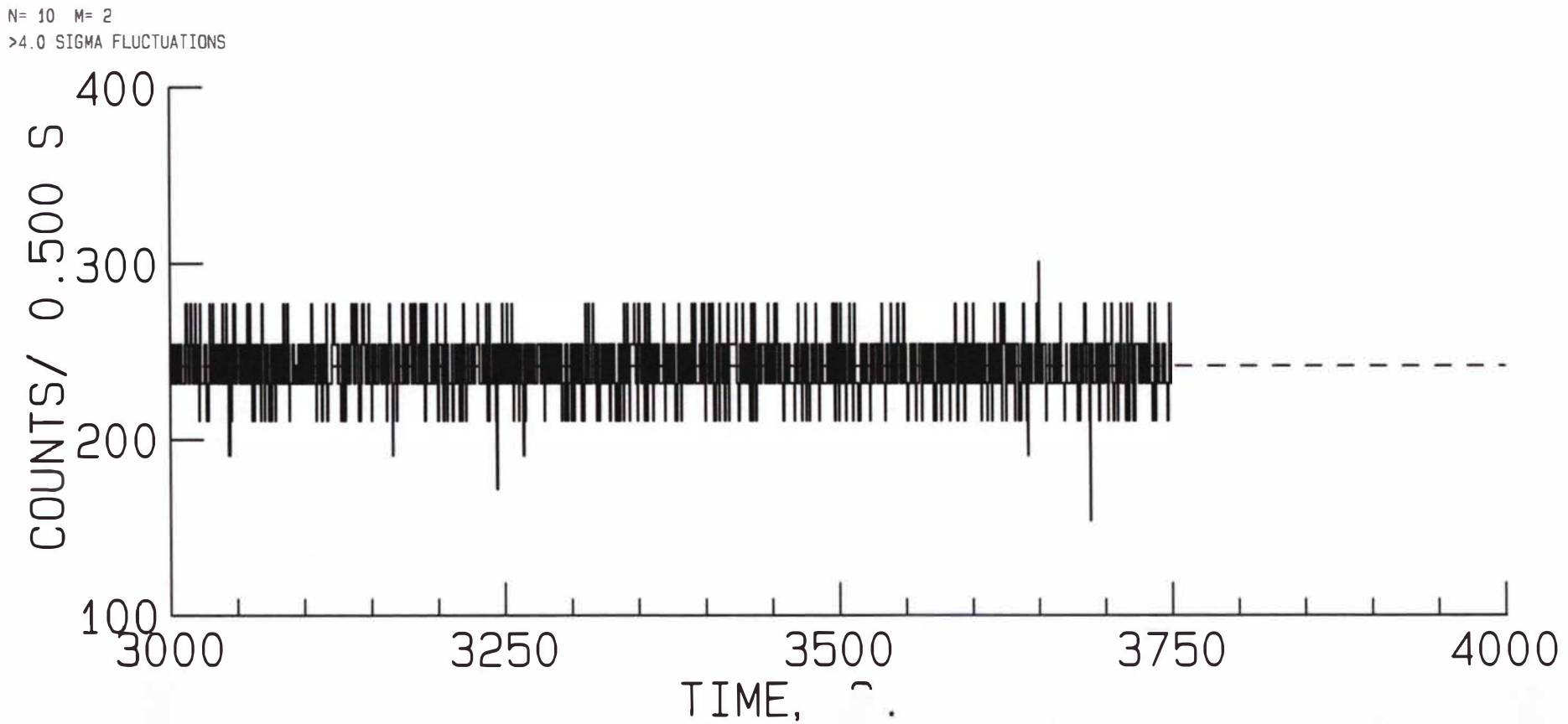
EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/10/  96 IS:
RA=  173.326 DEC=    32.724 DIST=     5.083 AU
BATSE-ULYSSES DISTANCE =  760462955. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL    DIRECTION= 79.39 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=  466.87 SECS.
CROSSING TIME AT ULYSSES     IS 19990. S. OR   05:33:09 +/-  489.97 SECONDS
                                    3070 s after start
EVENT CROSSING TIME AT MARS        WILL BE FOUND
POSITION OF MARS ON 11/10/  96 IS:
RA=  141.817 DEC=    16.409 DIST=     1.876 AU
MARS-BATSE DISTANCE =  280670816. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -353.29 SECS.
CROSSING TIME AT MARS        IS 19170. S. OR   05:19:29 +/-  145.16 SECONDS
```

ULYSSES RT

13/ 3/97

11/10/96 16920.192 s

21- 145 keV

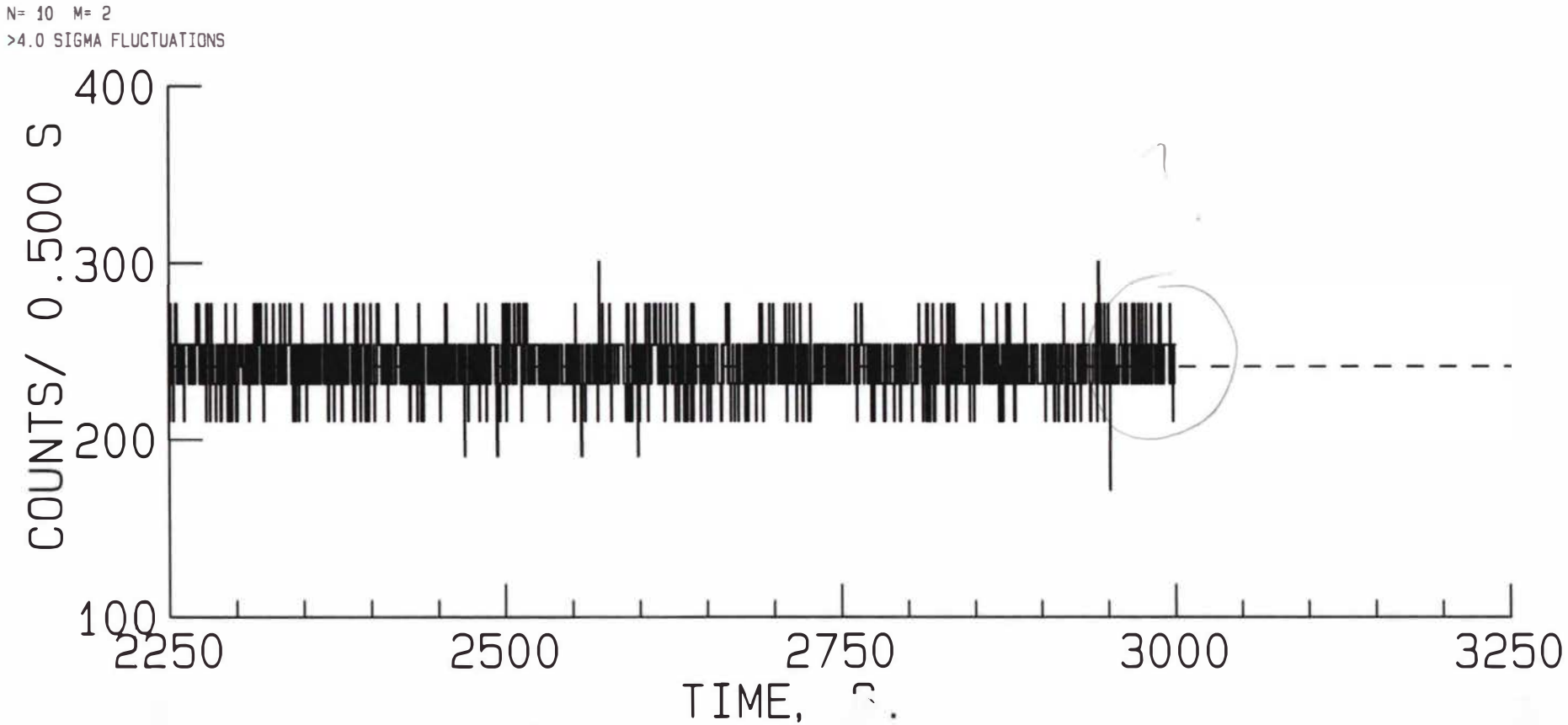


ULYSSES RT

13/ 3/97

11/10/96 16920.192 s

21- 145 keV



ASCA

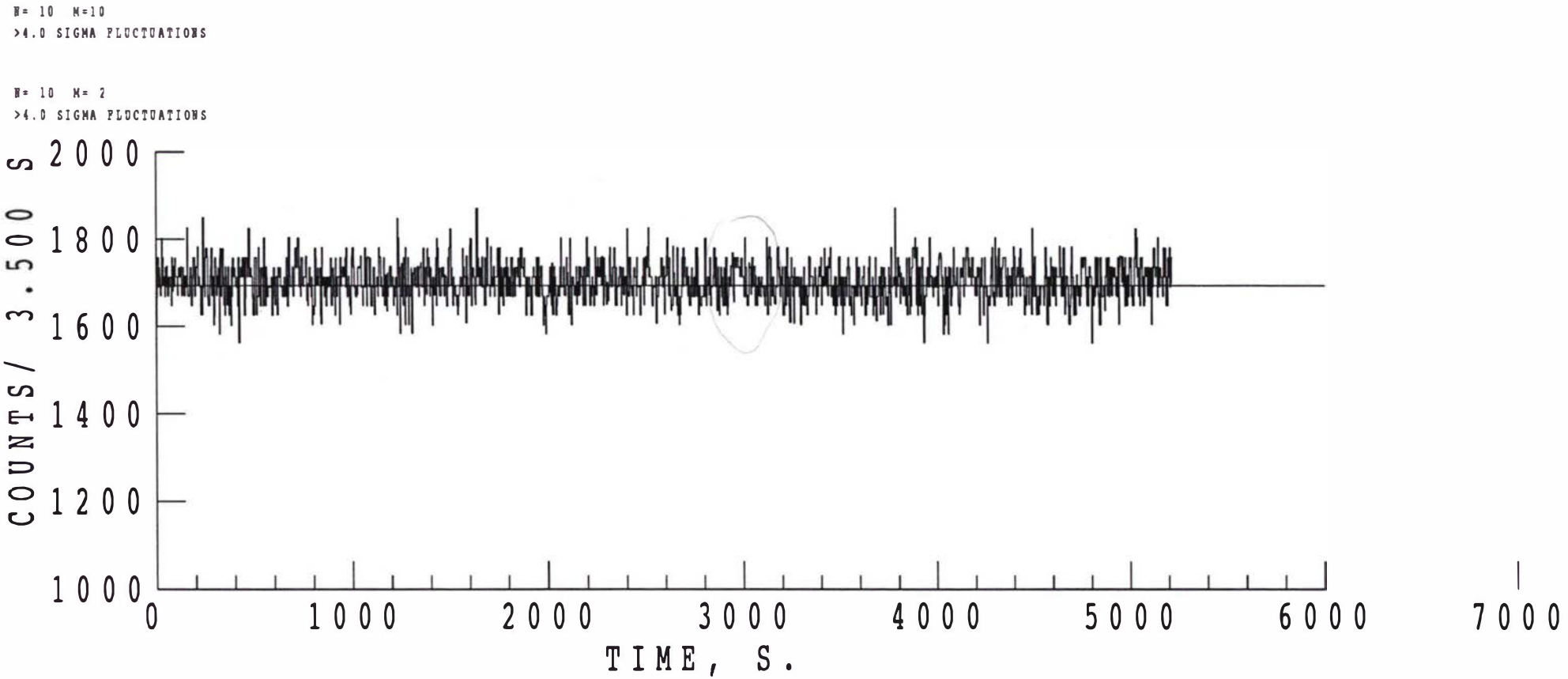
ULYSSES RT

11/ 3/97

11/10/96 16920.191 s

0.500 S INTERVALS REGROUPED BY 7

0- 0 keV



From BUTTERWORTH@lheavx.gsfc.nasa.gov Wed Oct 16 10:22 PDT 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Wed, 16 Oct 1996 13:20:03 -0400 (EDT)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
        yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
        CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov,
        TEEGARDEN@lheavx.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
Subject: Ulysses event on 961011 was not seen by Konus

Hi Everyone,

Konus did not trigger on 961011 and there are no indications of a GRB in
the waiting-mode data (accumulated every 1.5 seconds).

Paul.

Date: Tue, 15 Oct 1996 14:28:38 -0700
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199610152128.OAA15194@scylla.berkeley.edu>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
        butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
        kmarar@isac.ernet.in, bonnard@lheamail.gsfc.nasa.gov,
        jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
        filippo@botes1.tesre.bo.cnr.it
Subject: GRB 961011
  Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed a weak, 32 ms long burst October 11 1996 at 16:04
Ulysses time. The spacecraft was about 2545 light seconds from
Earth.

Was this event detected by anyone else?

CC: ulyssesbursts alias list
    (barthelmy, butterworth, cline, frontera, marar, teegarden, terrell, yoshimori)

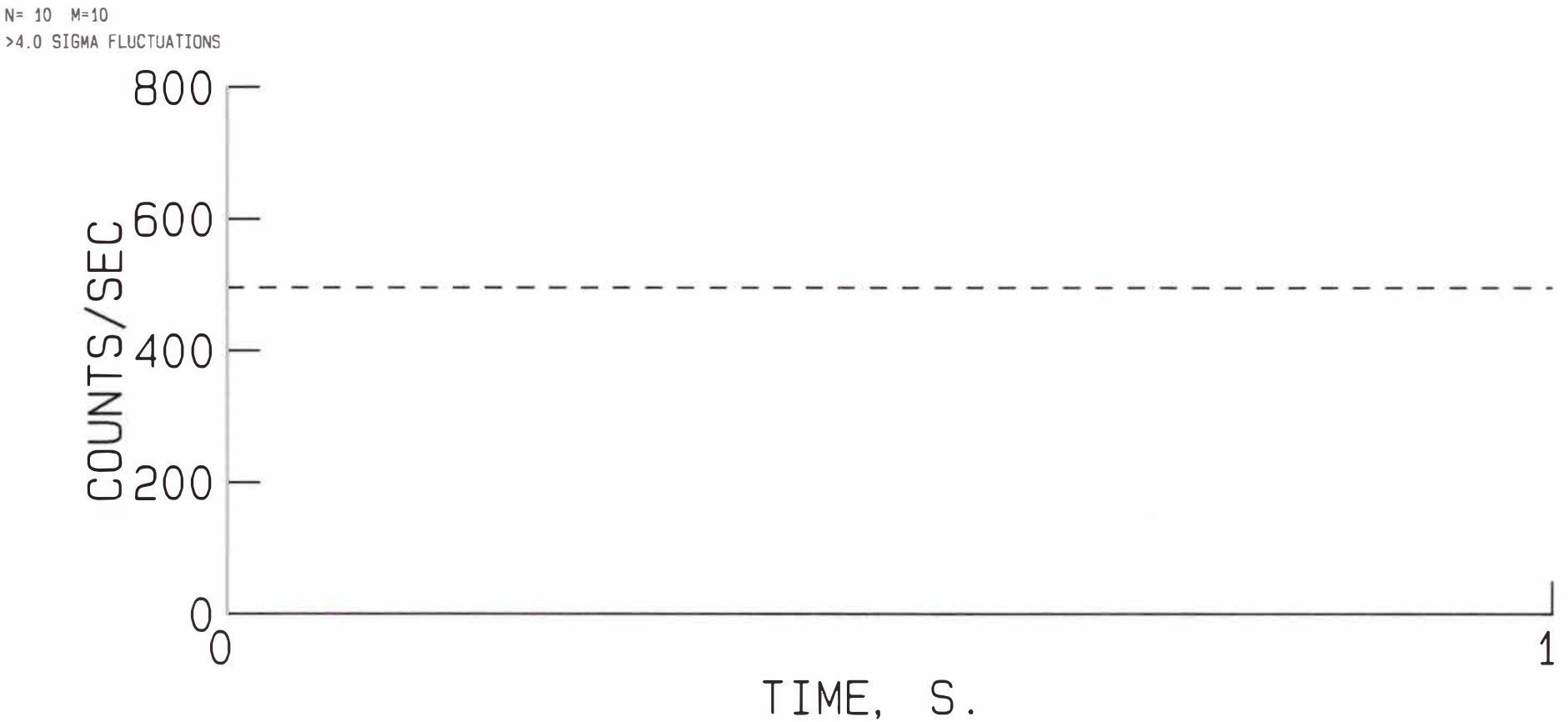
ULYSSES RT

15/10/96

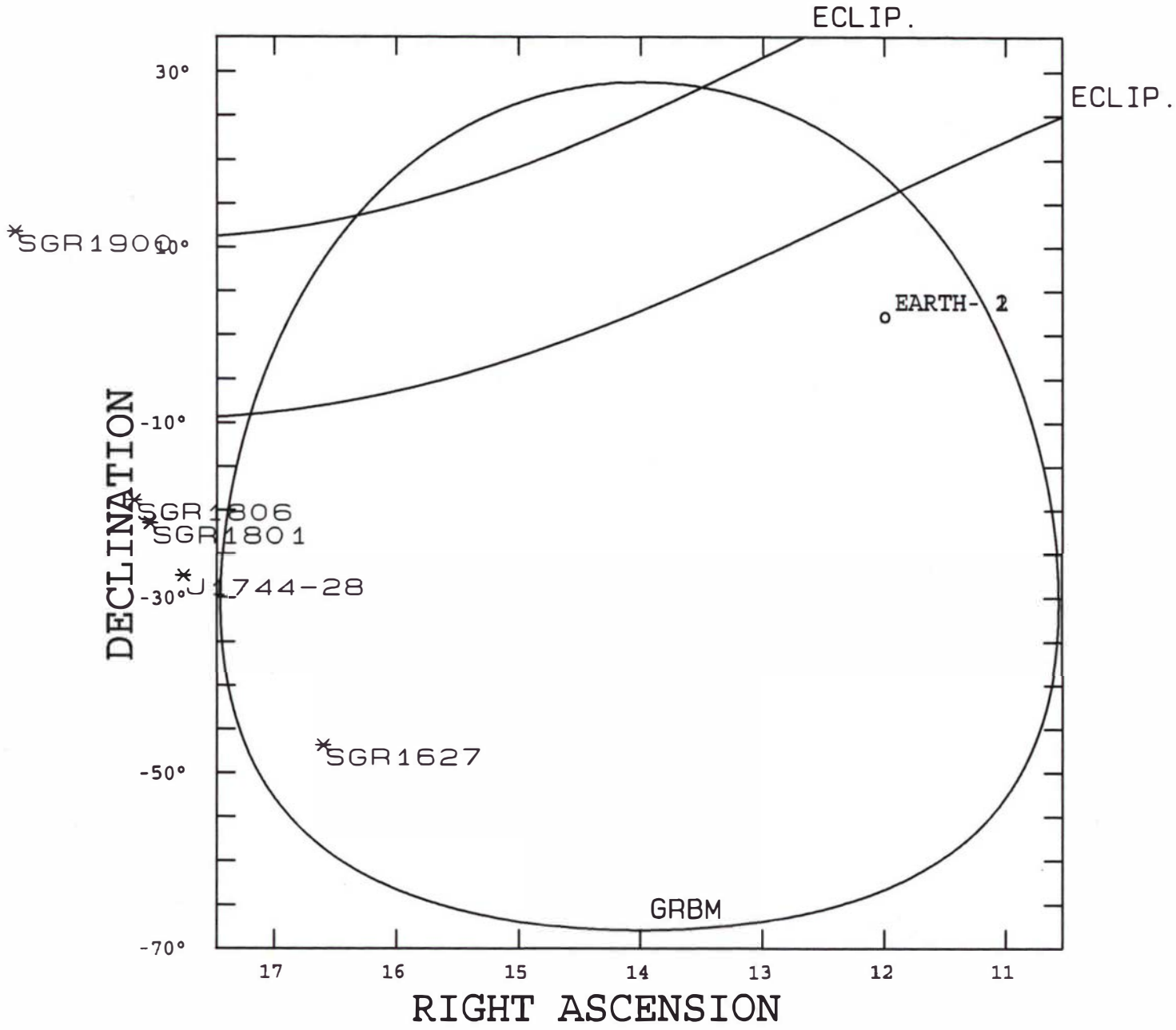
3/ 9/96 1087.692 s

0.250 S INTERVALS REGROUPED BY 1

21- 145 keV



GRB 961011 19:32:15



KONUS

ULYSSES RT

31/01/00

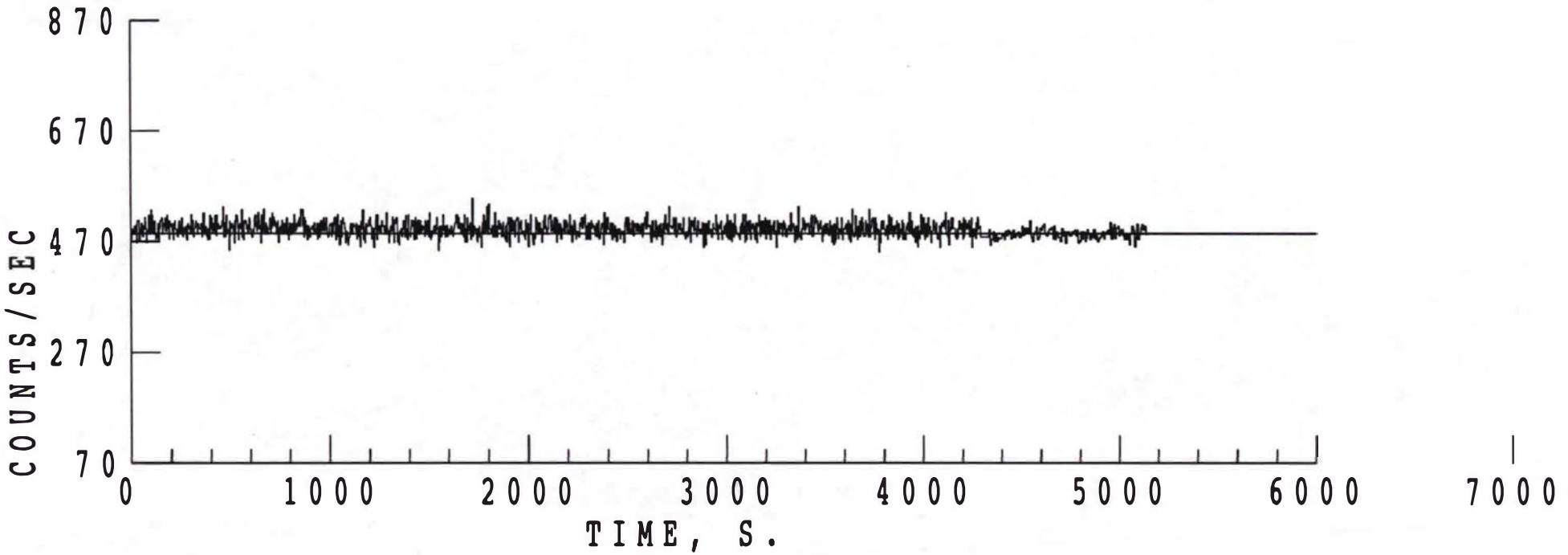
11/10/96 67788.078 s

INTERVALS REGROUPED BY 13

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

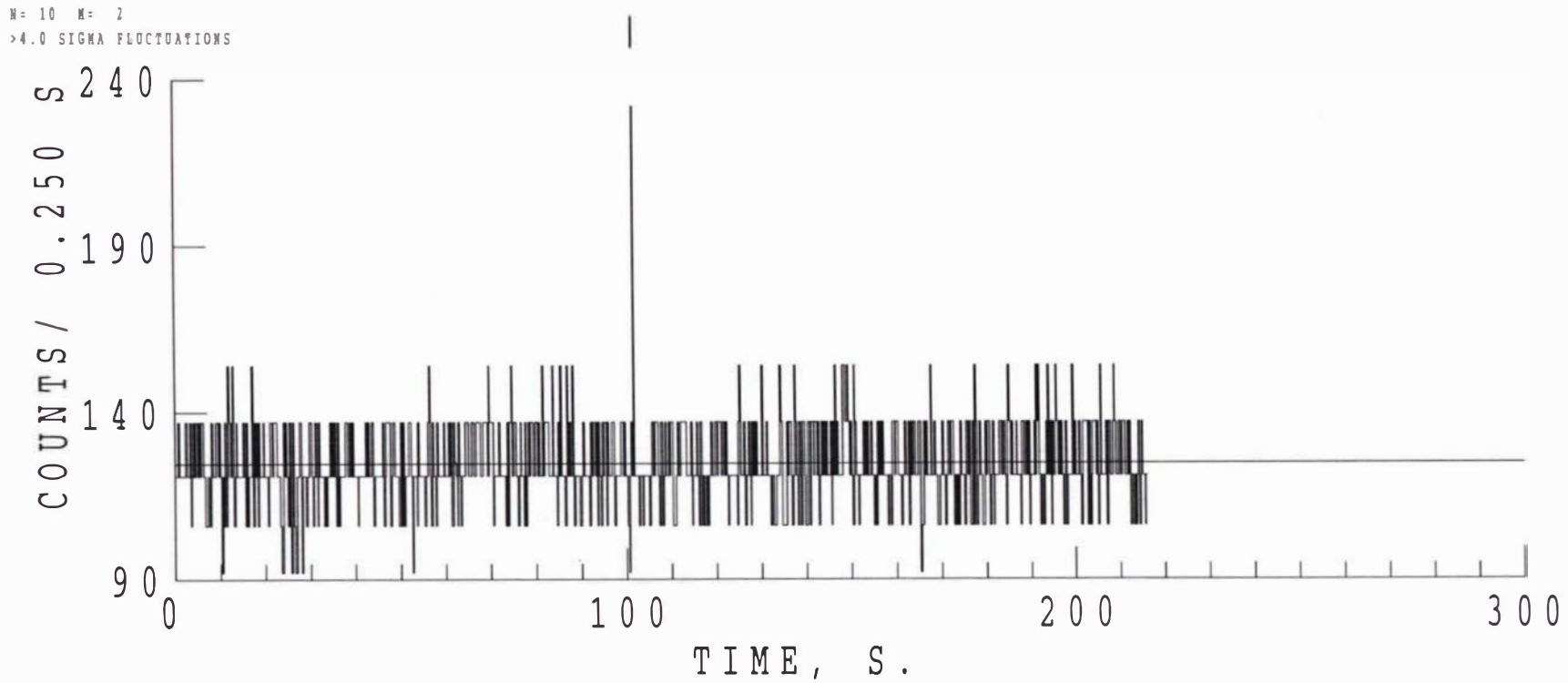


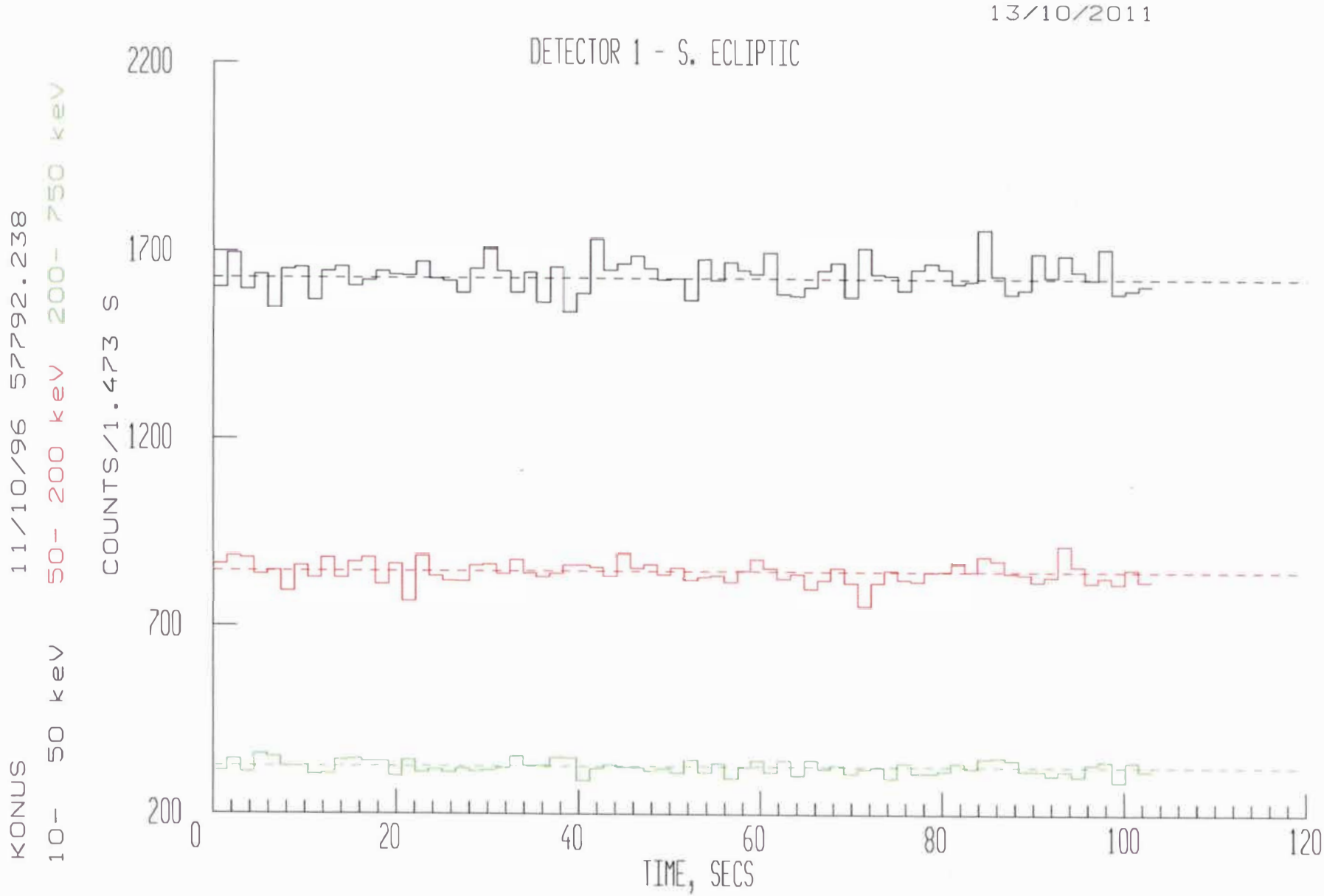
KONUS 19961011 57845

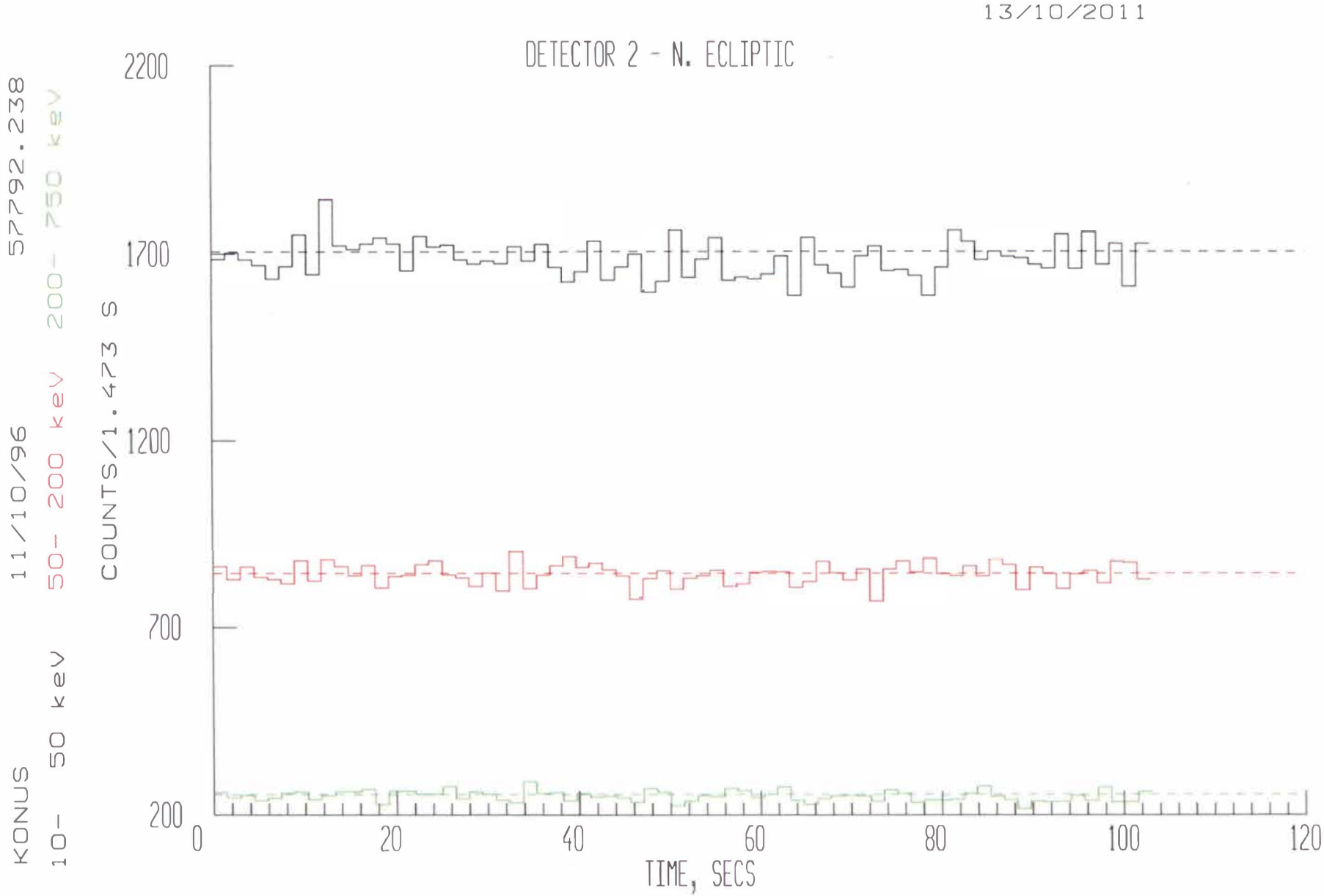
ULYSSES RT 12/10/11

11/10/96 57744.203 s

0- 0 keV

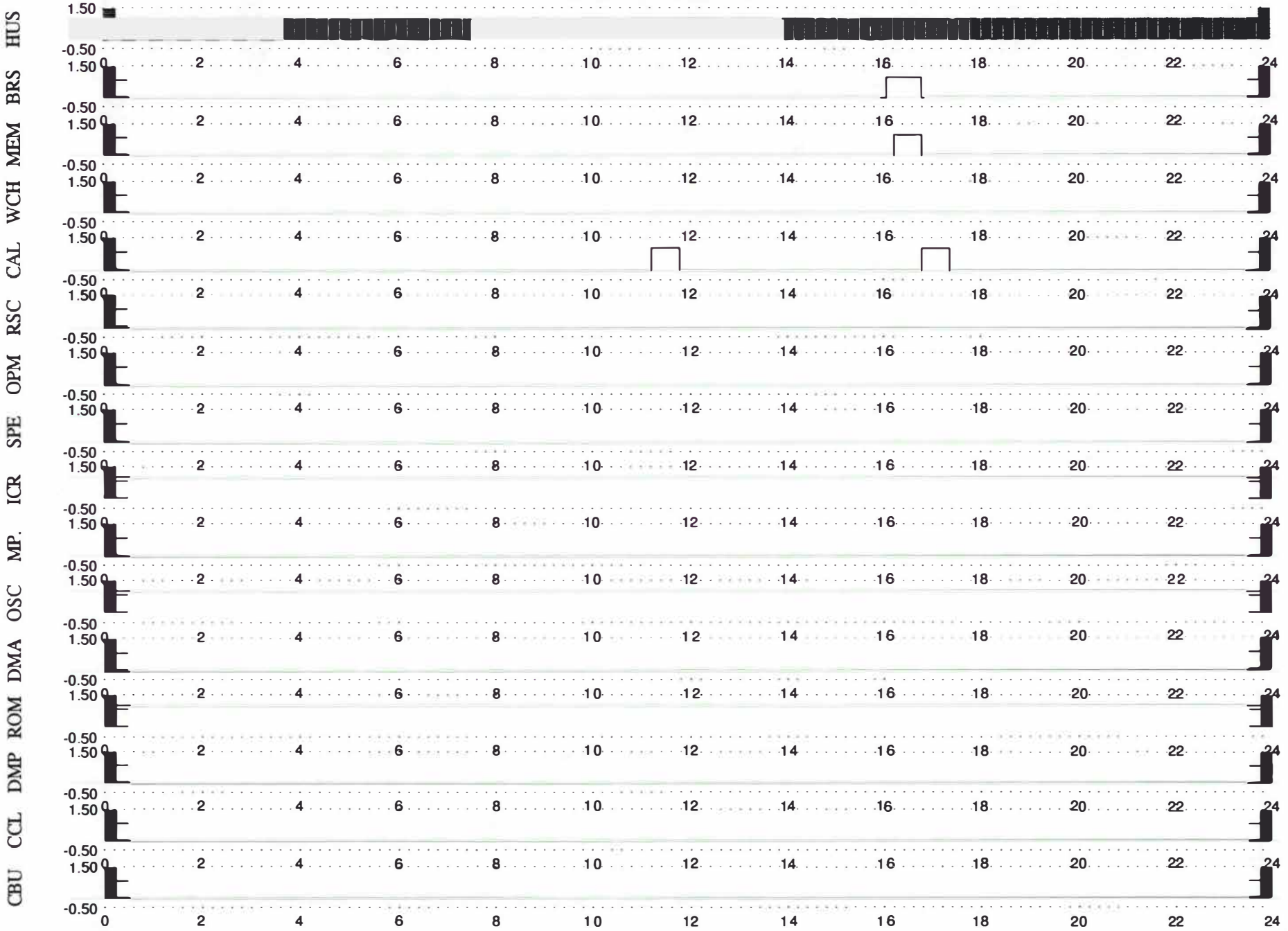



13/10/2011
DETECTOR 1 - S. ECLIPTIC
KONUS 11/10/96 57792.238
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
20
40
60
80
100
120
TIME, SECS


13/10/2011
DETECTOR 2 - N. ECLIPTIC
KONUS 11/10/96 57792.238
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
20
40
60
80
100
120
TIME, SECS

HUS MODES EDR day 285, year 1996 to day 285, year 1996 3/29/97

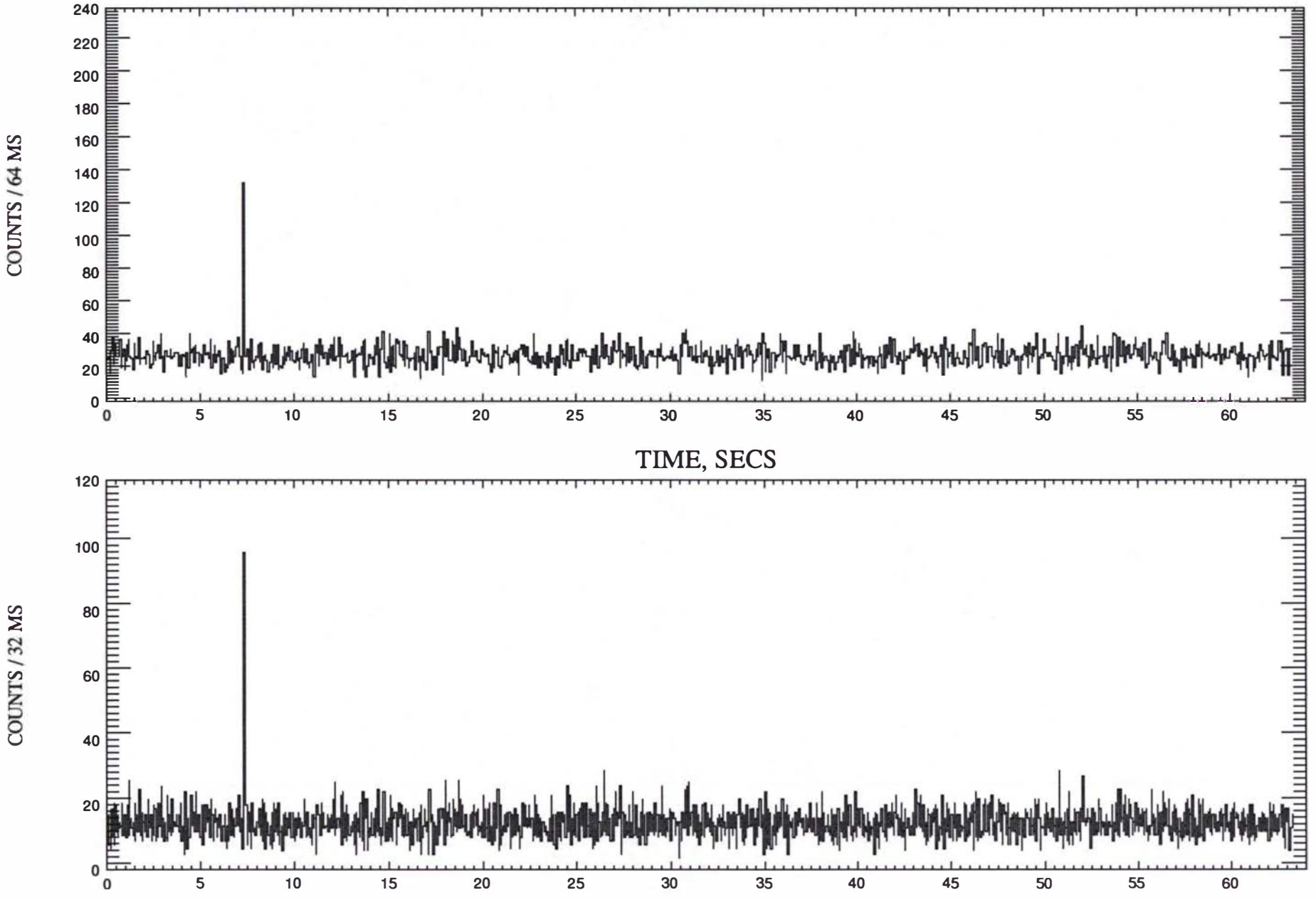
BURST NUMBER 7



UNIVI AL TIME

HUS 2A TRIGGERED DATA EDR day 285, year 1996 3/29/97

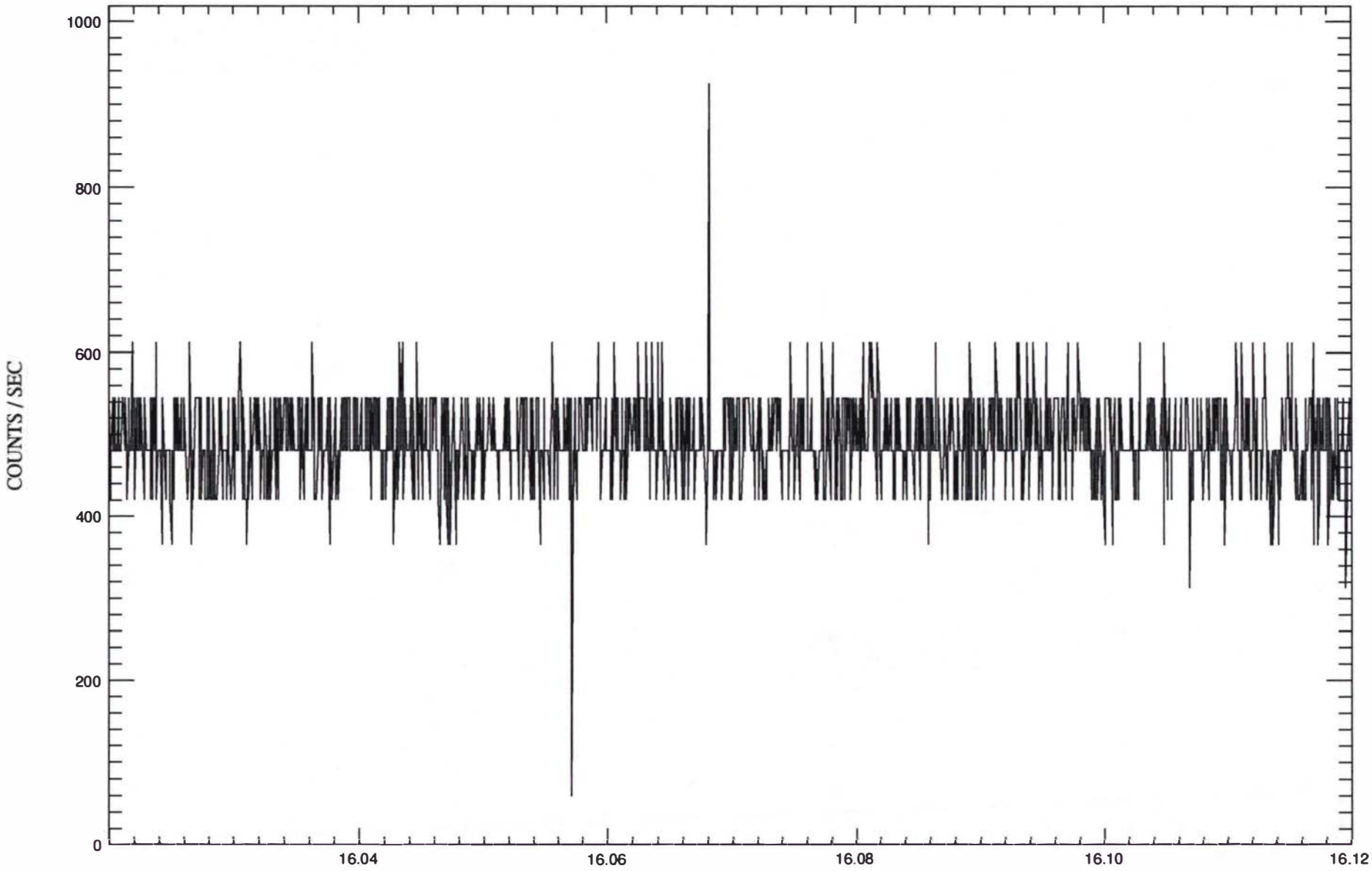
Burst Counter 7 at UT=16.068274981181 h=57845.790 s 16:04:05.790



B# 1

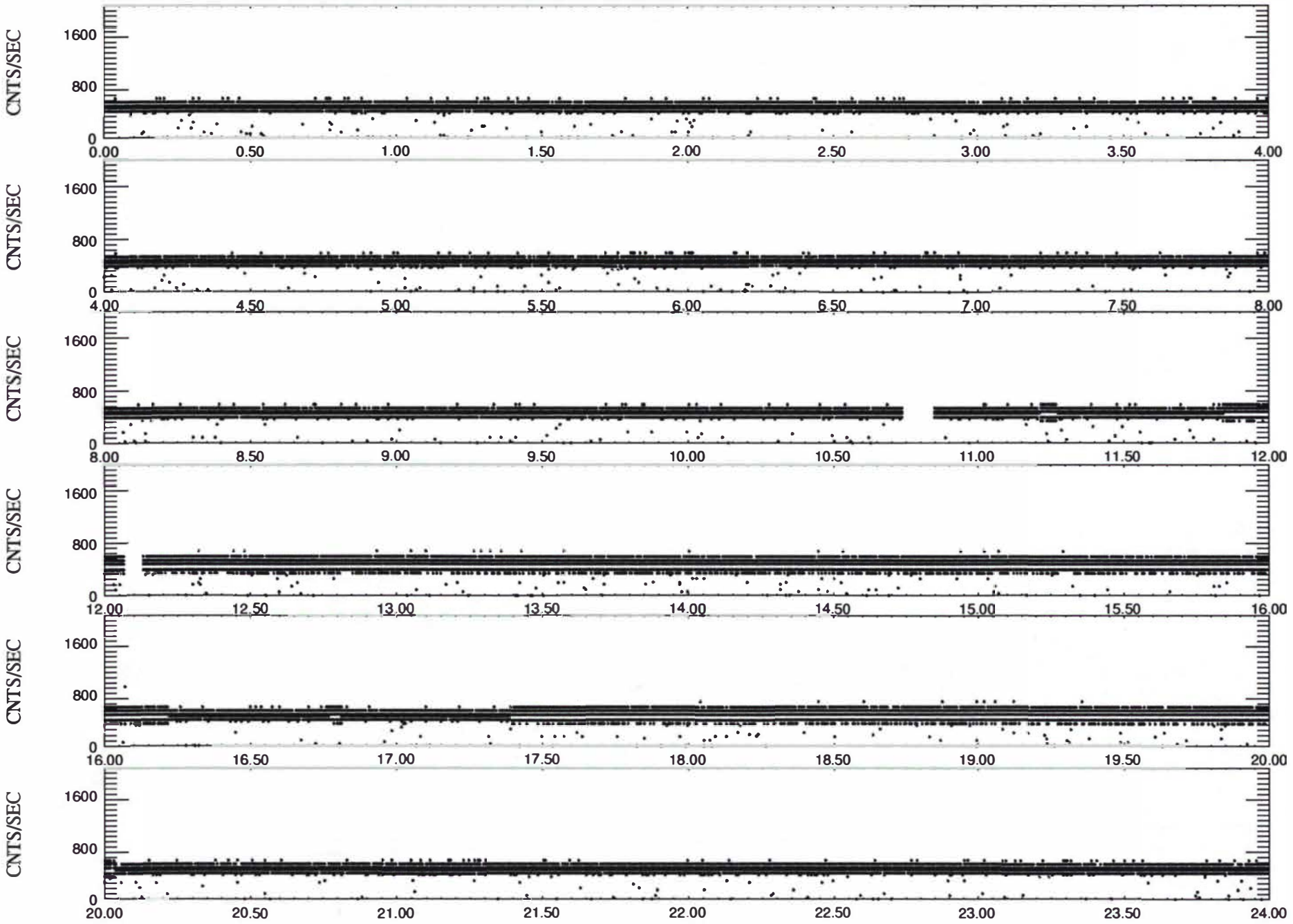
HUS 2A, MODE 1, NOT AVERAGED EDR day 285, year 1996 to day 285, year 1996 3/29/97

CALIBRATION DATA INCLUDED



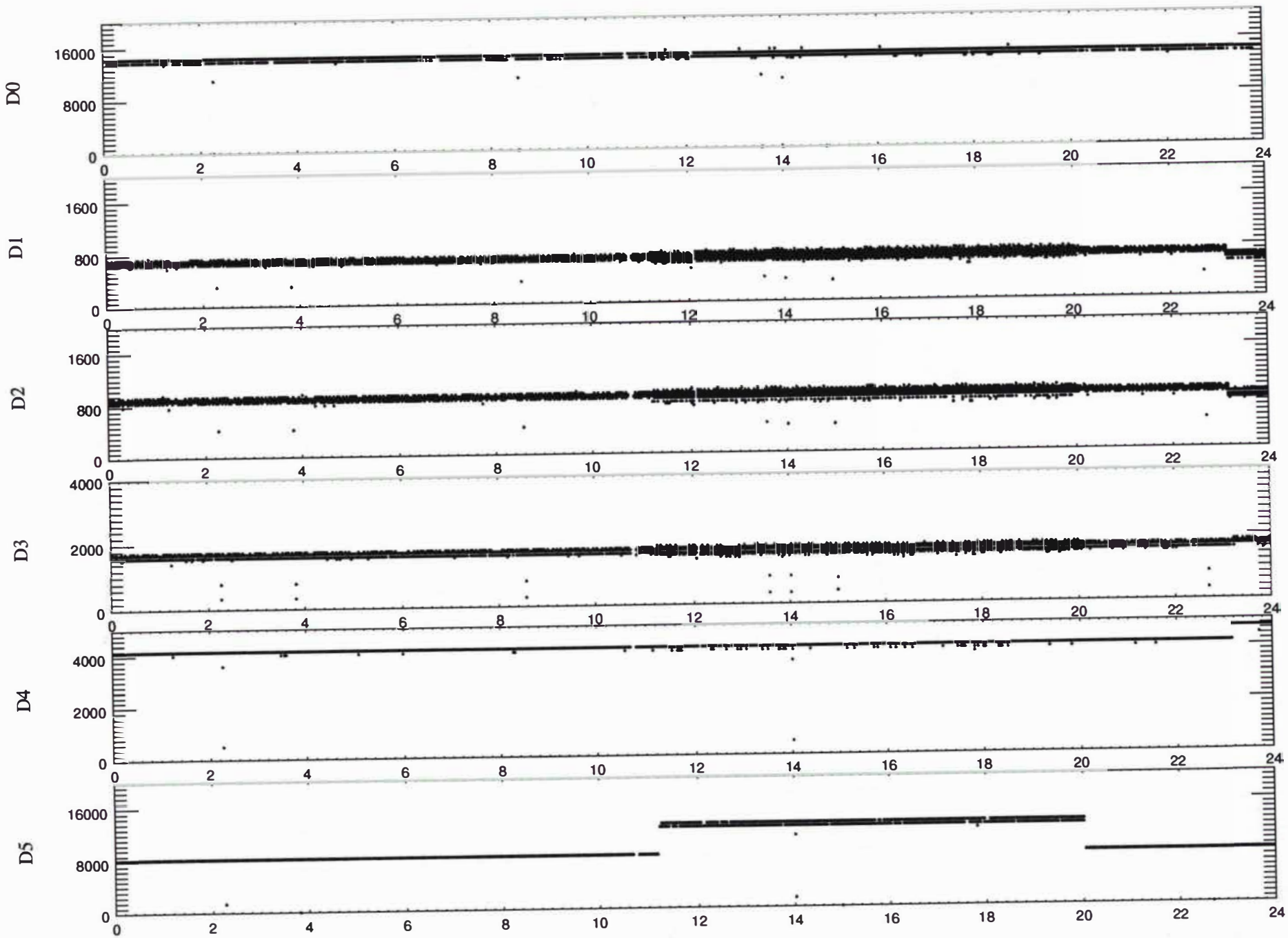
HUS 2A, MODE 1, NOT AVERAGED EDR day 285, year 1996 to day 285, year 1996 3/29/97

CALIBRATION DATA INCLUDED

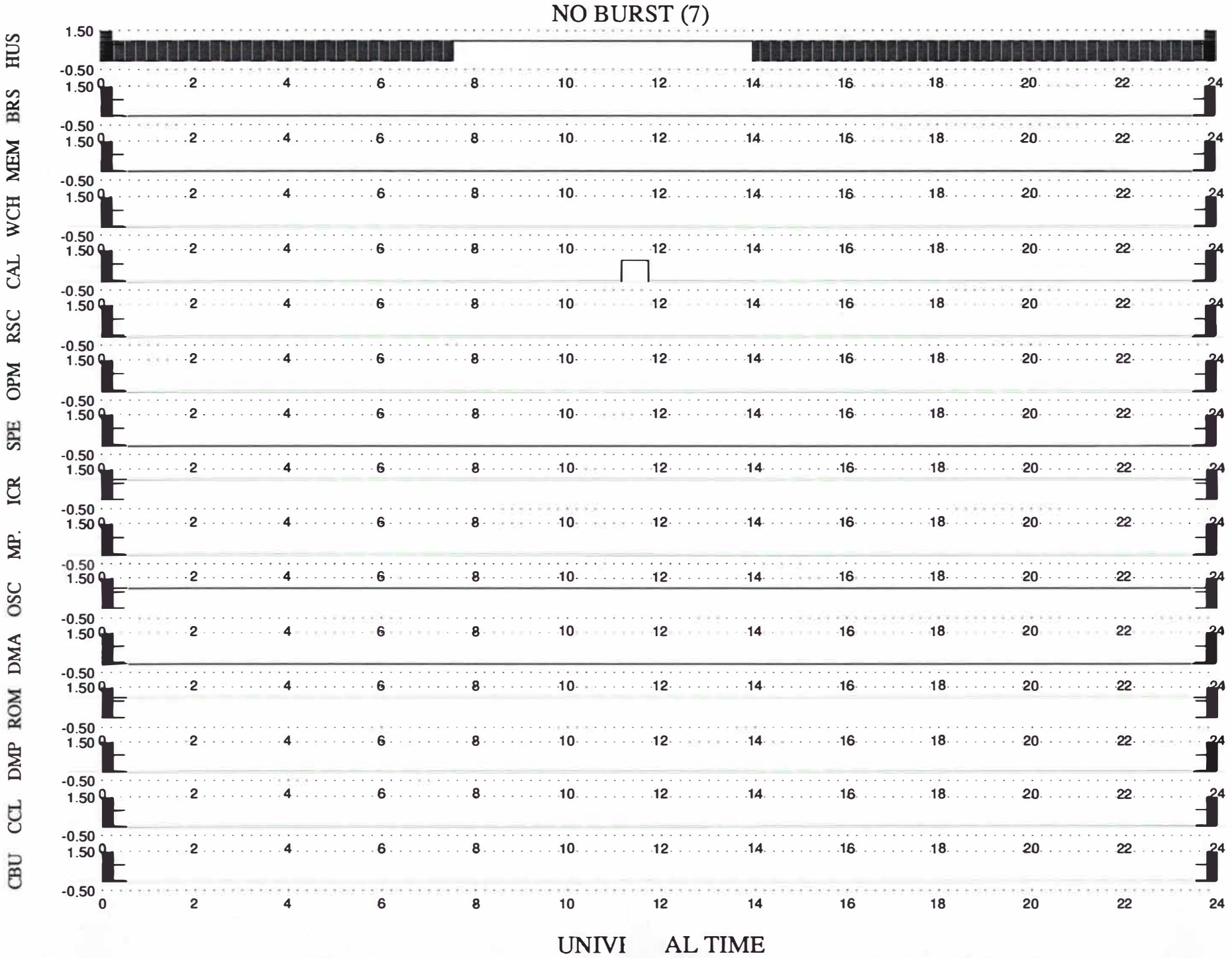


UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 285, year 1996 to day 285, year 1996 3/29/97

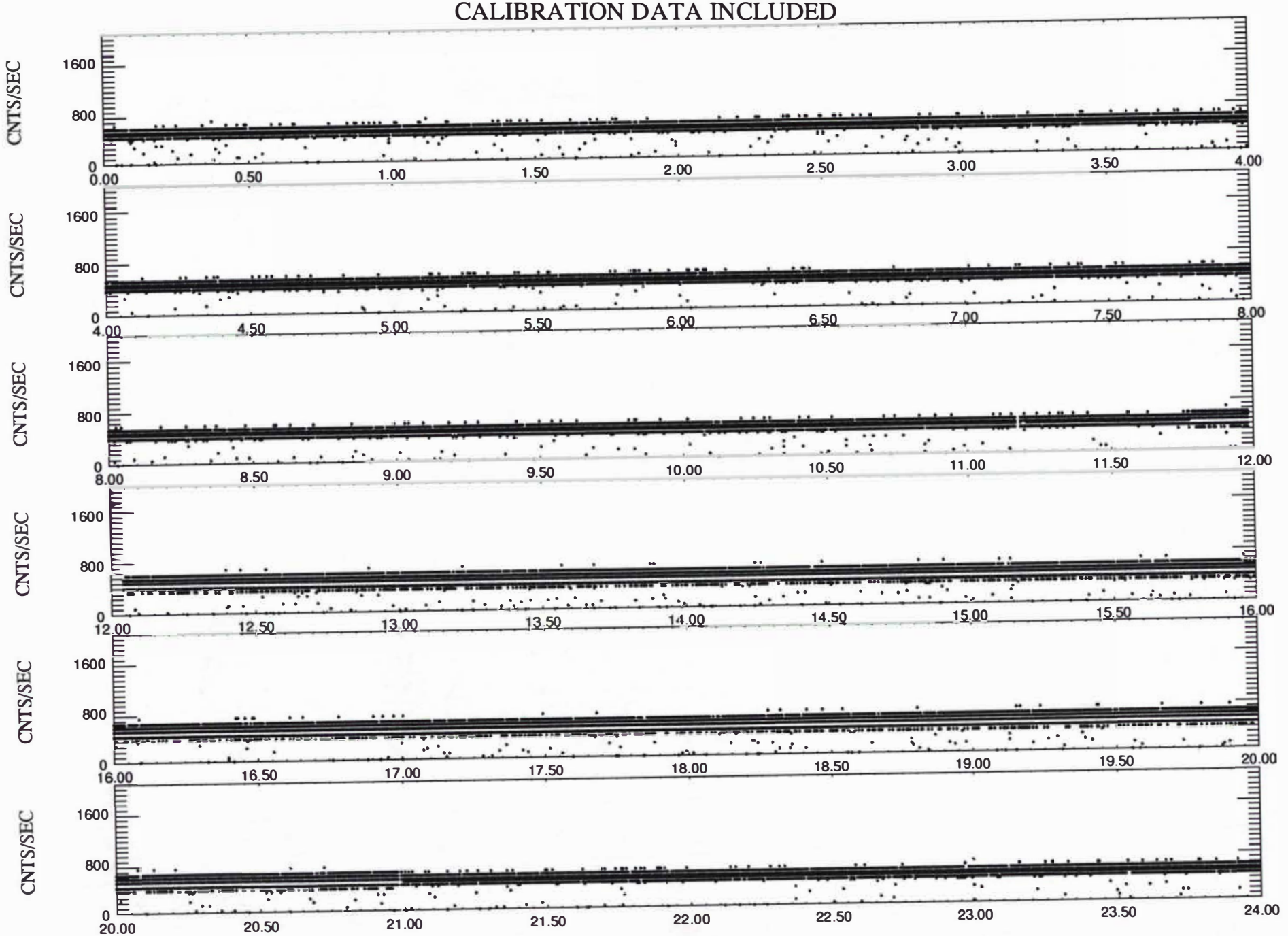


HUS MODES EDR day 286, year 1996 to day 286, year 1996 3/29/97



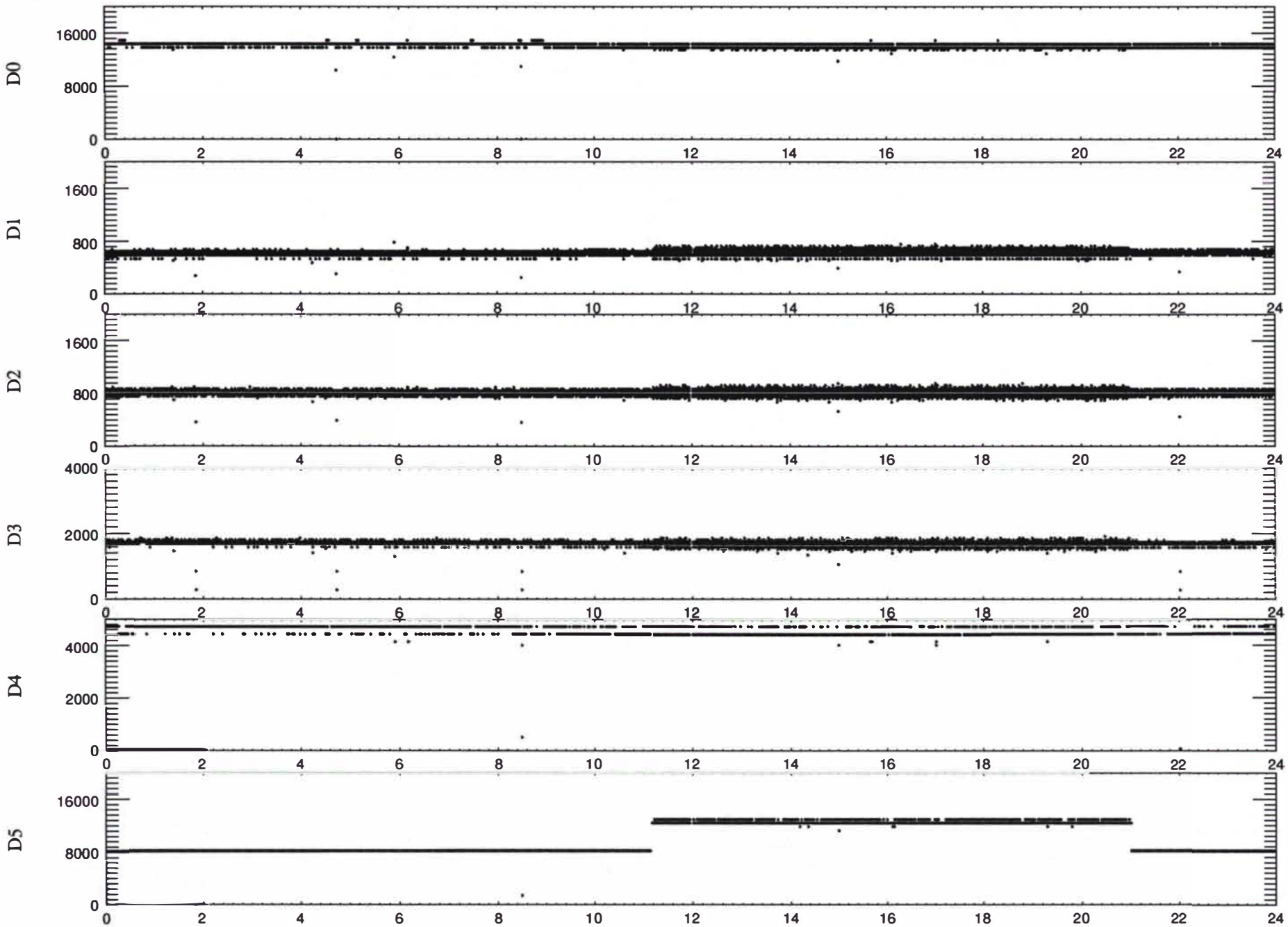
HUS 2A, MODE 1, NOT AVERAGED EDR day 286, year 1996 to day 286, year 1996 3/29/97

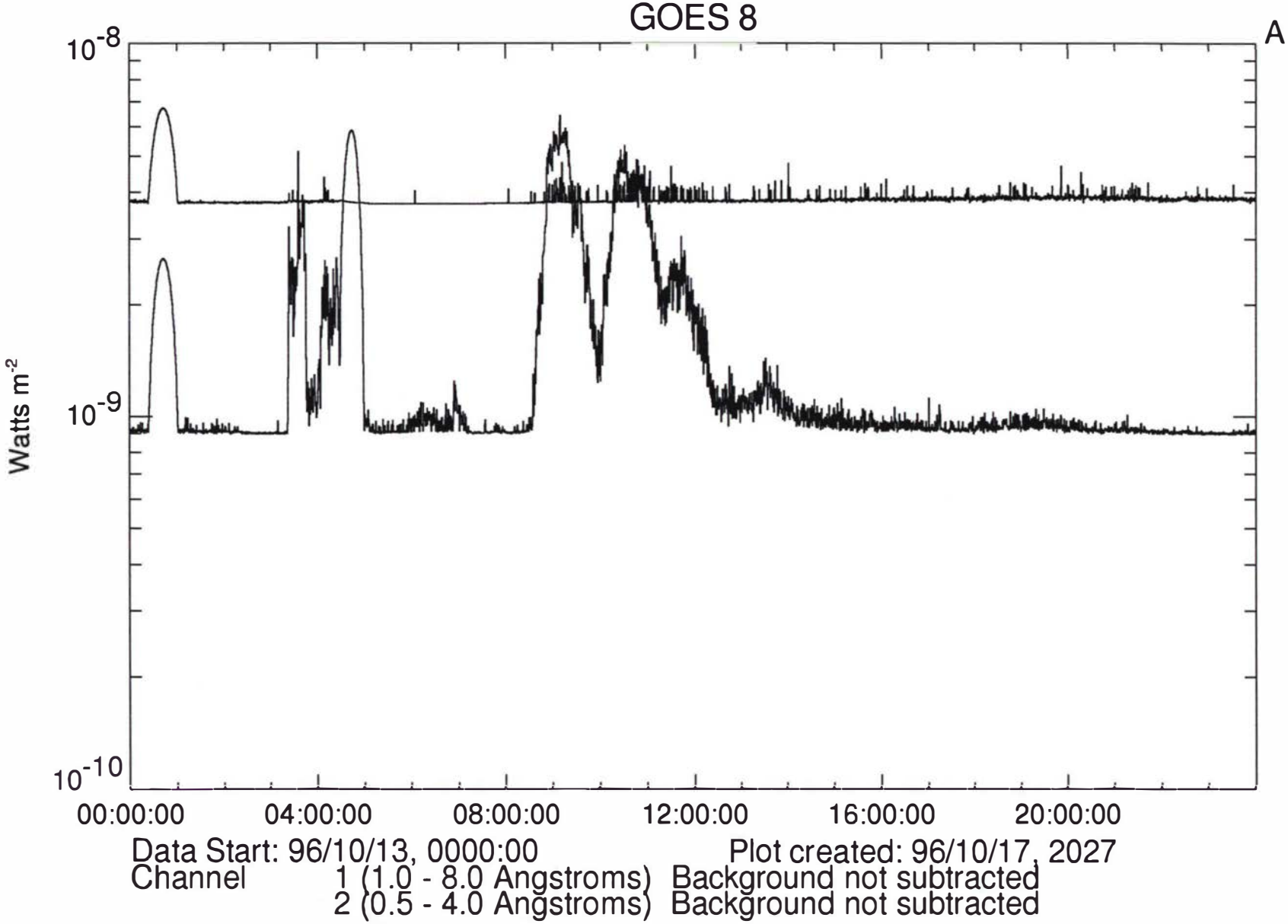
CALIBRATION DATA INCLUDED

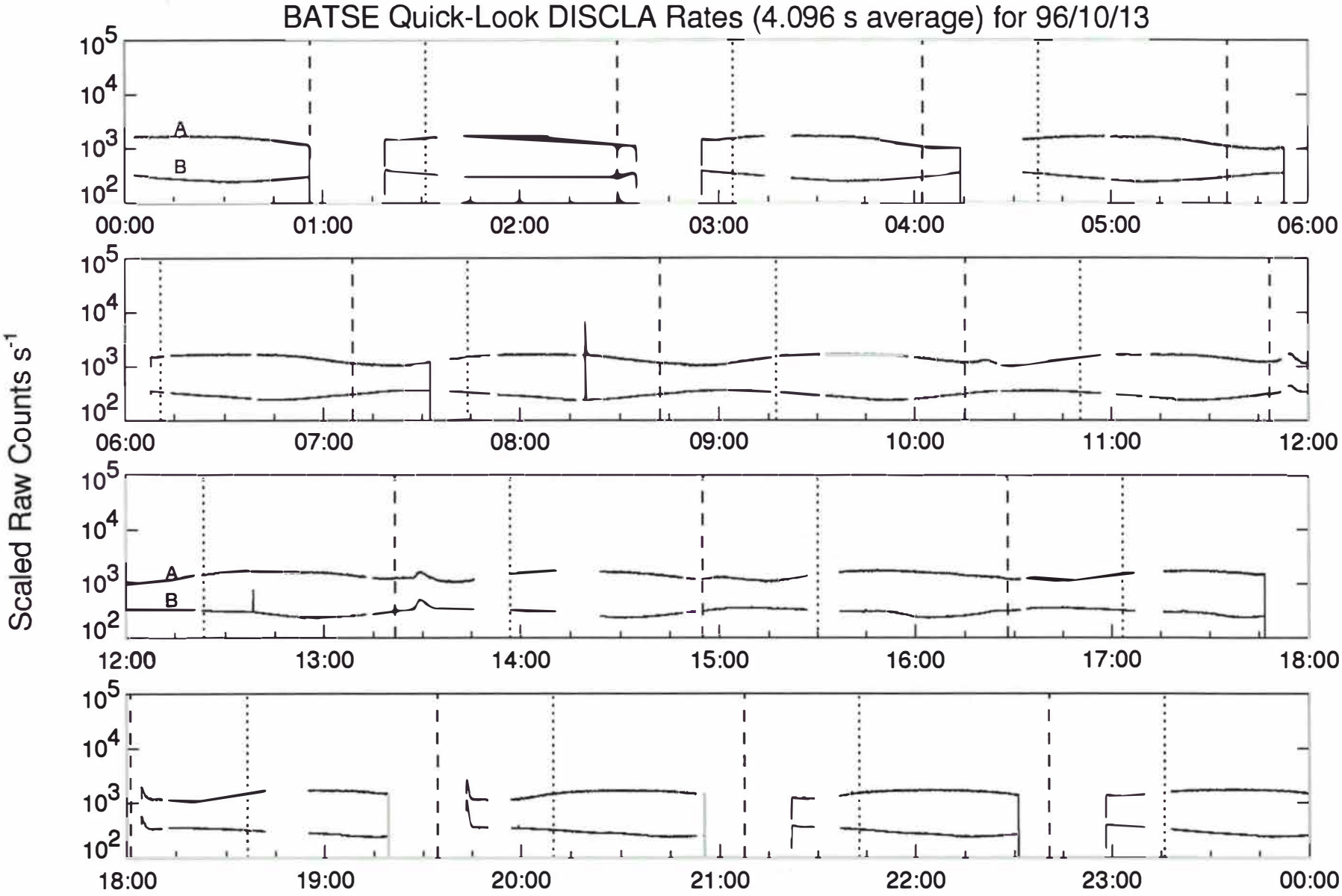


UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 286, year 1996 to day 286, year 1996 3/29/97




GOES 8
A
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/13, 0000:00
Plot created: 96/10/17, 2027
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/13
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/17, 1706 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

From SAHI@ssl.msfc.nasa.gov Tue Oct 15 08:16 PDT 1996
From: SAHI@ssl.msfc.nasa.gov
Date: Tue, 15 Oct 1996 10:10:40 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
"LHEAVX::CLINE"@ssl.msfc.nasa.gov,
"LHEAVX::BARTHELMY"@ssl.msfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, band@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5630

TIME: TJD=0369 SECONDS=42816

TYPE: ELECTRO SOLAR FLARE TRIGGER SIGNAL:N

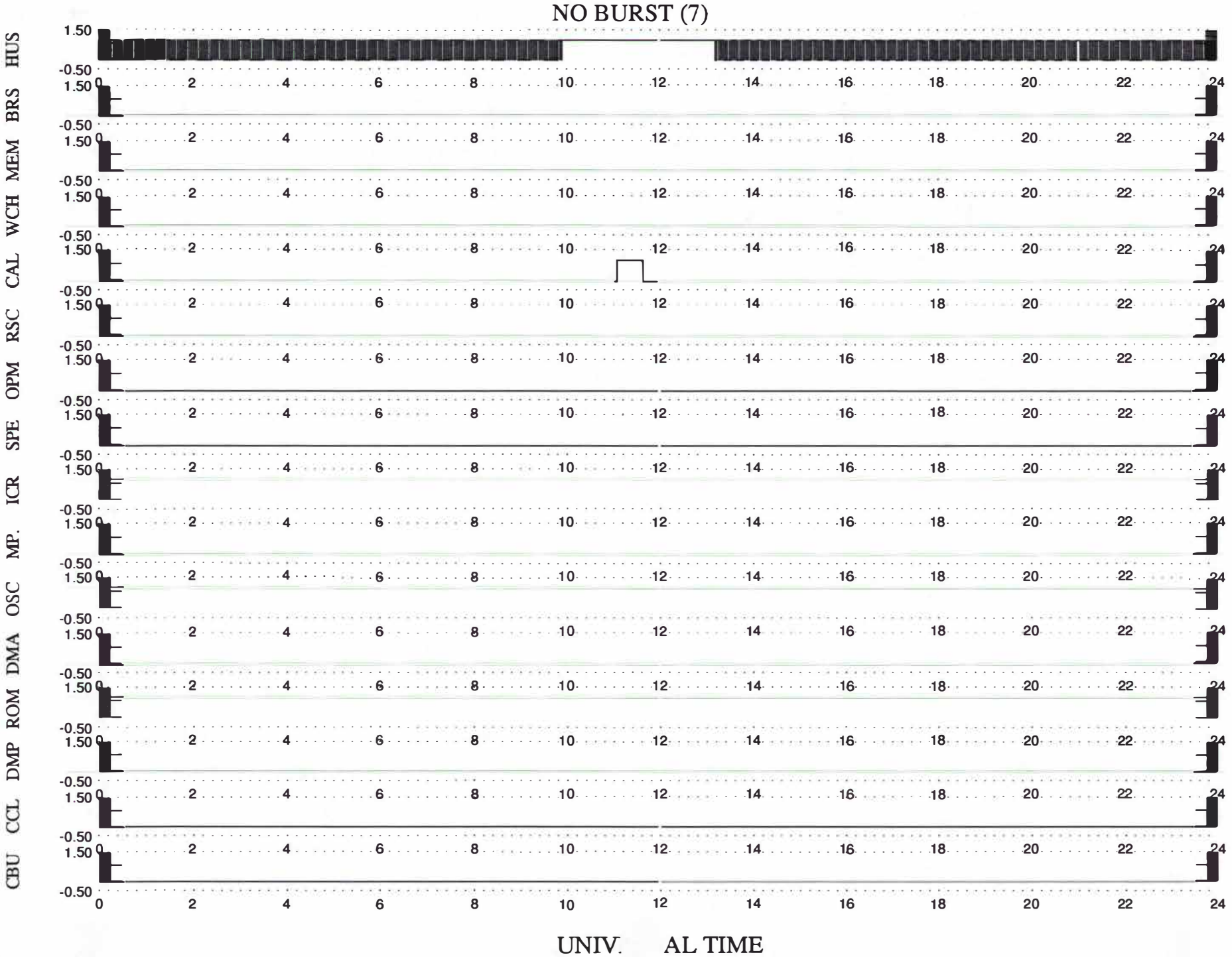
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

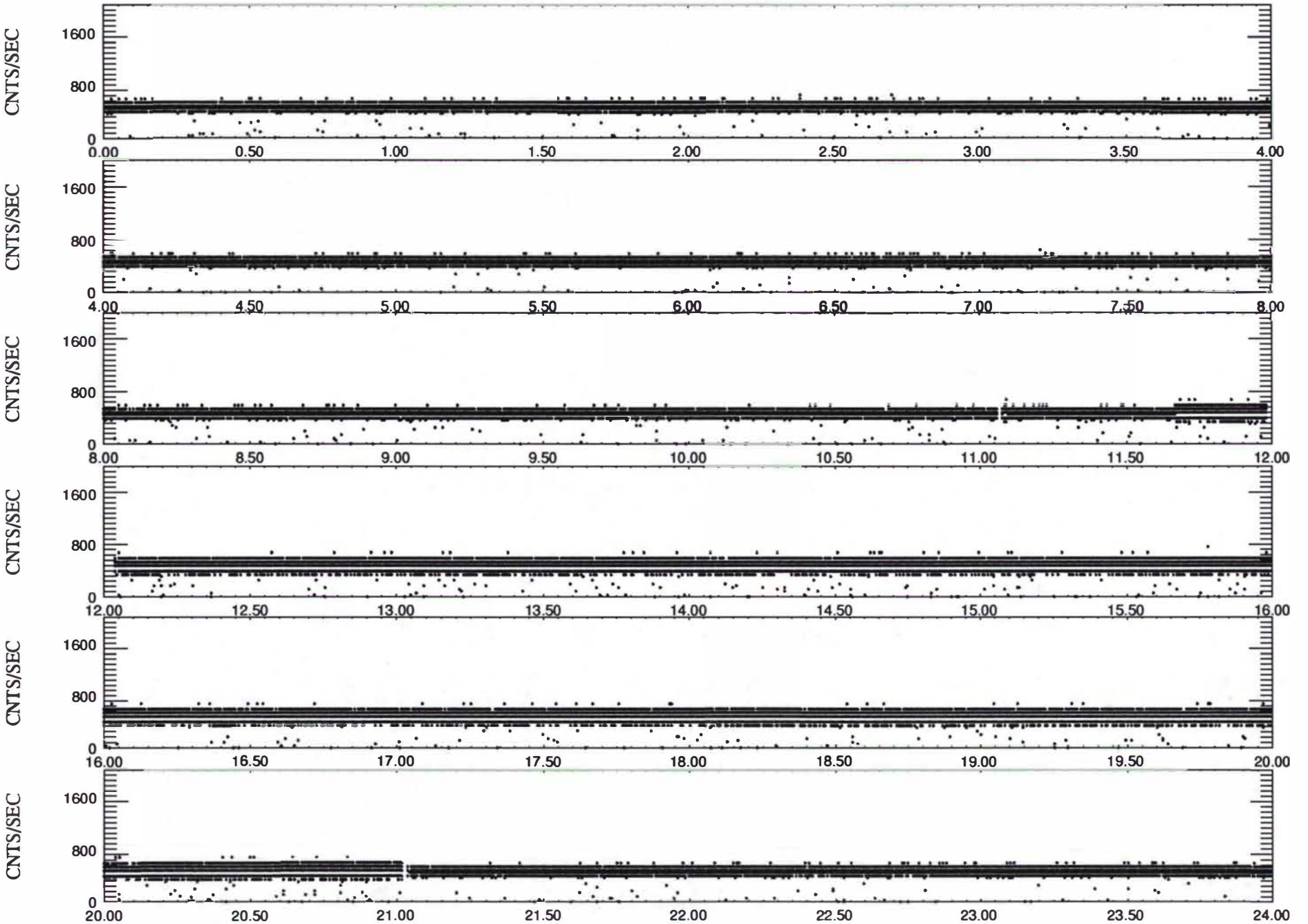
COMMENTS:
ELECTRON EVENT.

HUS MODES EDR day 287, year 1996 to day 287, year 1996 3/29/97



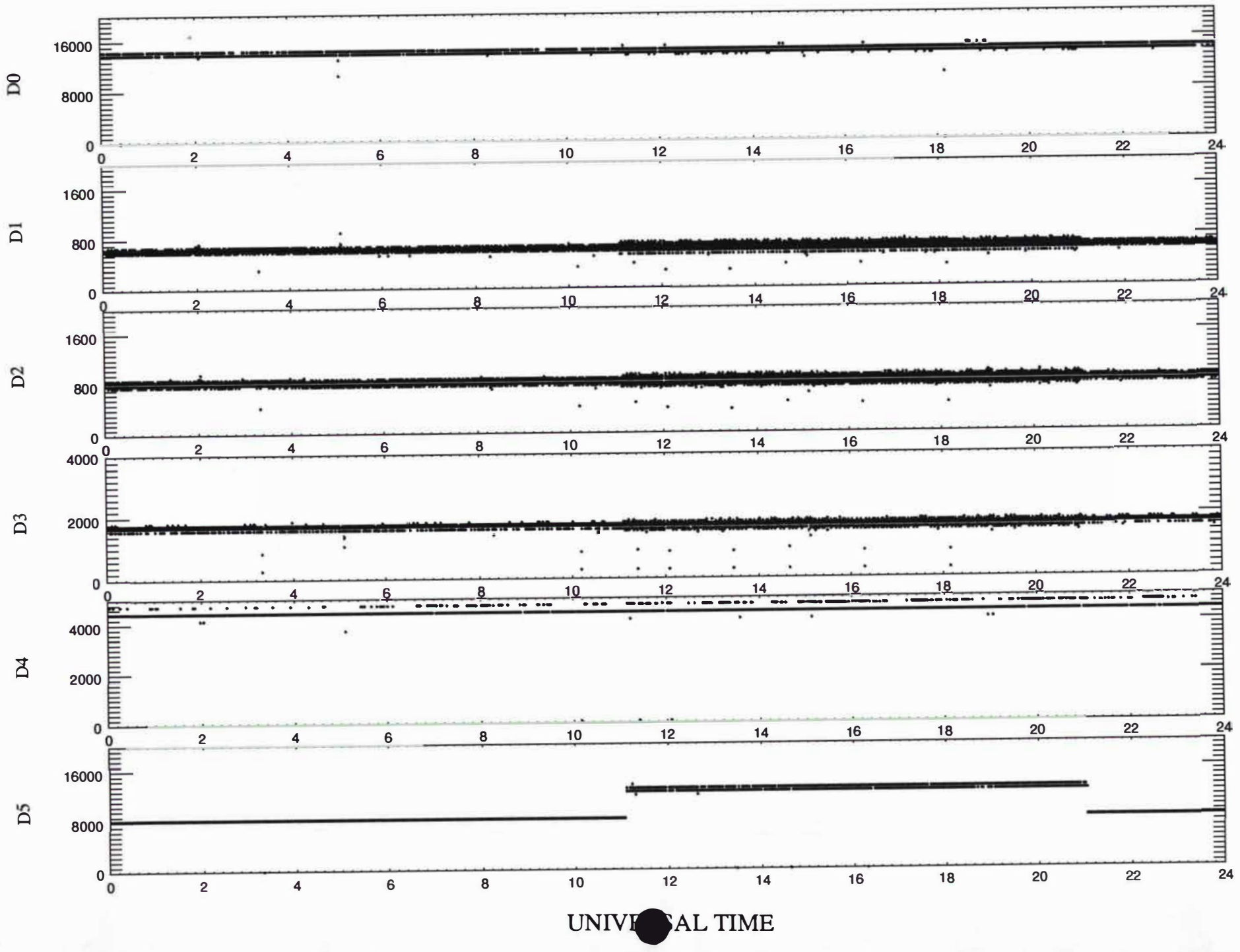
HUS 2A, MODE 1, NOT AVERAGED EDR day 287, year 1996 to day 287, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 287, year 1996 to day 287, year 1996 3/29/97



From SURASAK@ssl.msfc.nasa.gov Tue Oct 15 09:30 PDT 1996
Return-Path: <SURASAK@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id JAA22481; Tue, 15 Oct 1996 09:30:54 -0700
From: SURASAK@ssl.msfc.nasa.gov
Date: Tue, 15 Oct 1996 11:30:39 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961015113039.254016fe@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5631
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: O

****
BATSEARCH PROGRAM
****

BATSE BURST # 5631
EVENT OF 1996 OCT 14 DAY OF YEAR=288
EVENT CROSSING TIME AT BATSE : 507. S. OR 00:08:27.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 333.000 -30.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/10/ 96 IS:
RA= 173.935 DEC= 32.467 DIST= 5.062 AU
BATSE-ULYSSES DISTANCE = 757256623. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 18.04 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2401.76 SECS.
CROSSING TIME AT ULYSSES IS 2909. S. OR 00:48:28 +/- 222.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/10/ 96 IS:
RA= 143.564 DEC= 15.889 DIST= 1.855 AU
MARS-BATSE DISTANCE = 277455904. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 16.55 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 887.14 SECS.
CROSSING TIME AT MARS IS 1394. S. OR 00:23:14 +/- 59.25 SECONDS

BATSE BURST TRIGGER

NO.: 5631

TIME: TJD=0370 SECONDS=507

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=93.0 AZIMUTH=250.1 ERROR=1.243 DEGREES

COMMENTS:
GRB. DOUBLE PEAKS. DUR~110S. VISIBLE ABOVE 300 KEV.

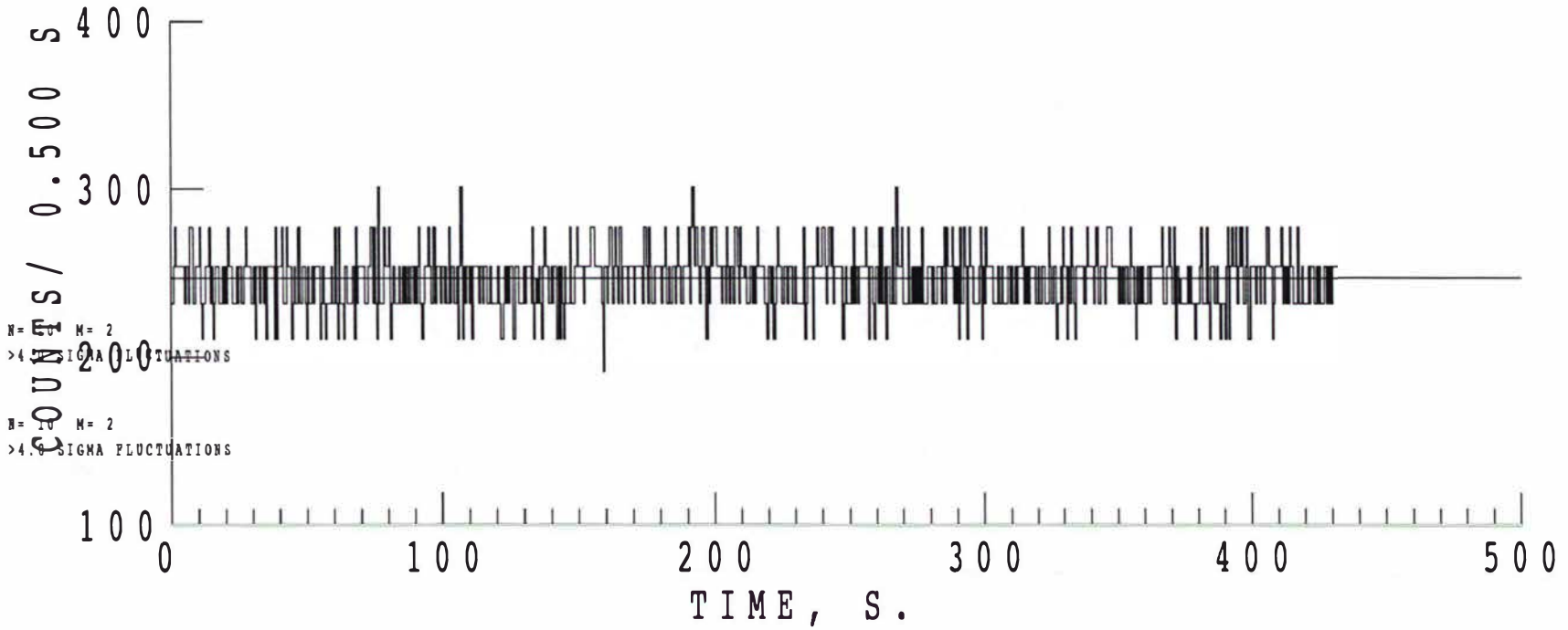
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5631	961014	10370	00507	3500	333	-30	110

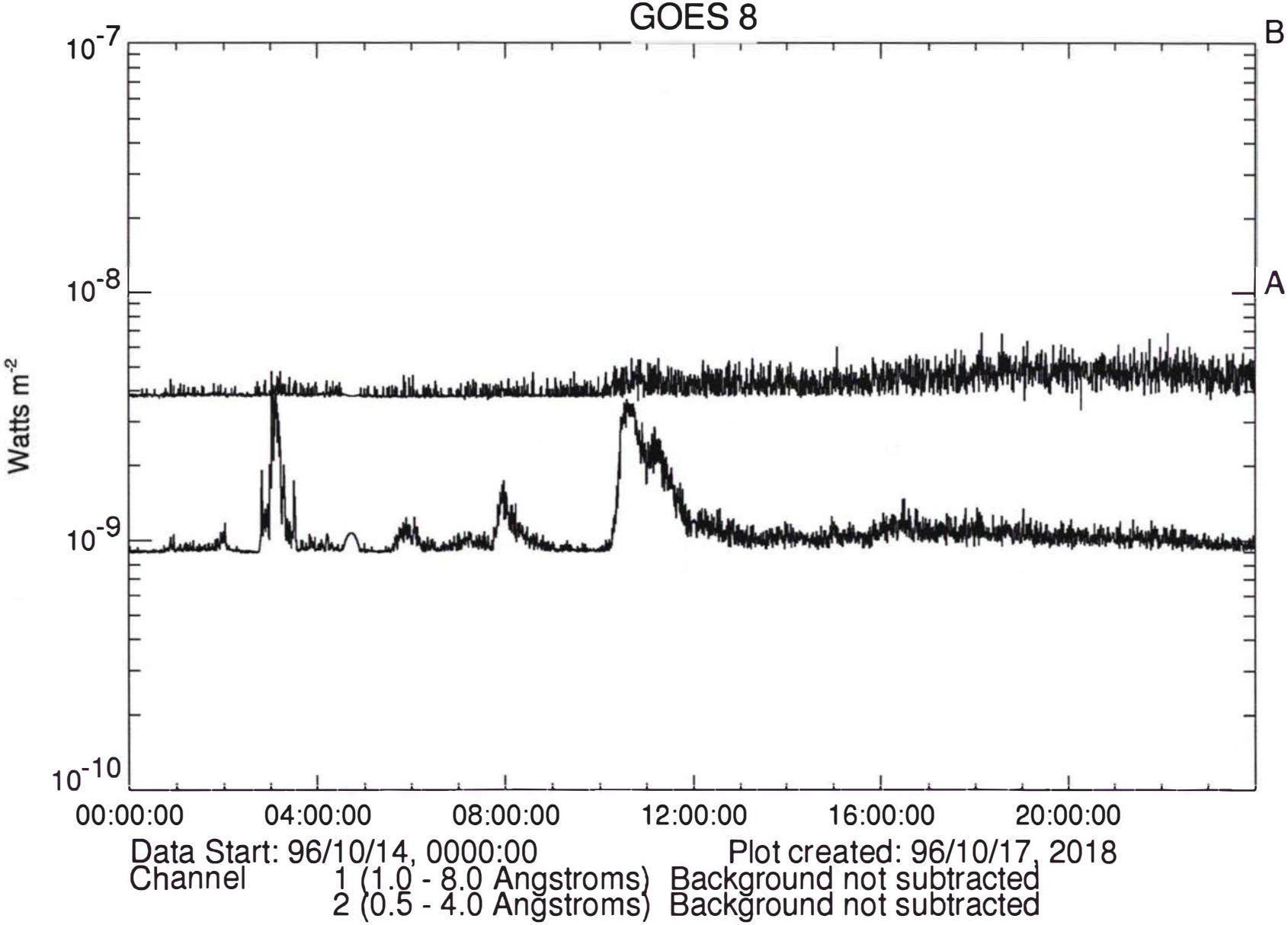
BATSE# 5631

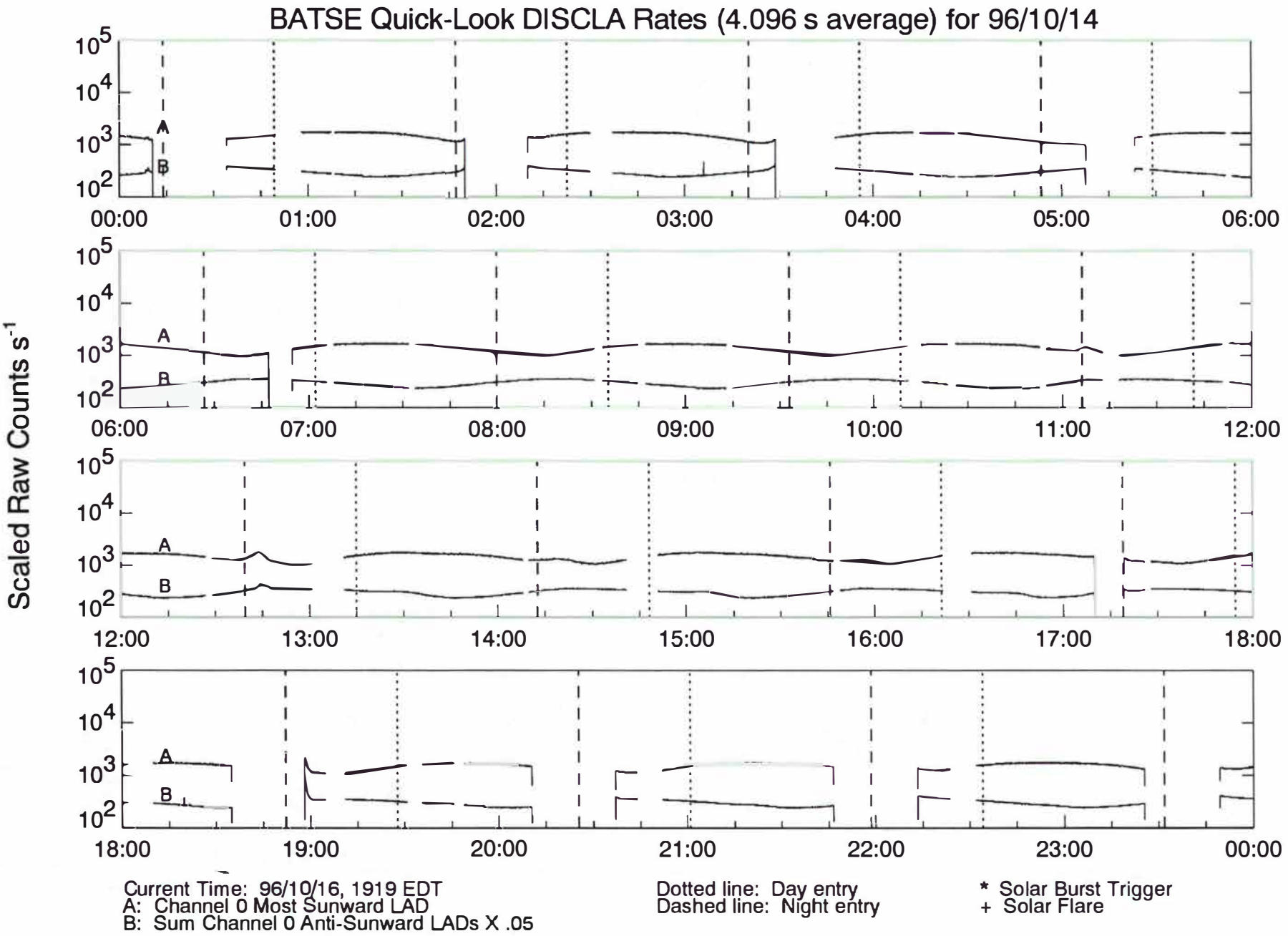
ULYSSES RT 17/10/96

14/10/96 2700.257 s

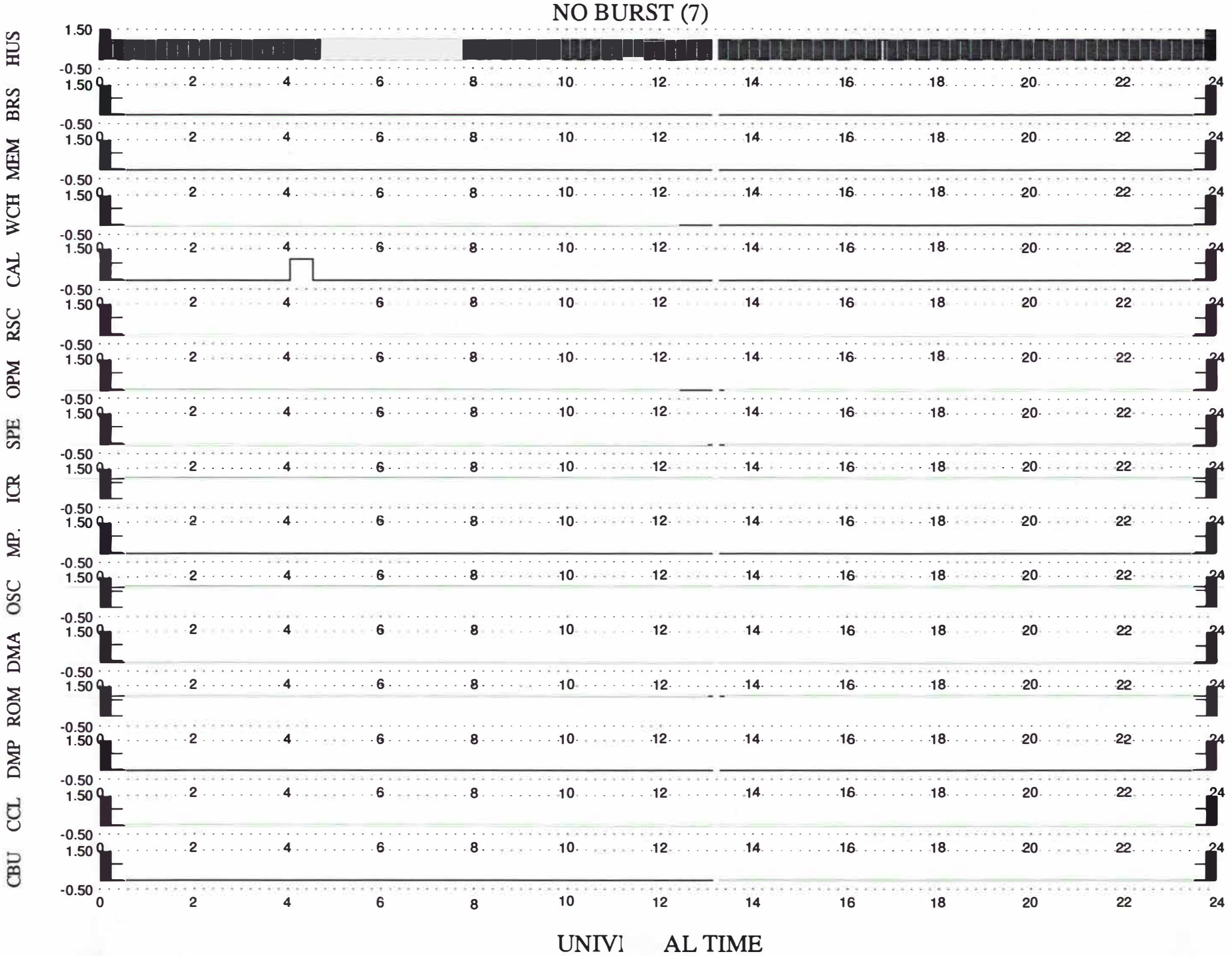
0- 0 keV




GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/14, 0000:00
Plot created: 96/10/17, 2018
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

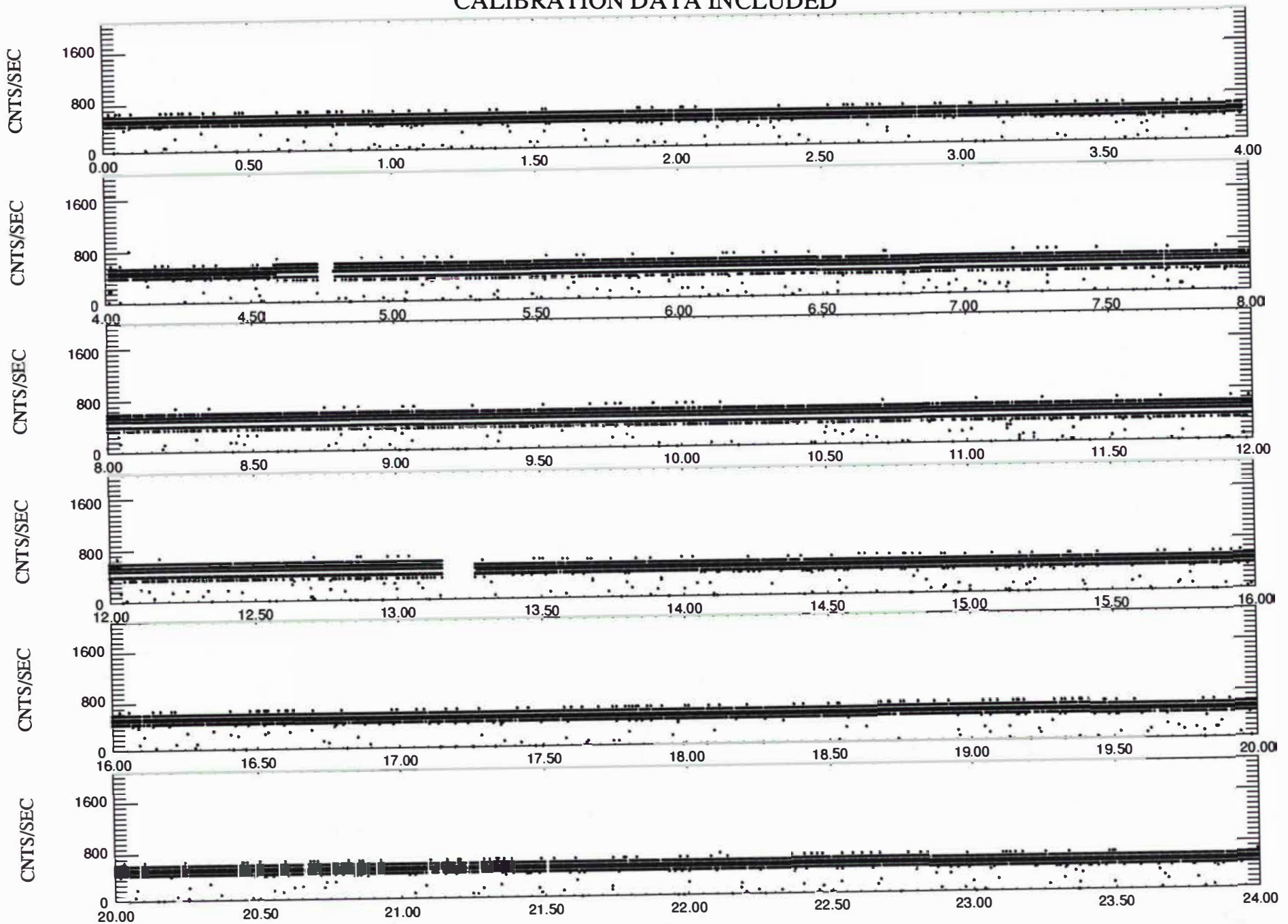

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/14
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/16, 1919 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 288, year 1996 to day 288, year 1996 3/29/97



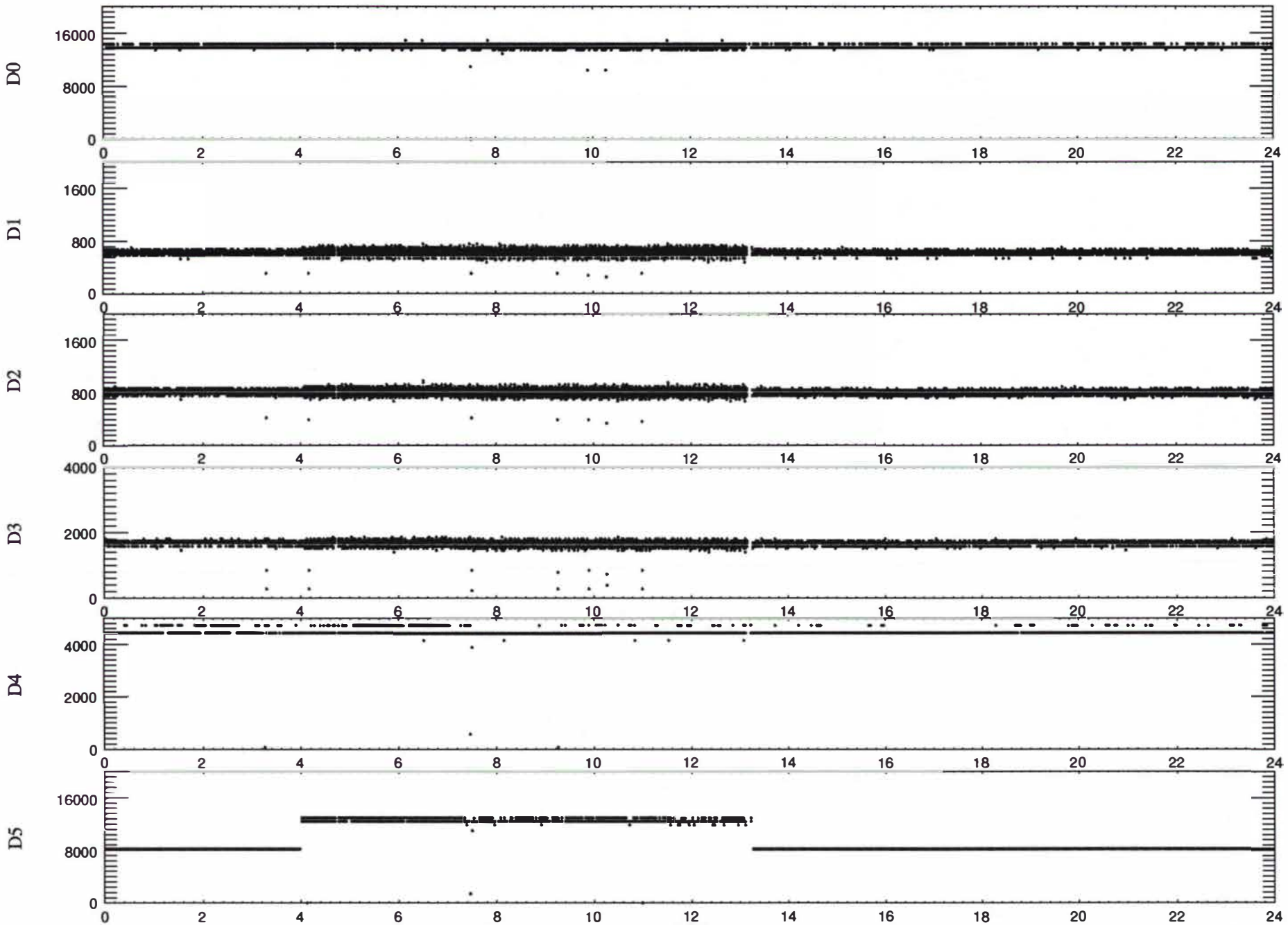
HUS 2A, MODE 1, NOT AVERAGED EDR day 288, year 1996 to day 288, year 1996 3/29/97

CALIBRATION DATA INCLUDED

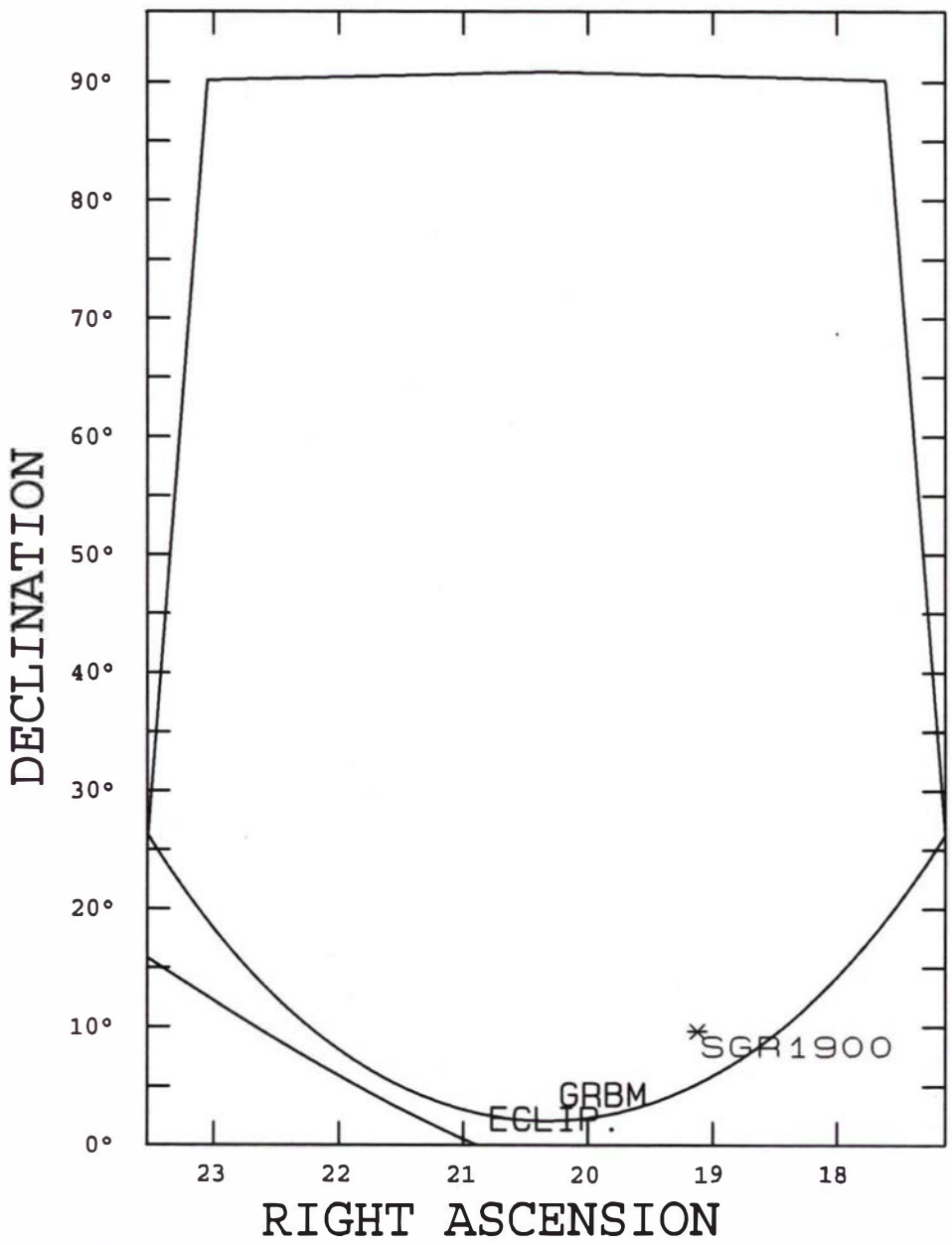


UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 288, year 1996 to day 288, year 1996 3/29/97



GRB 961015 10:36:45



KONUS

ULYSSES RT

31/01/00

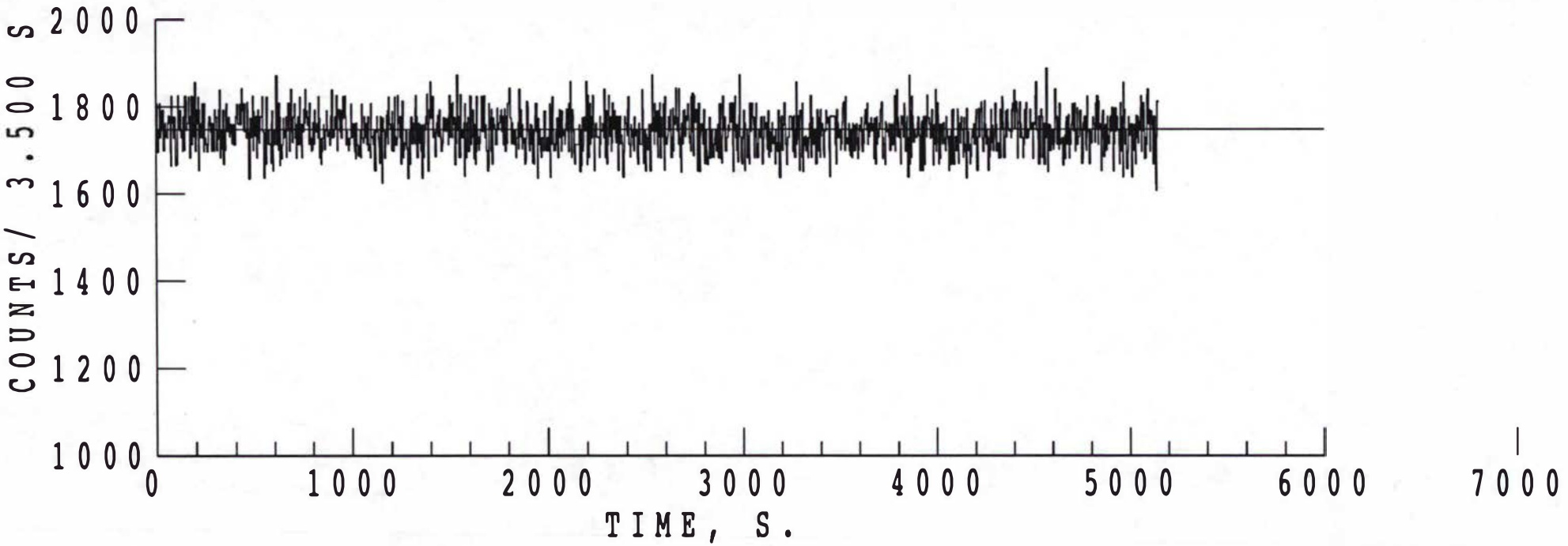
15/10/96 35604.246 s

0.250 S INTERVALS REGROUPED BY 14

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Jan 26 '07

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No

2. For Konus events

☑ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events N/A

☐ Was CHECKMO run to eliminate data gaps?

☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data…")

☐ Was Mars-blocking used?

☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)

☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).

☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events N/A

☐ Σ 3Δt's calculated, and/or BMAPSUM executed?

3. For INTEGRAL events N/A

☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?

☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?

☐ Updated ephemeris used for bursts prior to September 30, 2003?

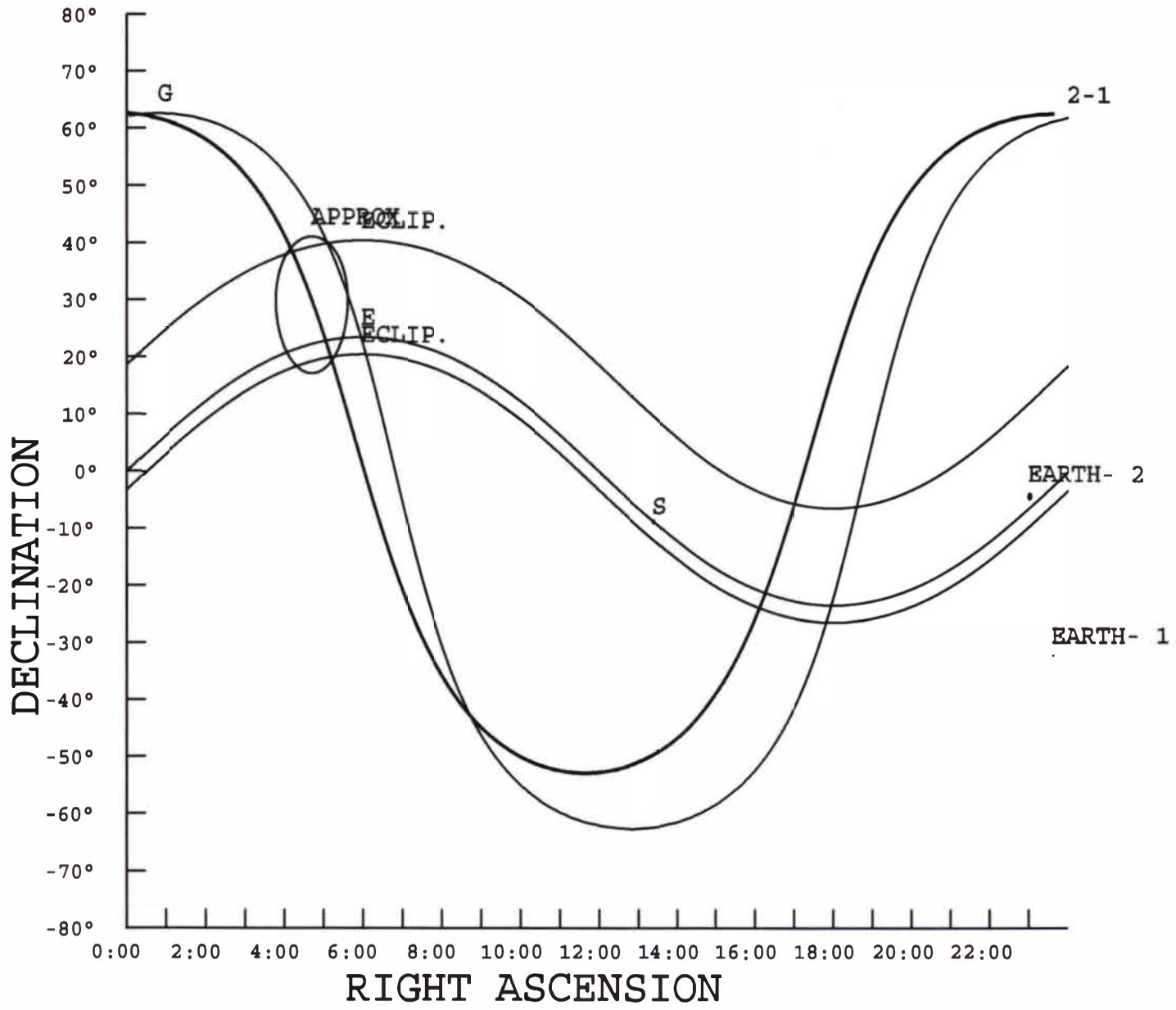
☑ ACCESS and MBL4 databases updated?

IPN/KONUS EL position inconsis. w. GRBM error circle, but consis. w. GRBM error contours. "Other" localization circle added.

EVENT OF OCT 15, 1996 11:48

23/ 7/ 9

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS2

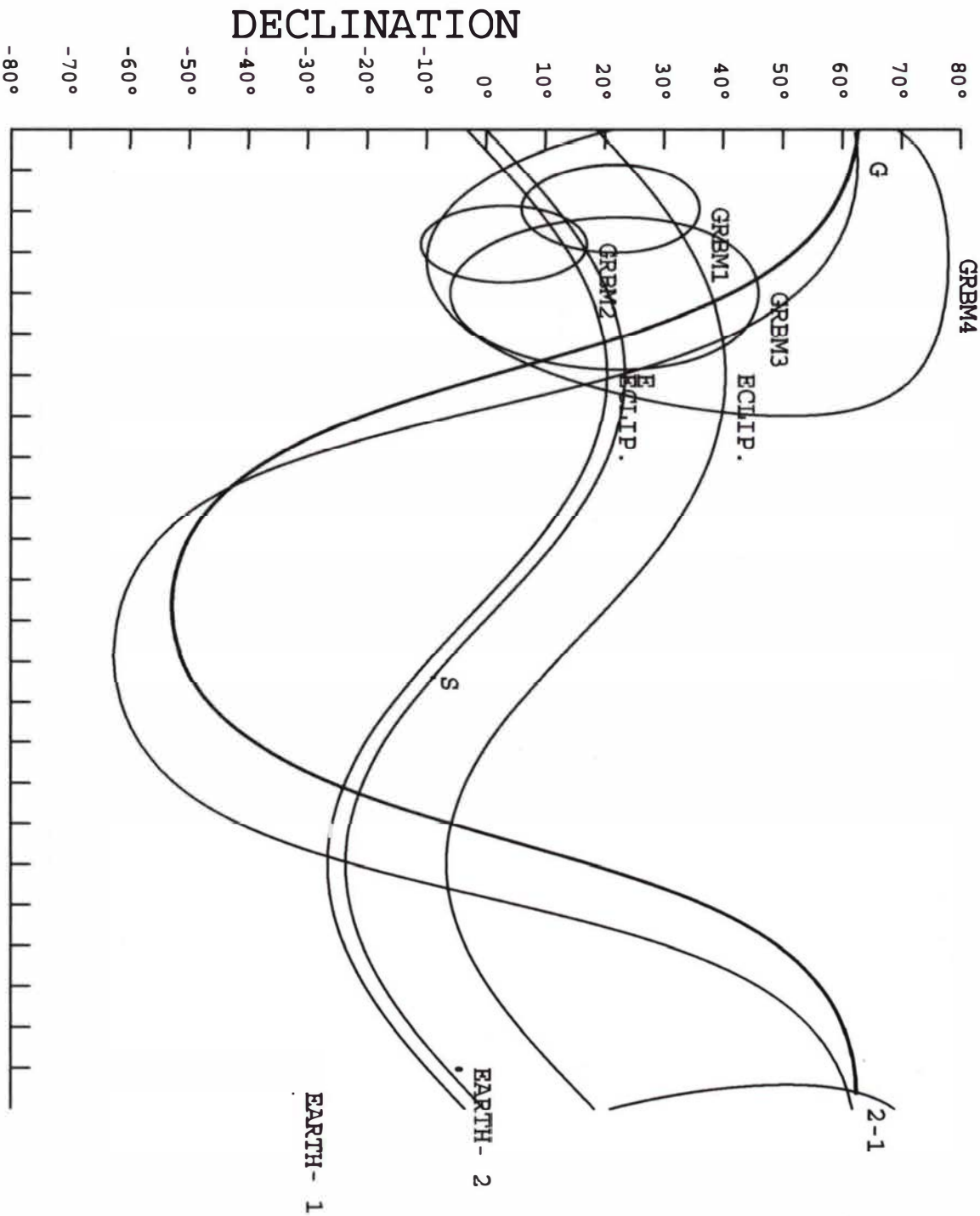


N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN E=ECLIPTIC G=GALACTIC EQUATOR

1 ULYSSES 2 KONUS2



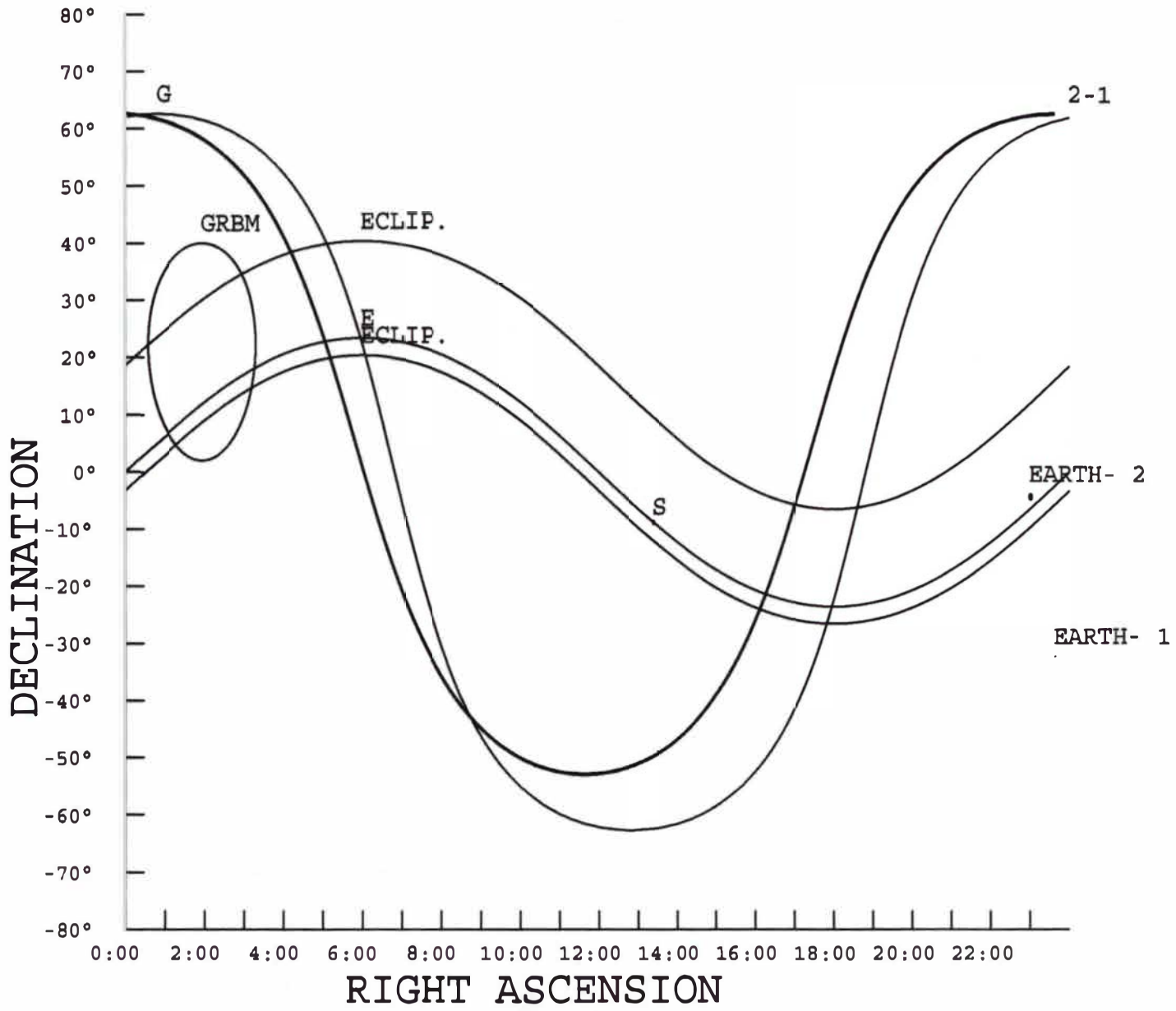
EVENT OF OCT 15, 1996 11:48

23/ 7/ 9

EVENT OF OCT 15, 1996 11:48

14/ 5/ 9

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS2

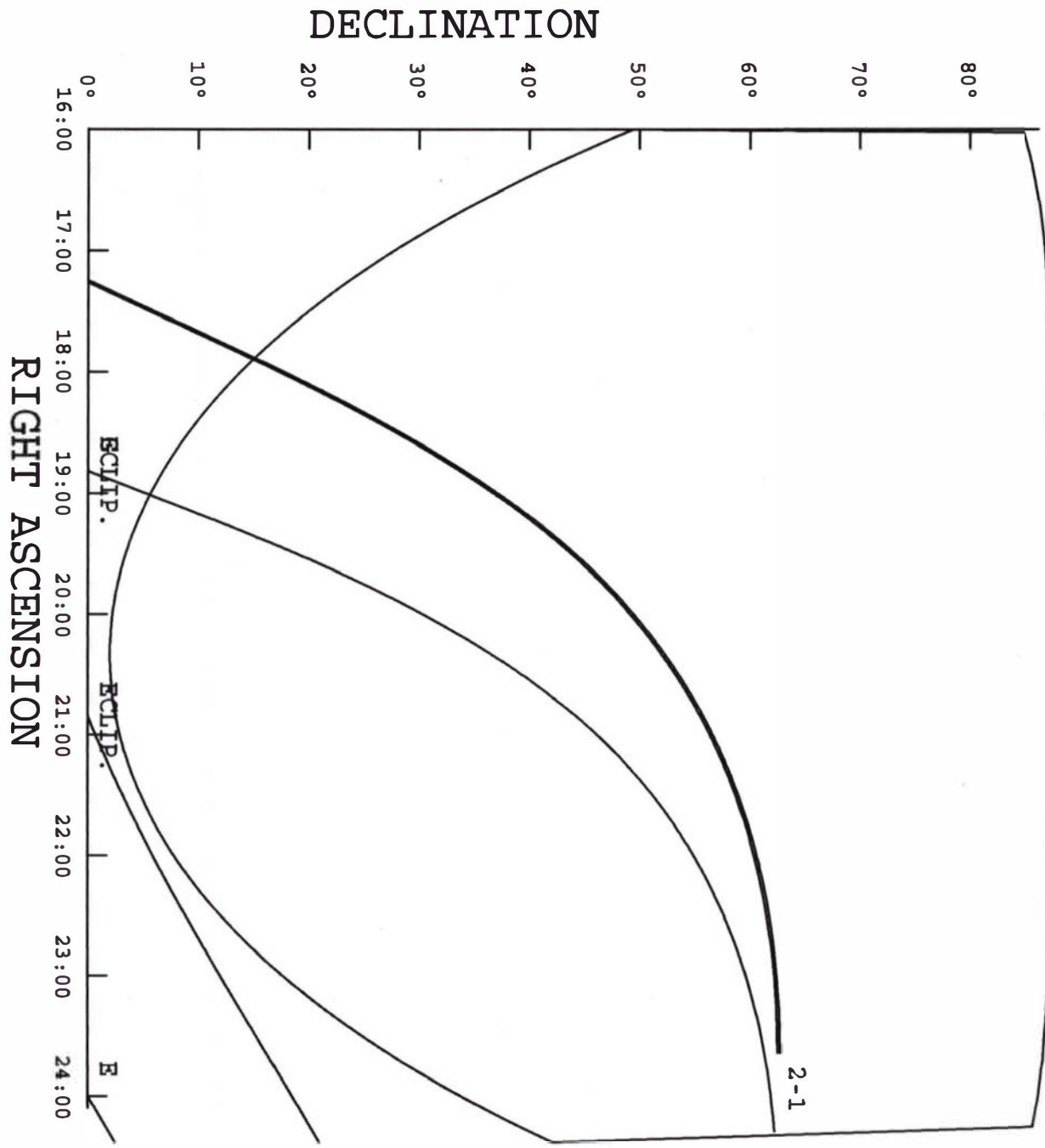


N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN E=ECLIPTIC G=GALACTIC EQUATOR

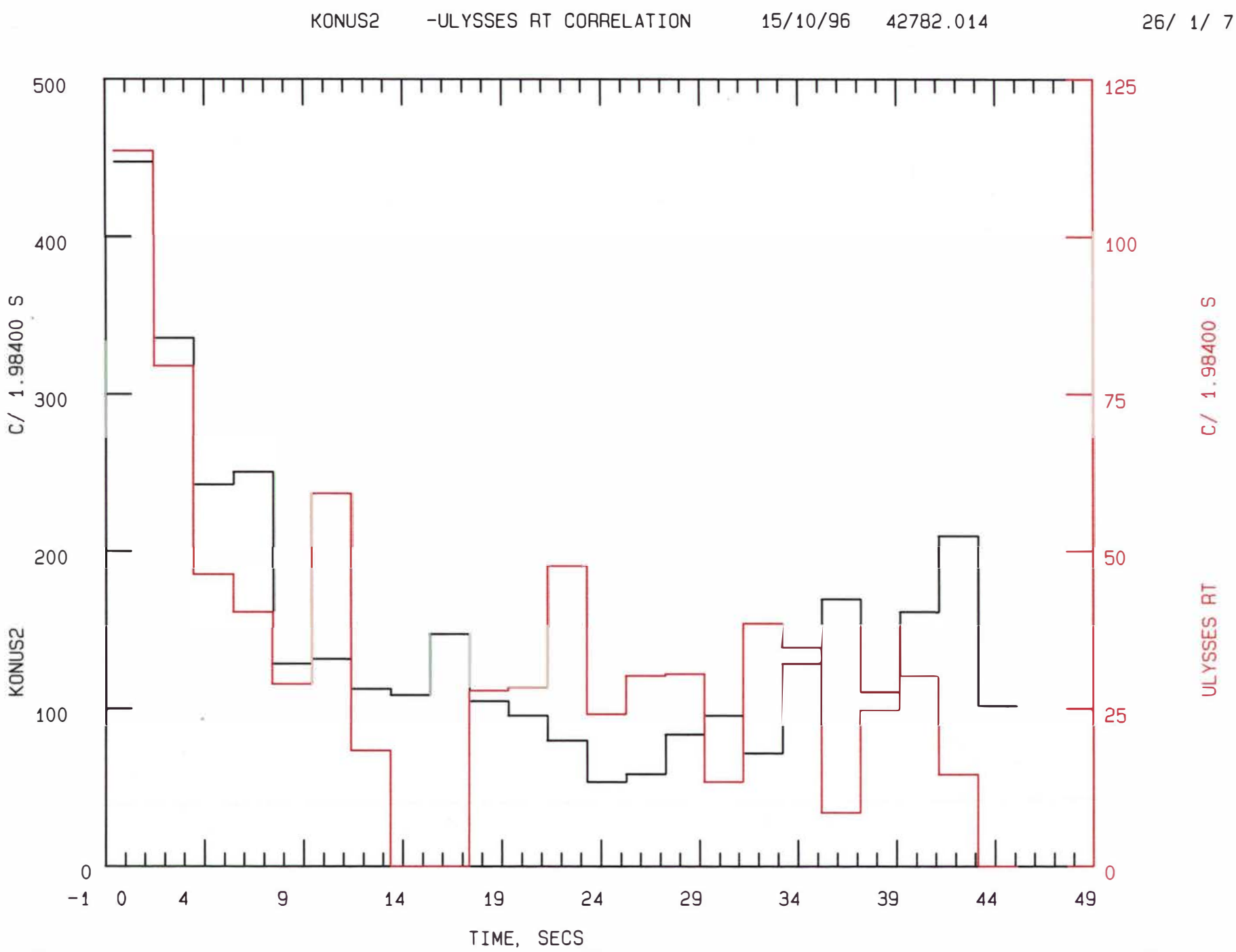
1 ULYSSES 2 KONUS2



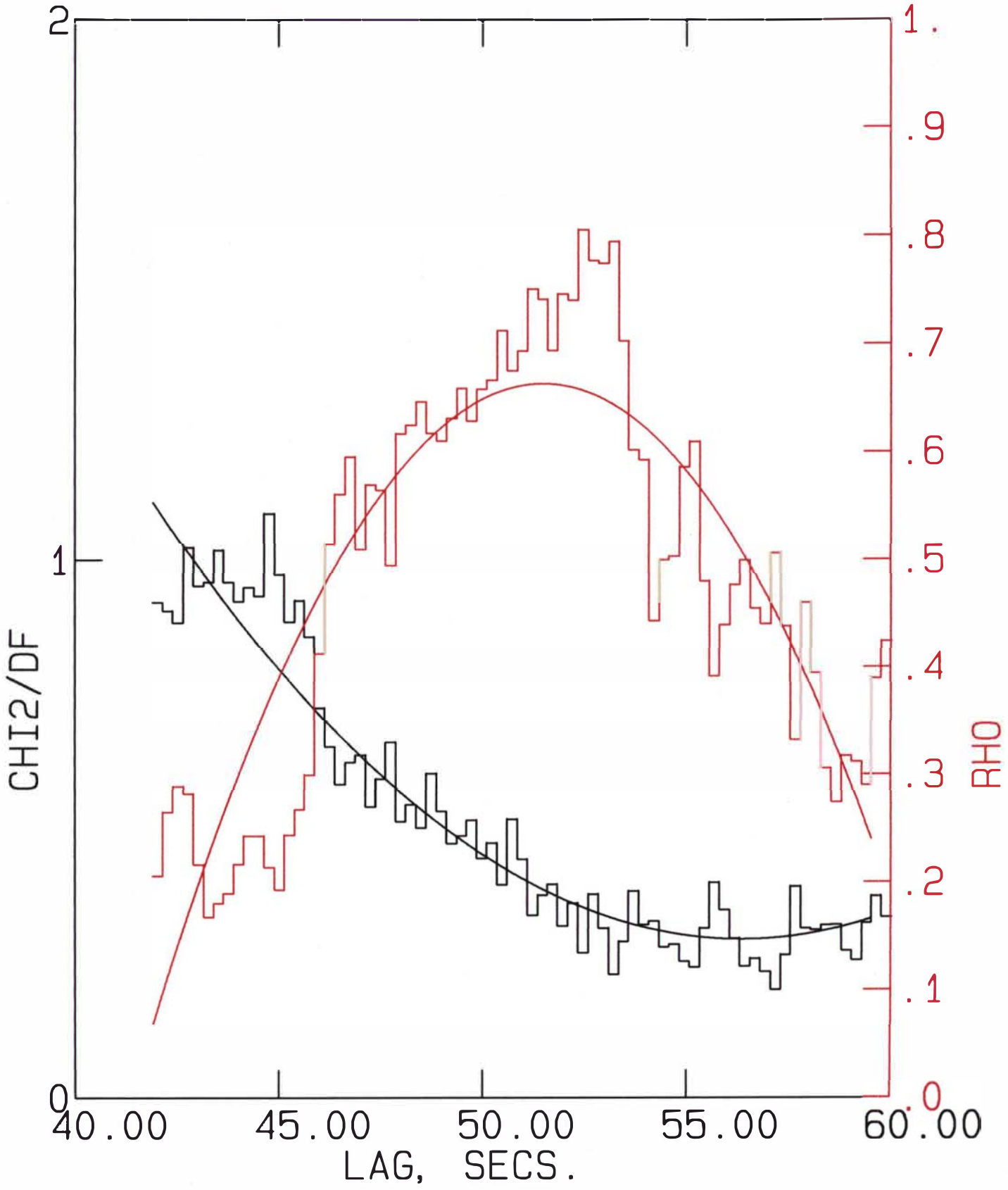
EVENT OF OCT 15, 1996 11:48

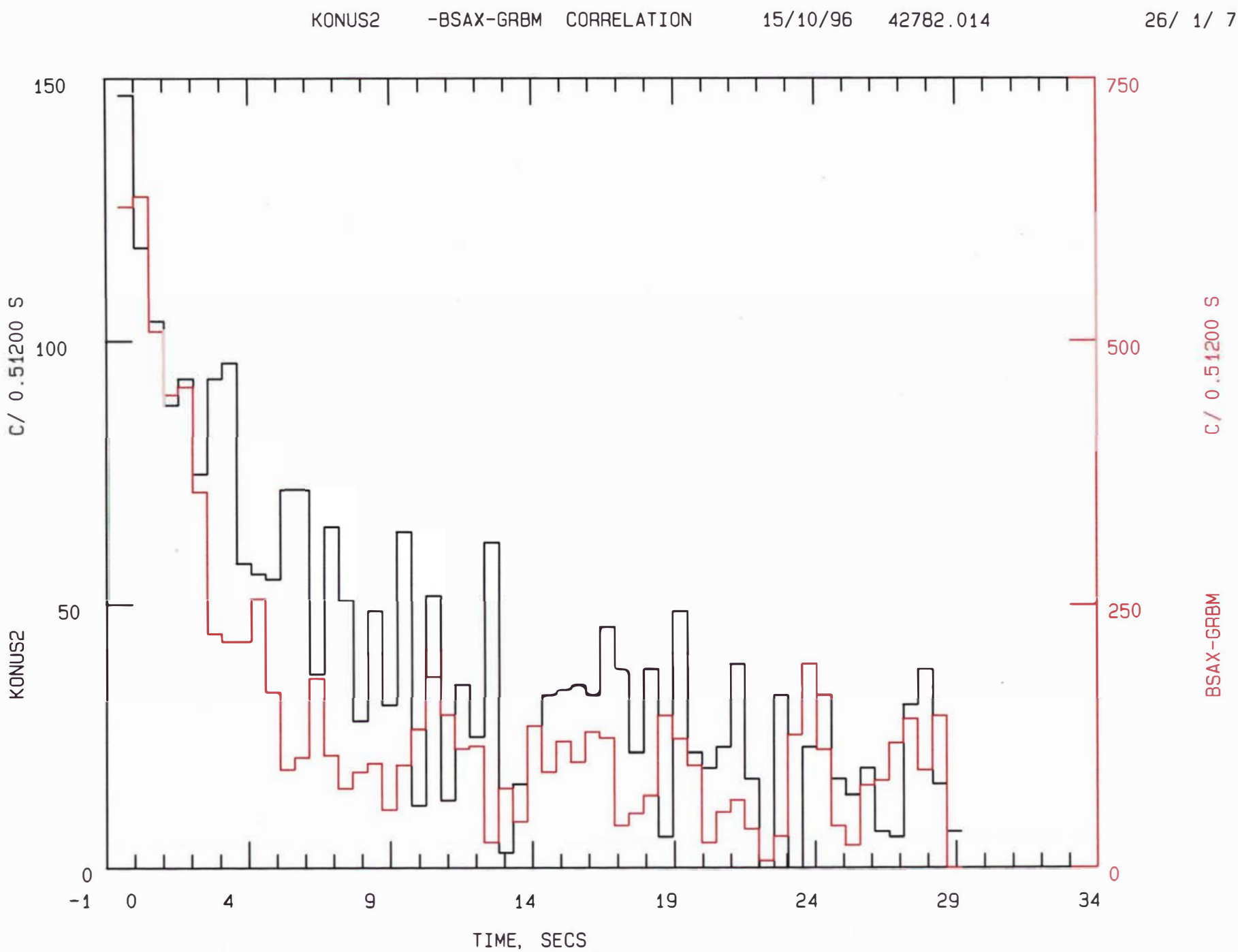
GRBM

26/ 1/ 7

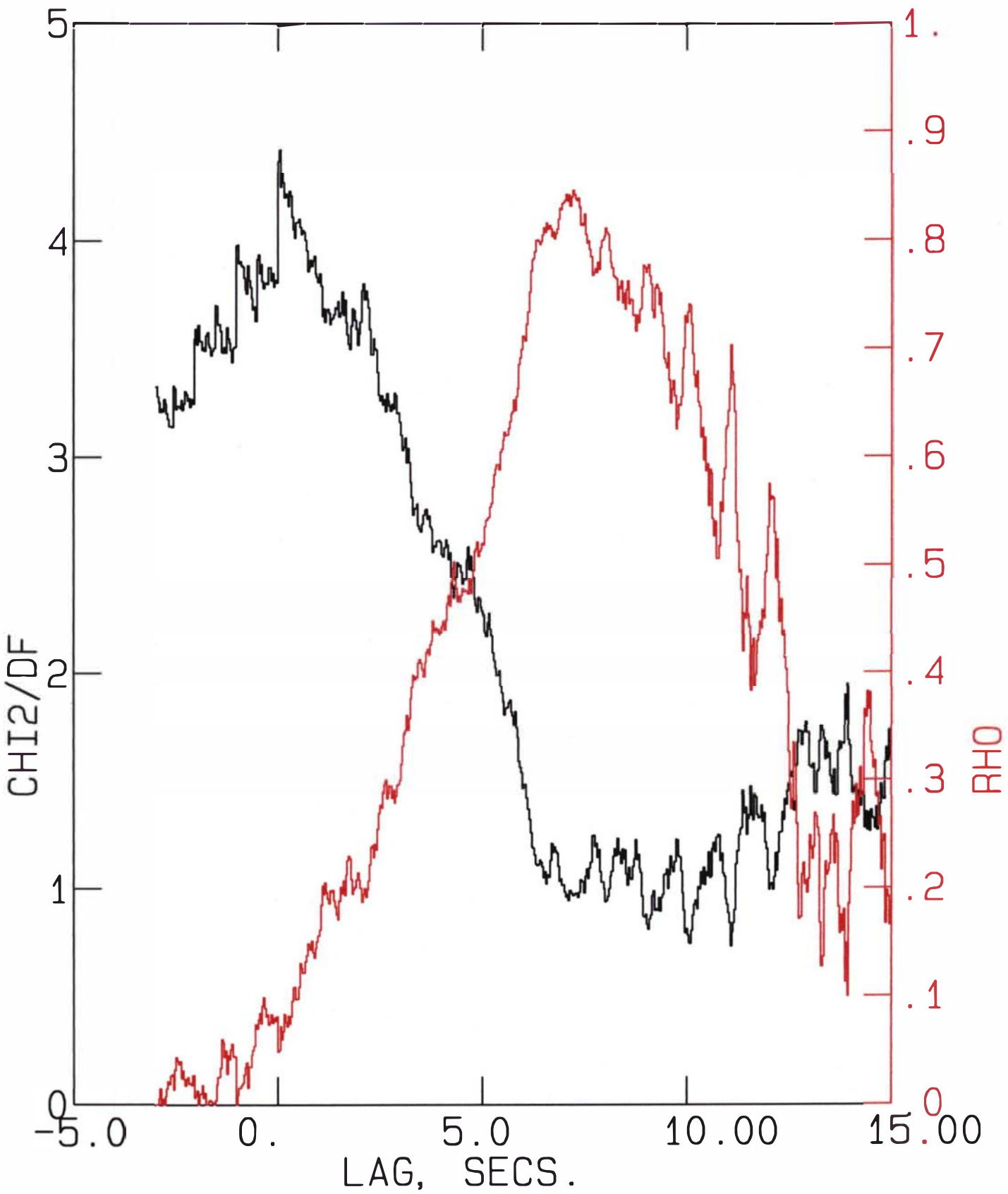

KONUS2 -ULYSSES RT CORRELATION 15/10/96 42782.014 26/ 1/ 7
500
400
300
200
100
0
C/ 1.98400 S
KONUS2
125
100
75
50
25
0
C/ 1.98400 S
ULYSSES RT
-1
0
4
9
14
19
24
29
34
39
44
49
TIME, SECS

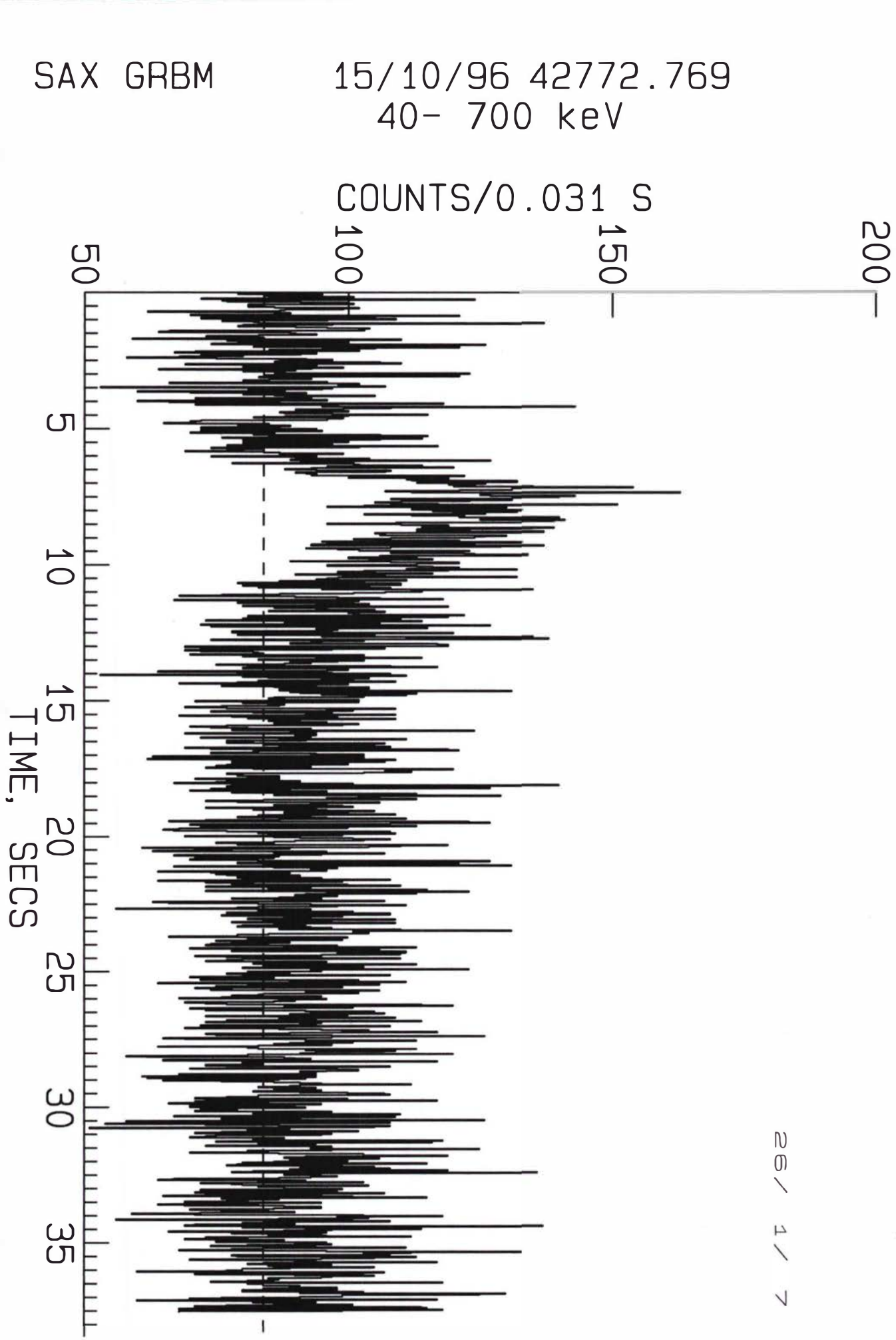
KONUS2 -ULYSSES RT CORRELATION 15/10/96 42782.014




KONUS2 -BSAX-GRBM CORRELATION 15/10/96 42782.014 26/ 1/ 7
150
100
50
0
C/ 0.51200 S
KONUS2
750
500
250
0
C/ 0.51200 S
BSAX-GRBM
-1
0
4
9
14
19
24
29
34
TIME, SECS

KONUS2 -BSAX-GRBM CORRELATION 15/10/96 42782.014




SAX GRBM
15/10/96 42772.769
40- 700 keV
COUNTS/0.031 S
50
100
150
200
5
10
15
20
25
30
35
TIME, SECS

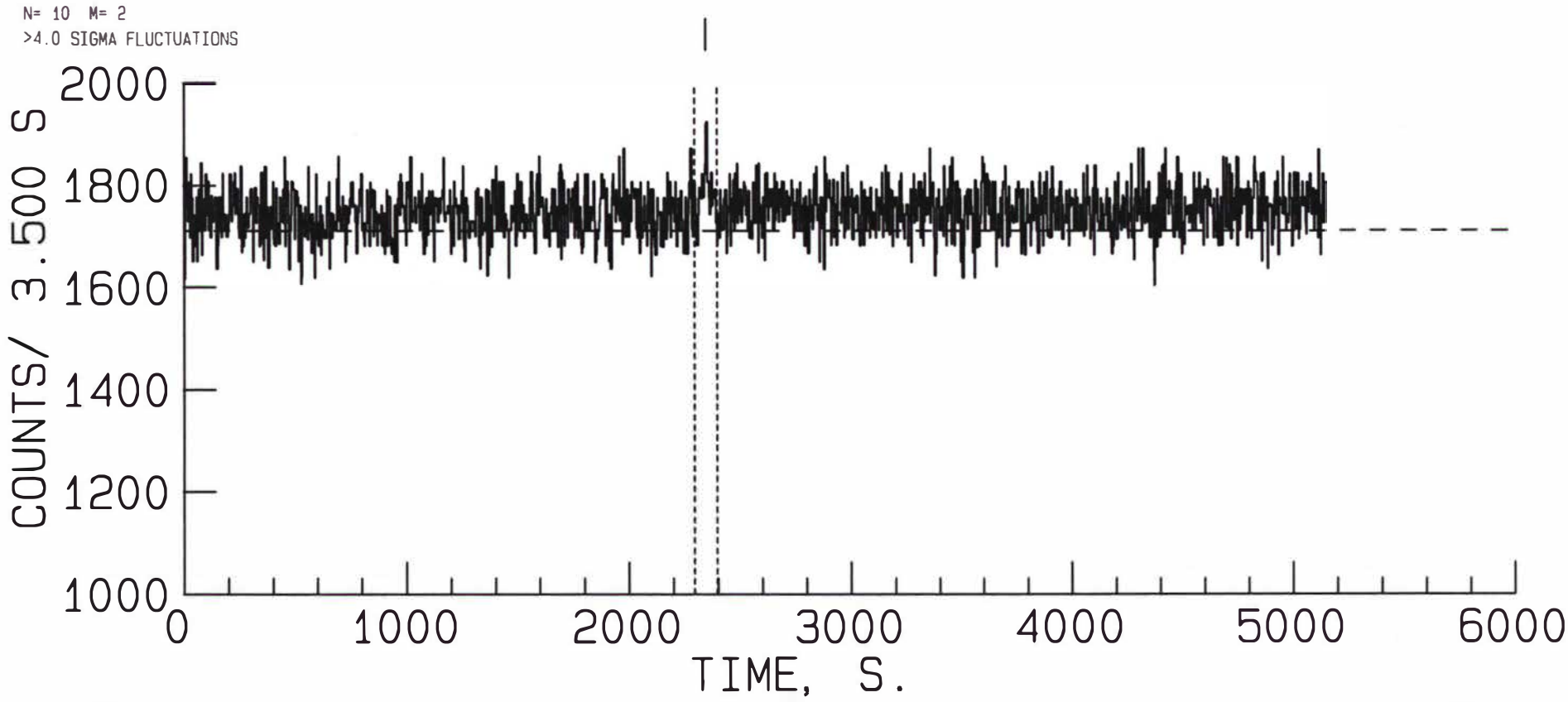
ULYSSES RT

26/ 1/ 7

15/10/96 40212.055 s

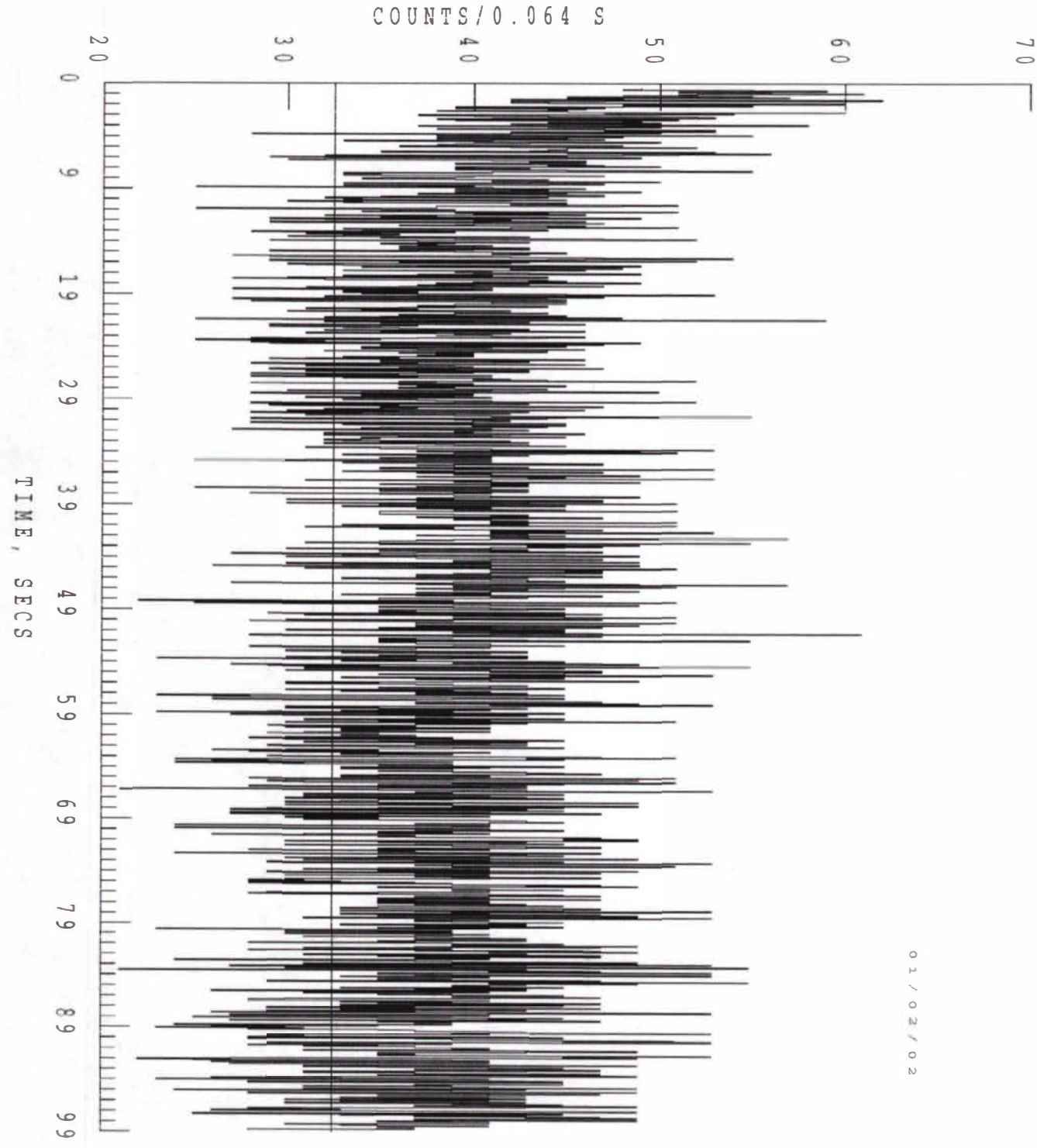
0.250 S INTERVALS REGROUPED BY 14

21- 147 keV



KONUS2 15/10/96 42782.014

50- 200 keV



From WOODSP@SSLLES.MSFC.NASA.GOV Wed Oct 16 09:16 PDT 1996
Return-Path: <WOODSP@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA00649; Wed, 16 Oct 1996 09:16:50 -0700
e: Wed, 16 Oct 1996 11:16:42 -0500 (CDT)
om: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961016111642.254022d8@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5632
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5632
EVENT OF 1996 OCT 15 DAY OF YEAR=289
EVENT CROSSING TIME AT BATSE : 58123. S. OR 16:08:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 220.000 30.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/10/ 96 IS:
RA= 174.195 DEC= 32.357 DIST= 5.051 AU
BATSE-ULYSSES DISTANCE = 755702308. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.04 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1960.05 SECS.
CROSSING TIME AT ULYSSES IS 56163. S. OR 15:36:02 +/- 295.42 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/10/ 96 IS:
RA= 144.142 DEC= 15.715 DIST= 1.847 AU
MARS-BATSE DISTANCE = 276367872. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=109.82 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -312.61 SECS.
CROSSING TIME AT MARS IS 57810. S. OR 16:03:30 +/- 145.82 SECONDS

BATSE BURST TRIGGER

NO.: 5632

TIME: TJD=0371 SECONDS=58123

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=79.3 AZIMUTH=302.5 ERROR=1.6 DEGREES

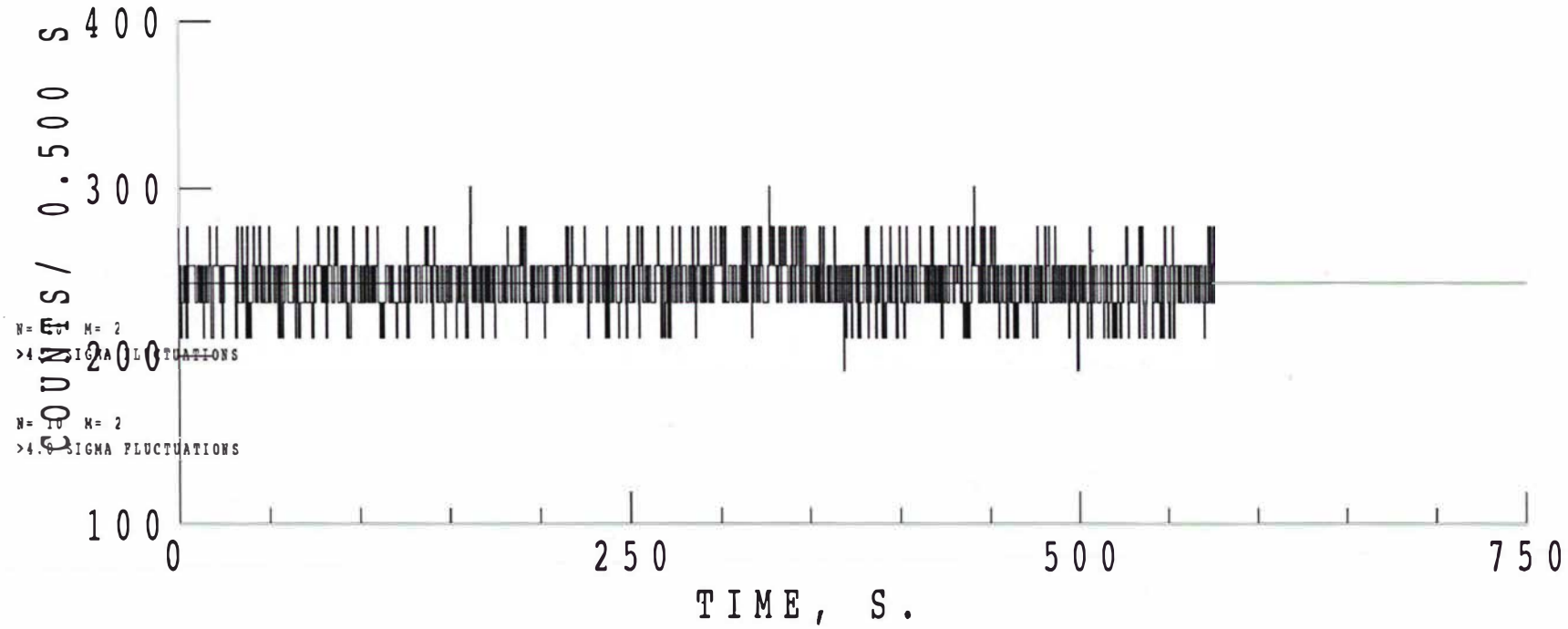
COMMENTS:
GRB LASTING ~ 50 SEC. SHOWS RAPID FLUCTUATIONS WITH A HARD SPECTRUM.
VISIBLE ABOVE 300 KEV.

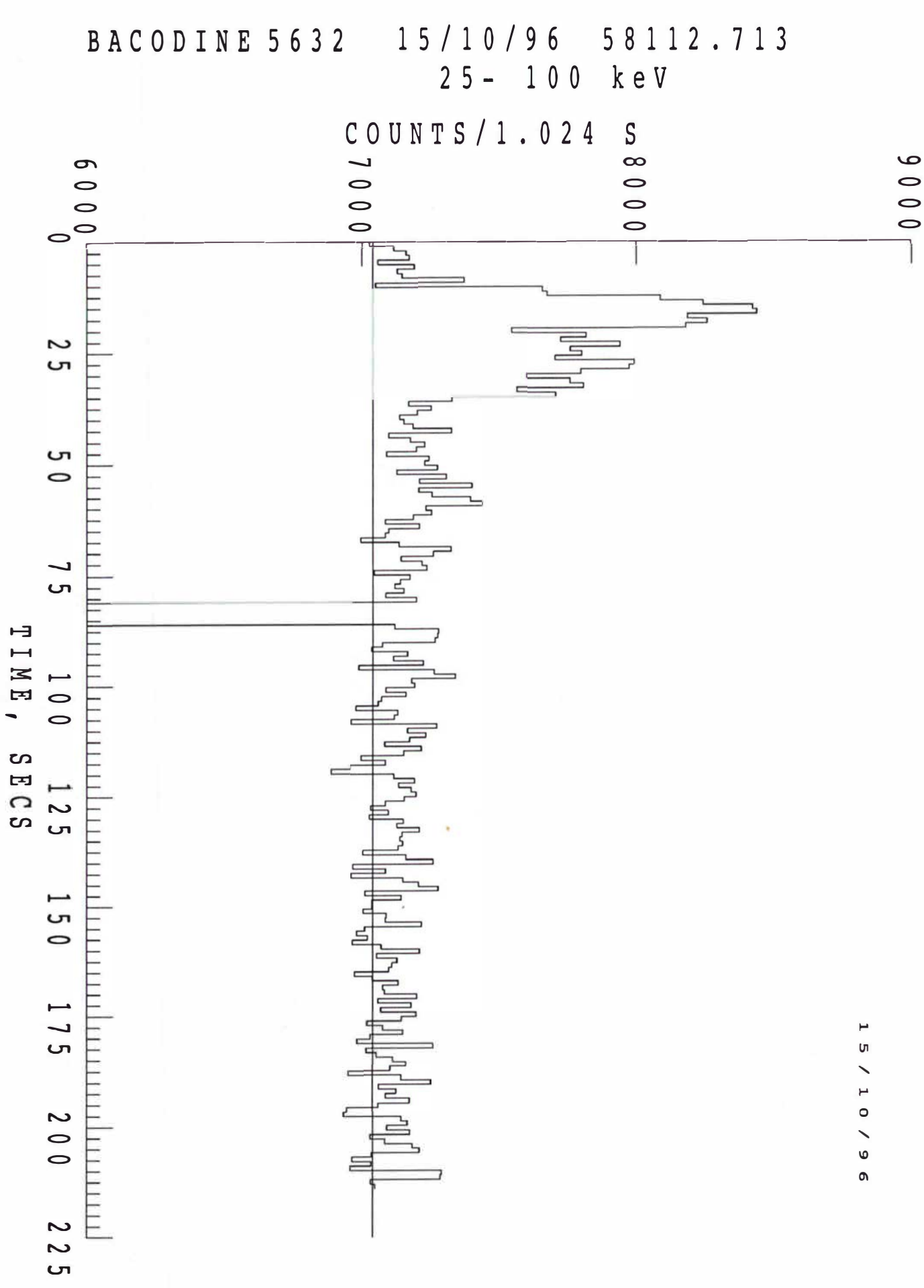
BATSE# 5632

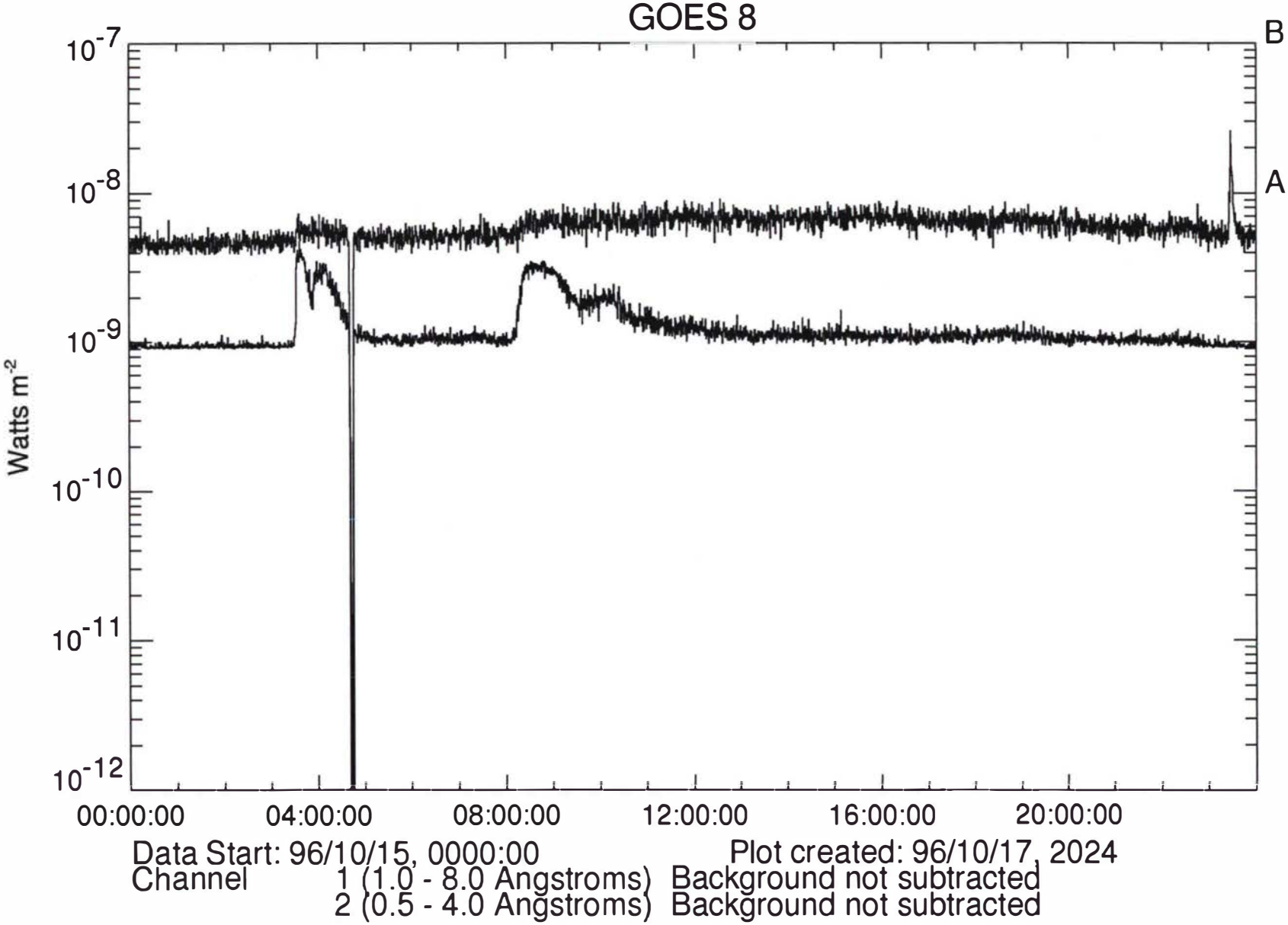
ULYSSES RT 17/10/96

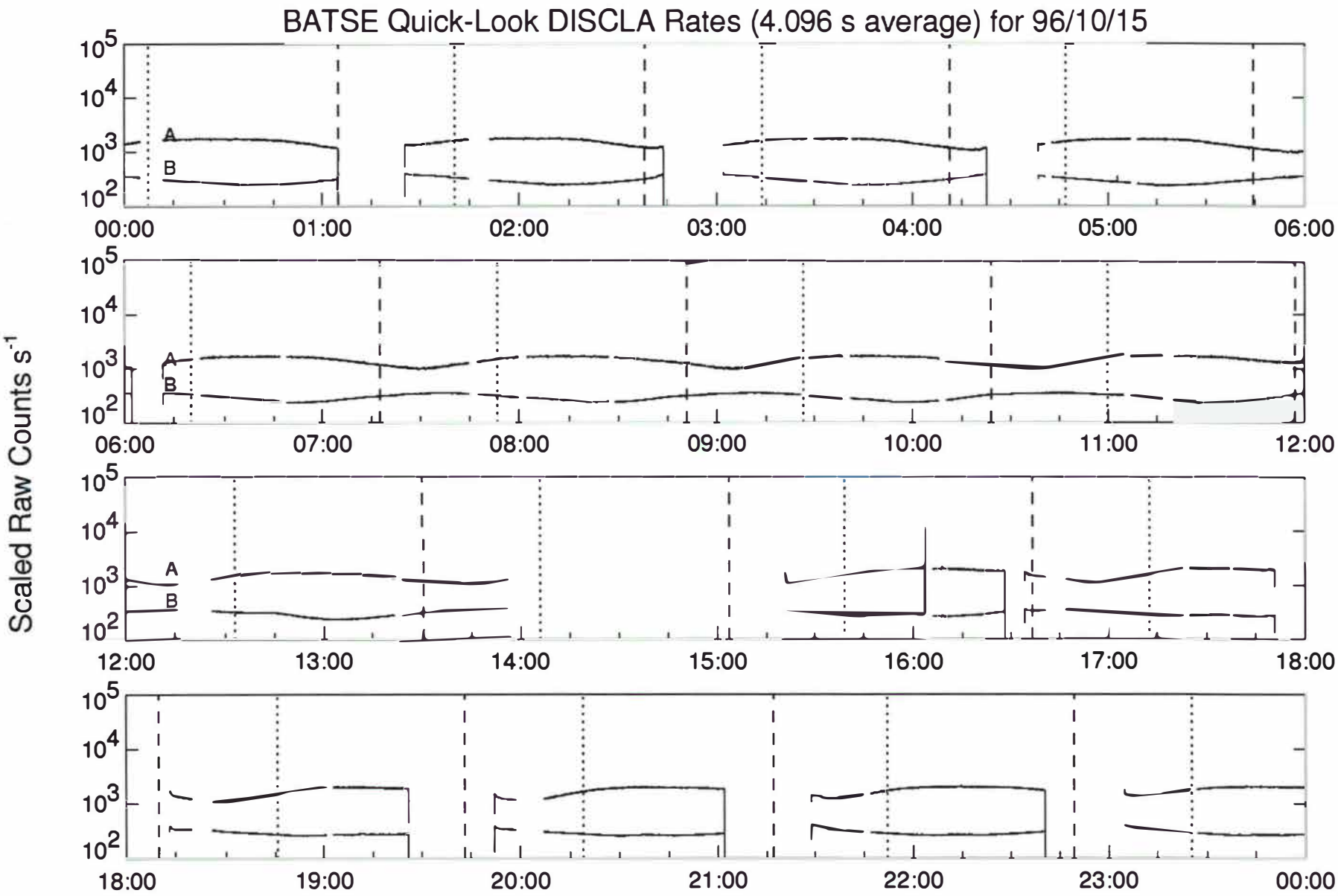
15/10/96 55872.000 s

0- 0 keV

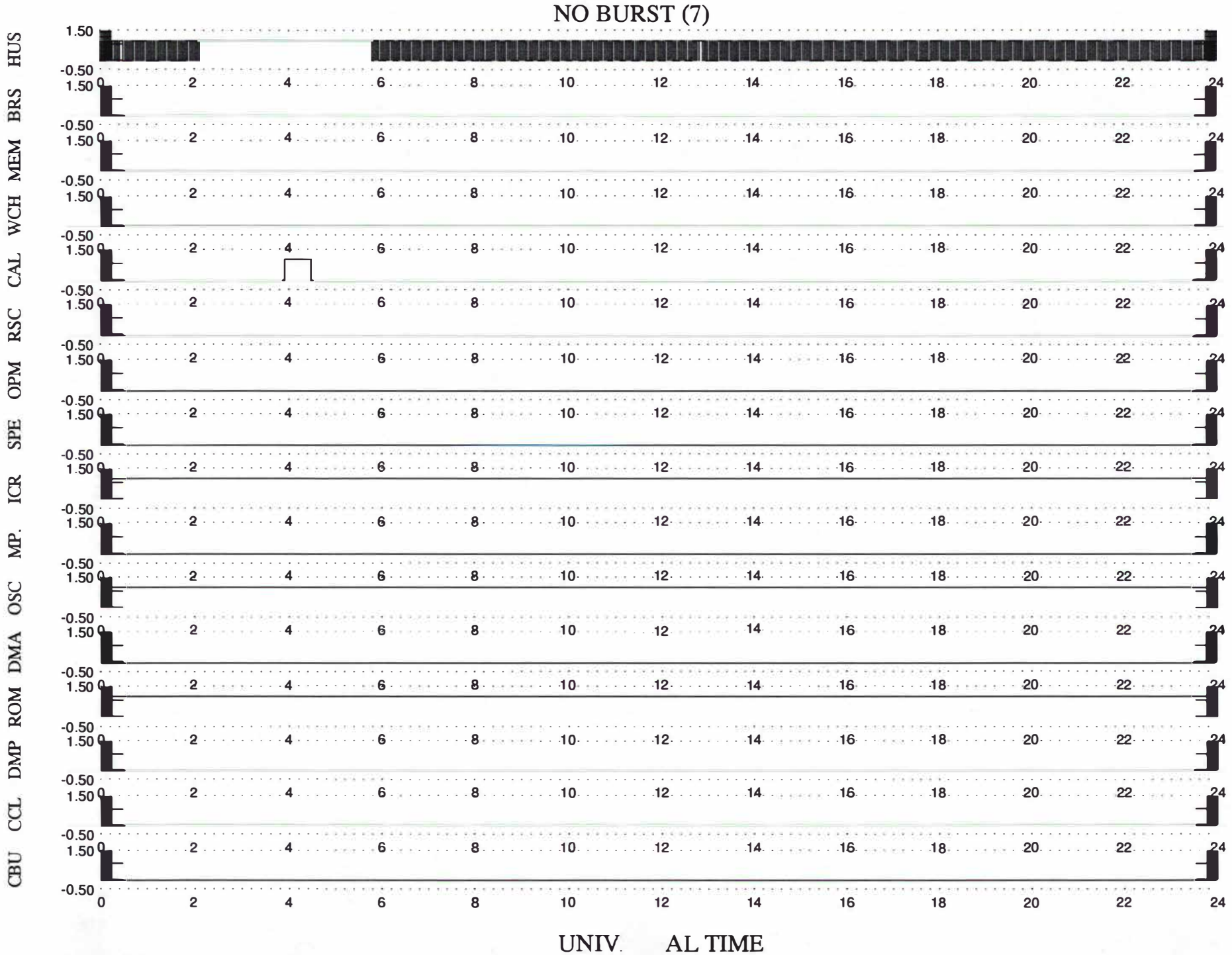



BACODINE 5632 15/10/96 58112.713
25- 100 keV
COUNTS/1.024 S
6000
7000
8000
9000
0
25
50
75
100
125
150
175
200
225
TIME, SECS
15/10/96


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
10^{-12}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/15, 0000:00
Plot created: 96/10/17, 2024
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

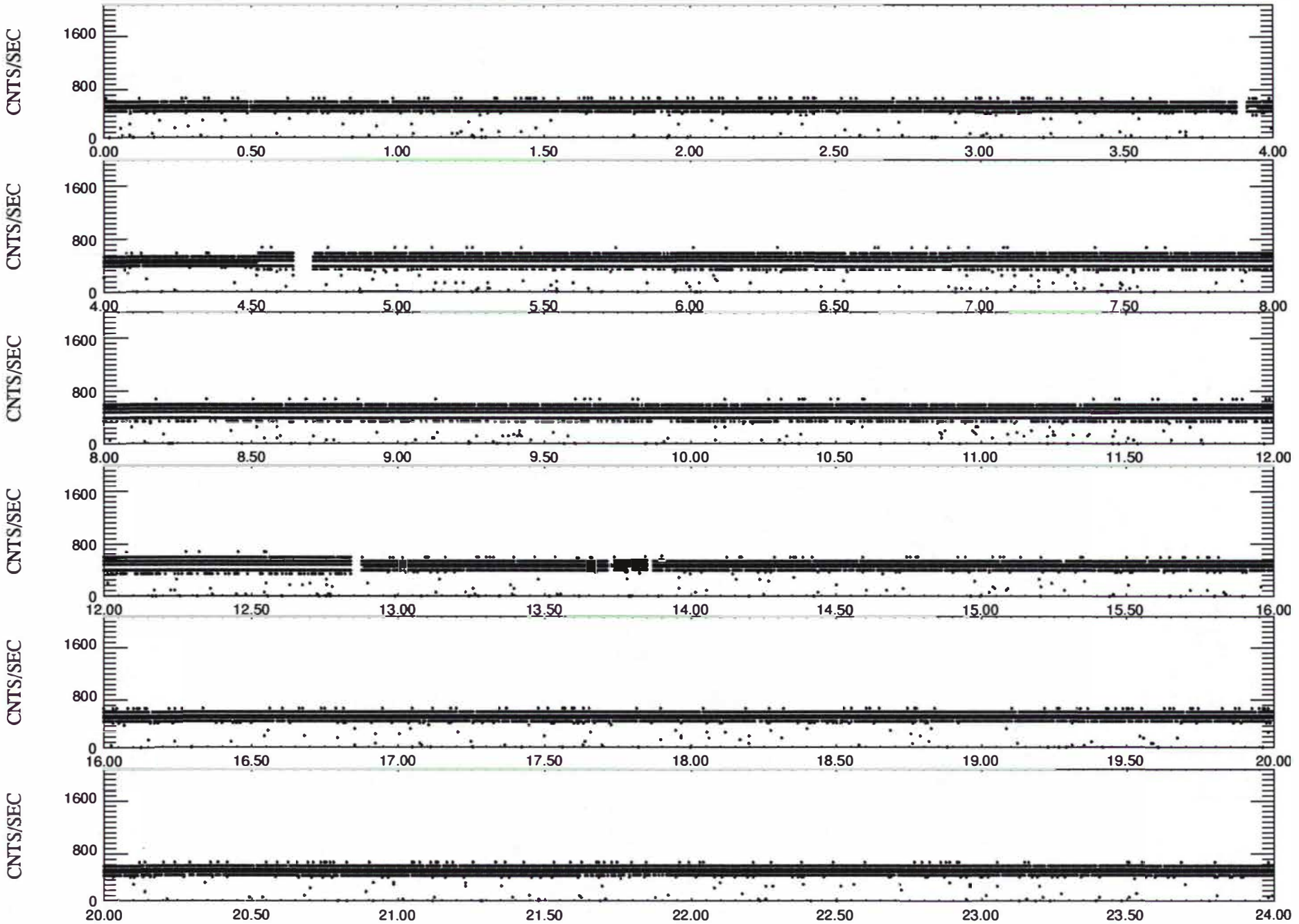

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/15
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/17, 1647 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 289, year 1996 to day 289, year 1996 3/29/97



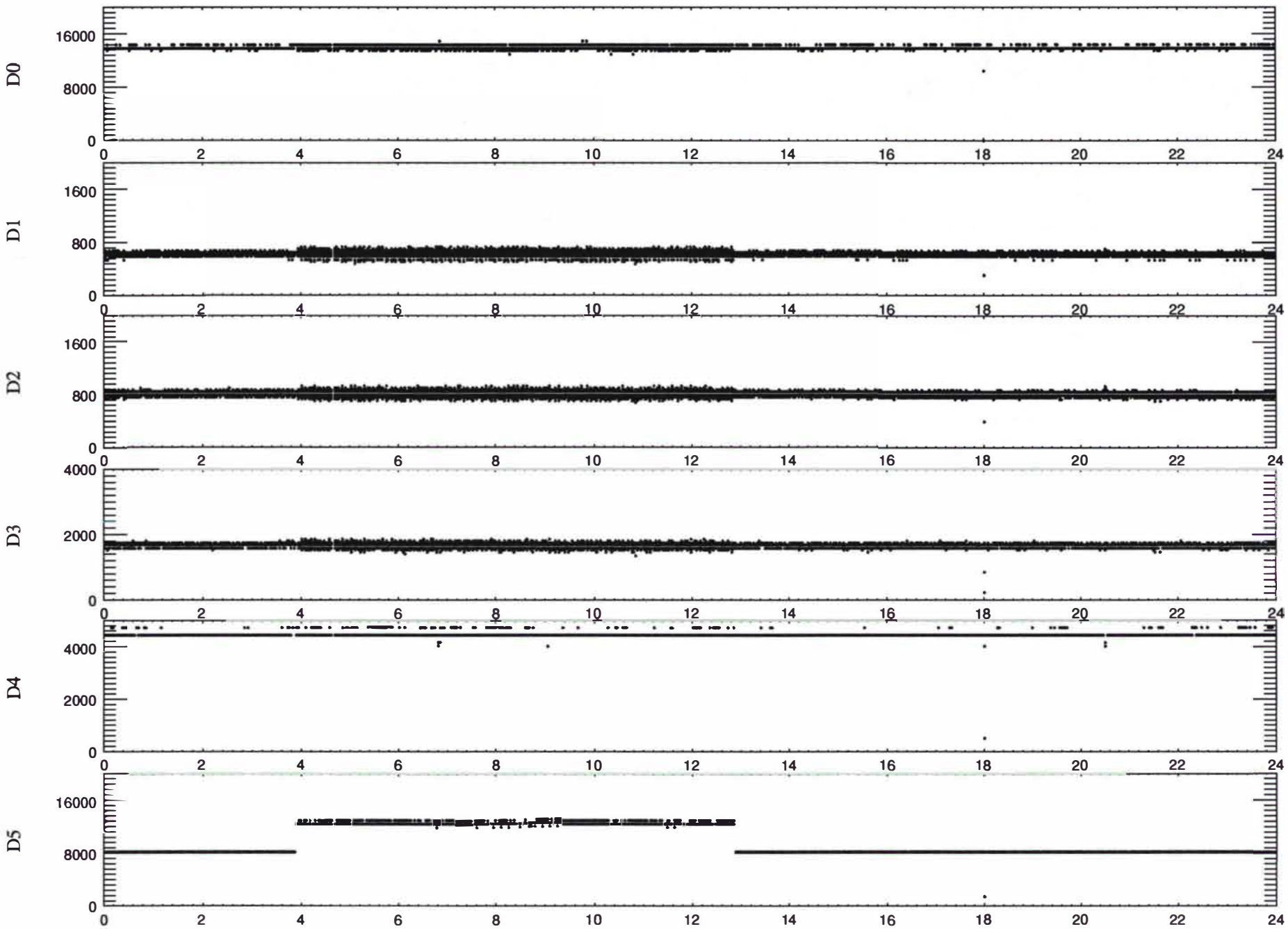
HUS 2A, MODE 1, NOT AVERAGED EDR day 289, year 1996 to day 289, year 1996 3/29/97

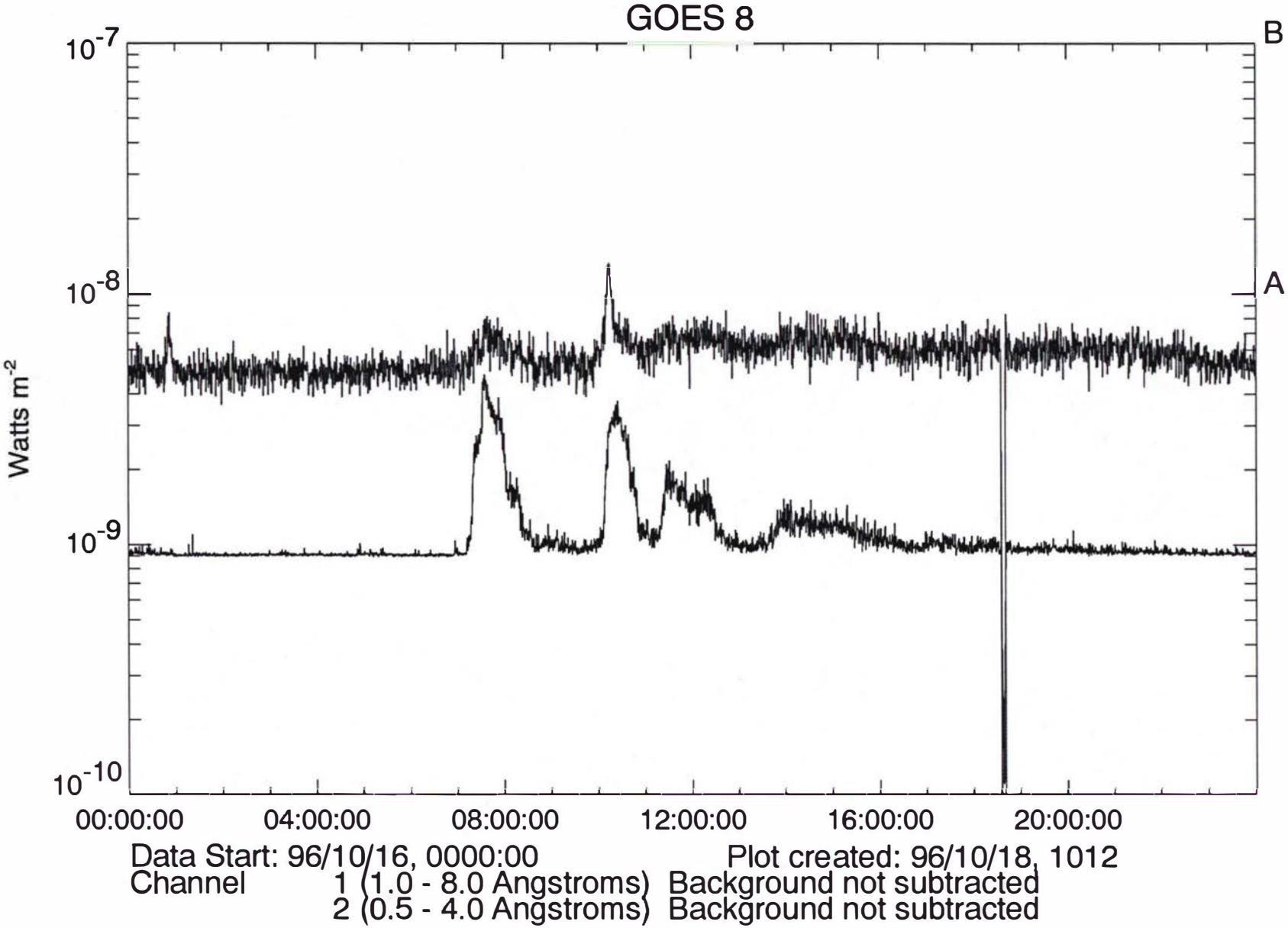
CALIBRATION DATA INCLUDED

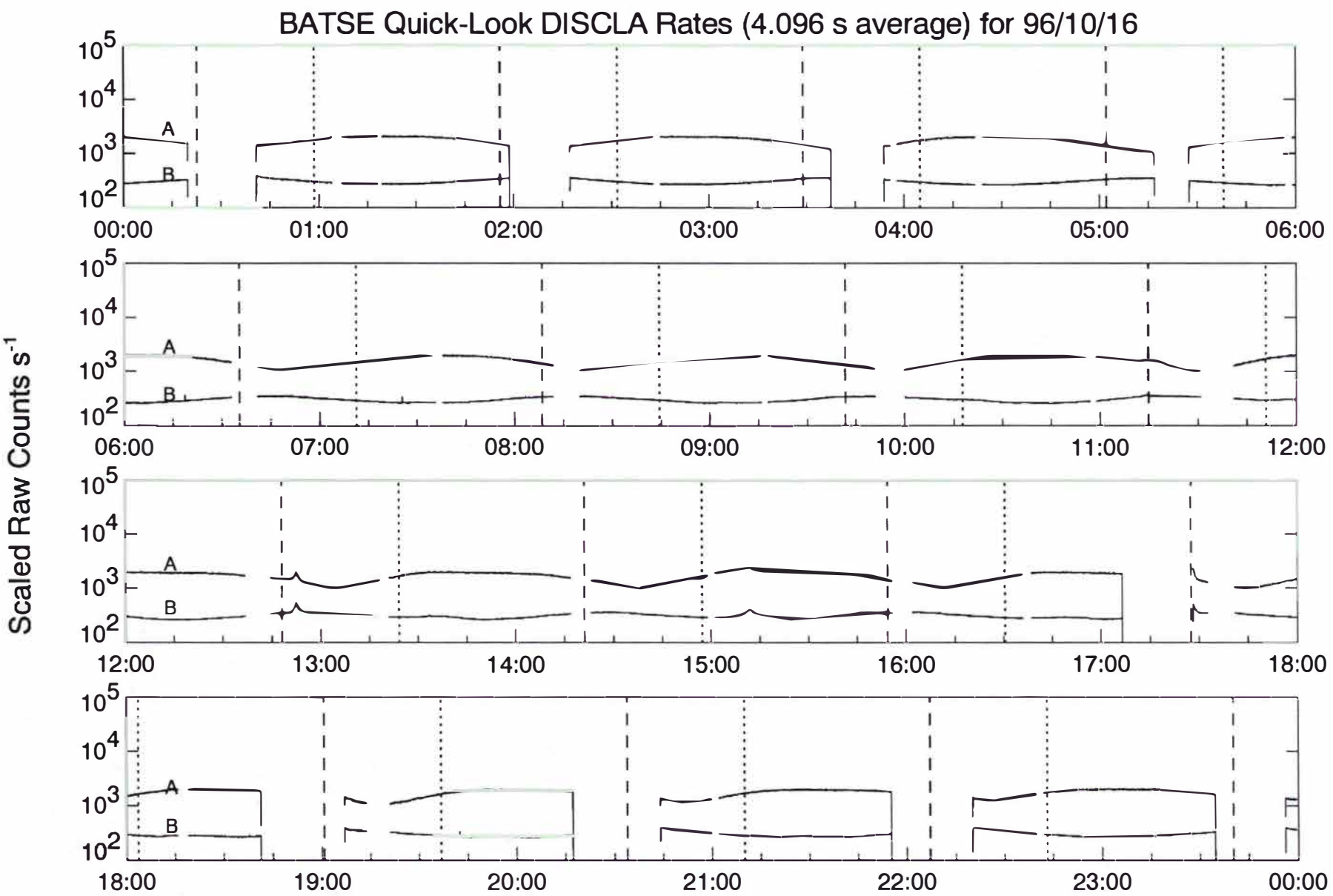


UNIV' AL TIME

HUS 2B COUNTS / SEC EDR day 289, year 1996 to day 289, year 1996 3/29/97




GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/16, 0000:00
Plot created: 96/10/18, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

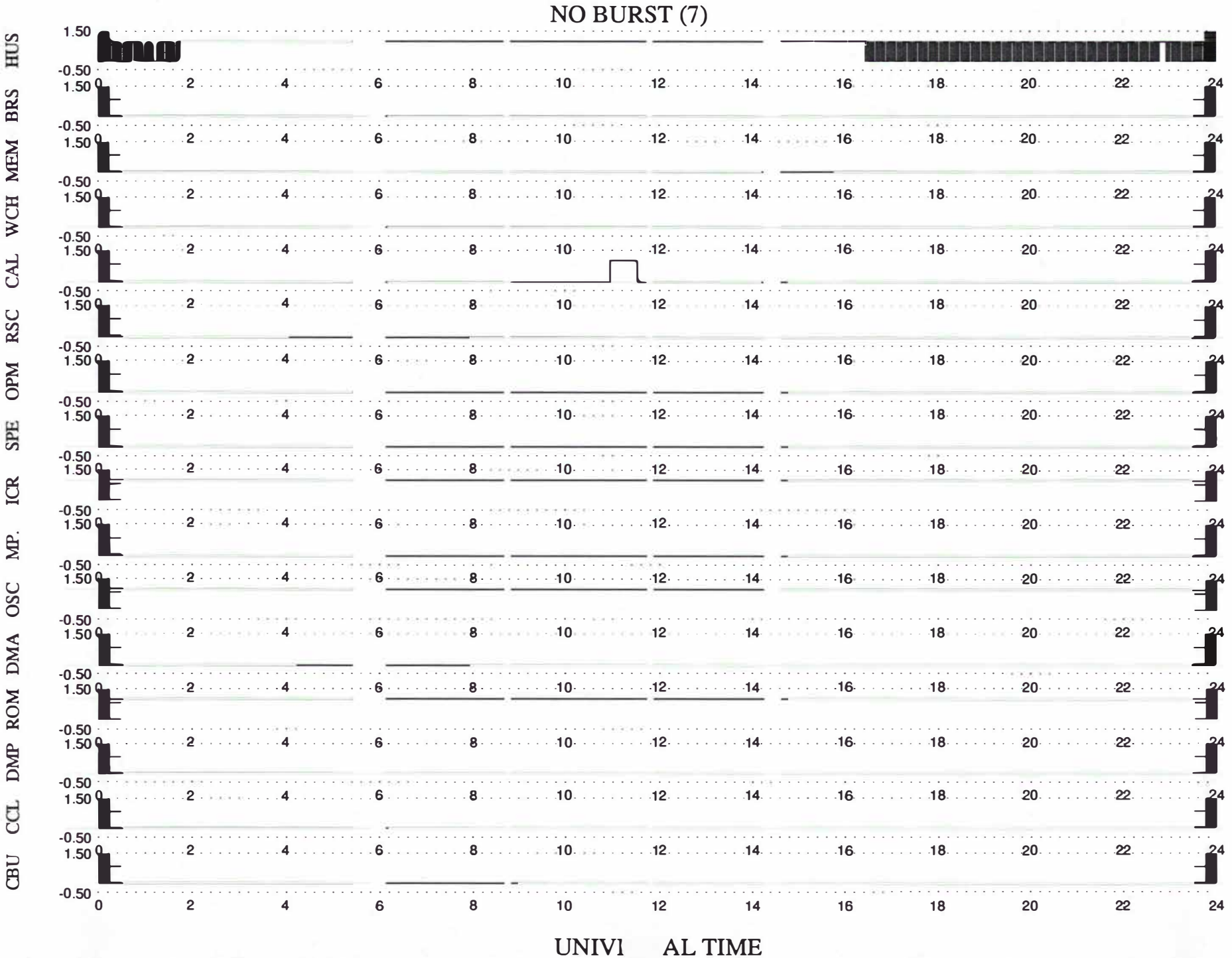


Current Time: 96/10/18, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

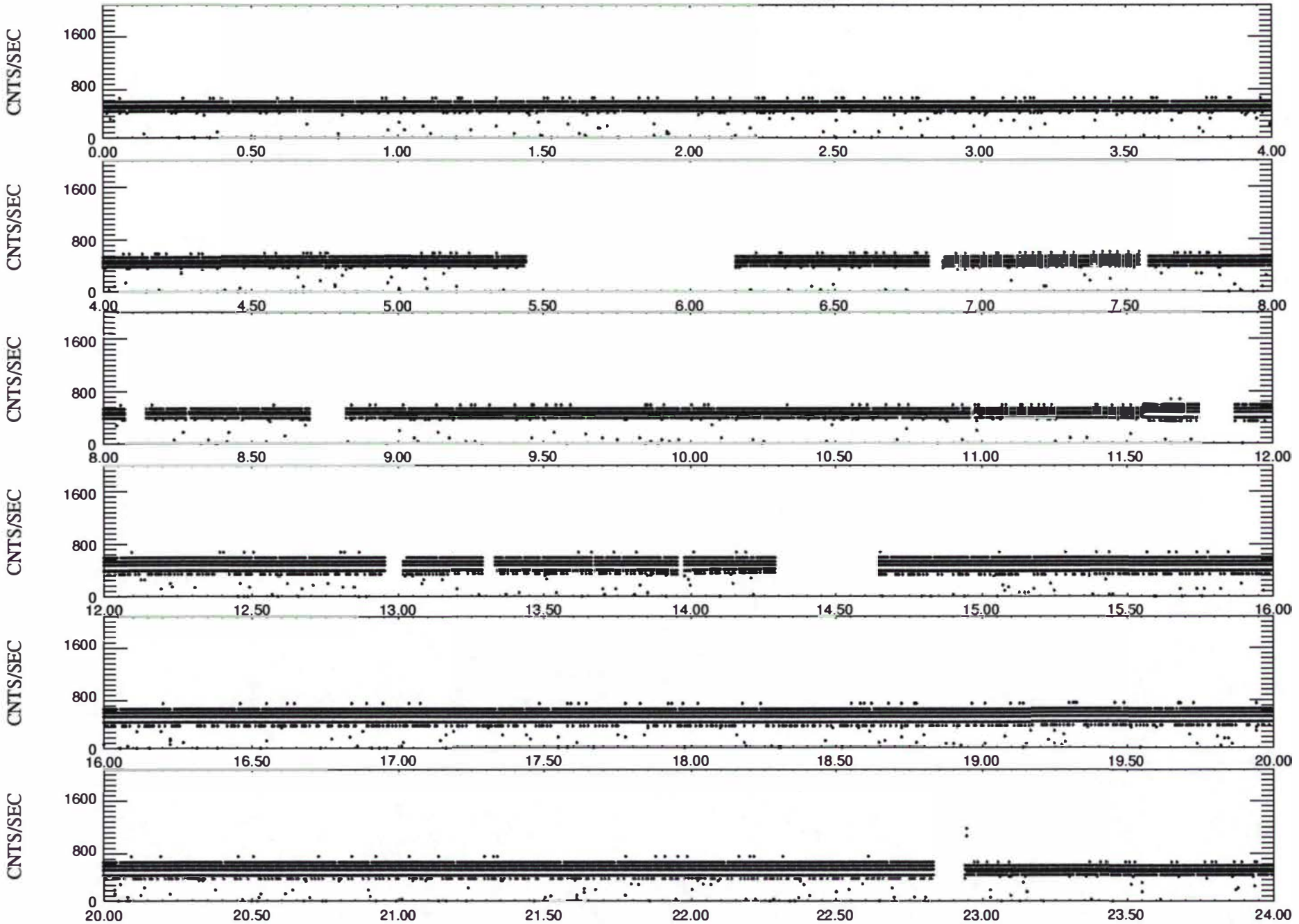
* Solar Burst Trigger
\+ Solar Flare

HUS MODES EDR day 290, year 1996 to day 290, year 1996 3/29/97



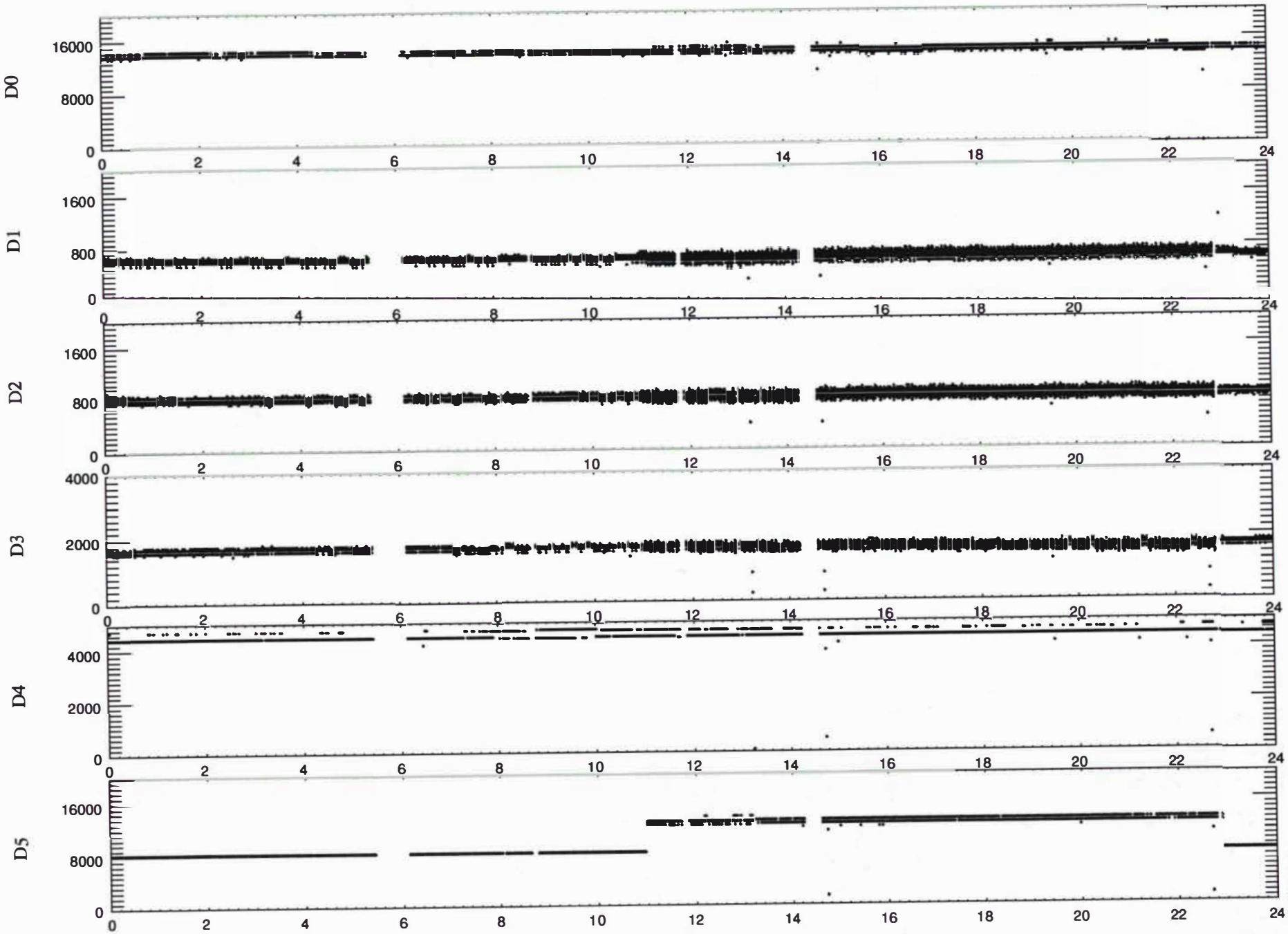
HUS 2A, MODE 1, NOT AVERAGED EDR day 290, year 1996 to day 290, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 290, year 1996 to day 290, year 1996 3/29/97



From HENZE@SSLLES.MSFC.NASA.GOV Mon Oct 21 13:14 PDT 1996
Return-Path: <HENZE@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01732; Mon, 21 Oct 1996 13:13:51 -0700
From: HENZE@SSLLES.MSFC.NASA.GOV
Date: Mon, 21 Oct 1996 15:13:38 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961021151338.24a016f6@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5633
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

NO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5633
EVENT OF 1996 OCT 17 DAY OF YEAR=291
EVENT CROSSING TIME AT BATSE : 22101. S. OR 06:08:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 115.000 -5.000
BATSE PEAK COUNTING RATE: 7200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/10/ 96 IS:
RA= 174.438 DEC= 32.258 DIST= 5.041 AU
BATSE-ULYSSES DISTANCE = 754162902. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -960.55 SECS.
CROSSING TIME AT ULYSSES IS 21140. S. OR 05:52:20 +/- 439.07 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/10/ 96 IS:
RA= 145.289 DEC= 15.363 DIST= 1.833 AU
MARS-BATSE DISTANCE = 274168736. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=143.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -737.46 SECS.
CROSSING TIME AT MARS IS 21364. S. OR 05:56:03 +/- 82.70 SECONDS

BATSE BURST TRIGGER

NO.: 5633

TIME: TJD=0373 SECONDS=22101

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=153.4 AZIMUTH=199.9 ERROR=008.1 DEGREES

COMMENTS:
DOUBLE PEAK, DUR. ~0.3 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5633	961017	10373	22101	7200	115	-05	.3

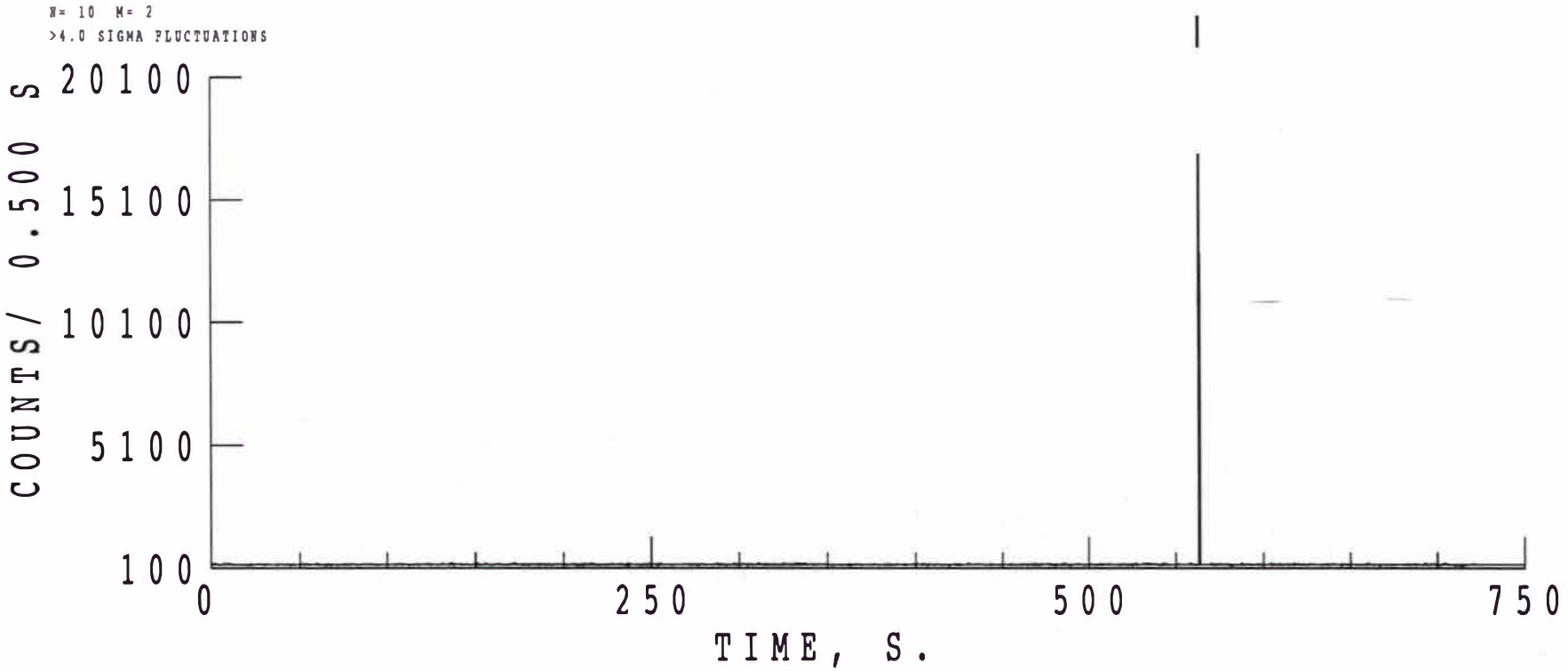
BATSE# 5633

ULYSSES RT 21/10/96

17/10/96 20700.221 s

0.250 S INTERVALS REGROUPED BY 2

0- 0 keV



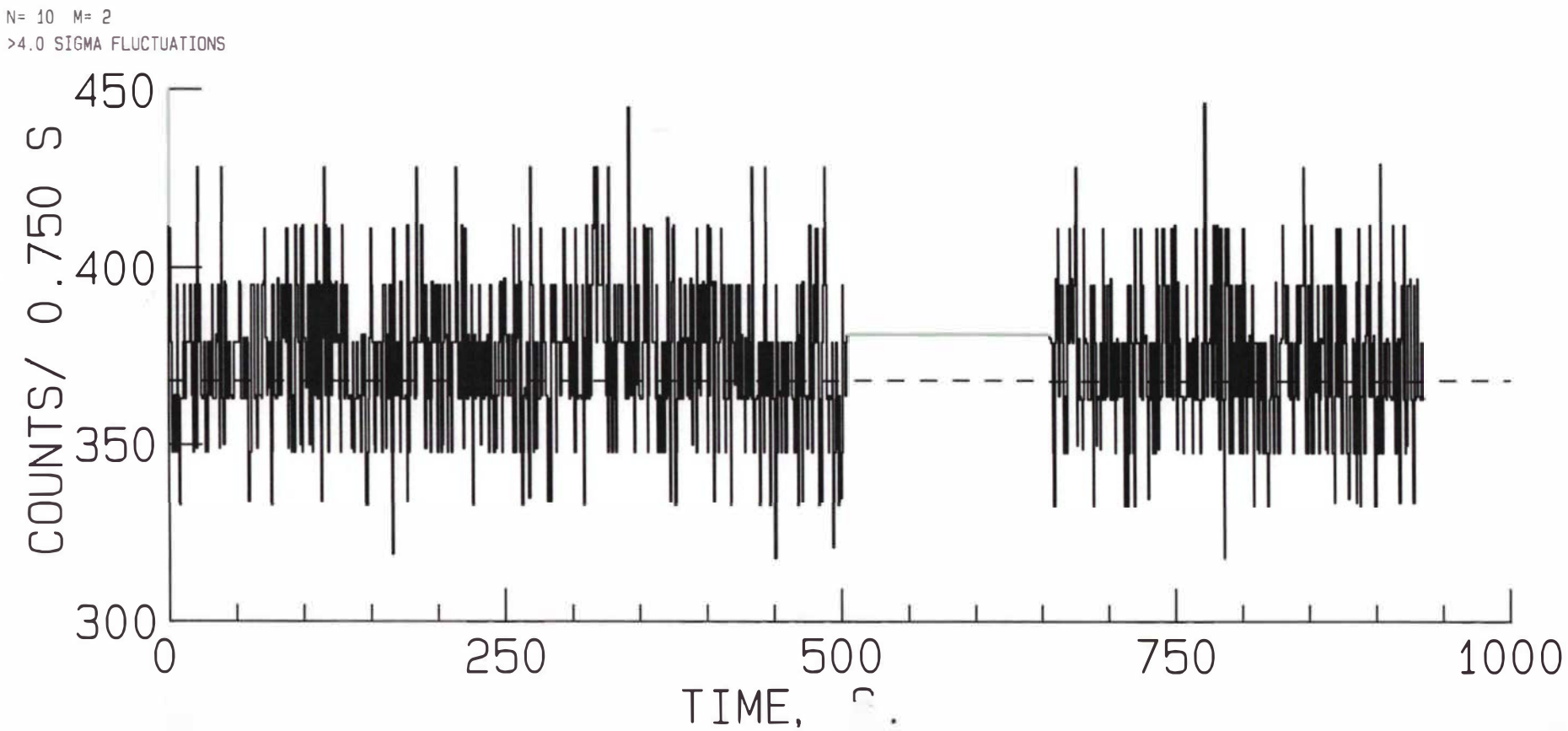
ULYSSES RT

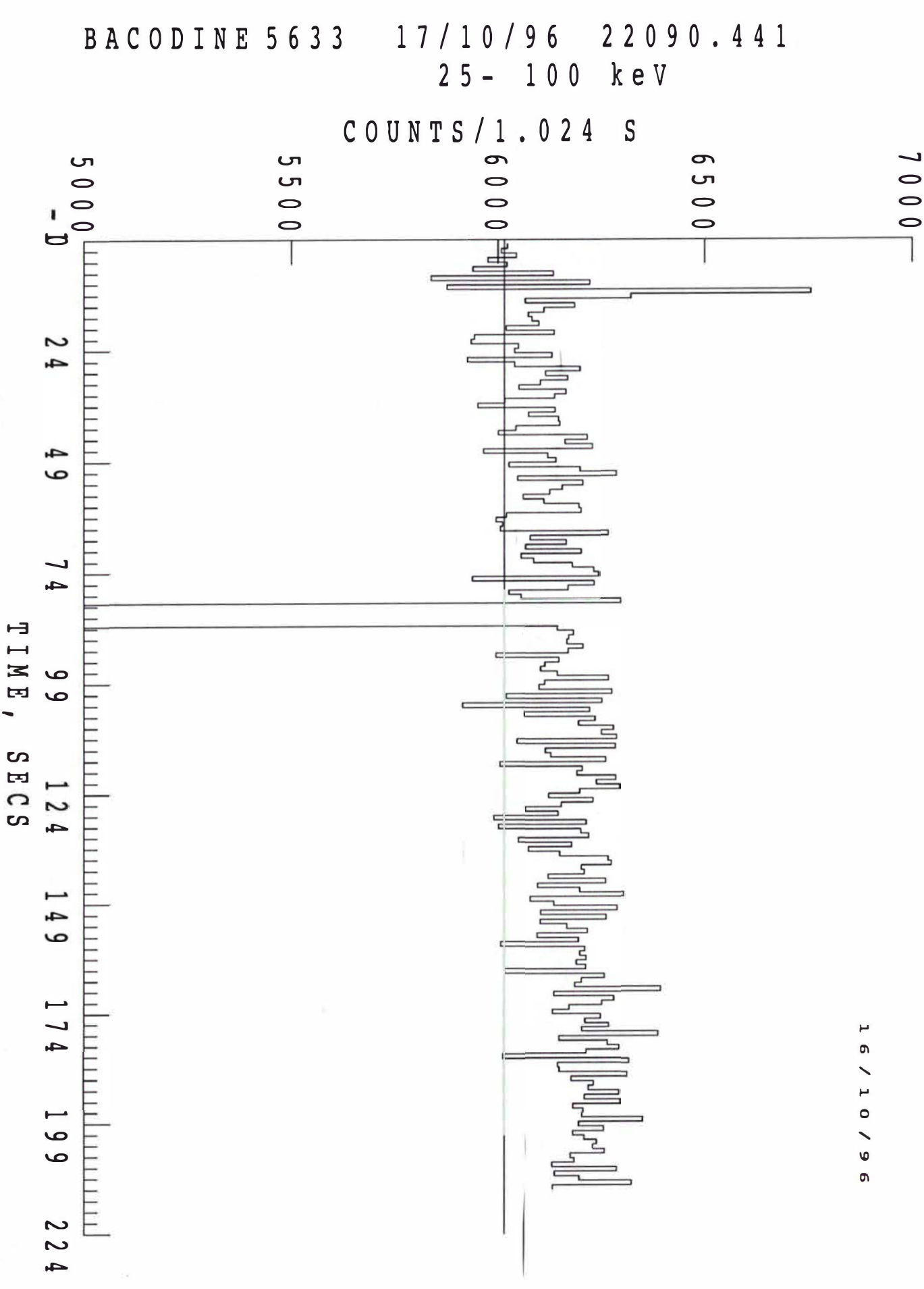
22/10/96

17/10/96 20916.224 s

0.250 S INTERVALS REGROUPED BY 3

21- 145 keV




BACODINE 5633 17/10/96 22090.441
25- 100 keV
COUNTS/1.024 S
5000
5500
6000
6500
7000
0
24
49
74
99
124
149
174
199
224
TIME, SECS
16/10/96

Date: July 2 2003

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

☐ BATSE ephemeris for T_0? N/A

☐ Error circle position and radius from public catalog used? N/A

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. NEAR Data

☐ Final, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)

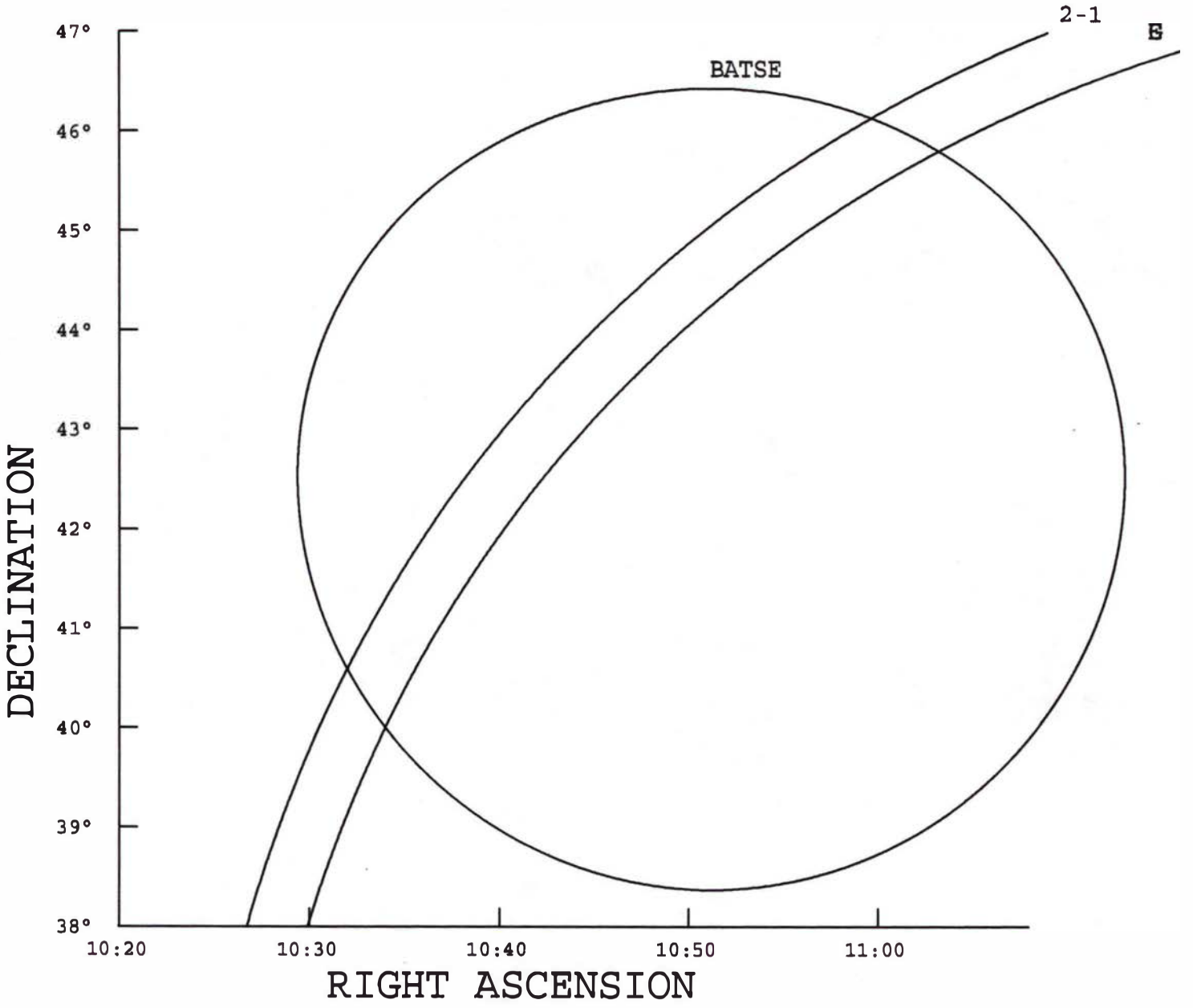
☐ BATSE >100 keV data used for NEAR correlation?

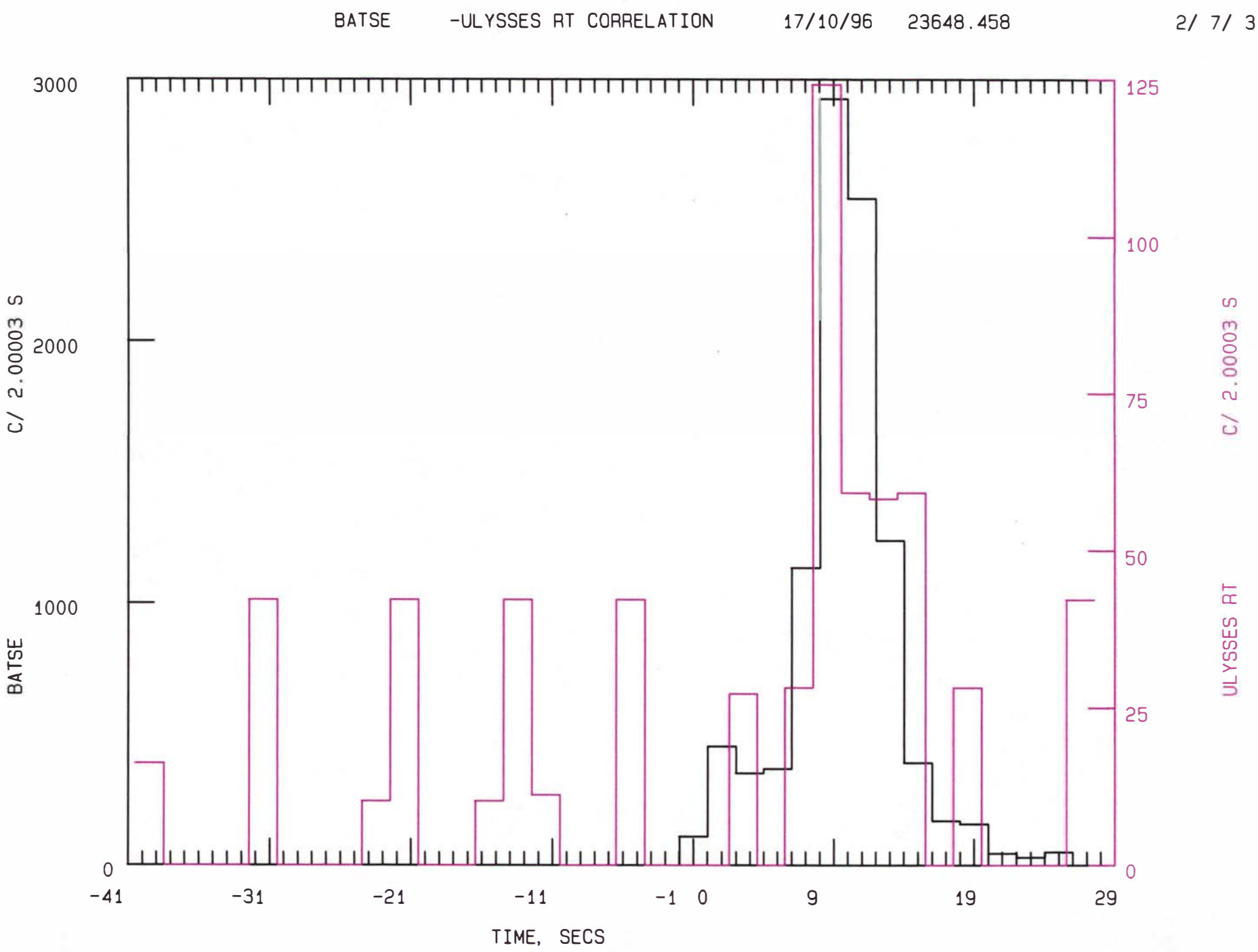
☑ ACCESS database updated?

EVENT OF OCT 17, 1996 6:34

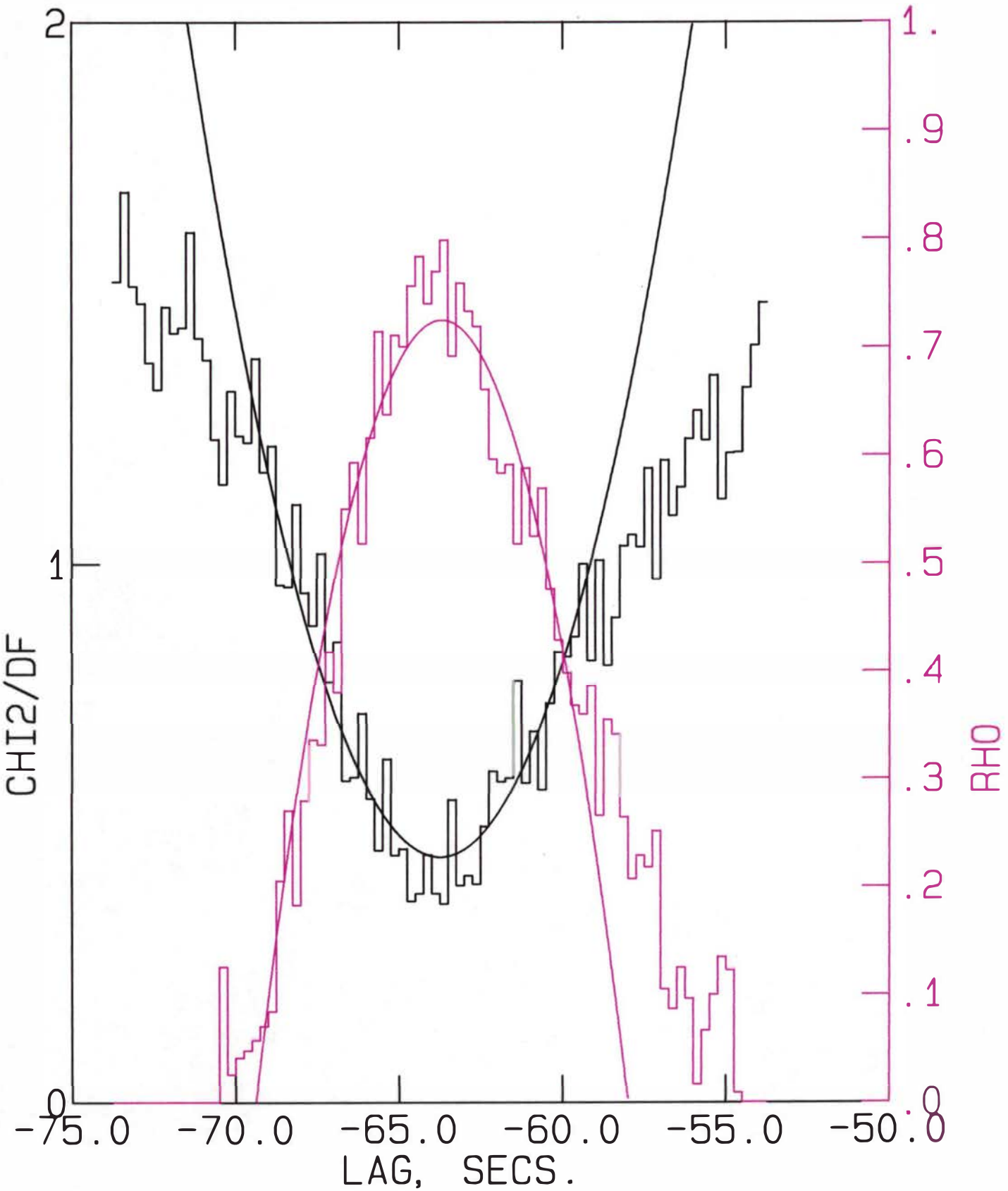
2/ 7/ 3

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 BATSE 2 ULYSSES




BATSE -ULYSSES RT CORRELATION 17/10/96 23648.458 2/ 7/ 3
3000
2000
1000
0
C/ 2.00003 S
BATSE
125
100
75
50
25
0
C/ 2.00003 S
ULYSSES RT
-41
-31
-21
-11
-1
0
9
19
29
TIME, SECS

BATSE -ULYSSES RT CORRELATION 17/10/96 23648.458

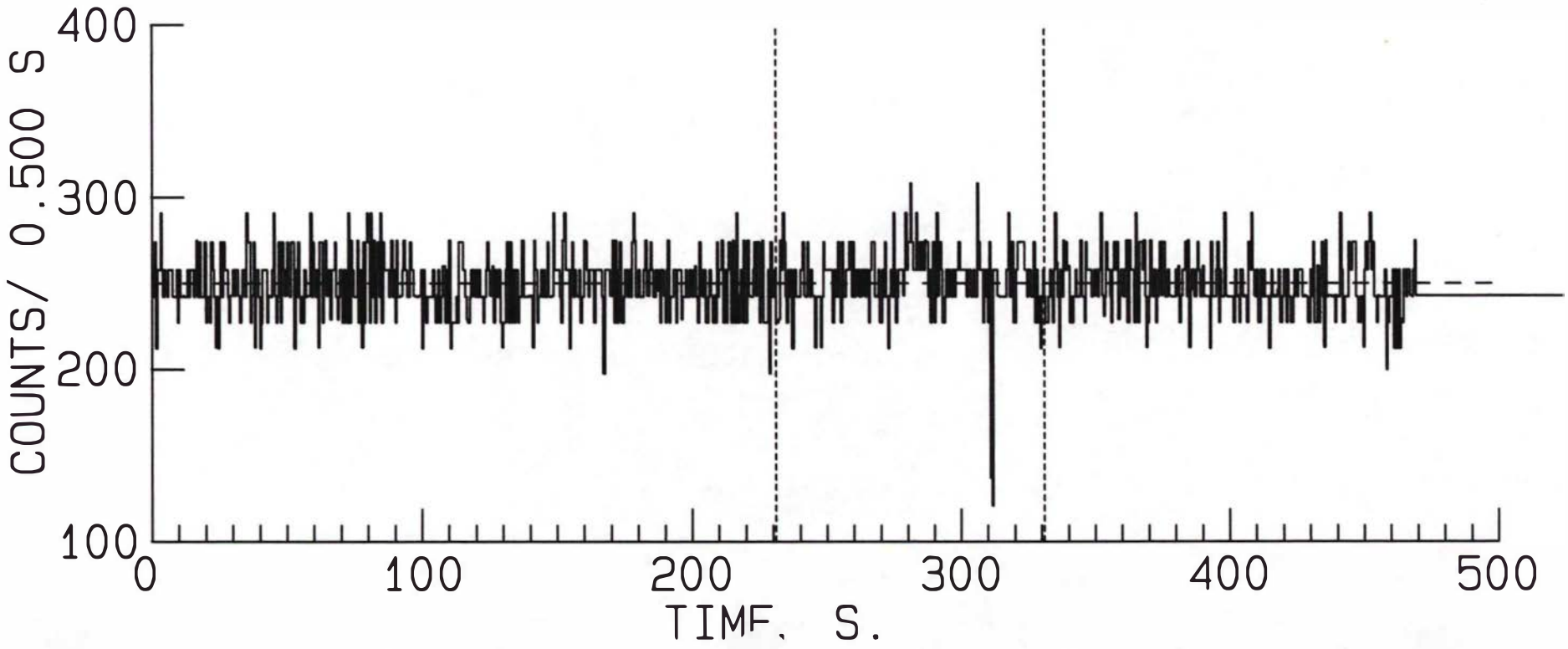


ULYSSES RT 2/ 7/ 3

17/10/96 20952.225 s

0.250 S INTERVALS REGROUPED BY 2

21- 146 keV



From HENZE@SSLLES.MSFC.NASA.GOV Mon Oct 21 13:15 PDT 1996
Return-Path: <HENZE@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01770; Mon, 21 Oct 1996 13:15:15 -0700
From: HENZE@SSLLES.MSFC.NASA.GOV
Date: Mon, 21 Oct 1996 15:15:05 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961021151505.24a016f6@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5634
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

RI

****
BATSEARCH PROGRAM
****

BATSE BURST # 5634
EVENT OF 1996 OCT 17 DAY OF YEAR=291
EVENT CROSSING TIME AT BATSE : 40603. S. OR 11:16:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 37.000 -11.000
BATSE PEAK COUNTING RATE: 16700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/10/ 96 IS:
RA= 174.470 DEC= 32.245 DIST= 5.040 AU
BATSE-ULYSSES DISTANCE = 753948184. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 44.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1794.70 SECS.
CROSSING TIME AT ULYSSES IS 42398. S. OR 11:46:37 +/- 383.12 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/10/ 96 IS:
RA= 145.289 DEC= 15.363 DIST= 1.833 AU
MARS-BATSE DISTANCE = 274168736. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.66 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 317.88 SECS.
CROSSING TIME AT MARS IS 40921. S. OR 11:22:00 +/- 153.70 SECONDS

BATSE BURST TRIGGER
NO.: 5634

TIME: TJD=0373 SECONDS=40603

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=090.1 AZIMUTH=139.0 ERROR=002.9 DEGREES

COMMENTS:
SINGLE PULSE WITH SUBSTRUCTURE, DUR. ~1.4 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5634	961017	10373	40603	16700	037	-11	1.4

From cline@apache.gsfc.nasa.gov Mon Dec 23 08:53 PST 1996
Date: Mon, 23 Dec 1996 08:53:37 -0800
Mime-Version: 1.0
To: park@kabul.s1.gov
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: THE EVENT OF 96 OCT 17

Dear Hye-Sook,

The Ulysses-to-CGRO network arc (that I said I would reanalyze for
the event of October 17th) has the following coordinates (J2000):

Annulus center at RA = 354.974 Dec = -32.028 with radius = 40.764 and
an overconservative measure of the thickness is +/- 0.026 degrees or
+/- 1.5 arc minutes - possibly only +/- 0.75 arc minutes, realistically.

This can be improved in two ways, by further analysis which would reduce
the thickness somewhat, and by use of the Konus data, which would give
an annular segmaent that could be checked to fit inside the BATSE region.

Please let me know your candidate's coordinates. I will of course be able
to tell how far off it is from the ring median.

TLC

-- T. L. Cline ----- cline@apache.gsfc.nasa.gov

Park et al Texas Symp. Poster 1996

LOTIS results on BATSE 5-634

11s delay between GRB + obscuration

$m_{Lim} = 14$ in IPN/BATSE position

From woosley Mon Dec 2 12:57:56 1996
Return-Path: <woosley>
Received: from banzai.ucolick.org by helios.ucolick.org (helios.ucolick.org) (4.1/SMI-4.1)
id AA11332; Mon, 2 Dec 96 12:57:55 PST
Received: woosley (Stan Woosley)
Received: (woosley@localhost) by banzai.ucolick.org (8.6.10/8.6.10) id MAA13732; Mon, 2 Dec 1996
Date: Mon, 2 Dec 1996 12:58:40 -0800
Message-Id: <199612022058.MAA13732@banzai.ucolick.org>
To: grr@space.mit.edu
Subject: lotis results and hete-2
Cc: woosley@helios.ucolick.org
Status: RO

Dear George,

You may want to distribute this to the best of the team. I just spoke with HySook Park at LLNL about some recent LOTIS results (Livermore Optical Transient Imaging Search, I think). There has been a schism between LLNL and Akerlof (Michigan). LLNL has a new name and operates separately. However their new rapidly slewable telescope is giving very interesting results of great relevance for HETE.

Burst trigger 5634, a GRB that lasted 5 sec, was aquired 15 s after the onset of the burst and in 5 s (I believe) an optical limit of 13th magnitude was placed. This will be announced at the Chicago meeting. LOTIS has a FOV of about 17 degrees. They expect to aquire about 18 BATSE boxes per year 3 to 6 of which should be in progress when they are observed and will have detections or 13 - 14 mag limits. Thus by the time HETE 2 flies there might already be 10 or more 14th magnitude upper limits on GRB's or else an actual detection.

I believe that this significantly impacts our scientific planning for HETE-2 as these facts will be known to the review committees by the time we get there.

One thing I discussed with Hysook was the possibility of manufacturing 10 or more LOTIS instruments optimized for HETE's FOV and distributed world wide. We thought this might be done for $1 M. These telescopes could get to 18 to 19th magnitude in 5 sec and be on the burst as it was happening.

Without this kind of capability I'm beginning to wonder just what the single unique selling feature of HETE is. I know others will too.

Concerned in Santa Cruz,

Stan

PS

Hysook gave me permission to share this information with the team but it should not be distributed widely or used in any publication just yet.

From khurley@sunspot Wed Dec 4 11:05 PST 1996
Return-Path: <khurley@sunspot>
Received: from scylla.berkeley.edu by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA28138; Wed, 4 Dec 1996 11:05:43 -0800
Received: by scylla.berkeley.edu (SMI-8.6/SMI-SVR4)

id LAA25358; Wed, 4 Dec 1996 11:10:11 -0800
Date: Wed, 4 Dec 1996 11:10:11 -0800
From: khurley@sunspot (Kevin Hurley)
sage-Id: <199612041910.LAA25358@scylla.berkeley.edu>
woosley@helios.ucsc.edu, khurley@sunspot
Subject: LOTIS result
Cc: efenimore@lanl.gov, GRR@SPACE.MIT.EDU, lamb@pion.uchicago.edu
X-Sun-Charset: US-ASCII
Content-Type: text
Content-Length: 614
X-Lines: 14
Status: RO

Dear Stan,

The LOTIS result is a non-starter as far as I am concerned.
This burst lasted only about ONE second (not 5), and getting there
15 seconds later is as good as a day late (and a dollar short). Furthermore,
the IPN arc just grazes the BATSE error circle, so there is a chance
they may not have looked in the right place.

This kind of effort holds promise, all right, but given the large
BACODINE error circles, I still think that it has very little competition
with HETE. On the contrary, to have it around when HETE is returning
small error boxes in real time will be interesting and valuable.

Kevin

Helio corr removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

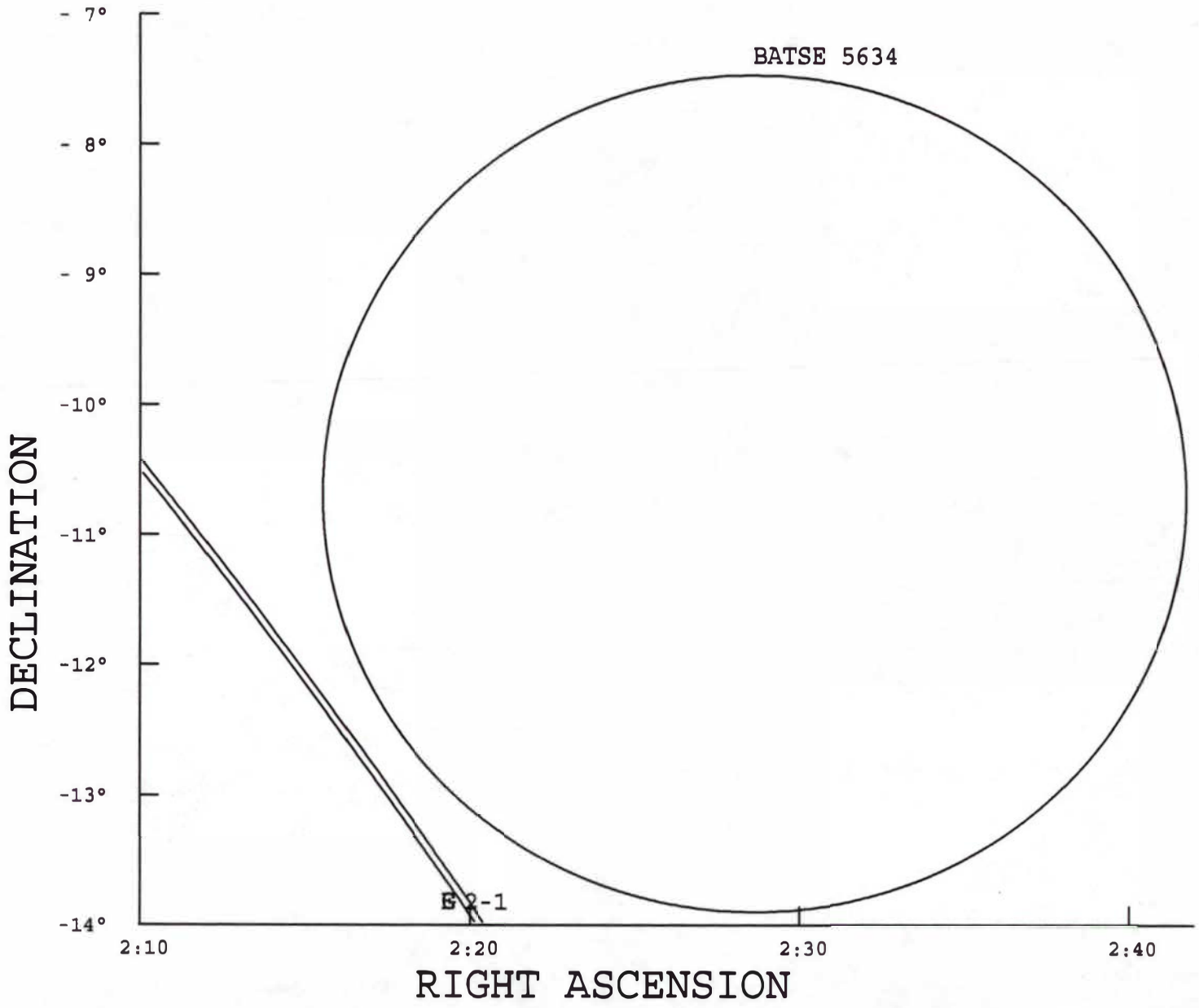
☐ Geocentric time used?

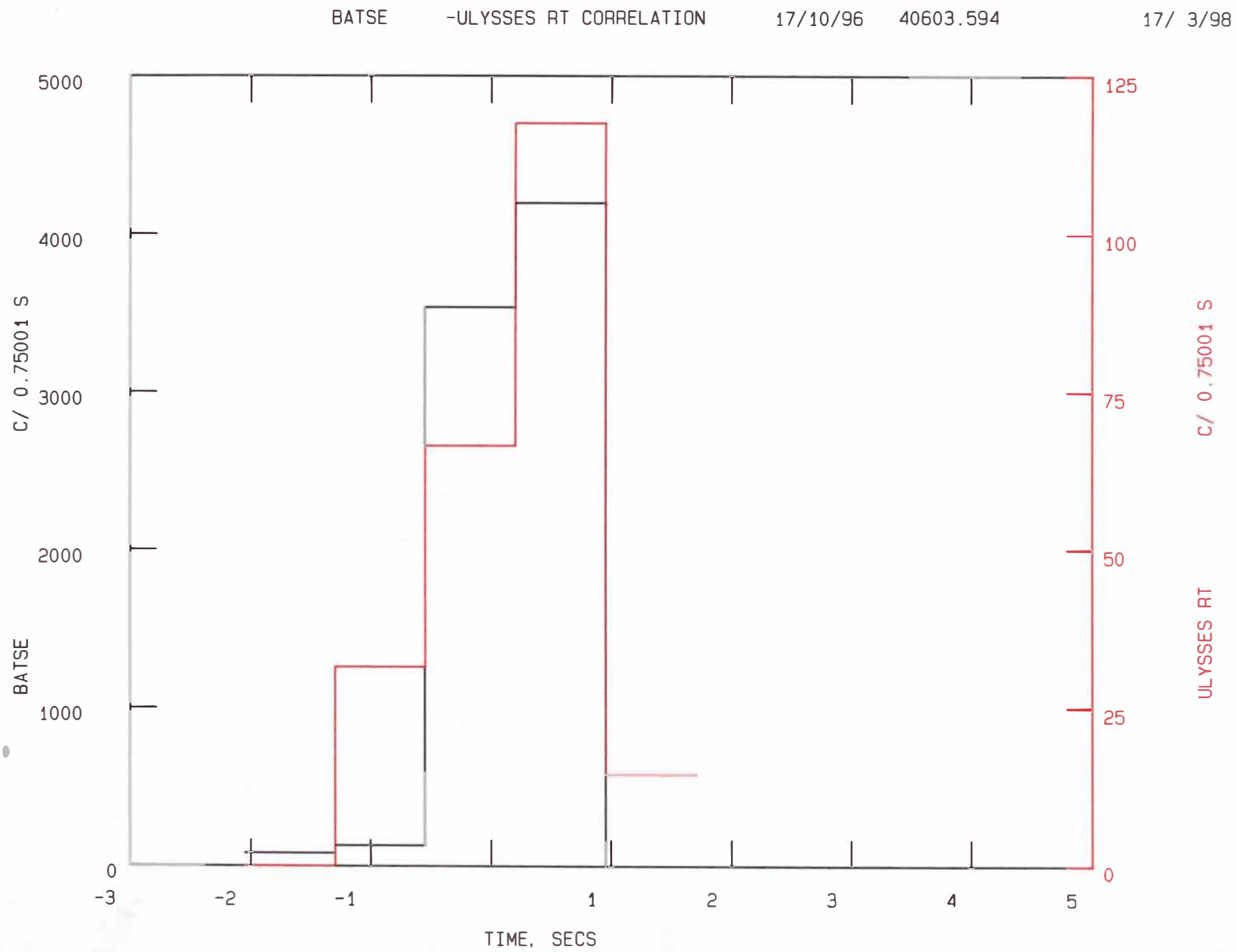
☑ ACCESS database updated?

EVENT OF OCT 17, 1996 11:47

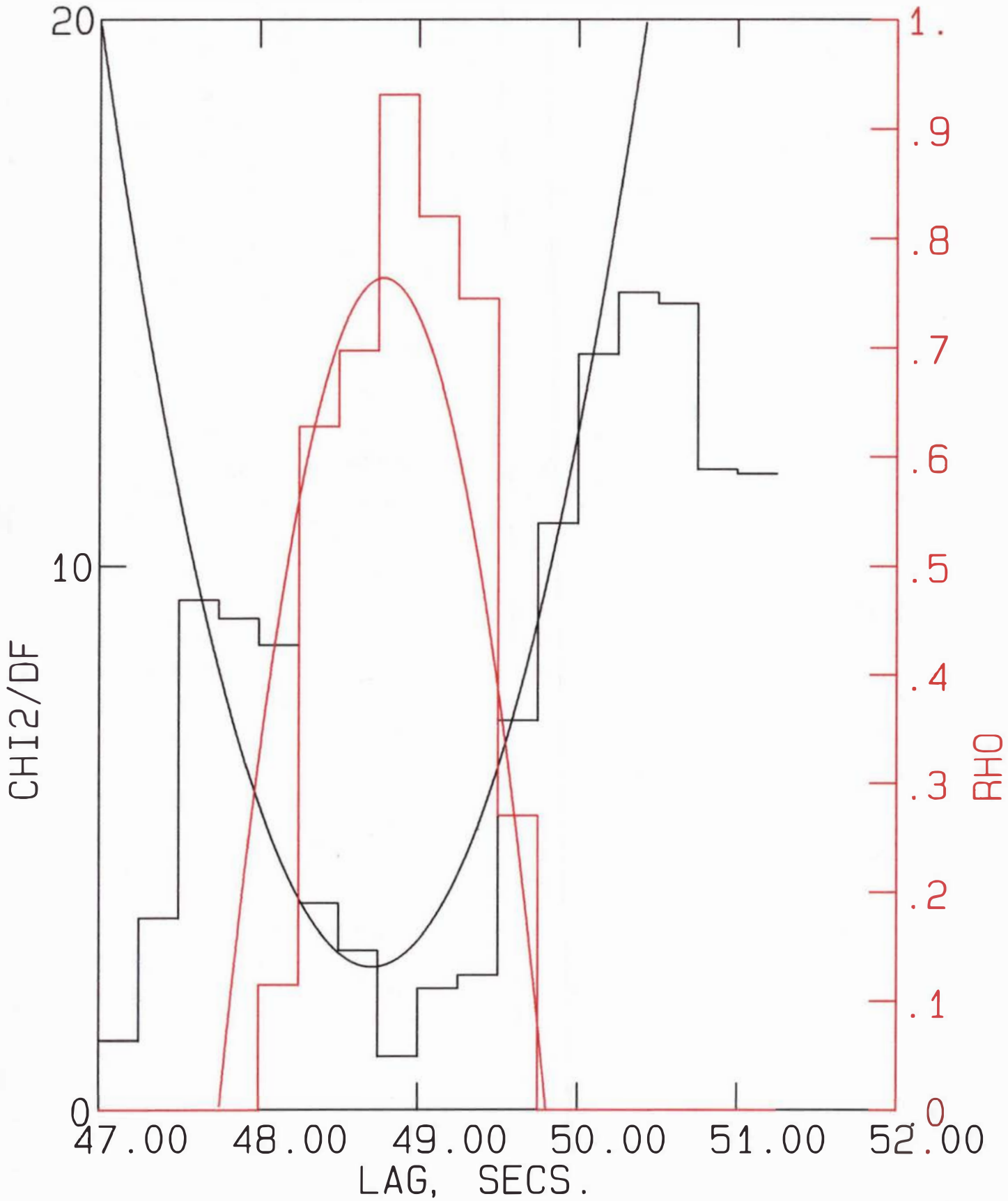
17/ 2/ 0

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE




BATSE -ULYSSES RT CORRELATION 17/10/96 40603.594 17/ 3/98
5000
4000
3000
2000
1000
0
C/ 0.75001 S
BATSE
125
100
75
50
25
0
C/ 0.75001 S
ULYSSES RT
-3
-2
-1
1
2
3
4
5
TIME, SECS

BATSE -ULYSSES RT CORRELATION 17/10/96 40603.594



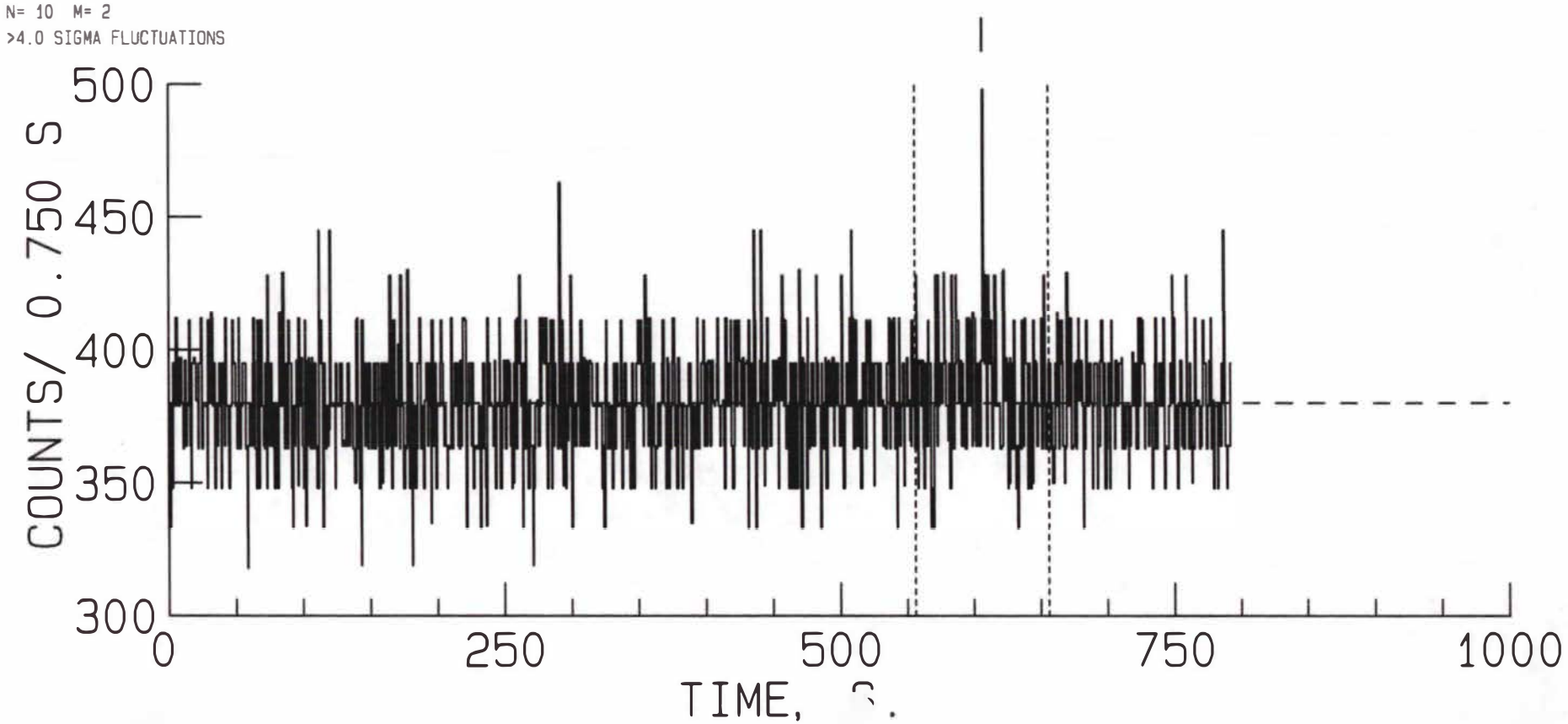
ULYSSES RT

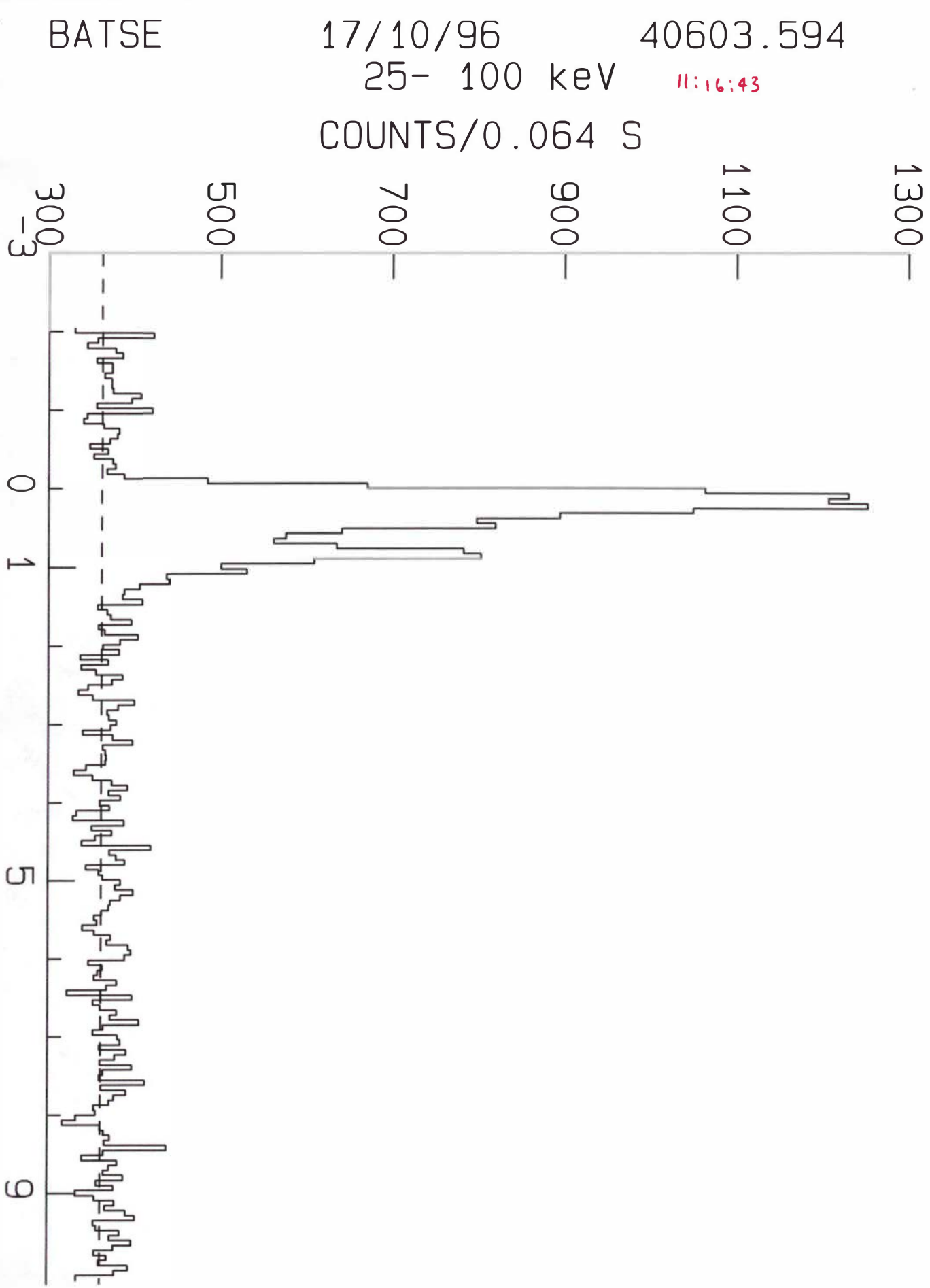
17/ 3/98

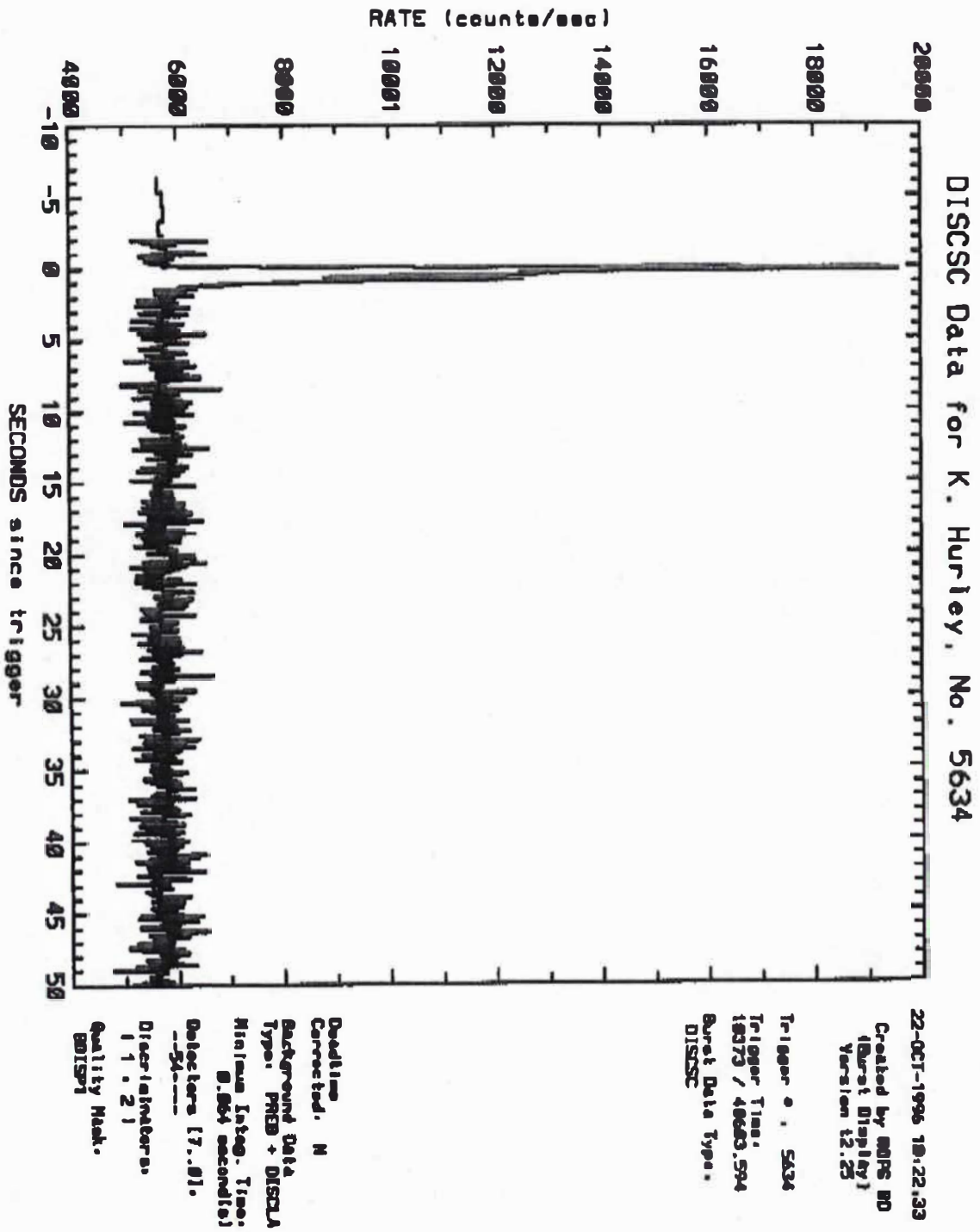
17/10/96 41904.237 s

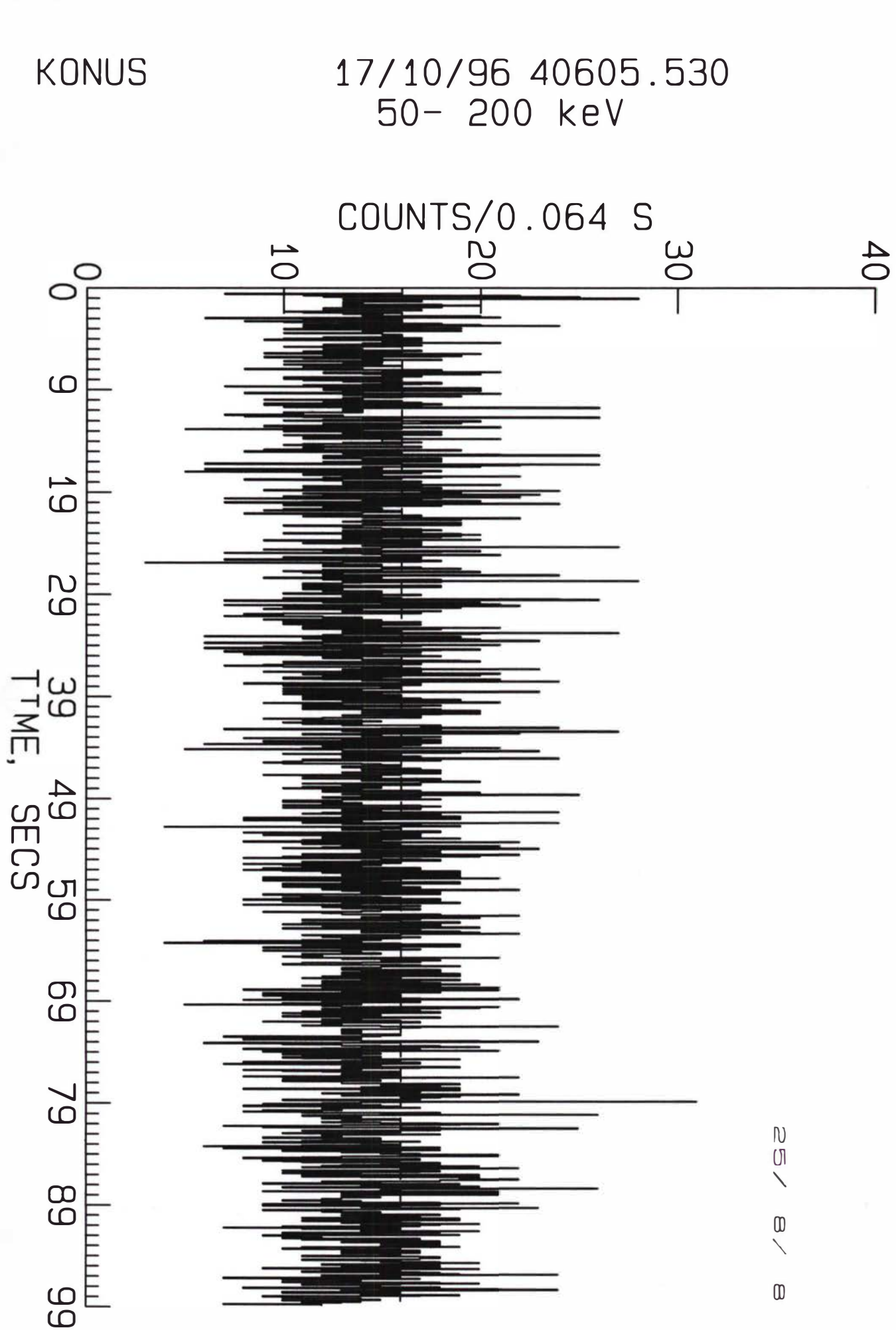
0.250 S INTERVALS REGROUPED BY 3

21- 146 keV




BATSE
17/10/96
40603.594
25- 100 keV
11:16:43
COUNTS/0.064 S
300
500
700
900
1100
1300
-3
0
1
5
9
22/10/96


DISCSC Data for K. Hurley, No. 5634
RATE (counts/sec)
20000
18000
16000
14000
12000
10001
8000
6000
4000
-10 -5 0 5 10 15 20 25 30 35 40 45 50
SECONDS since trigger
22-OCT-1996 10:22.33
Created by RSPS RD
(Burst Display)
Version 12.23
Trigger # : 5634
Trigger Time:
18373 / 49683.594
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds)
Detectors [7..0]:
--54----
Discriminators:
[1 . 2]
Quality Mask:
BDISP1


KONUS
17/10/96 40605.530
50- 200 keV
COUNTS/0.064 S
0
10
20
30
40
0
9
19
29
39
49
59
69
79
89
99
TIME, SECS
25/ 8/ 8

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	Search ± 2500	
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
6	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	Search ± 2500	
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	Search ± 2500	
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	Search ± 2600	
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	Search ± 2600	
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	Search ± 2600	
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	Search ± 2600	
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	Search ± 2600	
96	10	17	42405.539	S1					0.3	1.5	396	~~Search ± 2600~~	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	Search ± 2600	
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	Search ± 2600	
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	Search ± 2600	
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	Search ± 2600	
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	Search ± 2600	

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Search	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

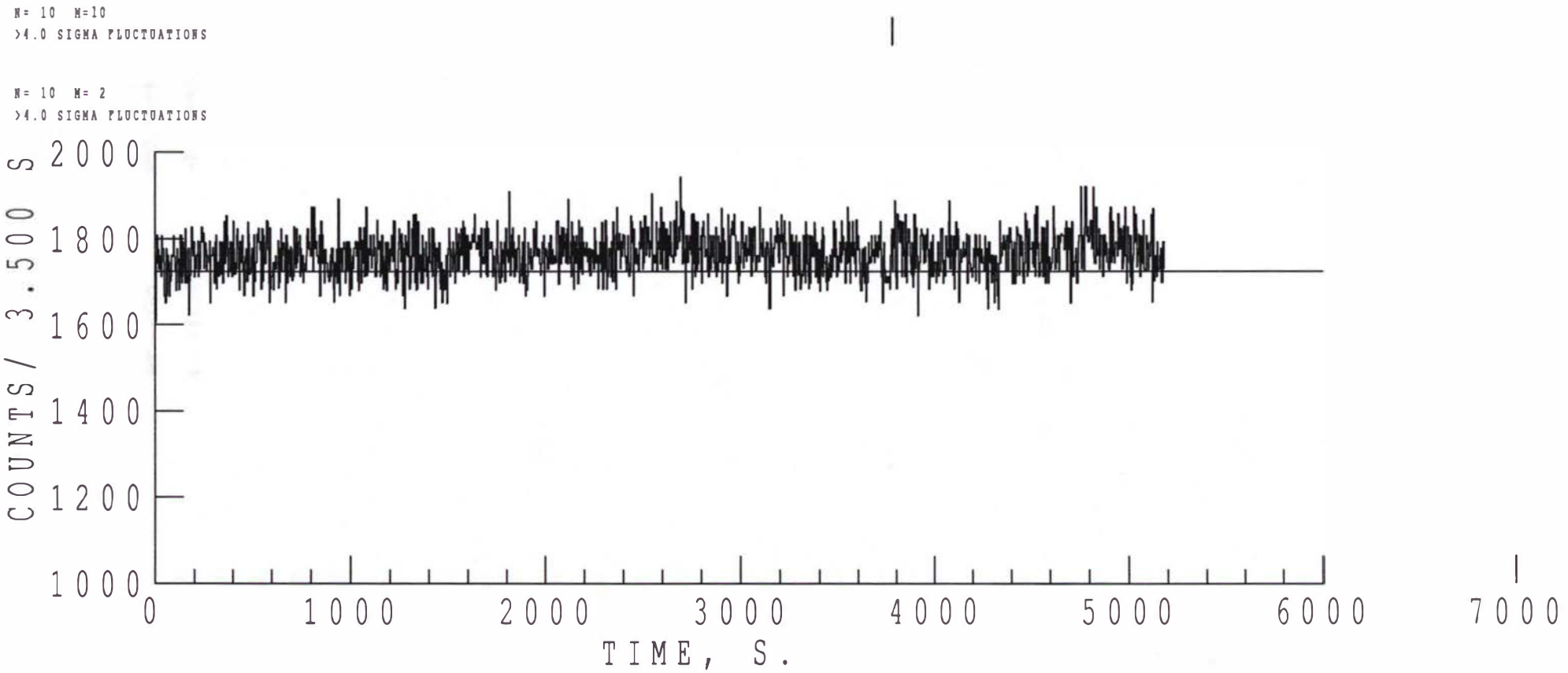
KONUS 37

ULYSSES RT 25/11/96

17/10/96 39816.211 s

0.250 S INTERVALS REGROUPED BY 14

0- 0 keV



From HENZE@SSLLES.MSFC.NASA.GOV Mon Oct 21 13:17 PDT 1996
Return-Path: <HENZE@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01816; Mon, 21 Oct 1996 13:17:26 -0700
From: HENZE@SSLLES.MSFC.NASA.GOV
Date: Mon, 21 Oct 1996 15:16:27 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961021151627.24a016f6@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5635
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

No

****
BATSEARCH PROGRAM
****

BATSE BURST # 5635
EVENT OF 1996 OCT 17 DAY OF YEAR=291
EVENT CROSSING TIME AT BATSE : 54183. S. OR 15:03:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 287.000 32.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/10/ 96 IS:
RA= 174.494 DEC= 32.236 DIST= 5.039 AU
BATSE-ULYSSES DISTANCE = 753789322. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 90.46 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -20.31 SECS.
CROSSING TIME AT ULYSSES IS 54163. S. OR 15:02:42 +/- 486.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/10/ 96 IS:
RA= 145.289 DEC= 15.363 DIST= 1.833 AU
MARS-BATSE DISTANCE = 274168736. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 59.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 458.60 SECS.
CROSSING TIME AT MARS IS 54642. S. OR 15:10:41 +/- 144.34 SECONDS

BATSE BURST TRIGGER

NO.: 5635

TIME: TJD=0373 SECONDS=54183

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=023.2 AZIMUTH=309.8 ERROR=006.8 DEGREES

COMMENTS:
DUR. ~30 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5635	961017	10373	54183	4500	287	+32	30

BATSE# 5635

ULYSSES RT 21/10/96

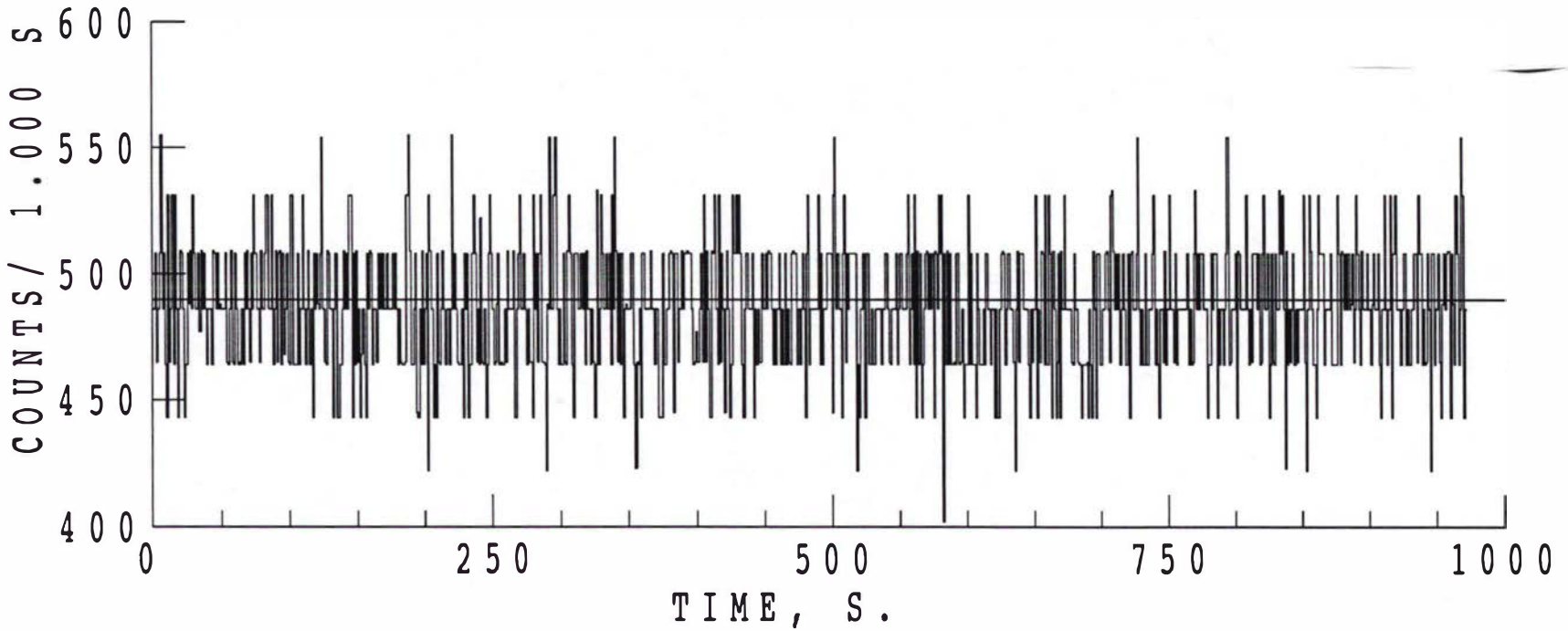
17/10/96 53676.137 s

0.500 S INTERVALS REGROUPED BY 2

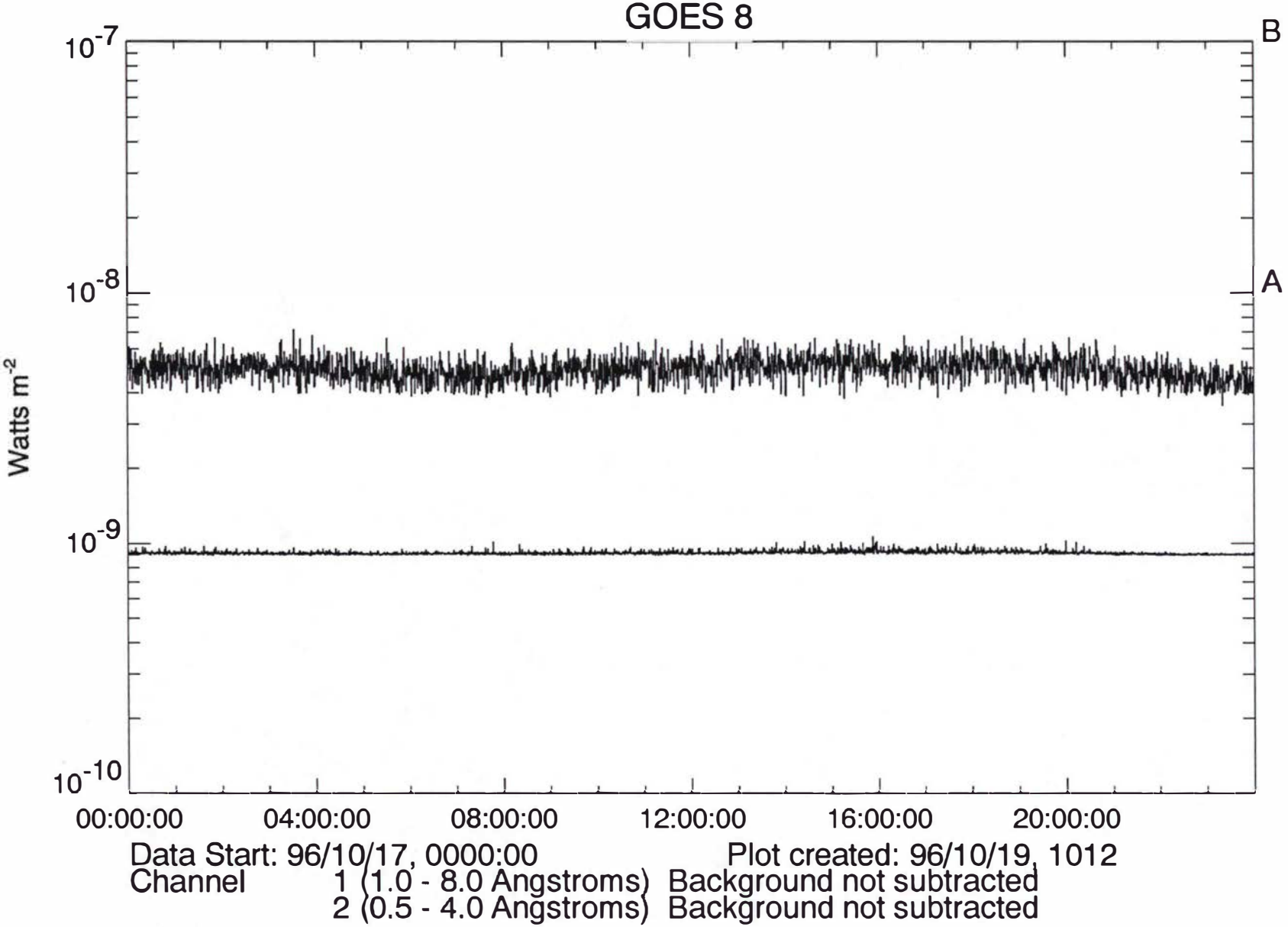
0- 0 keV

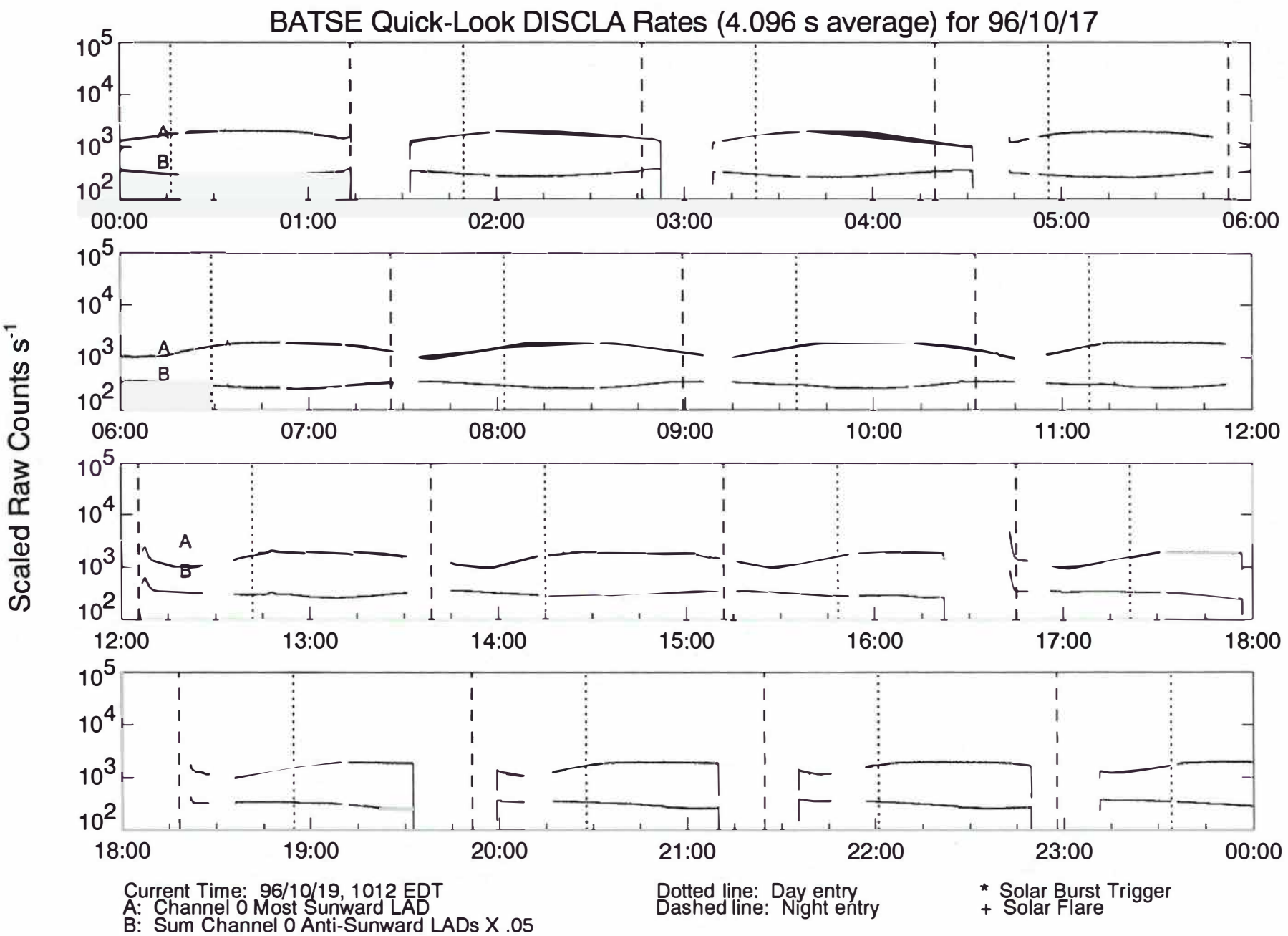
N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

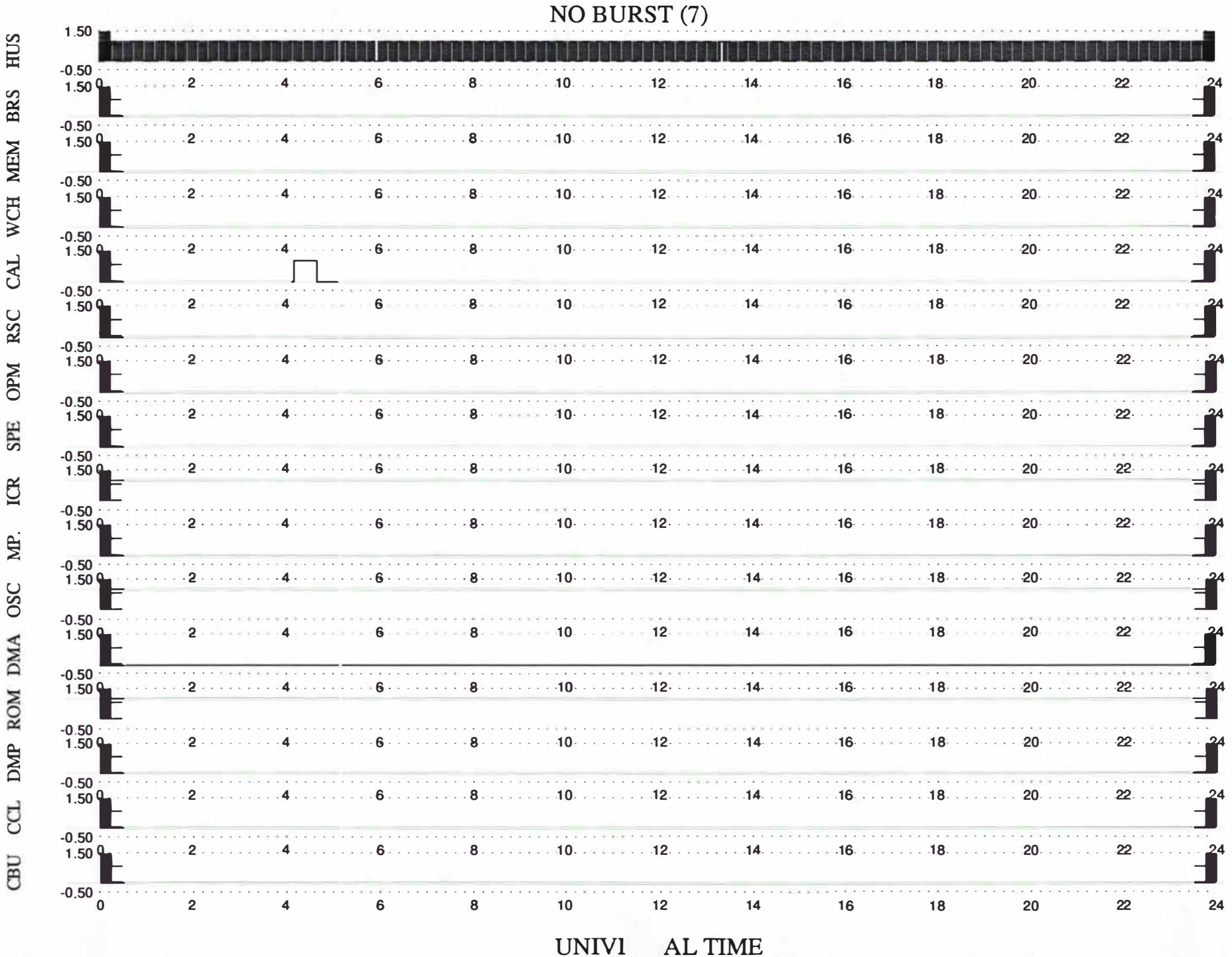


1


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/17, 0000:00
Plot created: 96/10/19, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

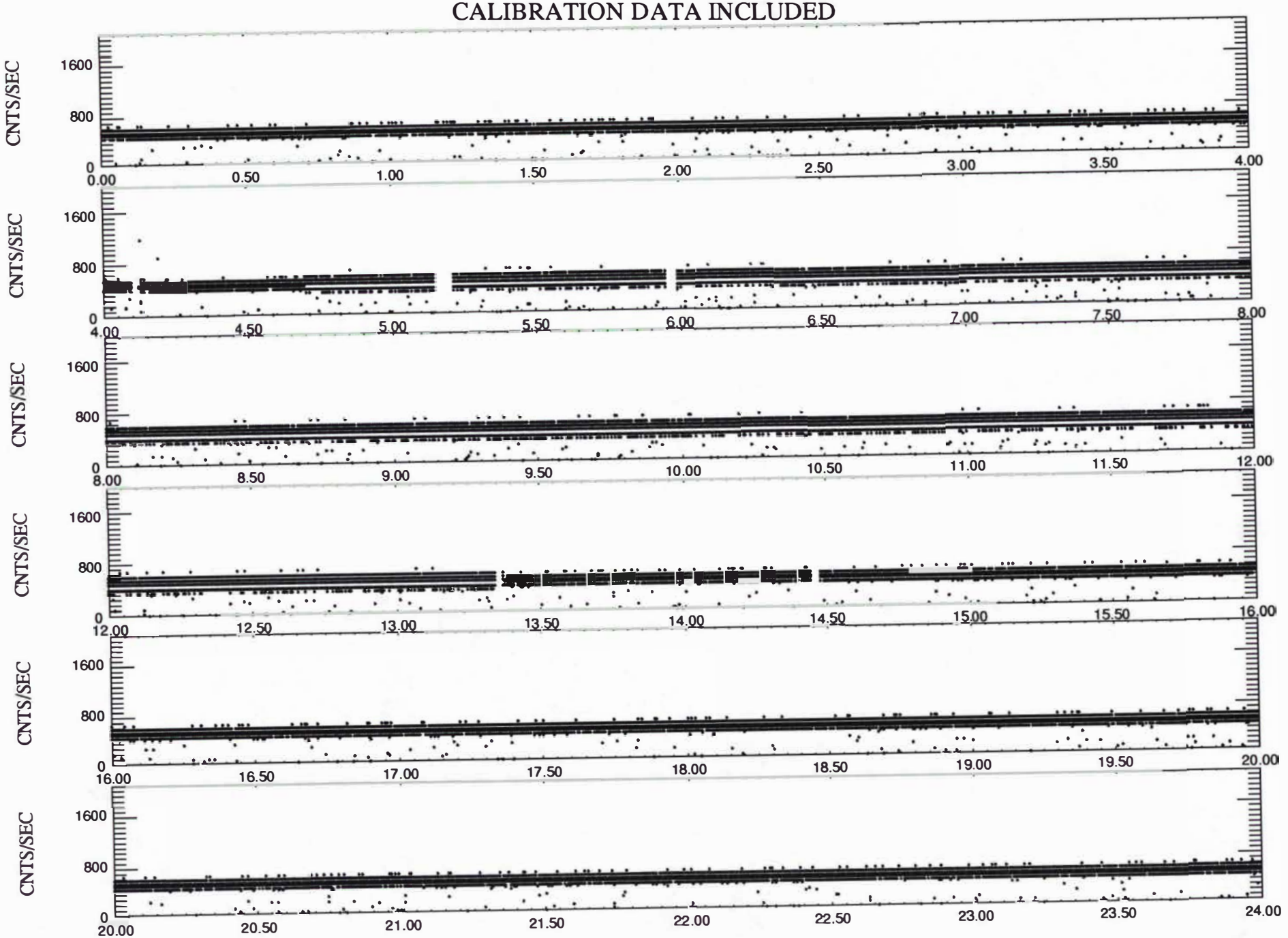

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/17
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/19, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 291, year 1996 to day 291, year 1996 3/29/97



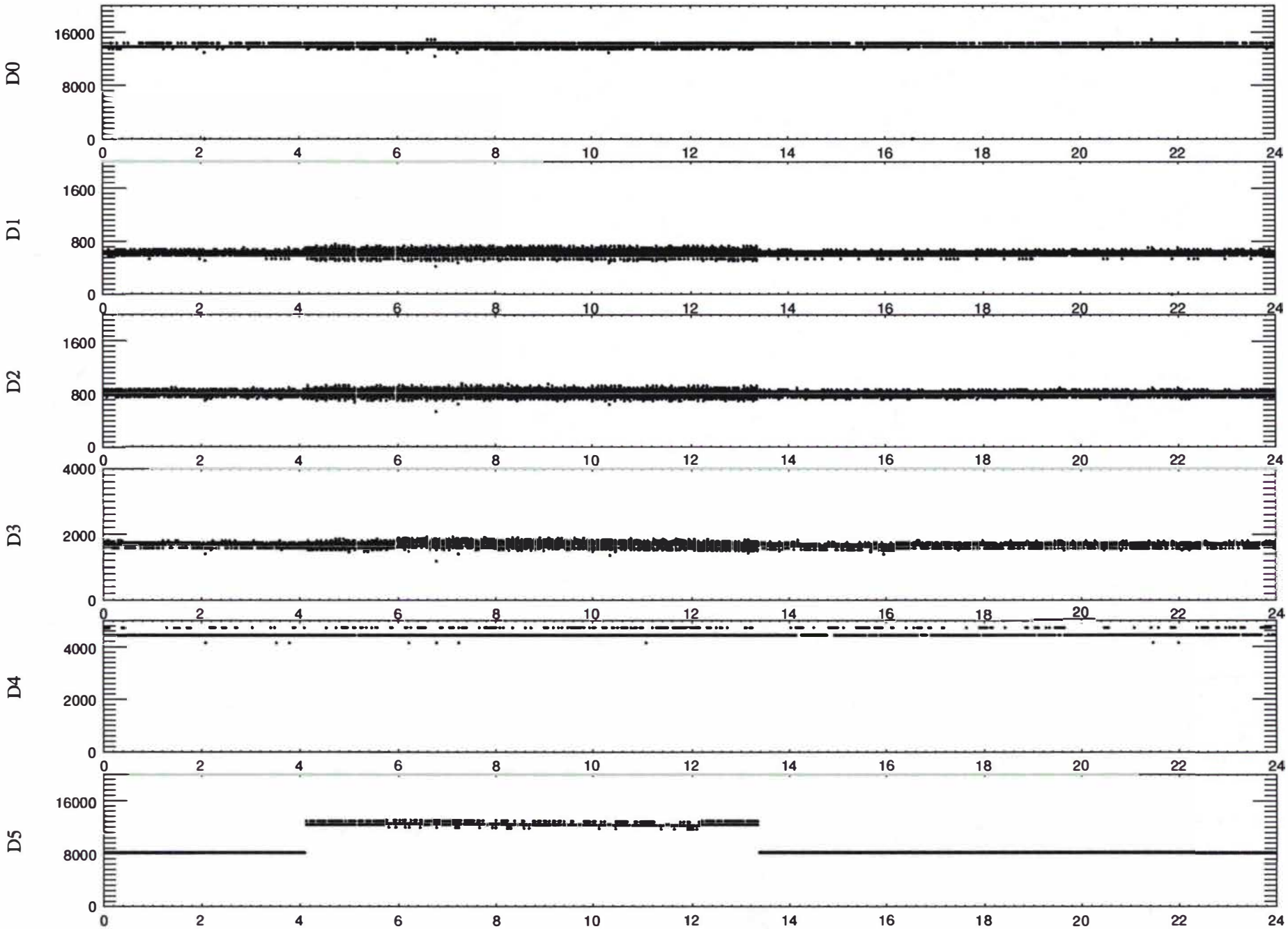
HUS 2A, MODE 1, NOT AVERAGED EDR day 291, year 1996 to day 291, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 291, year 1996 to day 291, year 1996 3/29/97



From jeanz@tgrosf.gsfc.nasa.gov Wed Oct 23 06:14 PDT 1996
From: "Jean in 't Zand" <jeanz@tgrosf.gsfc.nasa.gov>
Subject: GRB 961018 - Re
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
   e: Wed, 23 Oct 1996 09:14:37 -0400 (EDT)
  : bonnard@rosserv.gsfc.nasa.gov (Bonnard Teegarden)
Mime-Version: 1.0
Content-Transfer-Encoding: 7bit

Dear Kevin,

TGRS did not trigger on any burst on Oct. 18, 1996. The highest resolution we
get in waiting mode at this time is 0.37 s for 100 to 300 keV channel, we
don't see any significant deviation from statistical noise in this data
for a period between -2520 s and +2520 s around 8:46 UT.

Best regards,
Jean in 't Zand.

> From bonnard@iolanthe.gsfc.nasa.gov Tue Oct 22 13:04:17 1996
> Date: Tue, 22 Oct 1996 13:04:15 -0400
> Message-Id: <199610221704.NAA06809@iolanthe.gsfc.nasa.gov>
> Mime-Version: 1.0
> Content-Type: text/plain; charset="us-ascii"
> To: jeanz@tgrosf.gsfc.nasa.gov
> From: bonnard@iolanthe.gsfc.nasa.gov (Bonnard Teegarden)
> Subject: GRB 961018
>
> Jean,

  Can you please check on this?
>
>
> >Date: Tue, 22 Oct 1996 08:53:29 -0700
> >From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
> >To: scott@rosserv.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
> >   butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
> >   kmarar@isac.ernet.in, bonnard@rosserv.gsfc.nasa.gov, jterrell@lanl.gov,
> >   yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it
> >Subject: GRB 961018
> >X-Sun-Charset: US-ASCII
> >
> >ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:
> >
> >Ulysses observed a weak, 32 ms long burst October 18 1996 at 08:46
> >Ulysses time.   The spacecraft was about 2520 light seconds from
> >Earth.
> >
> >Was this event detected by anyone else?
> >
> >CC: ulyssesbursts alias list
> >   (barthelmy, butterworth, cline, frontera, marar, teegarden, terrell,
> >yoshimori)
> >
> >

  Cheers,
>
> Bonnard
>

From BUTTERWORTH@lheavx.gsfc.nasa.gov Wed Oct 23 09:56 PDT 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Wed, 23 Oct 1996 12:53:40 -0400 (EDT)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
        yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
        CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov,
        TEEGARDEN@lheavx.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
Subject: Ulysses event on 961018 was not detected by Konus

Hi Everyone,

Konus did not trigger on 961018 and there are no indications of a GRB in
the waiting-mode data (which are recorded every 1.5 seconds).

Paul.

Date: Tue, 22 Oct 1996 08:53:29 -0700
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199610221553.IAA28250@scylla.berkeley.edu>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
        butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
        kmarar@isac.ernet.in, bonnard@lheamail.gsfc.nasa.gov,
        jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
        filippo@botes1.tesre.bo.cnr.it
  bject: GRB 961018
  Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed a weak, 32 ms long burst October 18 1996 at 08:46
Ulysses time. The spacecraft was about 2520 light seconds from
Earth.

Was this event detected by anyone else?

CC: ulyssesbursts alias list
    (barthelmy, butterworth, cline, frontera, marar, teegarden, terrell, yoshimori)

From SURASAK@SSLLES.MSFC.NASA.GOV Mon Oct 21 07:11 PDT 1996
Date: Mon, 21 Oct 1996 9:07:14 -0500 (CDT)
From: SURASAK@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
"LHEAVX::CLINE"@ssl.msfc.nasa.gov,
"LHEAVX::BARTHELMY"@ssl.msfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, band@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5636

TIME: TJD=0374 SECONDS=40995

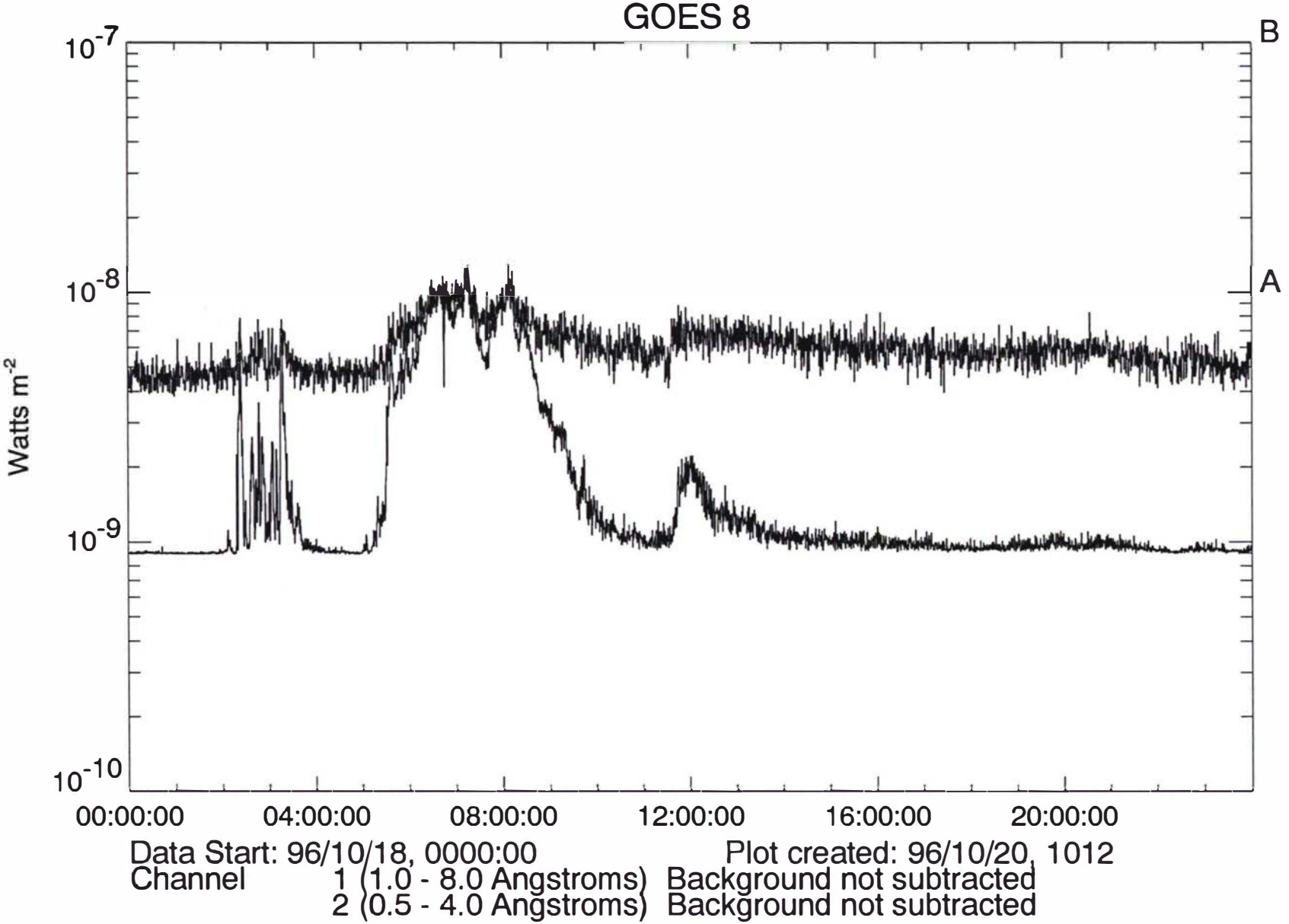
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

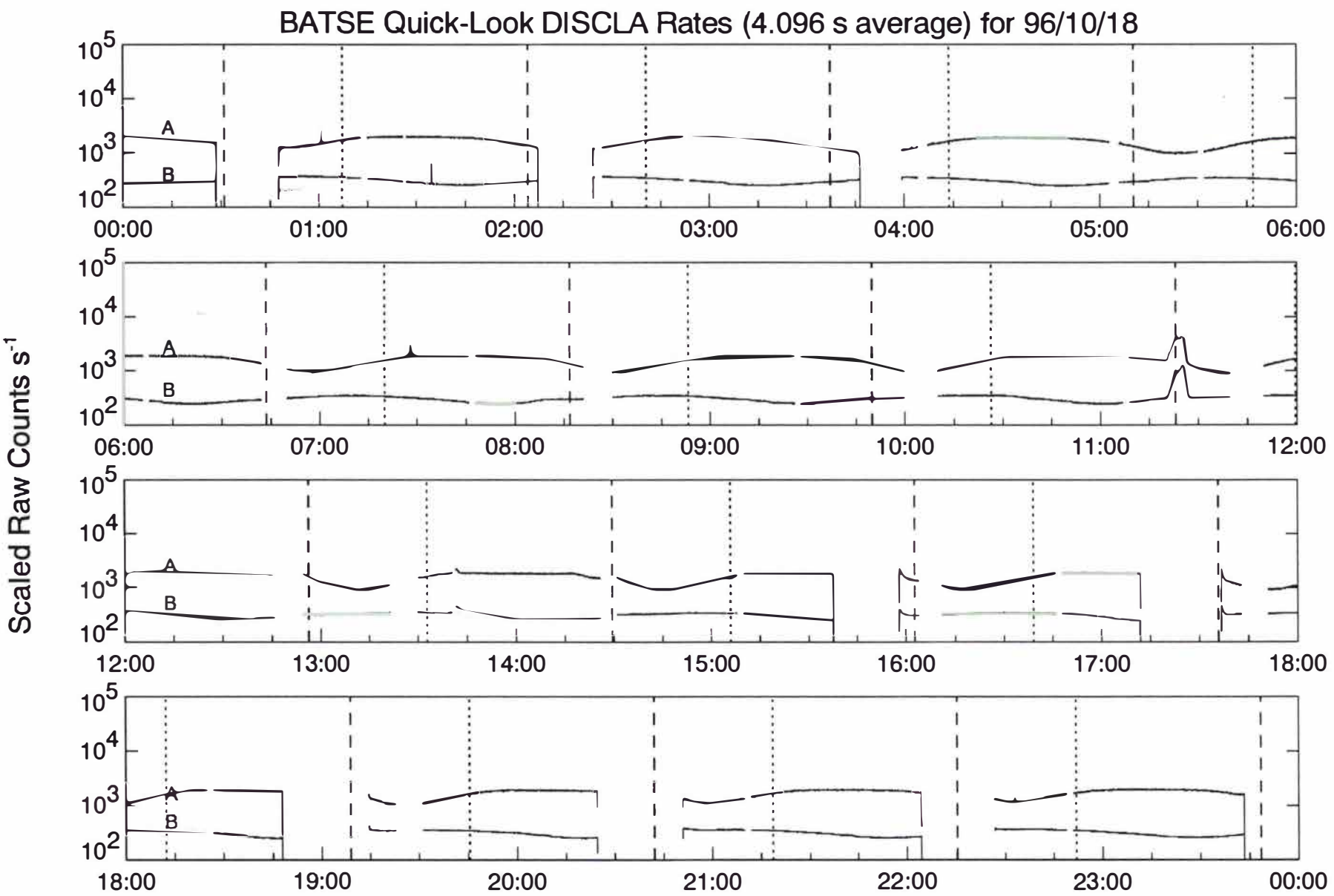
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

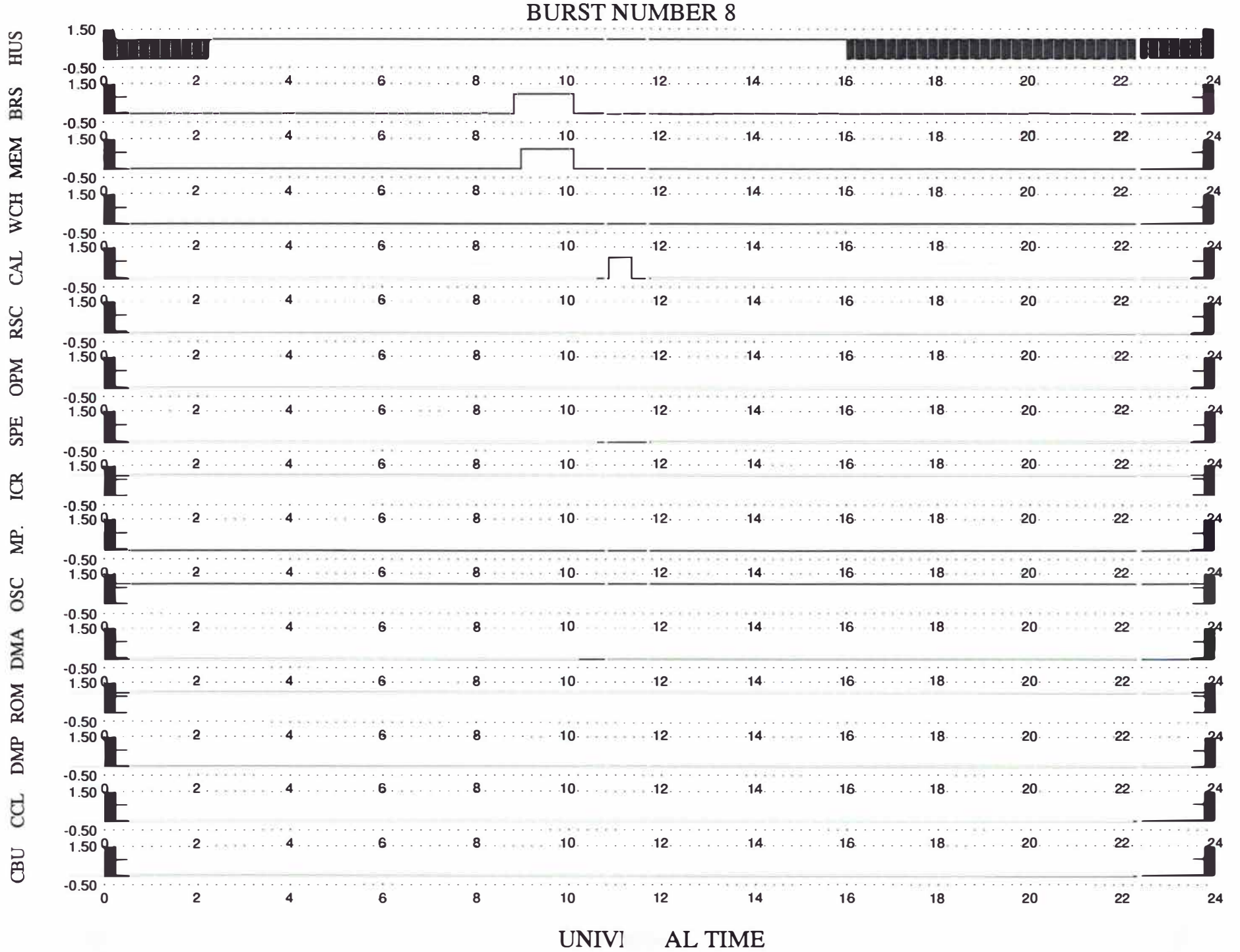
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/18, 0000:00
Plot created: 96/10/20, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

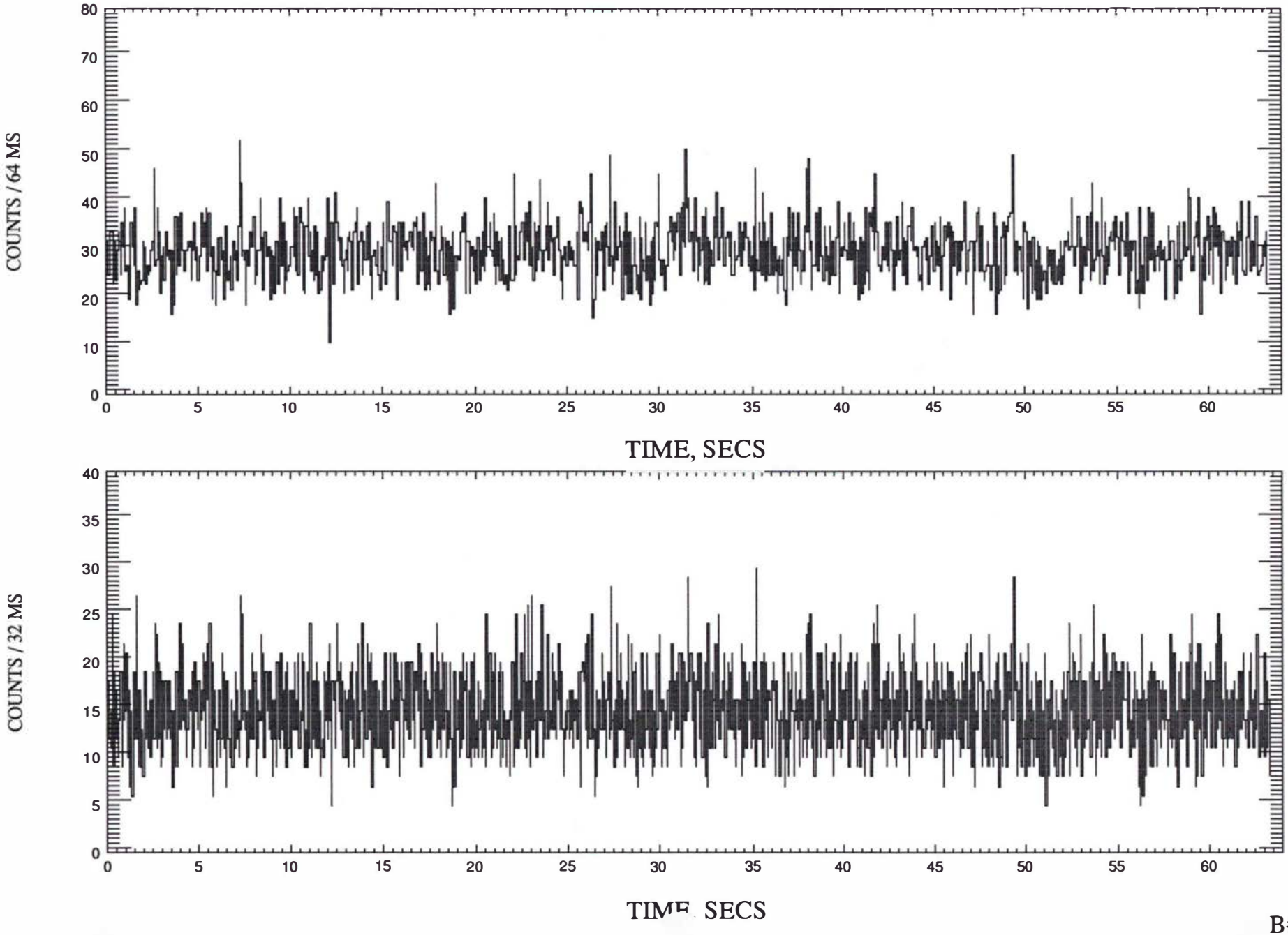

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/18
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/20, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 292, year 1996 to day 292, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 292, year 1996 3/29/97

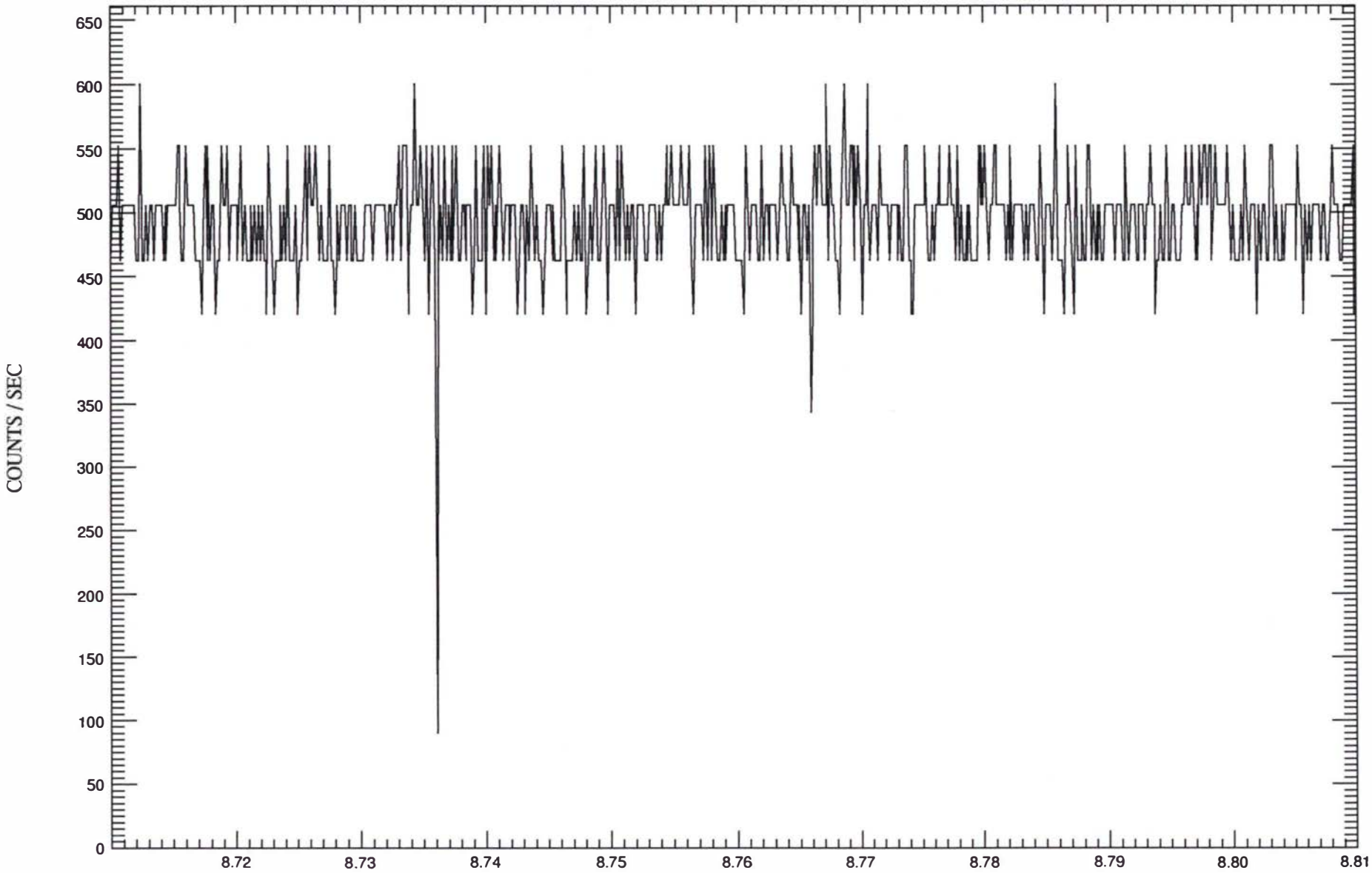
Burst Counter 8 at UT= 8.762202275594 h=31543.928 s 08:45:43.928



B# 1

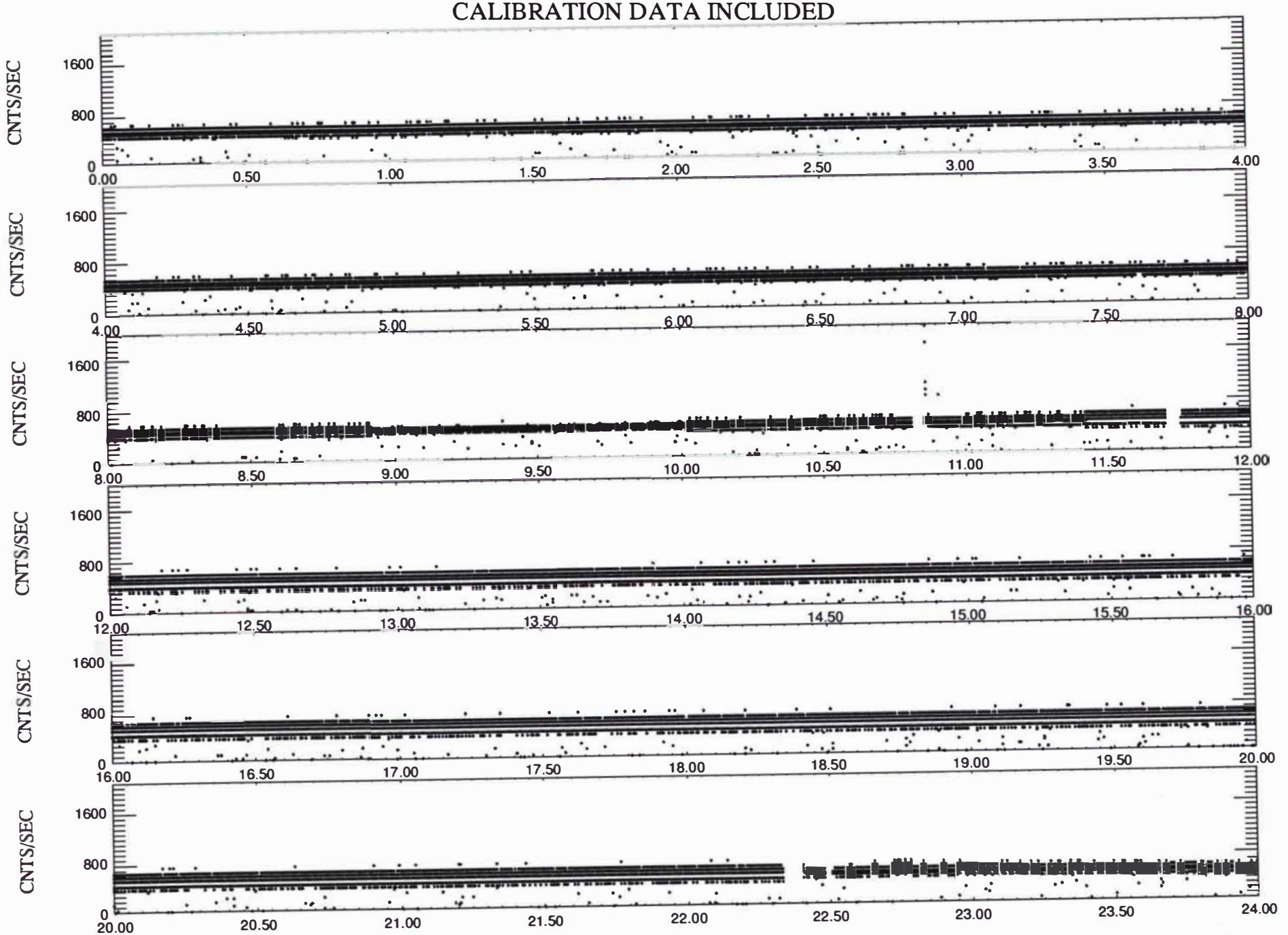
HUS 2A, MODE 1, NOT AVERAGED EDR day 292, year 1996 to day 292, year 1996 3/29/97

CALIBRATION DATA INCLUDED



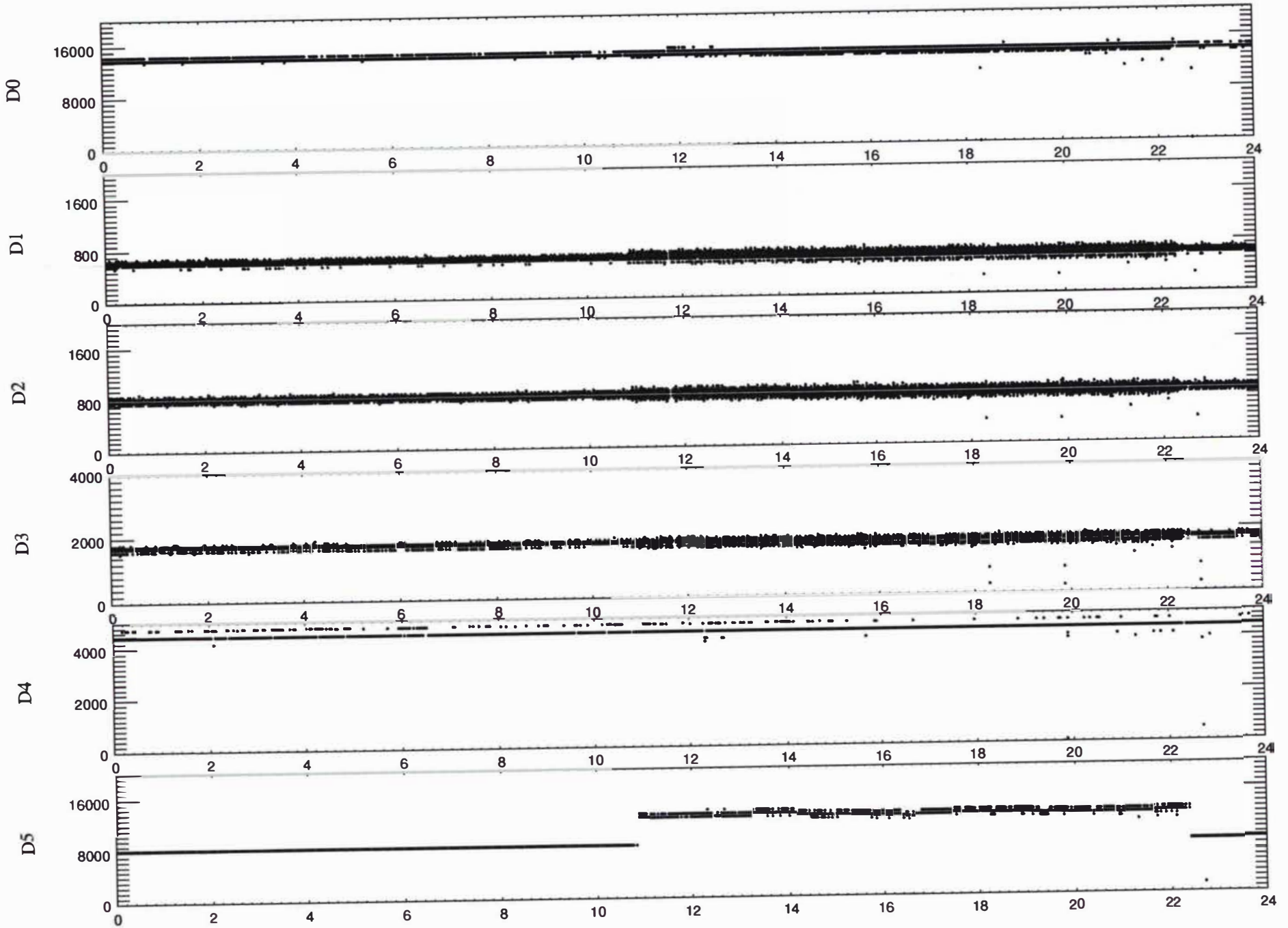
HUS 2A, MODE 1, NOT AVERAGED EDR day 292, year 1996 to day 292, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 292, year 1996 to day 292, year 1996 3/29/97



Date: Oct 14 2011

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

☑ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

☐ Was CHECKMO run to eliminate data gaps?

☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data…")

☐ Was Mars-blocking used?

☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)

☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).

☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

☐ Σ 3Δt's calculated, and/or BMAPSUM executed?

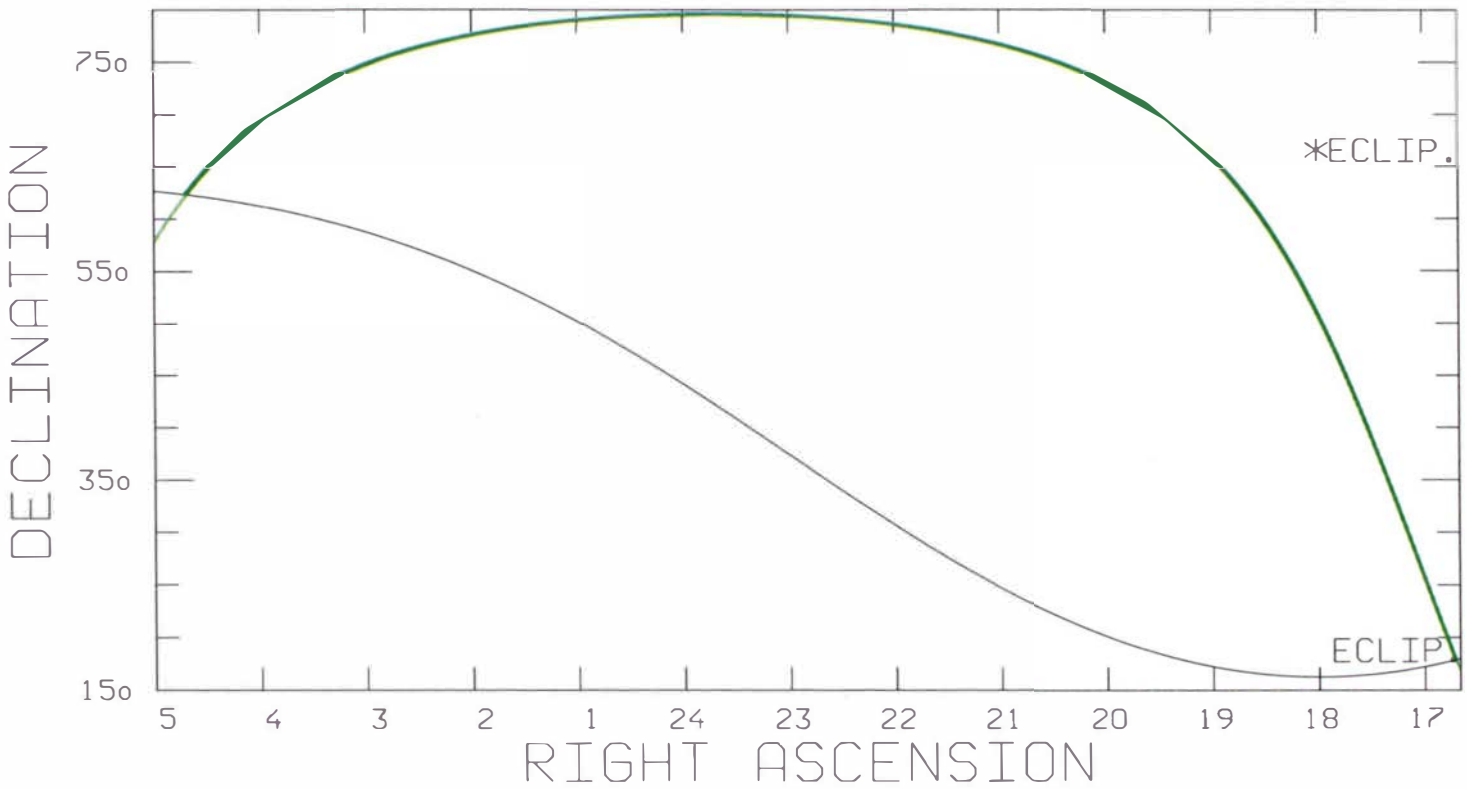
3. For INTEGRAL events

☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?

☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?

☐ Updated ephemeris used for bursts prior to September 30, 2003?

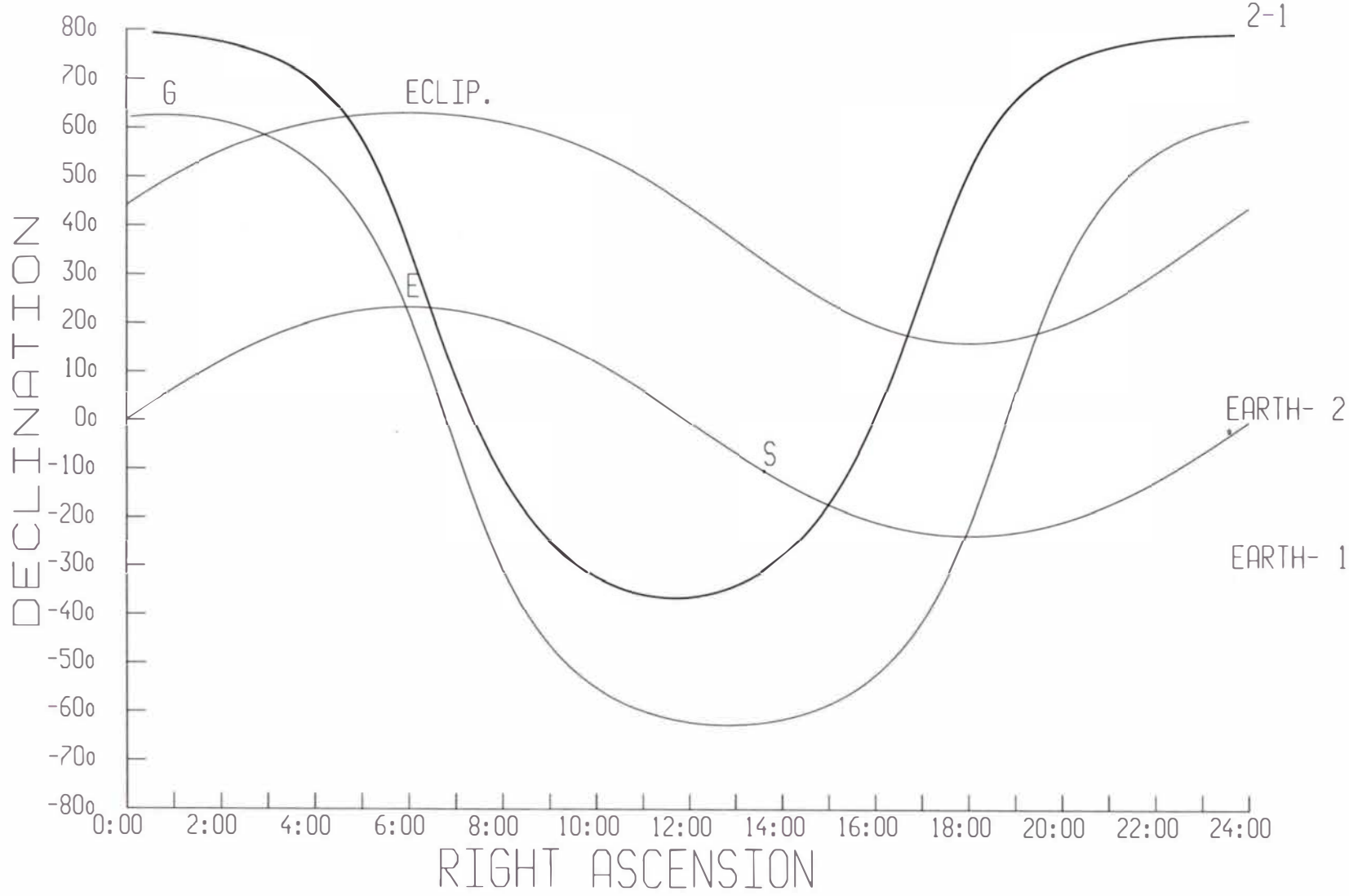
☑ ACCESS and MBL4 databases updated with identical times?

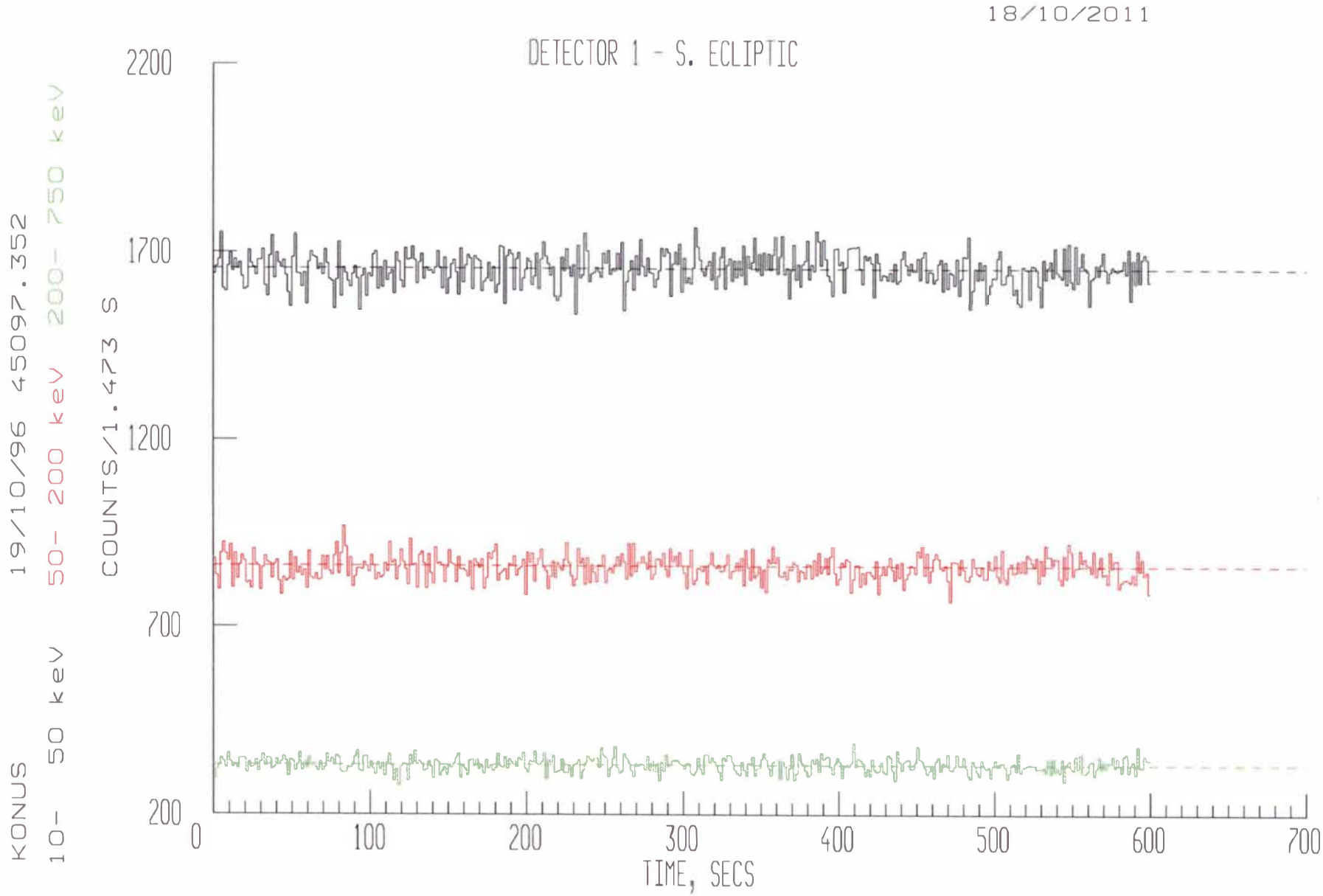

DECLINATION
75o
55o
35o
15o
5
4
3
2
1
24
23
22
21
20
19
18
17
RIGHT ASCENSION
*ECLIP.
ECLIP

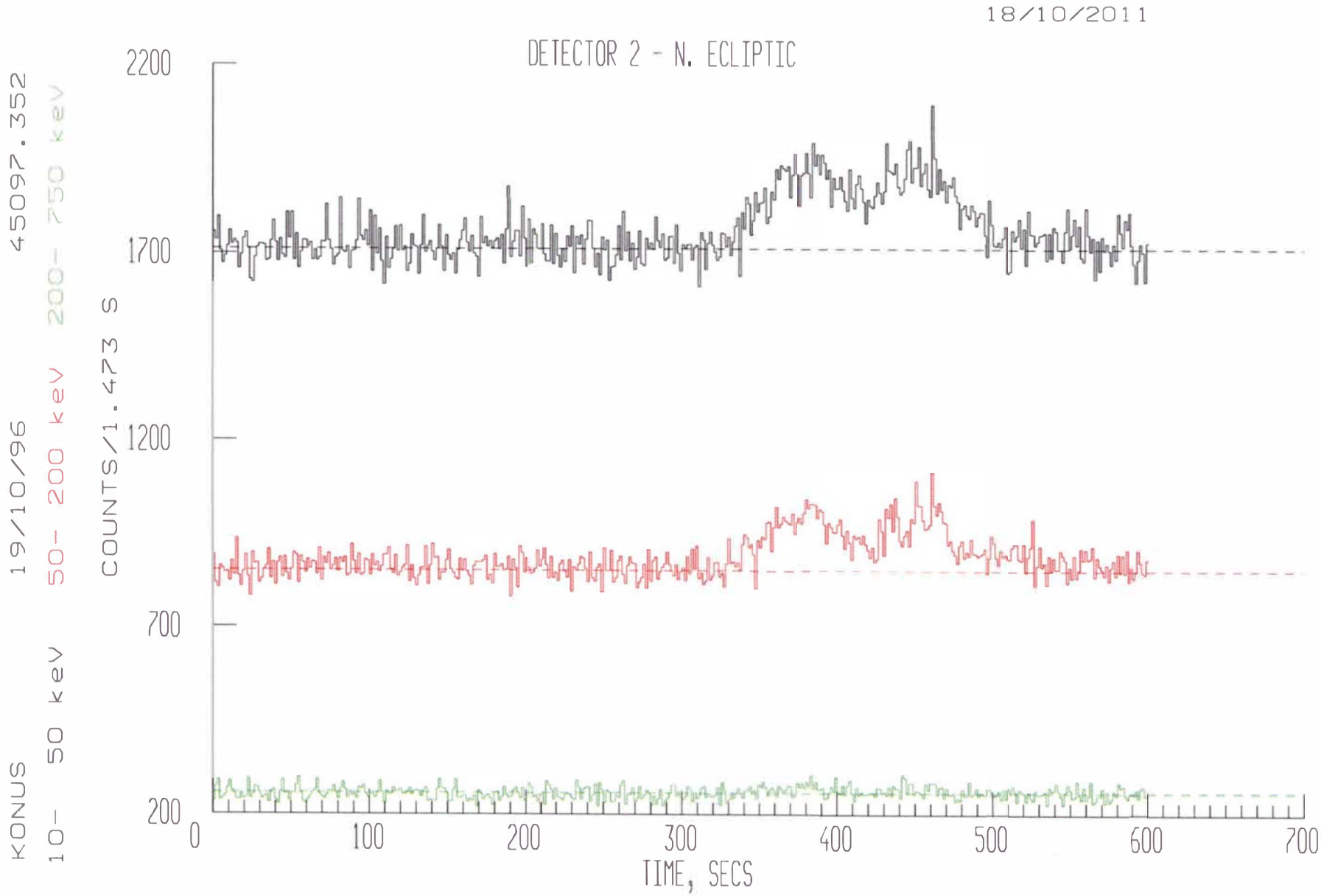
EVENT OF OCT 19, 1996 12:21

18/10/2011

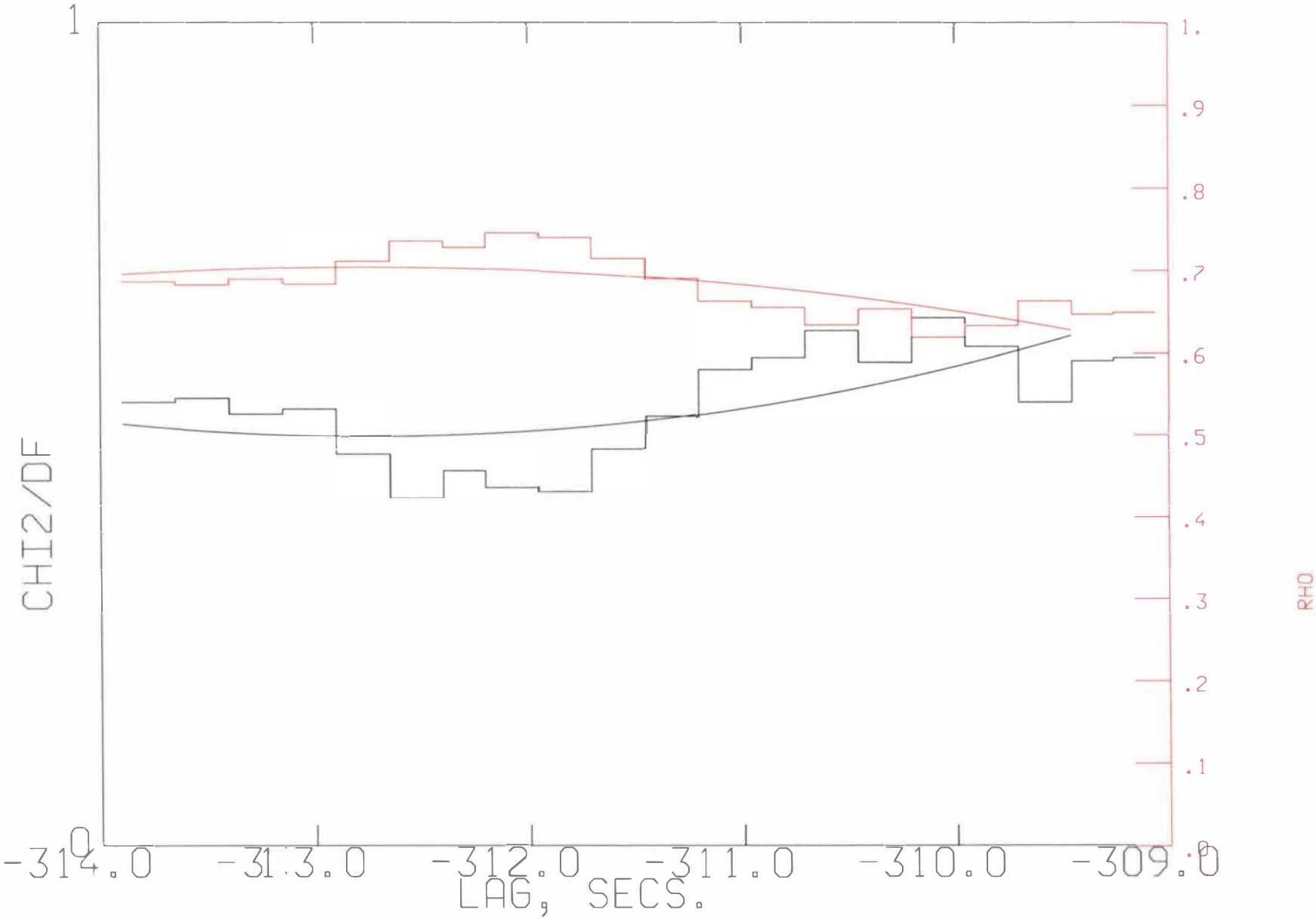
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS

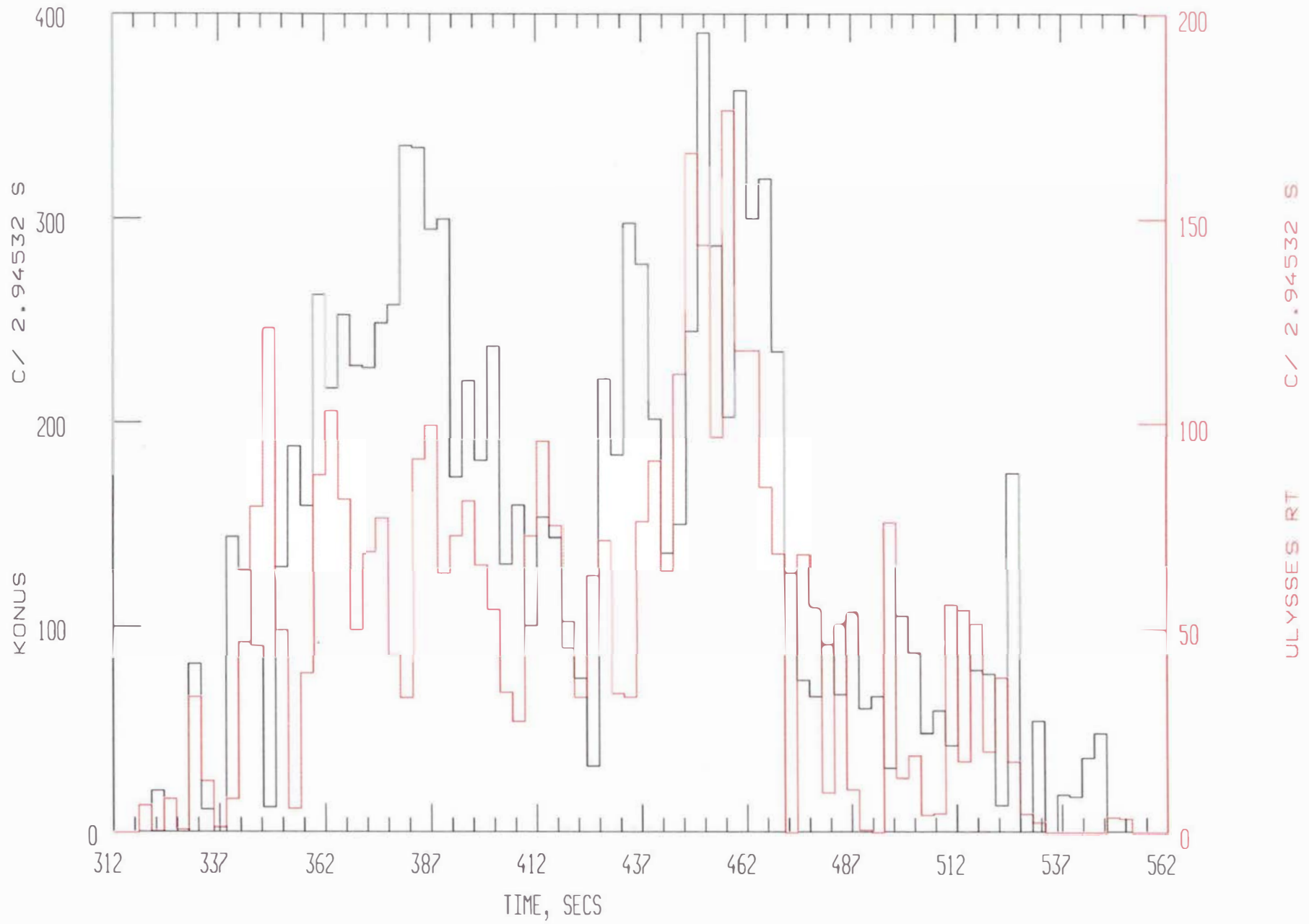


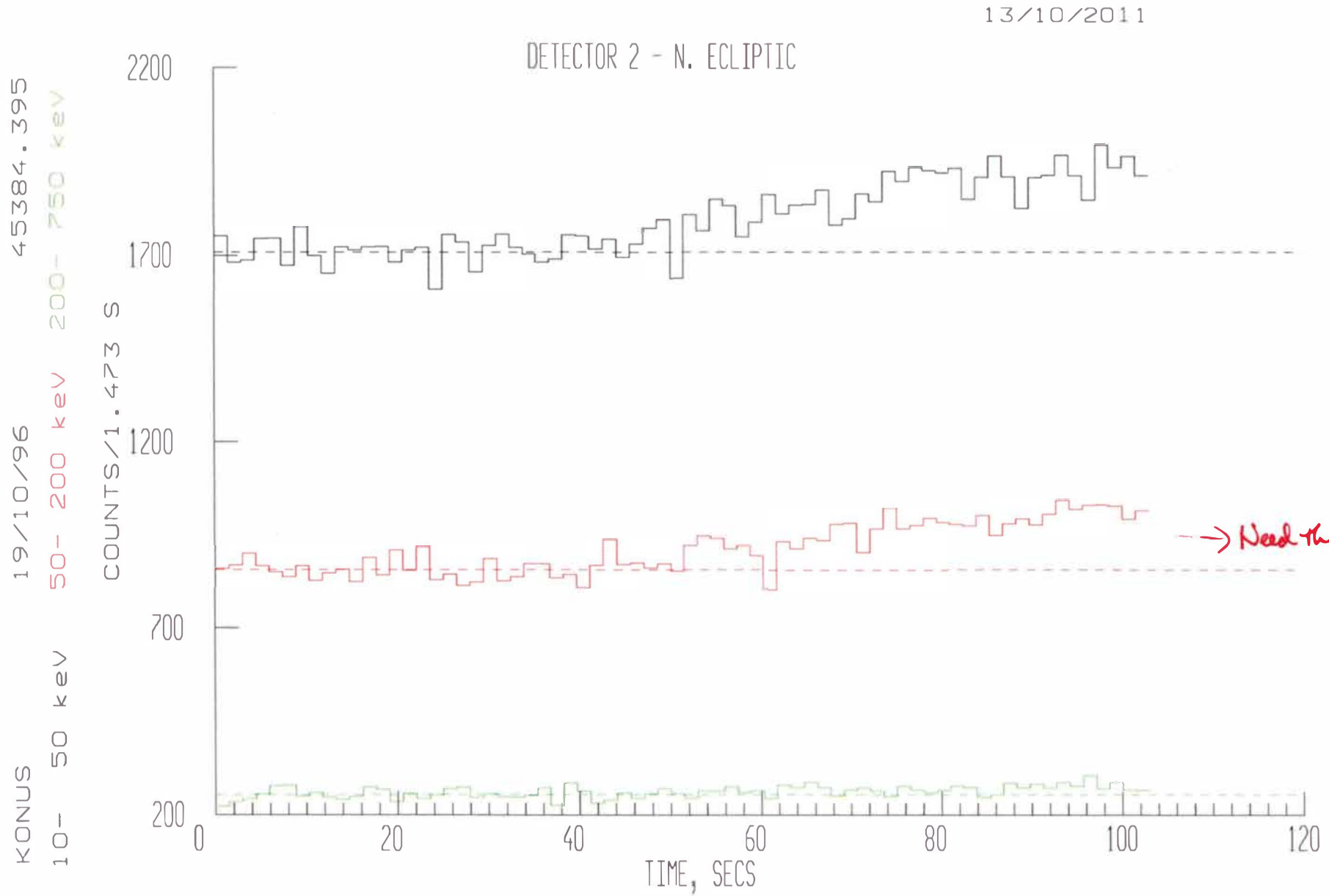

18/10/2011
DETECTOR 1 - S. ECLIPTIC
KONUS 19/10/96 45097.352
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
100
200
300
400
500
600
700
TIME, SECS


18/10/2011
DETECTOR 2 - N. ECLIPTIC
KONUS 19/10/96 45097.352
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
100
200
300
400
500
600
700
TIME, SECS

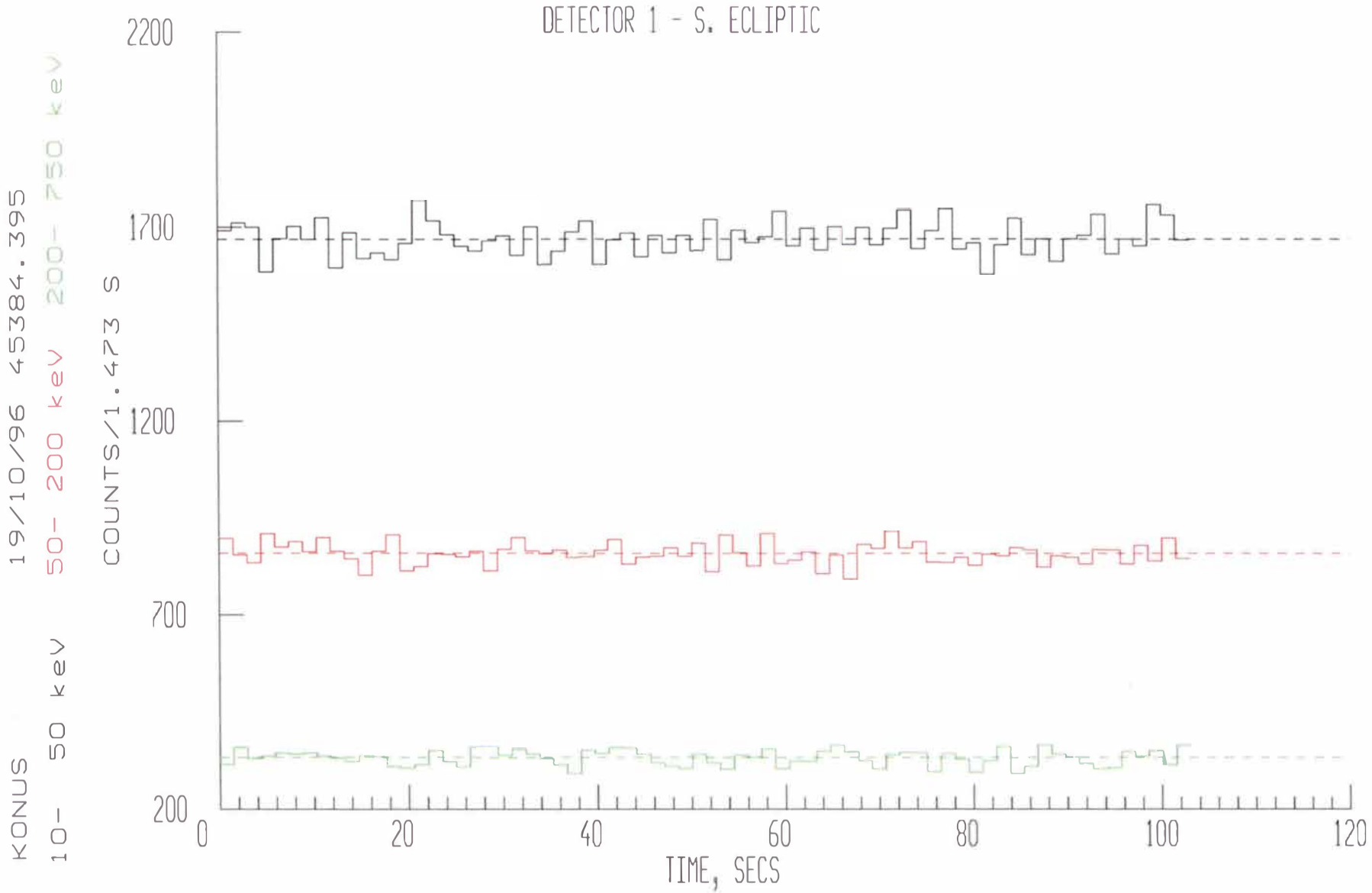
KONUS -ULYSSES RT CORRELATION 19/10/96 45097.352

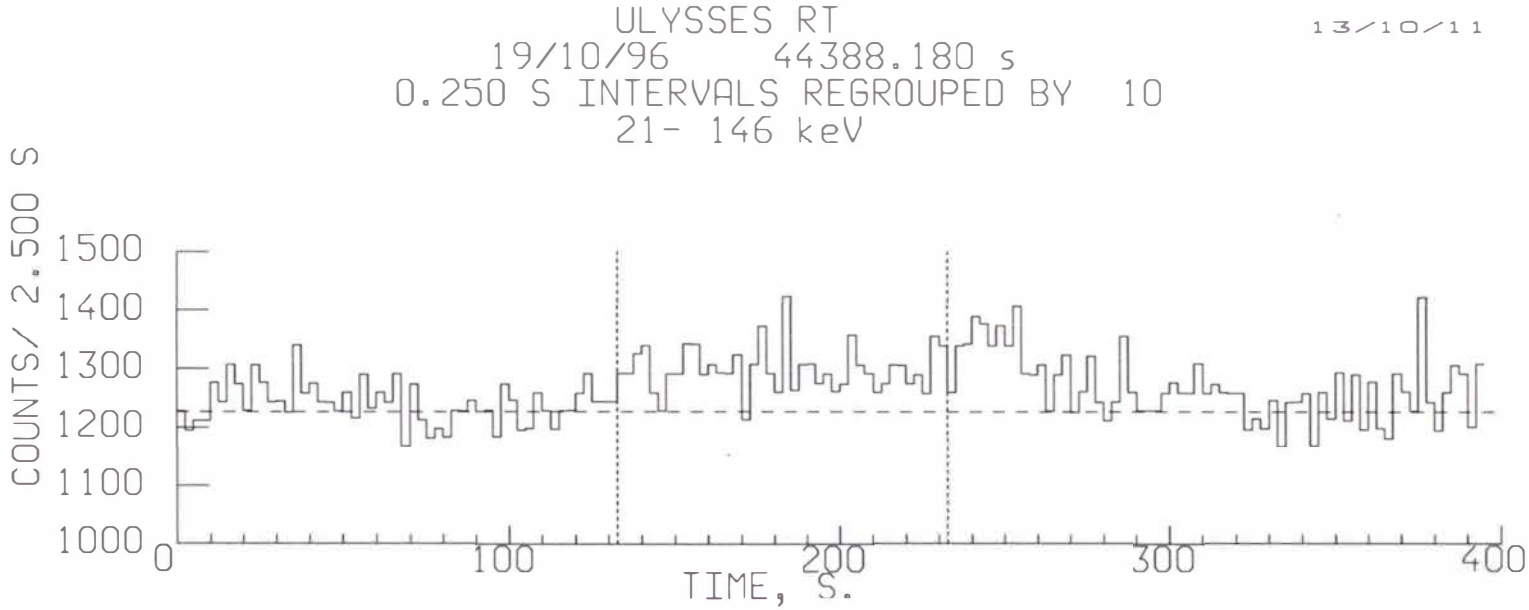



KONUS -ULYSSES RT CORRELATION 19/10/96 45097.352
18/10/11
400
300
200
100
0
C/ 2.94532 S
KONUS
200
150
100
50
0
C/ 2.94532 S
ULYSSES RT
312
337
362
387
412
437
462
487
512
537
562
TIME, SECS


13/10/2011
DETECTOR 2 - N. ECLIPTIC
KONUS
19/10/96
45384.395
10- 50 keV
50- 200 keV
200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
20
40
60
80
100
120
TIME, SECS
Need this part

13/10/2011


DETECTOR 1 - S. ECLIPTIC
KONUS 19/10/96 45384.395
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/1.473 S
2200
1700
1200
700
200
0
20
40
60
80
100
120
TIME, SECS


ULYSSES RT
13/10/11
19/10/96 44388.180 s
0.250 S INTERVALS REGROUPED BY 10
21- 146 keV
COUNTS/ 2.500 S
1500
1400
1300
1200
1100
1000
0
100
200
300
400
TIME, S.

KONUS 19961019 44576

ULYSSES RT 12/10/11

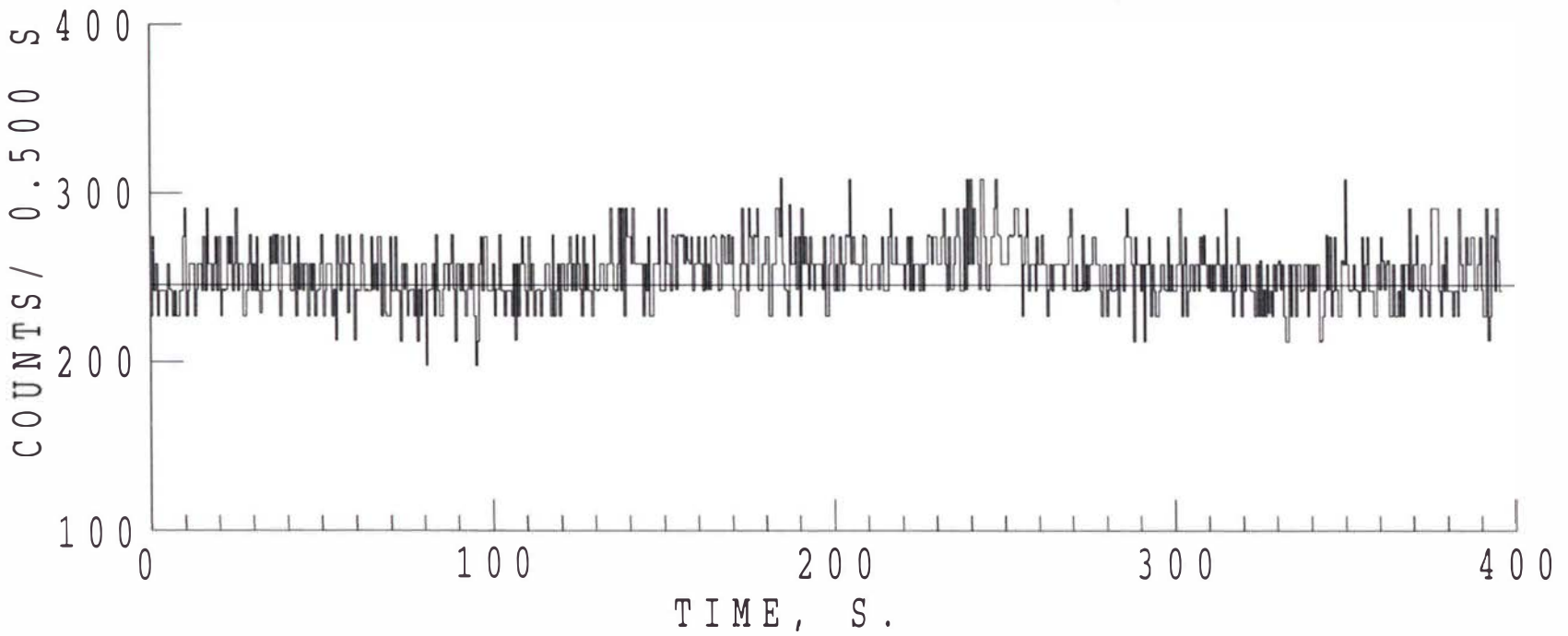
19/10/96 44388.180 s

0.250 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

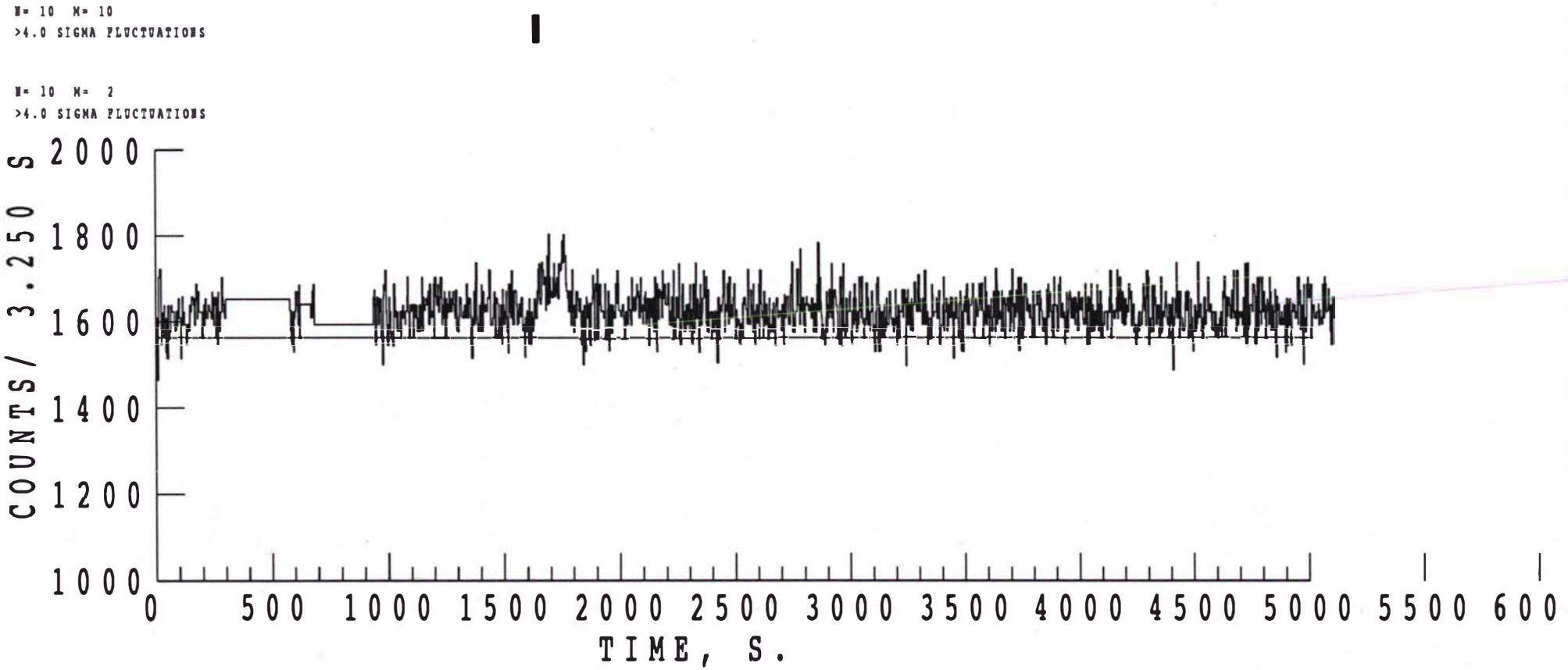
ULYSSES RT

31/01/00

19/10/96 42876.160 s

0.250 S INTERVALS REGROUPED BY 13

0- 0 keV



From RICHARDSON@ssl.msfc.nasa.gov Mon Oct 21 11:58 PDT 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA01150; Mon, 21 Oct 1996 11:58:24 -0700
From: RICHARDSON@ssl.msfc.nasa.gov
Date: Mon, 21 Oct 1996 13:58:05 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961021135805.25404041@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5637
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

RI

****
BATSEARCH PROGRAM
****

BATSE BURST # 5637
EVENT OF 1996 OCT 19 DAY OF YEAR=293
EVENT CROSSING TIME AT BATSE : 76091. S. OR 21:08:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 322.000 -84.000
BATSE PEAK COUNTING RATE: 7000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/10/ 96 IS:
RA= 174.830 DEC= 32.103 DIST= 5.023 AU
BATSE-ULYSSES DISTANCE = 751465161. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 52.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1511.33 SECS.
CROSSING TIME AT ULYSSES IS 77602. S. OR 21:33:22 +/- 420.14 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/10/ 96 IS:
RA= 146.426 DEC= 15.008 DIST= 1.818 AU
MARS-BATSE DISTANCE = 271939488. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 324.92 SECS.
CROSSING TIME AT MARS IS 76416. S. OR 21:13:35 +/- 151.97 SECONDS

BATSE BURST TRIGGER
NO.: 5637

TIME: TJD=0375 SECONDS=76091

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

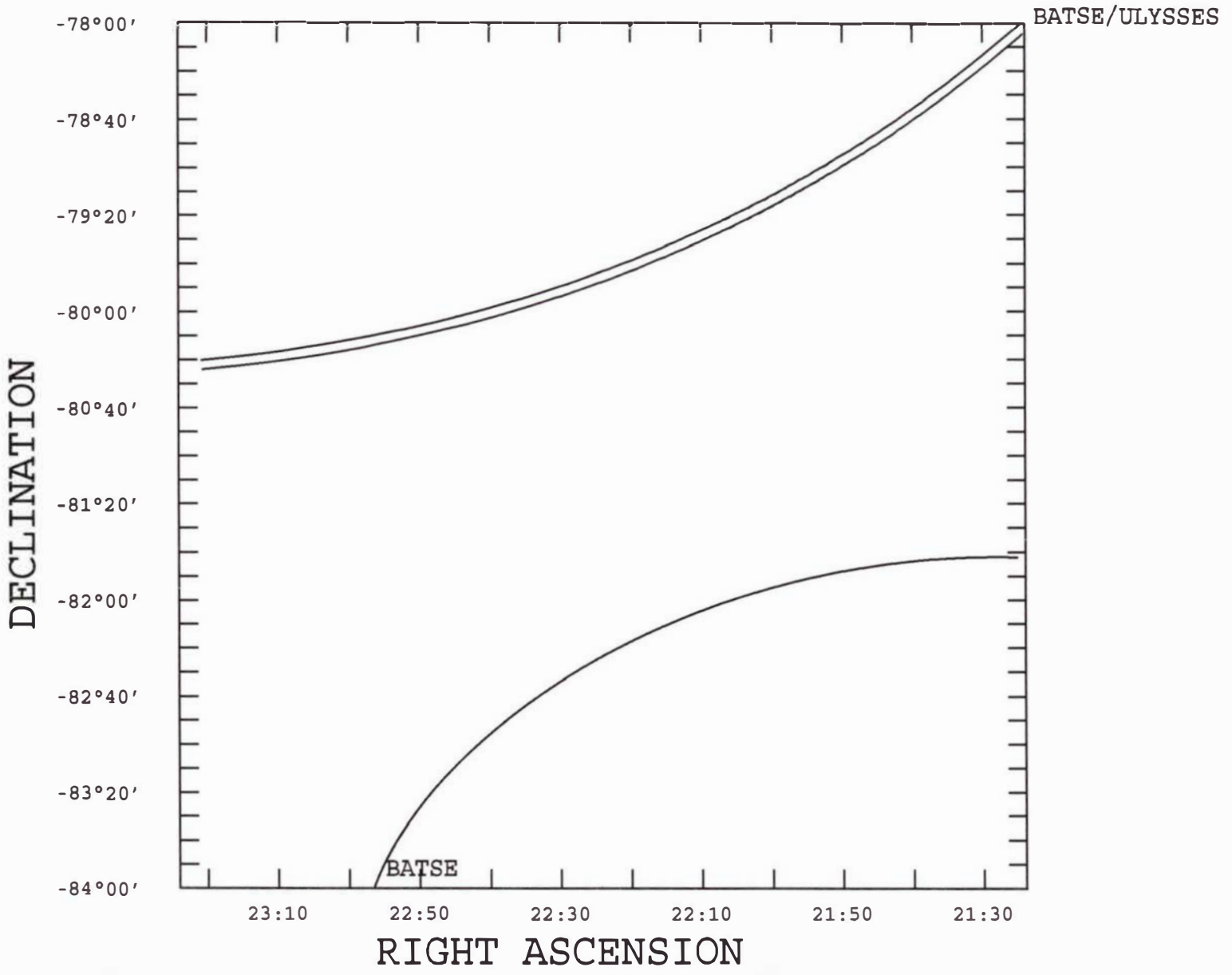
SIGNIFICANCE: SIGMA

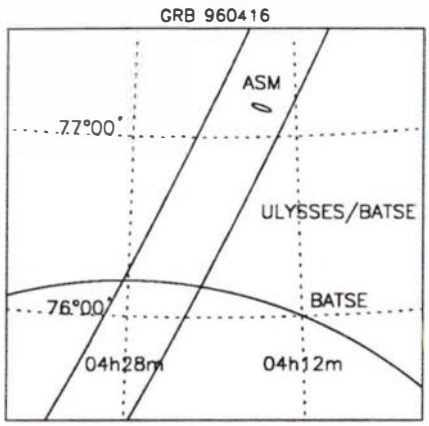
INTENSITY: COUNTS/CM2

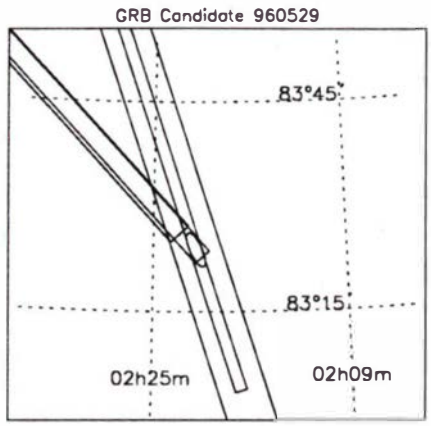
LOCATION: ZENITH=109.9 AZIMUTH=61.9 ERROR=2.3 DEGREES

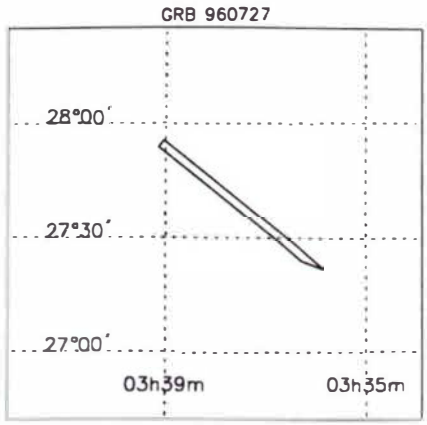
COMMENTS:
GRB. FAST RISE WITH SLOW DECAY, AND STRUCTURE. DUR.~16SEC. MARGINALLY VISIBLE ABOVE 300KEV.

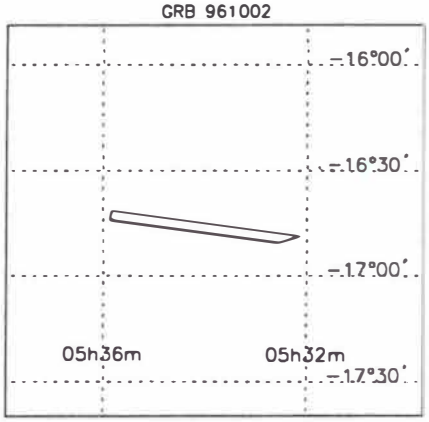
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5637	961019	10375	76091	7000	322	-84	16

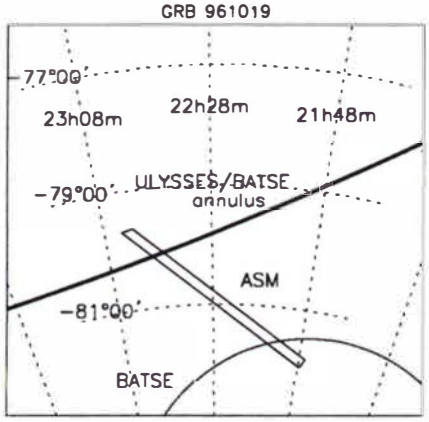

BATSE/ULYSSES
-78°00′
-78°40′
-79°20′
-80°00′
-80°40′
-81°20′
-82°00′
-82°40′
-83°20′
-84°00′
DECLINATION
BATSE
23:10
22:50
22:30
22:10
21:50
21:30
RIGHT ASCENSION

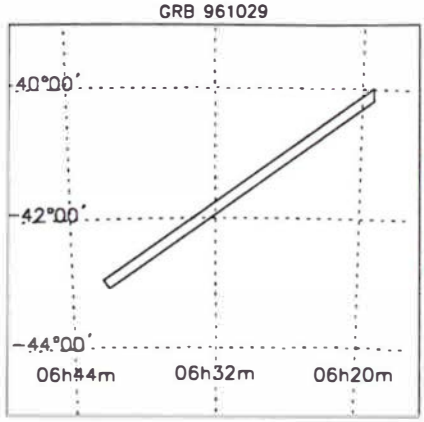

GRB 960416
ASM
77°00′
ULYSSES/BATSE
BATSE
76°00′
04h28m
04h12m

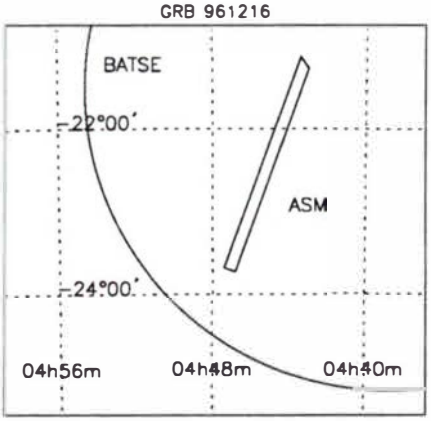

GRB Candidate 960529
83°45′
83°15′
02h25m
02h09m

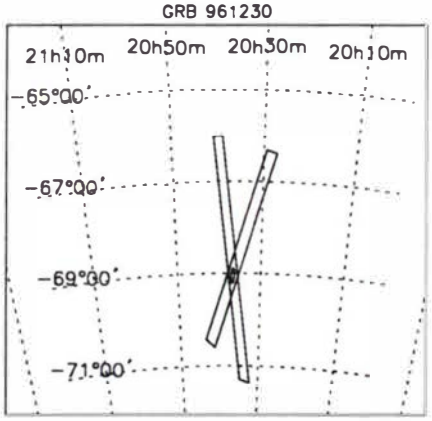

GRB 960727
28°00′
27°30′
27°00′
03h39m
03h35m

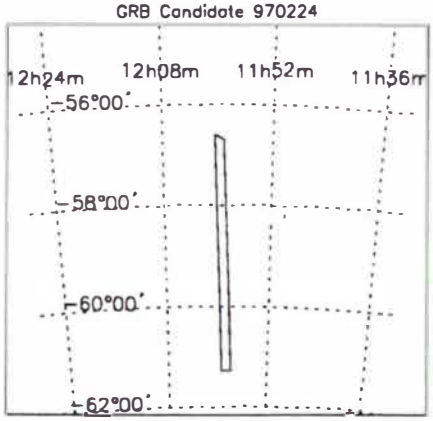

GRB 961002
-16°00′
-16°30′
-17°00′
-17°30′
05h36m
05h32m

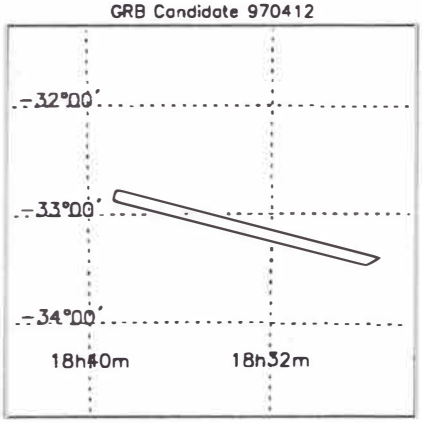

GRB 961019
-77°00′
23h08m
22h28m
21h48m
-79°00′
ULYSSES/BATSE
annulus
ASM
-81°00′
BATSE

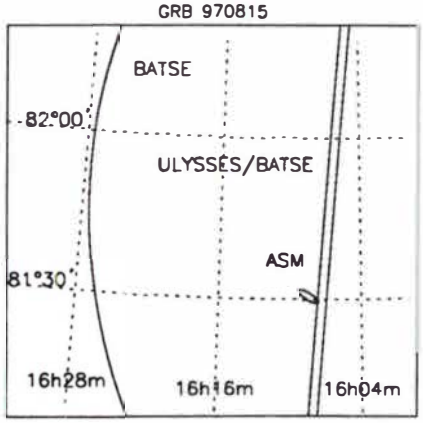

GRB 961029
-40°00′
-42°00′
-44°00′
06h44m
06h32m
06h20m

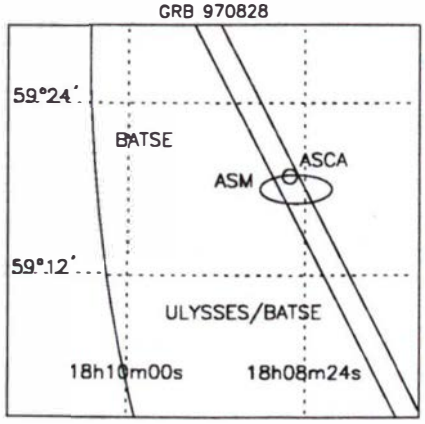

GRB 961216
BATSE
-22°00′
ASM
-24°00′
04h56m
04h48m
04h40m

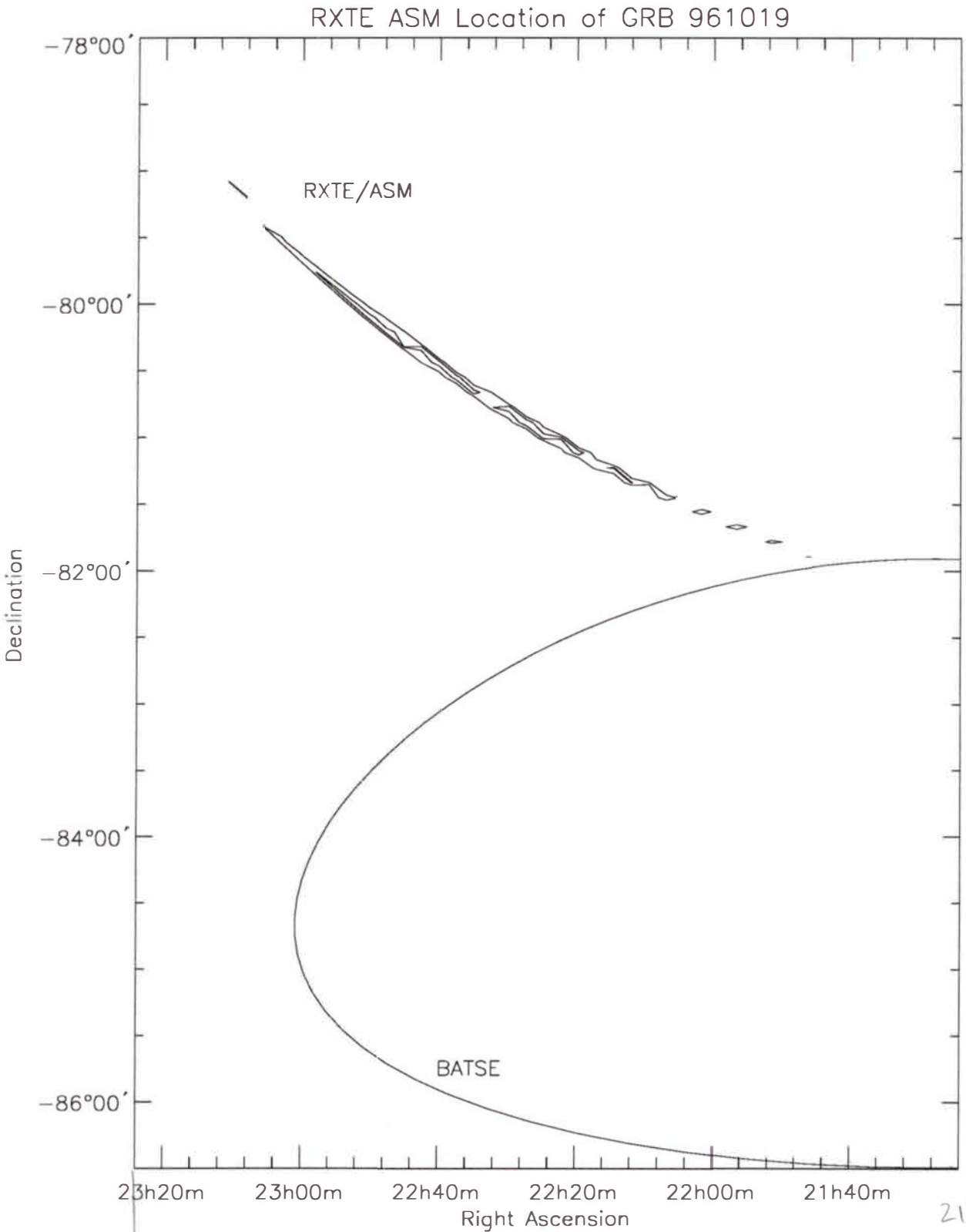

GRB 961230
21h10m
20h50m
20h30m
20h10m
-65°00′
-67°00′
-69°00′
-71°00′


GRB Candidate 970224
12h24m
12h08m
11h52m
11h36m
-56°00′
-58°00′
-60°00′
-62°00′


GRB Candidate 970412
-32°00′
-33°00′
-34°00′
18h40m
18h32m


GRB 970815
BATSE
82°00′
ULYSSES/BATSE
ASM
81°30′
16h28m
16h16m
16h04m


GRB 970828
59°24′
BATSE
ASCA
ASM
59°12′
ULYSSES/BATSE
18h10m00s
18h08m24s



21h24

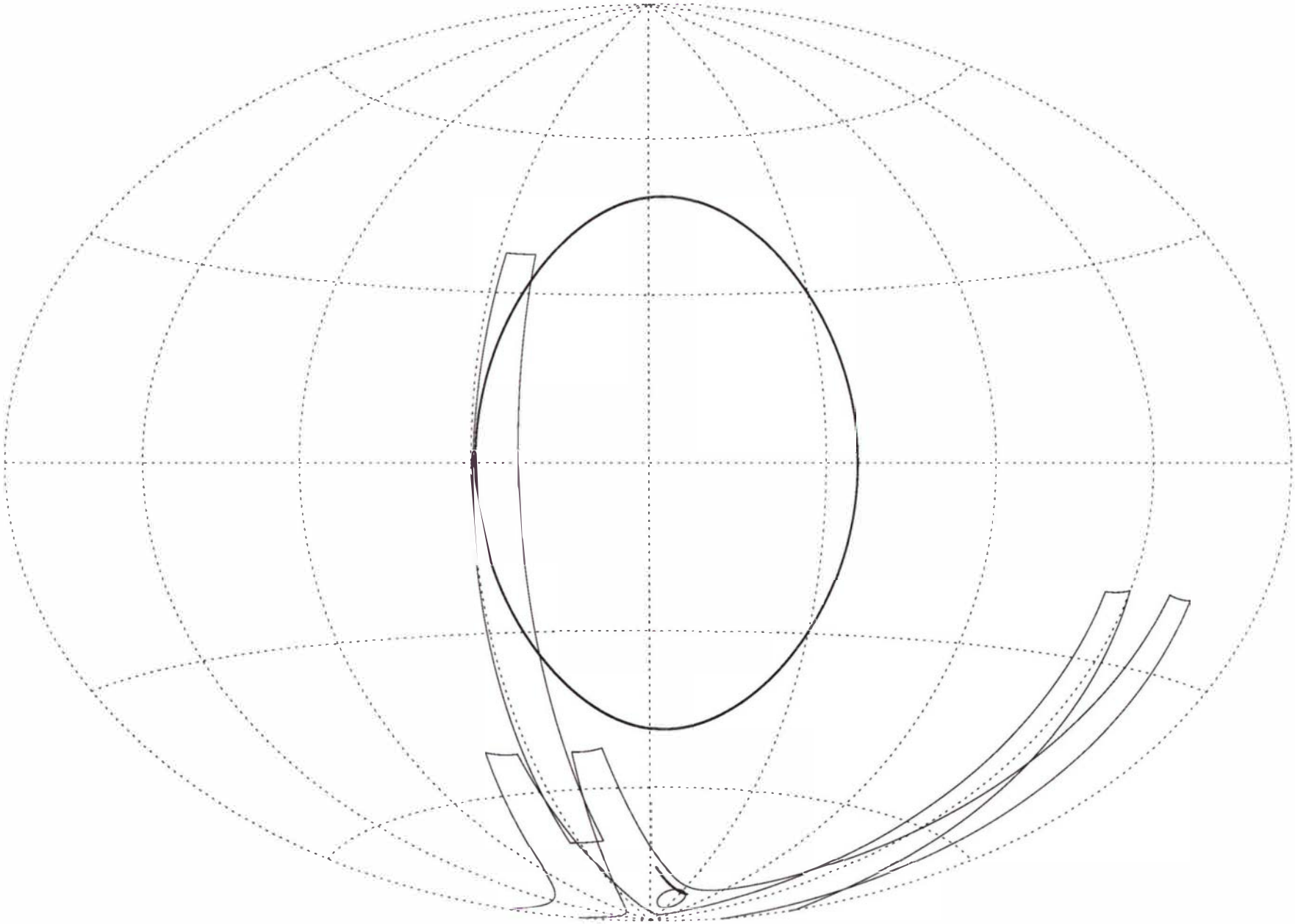
23h24m

~~550.0667~~

321

351

GRB 961019 in the RXTE ASM



Helio corr removed 2/3/99

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☐ Final ephemeris used?

☐ Final, CDROM data used?

☐ Were data checked by Joe Springer for 0.5 s errors?

☐ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - burst stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

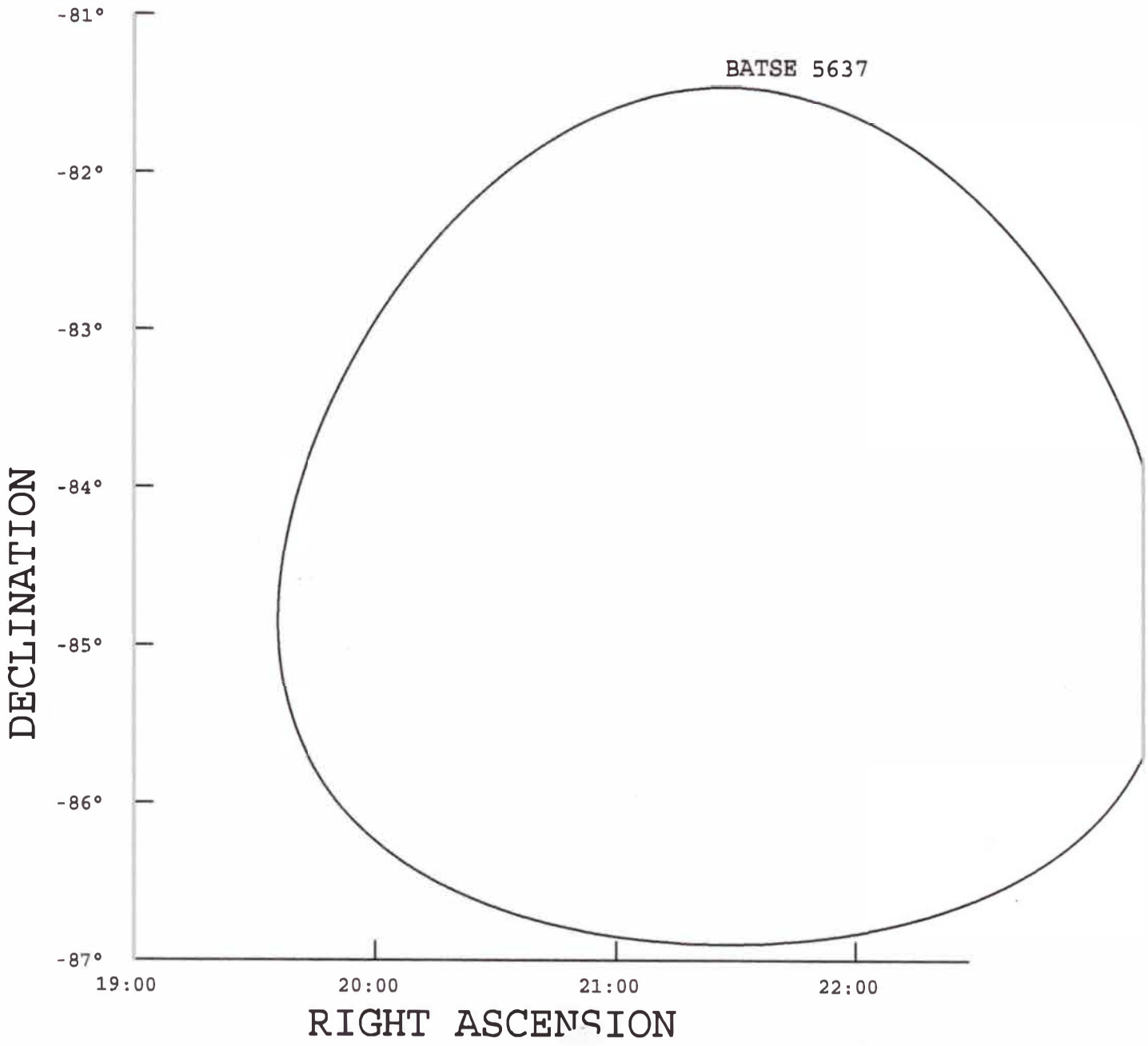
☐ Geocentric time used?

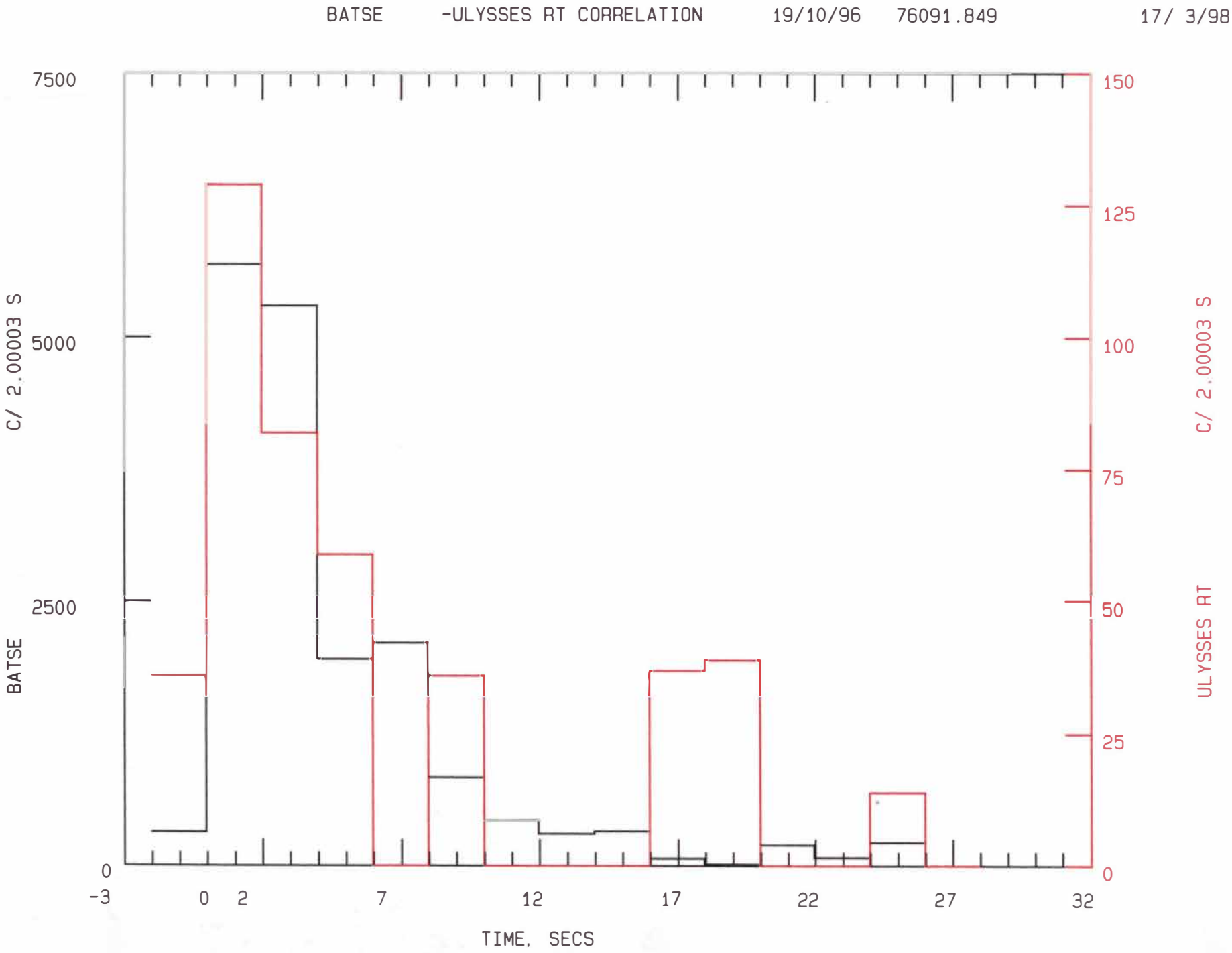
☑ ACCESS database updated?

EVENT OF OCT 19, 1996 21:35

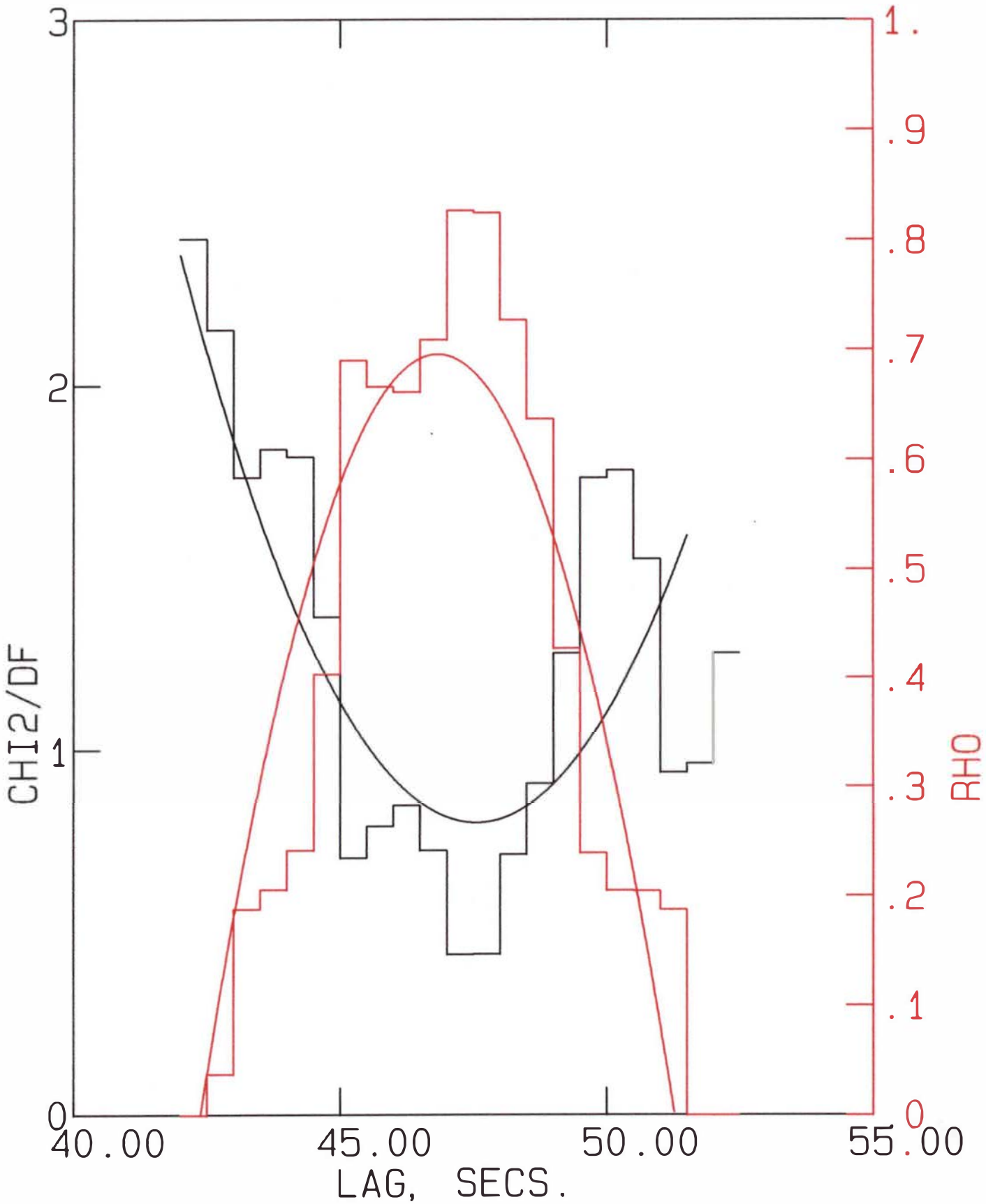
17/ 3/98

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE




BATSE -ULYSSES RT CORRELATION 19/10/96 76091.849 17/ 3/98
7500
5000
2500
0
C/ 2.00003 S
BATSE
150
125
100
75
50
25
0
C/ 2.00003 S
ULYSSES RT
-3
0
2
7
12
17
22
27
32
TIME, SECS

BATSE -ULYSSES RT CORRELATION 19/10/96 76091.849

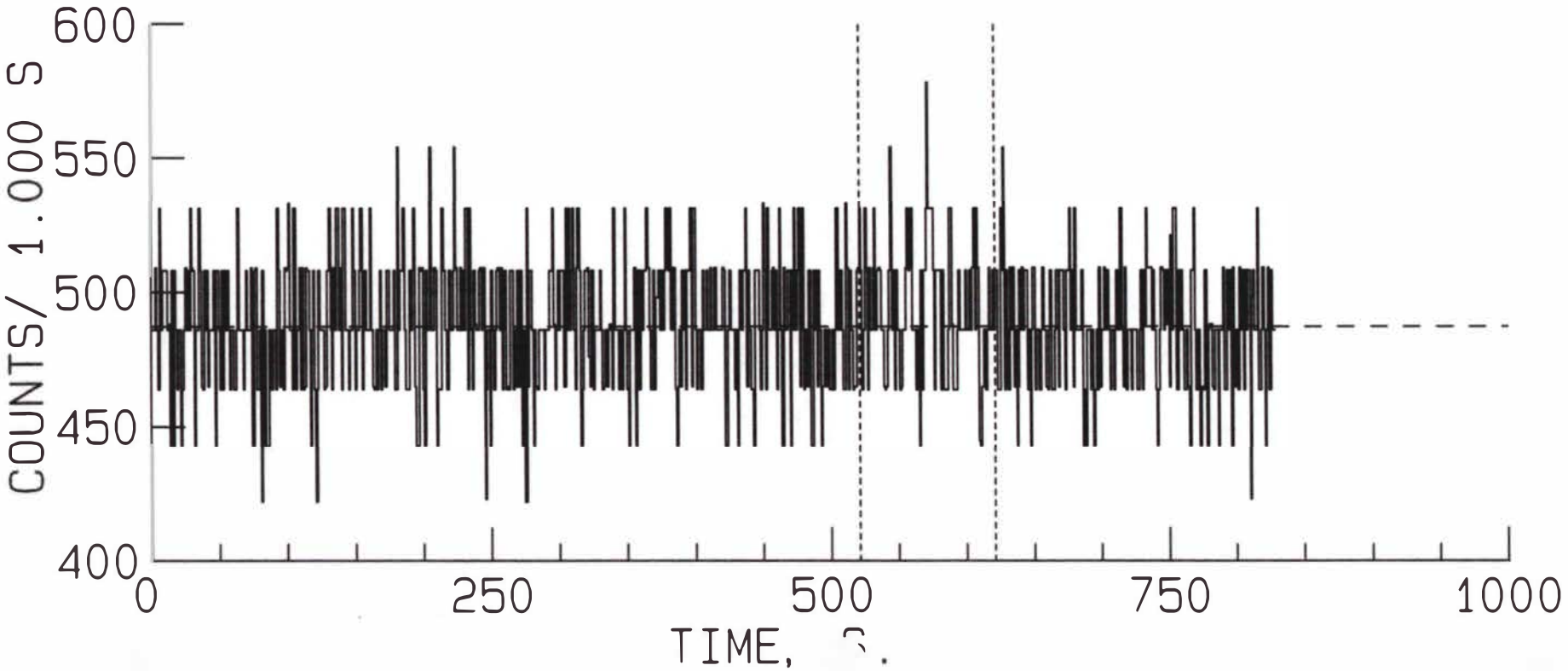


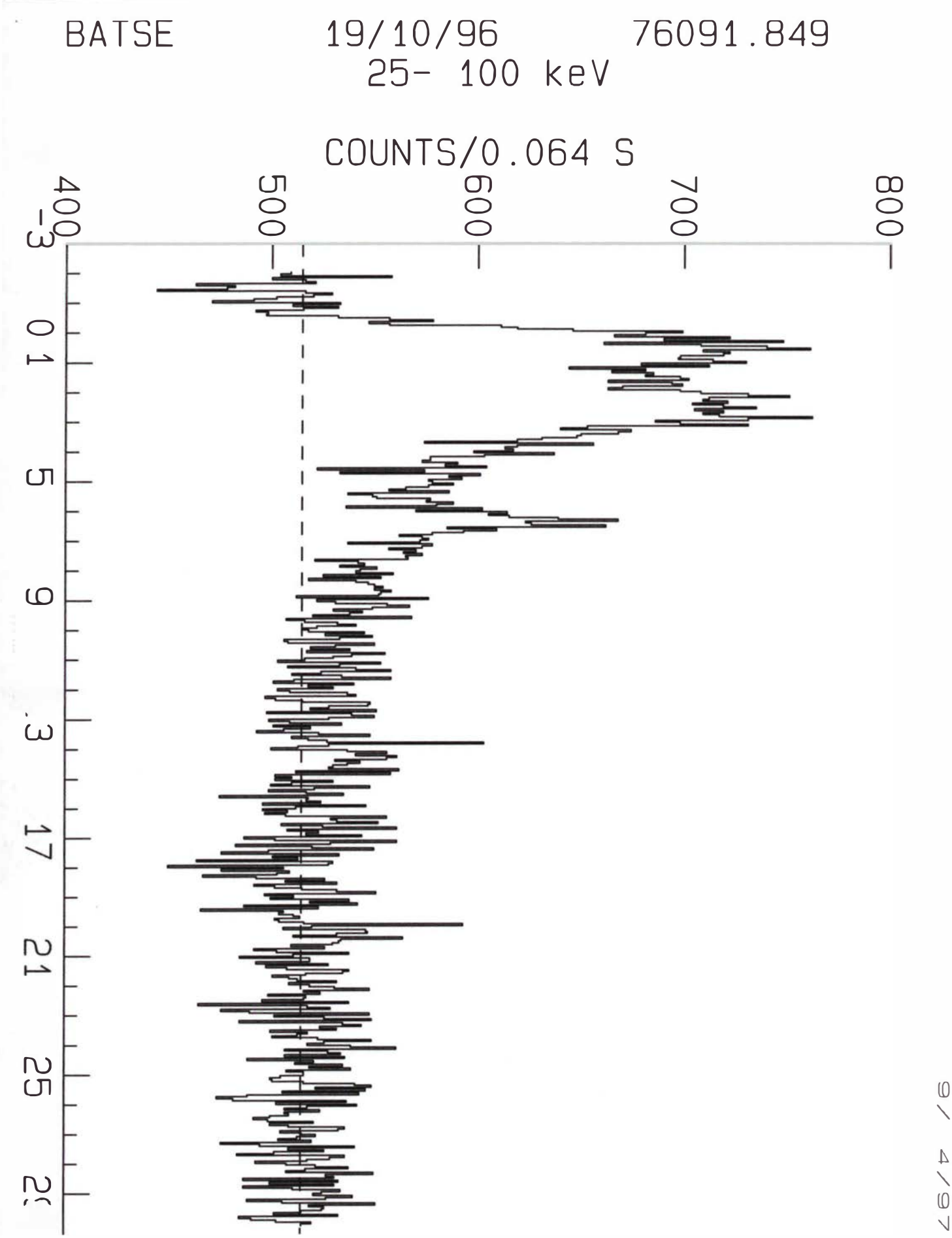
ULYSSES RT 17/ 3/98

19/10/96 77184.087 s

0.500 S INTERVALS REGROUPED BY 2

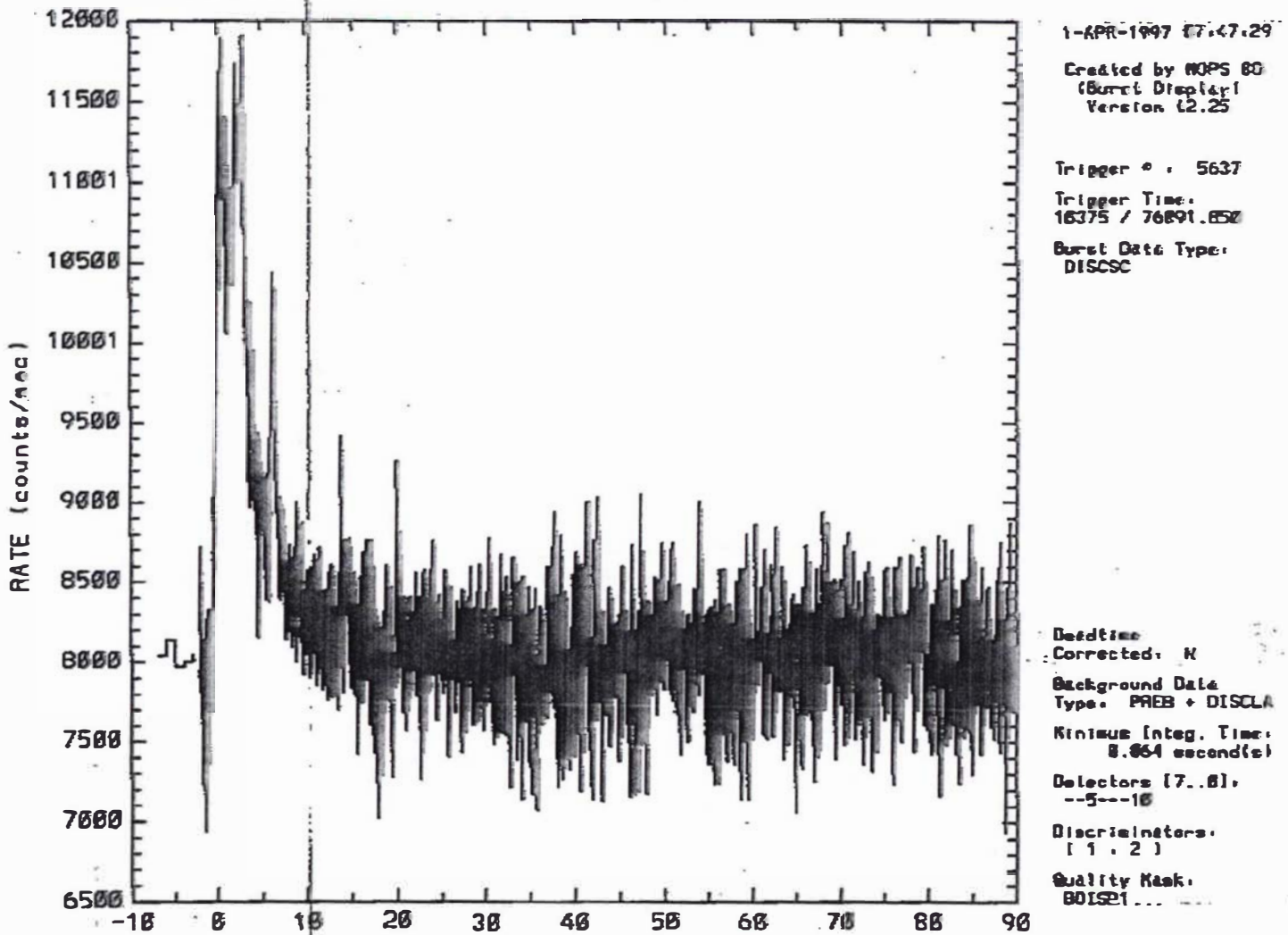
21- 146 keV

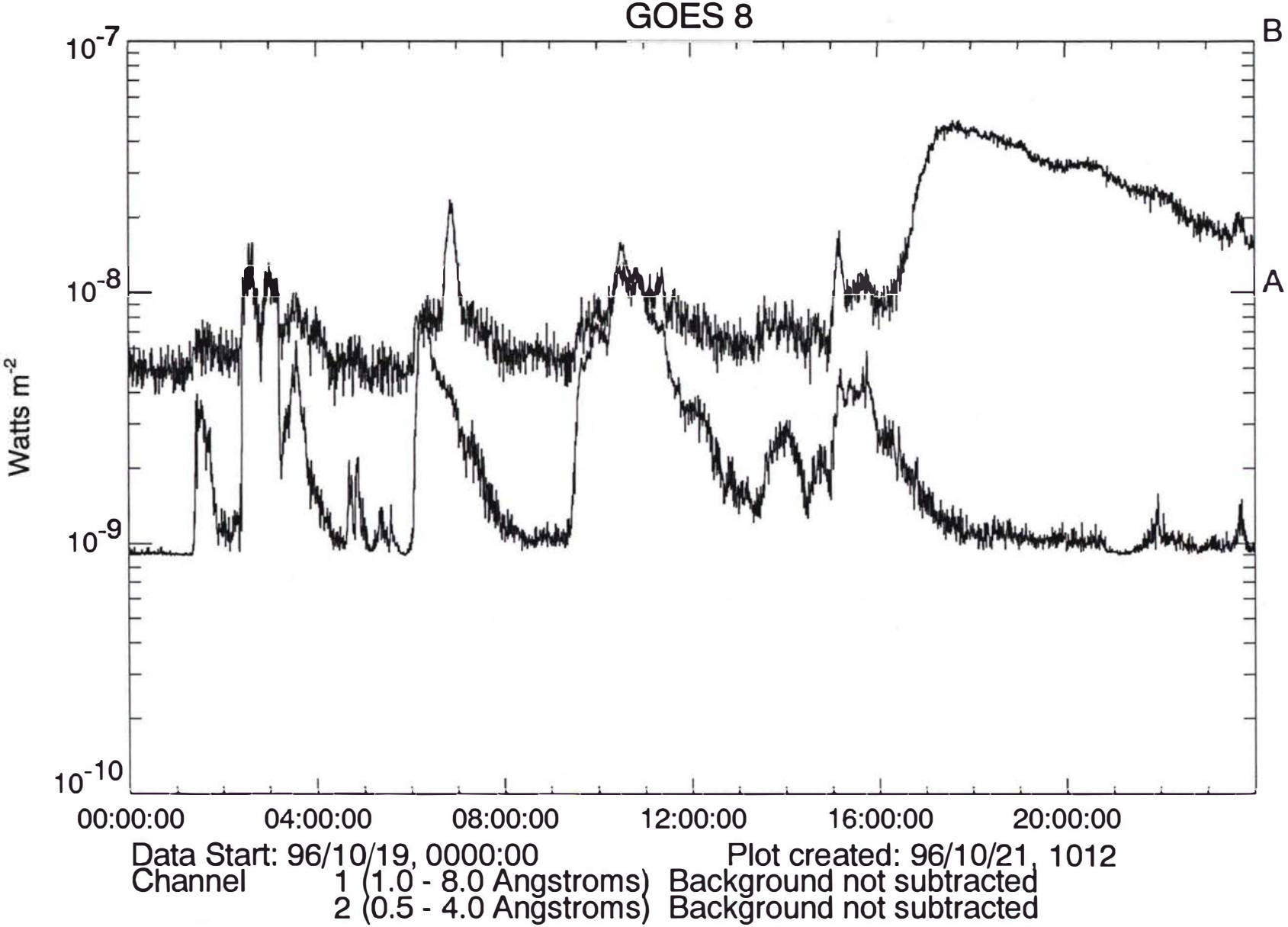


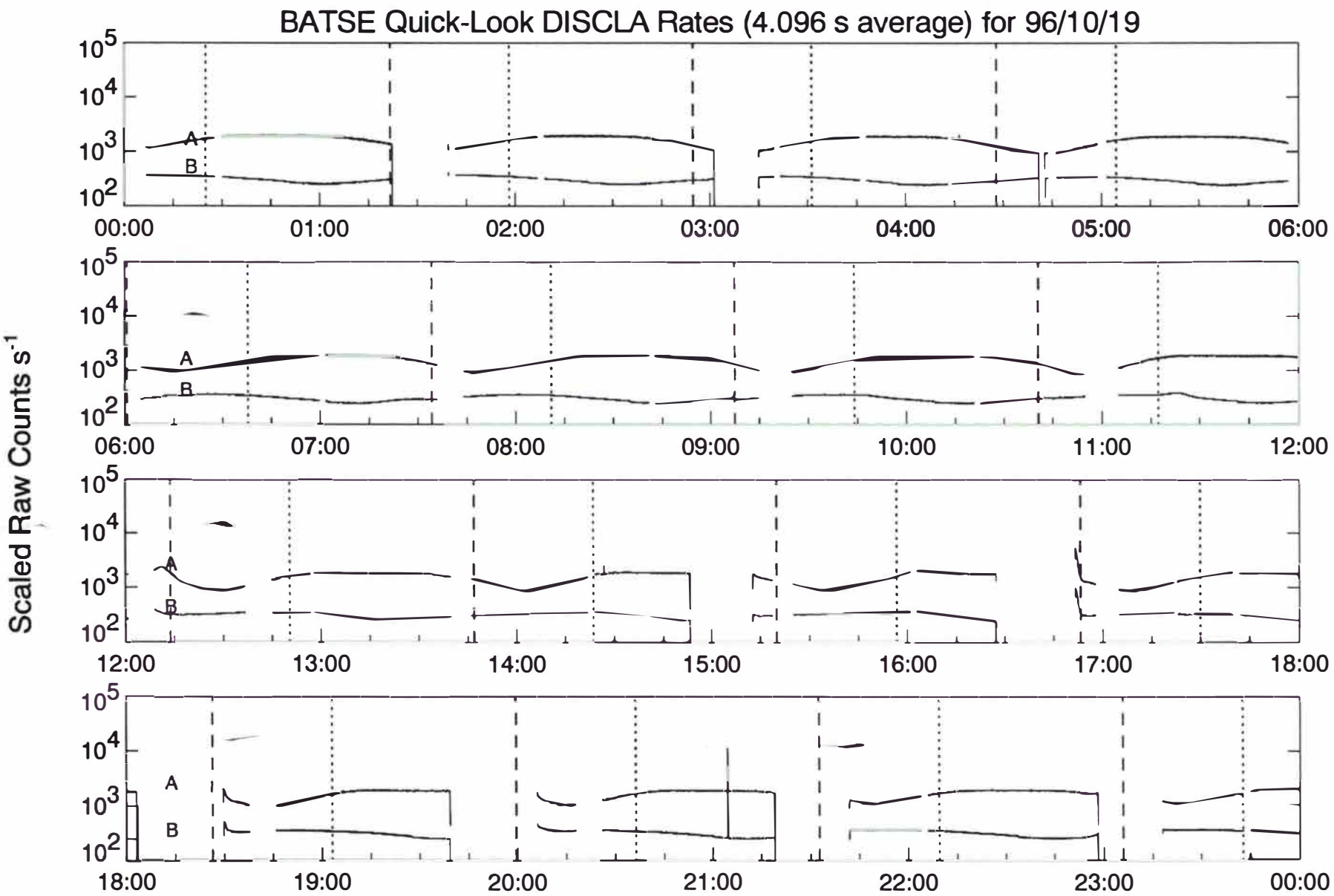

BATSE 19/10/96 76091.849
25- 100 keV
COUNTS/0.064 S
400
500
600
700
800
-3
0
1
5
9
13
17
21
25
29

9/4/97

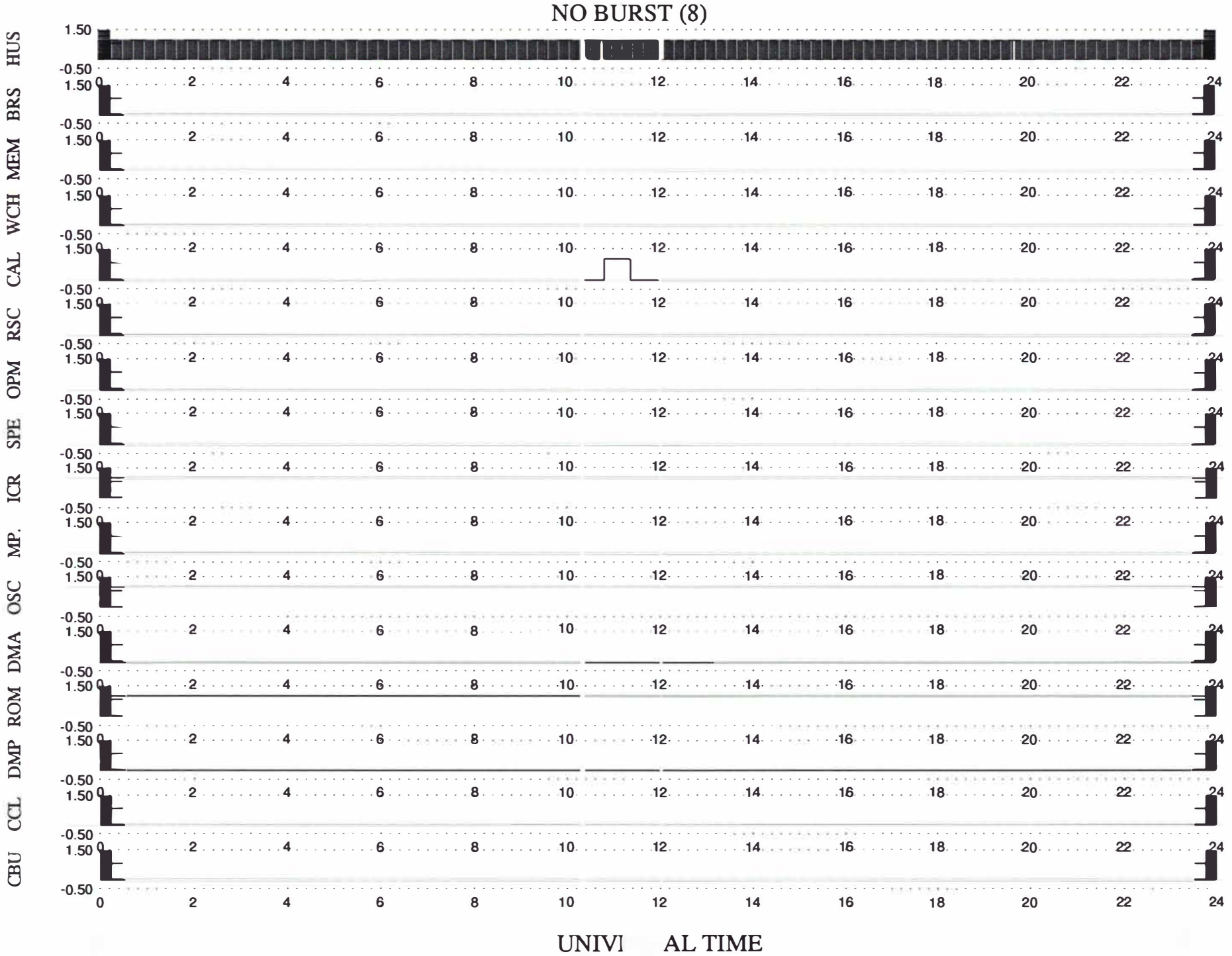
961019


DISCSC Data for K. Hurley, No. 5637
RATE (counts/sec)
12000
11500
11001
10500
10001
9500
9000
8500
8000
7500
7000
6500
-10
0
10
20
30
40
50
60
70
80
90
SECONDS since trigger
1-APR-1997 07:47:29
Created by MOPS 80
(Burst Display)
Version 2.25
Trigger # : 5637
Trigger Time:
16375 / 76891.850
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)
Detectors [7..0]:
--5---10
Discriminators:
[1 , 2]
Quality Mask:
BDIS21...


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/19, 0000:00
Plot created: 96/10/21, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

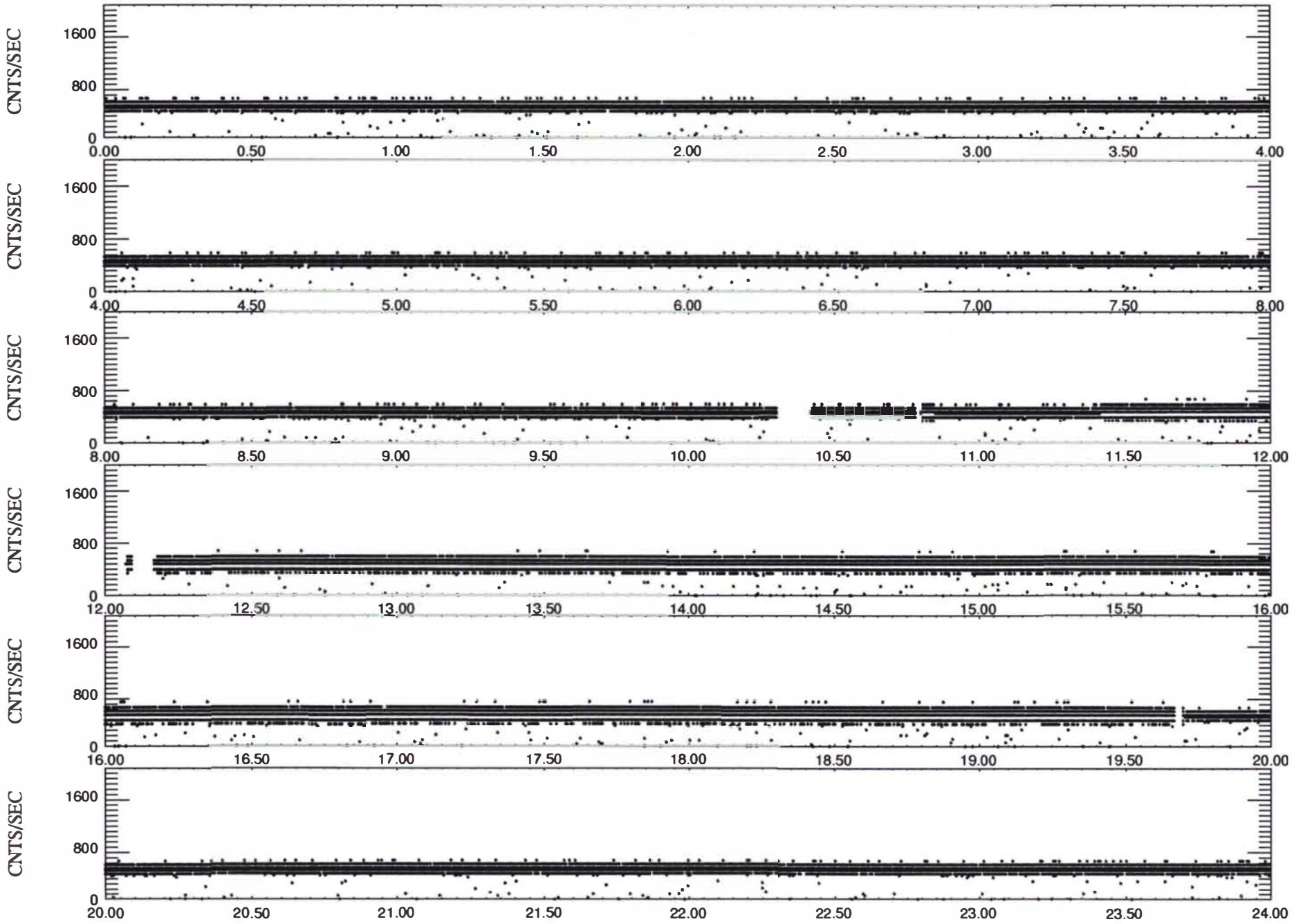

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/19
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/21, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 293, year 1996 to day 293, year 1996 3/29/97



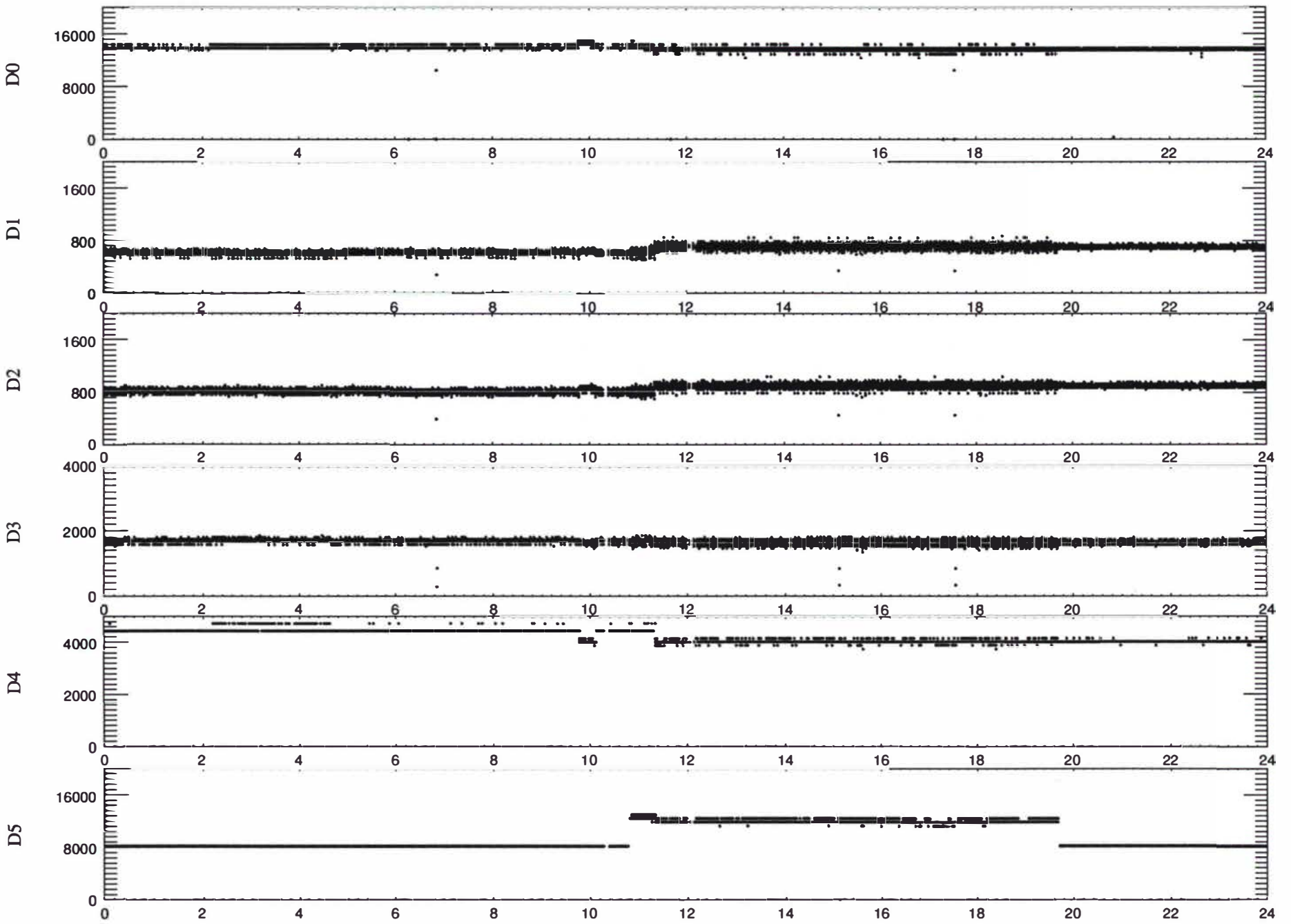
HUS 2A, MODE 1, NOT AVERAGED EDR day 293, year 1996 to day 293, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 293, year 1996 to day 293, year 1996 3/29/97



From WOODSP@ssl.msfc.nasa.gov Tue Oct 22 09:31 PDT 1996
Return-Path: <WOODSP@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id JAA14257; Tue, 22 Oct 1996 09:31:42 -0700
From: WOODSP@ssl.msfc.nasa.gov
Date: Tue, 22 Oct 1996 11:31:37 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961022113137.254072e7@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5638
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

```
         ********************
         *BATSEARCH PROGRAM*
         ********************

 BATSE BURST #     5638
 EVENT OF 1996 OCT 20 DAY OF YEAR=294
 EVENT CROSSING TIME AT BATSE      : 10299. S. OR 02:51:39.0
 COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  74.000     9.000
 BATSE PEAK COUNTING RATE:    4300     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 20/10/  96 IS:
 RA=  174.865 DEC=    32.090 DIST=     5.021 AU
 BATSE-ULYSSES DISTANCE =  751212850. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.72 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  187.00 SECS.
 CROSSING TIME AT ULYSSES     IS 10486. S. OR   02:54:46 +/-  486.67 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 20/10/  96 IS:
 RA=  146.991 DEC=    14.830 DIST=     1.810 AU
 MARS-BATSE DISTANCE =  270813760. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.62 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -288.47 SECS.
 CROSSING TIME AT MARS       IS 10011. S. OR   02:46:50 +/-  144.24 SECONDS


                 BATSE BURST TRIGGER
NO.: 5638

TIME: TJD=0376 SECONDS=10299

TYPE: BURST                     SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=113.7  AZIMUTH=173.7  ERROR=9.3   DEGREES

COMMENTS:
GRB LASTING ~ 0.6 SEC.  SHOWS AT LEAST TWO PEAKS.  NOT VISIBLE
ABOVE 300 KEV.

 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5638   961020   10376   10299     4300   074   +09    .6
```

BATSE# 5638

ULYSSES RT 22/10/96

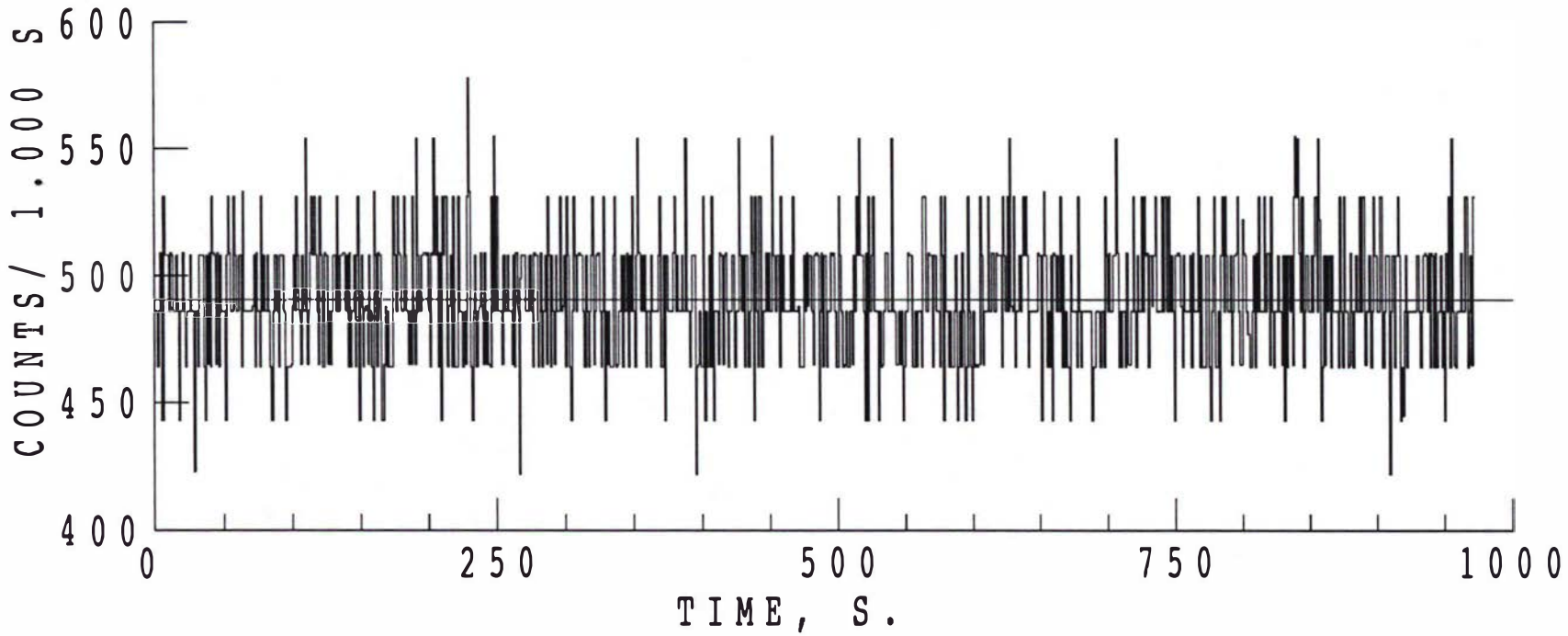
20/10/96 10008.327 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@SSLLES.MSFC.NASA.GOV Tue Oct 22 09:25 PDT 1996
Date: Tue, 22 Oct 1996 11:25:10 -0500 (CDT)
From: WOODSP@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
"LHEAVX::CLINE"@ssl.msfc.nasa.gov,
"LHEAVX::BARTHELMY"@ssl.msfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, band@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5639

TIME: TJD=0376 SECONDS=43742

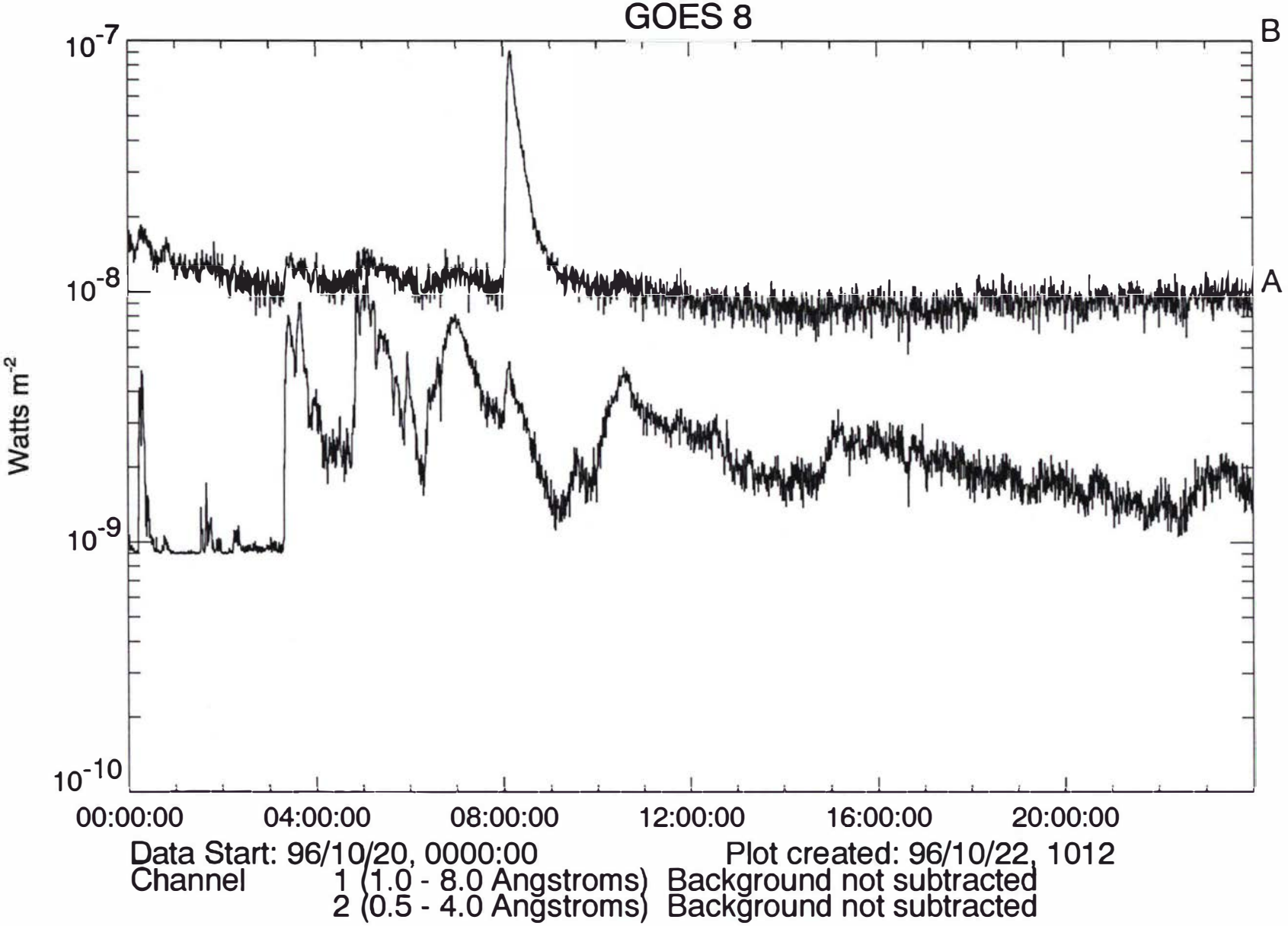
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

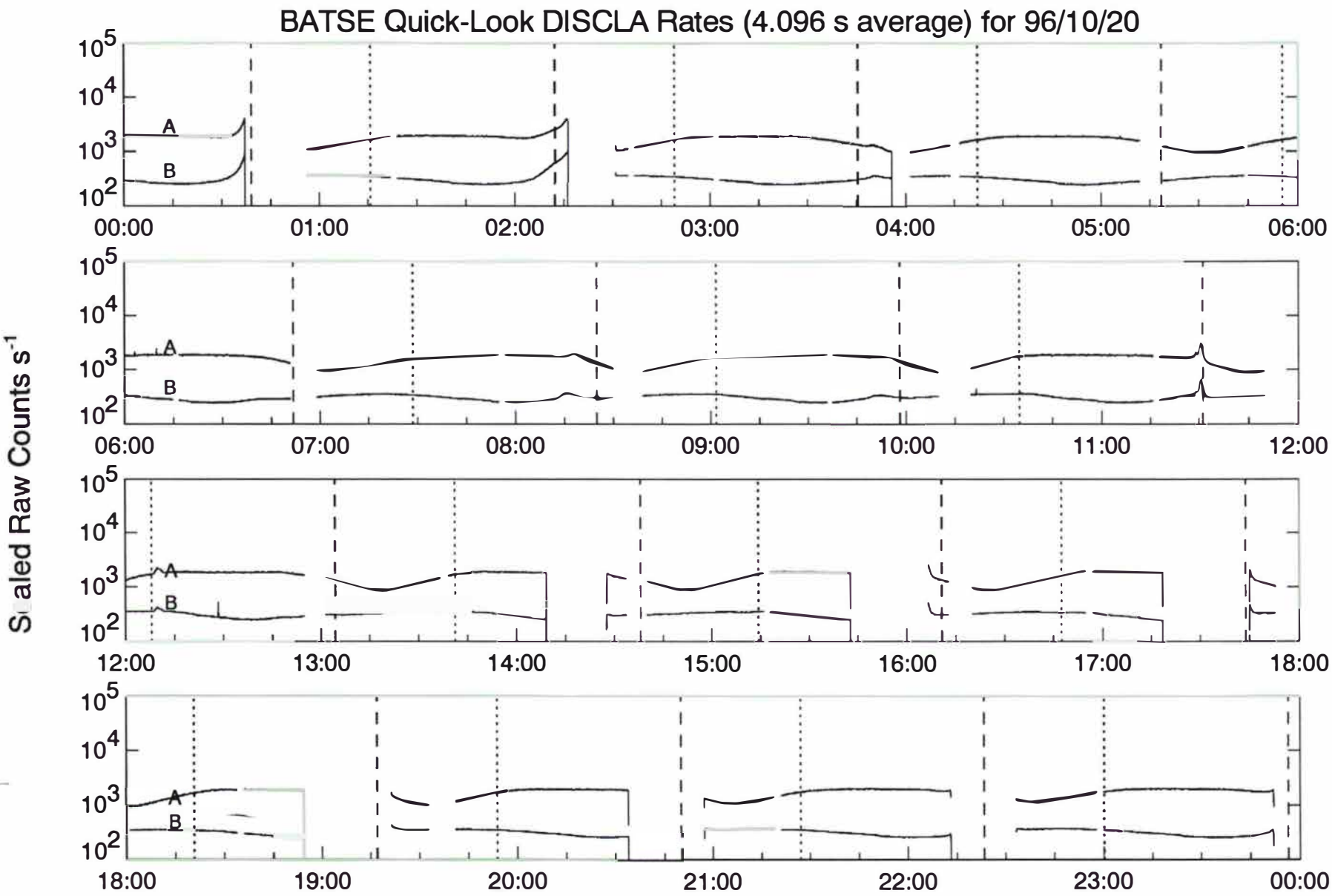
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

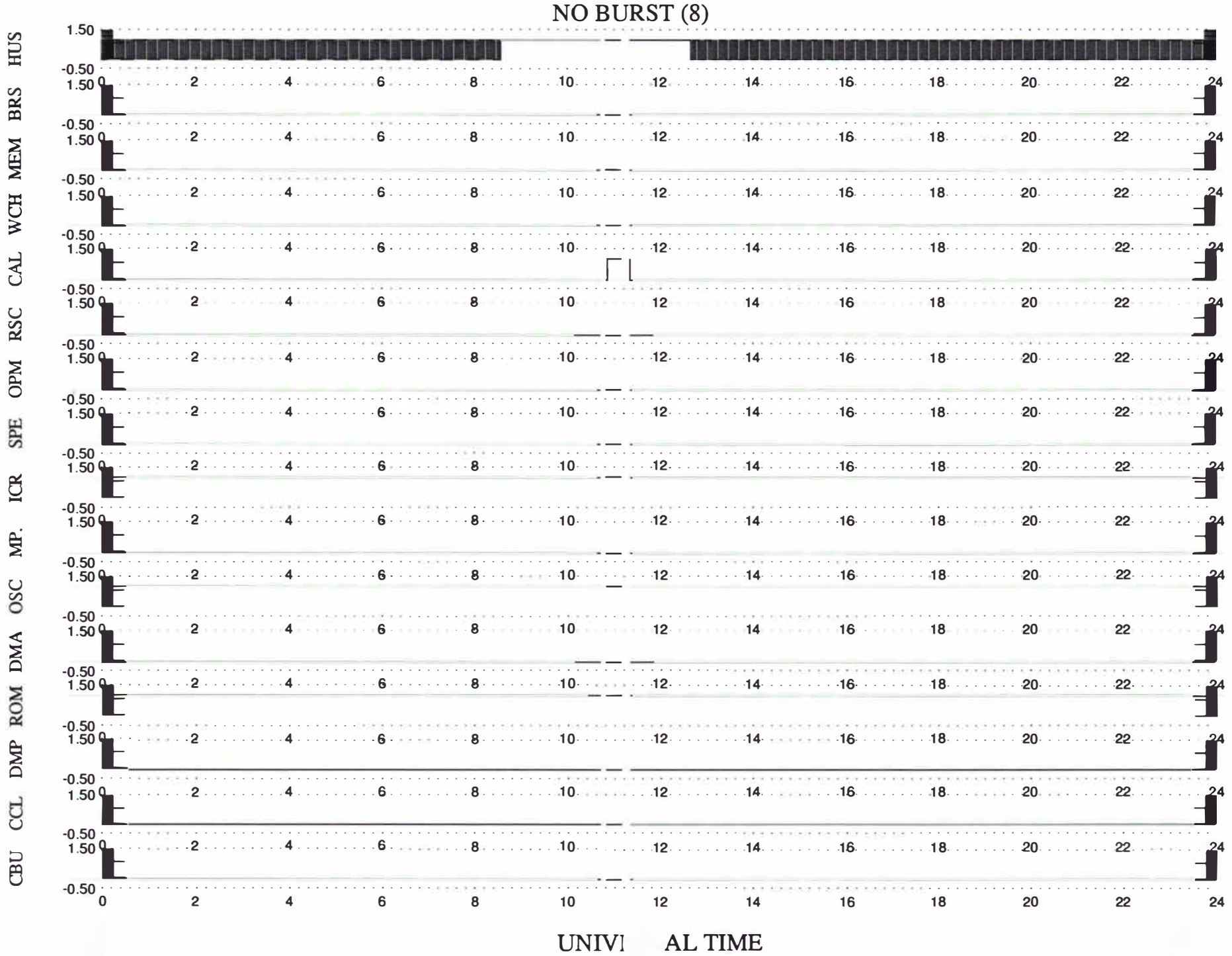
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/20, 0000:00
Plot created: 96/10/22, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

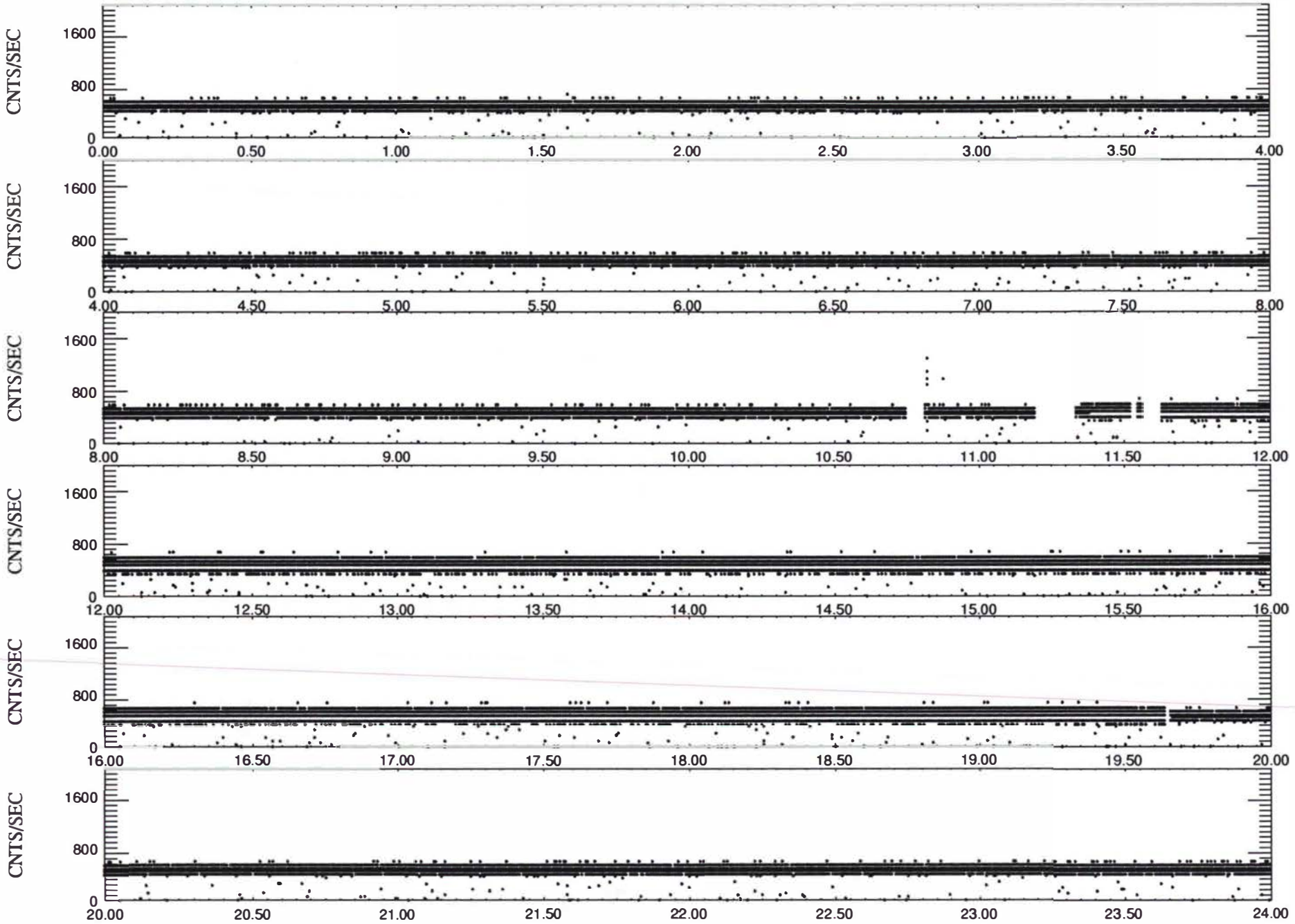

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/20
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/22, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 294, year 1996 to day 294, year 1996 3/29/97



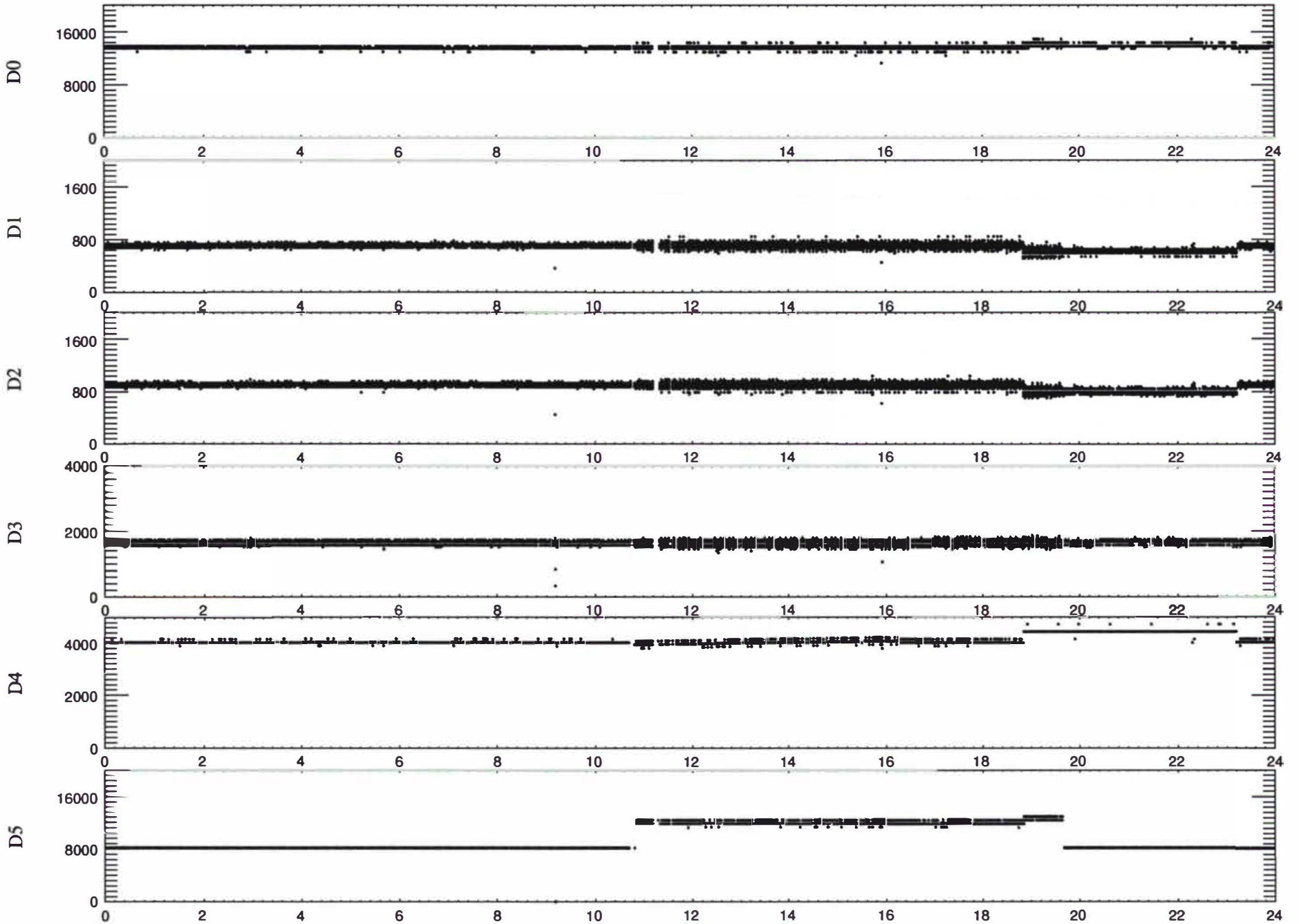
HUS 2A, MODE 1, NOT AVERAGED EDR day 294, year 1996 to day 294, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 294, year 1996 to day 294, year 1996 3/29/97



Date: Oct 13 2011

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

☑ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

☐ Was CHECKMO run to eliminate data gaps?

☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data…")

☐ Was Mars-blocking used?

☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)

☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).

☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

☐ Σ $3\Delta t$'s calculated, and/or BMAPSUM executed?

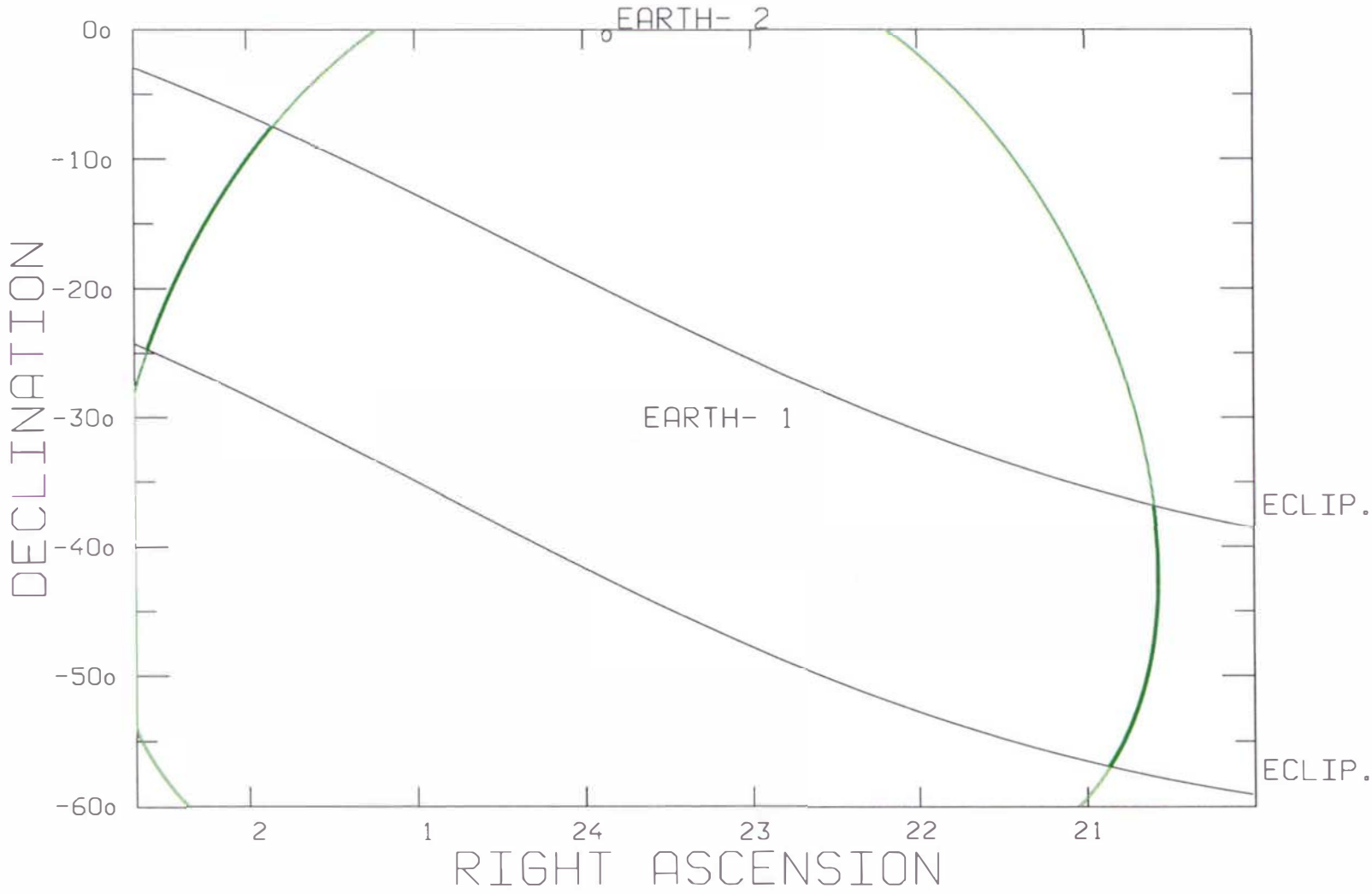
3. For INTEGRAL events

☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?

☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?

☐ Updated ephemeris used for bursts prior to September 30, 2003?

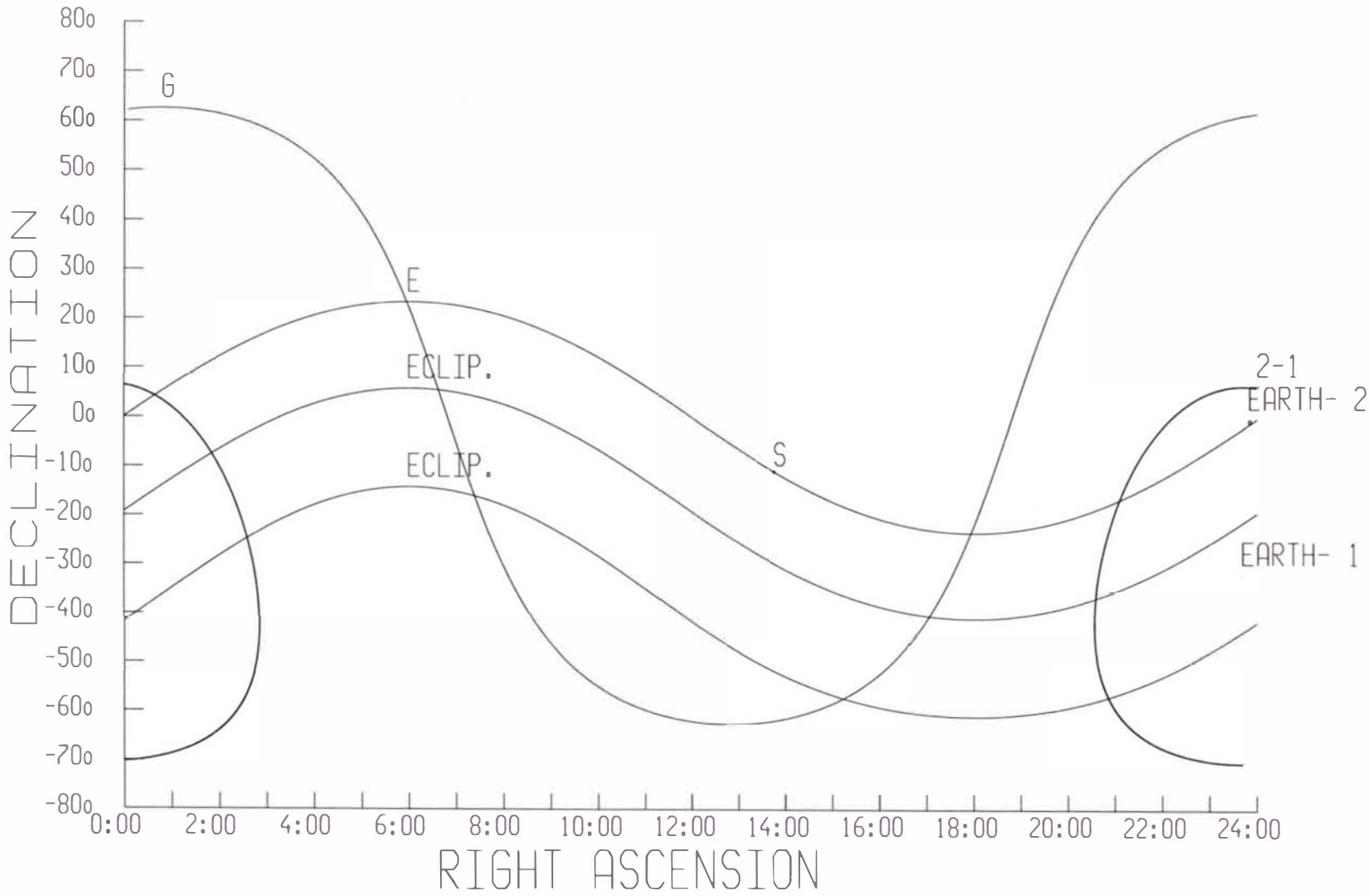
☑ ACCESS and MBL4 databases updated with identical times?


EARTH- 2
EARTH- 1
ECLIP.
ECLIP.
0o
-10o
-20o
-30o
-40o
-50o
-60o
DECLINATION
2
1
24
23
22
21
RIGHT ASCENSION

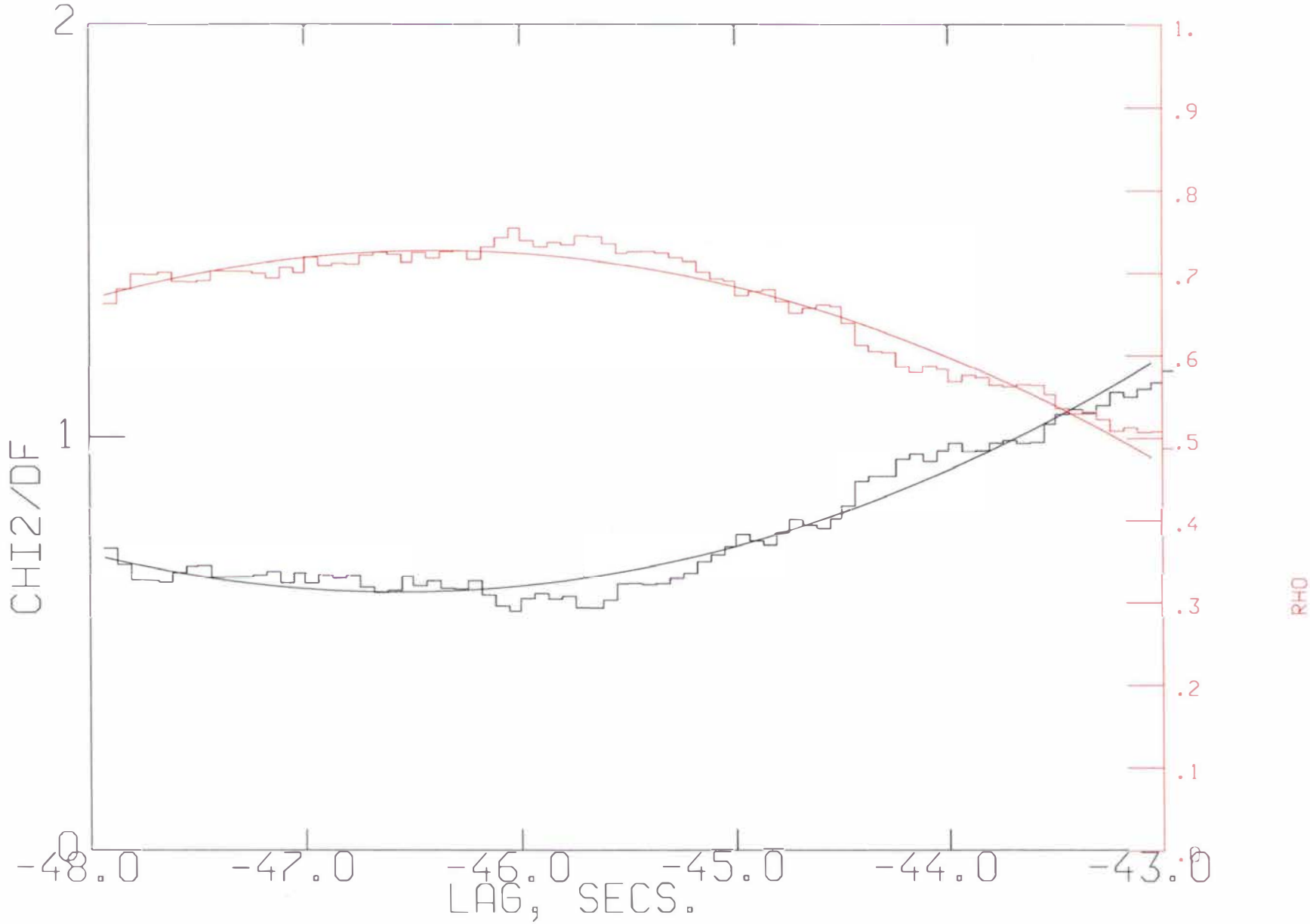
EVENT OF OCT 21, 1996 15:24

13/10/2011

Z-M = CORRELATION BETWEEN SATELLITES Z AND M
EARTH-Z = EARTH AS SEEN FROM SATELLITE Z
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS1



ULYSSES RT-KONUS1 CORRELATION 21/10/96 55481.202



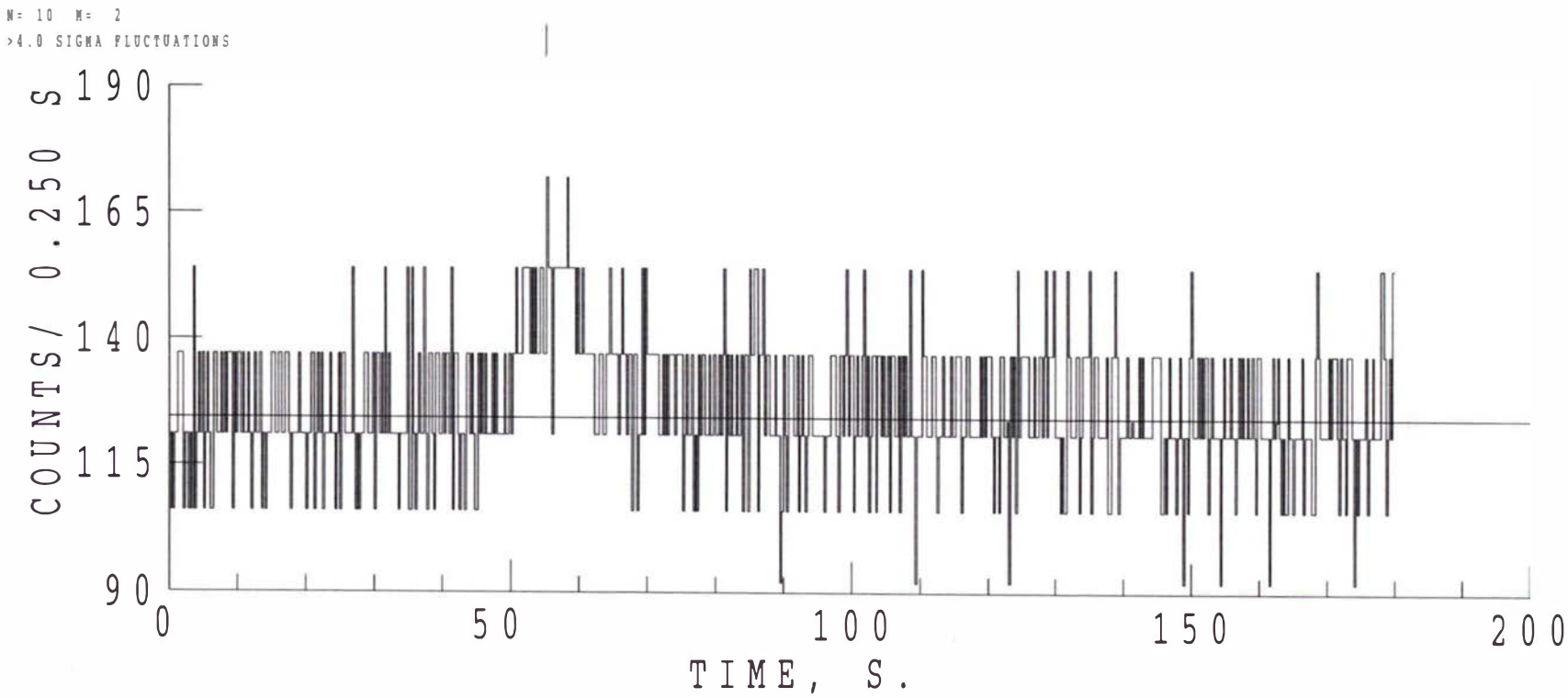
KONUS 19961021 55562

ULYSSES RT

12/10/11

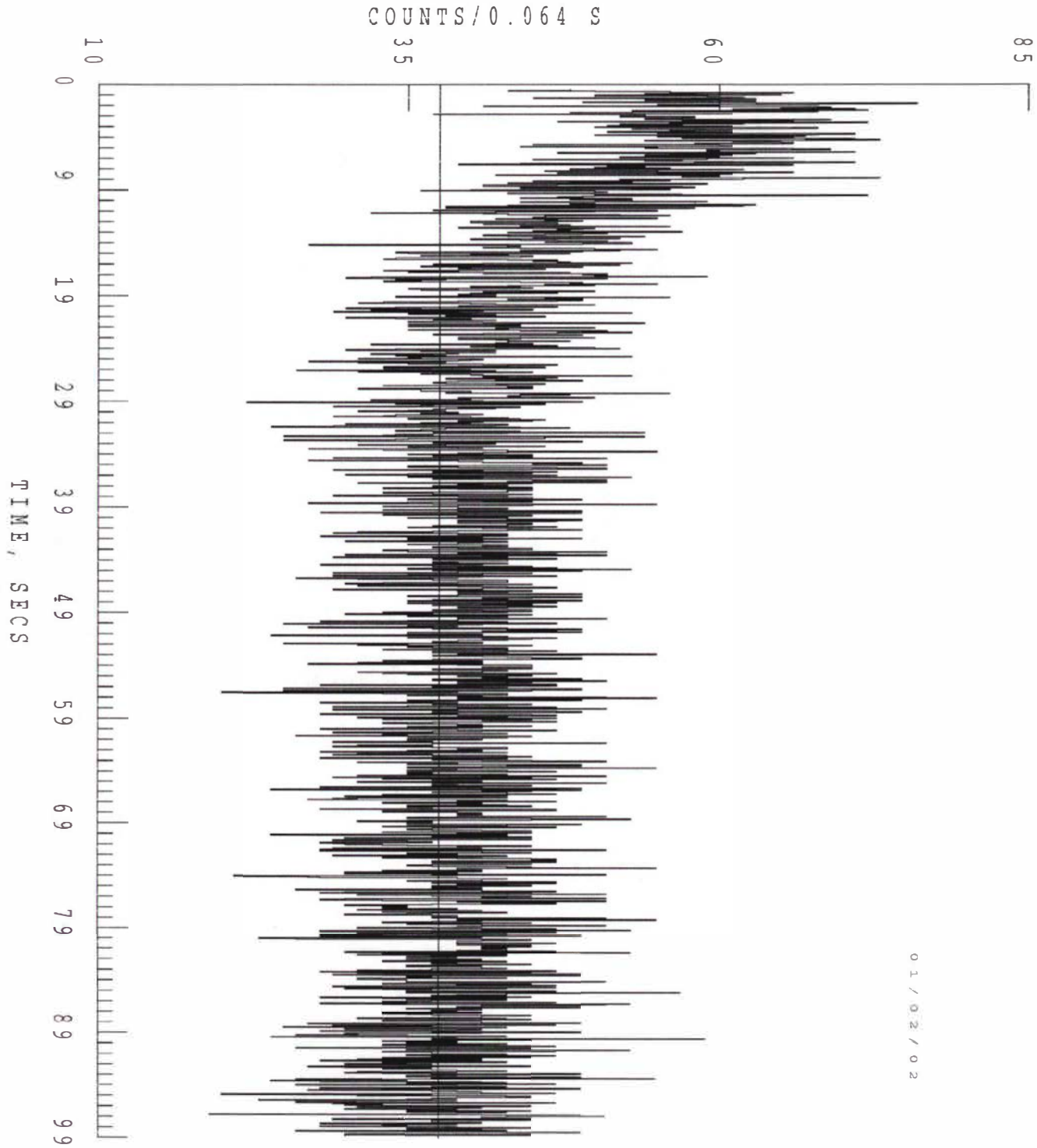
21/10/96 55476.227 s

0- 0 keV



KONUS1 21/10/96 53569.142

50- 200 keV



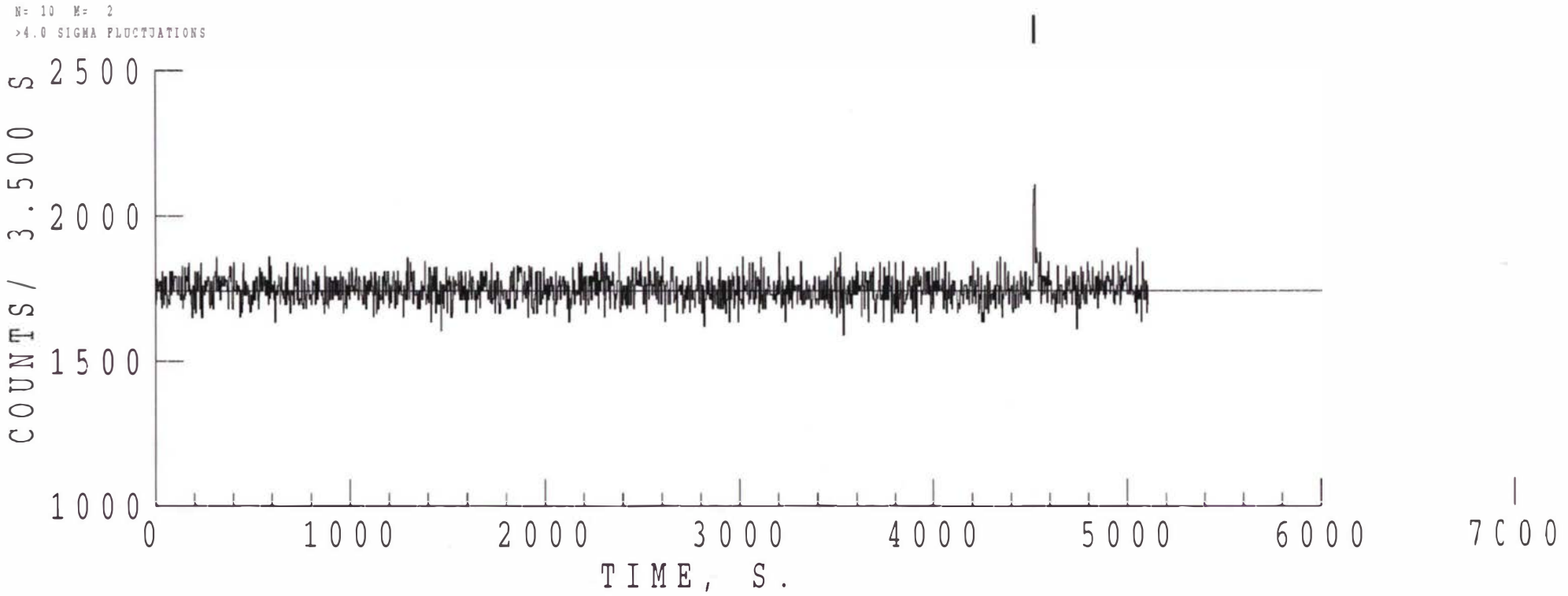
KONUS1 19961021 53569

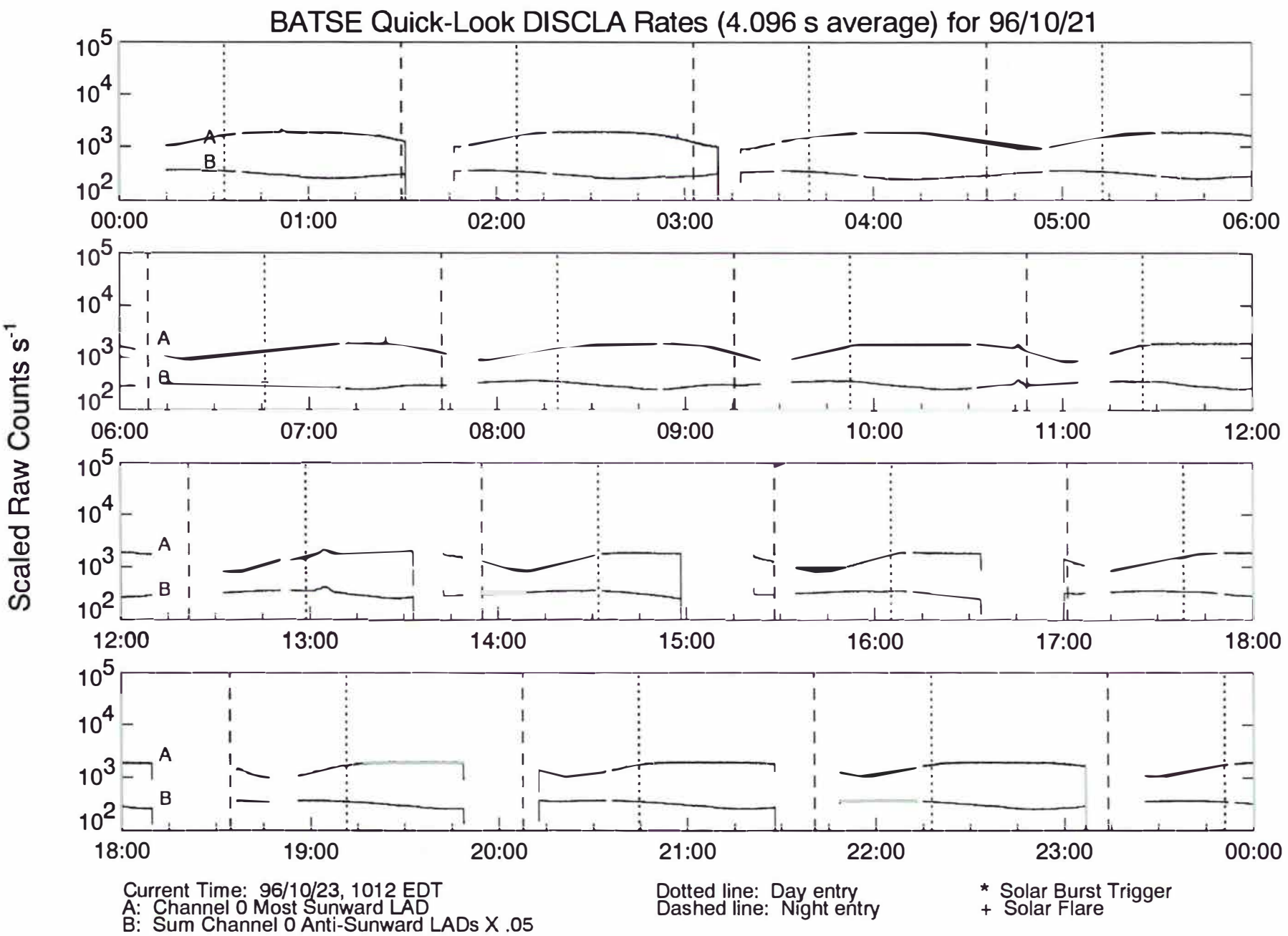
ULYSSES RT 01/02/02

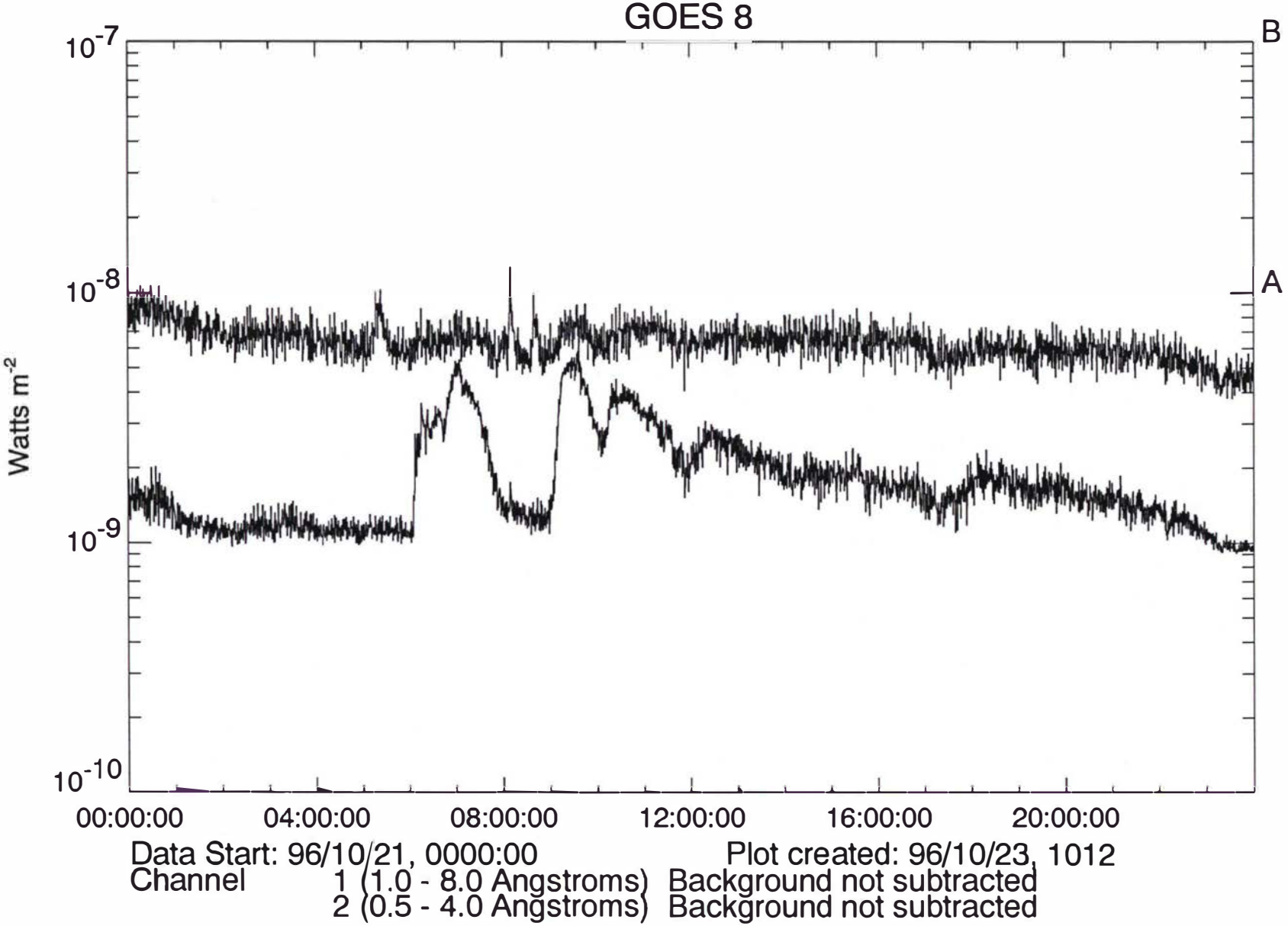
21/10/96 51012.168 s

0.250 S INTERVALS REGROUPED BY 14

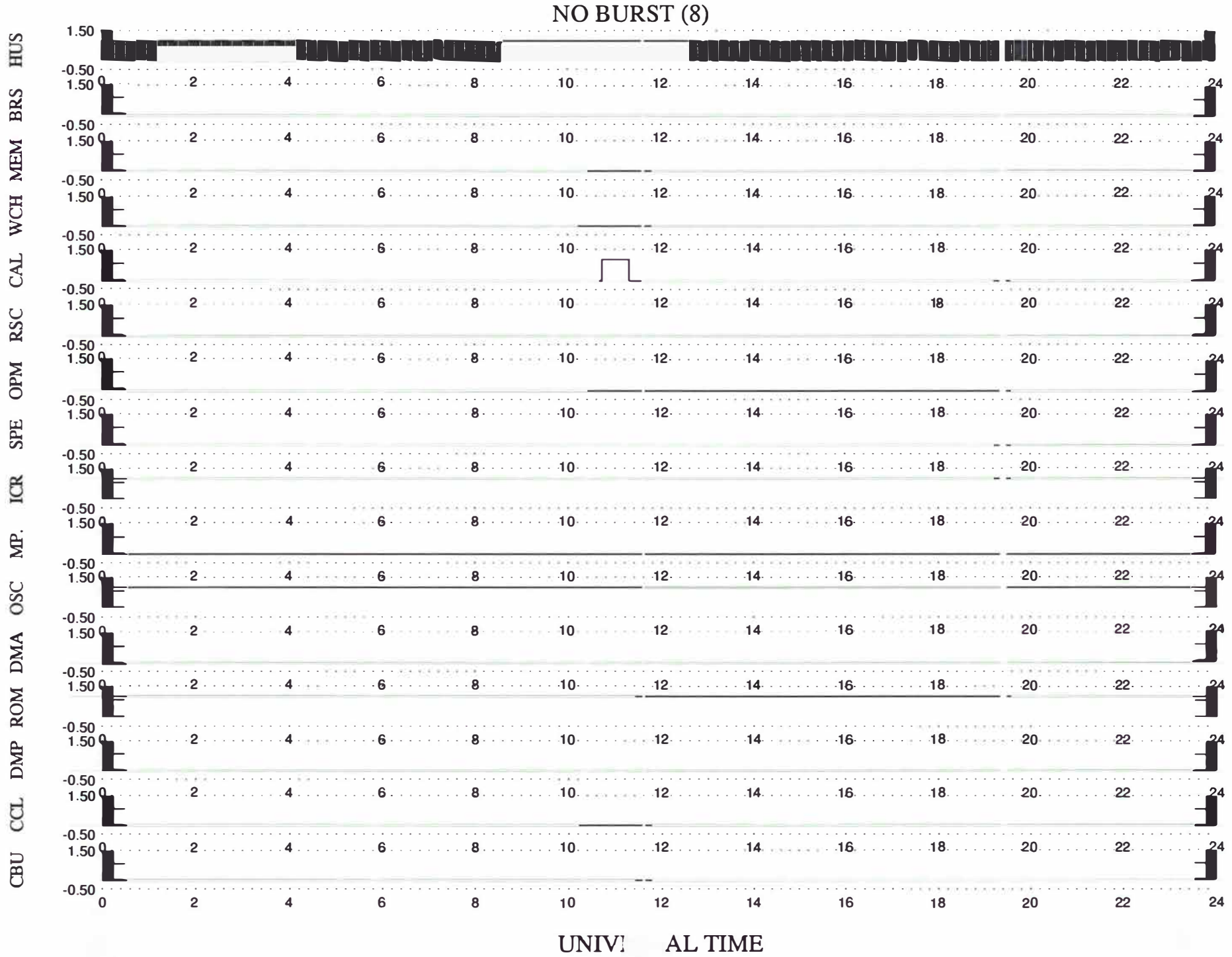
0- 0 keV




BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/21
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/23, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

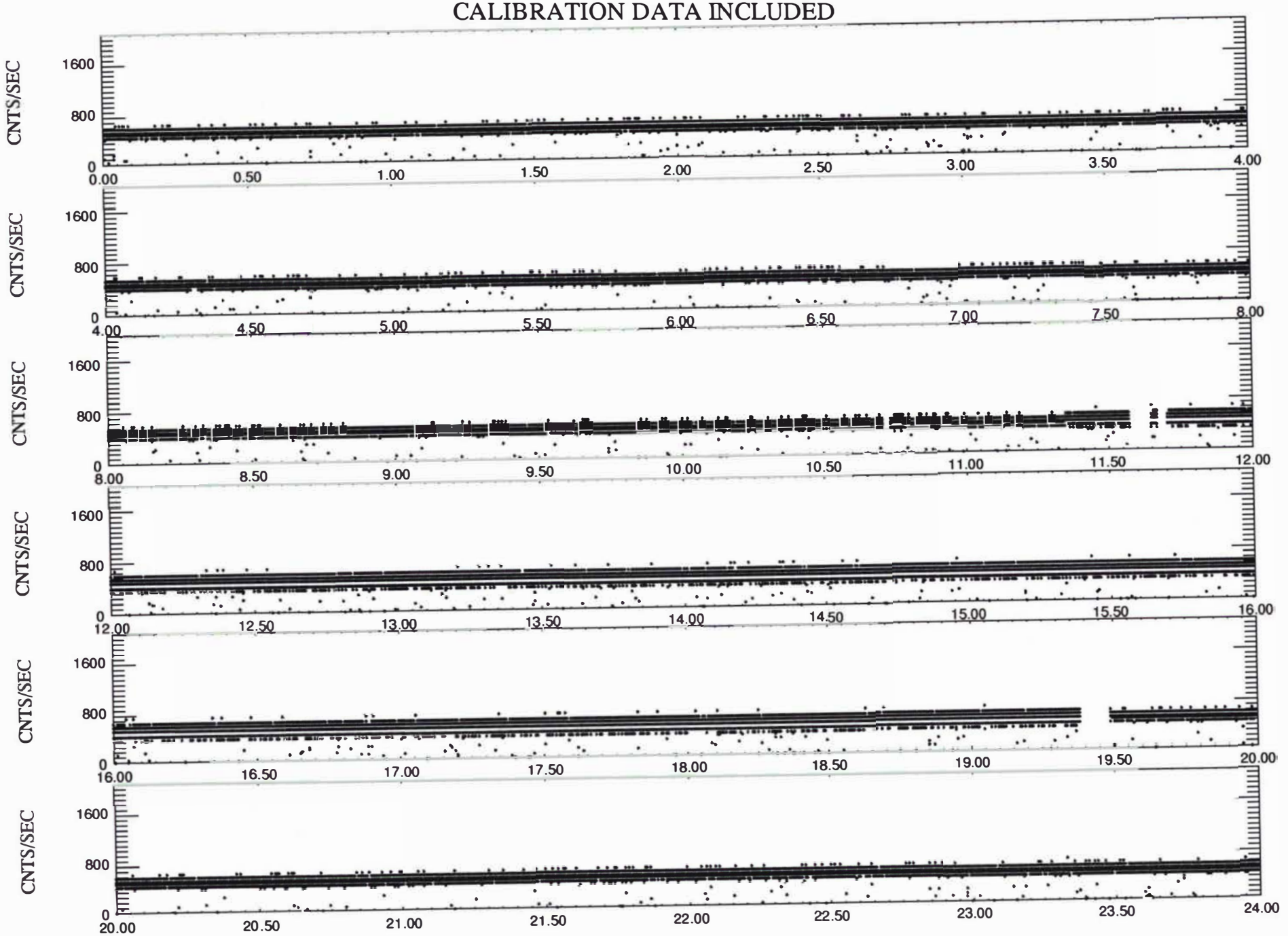

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/21, 0000:00
Plot created: 96/10/23, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 295, year 1996 to day 295, year 1996 3/29/97



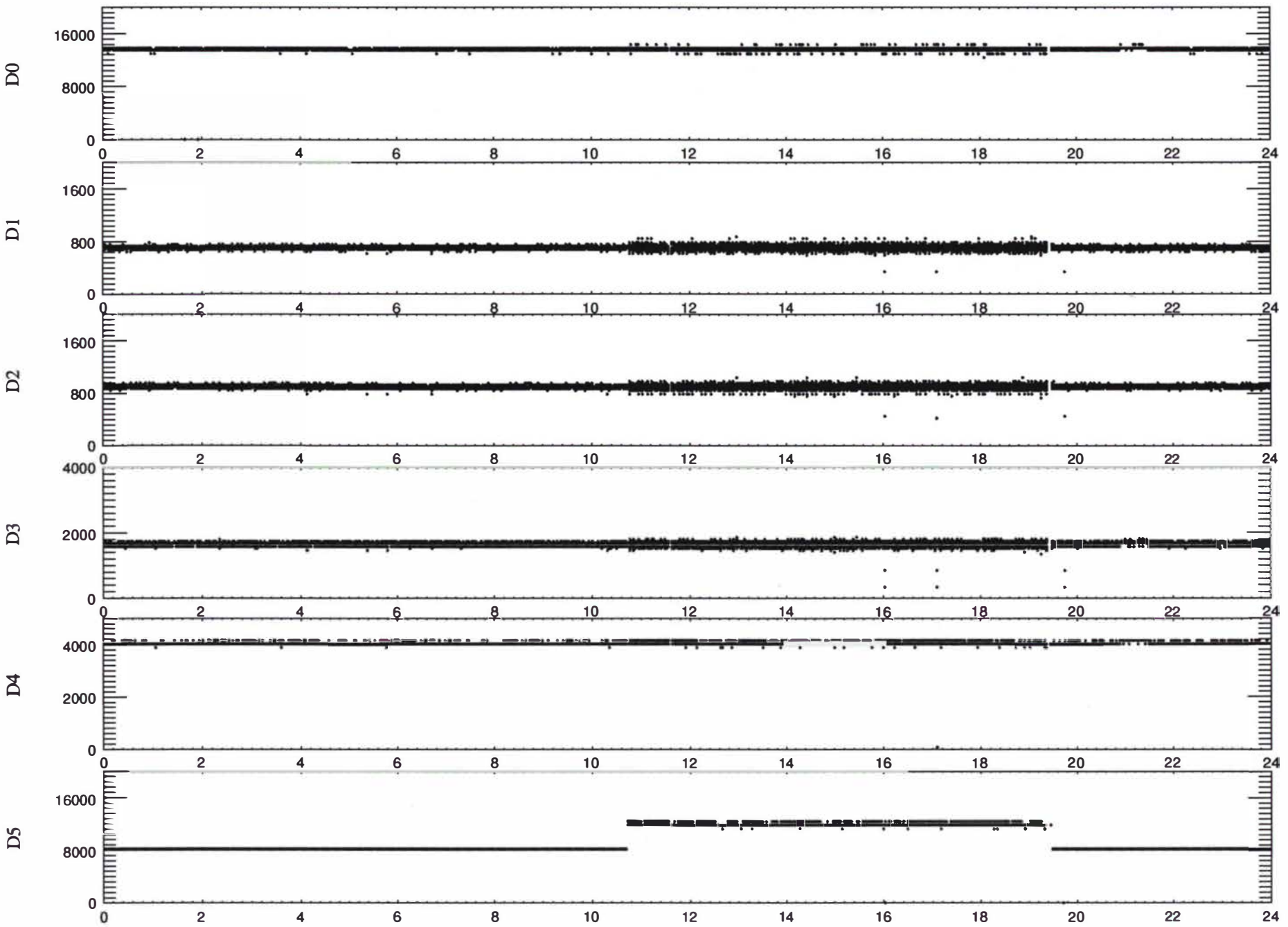
HUS 2A, MODE 1, NOT AVERAGED EDR day 295, year 1996 to day 295, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 295, year 1996 to day 295, year 1996 3/29/97



From WOODSP@ssl.msfc.nasa.gov Thu Oct 24 07:09 PDT 1996
From: WOODSP@ssl.msfc.nasa.gov
Date: Thu, 24 Oct 1996 9:08:00 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
"LHEAVX::CLINE"@ssl.msfc.nasa.gov,
"LHEAVX::BARTHELMY"@ssl.msfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, band@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5641

TIME: TJD=0378 SECONDS=35625

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From WOODSP@SSLLES.MSFC.NASA.GOV Thu Oct 24 07:13 PDT 1996
Return-Path: <WOODSP@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA13244; Thu, 24 Oct 1996 07:13:12 -0700
Date: Thu, 24 Oct 1996 9:13:04 -0500 (CDT)
From: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961024091304.25408cc2@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5640
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

NO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5640
EVENT OF 1996 OCT 22 DAY OF YEAR=296
EVENT CROSSING TIME AT BATSE : 24231. S. OR 06:43:51.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 268.000 -13.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/10/ 96 IS:
RA= 175.179 DEC= 31.972 DIST= 5.006 AU
BATSE-ULYSSES DISTANCE = 748840538. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 80.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 399.15 SECS.
CROSSING TIME AT ULYSSES IS 24630. S. OR 06:50:30 +/- 484.16 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/10/ 96 IS:
RA= 148.113 DEC= 14.471 DIST= 1.795 AU
MARS-BATSE DISTANCE = 268540416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.24 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 471.46 SECS.
CROSSING TIME AT MARS IS 24702. S. OR 06:51:42 +/- 139.39 SECONDS

BATSE BURST TRIGGER
NO.: 5640

TIME: TJD=0378 SECONDS=24231

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=8.1 AZIMUTH=7.1 ERROR=6.6 DEGREES

COMMENTS:
GRB LASTING ~ 20 SEC. MULTIPLE PEAKS. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5640	961022	10378	24231	6000	268	-13	20

BATSE# 5640

ULYSSES RT 24/10/96

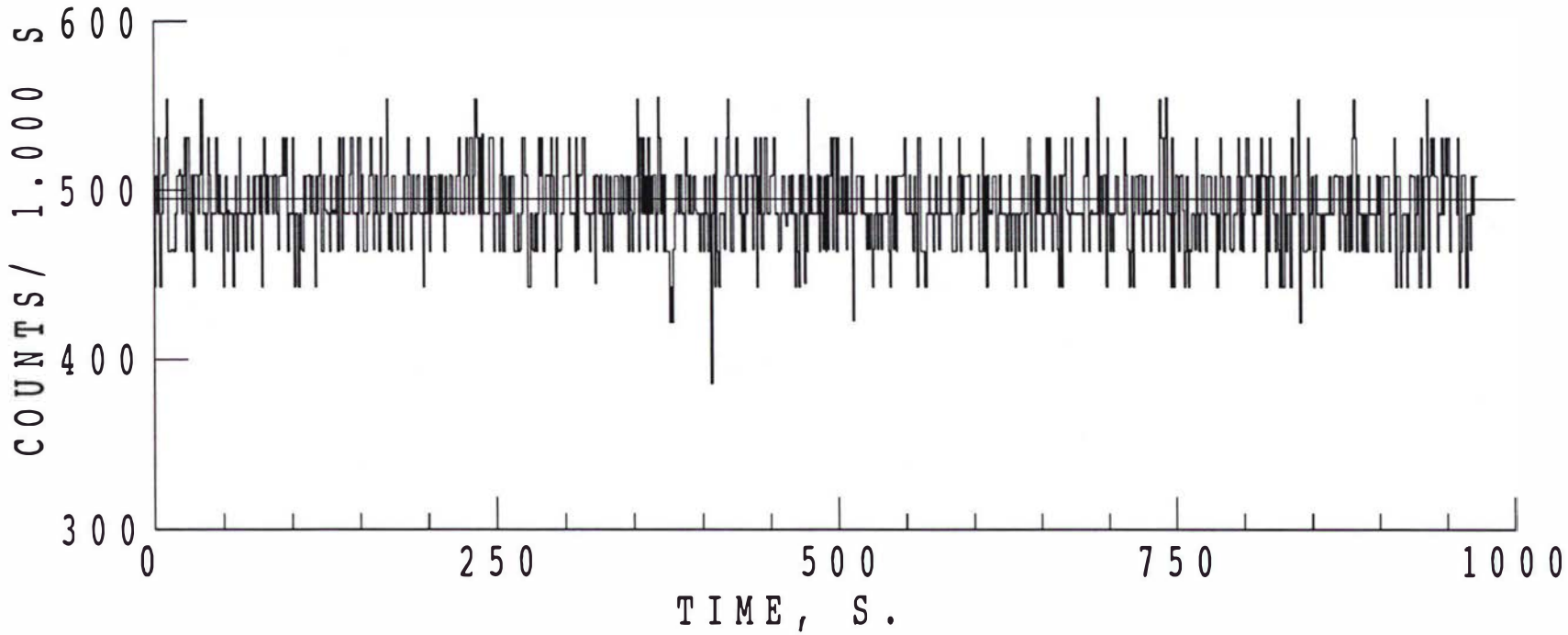
22/10/96 24156.166 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

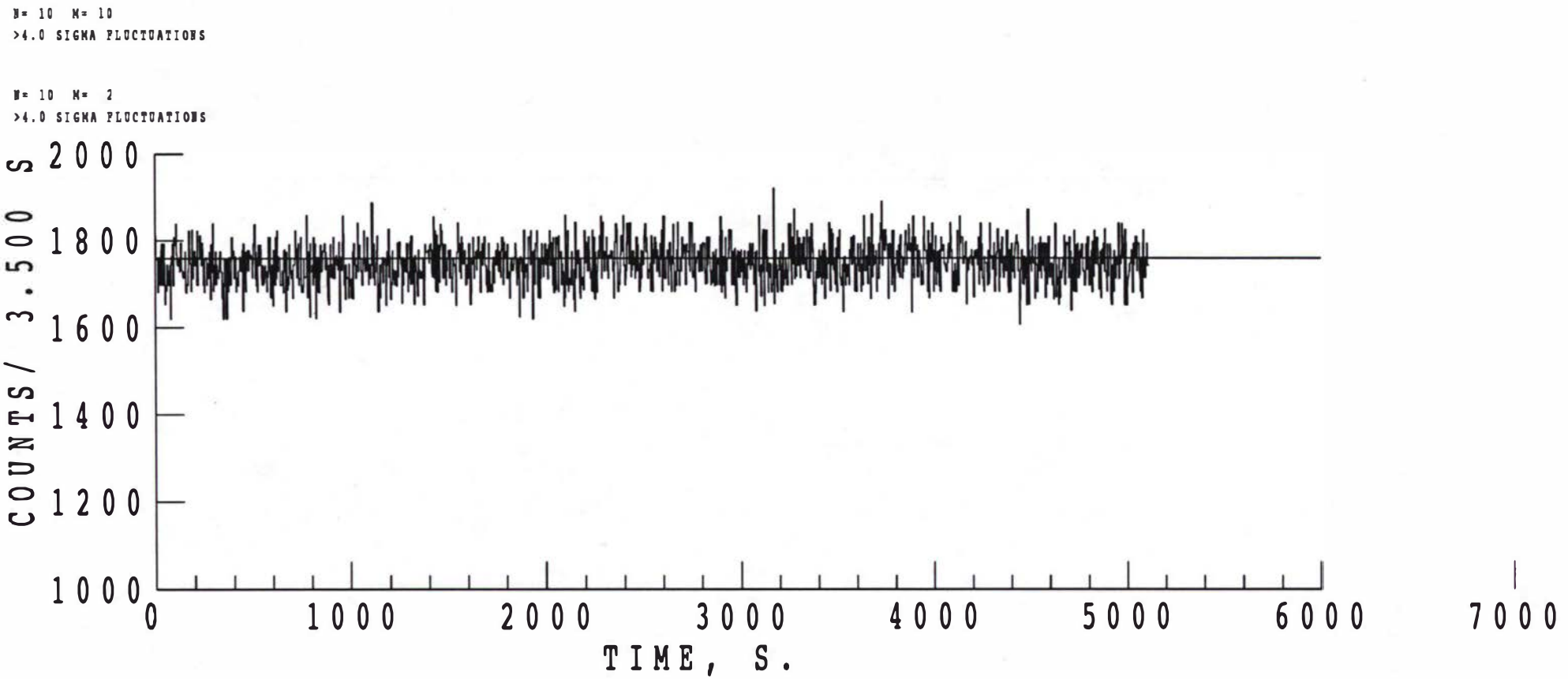
ULYSSES RT

31/01/00

22/10/96 44820.172 s

0.250 S INTERVALS REGROUPED BY 14

0- 0 keV



From WOODSP@ssl.msfc.nasa.gov Thu Oct 24 07:14 PDT 1996
Return-Path: <WOODSP@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id HAA13266; Thu, 24 Oct 1996 07:14:32 -0700
From: WOODSP@ssl.msfc.nasa.gov
Date: Thu, 24 Oct 1996 9:14:27 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961024091427.25408cc2@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5642
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

RI

****
BATSEARCH PROGRAM
****

BATSE BURST # 5642
EVENT OF 1996 OCT 22 DAY OF YEAR=296
EVENT CROSSING TIME AT BATSE : 68456. S. OR 19:00:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 160.000 -39.000
BATSE PEAK COUNTING RATE: 12400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/10/ 96 IS:
RA= 175.251 DEC= 31.945 DIST= 5.002 AU
BATSE-ULYSSES DISTANCE = 748265580. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.65 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -756.89 SECS.
CROSSING TIME AT ULYSSES IS 67699. S. OR 18:48:19 +/- 451.44 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/10/ 96 IS:
RA= 148.113 DEC= 14.471 DIST= 1.795 AU
MARS-BATSE DISTANCE = 268540416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=125.39 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -518.73 SECS.
CROSSING TIME AT MARS IS 67937. S. OR 18:52:17 +/- 118.91 SECONDS

BATSE BURST TRIGGER
NO.: 642

TIME: TJD=0378 SECONDS=68456

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=153.5 AZIMUTH=7.4 ERROR=0.7 DEGREES

COMMENTS:
BRIGHT GRB LASTING AT LEAST 170 SEC. MULTIEPISODIC. SHOWS LOTS OF
FINE STRUCTURE. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5642	961022	10378	68456	12400	160	-39	170

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	Search ± 2500	
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	Search ± 2500	
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	Search ± 2500	
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	Search ± 2600	
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	Search ± 2600	
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	Search ± 2600	
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	Search ± 2600	
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	Search ± 2600	
96	10	17	42405.539	S1					0.3	1.5	396	Search ± 2600	
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	Search ± 2600	
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	~~Search ± 2600~~ RI	
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	Search ± 2600	
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	Search ± 2600	
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	Search ± 2600	

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	Search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4725
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Search	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

Helio con removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

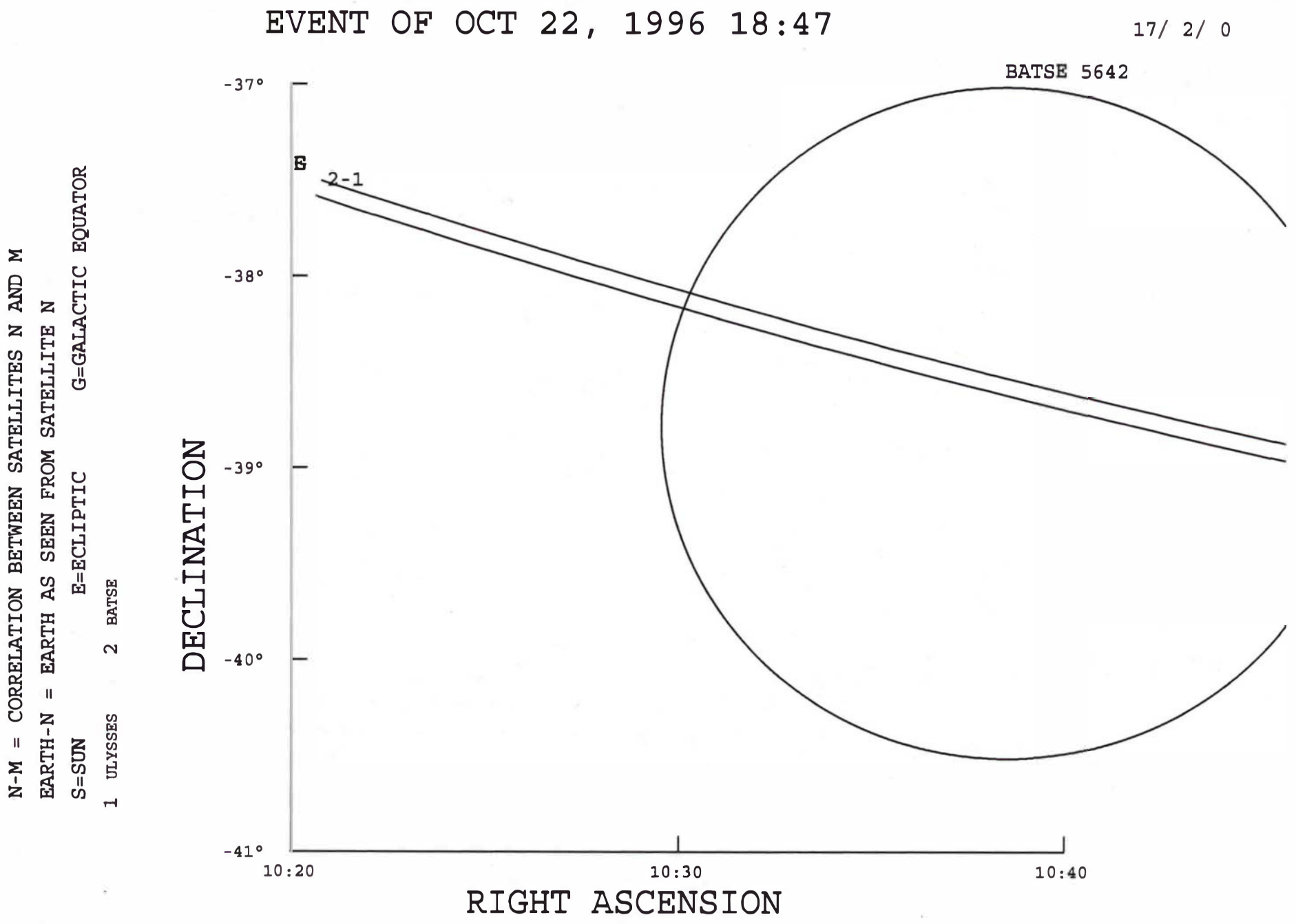
3. PVO Data

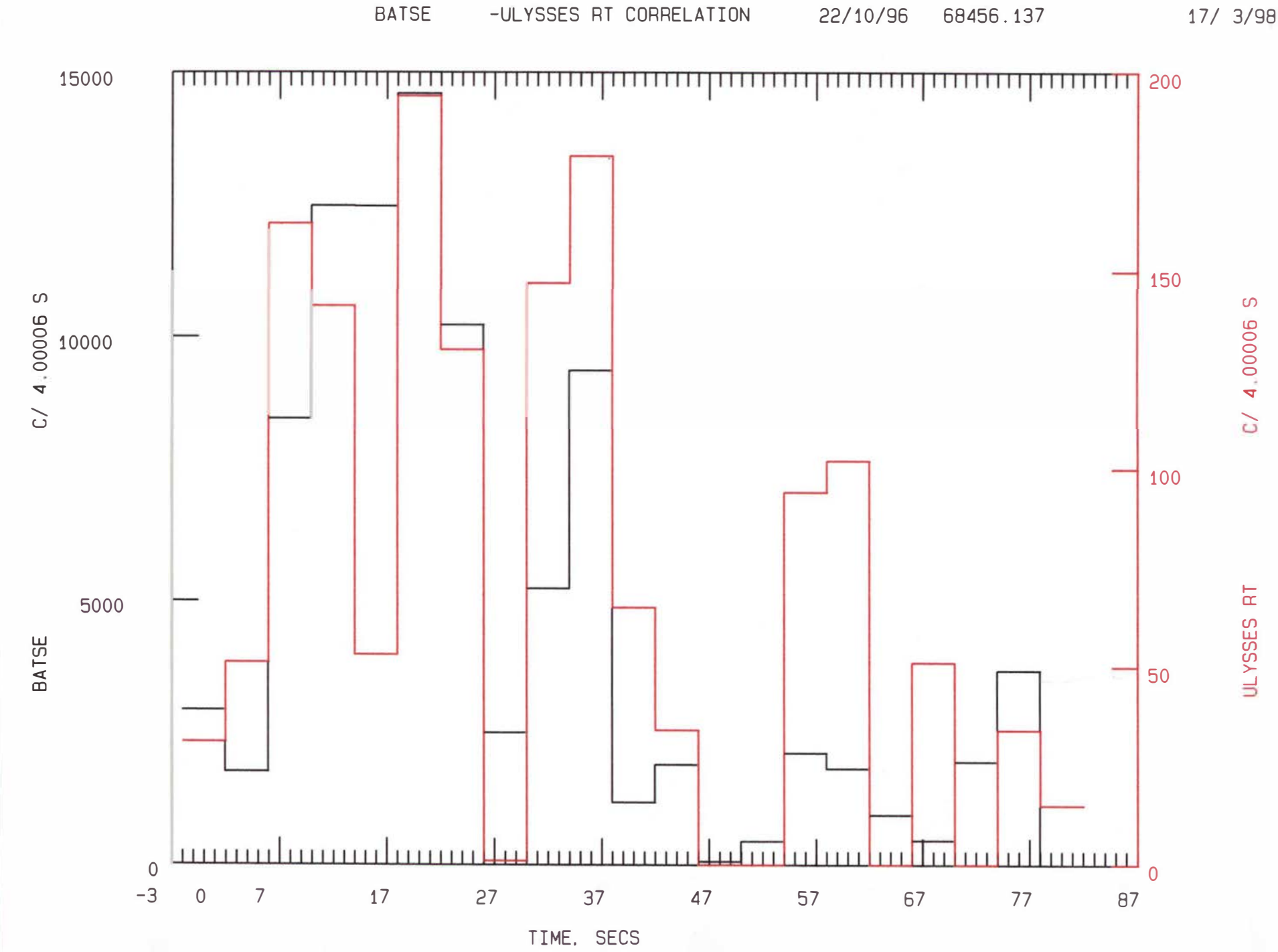
☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

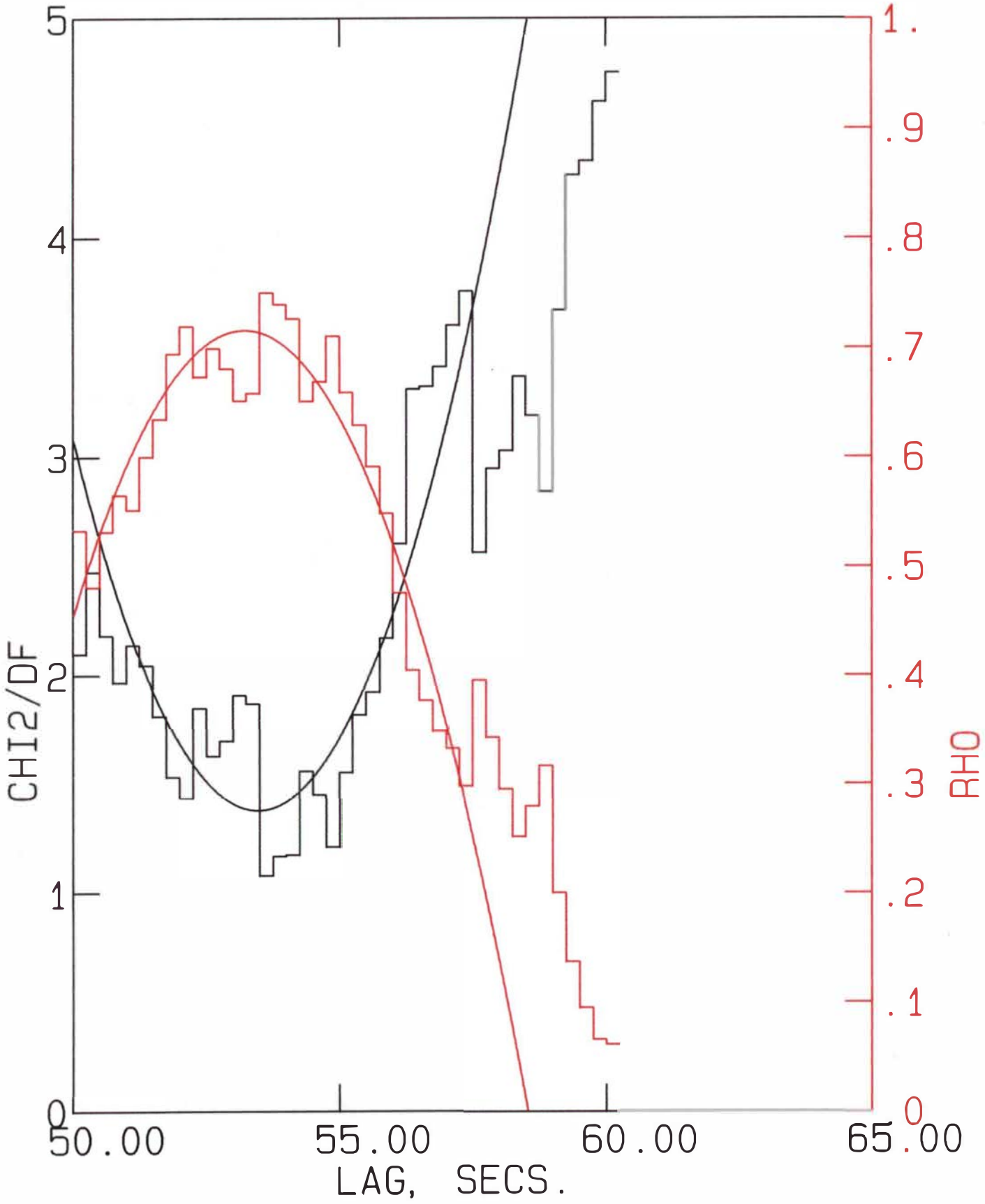
☐ Geocentric time used?

☑ ACCESS database updated?


EVENT OF OCT 22, 1996 18:47
17/ 2/ 0
BATSE 5642
2-1
E
-37°
-38°
-39°
-40°
-41°
DECLINATION
10:20
10:30
10:40
RIGHT ASCENSION
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE


BATSE -ULYSSES RT CORRELATION 22/10/96 68456.137 17/ 3/98
15000
10000
5000
0
200
150
100
50
0
C/ 4.00006 S
BATSE
C/ 4.00006 S
ULYSSES RT
-3
0
7
17
27
37
47
57
67
77
87
TIME, SECS

BATSE -ULYSSES RT CORRELATION 22/10/96 68456.137



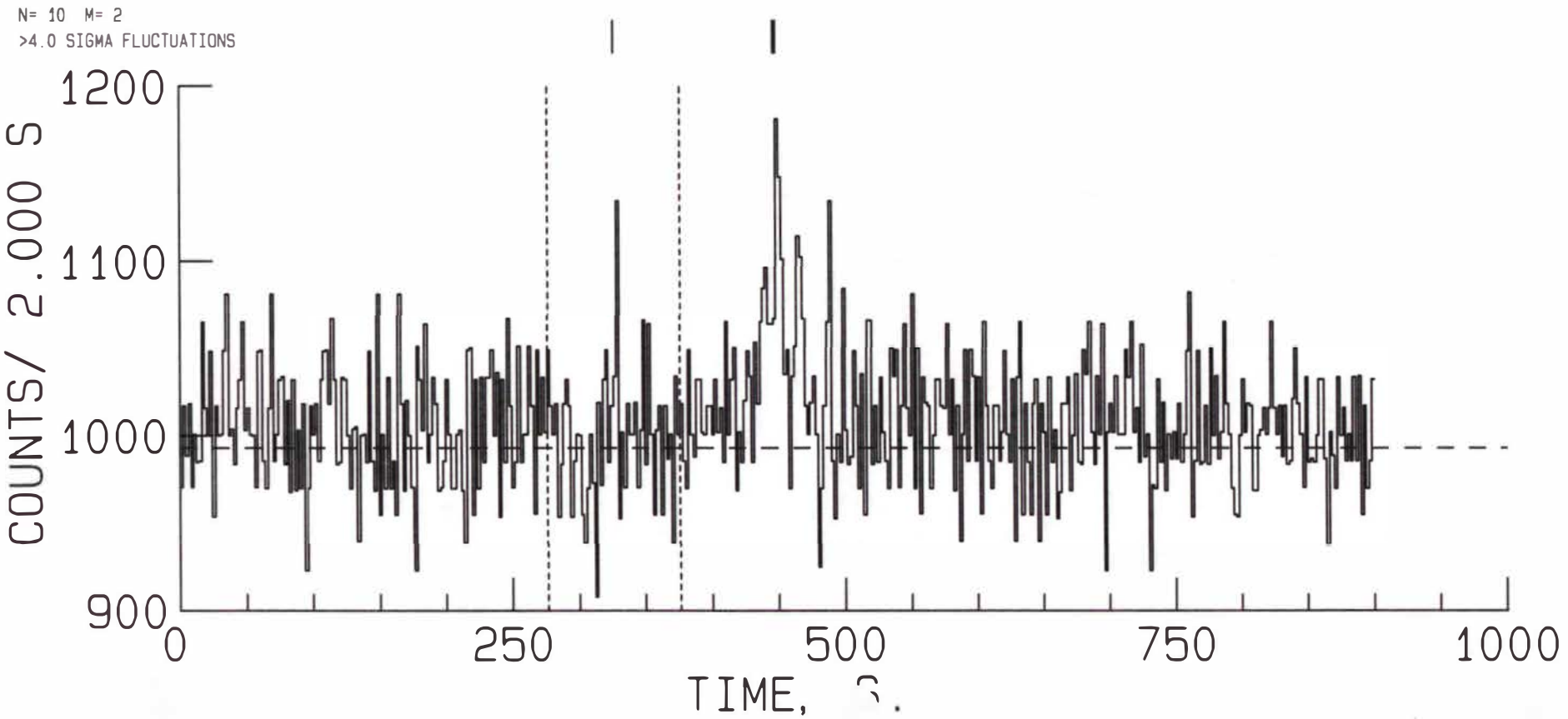
ULYSSES RT

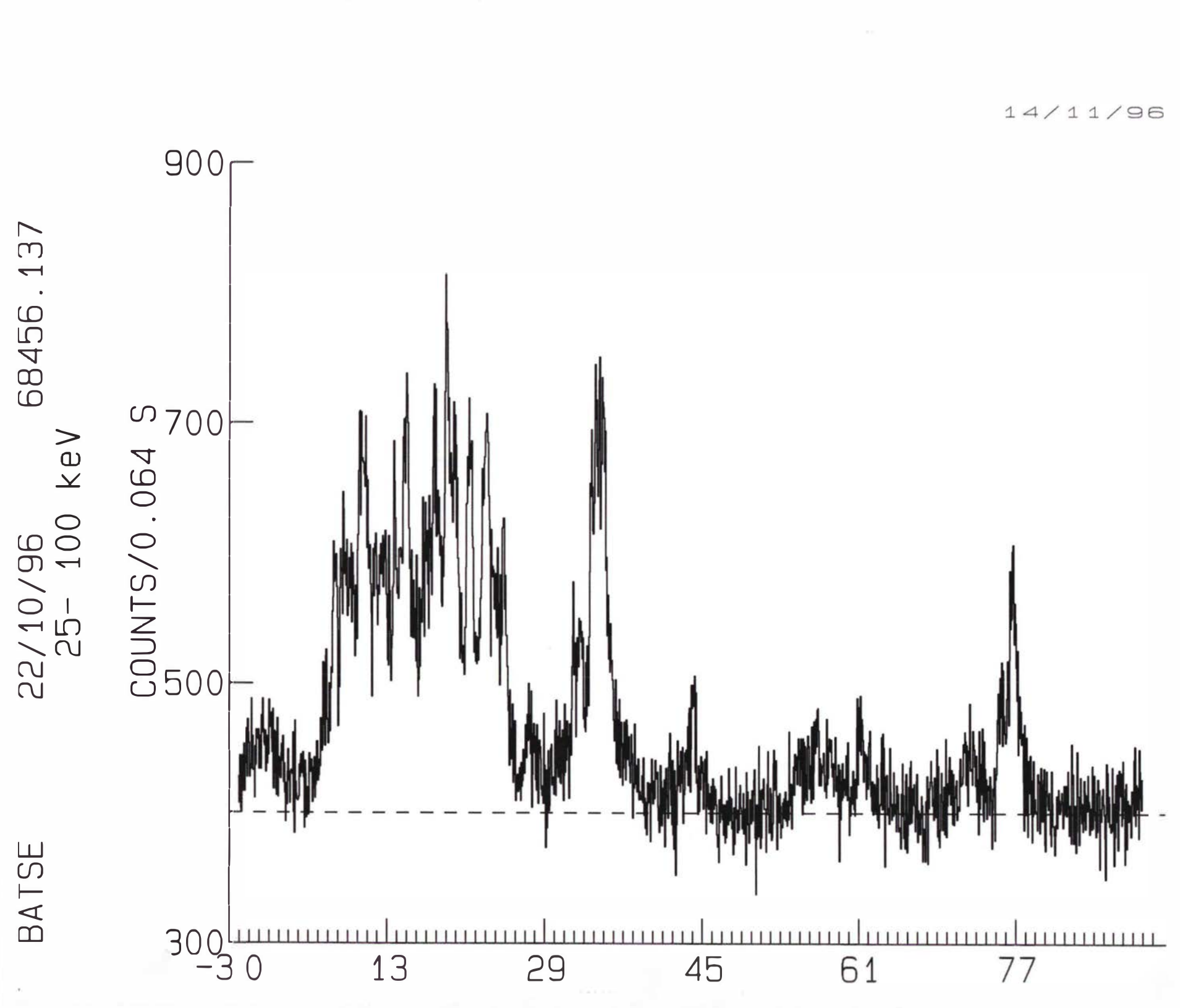
17/ 3/98

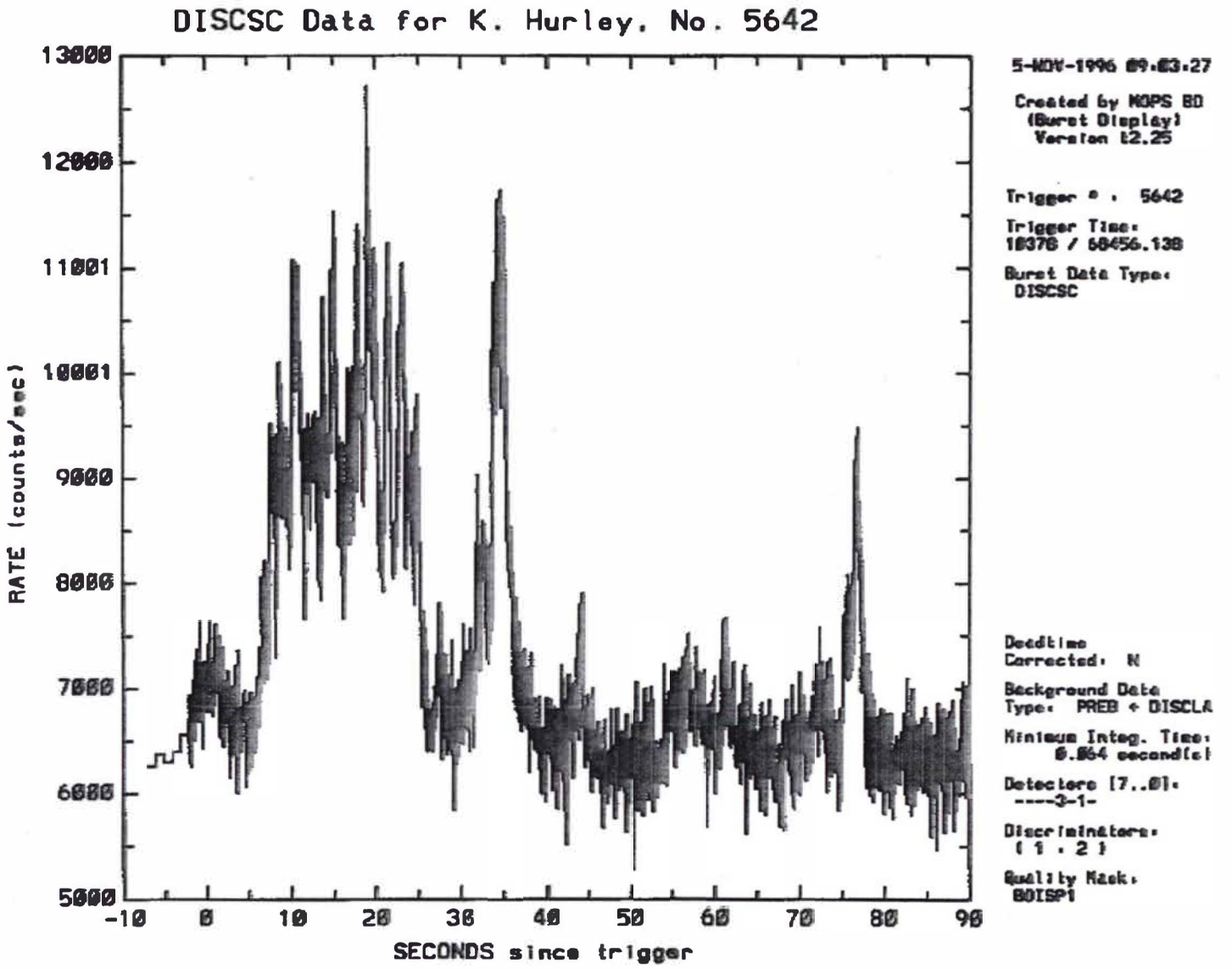
22/10/96 67248.203 s

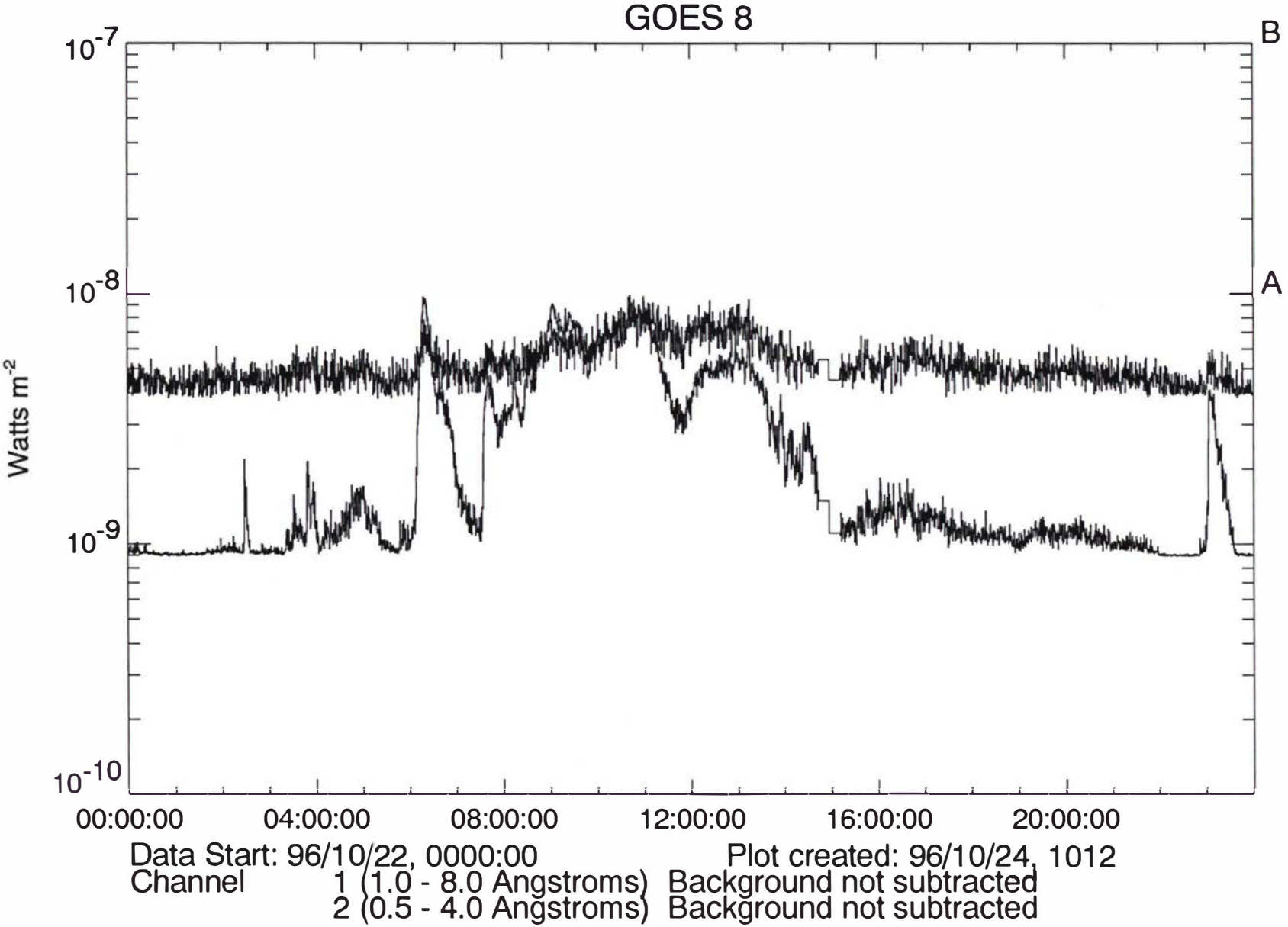
0.250 S INTERVALS REGROUPED BY 8

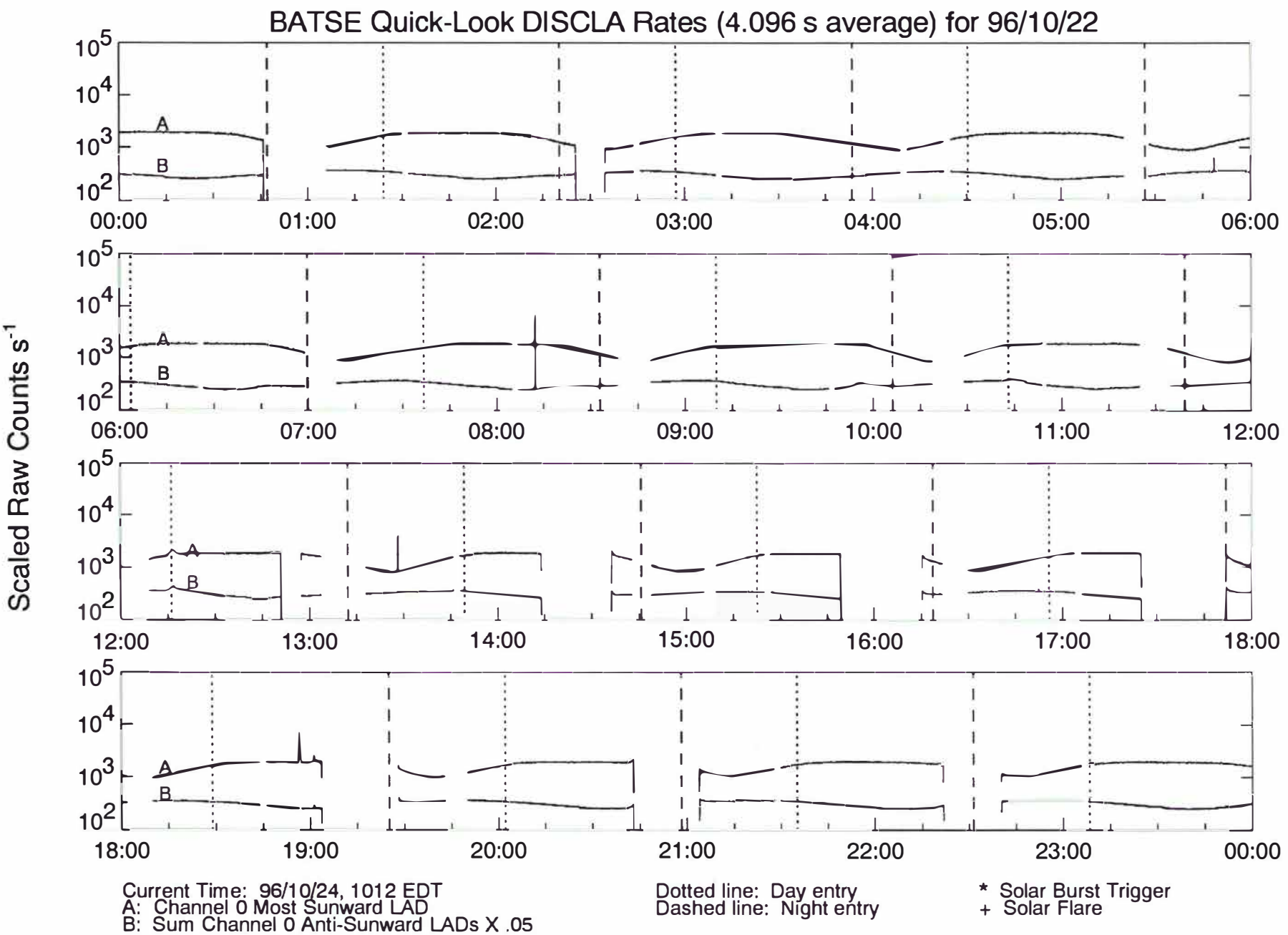
21- 146 keV



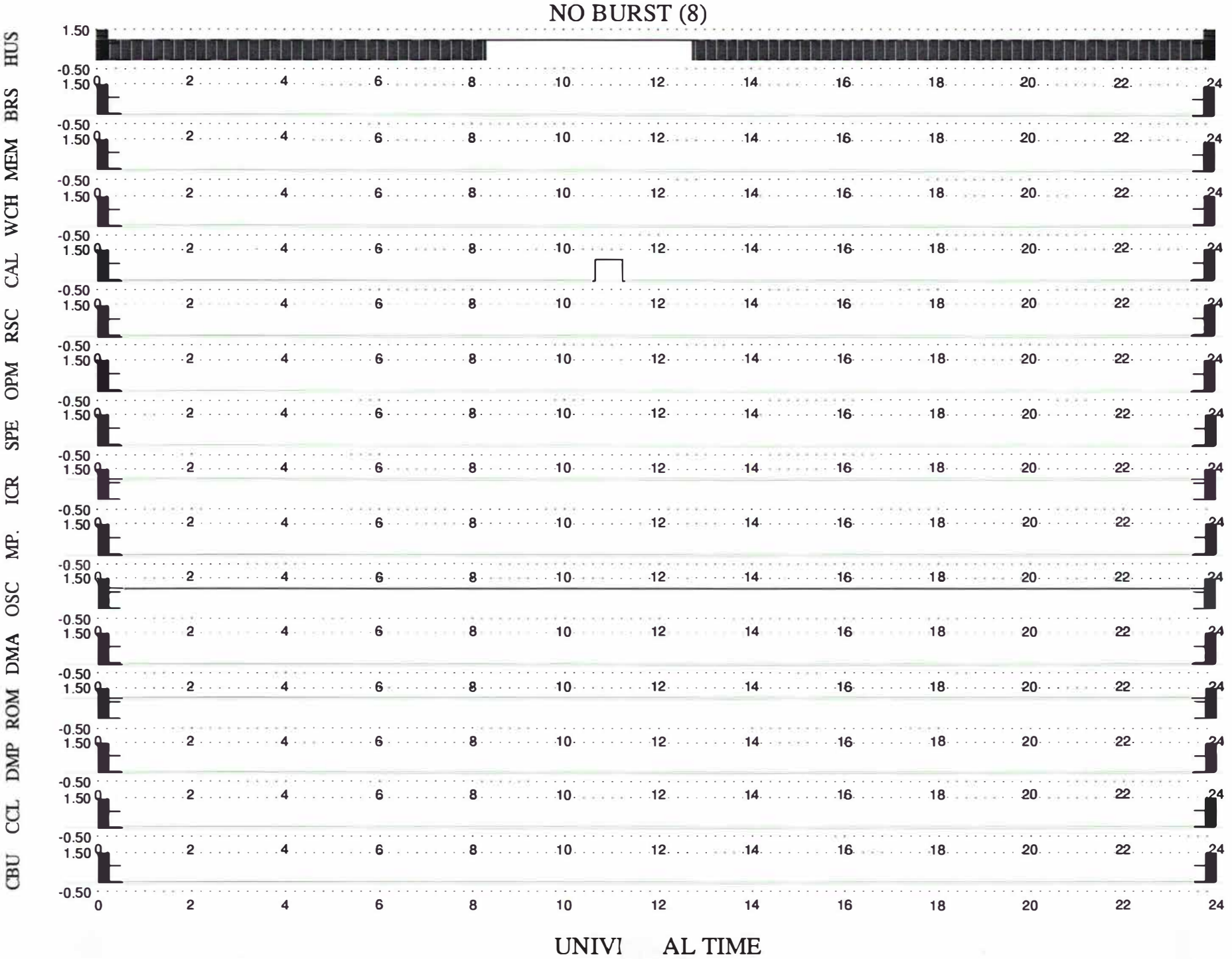

14/11/96
BATSE 22/10/96 68456.137
25- 100 keV
COUNTS/0.064 S
900
700
500
300
-30
13
29
45
61
77


DISCSC Data for K. Hurley, No. 5642
RATE (counts/sec)
13000
12000
11001
10001
9000
8000
7000
6000
5000
-10
0
10
20
30
40
50
60
70
80
90
SECONDS since trigger
5-NOV-1996 09:03:27
Created by MOPS BD
(Burst Display)
Version 2.25
Trigger # : 5642
Trigger Time:
18378 / 68456.138
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds
Detectors [7..0]:
----3-1-
Discriminators:
(1 , 2)
Quality Mask:
BDISP1


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/22, 0000:00
Plot created: 96/10/24, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

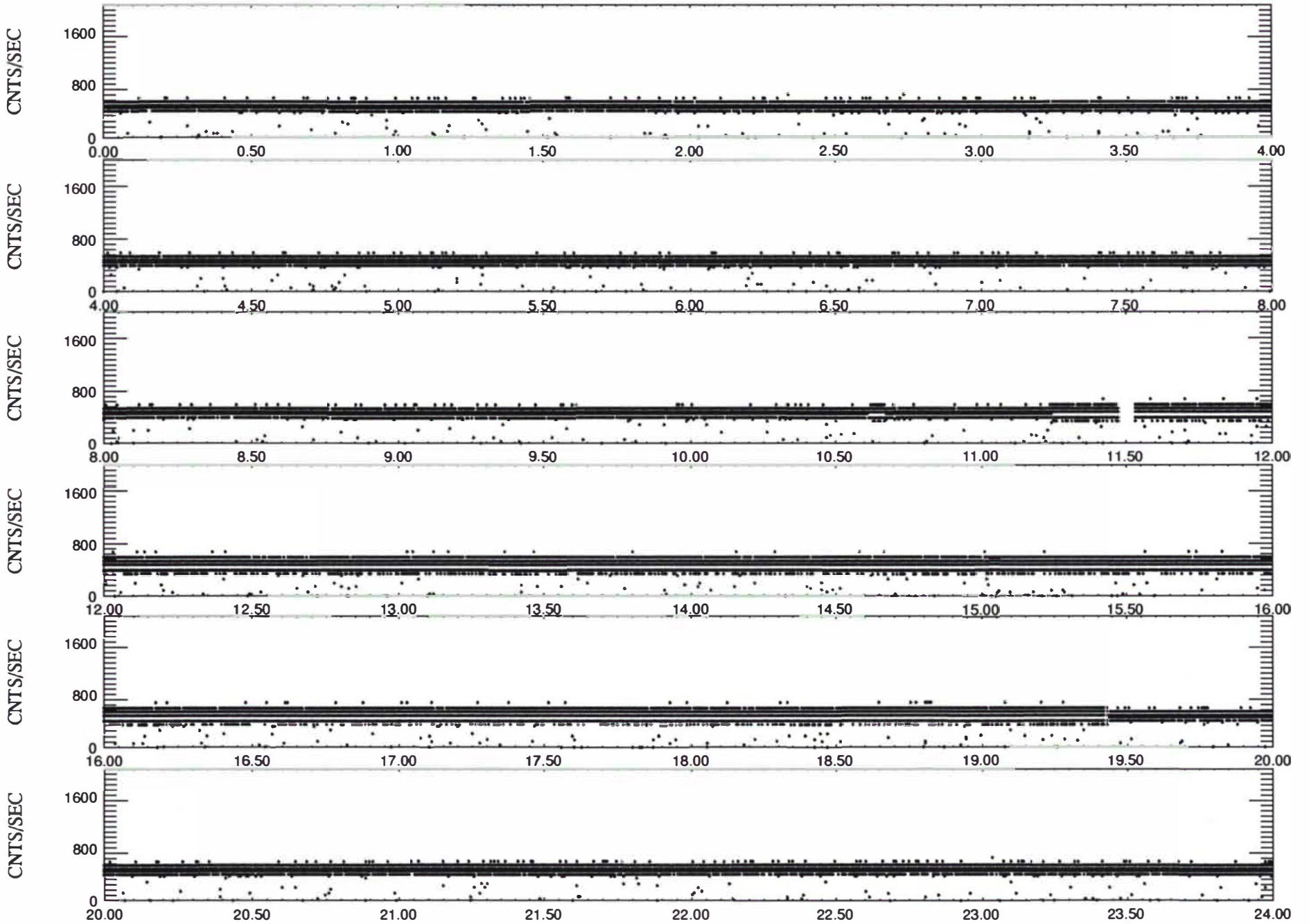

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/22
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/24, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 296, year 1996 to day 296, year 1996 3/29/97



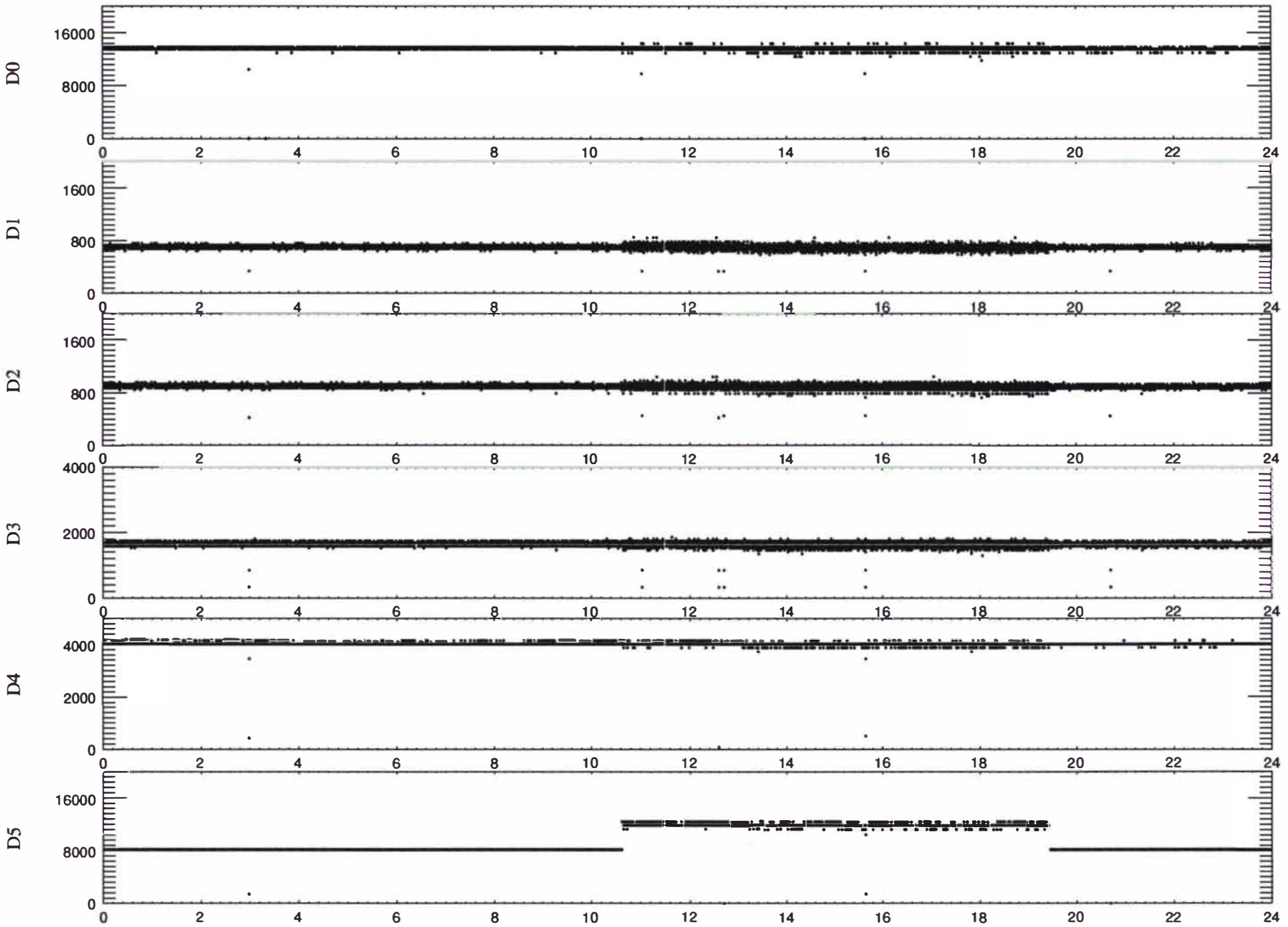
HUS 2A, MODE 1, NOT AVERAGED EDR day 296, year 1996 to day 296, year 1996 3/29/97

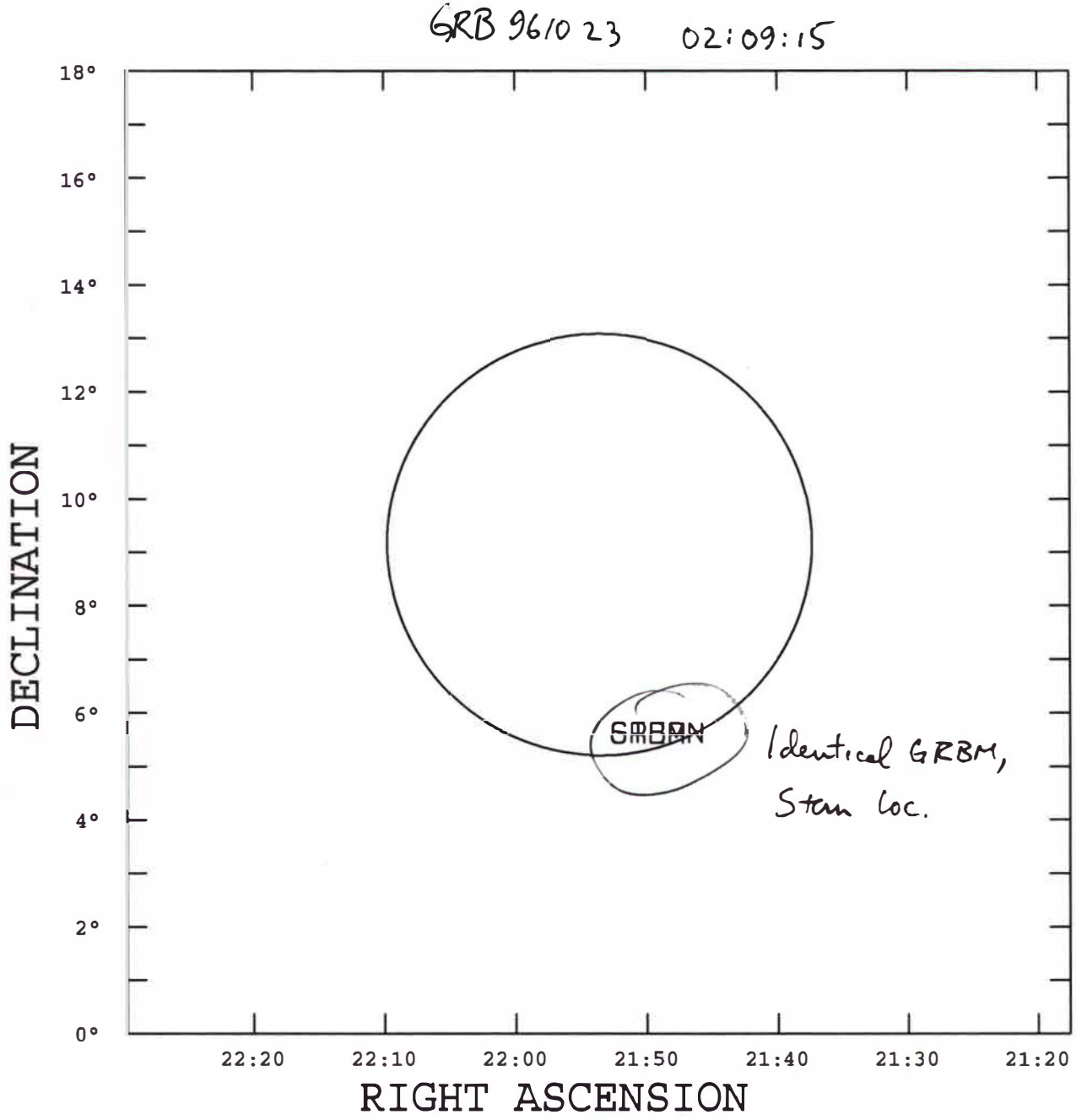
CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 296, year 1996 to day 296, year 1996 3/29/97




GRB 961023 02:09:15
18°
16°
14°
12°
10°
8°
6°
4°
2°
0°
DECLINATION
22:20
22:10
22:00
21:50
21:40
21:30
21:20
RIGHT ASCENSION
SMBM
Identical GRBM, Stan Loc.

Date: Oct 13 2011

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

☑ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

☐ Was CHECKMO run to eliminate data gaps?

☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data…")

☐ Was Mars-blocking used?

☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)

☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).

☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

☐ Σ 3Δt's calculated, and/or BMAPSUM executed?

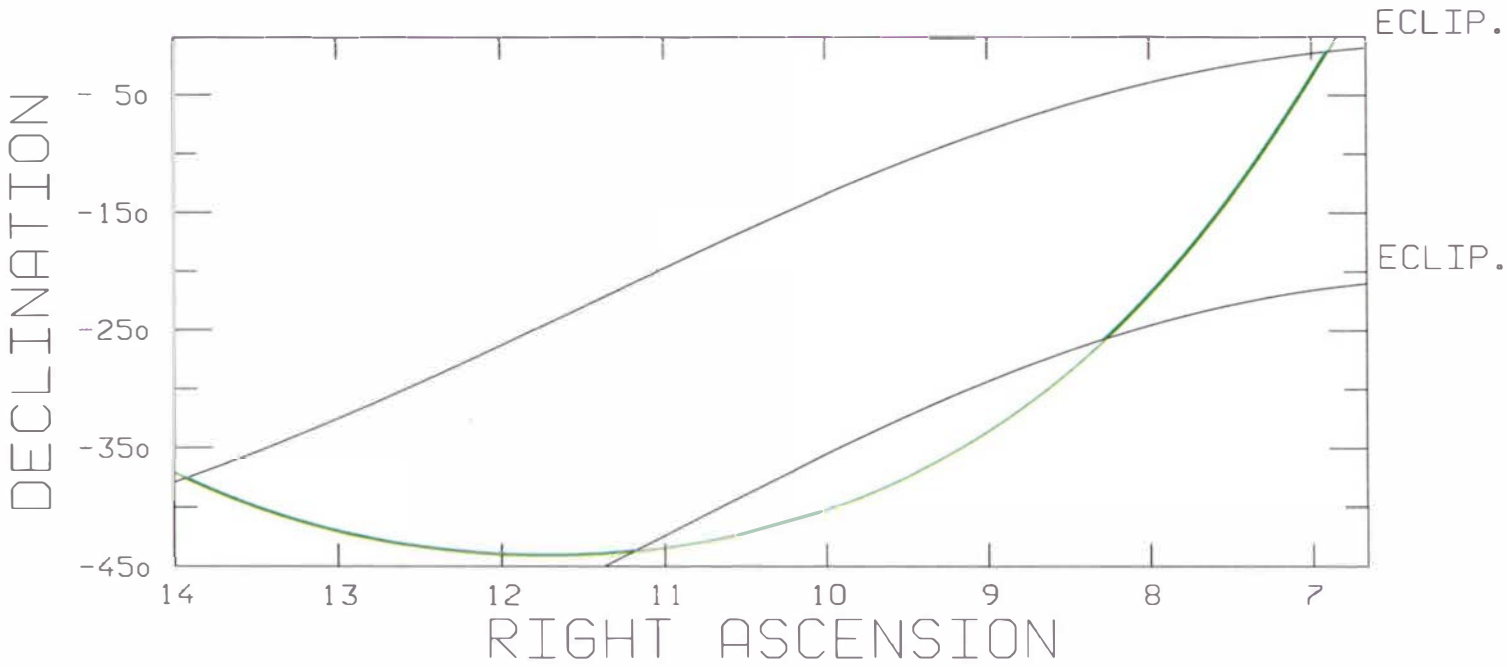
3. For INTEGRAL events

☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?

☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?

☐ Updated ephemeris used for bursts prior to September 30, 2003?

☑ ACCESS and MBL4 databases updated with identical times?


ECLIP.
ECLIP.
DECLINATION
- 5o
-15o
-25o
-35o
-45o
14
13
12
11
10
9
8
7
RIGHT ASCENSION

KONUS 19961023 66764

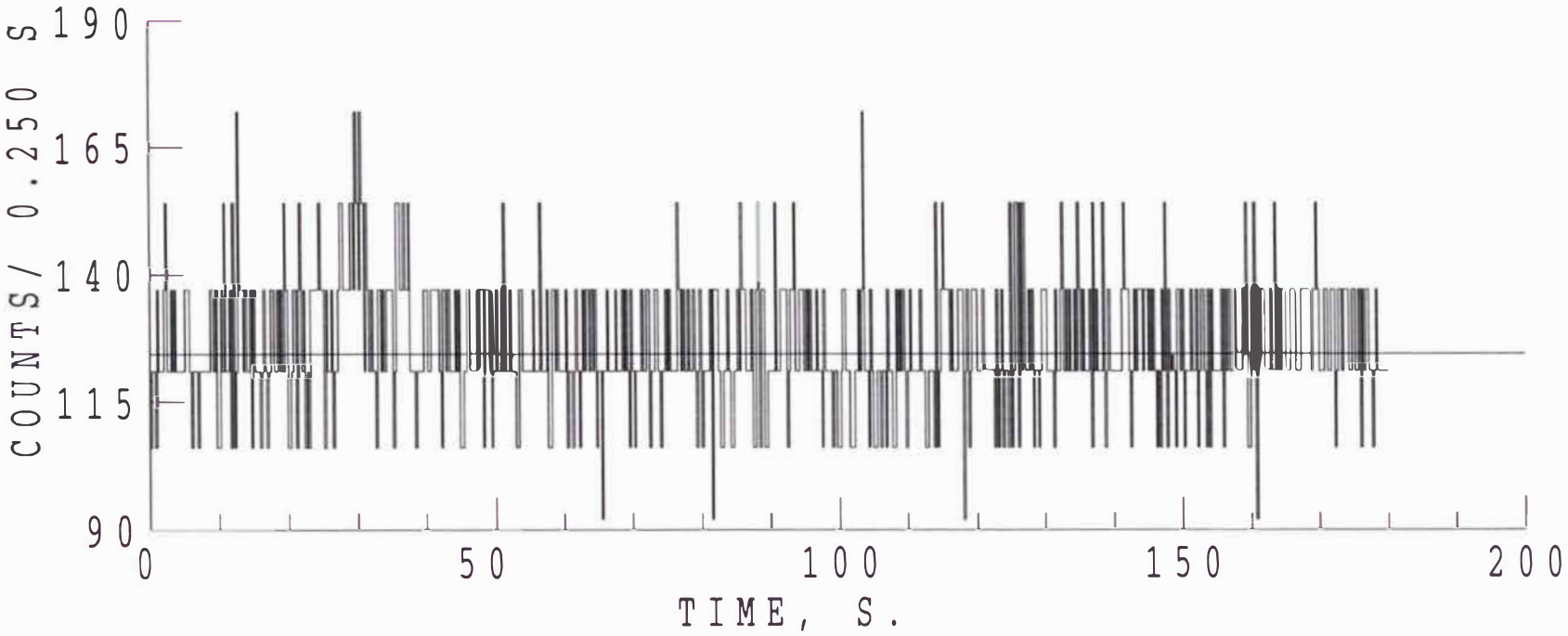
ULYSSES RT 12/10/11

23/10/96 66672.023 s

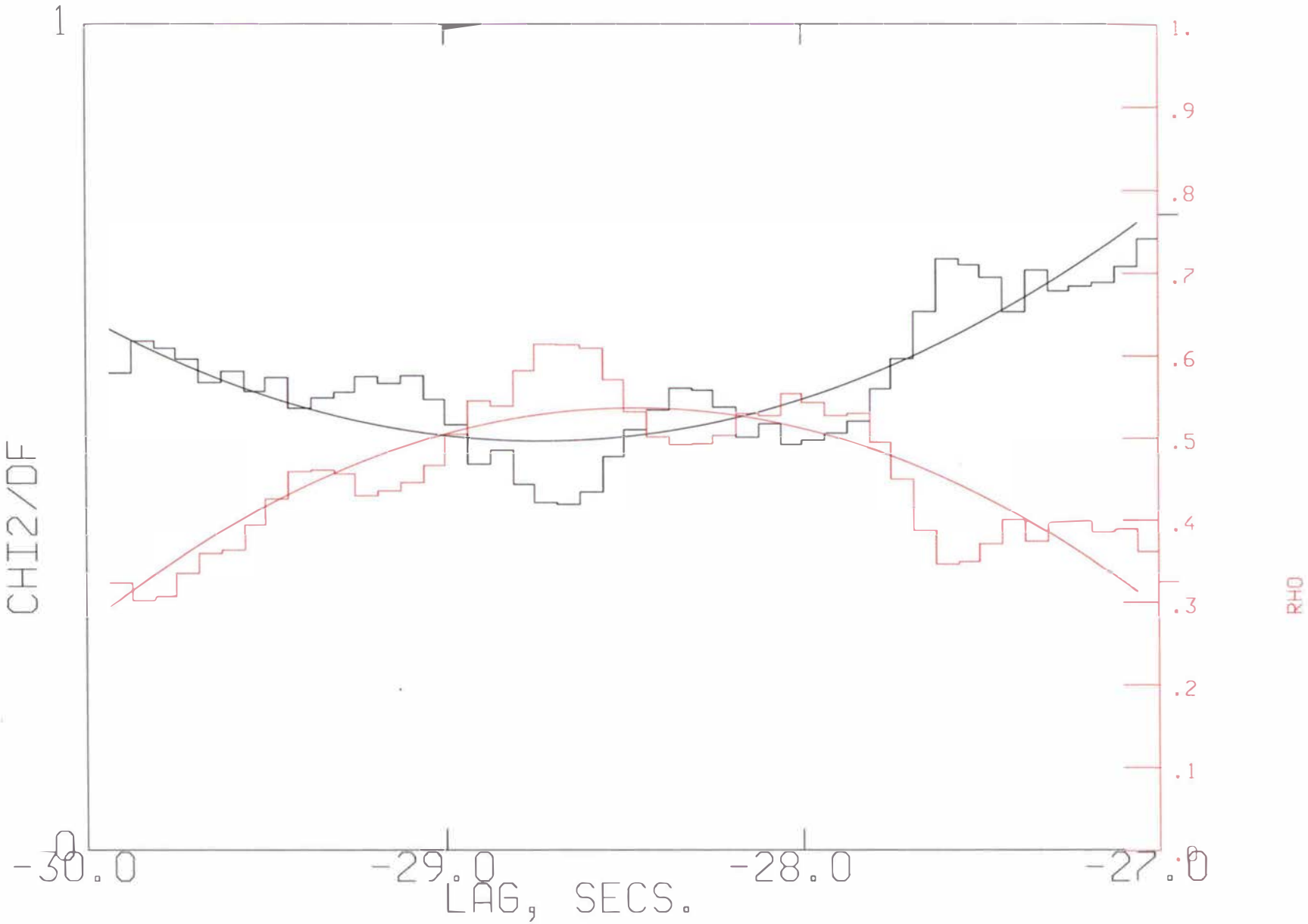
0- 0 keV

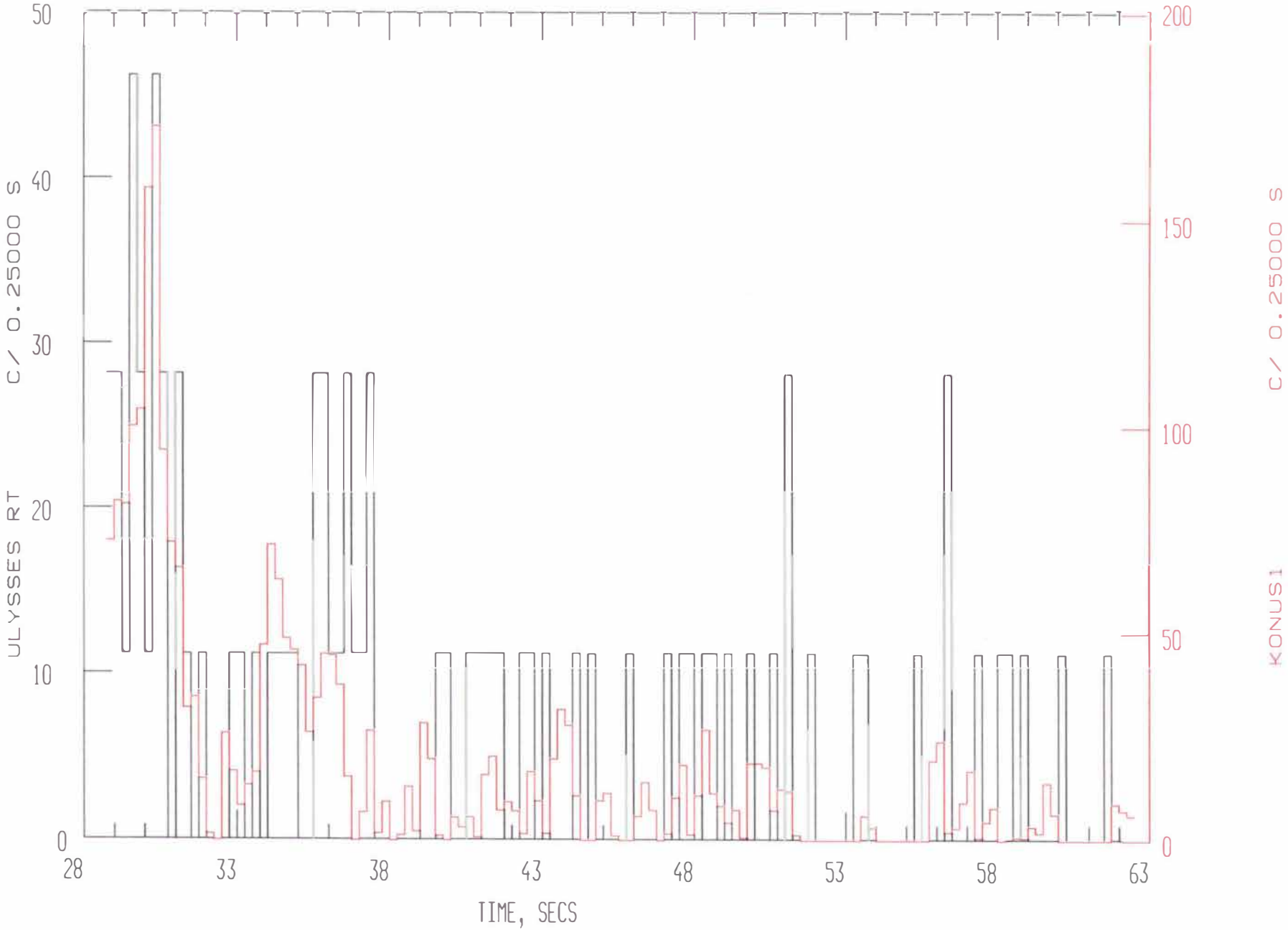
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT-KONUS1 CORRELATION 23/10/96 66672.238

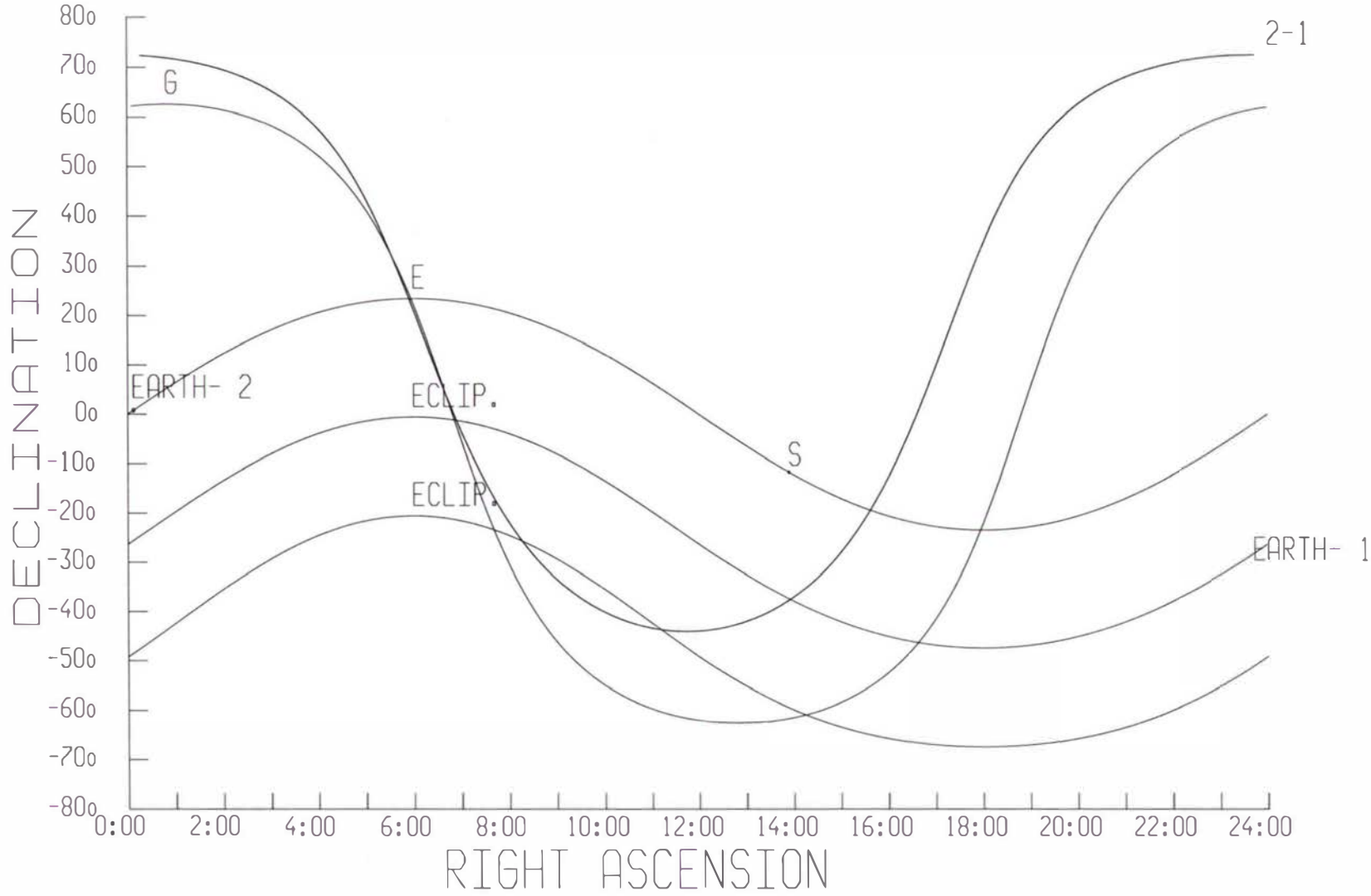


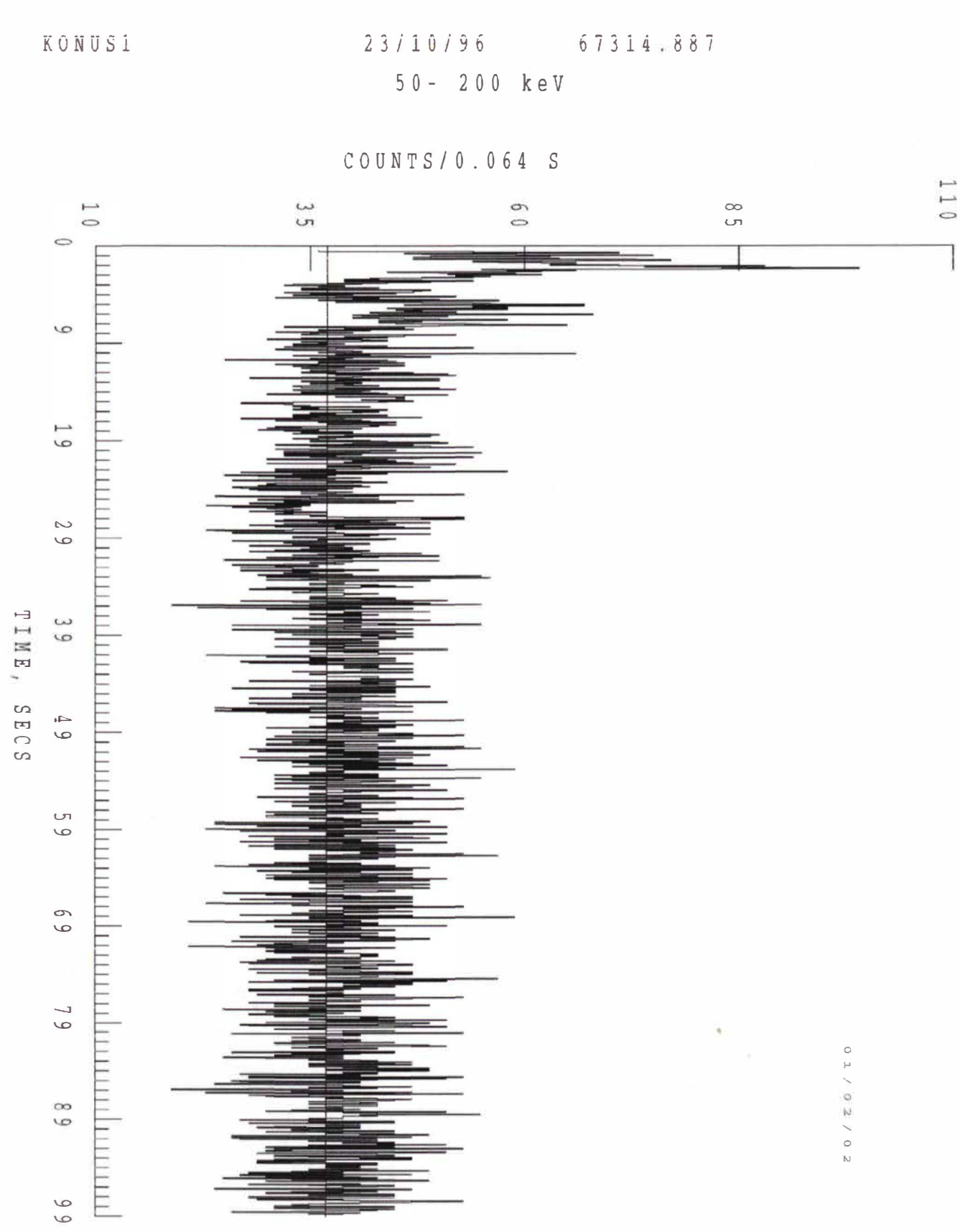

50
40
30
20
10
0
C/ 0.25000 S
ULYSSES RT
200
150
100
50
0
C/ 0.25000 S
KONUS1
28
33
38
43
48
53
58
63
TIME, SECS

EVENT OF OCT 23, 1996 18:31

13/10/2011

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS1




KONUS1
23/10/96
67314.887
50- 200 keV
COUNTS/0.064 S
10
35
60
85
110
0
9
19
29
39
49
59
69
79
89
99
TIME, SECS
01/02/02

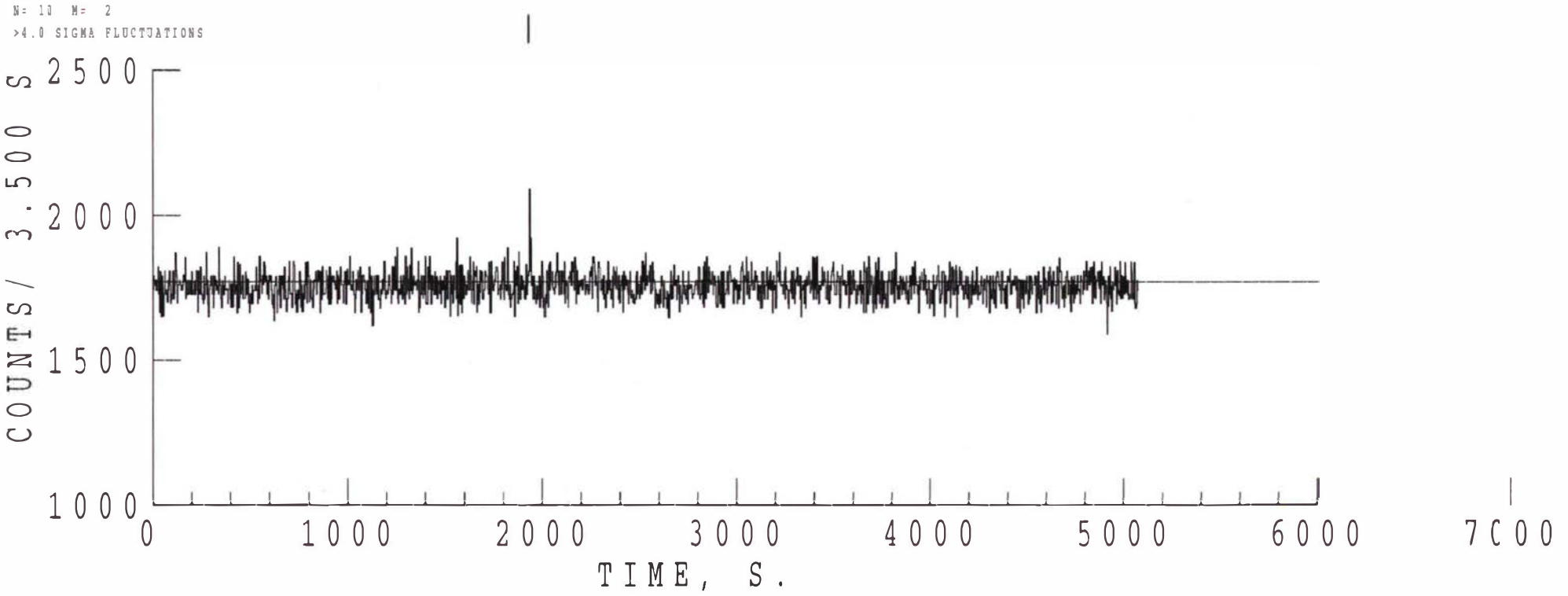
KONUS1 19961023 67314

ULYSSES RT 01/02/02

23/10/96 64764.004 s

0.250 S INTERVALS REGROUPED BY 14

0- 0 keV



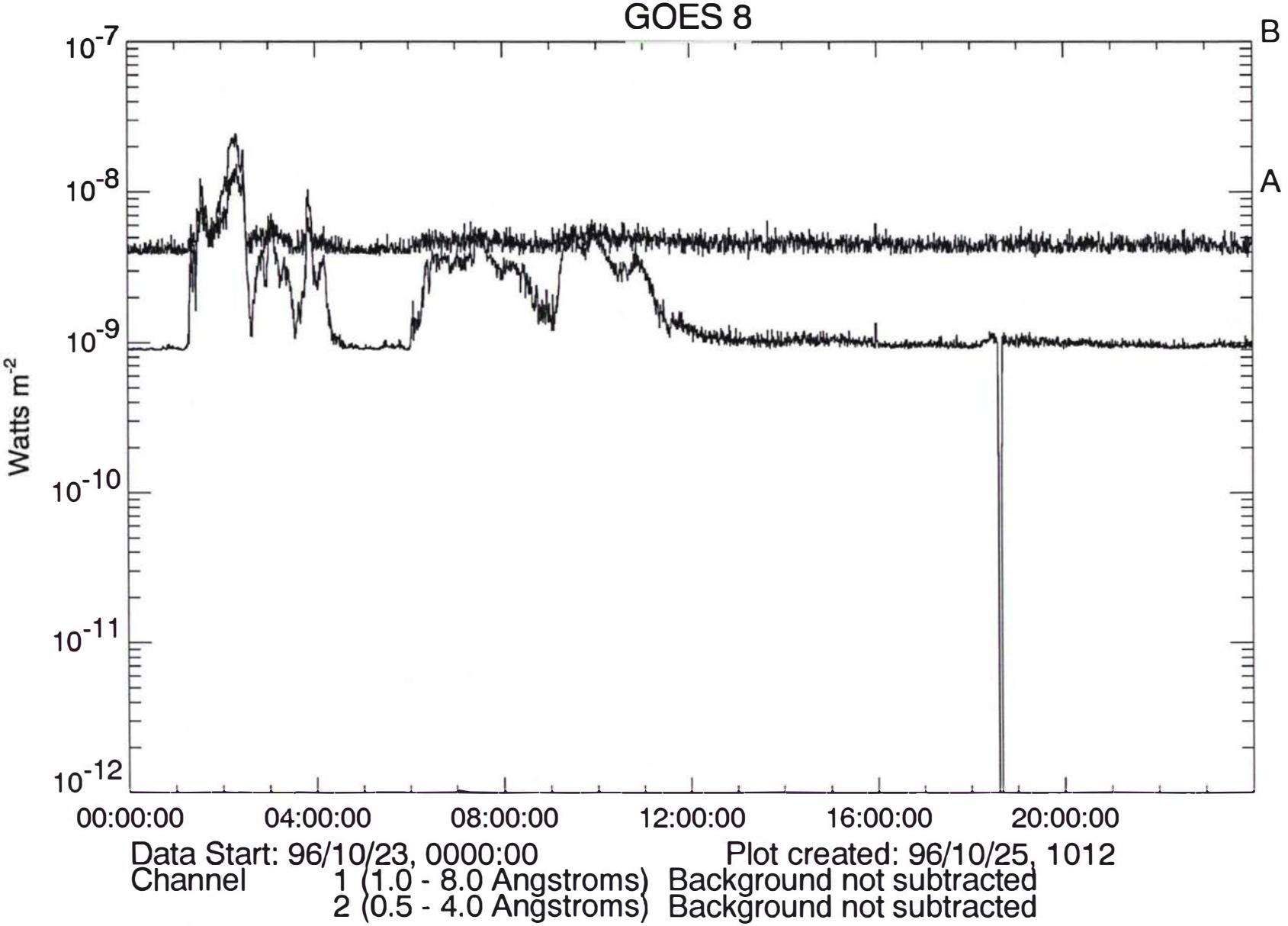
From BUTTERWORTH@lheavx.gsfc.nasa.gov Wed Nov 6 11:26 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Wed, 6 Nov 1996 14:25:56 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: Ulysses events of 961023, 961102 and 961103 were not seen by Konus

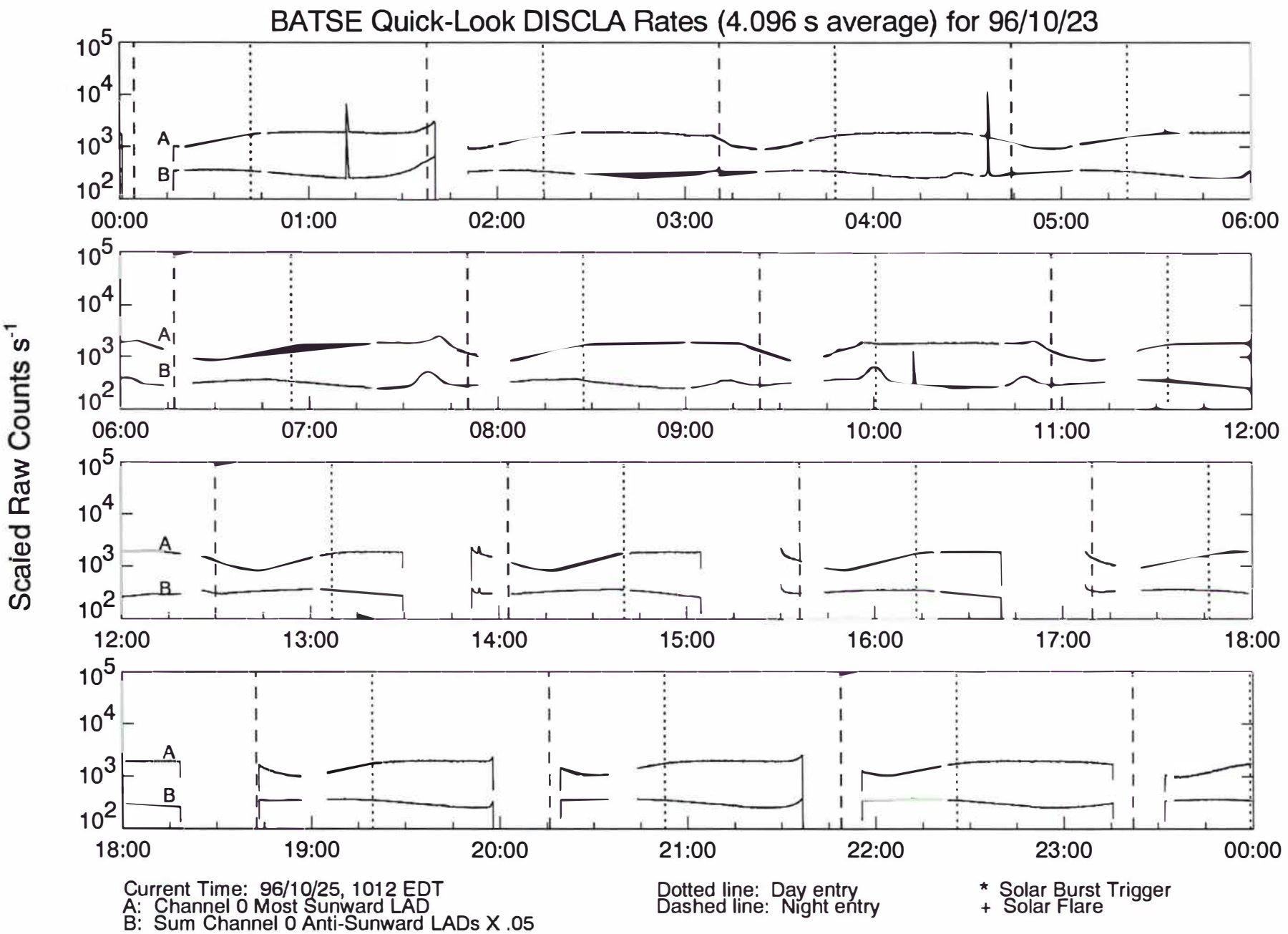
Hi Everyone,

This is a an update to my response to Kevin sent yesterday. The Ulysses events of 1023, 1102 and 1103 were searched for in the Konus data.

Paul.

Ulysses event	Konus observation
961023 21:18 weak 32ms	Konus was off during maneuver
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
961029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger
961102 17:49 weak 50ms	not detected
961102 23:50 weak 50ms	not detected
961103 03:32 weak 100ms	not detected


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
10^{-12}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/23, 0000:00
Plot created: 96/10/25, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/23
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/25, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 297, year 1996 to day 297, year 1996 3/29/97

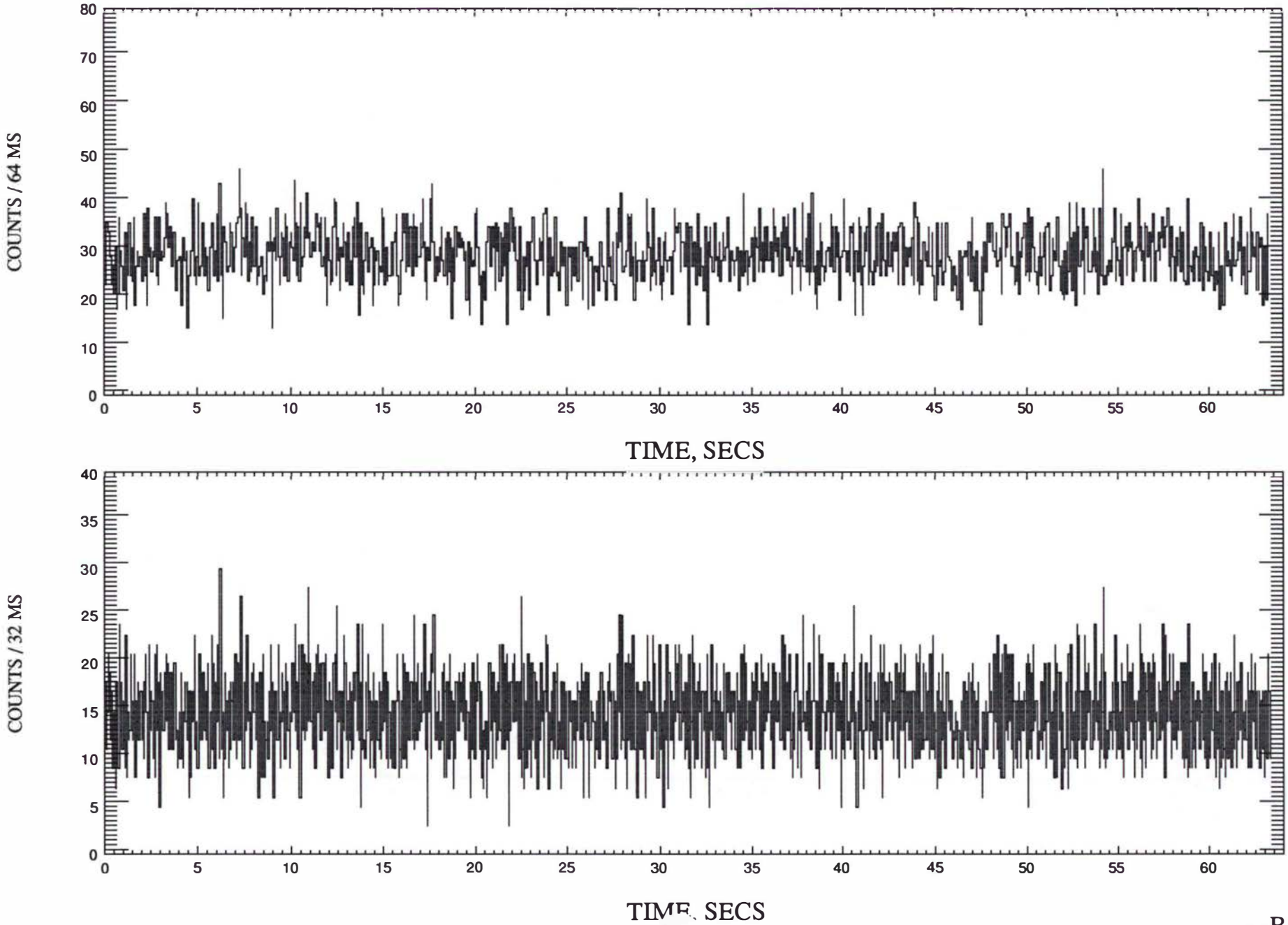
BURST NUMBER 9



UNIVERSAL TIME

HUS 2A TRIGGERED DATA EDR day 297, year 1996 3/29/97

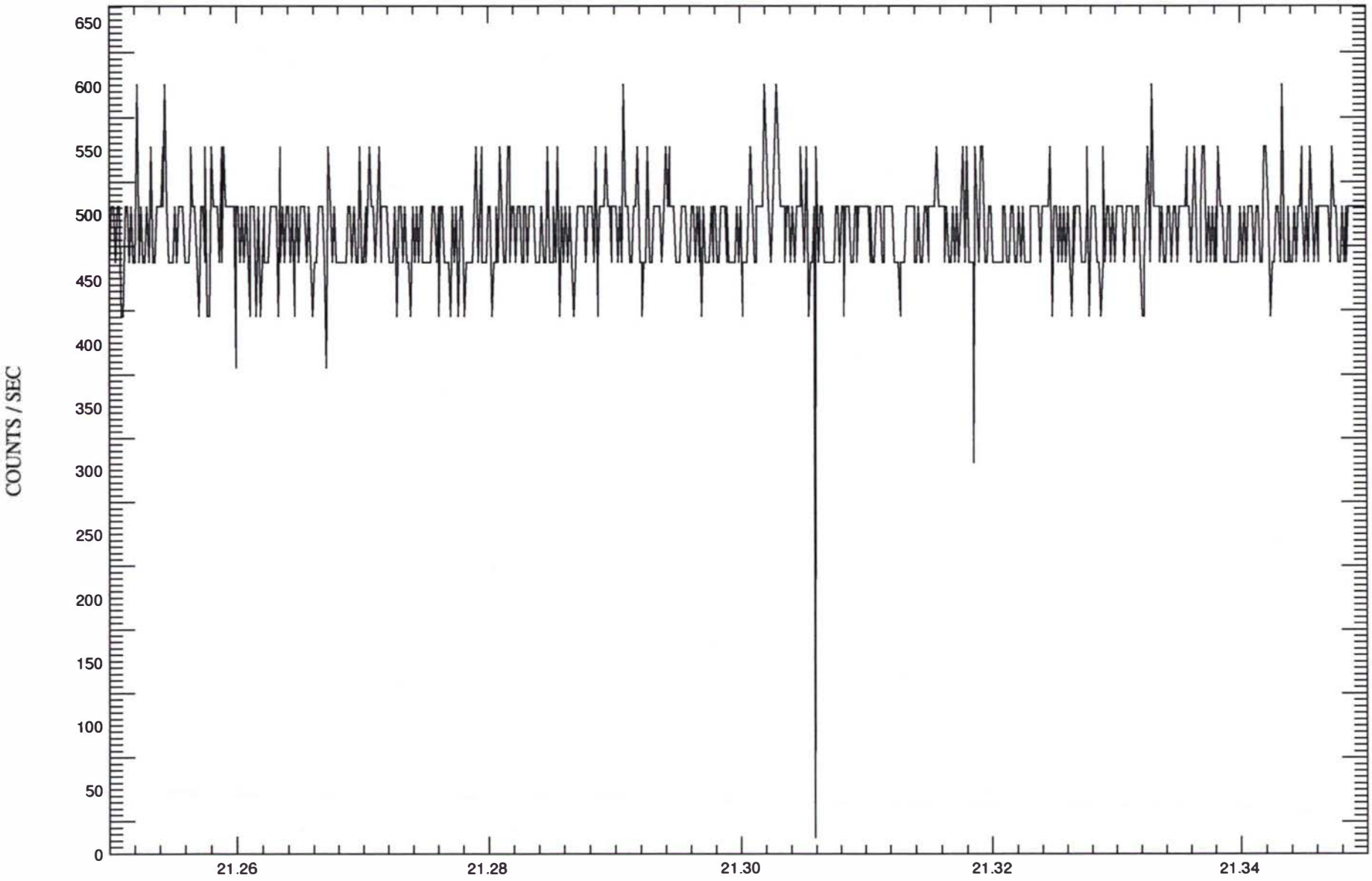
Burst Counter 9 at UT=21.302145729065 h=76687.725 s 21:18:07.725



B# 1

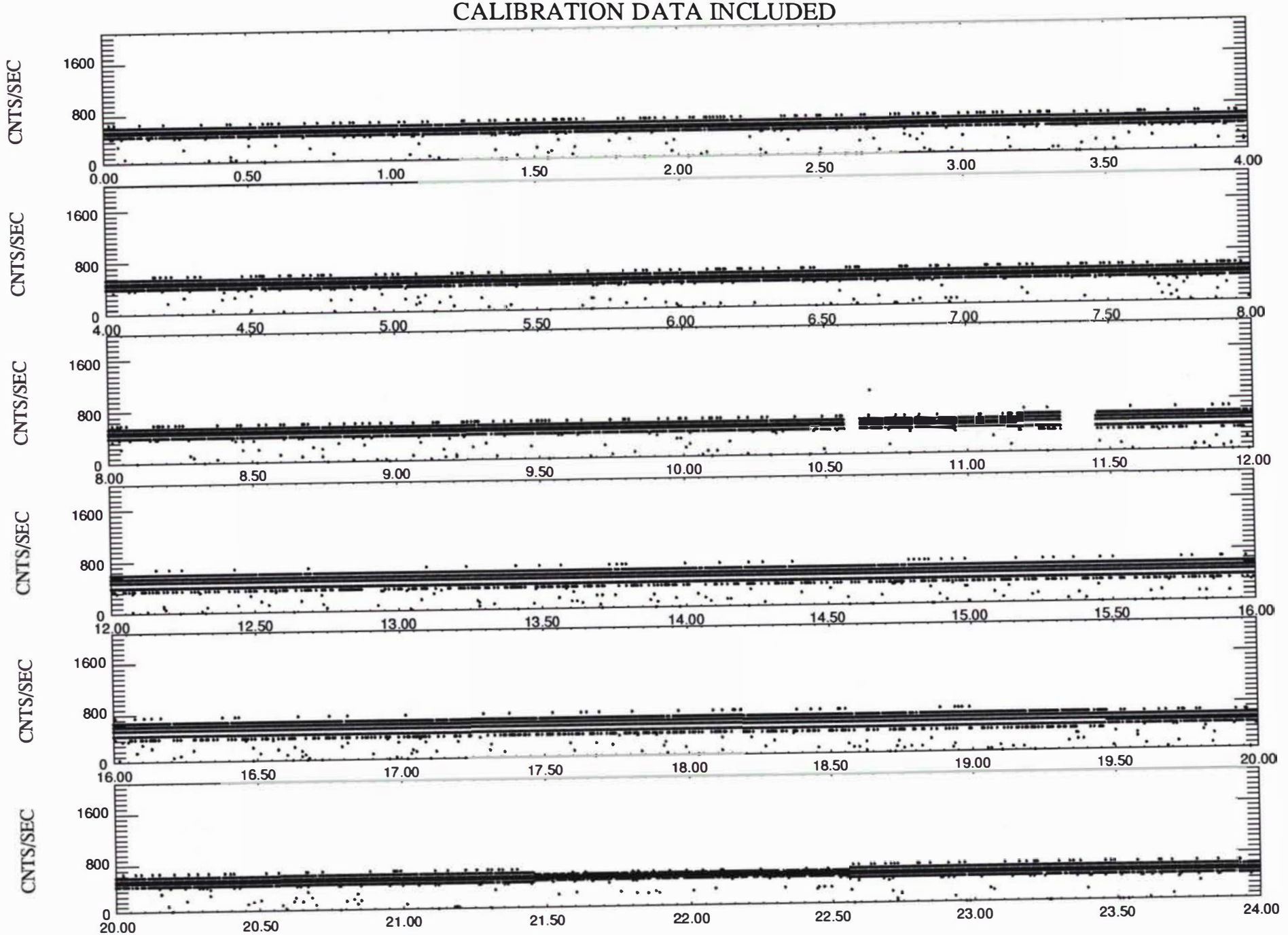
HUS 2A, MODE 1, NOT AVERAGED EDR day 297, year 1996 to day 297, year 1996 3/29/97

CALIBRATION DATA INCLUDED



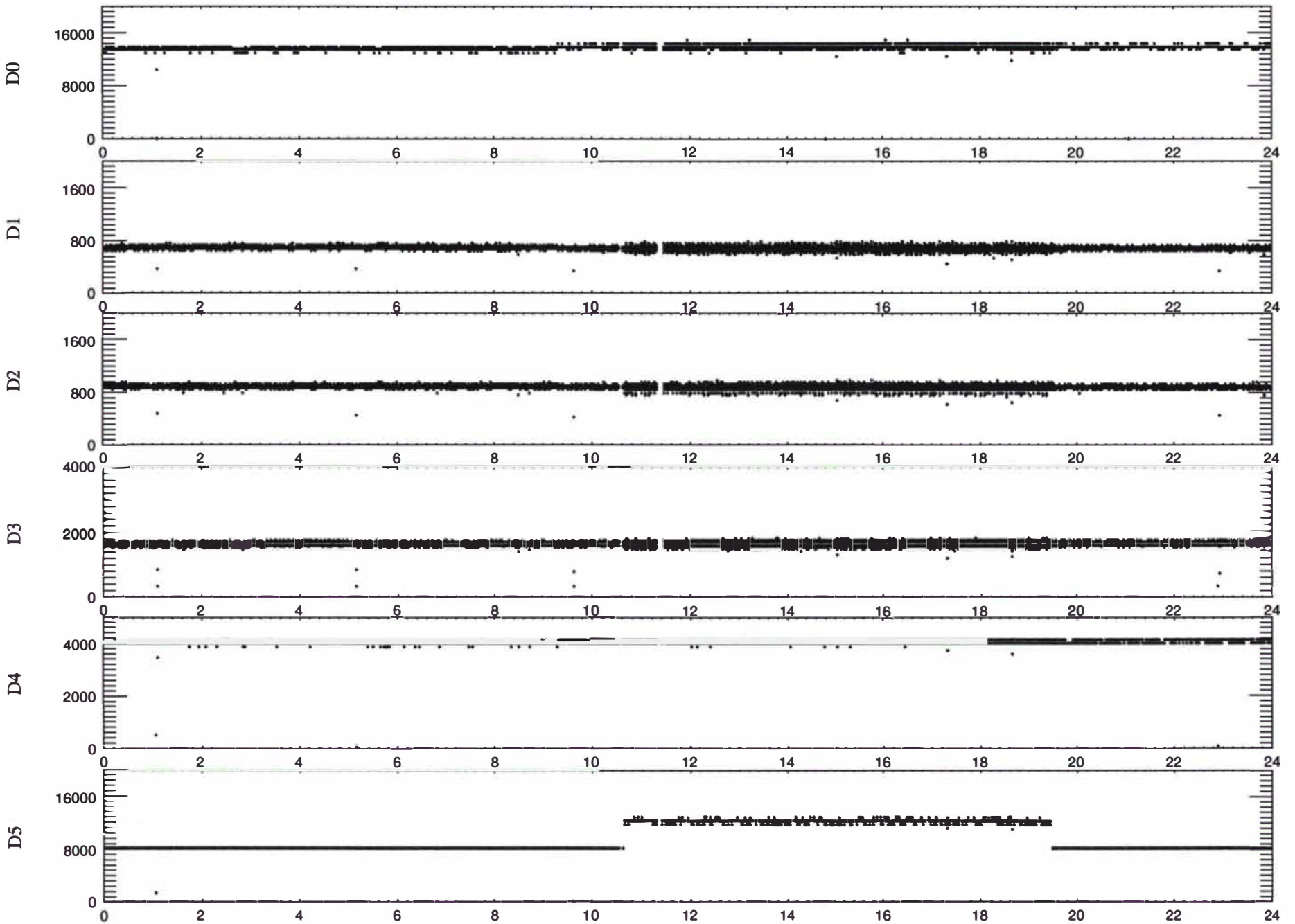
HUS 2A, MODE 1, NOT AVERAGED EDR day 297, year 1996 to day 297, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 297, year 1996 to day 297, year 1996 3/29/97



From jeanz@tgrosf.gsfc.nasa.gov Wed Nov 6 09:48 PST 1996
From: "Jean in 't Zand" <jeanz@tgrosf.gsfc.nasa.gov>
Subject: weak short Ulysses bursts
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Date: Wed, 6 Nov 1996 12:48:32 -0500 (EST)
cc: bonnard@rosserv.gsfc.nasa.gov (Bonnard Teegarden)
Mime-Version: 1.0
Content-Transfer-Encoding: 7bit

Dear Kevin,

I searched the TGRS data for the bursts you asked about (see list below). Checked were time histories in 35-100 keV at ~2 s time resolution and 100-300 keV at 0.37 s time resolution (these time resolutions are the highest obtainable), from 3000 s before to 3000 s after the Ulysses times. Special attention was given to time intervals 12 to 10 minutes before the Ulysses times (expected arrival times if SGR1806-20 is the source). No significant fluctuations above the noise were seen.

I'll let you know about later bursts as soon as we have the data (it takes 2 to 3 days between observation and data arrival).

Best regards,

Jean in 't Zand.

961024 14:42
16:33
1026 01:21
14:03
961030 03:15
961102 17:49
23:50

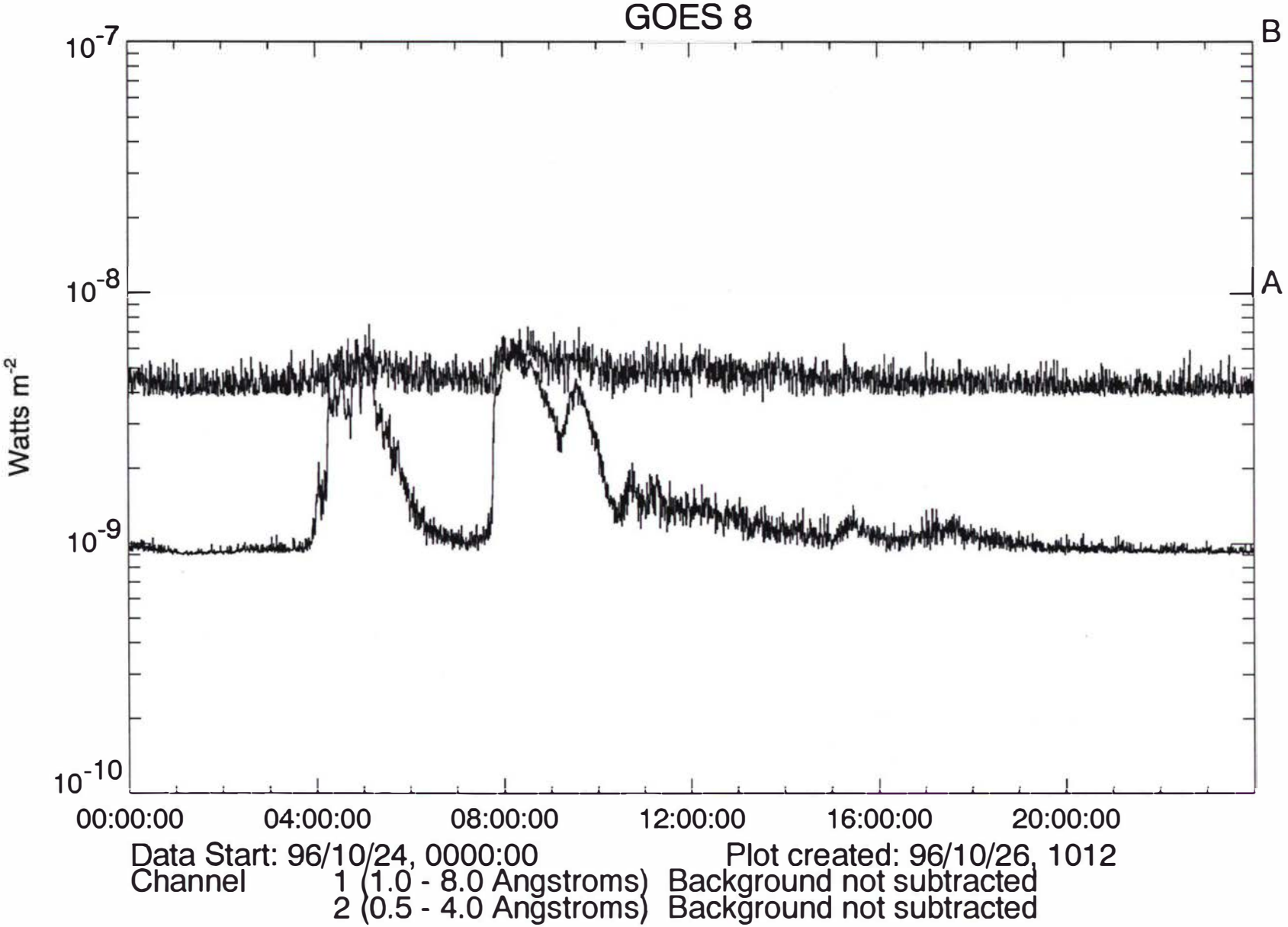
From BUTTERWORTH@lheavx.gsfc.nasa.gov Tue Nov 5 08:54 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 5 Nov 1996 11:54:46 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: responses to Kevin's 7 Ulysses event notices sent yesterday

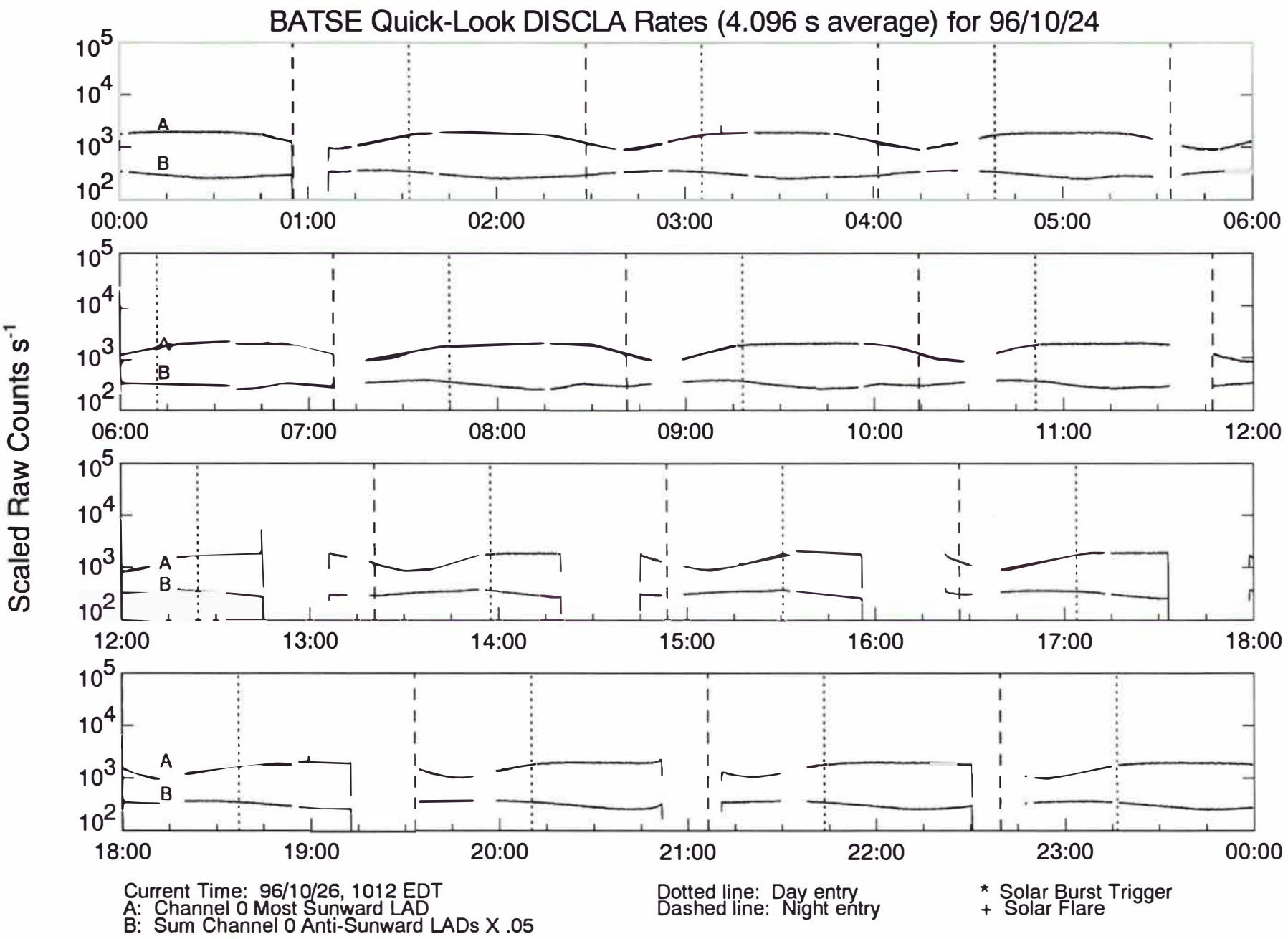
Hi Everyone,

This is a response for Konus to Kevin's set of Ulysses event notices sent yesterday.

Paul.

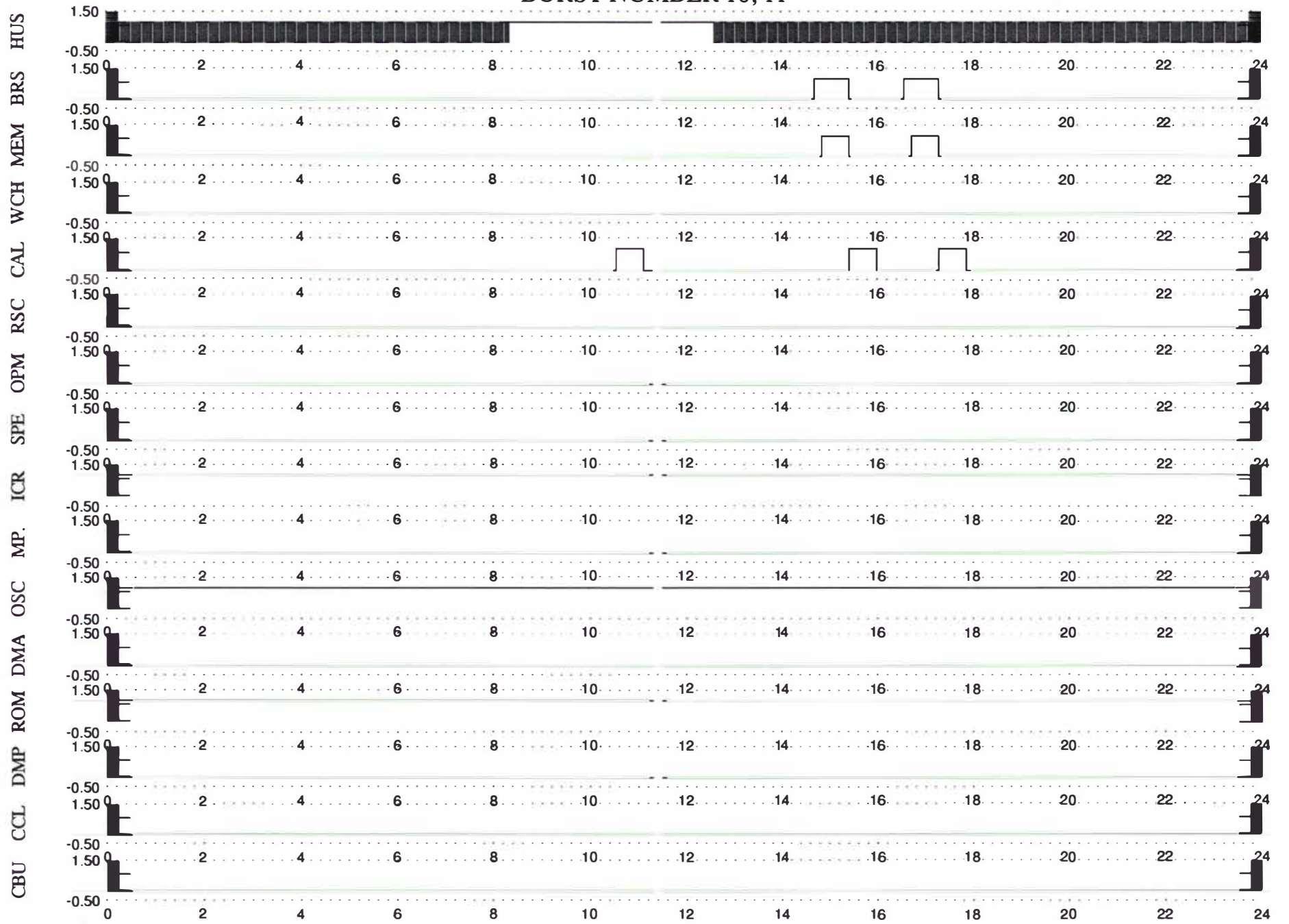
Ulysses event	Konus observation
961023 21:18 weak 32ms	haven't checked this one yet - report will follow
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
1029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/24, 0000:00
Plot created: 96/10/26, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/24
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/26, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

HUS MODES EDR day 298, year 1996 to day 298, year 1996 3/29/97

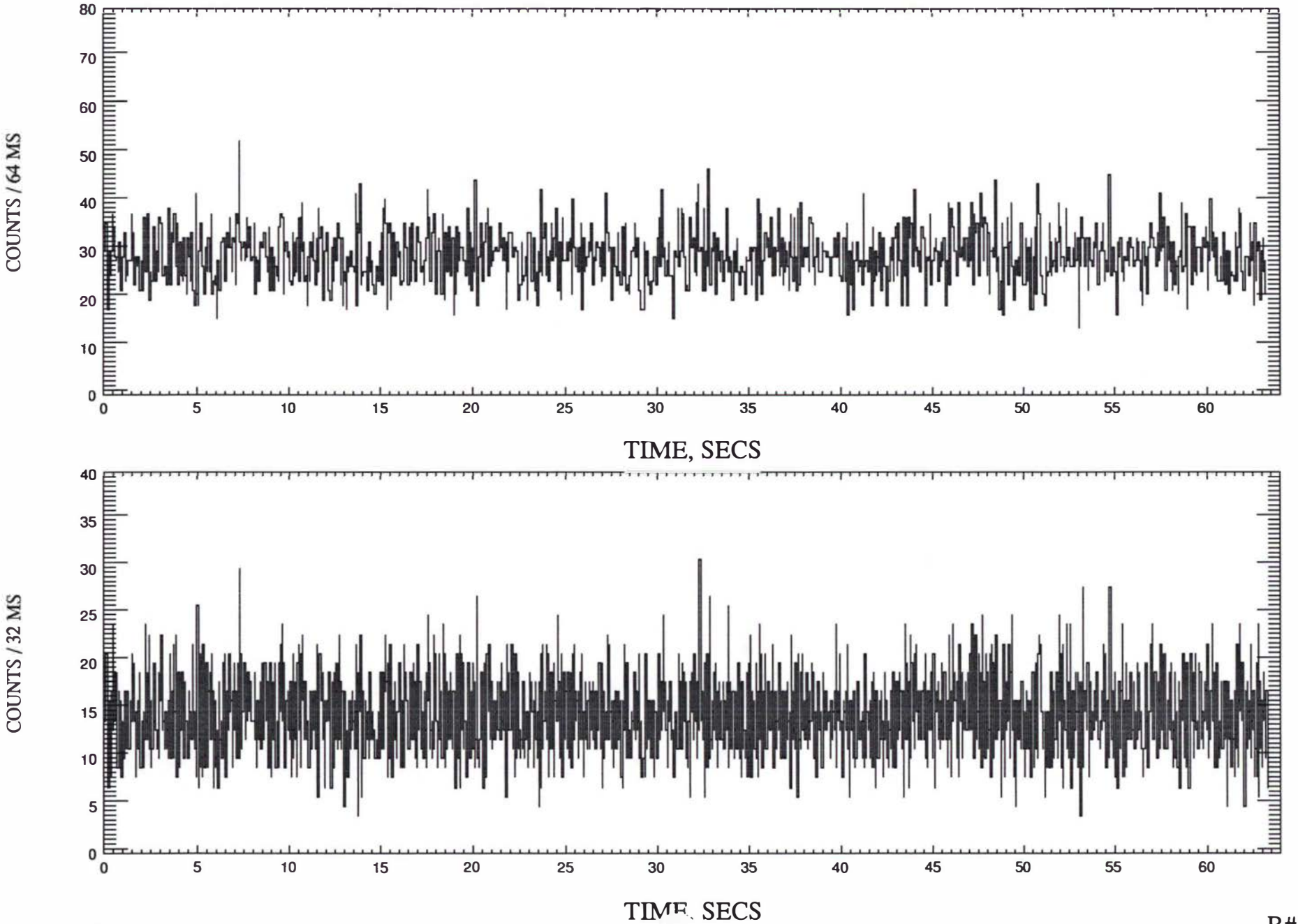
BURST NUMBER 10, 11



UNIVERSAL TIME

HUS 2A TRIGGERED DATA EDR day 298, year 1996 3/29/97

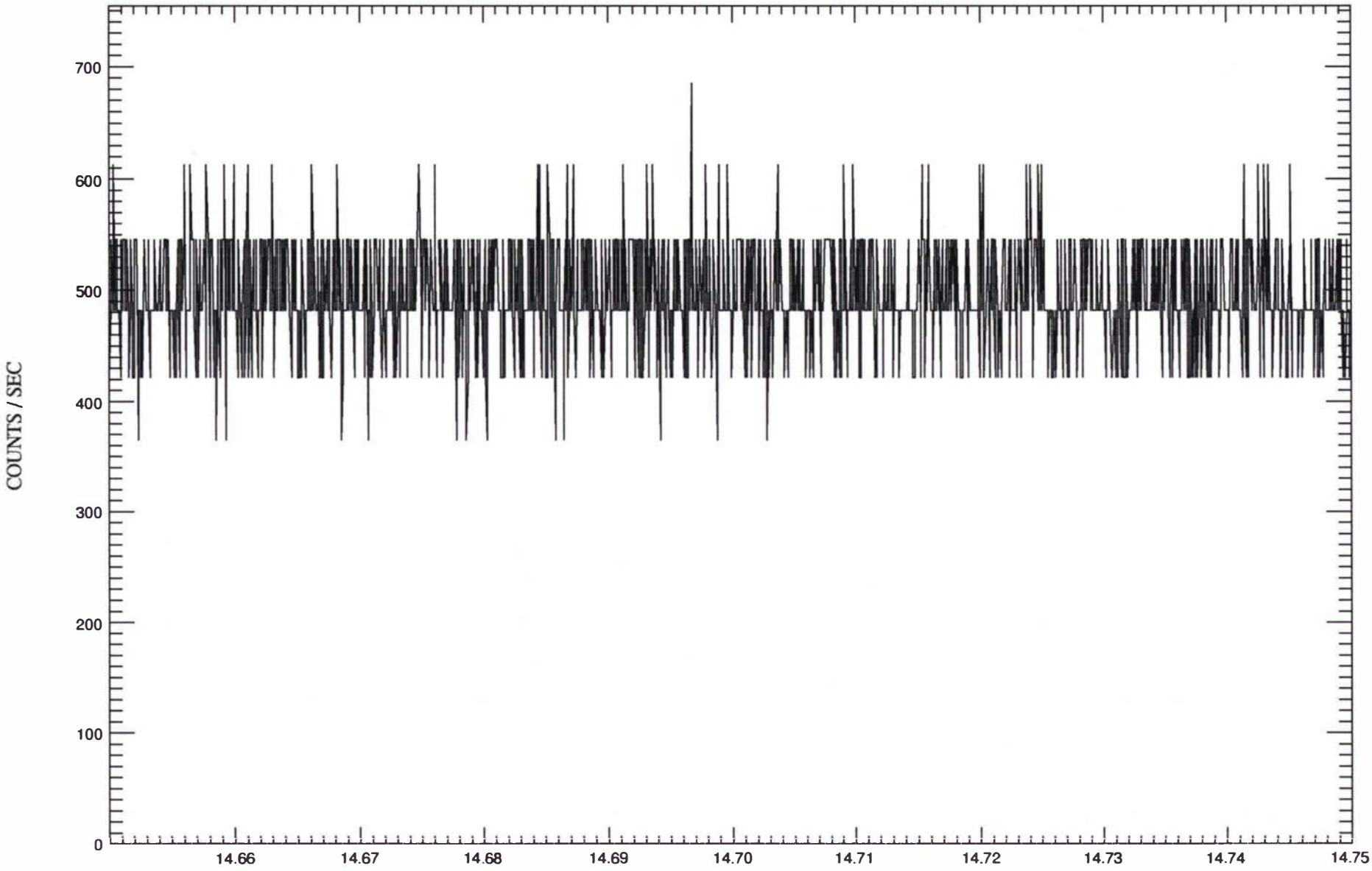
Burst Counter 10 at UT=14.696844206916 h=52908.639 s 14:41:48.639



B# 1

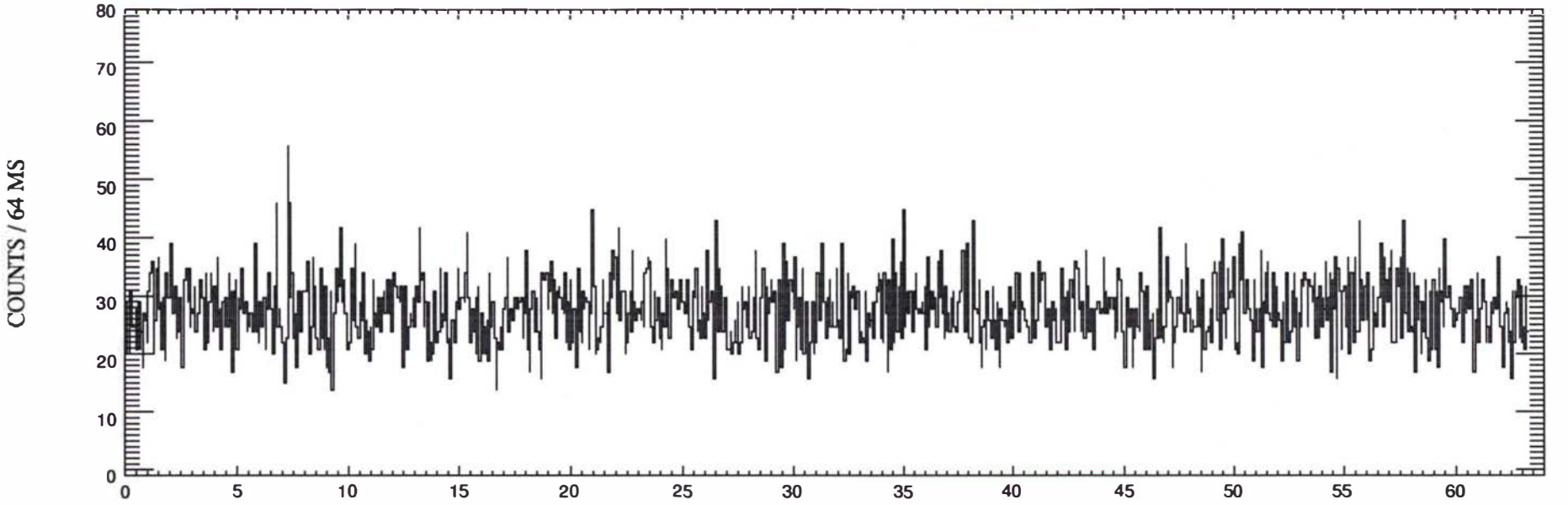
HUS 2A, MODE 1, NOT AVERAGED EDR day 298, year 1996 to day 298, year 1996 3/29/97

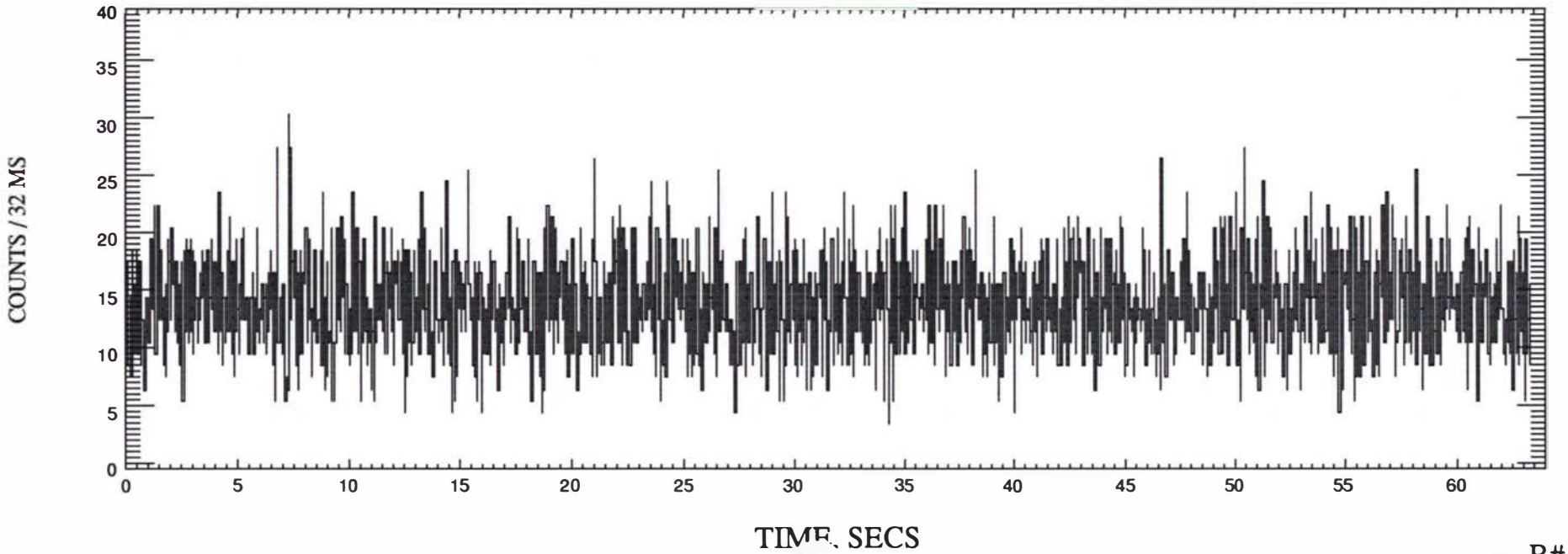
CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 298, year 1996 3/29/97

Burst Counter 11 at UT=16.543114963108 h=59555.214 s 16:32:35.214

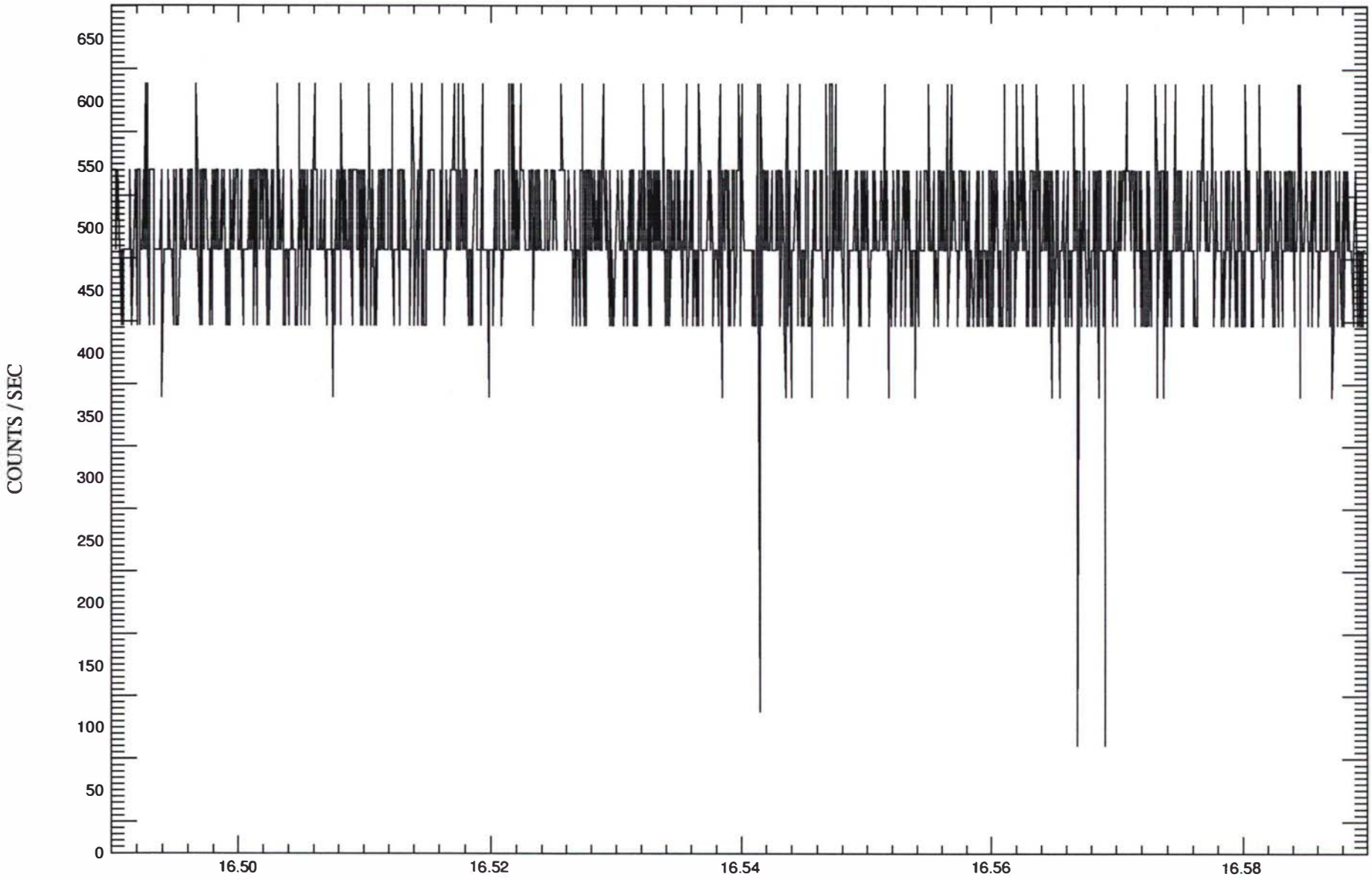




B# 2

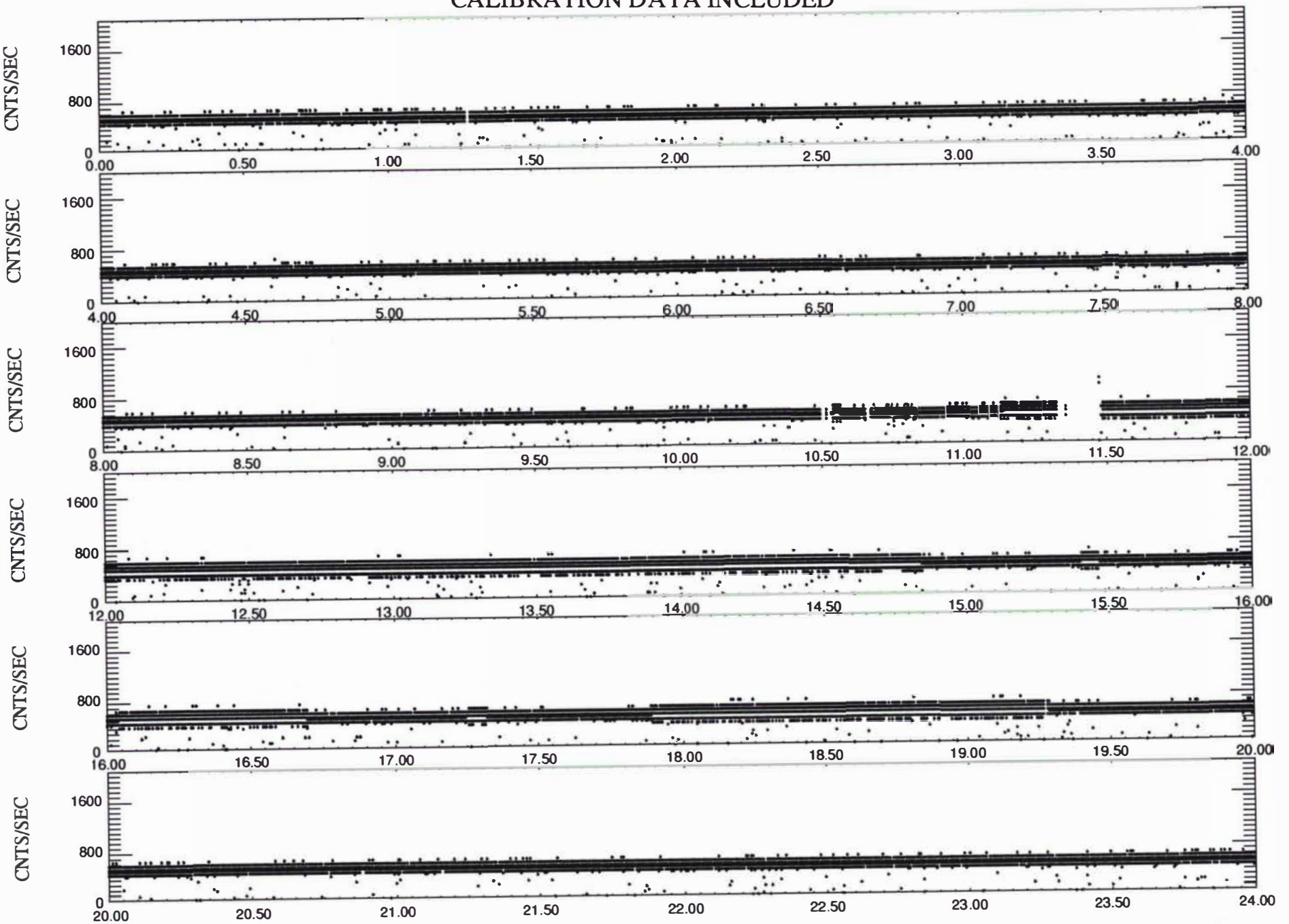
HUS 2A, MODE 1, NOT AVERAGED EDR day 298, year 1996 to day 298, year 1996 3/29/97

CALIBRATION DATA INCLUDED



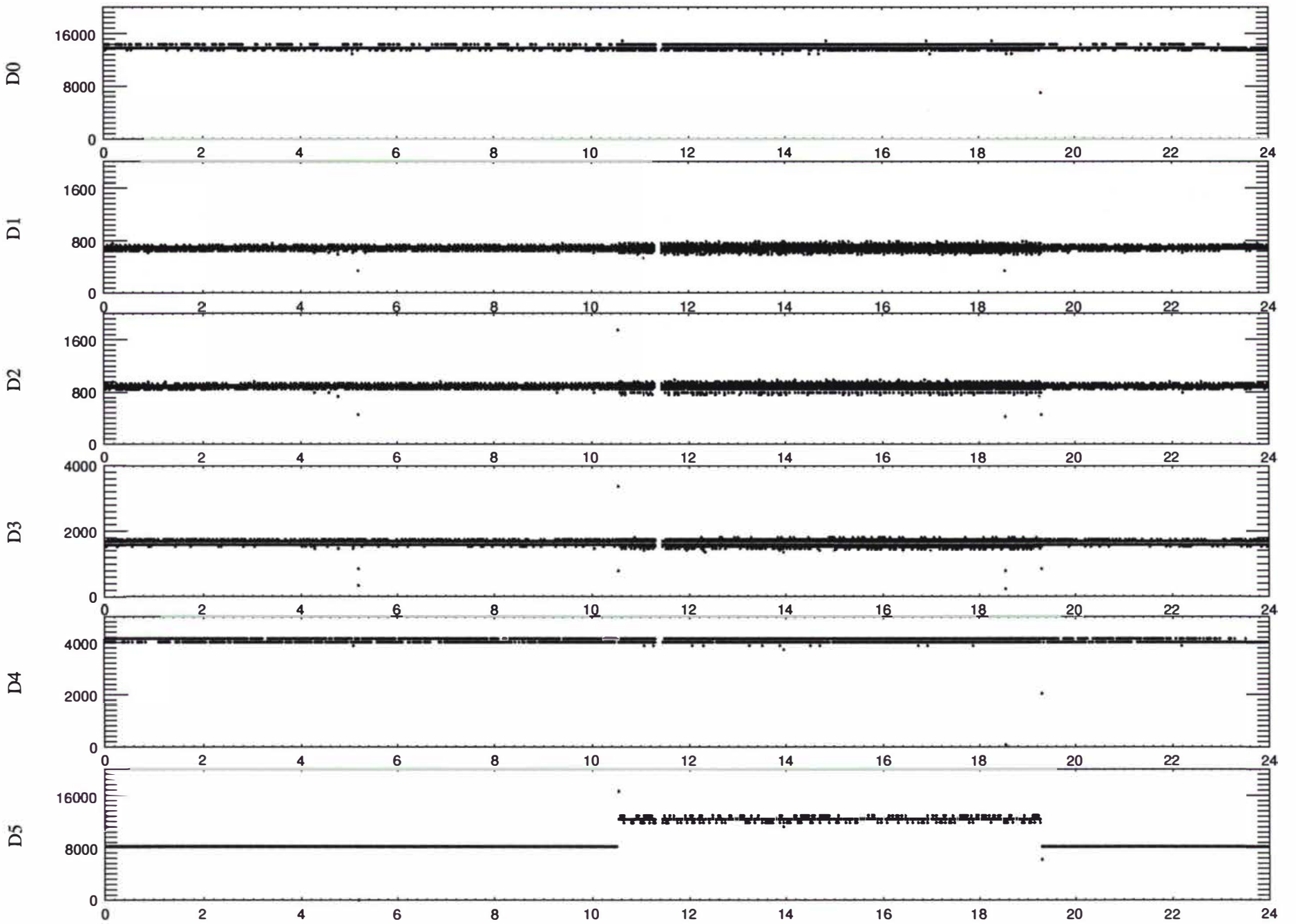
HUS 2A, MODE 1, NOT AVERAGED EDR day 298, year 1996 to day 298, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV AL TIME

HUS 2B COUNTS / SEC EDR day 298, year 1996 to day 298, year 1996 3/29/97



From DEAL@fender.msfc.nasa.gov Mon Oct 28 11:50 PST 1996
Return-Path: <DEAL@fender.msfc.nasa.gov>
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id LAA12674; Mon, 28 Oct 1996 11:50:44 -0800
From: DEAL@fender.msfc.nasa.gov
Date: Mon, 28 Oct 1996 13:50:29 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961028135029.25e010e2@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5643
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: O

****
BATSEARCH PROGRAM
****

BATSE BURST # 5643
EVENT OF 1996 OCT 25 DAY OF YEAR=299
EVENT CROSSING TIME AT BATSE : 45897. S. OR 12:44:57.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 281.000 22.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/10/ 96 IS:
RA= 175.634 DEC= 31.810 DIST= 4.980 AU
BATSE-ULYSSES DISTANCE = 745061575. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.35 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 28.17 SECS.
CROSSING TIME AT ULYSSES IS 45925. S. OR 12:45:25 +/- 481.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/10/ 96 IS:
RA= 149.777 DEC= 13.929 DIST= 1.772 AU
MARS-BATSE DISTANCE = 265076512. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 59.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 444.63 SECS.
CROSSING TIME AT MARS IS 46342. S. OR 12:52:21 +/- 139.44 SECONDS

BATSE BURST TRIGGER
NO.: 5643

TIME: TJD=0381 SECONDS=45897

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=28.4 AZIMUTH=331.7 ERROR=3.2 DEGREES

COMMENTS:
GRB SINGLE PULSE LASTING ~ 3 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5643	961025	10381	45897	2000	281	+22	3

BATSE# 5643

ULYSSES RT 30/10/96

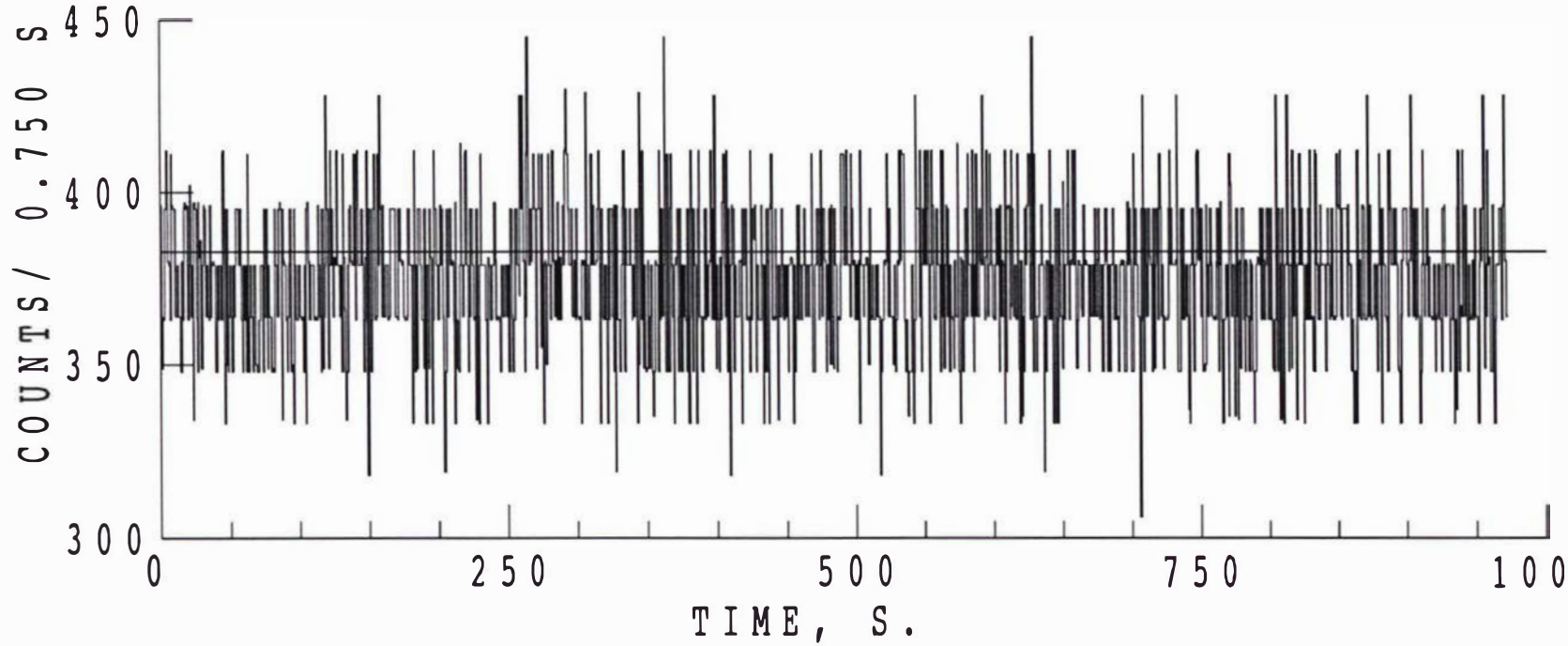
25/10/96 45432.117 s

0.250 S INTERVALS REGROUPED BY 3

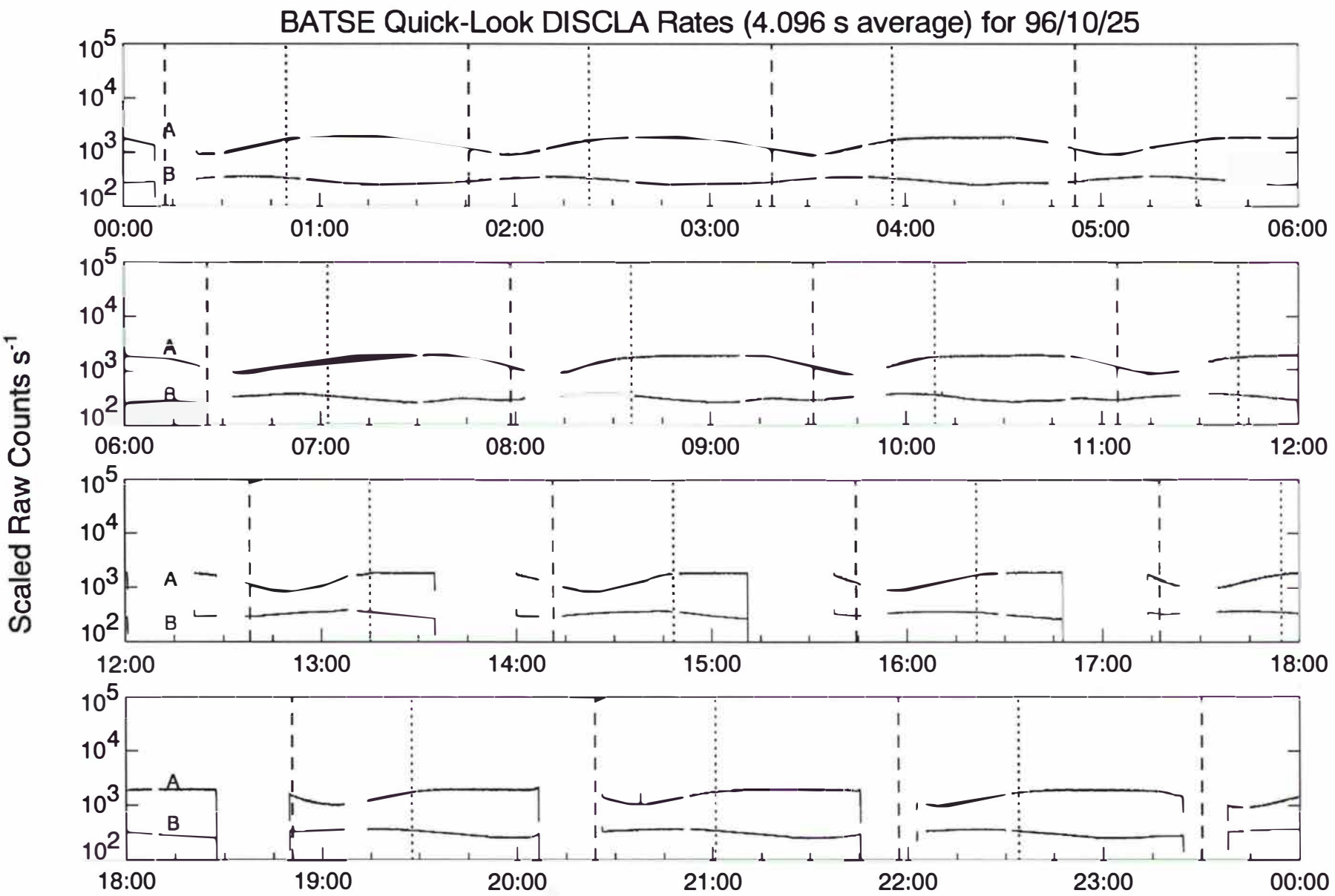
0- 0 keV

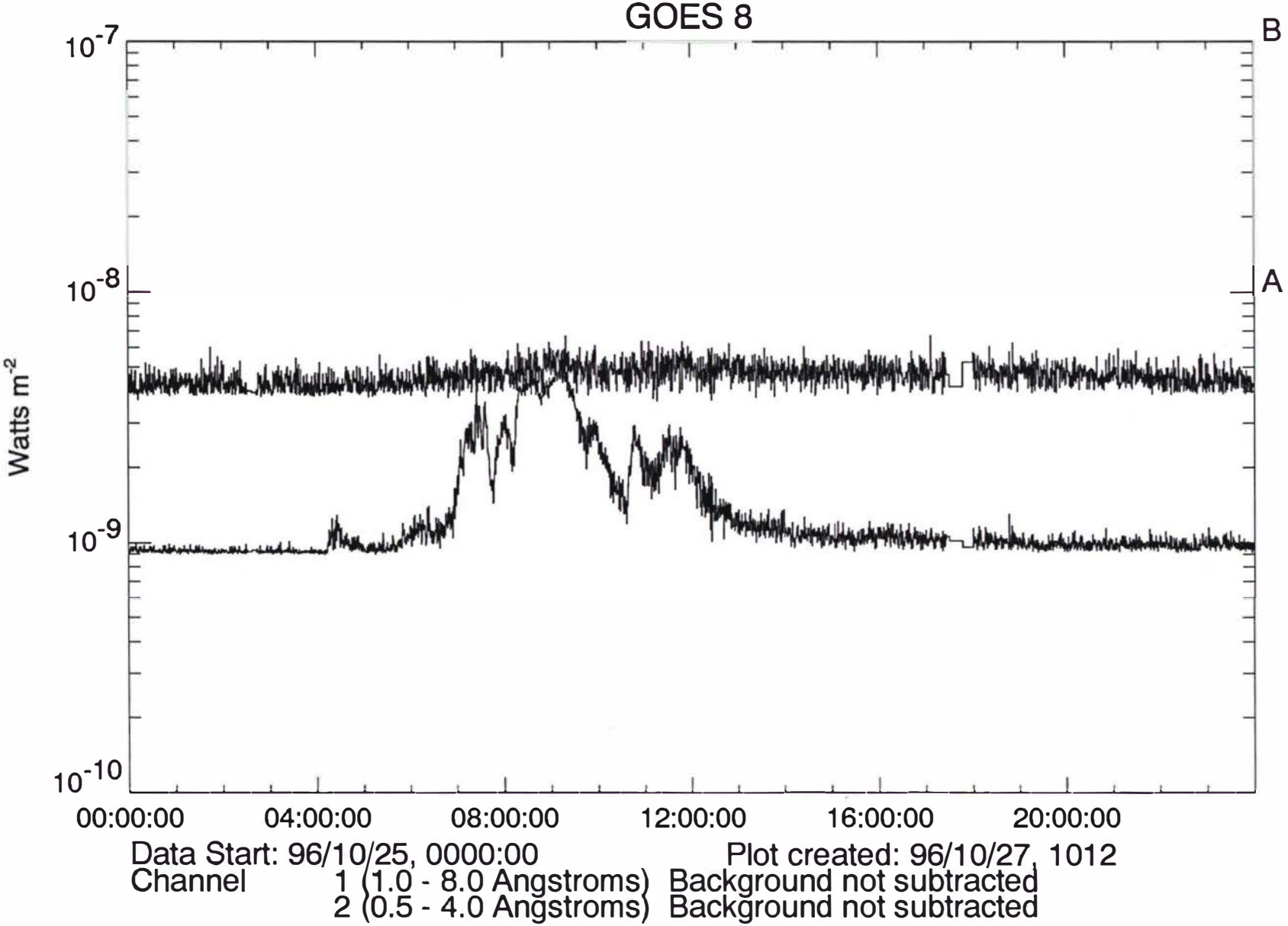
N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

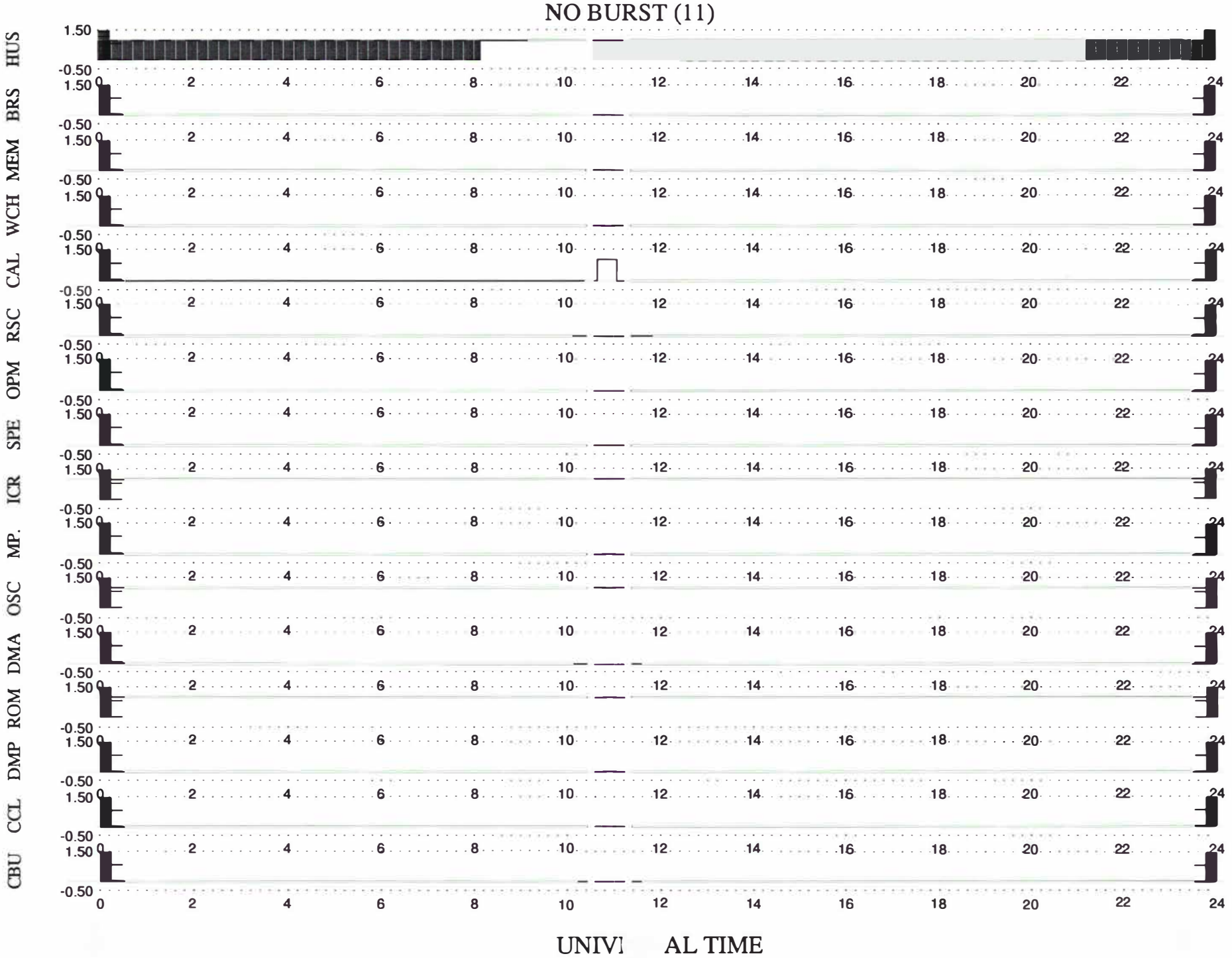


1


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/25
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/27, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

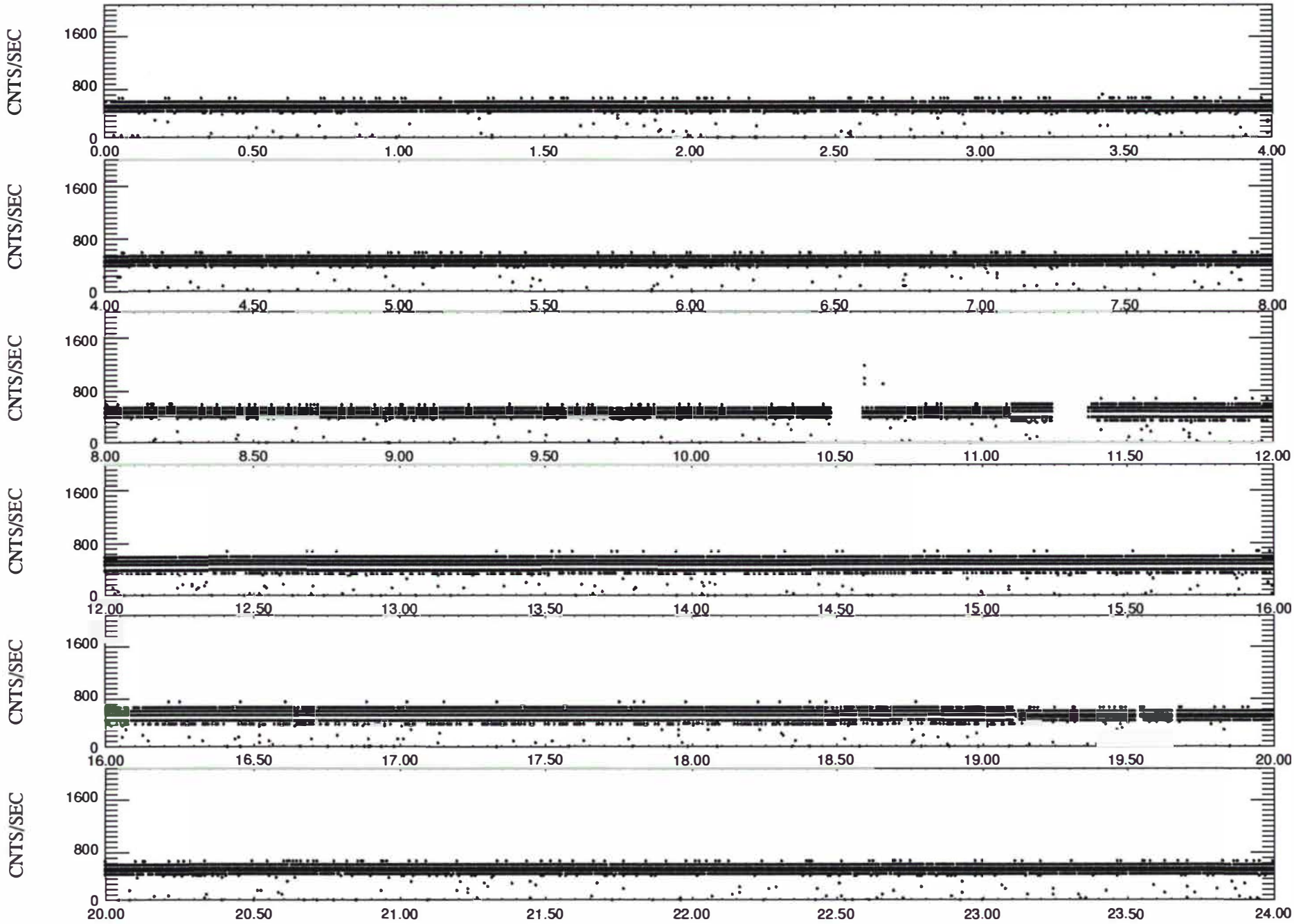

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/25, 0000:00
Plot created: 96/10/27, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 299, year 1996 to day 299, year 1996 3/29/97



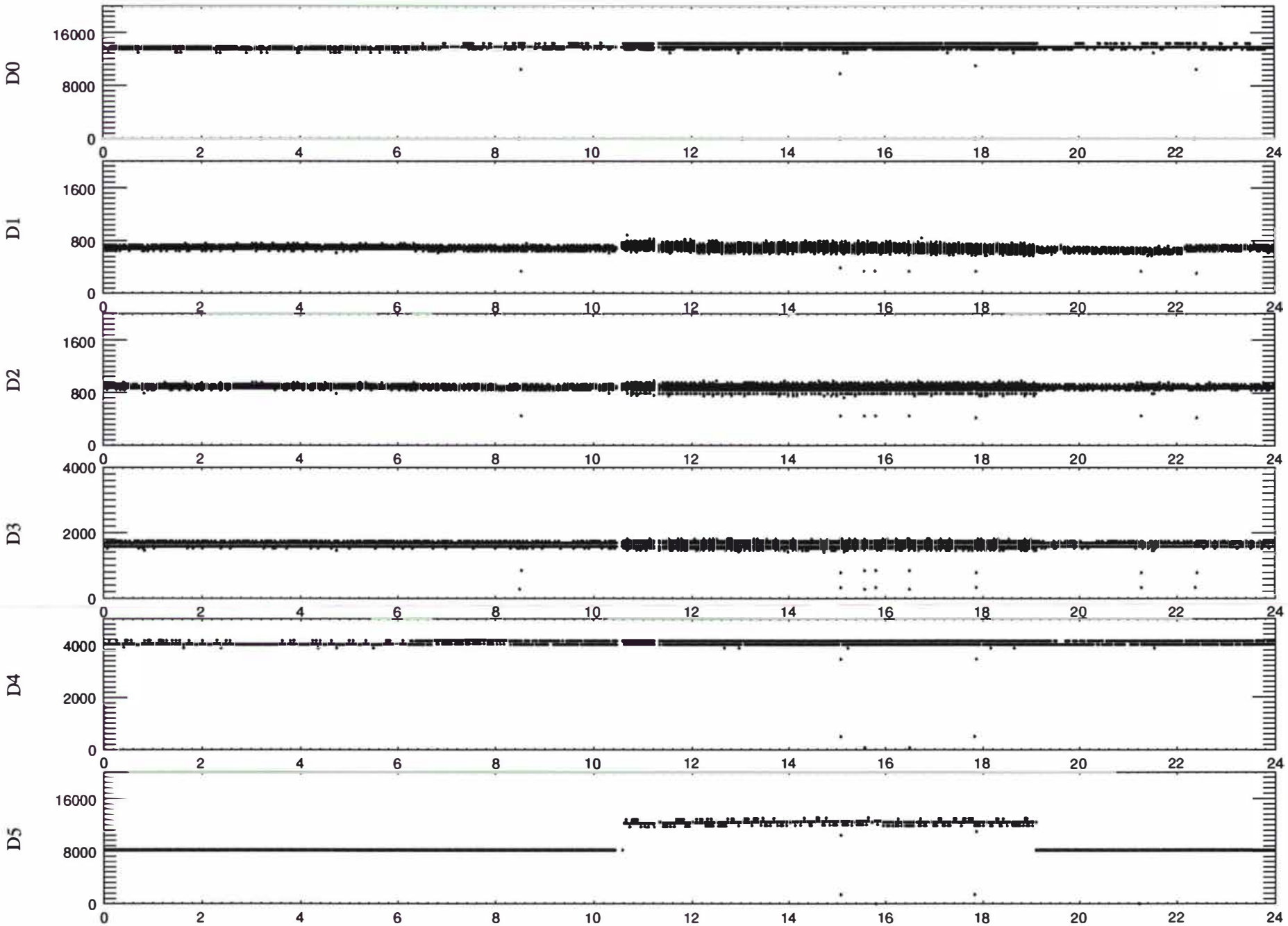
HUS 2A, MODE 1, NOT AVERAGED EDR day 299, year 1996 to day 299, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV AL TIME

HUS 2B COUNTS / SEC EDR day 299, year 1996 to day 299, year 1996 3/29/97



Date: Oct 26 1996

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

☑ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

☐ Was CHECKMO run to eliminate data gaps?

☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data…")

☐ Was Mars-blocking used?

☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)

☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).

☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

☐ Σ 3Δt's calculated, and/or BMAPSUM executed?

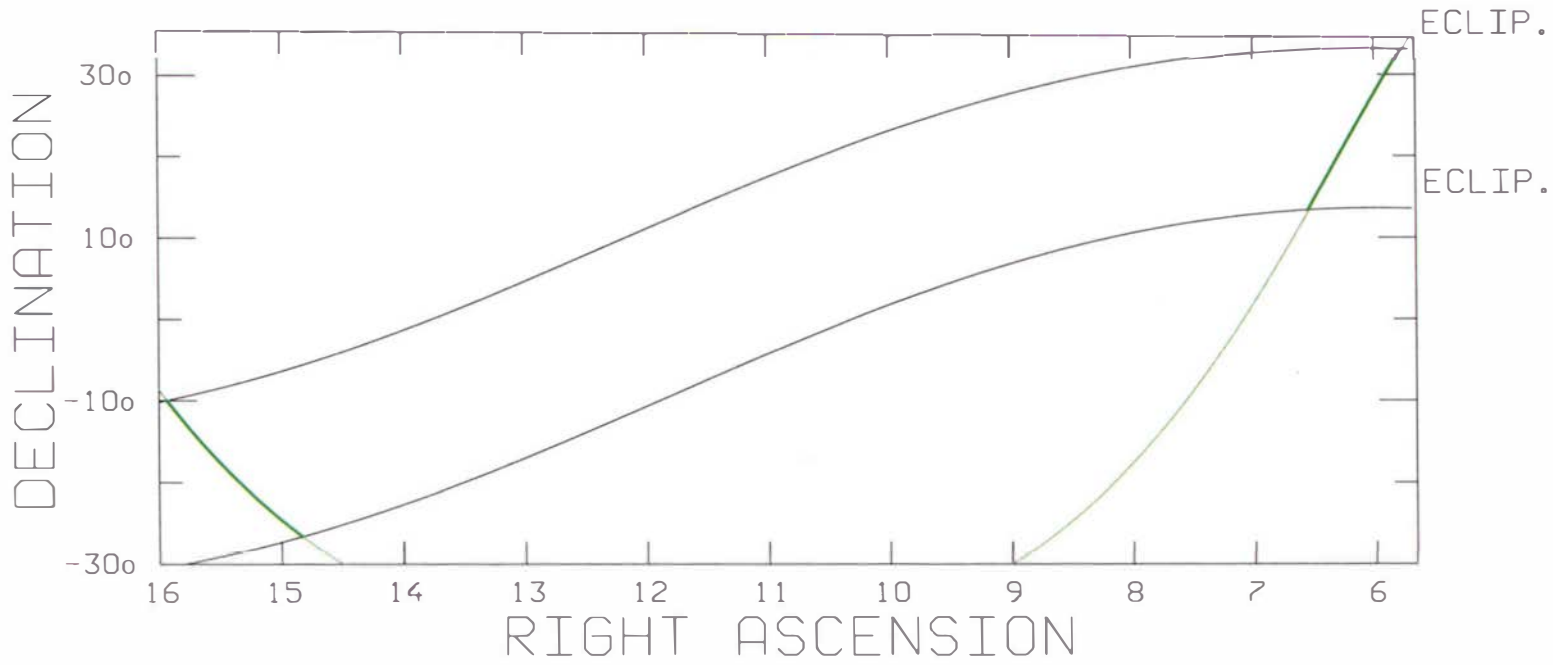
3. For INTEGRAL events

☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?

☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?

☐ Updated ephemeris used for bursts prior to September 30, 2003?

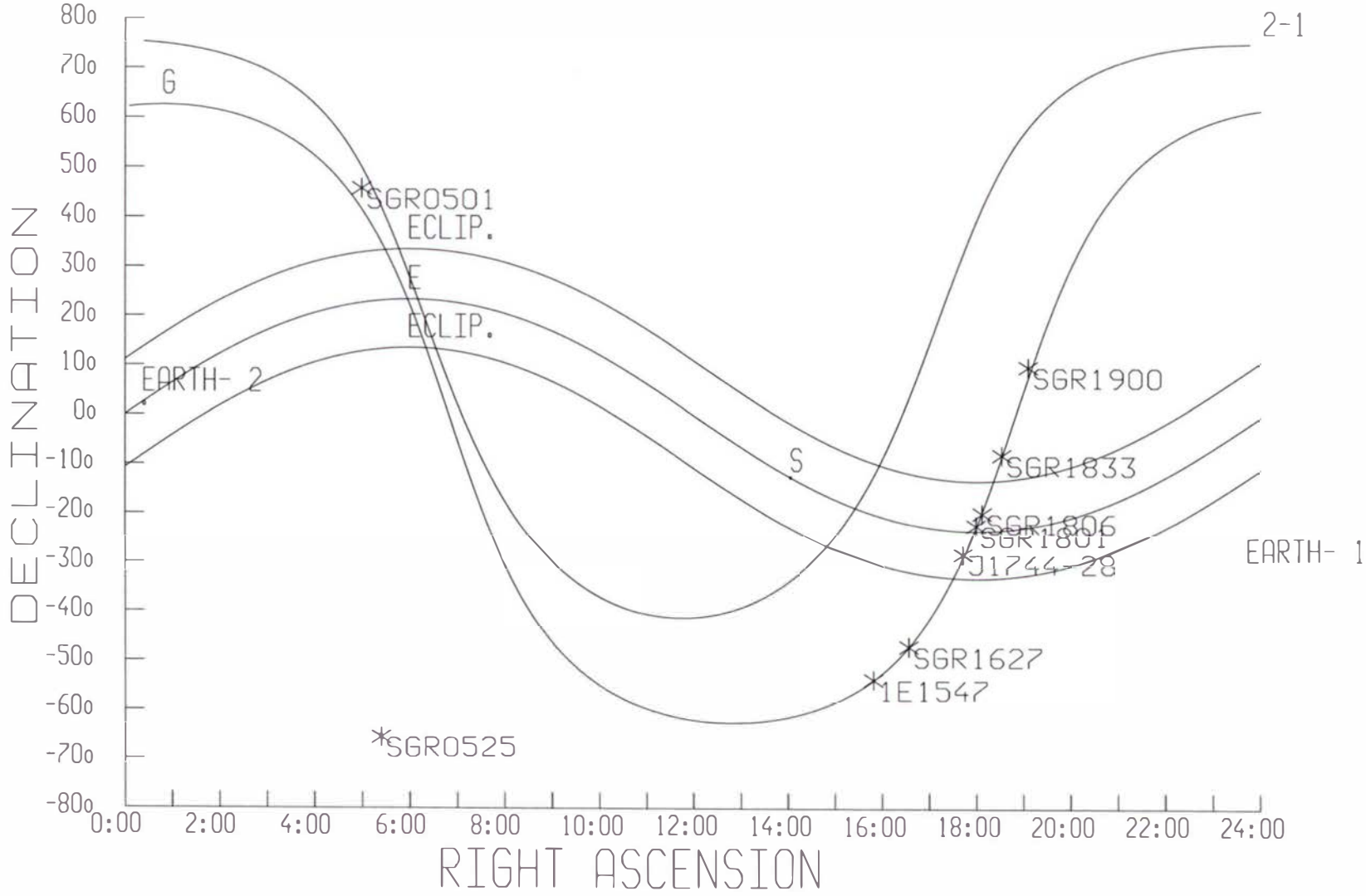
☑ ACCESS and MBL4 databases updated with identical times?

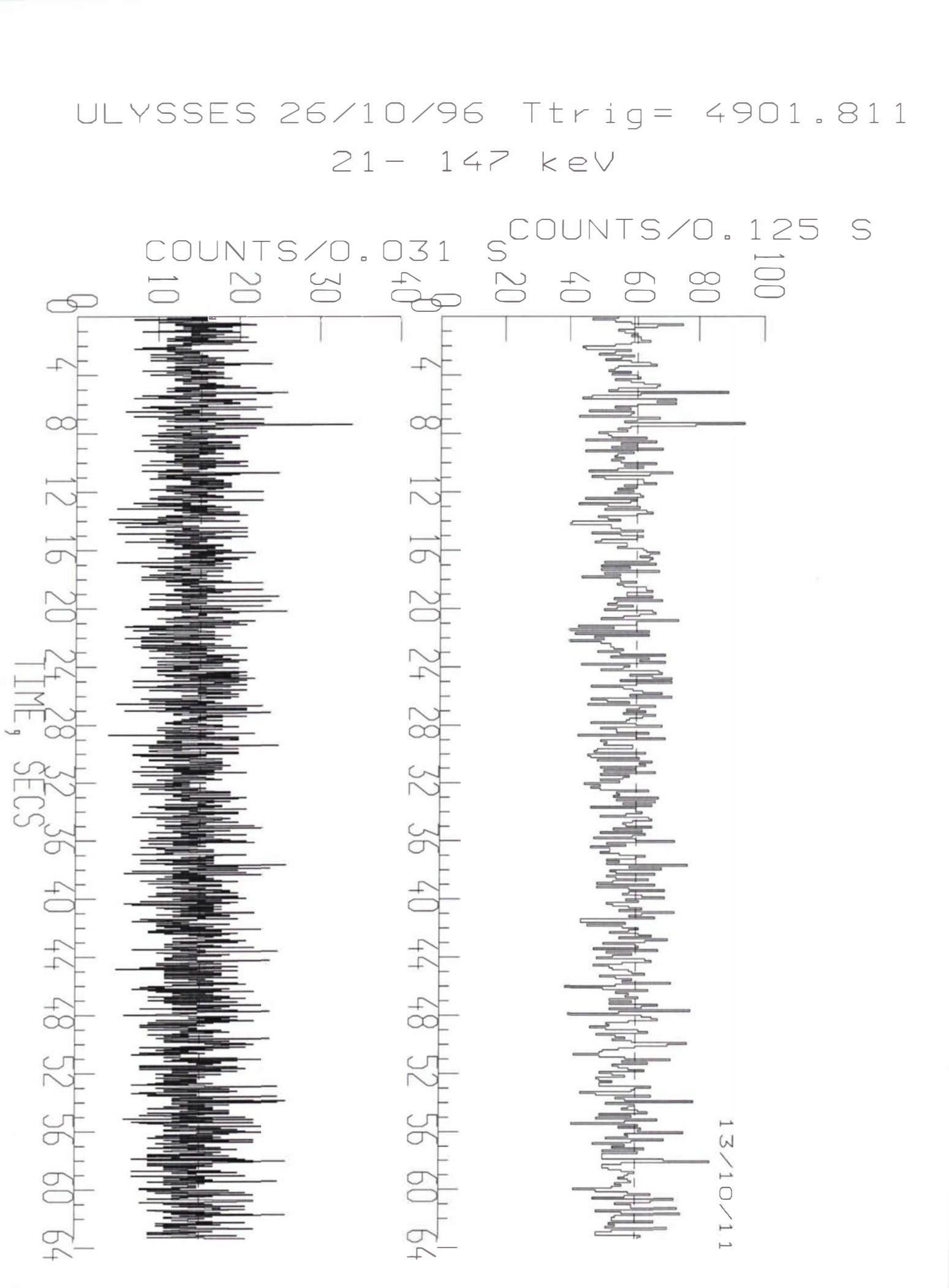

ECLIP.
ECLIP.
30o
10o
-10o
-30o
DECLINATION
16
15
14
13
12
11
10
9
8
7
6
RIGHT ASCENSION

EVENT OF OCT 26, 1996 1:21

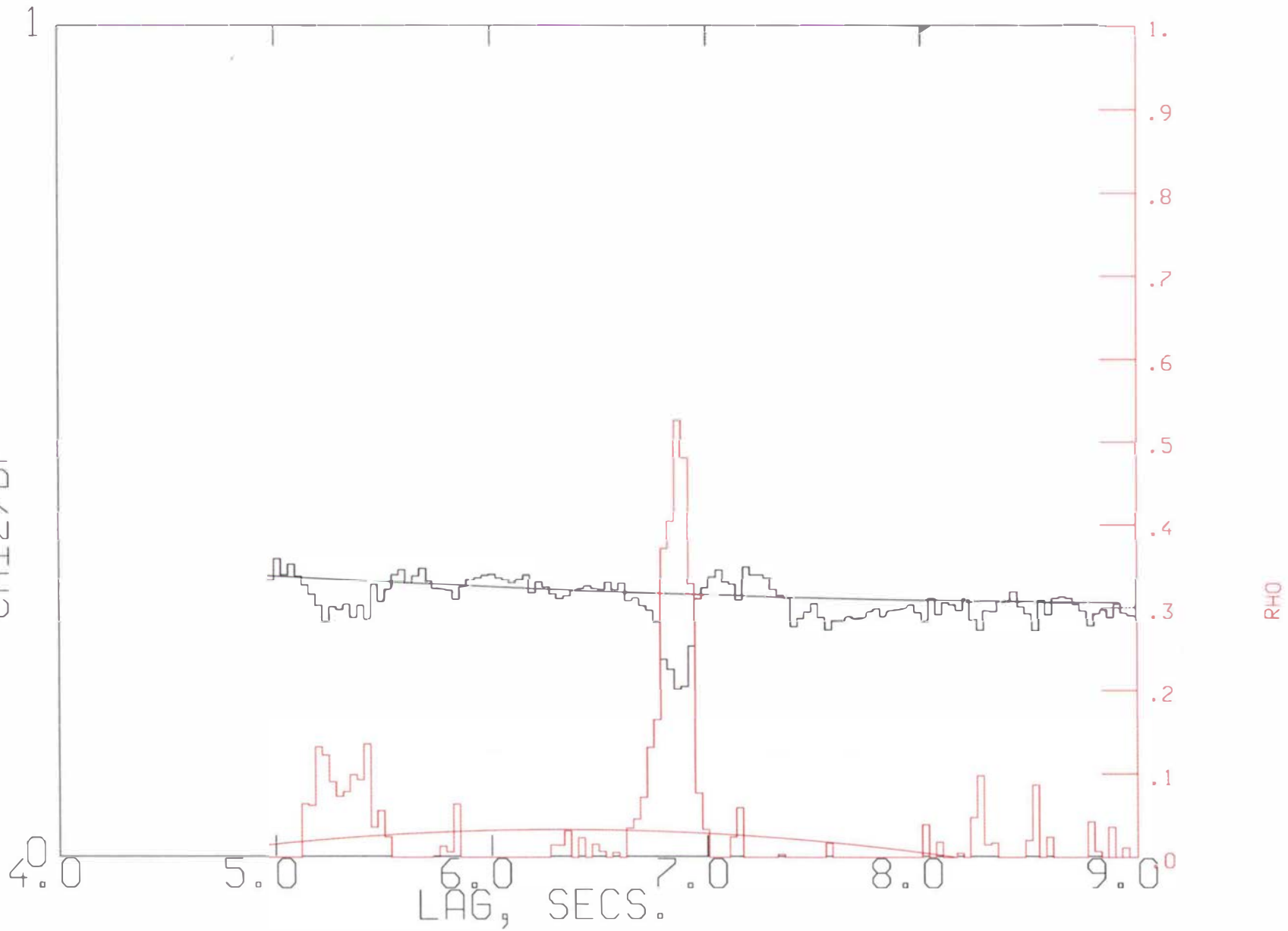
13/10/2011

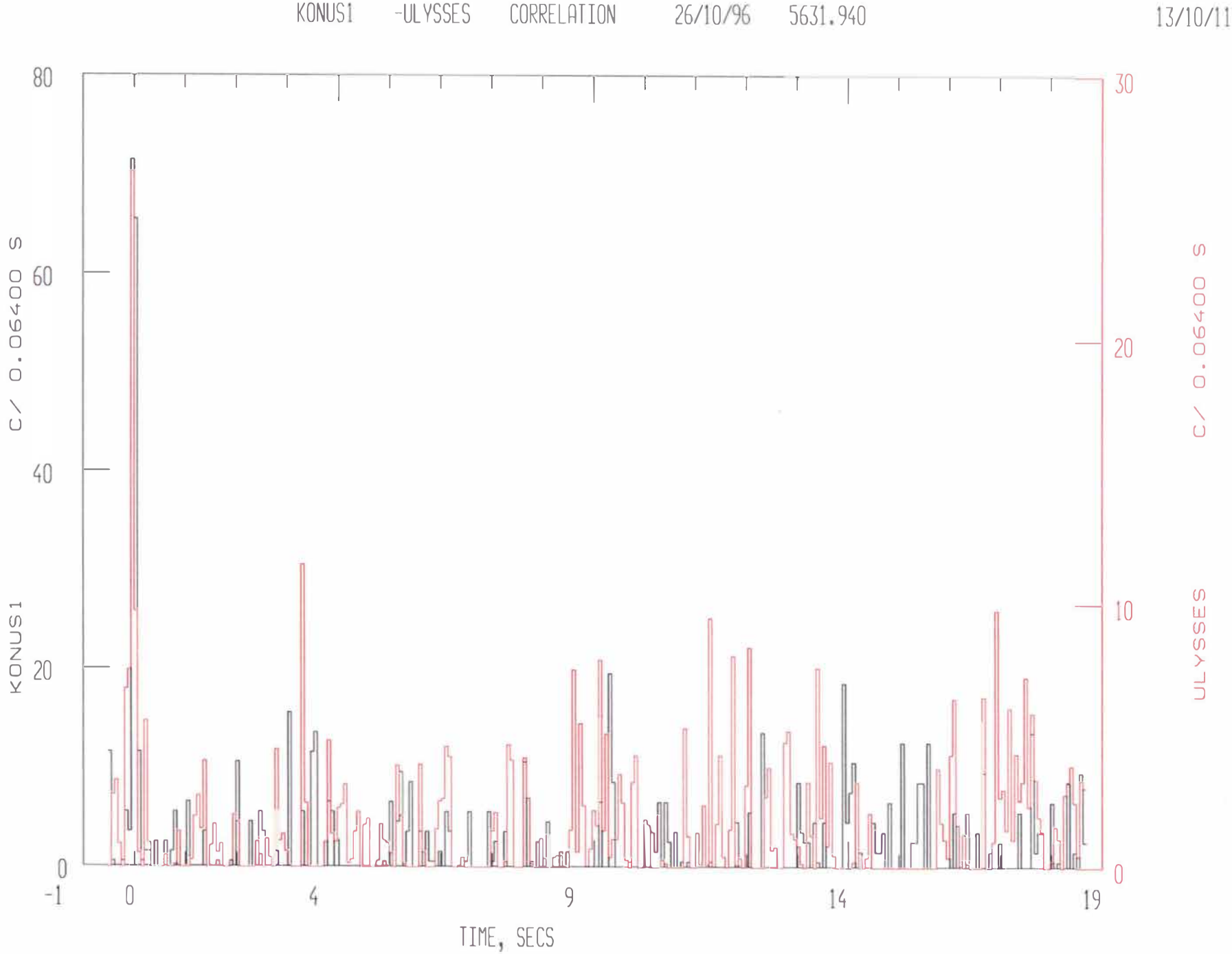
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS1




ULYSSES 26/10/96 Ttrig= 4901.811
21- 147 keV
COUNTS/0.031 S
COUNTS/0.125 S
TIME, SECS
13/10/11

KONUS1 -ULYSSES CORRELATION 26/10/96 5631.940



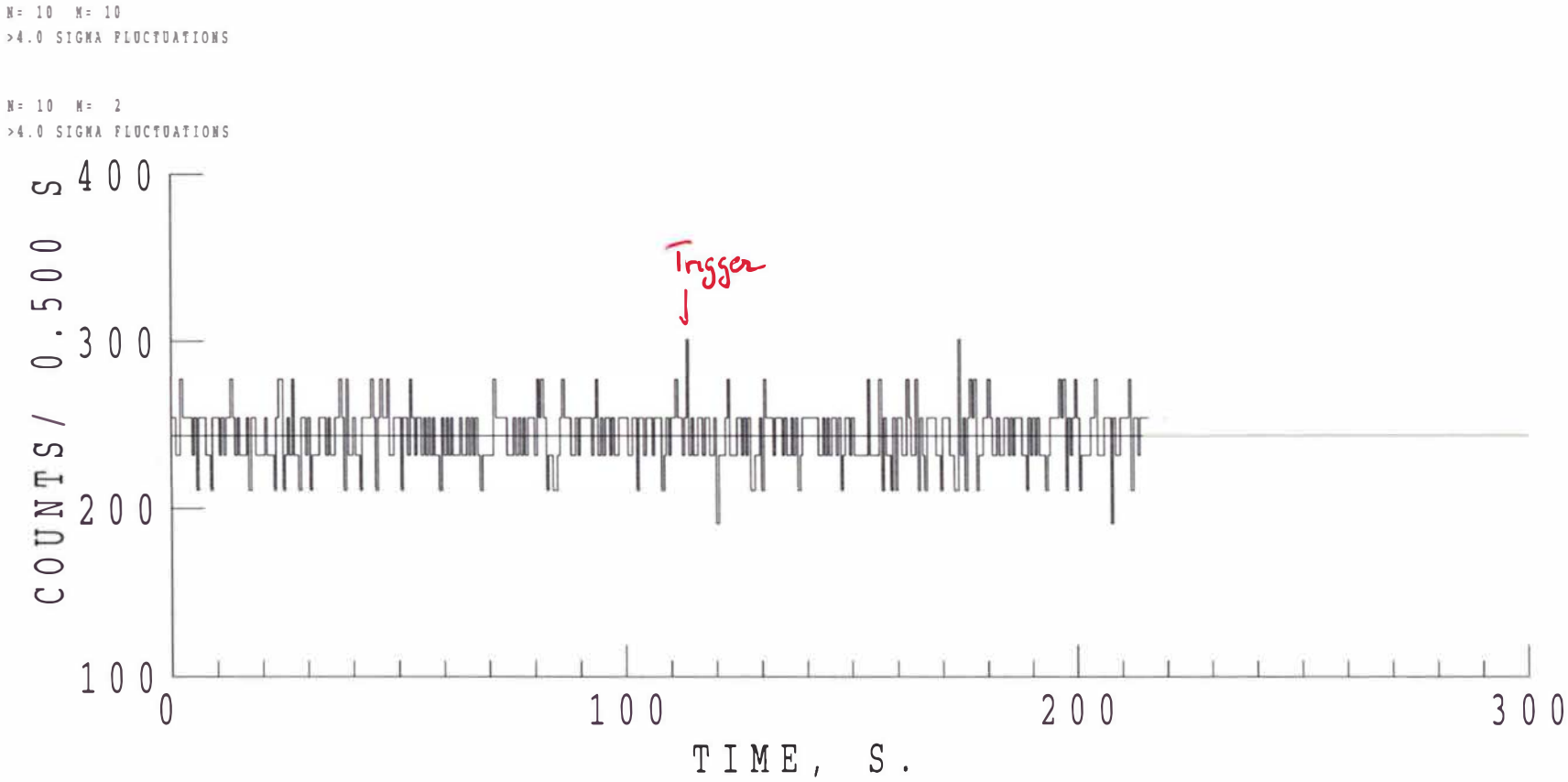

KONUS1 -ULYSSES CORRELATION 26/10/96 5631.940
13/10/11
80
60
40
20
0
C/ 0.06400 S
KONUS1
30
20
10
0
C/ 0.06400 S
ULYSSES
-1
0
4
9
14
19
TIME, SECS

KONUS 19961026 04901

ULYSSES RT 12/10/11

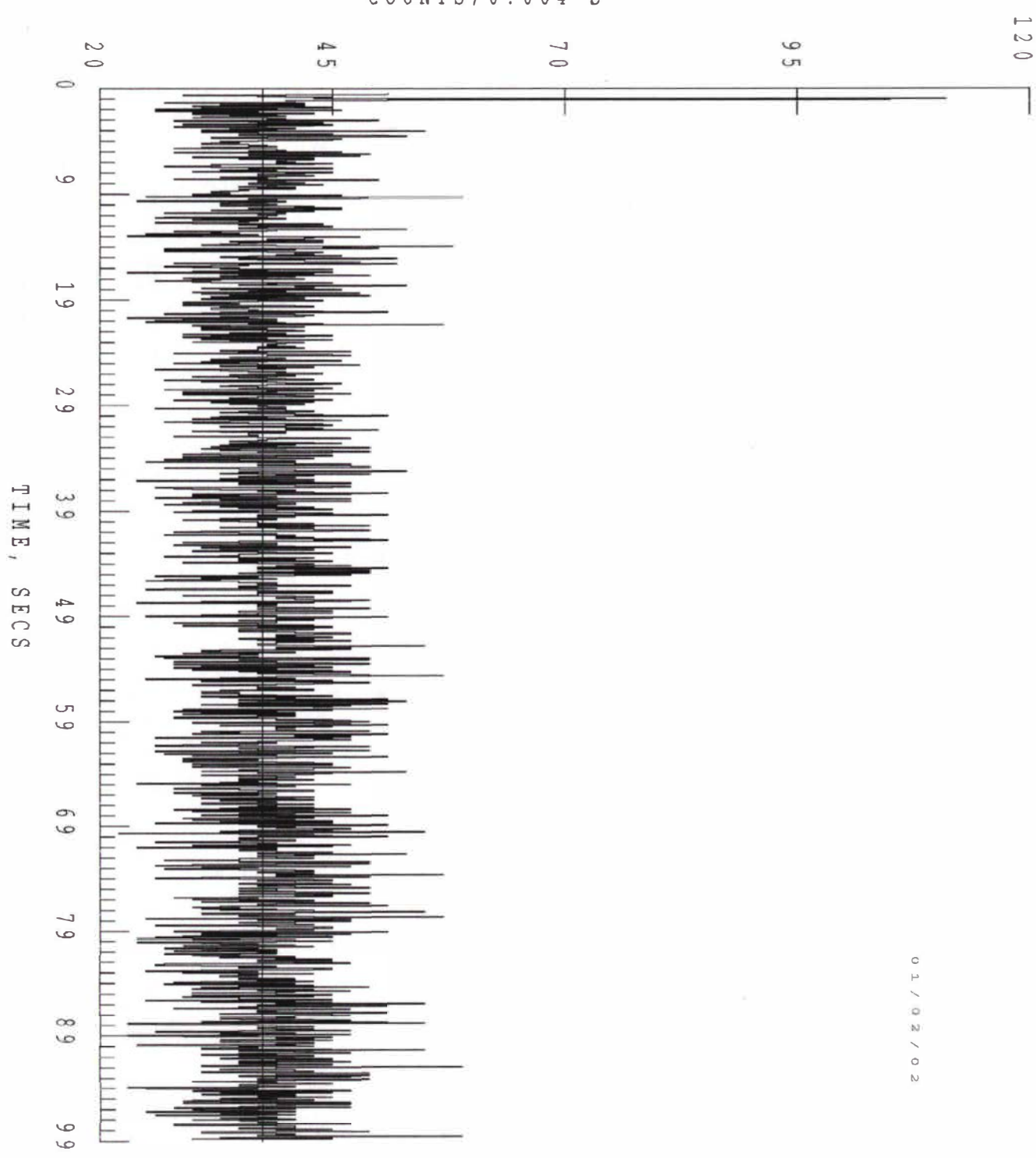
26/10/96 4788.181 s

0- 0 keV



KONUS1 26/10/96 5631.940

50- 200 keV



01/02/02

KONUS1 19961026 05631

ULYSSES RT 01/02/02

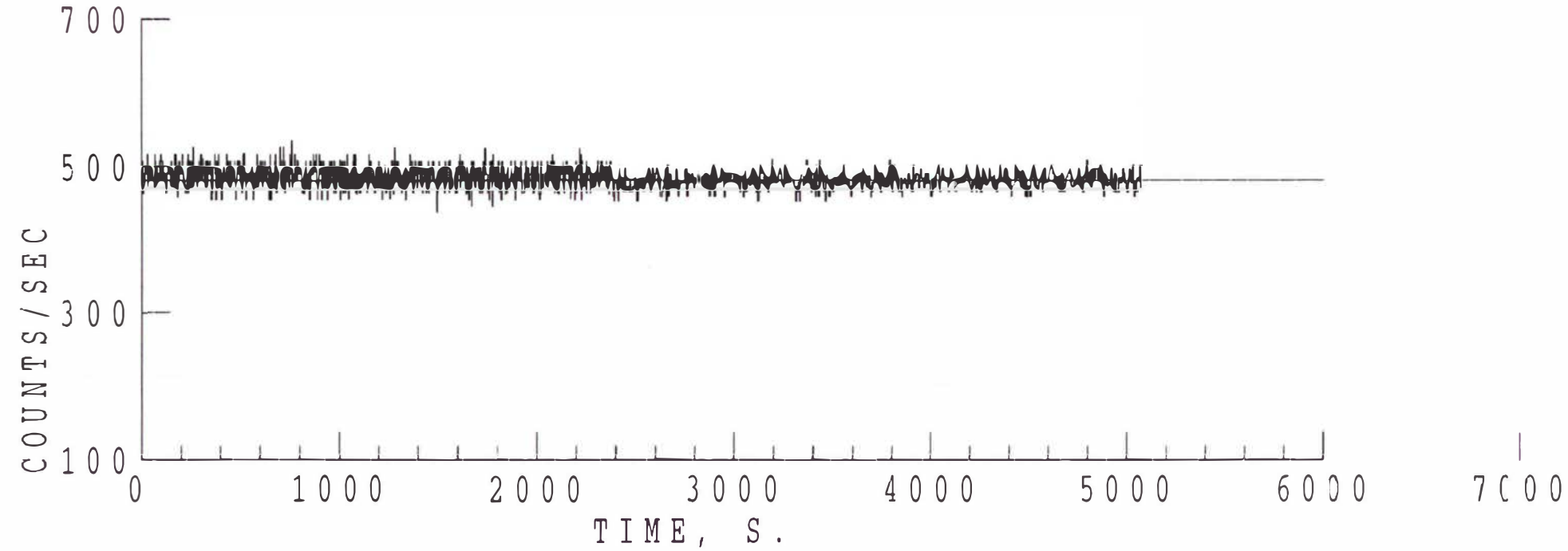
26/10/96 3096.162 s

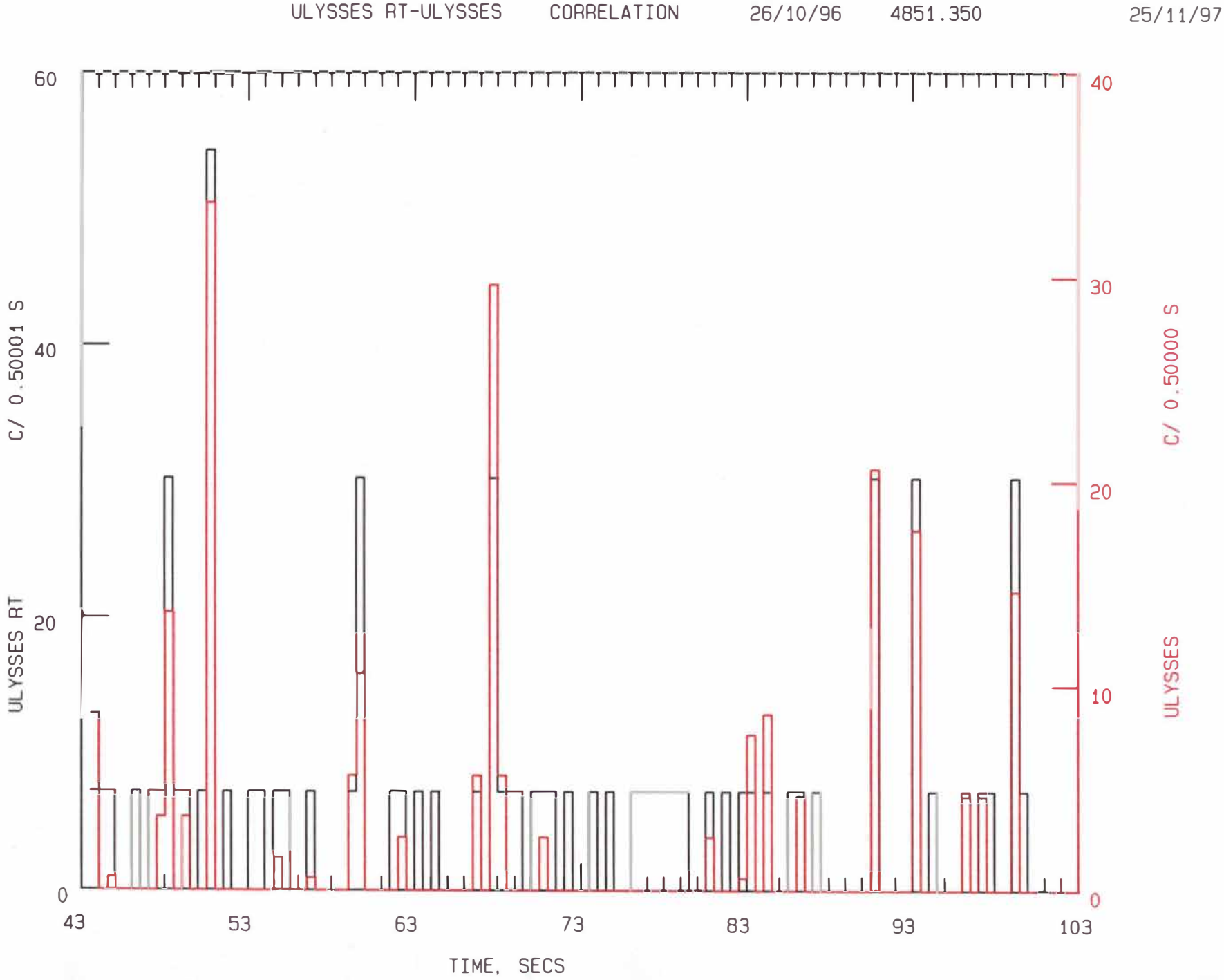
INTERVALS REGROUPED BY 5

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

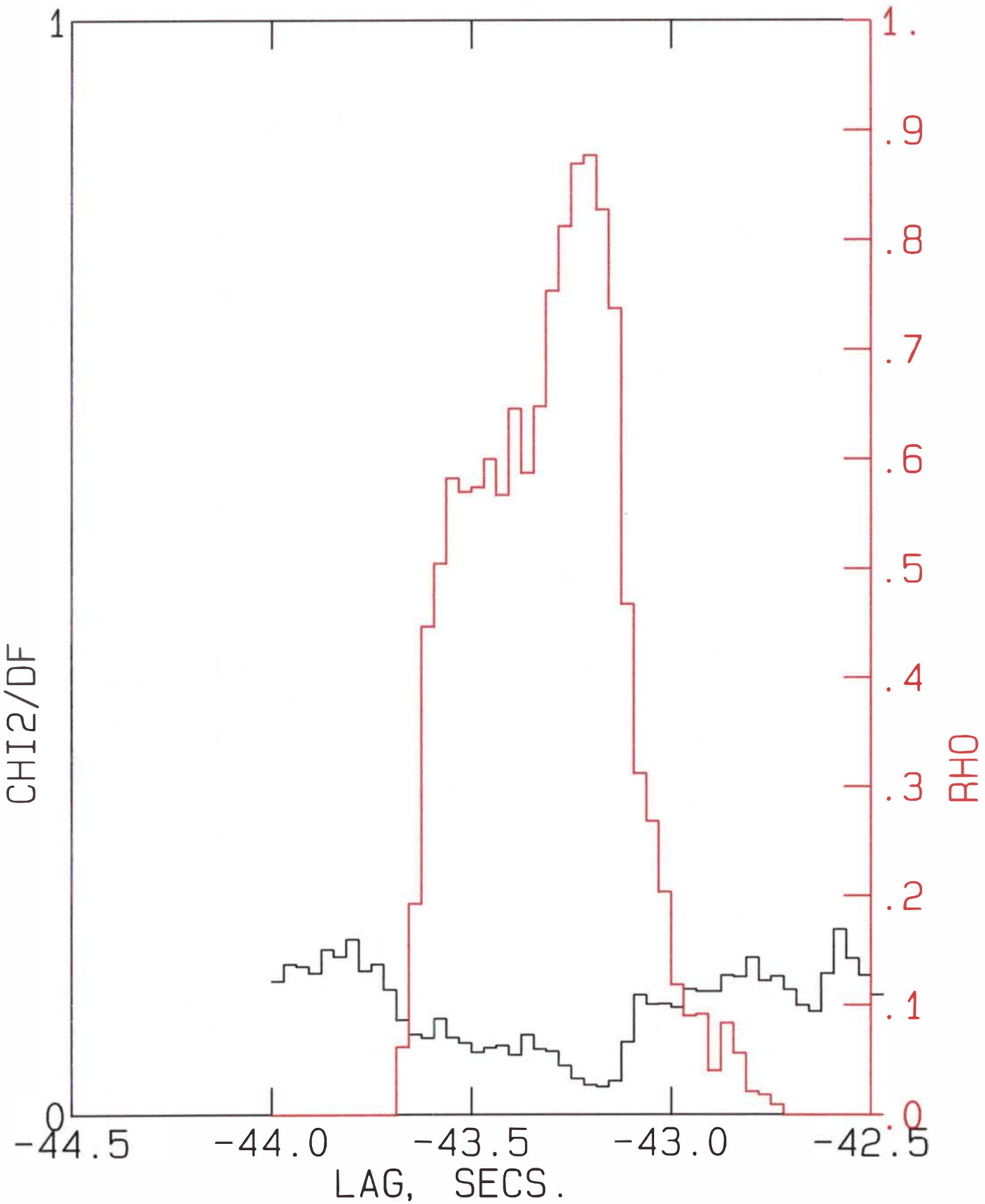
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS




ULYSSES RT-ULYSSES CORRELATION 26/10/96 4851.350 25/11/97
60
40
20
0
ULYSSES RT
C/ 0.50001 S
40
30
20
10
0
ULYSSES
C/ 0.50000 S
43
53
63
73
83
93
103
TIME, SECS

25/11/97

ULYSSES RT-ULYSSES CORRELATION 26/10/96 4851.350



ULYSSES 26/10/96 Ttrig= 4901.979

0- 0 keV

COUNTS/0.031 S

COUNTS/0.125 S

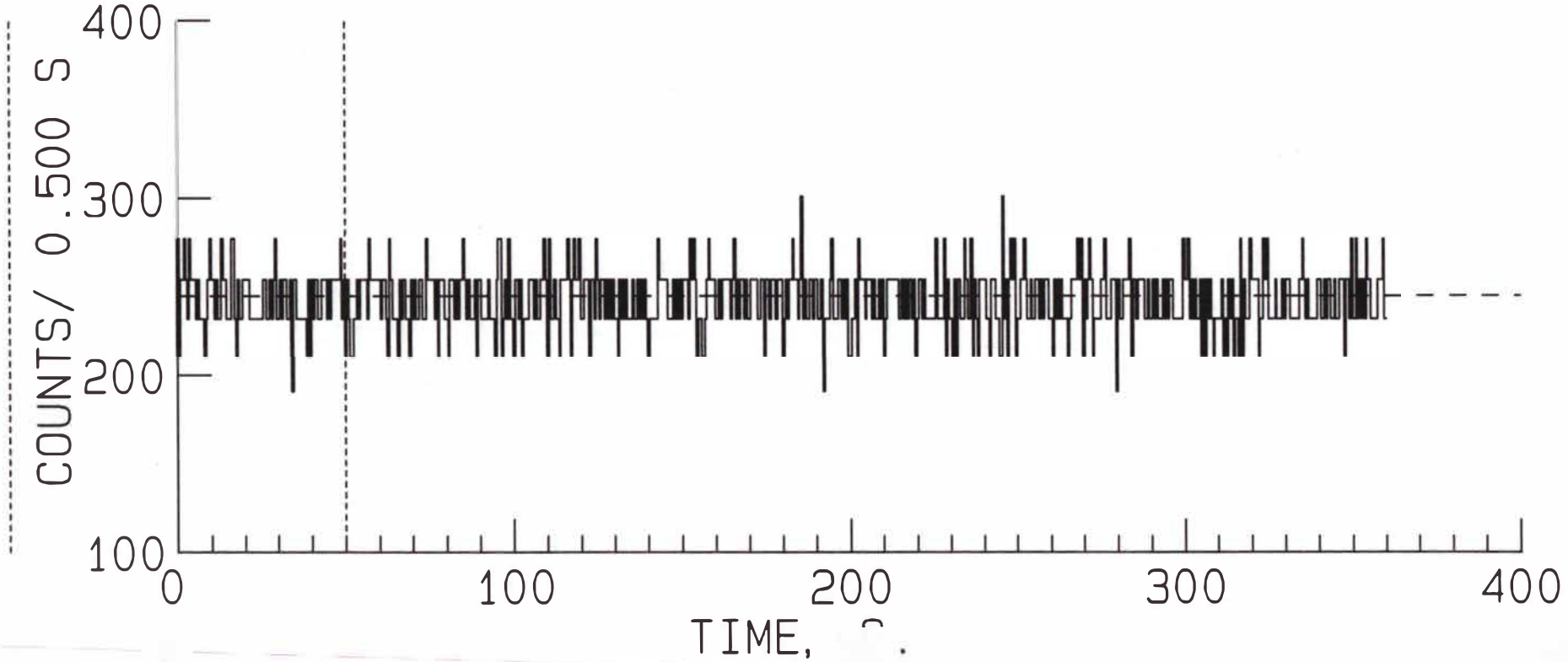
25/11/***

ULYSSES RT

25/11/97

26/10/96 4716.181 s

21- 146 keV



From jeanz@tgrosf.gsfc.nasa.gov Wed Nov 6 09:48 PST 1996
From: "Jean in 't Zand" <jeanz@tgrosf.gsfc.nasa.gov>
Subject: weak short Ulysses bursts
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Date: Wed, 6 Nov 1996 12:48:32 -0500 (EST)
Cc: bonnard@rosserv.gsfc.nasa.gov (Bonnard Teegarden)
Mime-Version: 1.0
Content-Transfer-Encoding: 7bit

Dear Kevin,

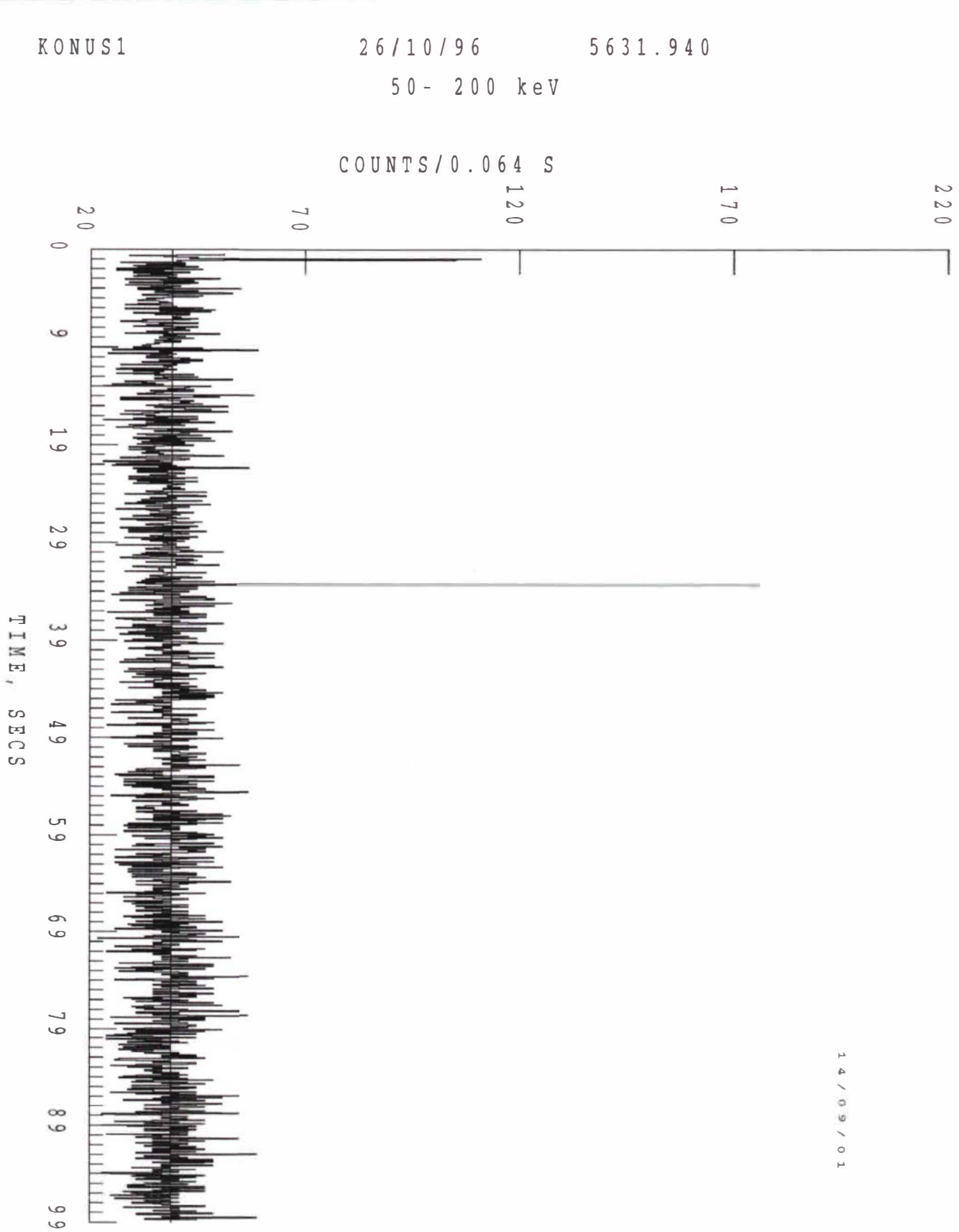
I searched the TGRS data for the bursts you asked about (see list below). Checked were time histories in 35-100 keV at ~2 s time resolution and 100-300 keV at 0.37 s time resolution (these time resolutions are the highest obtainable), from 3000 s before to 3000 s after the Ulysses times. Special attention was given to time intervals 12 to 10 minutes before the Ulysses times (expected arrival times if SGR1806-20 is the source). No significant fluctuations above the noise were seen.

I'll let you know about later bursts as soon as we have the data (it takes 2 to 3 days between observation and data arrival).

Best regards,

Jean in 't Zand.

961024 14:42
16:33
1026 01:21
14:03
961030 03:15
961102 17:49
23:50


KONUS1
26/10/96
5631.940
50- 200 keV
COUNTS/0.064 S
20
70
120
170
220
0
9
19
29
39
49
59
69
79
89
99
TIME, SECS
14/09/01

KONUS1 19961026 05631

ULYSSES RT 14/09/01

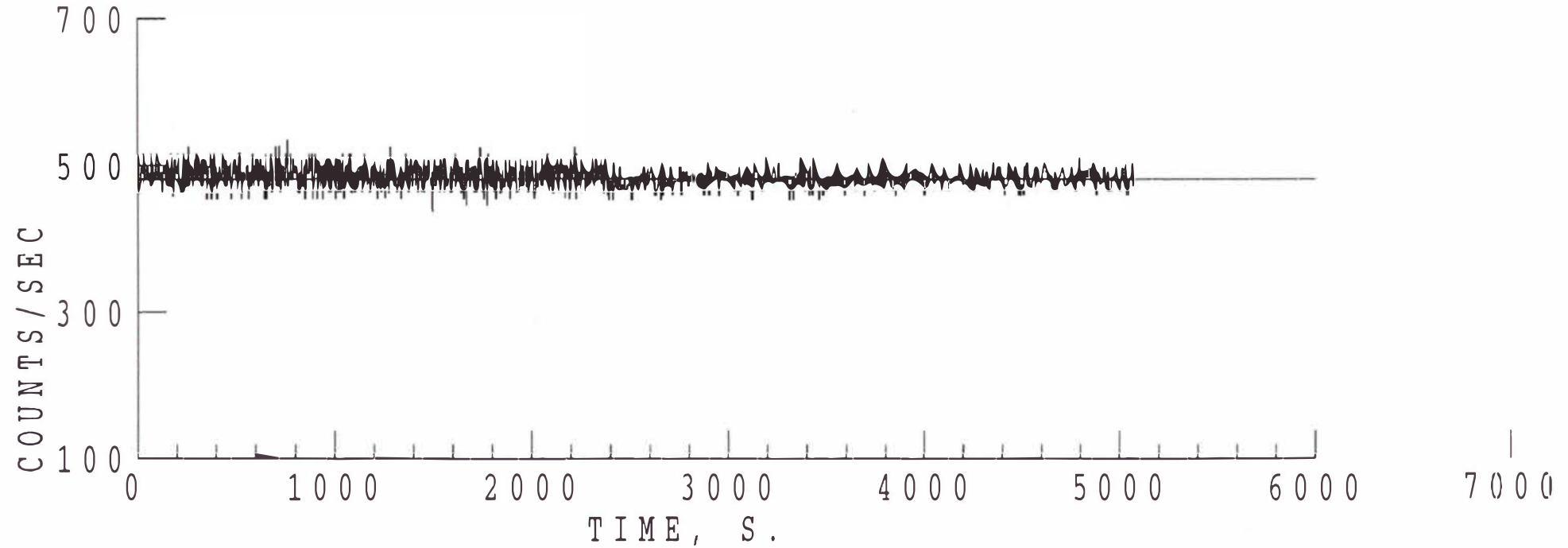
26/10/96 3096.162 s

INTERVALS REGROUPED BY 5

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig		5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig		
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	~~Search + 2559~~	RI	
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI	KA	
	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig		5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	~~Search + 2560~~	RI	
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	~~Search + 2562~~	RI	
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI		5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig	KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI		5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig		
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI		5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	~~Search + 2570~~	NO	
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI		5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	~~Search + 2576~~	RI	
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig		5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	~~Search + 2580~~	RI	
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig		5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI		5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig		5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	~~Search + 2586~~	RI	
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO		5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI		5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	~~Search + 2600~~	RI	
96	10	17	42405.539	S1					0.3	1.5	396	~~Search + 2606~~	NO	
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	~~Search + 2620~~	RI	
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	~~Search + 2625~~	RI	
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	~~Search + 2630~~	RI	
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig		
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI		5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig		
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	~~Search + 2650~~	NO	
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig		
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	~~Search + 2660~~	RI	

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	scaRI	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	scaRI	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	ScanRI	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

From costa@saturn.ias.fra.cnr.it Tue Nov 5 10:53 PST 1996
Date: Tue, 5 Nov 1996 19:53:31 +0100 (NFT)
From: Enrico Costa <costa@saturn.ias.fra.cnr.it>
X-Sender: costa@titan.ias.fra.cnr.it
To: Kevin Hurley <khurley@sunspot.ssl.berkeley.edu>
Cc: Filippo Frontera <filippo@botes2.tesre.bo.cnr.it>,
Daniele Dal Fiume <daniele@botes1.tesre.bo.cnr.it>
Subject: Oct 26
Mime-Version: 1.0

Dear Kevin,
I amn sorry for my previous misunderstanding. On October 26 we have a trigger at 12:06:27 UT and another one at 16:02:16UT. I think both are inconsistent with your event.
In that date we had still a short integration time of 4s. Thence I think we were less sensitive to fast bursts. Now we have changed it to 1s and we have rearranged all the thresholds. Also we are trying to set up an organization for a systematic analysis of these data and I really hope we can be much more efficient in the next future.
Wishes

Enrico

Enrico Costa
Istituto di Astrofisica Spaziale - C.N.R.
Via E. Fermi 21, I-00044 Frascati, ITALY
Tel.: +39-6-9424589
E-mail: costa@saturn.ias.fra.cnr.it
Fax : +39-6-9416847

From RICHARDSON@SSLLES.MSFC.NASA.GOV Mon Oct 28 12:19 PST 1996
Return-Path: <RICHARDSON@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id MAA12898; Mon, 28 Oct 1996 12:19:13 -0800
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
Date: Mon, 28 Oct 1996 14:19:05 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961028141905.24a0208b@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5644
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5644
EVENT OF 1996 OCT 26 DAY OF YEAR=300
EVENT CROSSING TIME AT BATSE : 22310. S. OR 06:11:50.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 99.000 42.000
BATSE PEAK COUNTING RATE: 19000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/10/ 96 IS:
RA= 175.733 DEC= 31.776 DIST= 4.974 AU
BATSE-ULYSSES DISTANCE = 744182017. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=119.82 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1234.57 SECS.
CROSSING TIME AT ULYSSES IS 21075. S. OR 05:51:15 +/- 405.14 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/10/ 96 IS:
RA= 150.327 DEC= 13.747 DIST= 1.764 AU
MARS-BATSE DISTANCE = 263907648. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=127.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -537.05 SECS.
CROSSING TIME AT MARS IS 21773. S. OR 06:02:52 +/- 112.94 SECONDS

BATSE BURST TRIGGER
NO.: 5644

TIME: TJD=0382 SECONDS=22310

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=105.9 AZIMUTH=215.9 ERROR=0.8 DEGREES

COMMENTS:
GRB. TWO PULSES. FIRST PULSE AT ~T WITH DUR.~10 SEC. SECOND PULSE AT
~T+13 SEC. WITH DUR.~10SEC. TOTAL DUR.~23 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5644	961026	10382	22310	19000	099	+42	23

96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	~~Search +2559~~	RI
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	~~Search +2560~~	RI
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	~~Search +2566~~	RI
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	~~Search +2569~~	NO
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	~~Search +2570~~	RI
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	~~Search +2571~~	RI
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	~~Search +2574~~	RI
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	~~Search +2577~~	RI
96	10	17	42405.539	S1					0.3	1.5	396	~~Search +2580~~	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	~~Search +2582~~	RI
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	~~Search +2583~~	RI
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	~~Search +2585~~	RI
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	~~Search +2588~~	NO
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	~~Search +2590~~	RI

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Search RI	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

Helio corr removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - bad stats

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

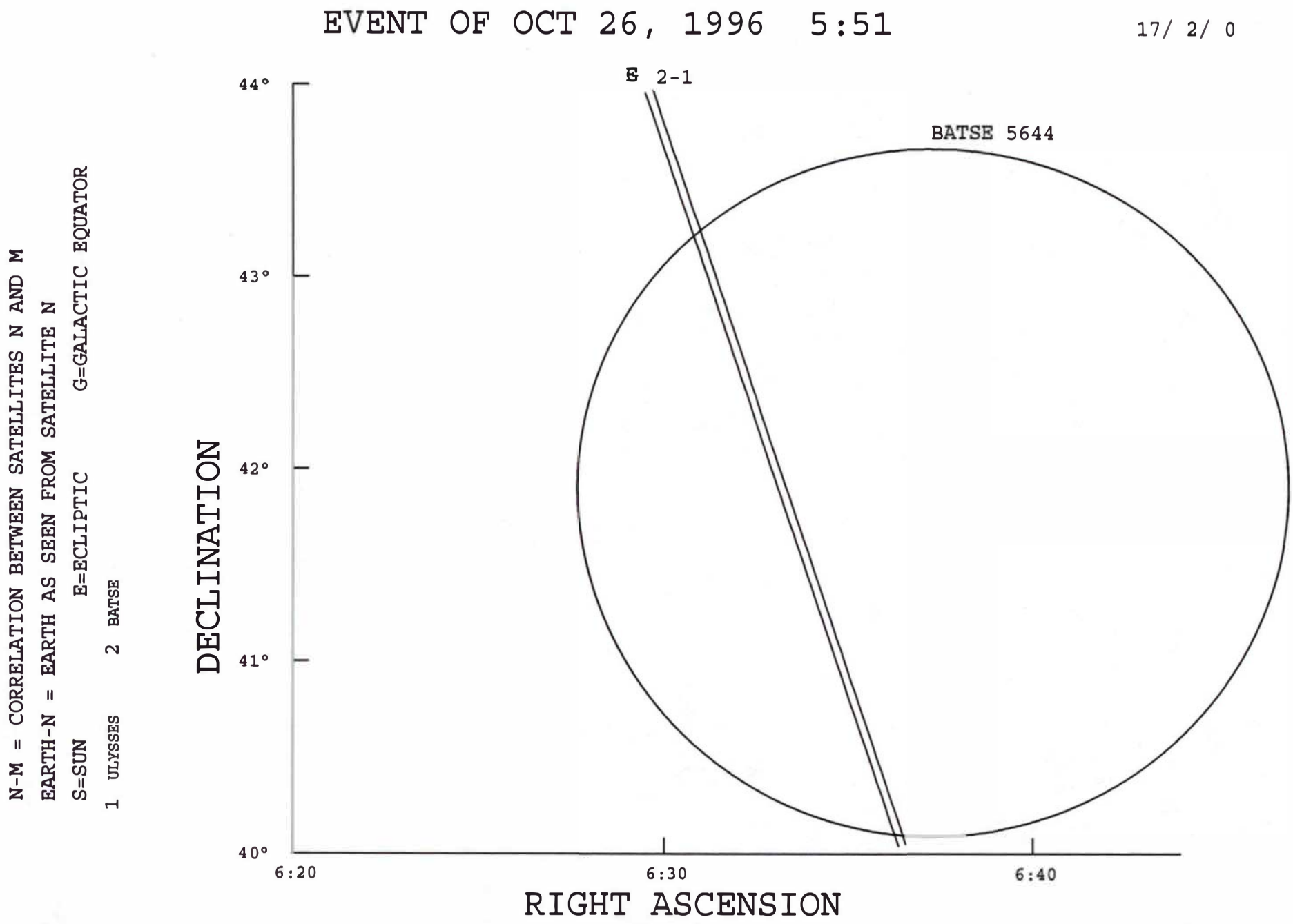
3. PVO Data

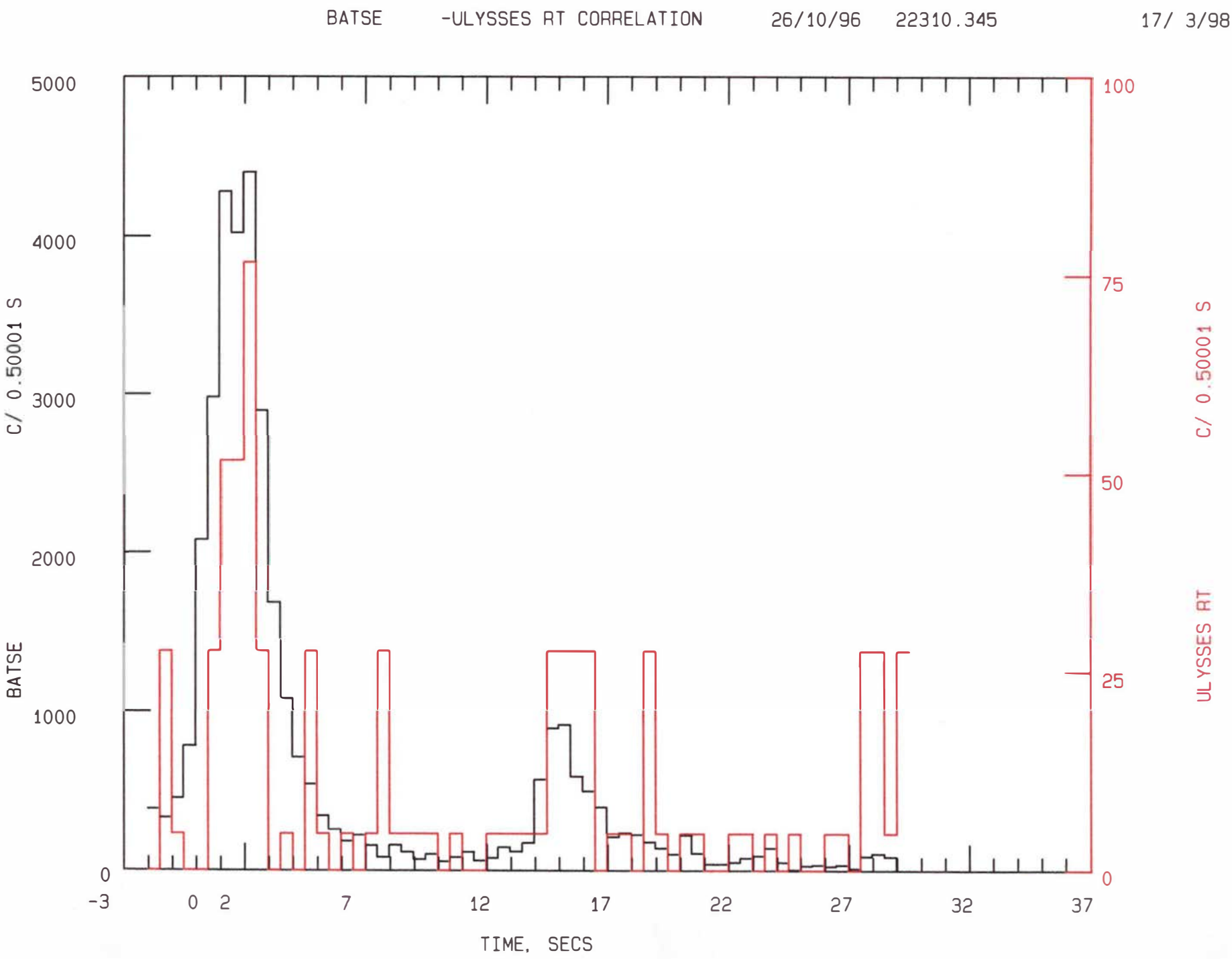
☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

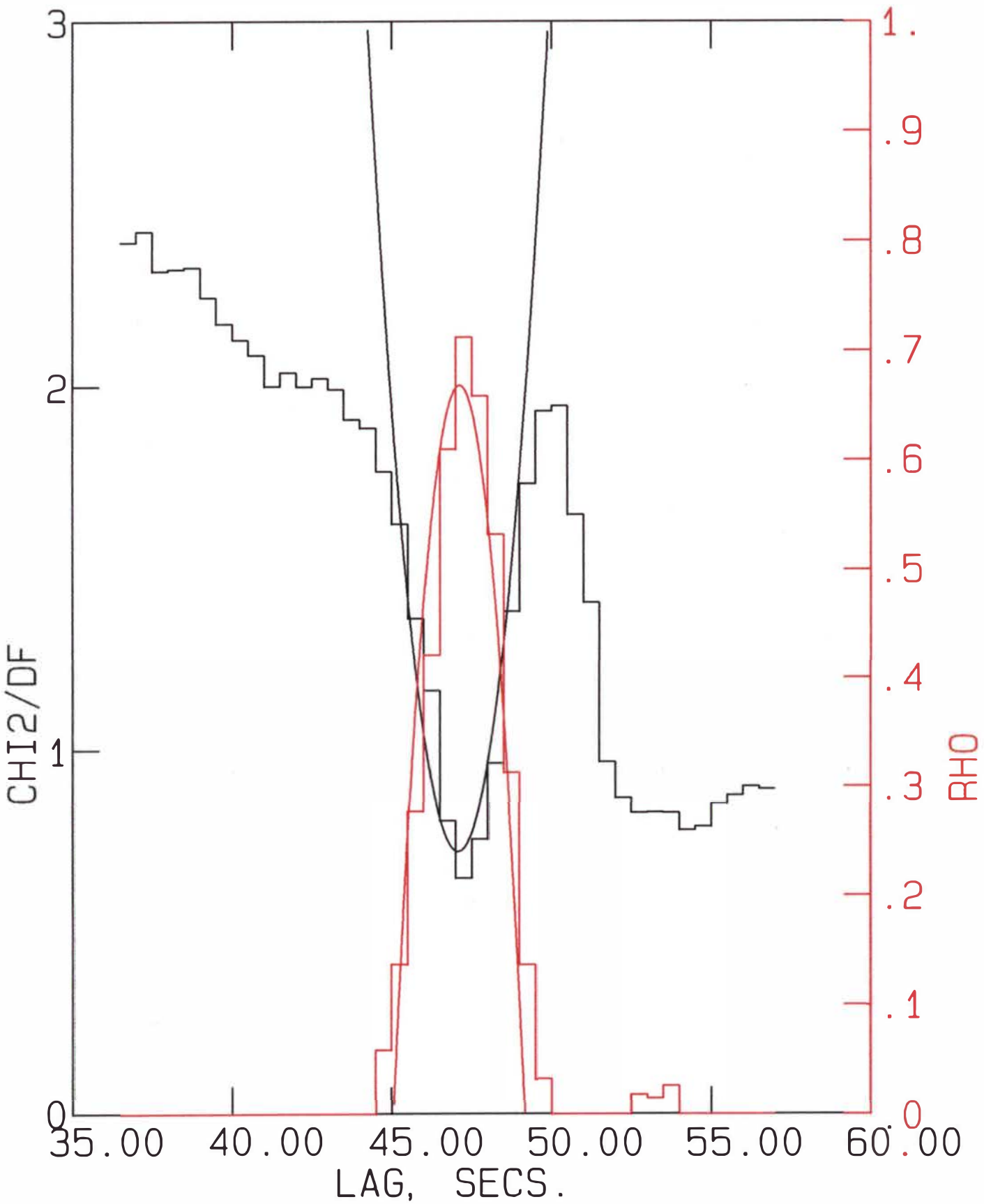
☐ Geocentric time used?

☑ ACCESS database updated?


EVENT OF OCT 26, 1996 5:51
17/ 2/ 0
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE
E 2-1
BATSE 5644
44°
43°
42°
41°
40°
DECLINATION
6:20
6:30
6:40
RIGHT ASCENSION


BATSE -ULYSSES RT CORRELATION 26/10/96 22310.345 17/ 3/98
5000
4000
3000
2000
1000
0
C/ 0.50001 S
BATSE
100
75
50
25
0
C/ 0.50001 S
ULYSSES RT
-3
0
2
7
12
17
22
27
32
37
TIME, SECS

BATSE -ULYSSES RT CORRELATION 26/10/96 22310.345

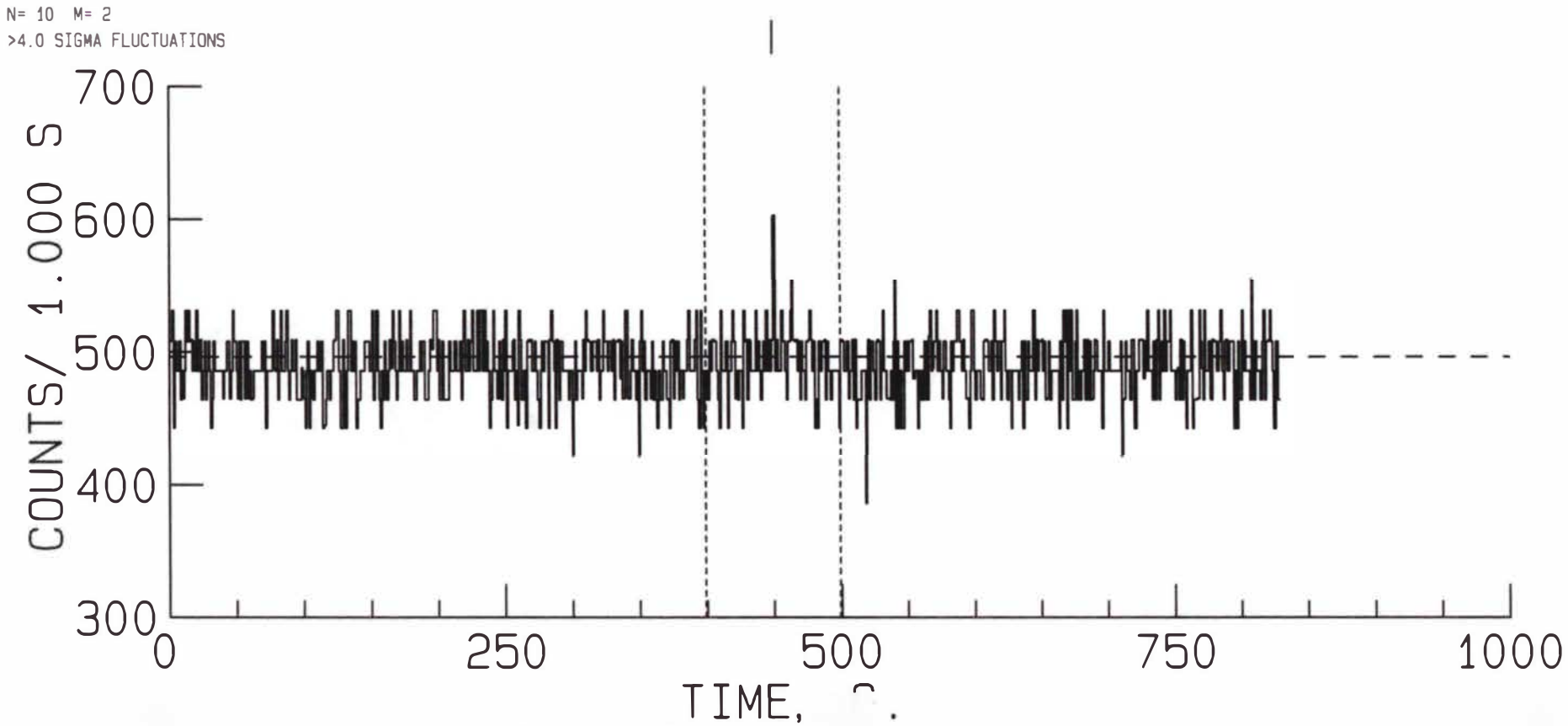


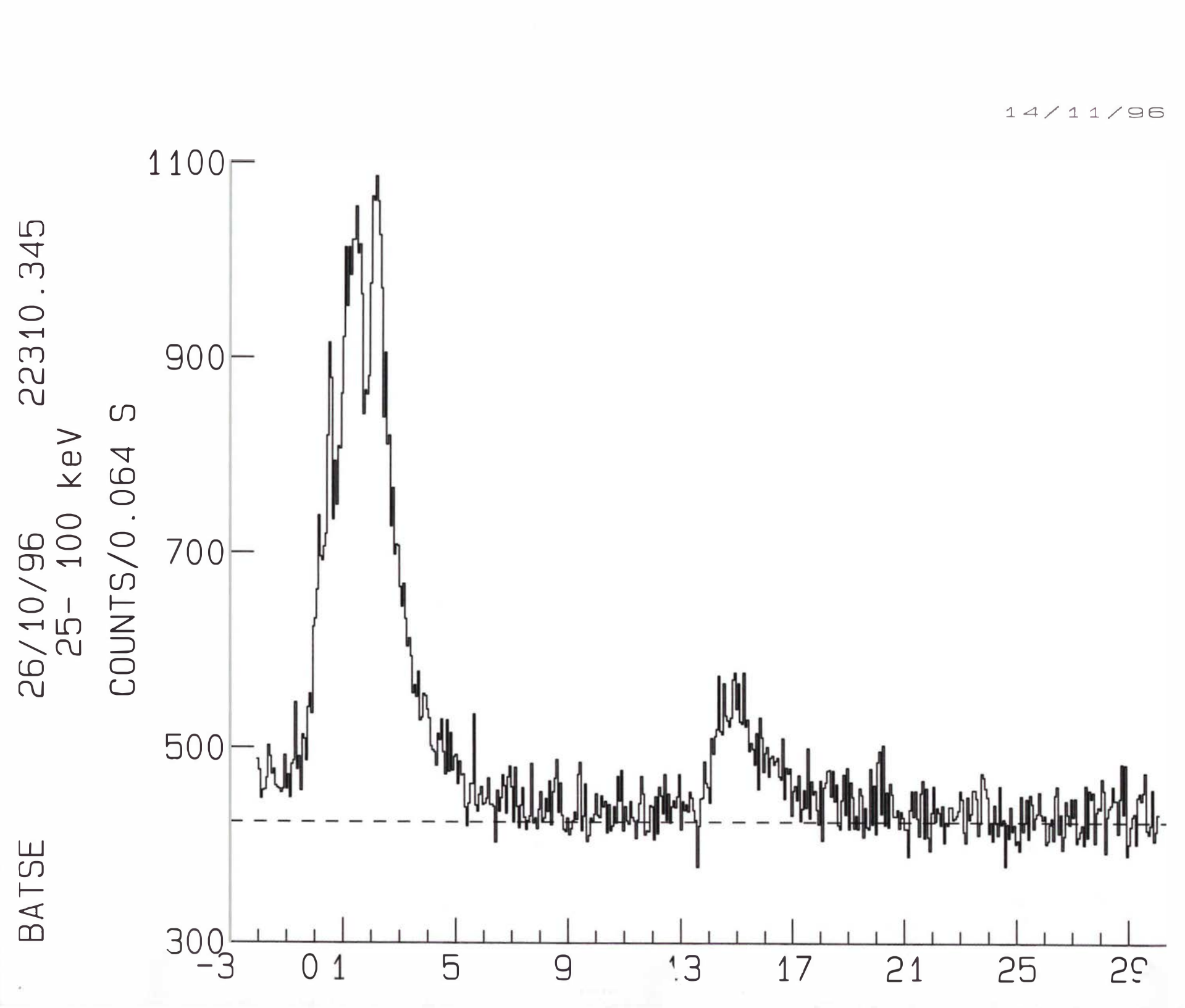
ULYSSES RT 17/ 3/98

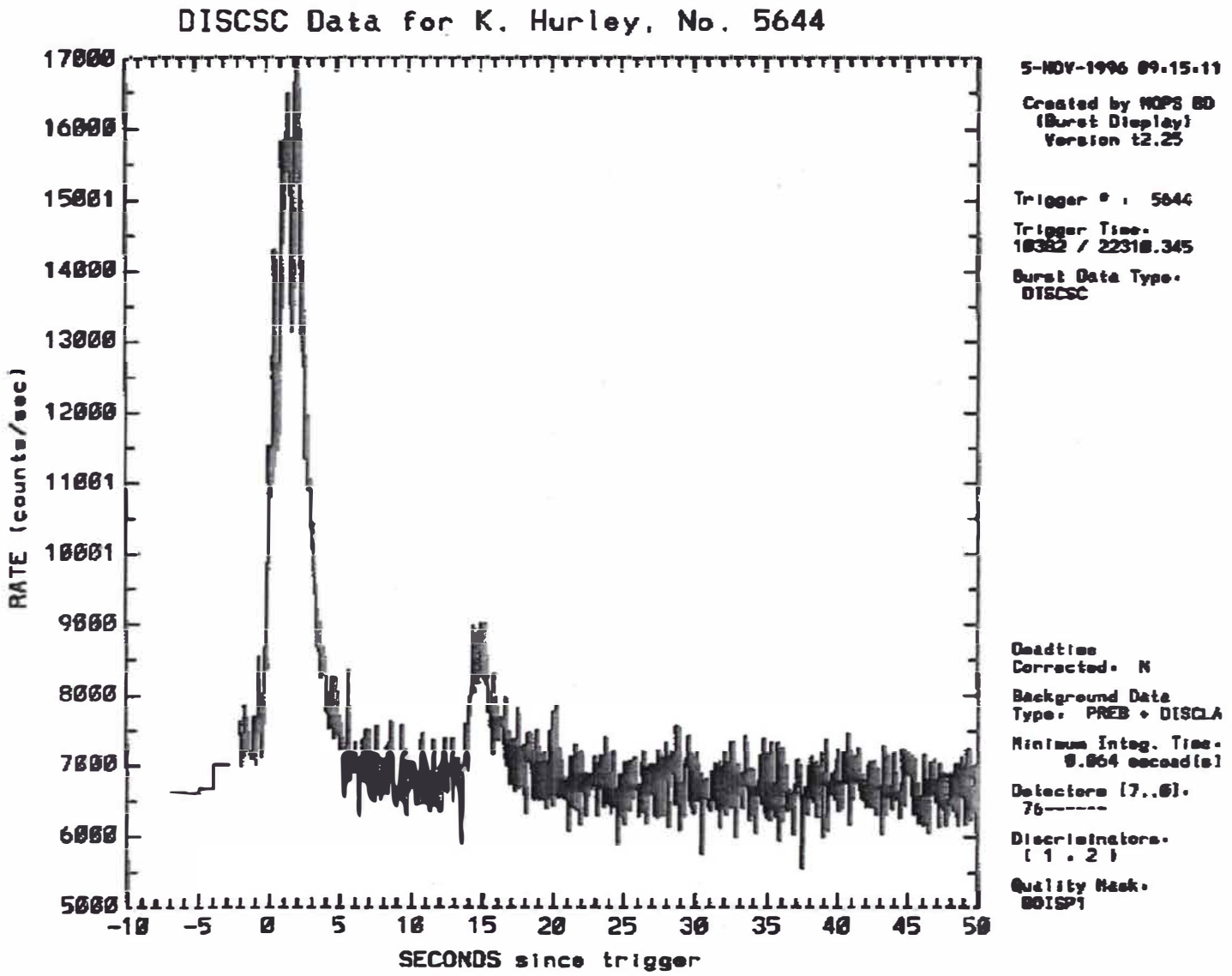
26/10/96 20664.377 s

0.500 S INTERVALS REGROUPED BY 2

21- 147 keV




14/11/96
BATSE 26/10/96 22310.345
25- 100 keV
COUNTS/0.064 S
1100
900
700
500
300
-3
0 1
5
9
13
17
21
25
29


DISCSC Data for K. Hurley, No. 5644
RATE (counts/sec)
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
-10 -5 0 5 10 15 20 25 30 35 40 45 50
SECONDS since trigger
5-NOV-1996 09:15:11
Created by MOPS BD
(Burst Display)
Version t2.25
Trigger # : 5644
Trigger Time:
10382 / 22310.345
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)
Detectors [7..0]:
76------
Discriminators:
[1 . 2]
Quality Mask:
BDISP1

KONUS

ULYSSES RT 31/01/00

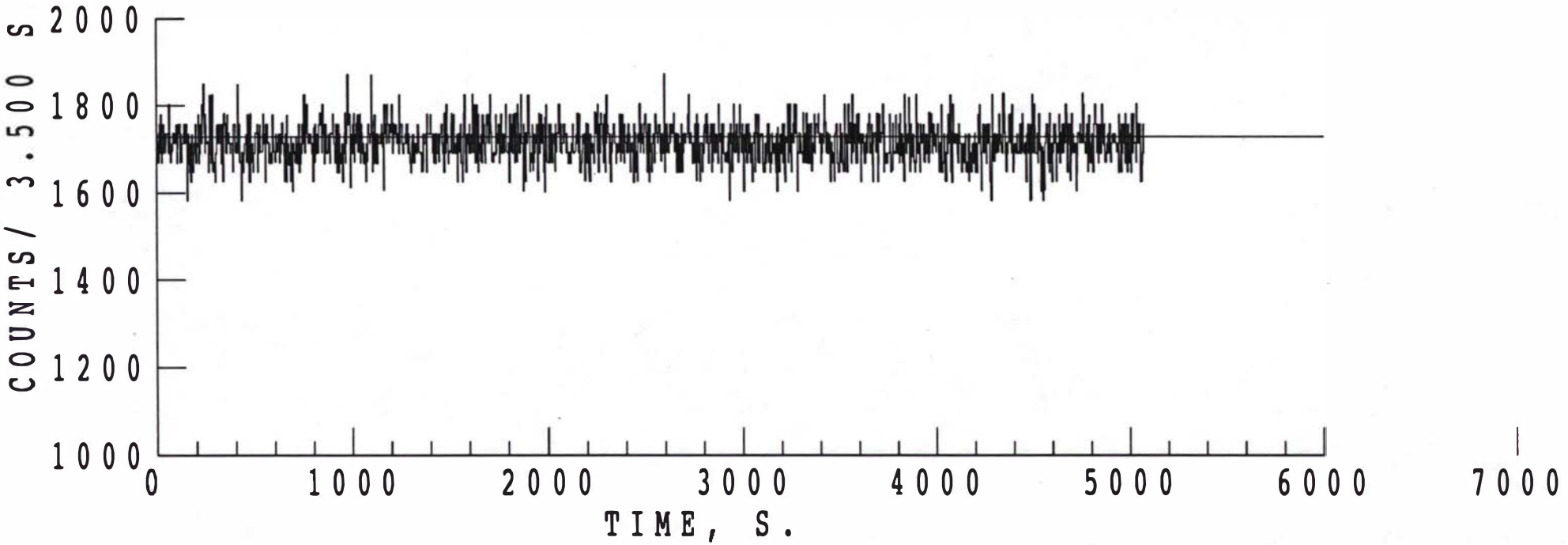
26/10/96 32472.023 s

0.500 S INTERVALS REGROUPED BY 7

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@ssl.msfc.nasa.gov Mon Oct 28 12:20 PST 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id MAA12929; Mon, 28 Oct 1996 12:20:29 -0800
Date: Mon, 28 Oct 1996 14:20:20 -0600 (CST)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961028142020.24a0208b@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5645
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: O

```
         ********************
         *BATSEARCH PROGRAM*
         ********************

 BATSE BURST #    5645
 EVENT OF 1996 OCT 26 DAY OF YEAR=300
 EVENT CROSSING TIME AT BATSE     : 35029. S. OR 09:43:49.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 203.000   26.000
 BATSE PEAK COUNTING RATE:   4000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 26/10/  96 IS:
 RA=  175.753 DEC=   31.769 DIST=    4.973 AU
 BATSE-ULYSSES DISTANCE =  744001112. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=155.53 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2258.73 SECS.
 CROSSING TIME AT ULYSSES    IS 32770. S. OR   09:06:10 +/-  194.20 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 26/10/  96 IS:
 RA=  150.327 DEC=   13.747 DIST=    1.764 AU
 MARS-BATSE DISTANCE =  263907648. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=129.31 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -557.72 SECS.
 CROSSING TIME AT MARS       IS 34471. S. OR   09:34:31 +/-  109.78 SECONDS


                BATSE BURST TRIGGER
NO.: 5645

TIME: TJD=0382 SECONDS=35029

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=94.6   AZIMUTH=299.1  ERROR=2.7   DEGREES

COMMENTS:
GRB  FAST RISE WITH AN EXPONENTIAL DECAY. DUR.~45SEC. NOT VISIBLE ABOVE
300KEV.


 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5645   961026   10382   35029     4000   203   +26     45
```

BATSE# 5645

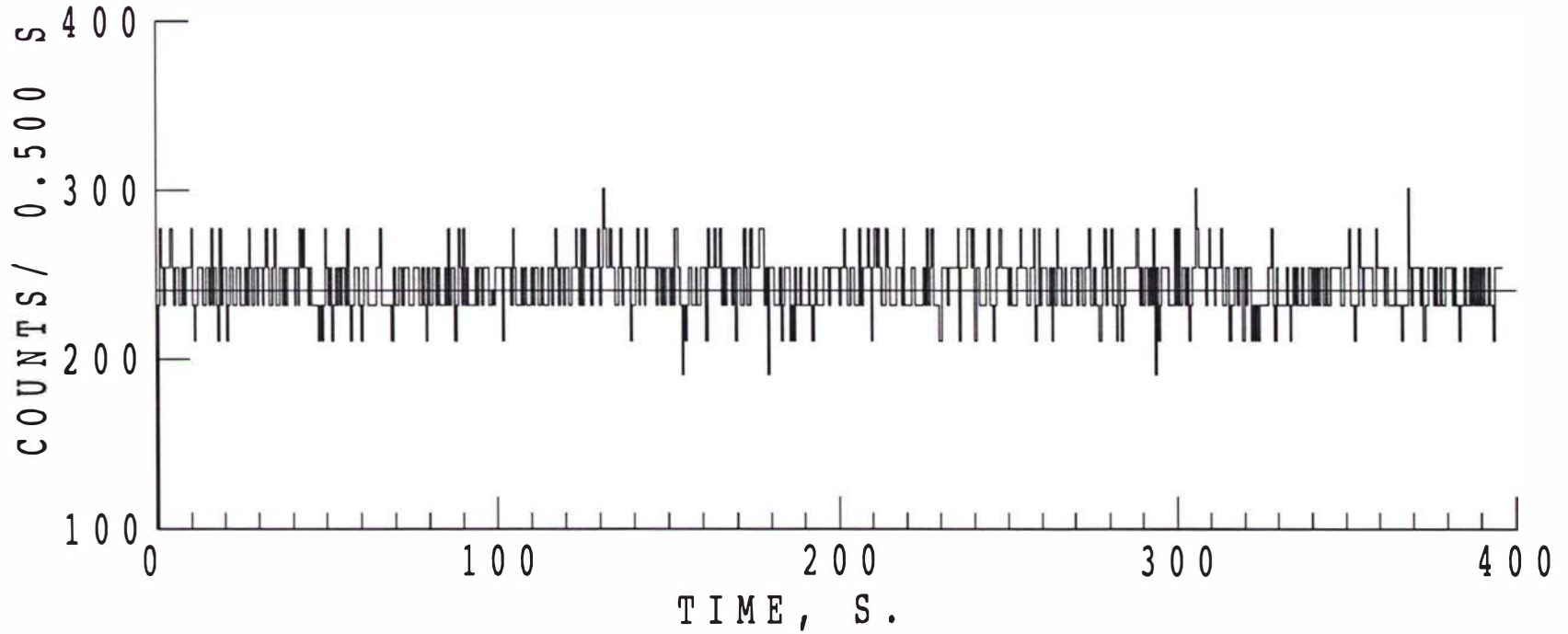
ULYSSES RT 30/10/96

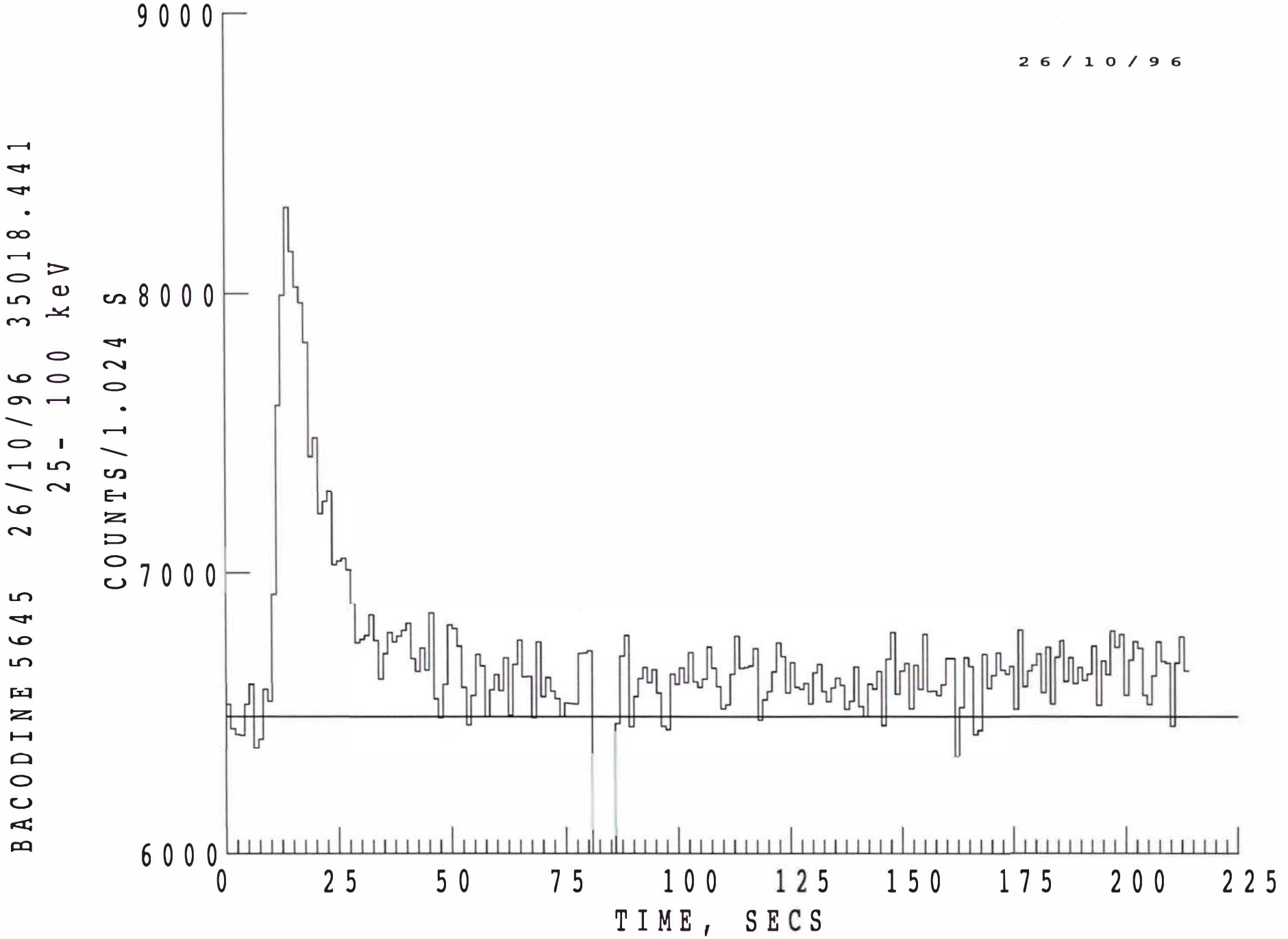
26/10/96 32580.029 s

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS




BACODINE 5645 26/10/96 35018.441
25- 100 keV
COUNTS/1.024 S
9000
8000
7000
6000
26/10/96
0
25
50
75
100
125
150
175
200
225
TIME, SECS

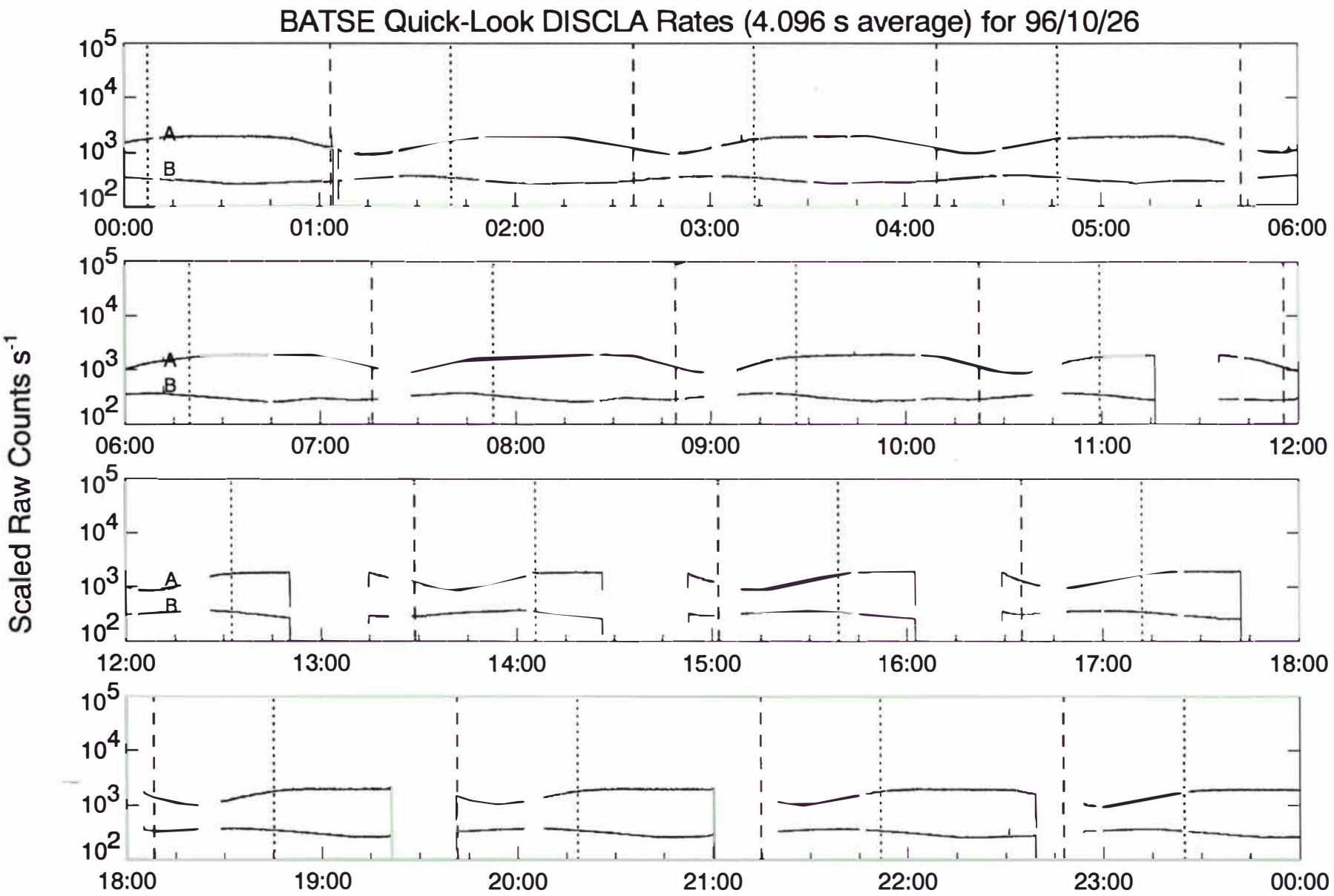
From BUTTERWORTH@lheavx.gsfc.nasa.gov Tue Nov 5 08:54 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 5 Nov 1996 11:54:46 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: responses to Kevin's 7 Ulysses event notices sent yesterday

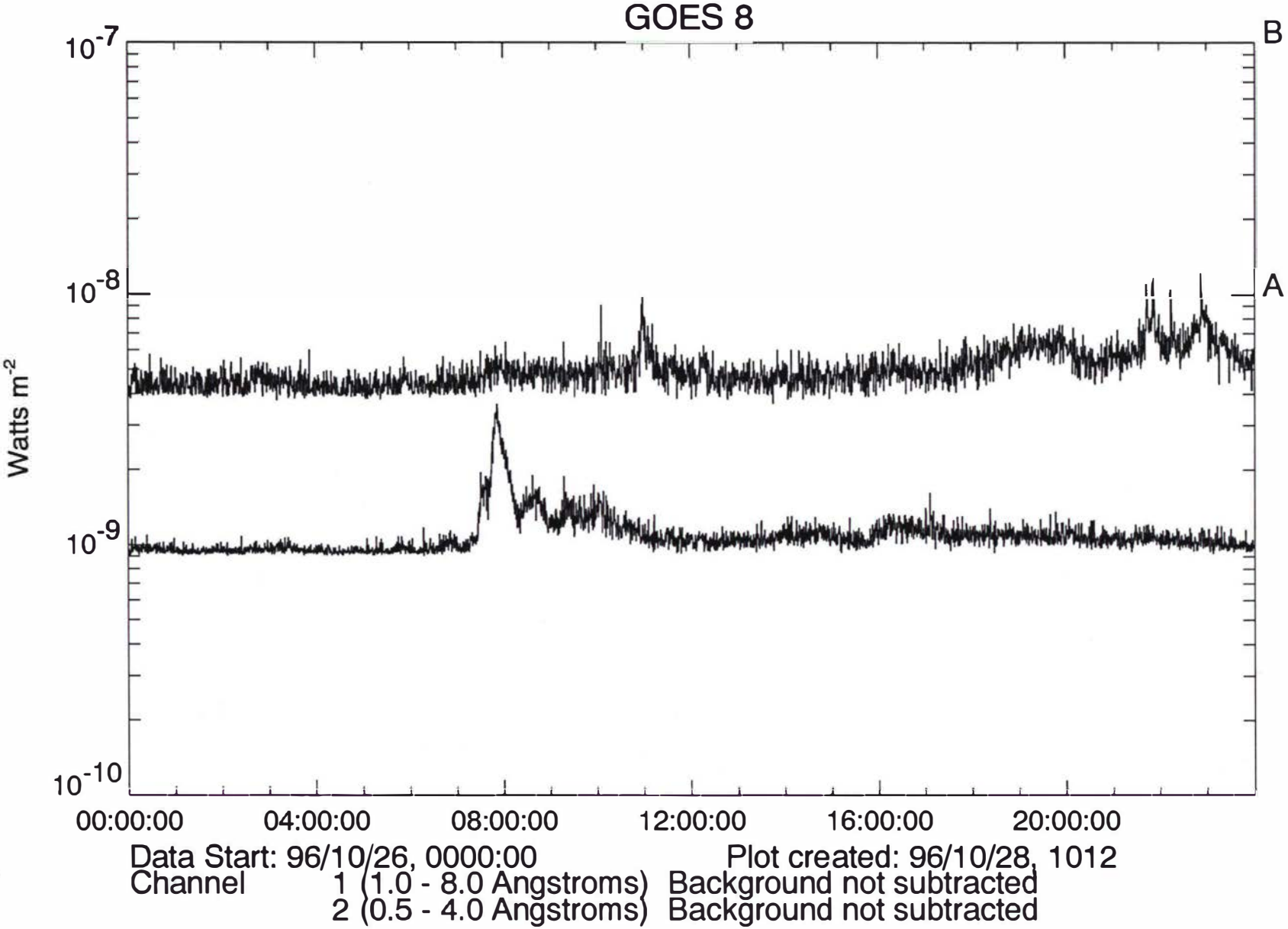
Hi Everyone,

This is a response for Konus to Kevin's set of Ulysses event notices sent yesterday.

Paul.

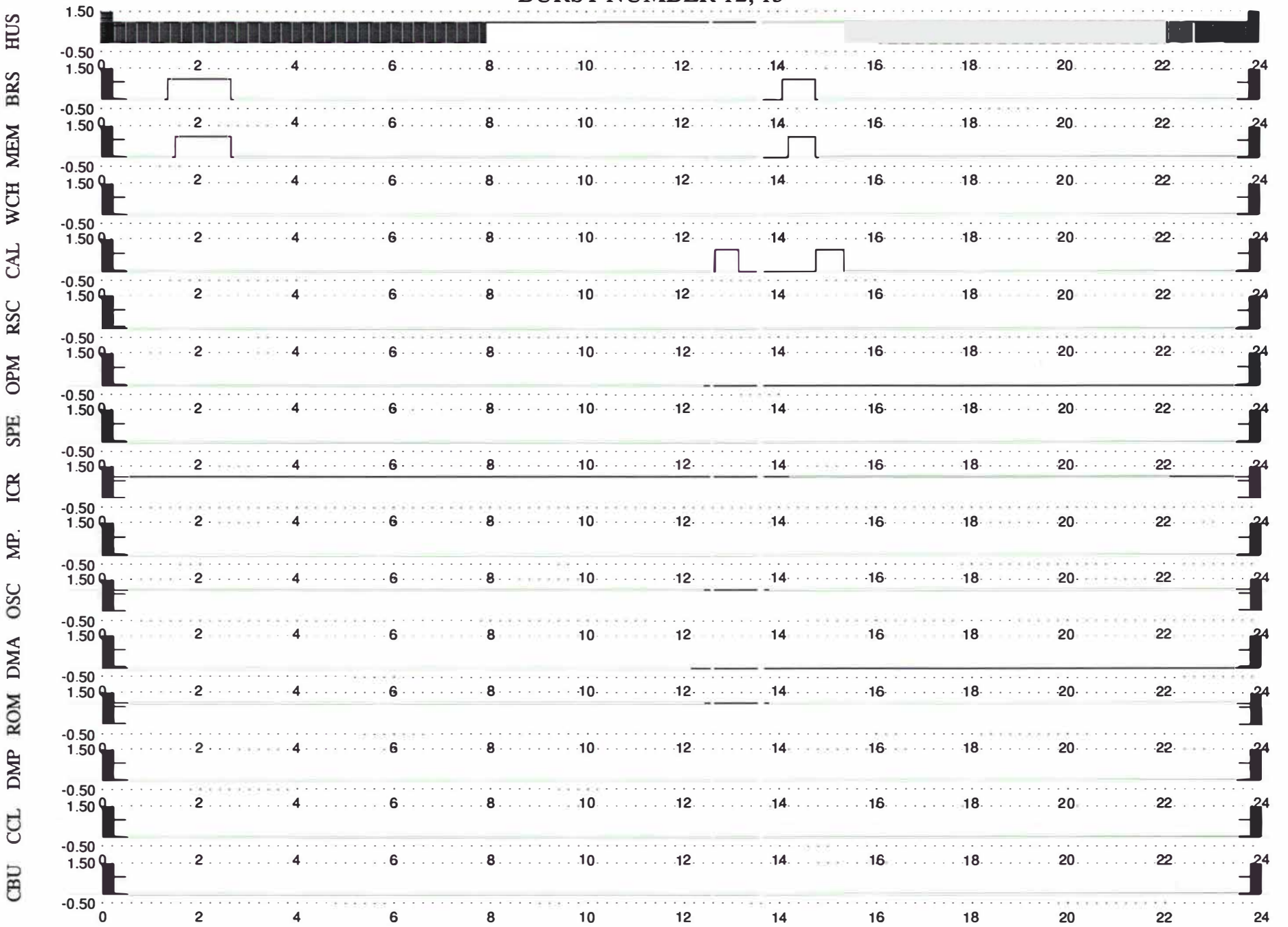
Ulysses event	Konus observation
961023 21:18 weak 32ms	haven't checked this one yet - report will follow
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
1029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/26
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Current Time: 96/10/28, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare


GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/26, 0000:00
Plot created: 96/10/28, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 300, year 1996 to day 300, year 1996 3/29/97

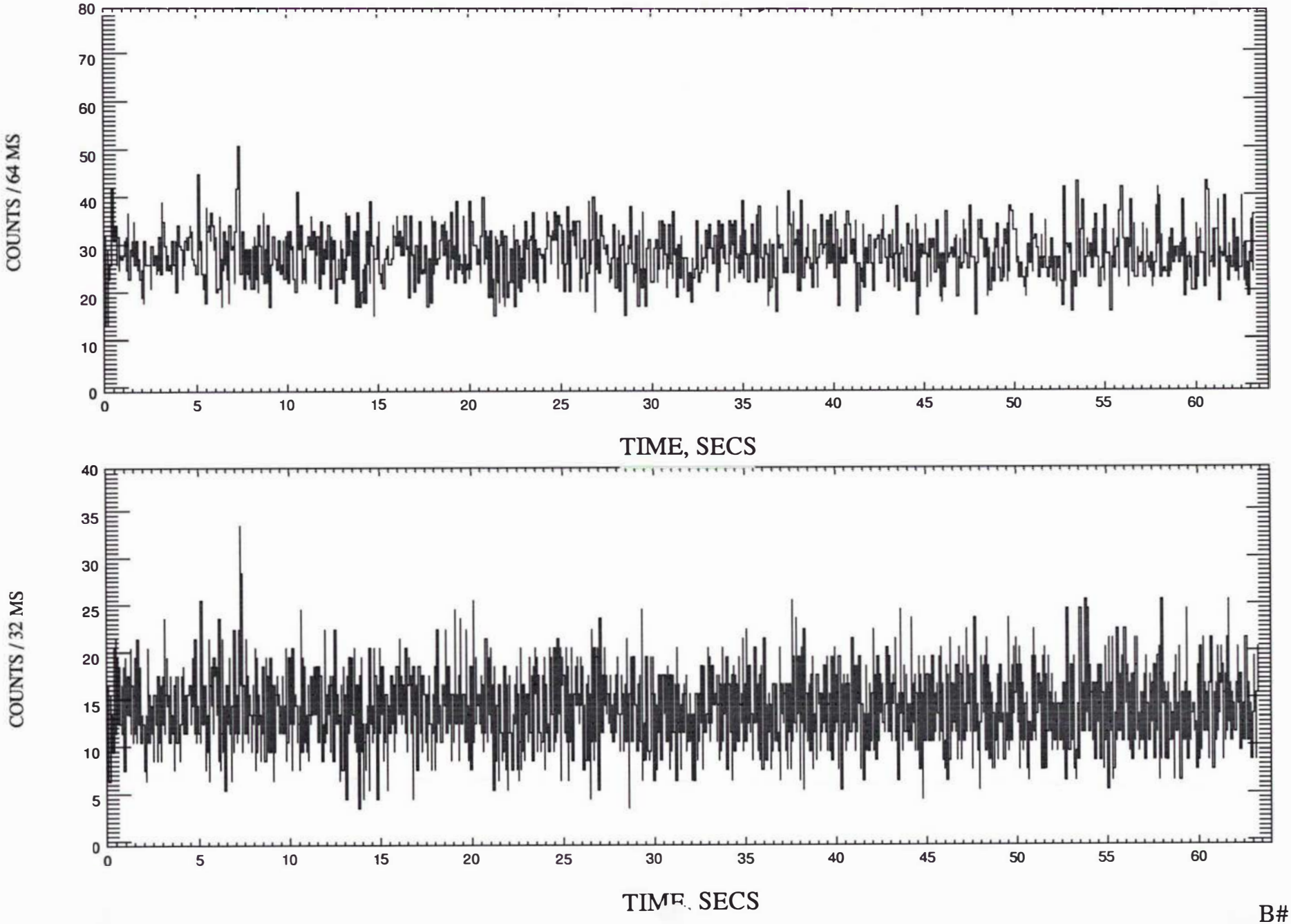
BURST NUMBER 12, 13



UNIVI AL TIME

HUS 2A TRIGGERED DATA EDR day 300, year 1996 3/29/97

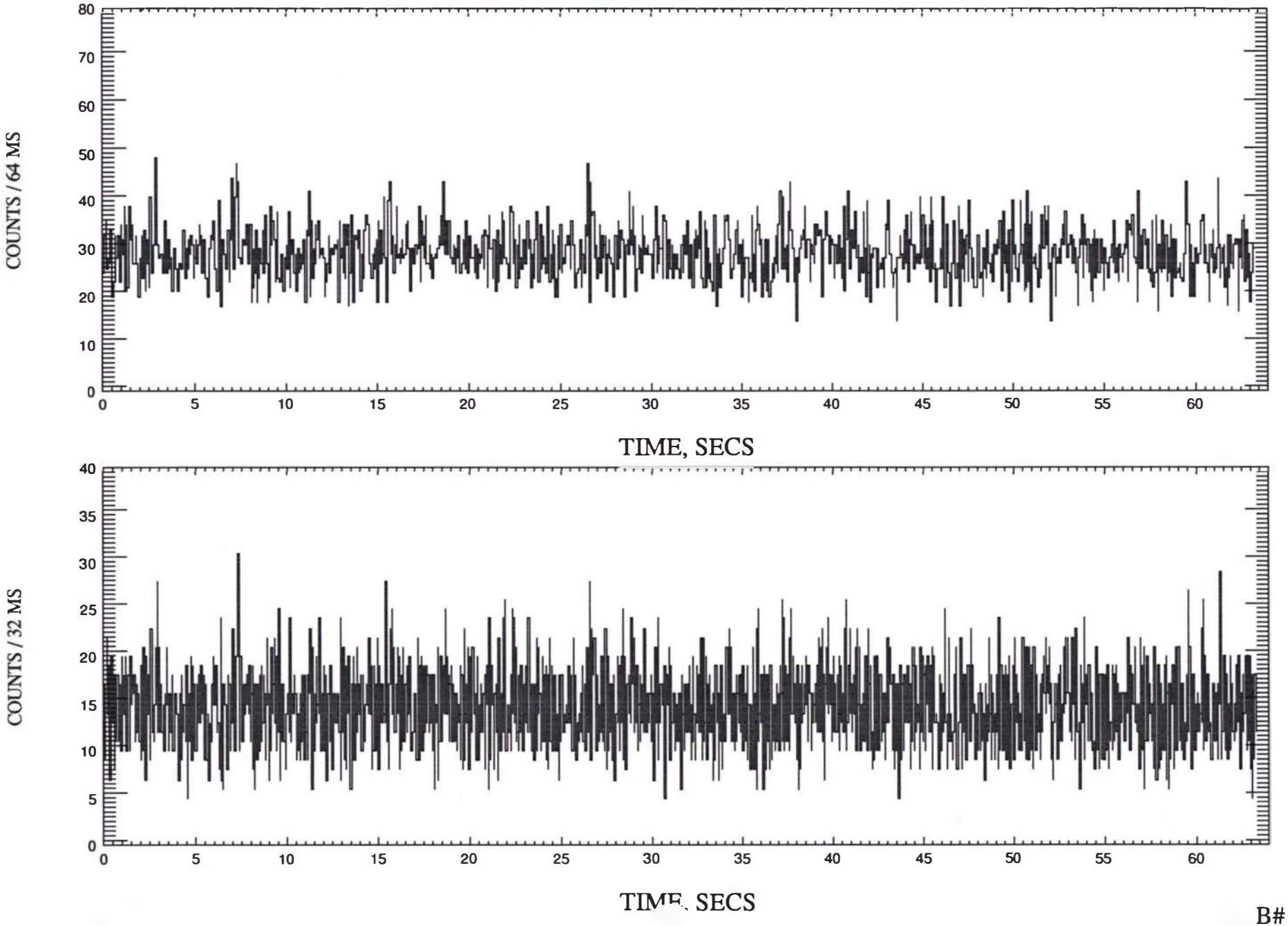
Burst Counter 12 at UT= 1.361610637241 h= 4901.798 s 01:21:41.798



B# 1

HUS 2A TRIGGERED DATA EDR day 300, year 1996 3/29/97

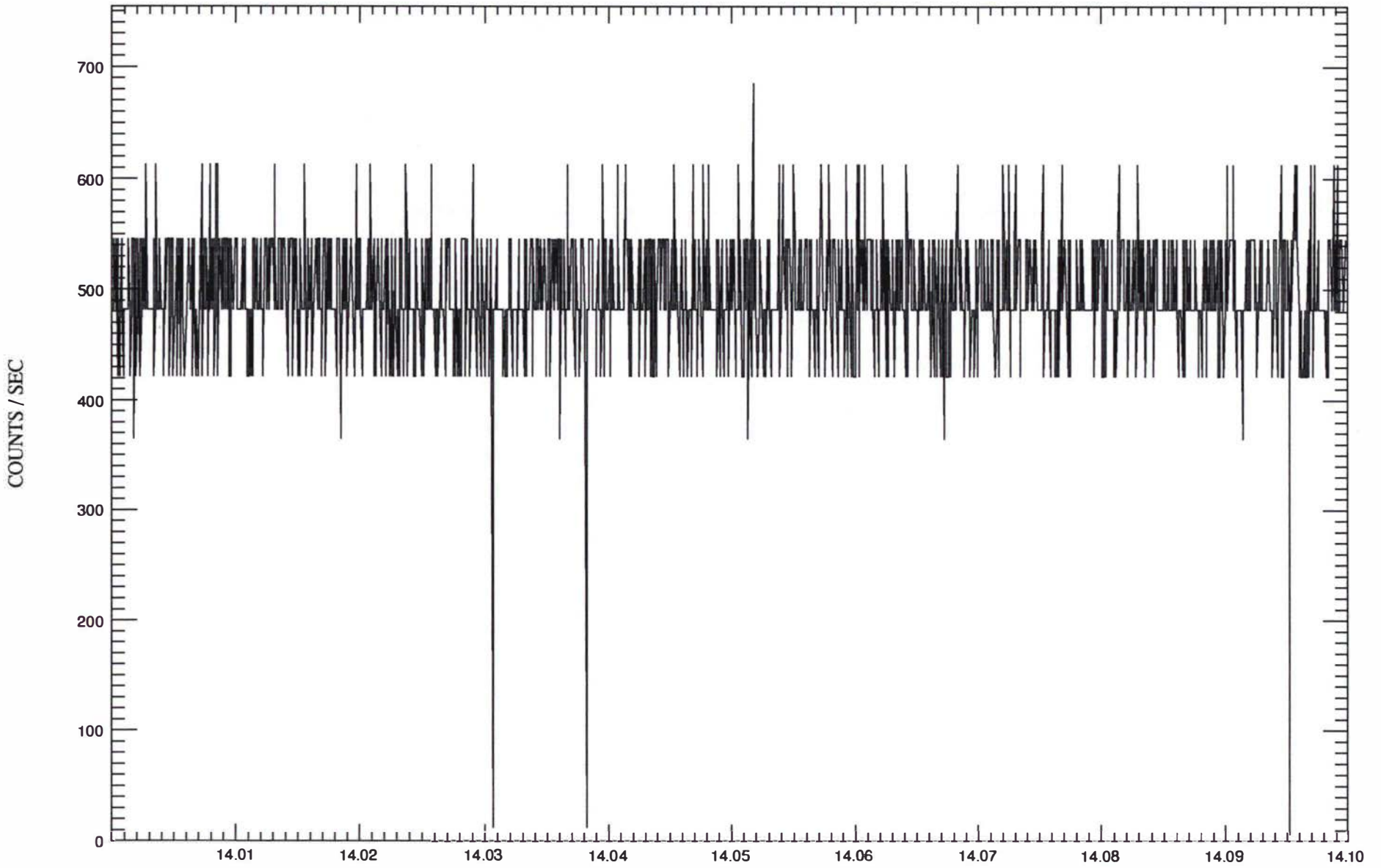
Burst Counter 13 at UT=14.051943189833 h=50586.995 s 14:03:06.995



B# 2

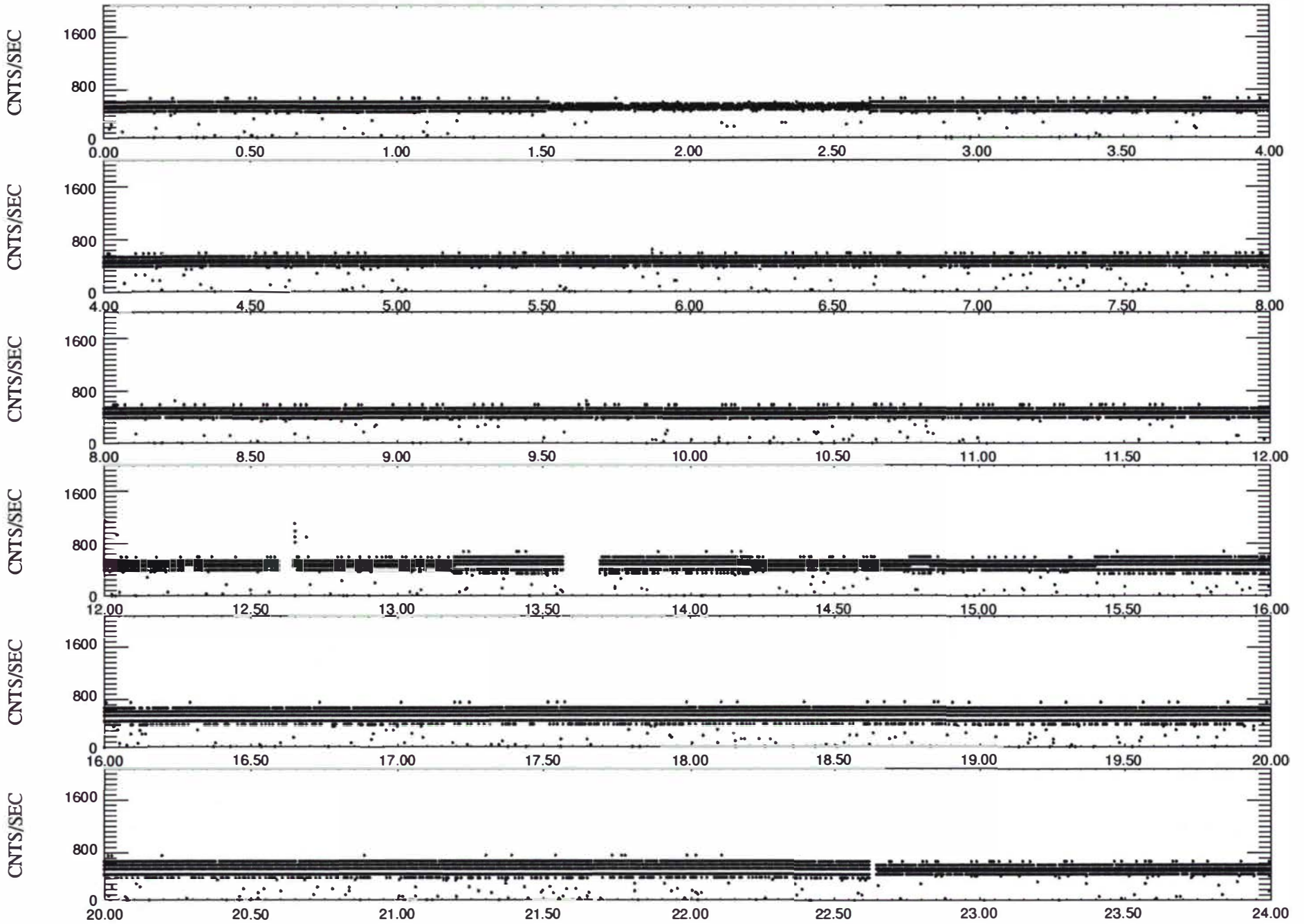
HUS 2A, MODE 1, NOT AVERAGED EDR day 300, year 1996 to day 300, year 1996 3/29/97

CALIBRATION DATA INCLUDED



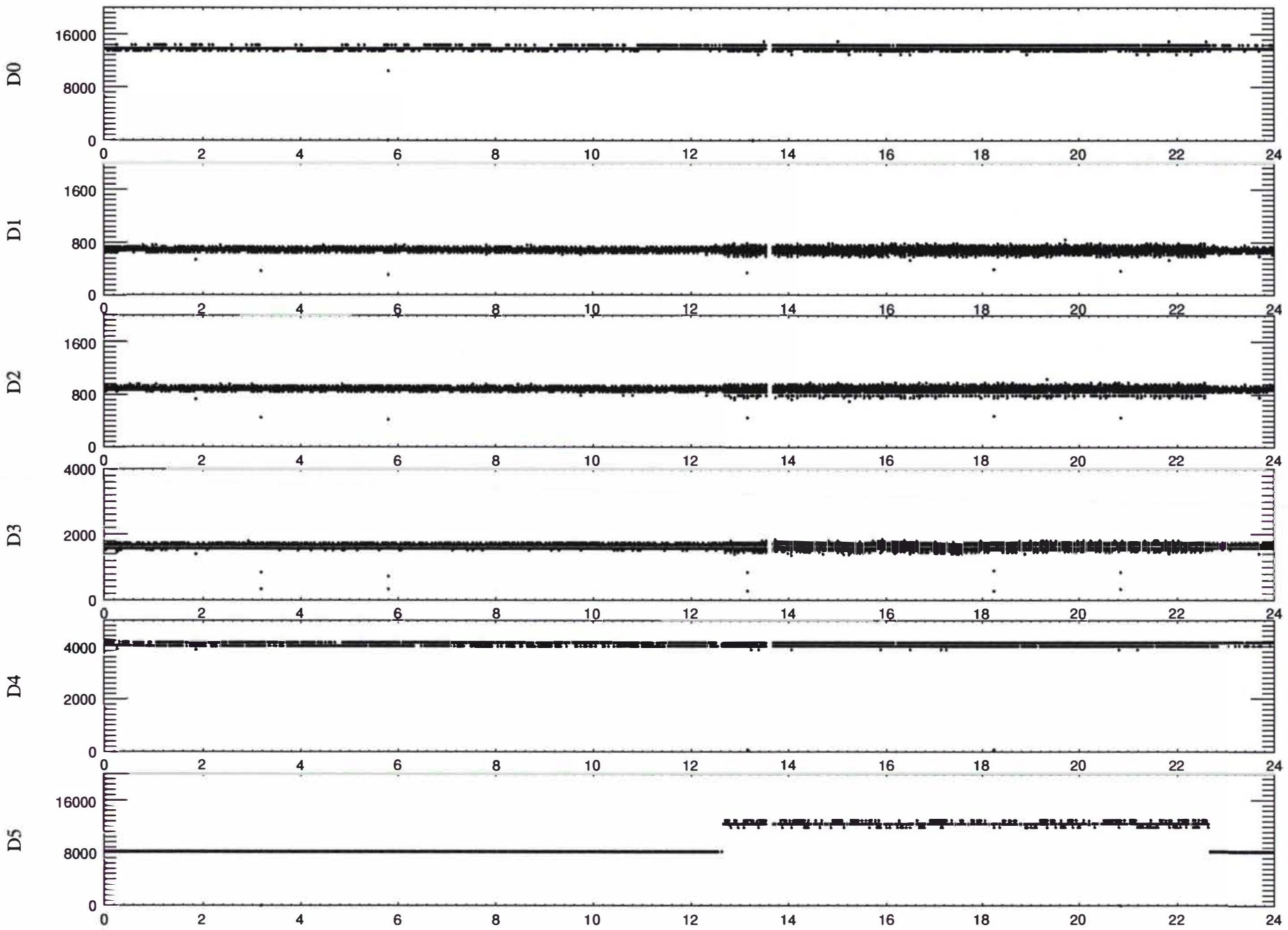
HUS 2A, MODE 1, NOT AVERAGED EDR day 300, year 1996 to day 300, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV AL TIME

HUS 2B COUNTS / SEC EDR day 300, year 1996 to day 300, year 1996 3/29/97



From RICHARDSON@SSLLES.MSFC.NASA.GOV Tue Oct 29 11:23 PST 1996
Return-Path: <RICHARDSON@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA21056; Tue, 29 Oct 1996 11:23:11 -0800
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
Date: Tue, 29 Oct 1996 13:22:59 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961029132259.24a02110@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5646
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

NO

BATSE BURST # 5646
EVENT OF 1996 OCT 27 DAY OF YEAR=301
EVENT CROSSING TIME AT BATSE : 42247. S. OR 11:44:07.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 67.000 -42.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/10/ 96 IS:
RA= 175.898 DEC= 31.721 DIST= 4.964 AU
BATSE-ULYSSES DISTANCE = 742664154. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1378.74 SECS.
CROSSING TIME AT ULYSSES IS 43626. S. OR 12:07:05 +/- 428.26 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/10/ 96 IS:
RA= 150.875 DEC= 13.565 DIST= 1.756 AU
MARS-BATSE DISTANCE = 262731696. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 69.98 SECS.
CROSSING TIME AT MARS IS 42317. S. OR 11:45:16 +/- 152.73 SECONDS

BATSE BURST TRIGGER
NO.: 5646

TIME: TJD=0383 SECONDS=42247

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=125.1 AZIMUTH=115.7 ERROR=5.6 DEGREES

COMMENTS:
GRB. MULTIPLE SPIKES, DUR.~120SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5646	961027	10383	42247	3000	067	-42	120

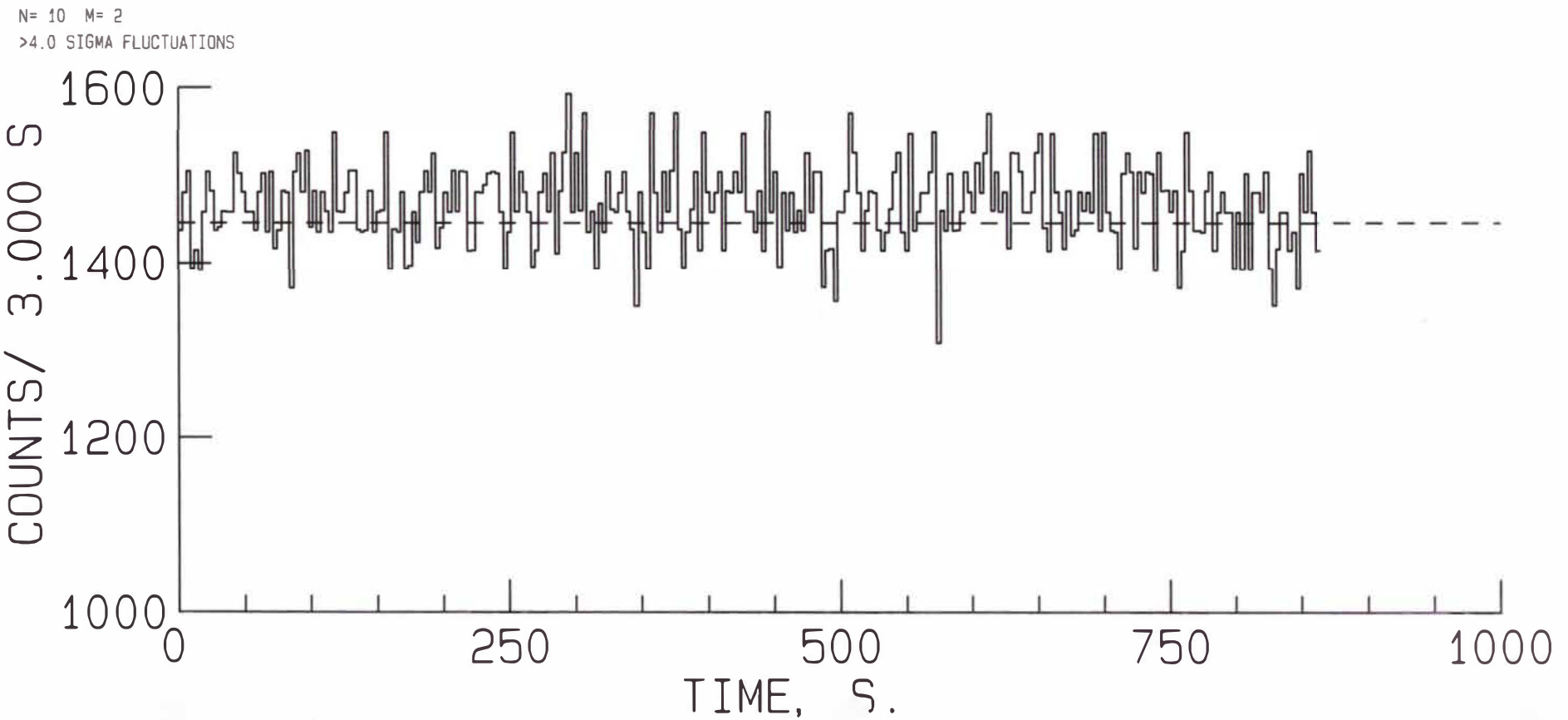
ULYSSES RT

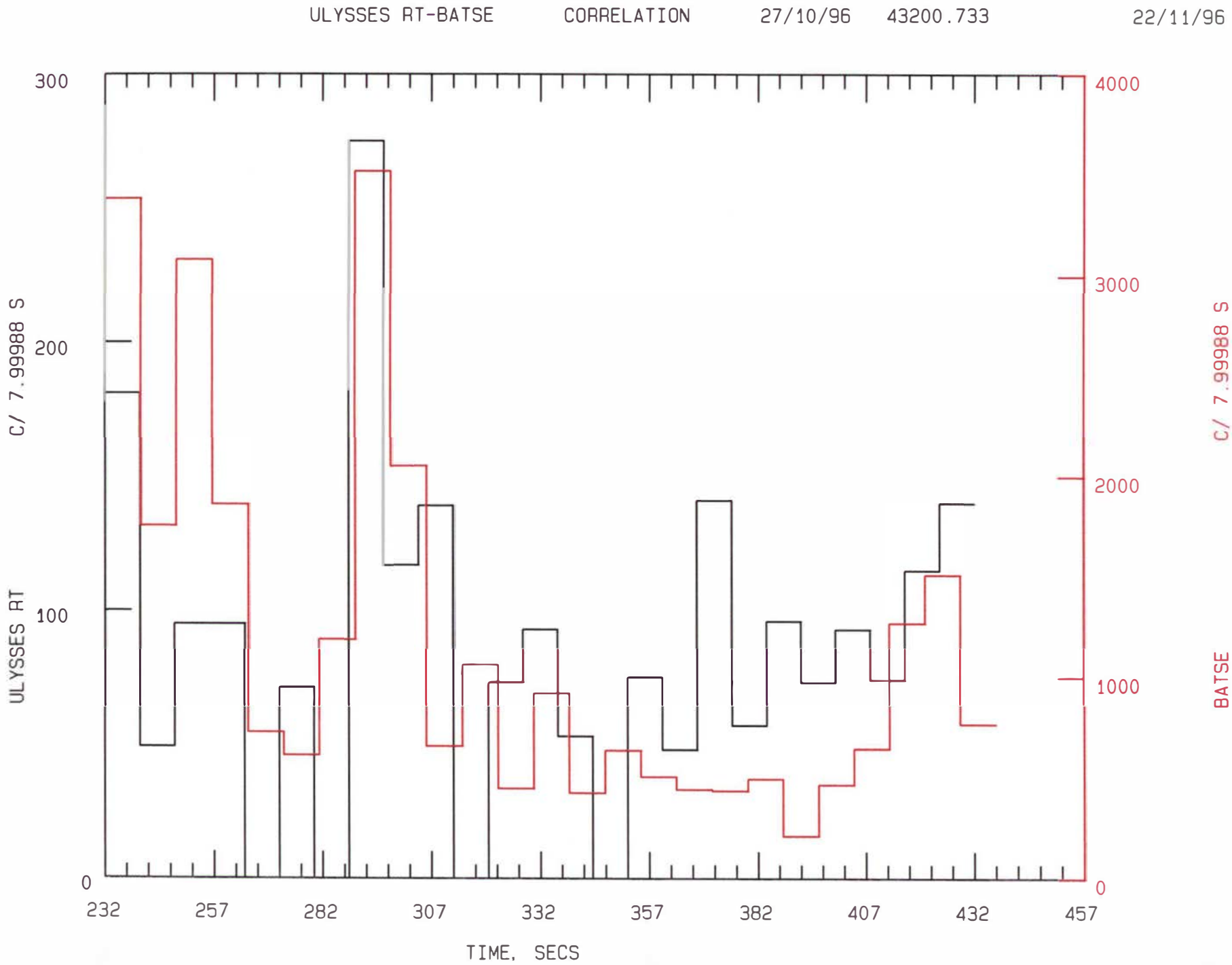
22/11/96

27/10/96 43200.233 s

0.500 S INTERVALS REGROUPED BY 6

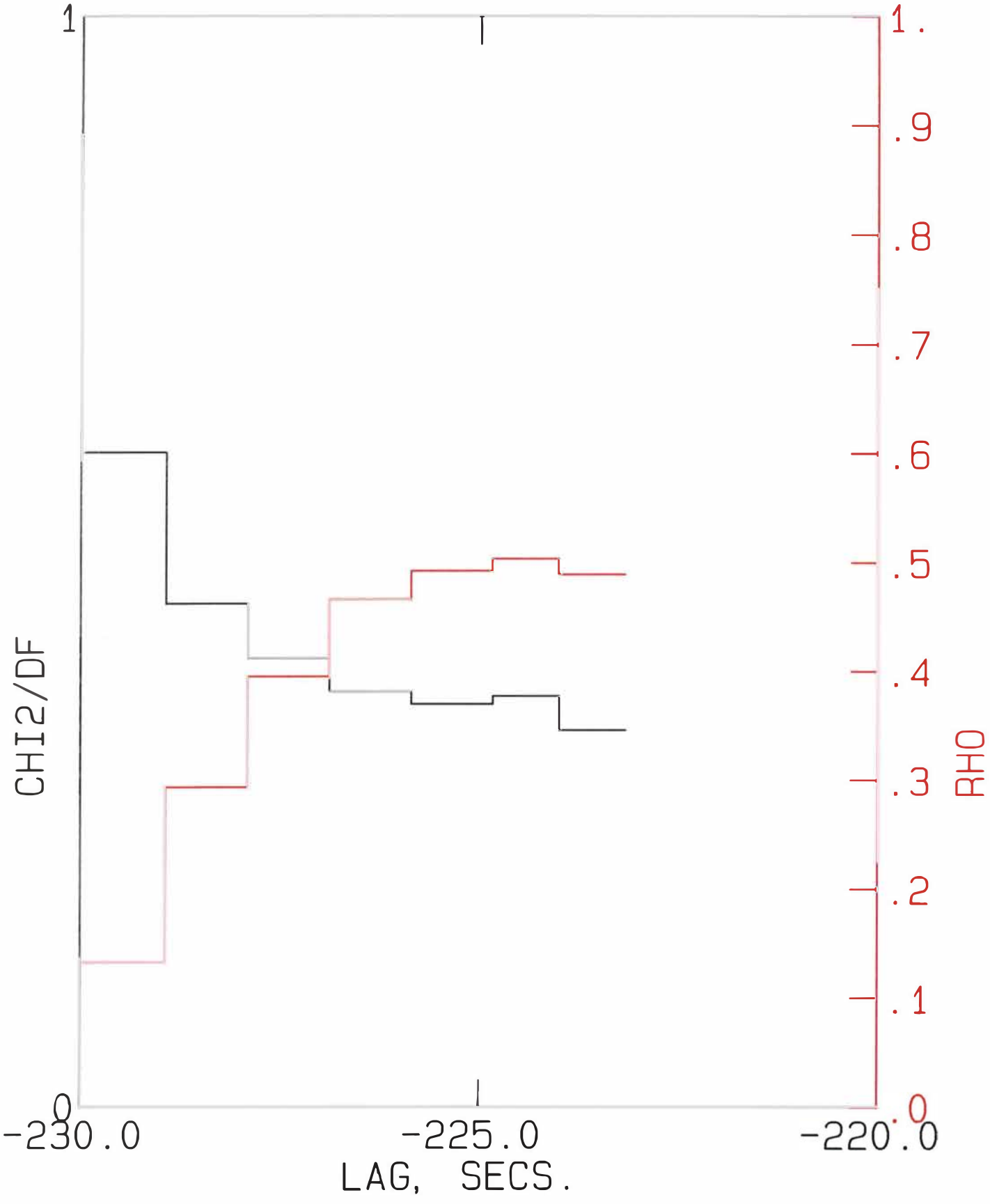
21- 145 keV

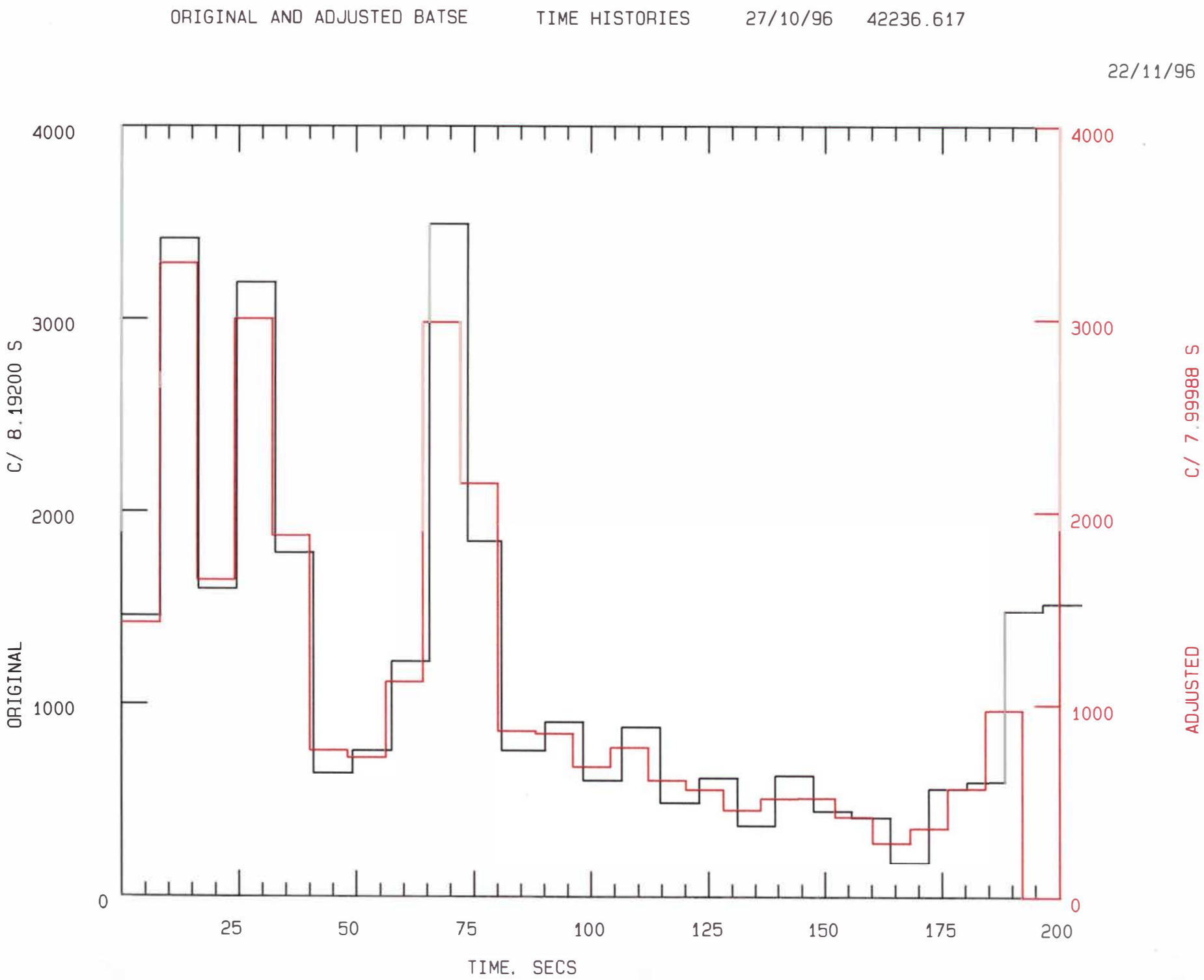


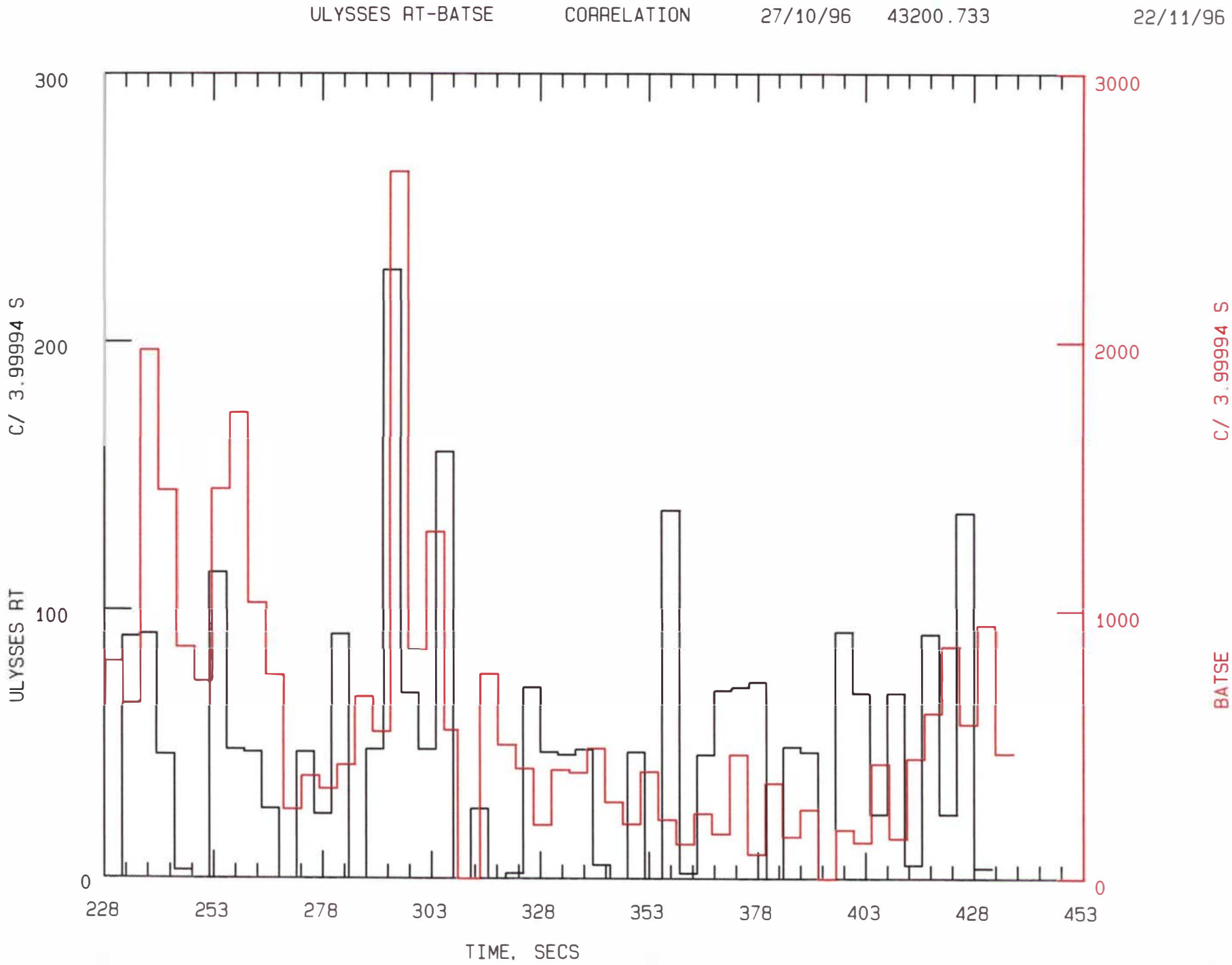

ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733 22/11/96
300
200
100
0
C/ 7.99988 S
ULYSSES RT
4000
3000
2000
1000
0
C/ 7.99988 S
BATSE
232
257
282
307
332
357
382
407
432
457
TIME, SECS

22/11/96

ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733

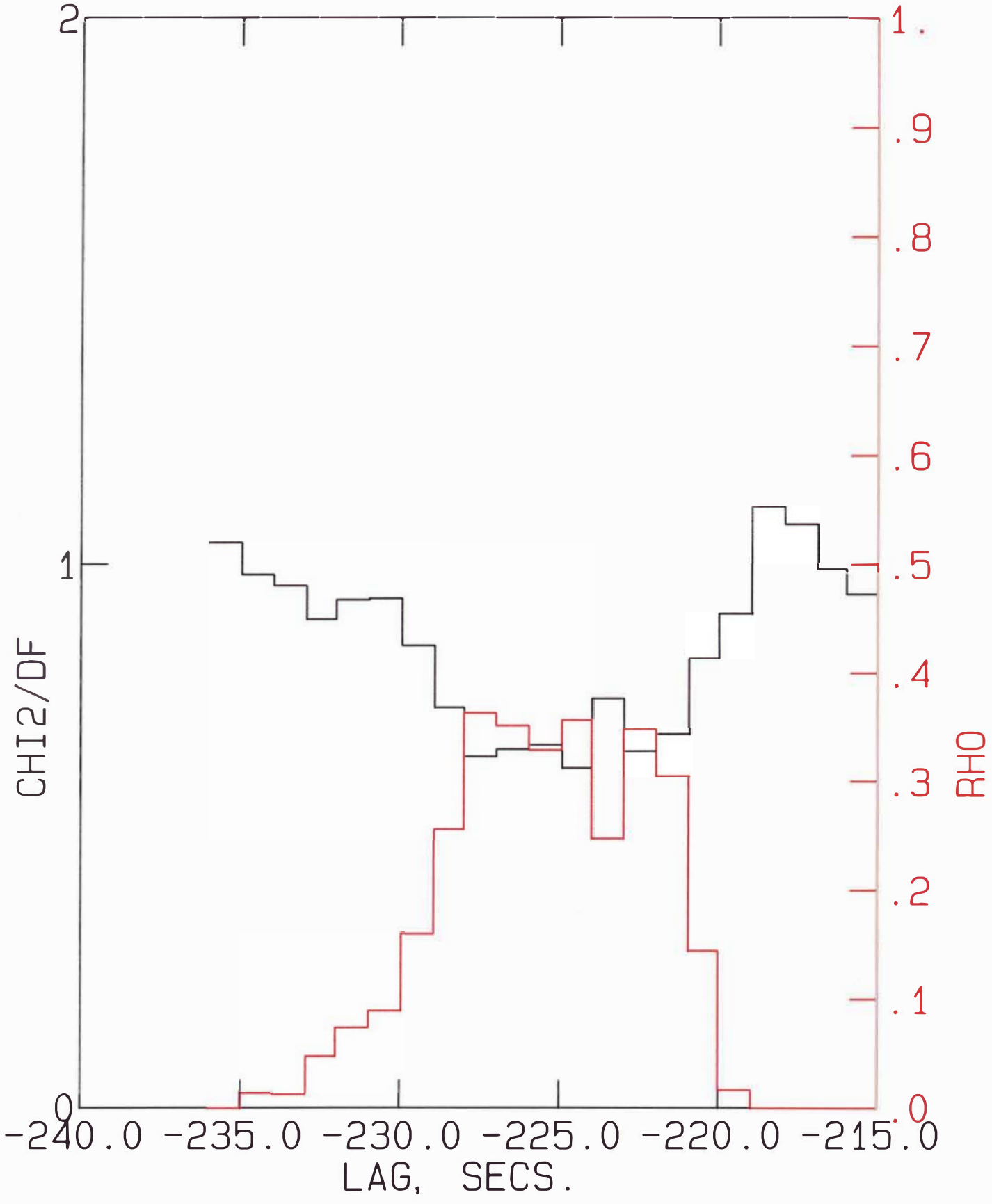


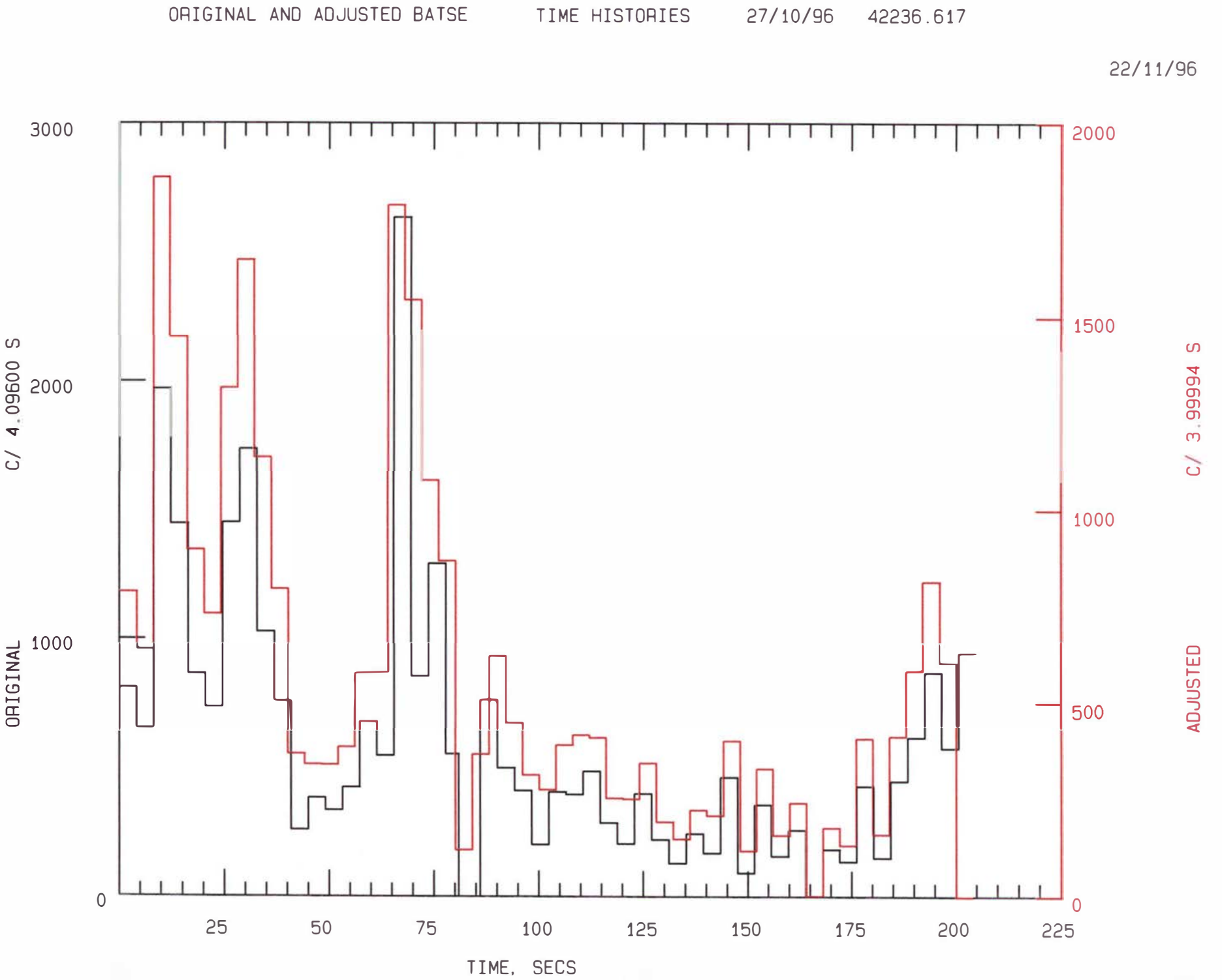

ORIGINAL AND ADJUSTED BATSE TIME HISTORIES 27/10/96 42236.617
22/11/96
4000
3000
2000
1000
0
C/ 8.19200 S
ORIGINAL
4000
3000
2000
1000
0
C/ 7.99988 S
ADJUSTED
25
50
75
100
125
150
175
200
TIME. SECS

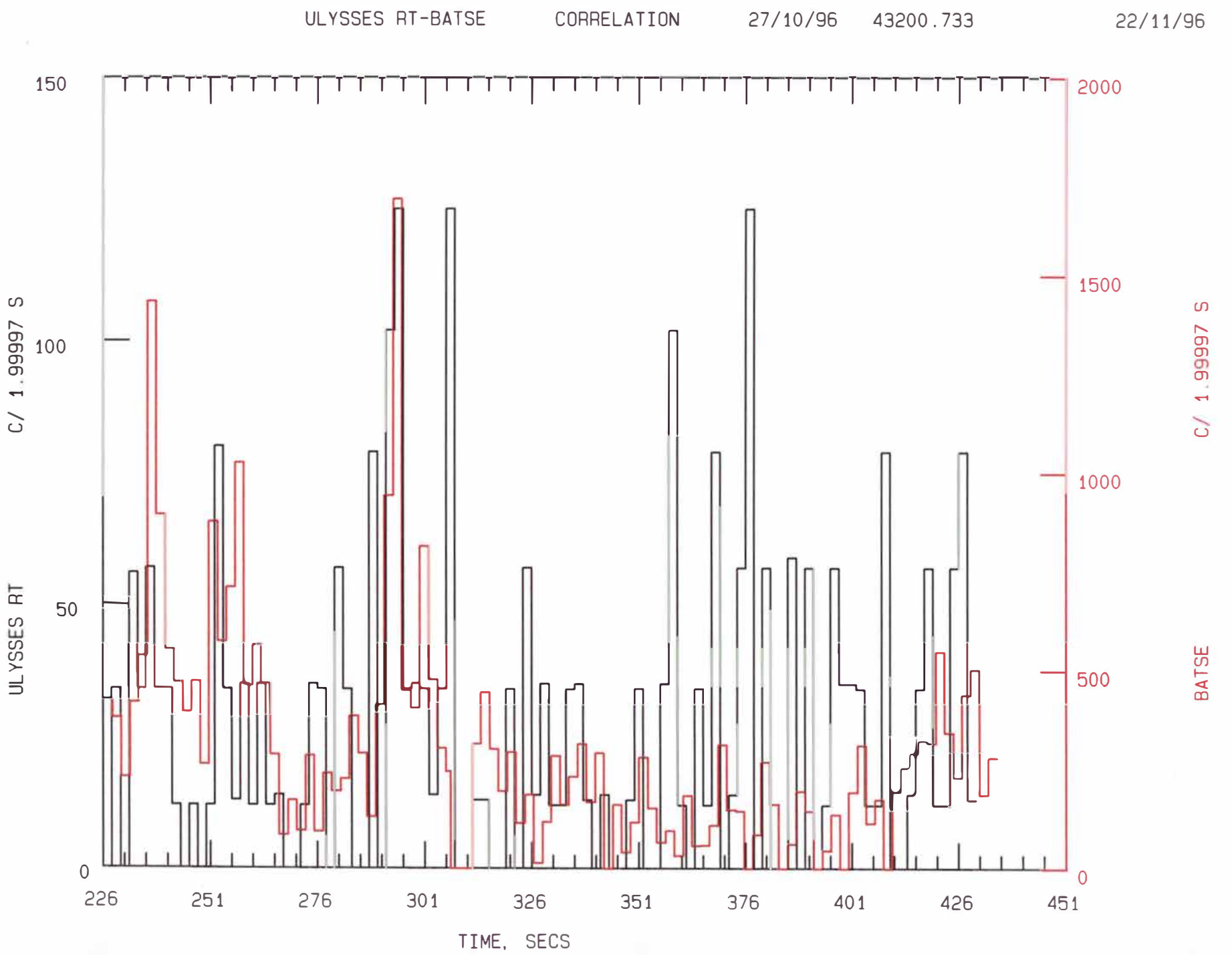

ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733 22/11/96
300
200
100
0
3000
2000
1000
0
C/ 3.99994 S
ULYSSES RT
C/ 3.99994 S
BATSE
228
253
278
303
328
353
378
403
428
453
TIME, SECS

22/11/96

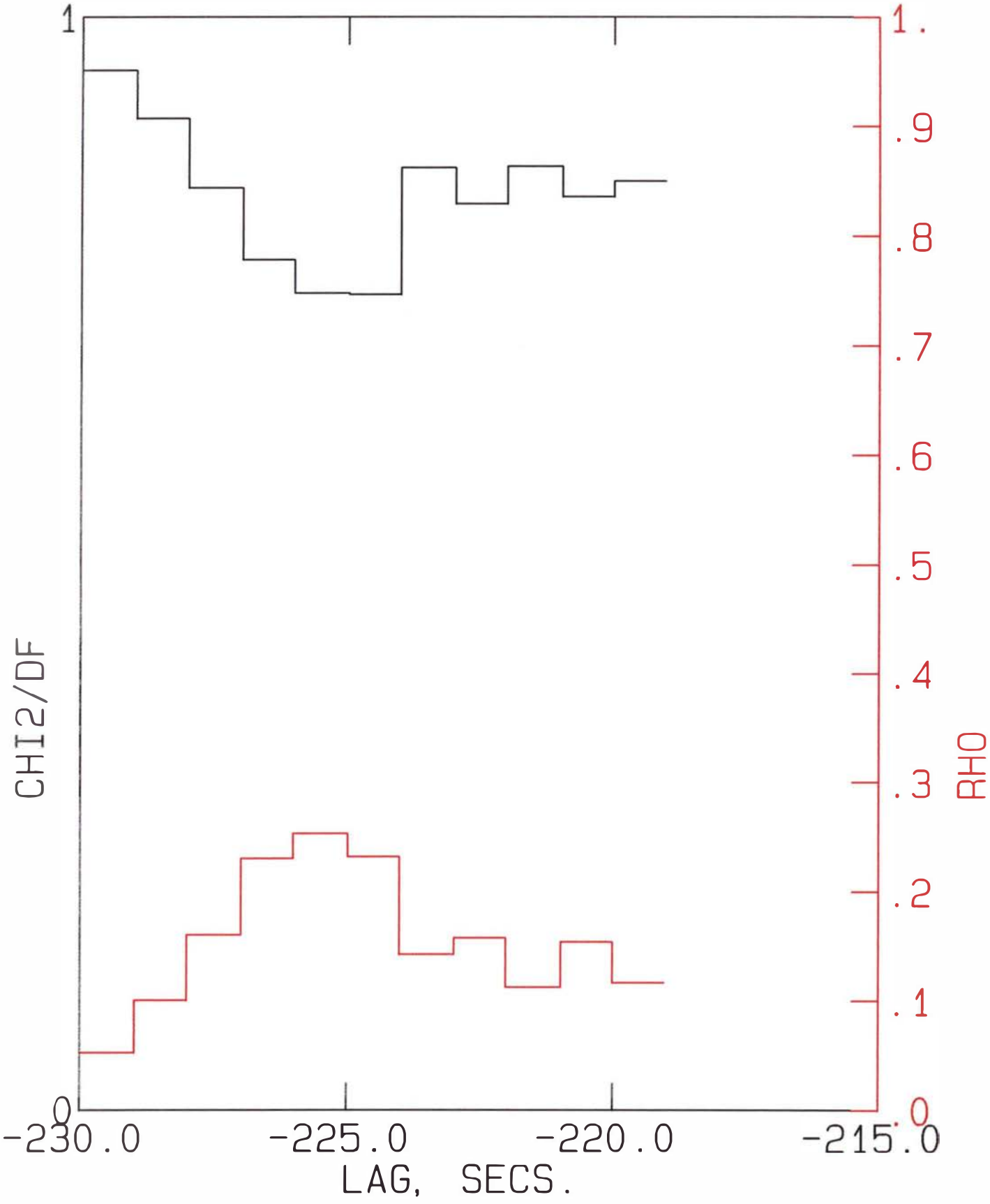
ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733

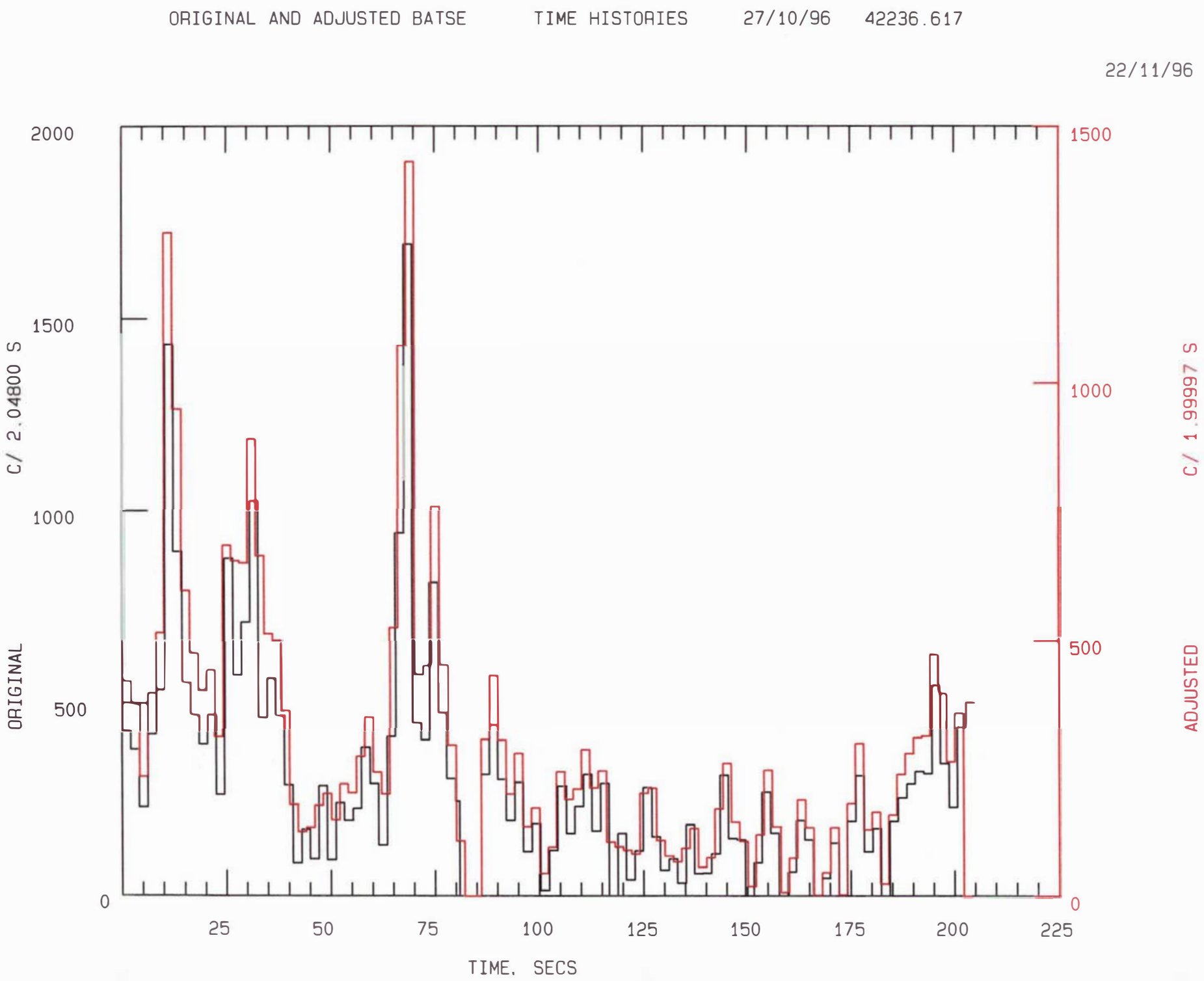



ORIGINAL AND ADJUSTED BATSE TIME HISTORIES 27/10/96 42236.617
22/11/96
3000
2000
1000
0
C/ 4.09600 S
ORIGINAL
2000
1500
1000
500
0
C/ 3.99994 S
ADJUSTED
25
50
75
100
125
150
175
200
225
TIME, SECS


ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733 22/11/96
150
100
50
0
C/ 1.99997 S
ULYSSES RT
2000
1500
1000
500
0
C/ 1.99997 S
BATSE
226
251
276
301
326
351
376
401
426
451
TIME, SECS

ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733




ORIGINAL AND ADJUSTED BATSE TIME HISTORIES 27/10/96 42236.617
22/11/96
2000
1500
1000
500
0
C/ 2.04800 S
ORIGINAL
1500
1000
500
0
C/ 1.99997 S
ADJUSTED
25
50
75
100
125
150
175
200
225
TIME. SECS

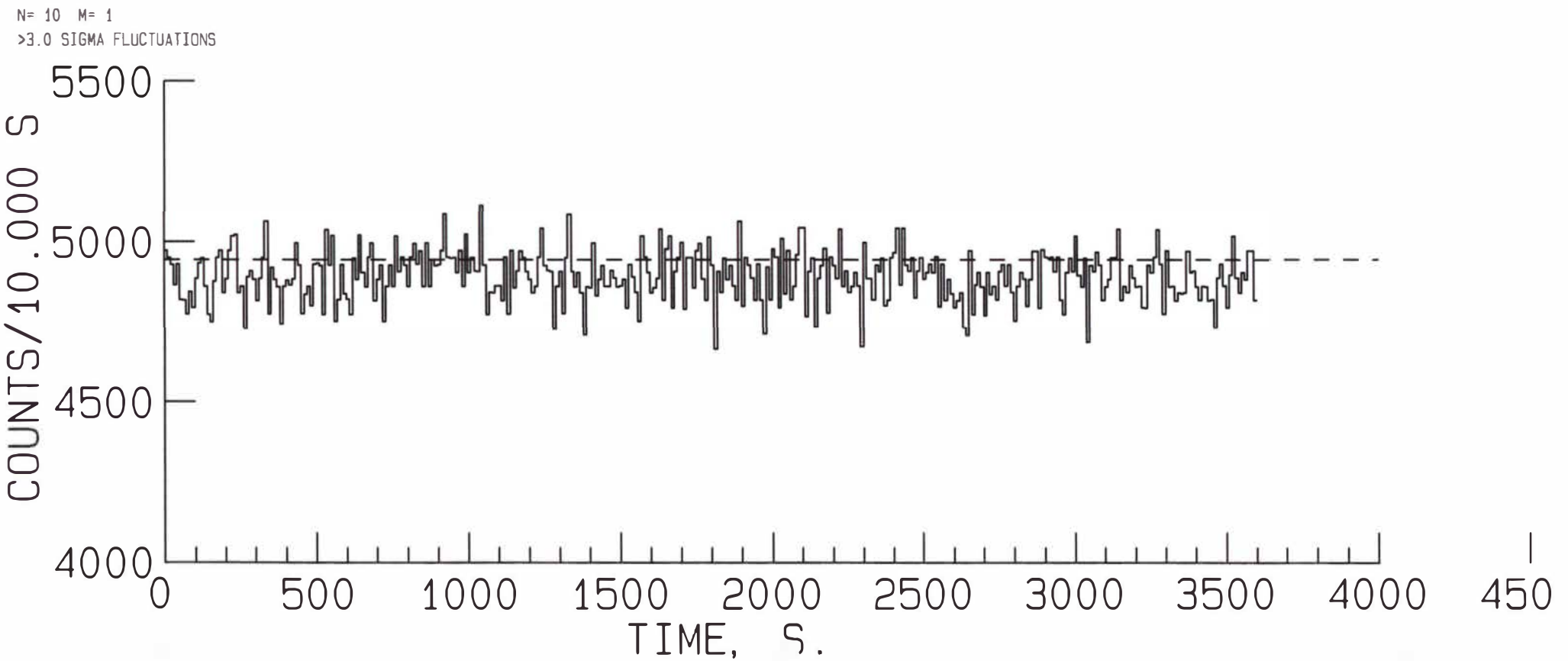
ULYSSES RT

22/11/96

27/10/96 41400.207 s

0.500 S INTERVALS REGROUPED BY 20

21- 145 keV



HUS DATA

ULYSSES RT

22/11/96

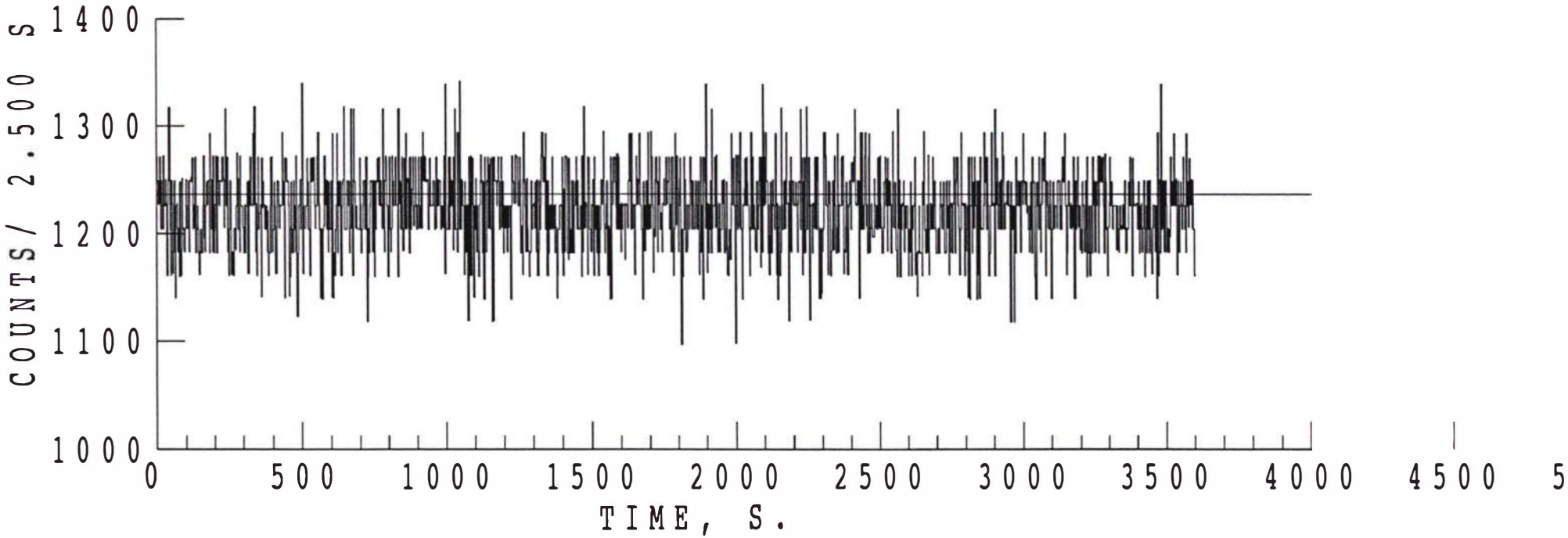
27/10/96 41400.207 s

0.500 S INTERVALS REGROUPED BY 5

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



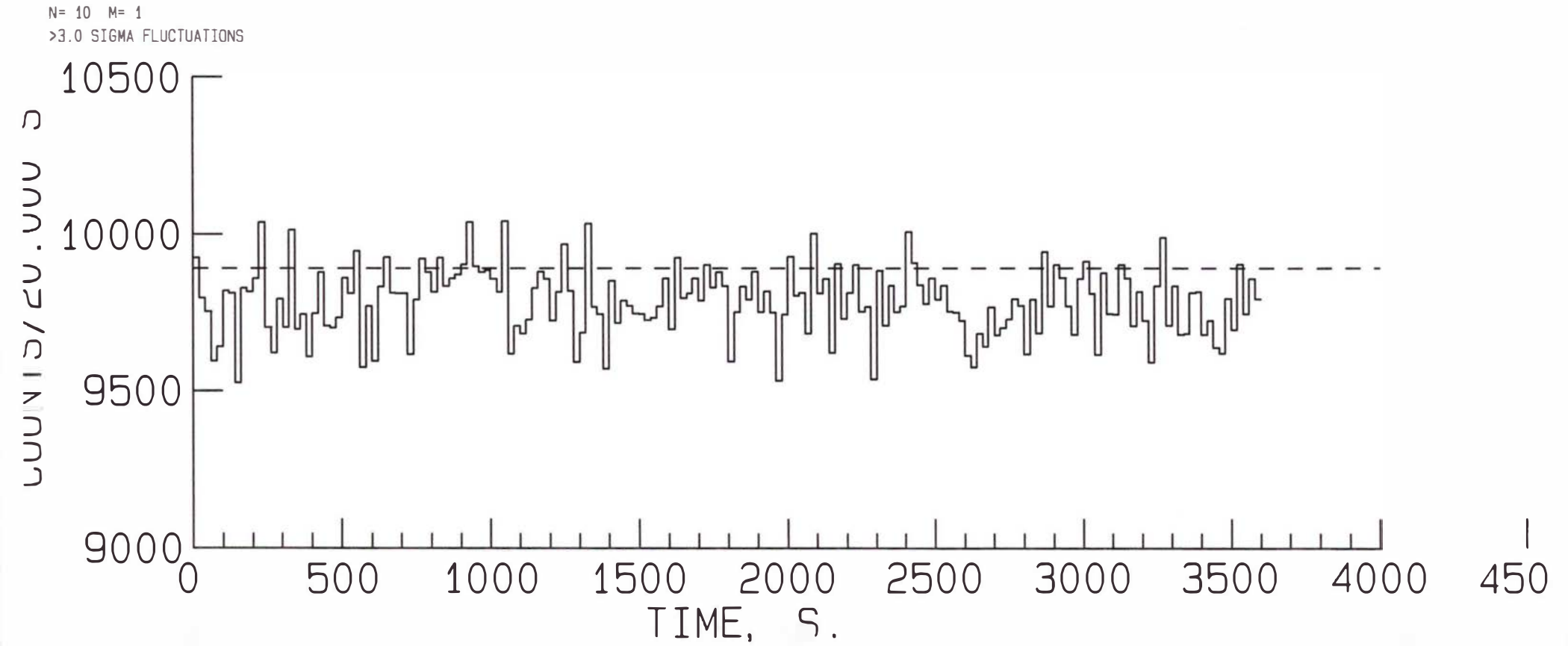
ULYSSES RT

22/11/96

27/10/96 41400.207 s

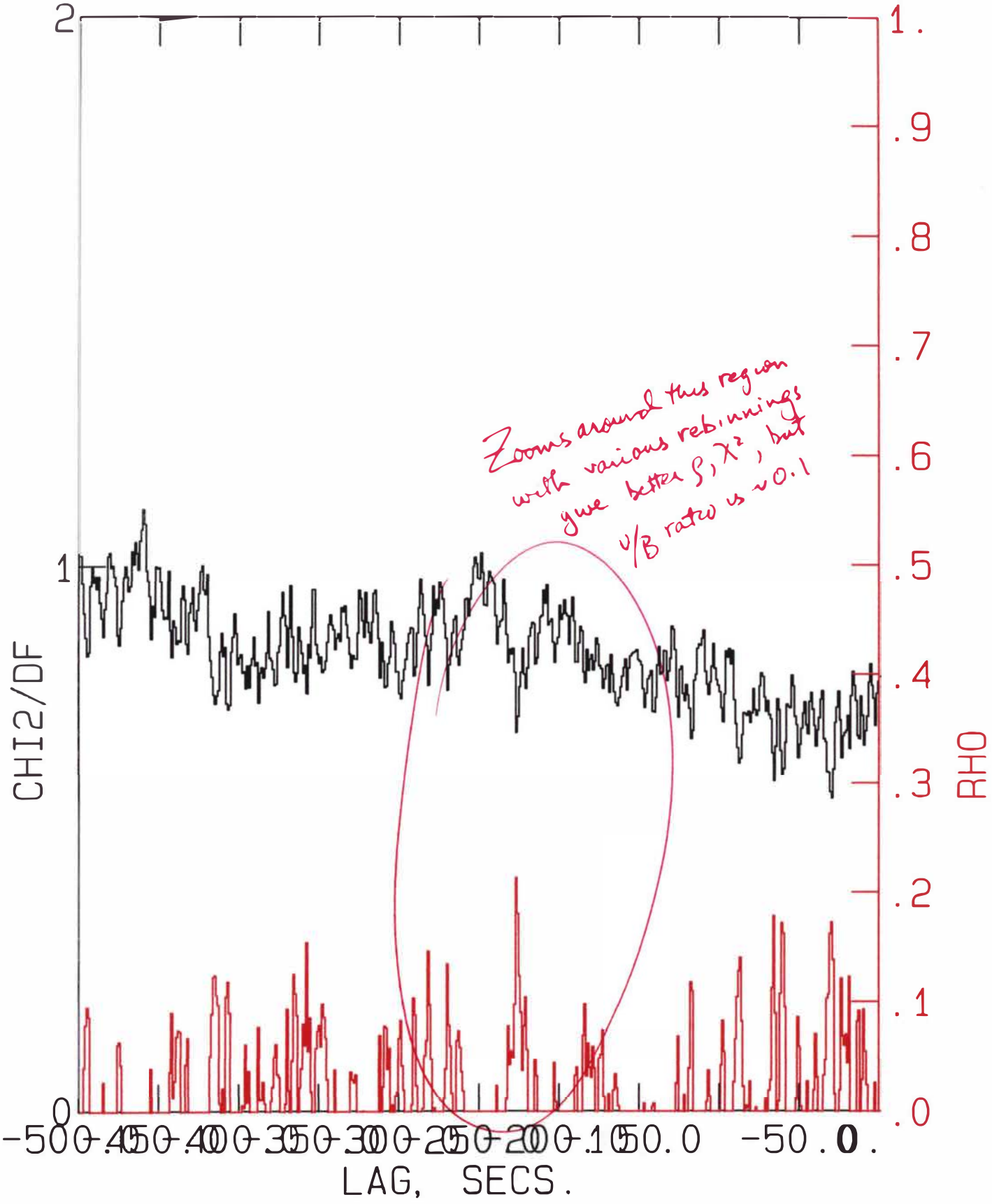
0.500 S INTERVALS REGROUPED BY 40

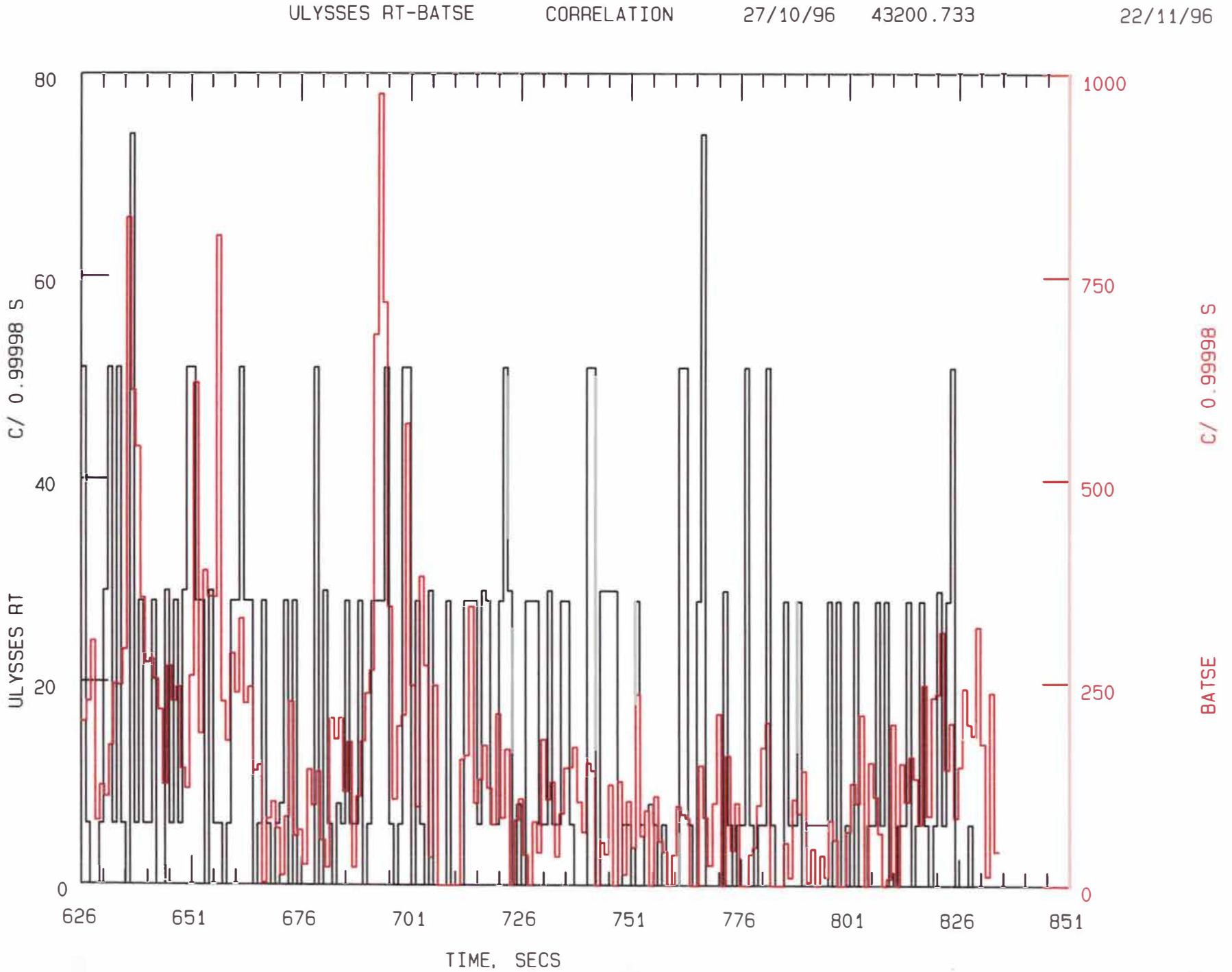
21- 145 keV



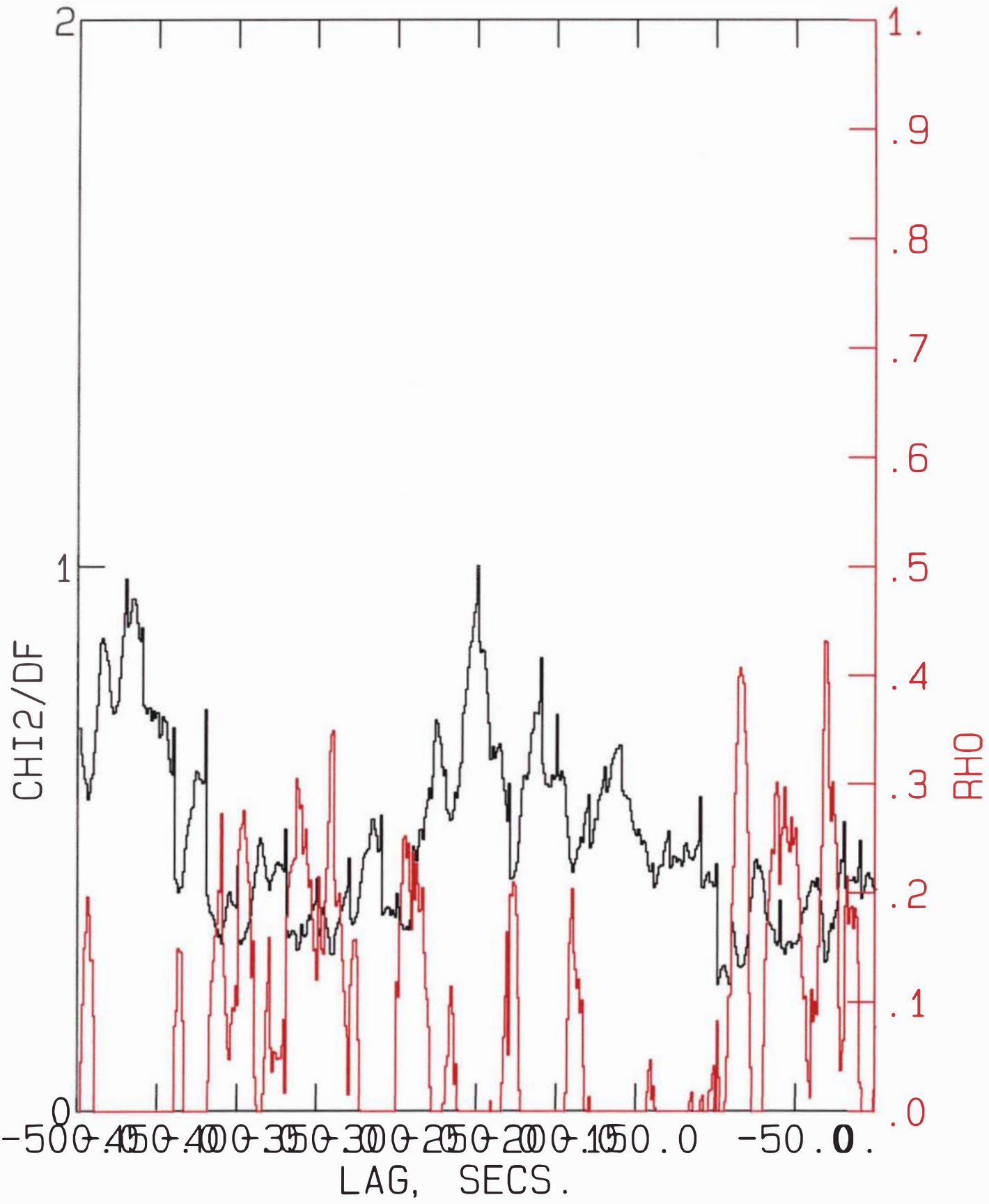
22/11/96

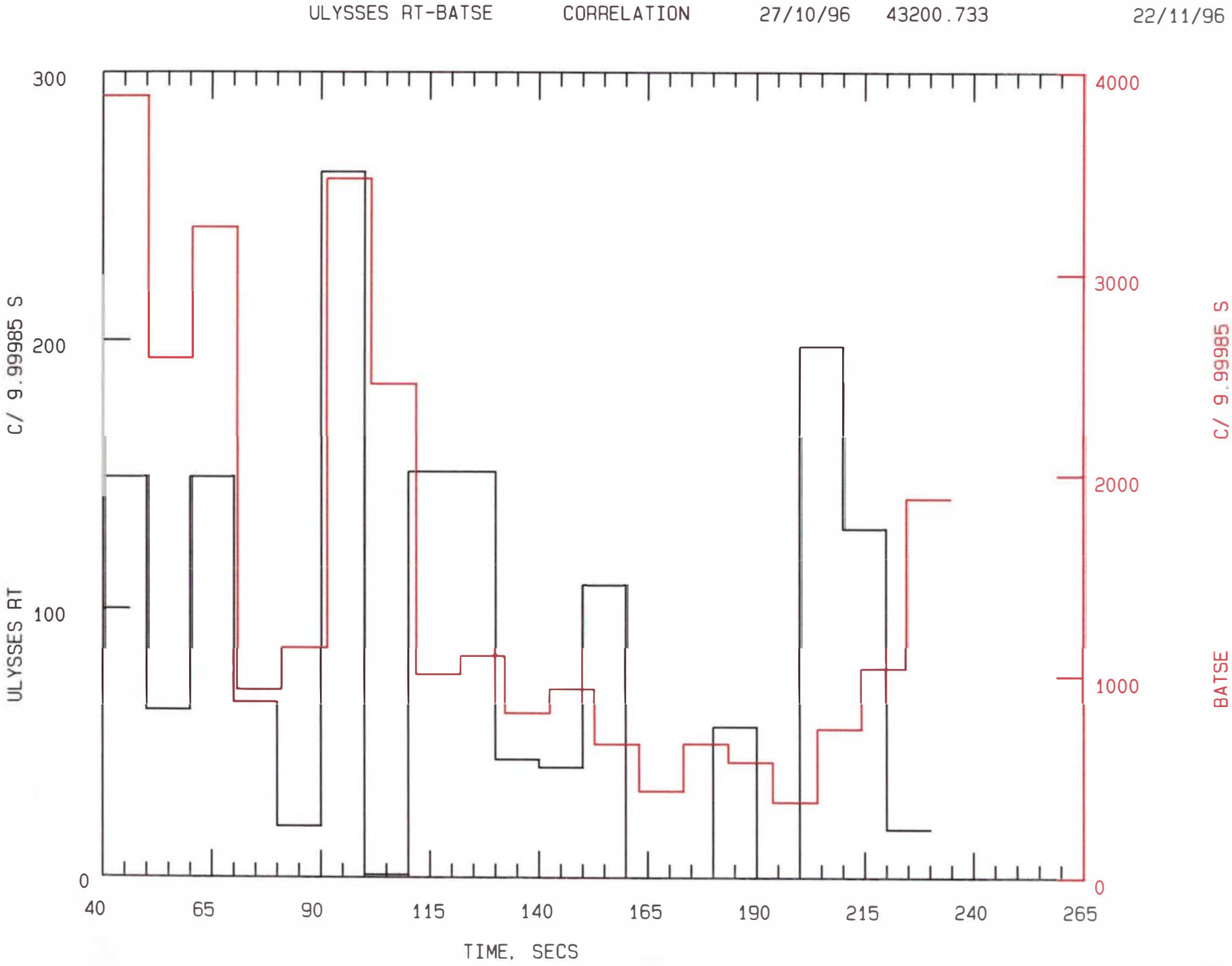
ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733




ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733 22/11/96
80
60
40
20
0
C/ 0.99998 S
ULYSSES RT
1000
750
500
250
0
C/ 0.99998 S
BATSE
626
651
676
701
726
751
776
801
826
851
TIME, SECS

ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733




ULYSSES RT-BATSE CORRELATION 27/10/96 43200.733 22/11/96
300
200
100
0
C/ 9.99985 S
ULYSSES RT
4000
3000
2000
1000
0
C/ 9.99985 S
BATSE
40
65
90
115
140
165
190
215
240
265
TIME, SECS

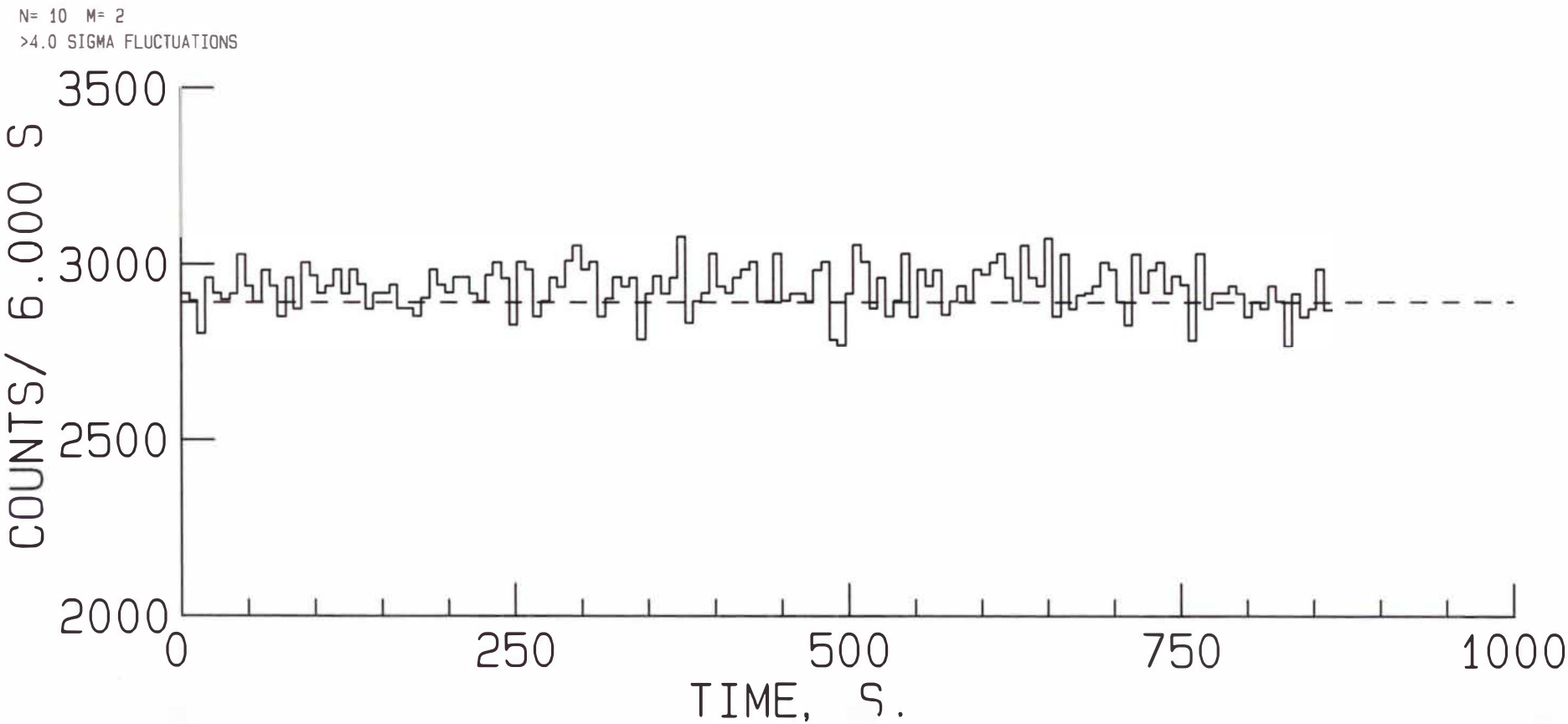
ULYSSES RT

22/11/96

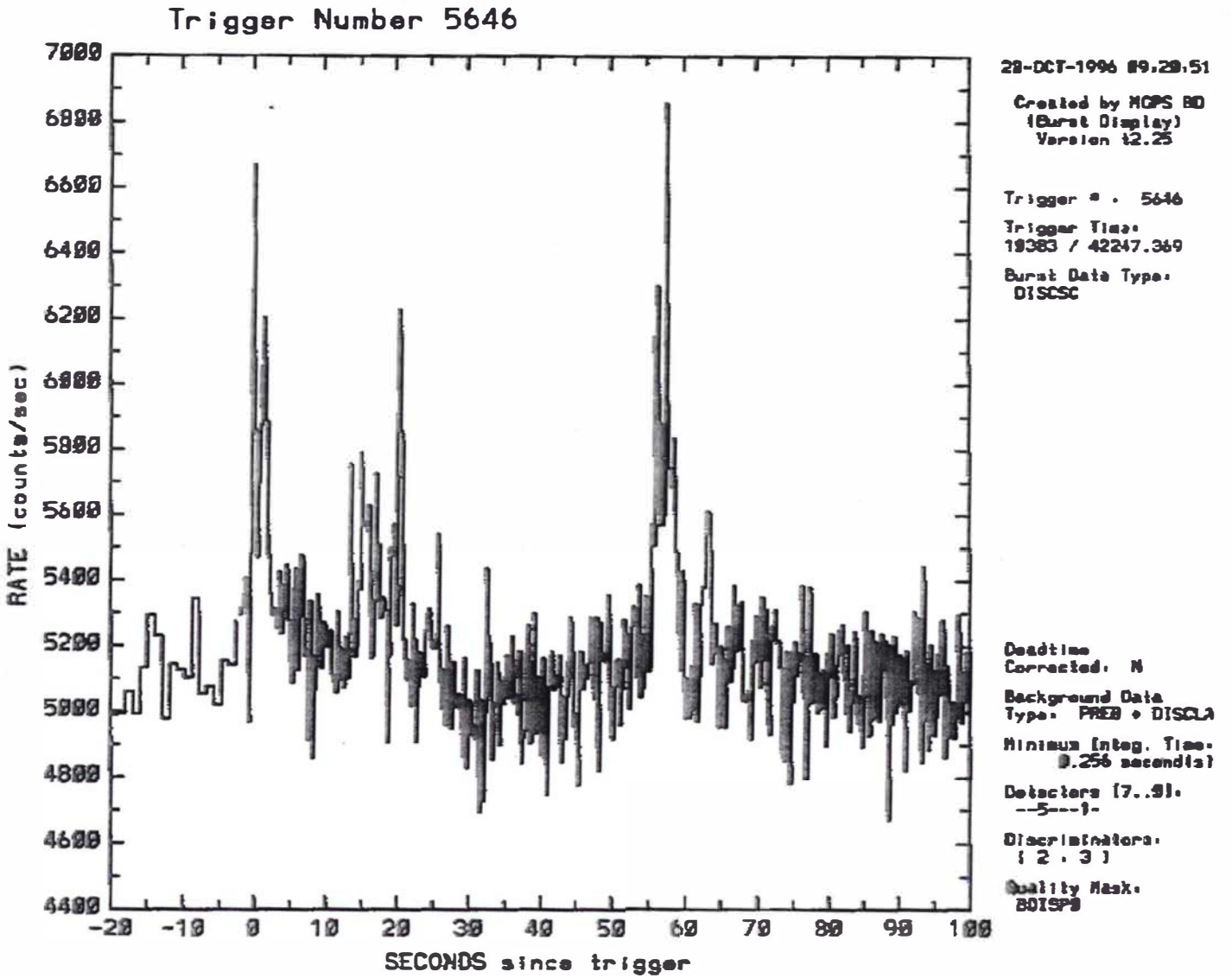
27/10/96 43200.233 s

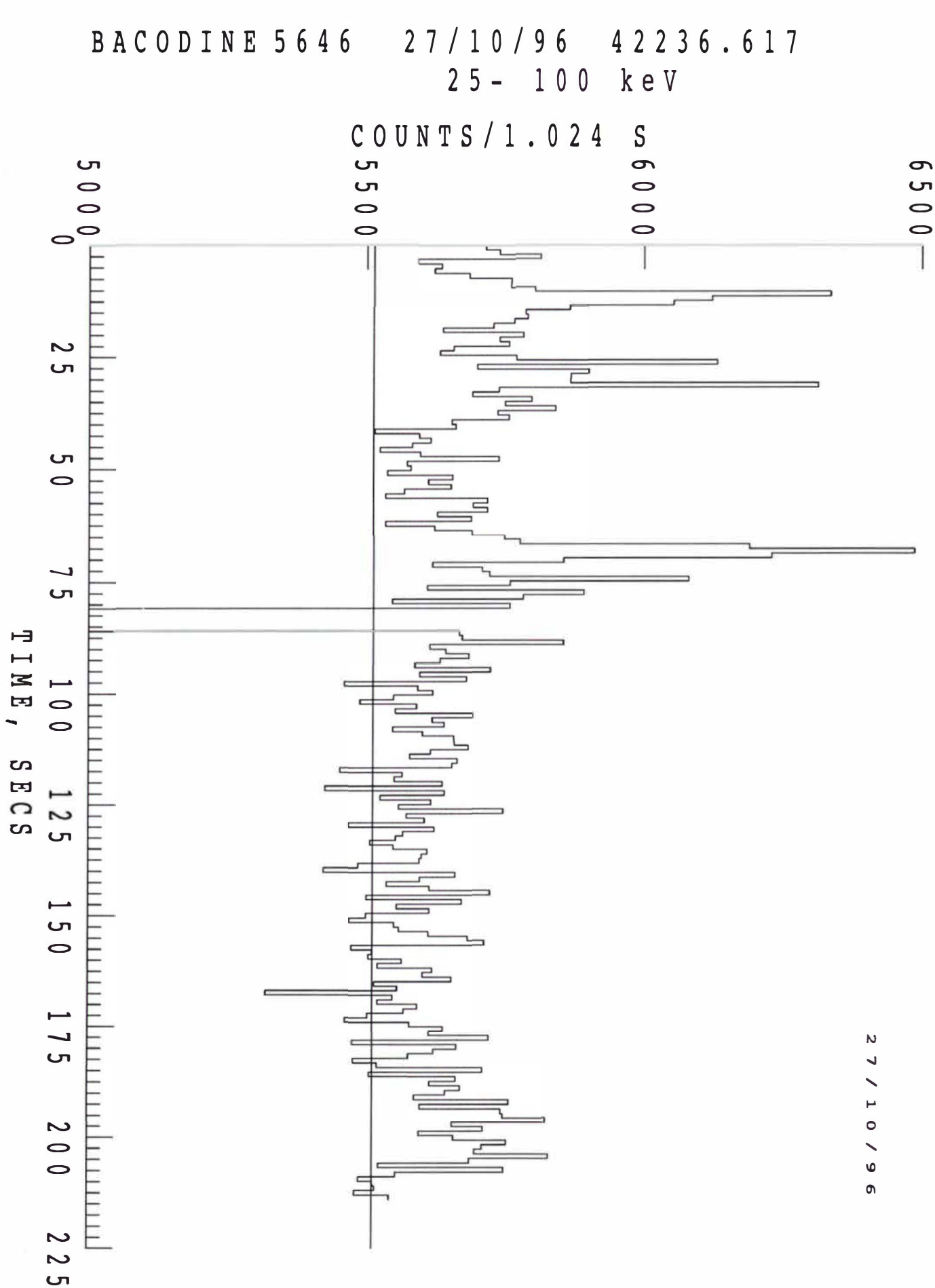
0.500 S INTERVALS REGROUPED BY 12

21- 145 keV



Digital data not sent




BACODINE 5646 27/10/96 42236.617
25- 100 keV
COUNTS/1.024 S
5000
5500
6000
6500
0
25
50
75
100
125
150
175
200
225
TIME, SECS
27/10/96

From RICHARDSON@SSLLES.MSFC.NASA.GOV Tue Oct 29 11:24 PST 1996
Return-Path: <RICHARDSON@SSLLES.MSFC.NASA.GOV>
Received: from SSLLES.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id LAA21086; Tue, 29 Oct 1996 11:24:46 -0800
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
Date: Tue, 29 Oct 1996 13:24:33 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961029132433.24a02110@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5647
Content-Type: text
Content-Length: 1135
X-Lines: 26

NO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5647
EVENT OF 1996 OCT 27 DAY OF YEAR=301
EVENT CROSSING TIME AT BATSE : 43322. S. OR 12:02:02.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 69.000 -54.000
BATSE PEAK COUNTING RATE: 35000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/10/ 96 IS:
RA= 175.900 DEC= 31.721 DIST= 4.964 AU
BATSE-ULYSSES DISTANCE = 742650315. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 55.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1413.76 SECS.
CROSSING TIME AT ULYSSES IS 44736. S. OR 12:25:35 +/- 424.64 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/10/ 96 IS:
RA= 150.875 DEC= 13.565 DIST= 1.756 AU
MARS-BATSE DISTANCE = 262731696. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 95.52 SECS.
CROSSING TIME AT MARS IS 43418. S. OR 12:03:37 +/- 152.70 SECONDS

BATSE BURST TRIGGER

NO.: 5647

TIME: TJD=0383 SECONDS=43322

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=125.8 AZIMUTH=101 ERROR=5.8 DEGREES

COMMENTS:
GRB SHARP SPIKE WITH SMALL POST PULSE. DUR. OF SPIKE ~0.2SEC. DUR. OF PULSE ~0.4 SEC. TOTAL DUR.~0.9SEC. VISIBLE ABOVE 300KEV.
THIS EVENT OCCURED ~1100 SEC. AFTER THE PREVIOUS EVENT. CONSISTENT LOCATION WITH THE PREVIOUS EVENT.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5647	961027	10383	43322	35000	069	-54	.9

BATSE# 5647

ULYSSES RT 30/10/96

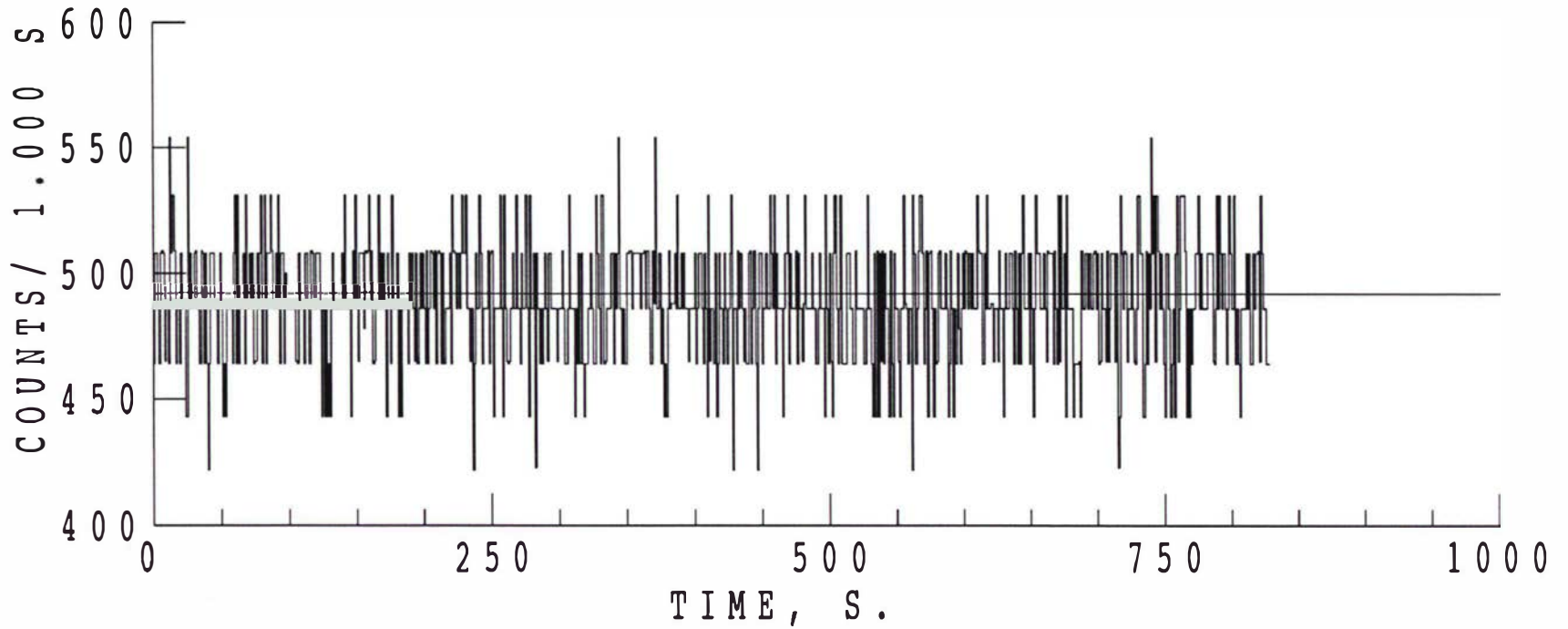
27/10/96 44316.246 s

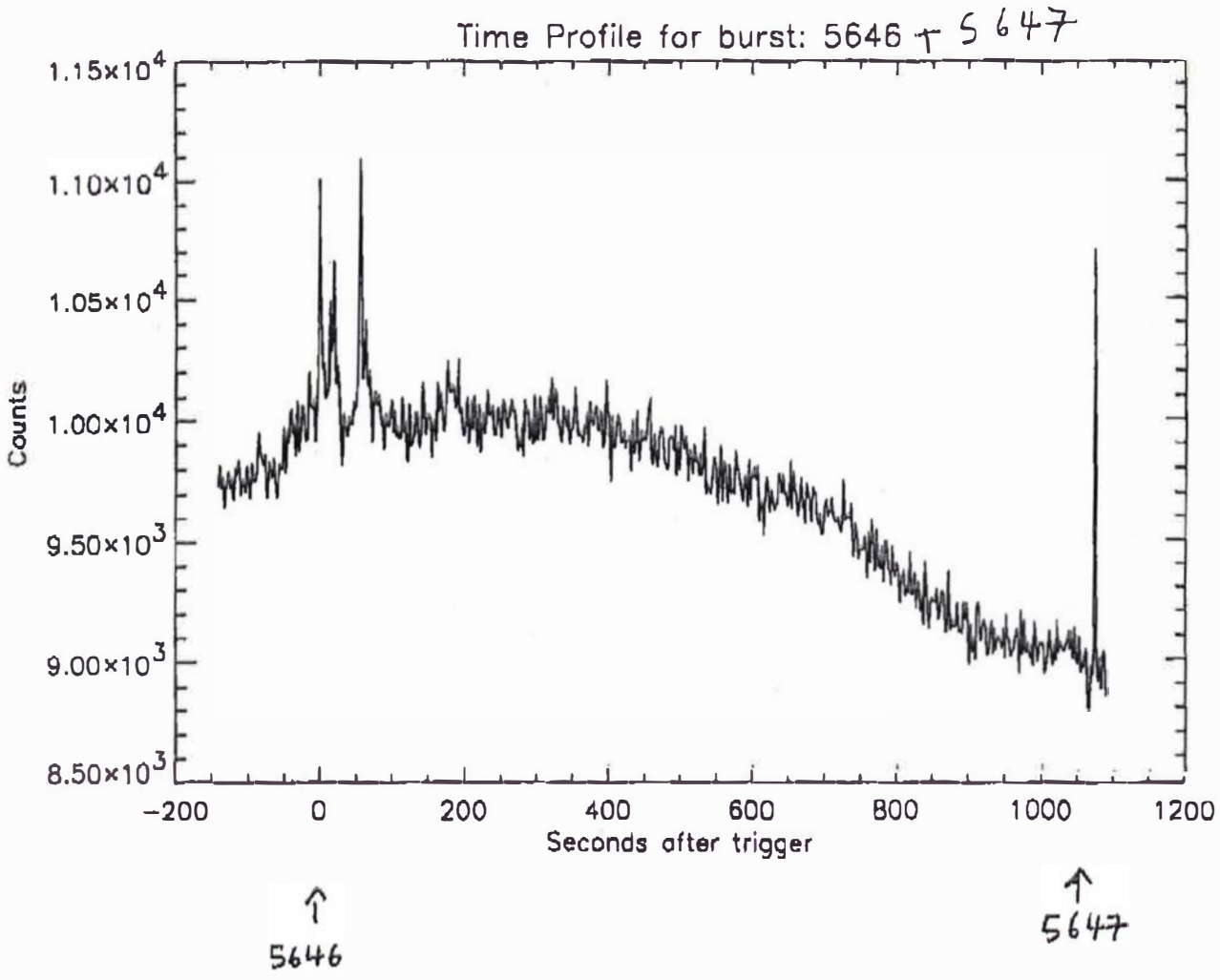
0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

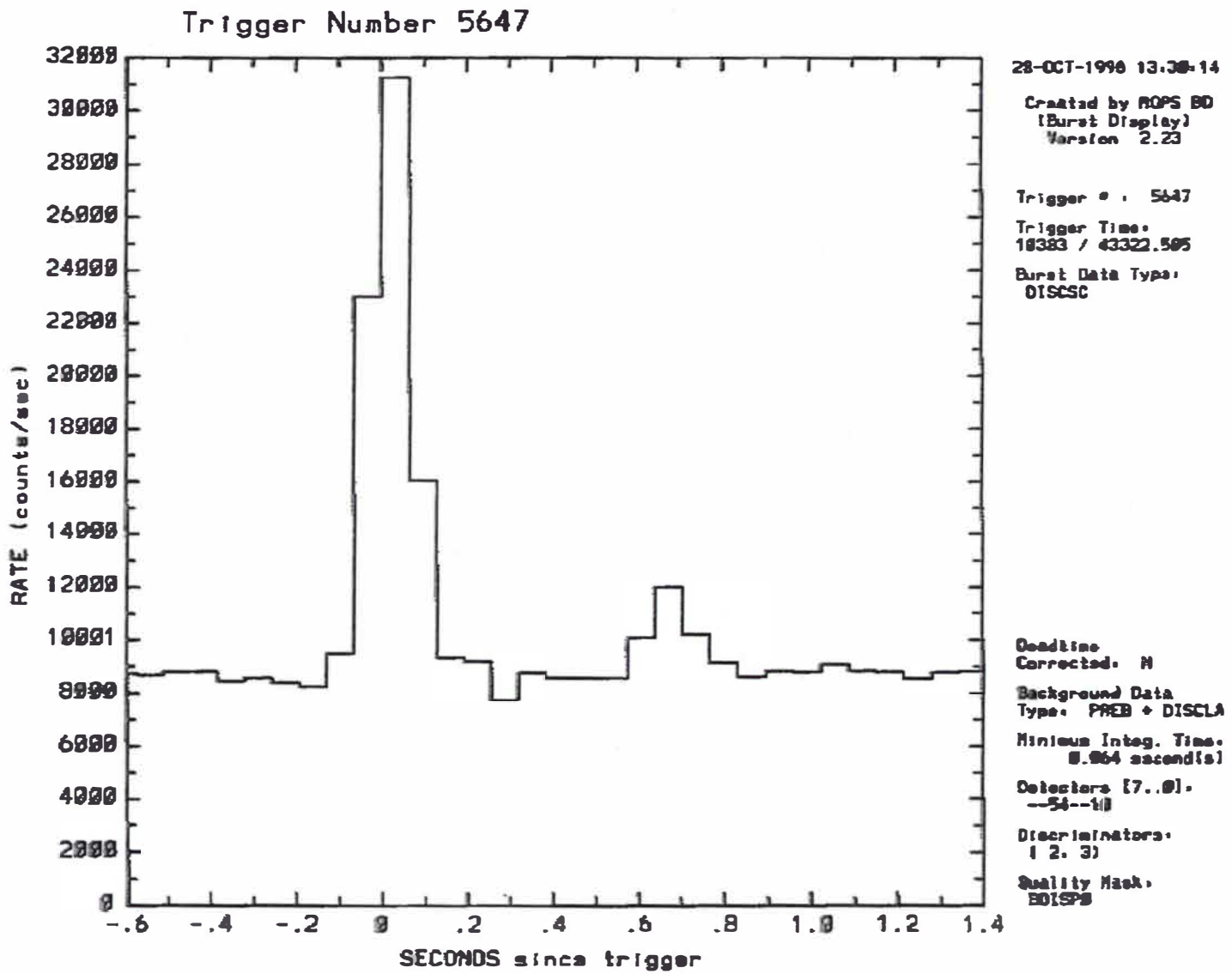
N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

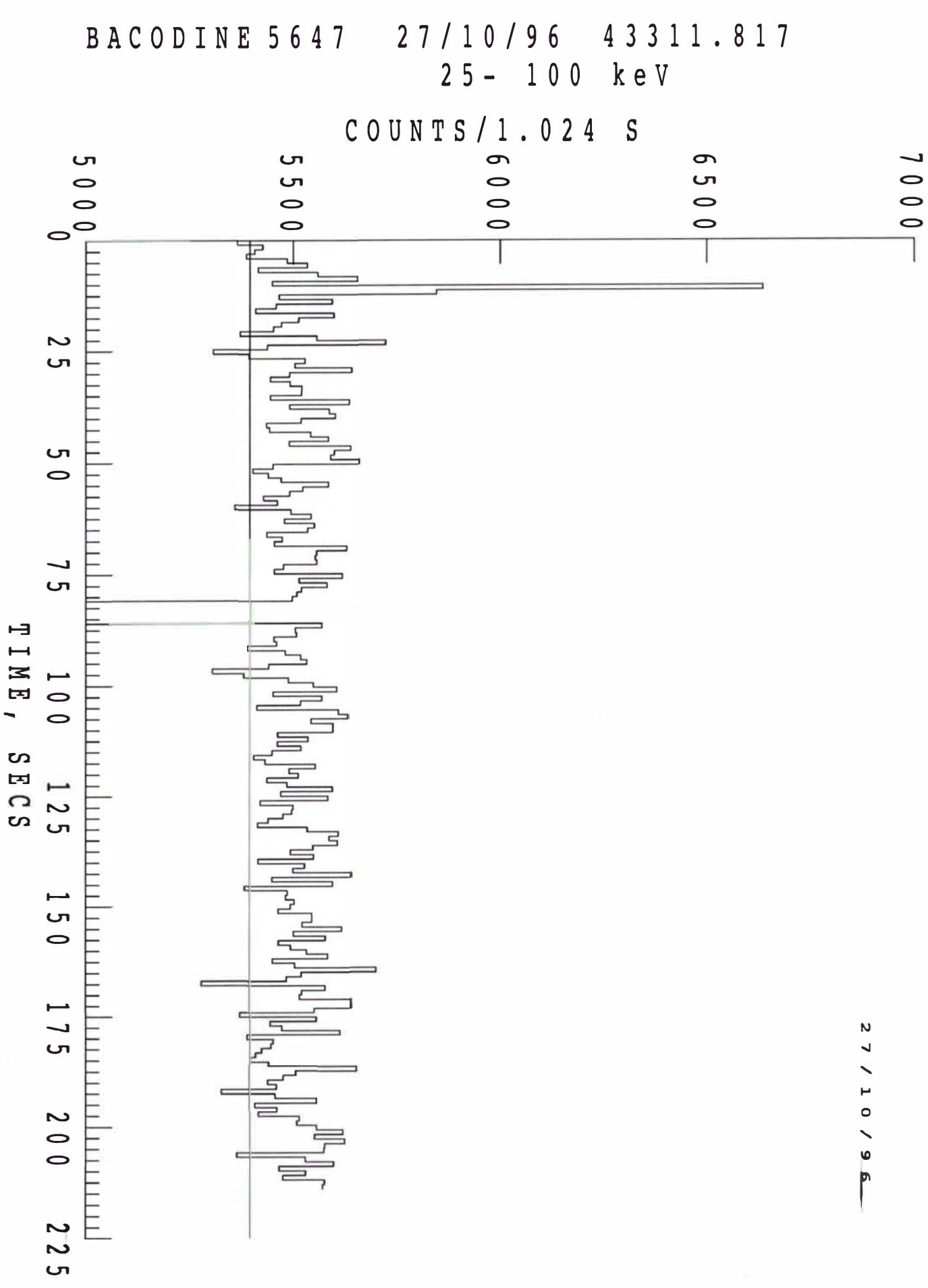
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

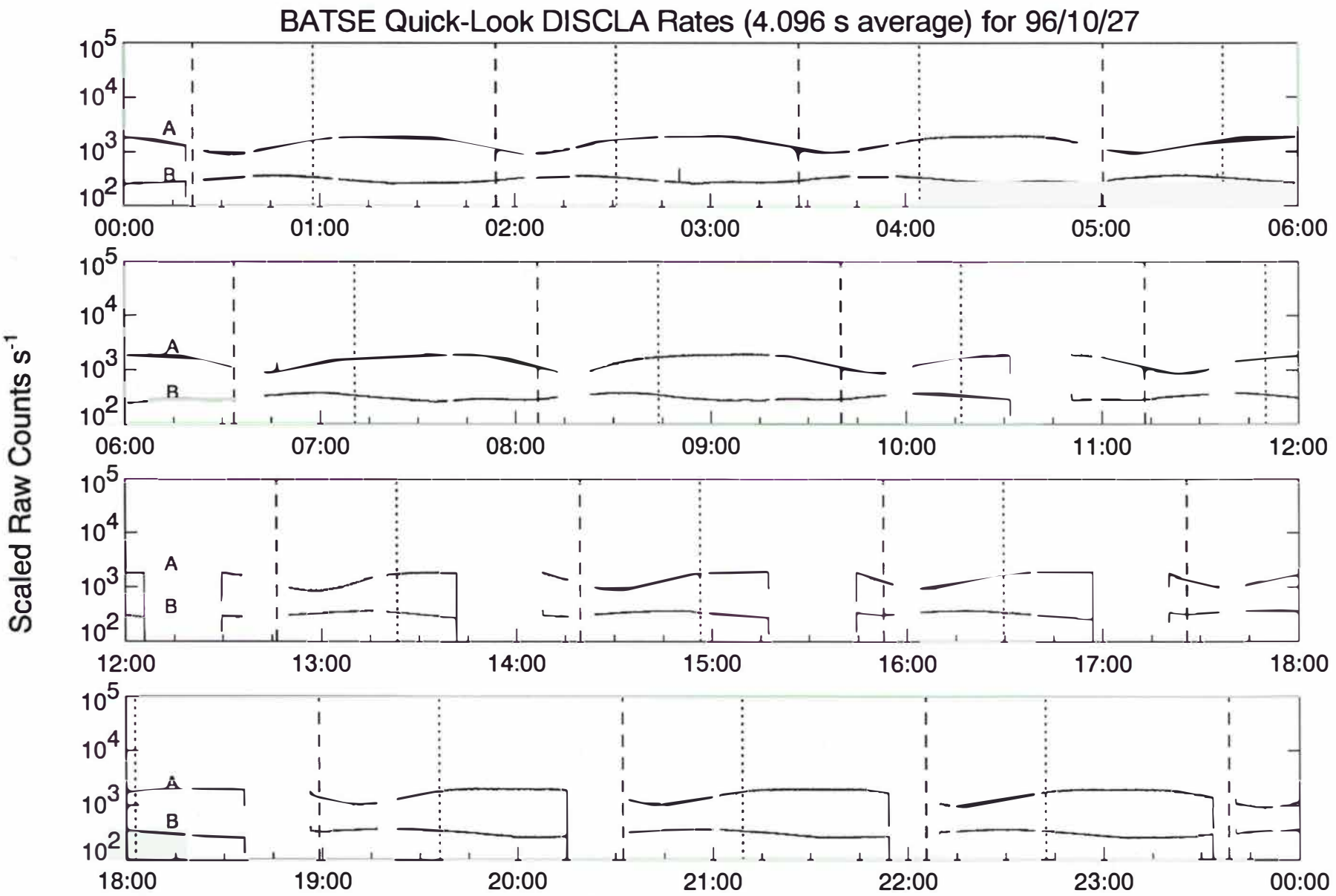


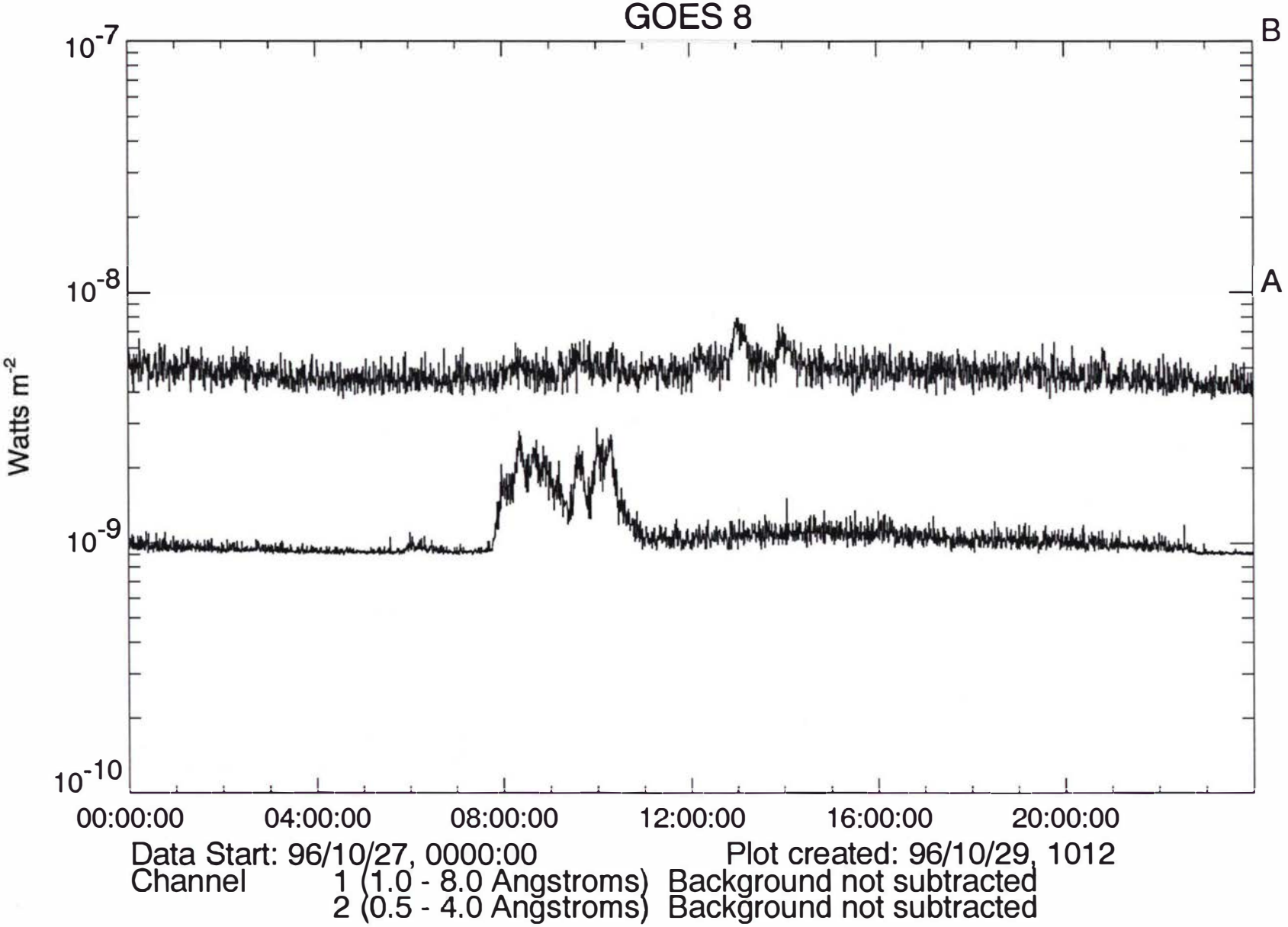

Time Profile for burst: 5646 + 5647
1.15×10^4
1.10×10^4
1.05×10^4
1.00×10^4
9.50×10^3
9.00×10^3
8.50×10^3
Counts
−200
0
200
400
600
800
1000
1200
Seconds after trigger
5646
5647

Digital data not sent

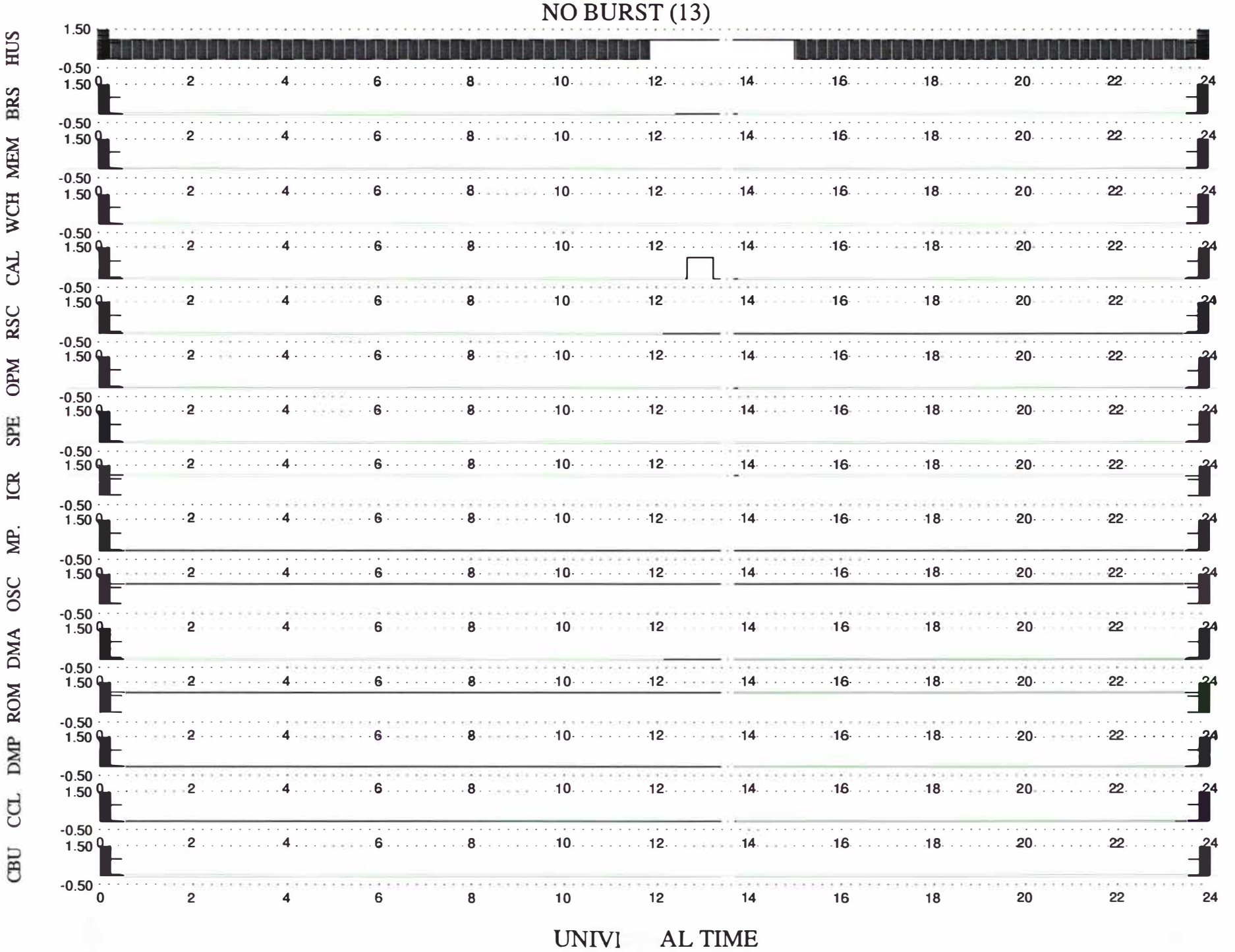



BACODINE 5647 27/10/96 43311.817
25- 100 keV
COUNTS/1.024 S
5000
5500
6000
6500
7000
0
25
50
75
100
125
150
175
200
225
TIME, SECS
27/10/96


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/27
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/29, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

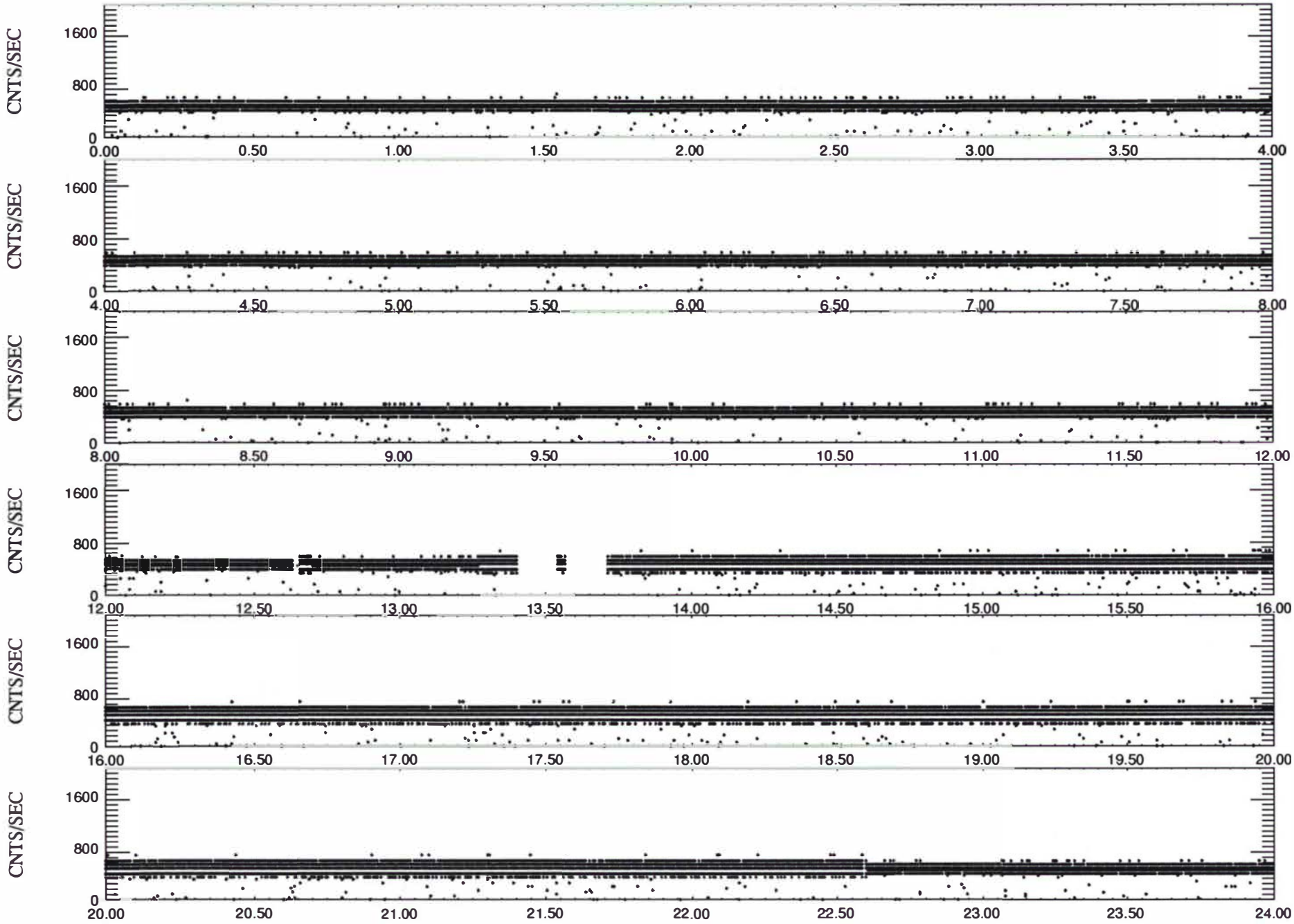

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/27, 0000:00
Plot created: 96/10/29, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 301, year 1996 to day 301, year 1996 3/29/97



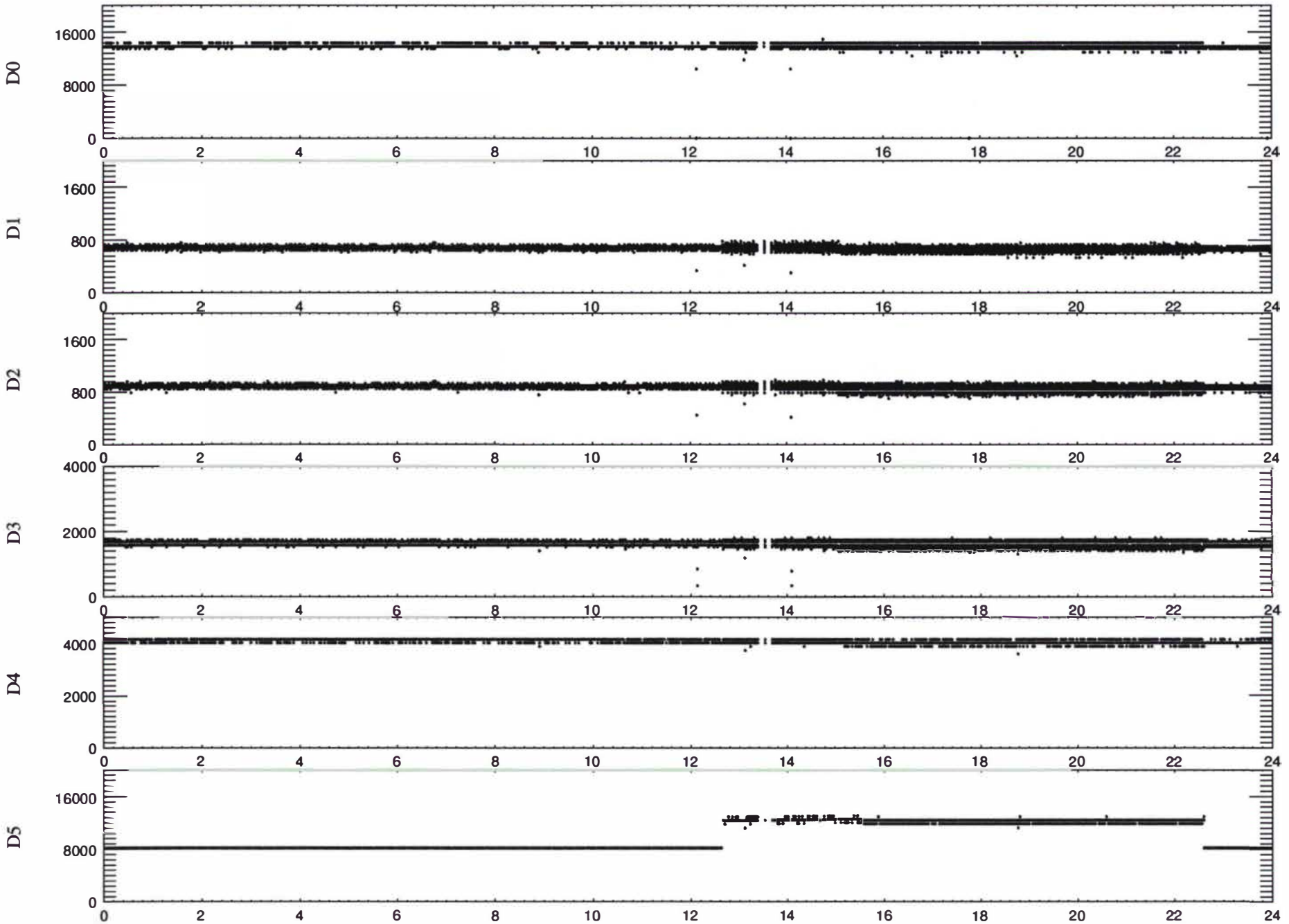
HUS 2A, MODE 1, NOT AVERAGED EDR day 301, year 1996 to day 301, year 1996 3/29/97

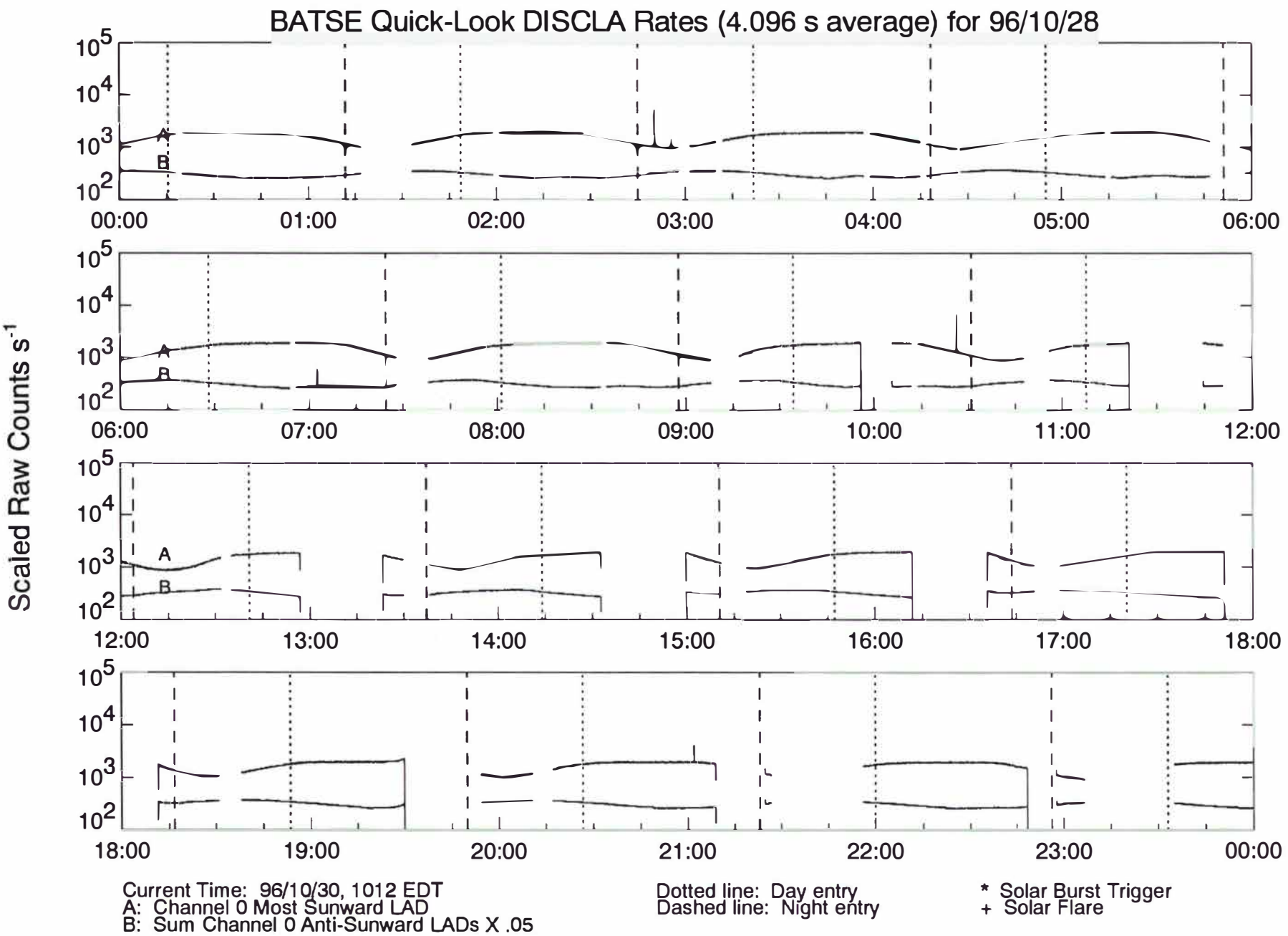
CALIBRATION DATA INCLUDED

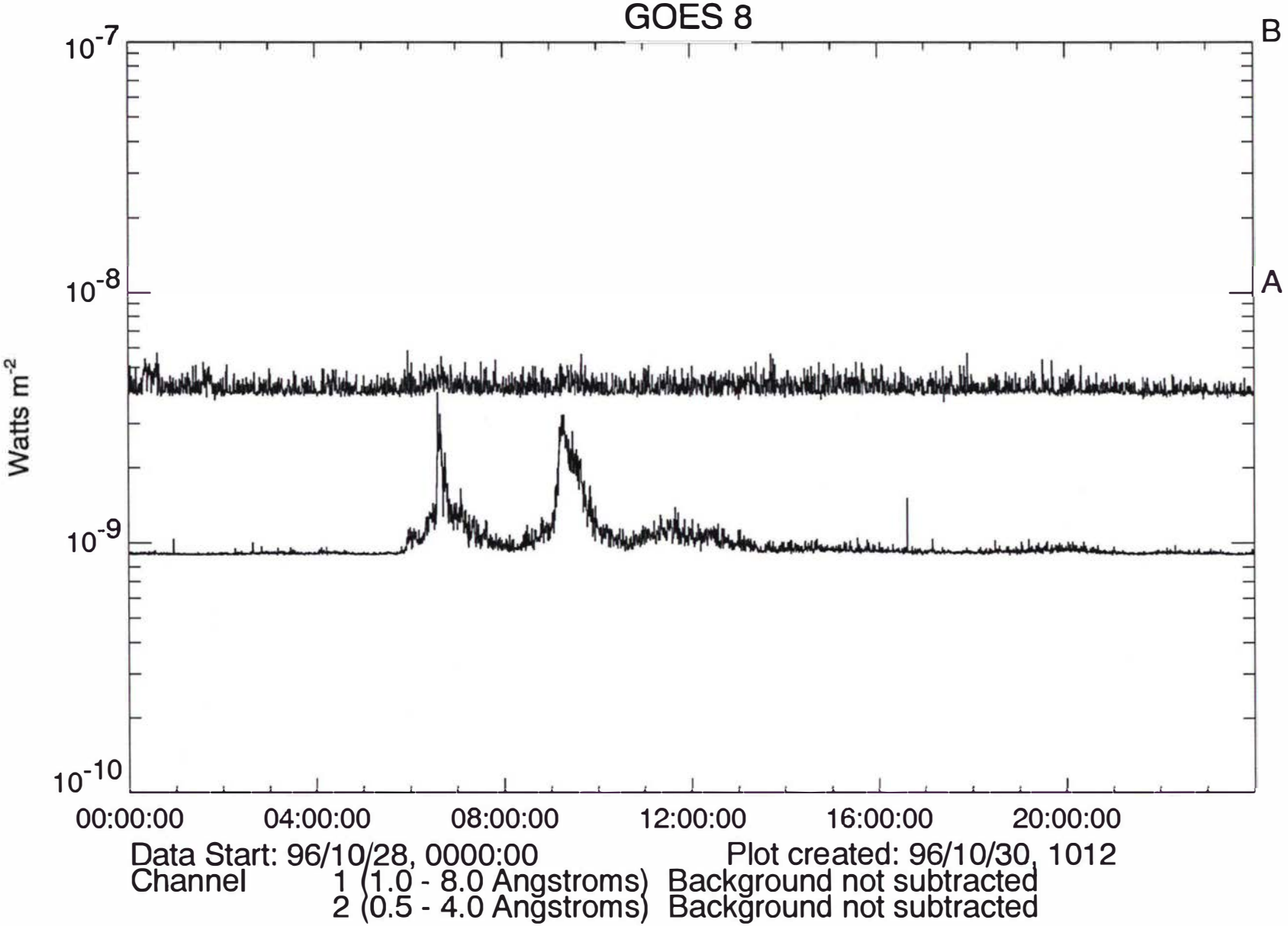


UNIV! AL TIME

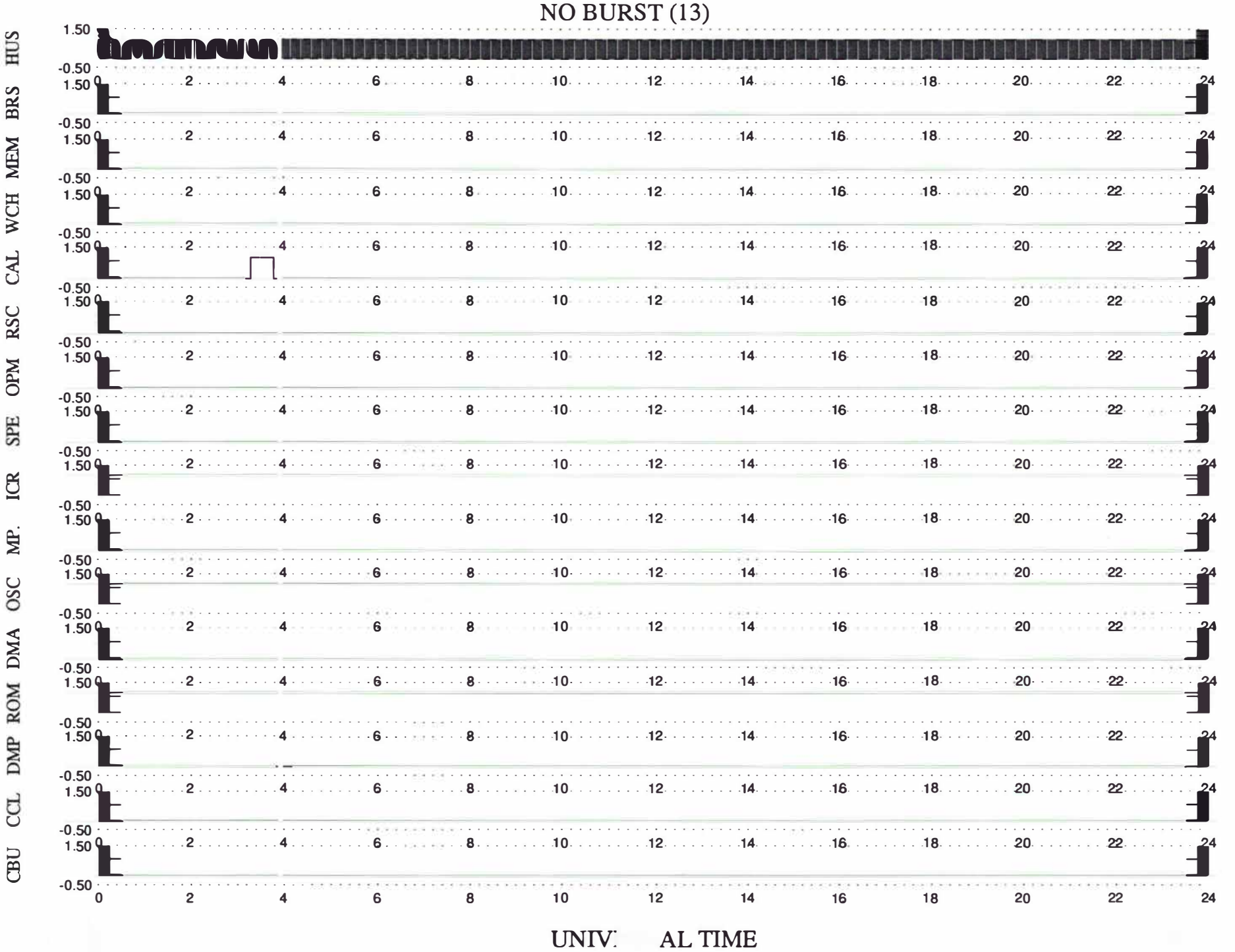
HUS 2B COUNTS / SEC EDR day 301, year 1996 to day 301, year 1996 3/29/97




BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/10/28
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/10/30, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05
Dotted line: Day entry
Dashed line: Night entry
* Solar Burst Trigger
+ Solar Flare

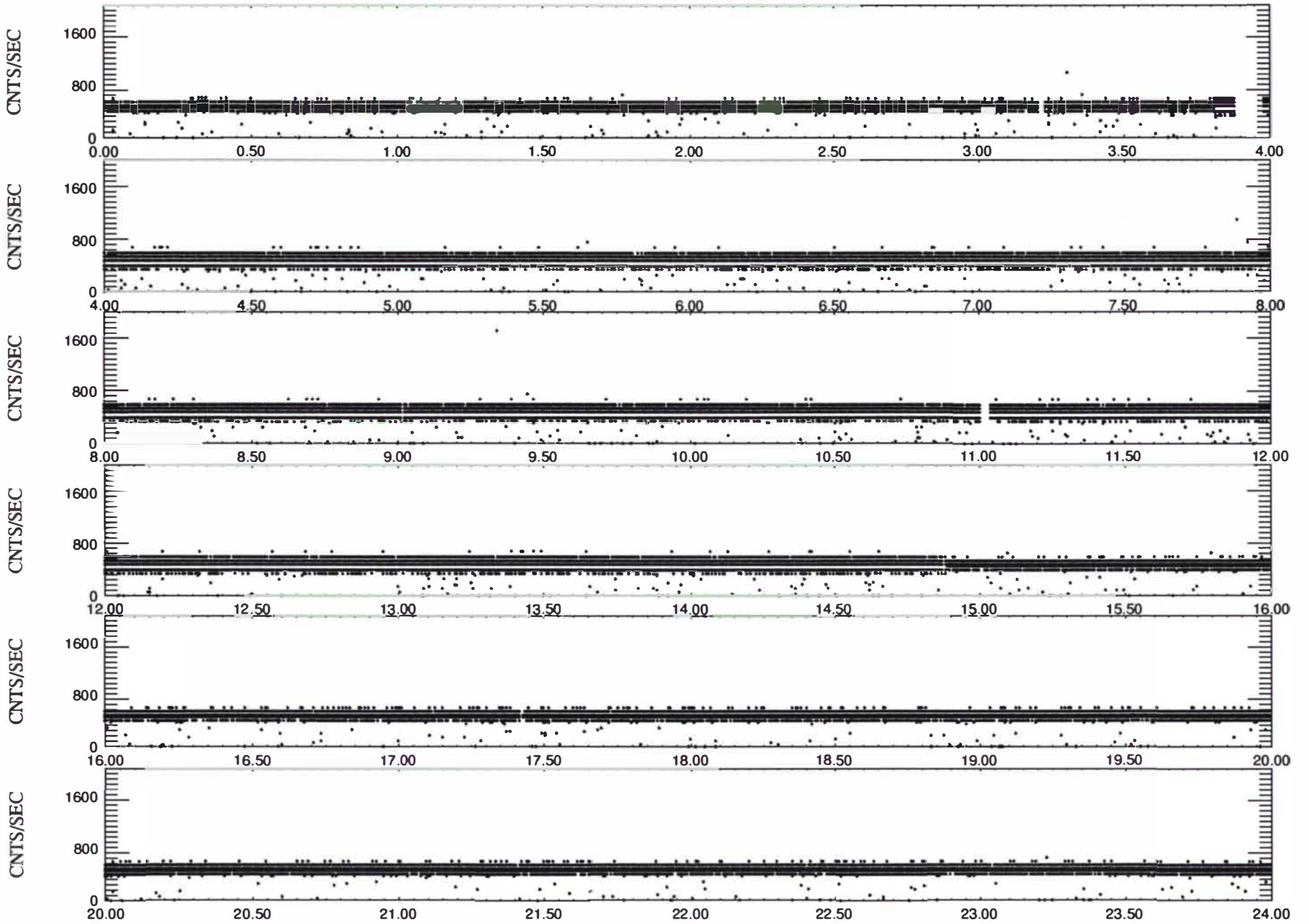

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/28, 0000:00
Plot created: 96/10/30, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 302, year 1996 to day 302, year 1996 3/29/97



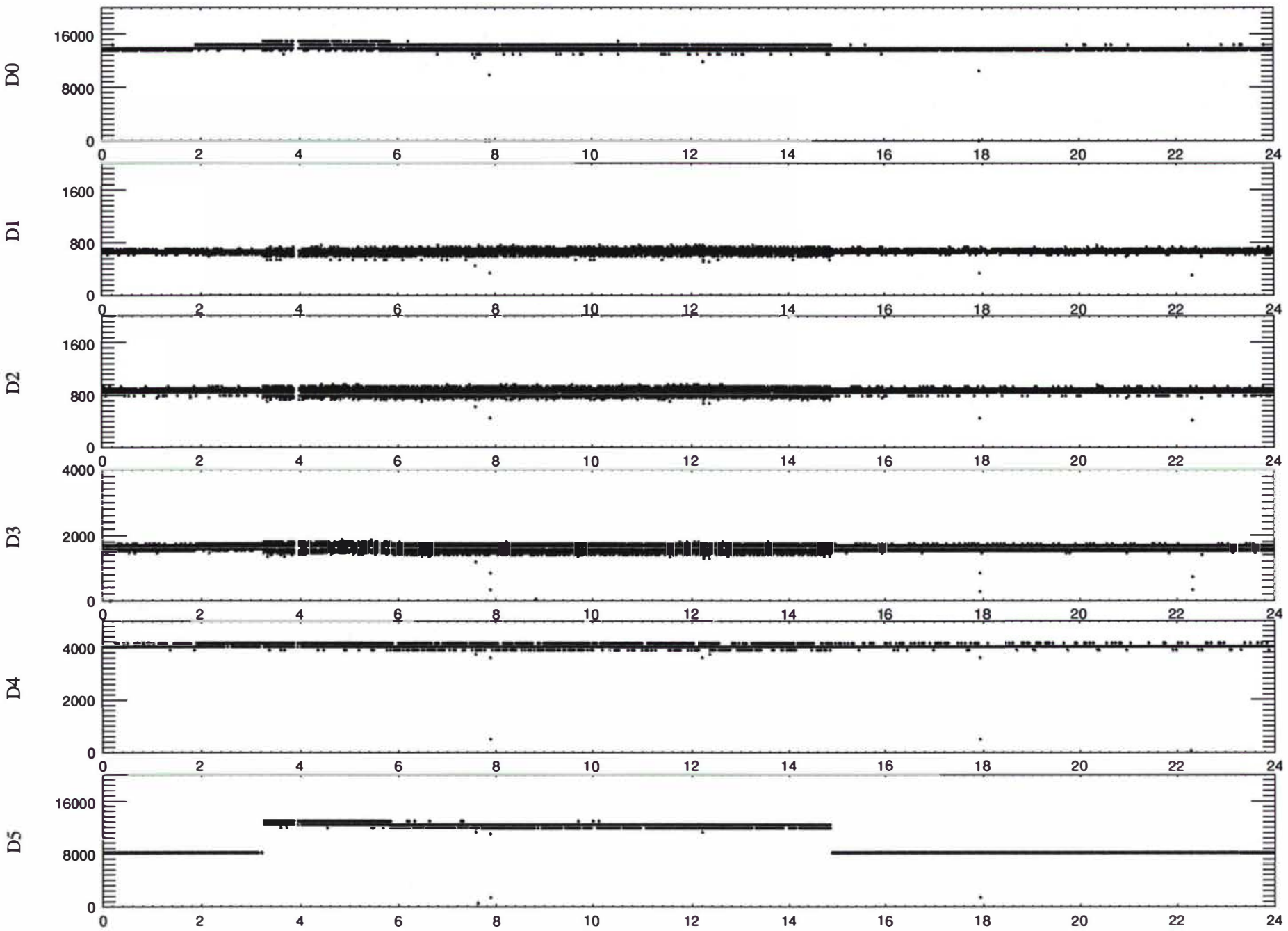
HUS 2A, MODE 1, NOT AVERAGED EDR day 302, year 1996 to day 302, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV' AL TIME

HUS 2B COUNTS / SEC EDR day 302, year 1996 to day 302, year 1996 3/29/97



From SURASAK@ssl.msfc.nasa.gov Tue Nov 5 08:25 PST 1996
Return-Path: <SURASAK@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA09687; Tue, 5 Nov 1996 08:25:36 -0800
Date: Tue, 5 Nov 1996 10:25:28 -0600 (CST)
From: SURASAK@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961105102528.27800c50@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5648
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5648
EVENT OF 1996 OCT 29 DAY OF YEAR=303
EVENT CROSSING TIME AT BATSE : 23677. S. OR 06:34:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 59.000 -53.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/10/ 96 IS:
RA= 176.132 DEC= 31.646 DIST= 4.949 AU
BATSE-ULYSSES DISTANCE = 740401627. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.26 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1611.90 SECS.
CROSSING TIME AT ULYSSES IS 25289. S. OR 07:01:28 +/- 399.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/10/ 96 IS:
RA= 151.962 DEC= 13.200 DIST= 1.740 AU
MARS-BATSE DISTANCE = 260358624. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 77.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 184.67 SECS.
CROSSING TIME AT MARS IS 23862. S. OR 06:37:41 +/- 150.14 SECONDS

BATSE BURST TRIGGER

NO.: 5648

TIME: TJD=0385 SECONDS=23677

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

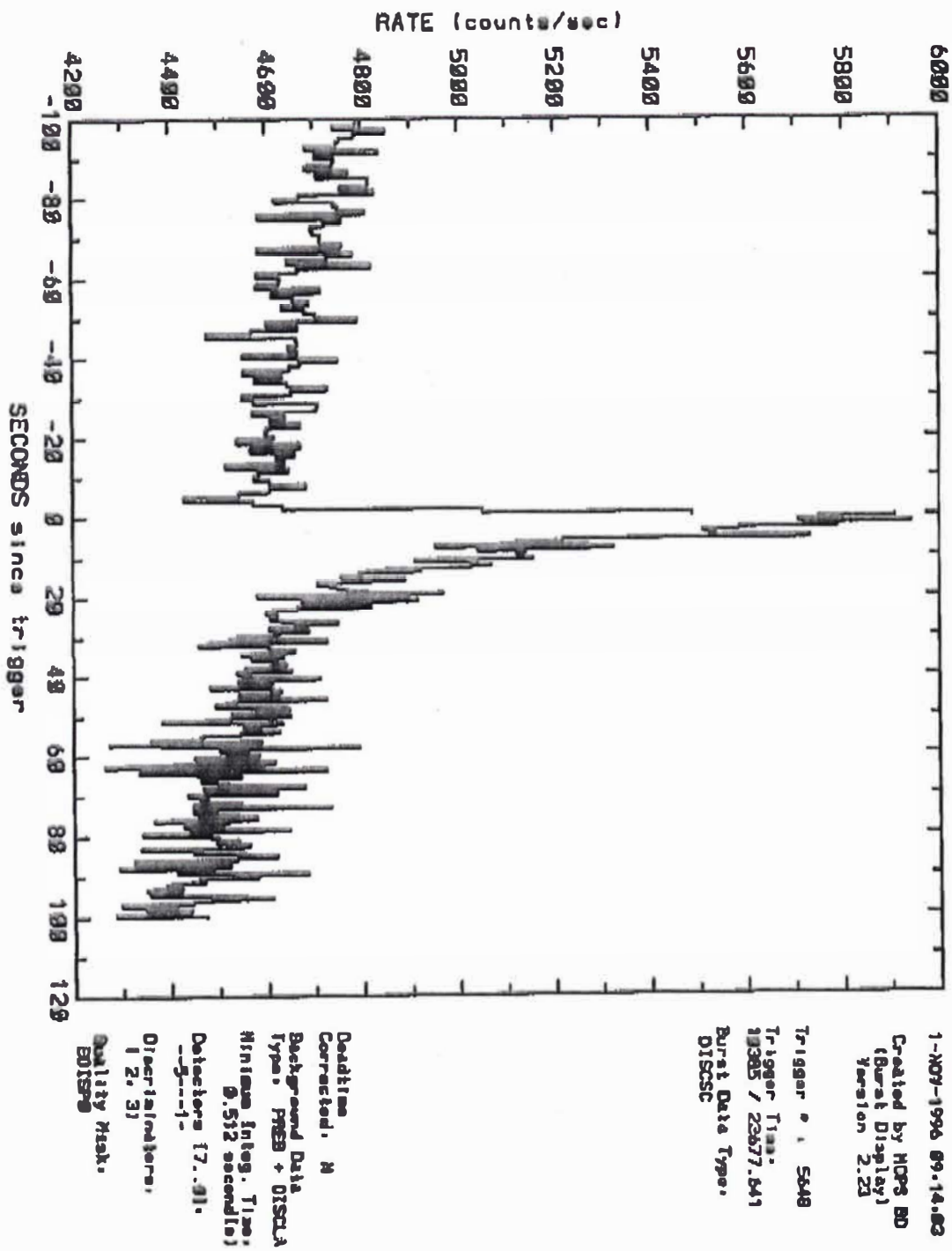
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.3 AZIMUTH=103.1 ERROR=3.321 DEGREES

COMMENTS:
GRB. DUR~40S. SINGLE PULSE. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5648	961029	10385	23677	2500	059	-53	40



Digital data not sent

BATSE# 5648

ULYSSES RT 5/11/96

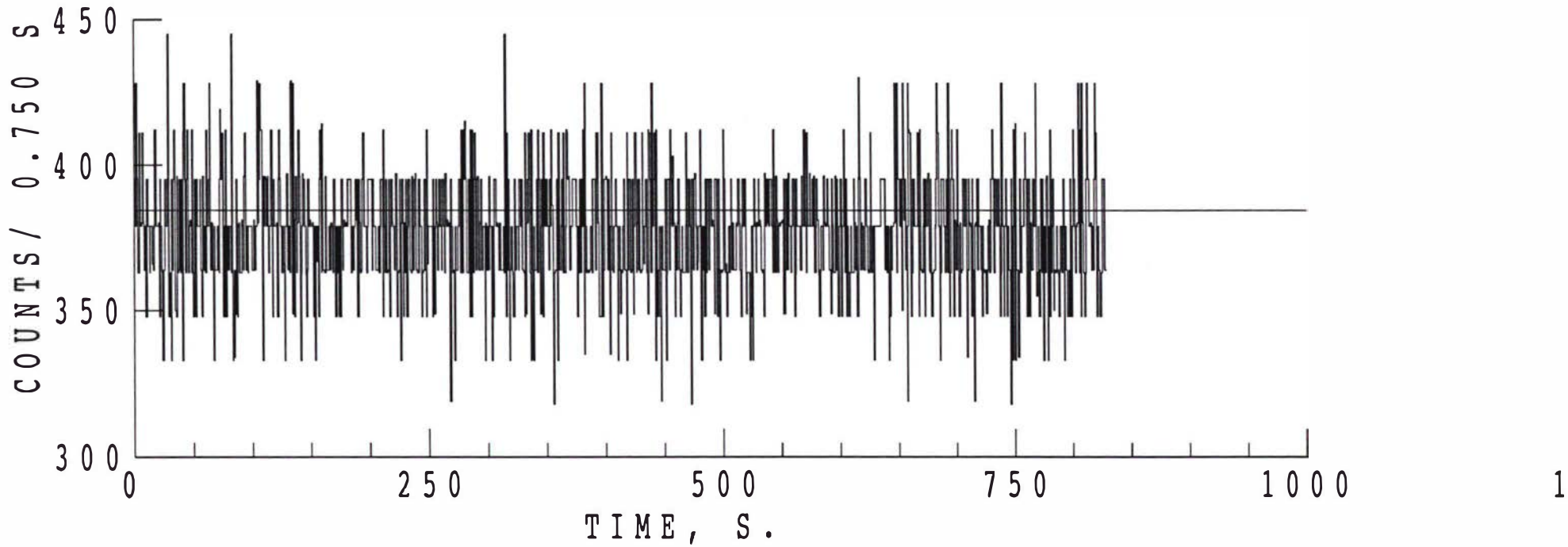
29/10/96 24876.146 s

0.250 S INTERVALS REGROUPED BY 3

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@ssl.msfc.nasa.gov Tue Nov 5 08:27 PST 1996
Return-Path: <SURASAK@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA09718; Tue, 5 Nov 1996 08:27:24 -0800
Date: Tue, 5 Nov 1996 10:27:15 -0600 (CST)
From: SURASAK@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961105102715.27800c50@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5649
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5649
EVENT OF 1996 OCT 29 DAY OF YEAR=303
EVENT CROSSING TIME AT BATSE : 24350. S. OR 06:45:50.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 60.000 -50.000
BATSE PEAK COUNTING RATE: 75000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/10/ 96 IS:
RA= 176.133 DEC= 31.646 DIST= 4.949 AU
BATSE-ULYSSES DISTANCE = 740390855. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.99 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1587.86 SECS.
CROSSING TIME AT ULYSSES IS 25938. S. OR 07:12:17 +/- 402.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/10/ 96 IS:
RA= 151.962 DEC= 13.200 DIST= 1.740 AU
MARS-BATSE DISTANCE = 260358624. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 78.68 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 170.52 SECS.
CROSSING TIME AT MARS IS 24521. S. OR 06:48:40 +/- 150.43 SECONDS

BATSE BURST TRIGGER

NO.: 5649

TIME: TJD=0385 SECONDS=24350

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.3 AZIMUTH=107.4 ERROR=0.306 DEGREES

COMMENTS:
GRB. IN GAP DATA. DUR~850S. VISIBLE ABOVE 300 KEV. MULTI PEAKS. SAME SOURSE
AS PREVIOUS EVENT.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5649	961029	10385	24350	75000	060	-50	850

Helio corr removed 17/2/00

Date: Mar 17 '98

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

☑ Jim Schmidling's stat file correction applied?

☑ Final ephemeris used?

☑ Final, CDROM data used?

☑ Were data checked by Joe Springer for 0.5 s errors?

☑ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?

☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? No - BATSE TTS data

2. BATSE Data

☐ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)? N/A

☑ BATSE ephemeris for T_0?

☑ Error circle position and radius from public catalog used?

☐ If MER data were used, is a 30 ms systematic error included? N/A

3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

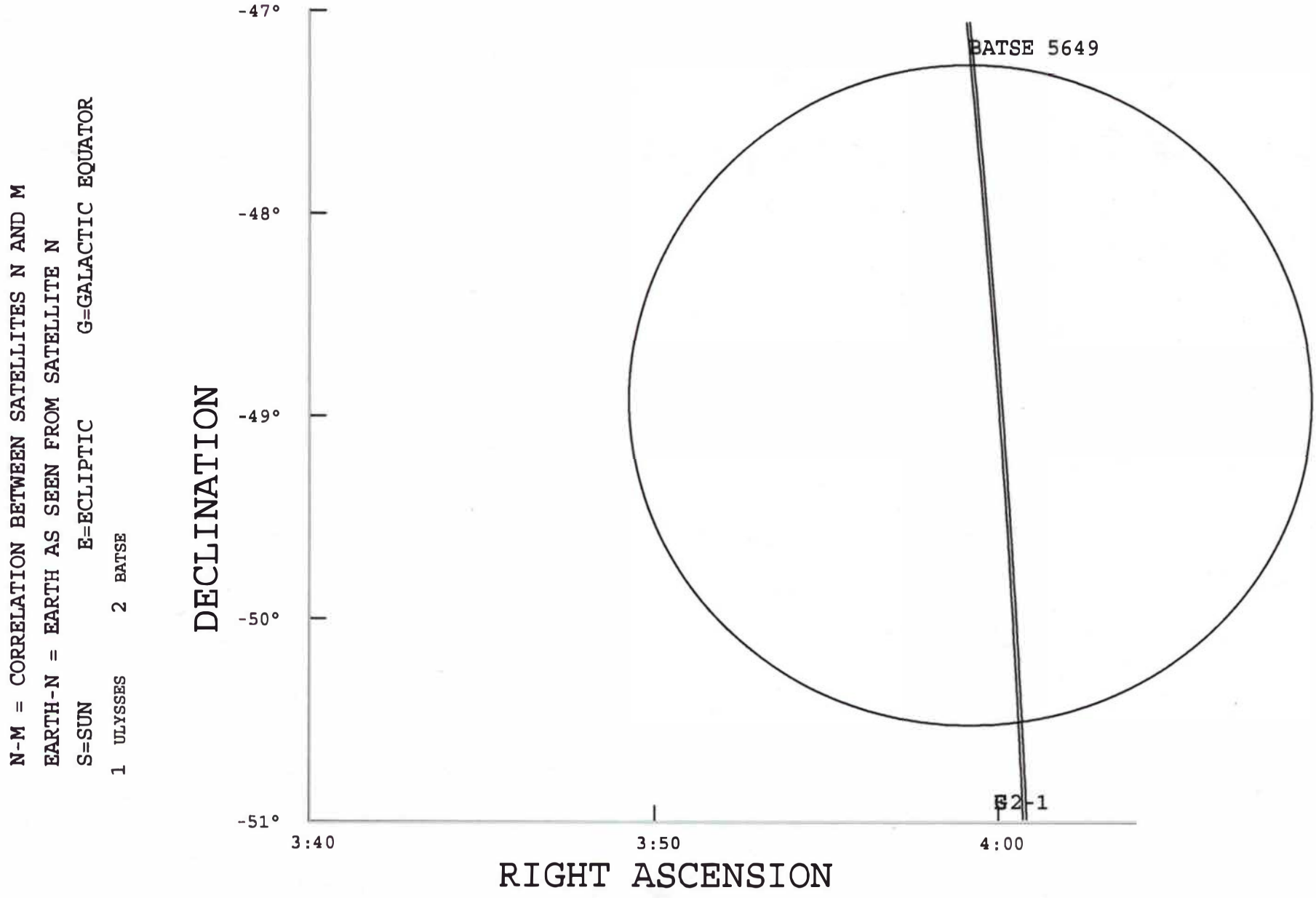
☐ 2000 coordinates used?

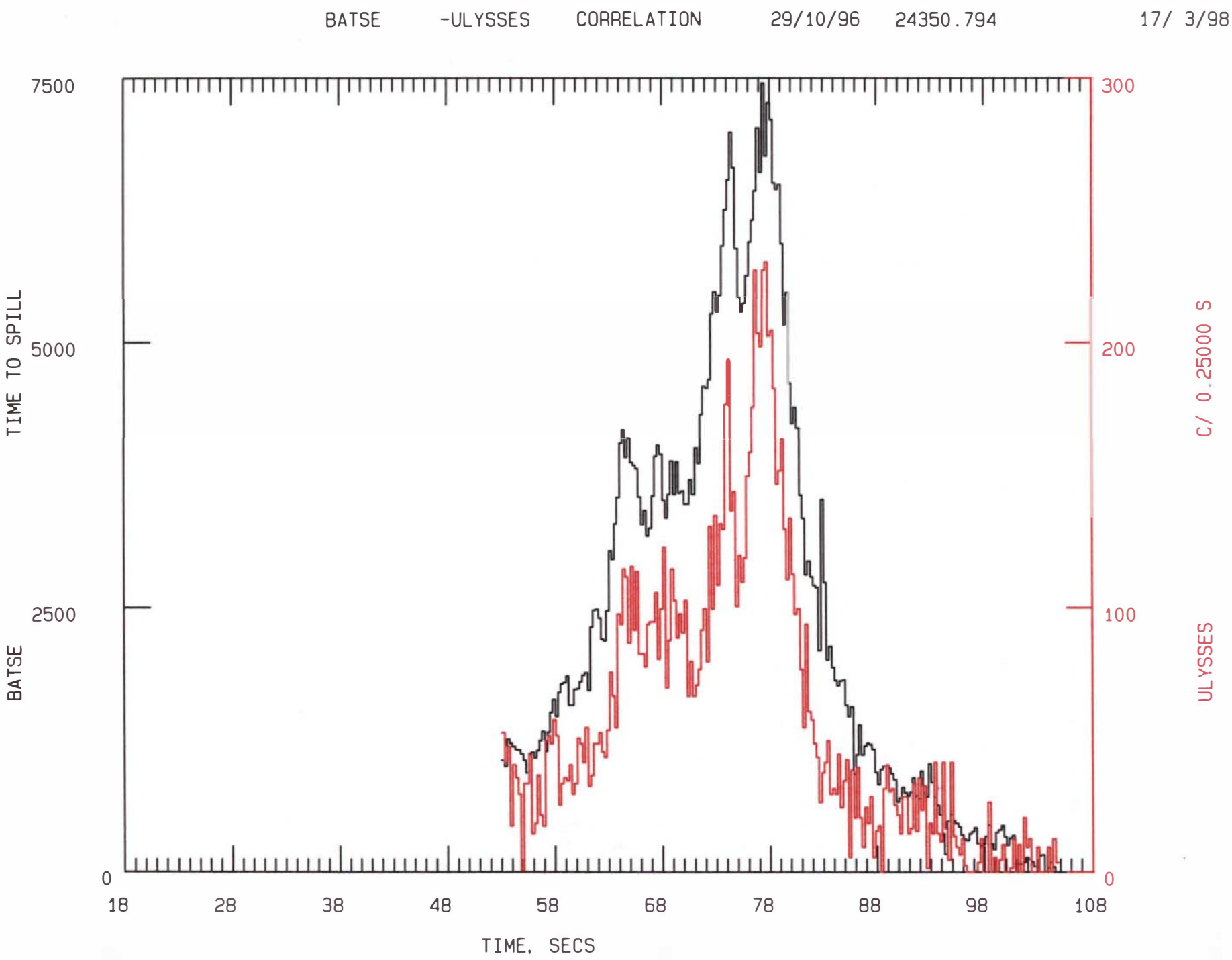
☐ Geocentric time used?

☑ ACCESS database updated?

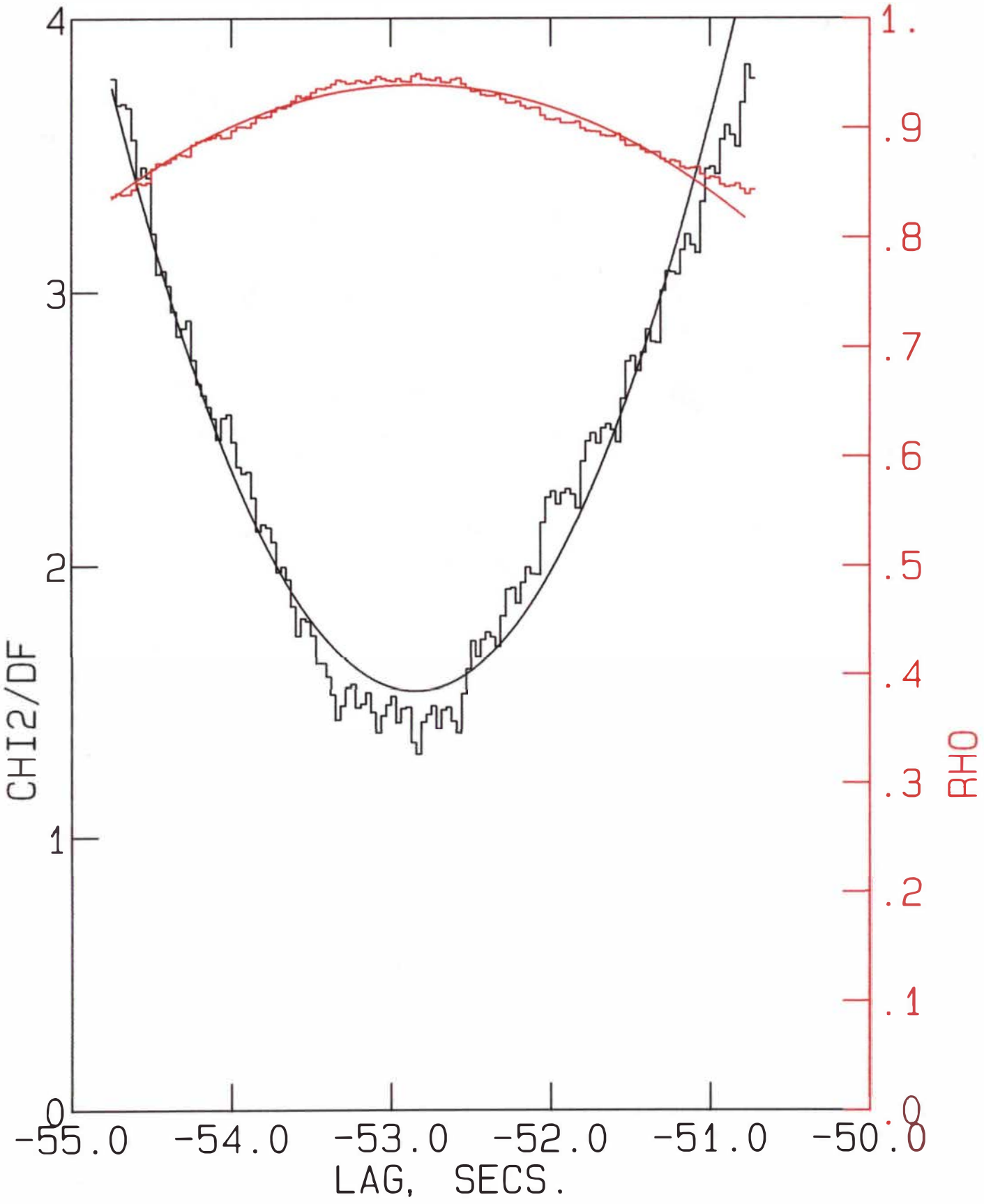
EVENT OF OCT 29, 1996 7:13

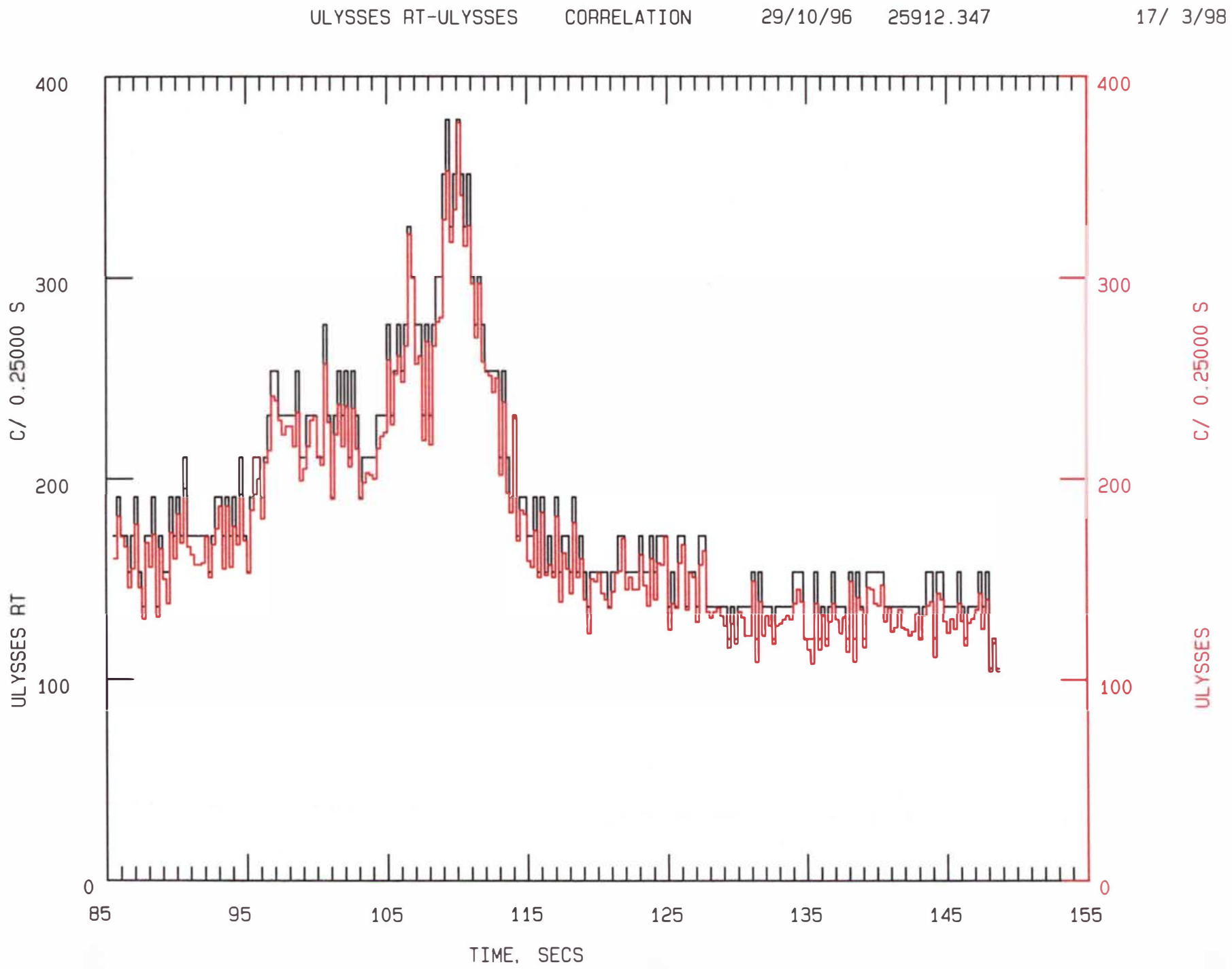
17/ 2/ 0



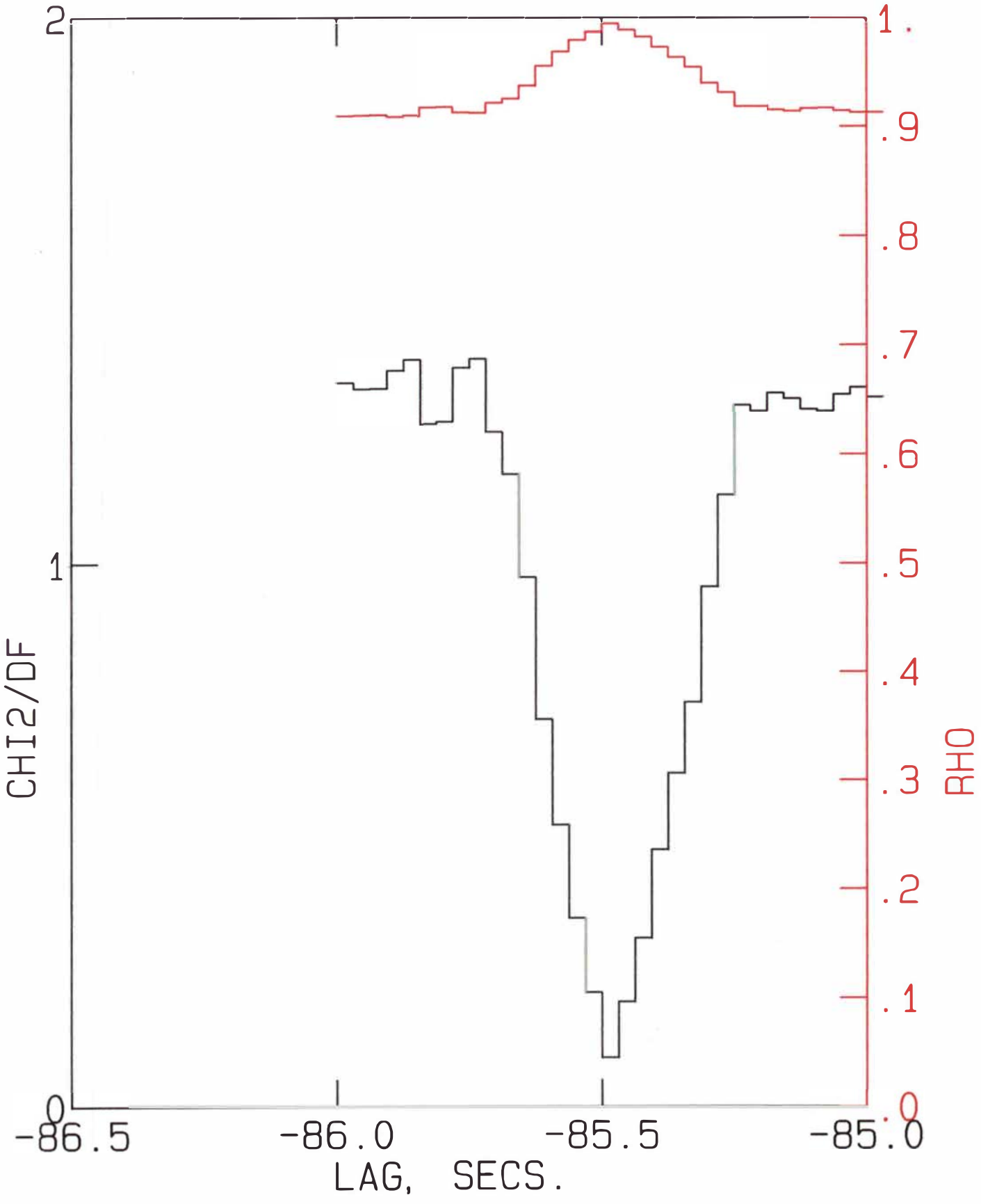

BATSE -ULYSSES CORRELATION 29/10/96 24350.794 17/ 3/98
7500
5000
2500
0
TIME TO SPILL
BATSE
300
200
100
0
C/ 0.25000 S
ULYSSES
18
28
38
48
58
68
78
88
98
108
TIME, SECS

BATSE -ULYSSES CORRELATION 29/10/96 24350.794




ULYSSES RT-ULYSSES CORRELATION 29/10/96 25912.347 17/ 3/98
400
300
200
100
0
C/ 0.25000 S
ULYSSES RT
85
95
105
115
125
135
145
155
TIME, SECS
ULYSSES

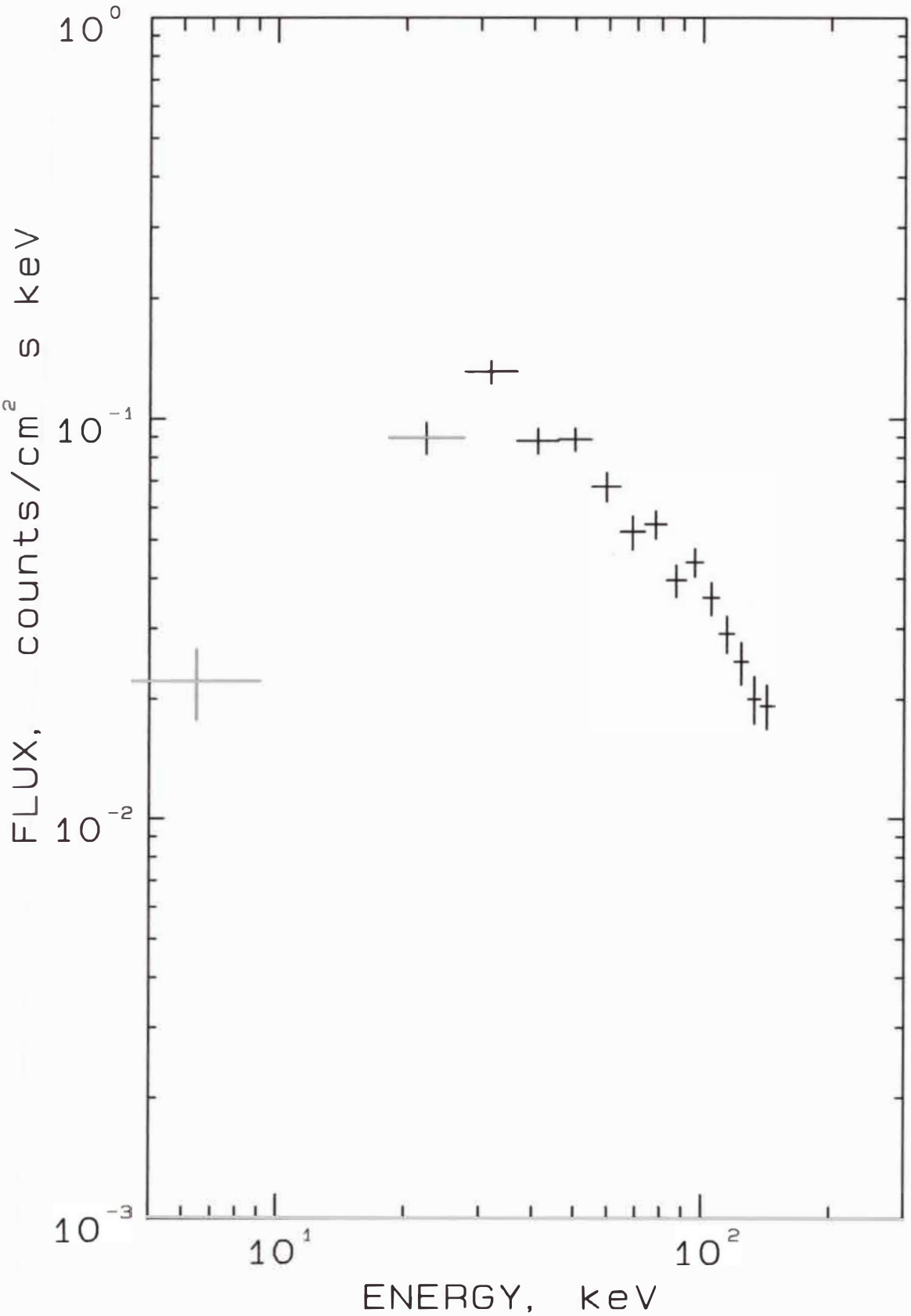
ULYSSES RT-ULYSSES CORRELATION 29/10/96 25912.347

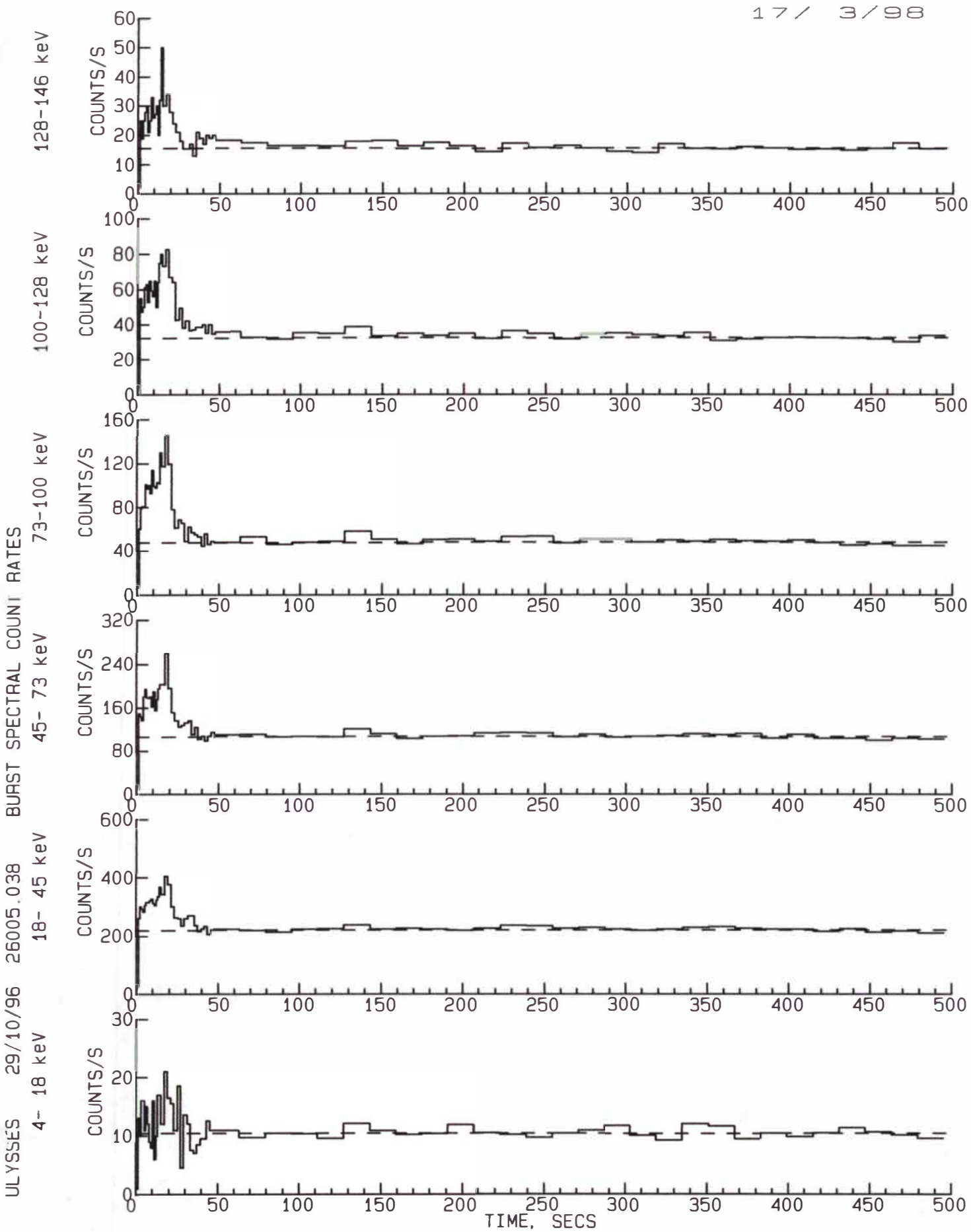


ULYSSES 29/10/96 26005.038

17/ 3/98

SPECTRUM INTEGRATED OVER 111.2 SECONDS. INTERVALS 2 TO 37




17/ 3/98
ULYSSES 29/10/96 26005.038 BURST SPECTRAL COUNT RATES
4- 18 keV
18- 45 keV
45- 73 keV
73-100 keV
100-128 keV
128-146 keV
COUNTS/S
TIME, SECS

ULYSSES 29/10/96 Ttrig=26005.230

21- 146 keV

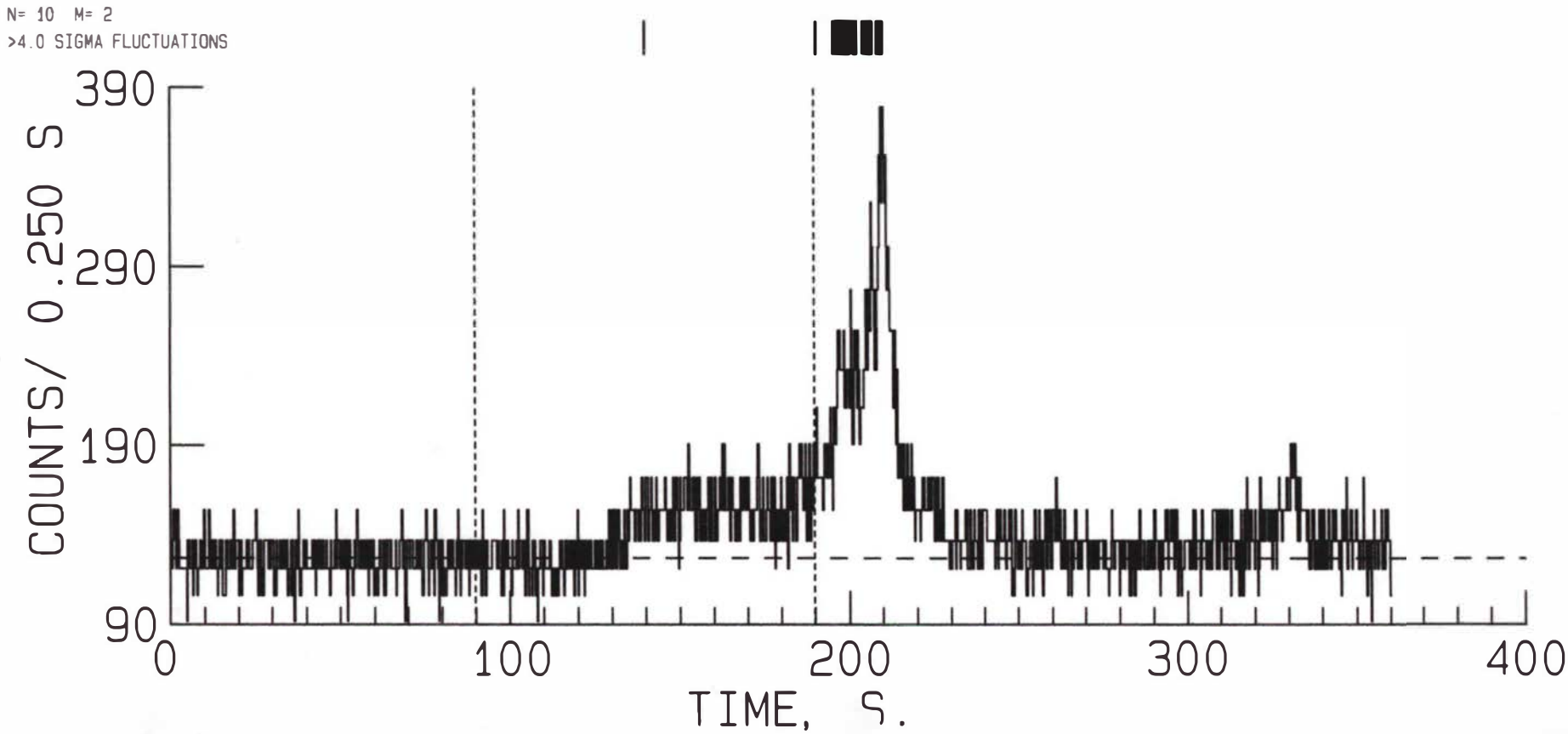
17/ 3/**

ULYSSES RT

17/ 3/98

29/10/96 25812.159 s

21- 146 keV



96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	[illegible]	RI
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI	KA
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	[illegible]	RI
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	[illegible]	RI
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig	KA
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	[illegible]	NO
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	[illegible]	RI
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5609
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	[illegible]	RI
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	[illegible]	RI
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5626
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	[illegible]	RI
96	10	17	42405.539	S1					0.3	1.5	396	[illegible]	NO
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	[illegible]	RI
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	[illegible]	RI
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	[illegible]	RI
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	[illegible]	NO
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	[illegible]	RI

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA	
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290	
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298	
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408	
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410	
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412	
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415	
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480	
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481	
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491	
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492	
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523	
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537	
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571	
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657	
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658	
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734	
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765	
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767	
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870	
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930	
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO	
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312	
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO	
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA	

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4745
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	search RI	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

From feroci@saturn.ias.fra.cnr.it Wed Nov 6 08:50 PST 1996
Date: Wed, 6 Nov 1996 17:50:13 +0100 (NFT)
From: Marco Feroci <feroci@saturn.ias.fra.cnr.it>
Sender: feroci@titan.ias.fra.cnr.it
Kevin Hurley <khurley@sunspot.ssl.berkeley.edu>
Subject: Ulysses burst not detected by Batse
Mime-Version: 1.0

Dear Kevin

concerning your last alerts (oct 23 through 29) we cannot still access to our data, due to delays in the archiving procedures.
The only thing I know is that we had a GRBM trigger on Oct 29 at 07:28:15 UT, but I still don't know if this could be a good trigger or not, and which are the potential burst characteristics. Anyway it could be compatible with your strong trigger at 07:13. I hope to access the relevant data asap. I will keep you informed about that.

Ciao
Marco

Marco Feroci
Istituto di Astrofisica Spaziale - C.N.R.
Via E. Fermi 21, I-00044 Frascati, ITALY
Phone: +39-6-9424589
E-mail: feroci@saturn.ias.fra.cnr.it
Fax : +39-6-9416847
feroci@alpha1.ias.fra.cnr.it

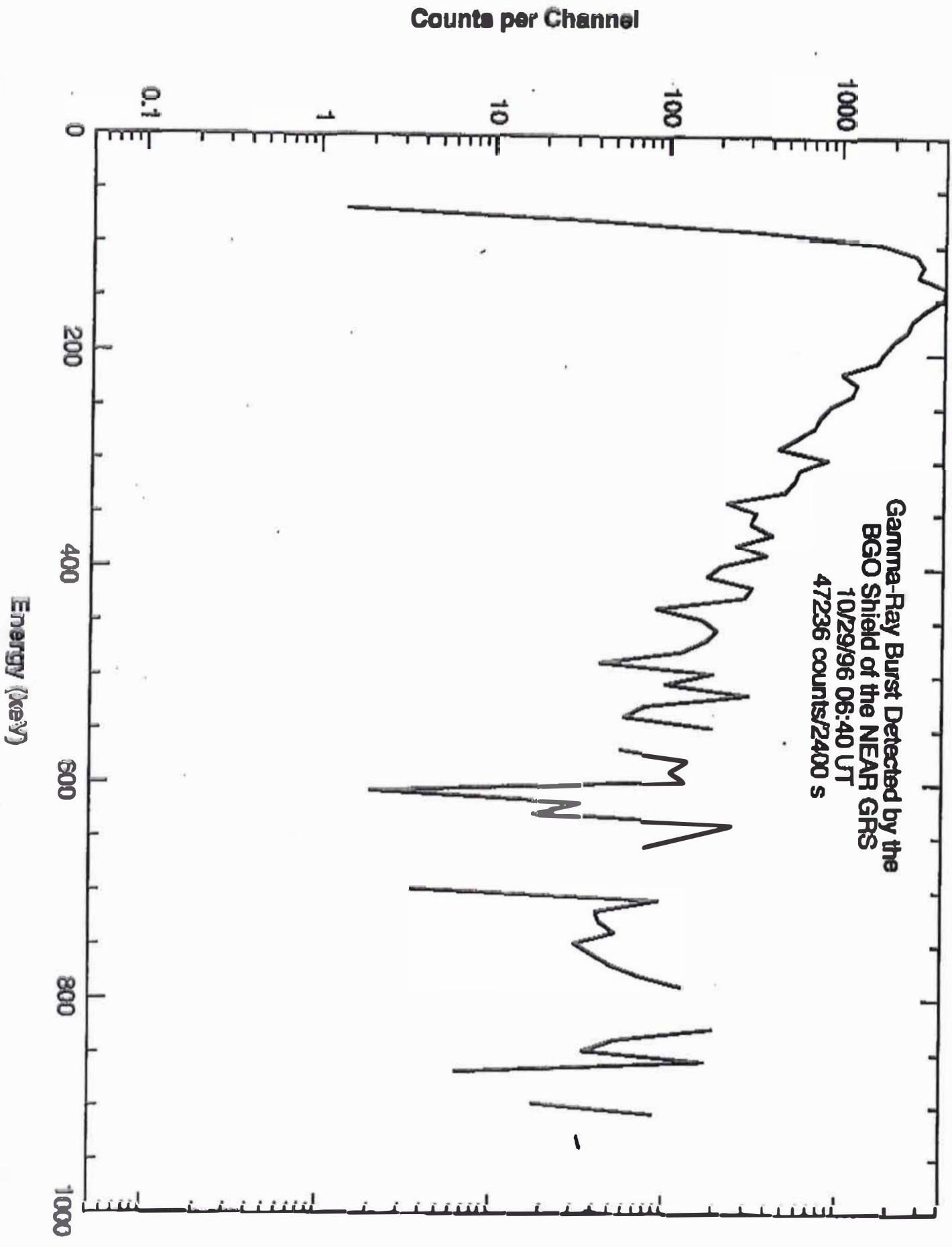
From BUTTERWORTH@lheavx.gsfc.nasa.gov Tue Nov 5 08:54 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 5 Nov 1996 11:54:46 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: responses to Kevin's 7 Ulysses event notices sent yesterday

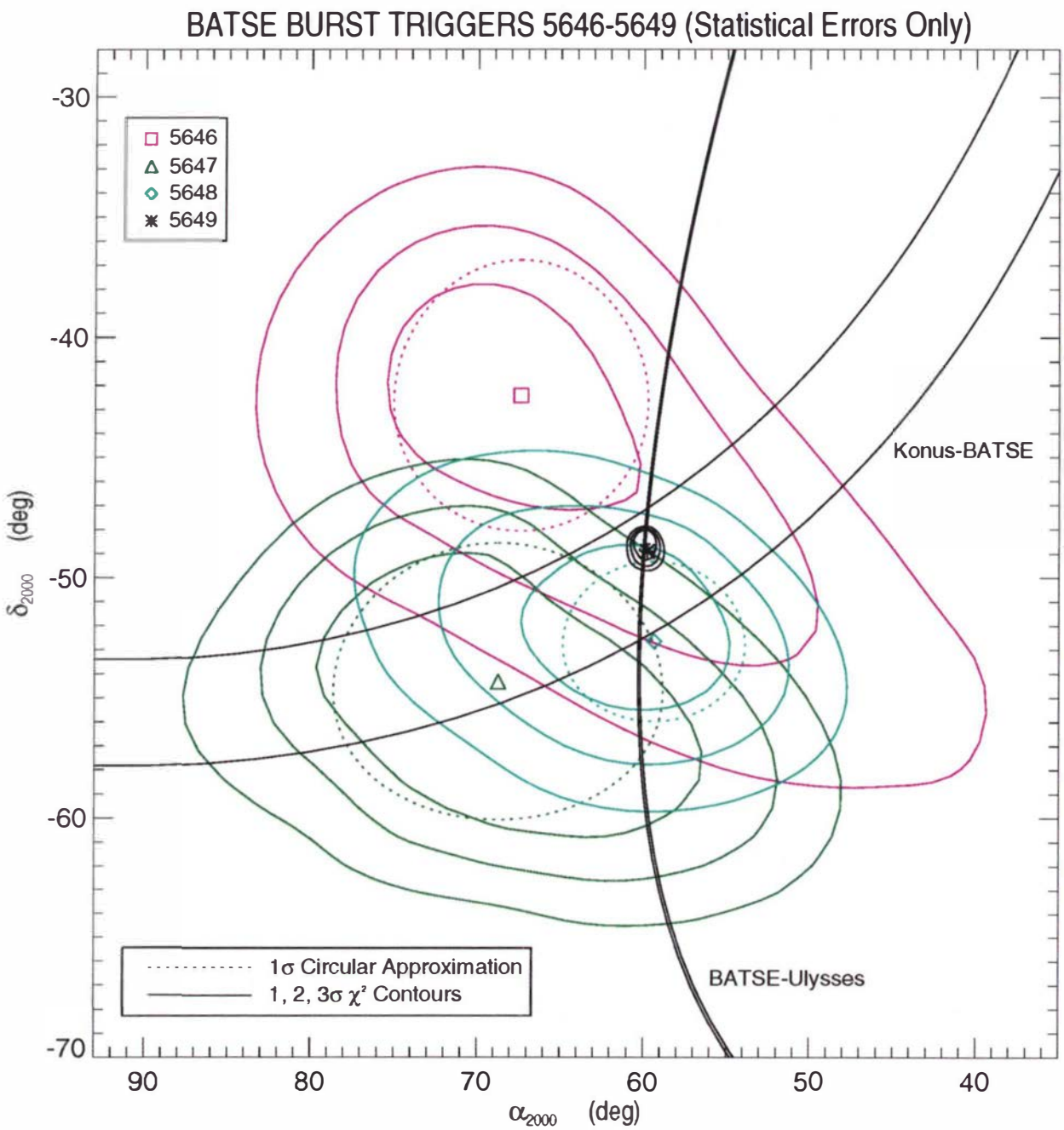
Hi Everyone,

This is a response for Konus to Kevin's set of Ulysses event notices sent yesterday.

Paul.

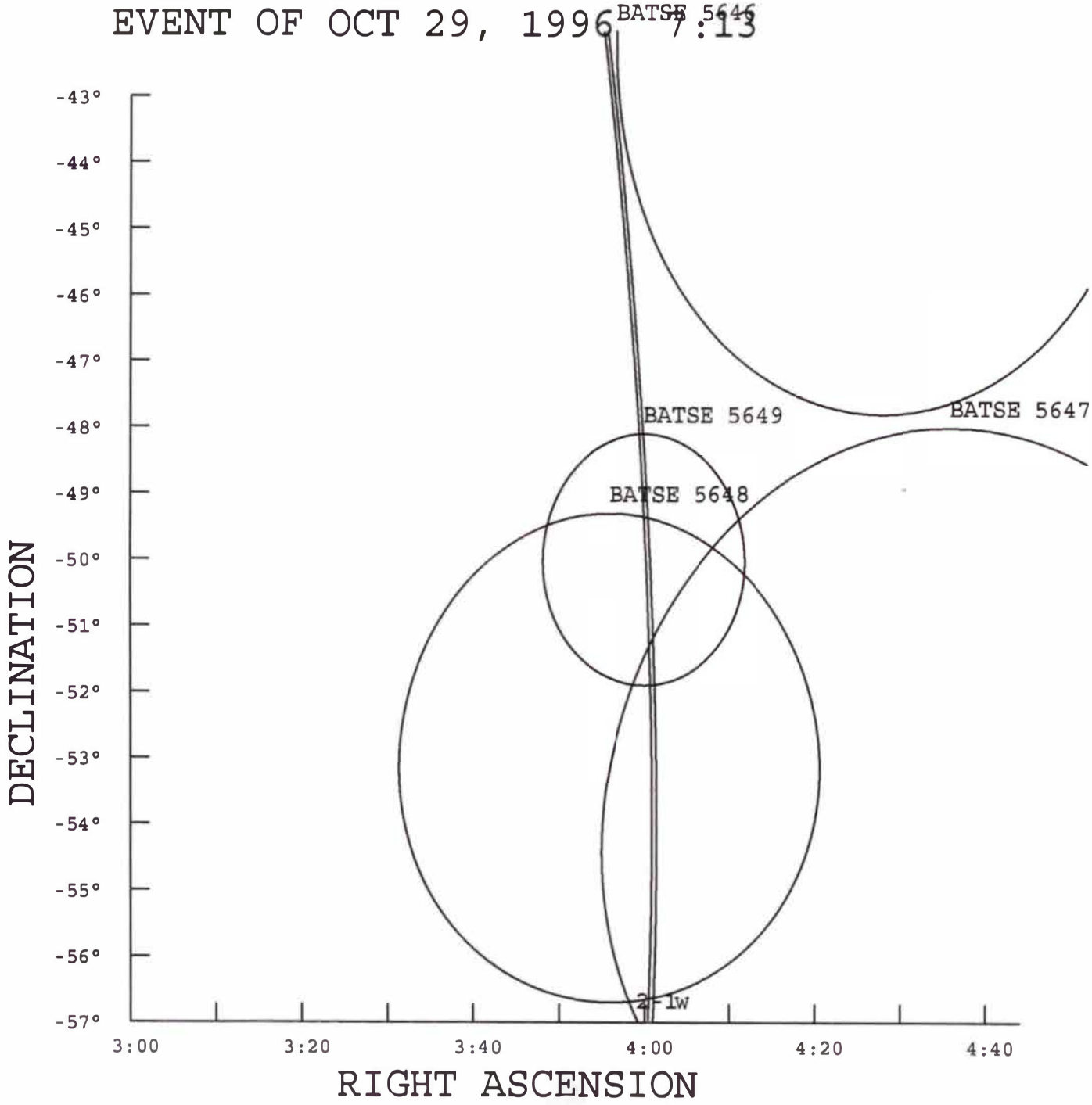
Ulysses event	Konus observation
961023 21:18 weak 32ms	haven't checked this one yet - report will follow
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
1029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger


Counts per Channel
0.1
1
10
100
1000
0
200
400
600
800
1000
Energy (keV)
Gamma-Ray Burst Detected by the
BGO Shield of the NEAR GRS
10/29/96 06:40 UT
47236 counts/2400 s


BATSE BURST TRIGGERS 5646-5649 (Statistical Errors Only)
5646
5647
5648
5649
Konus-BATSE
BATSE-Ulysses
1σ Circular Approximation
1, 2, 3σ χ² Contours
-30
-40
-50
-60
-70
90
80
70
60
50
40
δ2000 (deg)
α2000 (deg)

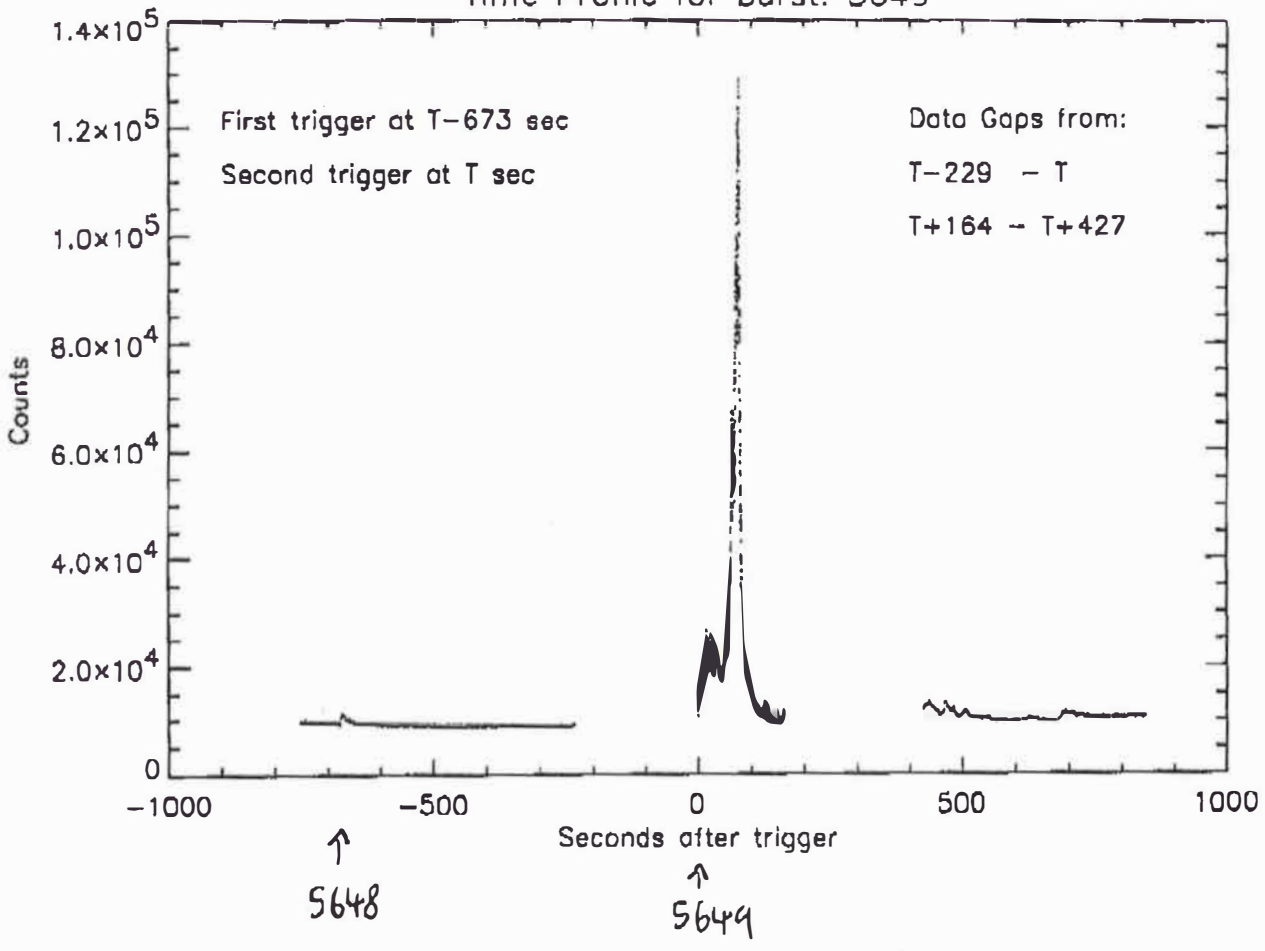
EVENT OF OCT 29, 1996 7:13

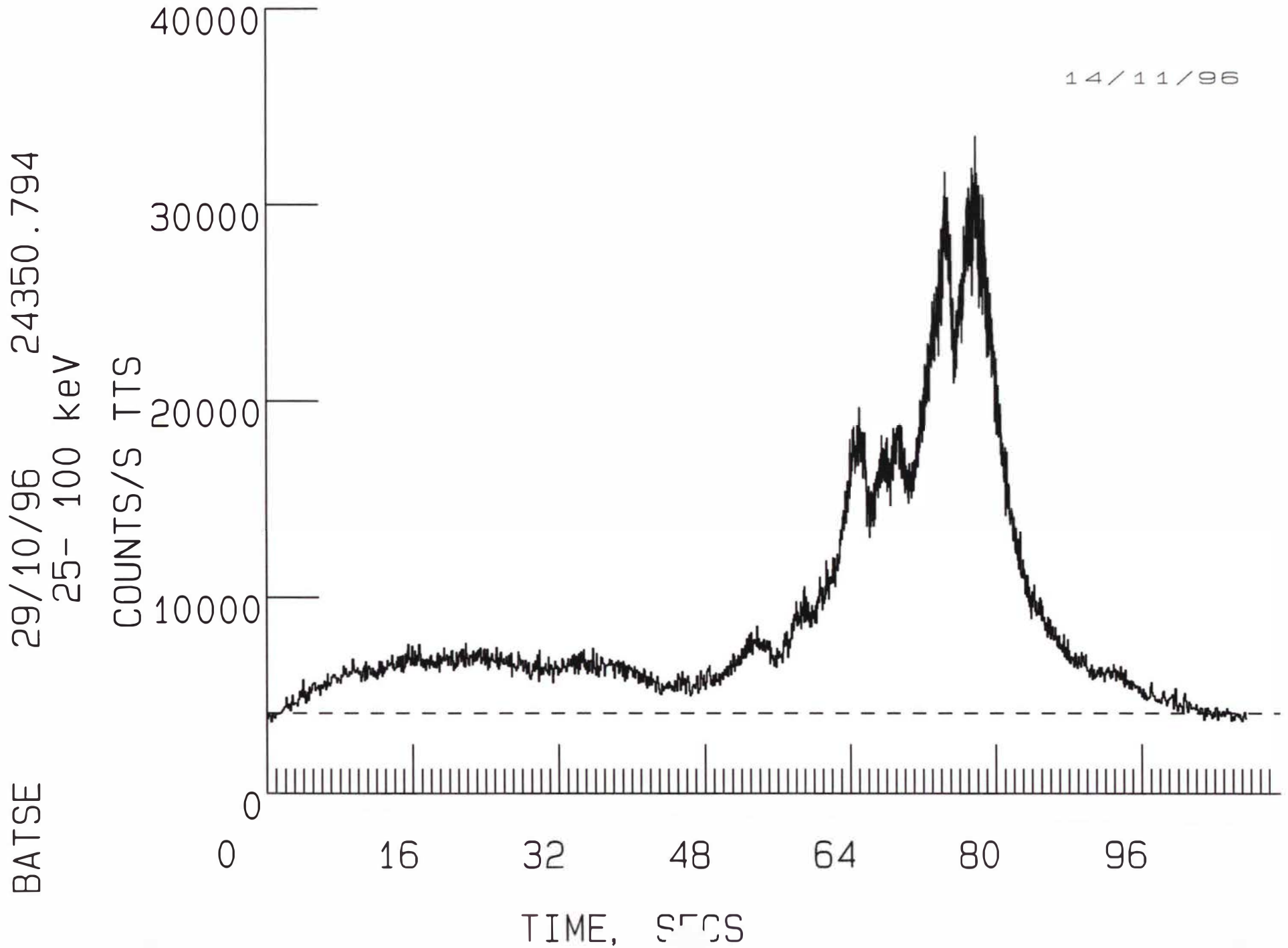
22/11/96

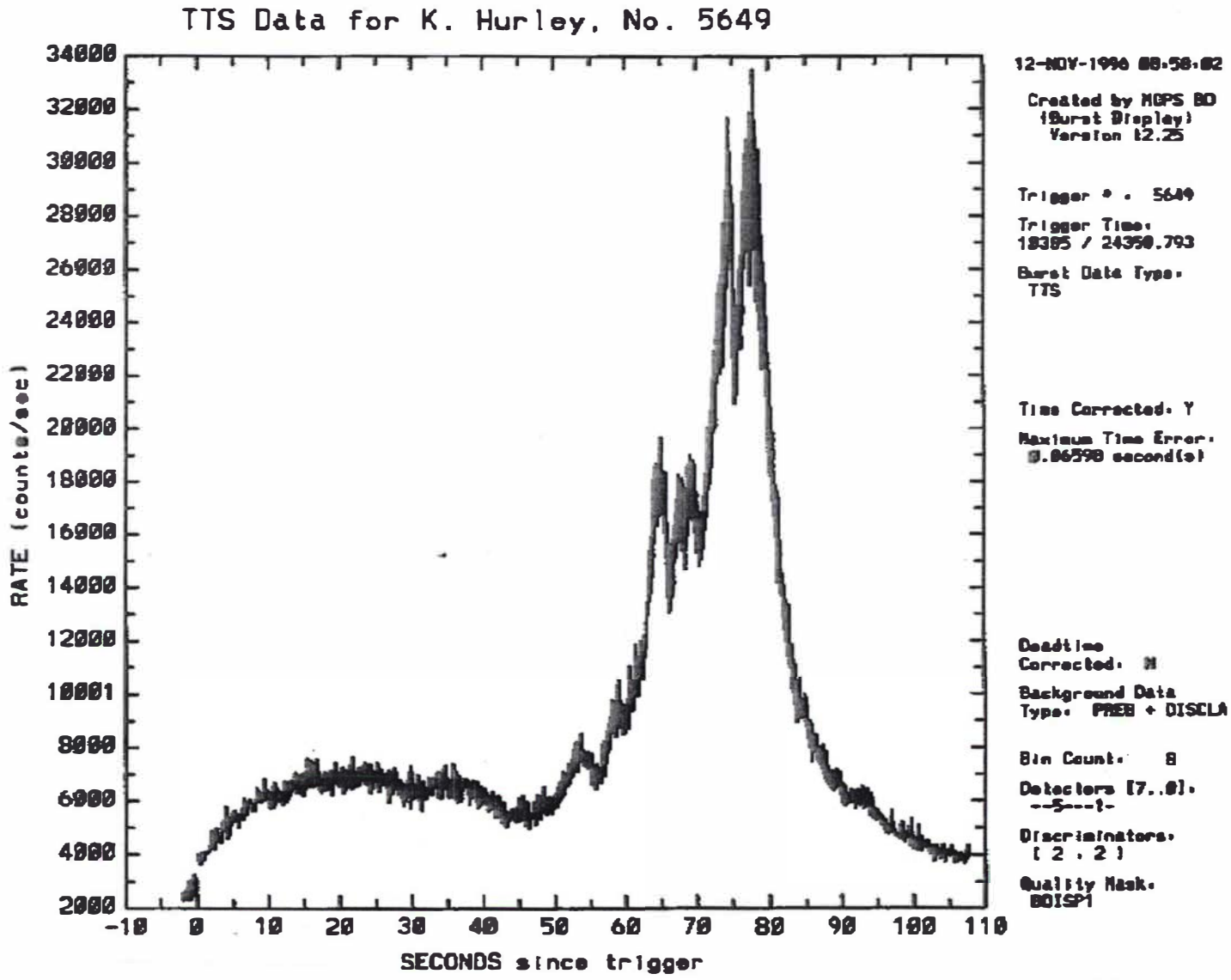


N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE

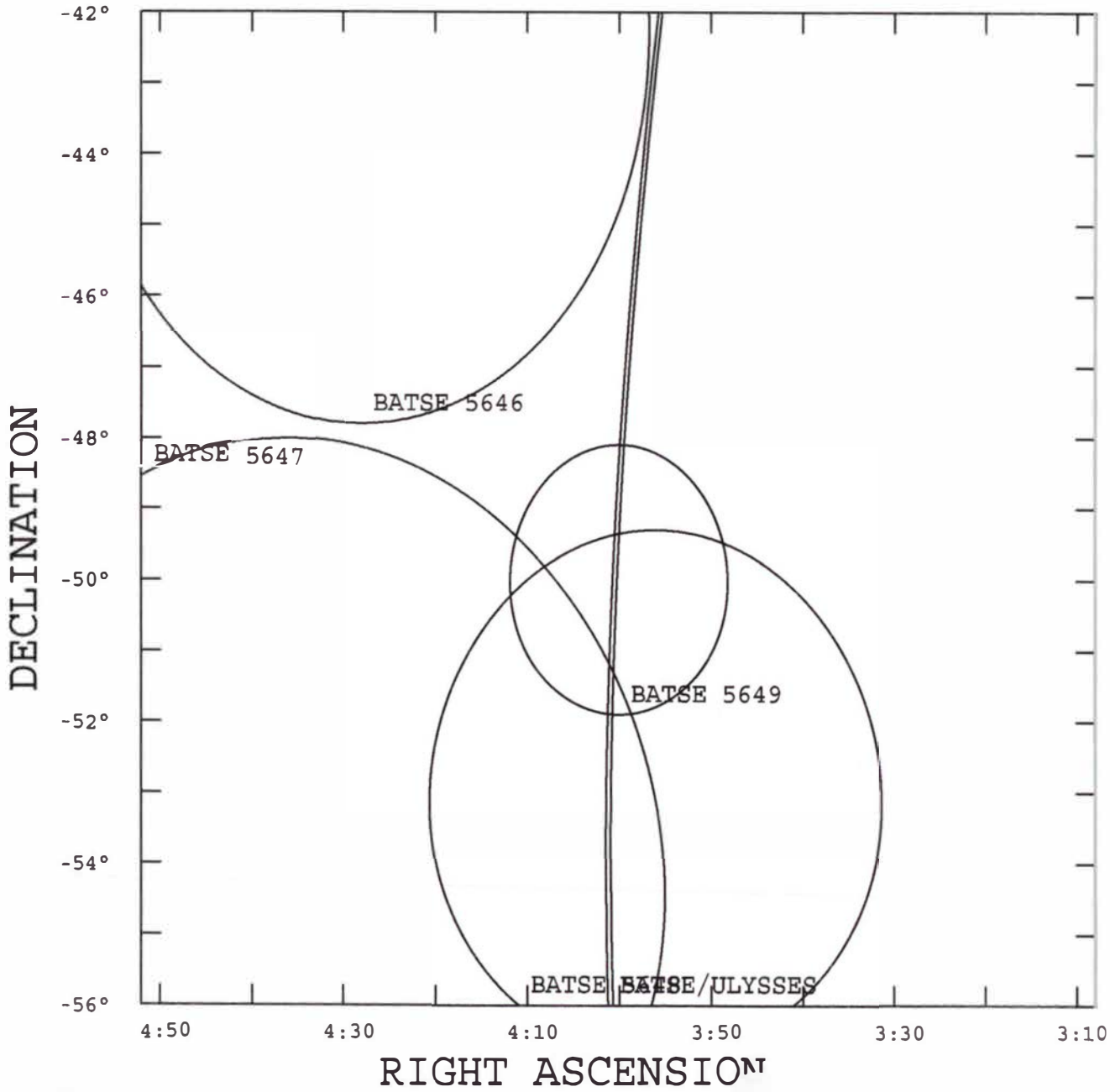
5648+


Time Profile for burst: 5649
First trigger at T-673 sec
Second trigger at T sec
Data Gaps from:
T-229 - T
T+164 - T+427
Counts
1.4x10^5
1.2x10^5
1.0x10^5
8.0x10^4
6.0x10^4
4.0x10^4
2.0x10^4
0
-1000
-500
0
500
1000
Seconds after trigger
5648
5649


BATSE 29/10/96 24350.794
25- 100 keV
COUNTS/S TTS
40000
30000
20000
10000
0
14/11/96
0
16
32
48
64
80
96
TIME, SECS


TTS Data for K. Hurley, No. 5649
RATE (counts/sec)
34000
32000
30000
28000
26000
24000
22000
20000
18000
16000
14000
12000
10001
8000
6000
4000
2000
-10
0
10
20
30
40
50
60
70
80
90
100
110
SECONDS since trigger
12-NOV-1996 08:58:02
Created by MGPS BD
(Burst Display)
Version 2.25
Trigger # : 5649
Trigger Time:
19385 / 24350.793
Burst Data Type:
TTS
Time Corrected: Y
Maximum Time Error:
0.06398 second(s)
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Bin Count: 8
Detectors [7..0]:
--5---1-
Discriminators:
[2 , 2]
Quality Mask:
BDISP1

OCT 29, 1996 7:13



From David.M.Palmer.1@gsfc.nasa.gov Fri Sep 26 07:53 PDT 1997
X-Sender: palmer@lheapop.gsfc.nasa.gov
Mime-Version: 1.0
Date: Fri, 26 Sep 1997 10:53:49 -0400
    cline@apache.gsfc.nasa.gov, Butterworth@lheavx.gsfc.nasa.gov,
        khurley@sunspot.ssl.berkeley.edu
From: David Palmer <David.M.Palmer.1@gsfc.nasa.gov>
Subject: Re: THIS IS THE CORRECT LIST
Cc: kraken@rosserv.gsfc.nasa.gov, helmut.seifert.1@gsfc.nasa.gov,
        bonnard@rosserv.gsfc.nasa.gov

>>Dear Tom,
>>
>>In the list of XTE events I sent you yesterday, I thought that the
>>time in seconds of day was given. In fact, it was the Julian day.
>>Here is the correct list
>>
>>YY MM DD SOD   RA   DEC   S/C
>>96 05 29 20054 35.5 83.5 'XTE'
>>96 04 08 68196 110.5 -03.8 'XTE'
>>96 07 30 02545 100.8 -19.5 'XTE'
>>96 10 02 75222 83.3 -16.8 'XTE'
>>97 04 12 24132 283.8 -31.8 'XTE'
>>96 10 29 68696 97.5 -41.7 'XTE'
>>97 02 24 26044 179.8 -58.7 'XTE'
>>96 12 30 07472 309.0 -69.0 'XTE'
>>
>>Kevin
>
>-- Thomas L. Cline ----- cline@apache.gsfc.nasa.gov

TGRS triggered on 961022_75222 and 961029_68696

961029_68696 is one of the 'Gang of Four'. Accurate locations would be
very useful in settling the repeater question.

David Palmer
palmer@lheamail.gsfc.nasa.gov
USA (301) 286-2739 Voice
USA (301) 286-1684 Fax

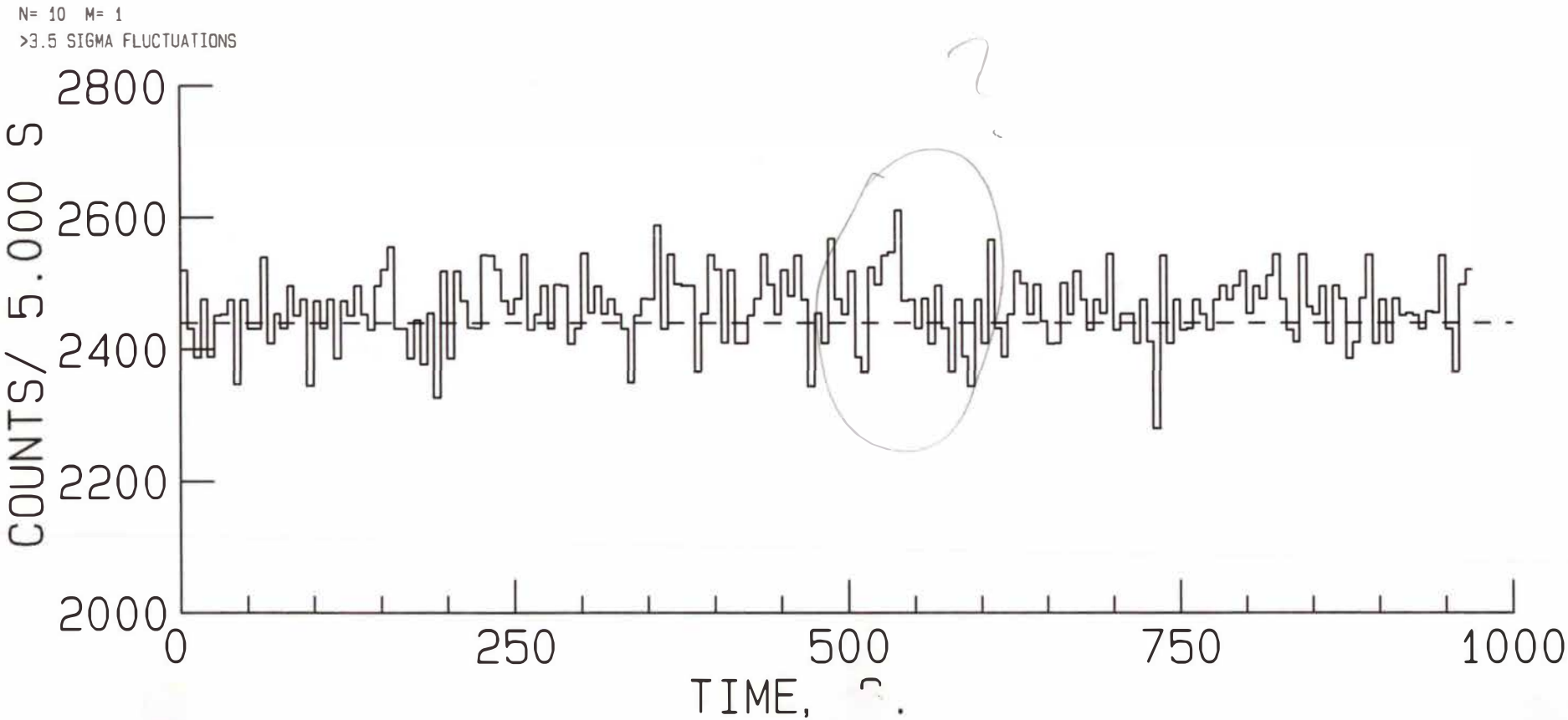
ULYSSES RT

14/10/97

29/10/96 68760.188 s

0.500 S INTERVALS REGROUPED BY 10

21- 146 keV



KONUS/TGRS trigger

HUS DATA

ULYSSES RT

22/11/96

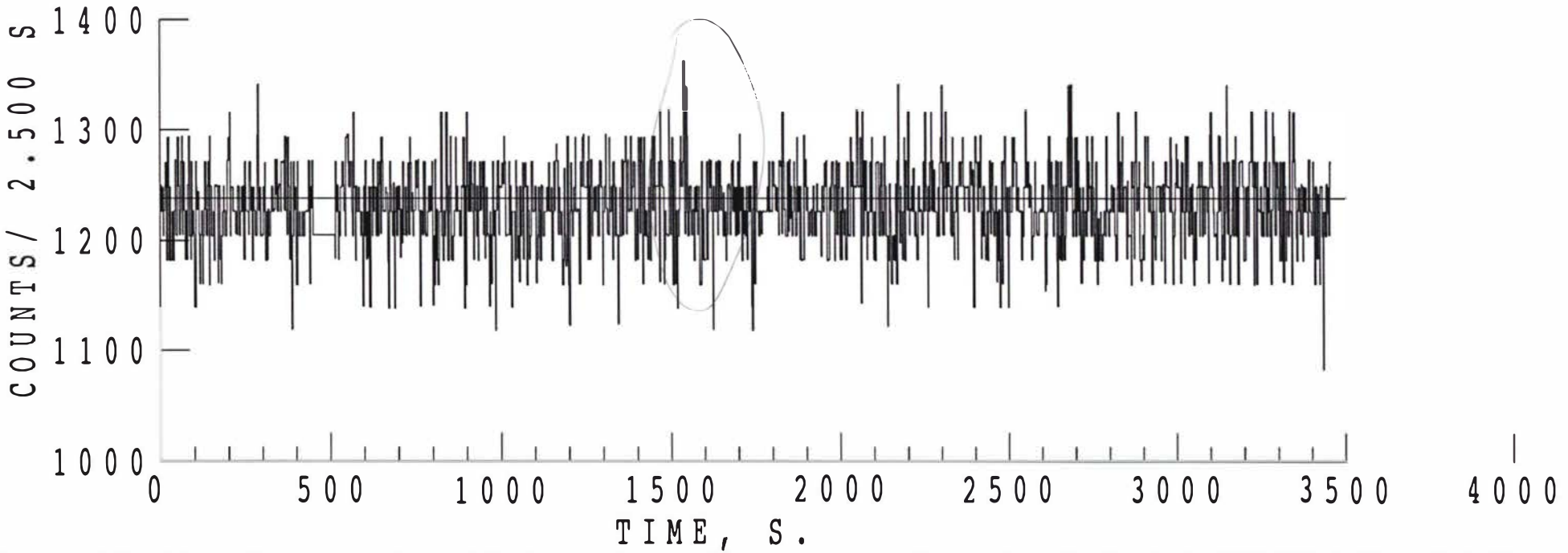
29/10/96 67752.180 s

0.500 S INTERVALS REGROUPED BY 5

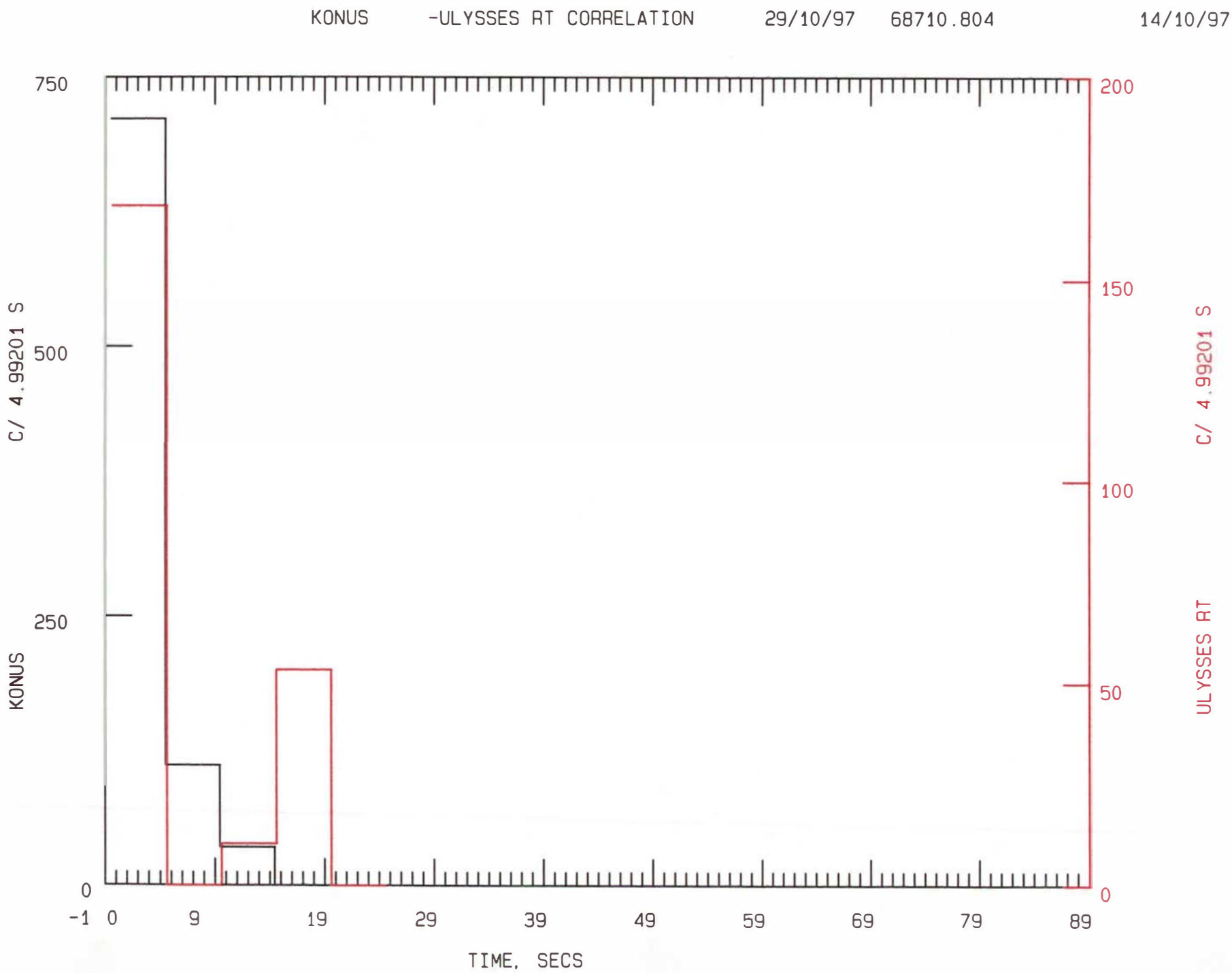
0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

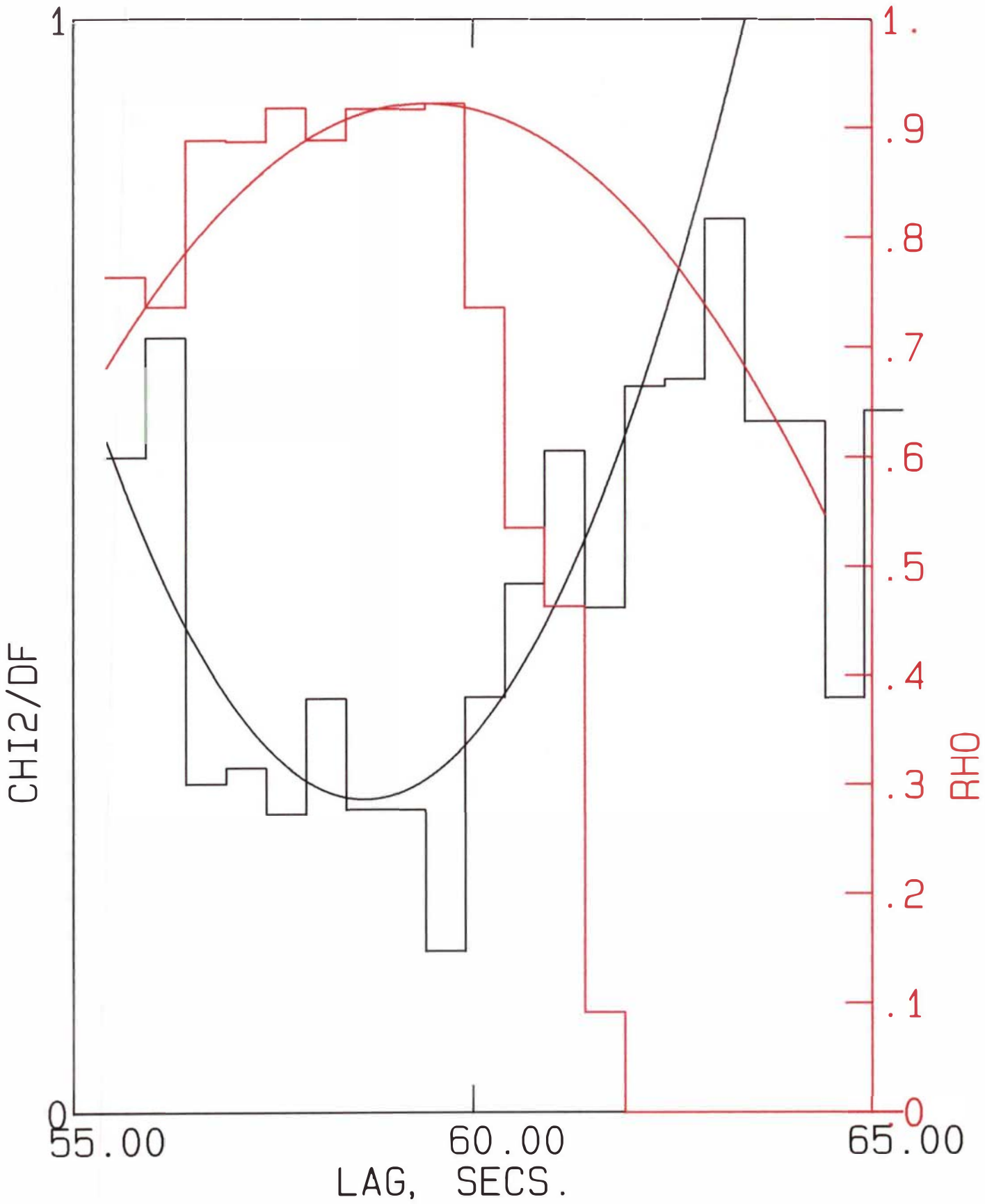


NO - TOO WEAK

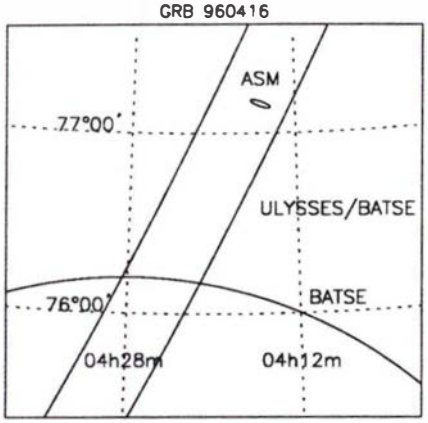

KONUS -ULYSSES RT CORRELATION 29/10/97 68710.804 14/10/97
750
500
250
0
C/ 4.99201 S
KONUS
200
150
100
50
0
C/ 4.99201 S
ULYSSES RT
-1 0 9 19 29 39 49 59 69 79 89
TIME, SECS

14/10/97

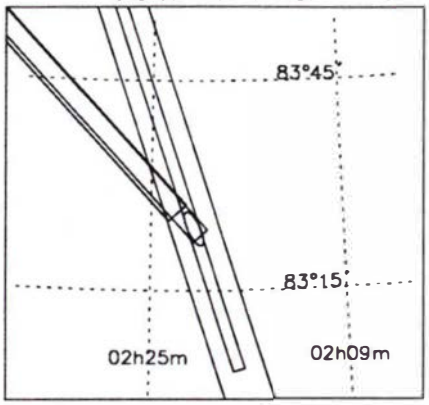
KONUS -ULYSSES RT CORRELATION 29/10/97 68710.804



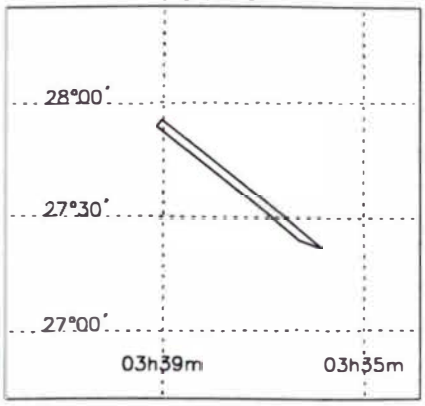
GRB 960416



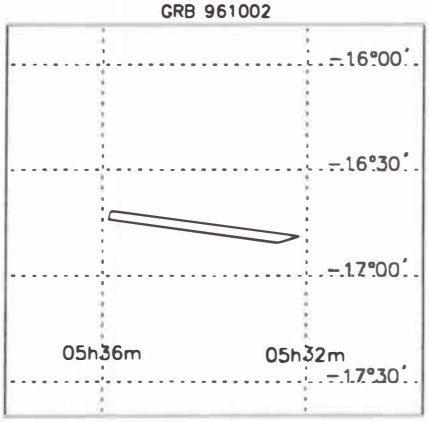
GRB Candidate 960529



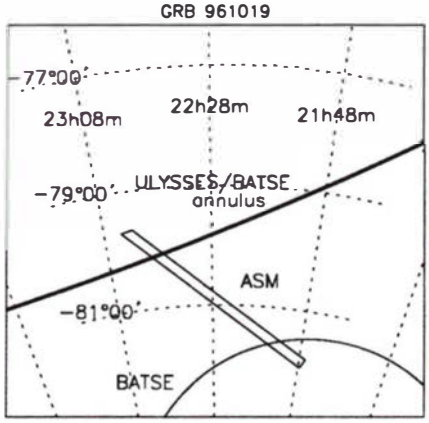
GRB 960727



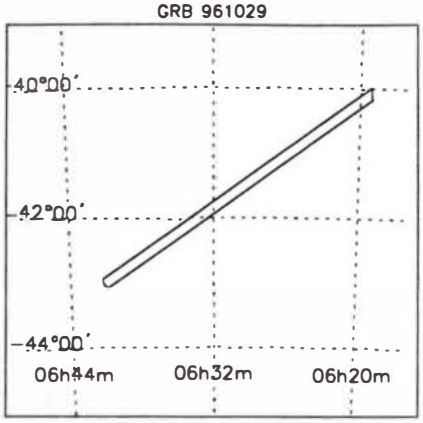
GRB 961002



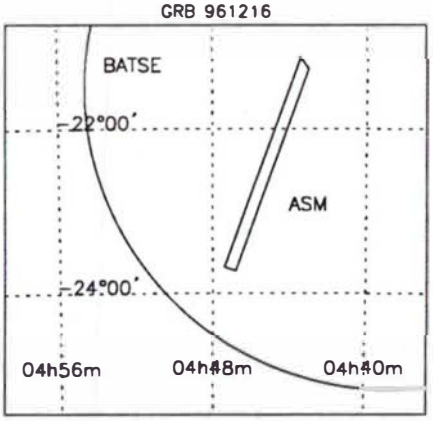
GRB 961019



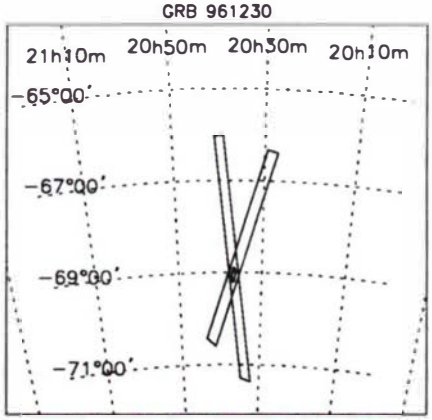
GRB 961029



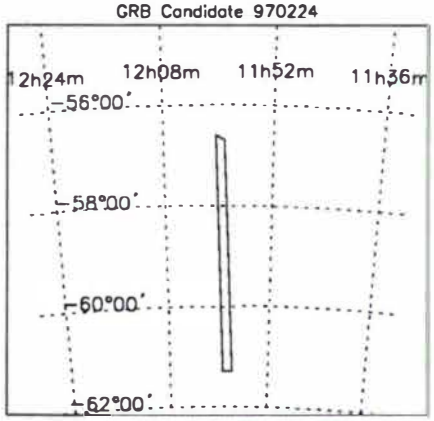
GRB 961216



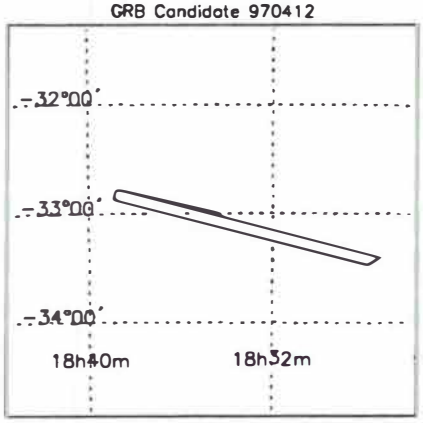
GRB 961230



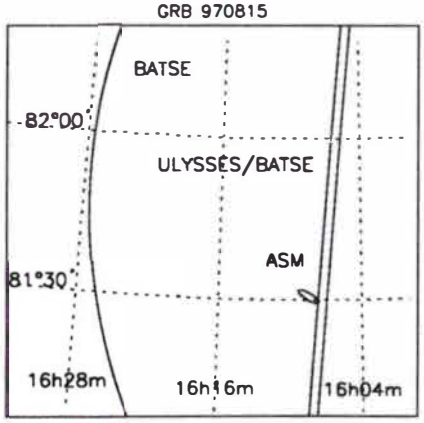
GRB Candidate 970224



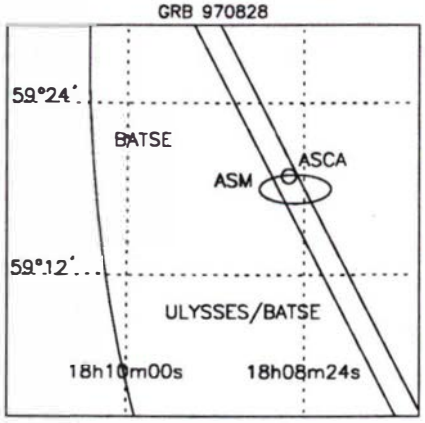
GRB Candidate 970412



GRB 970815



GRB 970828



96	8	7	71369.324	S2	1200	2740	1000	0.25	6	10	358	Trig	5567
96	8	9	52229.443	S2	6500	10000	9500	0.06	5	40	359	Trig	
96	8	10	24974.750	S1	740	860	250	4	0.5	0.6	360	Search ± 2500	
96	8	13	37739.252	S2	550	660	100	0.06	2	17	361	RI KA	
96	8	15	36027.501	S1	470	1250	370	3.2	0.5	12	362	Trig	5575
96	8	21	13940.971	S1	520	720	360	6	2	11	368	Search ± 2500	
96	8	25	01388.008	S2	760	900	240	<0.02	12	145	369	Search ± 2500	
96	8	31	37775.300	S2	420	500	210	0.1	64	98	370	RI	5591
96	9	2	58097 128	S1	1750	3200	1060	3	0.05	1.5	371	Trig KA	
96	9	6	81590.312	S1	240	470	170	13	2	16	372	RI	5593
96	9	8	25028.442	S2	10000	7000	2500	<0.04	0.04	0.3	373	Trig	
96	9	12	50250.066	S2	420	600	320	<0.03	3	15	378	RI	5601
96	9	12	67621.610	S1	2000	380		3.4	270	0.5	379	Search ± 2600	
96	9	13	83120.562	S1		320	70	1.7	2	14	380	RI	5604
96	9	16	14182.498	S1	250	420	60	3.4	300	12	381	Search ± 2600	
96	9	21	54231.399	S1	1160	2900	830	2.5	0.5	40	382	Trig	5.09
96	9	22	18368.358	S1	800	1100	280	14	2	70	383	Search ± 2600	
96	9	24	42119.310	S1	13500	33000	17400	1.6	8	10	384	Trig	5614
96	9	27	13645.217	S2	160	300	120	<0.04	7	24	385	RI	5617
96	10	1	75186.385	S2	1600	3800	1800	0.08	1	12	386	Trig	5621
96	10	2	75235.745	S1	1100	1600	250	8	11	6	387	Search ± 2600	
96	10	9	33560.099	S2	1020	1360	300	0.03	6	13	393	NO	5628
96	10	9	49065.989	S1	600	900	320	23	3	24	394	RI	5629
96	10	15	42782.014	S2	160	290	100	0.7	3	80	395	Search ± 2600	
96	10	17	42405.539	S1					0.3	1.5	396	Search ± 2600	
96	10	21	53569.142	S1	270	360	60	2.7	2	60	398	Search ± 2600	
96	10	22	68464.575	S1	340	450	160	6.5	14	67	399	Search ± 2600	
96	10	23	67314.887	S1	360	750	220	3.4	1	8	400	Search ± 2600	
96	10	26	05631.940	S1	6000	3000		1	0.04	0.04	401	Trig	
96	10	26	22311.118	S2	400	560	300	0.3	2	3	402	RI	5644
96	10	29	24354.087	S1	4000	3700	1250	25	7	300	404	Trig	
96	10	29	68710.804	S1	570	620	120	>20	2	11	405	~~Search ± 2600~~ NO	
96	11	1	58062.904	S2	1020	1450	600	<0.04	1	18	406	Trig	
96	11	2	41907.802	S2	350	610	230	0.08	5	90	407	Search ± 2600	

TLC

-- T. L. Cline ----- LHEAVX::CLINE

From cline@apache.gsfc.nasa.gov Wed Nov 20 14:32 PST 1996
Date: Wed, 20 Nov 1996 14:32:12 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Search for (Konus mini-network) 3-sc triggers

Dear Kevin,

I'm sorry to report that the May 1996 mail from you was a list only to January 1996. If you have another later list, don't go to the trouble of plowing thru all this; I'll do it if you can e-mail/fax something. Thanks.

SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

DATE	Konus-W Sensor (UT)	Max counts G1	G2	G3	N(S1)/N(S2) in G2	Duration T<T0	T>T0	Trigger # KW#	BATSE/KA
94 11 21	62700.945 S1	1652	1656	300	21	3	50	6	3290
94 11 26	44557.952 S1	860	1430	330	4.2	40	45	8	3298
95 2 8	07824.432 S2	1144	1824	670	0.02	1	60	45	3408
95 2 10	08424.148 S1	1350	3900	700	3.2	0.04	0.16	47	3410
95 2 11	08697.749 S2	2750	11630	6560	<0.06	0.03	0.14	48	3412
95 2 11	72469.074 S1	1170	1570	460	60	12	60	50	3415
95 3 25	25841.574 S2	345	1460	1570	0.2	1	230	63	3480
95 3 25	63392.815 S1	1320	2710	900	3.2	1	43	64	3481
95 4 3	47985.179 S1	1030	2840	800	1.0	1	15	71	3491
95 4 3	84828.194 S2	4650	10000	4700	0.06	0.5	60	72	3492
95 4 25	00923.718 S1	1200	2780	1820	4.2	0.5	65	86	3523
95 5 3	66971.838 S1	1140	4200	3140	1.9	0.2	115	88	3537
95 5 13	81706.917 S1	720	1360	520	10	1	30	93	3571
95 7 1	12762.114 S1	340	1400	580	1.3	1	30	116	3657
95 7 1	23737.604 S2	570	1600	700	0.05	1	11	117	3658
95 8 4	07135.704 S2	3000	6650	3340	<0.03	0.2	3.5	131	3734
95 8 18	05065.640 S2	1960	4100	1350	0.05	60	50	137	3765
95 8 22	13751.048 S1	6070	12000	3770	9	0.4	60	140	3767
95 10 16	02484.285 S1	1960	1950	560	5	0.2	7	162	3870
95 12 3	03988.180 S2	260	720	420	0.85	1	16	196	3930
95 12 27	23005.042 S1	420	1200	320	1	1	1.5	218	??? NO
96 1 11	46524.530 S2	1130	1280	190	0.2	0.5	6	222	4312
96 1 13	56024.261 S2	500	450	50	0.3	2	36	228	??? NO
96 1 14	44104.737 S1	4900	7200	1400	1.8	1	60	233	4368, KA

(ABOVE, ALL ARE ULYSSES TRIGGERS - ALL BUT 2 ARE CONFIRMED BATSE TRIGGERS)

(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	Search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	180	5	0.5	8	242	RI	4710
96 2 5	34499.021 S1	100	240	80	>15	7	250	243	RI	4725
96 2 6	17898.732 S1	120	520	260	1.05	1	36	244	Trig	4757
96 2 7	65075.063 S2	210	780	200	0.13	32	12	245	Search	NO
96 2 10	35198.959 S2	220	550	360	<0.1	0.5	2	247	RI	4814
96 2 28	85760.241 S1	2360	7360	3350	4.3	0.1	2.5	249	Trig	NO

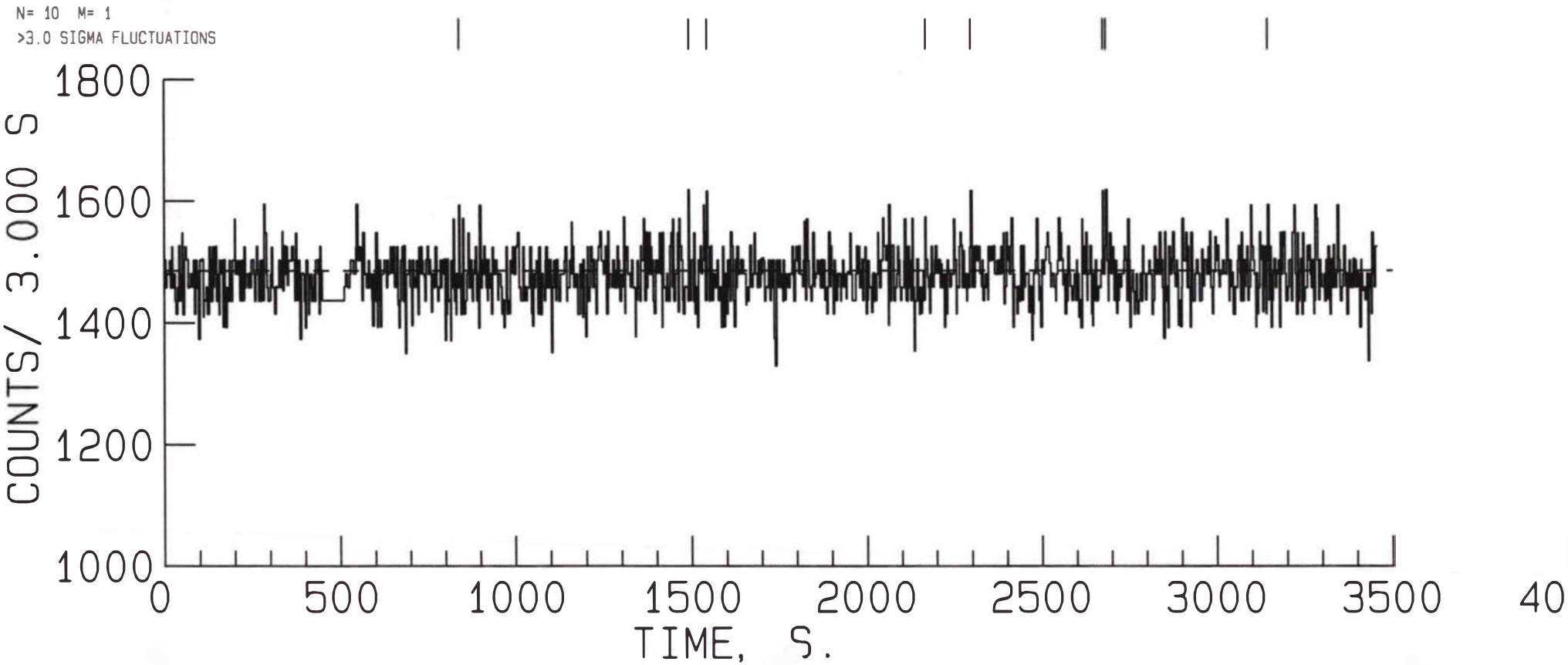
ULYSSES RT

25/11/96

29/10/96 67752.180 s

0.500 S INTERVALS REGROUPED BY 6

21- 145 keV



KONUS 41

ULYSSES RT

25/11/96

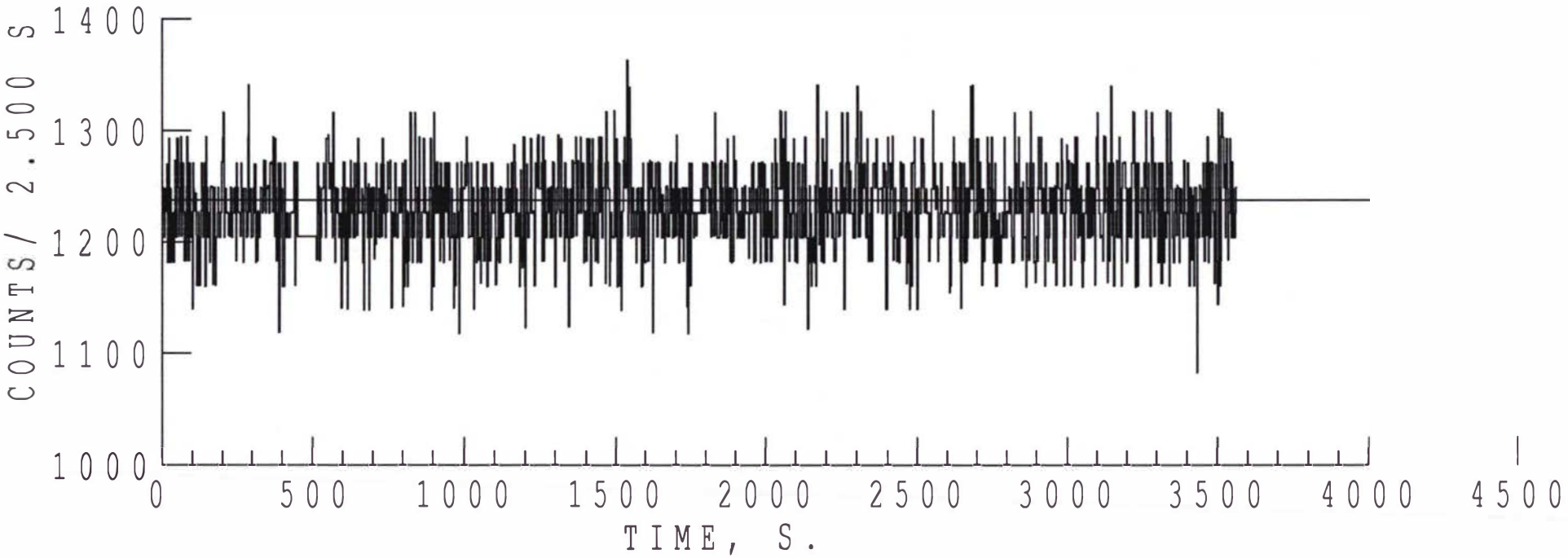
29/10/96 67752.180 s

0.500 S INTERVALS REGROUPED BY 5

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From David.M.Palmer.1@gsfc.nasa.gov Mon Nov 25 06:24 PST 1996
X-Sender: palmer@lheapop.gsfc.nasa.gov
Mime-Version: 1.0
Date: Mon, 25 Nov 1996 09:24:09 -0500
    khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: David Palmer <David.M.Palmer.1@gsfc.nasa.gov>
Subject: Re: Other TGRS trigger
Cc: palmer@rosserv.gsfc.nasa.gov

>Dear Dave,
>
>The light curve might help, or at least a description. I've
>looked at the data in a one hour window, and there is a suggestion
>of an event which might be the TGRS trigger. It's not very strong
>though.

It's a weak burst, maybe 3 seconds wide for the main peak. Probable subpeaks at -8, +10 seconds. Possible subpeak at +23s. (Trigger time 961029_68711.9). Statistics are better at 100-300 keV than at 35-100 (+70 cts/s on a background of 140, vs. +120 on 350, respectively, with a nominal collecting area of 35 cm^2).

David Palmer
palmer@lheamail.gsfc.nasa.gov
USA (301) 286-2739 Voice
USA (301) 286-1682 Fax

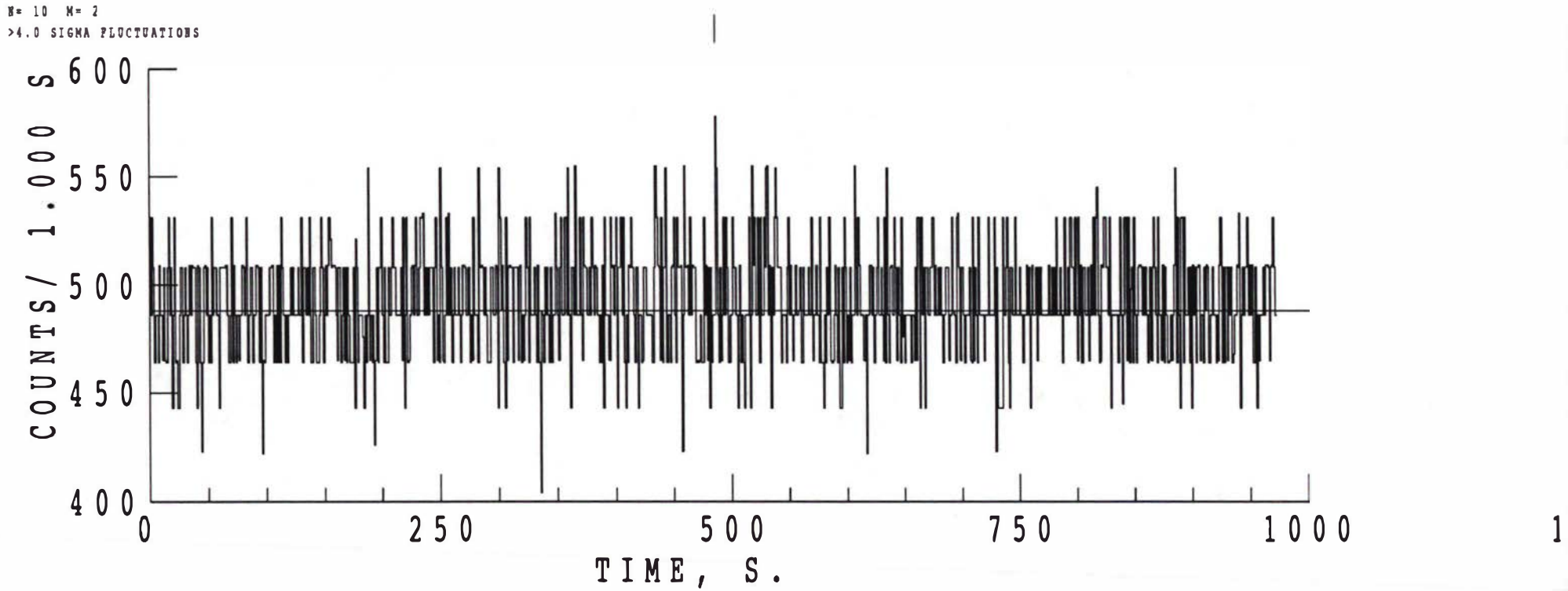
XTE

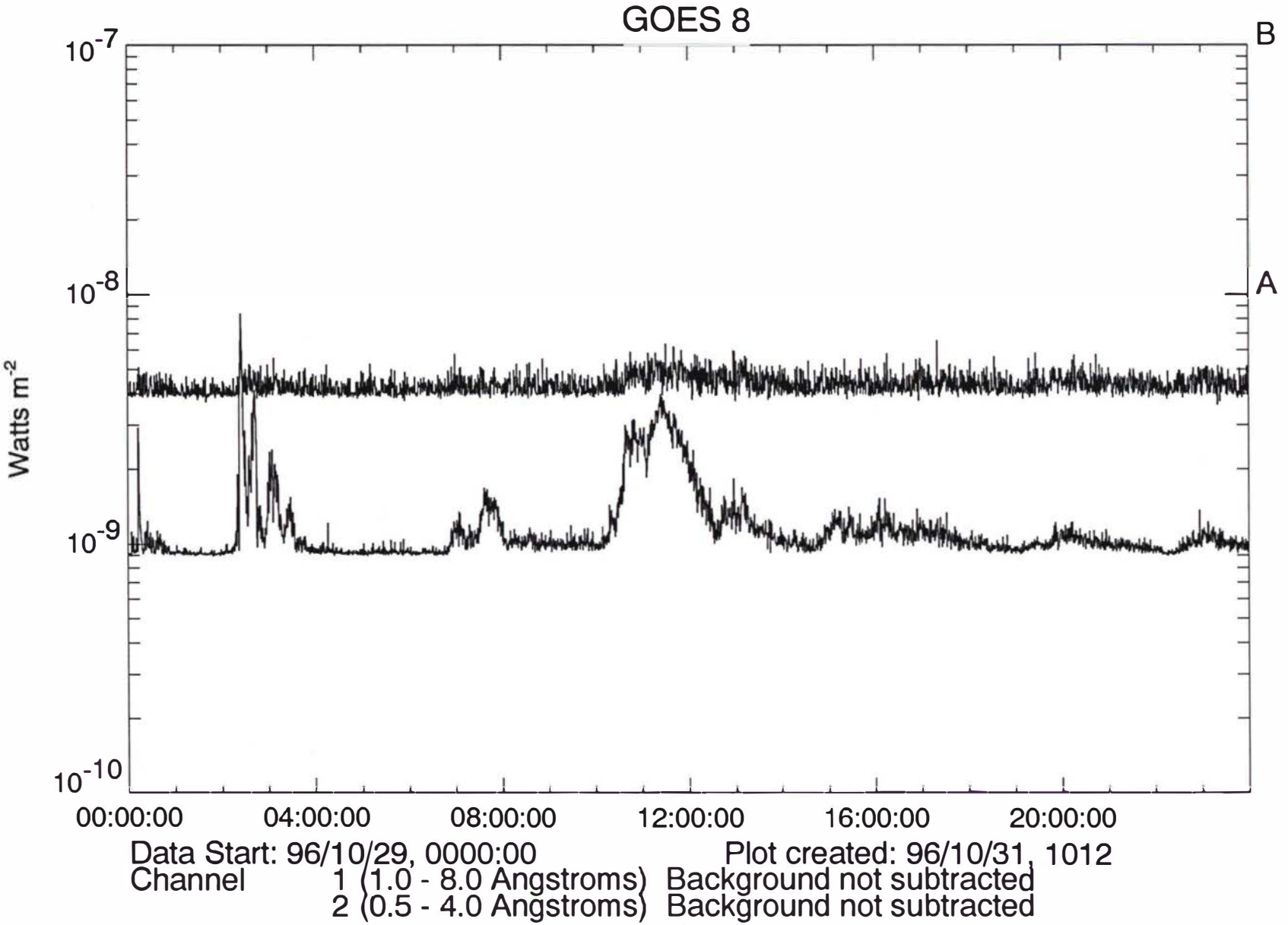
ULYSSES RT 25/ 9/97

29/10/96 68760.195 s

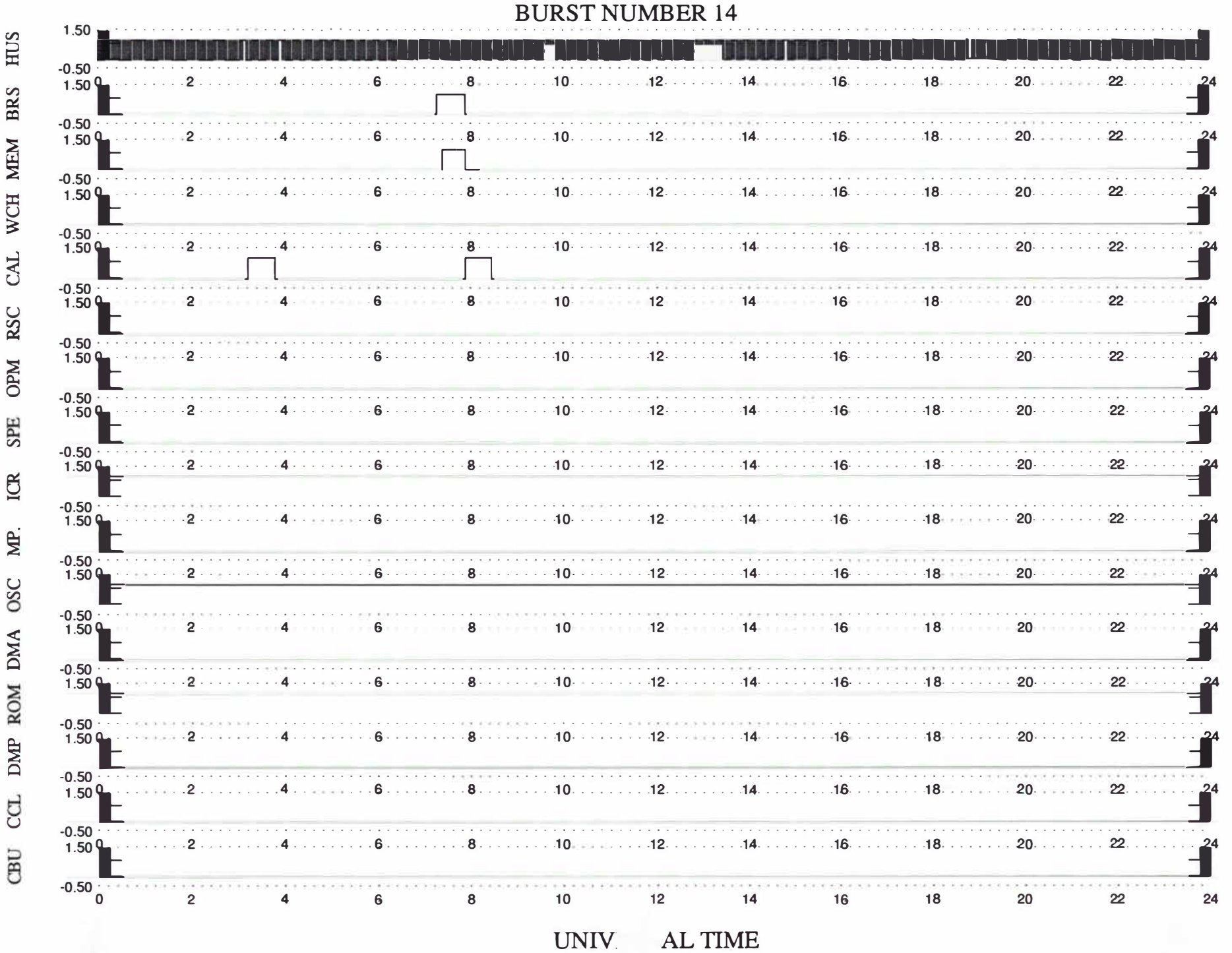
0.500 S INTERVALS REGROUPED BY 2

0- 0 keV



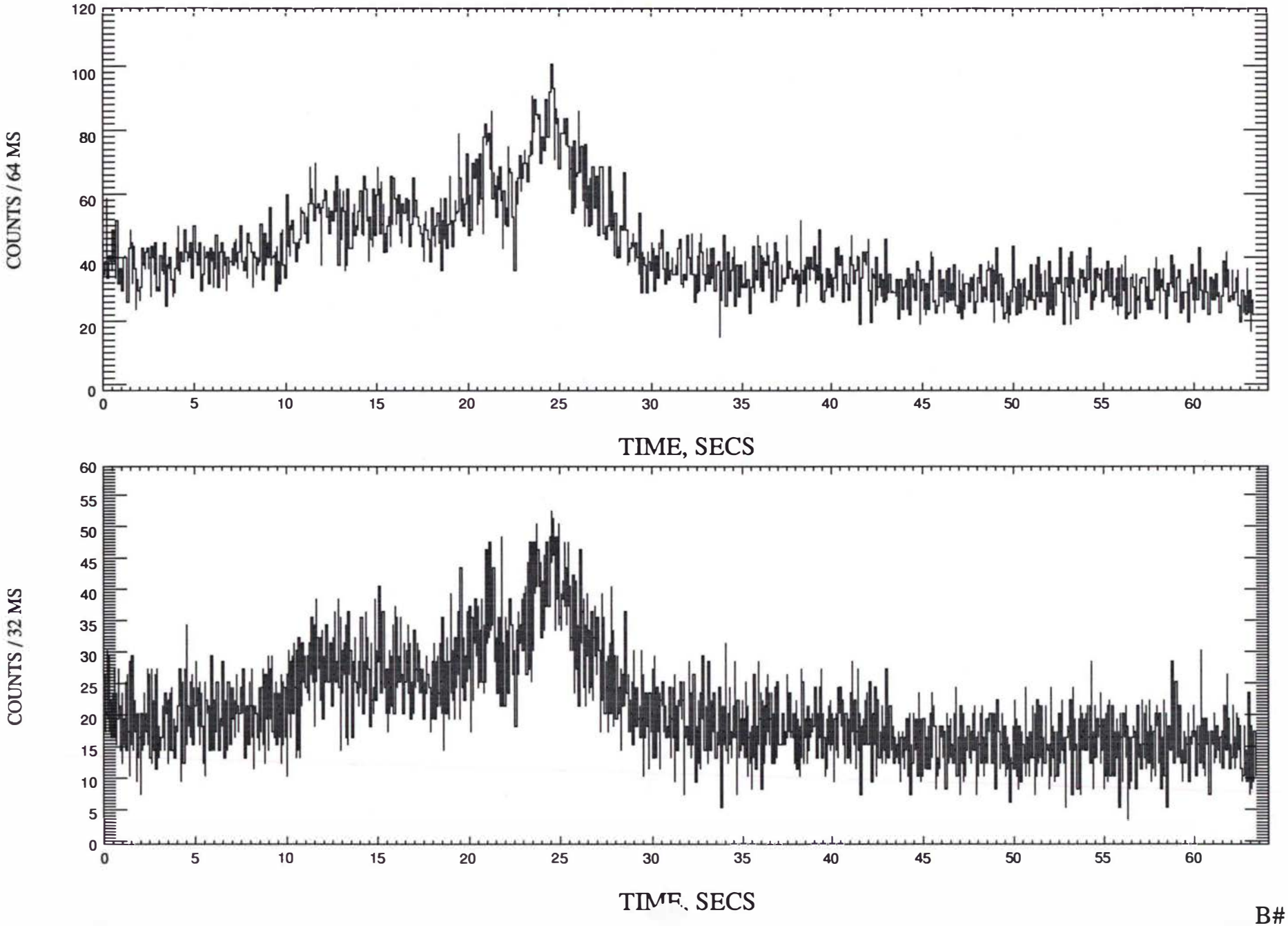

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/29, 0000:00
Plot created: 96/10/31, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 303, year 1996 to day 303, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 303, year 1996 3/29/97

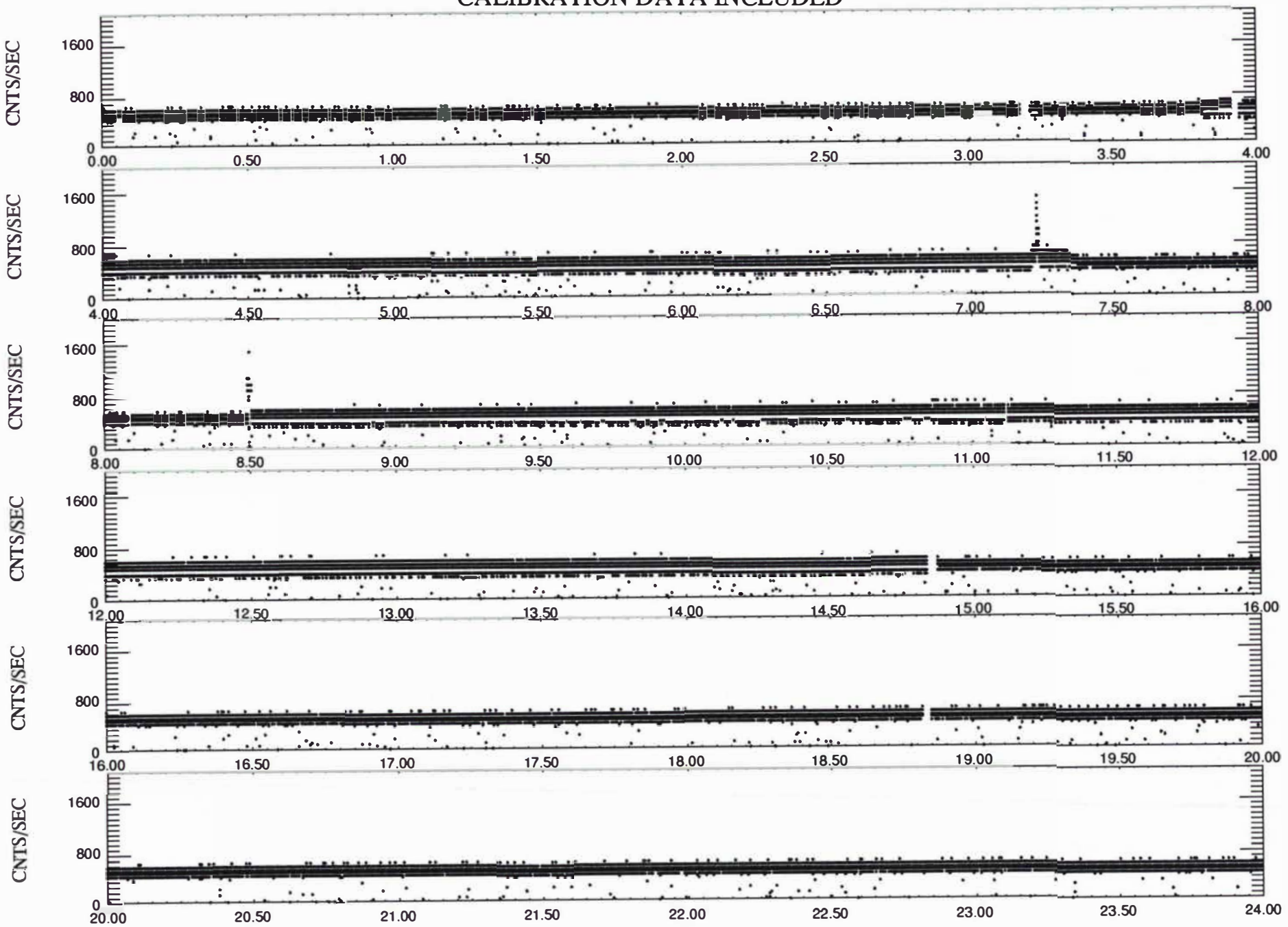
Burst Counter 14 at UT= 7.223621563382 h=26005.038 s 07:13:25.038



B# 1

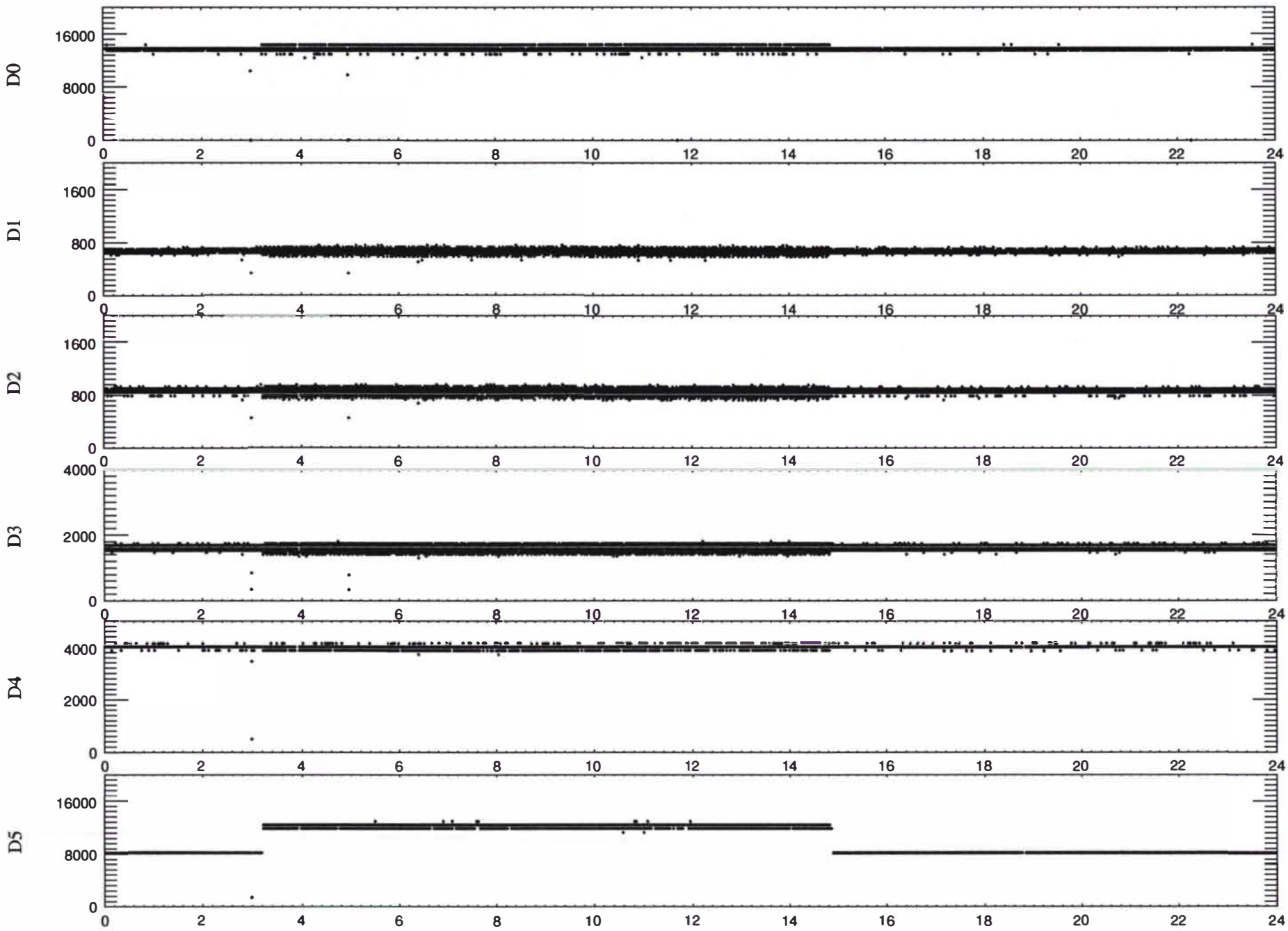
HUS 2A, MODE 1, NOT AVERAGED EDR day 303, year 1996 to day 303, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 303, year 1996 to day 303, year 1996 3/29/97



5648

9/11/96

ULYSSES RT

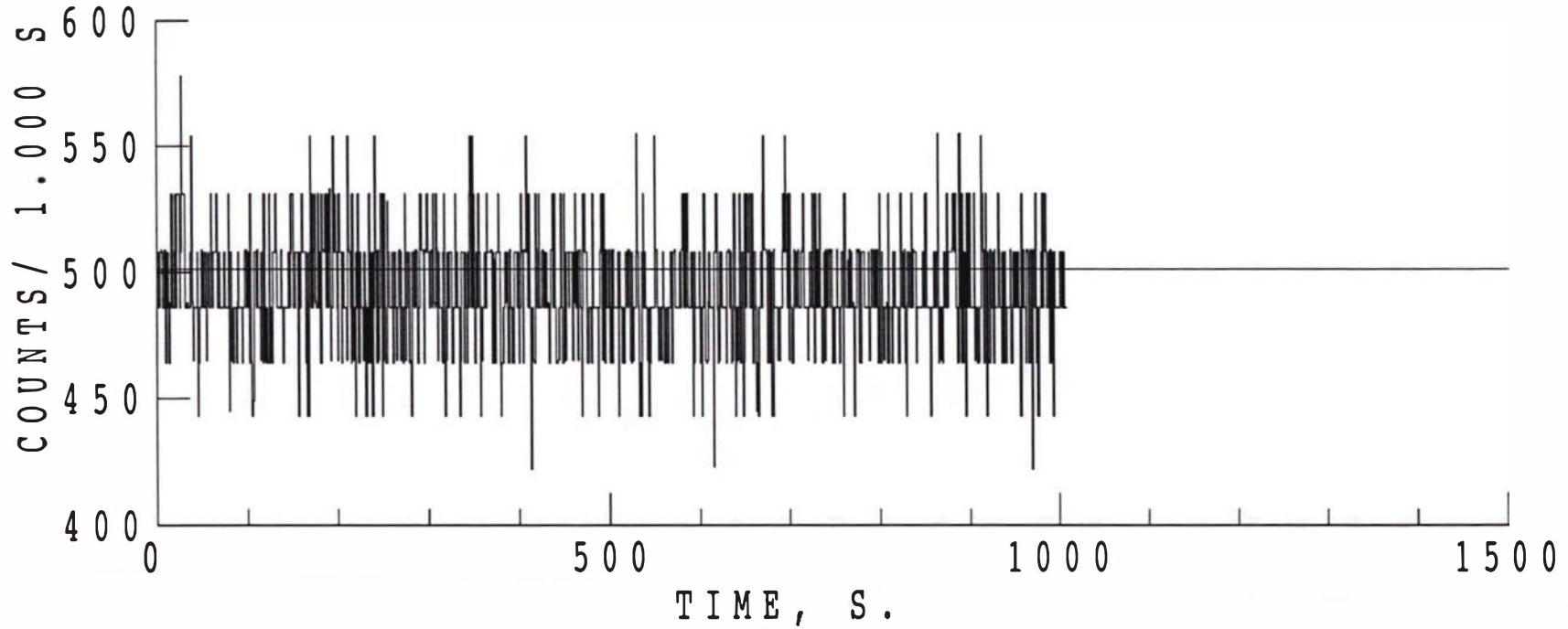
30/10/96 2088.434 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From jeanz@tgrosf.gsfc.nasa.gov Wed Nov 6 09:48 PST 1996
From: "Jean in 't Zand" <jeanz@tgrosf.gsfc.nasa.gov>
Subject: weak short Ulysses bursts
T : khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
e: Wed, 6 Nov 1996 12:48:32 -0500 (EST)
cc: bonnard@rosserv.gsfc.nasa.gov (Bonnard Teegarden)
Mime-Version: 1.0
Content-Transfer-Encoding: 7bit

Dear Kevin,

I searched the TGRS data for the bursts you asked about (see list below). Checked were time histories in 35-100 keV at ~2 s time resolution and 100-300 keV at 0.37 s time resolution (these time resolutions are the highest obtainable), from 3000 s before to 3000 s after the Ulysses times. Special attention was given to time intervals 12 to 10 minutes before the Ulysses times (expected arrival times if SGR1806-20 is the source). No significant fluctuations above the noise were seen.

I'll let you know about later bursts as soon as we have the data (it takes 2 to 3 days between observation and data arrival).

Best regards,

Jean in 't Zand.

961024 14:42
16:33
1026 01:21
14:03
961030 03:15
961102 17:49
23:50

From BUTTERWORTH@lheavx.gsfc.nasa.gov Tue Nov 5 08:54 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 5 Nov 1996 11:54:46 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: responses to Kevin's 7 Ulysses event notices sent yesterday

Hi Everyone,

This is a response for Konus to Kevin's set of Ulysses event notices sent yesterday.

Paul.

Ulysses event	Konus observation
961023 21:18 weak 32ms	haven't checked this one yet - report will follow
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
1029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger

From RICHARDSON@ssl.msfc.nasa.gov Tue Nov 5 08:02 PST 1996
Return-Path: <RICHARDSON@ssl.msfc.nasa.gov>
Received: from SSLMOR.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA09353; Tue, 5 Nov 1996 08:01:53 -0800
Date: Tue, 5 Nov 1996 10:01:45 -0600 (CST)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961105100145.27800c4d@SSLLES.MSFC.NASA.GOV>
Subject: Crossing Windows for BATSE Burst 5650
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

****
BATSEARCH PROGRAM
****

BATSE BURST # 5650
EVENT OF 1996 OCT 30 DAY OF YEAR=304
EVENT CROSSING TIME AT BATSE : 51048. S. OR 14:10:48.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 277.000 67.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/10/ 96 IS:
RA= 176.301 DEC= 31.595 DIST= 4.938 AU
BATSE-ULYSSES DISTANCE = 738683456. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1036.02 SECS.
CROSSING TIME AT ULYSSES IS 50012. S. OR 13:53:31 +/- 422.40 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/10/ 96 IS:
RA= 152.502 DEC= 13.016 DIST= 1.732 AU
MARS-BATSE DISTANCE = 259161504. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 7.17 SECS.
CROSSING TIME AT MARS IS 51055. S. OR 14:10:55 +/- 150.19 SECONDS

BATSE BURST TRIGGER

NO.: 5650

TIME: TJD=0386 SECONDS=51048

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=112.4 AZIMUTH=116.7 ERROR=5.2 DEGREES

COMMENTS:
GRB. SHORT PULSE. DUR.~1.3 SEC. MARGINALLY VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5650	961030	10386	51048	3000	277	+67	1.3

BATSE# 5650

ULYSSES RT 5/11/96

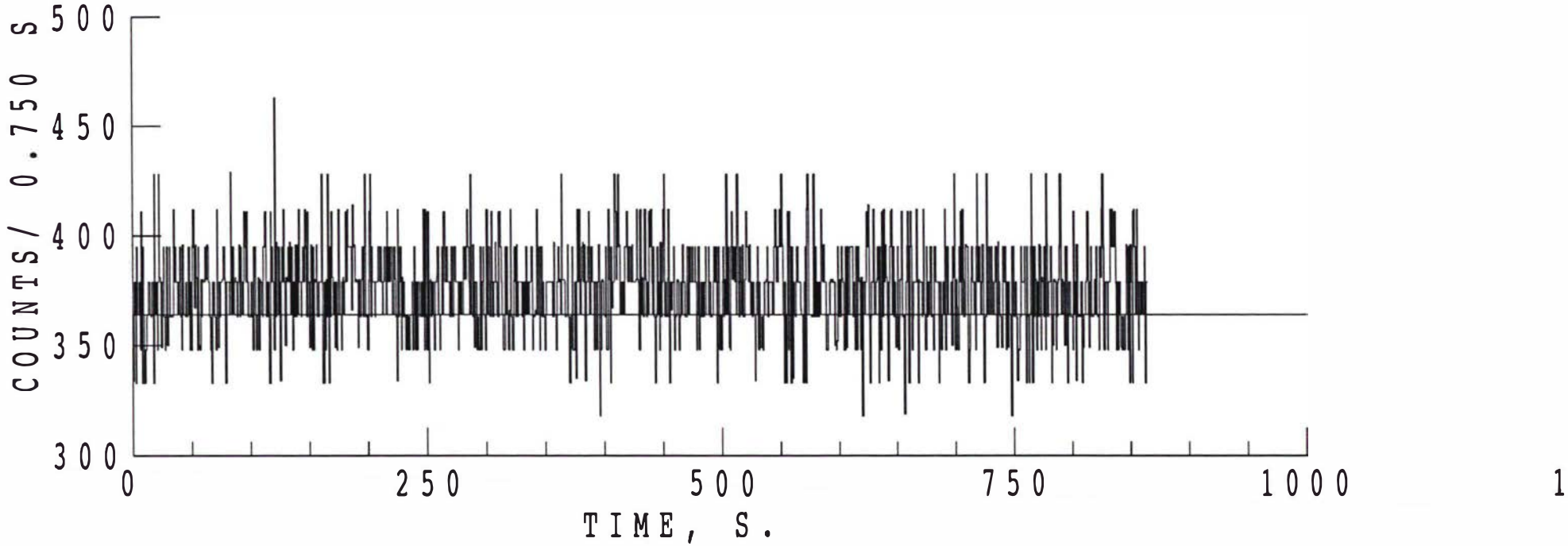
30/10/96 49572.023 s

0.250 S INTERVALS REGROUPED BY 3

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



SGR1806

ULYSSES RT

5/11/96

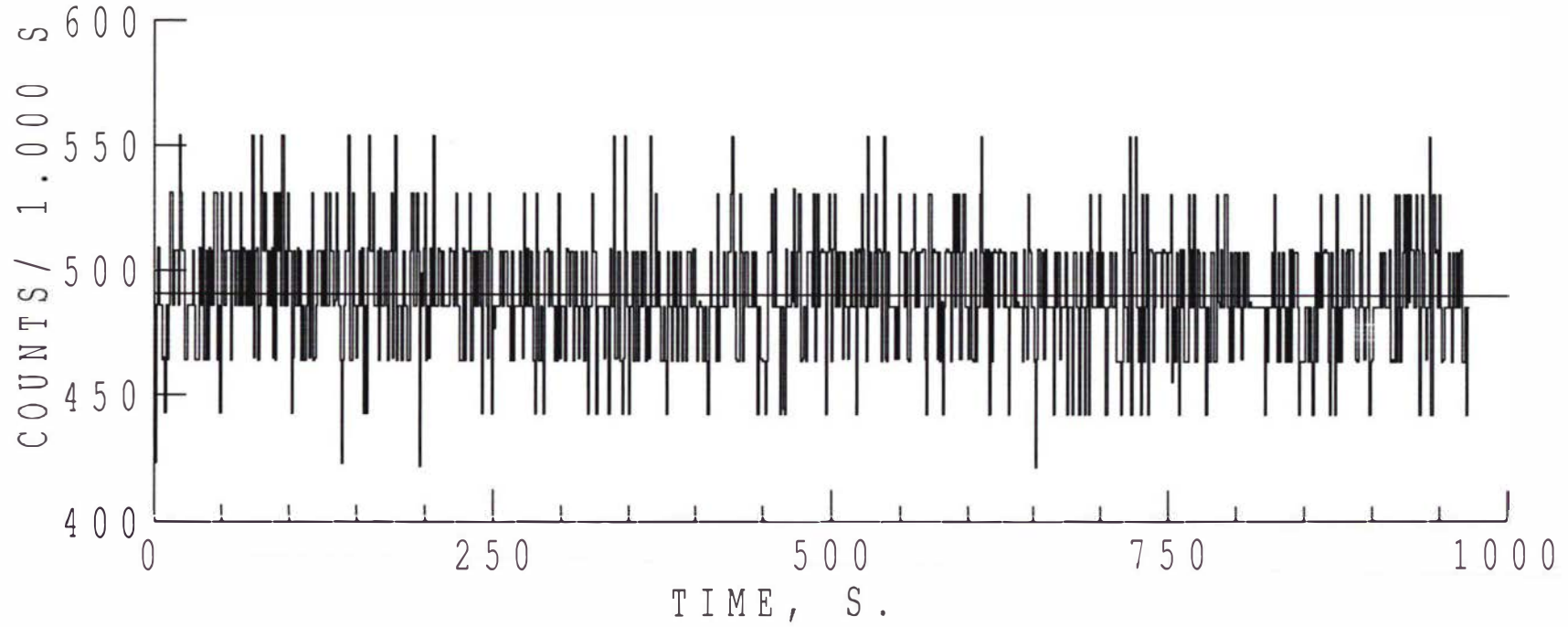
30/10/96 82440.430 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri Nov 8 07:41 PST 1996
Date: Fri, 8 Nov 1996 9:41:08 -0600 (CST)
From: Bill Henze (205-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
LHEAVXCLINE@fender.msfc.nasa.gov, LHEAVXBARTHELMY@fender.msfc.nasa.gov,
scott@circe.gsfc.nasa.gov, butterworth@lheavx.gsfc.nasa.gov,
band@cass09.ucsd.edu, gruber@cass09.ucsd.edu, matteson@cass09.ucsd.edu,
PACIESAS@fender.msfc.nasa.gov, HORACK@fender.msfc.nasa.gov,
khurley@sunspot.ssl.berkeley.edu, lmm@egret.gsfc.nasa.gov,
mops@osse.nrl.navy.mil, grove@osse.nrl.navy.mil,
matz@osse.nrl.navy.mil, share@osse.nrl.navy.mil,
messina@osse.nrl.navy.mil, sandora@osse.nrl.navy.mil
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5651

TIME: TJD=0386 SECONDS=82270

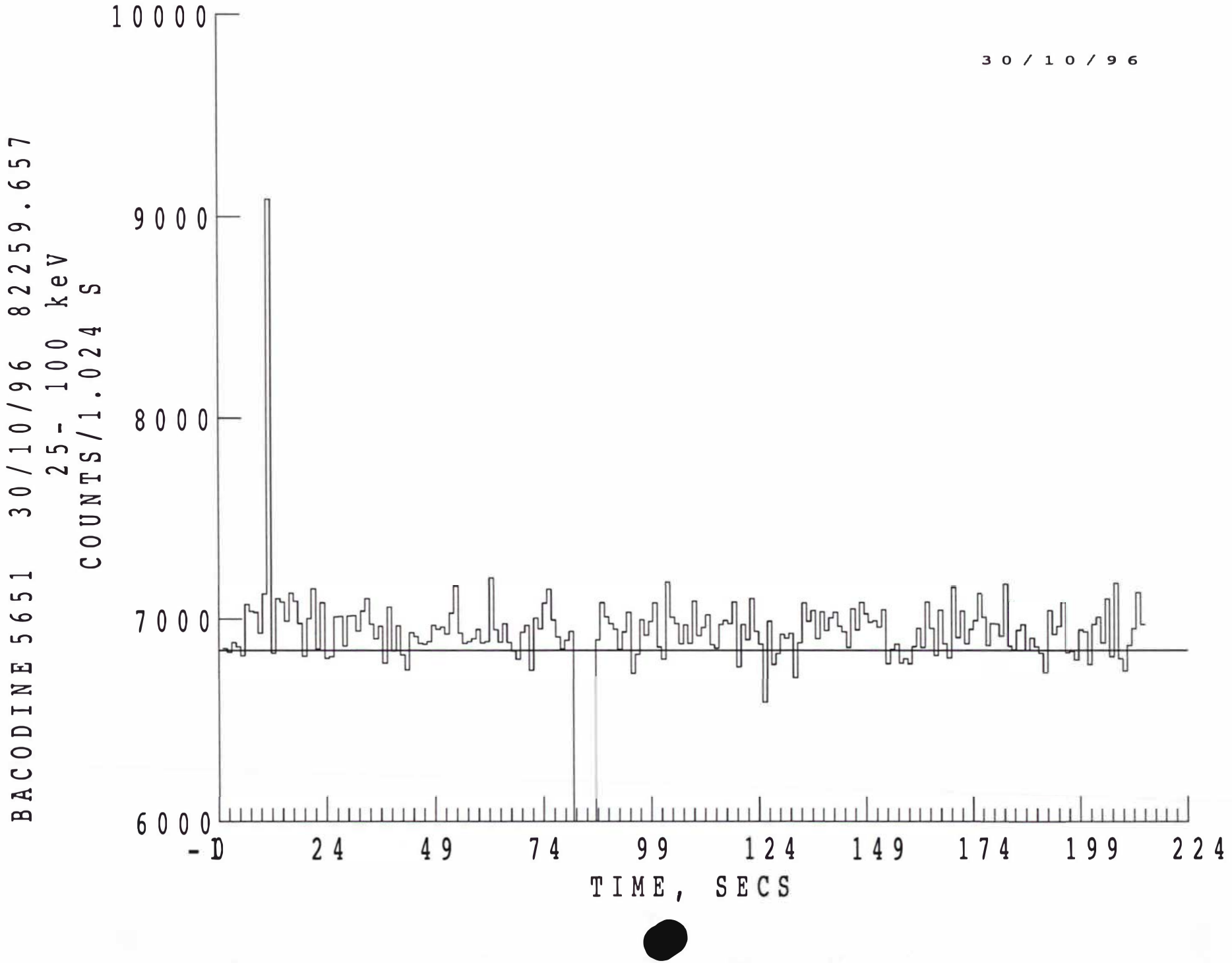
TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=154.5 AZIMUTH=325.7 ERROR=001.6 DEGREES

COMMENTS:
SOFT GAMMA REPEATER. SINGLE PULSE WITH SUBSTRUCTURE, DUR. ~0.13 S.
NOT VISIBLE ABOVE 100 KEV.


BACODINE 56651 30/10/96 82259.657
25- 100 keV
COUNTS/1.024 S
10000
9000
8000
7000
6000
30/10/96
-D
24
49
74
99
124
149
174
199
224
TIME, SECS

BATSE BURST# 5651

ULYSSES RT 22/ 9/97

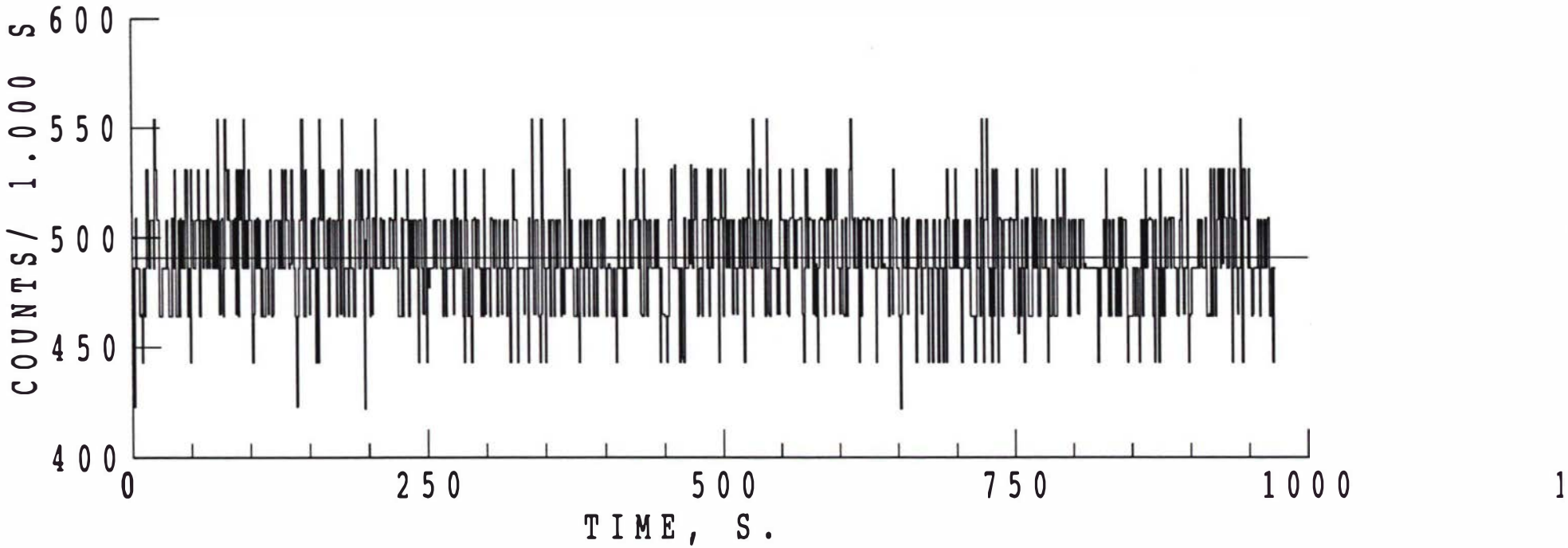
30/10/96 82440.430 s

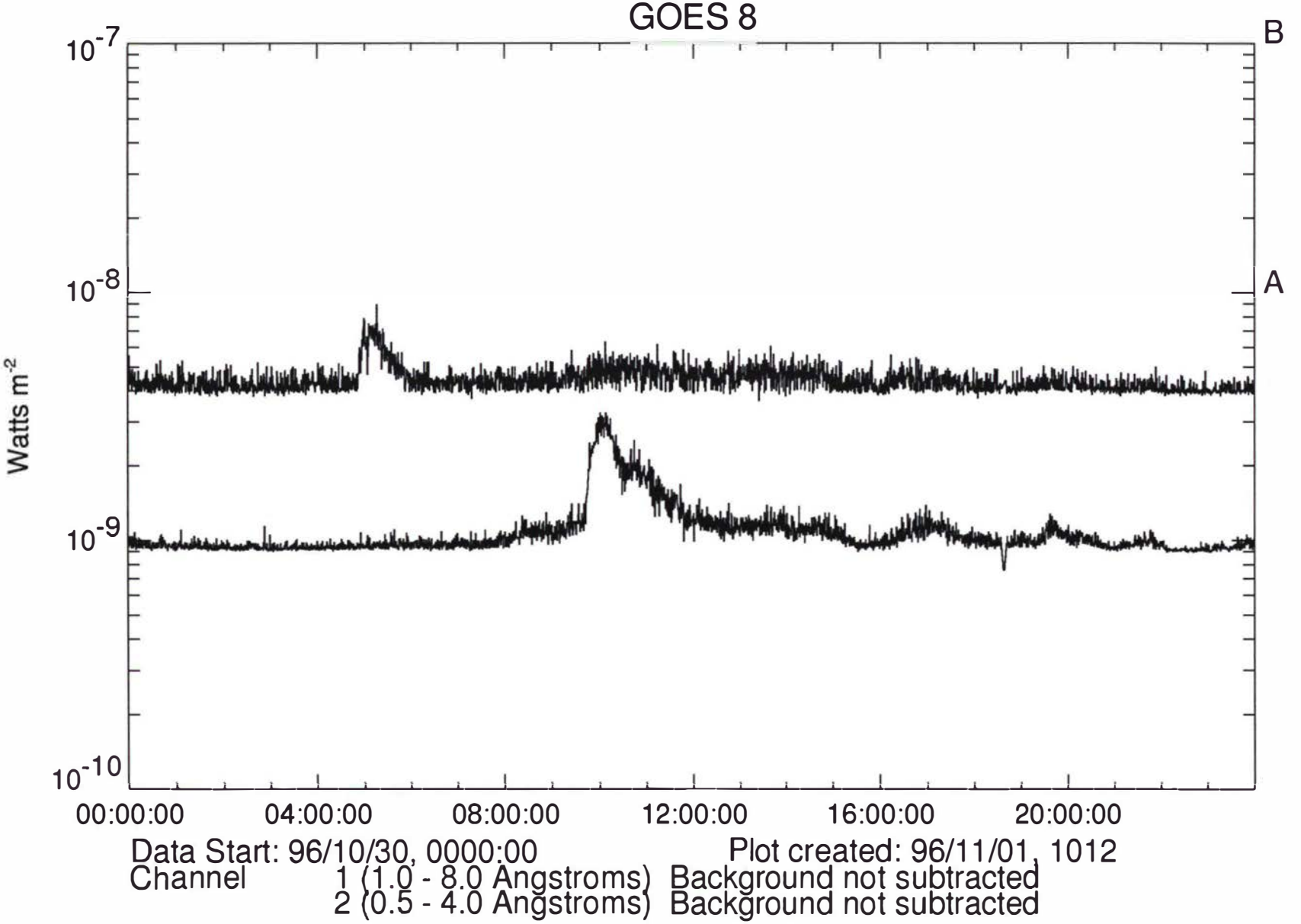
0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

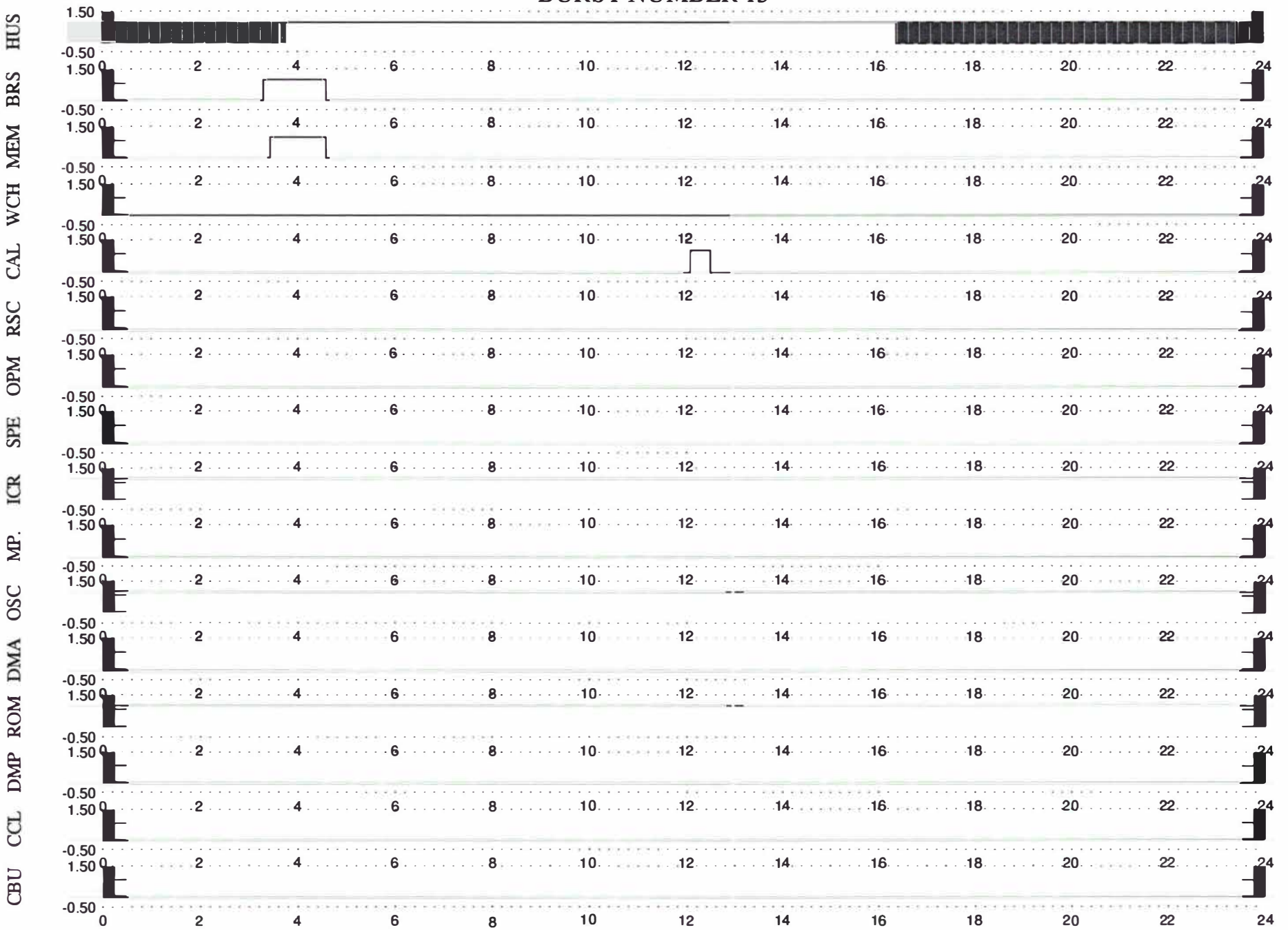
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS




GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/30, 0000:00
Plot created: 96/11/01, 1012
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 304, year 1996 to day 304, year 1996 3/29/97

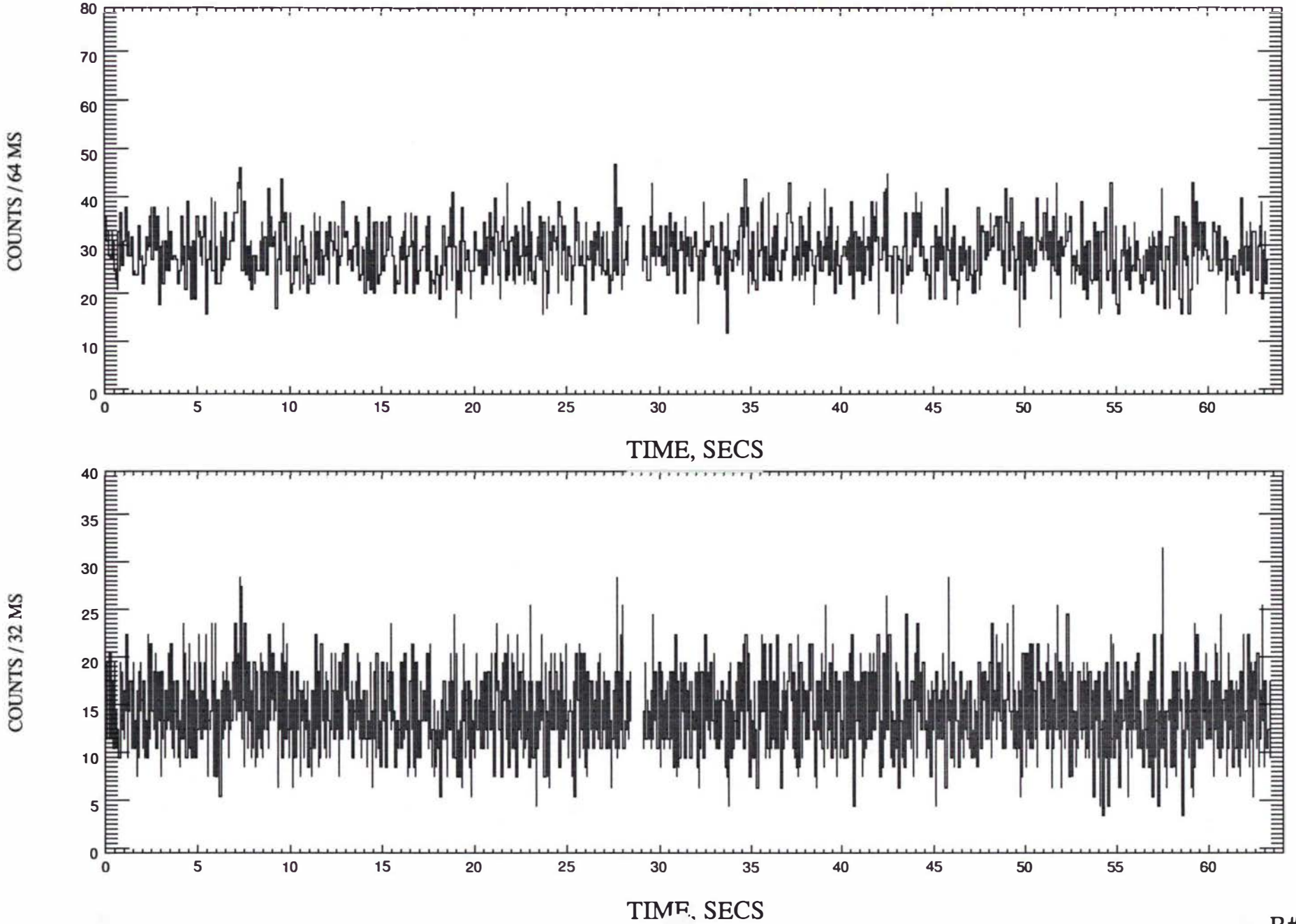
BURST NUMBER 15



UNIV AL TIME

HUS 2A TRIGGERED DATA EDR day 304, year 1996 3/29/97

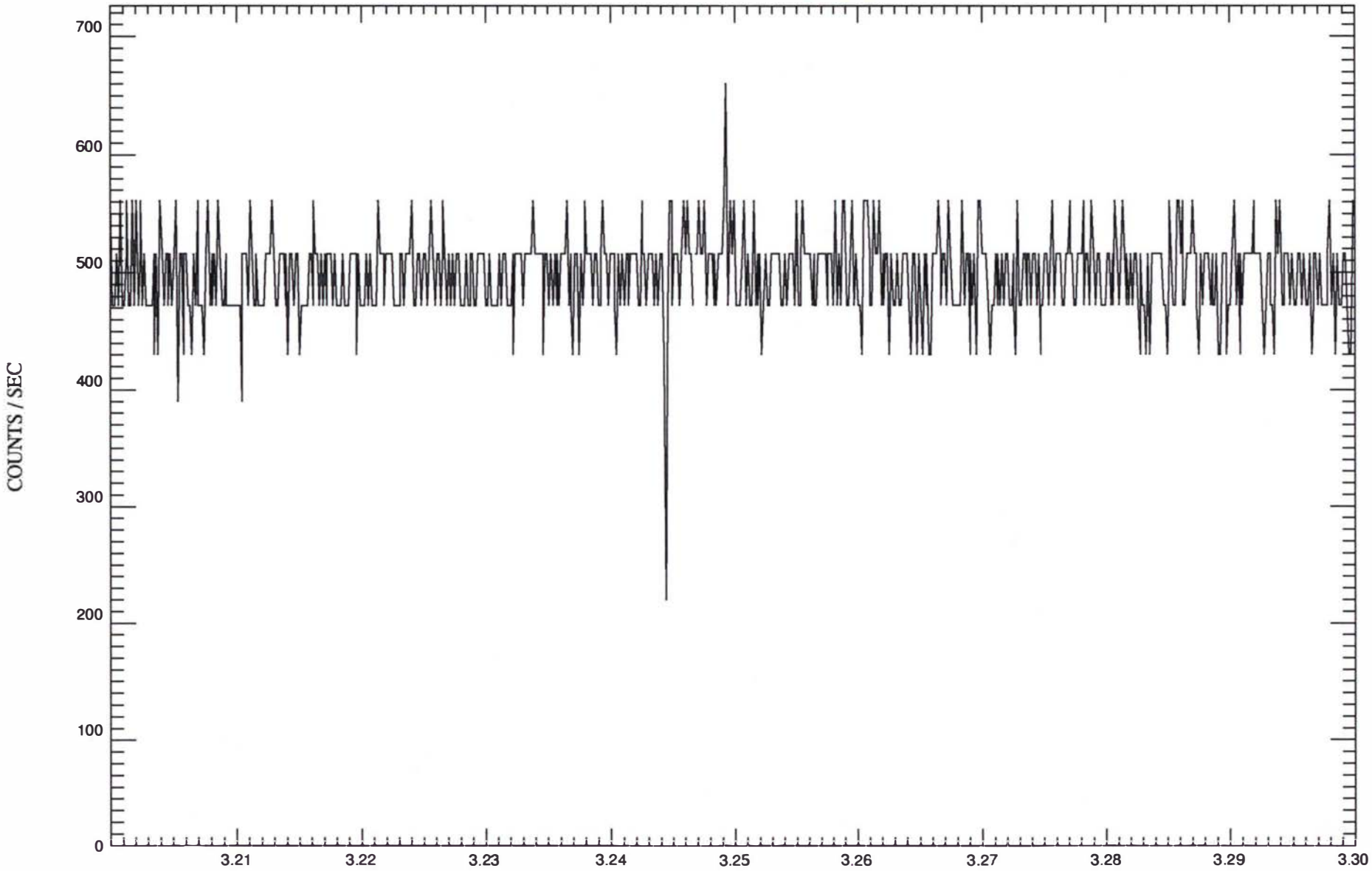
Burst Counter 15 at UT= 3.249386901855 h=11697.793 s 03:14:57.793



B# 1

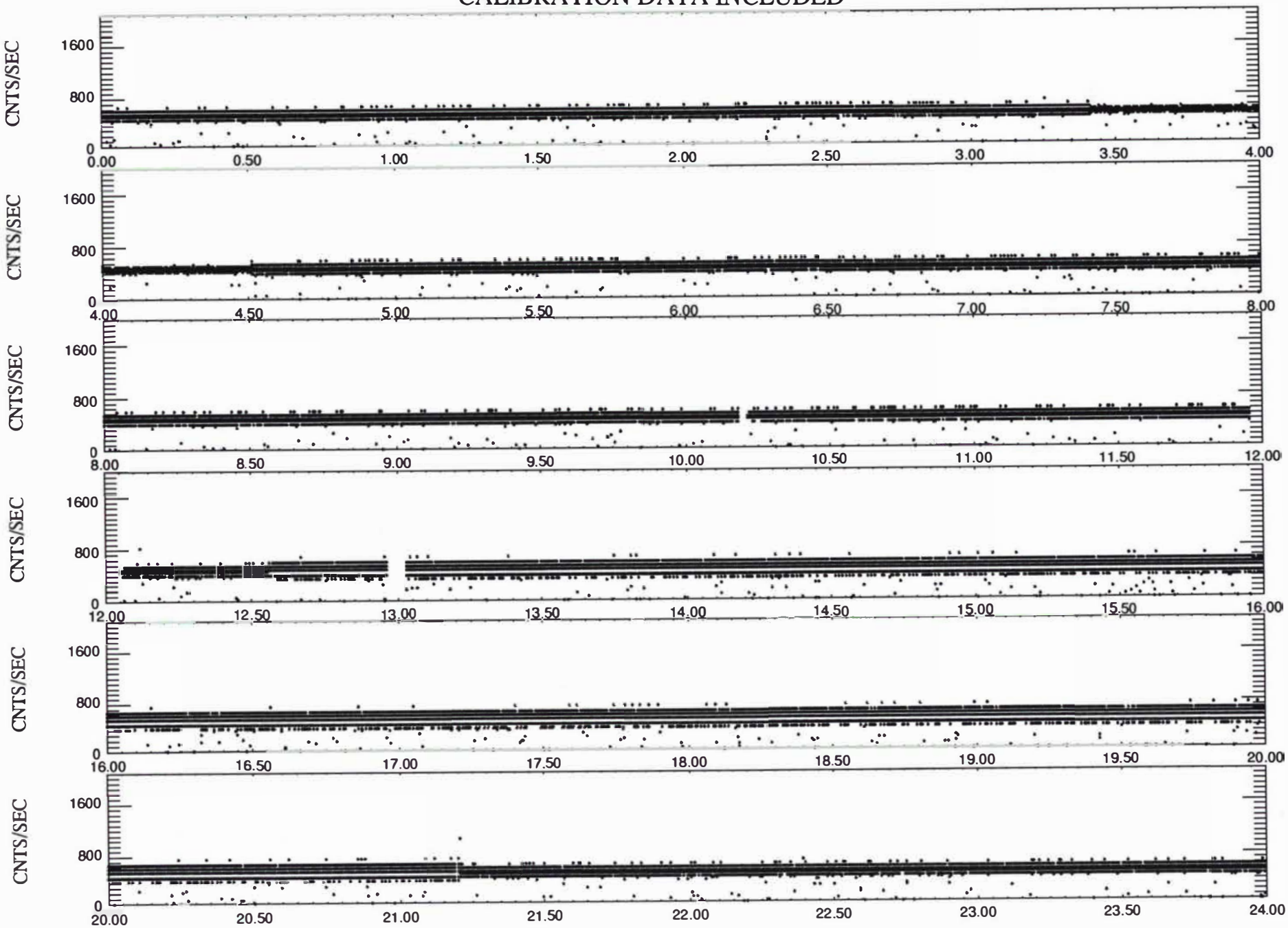
HUS 2A, MODE 1, NOT AVERAGED EDR day 304, year 1996 to day 304, year 1996 3/29/97

CALIBRATION DATA INCLUDED



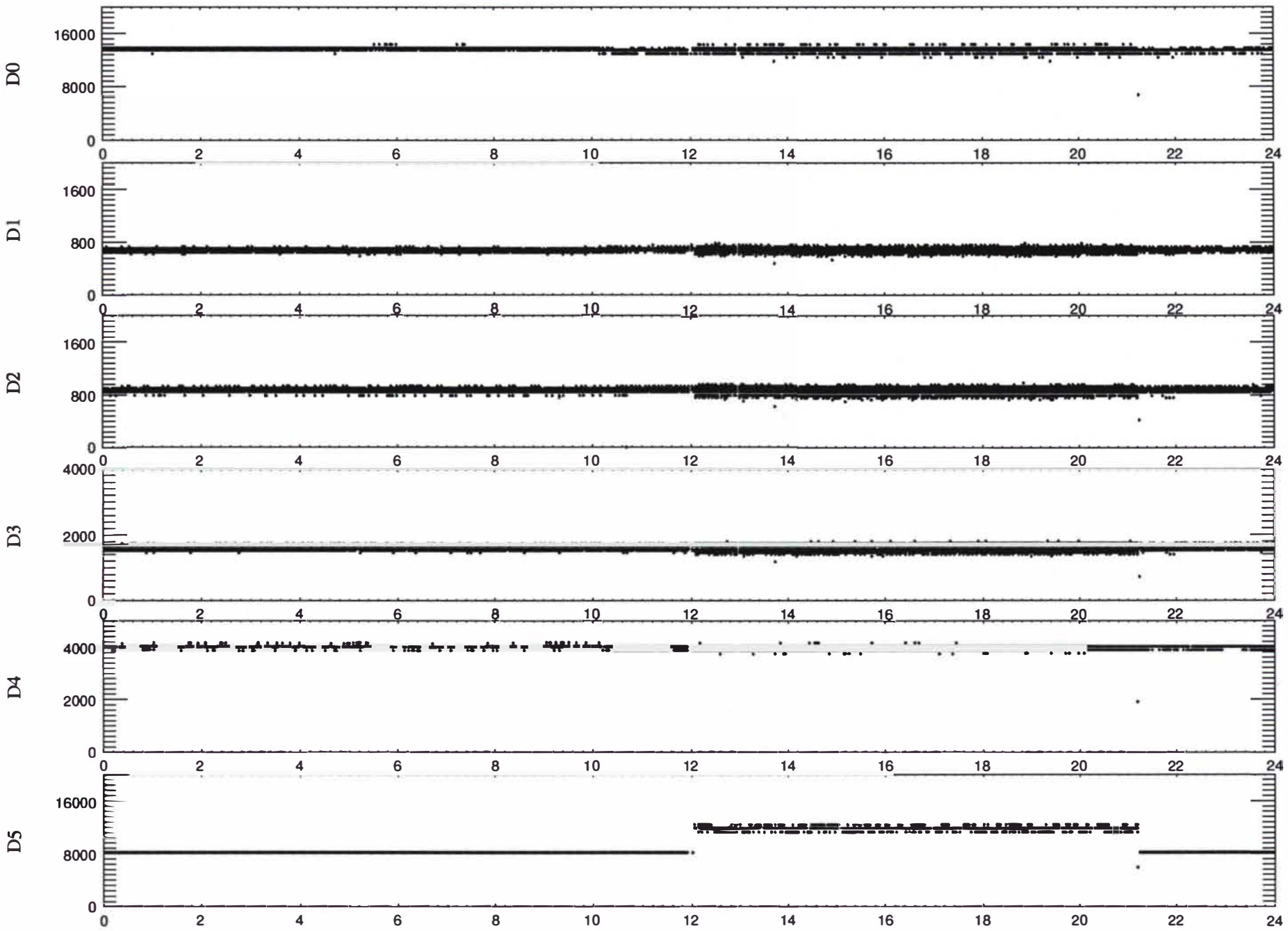
HUS 2A, MODE 1, NOT AVERAGED EDR day 304, year 1996 to day 304, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIV! AL TIME

HUS 2B COUNTS / SEC EDR day 304, year 1996 to day 304, year 1996 3/29/97



From RICHARDSON@ssl.msfc.nasa.gov Tue Nov 5 10:55 PST 1996
Date: Tue, 5 Nov 1996 12:55:01 -0600 (CST)
From: RICHARDSON@SSLLES.MSFC.NASA.GOV
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
"LHEAVX::CLINE"@SSLLES.MSFC.NASA.GOV,
"LHEAVX::BARTHELMY"@SSLLES.MSFC.NASA.GOV, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, band@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5652

TIME: TJD=0387 SECONDS=46737 12:58:57 Trigger

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=153 AZIMUTH=325.2 ERROR=2 DEGREES

COMMENTS:
SOFT GAMMA REPEATER. STRONG PULSE WITH STRUCTURE. WEAK PULSE FOLLOWING STRONG PULSE. TOTAL DUR.~0.4 SEC. SLIGHTLY VISIBLE ABOVE 100KEV.

This is probably from SGR 1806-20, but it is not the same burst that triggered Ulysses at 12:28

BATSE BURST# 5652

ULYSSES RT 26/ 9/97

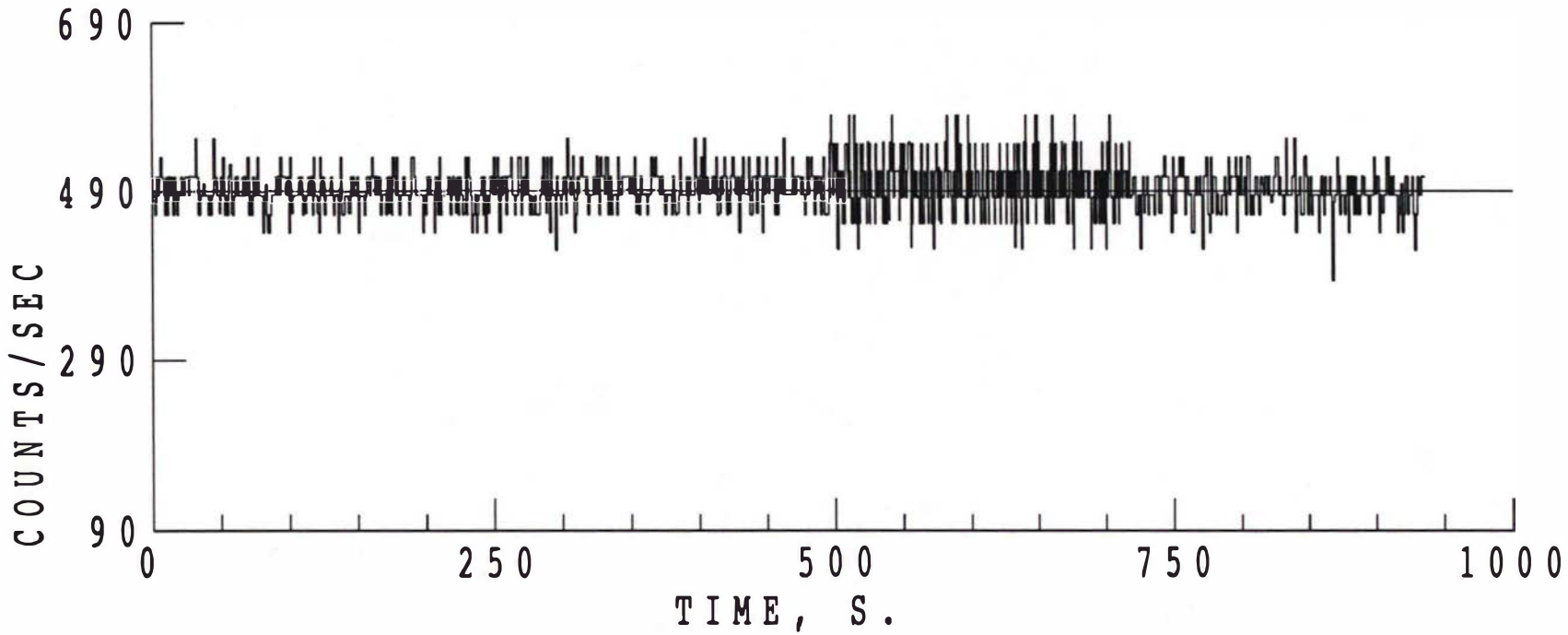
31/10/96 46908.062 s

INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

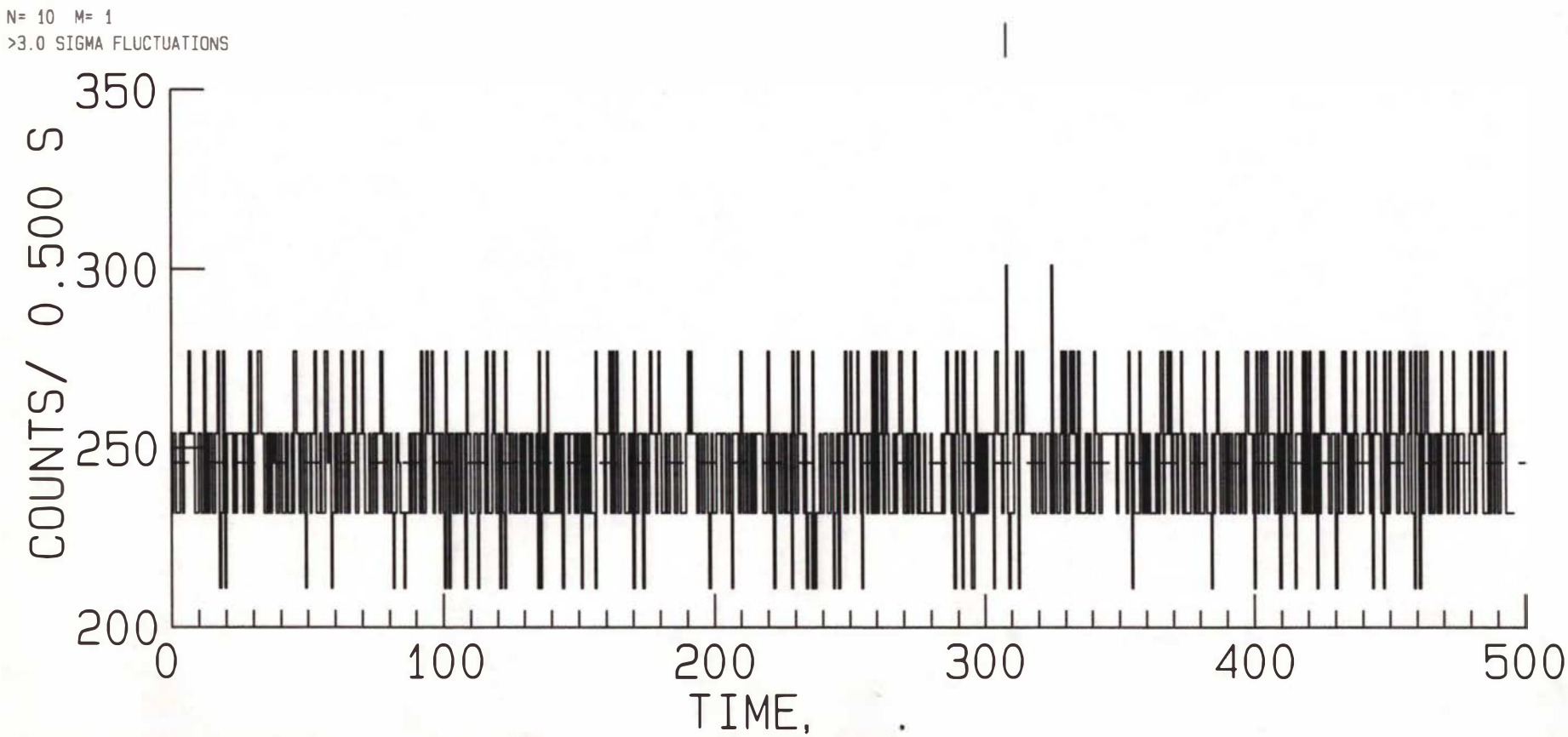


ULYSSES RT

27/ 9/97

31/10/96 46908.064 s

21- 146 keV

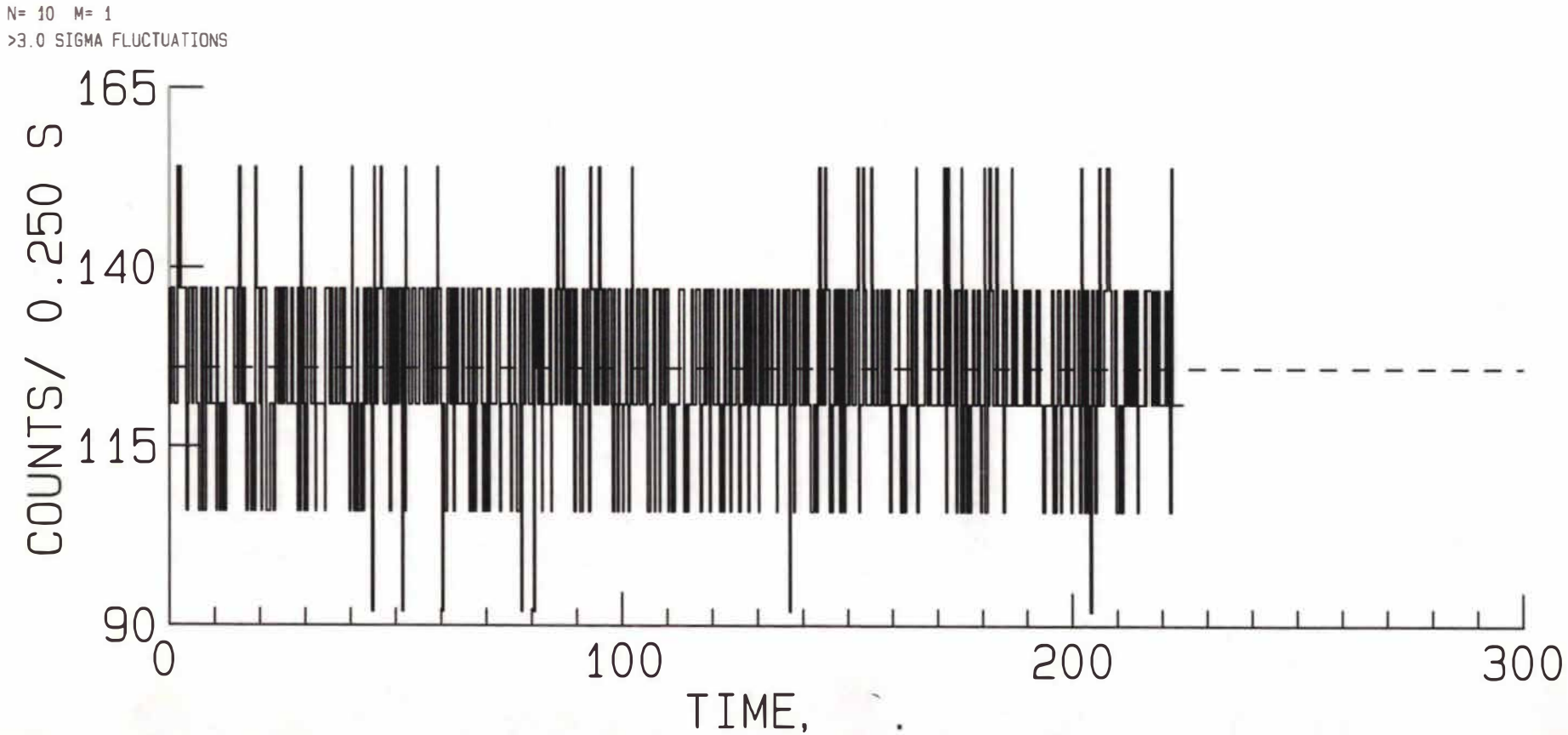


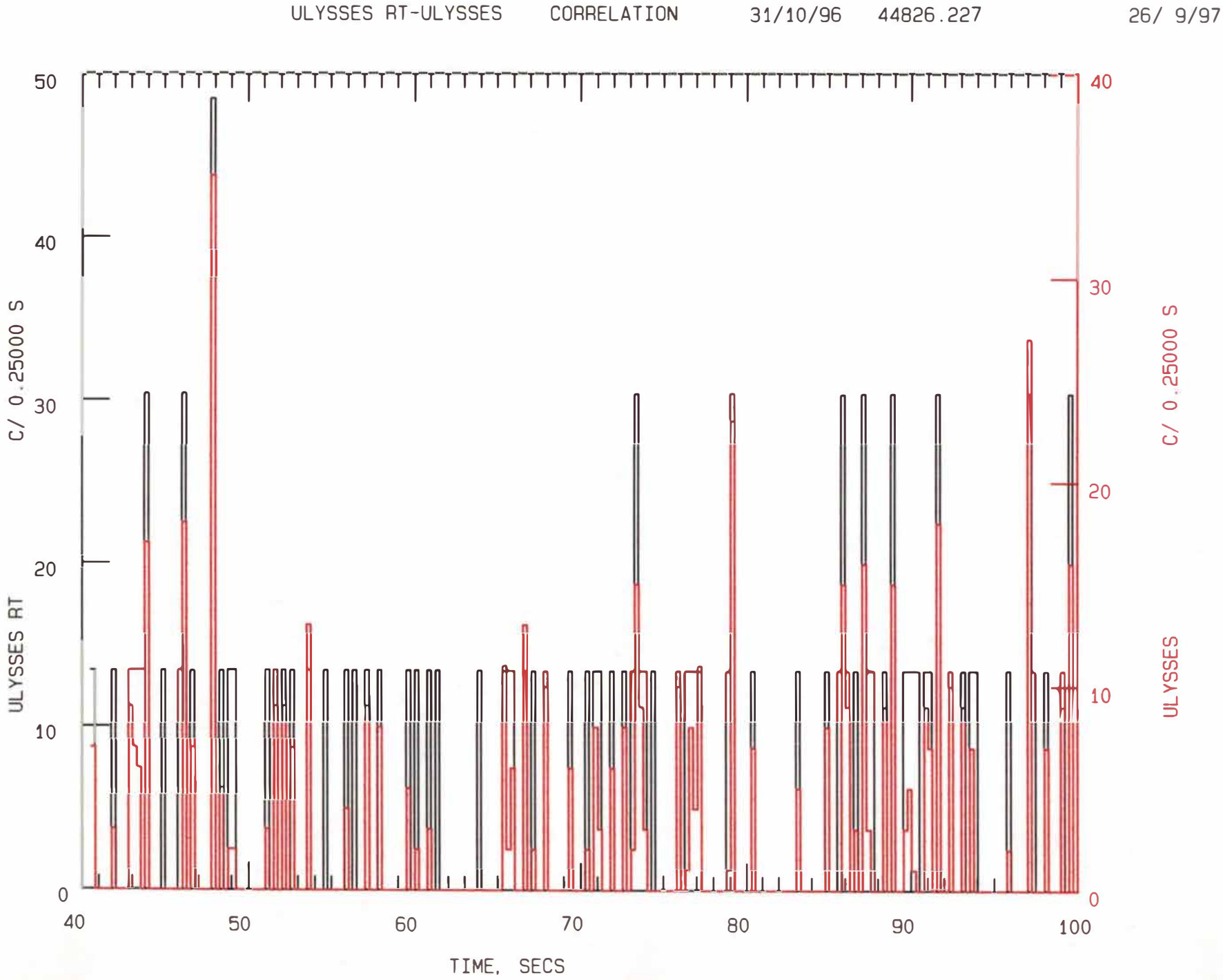
ULYSSES RT

31/10/96 47403.571 s

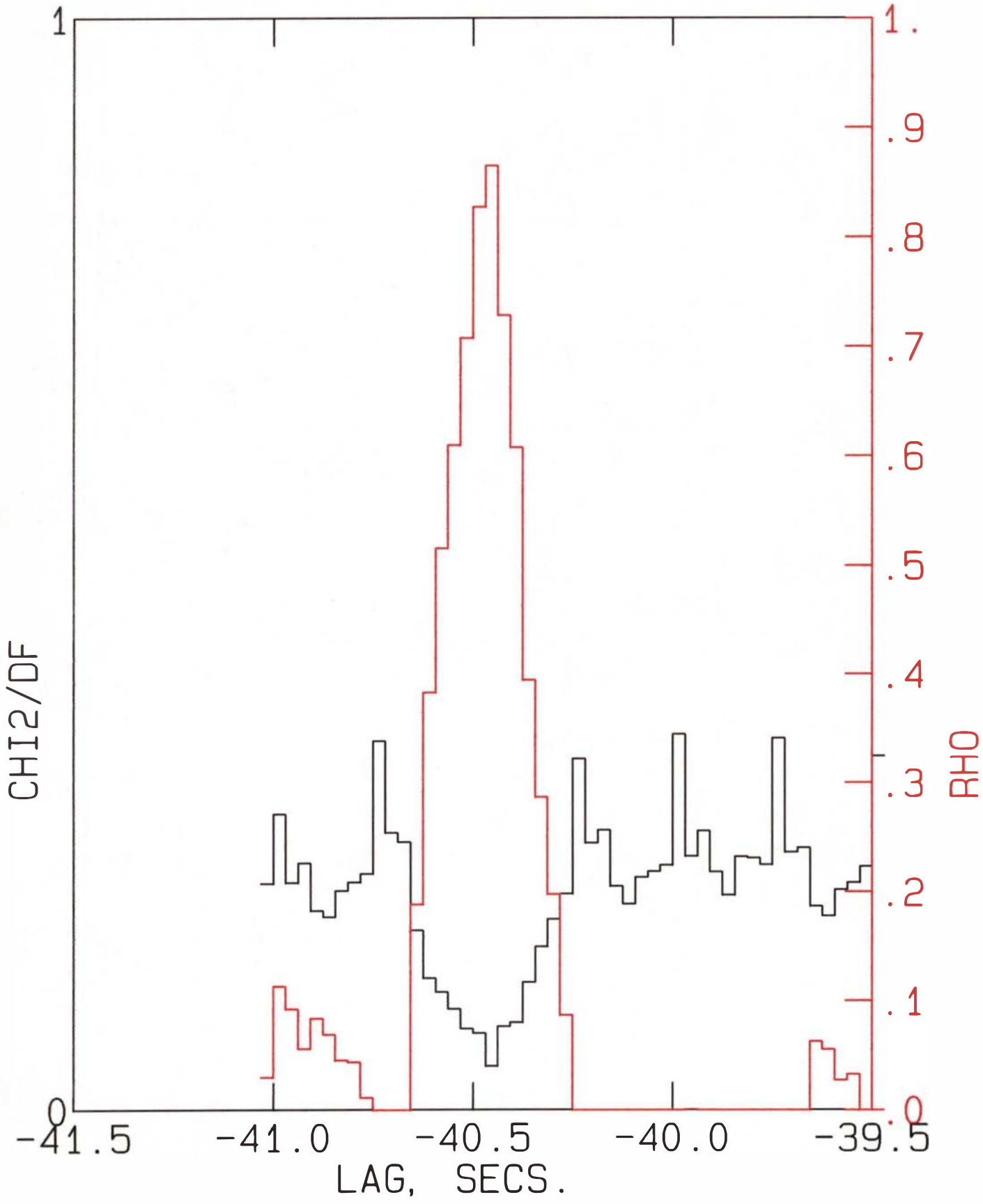
21- 146 keV

27/ 9/97




ULYSSES RT-ULYSSES CORRELATION 31/10/96 44826.227 26/ 9/97
ULYSSES RT
C/ 0.25000 S
ULYSSES
C/ 0.25000 S
TIME, SECS
0
10
20
30
40
50
60
70
80
90
100

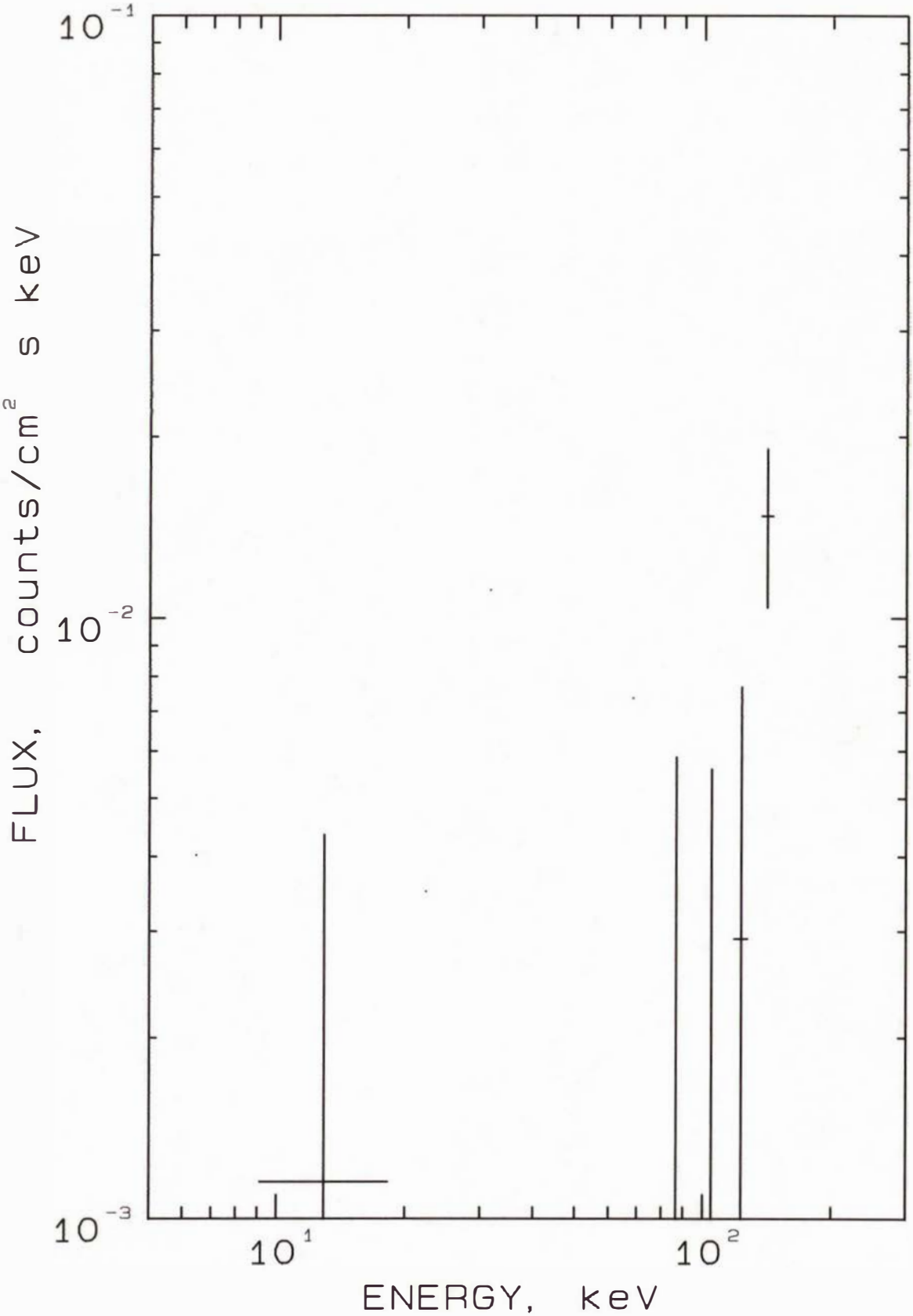
ULYSSES RT-ULYSSES CORRELATION 31/10/96 44826.227

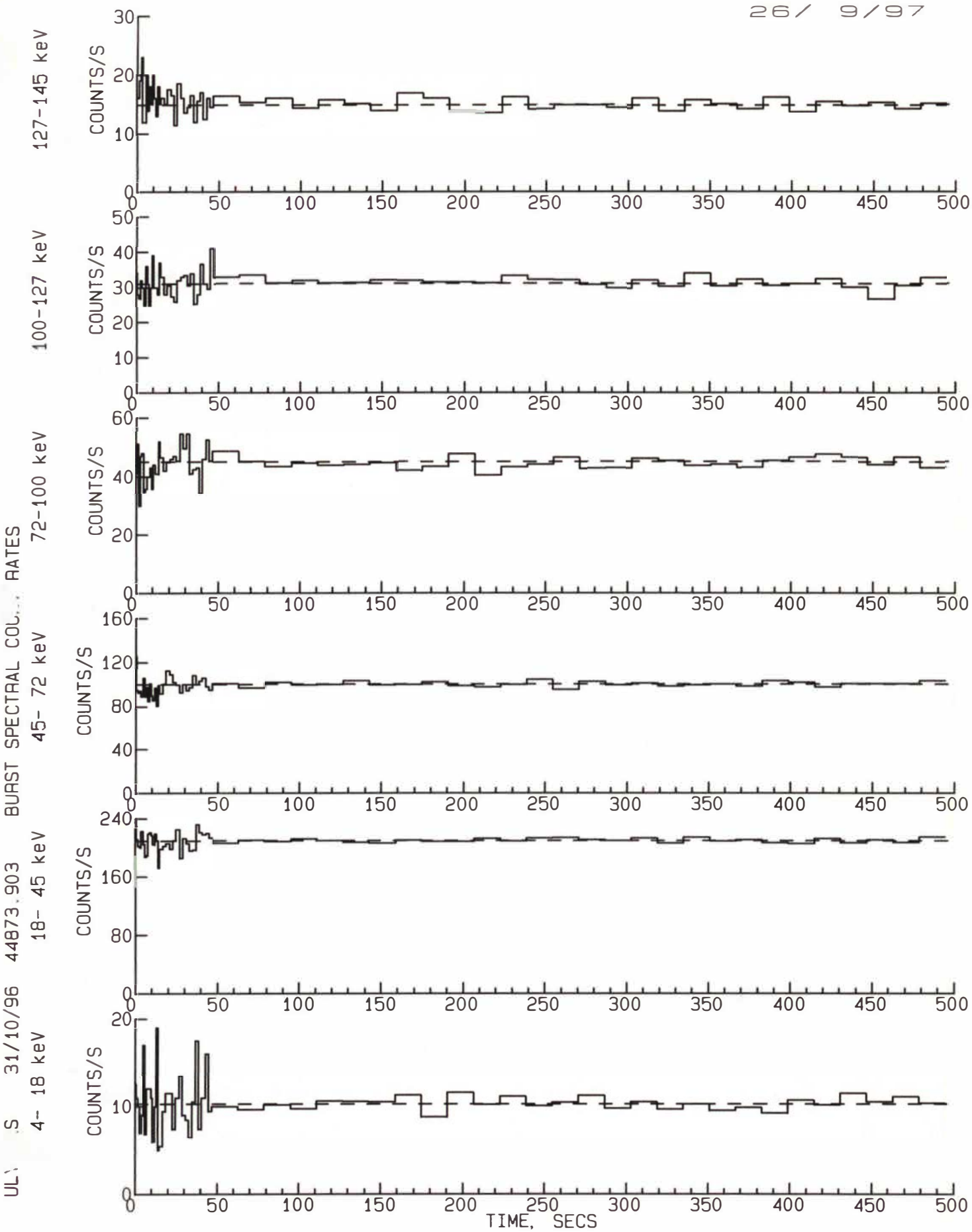


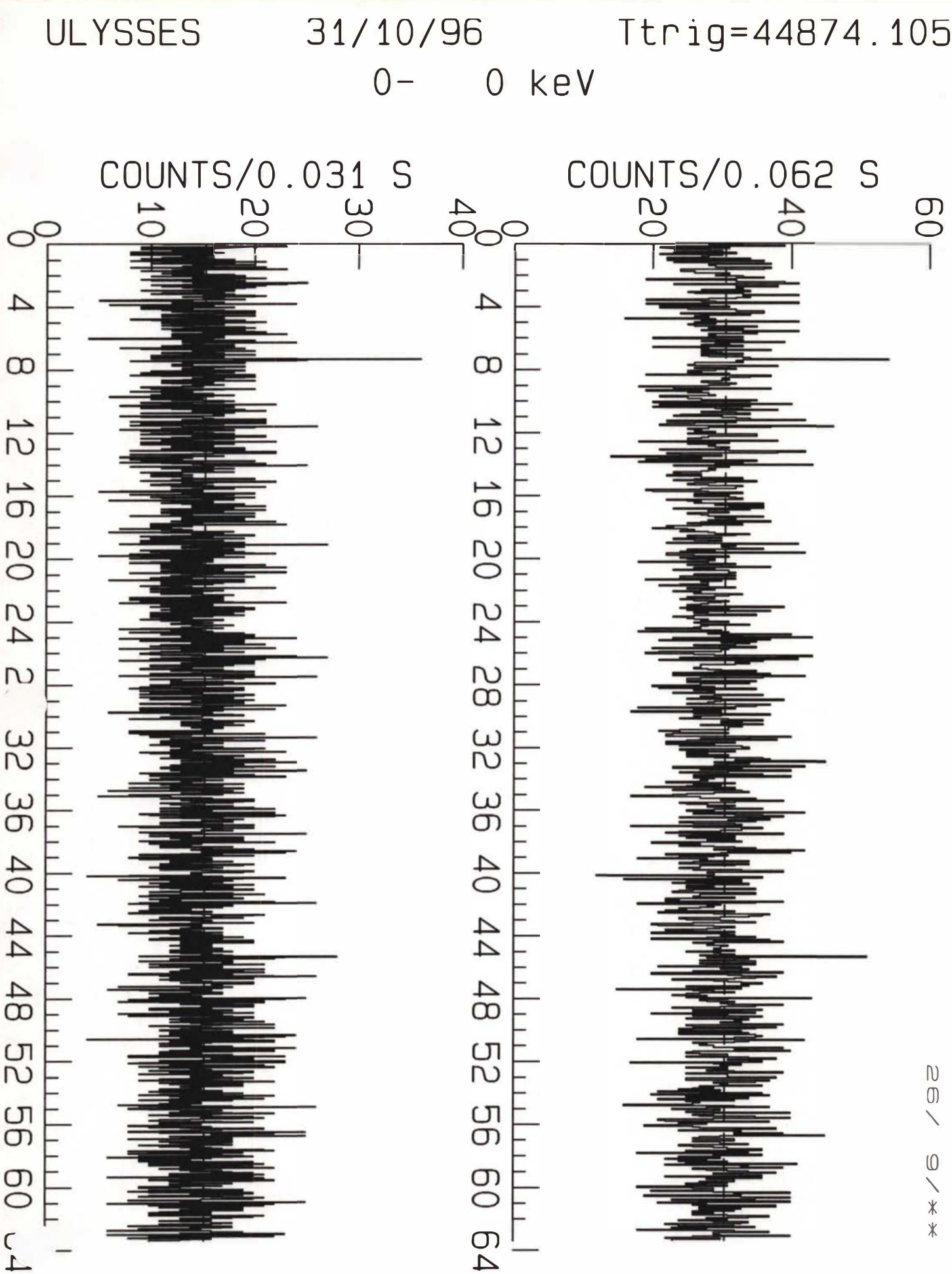
ULYSSES 31/10/96 44873.903

26/ 9/97

SPECTRUM INTEGRATED OVER 20.7 SECONDS, INTERVALS 2 TO 20




26/ 9/97
ULYSSES 31/10/96 44873.903 BURST SPECTRAL COUNT RATES
4- 18 keV
18- 45 keV
45- 72 keV
72-100 keV
100-127 keV
127-145 keV
COUNTS/S
TIME, SECS

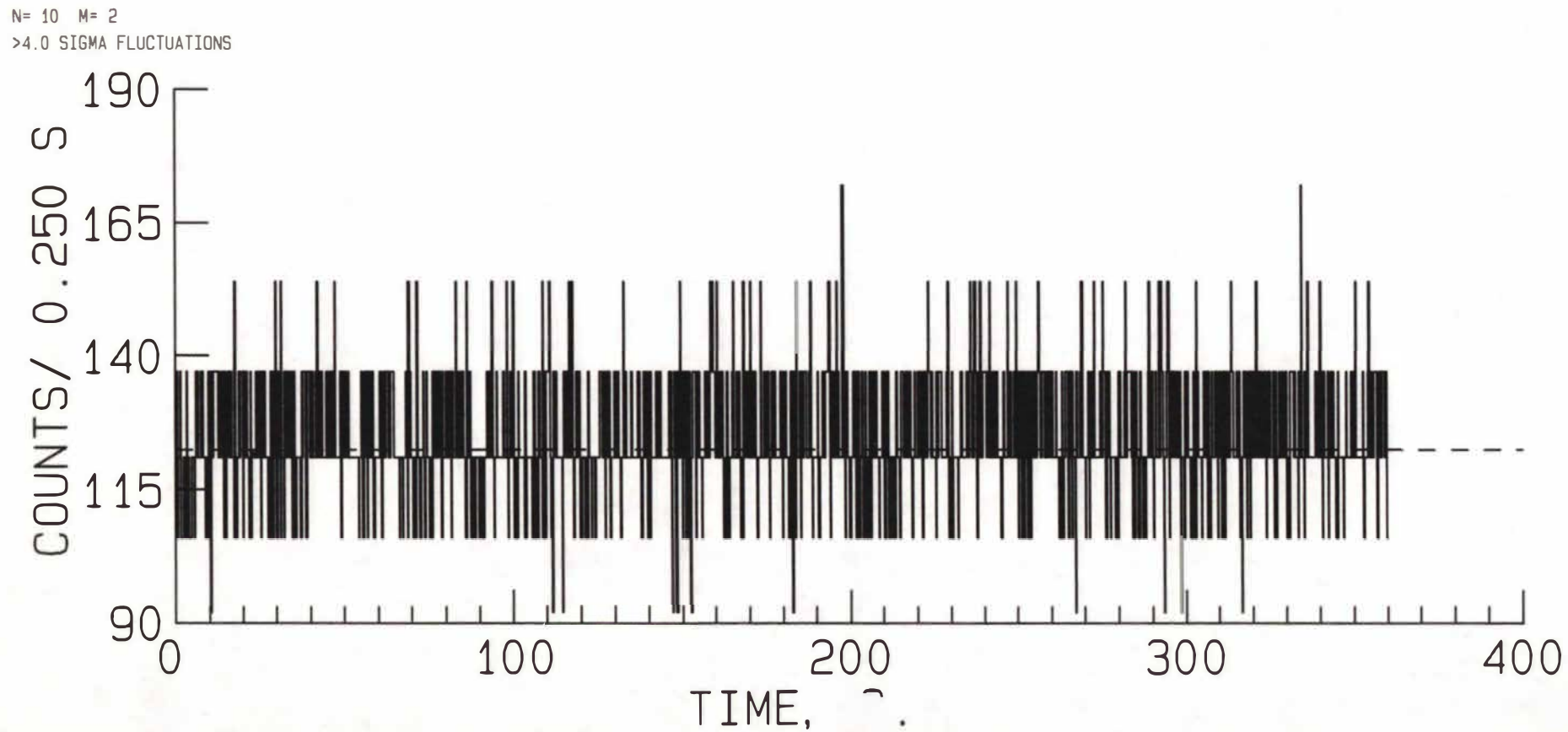

ULYSSES 31/10/96 Ttrig=44874.105
0- 0 keV
COUNTS/0.031 S
COUNTS/0.062 S
0 10 20 30 40
0 20 40 60
0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64
26/ 9/**

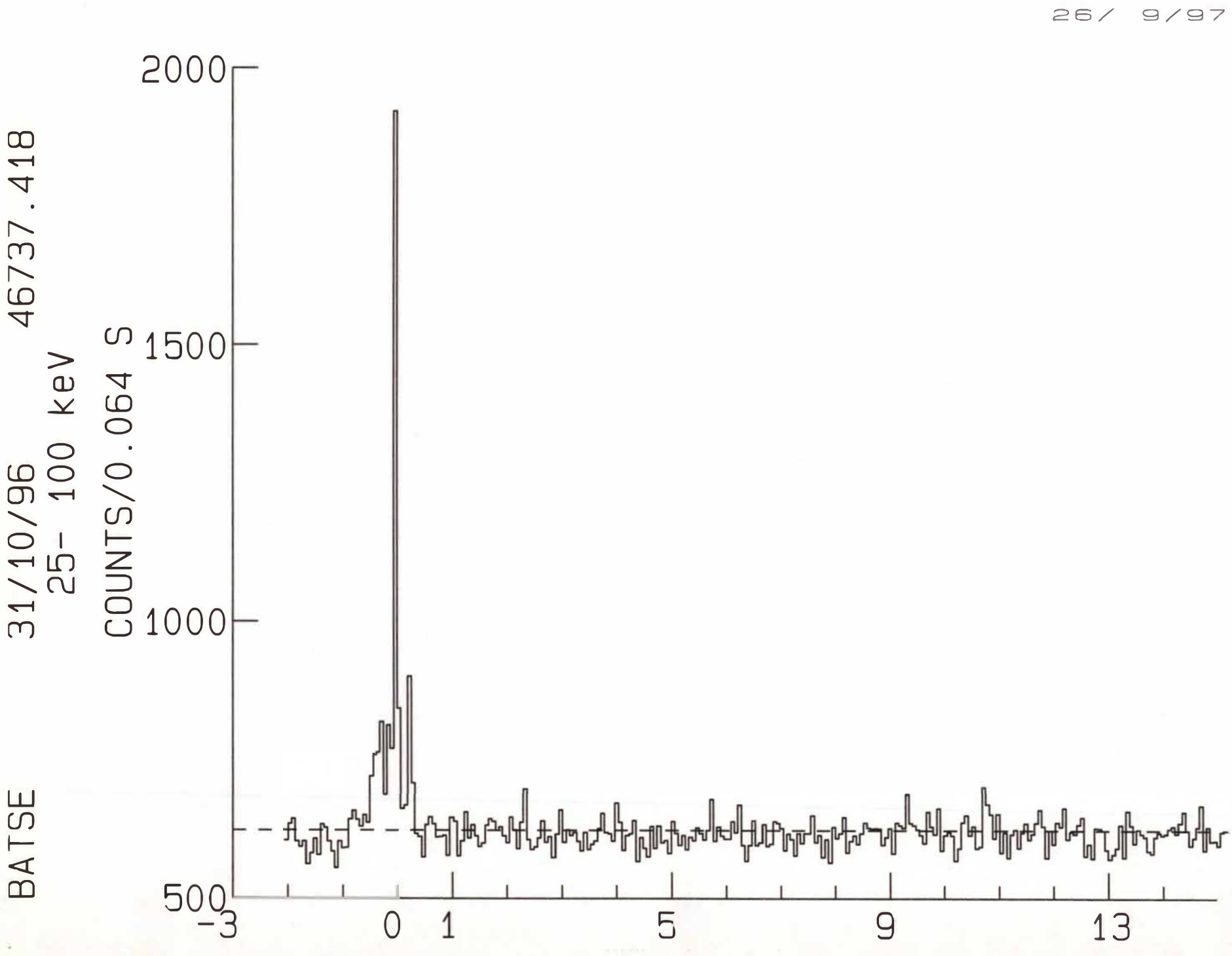
ULYSSES RT

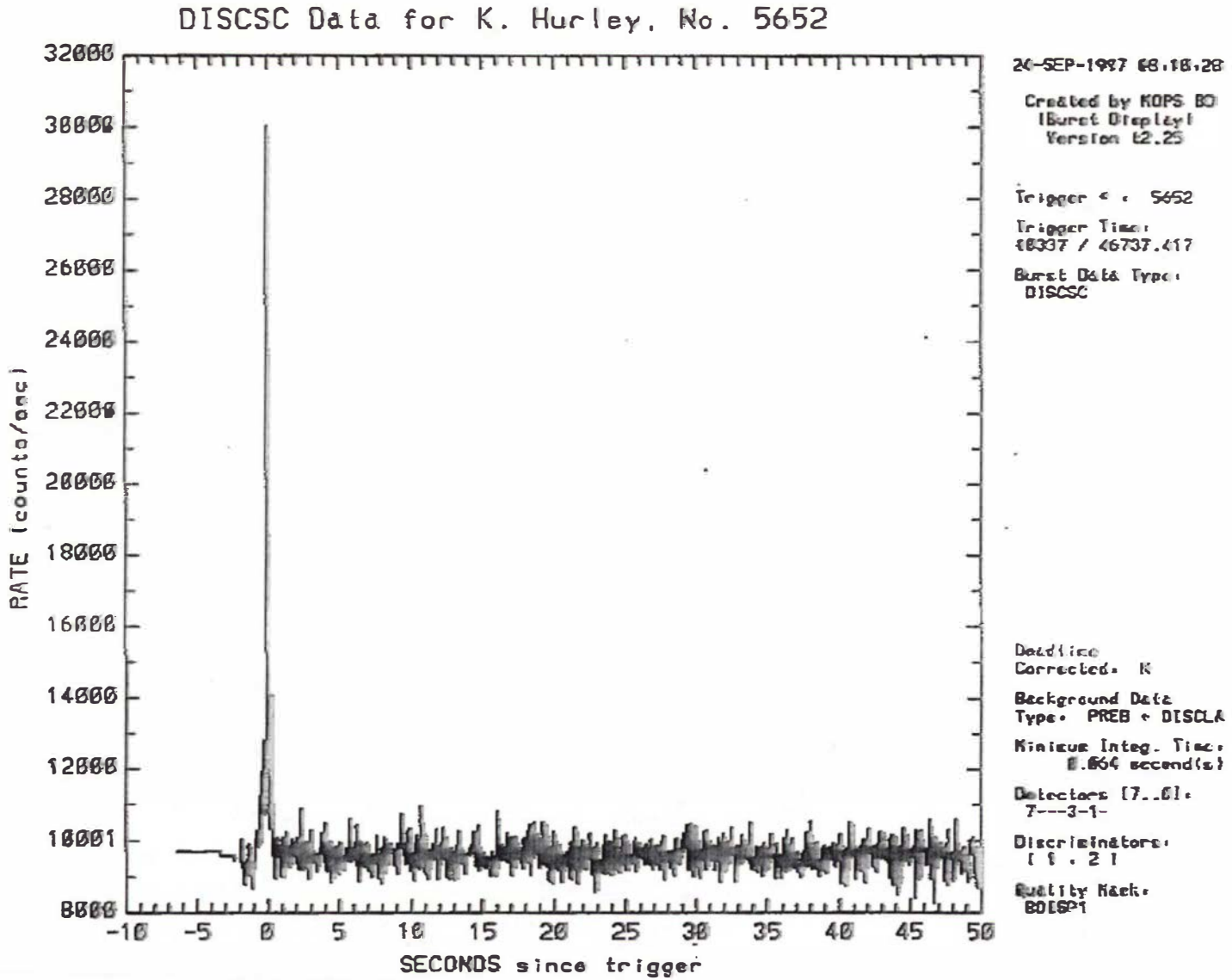
26/ 9/97

31/10/96 44676.036 s

21- 146 keV




26/ 9/97
BATSE 31/10/96 46737.418
25- 100 keV
COUNTS/0.064 S
2000
1500
1000
500
-3
0
1
5
9
13


DISCSC Data for K. Hurley, No. 5652
RATE (counts/sec)
32000
30000
28000
26000
24000
22000
20000
18000
16000
14000
12000
10001
8000
-10
-5
0
5
10
15
20
25
30
35
40
45
50
SECONDS since trigger
20-SEP-1997 08:18:28
Created by KOPS BD
(Burst Display)
Version 02.25
Trigger # : 5652
Trigger Time:
18337 / 46737.417
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)
Detectors [7..0]:
7---3-1-
Discriminators:
[1 , 2]
Quality Mask:
BDISP1

From DEAL@fender.msfc.nasa.gov Tue Nov 5 12:16 PST 1996
Return-Path: <DEAL@fender.msfc.nasa.gov>
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id MAA12320; Tue, 5 Nov 1996 12:16:06 -0800
   m: DEAL@fender.msfc.nasa.gov
Date: Tue, 5 Nov 1996 14:15:54 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <961105141554.294001e7@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 5653
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

         ****
         BATSEARCH PROGRAM
         ****

 BATSE BURST #   5653
 EVENT OF 1996 OCT 31 DAY OF YEAR=305
 EVENT CROSSING TIME AT BATSE   : 83829. S. OR 23:17:09.0
 COORDINATES ARE   0.000   0.000   6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 277.000 -28.000
 BATSE PEAK COUNTING RATE: 9000   C/S

 EVENT CROSSING TIME AT ULYSSES   WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 31/10/ 96 IS:
 RA= 176.546 DEC=   31.523 DIST=   4.920 AU
 BATSE-ULYSSES DISTANCE = 736053697. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 67.54 DEG.
  LIGHT TRAVEL TIME ALONG PROJECTED PATH= 937.96 SECS.
 CROSSING TIME AT ULYSSES   IS 84767. S. OR   23:32:46 +/- 458.18 SECONDS

 EVENT CROSSING TIME AT MARS   WILL BE FOUND
 POSITION OF MARS ON 31/10/ 96 IS:
 RA= 153.039 DEC=   12.833 DIST=   1.724 AU
 MARS-BATSE DISTANCE = 257957360. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 54.18 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 503.53 SECS.
 CROSSING TIME AT MARS   IS 84333. S. OR   23:25:32 +/- 128.78 SECONDS

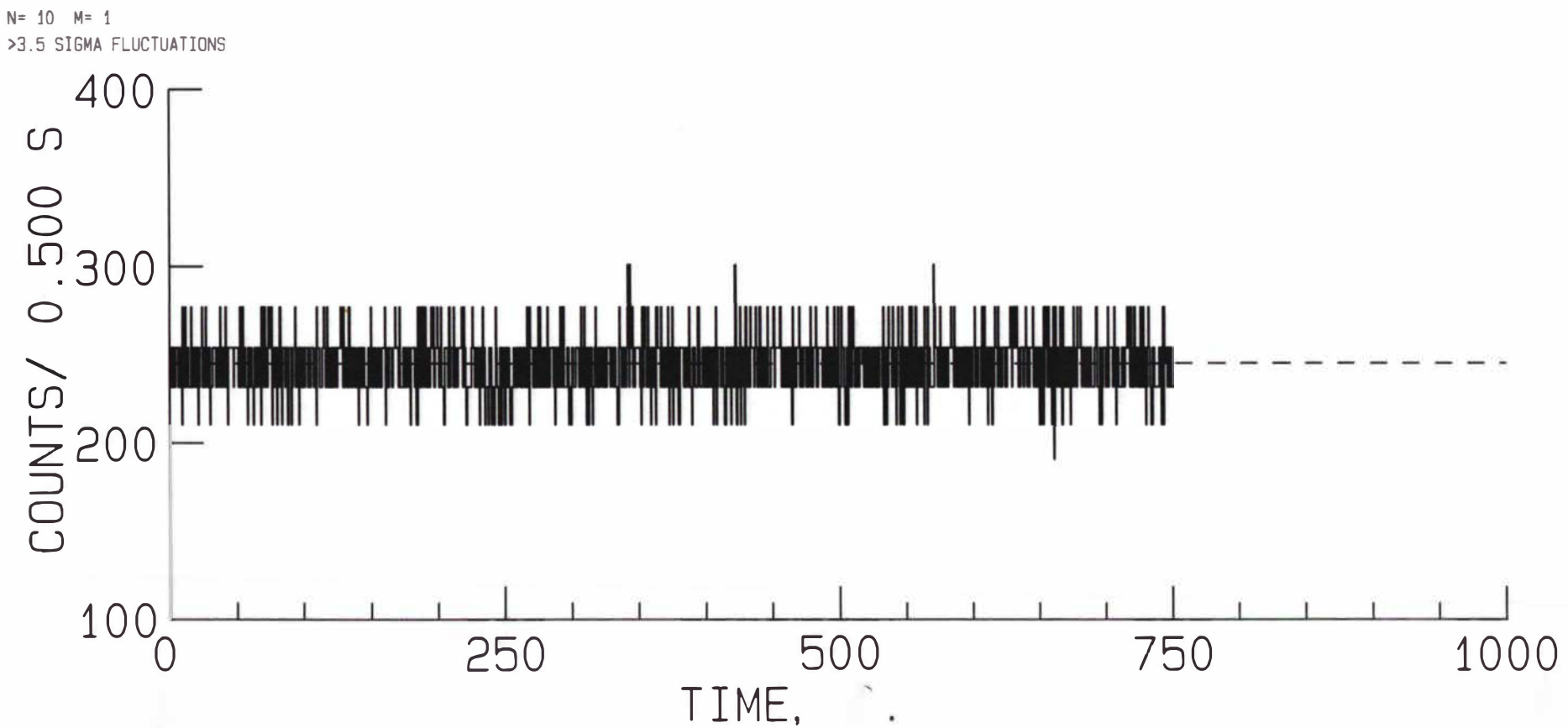
 BATSE #   Date   TJD   SoD   Max ct/s   RA   Dec Dur (s)
   5653   961031   10387   83829   9000   277   -28   .05

ULYSSES RT

22/ 9/97

31/10/96 84312.023 s

21- 146 keV

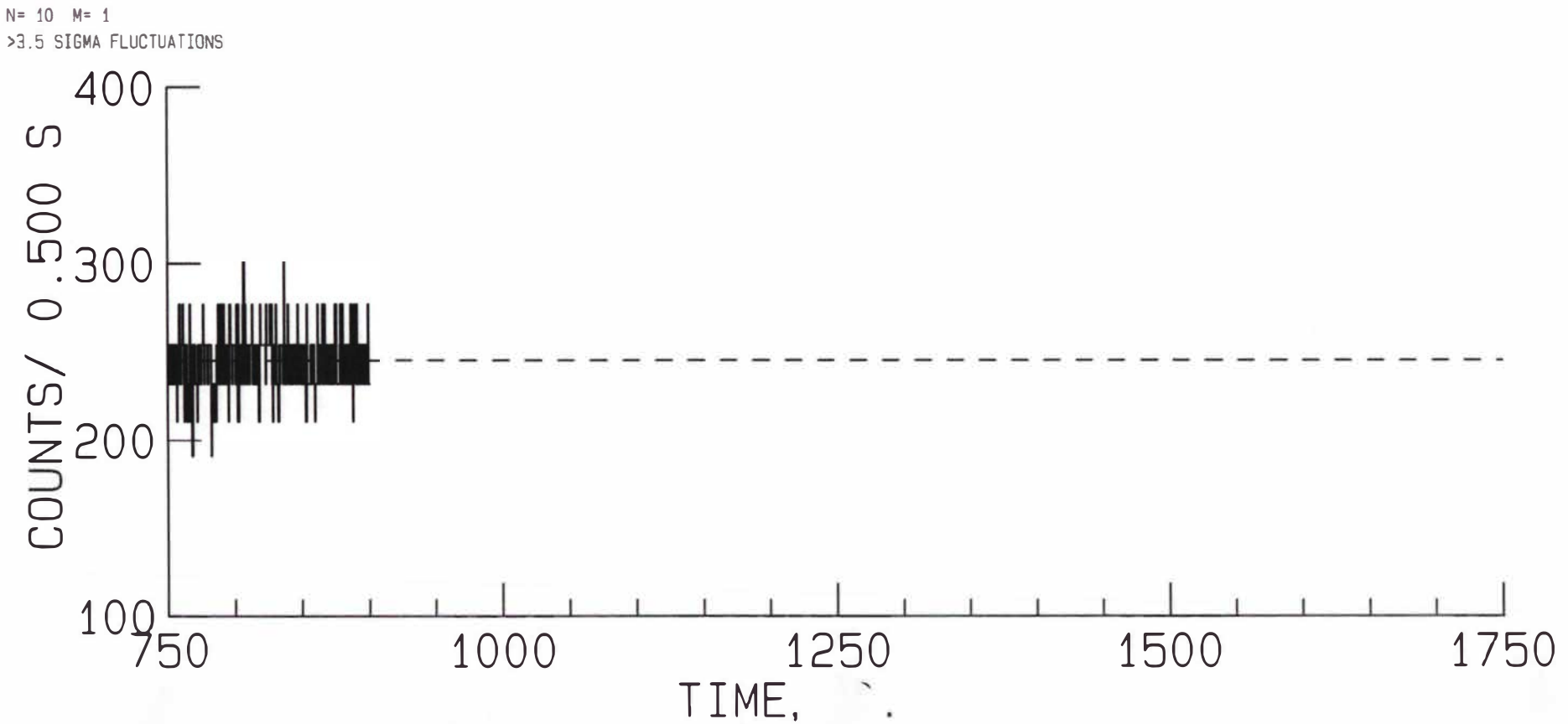


ULYSSES RT

22/ 9/97

31/10/96 84312.023 s

21- 146 keV

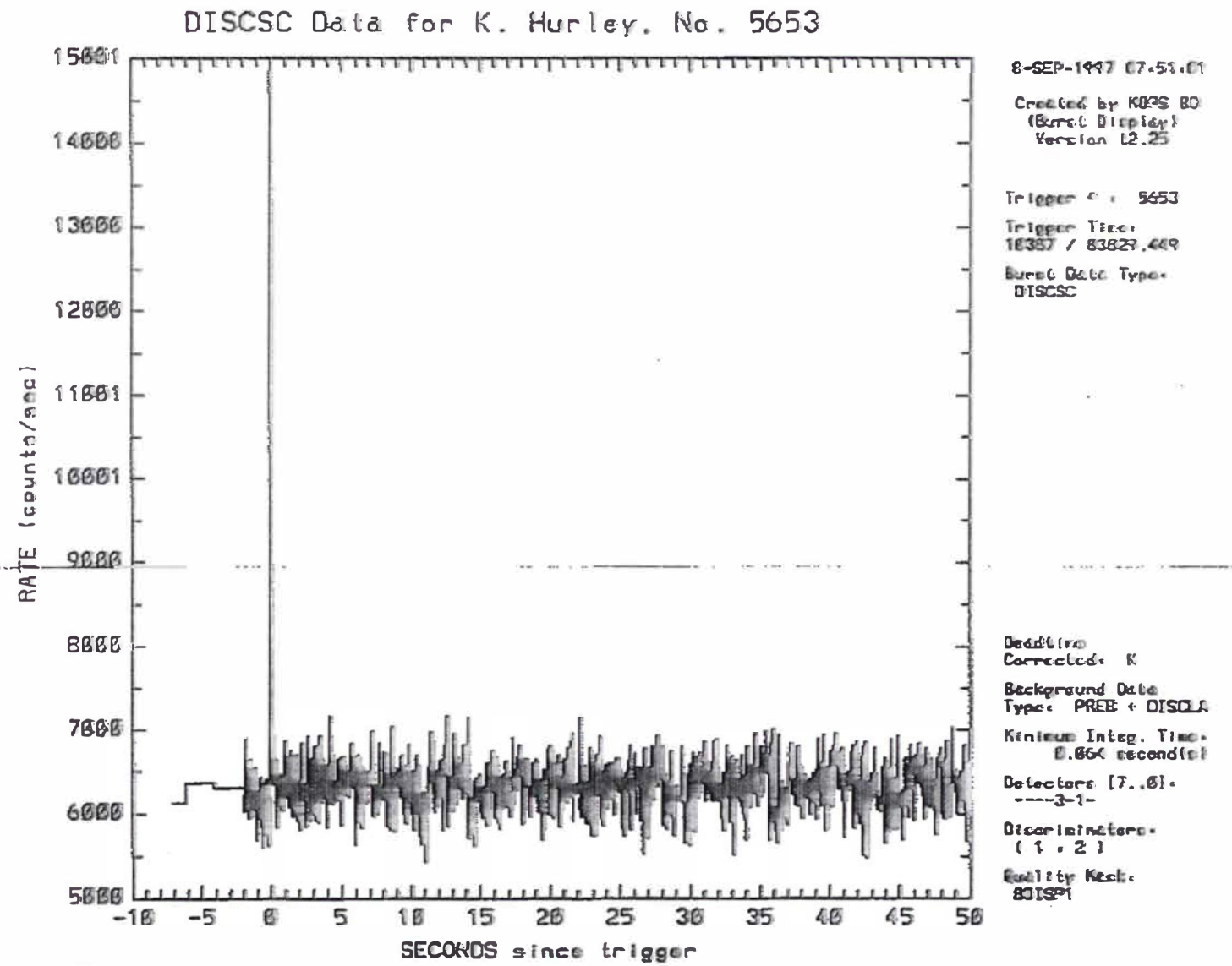


BATSE
31/10/96
83829.450
25- 100 keV
COUNTS/0.064 S
300
500
700
900
1100
-3
0
1
5
9
13

22 / 9/97

R=95%

09-08-1997 07:08 205 544 5800 BATSE



205 544 5800 09-08-97 06:05AM P002 #01

P.02

BATSE# 5653

ULYSSES RT 5/11/96

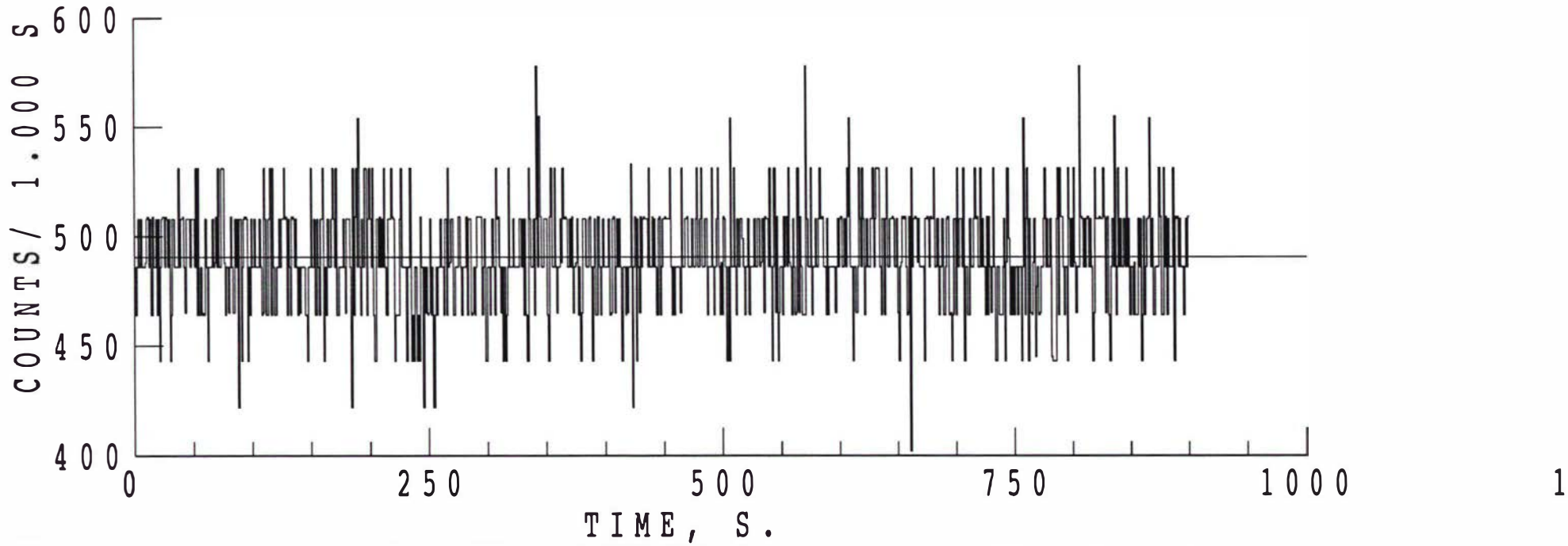
31/10/96 84312.023 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



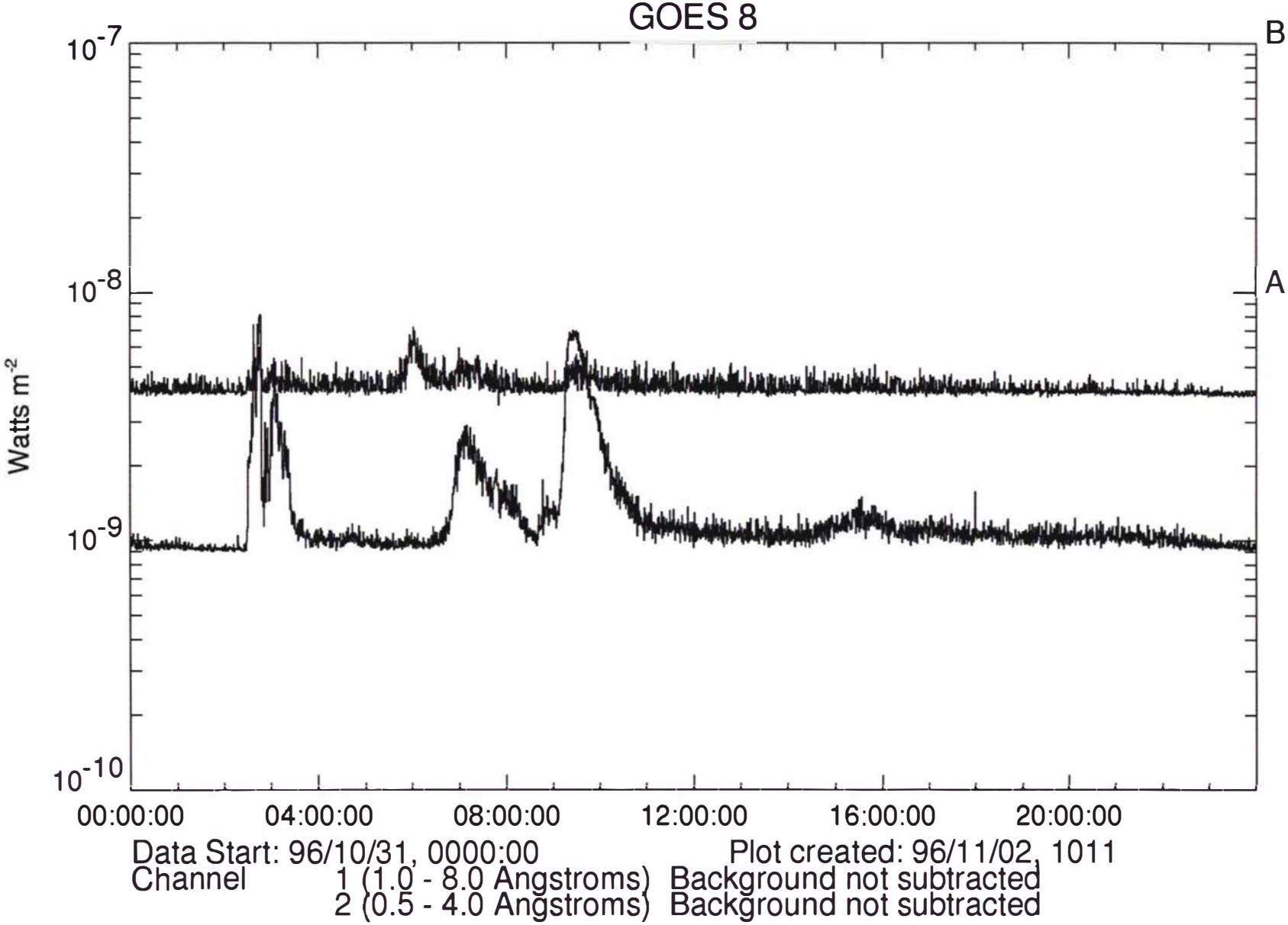
From BUTTERWORTH@lheavx.gsfc.nasa.gov Tue Nov 5 08:54 PST 1996
From: BUTTERWORTH@lheavx.gsfc.nasa.gov
Date: Tue, 5 Nov 1996 11:54:46 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
CLINE@lheavx.gsfc.nasa.gov, scott@rosserv.gsfc.nasa.gov
CC: BUTTERWORTH@lheavx.gsfc.nasa.gov
X-Vmsmail-To: @ULYSSES
X-Vmsmail-Cc: BUTTERWORTH
Subject: responses to Kevin's 7 Ulysses event notices sent yesterday

Hi Everyone,

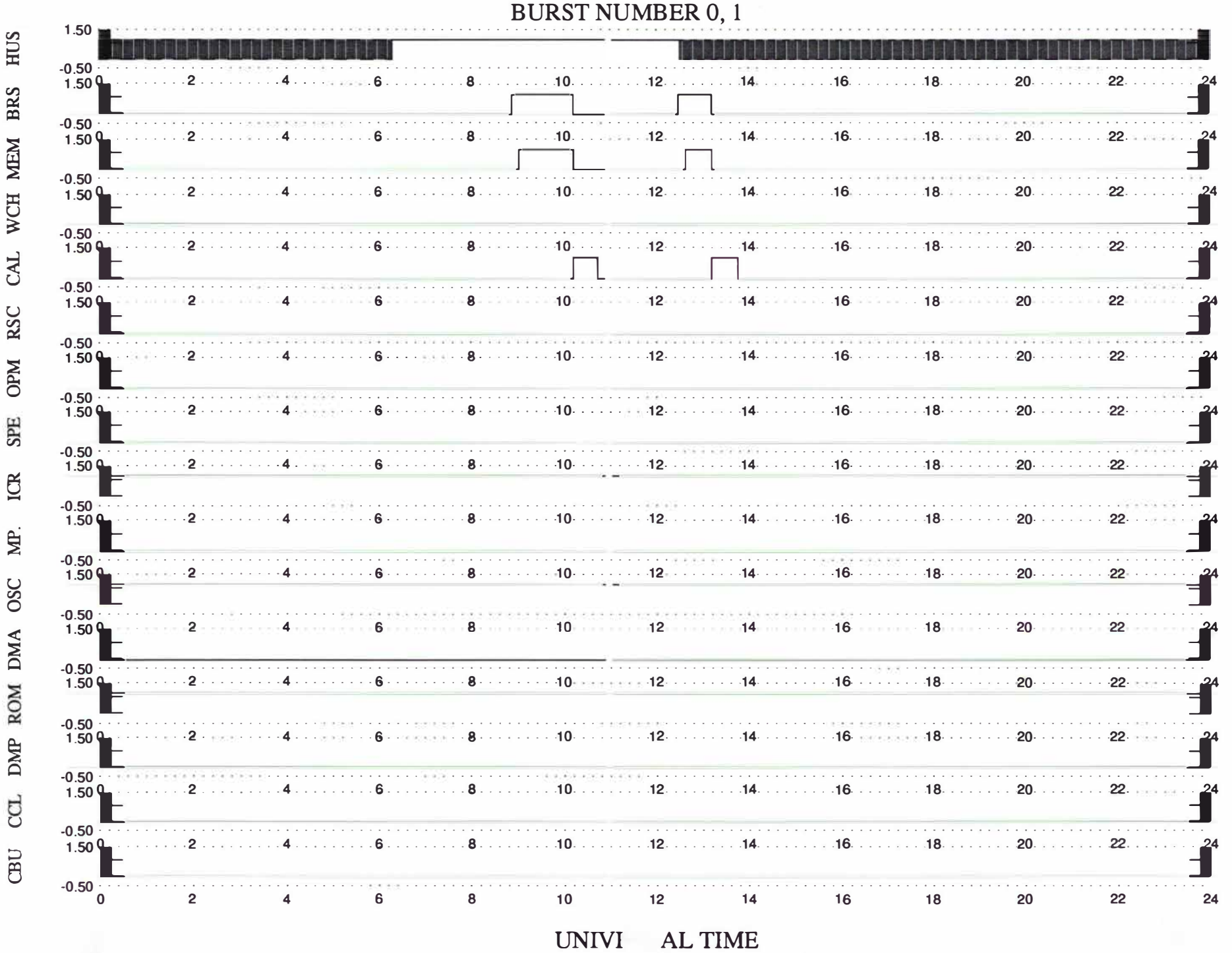
This is a response for Konus to Kevin's set of Ulysses event notices sent yesterday.

Paul.

Ulysses event	Konus observation
961023 21:18 weak 32ms	haven't checked this one yet - report will follow
961024 14:42 weak 32ms	not detected
961024 16:33 weak 32ms	not detected
961026 01:21 weak 32ms	trigger at 01:33:51.940 in South-facing detector, weak, soft, lasted 80ms centered on trigger time
961026 14:03 weak 32ms	not detected
1029 07:13 strong 30s	trigger at 06:45:54.087 in South-facing detector, strong, slow rise for 45s after trigger, broad peak from 45-97s after trigger with maxima at 72.2s and 75.3s, minor peak at 196.6s after trigger
961030 03:15 weak 100ms	not detected
961031 08:48 weak 50ms	not detected
961031 12:28 weak 50ms	not detected
961101 12:33 weak 50ms	not detected
961101 15:56 weak 50ms	trigger at 16:07:42.904 in North-facing detector, moderate, double peak - first lasting 1s centered on trigger time, second lasting 1s centered 15.7s after trigger

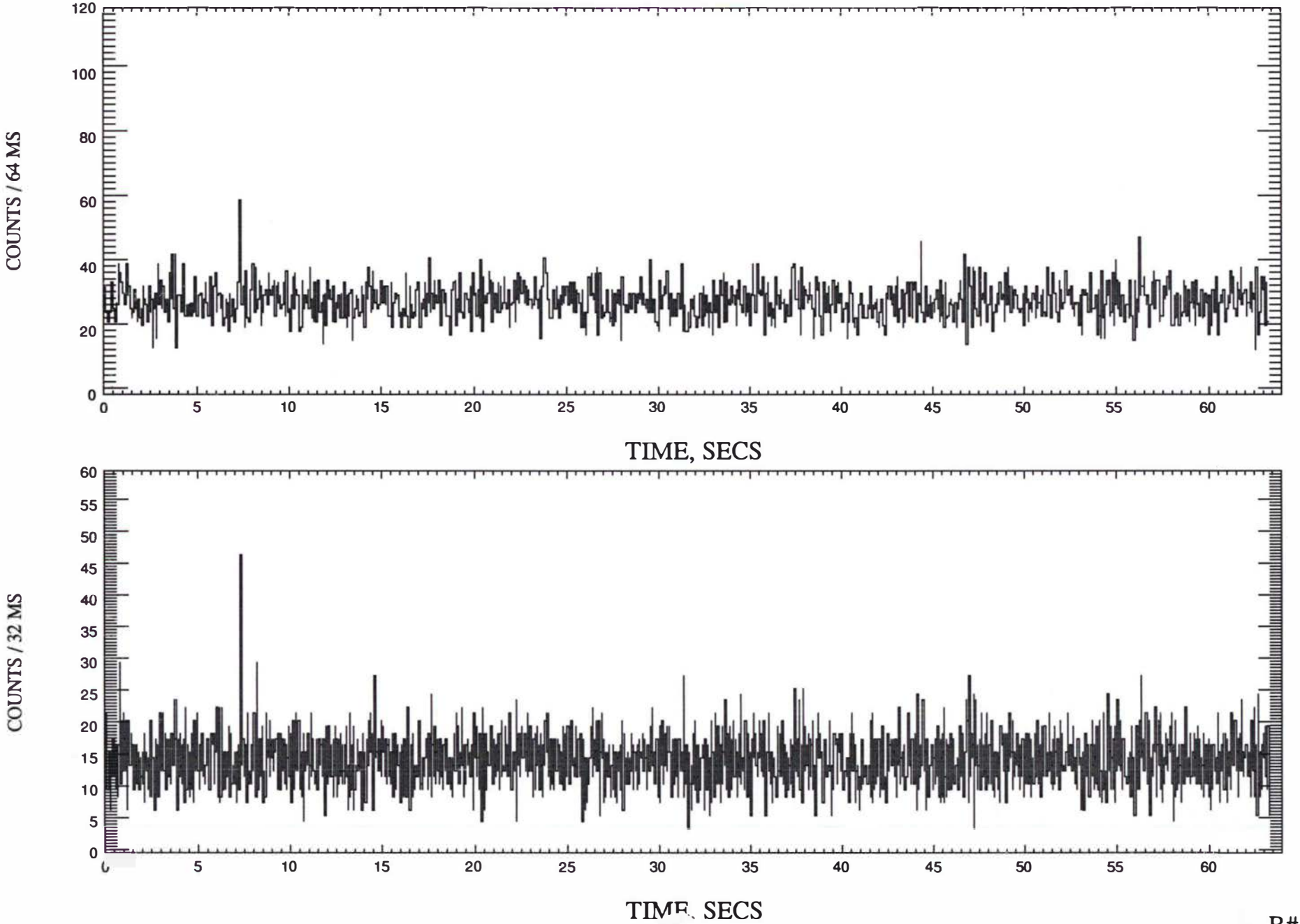

GOES 8
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
Watts m^{-2}
00:00:00
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/10/31, 0000:00
Plot created: 96/11/02, 1011
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 305, year 1996 to day 305, year 1996 3/29/97



HUS 2A TRIGGERED DATA EDR day 305, year 1996 3/29/97

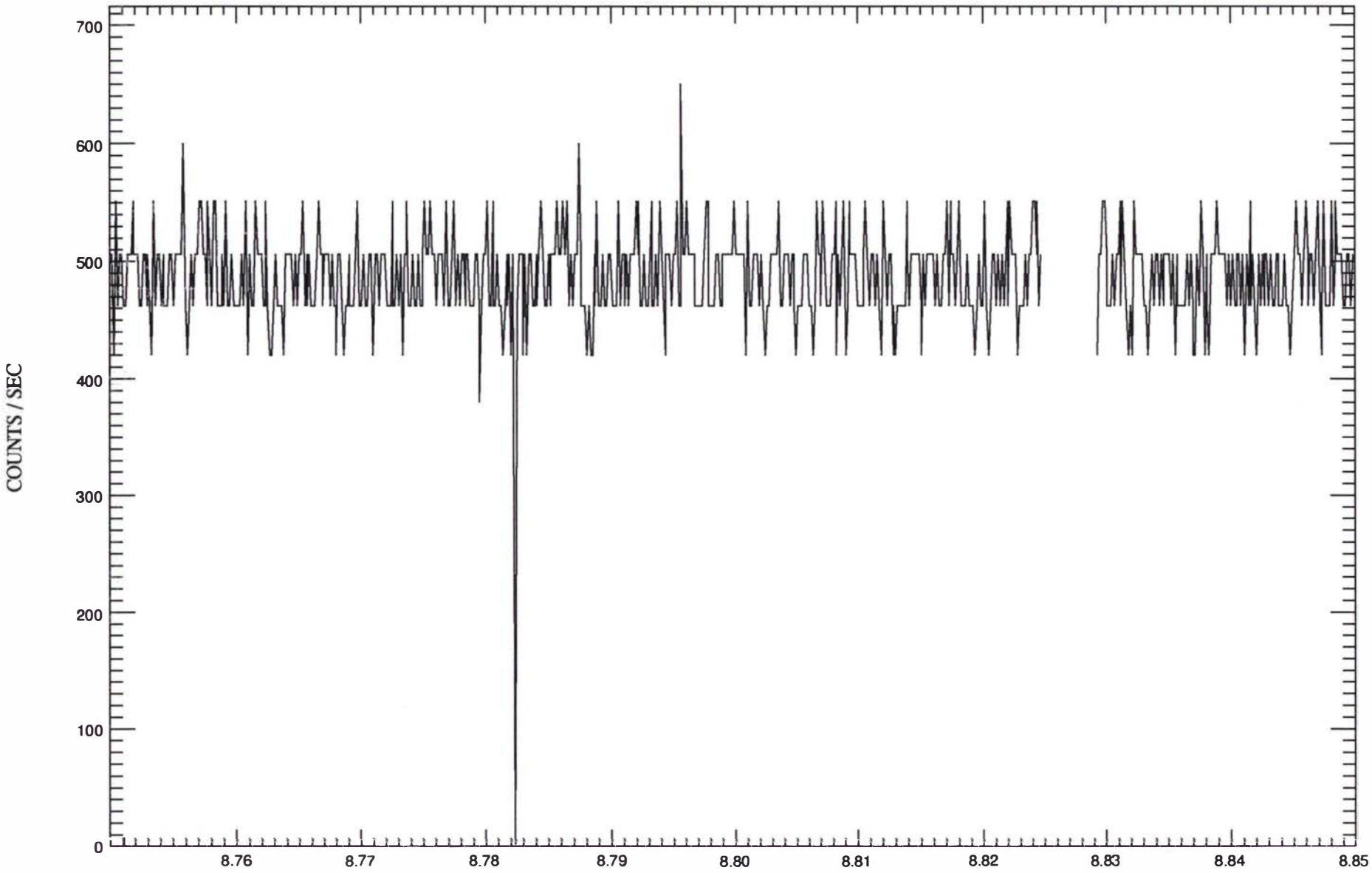
Burst Counter 0 at UT= 8.795821651883 h=31664.958 s 08:47:44.958



B# 1

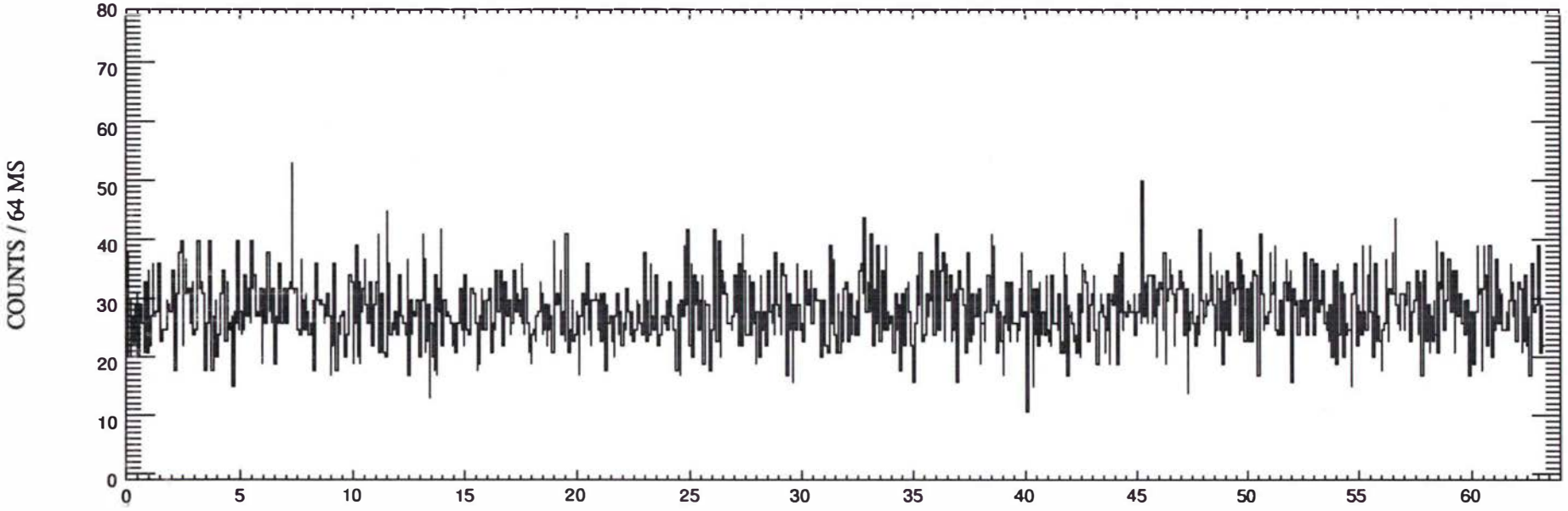
HUS 2A, MODE 1, NOT AVERAGED EDR day 305, year 1996 to day 305, year 1996 3/29/97

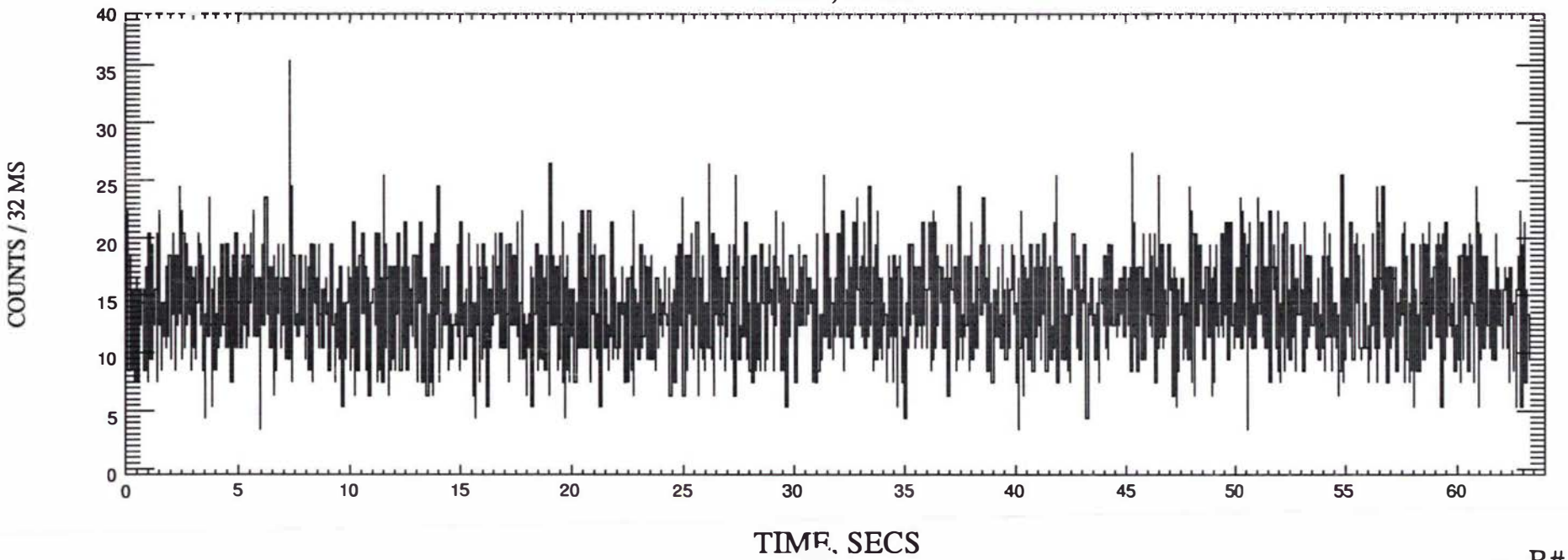
CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 305, year 1996 3/29/97

Burst Counter 1 at UT=12.464973186917 h=44873.903 s 12:27:53.903

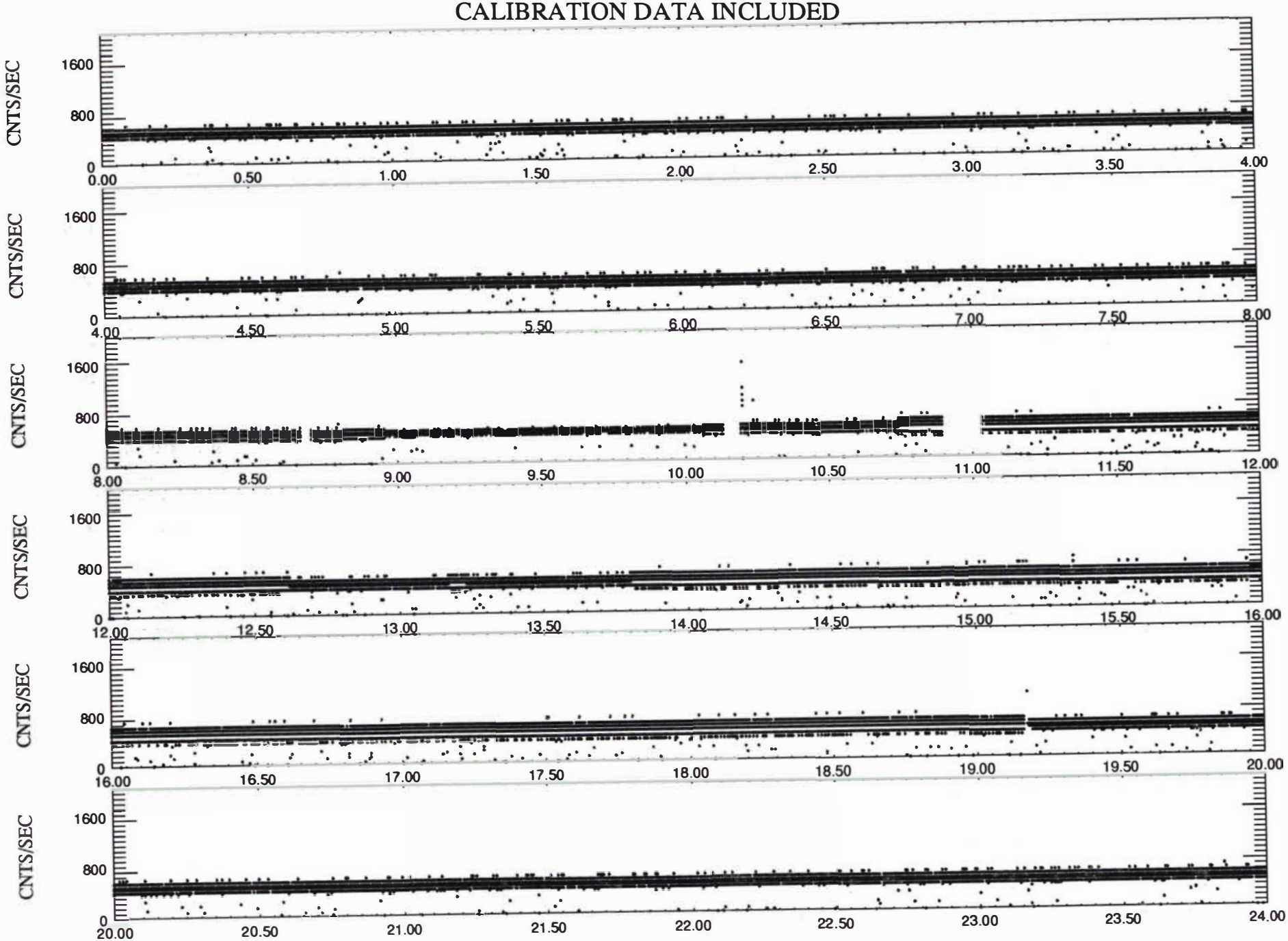




B# 2

HUS 2A, MODE 1, NOT AVERAGED EDR day 305, year 1996 to day 305, year 1996 3/29/97

CALIBRATION DATA INCLUDED



UNIVI AL TIME

HUS 2B COUNTS / SEC EDR day 305, year 1996 to day 305, year 1996 3/29/97

