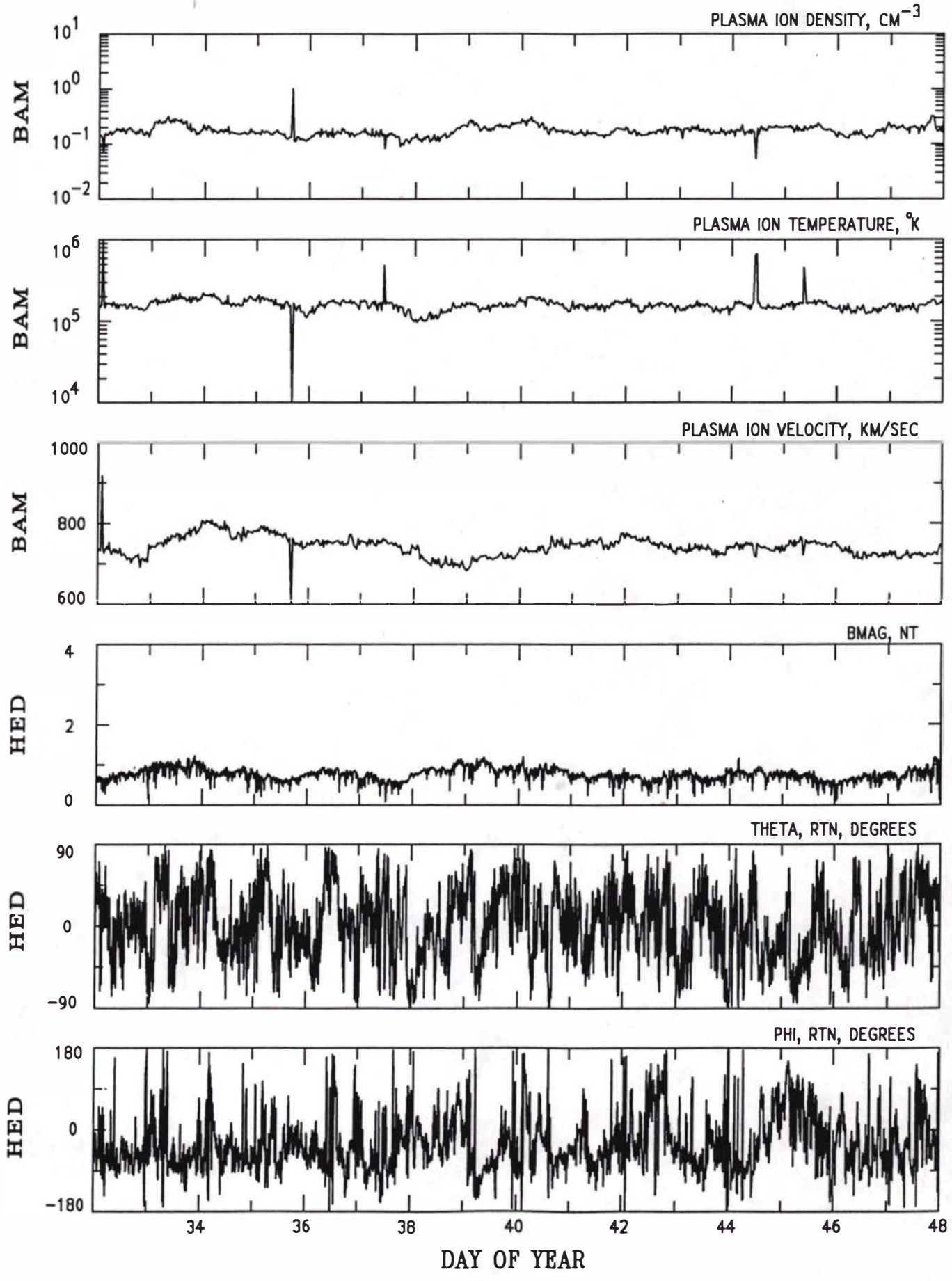
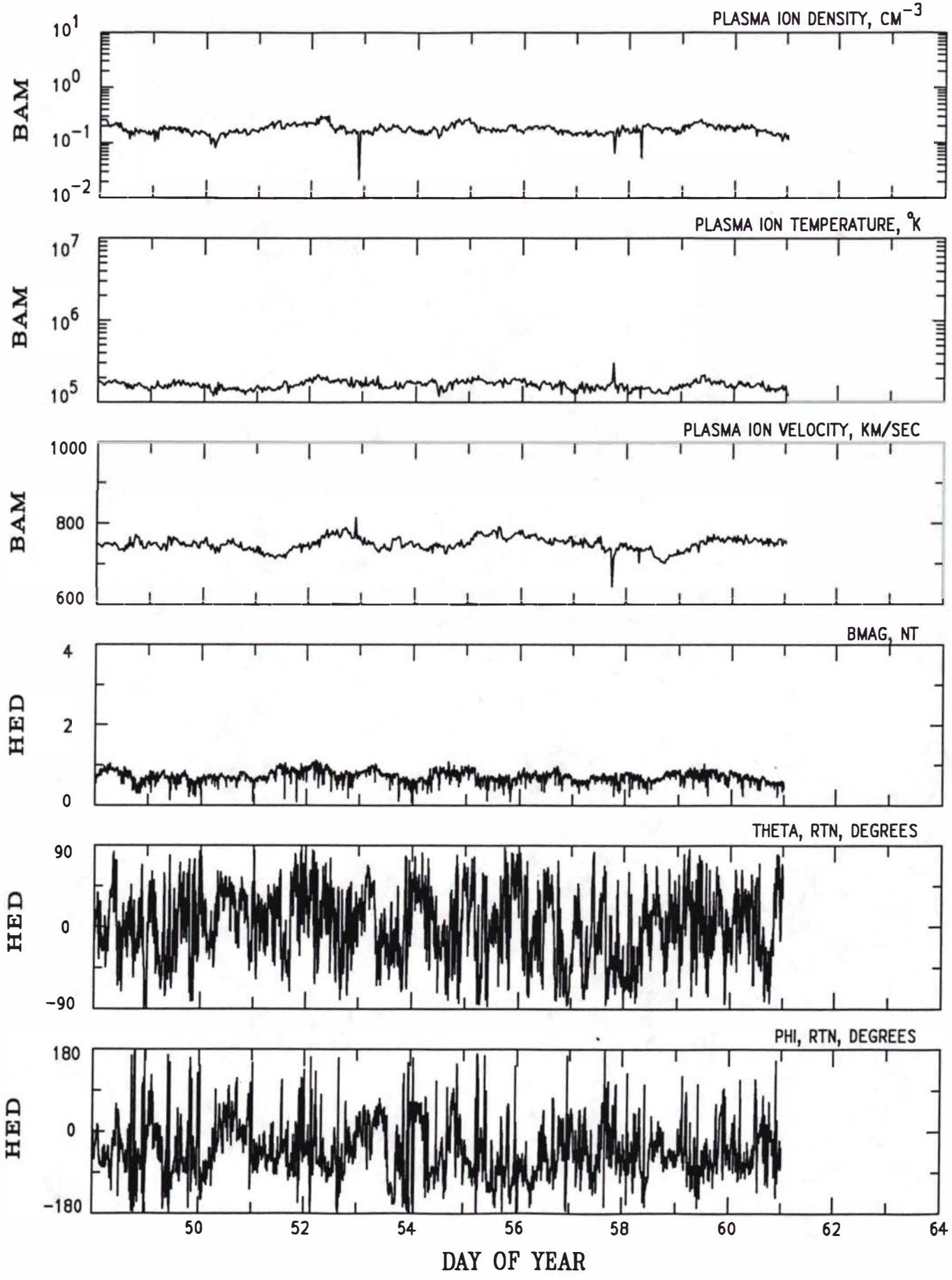
ULYSSES CDR – SOLAR WIND PLASMA AND MAGNETIC FIELD

96 032 FEB 1 00:00:00.000 – 96 048 FEB 17 00:00:00.000



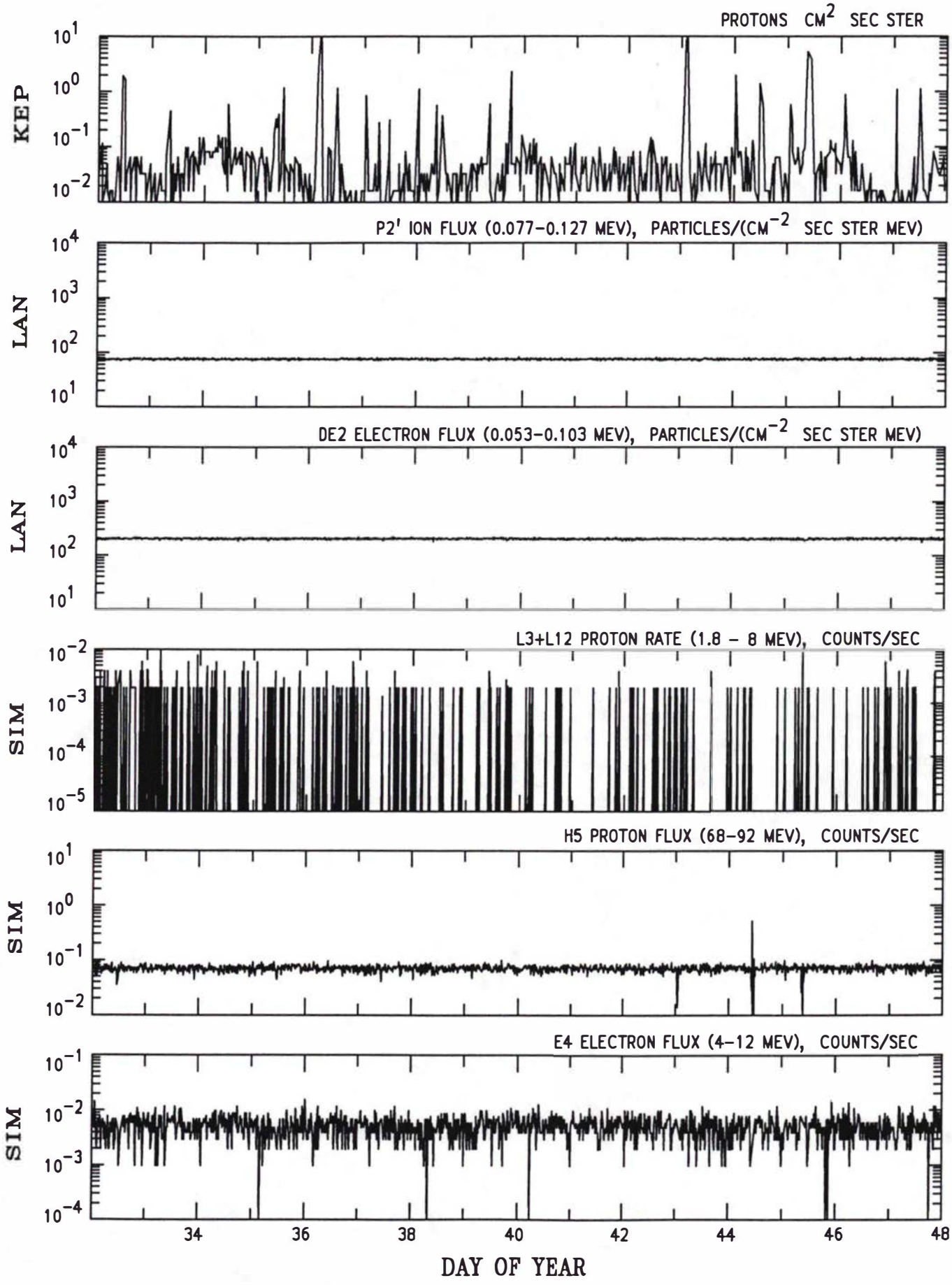
ULYSSES CDR – SOLAR WIND PLASMA AND MAGNETIC FIELD

96 048 FEB 17 00:00:00.000 – 96 064 MAR 4 00:00:00.000



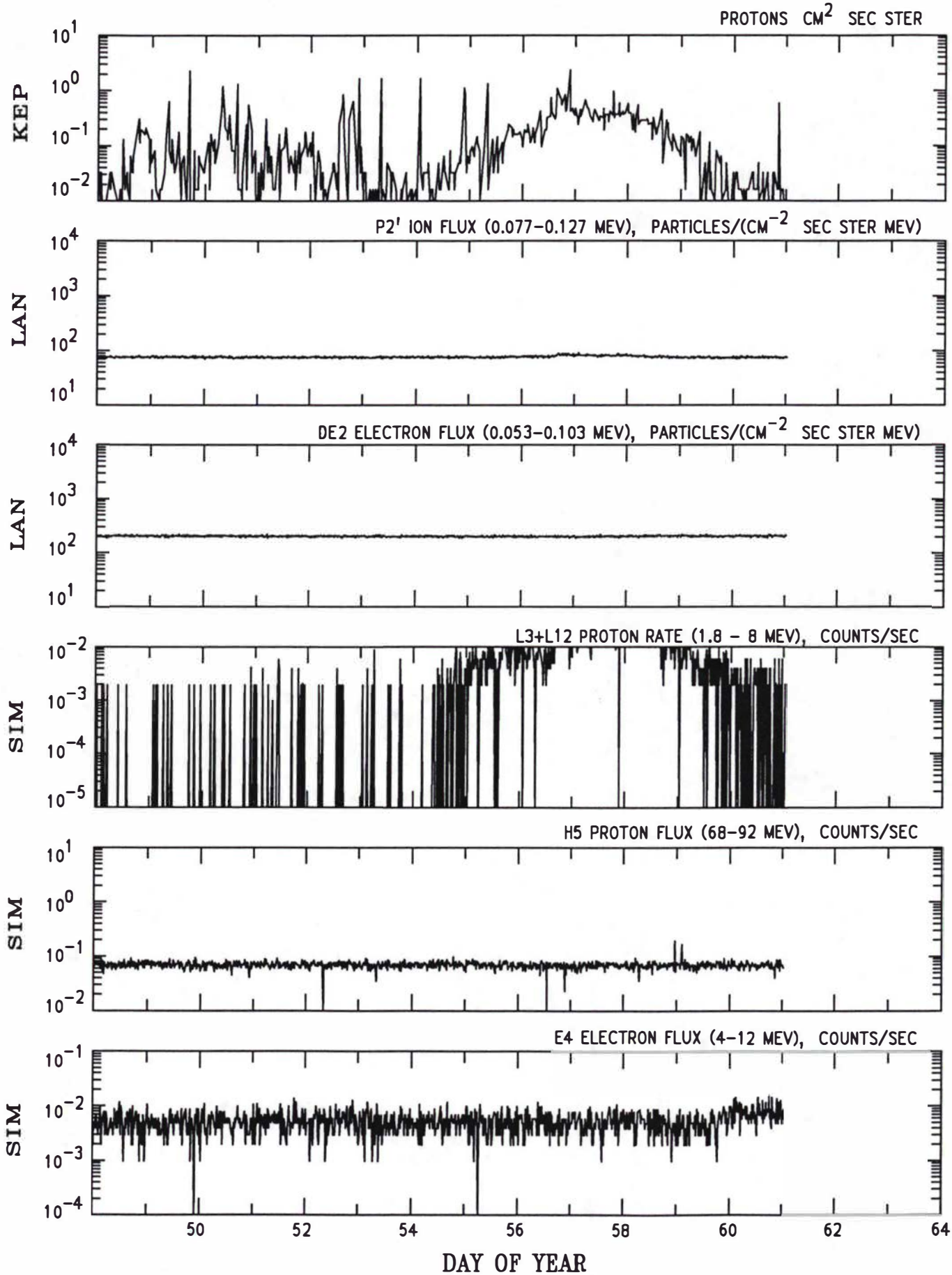
ULYSSES CDR – ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

96 032 FEB 1 00:00:00.000 – 96 048 FEB 17 00:00:00.000



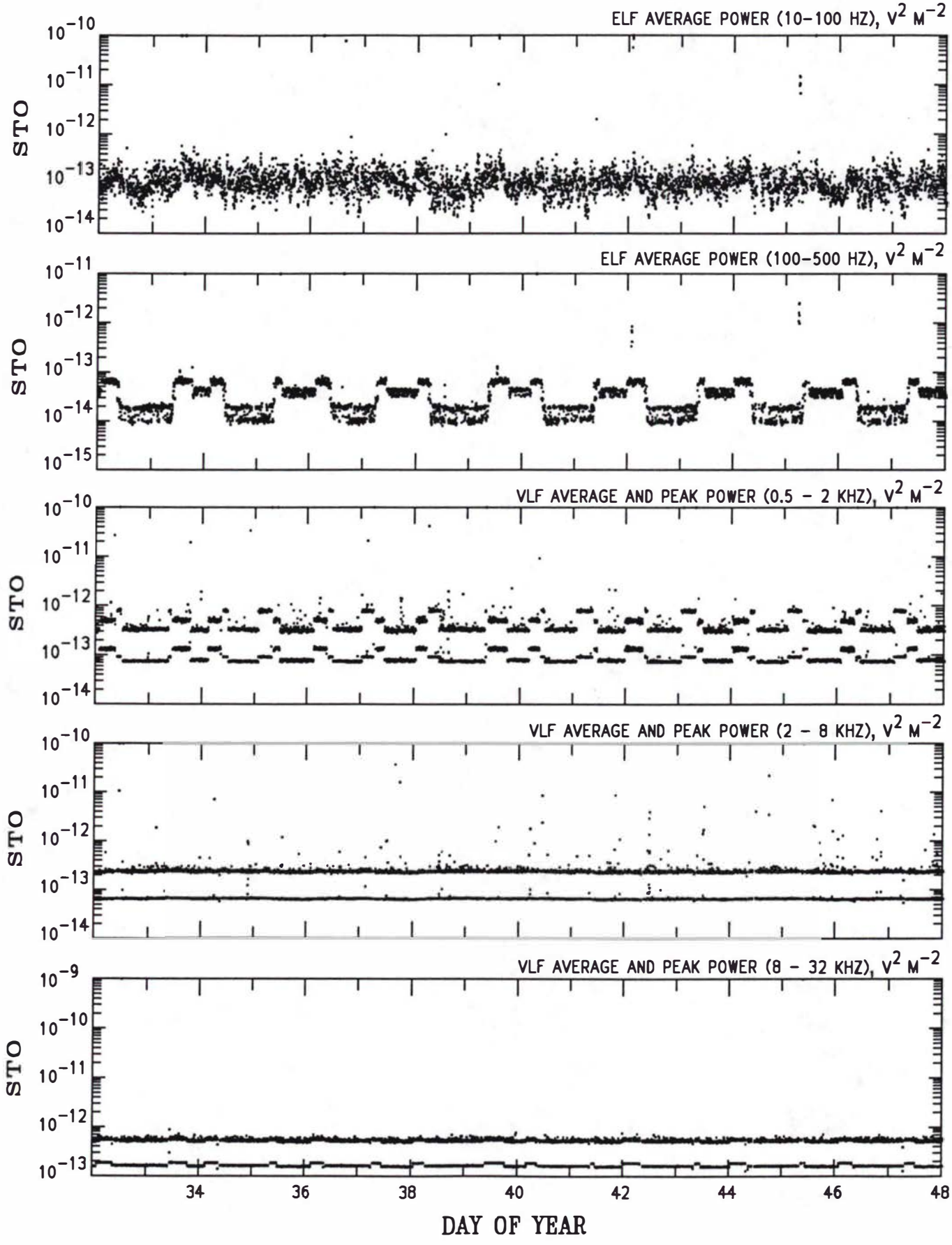
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

96 048 FEB 17 00:00:00.000 - 96 064 MAR 4 00:00:00.000



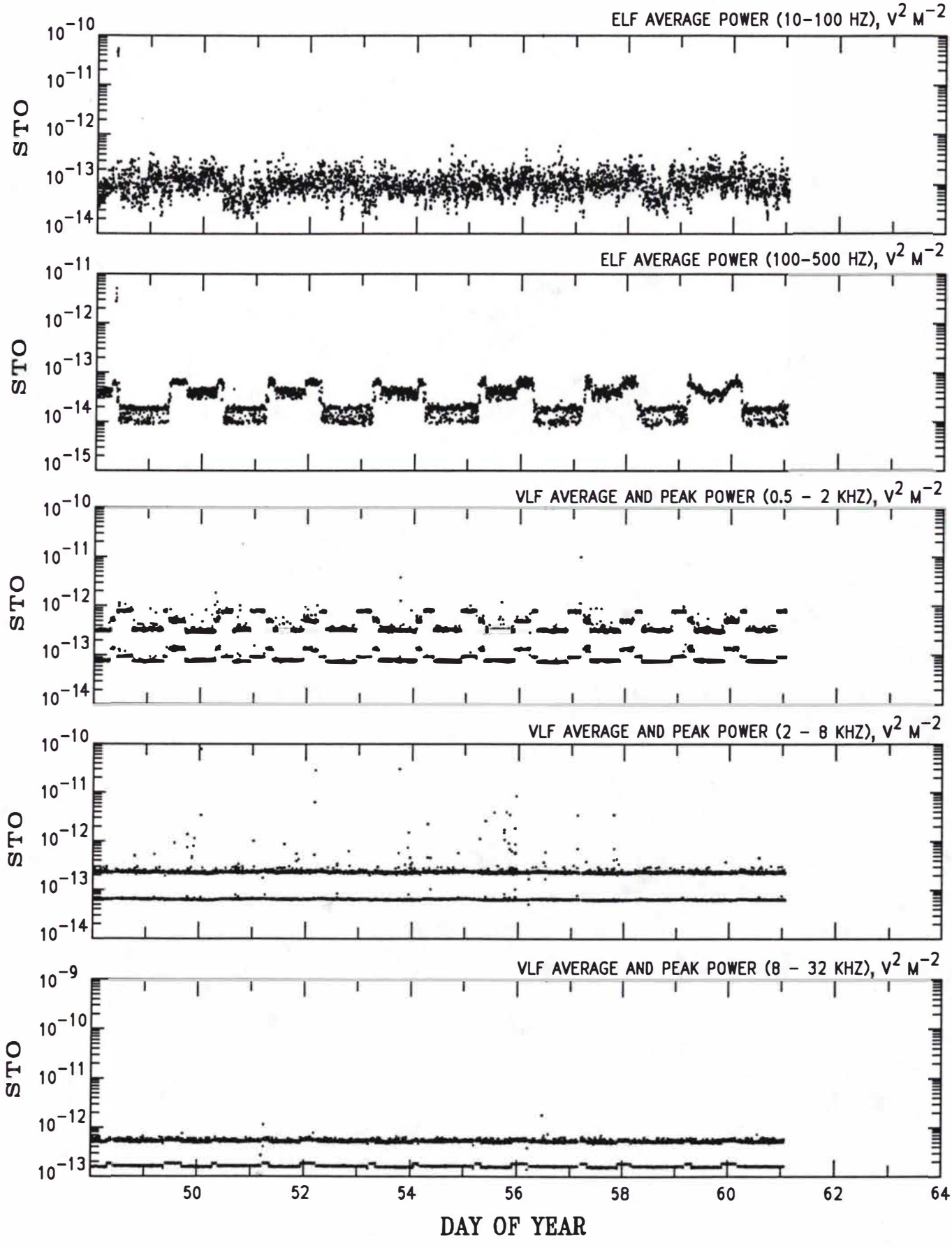
ULYSSES CDR – PLASMA WAVE

96 032 FEB 1 00:00:00.000 – 96 048 FEB 17 00:00:00.000



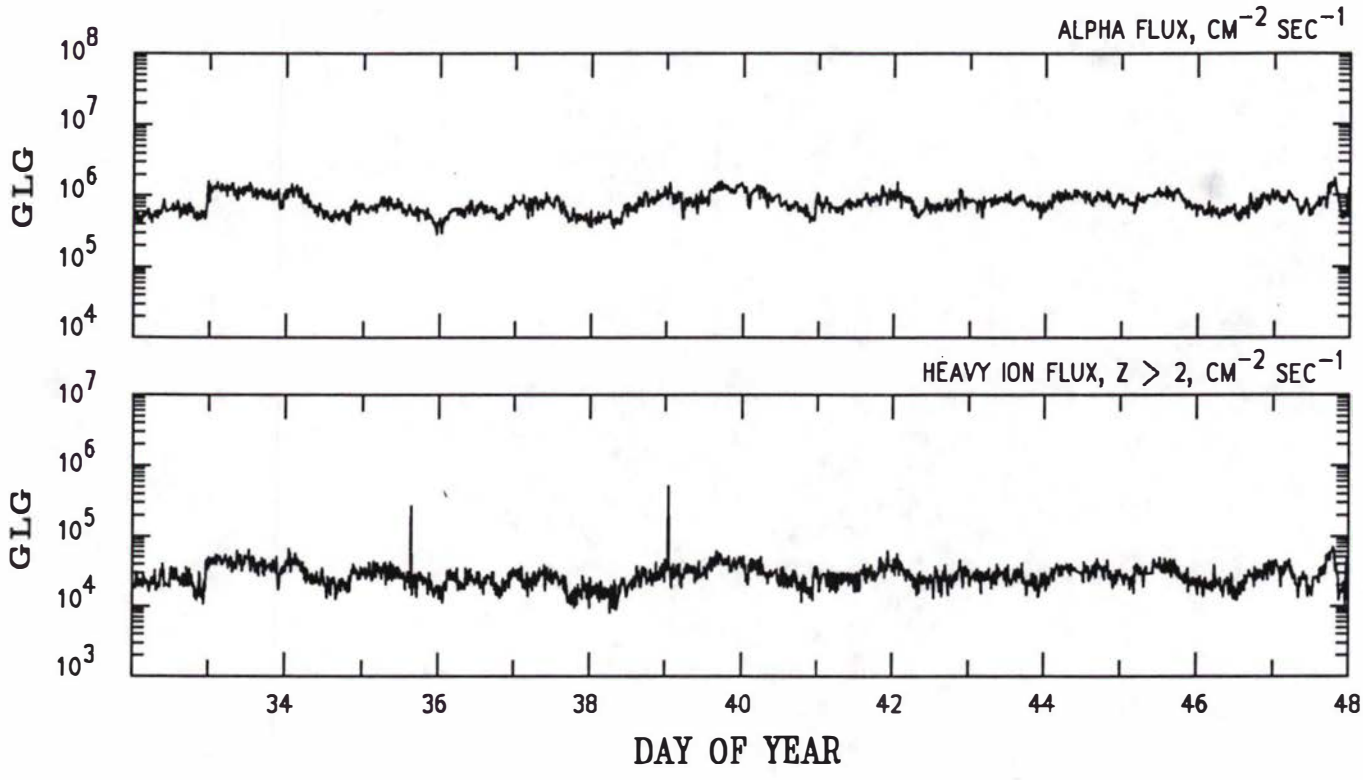
ULYSSES CDR – PLASMA WAVE

96 048 FEB 17 00:00:00.000 – 96 064 MAR 4 00:00:00.000



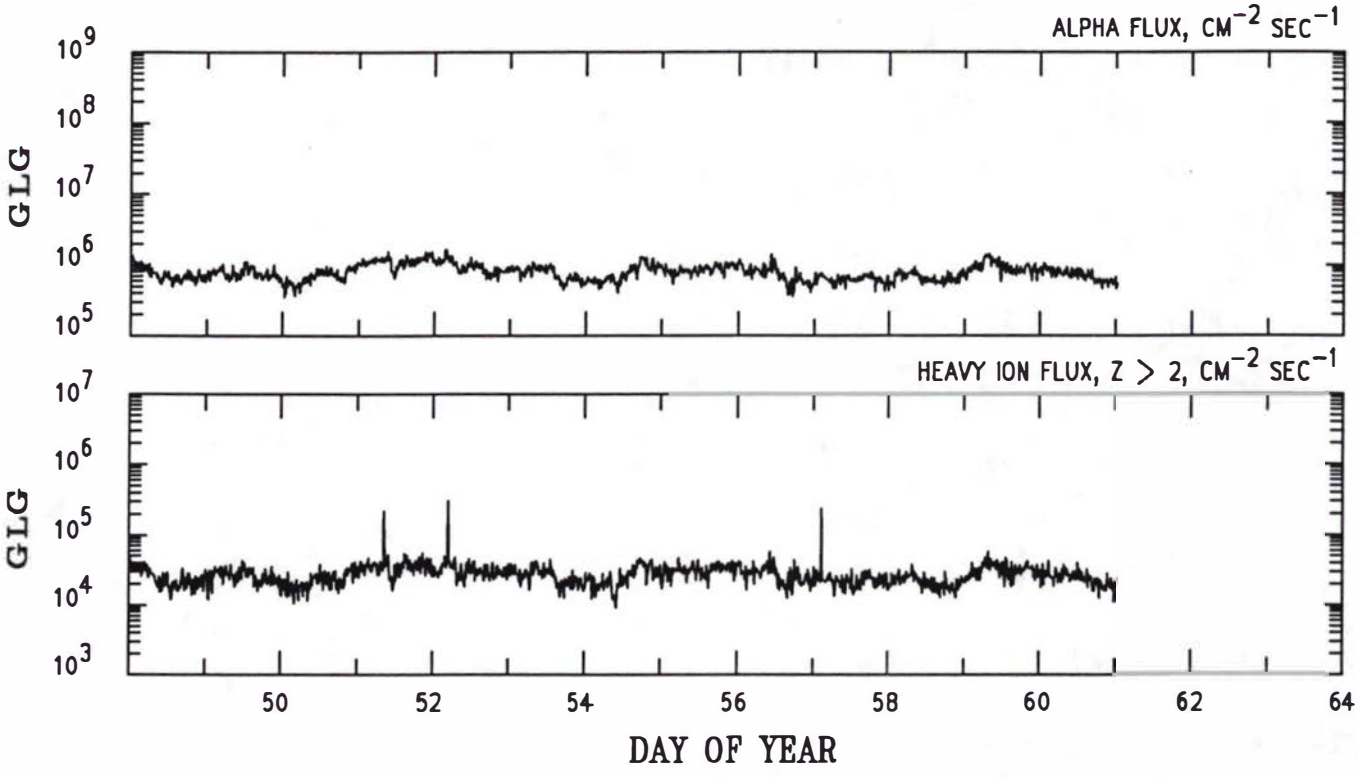
ULYSSES CDR – SOLAR WIND ION COMPOSITION

96 032 FEB 1 00:00:00.000 – 96 048 FEB 17 00:00:00.000



ULYSSES CDR – SOLAR WIND ION COMPOSITION

96 048 FEB 17 00:00:00.000 – 96 064 MAR 4 00:00:00.000



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

When major frames are recorded but not transmitted during the next track, but are eventually downlinked with data from a succeeding day, the embedded SCLKs are 'assumed' to be incorrect by the frame syncer and are re-tagged with SCETs and SCLKs matching the adjacent (but newer) data.

For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

Joe

To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

From WOODSP@SSLLES.MSFC.NASA.GOV Mon Feb 5 09:46 PST 1996
Date: Mon, 5 Feb 1996 11:45:53 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4701

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

RT

```
 BATSE BURST #     4701
 EVENT OF 1996 FEB  1 DAY OF YEAR= 32
 EVENT CROSSING TIME AT BATSE      : 78523. S. OR 21:48:43.0
 COORDINATES ARE   0.000   0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 358.000   15.000
 BATSE PEAK COUNTING RATE:  21500    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  1/ 2/  96 IS:
 RA=  220.532 DEC=   68.632 DIST=    2.817 AU
 BATSE-ULYSSES DISTANCE =  421420833. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 88.95 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=   25.75 SECS.
 CROSSING TIME AT ULYSSES     IS 78549. S. OR   21:49:08 +/-  294.40 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  1/ 2/  96 IS:
 RA=  321.323 DEC=  -16.300 DIST=    2.356 AU
 MARS-BATSE DISTANCE =  352459520. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=132.14 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -788.77 SECS.
 CROSSING TIME AT MARS       IS 77734. S. OR   21:35:34 +/-  139.38 SECONDS



                BATSE BURST TRIGGER
NO.: 4701

TIME: TJD=0114 SECONDS=78523

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=160.4  AZIMUTH=63.4   ERROR=0.3   DEGREES

COMMENTS:
GRB LASTING 110 SEC. MULTIPLE EPISODES. VISIBLE ABOVE 300KEV.
```

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
4701	960201	10114	78523	21500	358	+15	110

RT data files which may contain ~ 0.5 s timing error because they follow a trigger

2 hour time range	from beginning of burst that extract falls in:		DATA USED ?
b02:0126	extract beg time:0244	e91270_2A1_02.73_02.84.ascii.Z	N
b03:0219	extract beg time:0244	e91270_2A1_02.73_02.84.ascii.Z	N
b01:0121	extract beg time:0310	e91360_2A1_03.16_03.37.ascii.Z	N
[illegible]:0932	extract beg time:1025	e92010_2A1_10.42_10.48.ascii.Z	Y (TRIGGER)
[illegible]1:0845	extract beg time:1015	e92058_2A1_10.25_10.75.ascii.Z	N &
b01:0609	extract beg time:0723	e92111_2A1_07.38_07.54.ascii.Z	N
b01:0629	extract beg time:0634	e92174_2A1_06.57_06.87.ascii.Z	N
b01:0541	extract beg time:0549	e92190_2A1_5.76_5.90.ascii.Z	Y (SGR 1900)
b02:2032	extract beg time:2058	e92205_2A1_20.97_22.66.ascii.Z	Y (TRIGGER)
b01:1202	extract beg time:1240	e92209_2A1_12.67_12.85.ascii.Z	N
b01:1717	extract beg time:1831	e92213_2A1_18.51_18.82.ascii.Z	N
b01:1142	extract beg time:1301	e92303_2A1_13.02_13.28.ascii	Y
b03:0736	extract beg time:0844	q92313_2A1_8.70_8.96.ascii.Z	N
b03:0736	extract beg time:0844	e92313_2A1_08.74_09.02.ascii.Z	N
b14:1730	extract beg time:1905	q92314_2A1_19.08_19.30.ascii.Z	N
b15:1825	extract beg time:1905	q92314_2A1_19.08_19.30.ascii.Z	N
b02:0156	extract beg time:0344	e92315_2A1_3.10_3.36.ascii.Z	N
b03:0322	extract beg time:0344	e92315_2A1_3.10_3.36.ascii.Z	N
b06:0819	extract beg time:0844	e92315_2A1_8.71_8.85.ascii.Z	N
b08:1211	extract beg time:1340	e92315_2A1_13.66_13.96.ascii.Z	N
b08:1211	extract beg time:1344	e92315_2A1_13.74_14.03.ascii.Z	N
b02:0600	extract beg time:0644	e92316_2A1_6.76_7.04.ascii.Z	N
b02:0135	extract beg time:0329	e93012_2A1_3.50_3.72.ascii.Z	Y
b03:0227	extract beg time:0329	e93012_2A1_3.50_3.72.ascii.Z	Y
b04:0315	extract beg time:0329	e93012_2A1_3.50_3.72.ascii.Z	Y
b01:1105	extract beg time:1150	q93077_2A1_11.83_12.05.ascii.Z	Y
b01:0745	extract beg time:0756	q93096_2A1_7.71_7.85.ascii.Z	Y (TRIGGER)
b01:0745	extract beg time:0856	q93096_2A1_8.40_8.50.ascii.Z	N
[illegible]1:1445	extract beg time:1530	e93126_2A1_15.50_15.65.ascii.Z	N
[illegible]1:1445	extract beg time:1548	e93126_2A1_15.80_15.95.ascii.Z	N
b01:0334	extract beg time:0434	e93265_2A1_04.56_04.64.ascii.Z	N
b01:0900	extract beg time:0943	e93272_2A1_09.71_09.98.ascii.Z	Y (SGR 1806)
b01:1654	extract beg time:1707	e93287_2A1_17.11_17.37.ascii.Z	Y
b01:2215	extract beg time:2240	e93294_2A1_22.67_22.85.ascii.Z	N
b01:0824	extract beg time:0840	e93303_2A1_08.66_08.81.ascii.Z	N
b01:0352	extract beg time:0510	e93318_2A1_05.17_05.42.ascii.Z	N
b01:0641	extract beg time:0824	e93340_2A1_08.40_08.61.ascii.Z	N
b02:0602	extract beg time:0733	e94026_2A1_07.55_07.71.ascii.Z	N
b05:1140	extract beg time:1240	e94044_2A1_12.66_12.76.ascii.Z	Y
b01:0204	extract beg time:0326	e94047_2A1_03.44_03.62.ascii.Z	N
b01:0113	extract beg time:0124	e94049_2A1_01.40_02.50.ascii.Z	N
b03:1943	extract beg time:2123	e94058_2A1_21.38_21.49.ascii.Z	N
b01:0346	extract beg time:0505	e94061_2A1_05.08_05.25.ascii.Z	Y (Trigger; but RT data probably used)
b01:0047	extract beg time:0128	e94062_2A1_01.47_01.63.ascii.Z	N
b01:2113	extract beg time:2142	e94202_2A1_21.70_21.98.ascii.Z	N
b01:2113	extract beg time:2144	e94202_2A1_21.74_22.14.ascii.Z	N
b01:1047	extract beg time:1143	e94242_2A1_11.71_11.86.ascii.Z	N
b01:0647	extract beg time:0728	e94298_2A1_07.47_07.51.ascii.Z	N
b01:0128	extract beg time:0241	e94299_2A1_02.68_02.80.ascii.Z	Y
b09:1148	extract beg time:1348	e94321_2A1_13.80_14.47.ascii.Z	N
b10:1238	extract beg time:1348	e94321_2A1_13.80_14.47.ascii.Z	N
b11:1328	extract beg time:1348	e94321_2A1_13.80_14.47.ascii.Z	N
b01:1952	extract beg time:2040	e94326_2A1_20.66_20.78.ascii.Z	N
b01:0223	extract beg time:0406	e95042_2A1_04.10_04.76.ascii.Z	N
[illegible]1:0640	extract beg time:0740	e95072_2A1_07.67_07.81.ascii.Z	N
[illegible]01:0144	extract beg time:0158	e95216_2A1_01.96_02.09.ascii.Z	Y (Trigger)
b02:1628	extract beg time:1718	e95339_2A1_17.30_17.45.ascii.Z	N
b03:1718	extract beg time:1718	e95339_2A1_17.30_17.45.ascii.Z	N
b01:1124	extract beg time:1205	e95362_2A1_12.09_12.87.ascii.Z	N

```
b04:1343  extract beg time:1540  e95362_2A1_15.67_15.84.ascii.Z Y
b04:1343  extract beg time:1541  e95362_2A1_15.69_15.85.ascii.Z Y
b05:1516  extract beg time:1540  e95362_2A1_15.67_15.84.ascii.Z Y
b05:1516  extract beg time:1541  e95362_2A1_15.69_15.85.ascii.Z Y
b01:0053  extract beg time:0251  e96002_2A1_02.85_03.62.ascii   N
b02:0216  extract beg time:0251  e96002_2A1_02.85_03.62.ascii   N
b20:1956  extract beg time:2041  e96002_2A1_20.68_20.76.ascii   N
b20:1956  extract beg time:2041  e96002_2A1_20.69_20.76.ascii   N
b02:0128  extract beg time:0305  e96004_2A1_03.09_03.87.ascii.Z N
b03:0235  extract beg time:0305  e96004_2A1_03.09_03.87.ascii.Z N
b05:1621  extract beg time:1656  e96006_2A1_16.93_17.08.ascii.Z N
b01:0116  extract beg time:0150  e96007_2A1_01.84_01.95.ascii    N
b01:0116  extract beg time:0152  e96007_2A1_01.87_01.99.ascii    N
b01:1819  extract beg time:1935  e96028_2A1_19.59_19.87.ascii.Z Y  (GR 1747 ? - MAYBE USED FOR NETSYN?)
b01:0208  extract beg time:0233  e96030_2A1_02.55_02.66.ascii.Z Y      "        "        "
b01:0208  extract beg time:0235  e96030_2A1_02.58_02.73.ascii.Z Y      "        "        "
b01:0208  extract beg time:0235  e96030_2A1_02.59_02.73.ascii.Z Y      "        "        "
b01:0849  extract beg time:0949  qp96032_2A1_09.81_09.94.ascii.Z Y  *   "        "        "
b02:2011  extract beg time:2144  qp96032_2A1_21.74_21.90.ascii.Z Y
b01:1929  extract beg time:2049  qp96051_2A1_20.82_20.85.ascii.Z N
b01:1929  extract beg time:2049  qp96051_2A1_20.82_20.86.ascii.Z N
b01:1529  extract beg time:1719  qp96094_2A1_17.32_17.48.ascii.Z N
b01:1529  extract beg time:1722  qp96094_2A1_17.36_17.52.ascii.Z N
b01:1652  extract beg time:1752  qp96168_2A1_17.87_17.97.ascii.Z N
b01:1652  extract beg time:1755  qp96168_2A1_17.91_18.05.ascii.Z N
```

* No error in these files

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
· KHURLEY@sunspot.ssl.berkeley.edu
m: 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

Date: Mar 5 '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)?

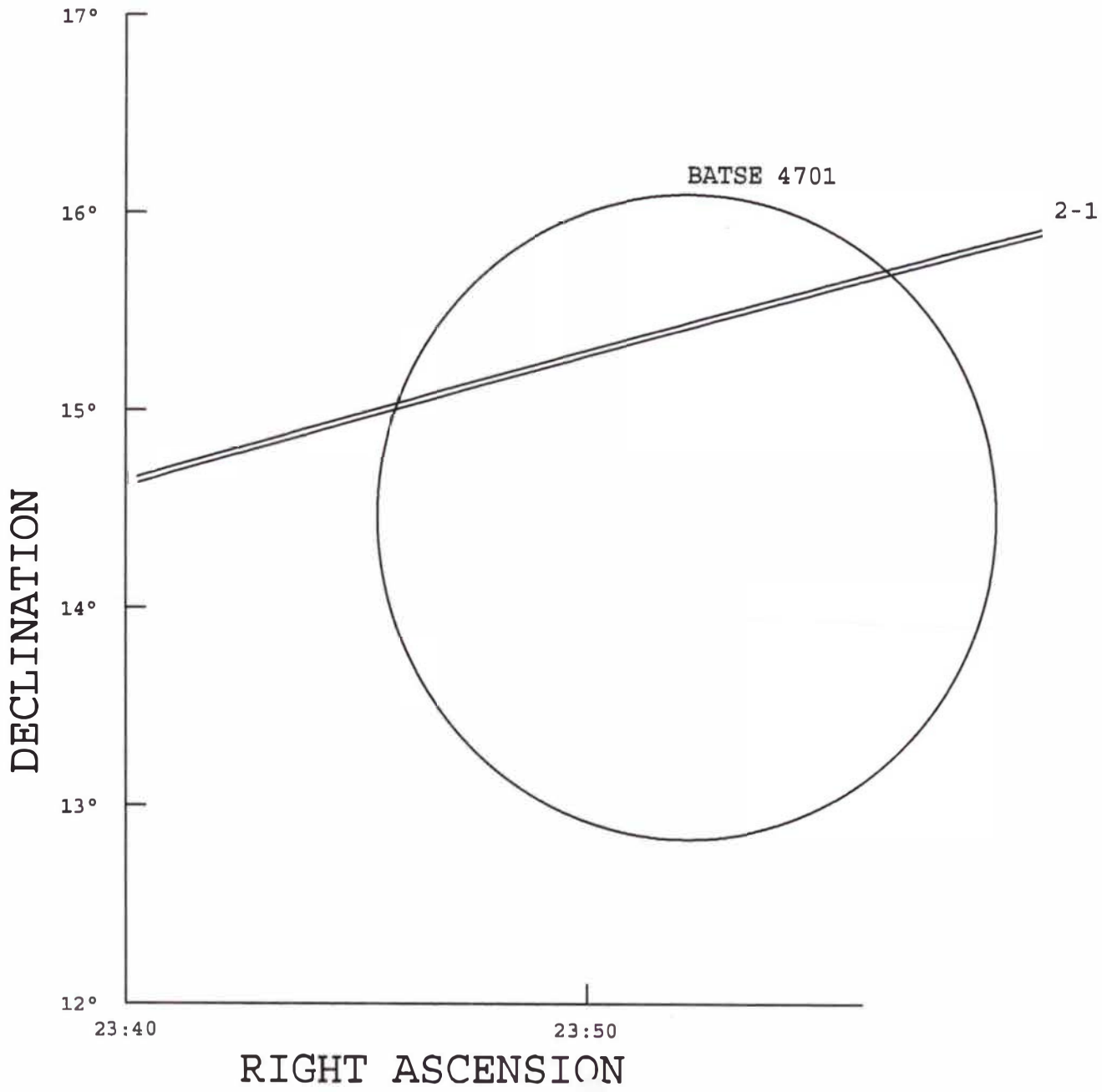
☐ 2000 coordinates used?

☐ Geocentric time used?

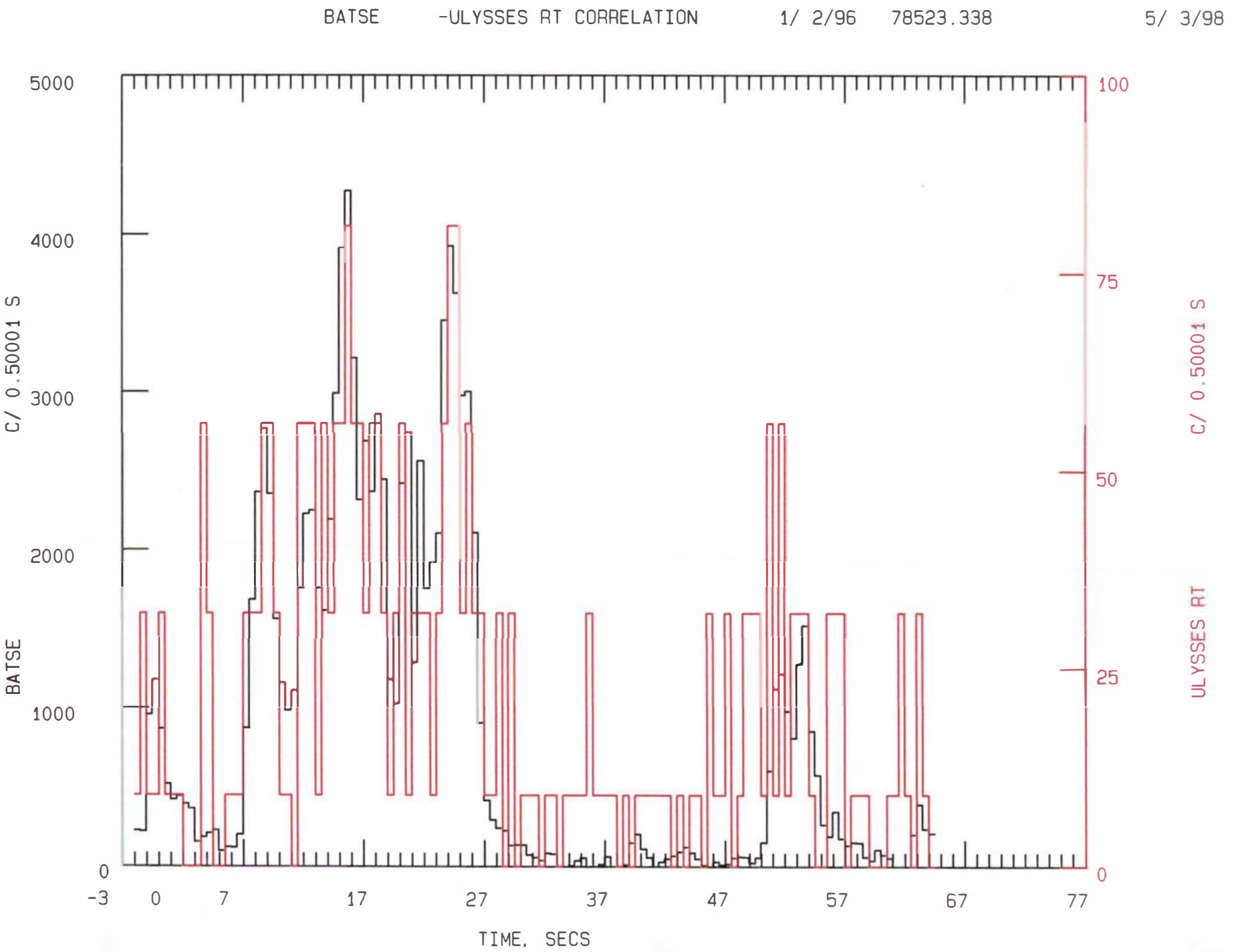
☑ ACCESS database updated?

EVENT OF FEB 1, 1996 21:48

5/ 3/98

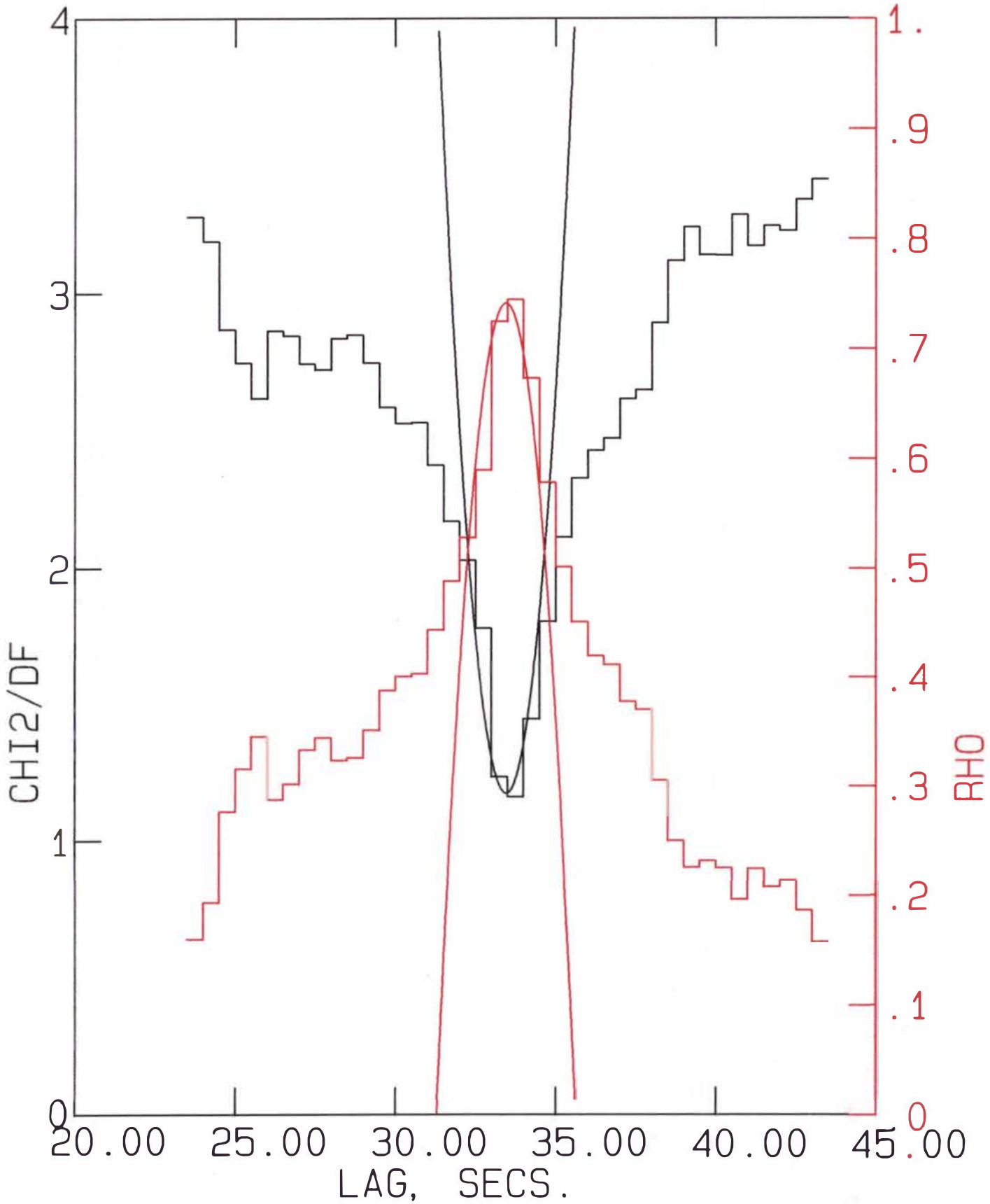


N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE


BATSE -ULYSSES RT CORRELATION 1/ 2/96 78523.338 5/ 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
7
17
27
37
47
57
67
77
TIME, SECS

5/ 3/98

BATSE -ULYSSES RT CORRELATION 1/ 2/96 78523.338

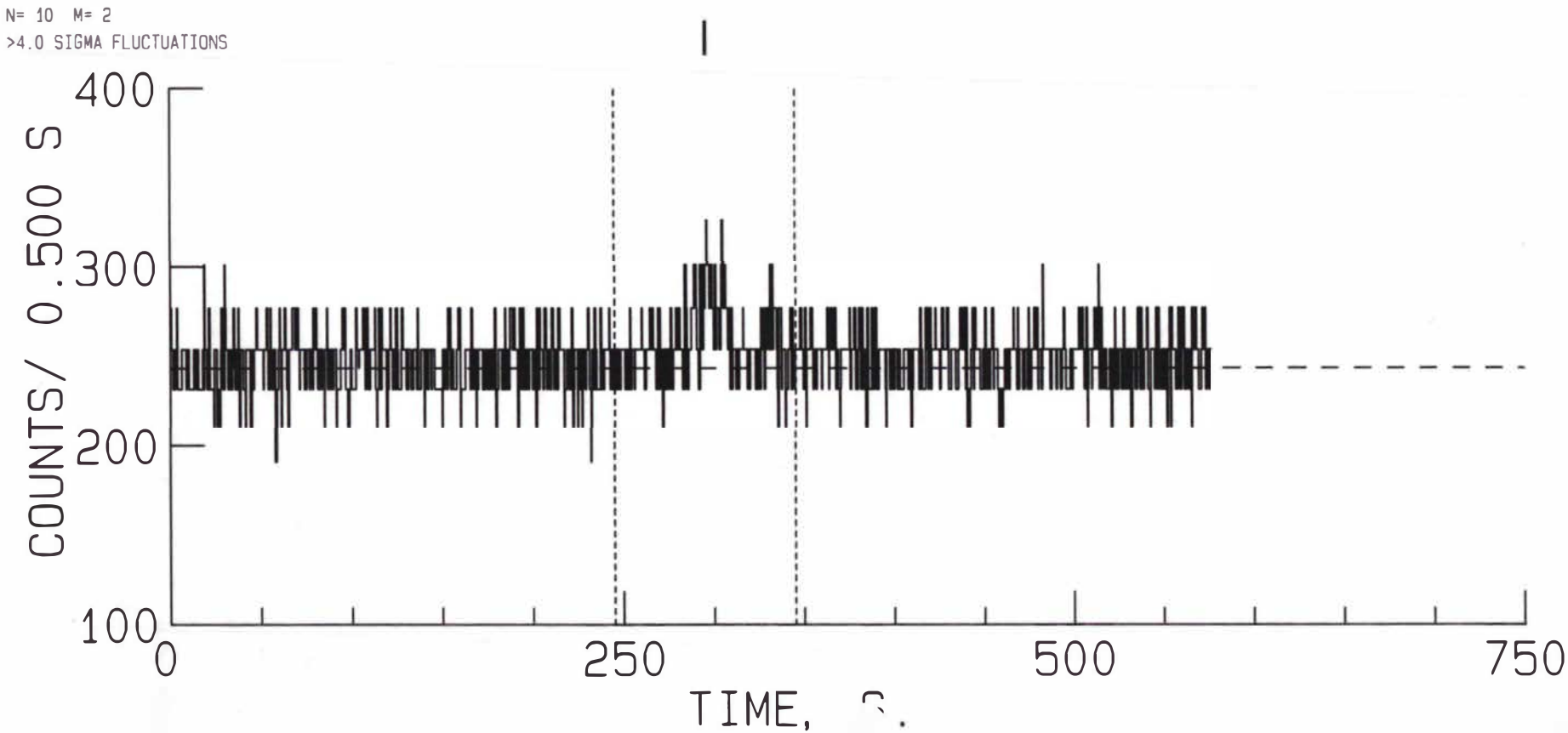


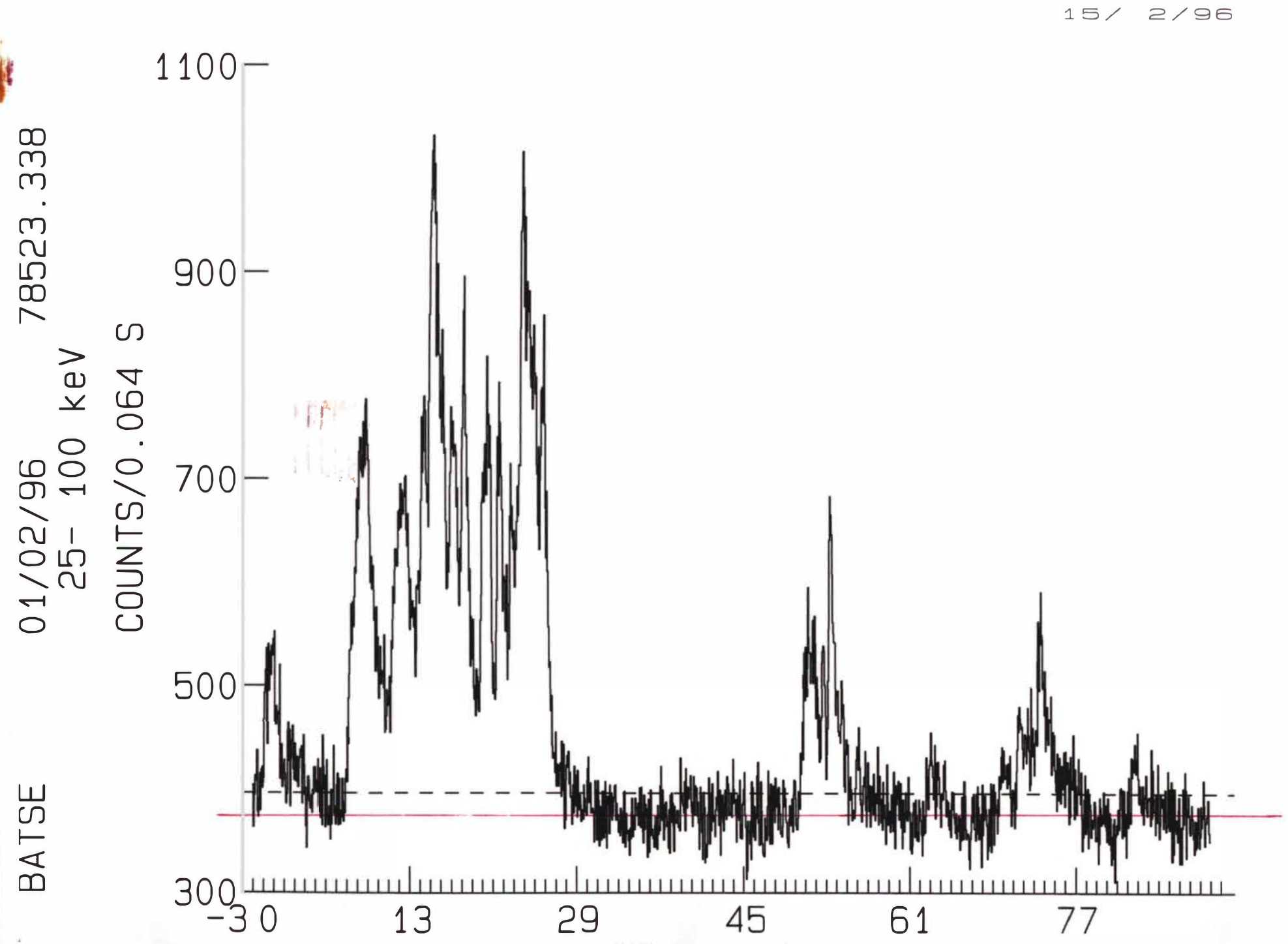
ULYSSES RT

5/ 3/98

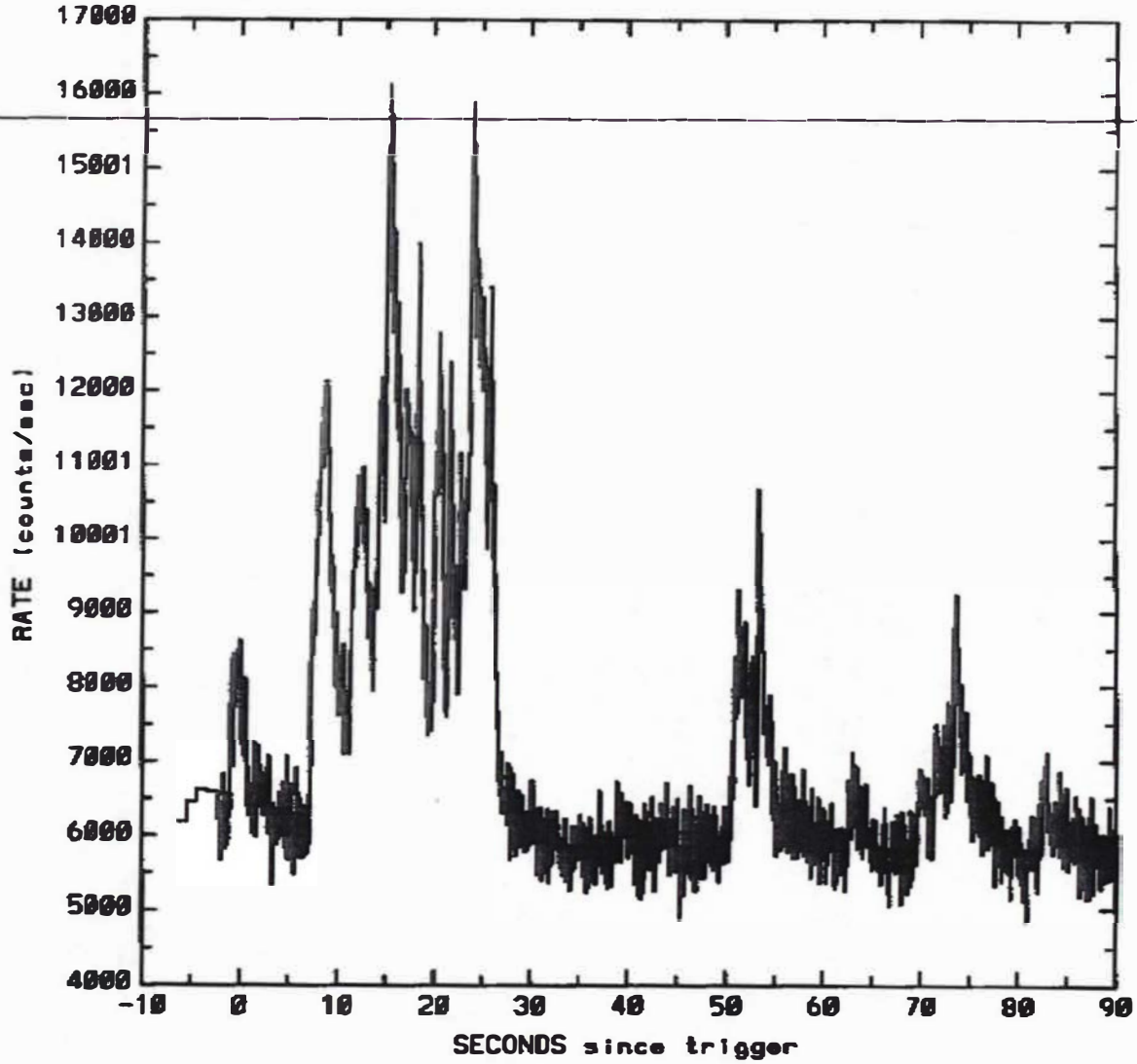
1/ 2/96 78264.077 s

21- 144 keV




15/ 2/96
BATSE 01/02/96 78523.338
25- 100 keV
COUNTS/0.064 S
1100
900
700
500
300
-30
13
29
45
61
77

DISCSC Data for K. Hurley, No. 4701



8-FEB-1996 10.10.26

Created by MDPS BD
(Burst Display)
Version 12.25

Trigger # : 4701

Trigger Time:
10114 / 70523.338

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors [7..0]:
--5---1-

Discriminators:
(1 , 2)

Quality Mask:
BDISP1

Date: June 27 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

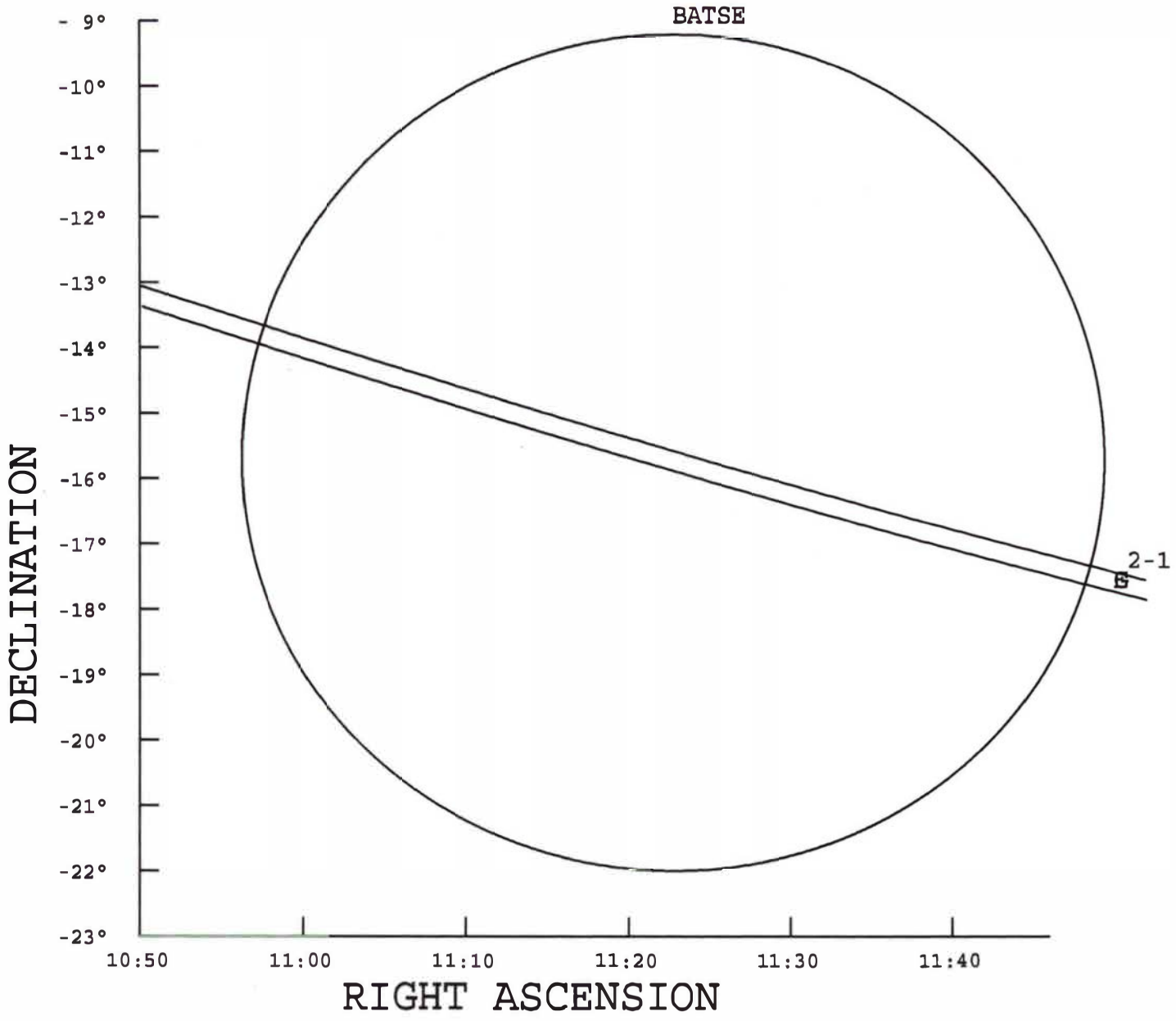
☐ Final, correct time used? (Files postmarked vwx@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)

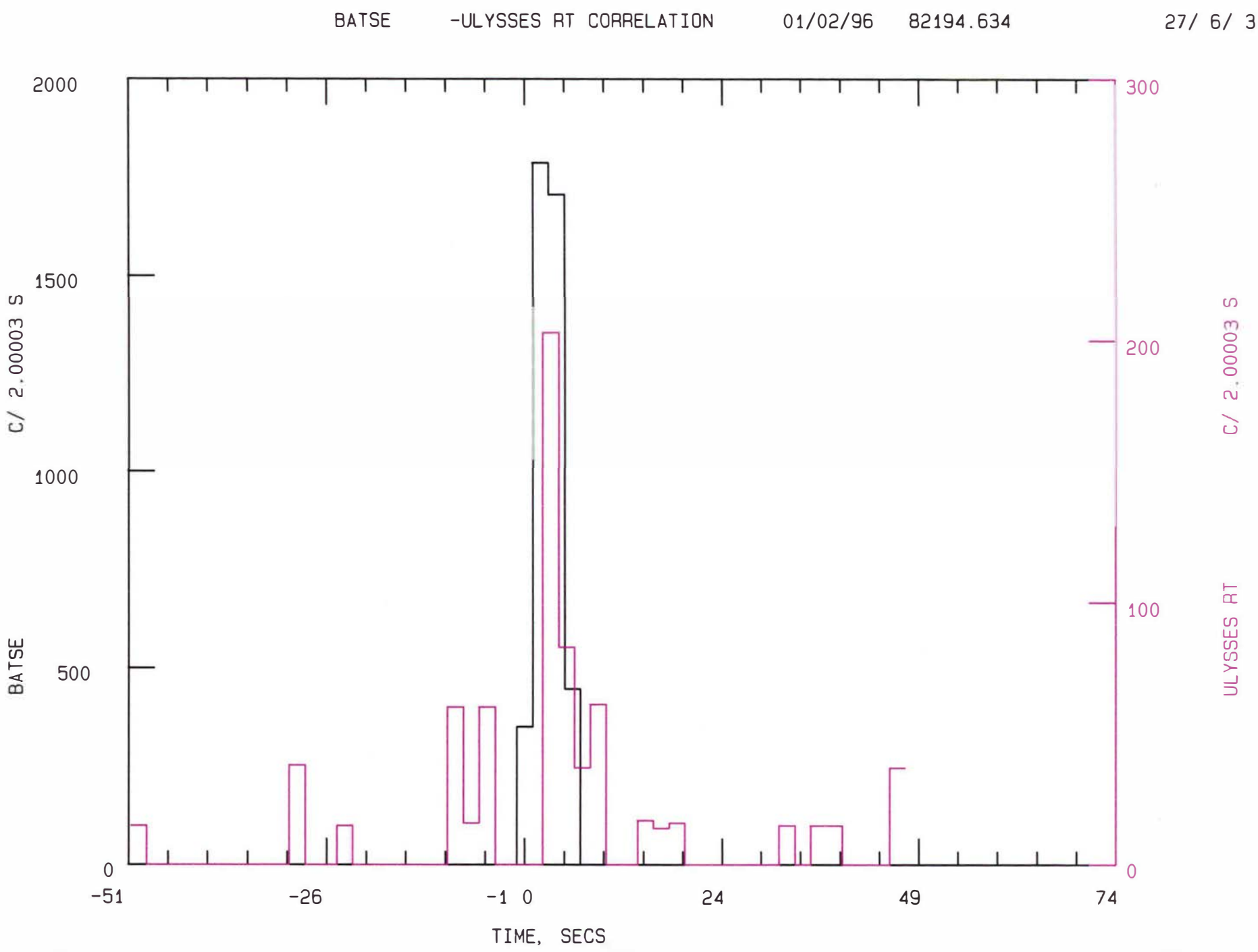
☐ BATSE >100 keV data used for NEAR correlation?

☑ ACCESS database updated?

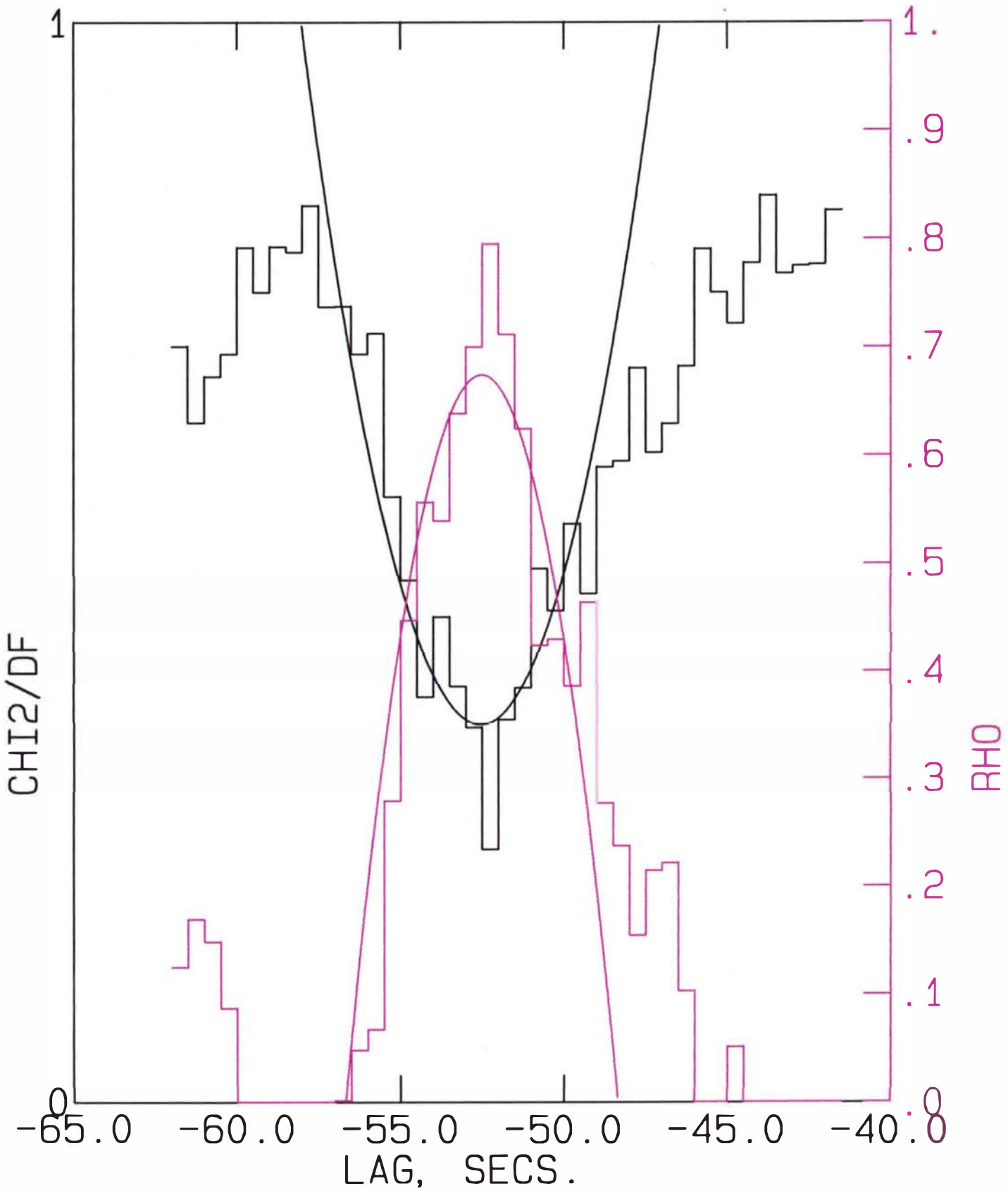
EVENT OF FEB 1, 1996 22:49

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 01/02/96 82194.634 27/ 6/ 3
2000
1500
1000
500
0
BATSE
C/ 2.00003 S
300
200
100
0
ULYSSES RT
C/ 2.00003 S
-51
-26
-1 0
24
49
74
TIME, SECS

BATSE -ULYSSES RT CORRELATION 01/02/96 82194.634



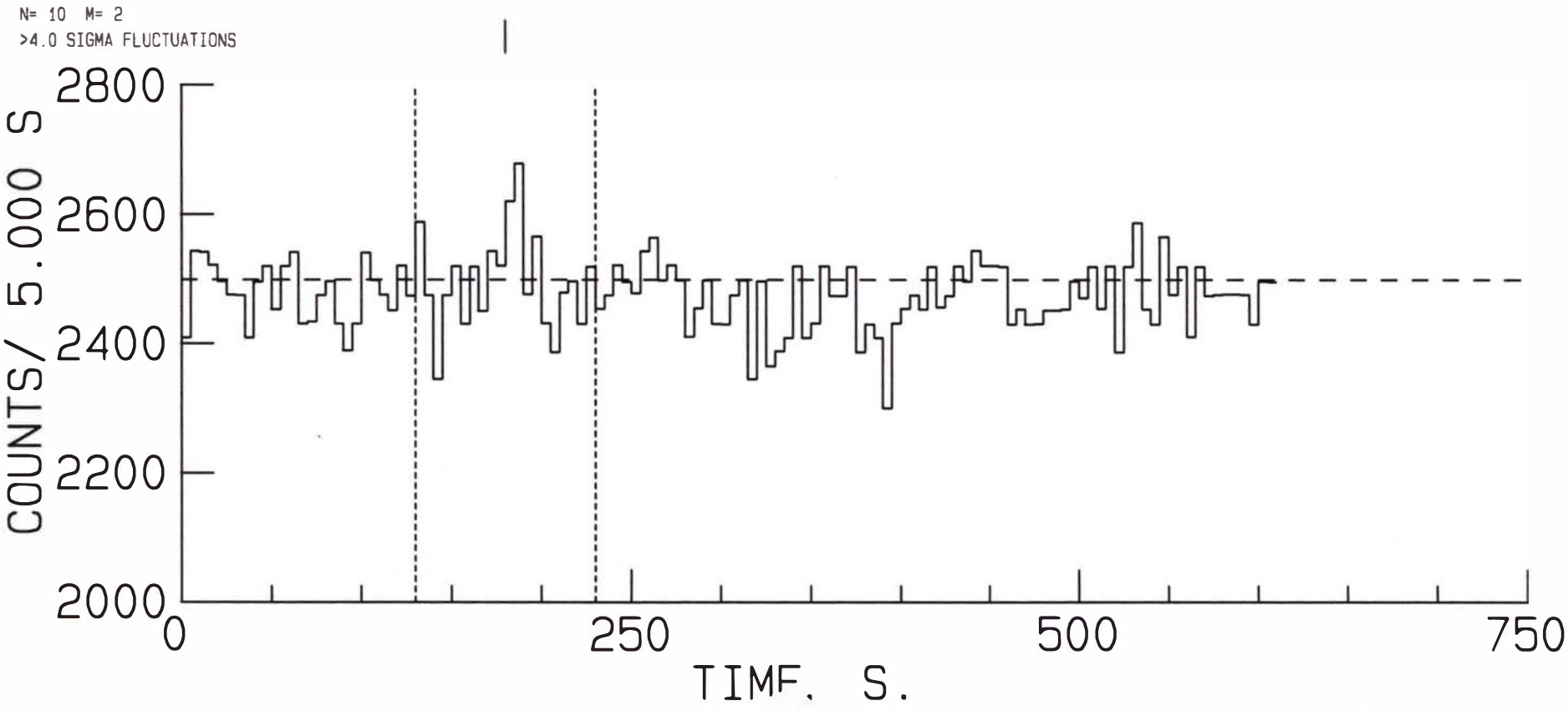
ULYSSES RT

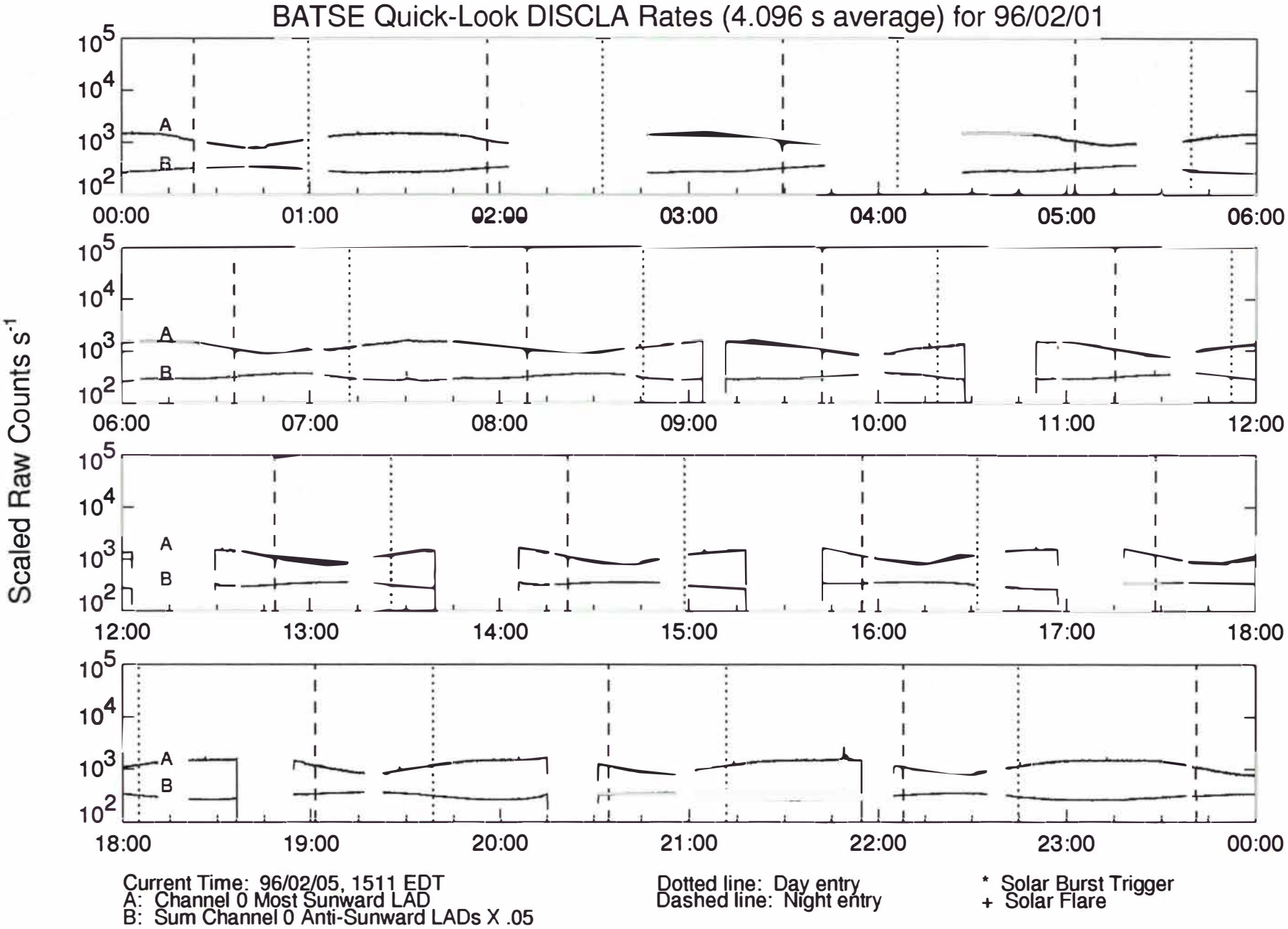
27/ 6/ 3

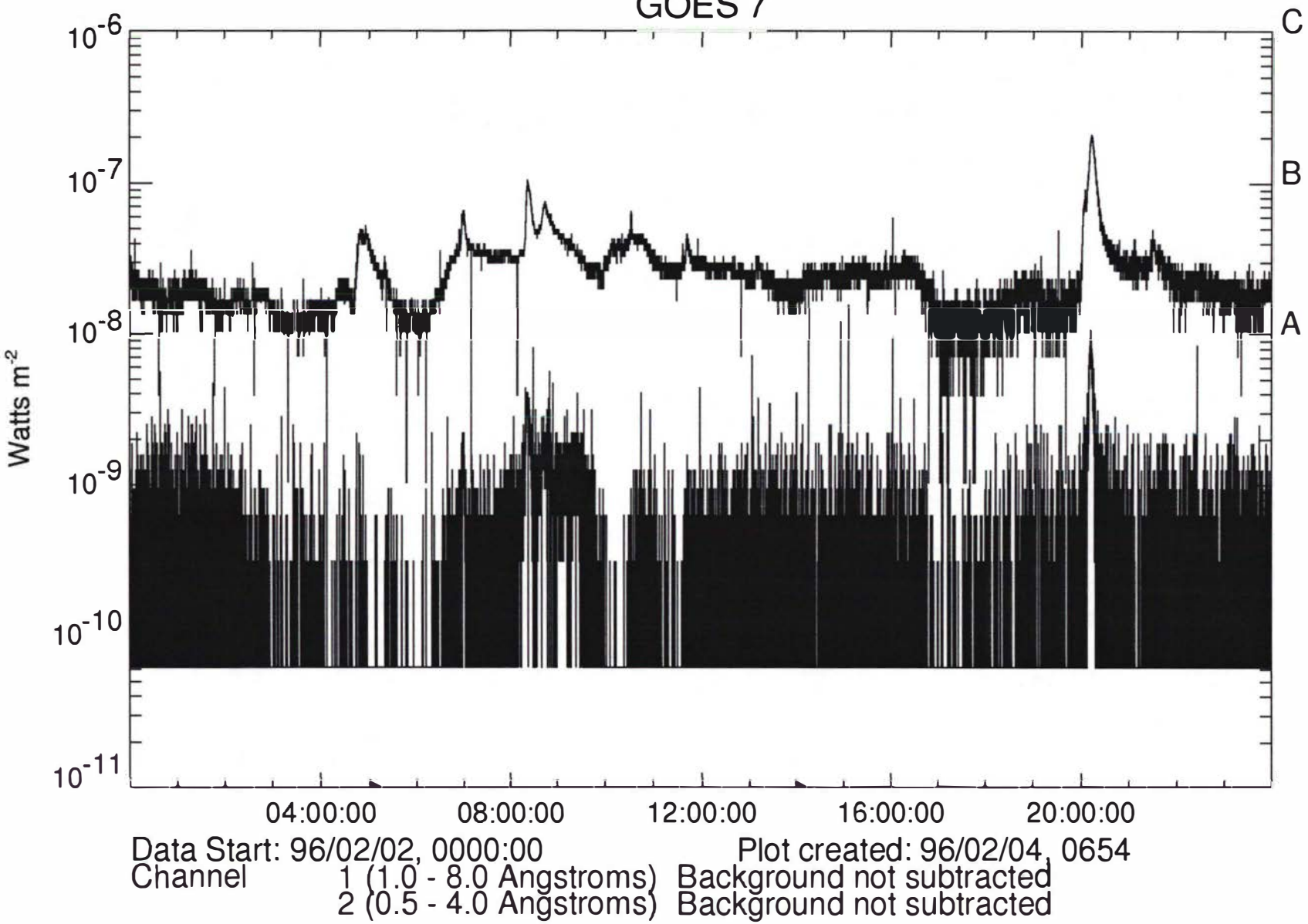
1/ 2/96 82044.133 s

0.500 S INTERVALS REGROUPED BY 10

21- 145 keV

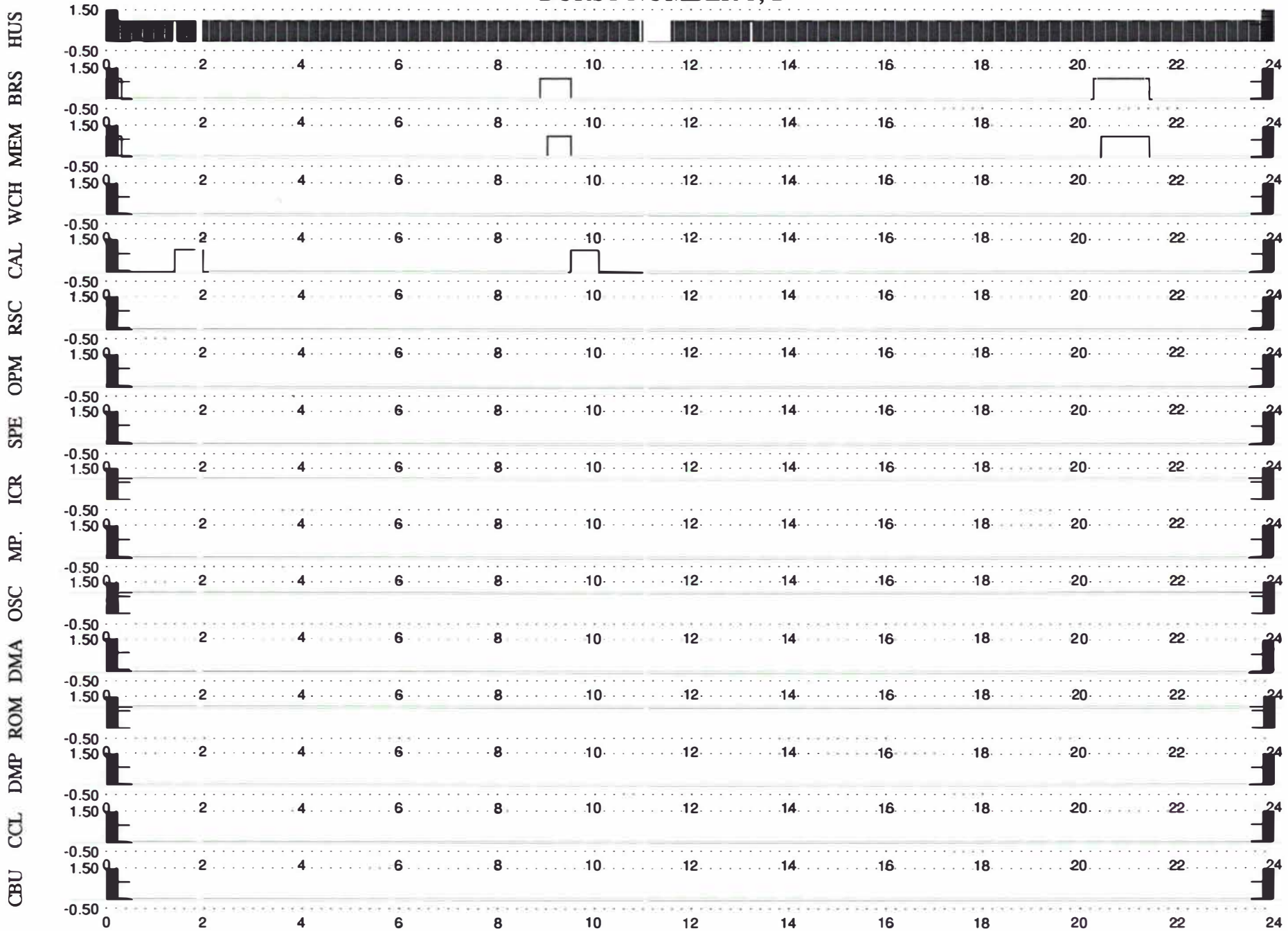



BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/01
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/05, 1511 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 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/02, 0000:00
Plot created: 96/02/04, 0654
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 32, year 1996 to day 32, year 1996 11/25/96

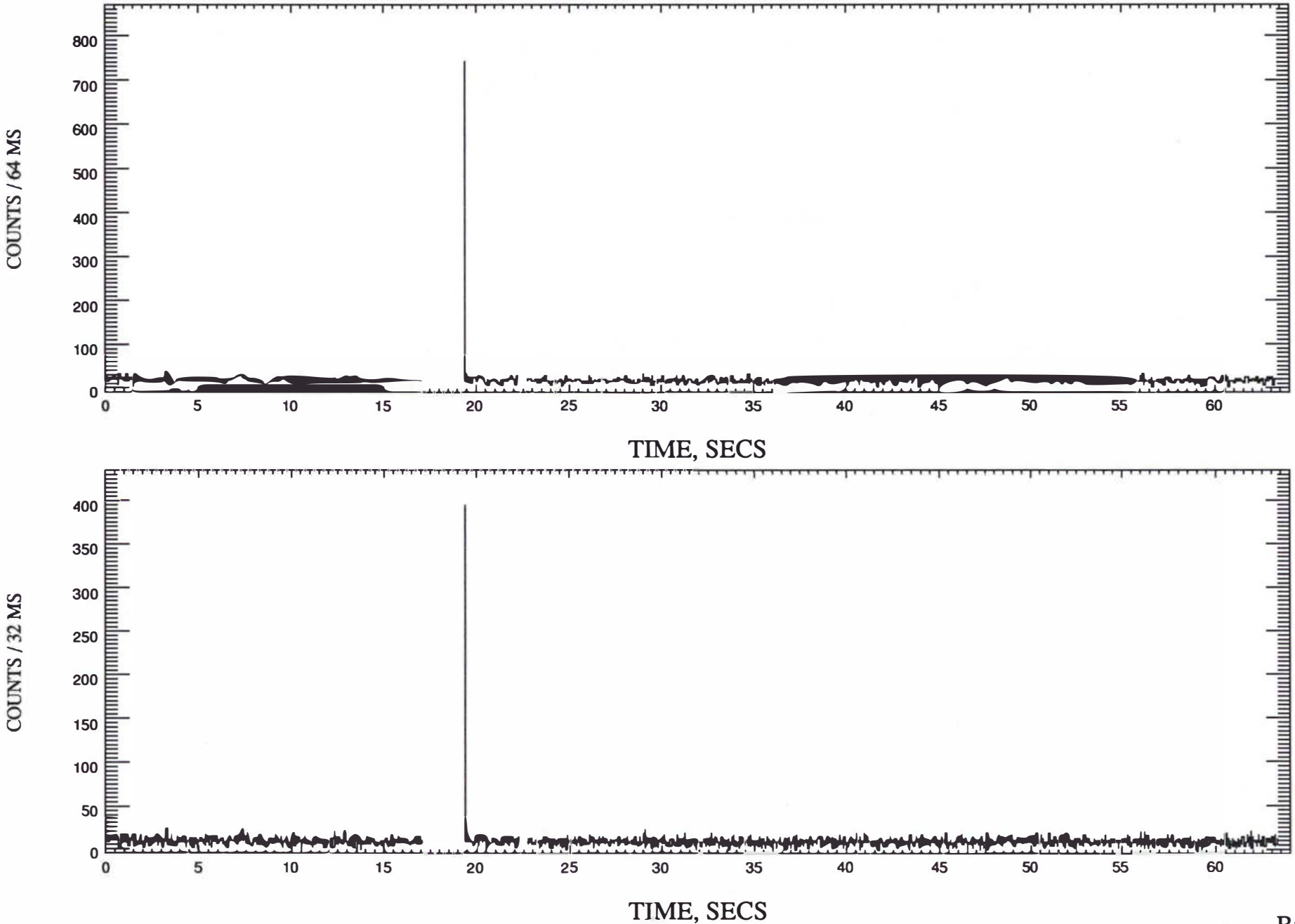
BURST NUMBER 1, 2



UNI RSAL TIME

HUS 2A TRIGGERED DATA EDR day 32, year 1996 11/25/96

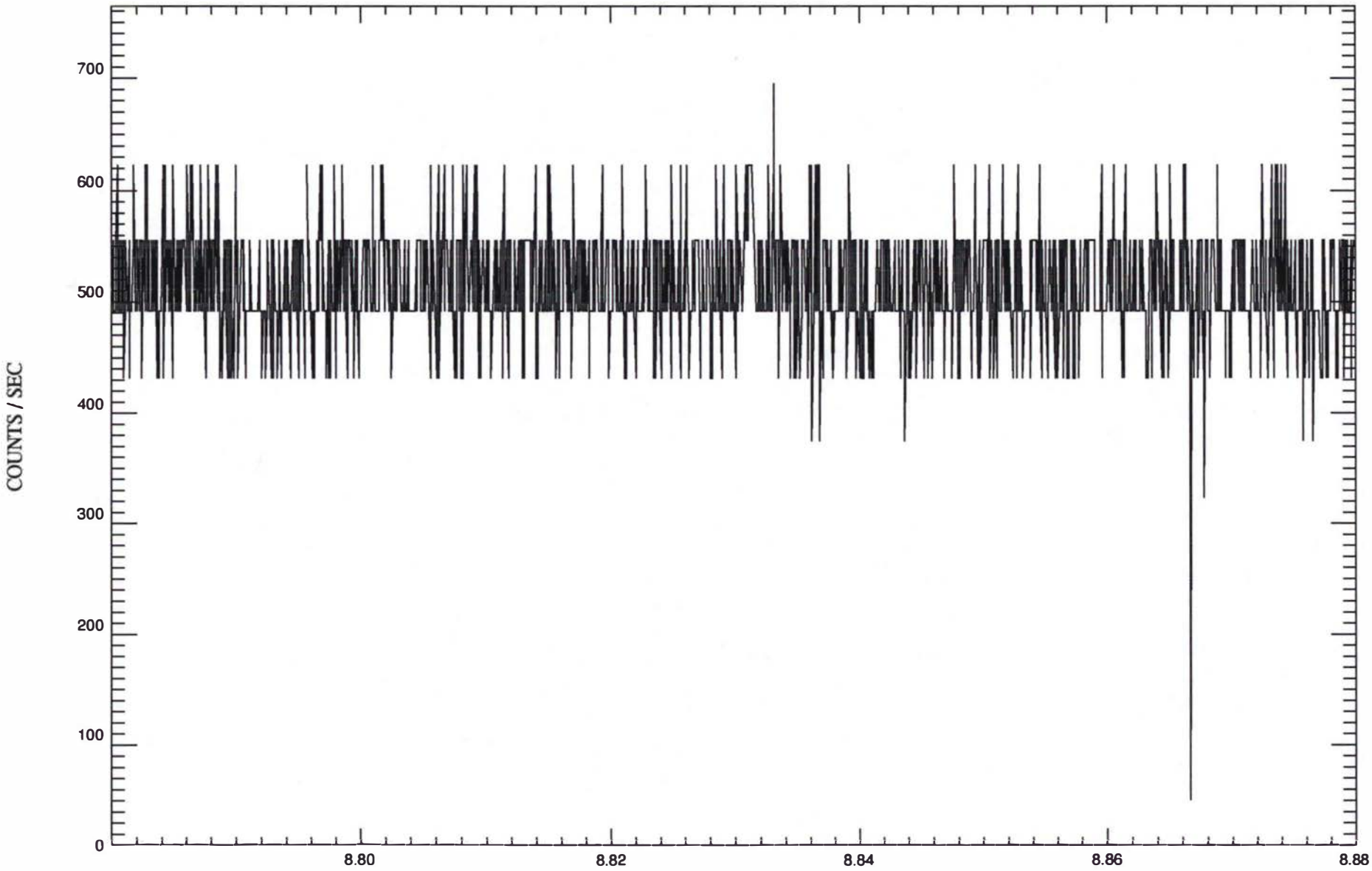
Burst Counter 1 at UT= 8.833199890984 h=31799.520 s 08:49:59.520



B# 1

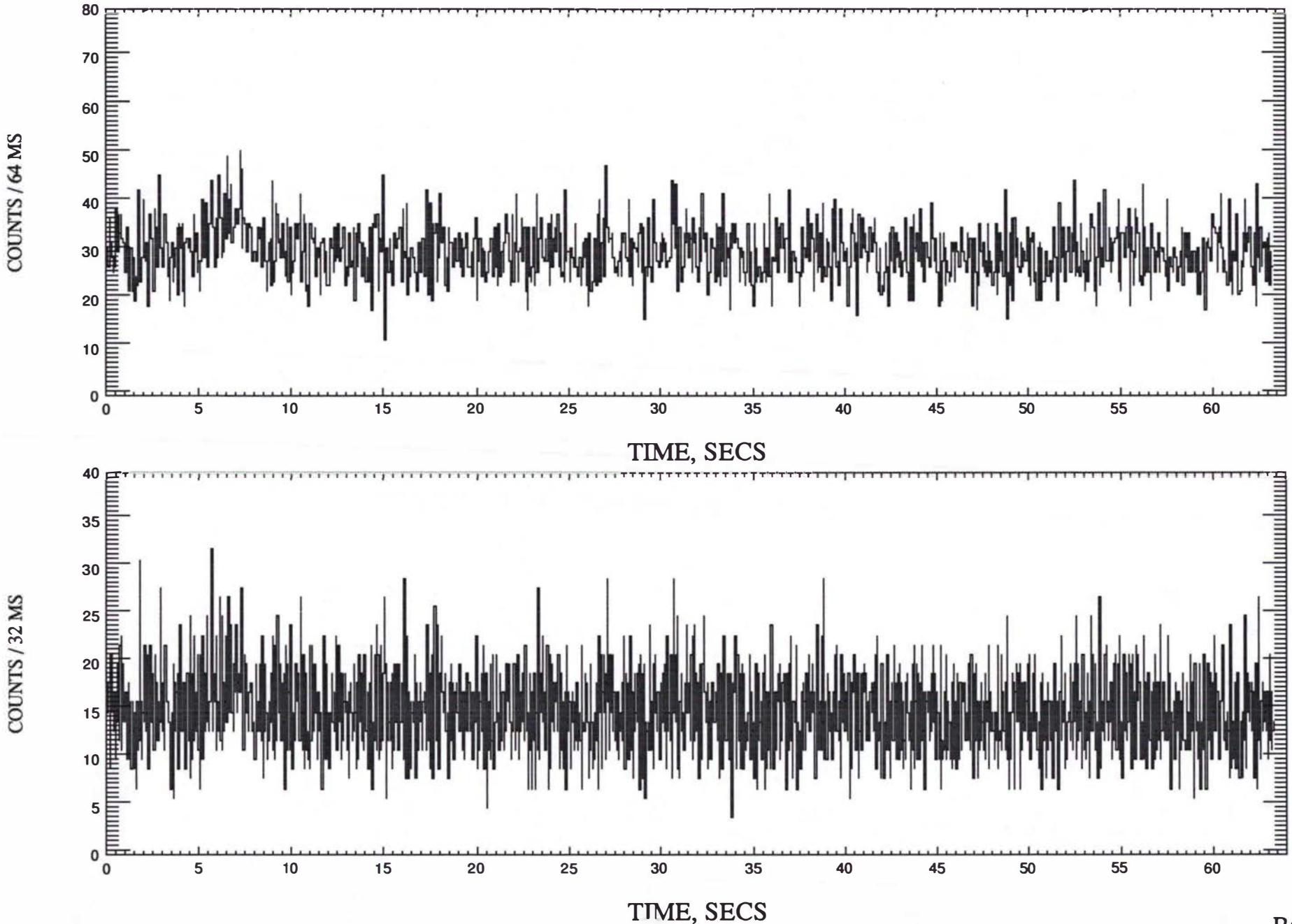
HUS 2A, MODE 1, NOT AVERAGED EDR day 32, year 1996 to day 32, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 32, year 1996 11/25/96

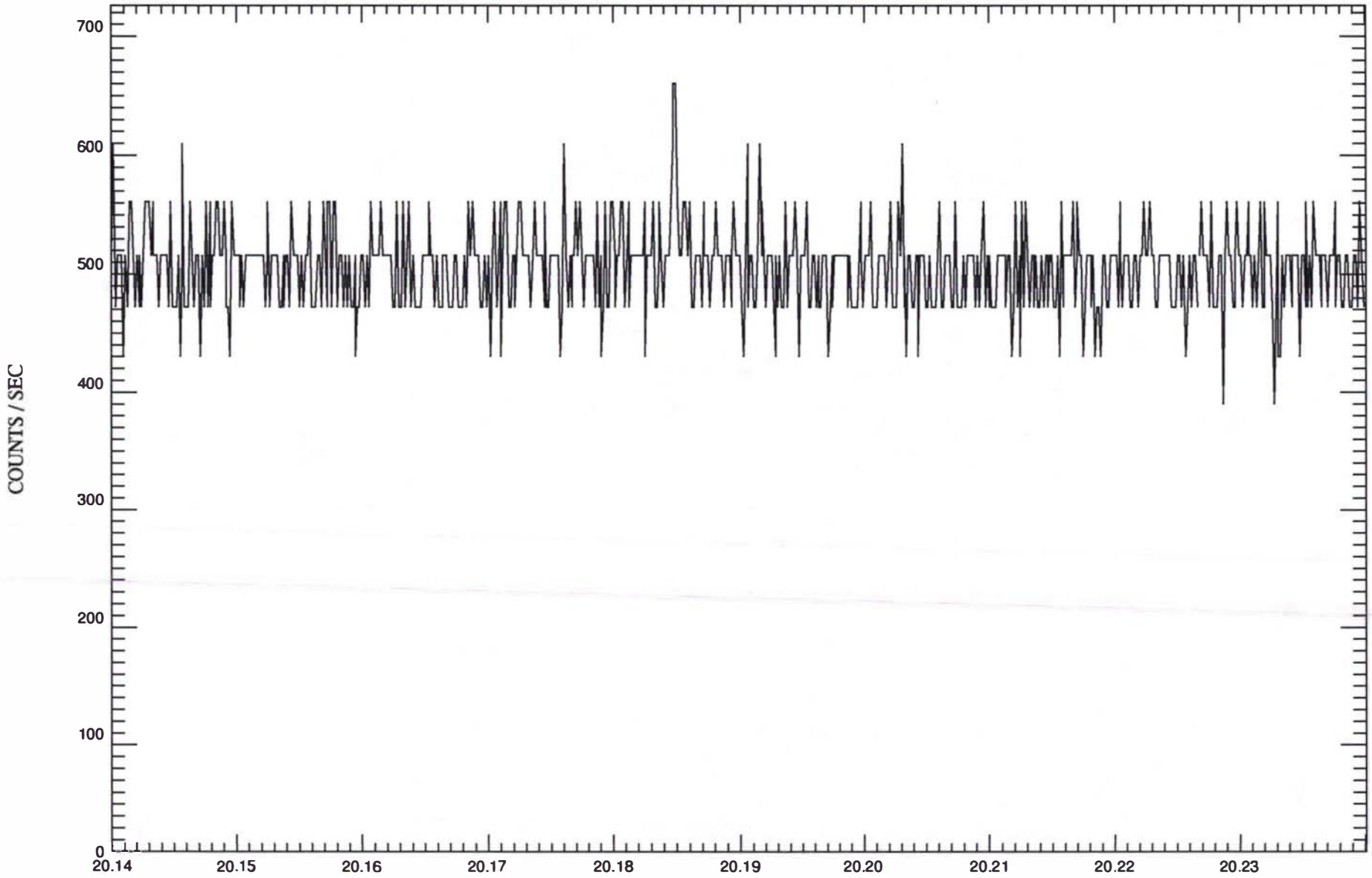
Burst Counter 2 at UT=20.185100822449 h=72666.363 s 20:11:06.363



B# 2

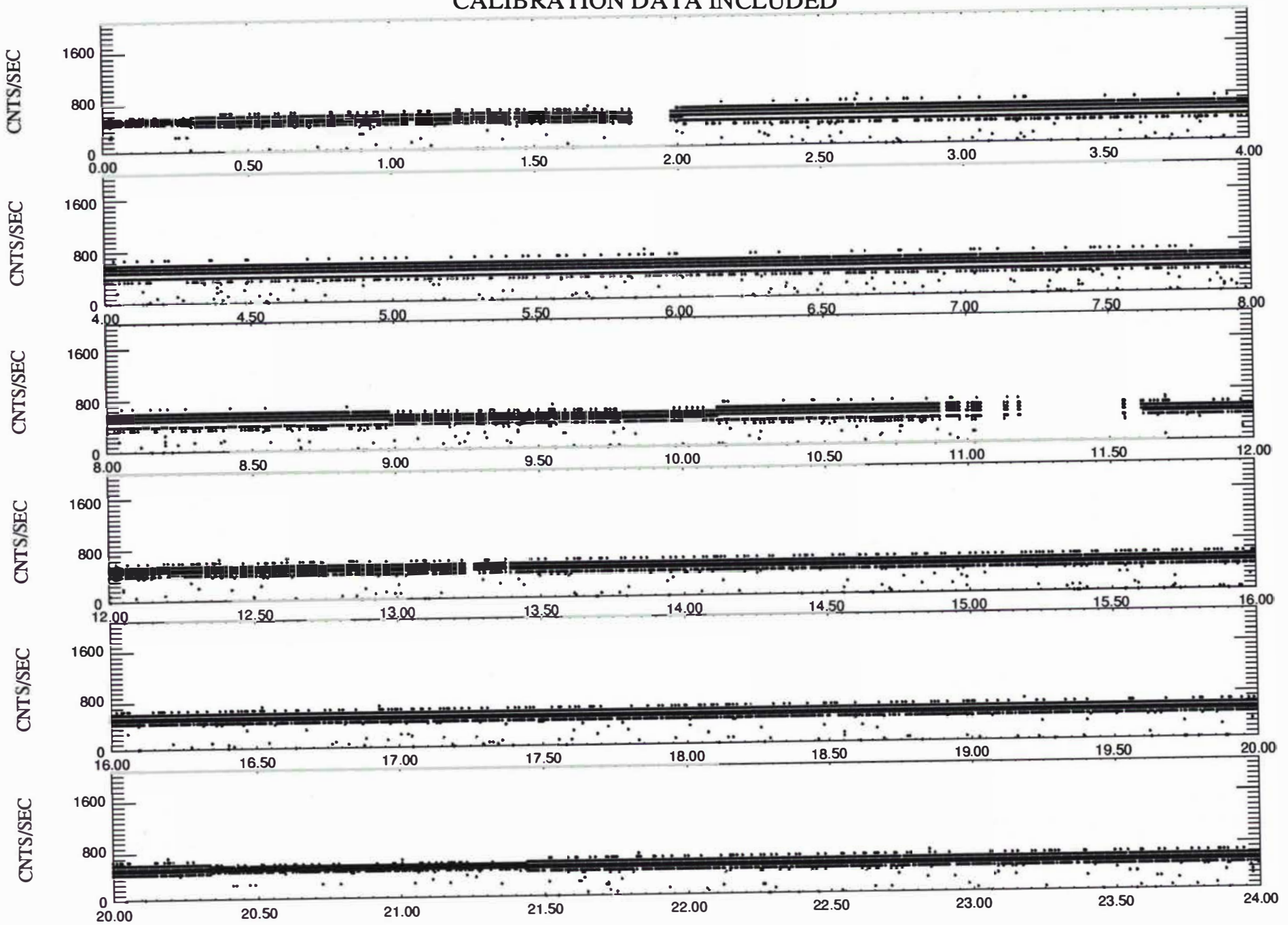
HUS 2A, MODE 1, NOT AVERAGED EDR day 32, year 1996 to day 32, year 1996 11/25/96

CALIBRATION DATA INCLUDED



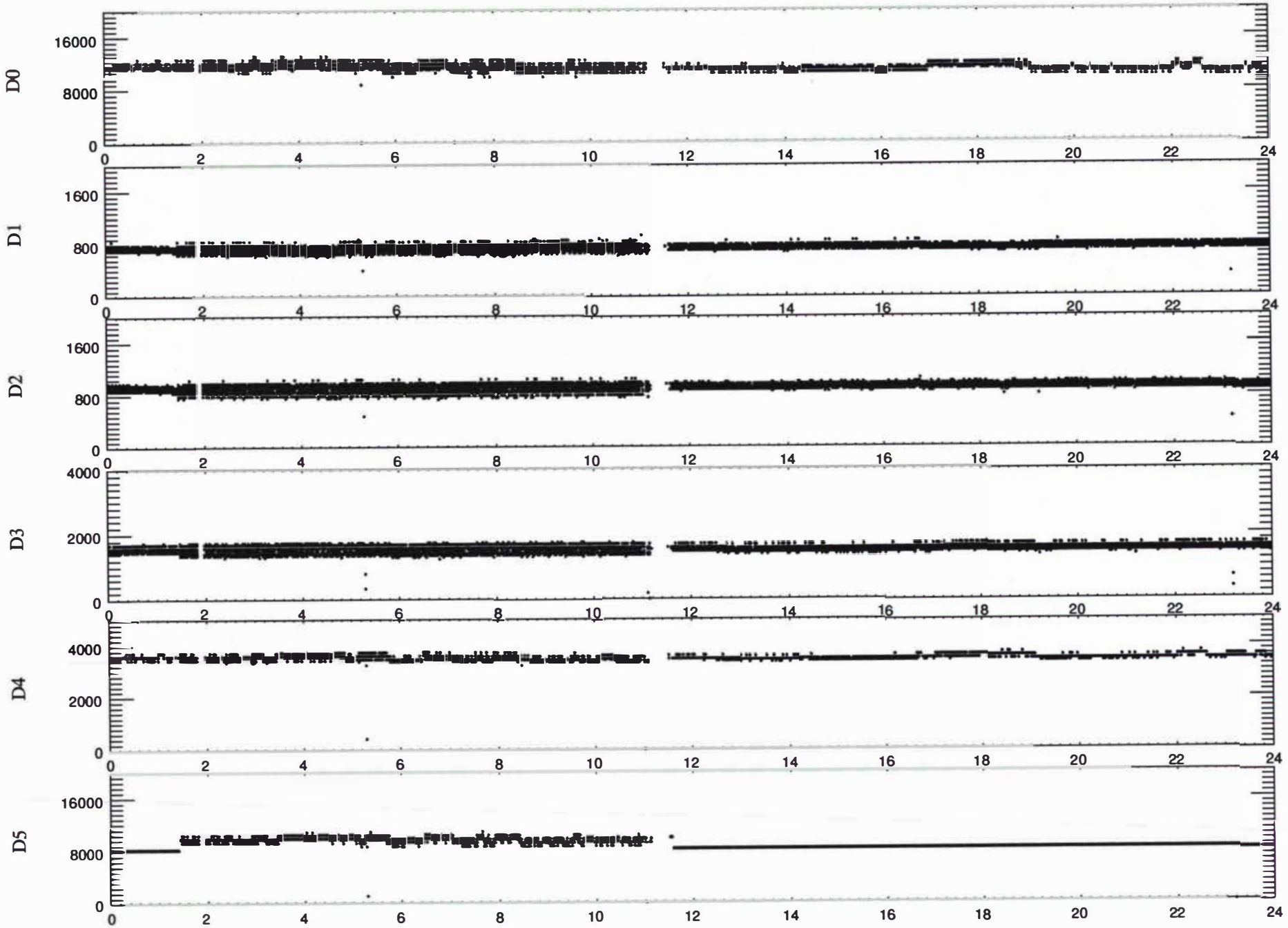
HUS 2A, MODE 1, NOT AVERAGED EDR day 32, year 1996 to day 32, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 32, year 1996 to day 32, year 1996 11/25/96



Date: Oct 2 '02

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. BATSE Data 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?

3. NEAR Data

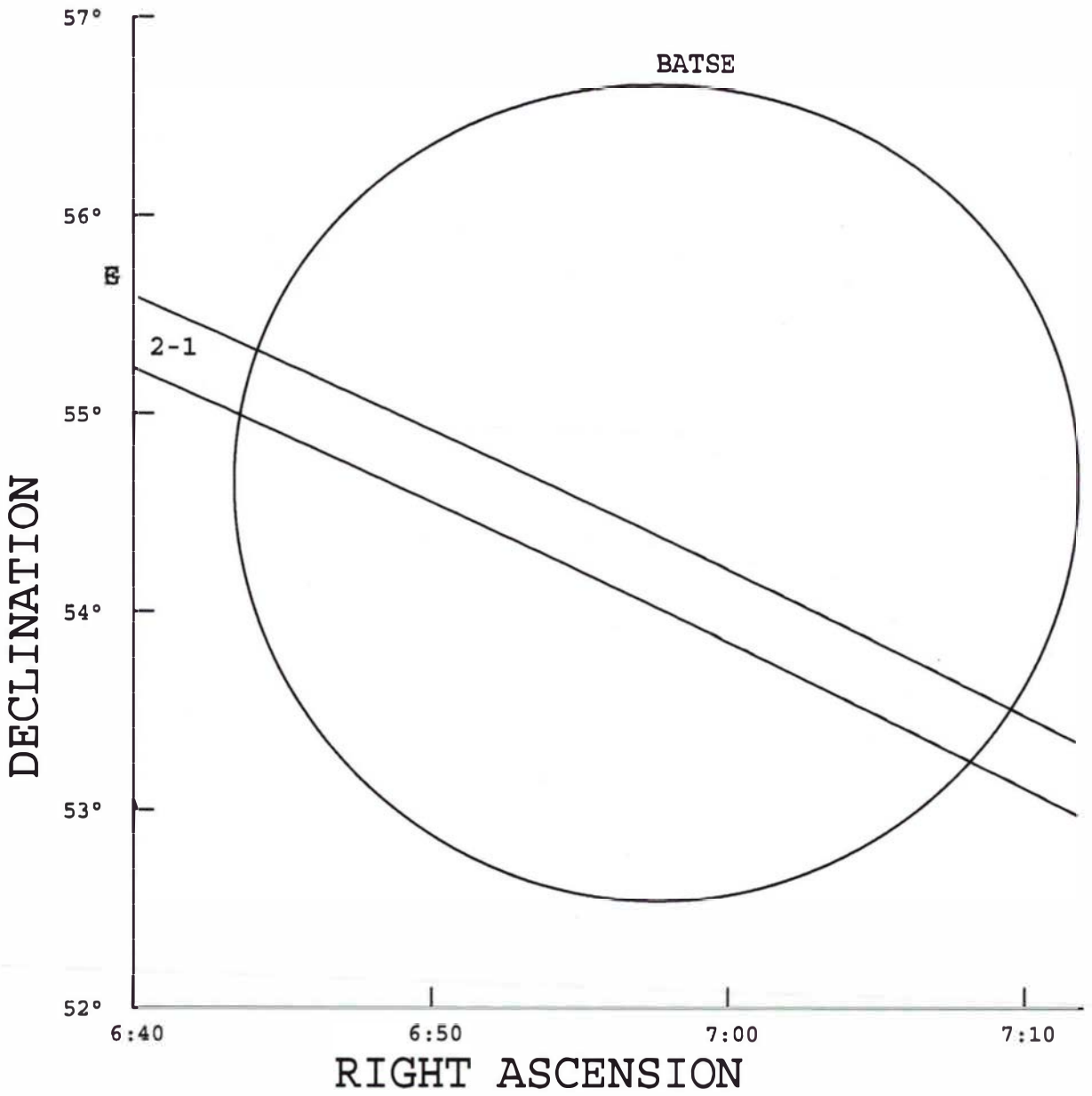
☐ Final, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)

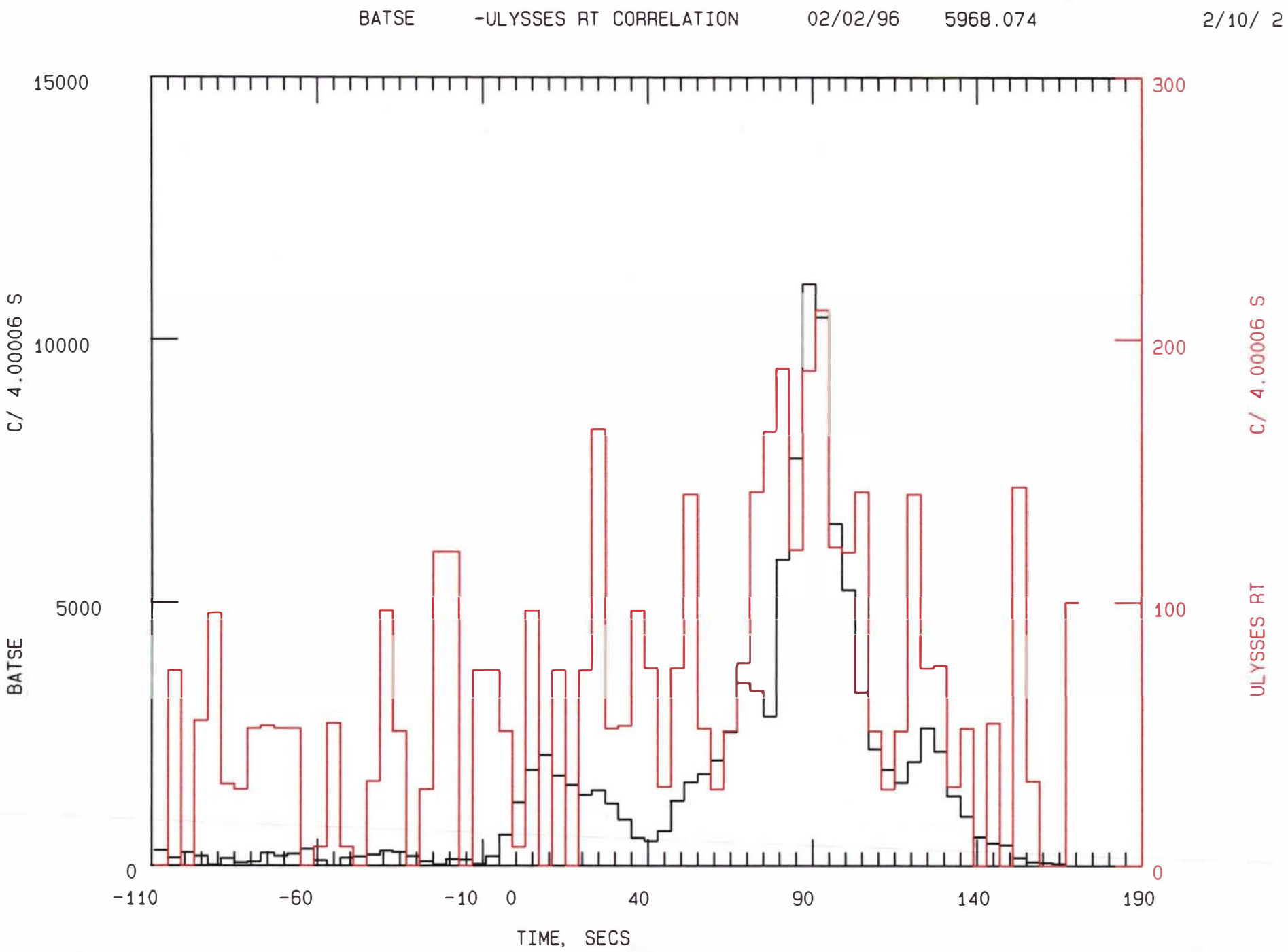
☐ BATSE >100 keV data used for NEAR correlation?

☑ ACCESS database updated?

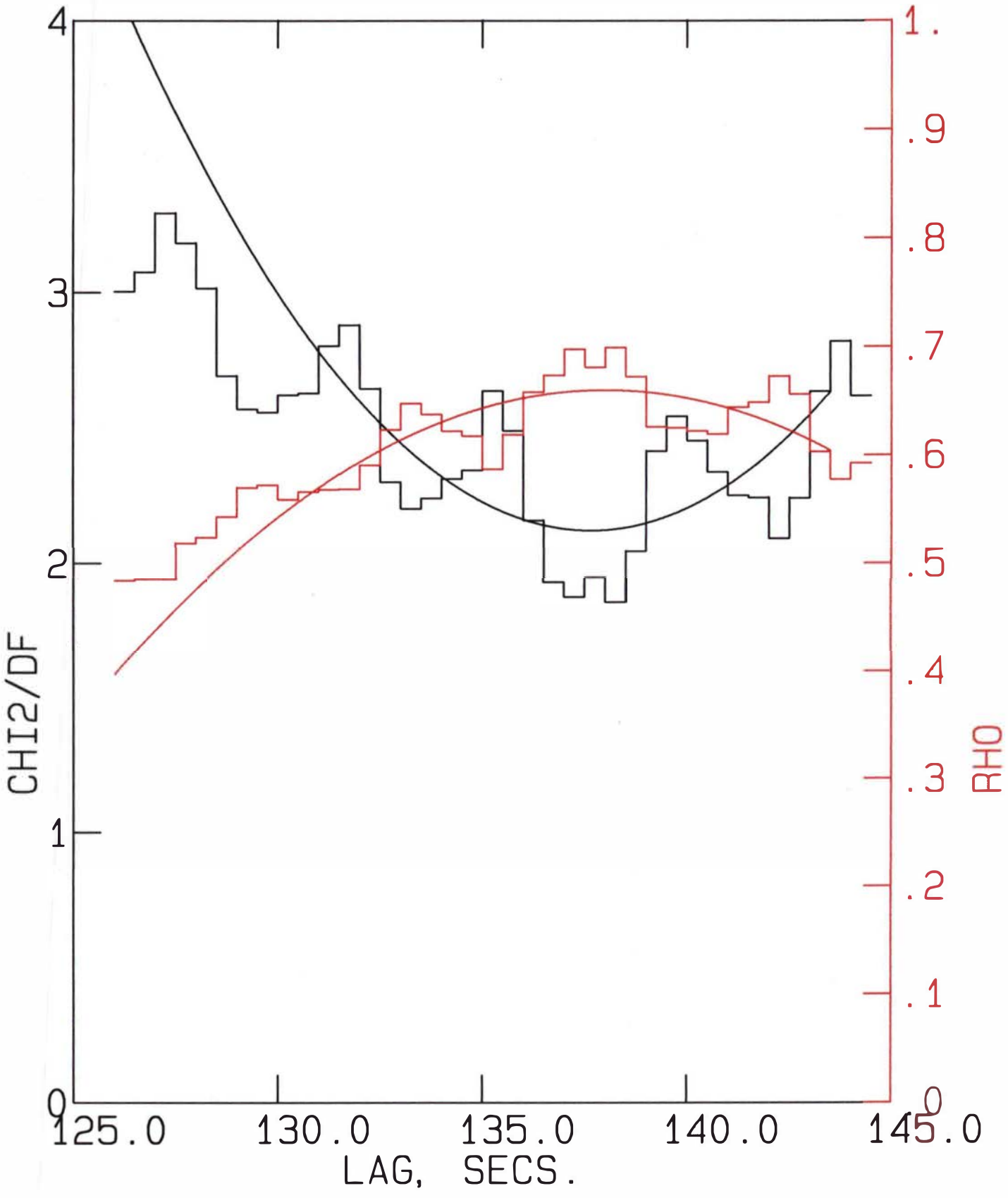
EVENT OF FEB 2, 1996 1:39

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 02/02/96 5968.074 2/10/ 2
15000
10000
5000
0
C/ 4.00006 S
BATSE
300
200
100
0
C/ 4.00006 S
ULYSSES RT
-110
-60
-10
0
40
90
140
190
TIME, SECS

BATSE -ULYSSES RT CORRELATION 02/02/96 5968.074



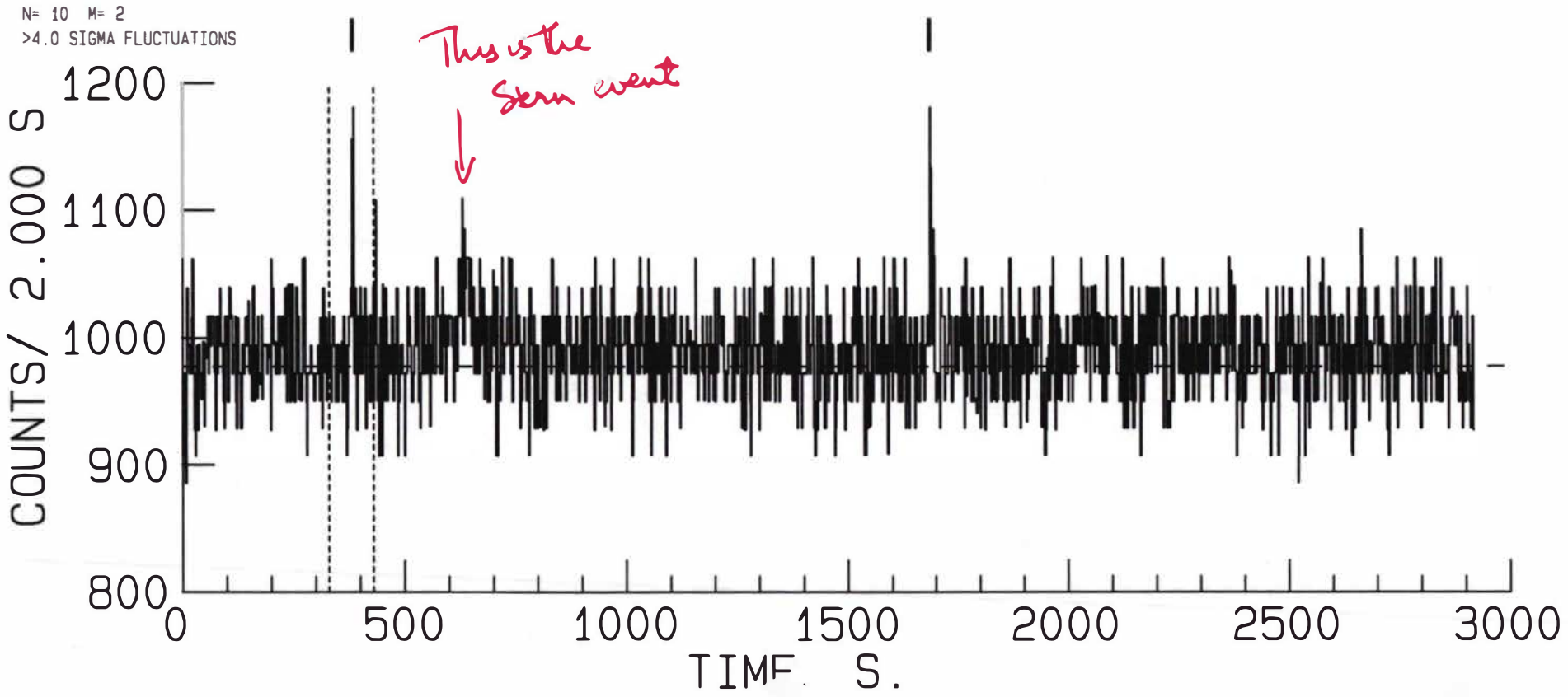
ULYSSES RT

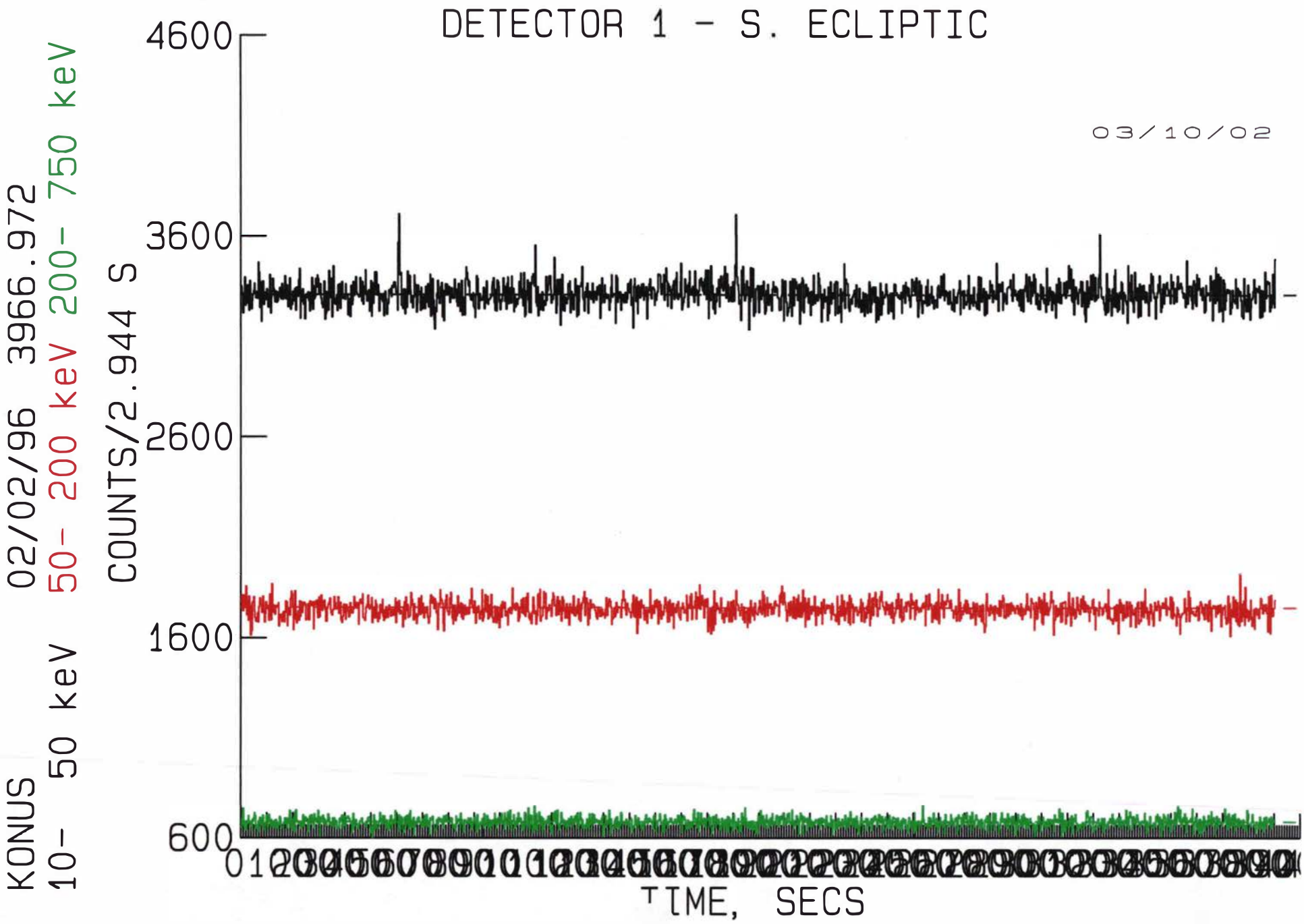
2/10/ 2

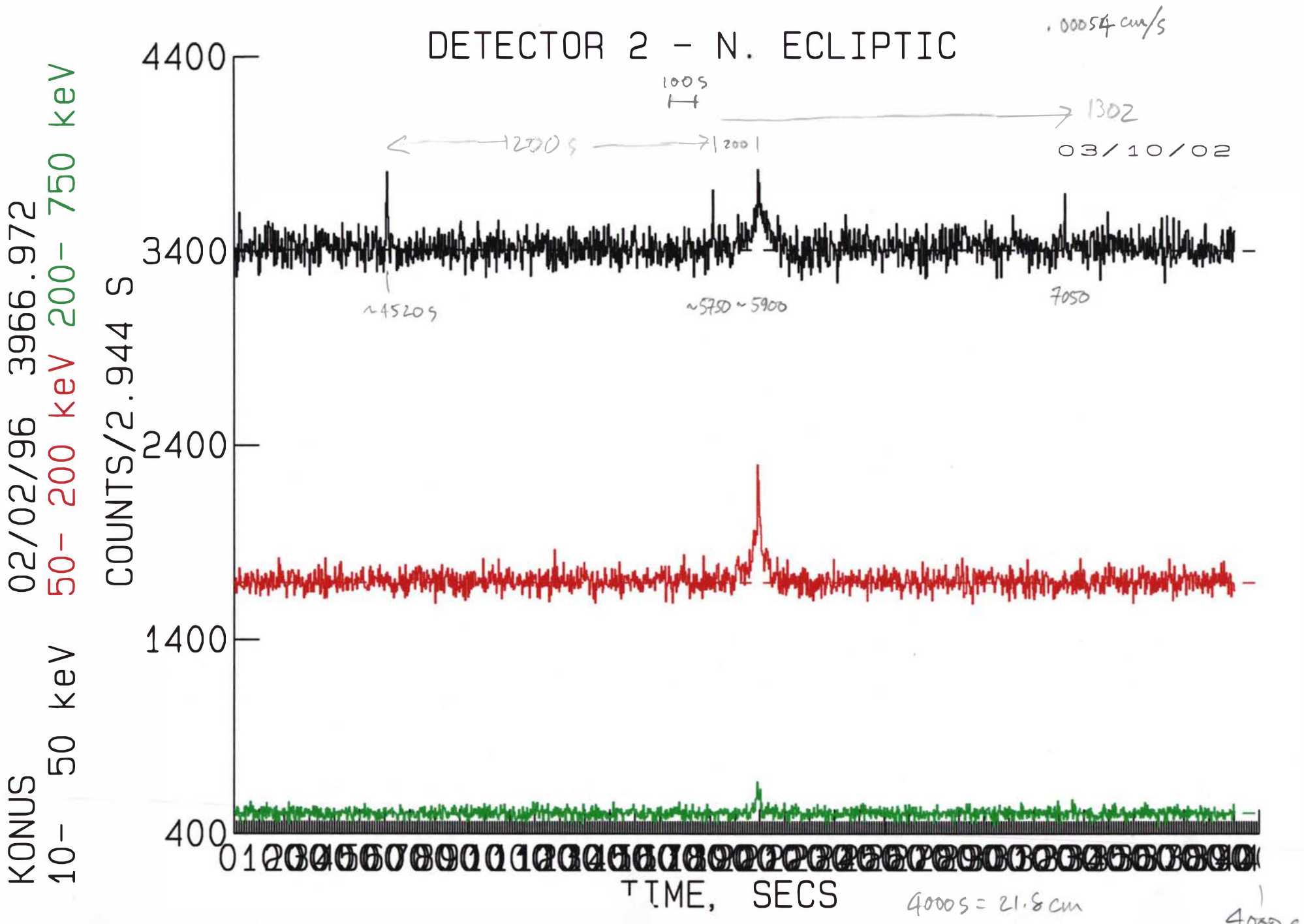
2/ 2/96 4500.264 s

0.500 S INTERVALS REGROUPED BY 4

21- 144 keV




DETECTOR 1 - S. ECLIPTIC
03/10/02
KONUS
10- 50 keV 50- 200 keV 200- 750 keV
02/02/96 3966.972
COUNTS/2.944 S
4600
3600
2600
1600
600
TIME, SECS


DETECTOR 2 - N. ECLIPTIC
.00054 cm/s
100 s
1302
1200 s
1200 1
03/10/02
4400
3400
2400
1400
400
~4520 s
~5750 ~5900
7050
KONUS
10- 50 keV
02/02/96 3966.972
50- 200 keV 200- 750 keV
COUNTS/2.944 S
TIME, SECS
4000 s = 21.8 cm
4000 s

stern 19960202 06160

ULYSSES RT 04/10/02

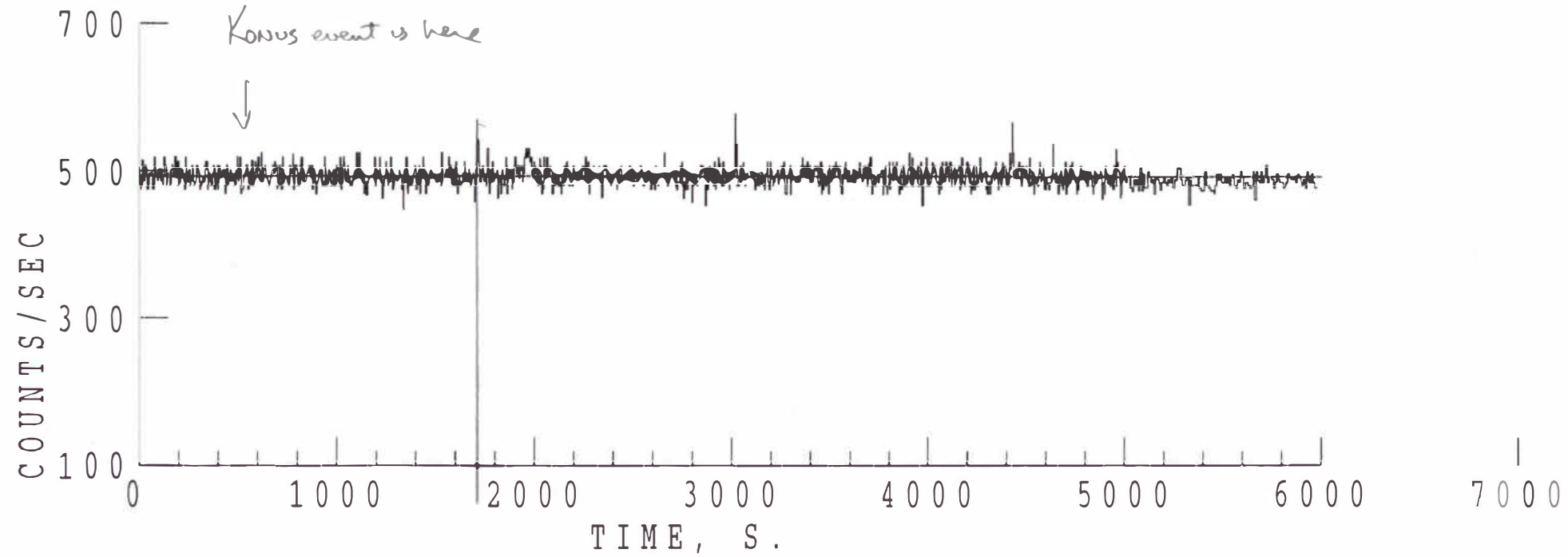
02/02/96 3168.242 s

INTERVALS REGROUPED BY 8

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

When major frames are recorded but not transmitted during the next track, but are eventually downlinked with data from a succeeding day, the embedded SCLKs are 'assumed' to be incorrect by the frame syncer and are re-tagged with SCETs and SCLKs matching the adjacent (but newer) data.

For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

Joe

To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

KONUS

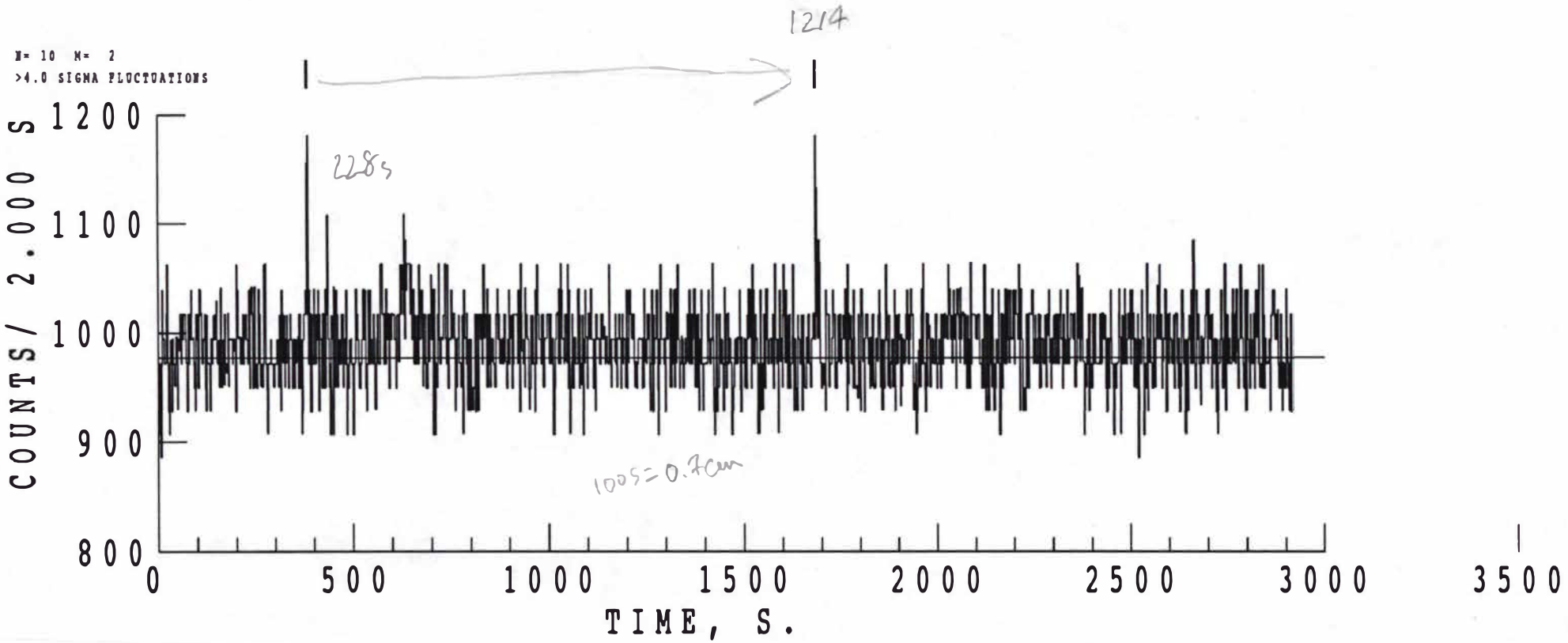
ULYSSES RT

28/01/00

02/02/96 4500.264 s

0.500 S INTERVALS REGROUPED BY 4

0- 0 keV



From WOODSP@ssl.msfc.nasa.gov Mon Feb 5 09:48 PST 1996
From: WOODSP@ssl.msfc.nasa.gov
Date: Mon, 5 Feb 1996 11:48:10 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4710

****
BATSEARCH PROGRAM
****

RI

BATSE BURST # 4710
EVENT OF 1996 FEB 2 DAY OF YEAR= 33
EVENT CROSSING TIME AT BATSE : 50751. S. OR 14:05:51.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 215.000 -65.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 2/ 96 IS:
RA= 220.220 DEC= 68.821 DIST= 2.818 AU
BATSE-ULYSSES DISTANCE = 421618038. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 46.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 974.67 SECS.
CROSSING TIME AT ULYSSES IS 51726. S. OR 14:22:05 +/- 240.82 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 2/ 96 IS:
RA= 322.105 DEC= -16.052 DIST= 2.357 AU
MARS-BATSE DISTANCE = 352559584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 97.54 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -154.23 SECS.
CROSSING TIME AT MARS IS 50597. S. OR 14:03:16 +/- 200.07 SECONDS

BATSE BURST TRIGGER

NO.: 4710

TIME: TJD=0115 SECONDS=50751

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=56.5 AZIMUTH=325.7 ERROR=1.5 DEGREES

COMMENTS:
GRB LASTING 15 SEC. FRED STRUCTURE WITH 2ND EPISODE IN TAIL.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
4710	960202	10115	50751	10000	215	-65	15

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 cline@lheavx.gsfc.nasa.gov Fri Mar 29 08:40 PST 1996
Date: Fri, 29 Mar 1996 08:40:19 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: Konus Event List augmentation

Dear Kevin,

This list includes Sergei's latest Konus-W (GGS-Wind) and Konus-A (Kosmos-2326) events, for comparison with Ulysses, BATSE, TGRS, etc. The times listed are prioritized for Konus-W (i.e., Konus-A time given if Konus-W doesn't trigger).

Yr	Mn	Dy	UT (Konus)	BATSE	Ulysses	Konus	TGRS	Notes
95	11	2	07085.879	?	?	168	no	
95	11	2	21209.015	3891	R I	169	345	
95	11	4	05868.077	3893	R I	170	BGR	
95	11	5	46827.808	?	?	171	no	
95	11	12	66495.244	?	R I	172	no	
95	11	13	84358.872	3906	R I	173	BGR	
95	11	17	10123.762	3909	?	175	no	
95	11	19	29831.402	3912	R I	176	348	
95	11	19	46457.519	?	?	177	BGR	
95	11	22	09841.38	?	?	179	no	
95	11	22	17107.738	?	?	180	349	
95	12	2	39101.744	?	?	195	BGR	
95	12	3	03988.18	?	?	196	360	
	12	8	19617.151	?	?	197	no	
	12	8	39452.057	?	?	198	no	
95	12	8	42467.634	?	?	199	BGR	
95	12	9	31349.607	?	?	200	BGR	
95	12	13	17849.683	?	?	201	362	
95	12	14	08657.847	?	?	202	no	
95	12	19	60679.732	?	?	203	no	
95	12	20	31883.56	?	?	204	BGR	
95	12	22	25203.254	?	?	no	?	= K-A t.
95	12	27	23005.042	?	?	218	375	
96	12	31	20231.668	?	?	219	no	
96	1	2	11650.996	?	?	220	no	
96	1	4	12521.062	?	?	221	no	
96	1	11	46524.53	?	?	222	no	
96	1	13	56024.261	?	?	228	no	
96	1	14	44104.737	?	?	233	384	+ K-A t.
96	1	15	31956.506	?	?	234	BGR	
96	1	17	57371.341	?	?	235	no	
96	1	19	34679.317	?	?	236	no	
96	1	19	45226.016	?	?	237	no	
96	1	20	36768.974	?	?	238	no	
96	1	24	03388.008	?	?	239	385	+ K-A t.
96	1	24	76096.911	?	?	BGR	?	= K-A t.
96	1	30	08756.848	?	?	240	no	
96	2	1	78530.582	?	?	241	?	+ K-A t.
96	2	2	50750.813	?	?	242	?	
	2	10	35198.959	?	?	247	?	
96	2	16	57796.347	?	?	BGR	?	= K-A t.
96	2	19	20589.684	?	?	BGR	?	= K-A t.
96	2	28	85760.241	?	?	249	?	
96	2	29	22445.141	?	?	250	?	

96	3	5	33645.352	?	?	251	?
96	3	12	35074.697	?	?	252	?
96	3	19	51992.828	?	?	253	?
96	3	21	76321.803	?	?	254	?
96	3	22	19642.728	?	?	255	?
96	3	24	80064.124	?	?	257	?
96	3	25	69892.978	?	?	258	?

--

TLC

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

Helio corr removed

Date: Mar 5 '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)?

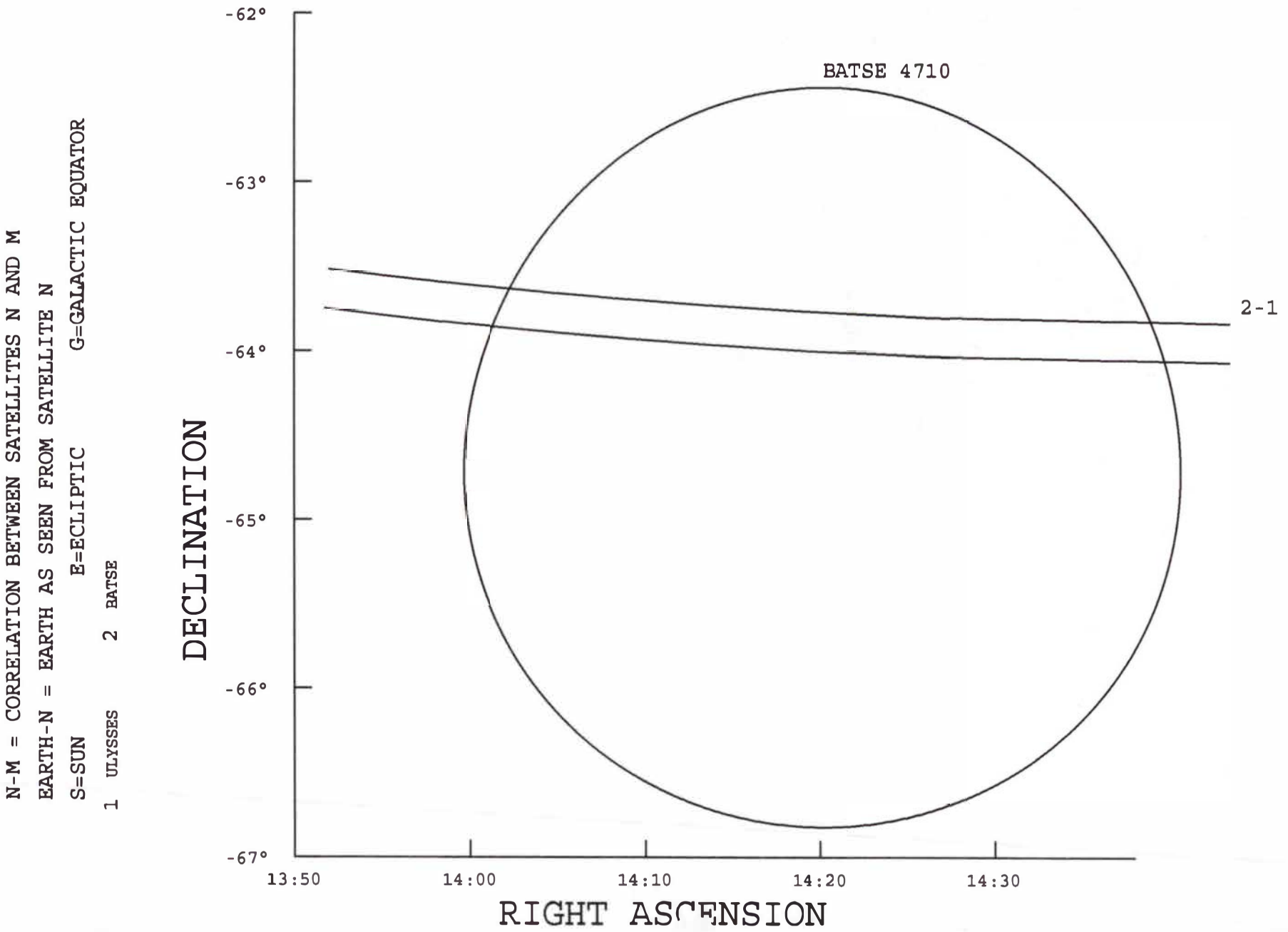
☐ 2000 coordinates used?

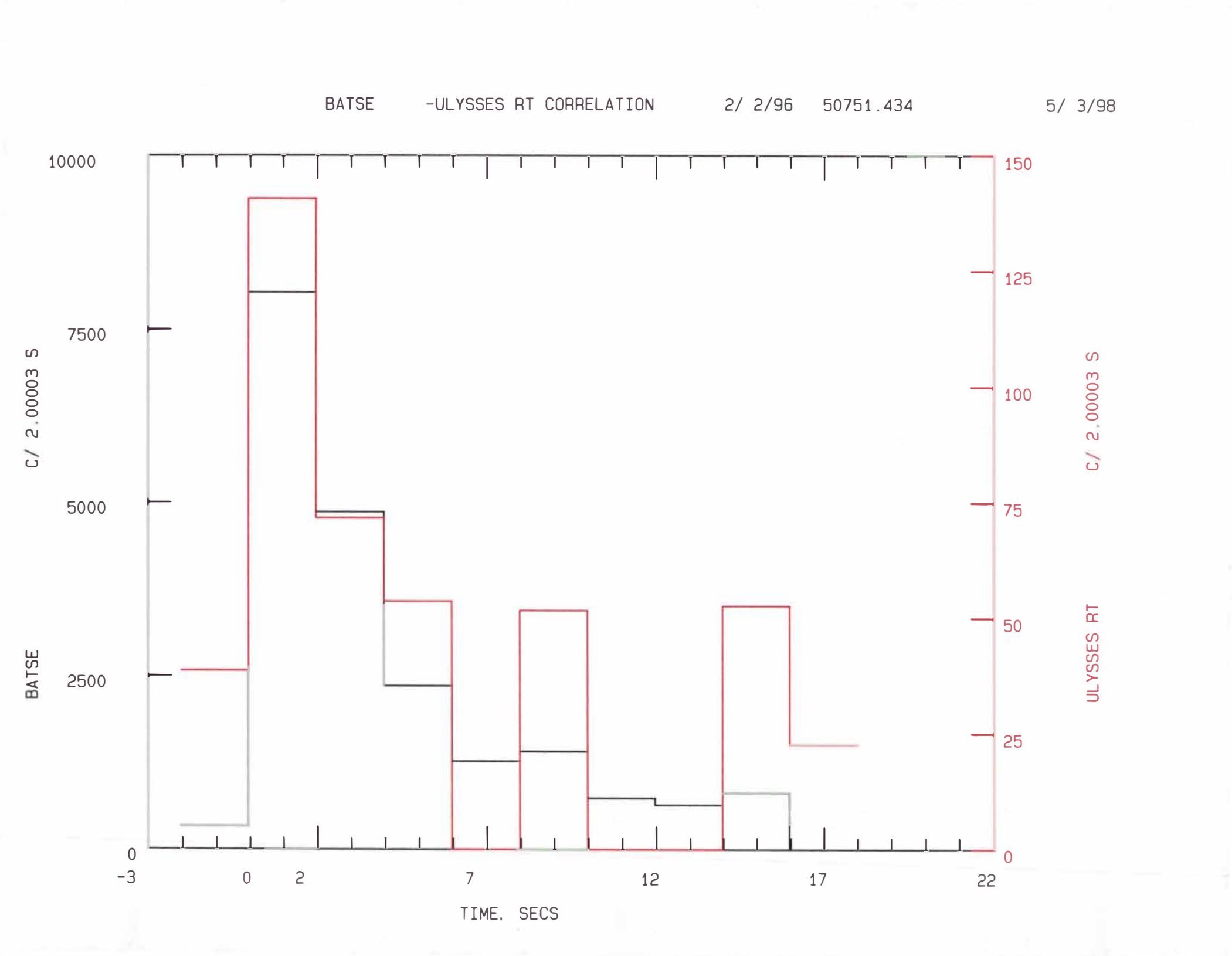
☐ Geocentric time used?

☑ ACCESS database updated?

EVENT OF FEB 2, 1996 14:20

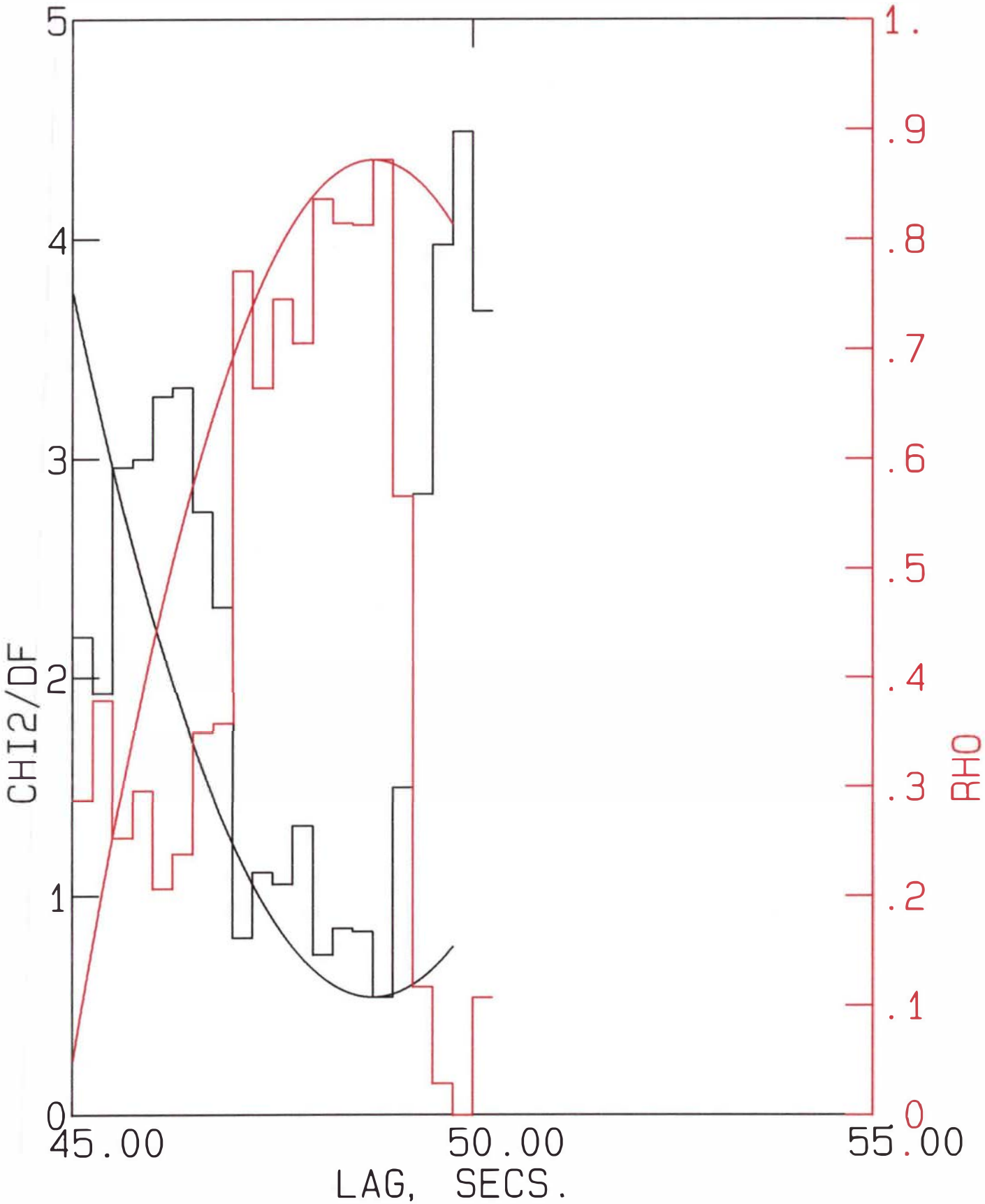
5/ 3/98




BATSE -ULYSSES RT CORRELATION 2/ 2/96 50751.434 5/ 3/98
10000
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
TIME, SECS

5/ 3/98

BATSE -ULYSSES RT CORRELATION 2/ 2/96 50751.434



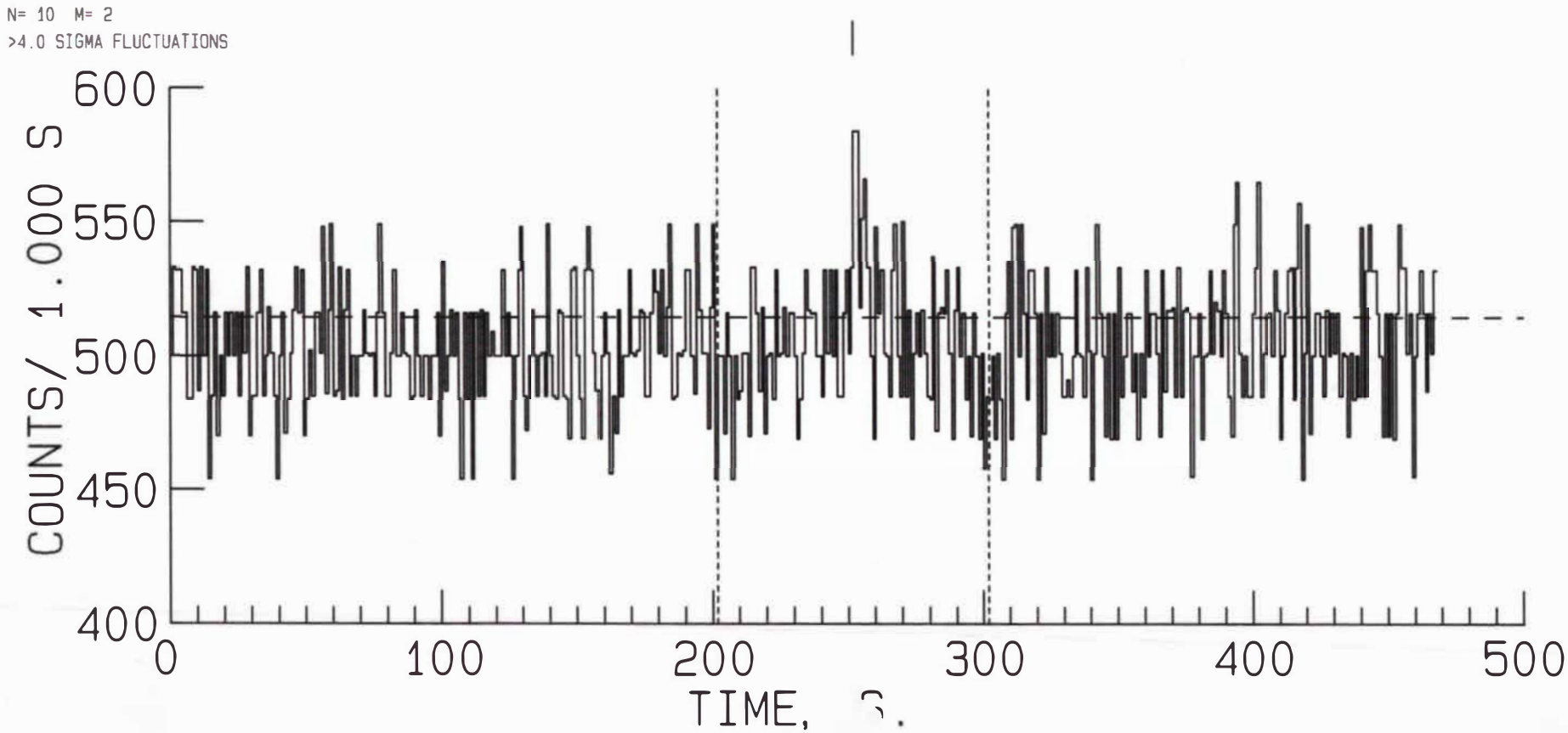
ULYSSES RT

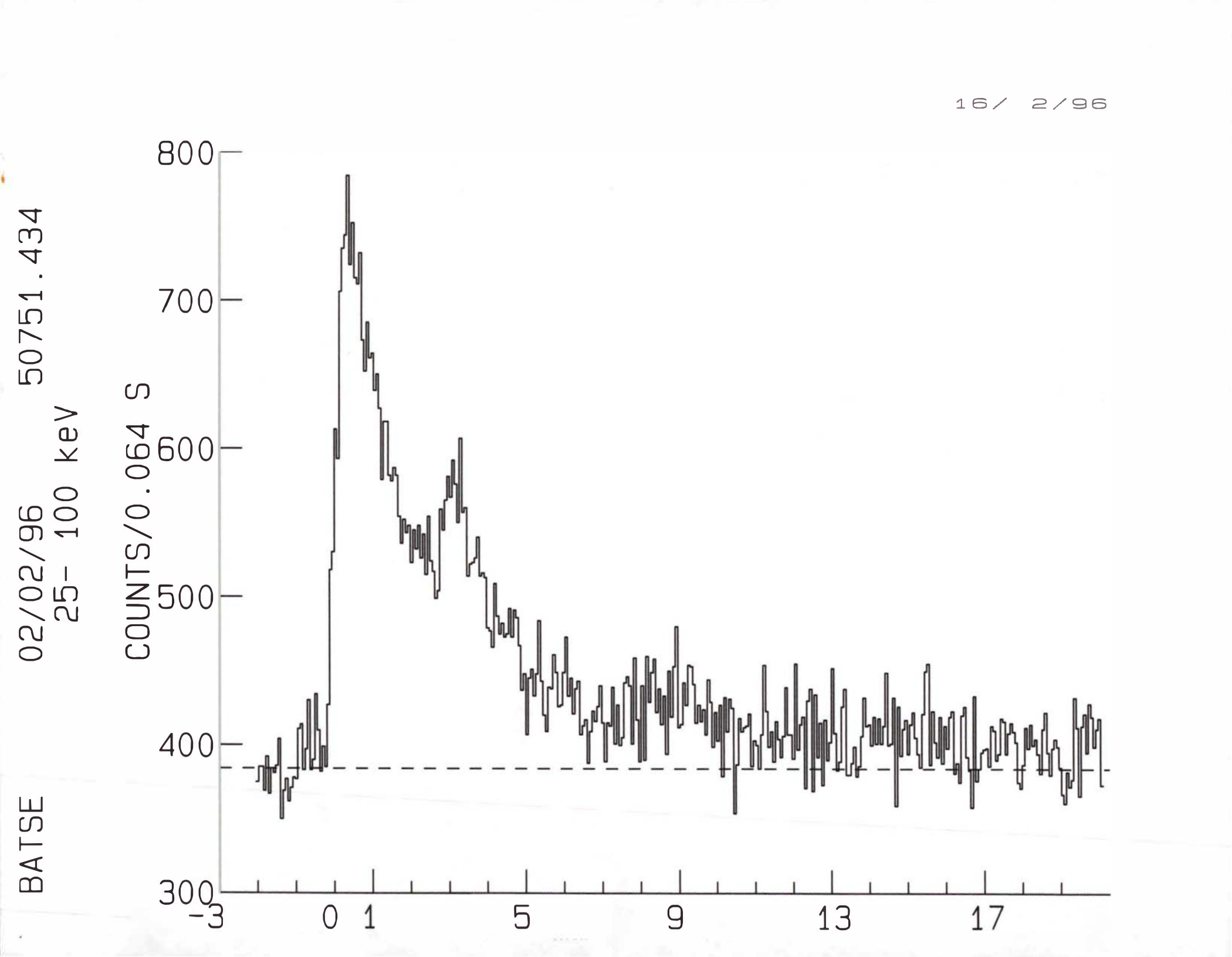
5/ 3/98

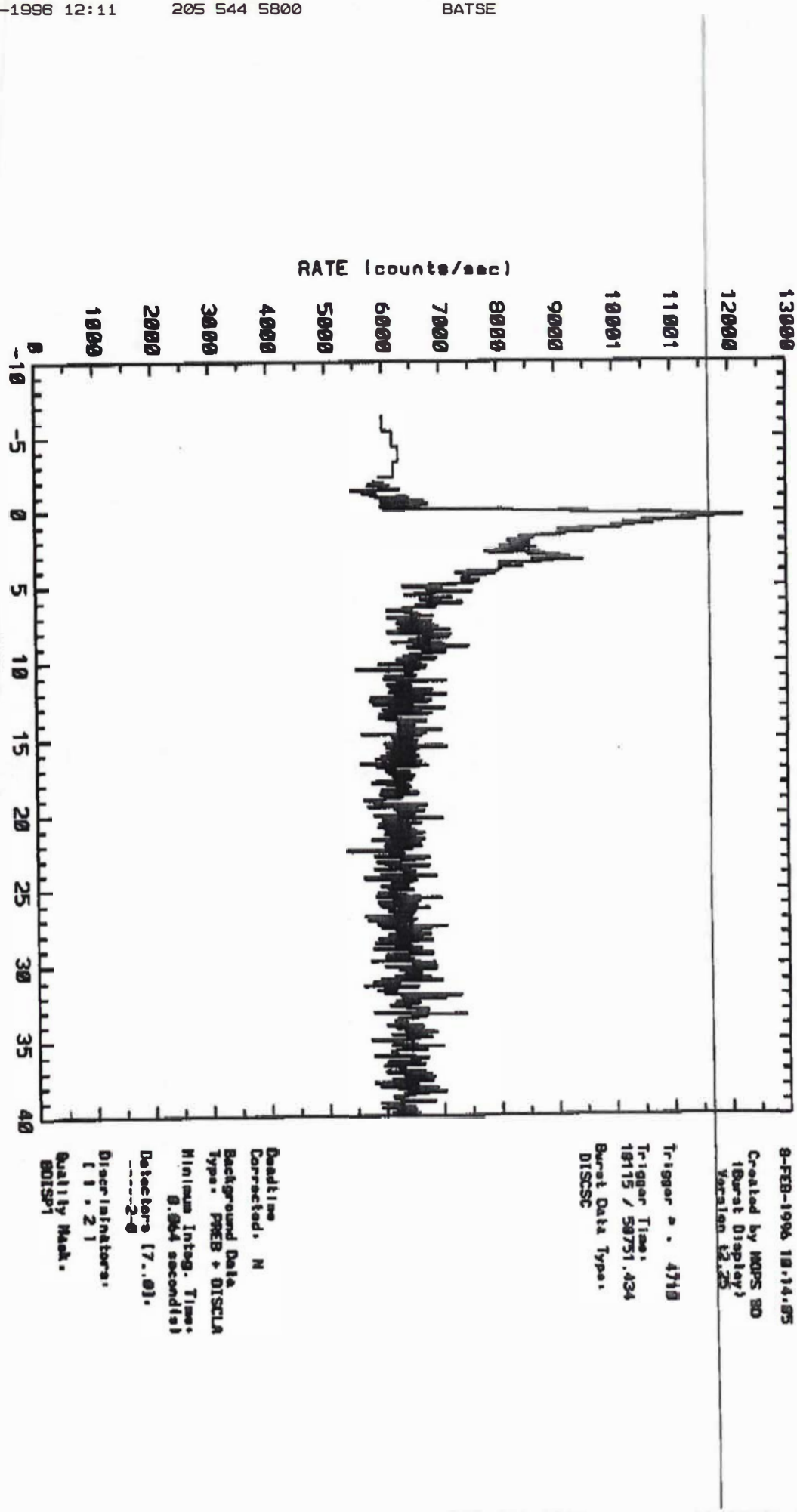
2/ 2/96 51444.199 s

0.250 S INTERVALS REGROUPED BY 4

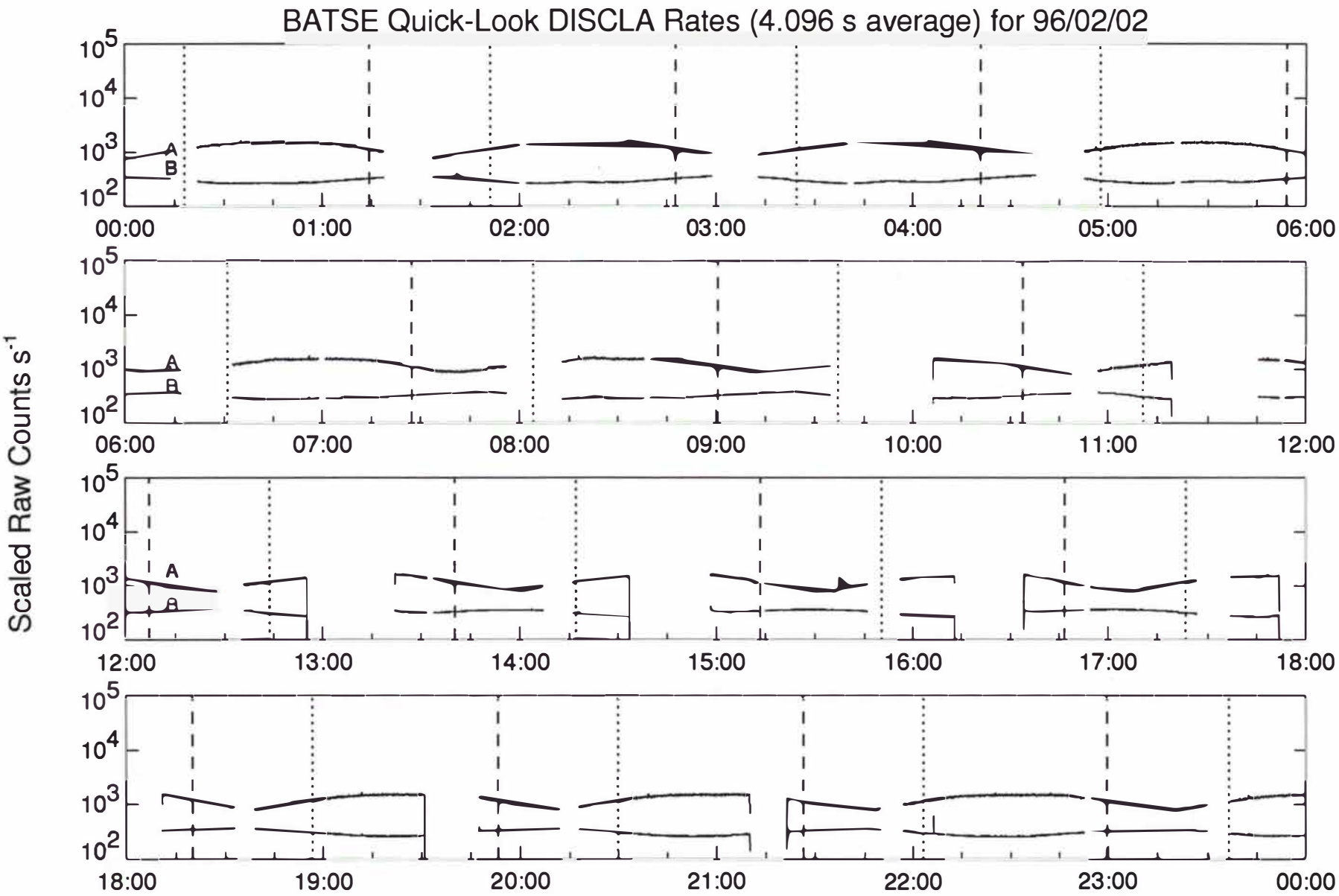
21- 144 keV




16/ 2/96
BATSE
02/02/96
25- 100 keV
50751.434
COUNTS/0.064 S
800
700
600
500
400
300
-3
0
1
5
9
13
17

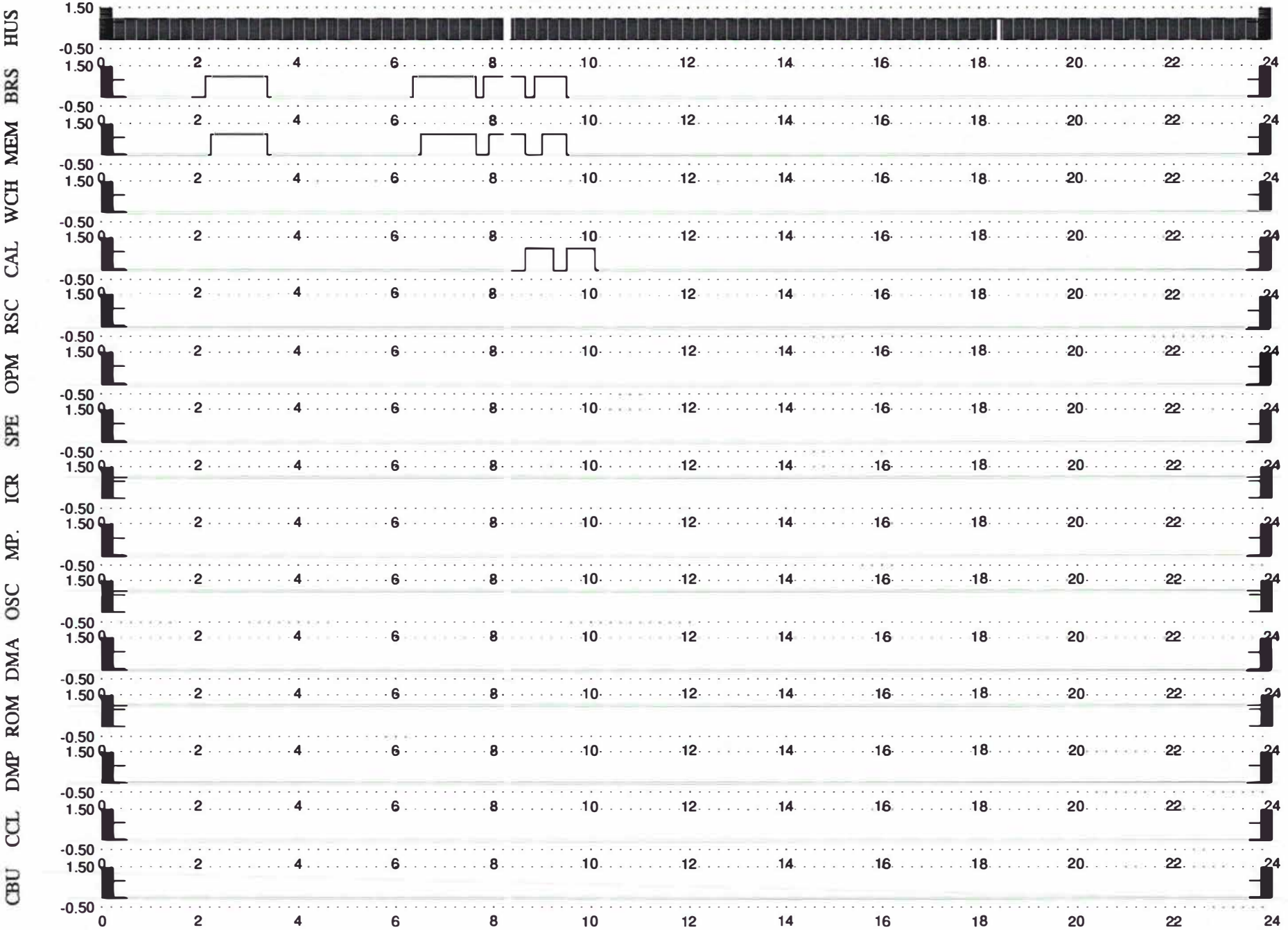

DISCSC Data for K. Hurley, No. 4710
RATE (counts/sec)
SECONDS since trigger
8-FEB-1996 18:14:05
Created by MGPS BD
(Burst Display)
Version 12.23
Trigger # . 4710
Trigger Time:
19115 / 58751.434
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds)
Detectors (7..0):

Discriminators:
(1 , 2)
Quality Mask:
BDISPI


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/02
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
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: 96/02/07, 1317 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

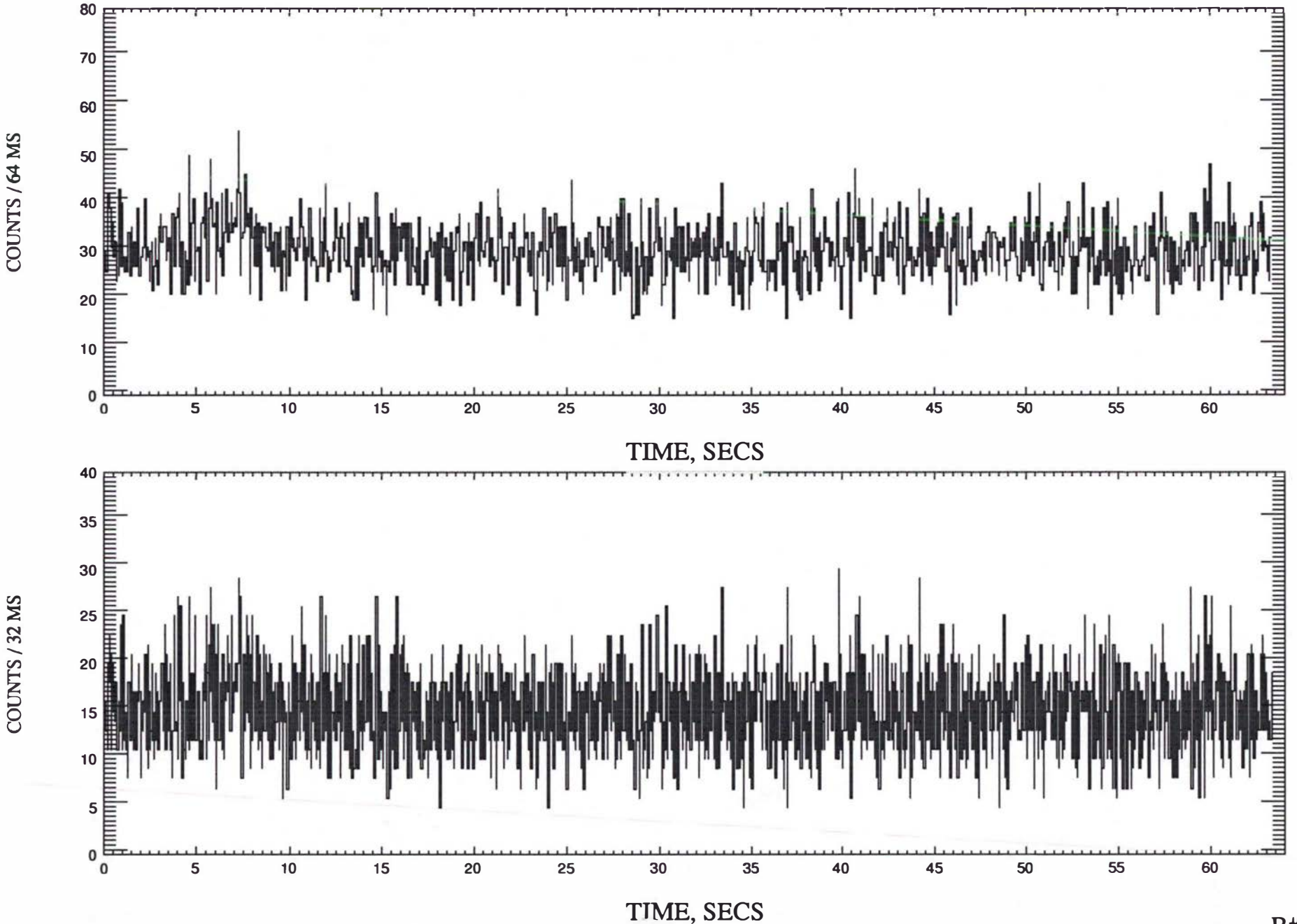
HUS MODES EDR day 33, year 1996 to day 33, year 1996 11/25/96

BURST NUMBER 3 - 6



HUS 2A TRIGGERED DATA EDR day 33, year 1996 11/25/96

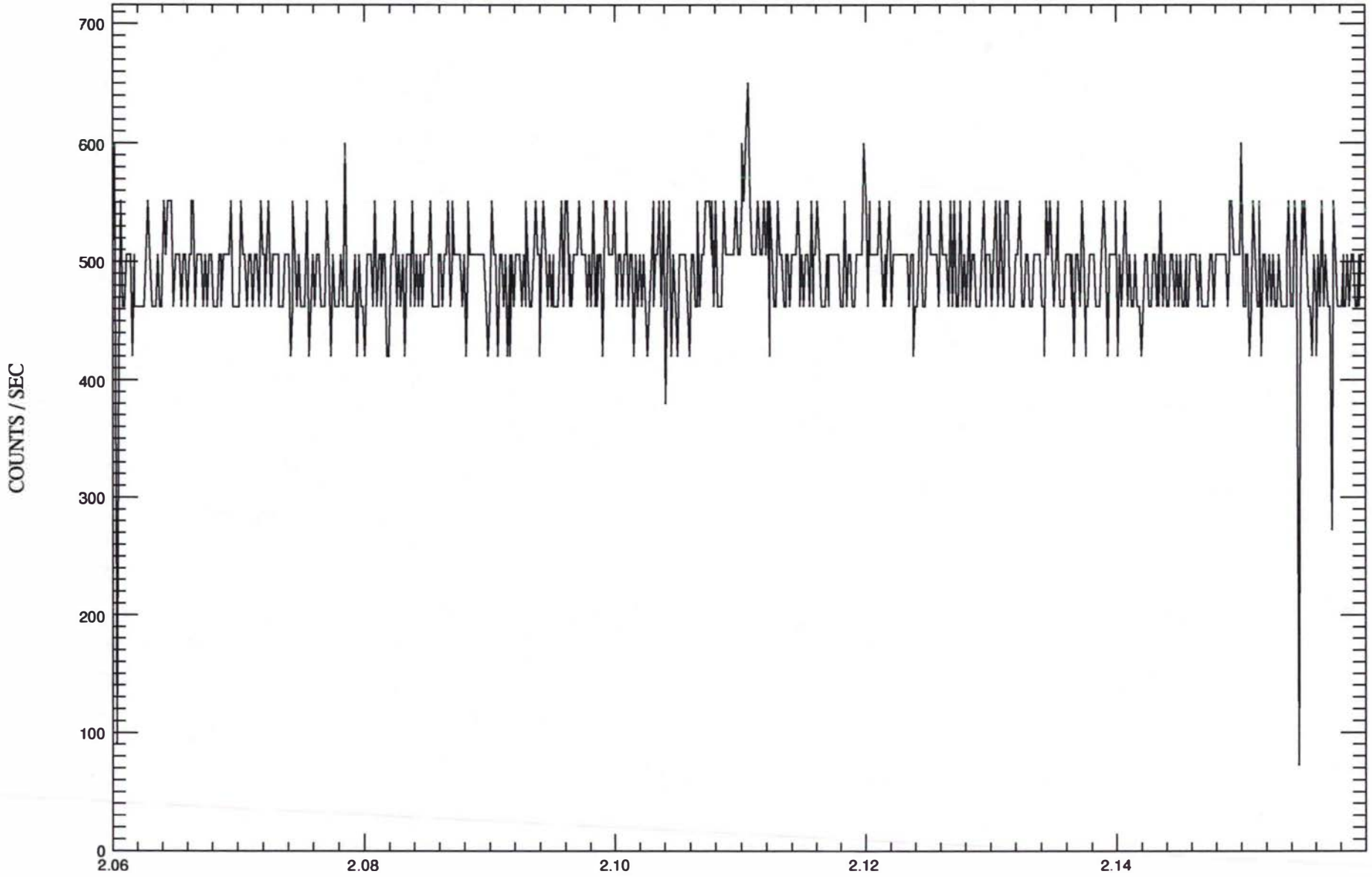
Burst Counter 3 at UT= 2.110669894748 h= 7598.412 s 02:06:38.412



B# 1

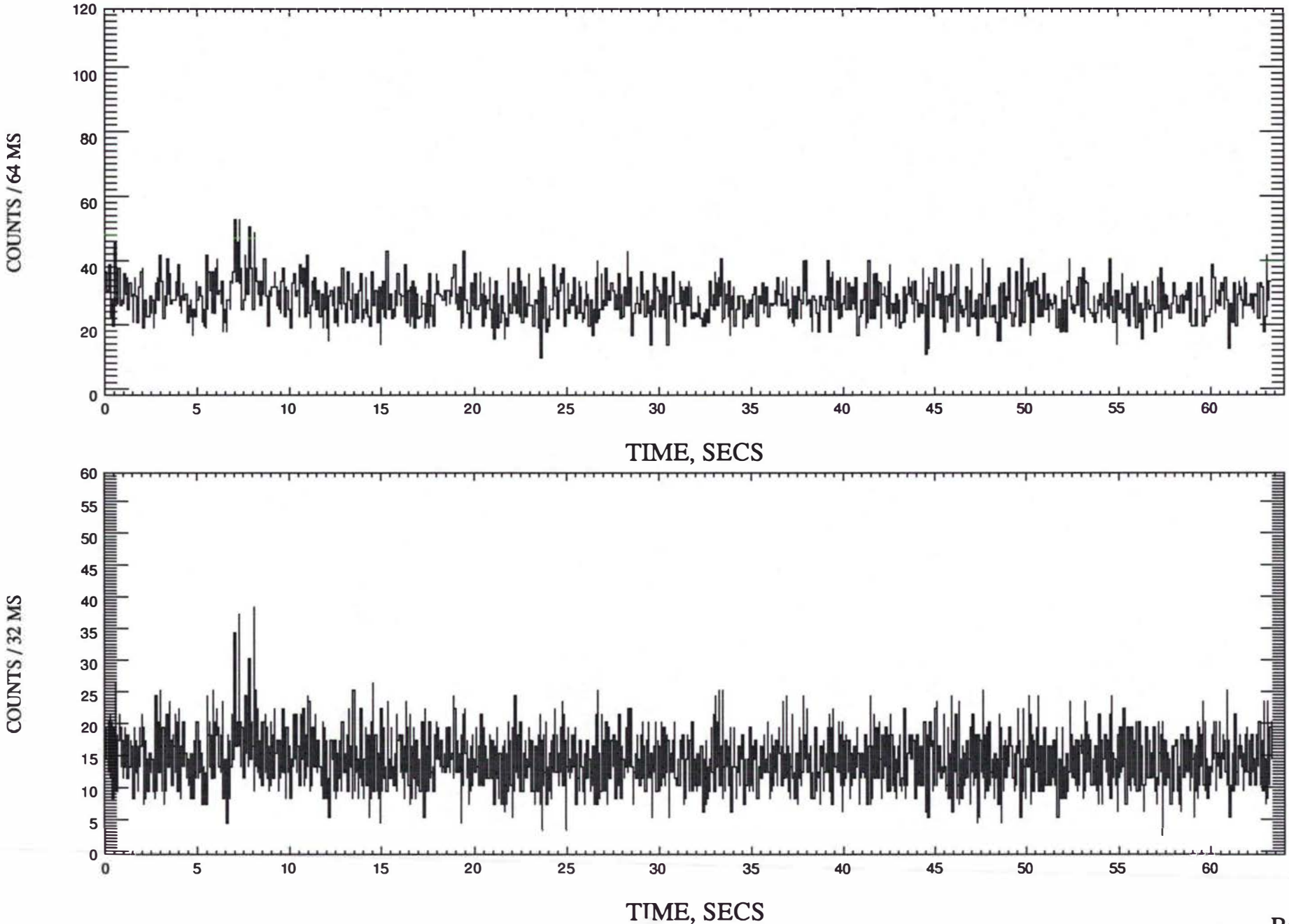
HUS 2A, MODE 1, NOT AVERAGED EDR day 33, year 1996 to day 33, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 33, year 1996 11/25/96

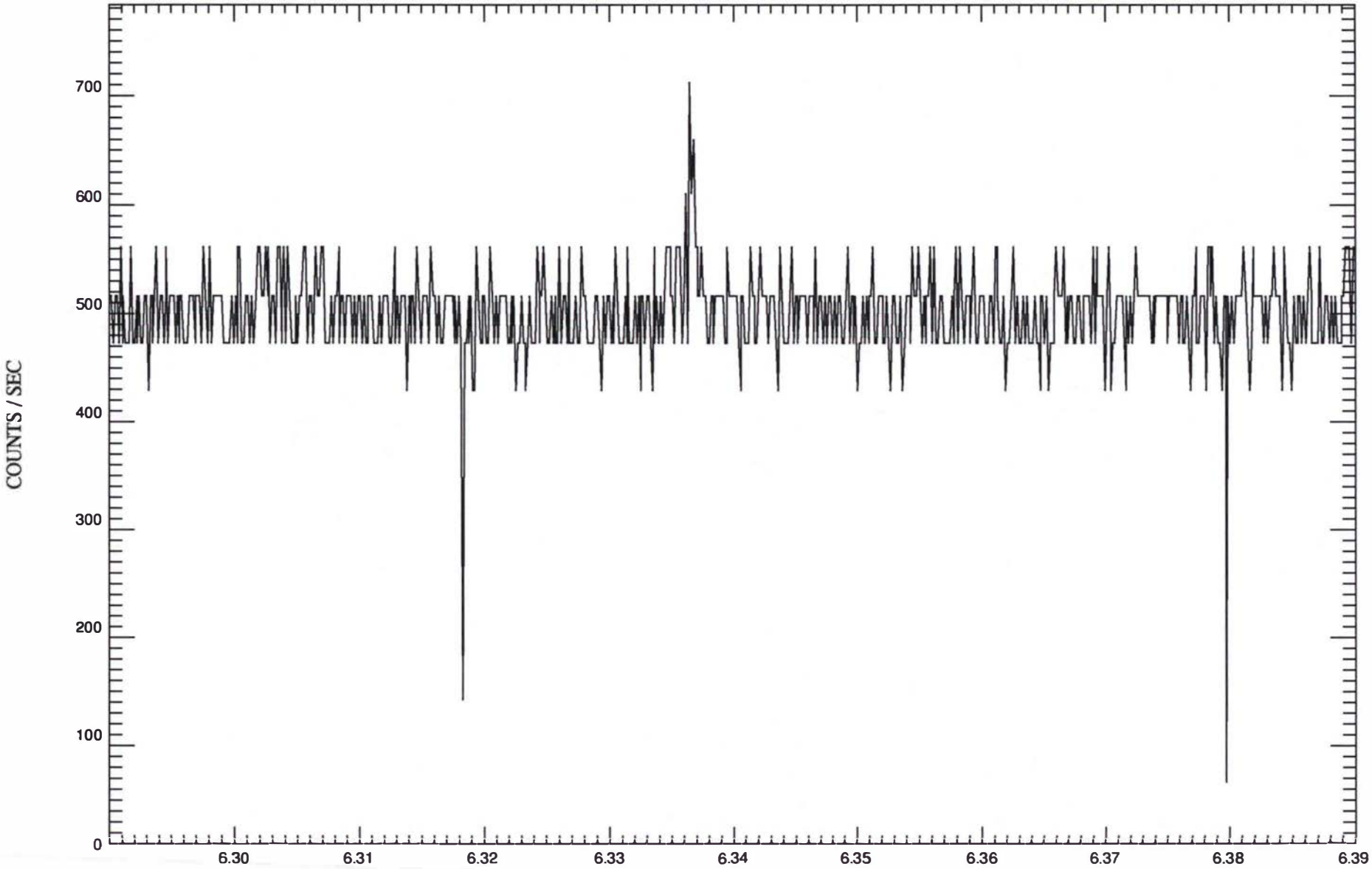
Burst Counter 4 at UT= 6.336671858894 h=22812.019 s 06:20:12.019



B# 2

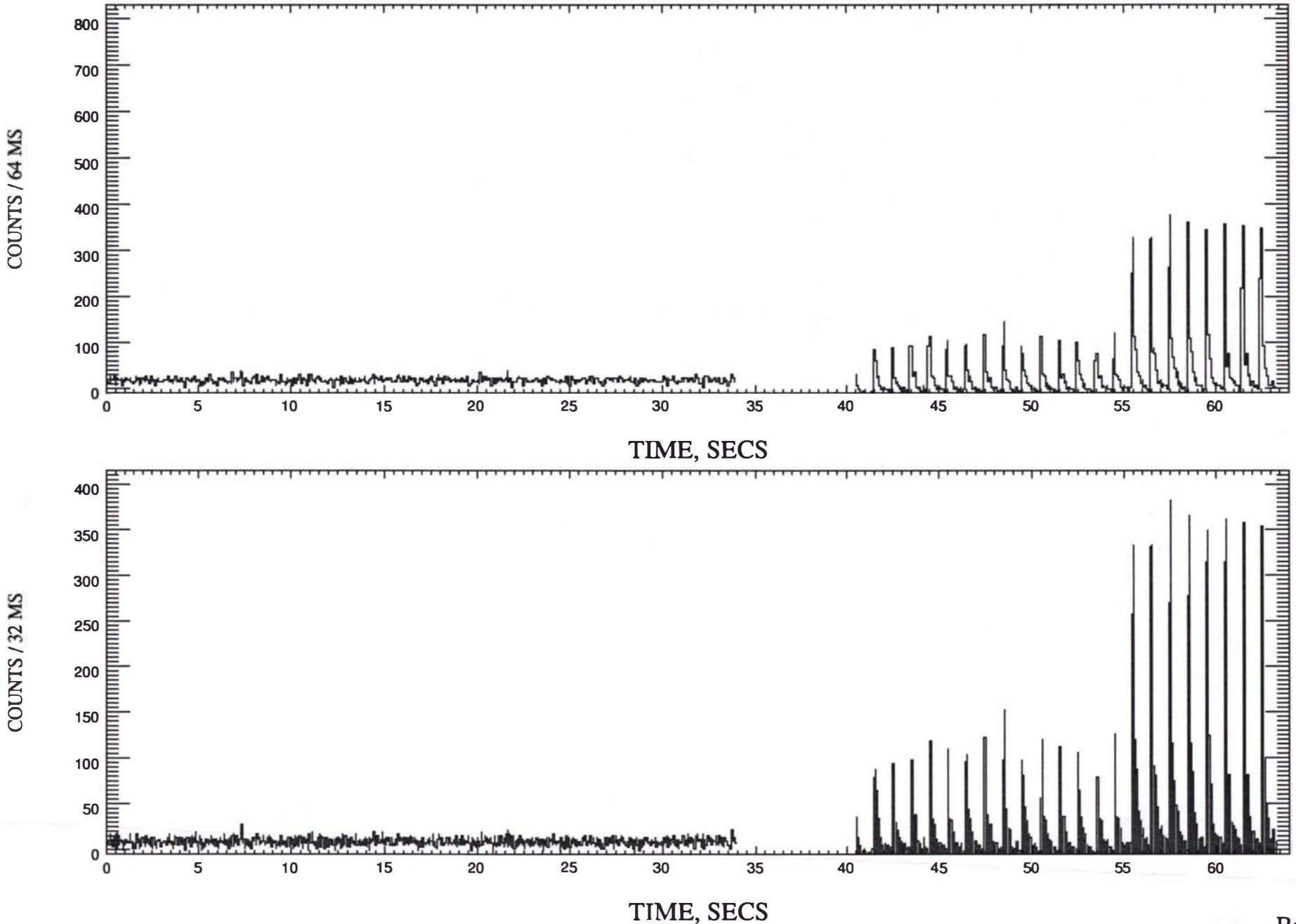
HUS 2A, MODE 1, NOT AVERAGED EDR day 33, year 1996 to day 33, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 33, year 1996 11/25/96

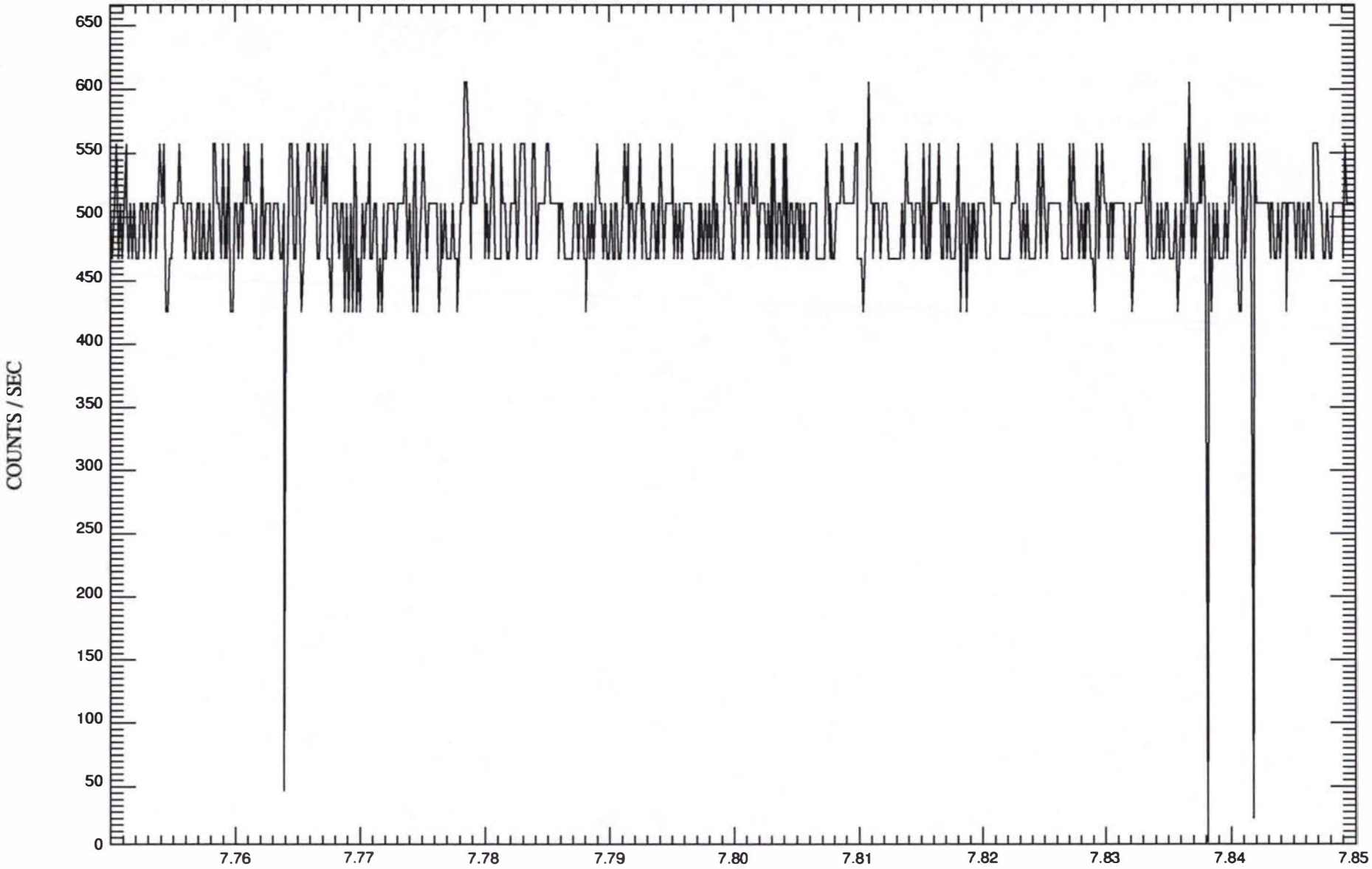
Burst Counter 5 at UT= 7.799505123562 h=28078.218 s 07:47:58.218



B# 3

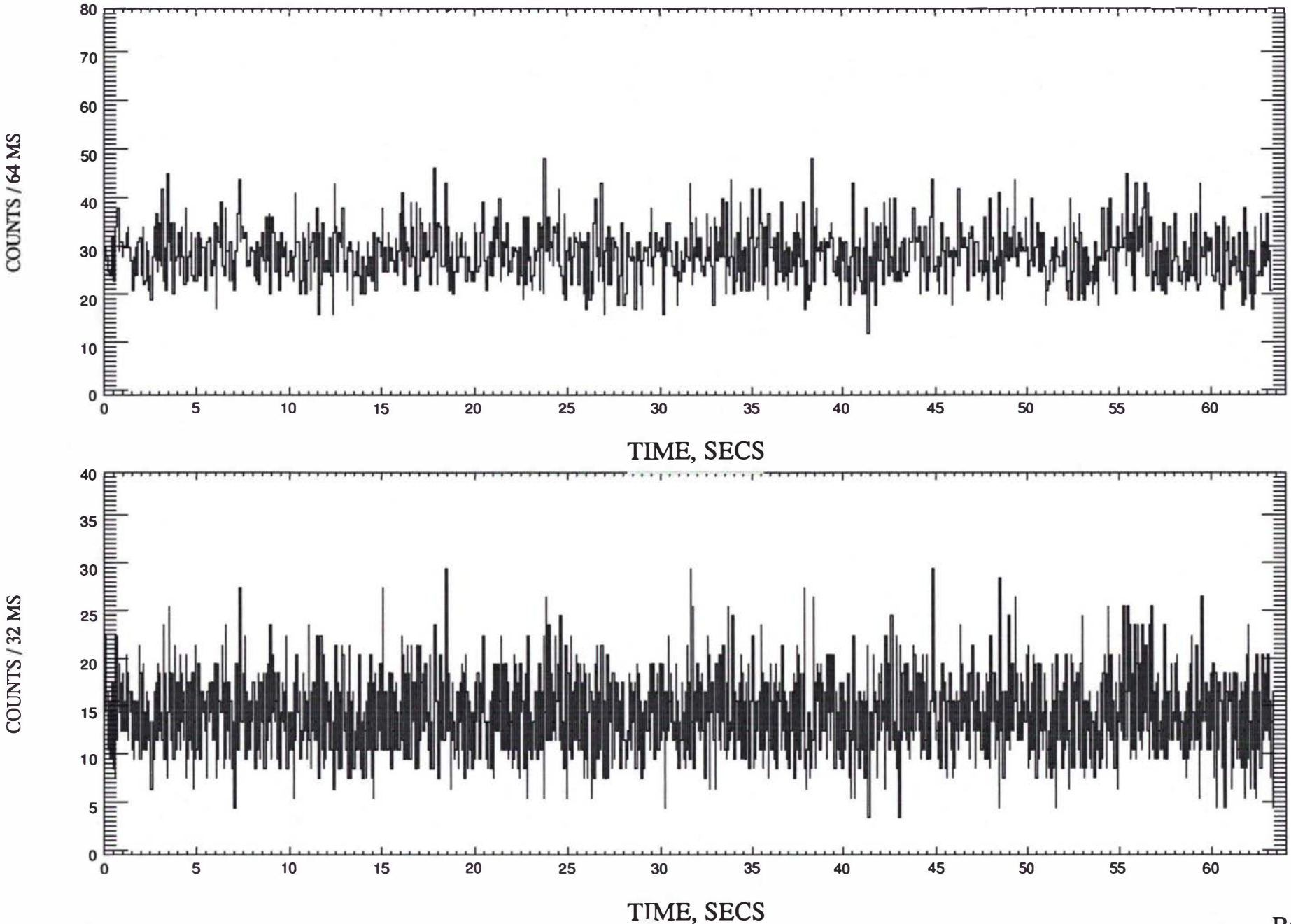
HUS 2A, MODE 1, NOT AVERAGED EDR day 33, year 1996 to day 33, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 33, year 1996 11/25/96

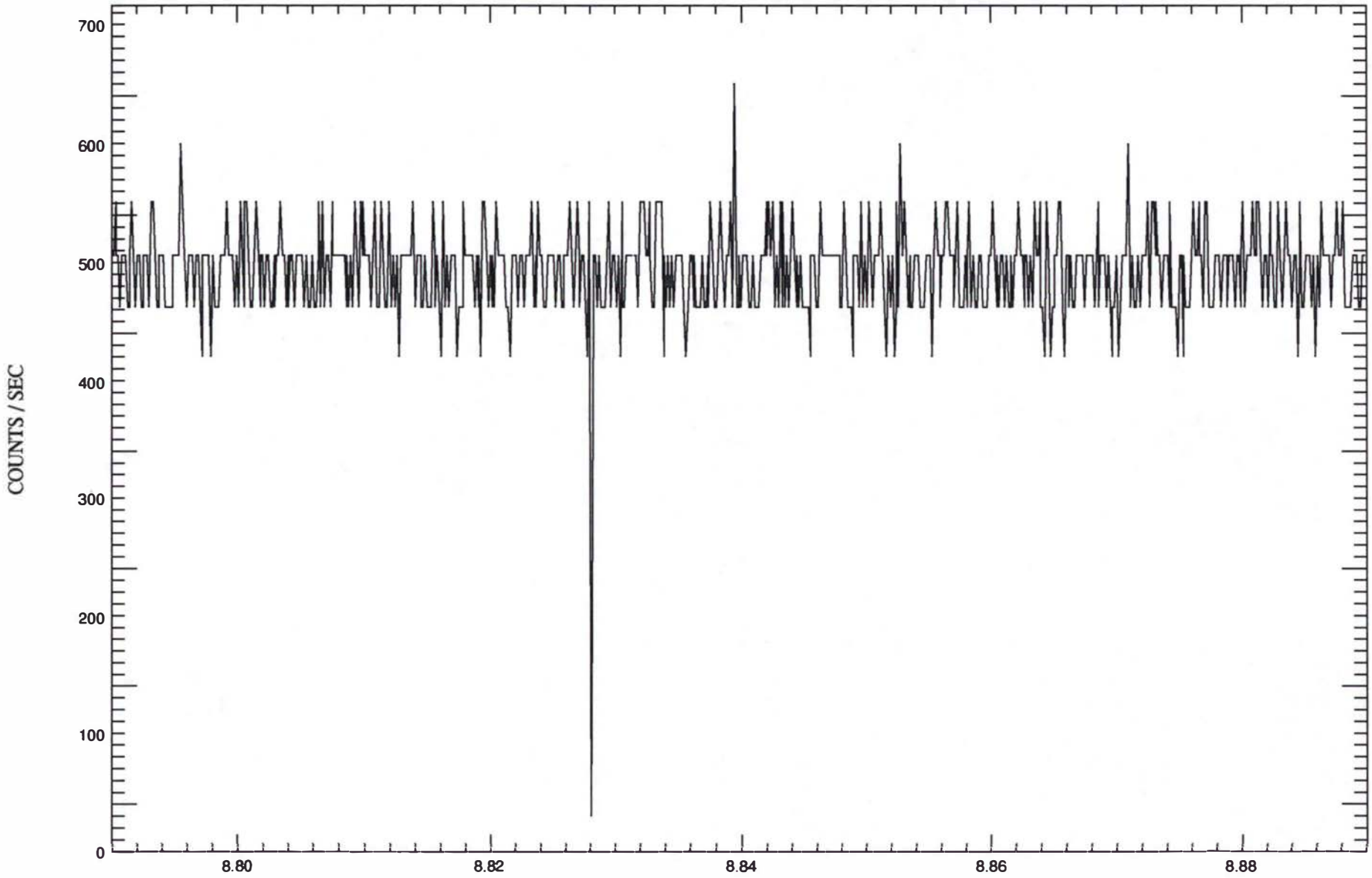
Burst Counter 6 at UT= 8.839557753669 h=31822.408 s 08:50:22.408



B# 4

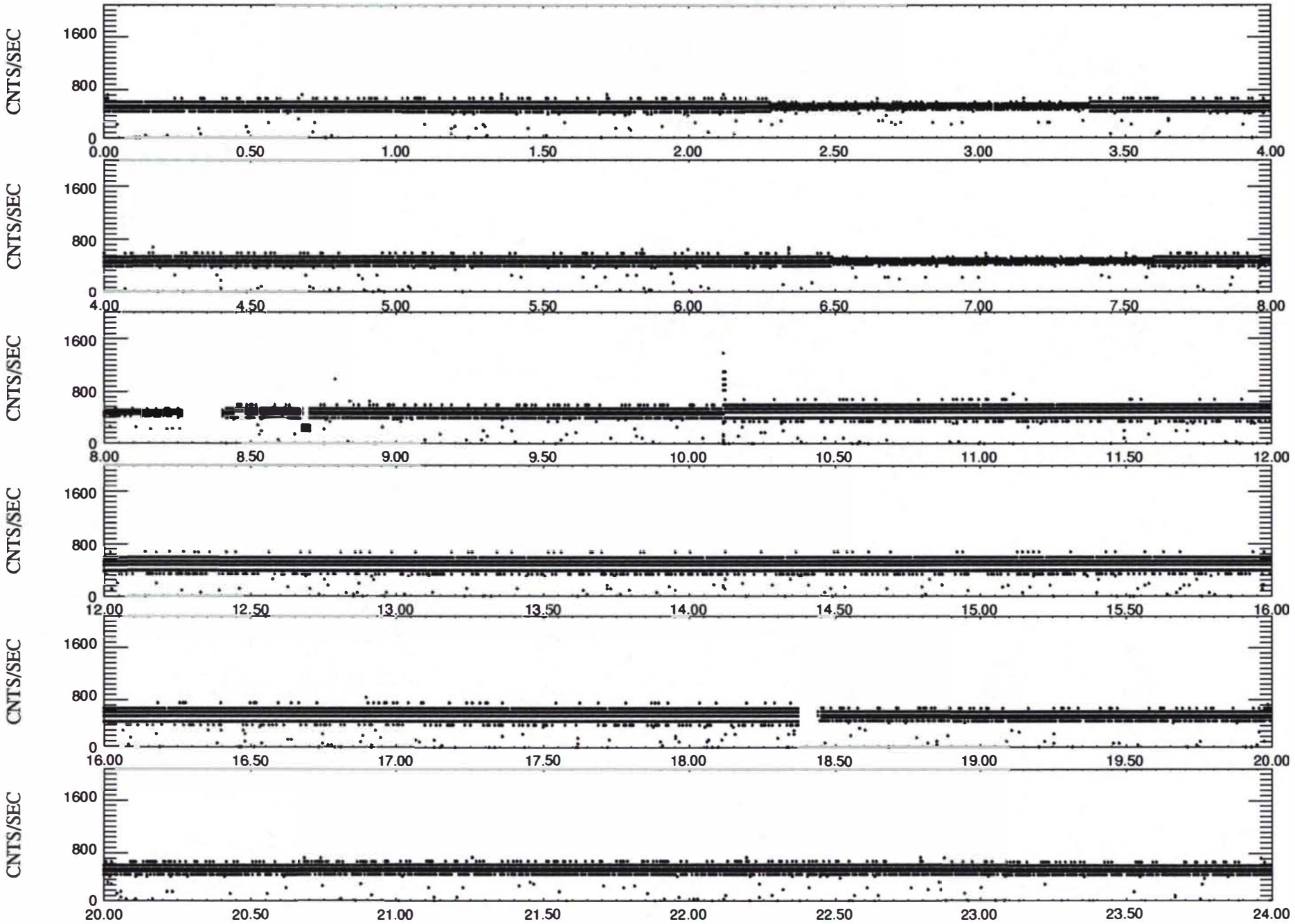
HUS 2A, MODE 1, NOT AVERAGED EDR day 33, year 1996 to day 33, year 1996 11/25/96

CALIBRATION DATA INCLUDED



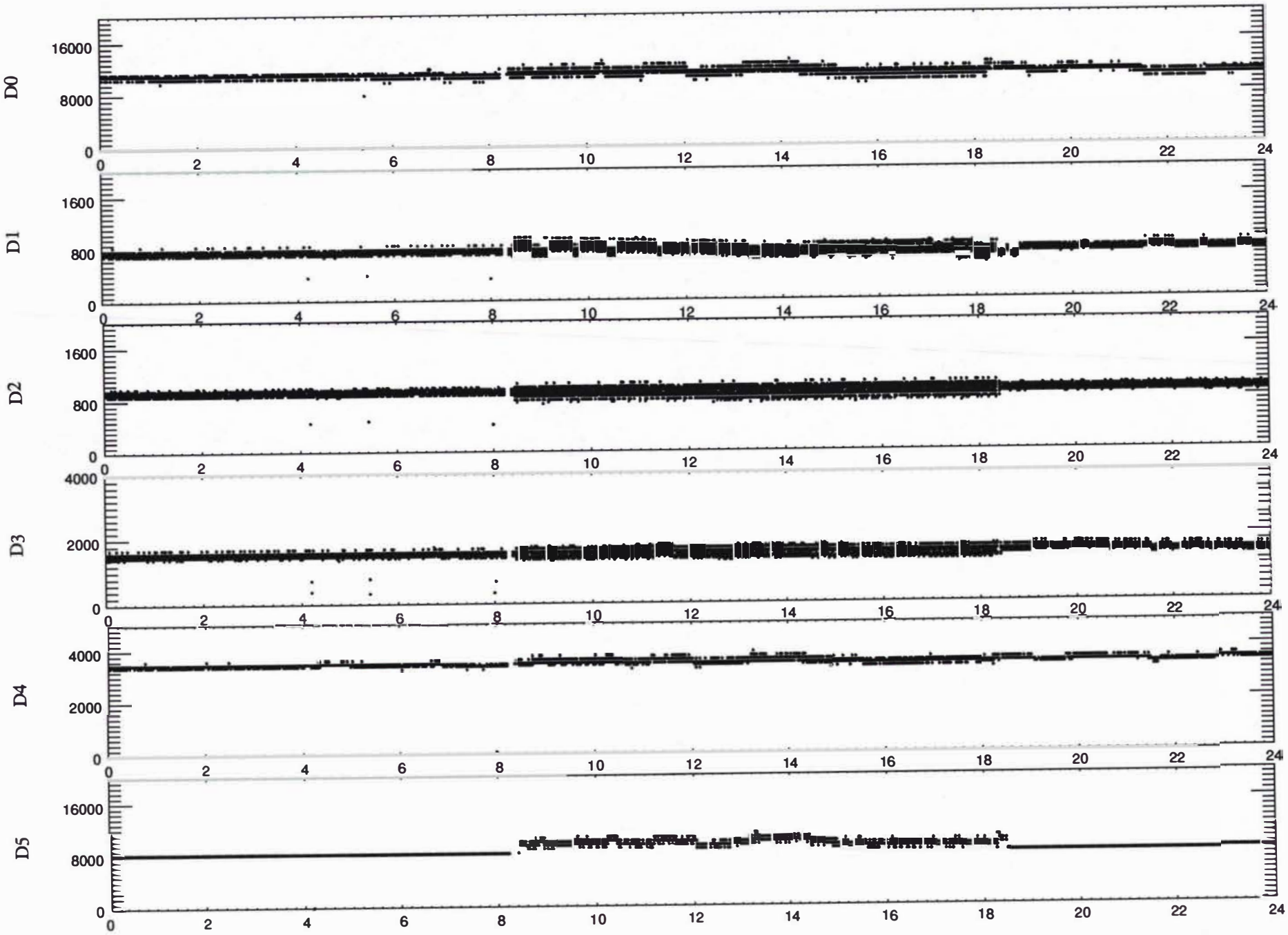
HUS 2A, MODE 1, NOT AVERAGED EDR day 33, year 1996 to day 33, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 33, year 1996 to day 33, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Mon Feb 5 09:43 PST 1996
Date: Mon, 5 Feb 1996 11:42:54 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 4719

TIME: TJD=0116 SECONDS=27642

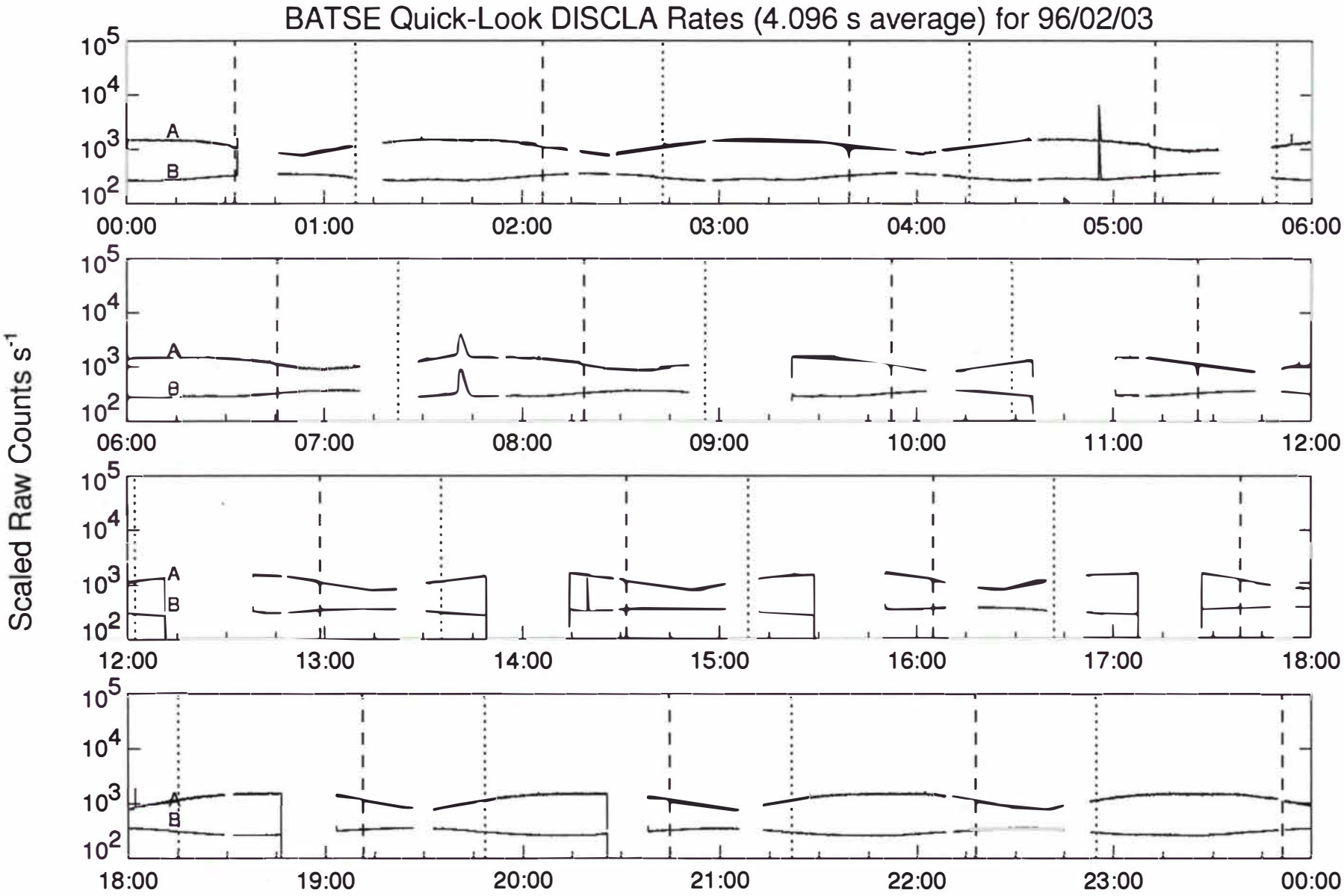
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

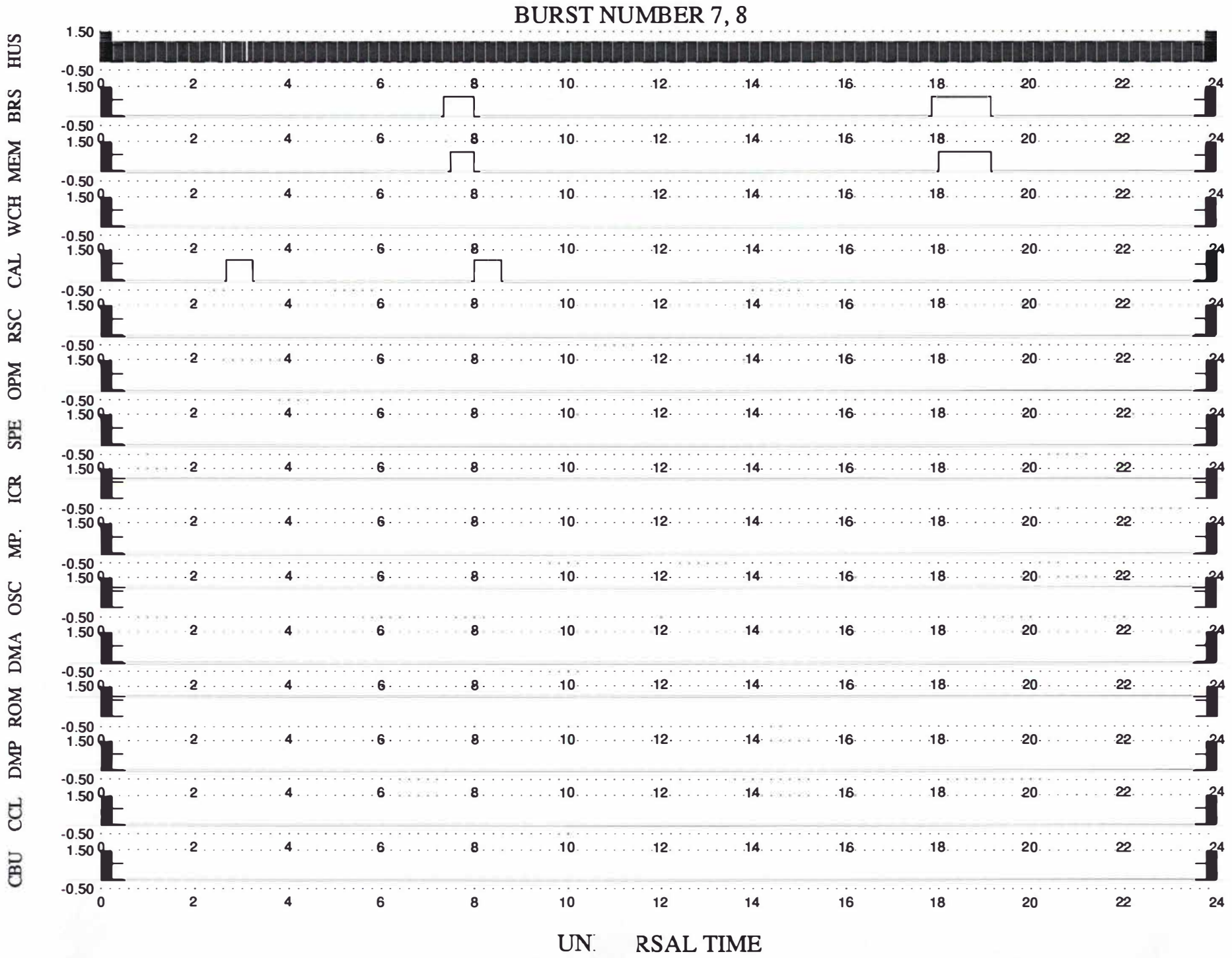
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY

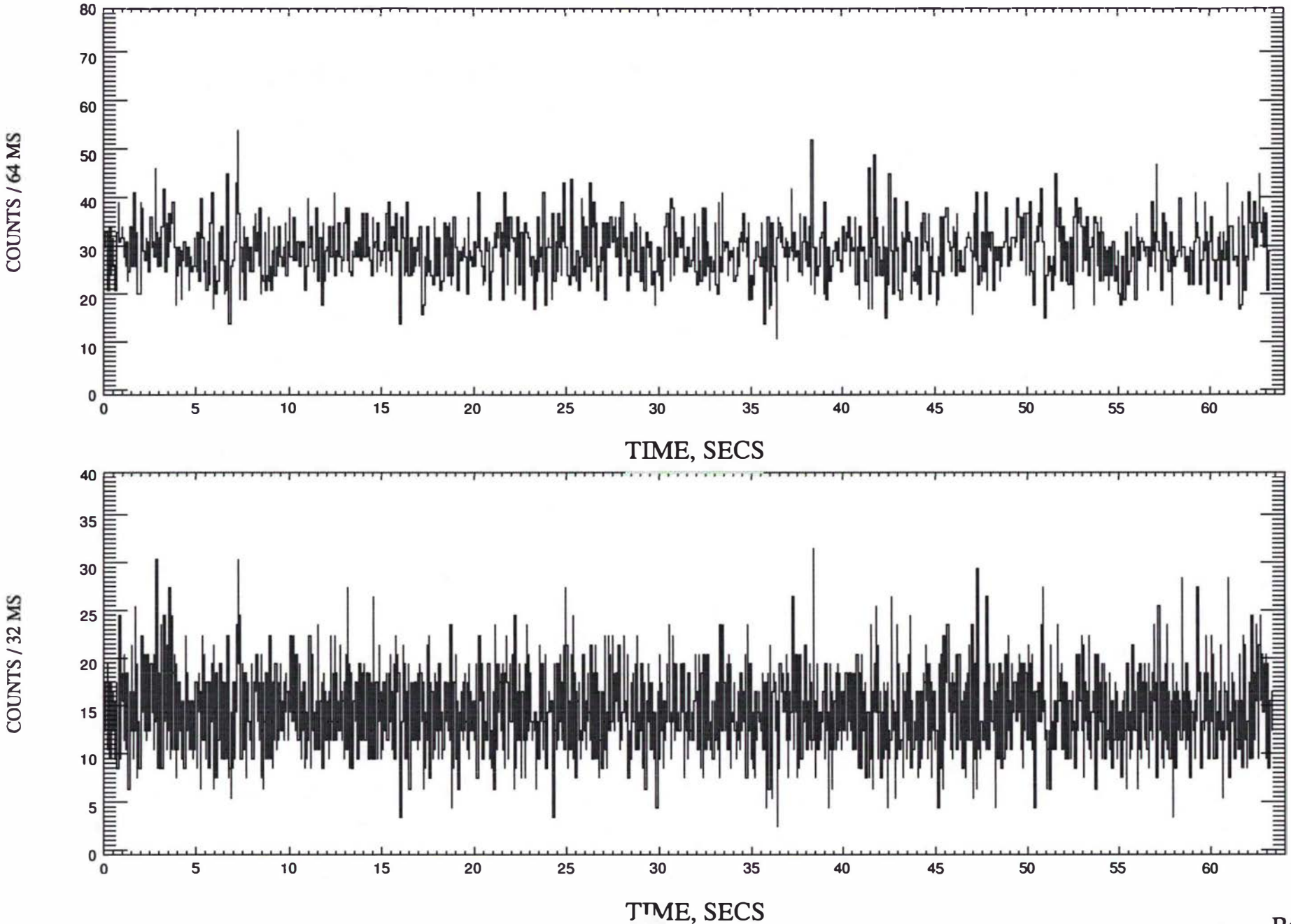

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/03
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/07, 1330 EDT
A: Channel 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 34, year 1996 to day 34, year 1996 11/25/96



HUS 2A TRIGGERED DATA EDR day 34, year 1996 11/25/96

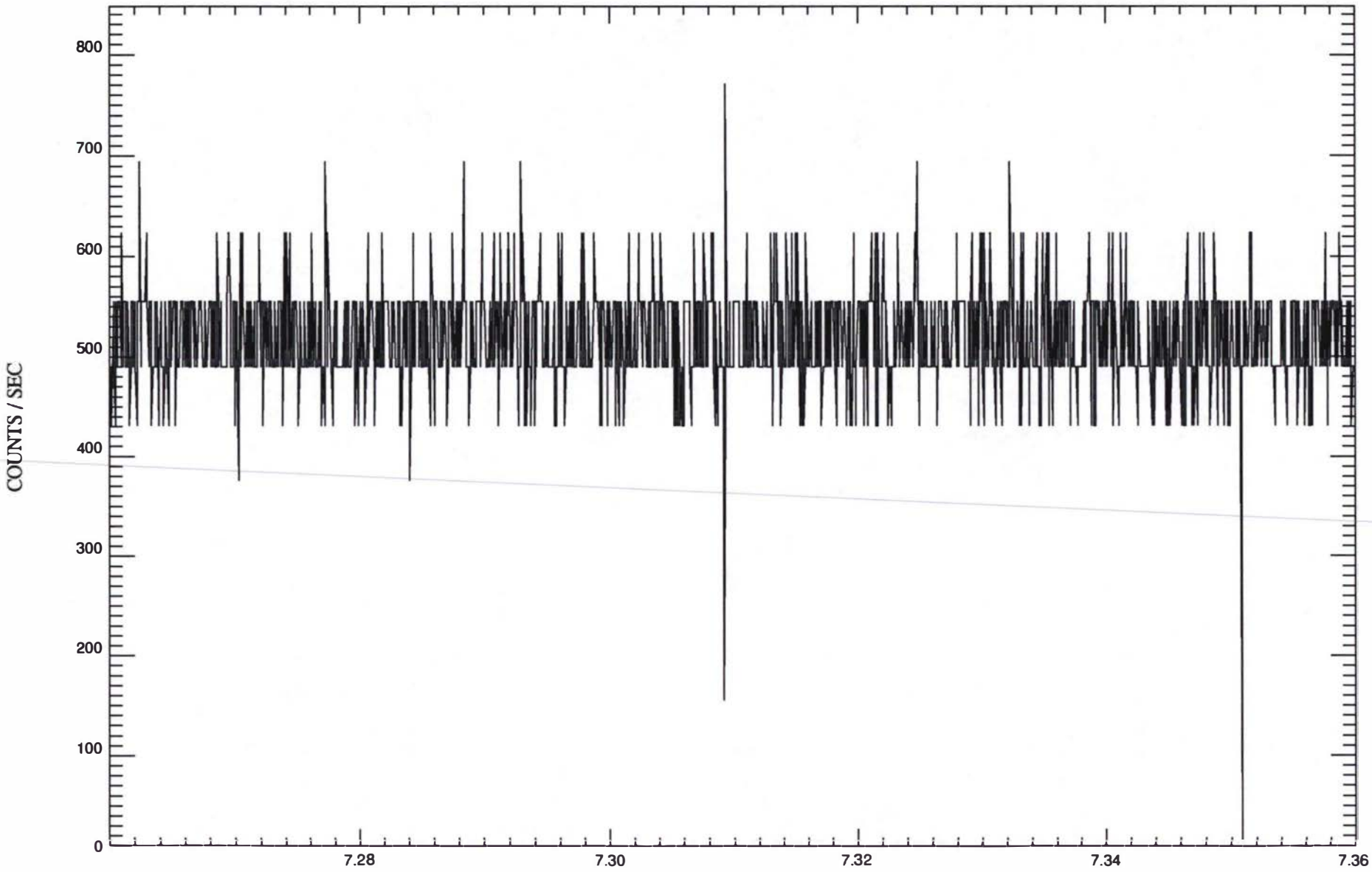
Burst Counter 7 at UT= 7.309468646579 h=26314.087 s 07:18:34.087



B# 1

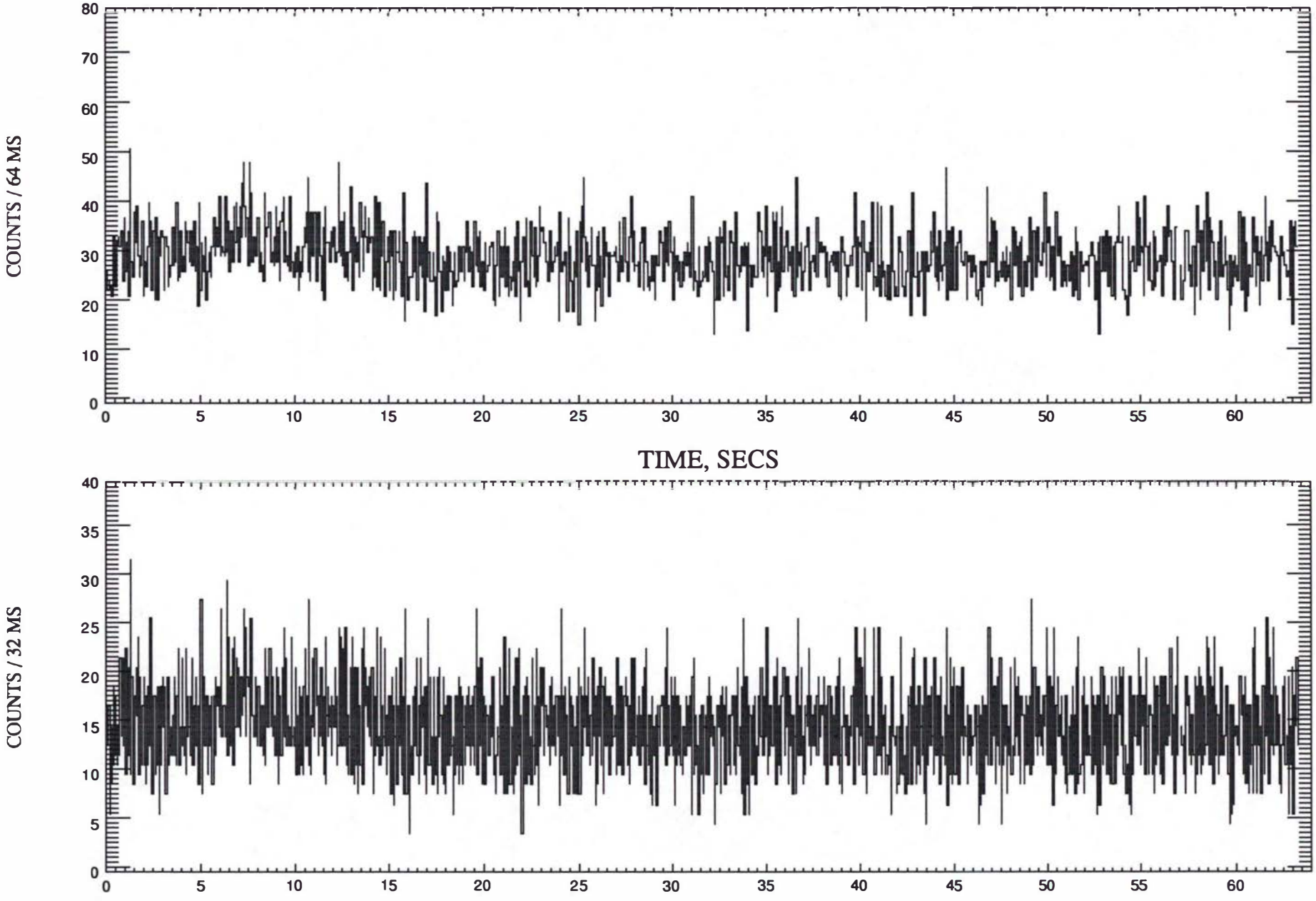
HUS 2A, MODE 1, NOT AVERAGED EDR day 34, year 1996 to day 34, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 34, year 1996 11/25/96

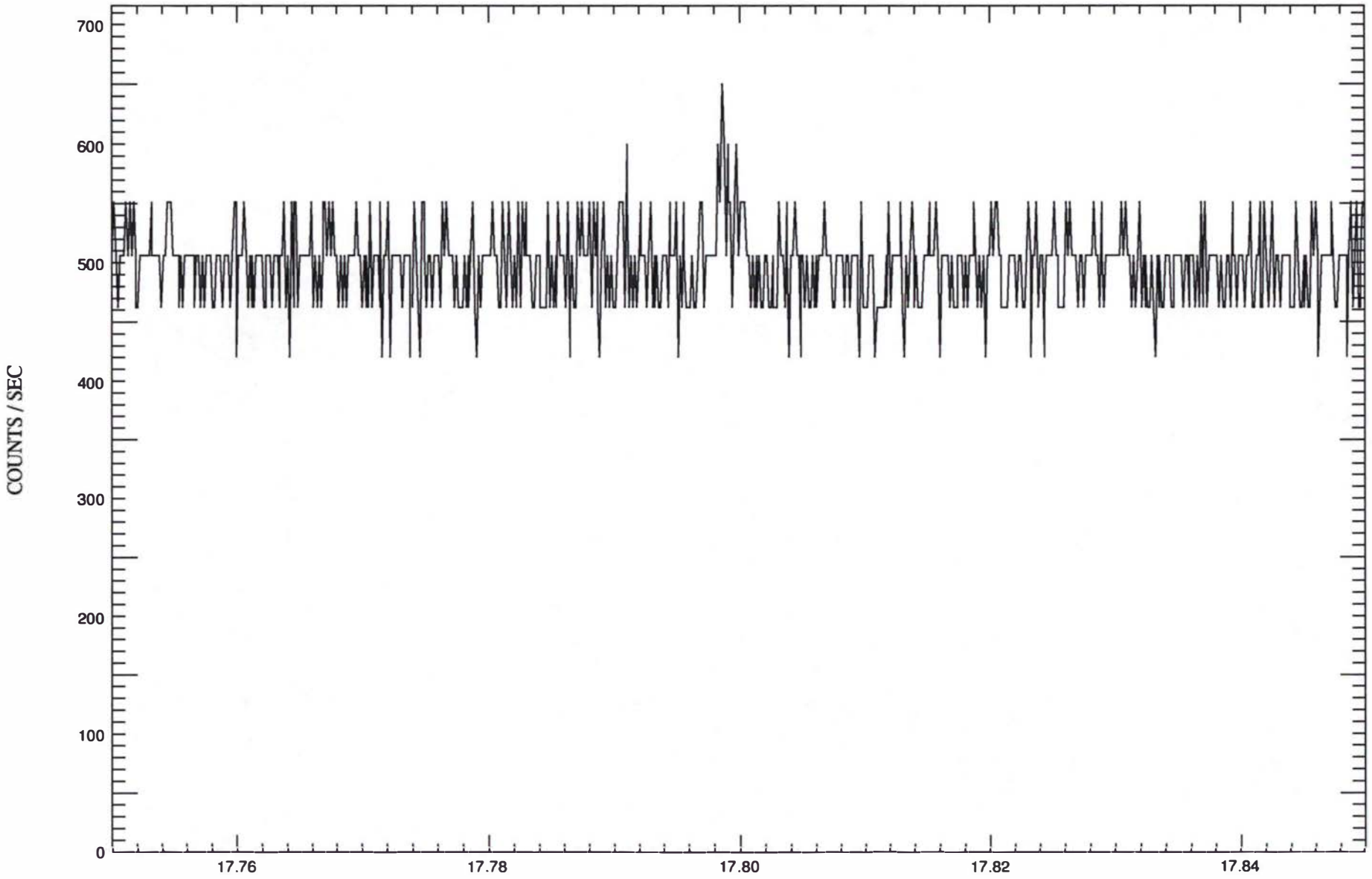
Burst Counter 8 at UT=17.798856078254 h=64075.882 s 17:47:55.882



B# 2

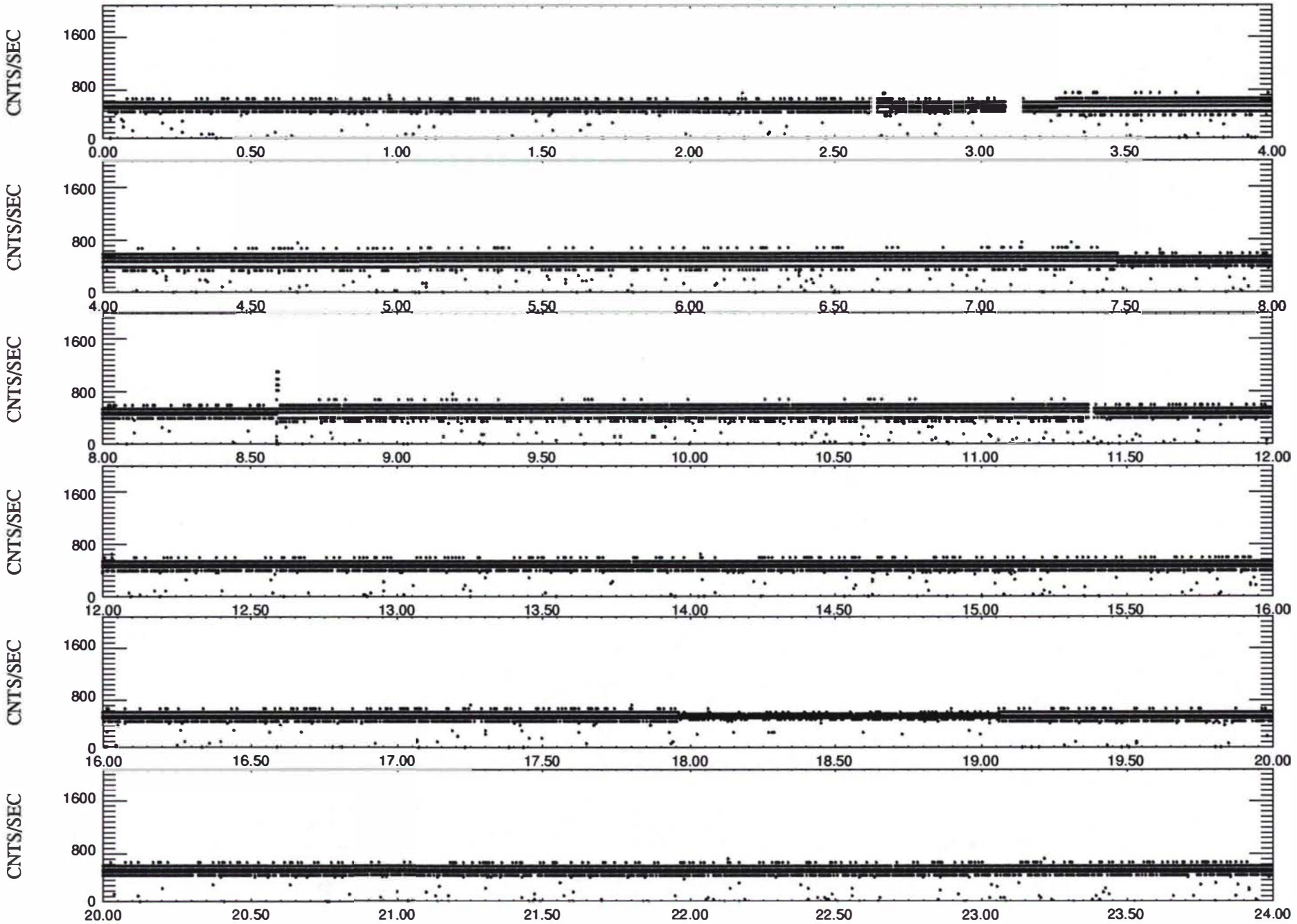
HUS 2A, MODE 1, NOT AVERAGED EDR day 34, year 1996 to day 34, year 1996 11/25/96

CALIBRATION DATA INCLUDED



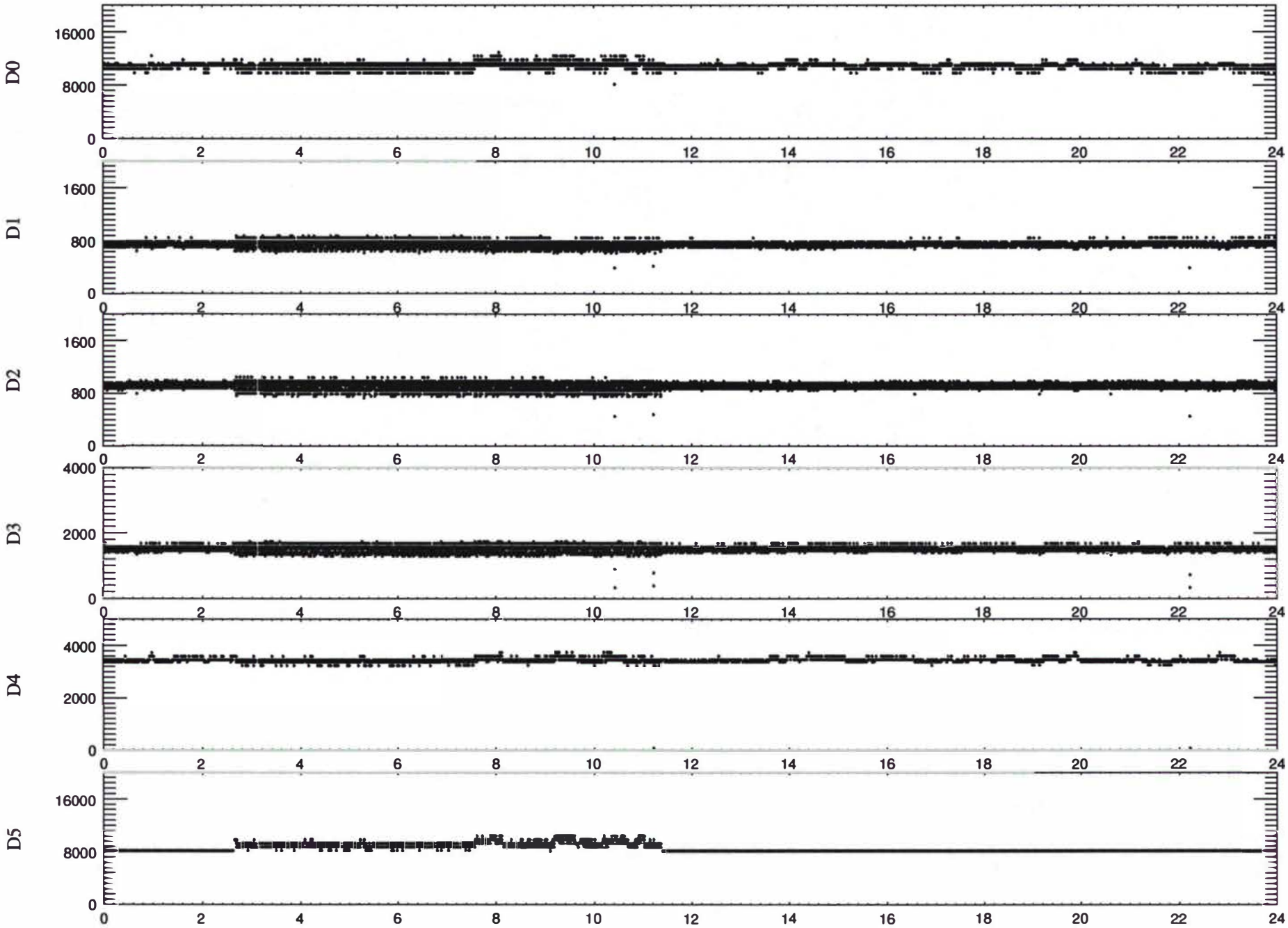
HUS 2A, MODE 1, NOT AVERAGED EDR day 34, year 1996 to day 34, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 34, year 1996 to day 34, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Tue Feb 6 11:36 PST 1996
Date: Tue, 6 Feb 1996 13:34:14 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: burst@comptel.unh.edu, grobad@vmprofs.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,
gruber@cass09.ucsd.edu
X-Vmsmail-To: @mops$send_msg:BURST_SPAN.DIS
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 4731

TIME: TJD=0117 SECONDS=24738

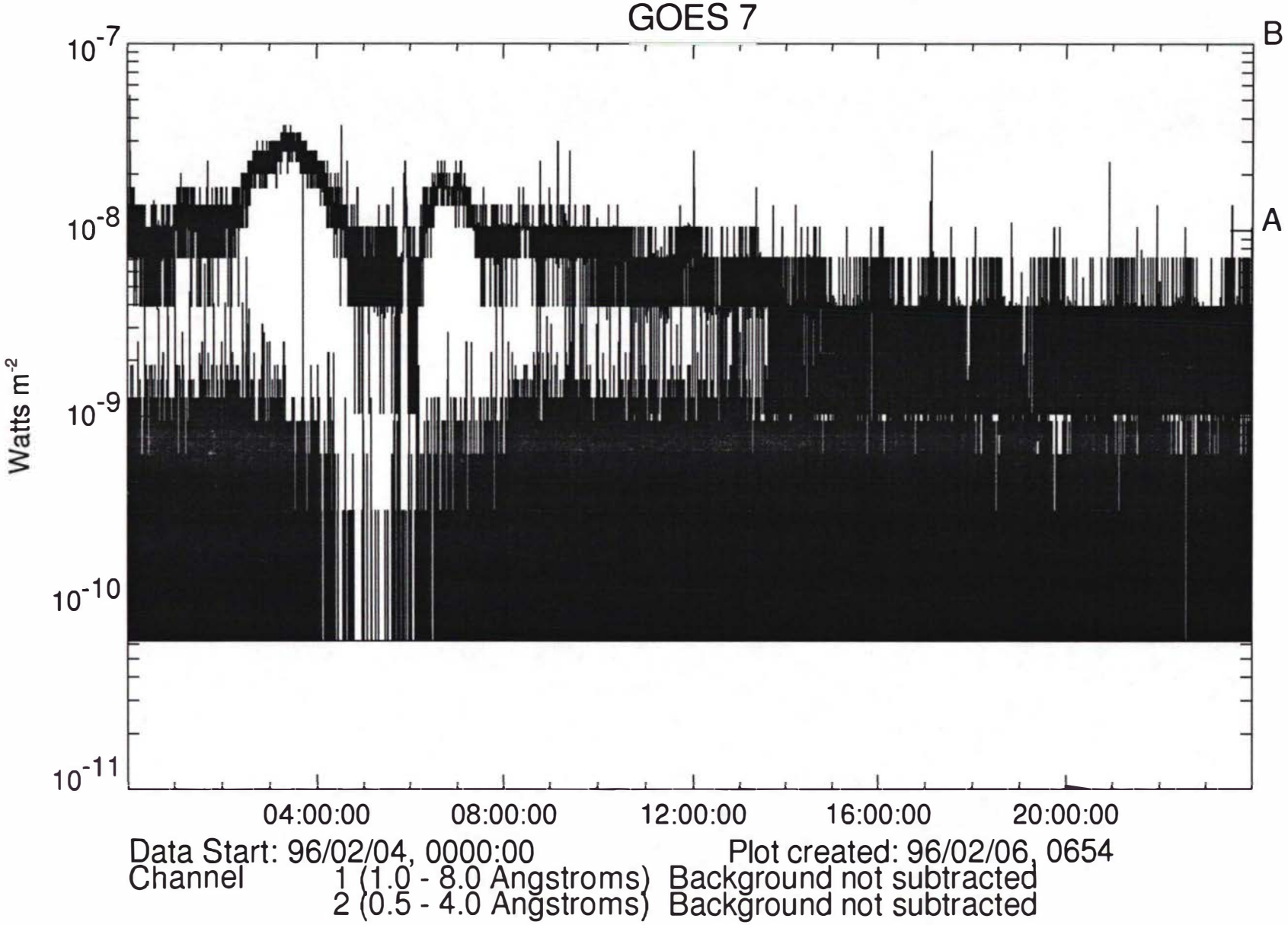
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

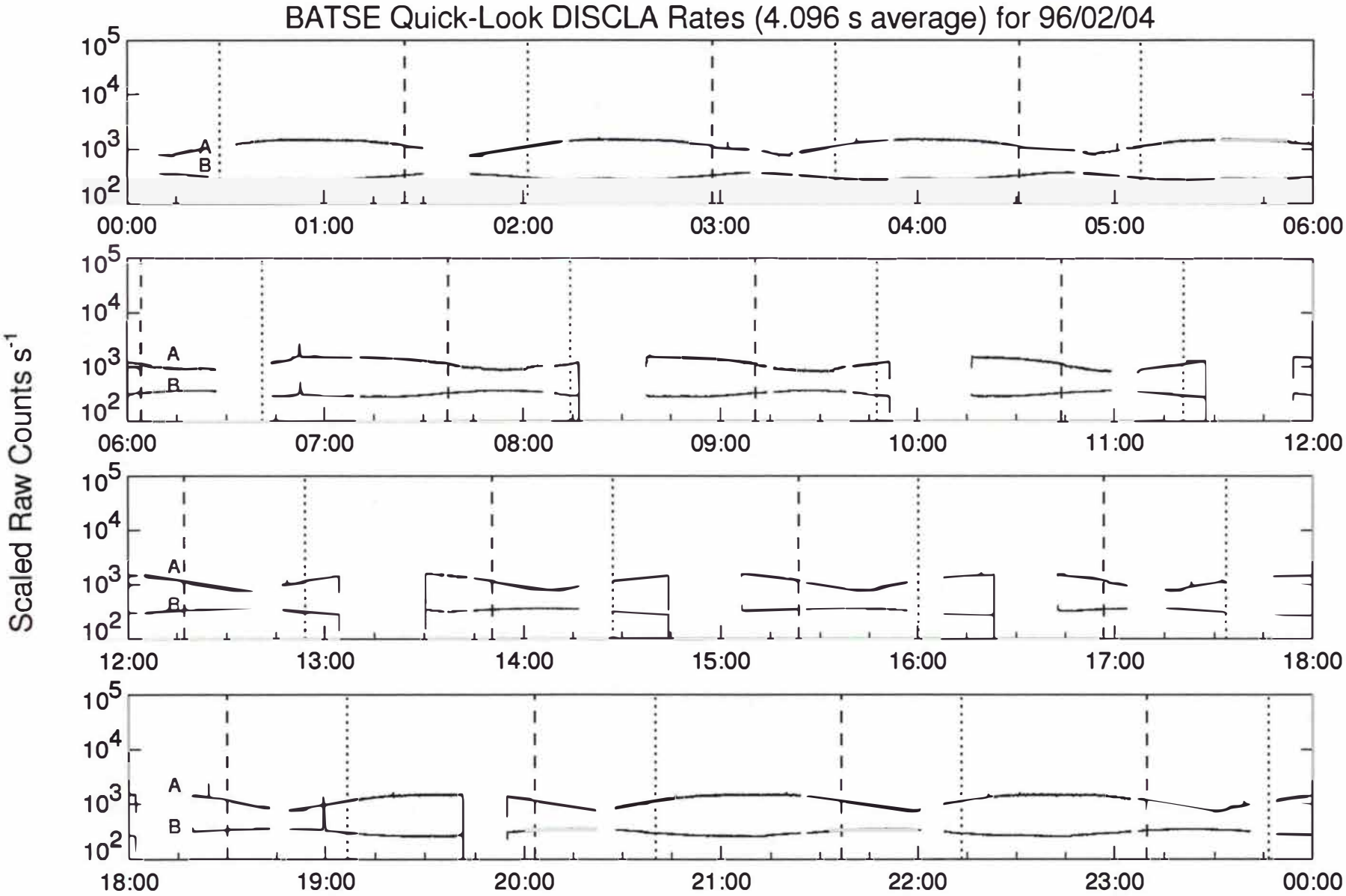
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

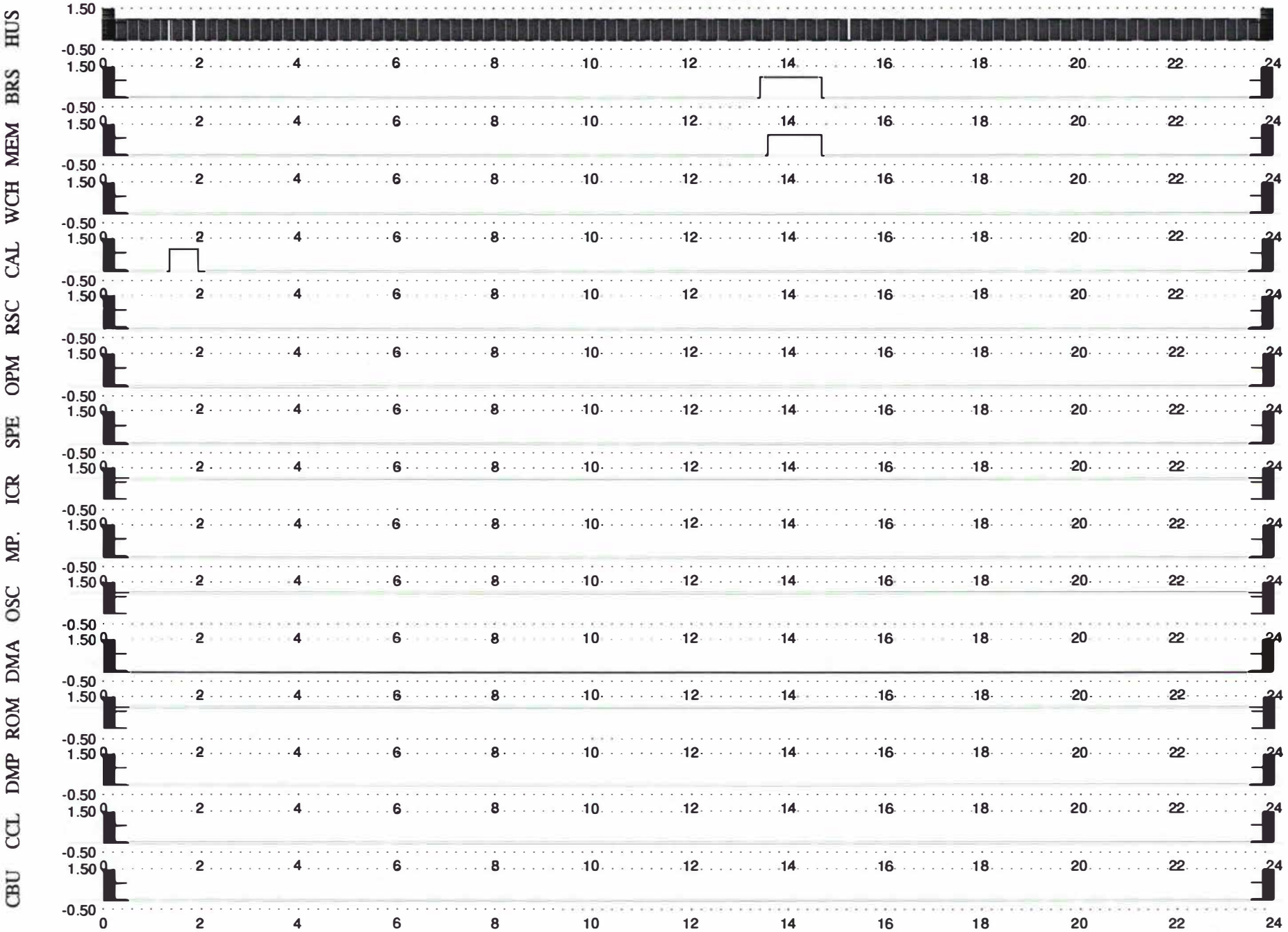
COMMENTS:
PARTICLE EVENT.


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/04, 0000:00
Plot created: 96/02/06, 0654
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 96/02/04
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
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: 96/02/07, 1335 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 35, year 1996 to day 35, year 1996 11/25/96

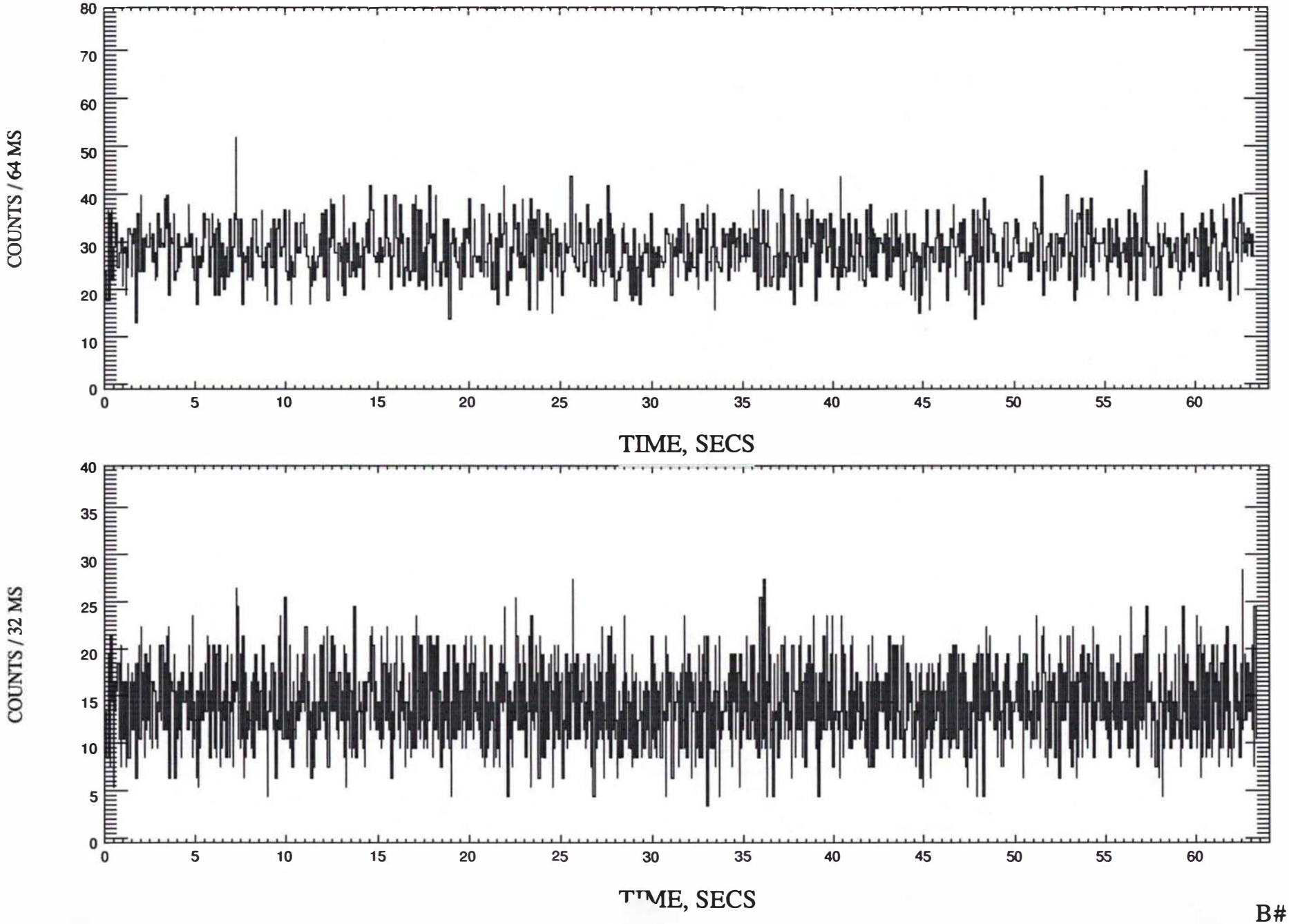
BURST NUMBER 9



UNI RSAL TIME

HUS 2A TRIGGERED DATA EDR day 35, year 1996 11/25/96

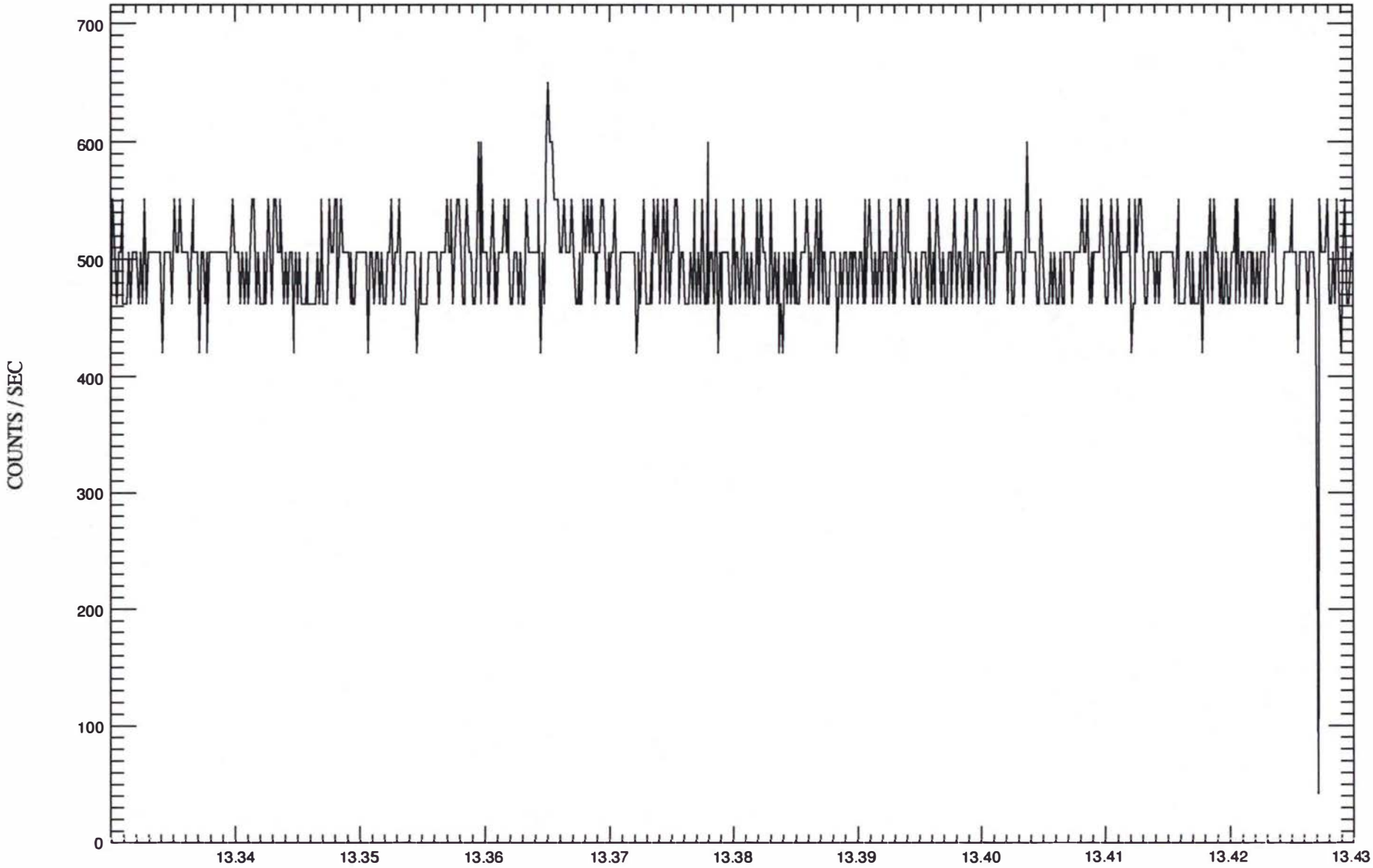
Burst Counter 9 at UT=13.378137855530 h=48161.296 s 13:22:41.296



B# 1

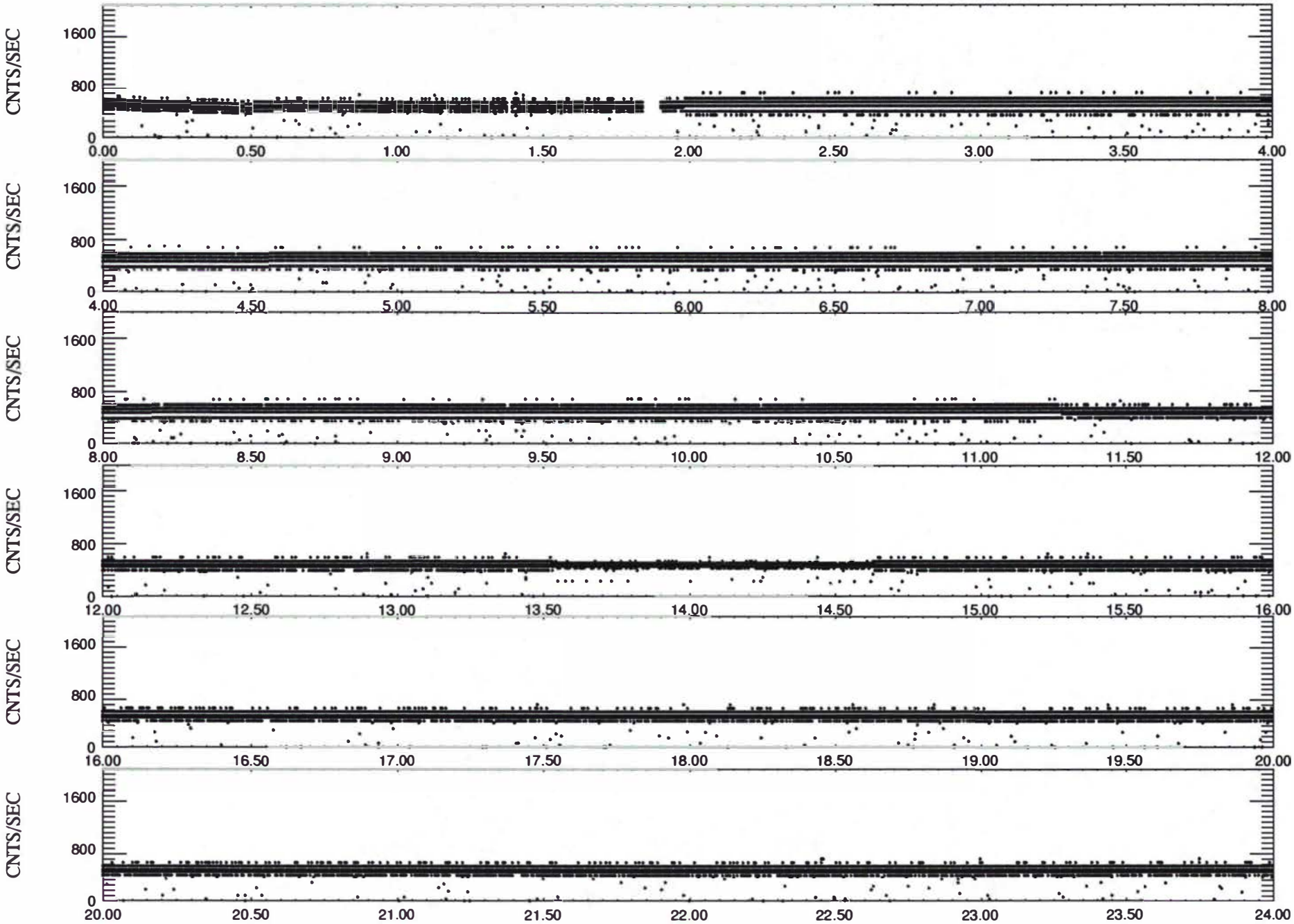
HUS 2A, MODE 1, NOT AVERAGED EDR day 35, year 1996 to day 35, year 1996 11/25/96

CALIBRATION DATA INCLUDED



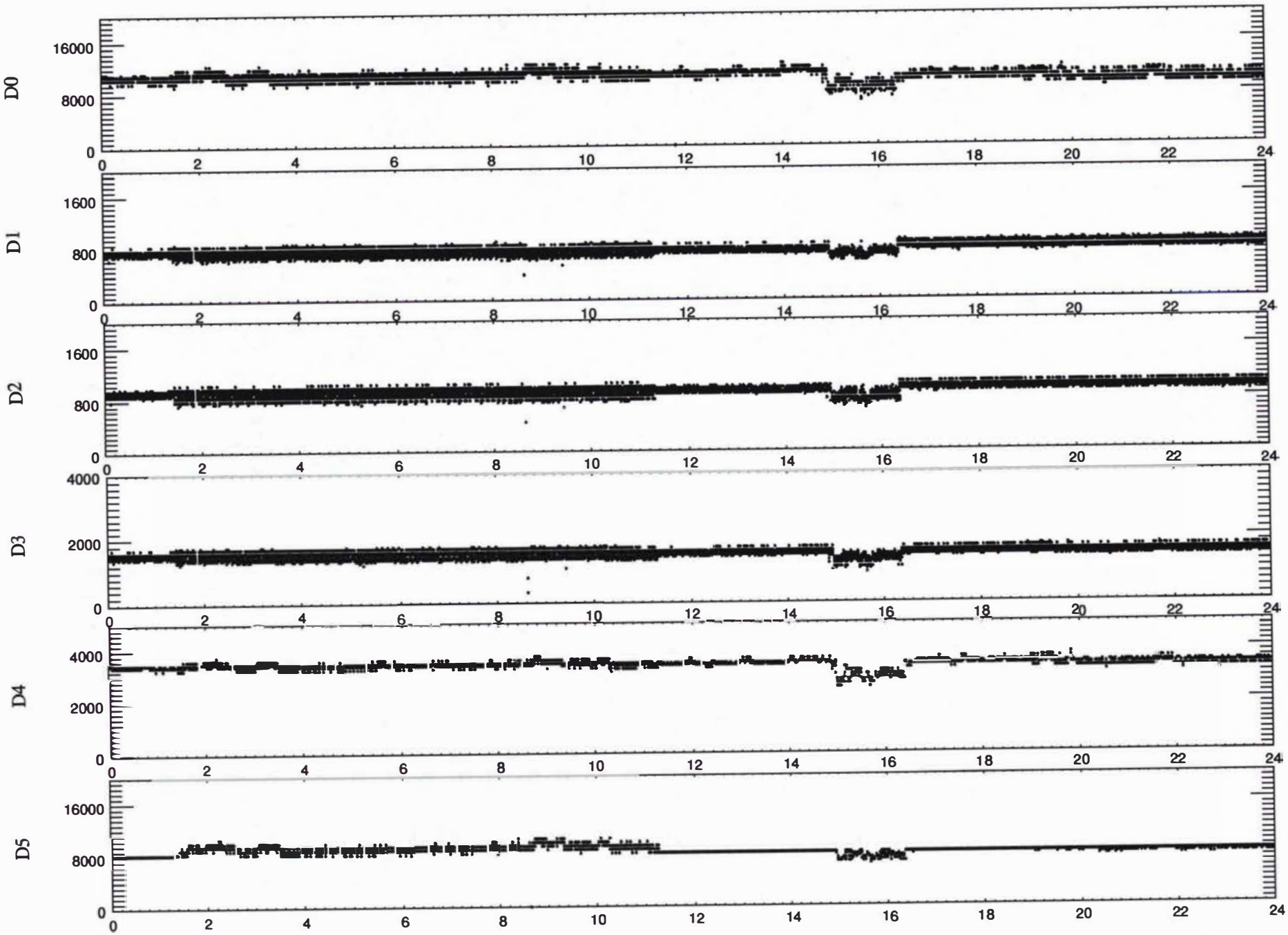
HUS 2A, MODE 1, NOT AVERAGED EDR day 35, year 1996 to day 35, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 35, year 1996 to day 35, year 1996 11/25/96



From WOODSP@ssl.msfc.nasa.gov Wed Feb 7 11:03 PST 1996
From: WOODSP@ssl.msfc.nasa.gov
Date: Wed, 7 Feb 1996 13:03:46 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4744

```
         ********************
         *BATSEARCH PROGRAM*
         ********************                                    NO

 BATSE BURST #     4744
 EVENT OF 1996 FEB  5 DAY OF YEAR= 36
 EVENT CROSSING TIME AT BATSE      : 25802. S. OR 07:10:02.0
 COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  72.000  -76.000
 BATSE PEAK COUNTING RATE:   7000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  5/ 2/  96 IS:
 RA=  218.852 DEC=    69.573 DIST=    2.824 AU
 BATSE-ULYSSES DISTANCE =  422509331. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 11.49 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1381.12 SECS.
 CROSSING TIME AT ULYSSES    IS 27183. S. OR   07:33:03 +/-  119.70 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  5/ 2/  96 IS:
 RA=  324.437 DEC=  -15.291 DIST=    2.359 AU
 MARS-BATSE DISTANCE =  352853824. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=100.69 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -218.30 SECS.
 CROSSING TIME AT MARS       IS 25584. S. OR   07:06:23 +/-  197.48 SECONDS



                BATSE BURST TRIGGER
NO.: 4744

TIME: TJD=0118 SECONDS=25802

TYPE: BURST                     SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=89.1   AZIMUTH=305.2  ERROR=8.4   DEGREES

COMMENTS:
SHORT GRB LASTING ABOUT 0.15 SEC.  NOT VISIBLE ABOVE 300 KEV.



 BATSE #    Date      TJD      SoD    Max ct/s   RA   Dec  Dur (s)
   4744    960205    10118    25802      7000   072   -76   .15
```

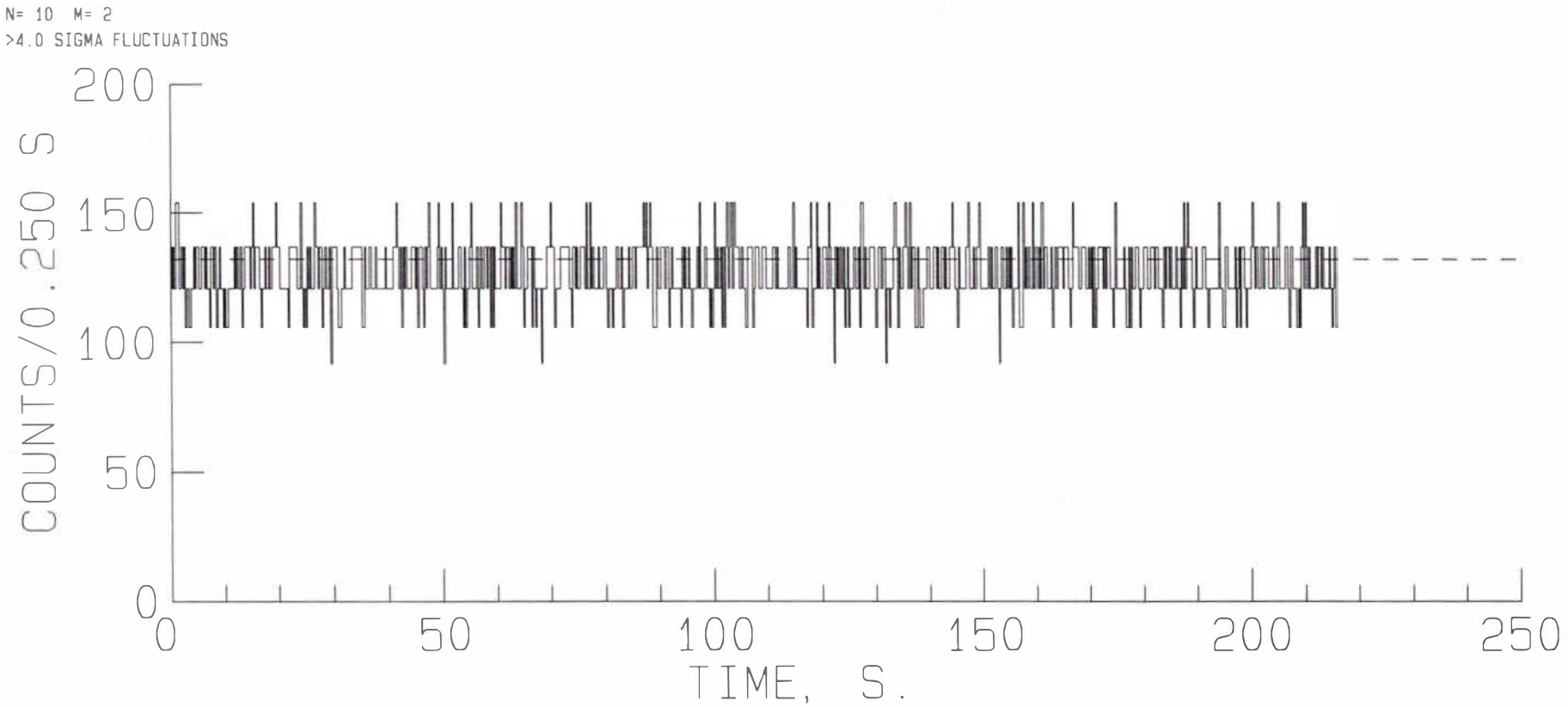
BATSE BURST# 4744

7/ 2/96

ULYSSES RT

5/ 2/96 27072.129 s

0- 0 keV



From WOODSP@SSLLES.MSFC.NASA.GOV Wed Feb 7 11:06 PST 1996
Date: Wed, 7 Feb 1996 13:05:55 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4745

RI ?

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

 BATSE BURST #    4745
 EVENT OF 1996 FEB  5 DAY OF YEAR= 36
 EVENT CROSSING TIME AT BATSE     : 34489. S. OR 09:34:49.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 110.000  -42.000
 BATSE PEAK COUNTING RATE:   5500    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  5/ 2/  96 IS:
 RA=  218.797 DEC=   69.600 DIST=    2.825 AU
 BATSE-ULYSSES DISTANCE =  422546069. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 44.71 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1001.61 SECS.
 CROSSING TIME AT ULYSSES    IS 35491. S. OR   09:51:30 +/-  237.38 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  5/ 2/  96 IS:
 RA=  324.437 DEC=  -15.291 DIST=    2.359 AU
 MARS-BATSE DISTANCE =  352853824. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 65.50 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  488.15 SECS.
 CROSSING TIME AT MARS       IS 34977. S. OR   09:42:57 +/-  193.35 SECONDS



                BATSE BURST TRIGGER
NO.: 4745

TIME: TJD=0118 SECONDS=34489

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=81.8   AZIMUTH=268.2  ERROR=1.0   DEGREES

COMMENTS:
GRB WITH 3 PEAKS. PEAKS ARE AT T+0 SEC +240 SEC +320 SEC.
THEY HAVE DURATIONS 30SEC, 40SEC AND 30SEC RESPECTIVELY.  AT LEAST
THE FIRST TWO ARE VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4745   960205   10118   34489     5500   110   -42    350
```

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)

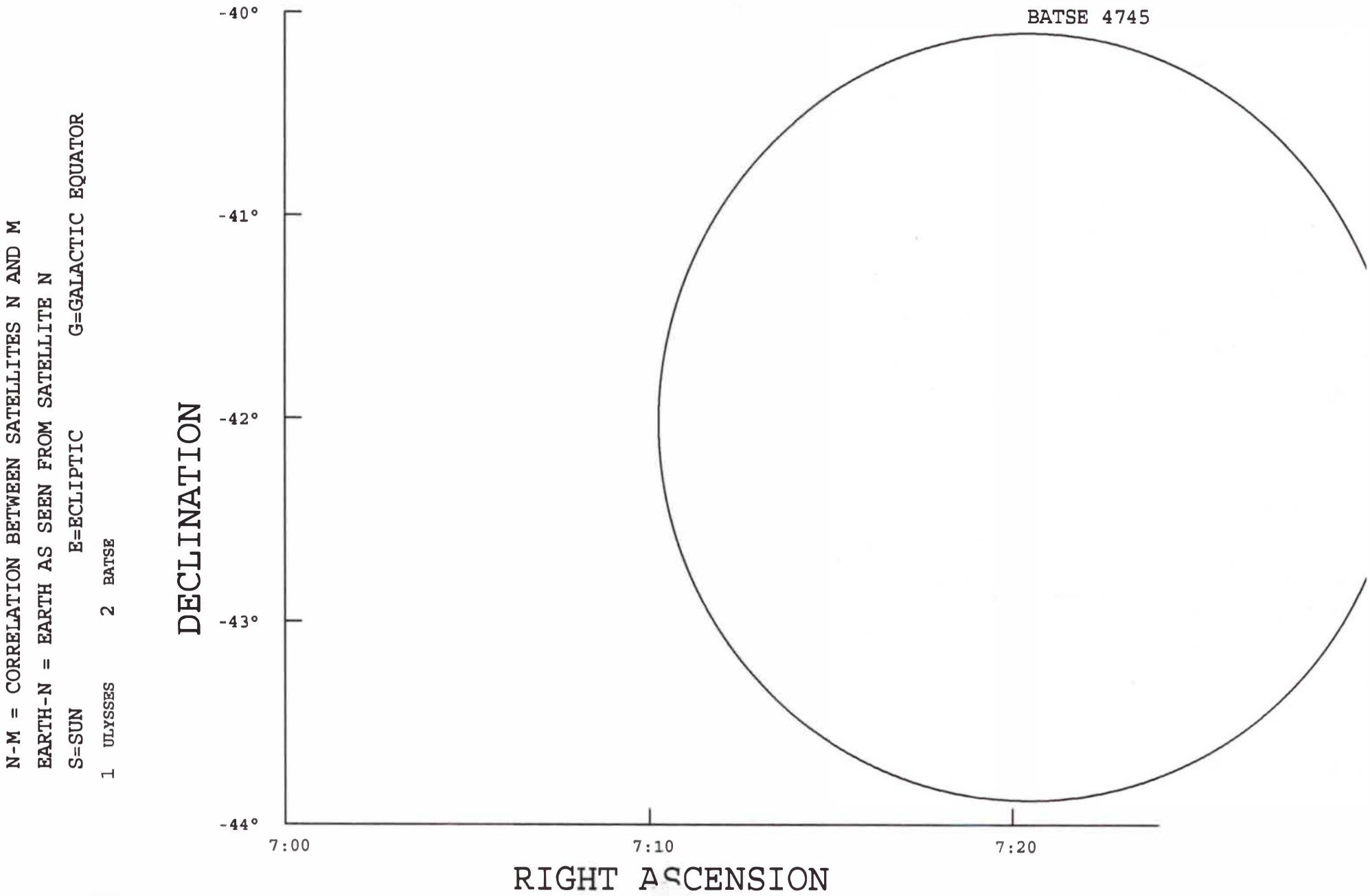
(BELOW, ULYSSES TRIGGERS INCOMPLETE, BUT KNOWN ULYSSES RI'S ARE DELETED:)

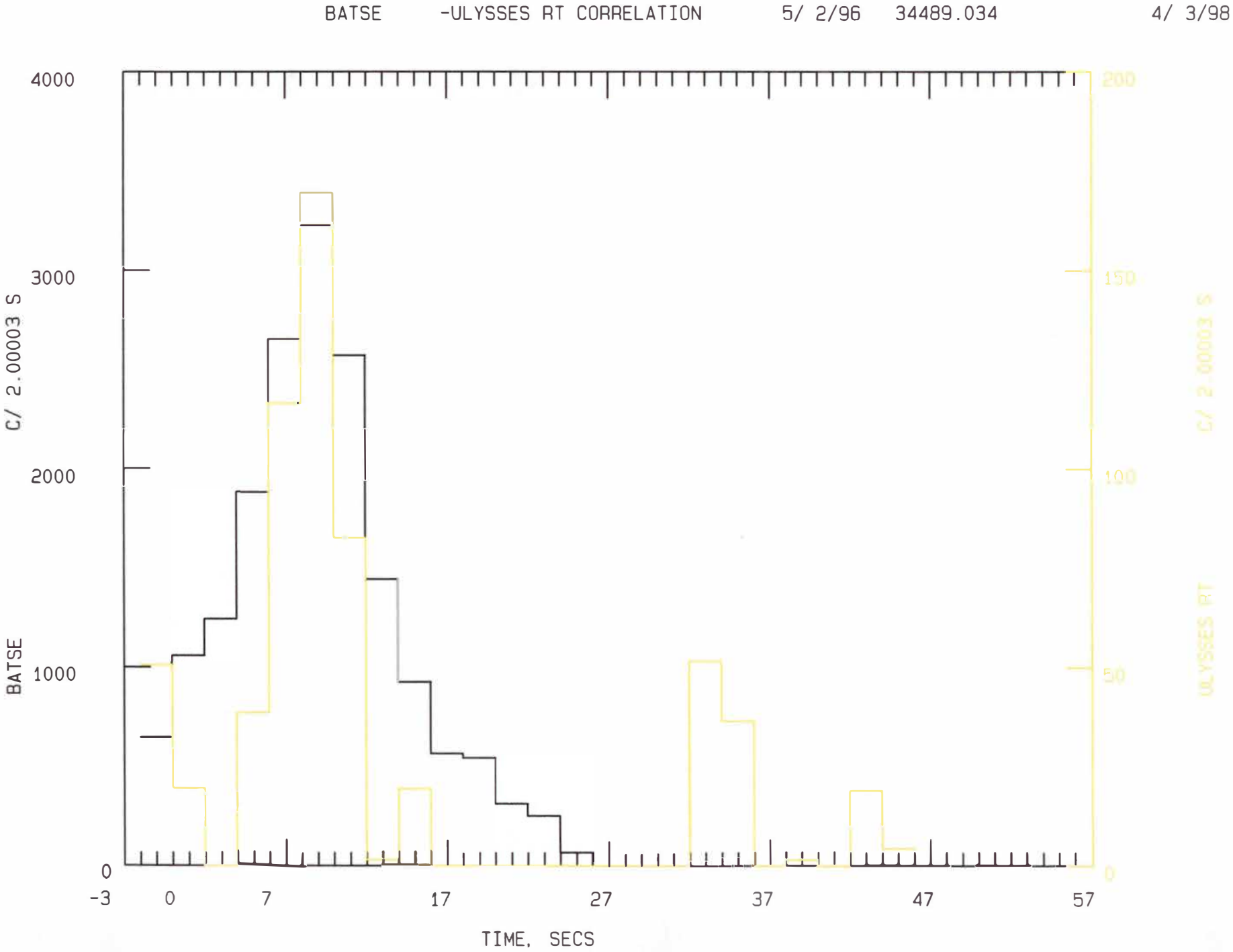
											BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	Search		
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO		
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	Search		
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO		4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA		4701
96 2 2	50750.813 S1	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

Definite Ulysses RI, but not related to BATSE burst

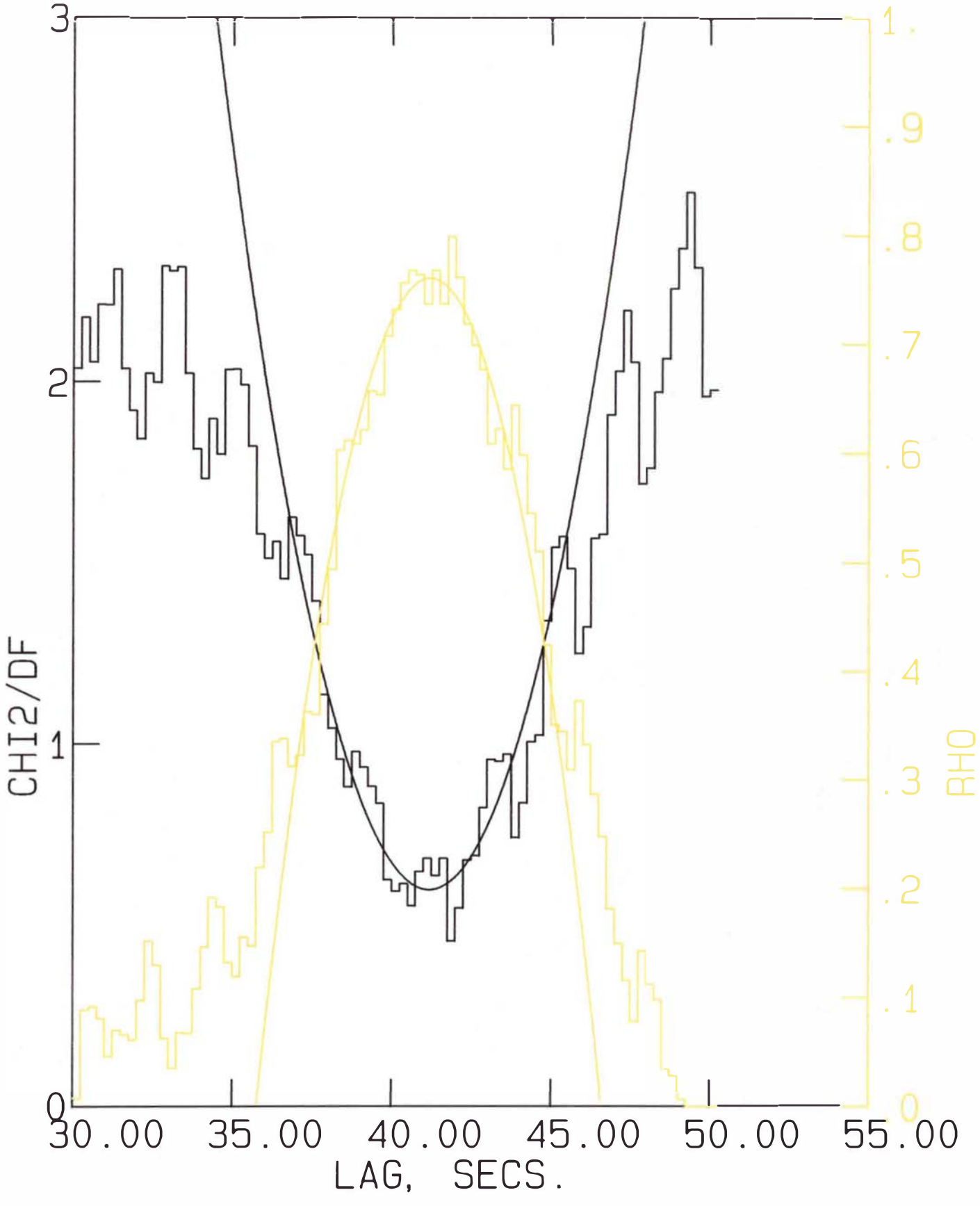
EVENT OF FEB 5, 1996 9:48

4/ 3/98




BATSE -ULYSSES RT CORRELATION 5/ 2/96 34489.034 4/ 3/98
4000
3000
2000
1000
0
C/ 2.00003 S
BATSE
200
150
100
50
0
C/ 2.00003 S
ULYSSES RT
-3
0
7
17
27
37
47
57
TIME, SECS

BATSE -ULYSSES RT CORRELATION 5/ 2/96 34489.034

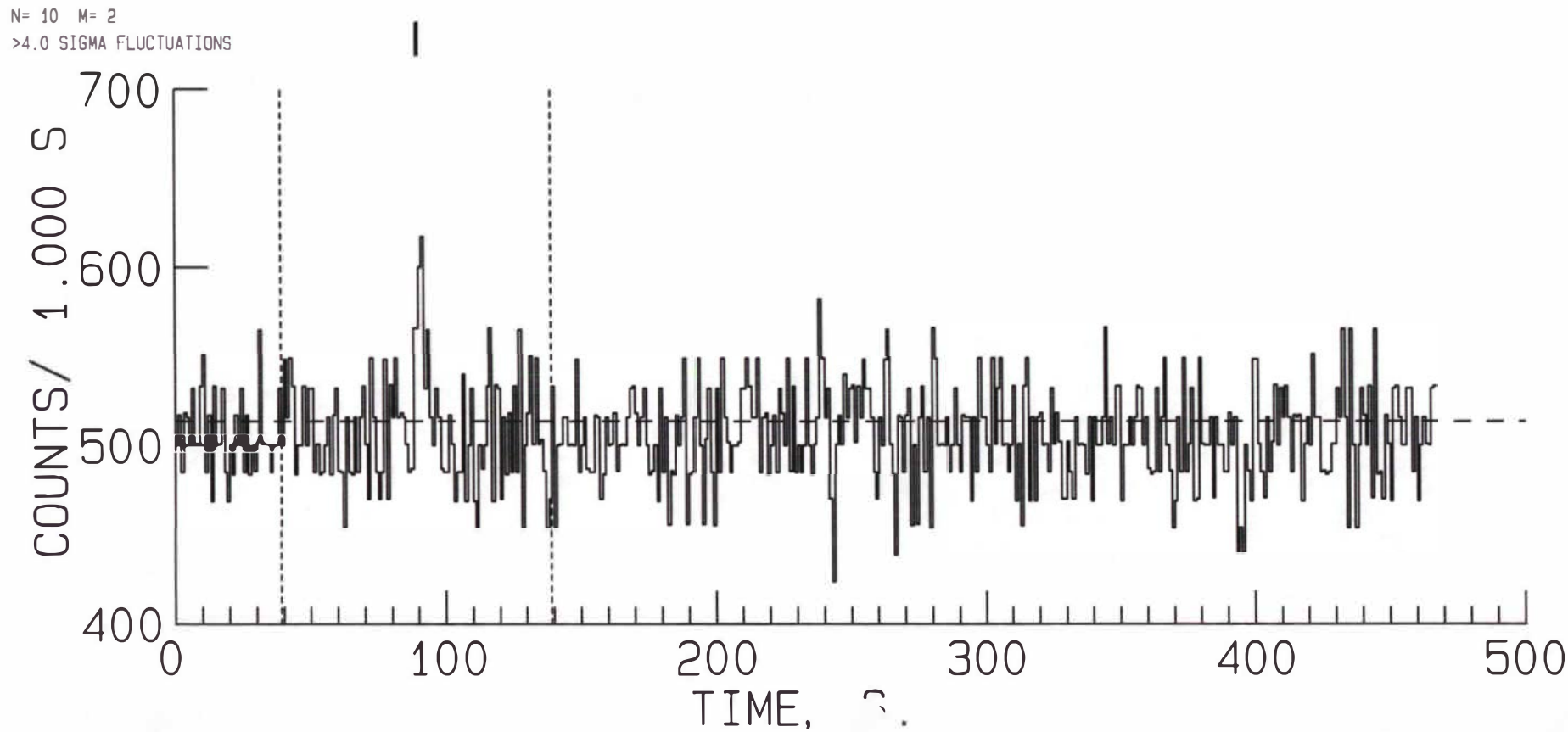


ULYSSES RT 4/ 3/98

5/ 2/96 35244.248 s

0.250 S INTERVALS REGROUPED BY 4

21- 145 keV



HUS DATA

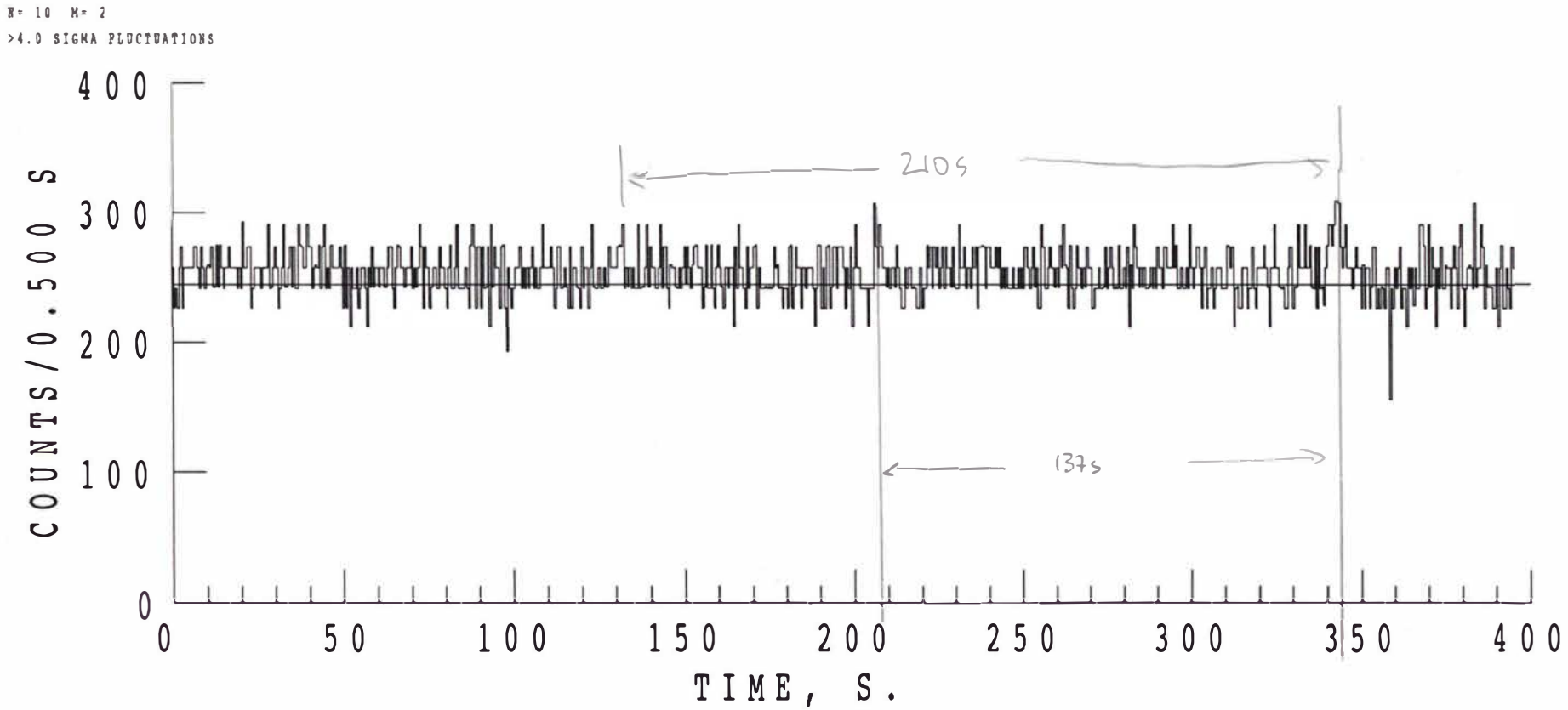
16/ 2/96

ULYSSES RT

5/ 2/96 34992.242 s

0.250 S INTERVALS REGROUPED BY 2

0- 0 keV



BATSE BURST# 4745

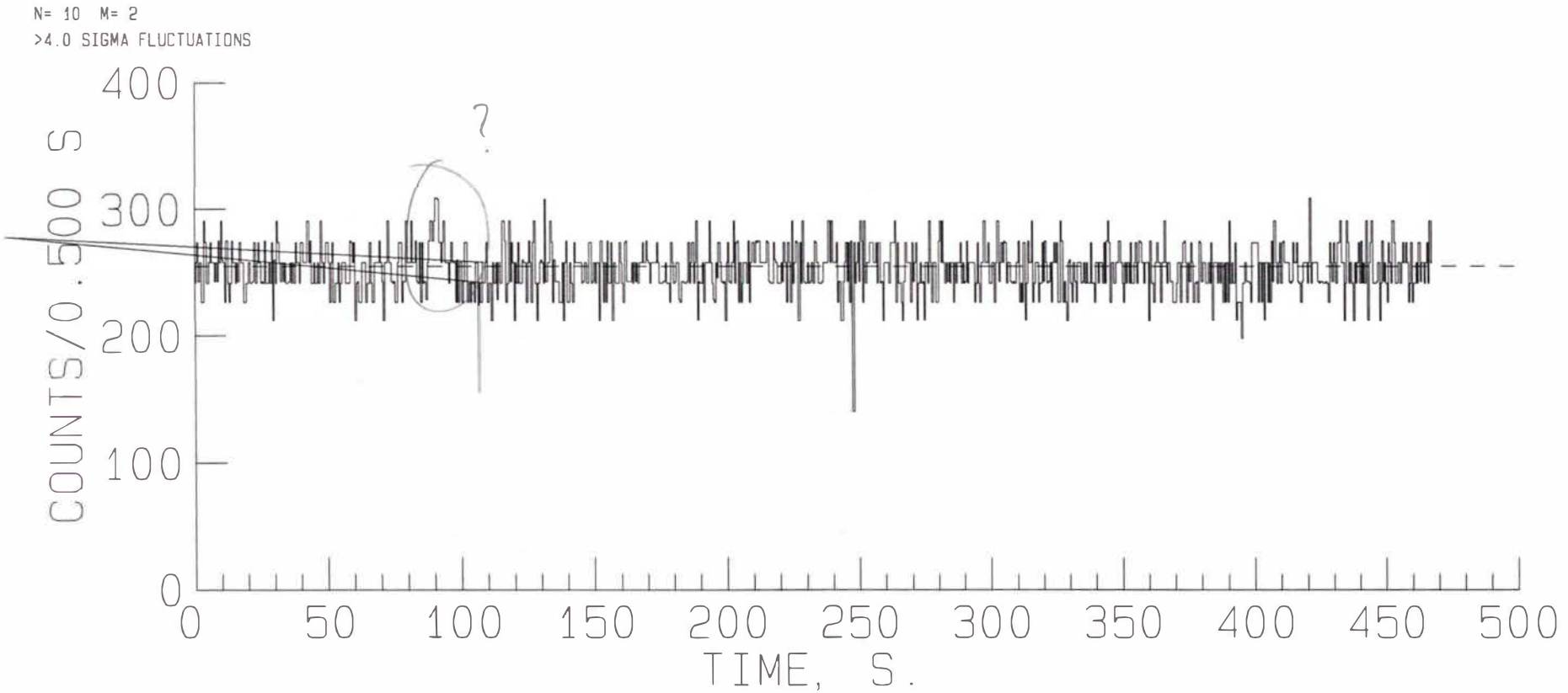
7/ 2/96

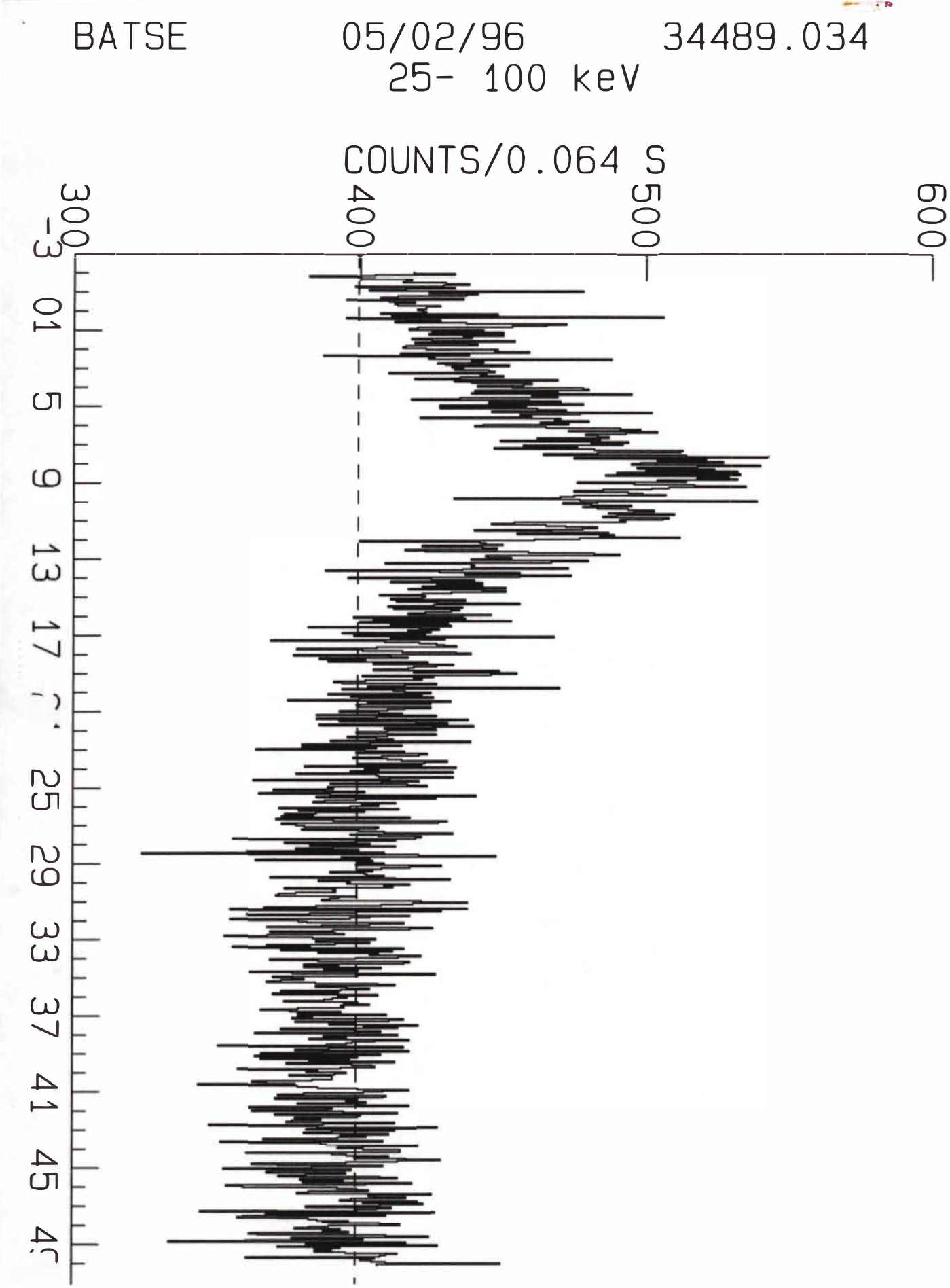
ULYSSES RT

5/ 2/96 35244.246 s

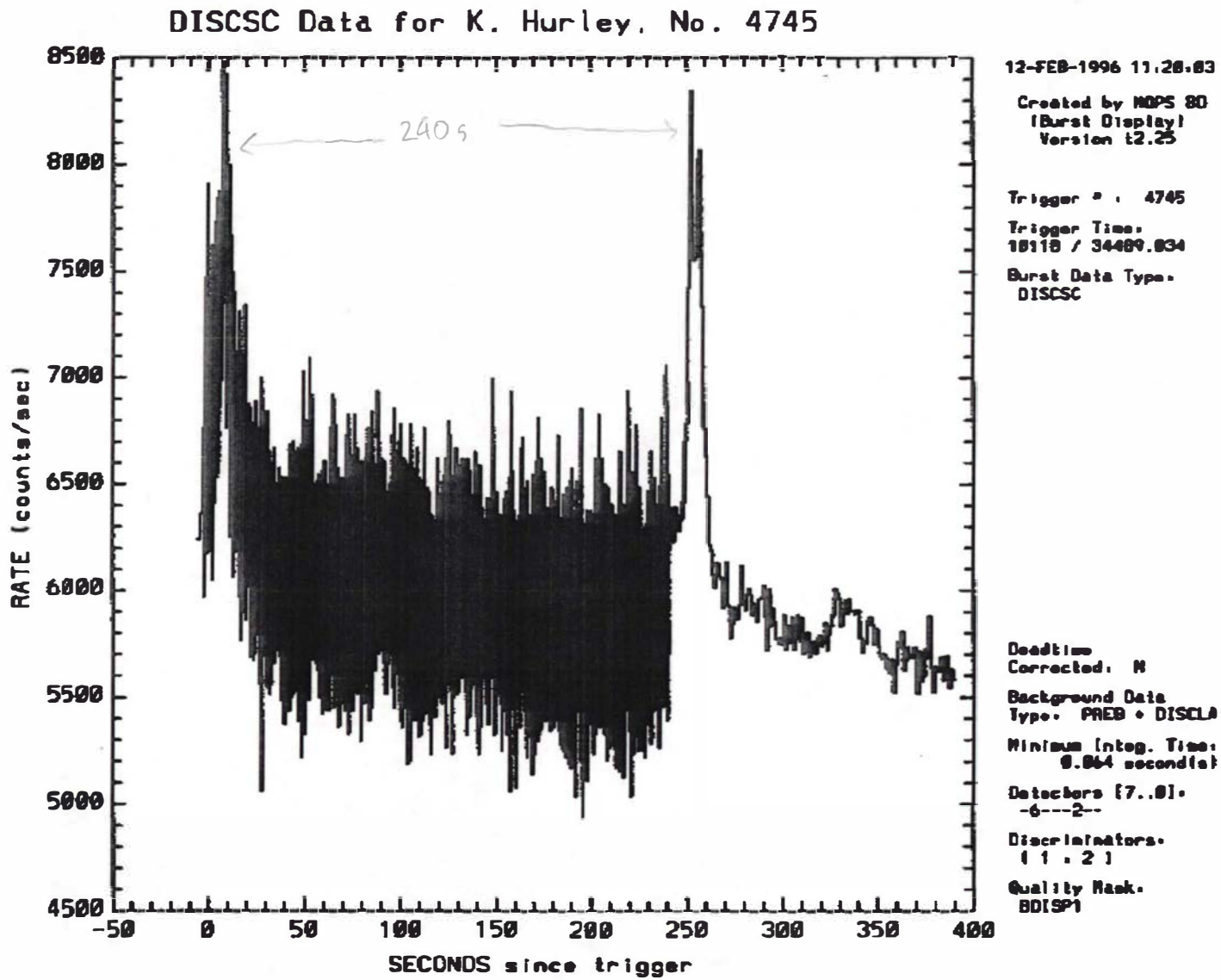
0.250 S INTERVALS REGROUPED BY 2

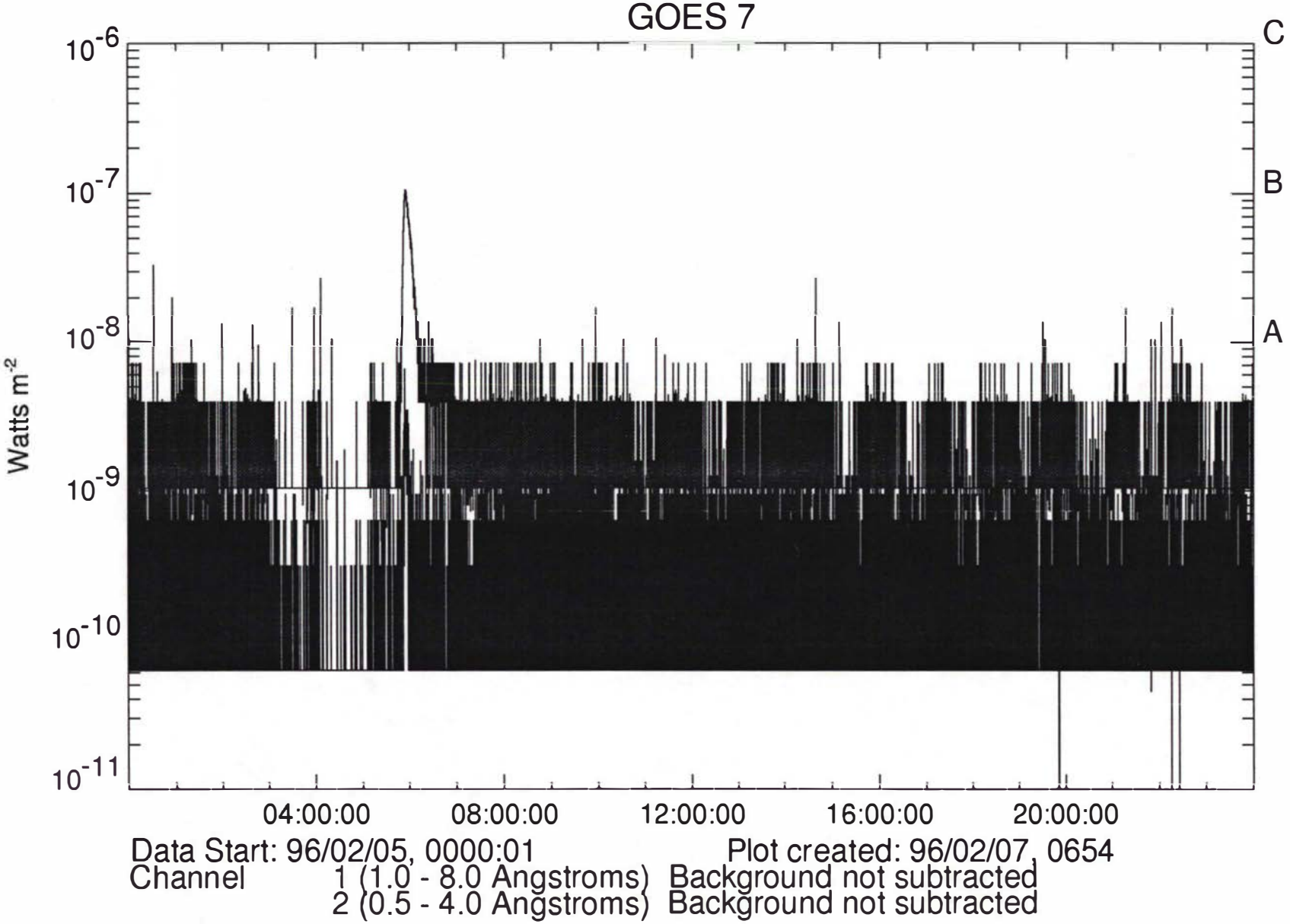
0- 0 keV

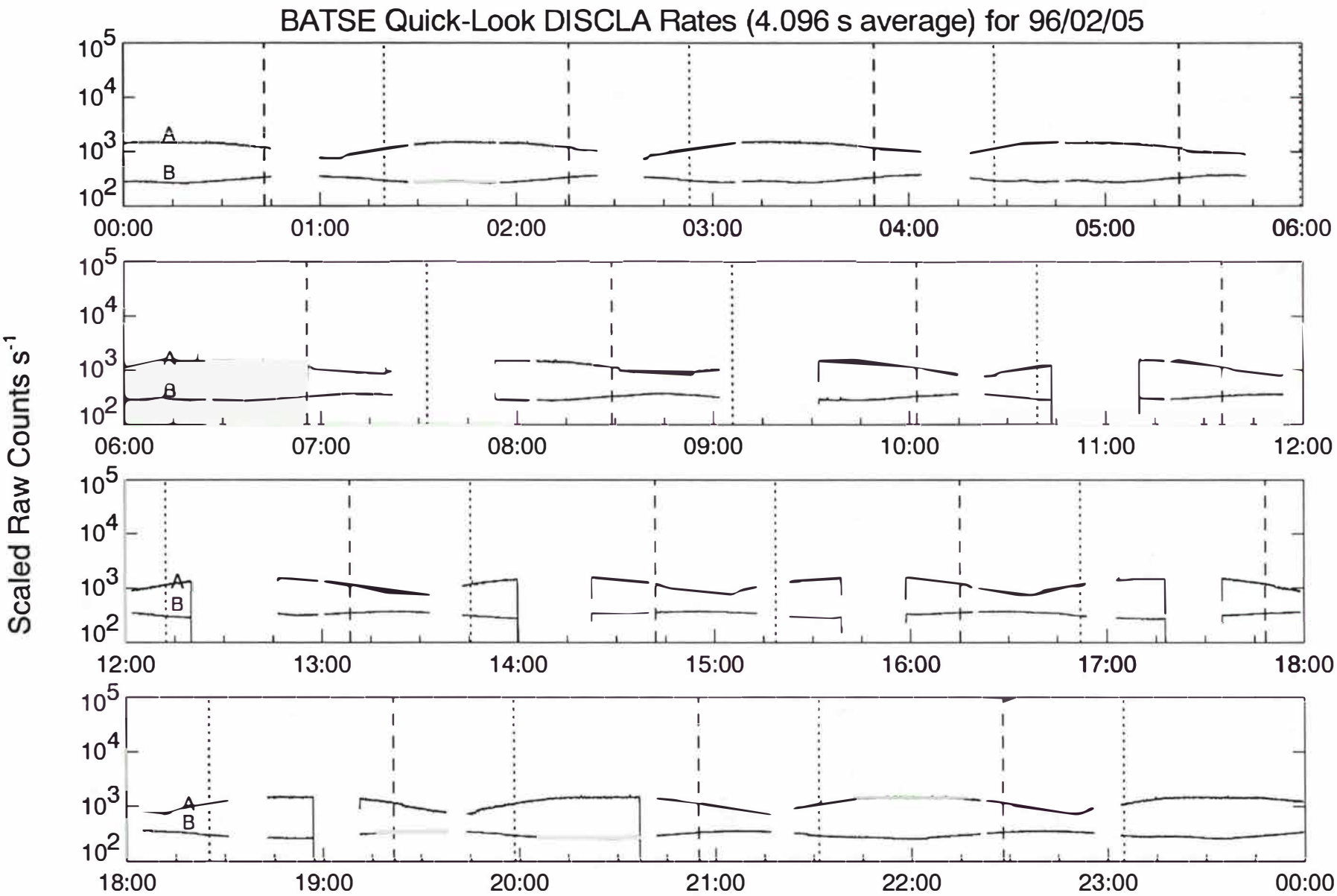



BATSE 05/02/96 34489.034
25- 100 keV
COUNTS/0.064 S
300
400
500
600
-3
01
5
9
13
17
25
29
33
37
41
45

16/ 2/96


DISCSC Data for K. Hurley, No. 4745
RATE (counts/sec)
8500
8000
7500
7000
6500
6000
5500
5000
4500
-50
0
50
100
150
200
250
300
350
400
SECONDS since trigger
240 s
12-FEB-1996 11:28:03
Created by MOPS 80
(Burst Display)
Version t2.25
Trigger # : 4745
Trigger Time:
10110 / 34489.834
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


GOES 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/05, 0000:01
Plot created: 96/02/07, 0654
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

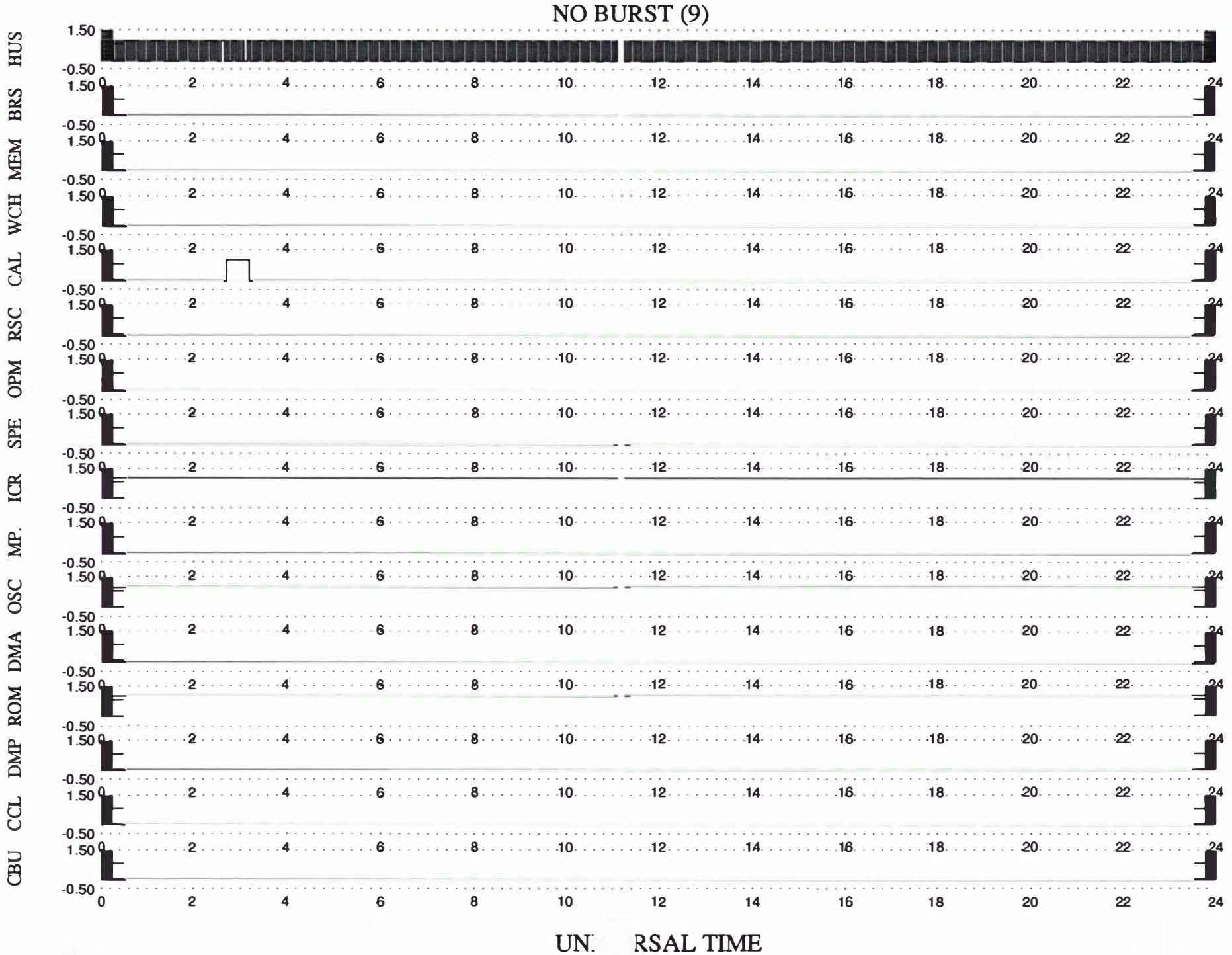


Current Time: 96/02/07, 1759 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

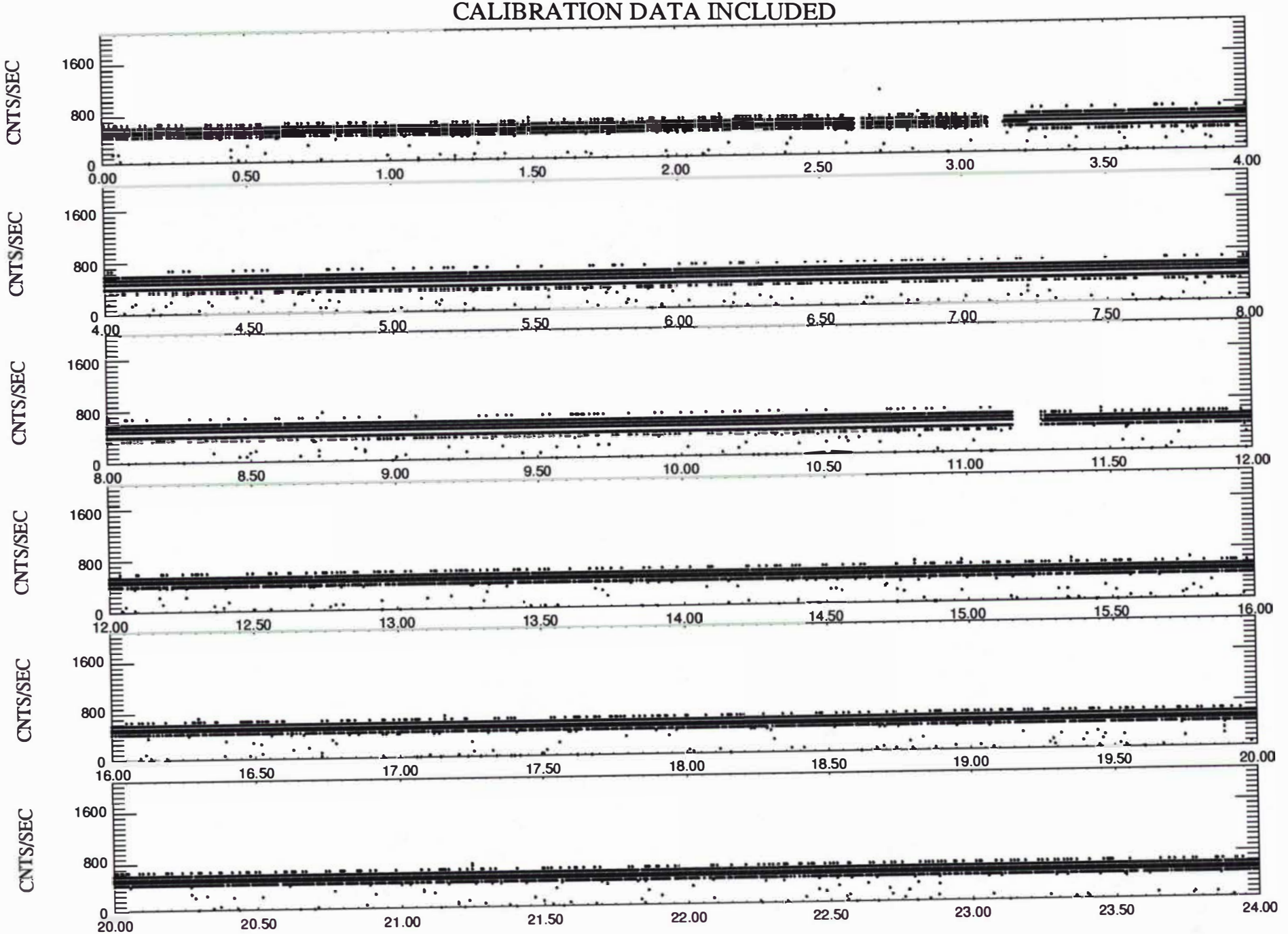
* Solar Burst Trigger
\+ Solar Flare

HUS MODES EDR day 36, year 1996 to day 36, year 1996 11/25/96



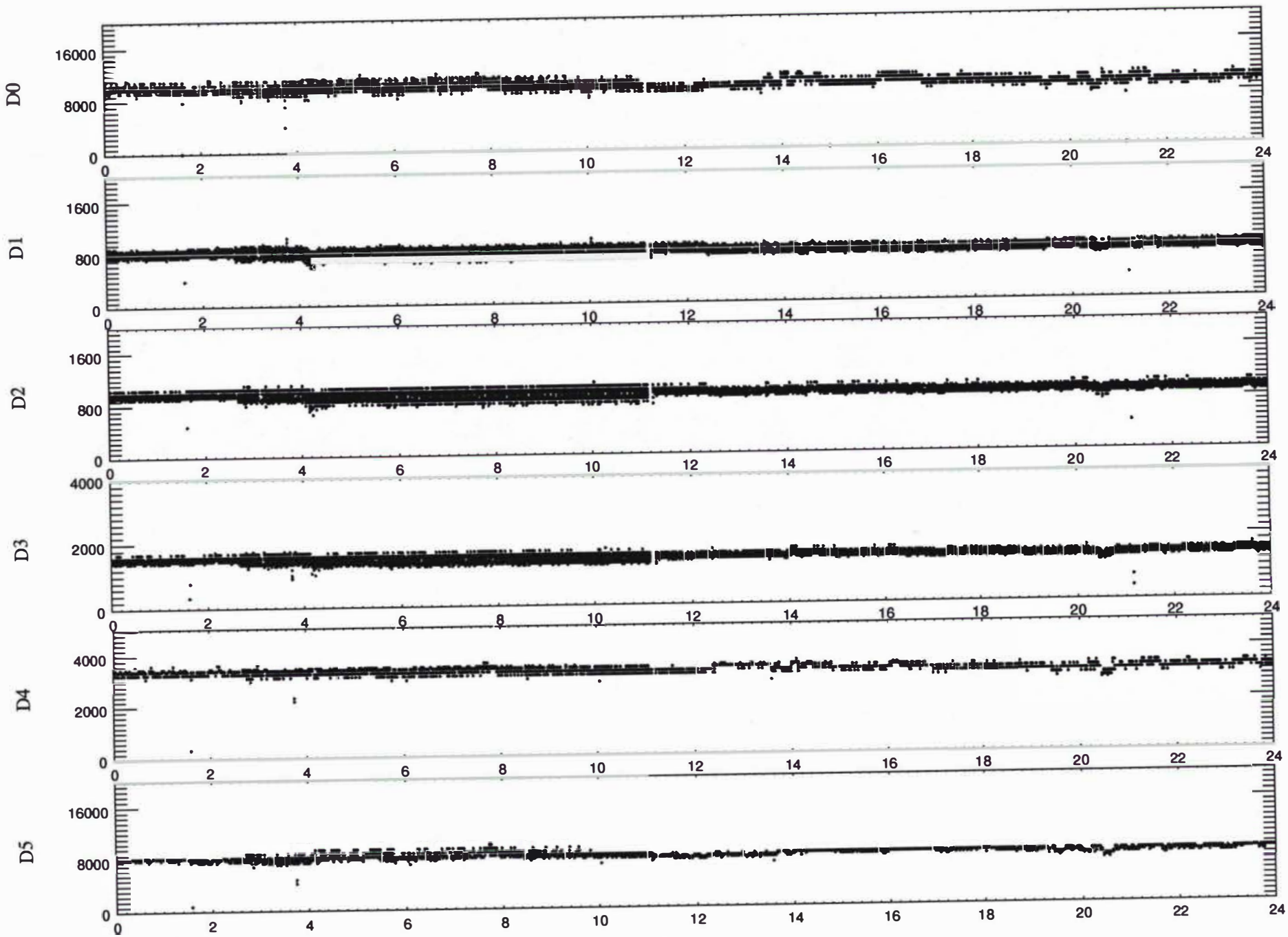
HUS 2A, MODE 1, NOT AVERAGED EDR day 36, year 1996 to day 36, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 36, year 1996 to day 36, year 1996 11/25/96



From DEAL@fender.msfc.nasa.gov Fri Feb 9 10:15 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Fri, 9 Feb 1996 12:15:19 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4757

TRIGGER

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

 BATSE BURST #     4757
 EVENT OF 1996 FEB  6 DAY OF YEAR= 37
 EVENT CROSSING TIME AT BATSE      : 17897. S. OR 04:58:17.0
 COORDINATES ARE   0.000   0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 196.000   -9.000
 BATSE PEAK COUNTING RATE:  25000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  6/ 2/  96 IS:
 RA=  218.348 DEC=    69.821 DIST=     2.827 AU
 BATSE-ULYSSES DISTANCE =  422847066. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.69 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -237.36 SECS.
 CROSSING TIME AT ULYSSES     IS 17660. S. OR   04:54:19 +/-  287.78 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON  6/ 2/  96 IS:
 RA=  325.211 DEC=  -15.032 DIST=     2.359 AU
 MARS-BATSE DISTANCE =  352950016. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 55.77 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  662.19 SECS.
 CROSSING TIME AT MARS       IS 18559. S. OR   05:09:19 +/-  179.06 SECONDS


                BATSE BURST TRIGGER
NO.: 4757

TIME: TJD=0119 SECONDS=17897

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=195.5  AZIMUTH=-9.1   ERROR=0.4   DEGREES

COMMENTS:
BURST. MULTI-PEAKED LASTING ~ 90 S. VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4757   960206   10119   17897    25000   196   -09      90
```

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

Date: Mar 4 '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)?

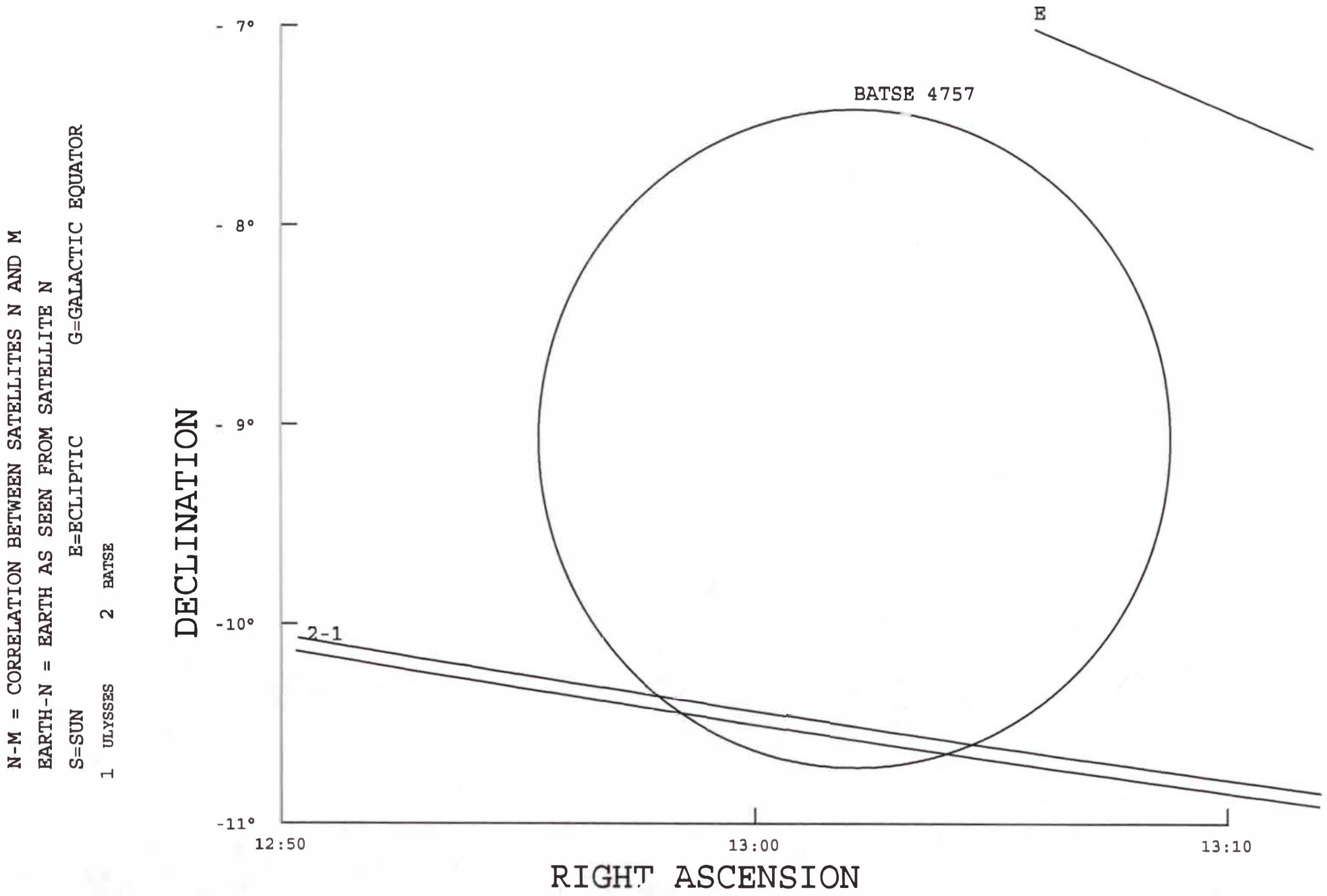
☐ 2000 coordinates used?

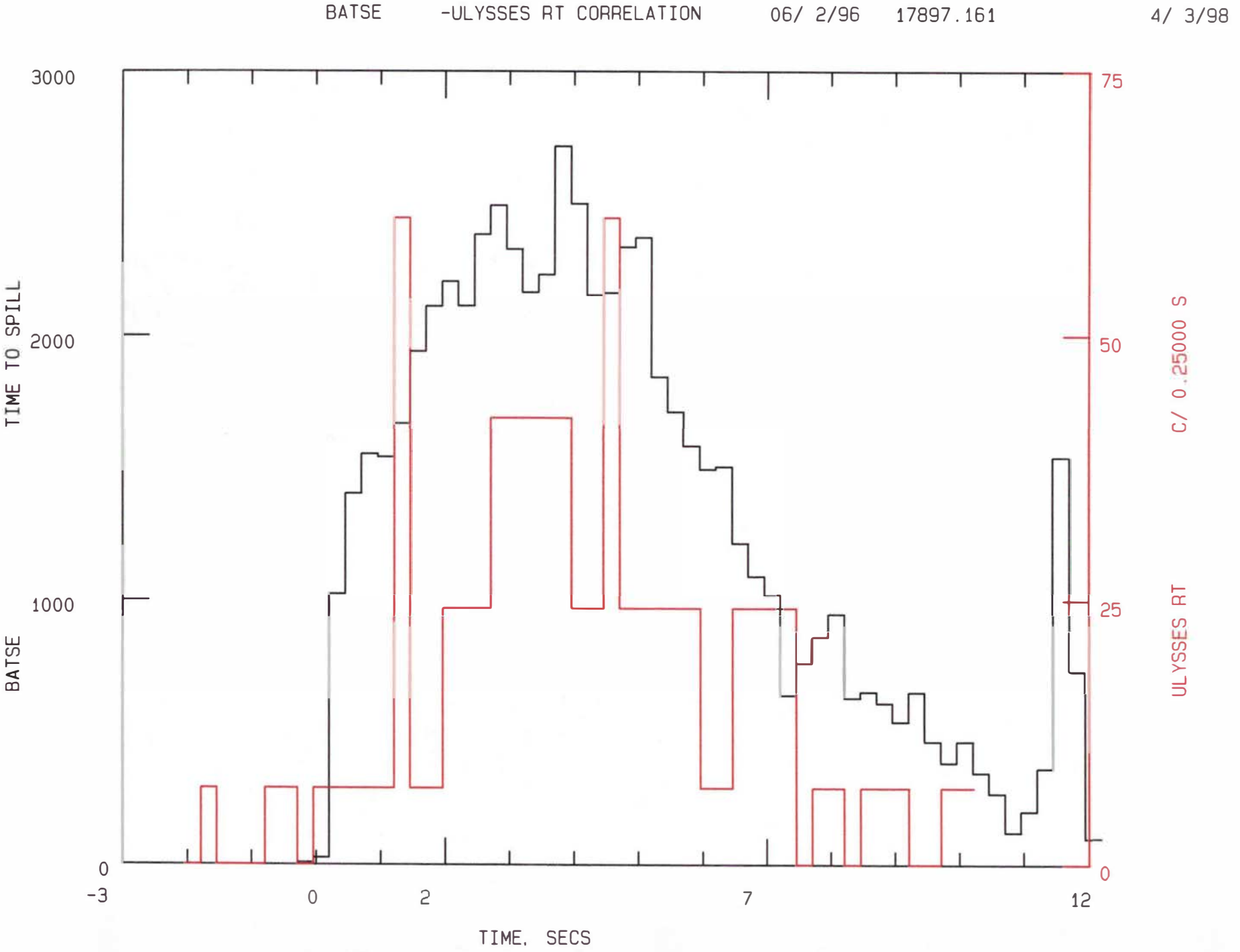
☐ Geocentric time used?

☐ ACCESS database updated?

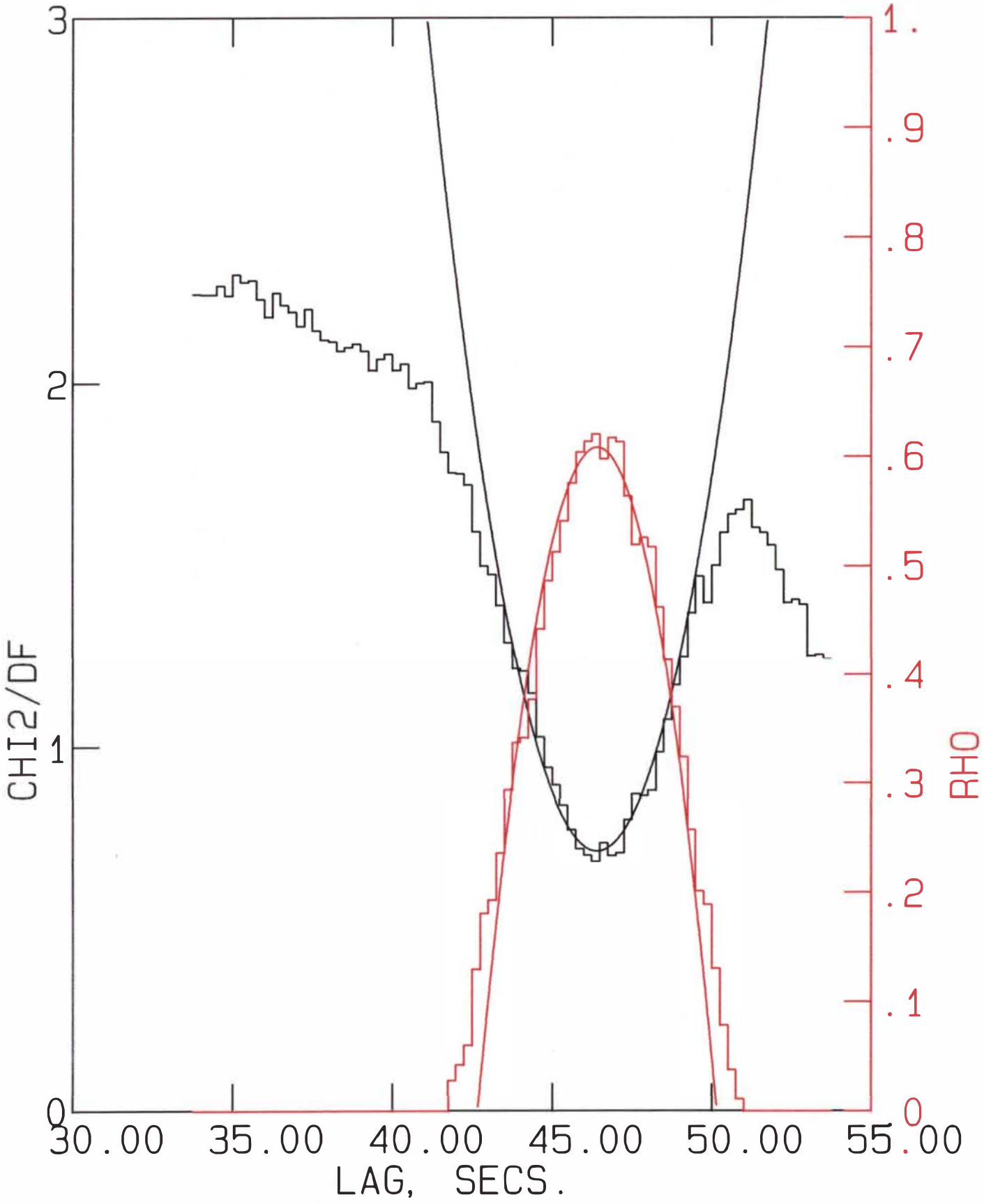
EVENT OF FEB 6, 1996 4:54

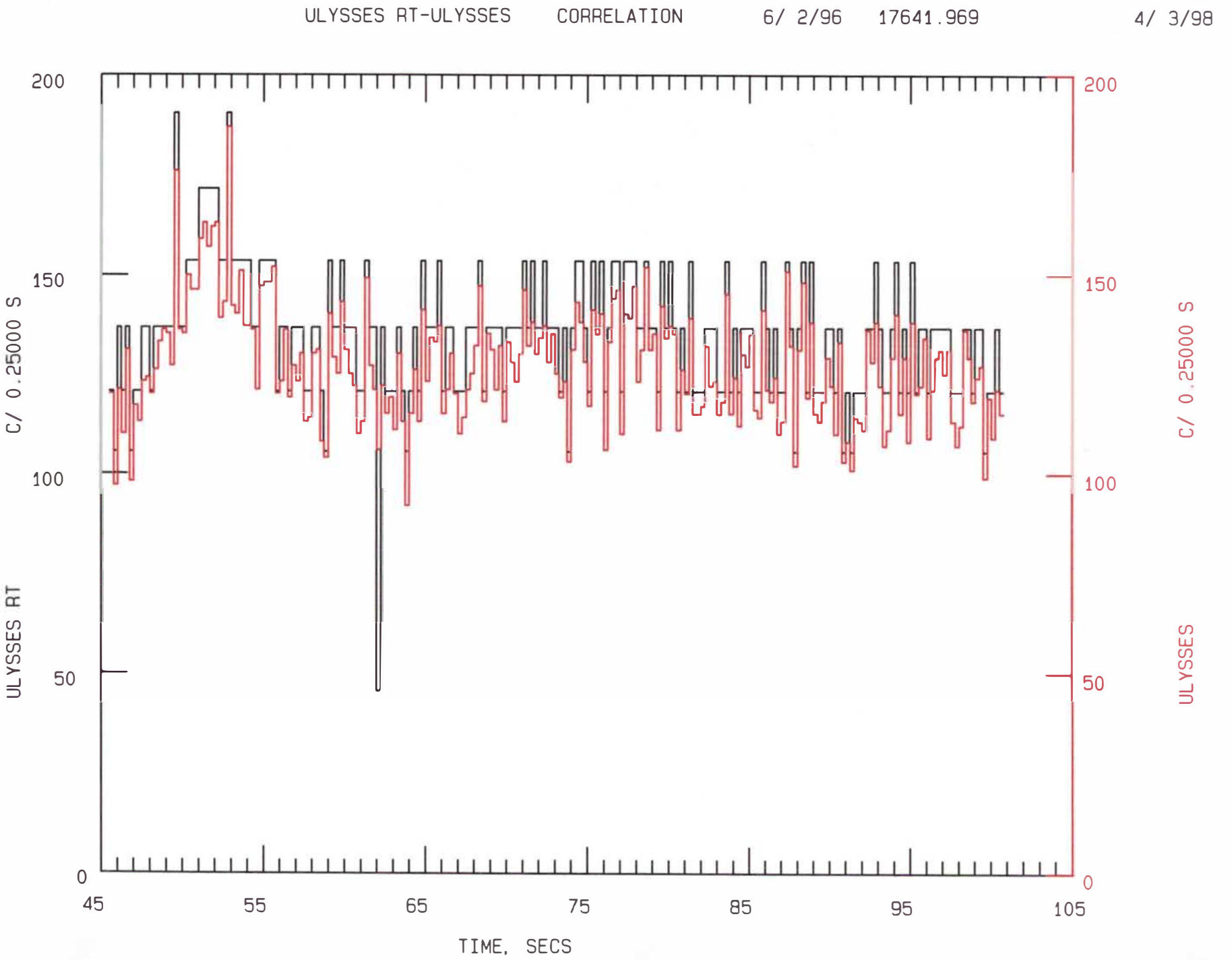
4/ 3/98



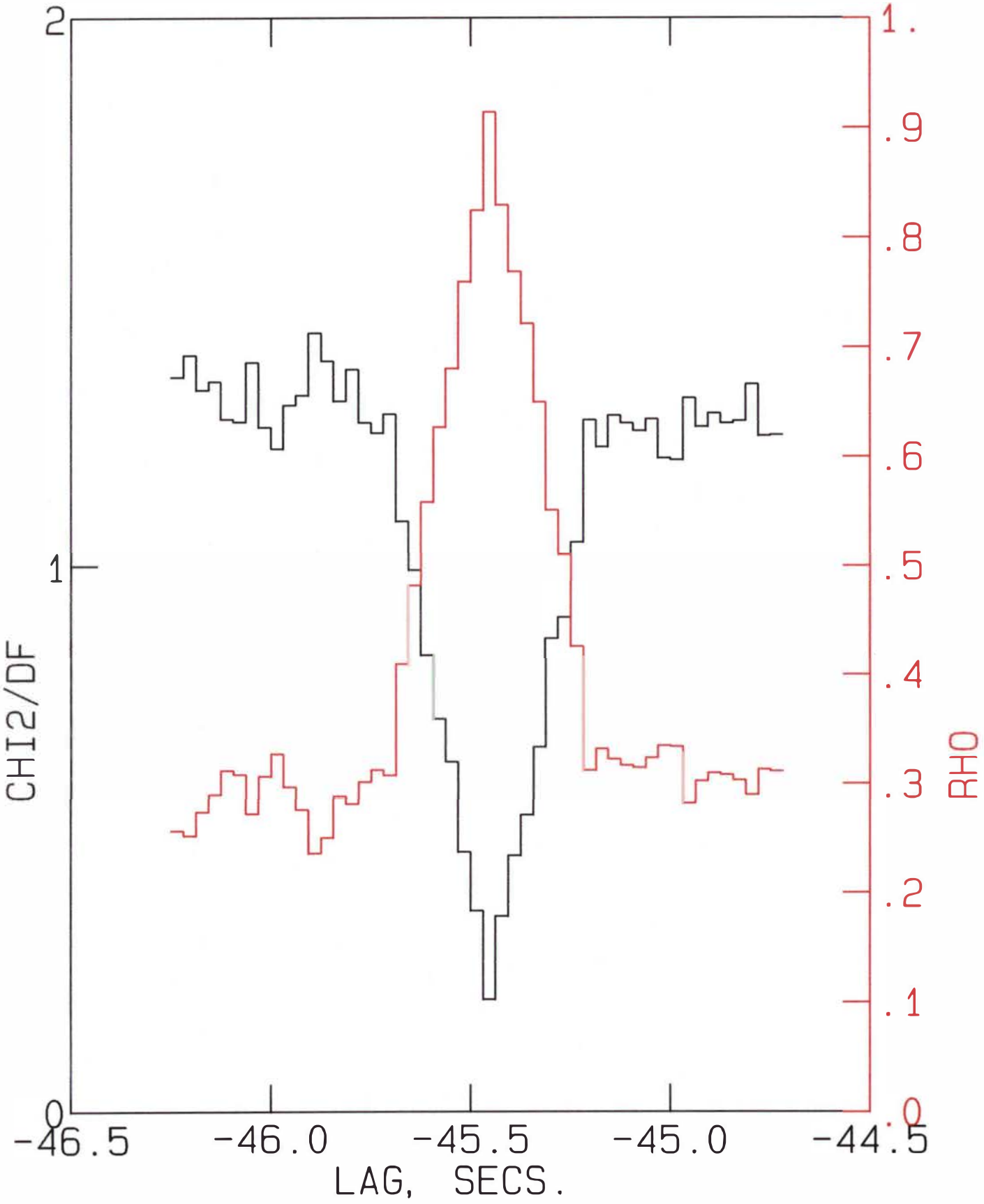

BATSE -ULYSSES RT CORRELATION 06/ 2/96 17897.161 4/ 3/98
3000
2000
1000
0
TIME TO SPILL
BATSE
75
50
25
0
C/ 0.25000 S
ULYSSES RT
-3
0
2
7
12
TIME, SECS

BATSE -ULYSSES RT CORRELATION 06/ 2/96 17897.161



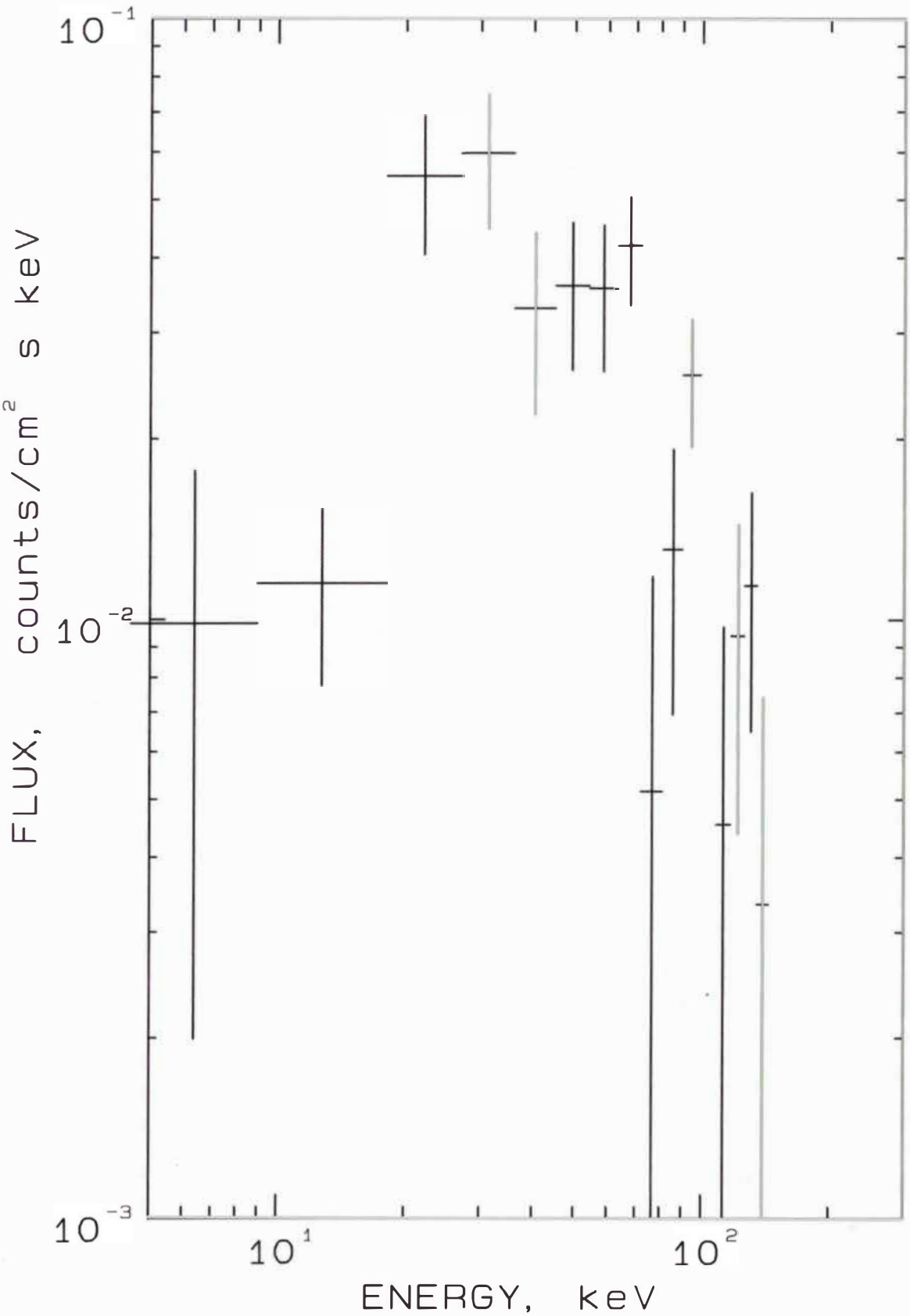

ULYSSES RT-ULYSSES CORRELATION 6/ 2/96 17641.969 4/ 3/98
200
150
100
50
0
C/ 0.25000 S
ULYSSES RT
45
55
65
75
85
95
105
TIME, SECS
ULYSSES

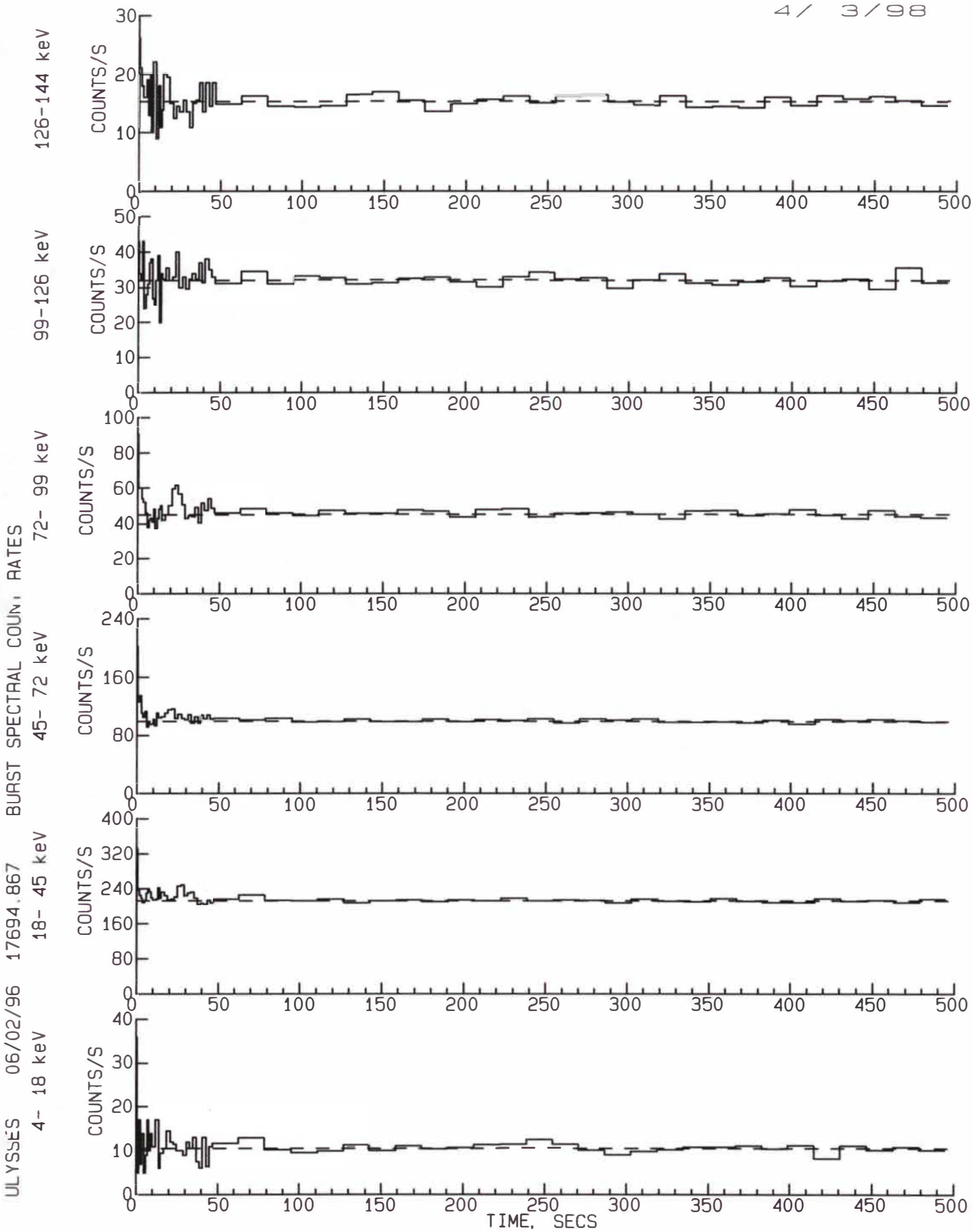
ULYSSES RT-ULYSSES CORRELATION 6/ 2/96 17641.969

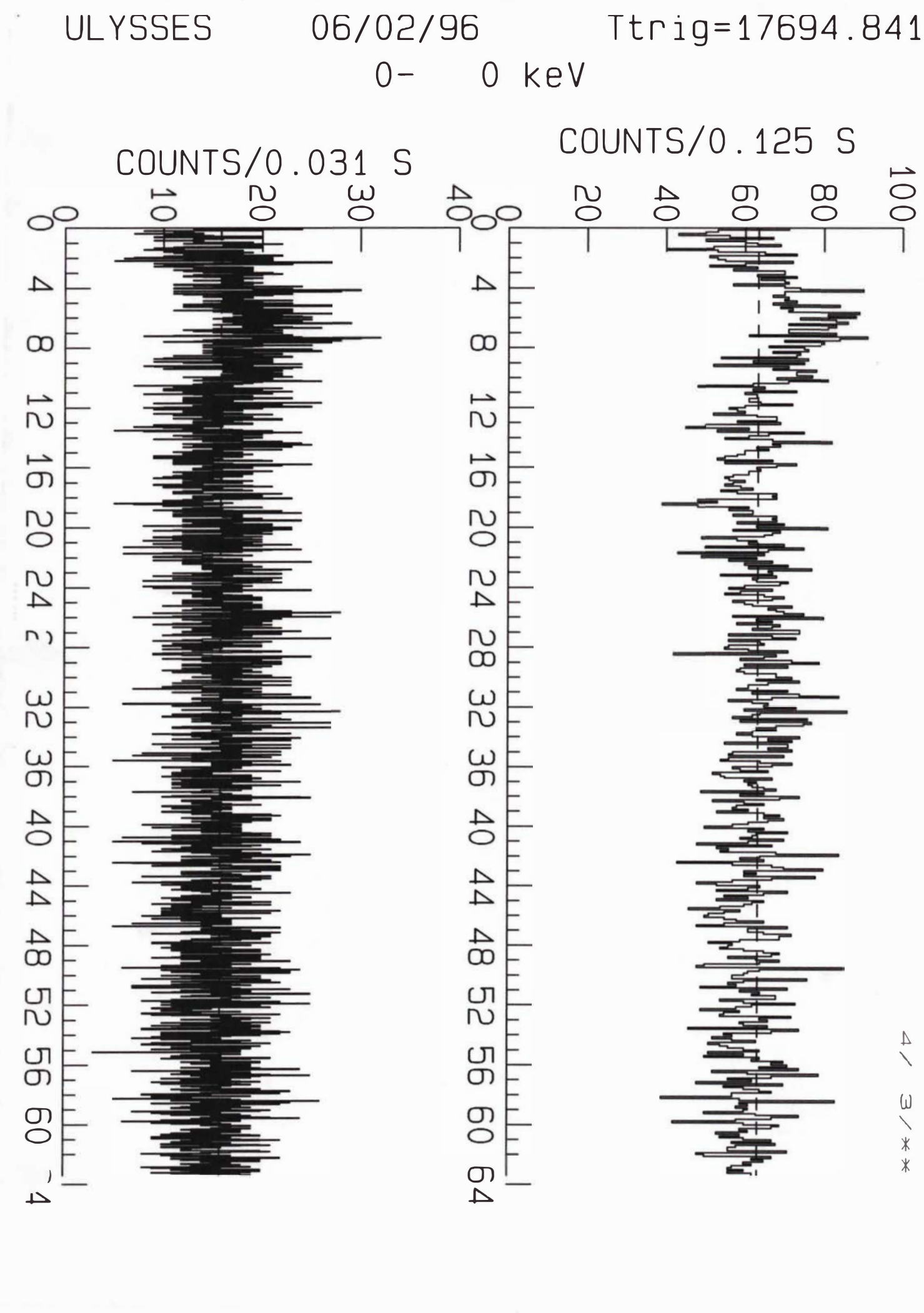


ULYSSES 06/02/96 17694.867

SPECTRUM INTEGRATED OVER 20.7 SECONDS, INTERVALS 2 TO 20




4/ 3/98
ULYSSES 06/02/96 17694.867 BURST SPECTRAL COUNT RATES
126-144 keV
99-126 keV
72- 99 keV
45- 72 keV
18- 45 keV
4- 18 keV
COUNTS/S
TIME, SECS

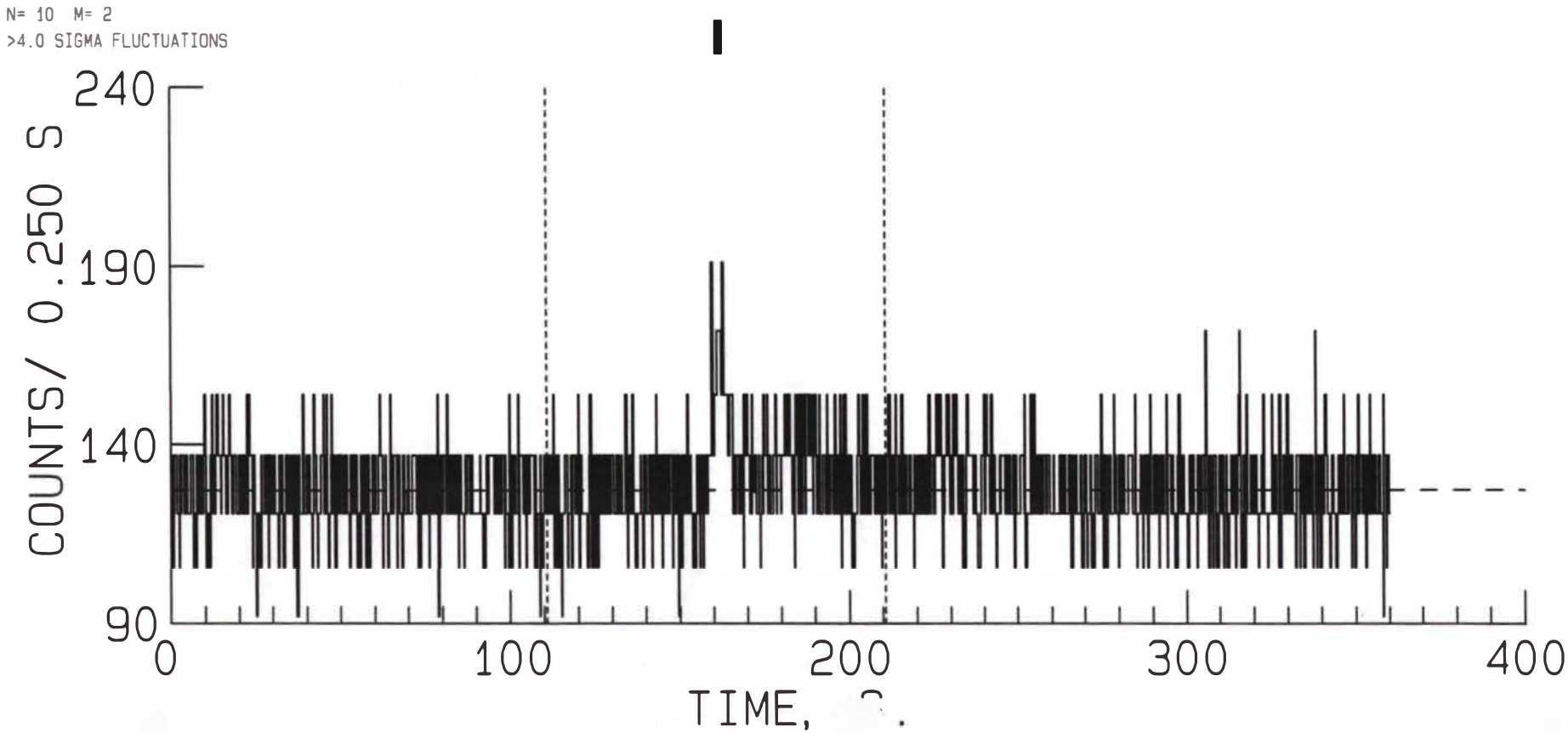

ULYSSES 06/02/96 Ttrig=17694.841
0- 0 keV
COUNTS/0.031 S
COUNTS/0.125 S
4/ 3/**

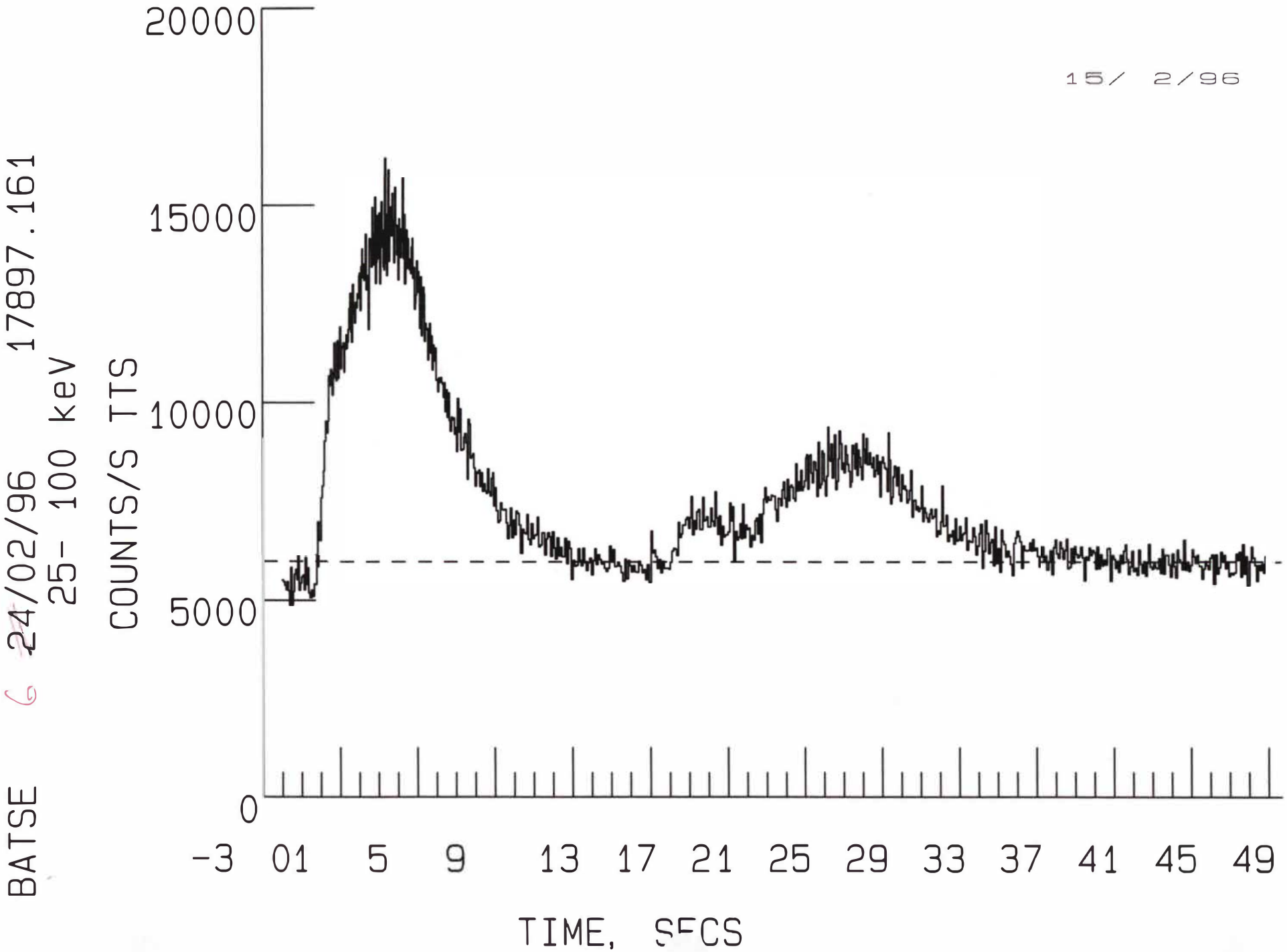
ULYSSES RT

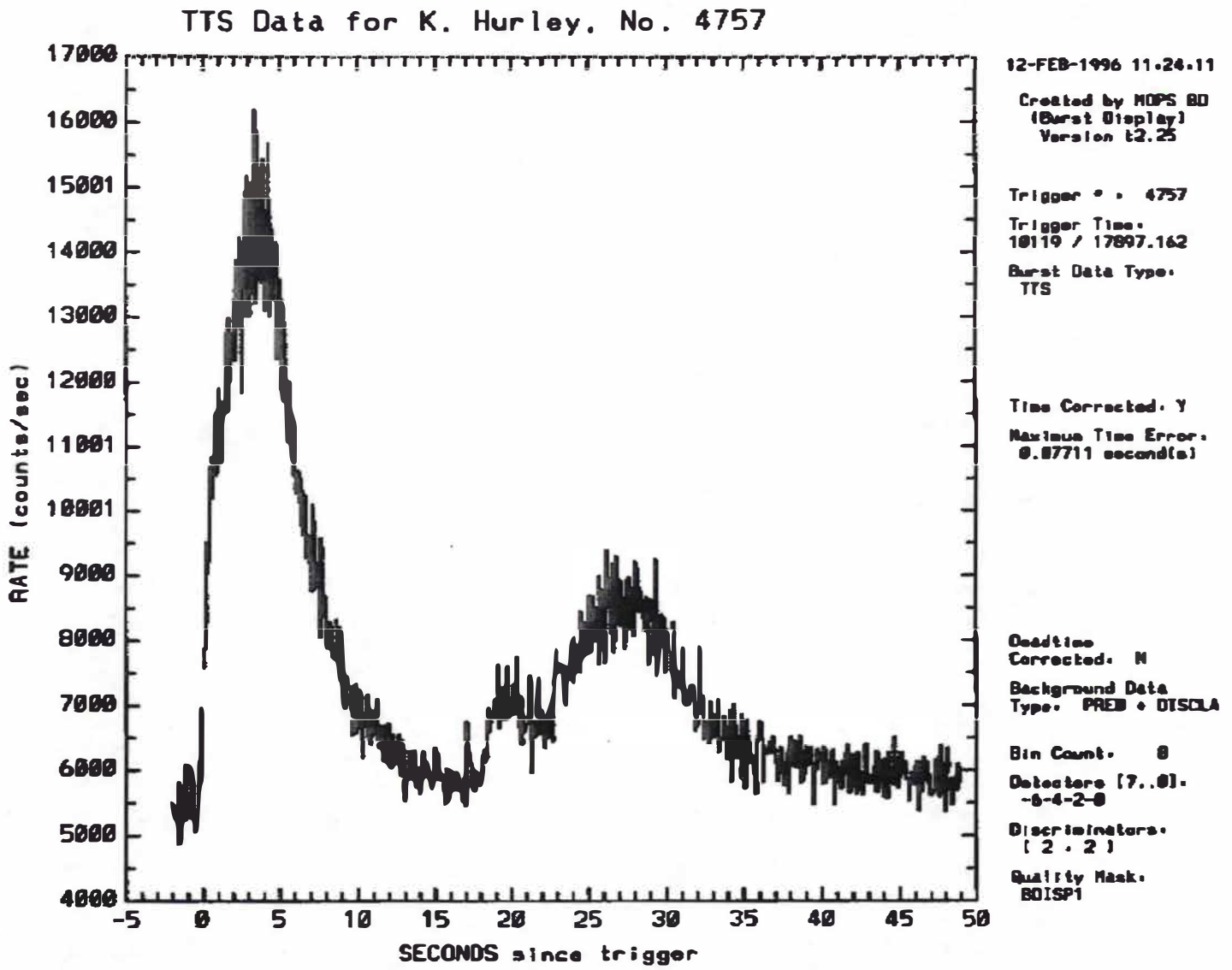
4/ 3/98

6/ 2/96 17532.003 s

21- 144 keV




BATSE 24/02/96 17897.161
25- 100 keV
COUNTS/S TTS
20000
15000
10000
5000
0
15/ 2/96
-3 01 5 9 13 17 21 25 29 33 37 41 45 49
TIME, SECS


TTS Data for K. Hurley, No. 4757
RATE (counts/sec)
SECONDS since trigger
12-FEB-1996 11.24.11
Created by MOPS BD
(Burst Display)
Version t2.25
Trigger # : 4757
Trigger Time:
10119 / 17897.162
Burst Data Type:
TTS
Time Corrected: Y
Maximum Time Error:
0.07711 second(s)
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Bin Count: 8
Detectors [7..0]:
-0-4-2-0
Discriminators:
[2 . 2]
Quality Mask:
BDISP1

From DEAL@fender.msfc.nasa.gov Fri Feb 9 10:13 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Fri, 9 Feb 1996 12:13:36 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4761

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

 BATSE BURST #     4761
 EVENT OF 1996 FEB  6 DAY OF YEAR= 37
 EVENT CROSSING TIME AT BATSE      : 46162. S. OR 12:49:22.0
 COORDINATES ARE   0.000   0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 231.000   21.000
 BATSE PEAK COUNTING RATE:   1500     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  6/ 2/  96 IS:
 RA=  218.157 DEC=    69.910 DIST=     2.827 AU
 BATSE-ULYSSES DISTANCE =  422975433. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.48 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -915.98 SECS.
 CROSSING TIME AT ULYSSES     IS 45246. S. OR   12:34:06 +/-  222.40 SECONDS

 EVENT CROSSING TIME AT MARS        WILL BE FOUND
 POSITION OF MARS ON  6/ 2/  96 IS:
 RA=  325.211 DEC=  -15.032 DIST=     2.359 AU
 MARS-BATSE DISTANCE =  352950016. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 80.84 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  187.38 SECS.
 CROSSING TIME AT MARS        IS 46349. S. OR   12:52:29 +/-  204.64 SECONDS


                 BATSE BURST TRIGGER
NO.: 4761

TIME: TJD=0119 SECONDS=46162

TYPE: BURST                      SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:        SIGMA

INTENSITY:           COUNTS/CM2

LOCATION: ZENITH=84.4   AZIMUTH=319.1  ERROR=5.3   DEGREES

COMMENTS:
BURST LASTING ~ 50 MS. VERY HARD. VISIBLE ABOVE 30 KEV.



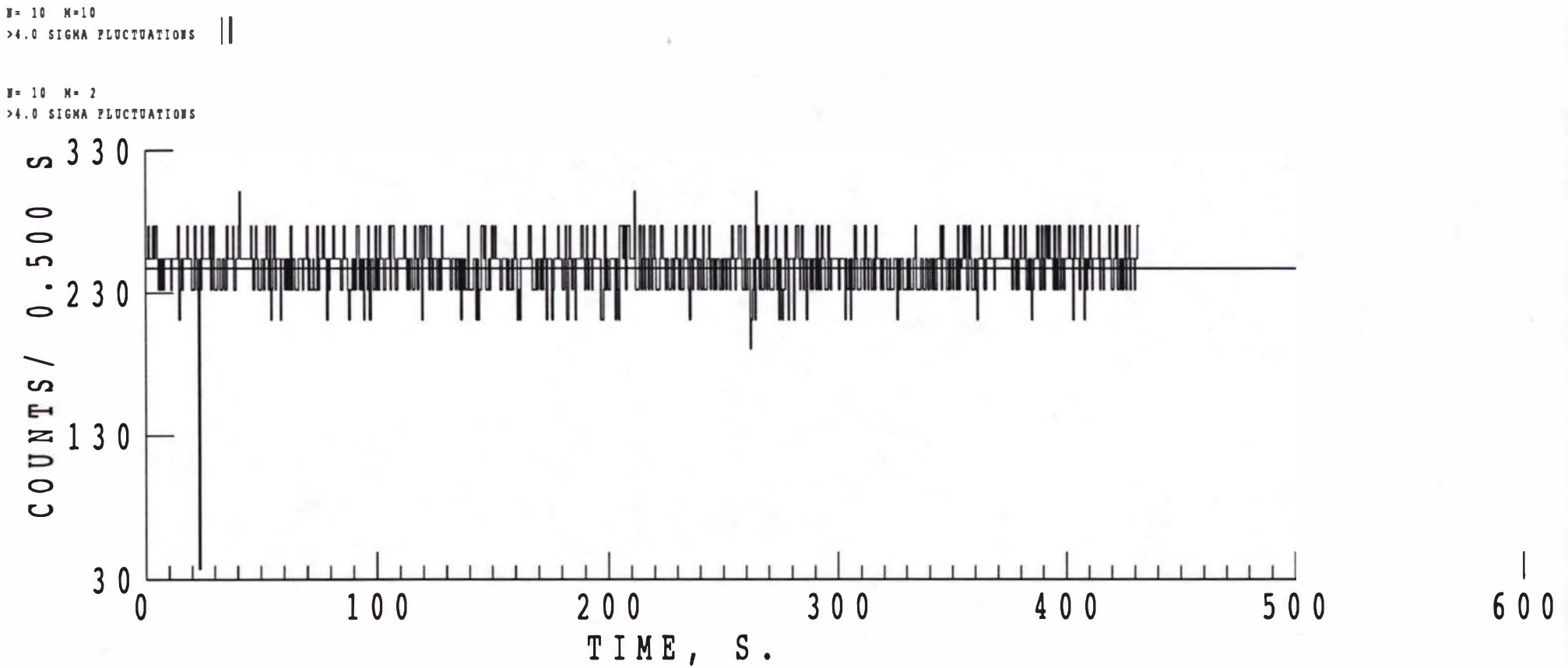
 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4761    960206   10119   46162     1500   231   +21   .05
```

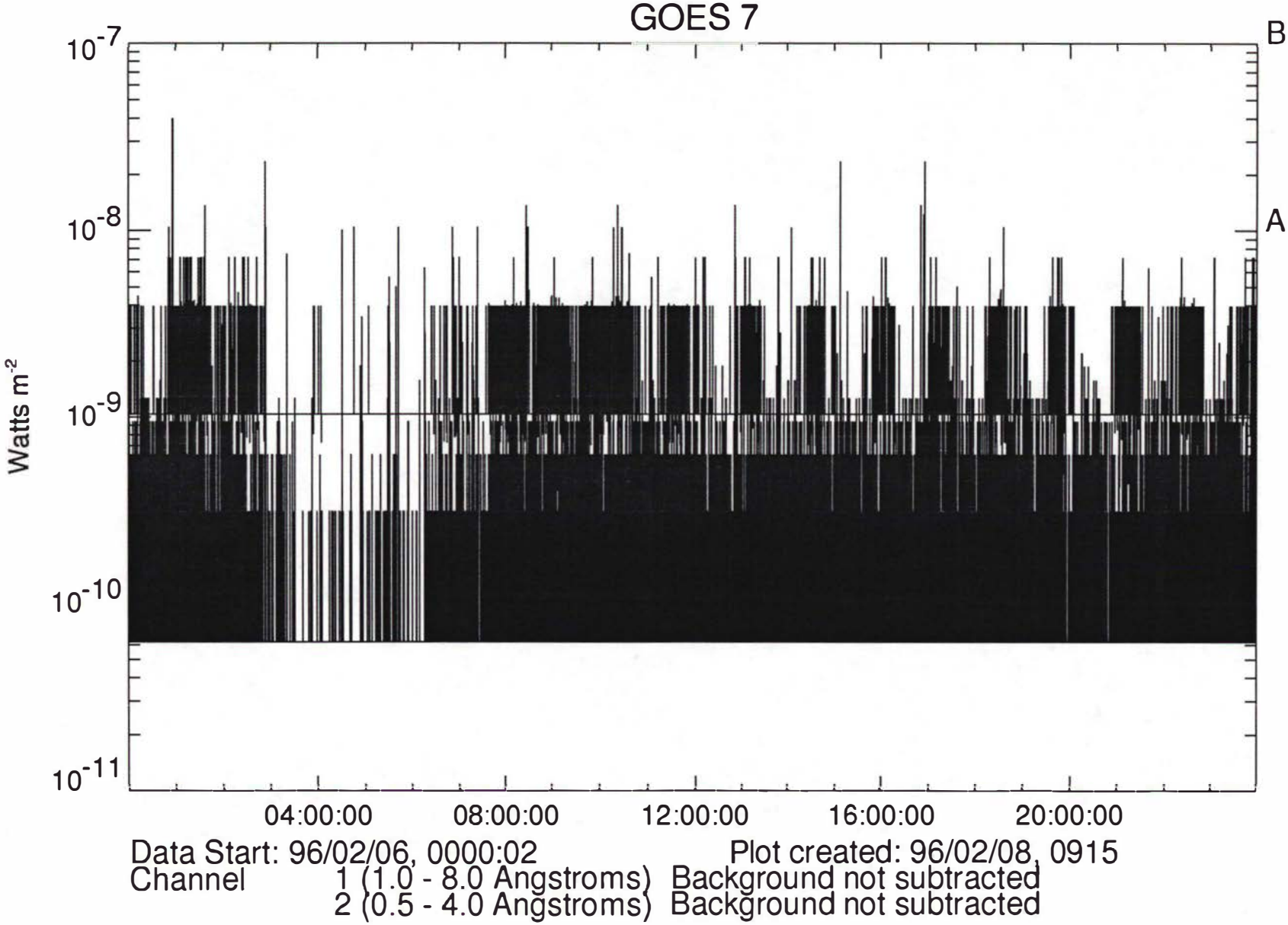
BATSE BURST# 4761

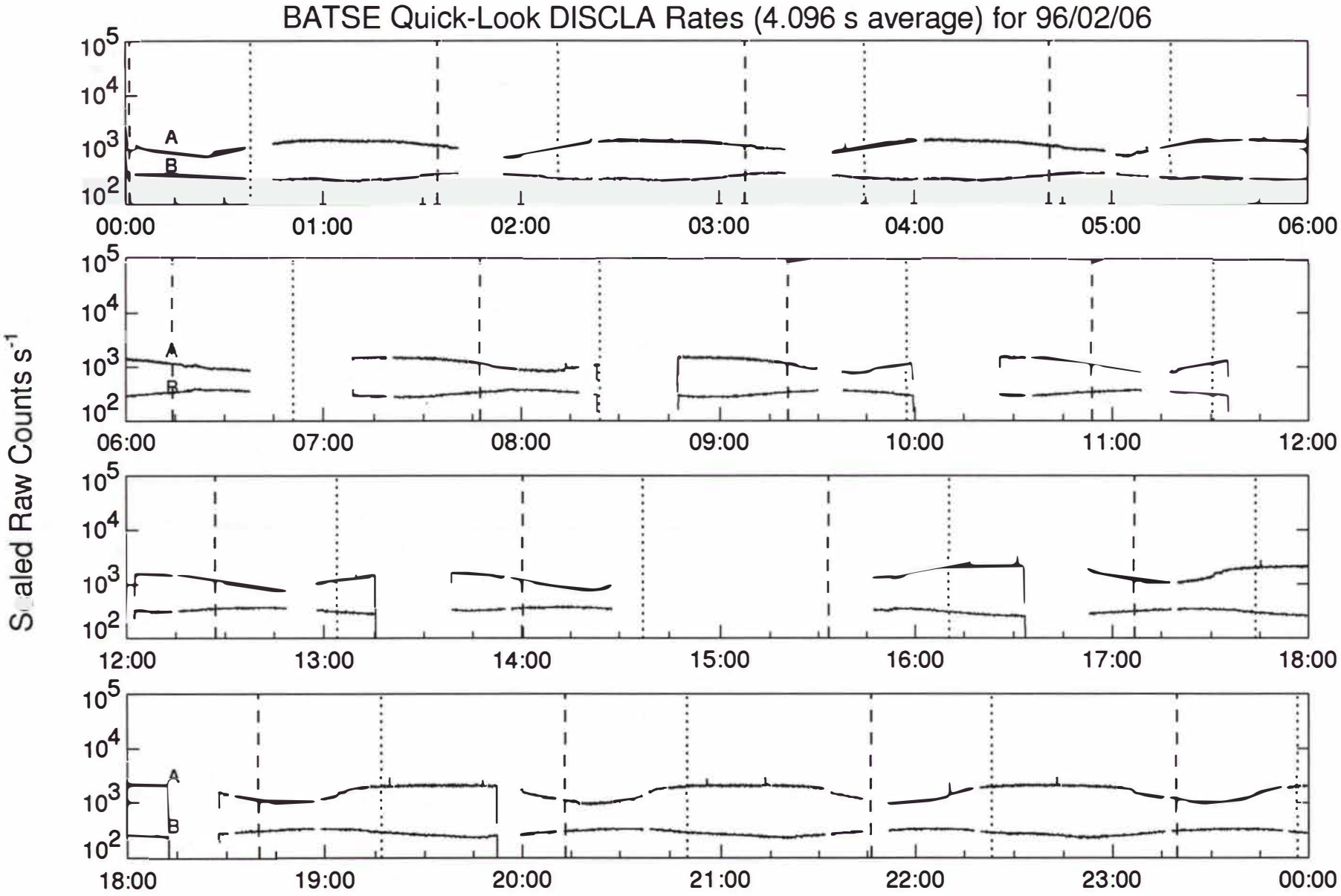
ULYSSES RT 4/ 5/98

6/ 2/96 45036.352 s

0- 0 keV

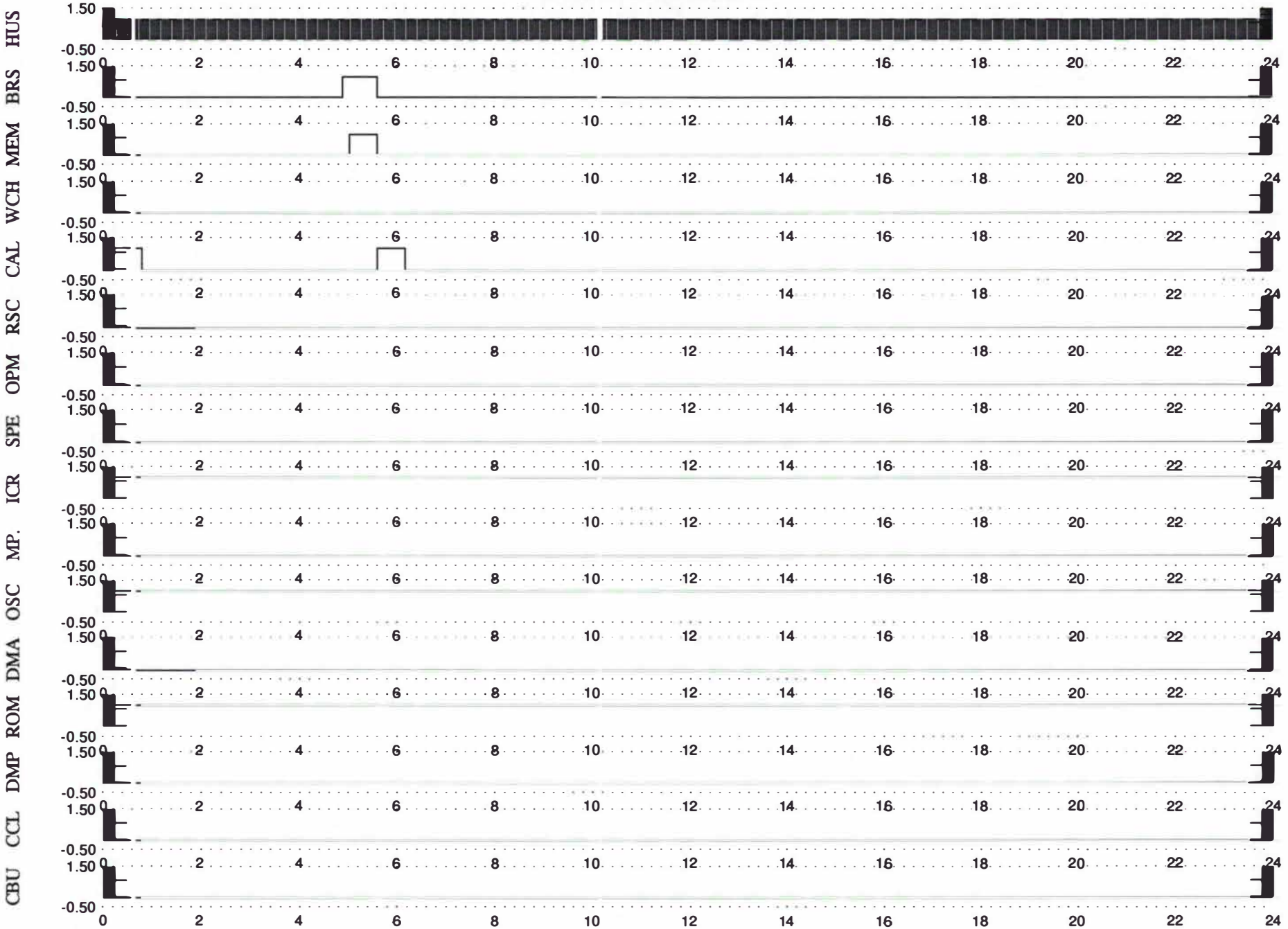



GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/06, 0000:02
Plot created: 96/02/08, 0915
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/06
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: 96/02/08, 0916 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 37, year 1996 to day 37, year 1996 11/25/96

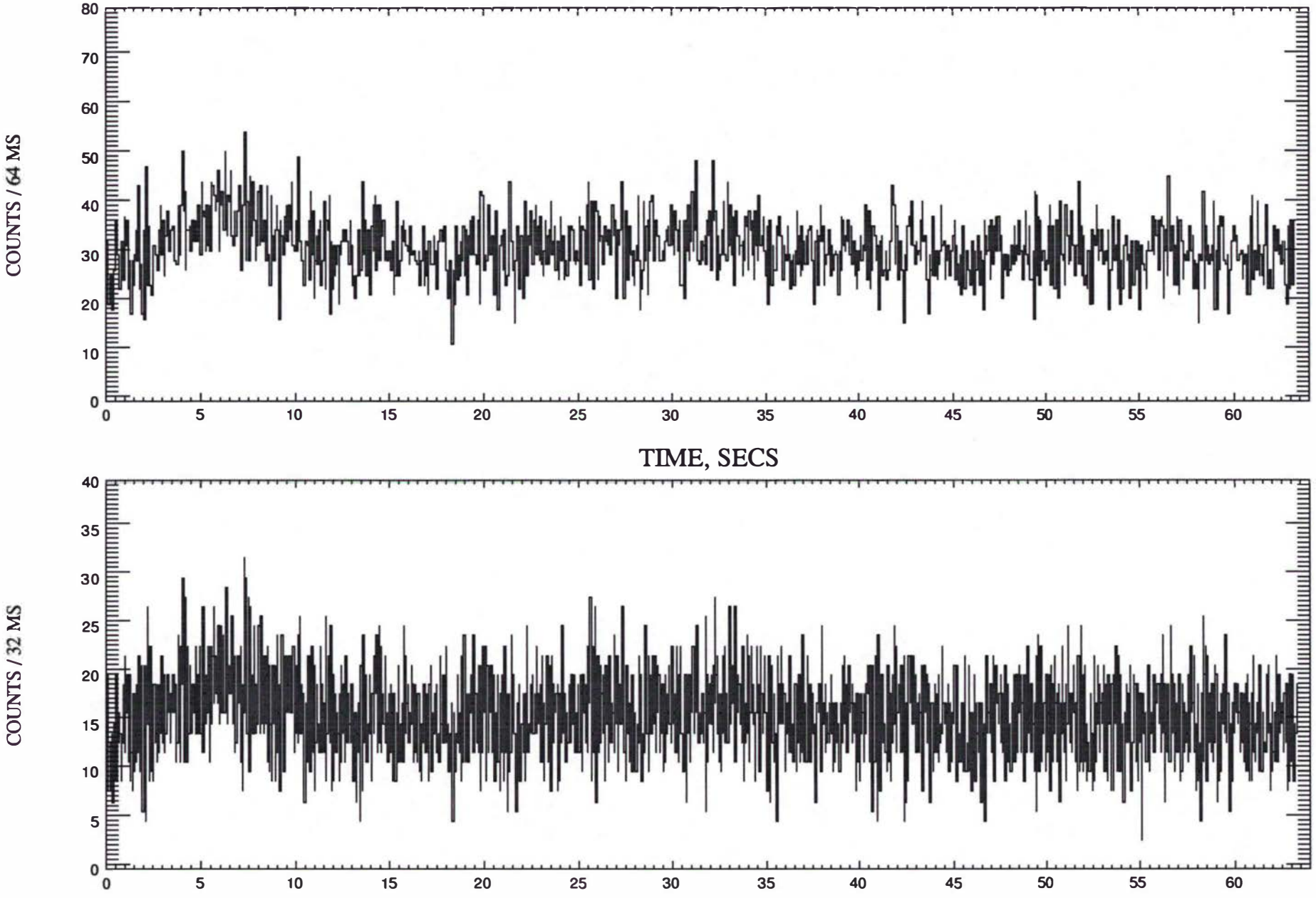
BURST NUMBER 10



UN RSAL TIME

HUS 2A TRIGGERED DATA EDR day 37, year 1996 11/25/96

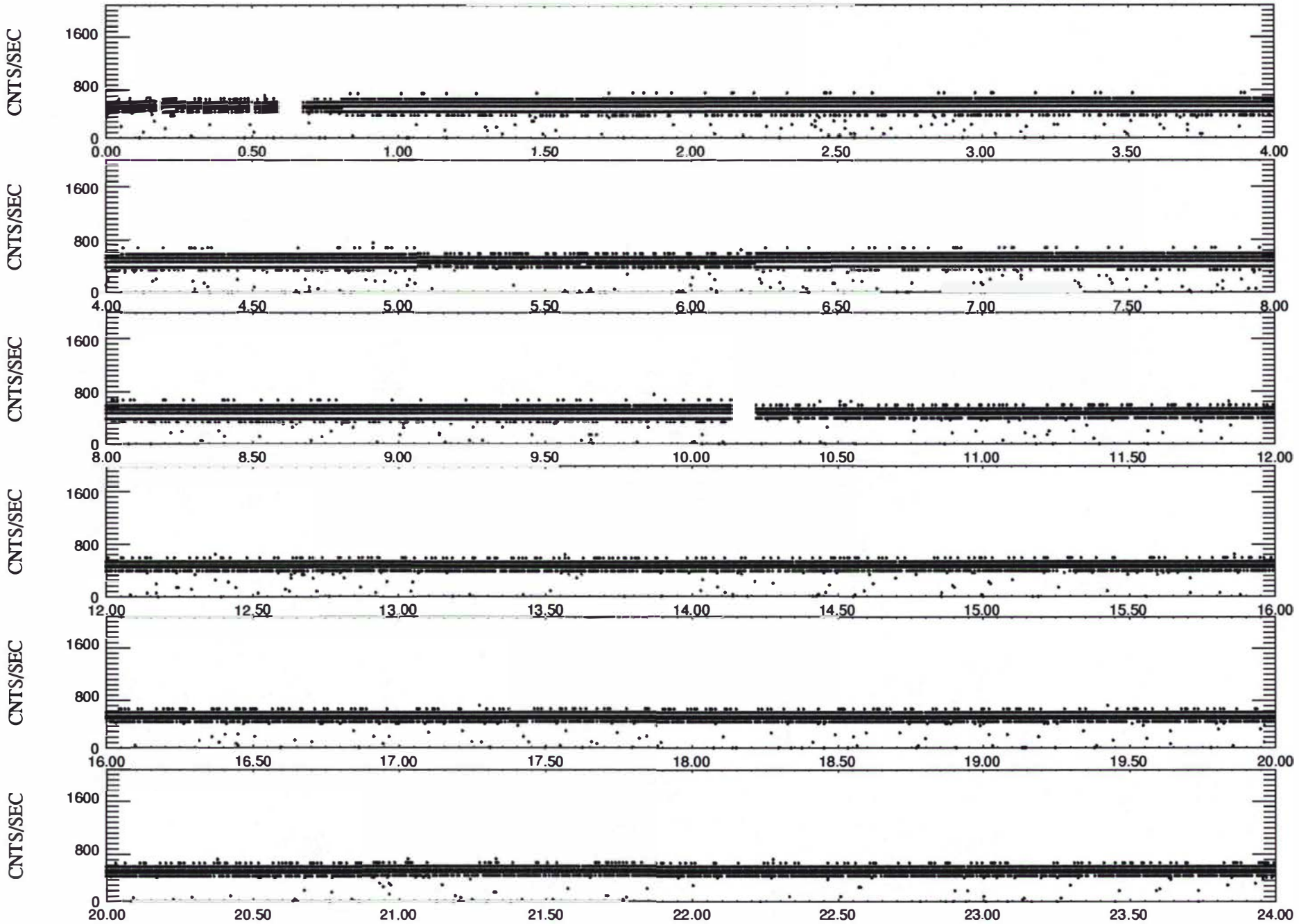
Burst Counter 10 at UT= 4.915240715875 h=17694.867 s 04:54:54.867



B# 1

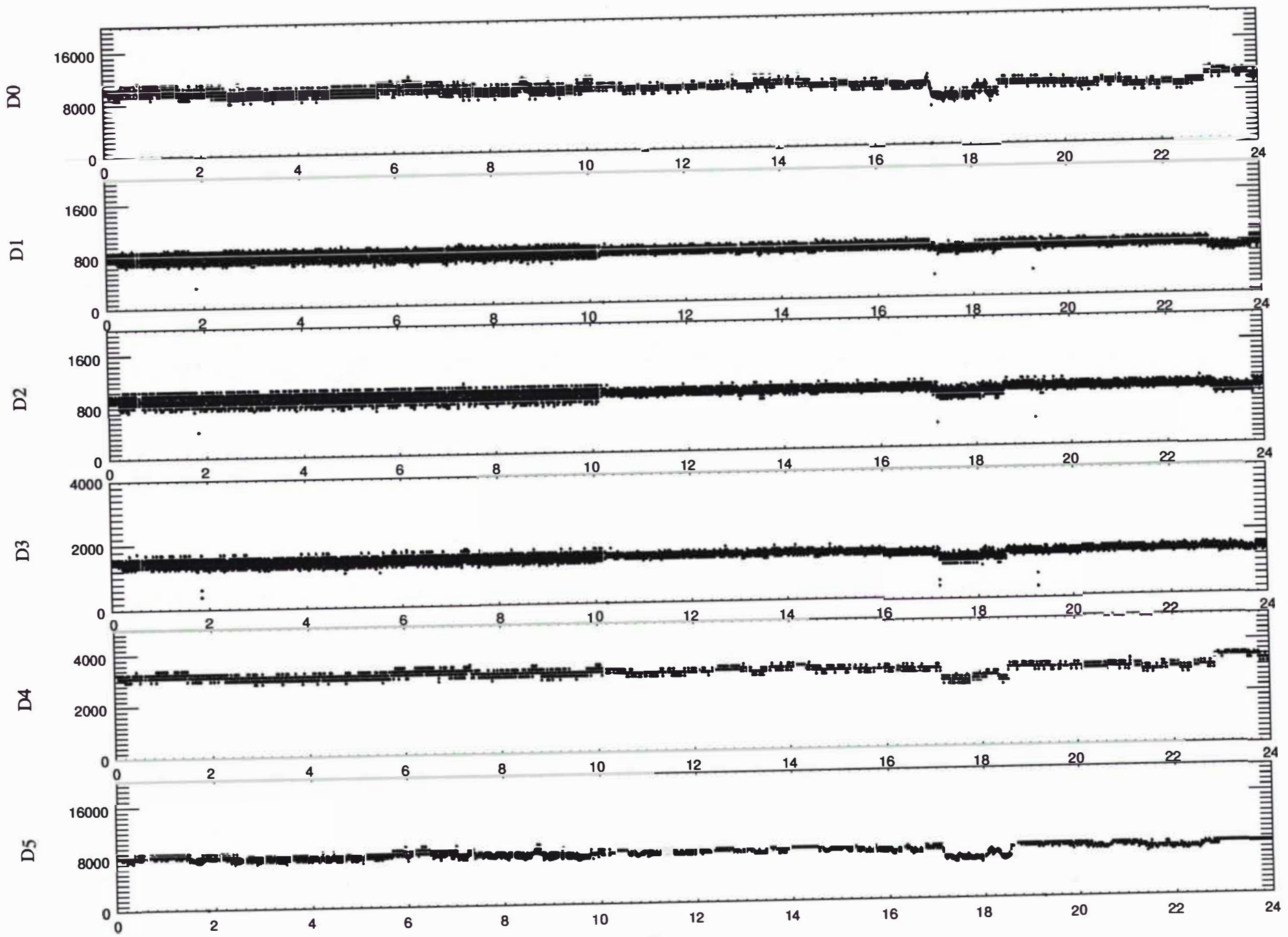
HUS 2A, MODE 1, NOT AVERAGED EDR day 37, year 1996 to day 37, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 37, year 1996 to day 37, year 1996 11/25/96



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

When major frames are recorded but not transmitted during the next track, but are eventually downlinked with data from a succeeding day, the embedded SCLKs are 'assumed' to be incorrect by the frame syncer and are re-tagged with SCETs and SCLKs matching the adjacent (but newer) data.

For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

Joe

To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

From HENZE@fender.msfc.nasa.gov Fri Feb 9 09:52 PST 1996
From: HENZE@fender.msfc.nasa.gov
Date: Fri, 9 Feb 1996 11:52:24 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4776

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

 BATSE BURST #     4776
 EVENT OF 1996 FEB  7 DAY OF YEAR= 38
 EVENT CROSSING TIME AT BATSE      : 58302. S. OR 16:11:42.0
 COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  29.000  -60.000
 BATSE PEAK COUNTING RATE:  18000     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  7/ 2/  96 IS:
 RA=  217.477 DEC=    70.216 DIST=     2.830 AU
 BATSE-ULYSSES DISTANCE =  423438396. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 10.80 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1387.43 SECS.
 CROSSING TIME AT ULYSSES     IS 59689. S. OR   16:34:49 +/-  117.01 SECONDS

 EVENT CROSSING TIME AT MARS        WILL BE FOUND
 POSITION OF MARS ON  7/ 2/  96 IS:
 RA=  325.983 DEC=  -14.771 DIST=     2.360 AU
 MARS-BATSE DISTANCE =  353045280. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.11 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -518.35 SECS.
 CROSSING TIME AT MARS        IS 57784. S. OR   16:03:03 +/-  175.71 SECONDS


                 BATSE BURST TRIGGER
NO.: 4776

TIME: TJD=0120 SECONDS=58302

TYPE: BURST                      SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:        SIGMA

INTENSITY:           COUNTS/CM2

LOCATION: ZENITH=049.1  AZIMUTH=187.3  ERROR=002.9 DEGREES

COMMENTS:
SINGLE PULSE, DUR. ~0.7 S.  VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4776   960207   10120   58302    18000   029   -60     .7
```

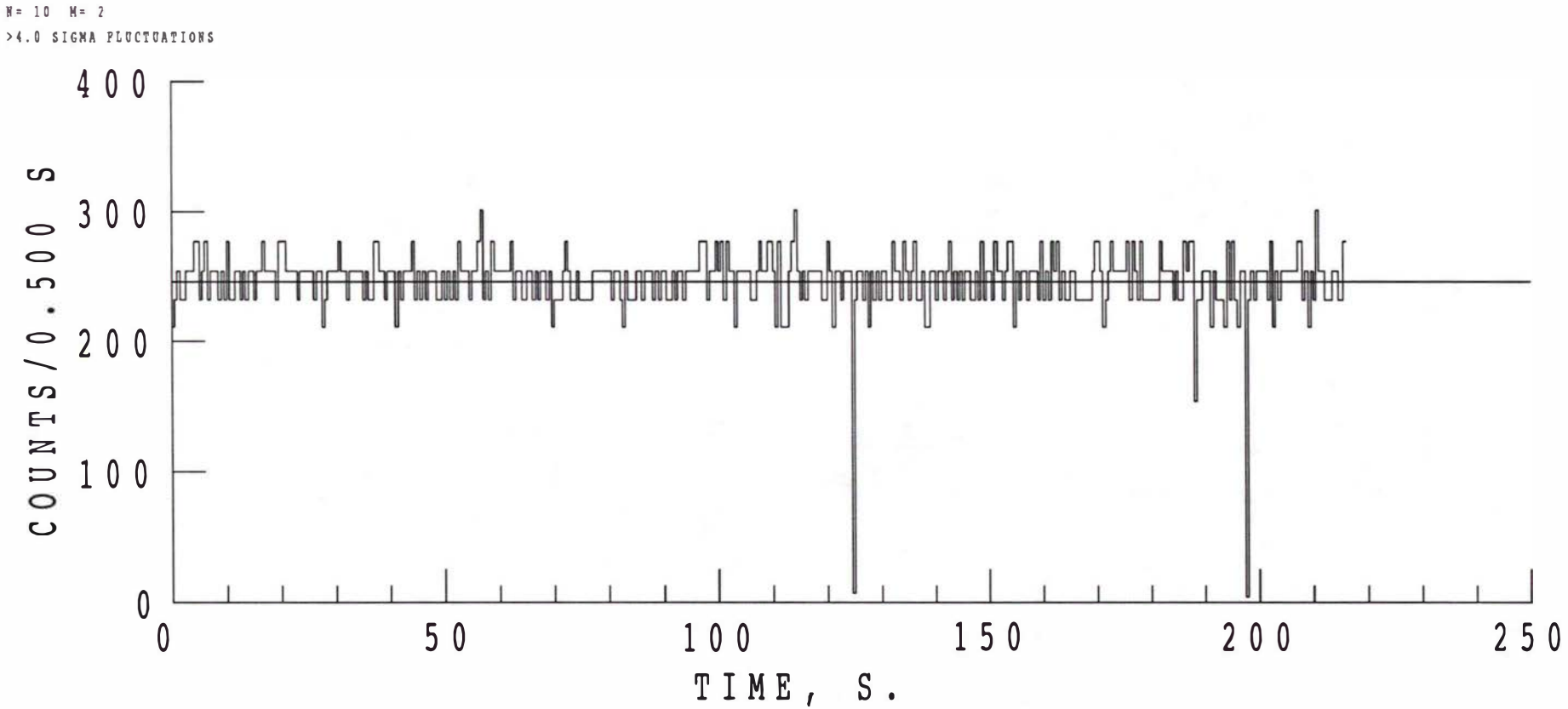
BATSE# 4776

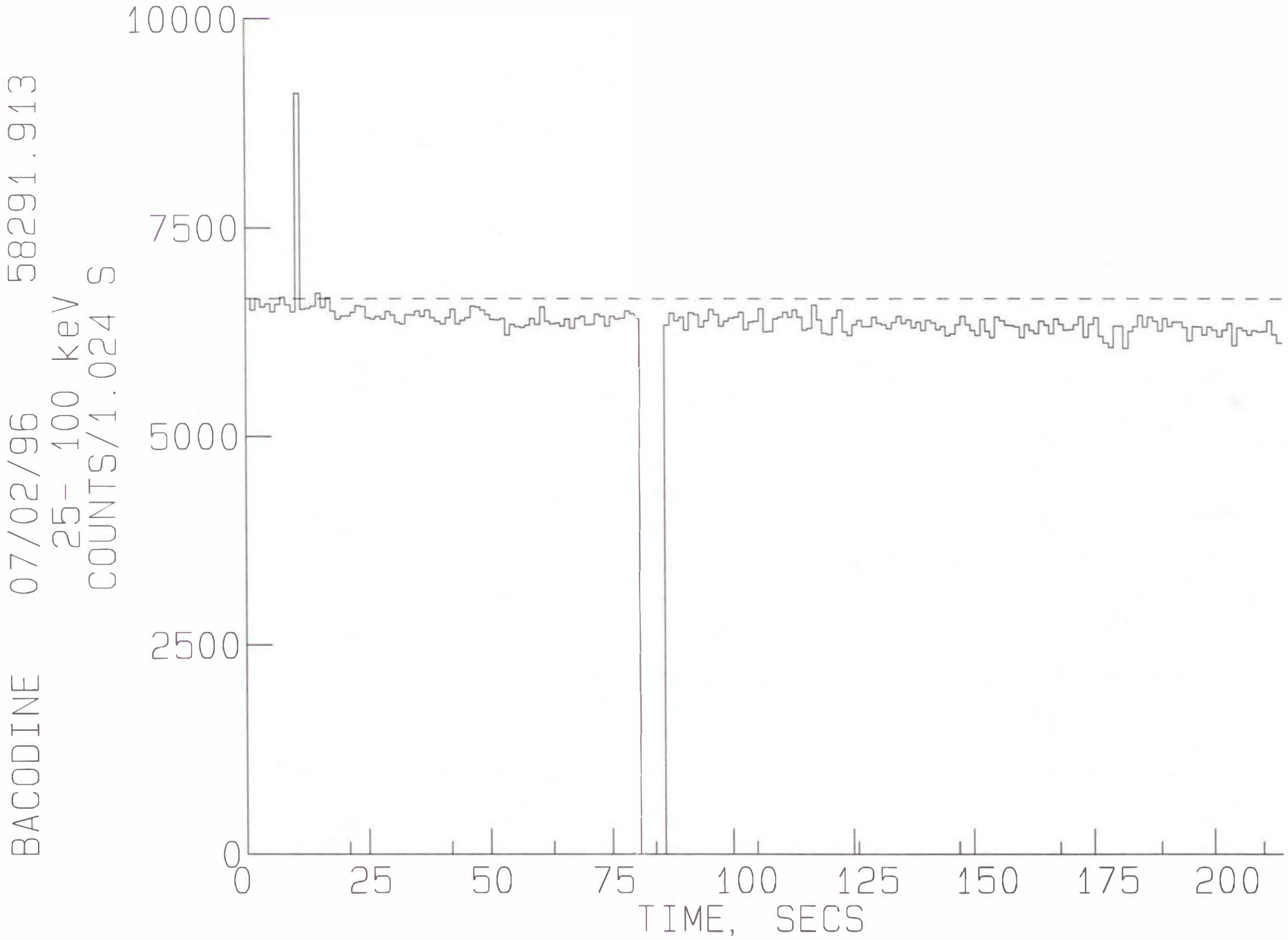
9/ 2/96

ULYSSES RT

7/ 2/96 59580.297 s

0- 0 keV




BACODINE 07/02/96 58291.913
25- 100 keV
COUNTS/1.024 S
10000
7500
5000
2500
0
0
25
50
75
100
125
150
175
200
TIME, SECS

BATSE time corrected 9/30

Date: June 27 2002

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 3 Spacecraft events

☐ Konus N/S anisotropy used to distinguish between positions?

☐ SAX anisotropy used to distinguish between positions?

☐ SAX Earth-blocking used to distinguish between positions?

☐ Σ $3\Delta t$'s calculated?

3. For 4 Spacecraft Events

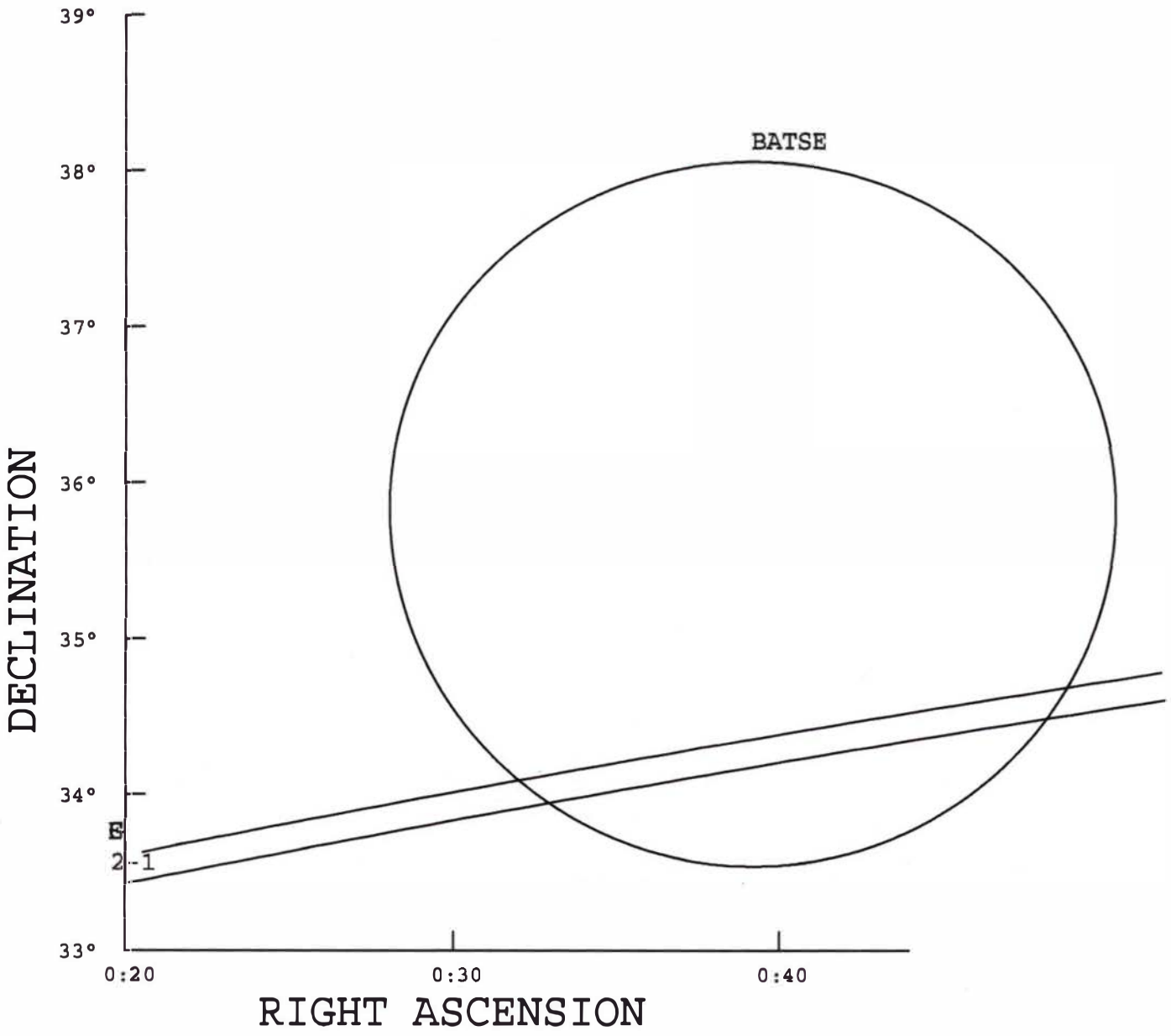
☐ BMAPSUM executed to get chisquare for alternate positions?

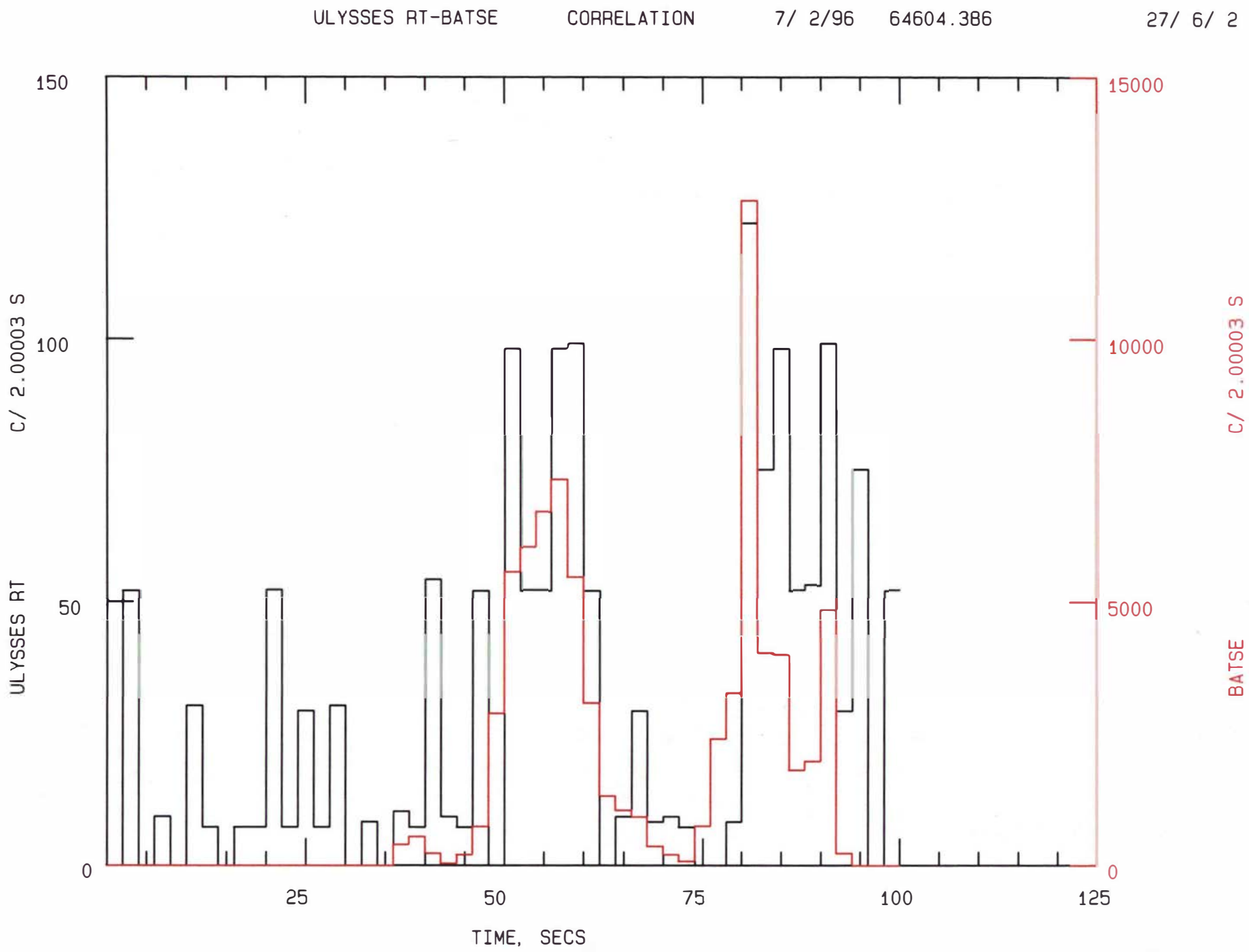
☑ ACCESS database updated?

EVENT OF FEB 7, 1996 18:03

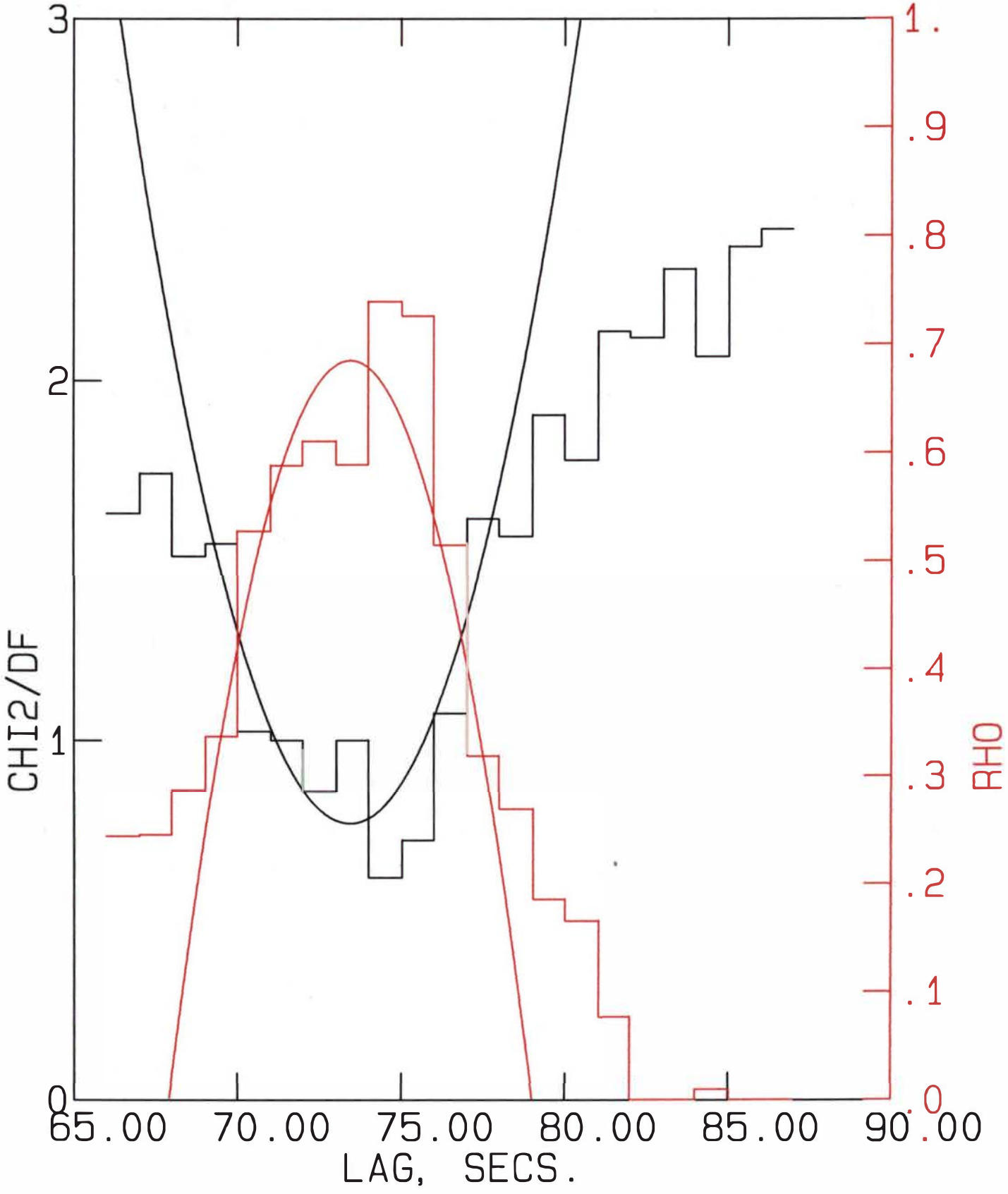
27/ 6/ 2

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




ULYSSES RT-BATSE CORRELATION 7/ 2/96 64604.386 27/ 6/ 2
150
100
50
0
ULYSSES RT
C/ 2.00003 S
15000
10000
5000
0
BATSE
C/ 2.00003 S
25
50
75
100
125
TIME, SECS

ULYSSES RT-BATSE CORRELATION 7/ 2/96 64604.386

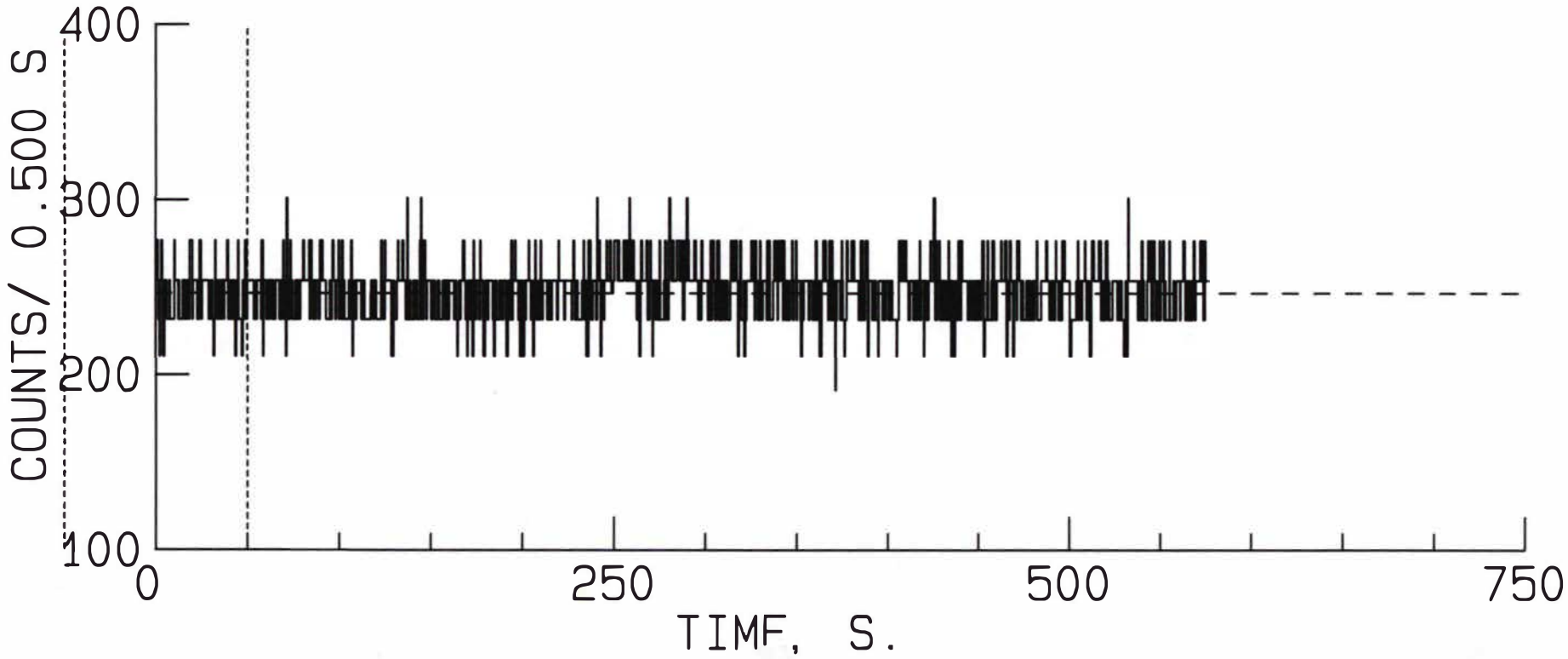


ULYSSES RT

27/ 6/ 2

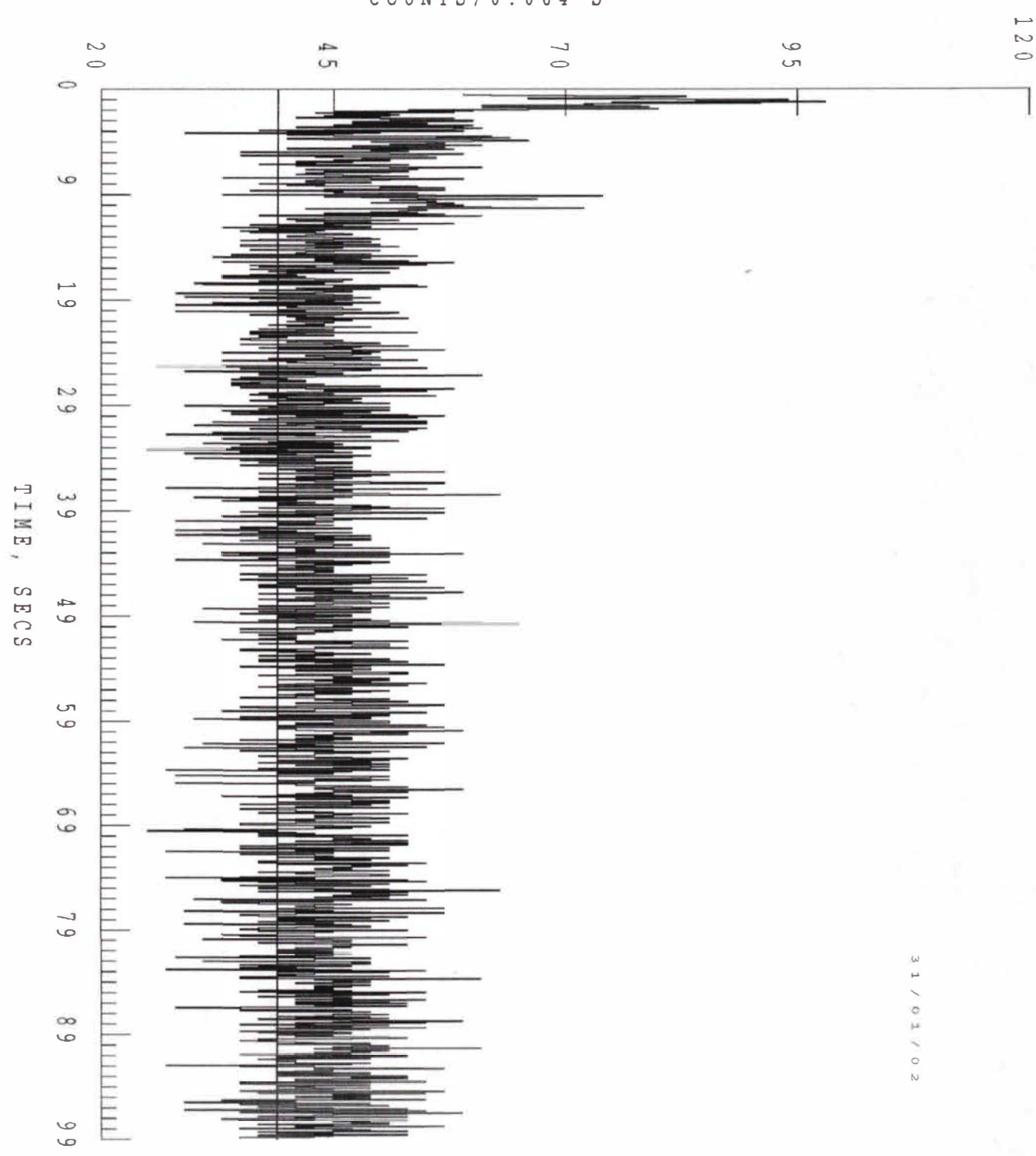
7/ 2/96 64404.367 s

21- 144 keV



KONUS2 07/02/96 65075.063

50- 200 keV



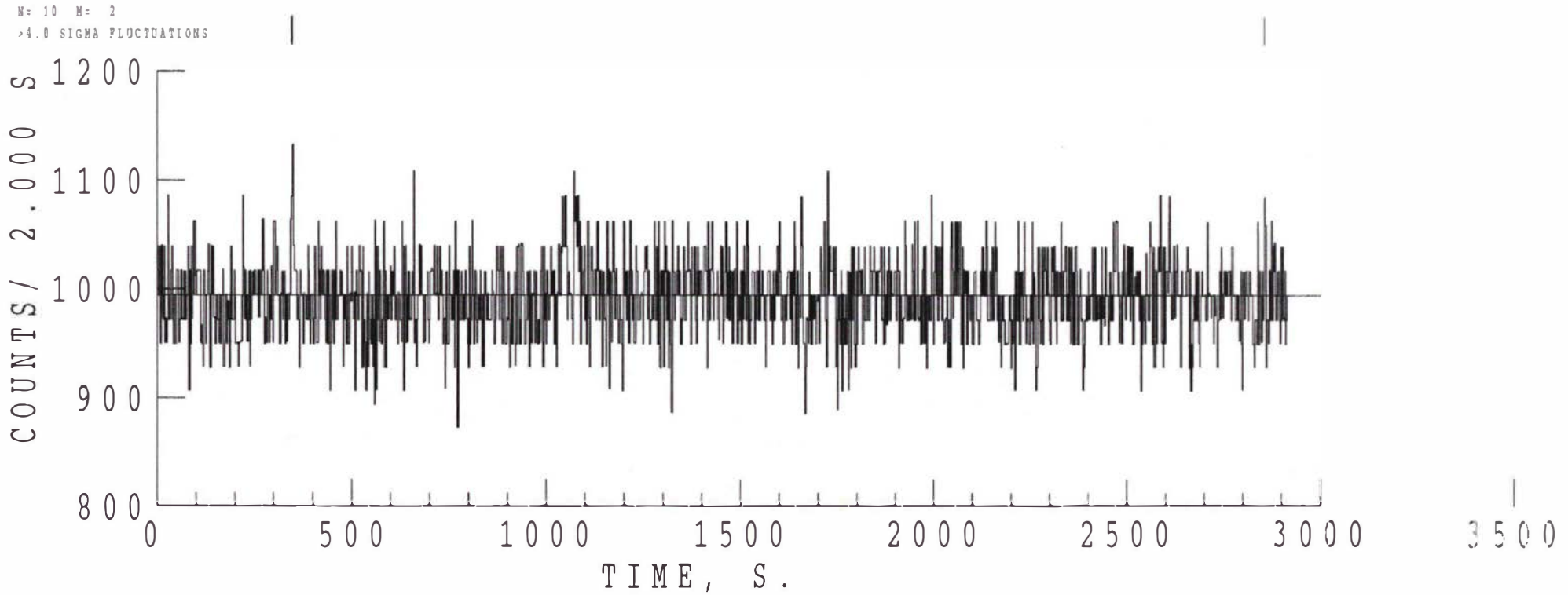
KONUS2 19960207 65075

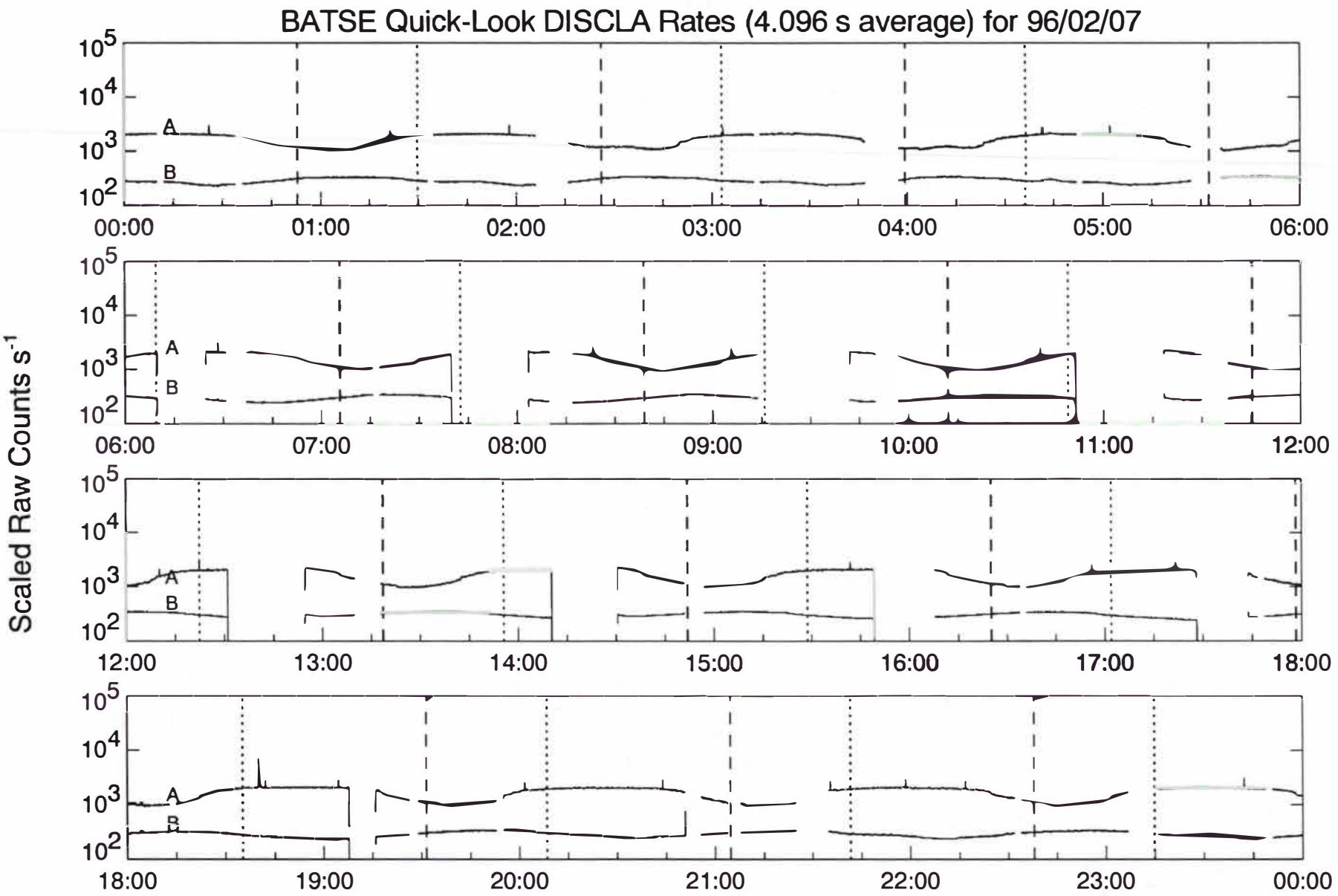
ULYSSES RT 31/01/02

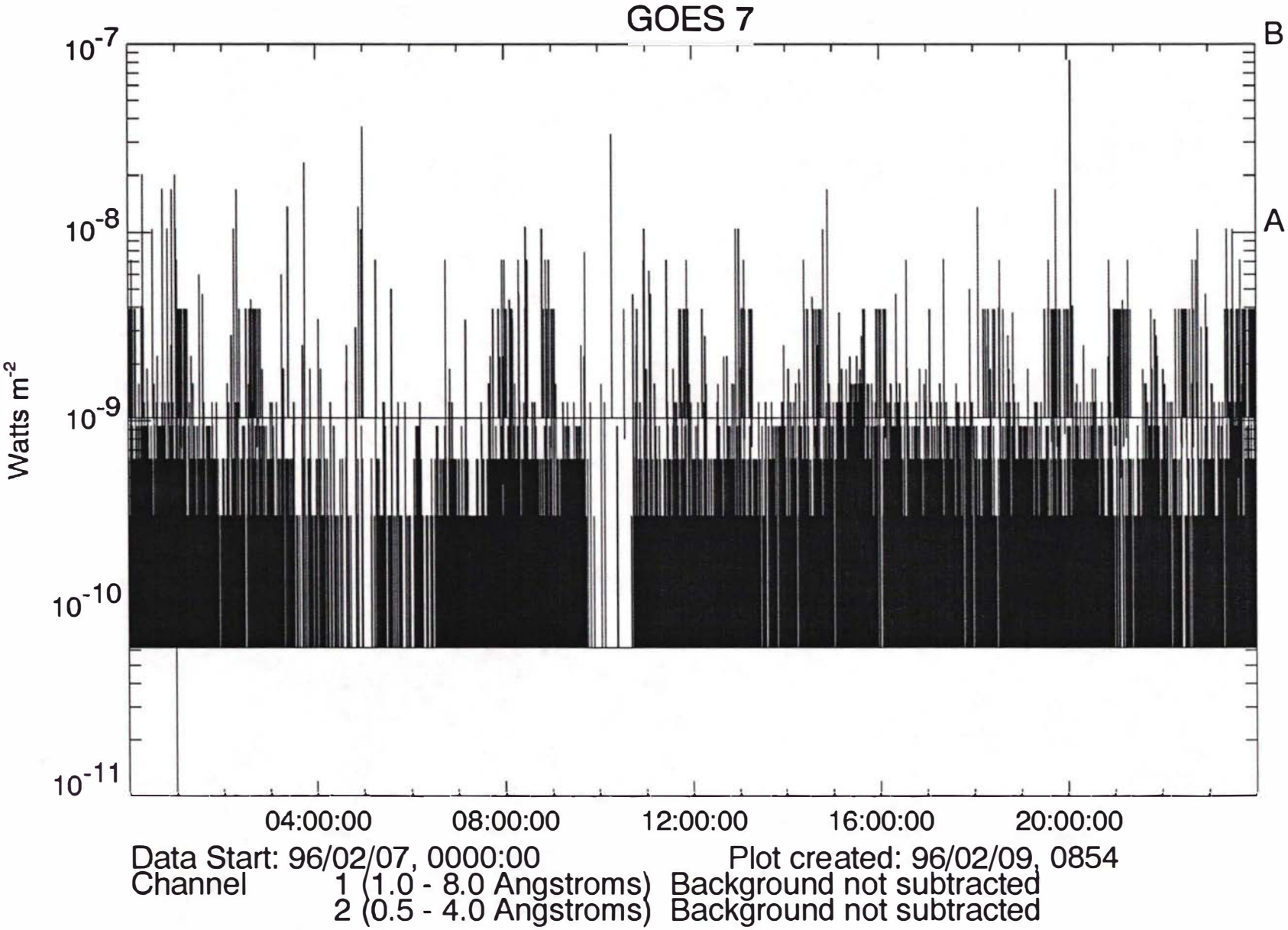
07/02/96 63612.352 s

0.500 S INTERVALS REGROUPED BY 4

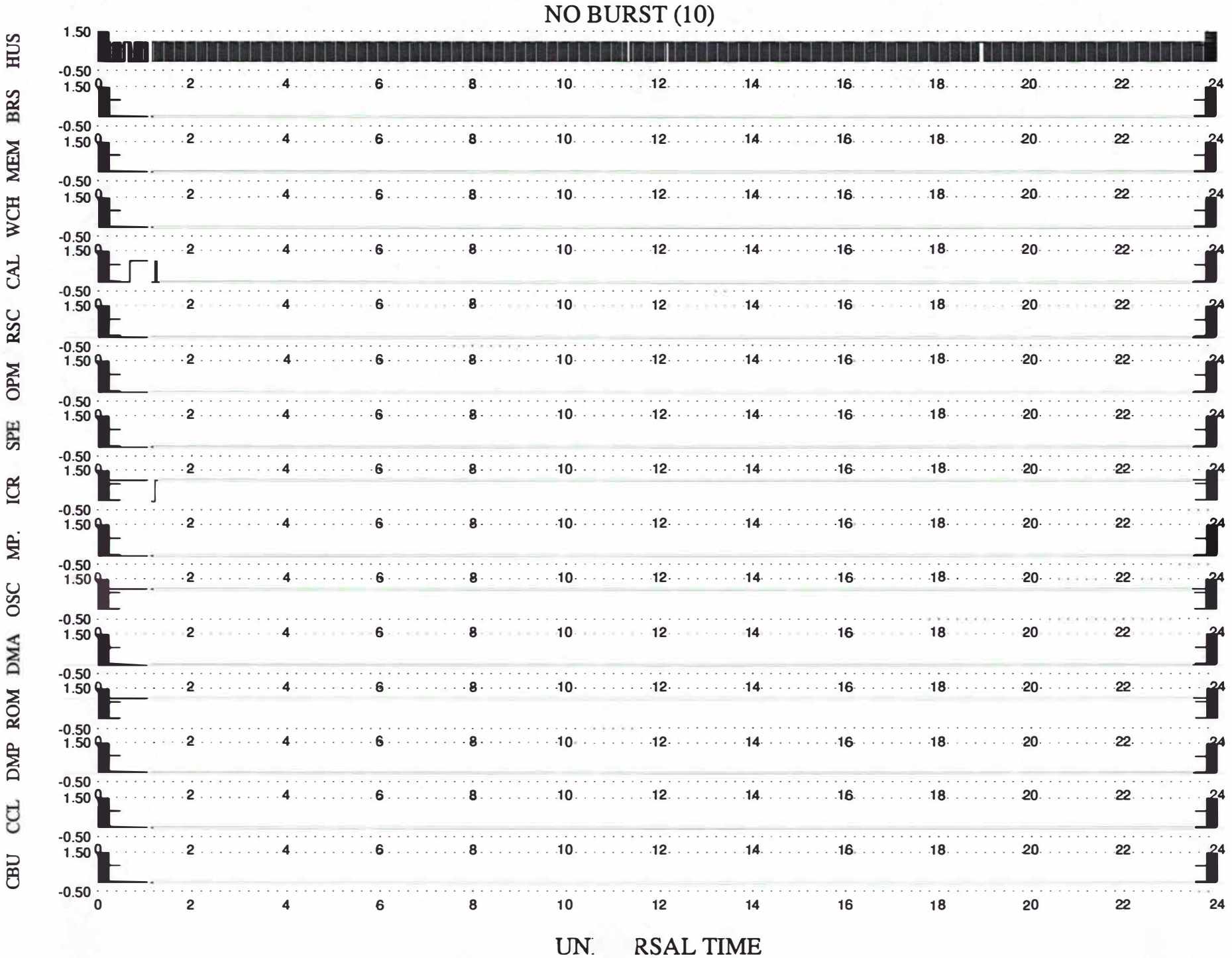
0- 0 keV




BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/07
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: 96/02/09, 0855 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

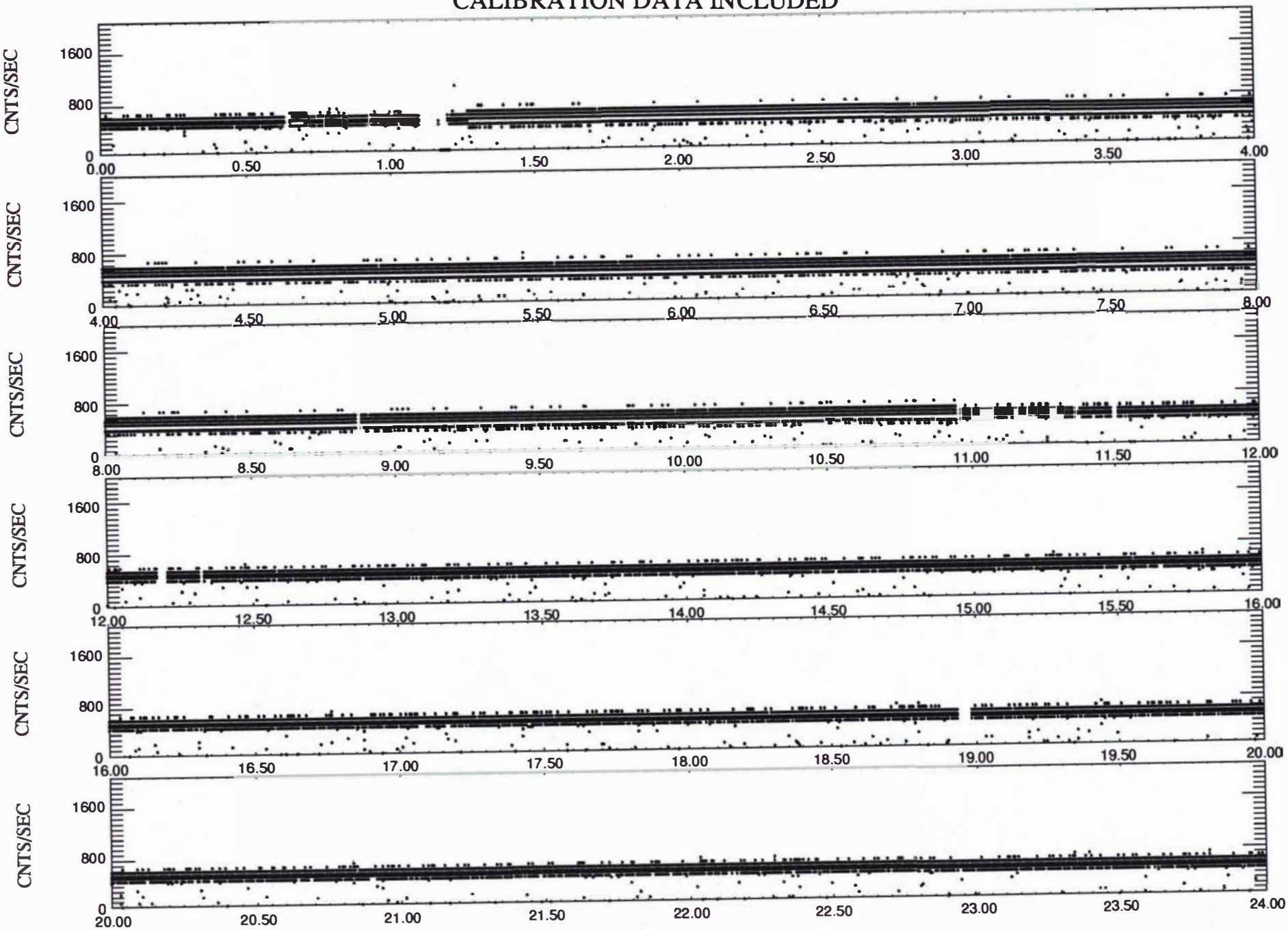

GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/07, 0000:00
Plot created: 96/02/09, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 38, year 1996 to day 38, year 1996 11/25/96



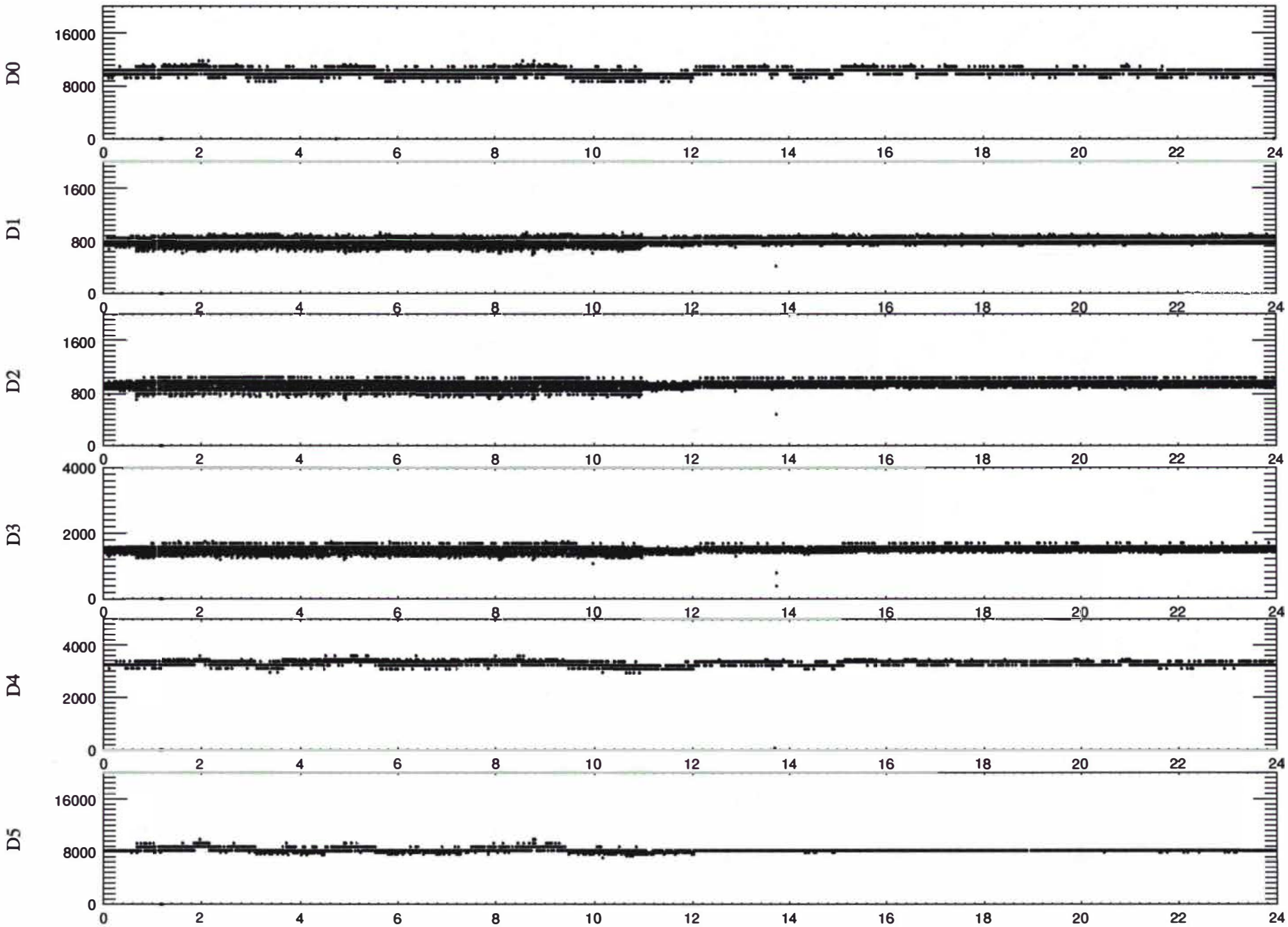
HUS 2A, MODE 1, NOT AVERAGED EDR day 38, year 1996 to day 38, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 38, year 1996 to day 38, year 1996 11/25/96



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

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For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

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Cc: chris.leech@jpl.nasa.gov

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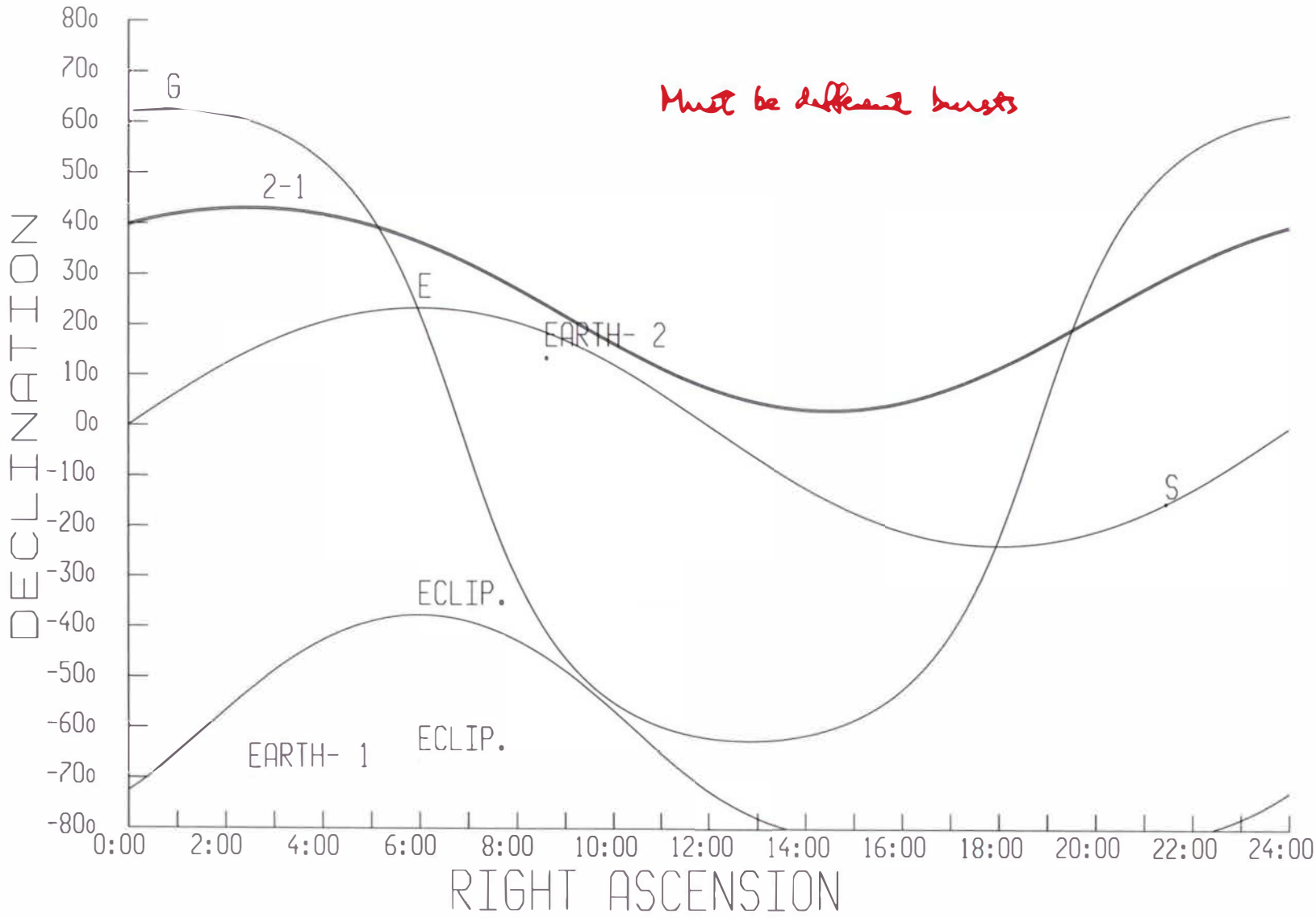
1995:

~342.22:59 SCET	should be	~341.17:47 SCET
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~350.21:54 SCET	should be	~349.16:22 SCET
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~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

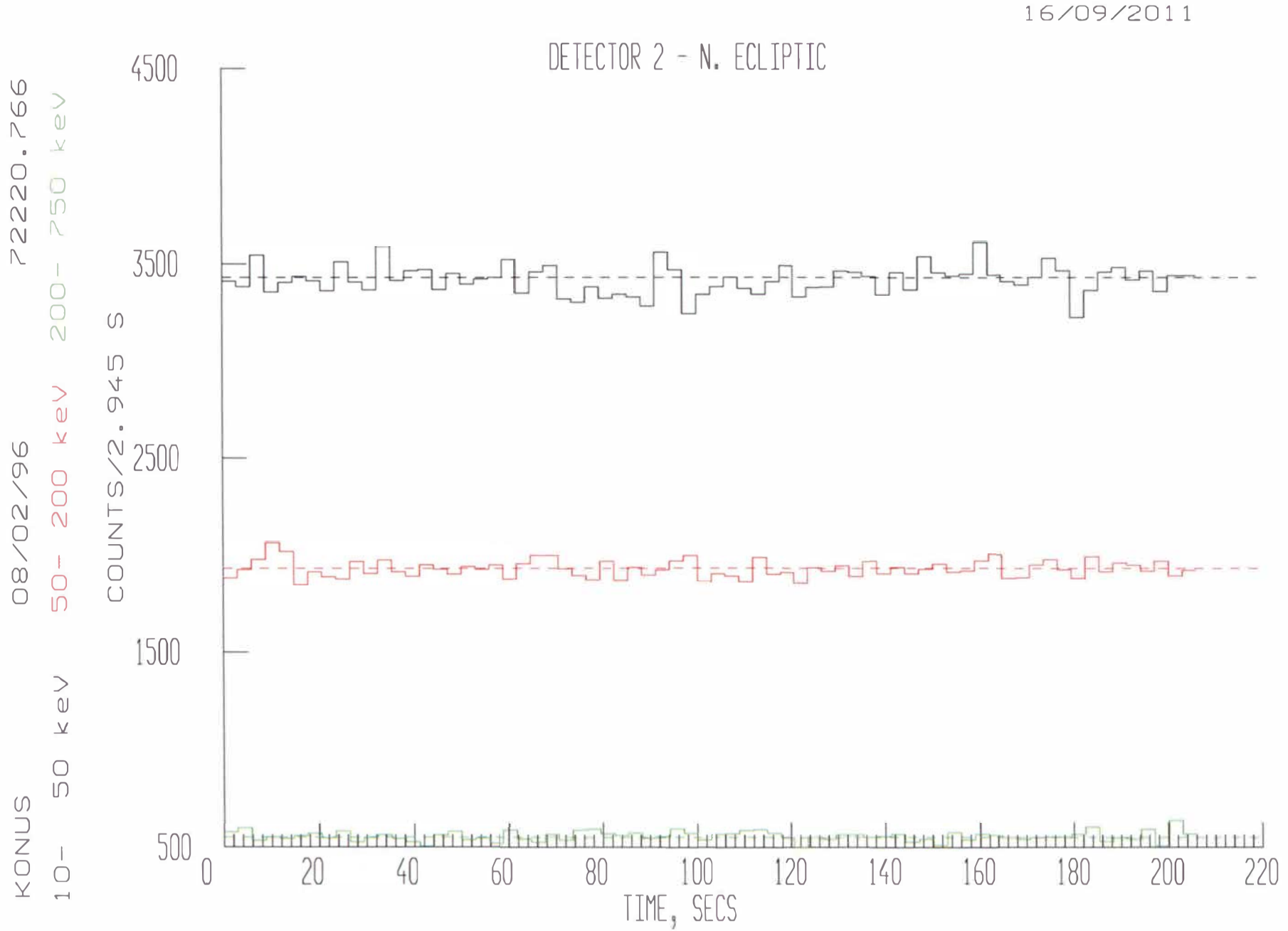
EVENT OF FEB 8, 1996 19:55

16/09/2011

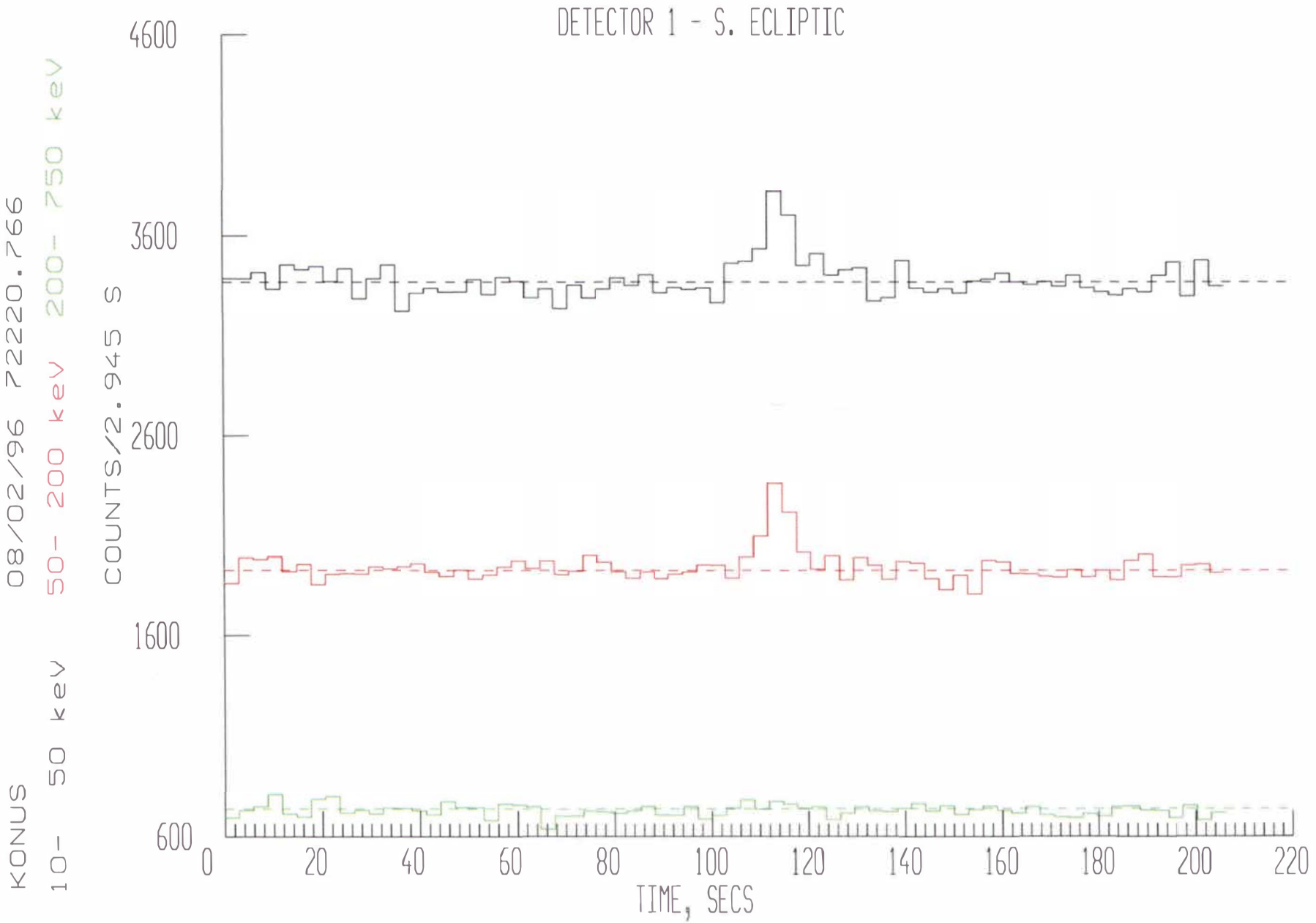
Z-M = CORRELATION BETWEEN SATELLITES Z AND M
EARTH-Z = EARTH AS SEEN FROM SATELLITE Z
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 KONUS



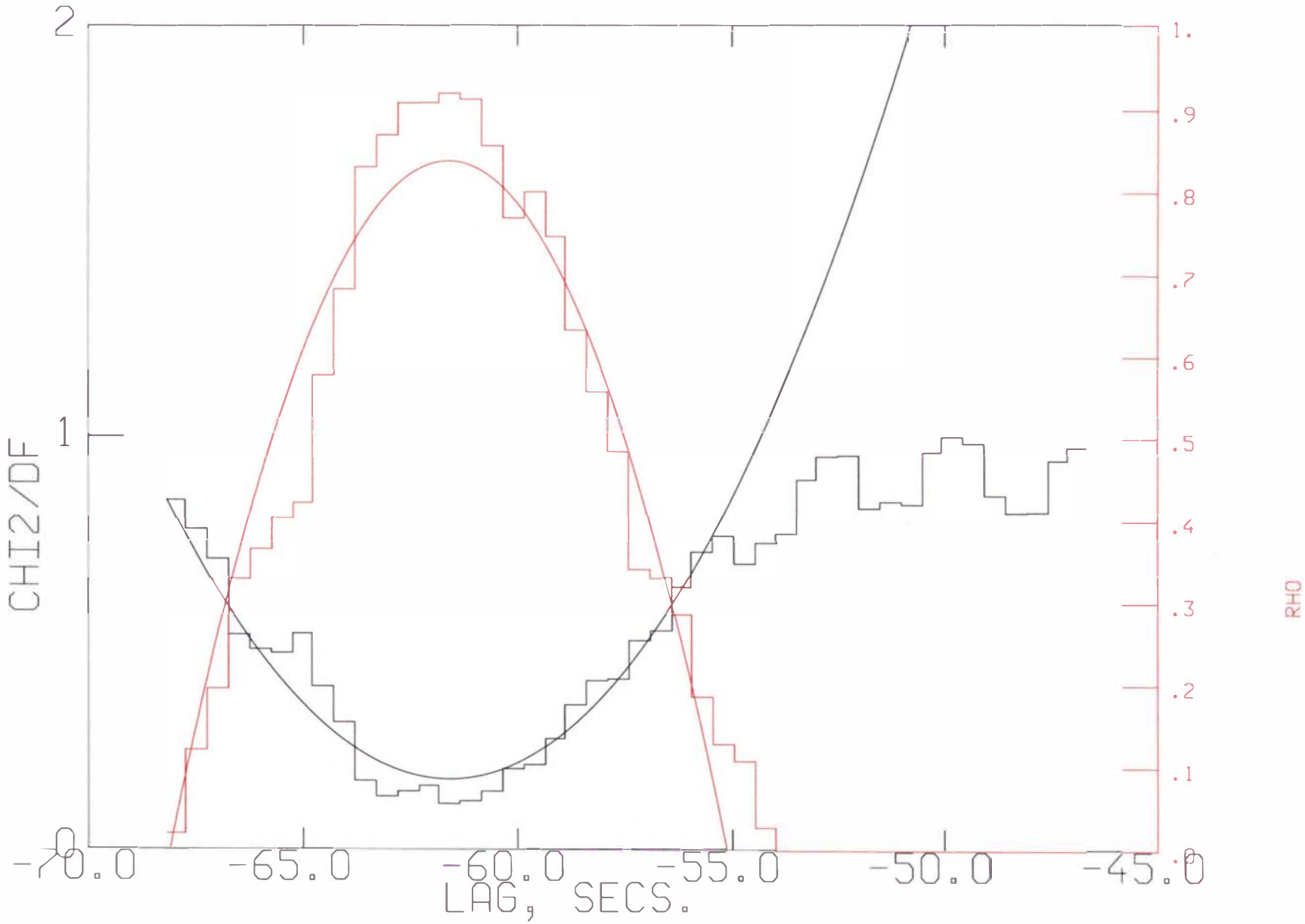
Must be different bursts

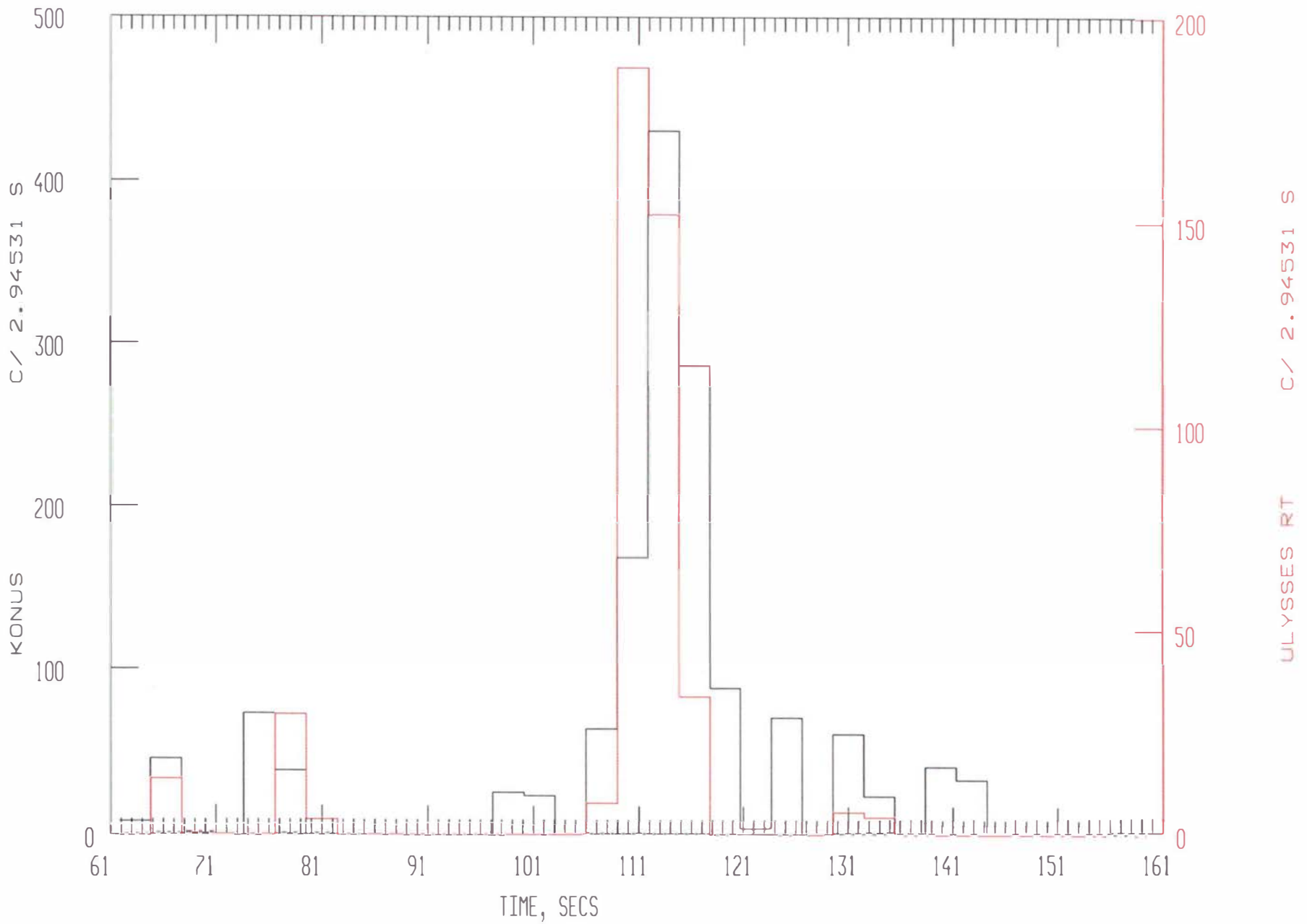

16/09/2011
DETECTOR 2 - N. ECLIPTIC
KONUS
08/02/96
72220.766
10- 50 keV
50- 200 keV
200- 750 keV
COUNTS/2.945 S
4500
3500
2500
1500
500
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS

16/09/2011


DETECTOR 1 - S. ECLIPTIC
KONUS
10- 50 keV
50- 200 keV
200- 750 keV
08/02/96 72220.766
COUNTS/2.945 S
4600
3600
2600
1600
600
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS

KONUS -ULYSSES RT CORRELATION 08/02/96 72220.766



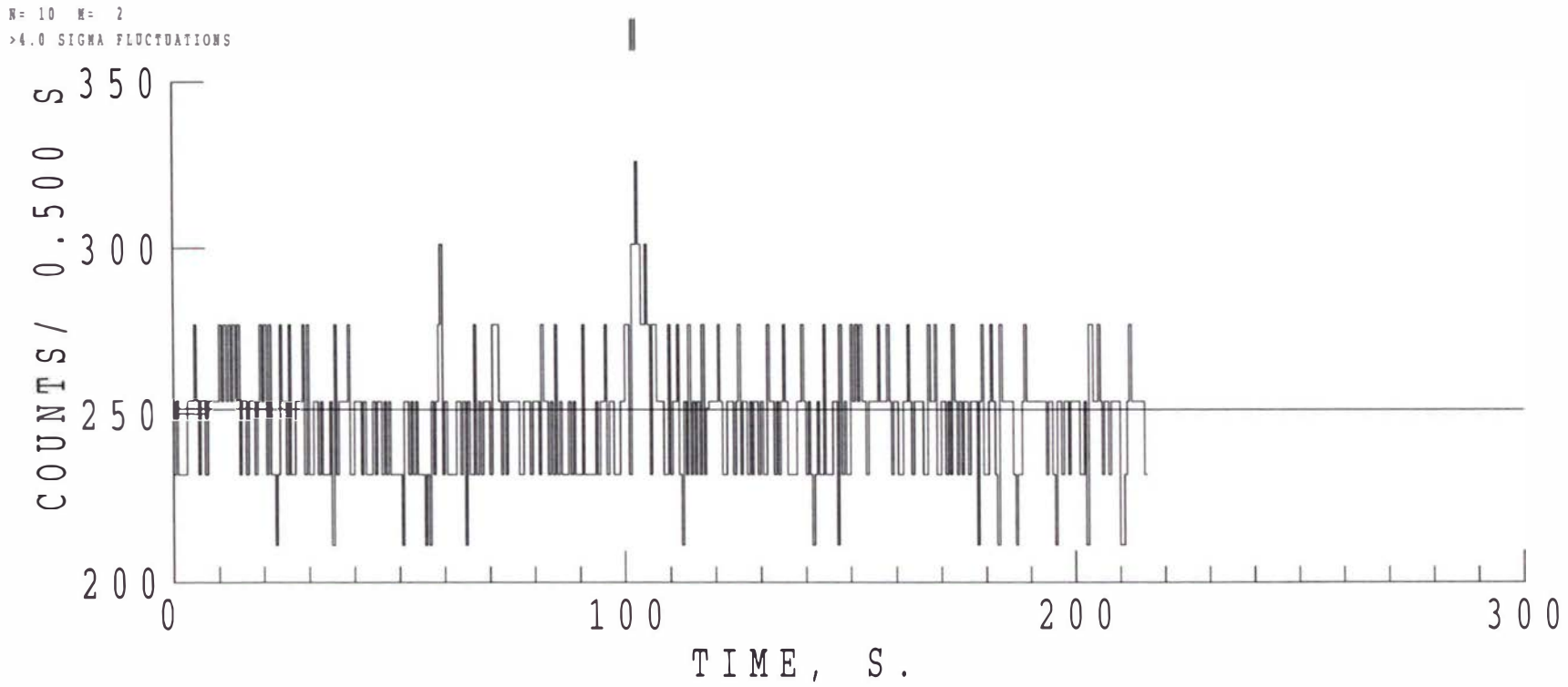

KONUS -ULYSSES RT CORRELATION 08/02/96 72220.766
500
400
300
200
100
0
C/ 2.94531 S
KONUS
200
150
100
50
0
C/ 2.94531 S
ULYSSES RT
61
71
81
91
101
111
121
131
141
151
161
TIME, SECS

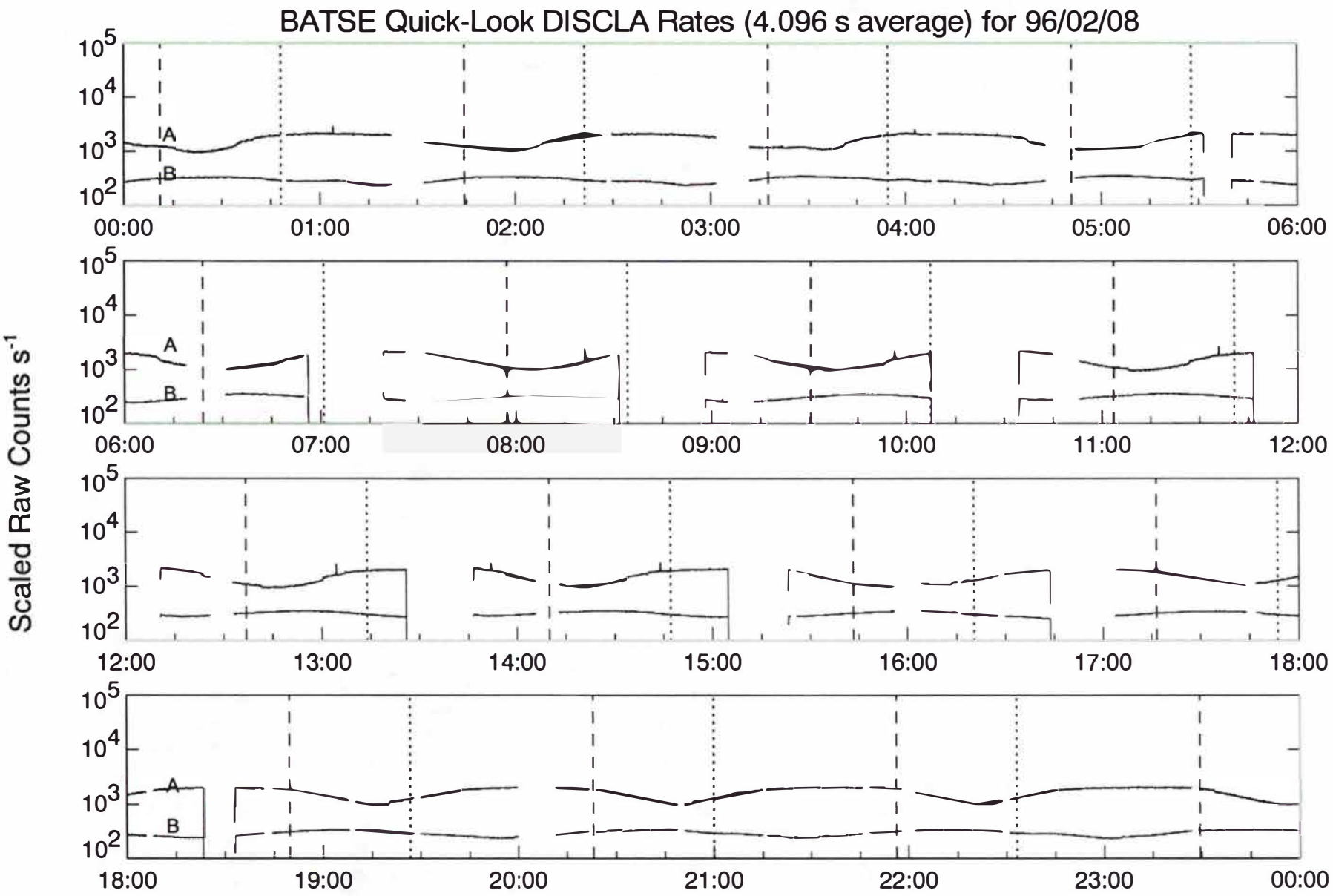
KONUS 19960208 71784

ULYSSES RT 14/09/11

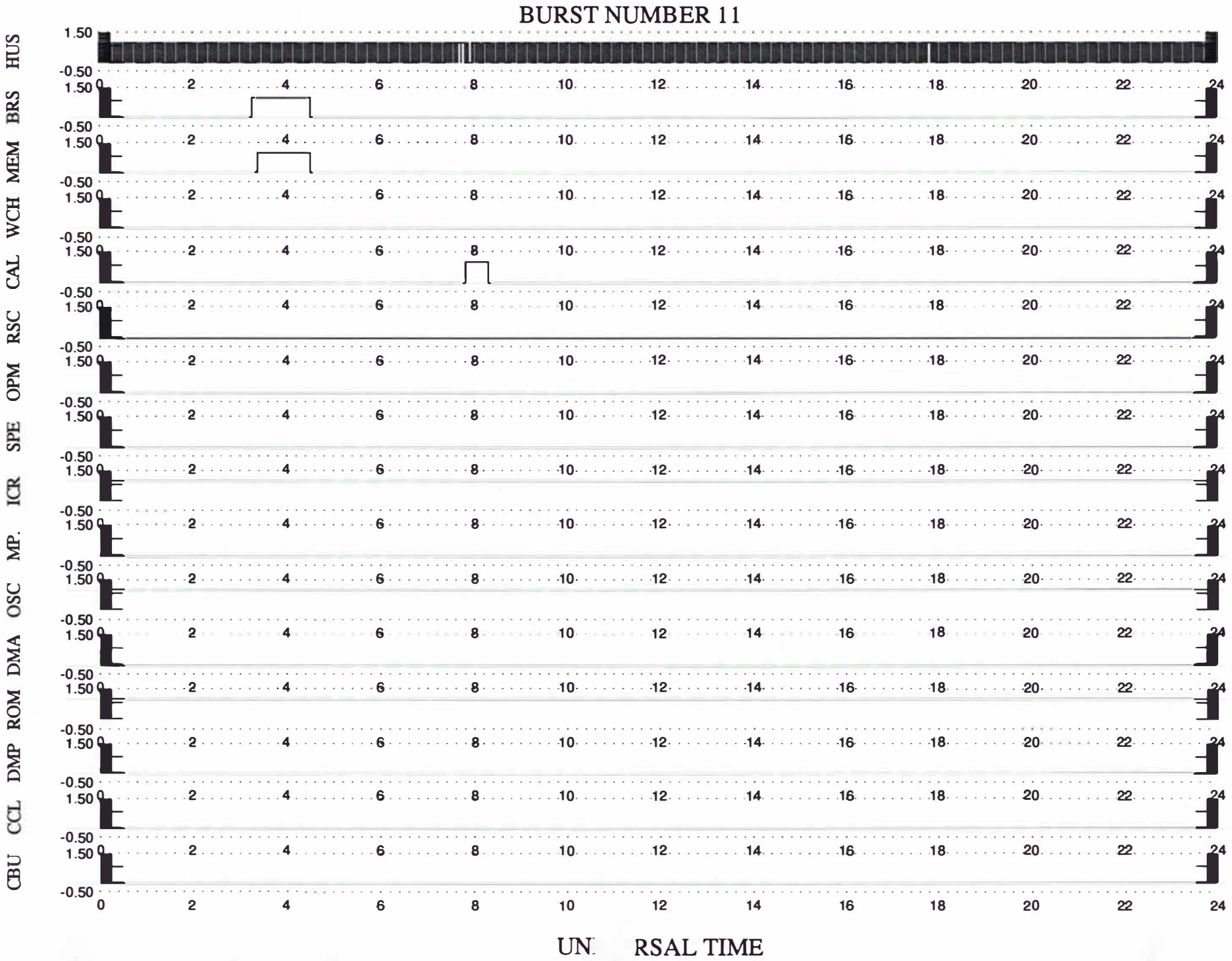
08/02/96 71676.211 s

0- 0 keV



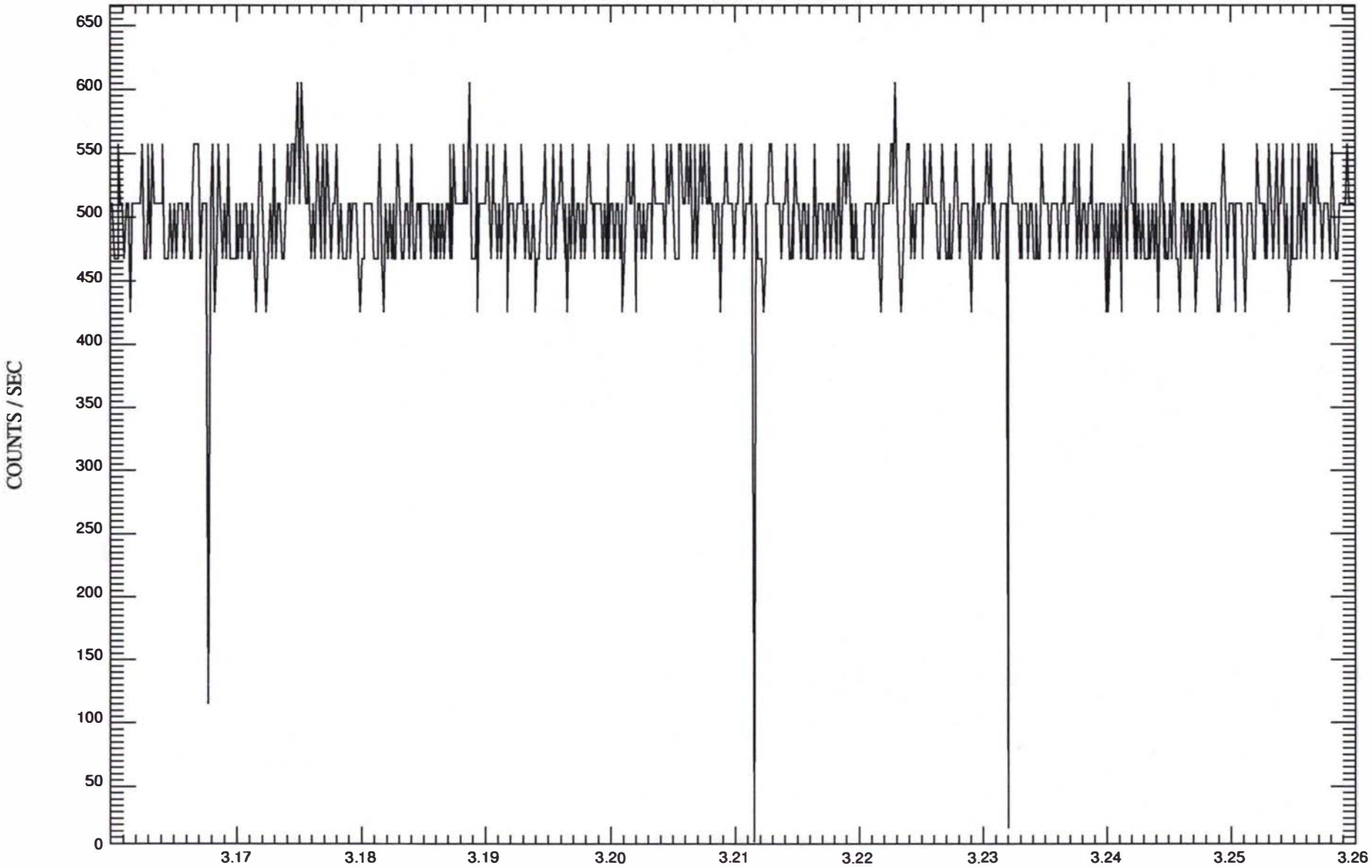

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/08
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/10, 0854 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 39, year 1996 to day 39, year 1996 11/25/96



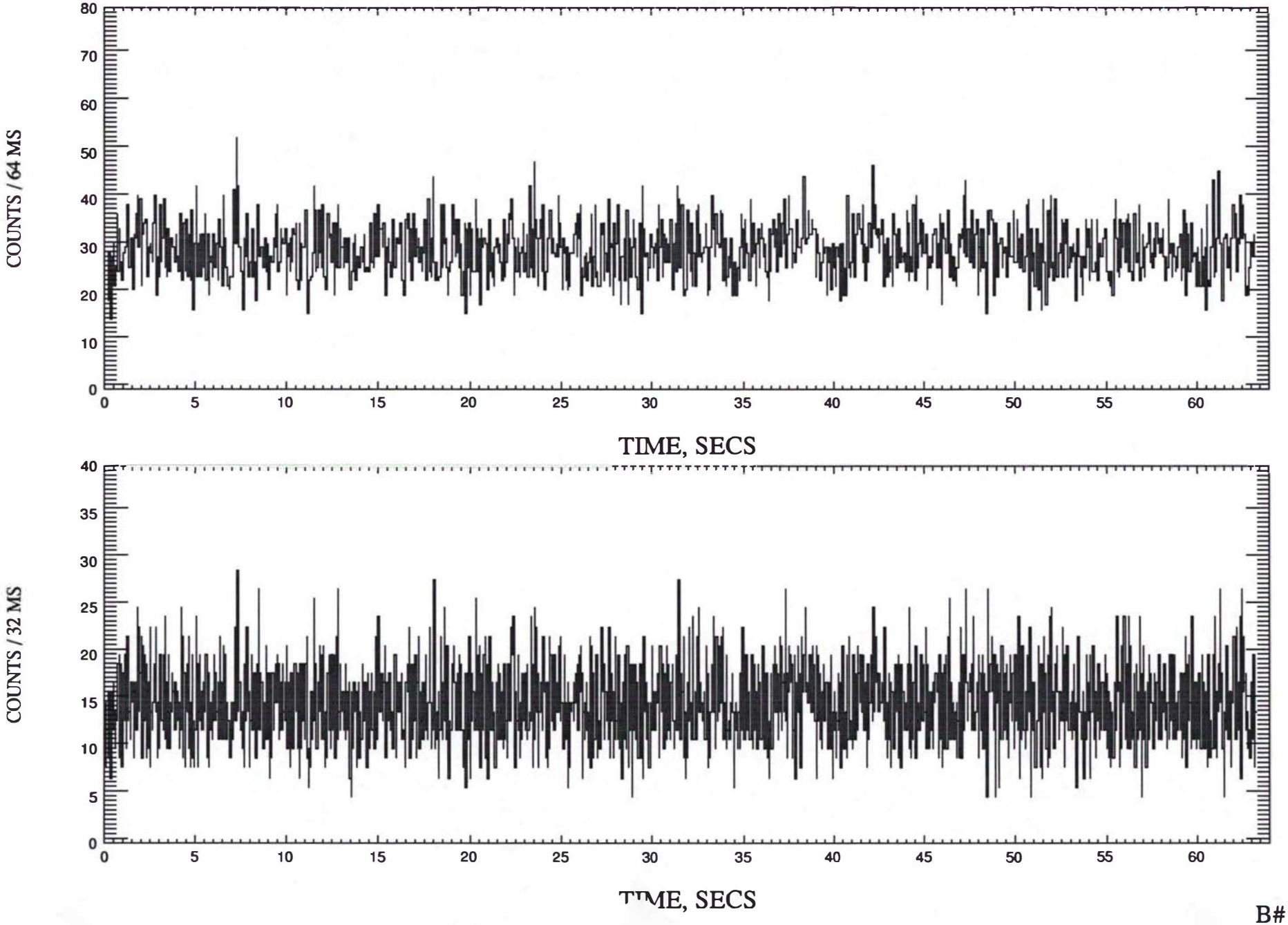
HUS 2A, MODE 1, NOT AVERAGED EDR day 39, year 1996 to day 39, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 39, year 1996 11/25/96

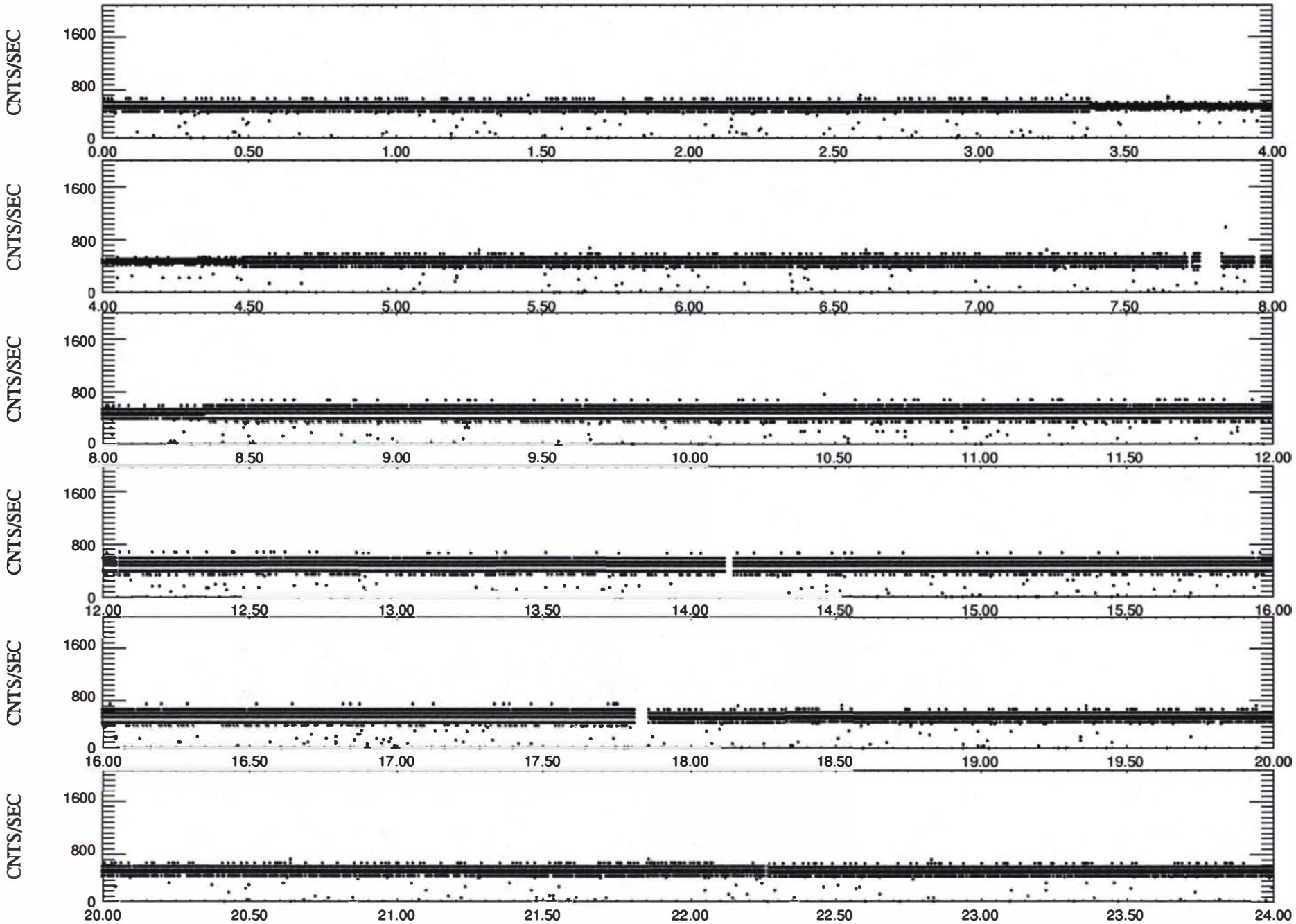
Burst Counter 11 at UT= 3.214398519728 h=11571.835 s 03:12:51.835



B# 1

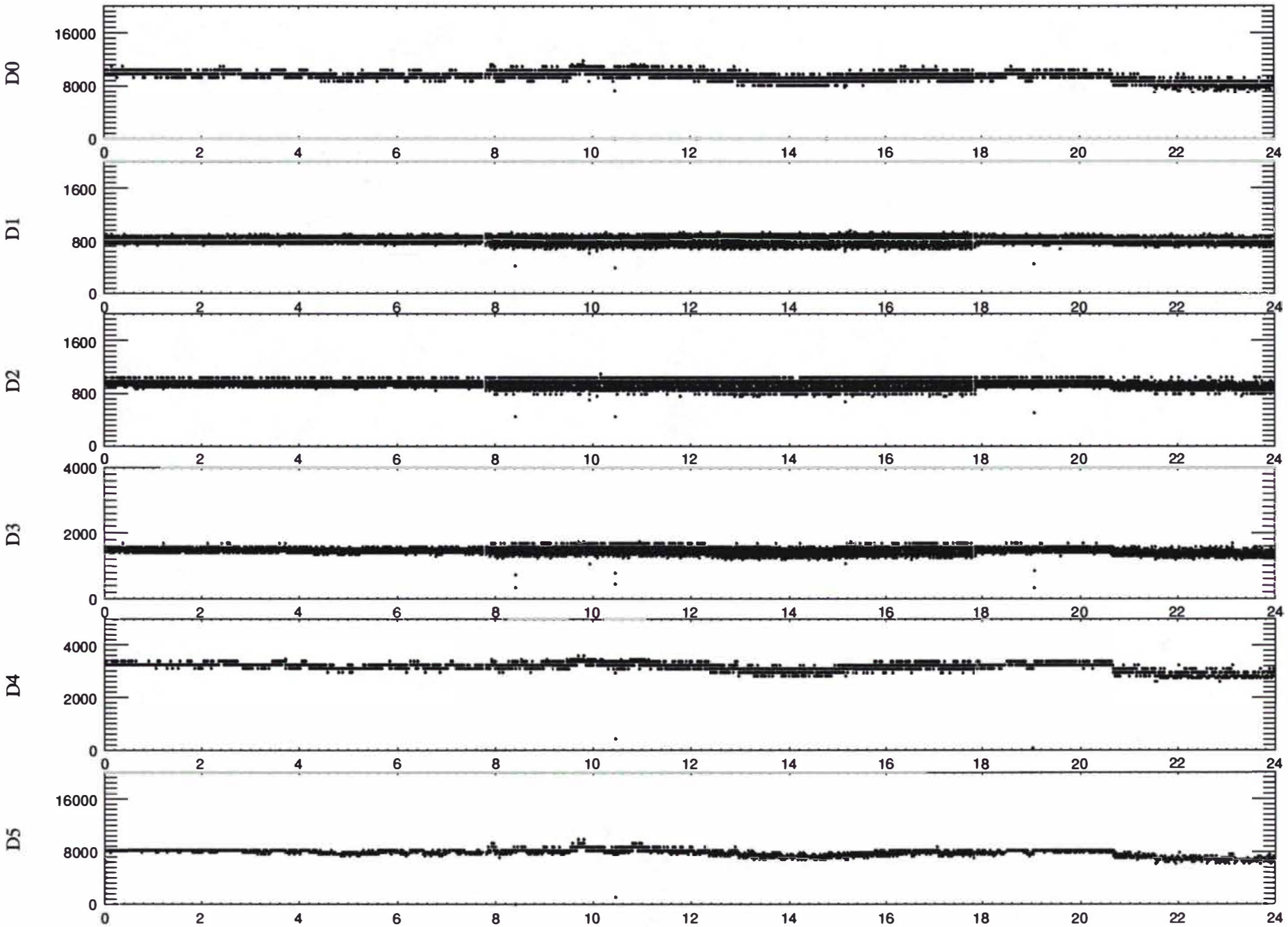
HUS 2A, MODE 1, NOT AVERAGED EDR day 39, year 1996 to day 39, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 39, year 1996 to day 39, year 1996 11/25/96



From SAHI@SSLLES.MSFC.NASA.GOV Tue Feb 13 11:10 PST 1996
Date: Tue, 13 Feb 1996 13:10:21 -0600 (CST)
From: SAHI@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4807

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

ND

```
 BATSE BURST #     4807
 EVENT OF 1996 FEB  9 DAY OF YEAR= 40
 EVENT CROSSING TIME AT BATSE      : 74627. S. OR 20:43:47.0
 COORDINATES ARE    0.000    0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 358.000    66.000
 BATSE PEAK COUNTING RATE:    5000     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON  9/ 2/  96 IS:
 RA=  216.057 DEC=   70.792 DIST=     2.837 AU
 BATSE-ULYSSES DISTANCE =  424420106. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=139.23 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1072.15 SECS.
 CROSSING TIME AT ULYSSES     IS 73555. S. OR   20:25:54 +/-  194.23 SECONDS

 EVENT CROSSING TIME AT MARS        WILL BE FOUND
 POSITION OF MARS ON  9/ 2/  96 IS:
 RA=  327.522 DEC=  -14.241 DIST=     2.361 AU
 MARS-BATSE DISTANCE =  353232992. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 96.61 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -135.54 SECS.
 CROSSING TIME AT MARS        IS 74491. S. OR   20:41:31 +/-  201.15 SECONDS
```

BATSE BURST TRIGGER

NO.: 4807

TIME: TJD=0122 SECONDS=74627

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=99.1 AZIMUTH=321.6 ERROR=9.4 DEGREES

COMMENTS:
BURST. SINGLE SPIKE, DUR.~0.2 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
4807	960209	10122	74627	5000	358	+66	.2

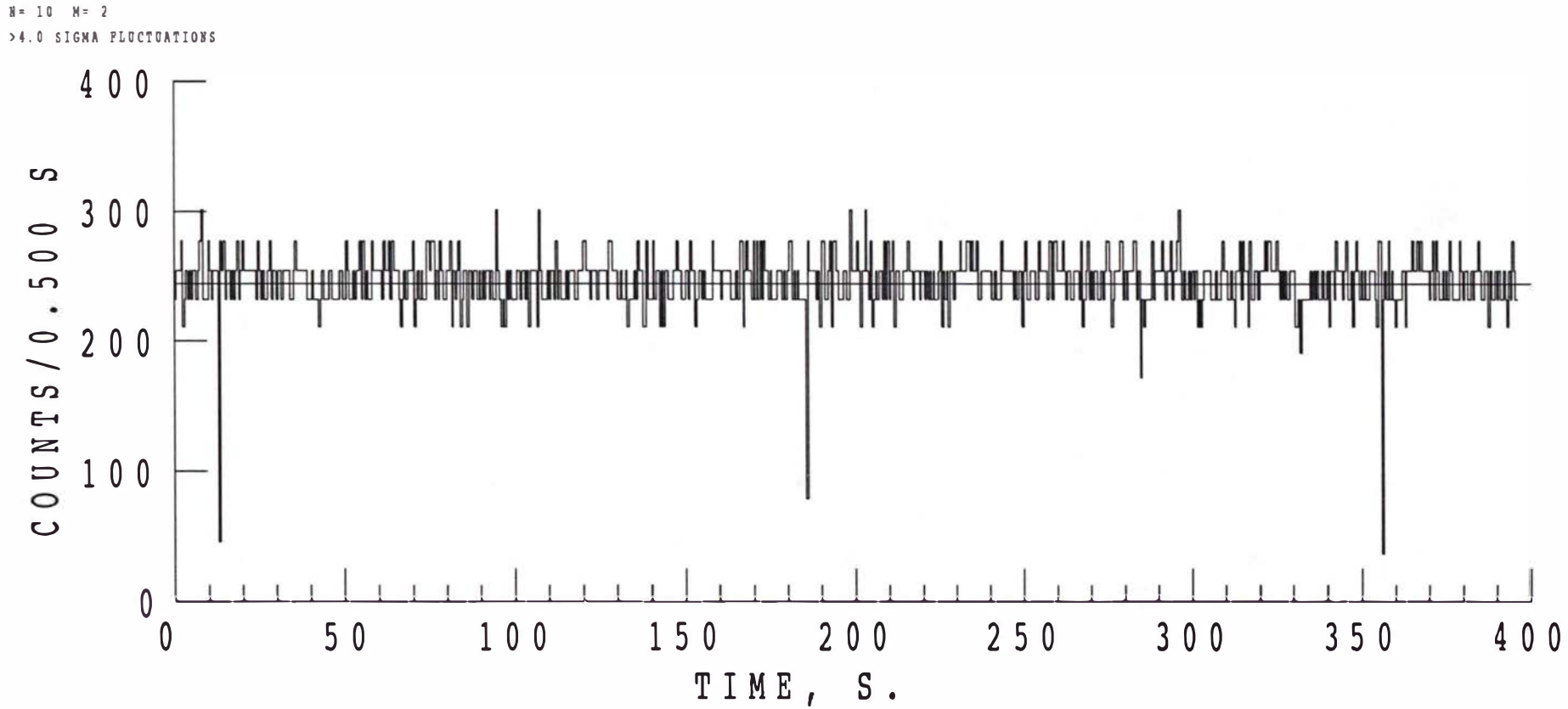
BATSE# 4807

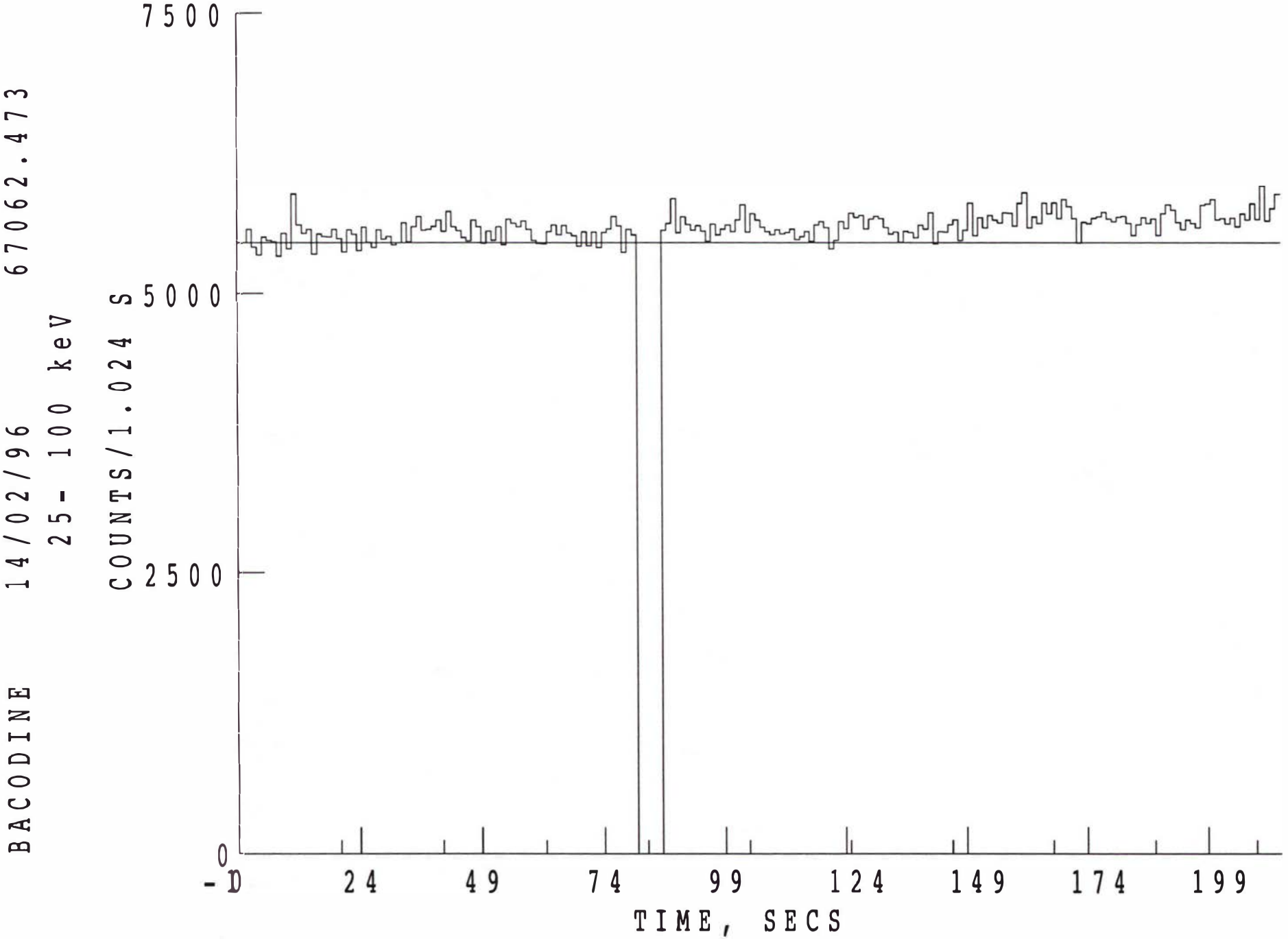
13/ 2/96

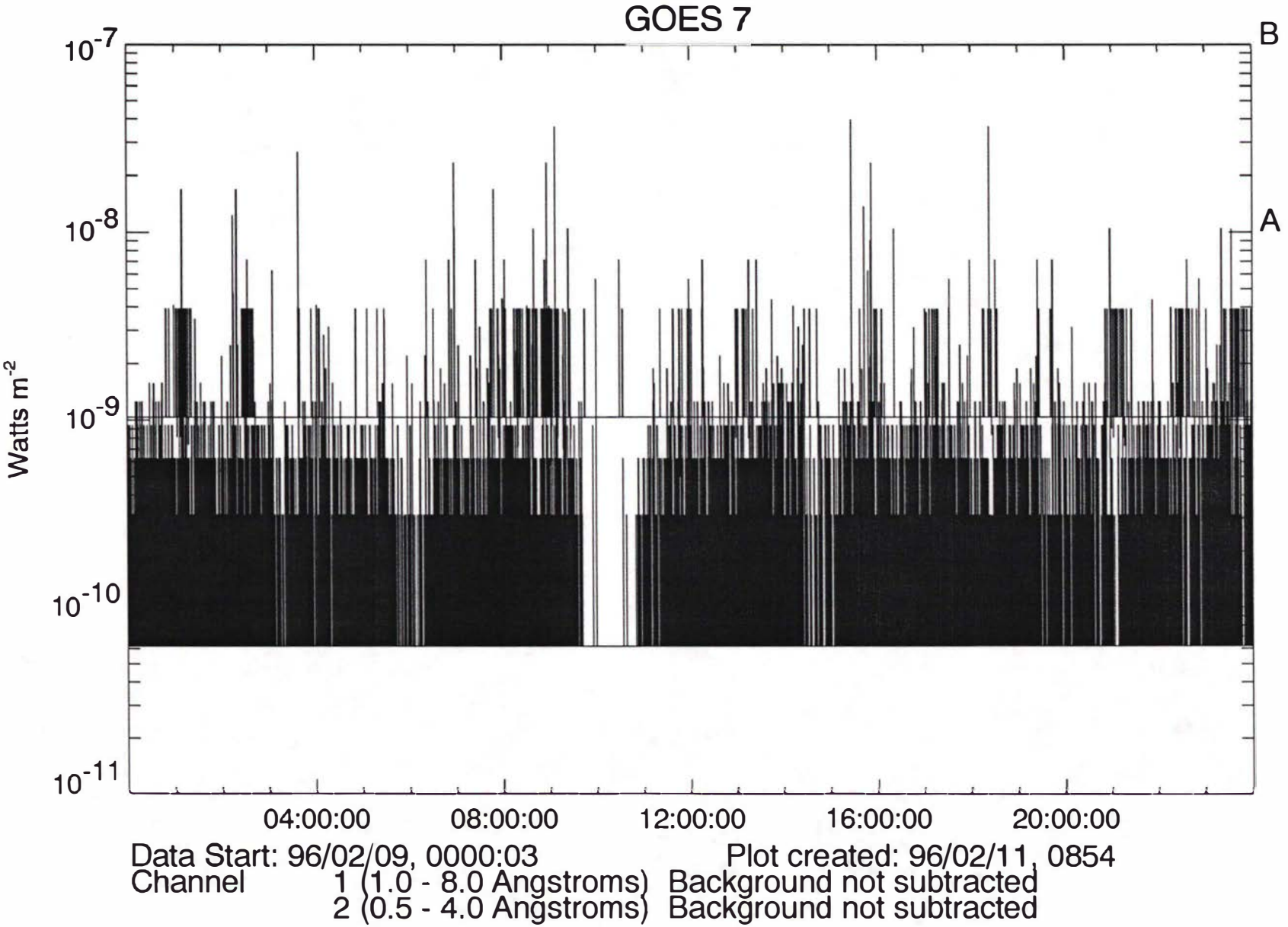
ULYSSES RT

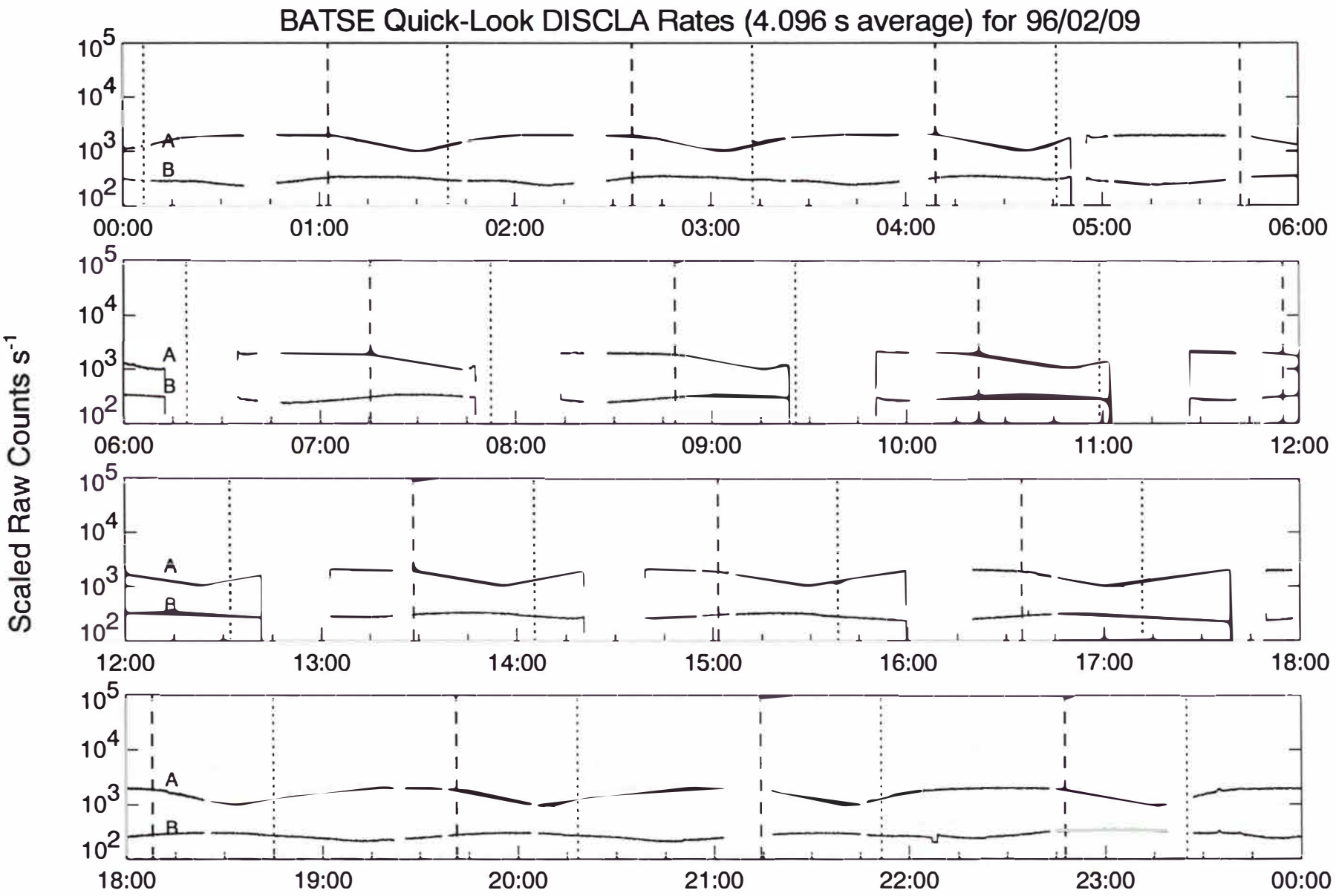
9/ 2/96 73368.461 s

0- 0 keV



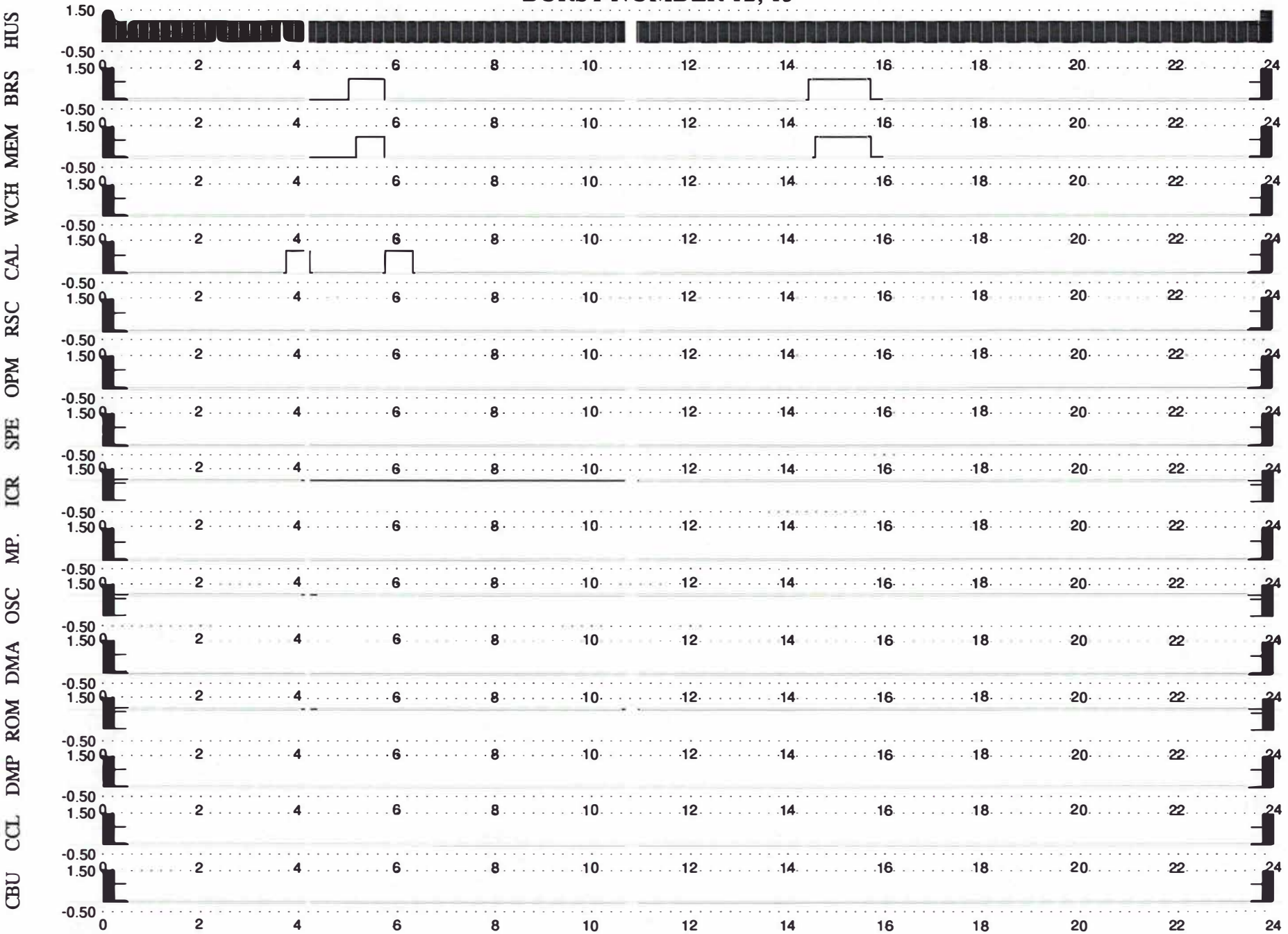

BACODINE 14/02/96 67062.473
25- 100 keV
COUNTS/1.024 S
7500
5000
2500
0
-D
24
49
74
99
124
149
174
199
TIME, SECS


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/09, 0000:03
Plot created: 96/02/11, 0854
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 96/02/09
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: 96/02/11, 0855 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 40, year 1996 to day 40, year 1996 11/25/96

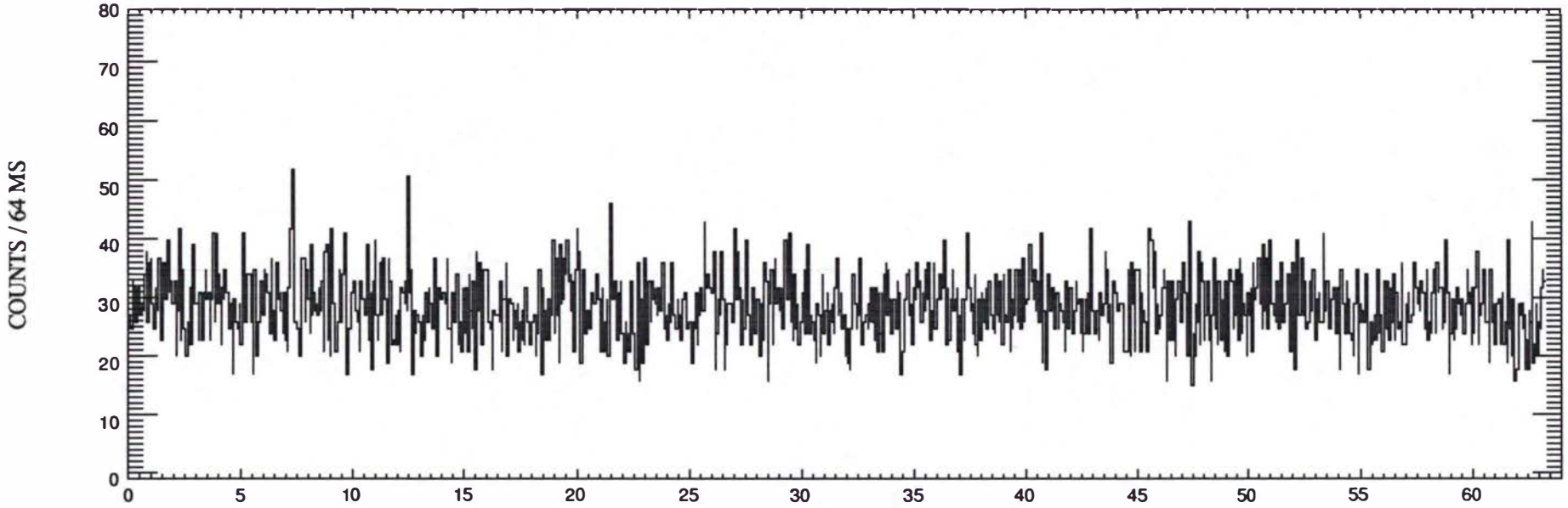
BURST NUMBER 12, 13

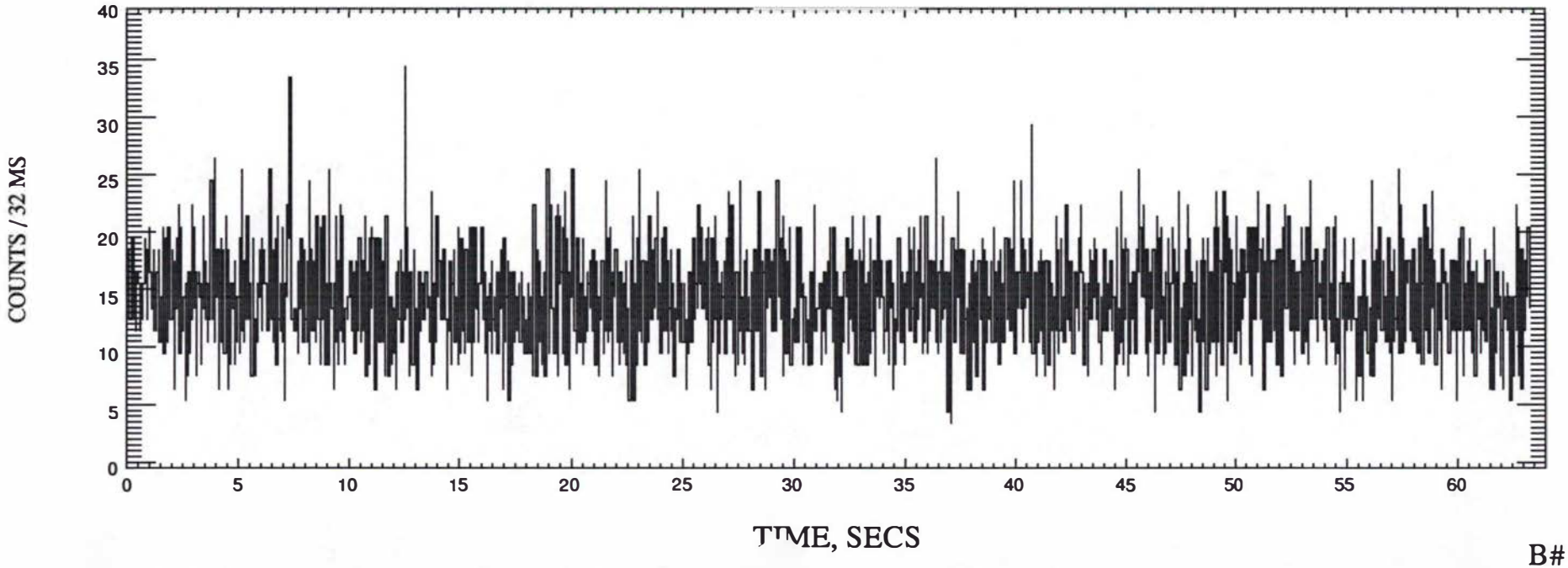


UNI RSAL TIME

HUS 2A TRIGGERED DATA EDR day 40, year 1996 11/25/96

Burst Counter 12 at UT= 5.038830913968 h=18139.791 s 05:02:19.791

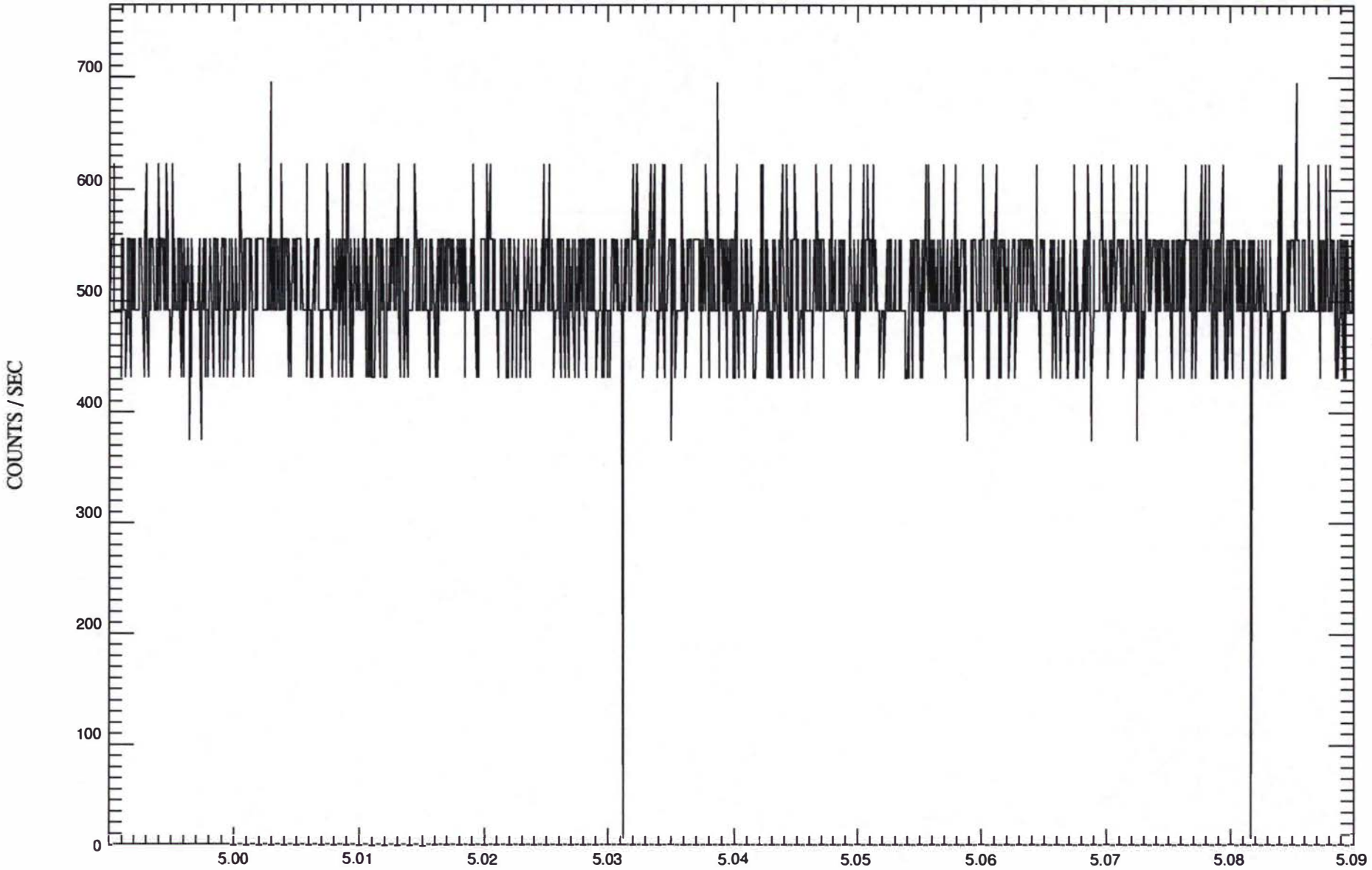




B# 1

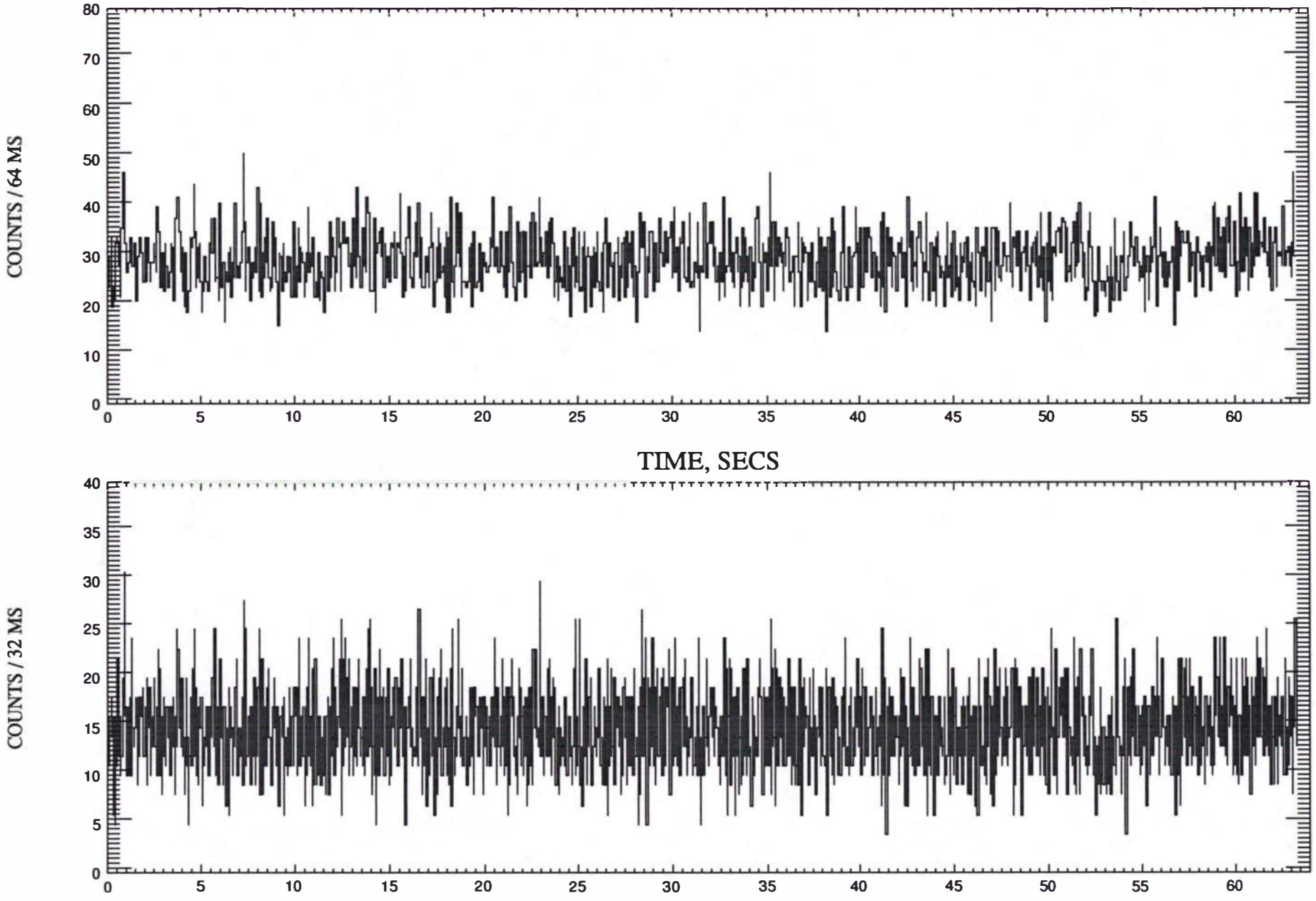
HUS 2A, MODE 1, NOT AVERAGED EDR day 40, year 1996 to day 40, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 40, year 1996 11/25/96

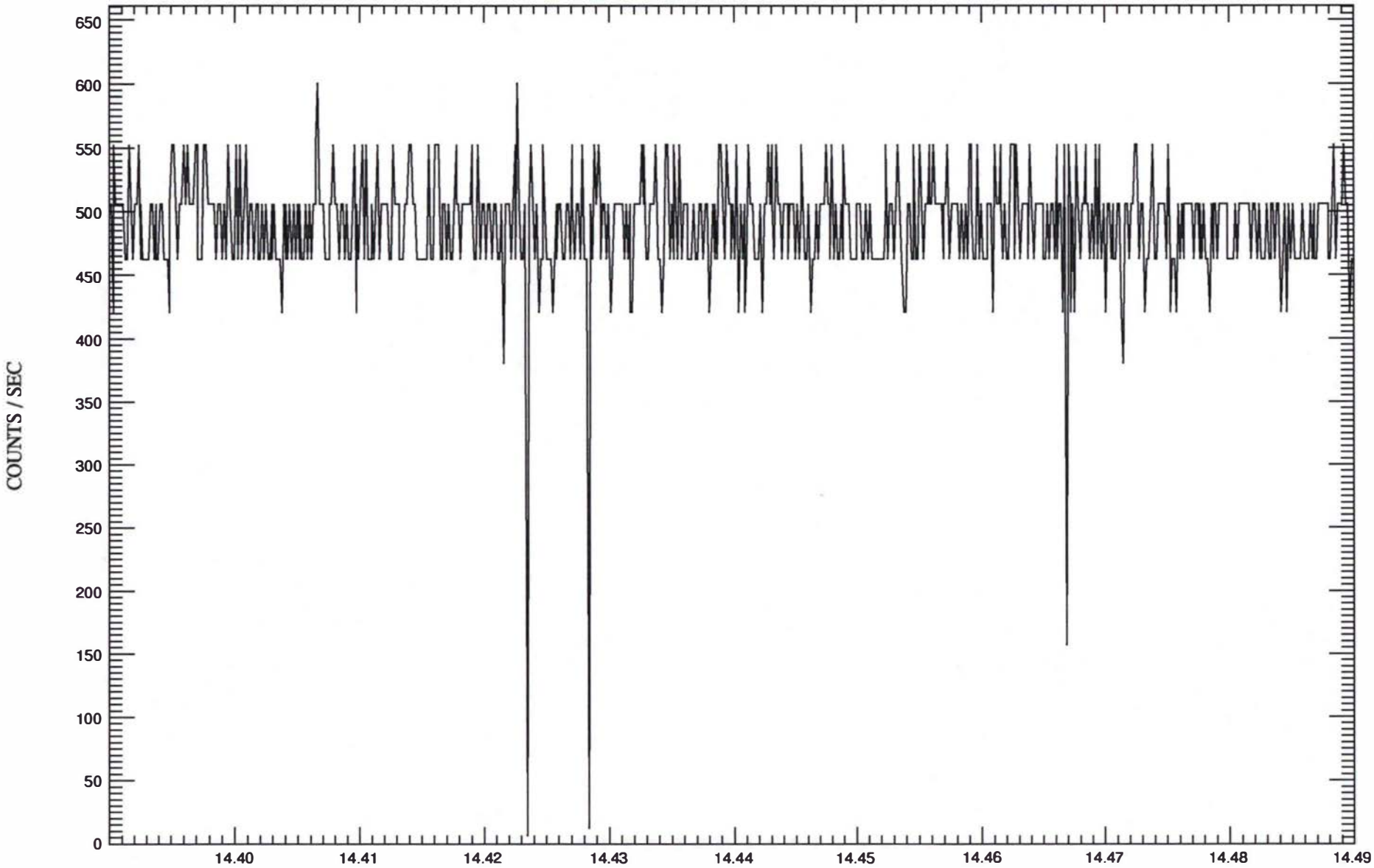
Burst Counter 13 at UT=14.441359193590 h=51988.893 s 14:26:28.893



B# 2

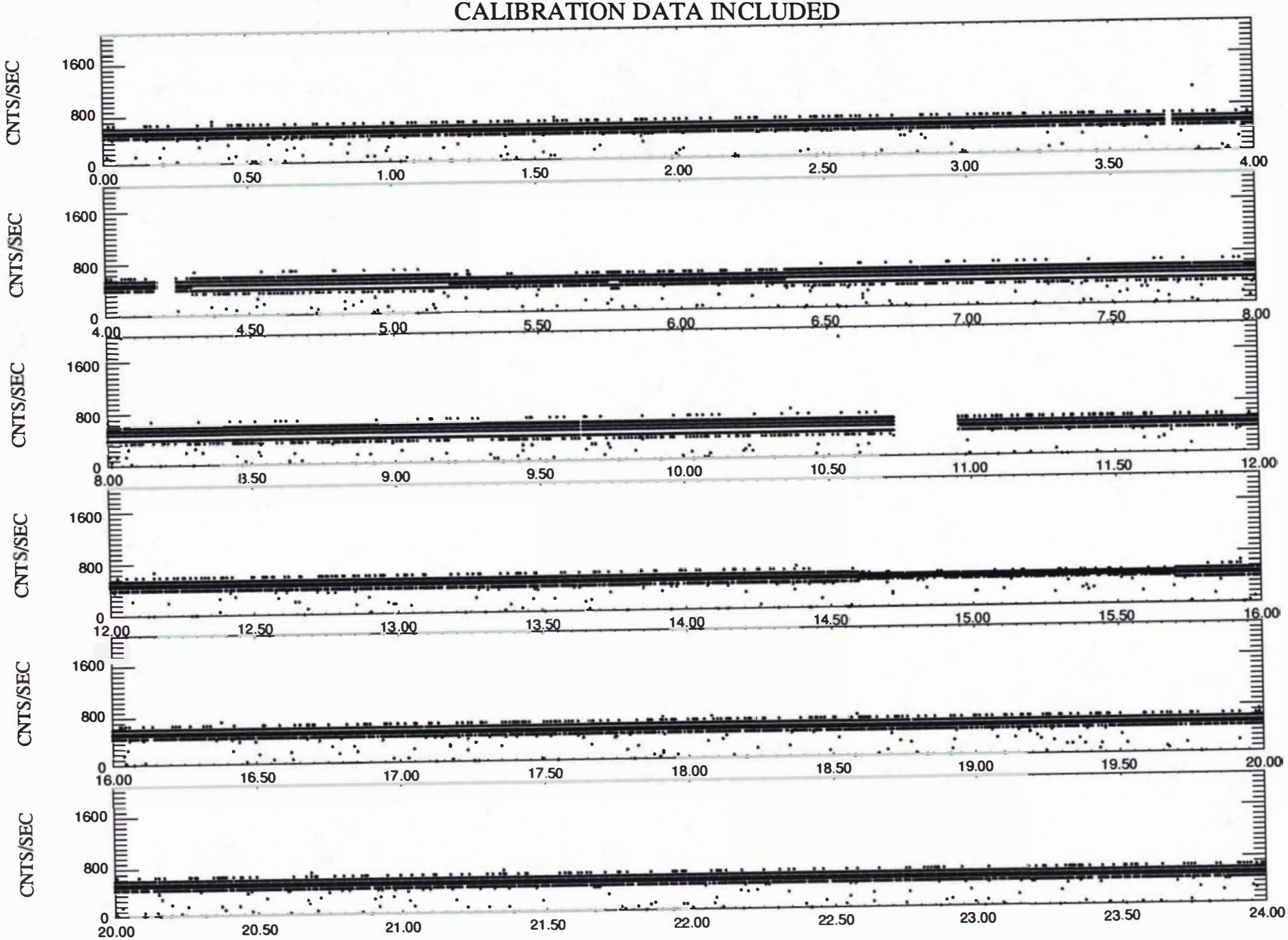
HUS 2A, MODE 1, NOT AVERAGED EDR day 40, year 1996 to day 40, year 1996 11/25/96

CALIBRATION DATA INCLUDED



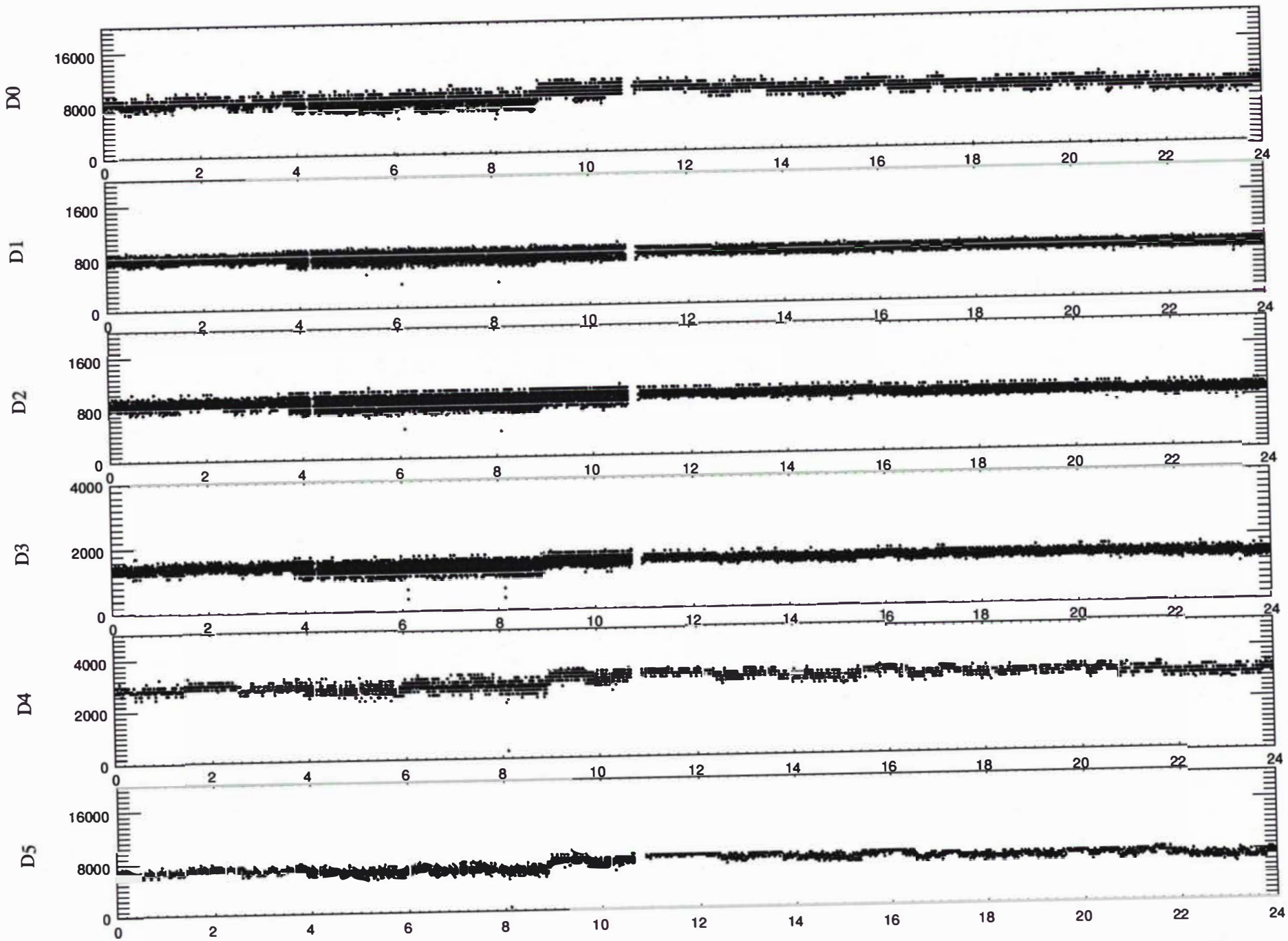
HUS 2A, MODE 1, NOT AVERAGED EDR day 40, year 1996 to day 40, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 40, year 1996 to day 40, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Mon Feb 12 07:09 PST 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 HAA15936; Mon, 12 Feb 1996 07:09:04 -0800
Date: Mon, 12 Feb 1996 9:08:58 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <960212090858.23004553@ssl.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 4814
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

RI

****
BATSEARCH PROGRAM
****

BATSE BURST # 4814
EVENT OF 1996 FEB 10 DAY OF YEAR= 41
EVENT CROSSING TIME AT BATSE : 35197. S. OR 09:46:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 229.000 77.000
BATSE PEAK COUNTING RATE: 14300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 2/ 96 IS:
RA= 215.676 DEC= 70.933 DIST= 2.839 AU
BATSE-ULYSSES DISTANCE = 424686791. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=172.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1405.86 SECS.
CROSSING TIME AT ULYSSES IS 33791. S. OR 09:23:11 +/- 58.87 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 2/ 96 IS:
RA= 328.289 DEC= -13.972 DIST= 2.362 AU
MARS-BATSE DISTANCE = 353325408. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 74.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 318.80 SECS.
CROSSING TIME AT MARS IS 35516. S. OR 09:51:55 +/- 201.83 SECONDS

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
4814	960210	10123	35197	14300	229	+77	4

BATSE BURST TRIGGER
NO.: 4814

TIME: TJD=0123 SECONDS=35197

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.8 AZIMUTH=348.0 ERROR=1.6 DEGREES

COMMENTS:
GRB LASTING 4 SEC. DOUBLE PEAKED. GAP SEPARATING PEAKS BECOMES MORE
SIGNIFICANT AT HIGHER ENERGIES. VISIBLE ABOVE 300 KEV.

Helio corr removed

Date: Mar 4 '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?

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 cline@lheavx.gsfc.nasa.gov Fri Mar 29 08:40 PST 1996
Date: Fri, 29 Mar 1996 08:40:19 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: Konus Event List augmentation

Dear Kevin,

This list includes Sergei's latest Konus-W (GGS-Wind) and Konus-A (Kosmos-2326) events, for comparison with Ulysses, BATSE, TGRS, etc. The times listed are prioritized for Konus-W (i.e., Konus-A time given if Konus-W doesn't trigger).

Yr	Mn	Dy	UT (Konus)	BATSE	Ulysses	Konus	TGRS	Notes
95	11	2	07085.879	?	?	168	no	
95	11	2	21209.015	3891	R I	169	345	
95	11	4	05868.077	3893	R I	170	BGR	
95	11	5	46827.308	?	?	171	no	
95	11	12	66495.244	?	R I	172	no	
95	11	13	84358.872	3906	R I	173	BGR	
95	11	17	10123.762	3909	?	175	no	
95	11	19	29831.402	3912	R I	176	348	
95	11	19	46457.519	?	?	177	BGR	
95	11	22	09841.38	?	?	179	no	
95	11	22	17107.738	?	?	180	349	
95	12	2	39101.744	?	?	195	BGR	
95	12	3	03988.18	?	?	196	360	
	12	8	19617.151	?	?	197	no	
	12	8	39452.057	?	?	198	no	
95	12	8	42467.634	?	?	199	BGR	
95	12	9	31349.607	?	?	200	BGR	
95	12	13	17849.683	?	?	201	362	
95	12	14	08657.847	?	?	202	no	
95	12	19	60679.732	?	?	203	no	
95	12	20	31883.56	?	?	204	BGR	
95	12	22	25203.254	?	?	no	?	= K-A t.
95	12	27	23005.042	?	?	218	375	
96	12	31	20231.668	?	?	219	no	
96	1	2	11650.996	?	?	220	no	
96	1	4	12521.062	?	?	221	no	
96	1	11	46524.53	?	?	222	no	
96	1	13	56024.261	?	?	228	no	
96	1	14	44104.737	?	?	233	384	+ K-A t.
96	1	15	31956.506	?	?	234	BGR	
96	1	17	57371.341	?	?	235	no	
96	1	19	34679.317	?	?	236	no	
96	1	19	45226.016	?	?	237	no	
96	1	20	36768.974	?	?	238	no	
96	1	24	03388.008	?	?	239	385	+ K-A t.
96	1	24	76096.911	?	?	BGR	?	= K-A t.
96	1	30	08756.848	?	?	240	no	
96	2	1	78530.582	?	?	241	?	+ K-A t.
96	2	2	50750.813	?	?	242	?	
	2	10	35198.959	?	?	247	?	
96	2	16	57796.347	?	?	BGR	?	= K-A t.
96	2	19	20589.684	?	?	BGR	?	= K-A t.
96	2	28	85760.241	?	?	249	?	
96	2	29	22445.141	?	?	250	?	

96	3	5	33645.352	?	?	251	?
96	3	12	35074.697	?	?	252	?
96	3	19	51992.828	?	?	253	?
96	3	21	76321.803	?	?	254	?
96	3	22	19642.728	?	?	255	?
96	3	24	80064.124	?	?	257	?
96	3	25	69892.978	?	?	258	?

--

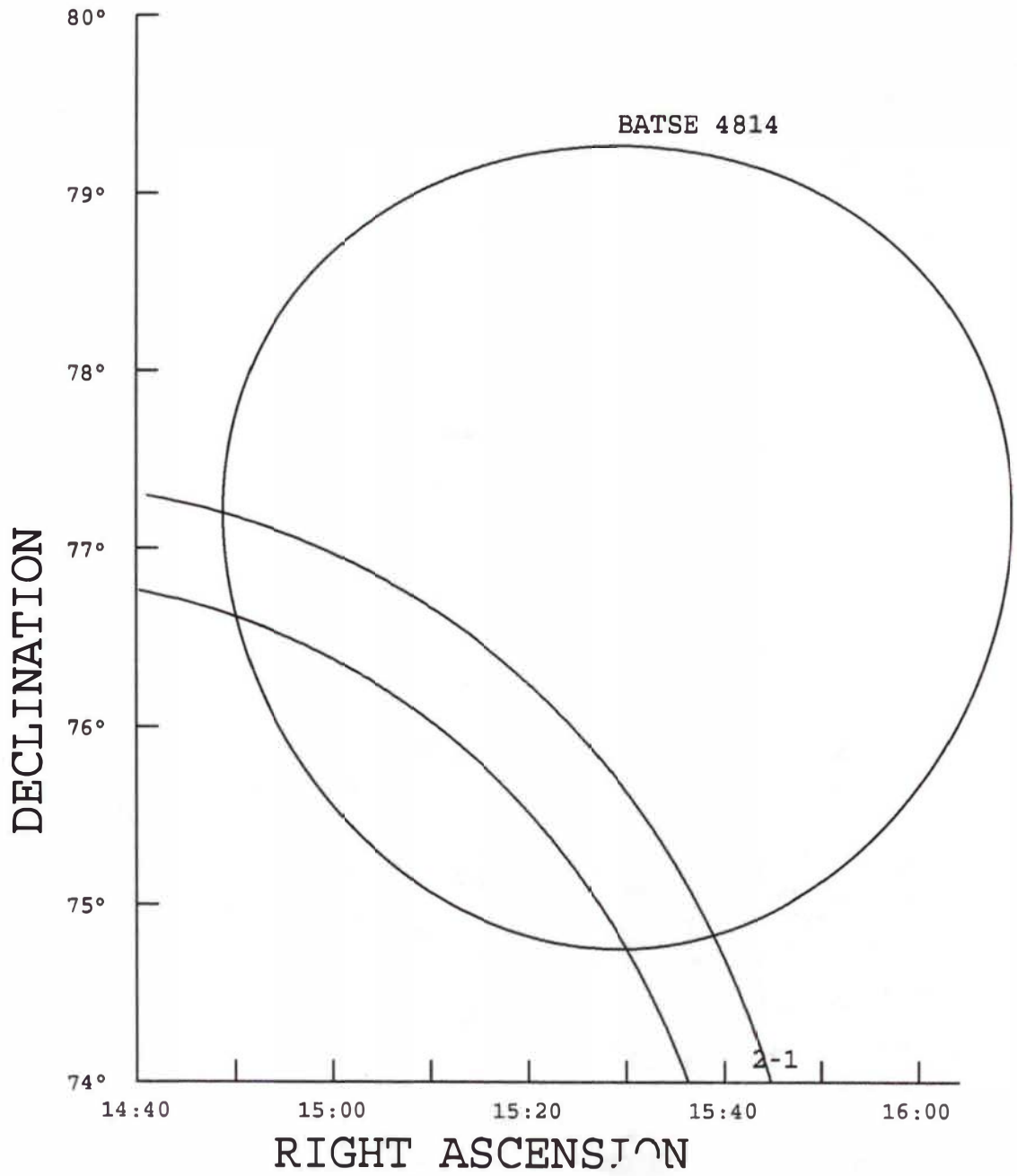
TLC

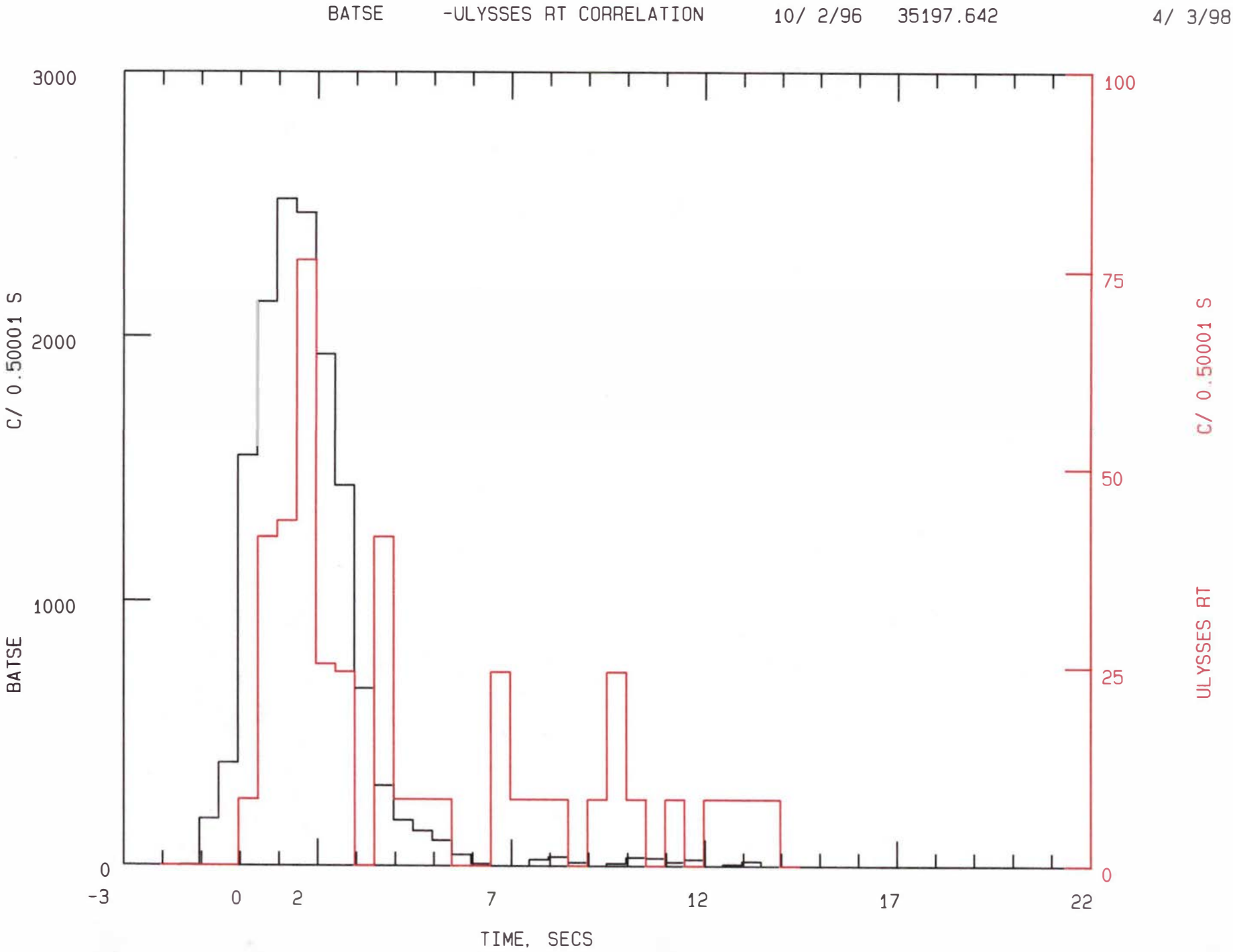
-- T. L. Cline ----- LHEAVX::CLINE

EVENT OF FEB 10, 1996 9:22

4/ 3/98

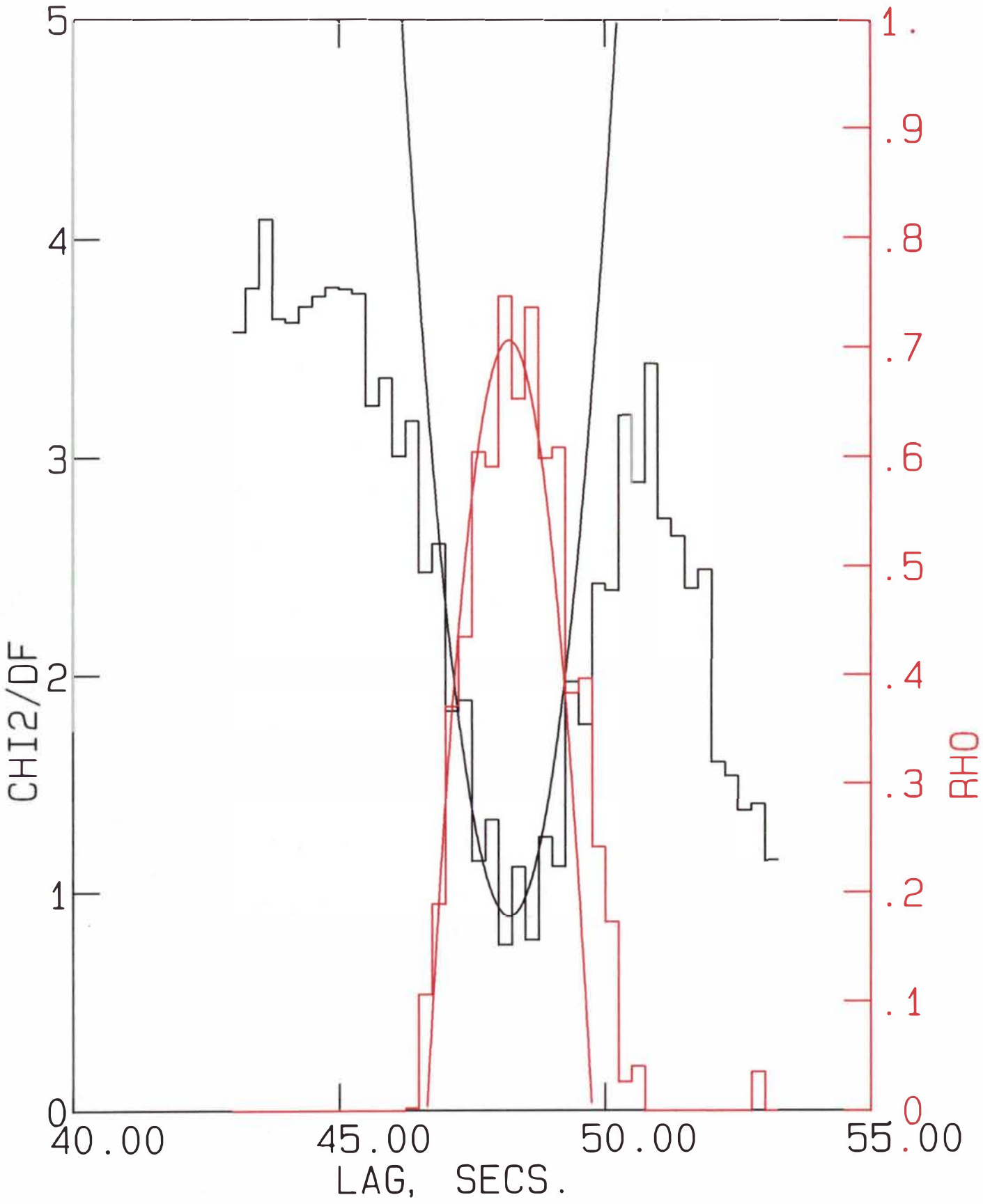
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE




BATSE -ULYSSES RT CORRELATION 10/ 2/96 35197.642 4/ 3/98
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
TIME, SECS

4/ 3/98

BATSE -ULYSSES RT CORRELATION 10/ 2/96 35197.642



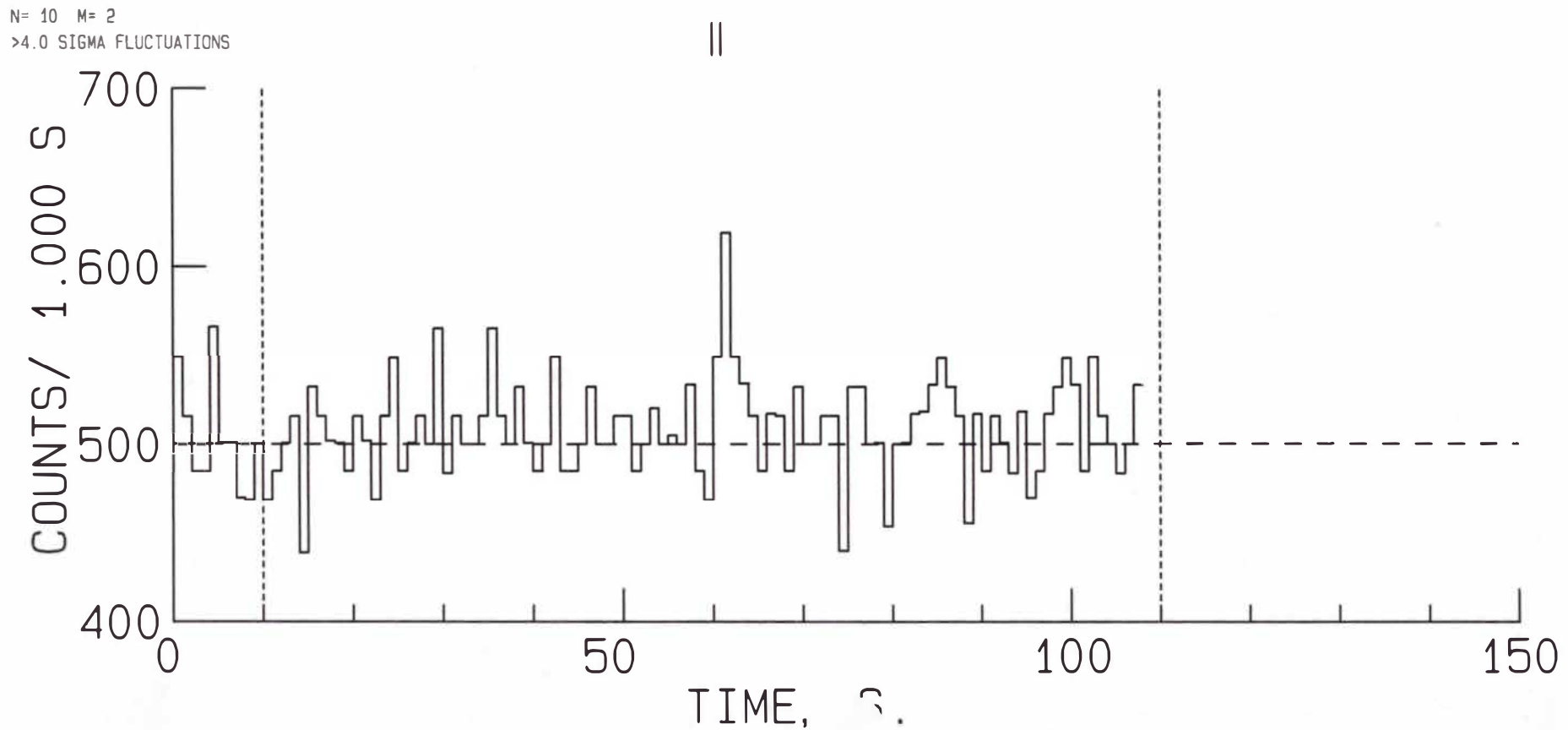
ULYSSES RT

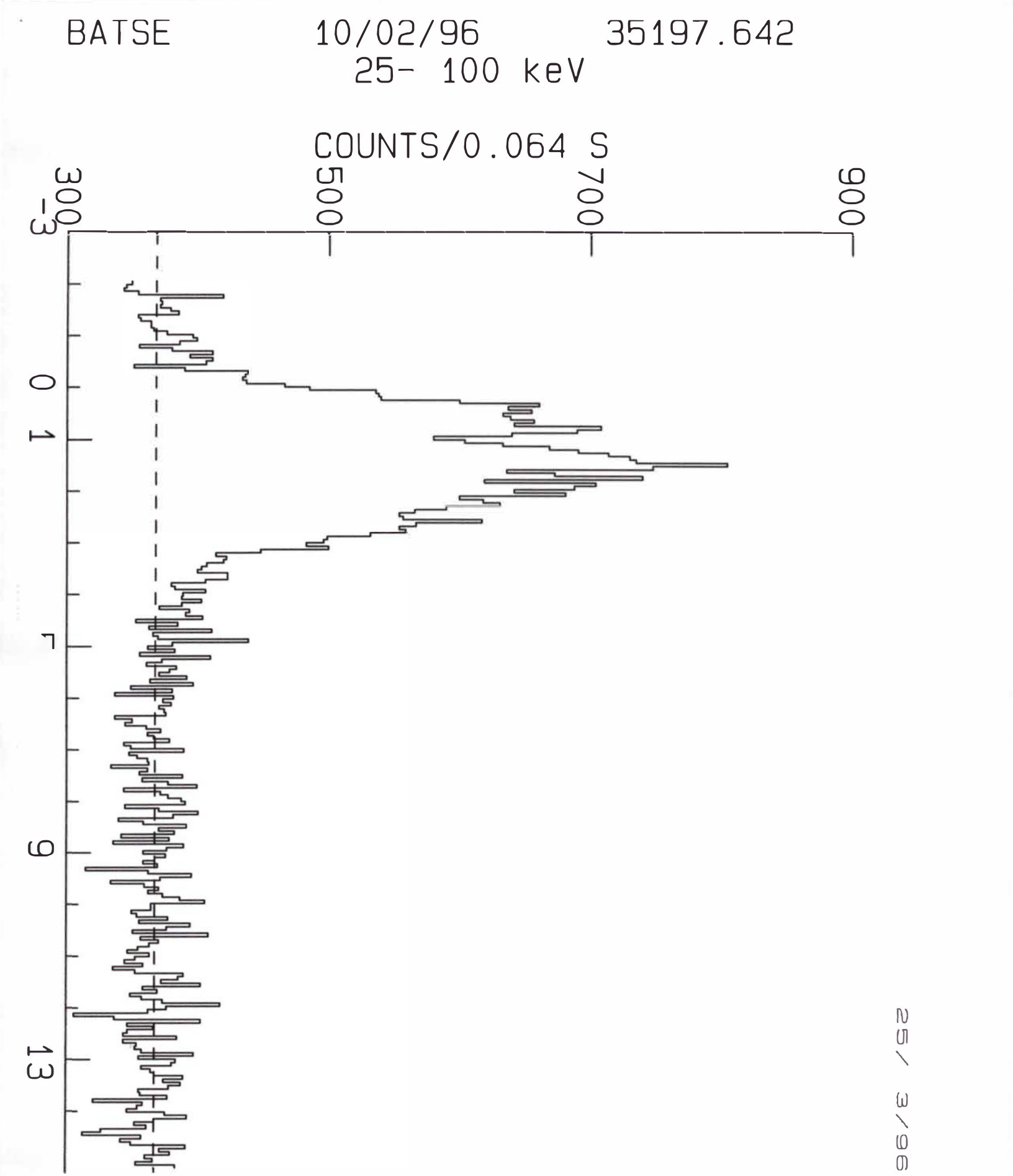
4/ 3/98

10/ 2/96 33732.135 s

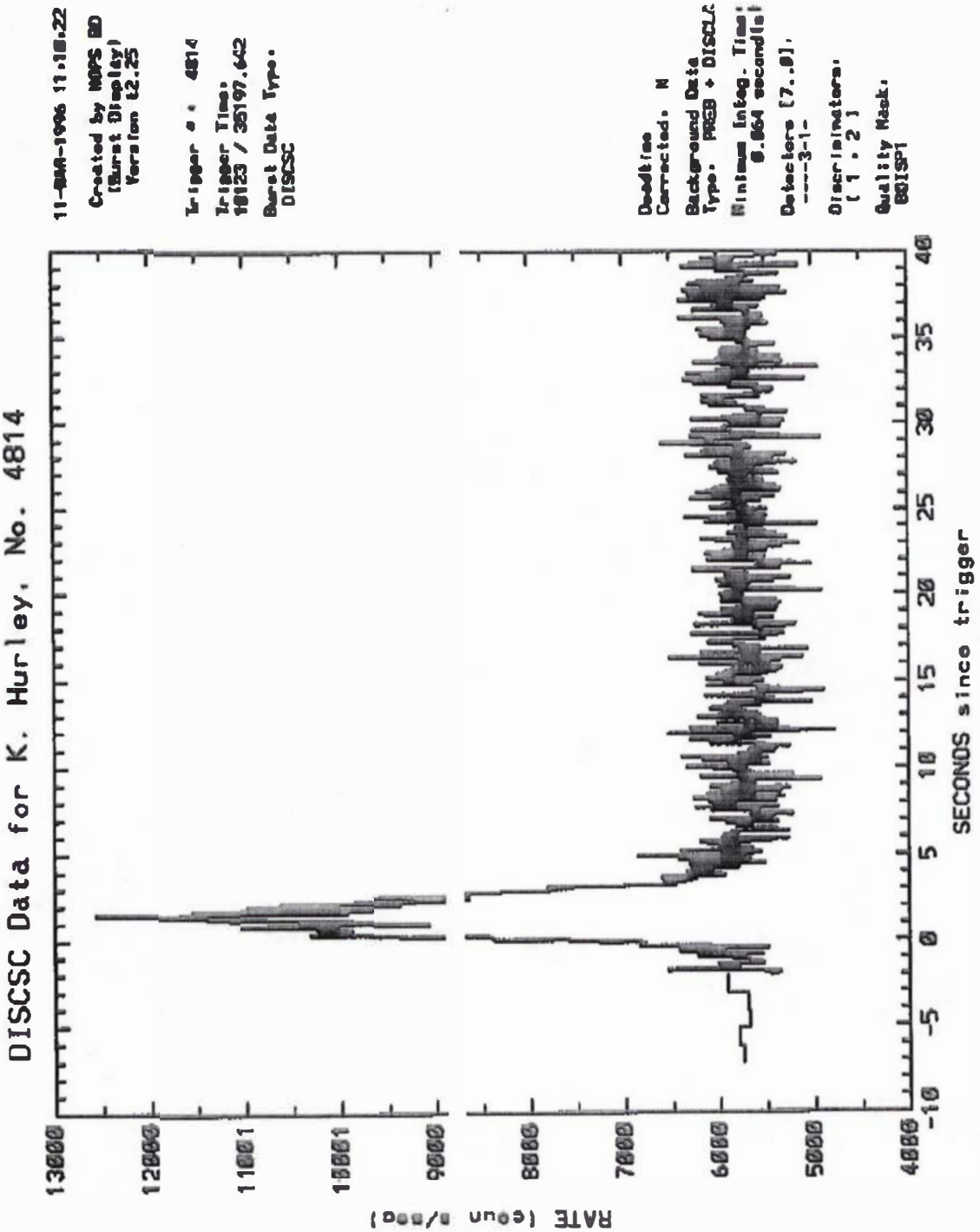
0.250 S INTERVALS REGROUPED BY 4

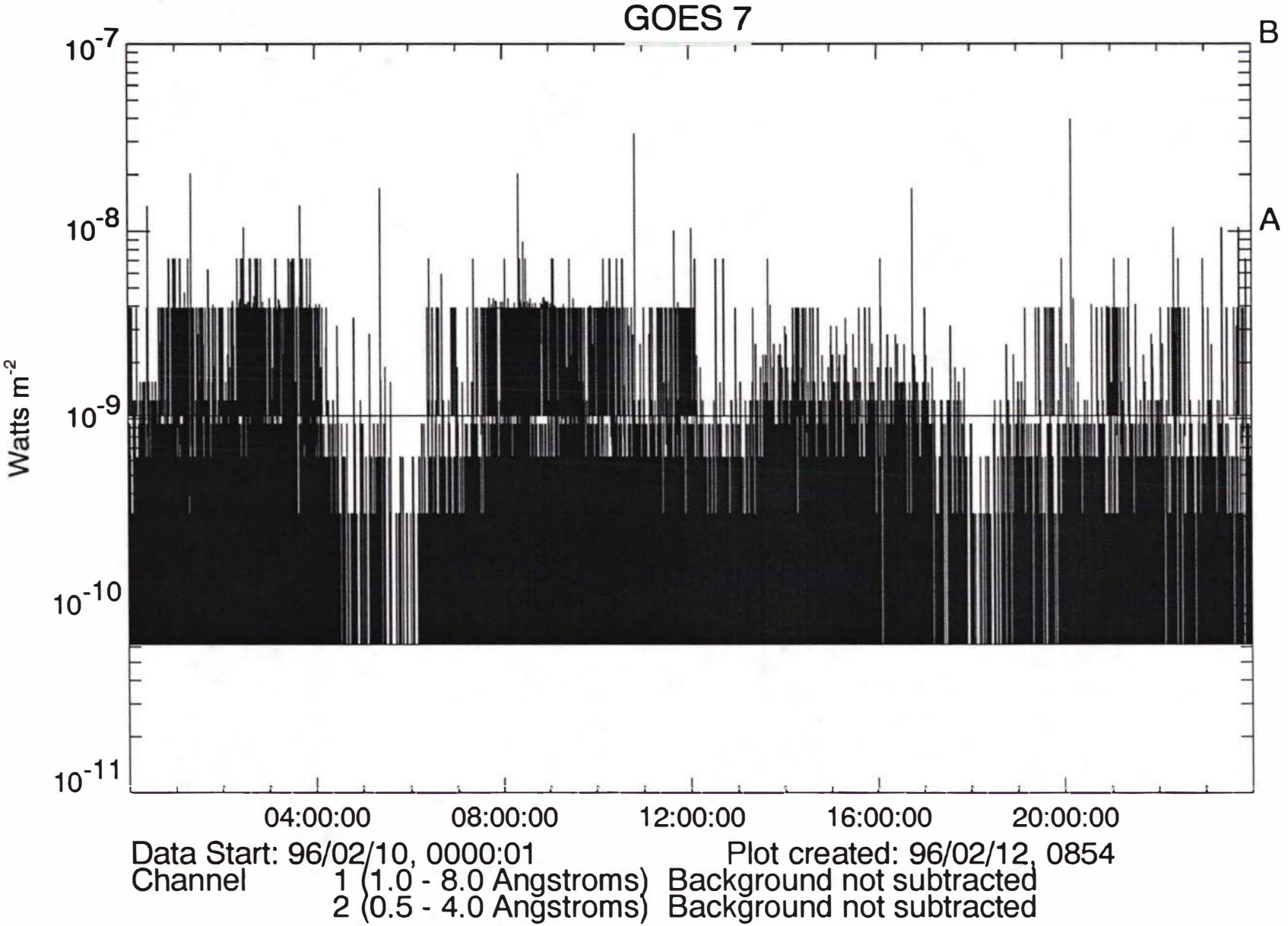
21- 144 keV

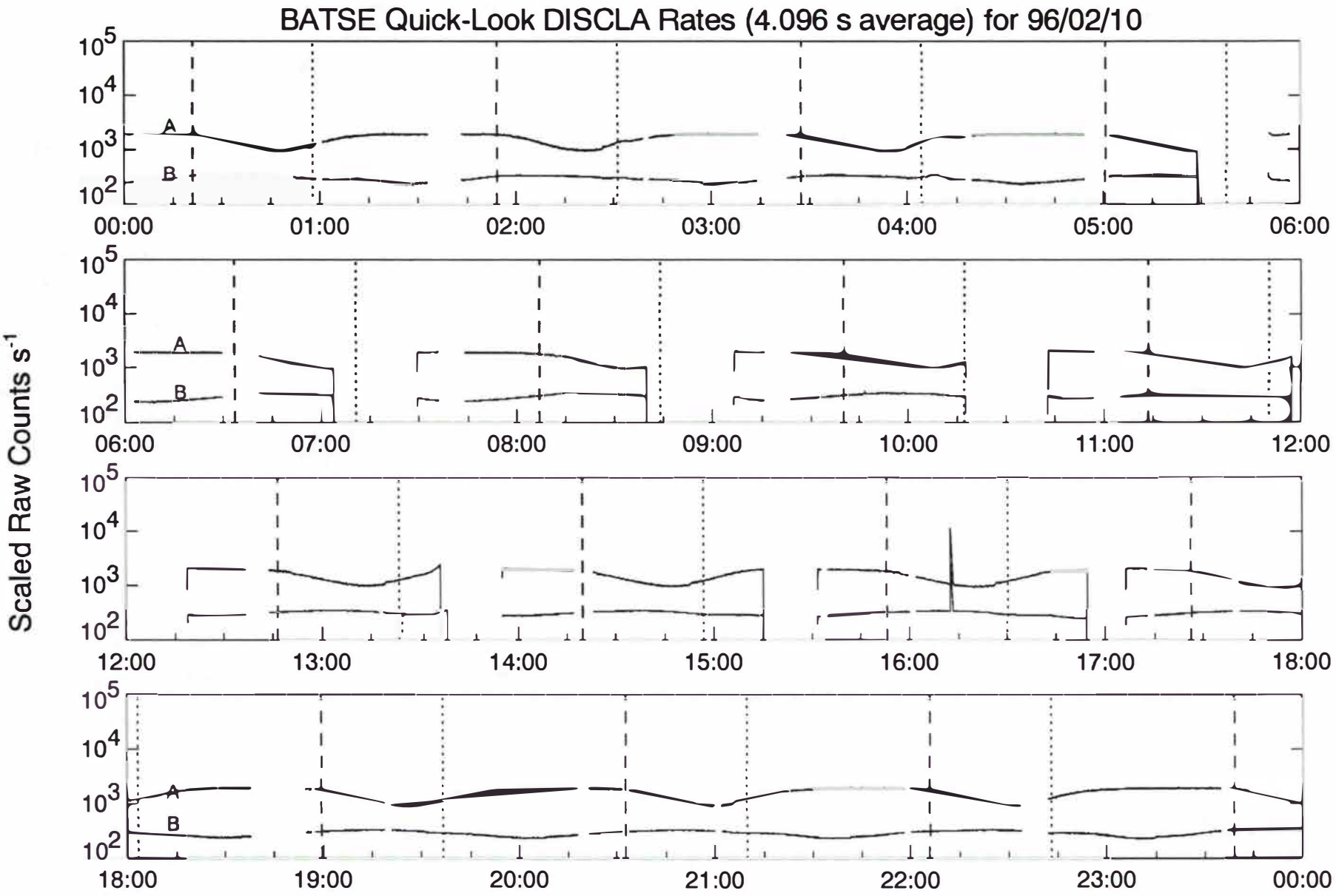



BATSE
10/02/96
35197.642
25- 100 keV
COUNTS/0.064 S
300
500
700
900
-3
0
1
6
13

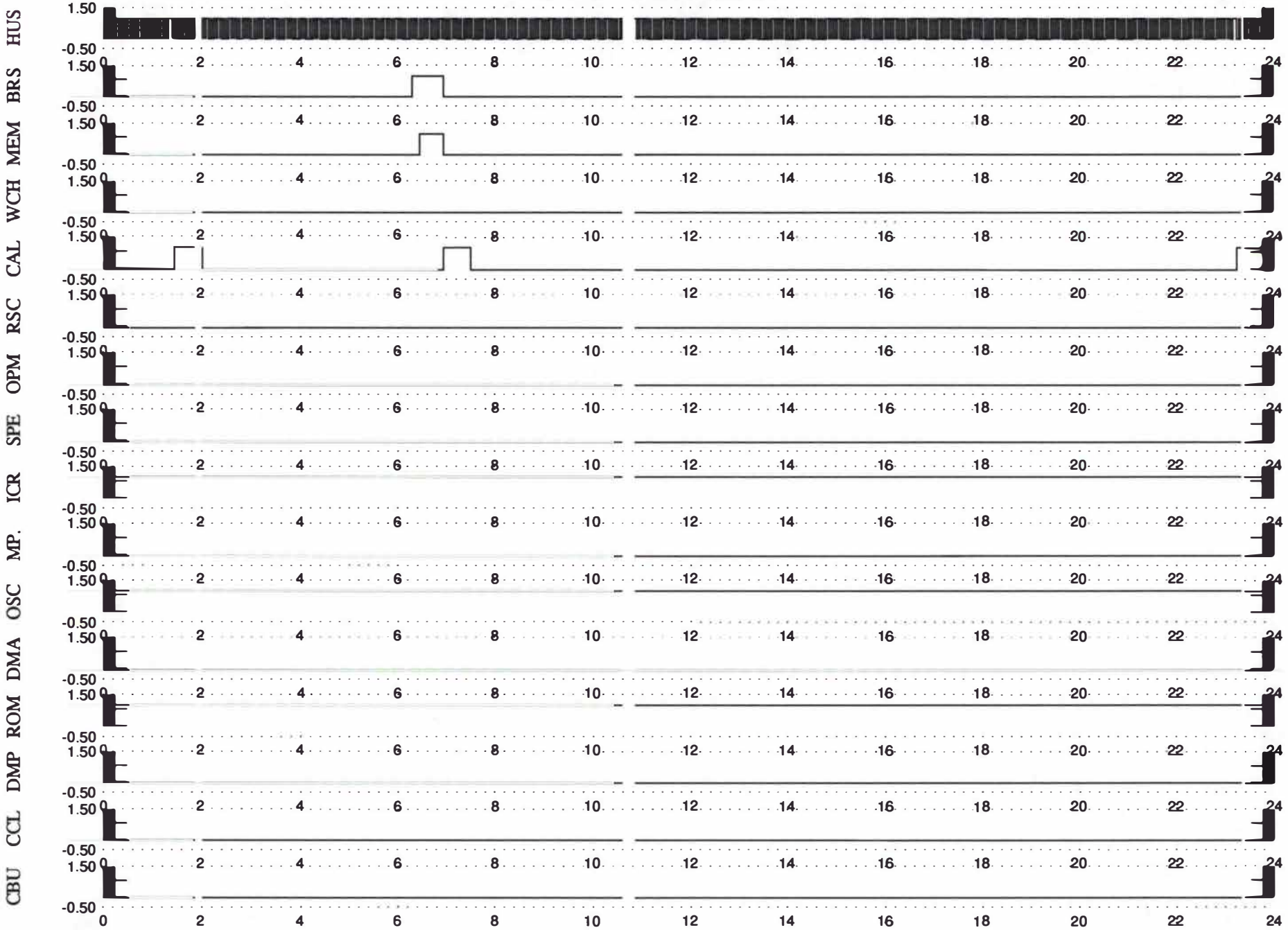
25 / 3 / 96


DISCSC Data for K. Hurley, No. 4814
11-MAR-1996 11:18:22
Created by MOPS ED
(Burst Display)
Version 12.25
Trigger # : 4814
Trigger Time:
19123 / 35197.642
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:
0015F1
RATE (coun s/sec)
SECONDS since trigger
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
-10
-5
0
5
10
15
20
25
30
35
40


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/10, 0000:01
Plot created: 96/02/12, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

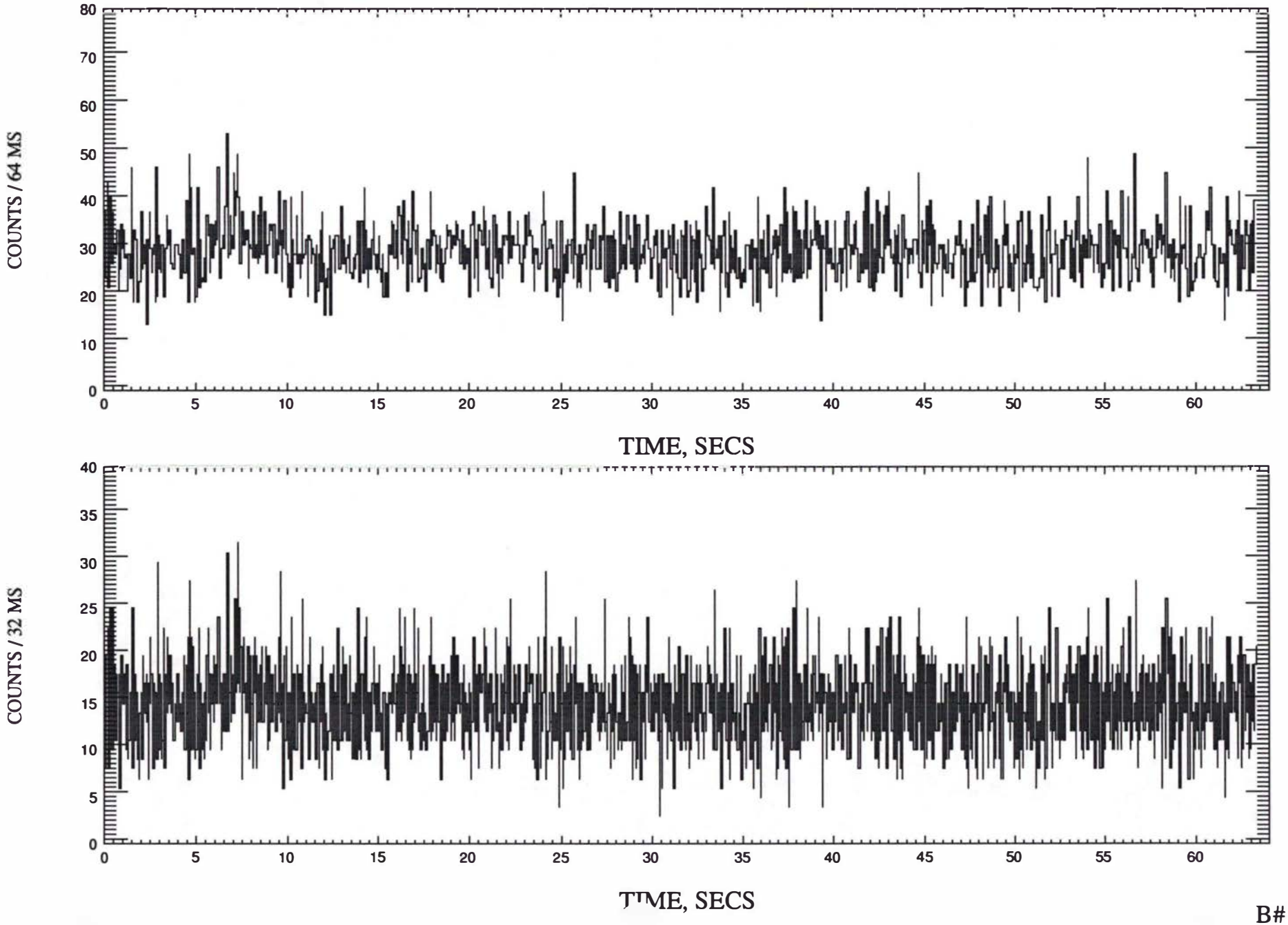

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/10
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/12, 0855 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

BURST NUMBER 14



HUS 2A TRIGGERED DATA EDR day 41, year 1996 11/25/96

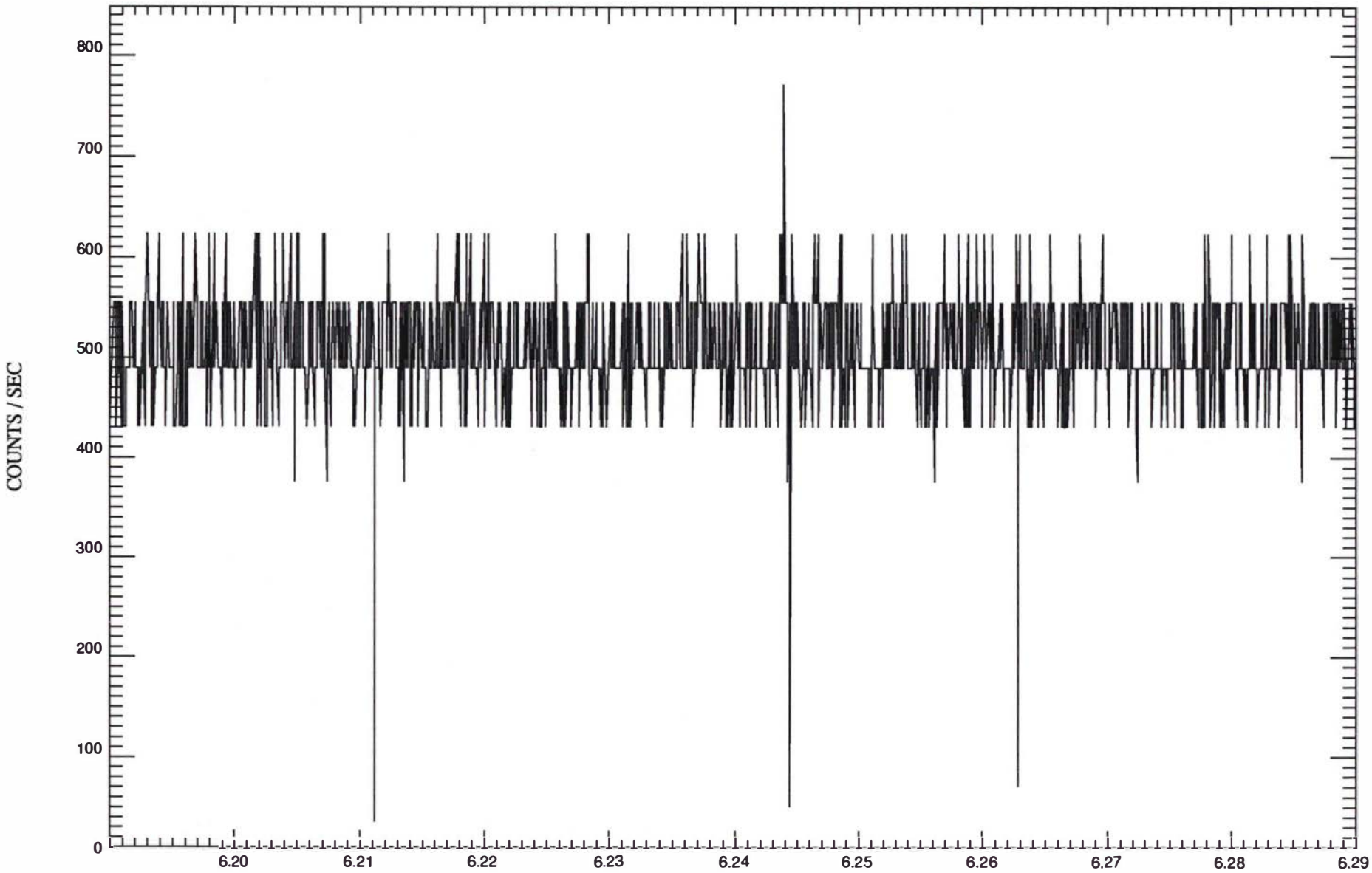
Burst Counter 14 at UT= 6.244053272671 h=22478.592 s 06:14:38.592



B# 1

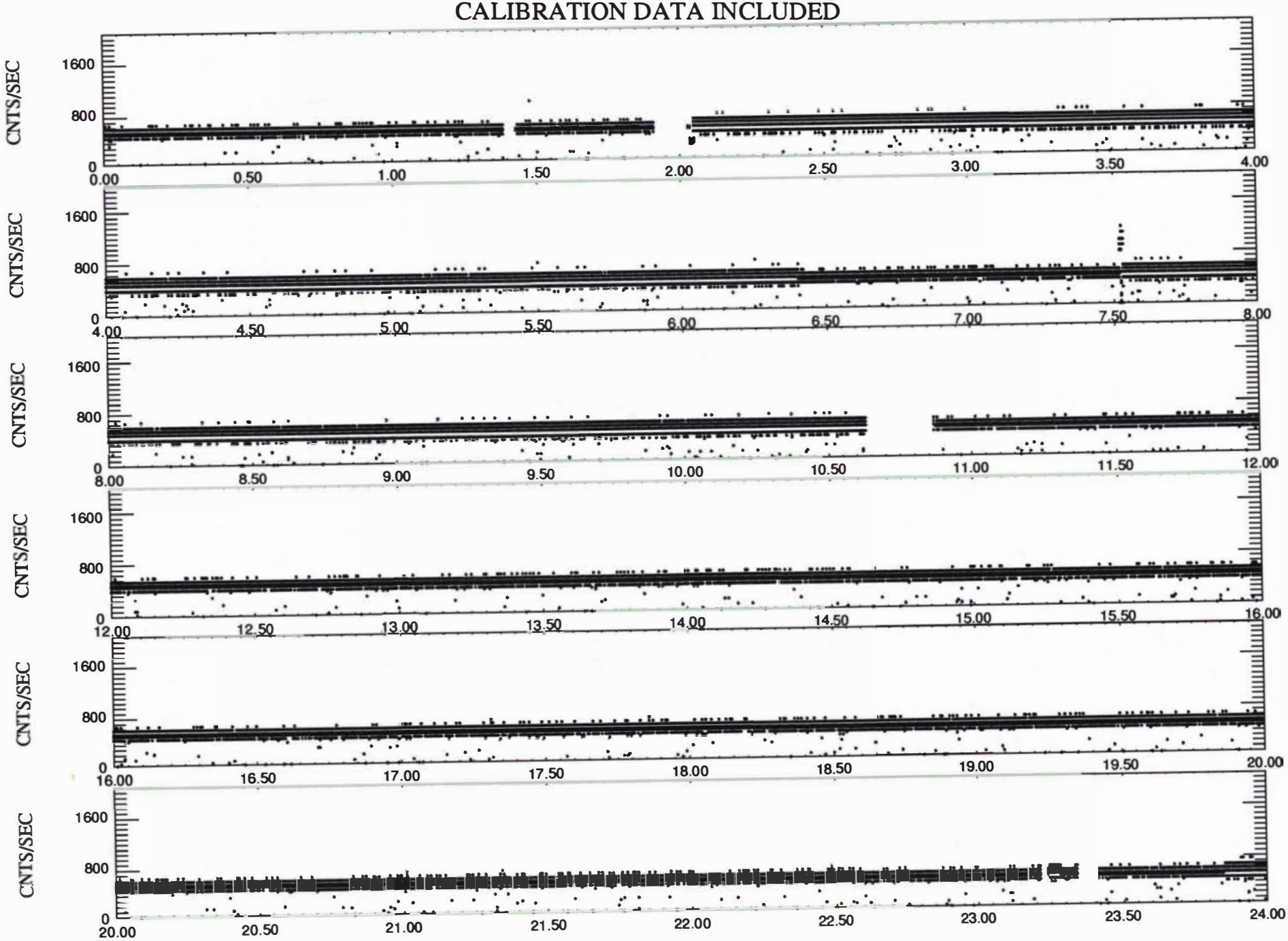
HUS 2A, MODE 1, NOT AVERAGED EDR day 41, year 1996 to day 41, year 1996 11/25/96

CALIBRATION DATA INCLUDED



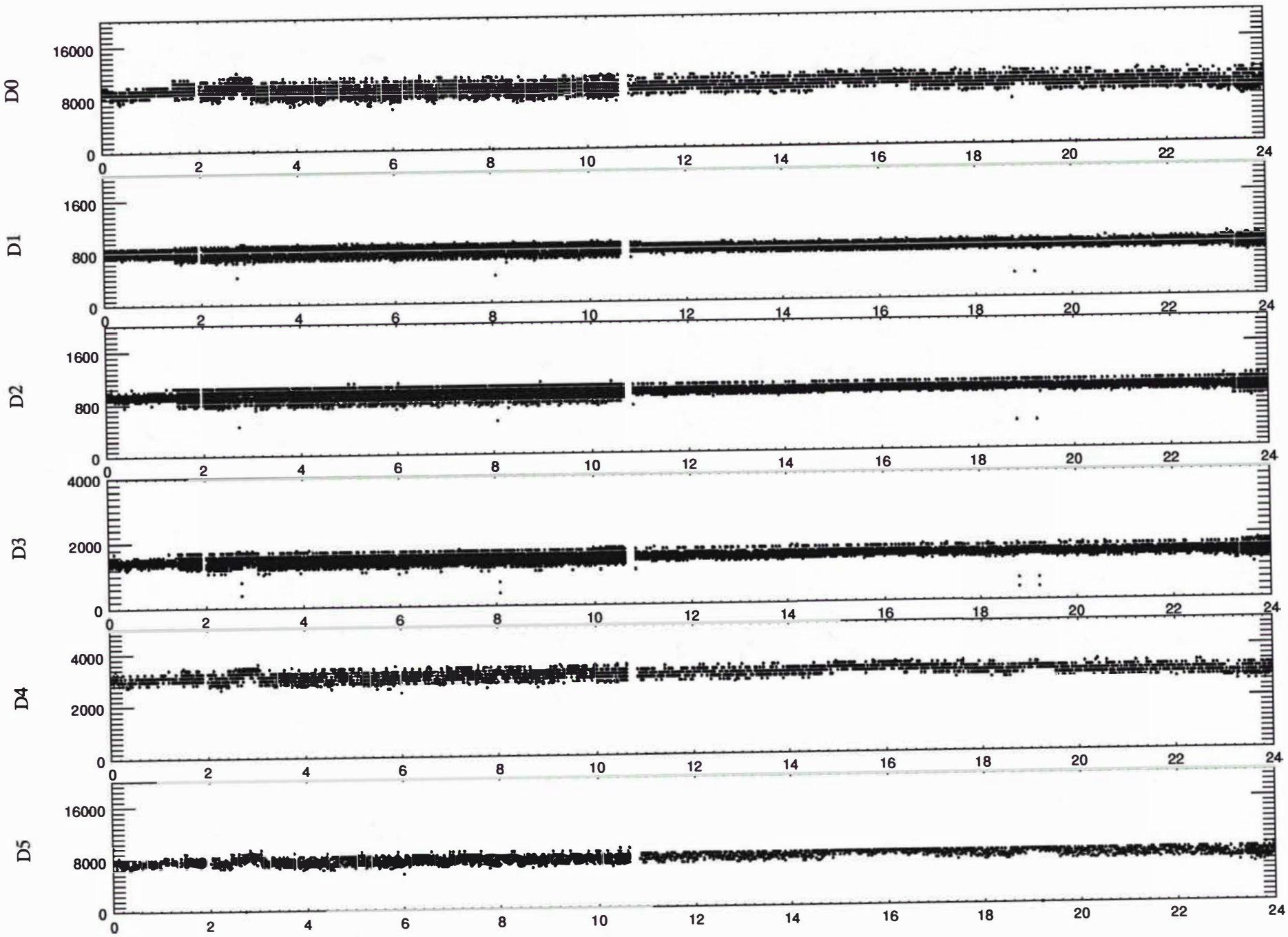
HUS 2A, MODE 1, NOT AVERAGED EDR day 41, year 1996 to day 41, year 1996 11/25/96

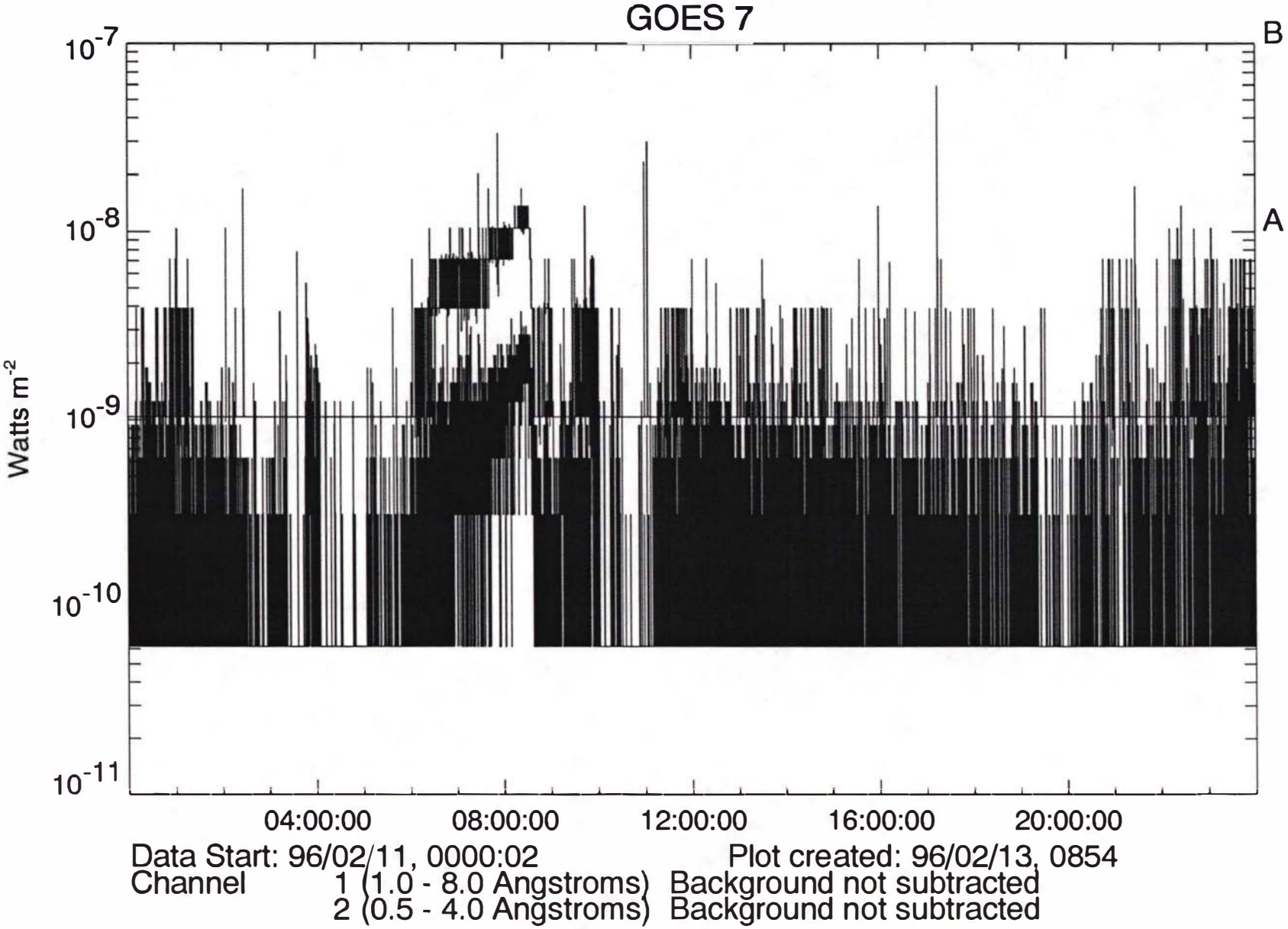
CALIBRATION DATA INCLUDED

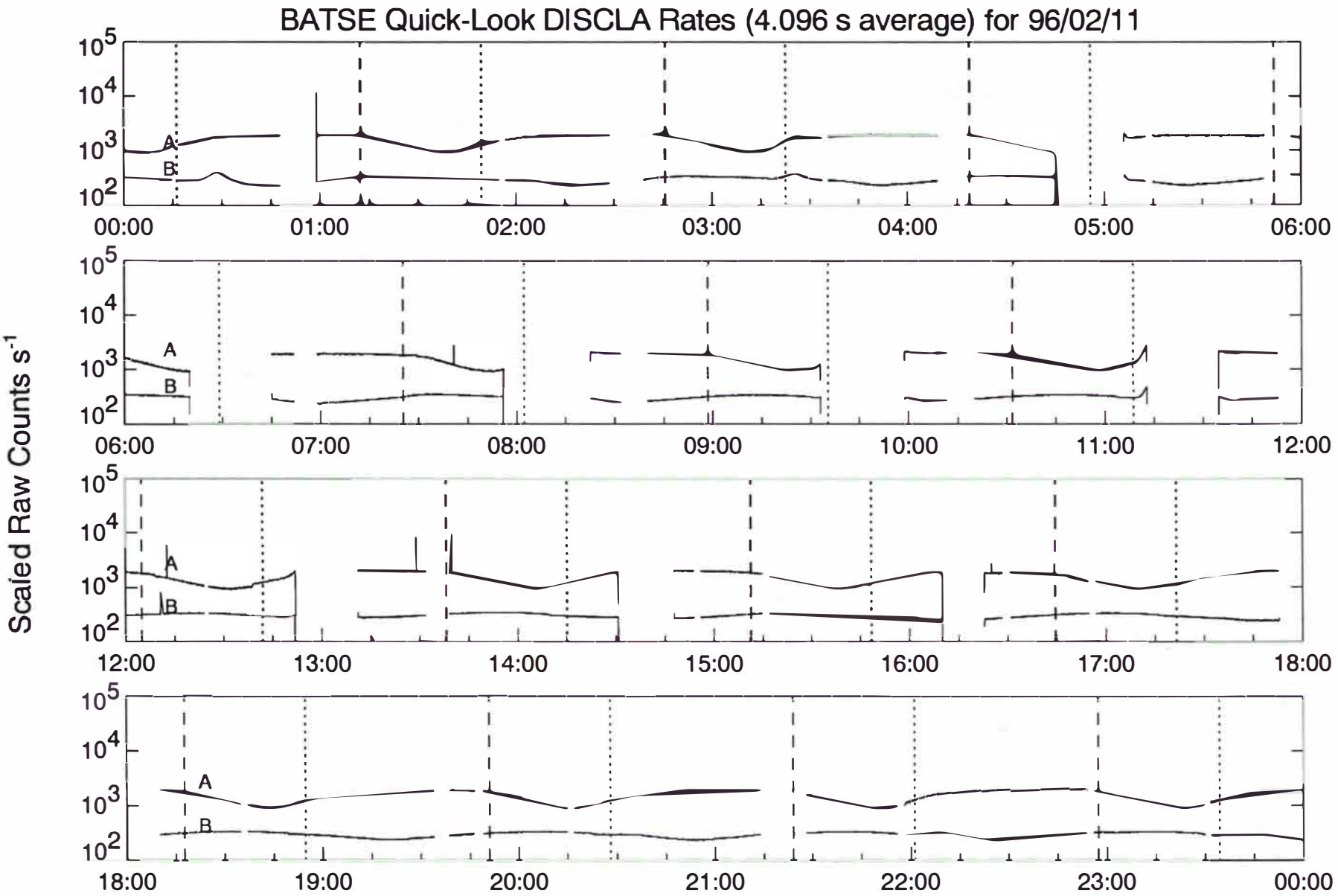


UN RSAL TIME

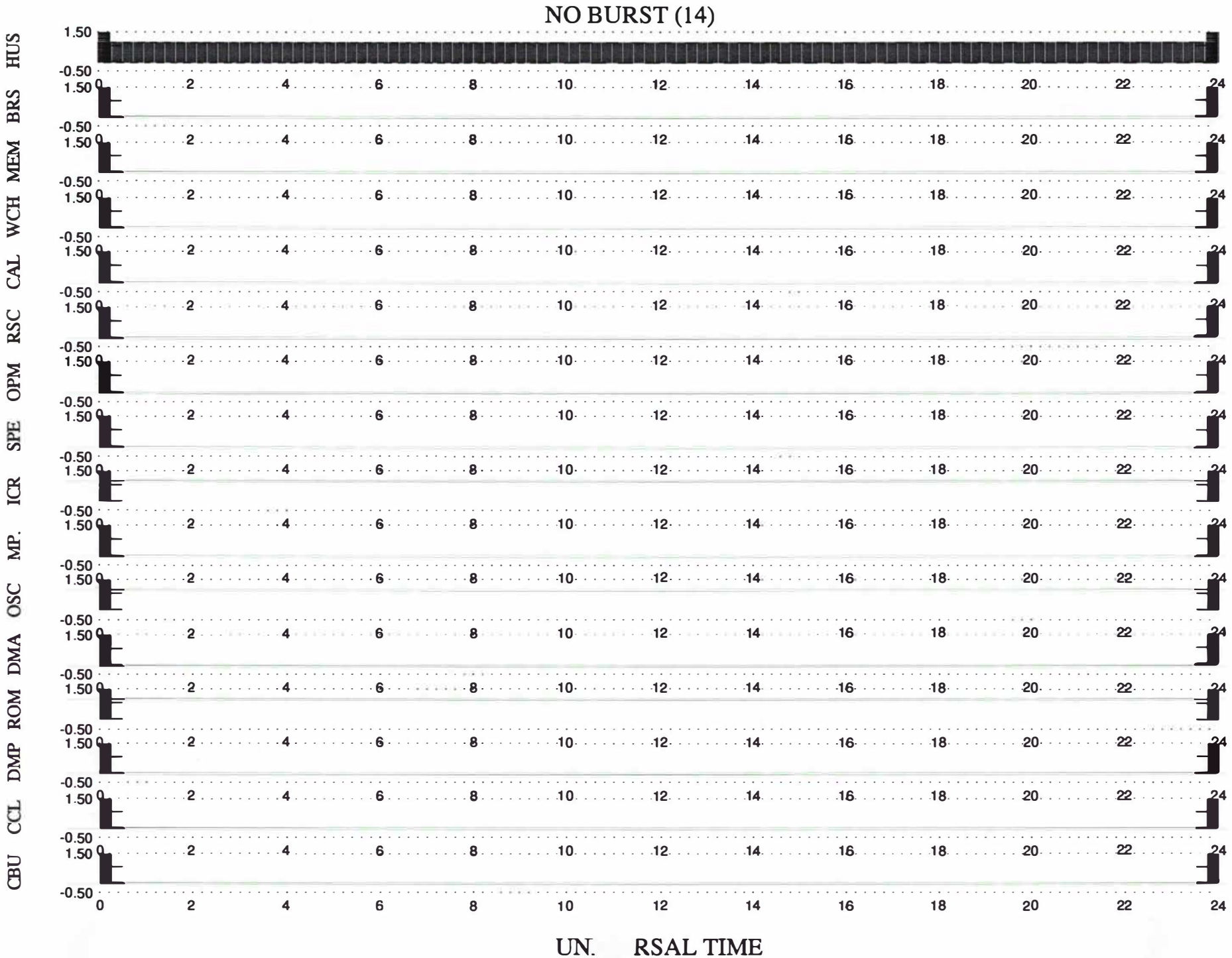
HUS 2B COUNTS / SEC EDR day 41, year 1996 to day 41, year 1996 11/25/96




GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/11, 0000:02
Plot created: 96/02/13, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

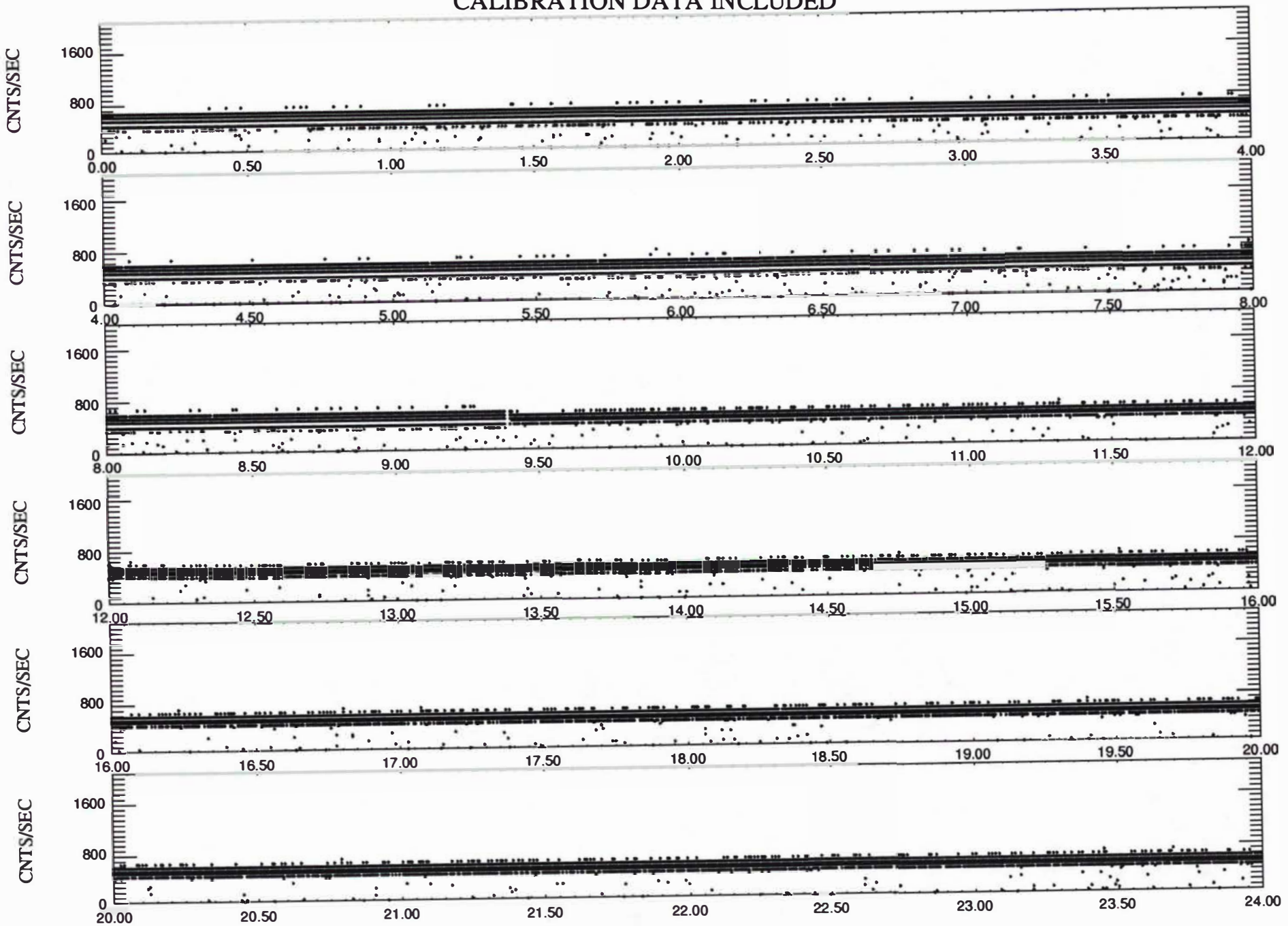

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/11
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/13, 0855 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 42, year 1996 to day 42, year 1996 11/25/96



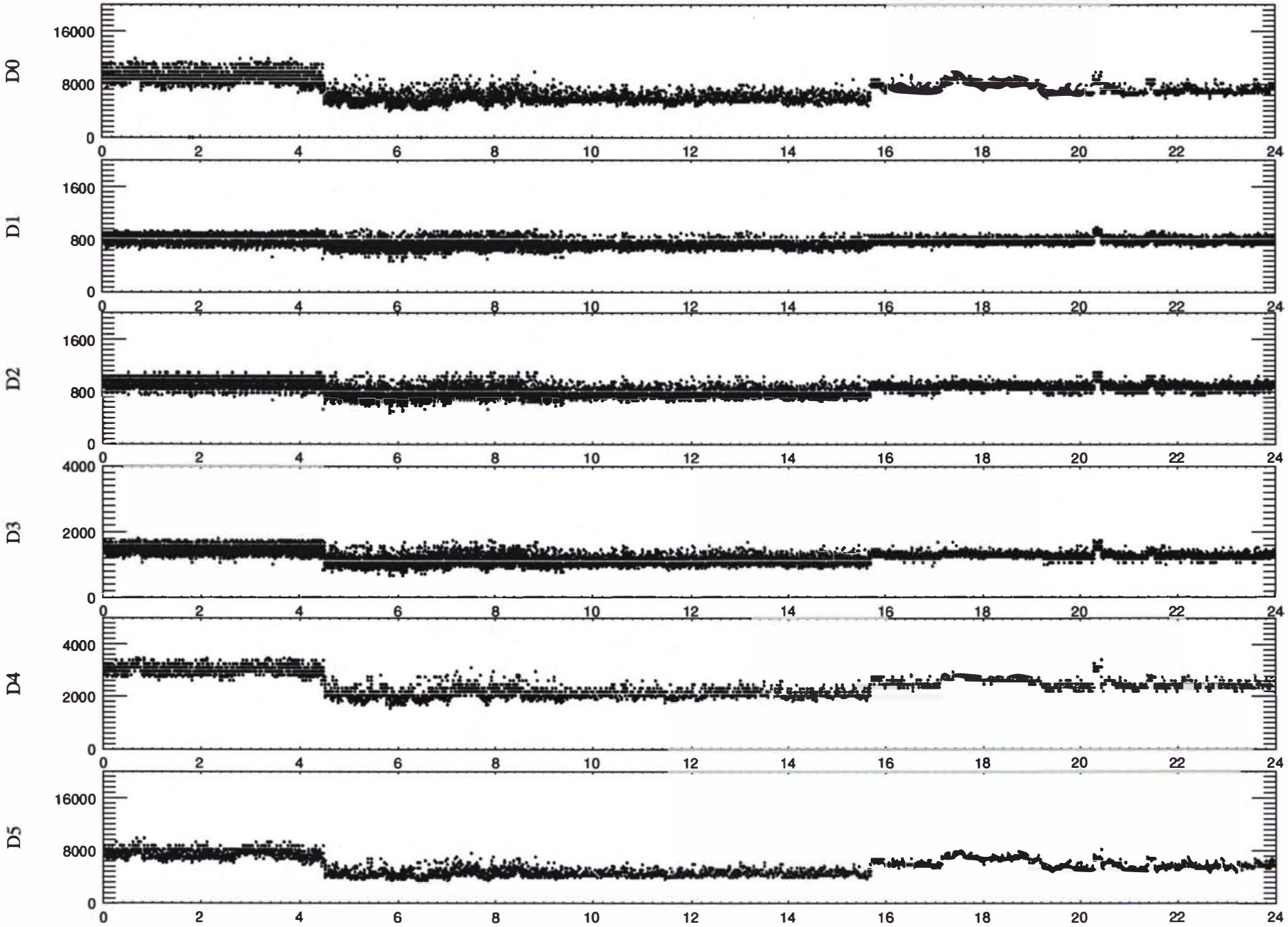
HUS 2A, MODE 1, NOT AVERAGED EDR day 42, year 1996 to day 42, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 42, year 1996 to day 42, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Wed Feb 14 13:28 PST 1996
From: WOODSP@SSLLES.MSFC.NASA.GOV
Date: Wed, 14 Feb 1996 15:26:49 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 4835

TIME: TJD=0125 SECONDS=9498

TYPE: TRANSIE SOLAR FLARE TRIGGER SIGNAL:N

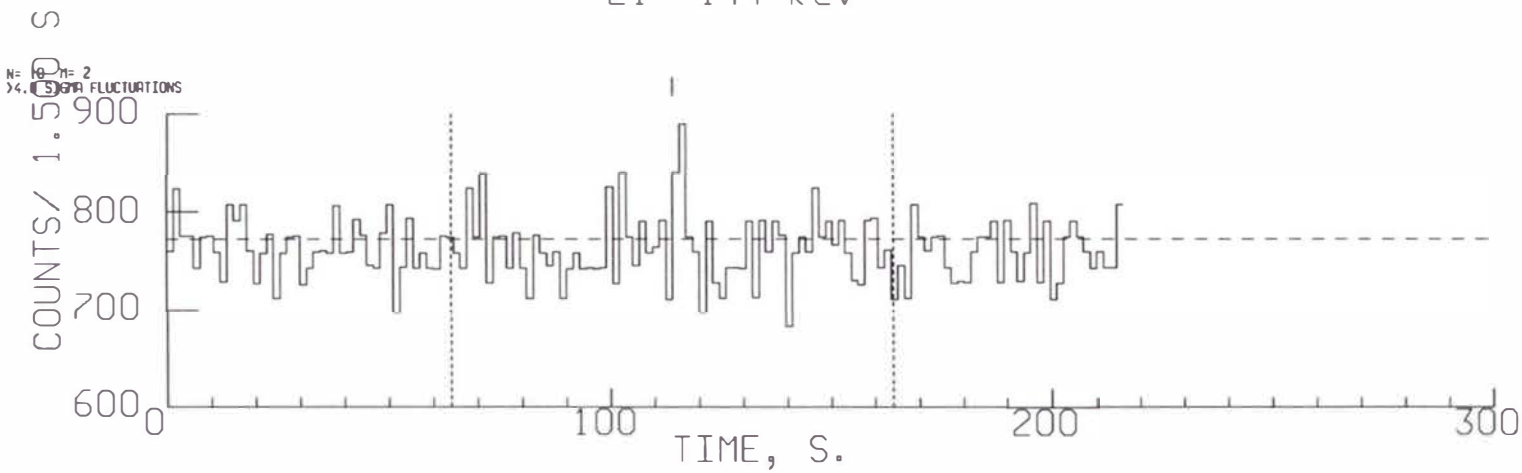
SIGNIFICANCE: SIGMA

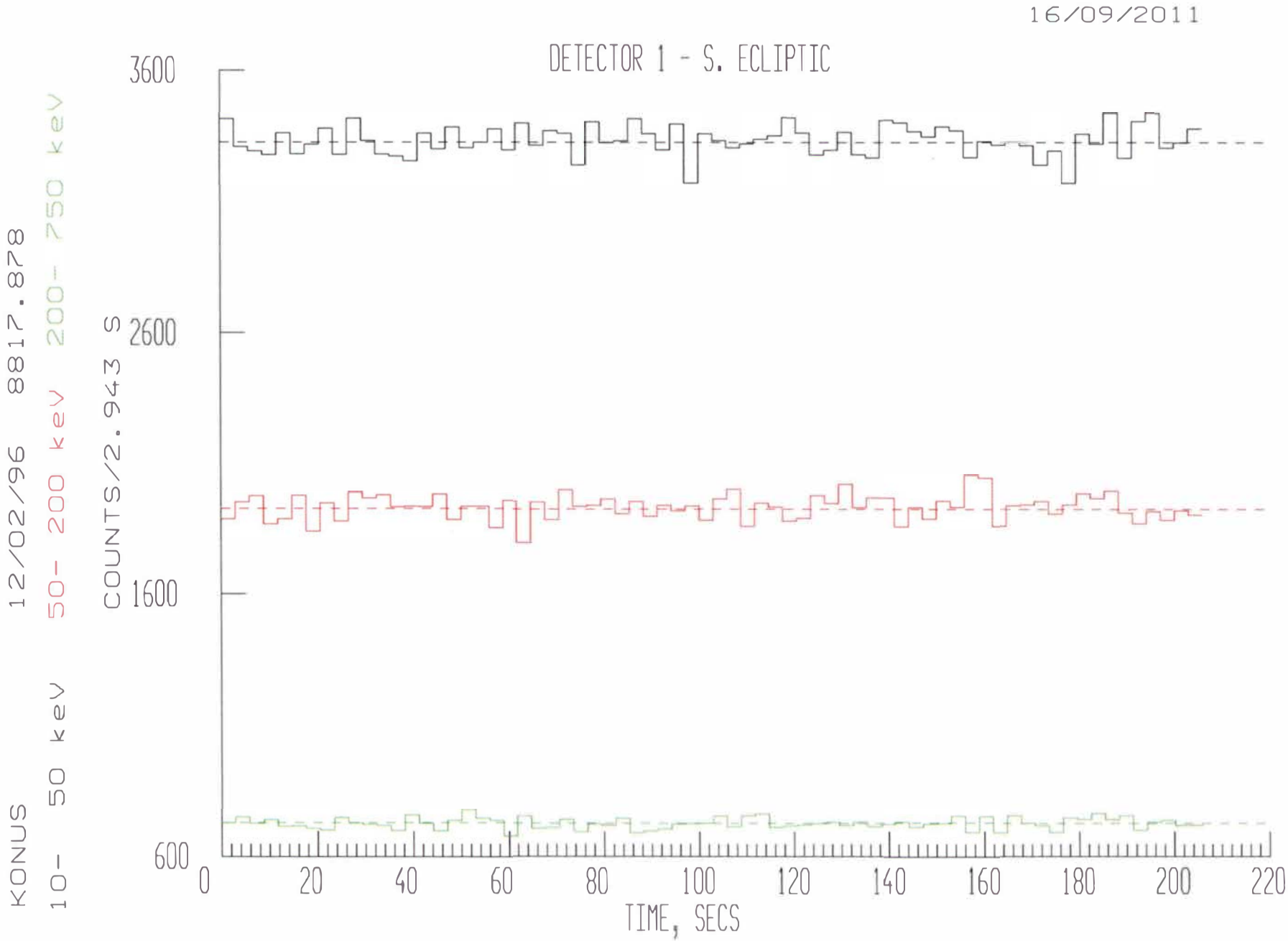
INTENSITY: COUNTS/CM2

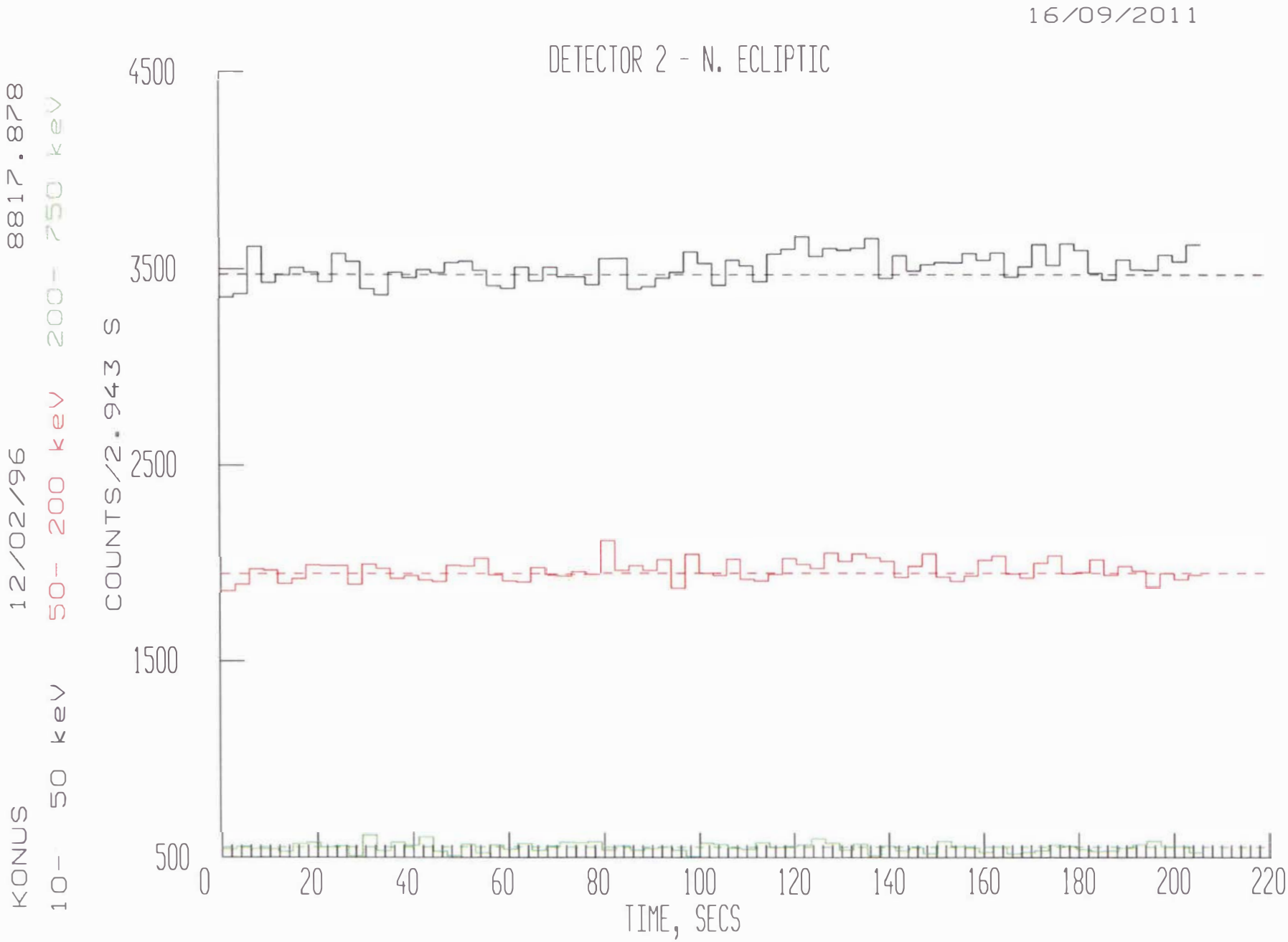
LOCATION: ZENITH=297.6 AZIMUTH=26.6 ERROR=4.6 DEGREES

COMMENTS:
CYGNUS X-1 FLUCTUATION.

ULYSSES RT
12/ 2/96 7596.230 s
0.250 S INTERVALS REGROUPED BY 6
21- 144 keV




16/09/2011
DETECTOR 1 - S. ECLIPTIC
KONUS 12/02/96 8817.878
10- 50 keV 50- 200 keV 200- 750 keV
COUNTS/2.943 S
3600
2600
1600
600
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS


16/09/2011
DETECTOR 2 - N. ECLIPTIC
8817.878
12/02/96
KONUS
10- 50 keV
50- 200 keV
200- 750 keV
COUNTS/2.943 S
4500
3500
2500
1500
500
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS

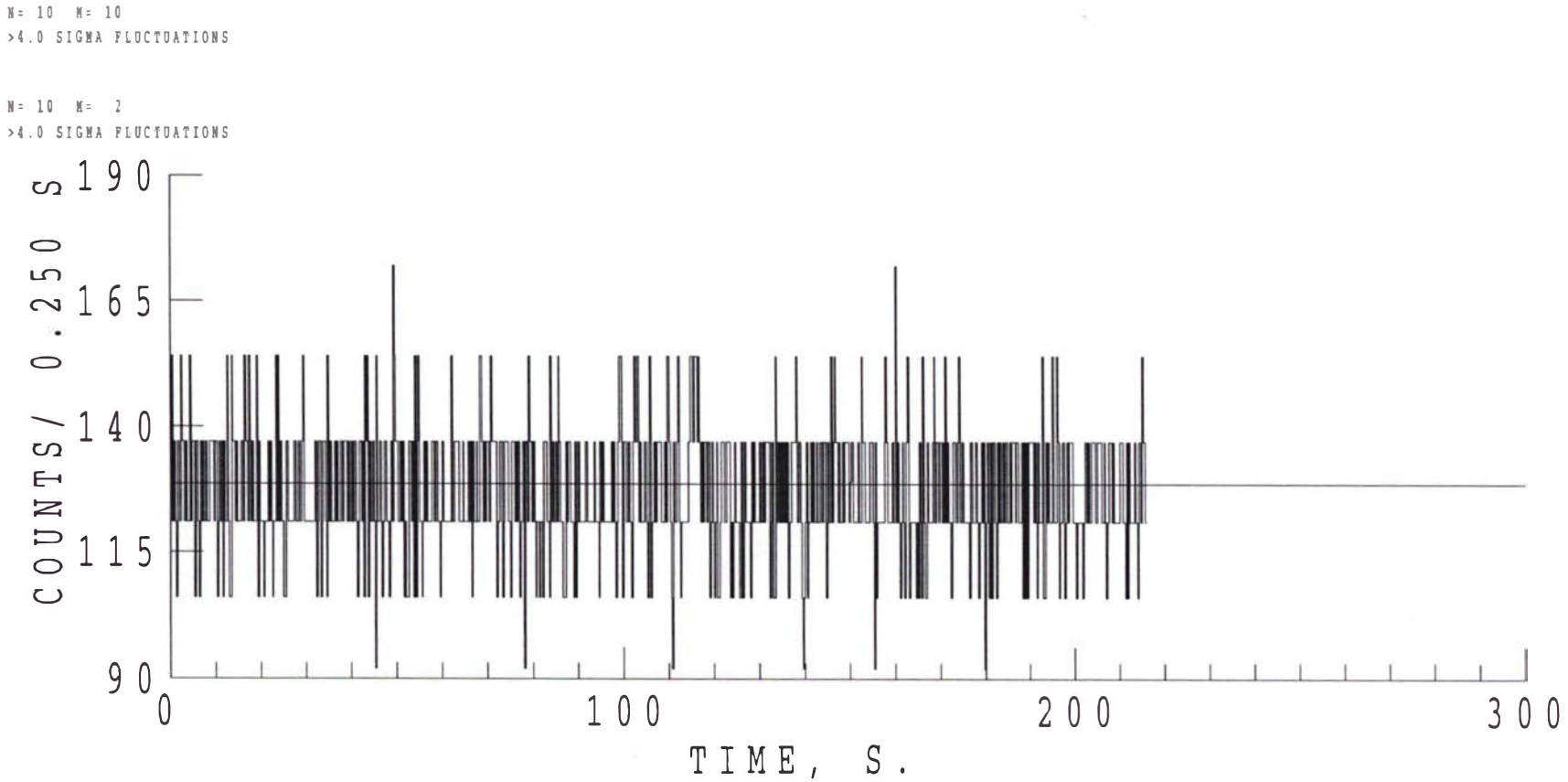
KONUS 19960212 07702

ULYSSES RT

14/09/11

12/02/96 7596.230 s

0- 0 keV



KONUS

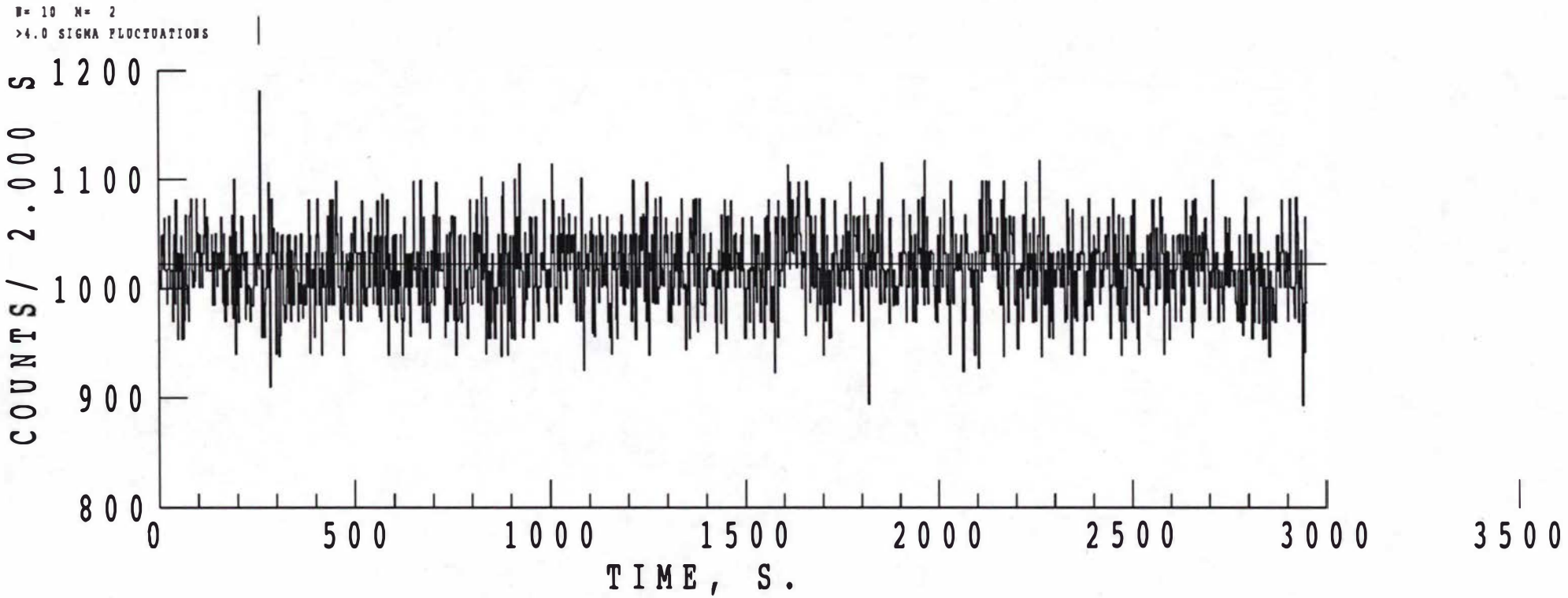
ULYSSES RT

28/01/00

12/02/96 7452.230 s

0.250 S INTERVALS REGROUPED BY 8

0- 0 keV



From WOODSP@SSLLES.MSFC.NASA.GOV Wed Feb 14 13:30 PST 1996
From: WOODSP@SSLLES.MSFC.NASA.GOV
Date: Wed, 14 Feb 1996 15:29:54 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 4836

TIME: TJD=0125 SECONDS=15936

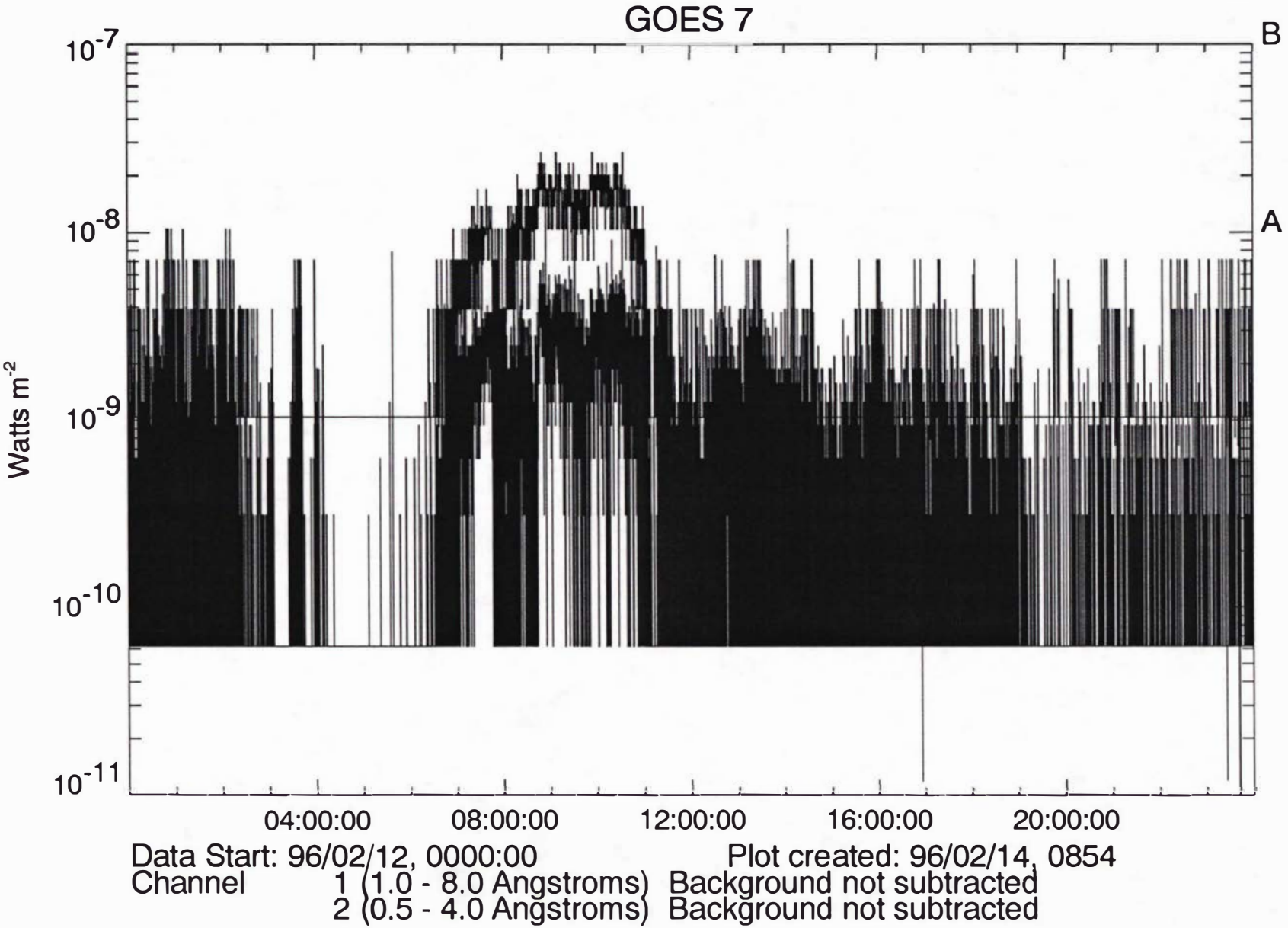
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

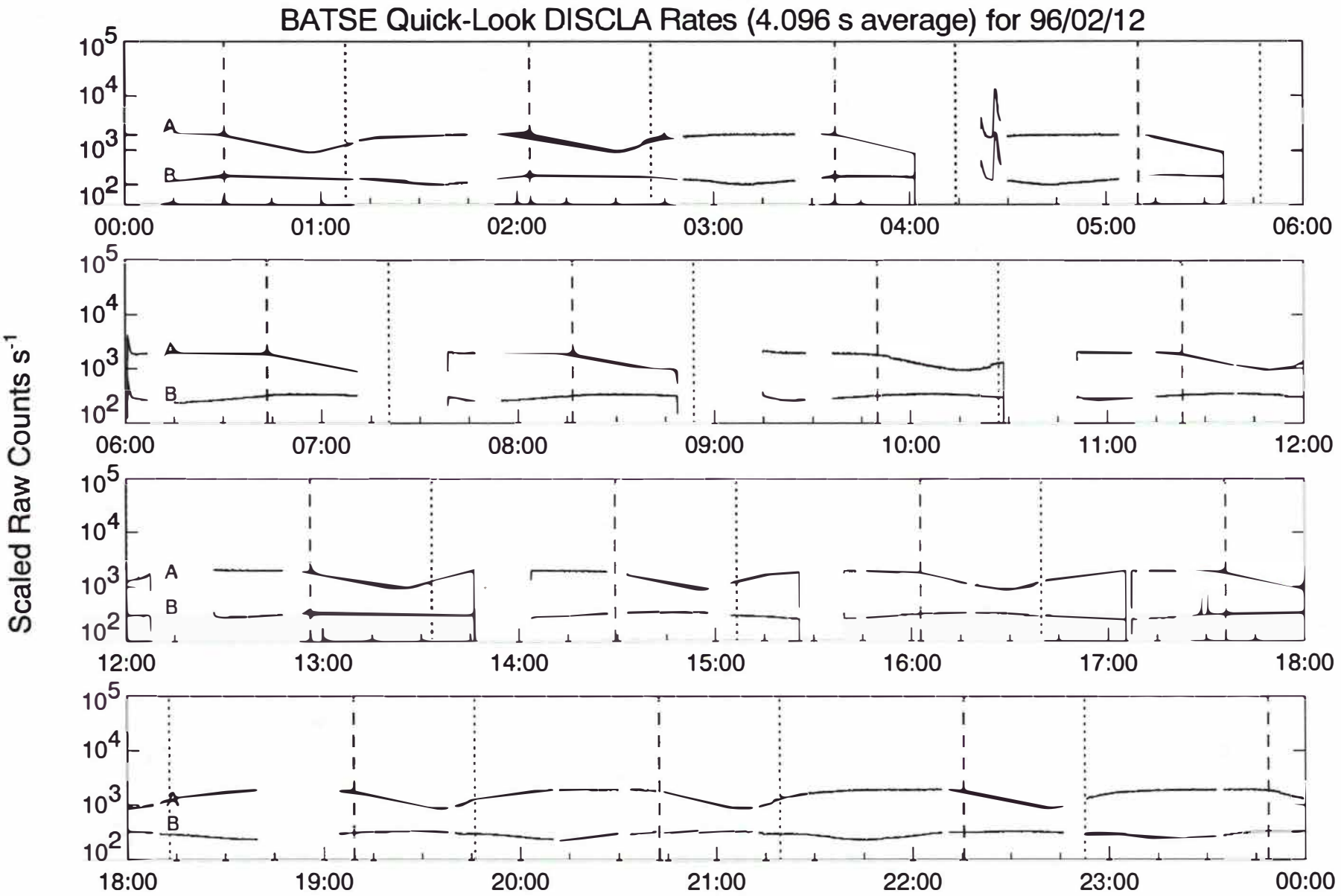
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

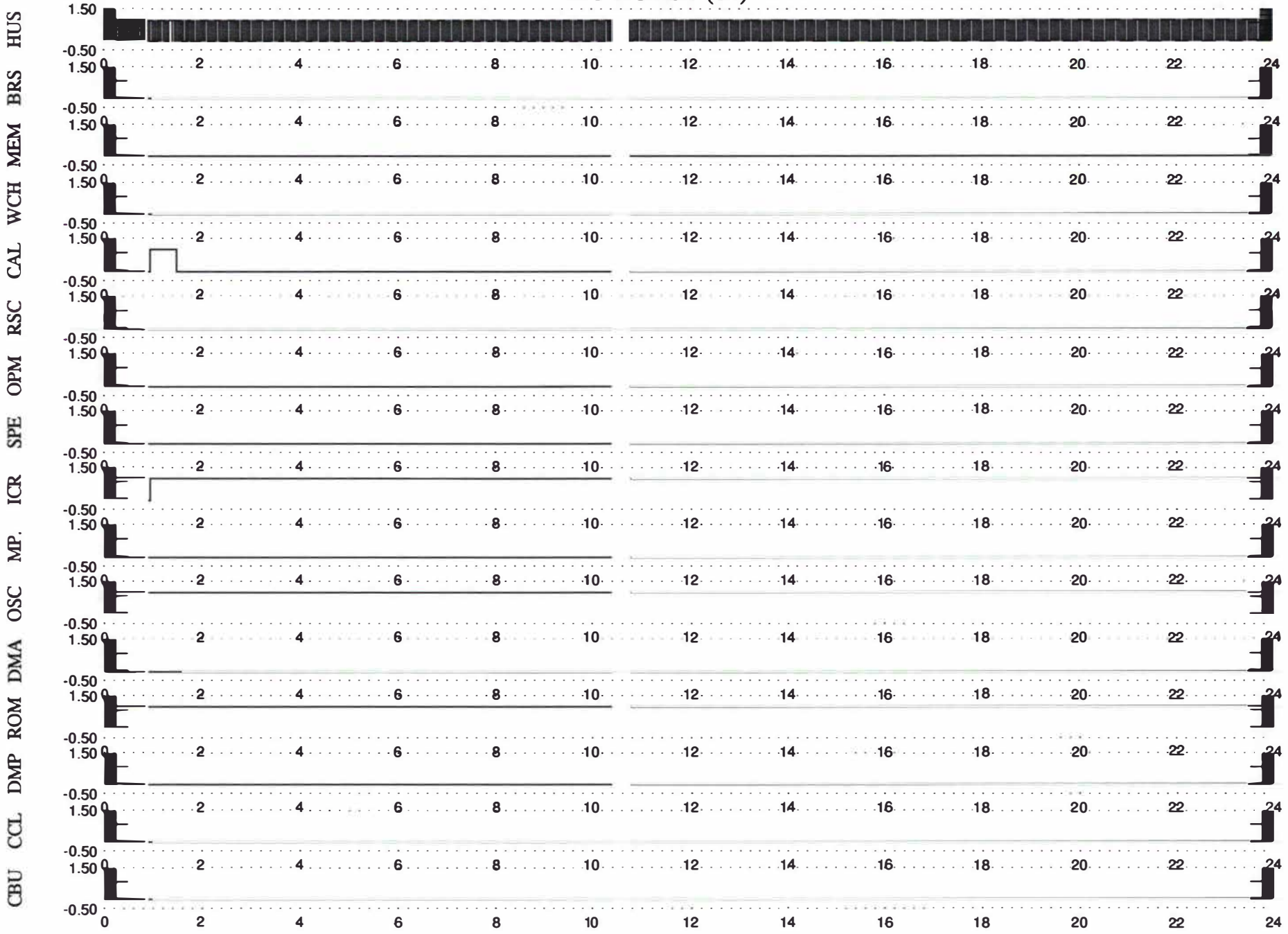
COMMENTS:
PARTICLE EVENT.


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/12, 0000:00
Plot created: 96/02/14, 0854
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 96/02/12
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: 96/02/14, 0855 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 43, year 1996 to day 43, year 1996 11/25/96

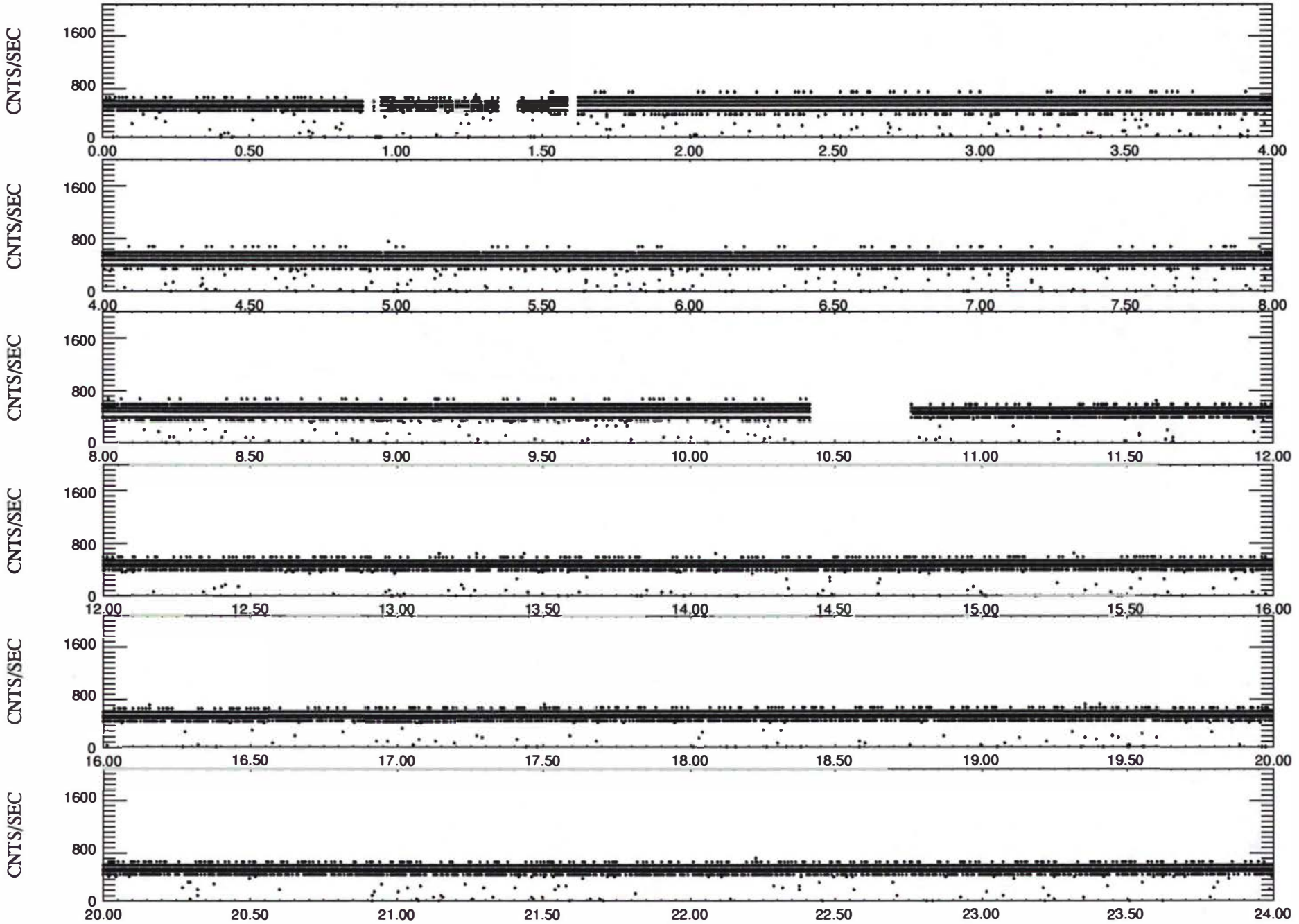
NO BURST (14)



UN. RSAL TIME

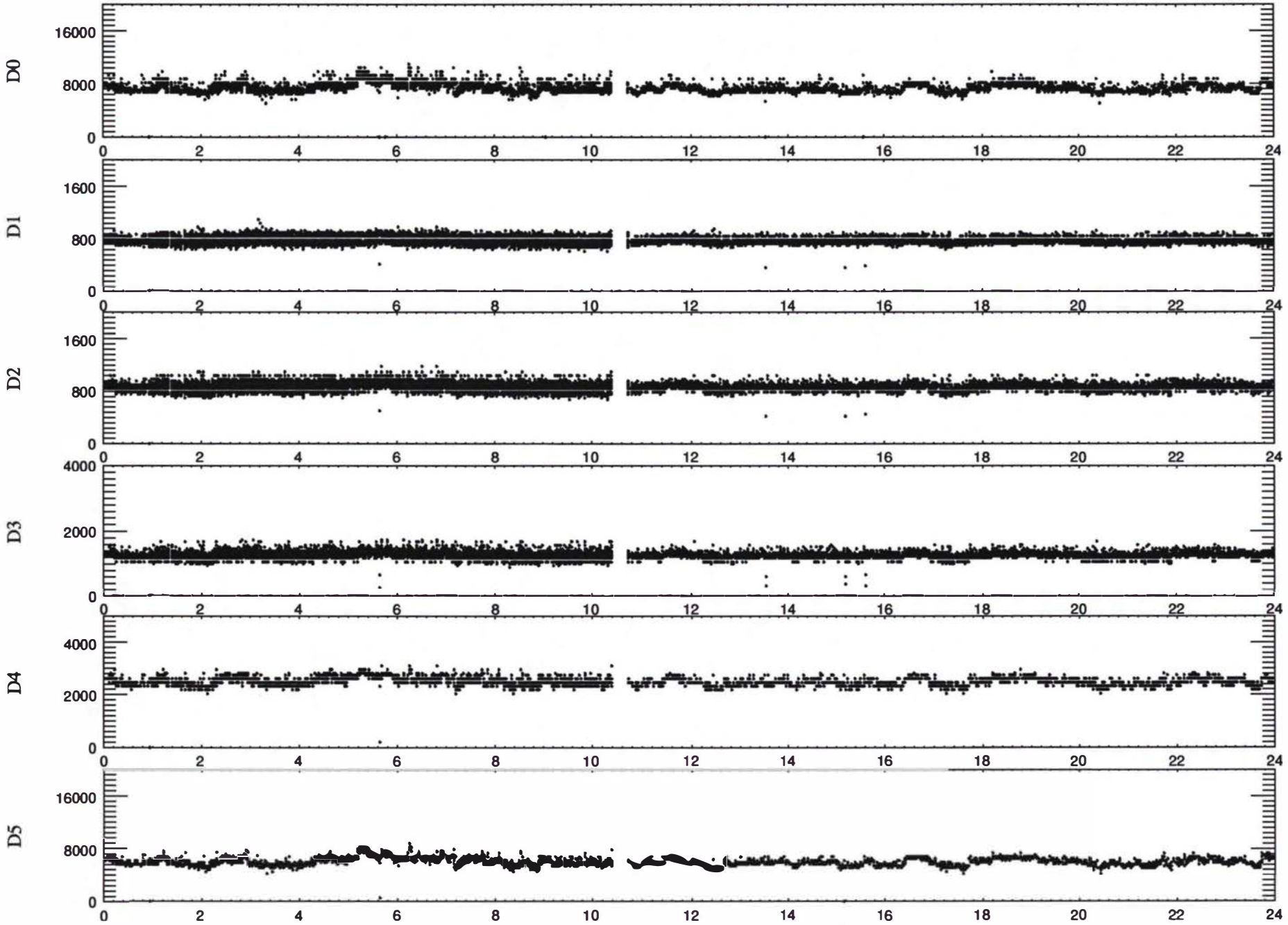
HUS 2A, MODE 1, NOT AVERAGED EDR day 43, year 1996 to day 43, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 43, year 1996 to day 43, year 1996 11/25/96



From SURASAK@SSLLES.MSFC.NASA.GOV Mon Feb 19 08:50 PST 1996
Date: Mon, 19 Feb 1996 10:49:41 -0600 (CST)
From: SURASAK@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 04854

TIME: TJD=0126 SECONDS=40593

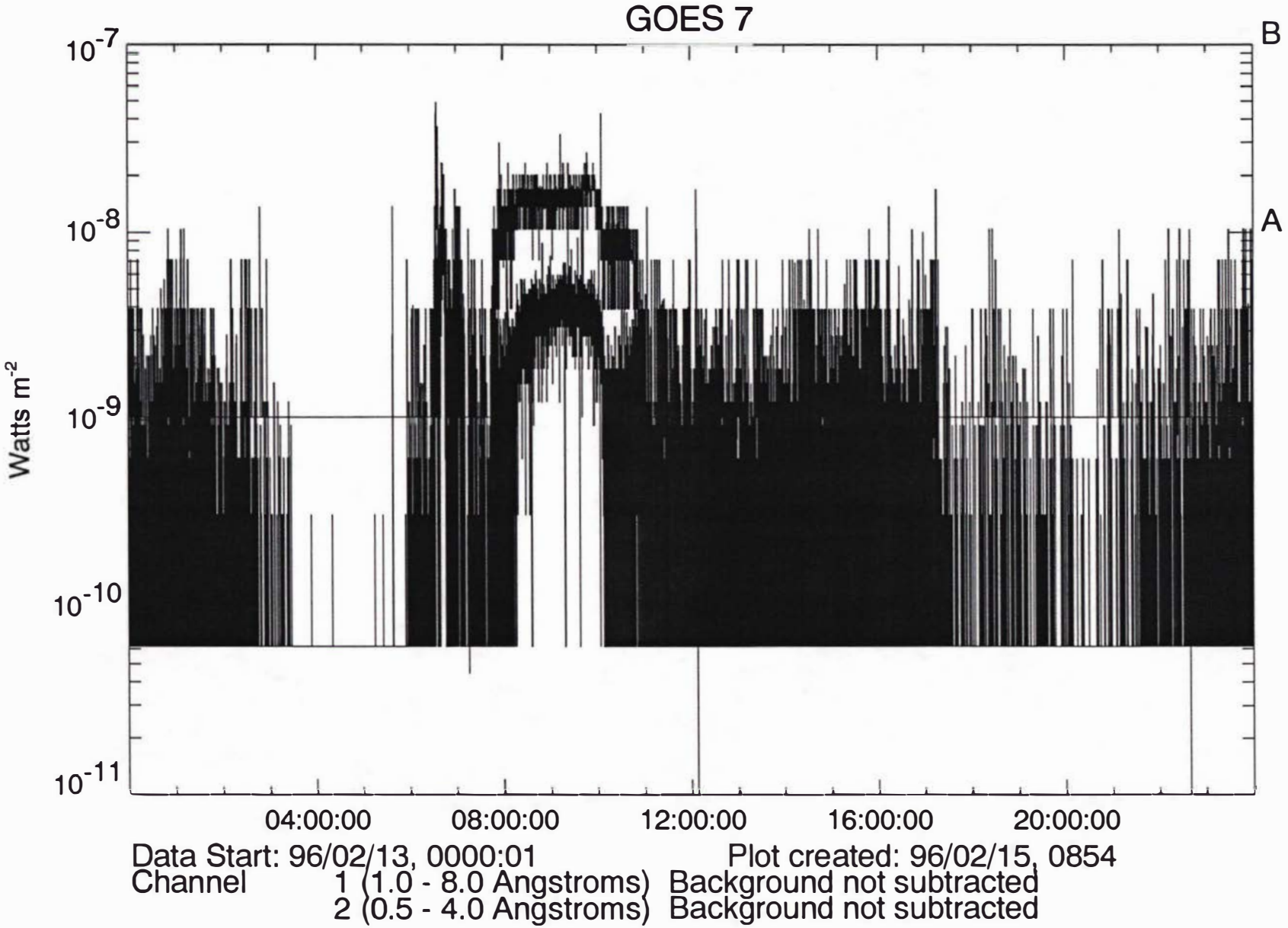
TYPE: CYGNUS SOLAR FLARE TRIGGER SIGNAL:N

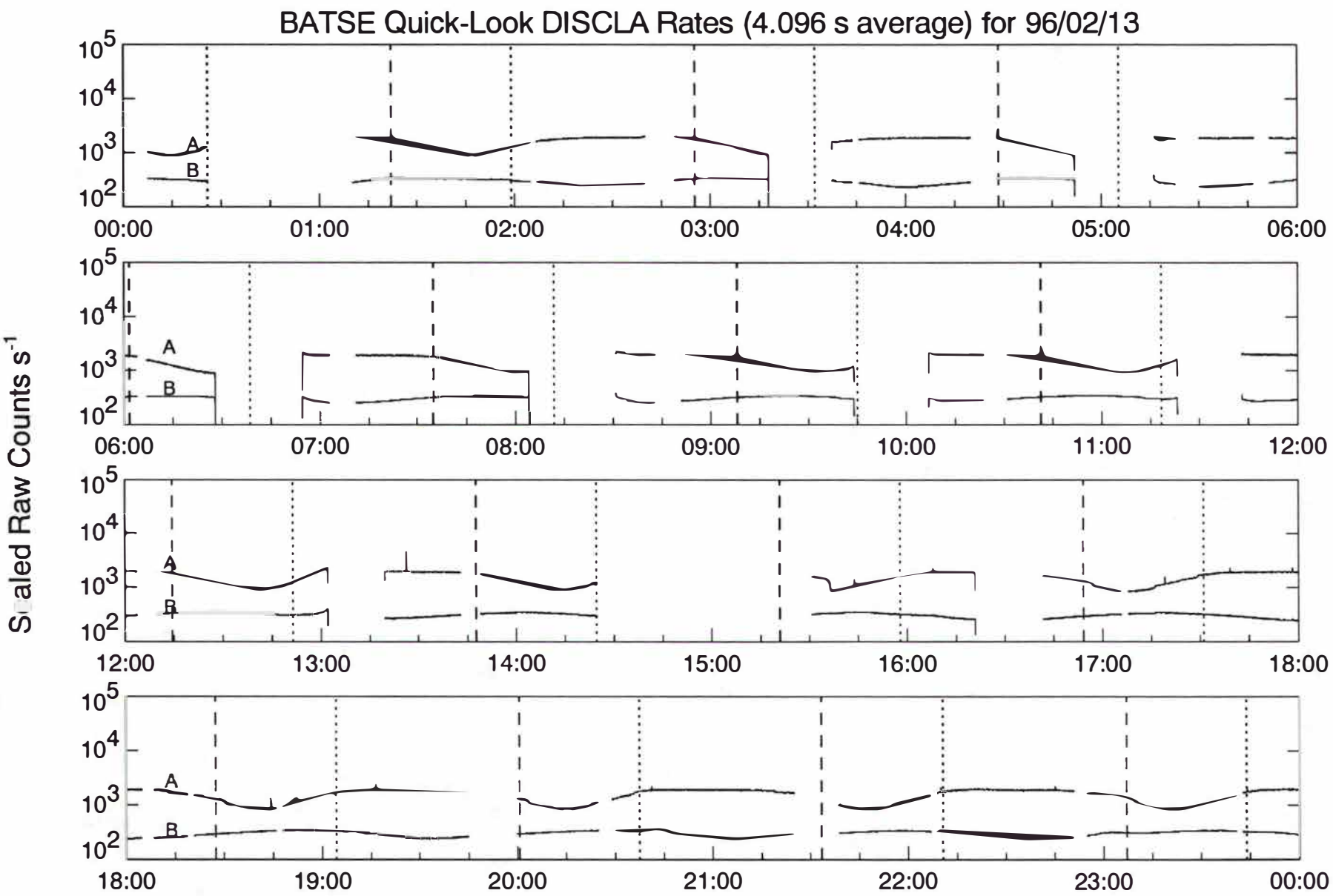
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

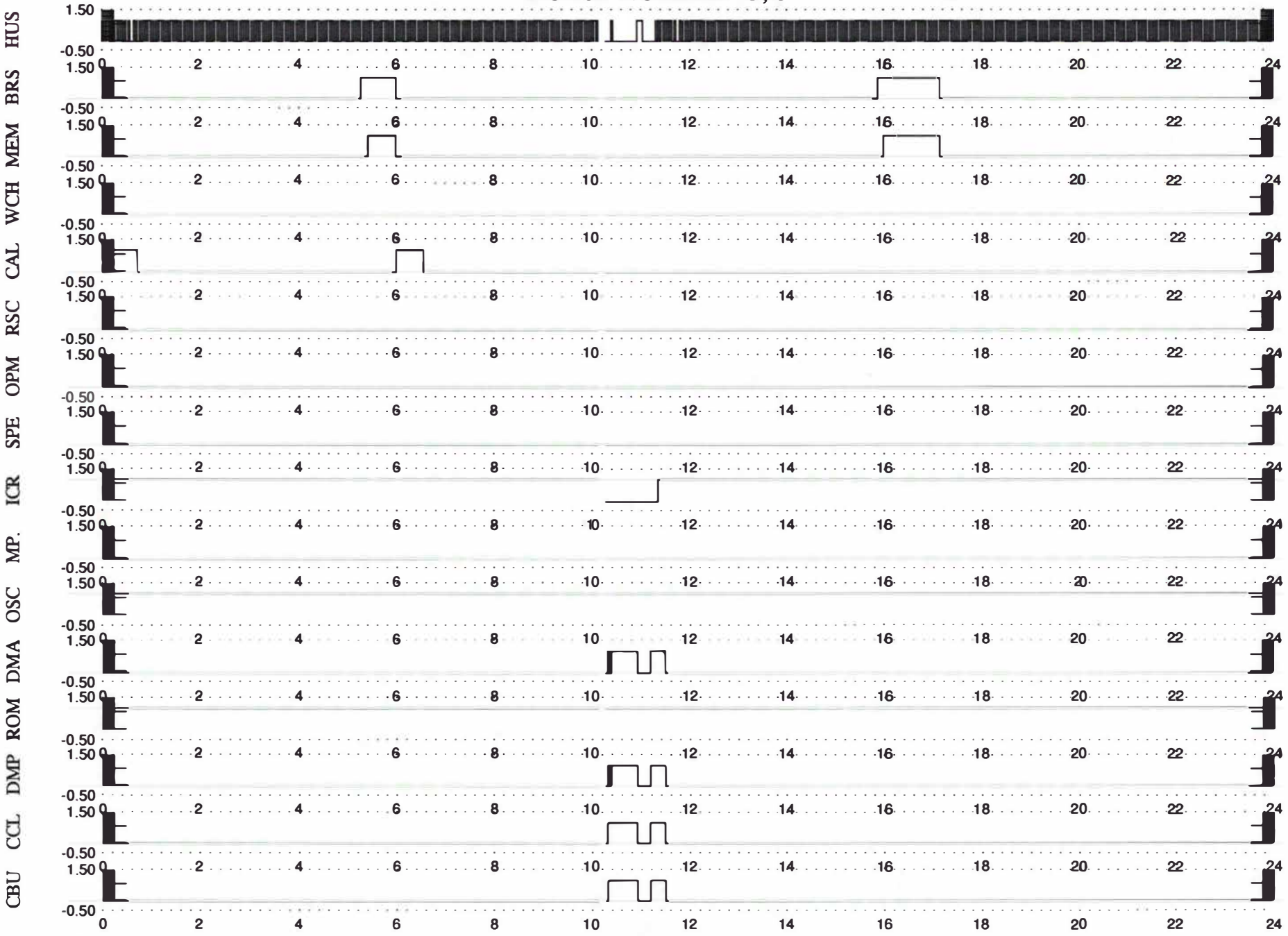
COMMENTS:
CYG X-1 RISE.


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/13, 0000:01
Plot created: 96/02/15, 0854
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 96/02/13
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: 96/02/15, 0855 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 44, year 1996 to day 44, year 1996 11/25/96

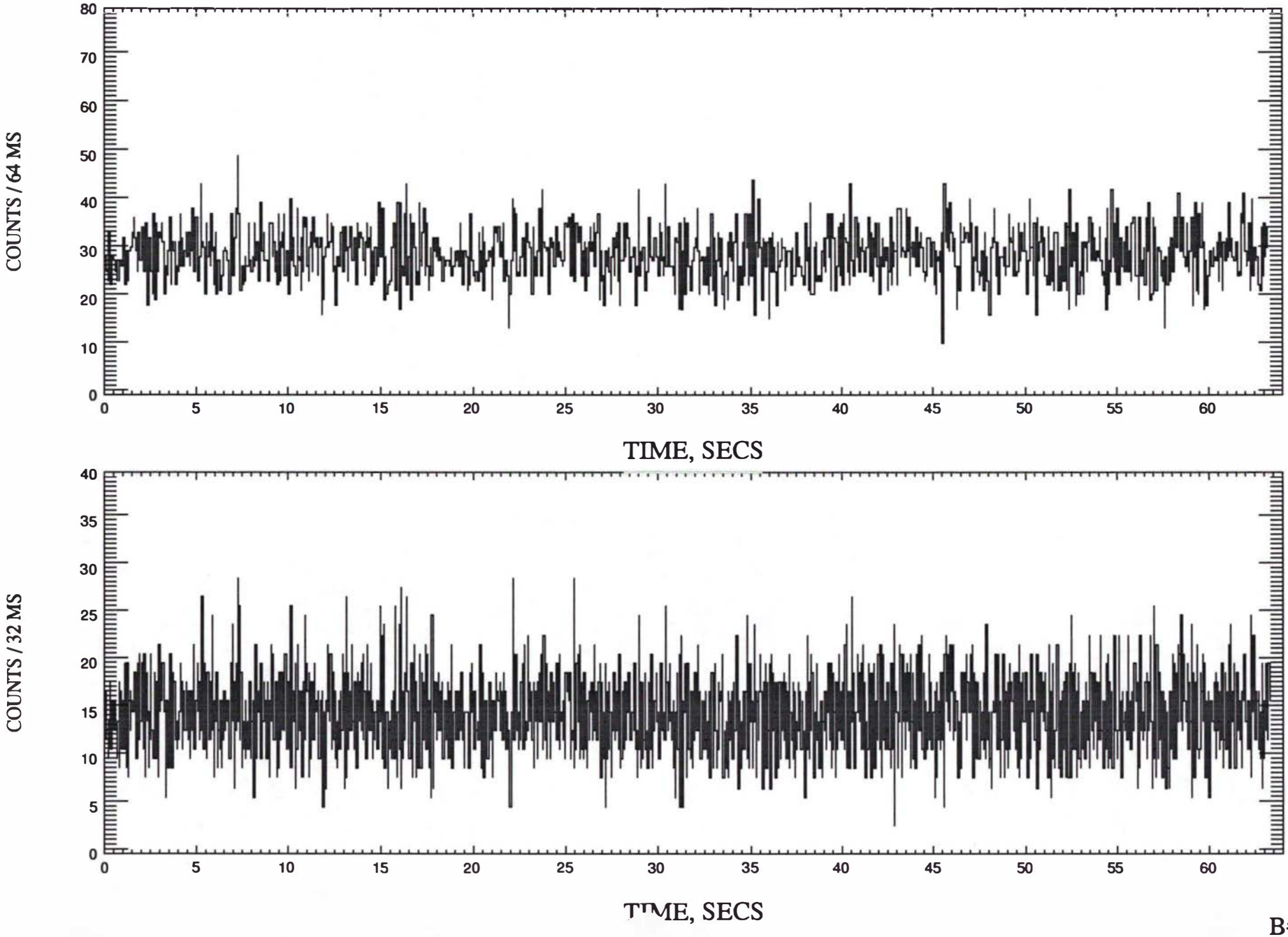
BURST NUMBER 15, 0



UN. RSAL TIME

HUS 2A TRIGGERED DATA EDR day 44, year 1996 11/25/96

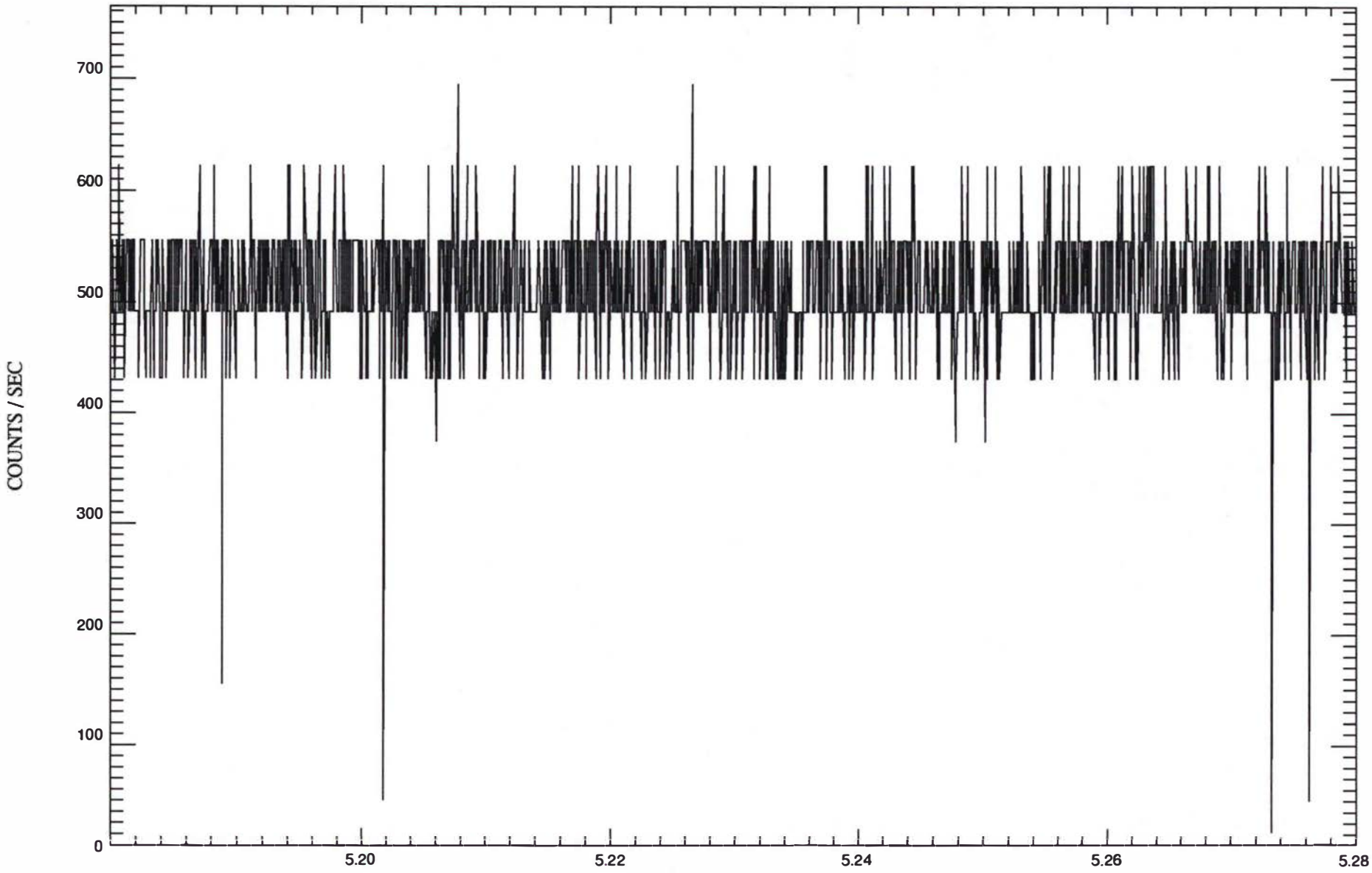
Burst Counter 15 at UT= 5.226665602790 h=18815.996 s 05:13:35.996



B# 1

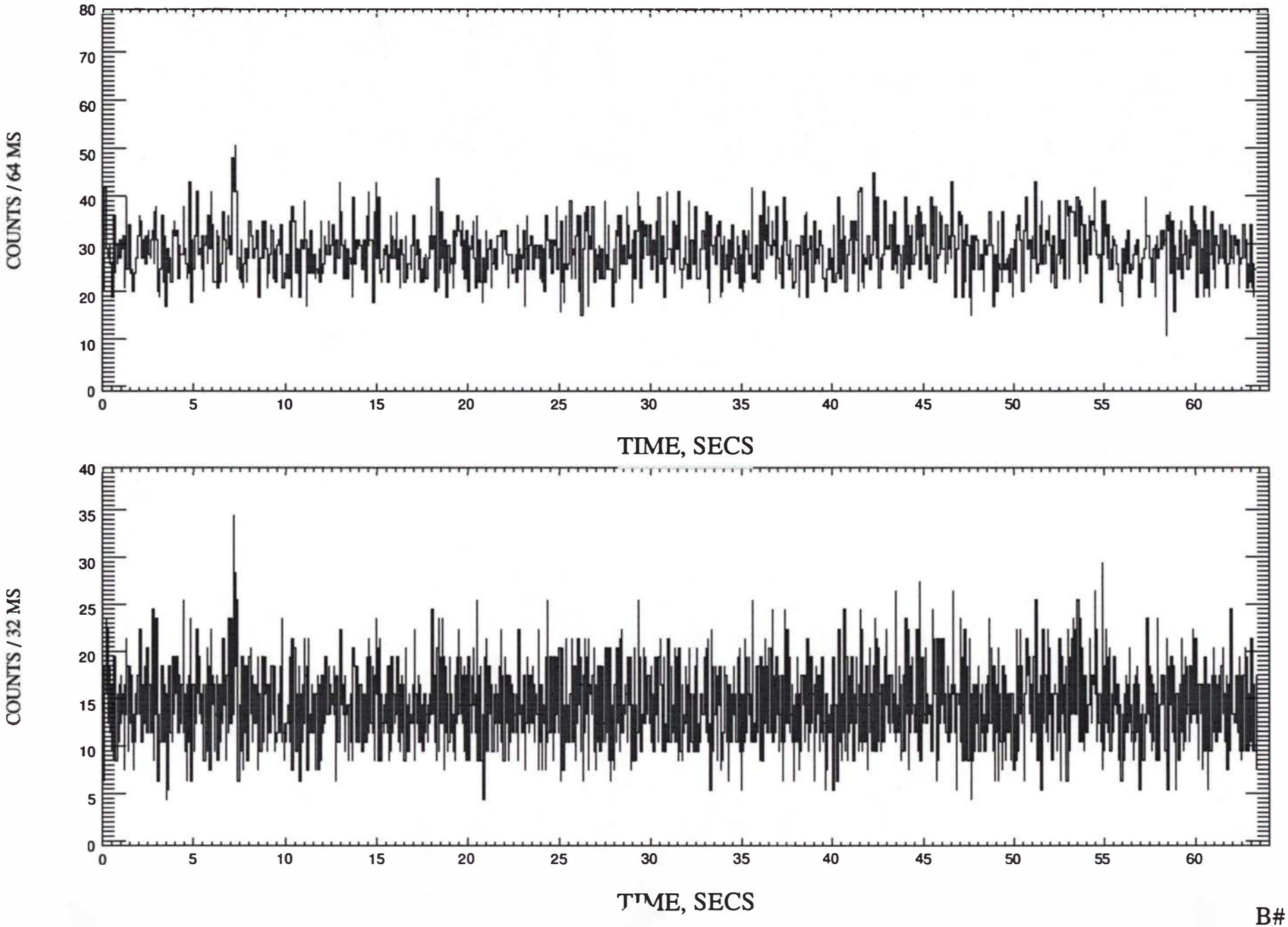
HUS 2A, MODE 1, NOT AVERAGED EDR day 44, year 1996 to day 44, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 44, year 1996 11/25/96

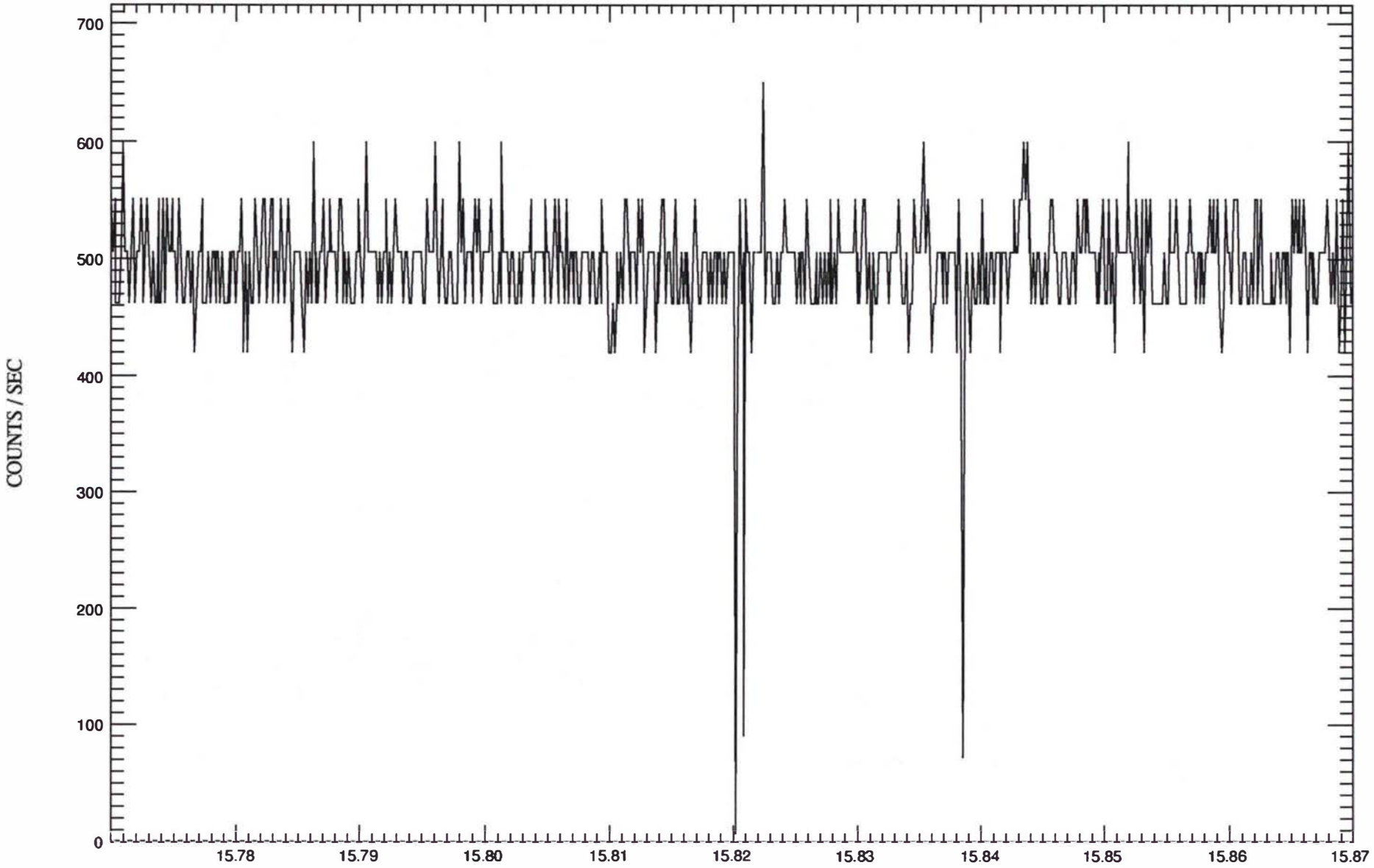
Burst Counter 0 at UT=15.822683397929 h=56961.660 s 15:49:21.660



B# 2

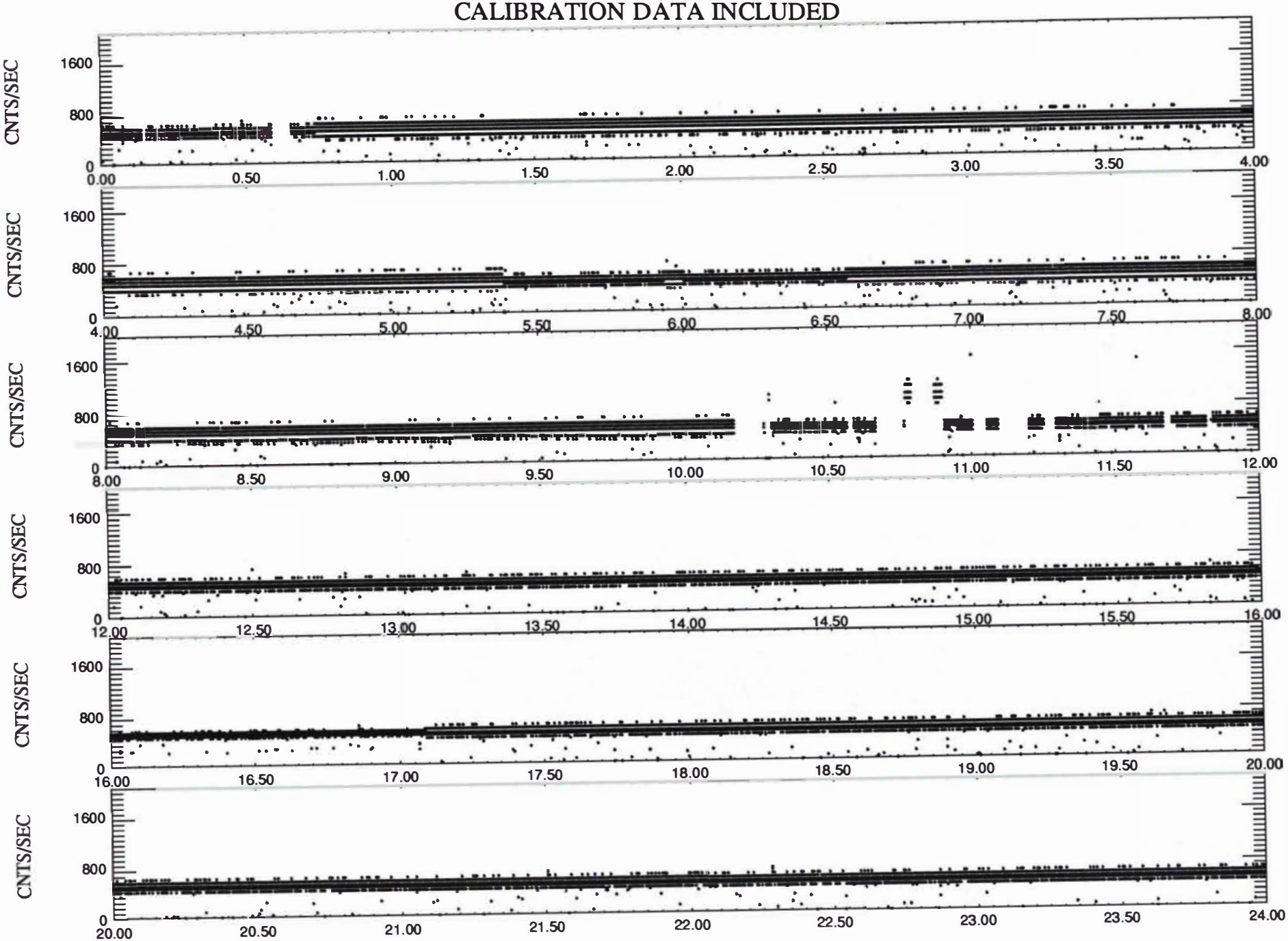
HUS 2A, MODE 1, NOT AVERAGED EDR day 44, year 1996 to day 44, year 1996 11/25/96

CALIBRATION DATA INCLUDED



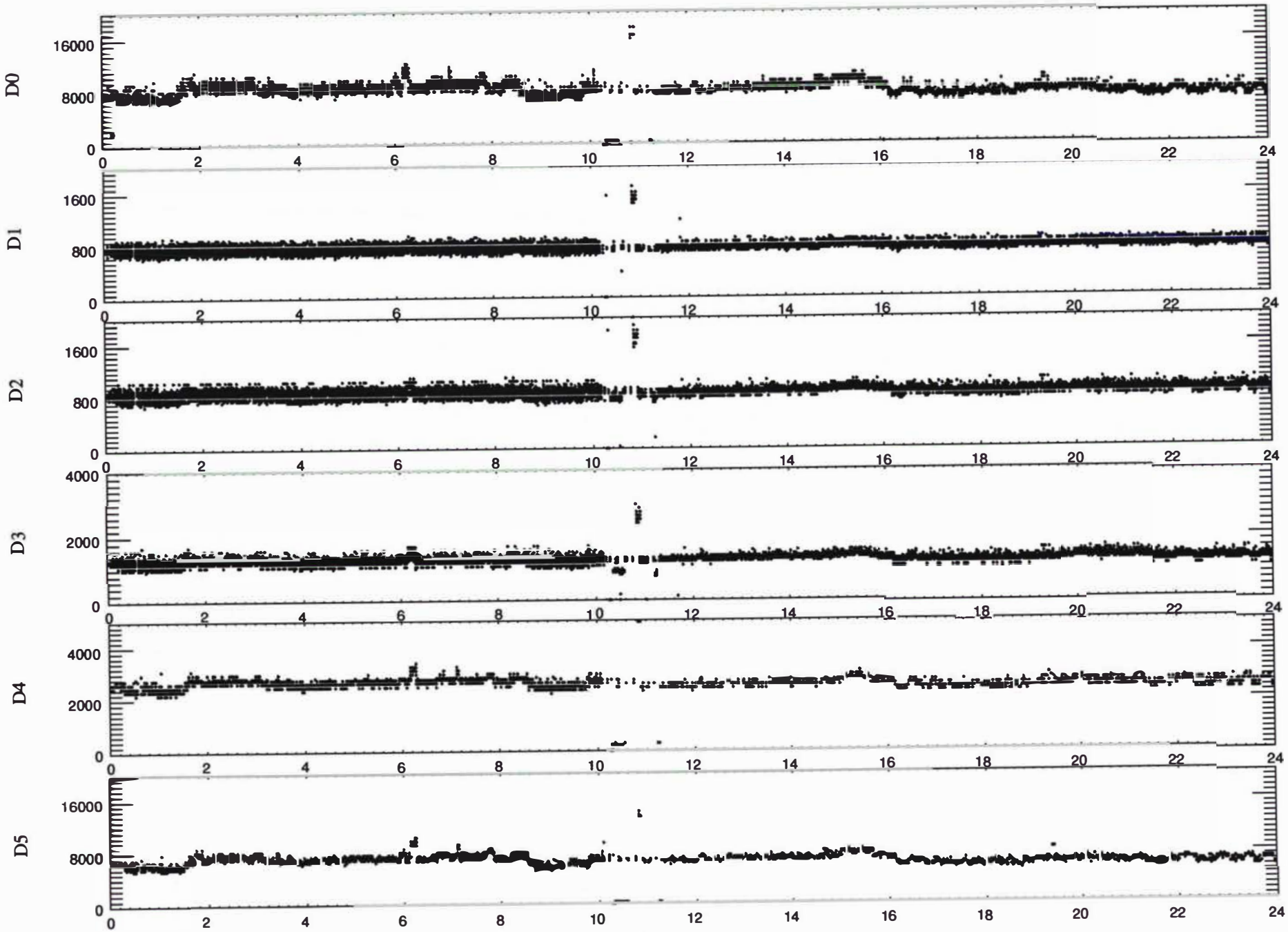
HUS 2A, MODE 1, NOT AVERAGED EDR day 44, year 1996 to day 44, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 44, year 1996 to day 44, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Fri Feb 16 14:44 PST 1996
Date: Fri, 16 Feb 1996 14:36:36 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4871

NO

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

 BATSE BURST #     4871
 EVENT OF 1996 FEB 14 DAY OF YEAR= 45
 EVENT CROSSING TIME AT BATSE      : 67073. S. OR 18:37:53.0
 COORDINATES ARE    0.000    0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 351.000    -4.000
 BATSE PEAK COUNTING RATE:  14500     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 14/ 2/  96 IS:
 RA=  212.277 DEC=    72.005 DIST=     2.855 AU
 BATSE-ULYSSES DISTANCE =  427094485. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.66 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  424.48 SECS.
 CROSSING TIME AT ULYSSES     IS 67497. S. OR   18:44:57 +/-  292.55 SECONDS

 EVENT CROSSING TIME AT MARS        WILL BE FOUND
 POSITION OF MARS ON 14/ 2/  96 IS:
 RA=  331.339 DEC=  -12.874 DIST=     2.364 AU
 MARS-BATSE DISTANCE =  353684864. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=158.64 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1098.76 SECS.
 CROSSING TIME AT MARS        IS 65974. S. OR   18:19:34 +/-   57.90 SECONDS

                 BATSE BURST TRIGGER
NO.: 4871

TIME: TJD=0127 SECONDS=67073

TYPE: BURST                     SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:        SIGMA

INTENSITY:           COUNTS/CM2

LOCATION: ZENITH=7.1    AZIMUTH=305.5  ERROR=4.9   DEGREES

COMMENTS:
SHORT GRB LASTING 0.2 SEC.  WEAKLY VISIBLE ABOVE 300 KEV.

 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4871   960214   10127   67073    14500   351   -04     .2
```

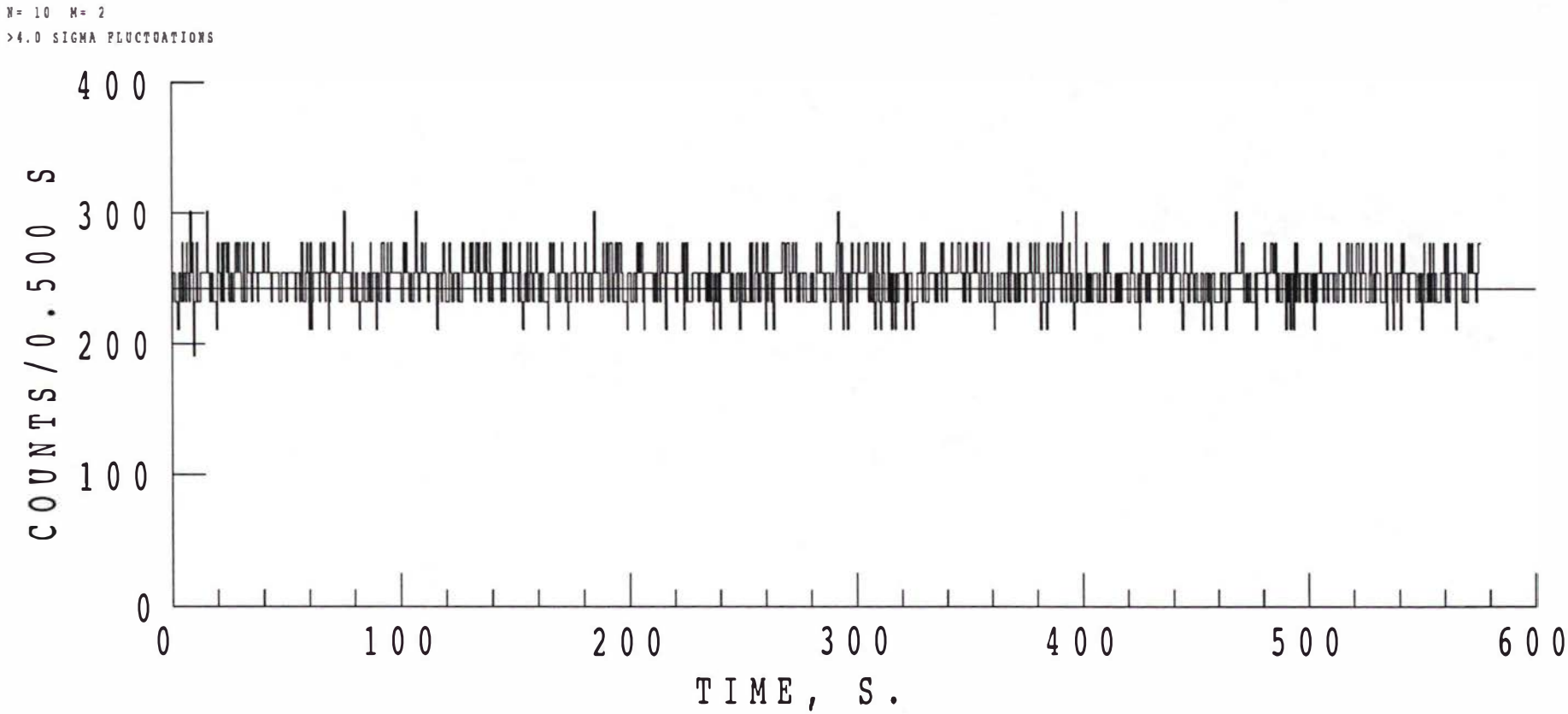
BATSE# 4871

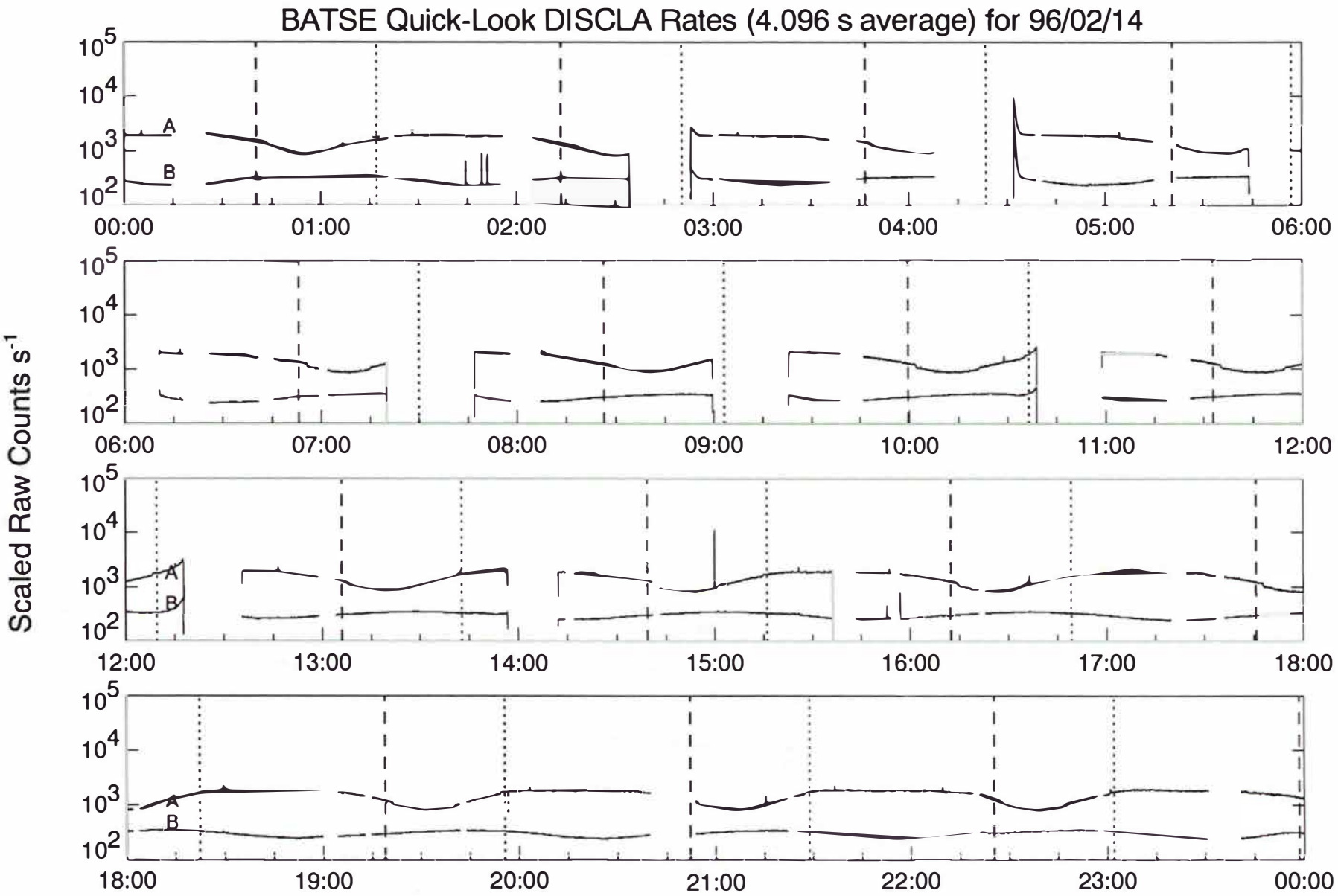
16/ 2/96

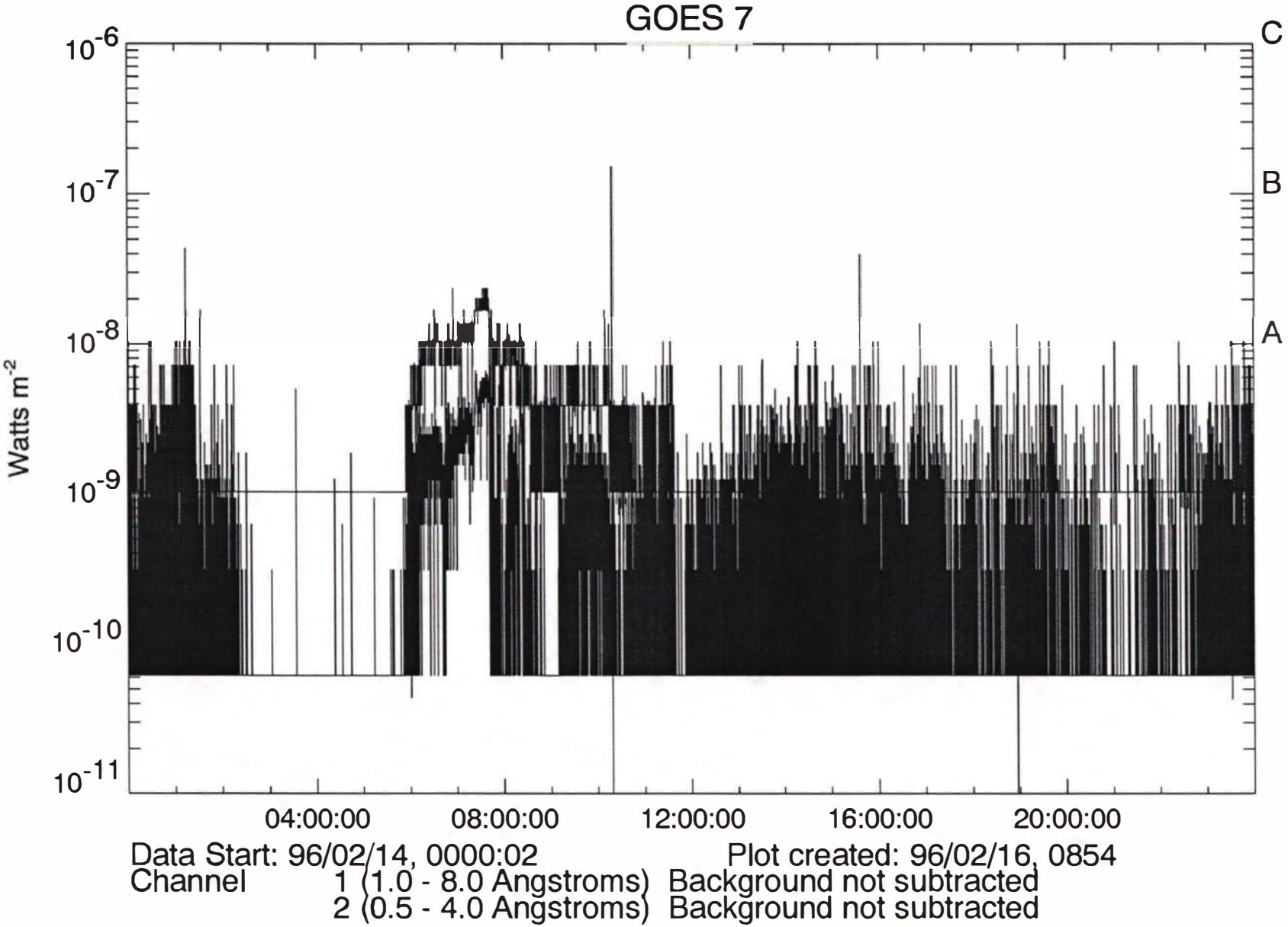
ULYSSES RT

14/ 2/96 67212.055 s

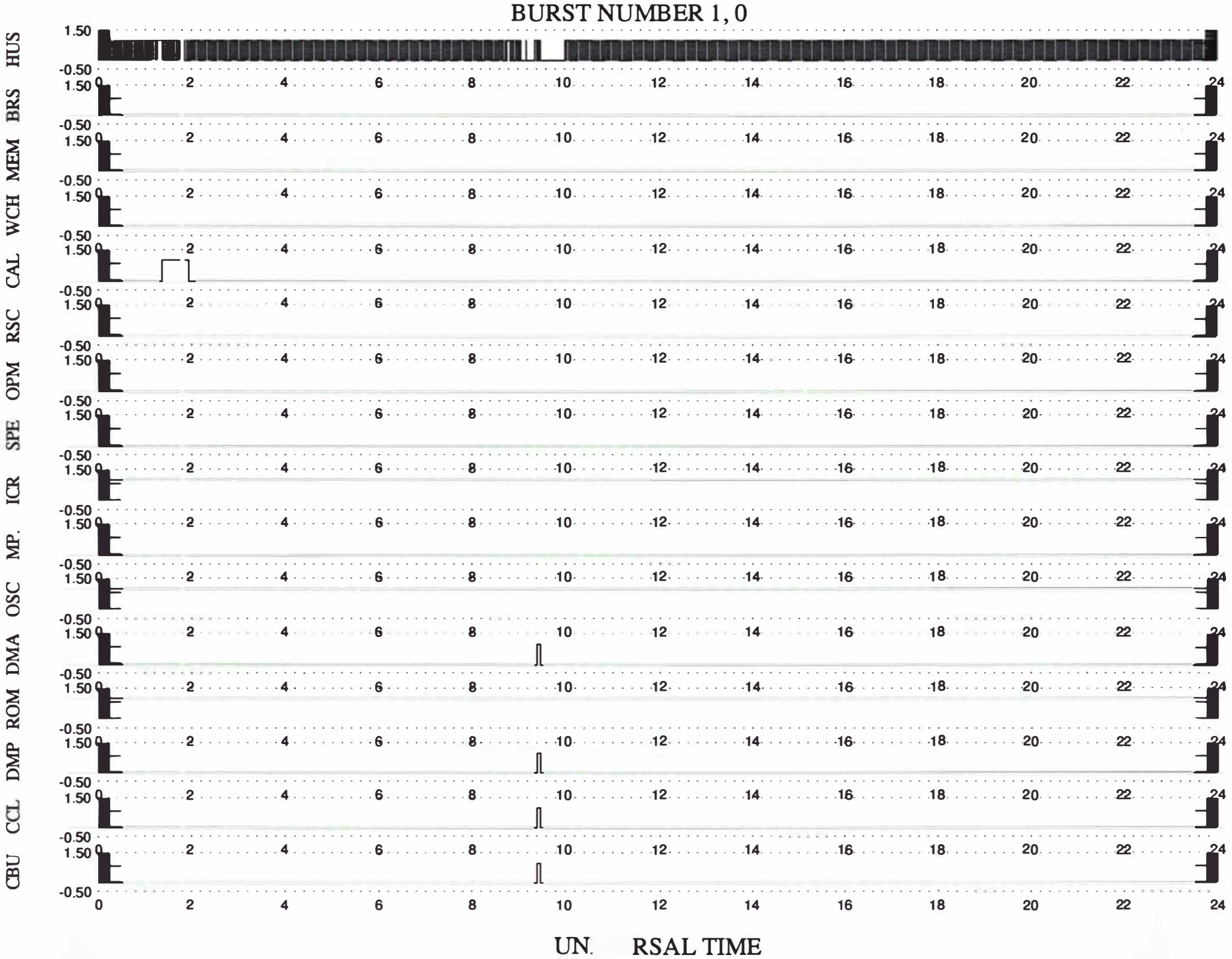
0- 0 keV




BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/14
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: 96/02/16, 0855 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

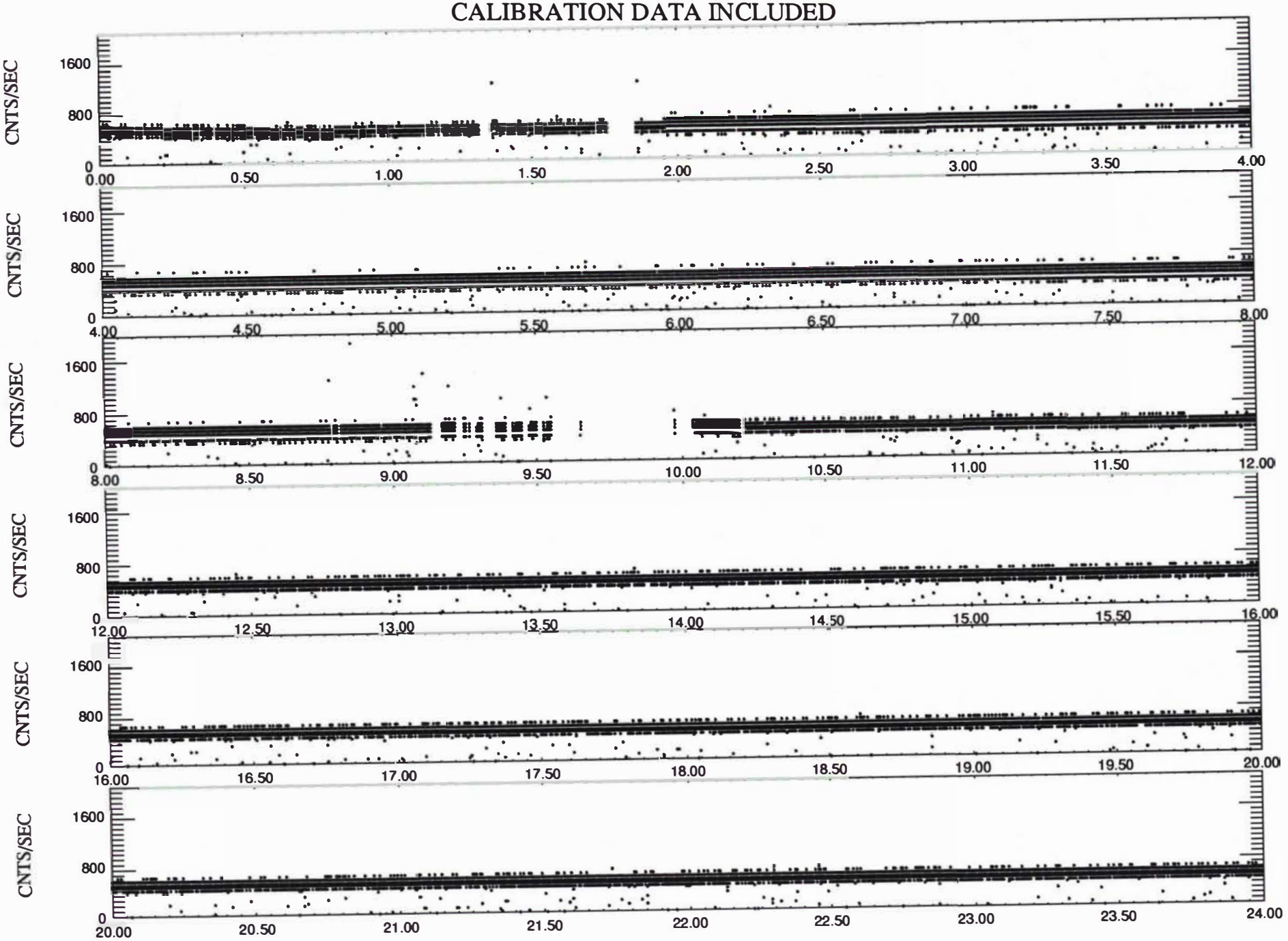

GOES 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/14, 0000:02
Plot created: 96/02/16, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 45, year 1996 to day 45, year 1996 11/25/96



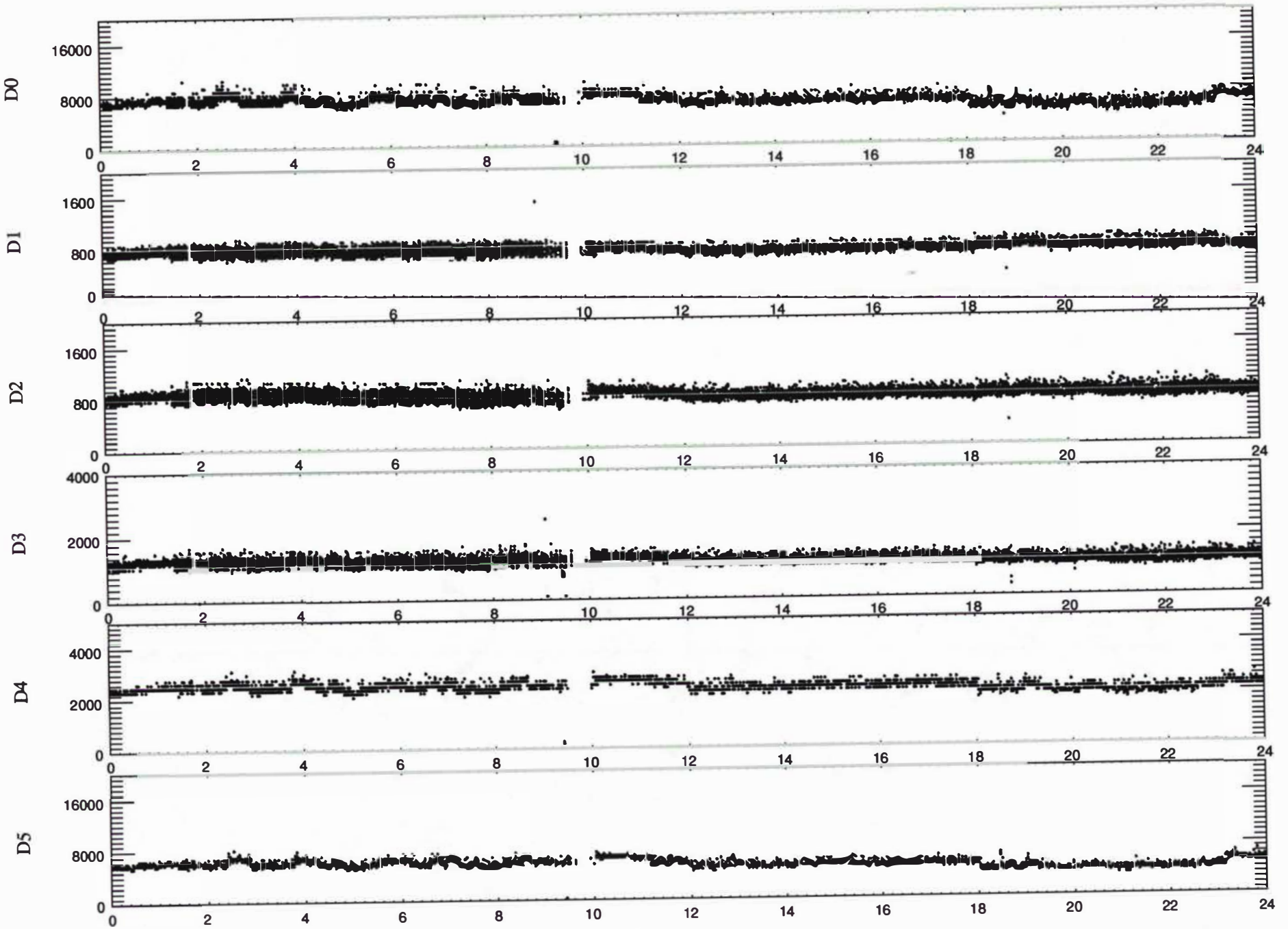
HUS 2A, MODE 1, NOT AVERAGED EDR day 45, year 1996 to day 45, year 1996 11/25/96

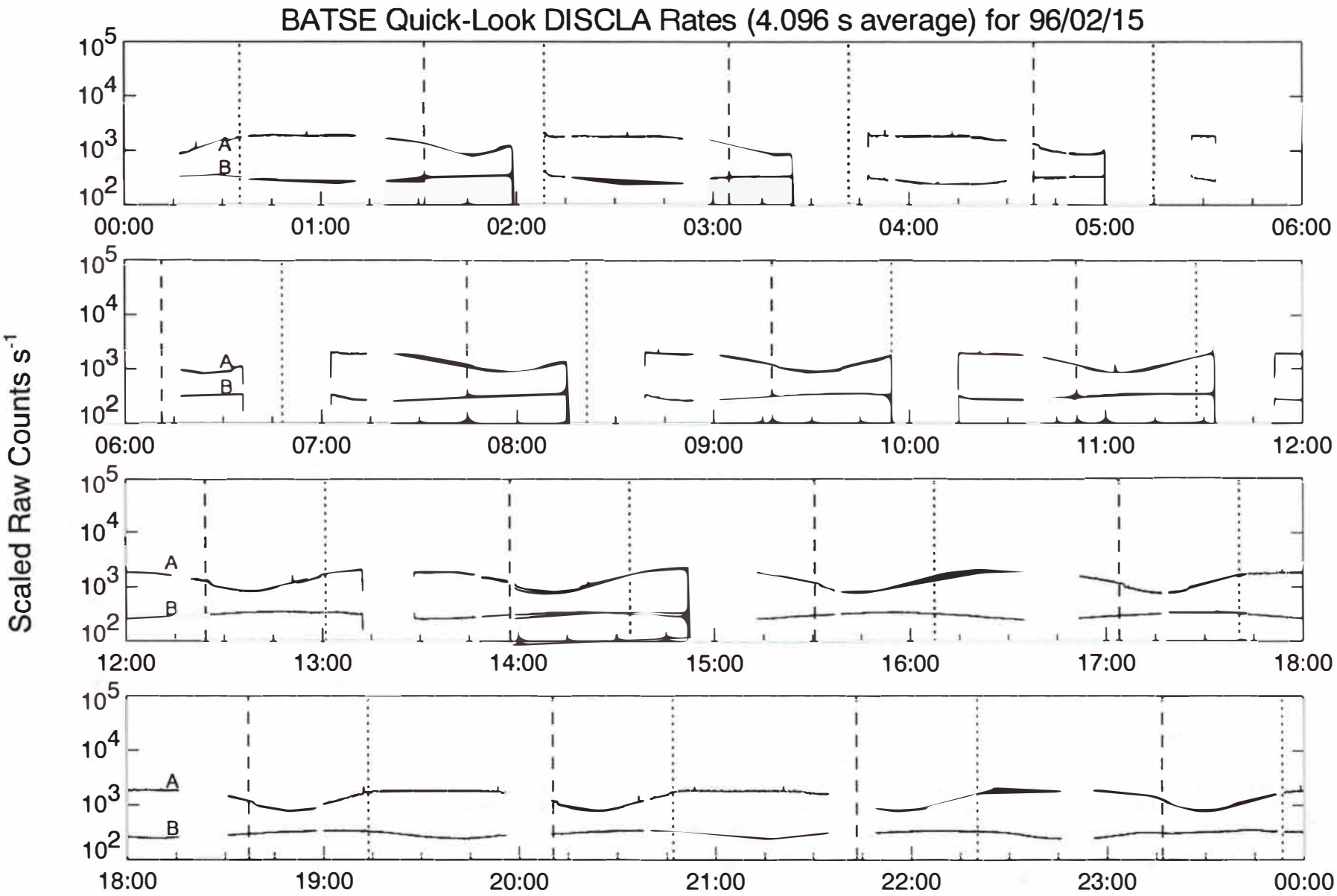
CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 45, year 1996 to day 45, year 1996 11/25/96





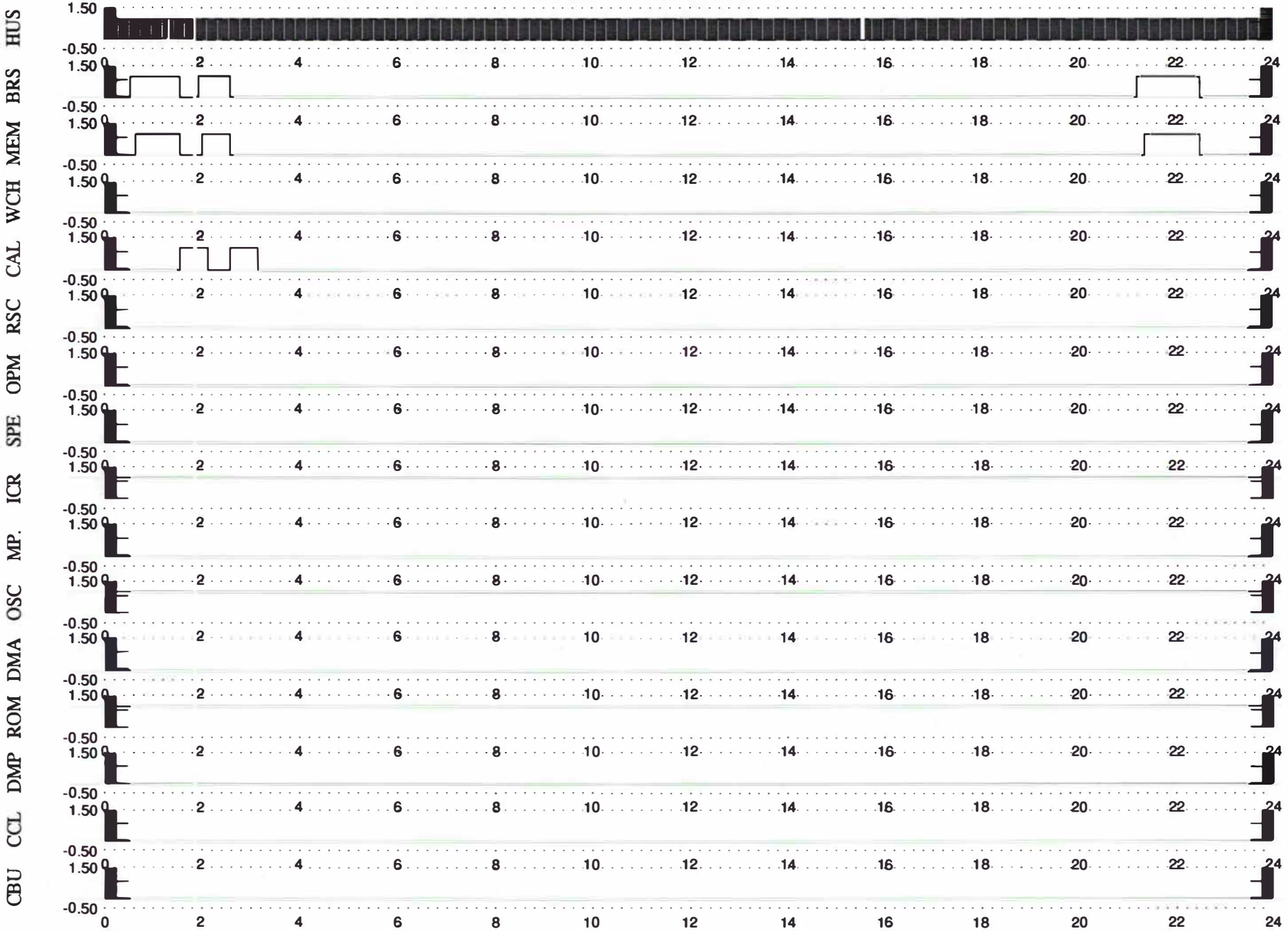
Current Time: 96/02/17, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare

HUS MODES EDR day 46, year 1996 to day 46, year 1996 11/25/96

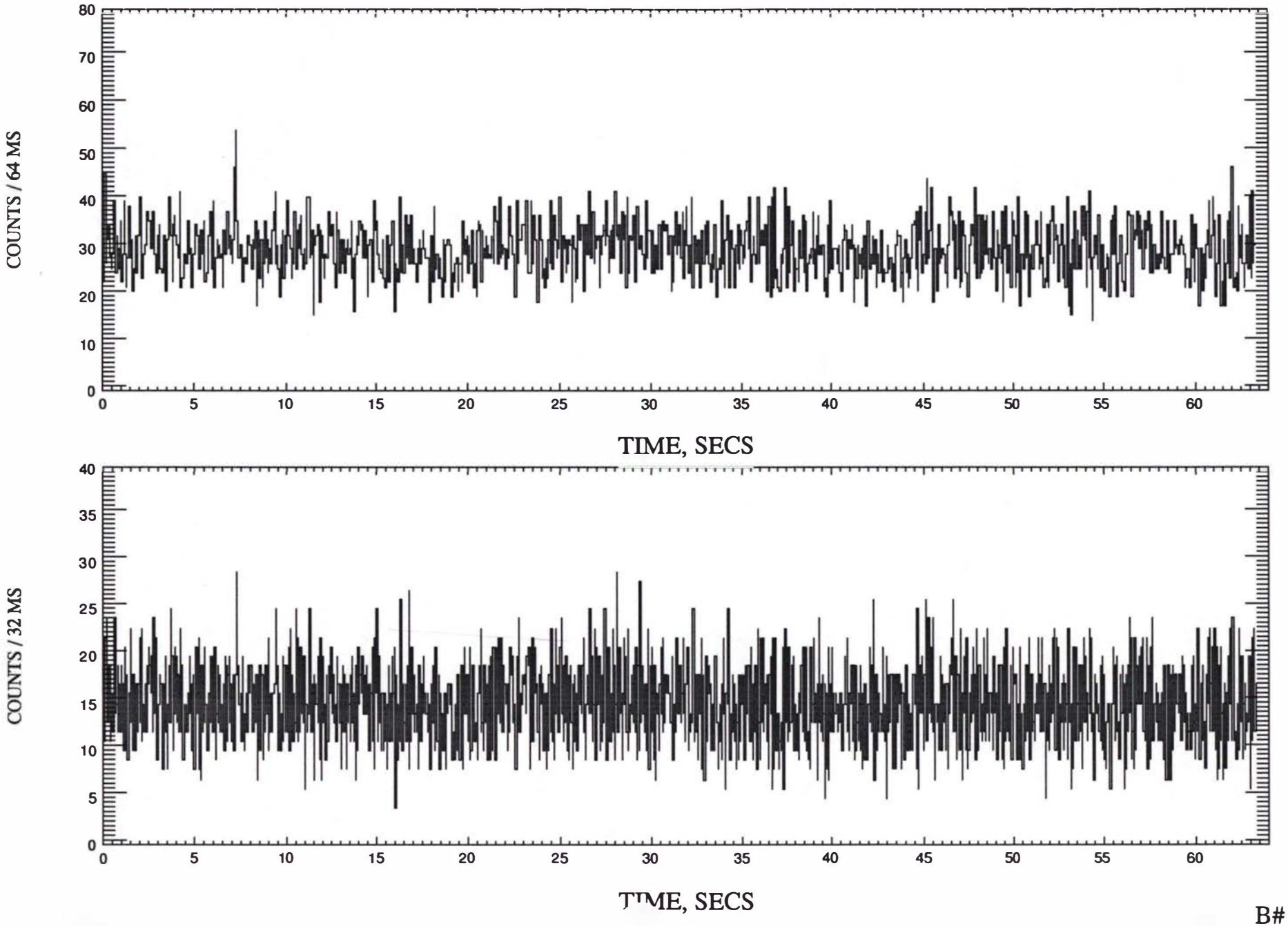
BURST NUMBER 1 - 3



UN. RSAL TIME

HUS 2A TRIGGERED DATA EDR day 46, year 1996 11/25/96

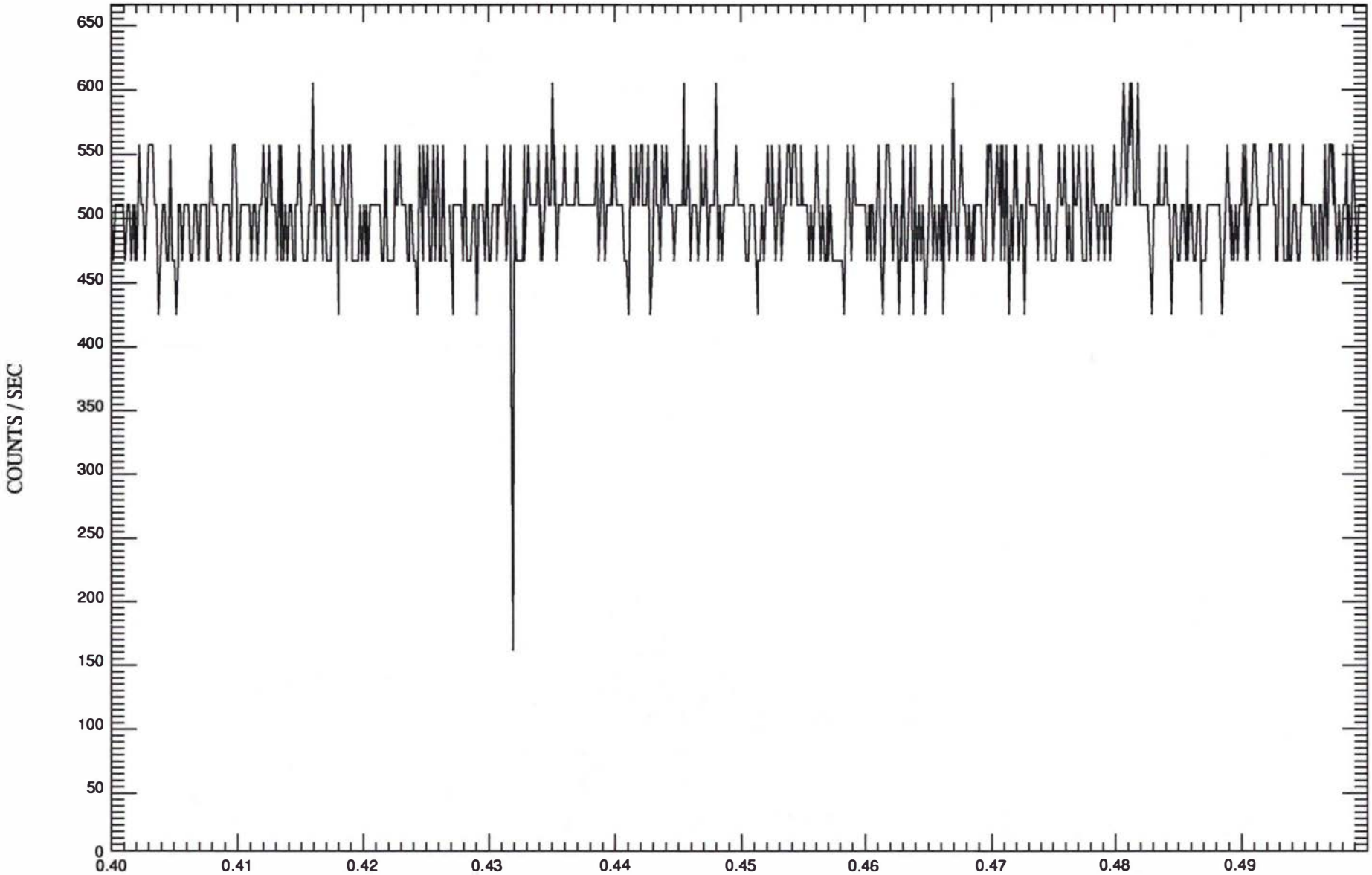
Burst Counter 1 at UT= 0.448288527595 h= 1613.839 s 00:26:53.839



B# 1

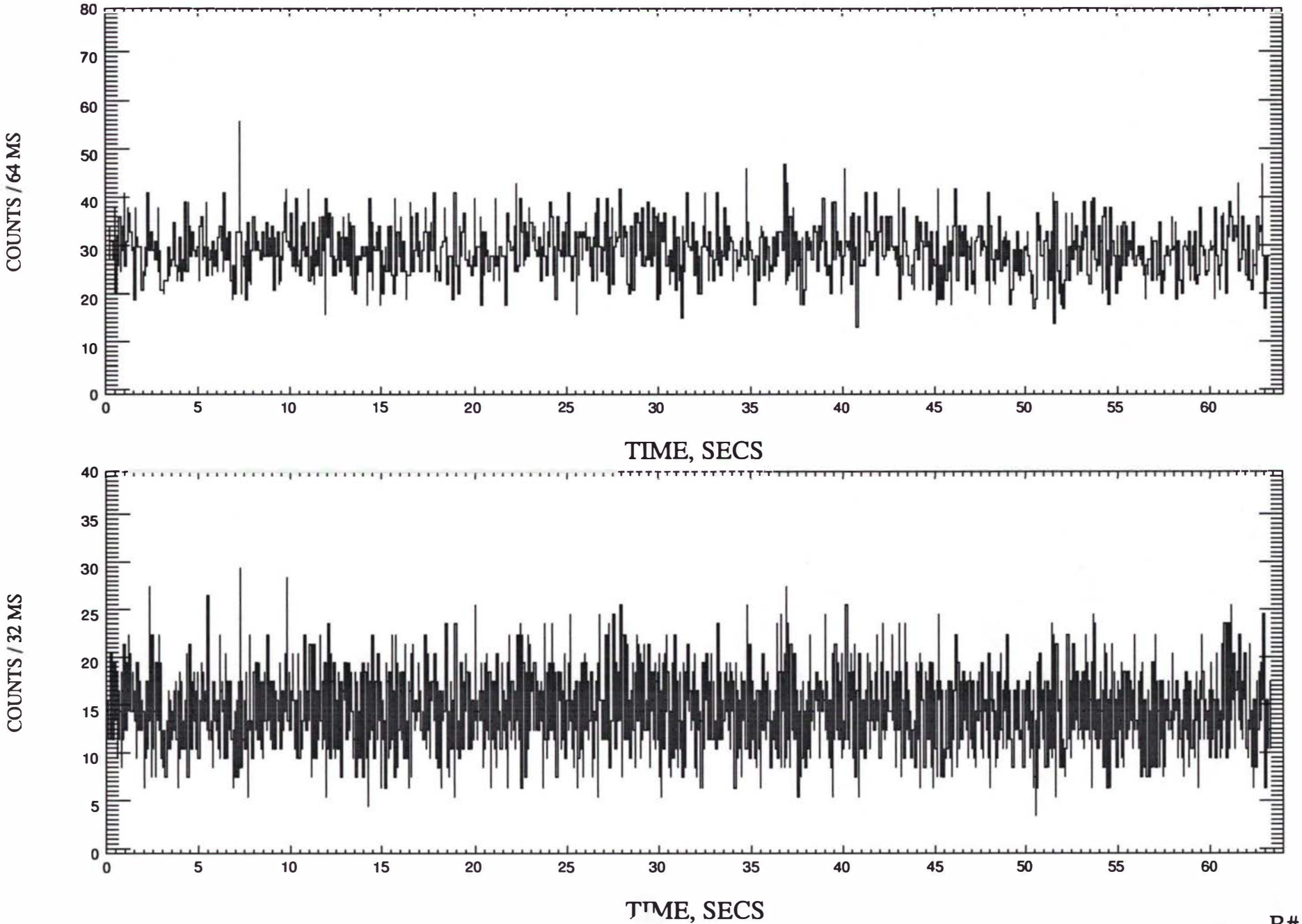
HUS 2A, MODE 1, NOT AVERAGED EDR day 46, year 1996 to day 46, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 46, year 1996 11/25/96

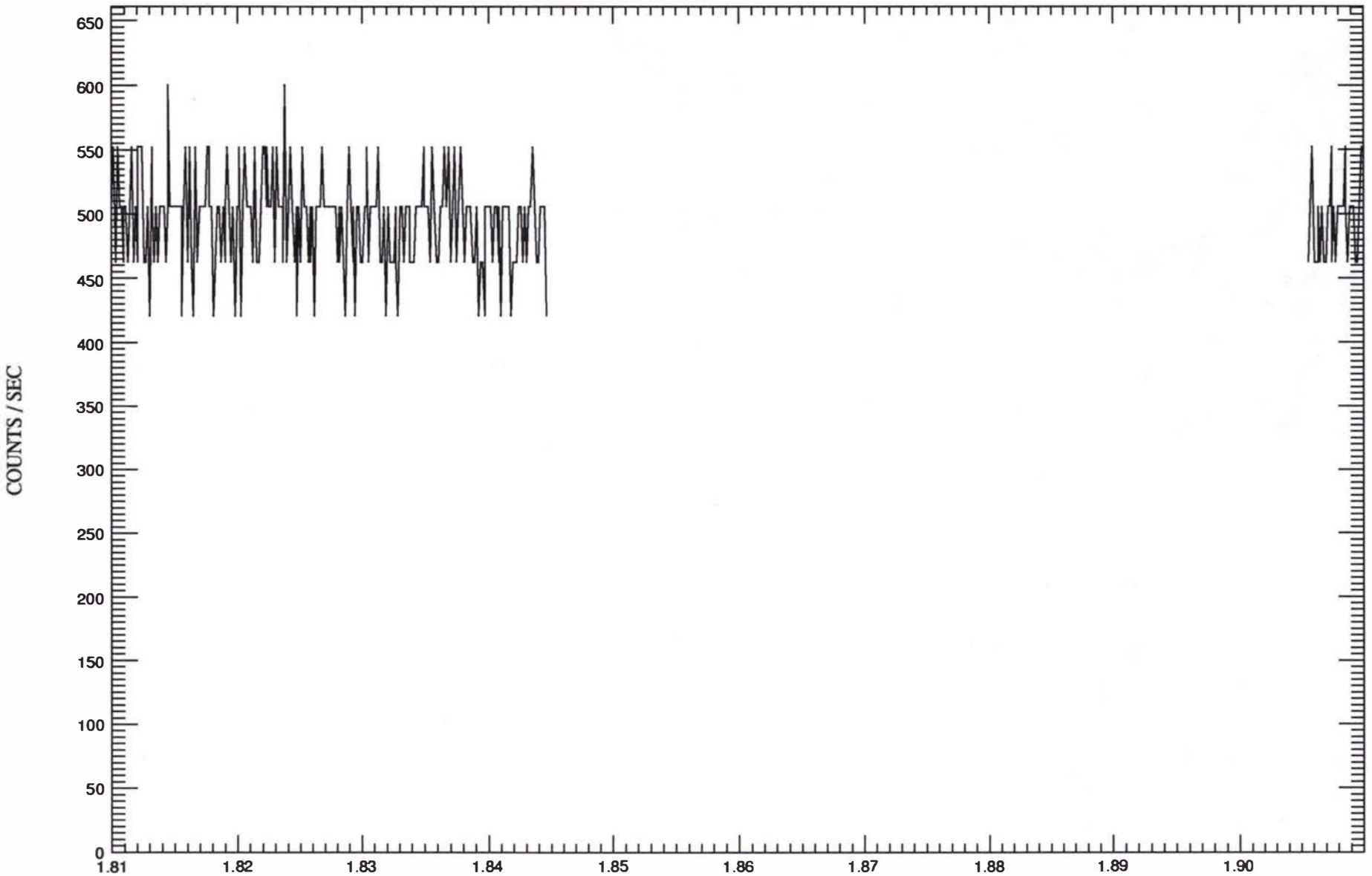
Burst Counter 2 at UT= 1.862858751085 h= 6706.292 s 01:51:46.292



B# 2

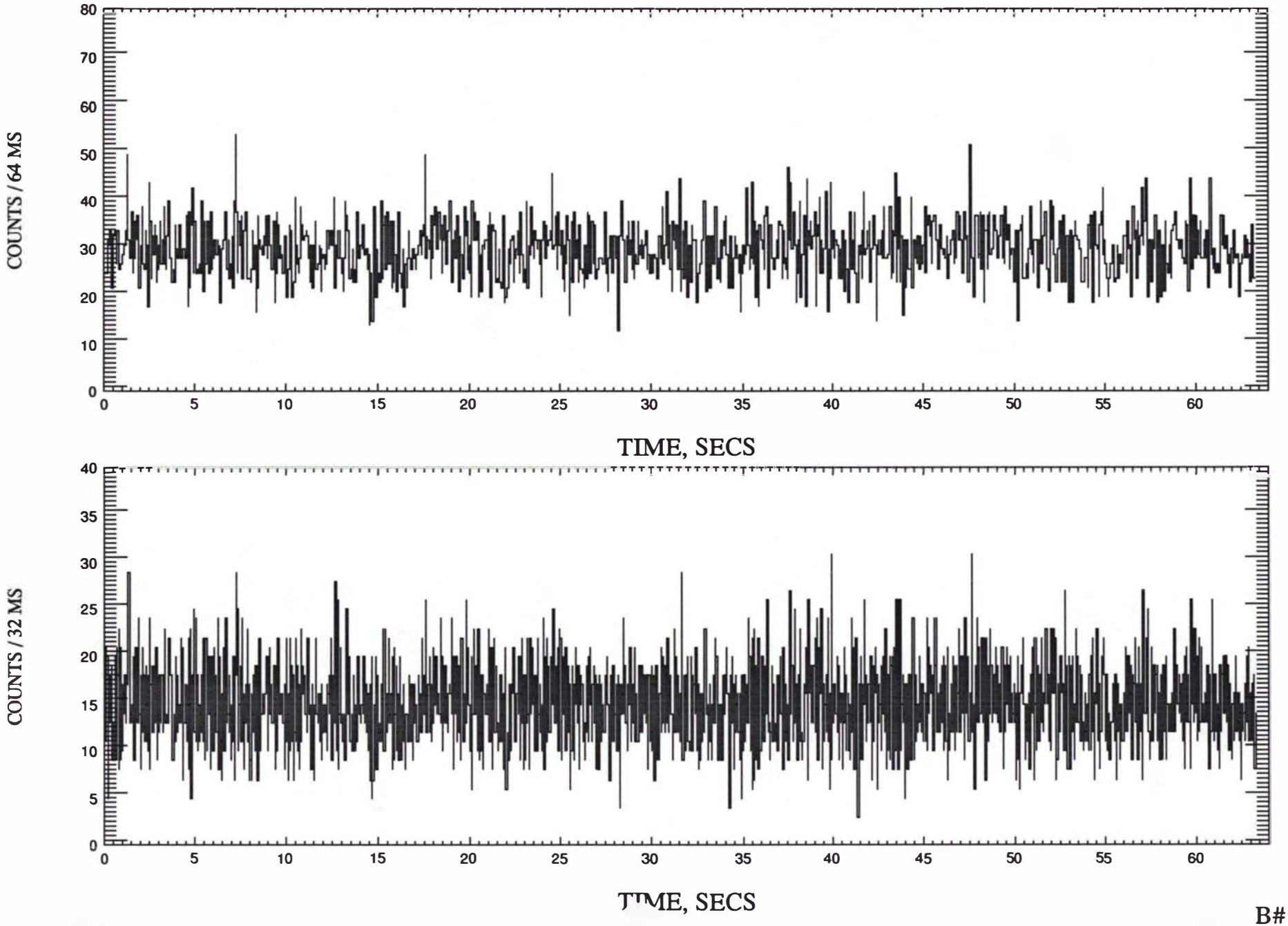
HUS 2A, MODE 1, NOT AVERAGED EDR day 46, year 1996 to day 46, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 46, year 1996 11/25/96

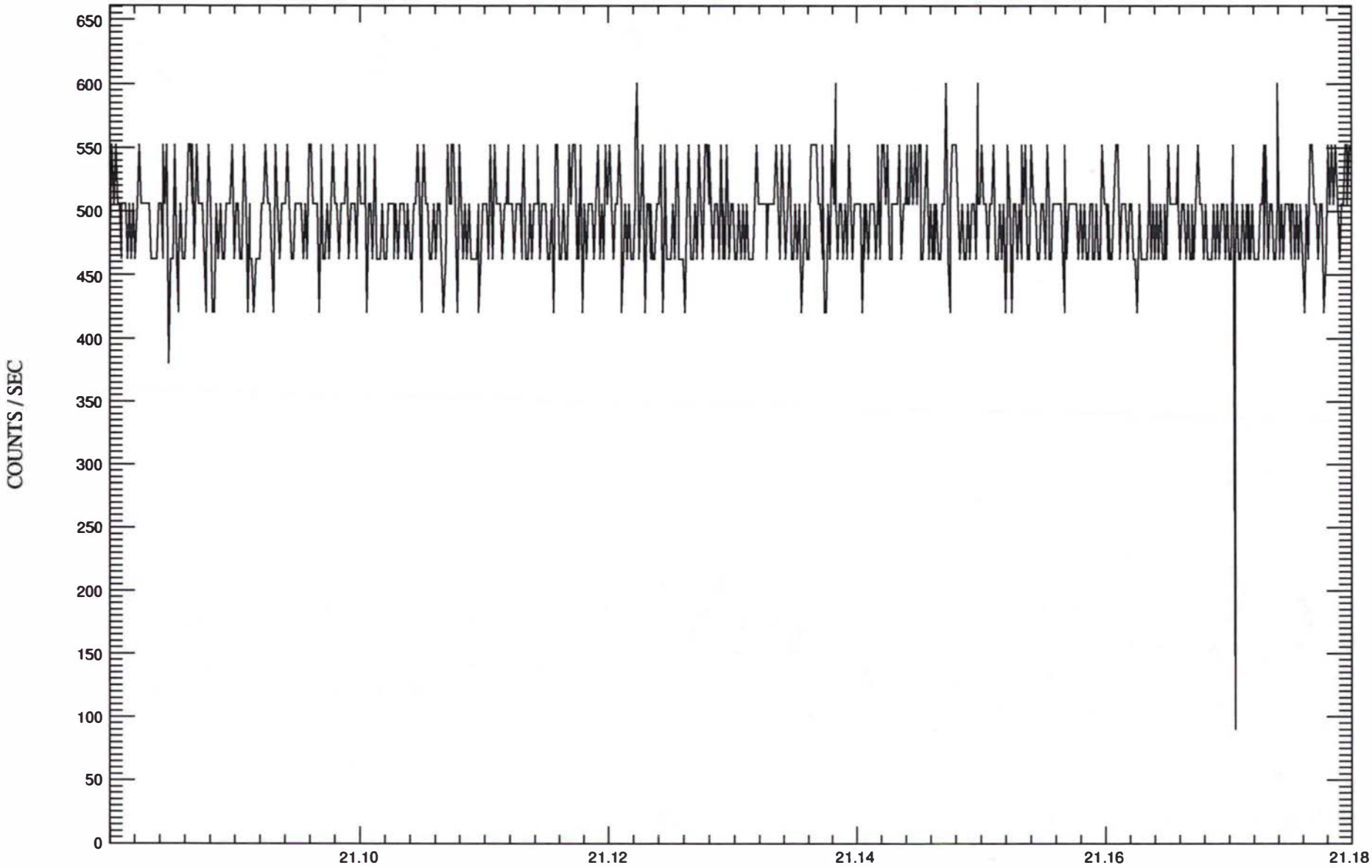
Burst Counter 3 at UT=21.133585459391 h=76080.908 s 21:08:00.908



B# 3

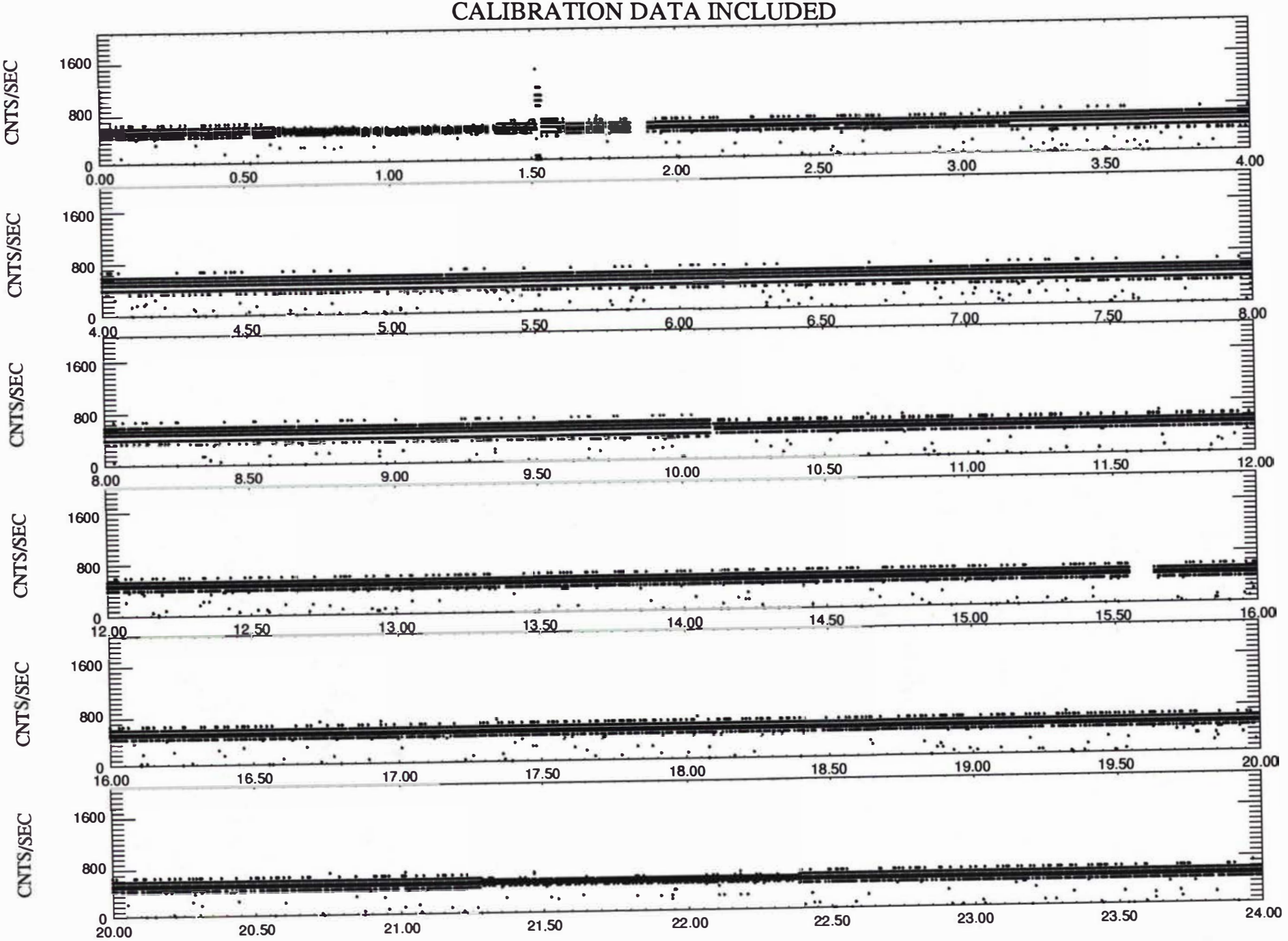
HUS 2A, MODE 1, NOT AVERAGED EDR day 46, year 1996 to day 46, year 1996 11/25/96

CALIBRATION DATA INCLUDED



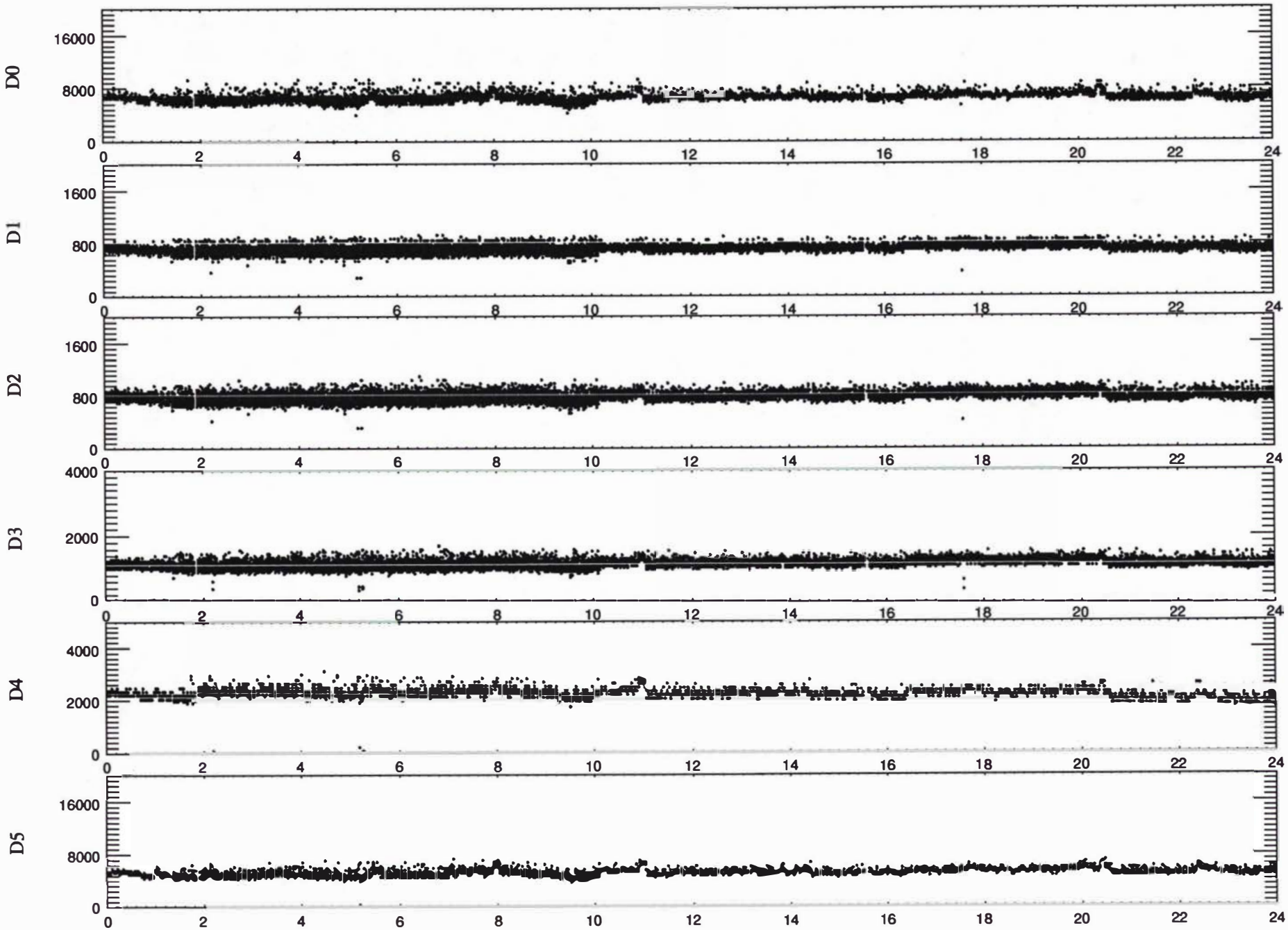
HUS 2A, MODE 1, NOT AVERAGED EDR day 46, year 1996 to day 46, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 46, year 1996 to day 46, year 1996 11/25/96



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

When major frames are recorded but not transmitted during the next track, but are eventually downlinked with data from a succeeding day, the embedded SCLKs are 'assumed' to be incorrect by the frame syncer and are re-tagged with SCETs and SCLKs matching the adjacent (but newer) data.

For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

Joe

To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

From HAGEDON@fender.msfc.nasa.gov Sat Feb 17 13:44 PST 1996
From: HAGEDON@fender.msfc.nasa.gov
Date: Sat, 17 Feb 1996 15:43:53 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4898

RI

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         ********************
         *BATSEARCH PROGRAM*
         ********************

 BATSE BURST #    4898
 EVENT OF 1996 FEB 16 DAY OF YEAR= 47
 EVENT CROSSING TIME AT BATSE     : 57796. S. OR 16:03:16.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 356.000   17.000
 BATSE PEAK COUNTING RATE:  11000    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 16/ 2/  96 IS:
 RA=  210.593 DEC=   72.433 DIST=    2.863 AU
 BATSE-ULYSSES DISTANCE =  428301542. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 92.36 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  -58.77 SECS.
 CROSSING TIME AT ULYSSES    IS 57737. S. OR   16:02:17 +/-  296.94 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 16/ 2/  96 IS:
 RA=  332.854 DEC=  -12.312 DIST=    2.365 AU
 MARS-BATSE DISTANCE =  353857920. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=142.82 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -940.45 SECS.
 CROSSING TIME AT MARS       IS 56856. S. OR   15:47:35 +/-  109.55 SECONDS


                BATSE BURST TRIGGER
NO.: 4898

TIME: TJD=0129 SECONDS=57796

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=28.5   AZIMUTH=318.1  ERROR=0.5   DEGREES

COMMENTS:
BURST.  2 PEAKS, FIRST IS MUCH STRONGER AND SHORTER.  TOTAL DUR.~12 SEC.
FIRST PEAK VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4898    960216   10129   57796    11000   356   +17     12
```

From cline@lheavx.gsfc.nasa.gov Fri Mar 29 08:40 PST 1996
Date: Fri, 29 Mar 1996 08:40:19 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: Konus Event List augmentation

Dear Kevin,

This list includes Sergei's latest Konus-W (GGS-Wind) and Konus-A (Kosmos-2326) events, for comparison with Ulysses, BATSE, TGRS, etc. The times listed are prioritized for Konus-W (i.e., Konus-A time given if Konus-W doesn't trigger).

Yr	Mn	Dy	UT (Konus)	BATSE	Ulysses	Konus	TGRS	Notes
95	11	2	07085.879	?	?	168	no	
95	11	2	21209.015	3891	R I	169	345	
95	11	4	05868.077	3893	R I	170	BGR	
95	11	5	46827.808	?	?	171	no	
95	11	12	66495.244	?	R I	172	no	
95	11	13	84358.872	3906	R I	173	BGR	
95	11	17	10123.762	3909	?	175	no	
95	11	19	29831.402	3912	R I	176	348	
95	11	19	46457.519	?	?	177	BGR	
95	11	22	09841.38	?	?	179	no	
95	11	22	17107.738	?	?	180	349	
95	12	2	39101.744	?	?	195	BGR	
95	12	3	03988.18	?	?	196	360	
	12	8	19617.151	?	?	197	no	
	12	8	39452.057	?	?	198	no	
95	12	8	42467.634	?	?	199	BGR	
95	12	9	31349.607	?	?	200	BGR	
95	12	13	17849.683	?	?	201	362	
95	12	14	08657.847	?	?	202	no	
95	12	19	60679.732	?	?	203	no	
95	12	20	31883.56	?	?	204	BGR	
95	12	22	25203.254	?	?	no	?	= K-A t.
95	12	27	23005.042	?	?	218	375	
96	12	31	20231.668	?	?	219	no	
96	1	2	11650.996	?	?	220	no	
96	1	4	12521.062	?	?	221	no	
96	1	11	46524.53	?	?	222	no	
96	1	13	56024.261	?	?	228	no	
96	1	14	44104.737	?	?	233	384	+ K-A t.
96	1	15	31956.506	?	?	234	BGR	
96	1	17	57371.341	?	?	235	no	
96	1	19	34679.317	?	?	236	no	
96	1	19	45226.016	?	?	237	no	
96	1	20	36768.974	?	?	238	no	
96	1	24	03388.008	?	?	239	385	+ K-A t.
96	1	24	76096.911	?	?	BGR	?	= K-A t.
96	1	30	08756.848	?	?	240	no	
96	2	1	78530.582	?	?	241	?	+ K-A t.
96	2	2	50750.813	?	?	242	?	
	2	10	35198.959	?	?	247	?	
96	2	16	57796.347	?	?	BGR	?	= K-A t.
96	2	19	20589.684	?	?	BGR	?	= K-A t.
96	2	28	85760.241	?	?	249	?	
96	2	29	22445.141	?	?	250	?	

96	3	5	33645.352	?	?	251	?
96	3	12	35074.697	?	?	252	?
96	3	19	51992.828	?	?	253	?
96	3	21	76321.803	?	?	254	?
96	3	22	19642.728	?	?	255	?
96	3	24	80064.124	?	?	257	?
96	3	25	69892.978	?	?	258	?

--

TLC

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

Helio corr removed

Date: Oct 23 '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?

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?

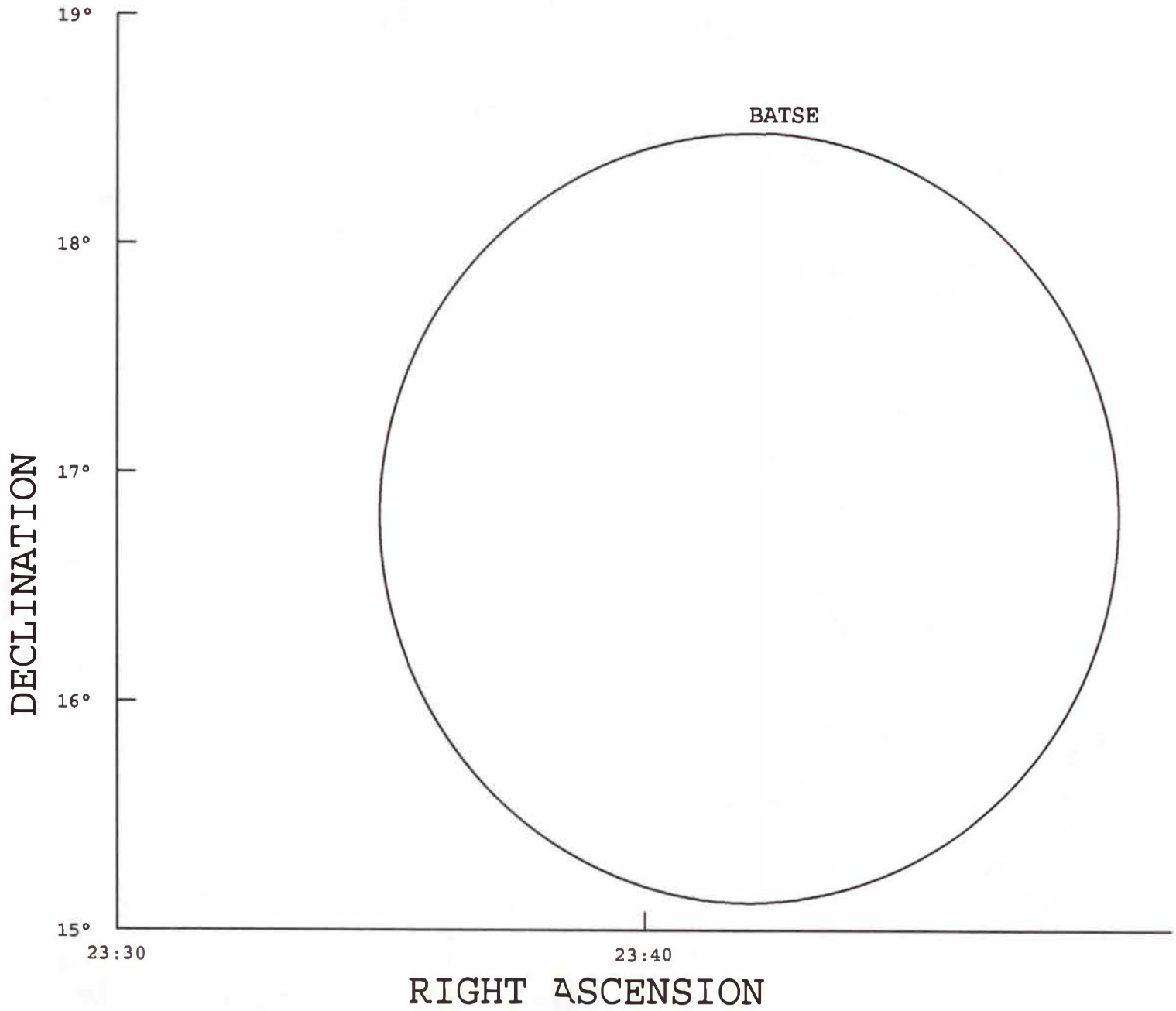
☐ Geocentric time used?

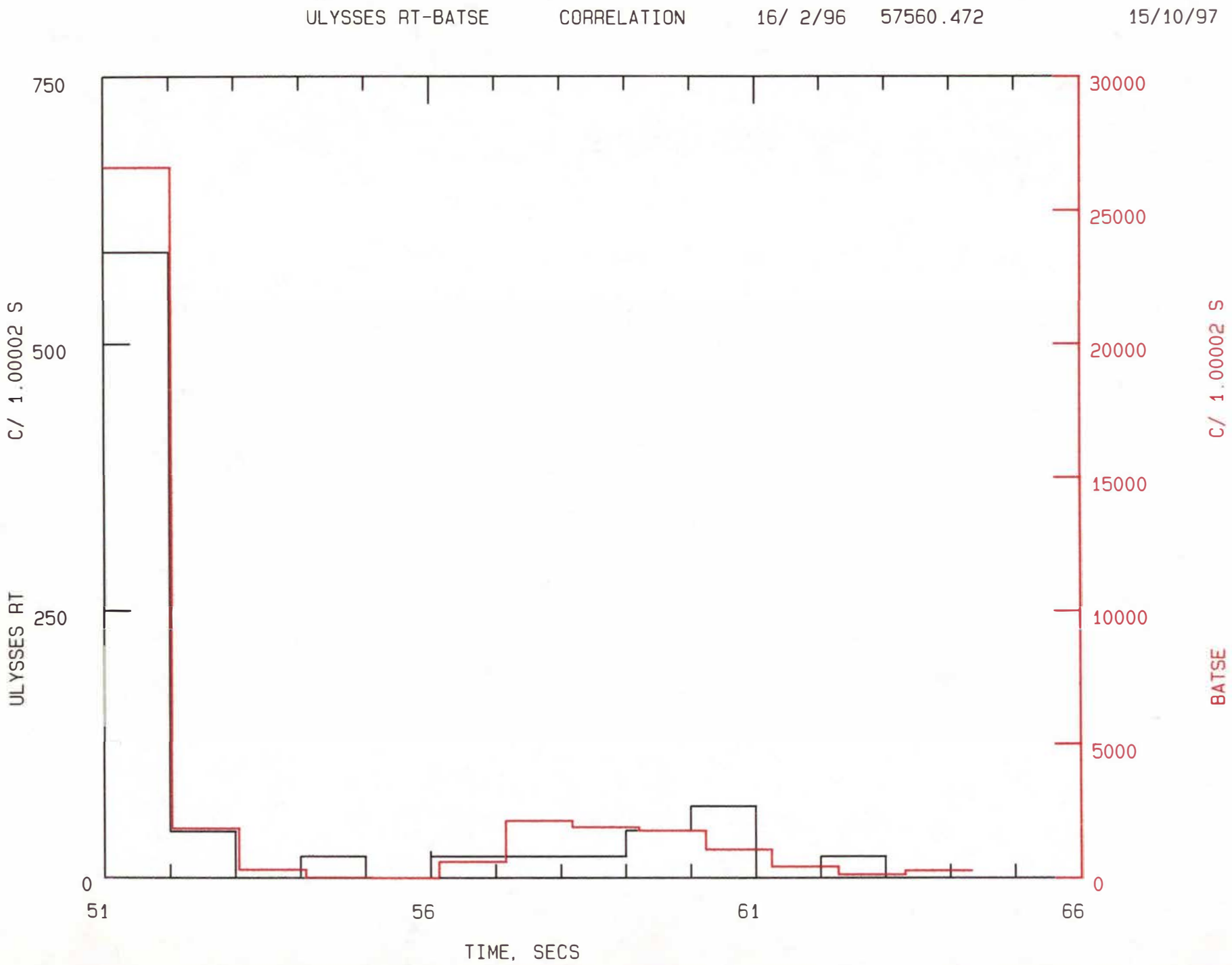
☐ ACCESS database updated?

EVENT OF FEB 16, 1996 15:59

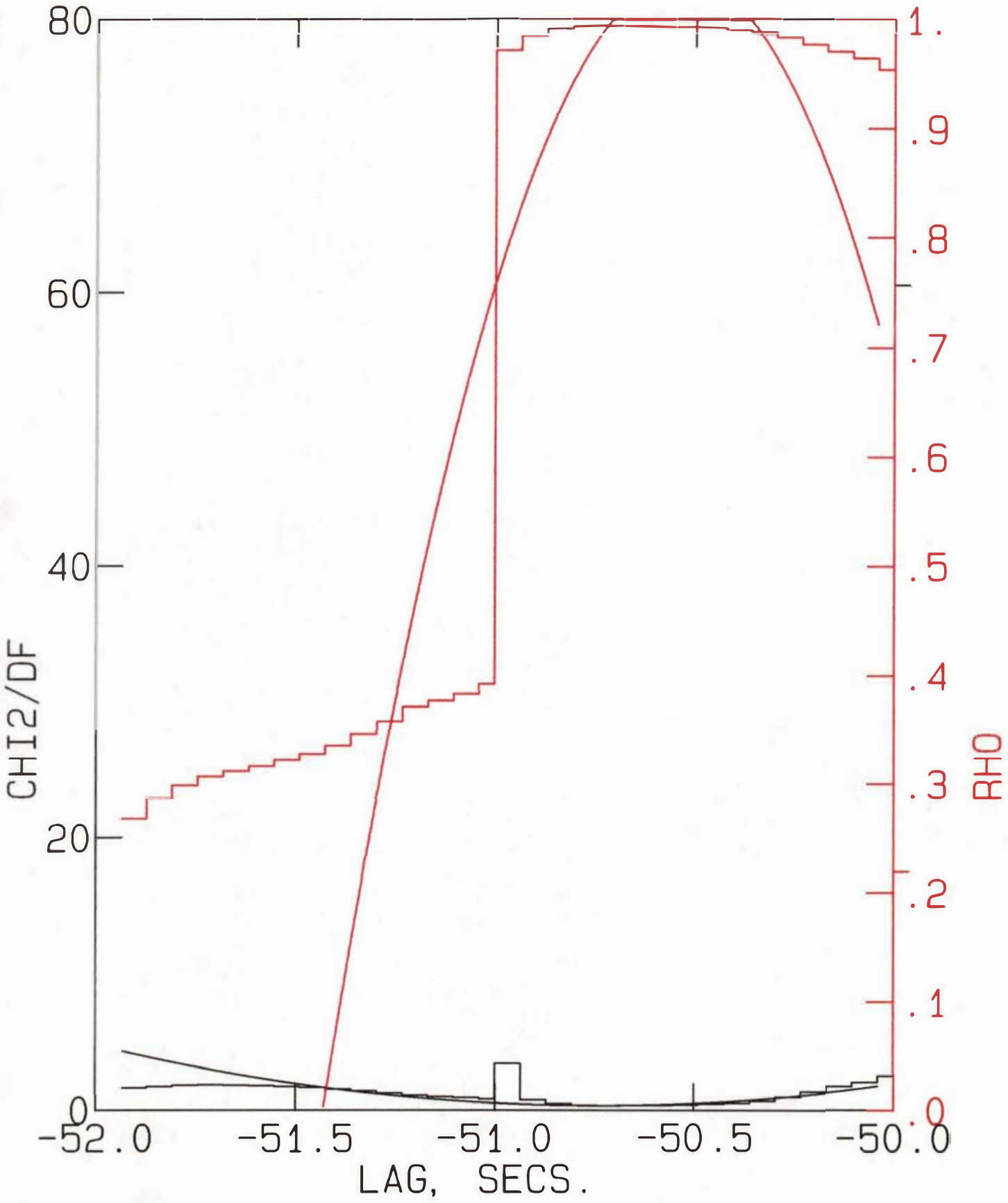
15/10/97

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 16/ 2/96 57560.472 15/10/97
750
500
250
0
C/ 1.00002 S
ULYSSES RT
30000
25000
20000
15000
10000
5000
0
C/ 1.00002 S
BATSE
51
56
61
66
TIME, SECS

ULYSSES RT-BATSE CORRELATION 16/ 2/96 57560.472

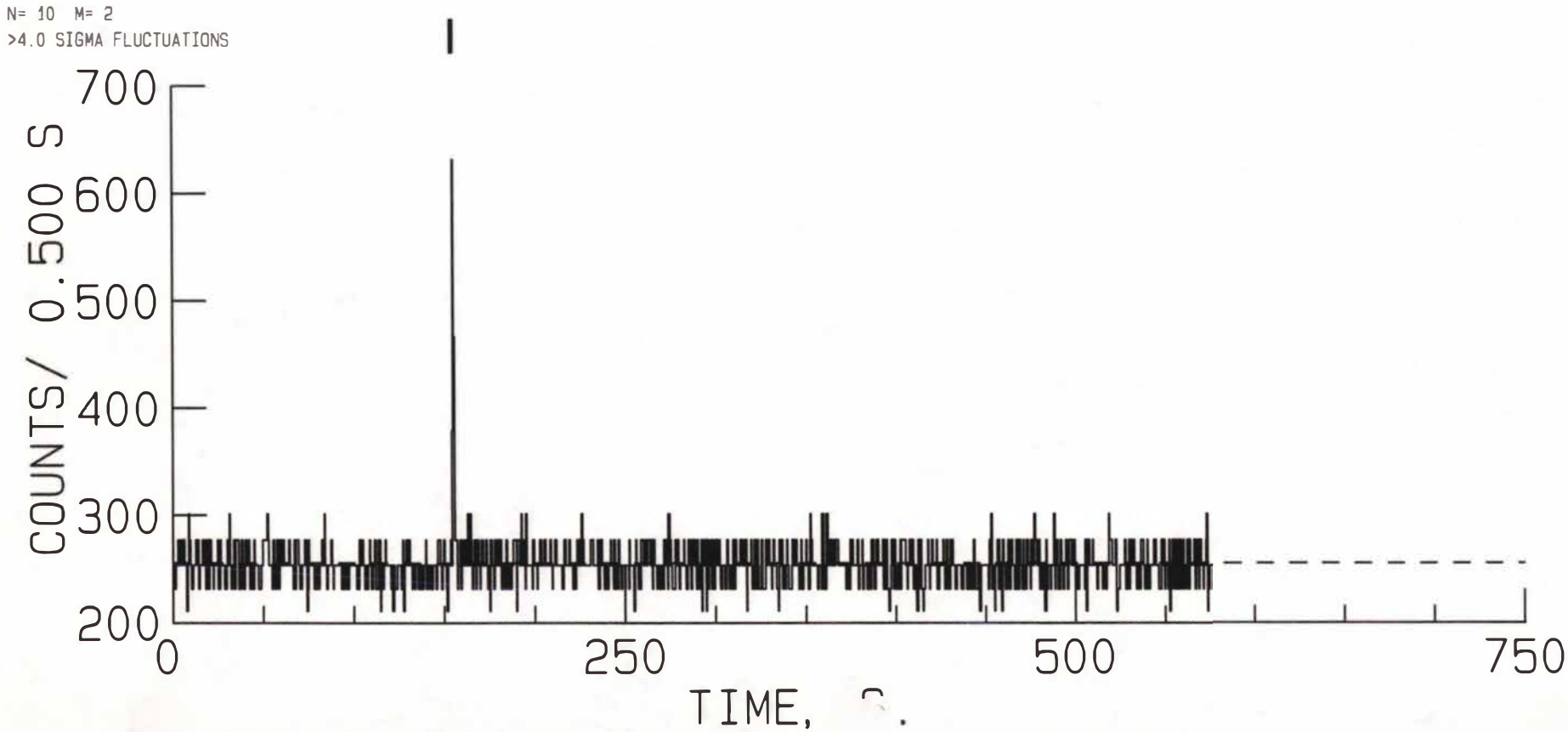


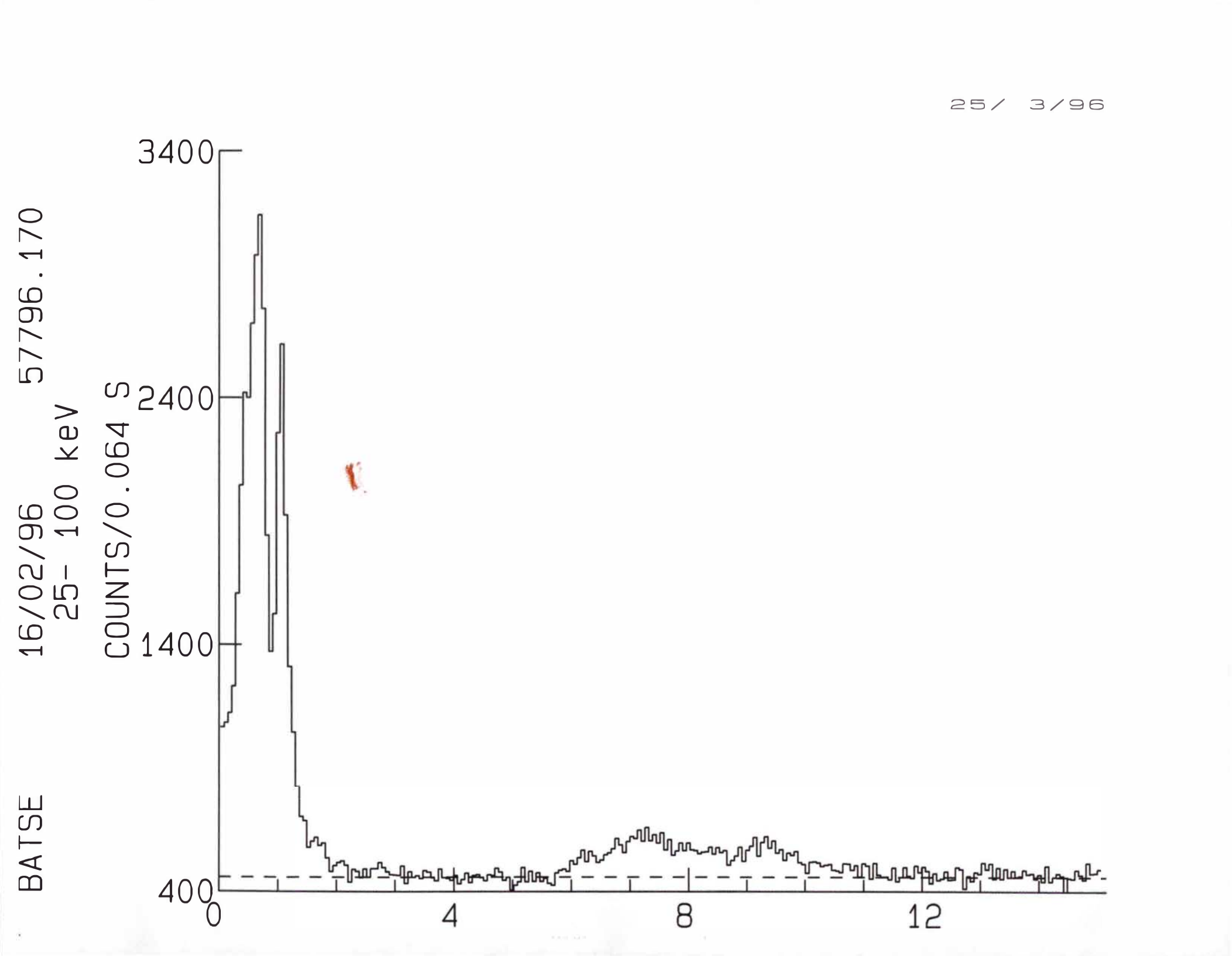
ULYSSES RT

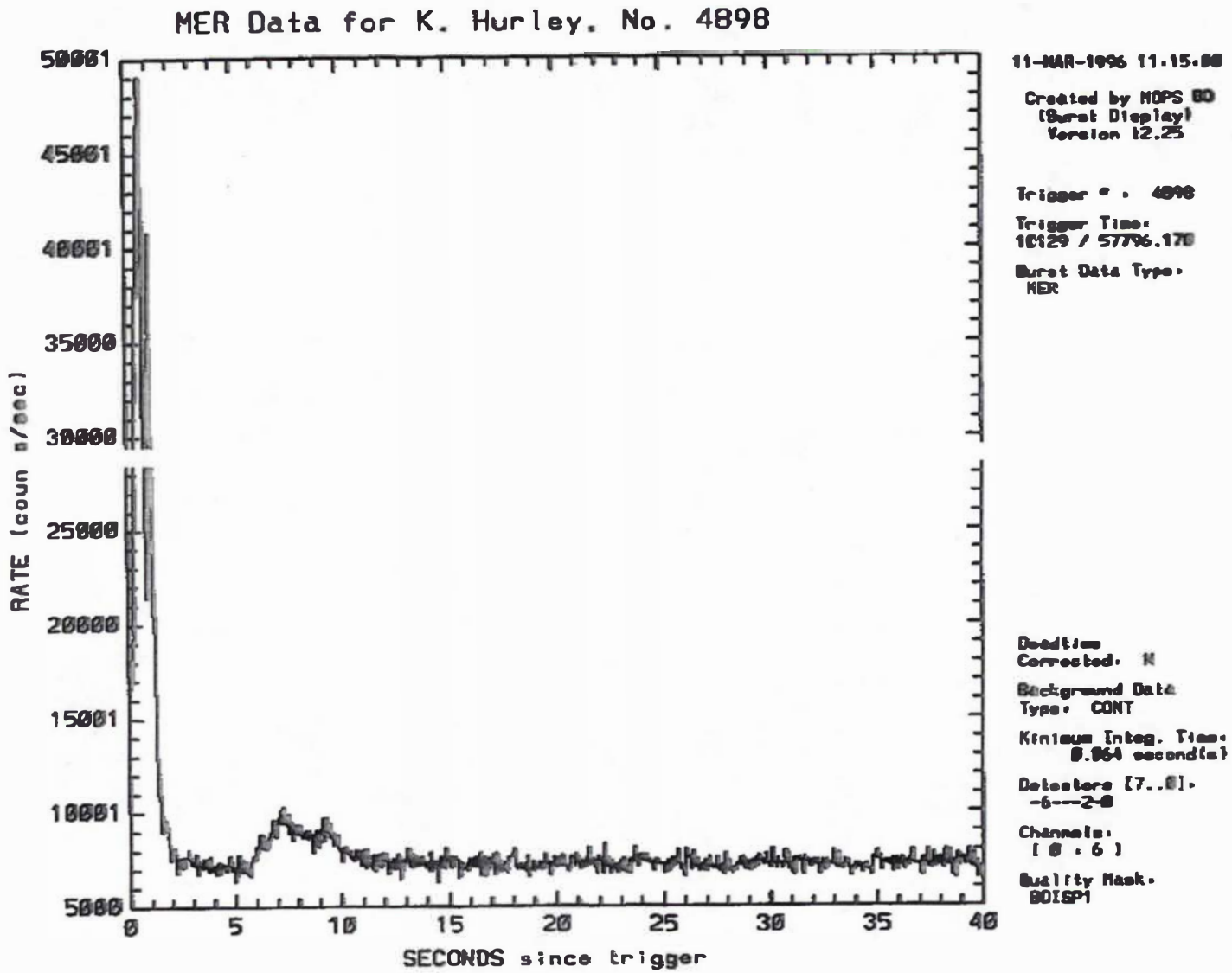
15/10/97

16/ 2/96 57456.385 s

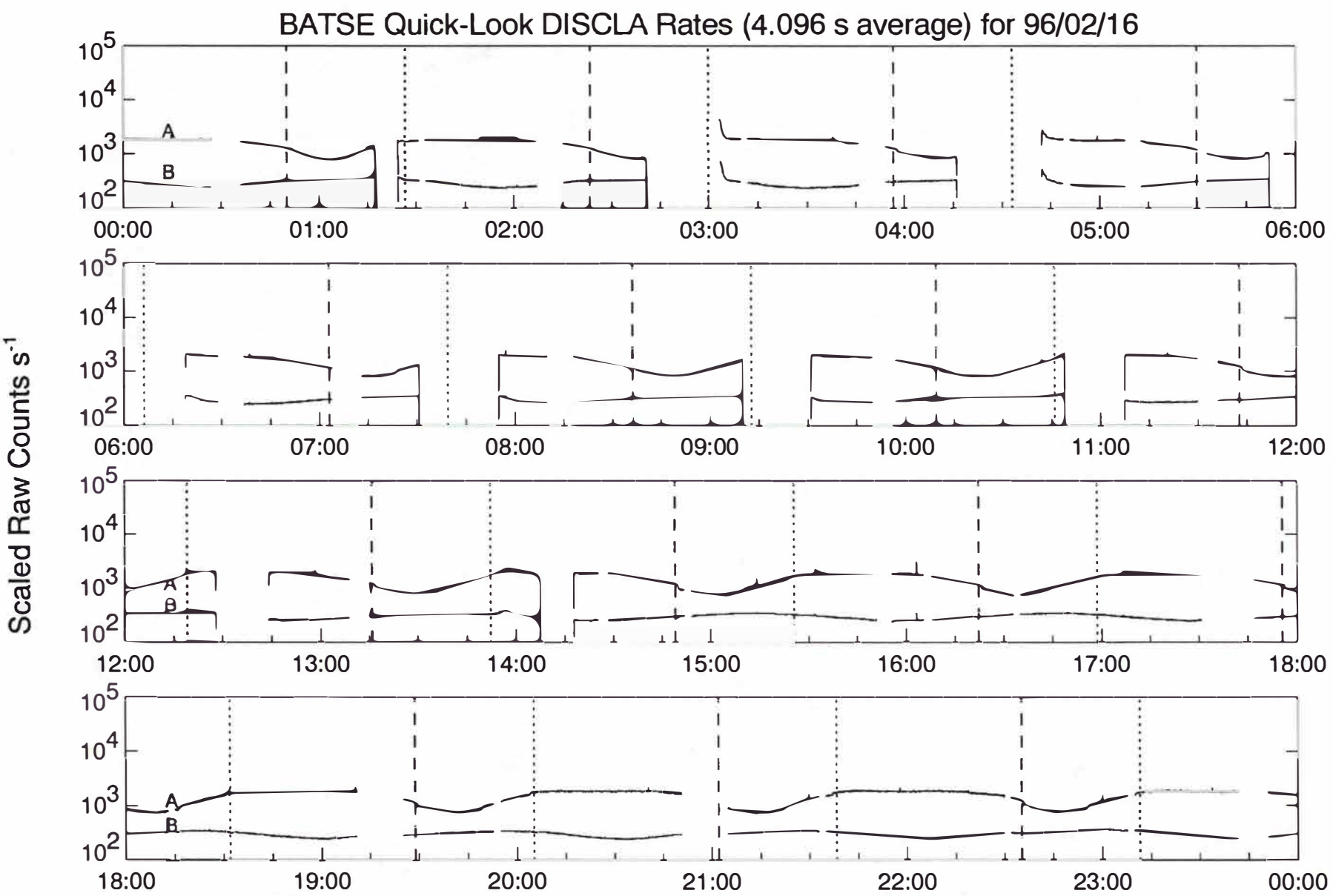
21- 144 keV

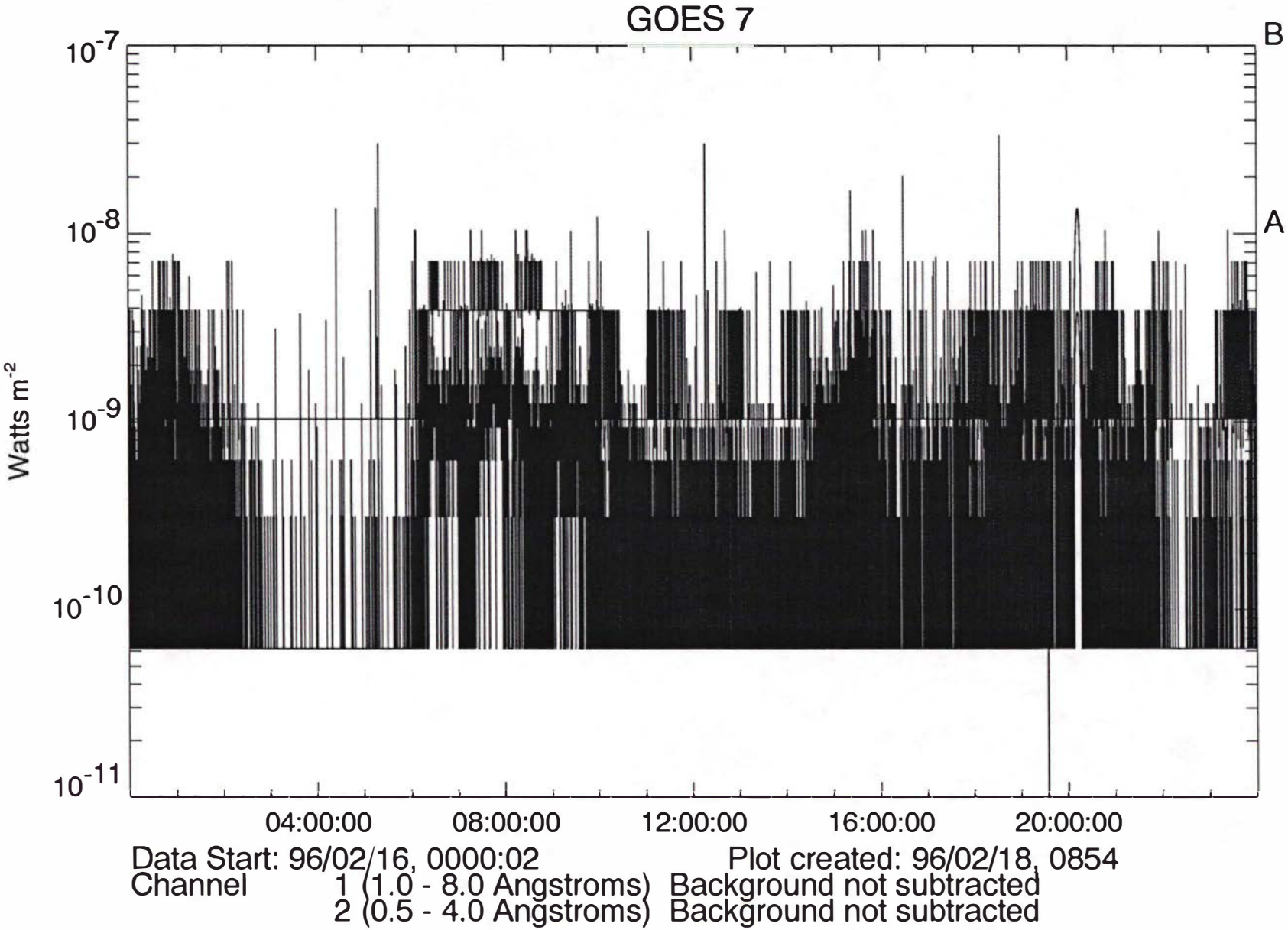



25/ 3/96
BATSE 16/02/96 57796.170
25- 100 keV
COUNTS/0.064 S
3400
2400
1400
400
0
4
8
12

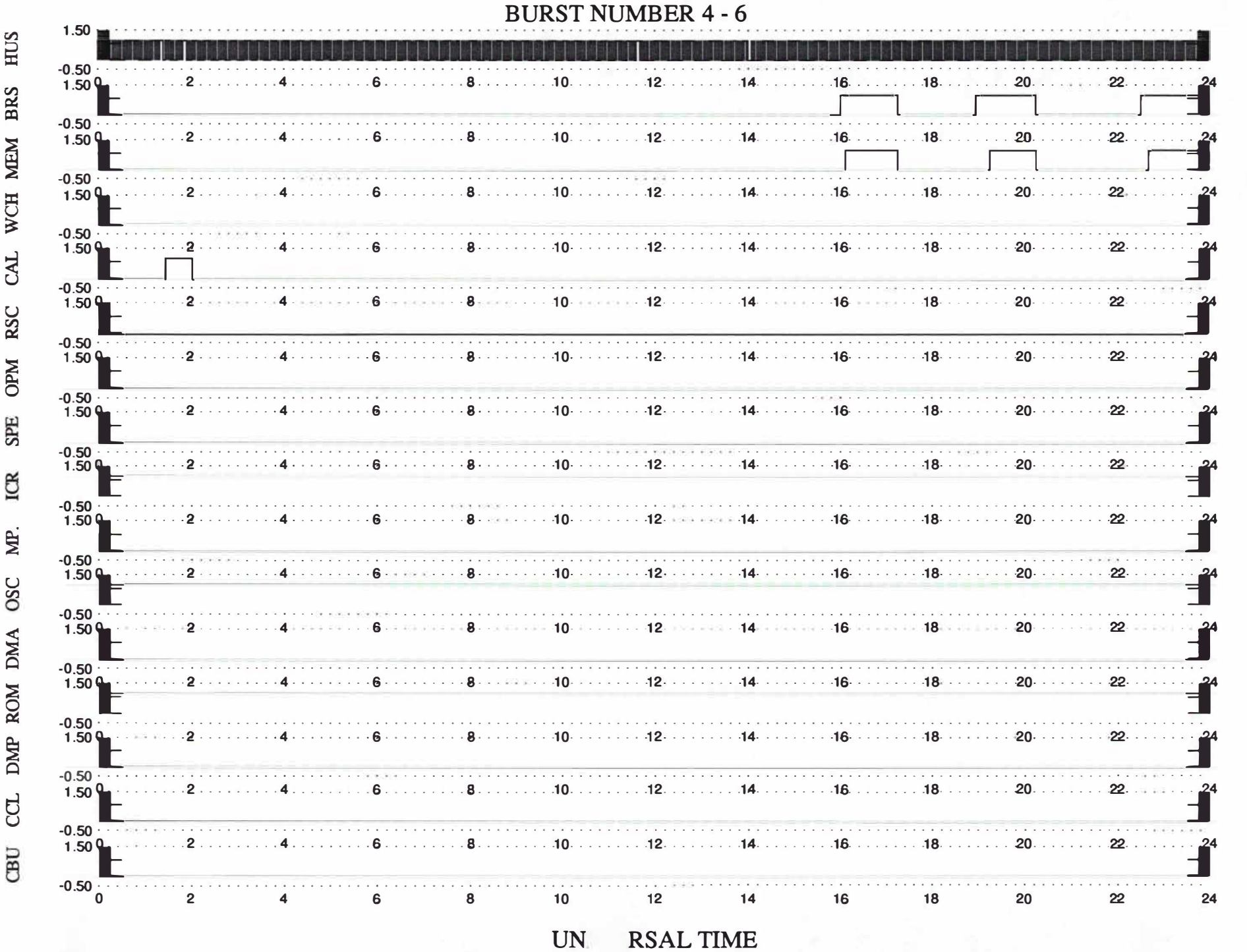

MER Data for K. Hurley. No. 4898
RATE (coun s/sec)
50001
45001
40001
35000
30000
25000
20000
15001
10001
5000
0
5
10
15
20
25
30
35
40
SECONDS since trigger
11-MAR-1996 11:15:08
Created by MOPS BD
(Burst Display)
Version 12.25
Trigger # . 4898
Trigger Time:
10129 / 57796.170
Burst Data Type:
MER
Deadtime
Corrected: N
Background Data
Type: CONT
Minimum Integ. Time:
0.064 seconds
Detectors [7..0]:
-6---2-0
Channels:
[0 : 6]
Quality Mask:
BDISP1

TTS Data for K. Hurley, No. 4898
RATE (coun s/sec)
SECONDS since trigger
11-MAR-1996 11:16:12
Created by MOPS BD
(Burst Display)
Version 12.25
Trigger # . 4898
Trigger Time:
18128 / 57796.170
Burst Data Type:
TTS
Time Corrected: T
Maricun Time Error:
Deadtime
Corrected: N
Background Data
Type: FREB + DISCLA
Bin Count: 8
Detectors (7..8)-
-6---2-8
Discriminators:
(2 , 2)
Quality Mask:
BDIGPI


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/16
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: 96/02/18, 0855 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

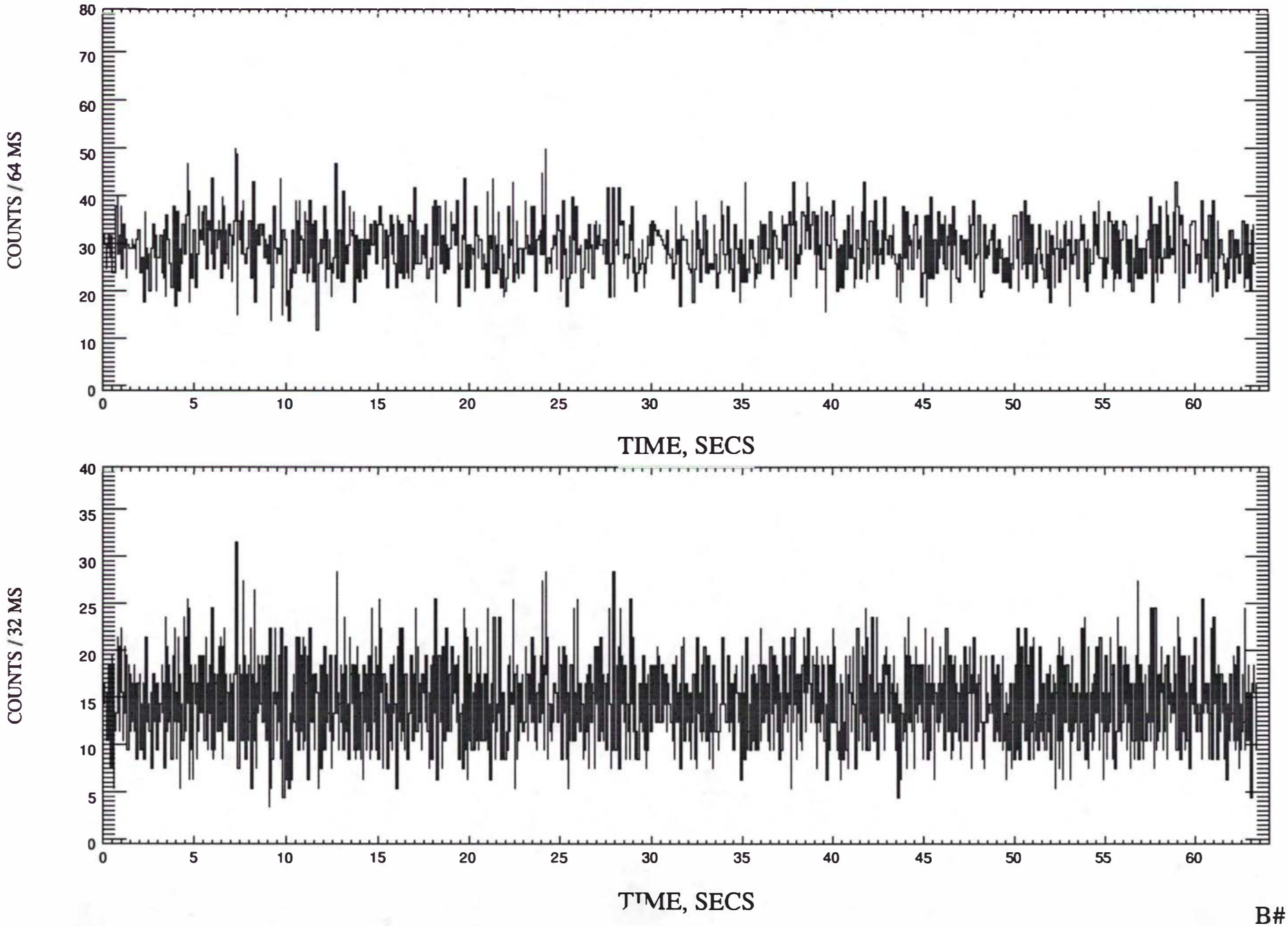

GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/16, 0000:02
Plot created: 96/02/18, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 47, year 1996 to day 47, year 1996 11/25/96



HUS 2A TRIGGERED DATA EDR day 47, year 1996 11/25/96

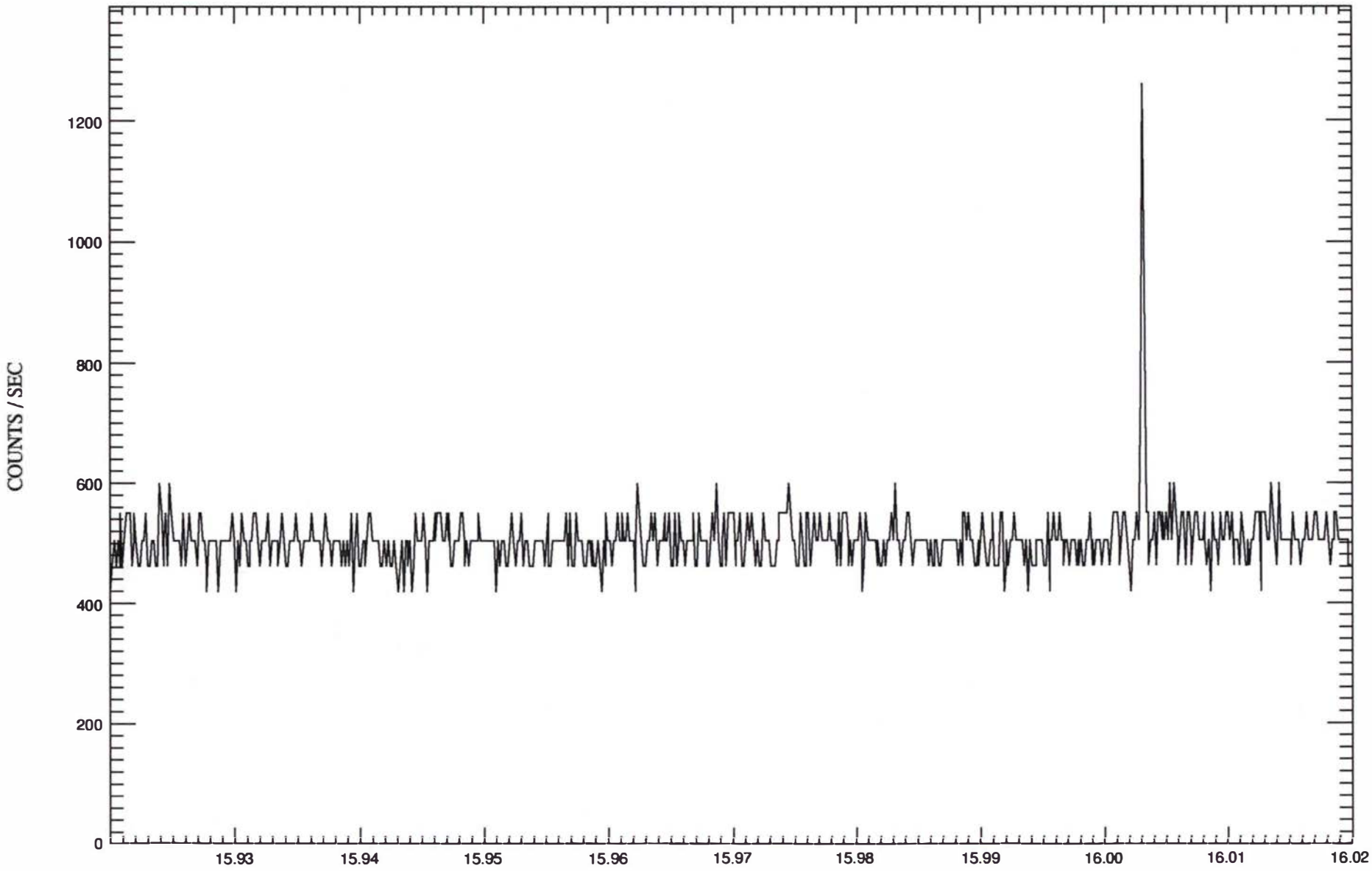
Burst Counter 4 at UT=15.974616792467 h=57508.620 s 15:58:28.620



B# 1

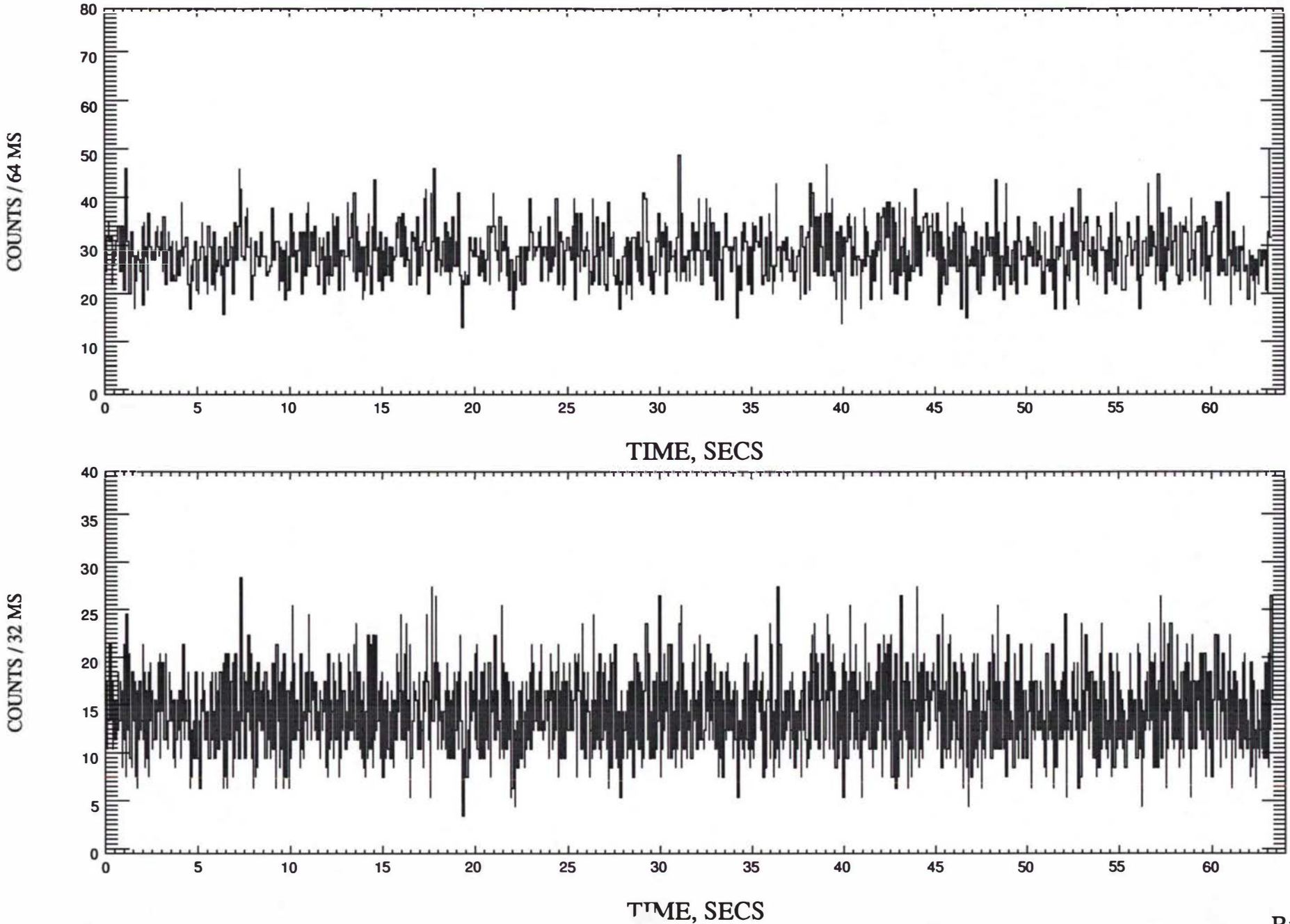
HUS 2A, MODE 1, NOT AVERAGED EDR day 47, year 1996 to day 47, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 47, year 1996 11/25/96

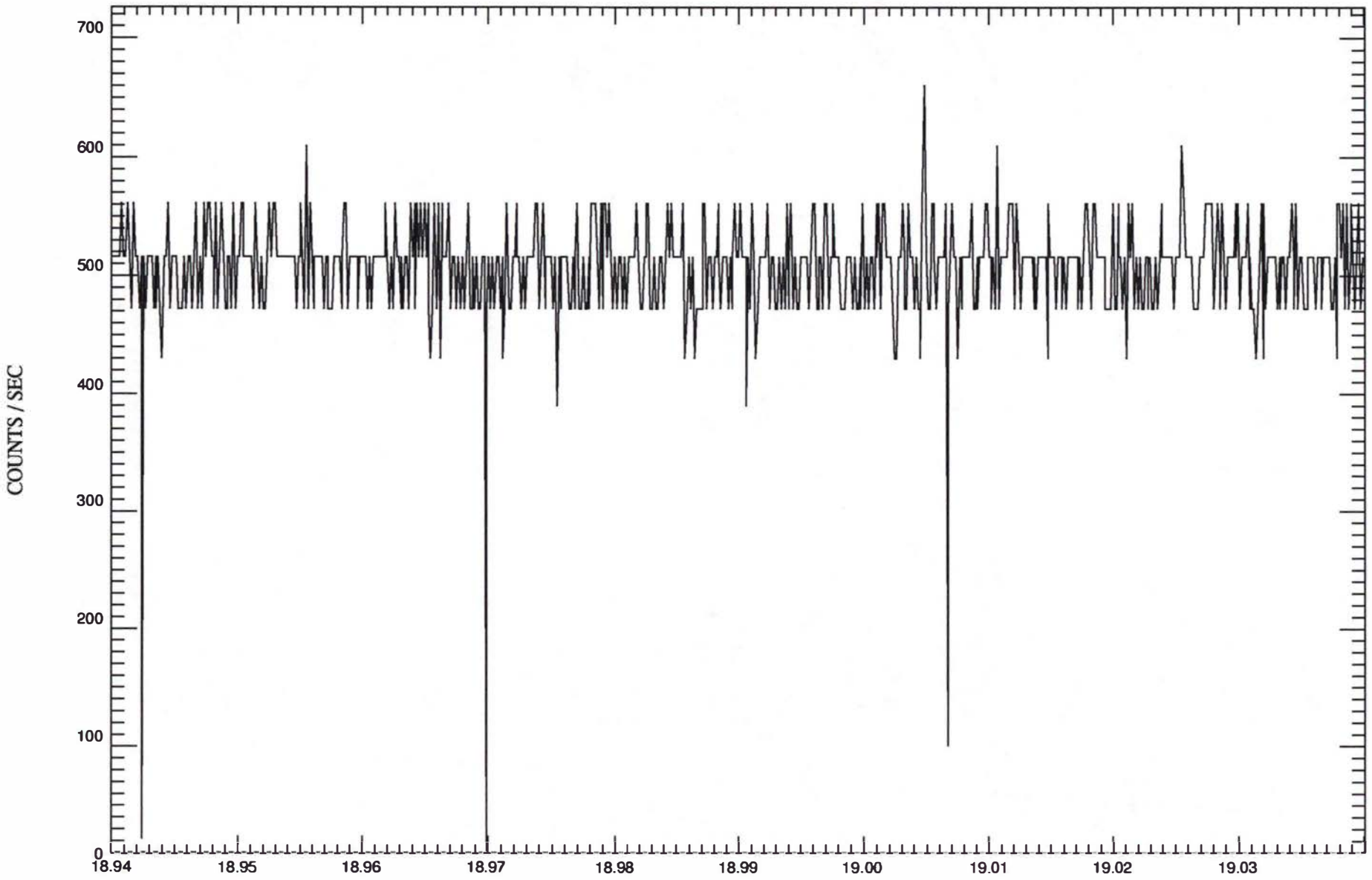
Burst Counter 5 at UT=18.987367833455 h=68354.524 s 18:59:14.524



B# 2

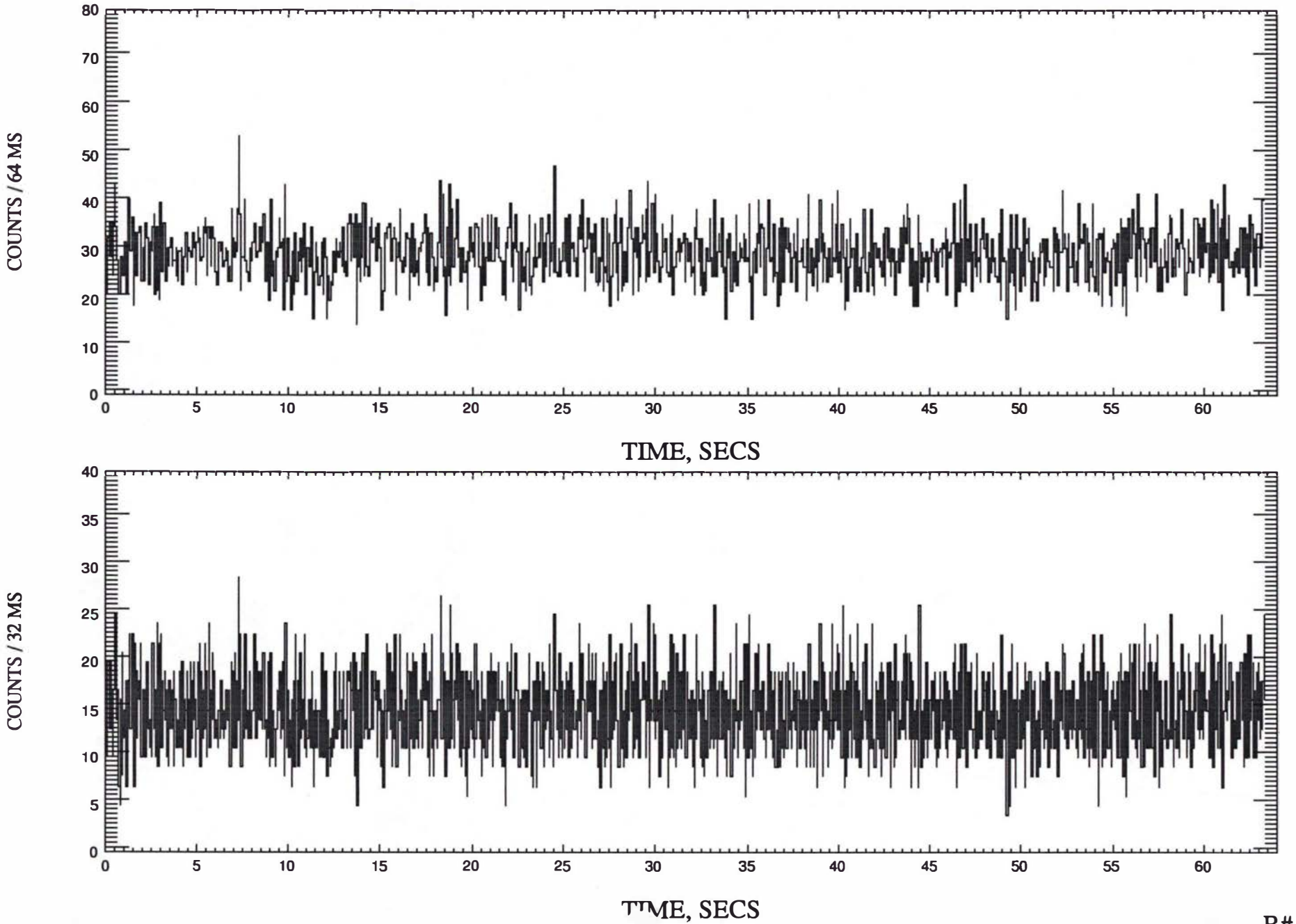
HUS 2A, MODE 1, NOT AVERAGED EDR day 47, year 1996 to day 47, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2A TRIGGERED DATA EDR day 47, year 1996 11/25/96

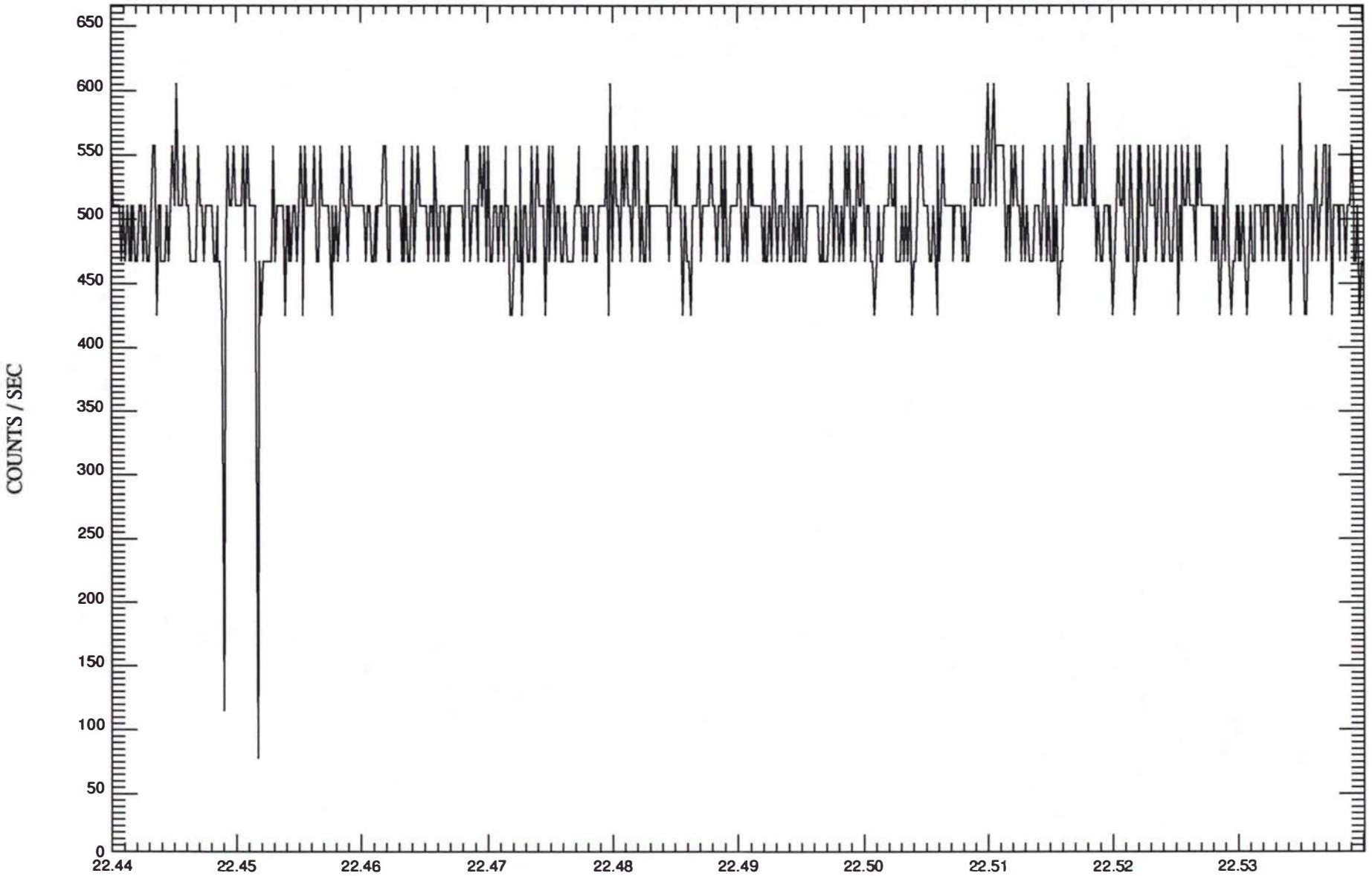
Burst Counter 6 at UT=22.485022845798 h=80946.082 s 22:29:06.082



B# 3

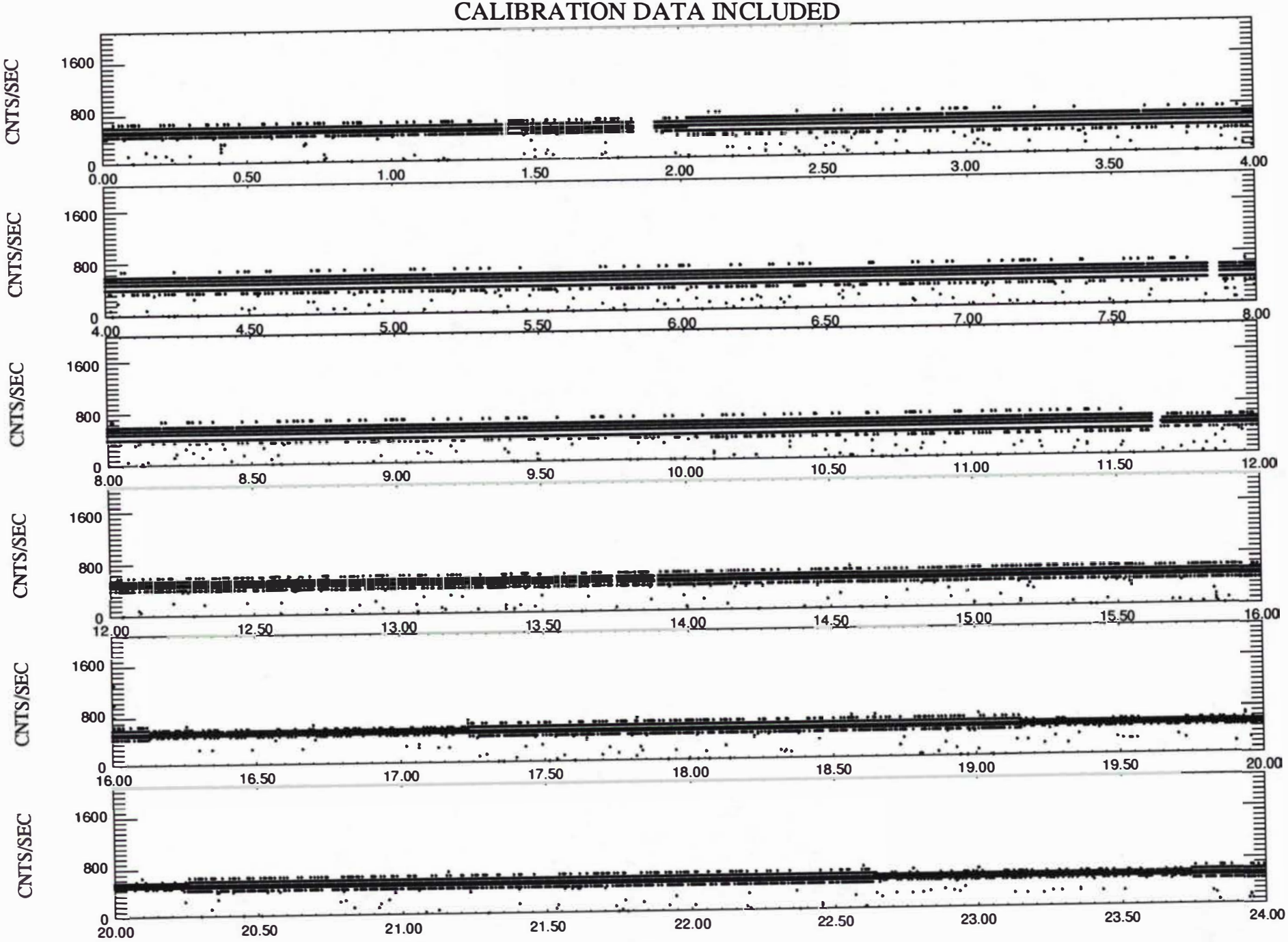
HUS 2A, MODE 1, NOT AVERAGED EDR day 47, year 1996 to day 47, year 1996 11/25/96

CALIBRATION DATA INCLUDED



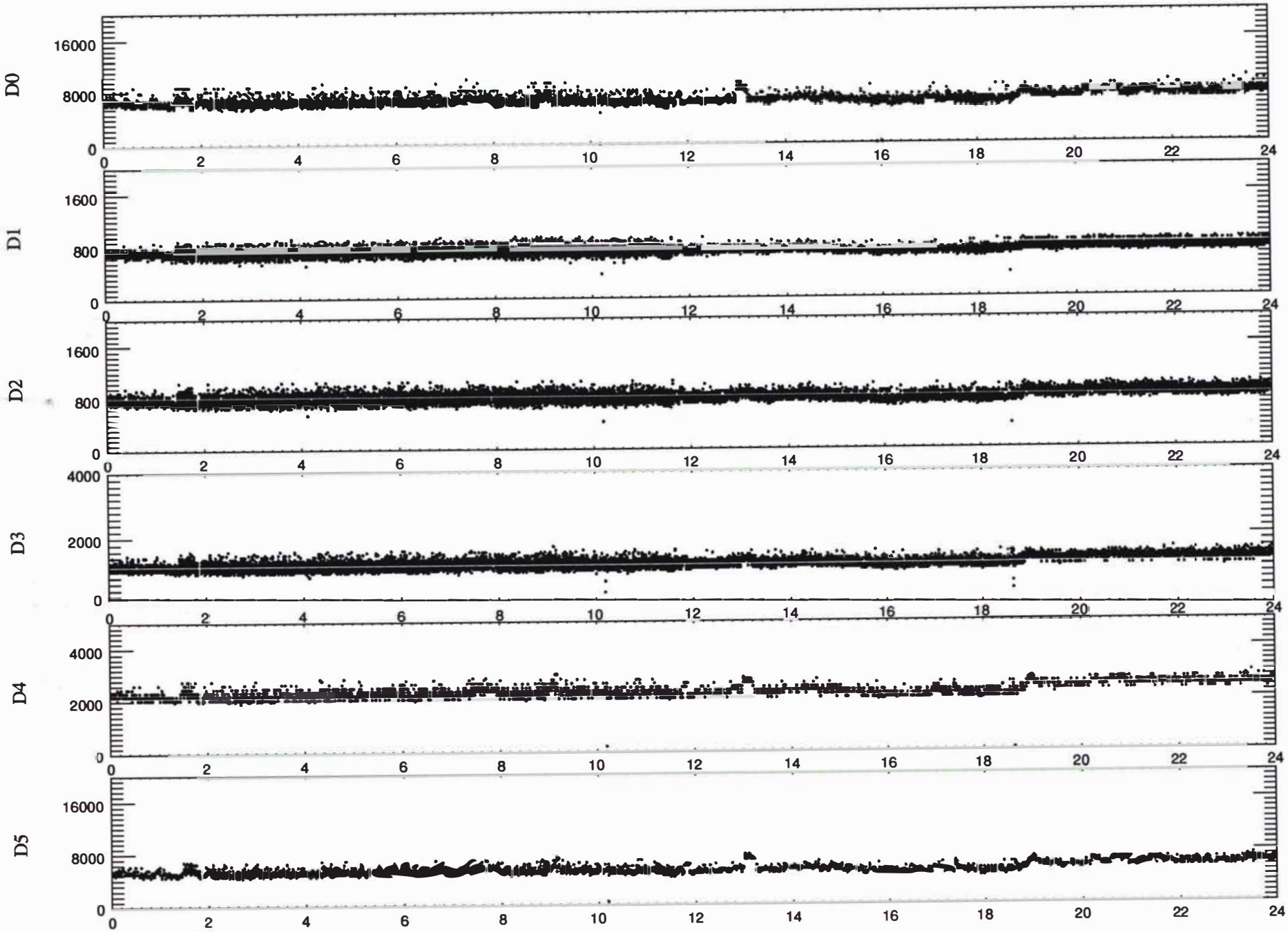
HUS 2A, MODE 1, NOT AVERAGED EDR day 47, year 1996 to day 47, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 47, year 1996 to day 47, year 1996 11/25/96



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

When major frames are recorded but not transmitted during the next track, but are eventually downlinked with data from a succeeding day, the embedded SCLKs are 'assumed' to be incorrect by the frame syncer and are re-tagged with SCETs and SCLKs matching the adjacent (but newer) data.

For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

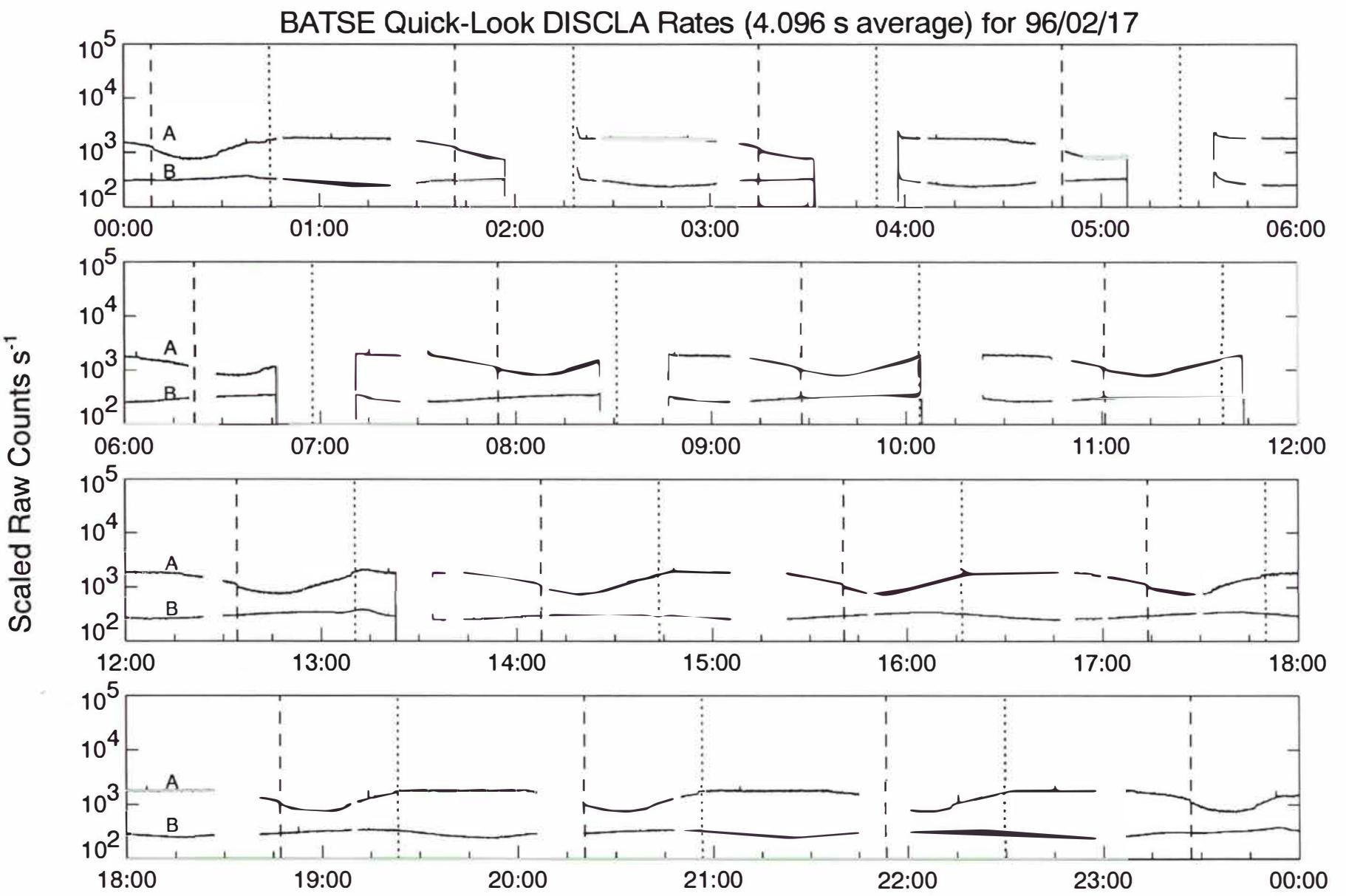
Joe

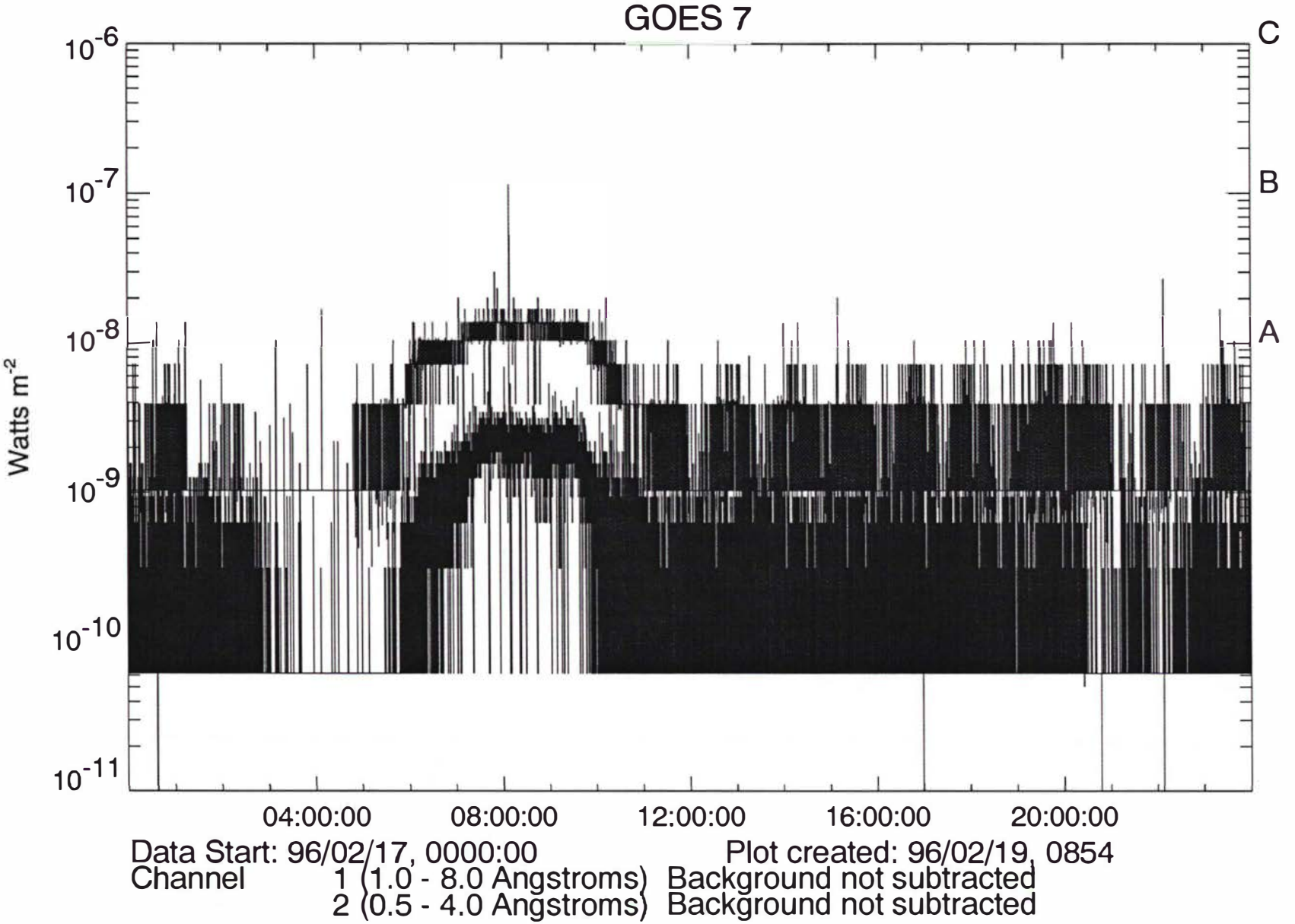
To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

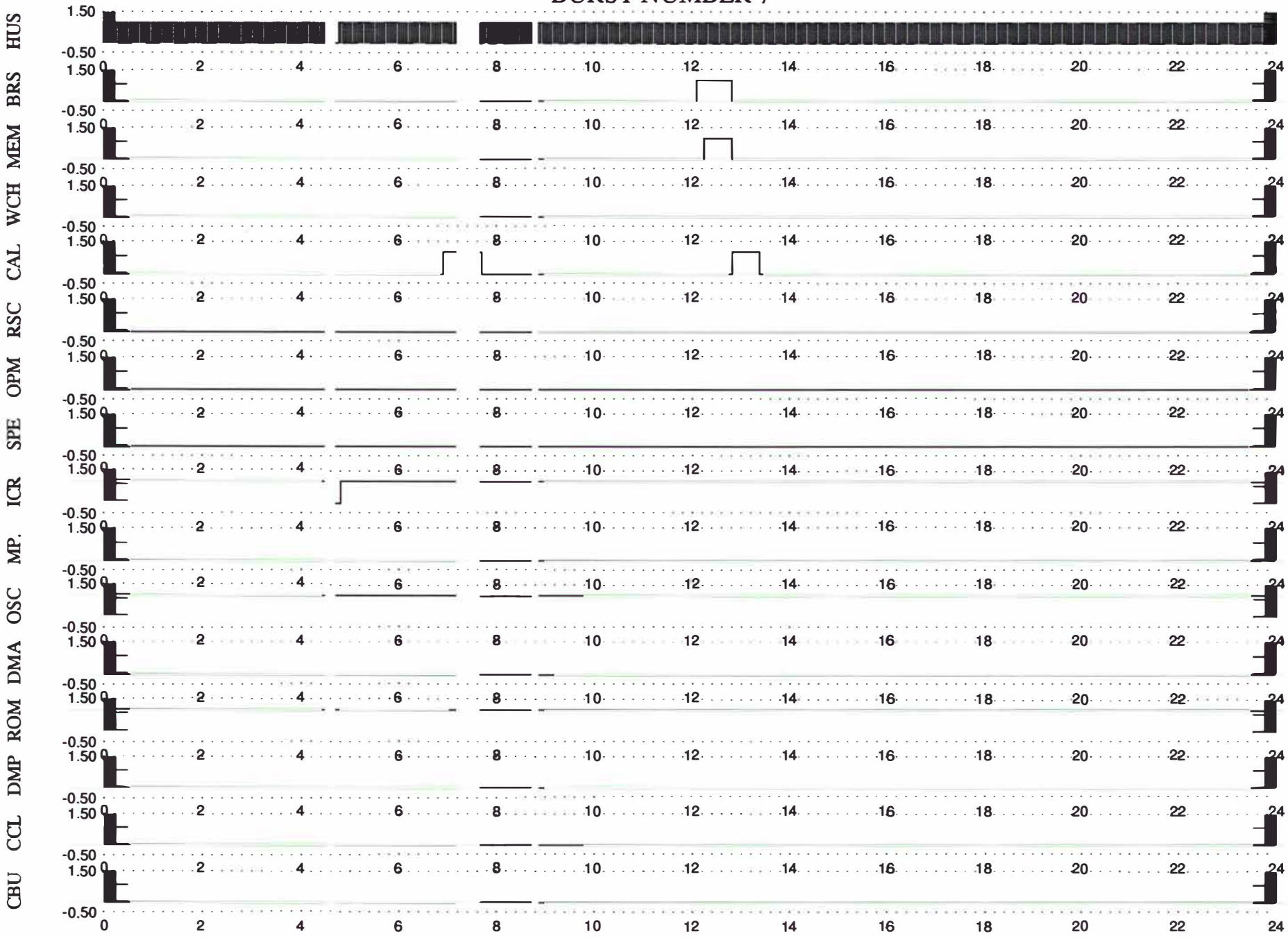
~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/17
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: 96/02/19, 0855 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 7
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
C
B
A
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/17, 0000:00
Plot created: 96/02/19, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 48, year 1996 to day 48, year 1996 11/25/96

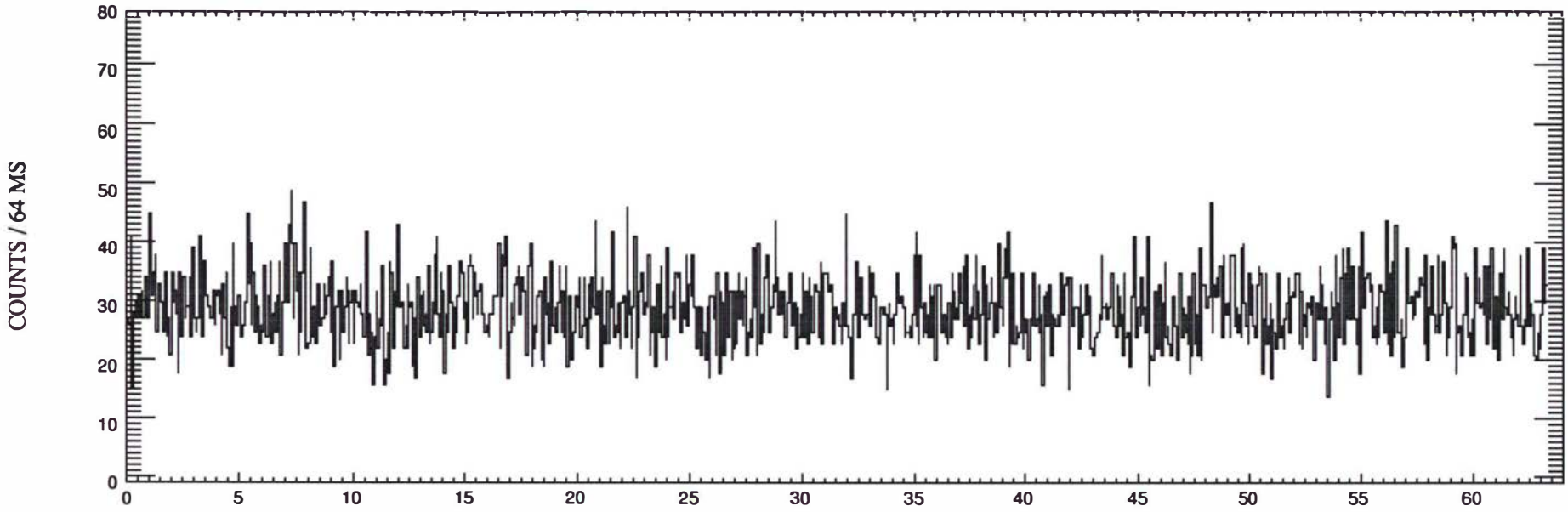
BURST NUMBER 7

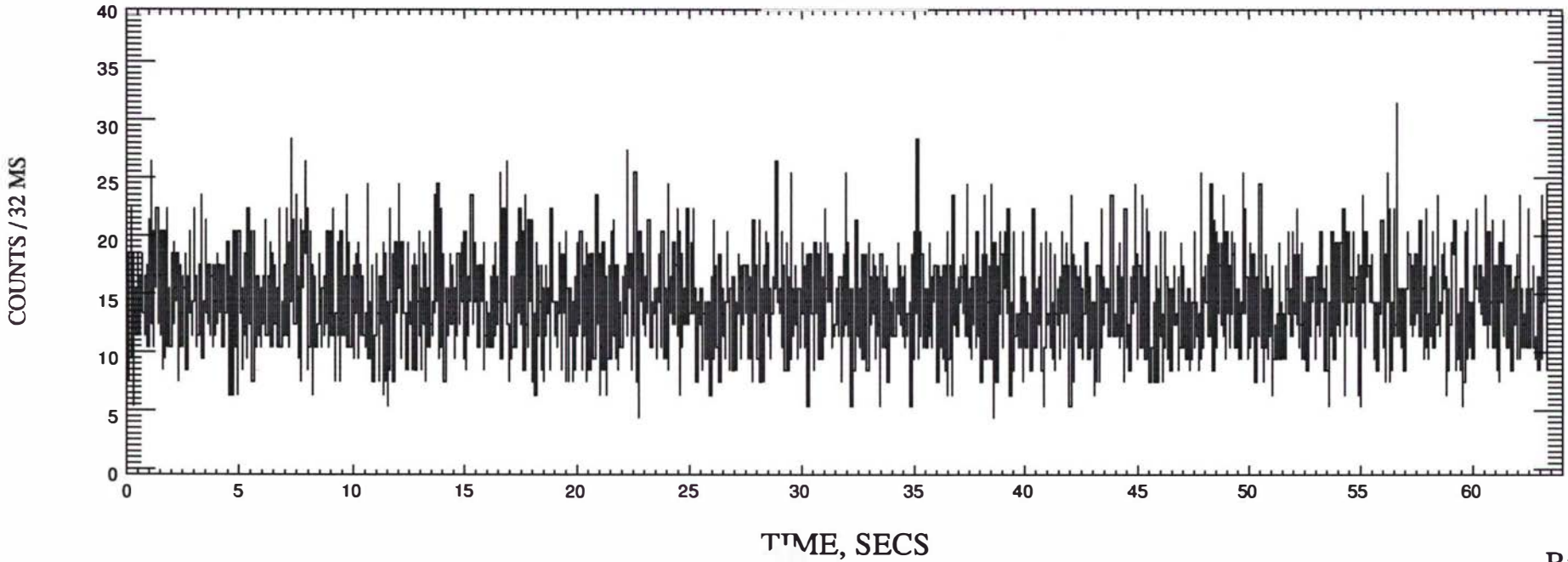


UNIVERSAL TIME

HUS 2A TRIGGERED DATA EDR day 48, year 1996 11/25/96

Burst Counter 7 at UT=12.055565817091 h=43400.037 s 12:03:20.037

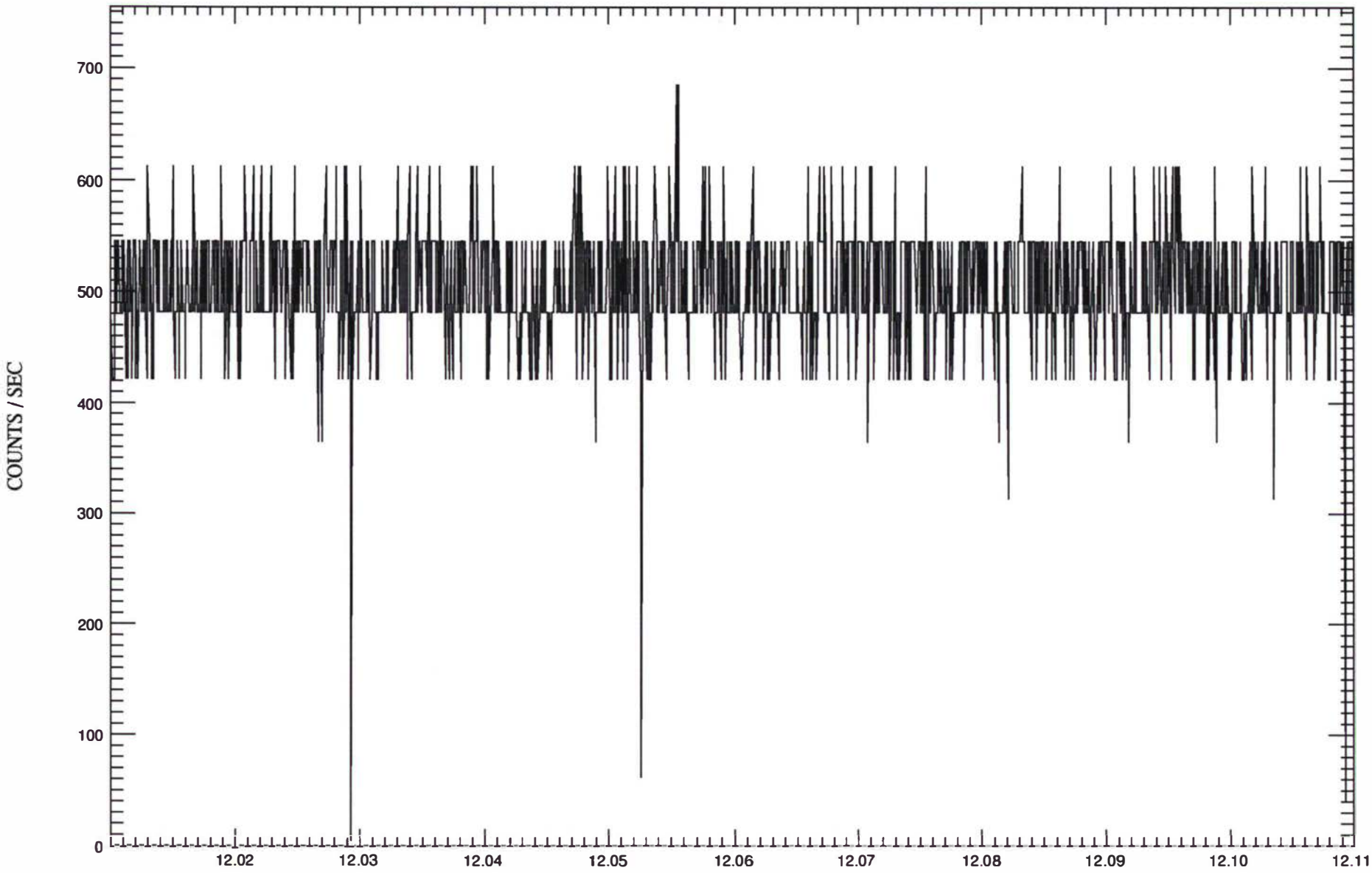




B# 1

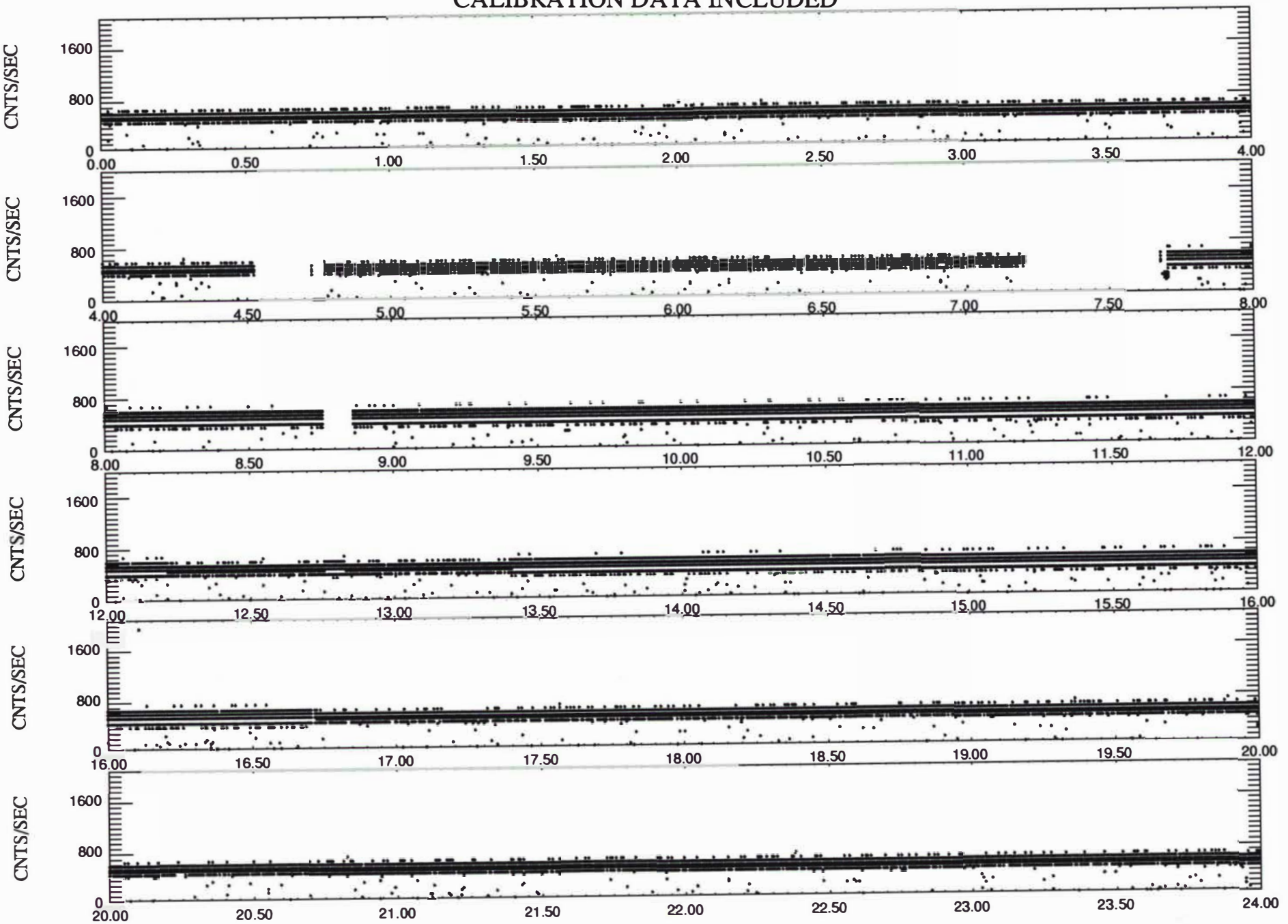
HUS 2A, MODE 1, NOT AVERAGED EDR day 48, year 1996 to day 48, year 1996 11/25/96

CALIBRATION DATA INCLUDED

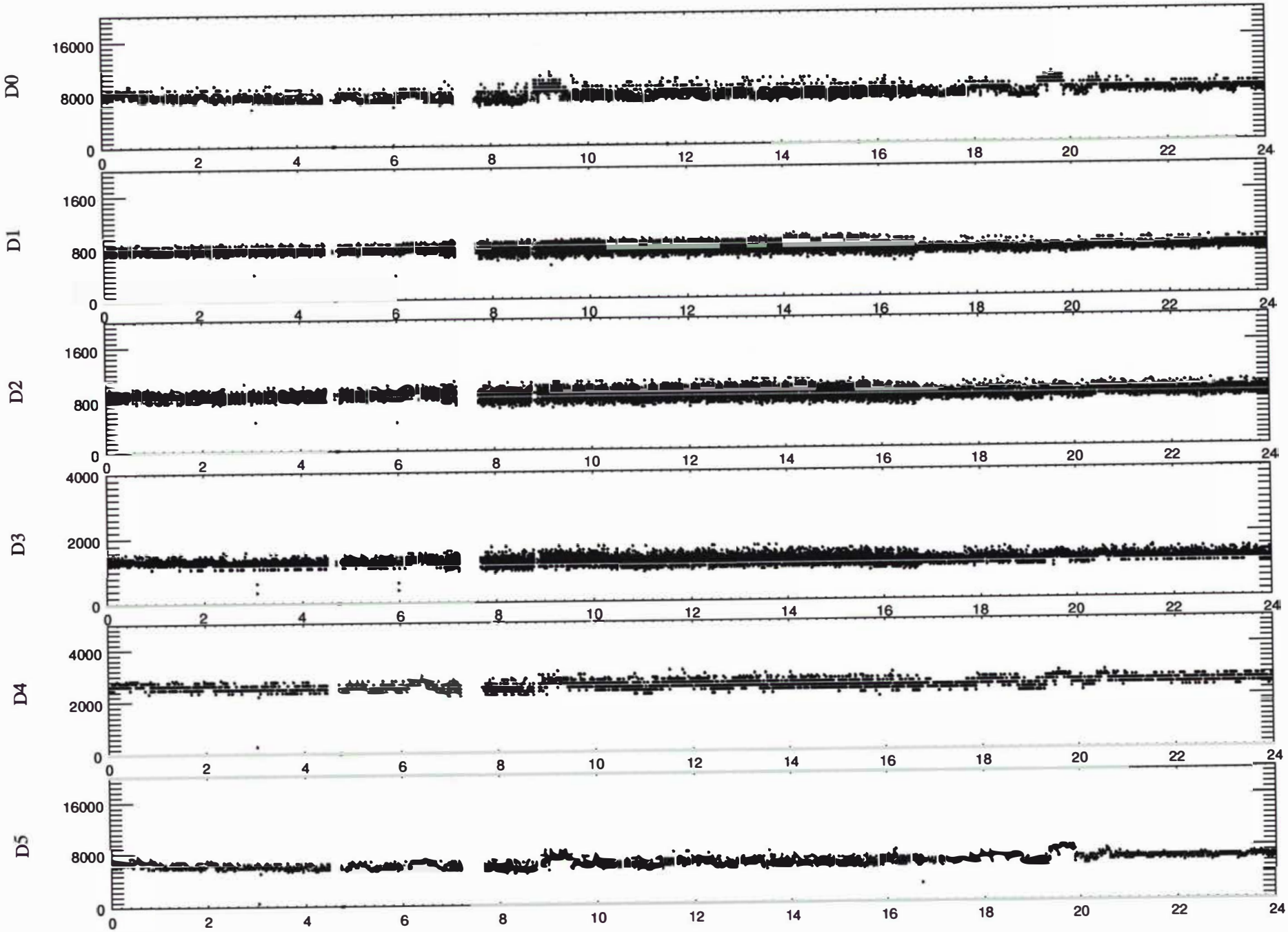


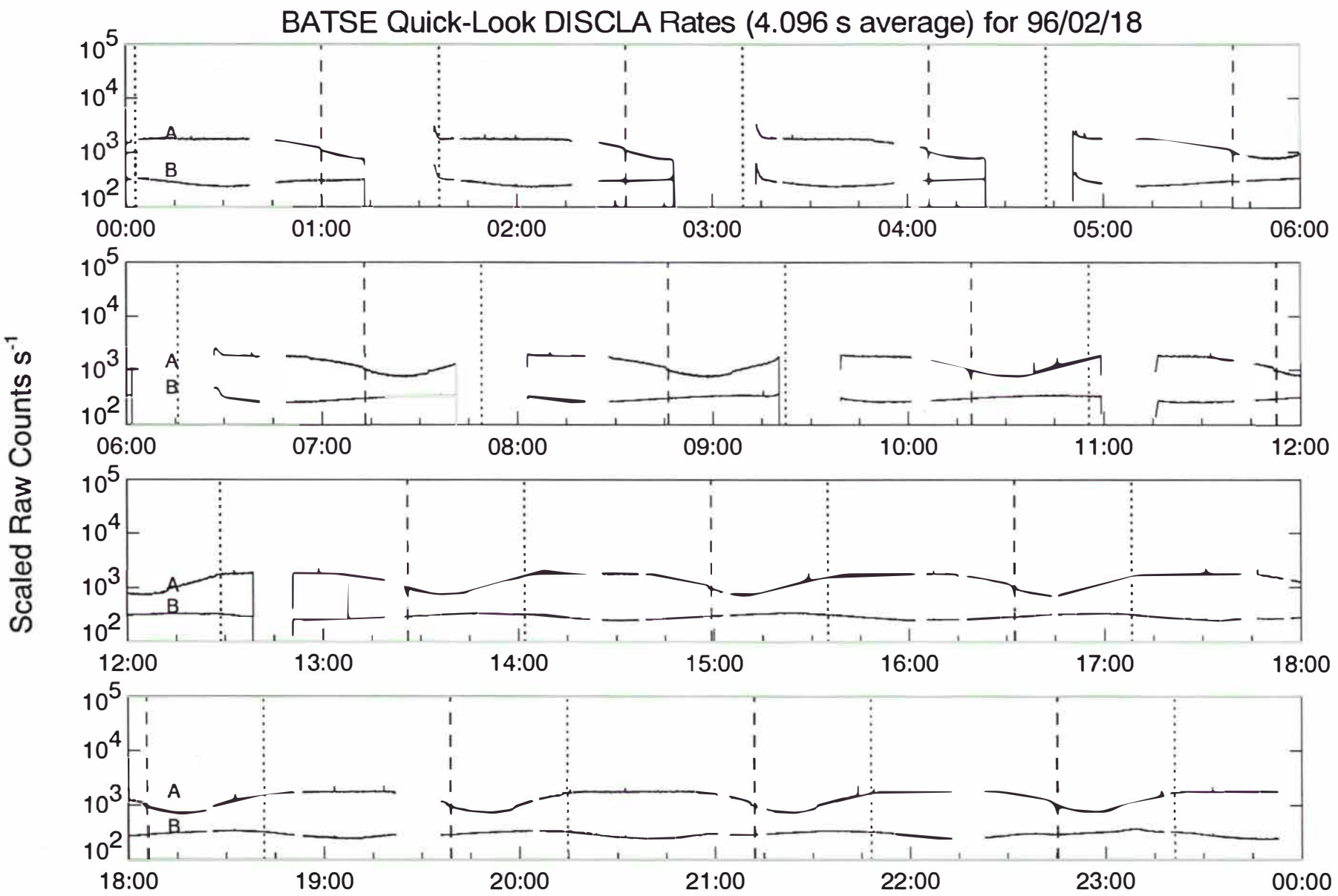
HUS 2A, MODE 1, NOT AVERAGED EDR day 48, year 1996 to day 48, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2B COUNTS / SEC EDR day 48, year 1996 to day 48, year 1996 11/25/96

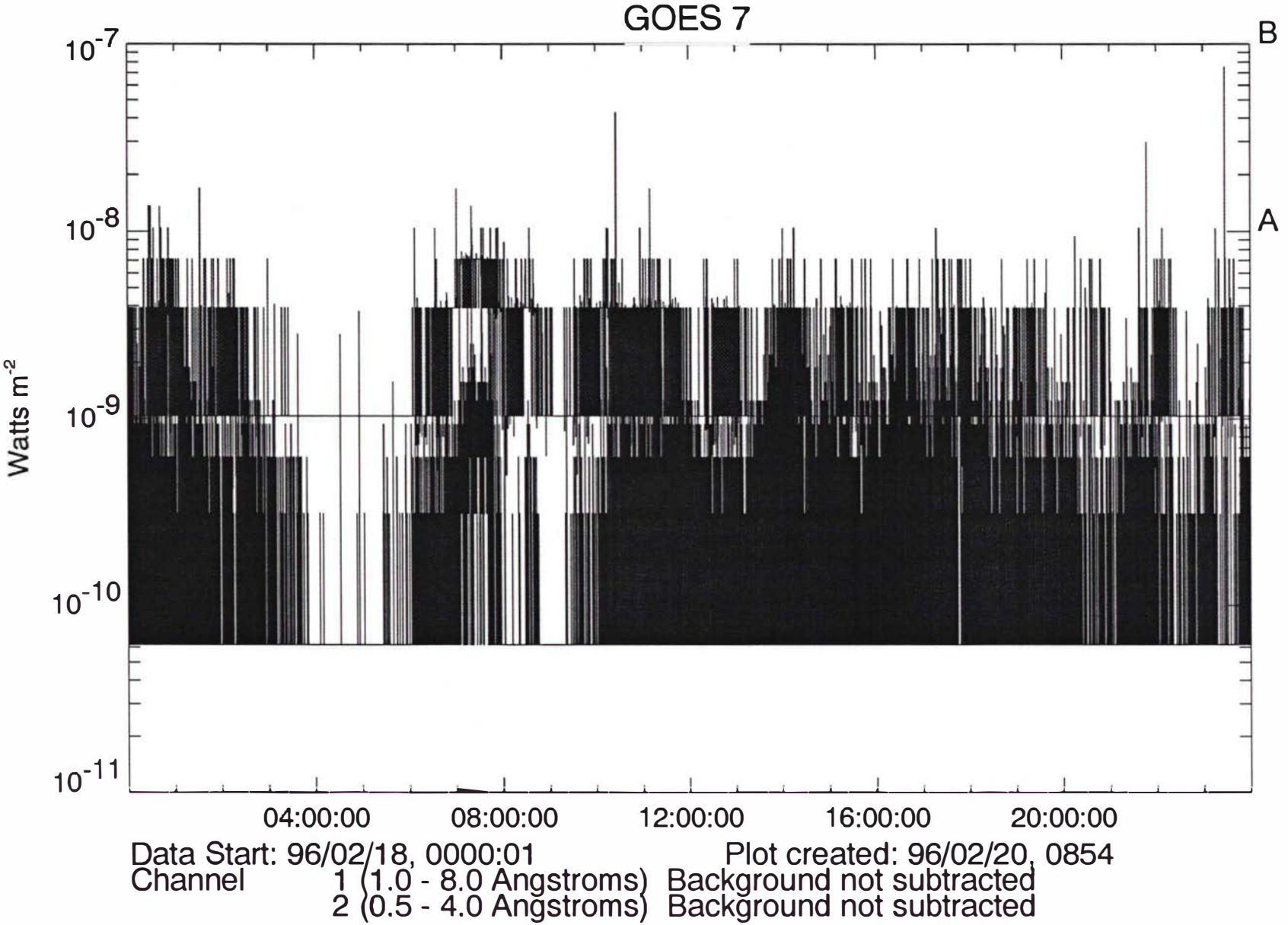




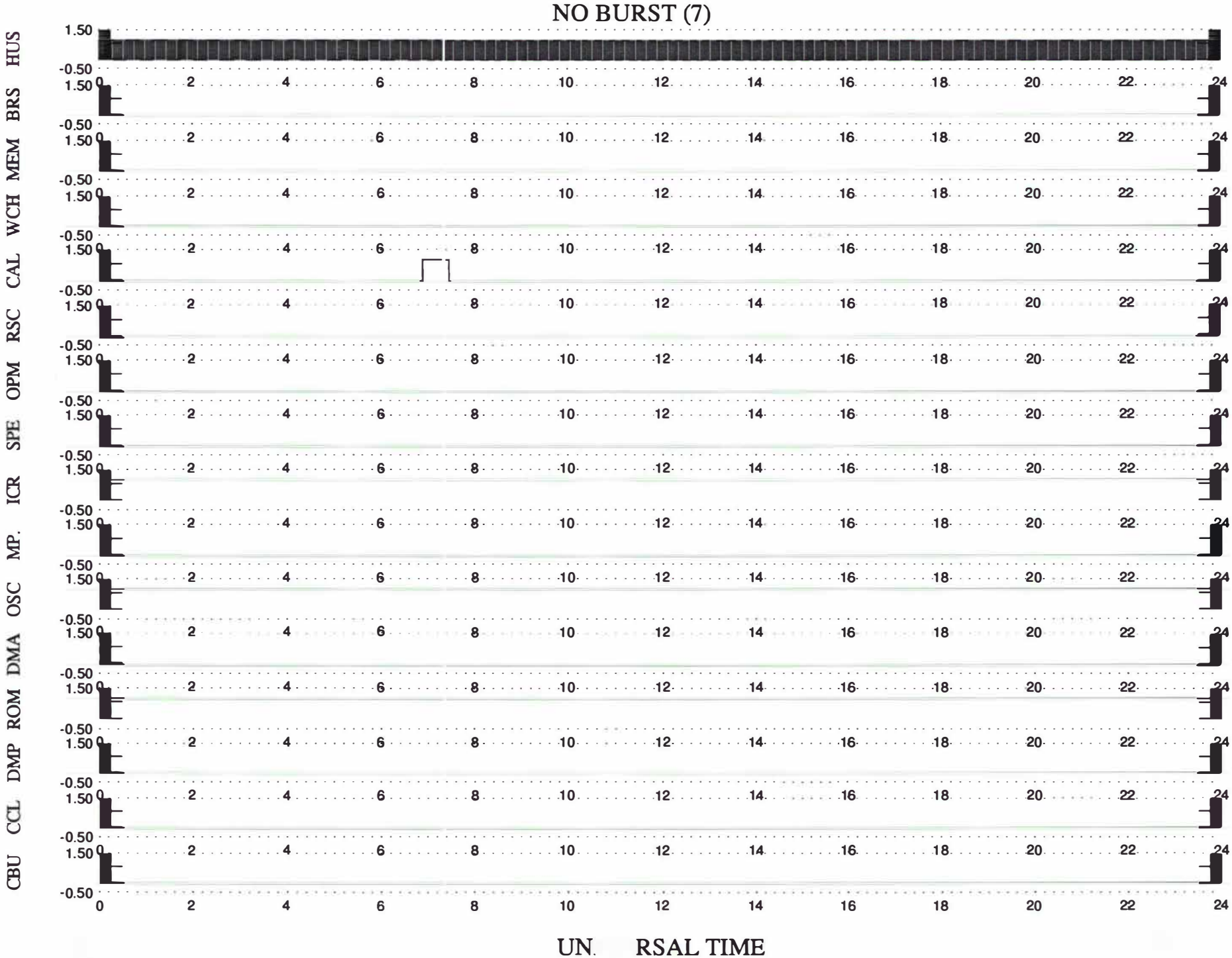
Current Time: 96/02/20, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare

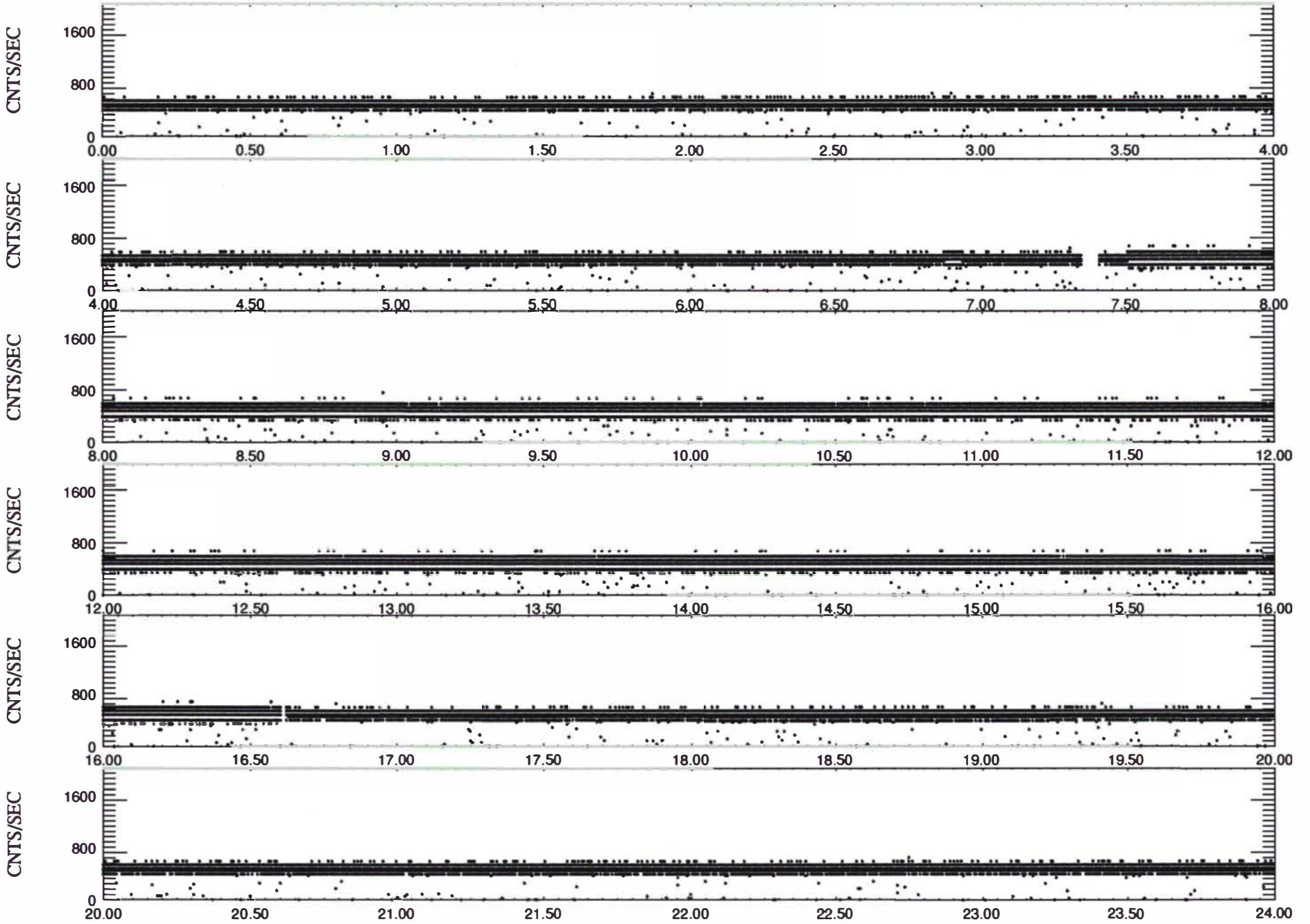

GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/18, 0000:01
Plot created: 96/02/20, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 49, year 1996 to day 49, year 1996 11/25/96



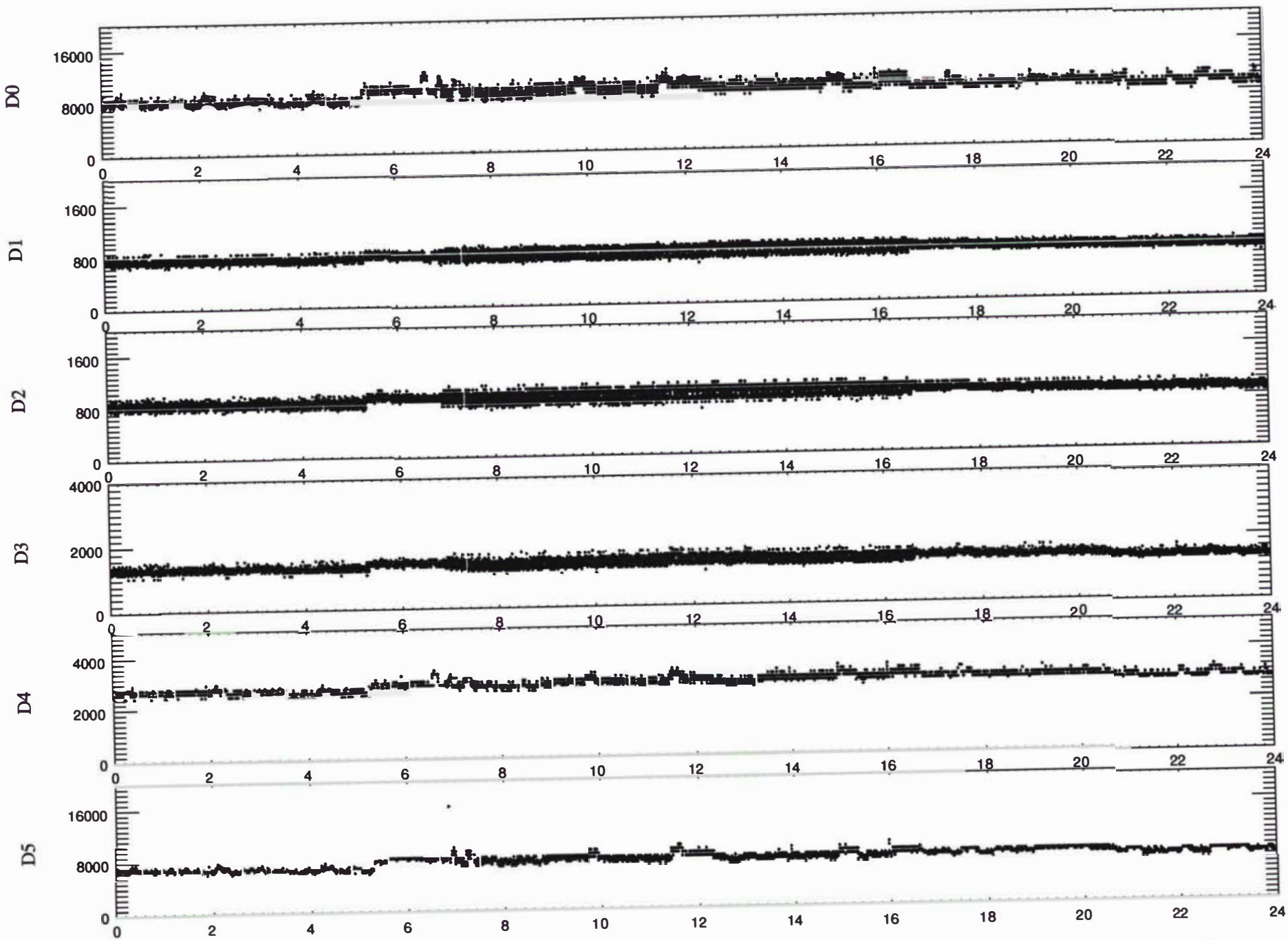
HUS 2A, MODE 1, NOT AVERAGED EDR day 49, year 1996 to day 49, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 49, year 1996 to day 49, year 1996 11/25/96



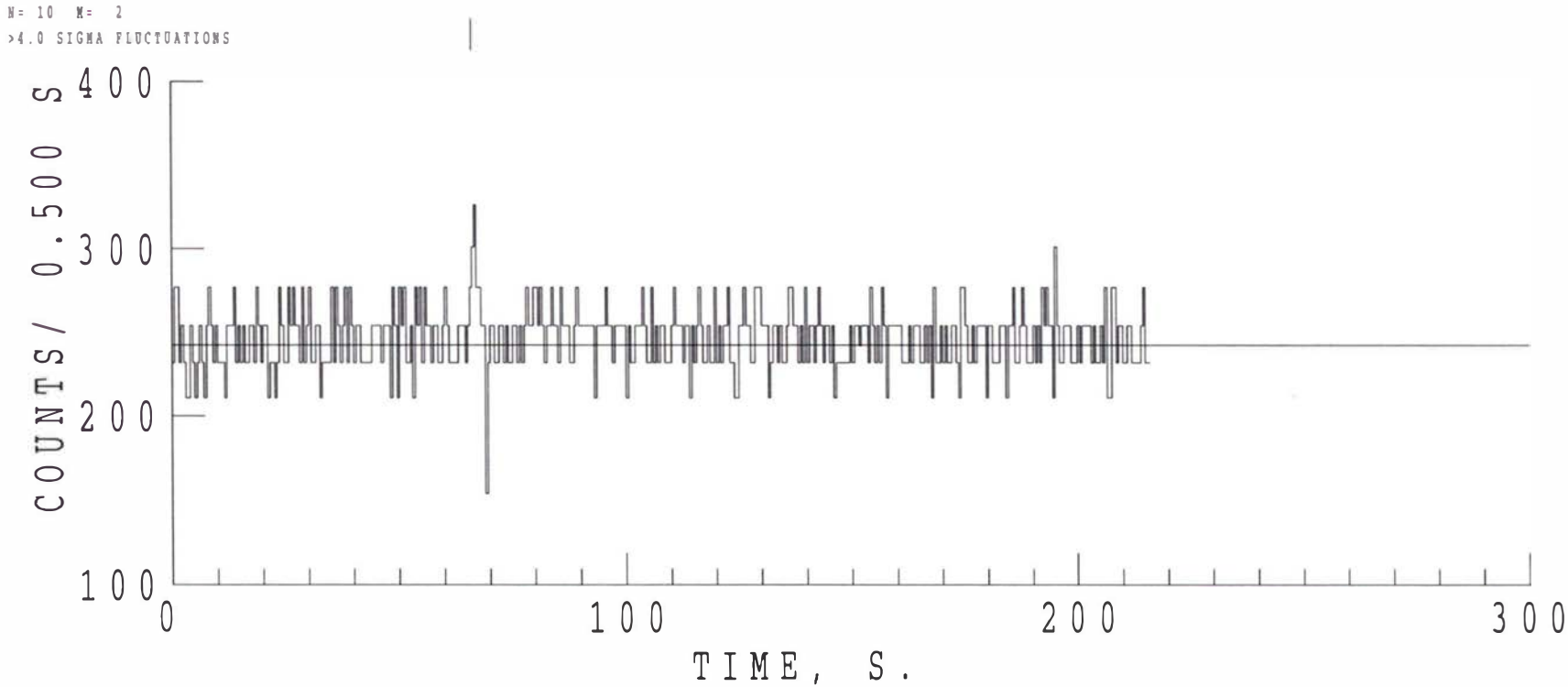
KONUS 19960219 20044

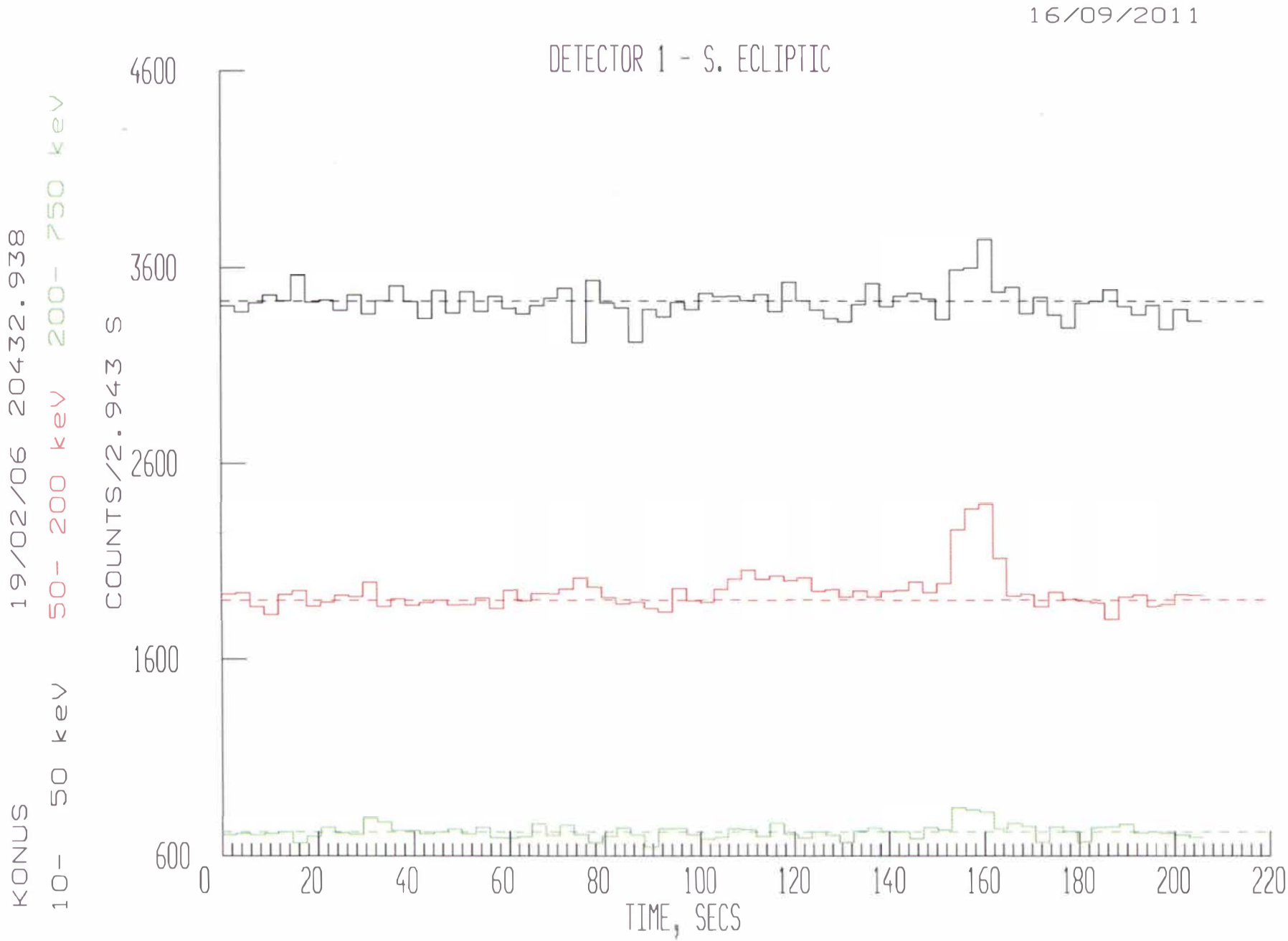
ULYSSES RT 14/09/11

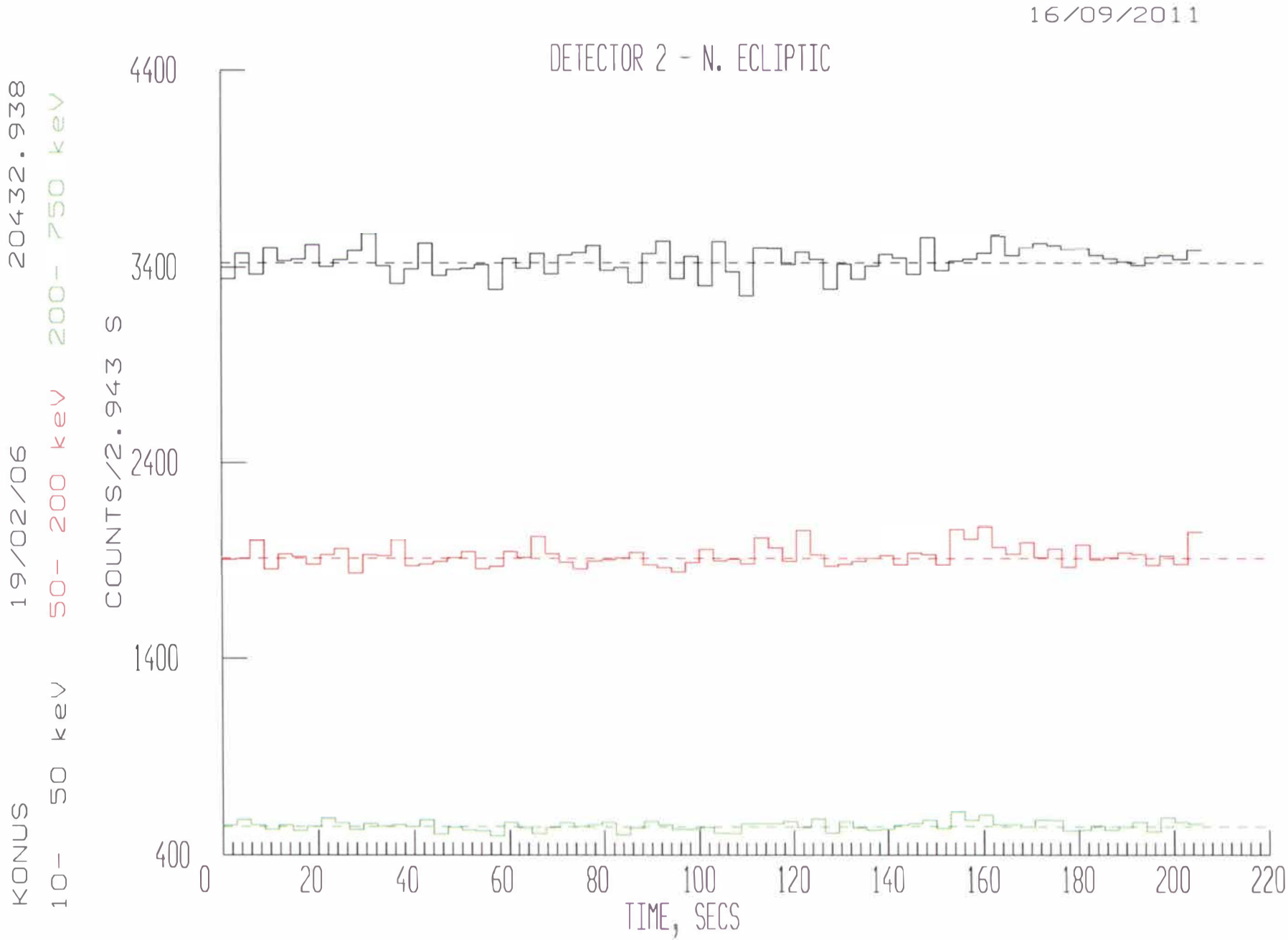
19/02/96 19944.053 s

0- 0 keV

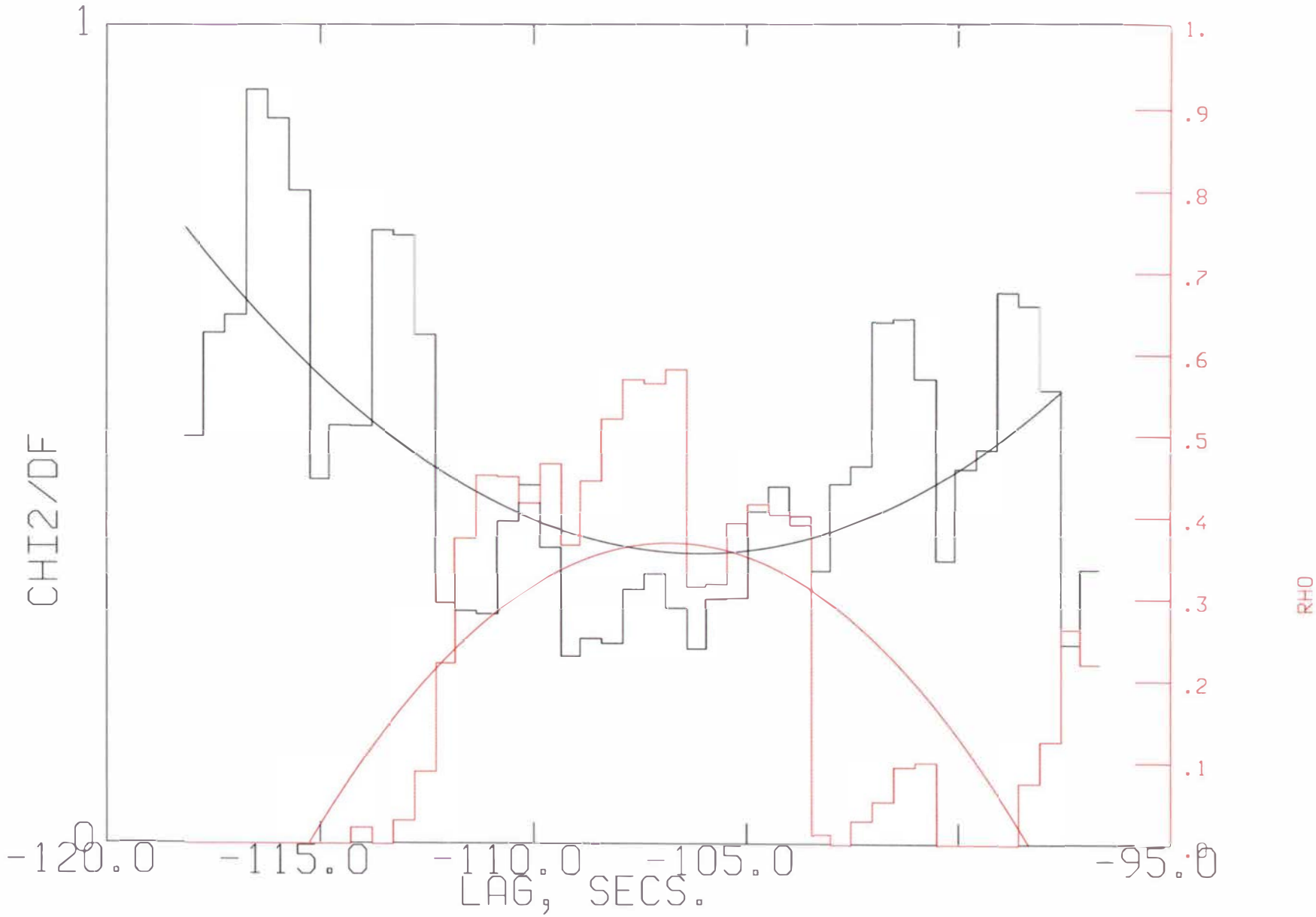
Different bursts

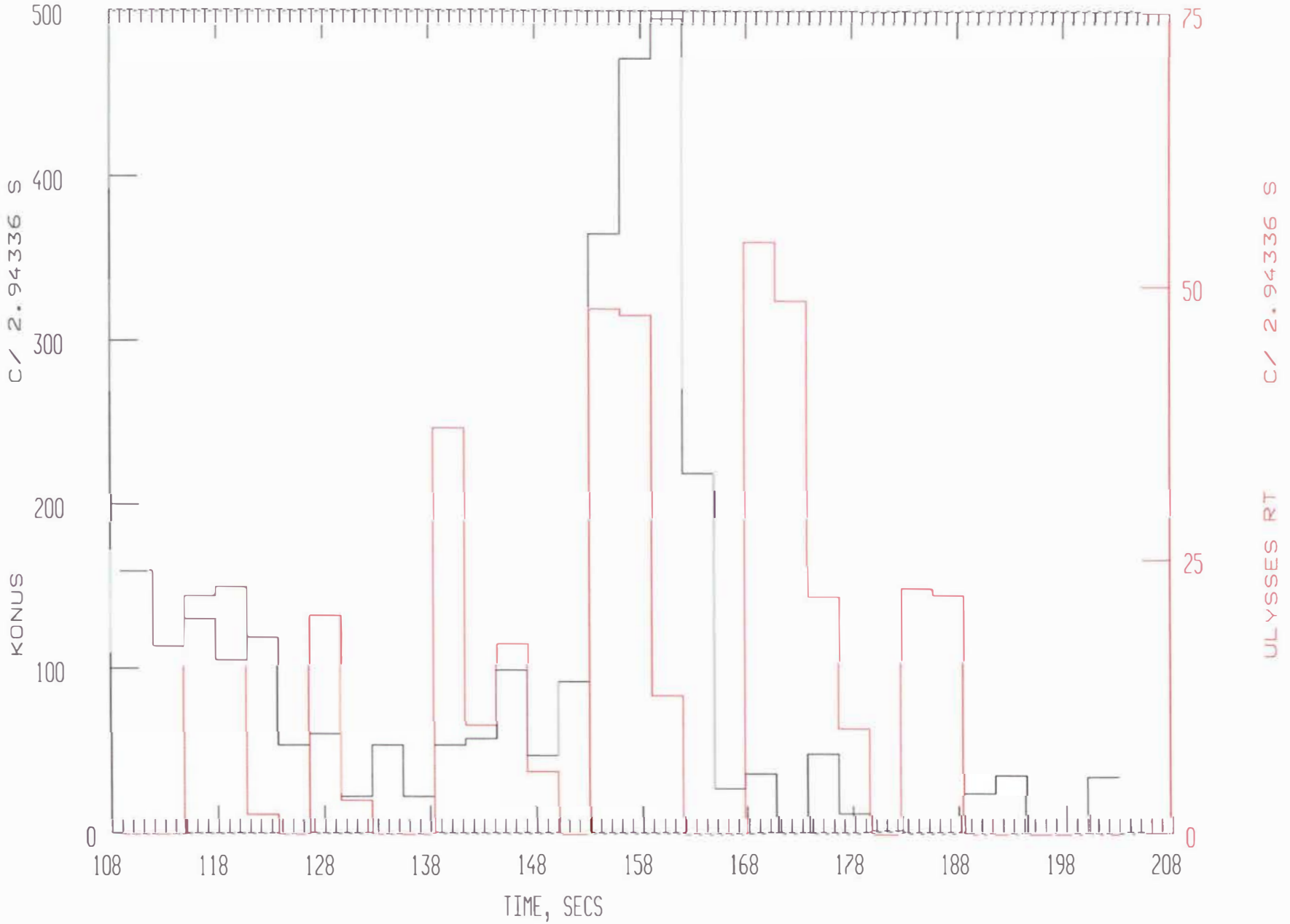



16/09/2011
DETECTOR 1 - S. ECLIPTIC
KONUS
19/02/06 20432.938
10- 50 keV
50- 200 keV
200- 750 keV
COUNTS/2.943 S
4600
3600
2600
1600
600
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS


16/09/2011
DETECTOR 2 - N. ECLIPTIC
KONUS
19/02/06
20432.938
10- 50 keV
50- 200 keV
200- 750 keV
COUNTS/2.943 S
4400
3400
2400
1400
400
0
20
40
60
80
100
120
140
160
180
200
220
TIME, SECS

KONUS -ULYSSES RT CORRELATION 19/02/06 20432.938




500
400
300
200
100
0
C/ 2.94336 S
KONUS
75
50
25
0
C/ 2.94336 S
ULYSSES RT
108
118
128
138
148
158
168
178
188
198
208
TIME, SECS

KONUS

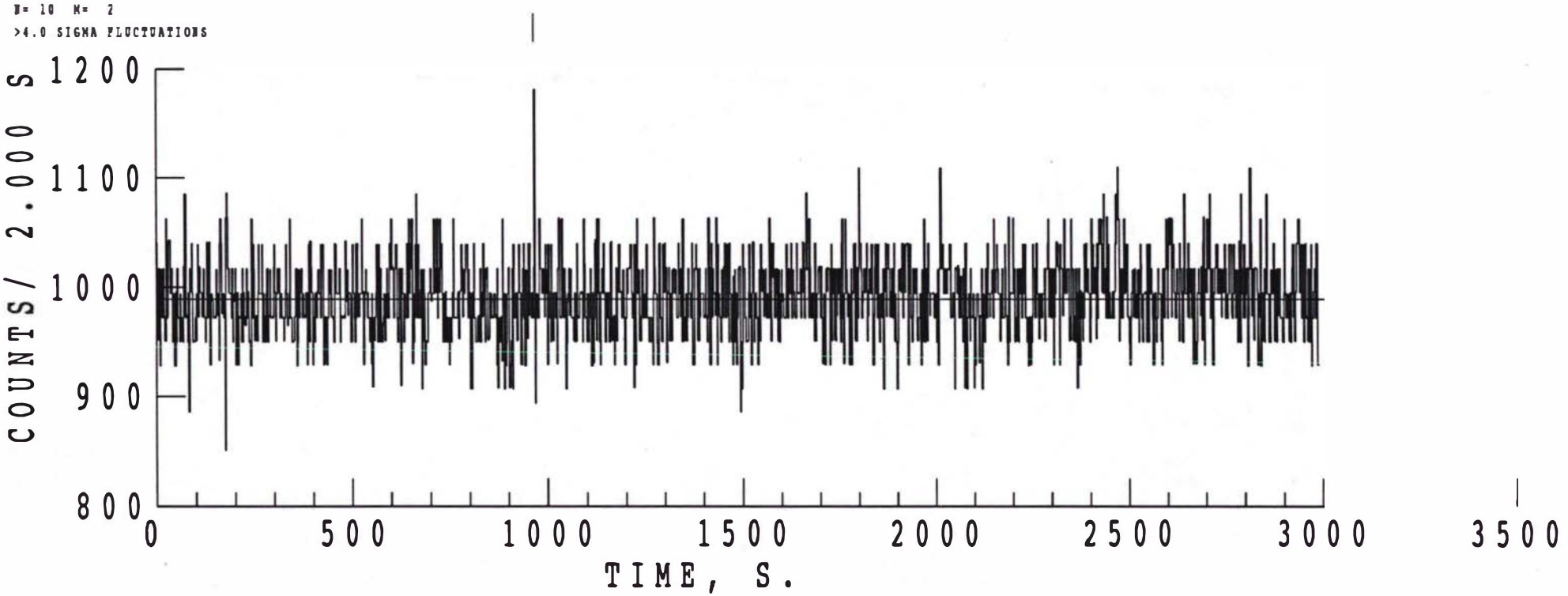
ULYSSES RT

28/01/00

19/02/96 19044.045 s

0.500 S INTERVALS REGROUPED BY 4

0- 0 keV



From HAGEDON@fender.msfc.nasa.gov Tue Feb 20 12:38 PST 1996
From: HAGEDON@fender.msfc.nasa.gov
Date: Tue, 20 Feb 1996 14:38:00 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4939

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

NO

```
 BATSE BURST #     4939
 EVENT OF 1996 FEB 19 DAY OF YEAR= 50
 EVENT CROSSING TIME AT BATSE      : 71540. S. OR 19:52:20.0
 COORDINATES ARE    0.000    0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 256.000    20.000
 BATSE PEAK COUNTING RATE:    4500     C/S

 EVENT CROSSING TIME AT ULYSSES     WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 19/ 2/  96 IS:
 RA=  207.493 DEC=    73.090 DIST=     2.878 AU
 BATSE-ULYSSES DISTANCE =  430546128. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=120.55 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -730.02 SECS.
 CROSSING TIME AT ULYSSES     IS 70810. S. OR   19:40:09 +/-  253.64 SECONDS

 EVENT CROSSING TIME AT MARS        WILL BE FOUND
 POSITION OF MARS ON 19/ 2/  96 IS:
 RA=  335.115 DEC=  -11.455 DIST=     2.367 AU
 MARS-BATSE DISTANCE =  354108480. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 96.08 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -125.20 SECS.
 CROSSING TIME AT MARS        IS 71415. S. OR   19:50:14 +/-  202.01 SECONDS


                BATSE BURST TRIGGER
NO.: 4939

TIME: TJD=0132 SECONDS=71540

TYPE: BURST                      SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:        SIGMA

INTENSITY:           COUNTS/CM2

LOCATION: ZENITH=94.4   AZIMUTH=46.0   ERROR=2.5   DEGREES

COMMENTS:
BURST.  SINGLE PULSE WITH SUBSTRUCTURE.  DUR.~40 SEC.
VISIBLE ABOVE 300 KEV.


 BATSE #    Date      TJD      SoD    Max ct/s    RA    Dec   Dur (s)
   4939    960219    10132    71540      4500    256    +20      40
```

From cline@lheavx.gsfc.nasa.gov Fri Mar 29 08:40 PST 1996
Date: Fri, 29 Mar 1996 08:40:19 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: Konus Event List augmentation

Dear Kevin,

This list includes Sergei's latest Konus-W (GGS-Wind) and Konus-A (Kosmos-2326) events, for comparison with Ulysses, BATSE, TGRS, etc. The times listed are prioritized for Konus-W (i.e., Konus-A time given if Konus-W doesn't trigger).

Yr	Mn	Dy	UT (Konus)	BATSE	Ulysses	Konus	TGRS	Notes
95	11	2	07085.879	?	?	168	no	
95	11	2	21209.015	3891	R I	169	345	
95	11	4	05868.077	3893	R I	170	BGR	
95	11	5	46827.808	?	?	171	no	
95	11	12	66495.244	?	R I	172	no	
95	11	13	84358.872	3906	R I	173	BGR	
95	11	17	10123.762	3909	?	175	no	
95	11	19	29831.402	3912	R I	176	348	
95	11	19	46457.519	?	?	177	BGR	
95	11	22	09841.38	?	?	179	no	
95	11	22	17107.738	?	?	180	349	
95	12	2	39101.744	?	?	195	BGR	
95	12	3	03988.18	?	?	196	360	
	12	8	19617.151	?	?	197	no	
	12	8	39452.057	?	?	198	no	
95	12	8	42467.634	?	?	199	BGR	
95	12	9	31349.607	?	?	200	BGR	
95	12	13	17849.683	?	?	201	362	
95	12	14	08657.847	?	?	202	no	
95	12	19	60679.732	?	?	203	no	
95	12	20	31883.56	?	?	204	BGR	
95	12	22	25203.254	?	?	no	?	= K-A t.
95	12	27	23005.042	?	?	218	375	
96	12	31	20231.668	?	?	219	no	
96	1	2	11650.996	?	?	220	no	
96	1	4	12521.062	?	?	221	no	
96	1	11	46524.53	?	?	222	no	
96	1	13	56024.261	?	?	228	no	
96	1	14	44104.737	?	?	233	384	+ K-A t.
96	1	15	31956.506	?	?	234	BGR	
96	1	17	57371.341	?	?	235	no	
96	1	19	34679.317	?	?	236	no	
96	1	19	45226.016	?	?	237	no	
96	1	20	36768.974	?	?	238	no	
96	1	24	03388.008	?	?	239	385	+ K-A t.
96	1	24	76096.911	?	?	BGR	?	= K-A t.
96	1	30	08756.848	?	?	240	no	
96	2	1	78530.582	?	?	241	?	+ K-A t.
96	2	2	50750.813	?	?	242	?	
	2	10	35198.959	?	?	247	?	
96	2	16	57796.347	?	?	BGR	?	= K-A t.
96	2	19	20589.684	?	?	BGR	?	= K-A t.
96	2	28	85760.241	?	?	249	?	
96	2	29	22445.141	?	?	250	?	

96	3	5	33645.352	?	?	251	?
96	3	12	35074.697	?	?	252	?
96	3	19	51992.828	?	?	253	?
96	3	21	76321.803	?	?	254	?
96	3	22	19642.728	?	?	255	?
96	3	24	80064.124	?	?	257	?
96	3	25	69892.978	?	?	258	?

--

TLC

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

BATSE# 4939

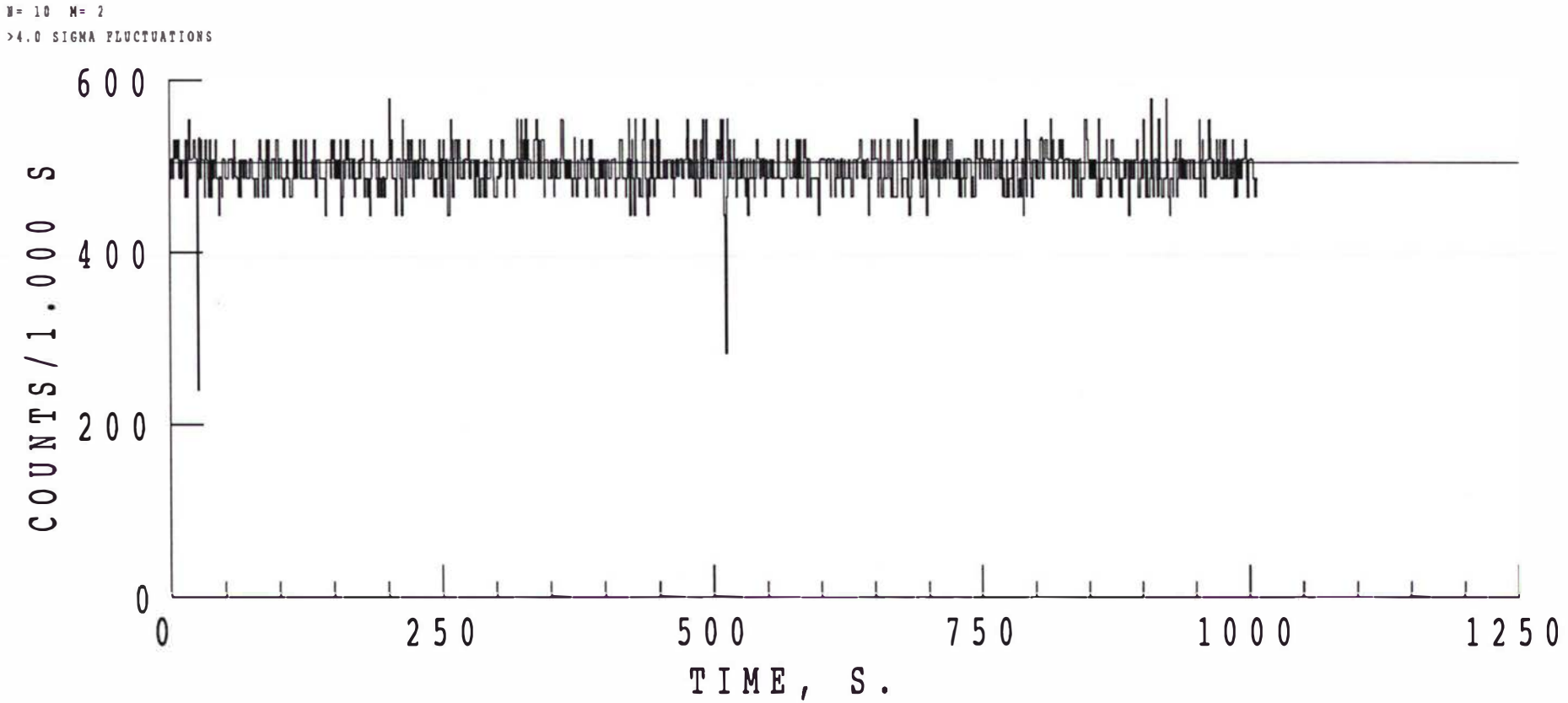
22/ 2/96

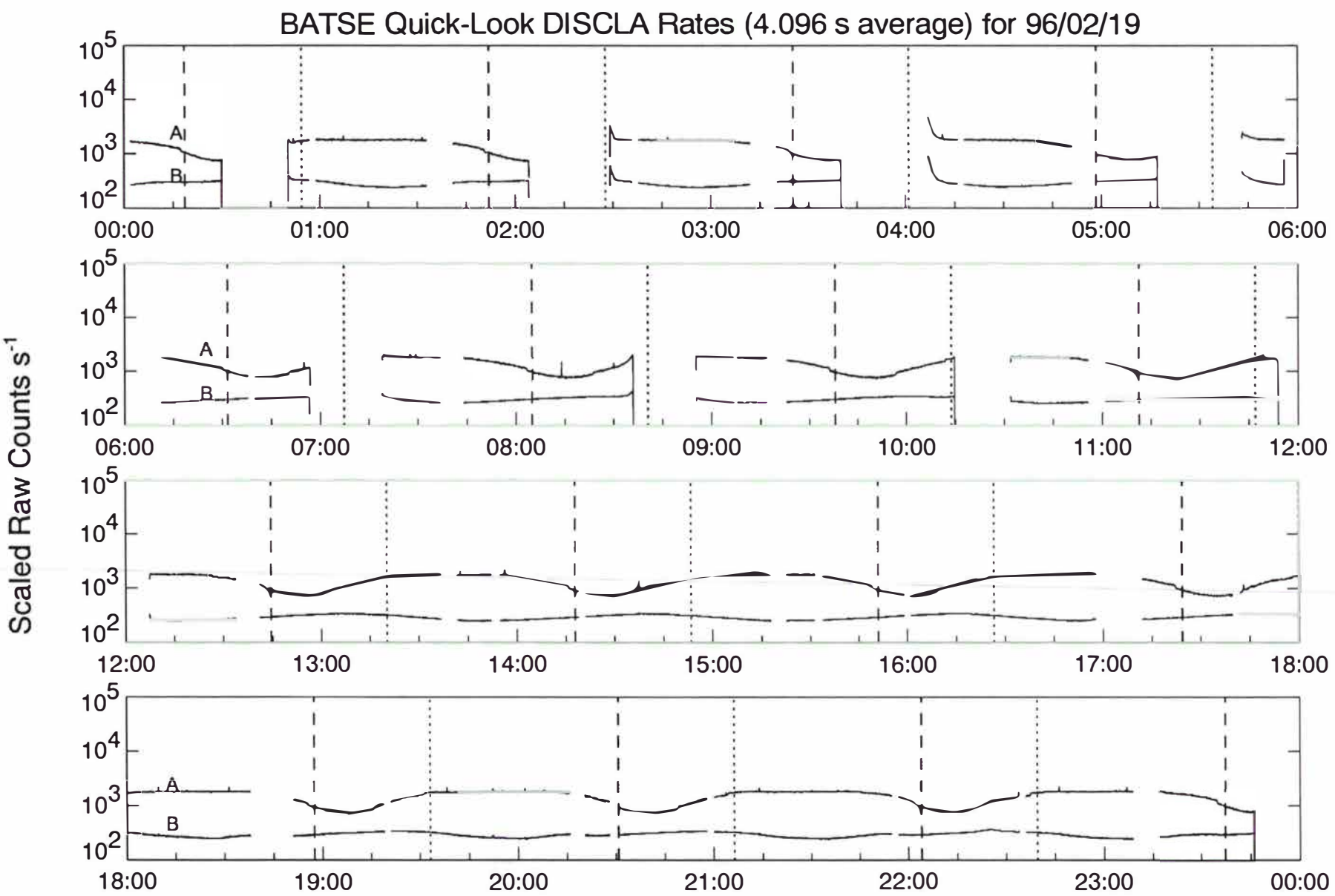
ULYSSES RT

19/ 2/96 70560.281 s

0.500 S INTERVALS REGROUPED BY 2

0- 0 keV

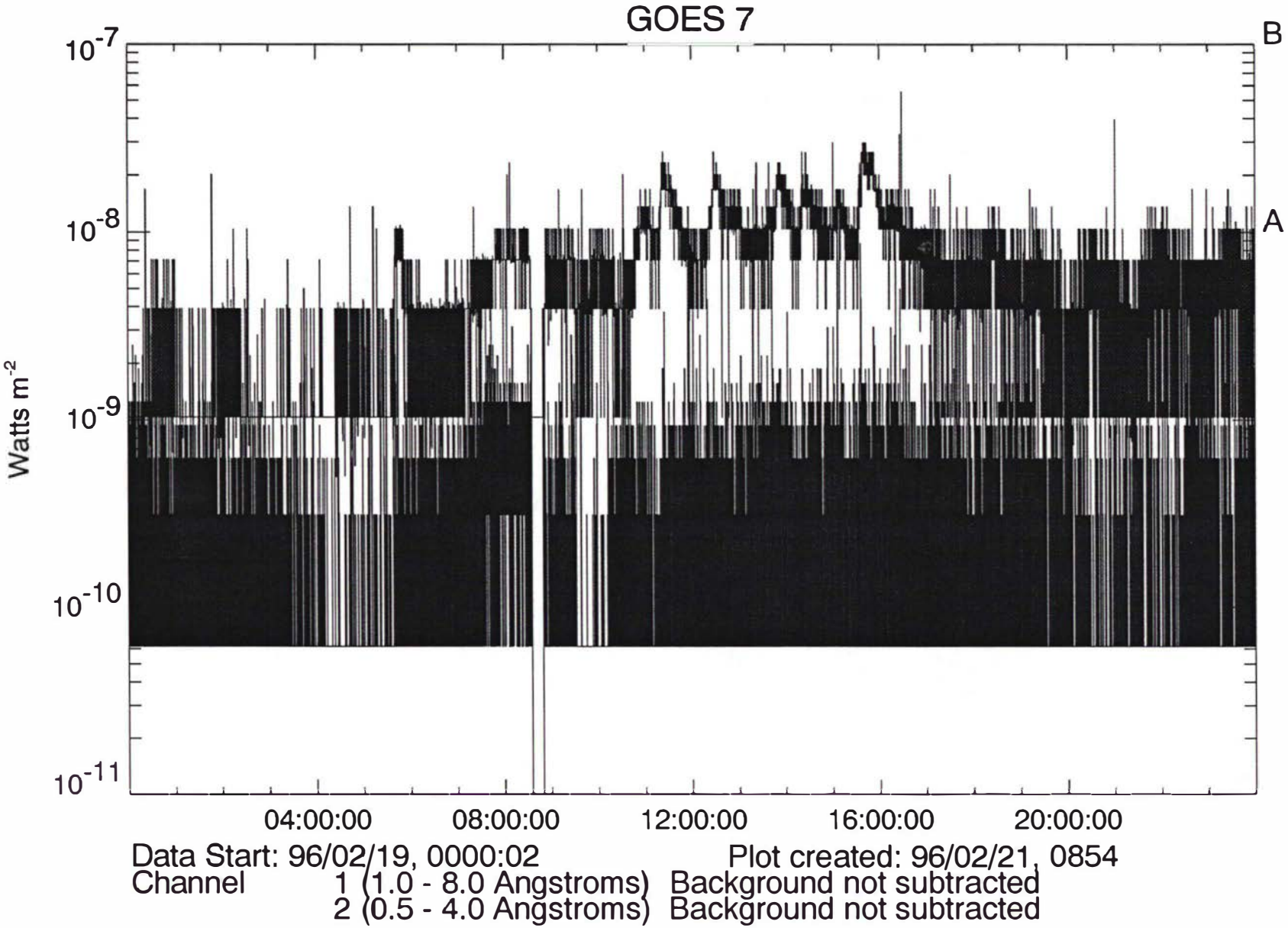




Current Time: 96/02/21, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

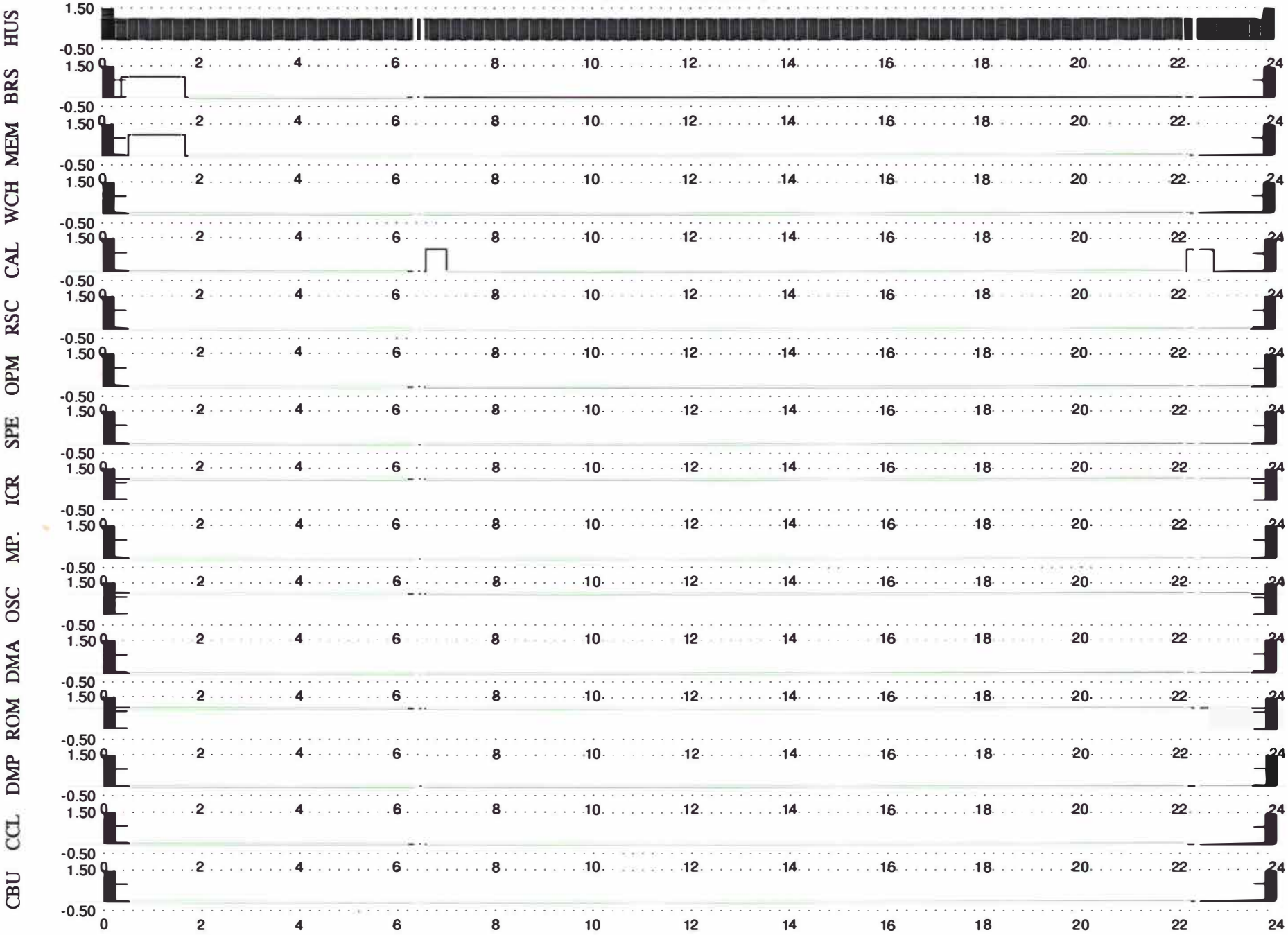
Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/19, 0000:02
Plot created: 96/02/21, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 50, year 1996 to day 50, year 1996 11/25/96

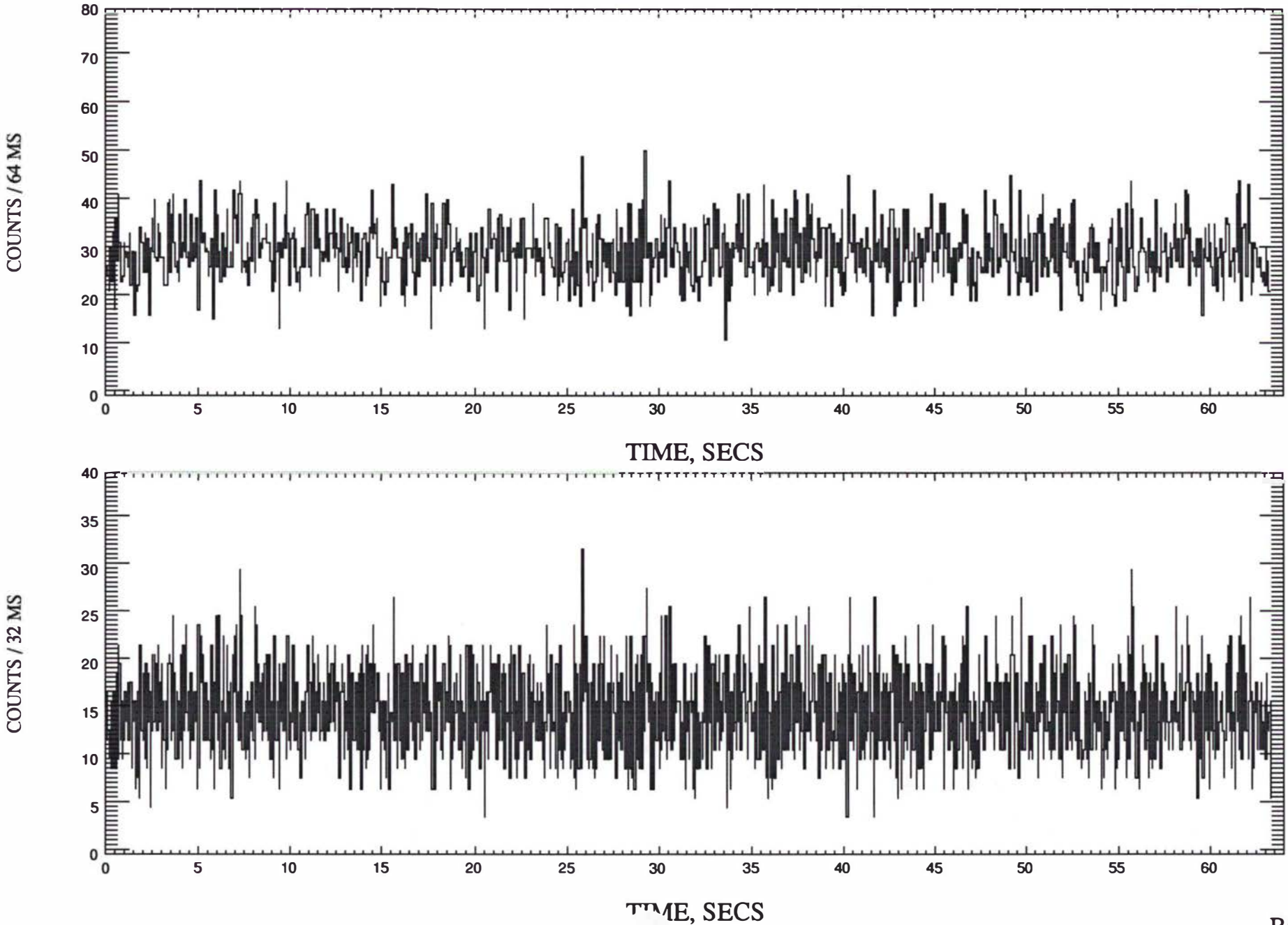
BURST NUMBER 8



UN. RSAL TIME

HUS 2A TRIGGERED DATA EDR day 50, year 1996 11/25/96

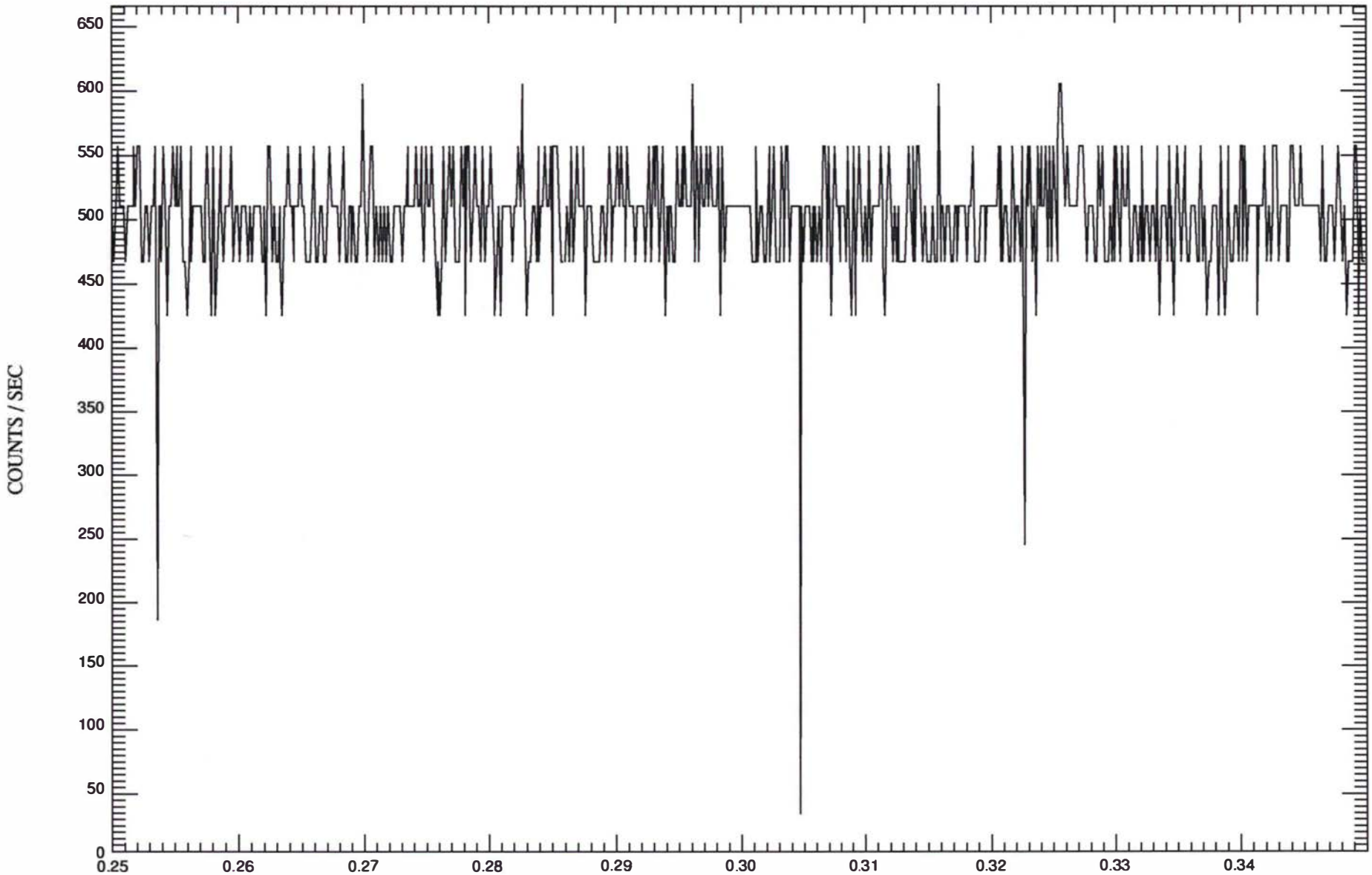
Burst Counter 8 at UT= 0.296291241116 h= 1066.648 s 00:17:46.648



B# 1

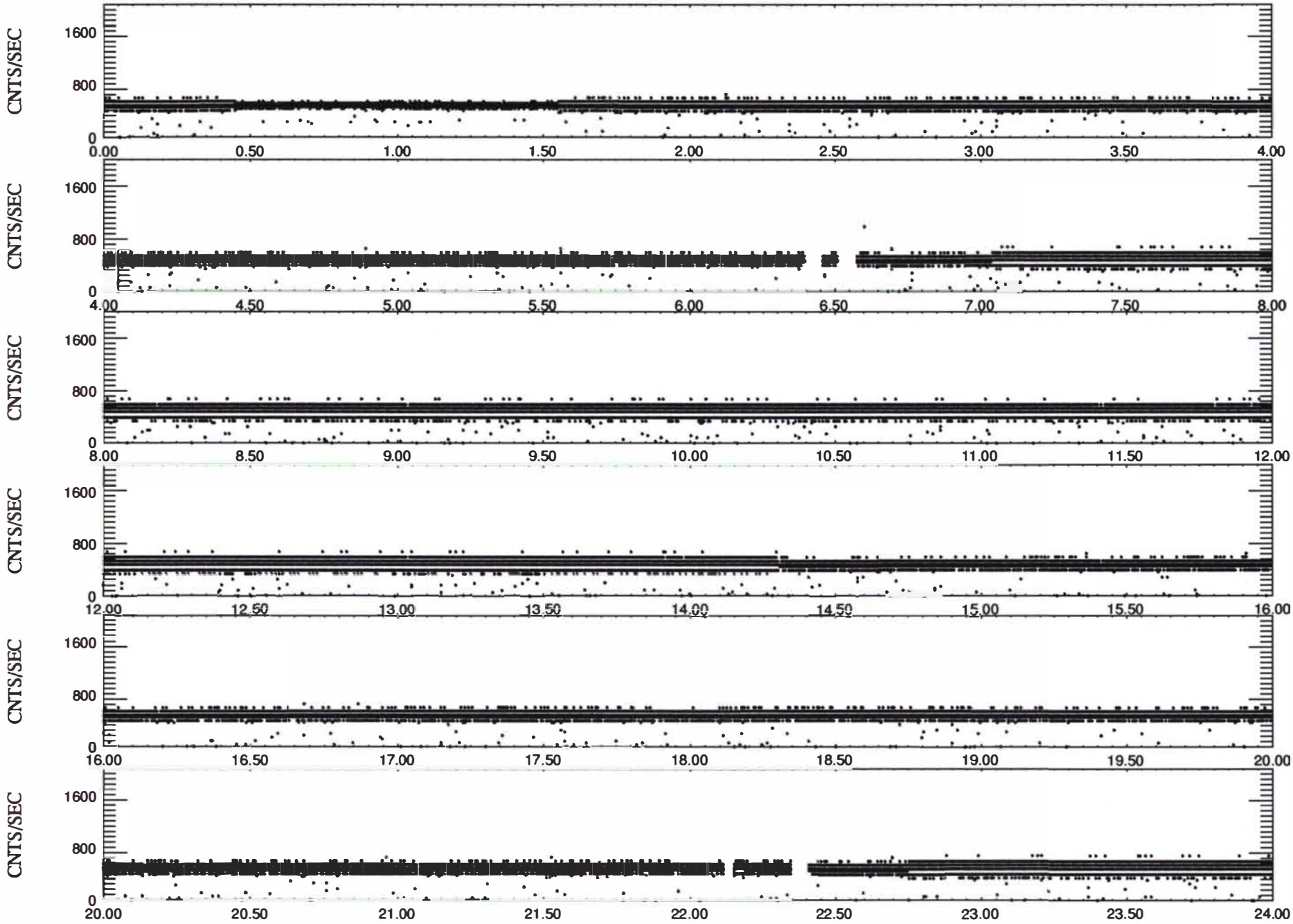
HUS 2A, MODE 1, NOT AVERAGED EDR day 50, year 1996 to day 50, year 1996 11/25/96

CALIBRATION DATA INCLUDED



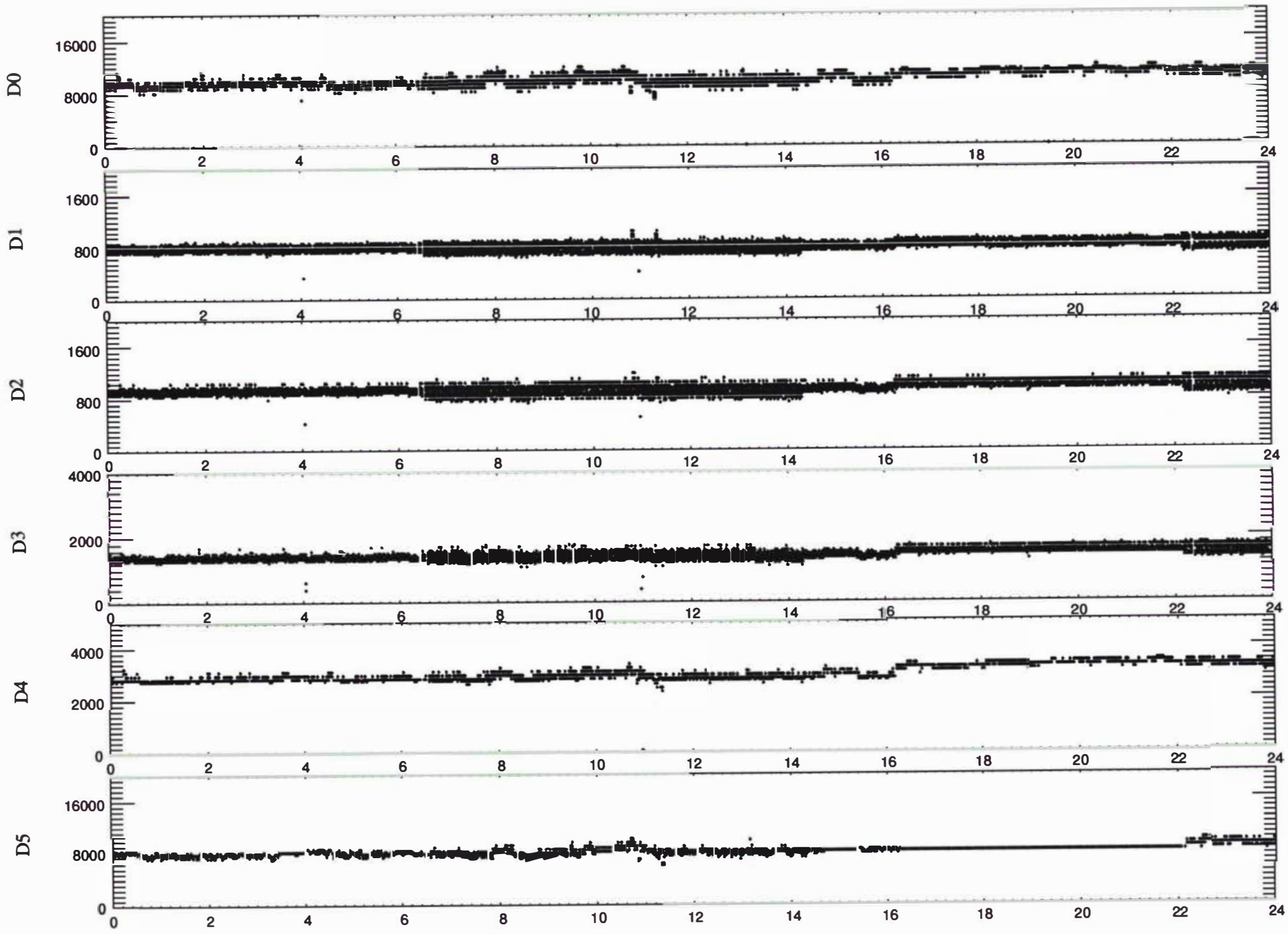
HUS 2A, MODE 1, NOT AVERAGED EDR day 50, year 1996 to day 50, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 50, year 1996 to day 50, year 1996 11/25/96



From DEAL@fender.msfc.nasa.gov Mon Feb 26 12:23 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Mon, 26 Feb 1996 14:22:35 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4955

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

 BATSE BURST #     4955
 EVENT OF 1996 FEB 20 DAY OF YEAR= 51
 EVENT CROSSING TIME AT BATSE      : 76454. S. OR 21:14:14.0
 COORDINATES ARE   0.000   0.000        6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 176.000   80.000
 BATSE PEAK COUNTING RATE:  19500    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 20/ 2/  96 IS:
 RA=  206.378 DEC=    73.291 DIST=     2.883 AU
 BATSE-ULYSSES DISTANCE =  431359417. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=170.50 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1419.15 SECS.
 CROSSING TIME AT ULYSSES    IS 75035. S. OR   20:50:34 +/-    69.66 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 20/ 2/  96 IS:
 RA=  335.865 DEC=  -11.166 DIST=     2.368 AU
 MARS-BATSE DISTANCE =  354189568. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.47 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  414.28 SECS.
 CROSSING TIME AT MARS       IS 76868. S. OR   21:21:08 +/-  198.39 SECONDS


                BATSE BURST TRIGGER
NO.: 4955

TIME: TJD=0133 SECONDS=76454

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=47.0   AZIMUTH=28.1   ERROR=3.9   DEGREES

COMMENTS:
BURST LASTING ~ 0.4 S. VISIBLE ABOVE 300 KEV.



 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4955   960220   10133   76454    19500   176   +80     .4
```

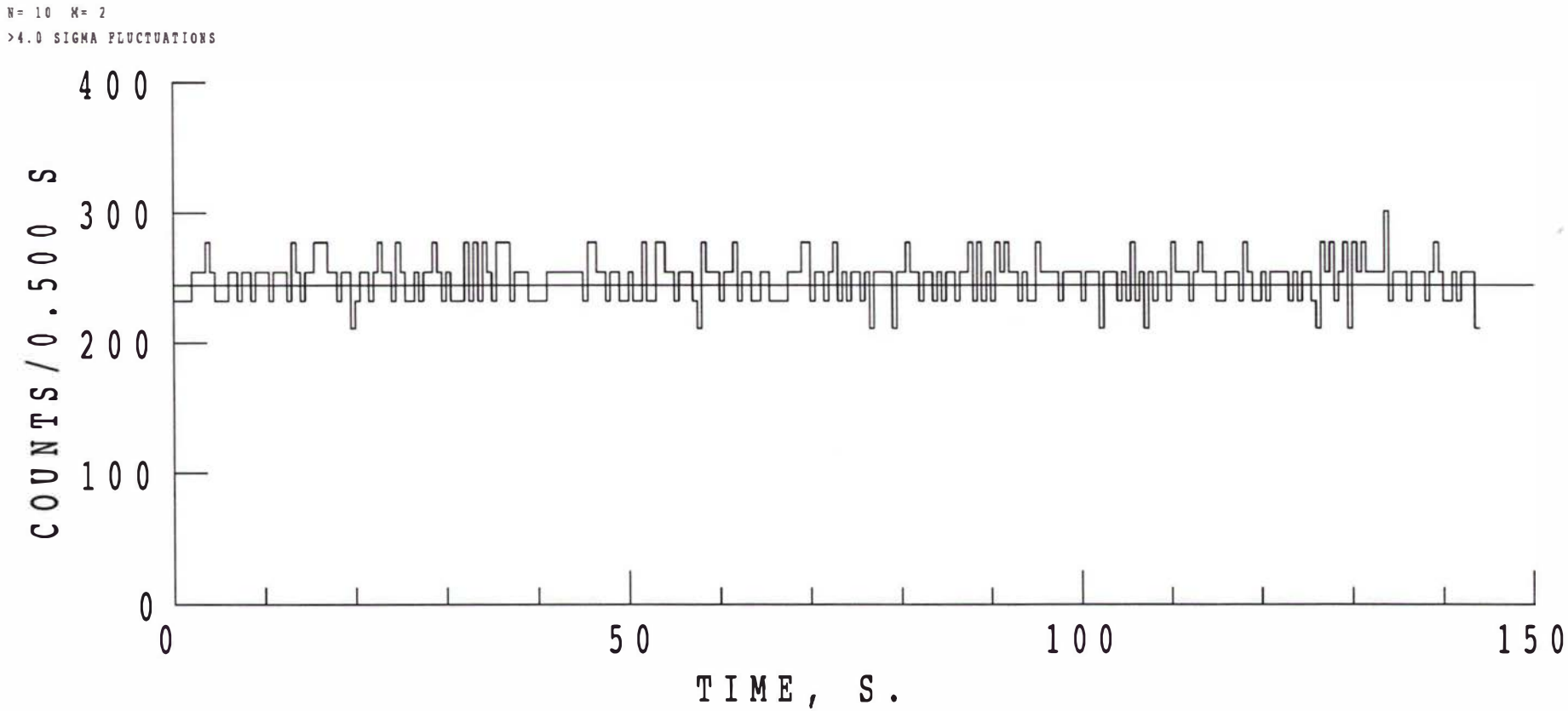
BATSE# 4955

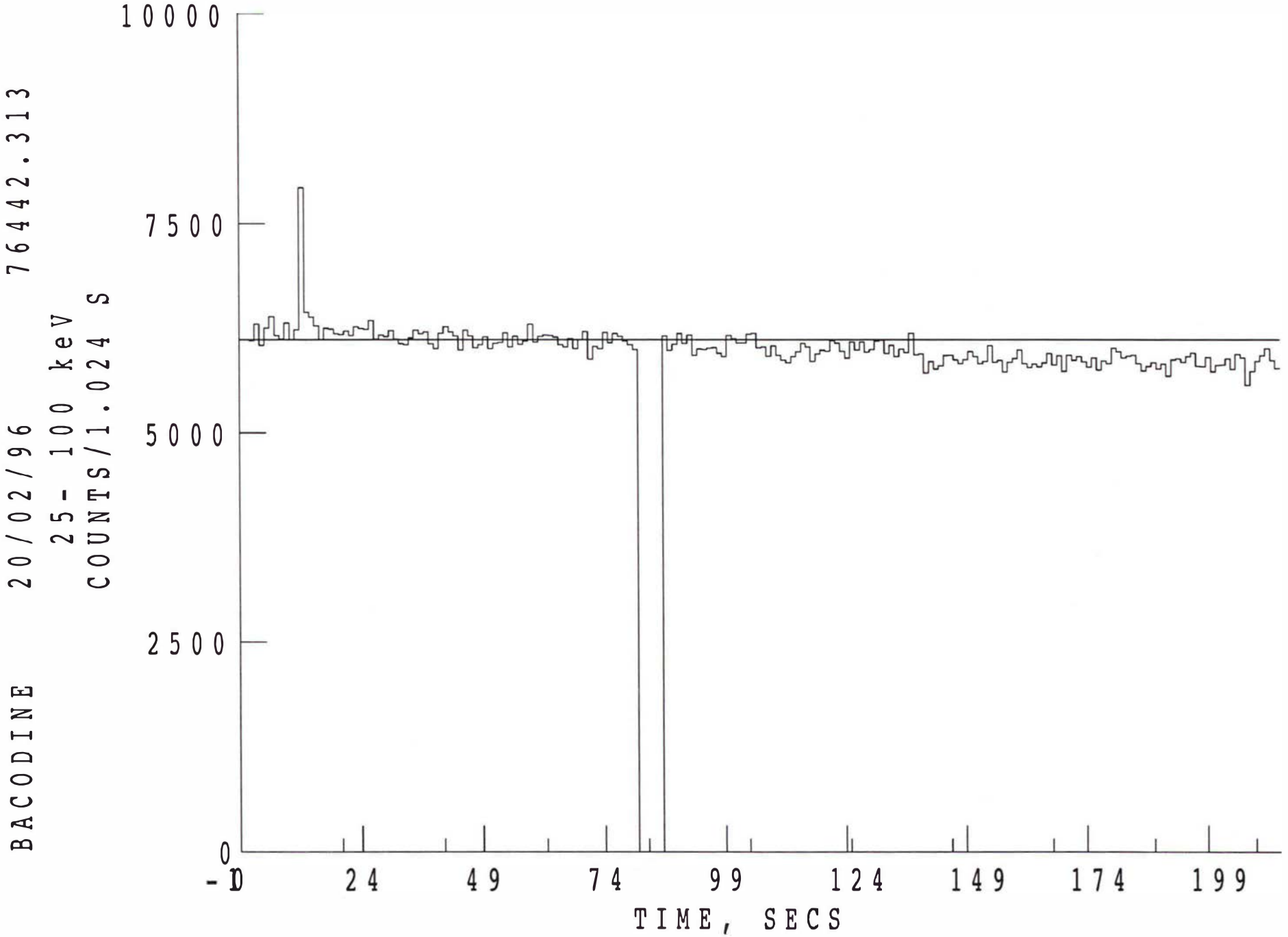
26/ 2/96

ULYSSES RT

20/ 2/96 74952.078 s

0- 0 keV




BACODINE 20/02/96 76442.313
25- 100 keV
COUNTS/1.024 S
10000
7500
5000
2500
0
-D
24
49
74
99
124
149
174
199
TIME, SECS

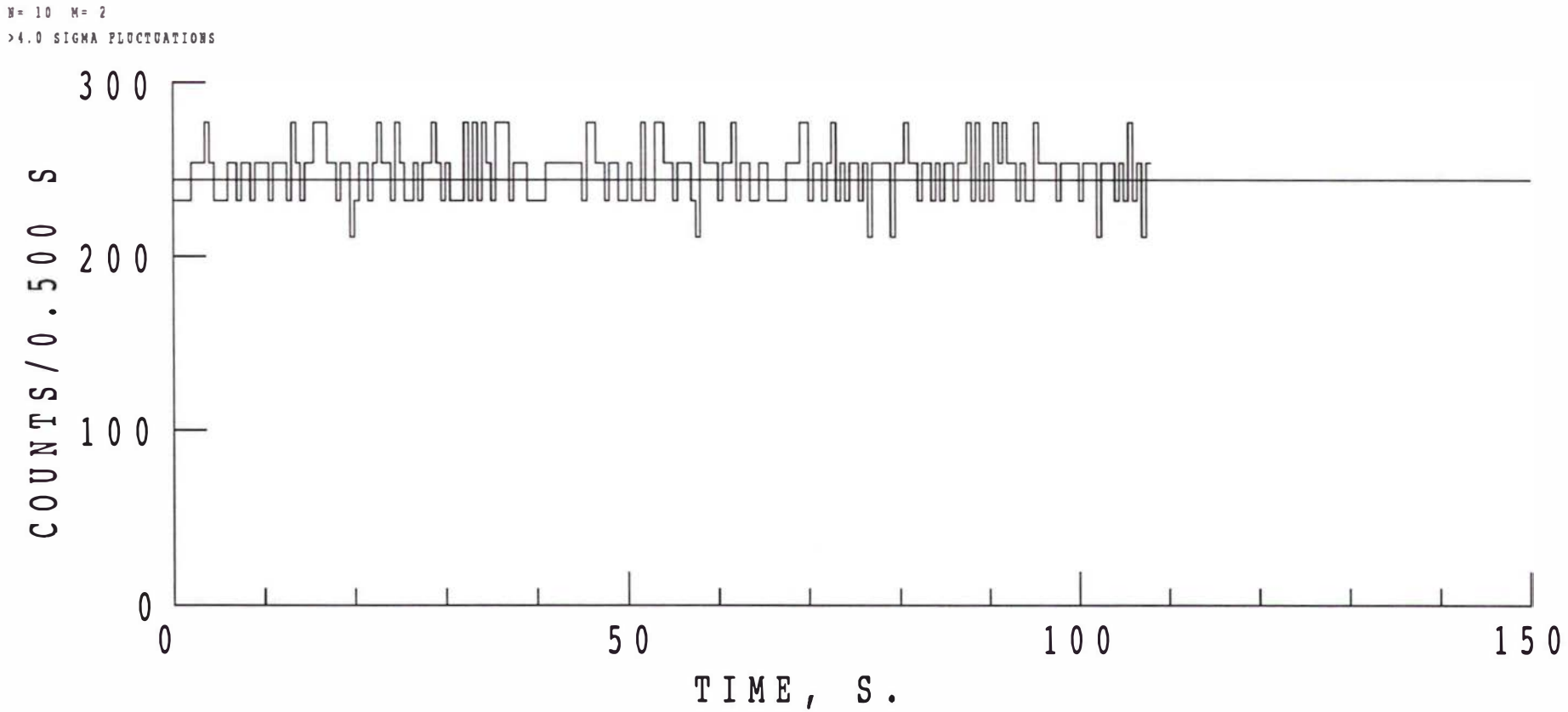
BACODINE# 4955

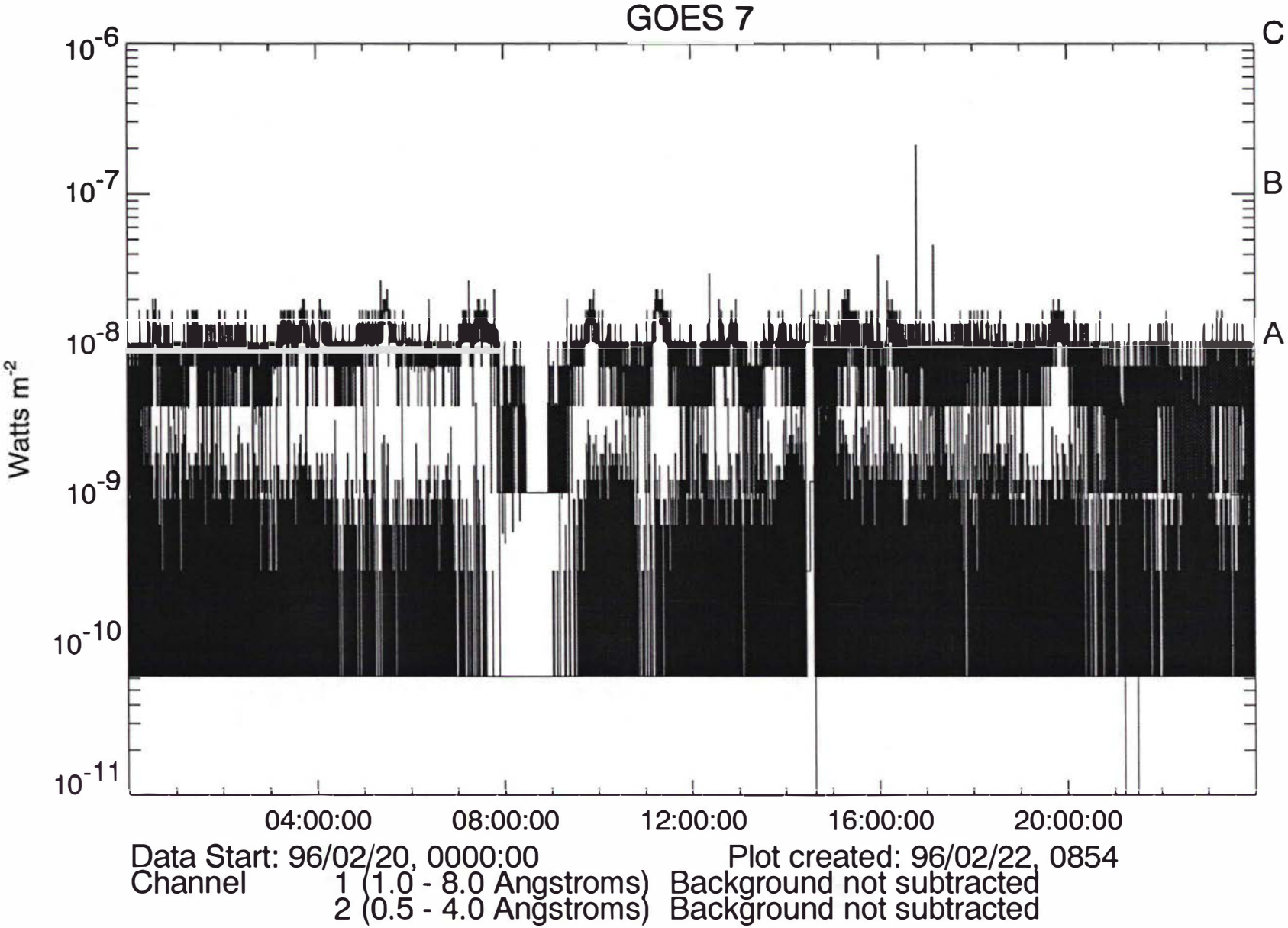
22/ 2/96

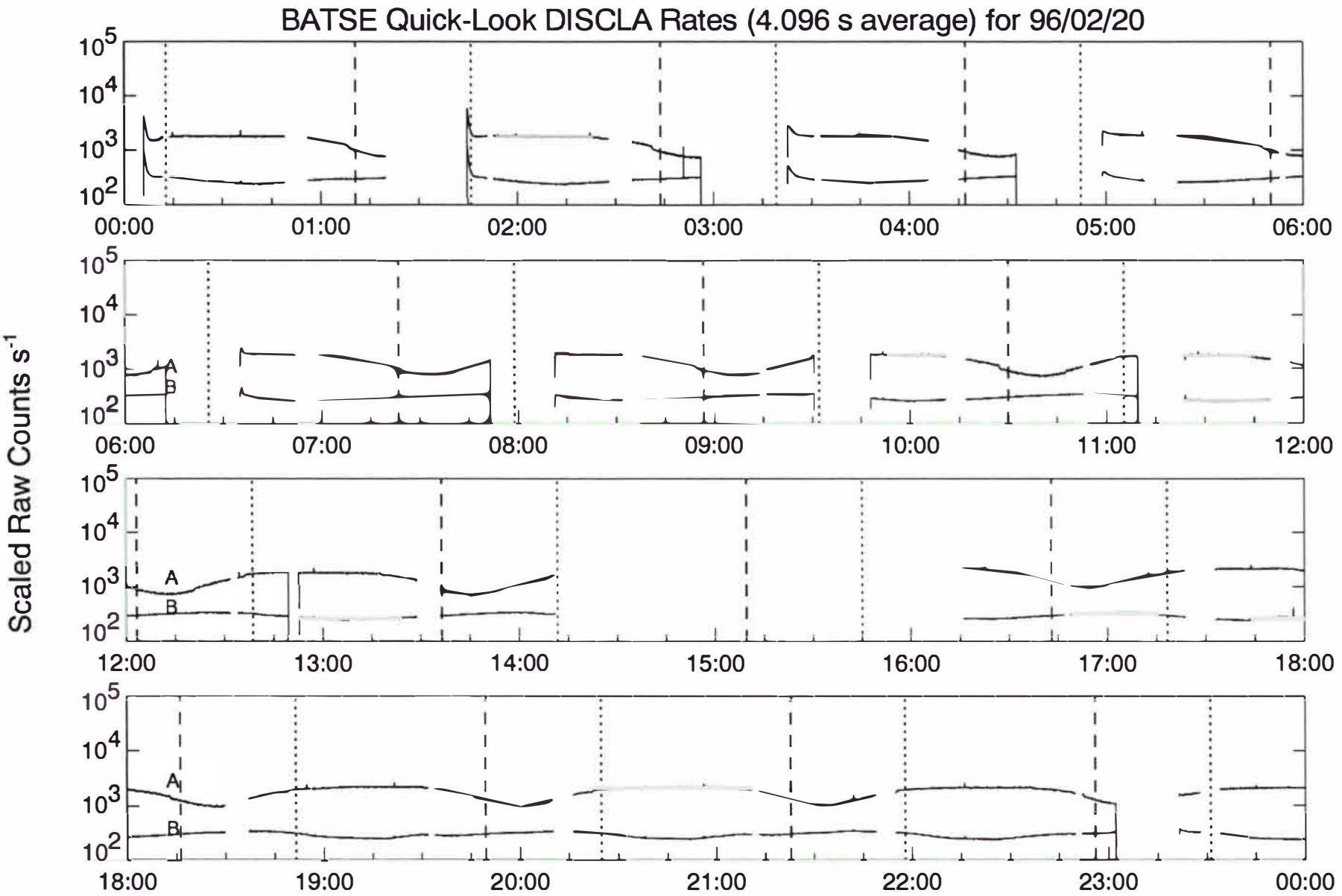
ULYSSES RT

20/ 2/96 74952.078 s

0- 0 keV




GOES 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/20, 0000:00
Plot created: 96/02/22, 0854
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 96/02/20
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: 96/02/22, 0855 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

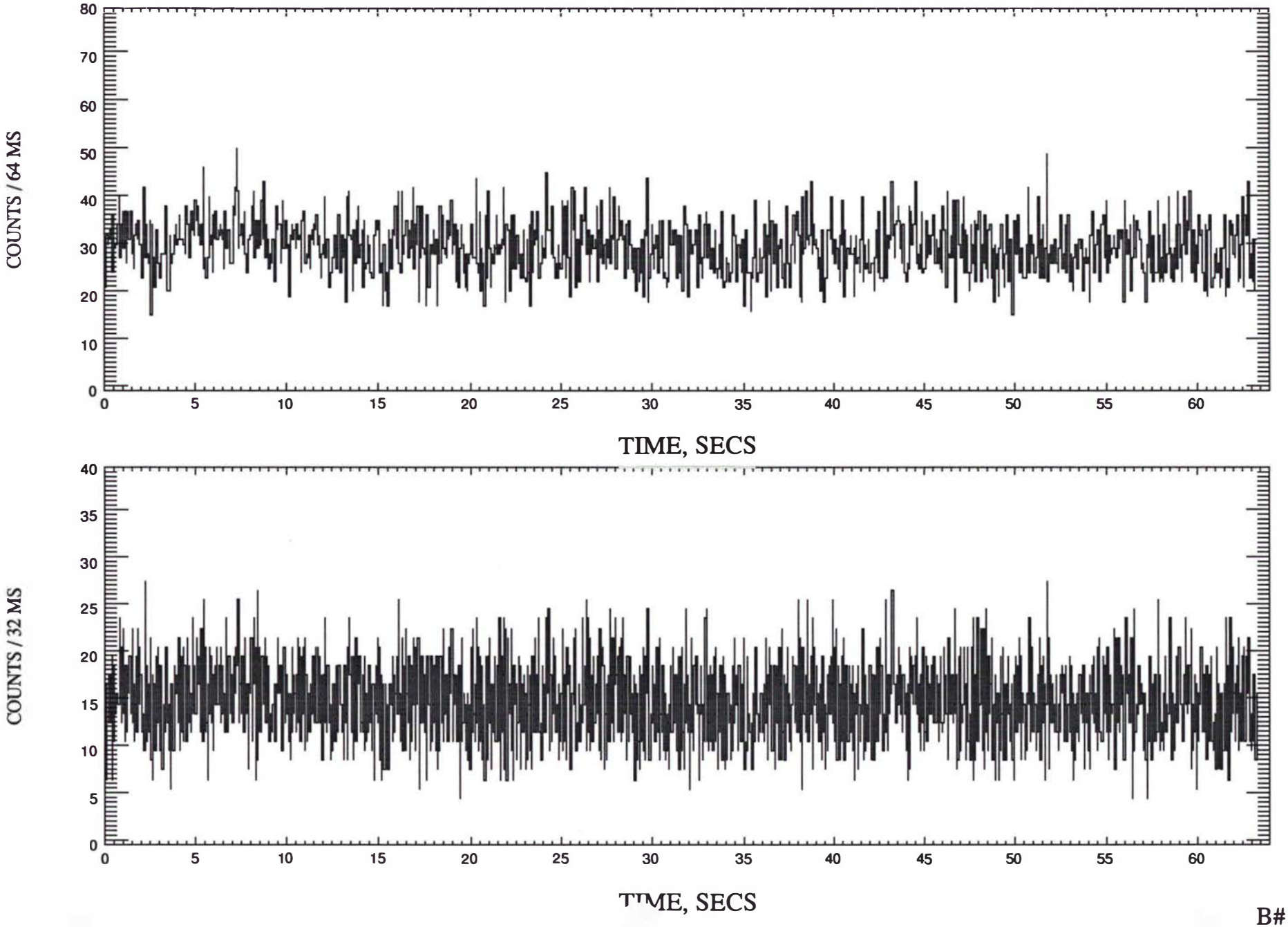
BURST NUMBER 9



UNIVERSAL TIME

HUS 2A TRIGGERED DATA EDR day 51, year 1996 11/25/96

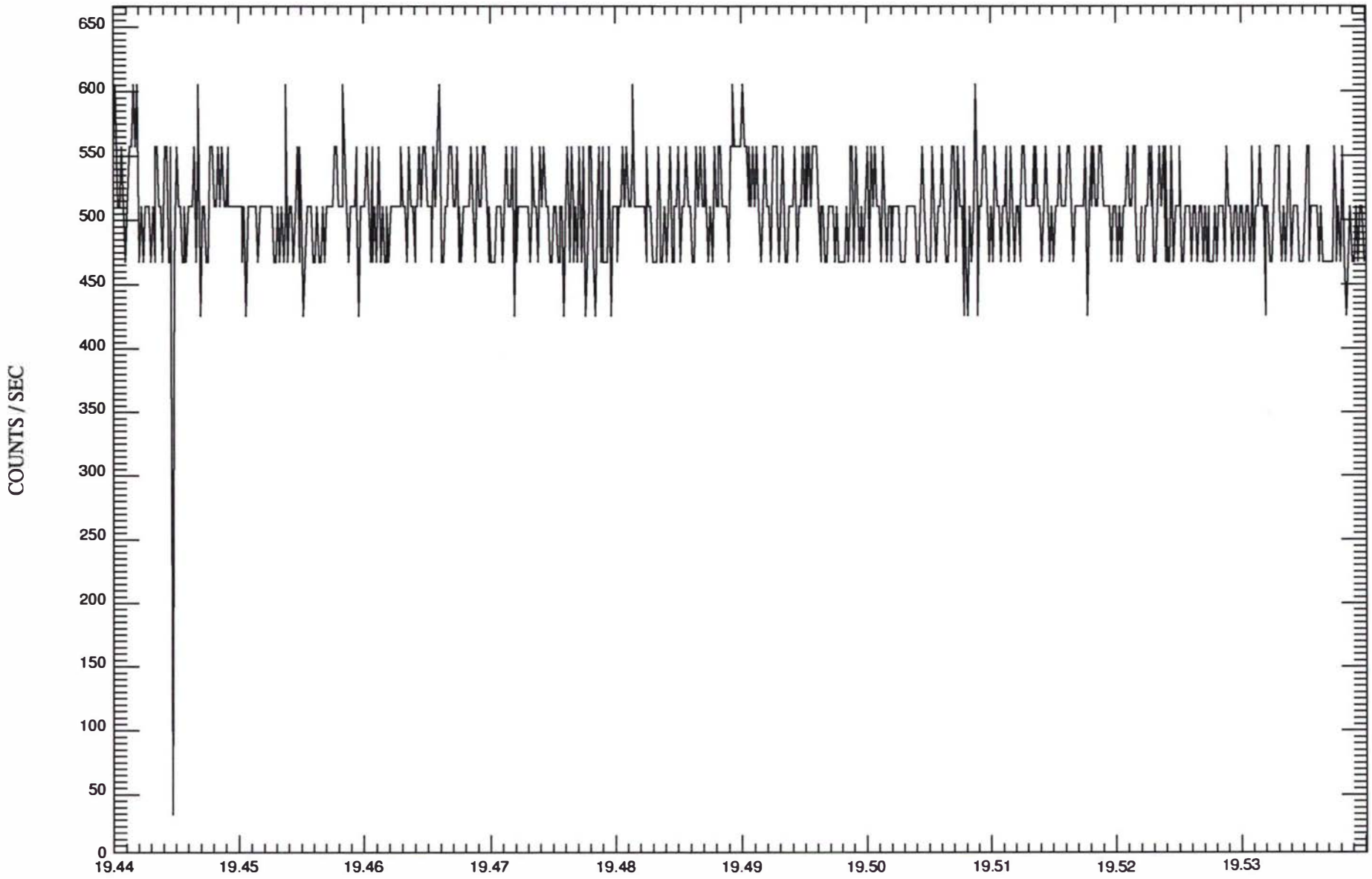
Burst Counter 9 at UT=19.490173399183 h=70164.624 s 19:29:24.624



B# 1

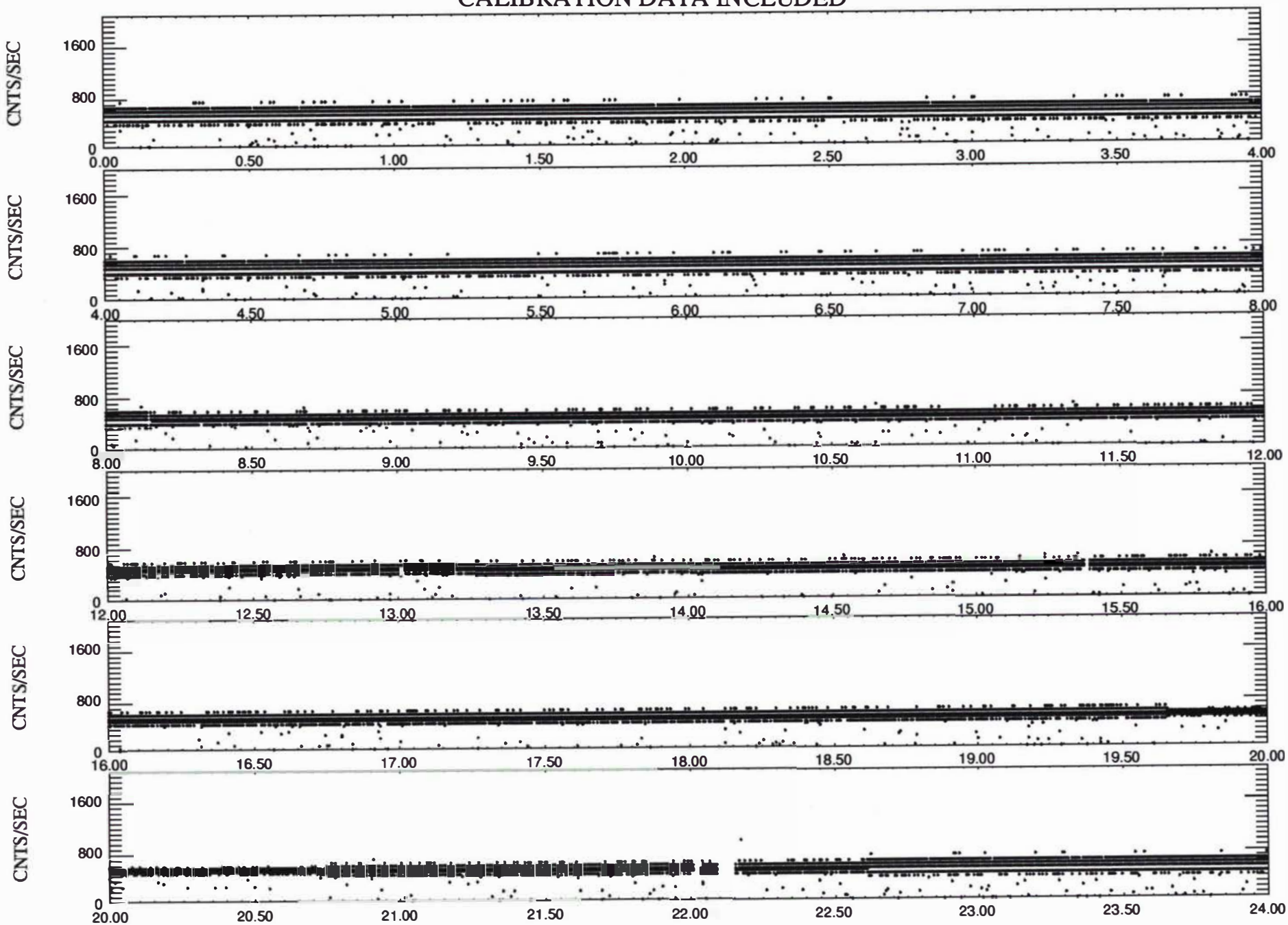
HUS 2A, MODE 1, NOT AVERAGED EDR day 51, year 1996 to day 51, year 1996 11/25/96

CALIBRATION DATA INCLUDED

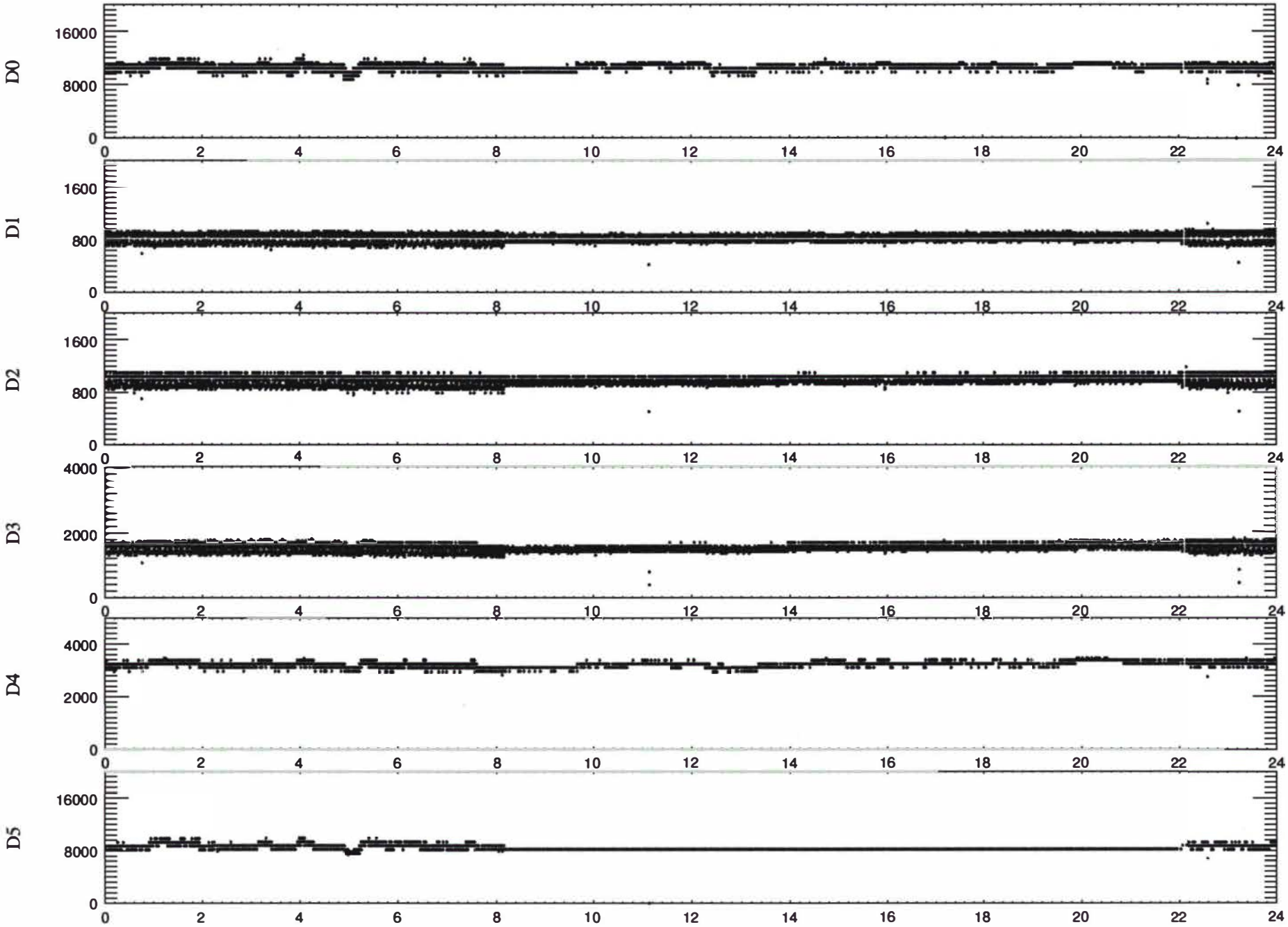


HUS 2A, MODE 1, NOT AVERAGED EDR day 51, year 1996 to day 51, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2B COUNTS / SEC EDR day 51, year 1996 to day 51, year 1996 11/25/96



From RICHARDSON@ssl.msfc.nasa.gov Tue Feb 27 08:19 PST 1996
From: RICHARDSON@ssl.msfc.nasa.gov
Date: Tue, 27 Feb 1996 10:19:10 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 4959

RI

Reject

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

 BATSE BURST #     4959
 EVENT OF 1996 FEB 21 DAY OF YEAR= 52
 EVENT CROSSING TIME AT BATSE      : 19307. S. OR 05:21:47.0
 COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  51.000  -31.000
 BATSE PEAK COUNTING RATE:   2000     C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 21/ 2/  96 IS:
 RA=  206.010 DEC=   73.353 DIST=    2.885 AU
 BATSE-ULYSSES DISTANCE =  431628991. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 44.27 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1030.89 SECS.
 CROSSING TIME AT ULYSSES    IS 20338. S. OR   05:38:57 +/-  240.15 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 21/ 2/  96 IS:
 RA=  336.614 DEC=  -10.874 DIST=    2.368 AU
 MARS-BATSE DISTANCE =  354269376. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.89 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -382.55 SECS.
 CROSSING TIME AT MARS       IS 18924. S. OR   05:15:24 +/-  188.31 SECONDS


                BATSE BURST TRIGGER
NO.: 4959

TIME: TJD=0134 SECONDS=19307

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=144    AZIMUTH=124.4  ERROR=4.3   DEGREES

COMMENTS:
GRB. SINGLE PULSE, DUR.~80SEC. MARGINALLY VISIBLE ABOVE 300KEV.


 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   4959   960221   10134   19307     2000   051   -31      80
```

From khurley@sunspot Tue Nov 4 16:58 PST 1997
Return-Path: <khurley@sunspot>
Received: from scylla.berkeley.edu by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id QAA06021; Tue, 4 Nov 1997 16:57:47 -0800
    eived: by scylla.berkeley.edu (SMI-8.6/SMI-SVR4)
        id QAA00609; Tue, 4 Nov 1997 16:59:32 -0800
Date: Tue, 4 Nov 1997 16:59:32 -0800
From: khurley@sunspot (Kevin Hurley)
Message-Id: <199711050059.QAA00609@scylla.berkeley.edu>
To: briggs@gibson.msfc.nasa.gov, khurley@sunspot, connauv@eagles.msfc.nasa.gov,
        lamb@pion.uchicago.edu, carlo@aquila.uchicago.edu
Subject: BATSE 4959
X-Sun-Charset: US-ASCII
Content-Type: text
Content-Length: 670
X-Lines: 11
Status: RO

The Ulysses data show a very clear and strong rate increase, which I
had assumed was the BATSE burst. When I went back to do this one
again, however, the lags for maximum rho and minimum chisquare
disagreed. Also, the U/B ratio was about 5 times as high as the
average. Looking at the time history, I found another rate increase
125 s earlier. This one gives an annulus which passes through the
BATSE error circle, but the U/B ratio is still rather high, and
although the cross-correlation is better, it is still not great.
If the BATSE data show strong activity about 125 seconds
after the main event, this may be the answer. If not, we should
probably reject it.

   m connauv@eagles.msfc.nasa.gov Wed Nov 5 16:29 PST 1997
Return-Path: <connauv@eagles.msfc.nasa.gov>
Received: from eagles by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
        id QAA04294; Wed, 5 Nov 1997 16:29:19 -0800
Date: Wed, 5 Nov 1997 18:19:17 -0600
Message-Id: <97110518191724@eagles.msfc.nasa.gov>
From: connauv@eagles.msfc.nasa.gov (Valerie Connaughton)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Re: BATSE 4959
X-VMS-To: SMTP%"khurley@sunspot.ssl.berkeley.edu"
X-VMS-Cc: BRIGGS,CONNAUV
Content-Type: text
Content-Length: 167
X-Lines: 7
Status: RO

There is no sign of activity from this one at T_trig + 125 seconds. And
the source was not occulted at that time, nor was it occulted at
T_trig - 125 seconds.

vc

Reject

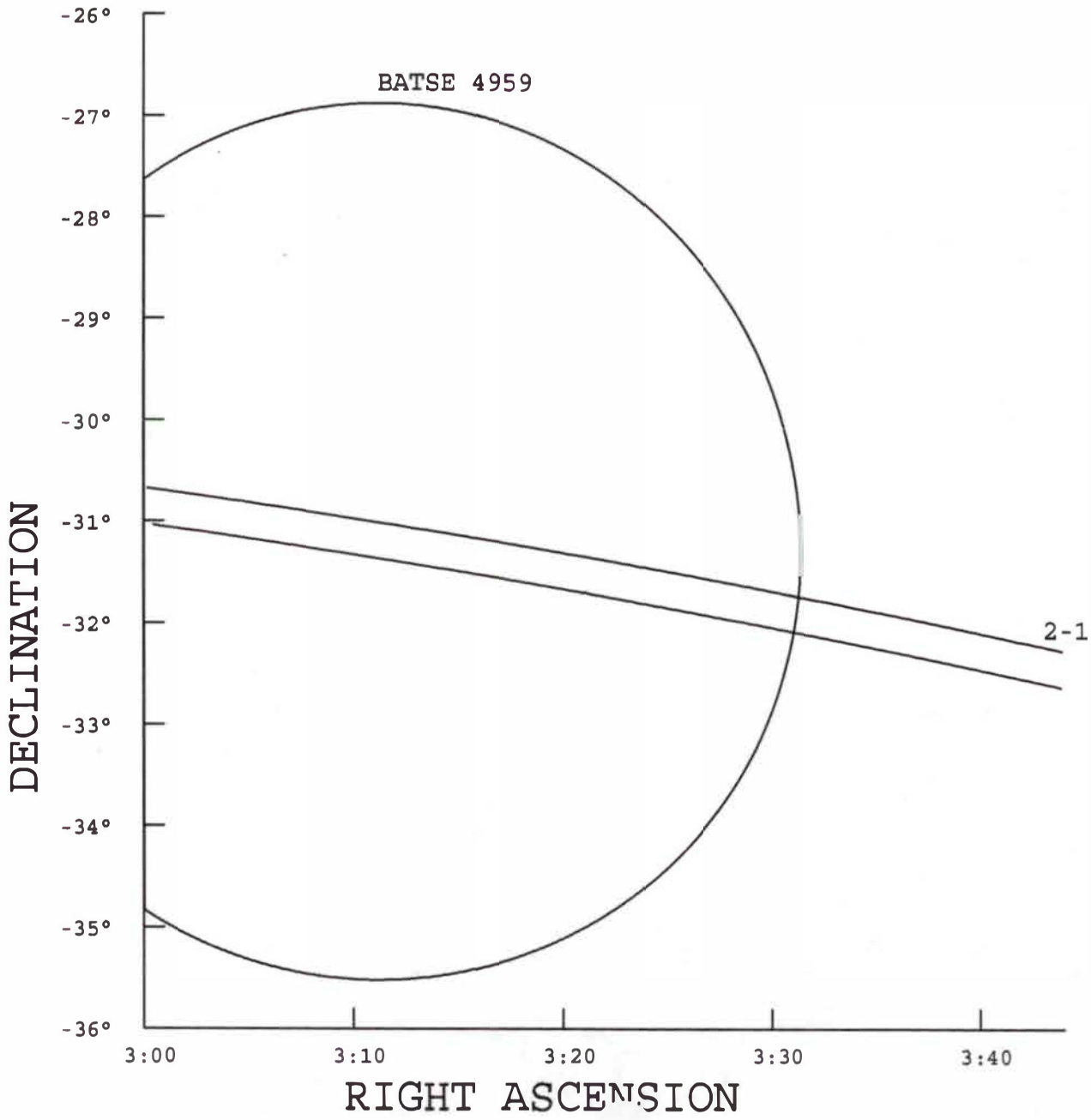
From khurley@sunspot Tue Nov 4 16:58 PST 1997
Date: Tue, 4 Nov 1997 16:59:32 -0800
From: khurley@sunspot (Kevin Hurley)
To: briggs@gibson.msfc.nasa.gov, khurley@sunspot, connauv@eagles.msfc.nasa.gov,
lamb@pion.uchicago.edu, carlo@aquila.uchicago.edu
Subject: BATSE 4959

The Ulysses data show a very clear and strong rate increase, which I had assumed was the BATSE burst. When I went back to do this one again, however, the lags for maximum rho and minimum chisquare disagreed. Also, the U/B ratio was about 5 times as high as the average. Looking at the time history, I found another rate increase 125 s earlier. This one gives an annulus which passes through the BATSE error circle, but the U/B ratio is still rather high, and although the cross-correlation is better, it is still not great. If the BATSE data show strong activity about 125 seconds after the main event, this may be the answer. If not, we should probably reject it.

EVENT OF FEB 21, 1996 5:38

7/ 3/98

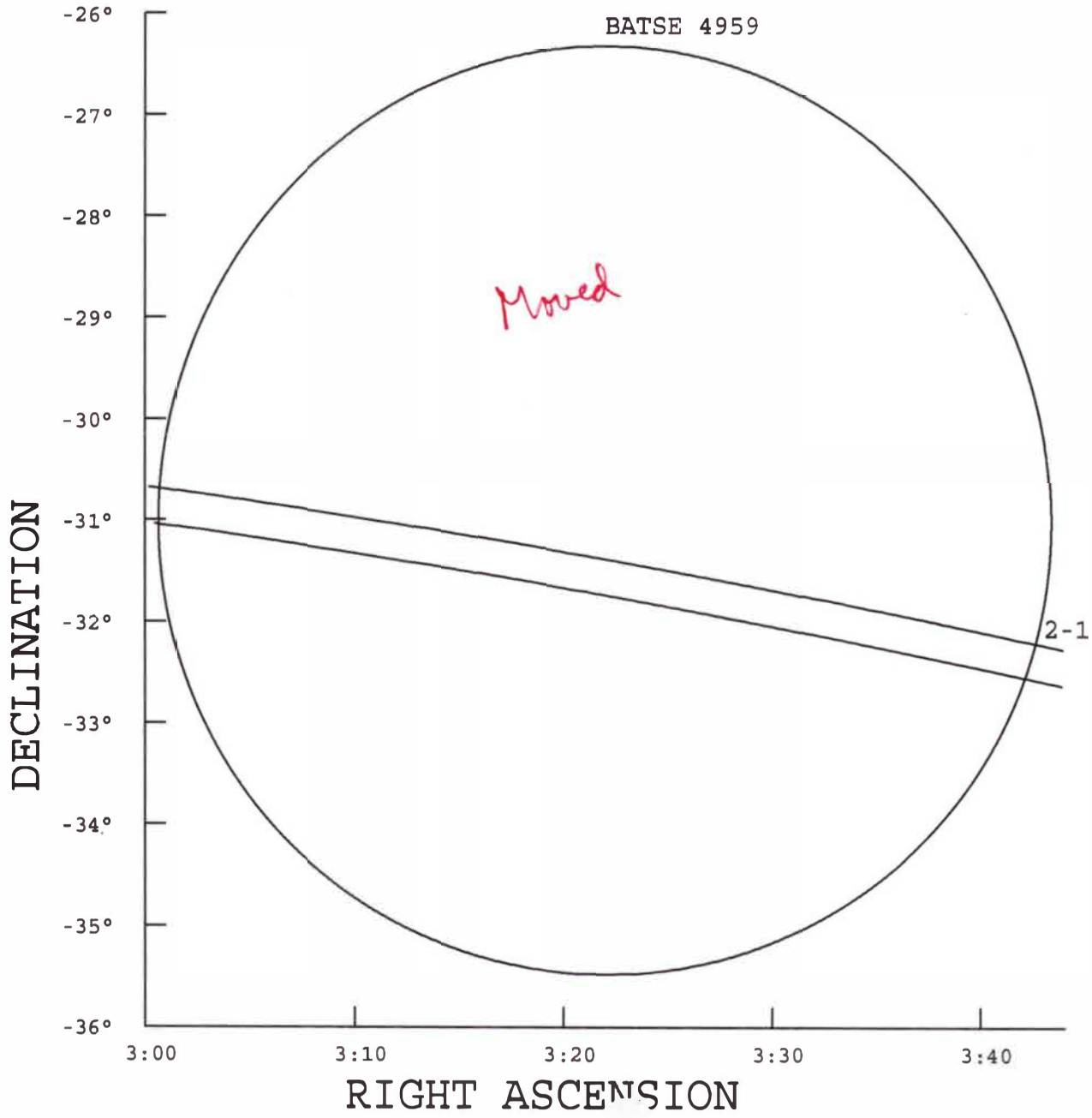
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE

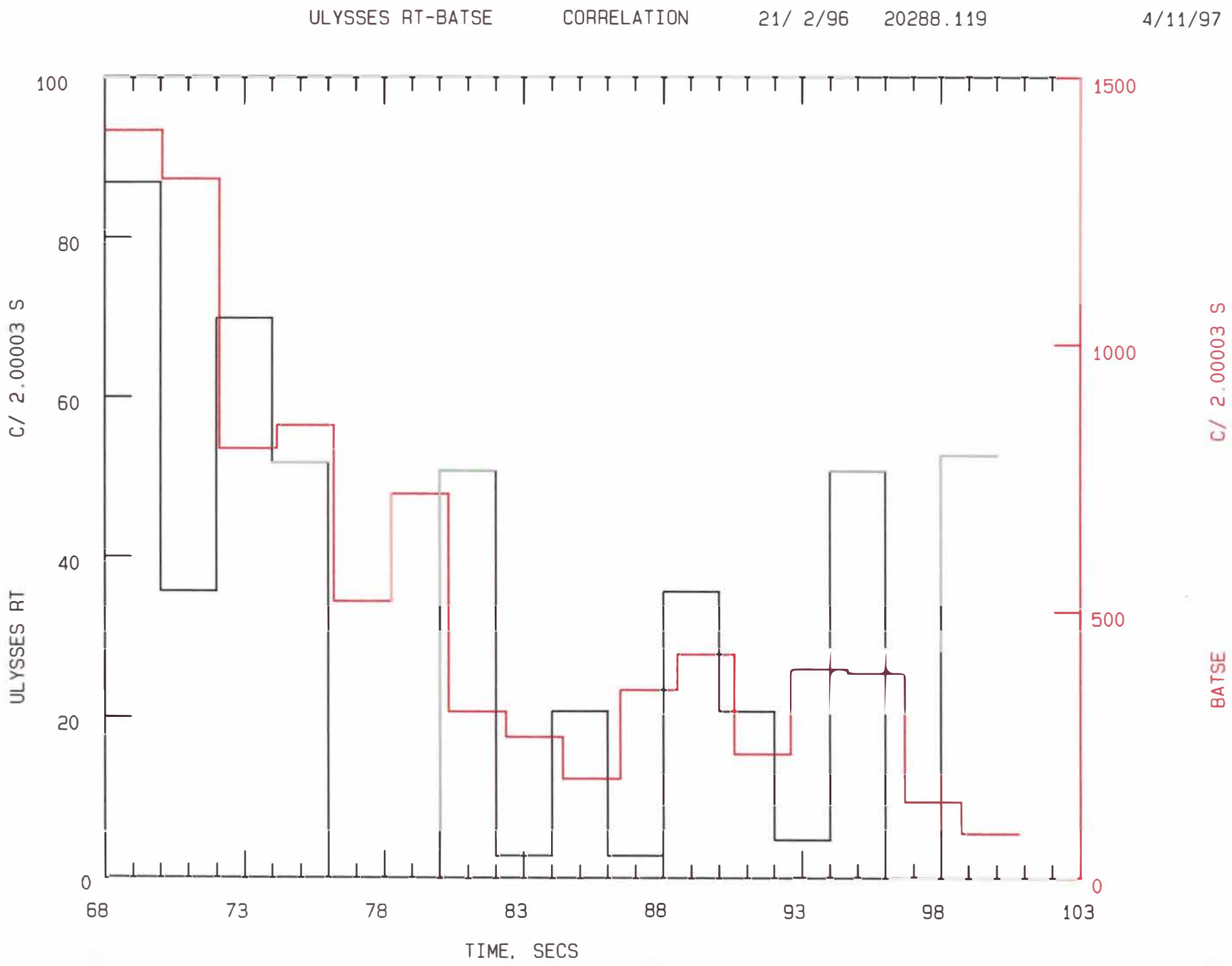


EVENT OF FEB 21, 1996 5:38

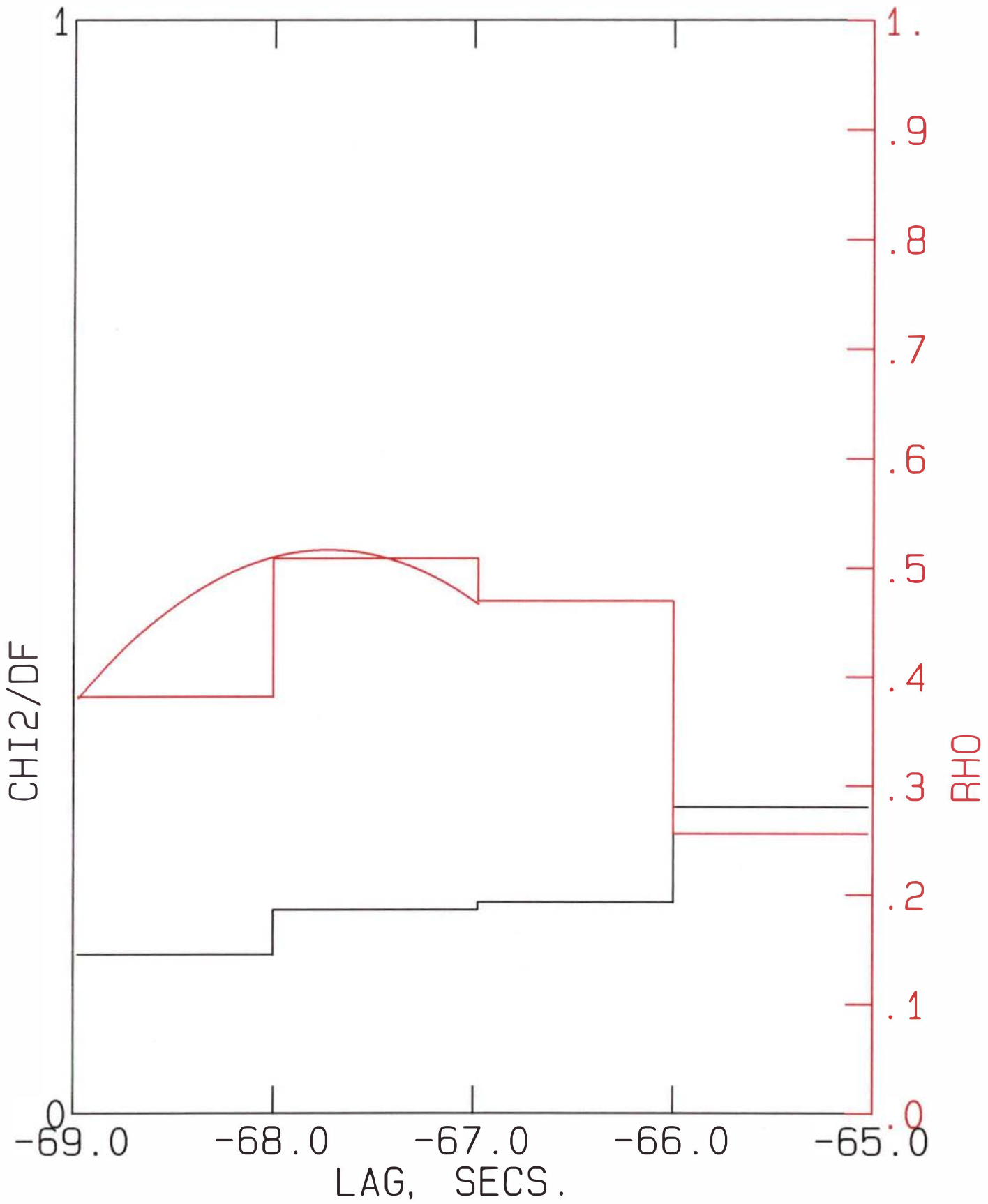
4/11/97

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 21/ 2/96 20288.119 4/11/97
100
80
60
40
20
0
C/ 2.00003 S
ULYSSES RT
1500
1000
500
0
C/ 2.00003 S
BATSE
68
73
78
83
88
93
98
103
TIME, SECS

ULYSSES RT-BATSE CORRELATION 21/ 2/96 20288.119



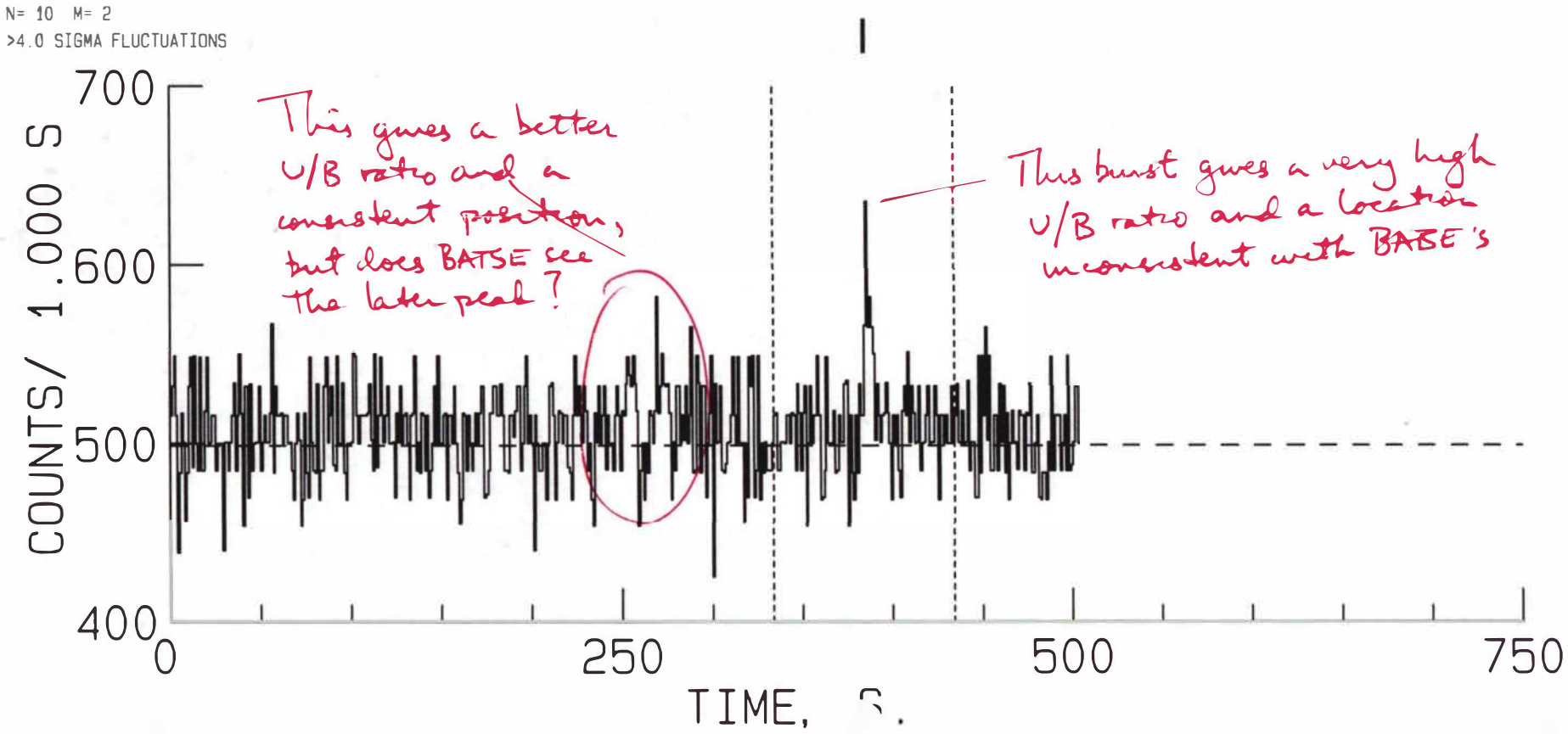
ULYSSES RT

4/11/97

21/ 2/96 20088.030 s

0.250 S INTERVALS REGROUPED BY 4

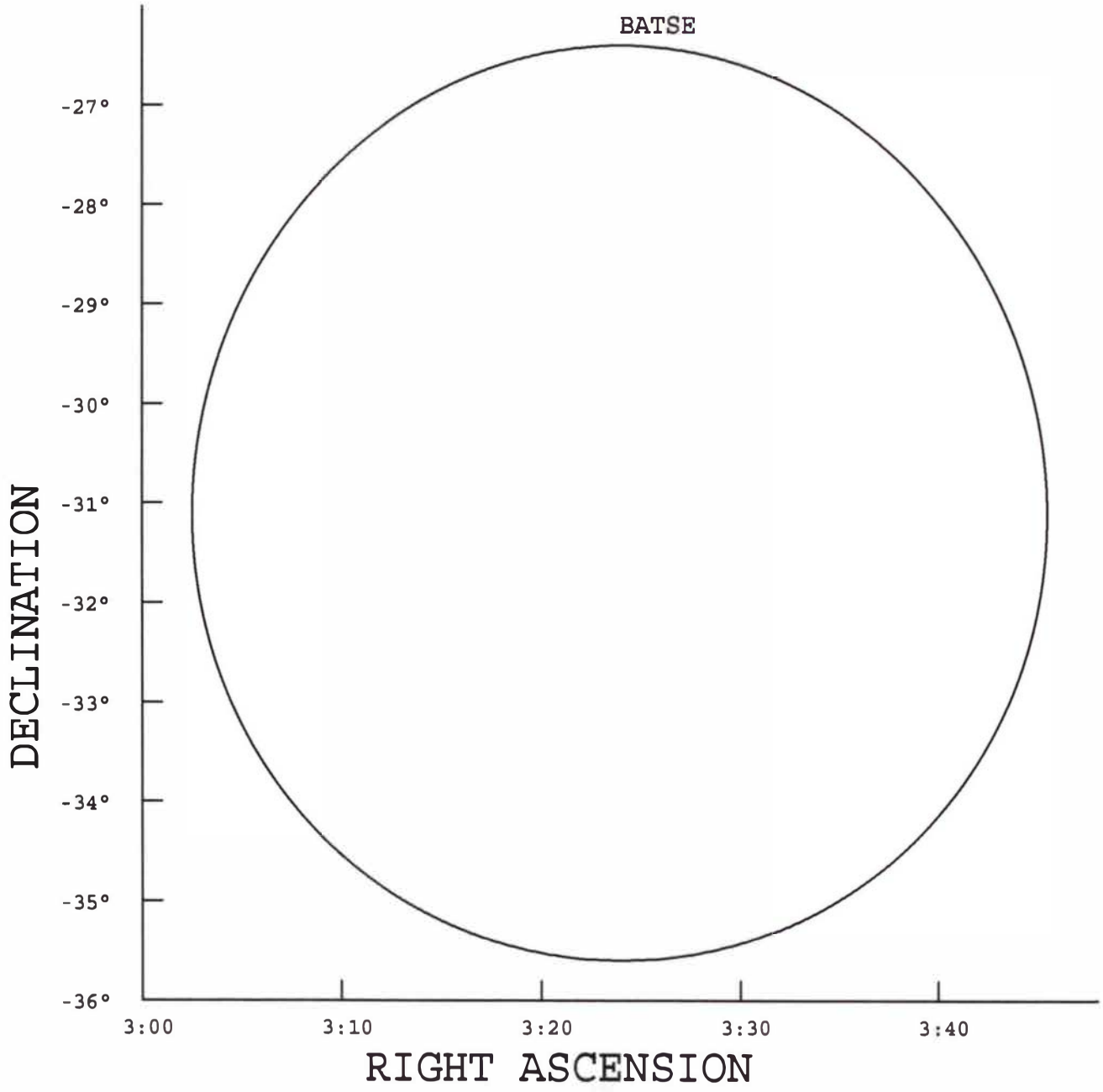
21- 144 keV

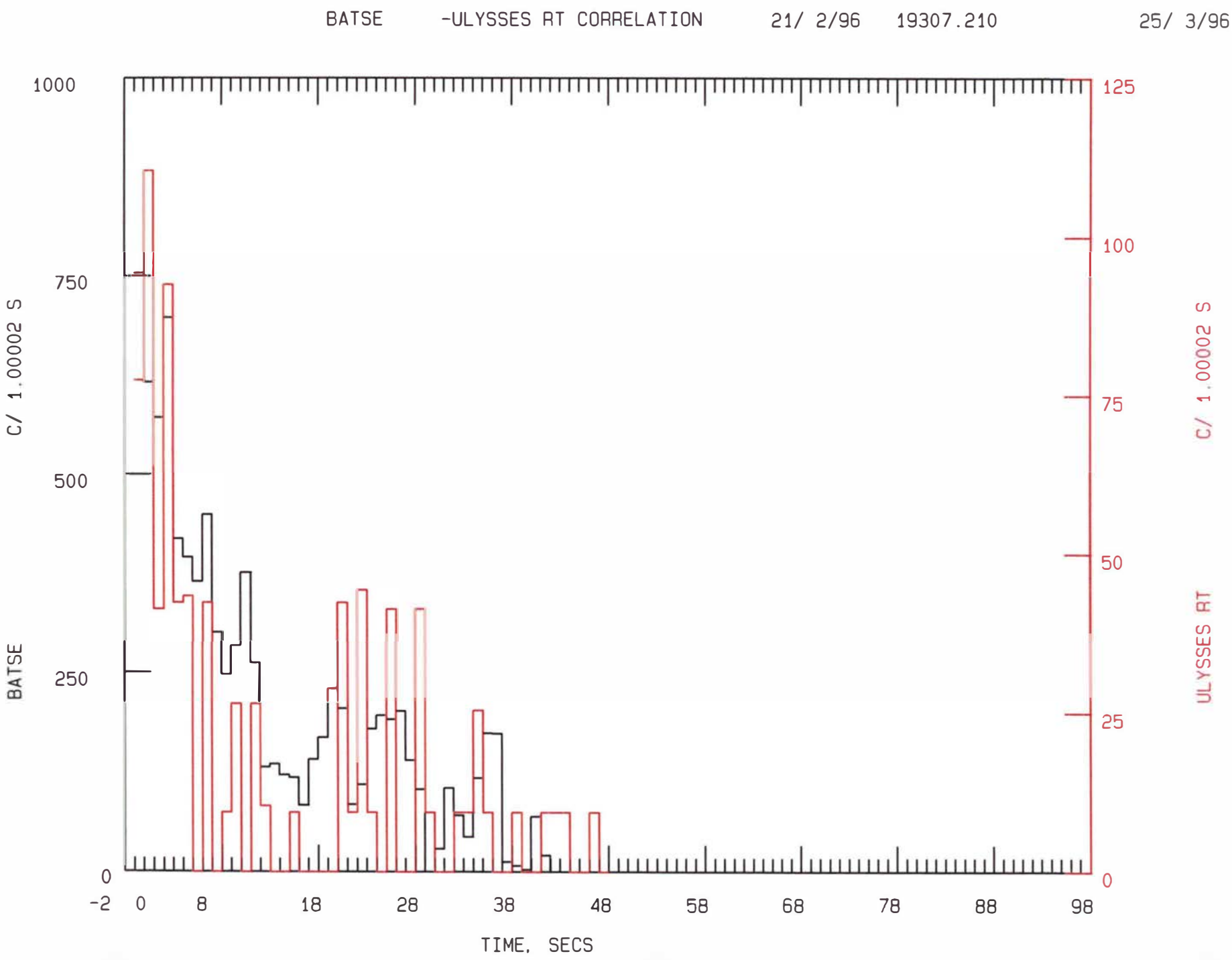


EVENT OF FEB 21, 1996 5:40

25/ 3/96

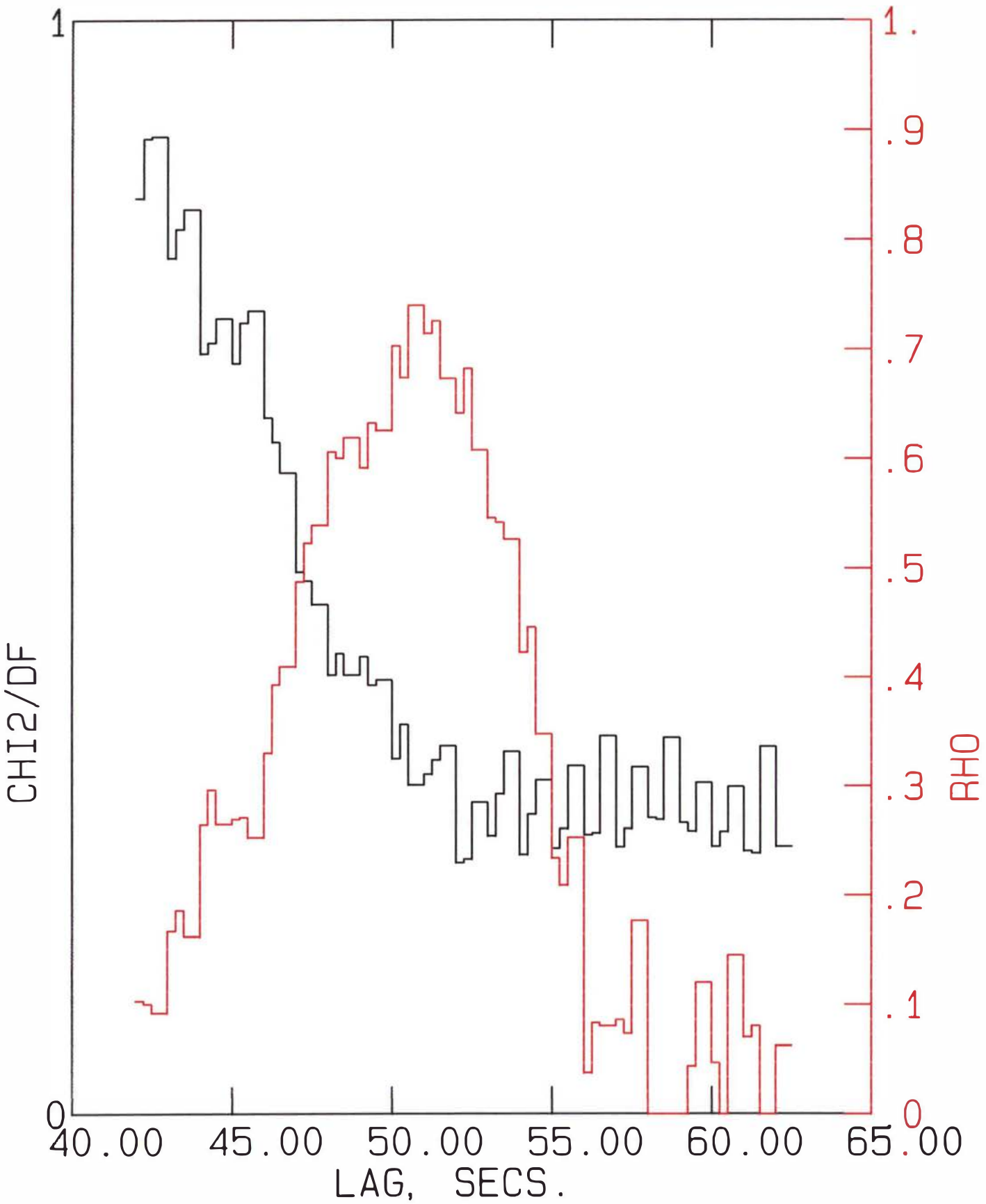
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 ULYSSES 2 BATSE

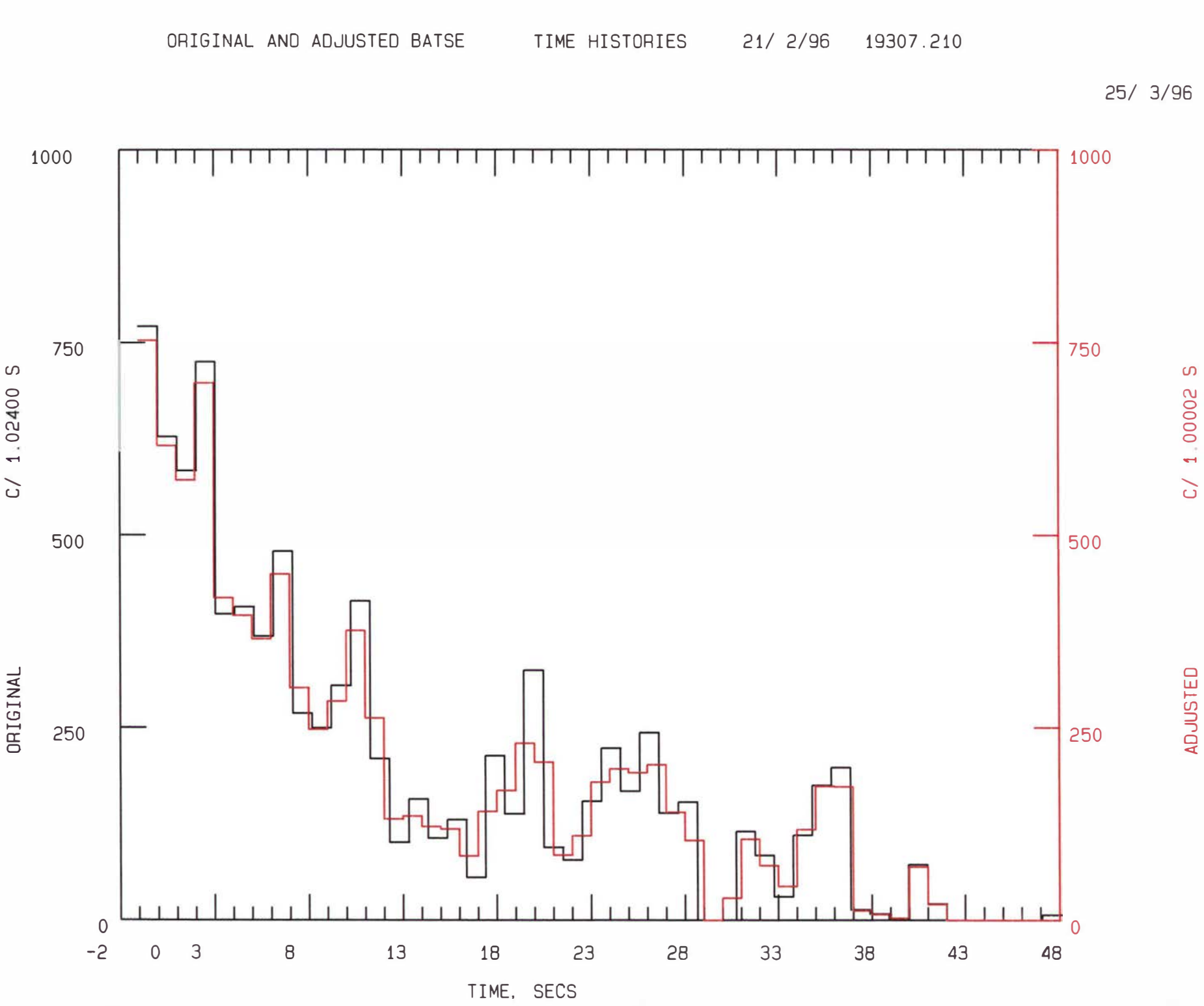



BATSE -ULYSSES RT CORRELATION 21/ 2/96 19307.210 25/ 3/96
1000
750
500
250
0
C/ 1.00002 S
BATSE
125
100
75
50
25
0
C/ 1.00002 S
ULYSSES RT
-2
0
8
18
28
38
48
58
68
78
88
98
TIME, SECS

25/ 3/96

BATSE -ULYSSES RT CORRELATION 21/ 2/96 19307.210




ORIGINAL AND ADJUSTED BATSE TIME HISTORIES 21/ 2/96 19307.210
25/ 3/96
1000
750
500
250
0
C/ 1.02400 S
ORIGINAL
1000
750
500
250
0
C/ 1.00002 S
ADJUSTED
-2
0
3
8
13
18
23
28
33
38
43
48
TIME, SECS

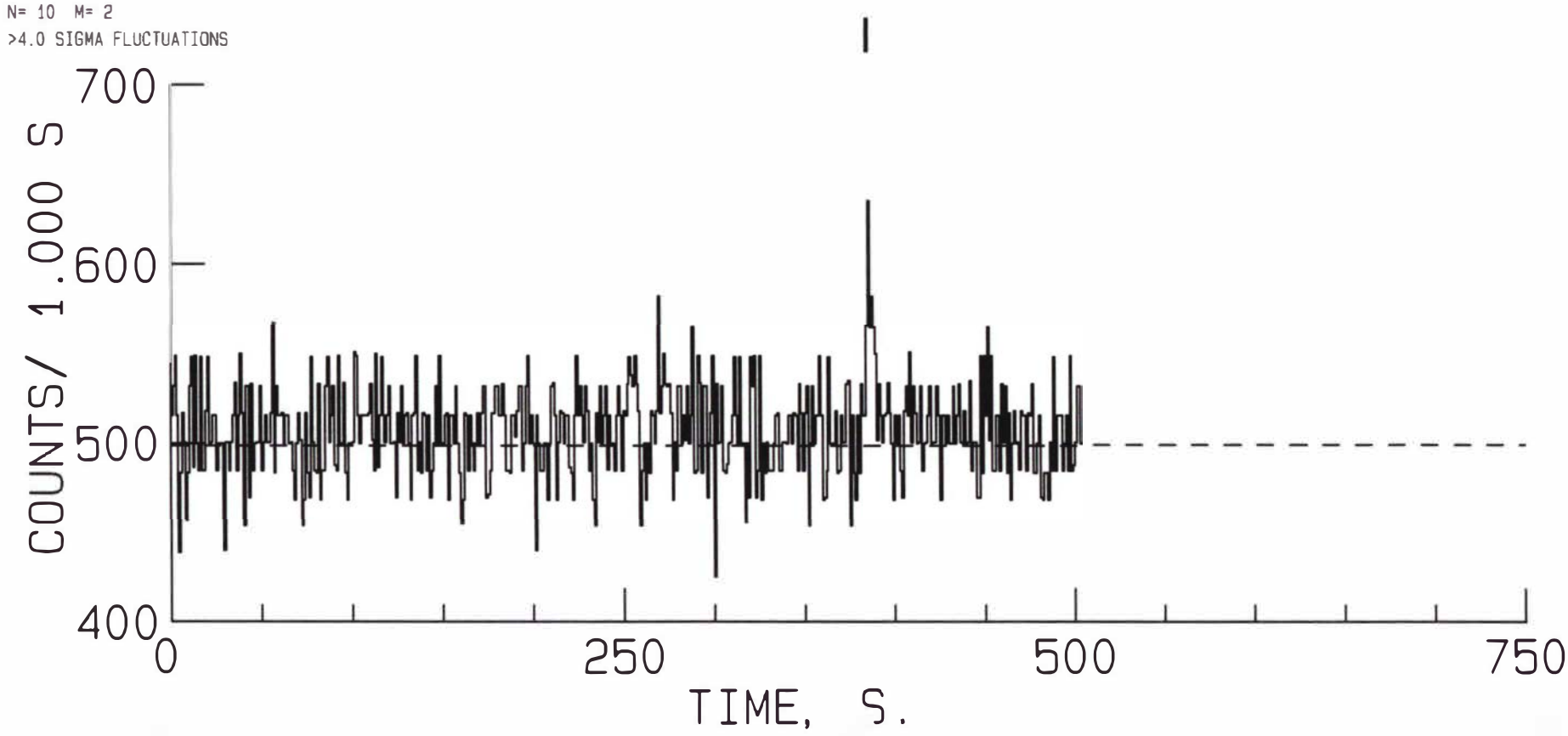
ULYSSES RT

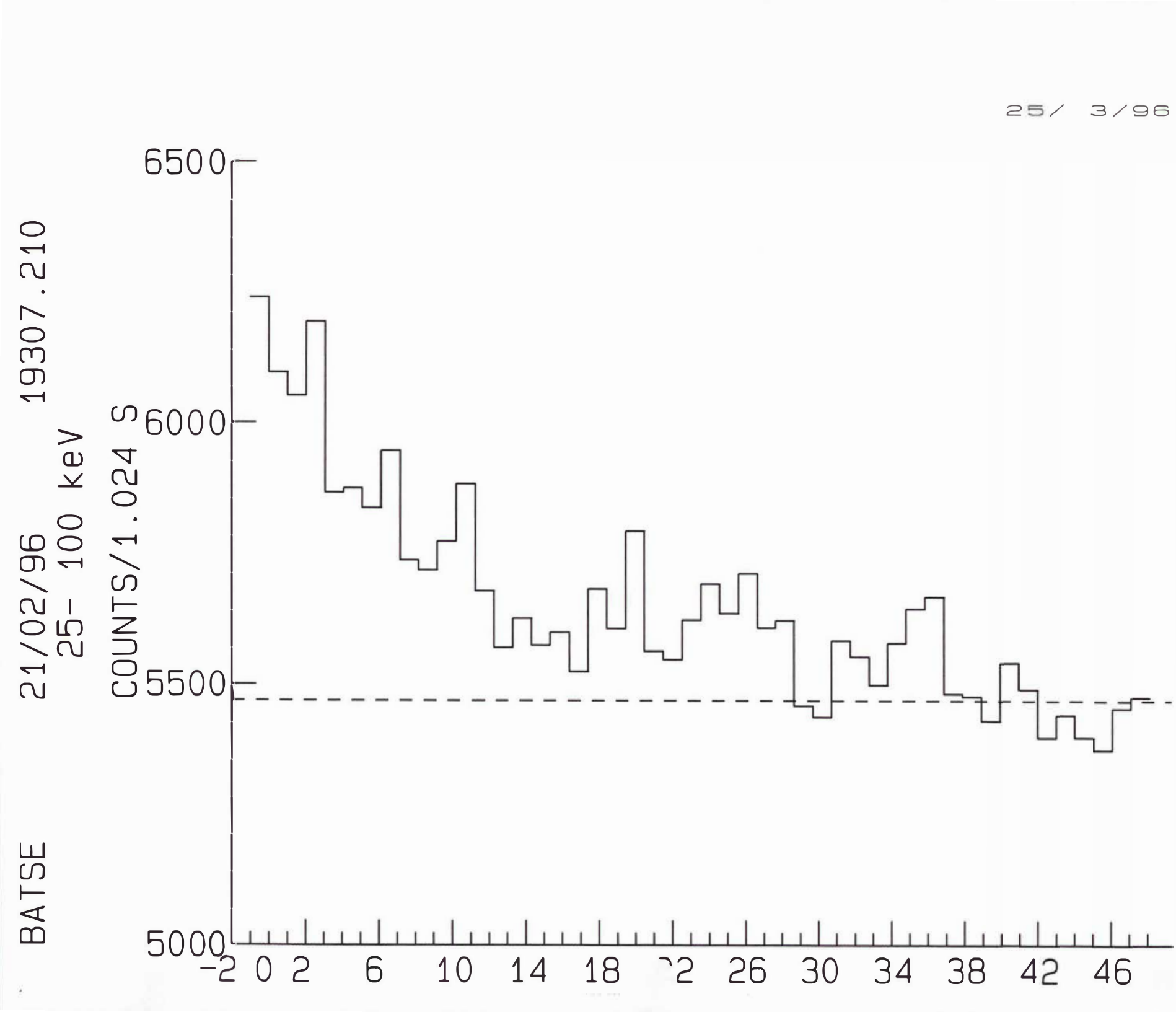
25/ 3/96

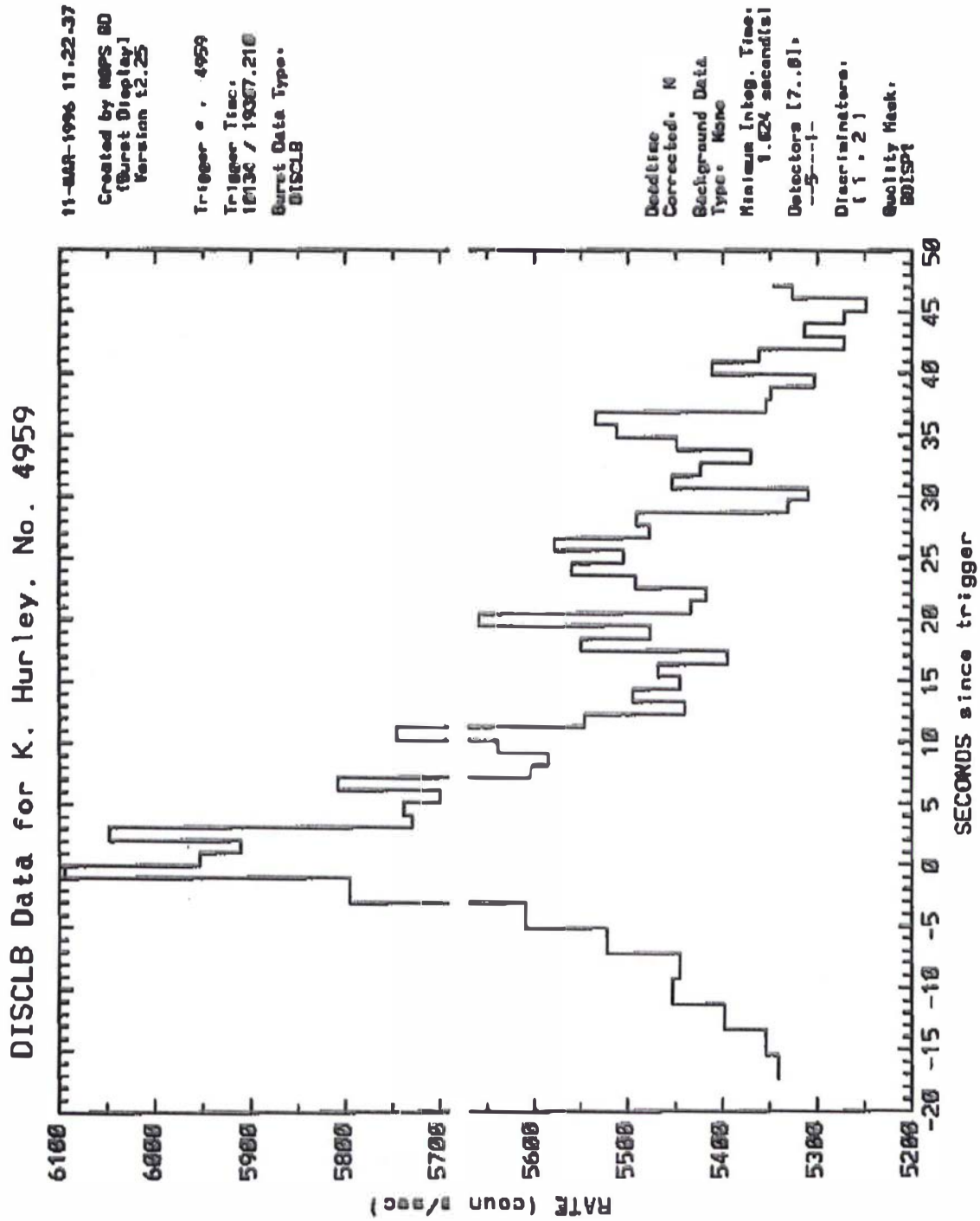
21/ 2/96 20088.031 s

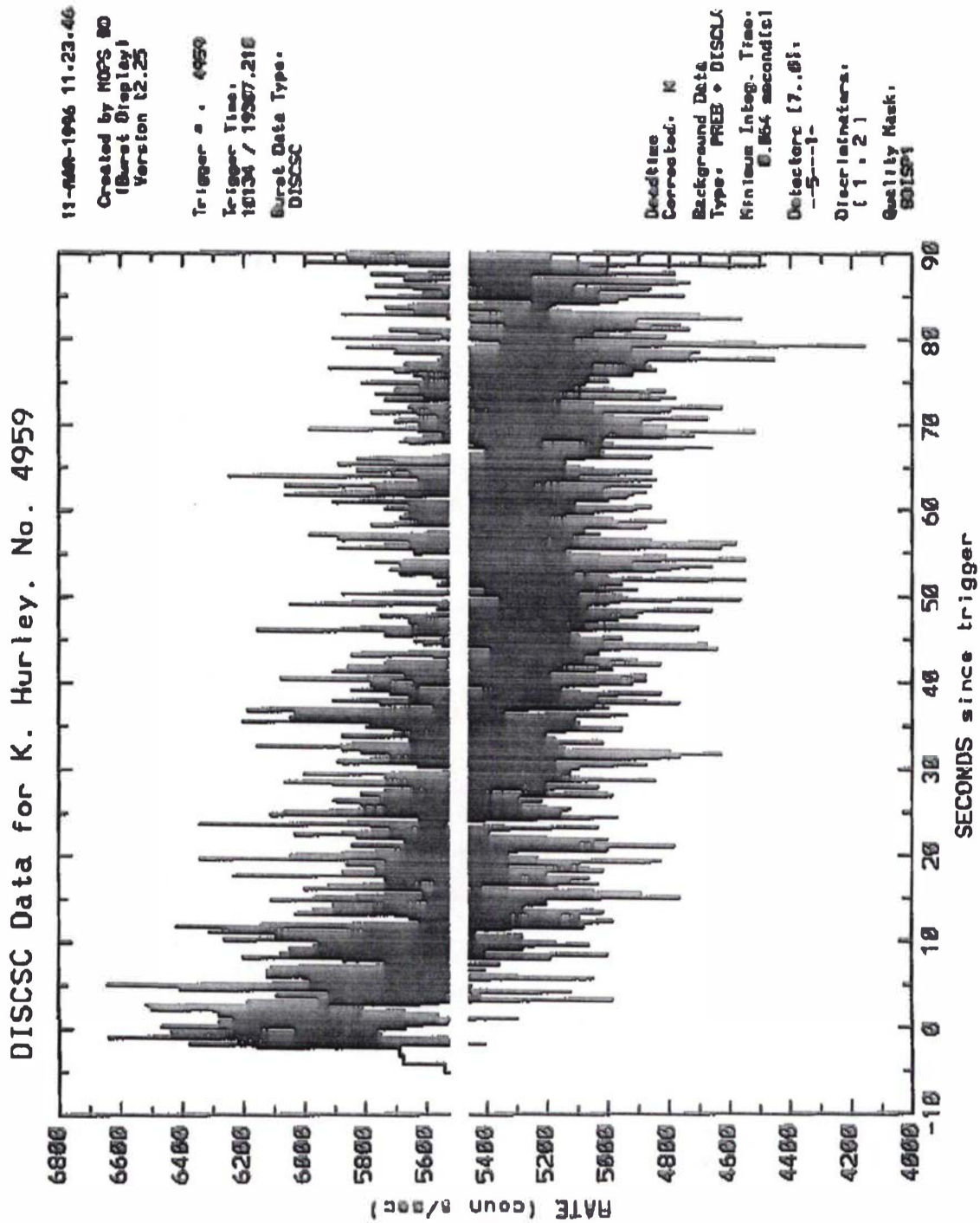
0.250 S INTERVALS REGROUPED BY 4

21- 143 keV




25/ 3/96
BATSE
21/02/96 19307.210
25- 100 keV
COUNTS/1.024 S
6500
6000
5500
5000
-2 0 2 6 10 14 18 22 26 30 34 38 42 46


11-MAR-1996 11:22:37
Created by MSPS BD
(Burst Display)
Version 12.25
Trigger # . . 4959
Trigger Time:
19136 / 19367.210
Burst Data Type:
DISCLB
Deadtime
Corrected: N
Background Data
Type: None
Minimum Integ. Time:
1.024 seconds
Detectors [7..0]:
--5---1-
Discriminators:
(1 . 2)
Quality Mask:
DDISPT
DISCLB Data for K. Hurley. No. 4959
RATE (coun s/sec)
6100
6000
5900
5800
5700
5600
5500
5400
5300
5200
-20 -15 -10 -5 0 5 10 15 20 25 30 35 40 45 50
SECONDS since trigger


DISCSC Data for K. Hurley. No. 4959
11-NOV-1996 11:23:46
Created by MOPS BD
(Burst Display)
Version 12.25
Trigger # . 4959
Trigger Time:
10134 / 19367.216
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds
Detectors [7..0]:
--5--1-
Discriminators:
[1,2]
Quality Mask:
BDISP1
RATE (coun s/sec)
SECONDS since trigger
6800
6600
6400
6200
6000
5800
5600
5400
5200
5000
4800
4600
4400
4200
4000
-10
0
10
20
30
40
50
60
70
80
90

From RICHARDSON@SSLLES.MSFC.NASA.GOV Tue Feb 27 08:11 PST 1996
Date: Tue, 27 Feb 1996 10:10:27 -0600 (CST)
From: RICHARDSON@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 4960

TIME: TJD=0134 SECONDS=24600

TYPE: NOISE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
ALMOST SIMULTANEOUS PHOSPHORESCENT SPIKES IN DIFFERENT DETECTORS.

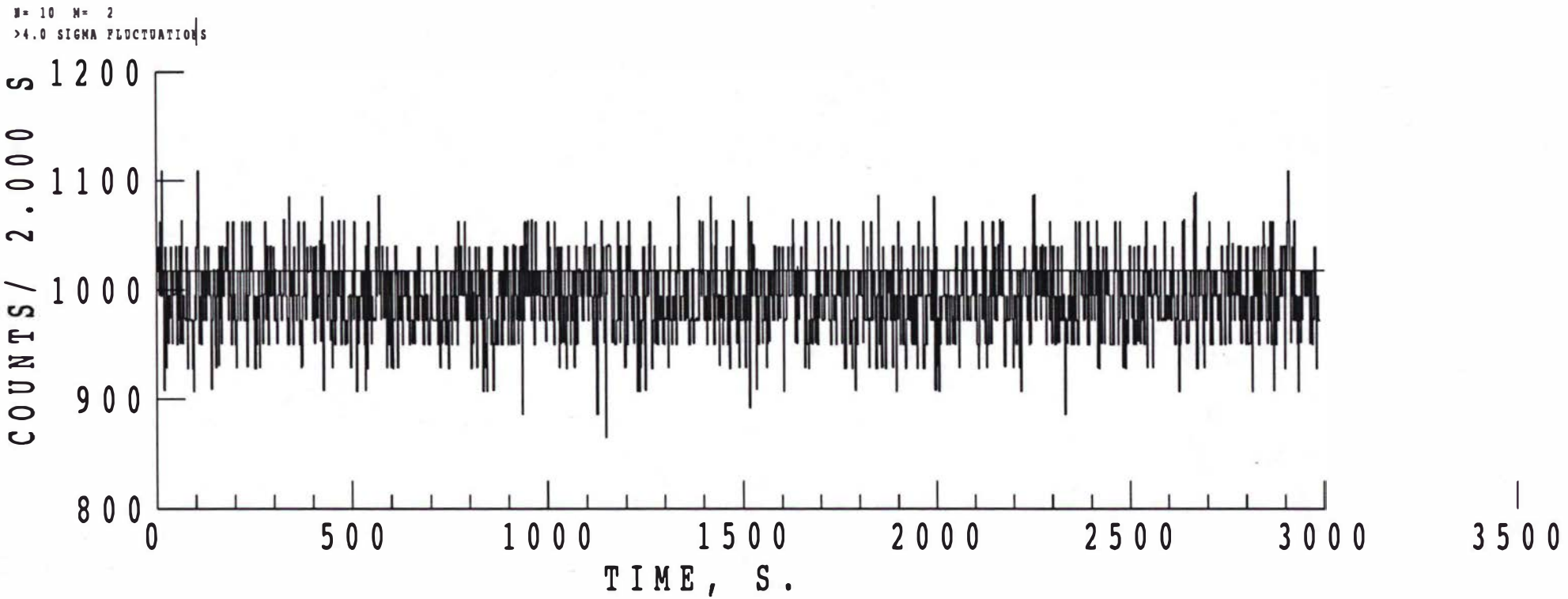
KONUS

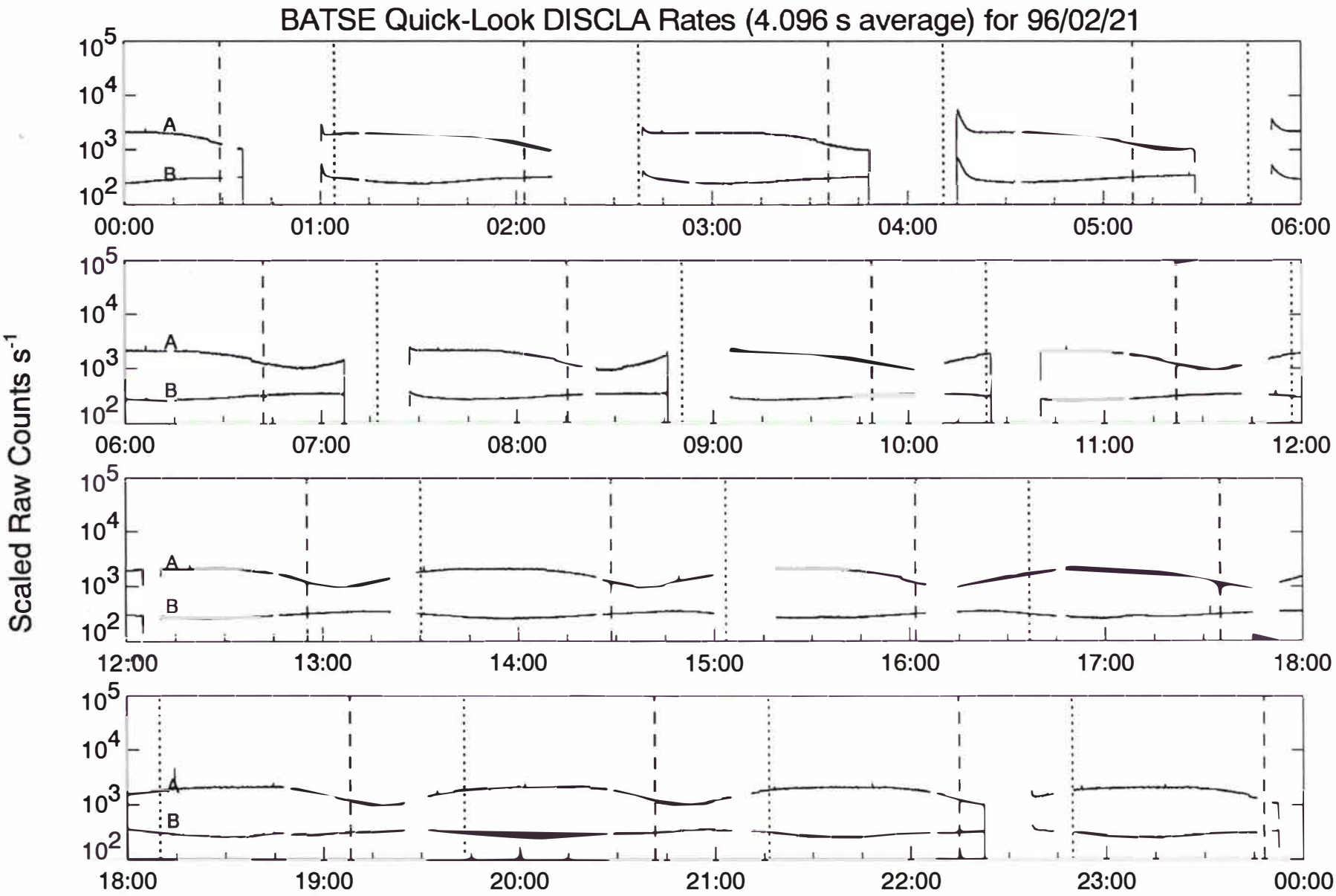
ULYSSES RT 28/01/00

21/02/96 36468.266 s

0.500 S INTERVALS REGROUPED BY 4

0- 0 keV

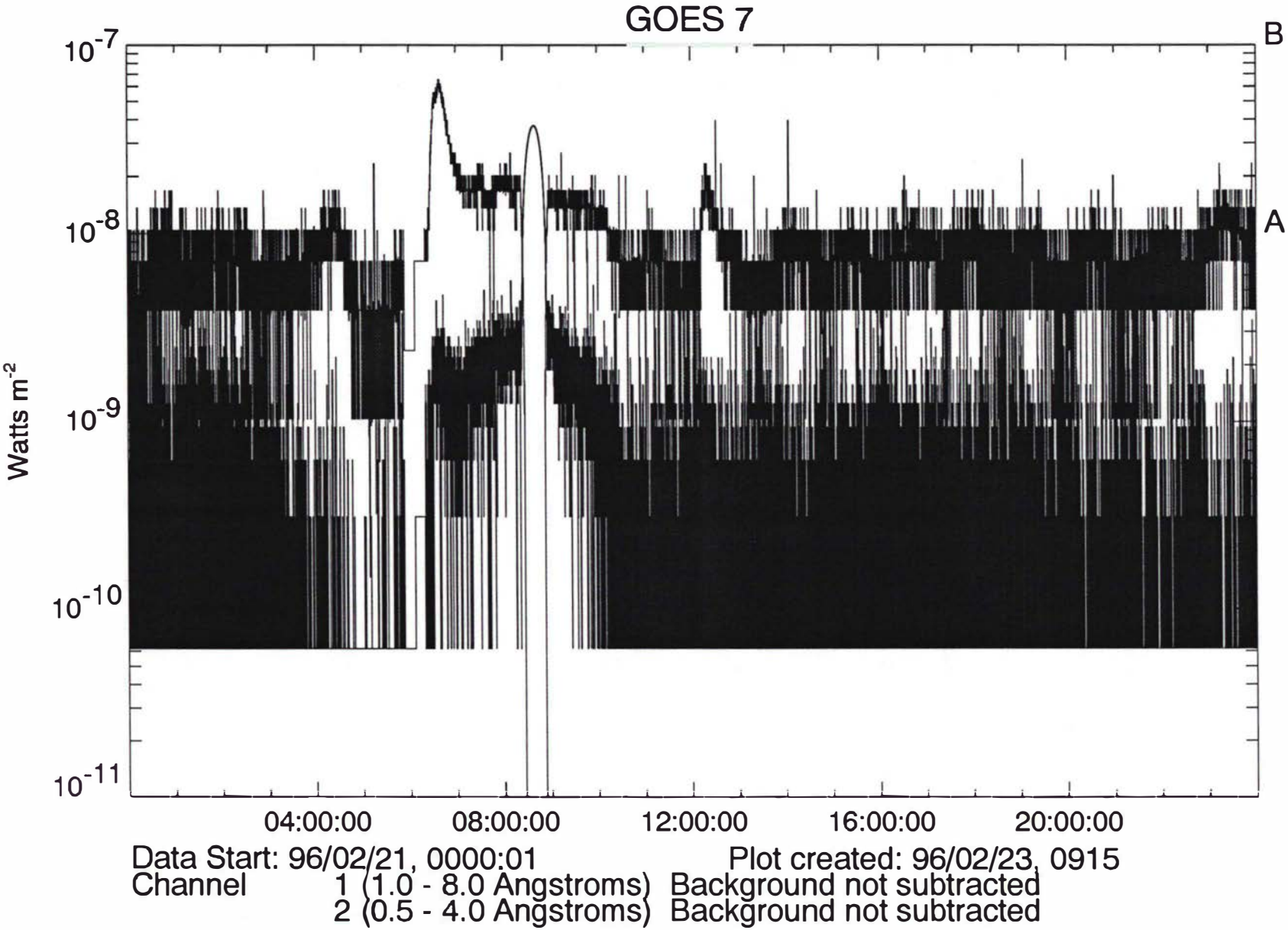


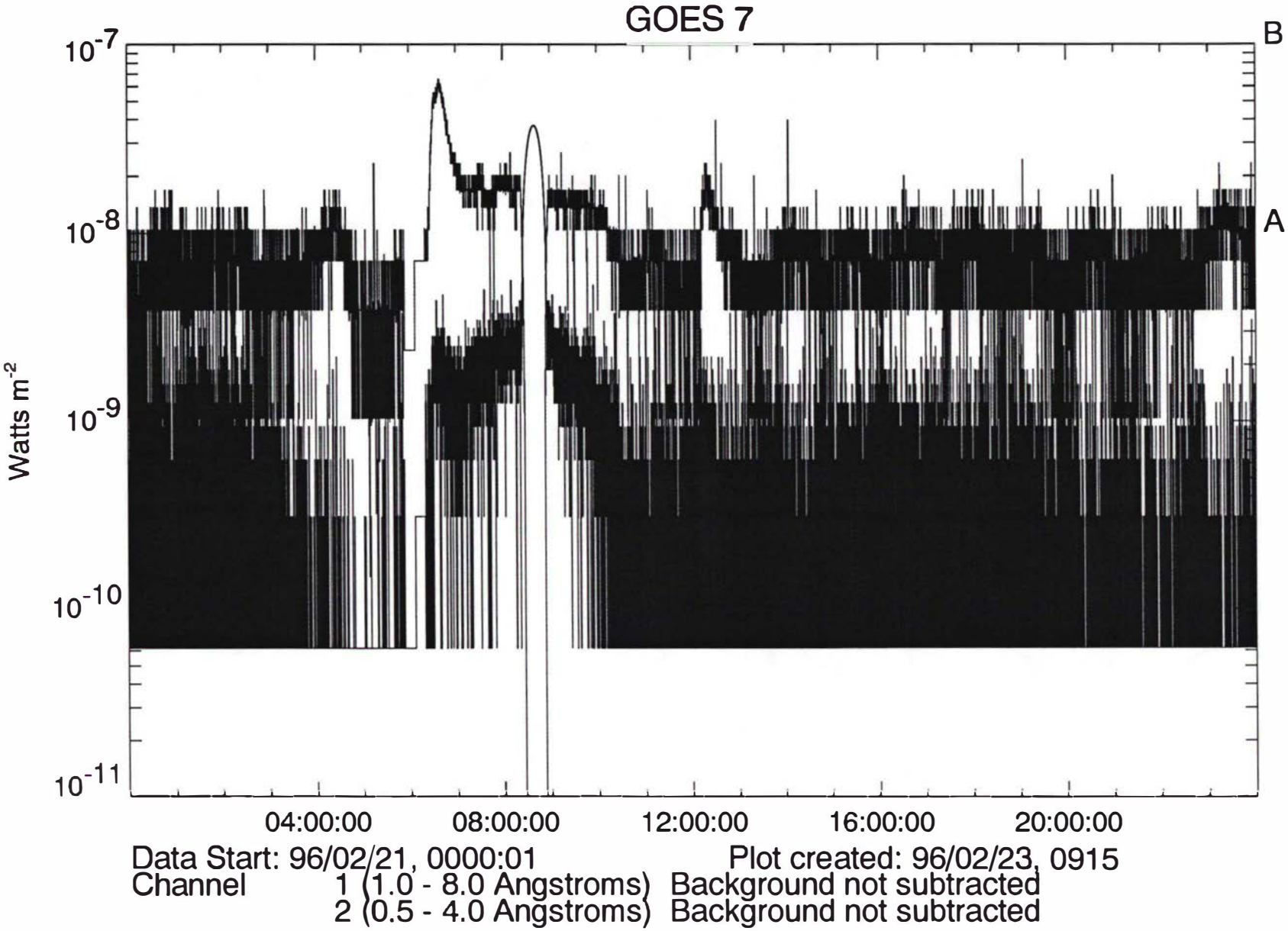


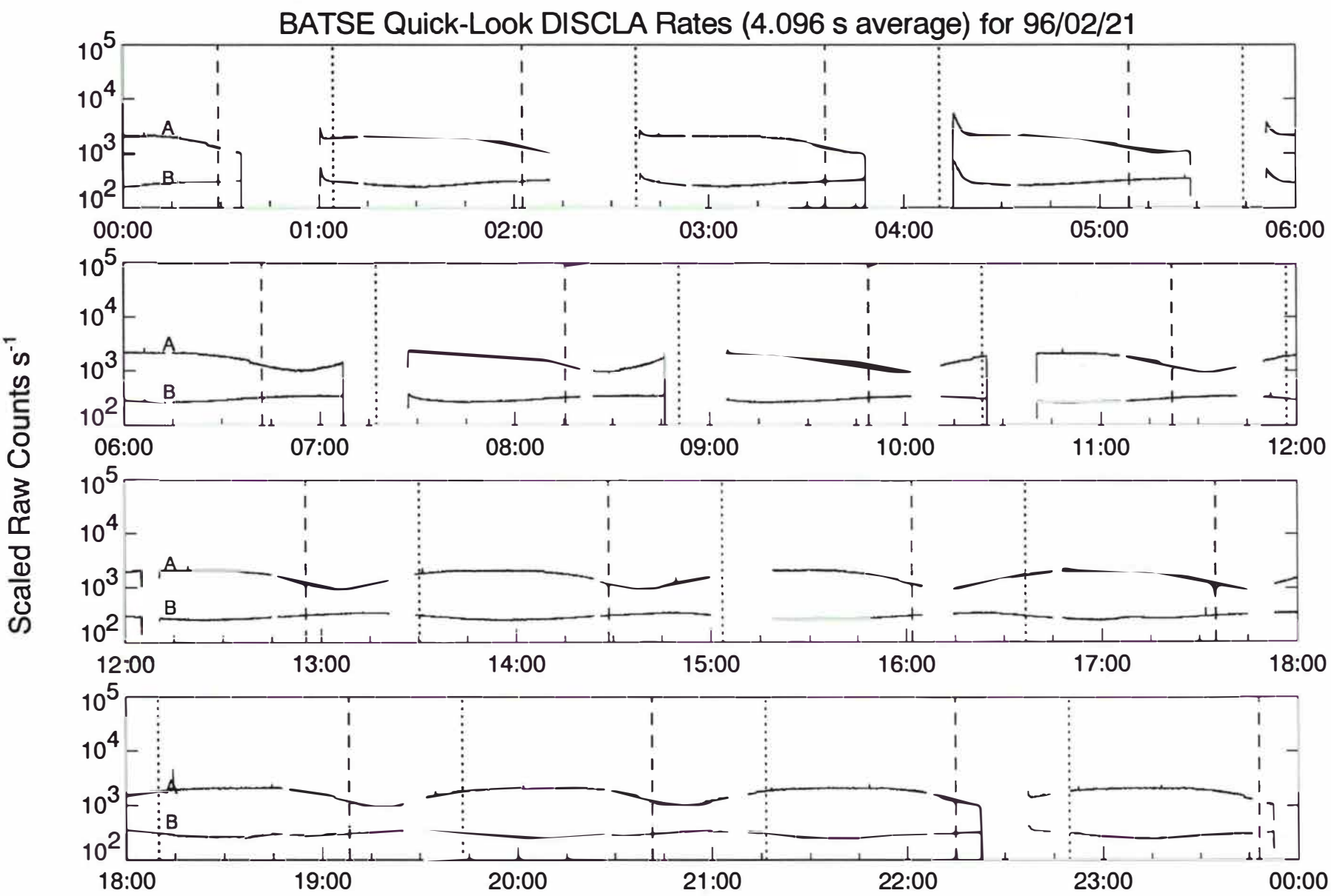
Current Time: 96/02/23, 0916 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

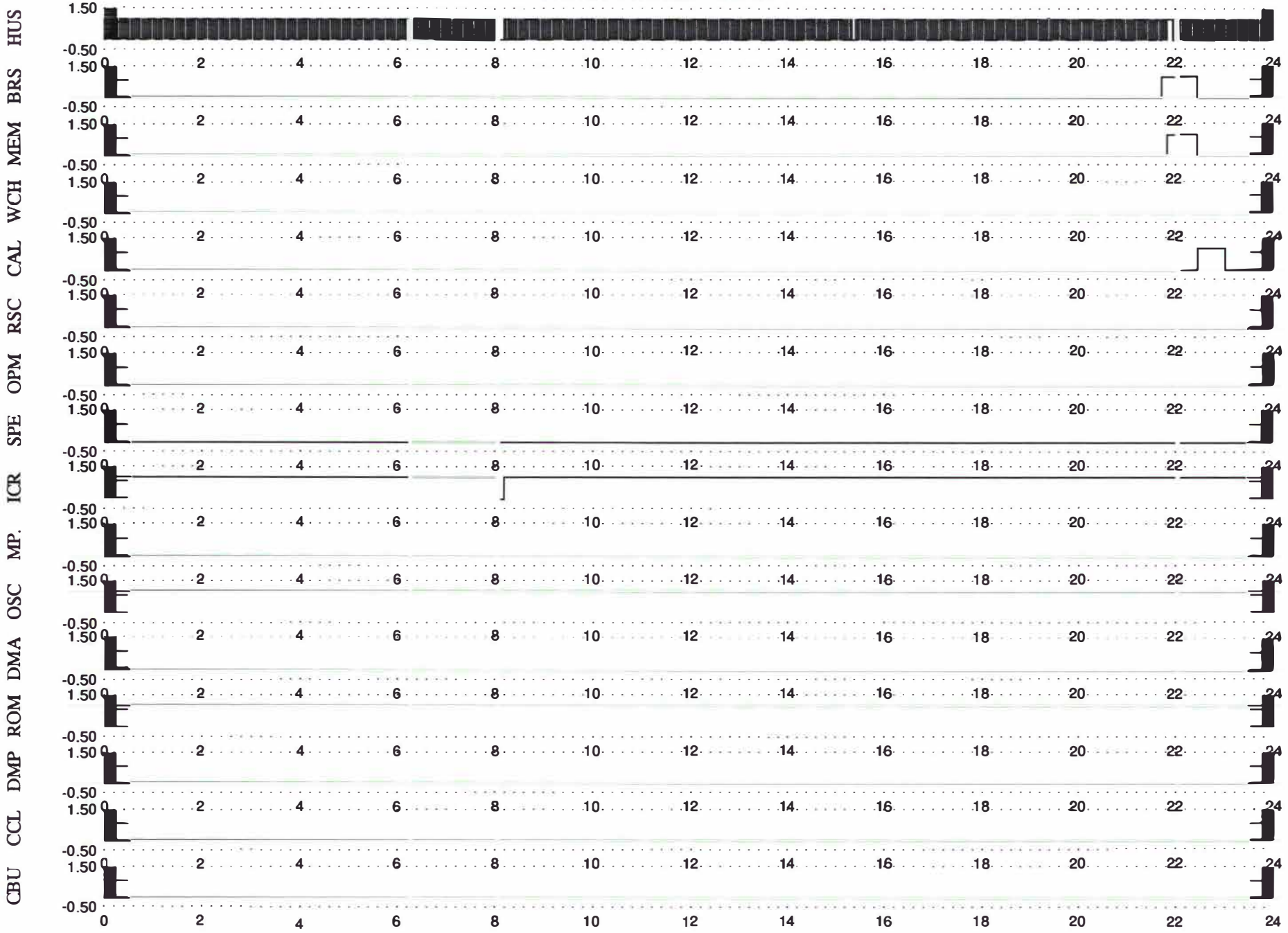
* Solar Burst Trigger
\+ Solar Flare


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/21, 0000:01
Plot created: 96/02/23, 0915
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/21, 0000:01
Plot created: 96/02/23, 0915
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 96/02/21
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: 96/02/23, 0916 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

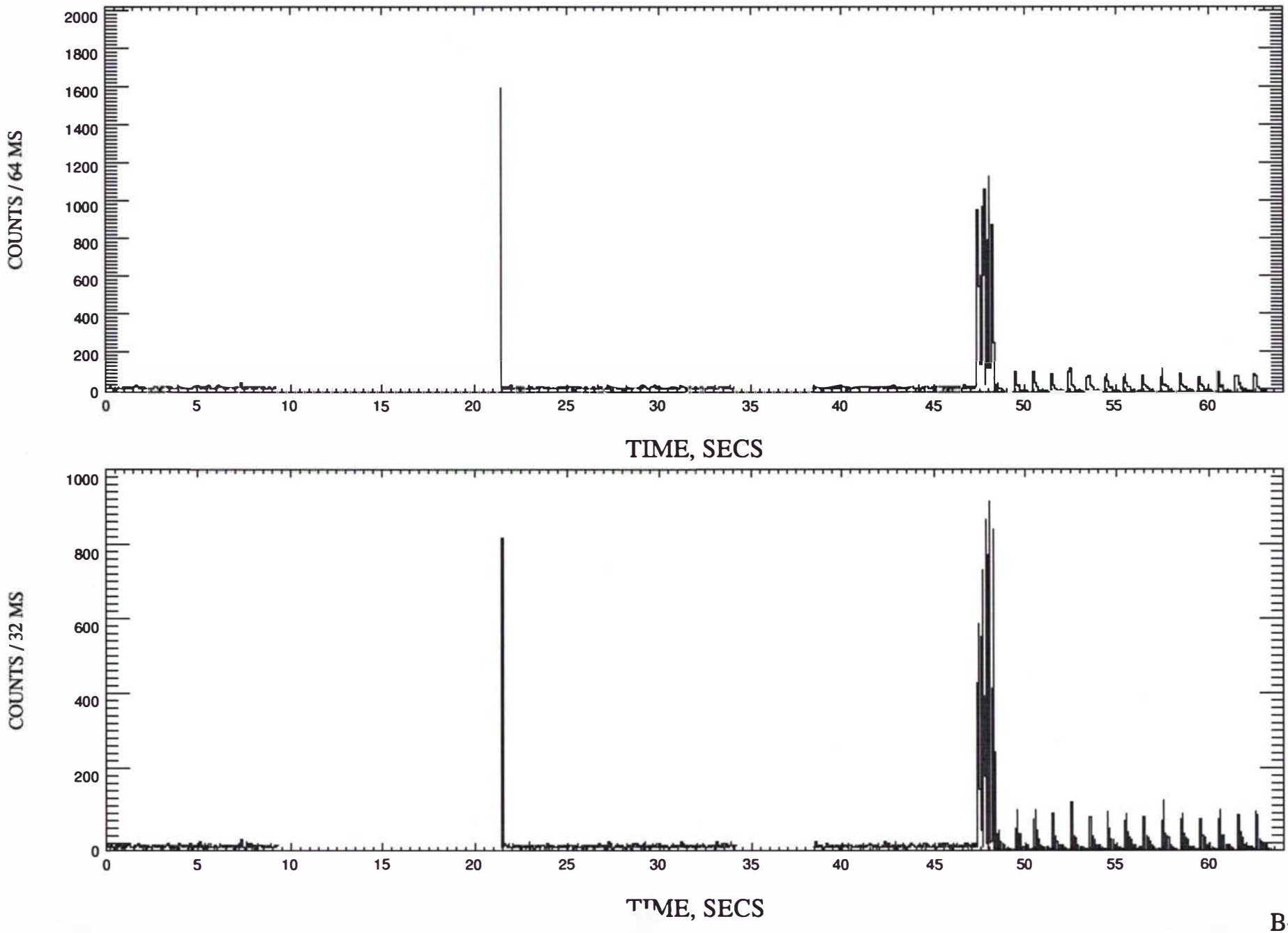
BURST NUMBER 10



UNIVERSAL TIME

HUS 2A TRIGGERED DATA EDR day 52, year 1996 11/25/96

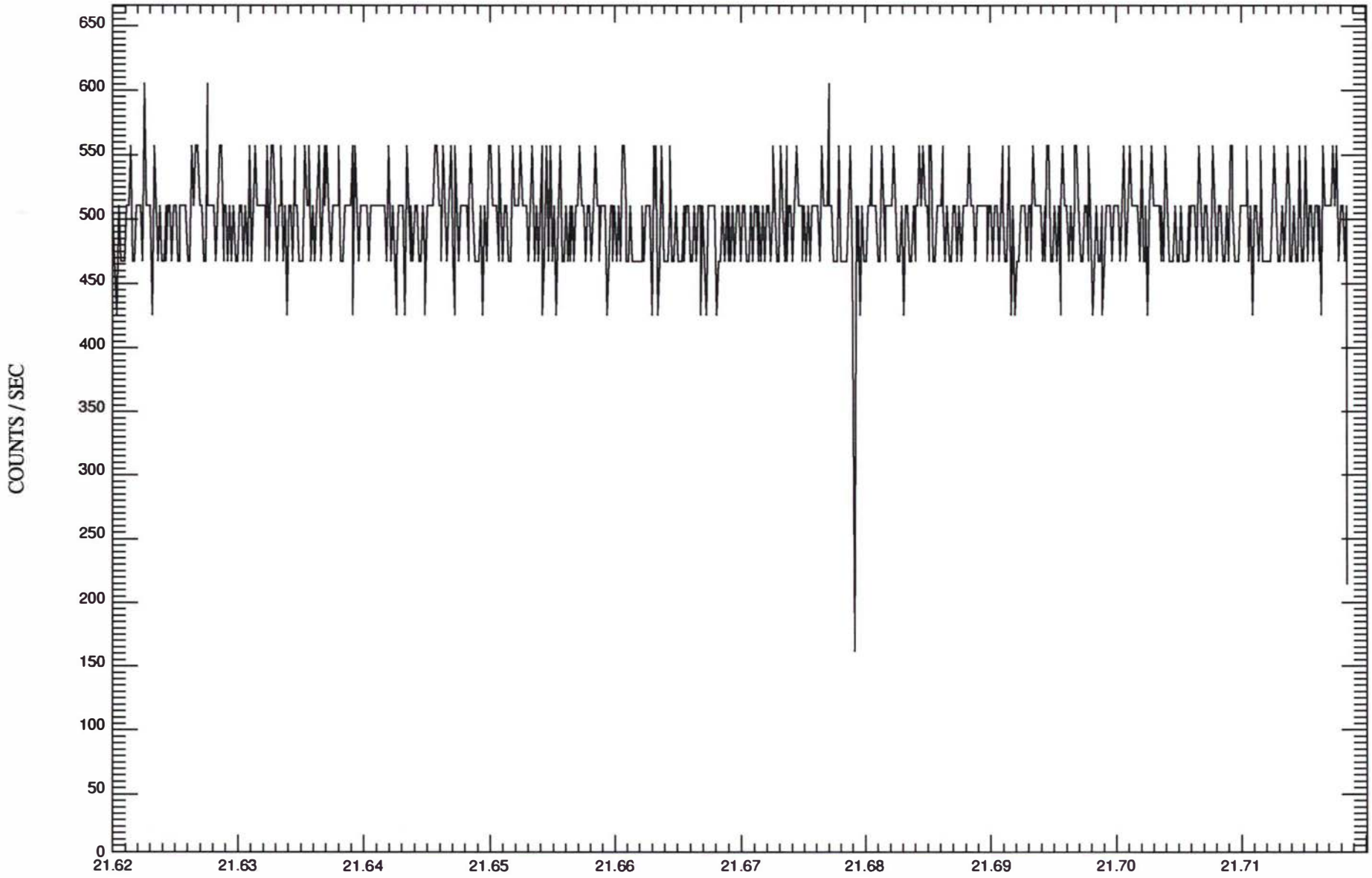
Burst Counter 10 at UT=21.665617565579 h=77996.223 s 21:39:56.223



B# 1

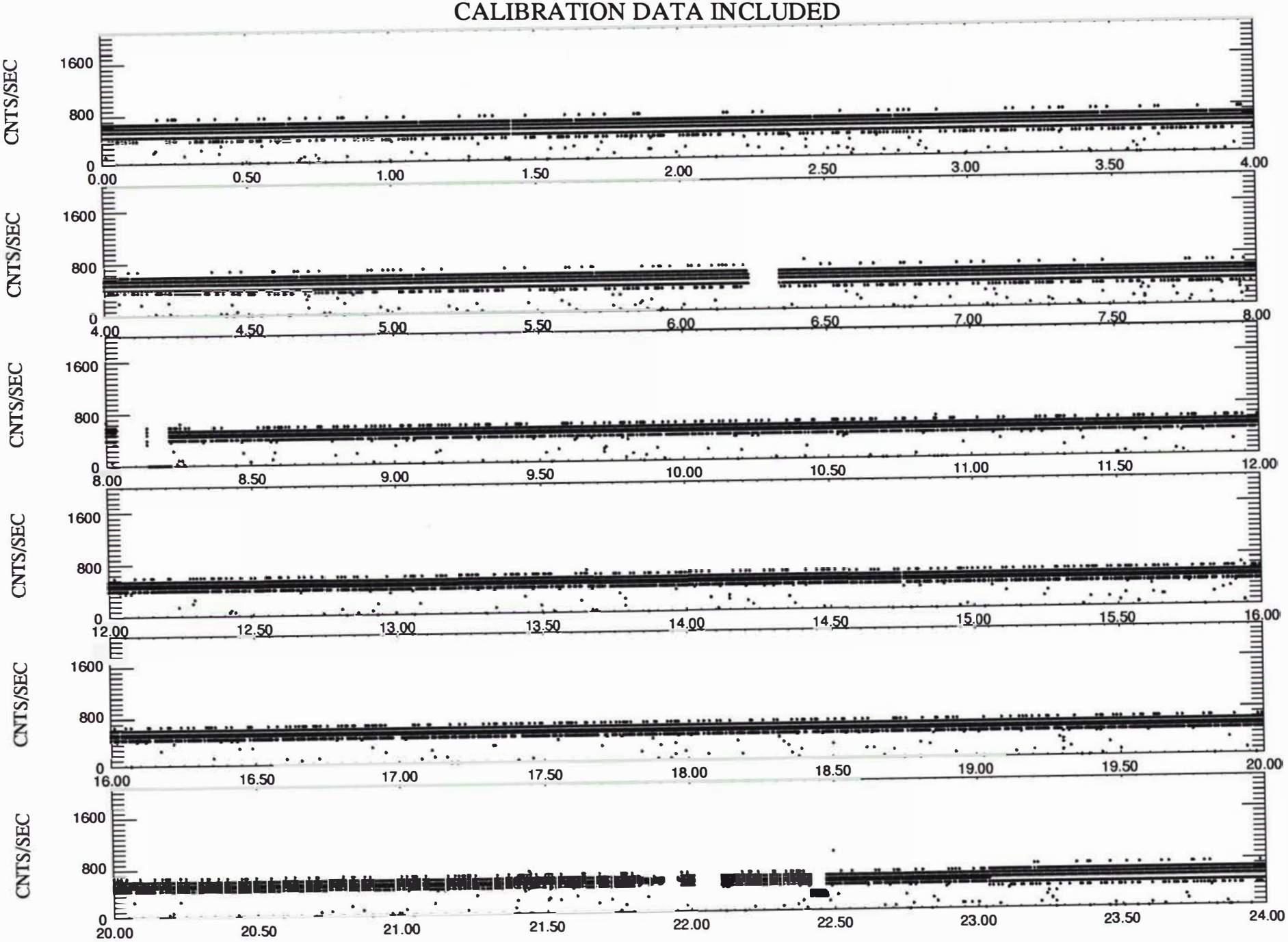
HUS 2A, MODE 1, NOT AVERAGED EDR day 52, year 1996 to day 52, year 1996 11/25/96

CALIBRATION DATA INCLUDED

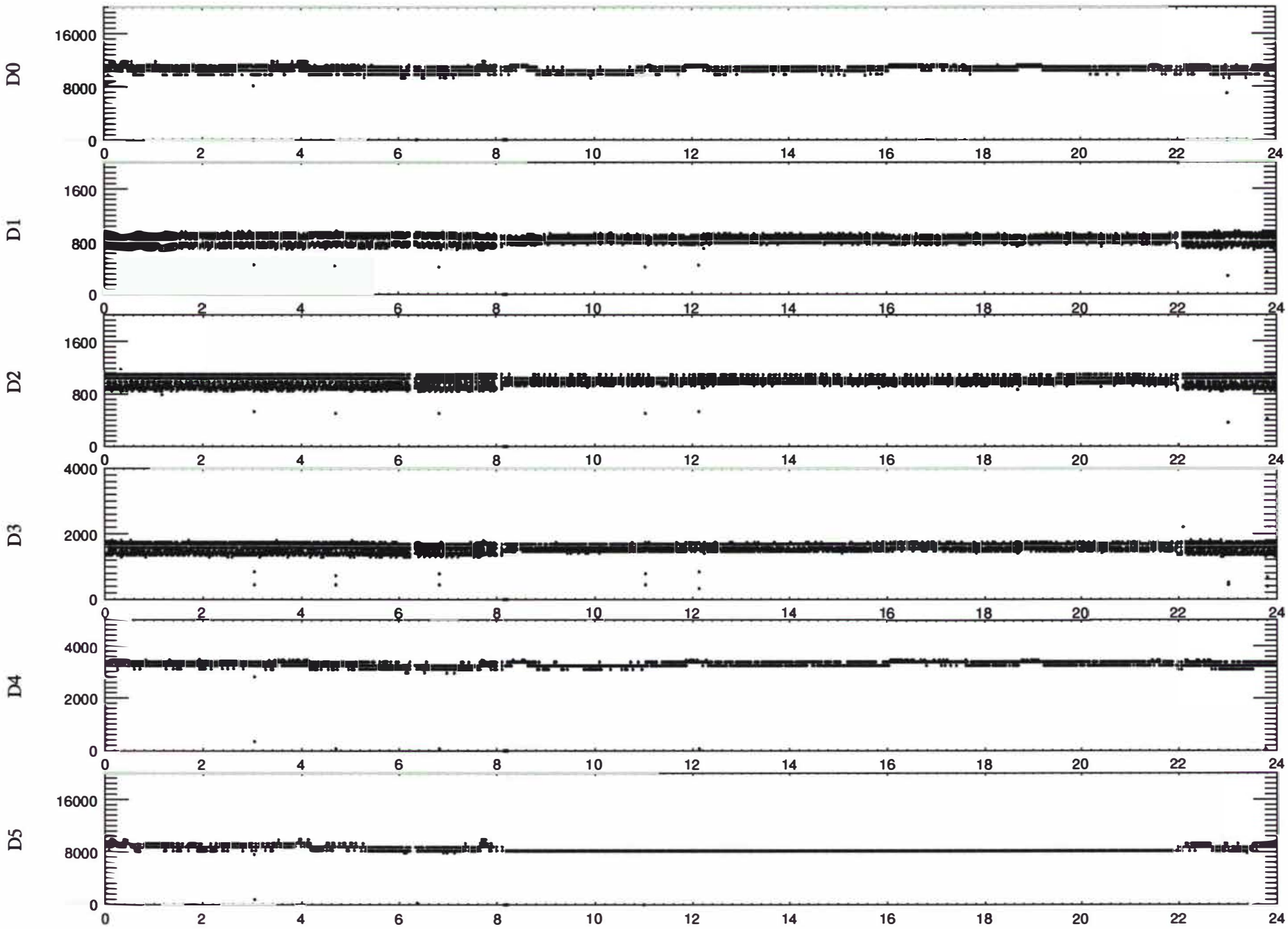


HUS 2A, MODE 1, NOT AVERAGED EDR day 52, year 1996 to day 52, year 1996 11/25/96

CALIBRATION DATA INCLUDED



HUS 2B COUNTS / SEC EDR day 52, year 1996 to day 52, year 1996 11/25/96



From BROCATO@astrte.te.astro.it Wed Aug 7 13:13 PDT 1996
Date: Wed, 7 Aug 1996 22:11:51 +0300 (CET-DST)
From: BROCATO@astrte.te.astro.it (Enzo Brocato -*- O.A.C.T. -*- 39 861 210490 -*-)
Subject: an unlikely possibility...from a stellar photometry group..
khurley@sunspot.ssl.berkeley.edu
X-Vmsmail-To: SMTP%"khurley@sunspot.ssl.berkeley.edu"

Dear Dr. Hurley,

my name is Enzo Brocato and I work with my collegues A. Piersimoni and V. Castellani on stellar photometry since several years.
The reason why I am disturbing you concerns a puzzling case of a 'star' image which is present in ONE CCD frame obtained last february at ESO/La Silla (1.54m Danish tel.).

Let me briefly summarize our problem:

1. We observed a field of standard stars (Landolt) in different filters (BVI) for 6 times to calibrate our globular cluster fields
2. During the data reduction we realized that:
   a. A 'star' several arcsec from one of our target standard is present in the last frame of a sequence but there is nothing in the previous (~3 min before) frames...and nothing in the frames taken 2.5 hour later.
   b. It is a 'star' in the sense that the PSF of the object (~3 pxl) is just slightly lower than the PSF of the other stars (~3.5 pxl) of the frame...and this should also minimize the possibility of a cosmic ray event.
   c. This object appears to be inside the error box of a gamma-ray burst (GB 910430).
3. We are rather skeptical, but we also think that if we just forget it and proceed with our reduction would be not scientific at all. So we look around (archives and catalogs...) and we find that a Zwicky cluster is located at the same coordinate.

At this point we decided to speack with some collegues of Bologna and your name was suggested (Dr. E. Palazzi and Prof. Pizzichini).

Here there are the coordinate and the UT time of our 'star'...

R.A. 09h 21m 36s
Dec. +02d 46' 24" epoch=2000

U.T. 02h 05m 22 february 1996

The main, and obvious, question is if there is any event recorded for this date on the information obtained from satellite experiments (BATSE for example)?

I guess that there is a very little probability that we got an optical counterpart of a gamma-ray burst ....but....in case of a very lucky case it would be a pleasure to start at least a collaboration on this....in any other case...
Thank you in advance for your attention and for your time spent in checking is unlikely correlation....

Sincerely,

Enzo Brocato

From BROCATO@astrte.te.astro.it Thu Oct 3 06:38 PDT 1996
Date: Thu, 3 Oct 1996 15:36:31 +0200 (CET)
From: BROCATO@astrte.te.astro.it (Enzo Brocato -*- O.A.C.T. -*- 39 861 210490 -*-)
Subject: Re: an unlikely possibility
khurley@sunspot.ssl.berkeley.edu
X-Vmsmail-To: SMTP%"khurley@sunspot.ssl.berkeley.edu"

Dear Kevin,

concerning the star-like object we found in a CCD frame last
february (JD = 2450135.57222 at R.A.=09 21 36 DEC=+02 46 24 epoch=2000)
we are planning to write a brief report on it.
For this reason, I am writing to you to have some more indication:
a. do you know if this area was under the view of BATSE at that time?
b. according to our computation the Ulysses event you reported in the
previous mail seems to be roled out to different timing.
c. we are still under a preliminar version of this report: would you like
to have a copy of it...and maybe joint us in finishing it or you just
prefer we quote your info as 'private comunications'....?

Thank you one more for your kindness for answering to our questions...

ciao ciao
Enzo

HUS DATA

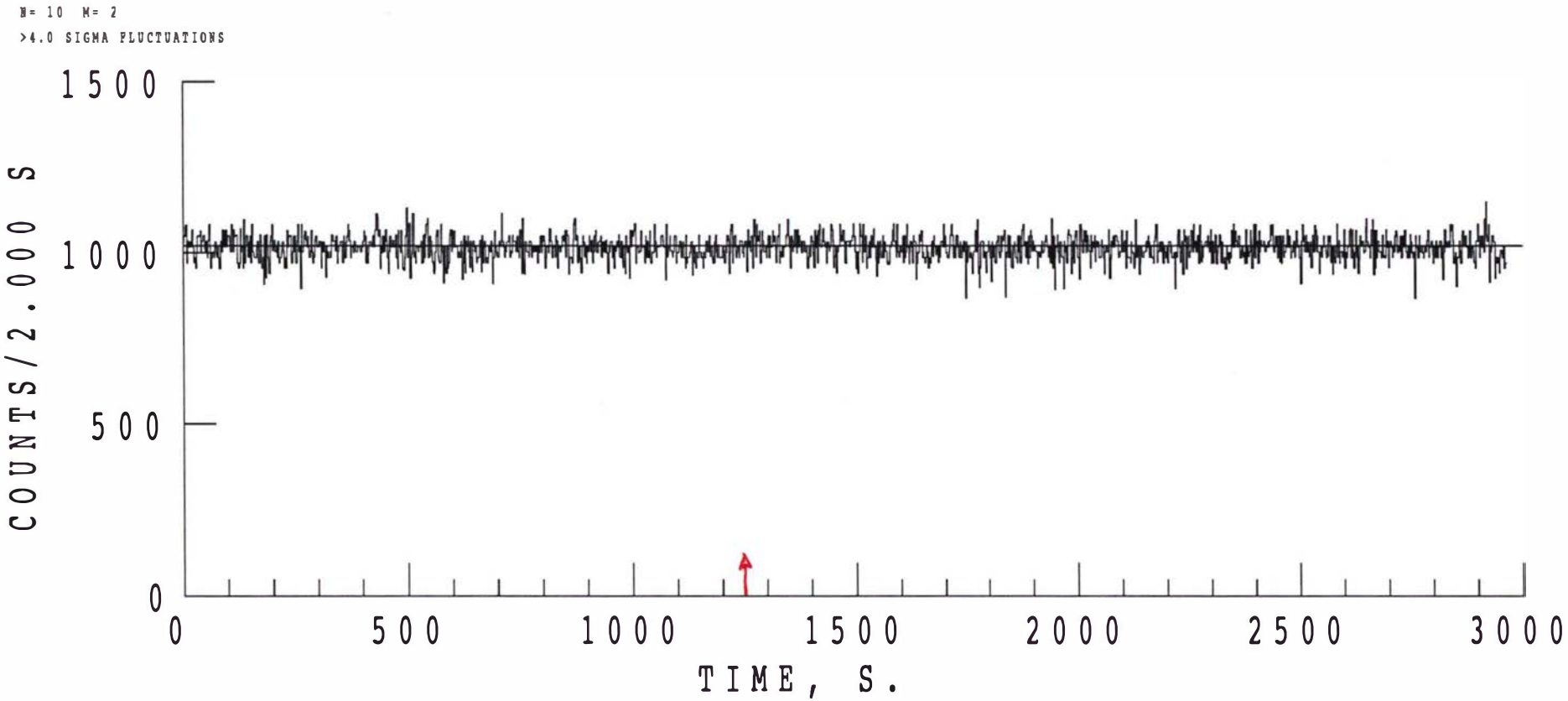
7/10/96

ULYSSES RT

22/ 2/96 6012.065 s

0.250 S INTERVALS REGROUPED BY 8

0- 0 keV



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

    SE BURST #
EVENT OF 1996 FEB 22 DAY OF YEAR= 53
EVENT CROSSING TIME AT BATSE     :  7500. S. OR 02:05:00.0
COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 140.400    2.800
BATSE PEAK COUNTING RATE: 0         C/S

EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/ 2/  96 IS:
RA=  206.155 DEC=   73.326 DIST=    2.884 AU
BATSE-ULYSSES DISTANCE =  431509190. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL    DIRECTION= 99.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -236.74 SECS.
CROSSING TIME AT ULYSSES    IS  7263. S. OR   02:01:03 +/-  292.90 SECONDS

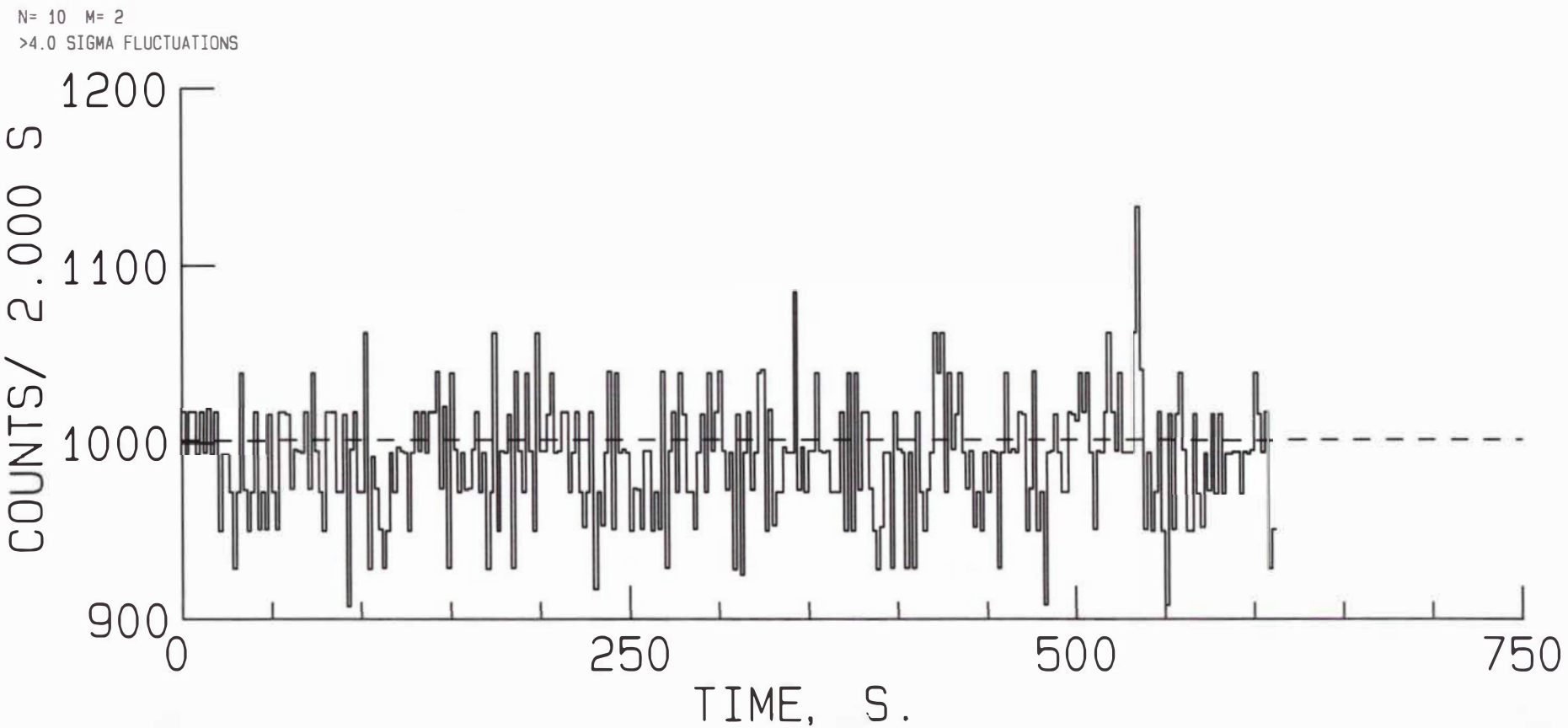
EVENT CROSSING TIME AT MARS       WILL BE FOUND
POSITION OF MARS ON 22/ 2/  96 IS:
RA=  337.360 DEC=  -10.582 DIST=    2.369 AU
MARS-BATSE DISTANCE =  354348096. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 18.54 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1120.62 SECS.
CROSSING TIME AT MARS       IS  8621. S. OR   02:23:40 +/-   82.28 SECONDS
```

ULYSSES RT 7/ 8/96

22/ 2/96 72288.107 s

0.500 S INTERVALS REGROUPED BY 4

21- 145 keV



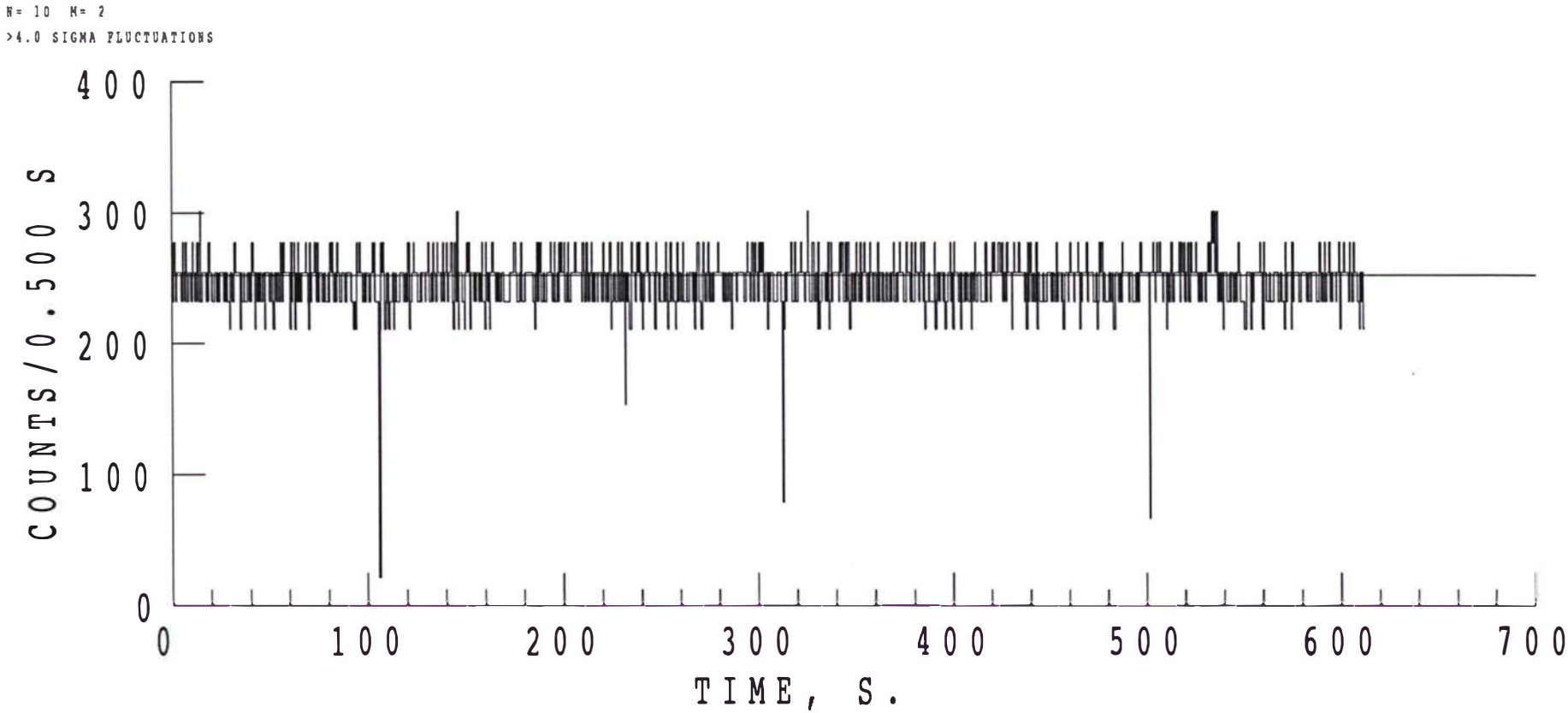
HUS DATA

7/ 8/96

ULYSSES RT

22/ 2/96 72288.102 s

0- 0 keV



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
~029.19:35 SCET	should be	~028.13:43 SCET
~033.19:10 SCET	should be	~032.13:18 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~048.17:29 SCET	should be	~047.13:45 SCET
~054.08:59 SCET	should be	~053.11:46 SCET
~039.18:34 SCET	should be	~038.12:14 SCET
~039.18:34 SCET	should be	~038.12:14 SCET

We see data gaps for each of the correct times, so it looks like your theory of AMMOS mis-correcting times when there is carry-over data on the tape is correct.

I hope this is enough information. I would have to do a bit more calculation to get the approximate ERTs. Let me know if you want them.

Best regards,

Nigel

From ulsdmt@jplsp.DNET.NASA.GOV Mon Mar 18 17:13 PST 1996
From: ulsdmt@jplsp.DNET.NASA.GOV
Date: Mon, 18 Mar 96 20:13:12 -0500
To: "khurley@sunspot.ssl.berkeley.edu"@east.DNET.NASA.GOV (SENT TO @LIST1)
Subject: Misplaced Major Frames in EDRs

Greetings,

We have identified an operations technique that produces data that will be improperly time tagged by the MGDS (telemetry system). Instances of EDR errors (major frames out of order) have been found in the CDROM archival products for December 1995 and January 1996. Errors will also be found in the still to be shipped February 1996 data.

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For each major frame processed in this manner, a gap will exist, representing the time the data was actually acquired, and a major frame or realtime data, representing the time period the data now errently represents, will be replaced by the misplaced playback data.

Yes. Confusing. See the attached memo detailing the times involved.

Approximately 17 such instances are known to have occured. The total time involved is about twenty minutes. Because the data loss is small and the cost of reprocessing would be so large, the Project has determined that it would be imprudent to reprocess.

For your information, however, we included a memo from Nigel Angold which itemizes each instance.

We thank Toni Galvin and Nigel for identifying the problem and assisting in the diagnosis.

Regards,

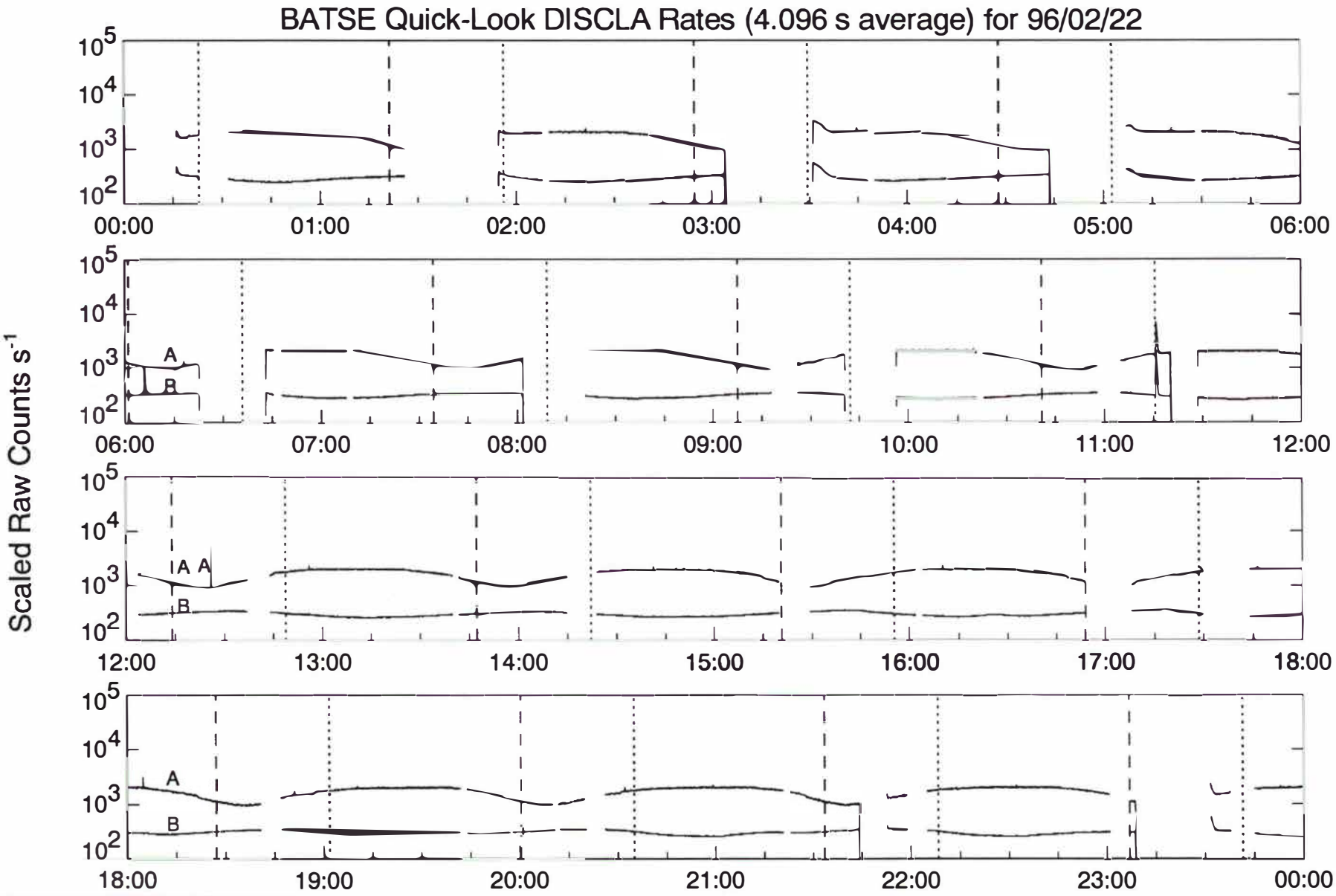
Joe

To: <ulsdmt@jplsp.jpl.nasa.gov>
From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

I have looked at our recent tape recorder usage and predict that you will see major frames with mis-corrected spacecraft clocks / SCETs at the following times (give or take a few minutes):

1995:

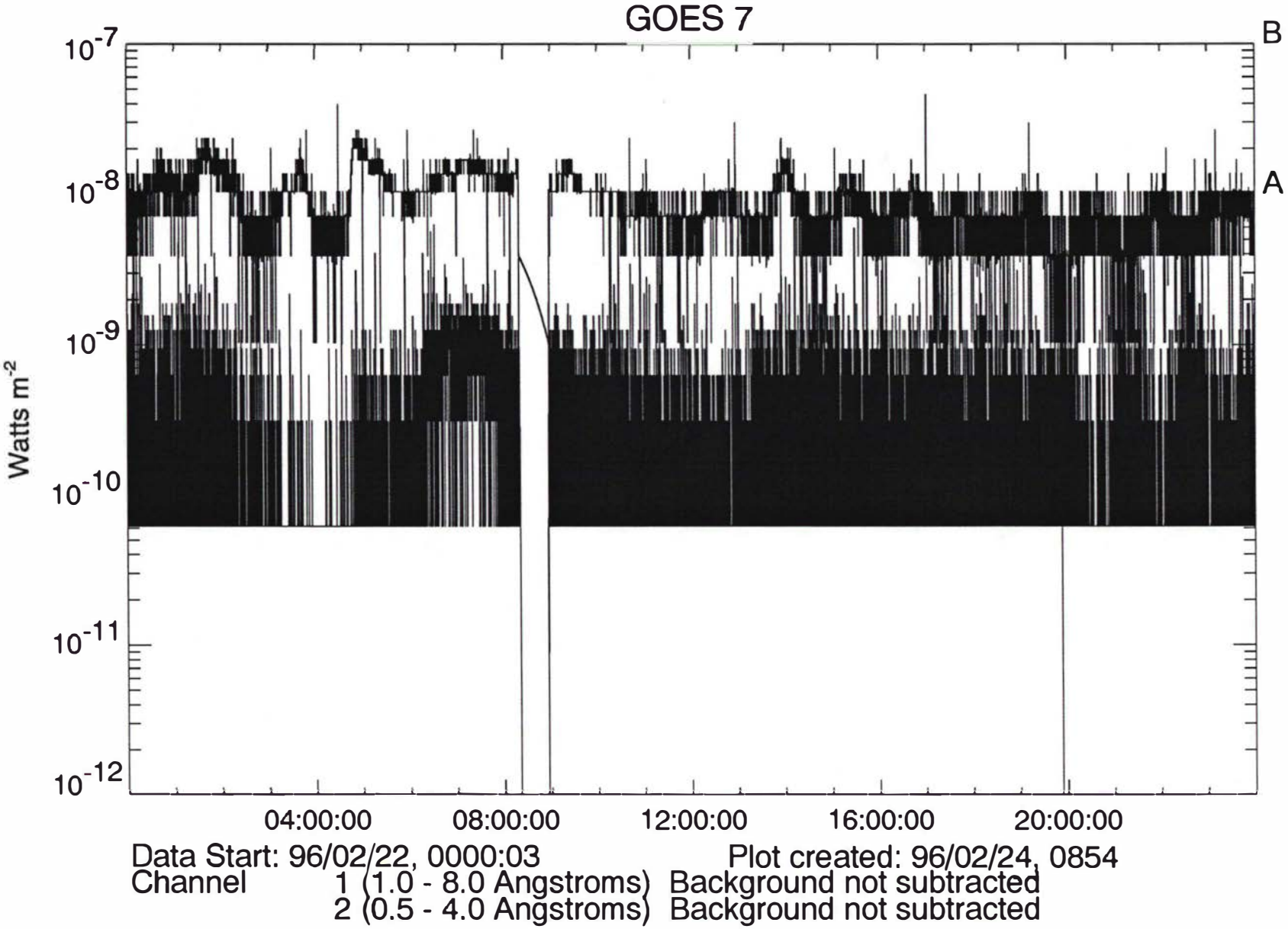
~342.22:59 SCET	should be	~341.17:47 SCET
~347.22:39 SCET	should be	~346.16:46 SCET
~350.21:54 SCET	should be	~349.16:22 SCET
~355.22:14 SCET	should be	~354.15:42 SCET
~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET



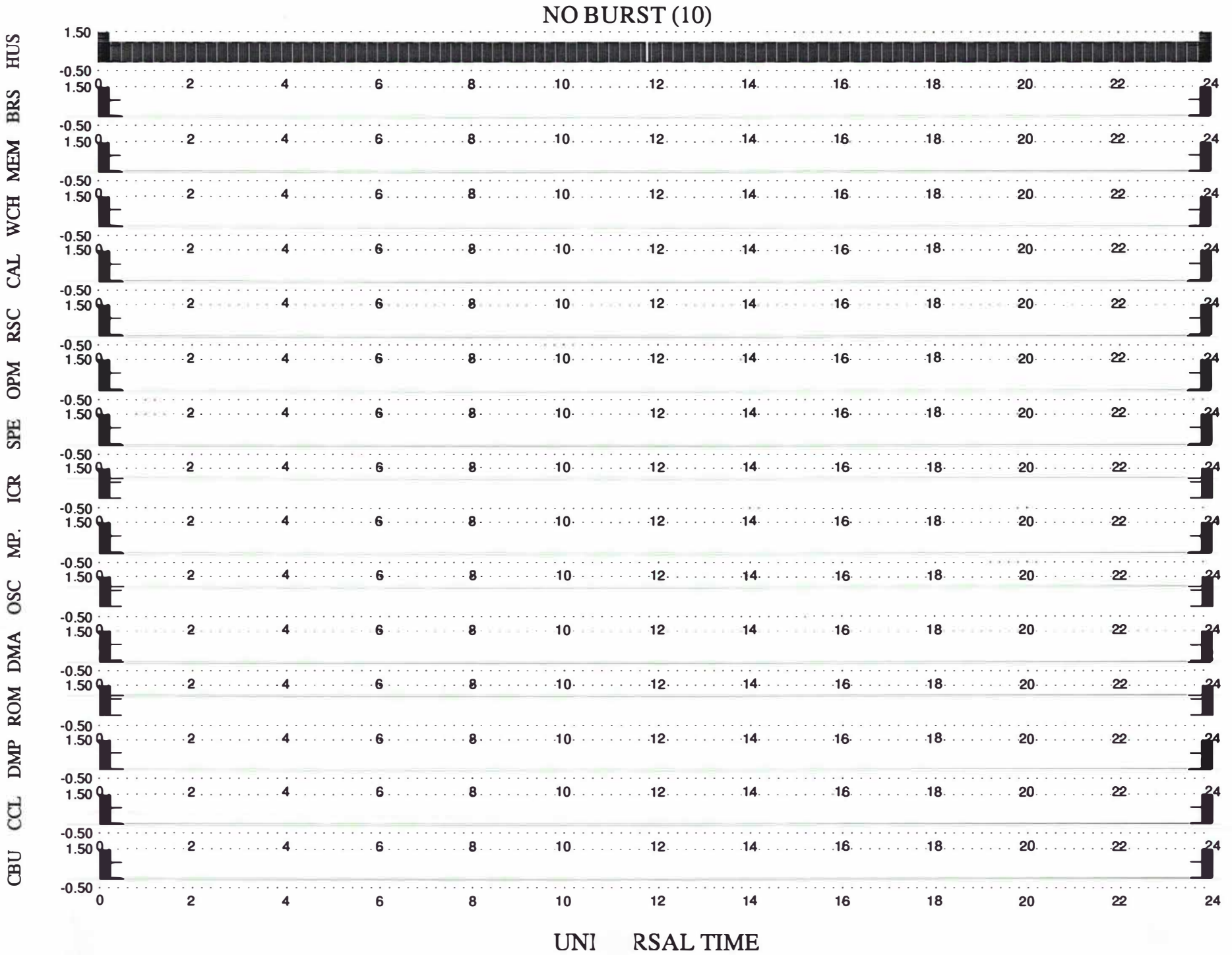
Current Time: 96/02/24, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare

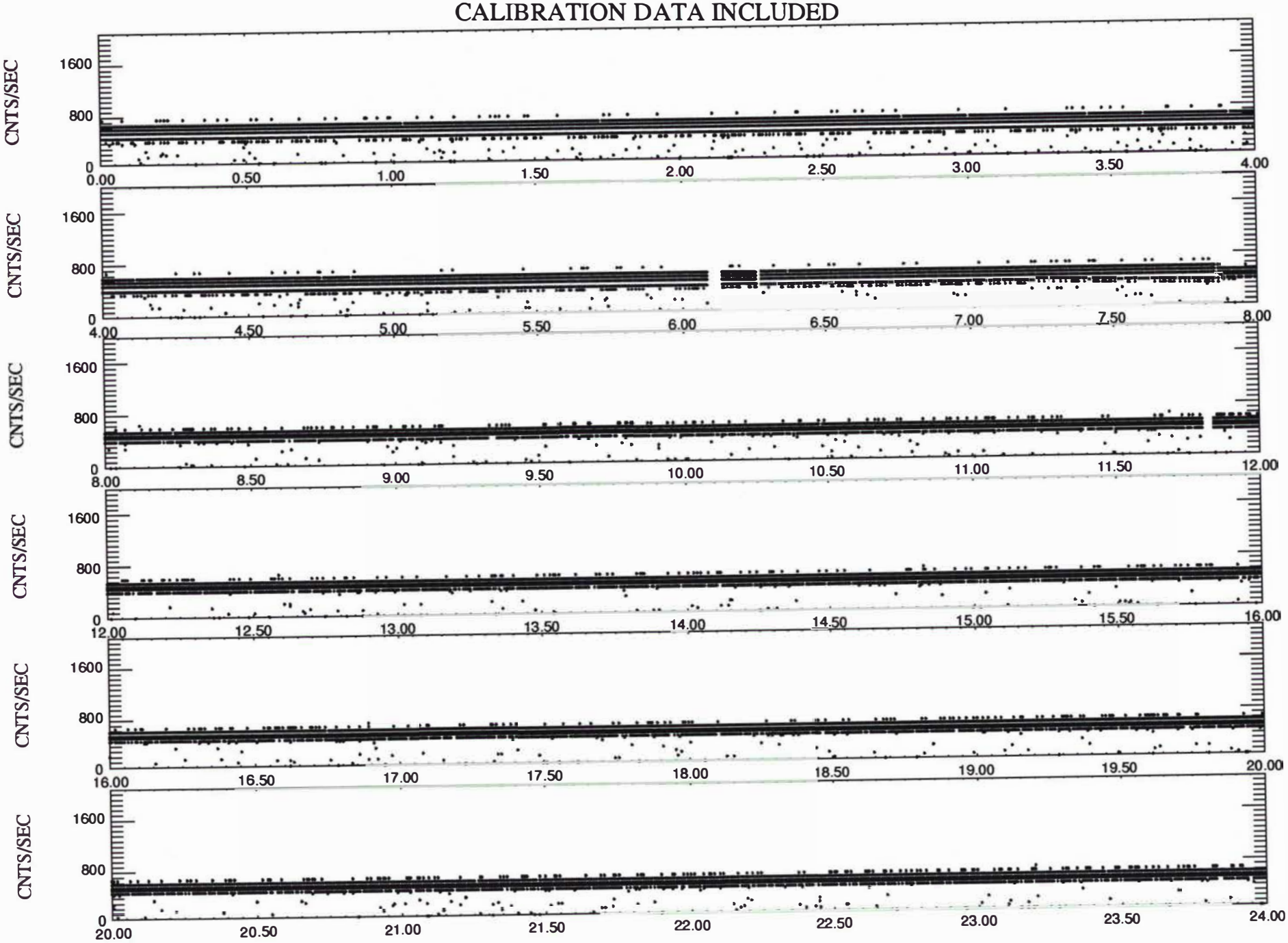

GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
10^{-12}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/22, 0000:03
Plot created: 96/02/24, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 53, year 1996 to day 53, year 1996 11/25/96



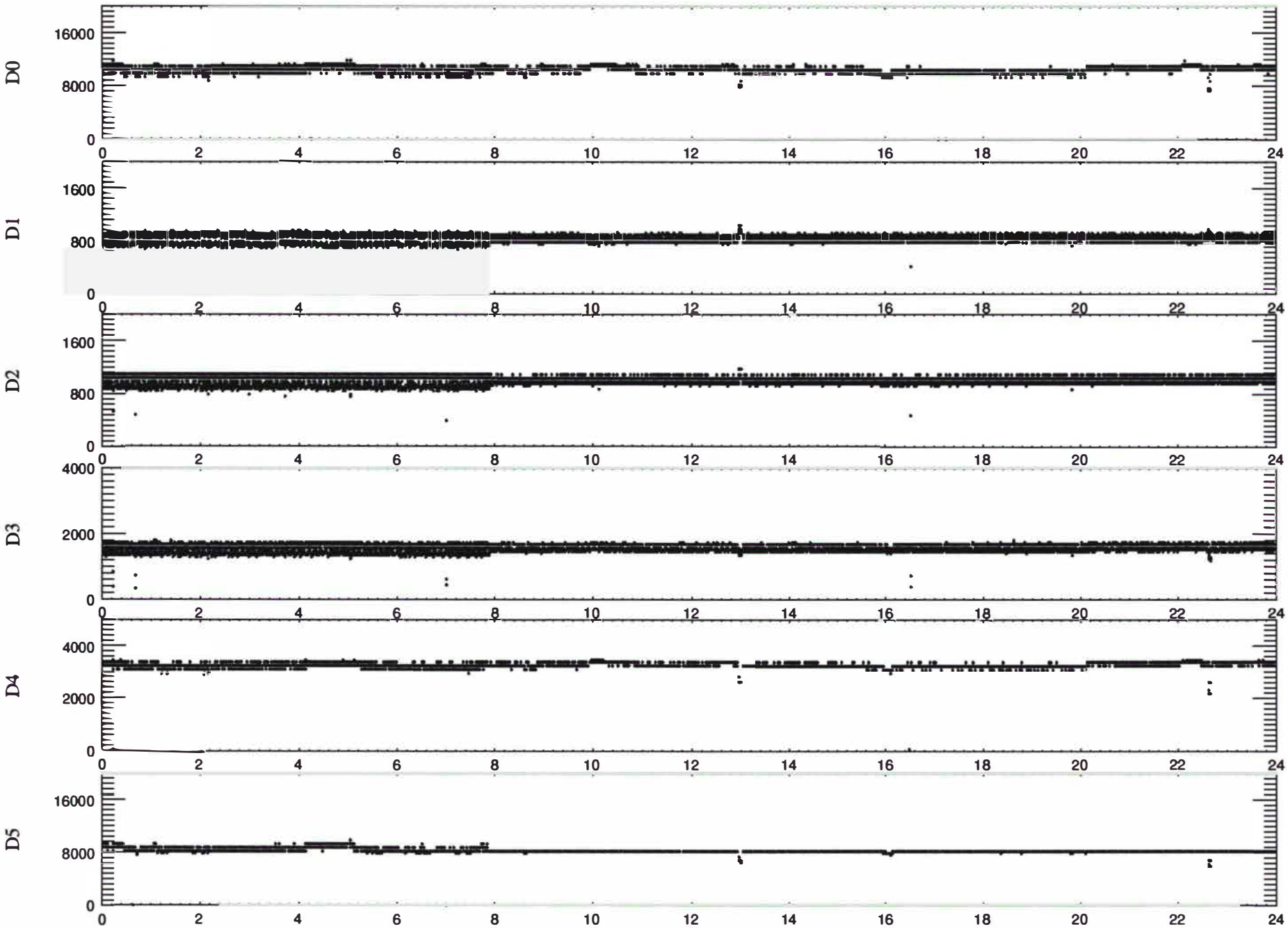
HUS 2A, MODE 1, NOT AVERAGED EDR day 53, year 1996 to day 53, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

HUS 2B COUNTS / SEC EDR day 53, year 1996 to day 53, year 1996 11/25/96



1996:

~001.02:45 SCET	should be	~364.23:12 SCET
~002.14:35 SCET	should be	~001.04:22 SCET
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From: Nigel Angold <nangold@jplsp2.jpl.nasa.gov>
Subject: Mis-corrected S/C clocks / SCETs
Cc: chris.leech@jpl.nasa.gov

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~350.21:54 SCET	should be	~349.16:22 SCET
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~359.14:04 SCET	should be	~359.05:36 SCET
~360.14:59 SCET	should be	~359.00:20 SCET
~362.20:55 SCET	should be	~361.16:06 SCET

From DEAL@fender.msfc.nasa.gov Mon Feb 26 12:08 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Mon, 26 Feb 1996 14:06:27 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 4992

TIME: TJD=0136 SECONDS=59674

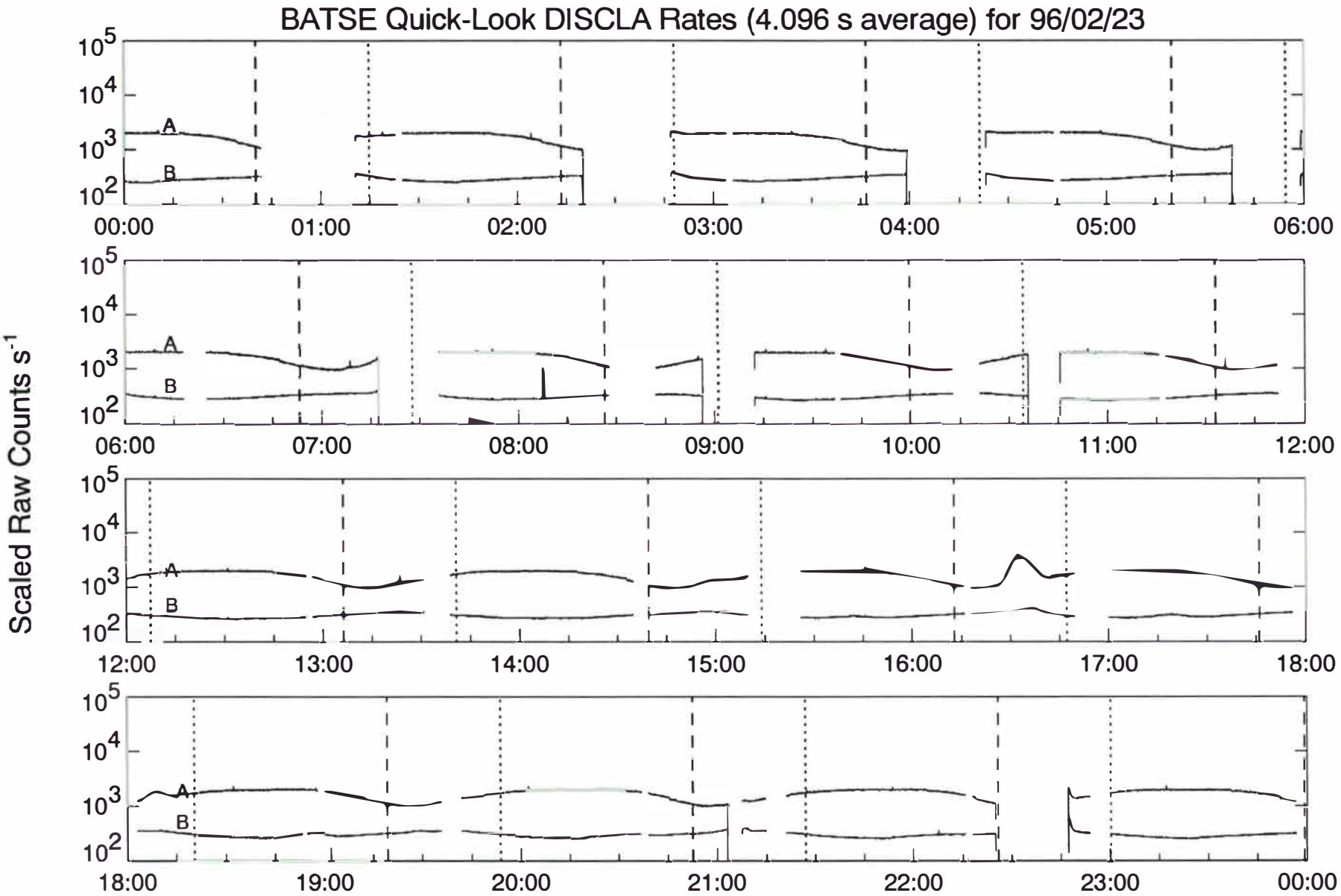
TYPE: ELECTRO SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

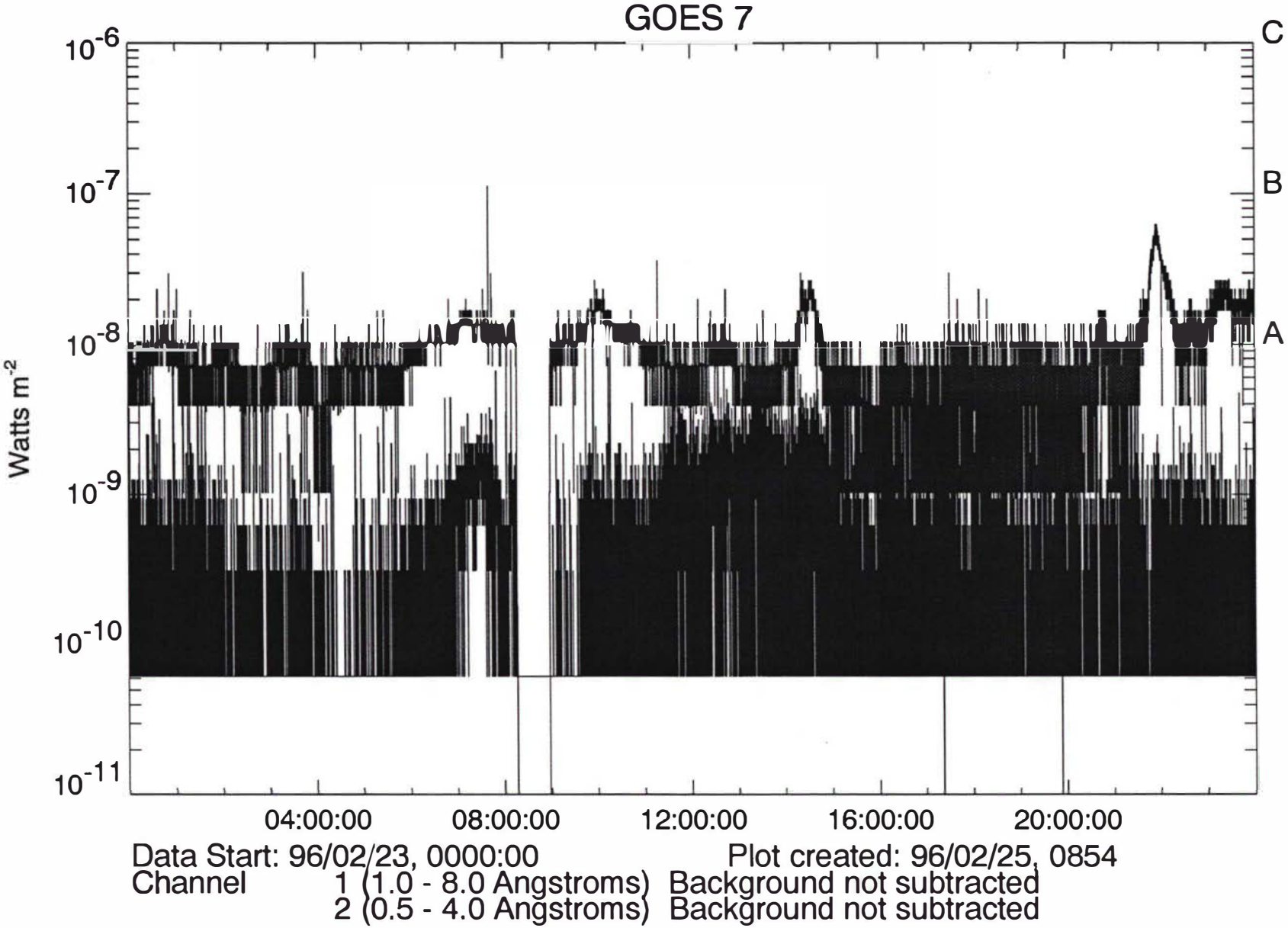
COMMENTS:
ELECTRON EVENT



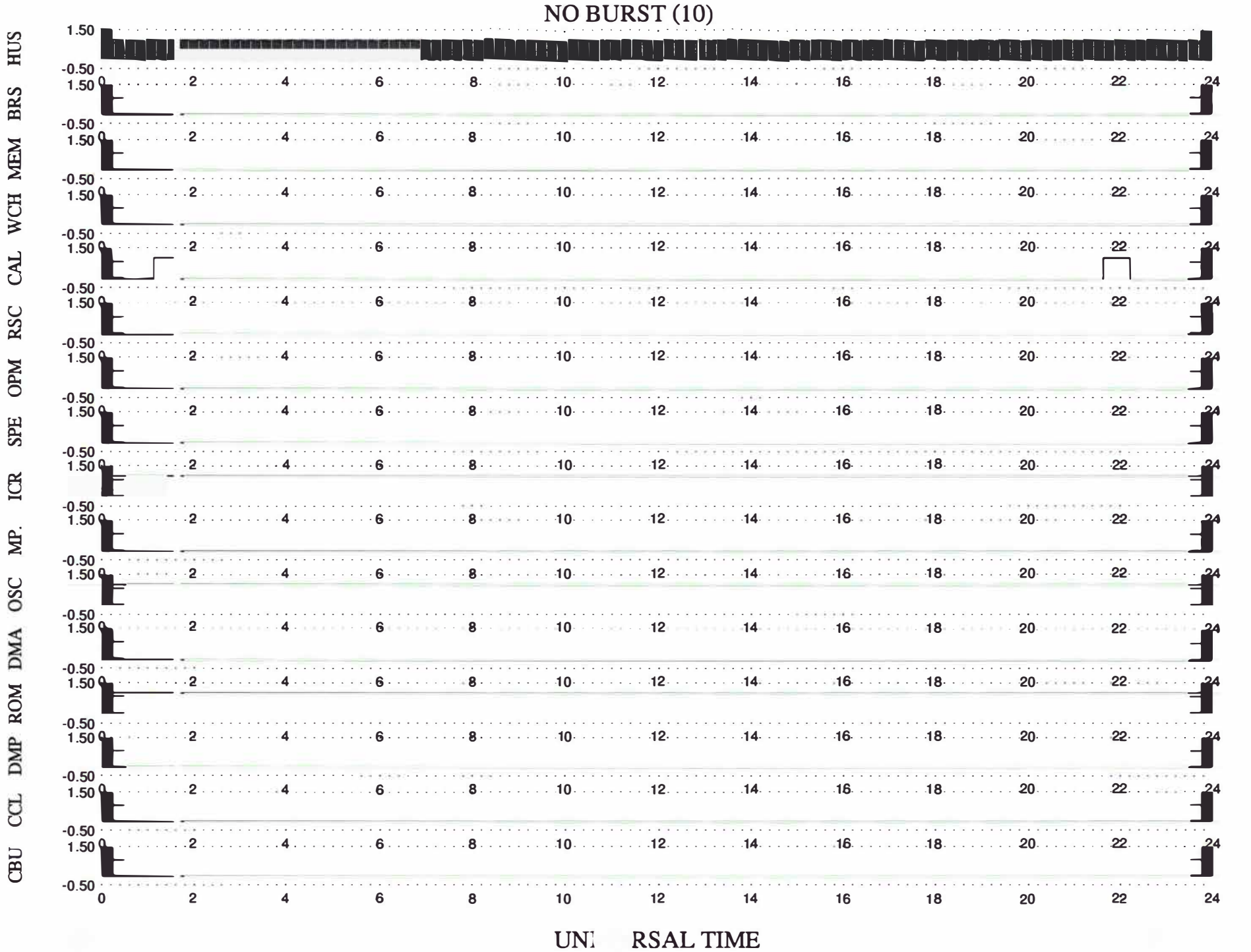
Current Time: 96/02/25, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare

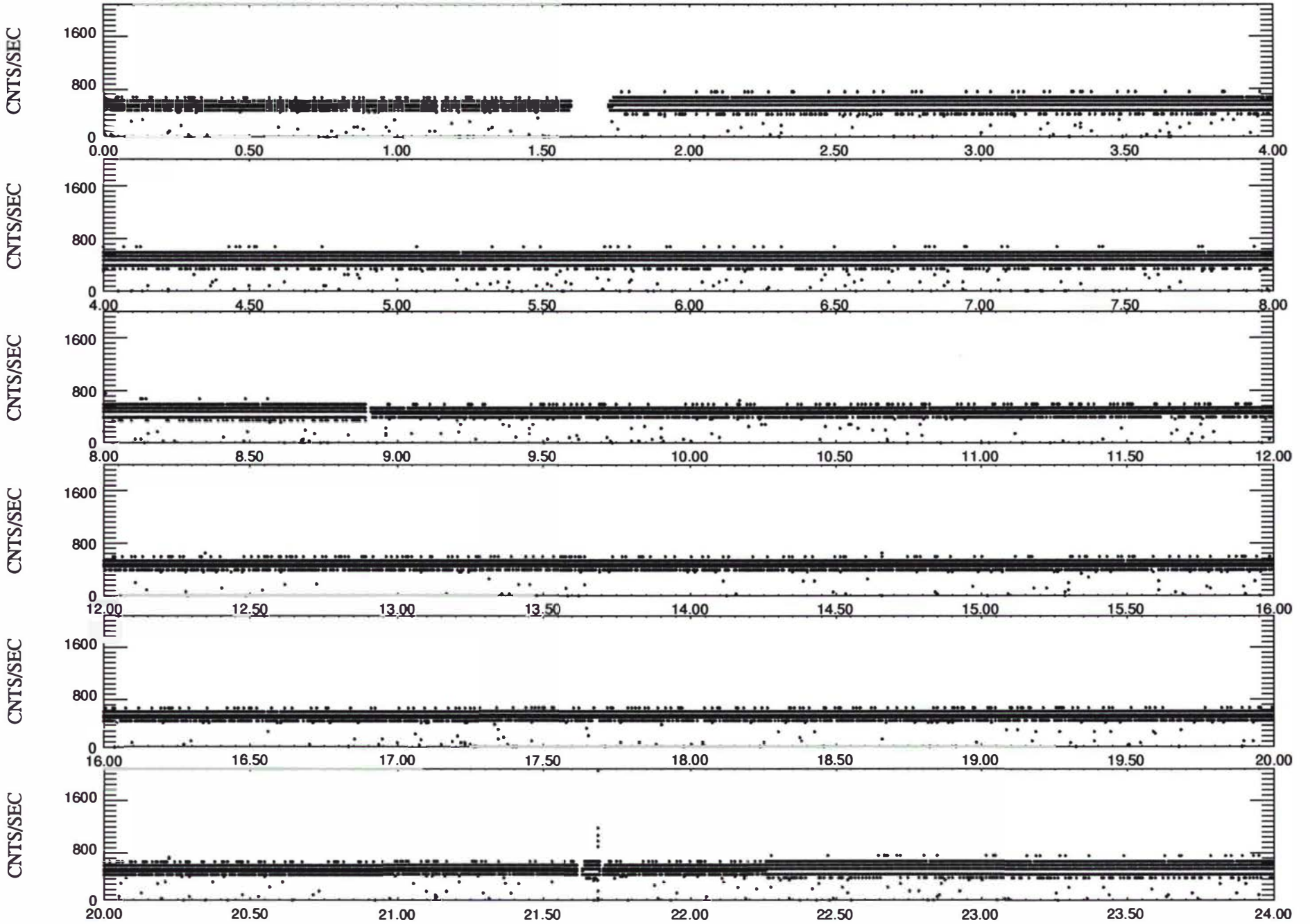

GOES 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/23, 0000:00
Plot created: 96/02/25, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 54, year 1996 to day 54, year 1996 11/25/96



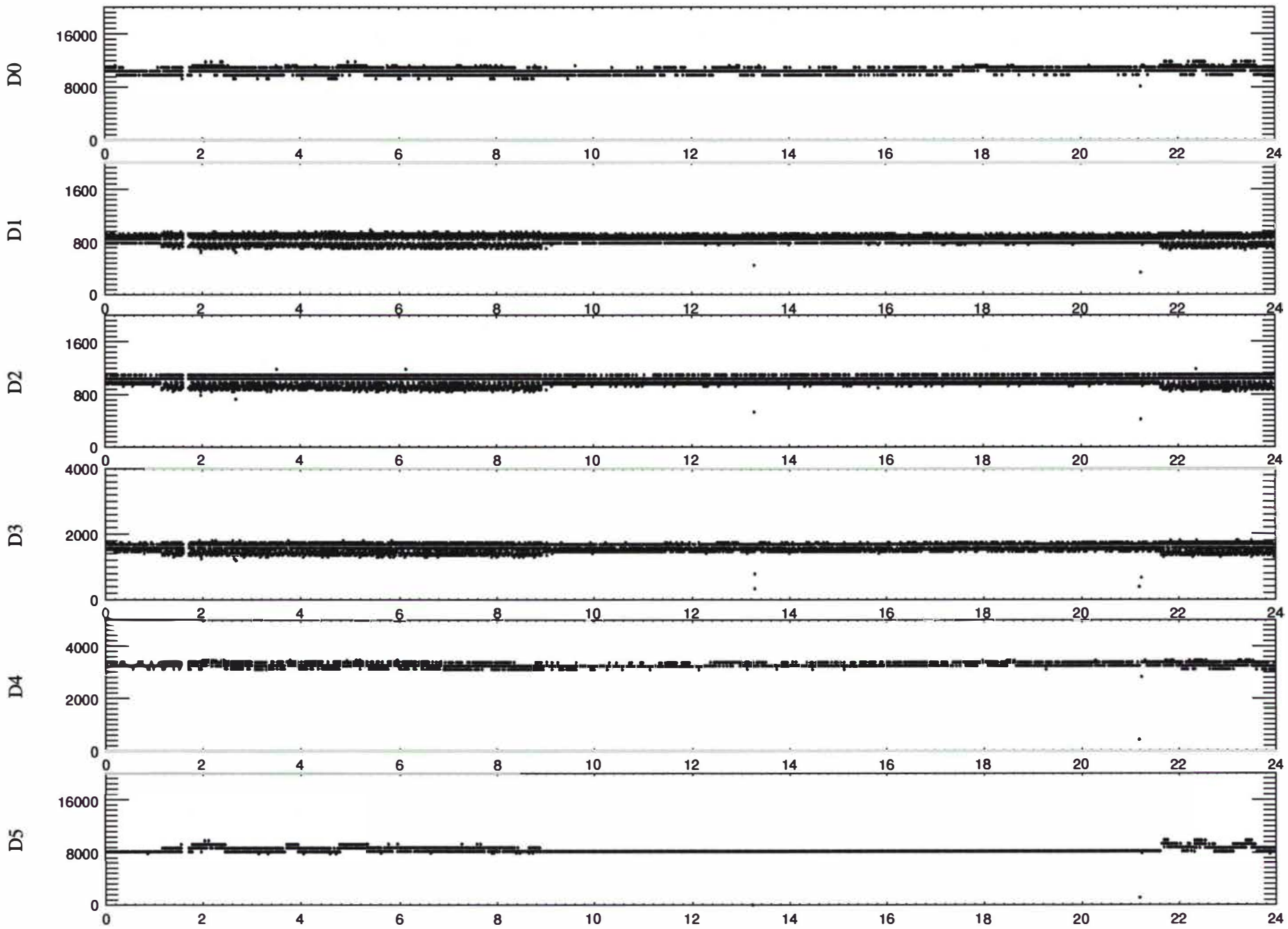
HUS 2A, MODE 1, NOT AVERAGED EDR day 54, year 1996 to day 54, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 54, year 1996 to day 54, year 1996 11/25/96



From SURASAK@SSLLES.MSFC.NASA.GOV Mon Feb 26 12:27 PST 1996
From: SURASAK@SSLLES.MSFC.NASA.GOV
Date: Mon, 26 Feb 1996 14:24:13 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 05006

TIME: TJD=0137 SECONDS=67333

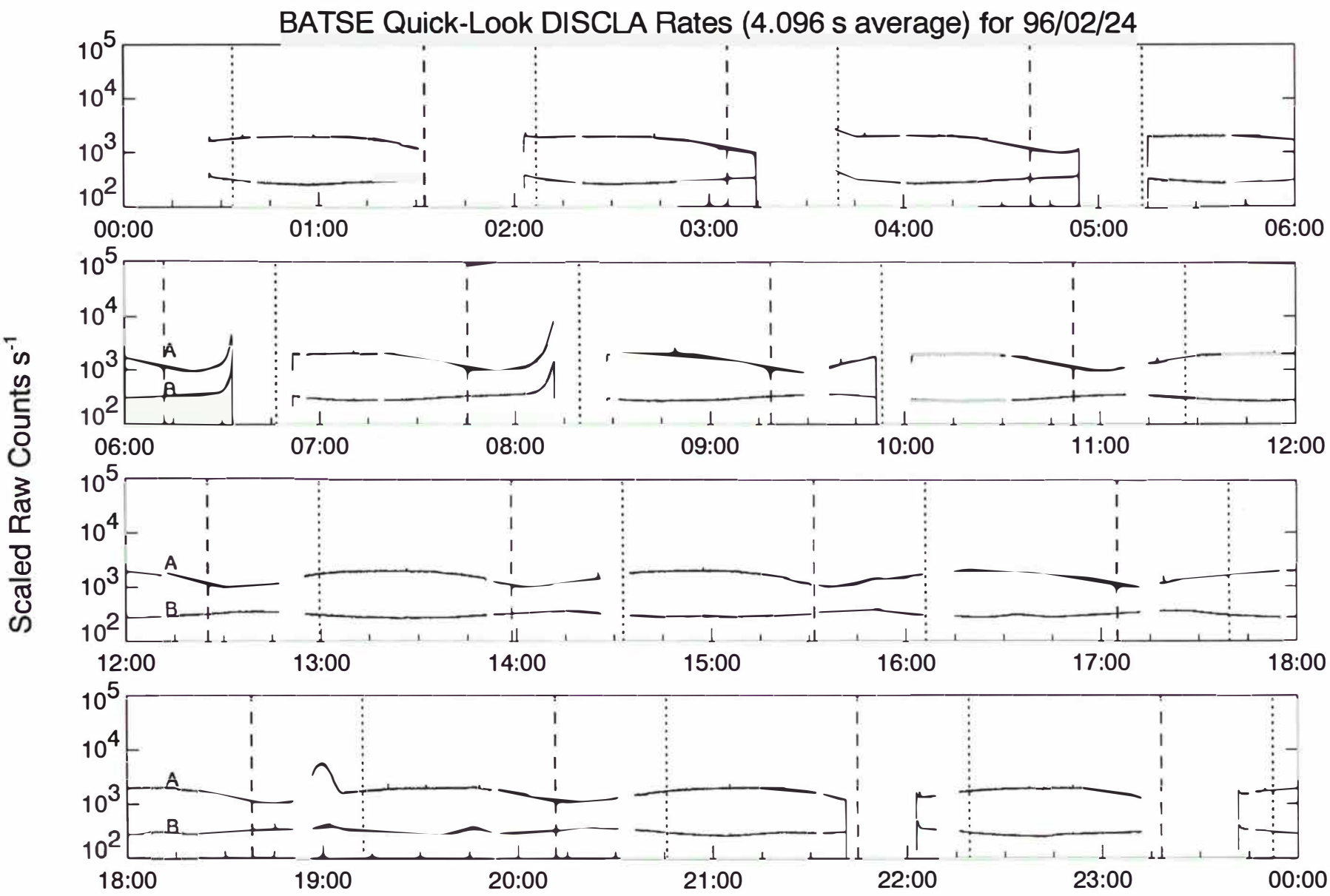
TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

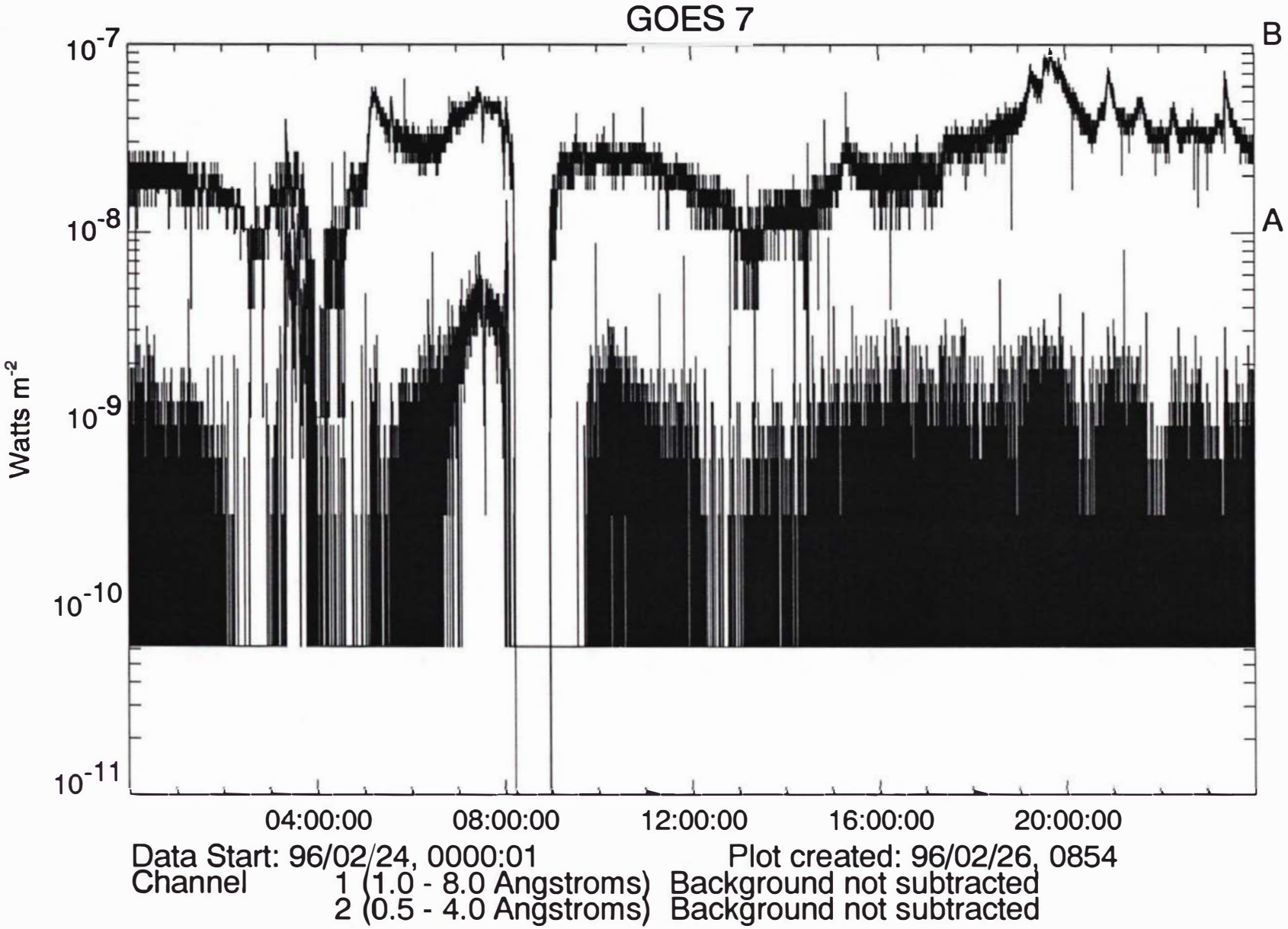
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

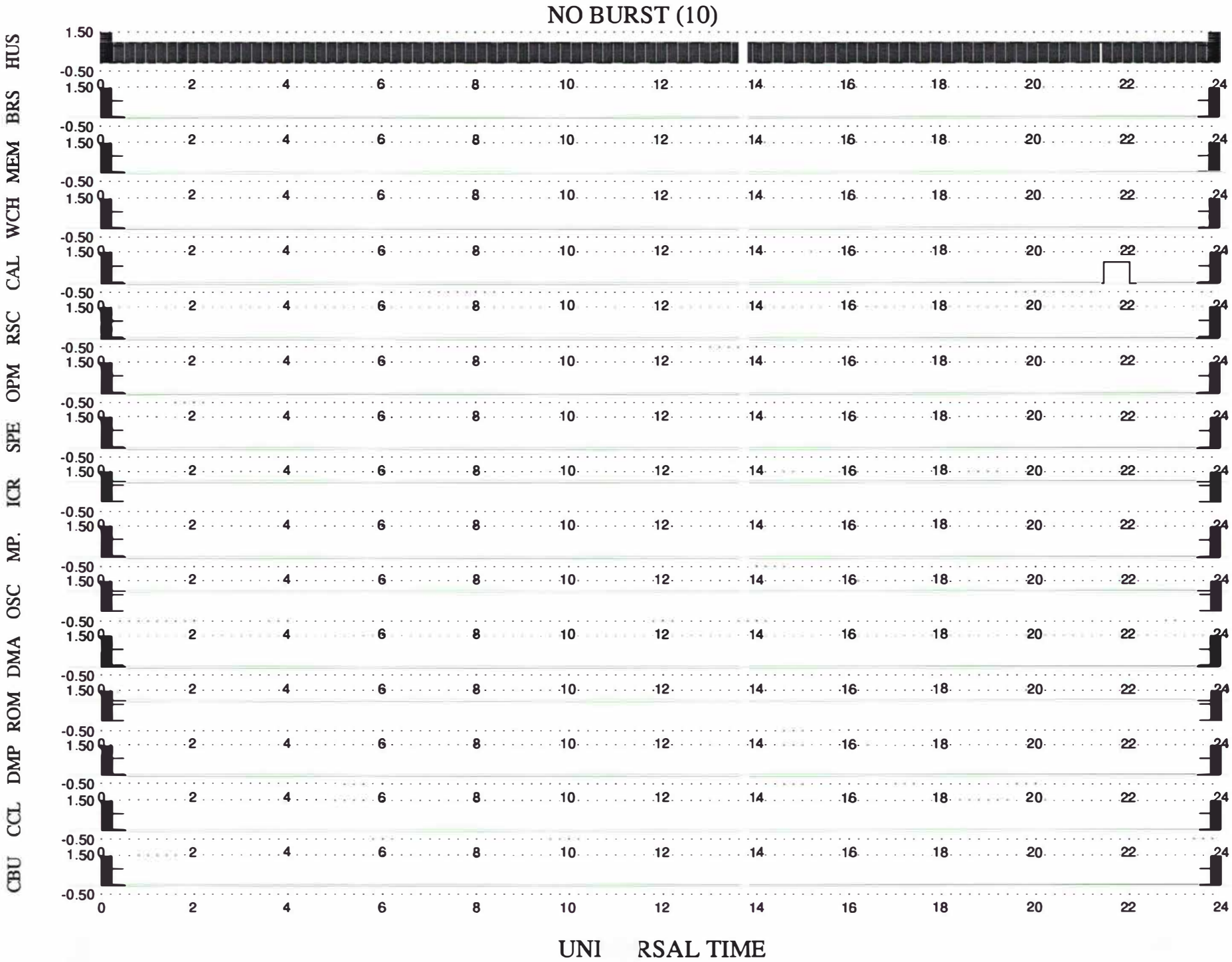
LOCATION: ZENITH=95.3 AZIMUTH=288.4 ERROR=008.5 DEGREES

COMMENTS:
TERRESTIAL GAMMA FLASH. DURATION < 0.064SEC.


BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/24
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
00:00
Current Time: 96/02/26, 0855 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

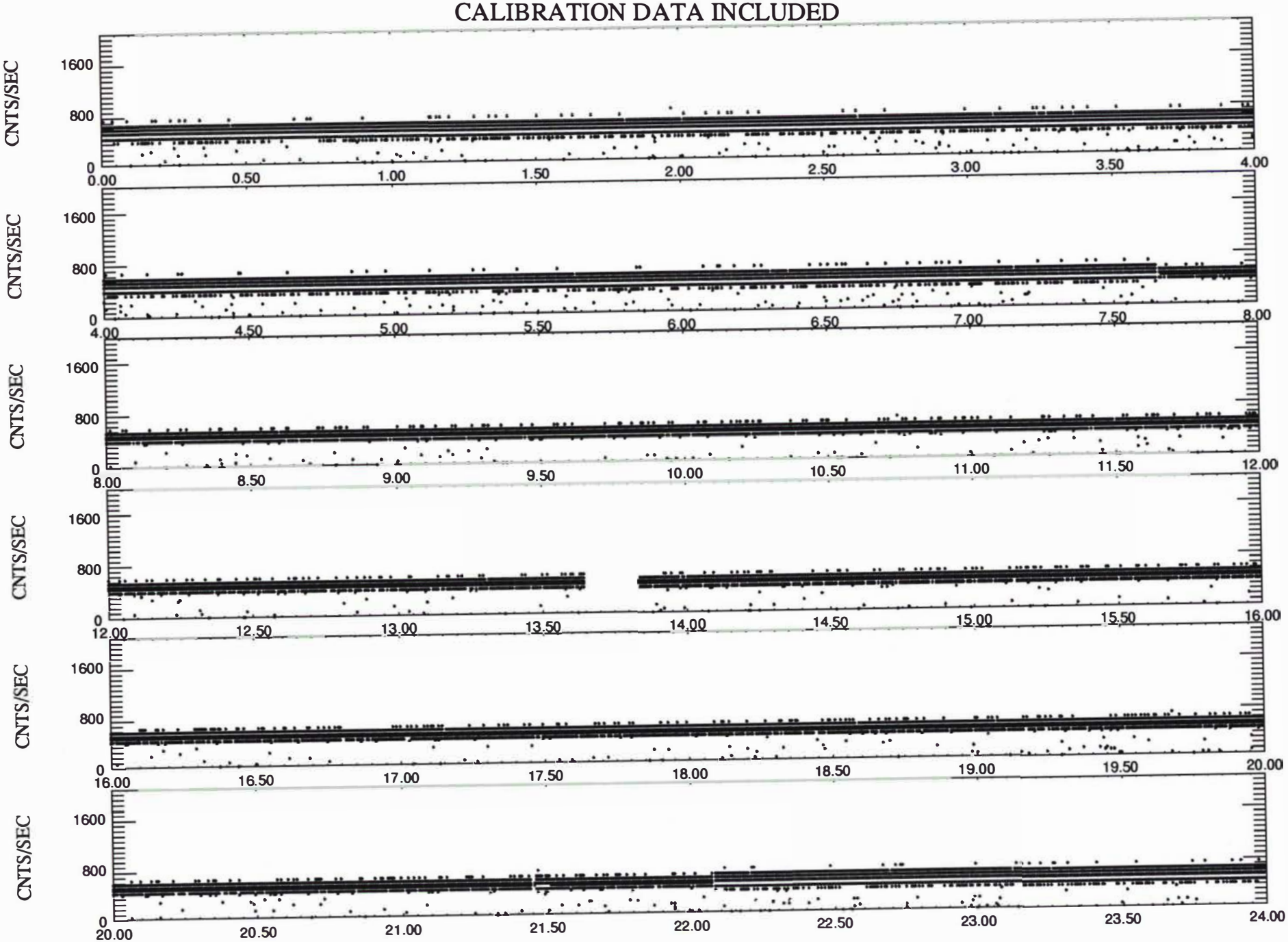

GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/24, 0000:01
Plot created: 96/02/26, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 55, year 1996 to day 55, year 1996 11/25/96



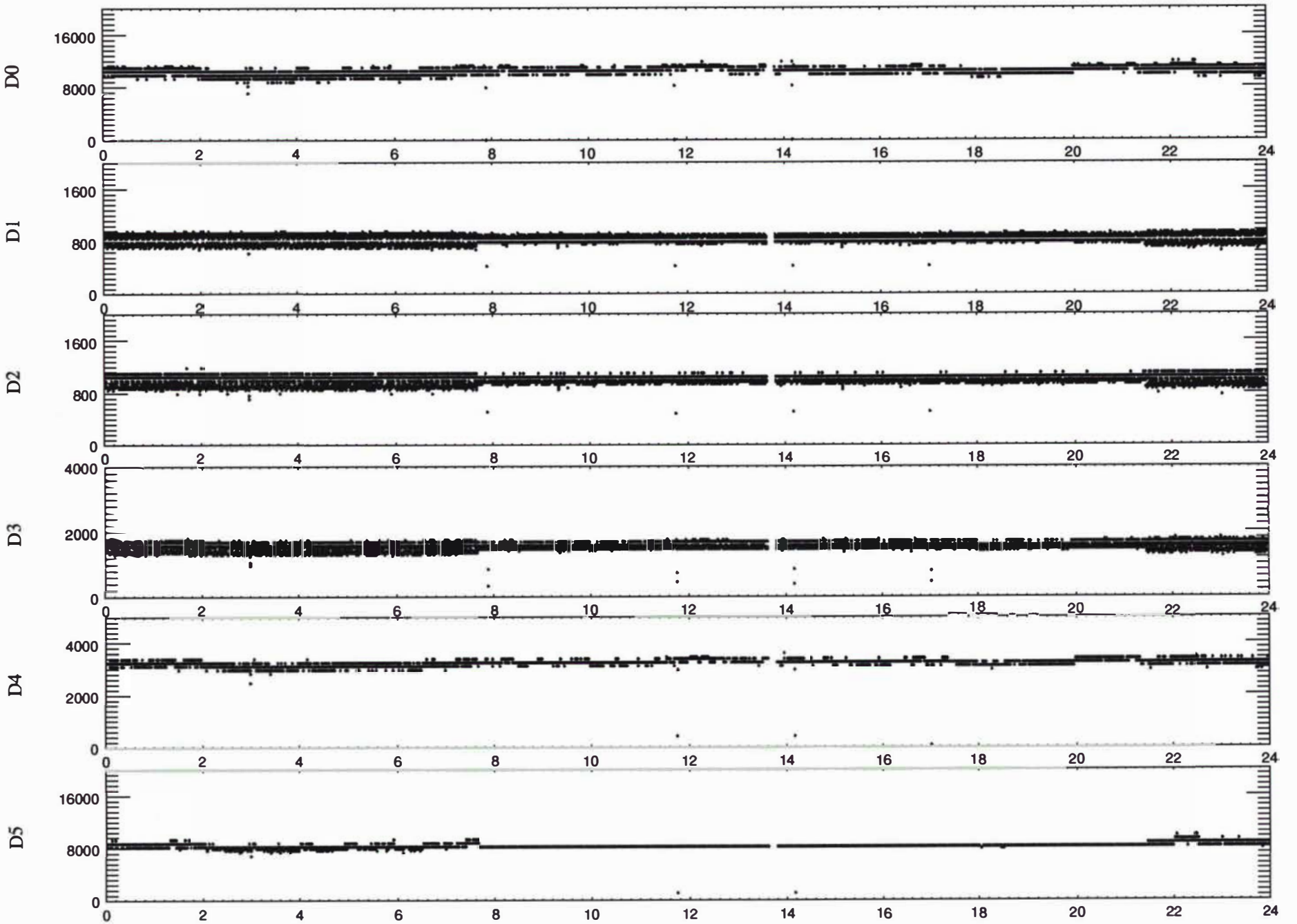
HUS 2A, MODE 1, NOT AVERAGED EDR day 55, year 1996 to day 55, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 55, year 1996 to day 55, year 1996 11/25/96



From DEAL@fender.msfc.nasa.gov Mon Feb 26 12:10 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Mon, 26 Feb 1996 14:08:50 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 5019

TIME: TJD=0138 SECONDS=59793

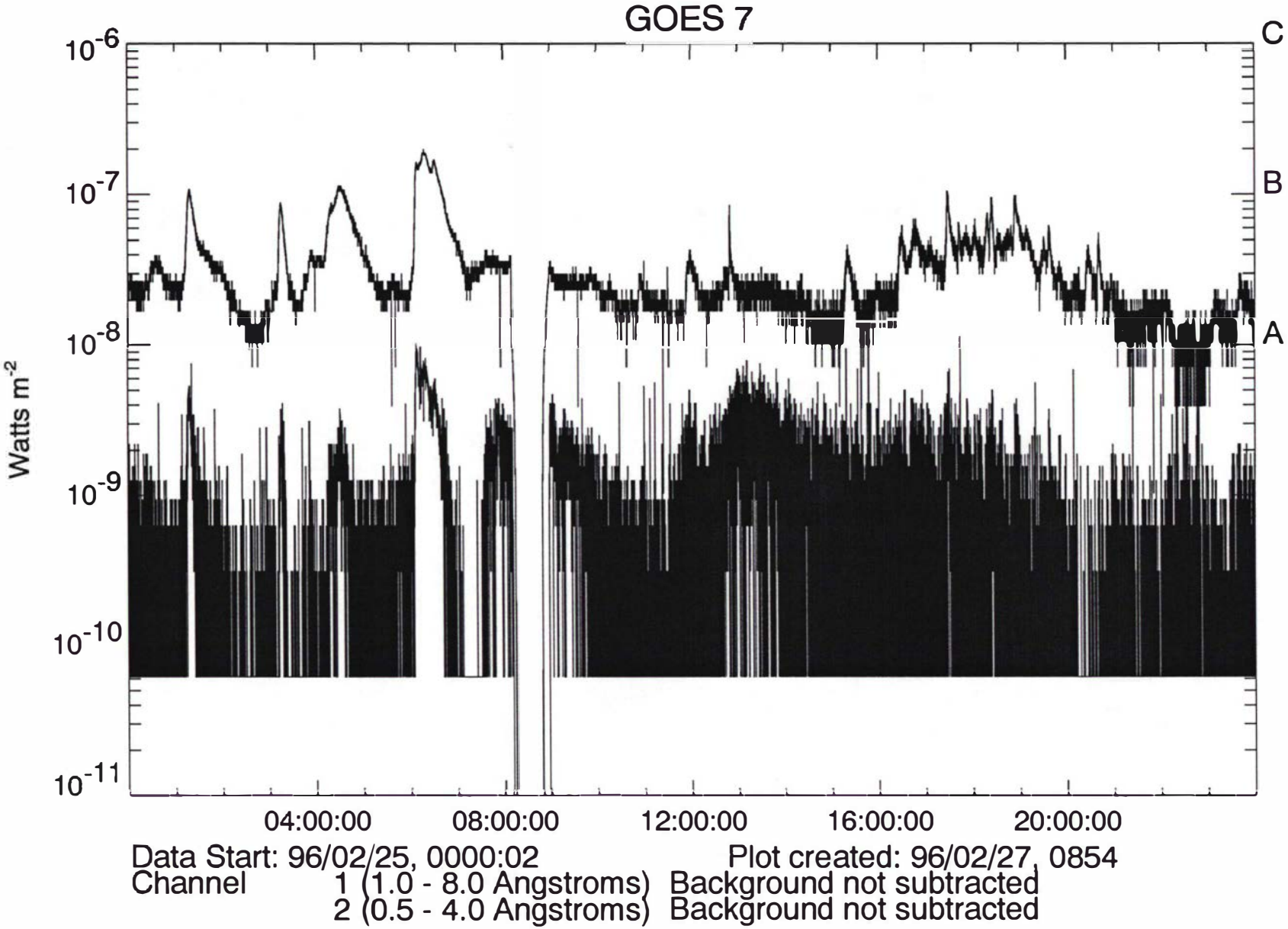
TYPE: ELECTRO SOLAR FLARE TRIGGER SIGNAL:N

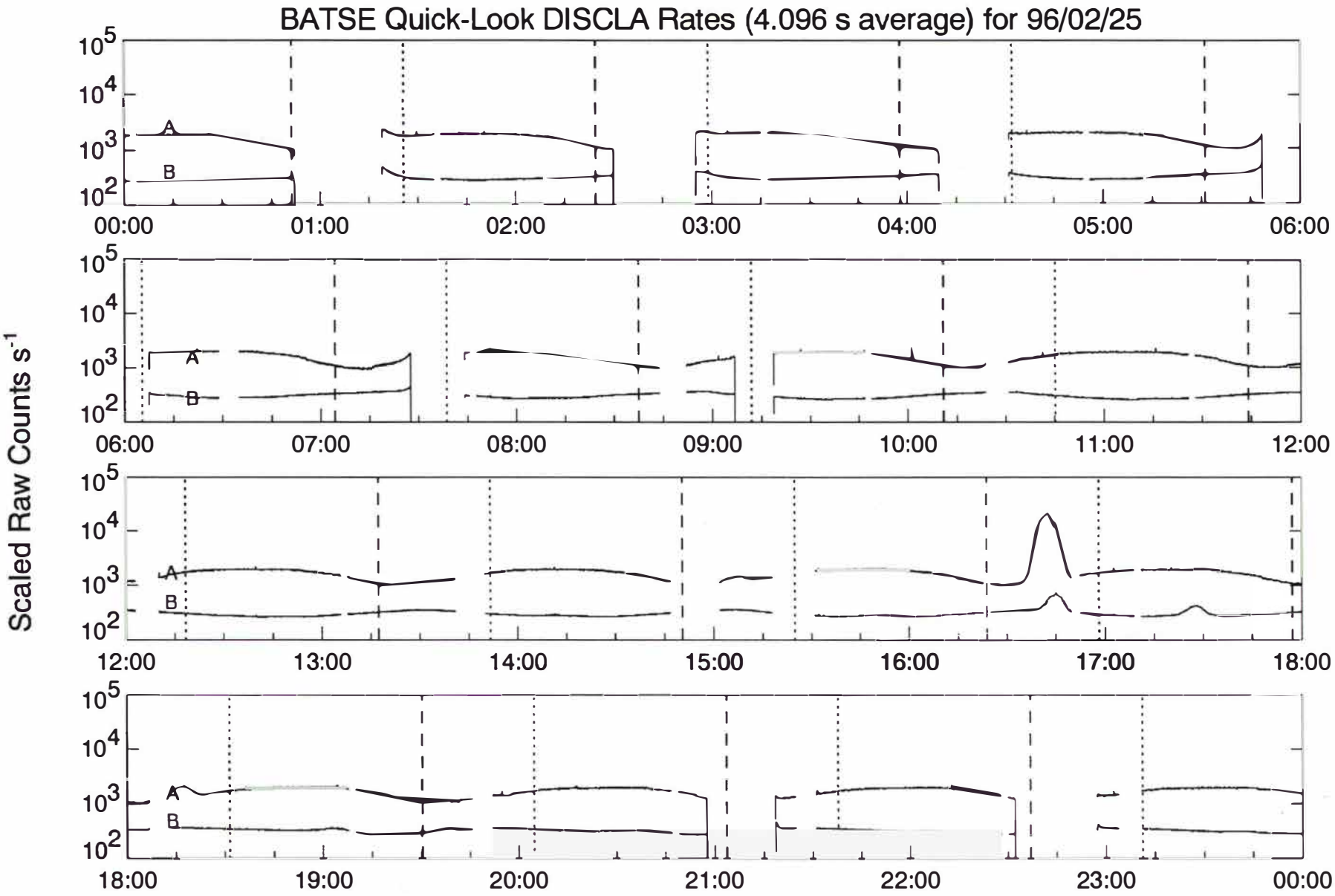
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
ELECTRON EVENT


GOES 7
C
B
A
10^{-6}
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/25, 0000:02
Plot created: 96/02/27, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted



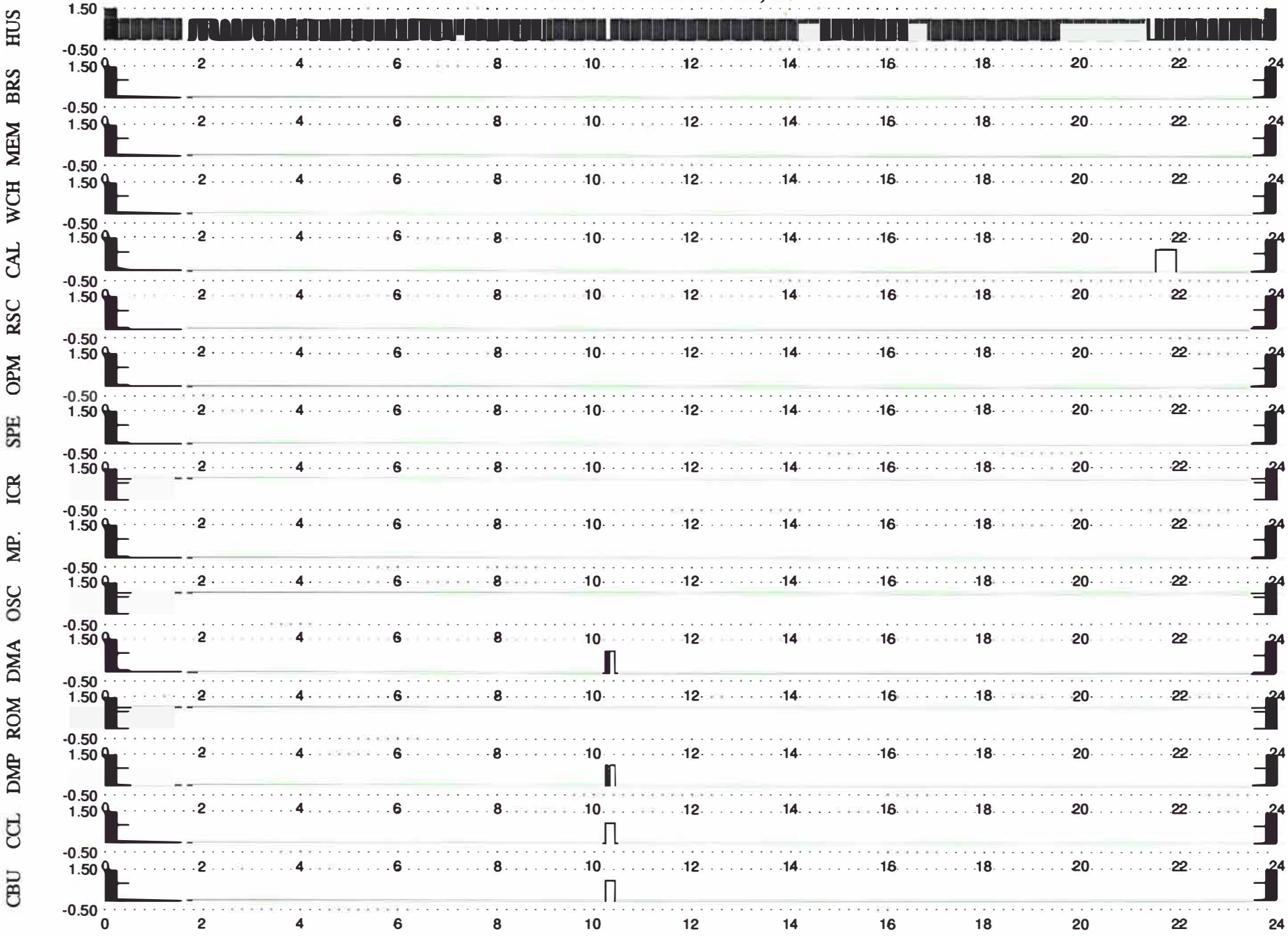
Current Time: 96/02/27, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare

HUS MODES EDR day 56, year 1996 to day 56, year 1996 11/25/96

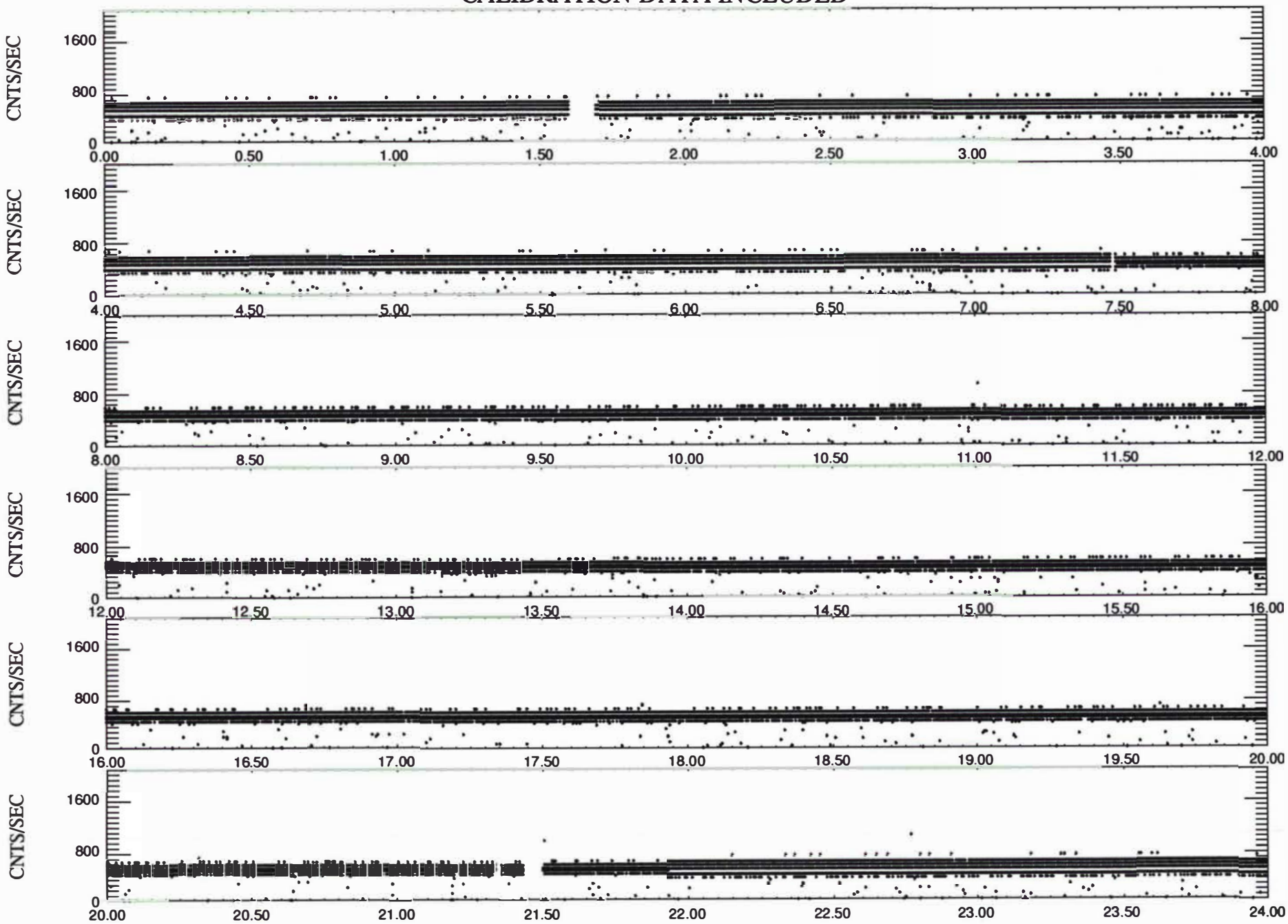
BURST NUMBER 15, 10



UN. RSAL TIME

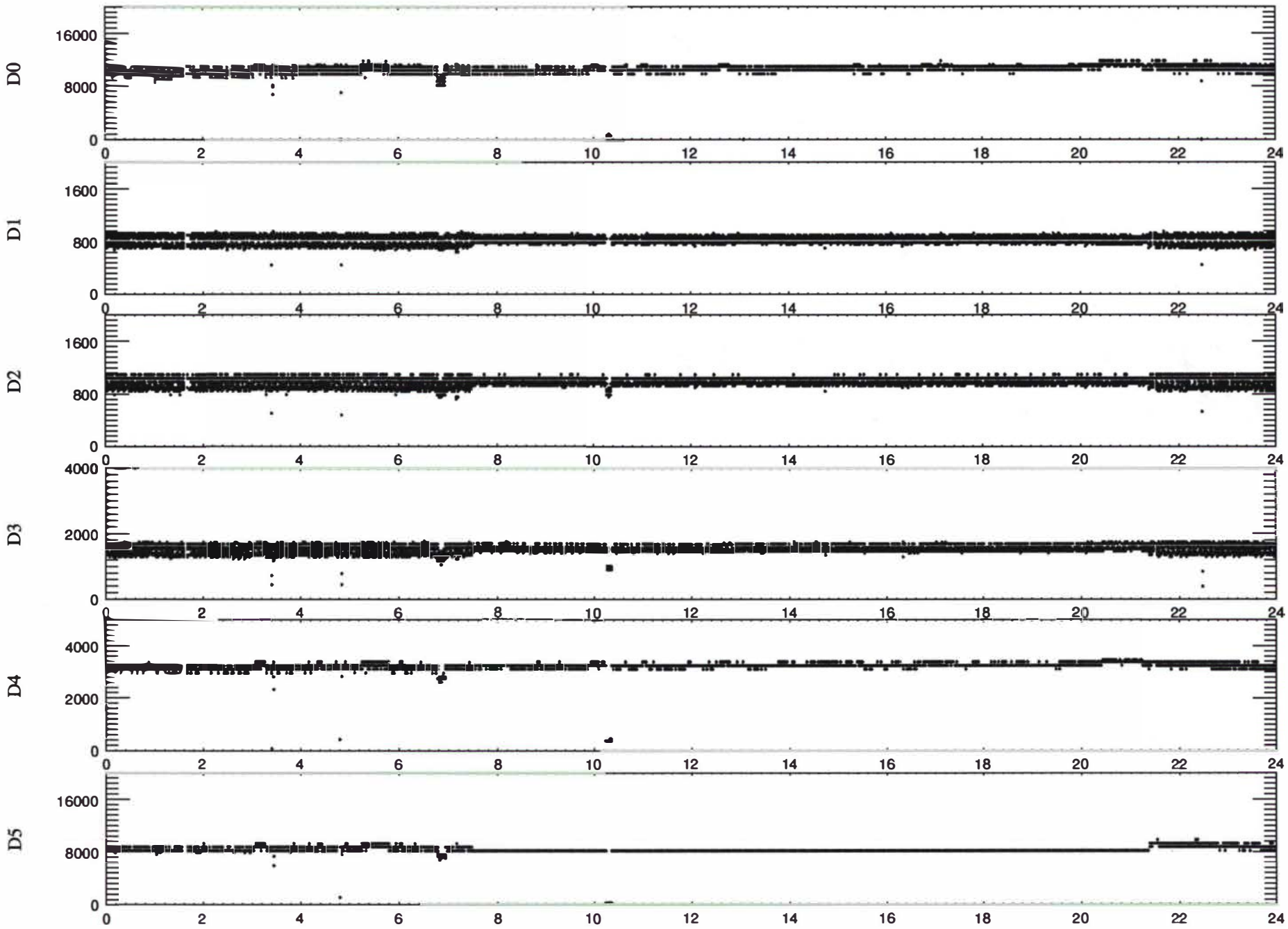
HUS 2A, MODE 1, NOT AVERAGED EDR day 56, year 1996 to day 56, year 1996 11/25/96

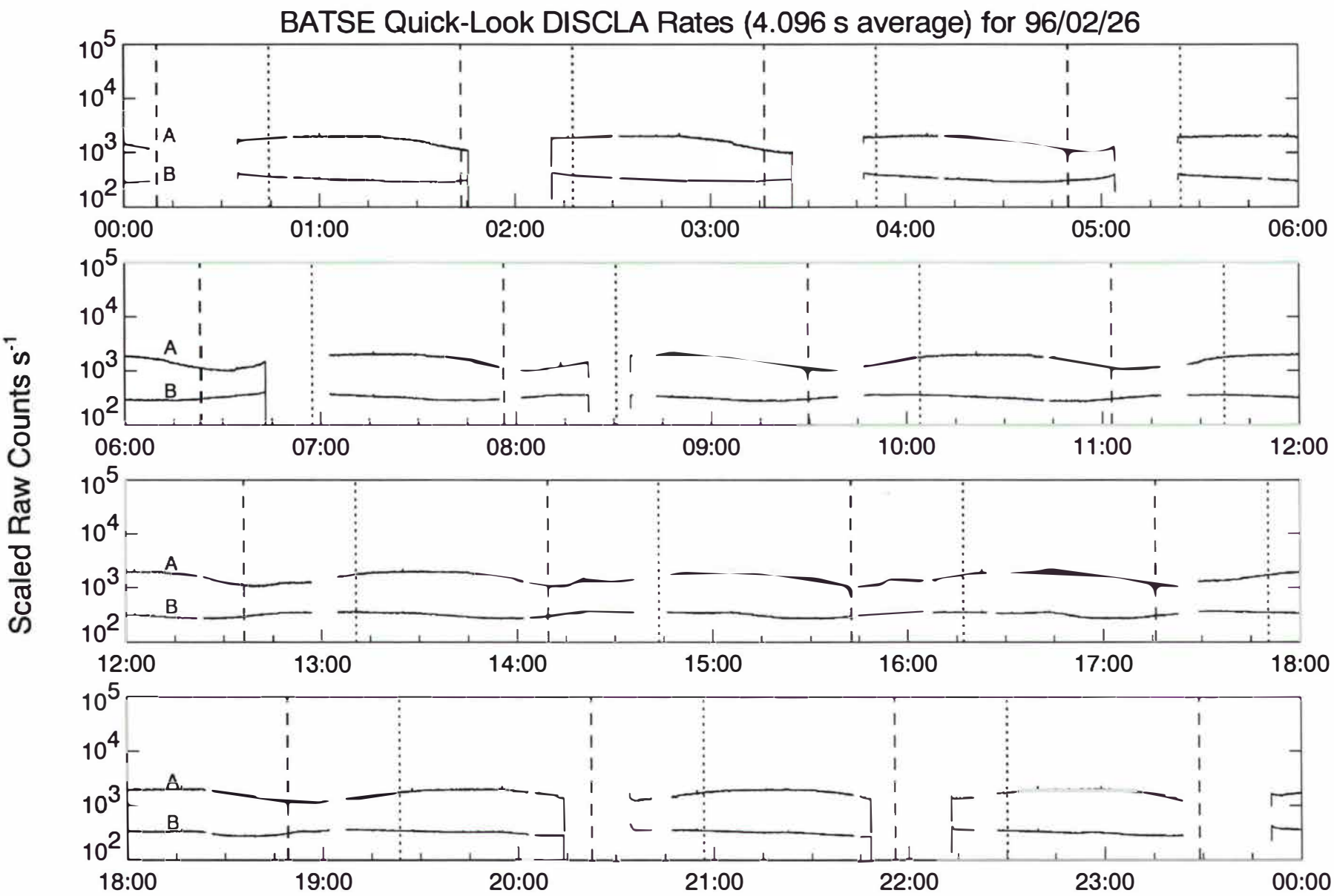
CALIBRATION DATA INCLUDED



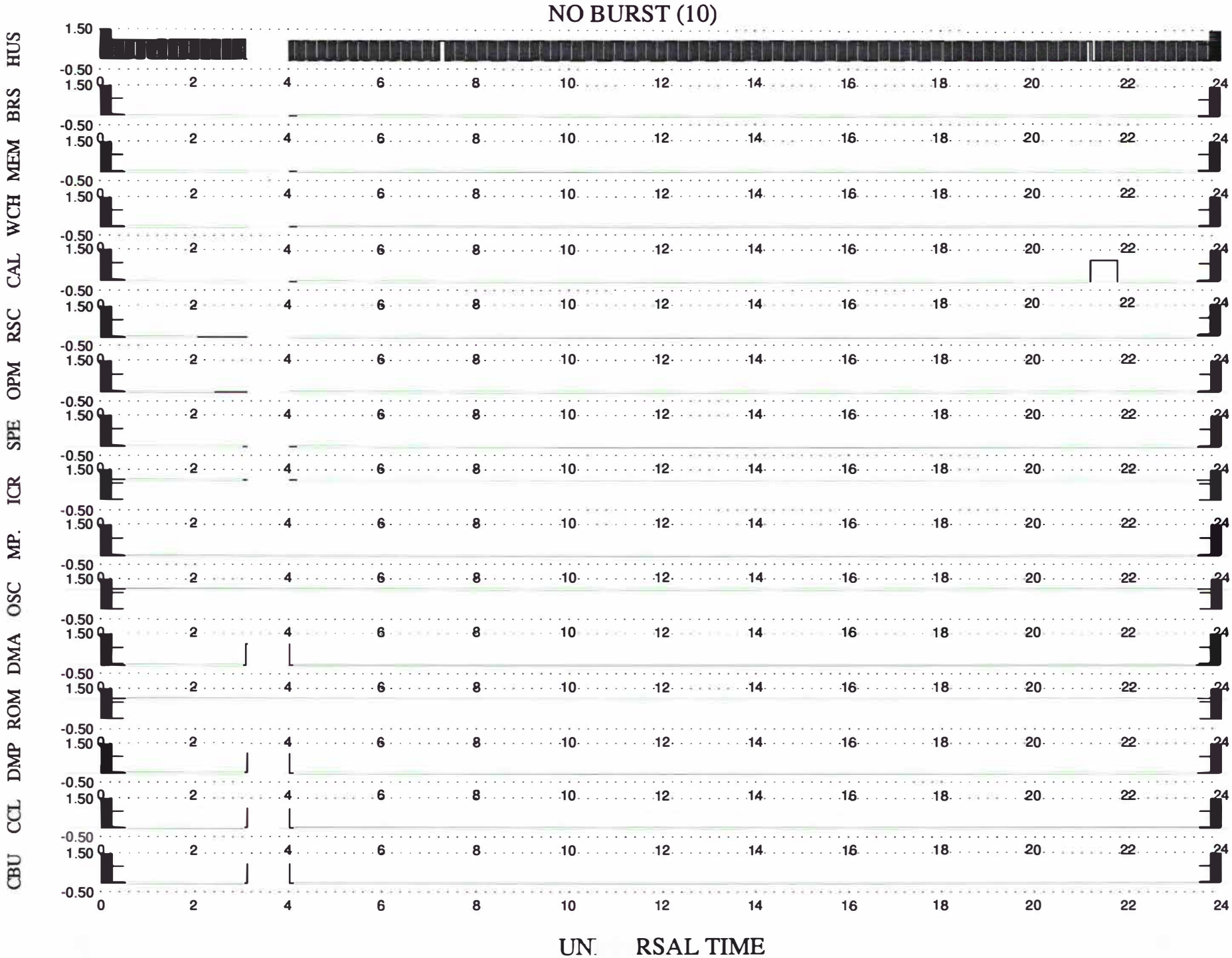
UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 56, year 1996 to day 56, year 1996 11/25/96



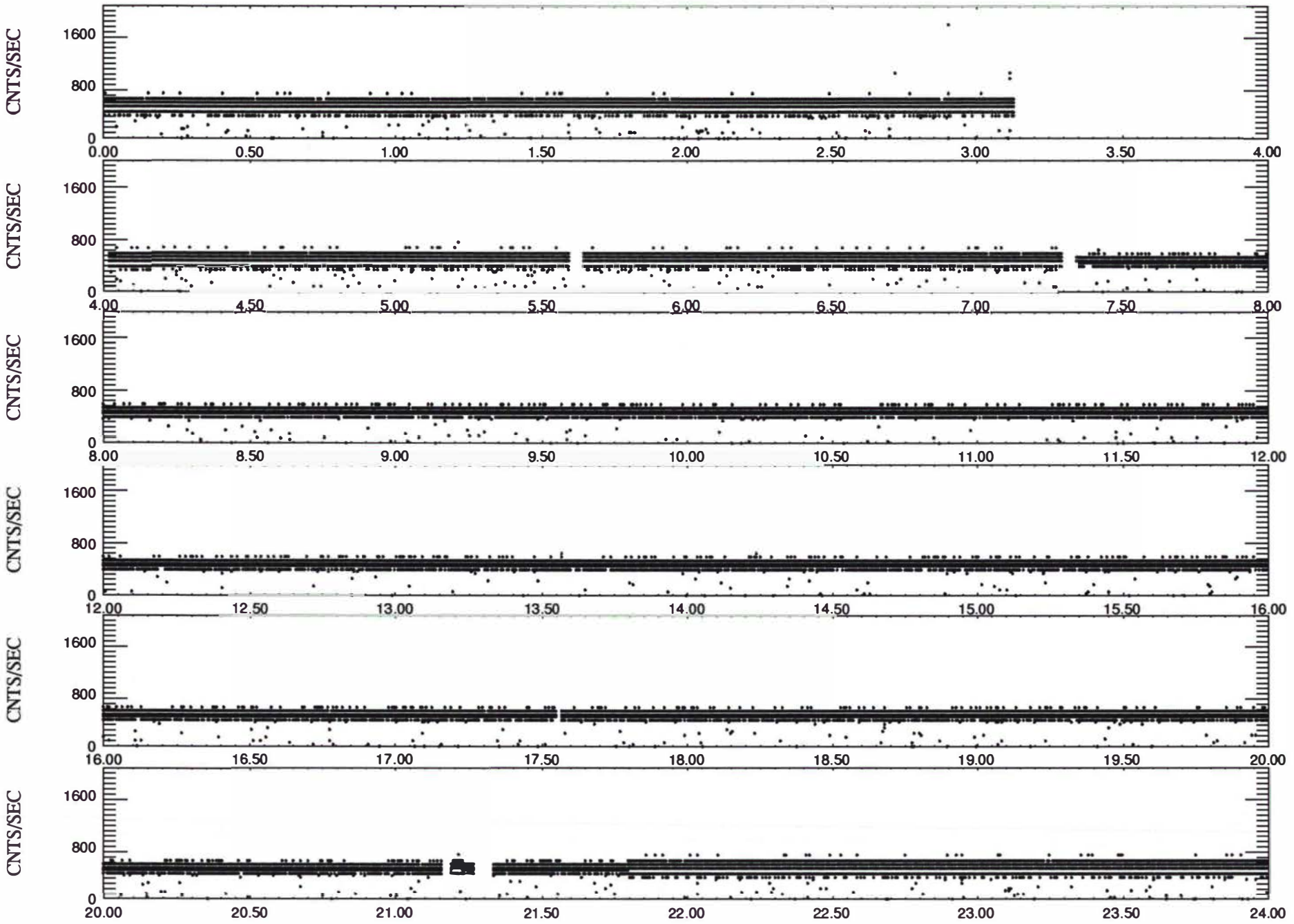

BATSE Quick-Look DISCLA Rates (4.096 s average) for 96/02/26
Scaled Raw Counts s-1
10^5
10^4
10^3
10^2
A
B
00:00
01:00
02:00
03:00
04:00
05:00
06:00
06:00
07:00
08:00
09:00
10:00
11:00
12:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
Current Time: 96/02/28, 0855 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 57, year 1996 to day 57, year 1996 11/25/96



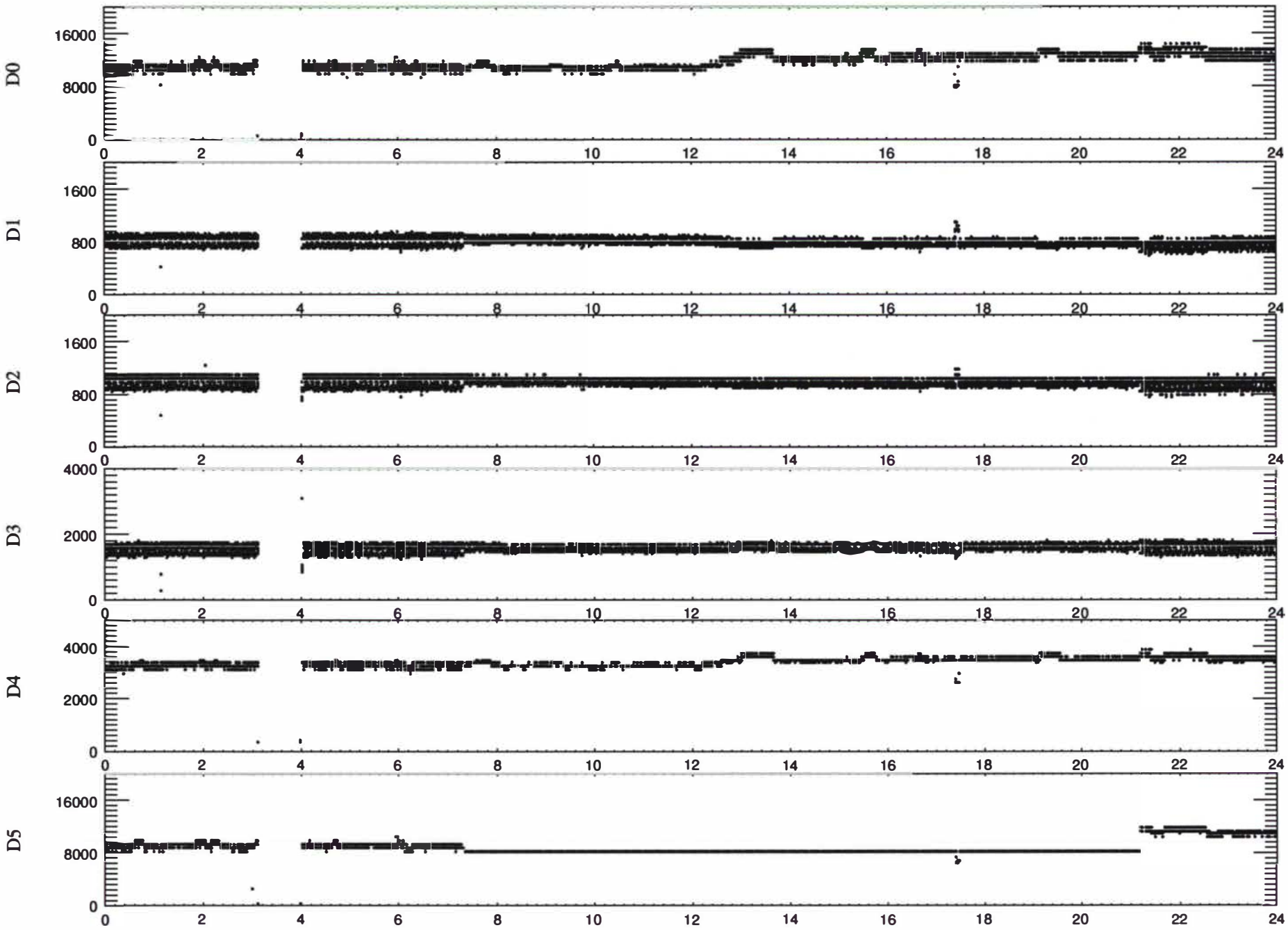
HUS 2A, MODE 1, NOT AVERAGED EDR day 57, year 1996 to day 57, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 57, year 1996 to day 57, year 1996 11/25/96



From SURASAK@SSLLES.MSFC.NASA.GOV Thu Feb 29 07:20 PST 1996
Date: Thu, 29 Feb 1996 9:19:28 -0600 (CST)
From: SURASAK@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 05046

TIME: TJD=0140 SECONDS=49027

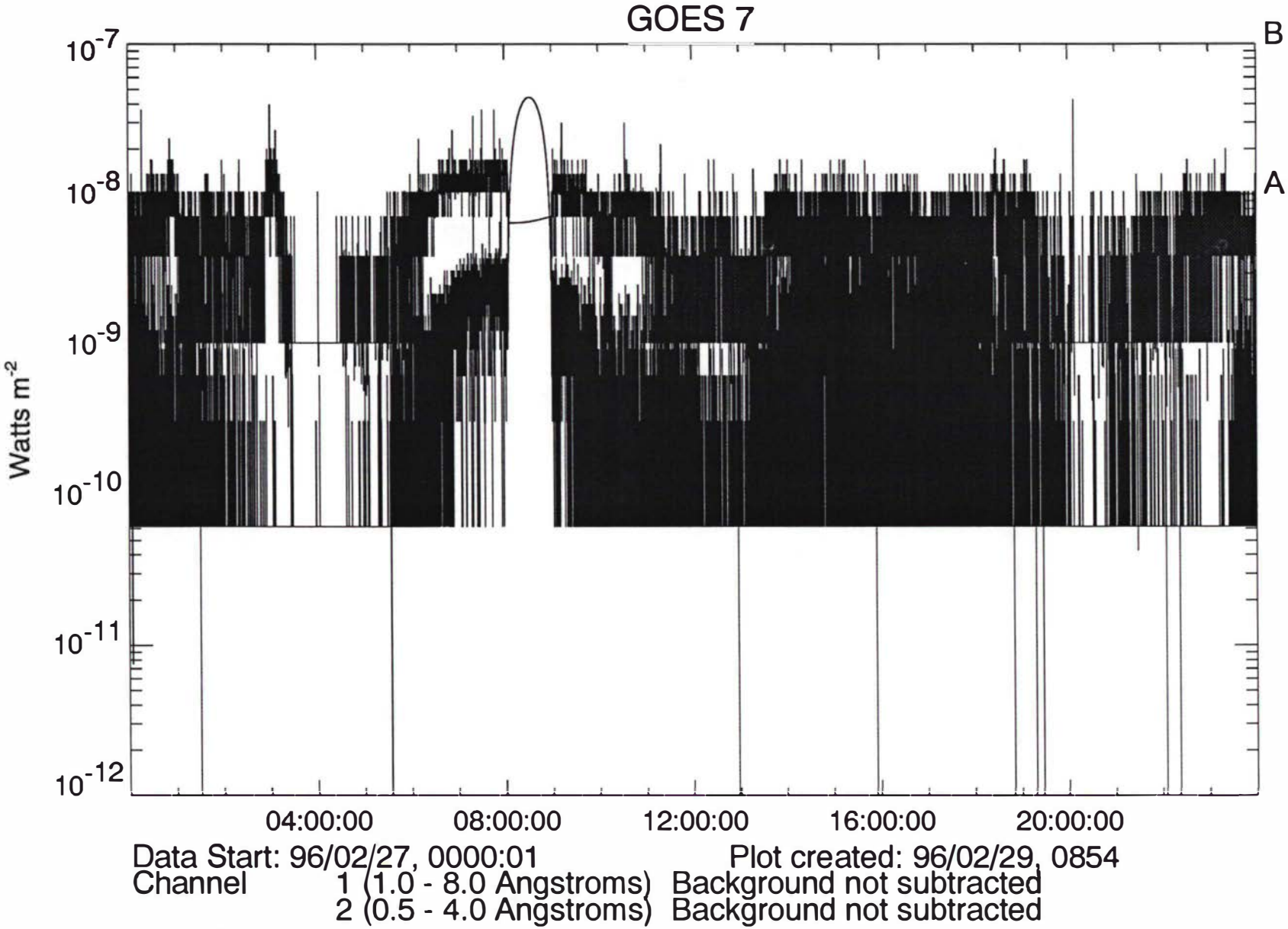
TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

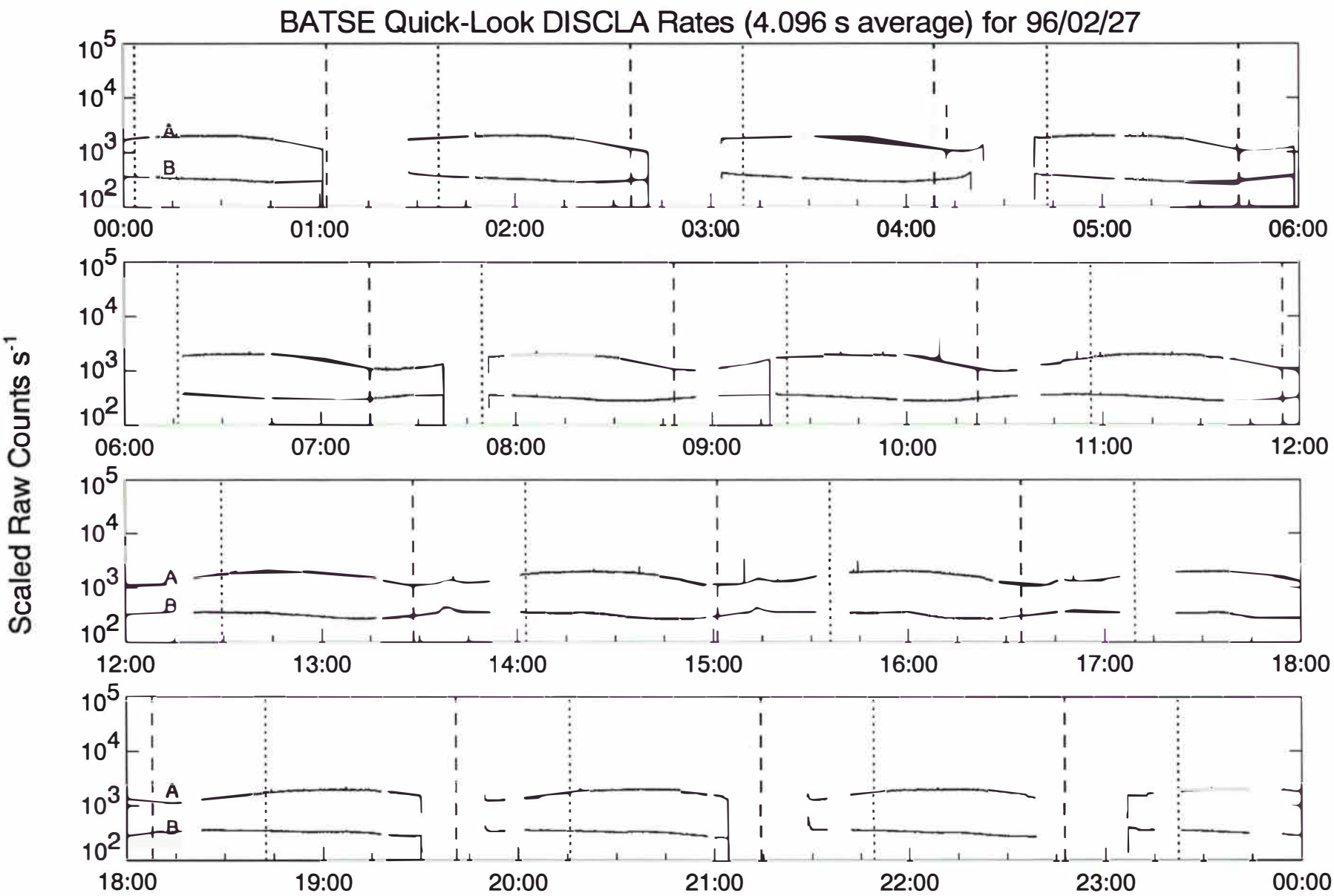
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
10^{-12}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/27, 0000:01
Plot created: 96/02/29, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

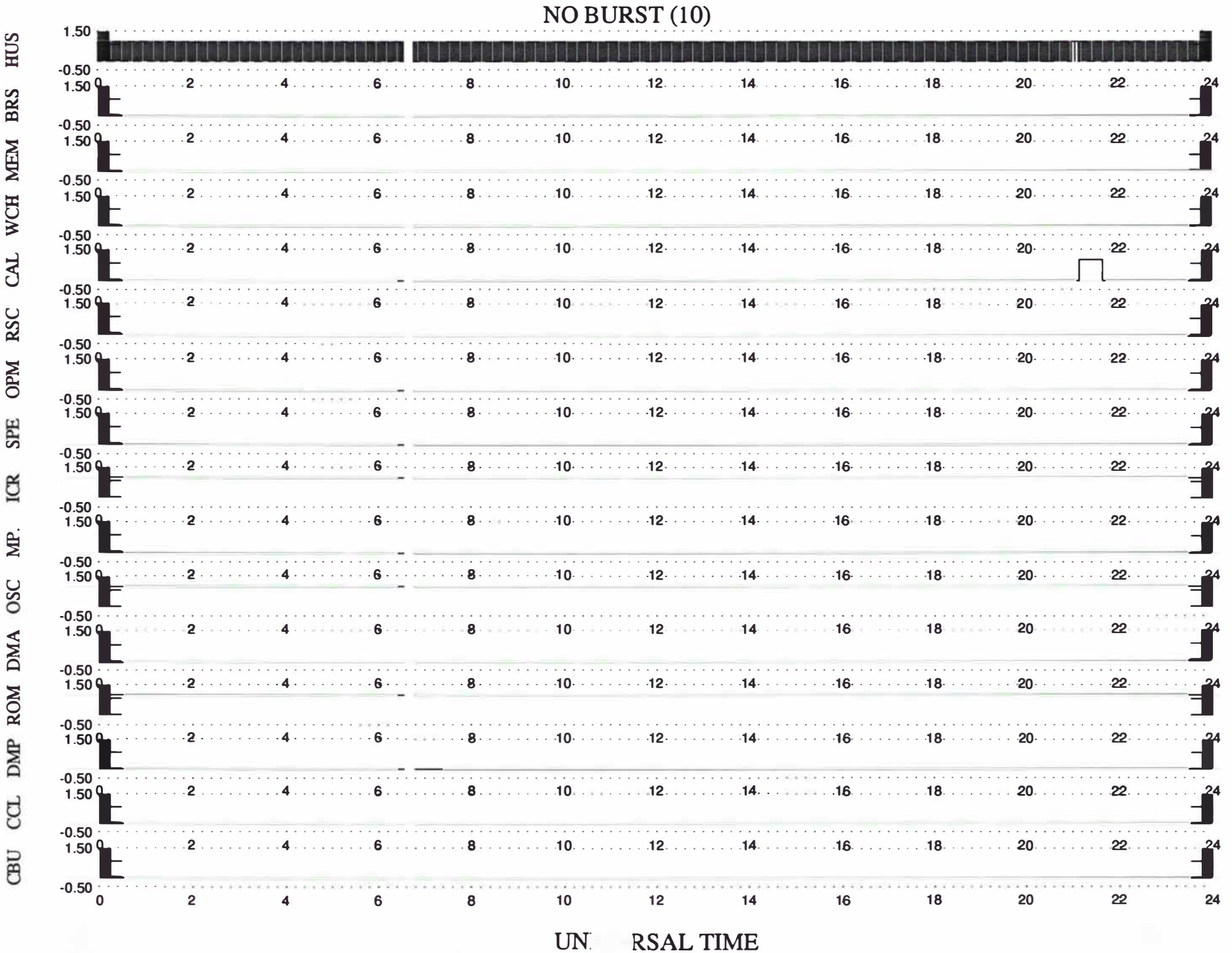


Current Time: 96/02/29, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

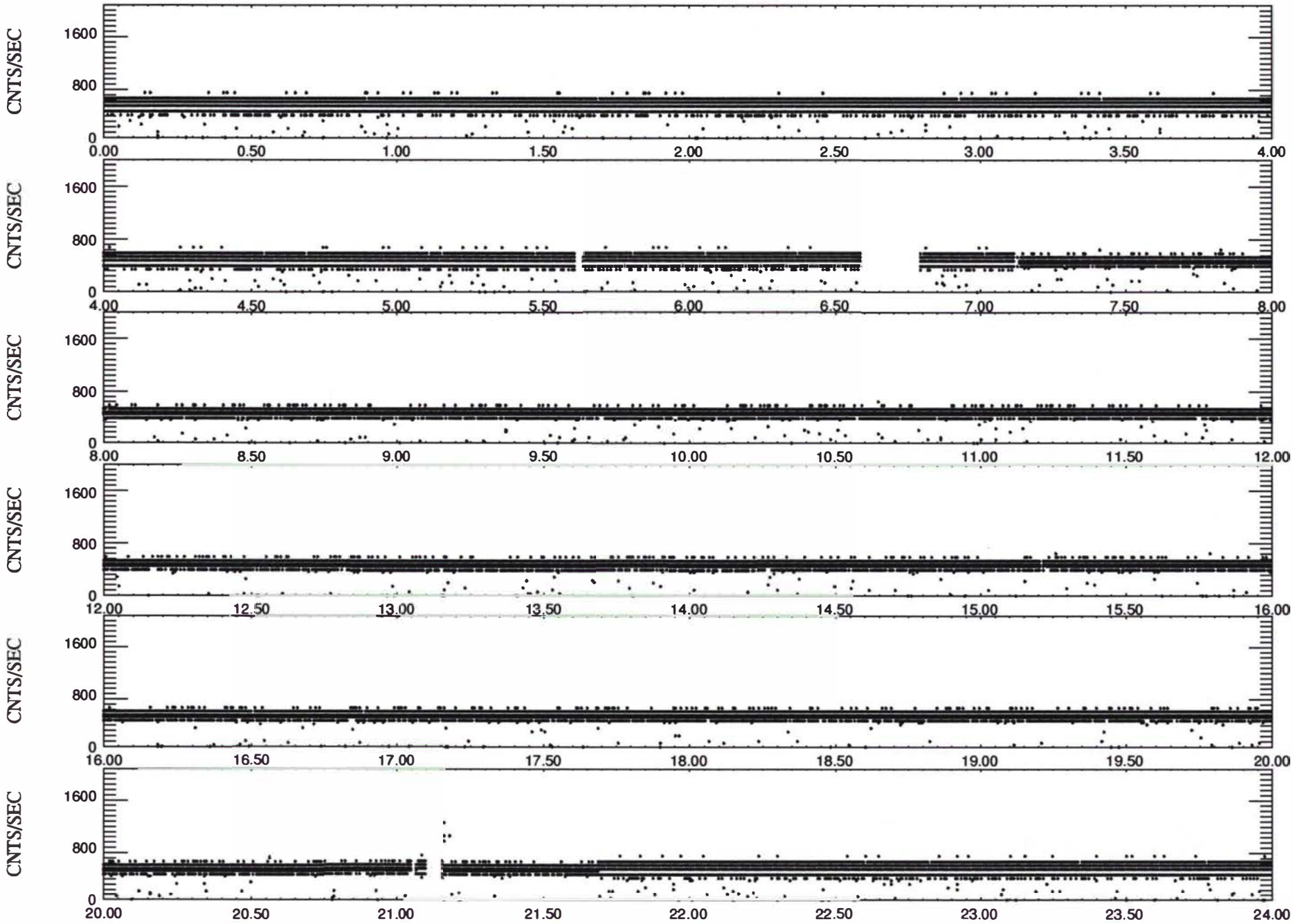
* Solar Burst Trigger
\+ Solar Flare

HUS MODES EDR day 58, year 1996 to day 58, year 1996 11/25/96



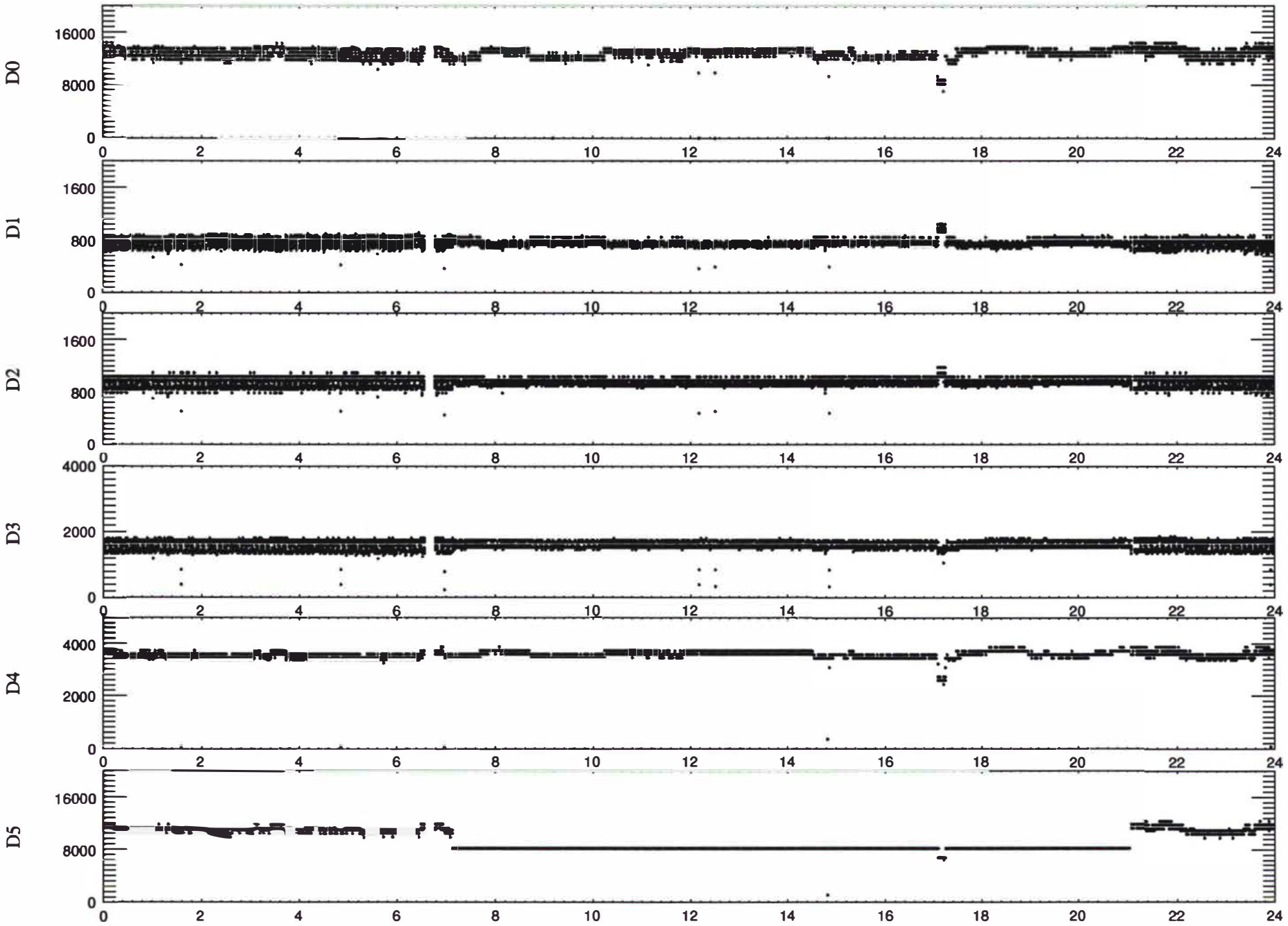
HUS 2A, MODE 1, NOT AVERAGED EDR day 58, year 1996 to day 58, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 58, year 1996 to day 58, year 1996 11/25/96



From WOODSP@SSLLES.MSFC.NASA.GOV Thu Feb 29 08:29 PST 1996
Date: Thu, 29 Feb 1996 10:29:19 -0600 (CST)
From: WOODSP@ssl.msfc.nasa.gov
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 5058

TIME: TJD=0141 SECONDS=46311

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From BUTTERWORTH@LHEAVX.GSFC.NASA.GOV Mon Mar 4 14:28 PST 1996
From: BUTTERWORTH@LHEAVX.GSFC.NASA.GOV
Date: Mon, 4 Mar 1996 17:25:36 -0500 (EST)
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, CLINE@LHEAVX.GSFC.NASA.GOV,
scott@rosserv.gsfc.nasa.gov, TEEGARDEN@LHEAVX.GSFC.NASA.GOV
CC: BUTTERWORTH@LHEAVX.GSFC.NASA.GOV
Subject: Konus saw the Ulysses burst of 28 February

Kevin,

I'm sorry this one took me a while to get to. Konus triggered at 23:49:20.241 UT on the 28th. It was an intense hard event lasting 3 seconds, with 8 peaks visible above 50 kev.

Paul.

Date: Sat, 2 Mar 1996 11:57:08 -0800
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <9603021957.AA08784@charybdis.>
To: butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
jterrell@lanl.gov, khurley@sunspot.ssl.berkeley.edu,
kmarar@isac.ernet.in, scott@lheamail.gsfc.nasa.gov,
teegarden@lheavx.gsfc.nasa.gov, yosimori@rikkyo.ac.jp

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses triggered on an intense, 5s long event February 28 1995 around 23:55 UT at Ulysses. The spacecraft was about 1400 light-seconds from Earth.

Was this event detected by anyone else?

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

From TERRELL@nisdp0.lanl.gov Wed Apr 17 14:15 PDT 1996
From: TERRELL@nisdp0.lanl.gov
Date: Wed, 17 Apr 1996 15:15:03 -0600 (MDT)
To: khurley@sunspot.ssl.berkeley.edu
bject: grb960228

From: jterrell@lanl.gov (James Terrell) 960417
To: khurley@sunspot.ssl.berkeley.edu,butterworth@lheavx.gsfc.nasa.gov,
cline@lheavx.gsfc.nasa.gov,kmarar@isac.ernet.in,
scott@rosserv.gsfc.nasa.gov,teegarden@lheavx.gsfc.nasa.gov,
yosimori@rikkyo.ac.jp
Subj: DMSP GRB detections

DMSP 12 and 13 did not detect the ULYSSES grb of Oct 22 1995 at 09:05 UT.
nor the ULYSSES event of Oct 31 at 01:22. In any such case, of course,
a weak detection might be missed, with 2800 seconds of data to scan.

DMSP 13 apparently made a weak detection of the intense ULYSSES event of Dec 12 at
07:54 UT, with a peak 2-sec count of 30/sec at 29651.5 UT, not totally convincing.
DMSP 12 saw nothing of interest here.

DMSP 13 also did not detect the KONUS event of Dec 27 at 23005 UT. DMSP 12 had a
weak (50/sec) peak at 22996.2 UT. Since it was soft (<100 keV) and not quite at the
right time it may be of no interest.

DMSP 12 and 13 both detected the ULYSSES/KONUS event of Feb 28, with peaks at 85762 UT.
The event lasted <2 sec for DMSP 13, and <4 sec for DMSP 12, with a peak counting rate
of more than 1000/sec. The time resolution of 2 sec does not allow further detail in
the time history.

e delay in reporting this last event is partly due to an office move to a different
building, and partly due to a trip to Houston from which I have just returned.--Jim

Date: Sep 16 2015

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?

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?

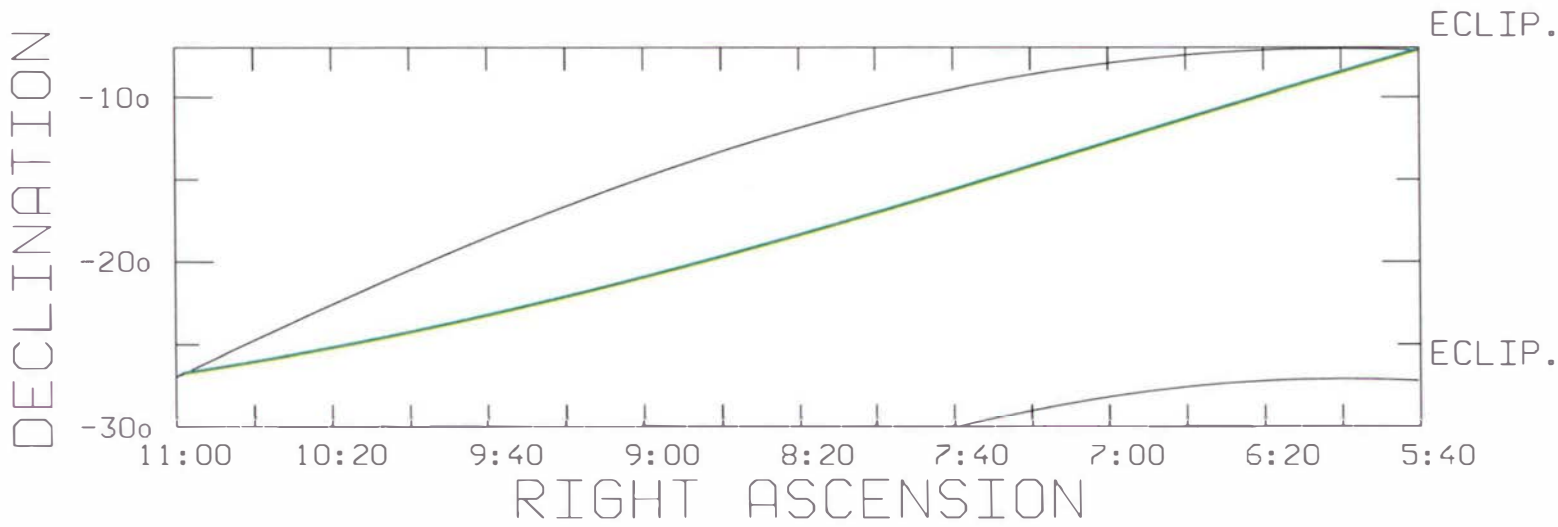
3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

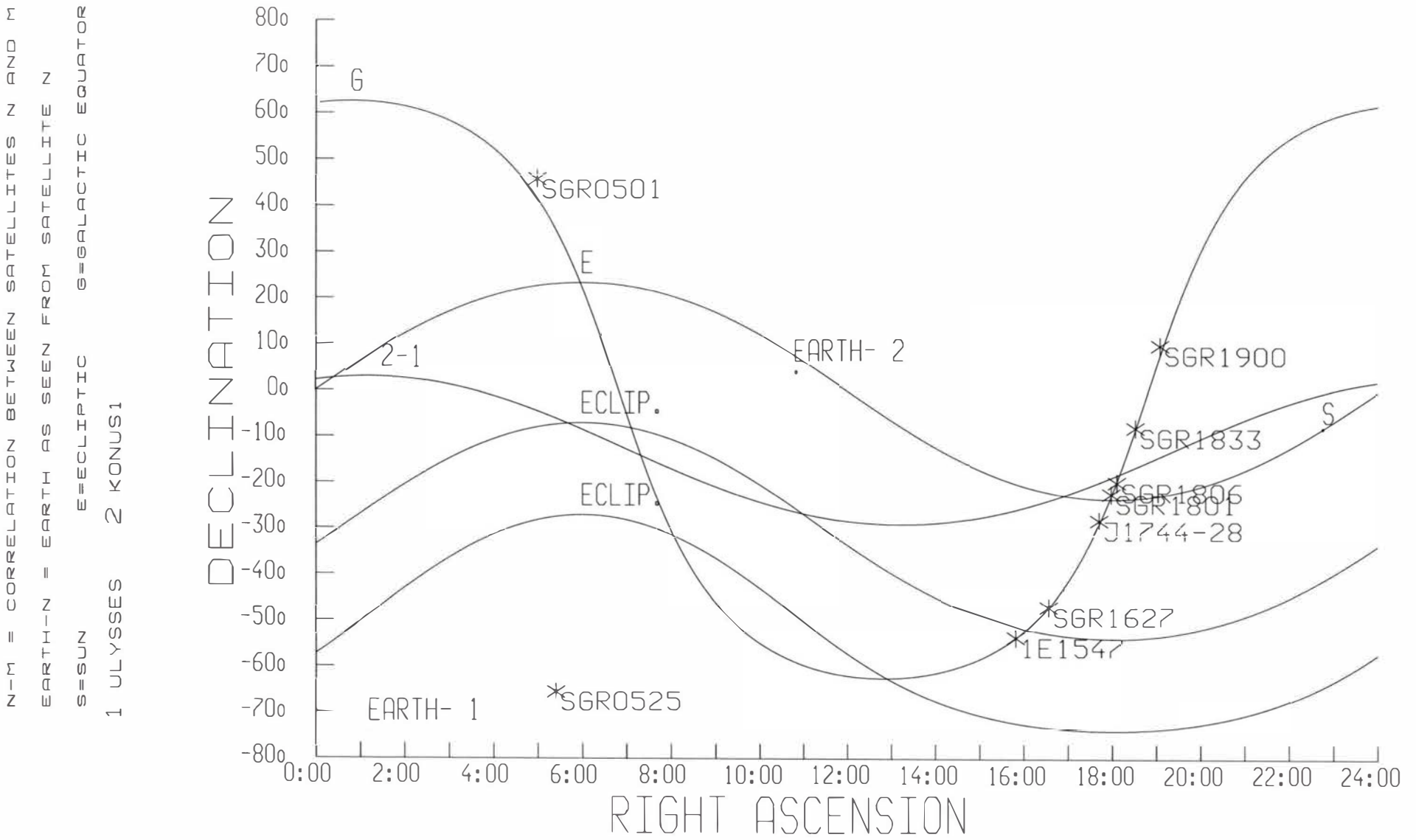
☐ Geocentric time used?

☑ ACCESS and MBL databases updated with identical times?

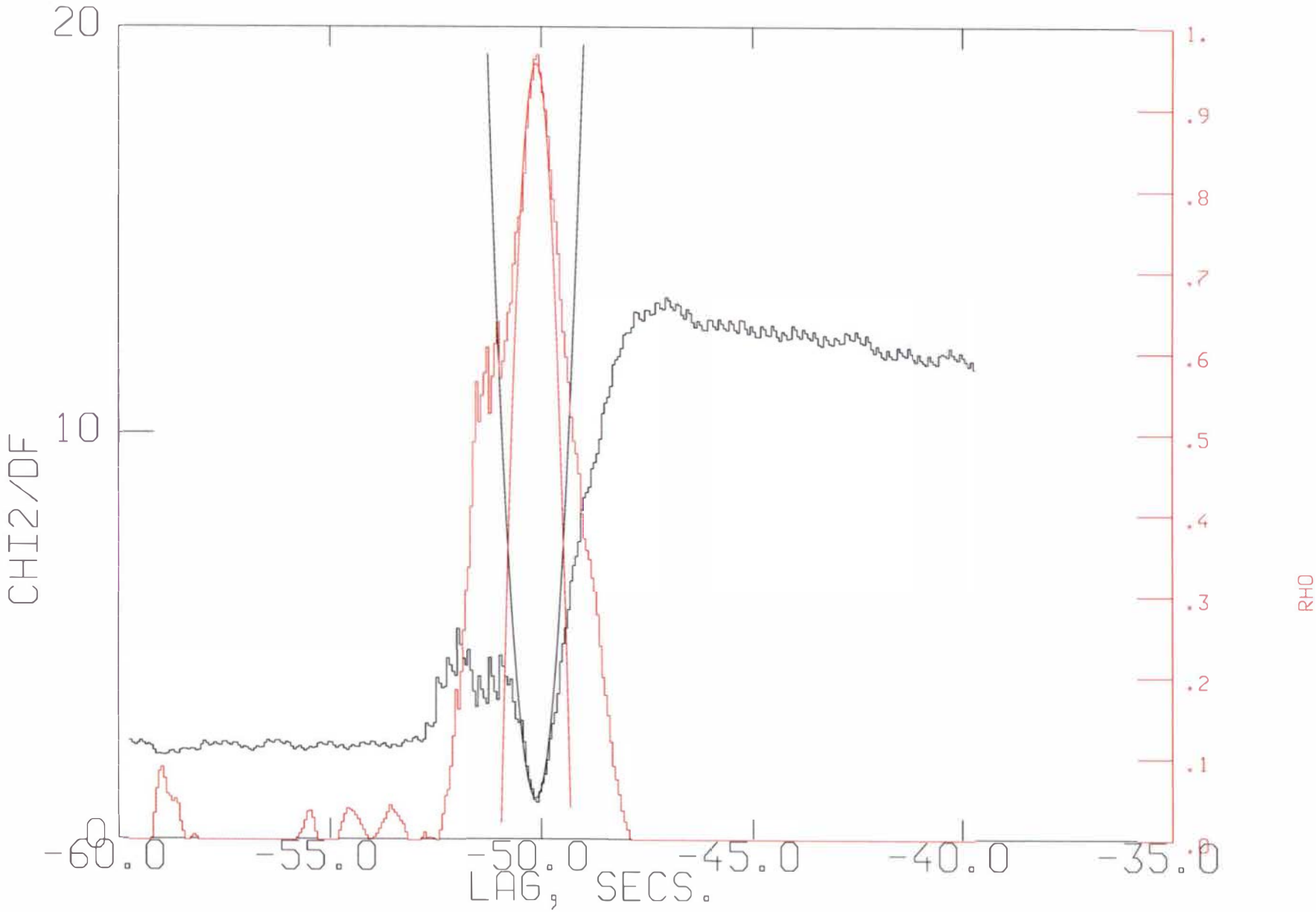

ECLIP.
ECLIP.
DECLINATION
-10o
-20o
-30o
11:00
10:20
9:40
9:00
8:20
7:40
7:00
6:20
5:40
RIGHT ASCENSION

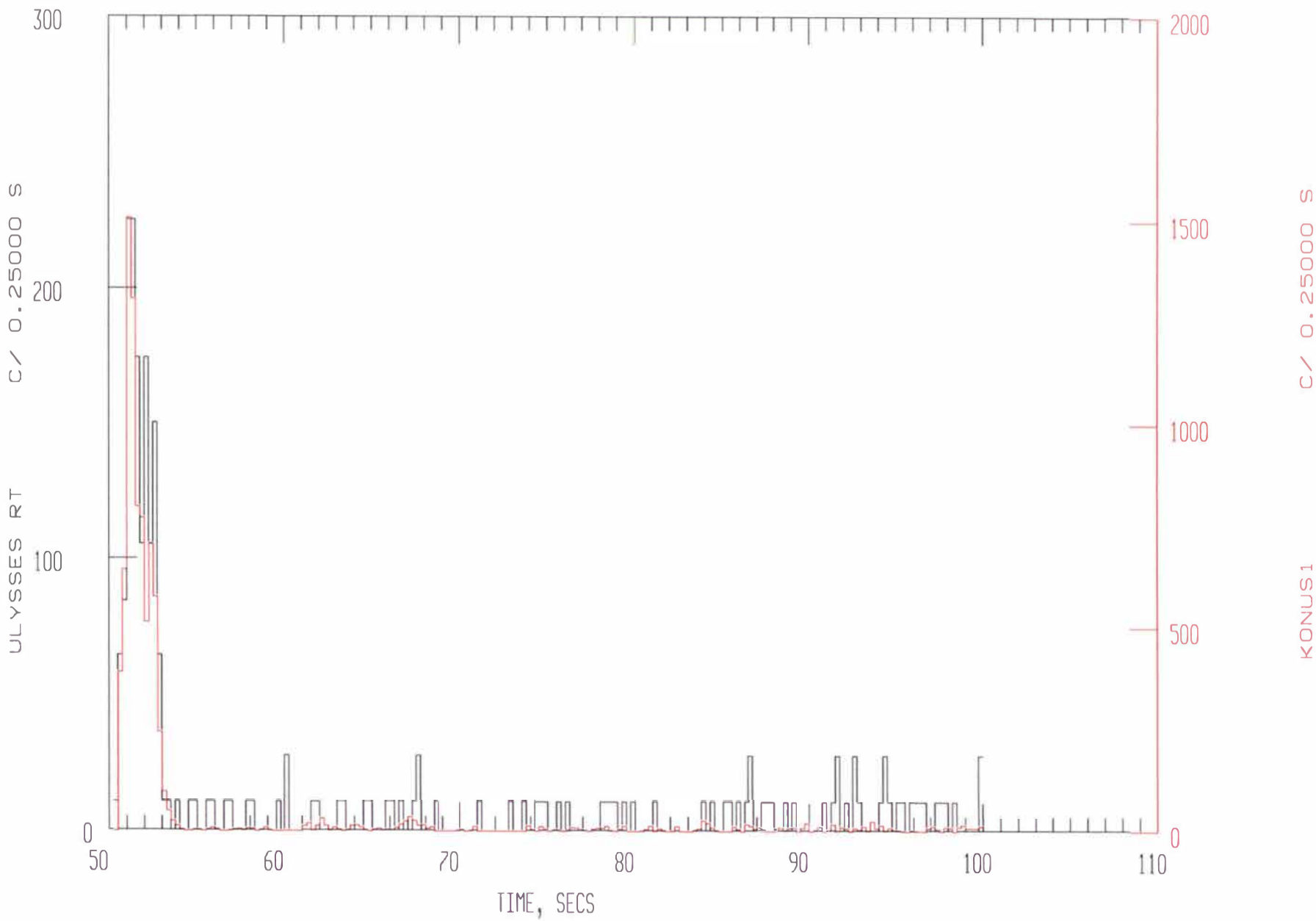
EVENT OF FEB 28, 1996 23:54

16/09/2011



ULYSSES RT-KONUS1 CORRELATION 28/ 2/96 86040.185



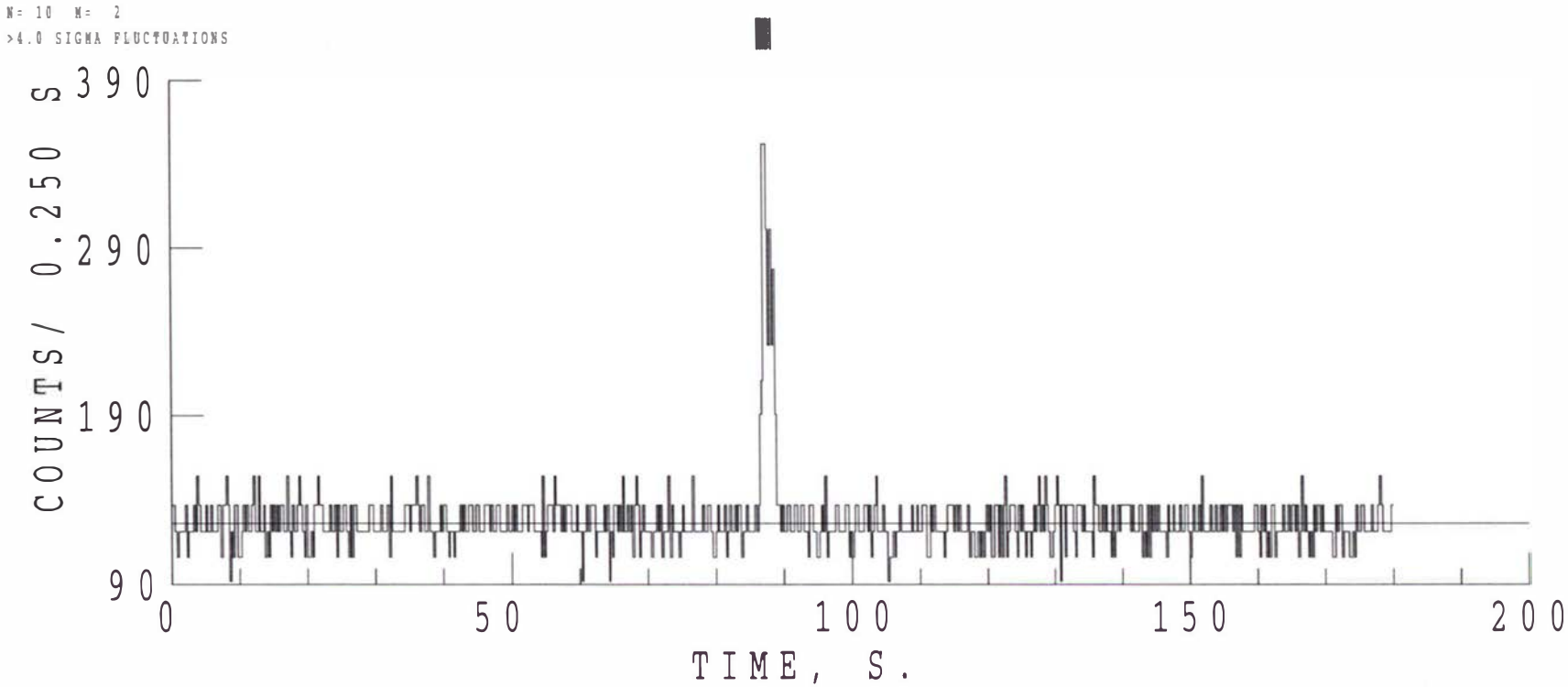

ULYSSES RT-KONUS1 CORRELATION 28/ 2/96 86040.185
16/ 9/11
300
200
100
0
C/ 0.25000 S
ULYSSES RT
2000
1500
1000
500
0
C/ 0.25000 S
KONUS1
50
60
70
80
90
100
110
TIME, SECS

KONUS 19960228 86091

ULYSSES RT 14/09/11

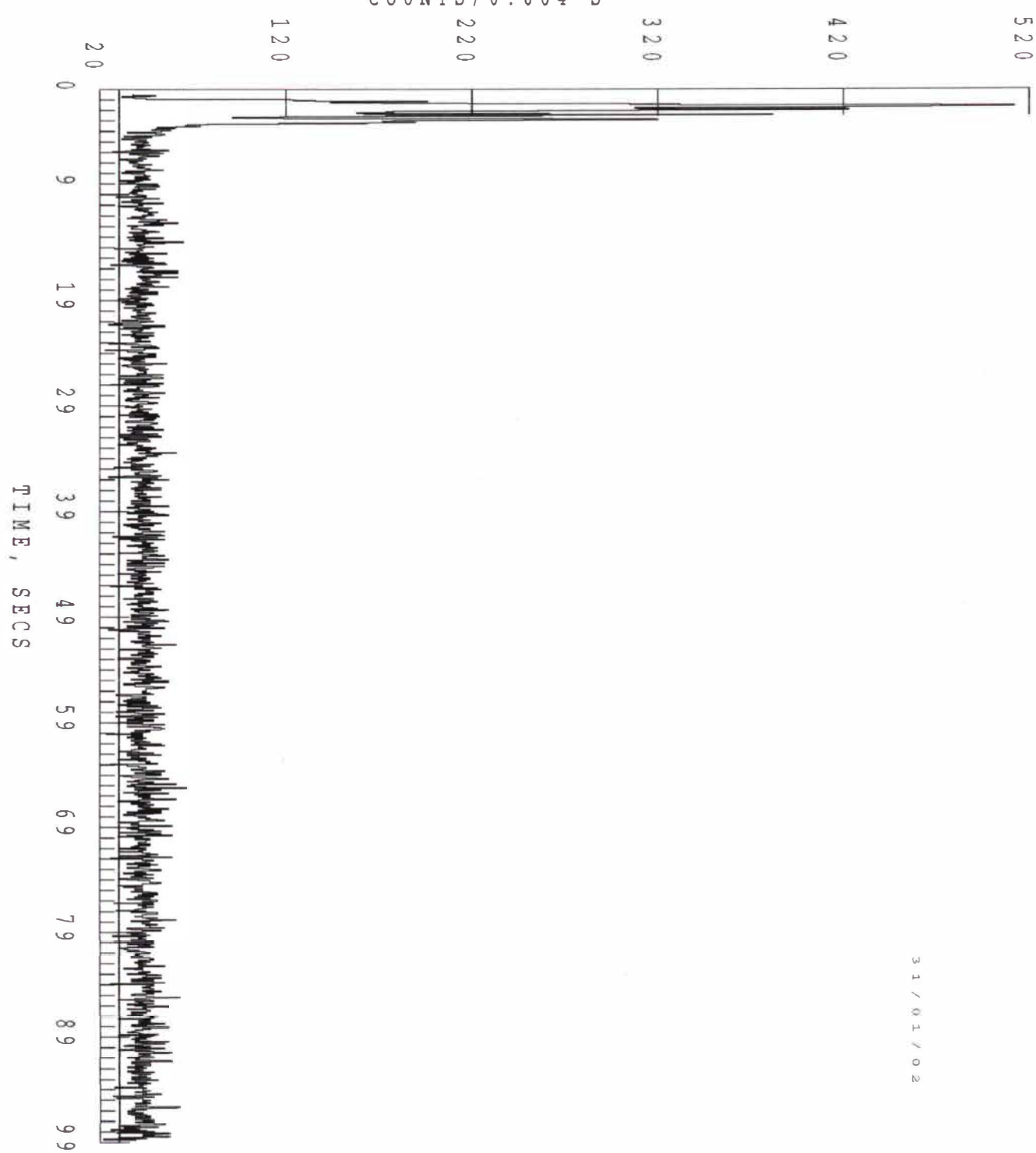
28/02/96 86004.195 s

0- 0 keV



KONUS1 28/02/96 85760.241

50- 200 keV



31/01/02

KONUS1 19960228 85760

ULYSSES RT 31/01/02

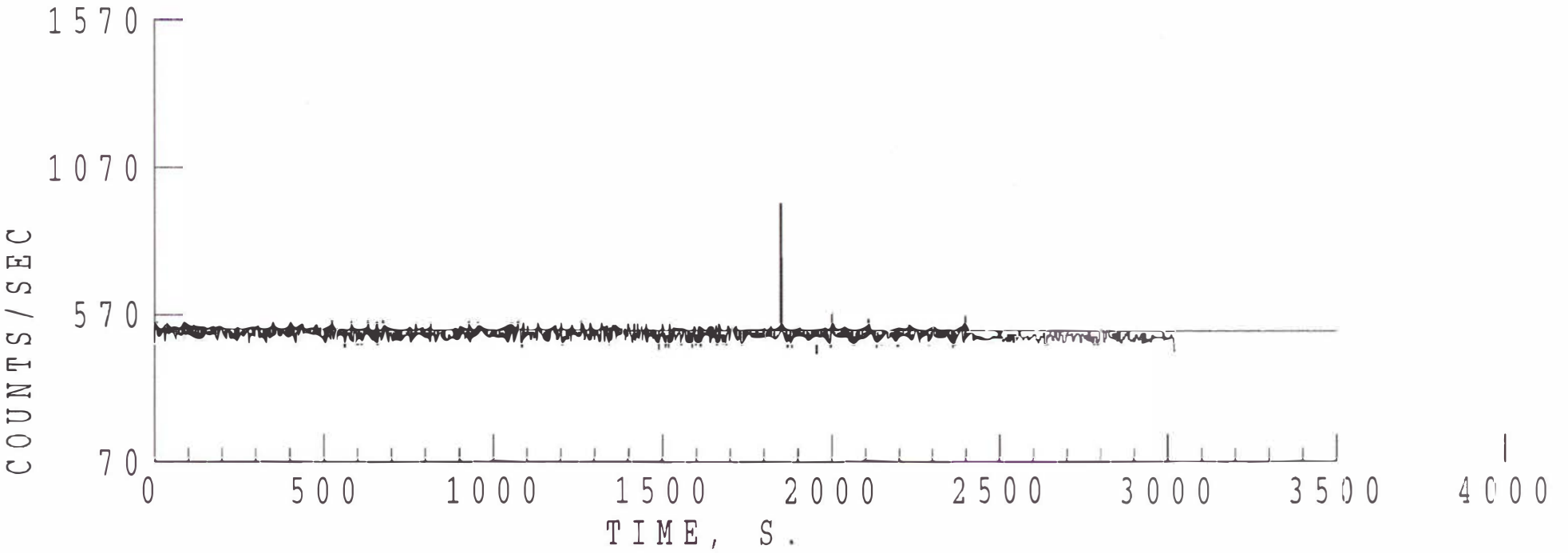
28/02/96 84240.172 s

INTERVALS REGROUPED BY 8

0- 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



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.

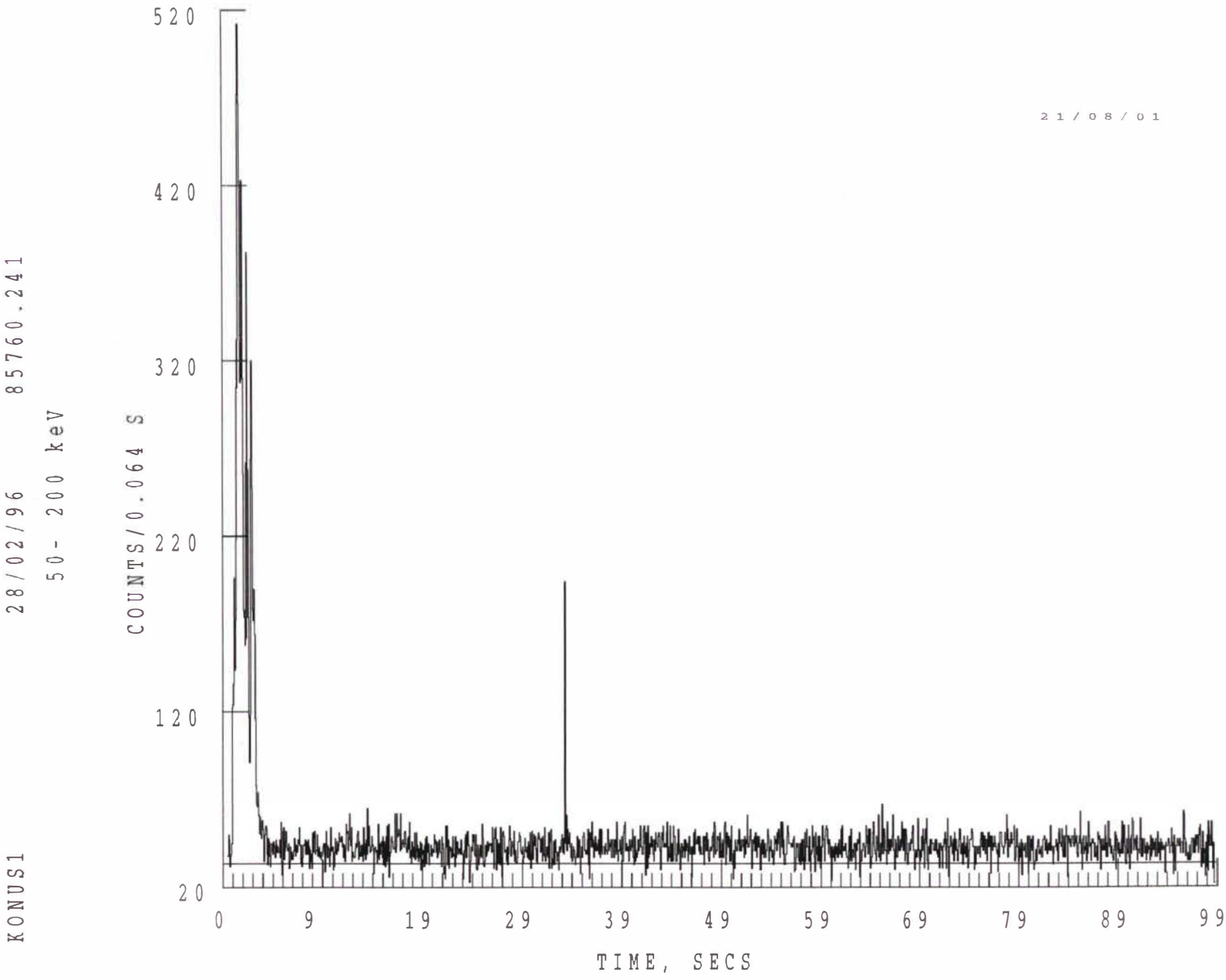
SEARCH FOR 3-SC TRIGGERS ONLY -- Konus-W / Ulysses / BATSE or Konus-A

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:)

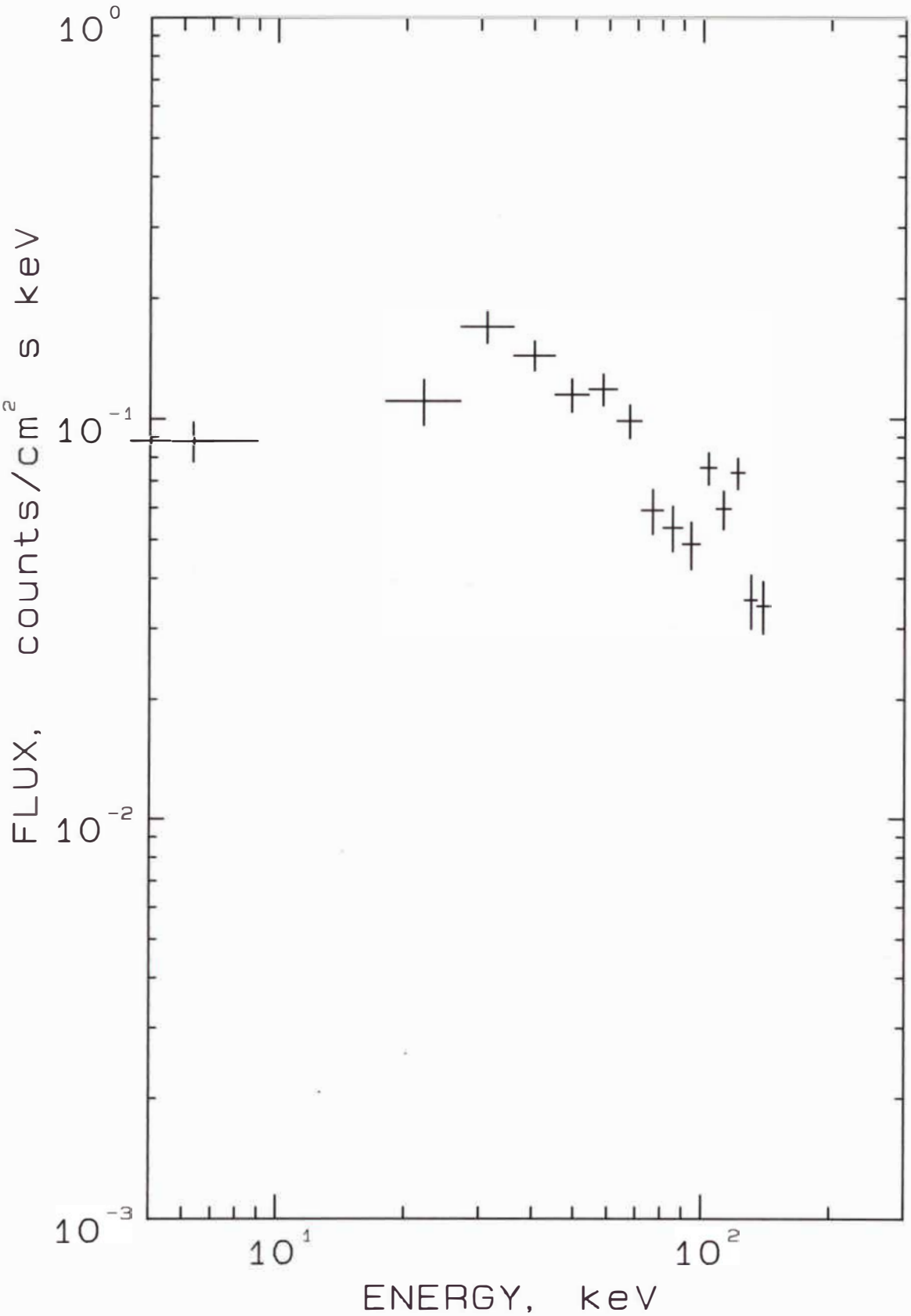
										BATSE
95 12 31	20231.668 S2	180	320	150	0.07	9	65	219	search	
96 1 2	11650.996 S1	140	300	80	1	1	0.2	220	NO	
96 1 19	45226.016 S2	210	460	190	0.2	6	85	237	search	
96 1 30	08756.848 S1	100	470	340	3	0.5	0.2	240	NO	4660
96 2 1	78530.582 S2	400	770	230	0.34	12	70	241	RI KA	4701
96 2 2	50750.813 S1	390	430	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

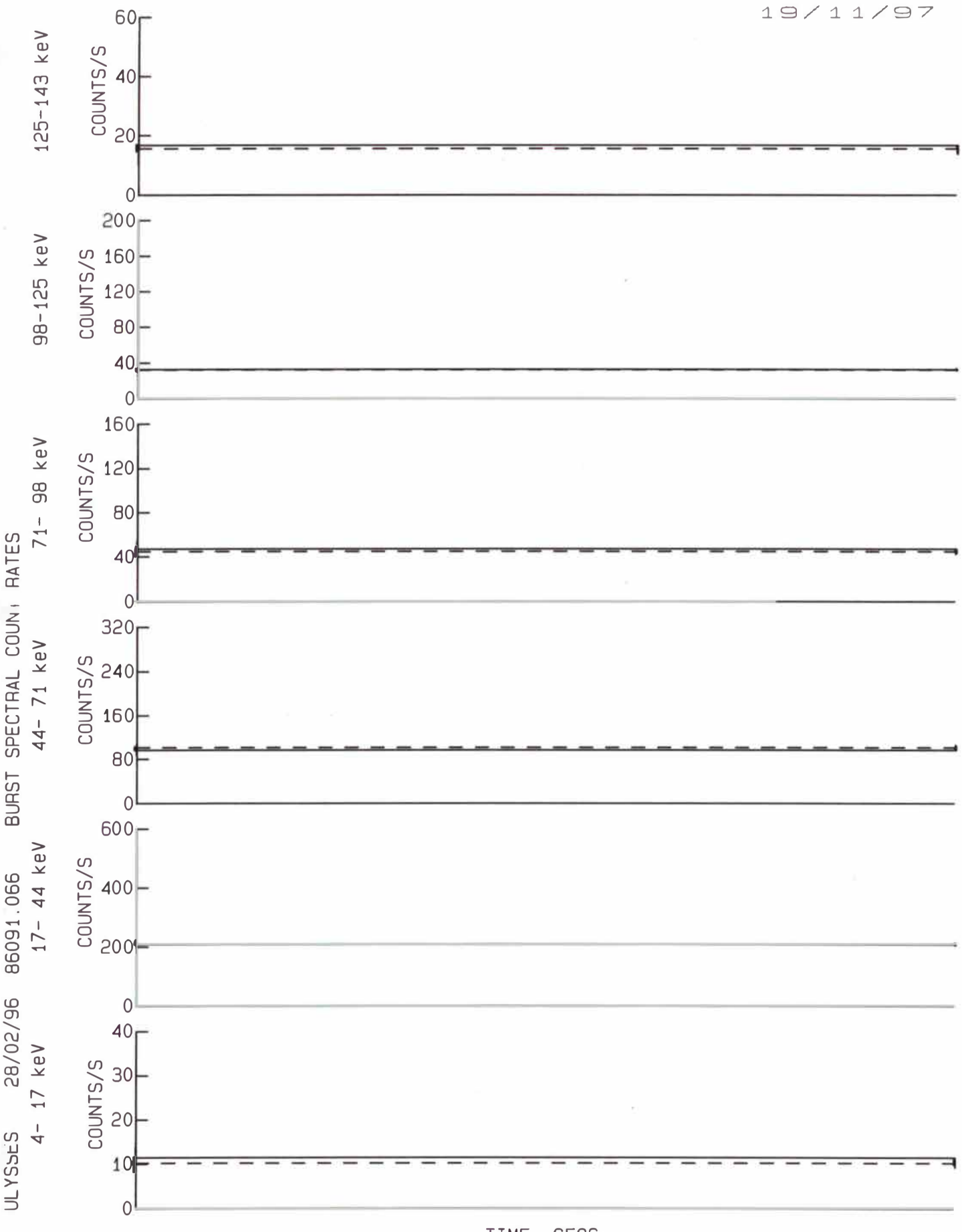

KONUS1
28/02/96
85760.241
50- 200 keV
COUNTS/0.064 S
520
420
320
220
120
20
0
9
19
29
39
49
59
69
79
89
99
TIME, SECS
21/08/01

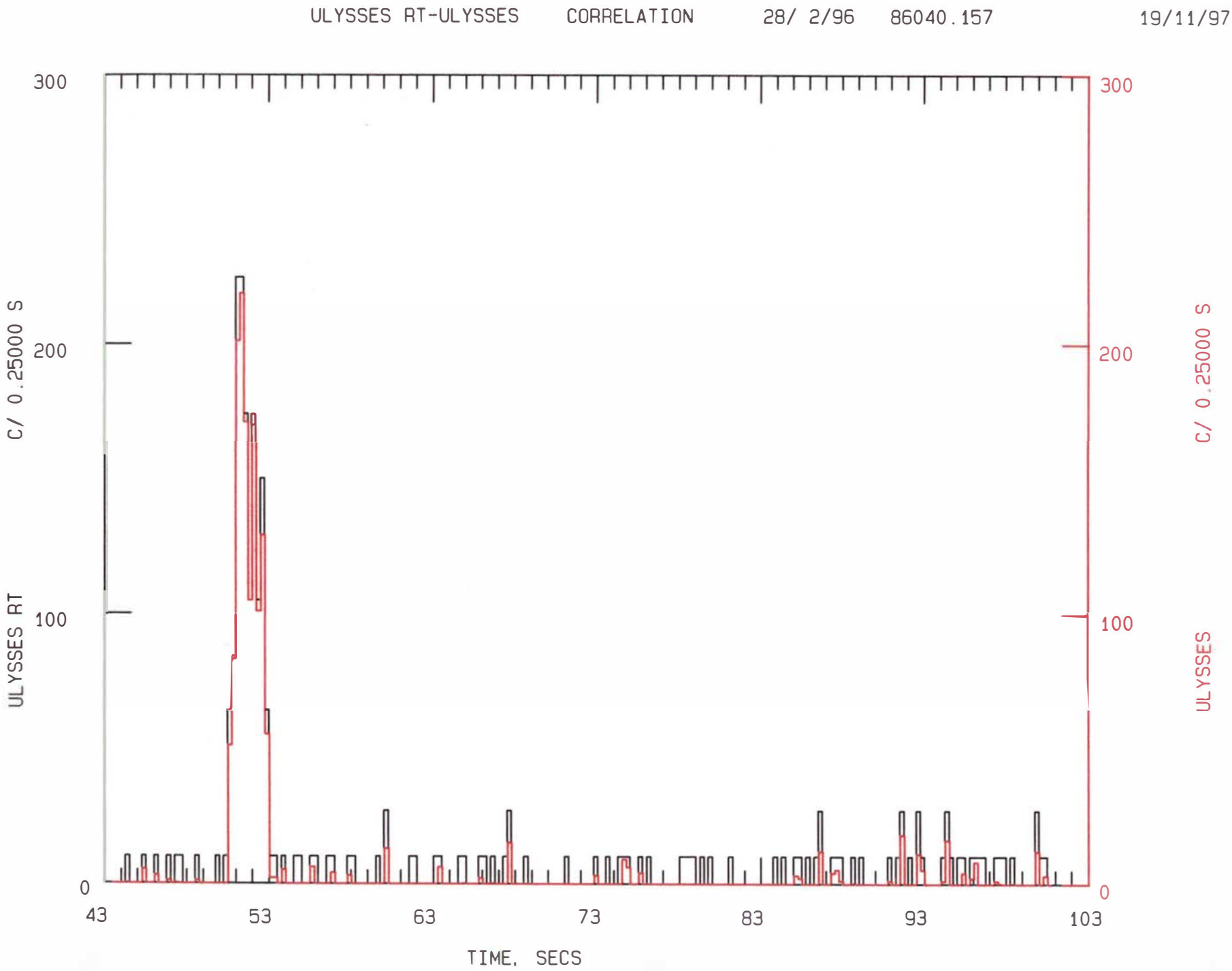
ULYSSES 28/02/96 86091.066

19/11/97

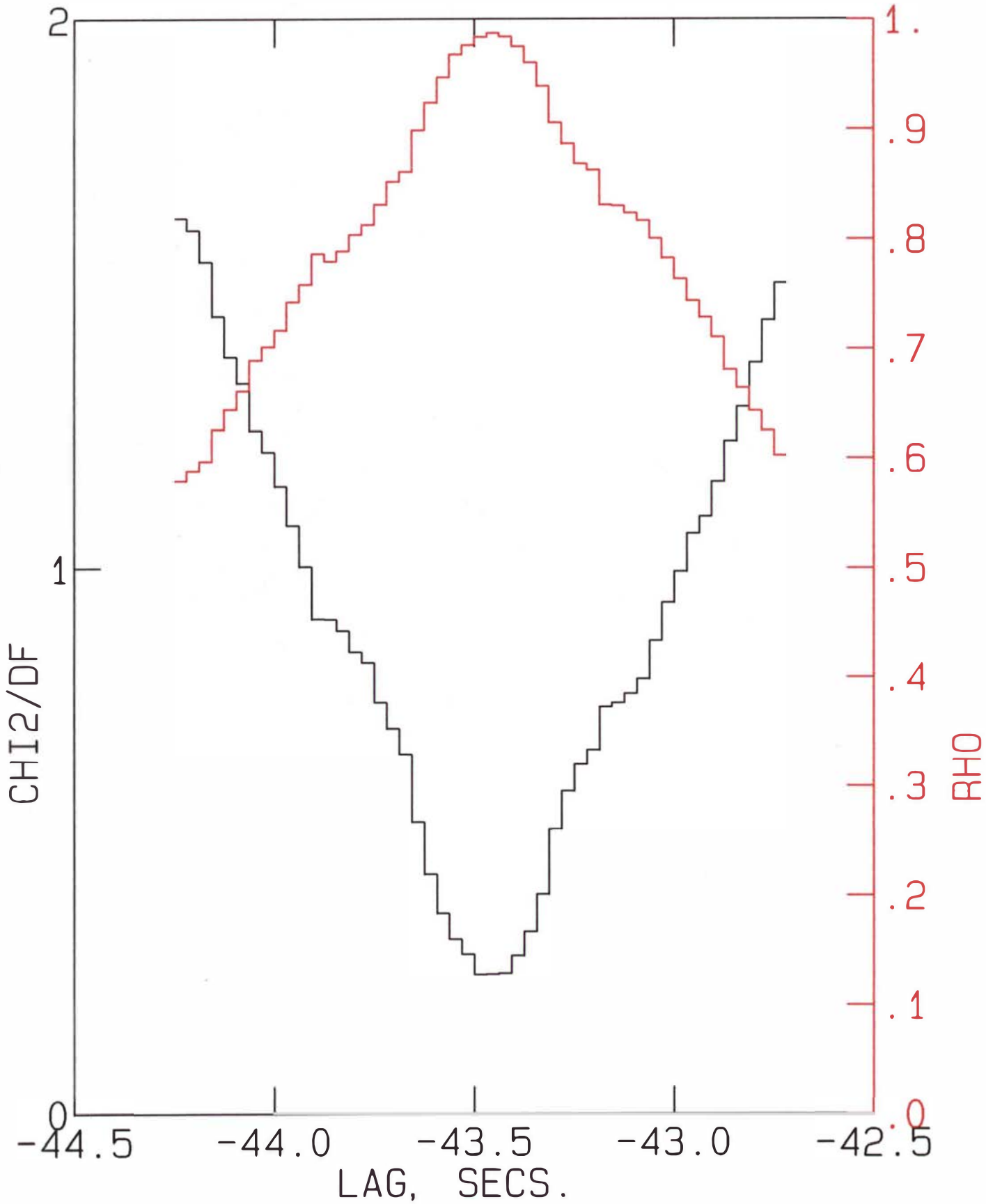
SPECTRUM INTEGRATED OVER 21.7 SECONDS, INTERVALS 2 TO 20




19/11/97
ULYSSES 28/02/96 86091.066 BURST SPECTRAL COUNT RATES
4- 17 keV
17- 44 keV
44- 71 keV
71- 98 keV
98-125 keV
125-143 keV
COUNTS/S
TIME, SECS


ULYSSES RT-ULYSSES CORRELATION 28/ 2/96 86040.157 19/11/97
300
200
100
0
C/ 0.25000 S
ULYSSES RT
43
53
63
73
83
93
103
TIME, SECS
ULYSSES

ULYSSES RT-ULYSSES CORRELATION 28/ 2/96 86040.157



ULYSSES 28/02/96 Ttrig=86091.035

0- 0 keV

COUNTS/0.031 S

COUNTS/0.125 S

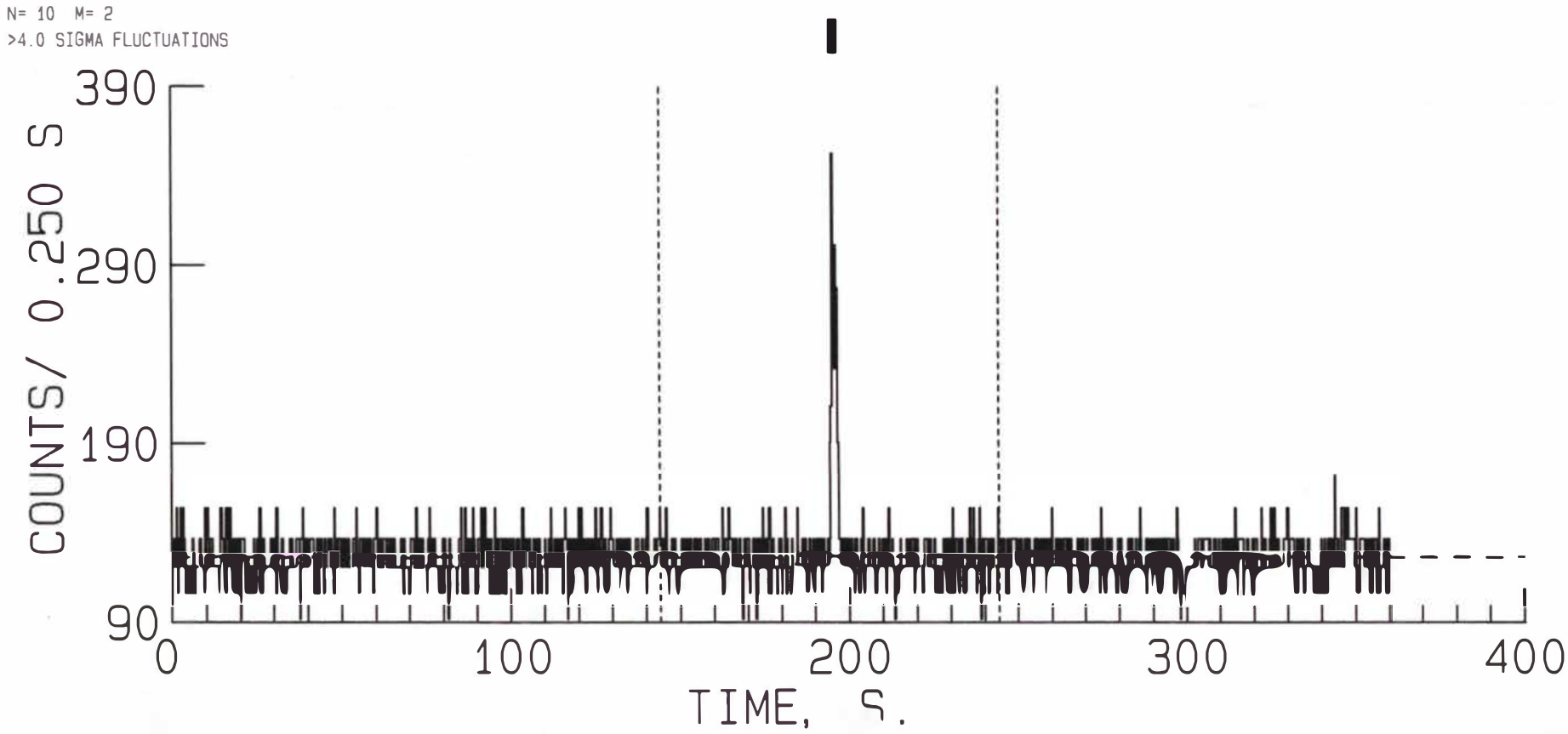
19/11/***

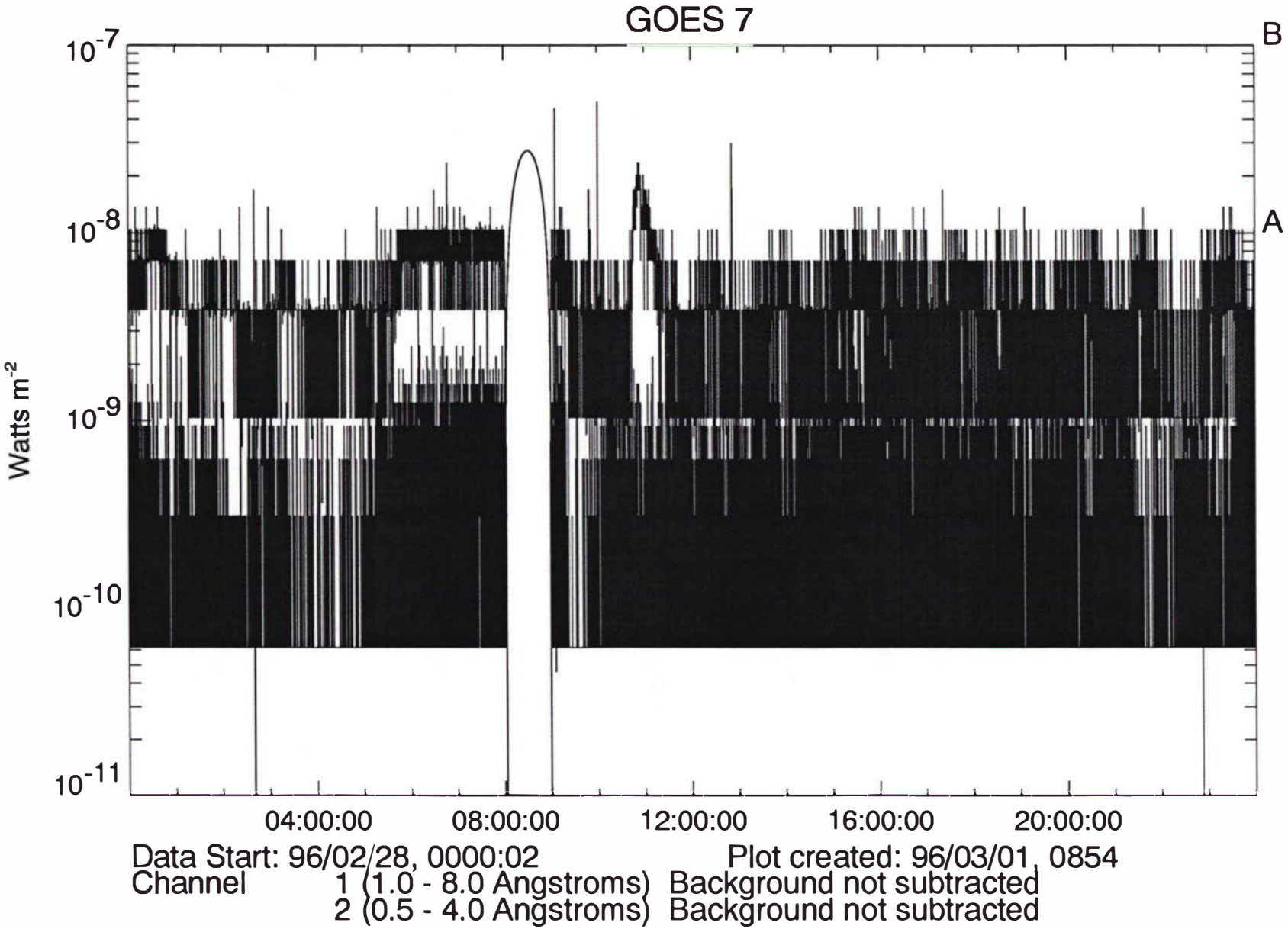
ULYSSES RT

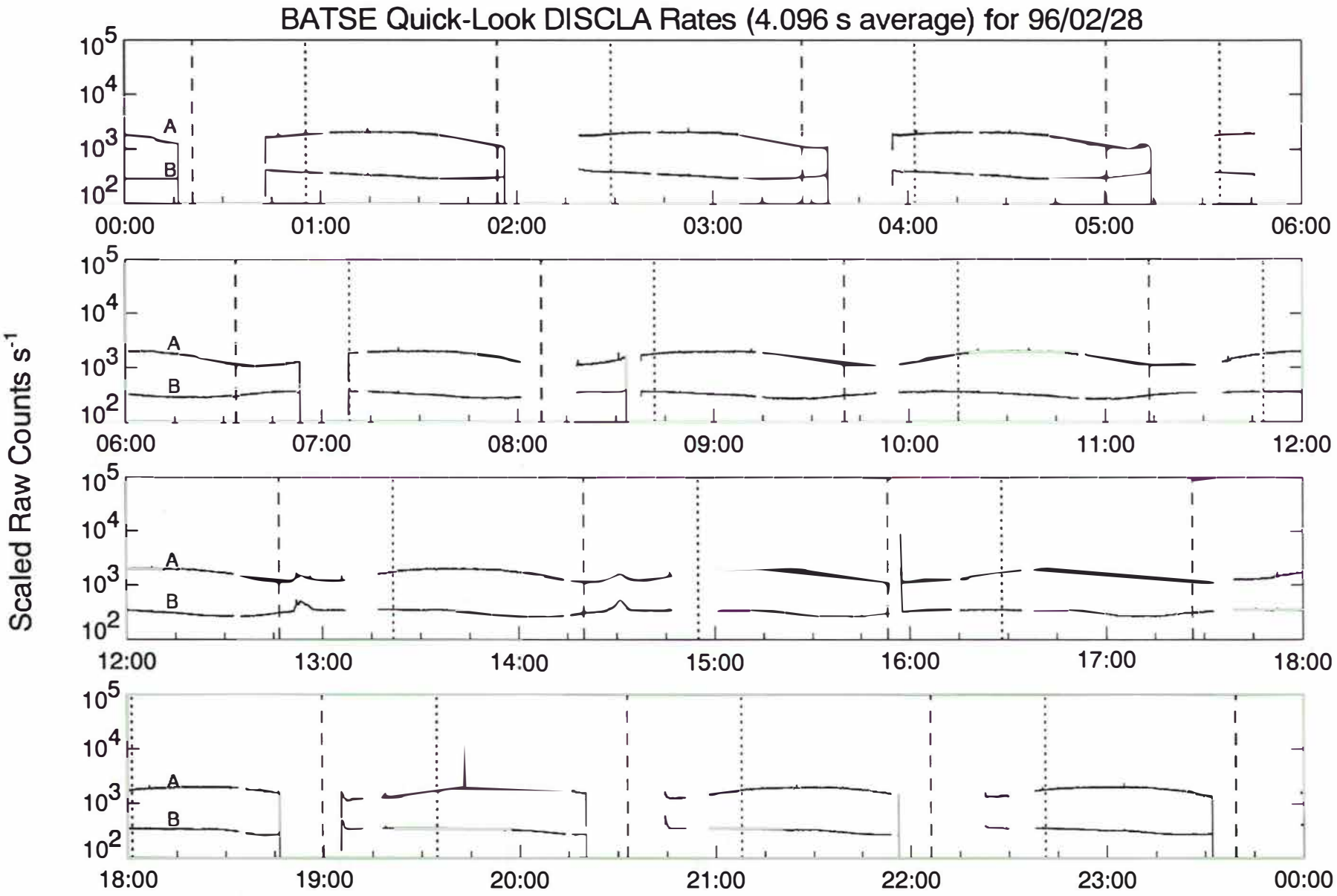
19/11/97

28/ 2/96 85896.191 s

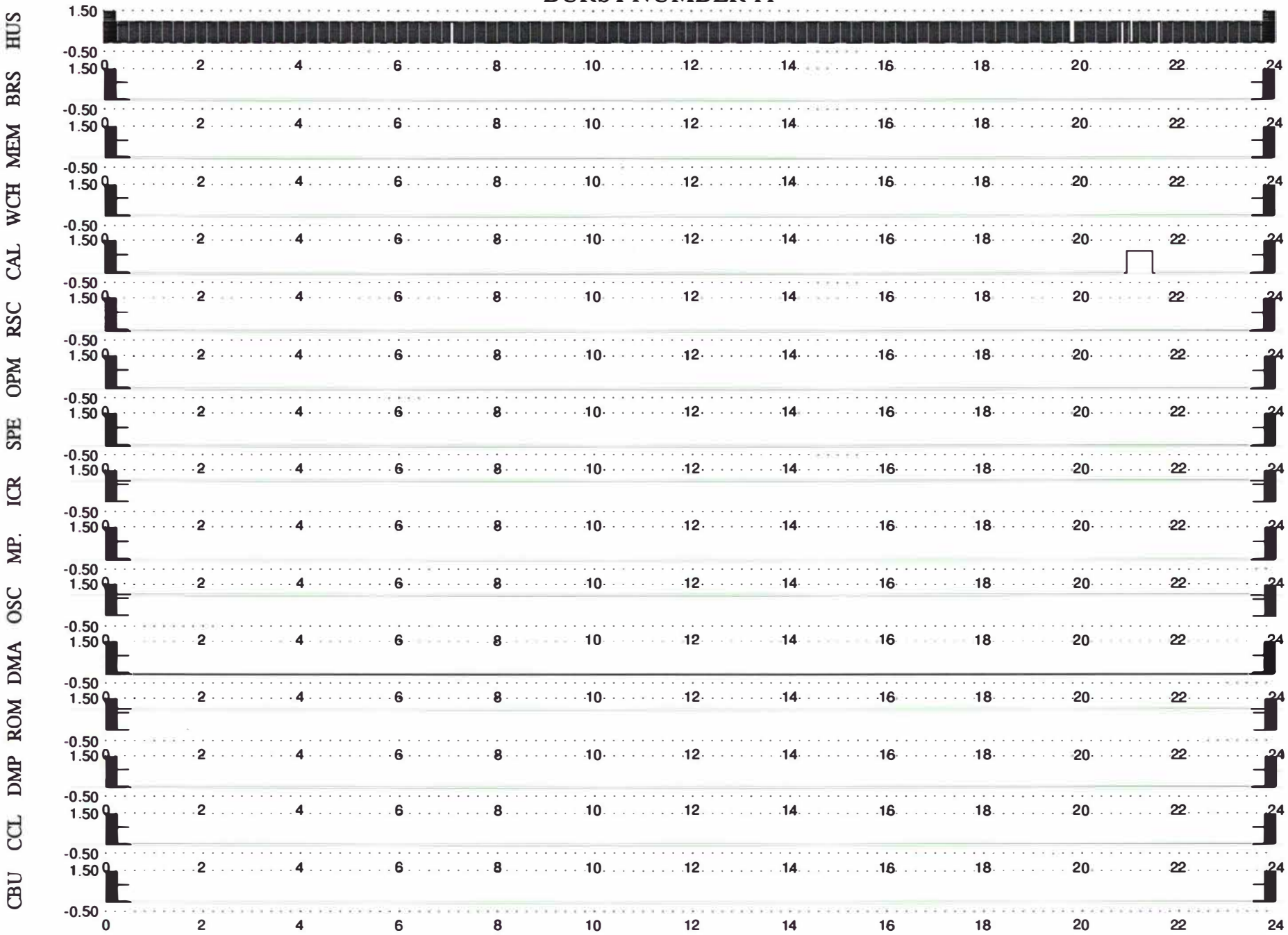
21- 143 keV




GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/28, 0000:02
Plot created: 96/03/01, 0854
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 96/02/28
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: 96/03/01, 0855 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

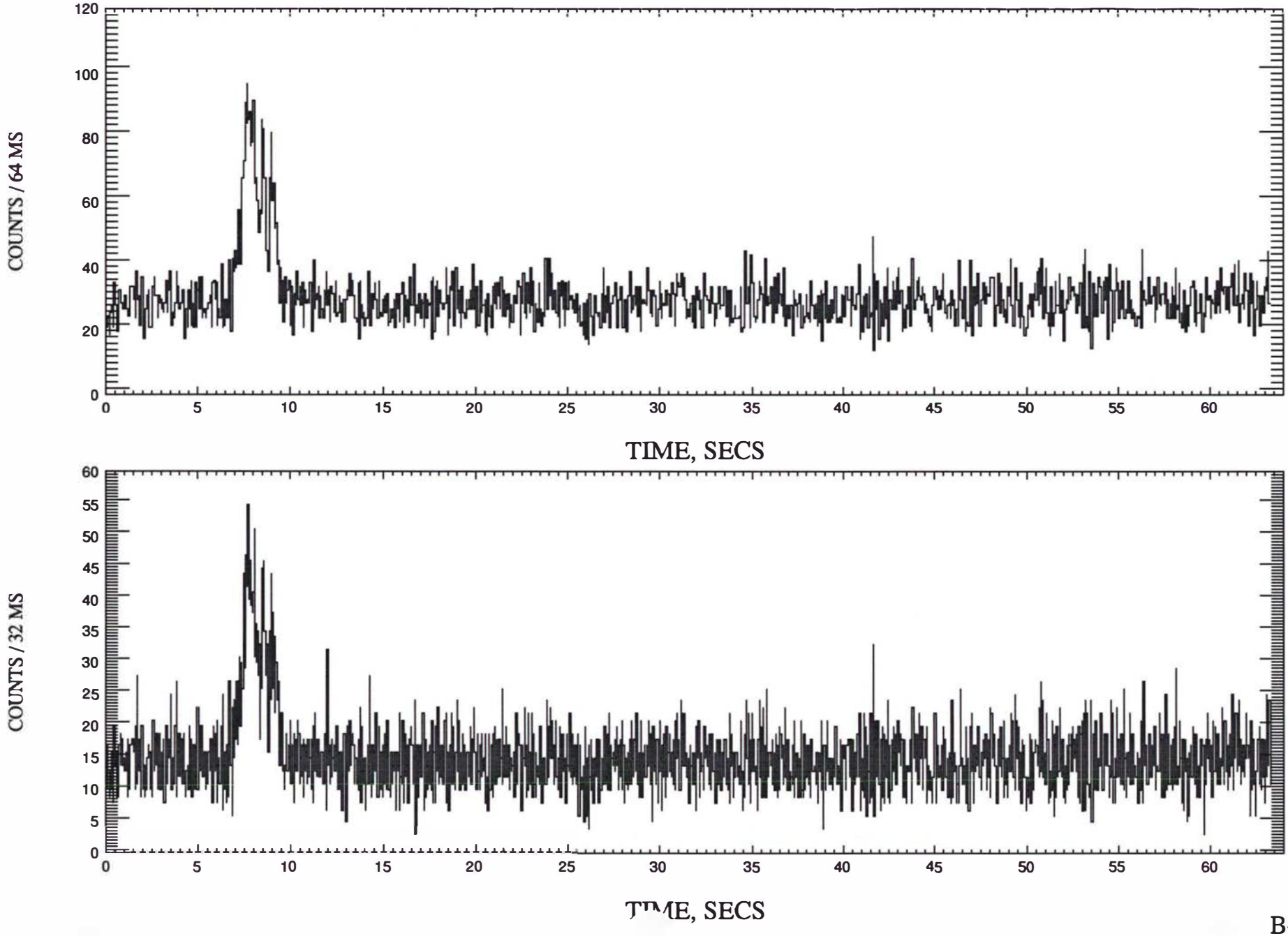
BURST NUMBER 11



UNI RSAL TIME

HUS 2A TRIGGERED DATA EDR day 59, year 1996 11/25/96

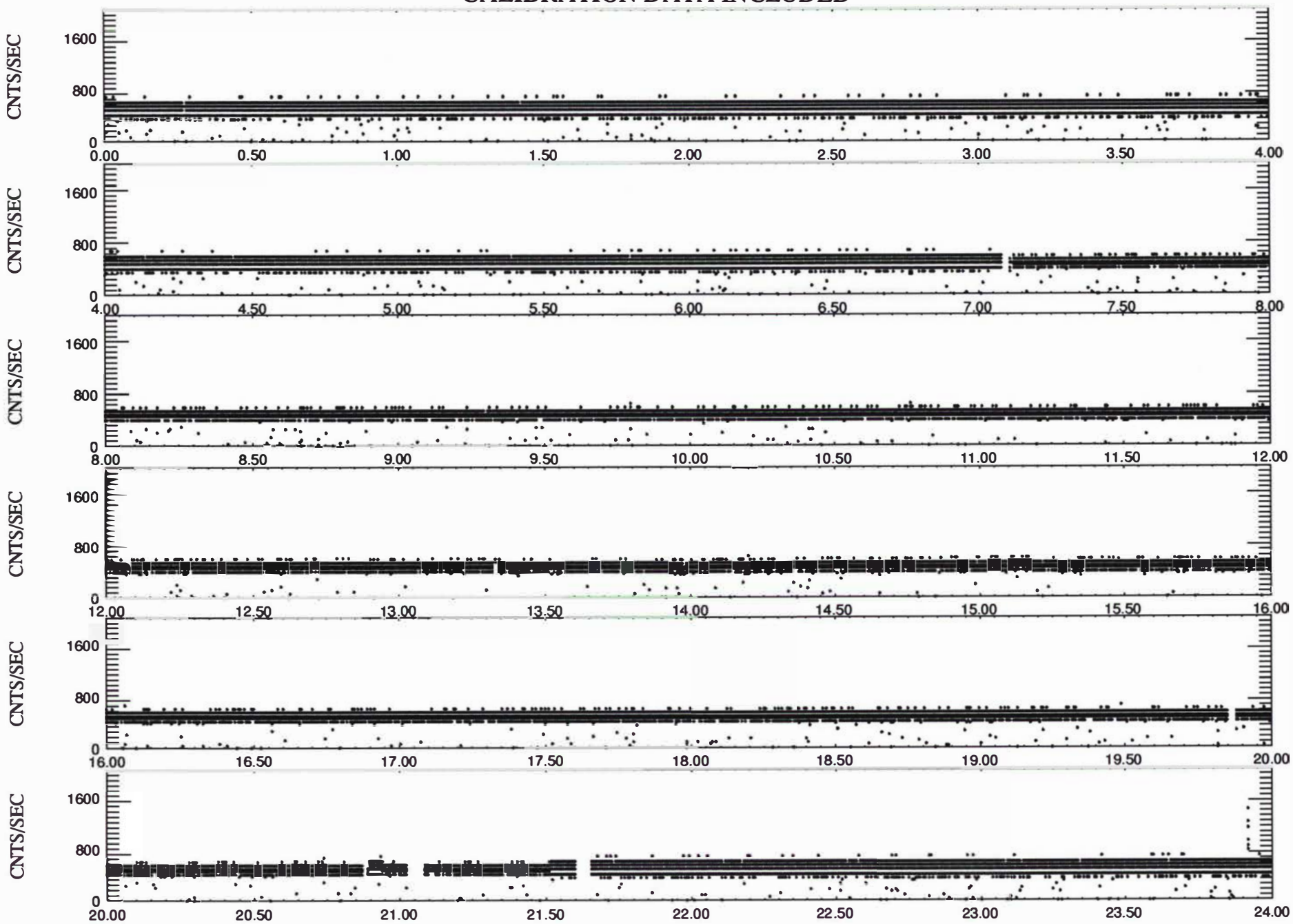
Burst Counter 11 at UT=23.914185104370 h=86091.066 s 23:54:51.066



B# 1

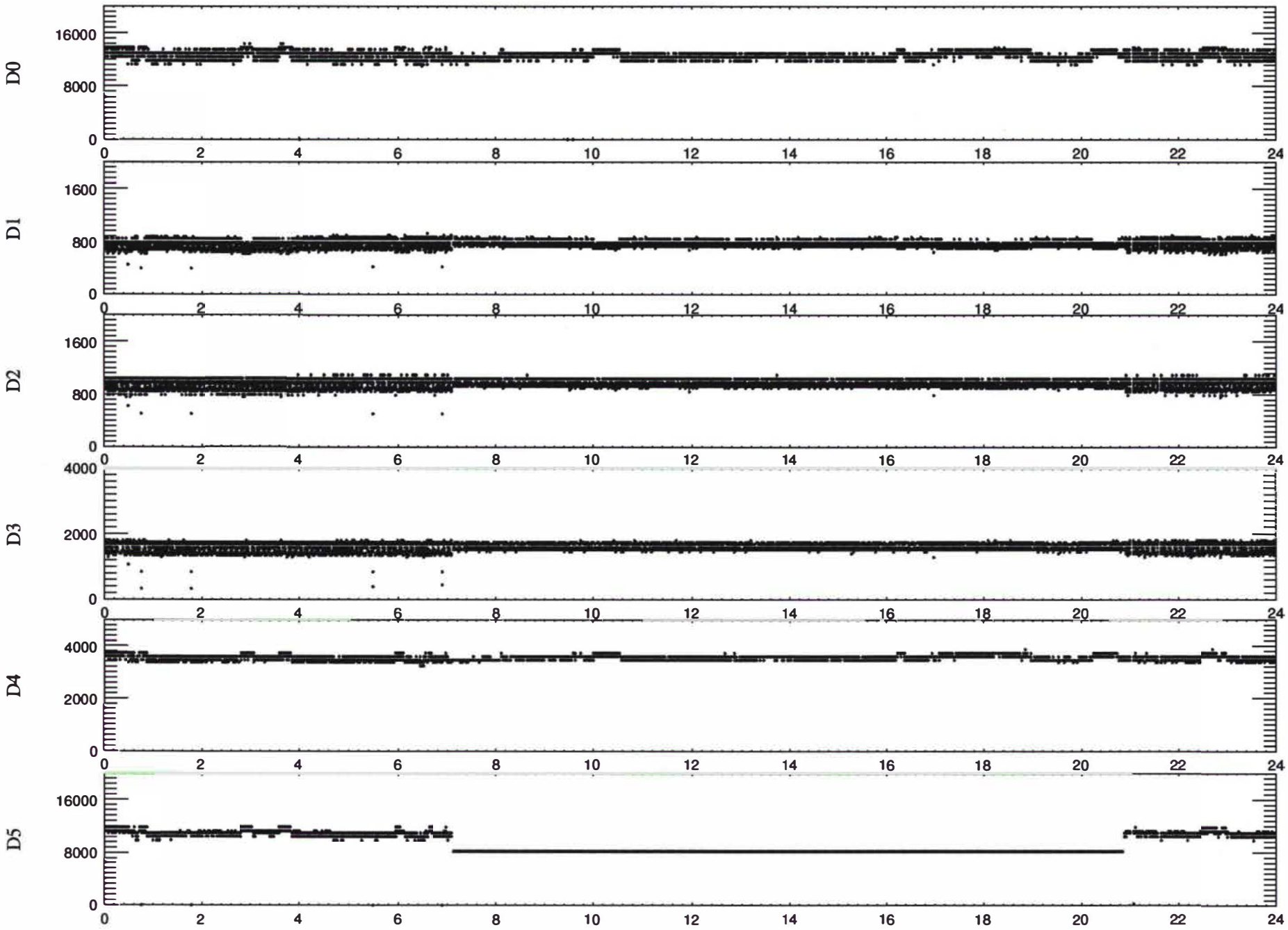
HUS 2A, MODE 1, NOT AVERAGED EDR day 59, year 1996 to day 59, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UN RSAL TIME

HUS 2B COUNTS / SEC EDR day 59, year 1996 to day 59, year 1996 11/25/96



From DEAL@SSLLES.MSFC.NASA.GOV Wed Mar 6 11:21 PST 1996
From: DEAL@SSLLES.MSFC.NASA.GOV
Date: Wed, 6 Mar 1996 13:18:50 -0600 (CST)
To: burst@comptel.sr.unh.edu, grobad@vmprofs.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.: 5067

TIME: TJD=0142 SECONDS=13677

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=49.0 AZIMUTH=82.9 ERROR=7.03 DEGREES

COMMENTS:
TGF LASTING ~ 3 MS.

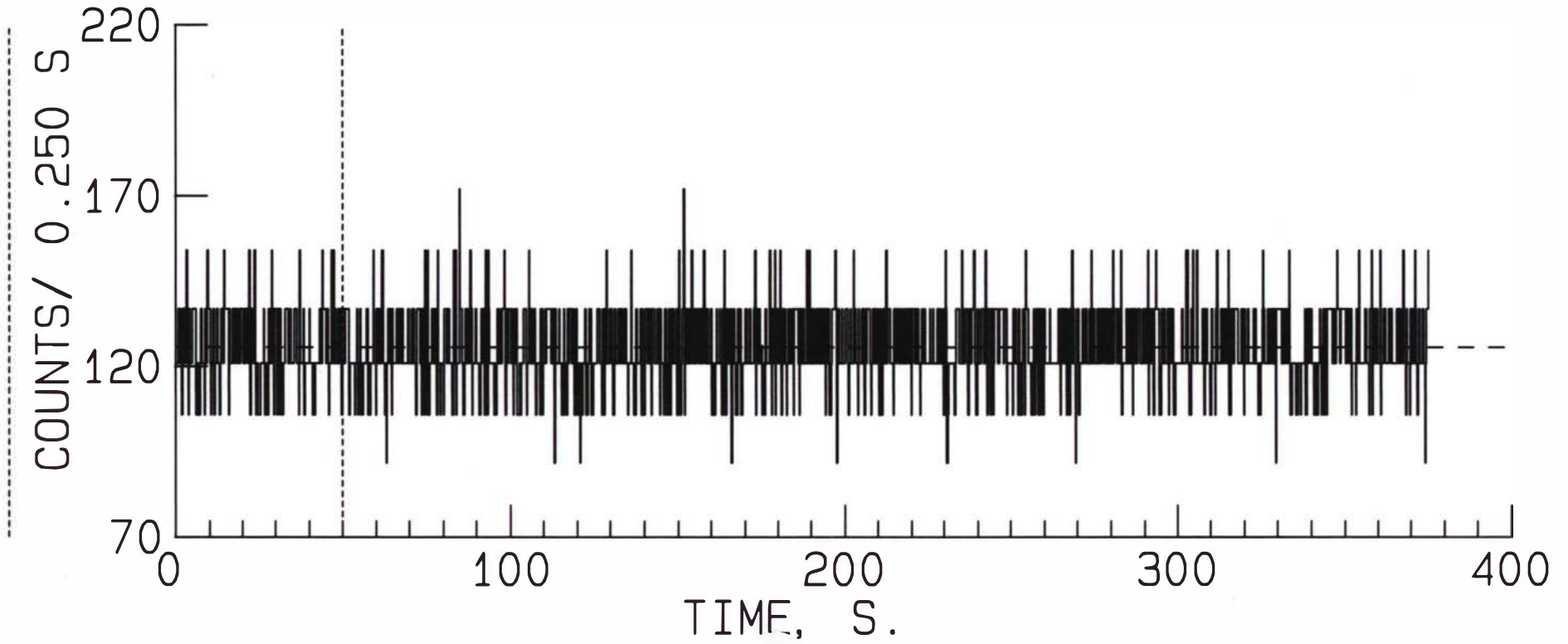
Reclassified as possible SGR by Briggs 2001

ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

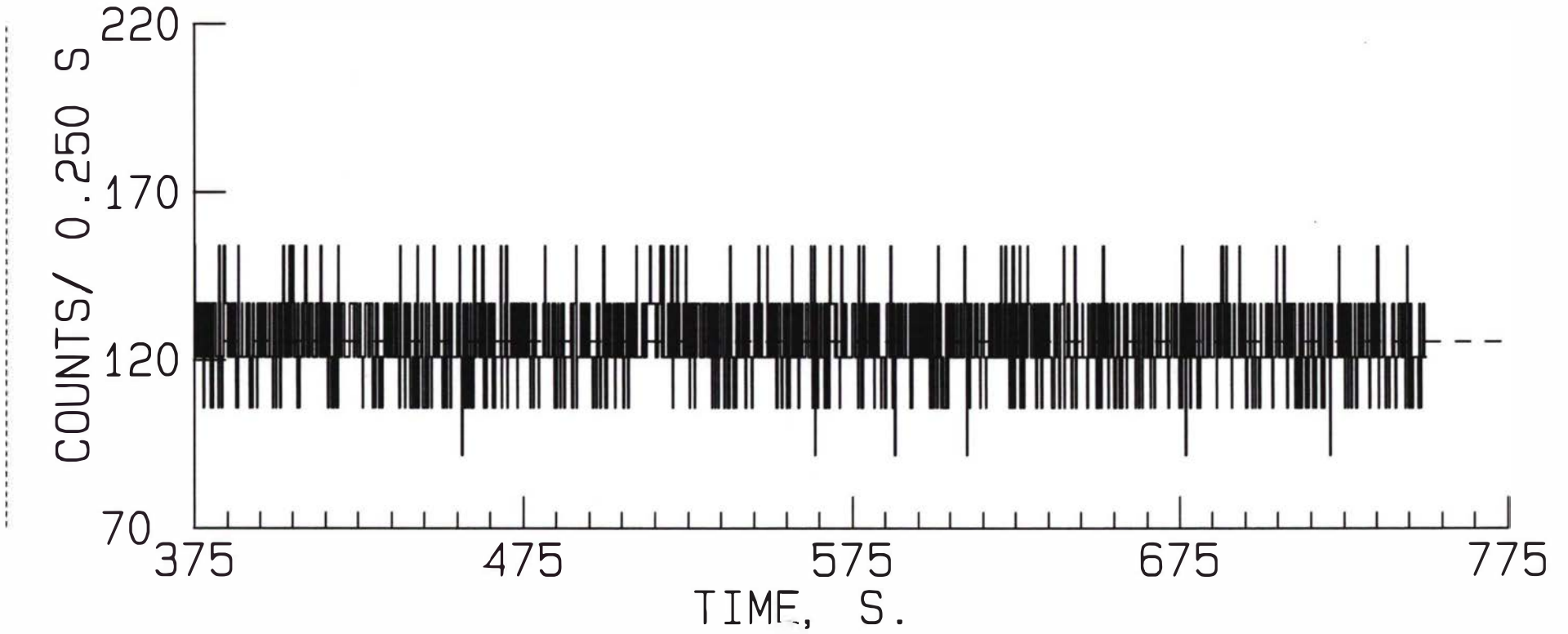


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

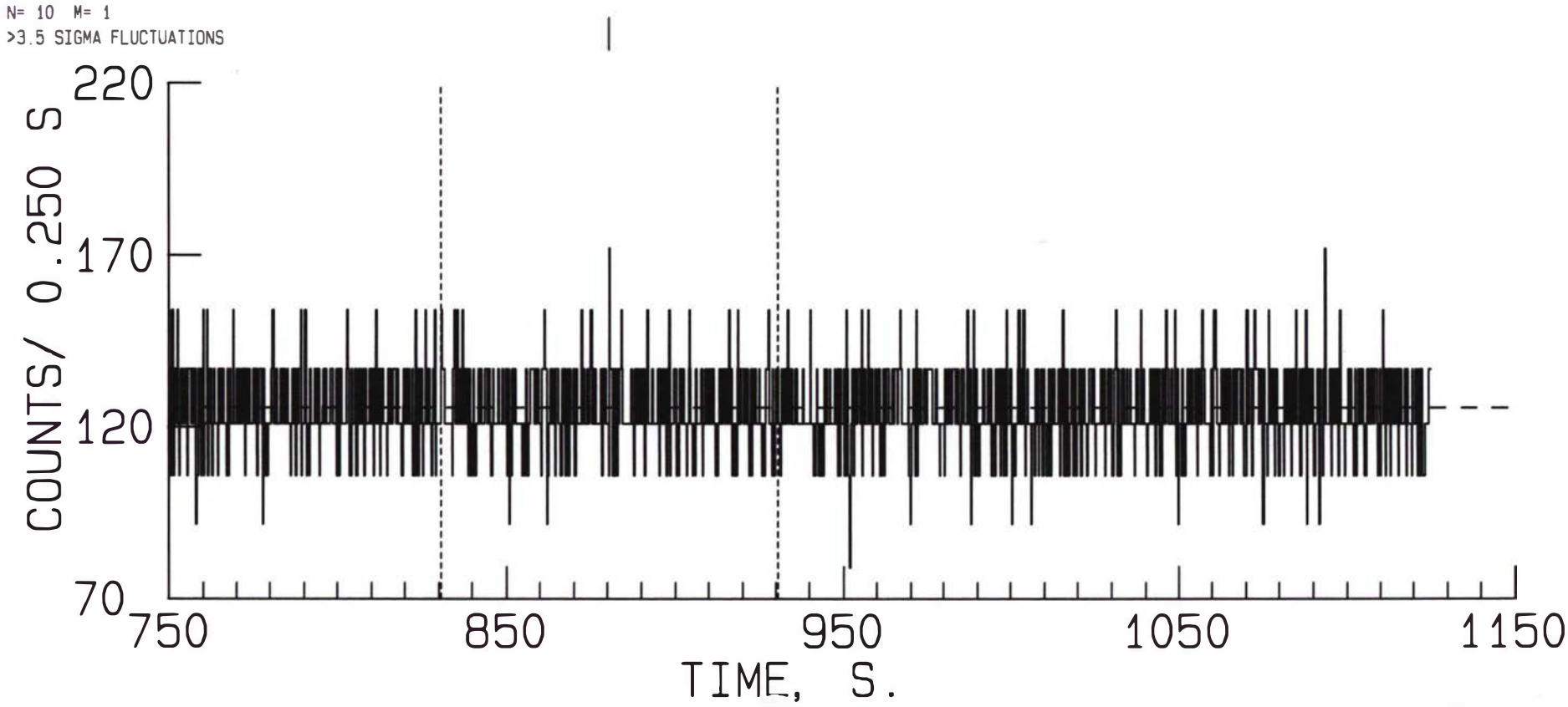


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

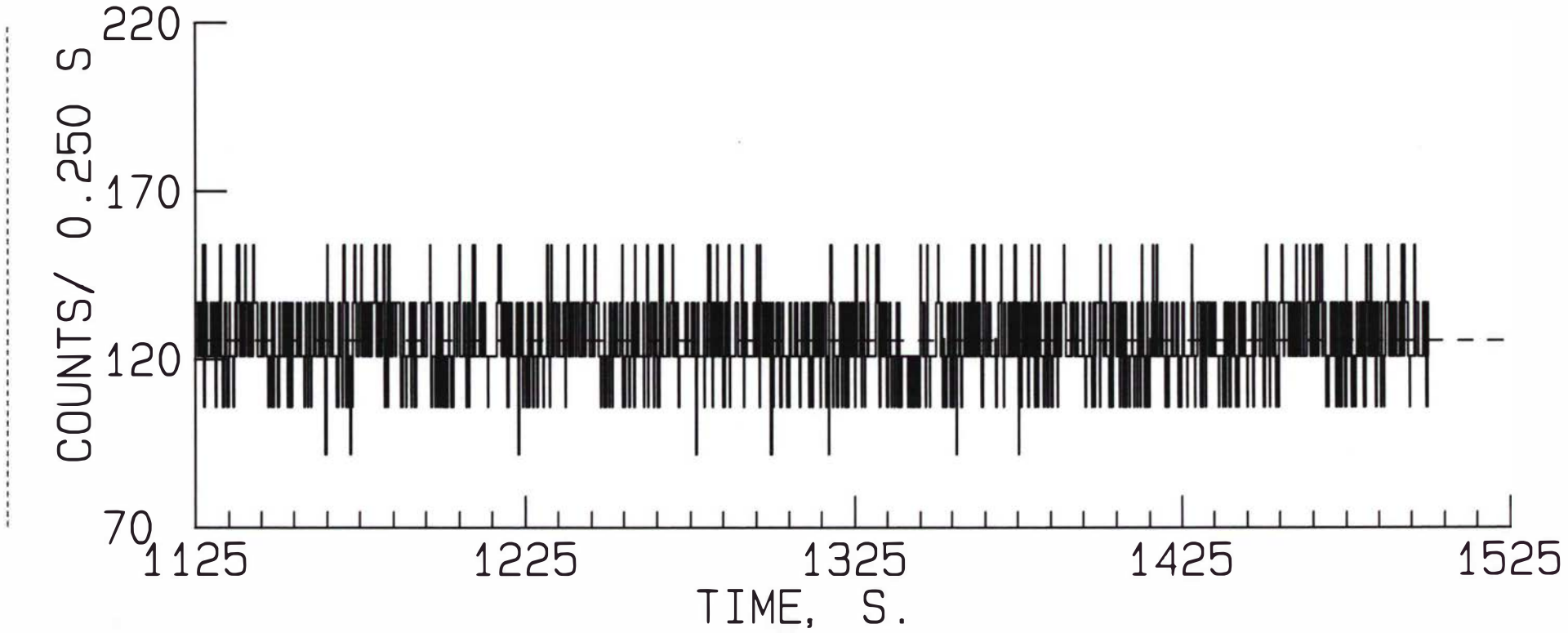


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

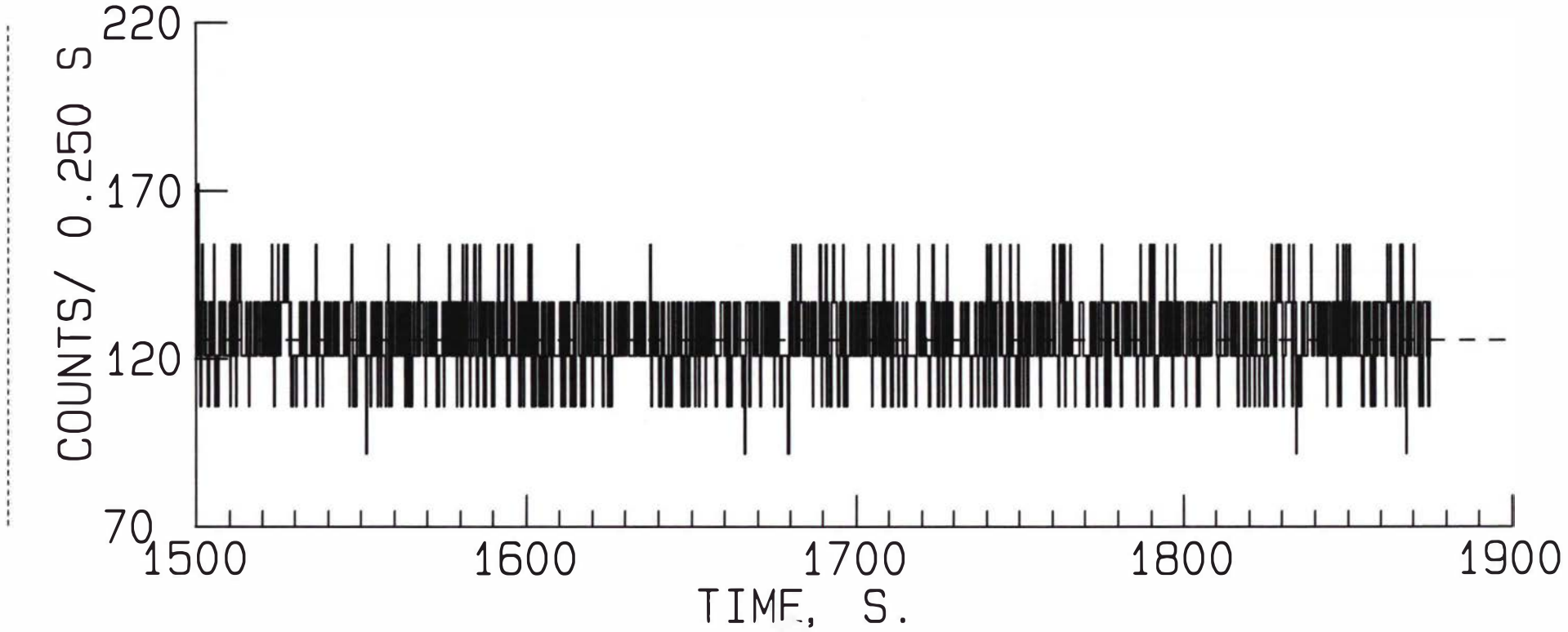


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

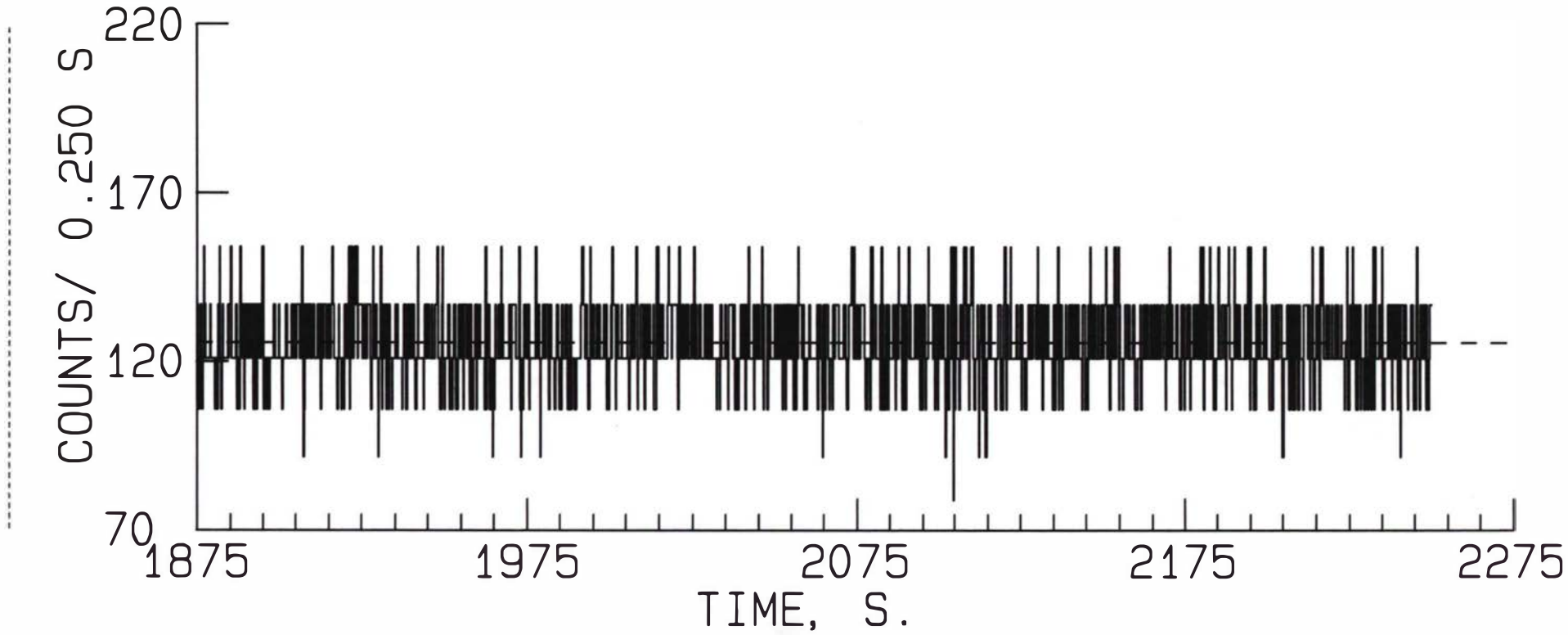


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

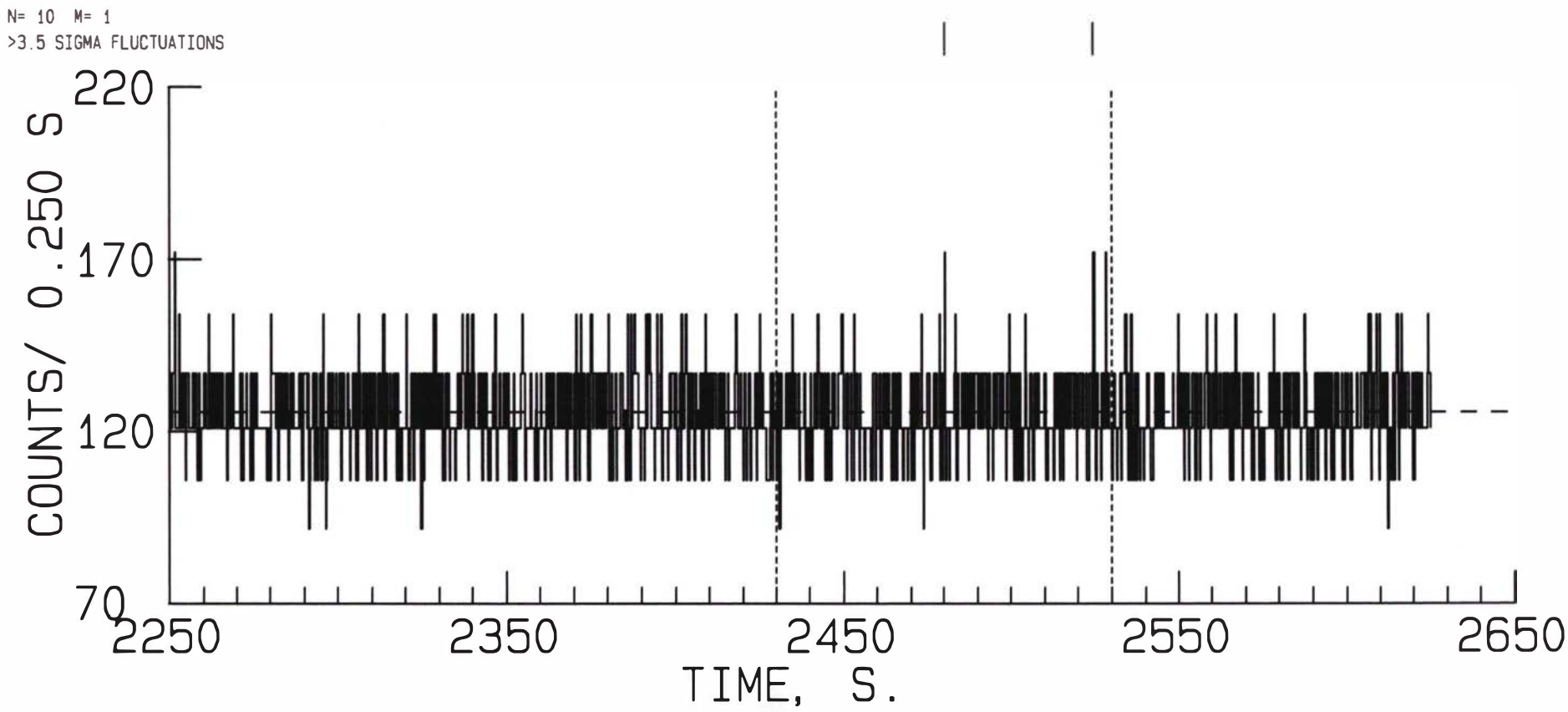


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

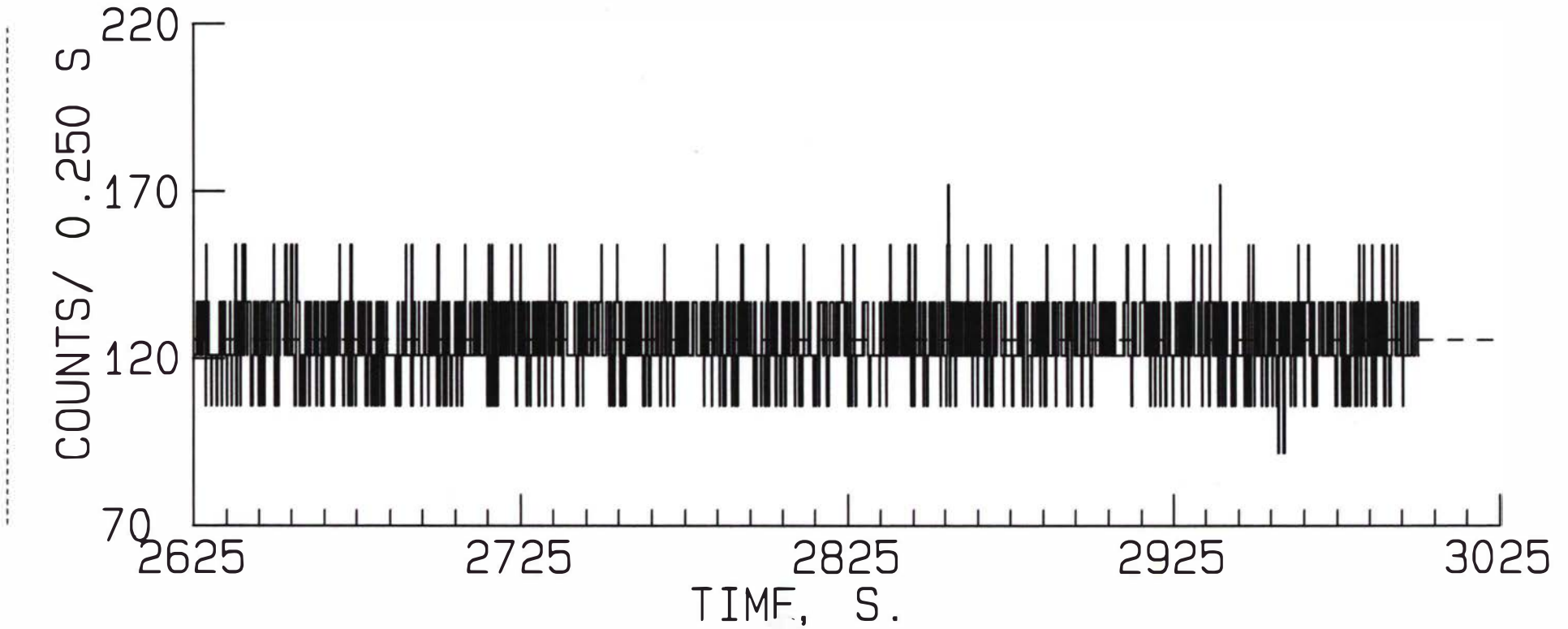


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV

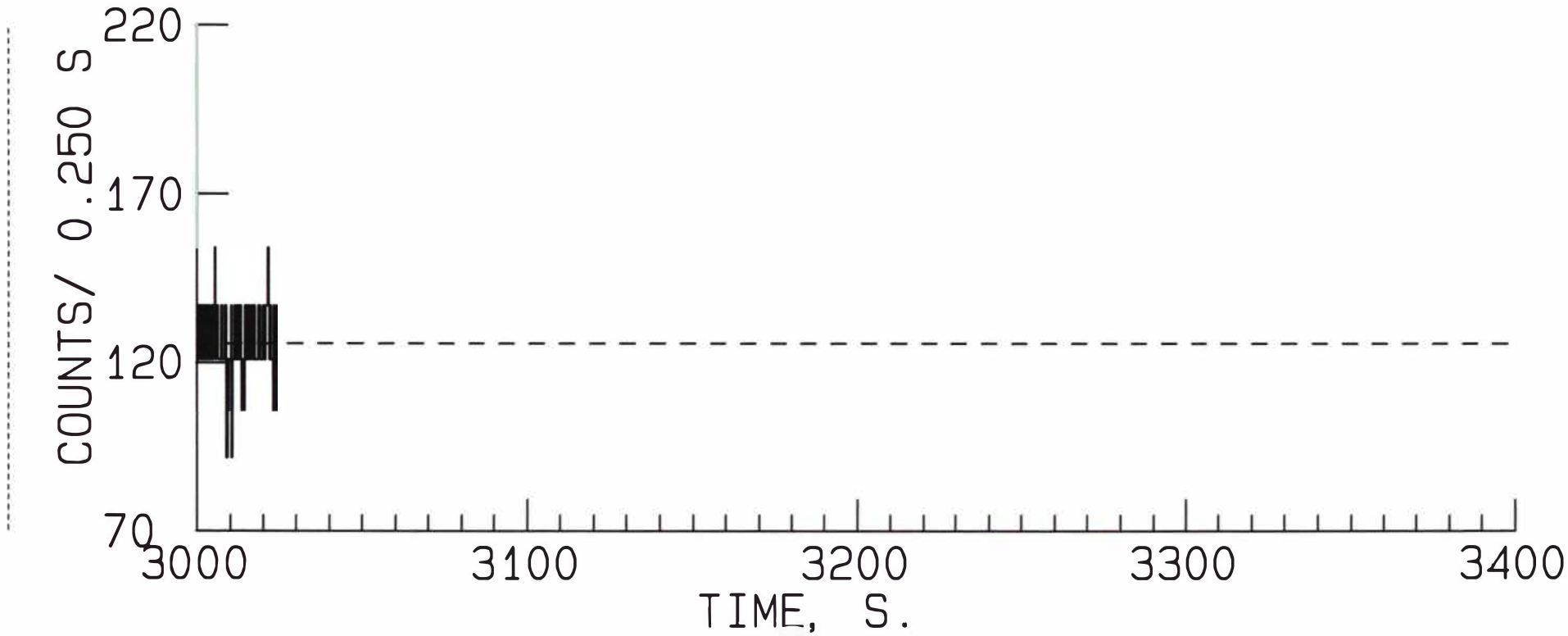


ULYSSES RT

13/11/ 1

29/ 2/96 12168.123 s

21- 145 keV



Date: Sep 16 2011

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?

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?

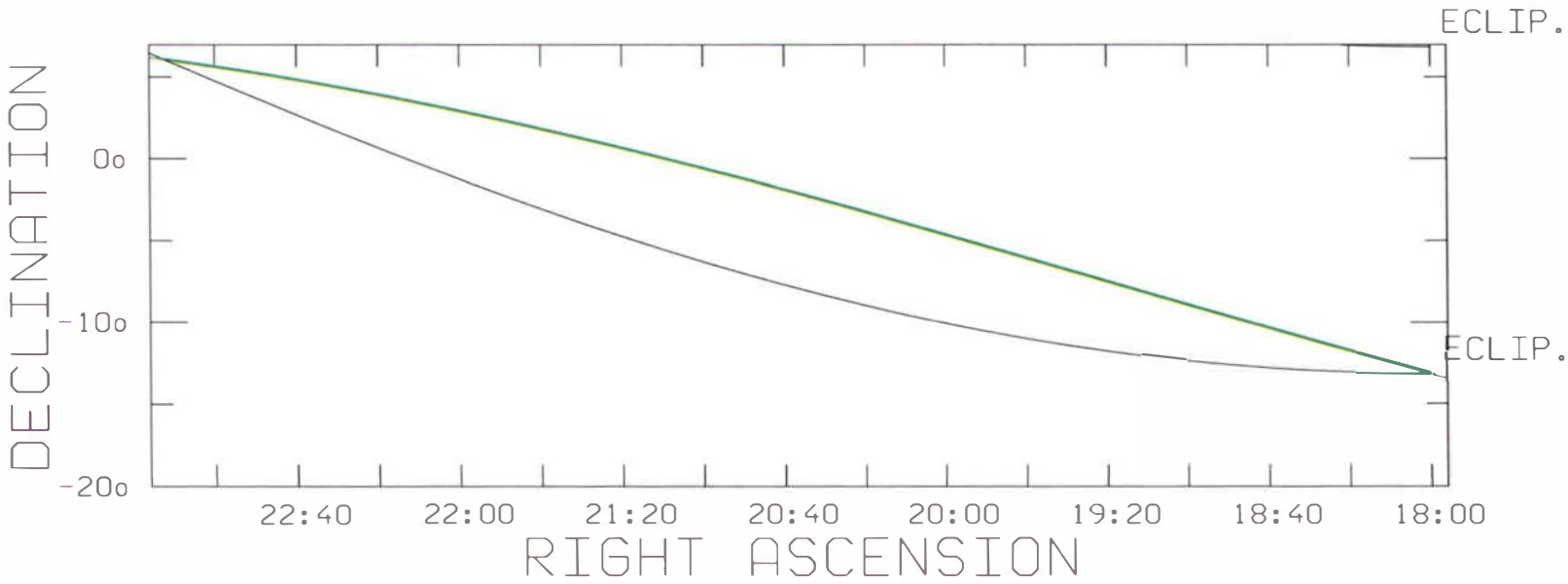
3. PVO Data

☐ Ephemeris of PVO used (not Venus)?

☐ 2000 coordinates used?

☐ Geocentric time used?

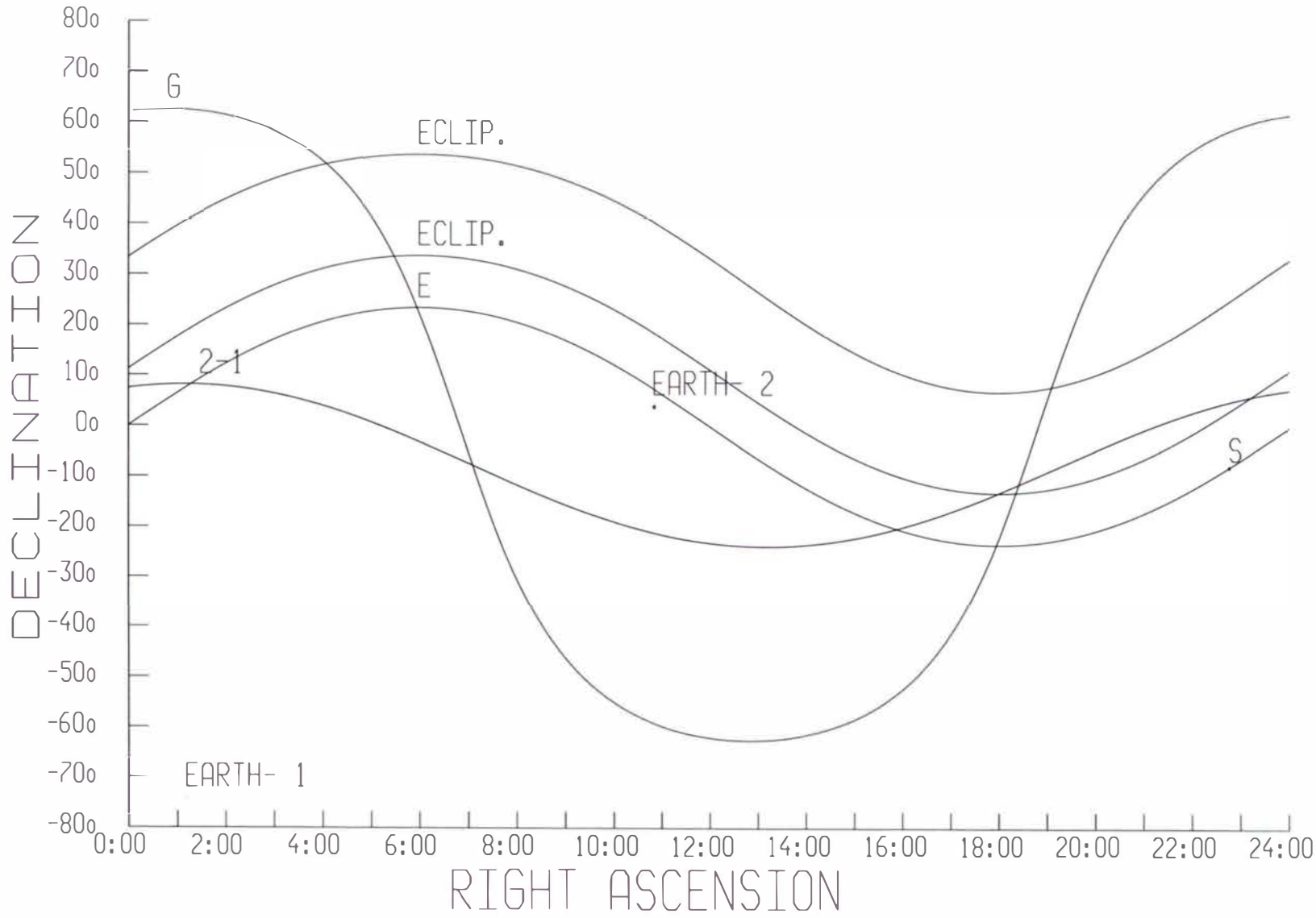
☑ ACCESS and MBL databases updated with identical times?


ECLIP.
DECLINATION
0o
-10o
-20o
ECLIP.
22:40
22:00
21:20
20:40
20:00
19:20
18:40
18:00
RIGHT ASCENSION

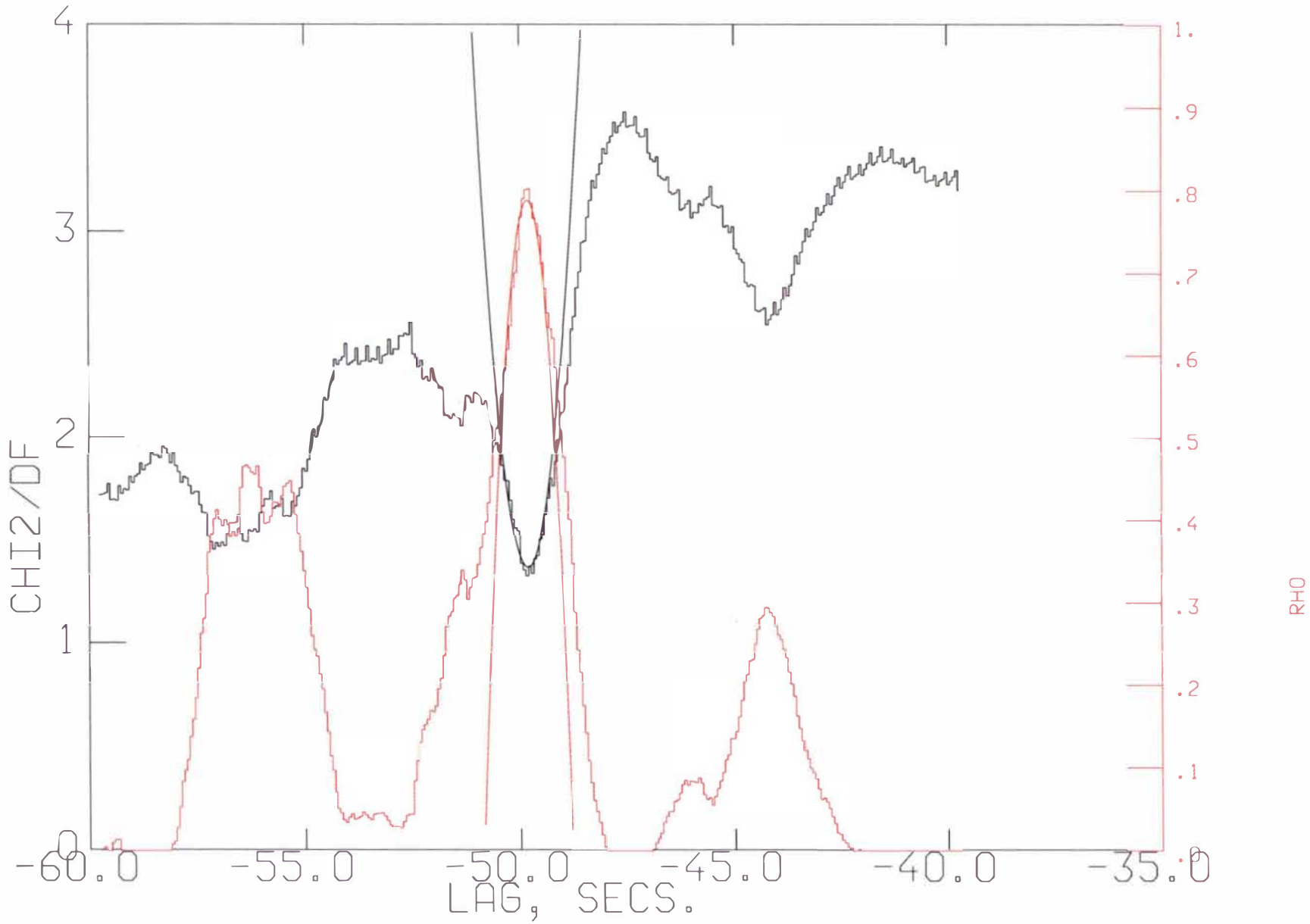
EVENT OF FEB 29, 1996 6:16

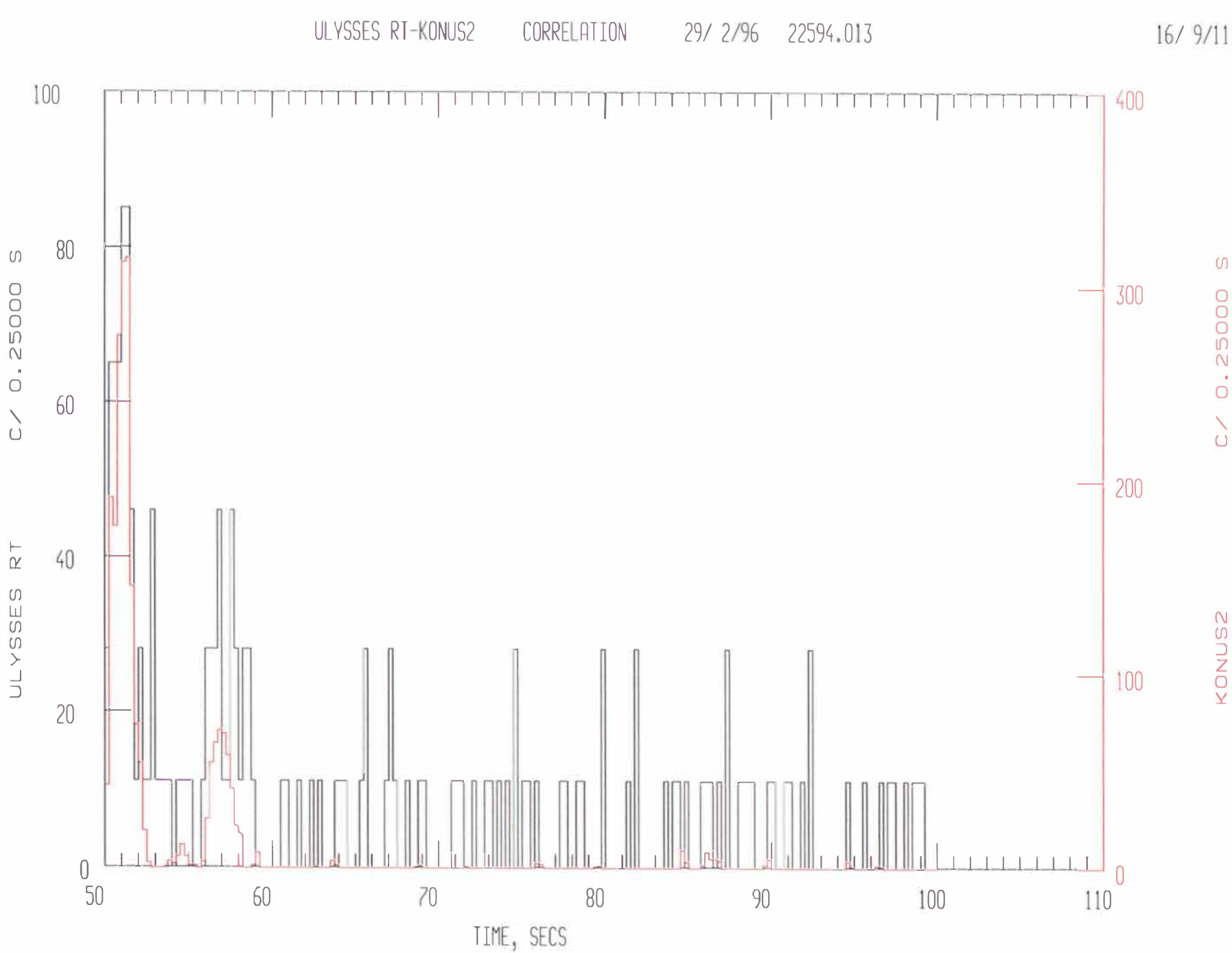
16/09/2011

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 KONUS2



ULYSSES RT-KONUS2 CORRELATION 29/ 2/96 22594.013




ULYSSES RT-KONUS2 CORRELATION 29/ 2/96 22594.013
16/ 9/11
ULYSSES RT C/ 0.25000 S
KONUS2 C/ 0.25000 S
TIME, SECS
0
20
40
60
80
100
0
100
200
300
400
50
60
70
80
90
100
110

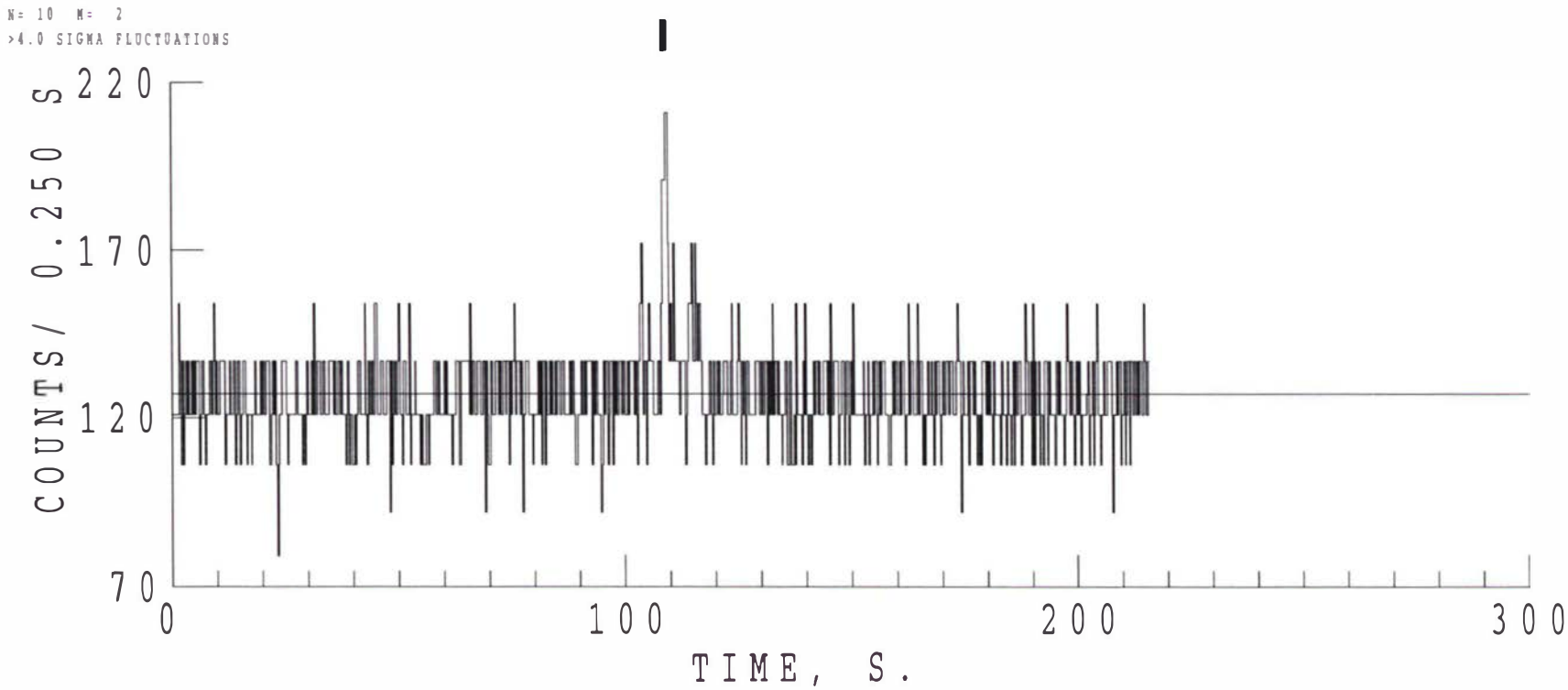
KONUS 19960229 22644

ULYSSES RT

14/09/11

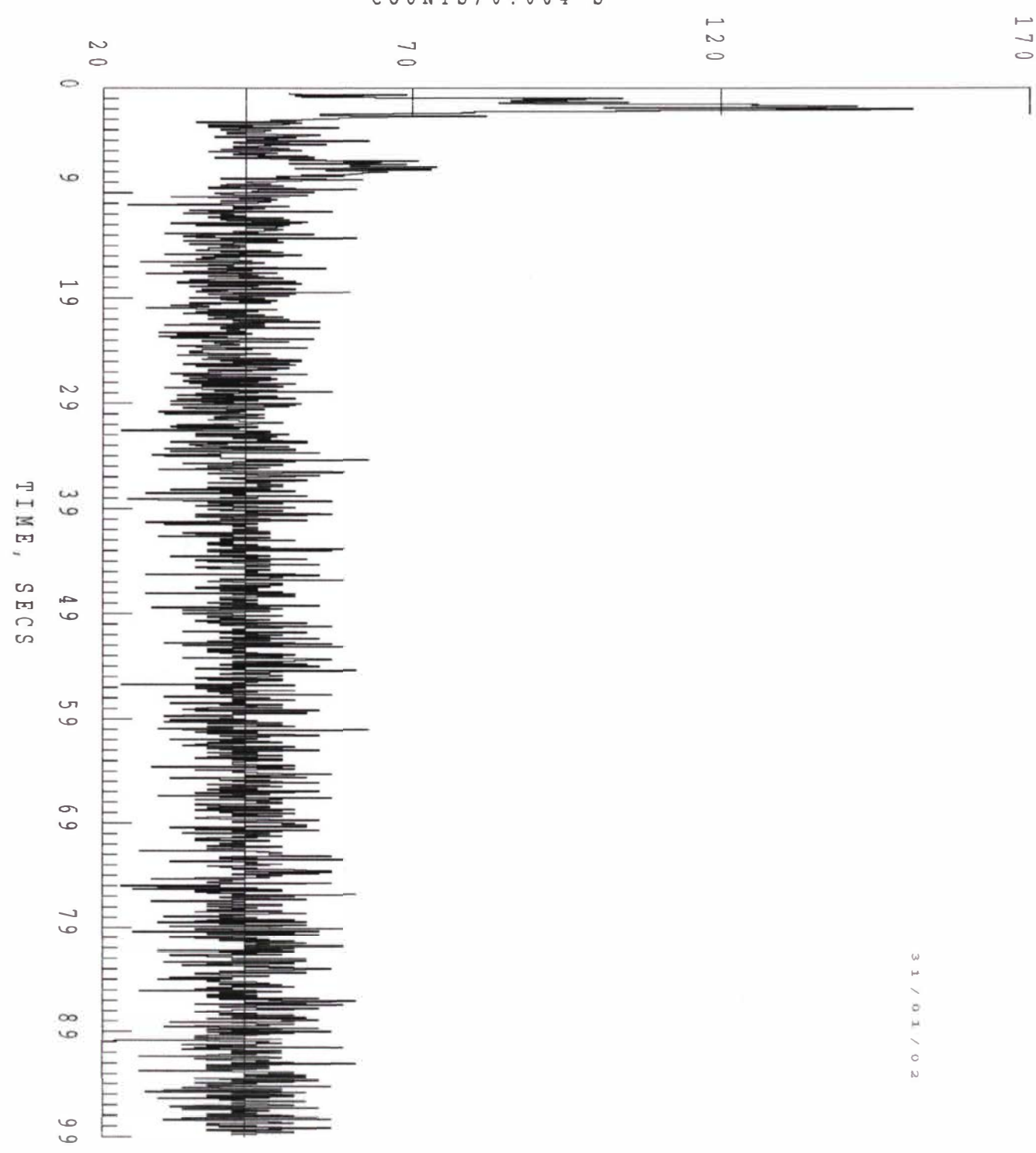
29/02/96 22536.020 s

0- 0 keV



KONUS2 29/02/96 22445.141

50- 200 keV



KONUS2 19960229 22445

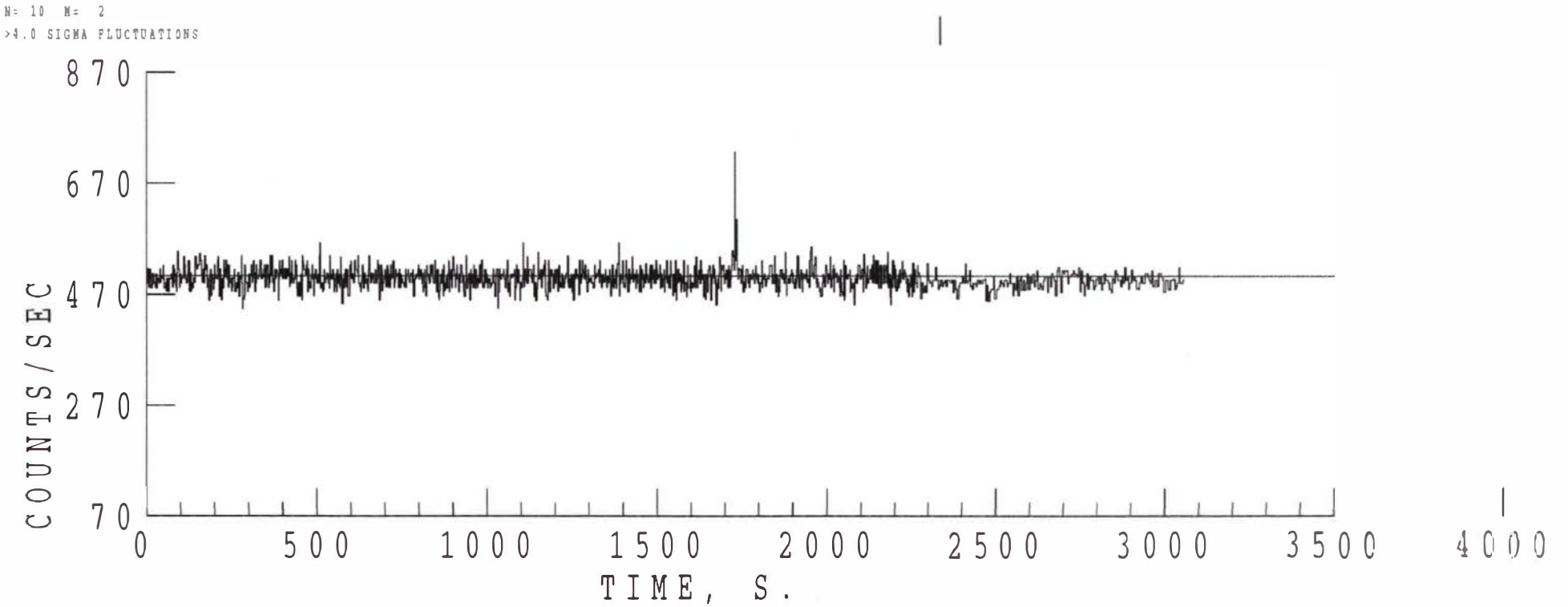
ULYSSES RT

31/01/02

29/02/96 20916.248 s

INTERVALS REGROUPED BY 8

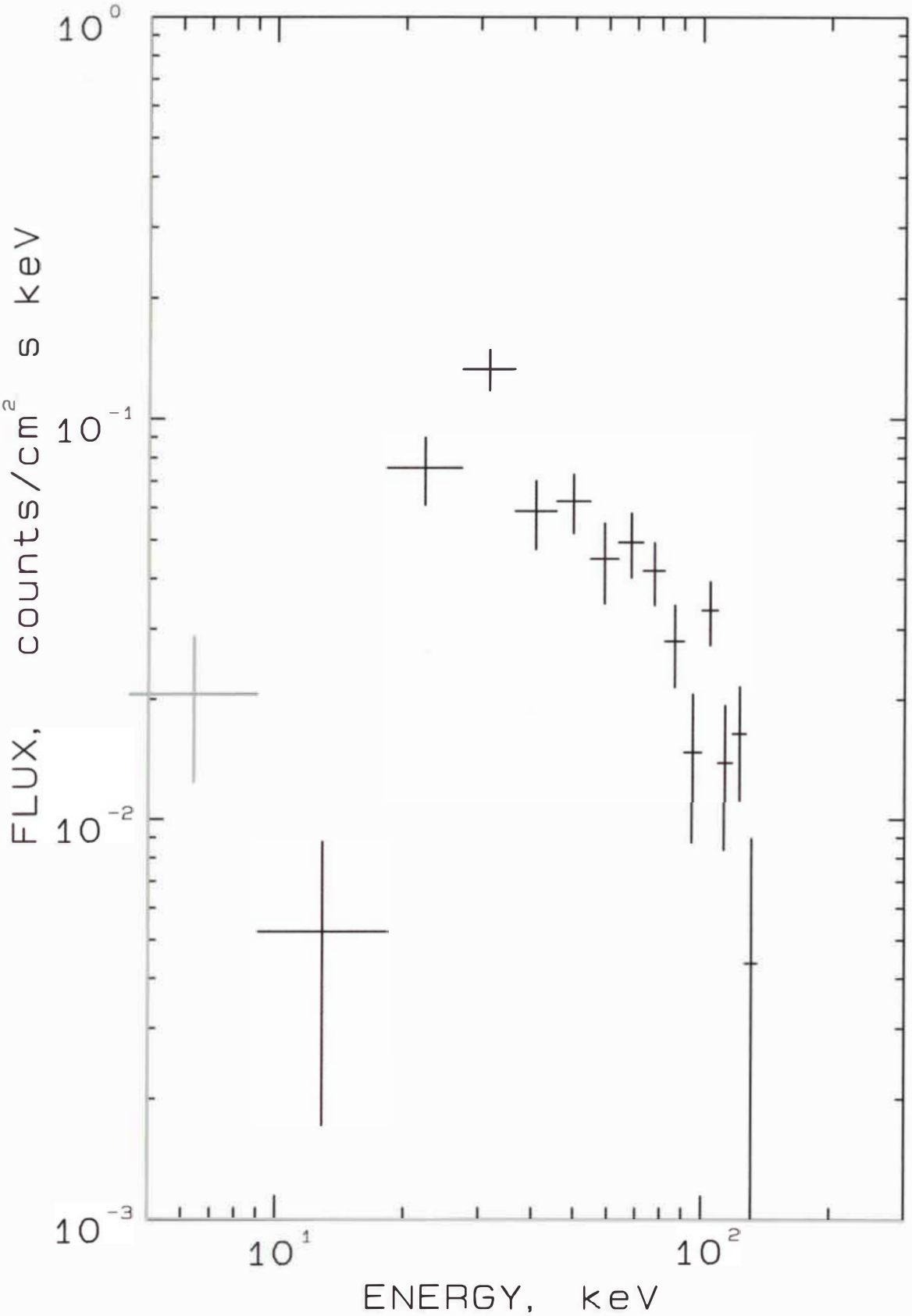
0- 0 keV

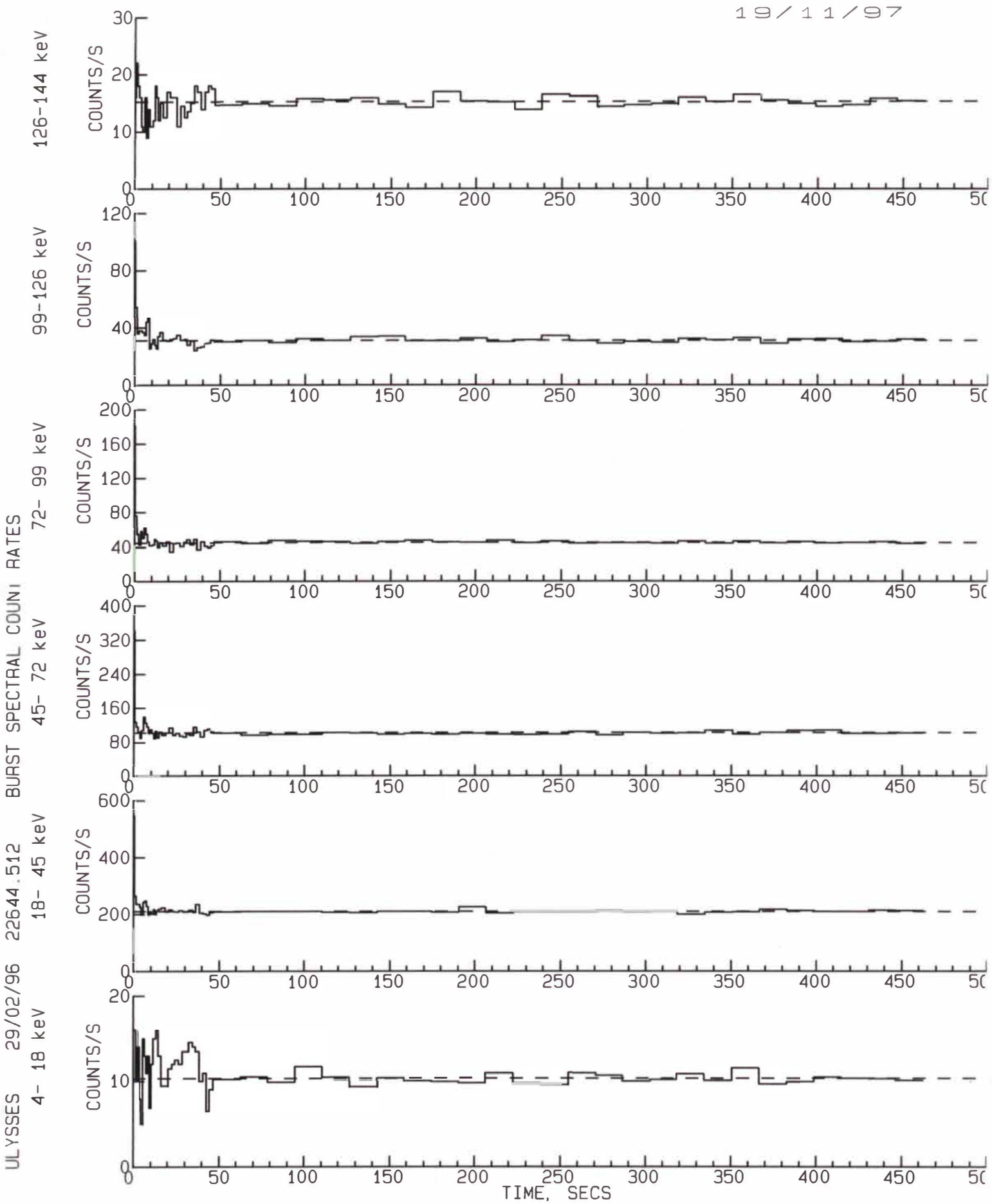


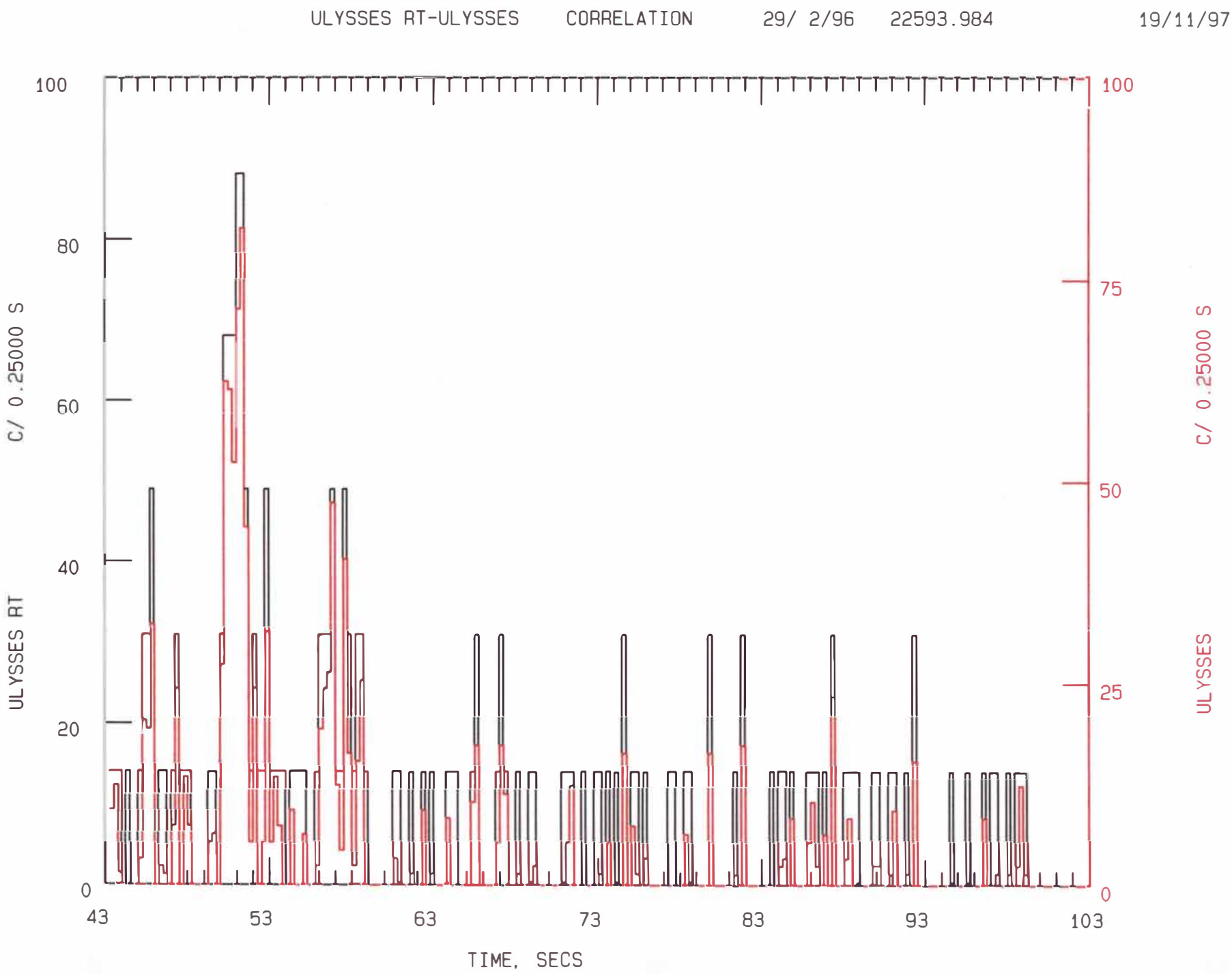
ULYSSES 29/02/96 22644.512

19/11/97

SPECTRUM INTEGRATED OVER 20.5 SECONDS, INTERVALS 2 TO 20

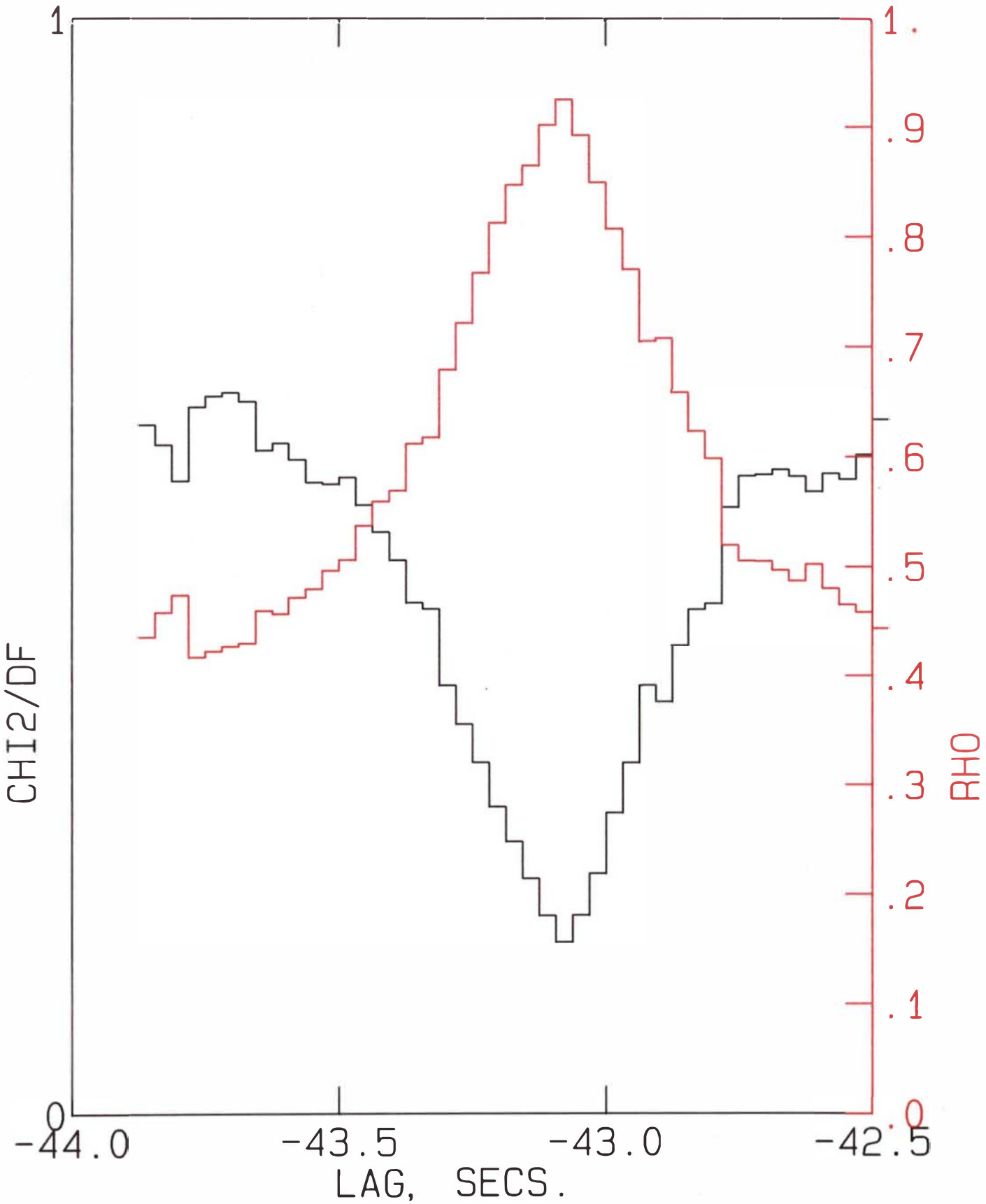



19/11/97
ULYSSES 29/02/96 22644.512 BURST SPECTRAL COUNT RATES
126-144 keV
99-126 keV
72- 99 keV
45- 72 keV
18- 45 keV
4- 18 keV
COUNTS/S
TIME, SECS


ULYSSES RT-ULYSSES CORRELATION 29/ 2/96 22593.984 19/11/97
100
80
60
40
20
0
C/ 0.25000 S
ULYSSES RT
100
75
50
25
0
C/ 0.25000 S
ULYSSES
43
53
63
73
83
93
103
TIME, SECS

19/11/97

ULYSSES RT-ULYSSES CORRELATION 29/ 2/96 22593.984



ULYSSES 29/02/96 Ttrig=22644.485

0- 0 keV

COUNTS/0.031 S

COUNTS/0.125 S

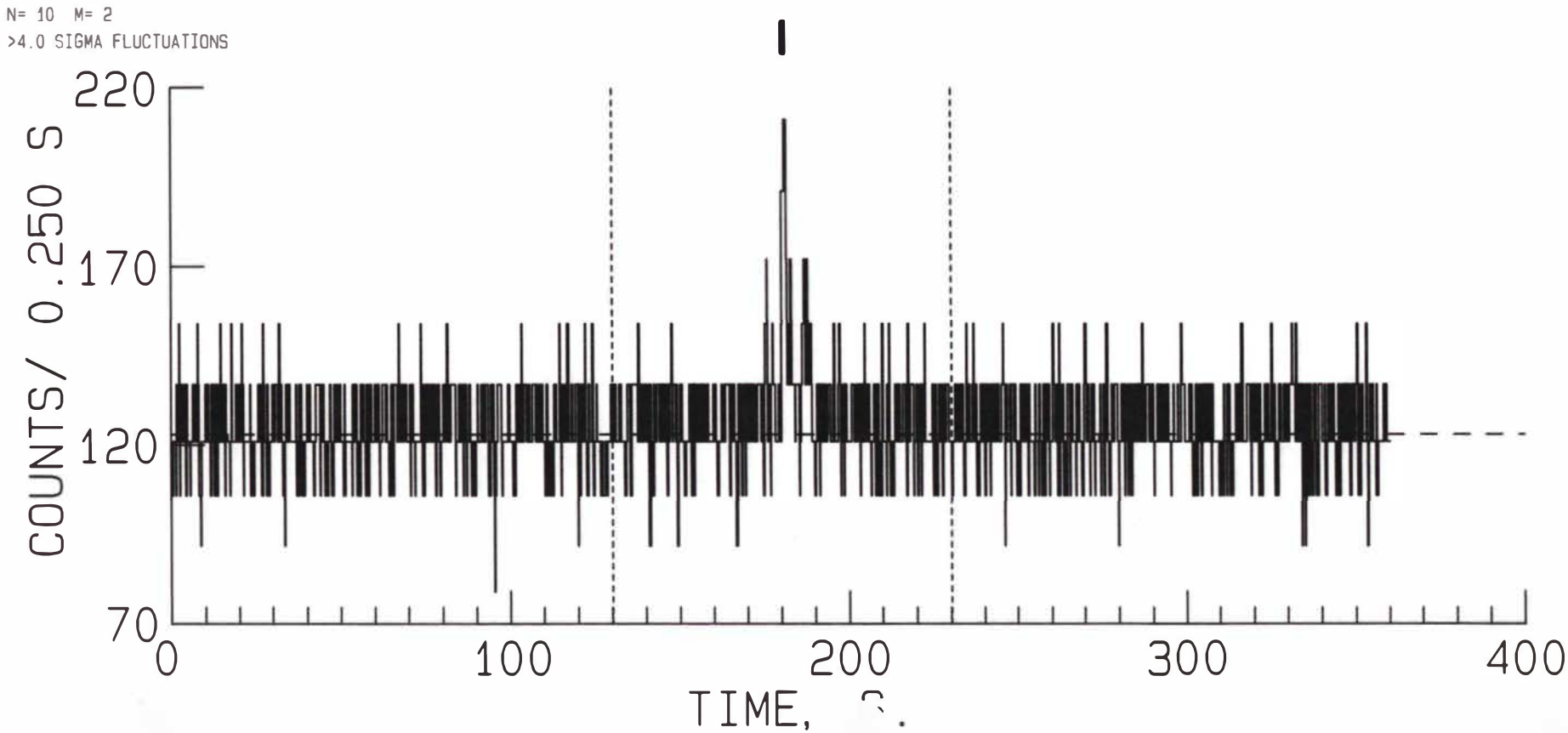
19/11/**

ULYSSES RT

19/11/97

29/ 2/96 22464.019 s

21- 145 keV



From scott@rosserv.gsfc.nasa.gov Tue Mar 5 10:07 PST 1996
From: Scott Barthelmy <scott@rosserv.gsfc.nasa.gov>
Subject: Re: Ulysses event of 29 Feb - Konus was in readout mode.
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Date: Tue, 5 Mar 1996 13:07:05 -0500 (EST)
Cc: scott@rosserv.gsfc.nasa.gov (Scott Barthelmy),
butterworth@lheavx.gsfc.nasa.gov (Paul Butterworth),
cline@lheavx.gsfc.nasa.gov (Tom Cline)
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit

Kevin,
BATSE triggered (#5069) at 23,558 sod on 29feb96,
and triggered (#5070) at 30,293 sod on 29feb96. Both of these are outside
the plus/minus 1400 sec window from 25,500 (07:05 UT).
Both triggers look (to the casual inspection) to be the Bursting Pulsar
(ie withing 20 of location and weak and soft).
--scott

> Hi Everyone,
>
> Konus triggered on a moderately-intense, 15s event at 6:14 UT and was in
> consequence in burst-readout mode from 6.18 to 7.18, during which no data
> were recorded. There are no signs of any events in the background data
> recorded after 7.18.
>
> Paul.
>
>
>
> ---
> ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:
>
> Ulysses triggered on an intense, 5s long event February 29
> 1995 around 07:05 UT at Ulysses. The spacecraft was about 1400
> light-seconds from Earth.
>
> Was this event detected by anyone else?
>
> CC: ulyssesbursts alias list
> (barthelmy, butterworth, cline, marar, teegarden, terrell, yoshimori)
>

From cline@lheavx.gsfc.nasa.gov Fri Mar 29 08:40 PST 1996
Date: Fri, 29 Mar 1996 08:40:19 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: Konus Event List augmentation

Dear Kevin,

This list includes Sergei's latest Konus-W (GGS-Wind) and Konus-A (Kosmos-2326) events, for comparison with Ulysses, BATSE, TGRS, etc. The times listed are prioritized for Konus-W (i.e., Konus-A time given if Konus-W doesn't trigger).

Yr	Mn	Dy	UT (Konus)	BATSE	Ulysses	Konus	TGRS	Notes
95	11	2	07085.879	?	?	168	no	
95	11	2	21209.015	3891	R I	169	345	
95	11	4	05868.077	3893	R I	170	BGR	
95	11	5	46827.808	?	?	171	no	
95	11	12	66495.244	?	R I	172	no	
95	11	13	84358.872	3906	R I	173	BGR	
95	11	17	10123.762	3909	?	175	no	
95	11	19	29831.402	3912	R I	176	348	
95	11	19	46457.519	?	?	177	BGR	
95	11	22	09841.38	?	?	179	no	
95	11	22	17107.738	?	?	180	349	
95	12	2	39101.744	?	?	195	BGR	
95	12	3	03988.18	?	?	196	360	
	12	8	19617.151	?	?	197	no	
	12	8	39452.057	?	?	198	no	
95	12	8	42467.634	?	?	199	BGR	
95	12	9	31349.607	?	?	200	BGR	
95	12	13	17849.683	?	?	201	362	
95	12	14	08657.847	?	?	202	no	
95	12	19	60679.732	?	?	203	no	
95	12	20	31883.56	?	?	204	BGR	
95	12	22	25203.254	?	?	no	?	= K-A t.
95	12	27	23005.042	?	?	218	375	
96	12	31	20231.668	?	?	219	no	
96	1	2	11650.996	?	?	220	no	
96	1	4	12521.062	?	?	221	no	
96	1	11	46524.53	?	?	222	no	
96	1	13	56024.261	?	?	228	no	
96	1	14	44104.737	?	?	233	384	+ K-A t.
96	1	15	31956.506	?	?	234	BGR	
96	1	17	57371.341	?	?	235	no	
96	1	19	34679.317	?	?	236	no	
96	1	19	45226.016	?	?	237	no	
96	1	20	36768.974	?	?	238	no	
96	1	24	03388.008	?	?	239	385	+ K-A t.
96	1	24	76096.911	?	?	BGR	?	= K-A t.
96	1	30	08756.848	?	?	240	no	
96	2	1	78530.582	?	?	241	?	+ K-A t.
96	2	2	50750.813	?	?	242	?	
	2	10	35198.959	?	?	247	?	
96	2	16	57796.347	?	?	BGR	?	= K-A t.
96	2	19	20589.684	?	?	BGR	?	= K-A t.
96	2	28	85760.241	?	?	249	?	
96	2	29	22445.141	?	?	250	?	

96	3	5	33645.352	?	?	251	?
96	3	12	35074.697	?	?	252	?
96	3	19	51992.828	?	?	253	?
96	3	21	76321.803	?	?	254	?
96	3	22	19642.728	?	?	255	?
96	3	24	80064.124	?	?	257	?
96	3	25	69892.978	?	?	258	?

--

TLC

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

From cline@lheavx.gsfc.nasa.gov Fri Mar 8 06:03 PST 1996
Date: Fri, 8 Mar 1996 06:03:52 -0800
Mime-Version: 1.0
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@lheavx.gsfc.nasa.gov (T L Cline)
Subject: forward from "Zand"

From: Jean in 't Zand <jeanz@tgrosf.gsfc.nasa.gov>
Subject: Re: GRB960229
To: cline@lheavx.gsfc.nasa.gov (T L Cline)
Date: Fri, 8 Mar 1996 08:40:58 -0500 (EST)
X-Mailer: ELM [version 2.4 PL24alpha3]
Mime-Version: 1.0

Tom,

We got the TGRS data this night. There's no trigger and no sign of this event in the background data.

Jean.

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

From DEAL@ssl.msfc.nasa.gov Wed Mar 6 11:30 PST 1996
Date: Wed, 6 Mar 1996 13:29:51 -0600 (CST)
From: DEAL@SSLLES.MSFC.NASA.GOV
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 5079

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

 BATSE BURST #     5079                                                  NO
 EVENT OF 1996 FEB 29 DAY OF YEAR= 60
 EVENT CROSSING TIME AT BATSE      : 81423. S. OR 22:37:03.0
 COORDINATES ARE    0.000    0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION:  61.000  -15.000
 BATSE PEAK COUNTING RATE:    4800    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 29/ 2/  96 IS:
 RA=  196.081 DEC=    74.483 DIST=     2.935 AU
 BATSE-ULYSSES DISTANCE =  439119684. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 64.38 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=  633.31 SECS.
 CROSSING TIME AT ULYSSES     IS 82056. S. OR   22:47:36 +/-  288.92 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 29/ 2/  96 IS:
 RA=  342.548 DEC=    -8.490 DIST=     2.372 AU
 MARS-BATSE DISTANCE =  354866720. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.26 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -271.61 SECS.
 CROSSING TIME AT MARS       IS 81151. S. OR   22:32:31 +/-  195.90 SECONDS
```

BATSE BURST TRIGGER

NO.: 5079

TIME: TJD=0142 SECONDS=81423

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=129.3 AZIMUTH=108.6 ERROR=10.3 DEGREES

COMMENTS:
BURST LASTING ~ 2 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
5079	960229	10142	81423	4800	061	-15	2

BATSE# 5079

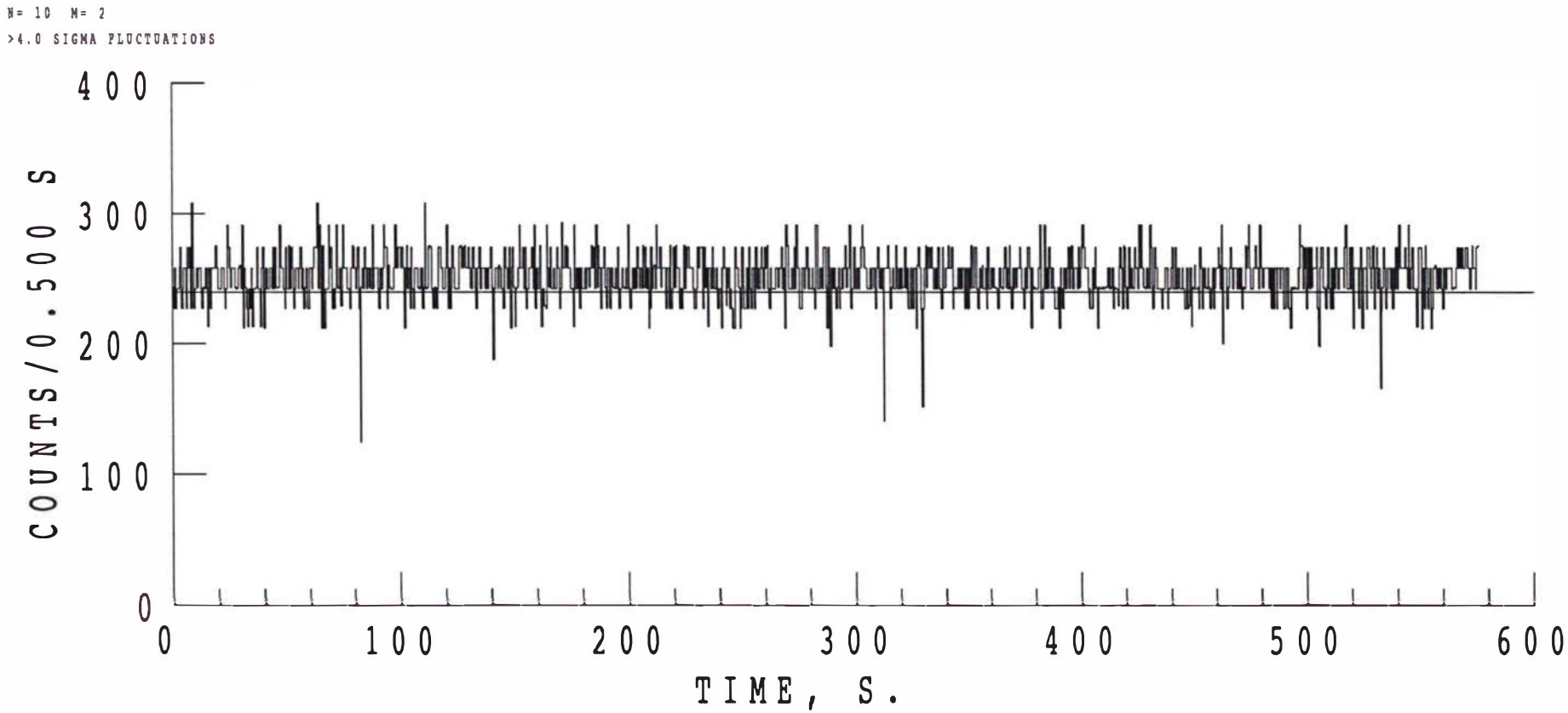
6/ 3/96

ULYSSES RT

29/ 2/96 81756.109 s

0.250 S INTERVALS REGROUPED BY 2

0- 0 keV



From DEAL@fender.msfc.nasa.gov Mon Mar 4 11:42 PST 1996
From: DEAL@fender.msfc.nasa.gov
Date: Mon, 4 Mar 1996 13:41:44 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 5080

RI ?

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

 BATSE BURST #    5080
 EVENT OF 1996 FEB 29 DAY OF YEAR= 60
 EVENT CROSSING TIME AT BATSE     : 86164. S. OR 23:56:04.0
 COORDINATES ARE   0.000   0.000       6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 358.000   12.000
 BATSE PEAK COUNTING RATE:  17500    C/S

 EVENT CROSSING TIME AT ULYSSES    WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 29/ 2/  96 IS:
 RA=  196.052 DEC=   74.485 DIST=    2.935 AU
 BATSE-ULYSSES DISTANCE =  439142511. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.22 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=   70.95 SECS.
 CROSSING TIME AT ULYSSES    IS 86235. S. OR   23:57:14 +/-  305.10 SECONDS

 EVENT CROSSING TIME AT MARS       WILL BE FOUND
 POSITION OF MARS ON 29/ 2/  96 IS:
 RA=  342.548 DEC=   -8.490 DIST=    2.372 AU
 MARS-BATSE DISTANCE =  354866720. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=154.39 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1067.43 SECS.
 CROSSING TIME AT MARS       IS 85097. S. OR   23:38:16 +/-   72.62 SECONDS

                BATSE BURST TRIGGER
NO.: 5080

TIME: TJD=0142 SECONDS=86164

TYPE: BURST                    SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE:       SIGMA

INTENSITY:          COUNTS/CM2

LOCATION: ZENITH=133.9  AZIMUTH=12.4   ERROR=2.6   DEGREES

COMMENTS:
BURST LASTING ~ 10 S. MULTI-PULSE EVENT. NOT VISIBLE ABOVE 300 KEV.


 BATSE #   Date     TJD     SoD   Max ct/s   RA   Dec  Dur (s)
   5080   960229   10142   86164    17500   358   +12      10
```

Helio corr removed

Date: Oct 15 '97

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)?

☑ Does T_0 in data file agree with T_0 in plot?

☑ 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?

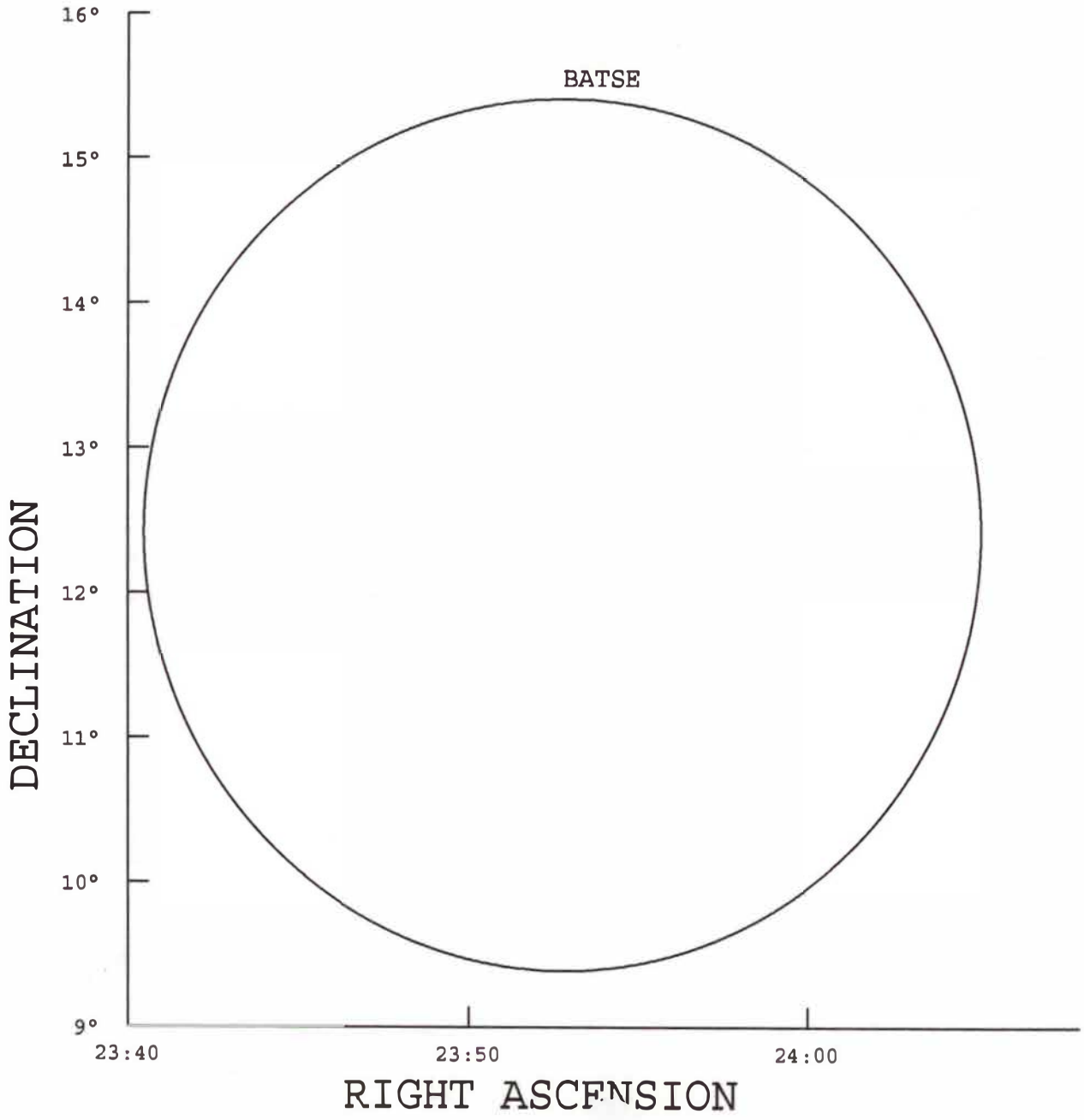
☐ Geocentric time used?

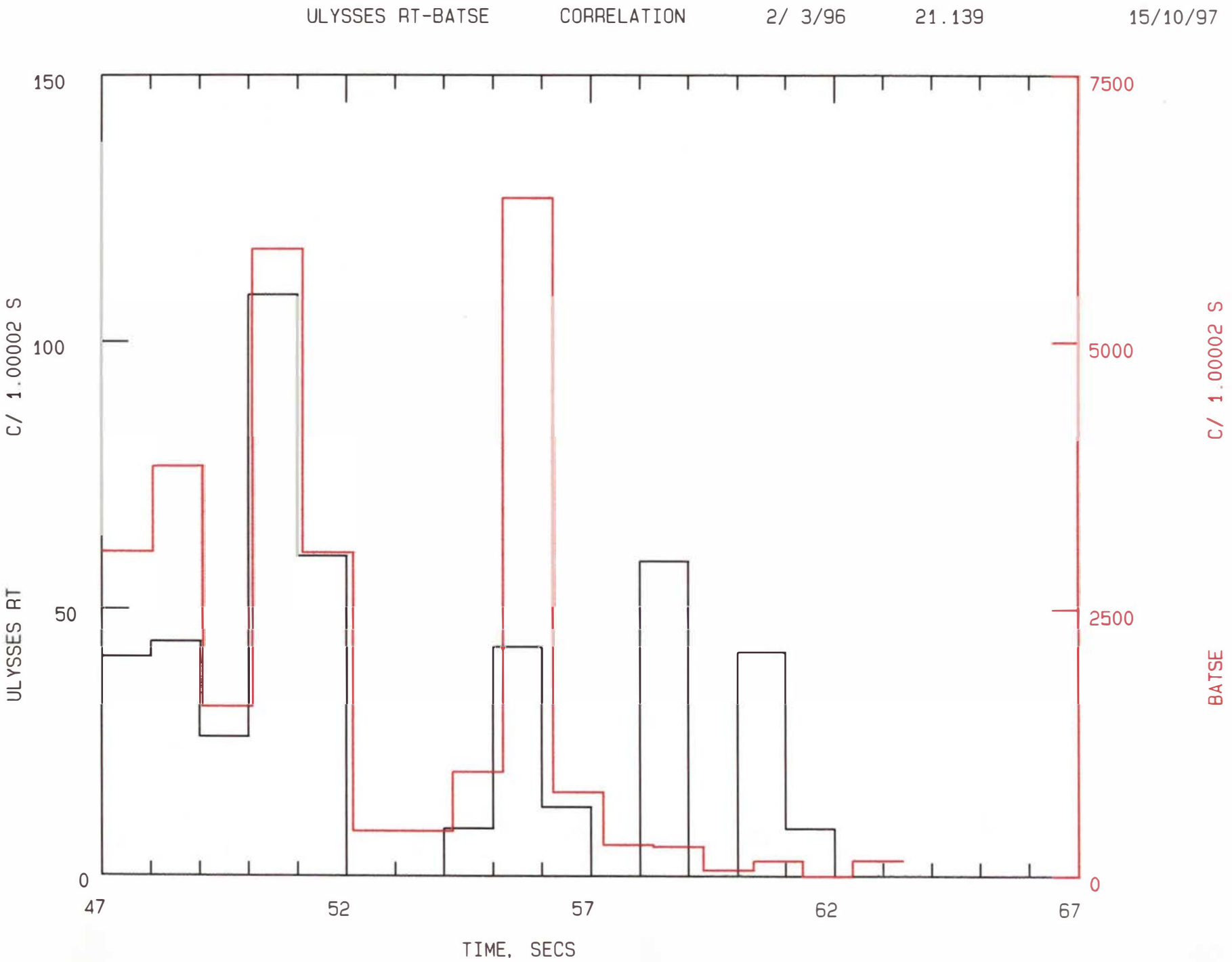
☑ ACCESS database updated?

EVENT OF MAR 1, 1996 0:00

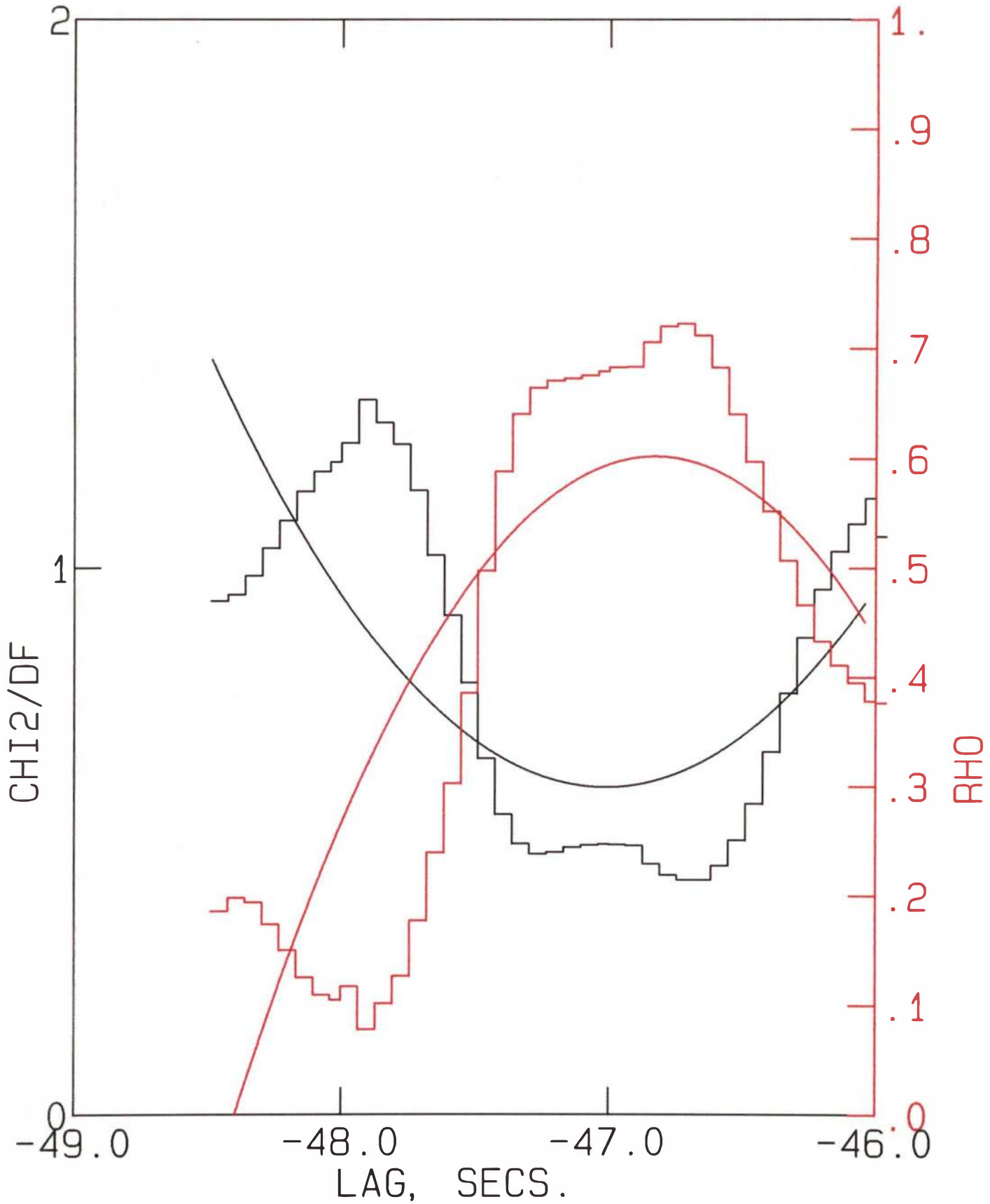
15/10/97

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 2/ 3/96 21.139 15/10/97
150
100
50
0
C/ 1.00002 S
ULYSSES RT
7500
5000
2500
0
C/ 1.00002 S
BATSE
47
52
57
62
67
TIME, SECS

ULYSSES RT-BATSE CORRELATION 2/ 3/96 21.139



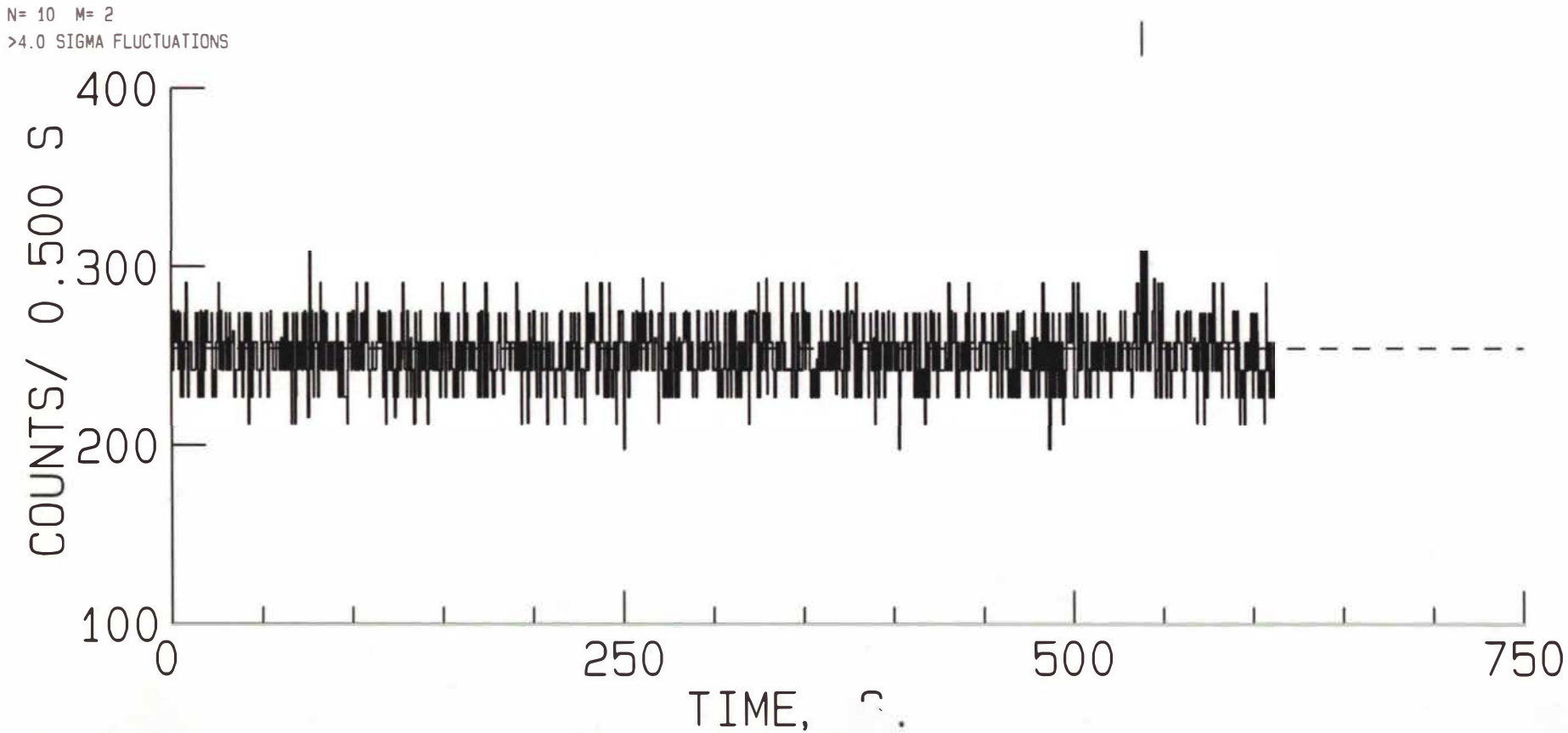
ULYSSES RT

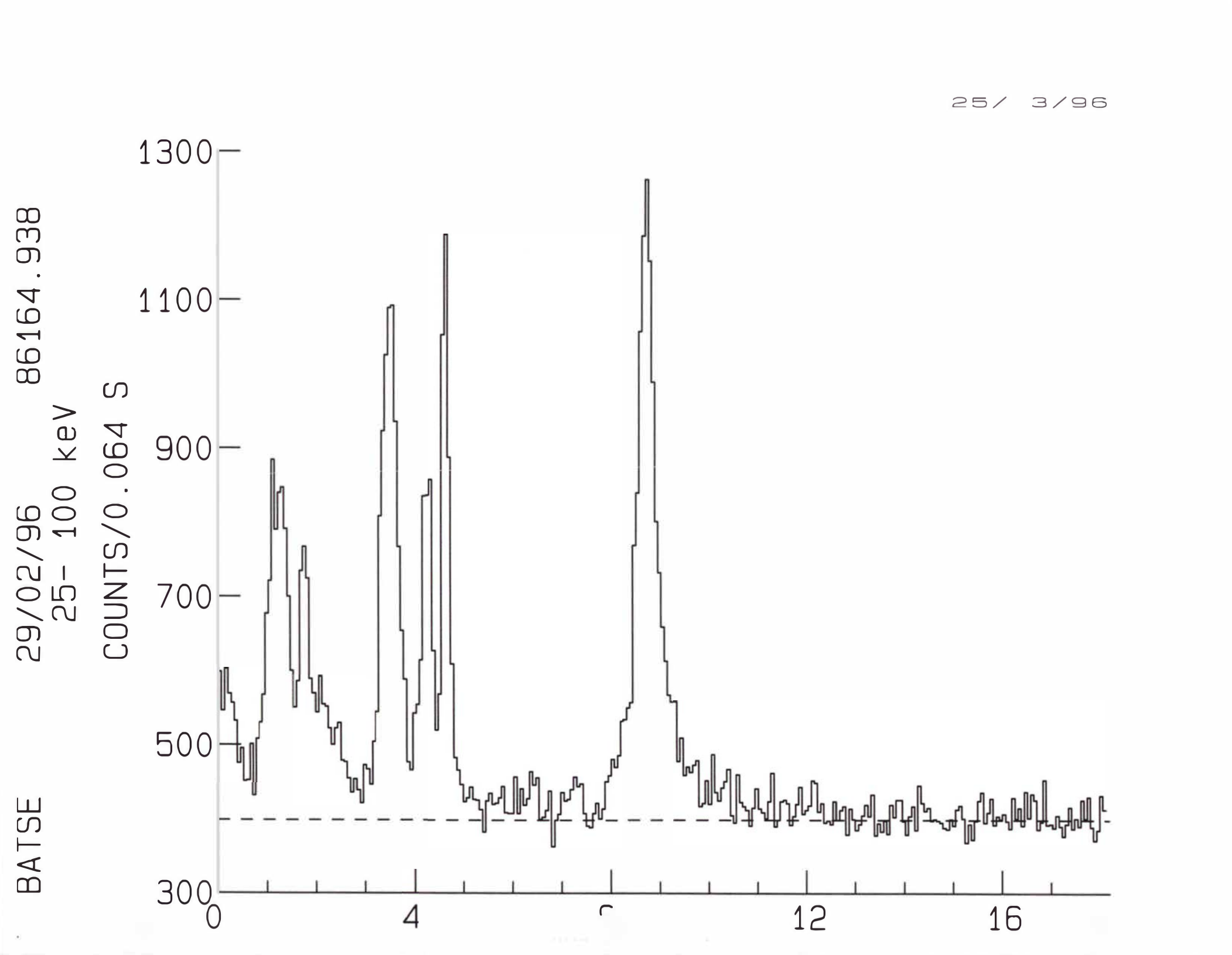
15/10/97

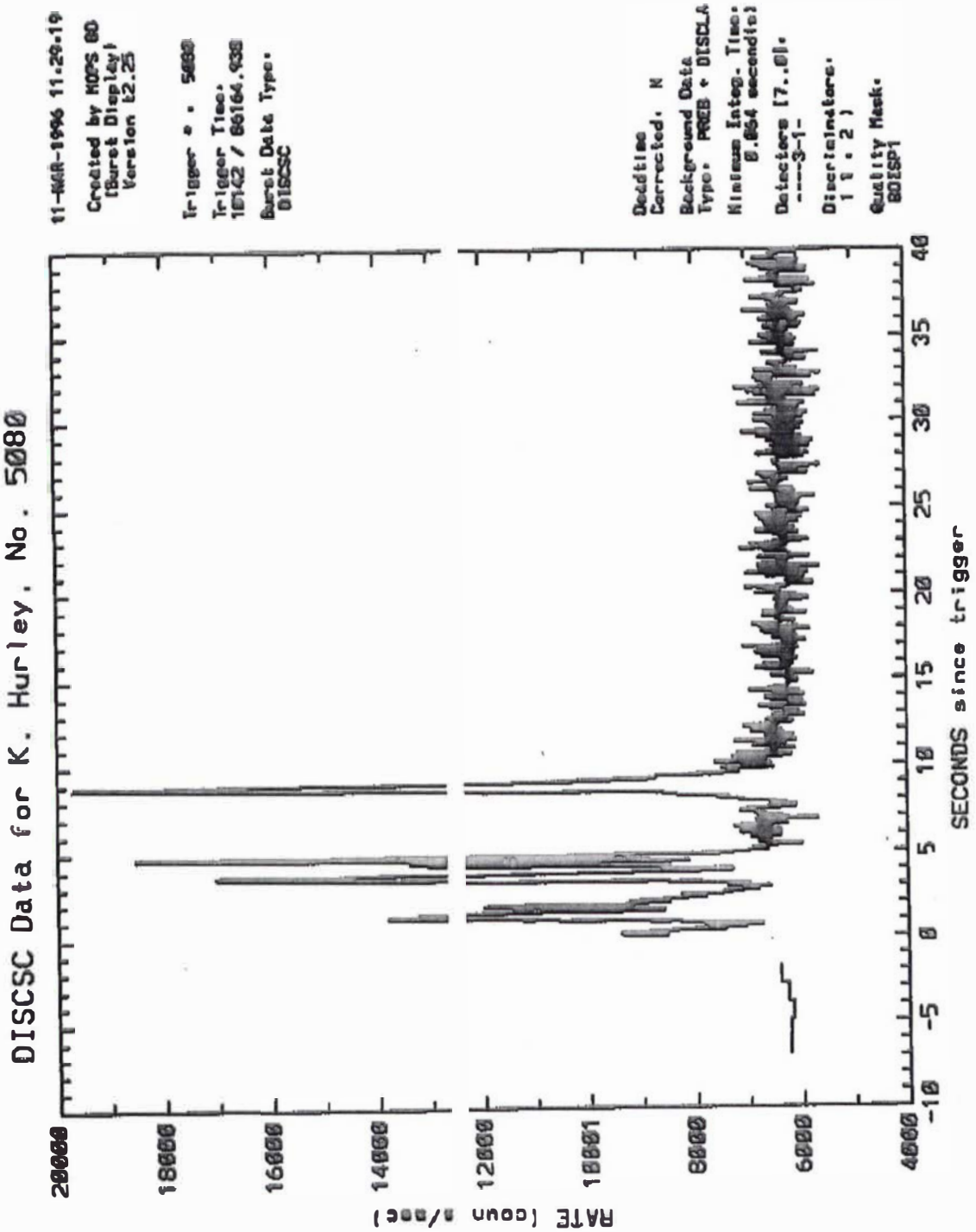
29/ 2/96 85932.174 s

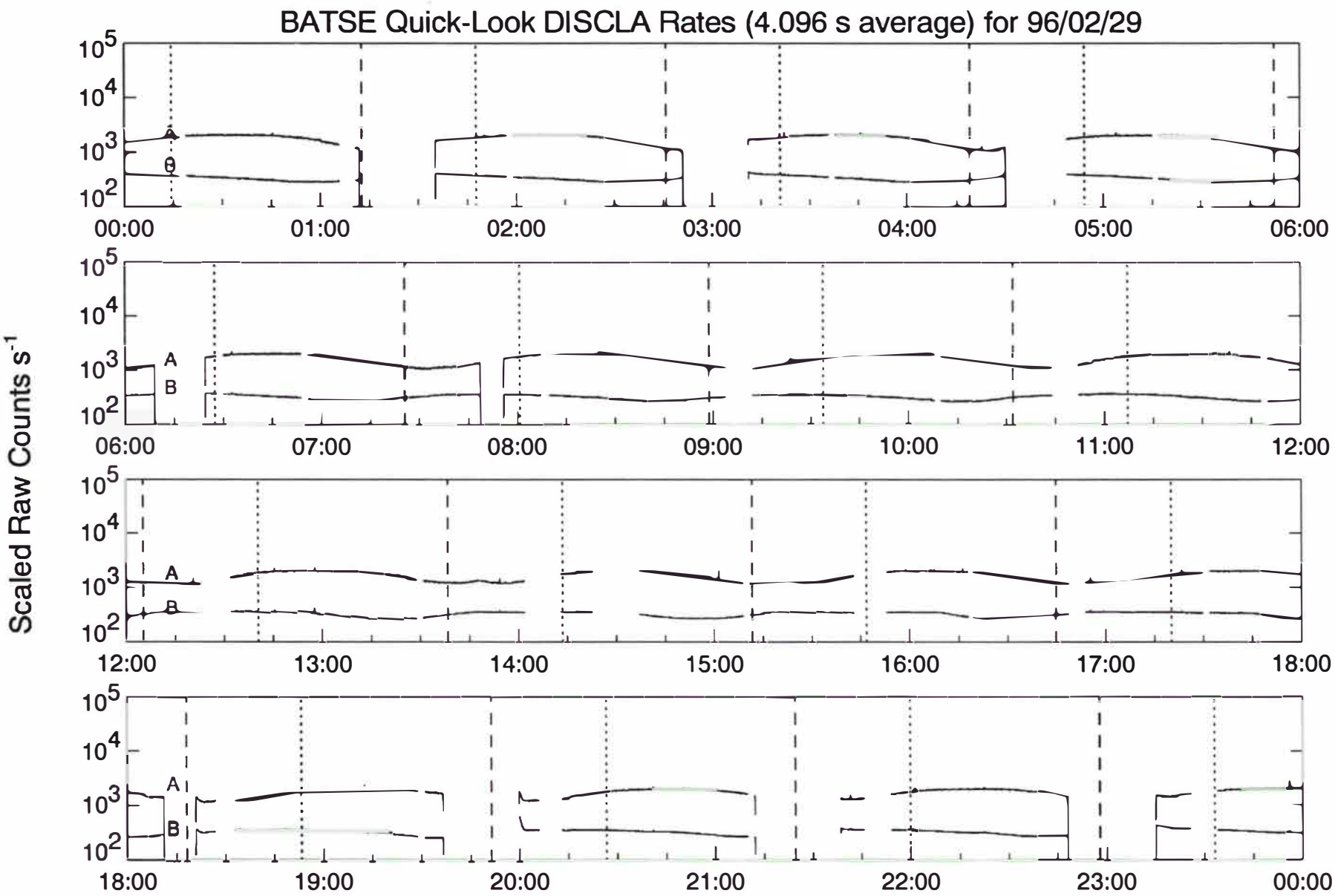
0.250 S INTERVALS REGROUPED BY 2

21- 145 keV




25/ 3/96
BATSE 29/02/96 86164.938
25- 100 keV
COUNTS/0.064 S
1300
1100
900
700
500
300
0
4
12
16

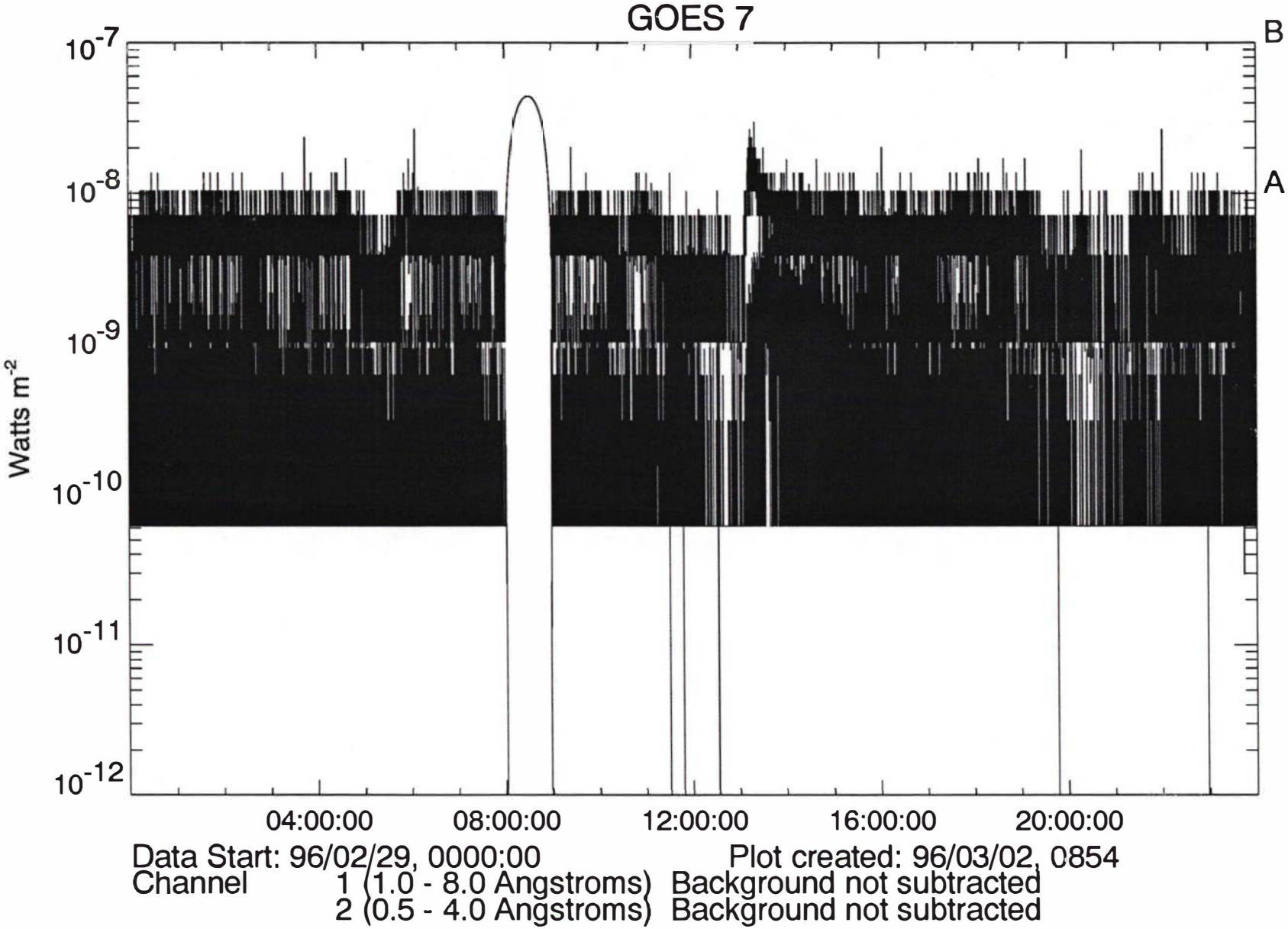

DISCSC Data for K. Hurley, No. 5080
11-MAR-1996 11:29:19
Created by MOPS 80
(Burst Display)
Version 12.25
Trigger # : 5080
Trigger Time:
18142 / 80164.938
Burst Data Type:
DISCSC
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds
Detectors [7..0]:
----3-1-
Discriminators:
1 1 . 2)
Quality Mask:
BDISP1
RATE (coun s/sec)
SECONDS since trigger
20000
18000
16000
14000
12000
10000
8000
6000
4000
-10
-5
0
5
10
15
20
25
30
35
40



Current Time: 96/03/02, 0855 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

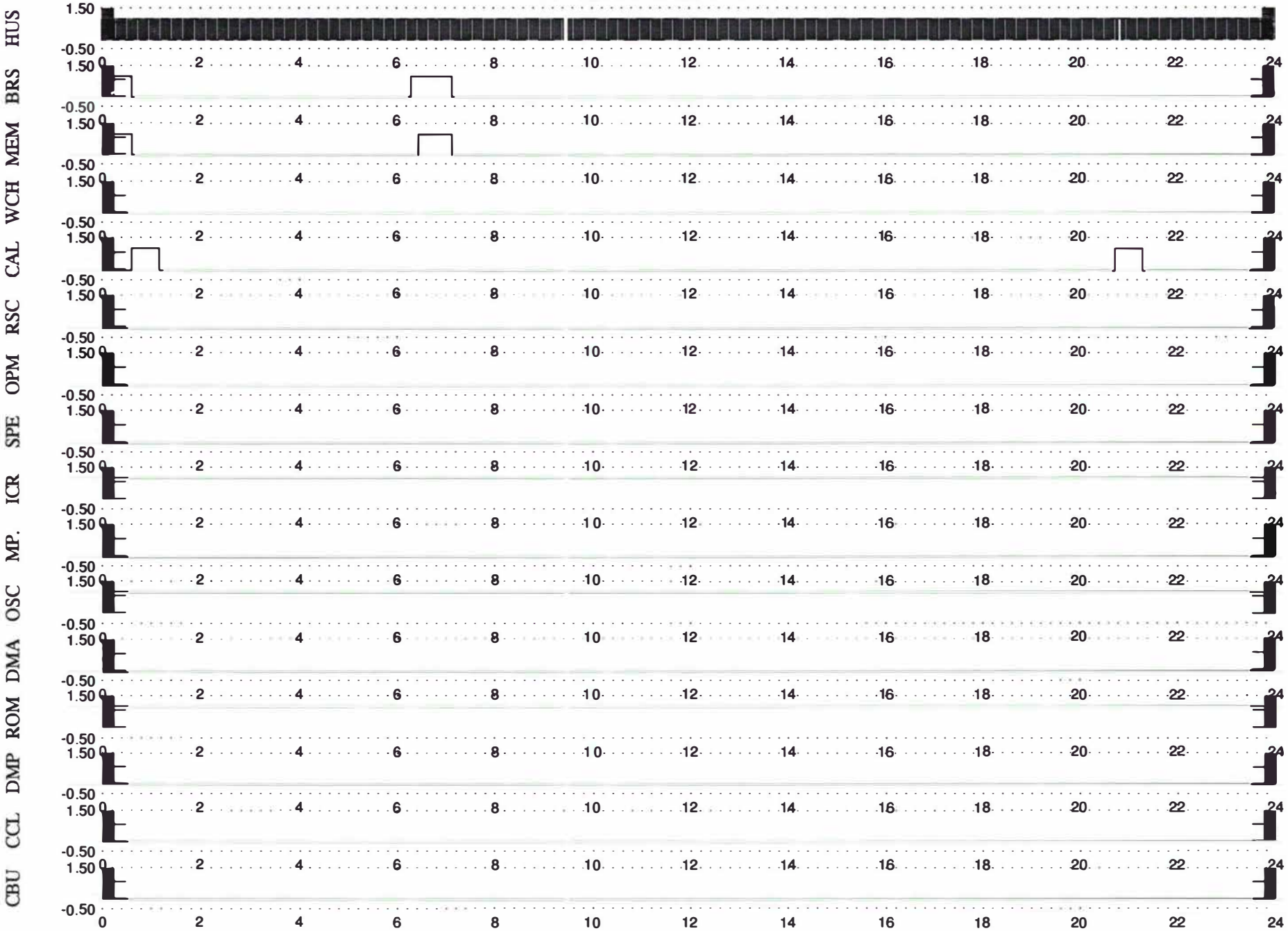
Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
\+ Solar Flare


GOES 7
B
A
10^{-7}
10^{-8}
10^{-9}
10^{-10}
10^{-11}
10^{-12}
Watts m^{-2}
04:00:00
08:00:00
12:00:00
16:00:00
20:00:00
Data Start: 96/02/29, 0000:00
Plot created: 96/03/02, 0854
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
2 (0.5 - 4.0 Angstroms) Background not subtracted

HUS MODES EDR day 60, year 1996 to day 60, year 1996 11/25/96

BURST NUMBER 12

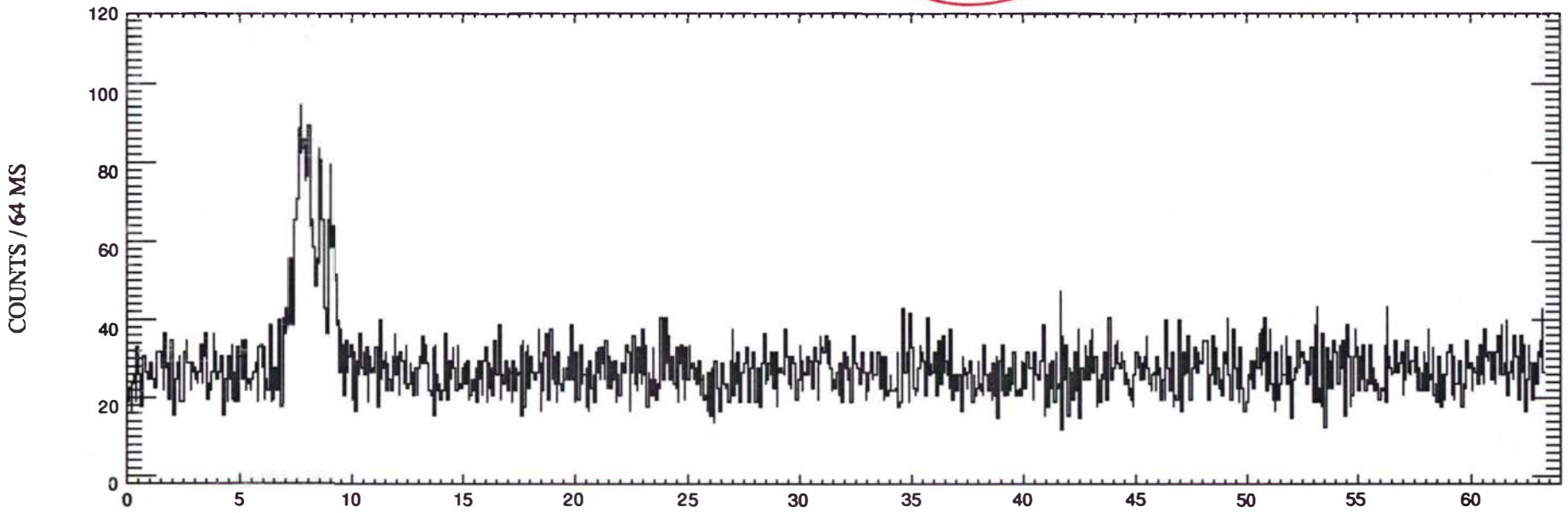


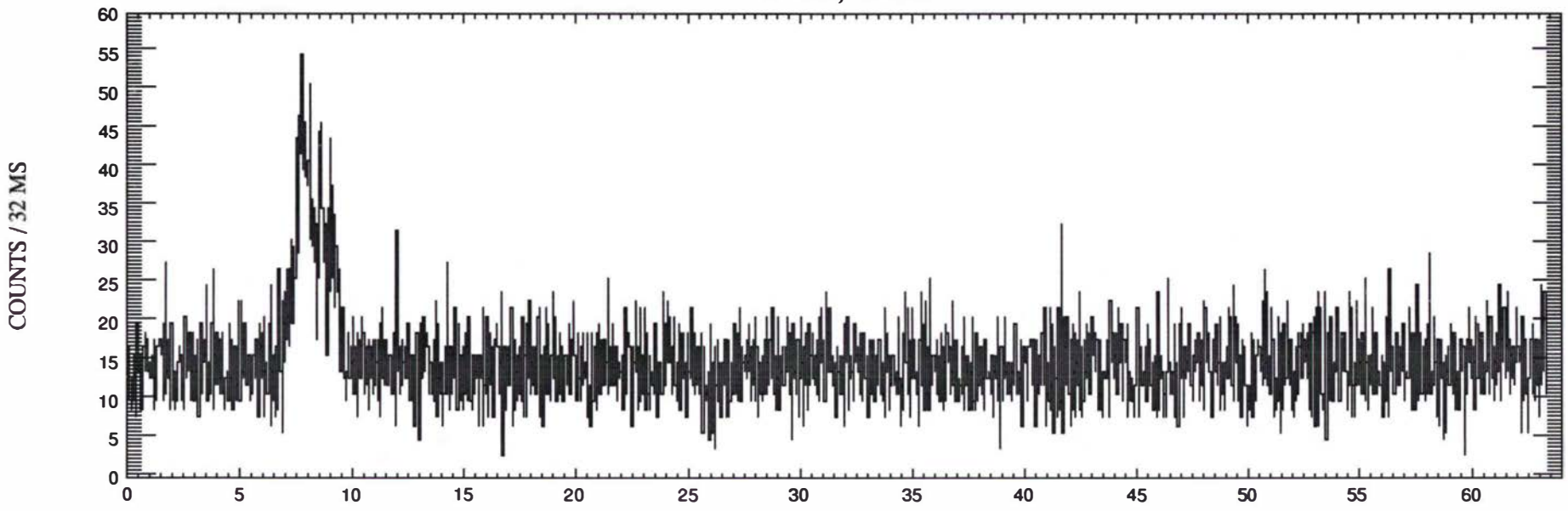
UNI RSAL TIME

HUS 2A TRIGGERED DATA EDR day 60, year 1996 11/25/96

22694 !

Burst Counter 11 at UT= 7.078731079102 n=25483.432 s 07:04:43.432

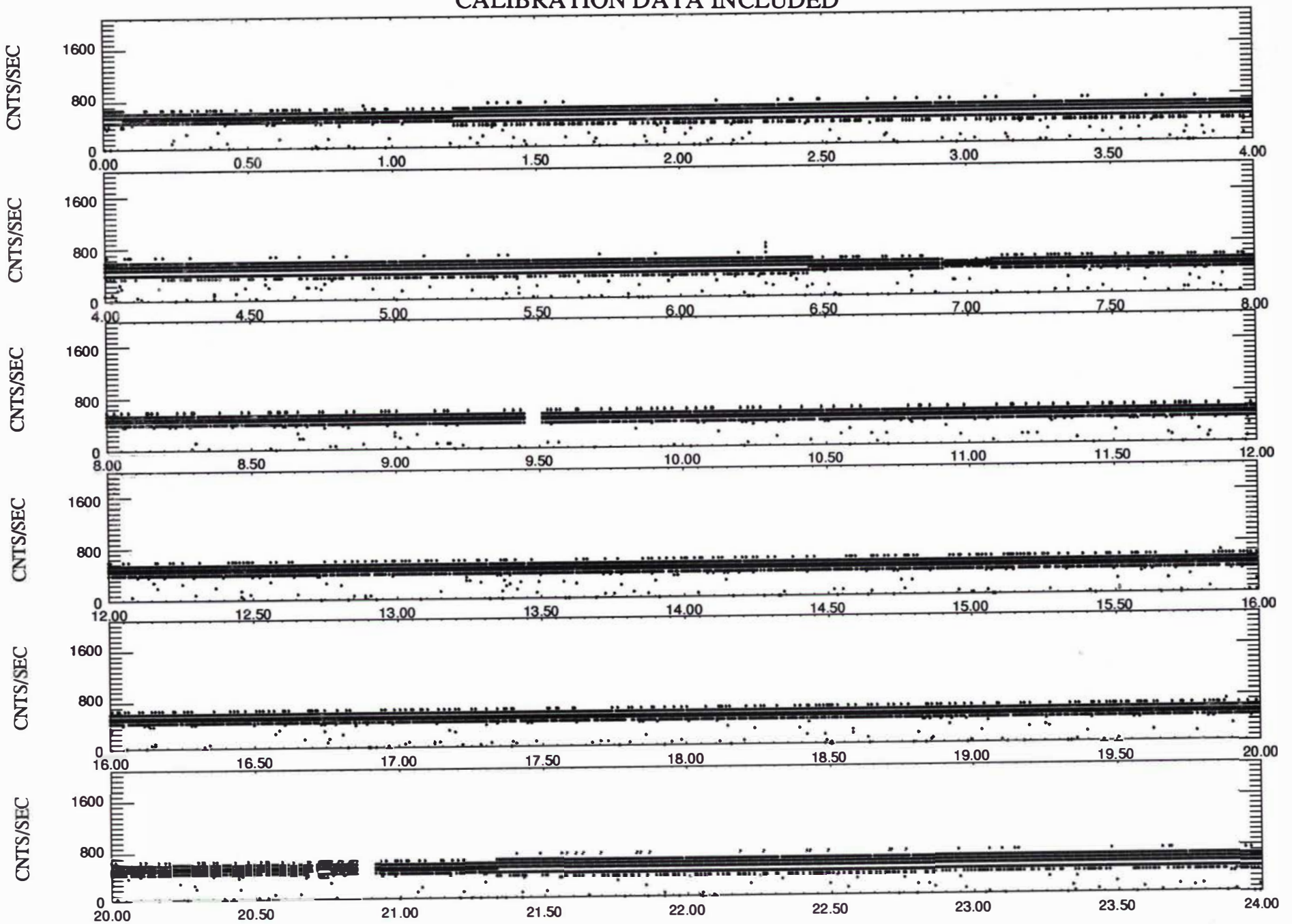




B# 1

HUS 2A, MODE 1, NOT AVERAGED EDR day 60, year 1996 to day 60, year 1996 11/25/96

CALIBRATION DATA INCLUDED



UNI RSAL TIME

HUS 2B COUNTS / SEC EDR day 60, year 1996 to day 60, year 1996 11/25/96

