

30 MAR 98 09 20 23 17 COSMIC	22	22 1 2	
KONUS # 667			
31 MAR 98 06 42 09 17 COSMIC	22	22 3 2	
1 MAR 98 16 57 58 17 COSMIC	22	22 1 2	
KONUS # 668			
1 APR 98 04 31 56 17 COSMIC	22	22 1 2	
KONUS # 669			
2 APR 98 09 53 33 17 COSMIC	22	22 3 2	
2 APR 98 21 49 13 17 COSMIC	22	22 3 2	
3 APR 98 23 15 53 17 COSMIC	22	22 3 2	
6 APR 98 16 12 47 17 COSMIC	22	22 3 2	
6 APR 98 17 13 59 17 COSMIC	22	22 3 2	
9 APR 98 02 08 40 17 COSMIC	22	22 1 2	
KONUS # 670			
13 APR 98 23 35 33 17 COSMIC	22	22 3 2	
17 APR 98 13 32 44 17 COSMIC	22	22 1 2	48764 s
KONUS # 672			
17 APR 98 20 02 36 17 COSMIC	22	22 1 2	72156 s
KONUS # 673			
20 APR 98 10 06 53 17 COSMIC	22	22 1 2	
KONUS # 674			
25 APR 98 21 49 10 17 COSMIC	22	22 3 2	
28 APR 98 00 53 09 17 COSMIC	22	22 1 2	03189 s
KONUS # 676			
28 APR 98 20 10 06 17 COSMIC	22	22 1 2	72606 s
KONUS # 677			
29 APR 98 05 41 32 17 COSMIC	22	22 1 2	20492 s
KONUS # 678			
30 APR 98 16 35 02 17 COSMIC	22	22 1 2	59702
KONUS # 680			
8 MAY 98 04 07 25 17 COSMIC	22	22 1 2	
KONUS # 687			
12 MAY 98 18 25 53 17 COSMIC	22	22 1 2	
KONUS # 690			
15 MAY 98 17 00 16 17 COSMIC	22	22 3 2	
16 MAY 98 11 23 57 17 COSMIC	22	22 1 2	
KONUS # 691			
18 MAY 98 04 07 52 17 COSMIC	22	22 1 2	
KONUS # 692			
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18 MAY 98 09 47 10 17 COSMIC	22	22 3 2	
19 MAY 98 03 43 32 17 COSMIC	22	22 3 2	
19 MAY 98 12 20 19 17 COSMIC	22	22 1 2	
KONUS # 693			
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KONUS # 694			
23 MAY 98 02 23 20 17 COSMIC	22	22 1 2	
KONUS # 695			
23 MAY 98 08 40 08 17 COSMIC	22	22 3 2	
26 MAY 98 22 24 09 17 COSMIC	22	22 1 2	
KONUS # 696			
27 MAY 98 04 14 31 17 COSMIC	22	22 1 2	
KONUS # 697			

27 MAY 98 07 34 58 17 COSMIC	22	22 1 2
KONUS # 698		
30 MAY 98 09 03 35 17 COSMIC	22	22 1 2
KONUS # 701		
30 MAY 98 11 28 52 17 COSMIC	22	22 1 2
KONUS # 702		
30 MAY 98 12 47 18 17 COSMIC	22	22 1 2
KONUS # 703		
30 MAY 98 23 27 37 17 COSMIC	22	22 1 2
KONUS # 704		
31 MAY 98 07 47 40 17 COSMIC	22	22 1 2
KONUS # 705		
1 JUN 98 06 39 42 17 COSMIC	22	22 3 2
1 JUN 98 13 33 56 17 COSMIC	22	22 3 2
2 JUN 98 12 55 29 17 COSMIC	22	22 3 2
4 JUN 98 01 15 21 17 COSMIC	22	22 3 2
4 JUN 98 03 13 44 17 COSMIC	22	22 3 2
5 JUN 98 14 12 11 17 COSMIC	22	22 1 2
KONUS # 706		
7 JUN 98 08 32 32 17 COSMIC	22	22 1 2
KONUS # 707		
7 JUN 98 21 14 15 17 COSMIC	22	22 1 2
KONUS # 708		
8 JUN 98 10 11 54 17 COSMIC	22	22 3 2
9 JUN 98 06 58 02 17 COSMIC	22	22 3 2
9 JUN 98 20 32 19 17 COSMIC	22	22 1 2
KONUS # 709		
10 JUN 98 07 01 08 17 COSMIC	22	22 3 2
10 JUN 98 19 52 26 17 COSMIC	22	22 1 2
KONUS # 710		
10 JUN 98 23 56 35 17 COSMIC	22	22 1 2
KONUS # 711		
11 JUN 98 05 41 12 17 COSMIC	22	22 3 2
11 JUN 98 09 10 51 17 COSMIC	22	22 1 2
KONUS # 712		
14 JUN 98 08 50 54 17 COSMIC	22	22 1 2
KONUS # 714		
15 JUN 98 10 12 01 17 COSMIC	22	22 1 2
KONUS # 715		
16 JUN 98 01 50 26 17 COSMIC	22	22 1 2
KONUS # 716		
16 JUN 98 13 28 57 17 COSMIC	22	22 1 2
KONUS # 717		
16 JUN 98 17 22 59 17 COSMIC	22	22 1 2
KONUS # 718		
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17 JUN 98 19 58 31 17 COSMIC	22	22 1 2
KONUS # 719		
17 JUN 98 21 04 40 17 COSMIC	22	22 1 2
KONUS # 720		
17 JUN 98 22 54 08 17 COSMIC	22	22 1 2
KONUS # 721		
18 JUN 98 01 42 33 17 COSMIC	22	22 1 2
KONUS # 722		

18 JUN 98 03 25 16 17 COSMIC	22	22 1 2
KONUS # 723		
18 JUN 98 04 30 29 17 COSMIC	22	22 1 2
KONUS # 724		
18 JUN 98 06 16 33 17 COSMIC	22	22 1 2
KONUS # 725		
18 JUN 98 16 38 04 17 COSMIC	22	22 1 2
KONUS # 726		
19 JUN 98 13 12 10 17 COSMIC	22	22 1 2
KONUS # 727		
22 JUN 98 13 29 56 17 COSMIC	22	22 1 2
KONUS # 728		
22 JUN 98 18 56 39 17 COSMIC	22	22 1 2
KONUS # 729		
22 JUN 98 20 21 42 17 COSMIC	22	22 1 2
KONUS # 730		
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KONUS # 731		
24 JUN 98 23 45 14 17 COSMIC	22	22 3 2
25 JUN 98 10 56 19 17 COSMIC	22	22 1 2
KONUS # 732		
25 JUN 98 13 47 37 17 COSMIC	22	22 3 2
26 JUN 98 14 21 28 17 COSMIC	22	22 3 2
26 JUN 98 19 29 42 17 COSMIC	22	22 3 2
26 JUN 98 22 39 49 17 COSMIC	22	22 1 2
KONUS # 733		
27 JUN 98 04 20 28 17 COSMIC	22	22 3 2
27 JUN 98 12 36 40 17 COSMIC	22	22 3 2
28 JUN 98 15 01 30 17 COSMIC	22	22 3 2
29 JUN 98 01 34 00 17 COSMIC	22	22 3 2
29 JUN 98 07 25 06 17 COSMIC	22	22 1 2
KONUS # 735		
29 JUN 98 08 59 46 17 COSMIC	22	22 1 2
KONUS # 736		
1 JUL 98 01 42 03 17 COSMIC	22	22 3 2
3 JUL 98 13 48 28 17 COSMIC	22	22 3 2
5 JUL 98 18 29 20 17 COSMIC	22	22 3 2
6 JUL 98 15 37 49 17 COSMIC	22	22 3 2
6 JUL 98 15 59 46 17 COSMIC	22	22 1 2
KONUS # 740		
6 JUL 98 17 46 28 17 COSMIC	22	22 3 2
6 JUL 98 21 40 51 17 COSMIC	22	22 1 2
KONUS # 741		
8 JUL 98 14 38 07 17 COSMIC	22	22 1 2
KONUS # 742		
8 JUL 98 16 54 52 17 COSMIC	22	22 1 2
KONUS # 743		
9 JUL 98 05 40 10 17 COSMIC	22	22 3 2
12 JUL 98 21 50 40 17 COSMIC	22	22 1 2
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KONUS # 745		

1000

1000

1000

1000

1000

1000

1000

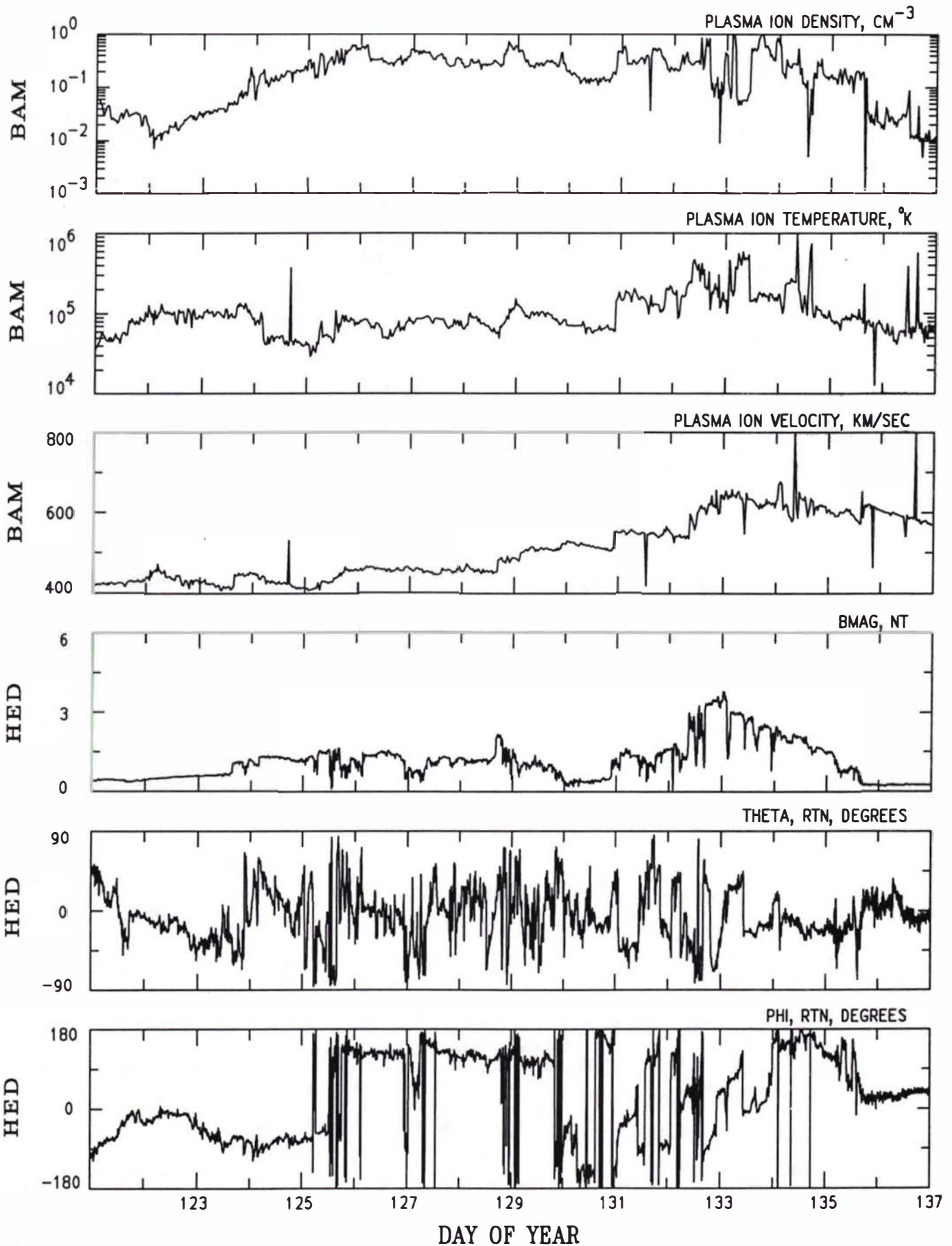
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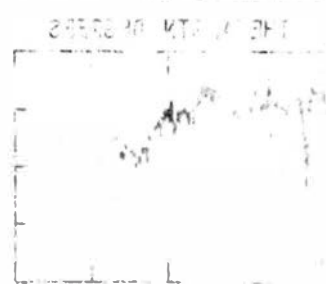
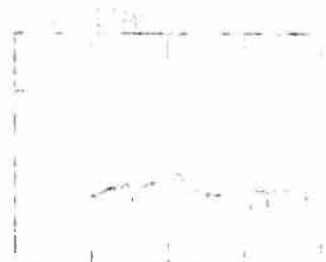
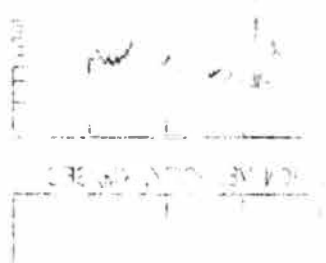
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ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

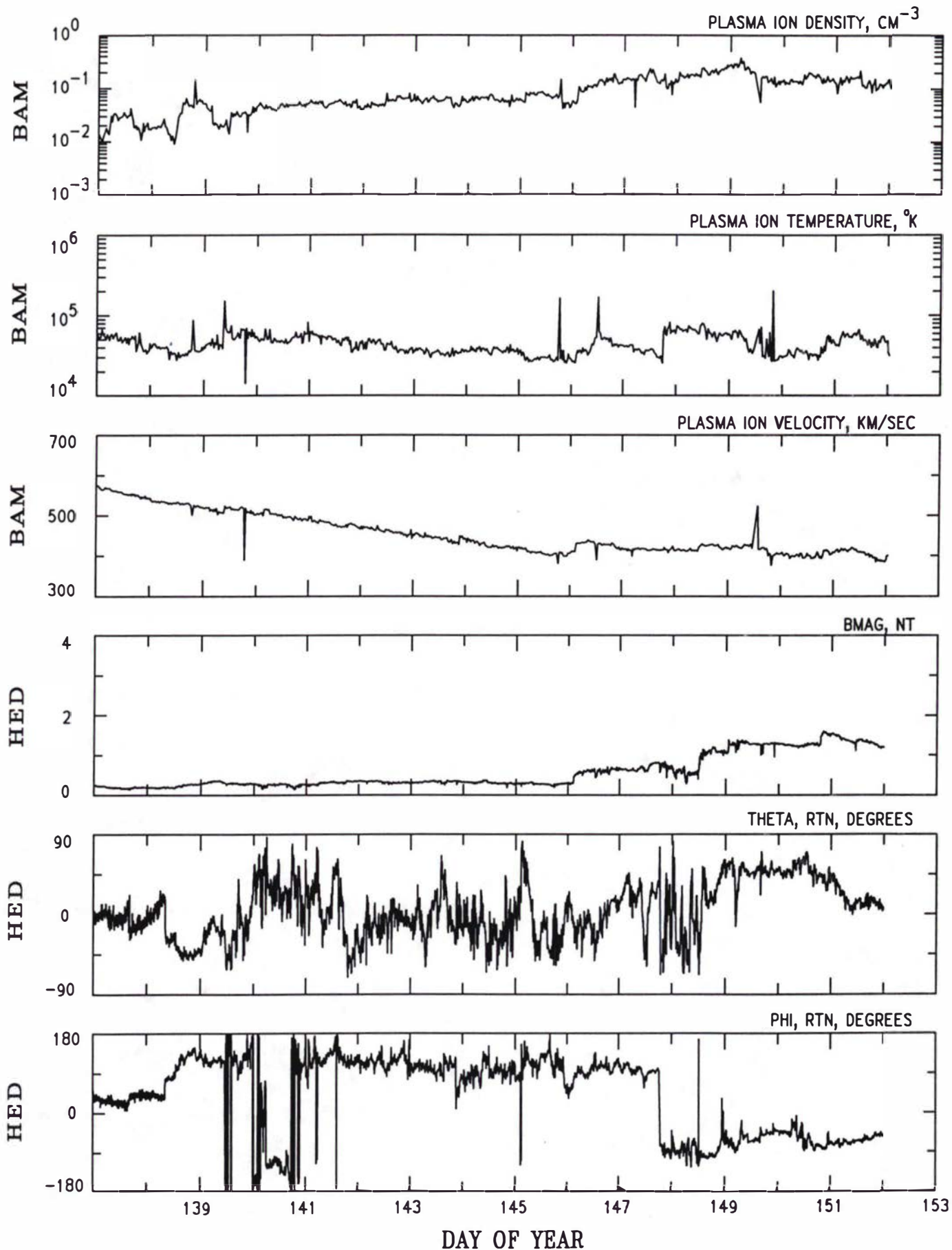
98 121 MAY 1 00:00:00.000 - 98 137 MAY 17 00:00:00.000





ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 137 MAY 17 00:00:00.000 - 98 153 JUN 2 00:00:00.000



1. 1. 1.

2. 2. 2.

3. 3. 3.

4. 4. 4.

5. 5. 5.

6. 6. 6.

7. 7. 7.

8. 8. 8.

9. 9. 9.

10. 10. 10.

11. 11. 11.

12. 12. 12.

13. 13. 13.

14. 14. 14.

15. 15. 15.

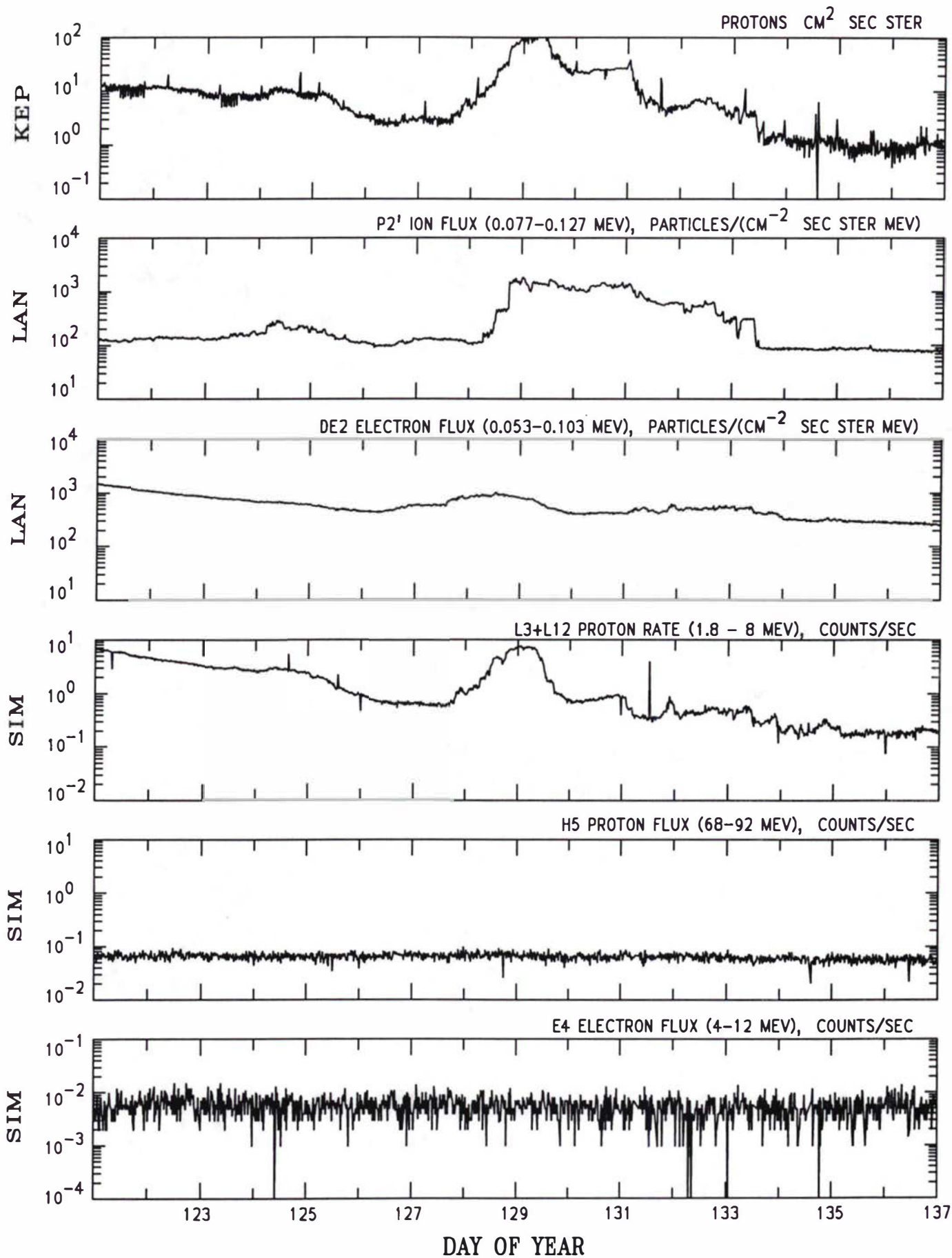
16. 16. 16.

17. 17. 17.

18. 18. 18.

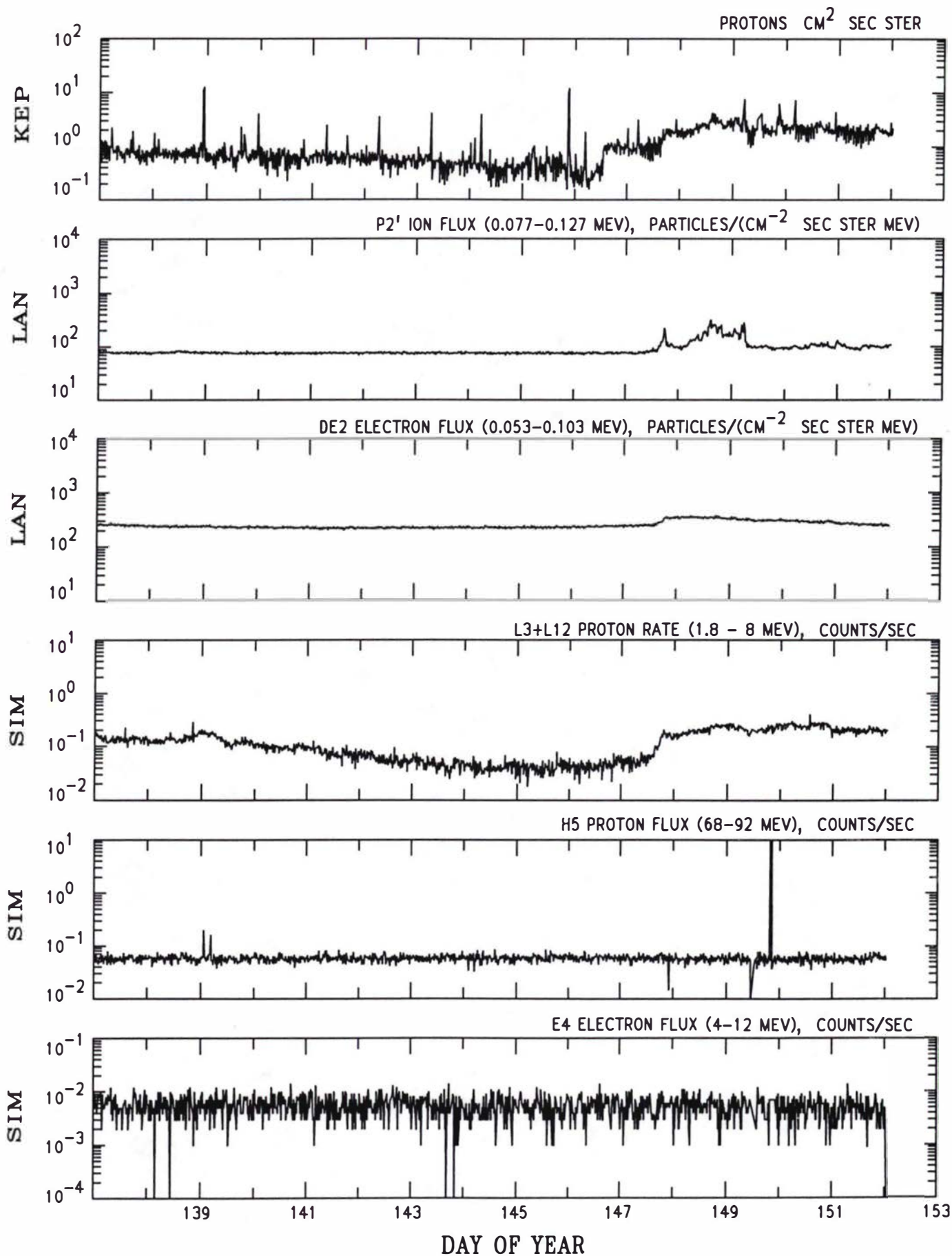
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

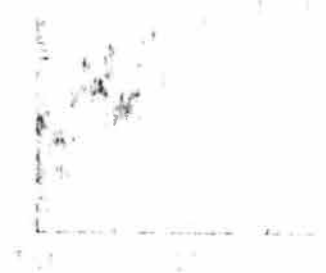
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ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

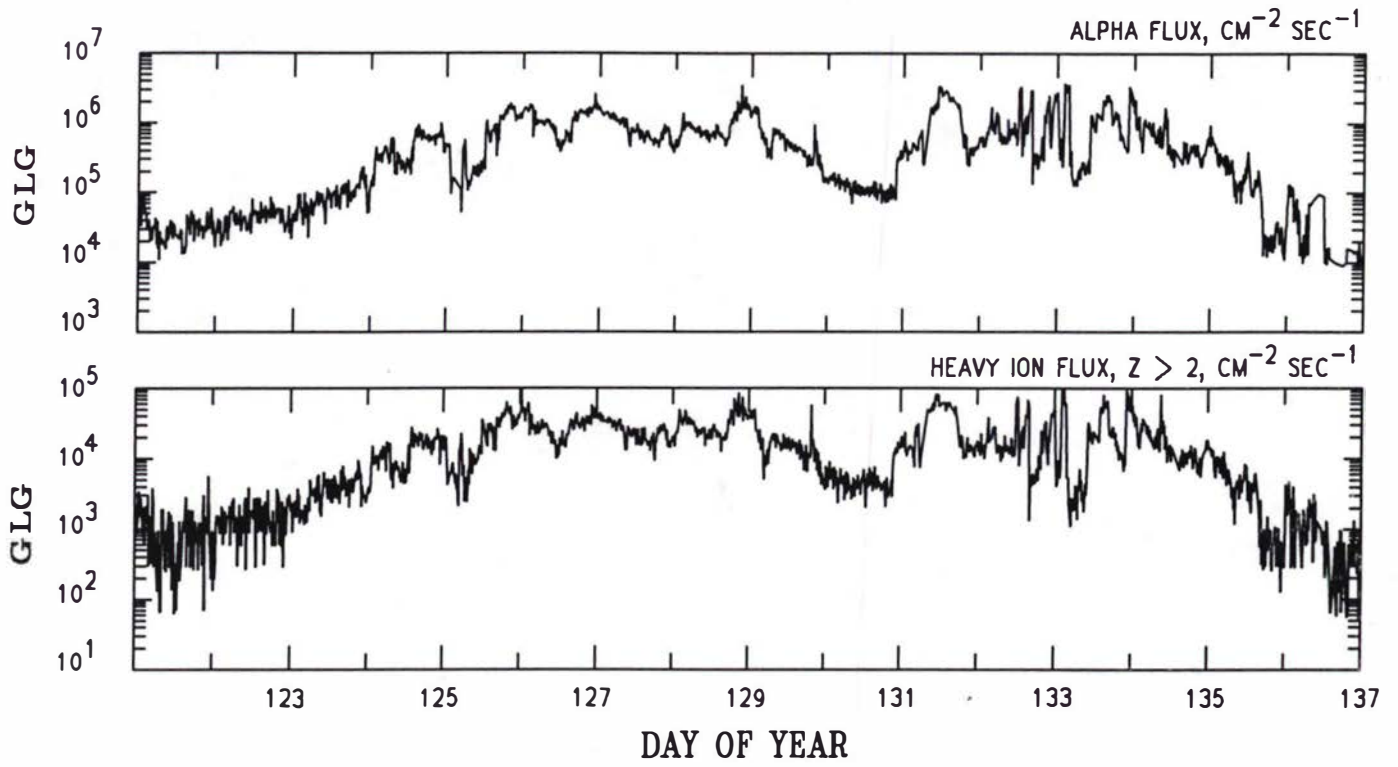
98 137 MAY 17 00:00:00.000 - 98 153 JUN 2 00:00:00.000





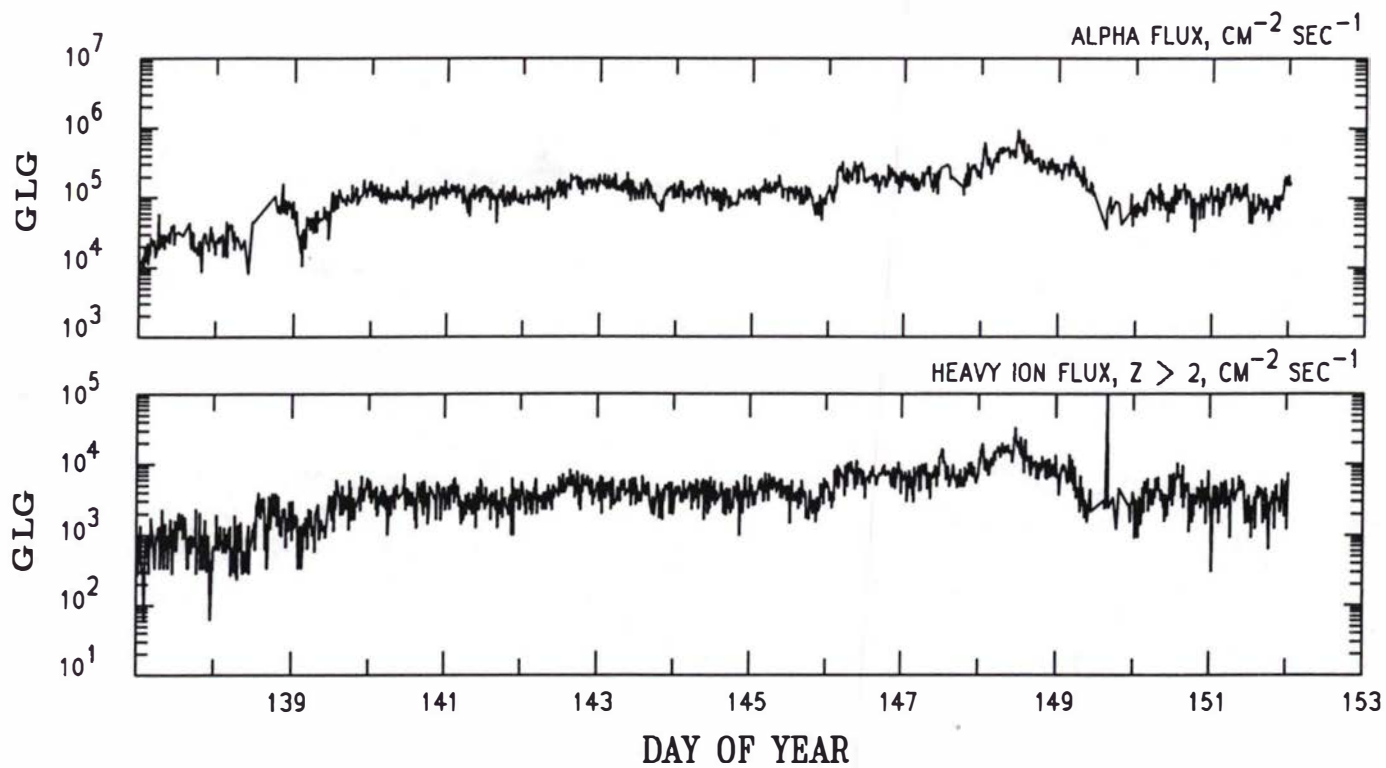
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 121 MAY 1 00:00:00.000 - 98 137 MAY 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 137 MAY 17 00:00:00.000 - 98 153 JUN 2 00:00:00.000



From RICHARDSON@fender.msfc.nasa.gov Mon May 4 10:24:30 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA21743; Mon, 4 May 1998 10:24:30 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA16922; Mon, 4 May 1998 10:24:27 -0700
Date: Mon, 4 May 1998 12:24:29 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980504122429.22205b37@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6718
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6718
EVENT OF 1998 MAY 1 DAY OF YEAR=121
EVENT CROSSING TIME AT BATSE : 80346. S. OR 22:19:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 224.000 23.000
BATSE PEAK COUNTING RATE: 4750 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/ 5/ 98 IS:
RA= 149.377 DEC= 12.799 DIST= 5.051 AU
BATSE-ULYSSES DISTANCE = 755666569. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -818.14 SECS.
CROSSING TIME AT ULYSSES IS 79528. S. OR 22:05:27 +/- 451.50 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/ 5/ 98 IS:
RA= 40.861 DEC= 15.750 DIST= 2.467 AU
MARS-BATSE DISTANCE = 369119744. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.87 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 958.61 SECS.
CROSSING TIME AT MARS IS 81305. S. OR 22:35:04 +/- 148.71 SECONDS

BATSE BURST TRIGGER

NO.: 6718

TIME: TJD=0934 SECONDS=80346

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=94.5 AZIMUTH=217.3 ERROR=14.8 DEGREES

COMMENTS:

GRB. SHORT WEAK DOUBLE SPIKE. TOTAL DURATION APPROX. = 0.4 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6718	980501	10934	80346	4750	224	+23	.4

BATSE BURST# 6718

ULYSSES RT

4 / 5 / 98

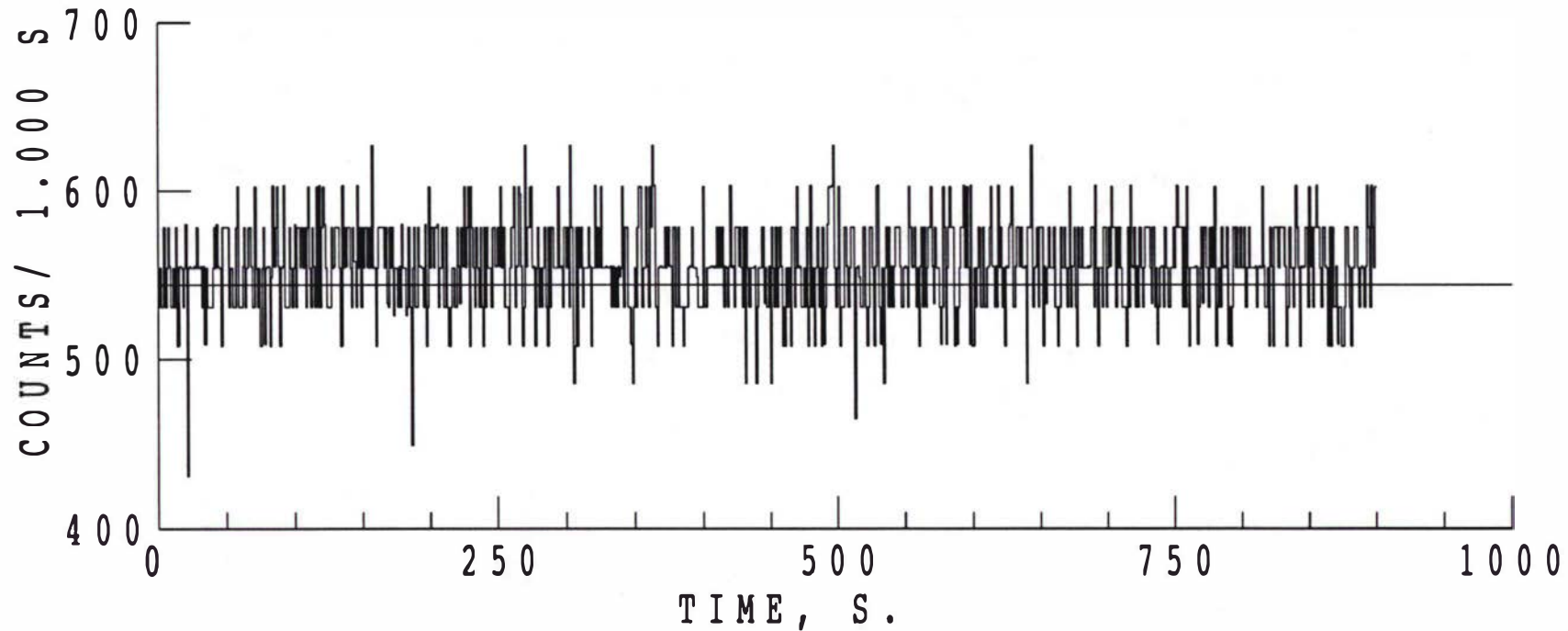
1 / 5 / 98 79092.422 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

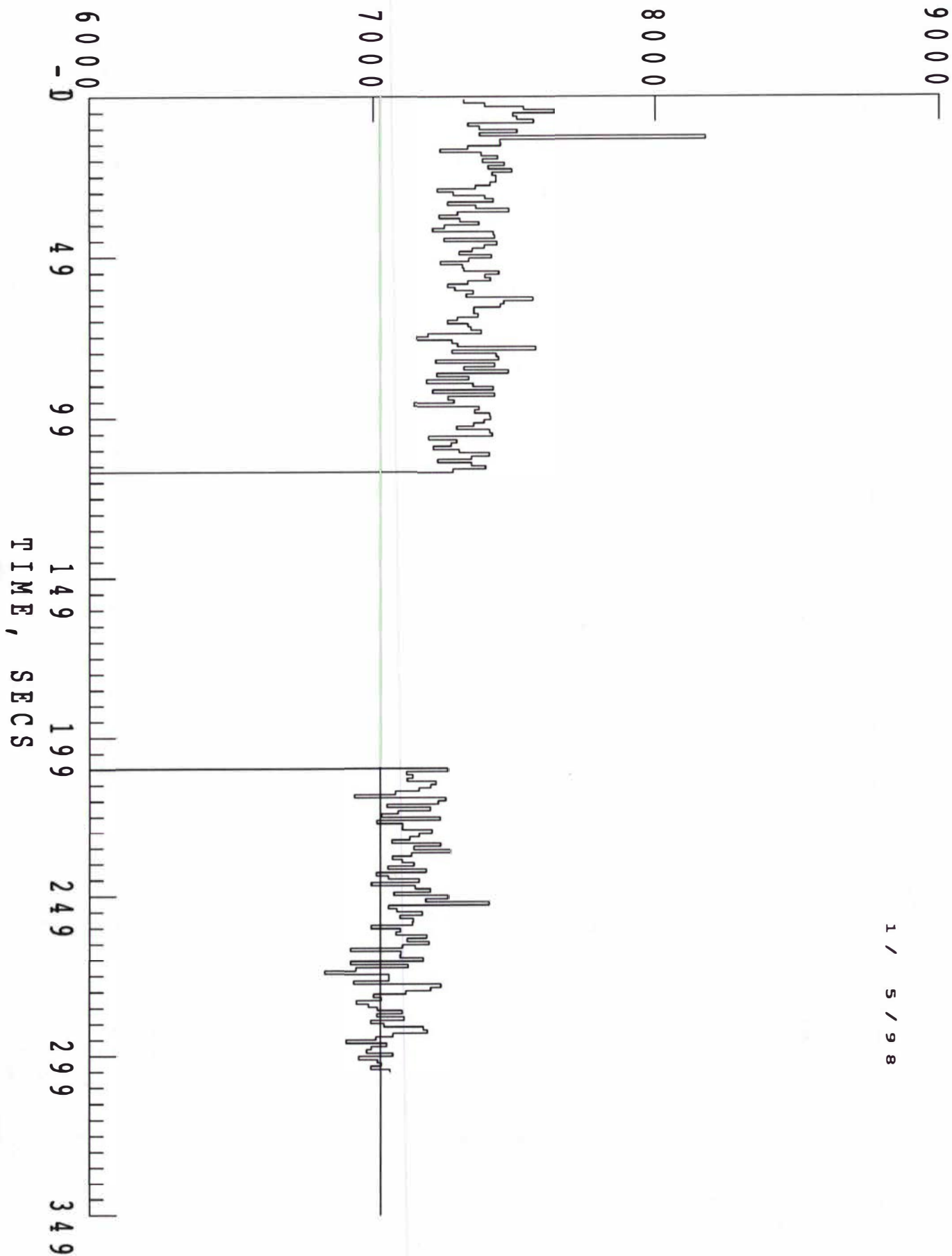
N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

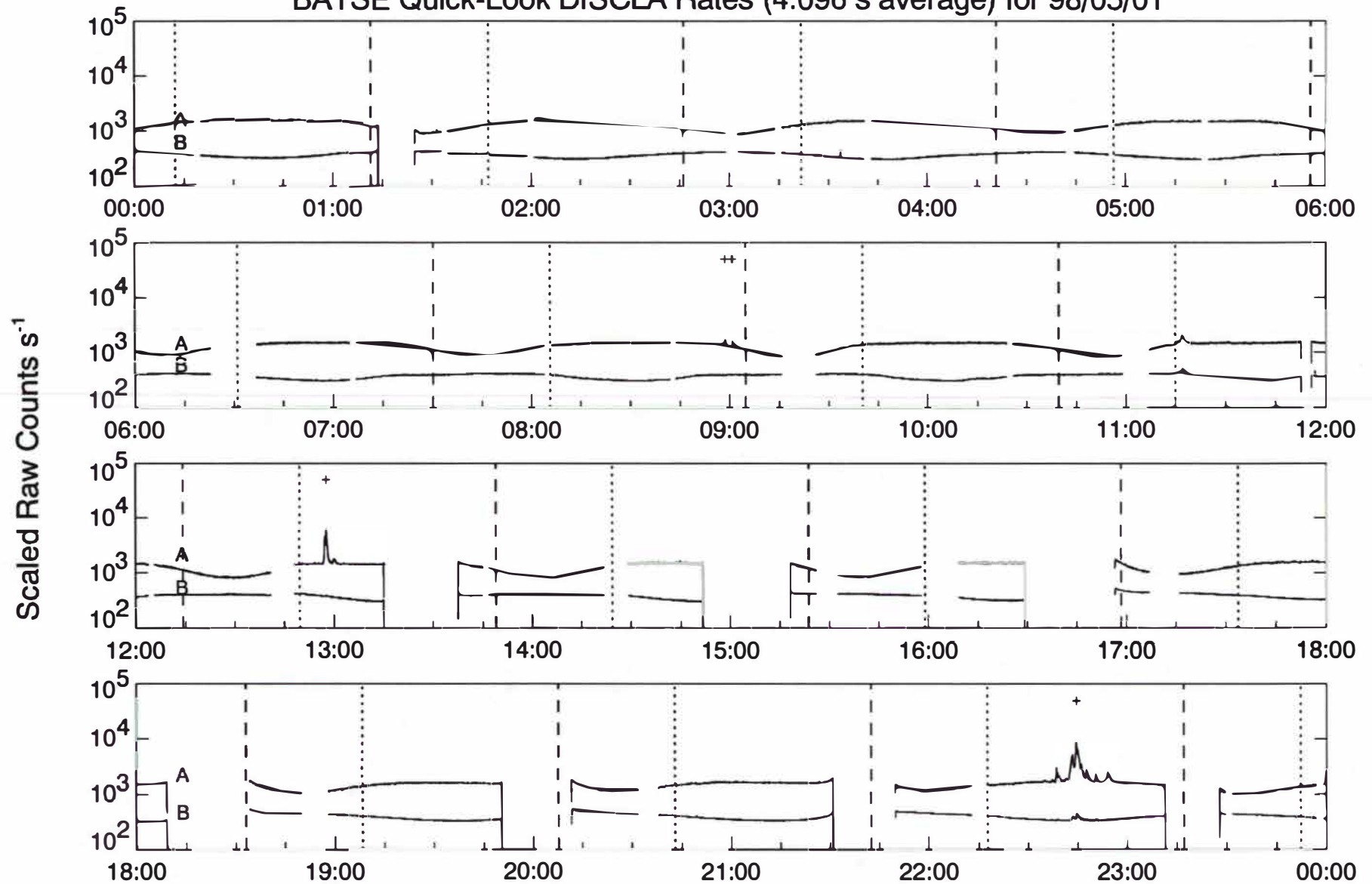


BACODINE 6718 01/05/98 80335.585
25- 100 keV

COUNTS/1.024 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/01

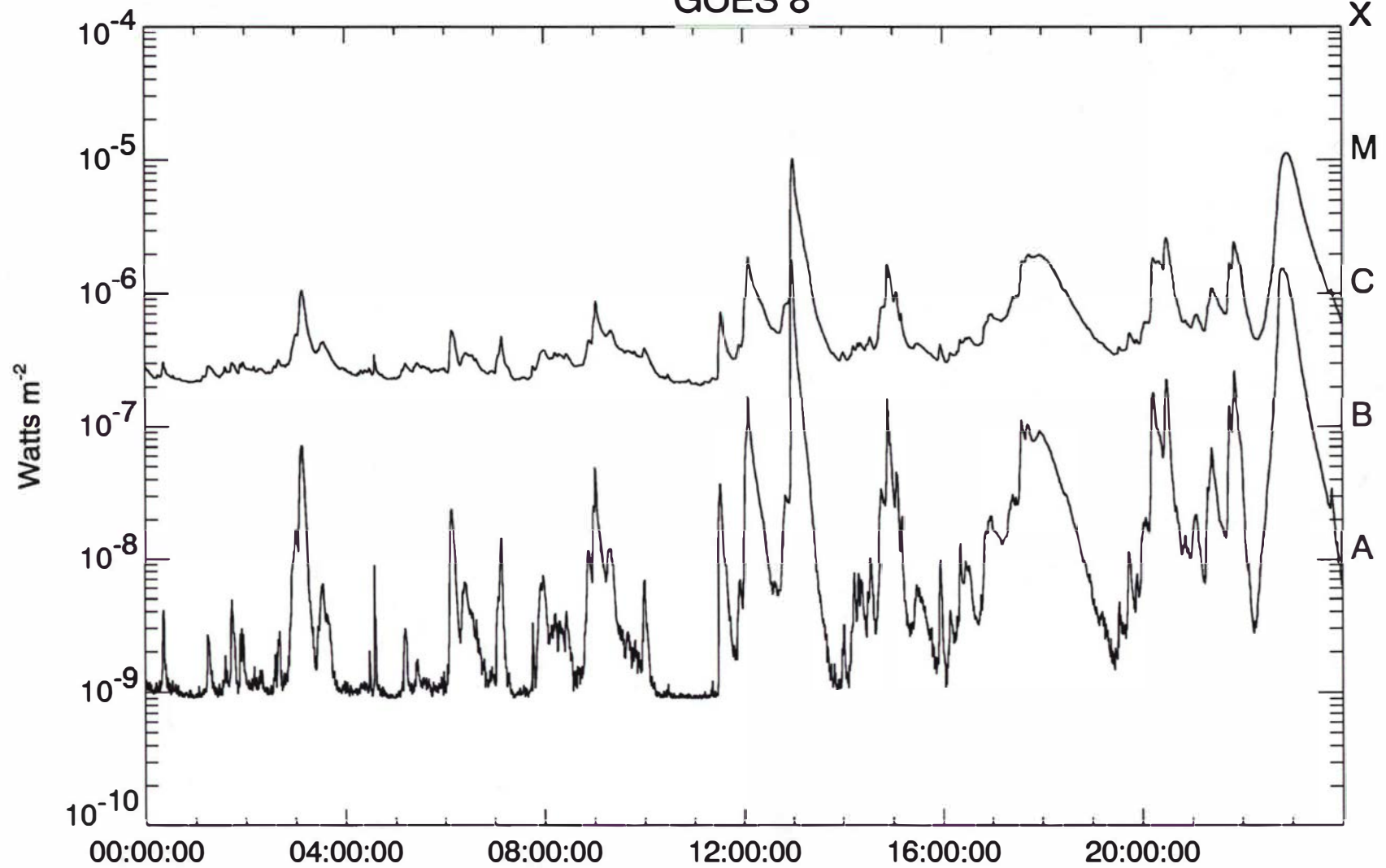


Current Time: 98/05/05, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/05/01, 0000:00

Plot created: 98/05/05, 1007

Channel 1 (1.0 - 8.0 Angstroms)

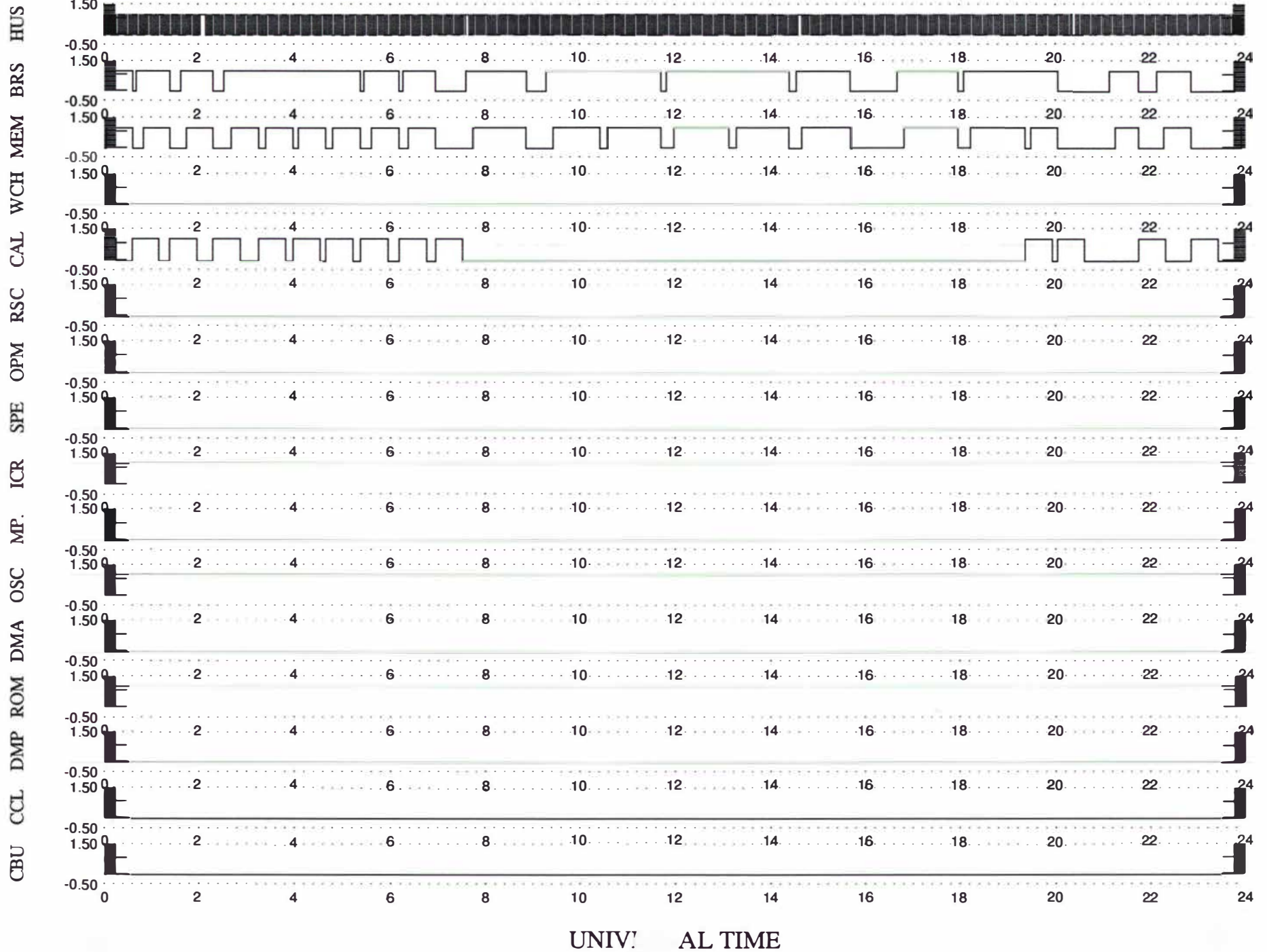
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

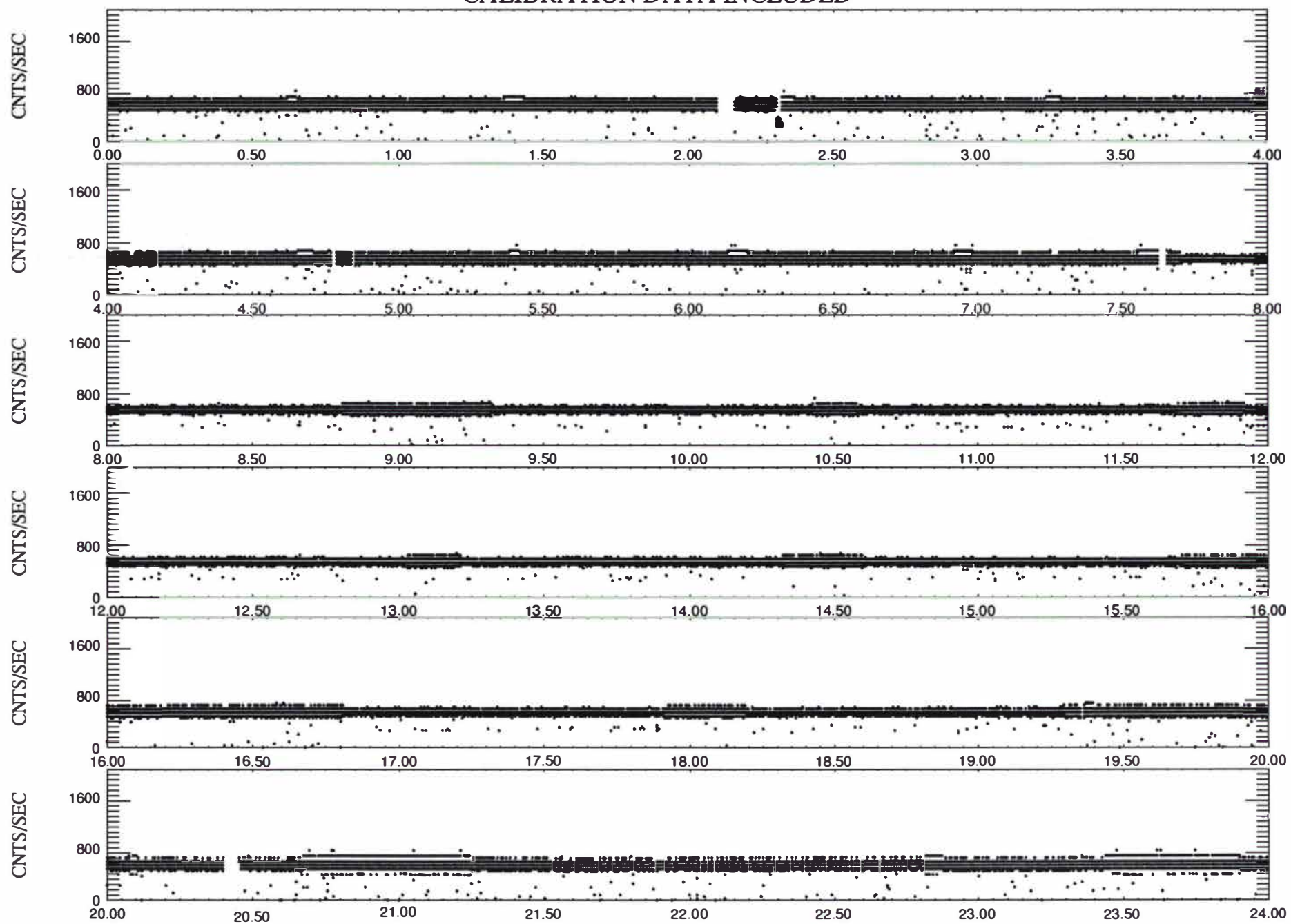
Background not subtracted

Sample average = 10

BURST NUMBER 13 - 15, 0 - 15, 0

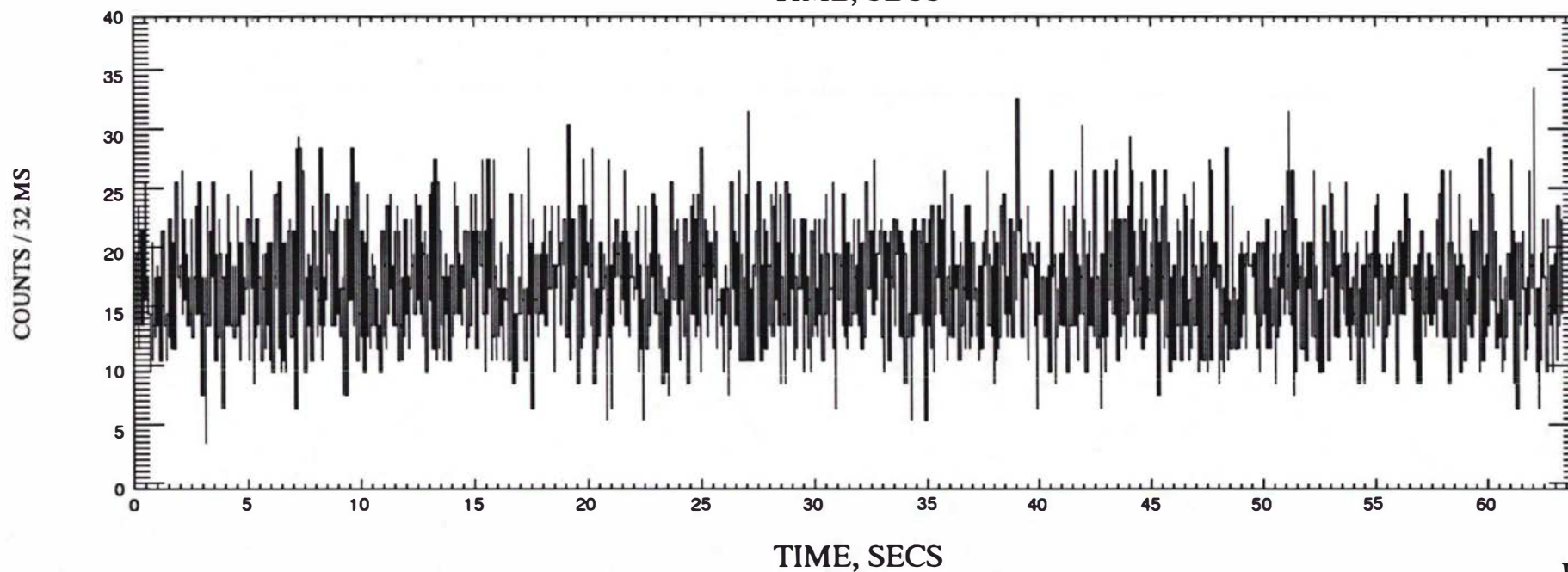
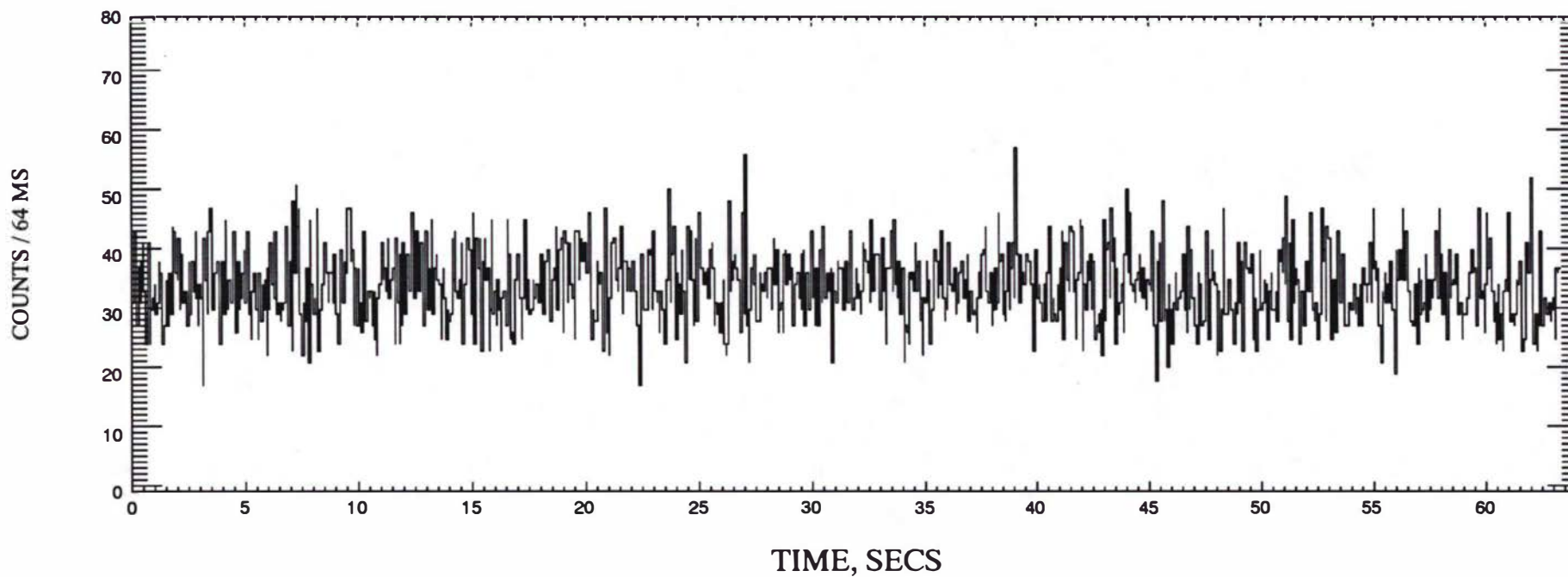


CALIBRATION DATA INCLUDED

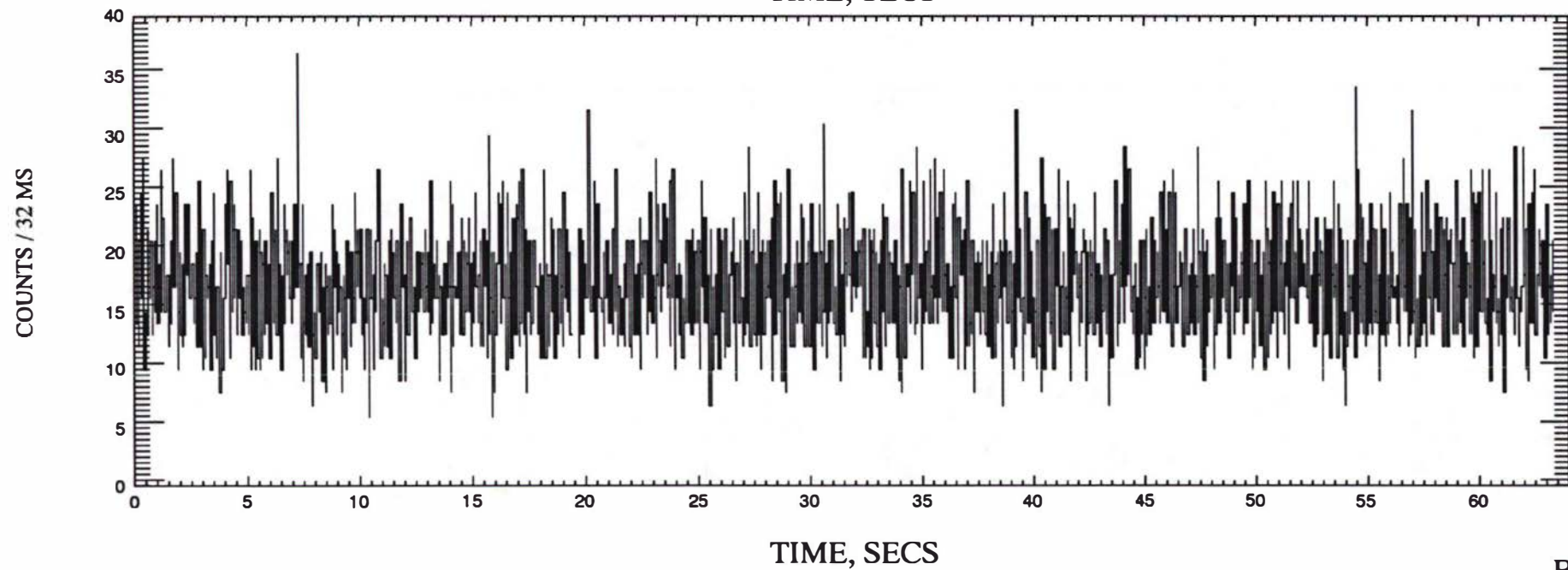
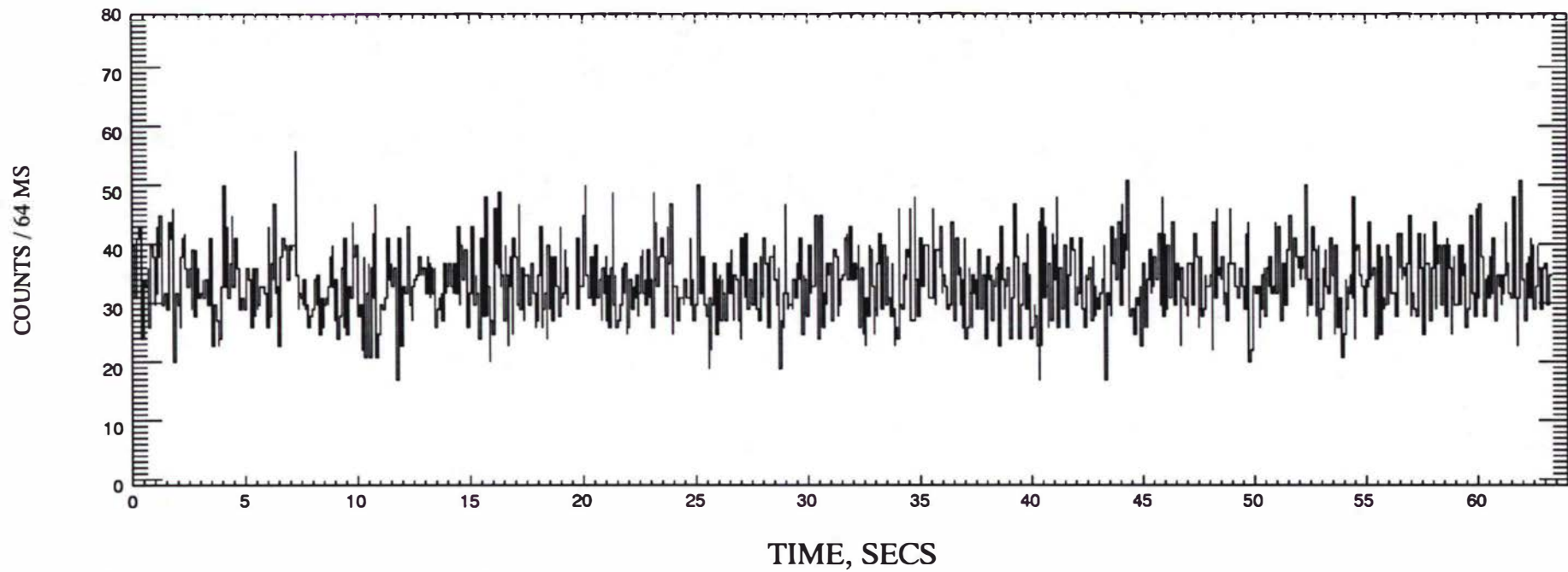


UNIV AL TIME

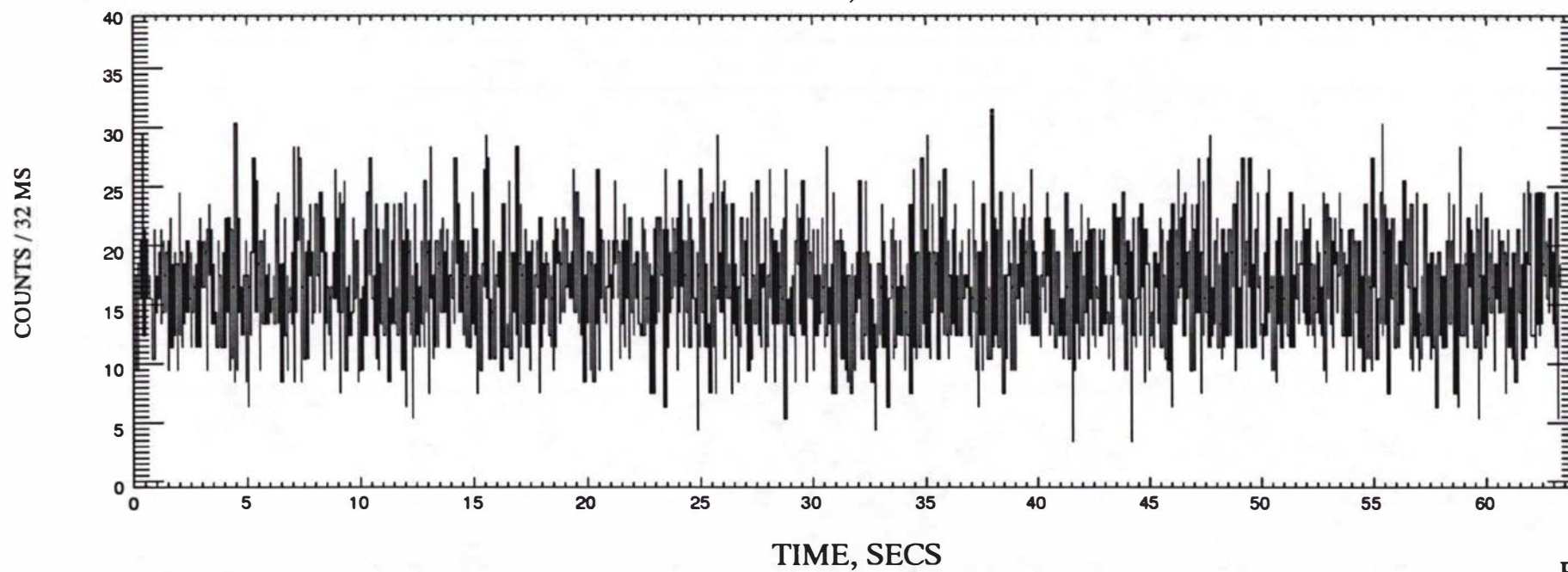
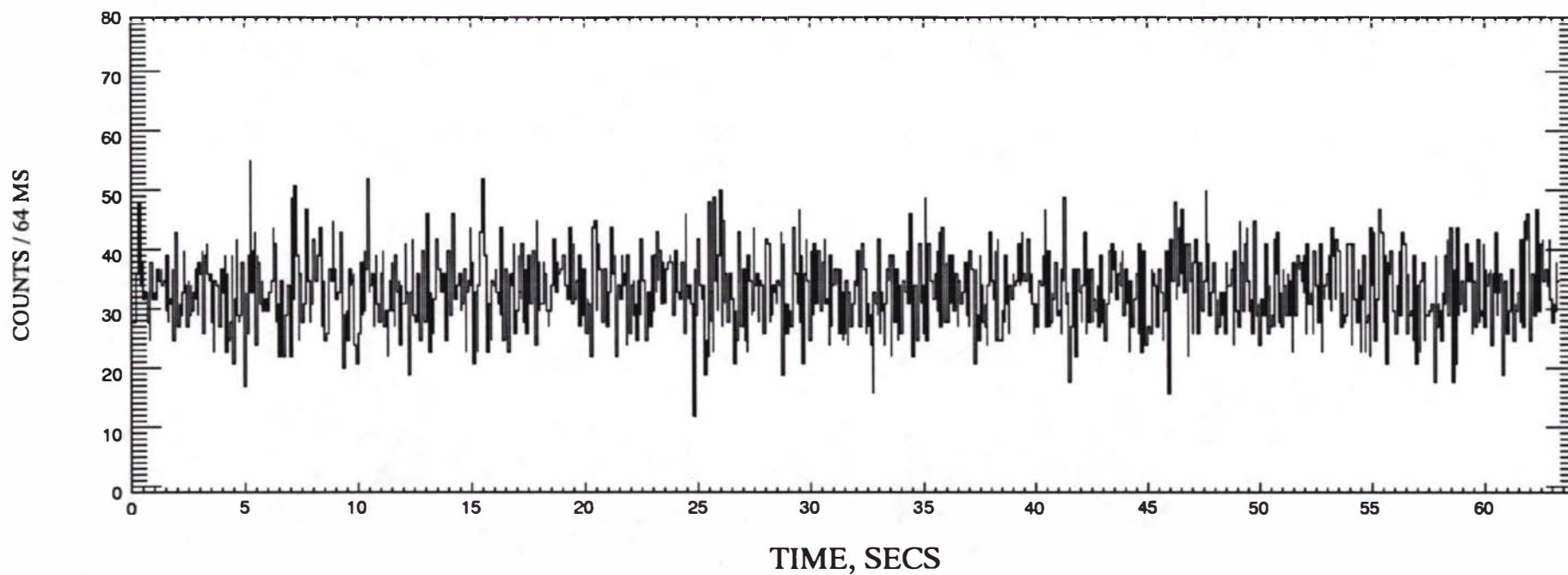
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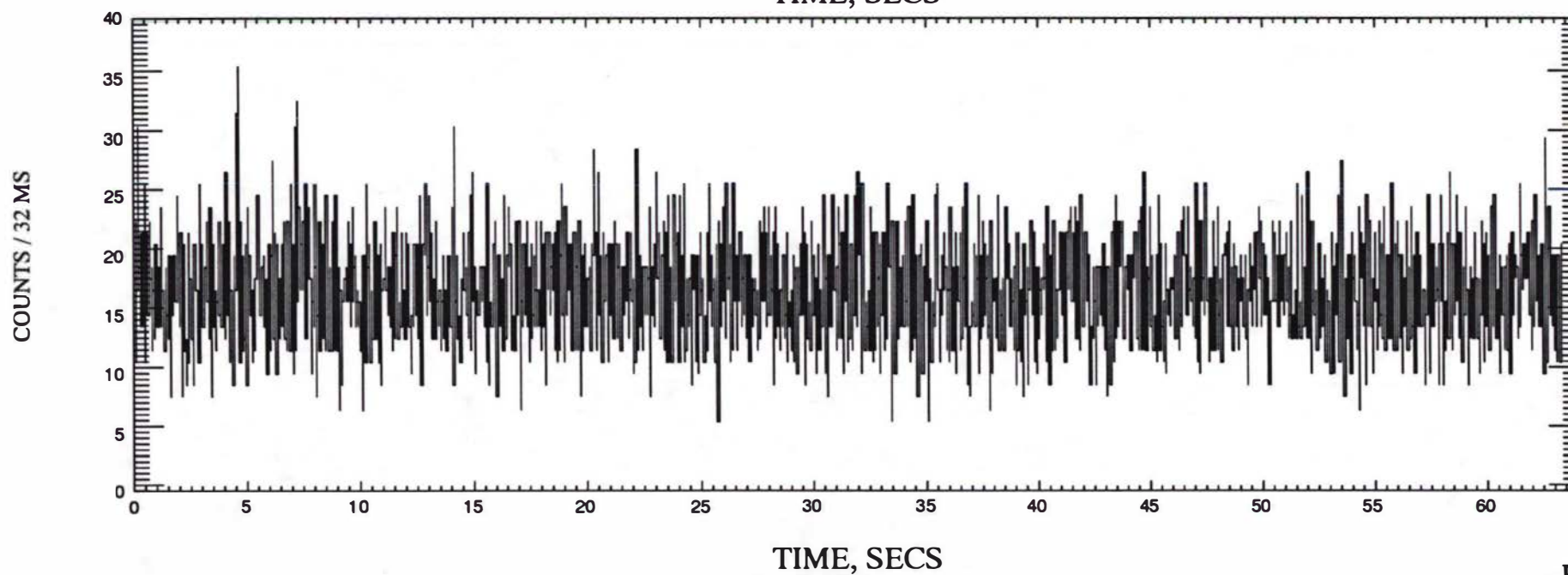
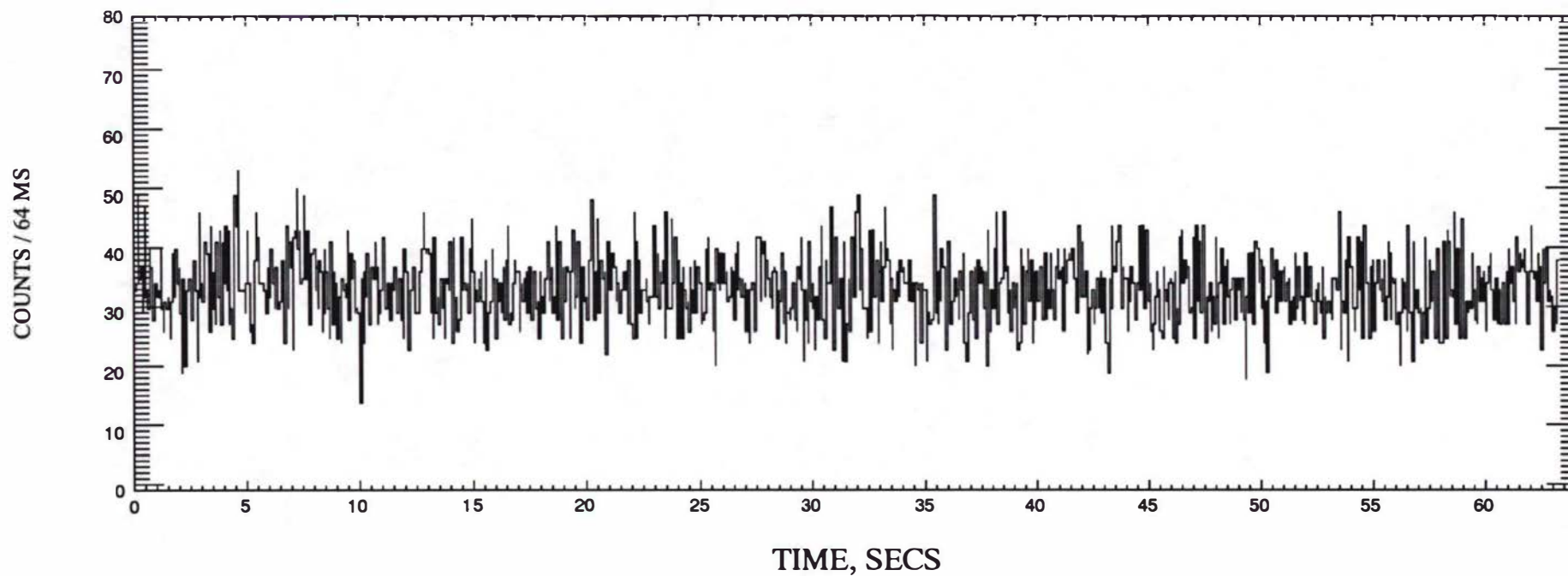
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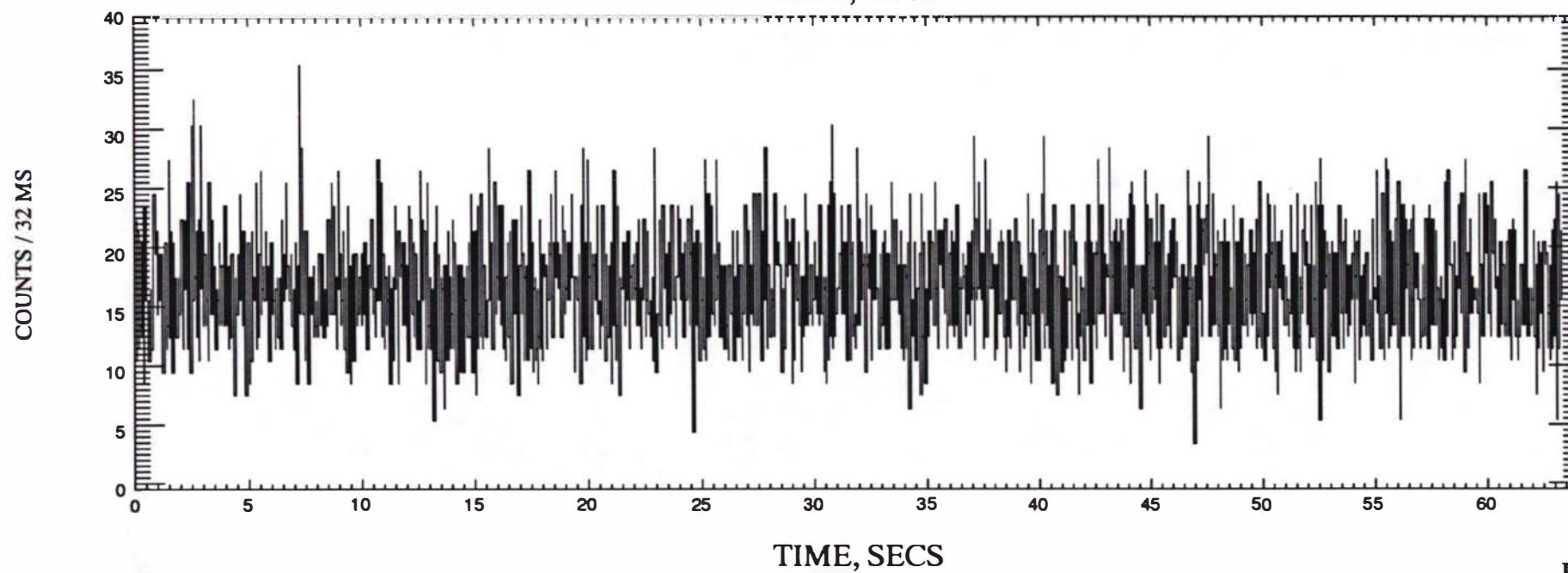
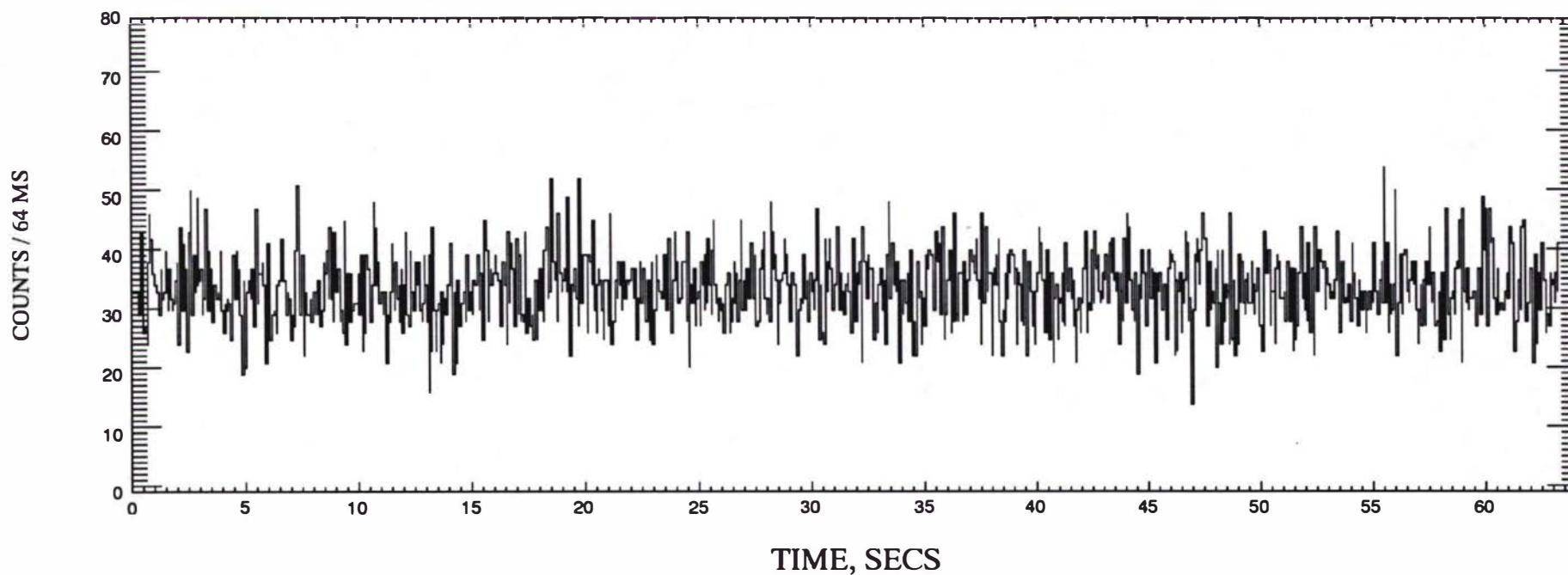
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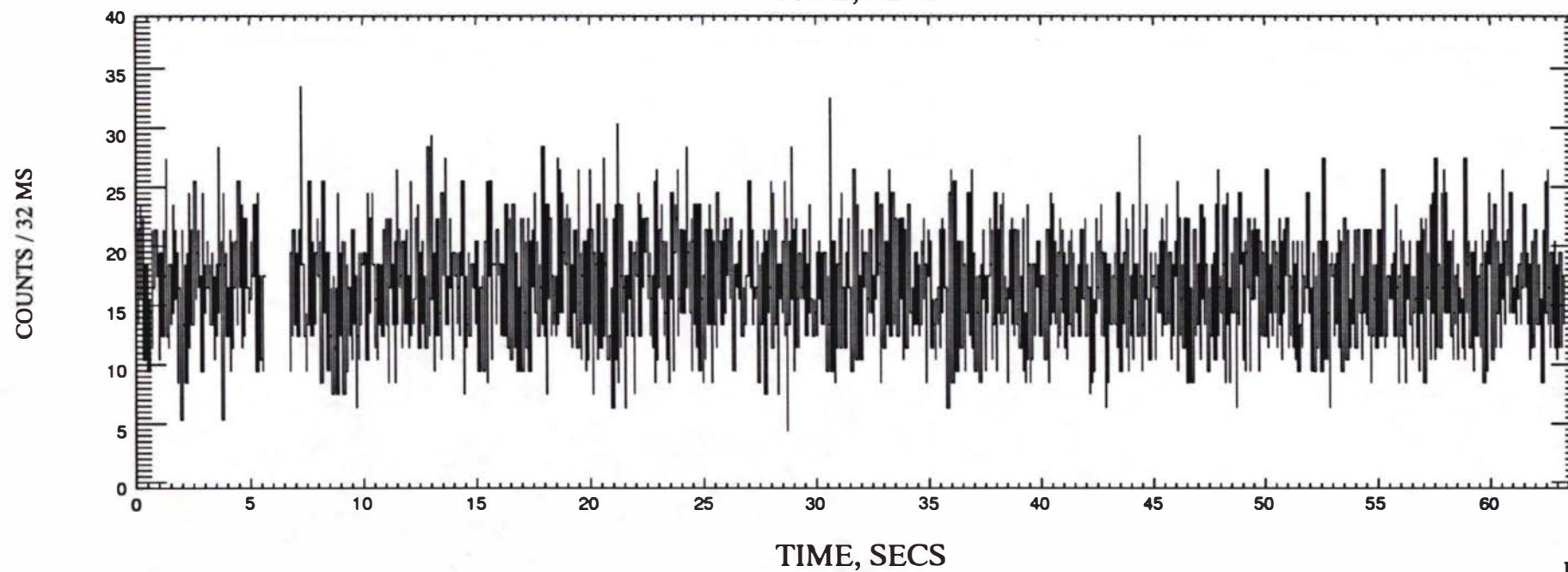
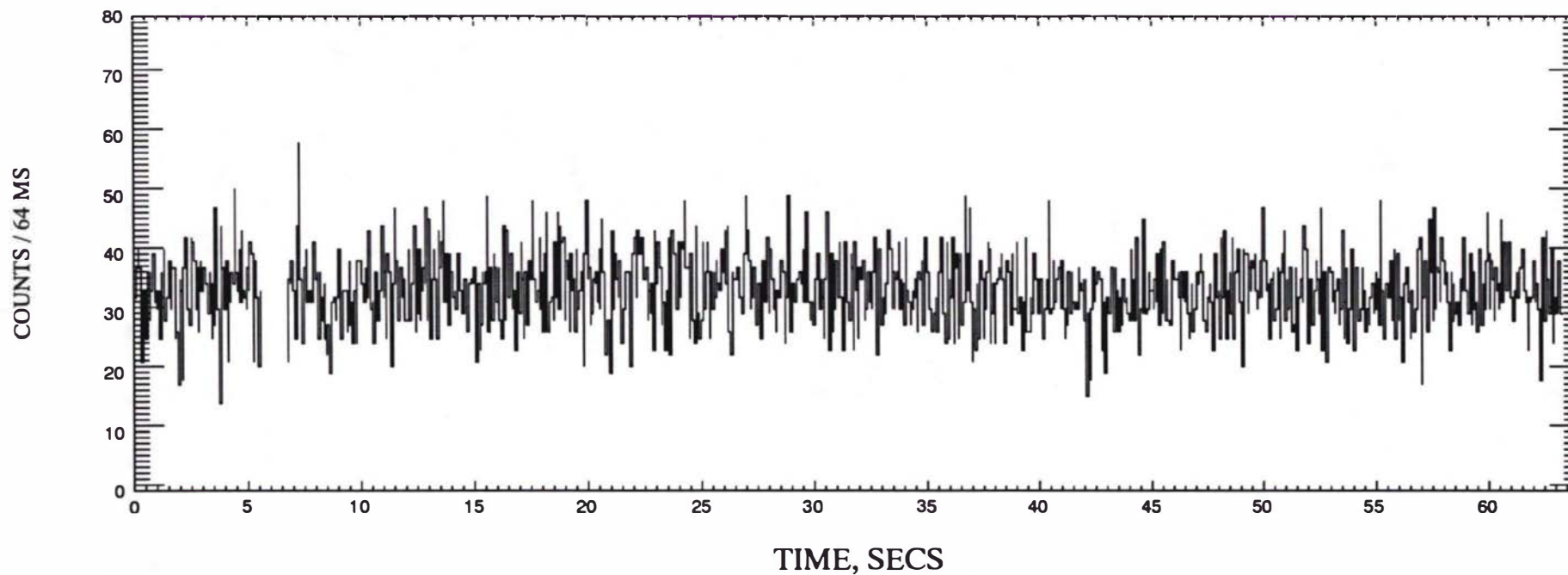
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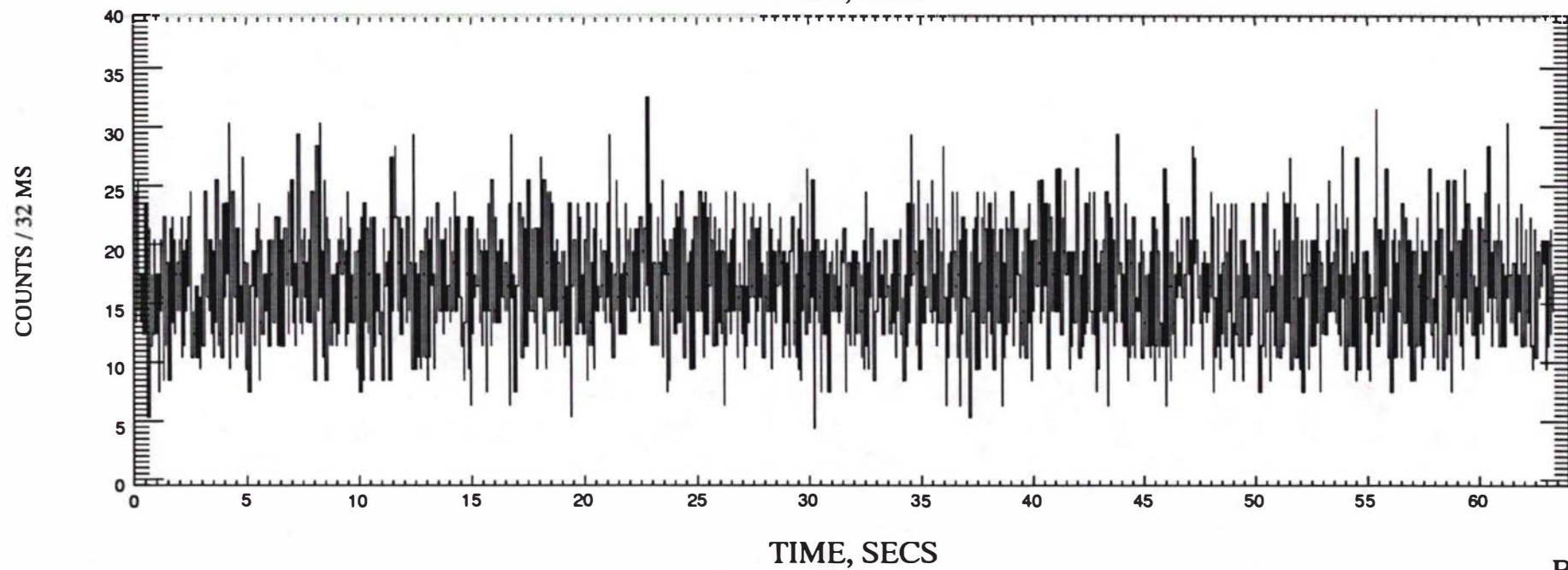
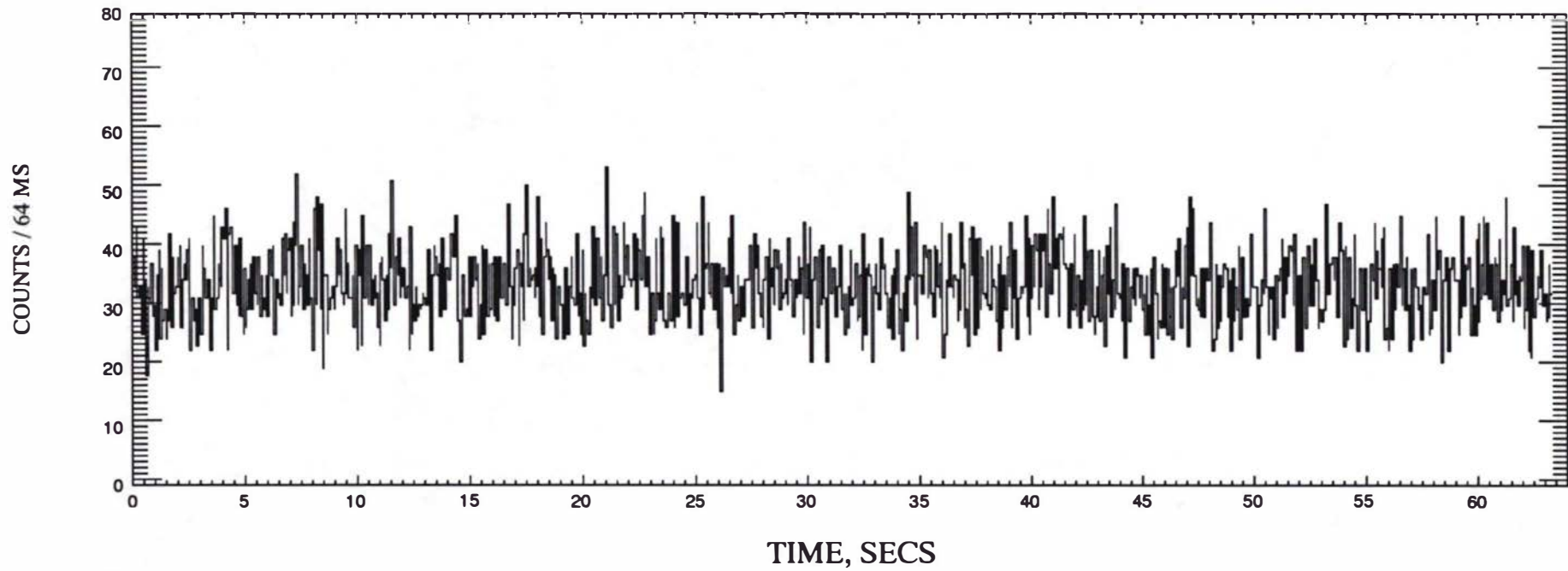
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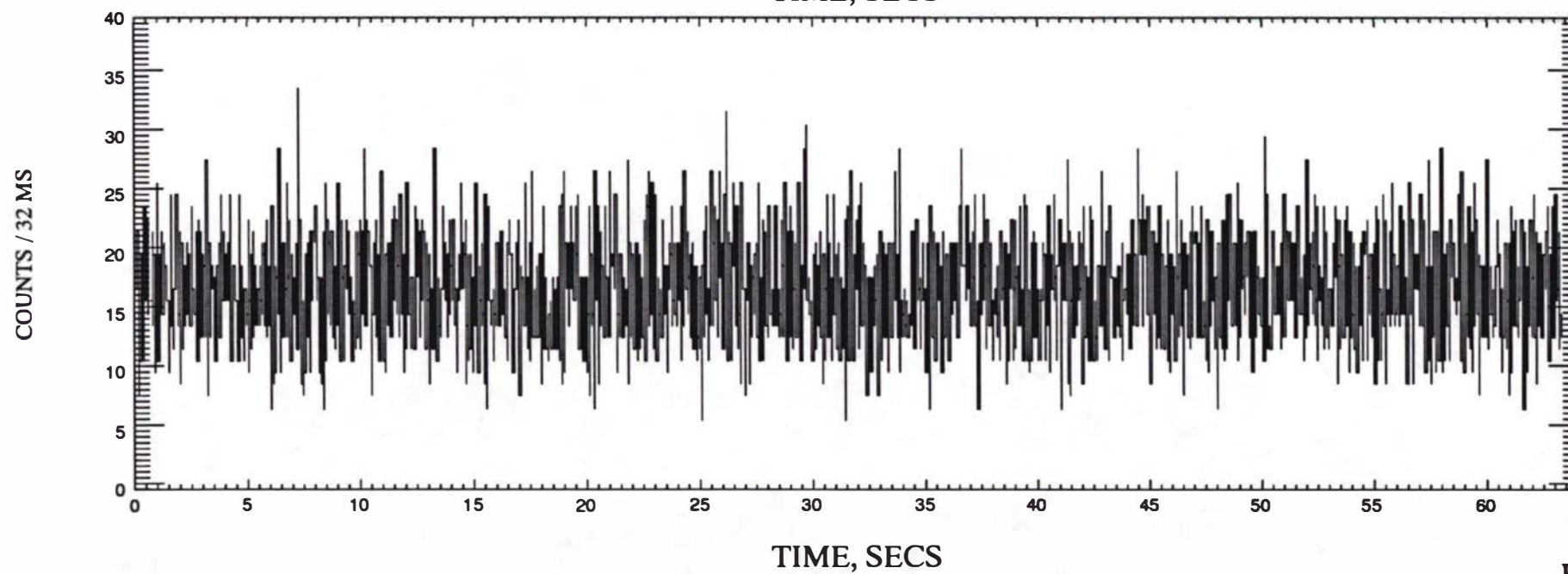
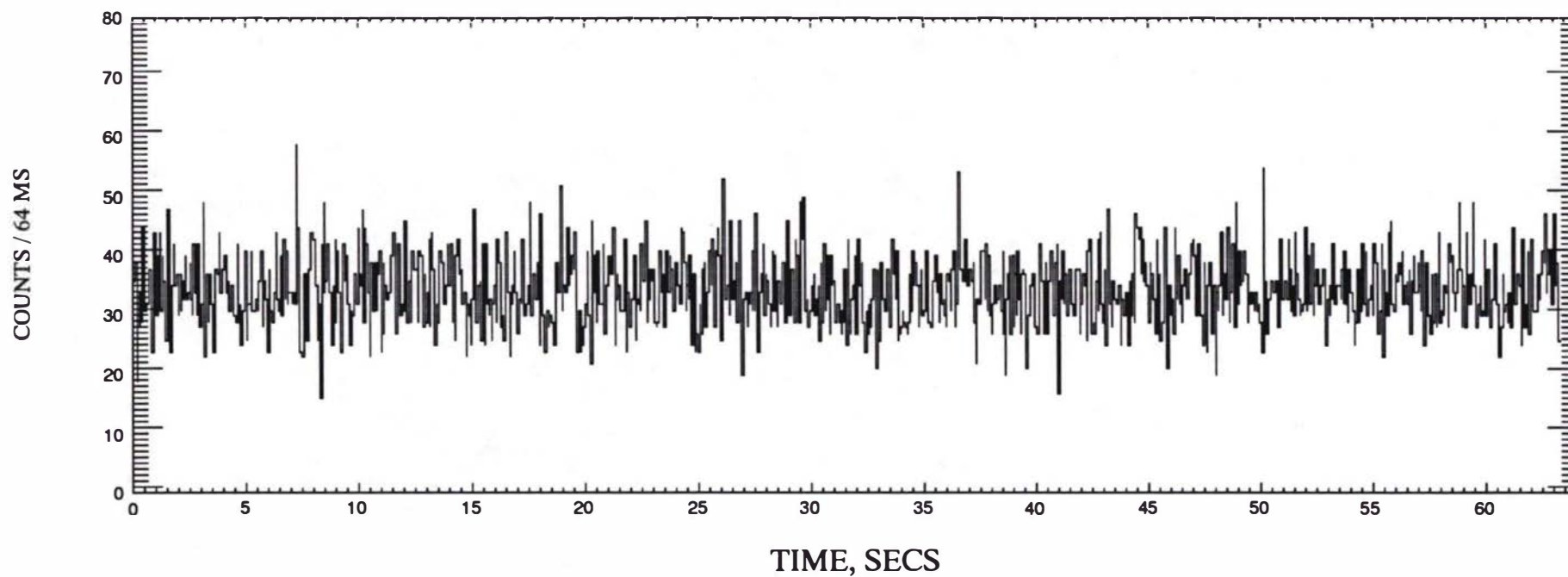
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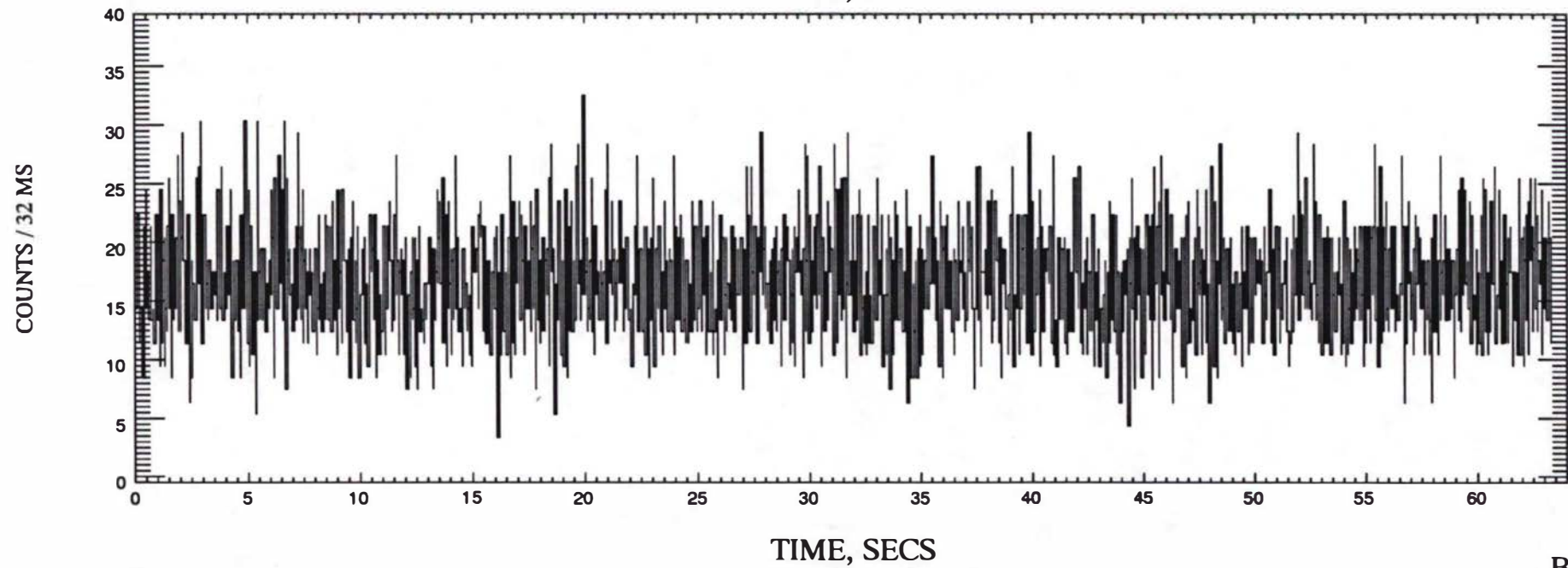
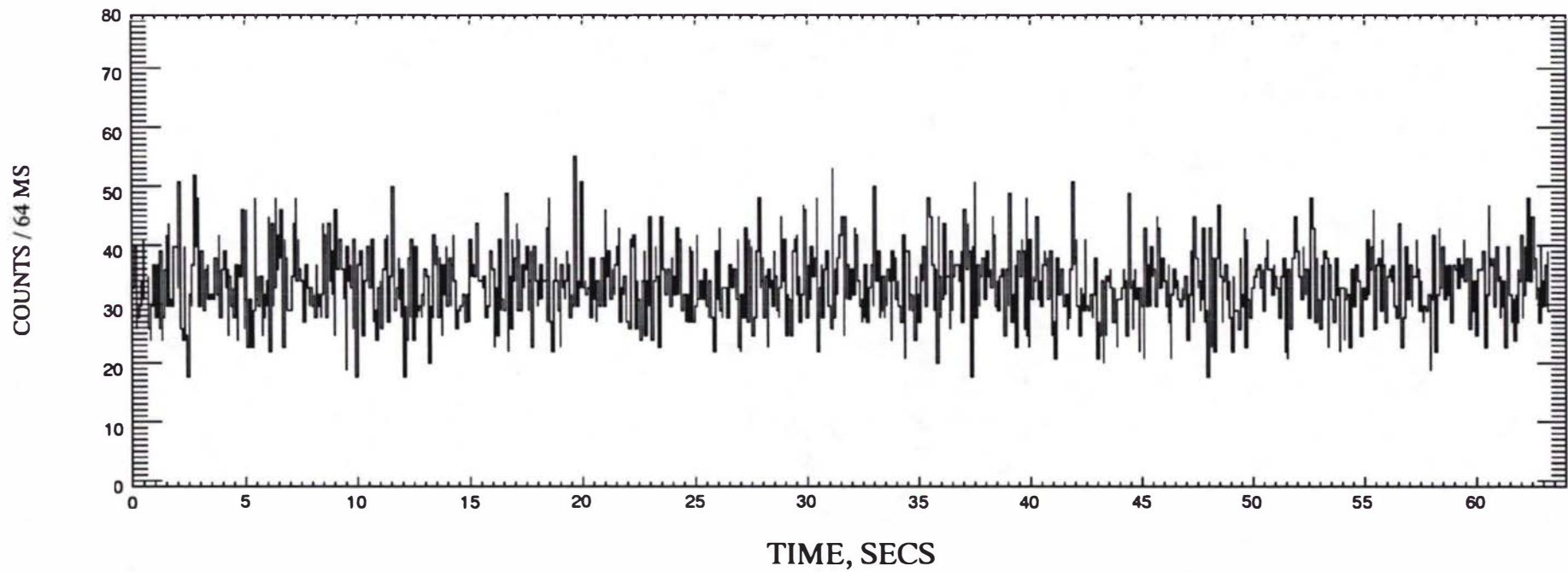
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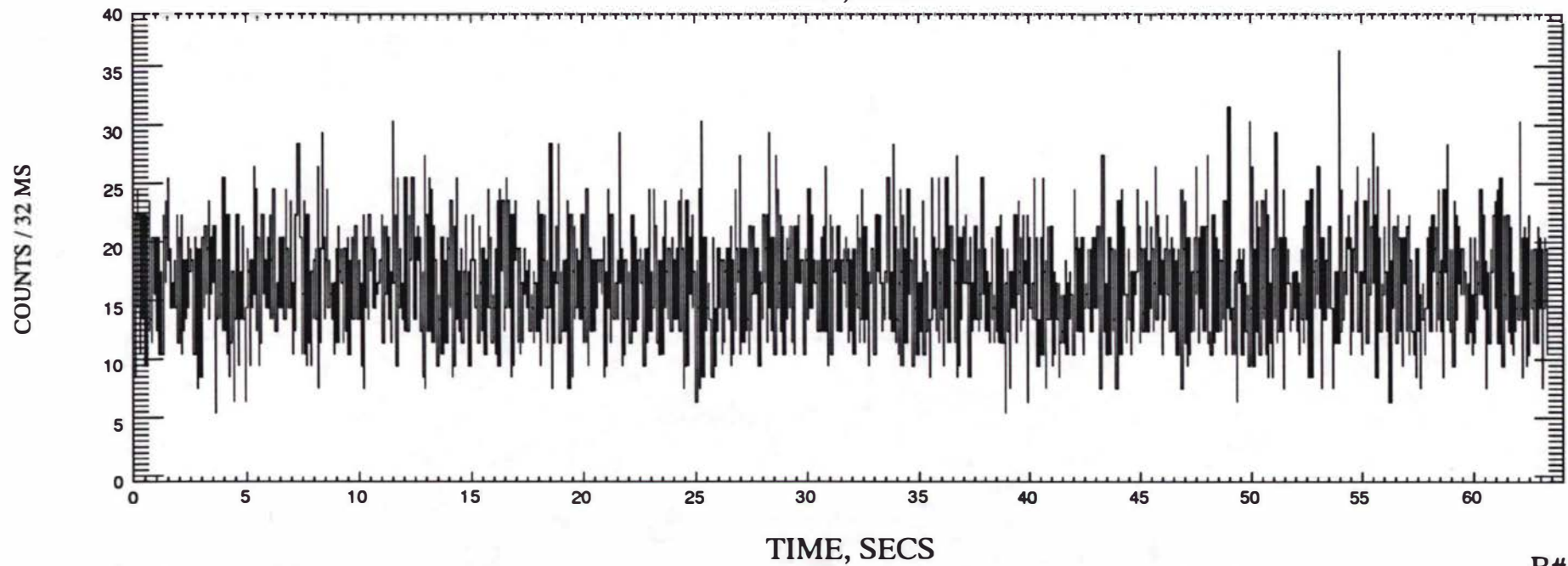
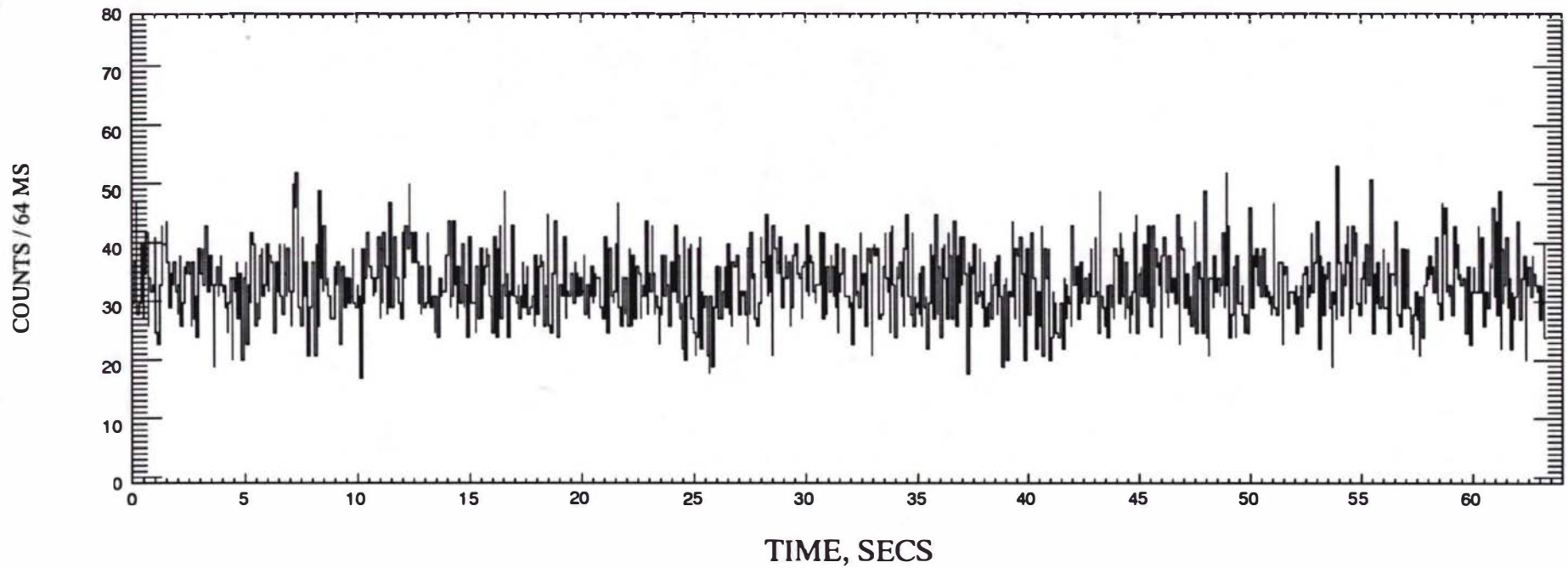
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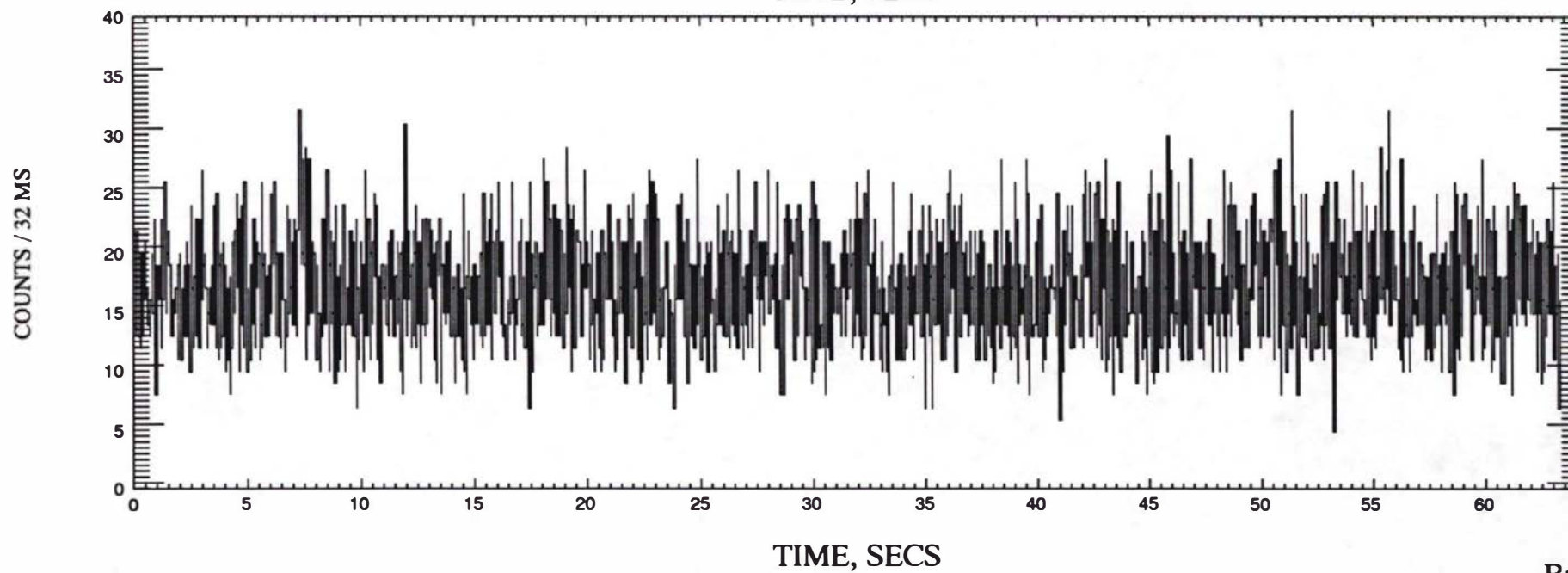
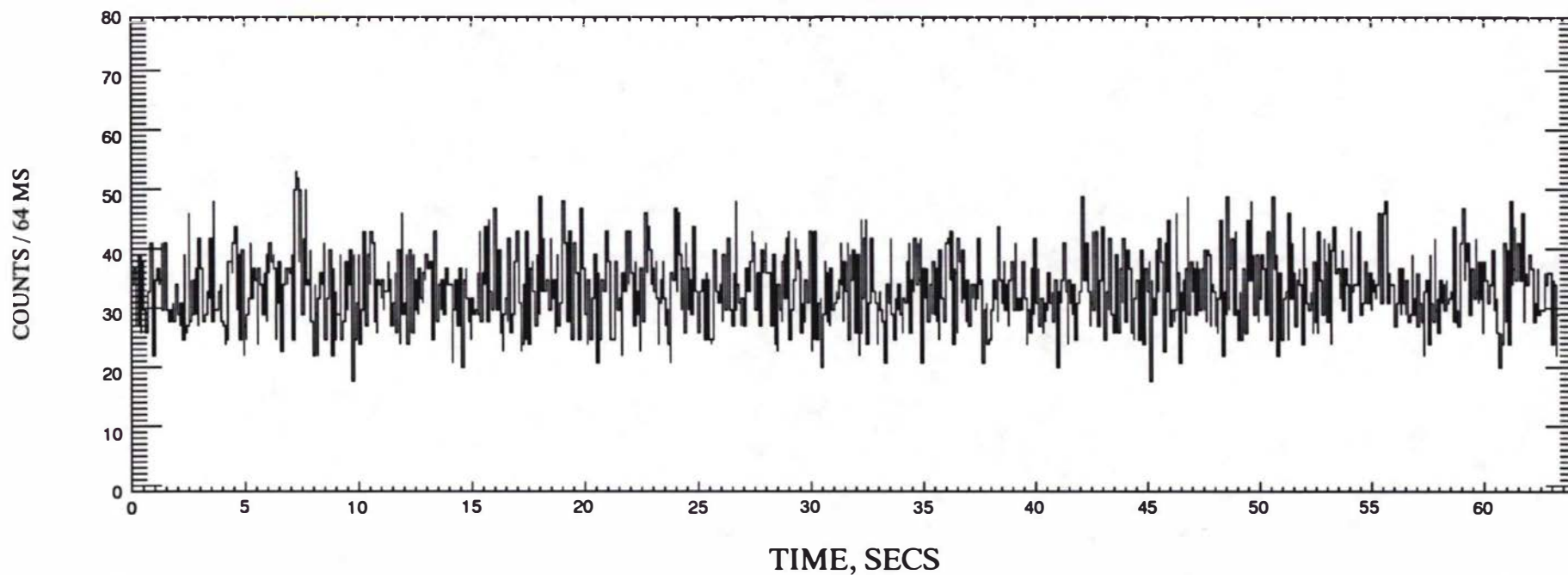
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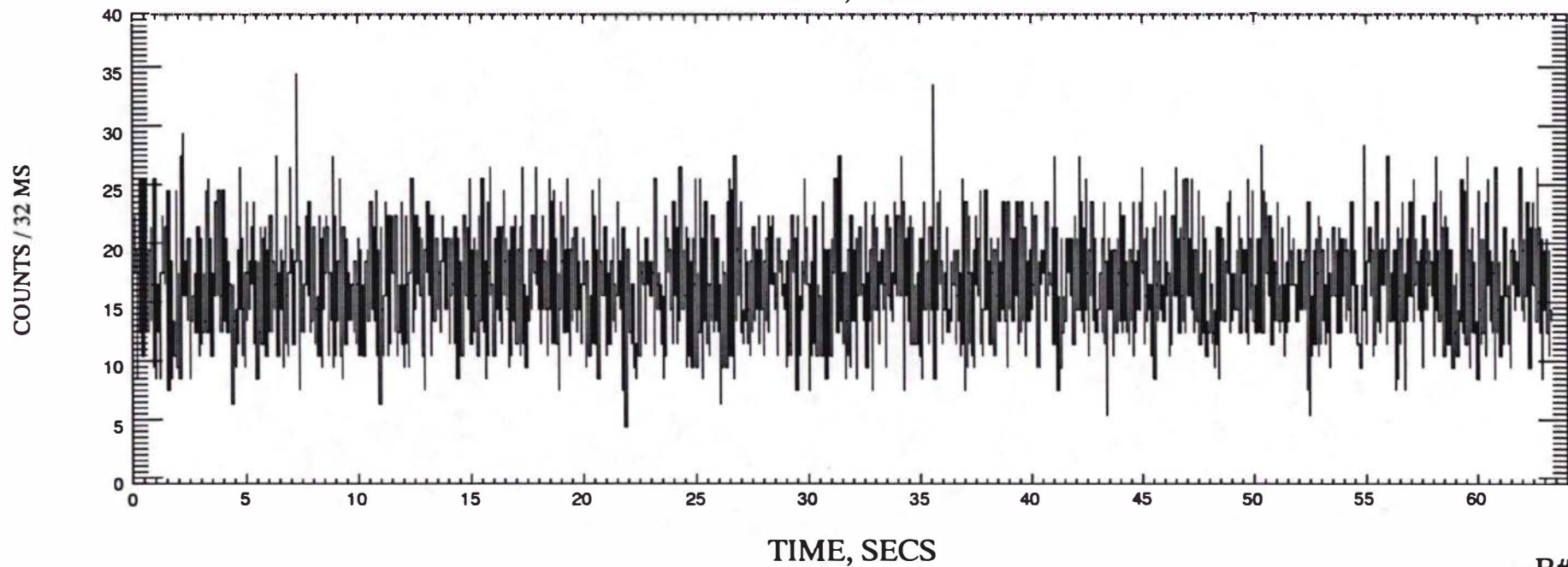
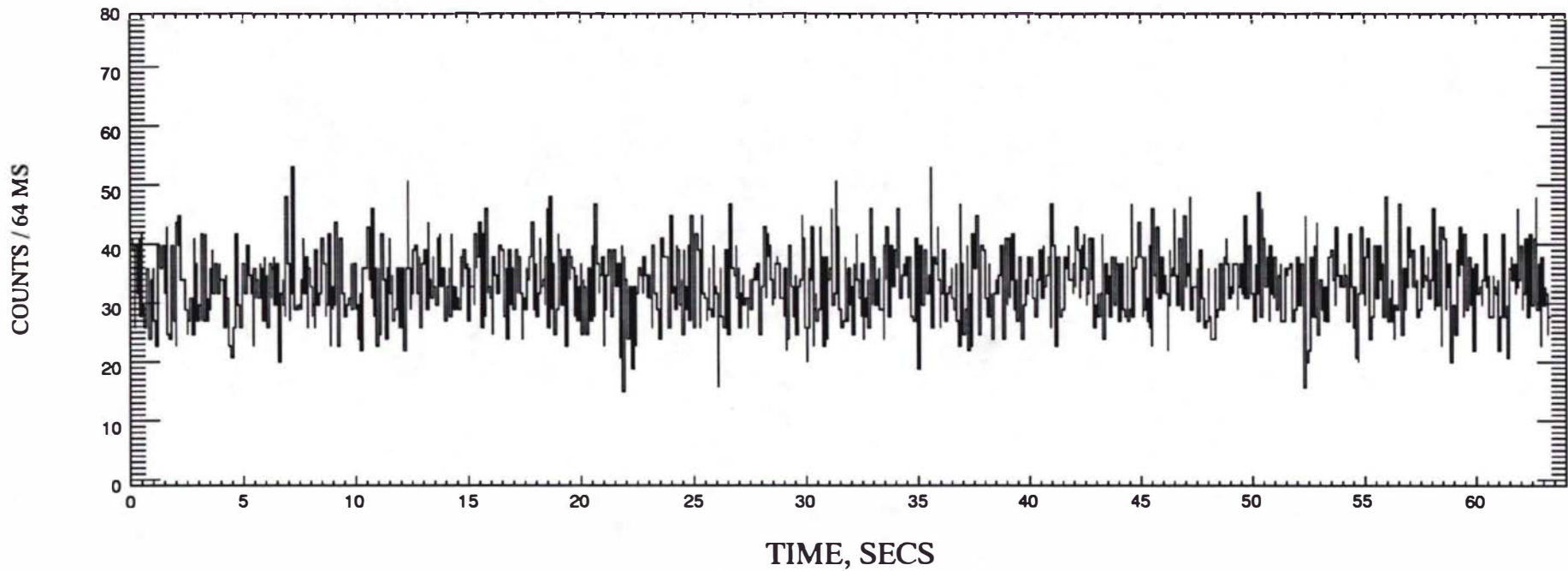
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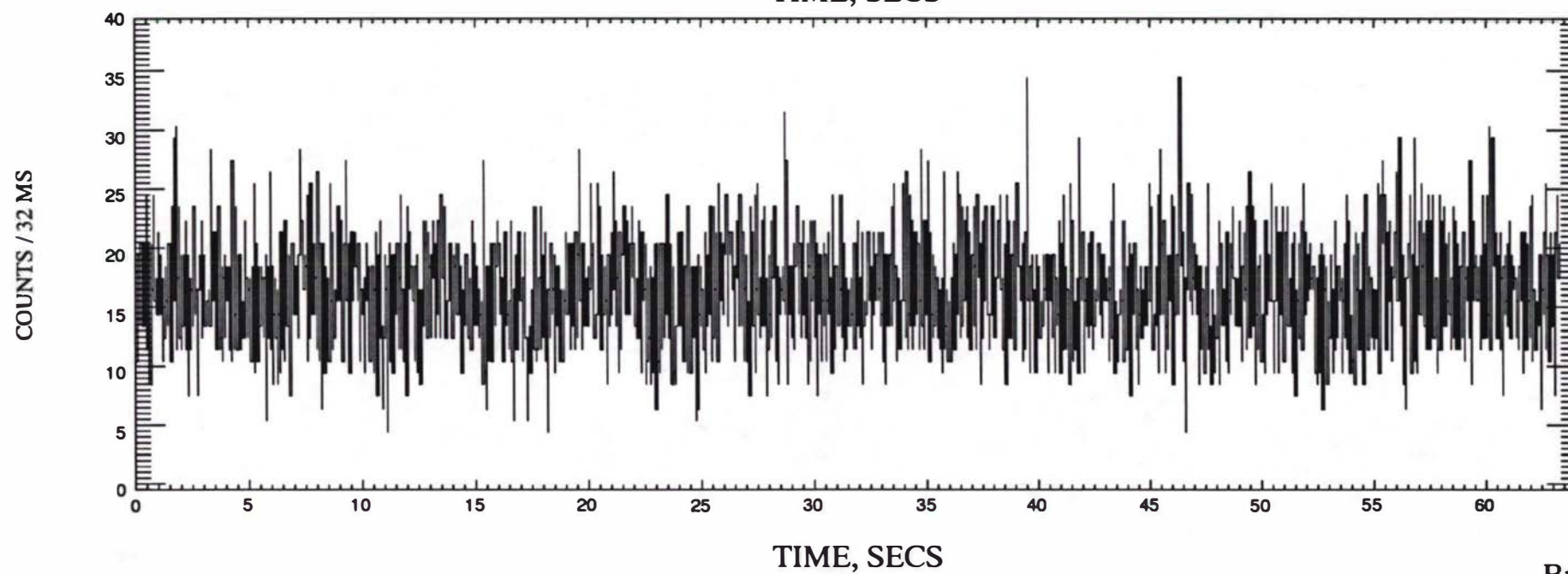
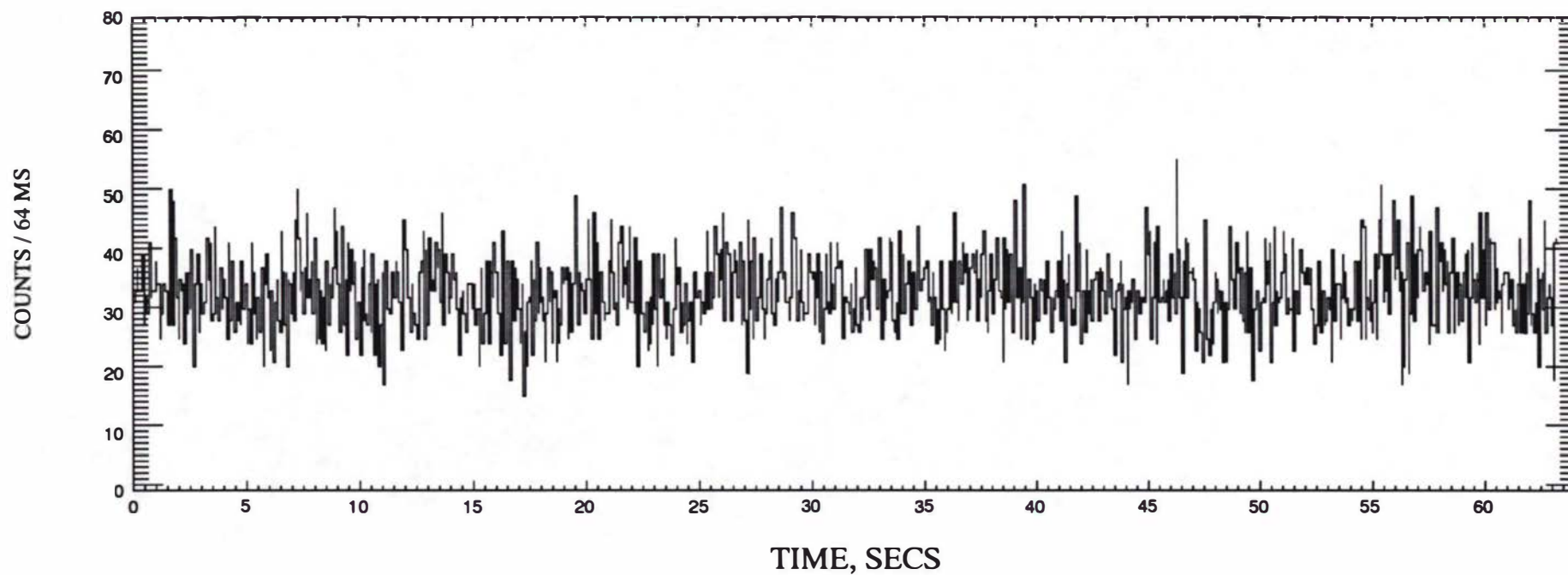
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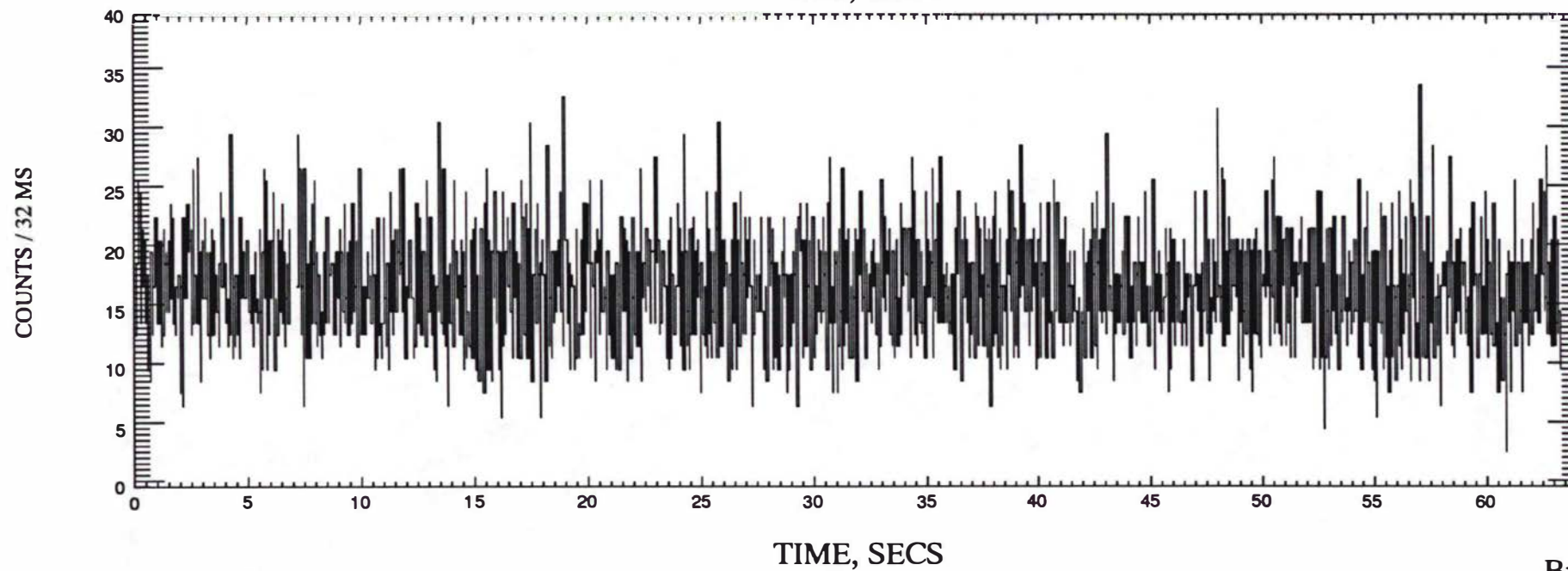
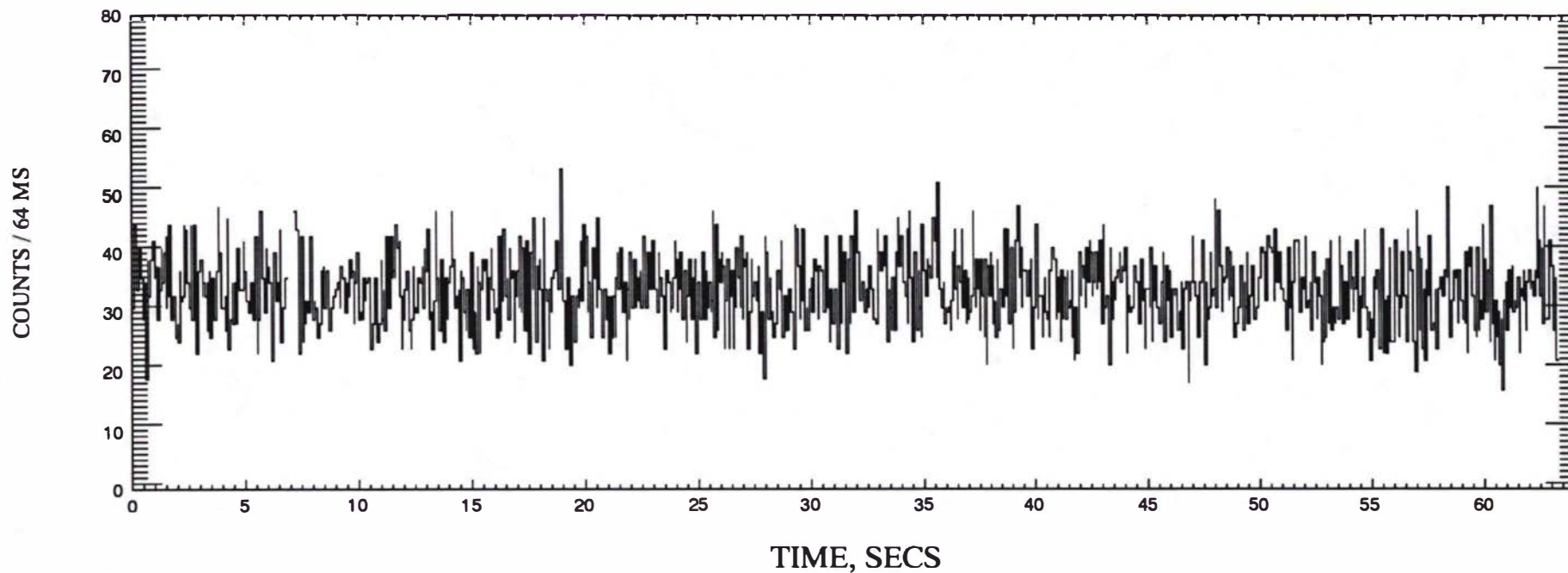
Burst Counter 8 at UT=11.759241235521 h=42333.268 s 11:45:33.268



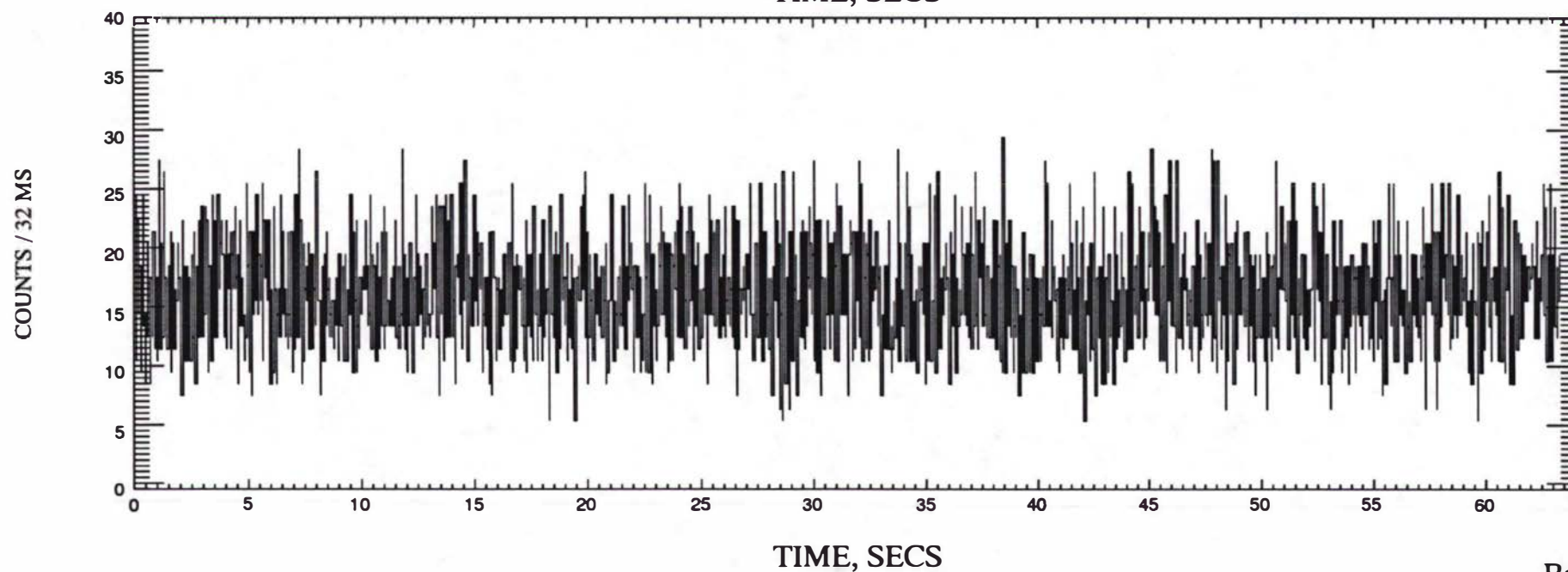
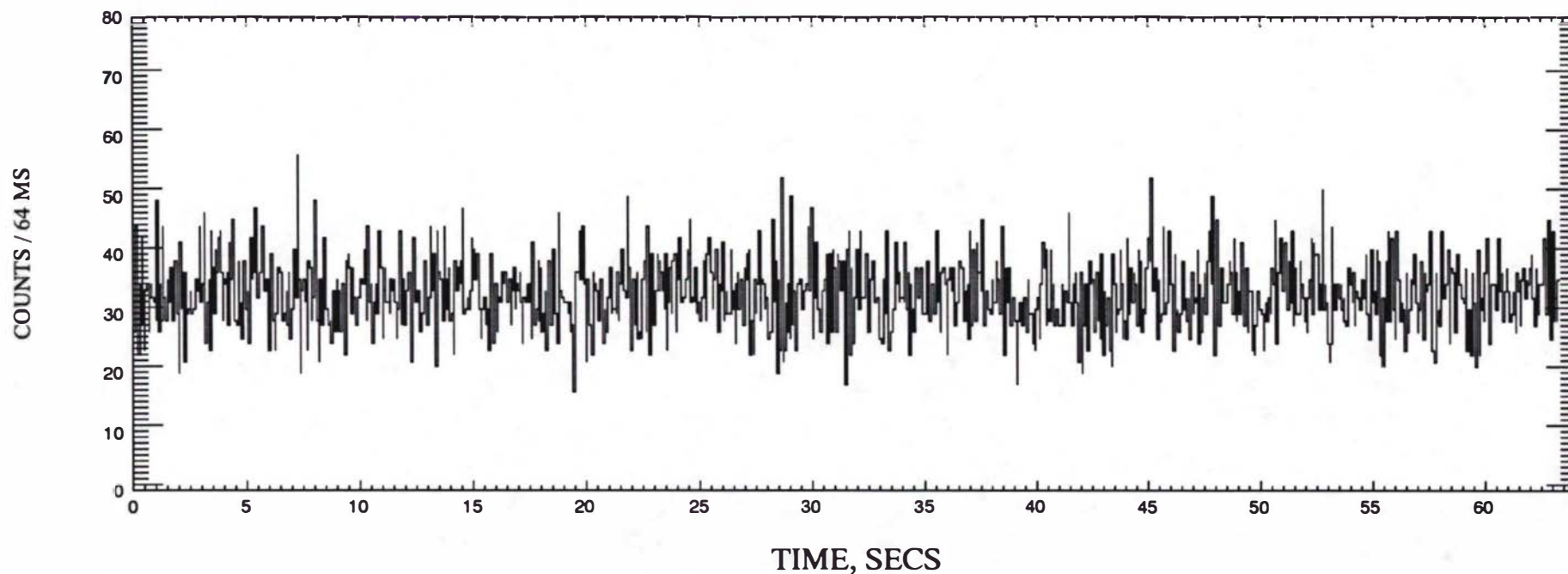
Burst Counter 9 at UT=13.050368190342 h=46981.325 s 13:03:01.325



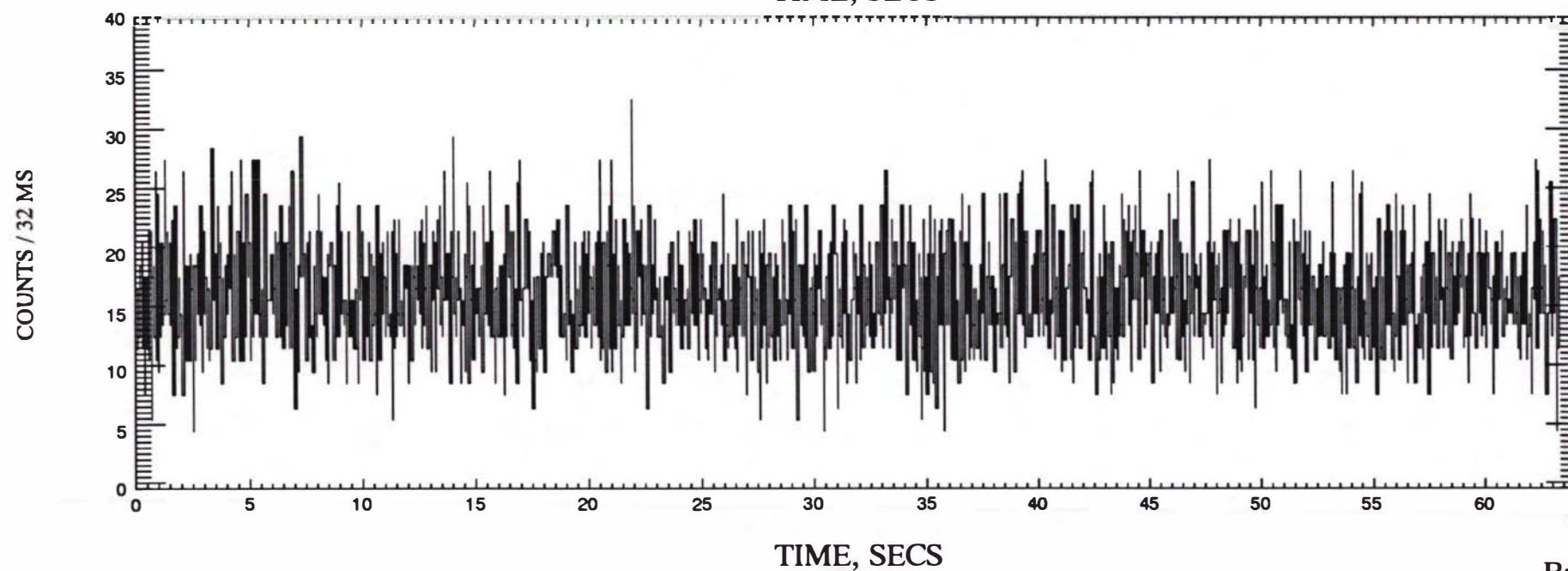
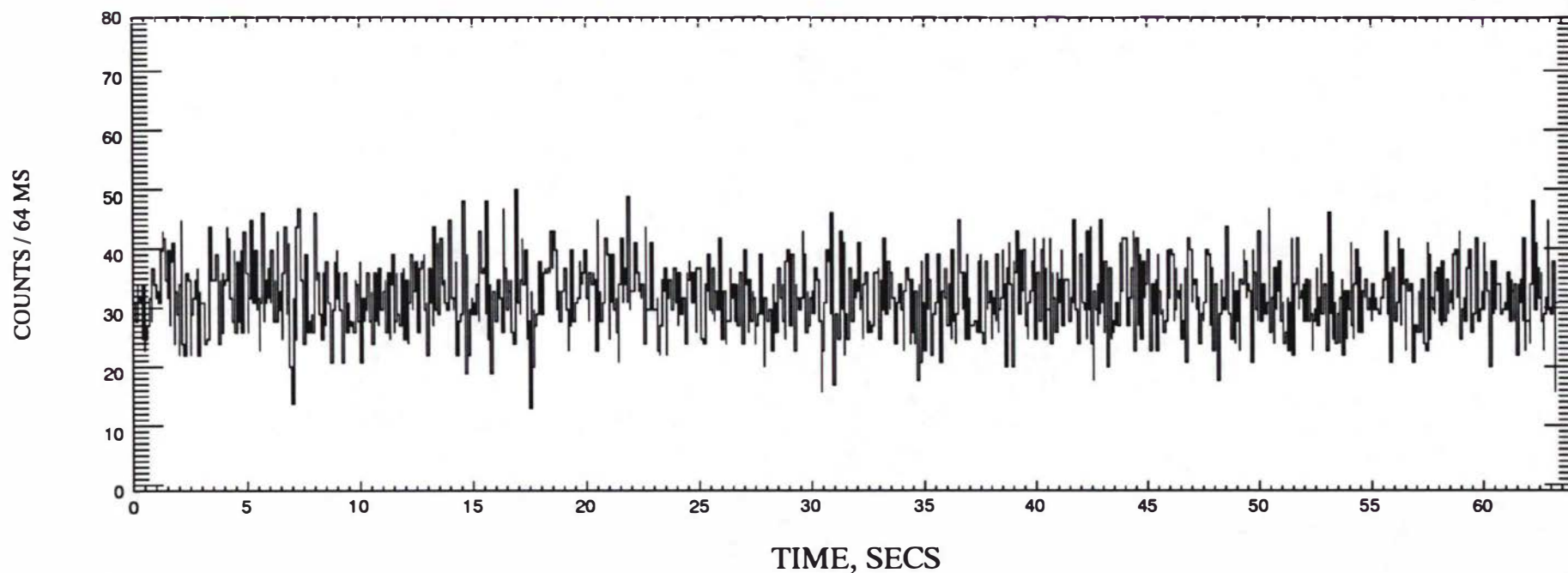
Burst Counter 10 at UT=14.441874270969 h=51990.747 s 14:26:30.747



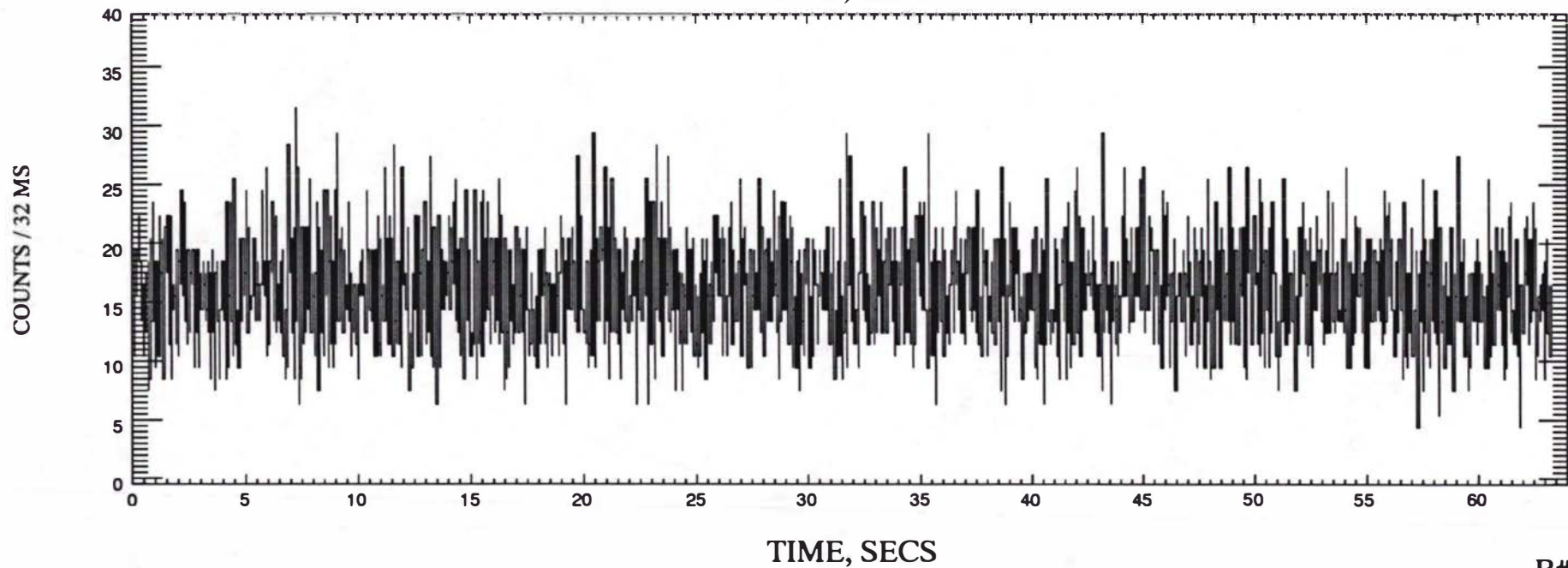
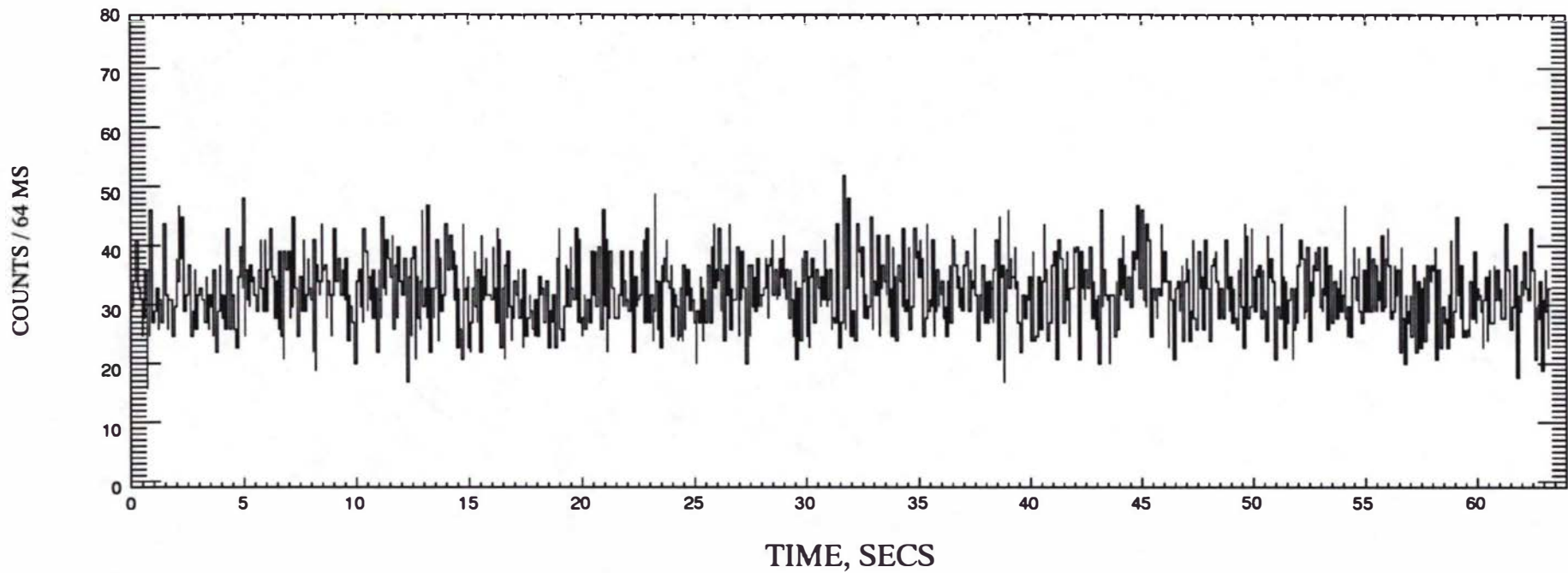
Burst Counter 11 at UT=16.656135342916 h=59962.087 s 16:39:22.087



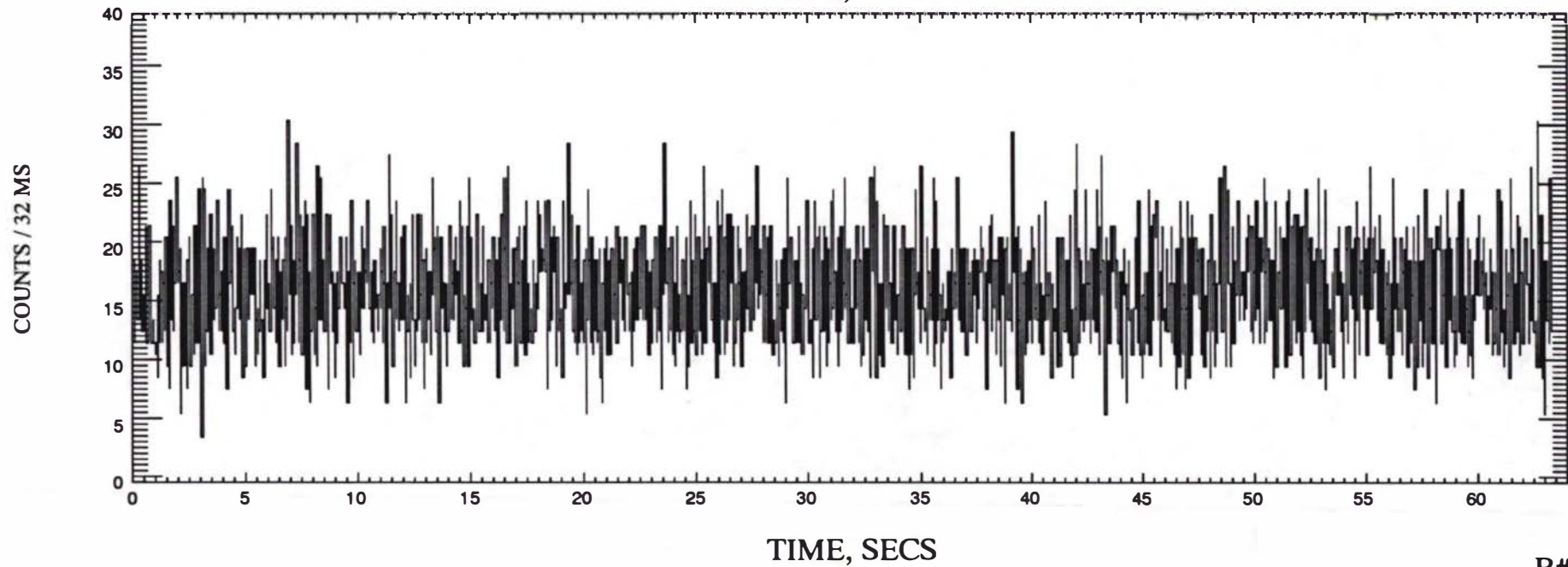
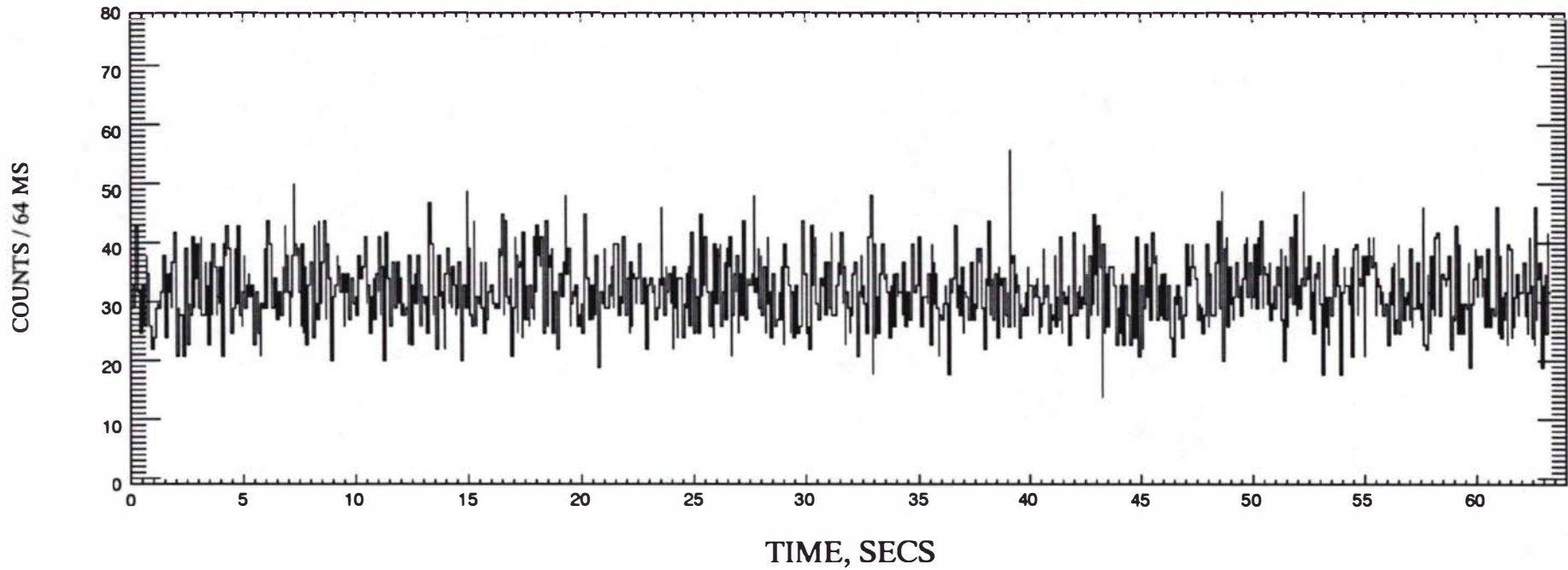
Burst Counter 12 at UT=18.042155312432 h=64951.759 s 18:02:31.759



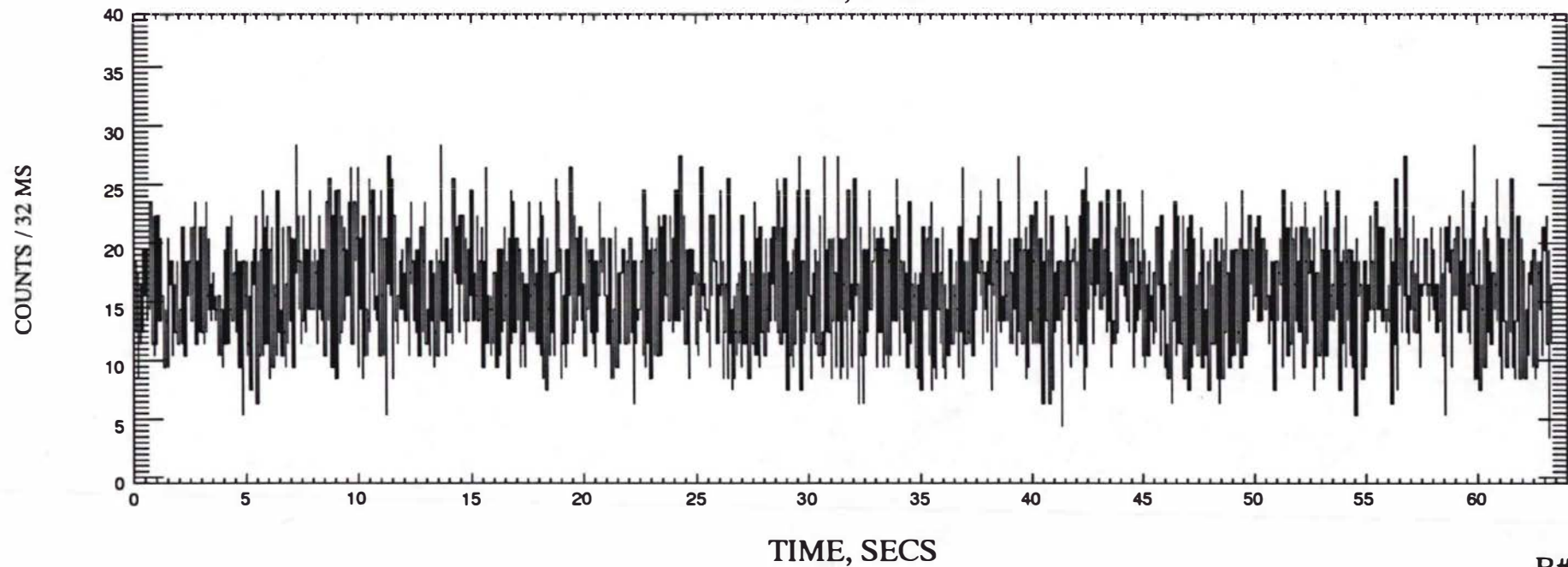
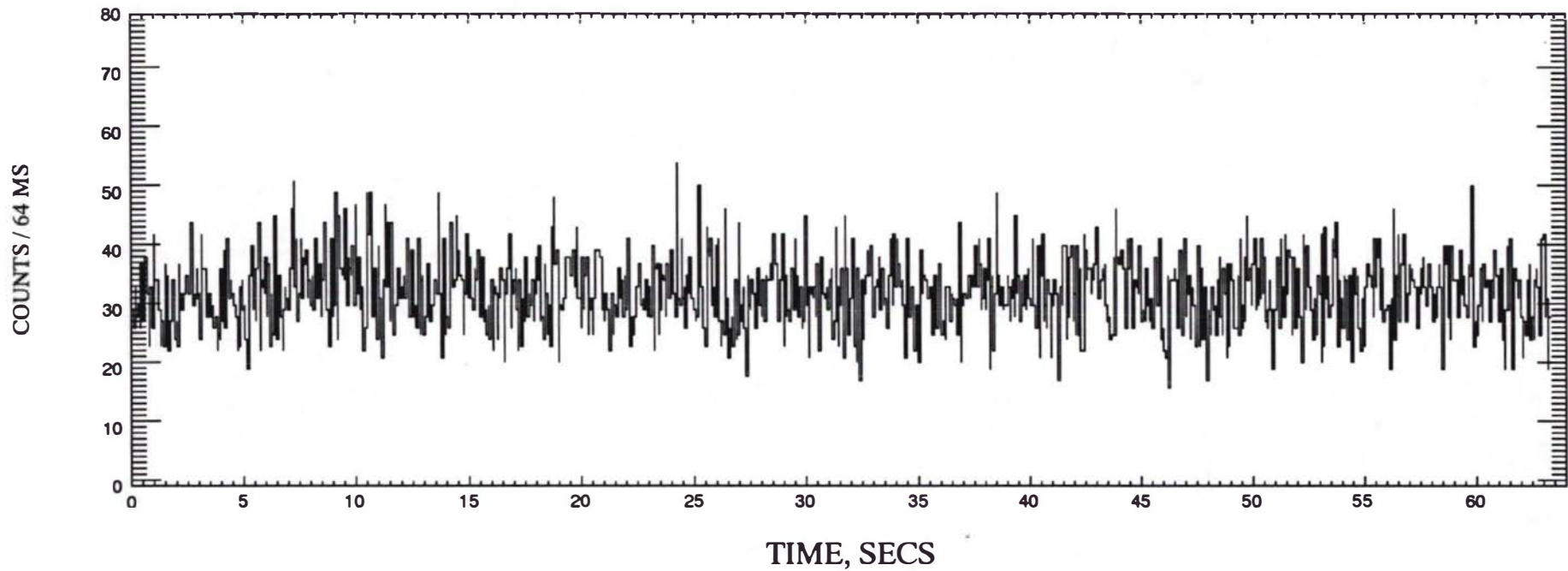
Burst Counter 13 at UT=19.371995374891 h=69739.183 s 19:22:19.183



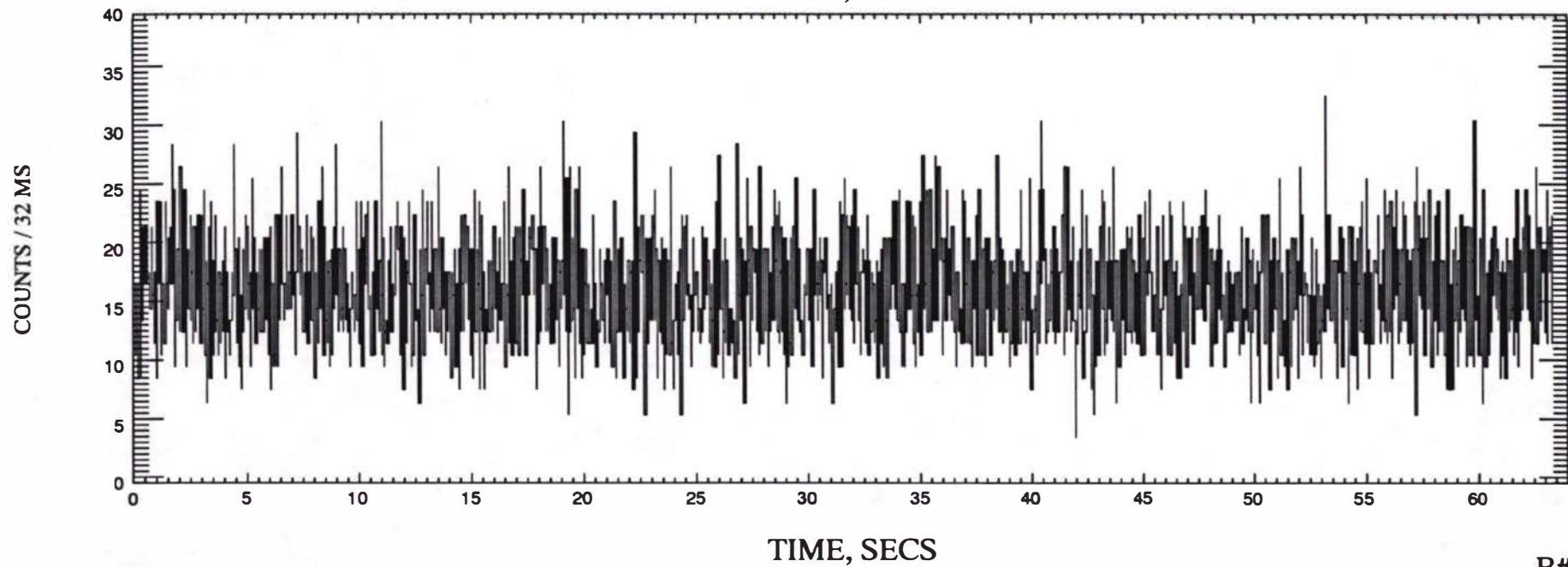
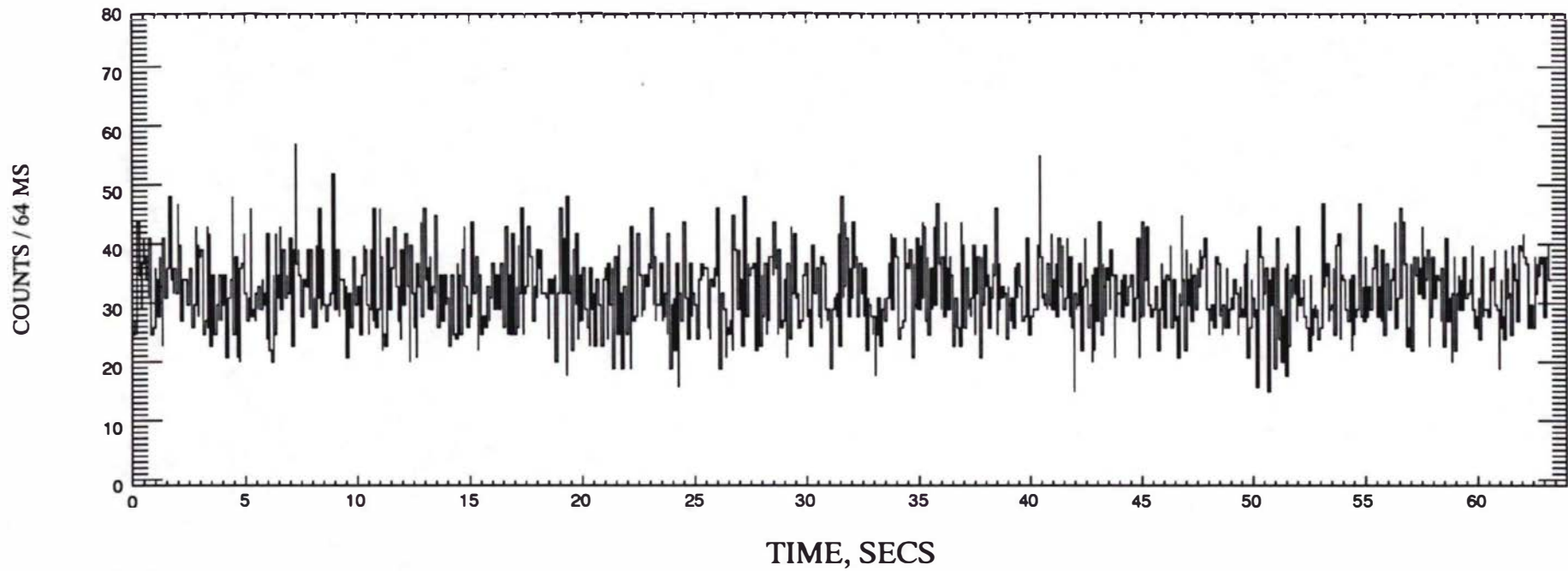
Burst Counter 14 at UT=21.094620242649 h=75940.633 s 21:05:40.633



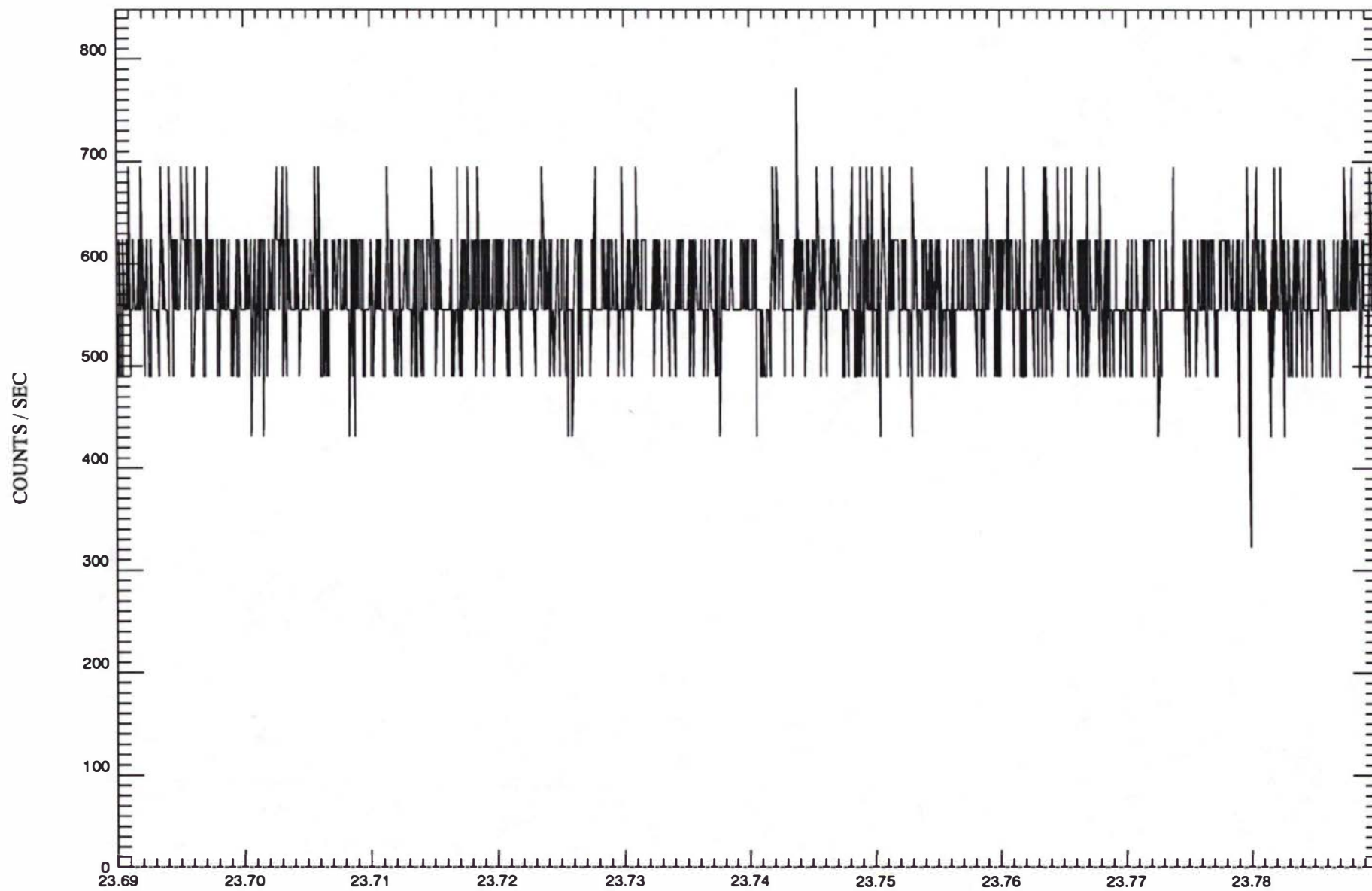
Burst Counter 15 at UT=22.107306662665 h=79586.304 s 22:06:26.304

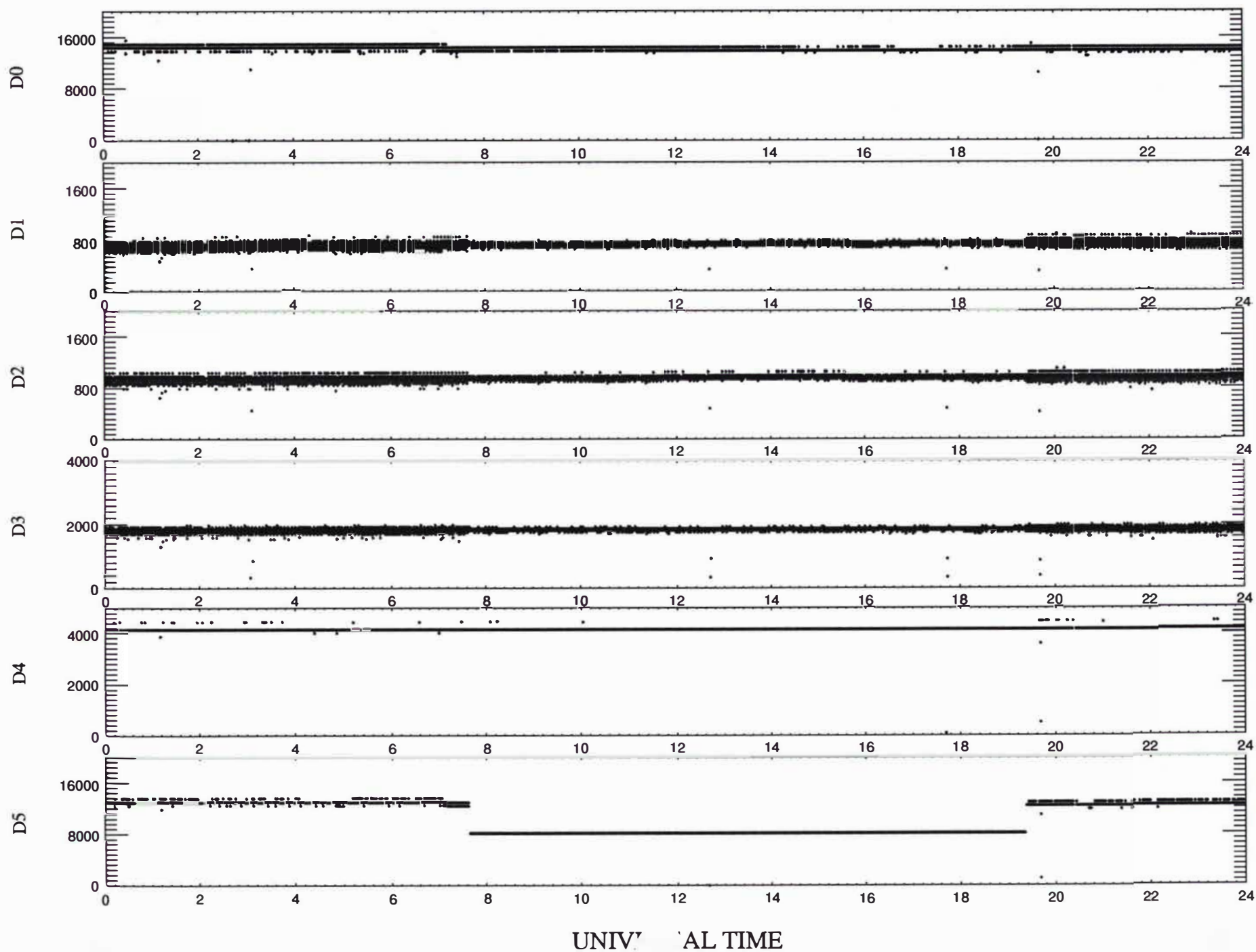


Burst Counter 0 at UT=23.743849741618 h=85477.859 s 23:44:37.859



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Mon May 4 10:25:58 1998

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 4 May 1998 12:25:36 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6719

TIME: TJD=0935 SECONDS=17636

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

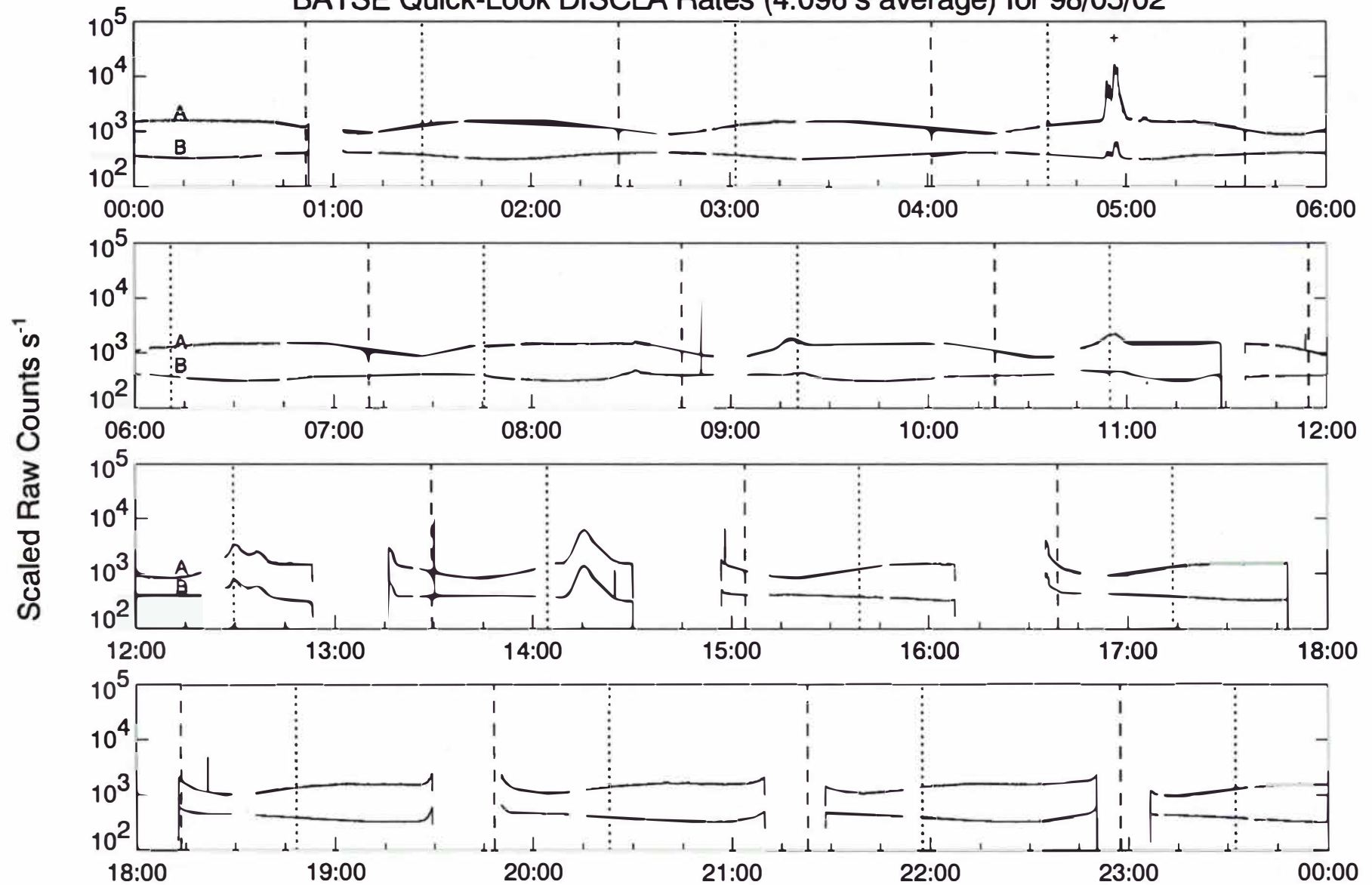
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=122.5 AZIMUTH=25.1 ERROR=0.06 DEGREES

COMMENTS:

GOES. C5.4, OPTICAL SF, DUR. APPROX. 400 SECS. NOT VISIBLE ABOVE 300 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/02

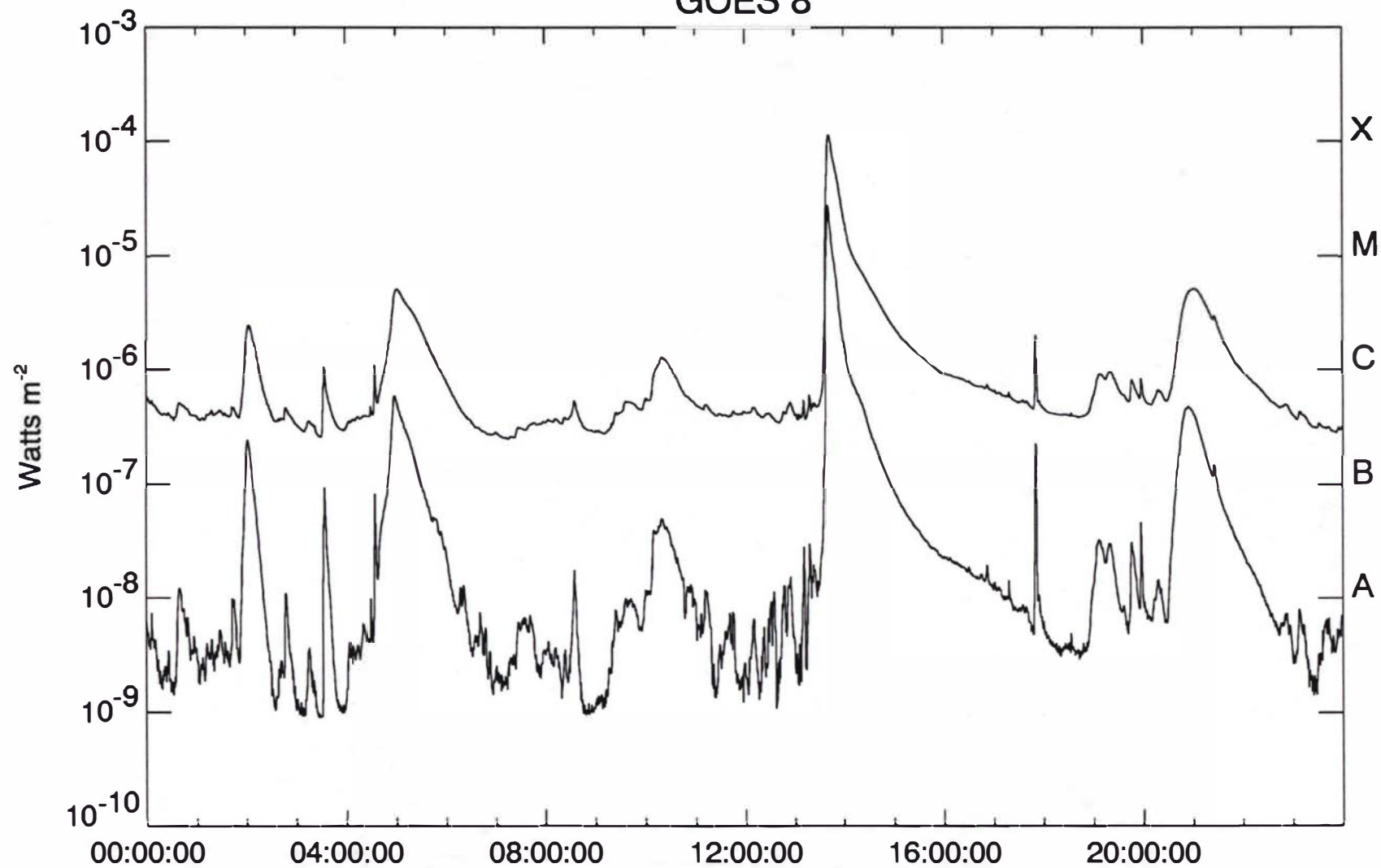


Current Time: 98/05/06, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

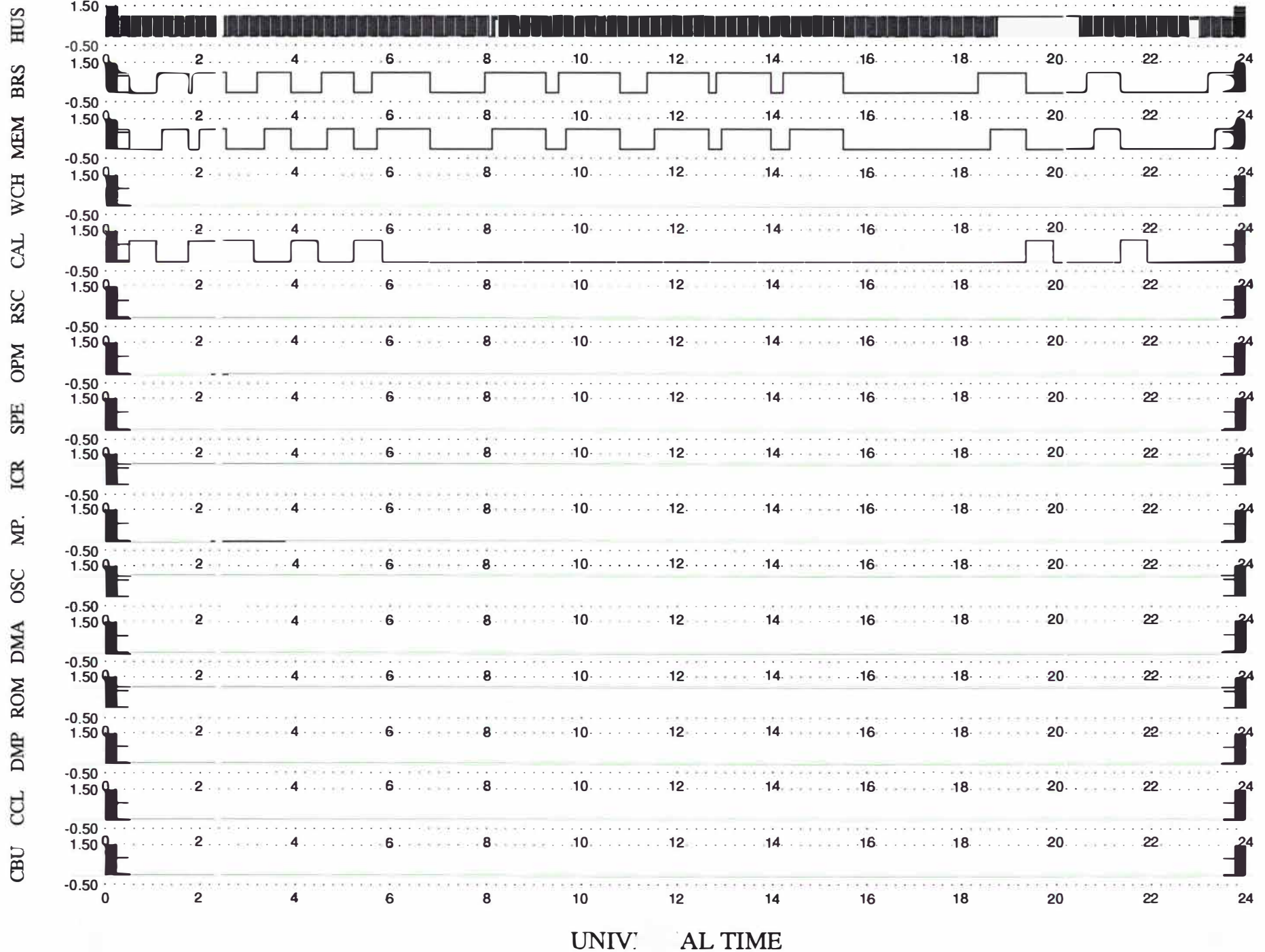


Data Start: 98/05/02, 0000:00

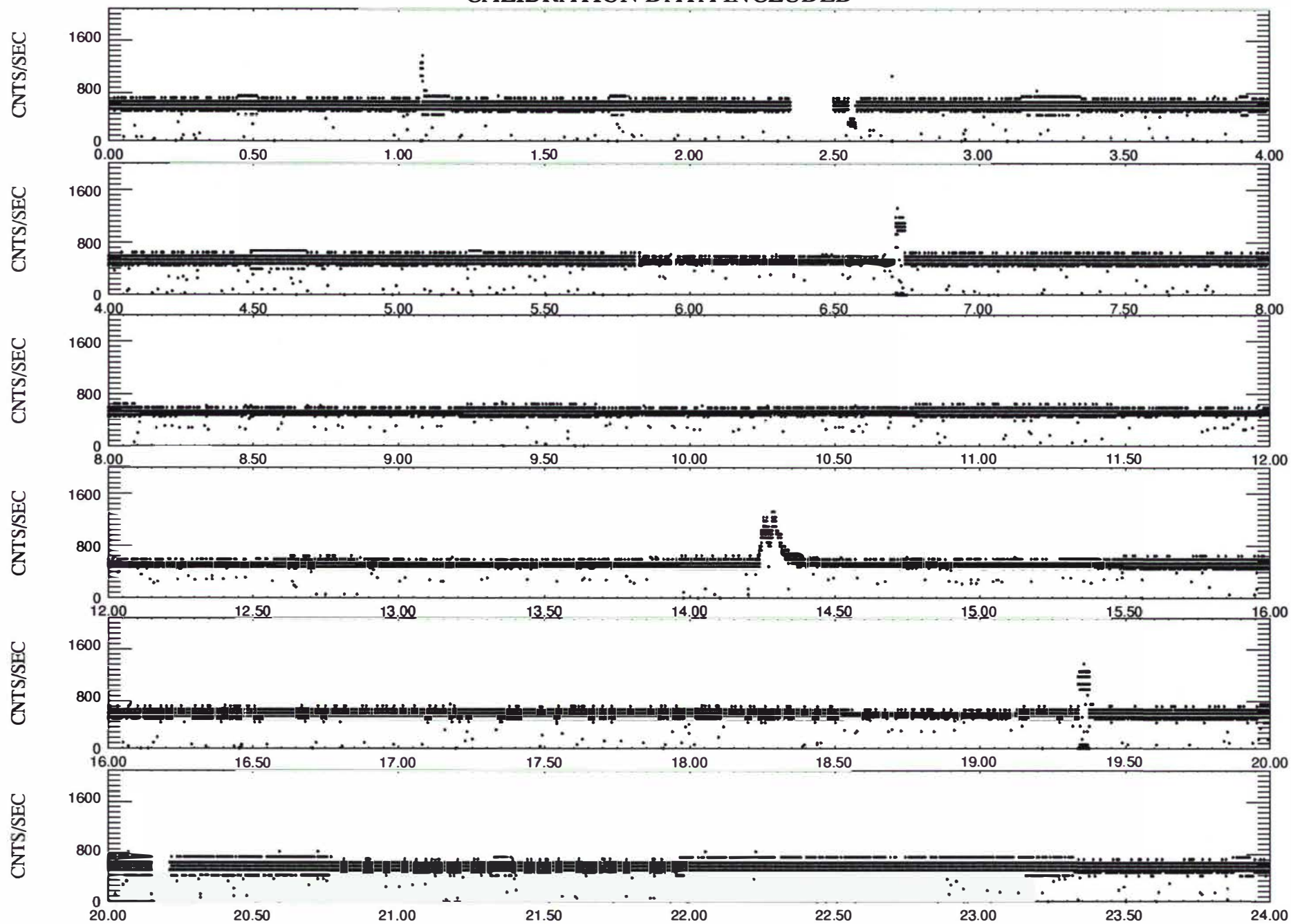
Plot created: 98/05/06, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

BURST NUMBER 1 - 14

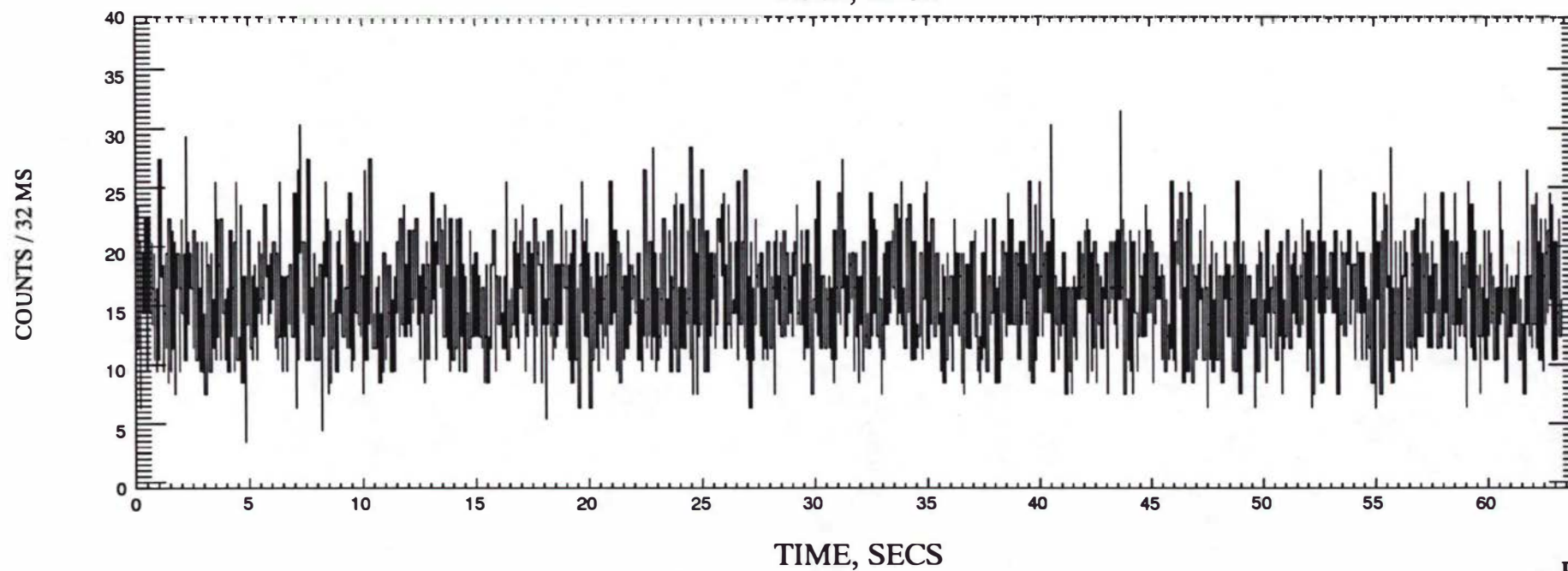
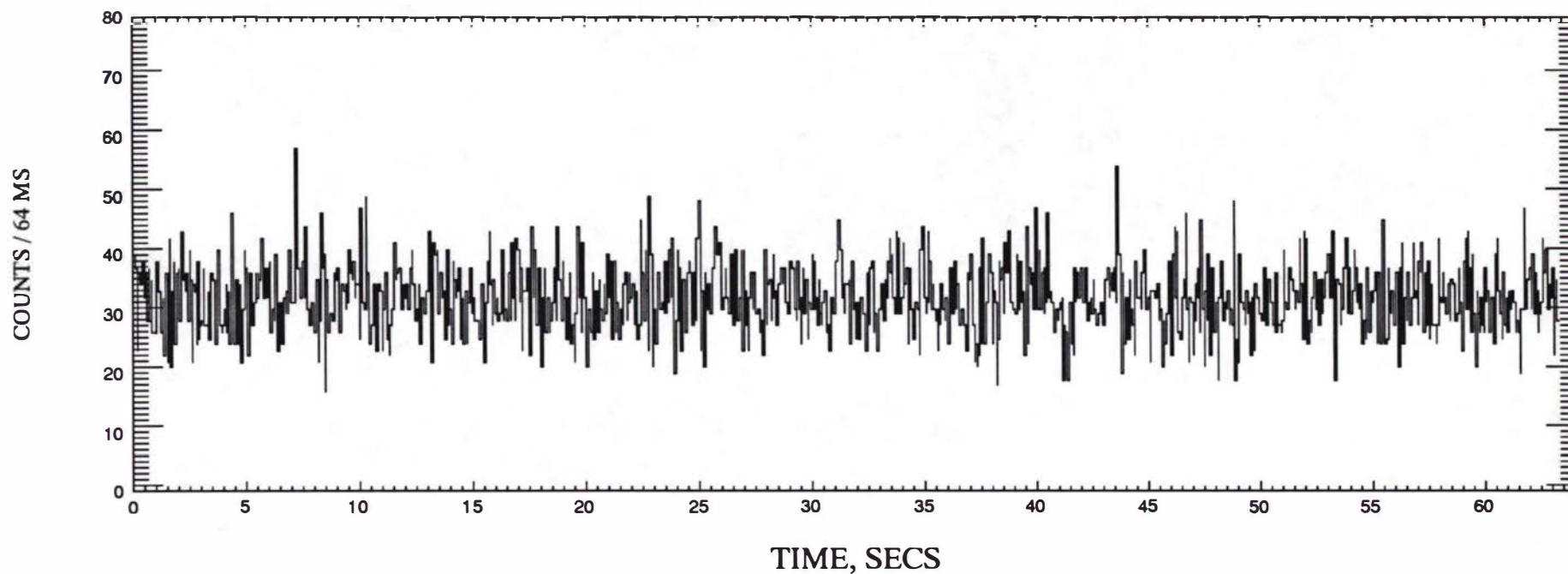


CALIBRATION DATA INCLUDED

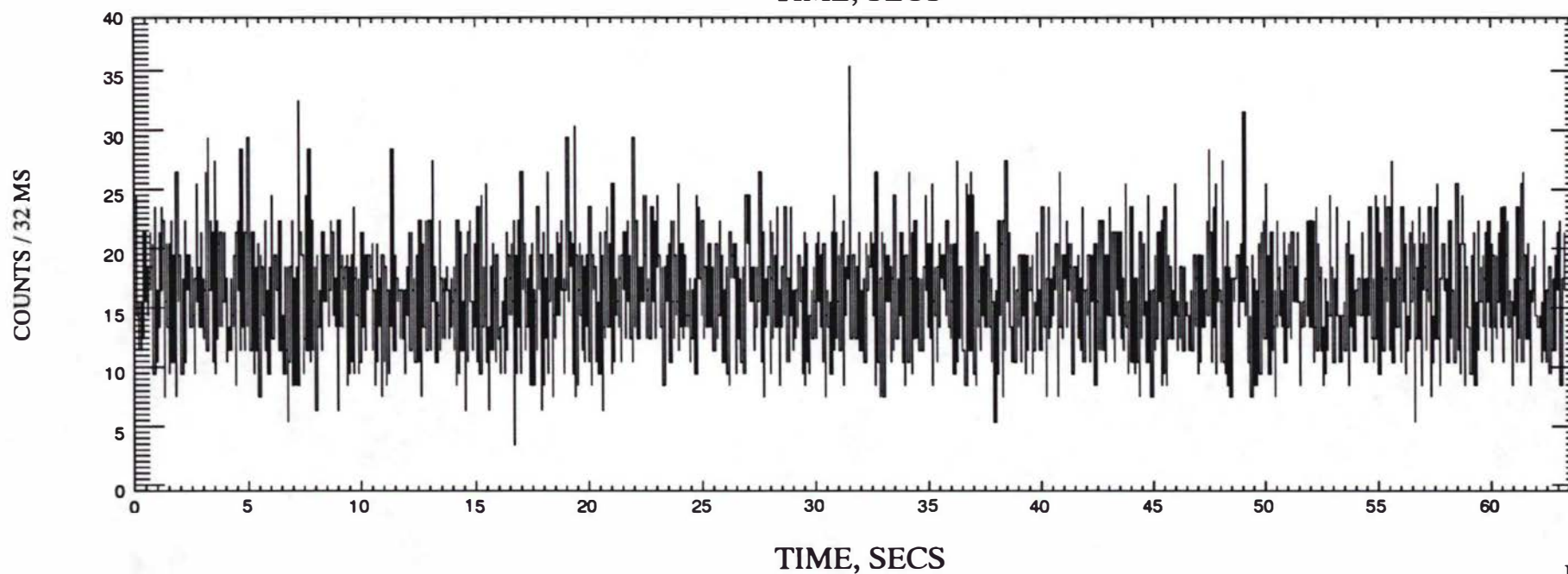
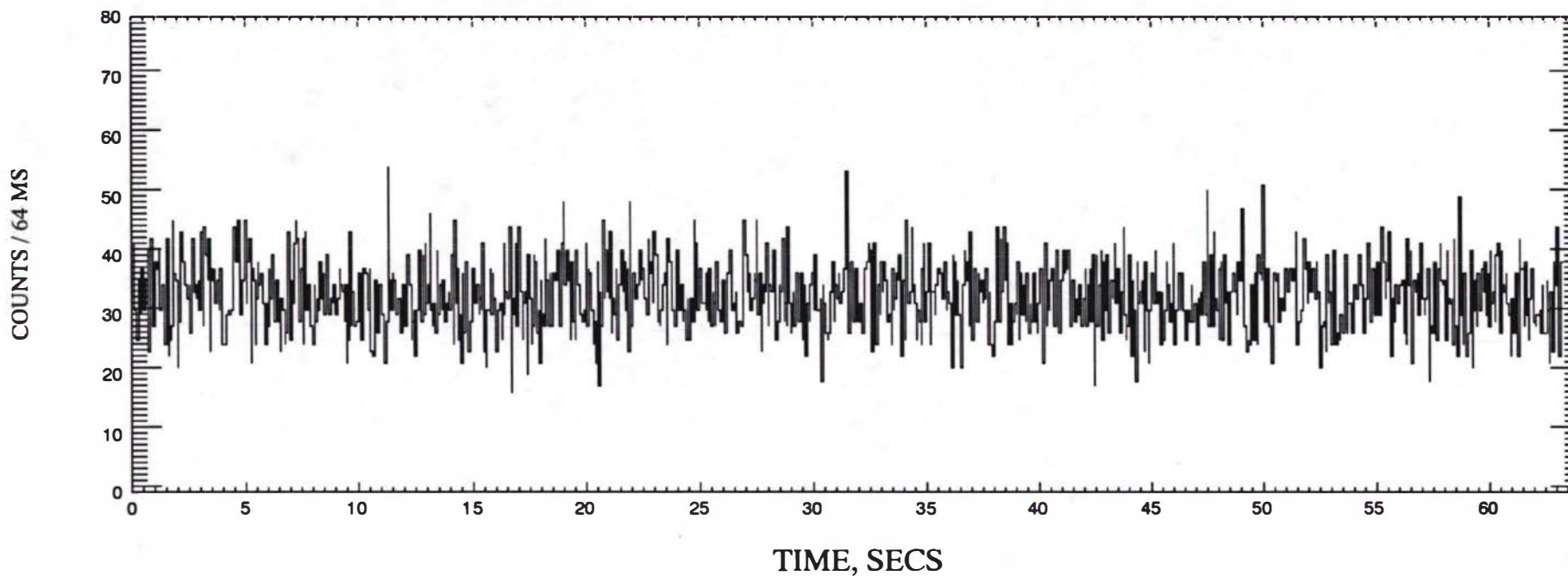


UNIV AL TIME

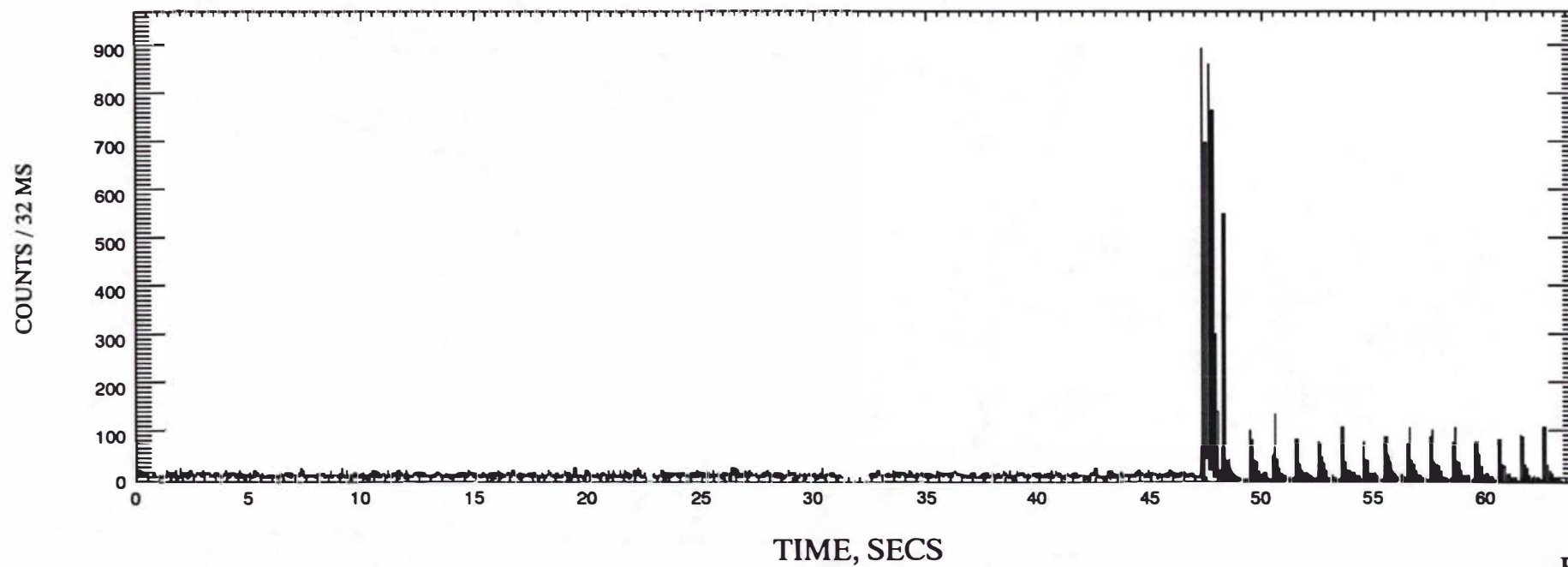
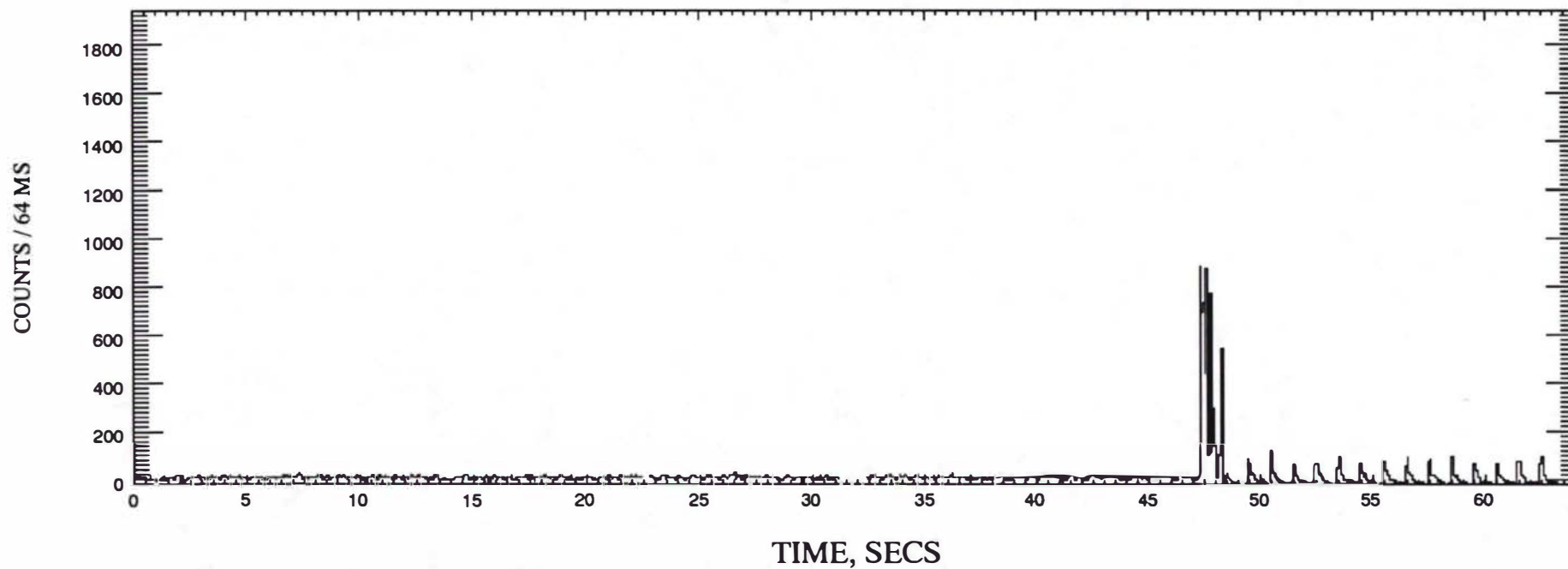
Burst Counter 1 at UT= 1.014766197205 h= 3653.158 s 01:00:53.158



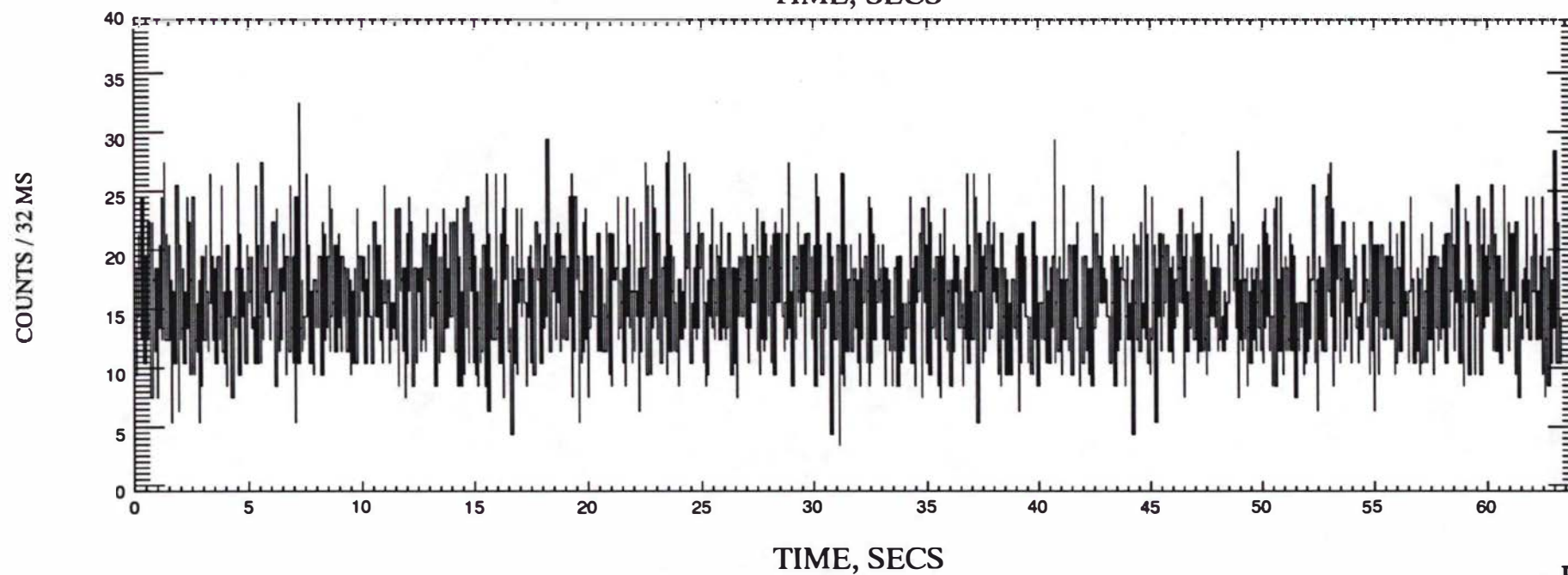
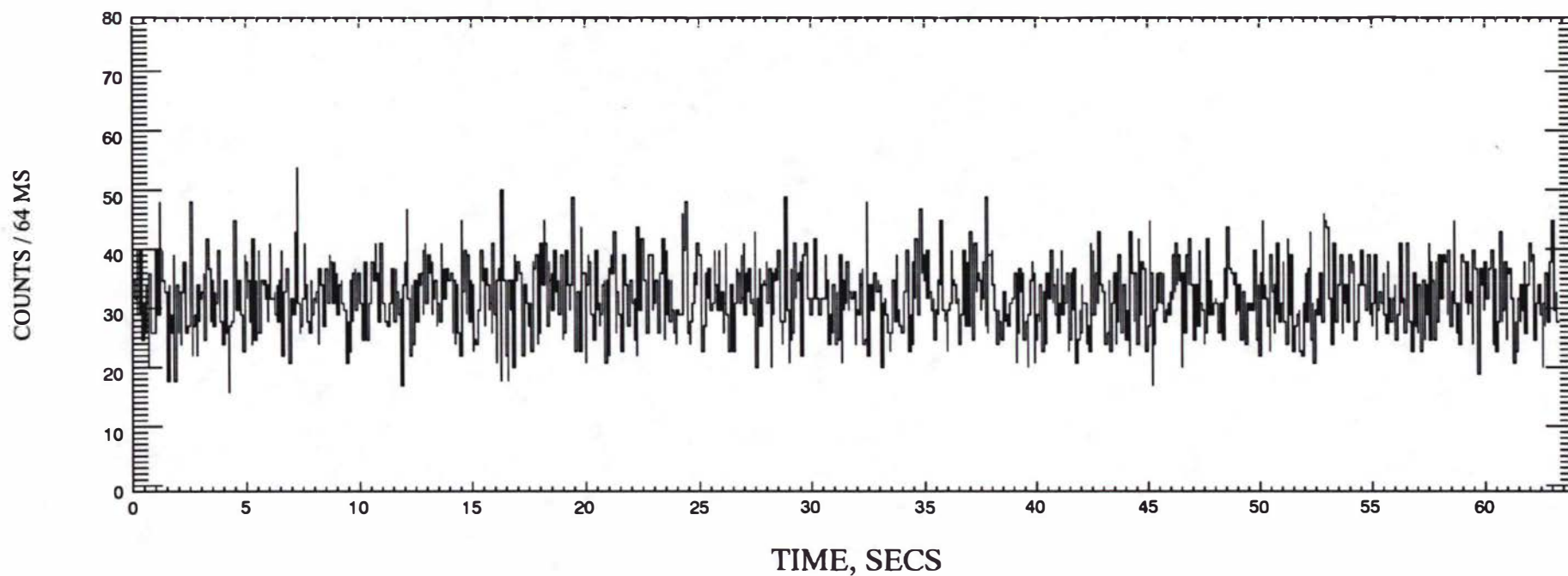
Burst Counter 2 at UT= 1.839010662503 h= 6620.438 s 01:50:20.438



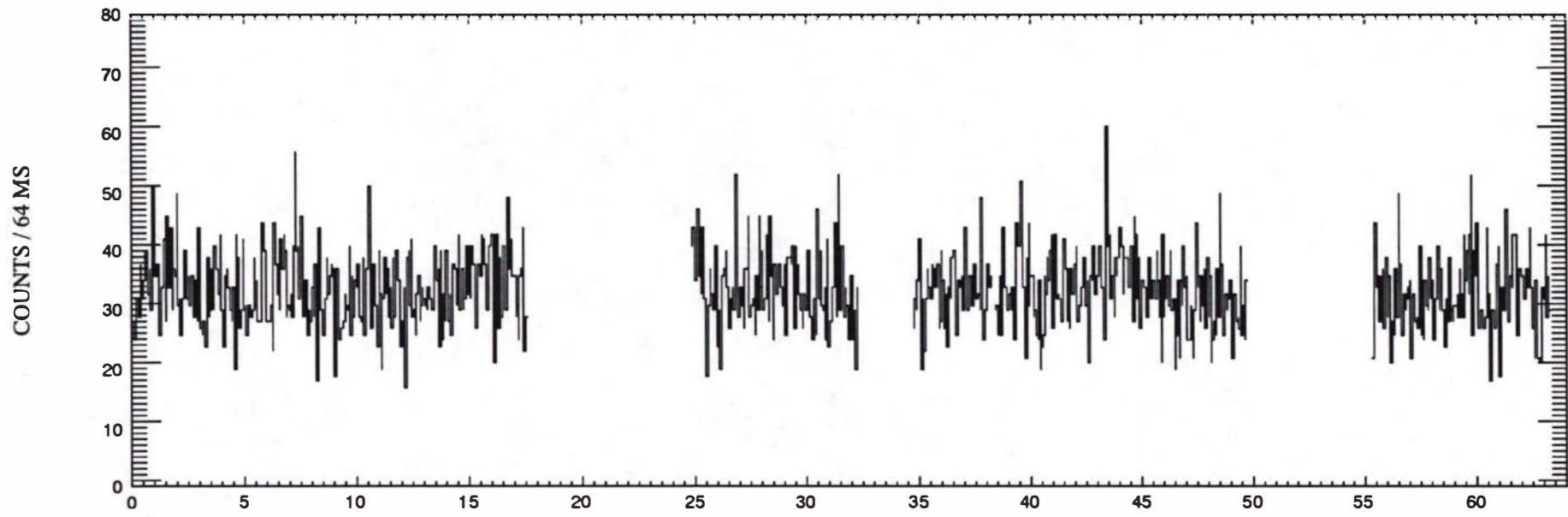
Burst Counter 3 at UT= 3.194302876790 h=11499.490 s 03:11:39.490



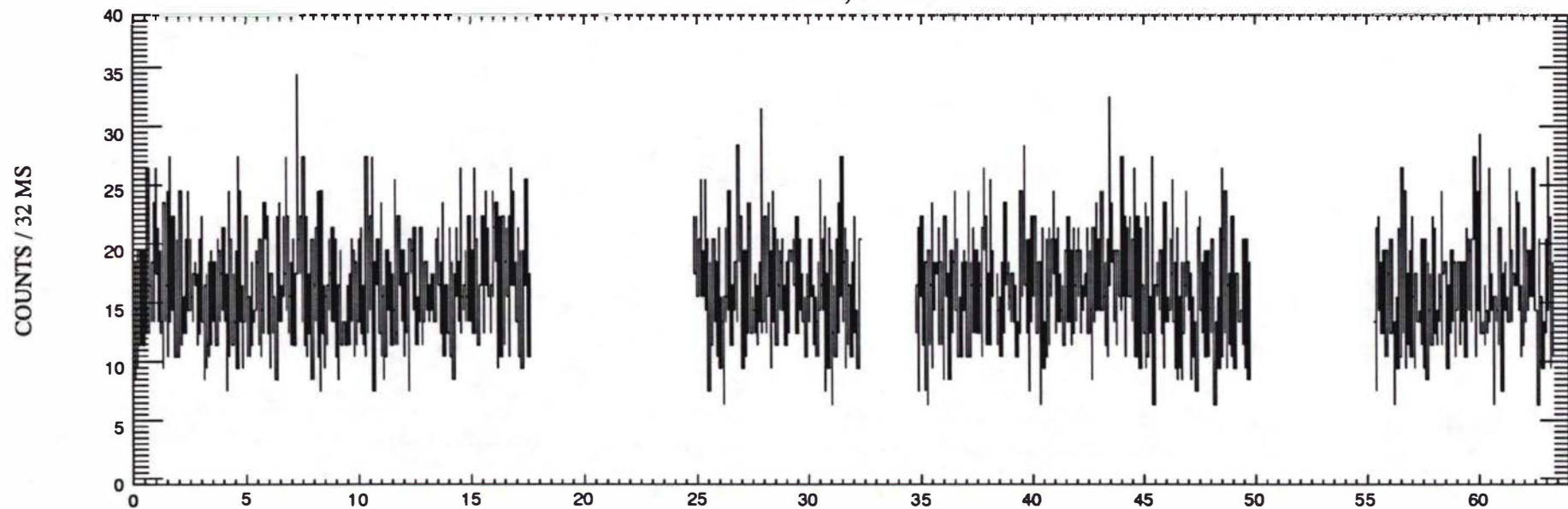
Burst Counter 4 at UT= 4.531886753506 h=16314.792 s 04:31:54.792



Burst Counter 5 at UT= 5.572905095418 h=20062.458 s 05:34:22.458

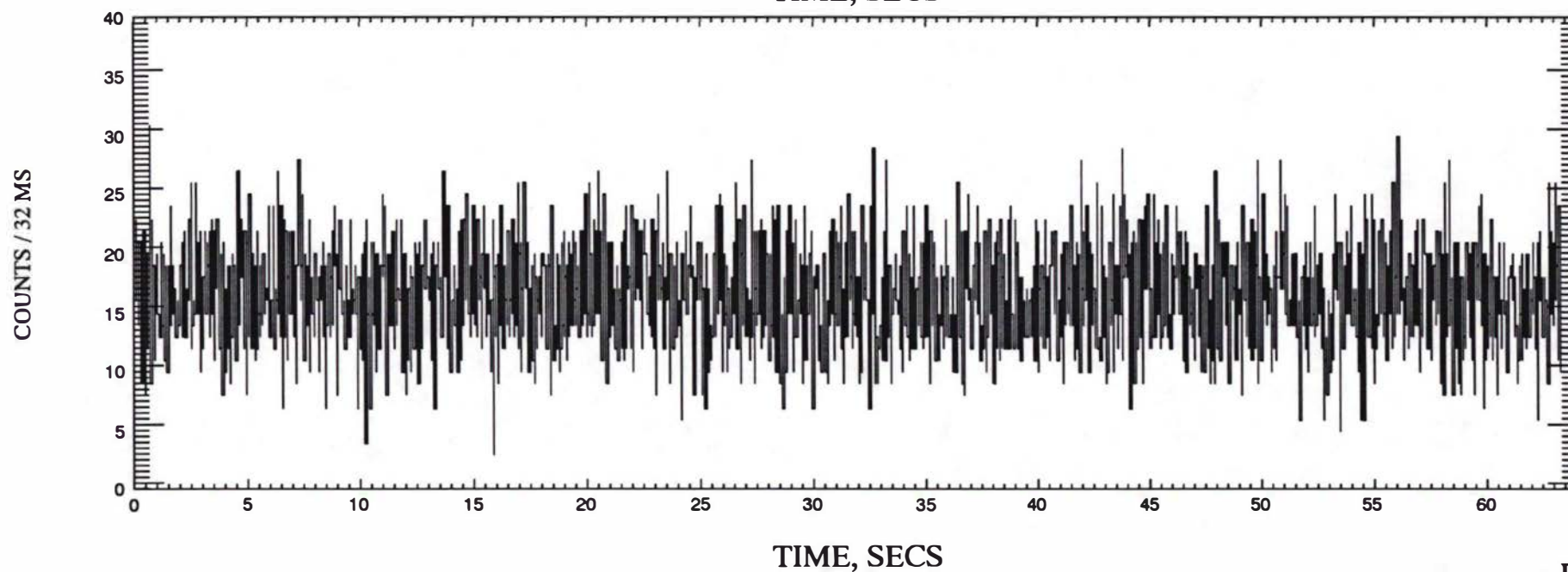
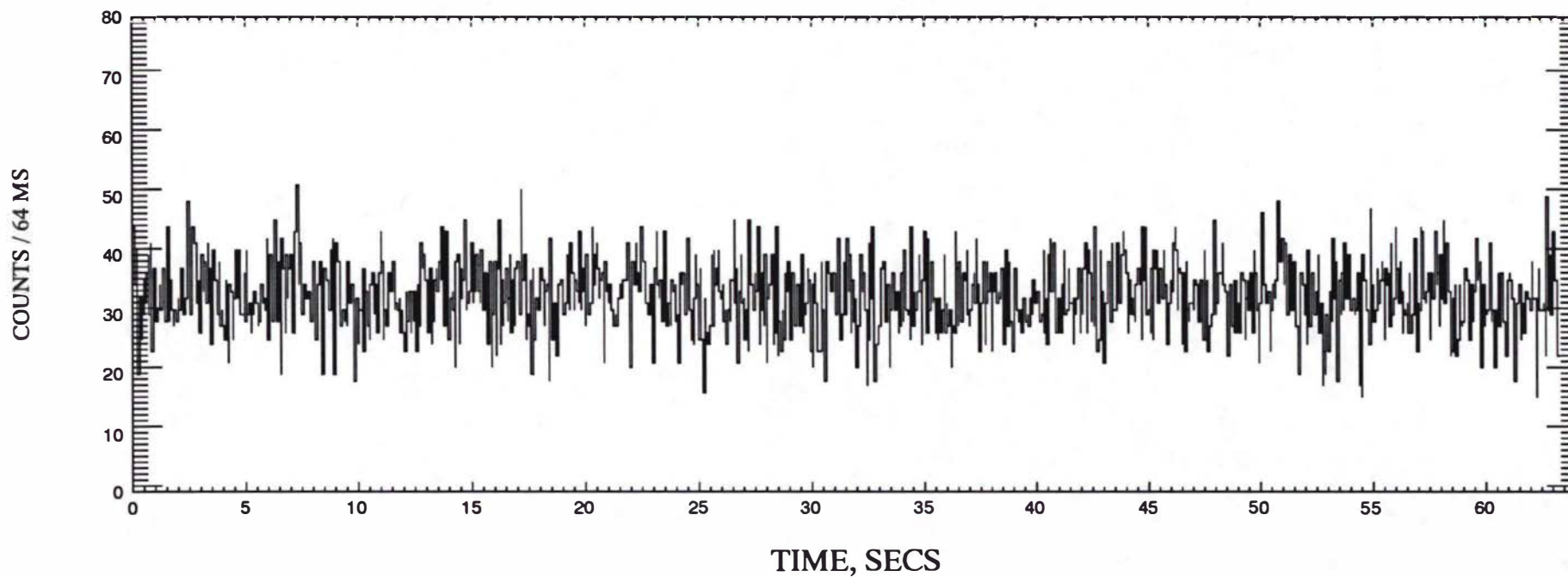


TIME, SECS

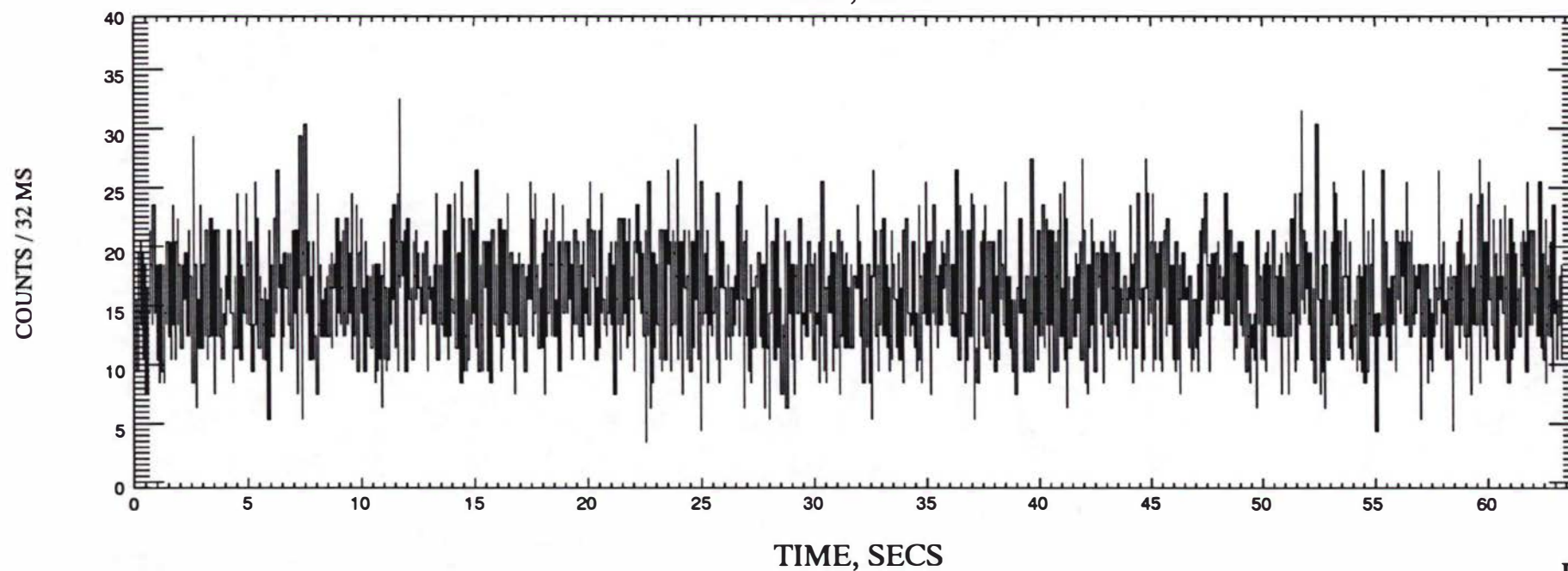
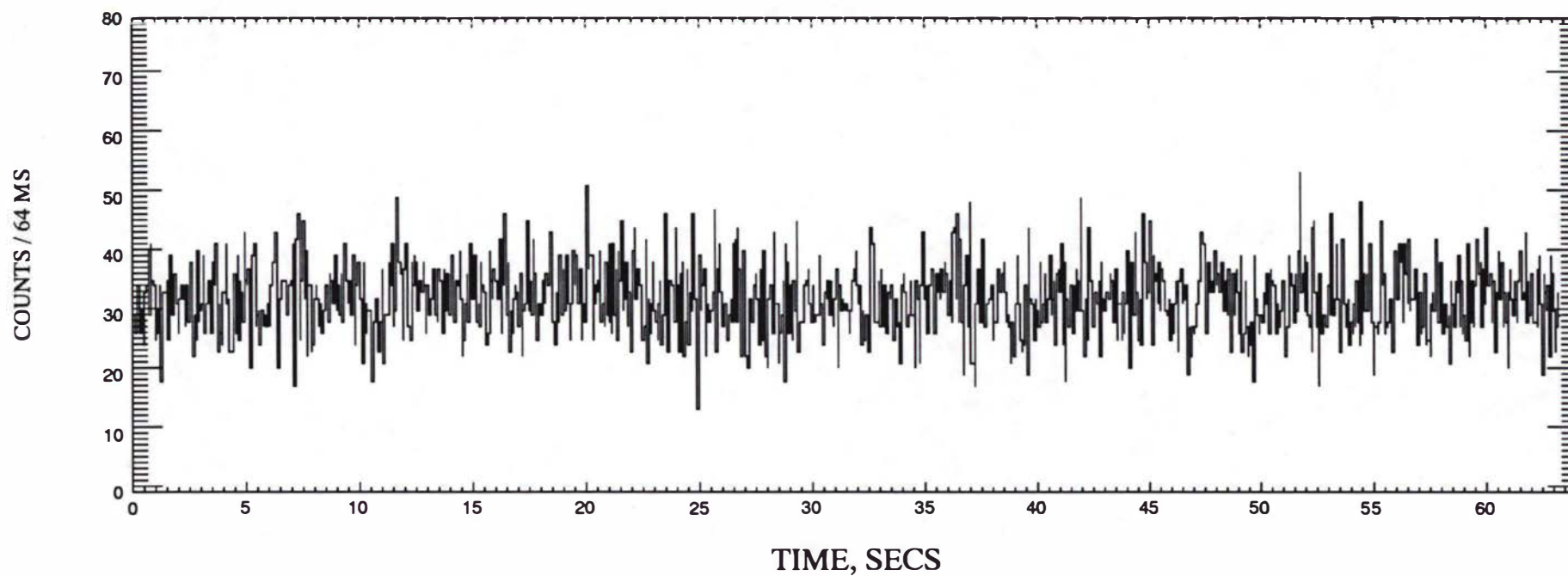


TIME, SECS

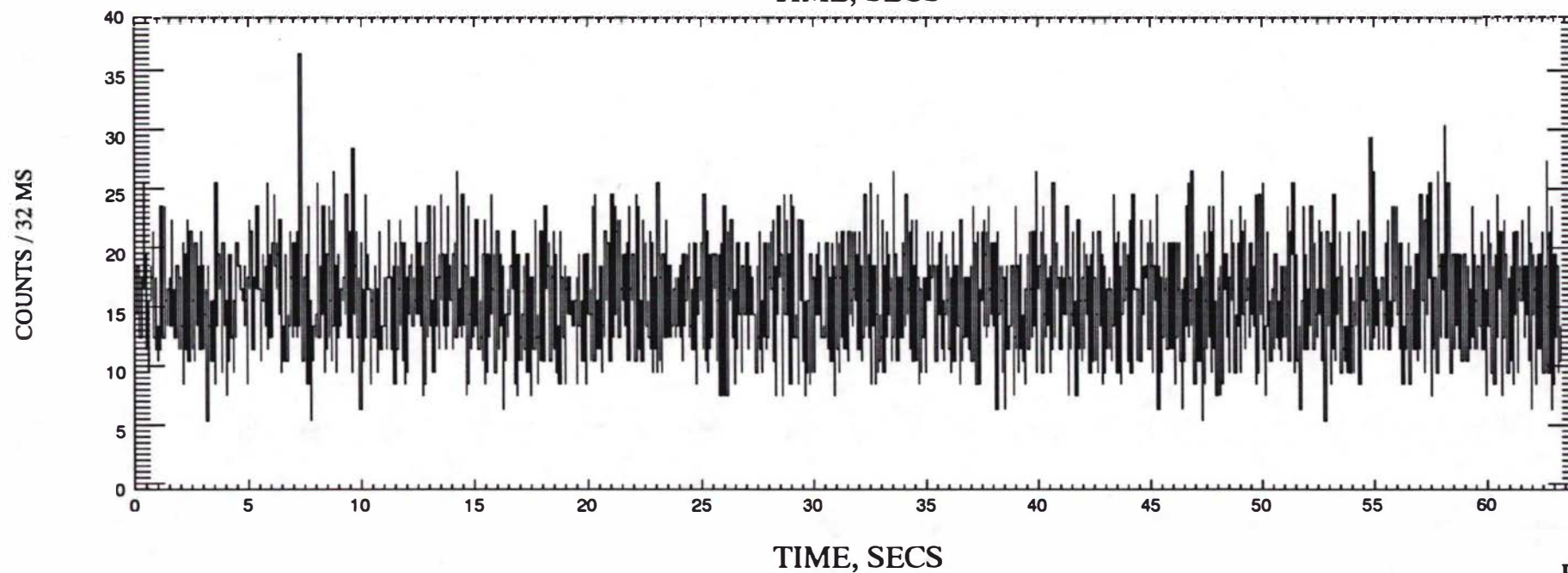
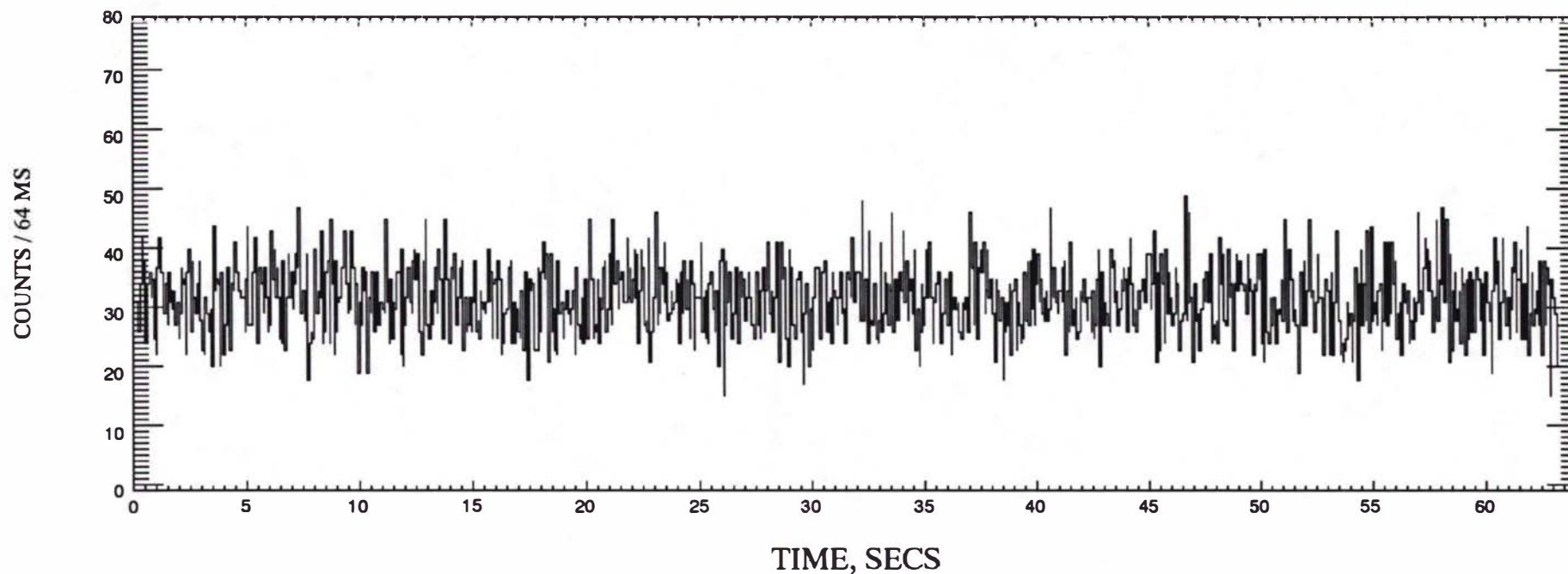
Burst Counter 6 at UT= 7.960046513875 h=28656.167 s 07:57:36.167



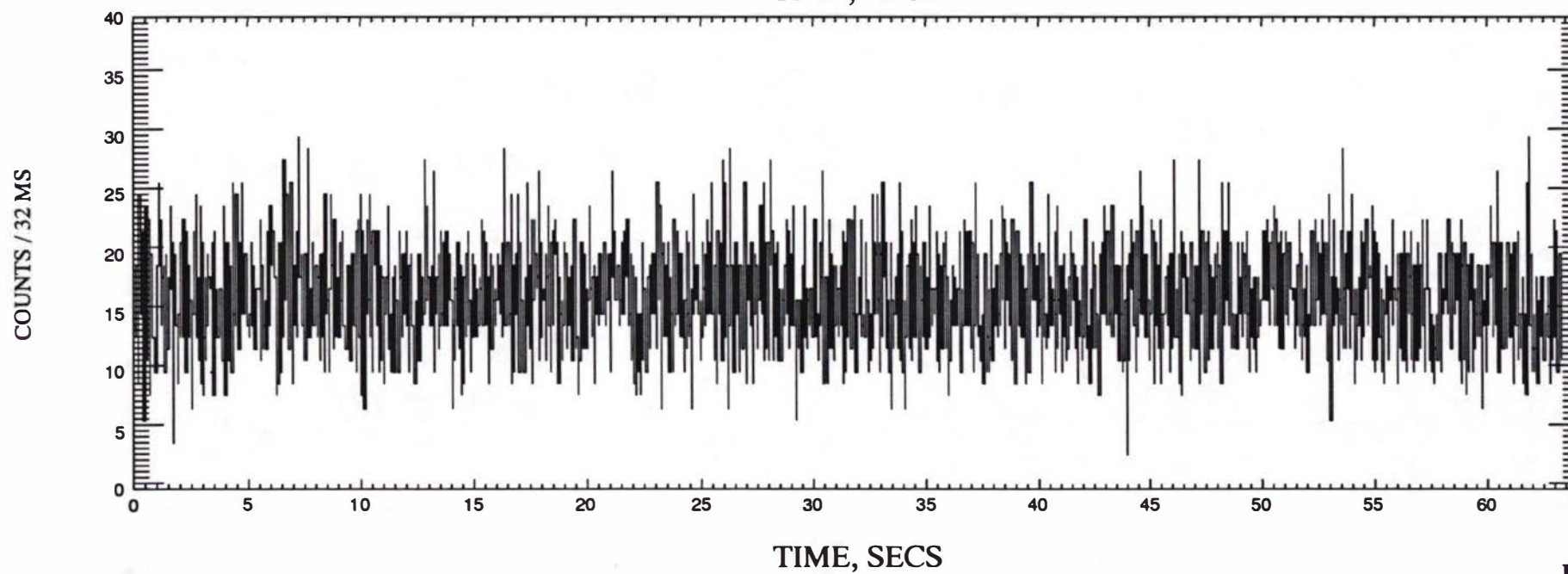
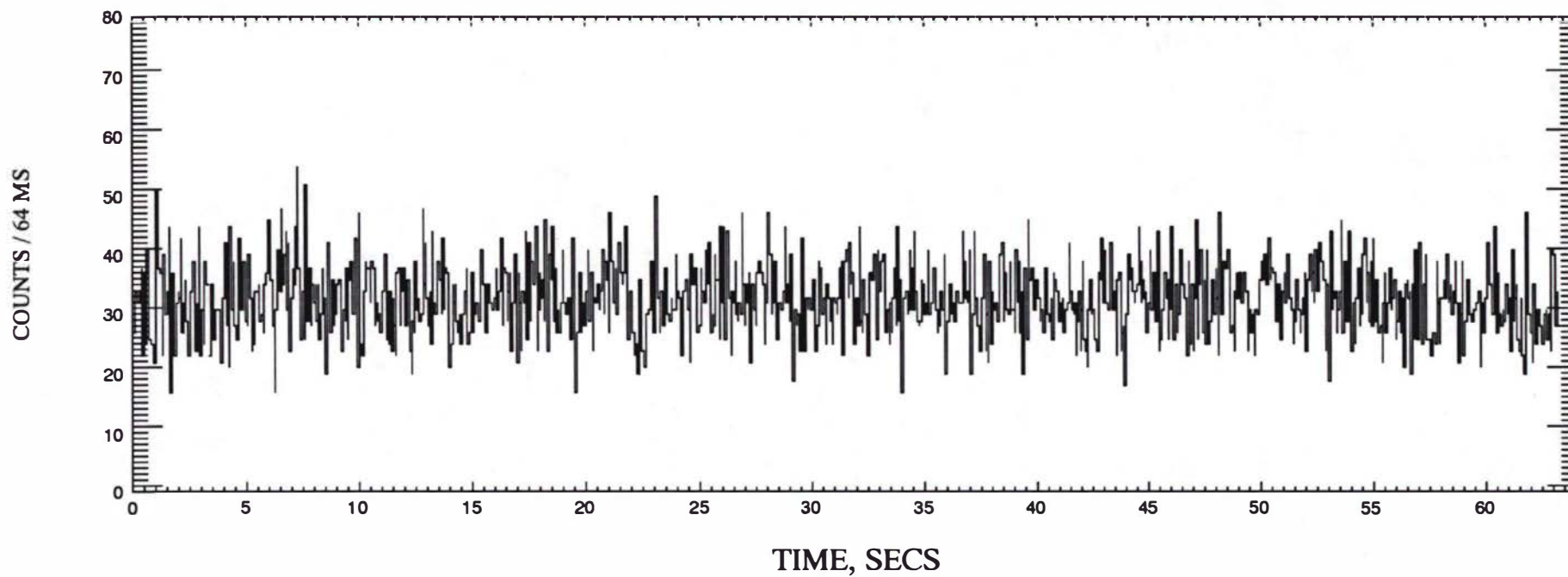
Burst Counter 7 at UT= 9.523466004266 h=34284.478 s 09:31:24.478



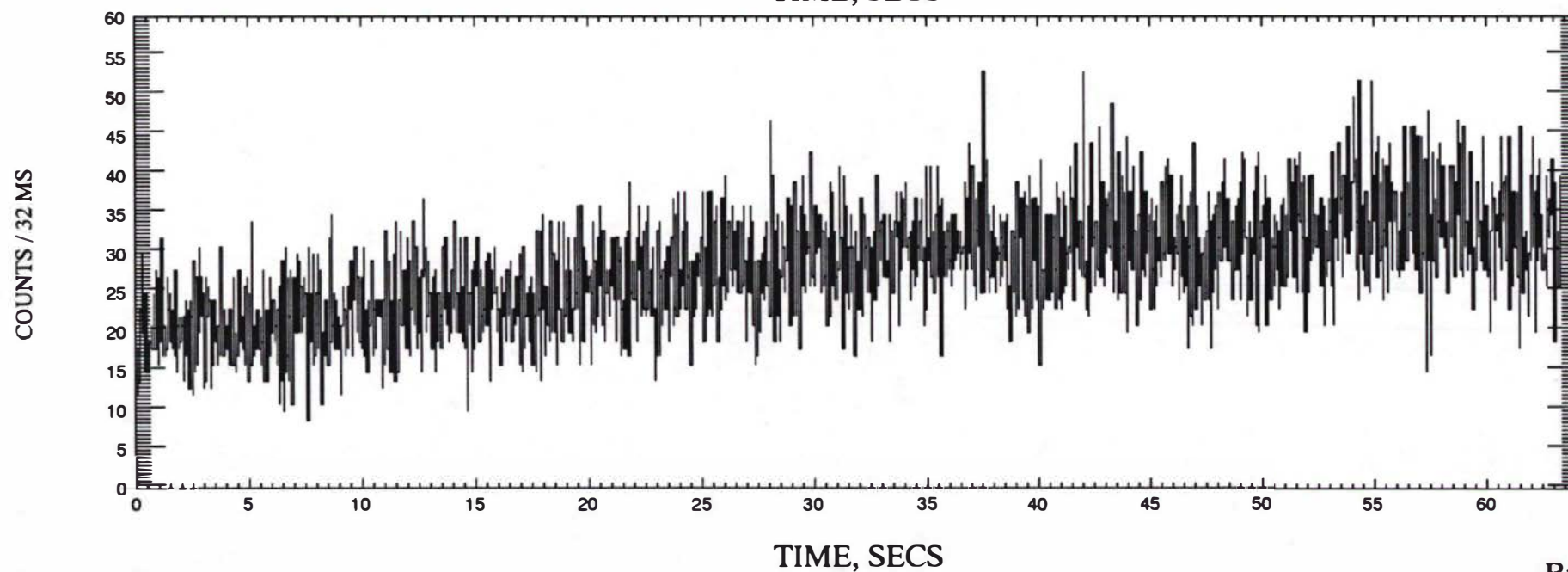
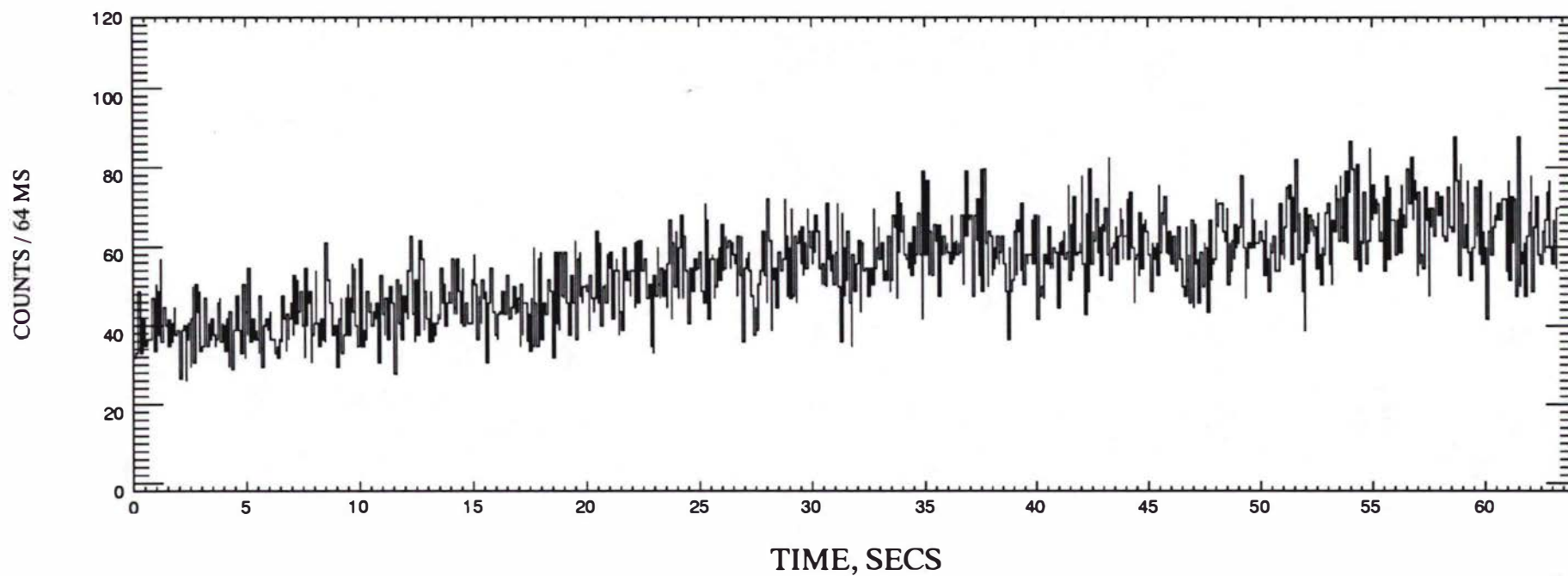
Burst Counter 8 at UT=11.321228811476 h=40756.424 s 11:19:16.424



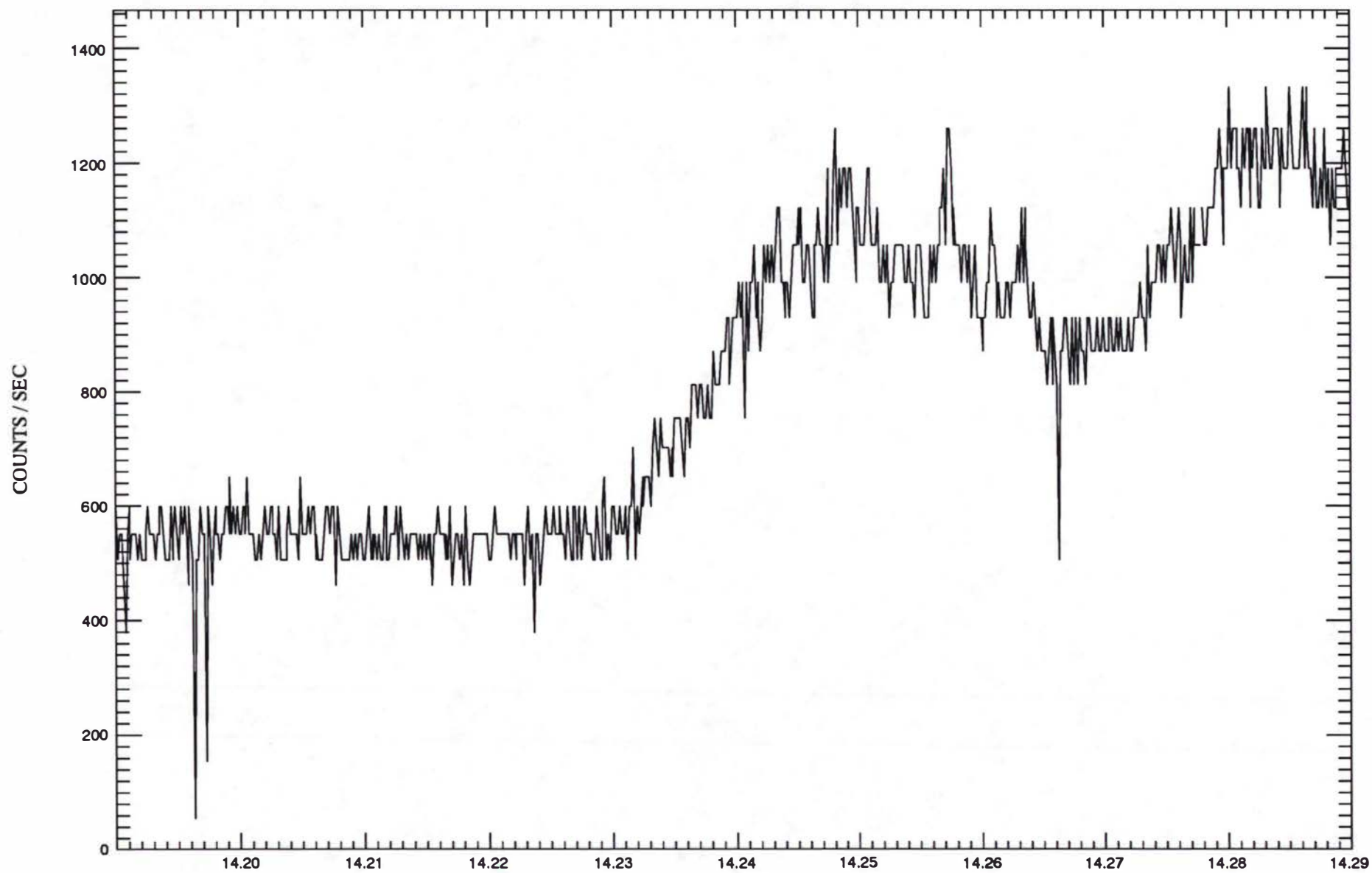
Burst Counter 9 at UT=12.693086454603 h=45695.111 s 12:41:35.111



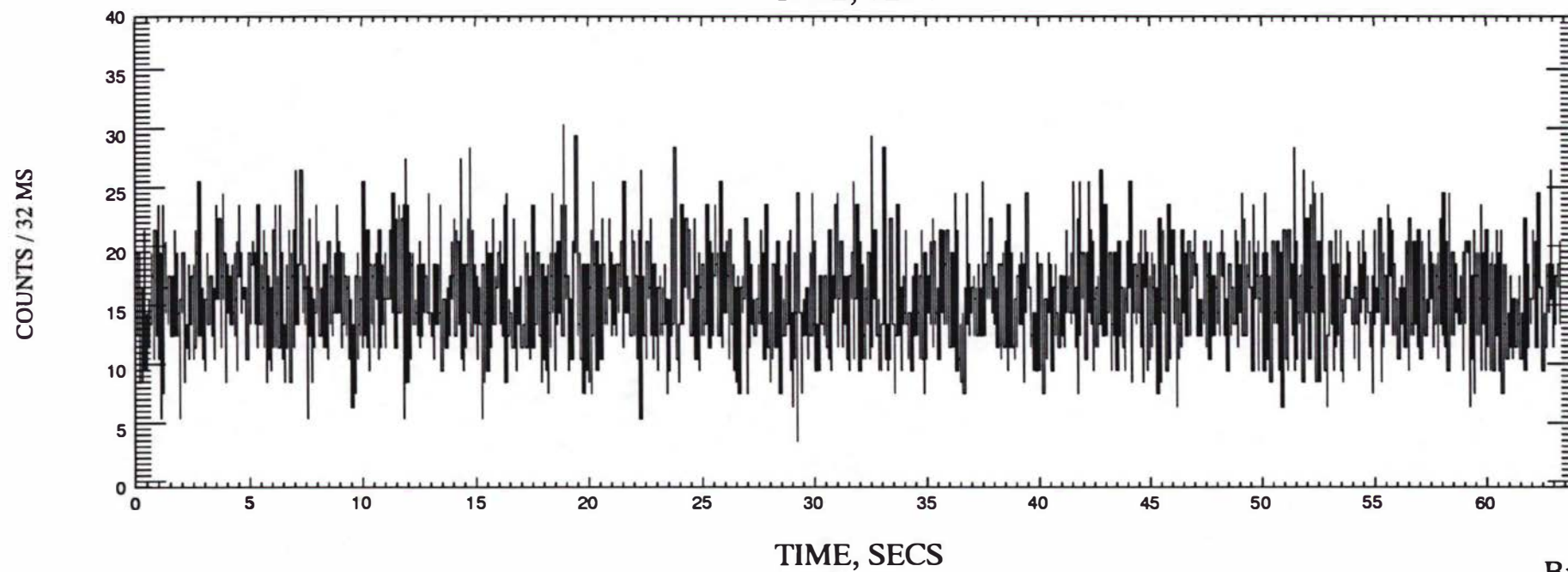
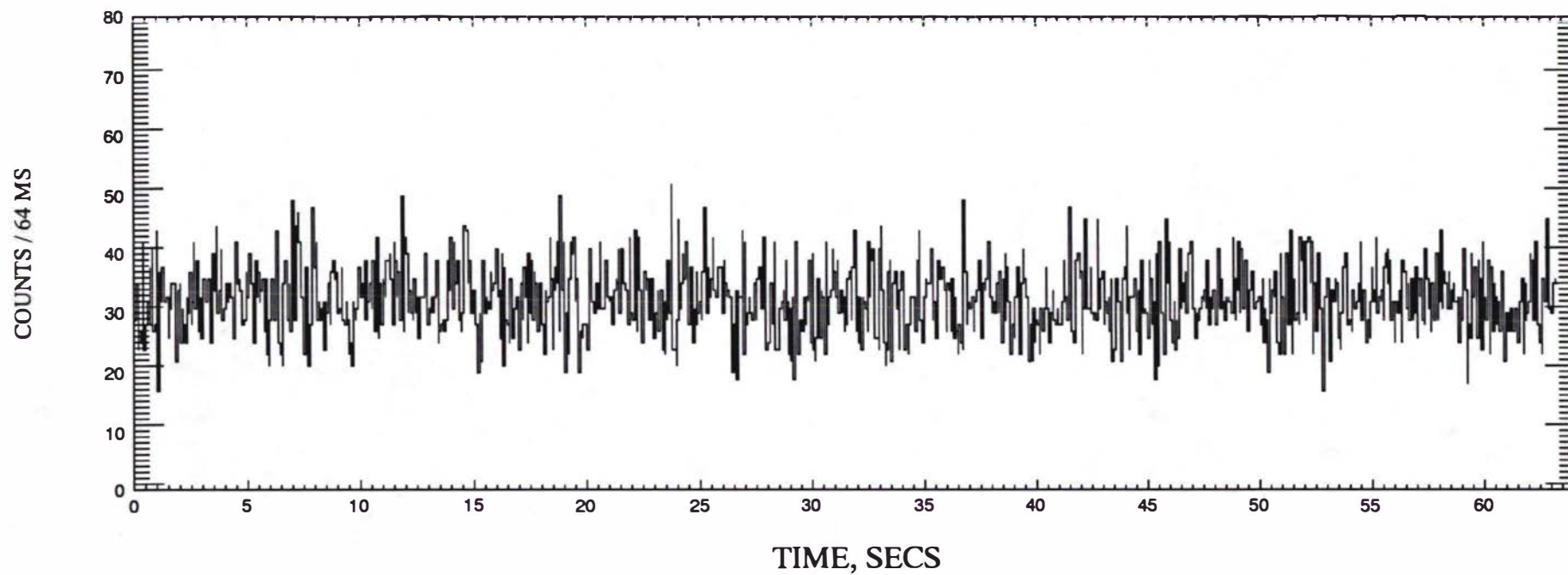
Burst Counter 10 at UT=14.235321701898 h=51247.158 s 14:14:07.158



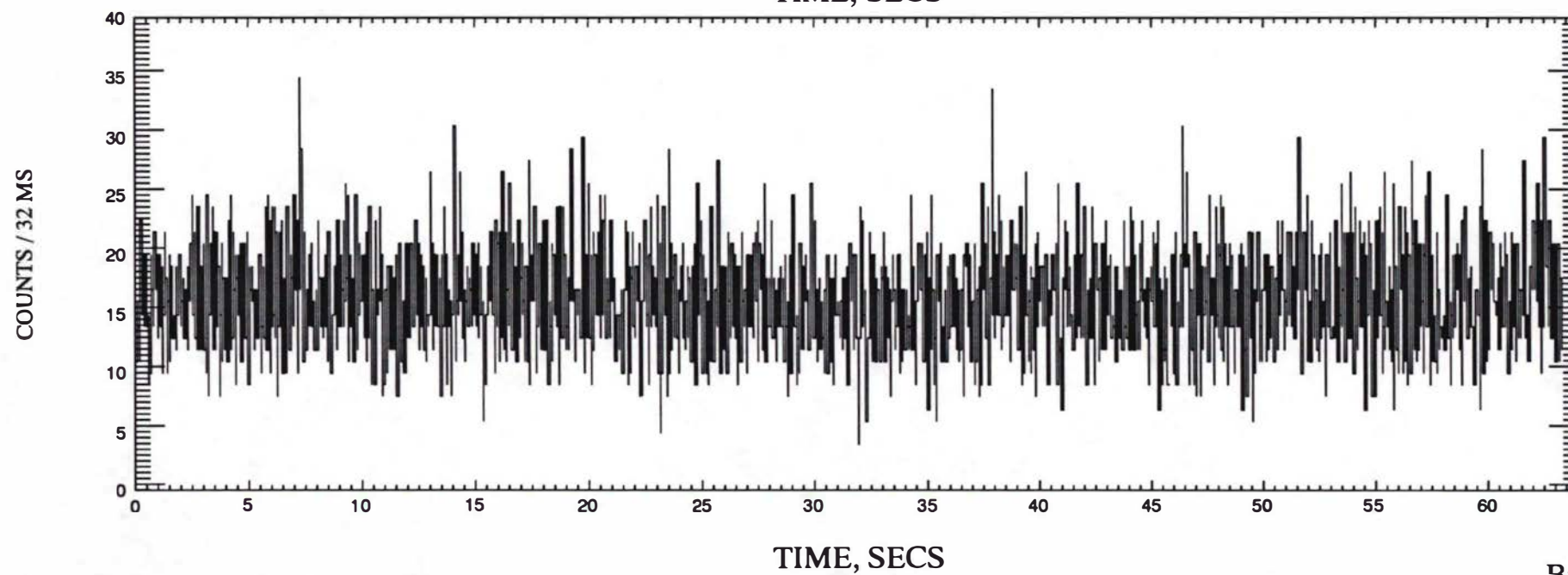
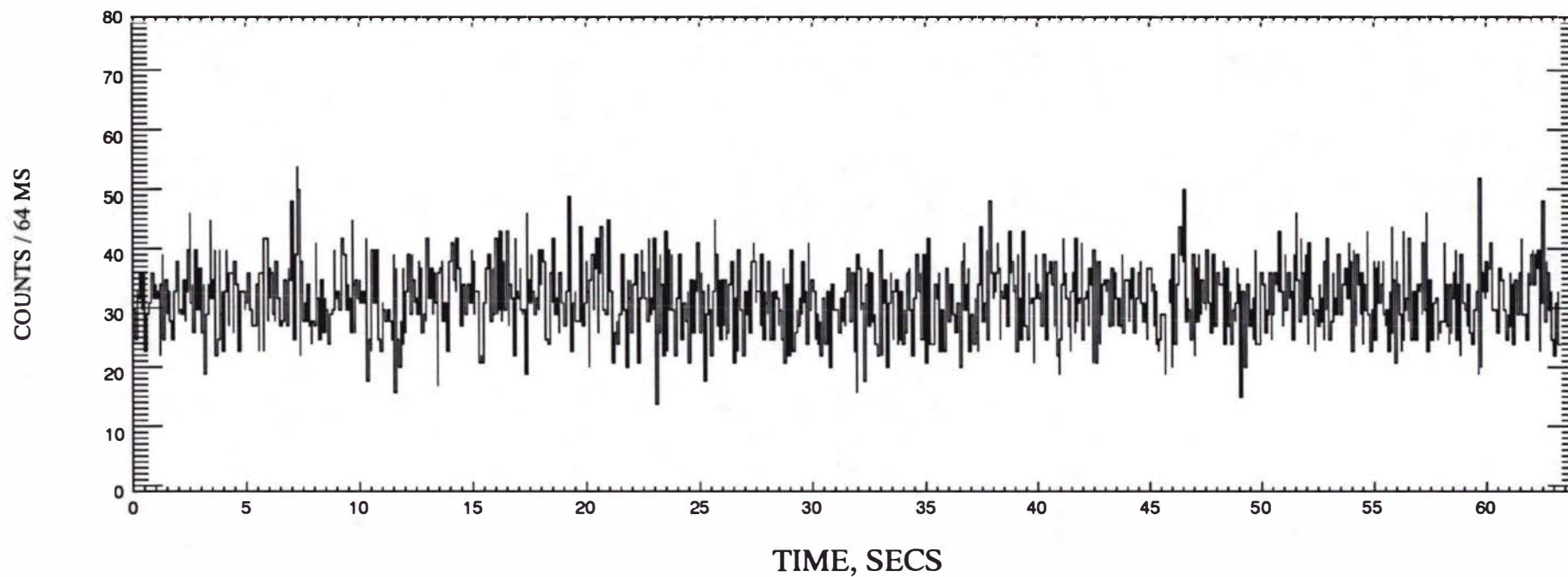
CALIBRATION DATA INCLUDED



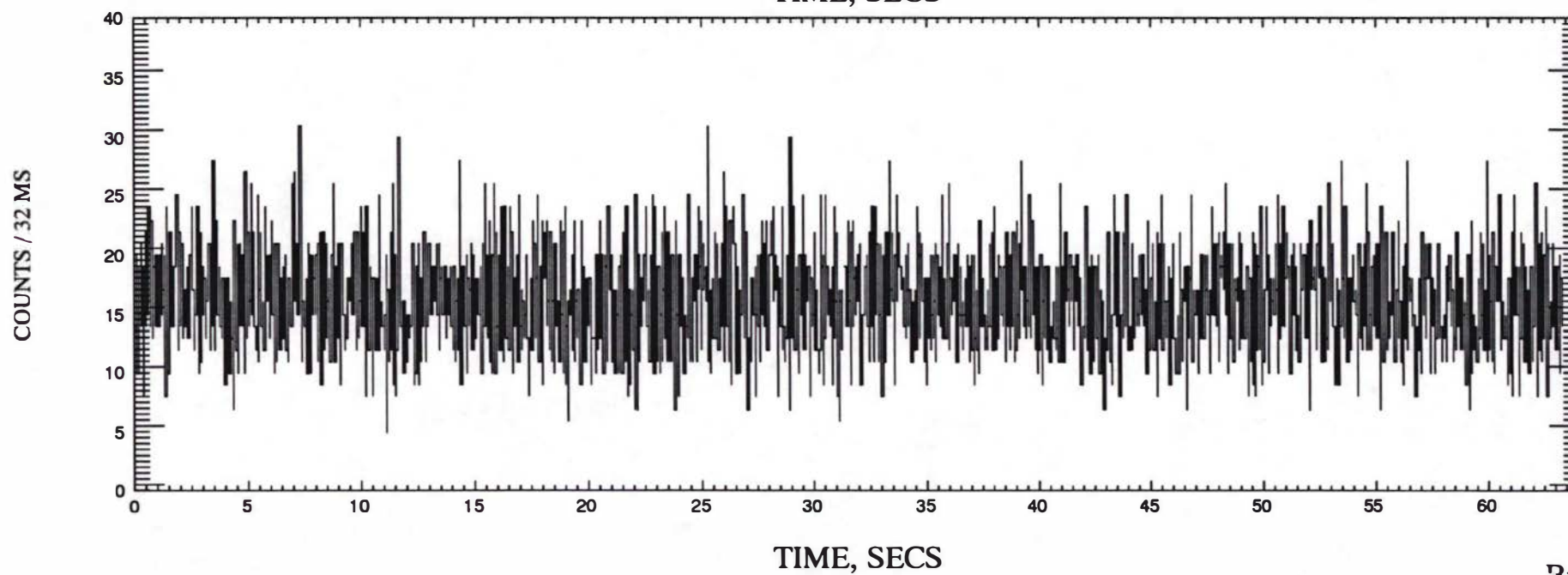
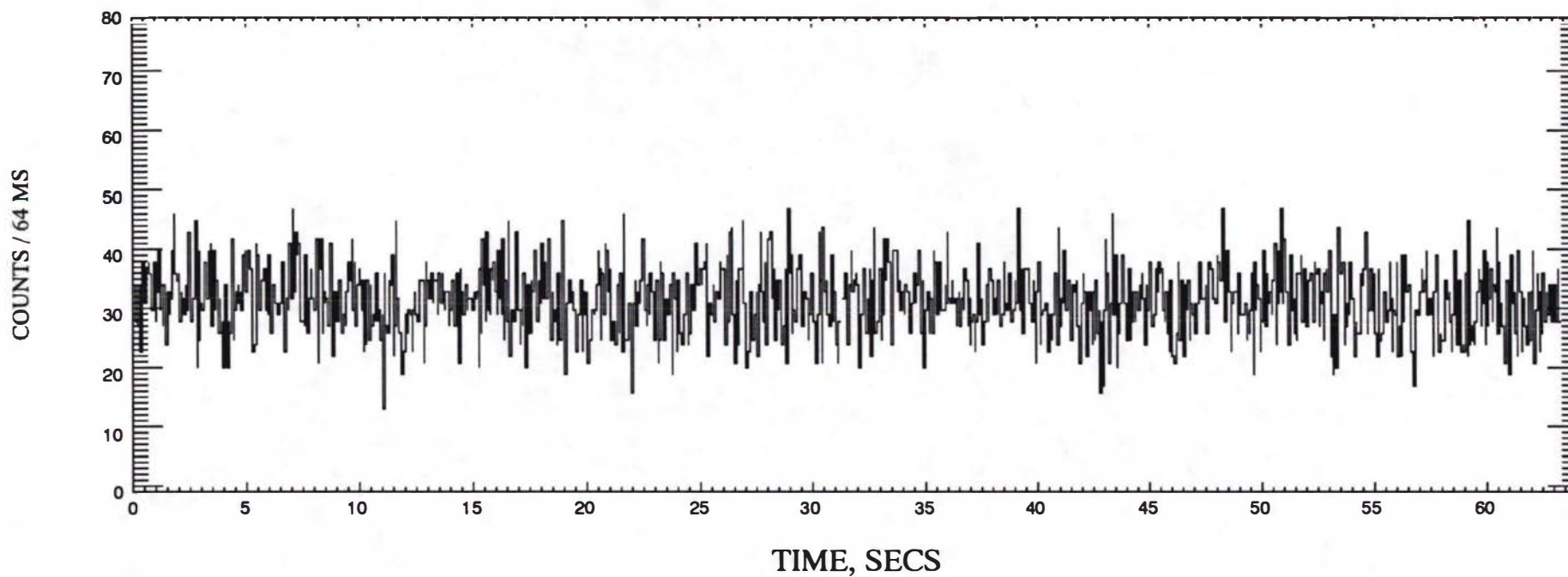
Burst Counter 11 at UT=18.364115765889 h=66110.817 s 18:21:50.817



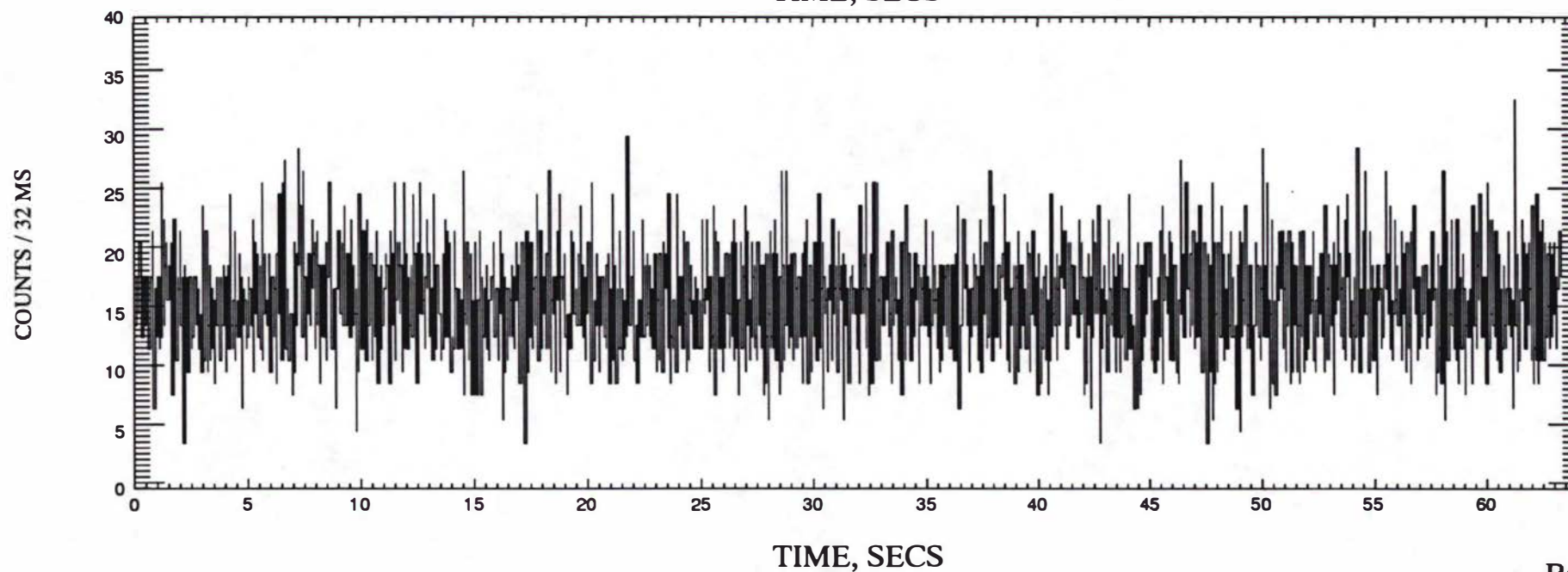
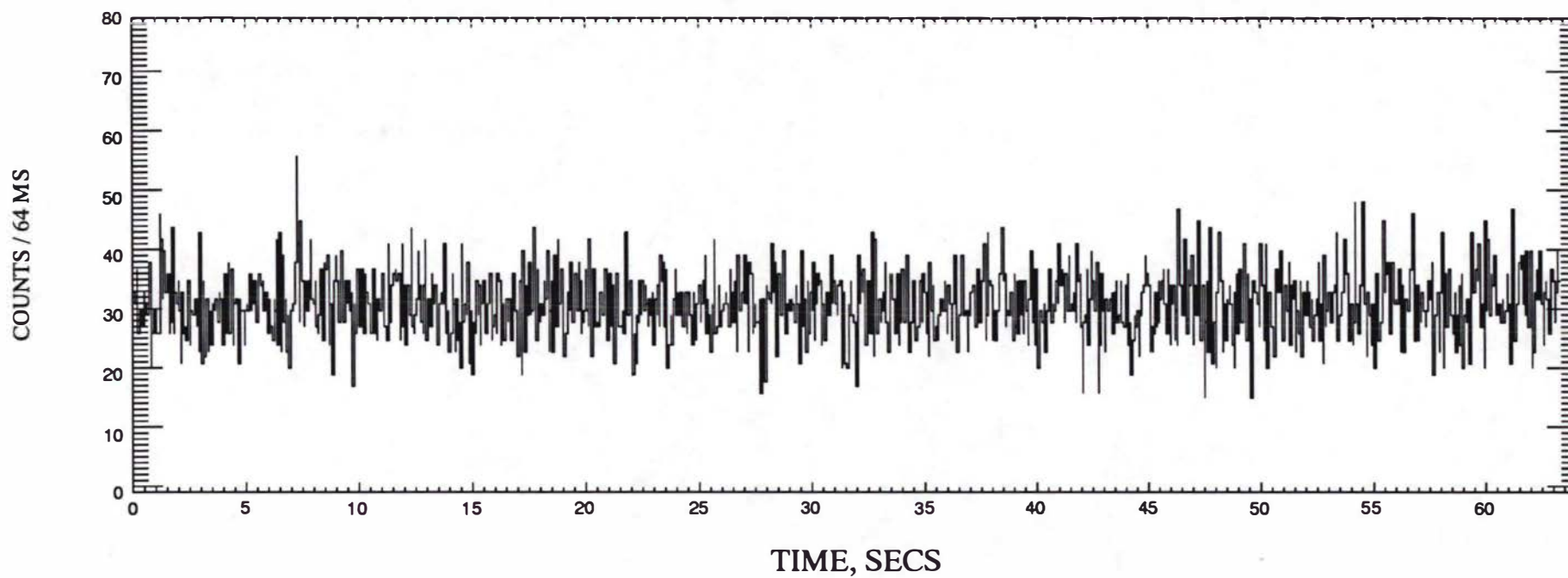
Burst Counter 12 at UT=20.614593171014 h=74212.535 s 20:36:52.535

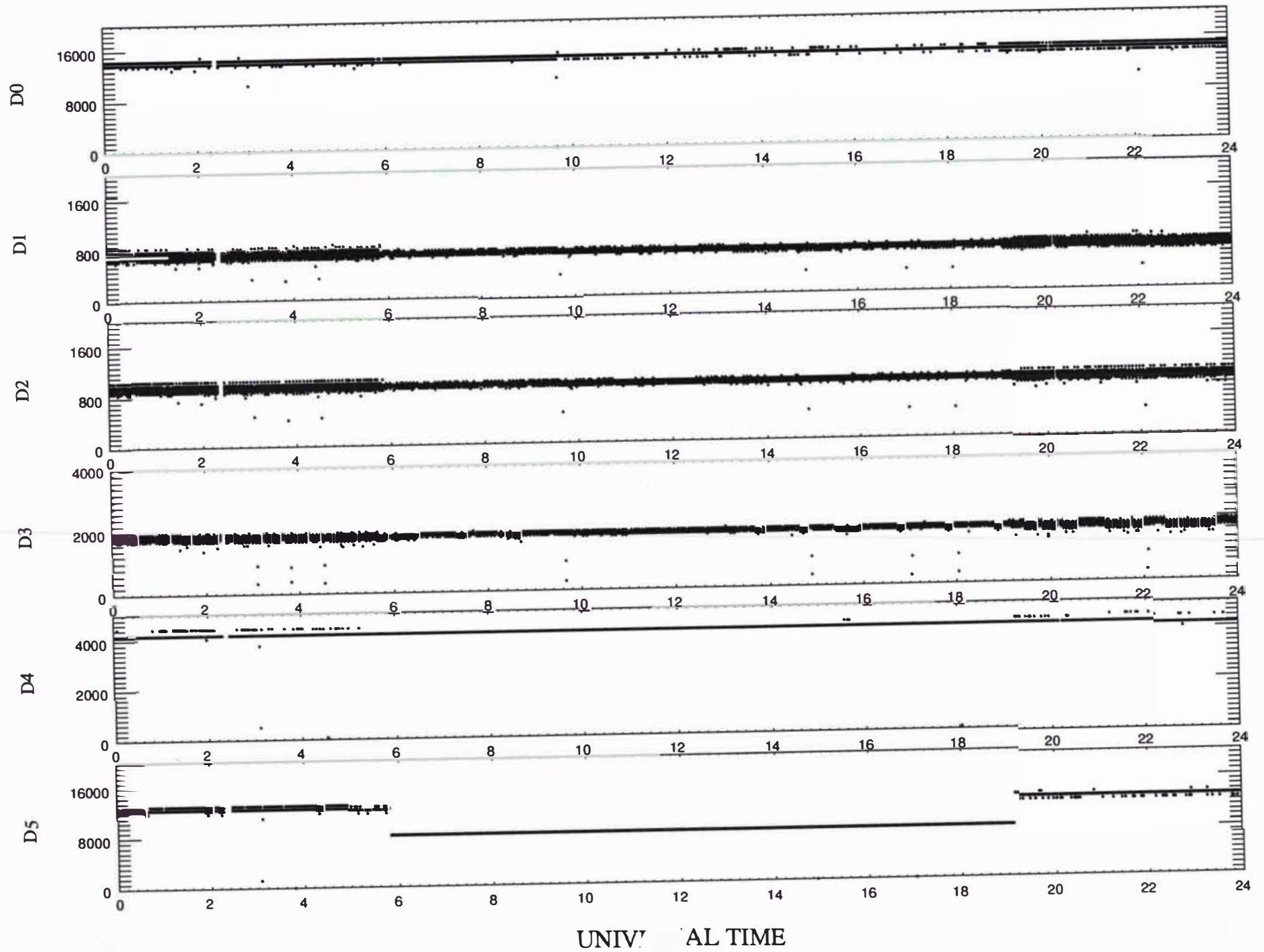


Burst Counter 13 at UT=23.171981633504 h=83419.134 s 23:10:19.134



Burst Counter 14 at UT=23.871815617879 h=85938.536 s 23:52:18.536





From HENZE@fender.msfc.nasa.gov Tue May 5 09:56:42 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA02198; Tue, 5 May 1998 09:56:42 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA24024; Tue, 5 May 1998 09:56:42 -0700
Date: Tue, 5 May 1998 11:56:20 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980505115620.2220642e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6720
Content-Length: 1135
X-Lines: 26
Status: RO

No

BATSEARCH PROGRAM

BATSE BURST # 6720
EVENT OF 1998 MAY 3 DAY OF YEAR=123
EVENT CROSSING TIME AT BATSE : 7588. S. OR 02:06:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 116.000 15.000
BATSE PEAK COUNTING RATE: 2800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 5/ 98 IS:
RA= 149.308 DEC= 12.759 DIST= 5.070 AU
BATSE-ULYSSES DISTANCE = 758469529. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=147.62 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2136.52 SECS.
CROSSING TIME AT ULYSSES IS 5451. S. OR 01:30:51 +/- 252.81 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 5/ 98 IS:
RA= 42.307 DEC= 16.205 DIST= 2.471 AU
MARS-BATSE DISTANCE = 369658016. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=109.43 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -410.19 SECS.
CROSSING TIME AT MARS IS 7178. S. OR 01:59:37 +/- 195.65 SECONDS

BATSE BURST TRIGGER

NO.: 6720

TIME: TJD=0936 SECONDS= 7588

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

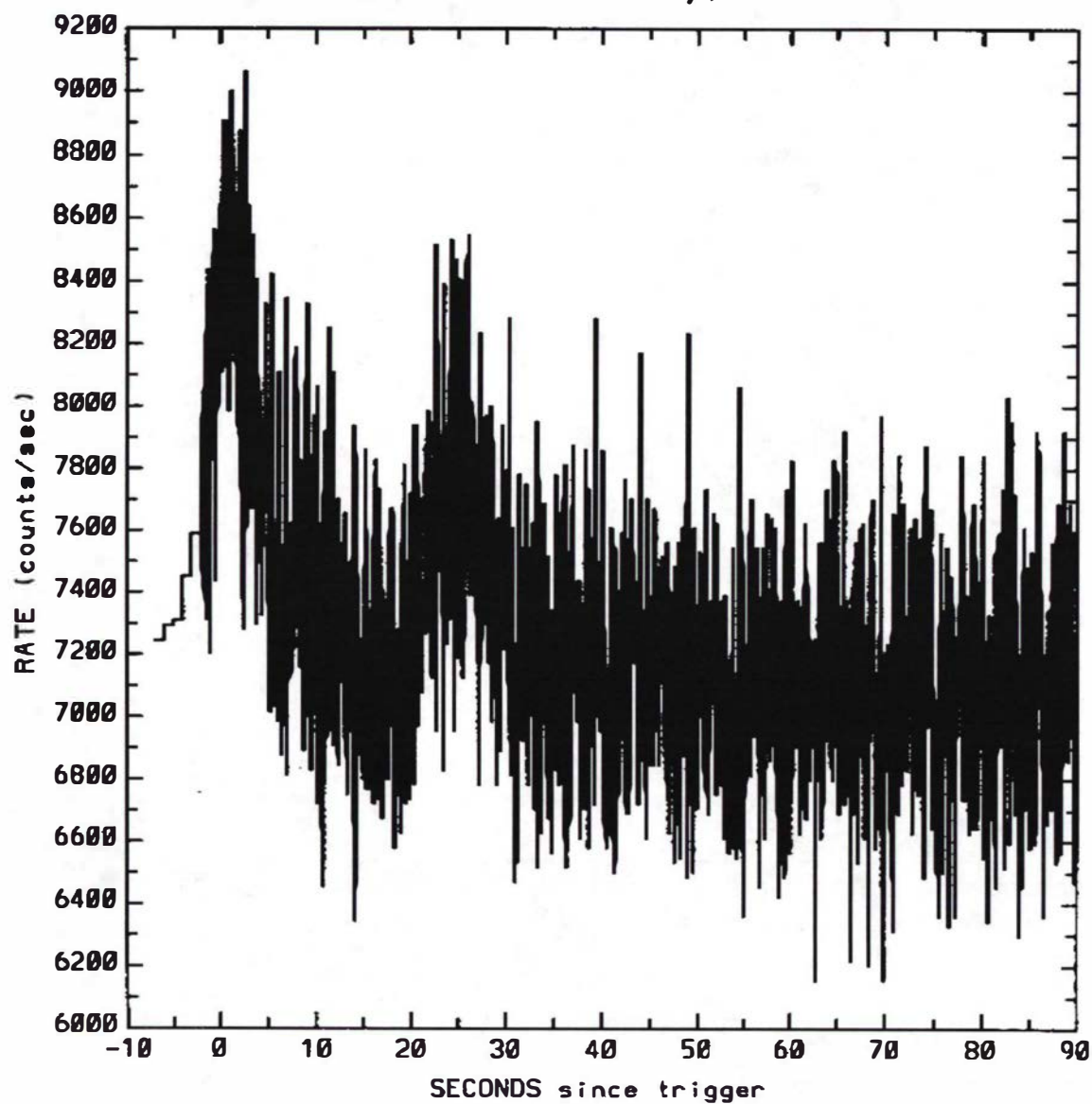
LOCATION: ZENITH= 87.2 AZIMUTH=316.8 ERROR= 6.0 DEGREES

COMMENTS:

DOUBLE PULSE, MAXIMA AT APPROX. T, T+24 S. TOTAL DUR. APPROX. 40 S.
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6720	980503	10936	07588	2800	116	+15	40

DISCSC Data for K. Hurley, No. 6720



2-JUN-1998 13:58:38

Created by MOPS BD
(Burst Display)
Version 12.25

Trigger # : 6720

Trigger Time:
18936 / 7588.577

Burst Data Type:
DISCSC

Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds

Detectors [7..8].
----32--

Discriminators:
[1 . 2]

Quality Mask:
BDISPI

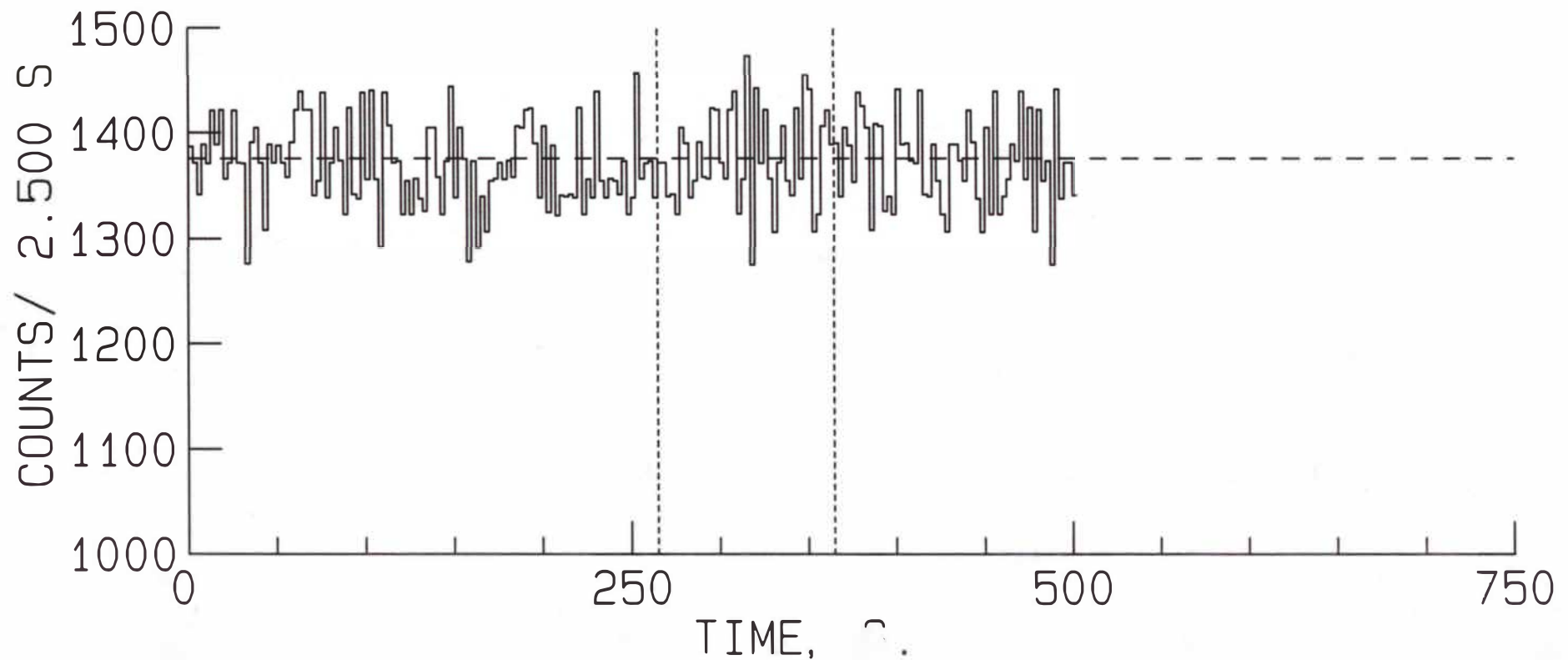
ULYSSES RT

24 / 6 / 98

3 / 5 / 98 5184.229 s

0.250 S INTERVALS REGROUPED BY 10

22- 148 keV



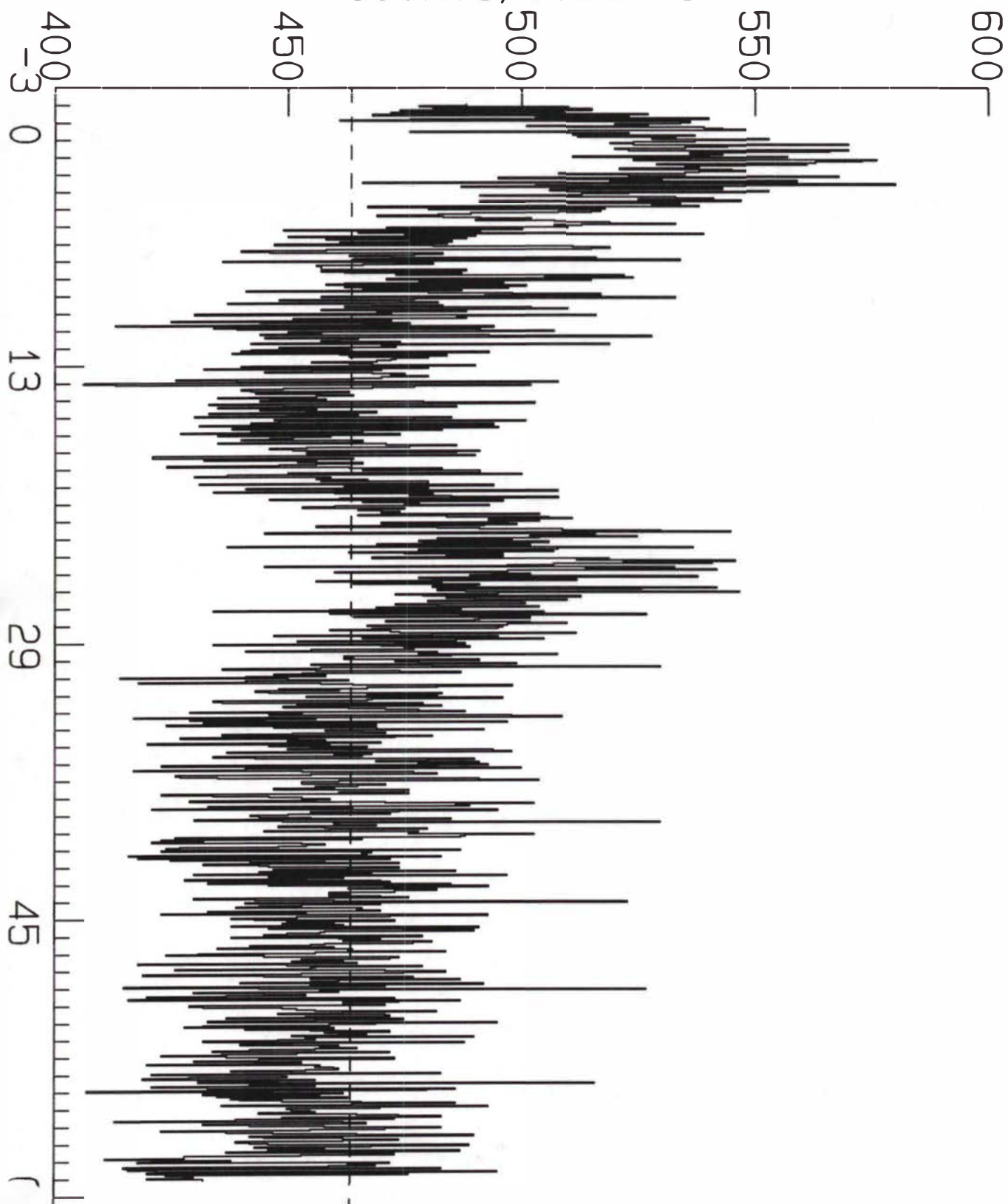
BATSE

03/05/98

7588.577

25- 100 keV

COUNTS/0.064 S



From HENZE@fender.msfc.nasa.gov Tue May 5 09:53:01 1998
Date: Tue, 5 May 1998 11:52:47 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6721

TIME: TJD=0936 SECONDS=17853

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT, OVER AUSTRALIA

From HENZE@fender.msfc.nasa.gov Tue May 5 09:54:48 1998
Date: Tue, 5 May 1998 11:54:27 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6722

TIME: TJD=0936 SECONDS=31879

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

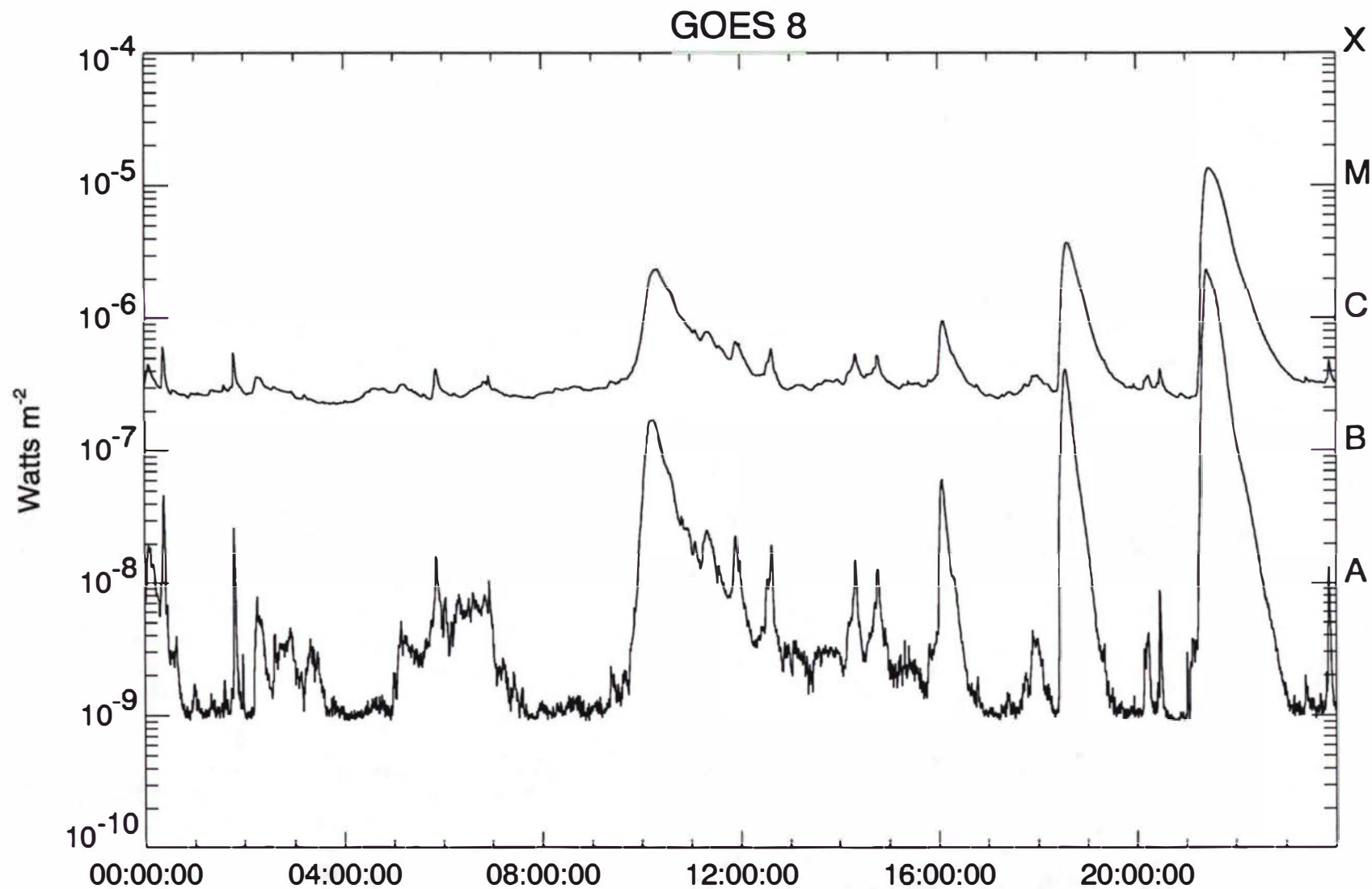
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT, WEST OF NORTH AMERICA



Data Start: 98/05/03, 0000:00

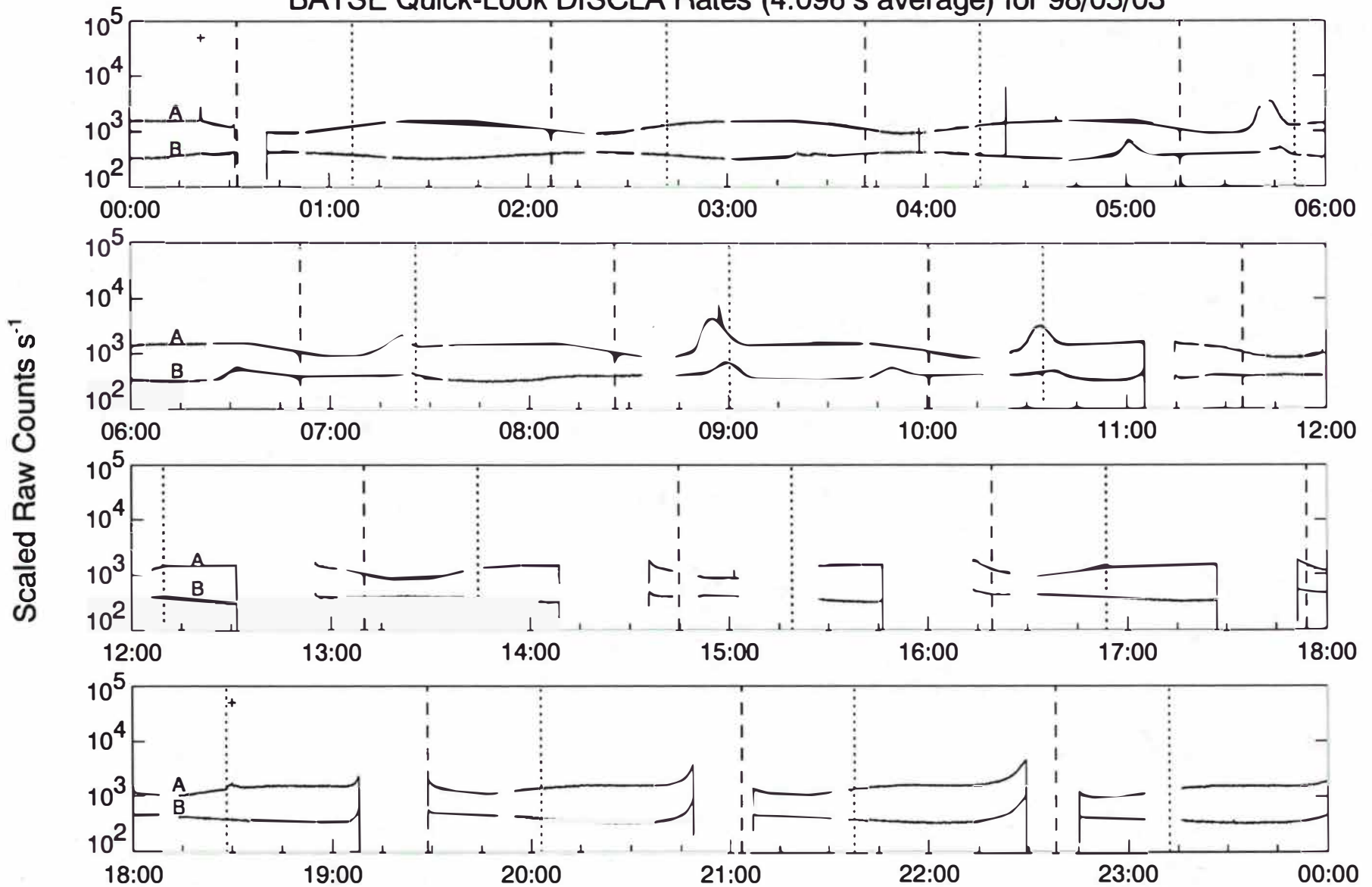
Plot created: 98/05/07, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/03

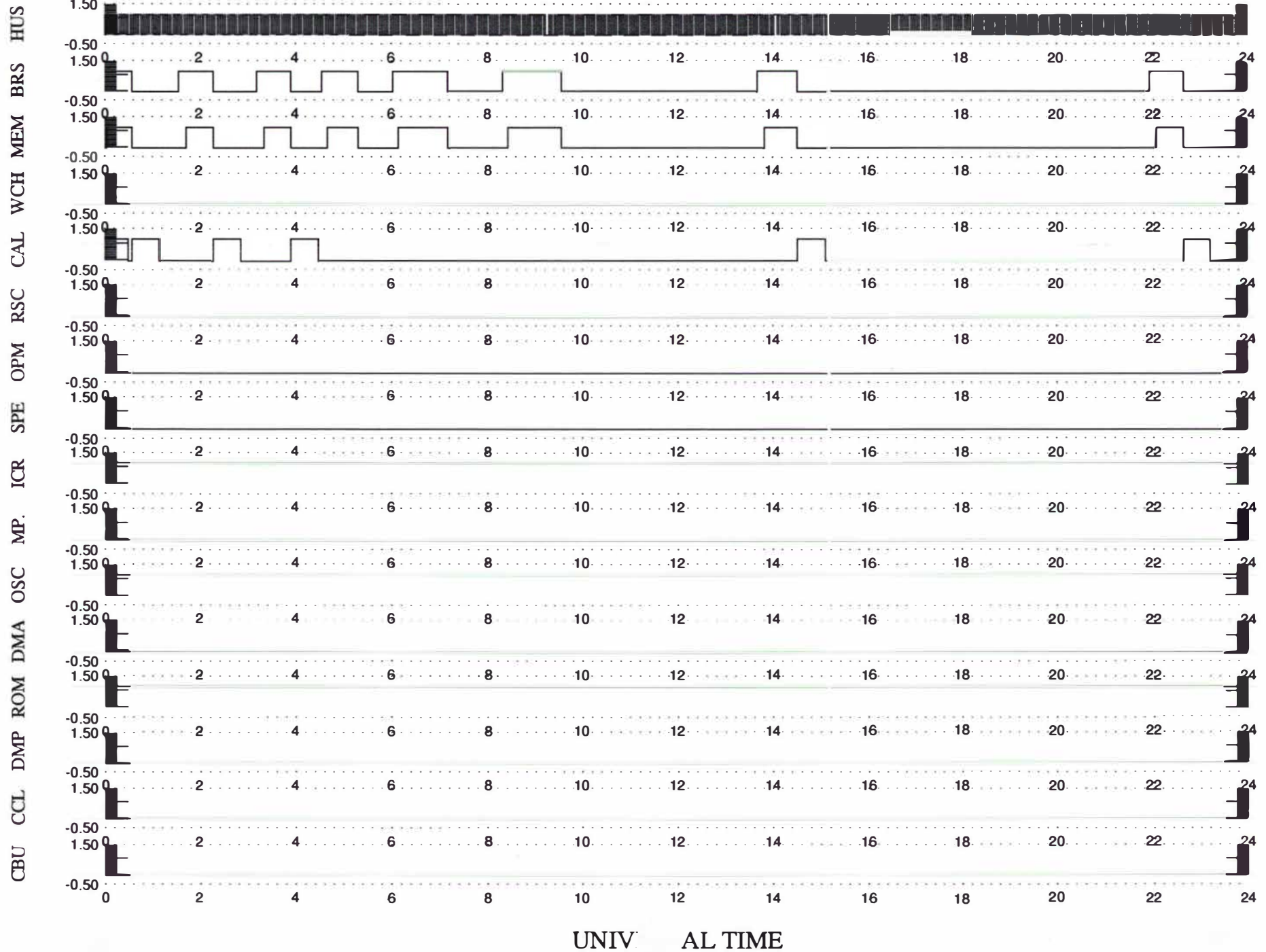


Current Time: 98/05/07, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

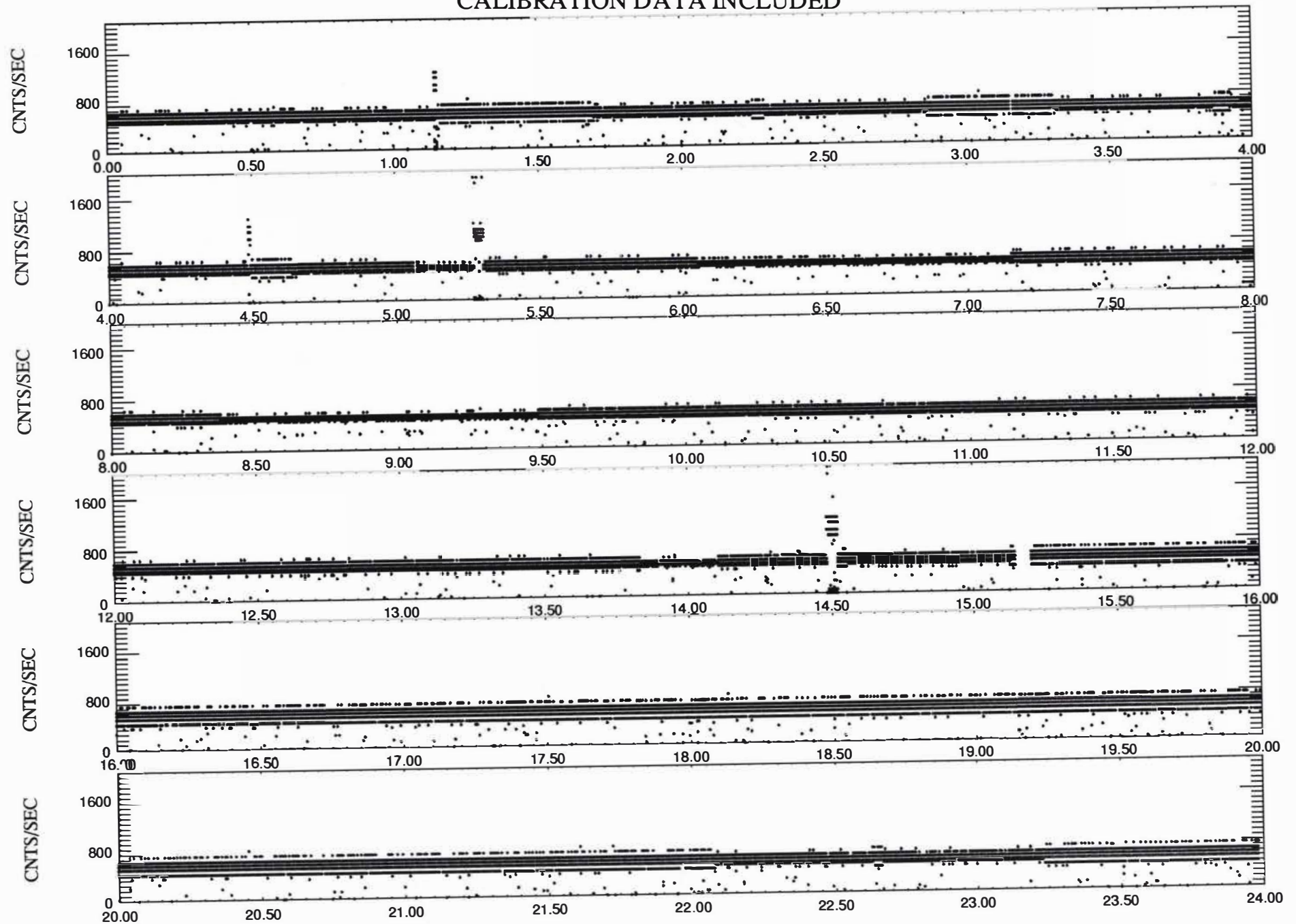
Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

BURST NUMBER 15, 0 - 5

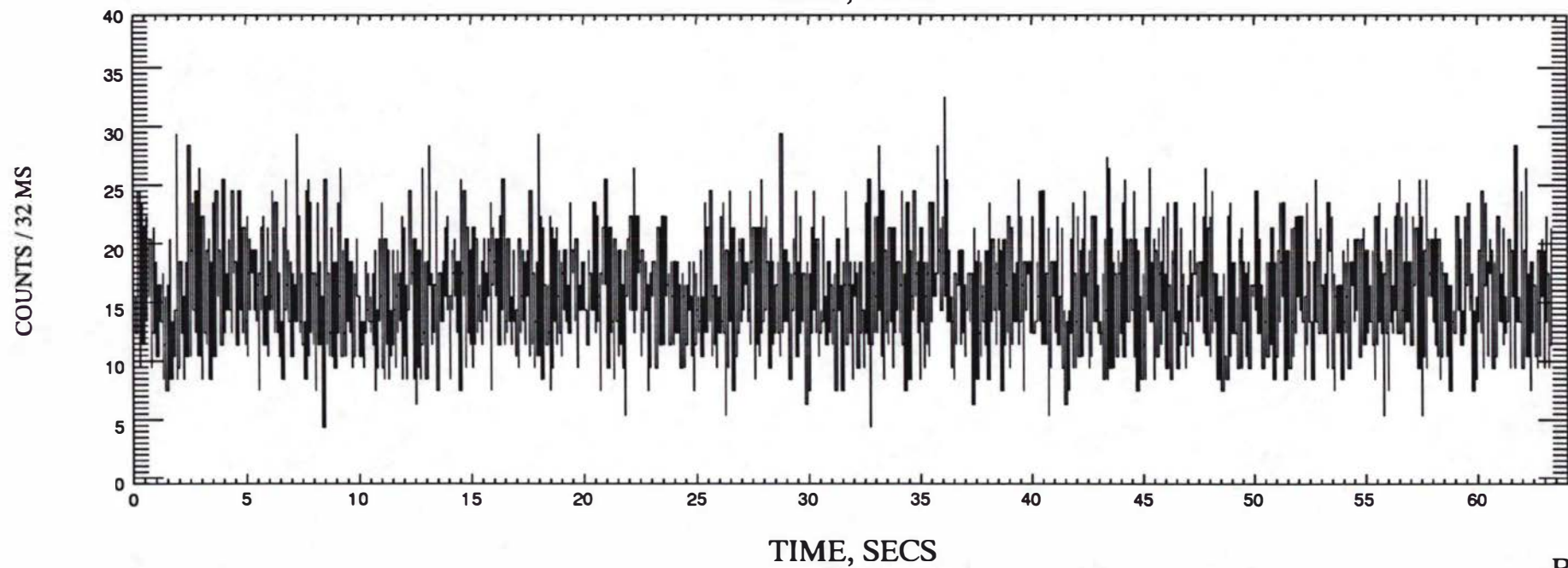
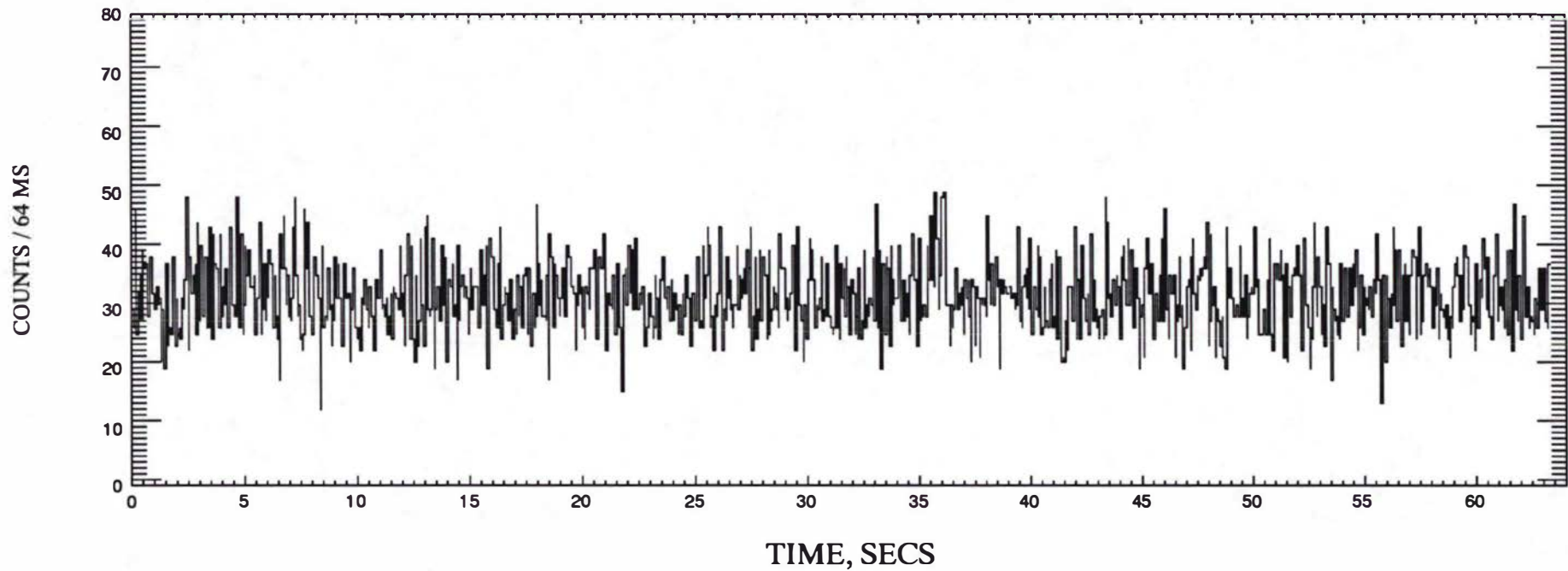


CALIBRATION DATA INCLUDED

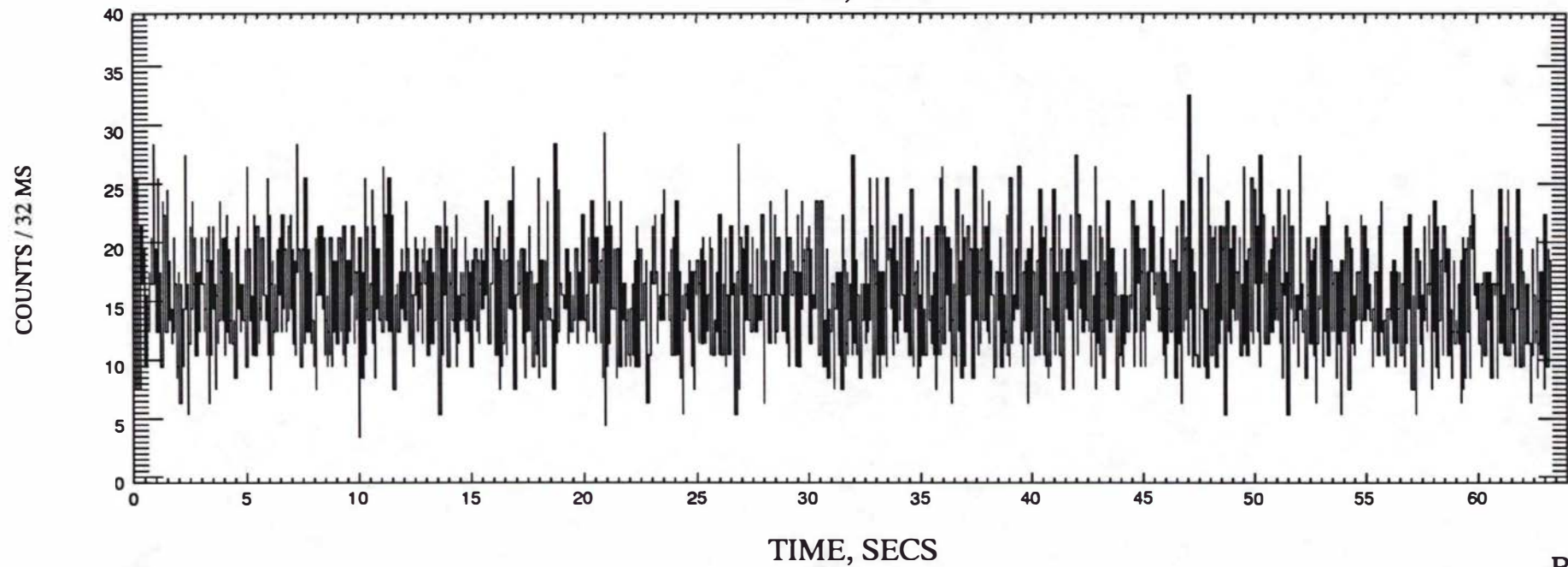
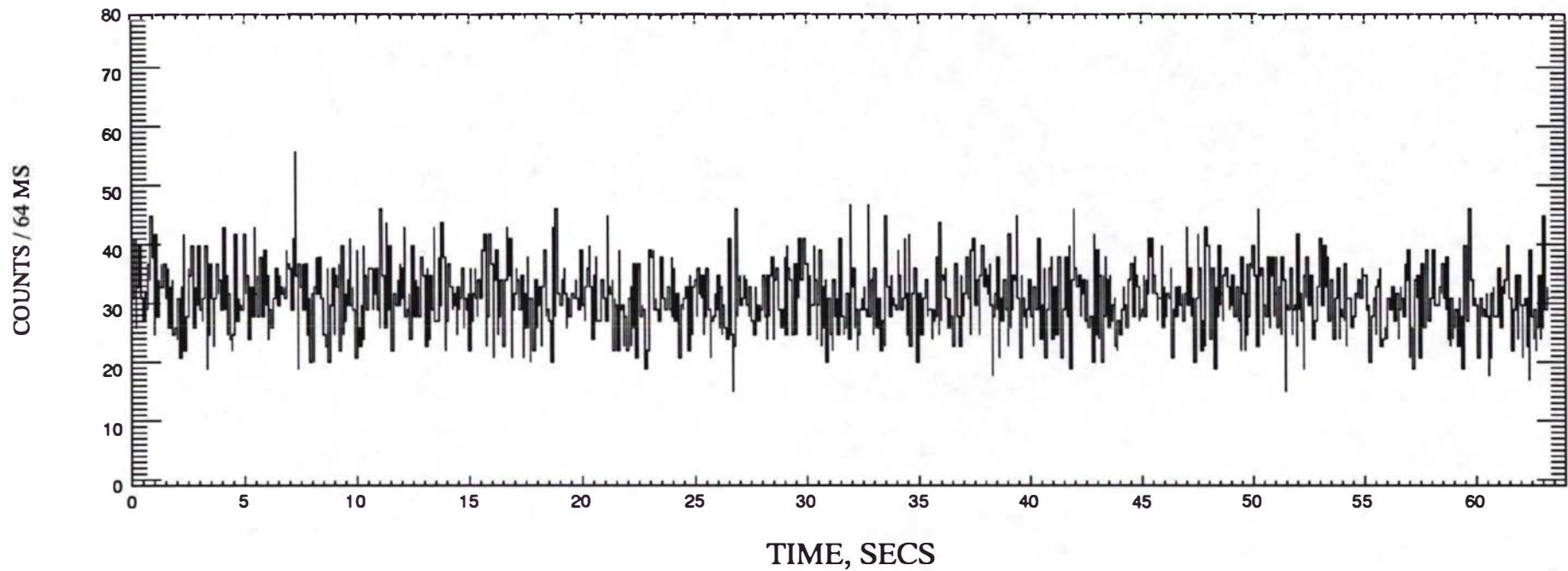


UNIV. TIME

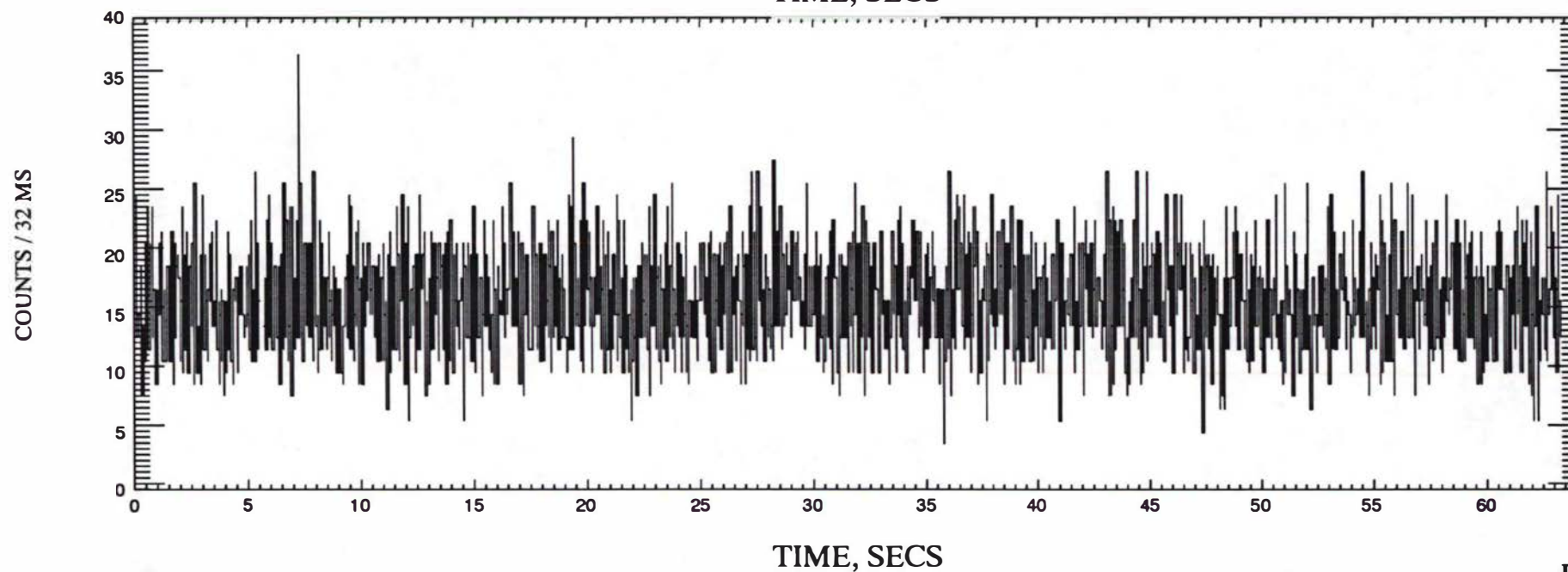
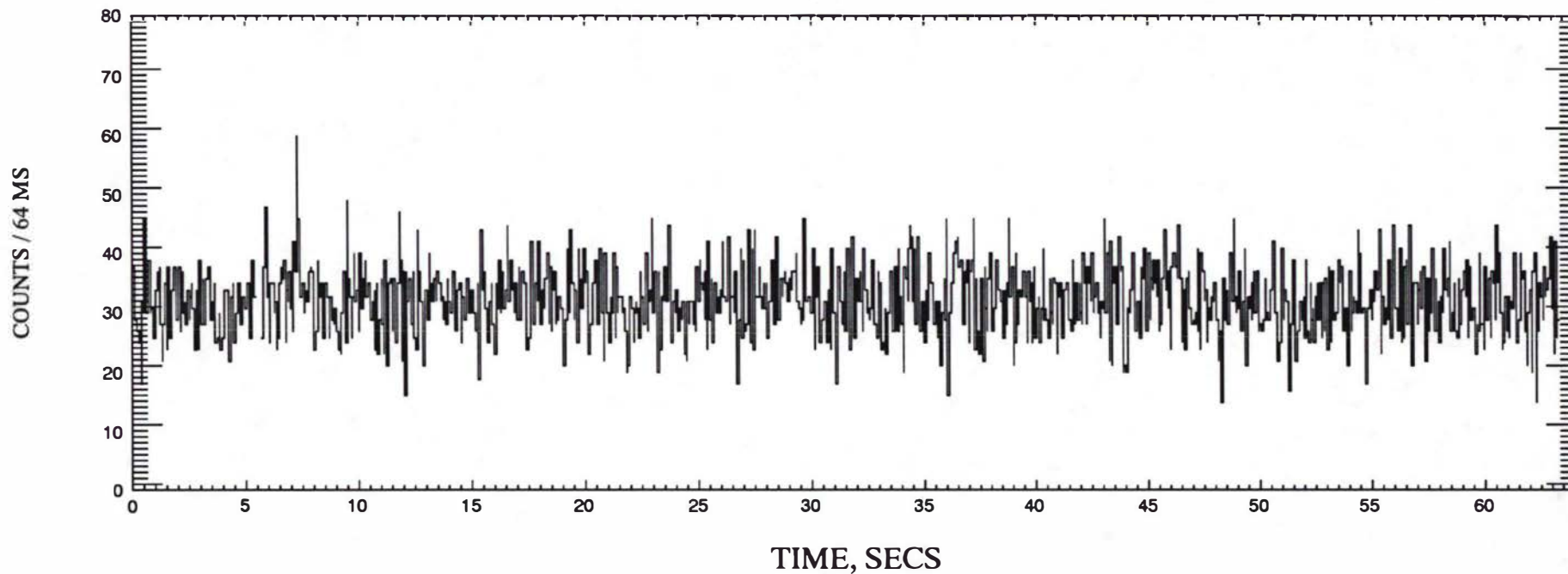
Burst Counter 15 at UT= 1.537772763570 h= 5535.982 s 01:32:15.982



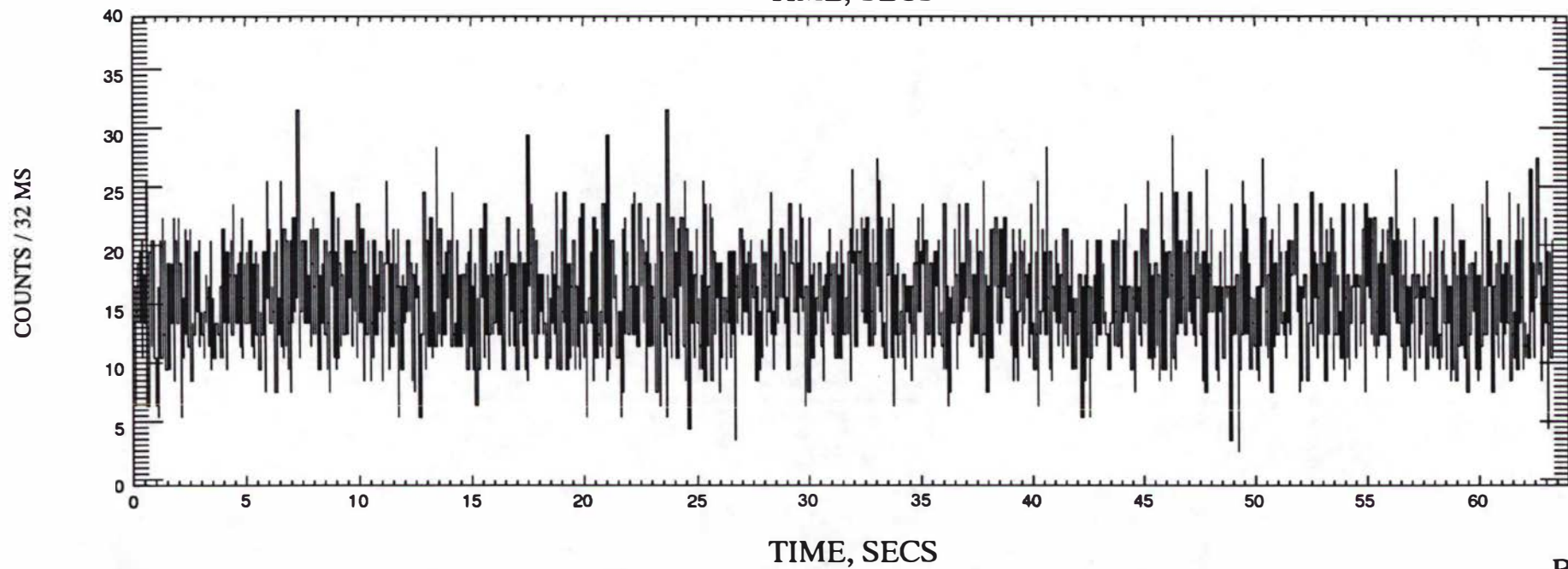
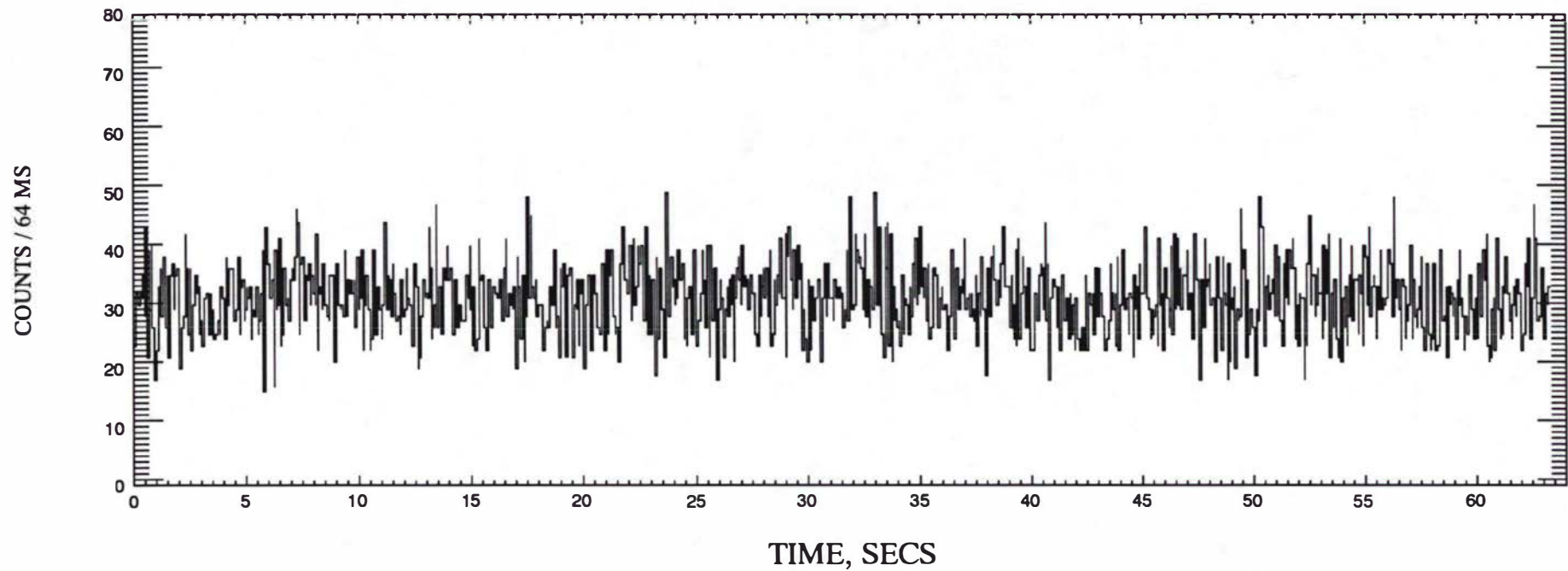
Burst Counter 0 at UT= 3.159315842523 h=11373.537 s 03:09:33.537



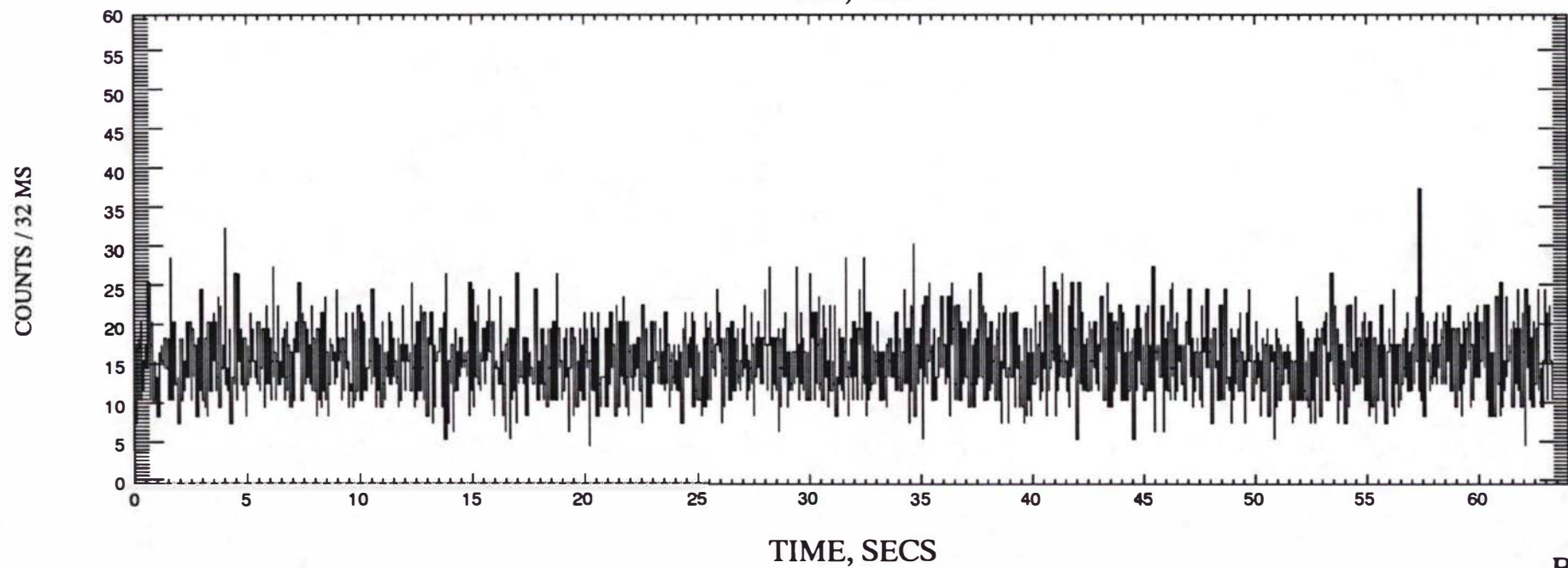
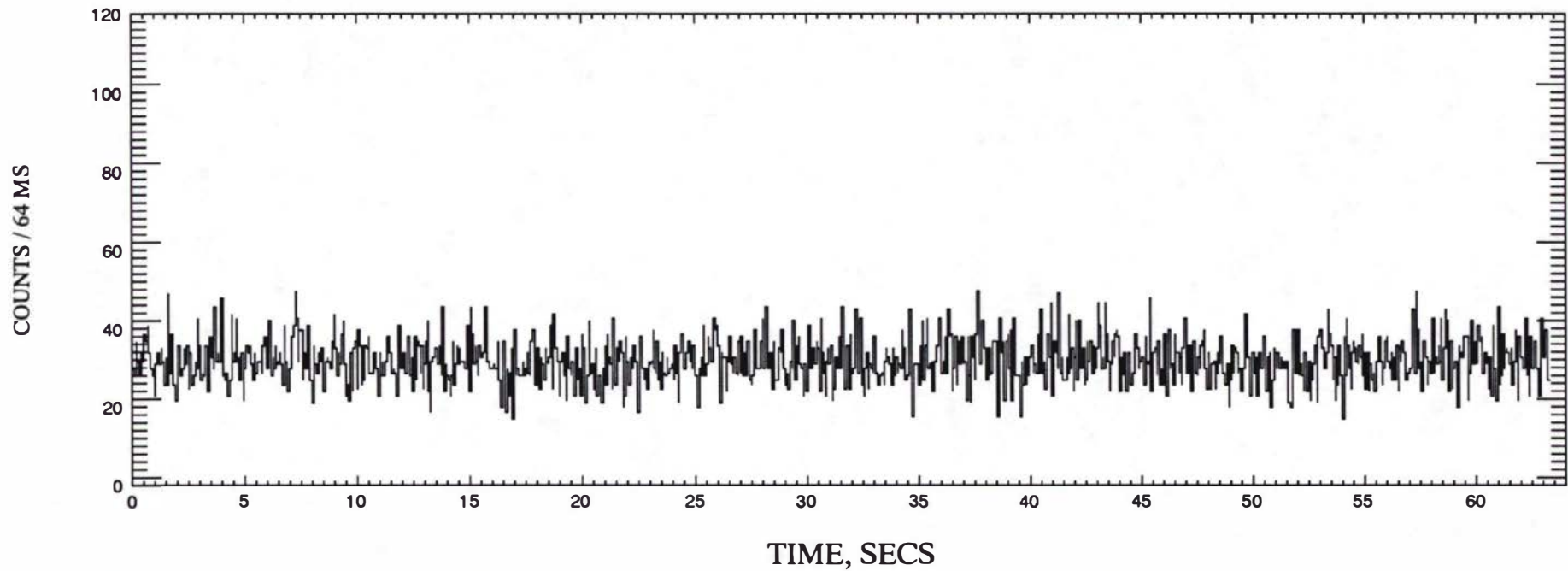
Burst Counter 1 at UT= 4.483427501255 h=16140.339 s 04:29:00.339



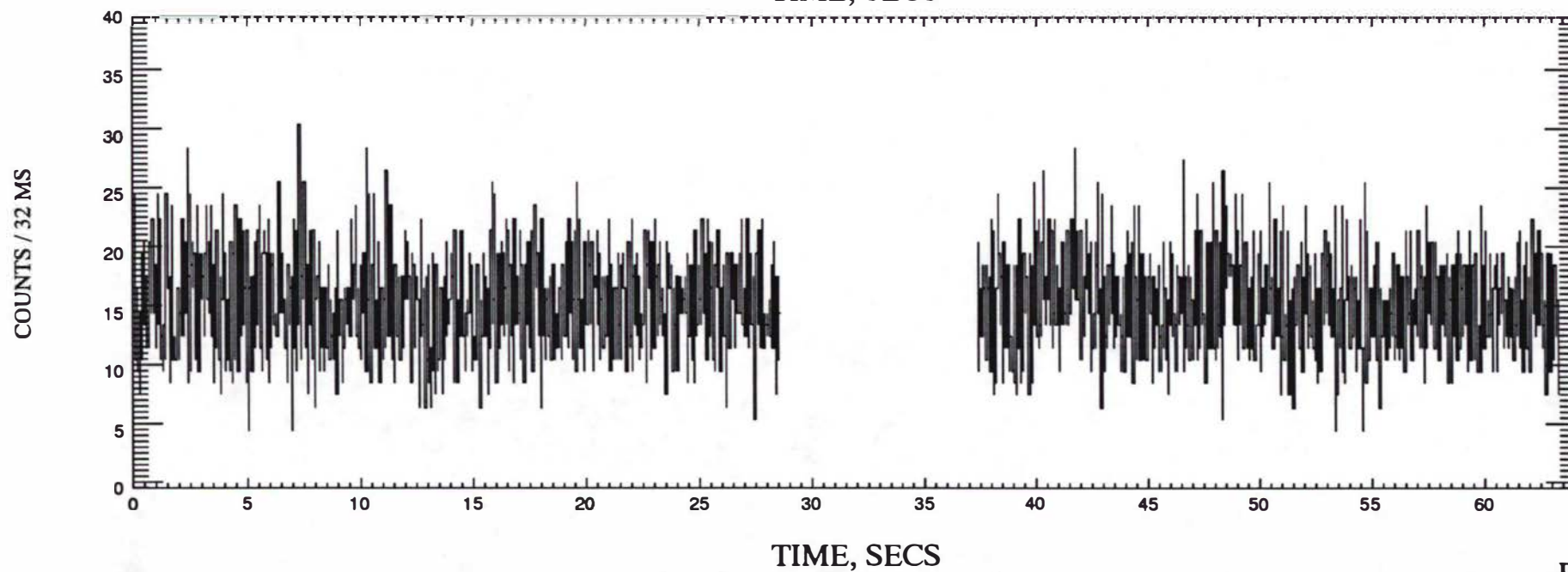
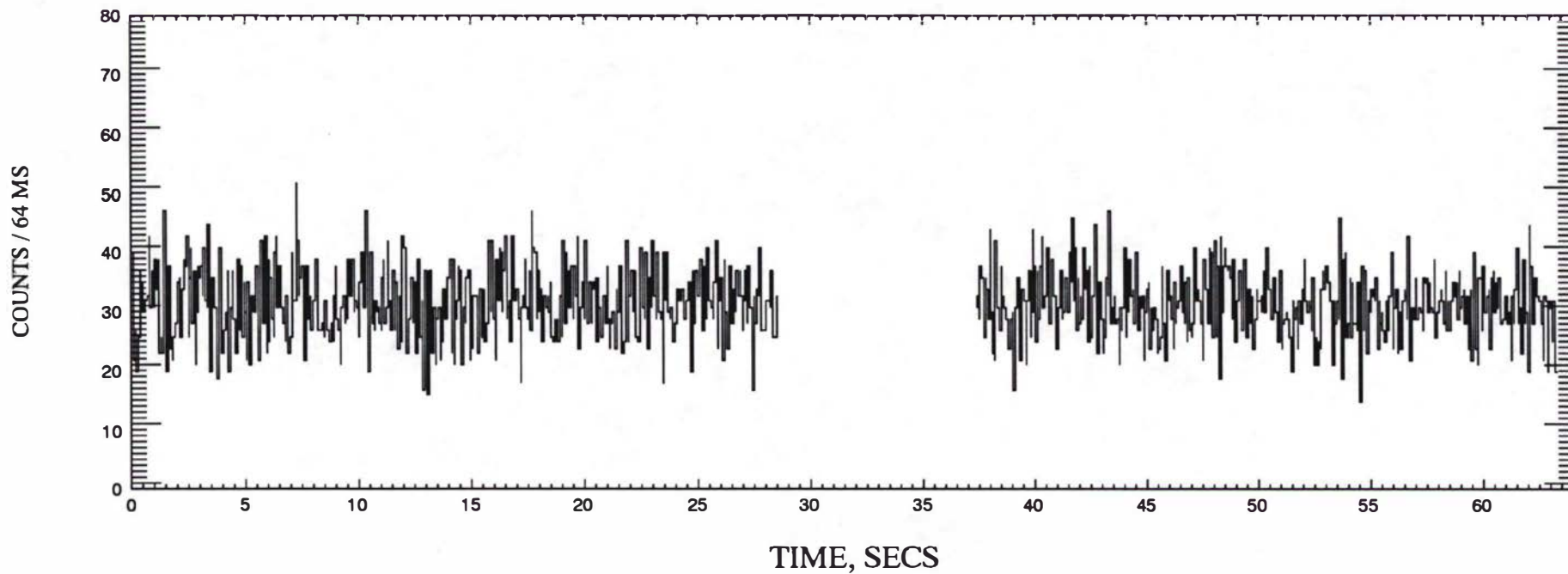
Burst Counter 2 at UT= 5.891809802585 h=21210.515 s 05:53:30.515



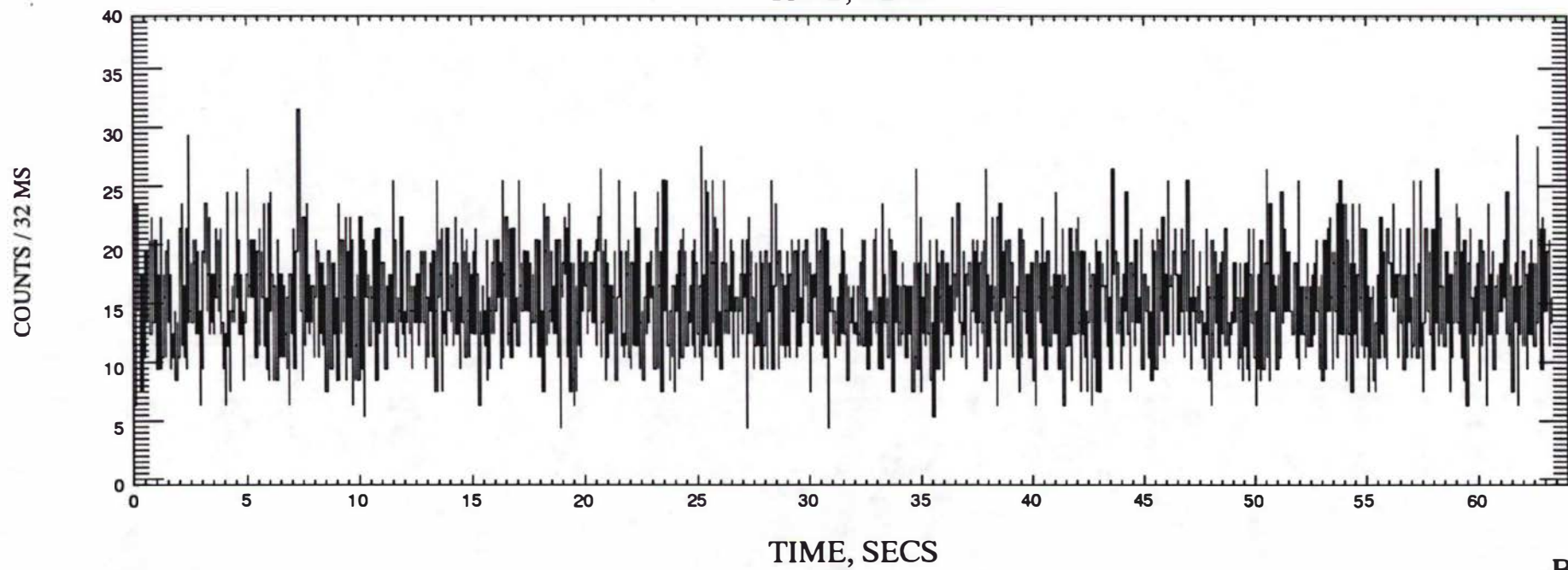
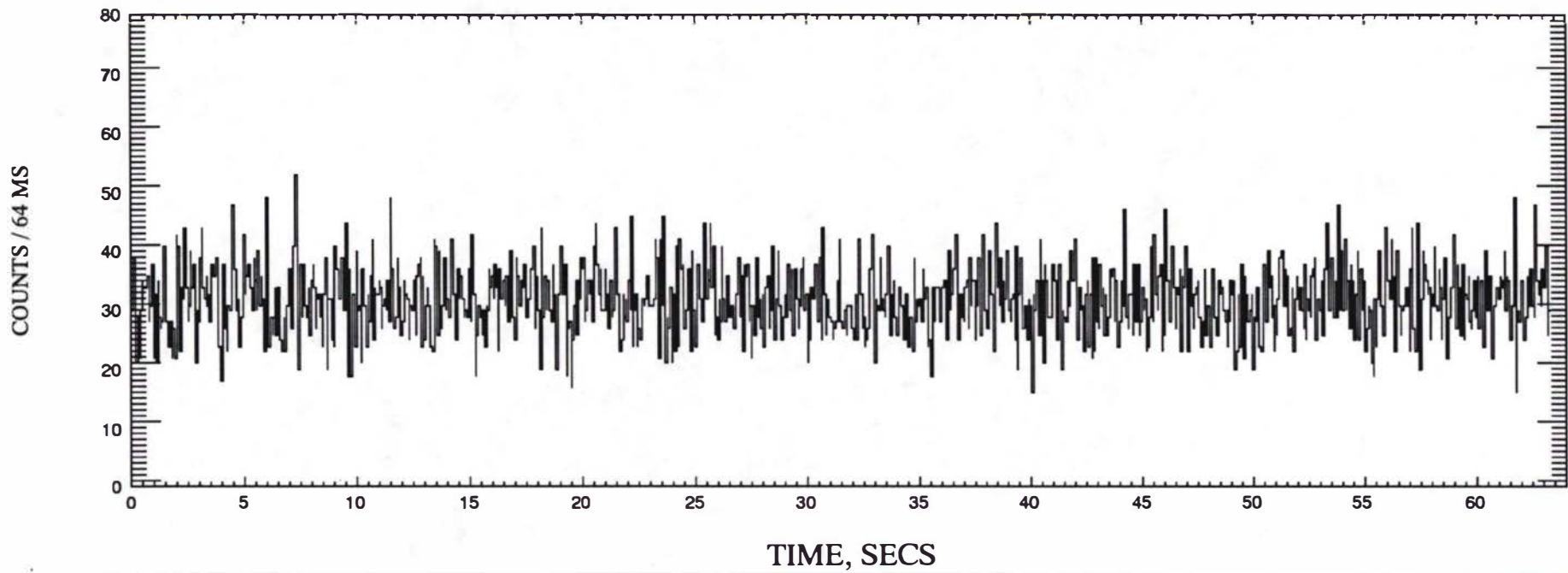
Burst Counter 3 at UT= 8.220618832906 h=29594.228 s 08:13:14.228



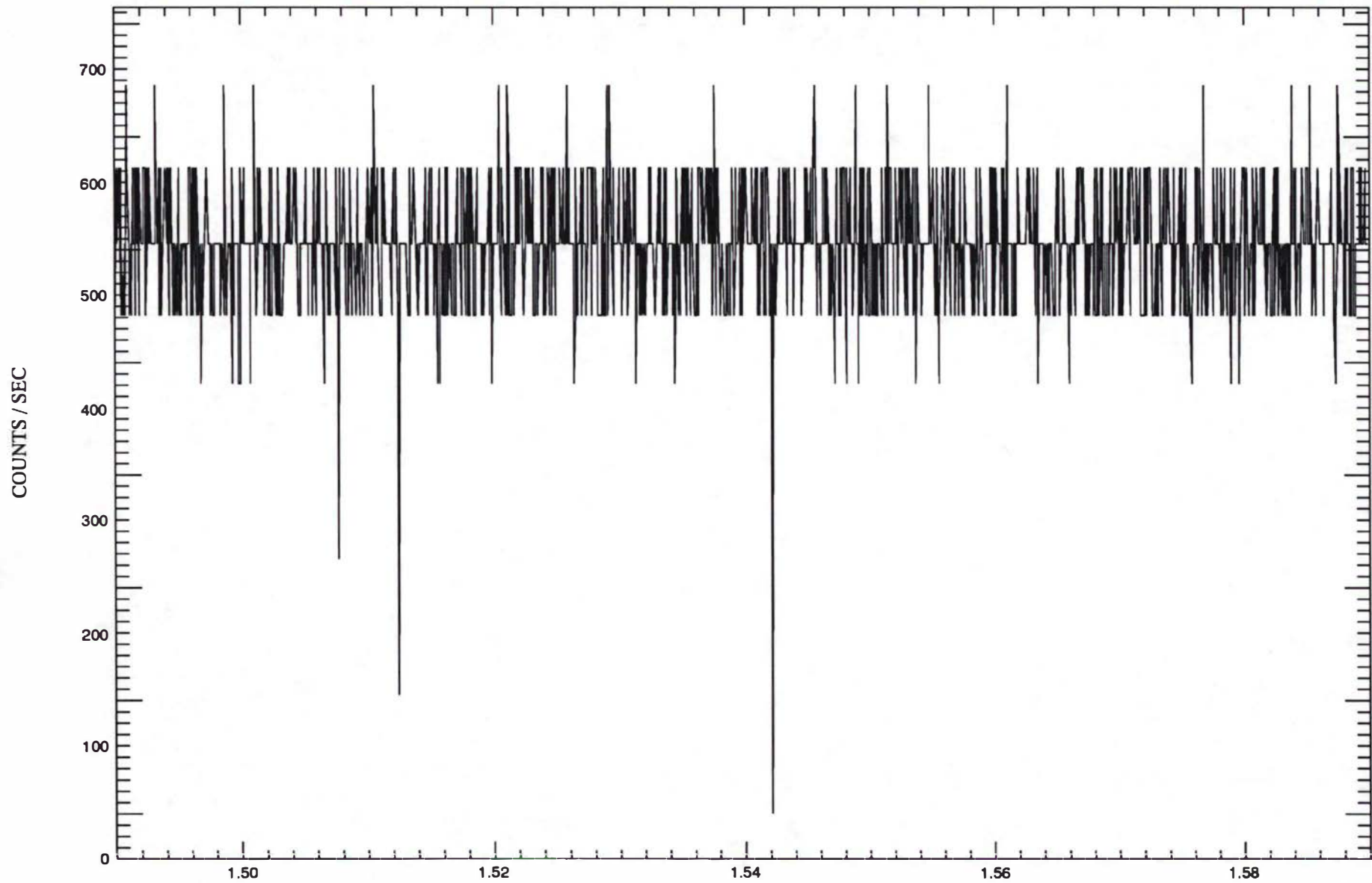
Burst Counter 4 at UT=13.673871019151 h=49225.936 s 13:40:25.936

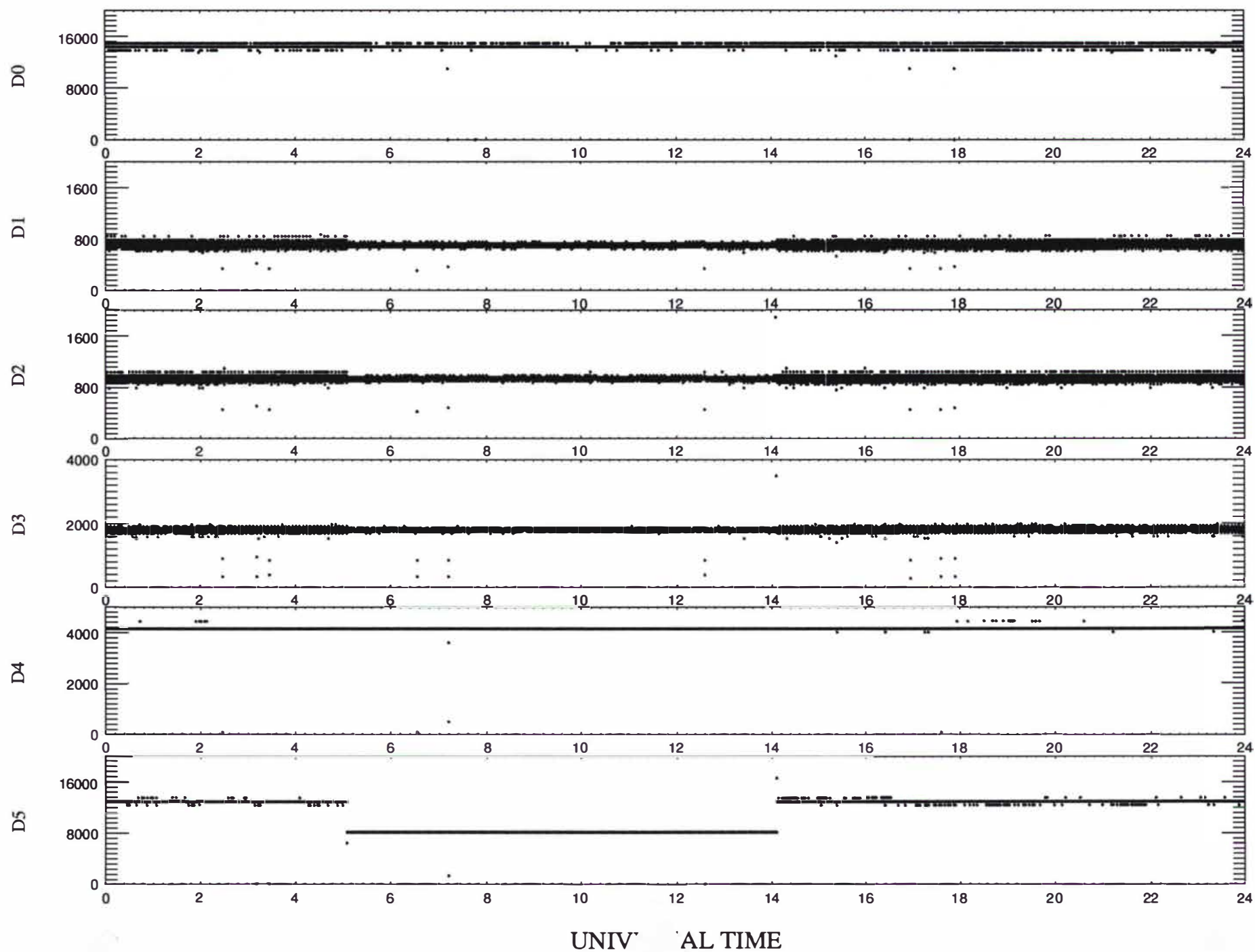


Burst Counter 5 at UT=21.925626949734 h=78932.257 s 21:55:32.257



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:31:37 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:31:18 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6723

TIME: TJD=0937 SECONDS=10618

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:32:51 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:32:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6724

TIME: TJD=0937 SECONDS=18951

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:33:51 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:33:36 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6725

TIME: TJD=0937 SECONDS=28600

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:34:59 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:34:46 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6726

TIME: TJD=0937 SECONDS=29826

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:35:55 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:35:38 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6727

TIME: TJD=0937 SECONDS=38279

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:37:06 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:36:49 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6728

TIME: TJD=0937 SECONDS=48076

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:38:08 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:37:37 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6729

TIME: TJD=0937 SECONDS=51403

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:38:56 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:38:33 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6730

TIME: TJD=0937 SECONDS=57251

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed May 6 10:39:44 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 6 May 1998 12:39:32 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6731

TIME: TJD=0937 SECONDS=67342

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

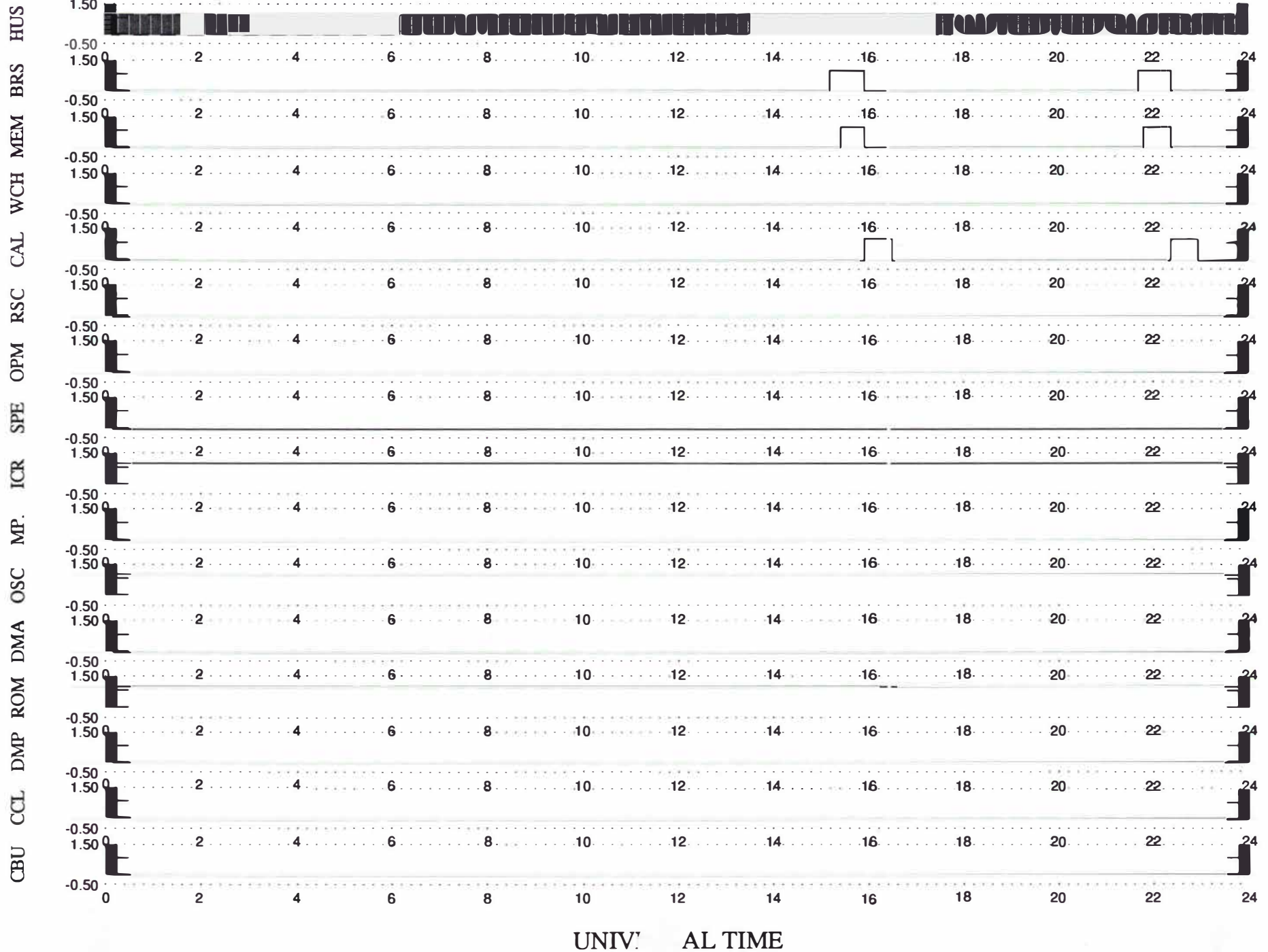
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

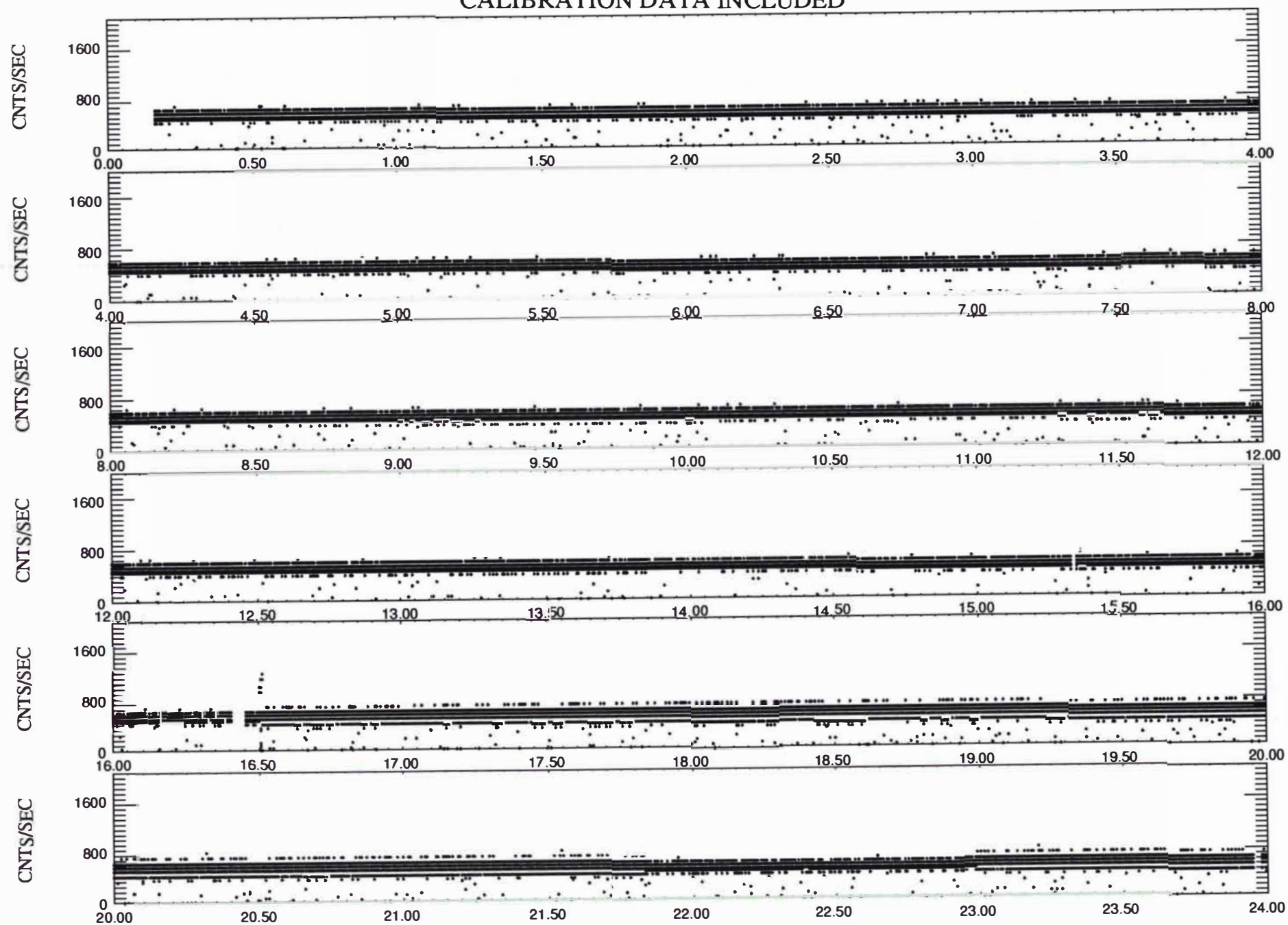
COMMENTS:

PARTICLE EVENT

BURST NUMBER 6, 7

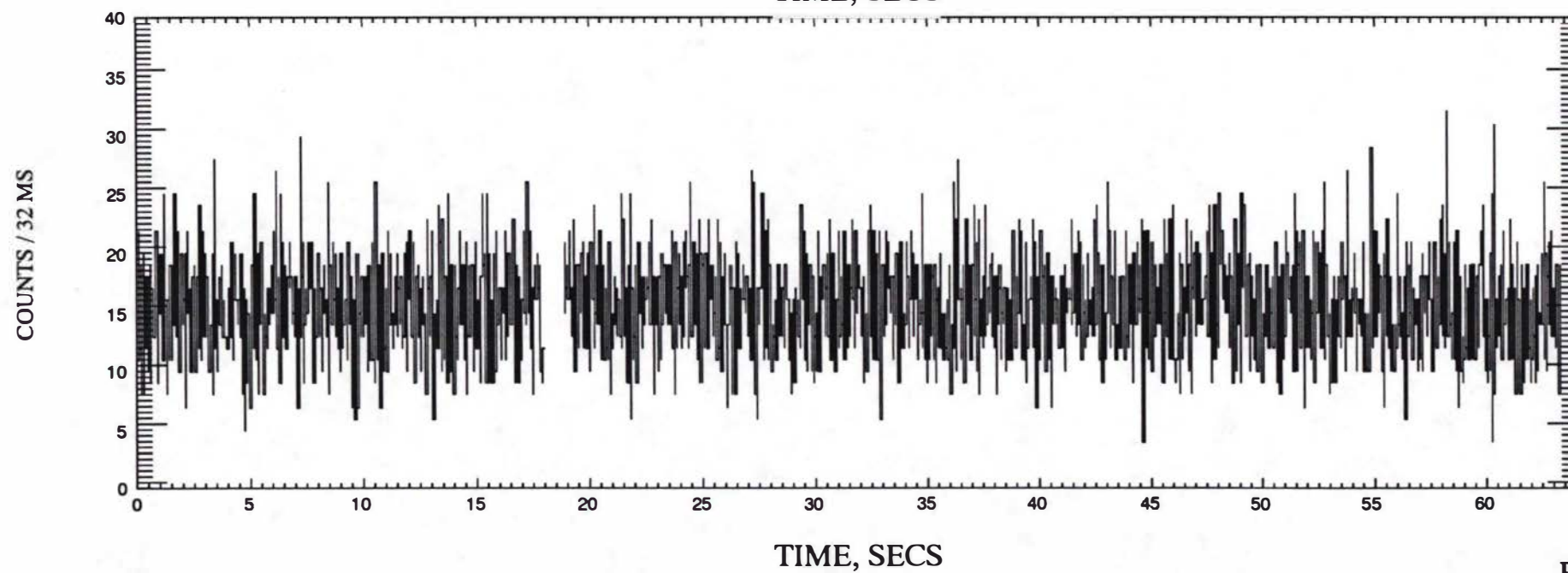
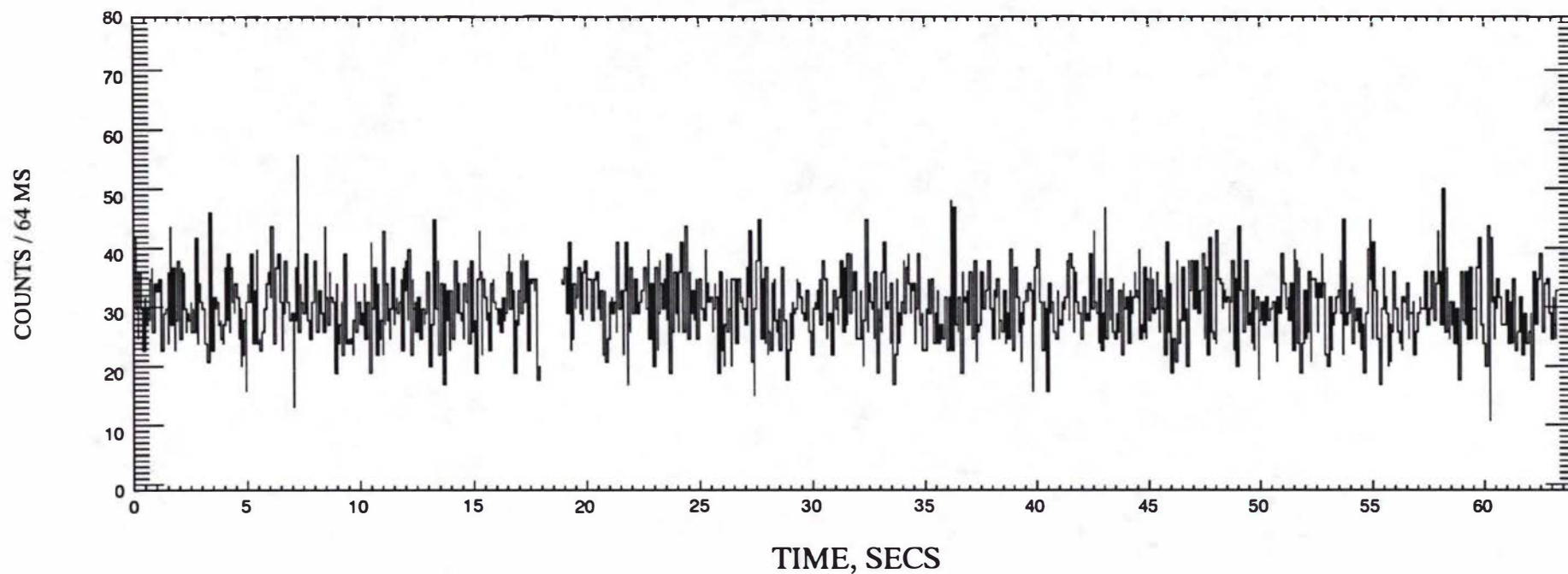


CALIBRATION DATA INCLUDED

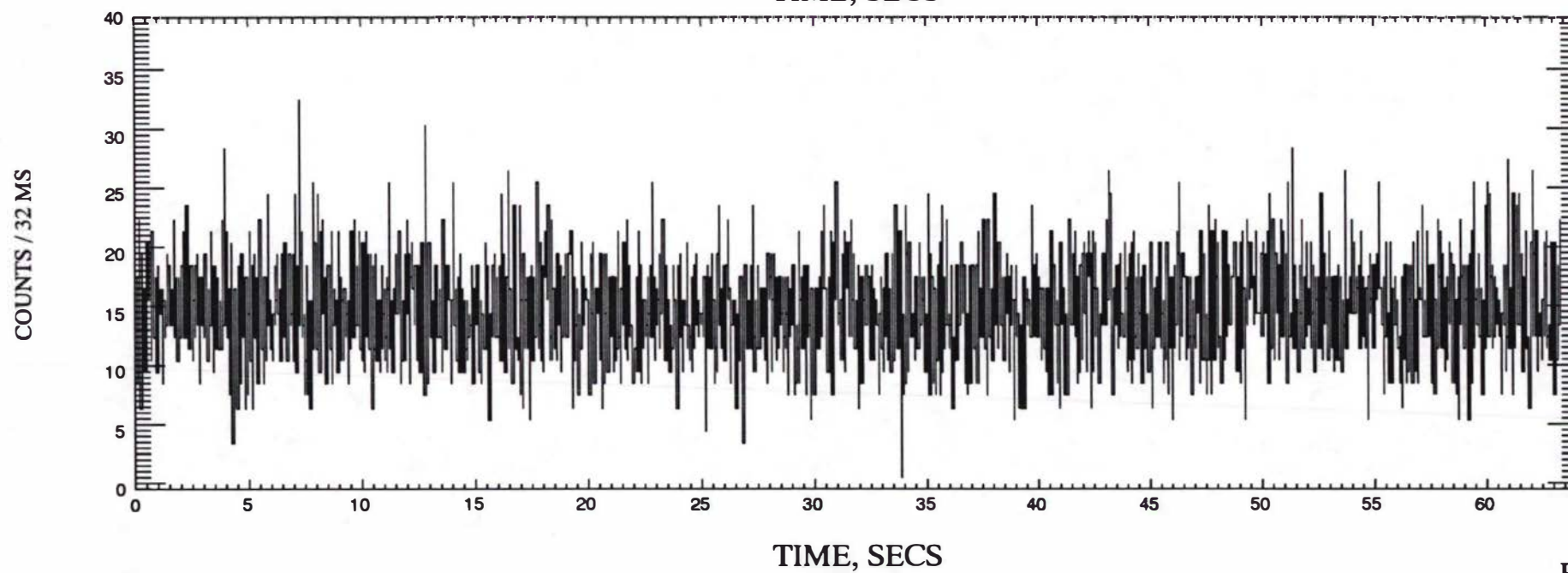
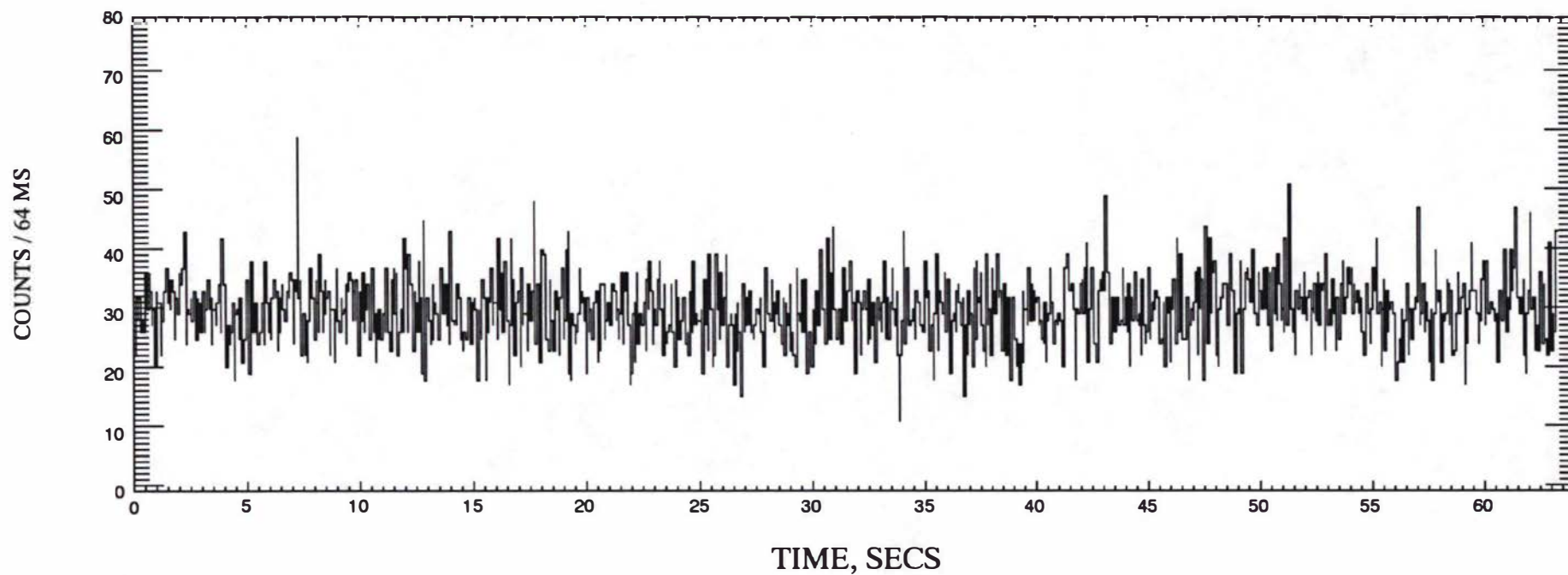


UNIVERSAL TIME

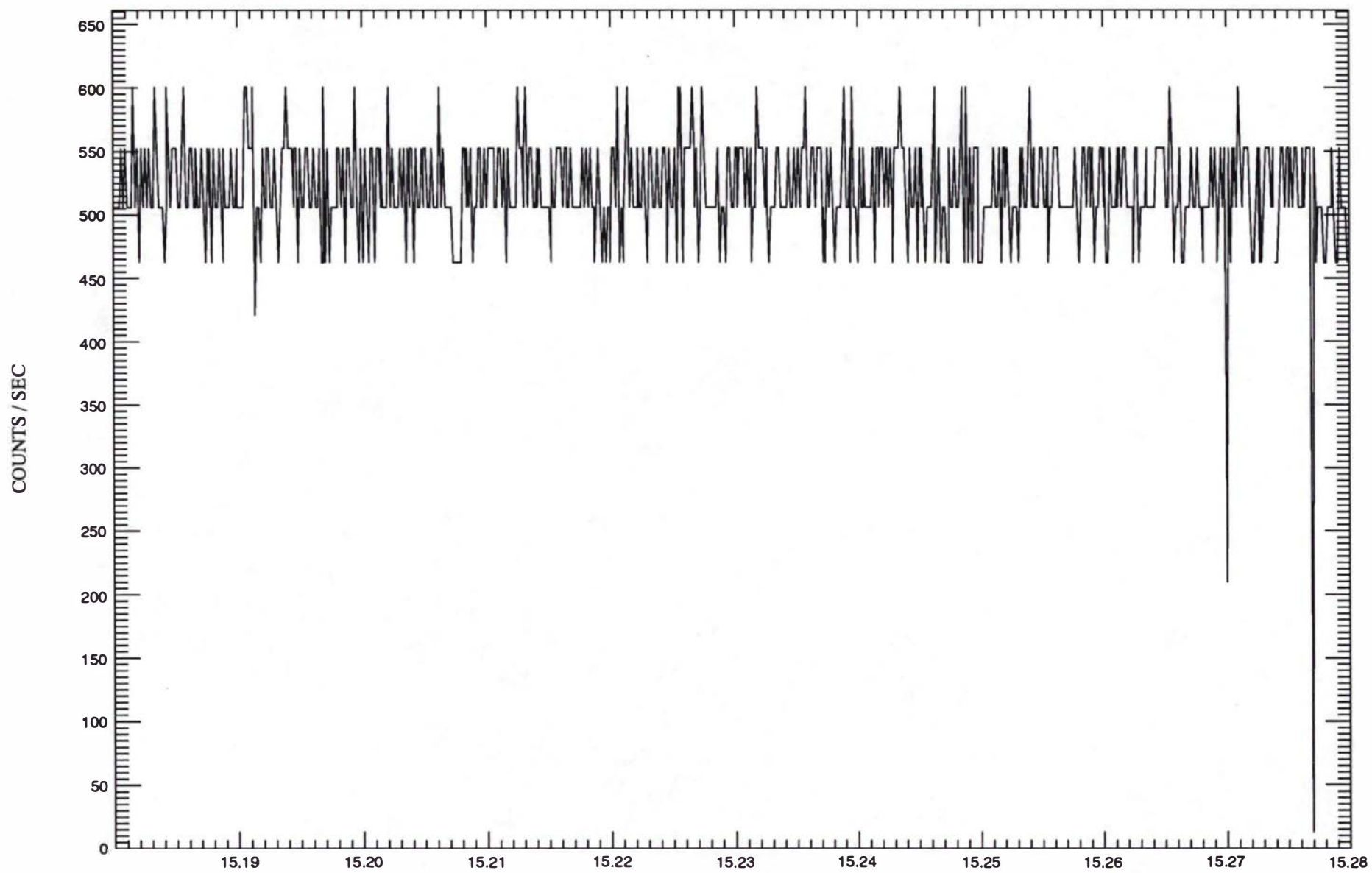
Burst Counter 6 at UT=15.232291369968 h=54836.249 s 15:13:56.249



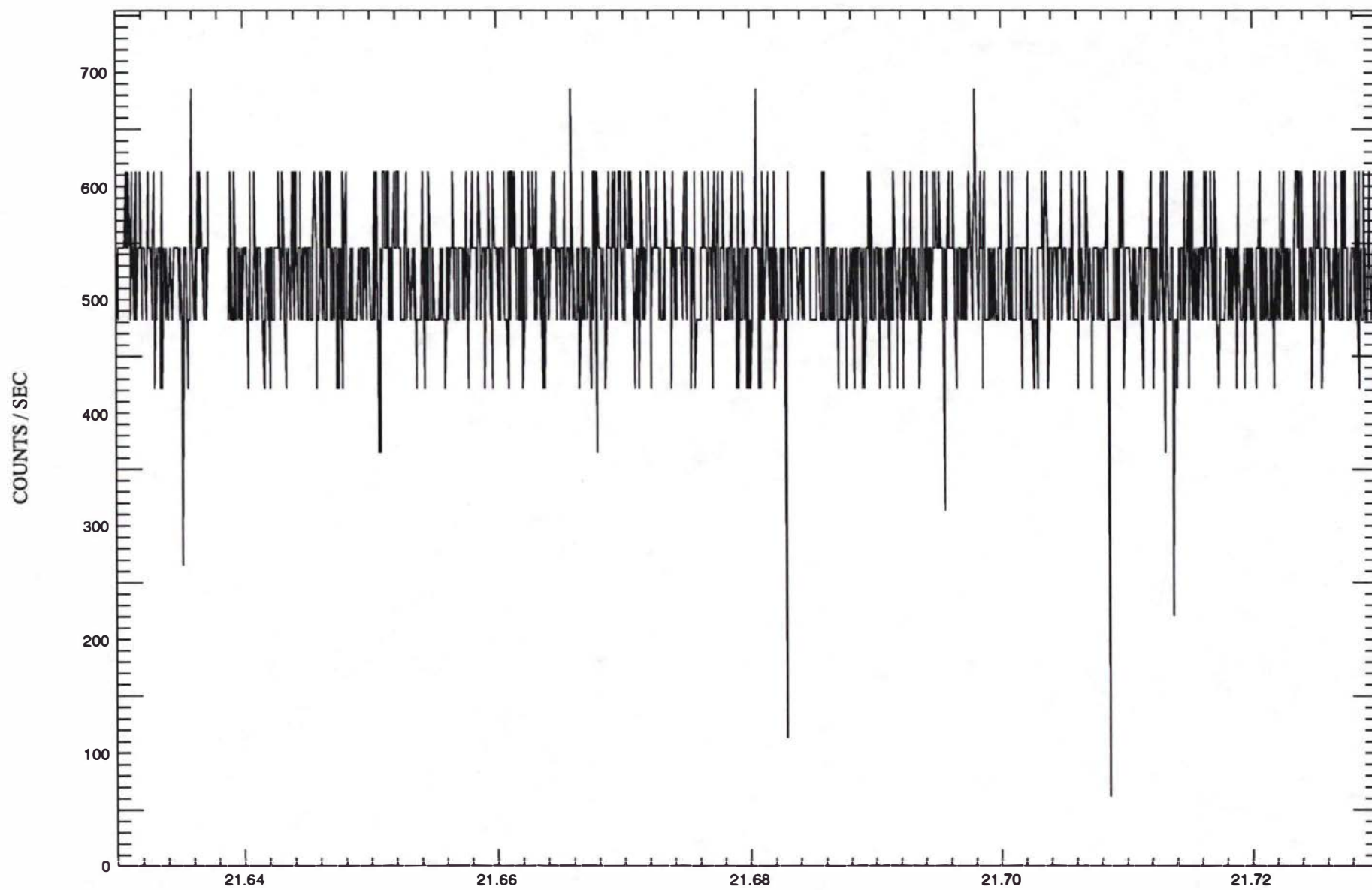
Burst Counter 7 at UT=21.681632355584 h=78053.876 s 21:40:53.876

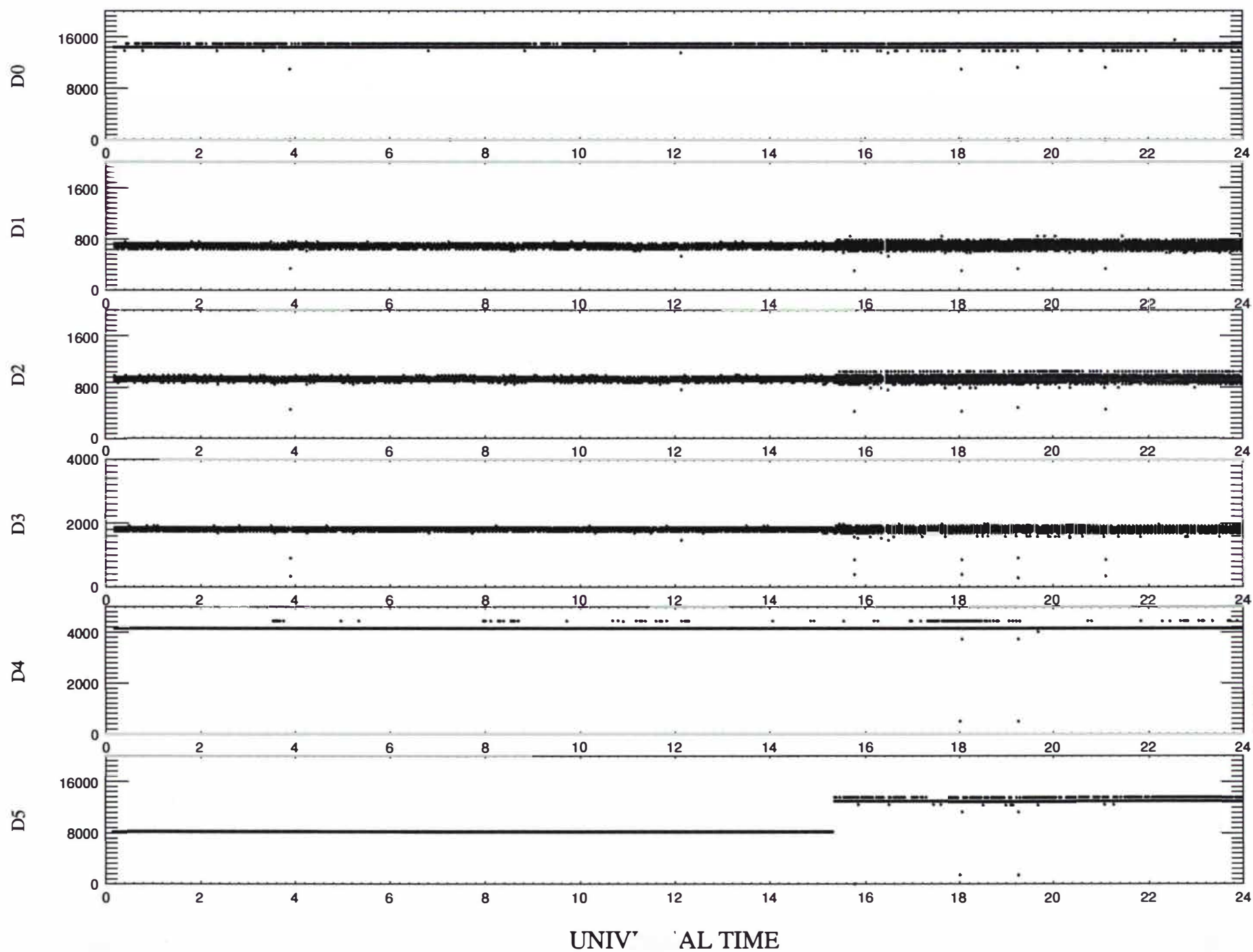


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Thu May 7 11:10:05 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 7 May 1998 13:09:32 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6732

TIME: TJD=0938 SECONDS=14908

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Thu May 7 11:23:01 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 7 May 1998 13:22:47 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6733

TIME: TJD=0938 SECONDS=23836

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Thu May 7 11:24:30 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 7 May 1998 13:23:53 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6734

TIME: TJD=0938 SECONDS=32451

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Thu May 7 11:25:40 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 7 May 1998 13:24:55 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6735

TIME: TJD=0938 SECONDS=60284

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

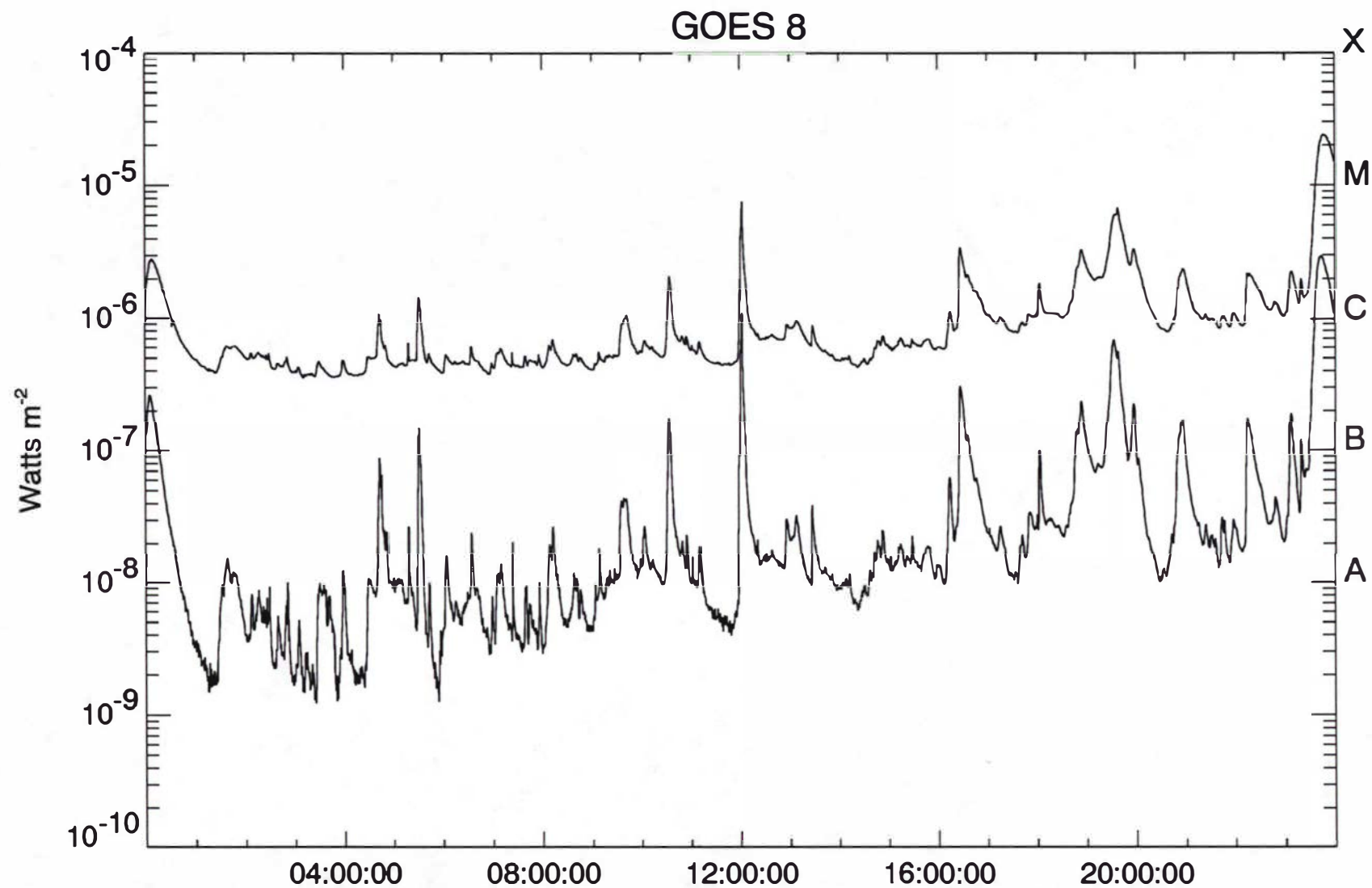
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT



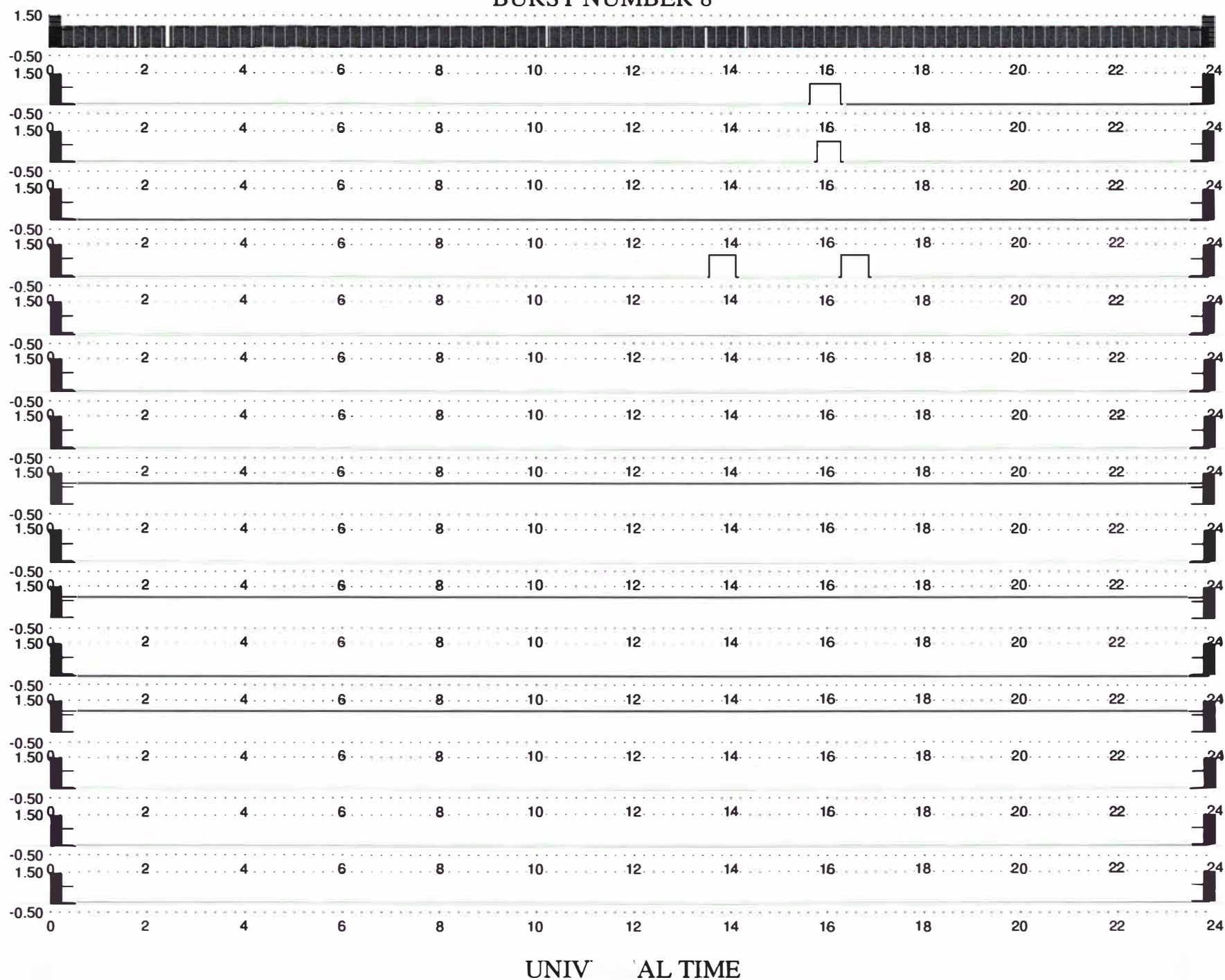
Data Start: 98/05/05, 0000:12

Plot created: 98/05/09, 1007

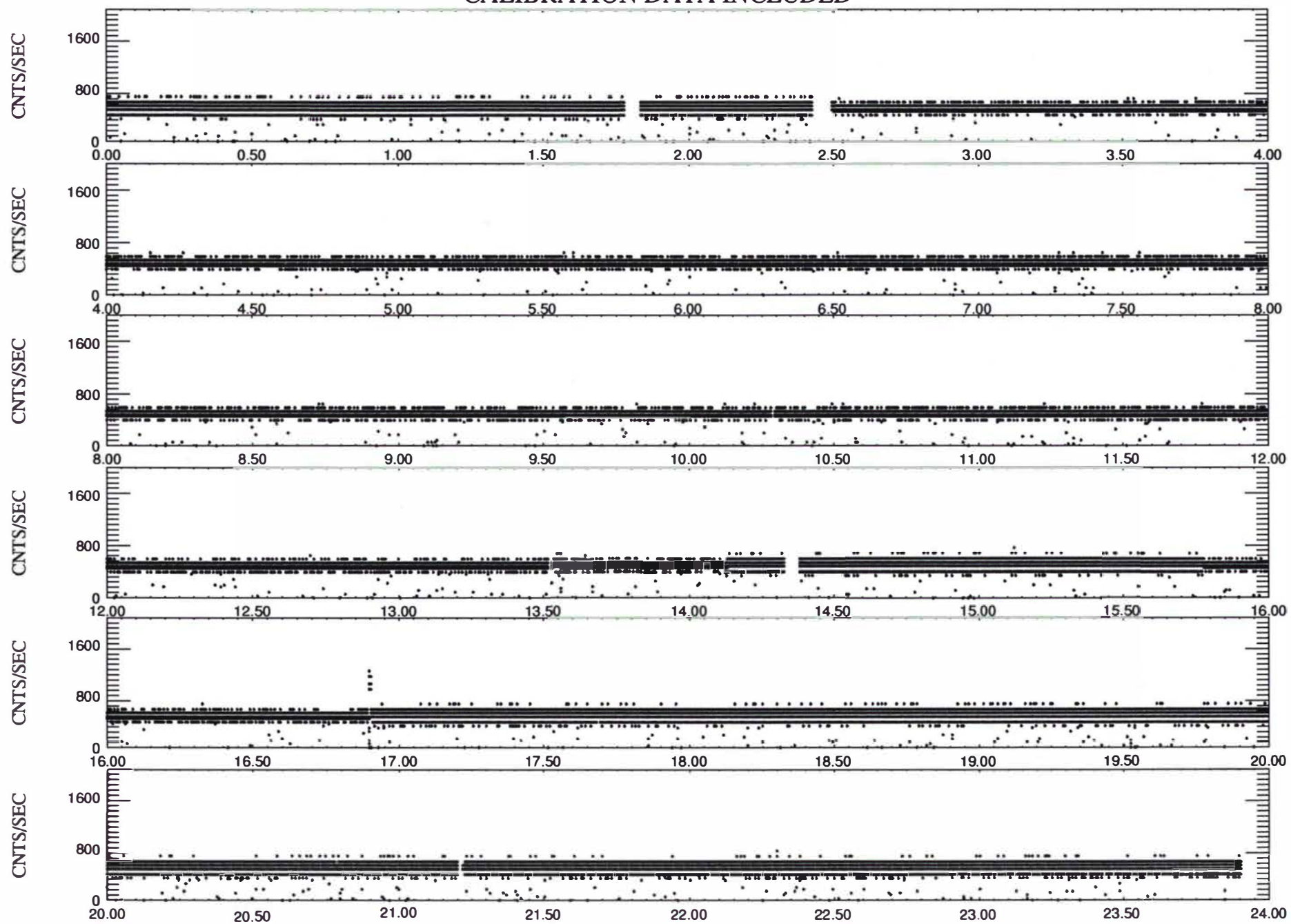
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

CPU	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

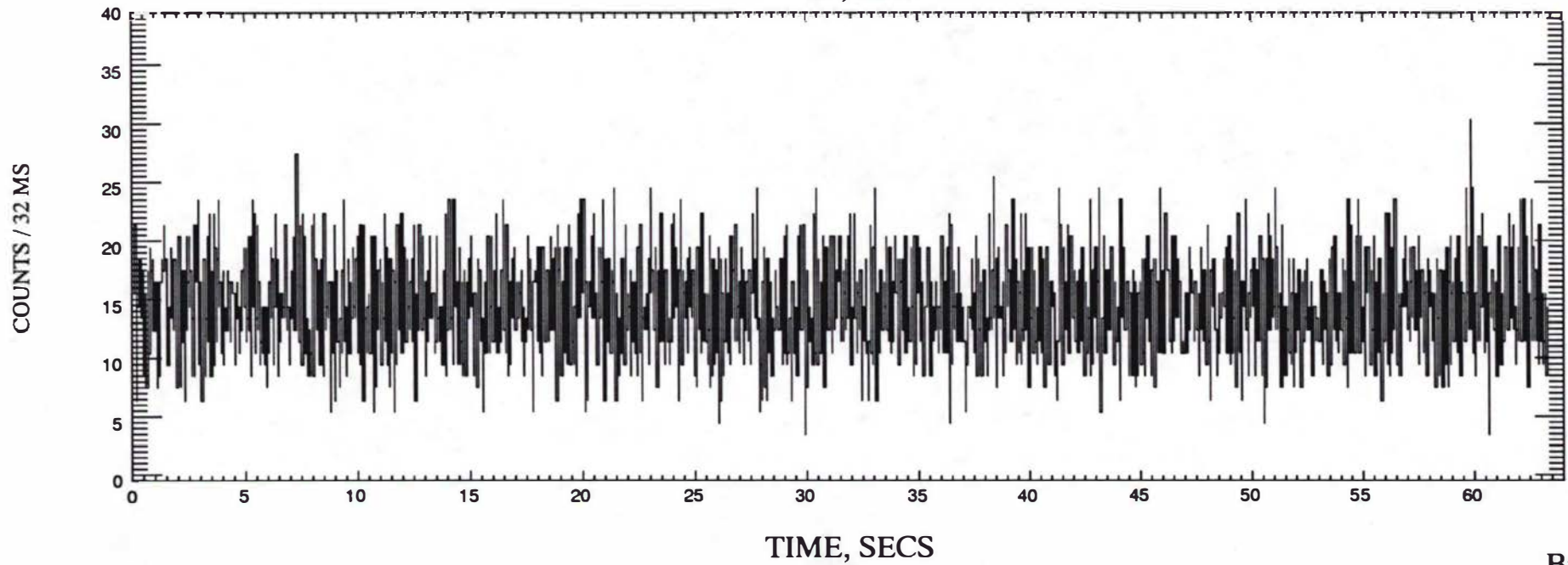
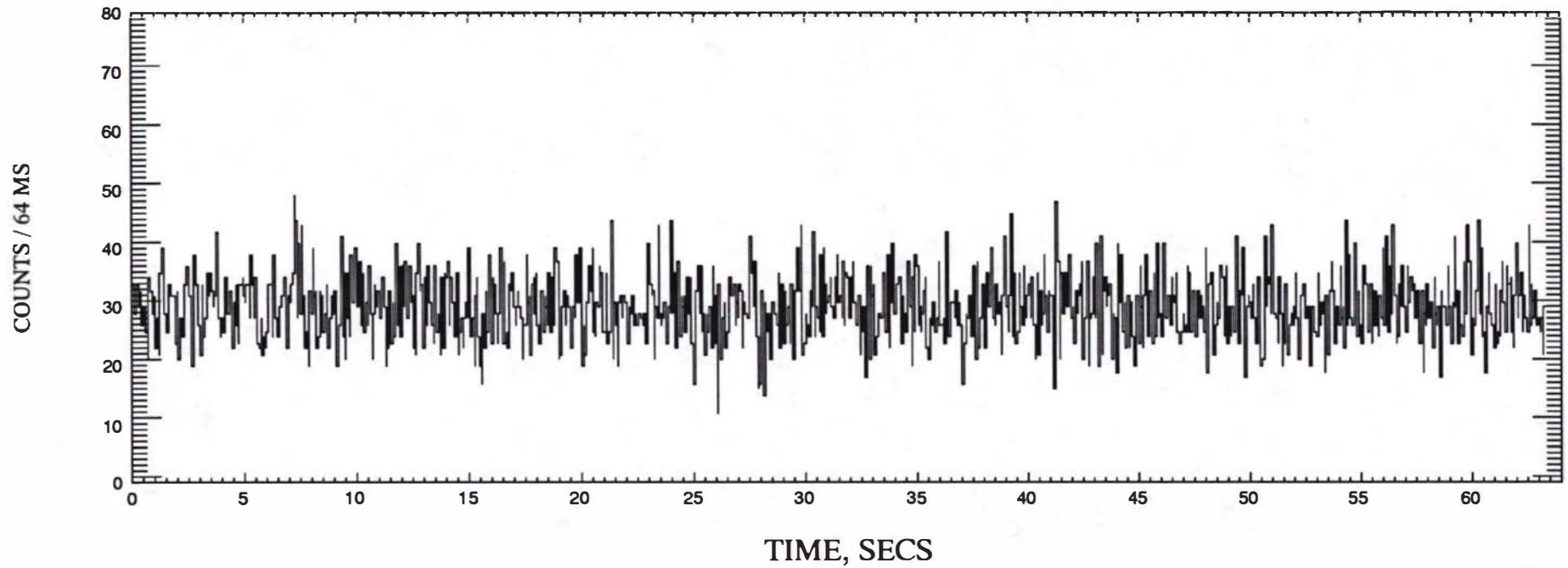


CALIBRATION DATA INCLUDED

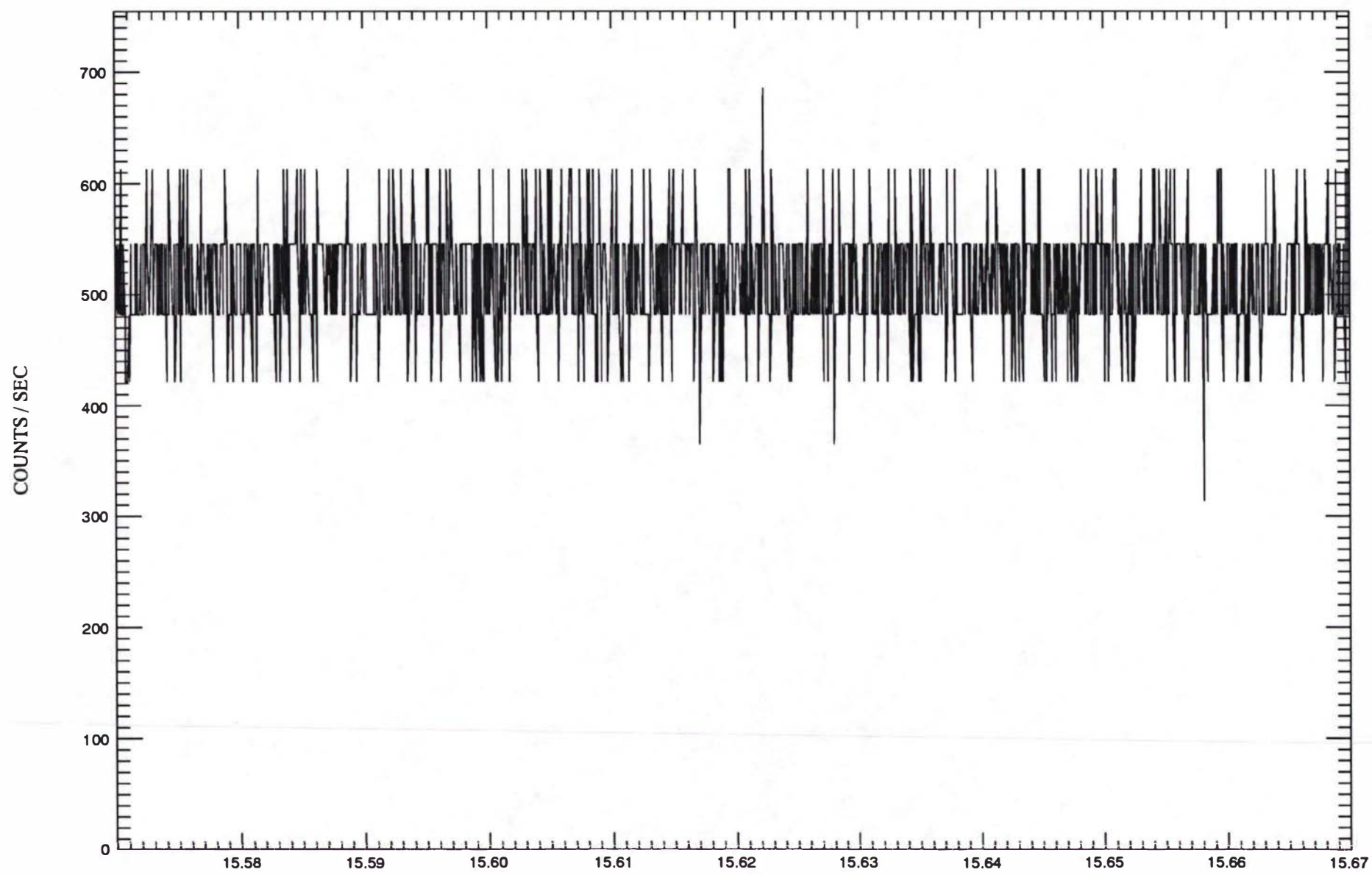


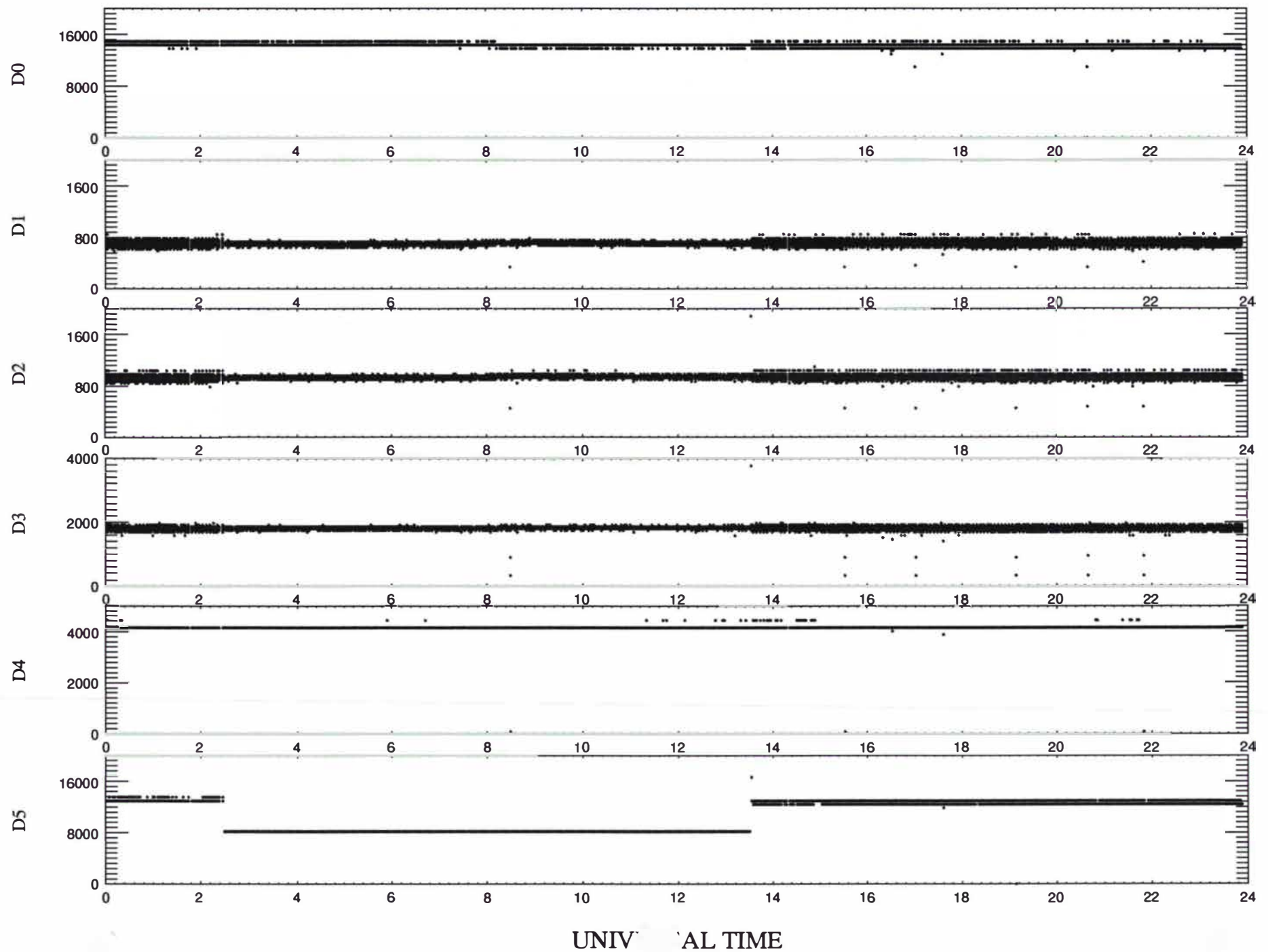
UNIV AL TIME

Burst Counter 8 at UT=15.622380167643 h=56240.569 s 15:37:20.569



CALIBRATION DATA INCLUDED







From SURASAK@fender.msfc.nasa.gov Fri May 8 11:54:56 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 13:54:34 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6736

TIME: TJD=0939 SECONDS=12813

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=111.9 AZIMUTH=351.9 ERROR=2.569 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES CONFIRMATION. SINGLE PULSE WITH SUBSTRUCTURE. DUR ABOUT 25 SECONDS. START AT ABOUT -20 S. NOT VISIBLE ABOVE 100 KEV.

From RICHARDSON@fender.msfc.nasa.gov Fri May 8 10:49:26 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 12:48:50 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6737

TIME: TJD=0939 SECONDS=14425

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=111.0 AZIMUTH=353.5 ERROR=0.4 DEGREES

COMMENTS:

SOLAR FLARE. GOES C4.0, OPTICAL SF. SINGLE PULSE WITH STRUCTURE. DURATION
APPROX. = 35 SEC. NOT VISIBLE ABOVE 300KEV.

From RICHARDSON@fender.msfc.nasa.gov Fri May 8 10:58:06 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 12:57:48 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6738

TIME: TJD=0939 SECONDS=28904

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=105.6 AZIMUTH=356.8 ERROR=0.1 DEGREES

COMMENTS:

SOLAR FLARE. GOES X2.7, OPTICAL 1N. LOTS OF STRUCTURE. DURATION APPROX. = 160SEC
PROBABLY NOT VISIBLE ABOVE 300KEV.

From RICHARDSON@fender.msfc.nasa.gov Fri May 8 11:00:42 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 13:00:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6739

TIME: TJD=0939 SECONDS=52435

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=118.9 AZIMUTH=350.6 ERROR=5.2 DEGREES

COMMENTS:

SOLAR FLARE. OPTICAL SF. SINGLE PULSE. DURATION IS AT LEAST 4 SEC.
NOT VISIBLE ABOVE 300KEV.

From SURASAK@fender.msfc.nasa.gov Fri May 8 11:58:56 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 13:58:38 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6740

TIME: TJD=0939 SECONDS=54757

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.8 AZIMUTH=353.9 ERROR=0.99 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES CONFIRMATION. AT T TIME, SINGLE PULSE WITH SUBSTRUCTURE.
DURATION ABOUT 10 S. NOT VISIBLE ABOVE 100 KEV. THERE ARE ALSO TWO SMALLER
PULSES PRIOR TO THE MAIN EVENT AT ABOUT T-20 S AND T-140 S.

From RICHARDSON@fender.msfc.nasa.gov Fri May 8 11:03:00 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 8 May 1998 13:02:47 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6741

TIME: TJD=0939 SECONDS=63727

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

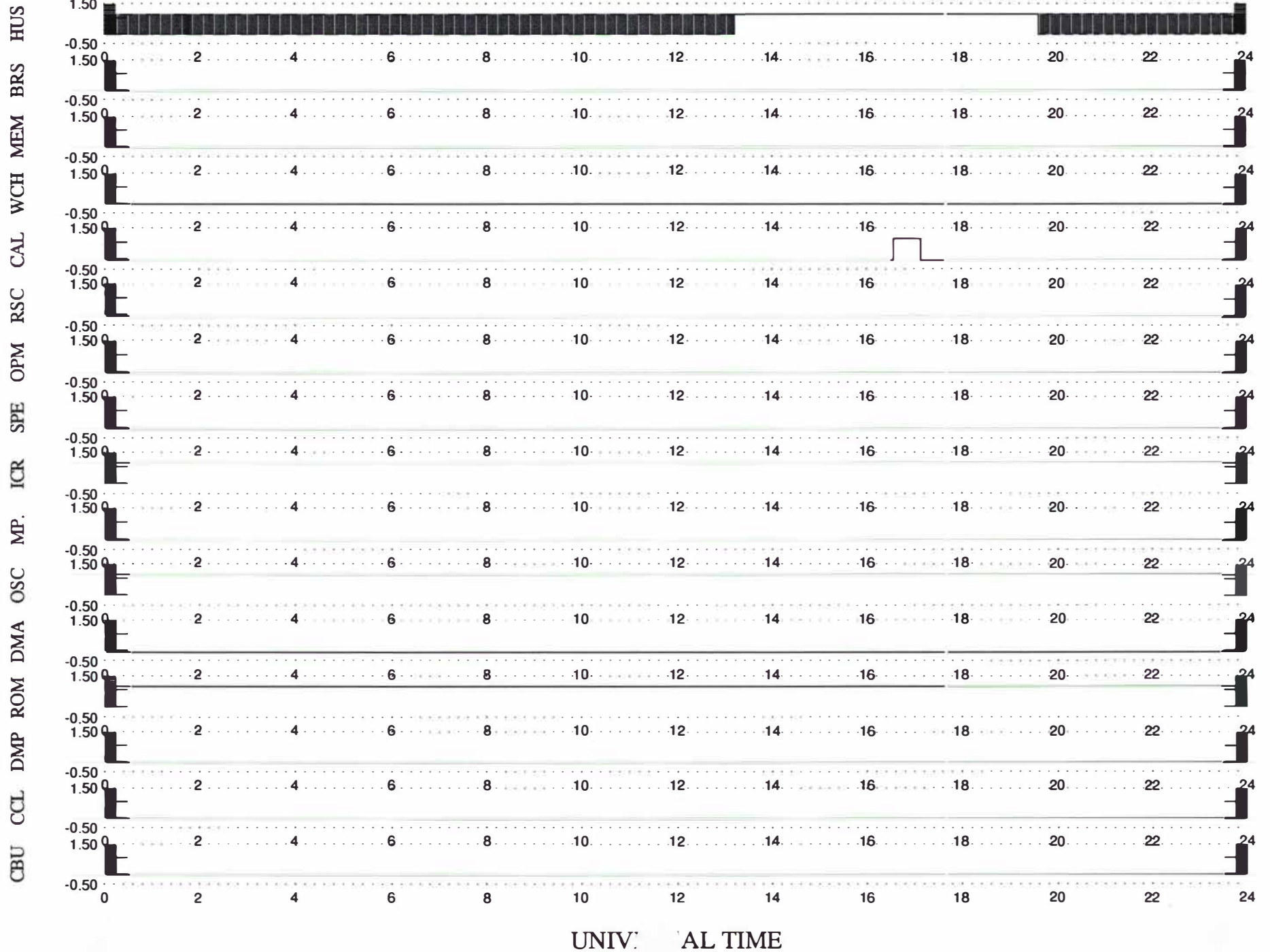
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

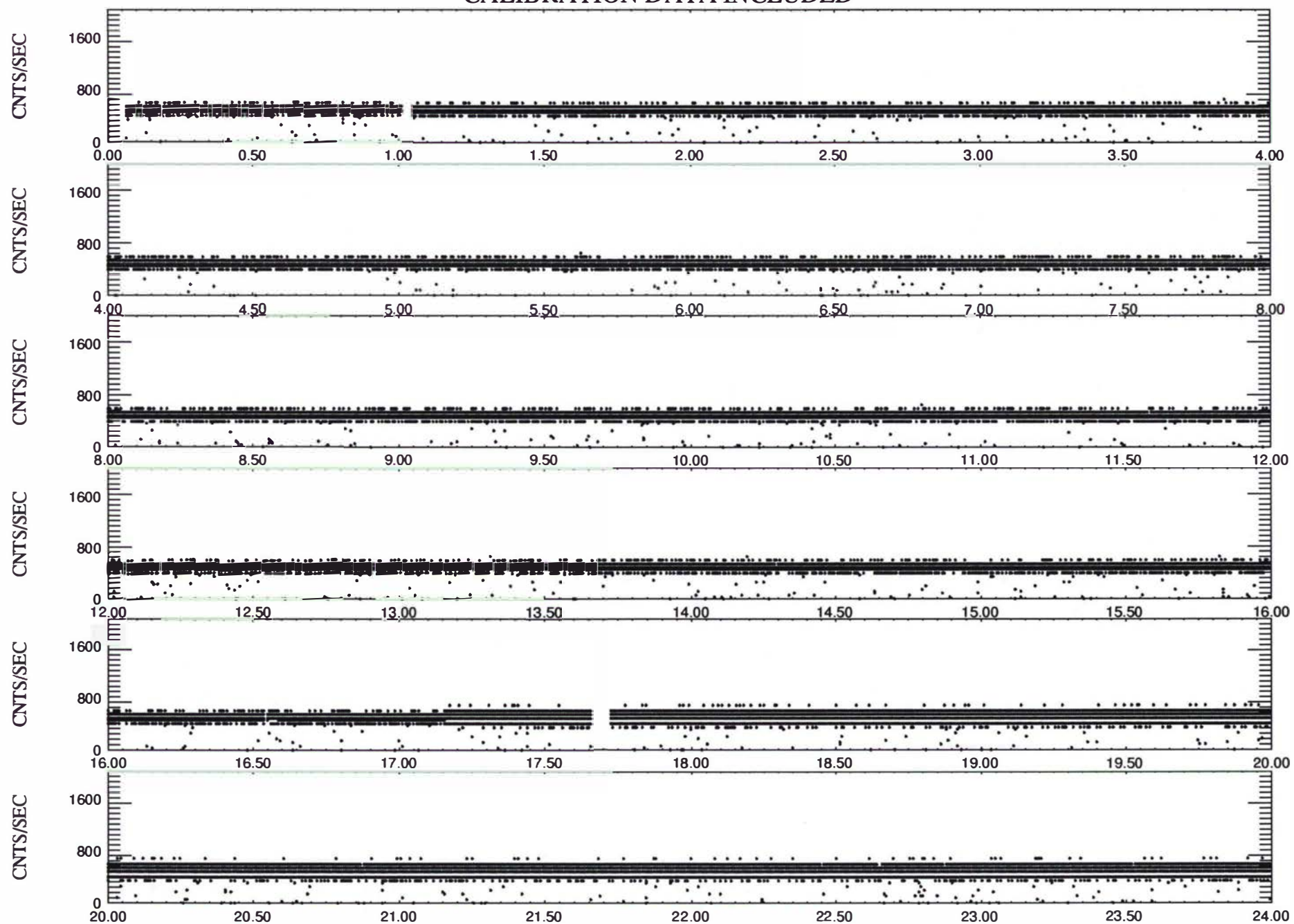
COMMENTS:

SOLAR FLARE. SINGLE PULSE. DURATION AT LEAST 15 SEC. NOT VISIBLE ABOVE 300KEV.

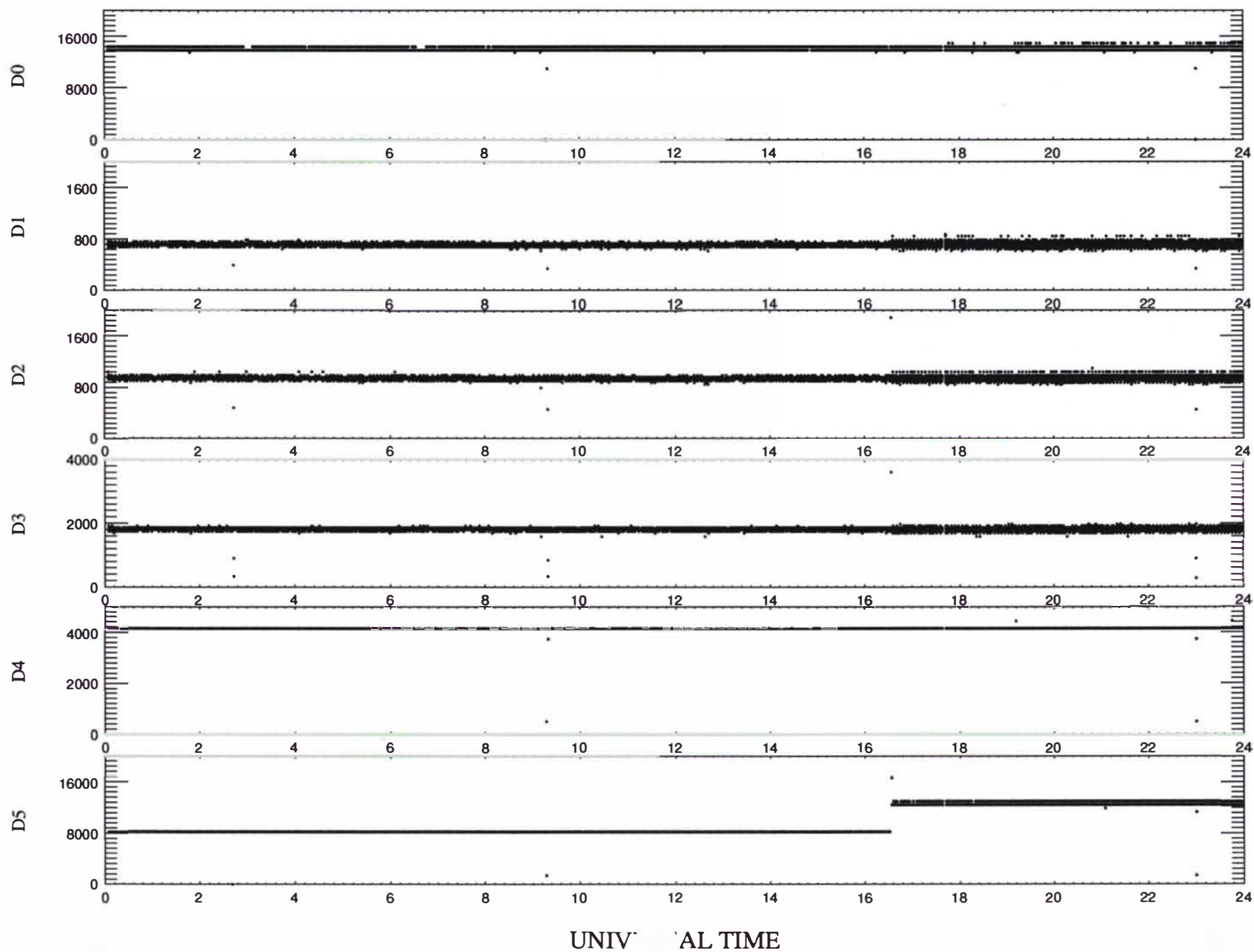
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV. TIME



From WOODSP@fender.msfc.nasa.gov Mon May 11 12:43:36 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 11 May 1998 14:43:17 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6742

TIME: TJD=0940 SECONDS=19956

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

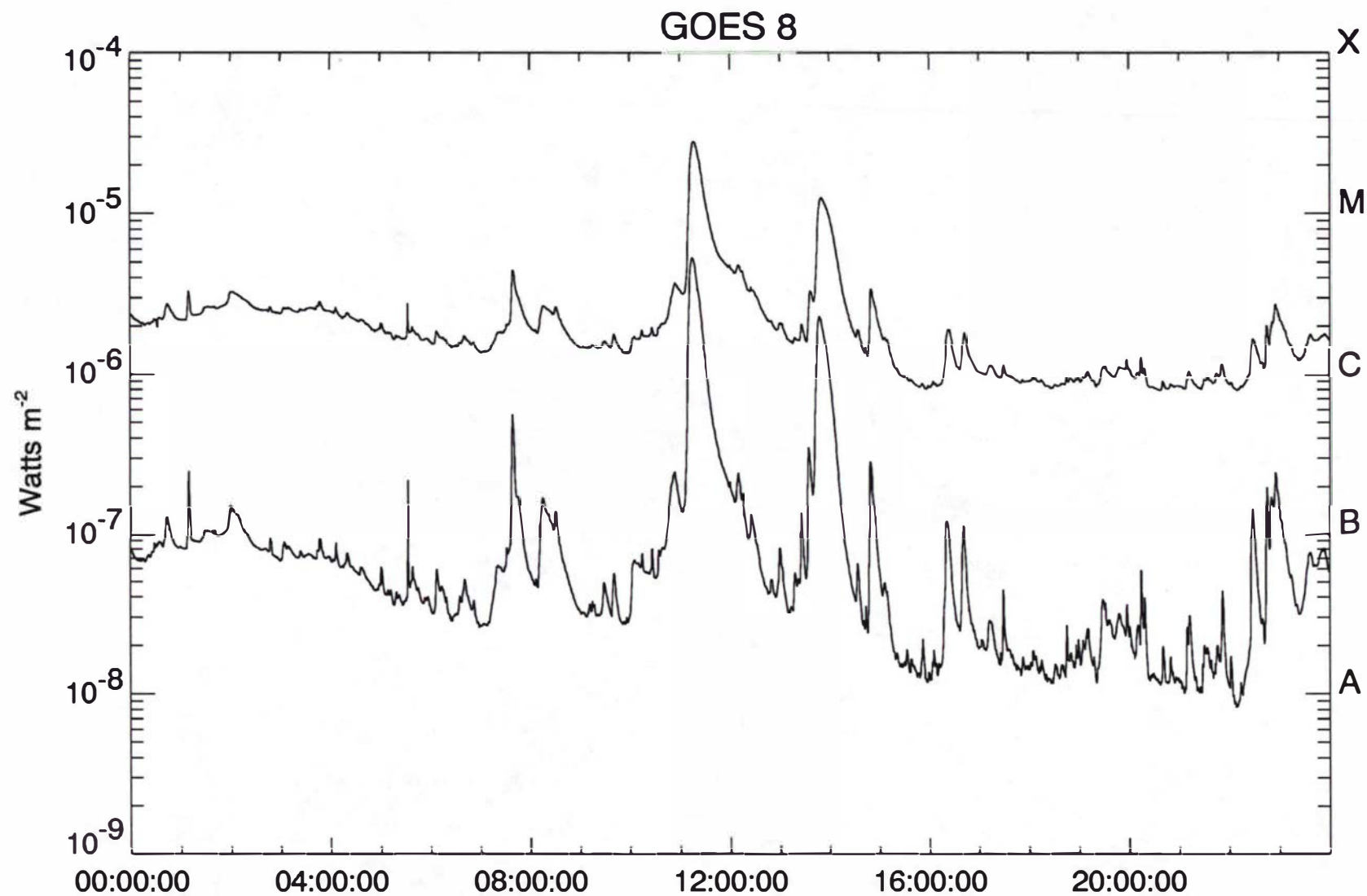
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE. VISIBLE ABOVE 100 KEV.



Data Start: 98/05/07, 0000:00

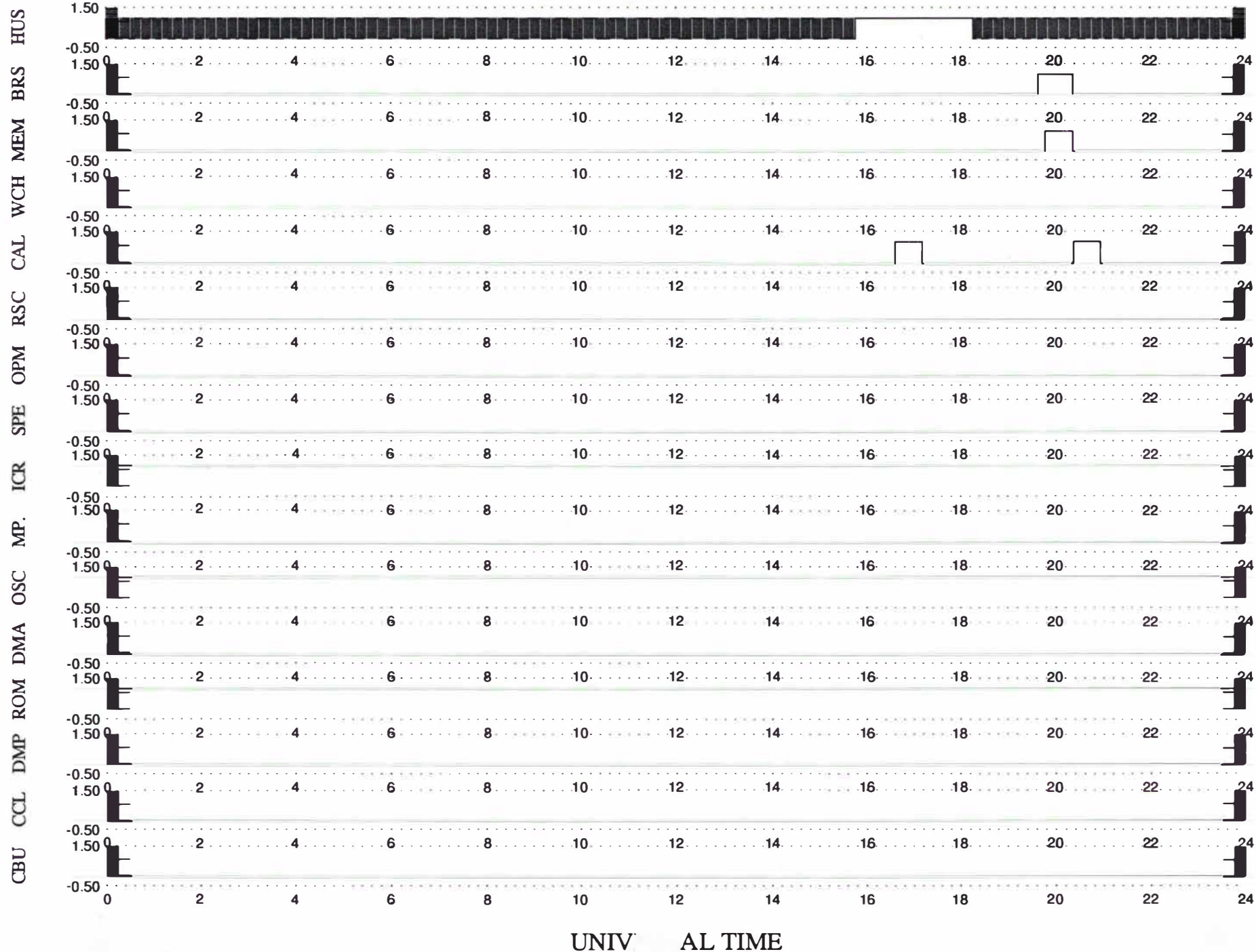
Plot created: 98/05/11, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

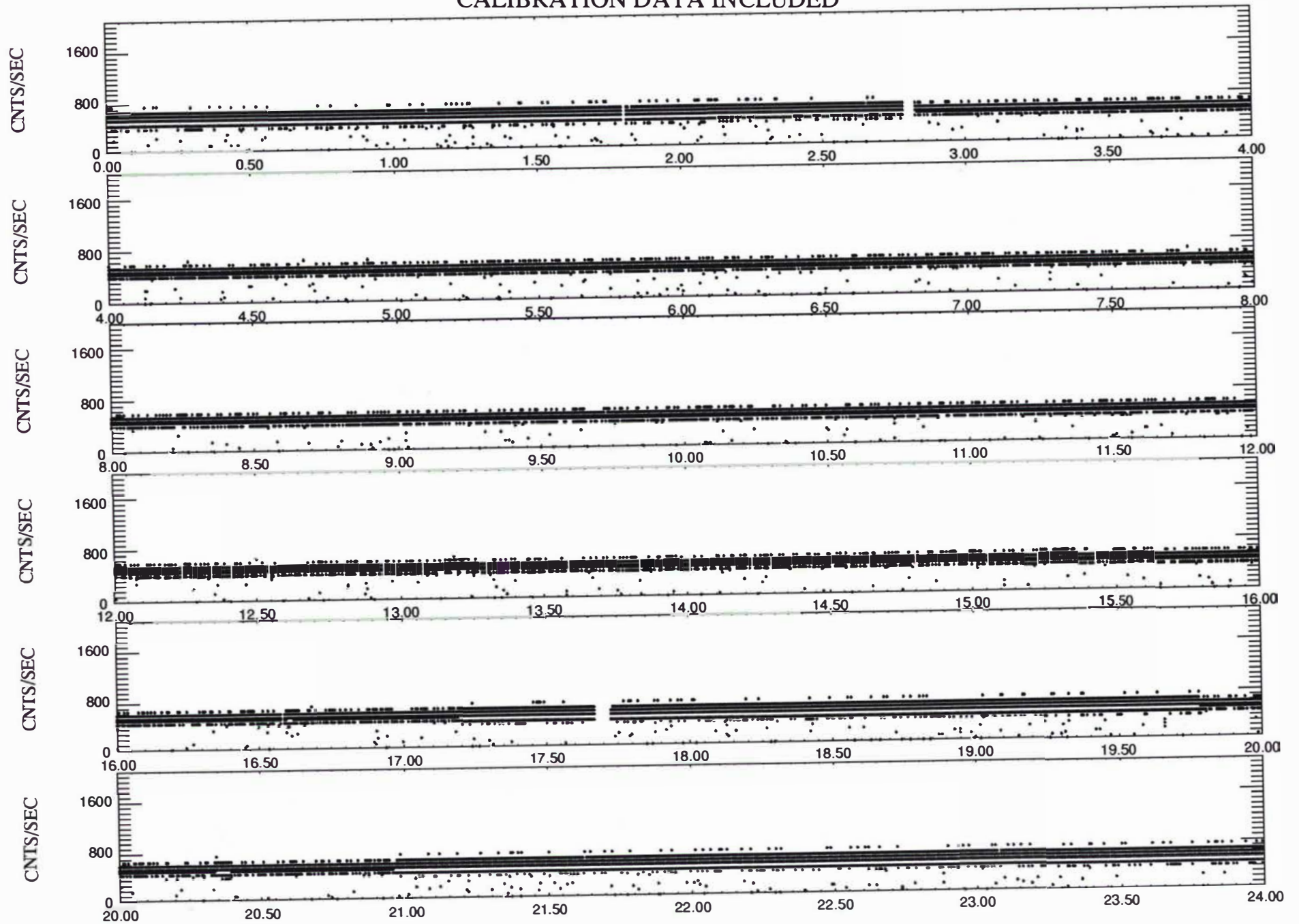
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 9

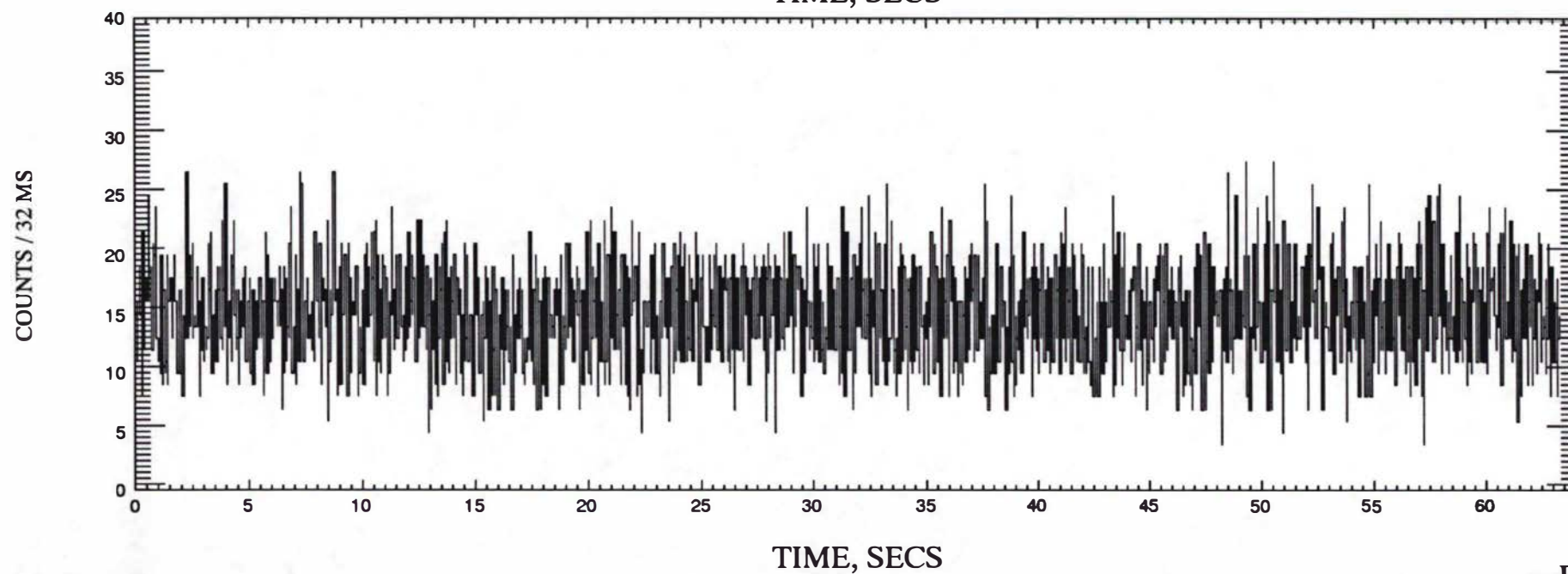
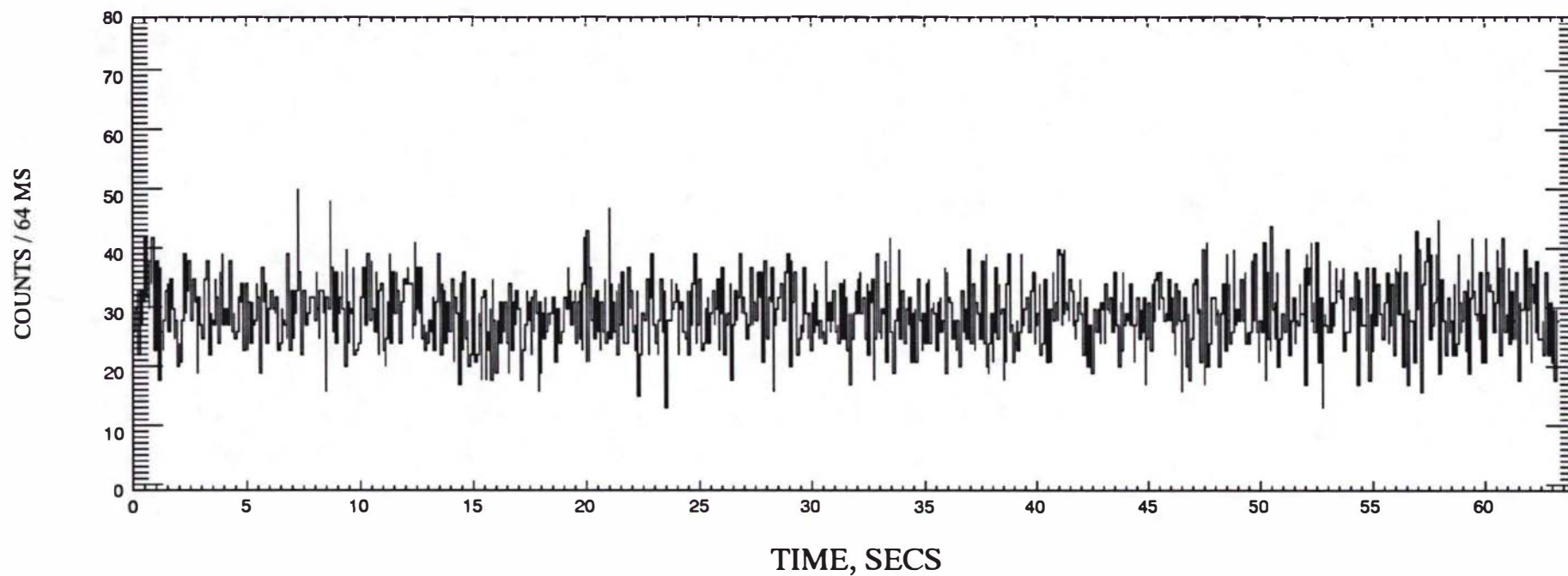


CALIBRATION DATA INCLUDED

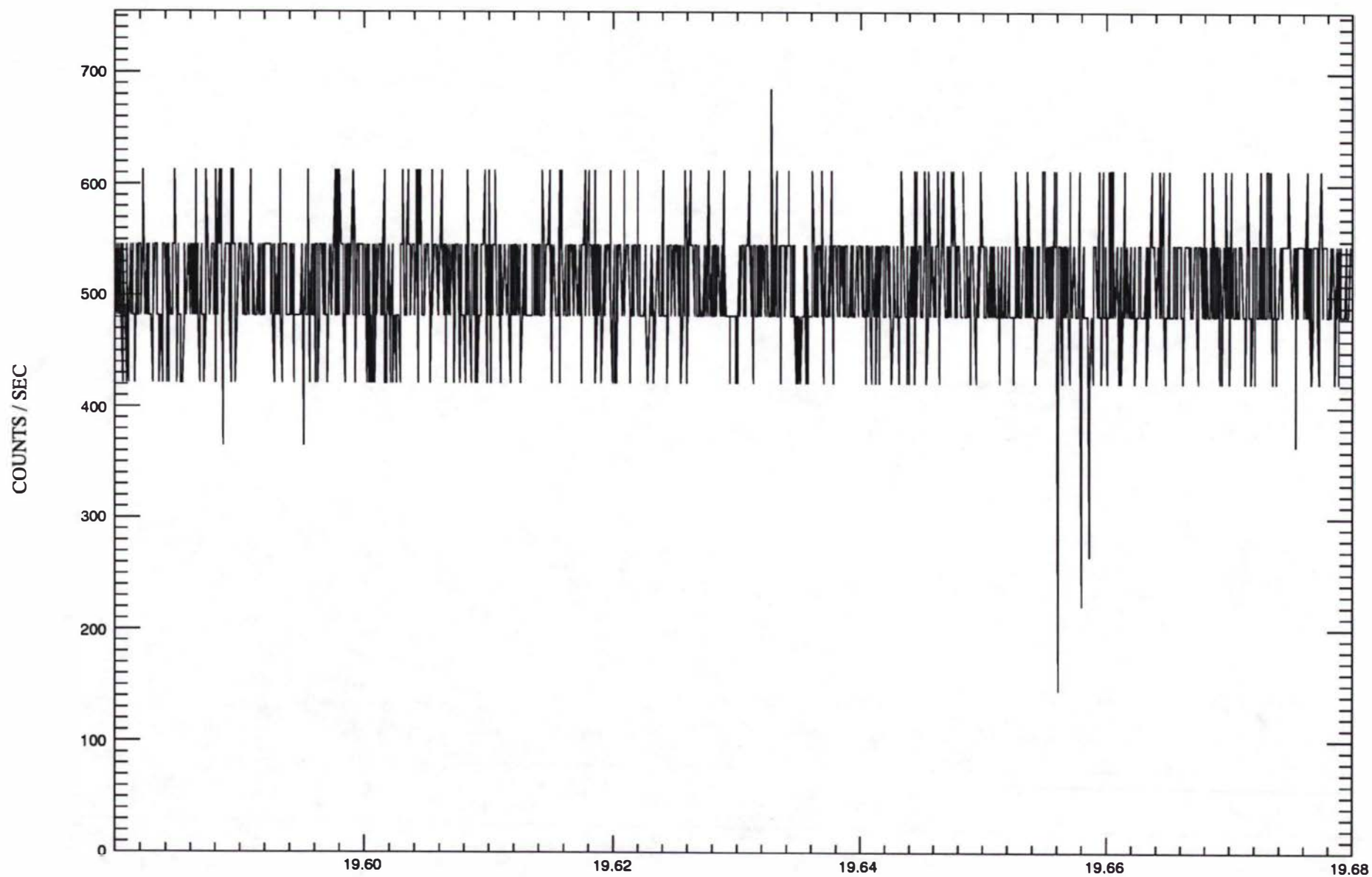


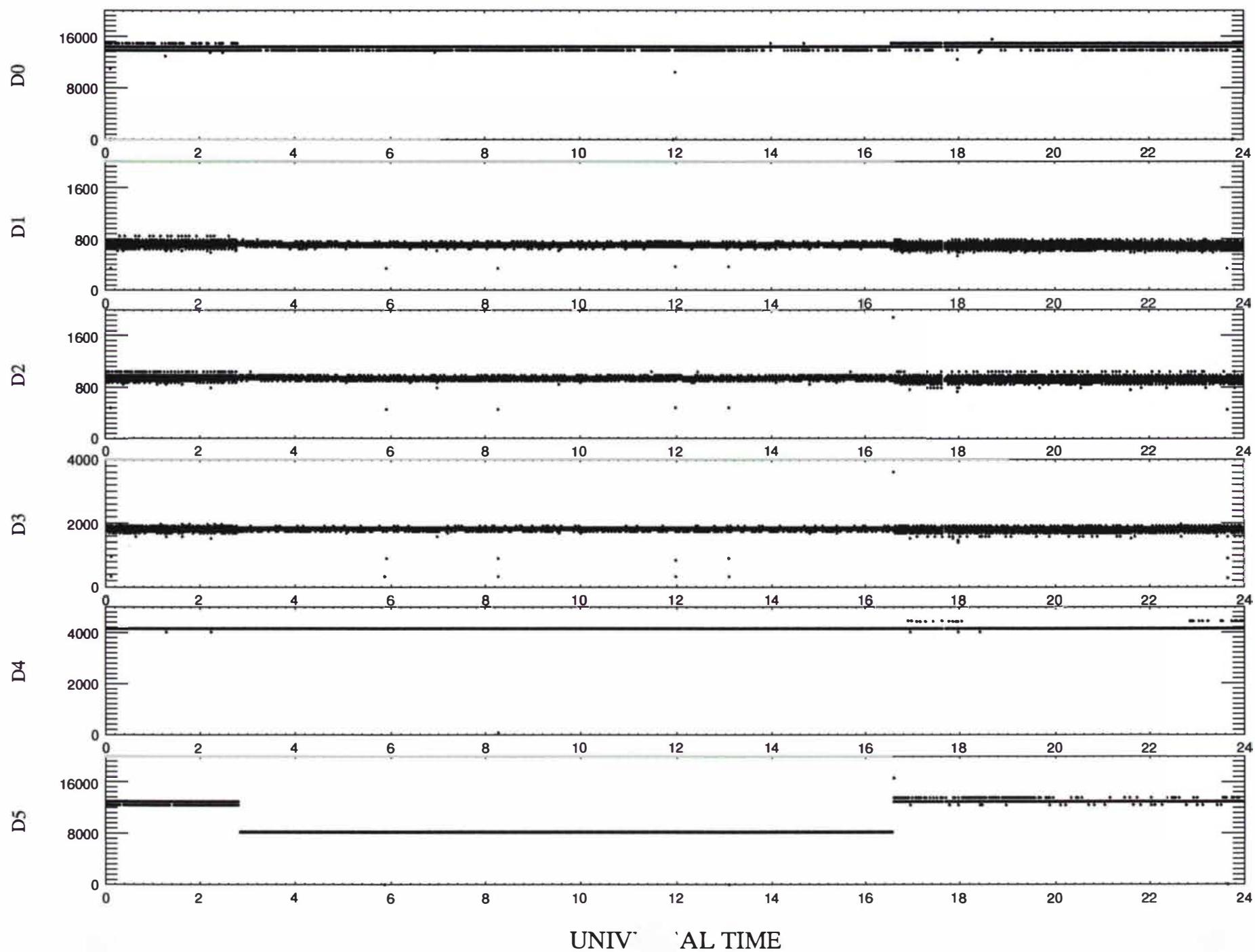
UNIV'AL TIME

Burst Counter 9 at UT=19.632934557597 h=70678.564 s 19:37:58.564



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Tue May 12 07:08:49 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 12 May 1998 9:08:26 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6743

TIME: TJD=0941 SECONDS=7013

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=117.1 AZIMUTH=352.6 ERROR=0.247 DEGREES

COMMENTS:

GOES M3.1, NO OPTICAL ID. STRONG SINGLE PULSE WITH SPIKEY SUBSTRUCTURE.
DURATION ABOUT 370S. NOT VISIBLE ABOVE 300 KEV.

From SURASAK@fender.msfc.nasa.gov Tue May 12 13:05:31 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA04258; Tue, 12 May 1998 13:05:29 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA06934; Tue, 12 May 1998 13:05:28 -0700
Date: Tue, 12 May 1998 15:05:30 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980512150530.20200174@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6744
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6744
EVENT OF 1998 MAY 8 DAY OF YEAR=128
EVENT CROSSING TIME AT BATSE : 14848. S. OR 04:07:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 334.000 21.000
BATSE PEAK COUNTING RATE: 40000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 5/ 98 IS:
RA= 149.059 DEC= 12.567 DIST= 5.153 AU
BATSE-ULYSSES DISTANCE = 770920169. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 33.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2133.98 SECS.
CROSSING TIME AT ULYSSES IS 16982. S. OR 04:43:01 +/- 331.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 5/ 98 IS:
RA= 45.935 DEC= 17.296 DIST= 2.479 AU
MARS-BATSE DISTANCE = 370931136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -473.83 SECS.
CROSSING TIME AT MARS IS 14374. S. OR 03:59:34 +/- 191.24 SECONDS

BATSE BURST TRIGGER

NO.: 6744

TIME: TJD=0941 SECONDS=14848

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=45.5 AZIMUTH=353.3 ERROR=1.77 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE. START AT ABOUT T-2S. DURATION ABOUT 8 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6744	980508	10941	14848	40000	334	+21	8

Date: 18/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Were data checked by Joe Springer for 0.5 s errors? N/A
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

- ☒ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)?
- ☒ BATSE ephemeris for T_0 ?
- ☒ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data N/A

- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

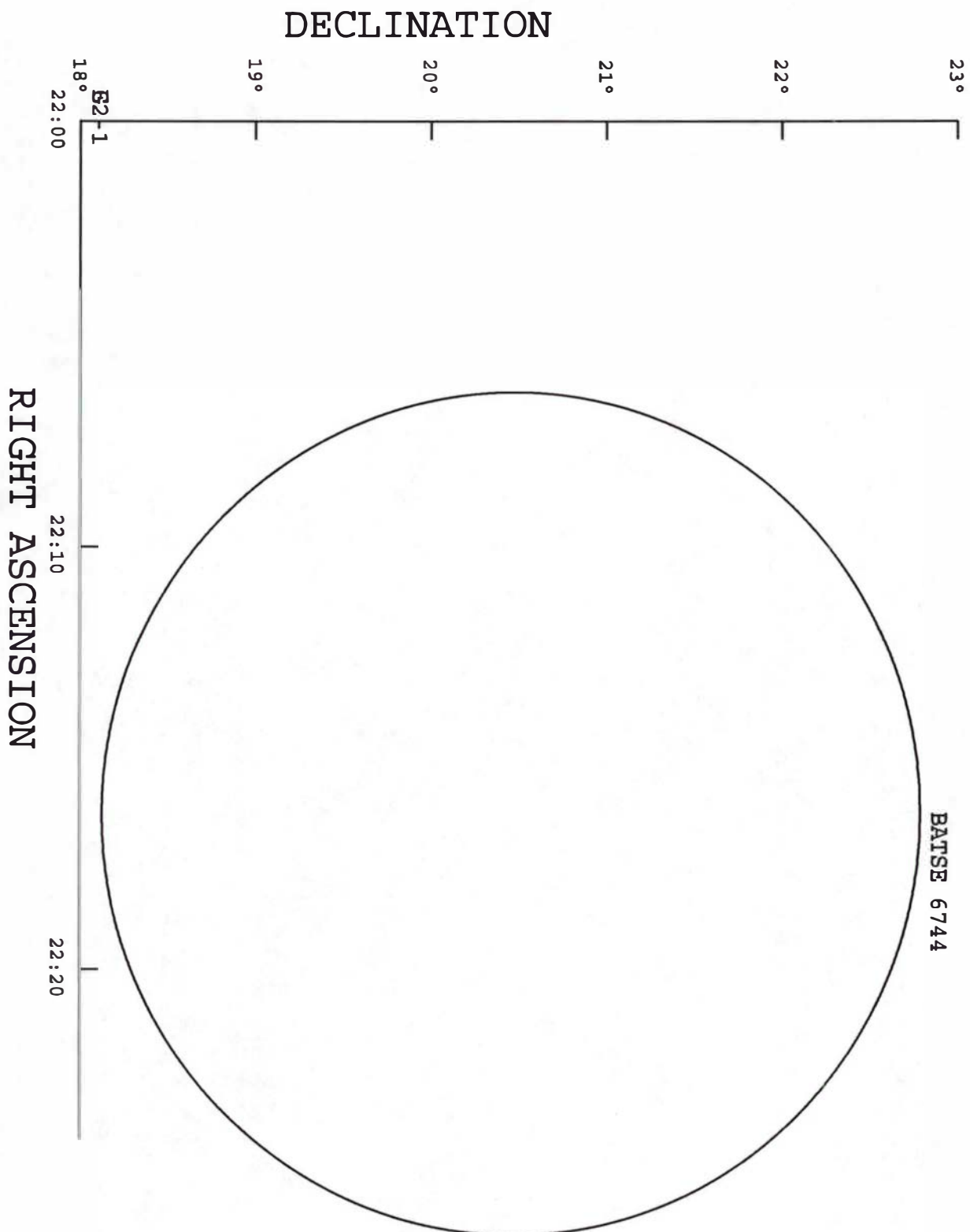
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAY 8, 1998 4:07

18 / 1 / 0



BATSE

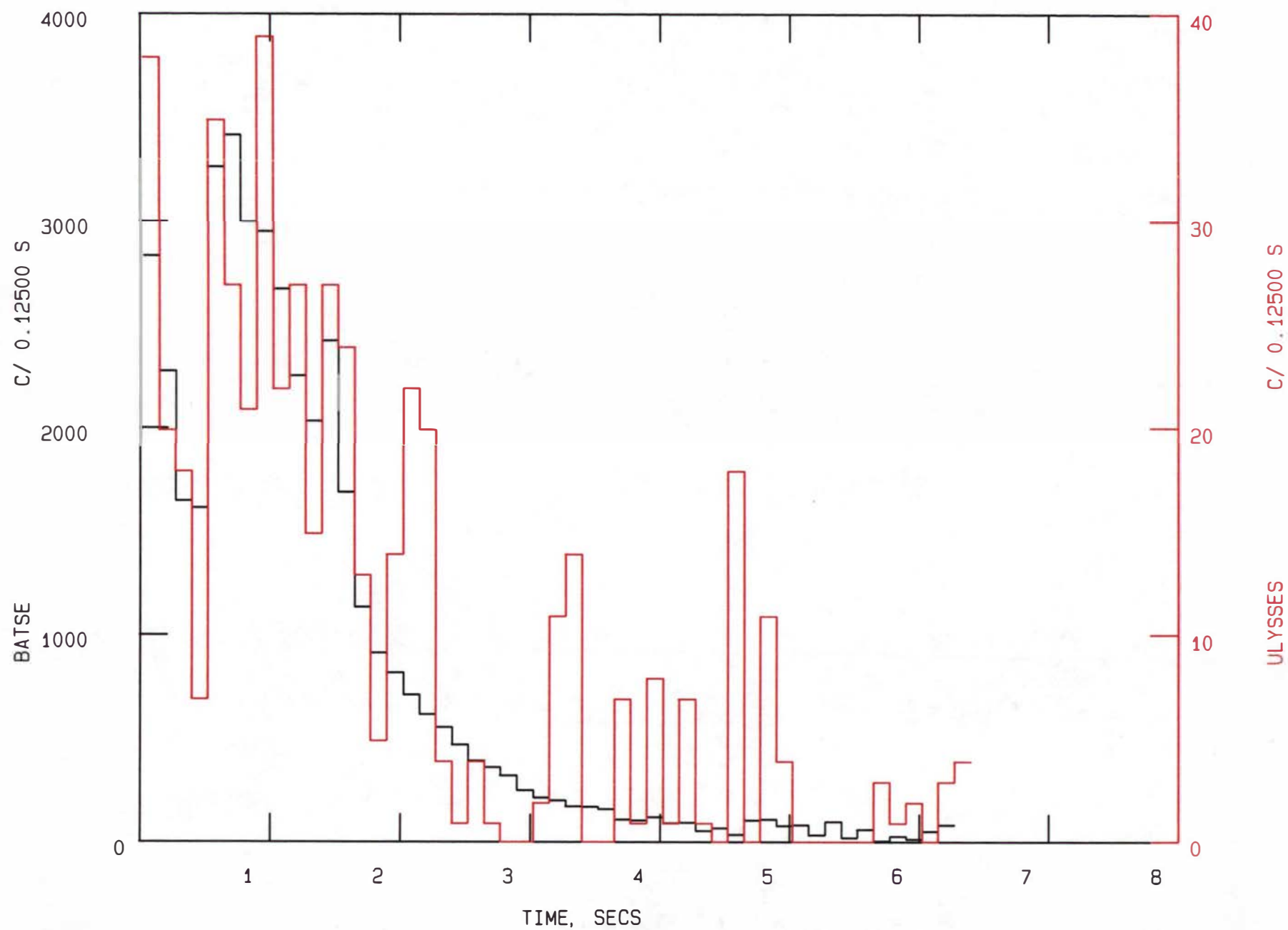
-ULYSSES

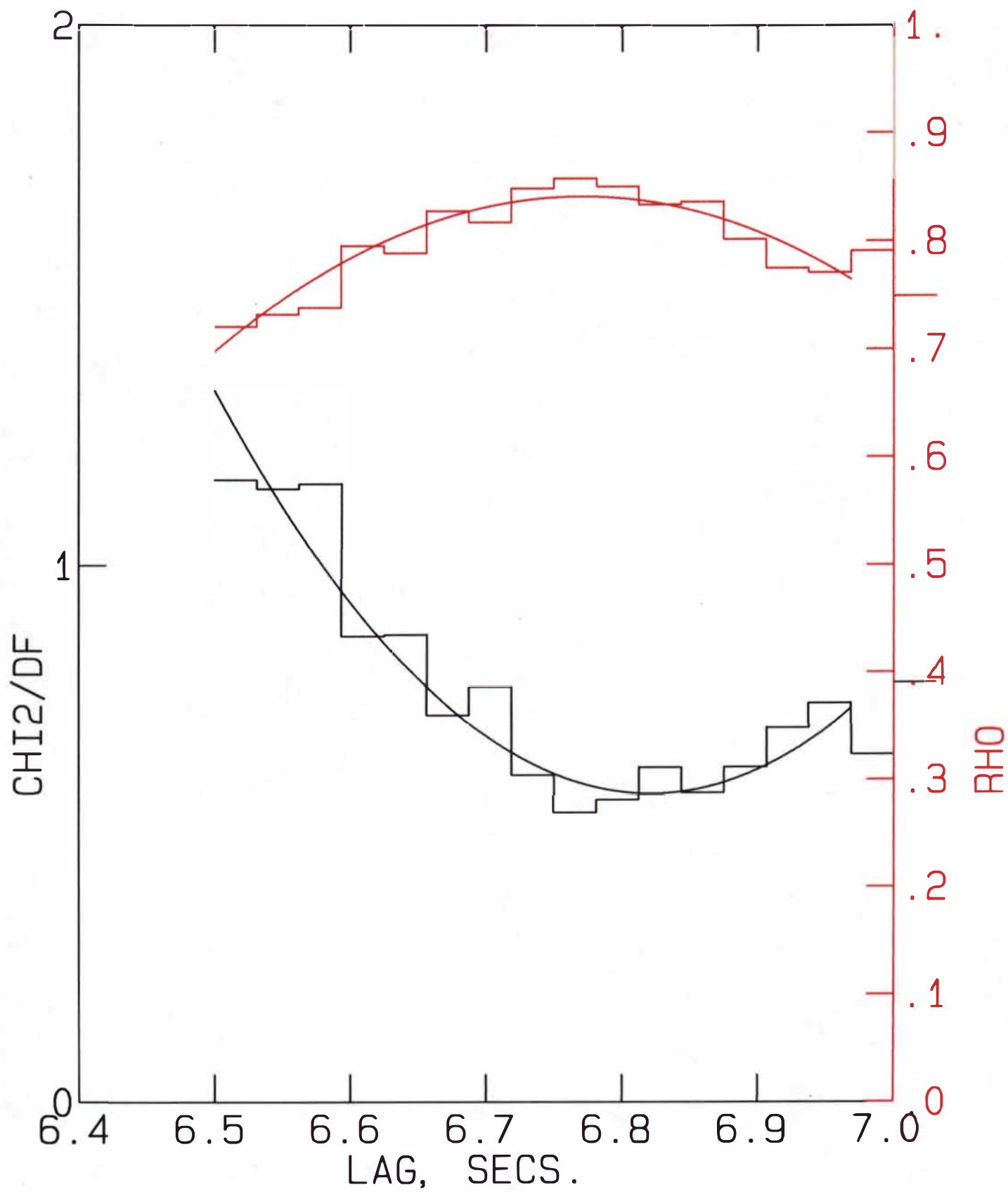
CORRELATION

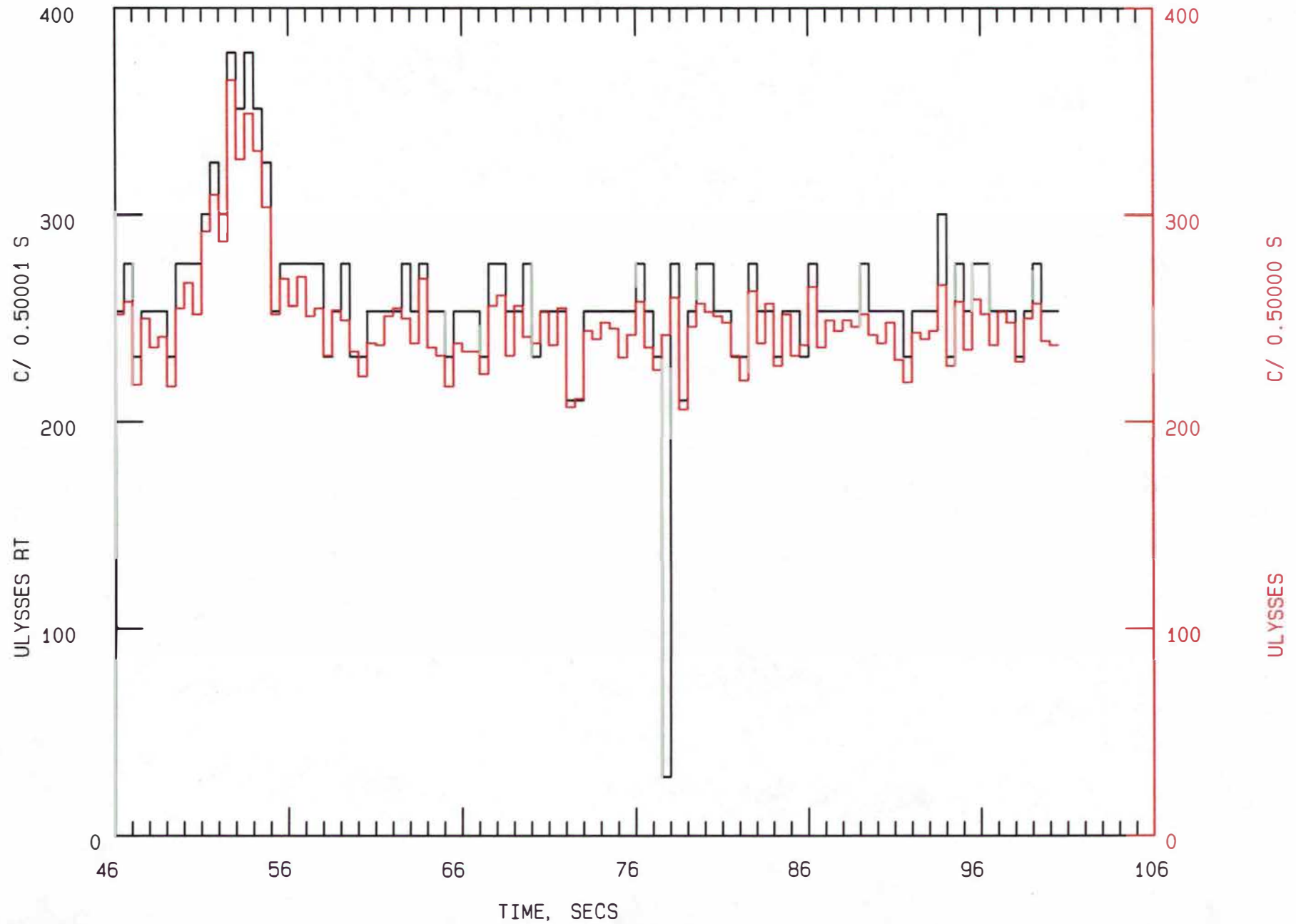
8/ 5/98

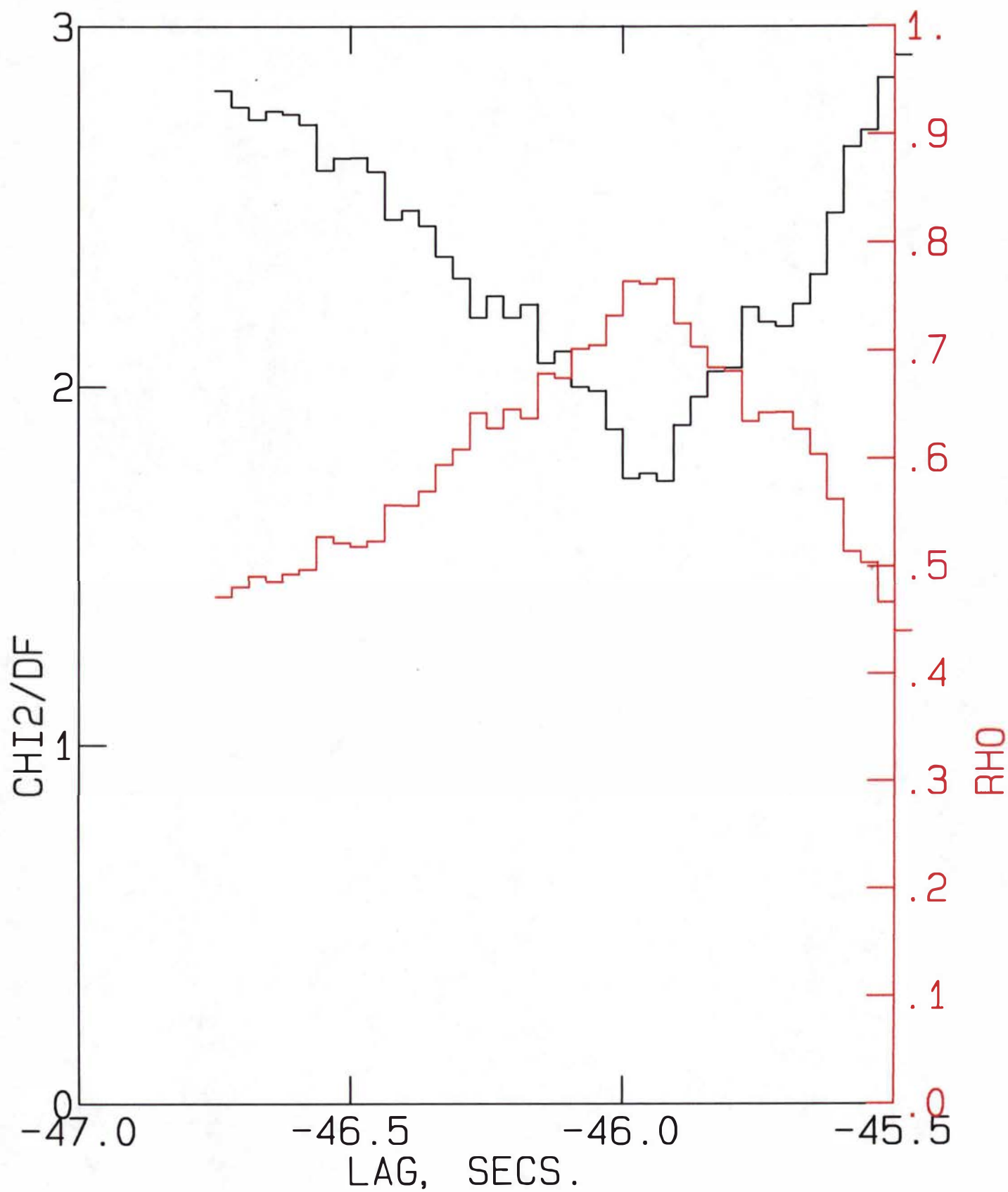
14848.801

18/ 1/ 0





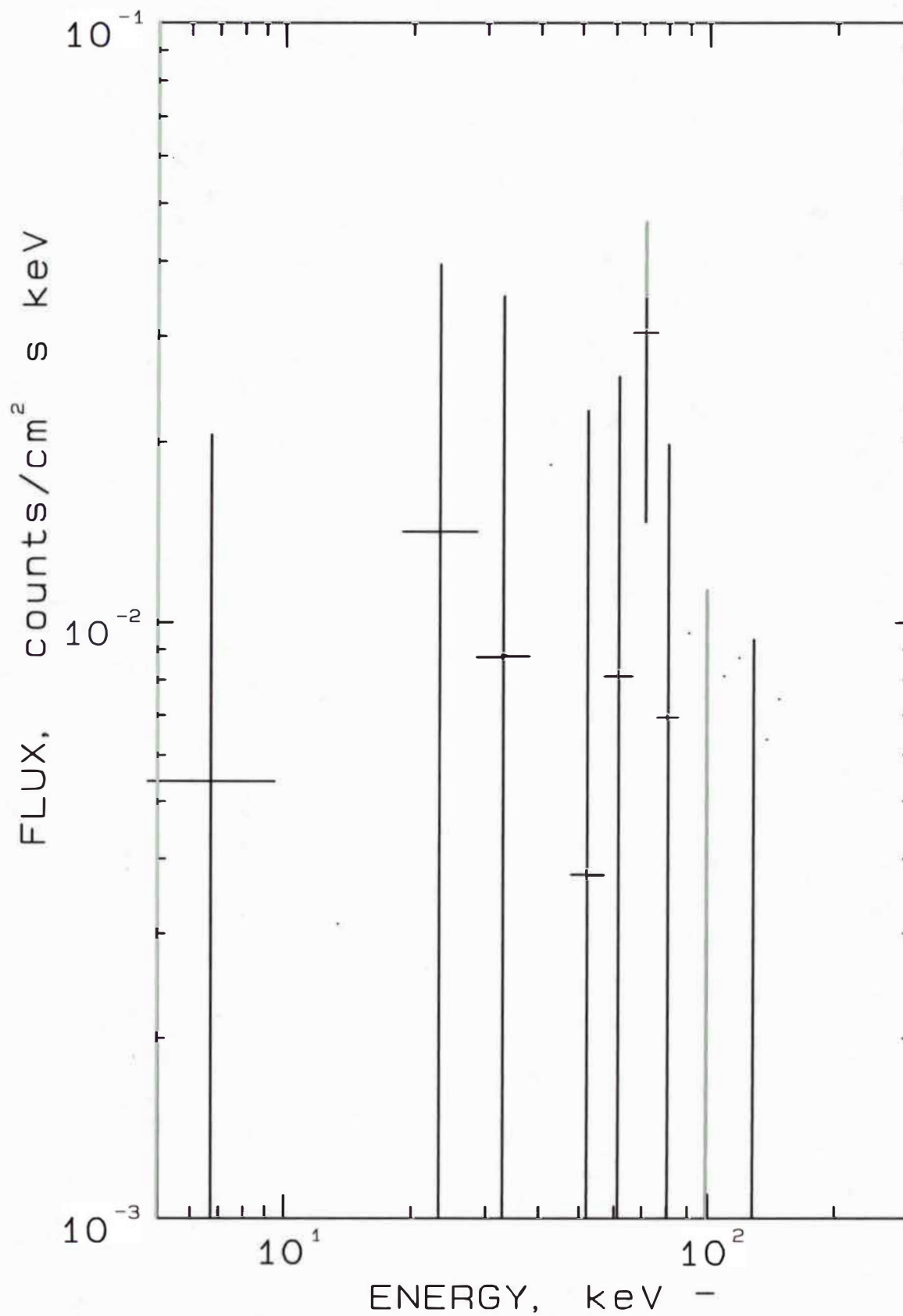




ULYSSES 08/05/98 16917.666

18/ 1/**

SPECTRUM INTEGRATED OVER 24.1 SECONDS, INTERVALS 1 TO 20



ULYSSES 08/05/98 16917.666 BURST SPECTRAL COUNT RATES

4- 18 keV

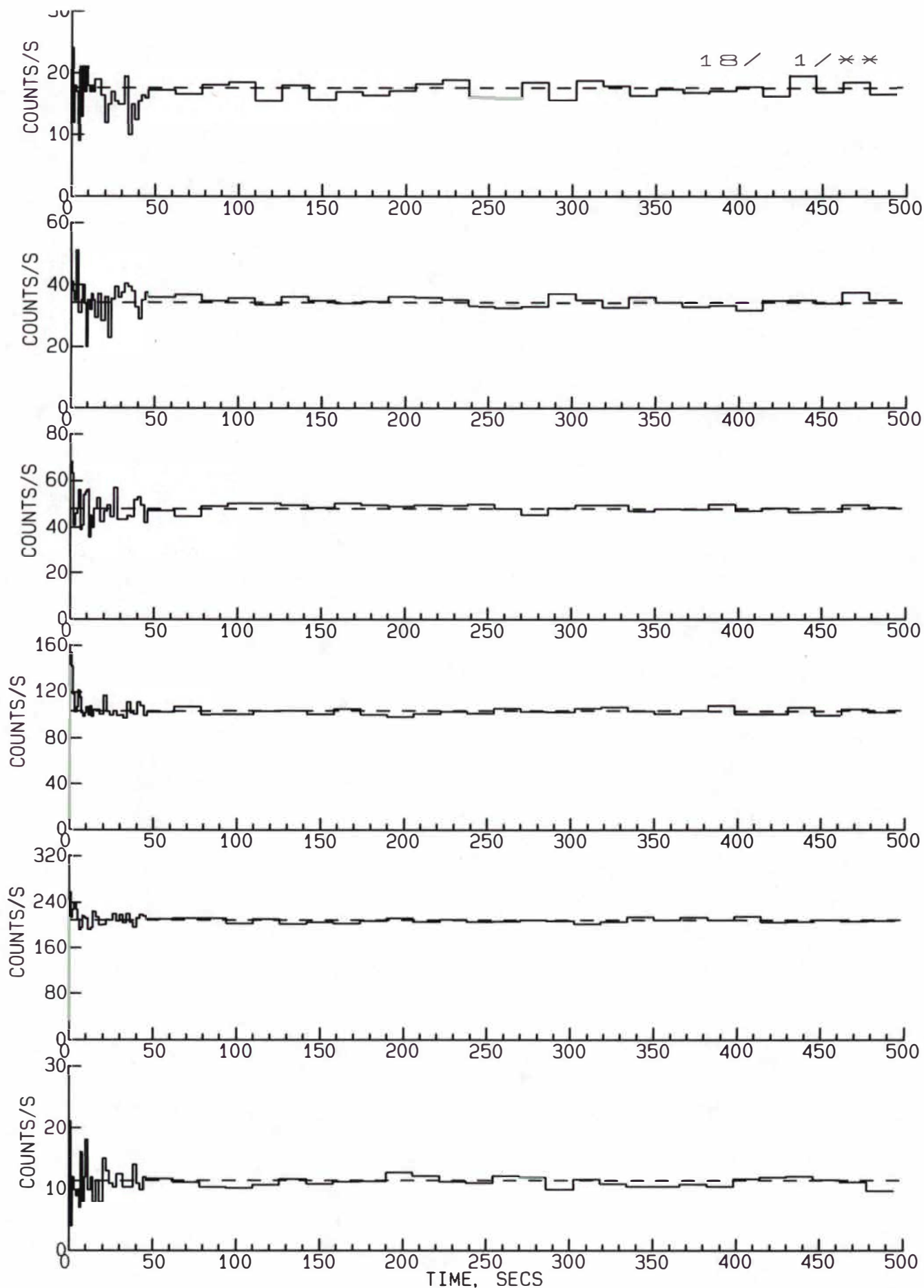
18- 47 keV

47- 75 keV

75-103 keV

103-132 keV

132-151 keV

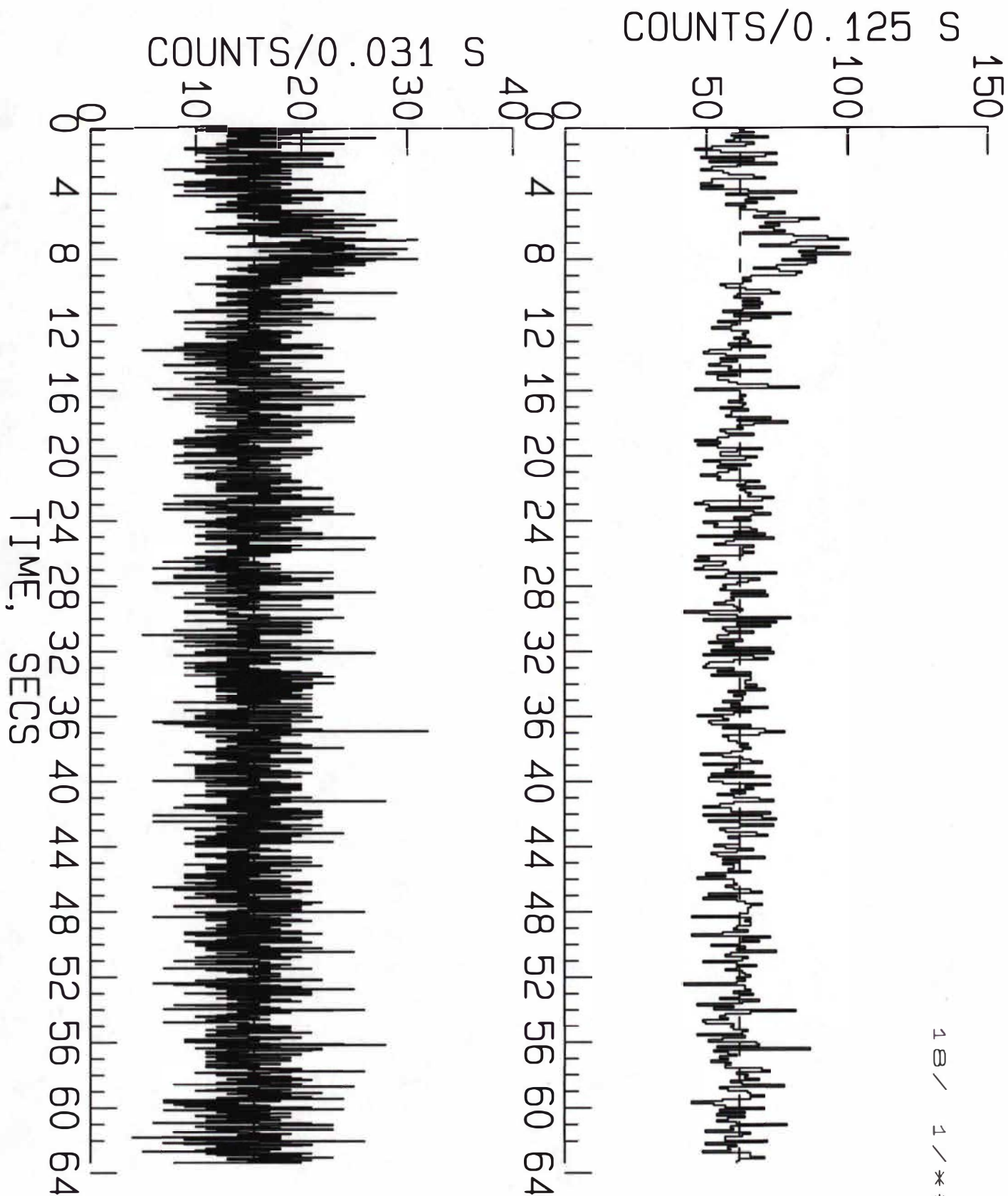


ULYSSES

08/05/98

Ttrig=16917.538

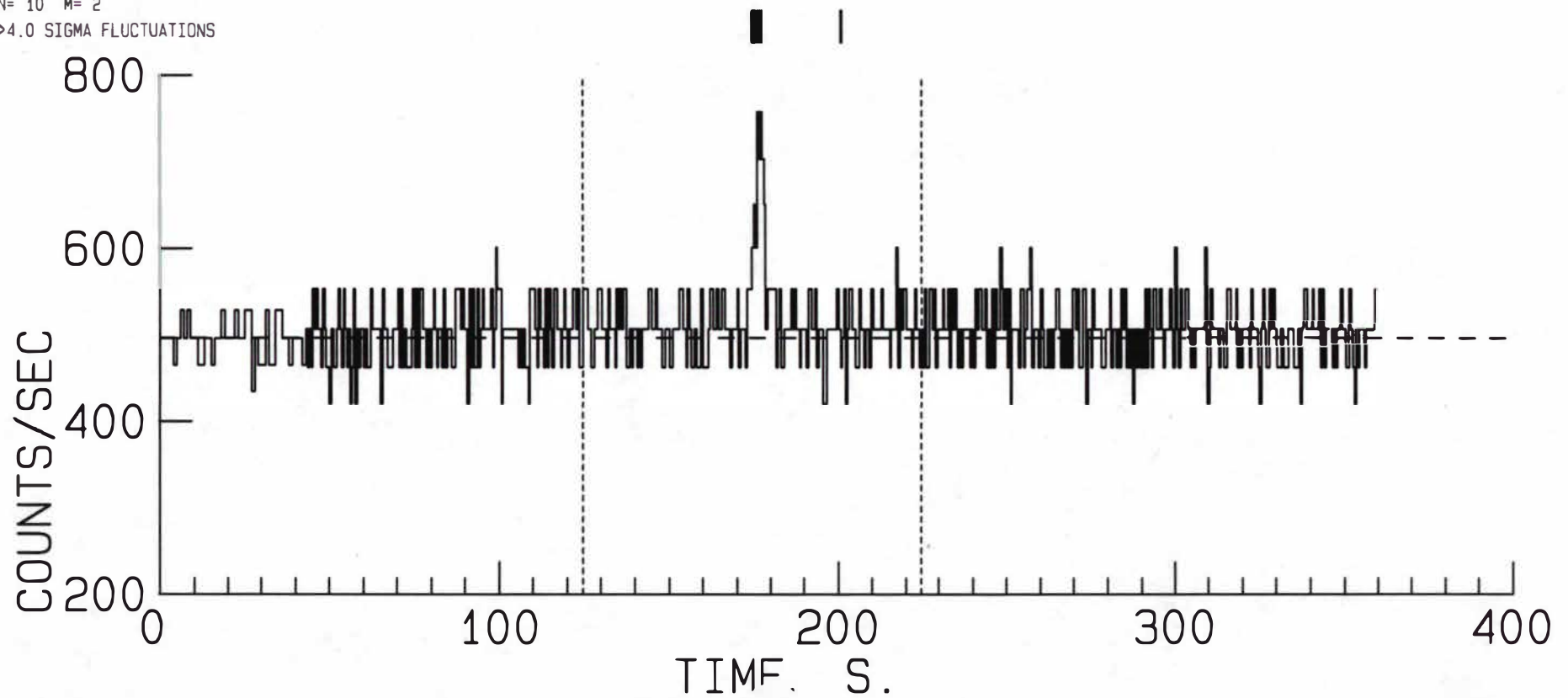
22- 151 keV



ULYSSES RT
8/ 5/98 16740.666 s
22- 151 keV

18 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



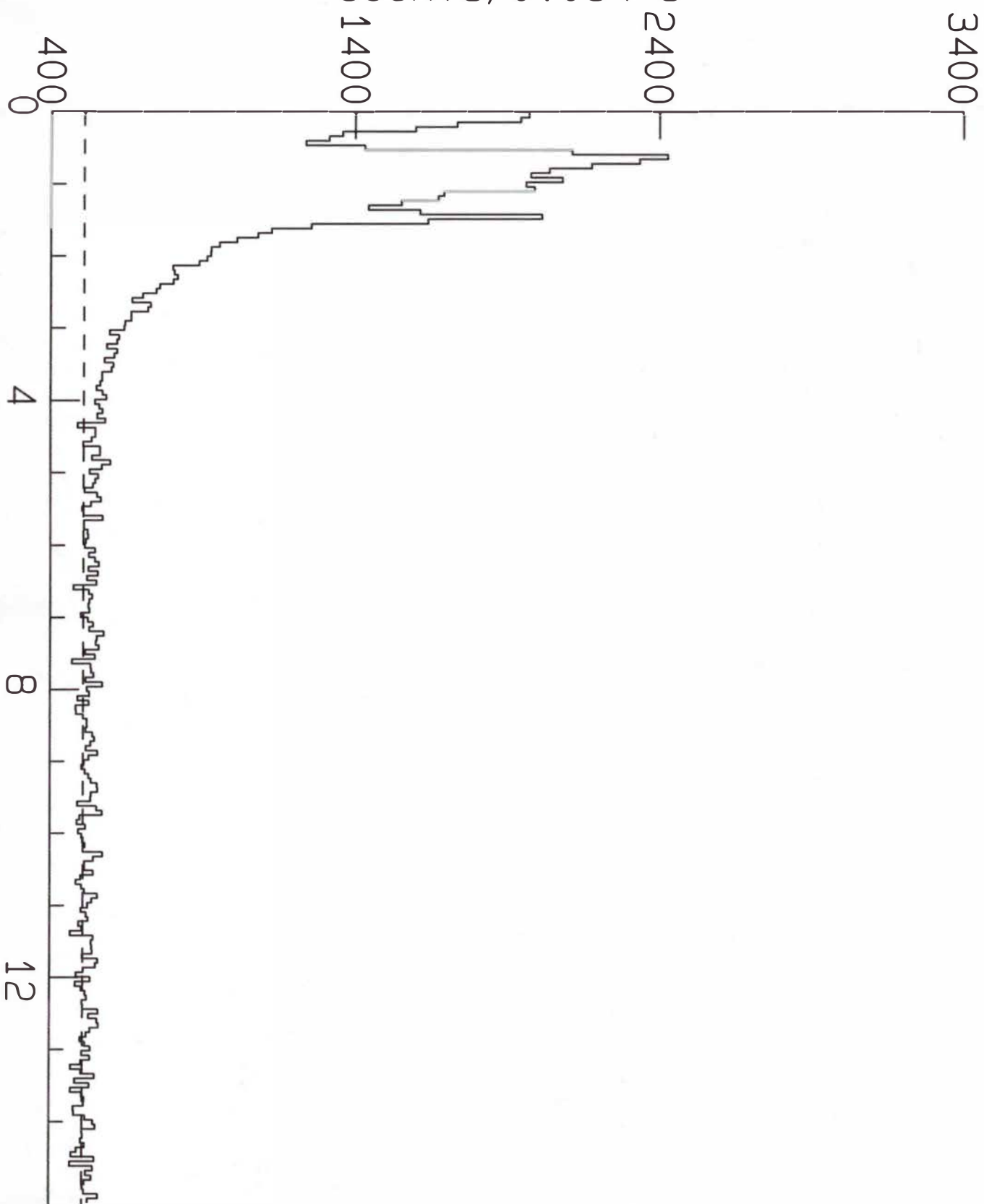
BATSE

08/05/98

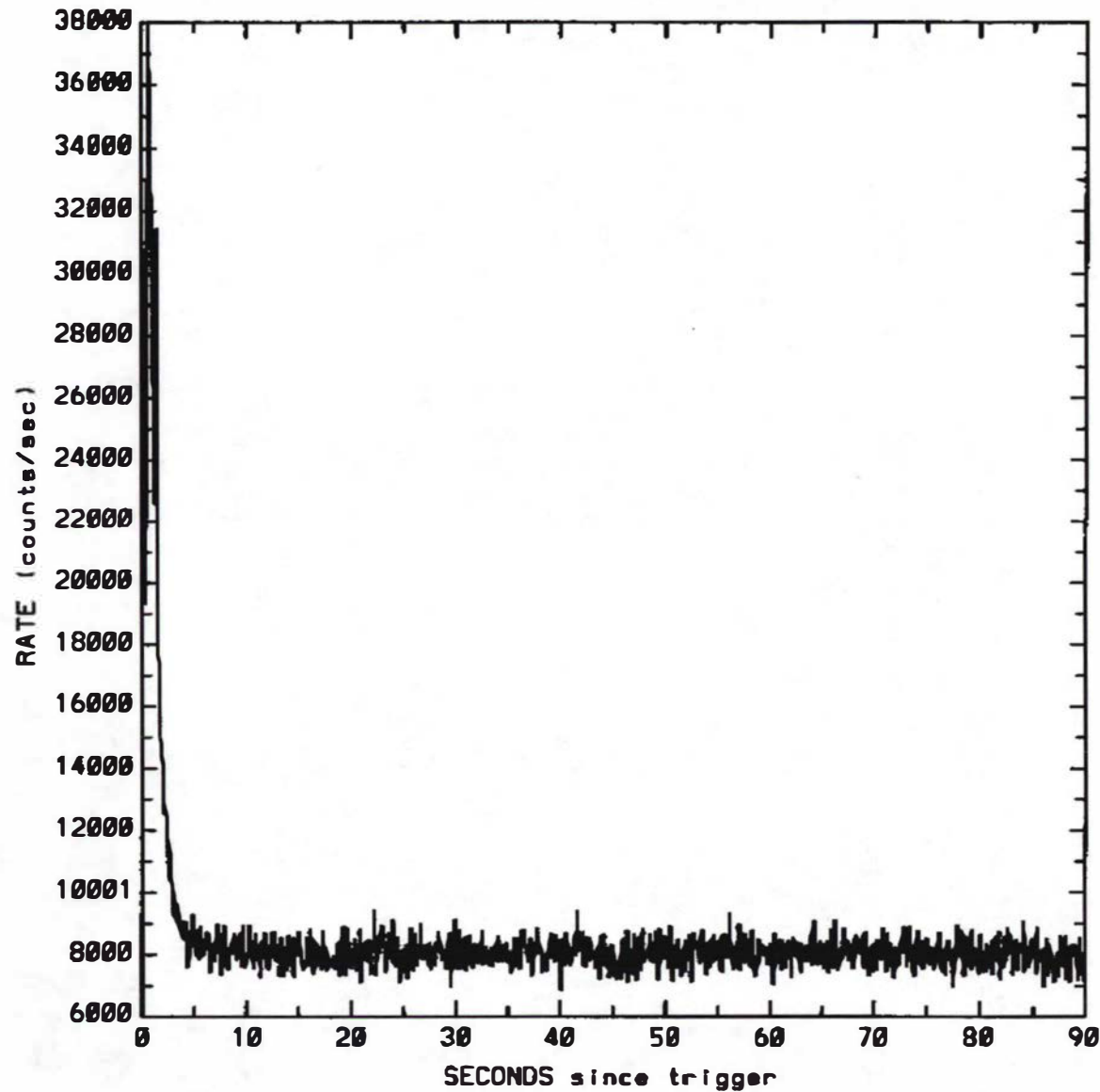
14848.801

25- 100 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 6744



22-MAY-1998 14:59.86

Created by MOPS 80
(Burst Display)
Version t2.25

Trigger # : 6744

Trigger Time:
18941 / 14848.881

Burst Data Type:
MER

Deadline
Corrected: N

Background Data
Type: CONT

Minimum Integ. Time:
0.864 second(s)

Detectors (7..8):
-----2-8

Channels:
(8 . 6)

Quality Mask:
8DISP1

From SURASAK@fender.msfc.nasa.gov Tue May 12 13:08:26 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA04285; Tue, 12 May 1998 13:08:25 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA06964; Tue, 12 May 1998 13:08:24 -0700
Date: Tue, 12 May 1998 15:08:13 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980512150813.20200174@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6745
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6745
EVENT OF 1998 MAY 8 DAY OF YEAR=128
EVENT CROSSING TIME AT BATSE : 43945. S. OR 12:12:25.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 271.000 -19.000
BATSE PEAK COUNTING RATE: 6100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 5/ 98 IS:
RA= 149.046 DEC= 12.554 DIST= 5.159 AU
BATSE-ULYSSES DISTANCE = 771752147. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1439.55 SECS.
CROSSING TIME AT ULYSSES IS 45385. S. OR 12:36:24 +/- 442.39 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 5/ 98 IS:
RA= 45.935 DEC= 17.296 DIST= 2.479 AU
MARS-BATSE DISTANCE = 370931136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 42.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 908.69 SECS.
CROSSING TIME AT MARS IS 44854. S. OR 12:27:33 +/- 159.59 SECONDS

BATSE BURST TRIGGER

NO.: 6745

TIME: TJD=0941 SECONDS=43945

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=33.5 AZIMUTH=215.8 ERROR=3.609 DEGREES

COMMENTS:

GRB. TRIPLE PULSE WITH SUBSTRUCTURE. START AT ~ T-10S. DURATION ABOUT 150S. MAX
AT ABOUT T+106S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6745	980508	10941	43945	6100	271	-19	150

BATSE BURST# 6745

ULYSSES RT

12 / 5 / 98

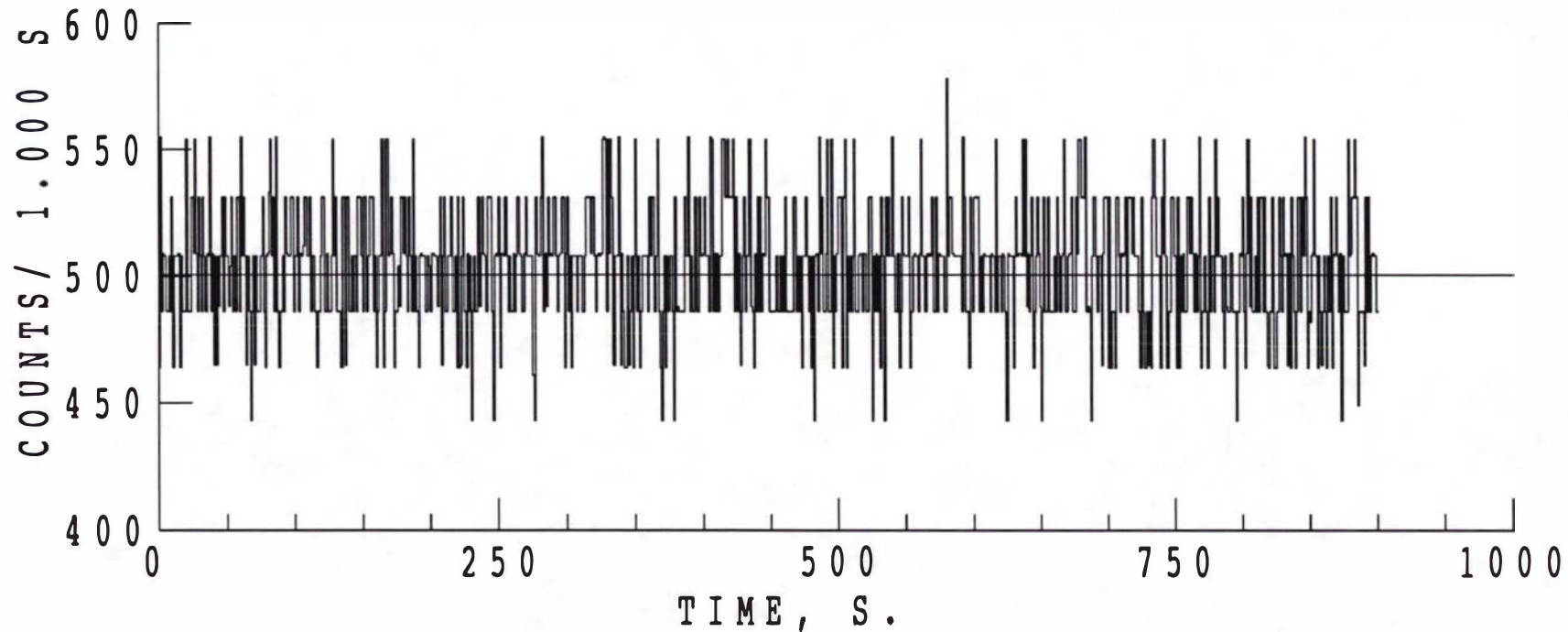
8 / 5 / 98 44928.469 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue May 12 09:29:25 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 12 May 1998 11:28:56 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6746

TIME: TJD=0941 SECONDS=85266

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

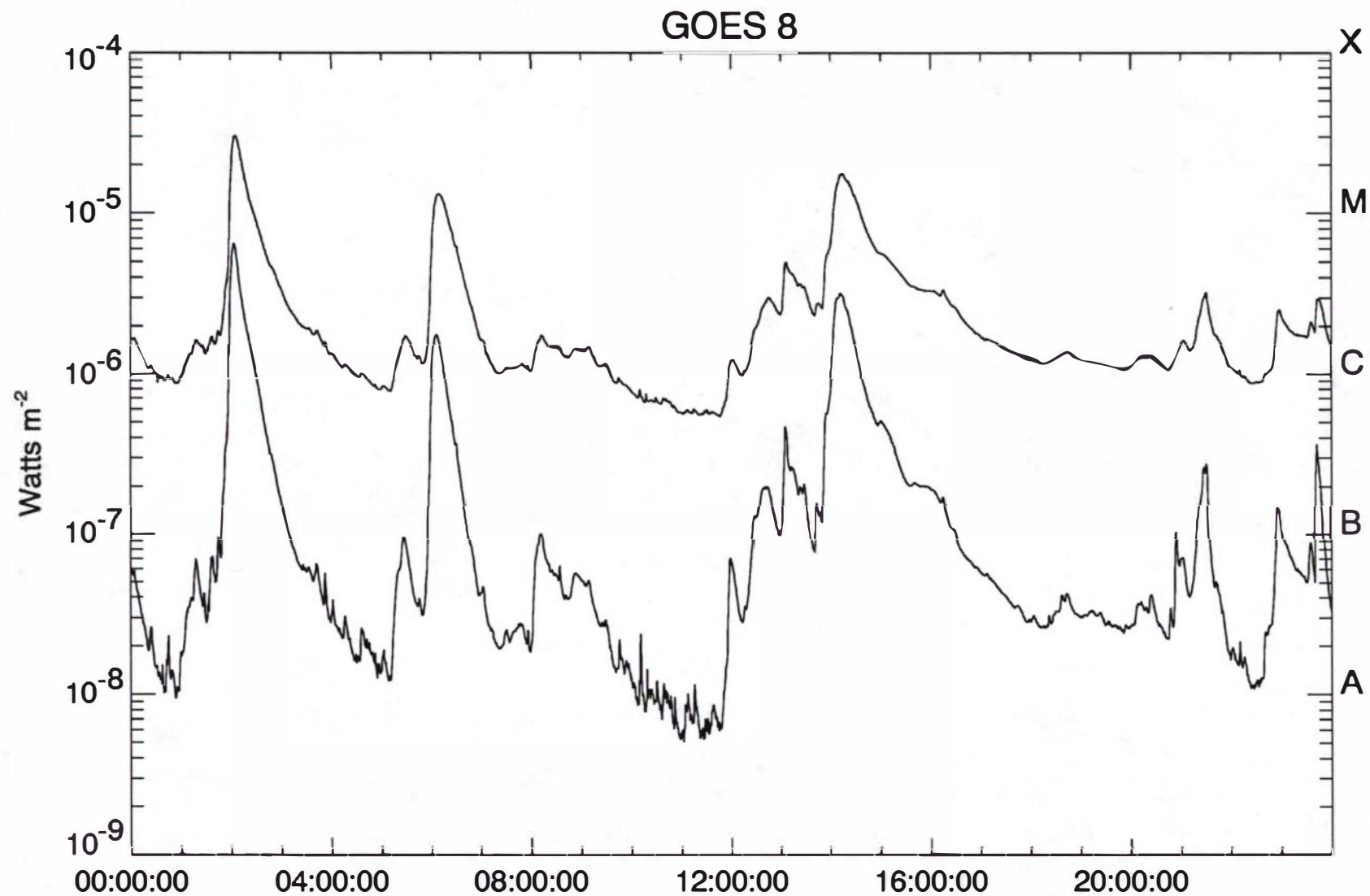
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.3 AZIMUTH=349.7 ERROR=.5266 DEGREES

COMMENTS:

GOES C3.2, NO OPTICAL. SINGLE PULSE WITH SUBSTRUCTURE. DURATION ABOUT 70S.
START AT ABOUT T-20S. NOT VISIBLE ABOVE 100 KEV.



Data Start: 98/05/08, 0000:00

Plot created: 98/05/12, 1007

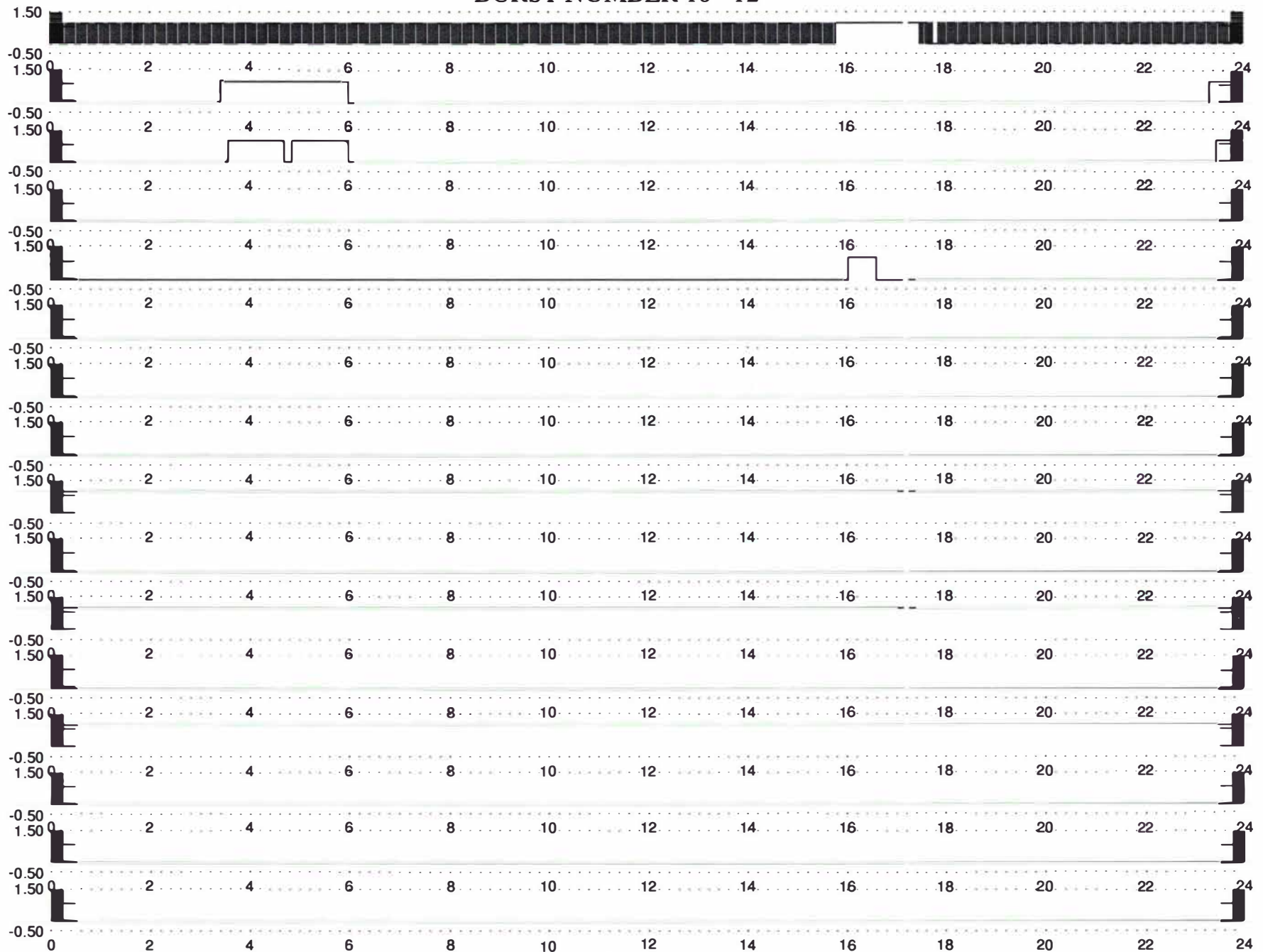
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

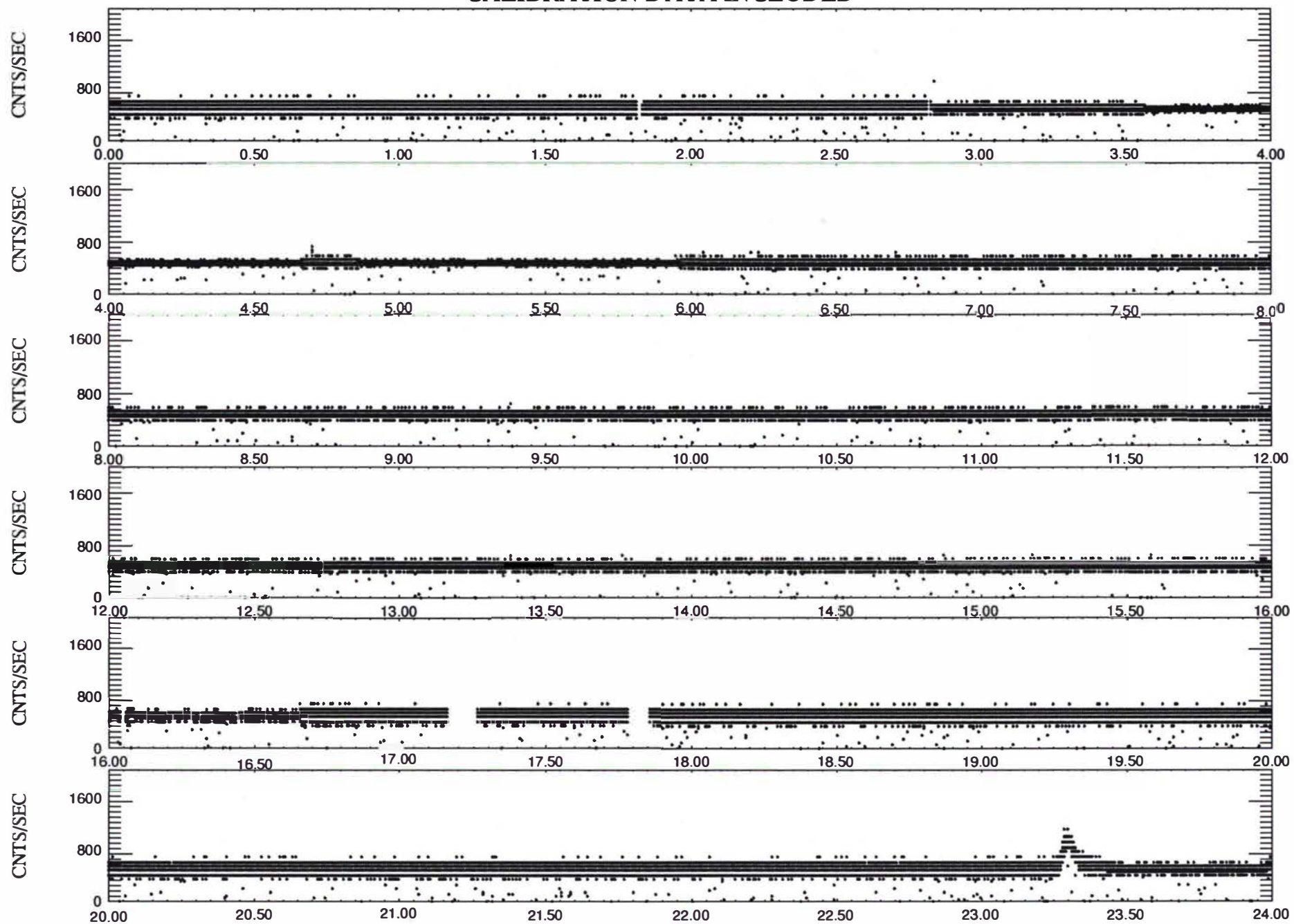
HUS
BRS
MEM
WCH
CAL
RSC
OPM
SPE
ICR
MP.
OSC
DMA
ROM
DMP
CCL
CBU

BURST NUMBER 10 - 12



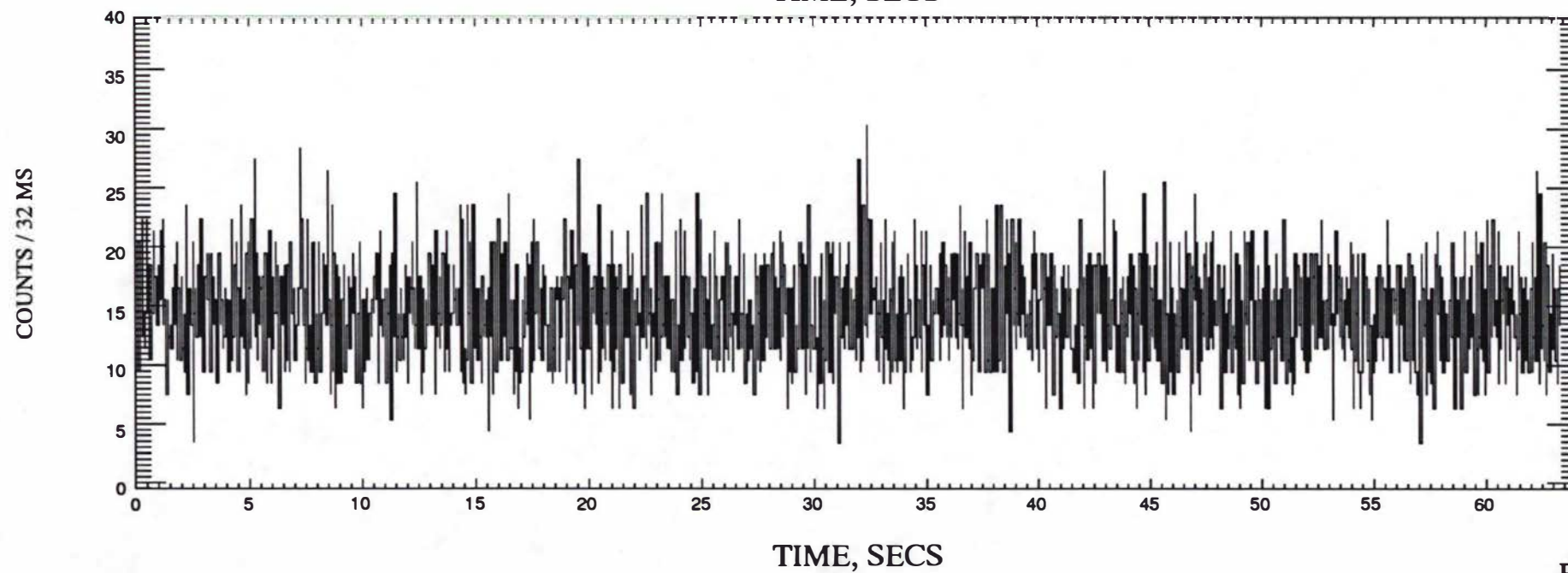
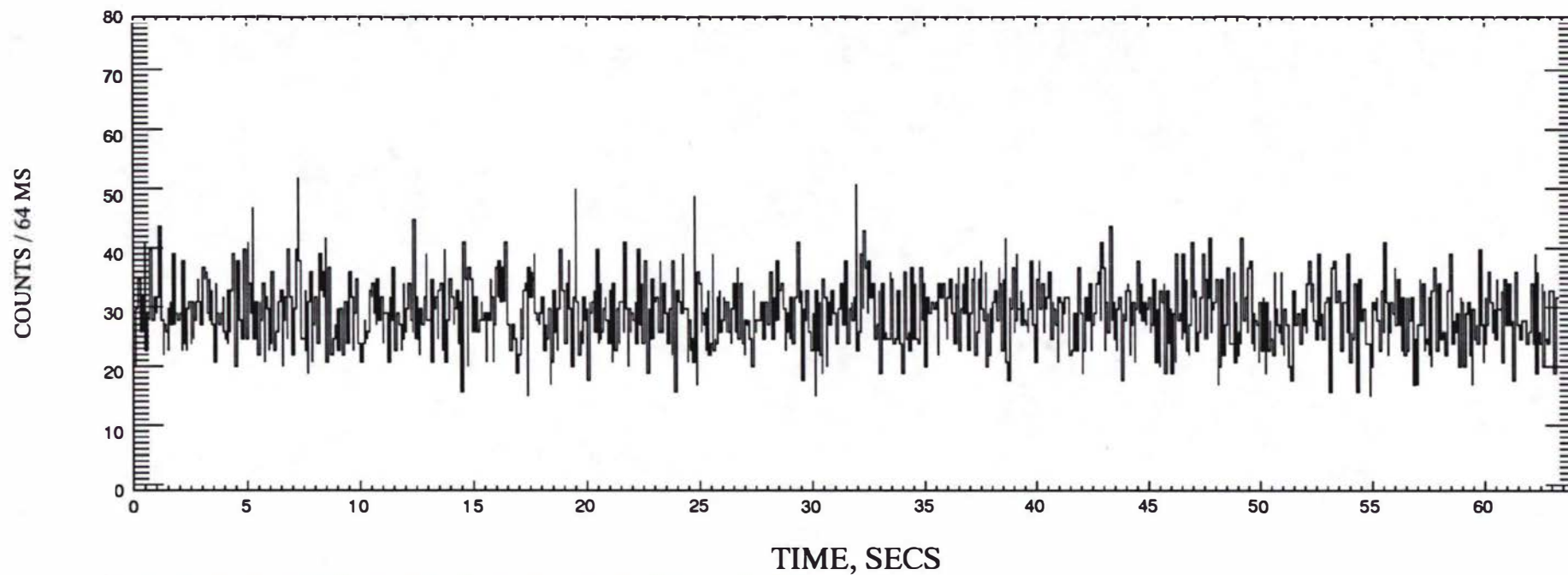
UNIV AL TIME

CALIBRATION DATA INCLUDED

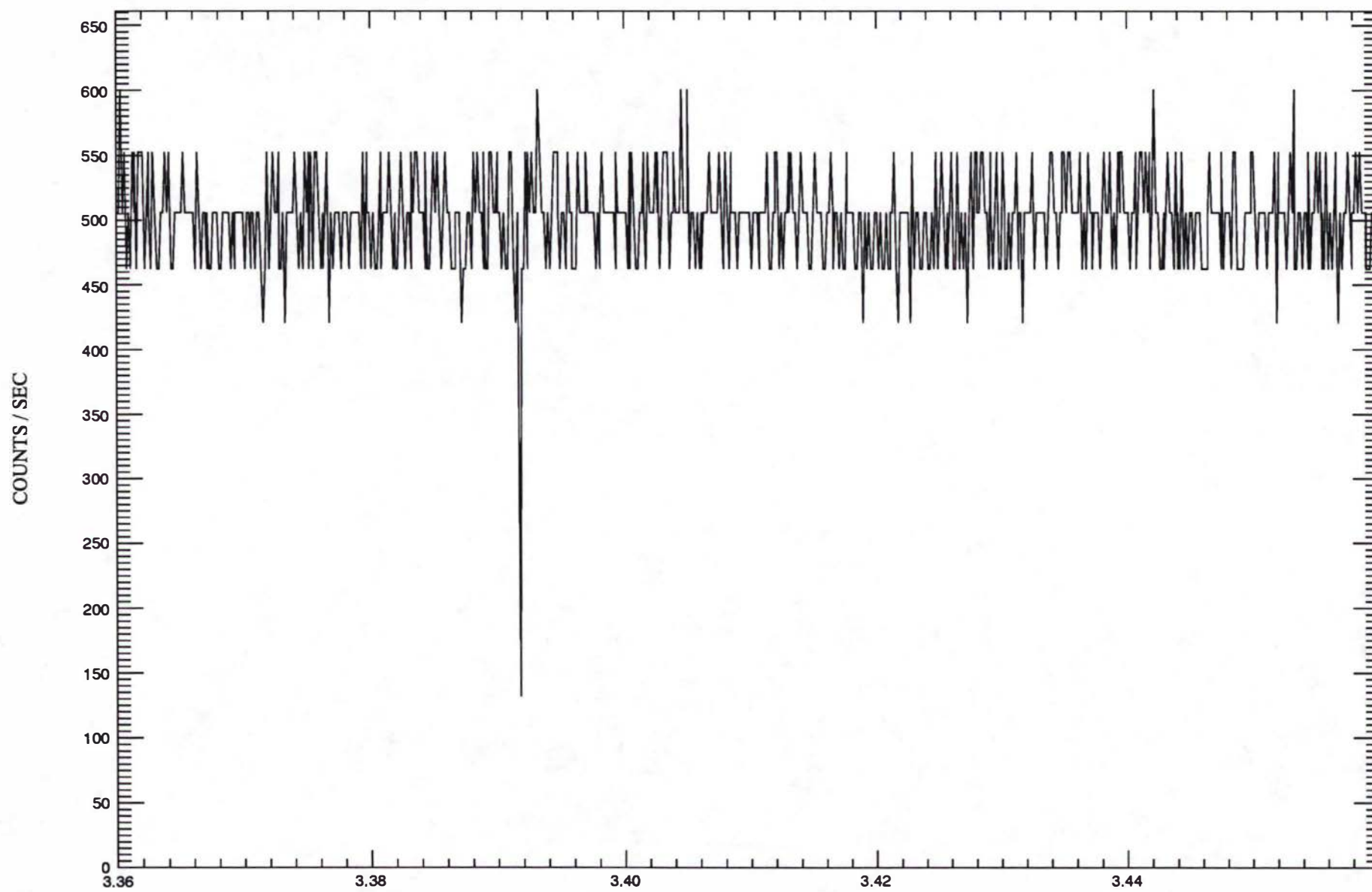


UNIV 'AL TIME

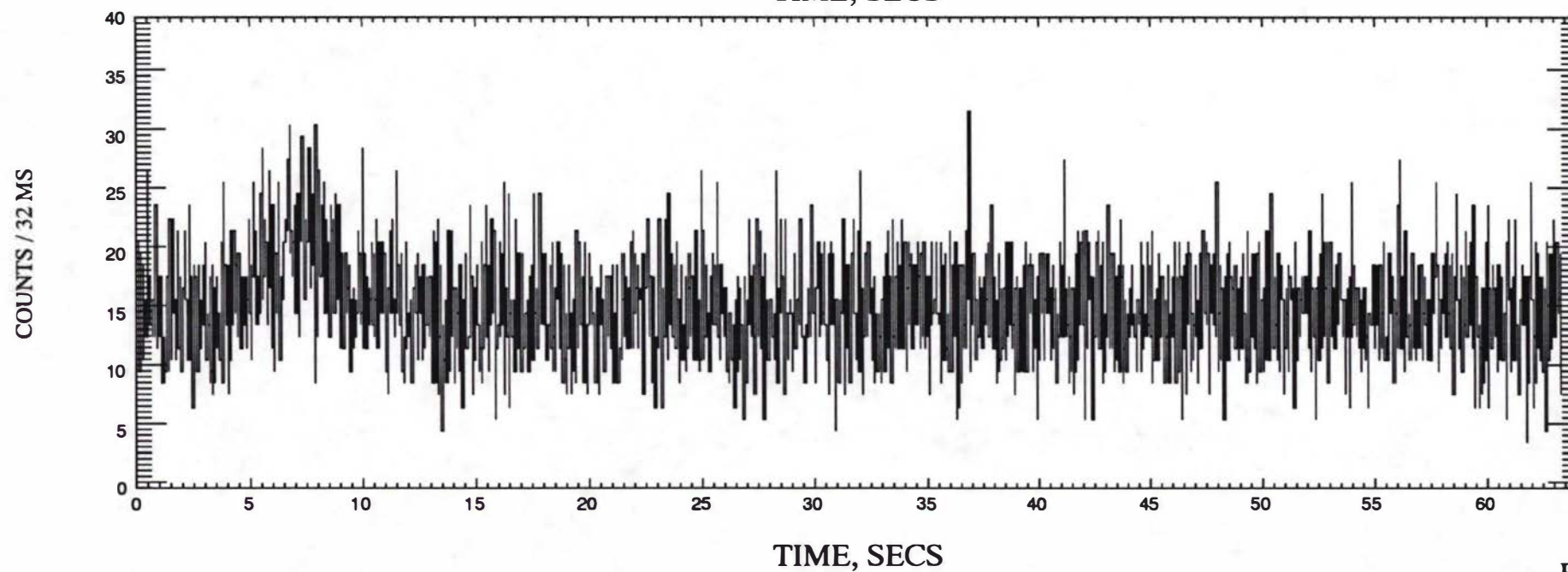
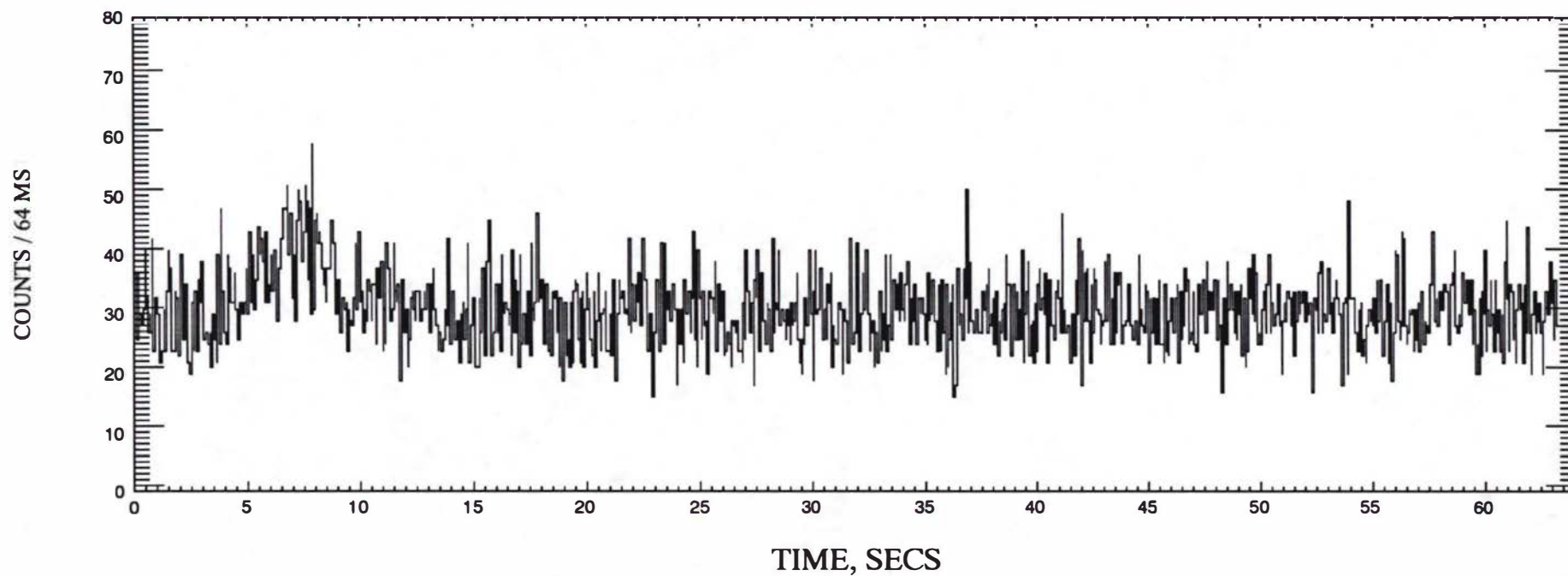
Burst Counter 10 at UT= 3.405307371351 h=12259.107 s 03:24:19.107



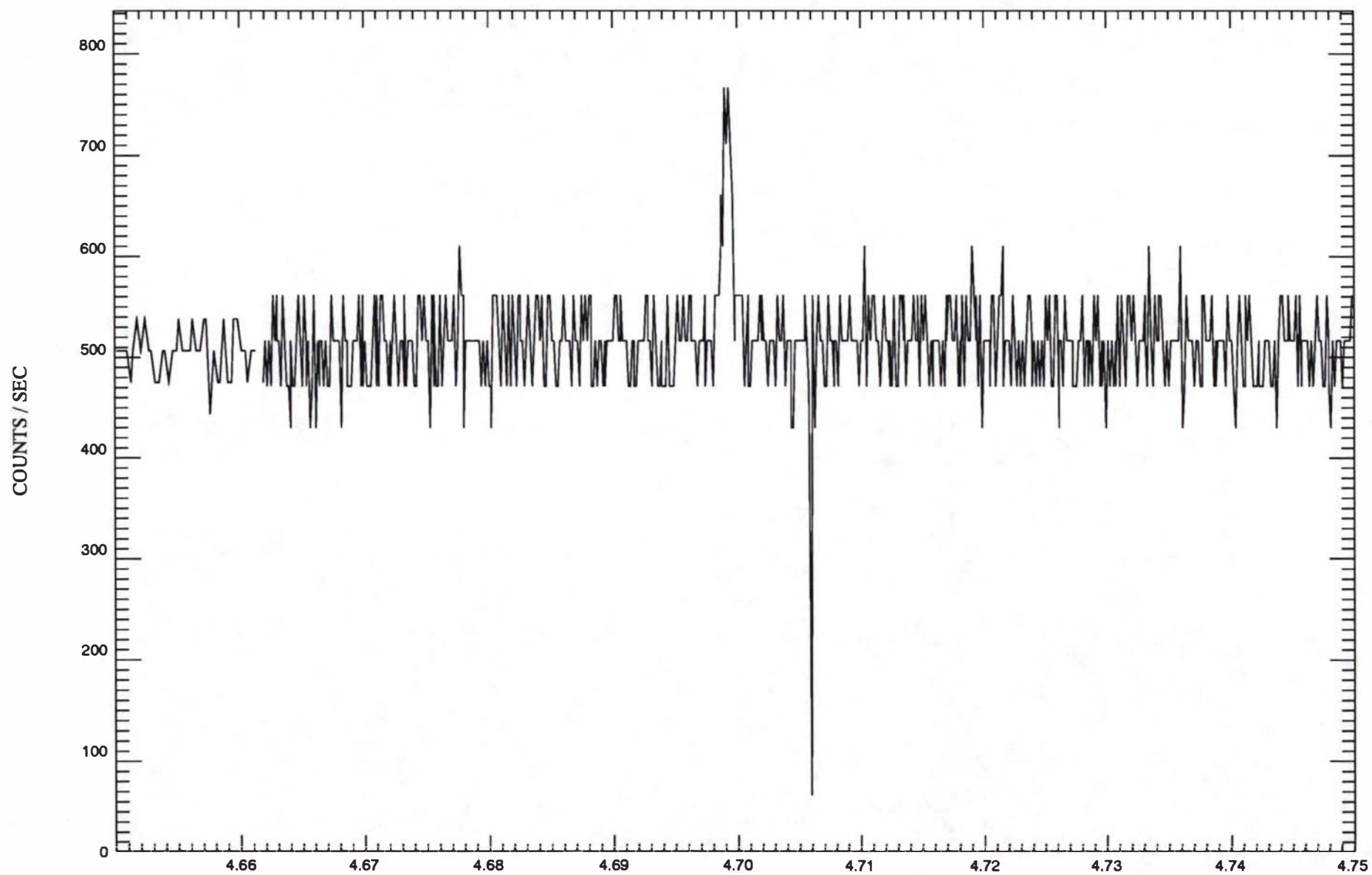
CALIBRATION DATA INCLUDED



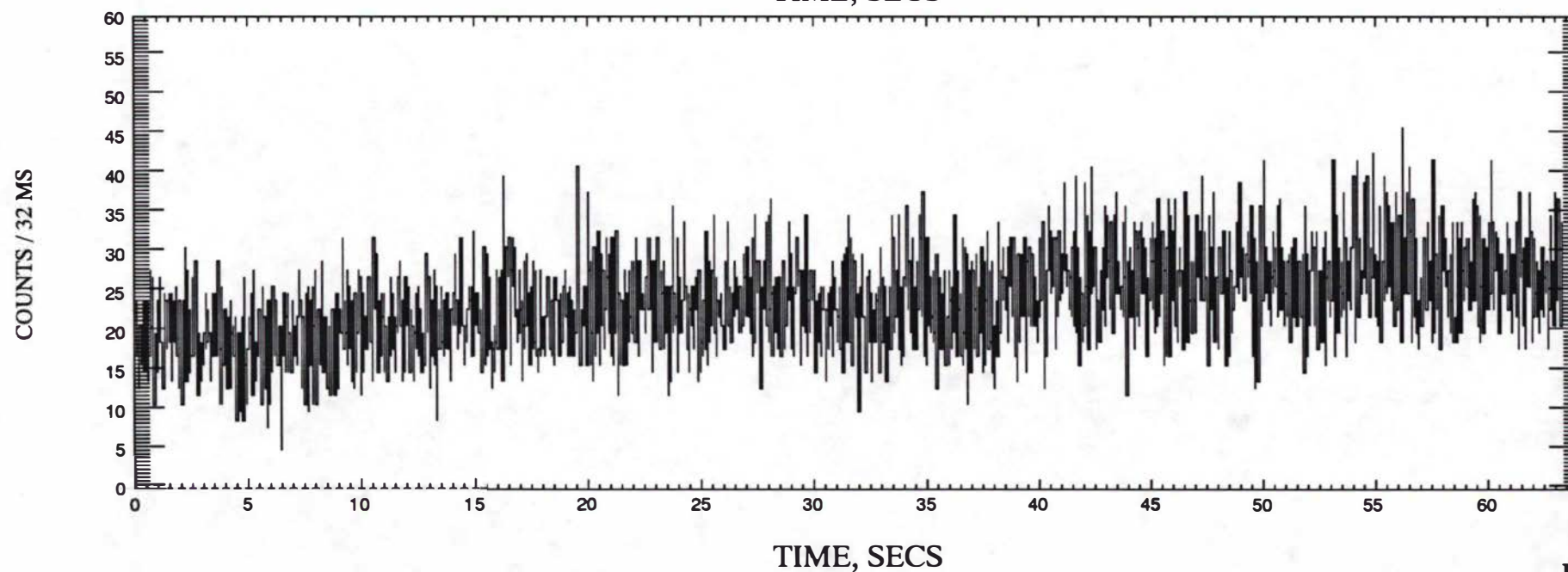
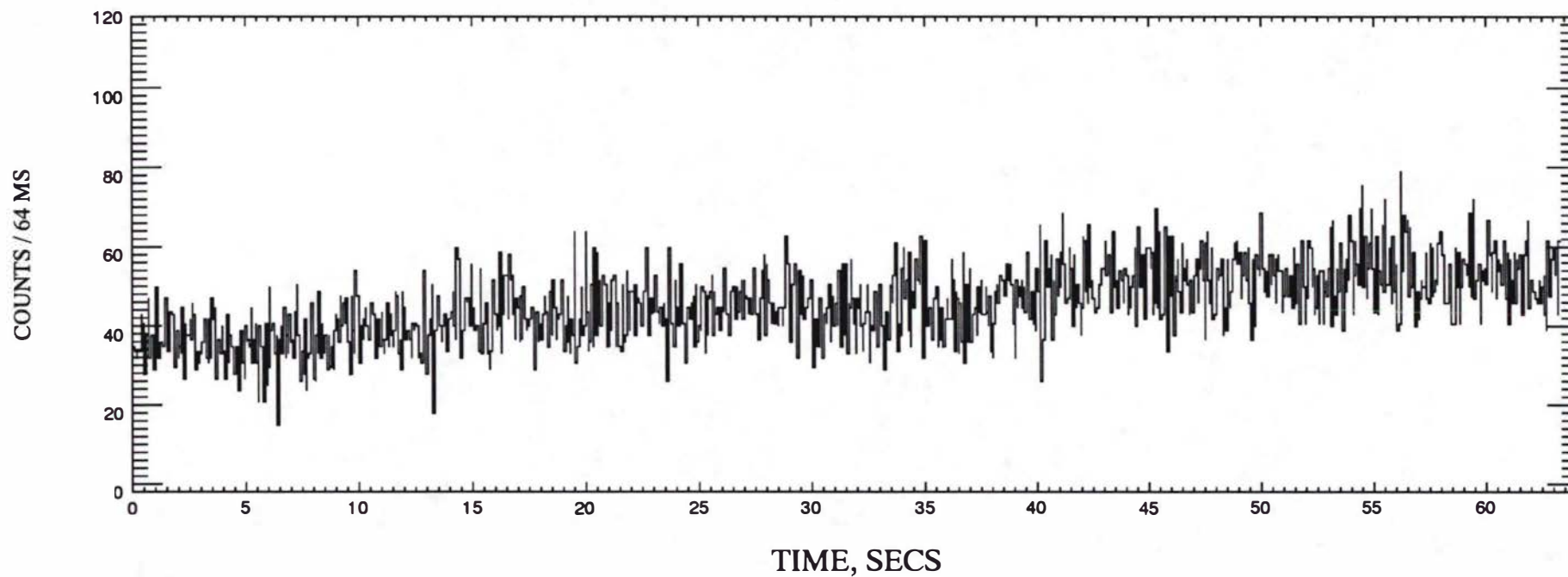
Burst Counter 11 at UT= 4.699314079285 h=16917.531 s 04:41:57.531



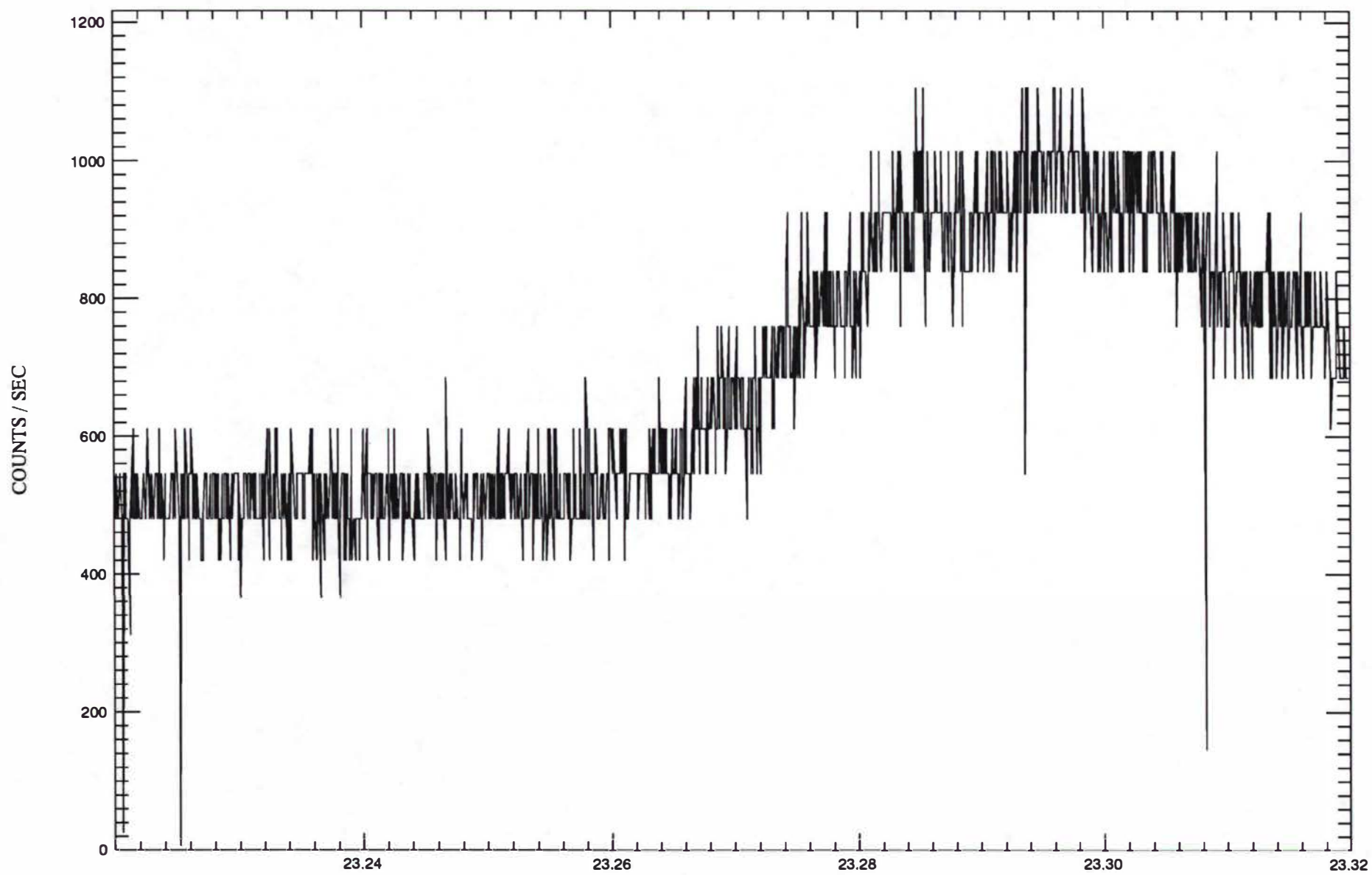
CALIBRATION DATA INCLUDED

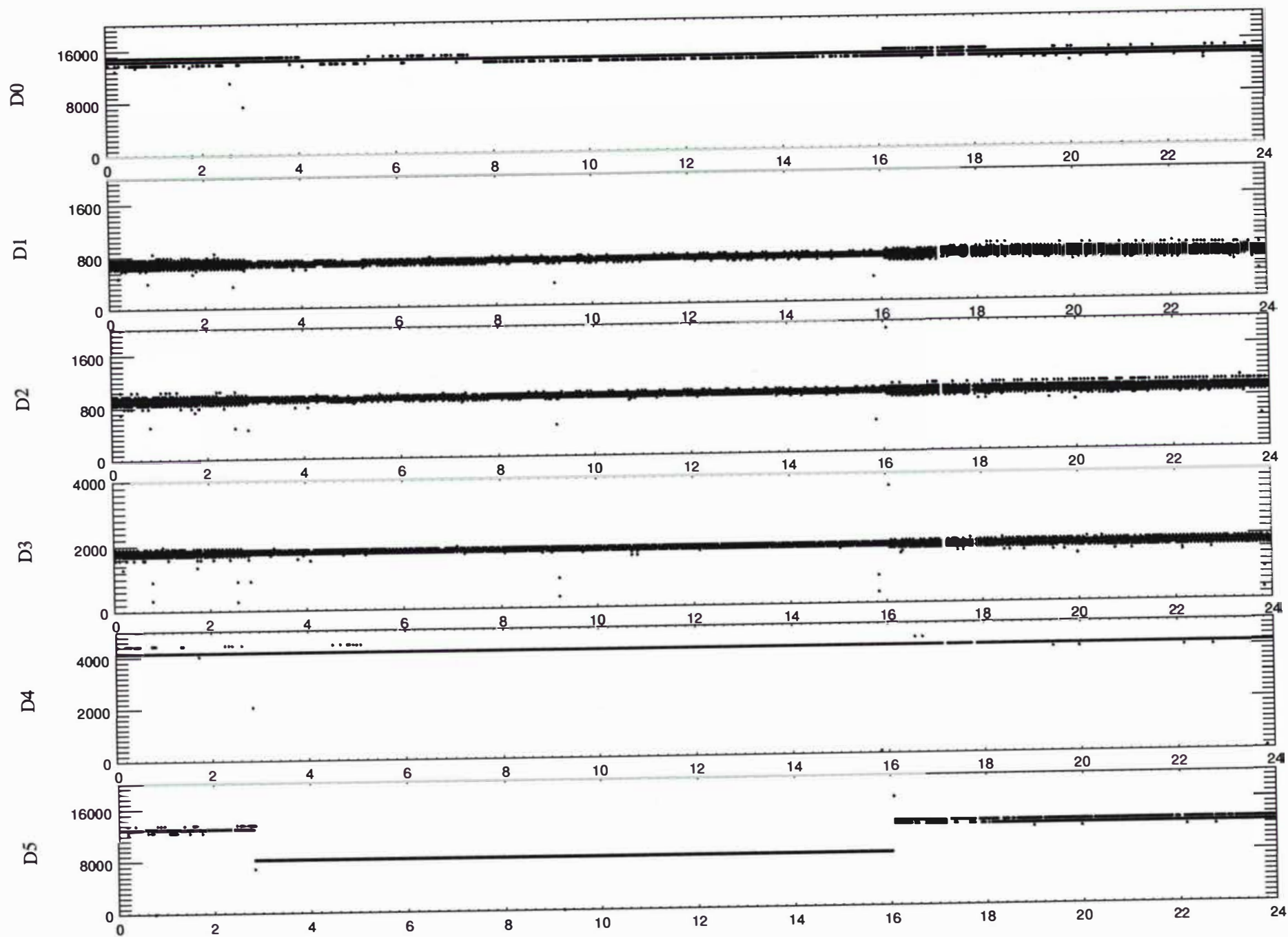


Burst Counter 12 at UT=23.271840875414 h=83778.627 s 23:16:18.627



CALIBRATION DATA INCLUDED





UNIV 'AL TIME

From RICHARDSON@fender.msfc.nasa.gov Mon May 11 11:09:03 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 11 May 1998 13:08:47 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6747

TIME: TJD=0942 SECONDS=11981

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE. GOES M7.7, NO OPTICAL. PRE-EMISSION BEGINS AT APPROX. T-980 SEC.
EMISSION ENDS WITH EARTH OCCULTATION AT APPROX. T+140 SEC. TOTAL DURATION
AT LEAST 1120SEC. NOT VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Mon May 11 11:12:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 11 May 1998 13:12:19 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6748

TIME: TJD=0942 SECONDS=20164

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.4 AZIMUTH=352.4 ERROR=0.6 DEGREES

COMMENTS:

SOLAR FLARE. GOES C6.2, NO OPTICAL. LOTS OF STUCTURE. DURATION APPROX. =
150 SEC. NOT VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Mon May 11 11:16:17 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 11 May 1998 13:16:05 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6749

TIME: TJD=0942 SECONDS=39710

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

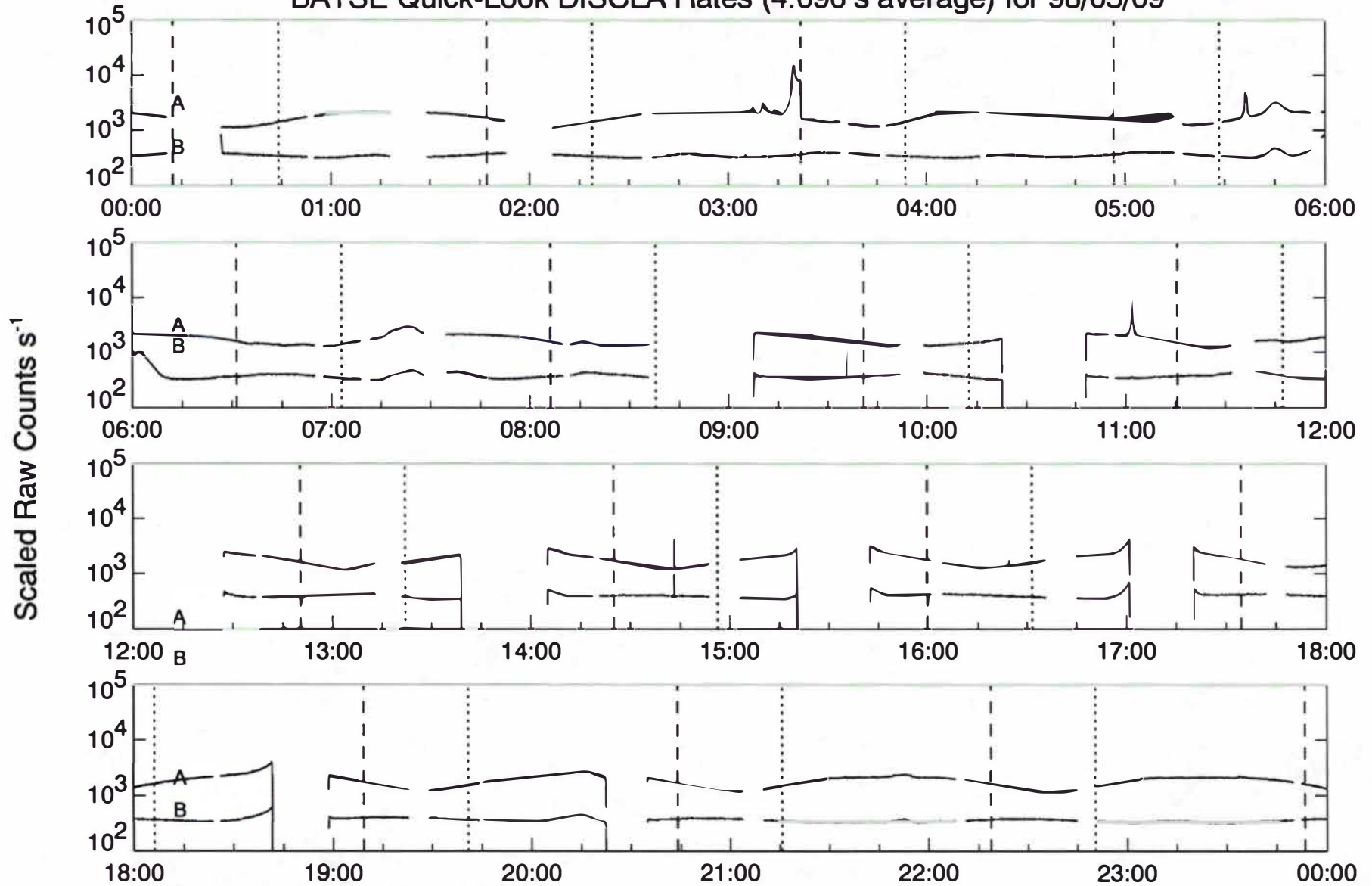
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.1 AZIMUTH=351.0 ERROR=0.4 DEGREES

COMMENTS:

SOLAR FLARE. GOES C4.7, OPTICAL SF. SINGLE PULSE WITH STRUCTURE. DURATION
APPROX. = 110 SEC. NOT VISIBLE ABOVE 100KEV.

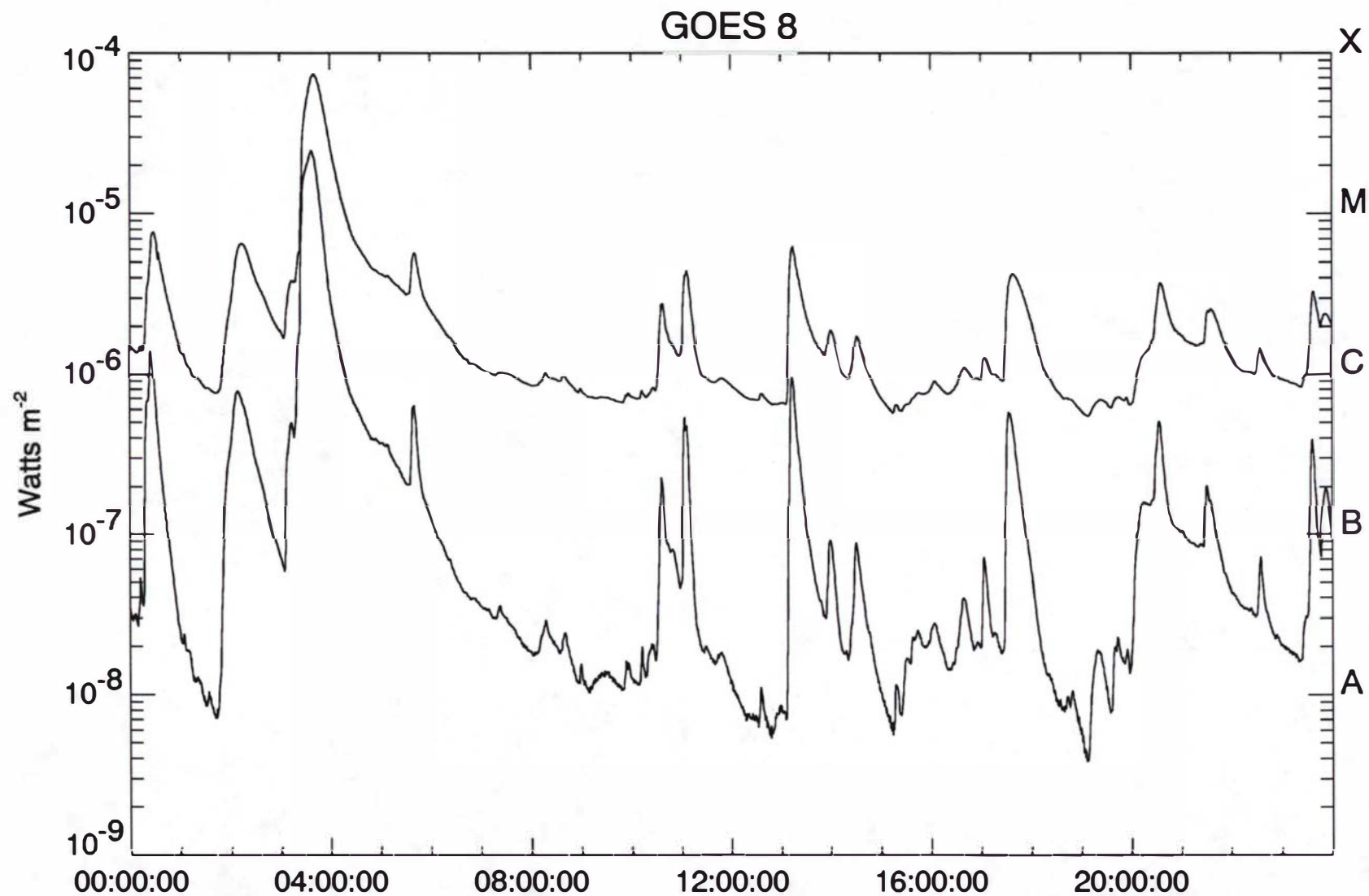
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/09



Current Time: 98/05/13, 1008 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



Data Start: 98/05/09, 0000:00

Plot created: 98/05/13, 1007

Channel

1 (1.0 - 8.0 Angstroms)

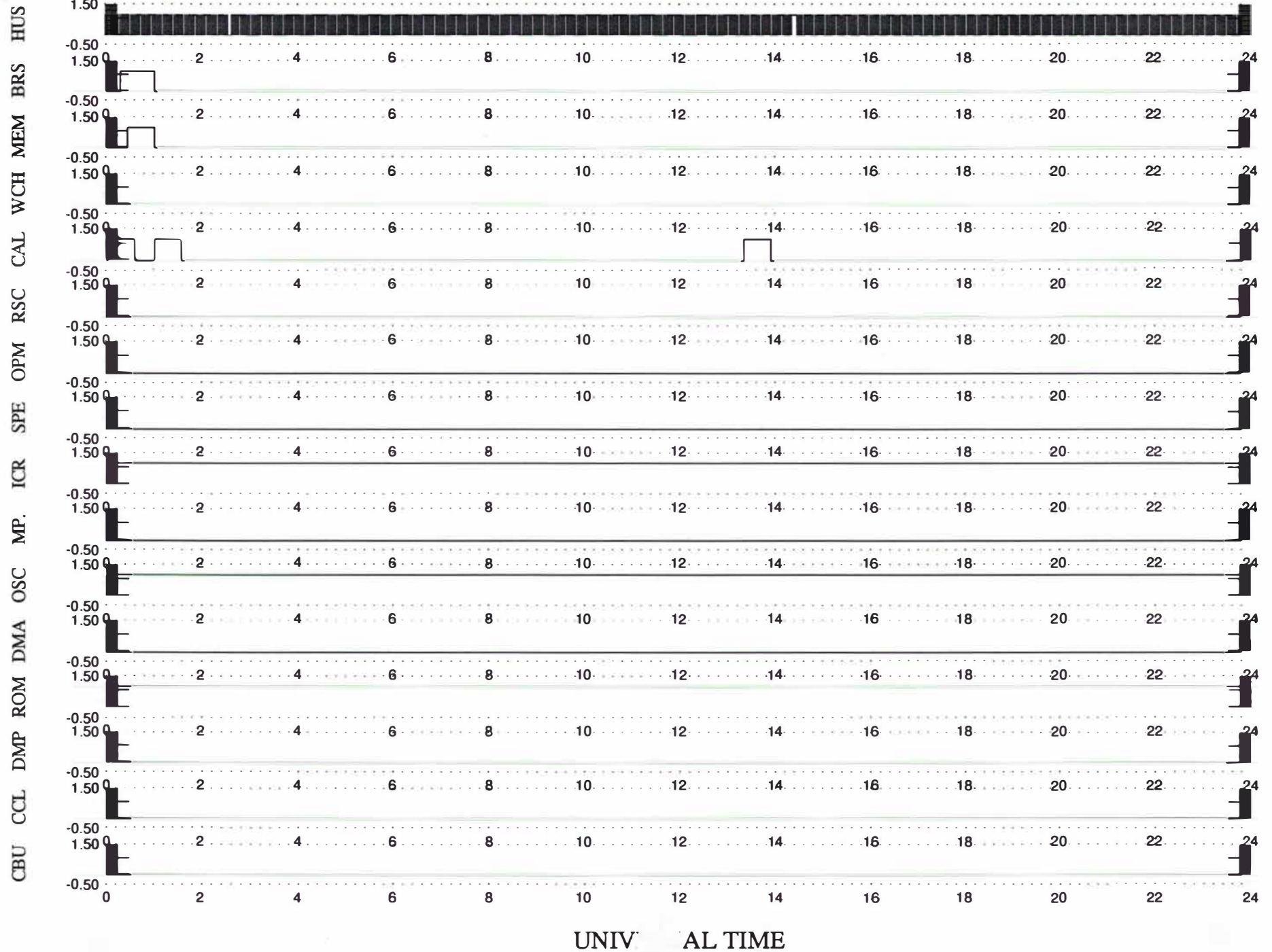
Background not subtracted

2 (0.5 - 4.0 Angstroms)

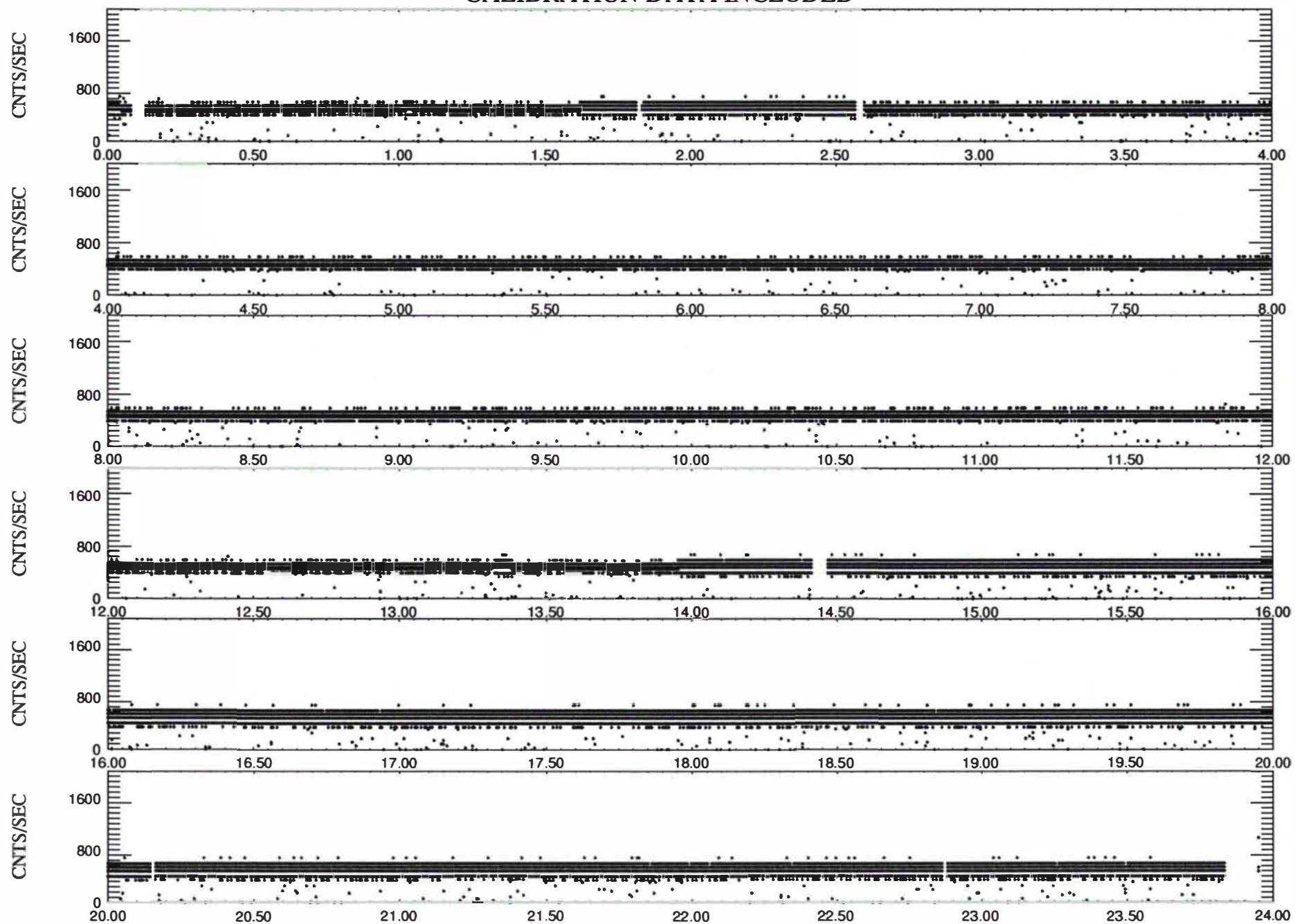
Background not subtracted

Sample average = 10

BURST NUMBER 13

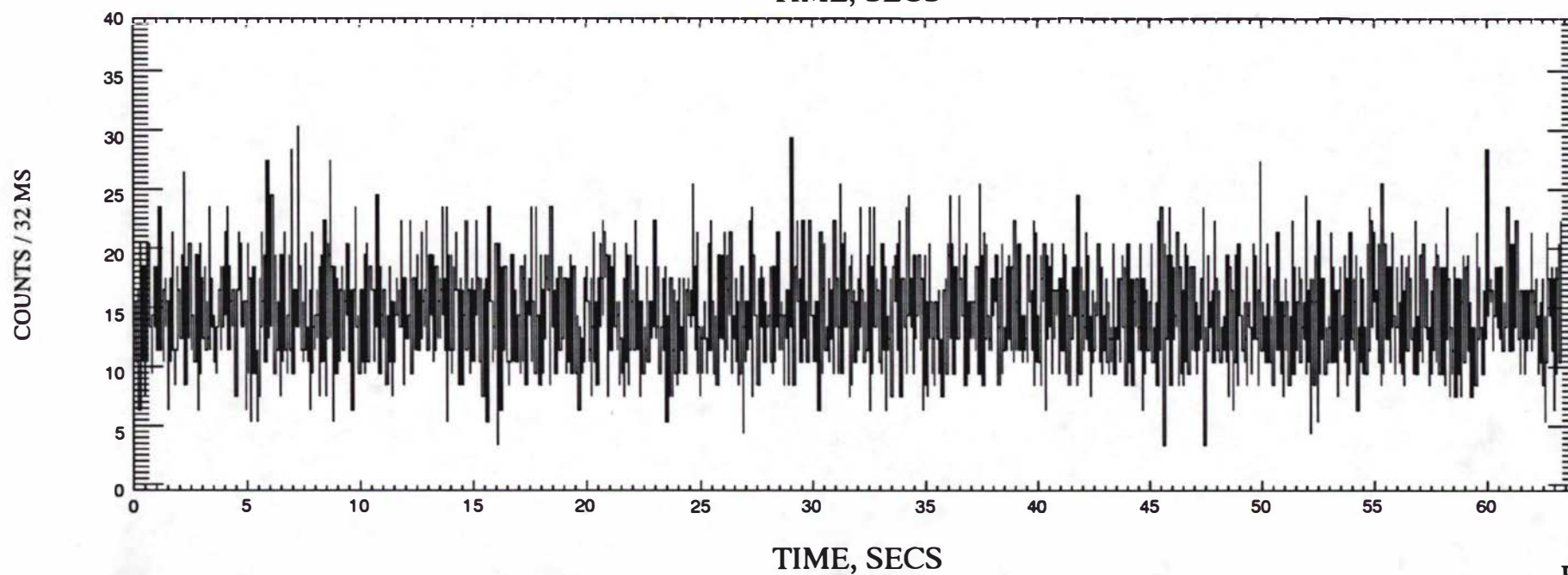
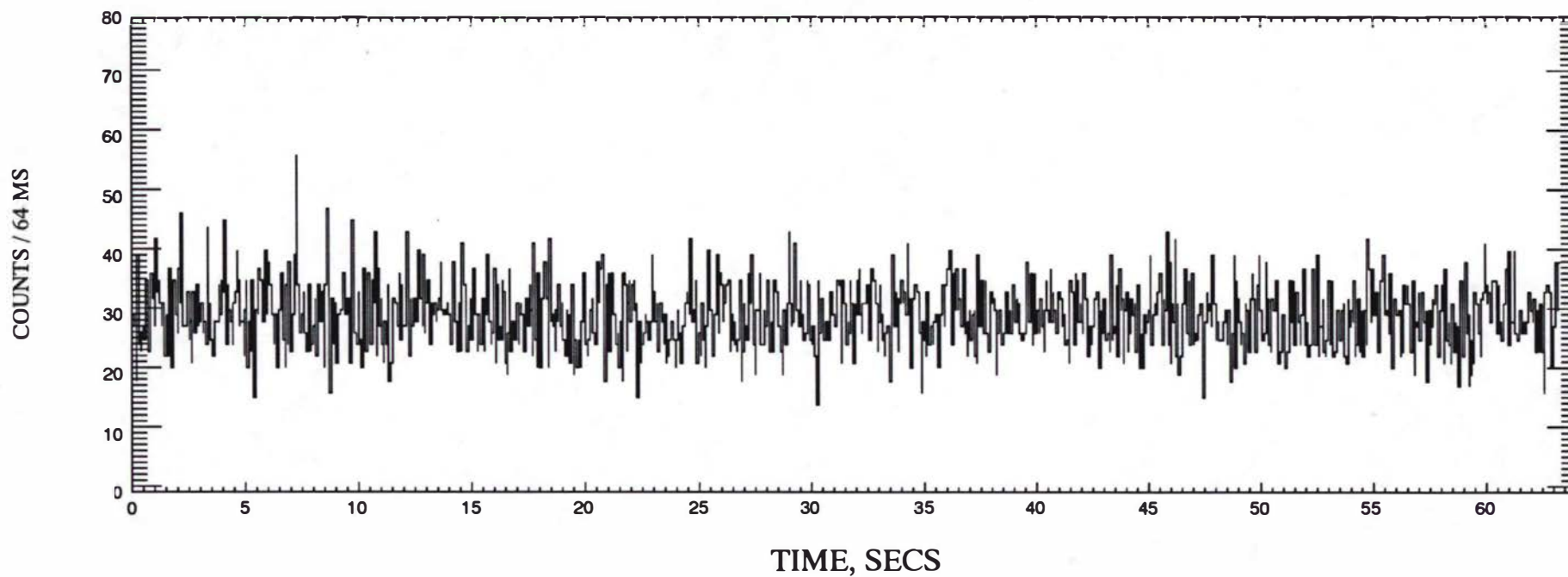


CALIBRATION DATA INCLUDED

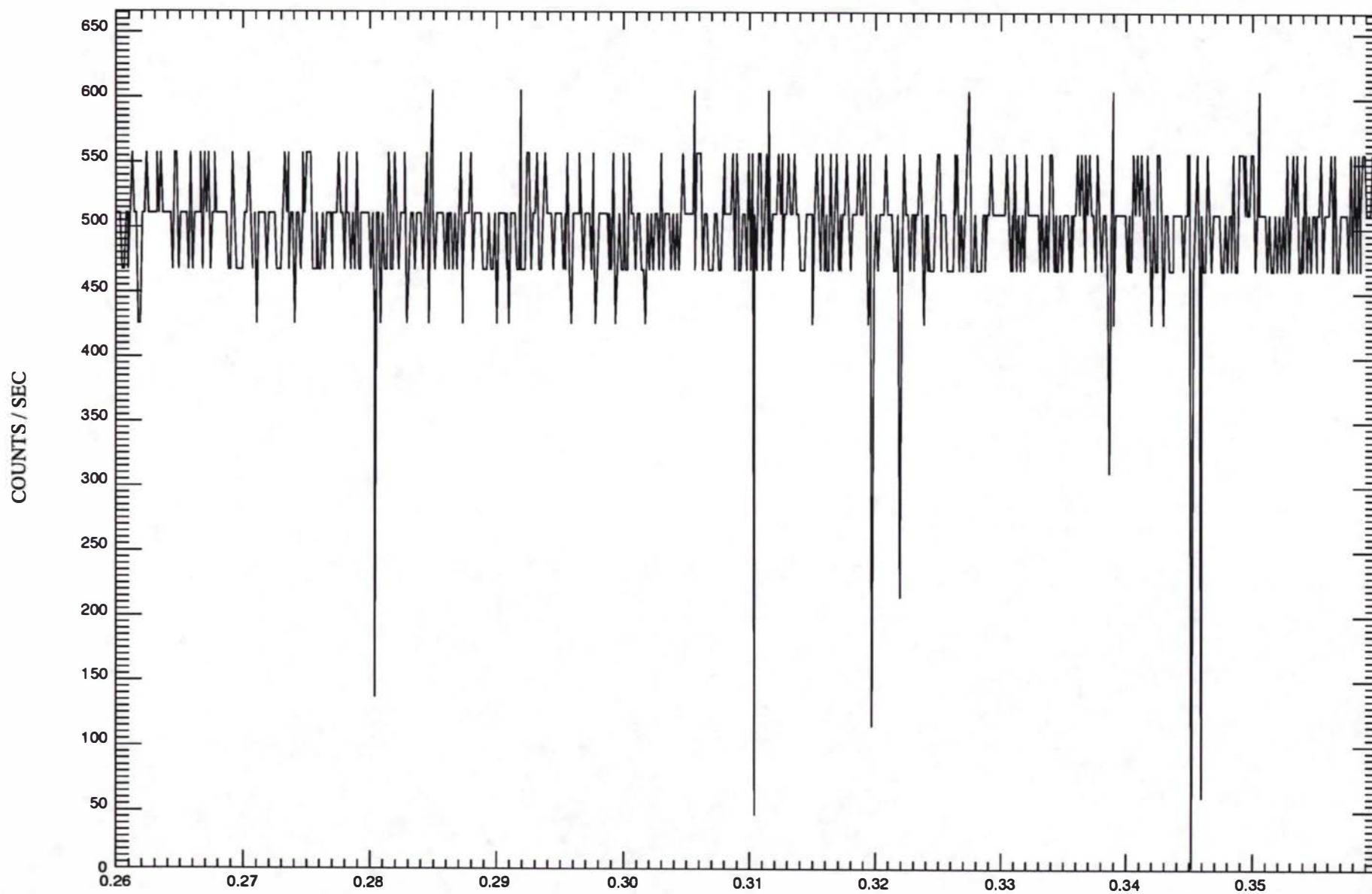


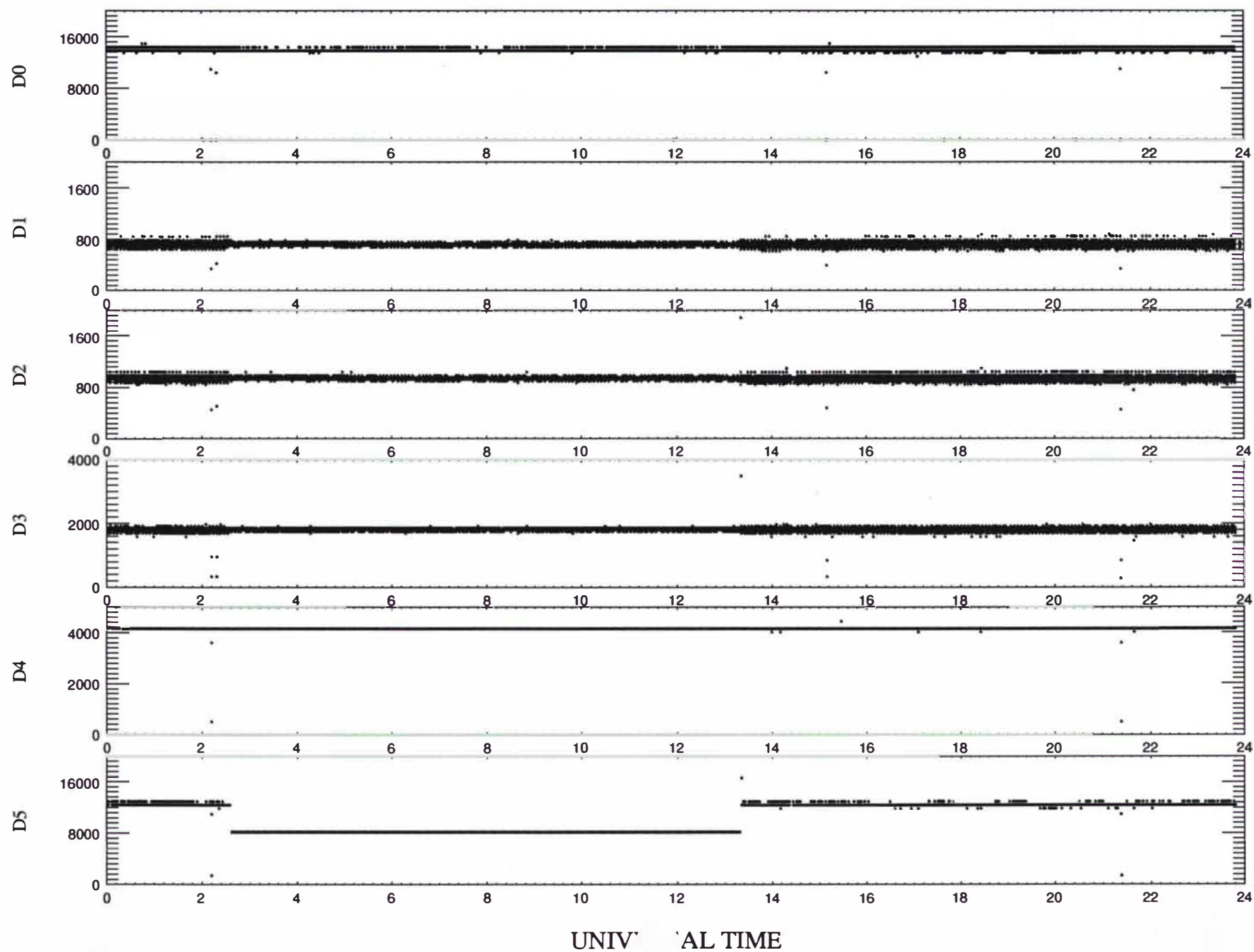
UNIV 'AL TIME

Burst Counter 13 at UT= 0.311781480577 h= 1122.413 s 00:18:42.413



CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Wed May 13 12:28:20 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 13 May 1998 14:26:17 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6750

TIME: TJD=0943 SECONDS=30119

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE. GOES M1.6. NOT VISIBLE ABOVE 100 KEV.

From WOODSP@fender.msfc.nasa.gov Wed May 13 12:29:26 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 13 May 1998 14:27:56 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6751

TIME: TJD=0943 SECONDS=47843

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=

AZIMUTH=

ERROR=

DEGREES

COMMENTS:

SOLAR FLARE. GOES M3.9 OPTICAL - SF. MARGINALLY VISIBLE ABOVE
100 KEV.

From WOODSP@fender.msfc.nasa.gov Wed May 13 12:30:08 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 13 May 1998 14:29:07 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6752

TIME: TJD=0943 SECONDS=70124

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

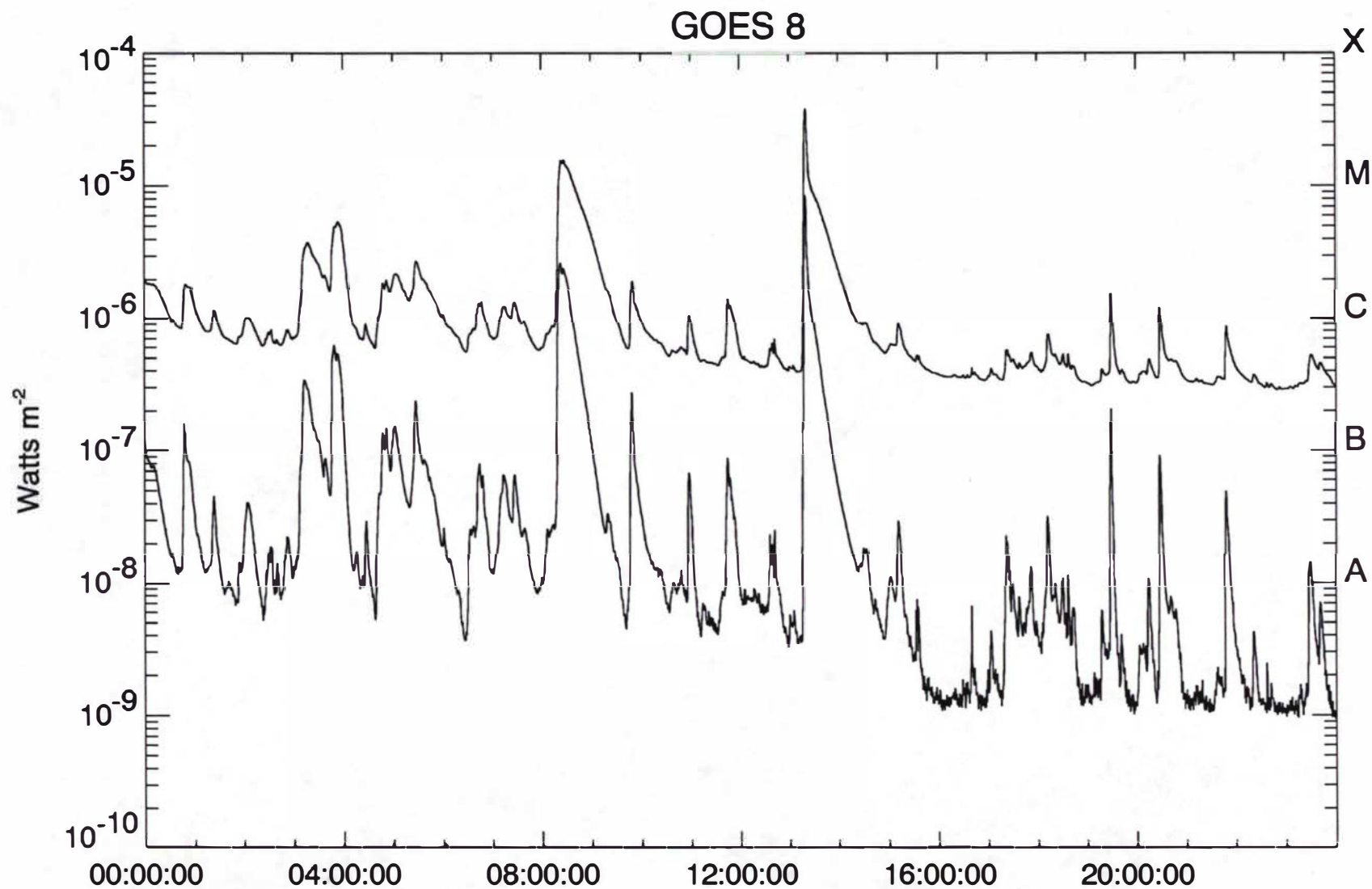
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE. GOES C1.6 VISIBLE ABOVE 100 KEV.



Data Start: 98/05/10, 0000:00

Plot created: 98/05/14, 1008

Channel 1 (1.0 - 8.0 Angstroms)

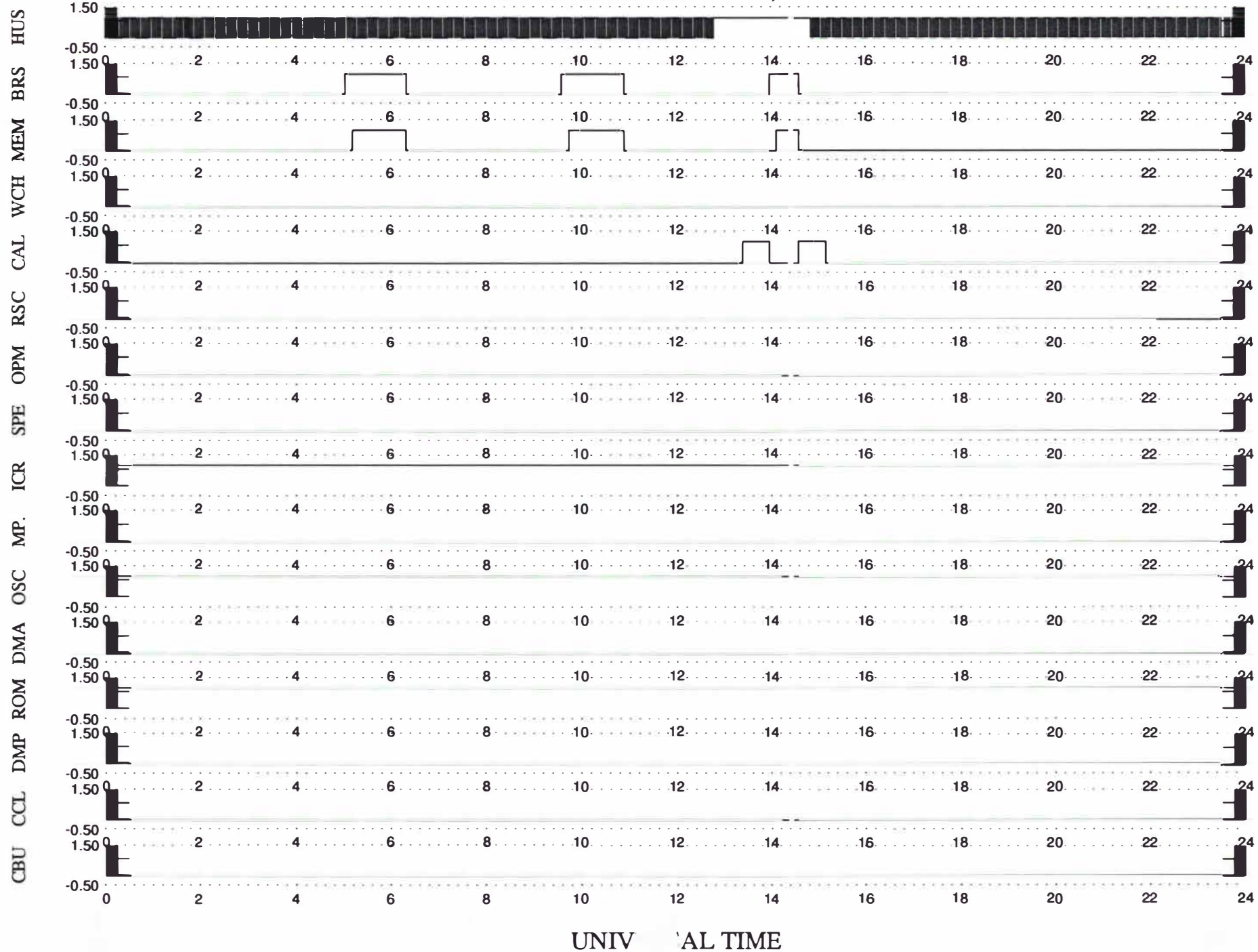
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

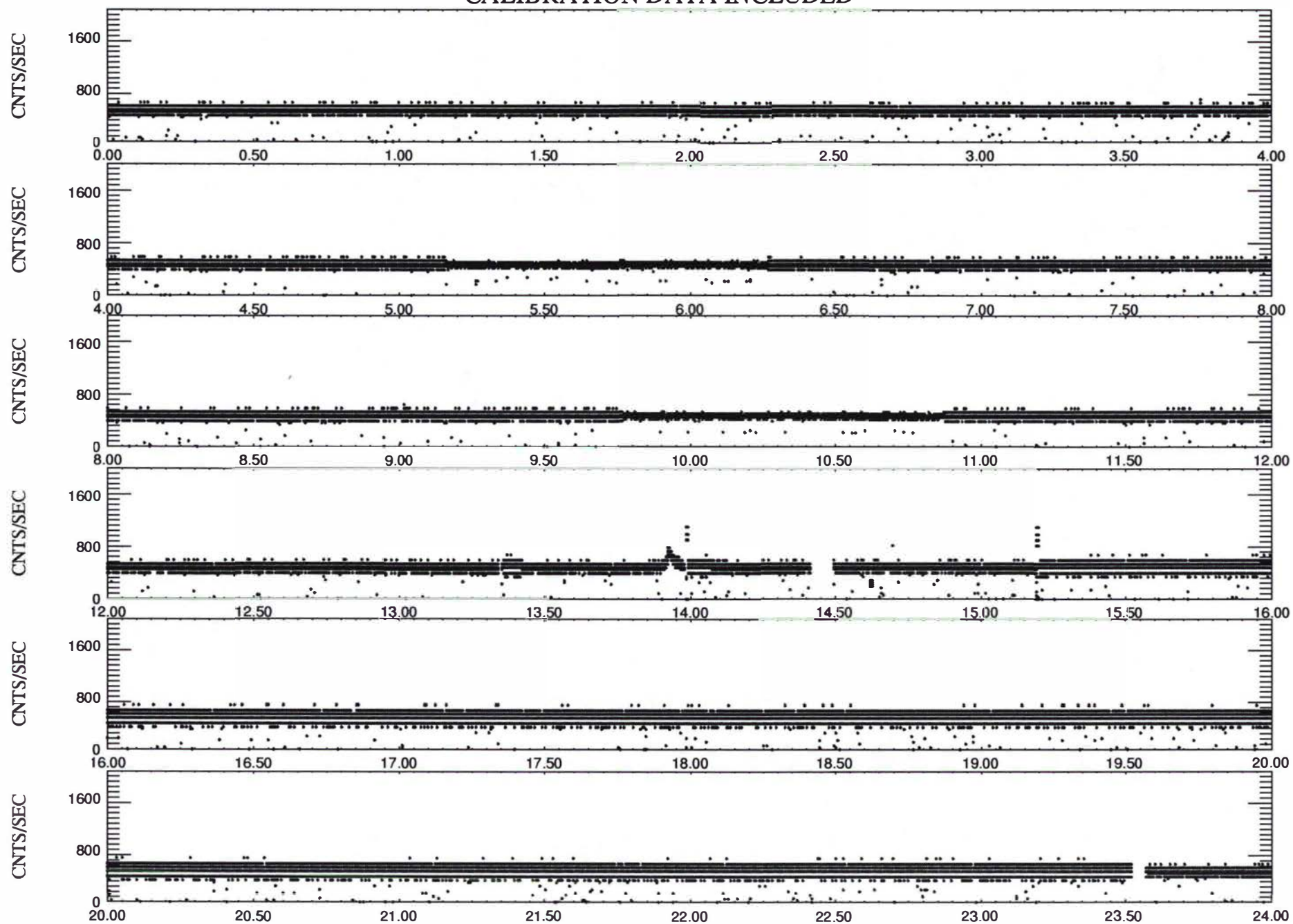
Background not subtracted

Sample average = 10

BURST NUMBER 14 - 15, 0

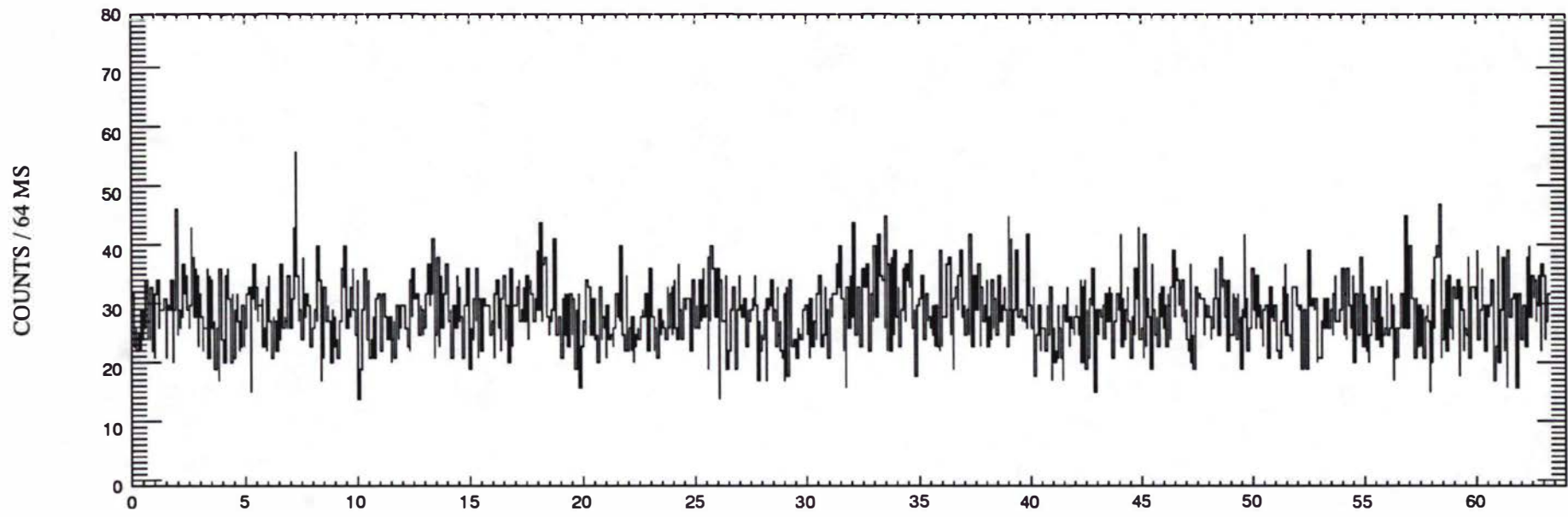


CALIBRATION DATA INCLUDED

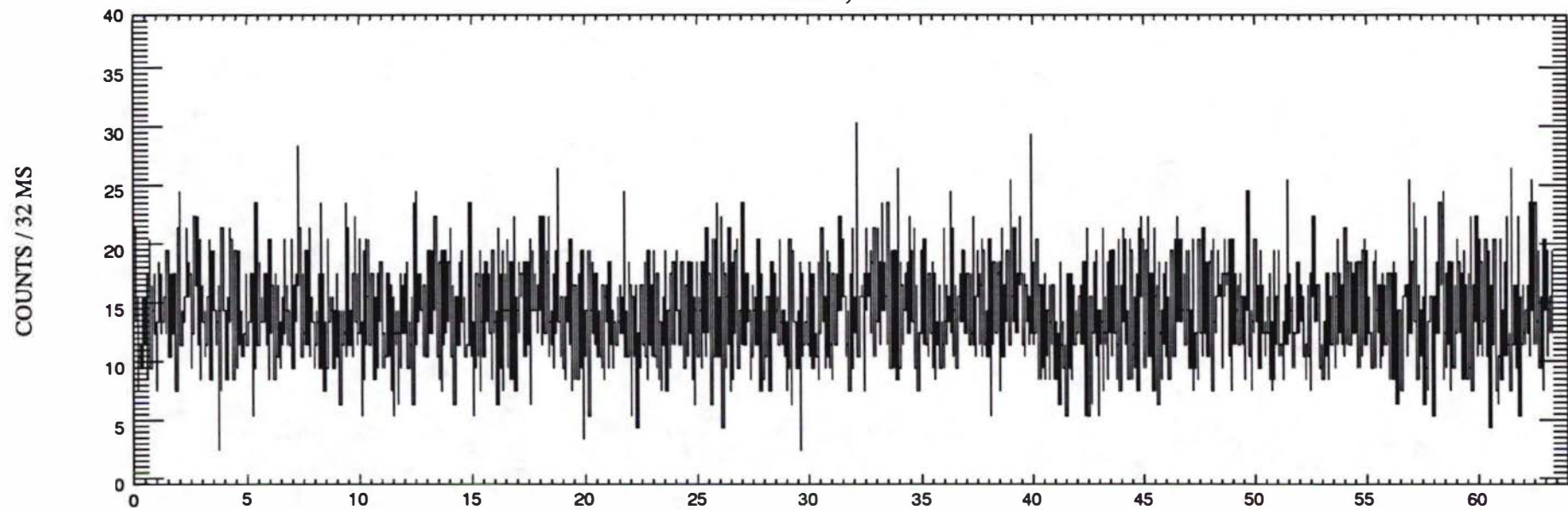


UNIV AL TIME

Burst Counter 14 at UT= 5.011634313795 h=18041.884 s 05:00:41.884

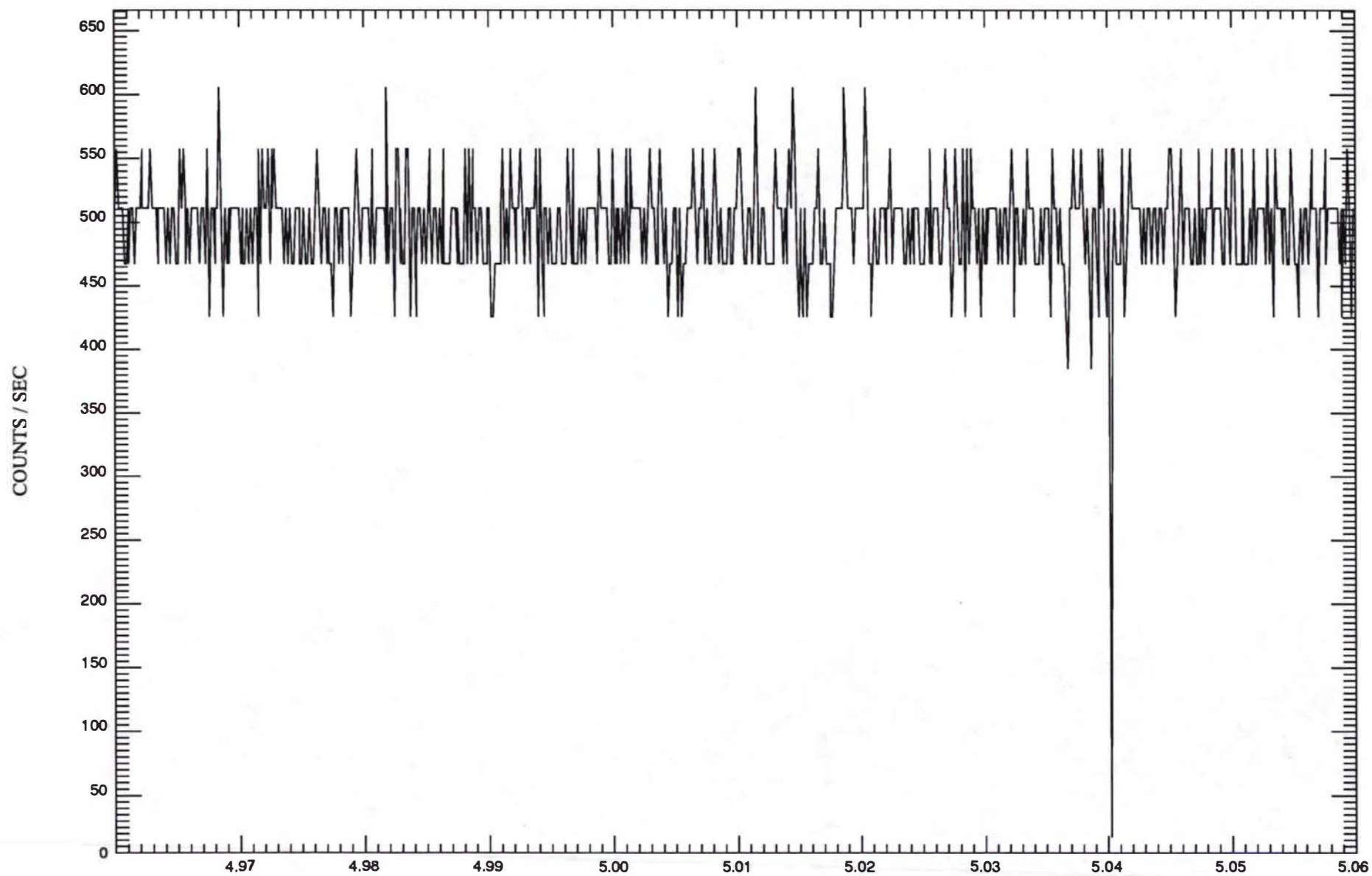


TIME, SECS

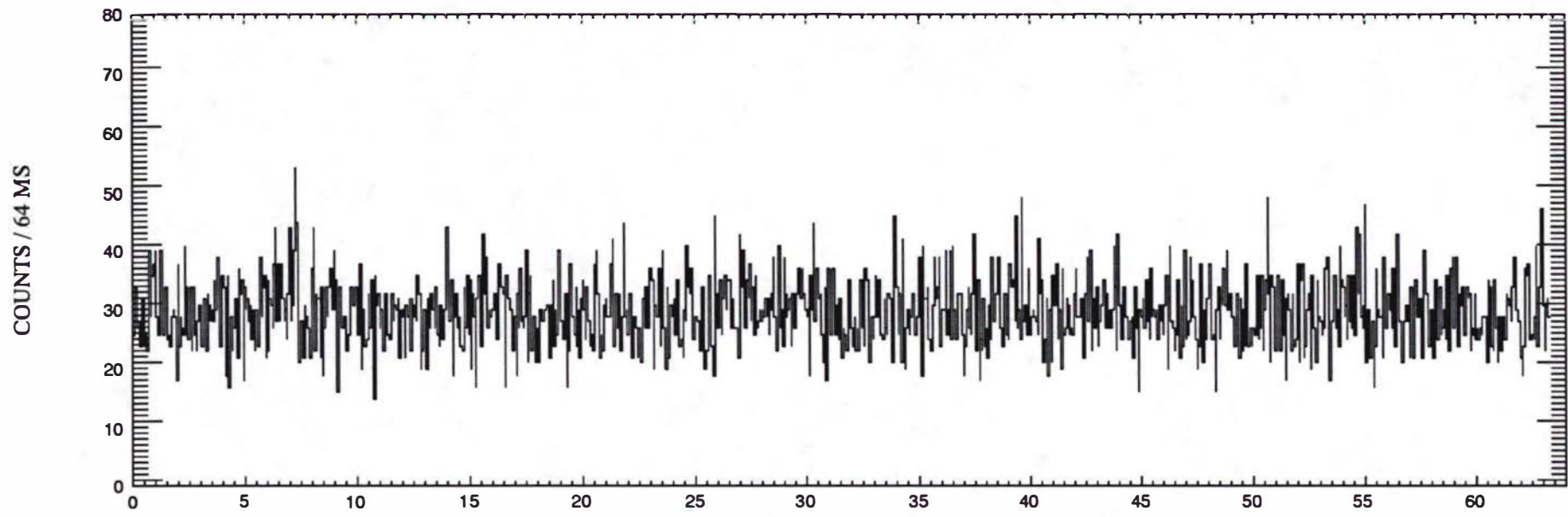


TIME, SECS

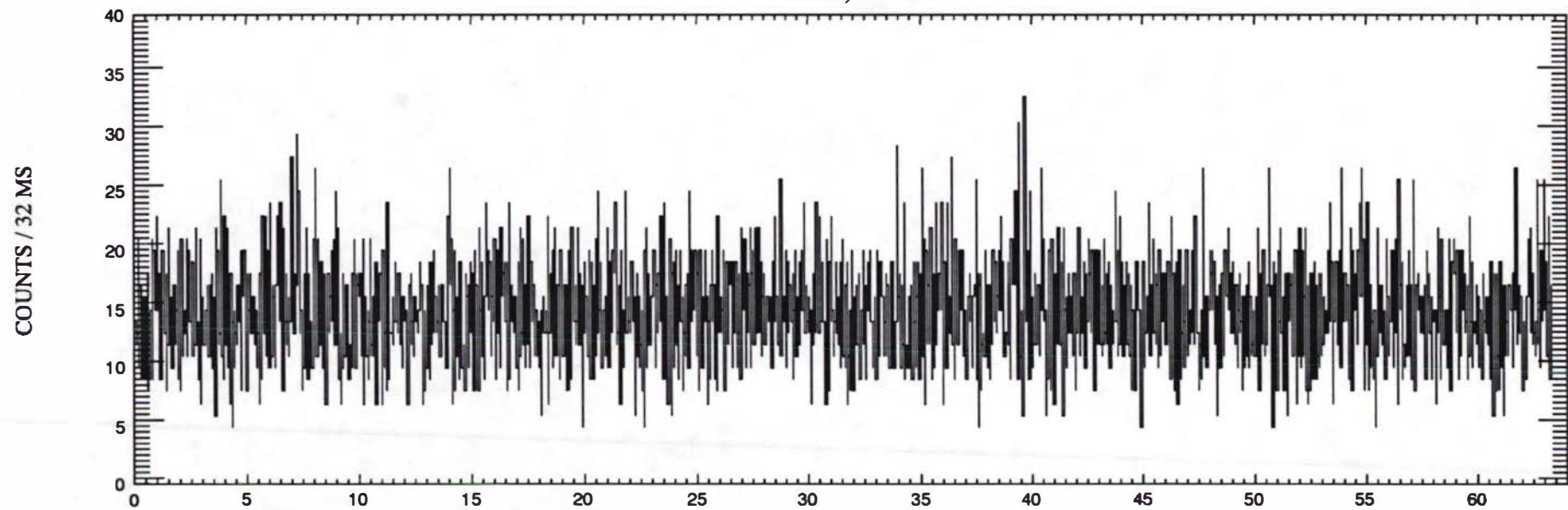
CALIBRATION DATA INCLUDED



Burst Counter 15 at UT= 9.611754468282 h=34602.316 s 09:36:42.316

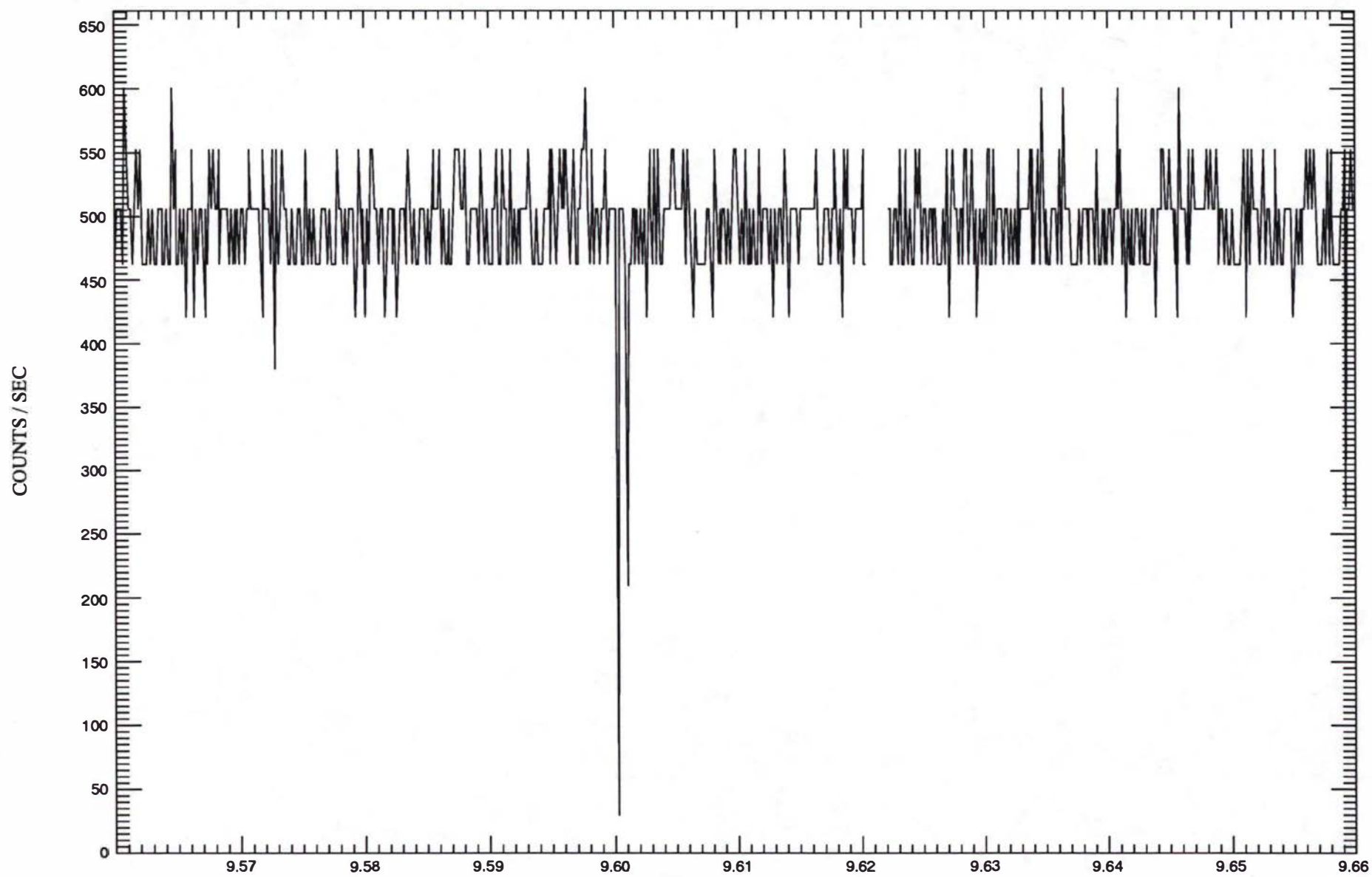


TIME, SECS

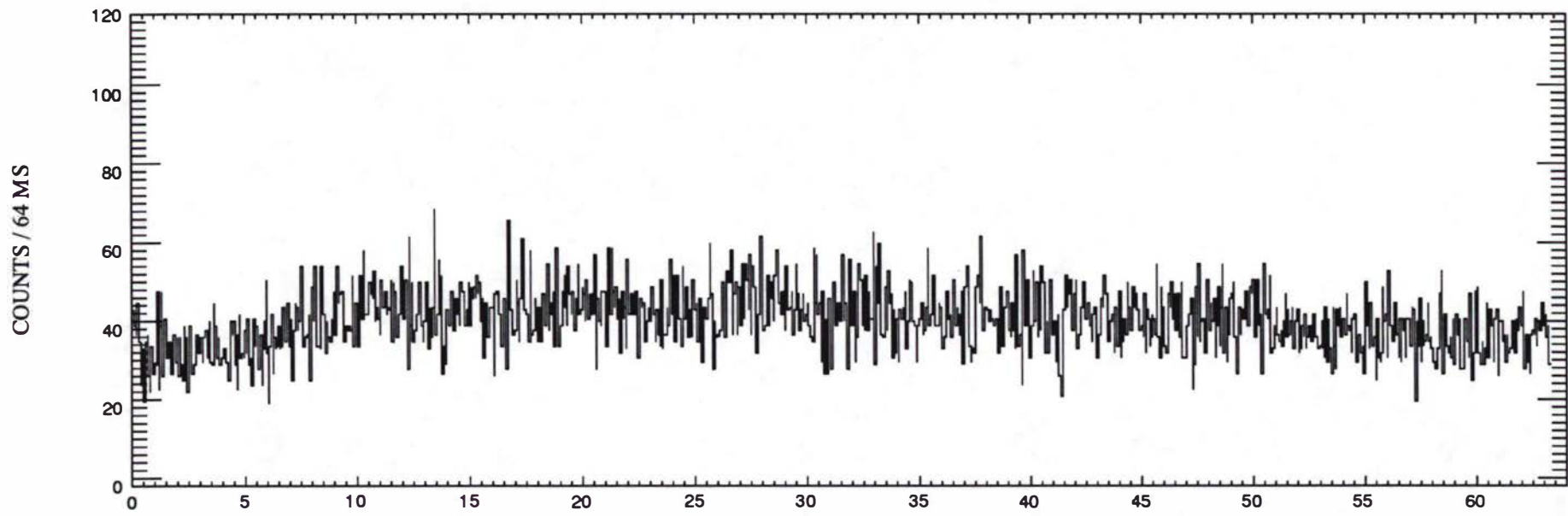


TIME, SECS

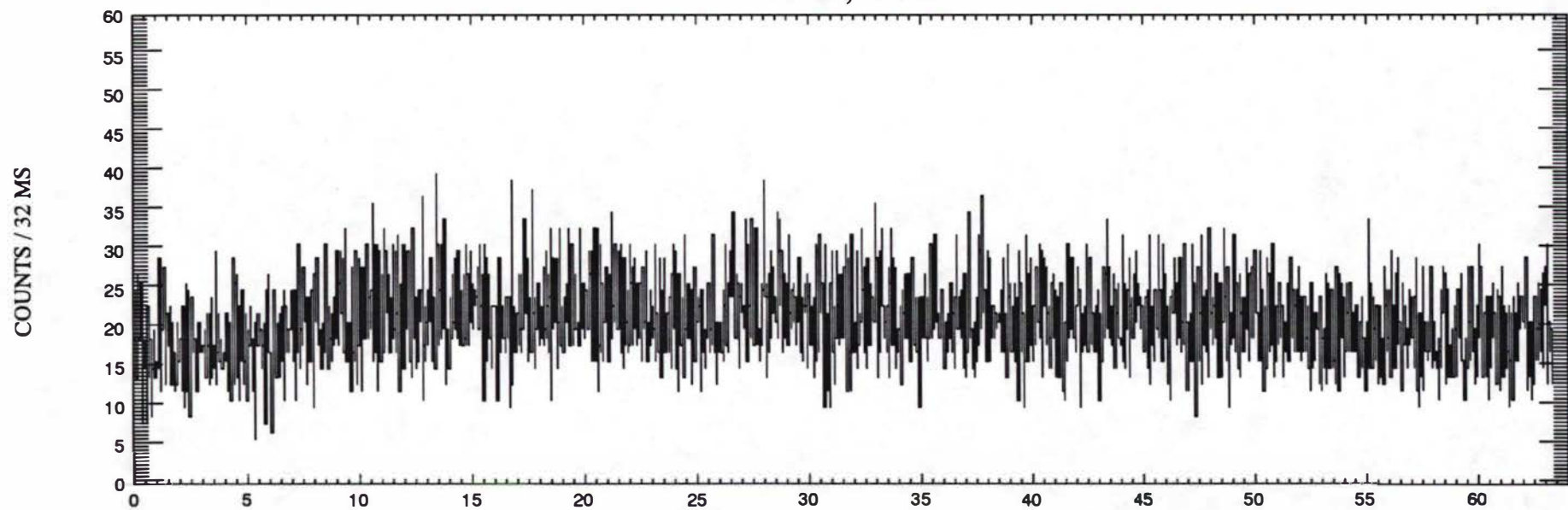
CALIBRATION DATA INCLUDED



Burst Counter 0 at UT=13.917634442647 h=50103.484 s 13:55:03.484

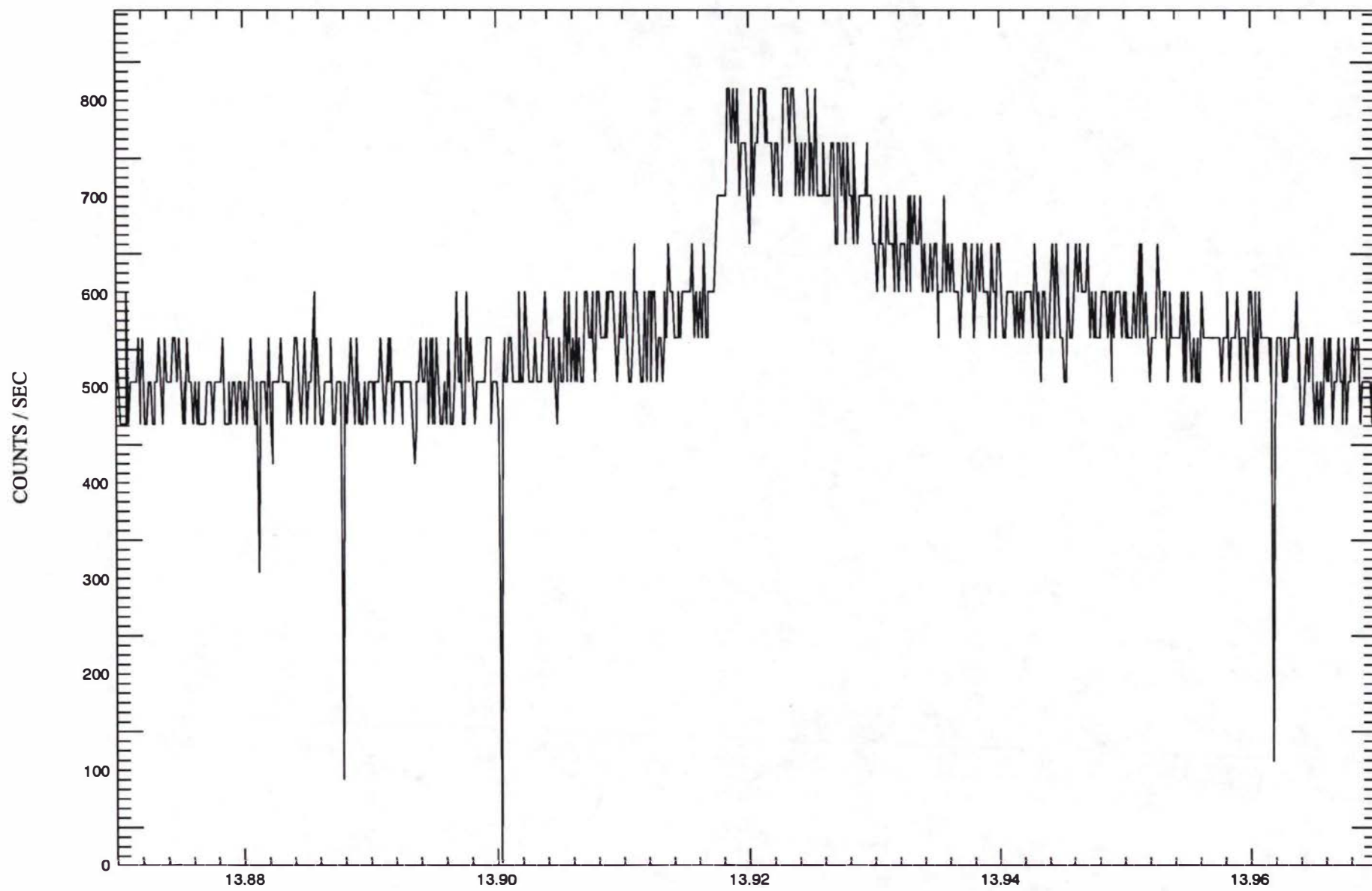


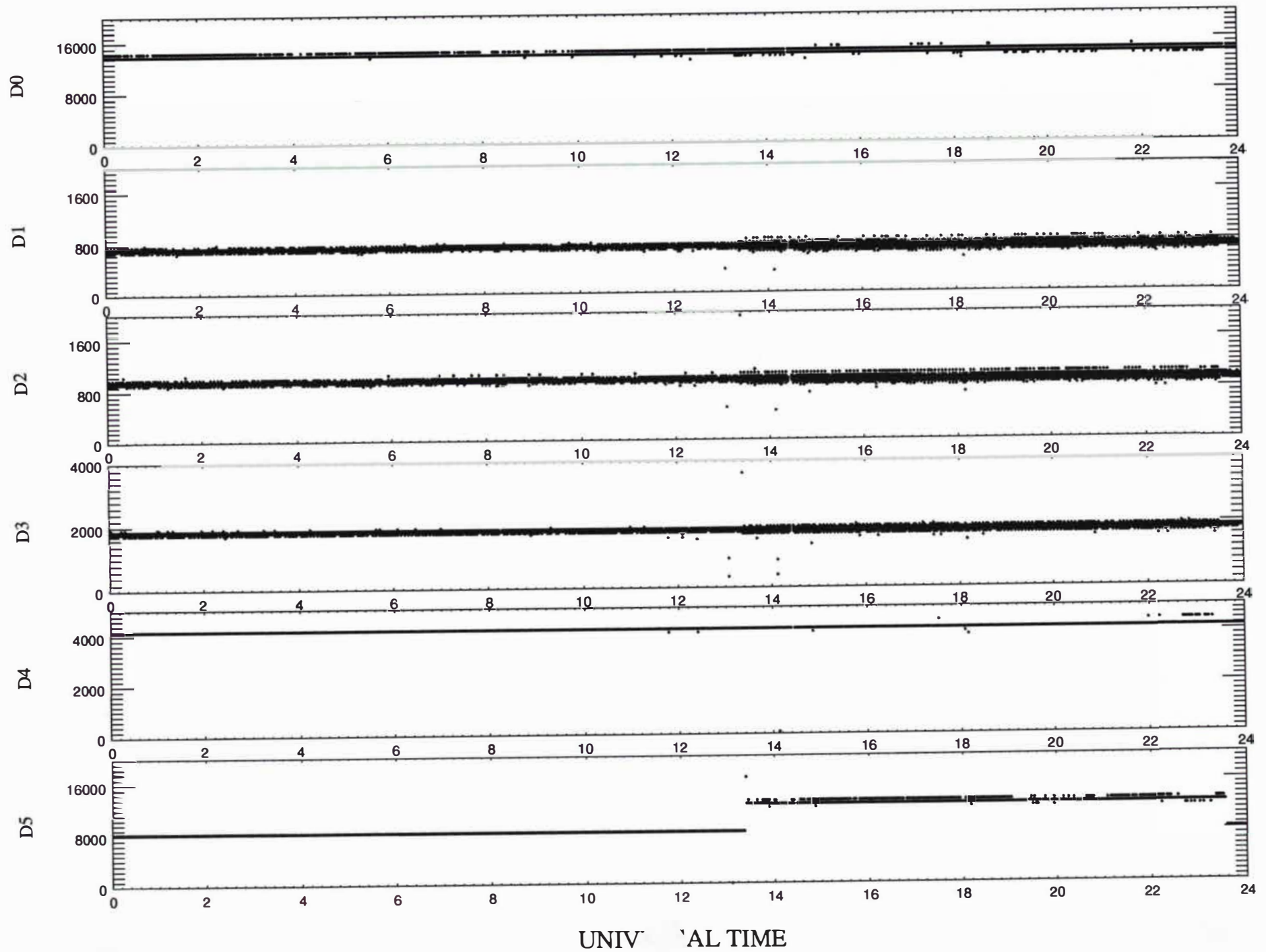
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Thu May 14 09:58:45 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA06469; Thu, 14 May 1998 09:58:45 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA19851; Thu, 14 May 1998 09:58:46 -0700
Date: Thu, 14 May 1998 11:58:45 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980514115845.202036e7@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6753
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6753
EVENT OF 1998 MAY 11 DAY OF YEAR=131
EVENT CROSSING TIME AT BATSE : 6928. S. OR 01:55:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 67.000 2.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 5/ 98 IS:
RA= 148.957 DEC= 12.448 DIST= 5.201 AU
BATSE-ULYSSES DISTANCE = 778114074. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 98.28 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -373.94 SECS.
CROSSING TIME AT ULYSSES IS 6554. S. OR 01:49:14 +/- 490.24 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 5/ 98 IS:
RA= 48.121 DEC= 17.917 DIST= 2.484 AU
MARS-BATSE DISTANCE = 371644800. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=155.58 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1128.73 SECS.
CROSSING TIME AT MARS IS 5799. S. OR 01:36:39 +/- 71.86 SECONDS

BATSE BURST TRIGGER

NO.: 6753

TIME: TJD=0944 SECONDS= 6928

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=137.4 AZIMUTH=349.6 ERROR= 5.2 DEGREES

COMMENTS:

SINGLE PULSE, DUR. APPROX. 7 S. VISIBLE ABOVE 300 KEV.
PROBABLE PRECURSOR AT APPROX. T-25 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6753	980511	10944	06928	2500	067	+02	7

BATSE BURST# 6753

ULYSSES RT

14 / 5 / 98

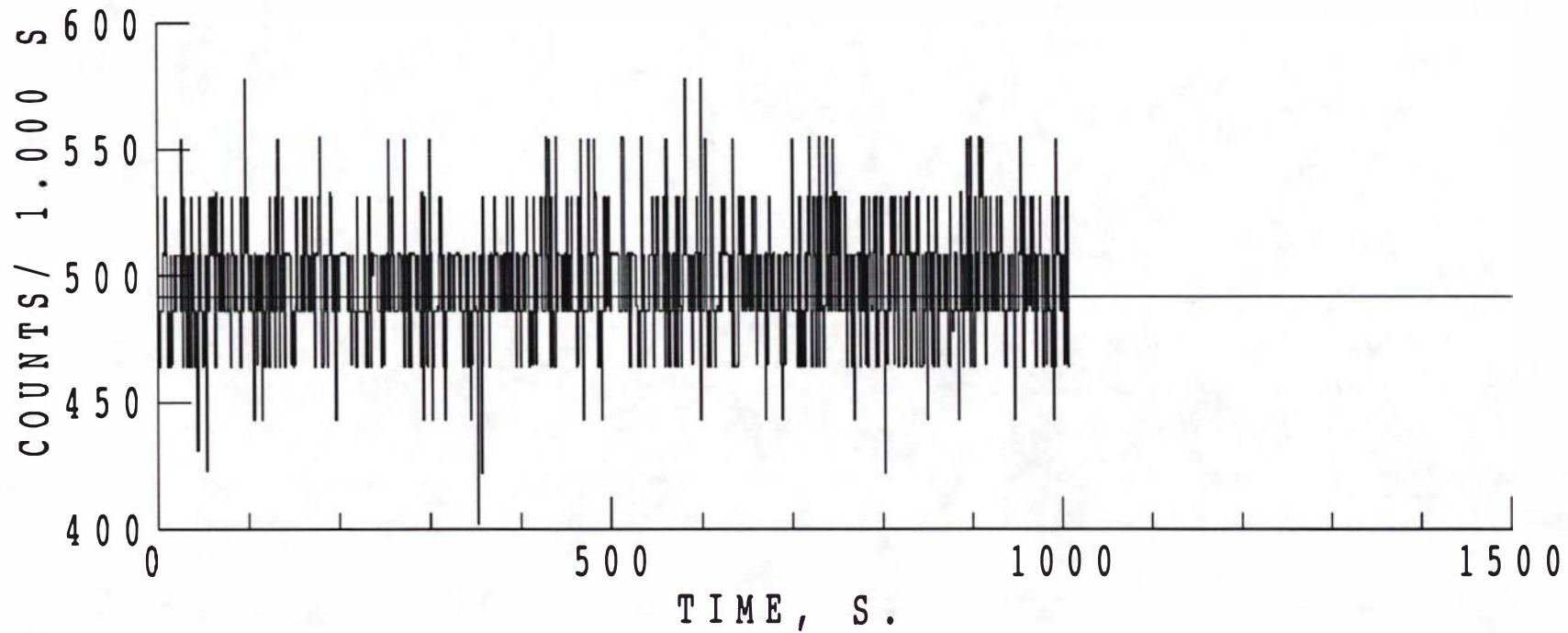
11 / 5 / 98 6048.315 s

0.500 S INTERVALS REGROUPED BY 2

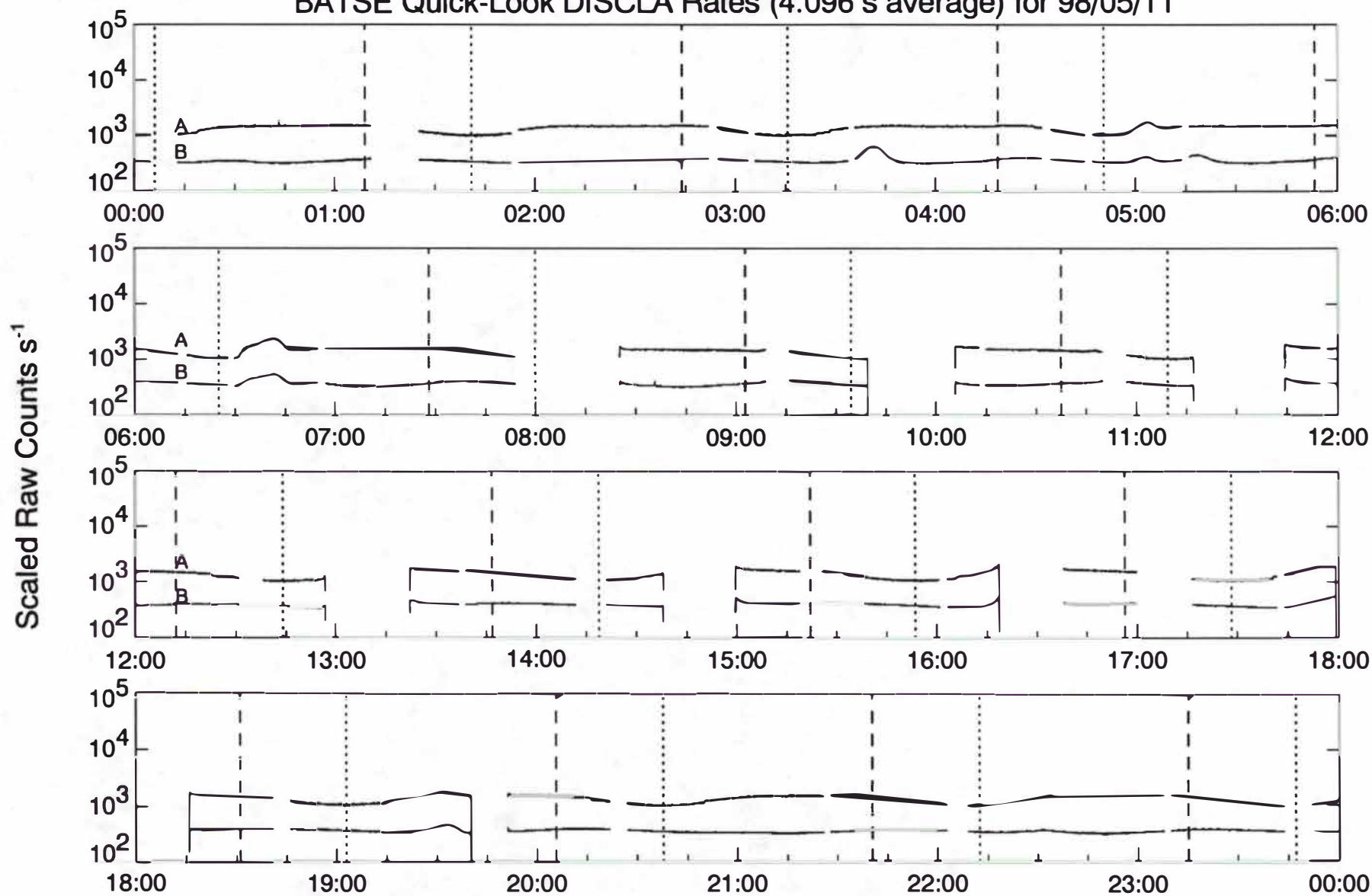
0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



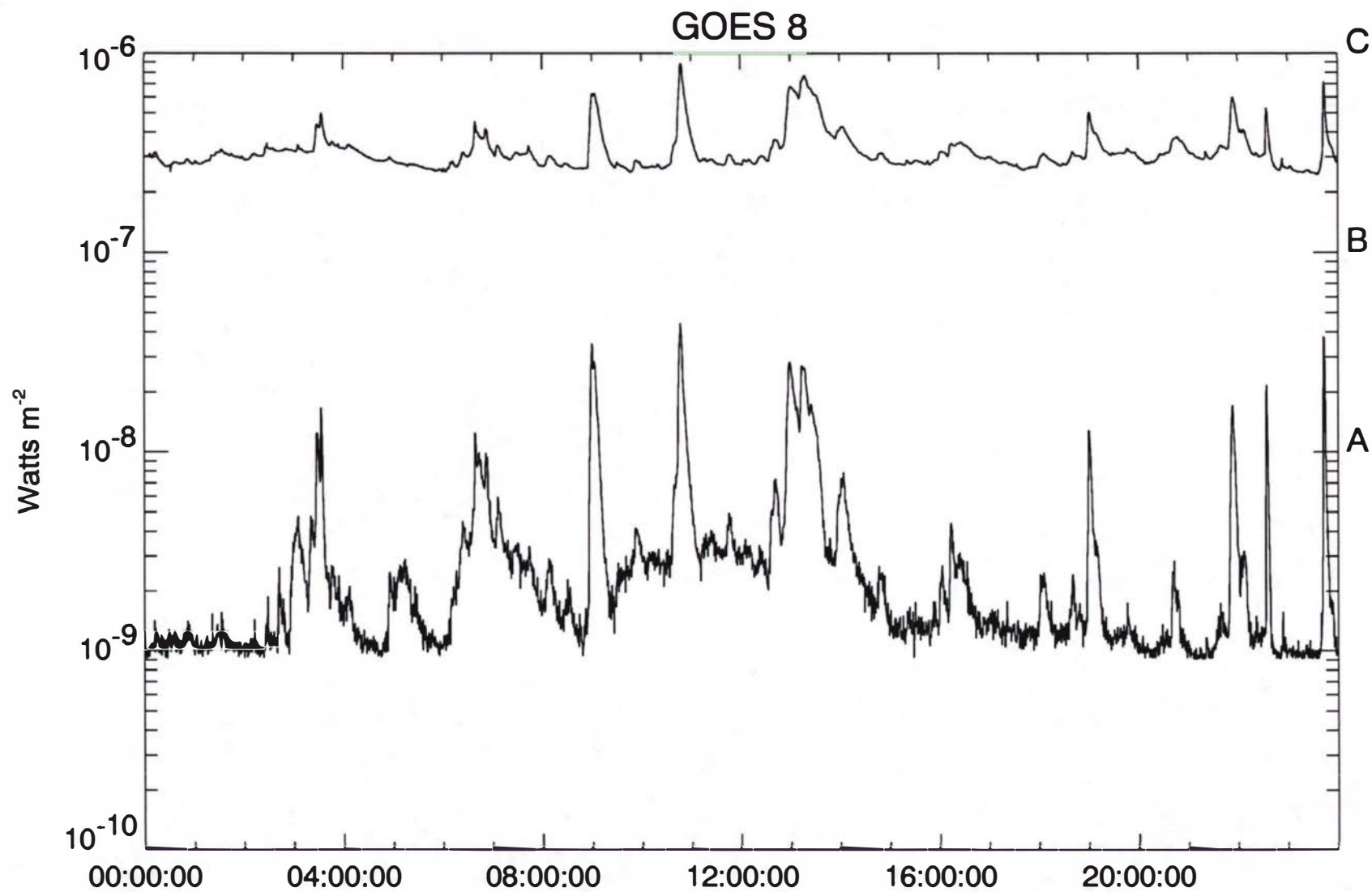
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/11



Current Time: 98/05/15, 1008 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



Data Start: 98/05/11, 0000:00

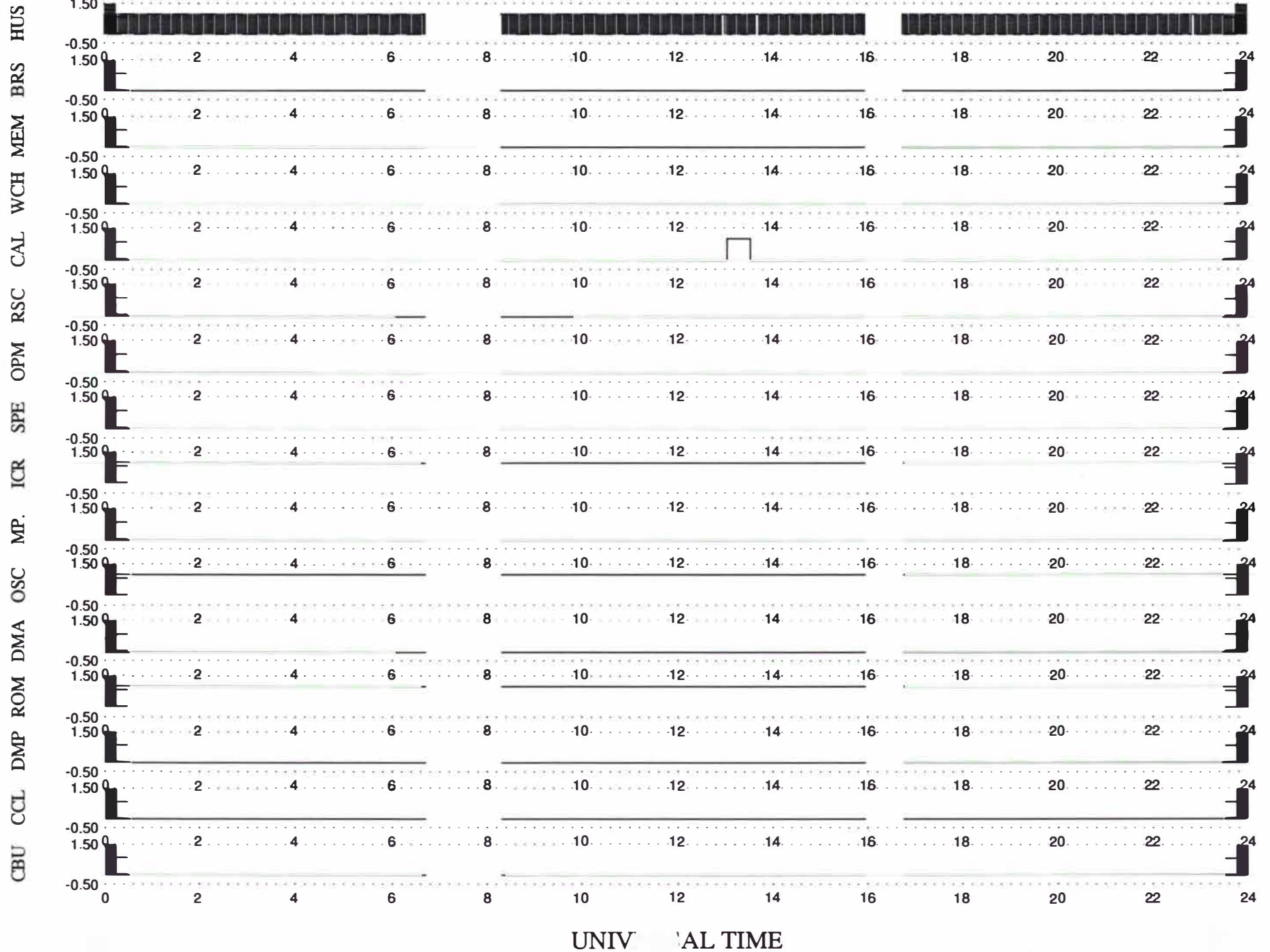
Plot created: 98/05/15, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

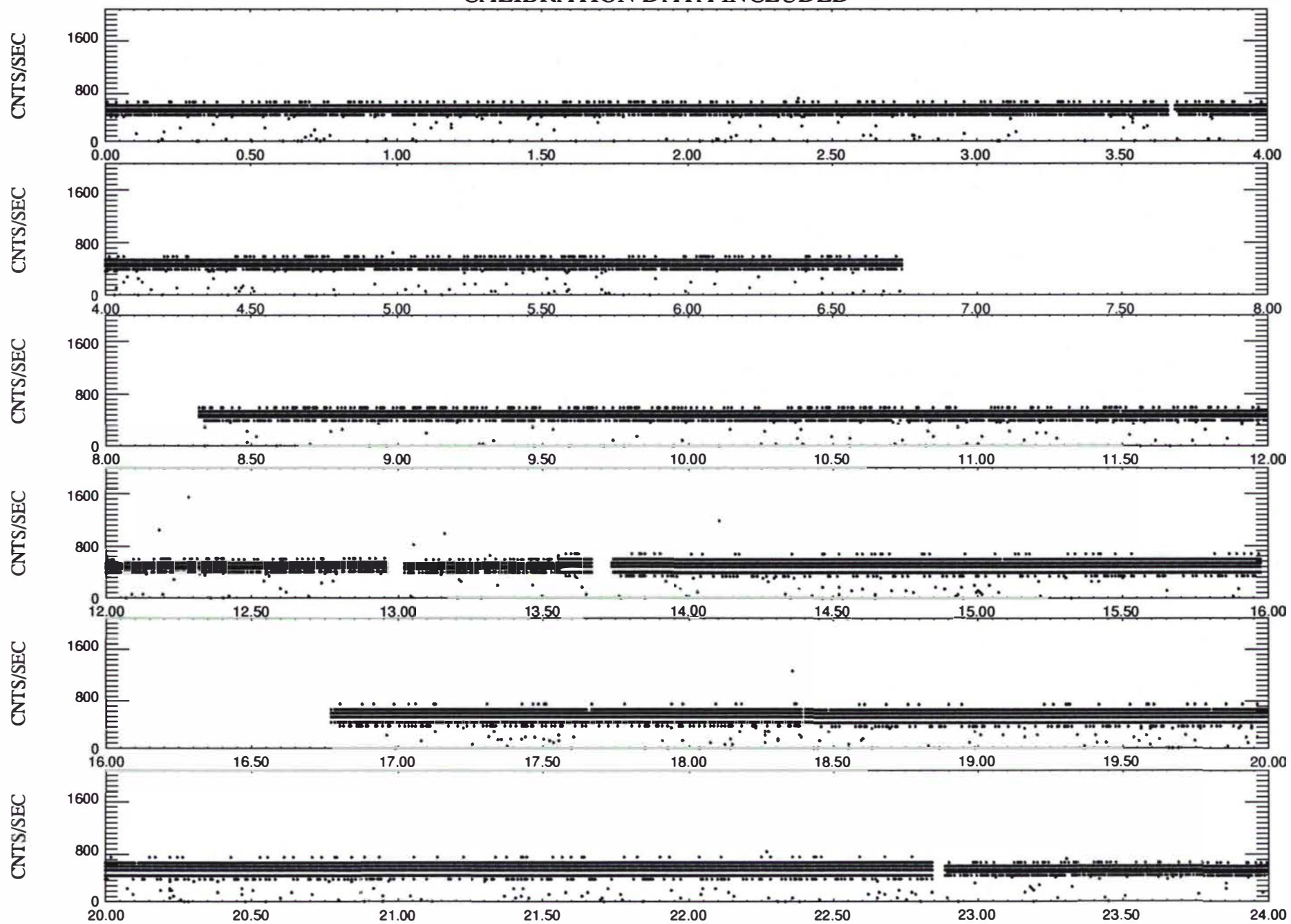
2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

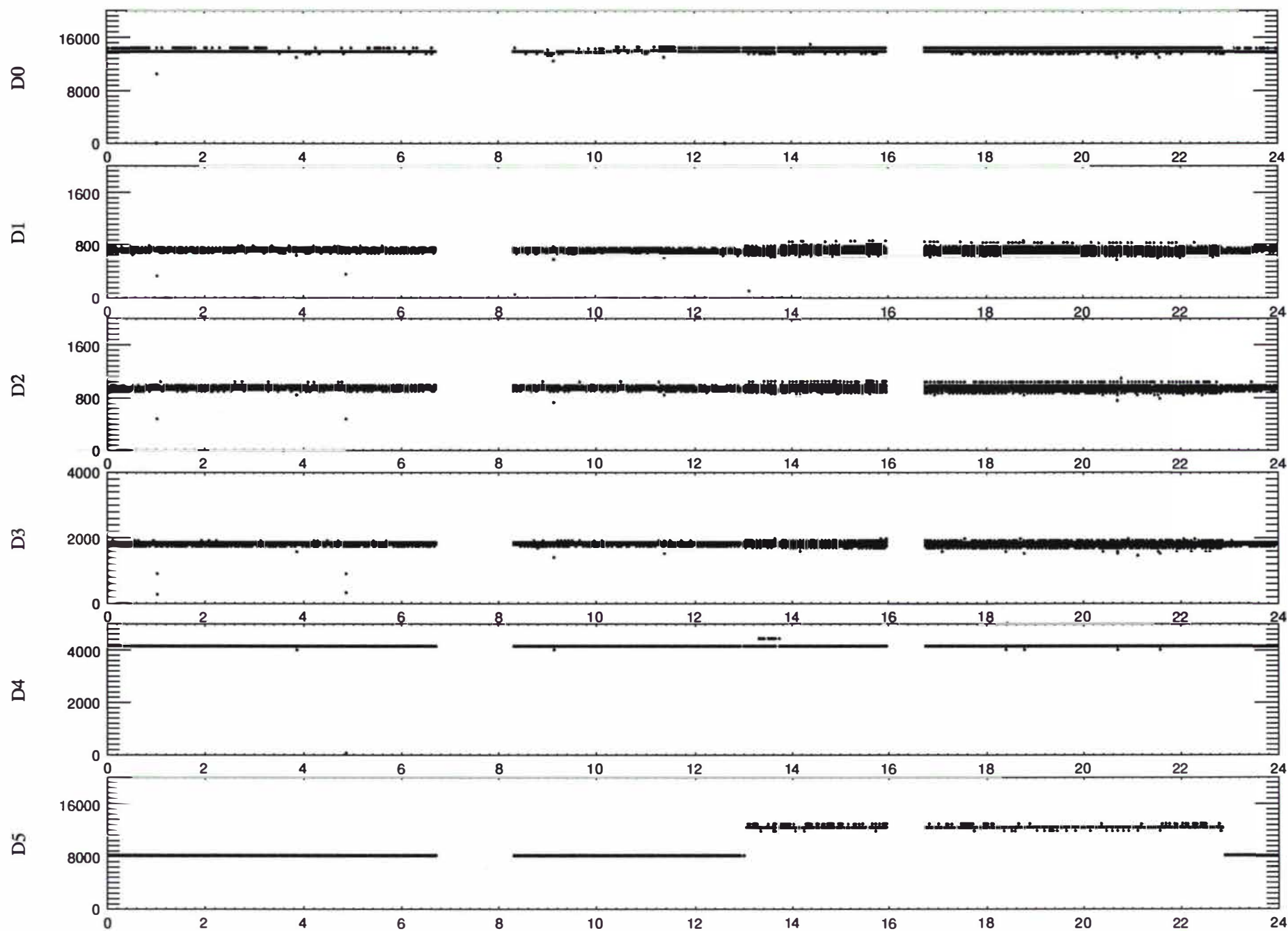
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



UNIV 'AL TIME

Date: Mar 28 2012

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?

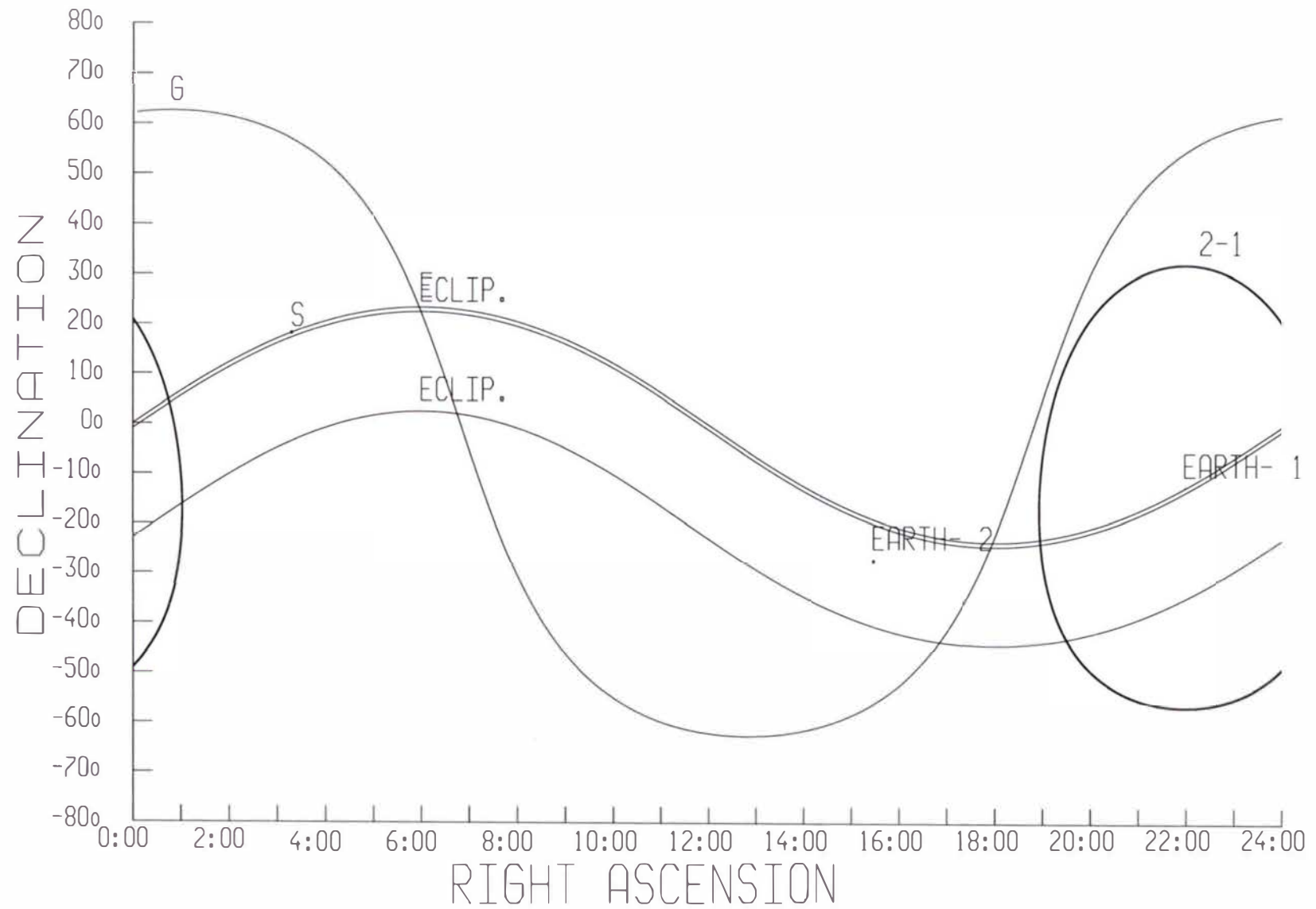
3. PVO Data

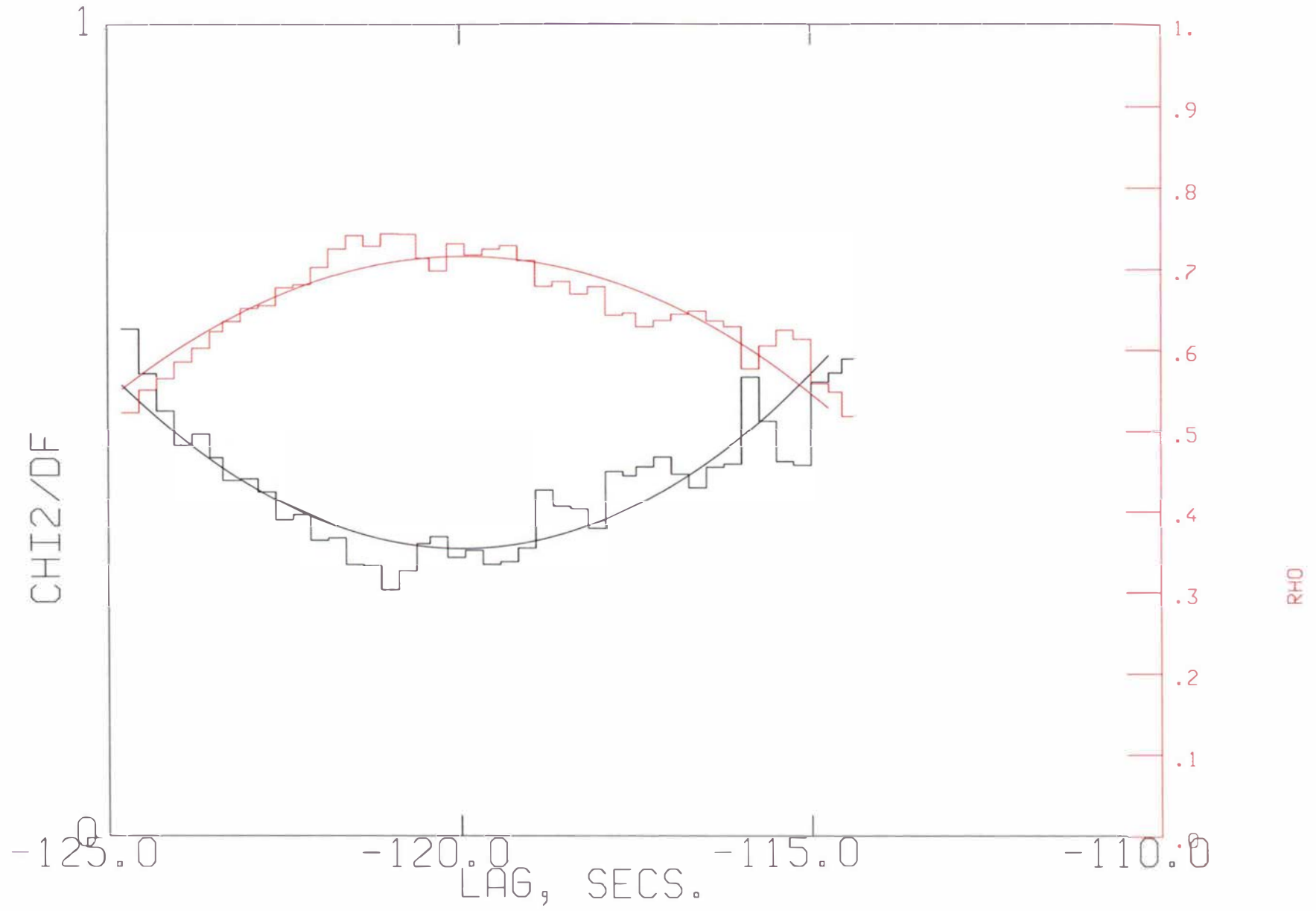
- ☐ Ephemeris of PVO used (not Venus)?
 - ☐ 2000 coordinates used?
 - ☐ Geocentric time used?
-
- ☒ ACCESS and MBL databases updated with identical times?

EVENT OF MAY 12, 1998 18:55

28/03/2012

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





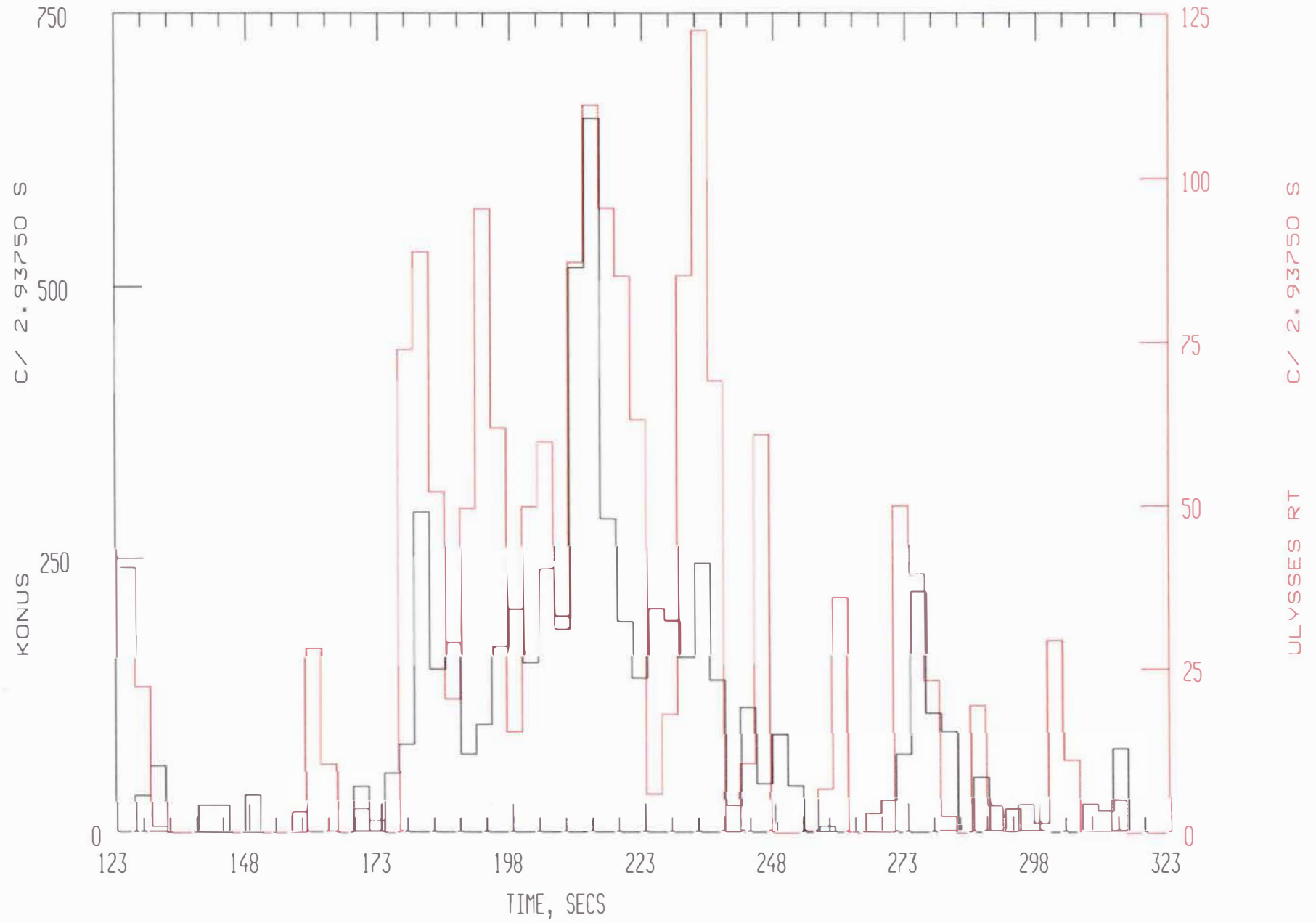
KONUS

-ULYSSES RT CORRELATION

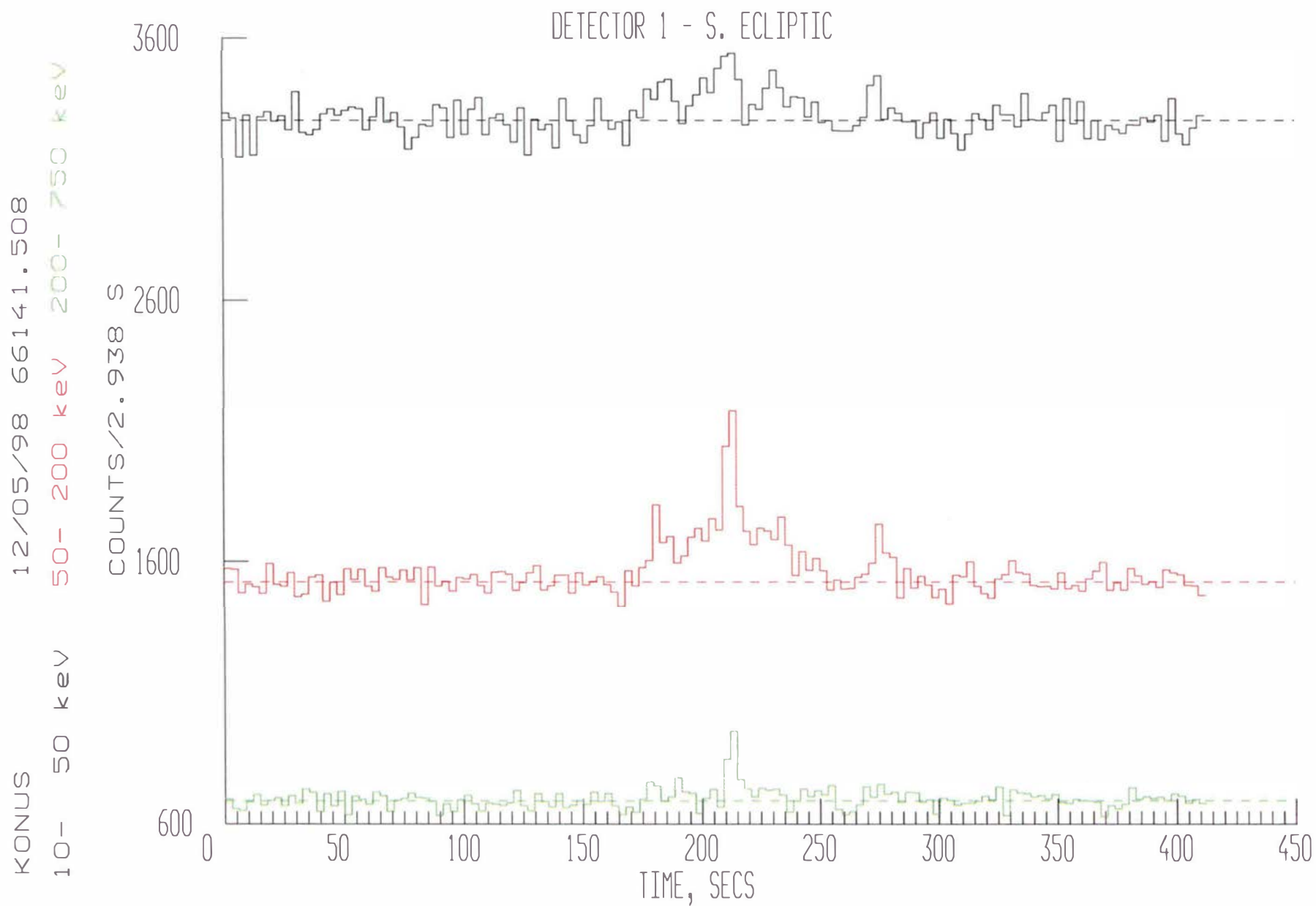
12/05/98

66141.508

28/ 3/12

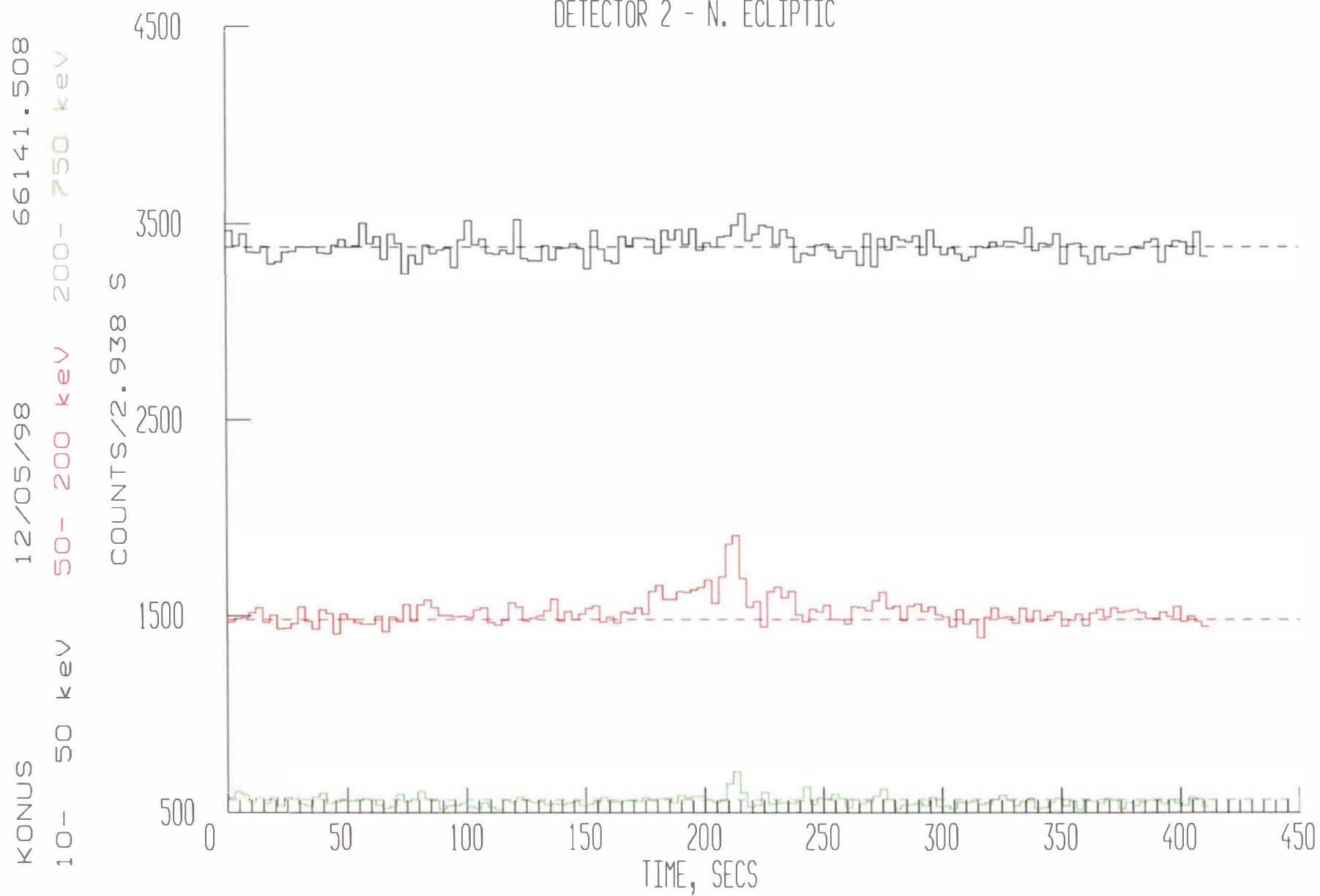


28/03/2012



28/03/2012

DETECTOR 2 - N. ECLIPTIC

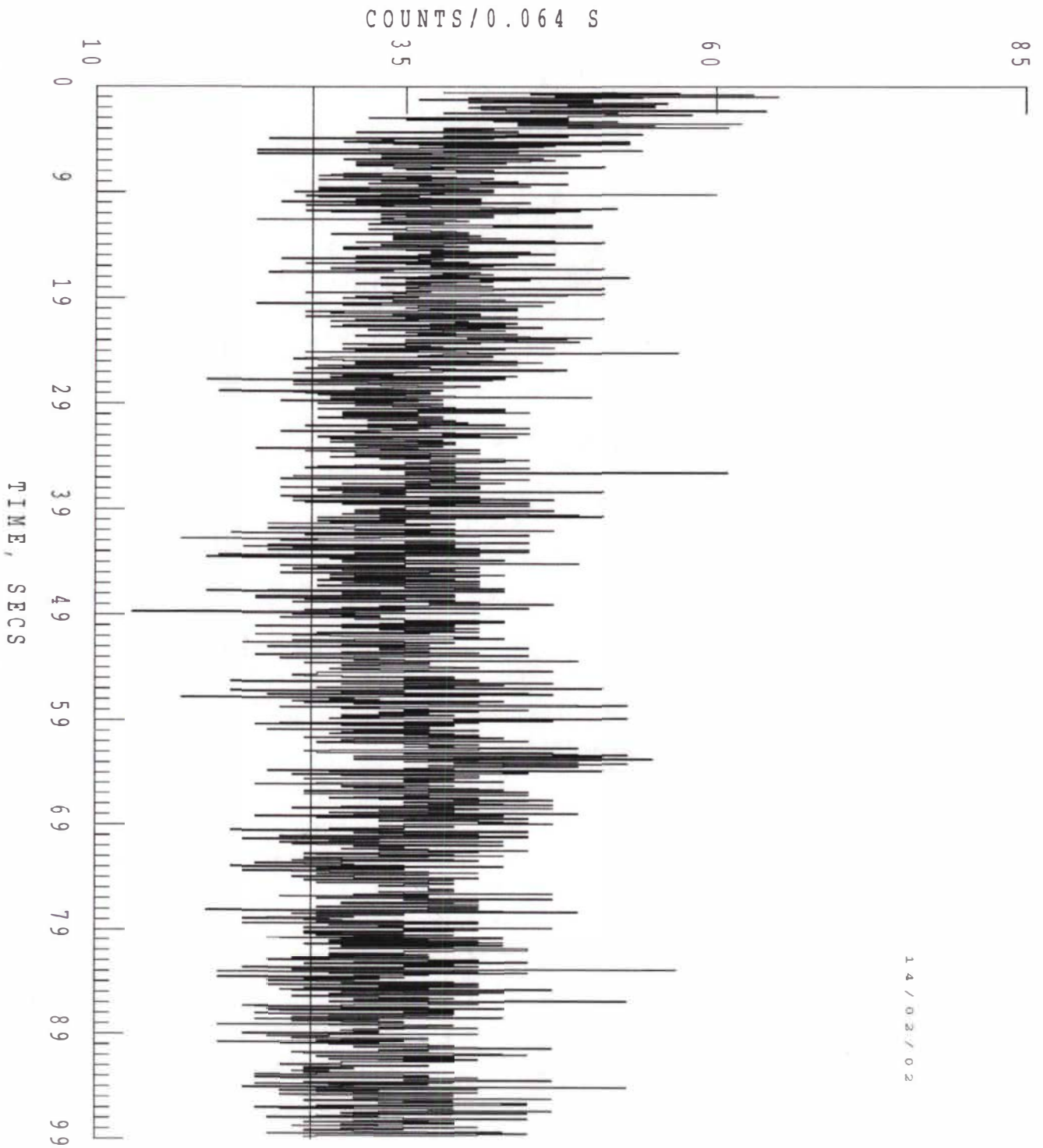


KONUS1

12/05/98

66353.592

50 - 200 keV



KONUS1 19980512 66353

ULYSSES RT

14 / 02 / 02

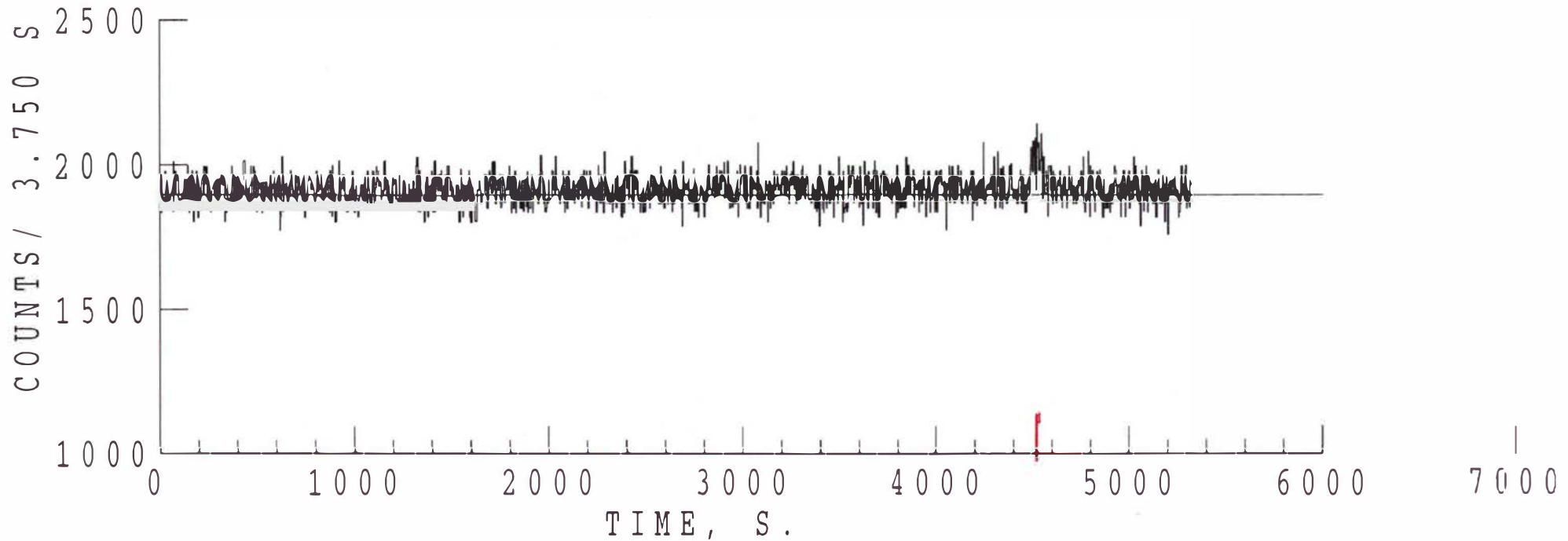
12 / 05 / 98 63684.105 s

0.250 S INTERVALS REGROUPED BY 15

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



konus 19980512 68184

ULYSSES RT

20/03/12

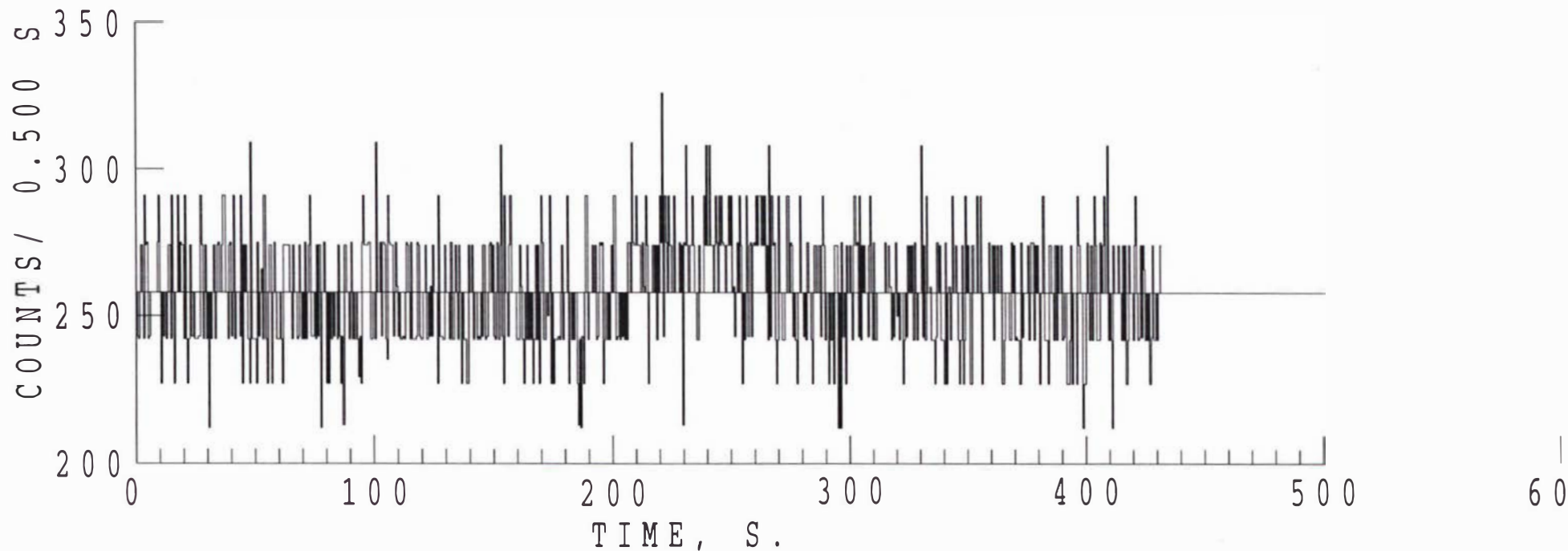
12/05/98 67968.148 s

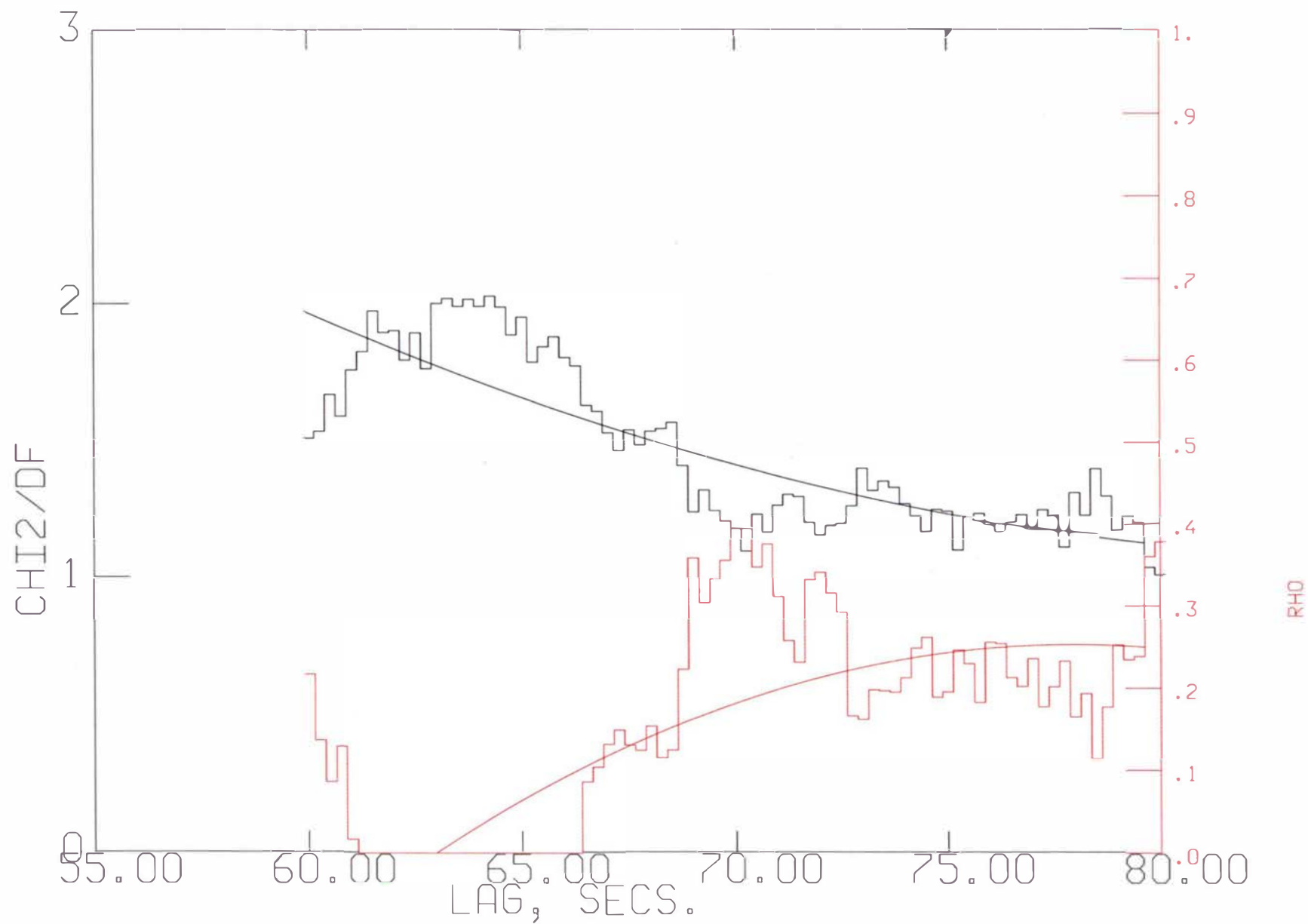
0.250 S INTERVALS REGROUPED BY 2

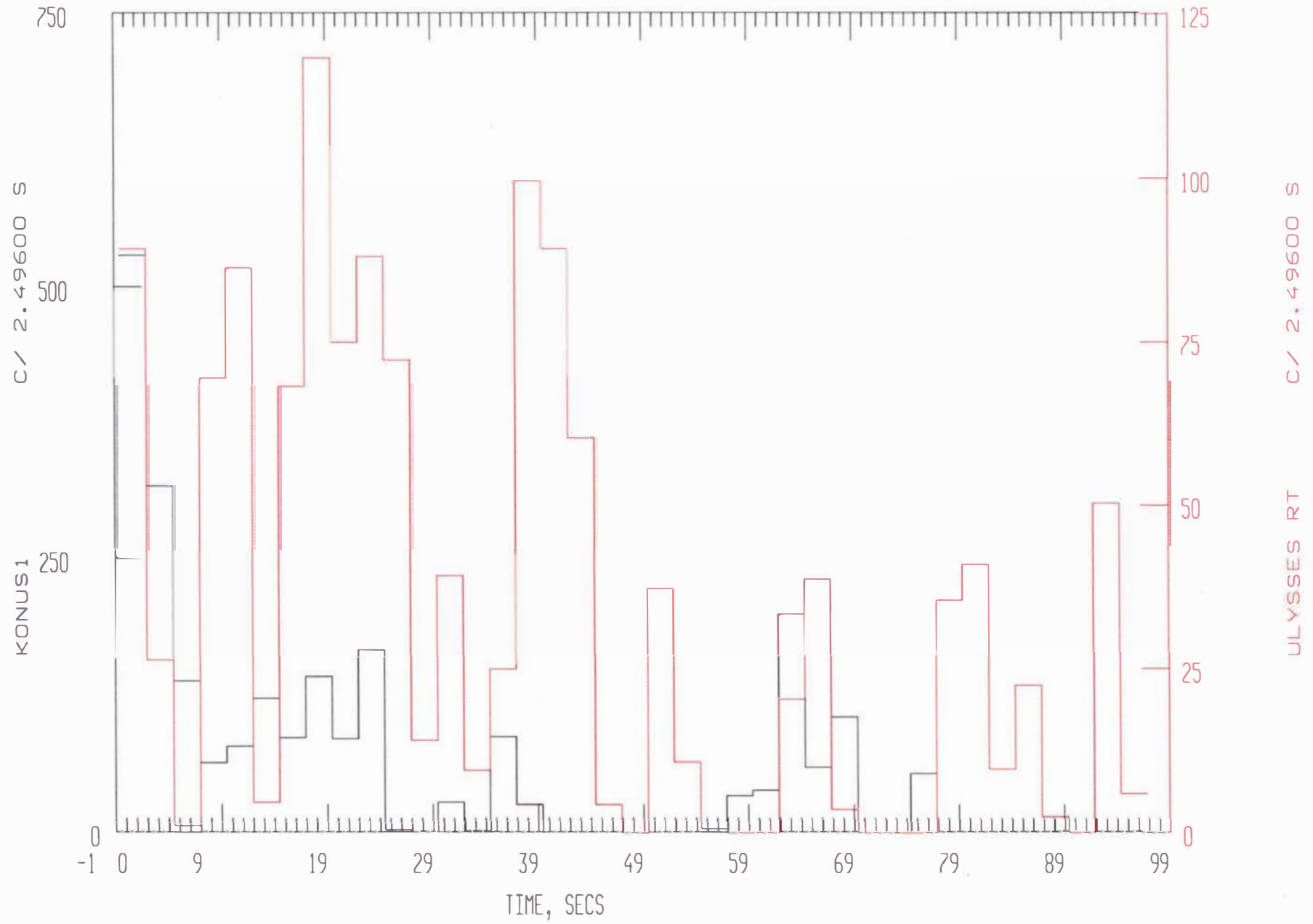
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS







From kraken@rosserv.gsfc.nasa.gov Wed Jun 3 16:06 PDT 1998

X-Sender: kraken@kangaroo.gsfc.nasa.gov

Mime-Version: 1.0

Date: Wed, 3 Jun 1998 19:07:53 -0500

khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)

From: Peter Kurczynski <kraken@rosserv.gsfc.nasa.gov>

Subject: Re: GRB980512, 980513, 980516

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

>Ulysses observed the following bursts:

>

>ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
----------------------	----------	--------------------------------------

>

>12 May 1998 00939	weak, 64 ms long	2650
--------------------	------------------	------

>12 May 1998 56243	weak, 64 ms long	2650
--------------------	------------------	------

>12 May 1998 76045	weak, 64 ms long	2650
--------------------	------------------	------

>13 May 1998 54955	weak, 64 ms long	2650
--------------------	------------------	------

>16 May 1998 39934	intense, 50 s long	2650
--------------------	--------------------	------

>

>Were these events detected by anyone else?

>

>CC: ulyssesbursts alias list

> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski,

>marar, teegarden, terrell, yoshimori)

TGRS sees only the last of these. On May 16 we have TGRS #699
occurring at 41039 s.

10-300 keV):

fluence 20020 cts; p. flux 3012 cts/s; T90 = 14 s; T50 = 4 s

From RICHARDSON@fender.msfc.nasa.gov Thu May 14 10:05:23 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 14 May 1998 12:05:07 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6754

TIME: TJD=0945 SECONDS=3057

TYPE: UNCLASS

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

UNCLASSIFIED DUE TO LACK OF DATA.

From RICHARDSON@fender.msfc.nasa.gov Thu May 14 10:07:06 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 14 May 1998 12:06:15 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6755

TIME: TJD=0945 SECONDS=17645

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Fri May 15 09:53:35 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA23815; Fri, 15 May 1998 09:53:34 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA26833; Fri, 15 May 1998 09:53:35 -0700
Date: Fri, 15 May 1998 11:45:39 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980515114539.2020586a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6756
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6756
EVENT OF 1998 MAY 12 DAY OF YEAR=132
EVENT CROSSING TIME AT BATSE : 84571. S. OR 23:29:31.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 270.000 -28.000
BATSE PEAK COUNTING RATE: 1600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 12/ 5/ 98 IS:
RA= 148.904 DEC= 12.366 DIST= 5.233 AU
BATSE-ULYSSES DISTANCE = 782826881. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.91 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1425.69 SECS.
CROSSING TIME AT ULYSSES IS 85997. S. OR 23:53:16 +/- 451.47 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 12/ 5/ 98 IS:
RA= 48.851 DEC= 18.118 DIST= 2.486 AU
MARS-BATSE DISTANCE = 371874144. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 964.92 SECS.
CROSSING TIME AT MARS IS 85536. S. OR 23:45:35 +/- 149.99 SECONDS

BATSE BURST TRIGGER

NO.: 6756

TIME: TJD=0945 SECONDS=84571

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=41.8 AZIMUTH=221.0 ERROR=1.2 DEGREES

COMMENTS:

GRB. WEAK EVENT WITH STRUCTURE. DURATION APPROX. = 30 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6756	980512	10945	84571	1600	270	-28	30

BATSE BURST# 6756

ULYSSES RT

15 / 5 / 98

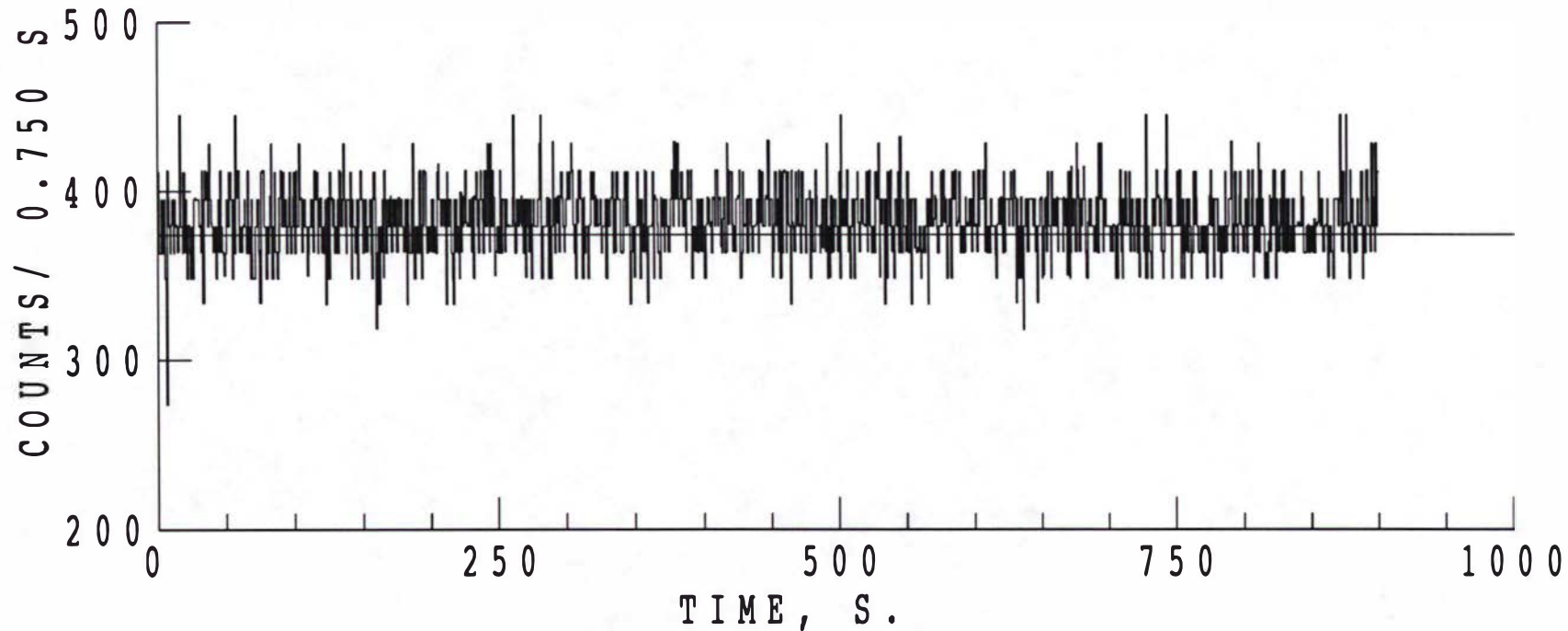
12 / 5 / 98 85536.086 s

0.250 S INTERVALS REGROUPED BY 3

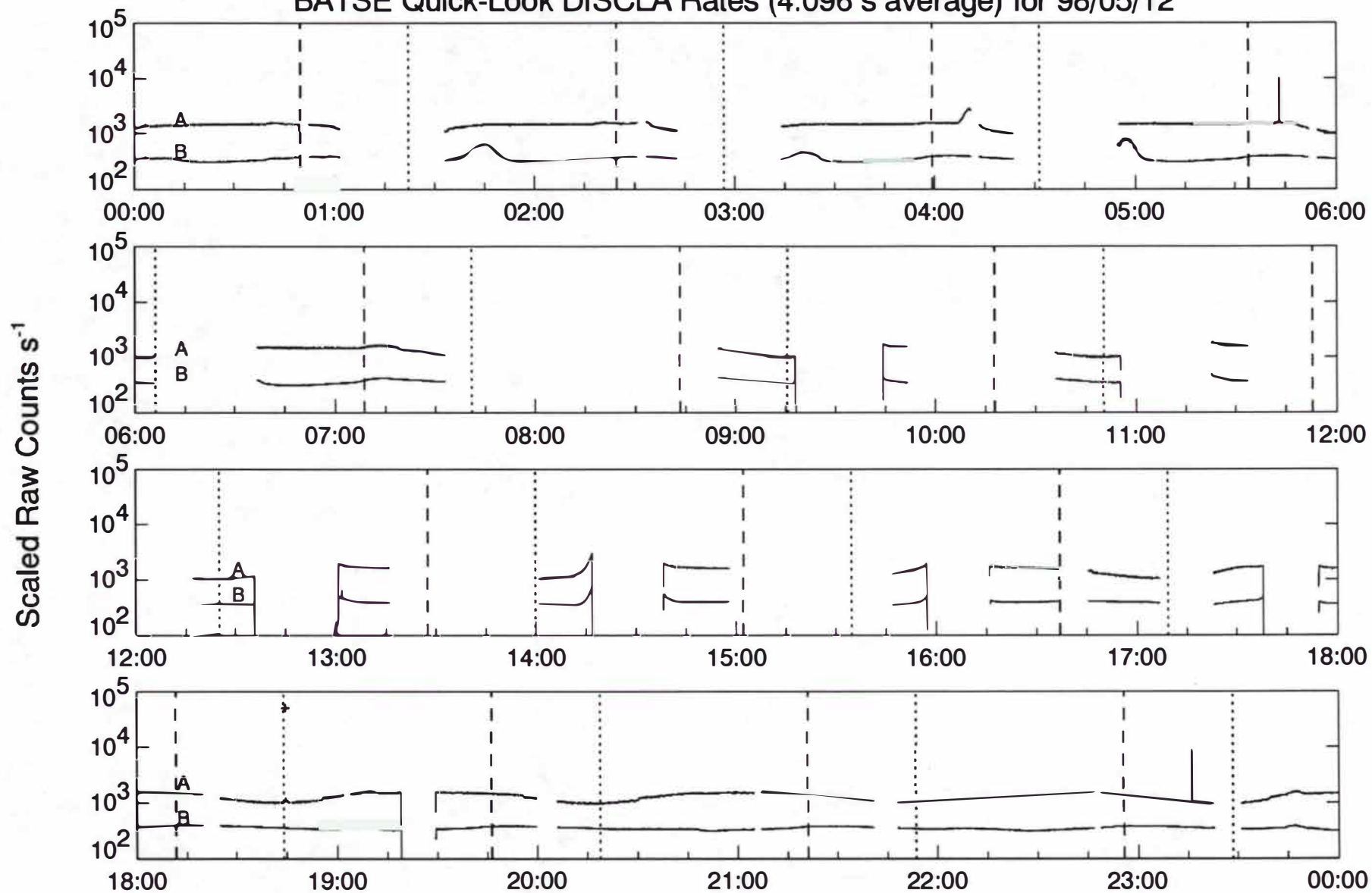
0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



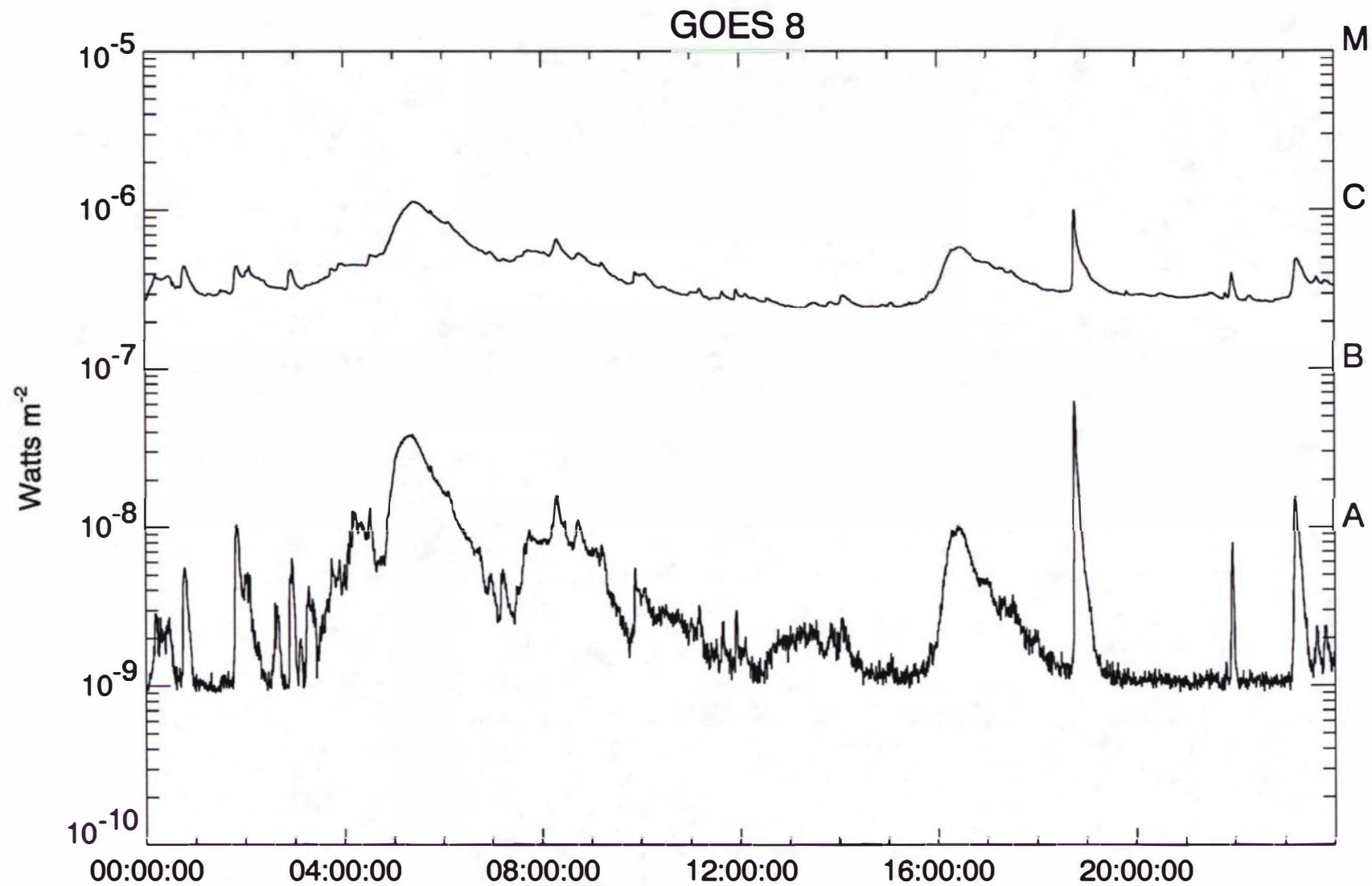
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/12



Current Time: 98/05/16, 1008 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



Data Start: 98/05/12, 0000:00

Plot created: 98/05/16, 1007

Channel 1 (1.0 - 8.0 Angstroms)

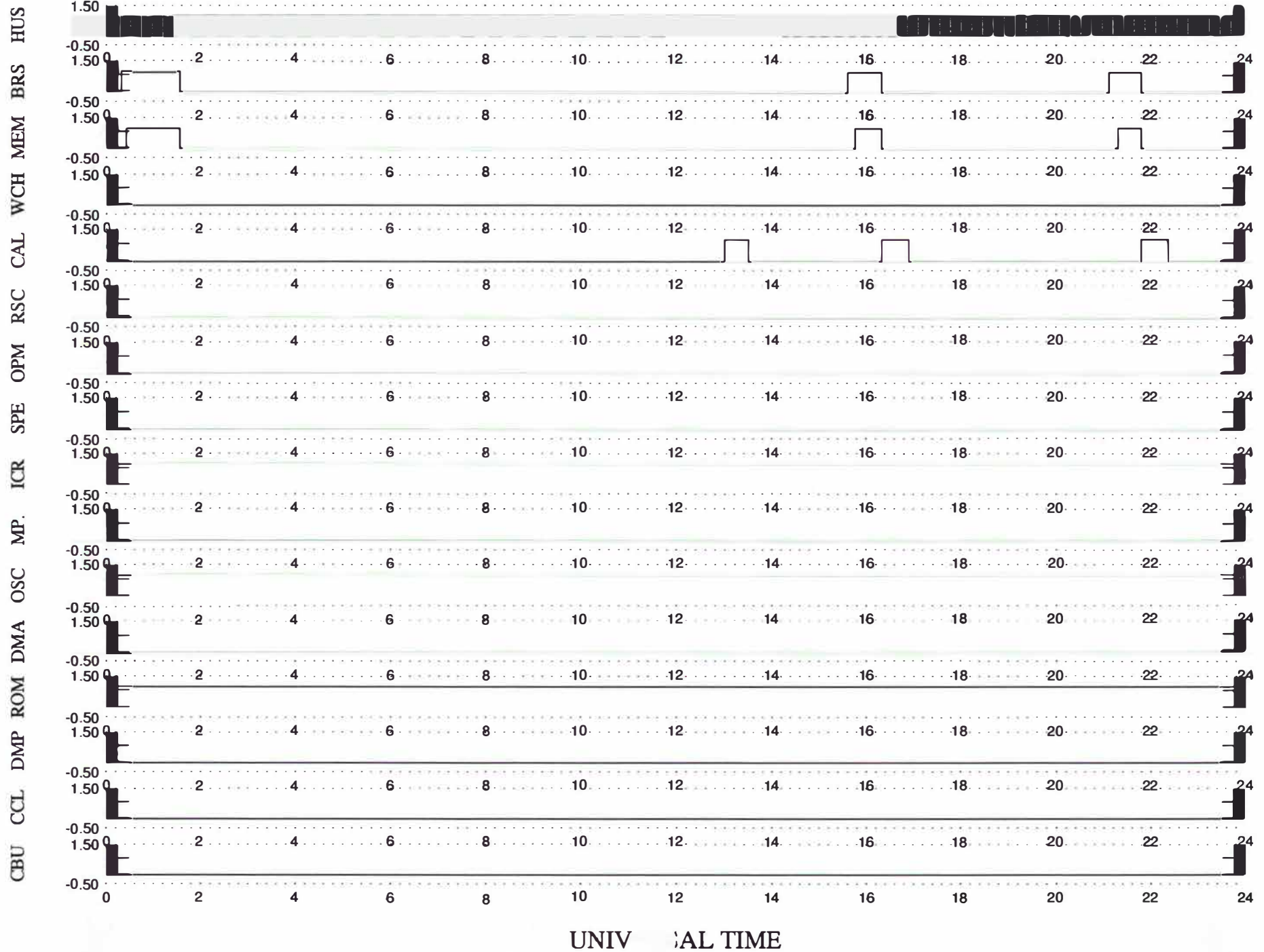
Background not subtracted

2 (0.5 - 4.0 Angstroms)

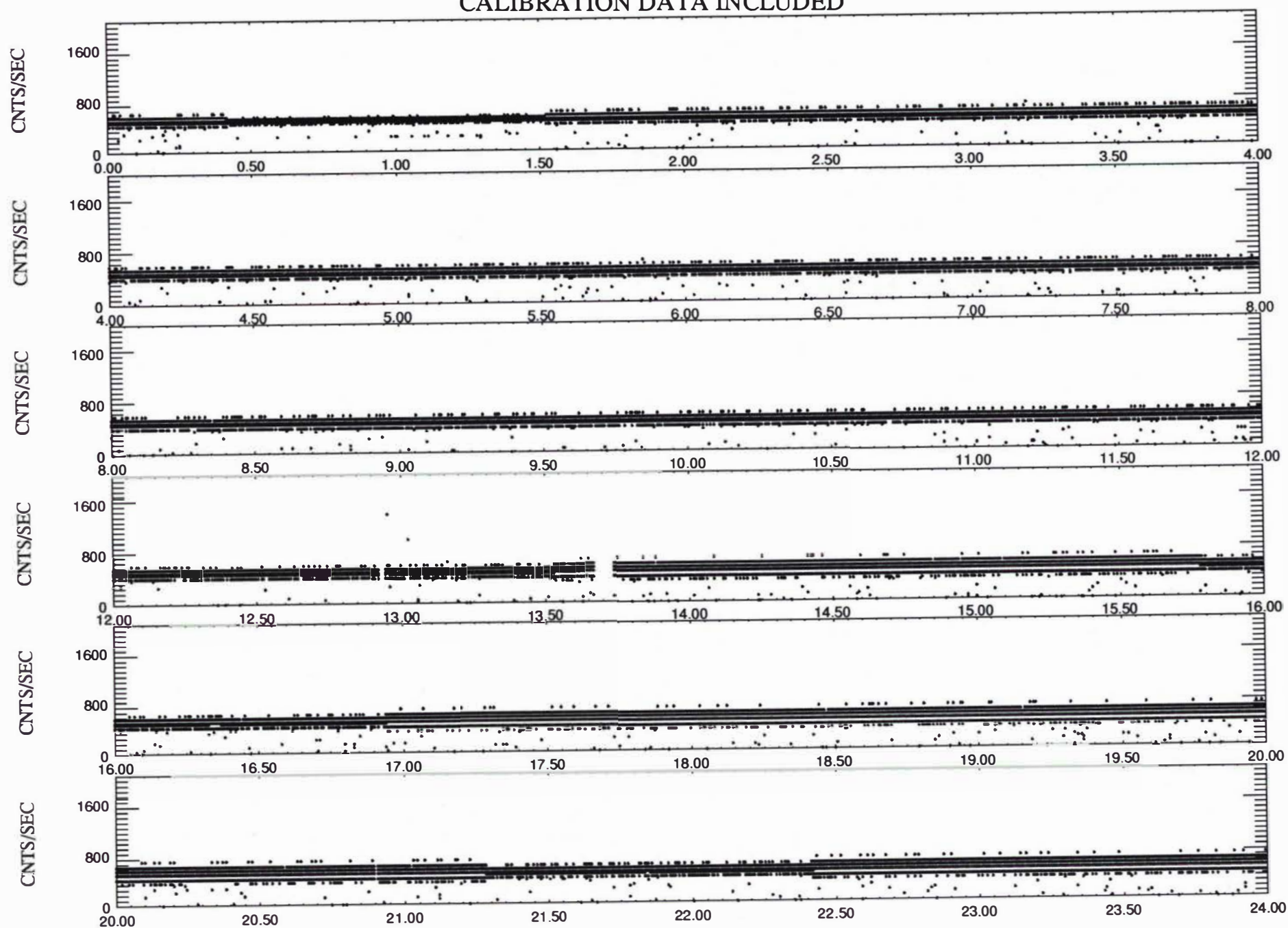
Background not subtracted

Sample average = 10

BURST NUMBER 1 - 3

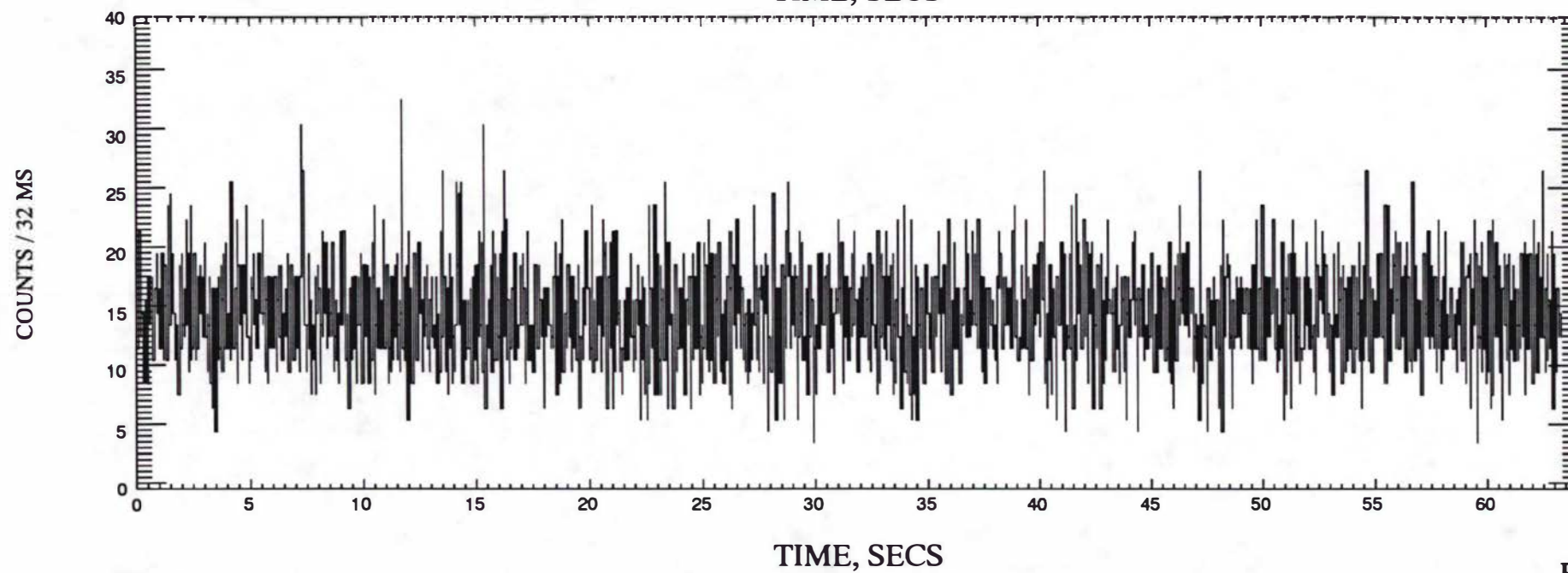
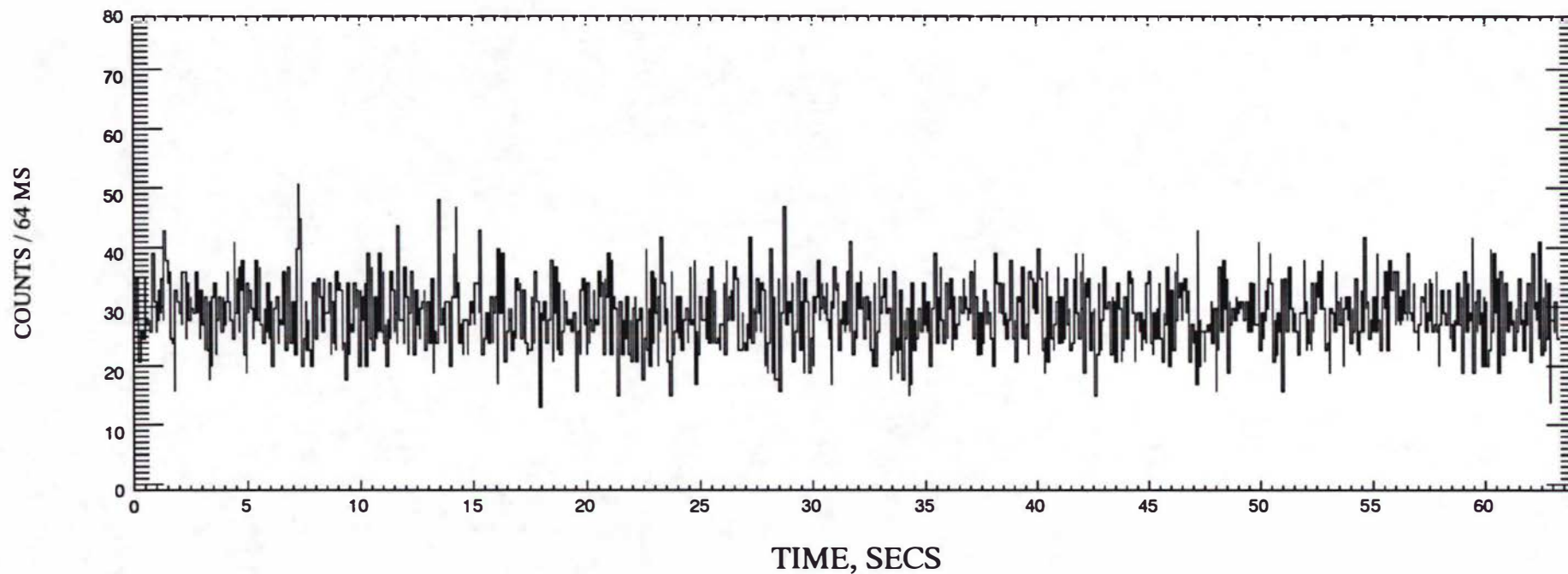


CALIBRATION DATA INCLUDED

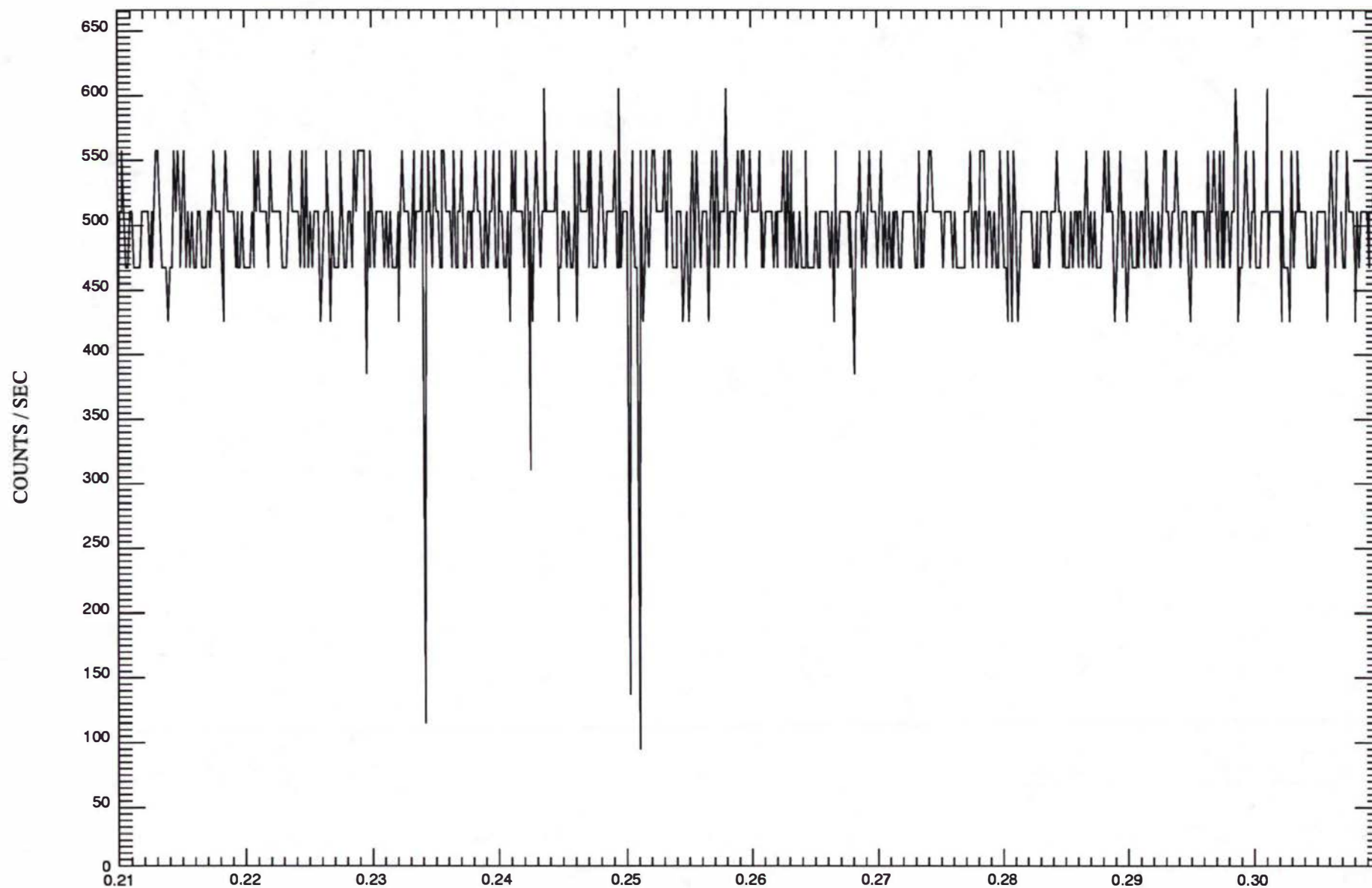


UNIV AL TIME

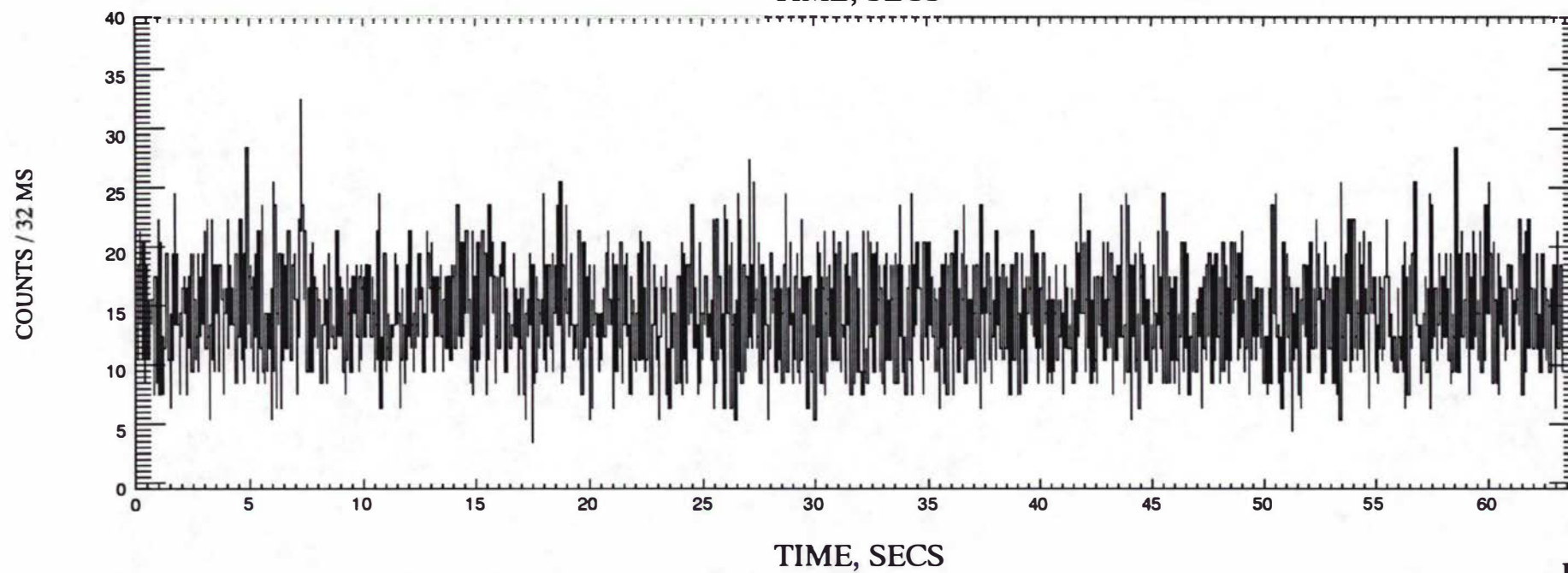
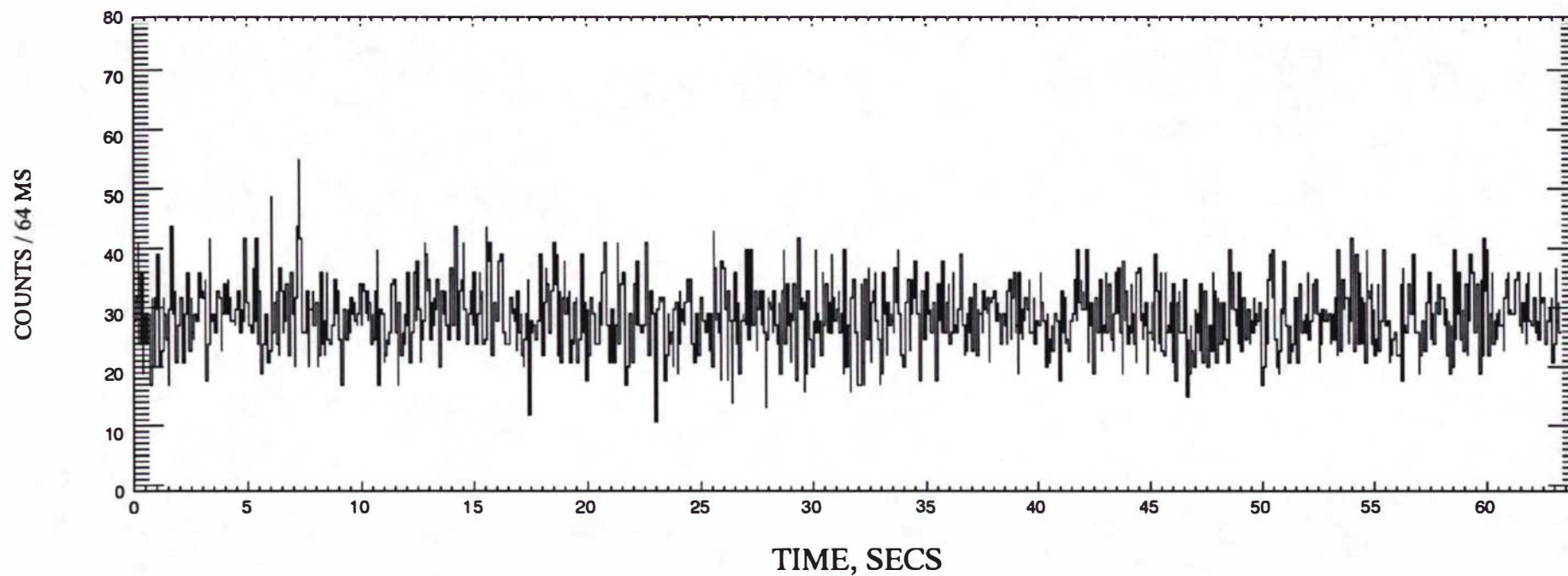
Burst Counter 1 at UT= 0.260847591824 h= 939.051 s 00:15:39.051



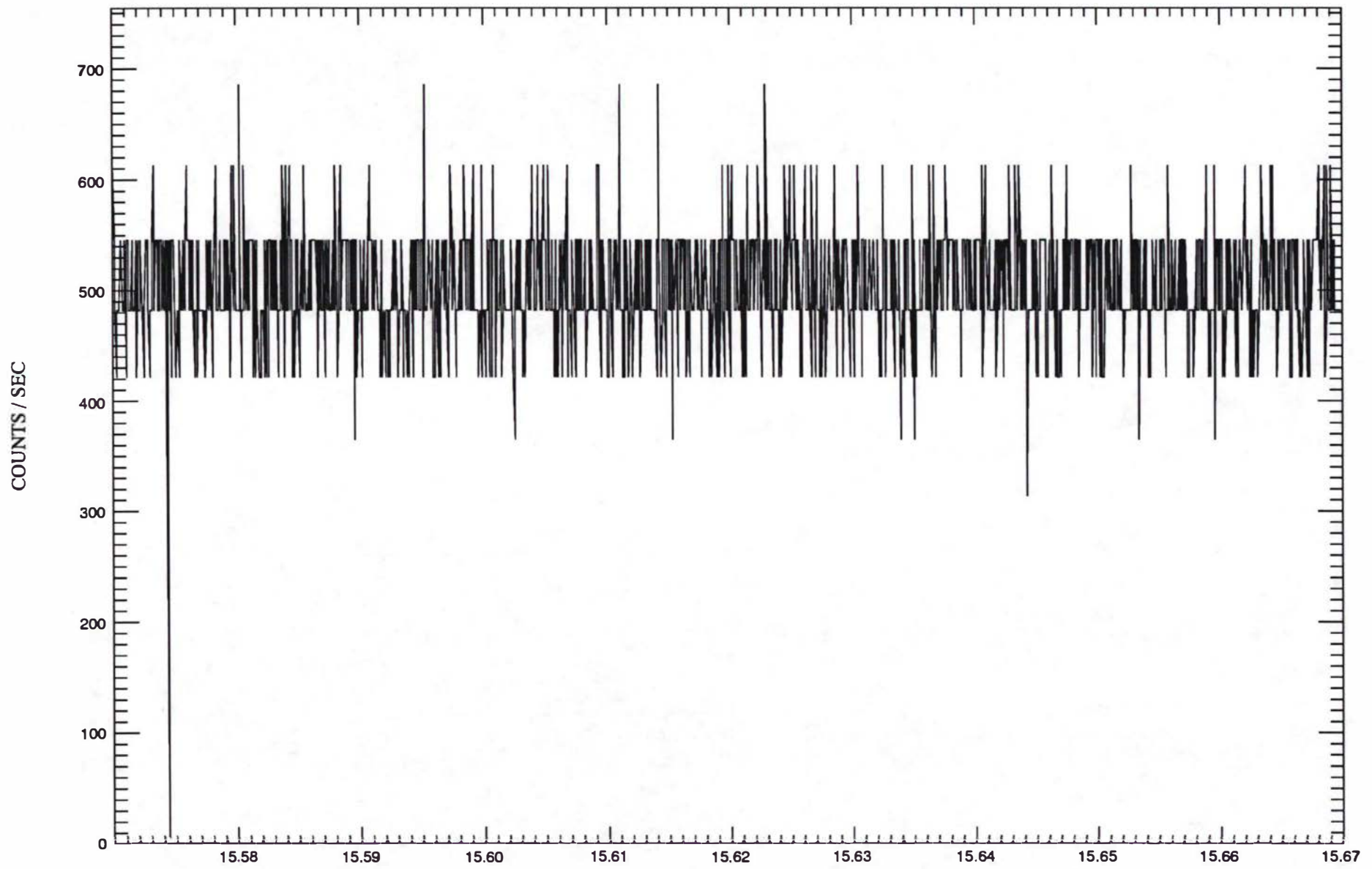
CALIBRATION DATA INCLUDED



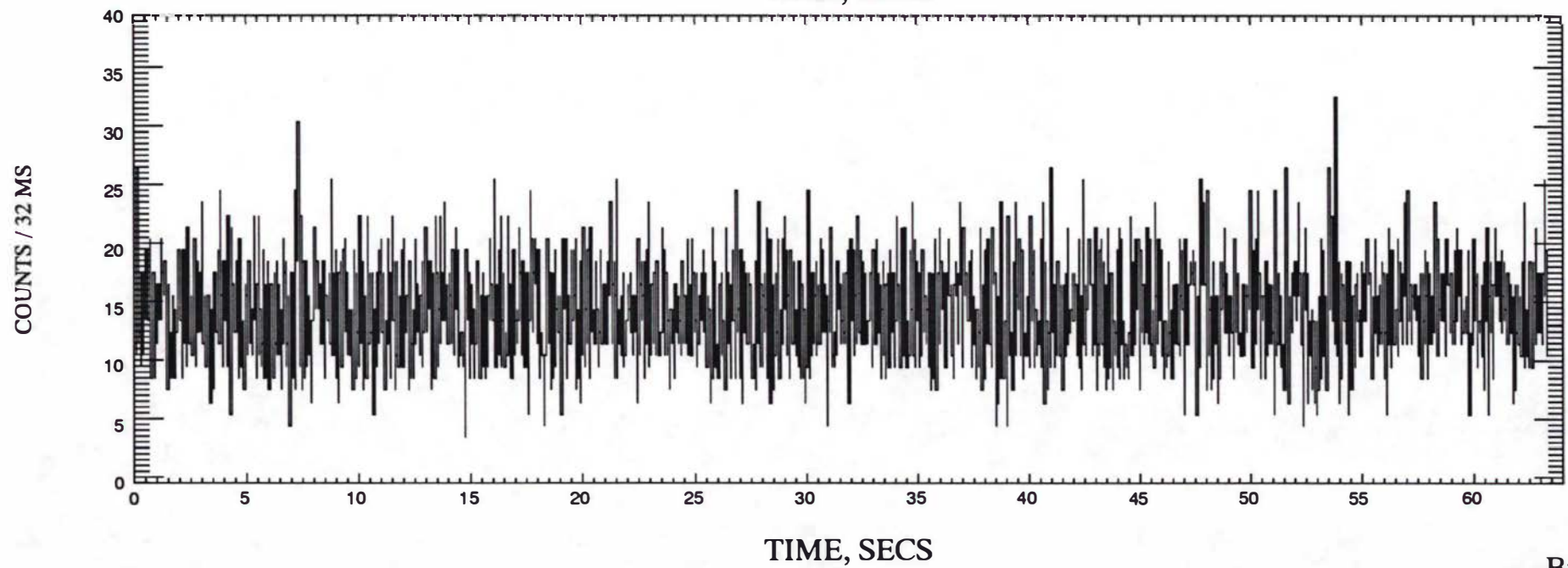
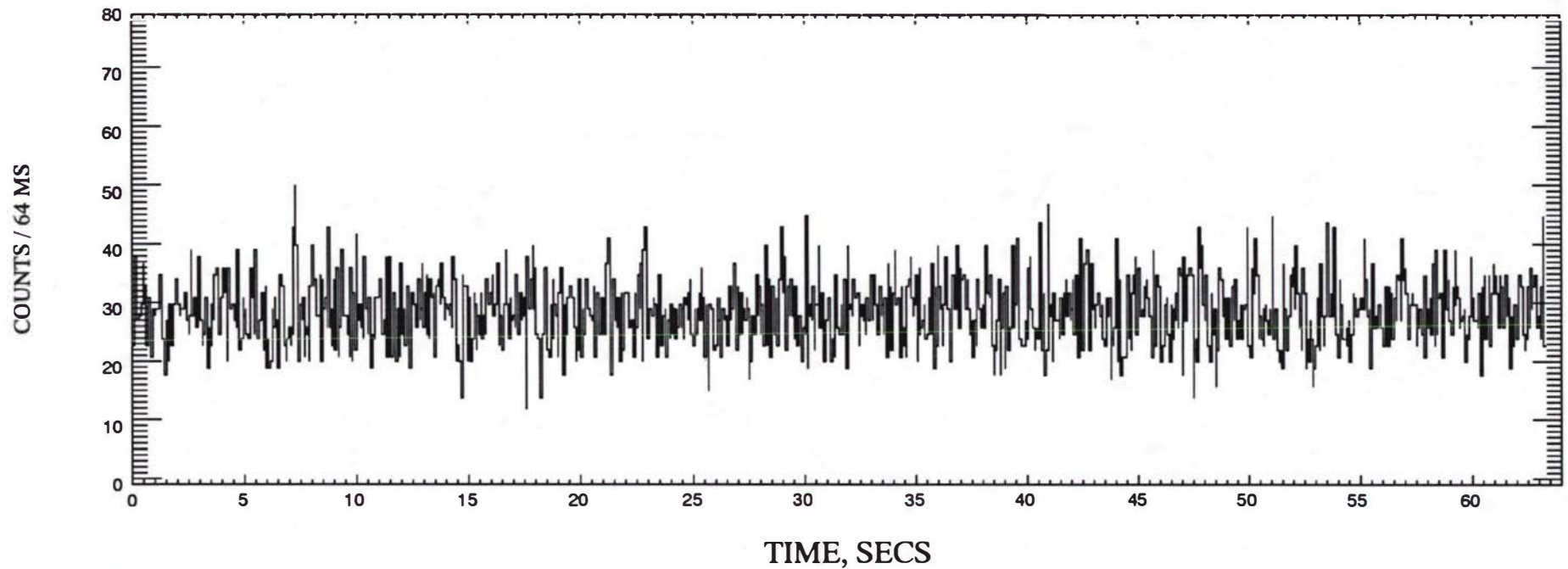
Burst Counter 2 at UT=15.623130031162 h=56243.268 s 15:37:23.268



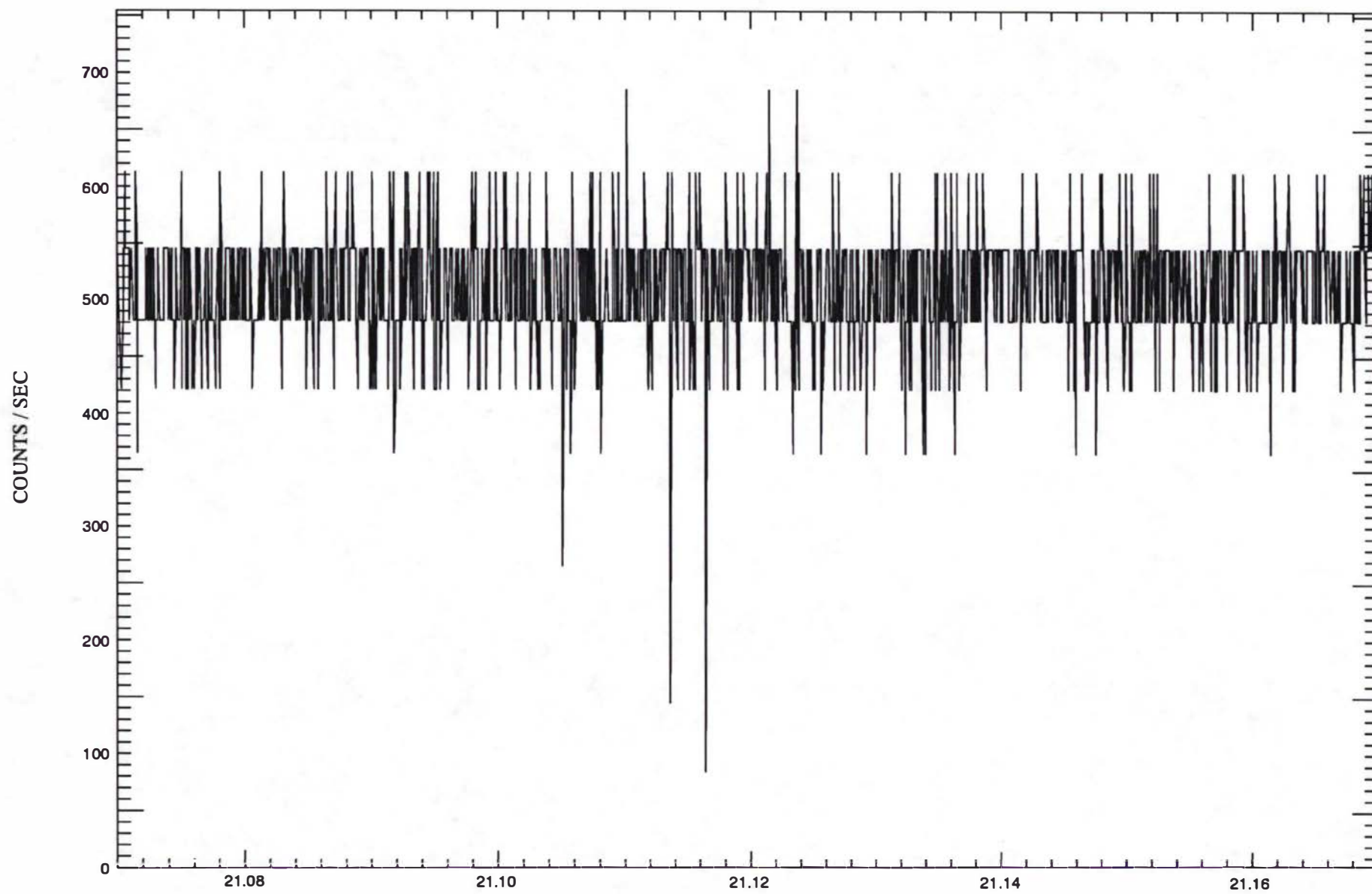
CALIBRATION DATA INCLUDED

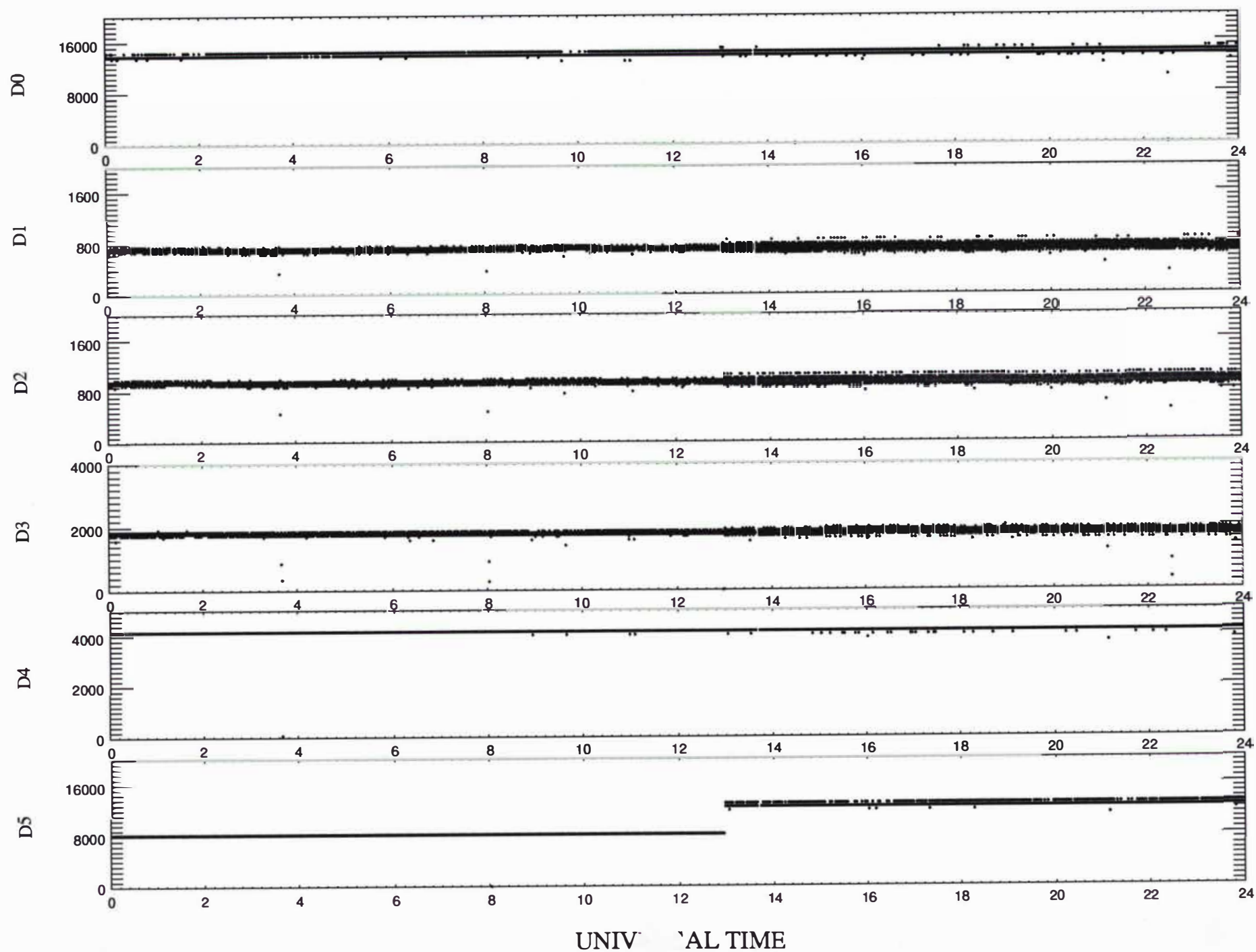


Burst Counter 3 at UT=21.123778703478 h=76045.603 s 21:07:25.603



CALIBRATION DATA INCLUDED





From kraken@rosserv.gsfc.nasa.gov Wed Jun 3 16:06 PDT 1998
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Wed, 3 Jun 1998 19:07:53 -0500
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
To: Peter Kurczynski <kraken@rosserv.gsfc.nasa.gov>
Subject: Re: GRB980512, 980513, 980516

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

>Ulysses observed the following bursts:

>

>ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
----------------------	----------	--------------------------------------

>

>12 May 1998 00939	weak, 64 ms long	2650
>12 May 1998 56243	weak, 64 ms long	2650
>12 May 1998 76045	weak, 64 ms long	2650
>13 May 1998 54955	weak, 64 ms long	2650
>16 May 1998 39934	intense, 50 s long	2650

>

>Were these events detected by anyone else?

>

>CC: ulyssesbursts alias list

> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski,
>marar, teegarden, terrell, yoshimori)

TGRS sees only the last of these. On May 16 we have TGRS #699
occurring at 41039 s.

0-300 keV):

ence 20020 cts; p. flux 3012 cts/s; T90 = 14 s; T50 = 4 s

From WOODSP@fender.msfc.nasa.gov Mon May 18 08:42:46 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA23644; Mon, 18 May 1998 08:42:46 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA08753; Mon, 18 May 1998 08:42:45 -0700
Date: Mon, 18 May 1998 10:42:43 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980518104243.2020a668@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6757
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6757
EVENT OF 1998 MAY 13 DAY OF YEAR=133
EVENT CROSSING TIME AT BATSE : 78085. S. OR 21:41:25.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 128.000 -55.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 5/ 98 IS:
RA= 148.882 DEC= 12.325 DIST= 5.248 AU
BATSE-ULYSSES DISTANCE = 785127572. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.41 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -913.19 SECS.
CROSSING TIME AT ULYSSES IS 77172. S. OR 21:26:11 +/- 462.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 5/ 98 IS:
RA= 49.582 DEC= 18.315 DIST= 2.487 AU
MARS-BATSE DISTANCE = 372099168. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 183.81 SECS.
CROSSING TIME AT MARS IS 78269. S. OR 21:44:28 +/- 215.91 SECONDS

BATSE BURST TRIGGER

NO.: 6757

TIME: TJD=0946 SECONDS=78085

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=133.0 AZIMUTH=229.5 ERROR=2.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 2 SEC. SINGLE PULSE WITH SUBSTRUCTURE.
MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6757	980513	10946	78085	3500	128	-55	2

From WOODSP@fender.msfc.nasa.gov Mon May 18 08:42:46 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA23644; Mon, 18 May 1998 08:42:46 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA08753; Mon, 18 May 1998 08:42:45 -0700
Date: Mon, 18 May 1998 10:42:43 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980518104243.2020a668@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6757
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6757
EVENT OF 1998 MAY 13 DAY OF YEAR=133
EVENT CROSSING TIME AT BATSE : 78085. S. OR 21:41:25.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 128.000 -55.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 5/ 98 IS:
RA= 148.882 DEC= 12.325 DIST= 5.248 AU
BATSE-ULYSSES DISTANCE = 785127572. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.41 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -913.19 SECS.
CROSSING TIME AT ULYSSES IS 77172. S. OR 21:26:11 +/- 462.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 5/ 98 IS:
RA= 49.582 DEC= 18.315 DIST= 2.487 AU
MARS-BATSE DISTANCE = 372099168. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 183.81 SECS.
CROSSING TIME AT MARS IS 78269. S. OR 21:44:28 +/- 215.91 SECONDS

BATSE BURST TRIGGER

NO.: 6757

TIME: TJD=0946 SECONDS=78085

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=133.0 AZIMUTH=229.5 ERROR=2.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 2 SEC. SINGLE PULSE WITH SUBSTRUCTURE.
MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE BURST# 6757

ULYSSES RT

18 / 5 / 98

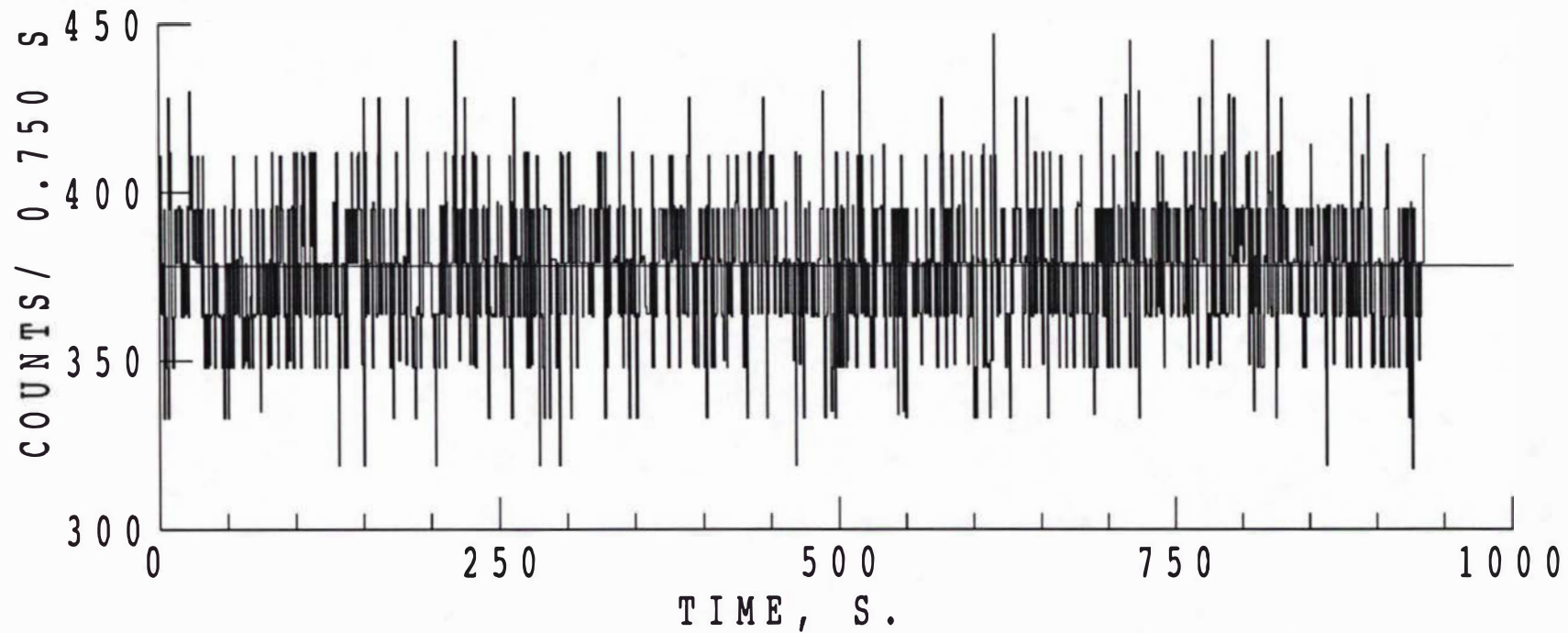
13 / 5 / 98 76716.172 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

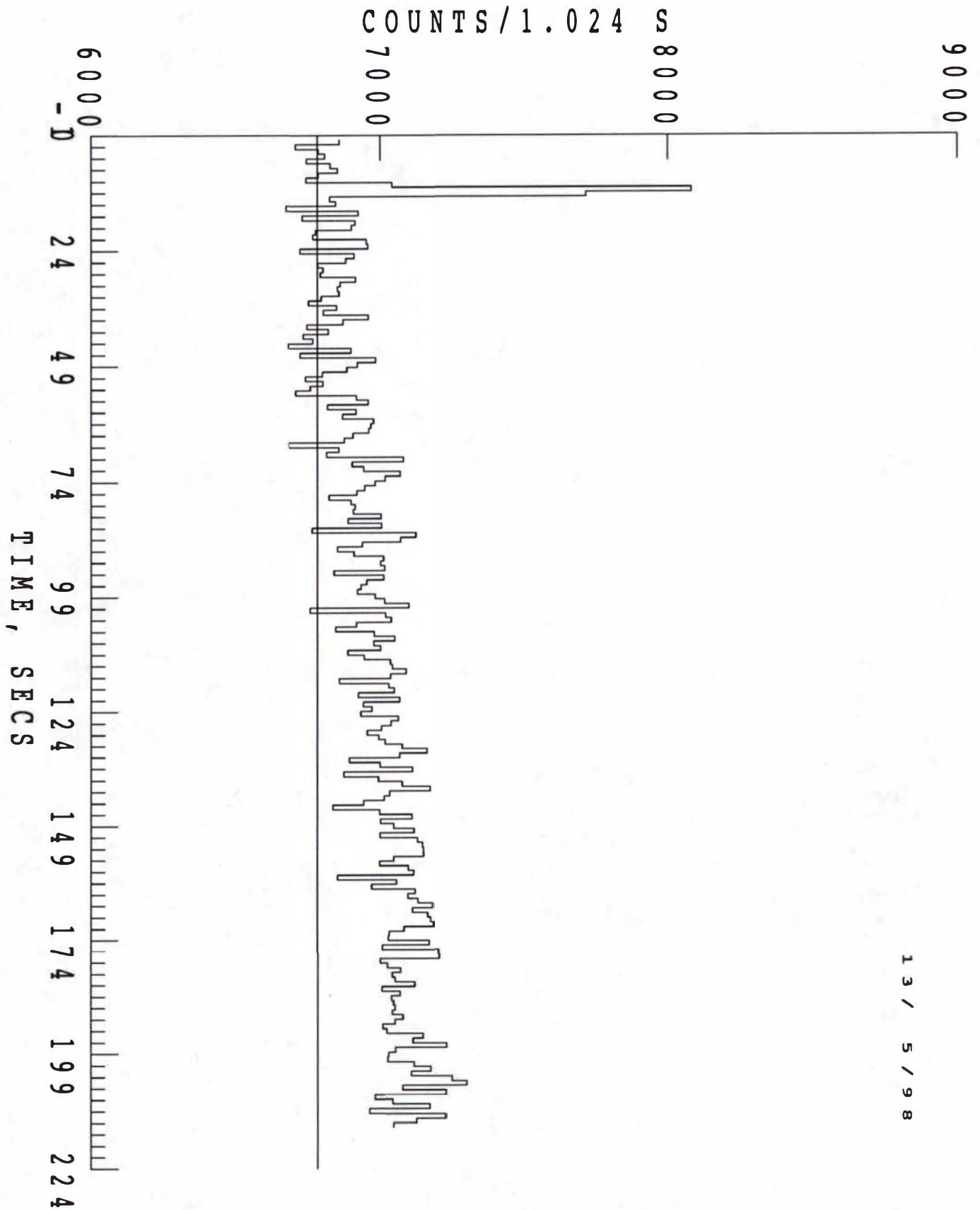
M=10 M=10
>4.0 SIGMA FLUCTUATIONS

M=10 M=2
>4.0 SIGMA FLUCTUATIONS



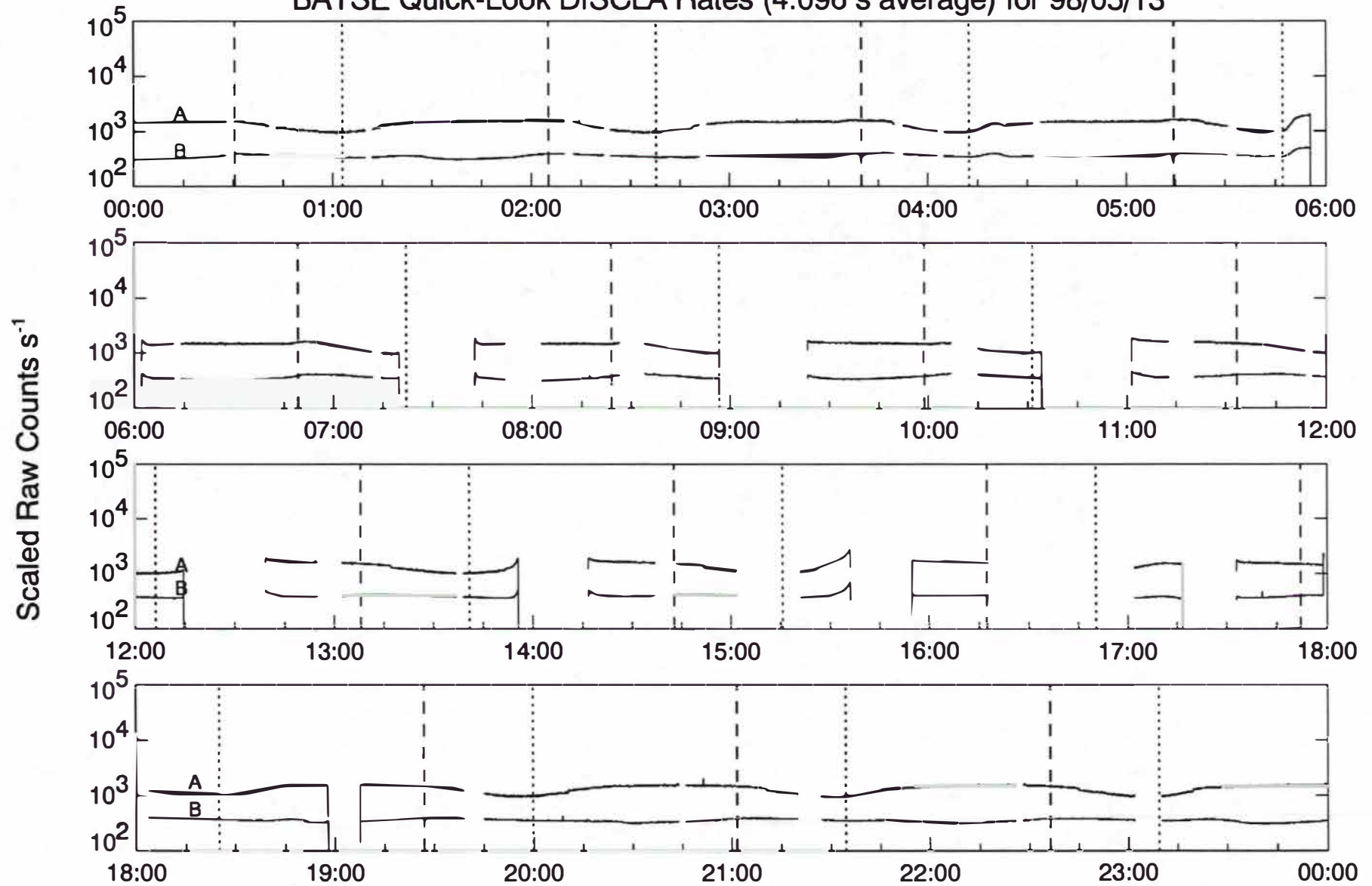
BACODINE 6757 13/05/98 78074.593

25- 100 keV



13 / 5 / 98

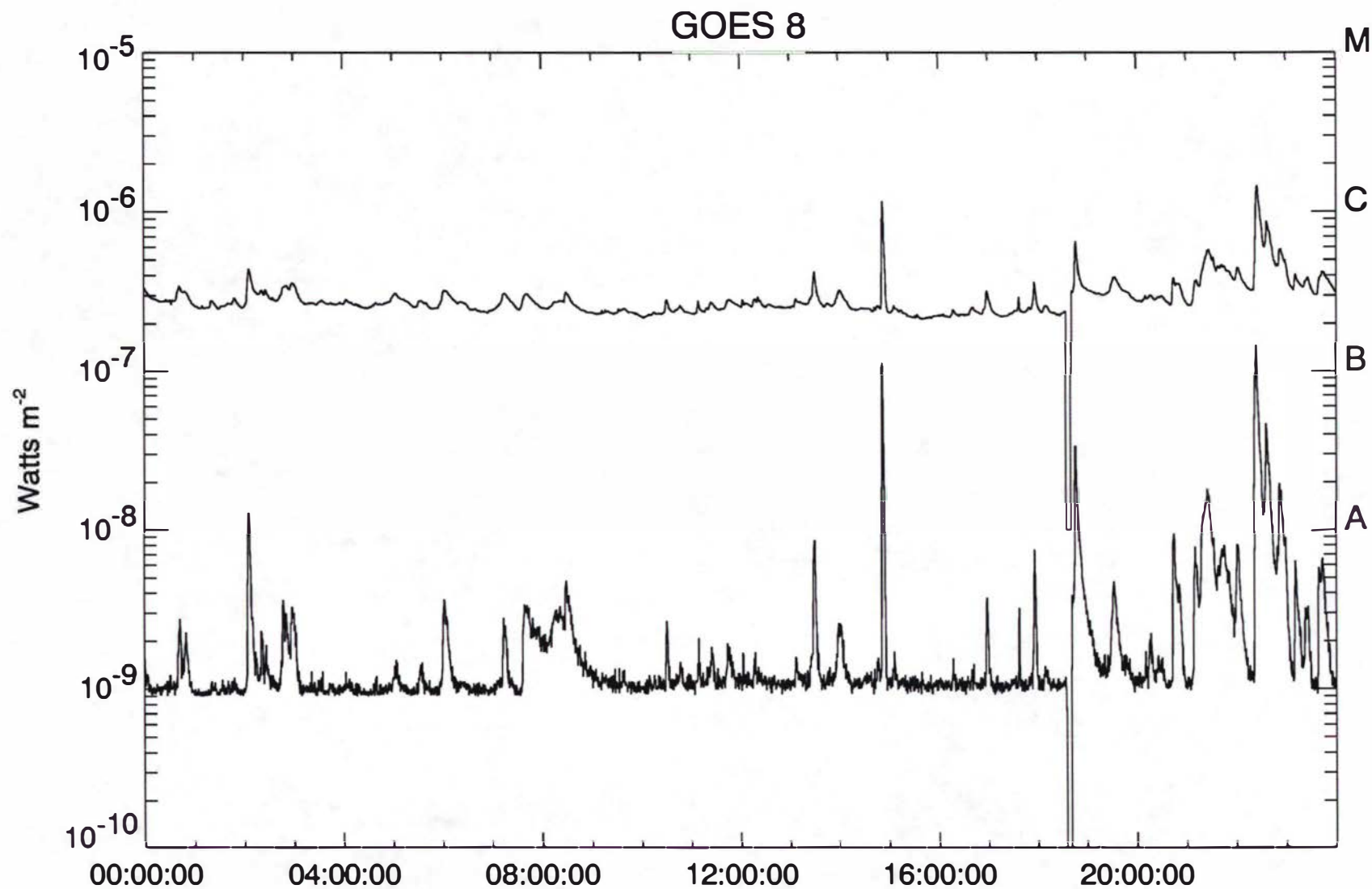
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/13



Current Time: 98/05/17, 1008 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



Data Start: 98/05/13, 0000:00

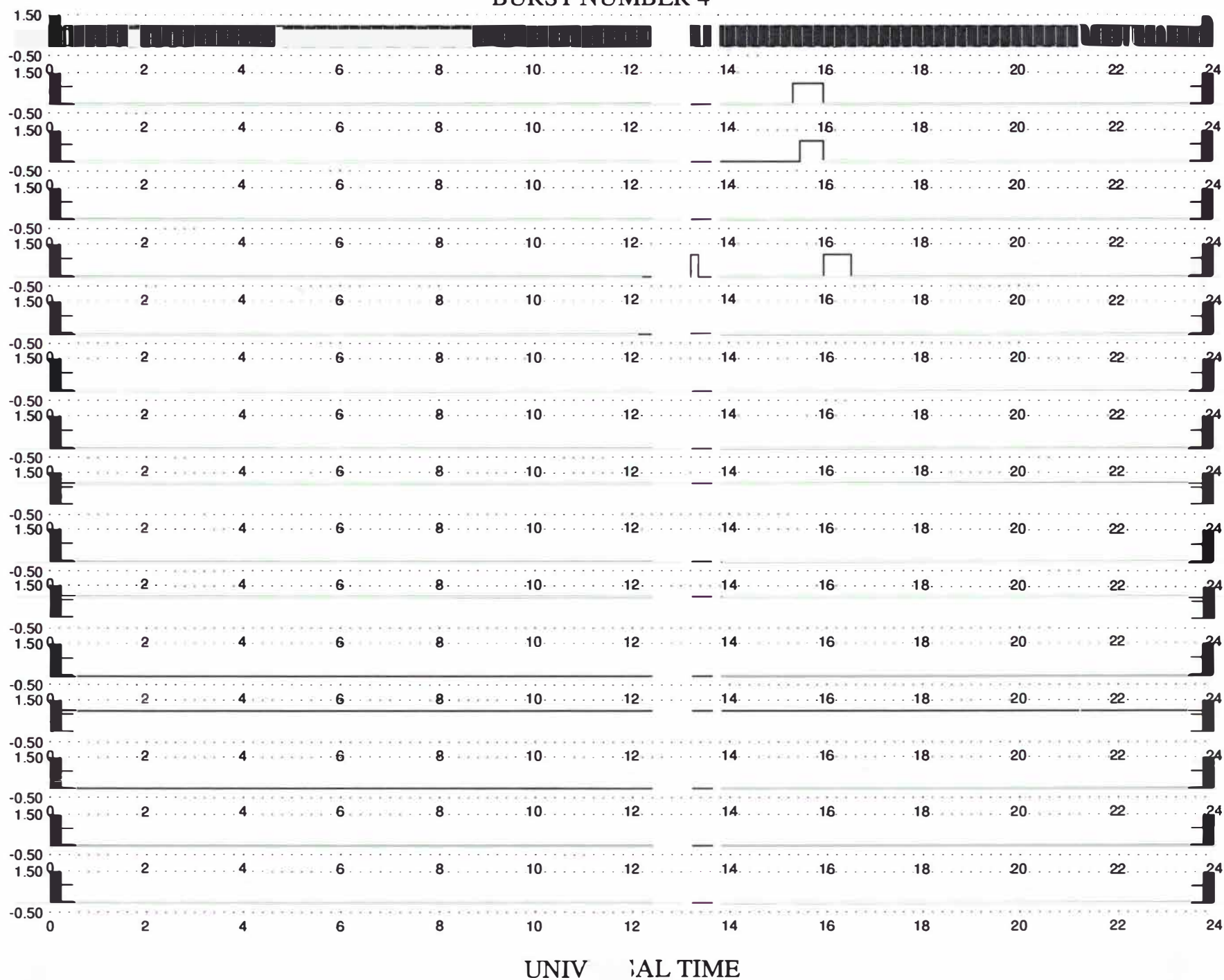
Plot created: 98/05/17, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

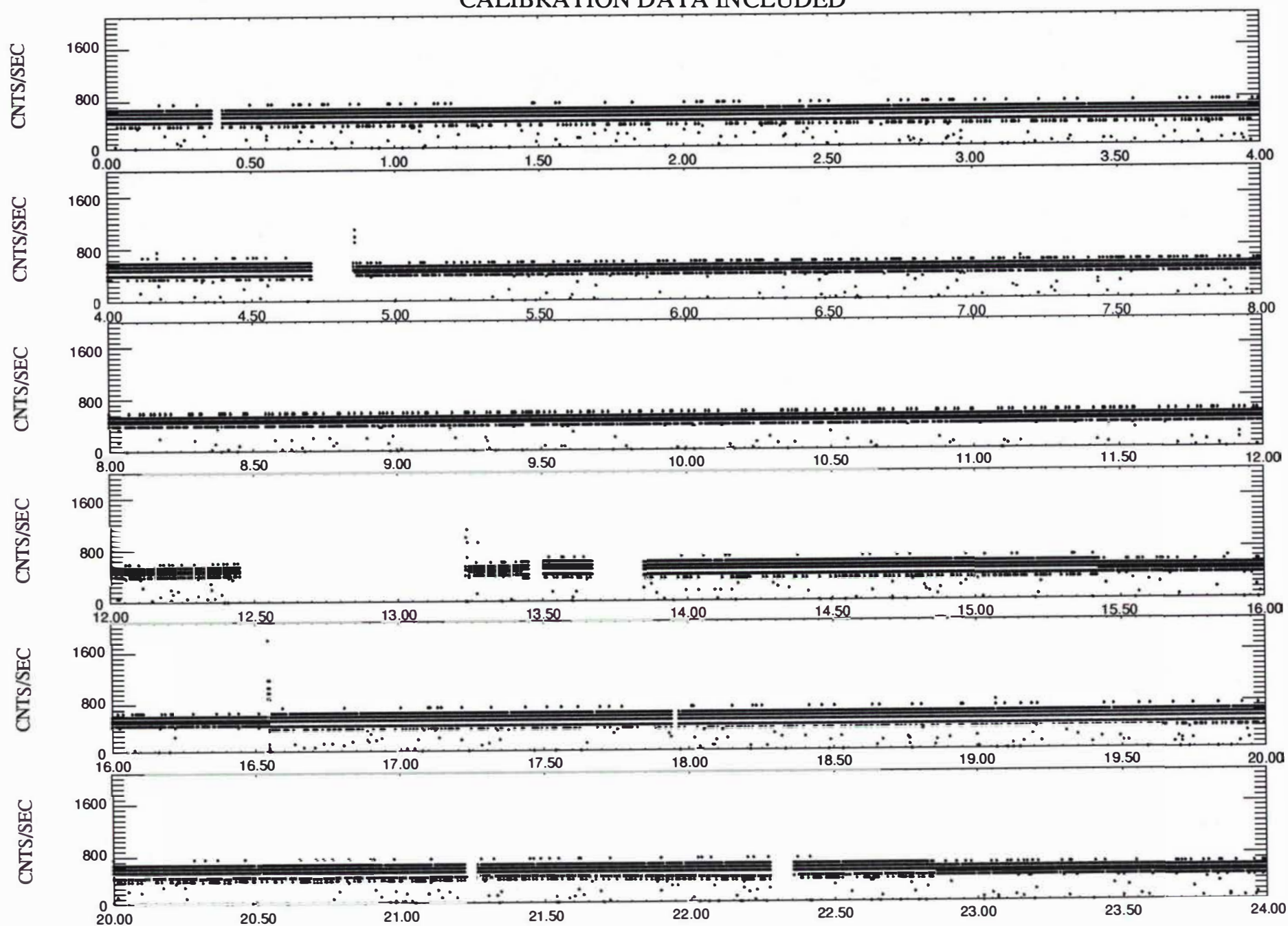
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

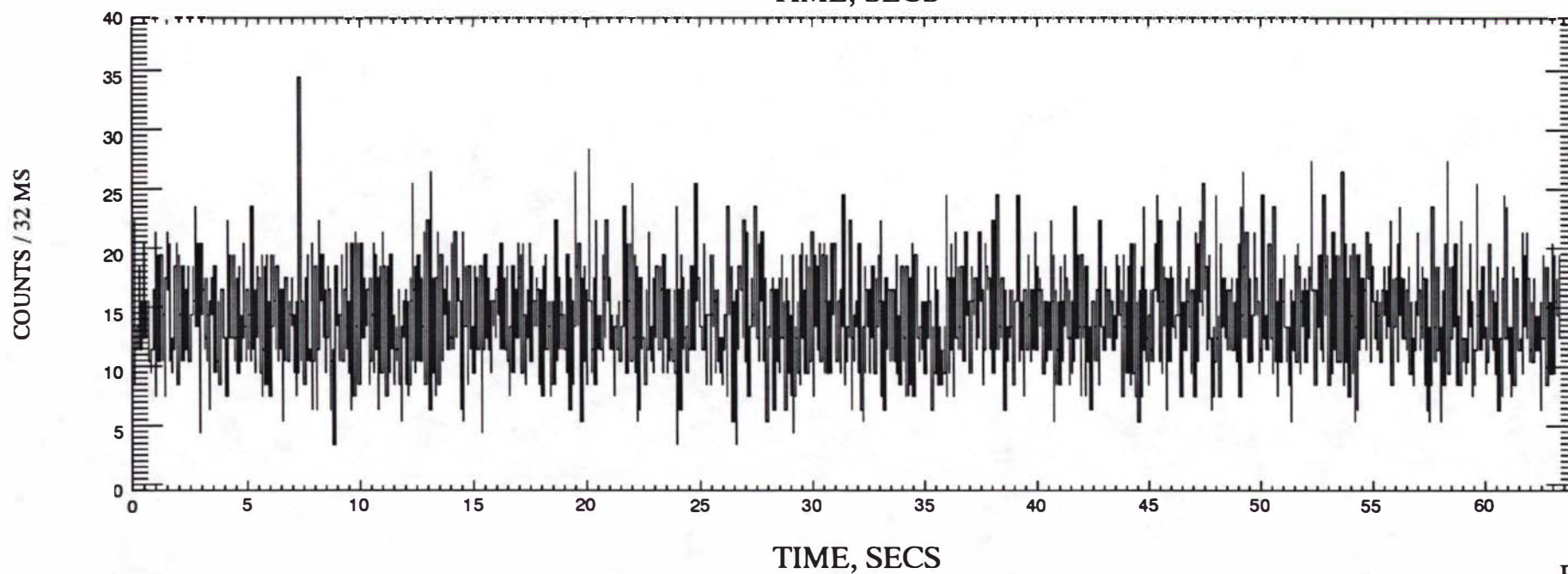
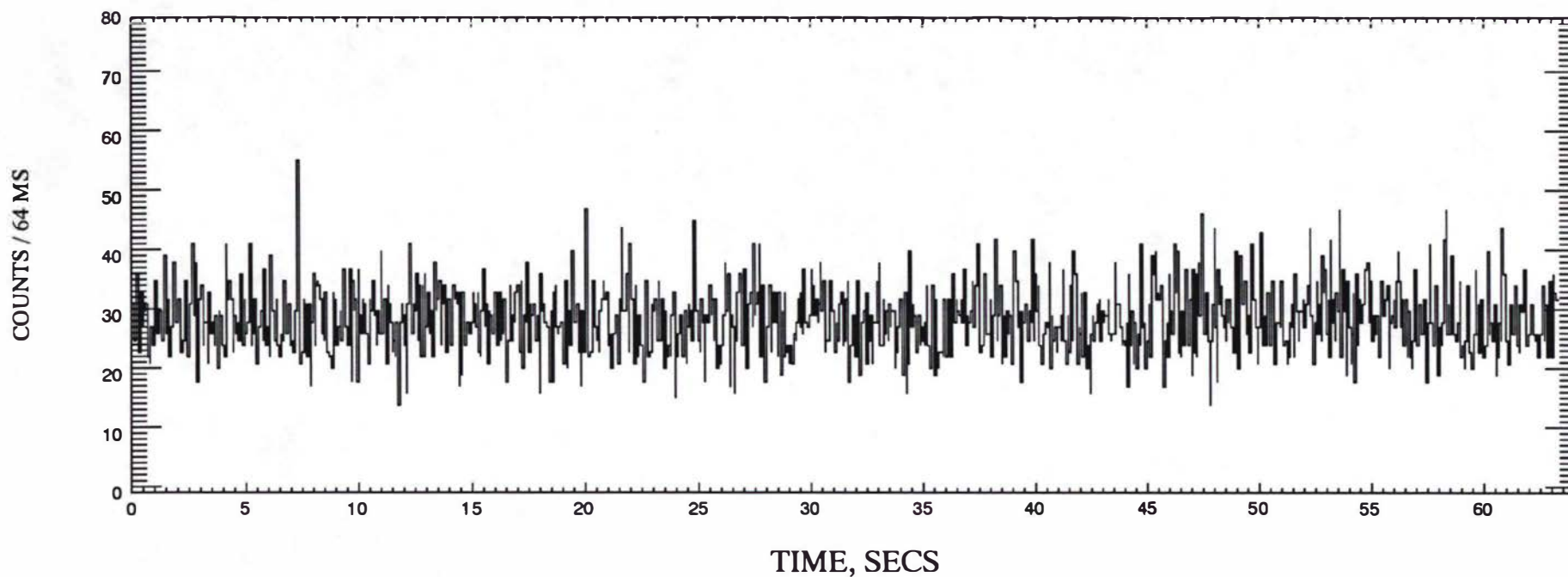


CALIBRATION DATA INCLUDED

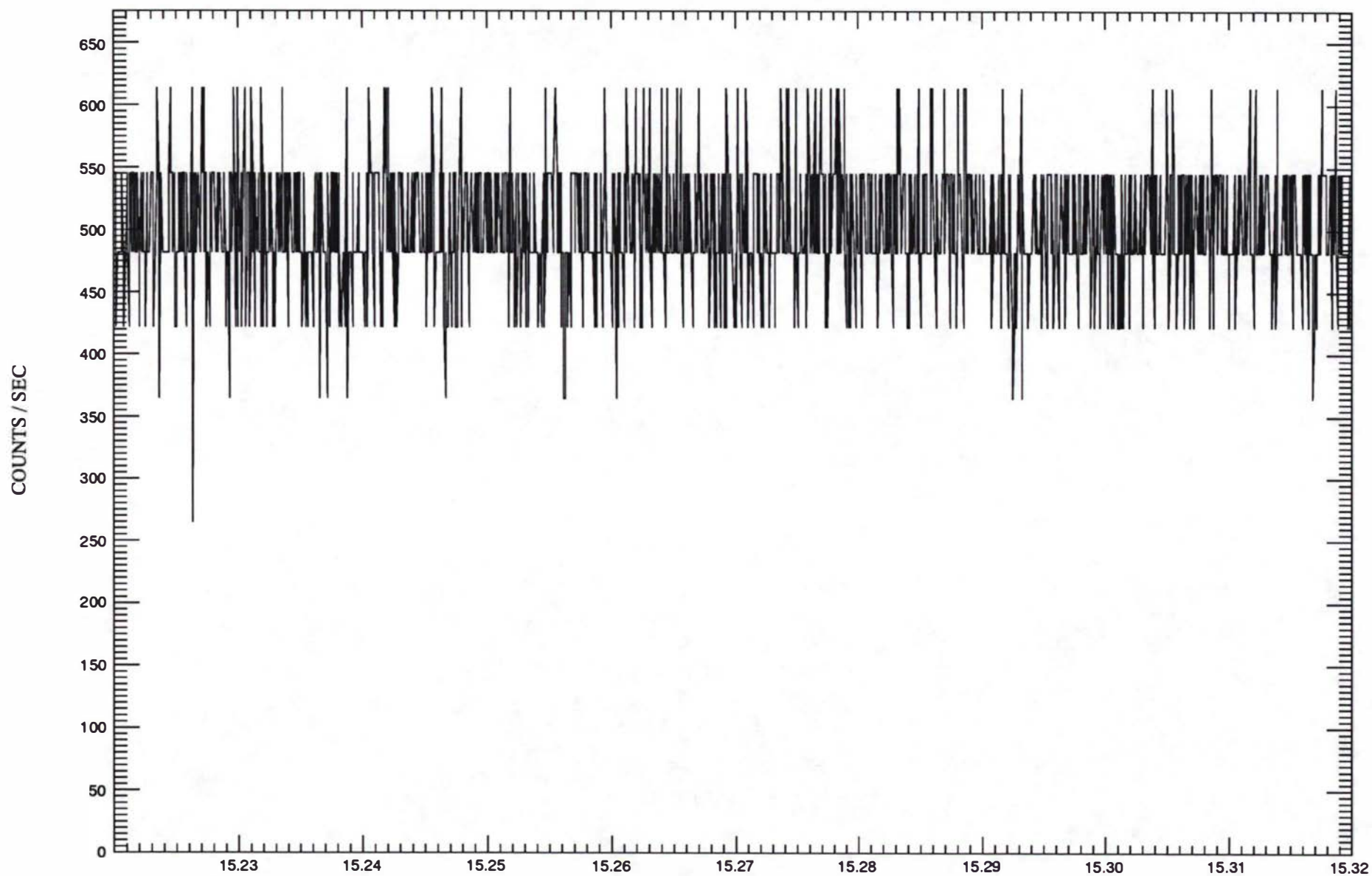


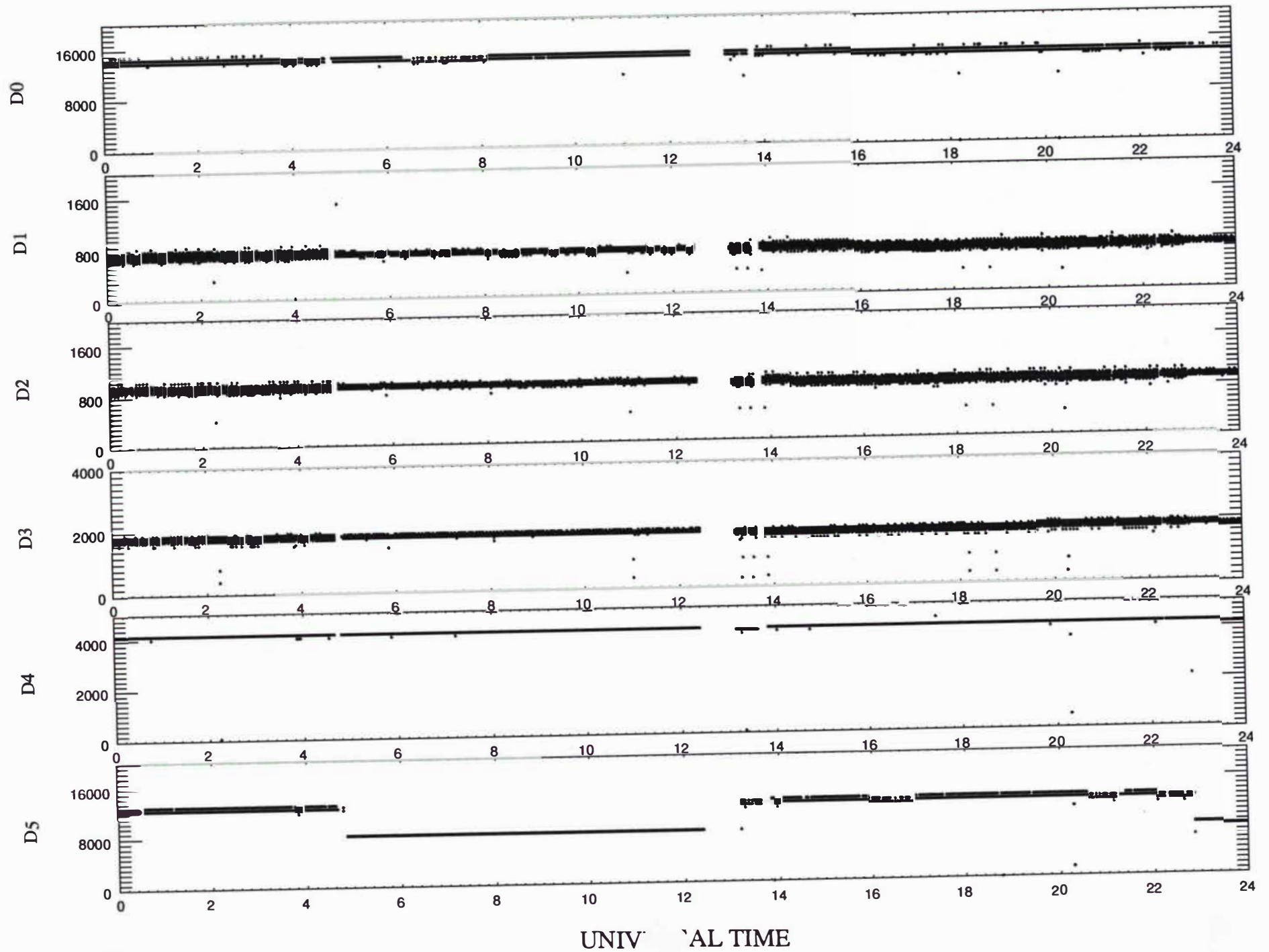
UNIV AL TIME

Burst Counter 4 at UT=15.265468080309 h=54955.685 s 15:15:55.685

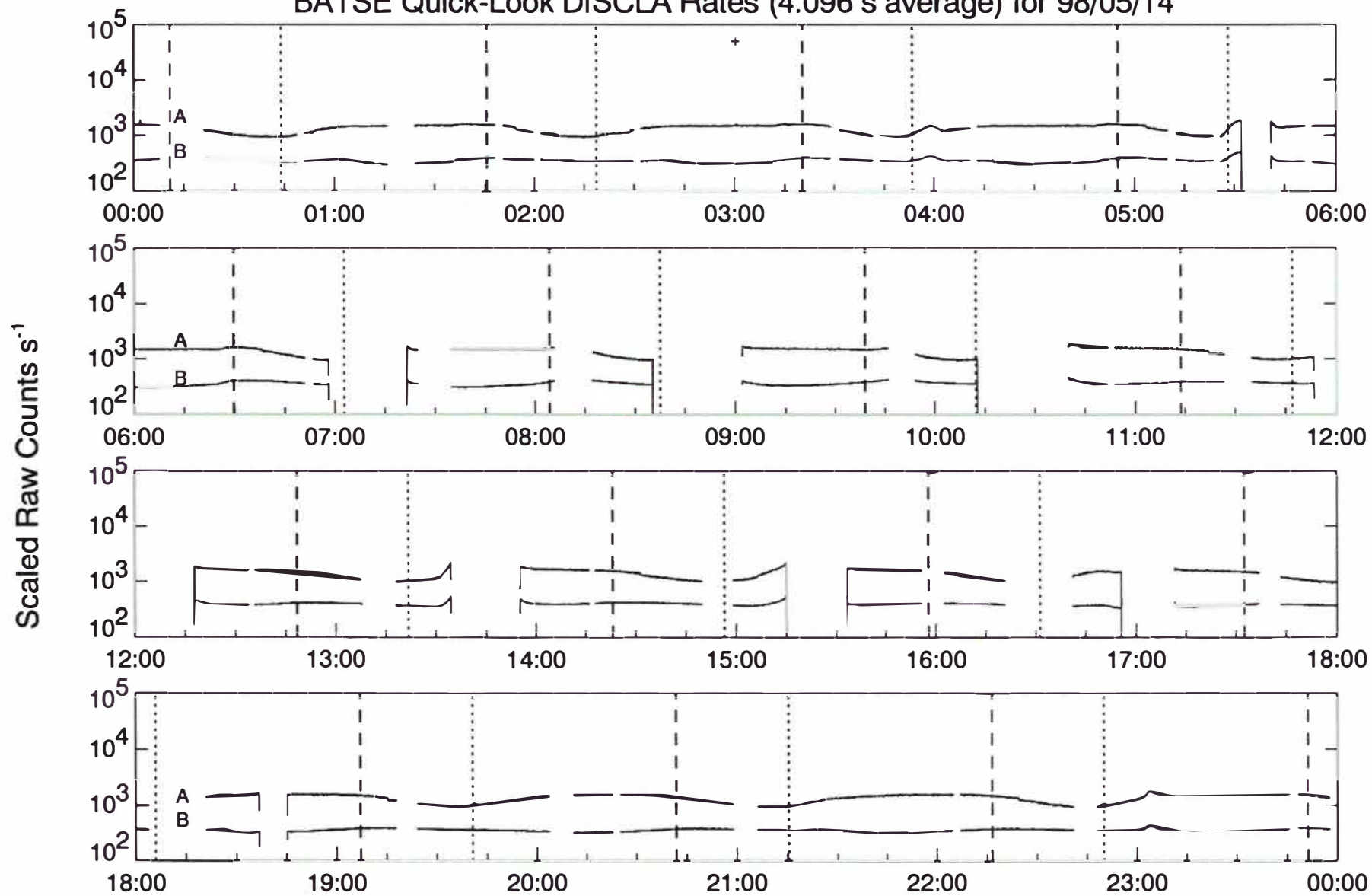


CALIBRATION DATA INCLUDED





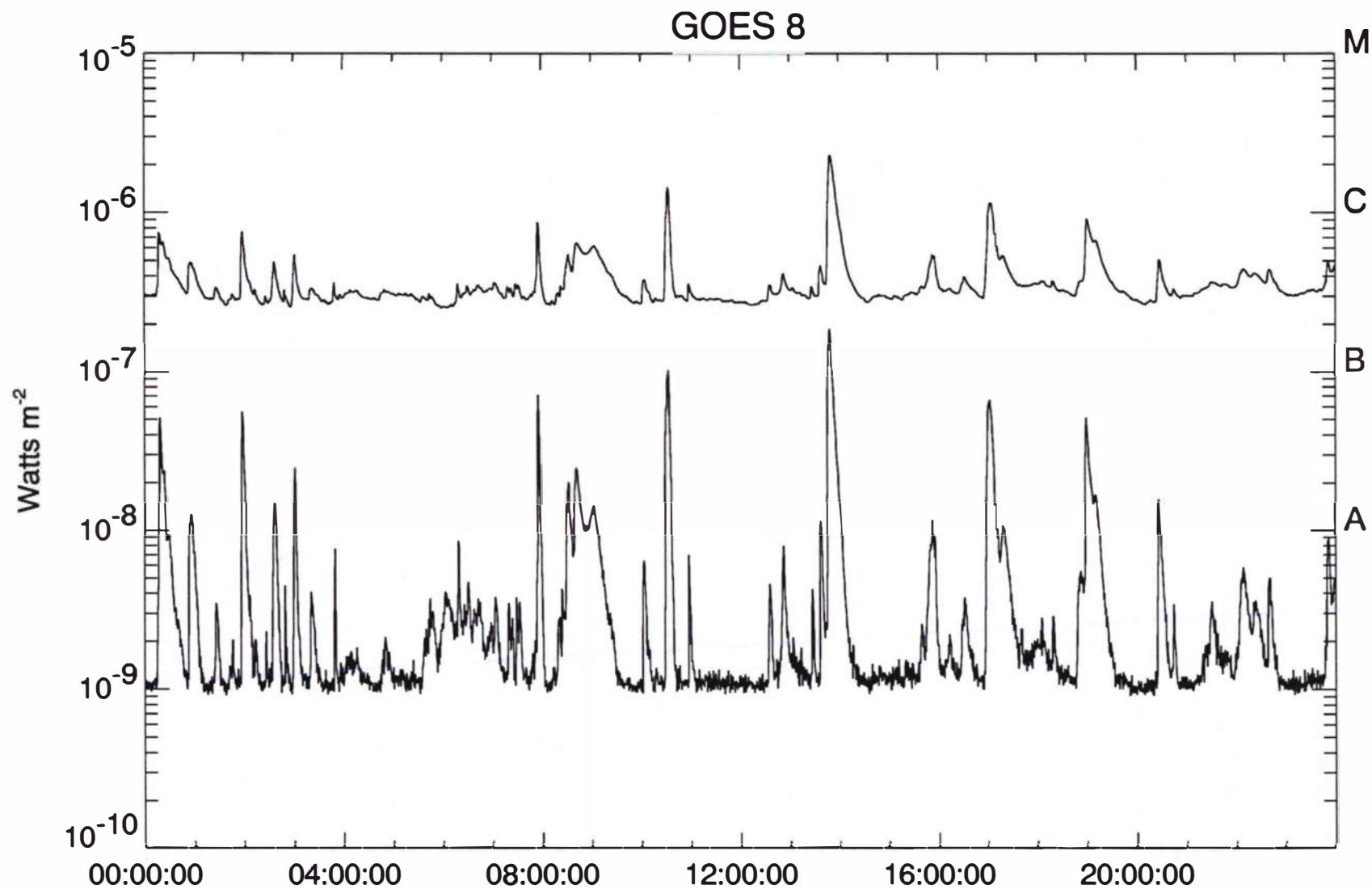
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/14



Current Time: 98/05/18, 1008 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



Data Start: 98/05/14, 0000:00

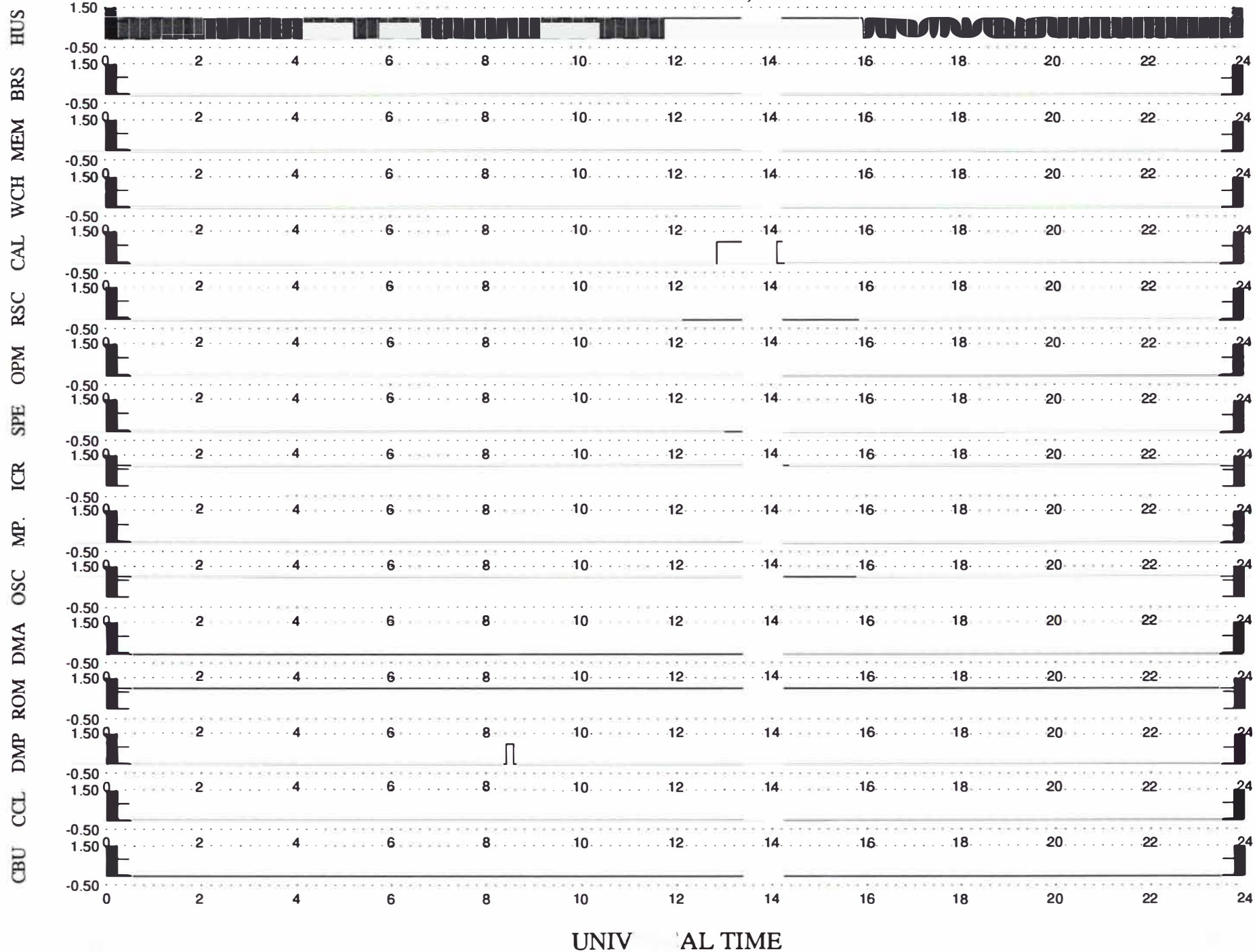
Plot created: 98/05/18, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

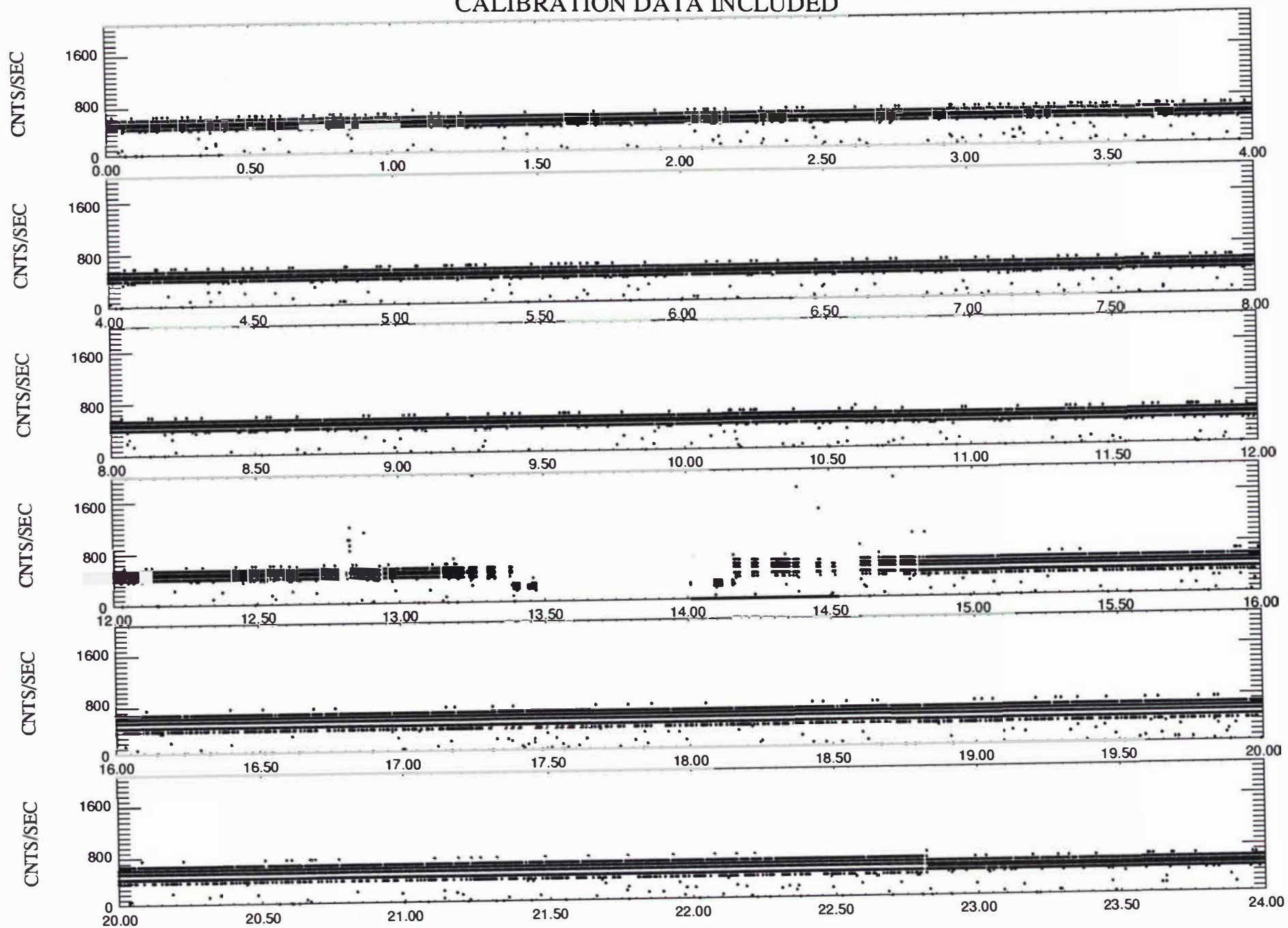
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

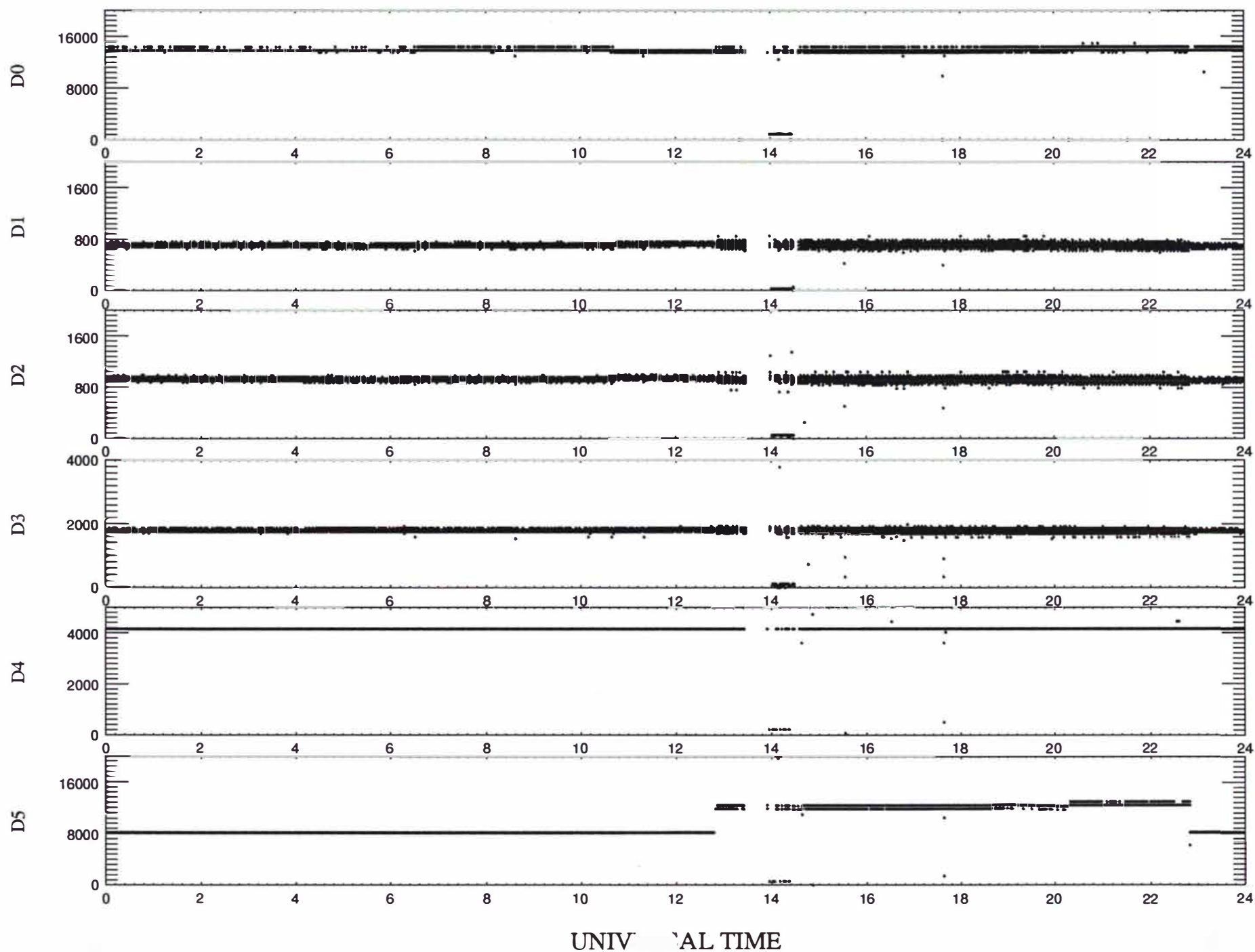
BURST NUMBER 10, 4



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



K O N U S

U L Y S S E S R T

2 / 1 2 / 9 8

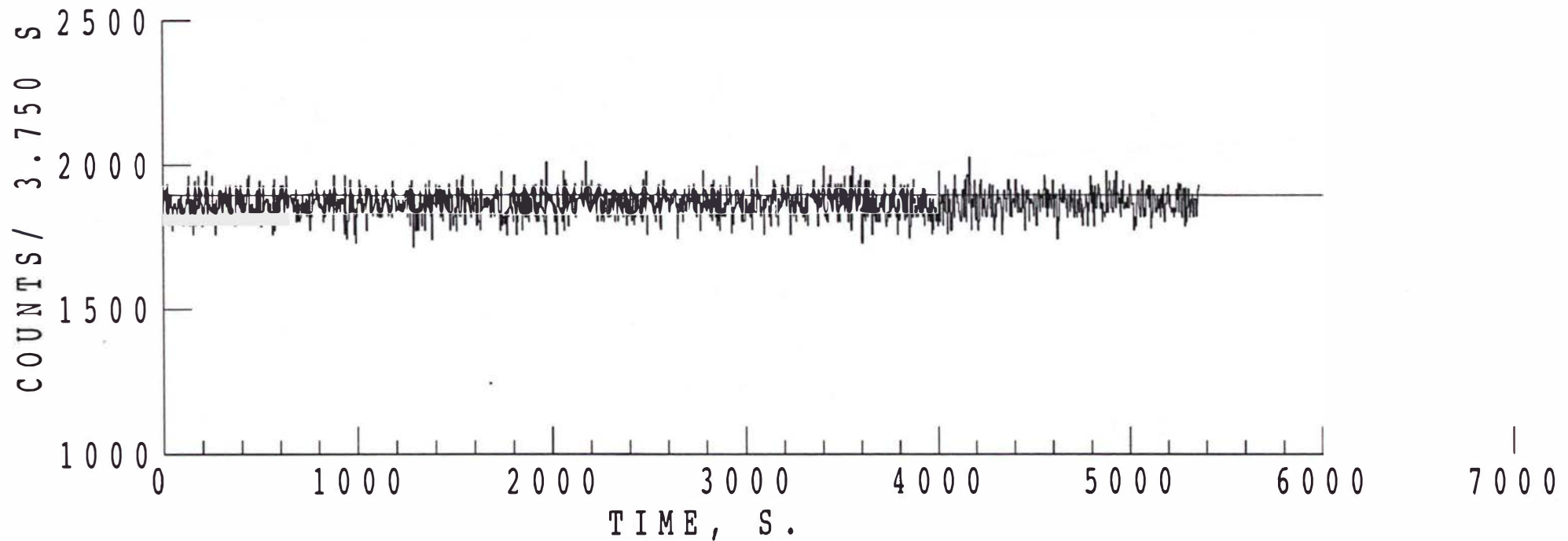
1 5 / 5 / 9 8 5 8 5 3 6 . 0 6 2 s

0 . 2 5 0 S I N T E R V A L S R E G R O U P E D B Y 1 5

0 - 0 k e V

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



SAX

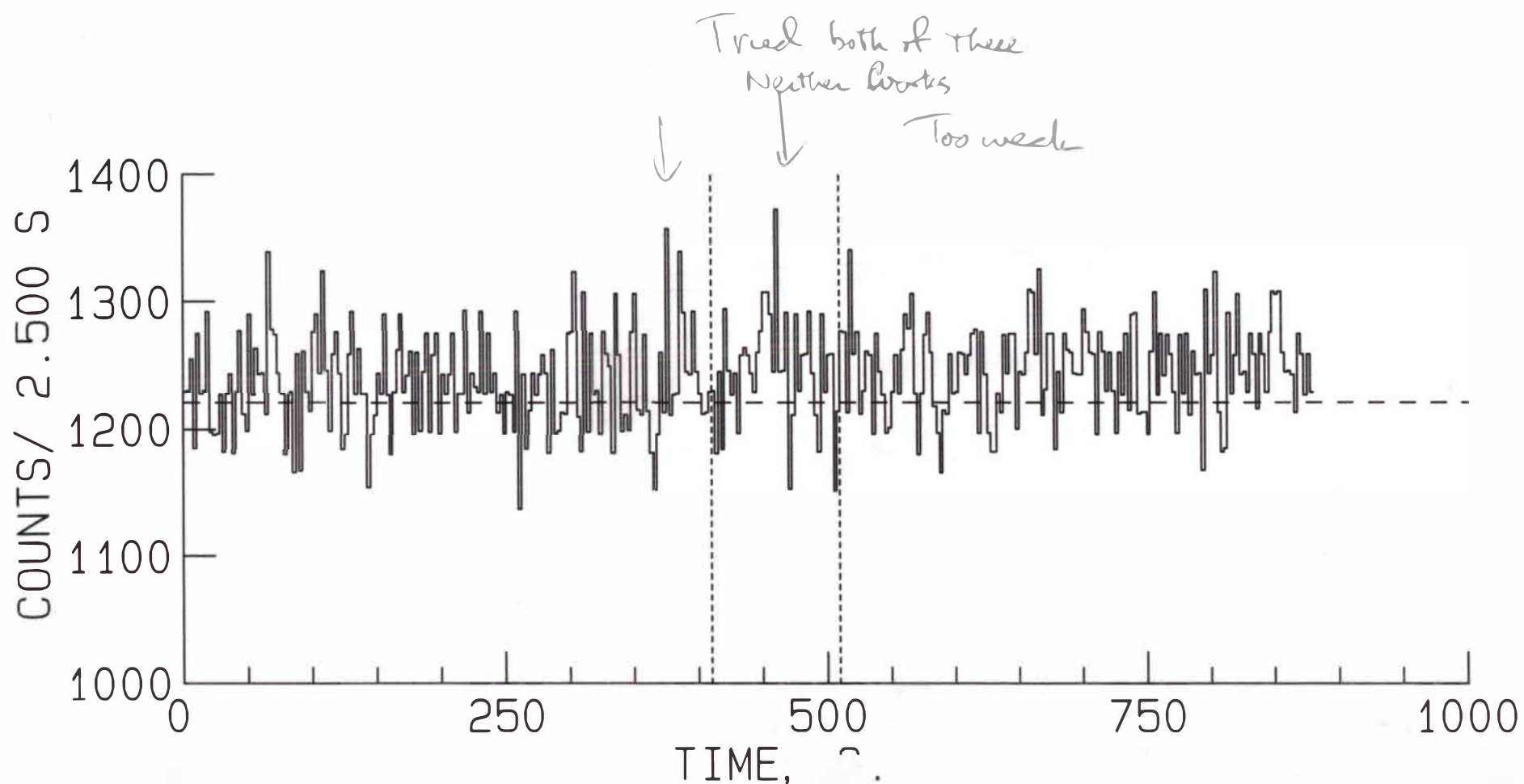
ULYSSES RT

7 / 6 / 98

15 / 5 / 98 62244.104 s

0.250 S INTERVALS REGROUPED BY 10

22- 148 keV



From HENZE@fender.msfc.nasa.gov Sat May 16 15:51:33 1998
Date: Sat, 16 May 1998 17:50:17 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6758

TIME: TJD=0948 SECONDS=81566

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

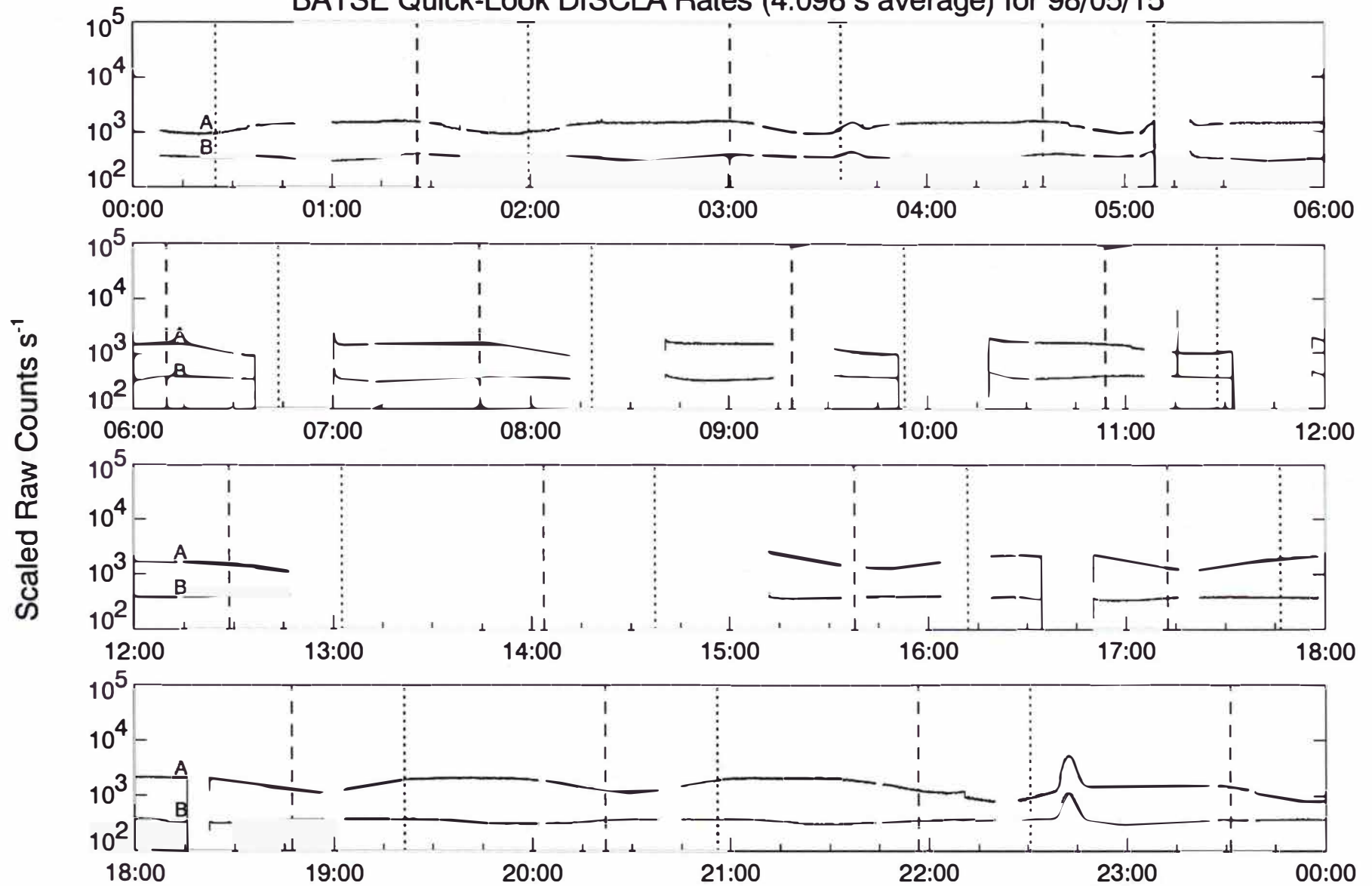
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT, OVER AUSTRALIA

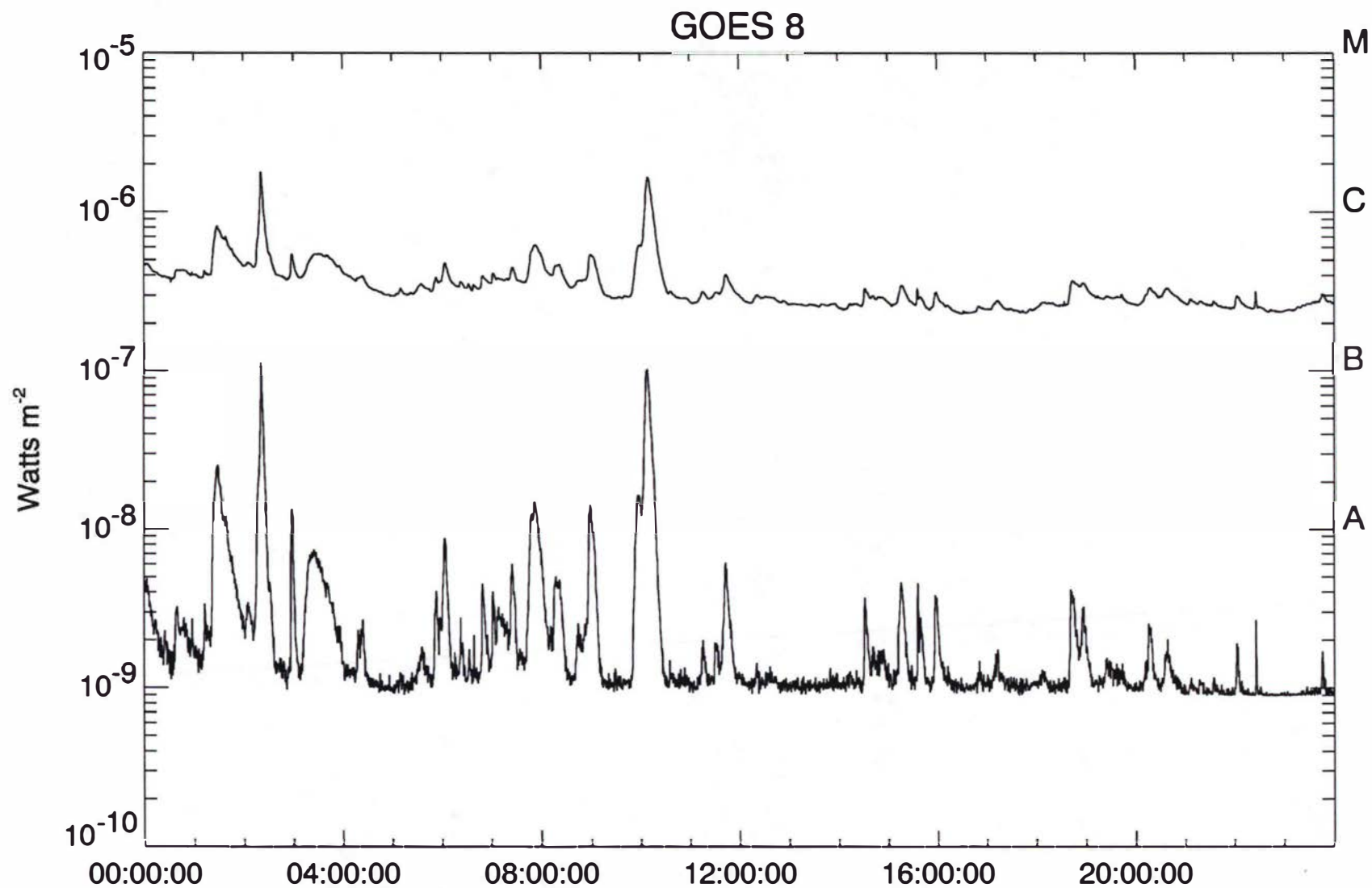
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/15



Current Time: 98/05/19, 1009 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



Data Start: 98/05/15, 0000:00

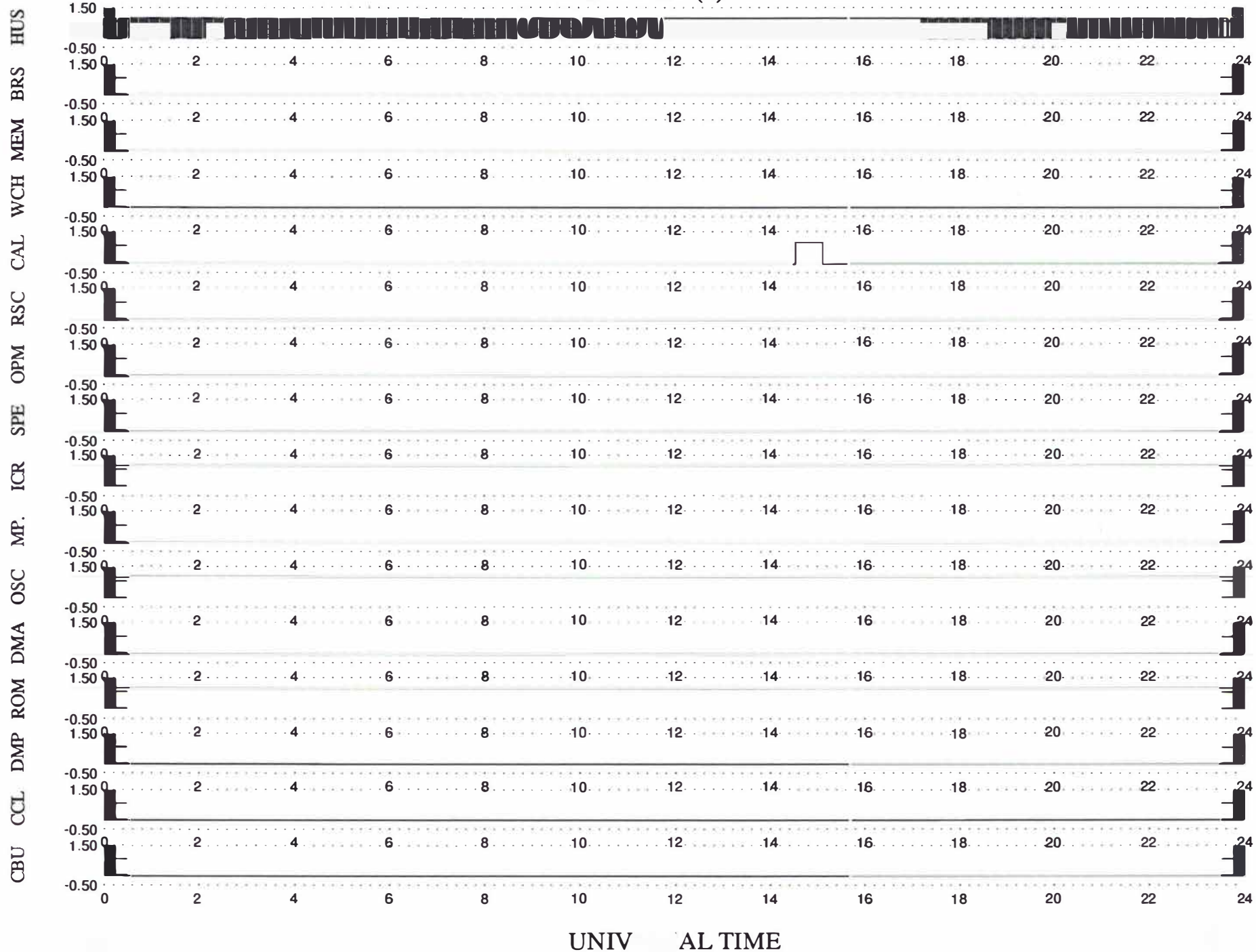
Plot created: 98/05/19, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

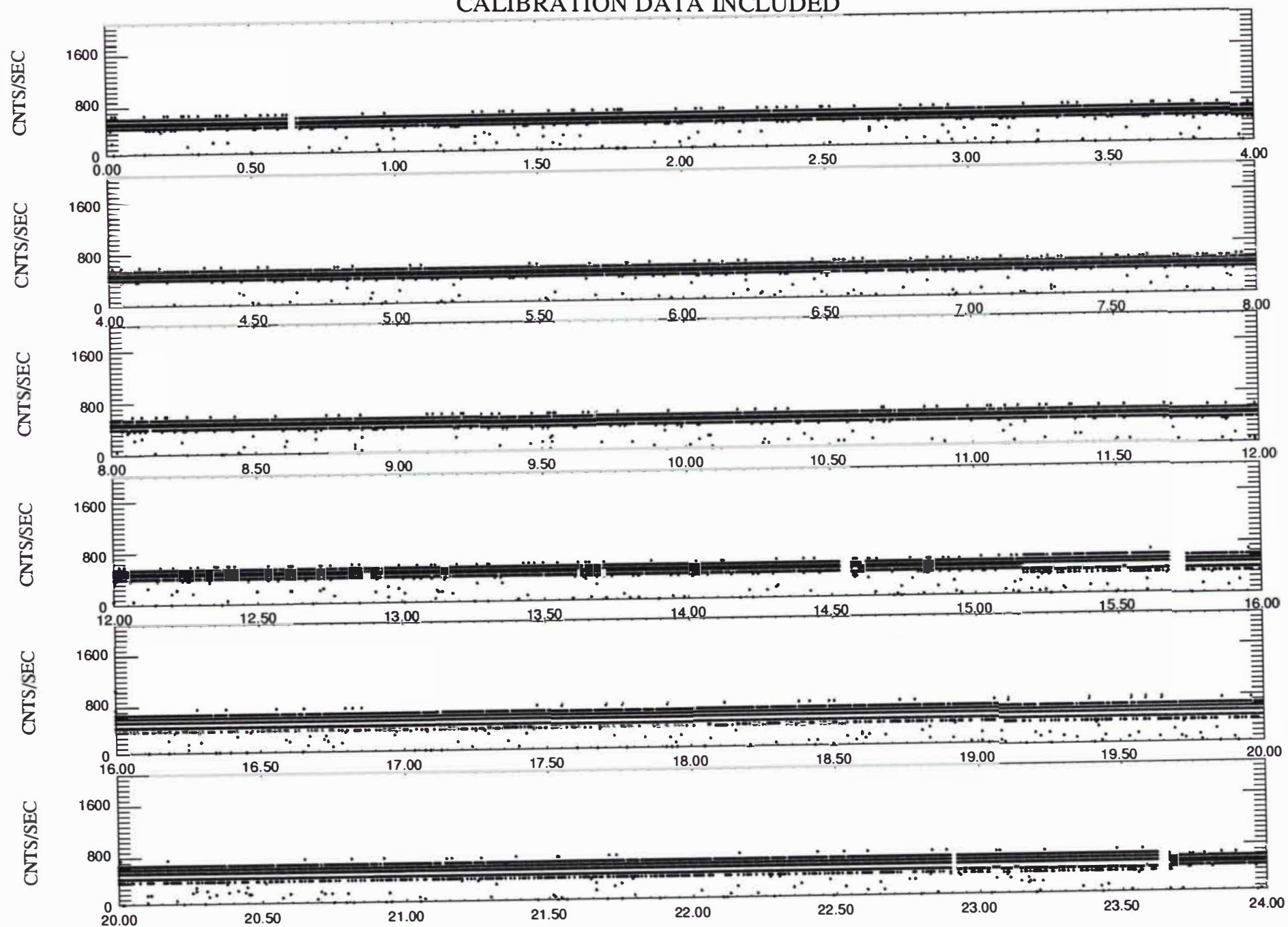
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

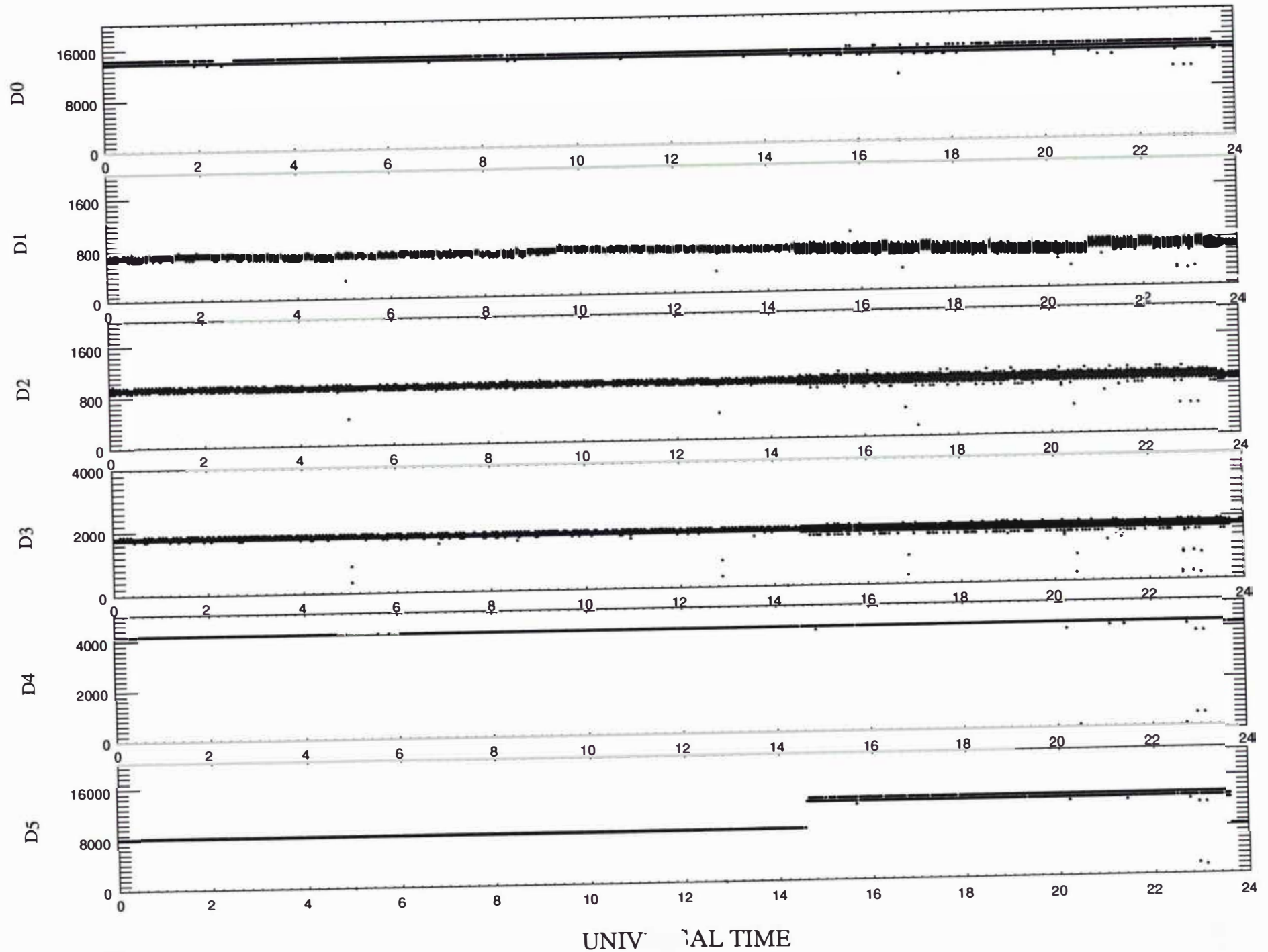
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIV AL TIME



Date: April 19 2007

BURST TRIANGULATION CHECKLIST

I. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

- ☒ Δt 's calculated, and/or BMAPSUM executed?

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

Ulysses triggered data corrupted
IPN/Konus EL inconsis. w. GRBM circle, but consis. w. GRBM contours
"Other" circle added

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

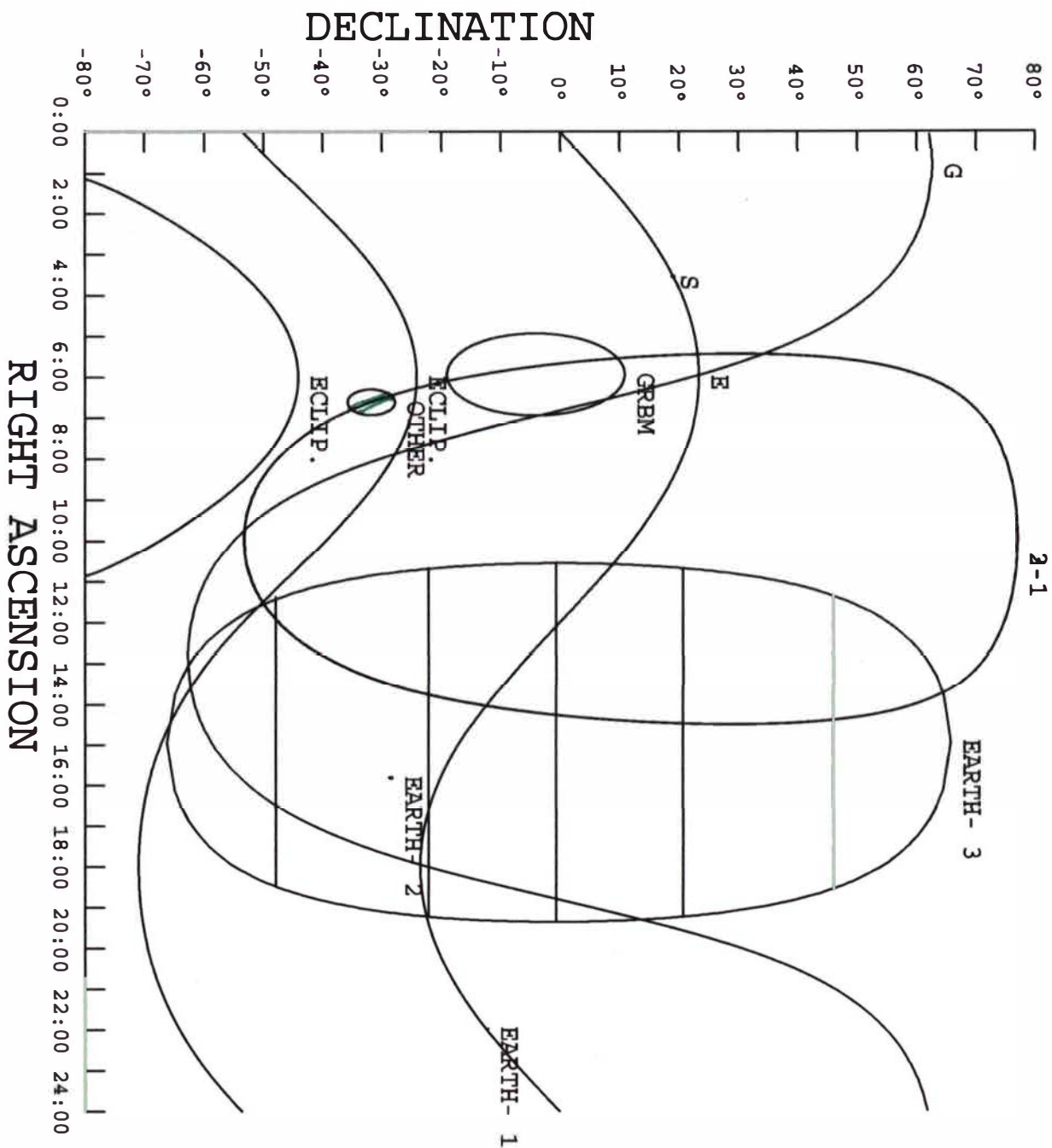
1 ULYSSES

2 KONUS1

3 SAX

EVENT OF MAY 16, 1998 11:04

24 / 7 / 9



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

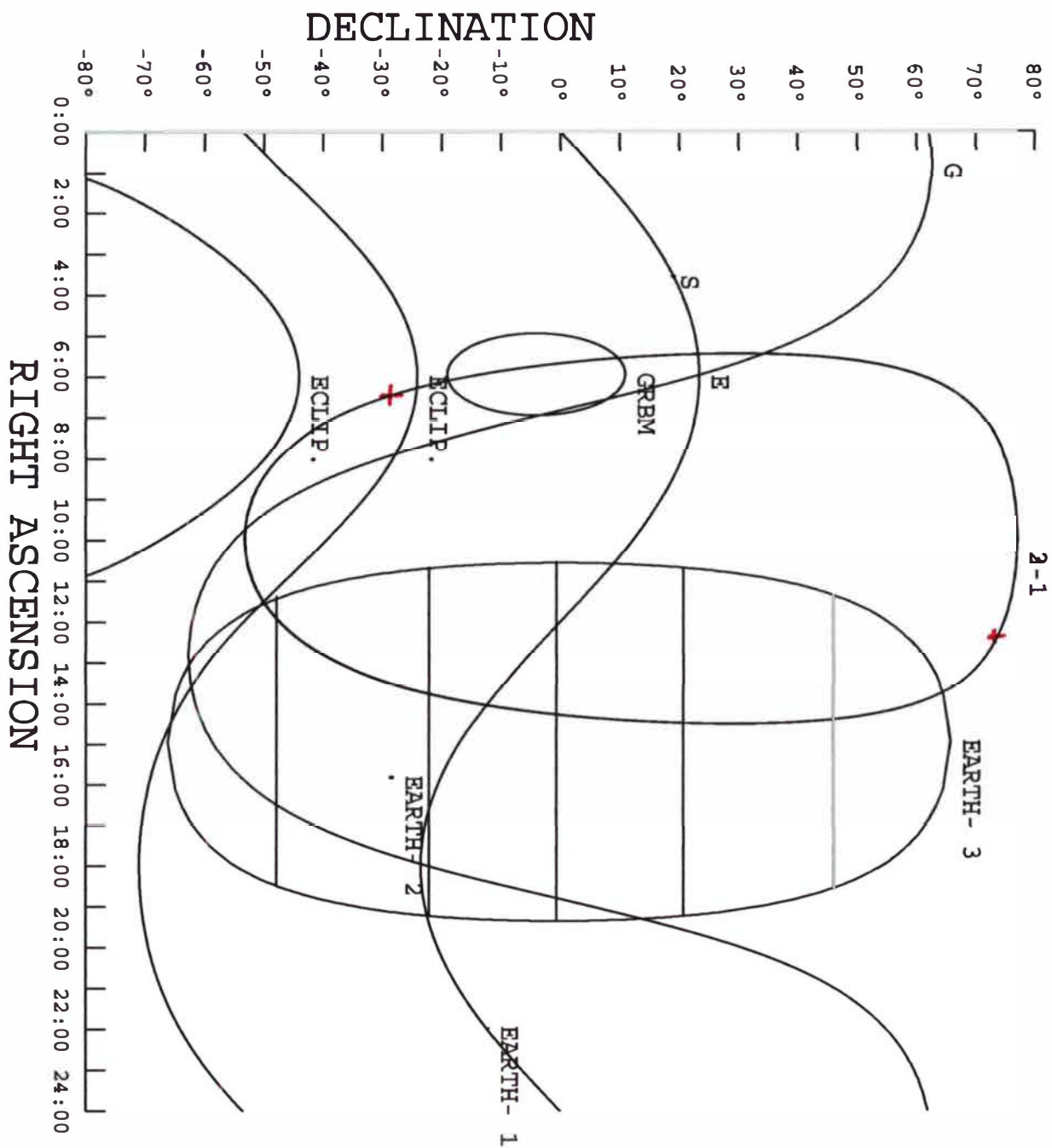
1 ULYSSES

2 KONUS1

3 SAX

EVENT OF MAY 16, 1998 11:04

19 / 4 / 7



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

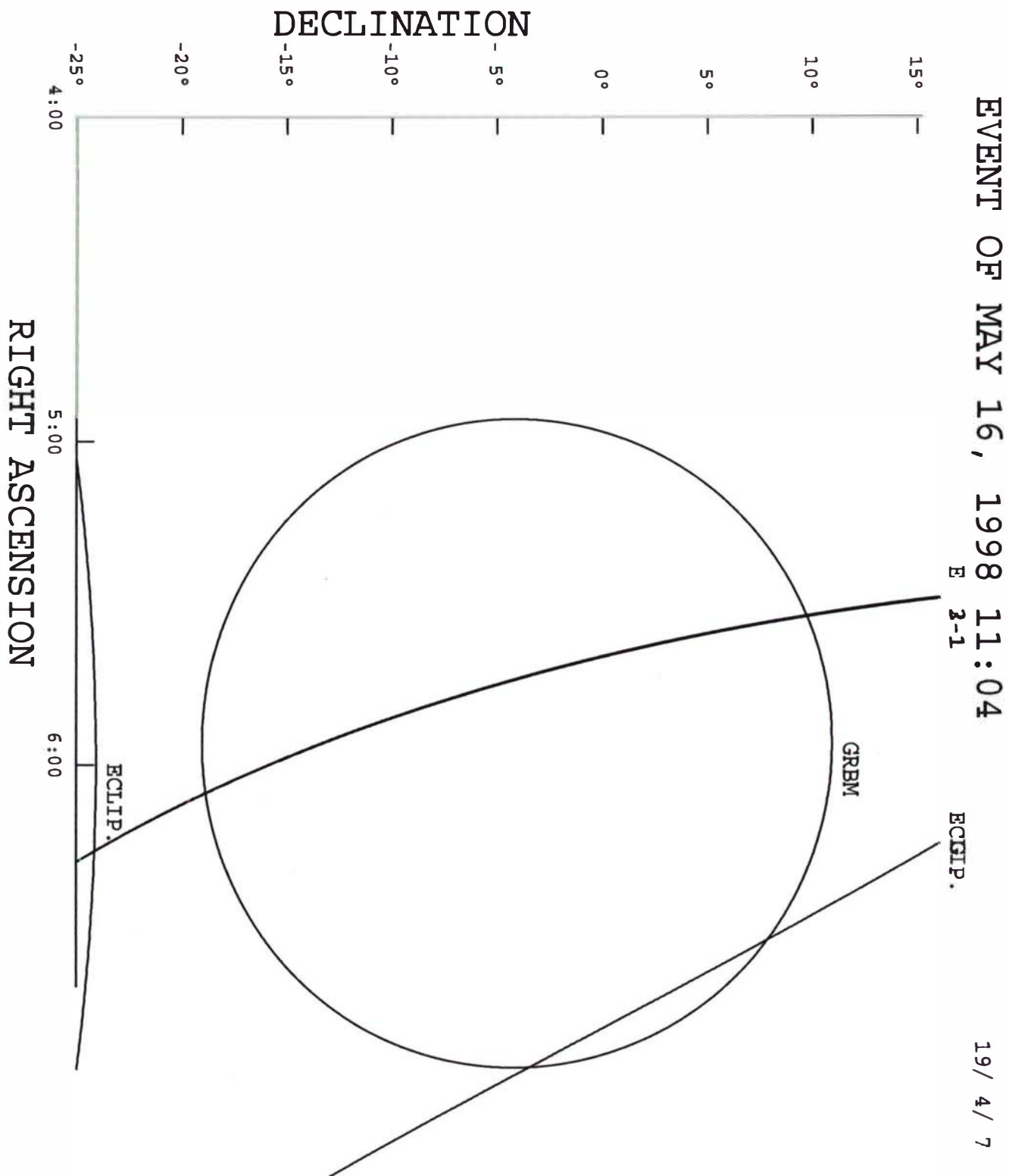
E=ECLIPTIC

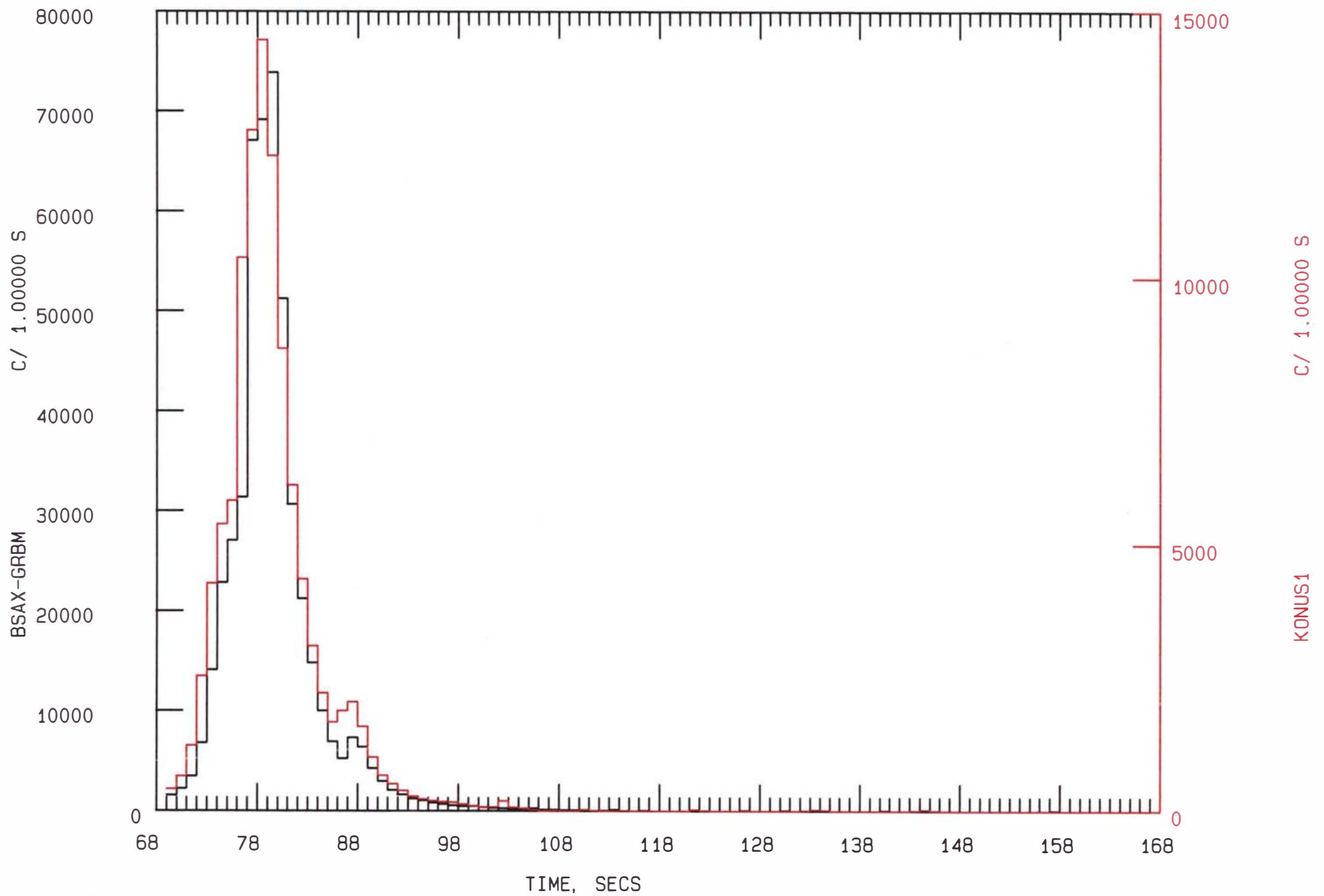
G=GALACTIC EQUATOR

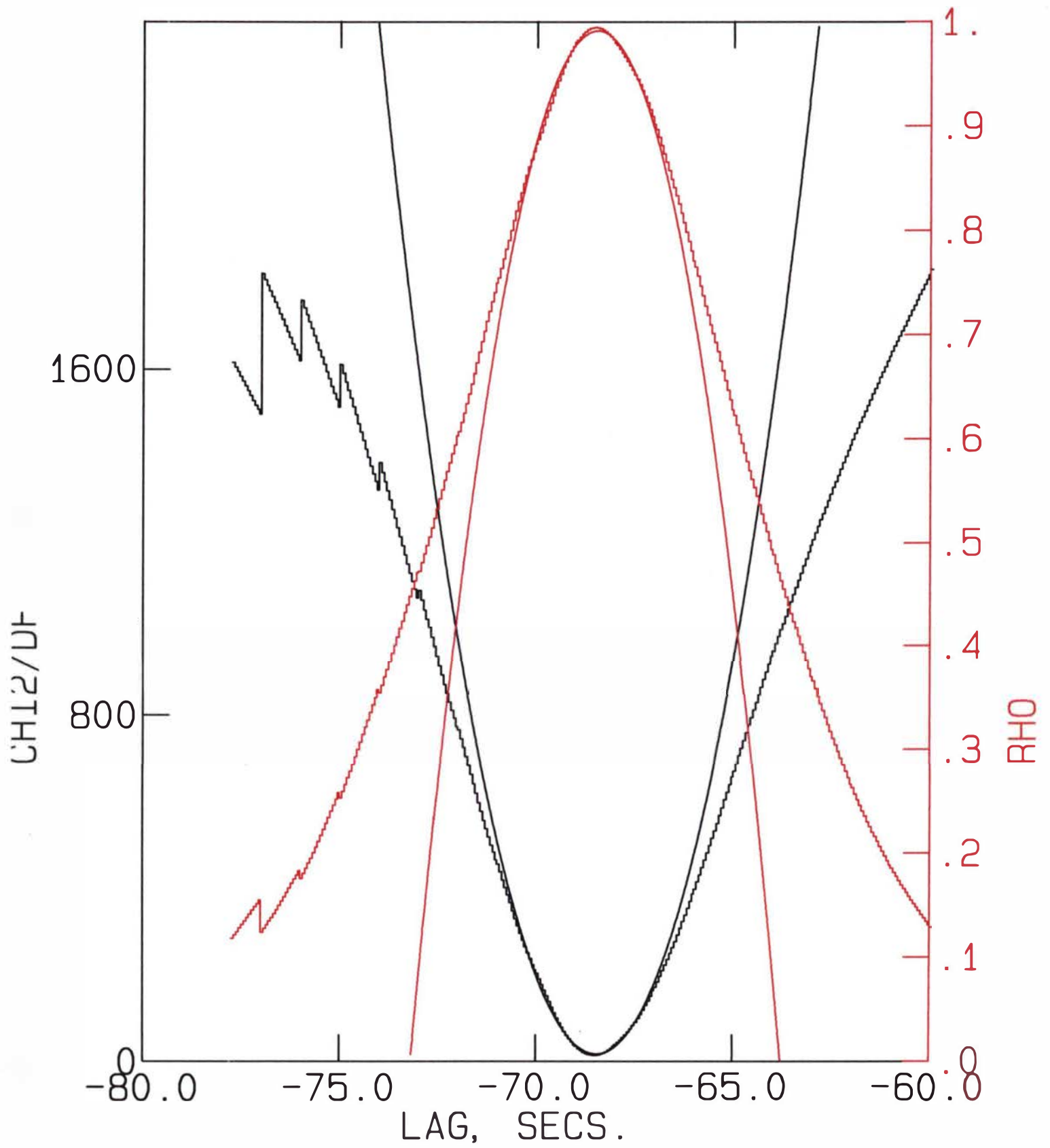
1 ULYSSES

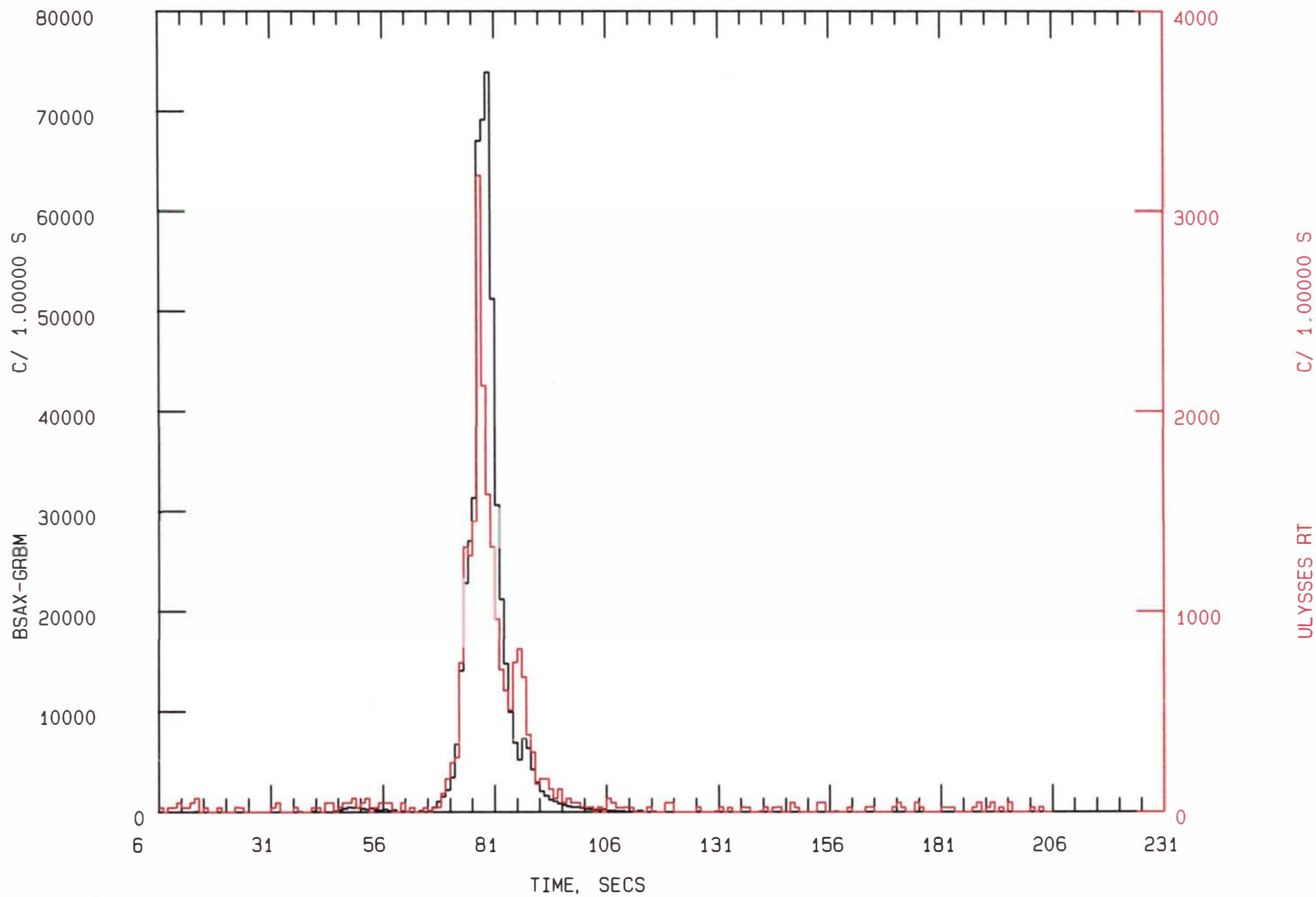
2 KONUS1

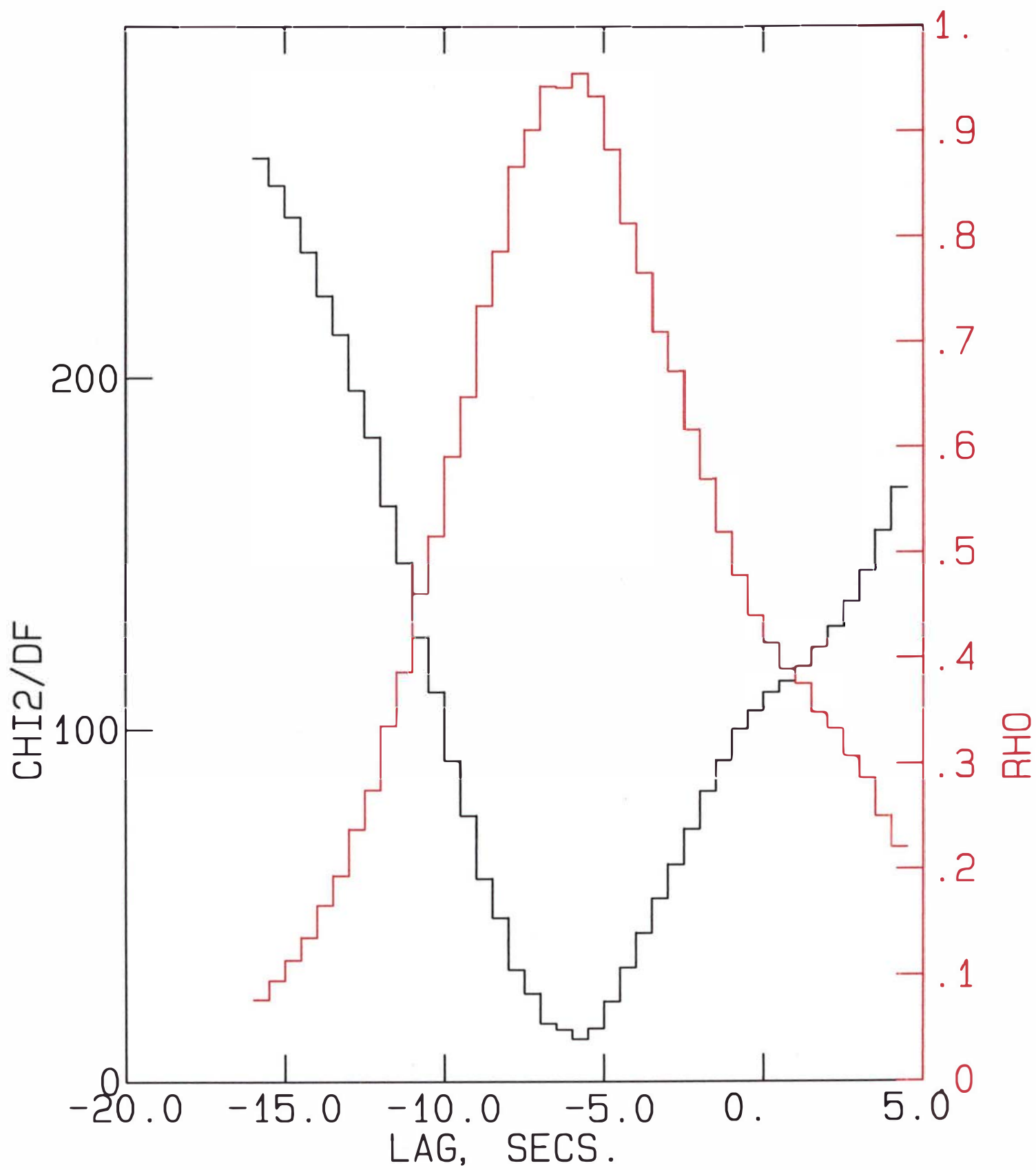
3 SAX

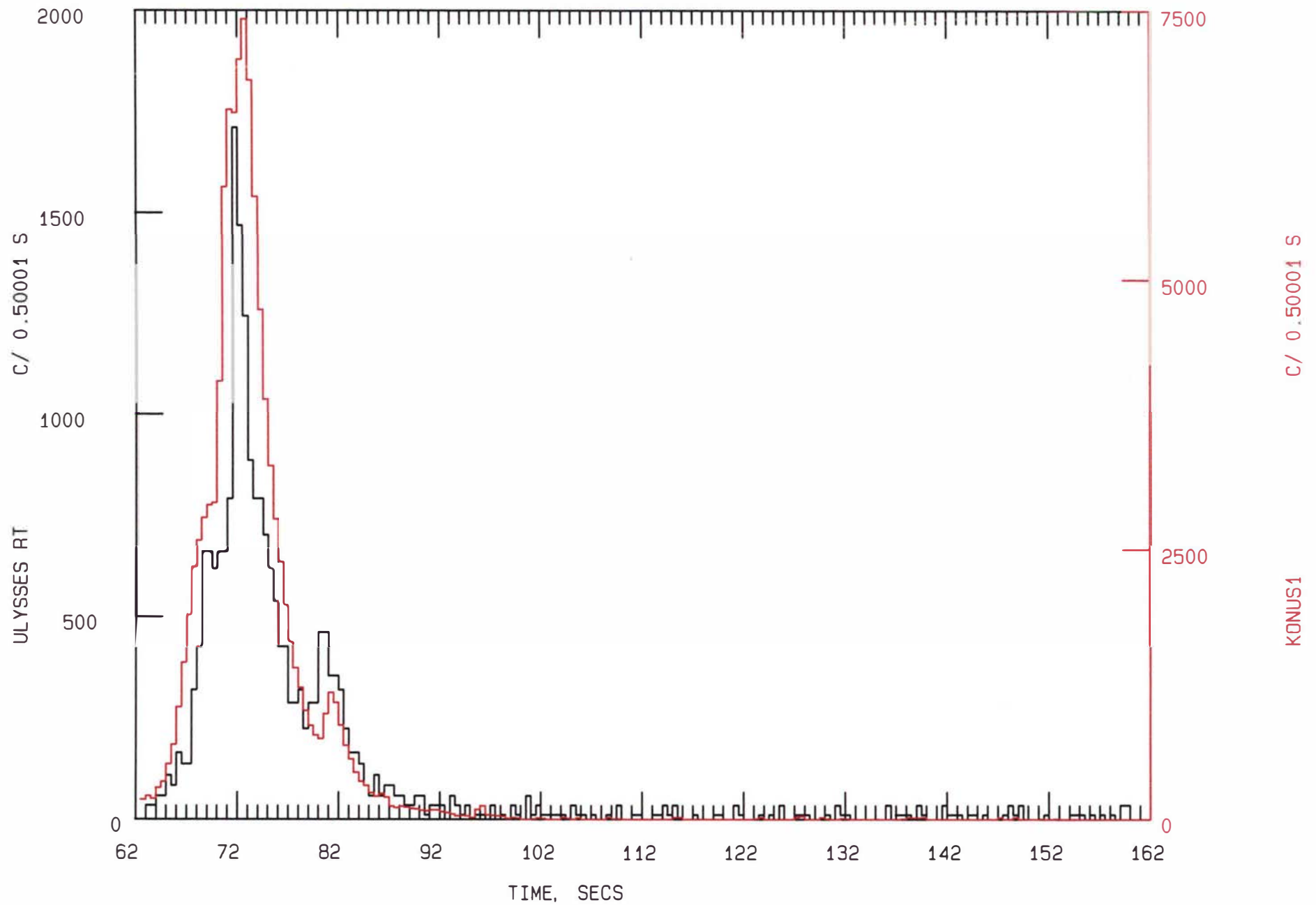


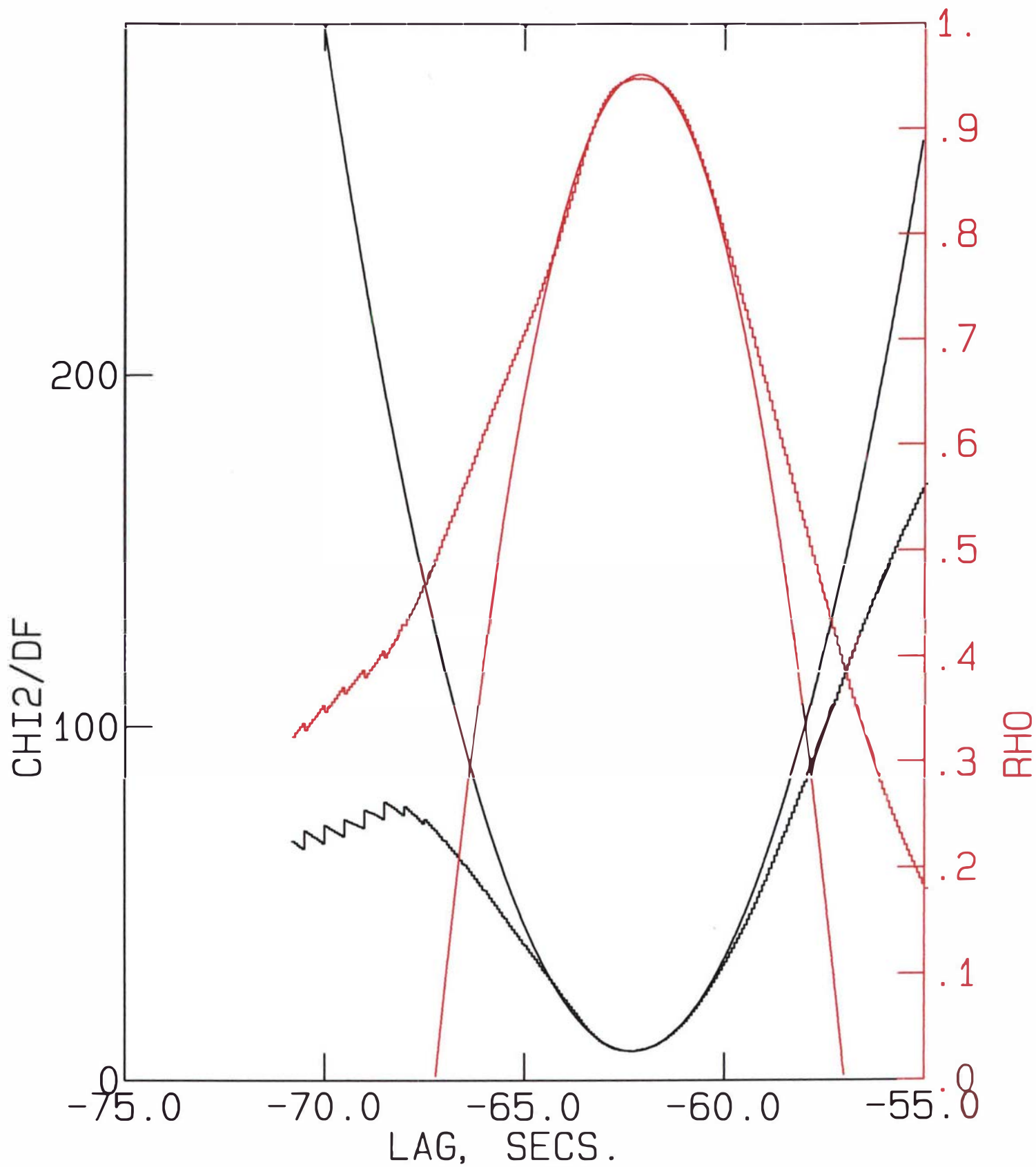












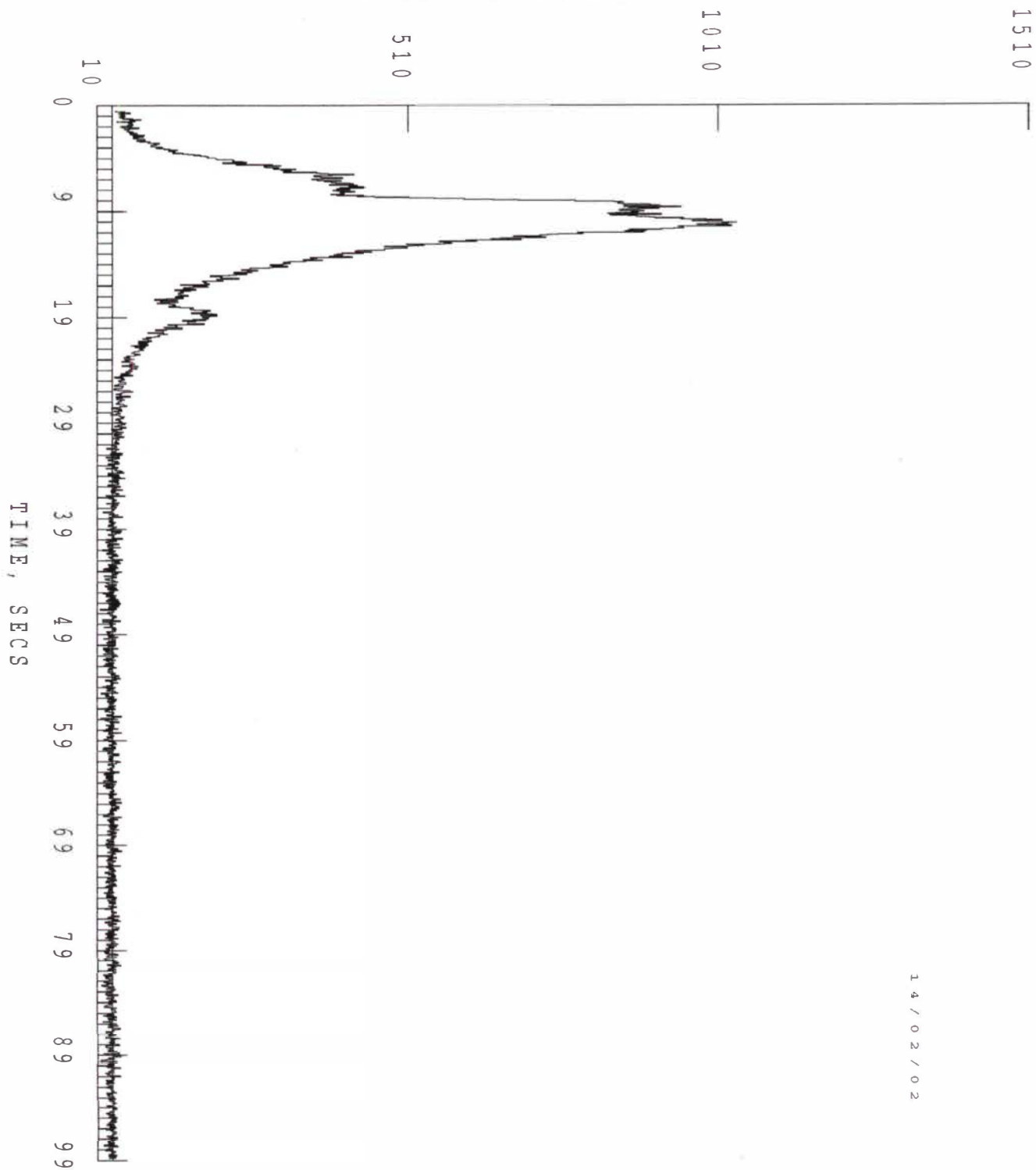
KONUS1

16/05/98

41037.217

50 - 200 keV

COUNTS/0.064 S



14/02/02

KONUS1 19980516 41037

ULYSSES RT

14 / 02 / 02

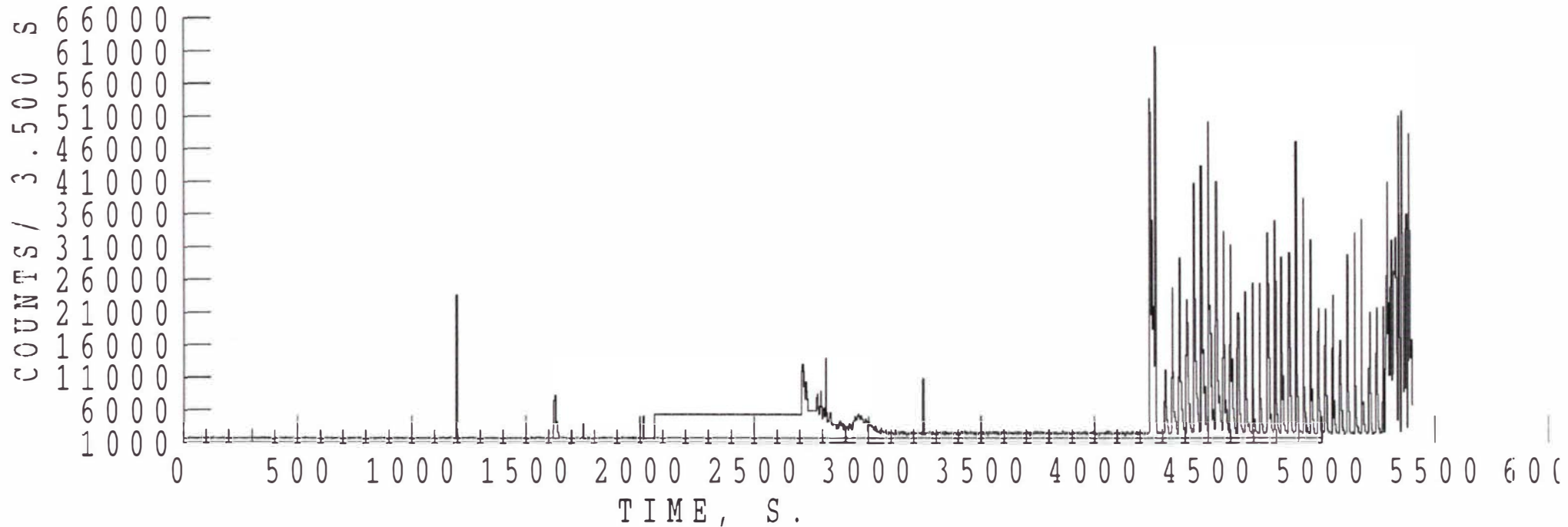
16 / 05 / 98 38340.270 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From David.M.Palmer.1@gsfc.nasa.gov Thu Jun 4 13:28 PDT 1998
X-Sender: palmer@lheapop.gsfc.nasa.gov
Mime-Version: 1.0
Date: Thu, 4 Jun 1998 16:30:49 -0400
khurley@sunspot.ssl.berkeley.edu
From: David Palmer <David.M.Palmer.1@gsfc.nasa.gov>
Subject: GRB 980516
Cc: "Sergey V. Golenetskii" <golen@mz.ioffe.rssi.ru>

Did Ulysses see the strong Southern event at 1998 May 16 41039 seconds,
which was not seen by BATSE. Konus and TGRS saw it, and the Konus signal
(but not the TGRS) was rotationally modulated.

>To: David.M.Palmer.1@gsfc.nasa.gov
>Organization: Physical Technical Institute, Space Research Department
>Date: Wed, 3 Jun 1998 10:31:49 +0400 (MSD)
>From: "Sergey V. Golenetskii" <golen@mz.ioffe.rssi.ru>
>Subject: GRB 980516
>Lines: 22
>

...
>Our estimation of burst angle is 40-50 deg from ratio $N(S1)/N(S2)$.
>I would like to say that we can locate this event. Together with possible
>triangulation (ULYSSES ?) light shadowing is observed by long boom of WAVES
>in center of spacecraft, I think. Narrow and shallow dips are observed
>in soft
>energy band at 5.28, 8.272, 11.28, 14.288 s (with accuracy 0.016s).
>What do you think about it ?

>
>Best regards
>Sergei
>

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

*SAX GRBM observed it
according to Guidorzi*

From kraken@rosserv.gsfc.nasa.gov Wed Jun 3 16:06 PDT 1998
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Wed, 3 Jun 1998 19:07:53 -0500
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
To: n: Peter Kurczynski <kraken@rosserv.gsfc.nasa.gov>
Subject: Re: GRB980512, 980513, 980516

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

>Ulysses observed the following bursts:

>

>ULYSSES DATE & TIME COMMENTS ULYSSES DISTANCE FROM EARTH, LIGHT-S

>

>12 May 1998 00939 weak, 64 ms long 2650

>12 May 1998 56243 weak, 64 ms long 2650

>12 May 1998 76045 weak, 64 ms long 2650

>13 May 1998 54955 weak, 64 ms long 2650

>16 May 1998 39934 intense, 50 s long 2650

>

>Were these events detected by anyone else?

>

>CC: ulyssesbursts alias list

> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski,

>marar, teegarden, terrell, yoshimori)

TGRS sees only the last of these. On May 16 we have TGRS #699
occurring at 41039 s.

10-300 keV):

fluence 20020 cts; p. flux 3012 cts/s; T90 = 14 s; T50 = 4 s

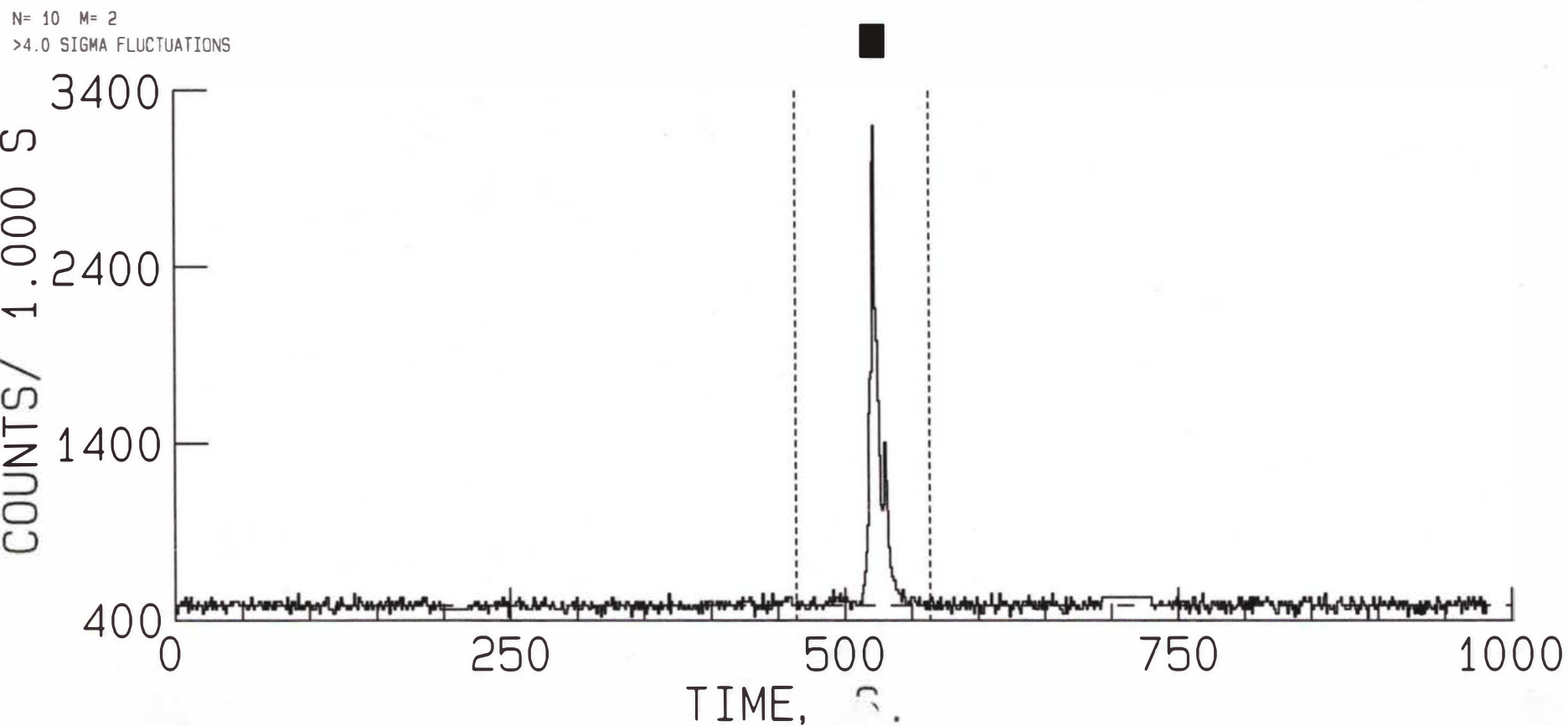
ULYSSES RT

20 / 5 / 98

16 / 5 / 98 39420.280 s

0.500 S INTERVALS REGROUPED BY 2

22- 148 keV



From HENZE@fender.msfc.nasa.gov Mon May 18 09:19:30 1998
Date: Mon, 18 May 1998 11:19:12 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6759

TIME: TJD=0949 SECONDS=80370

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

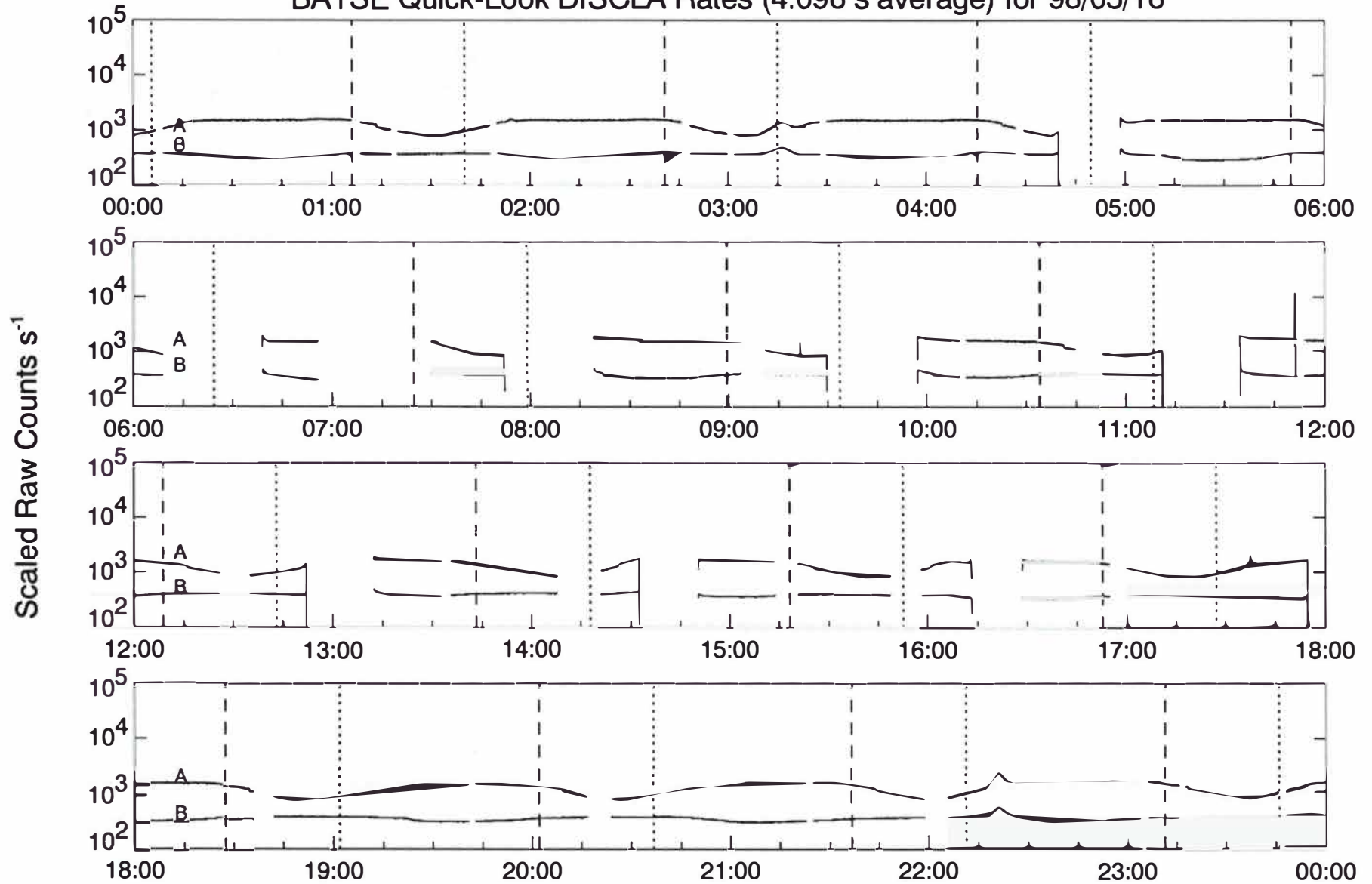
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT, OVER AUSTRALIA

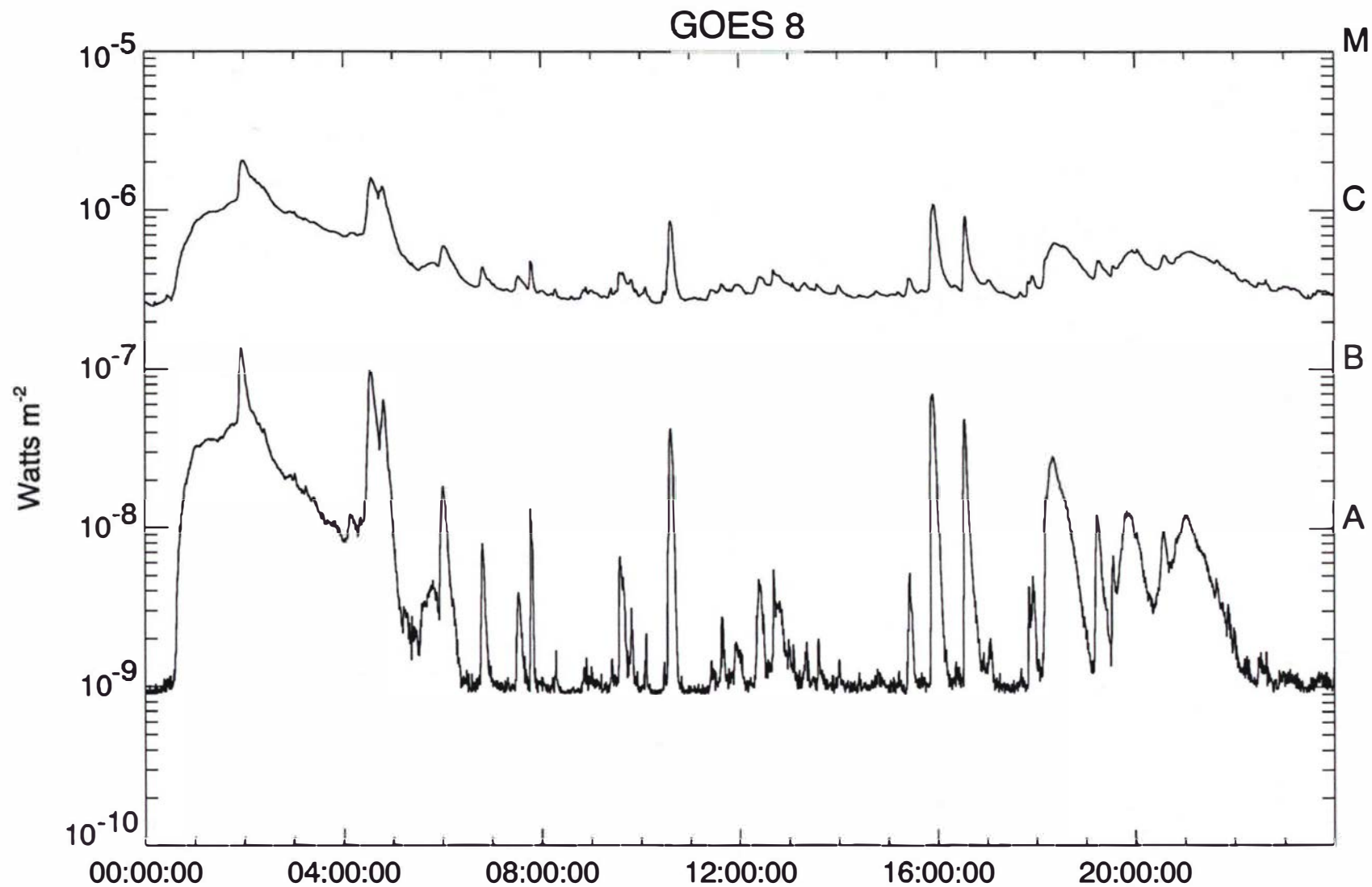
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/16



Current Time: 98/05/20, 1008 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

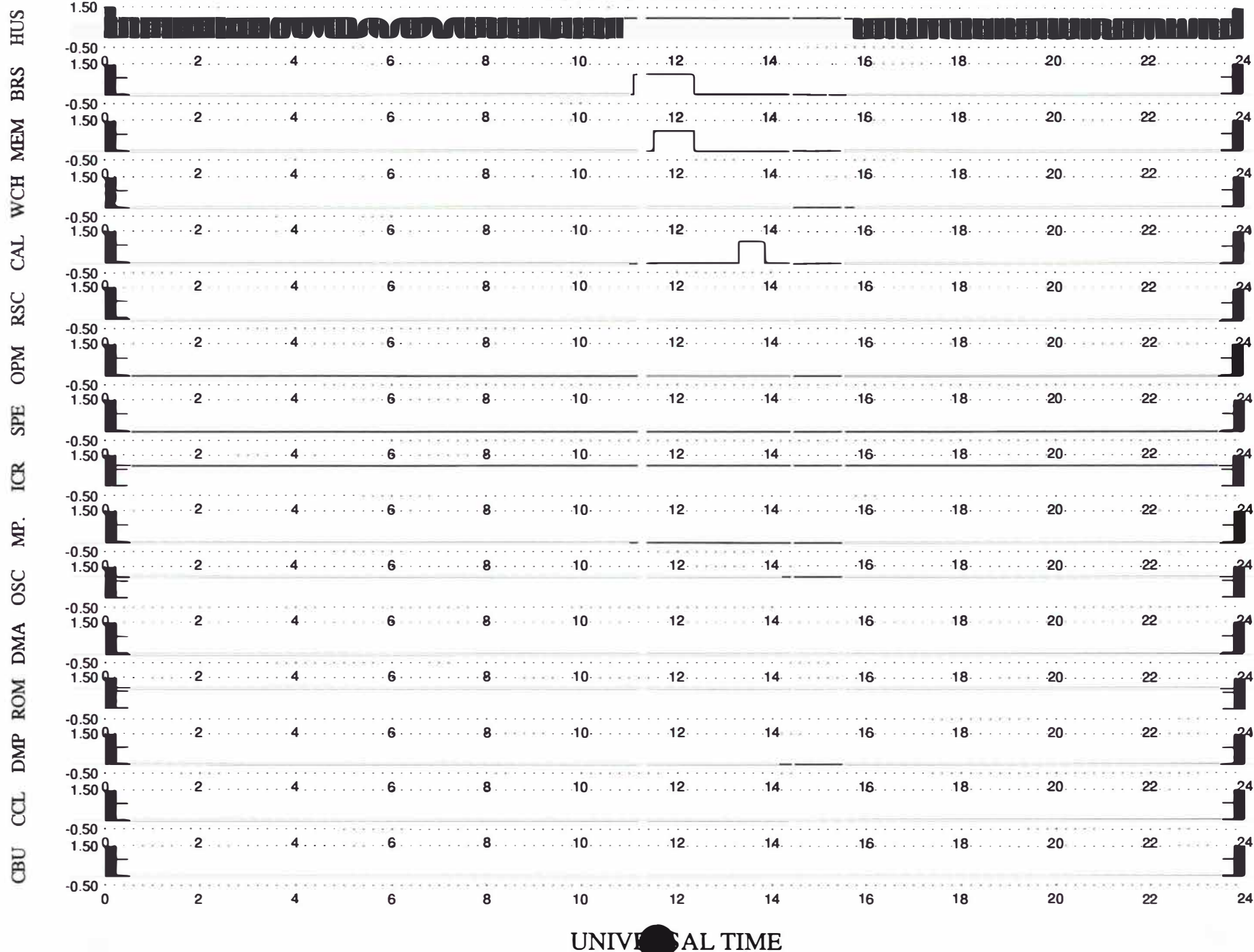


Data Start: 98/05/16, 0000:00

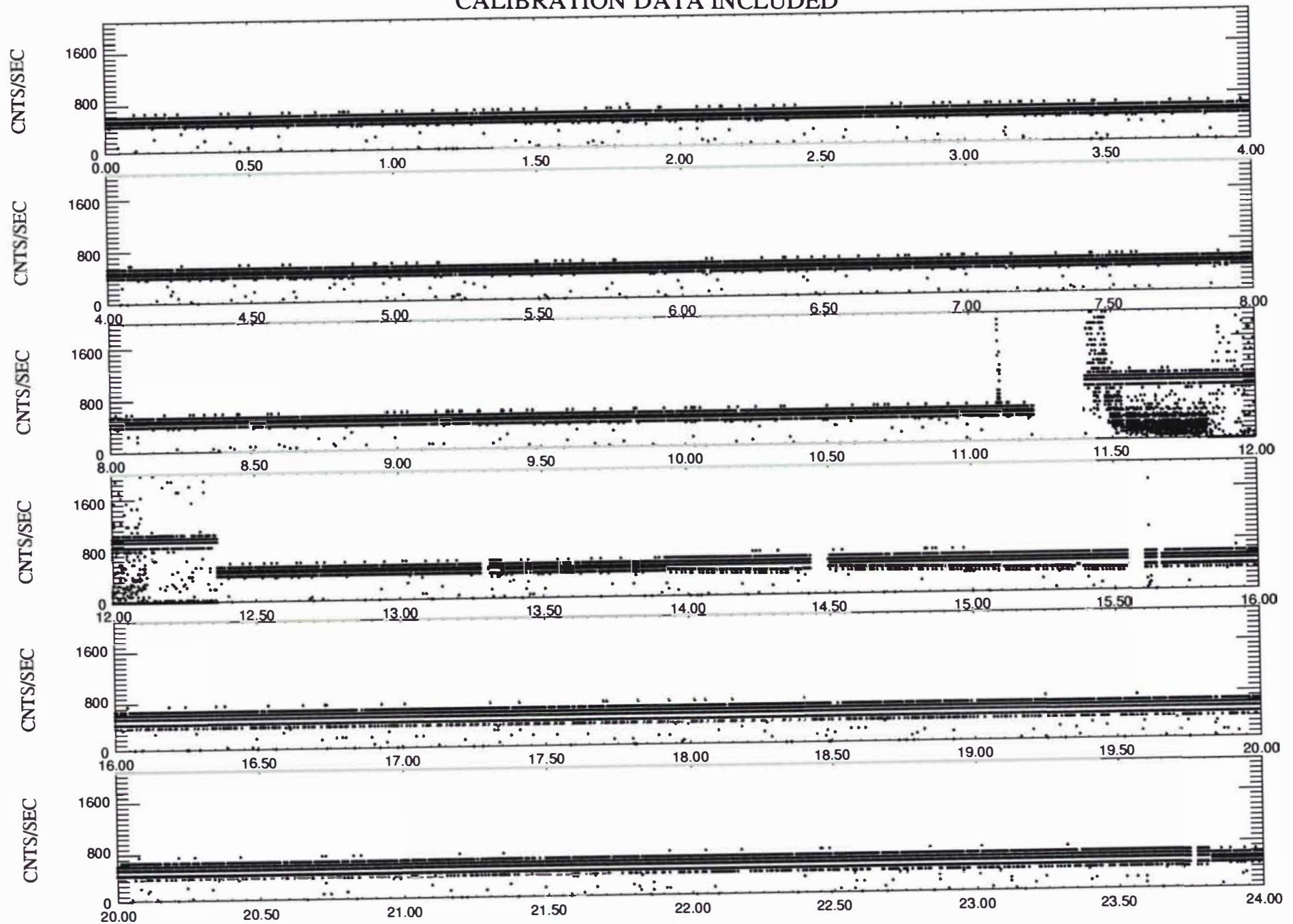
Plot created: 98/05/20, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

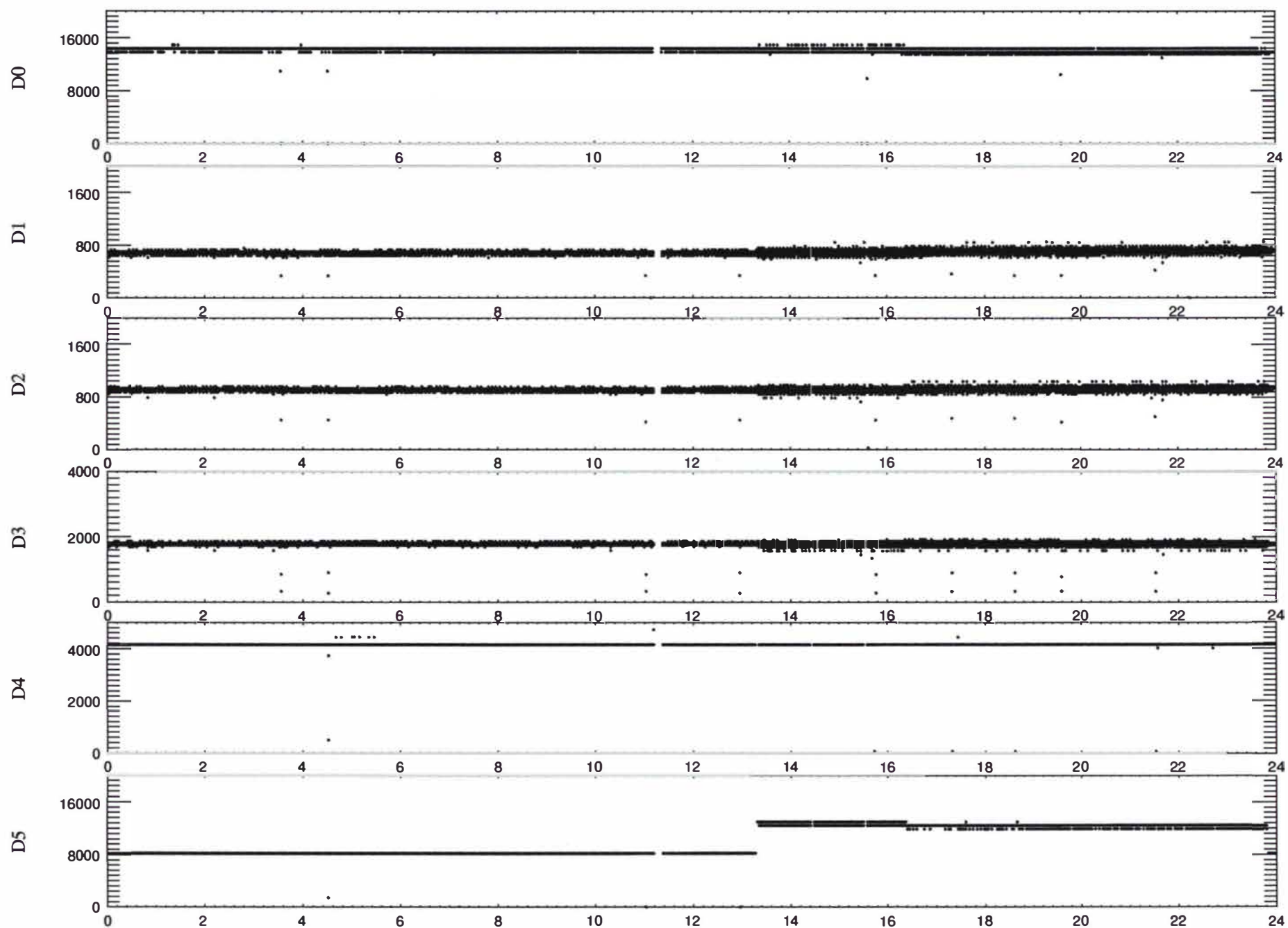
BURST NUMBER 5



CALIBRATION DATA INCLUDED

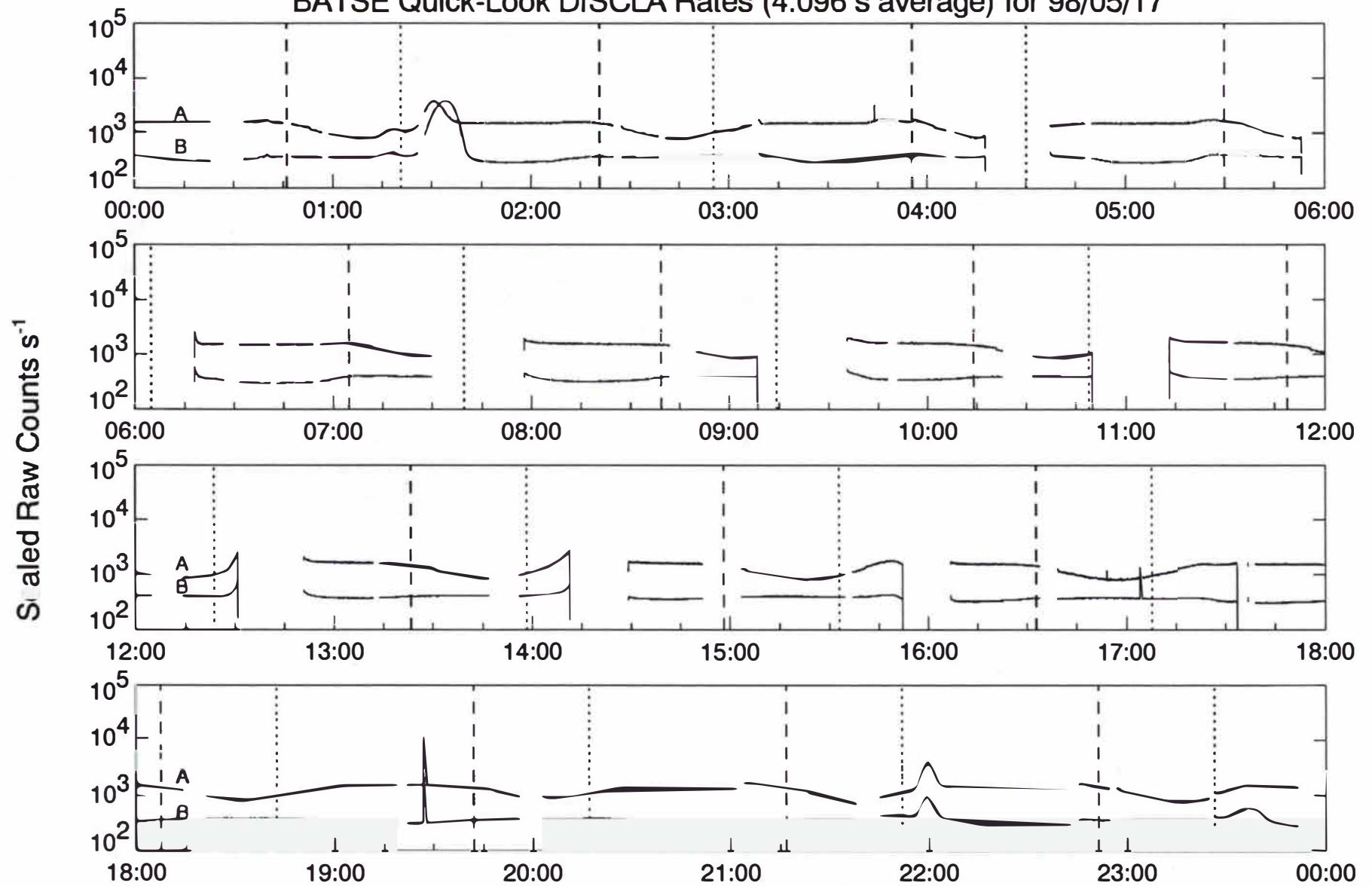


UNIV 'AL TIME



UNIV AL TIME

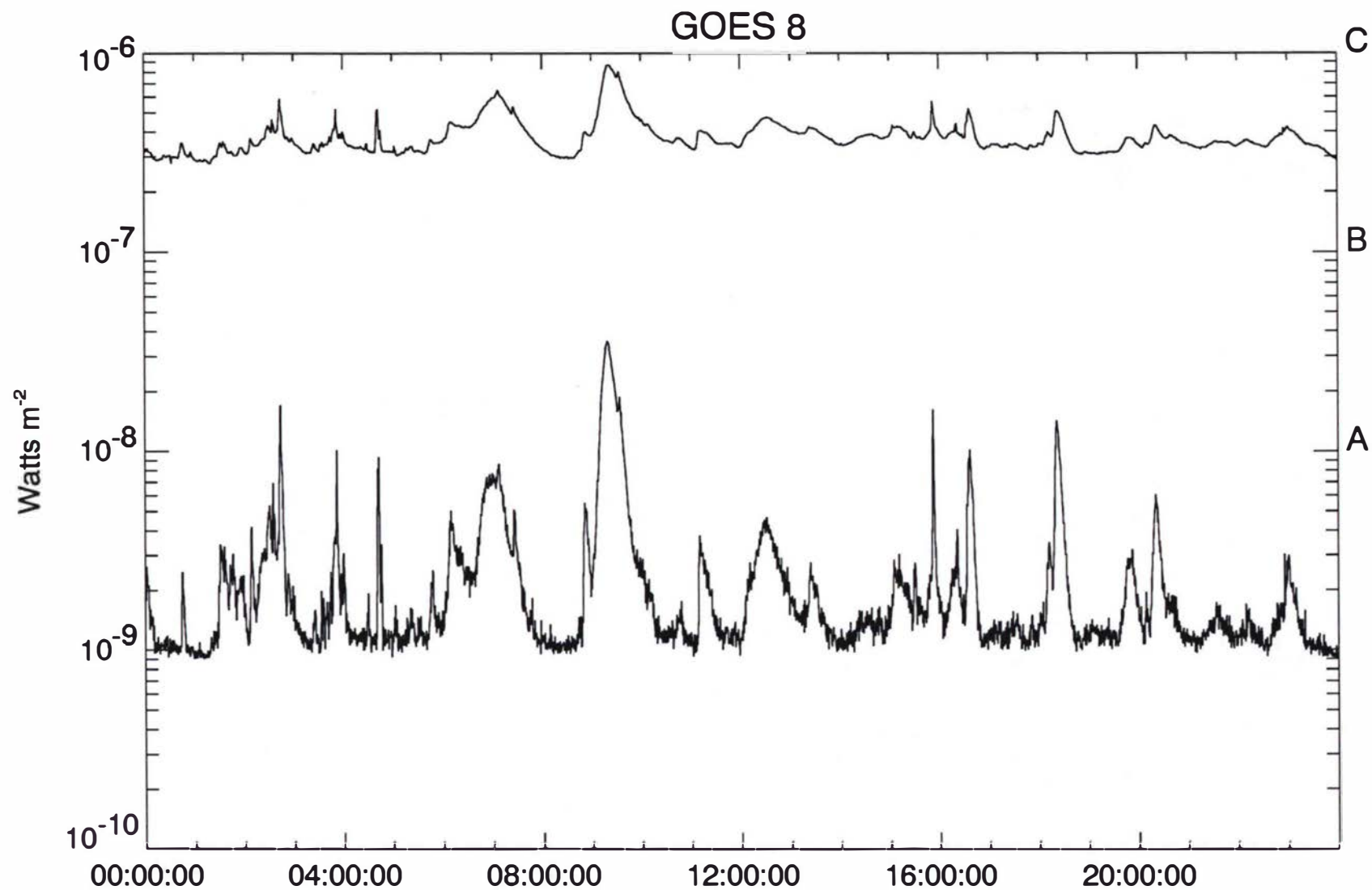
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/17



Current Time: 98/05/21, 1008 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



Data Start: 98/05/17, 0000:00

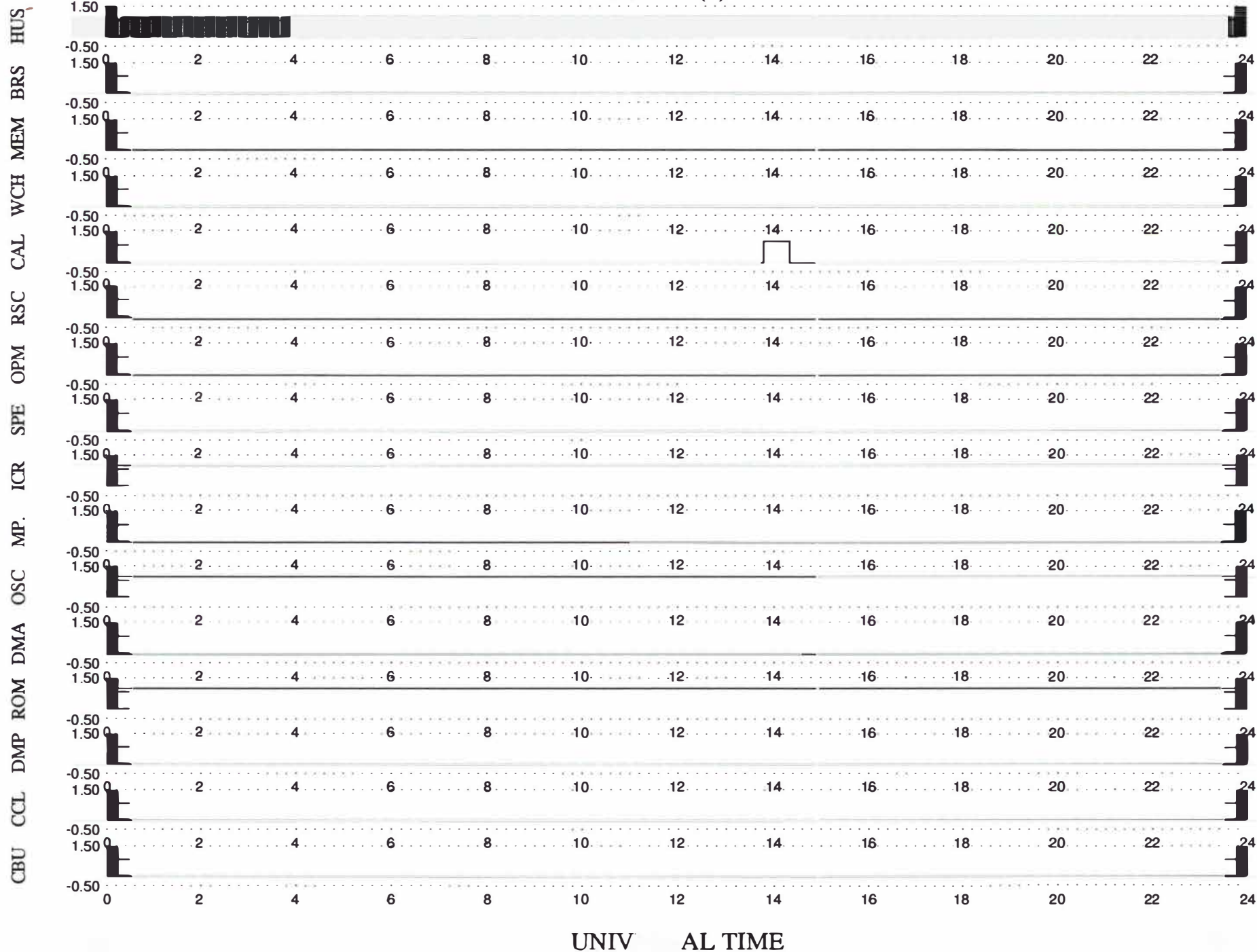
Plot created: 98/05/21, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

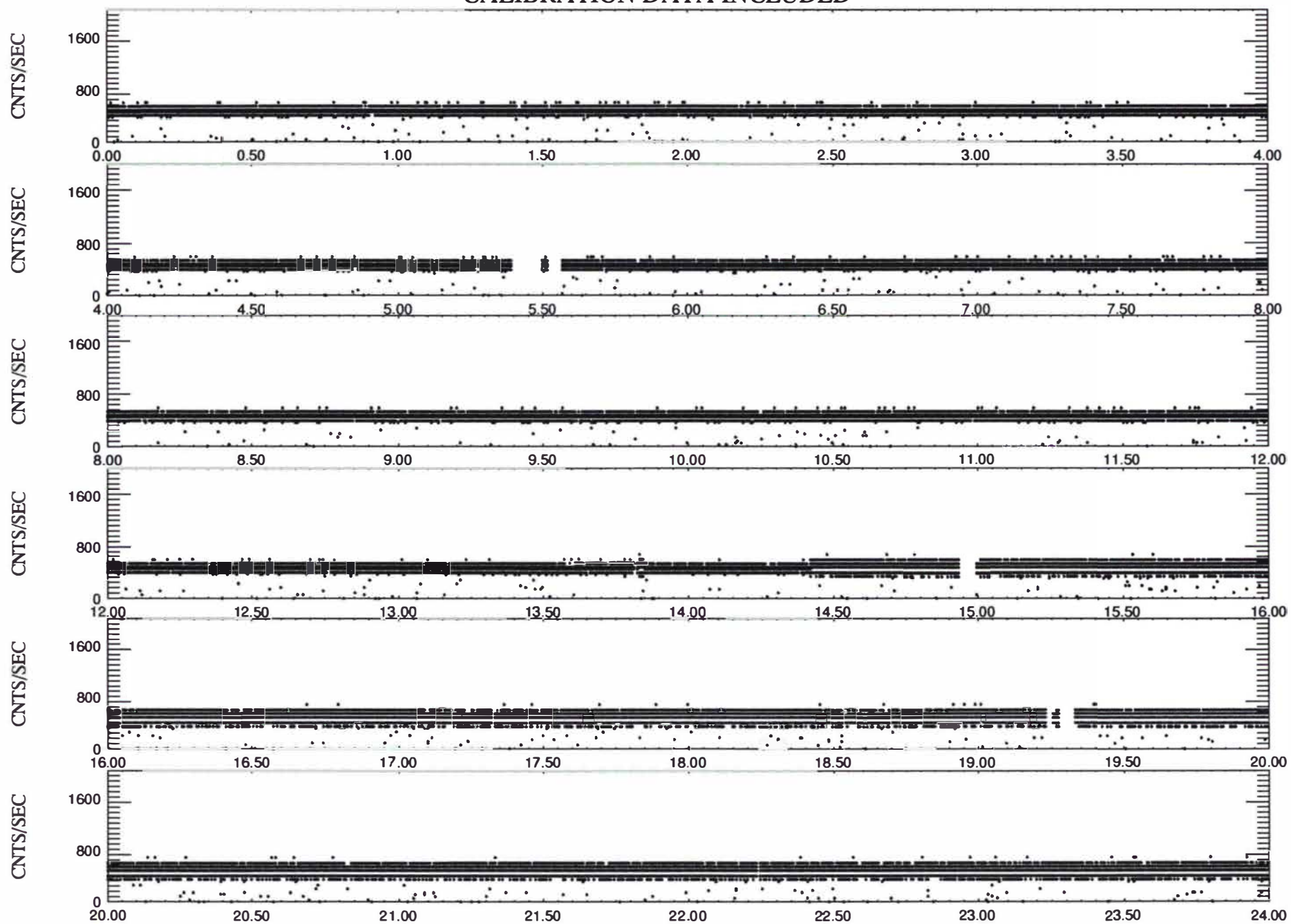
2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

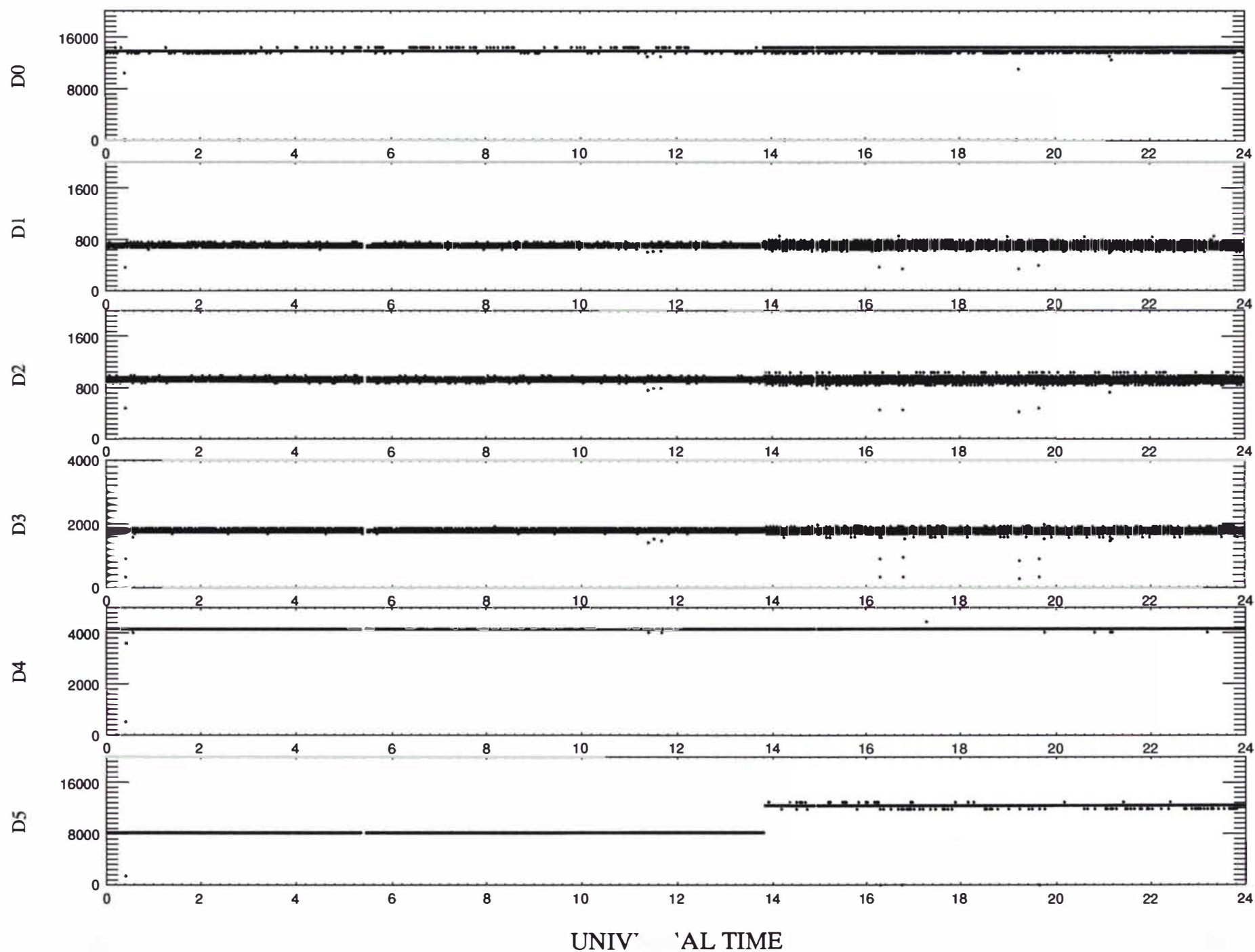
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIV AL TIME



Date: Mar 21 2012

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 ?
- ☐ 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 vw@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?

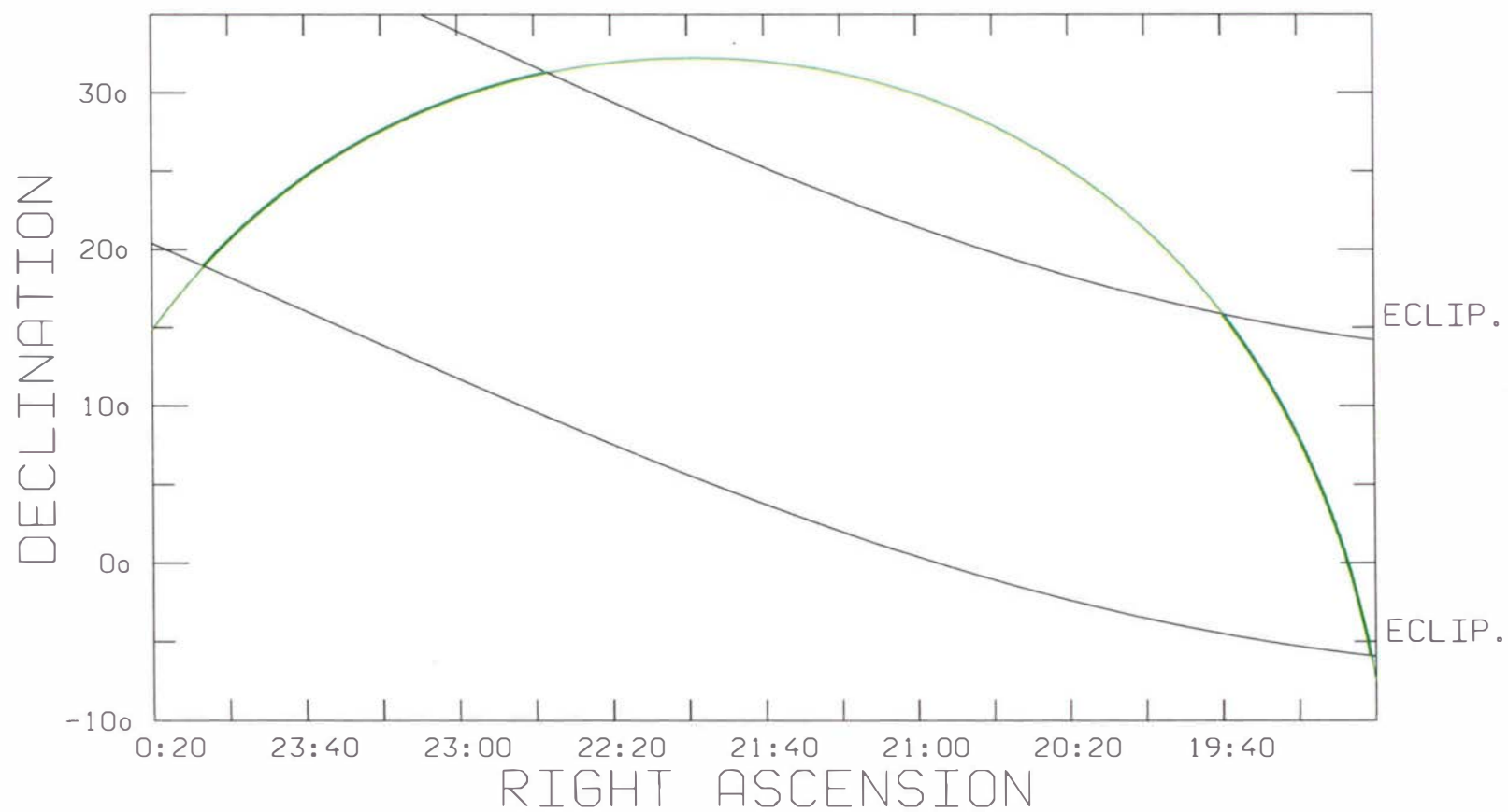
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

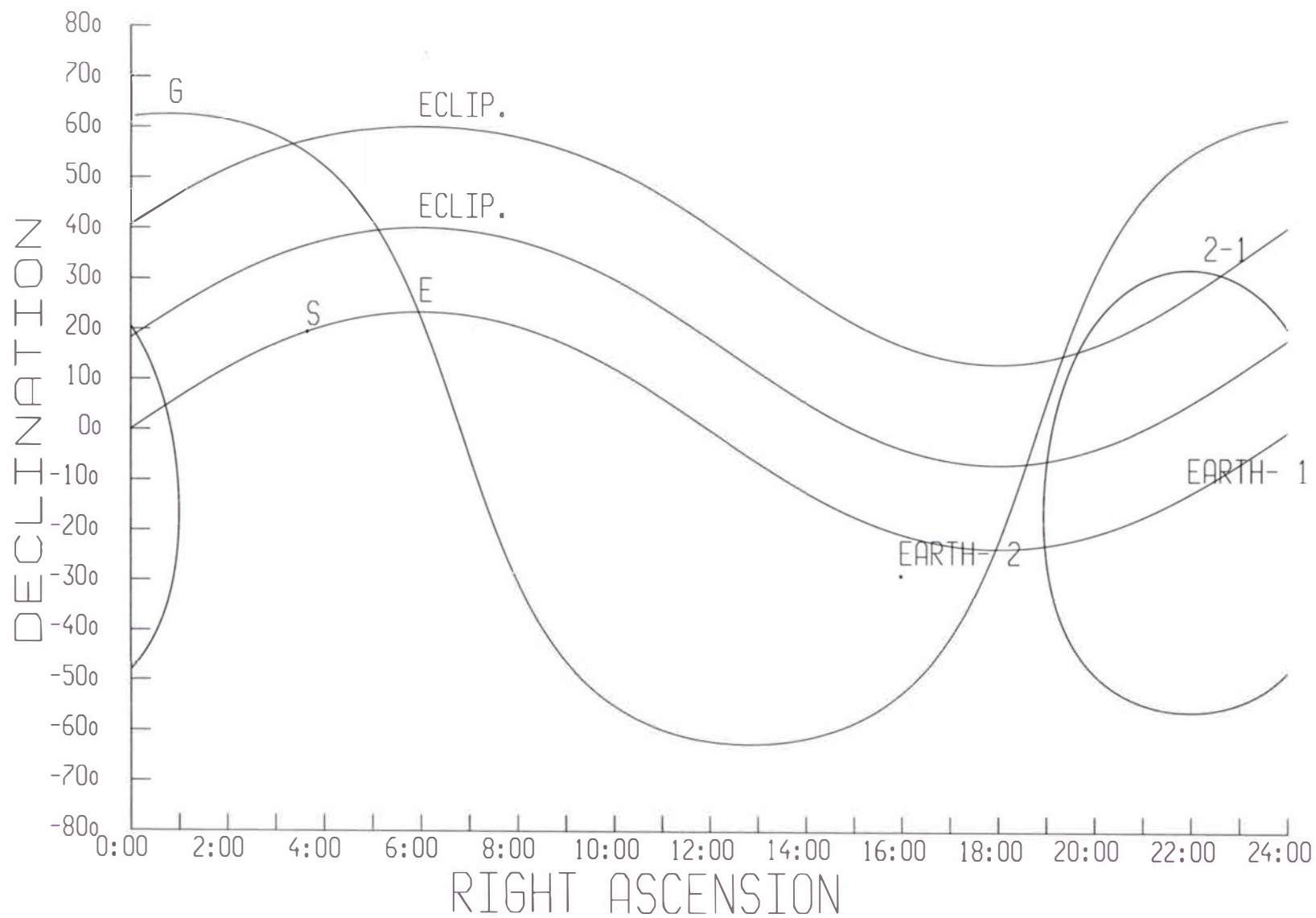
- ☒ ACCESS database updated?

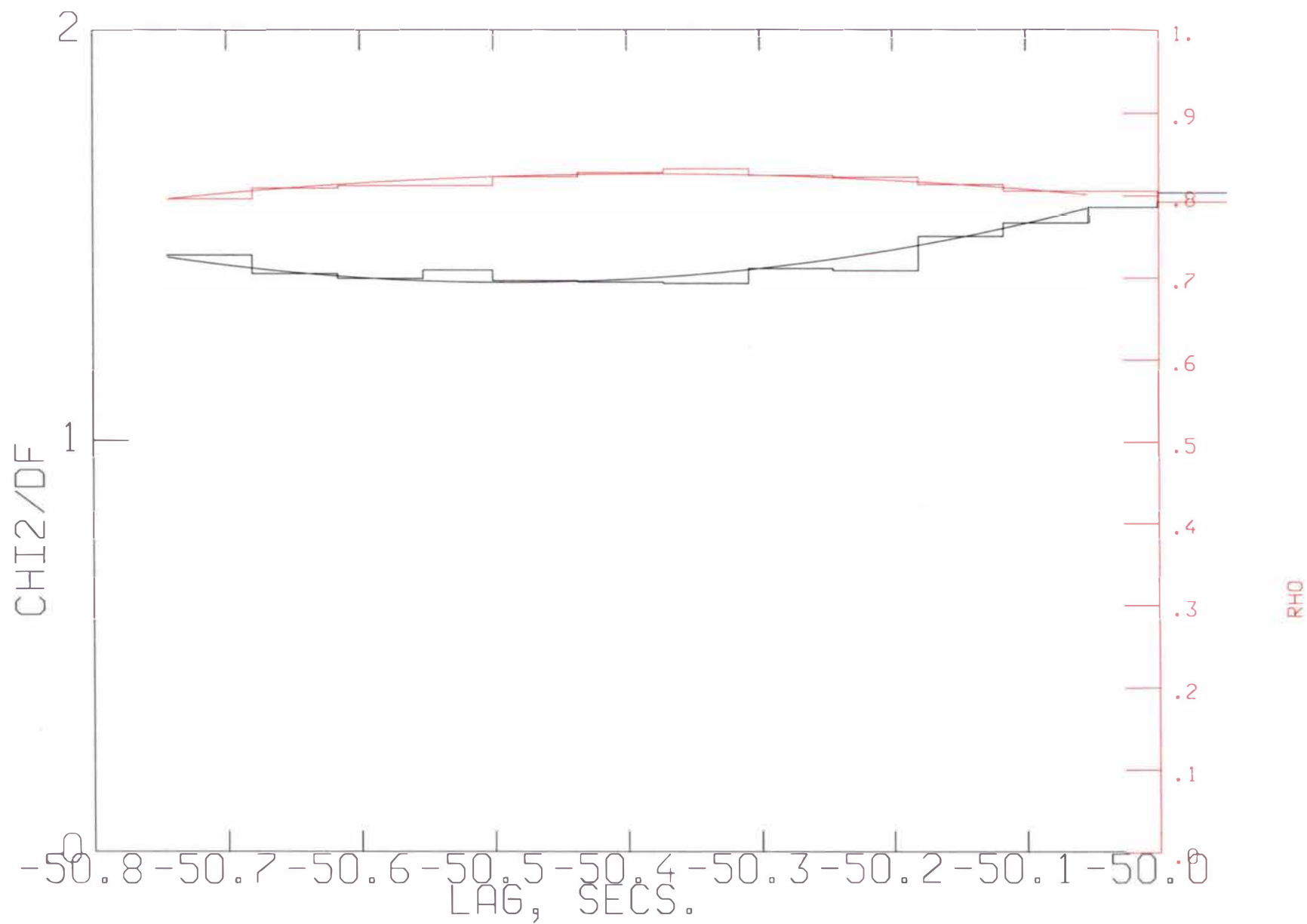


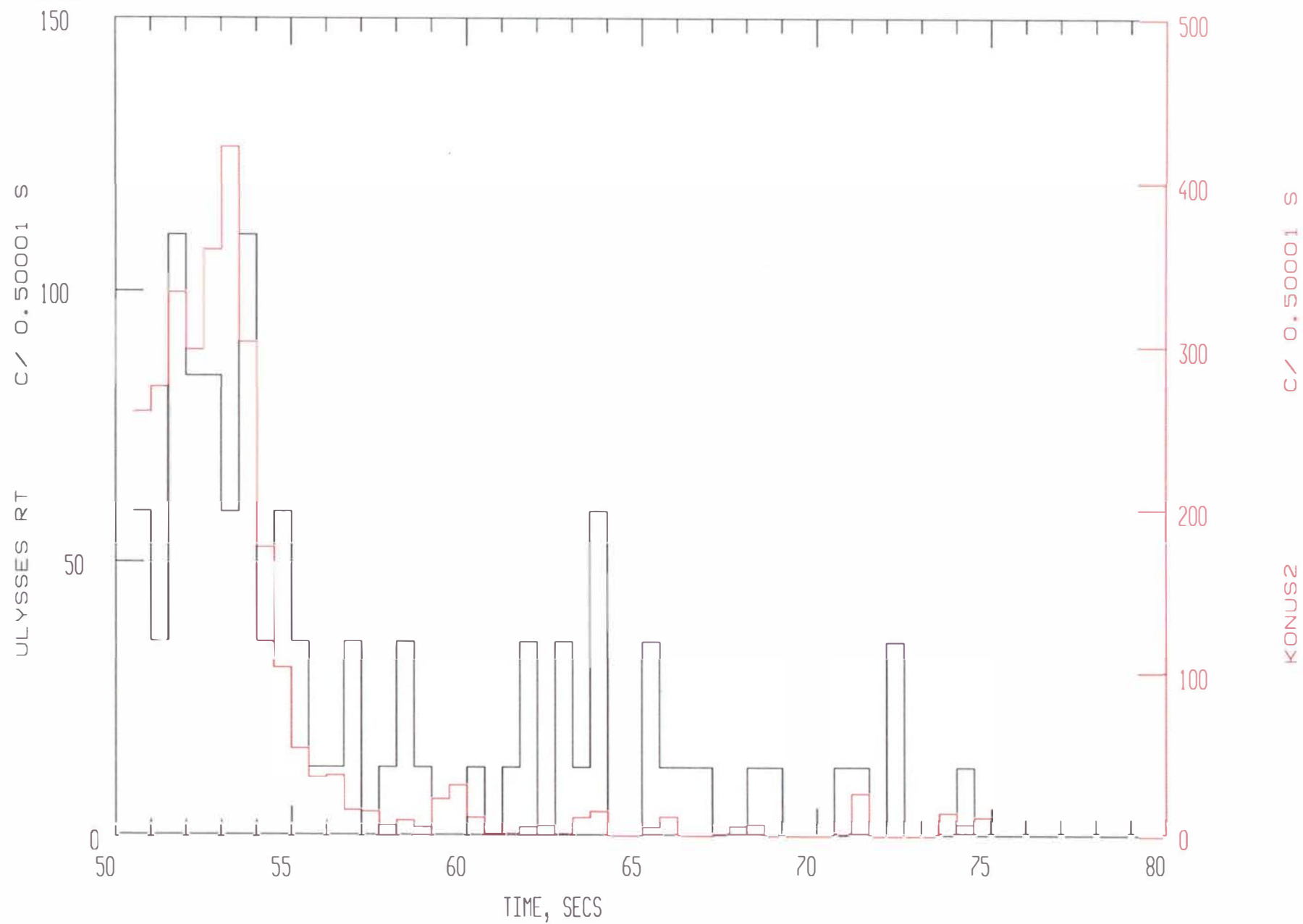
EVENT OF MAY 18, 1998 4:38

21/03/2012

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







KONUS 19980518 16768

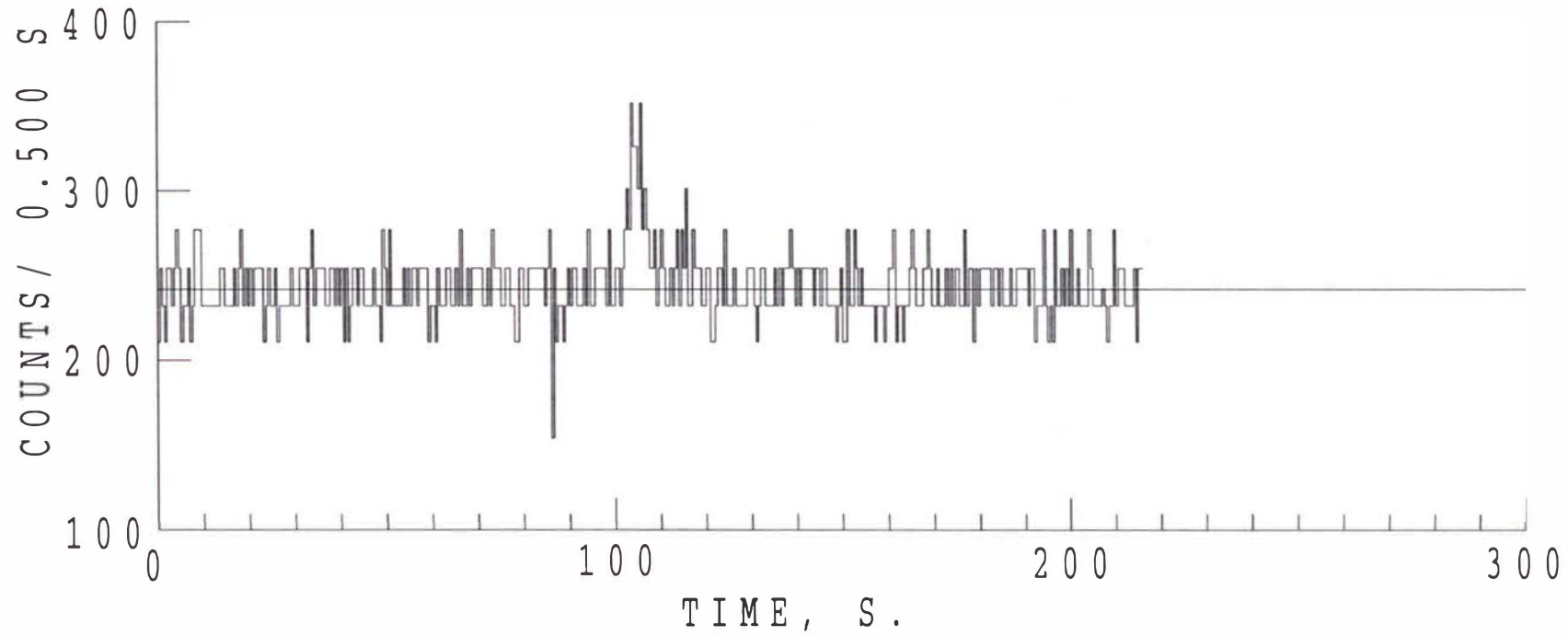
ULYSSES RT

20 / 03 / 12

18 / 05 / 98 16668.336 s

0 - 0 keV

N= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



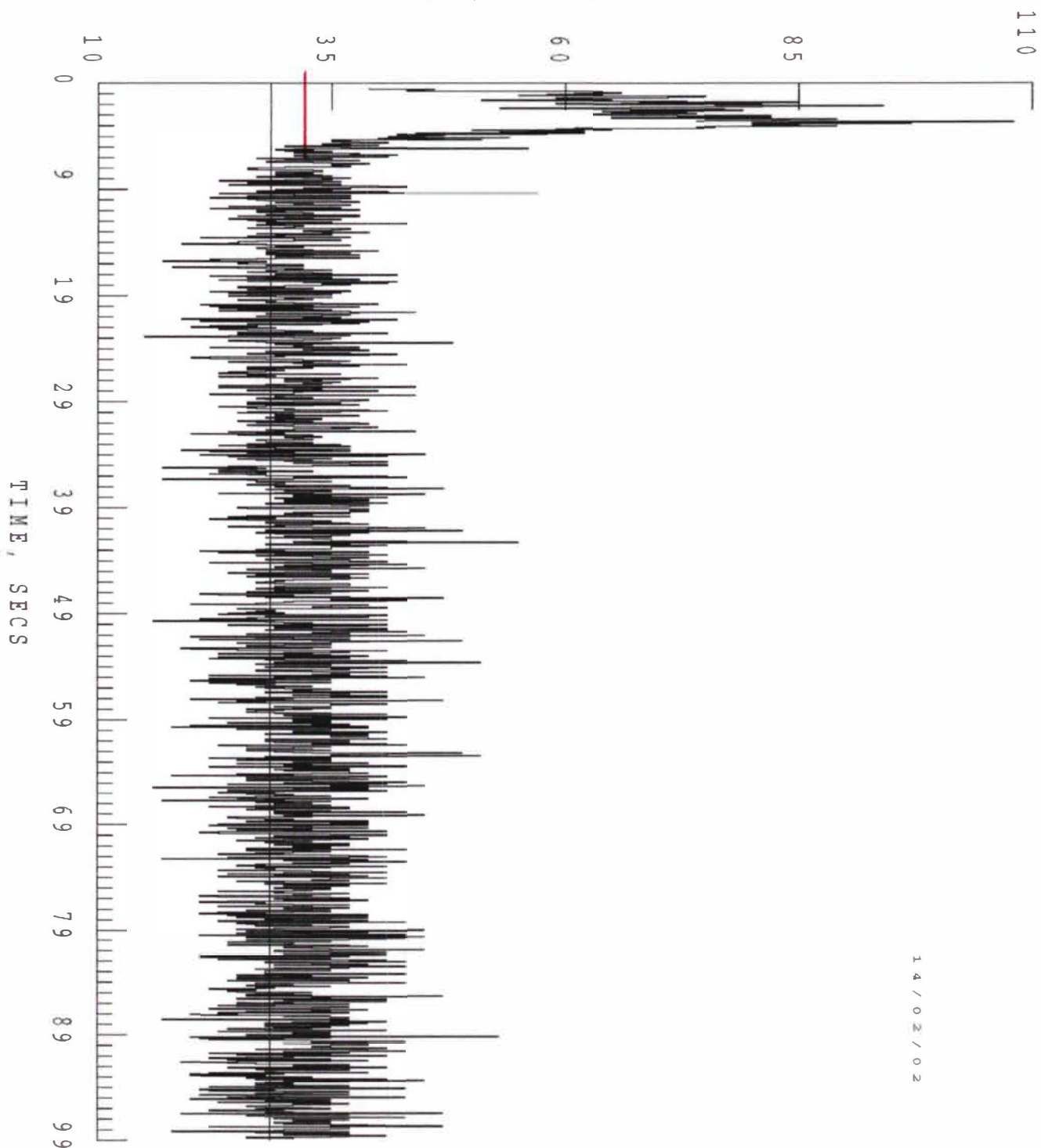
KONUS2

18/05/98

14872.469

50 - 200 keV

COUNTS/0.064 S



From WOODSP@fender.msfc.nasa.gov Wed May 20 12:00:52 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01136; Wed, 20 May 1998 12:00:51 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA23800; Wed, 20 May 1998 12:00:44 -0700
Date: Wed, 20 May 1998 14:00:46 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980520140046.2020d0b6@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6762
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6762
EVENT OF 1998 MAY 18 DAY OF YEAR=138
EVENT CROSSING TIME AT BATSE : 24441. S. OR 06:47:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 162.000 -43.000
BATSE PEAK COUNTING RATE: 10500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 5/ 98 IS:
RA= 148.817 DEC= 12.122 DIST= 5.321 AU
BATSE-ULYSSES DISTANCE = 796042231. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=123.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1468.33 SECS.
CROSSING TIME AT ULYSSES IS 22973. S. OR 06:22:52 +/- 411.81 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 5/ 98 IS:
RA= 53.249 DEC= 19.259 DIST= 2.494 AU
MARS-BATSE DISTANCE = 373156384. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 63.46 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 556.25 SECS.
CROSSING TIME AT MARS IS 24997. S. OR 06:56:37 +/- 201.77 SECONDS

BATSE BURST TRIGGER

NO.: 6762

TIME: TJD=0951 SECONDS=24441

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=116.5 AZIMUTH=147.1 ERROR=2.1 DEGREES

COMMENTS:

GRB LASTING ABOUT 10 SEC. SINGLE PULSE WITH MULTIPLE SHARP
PEAKS. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6762	980518	10951	24441	10500	162	-43	10

BATSE BURST# 6762

ULYSSES RT

29 / 5 / 98

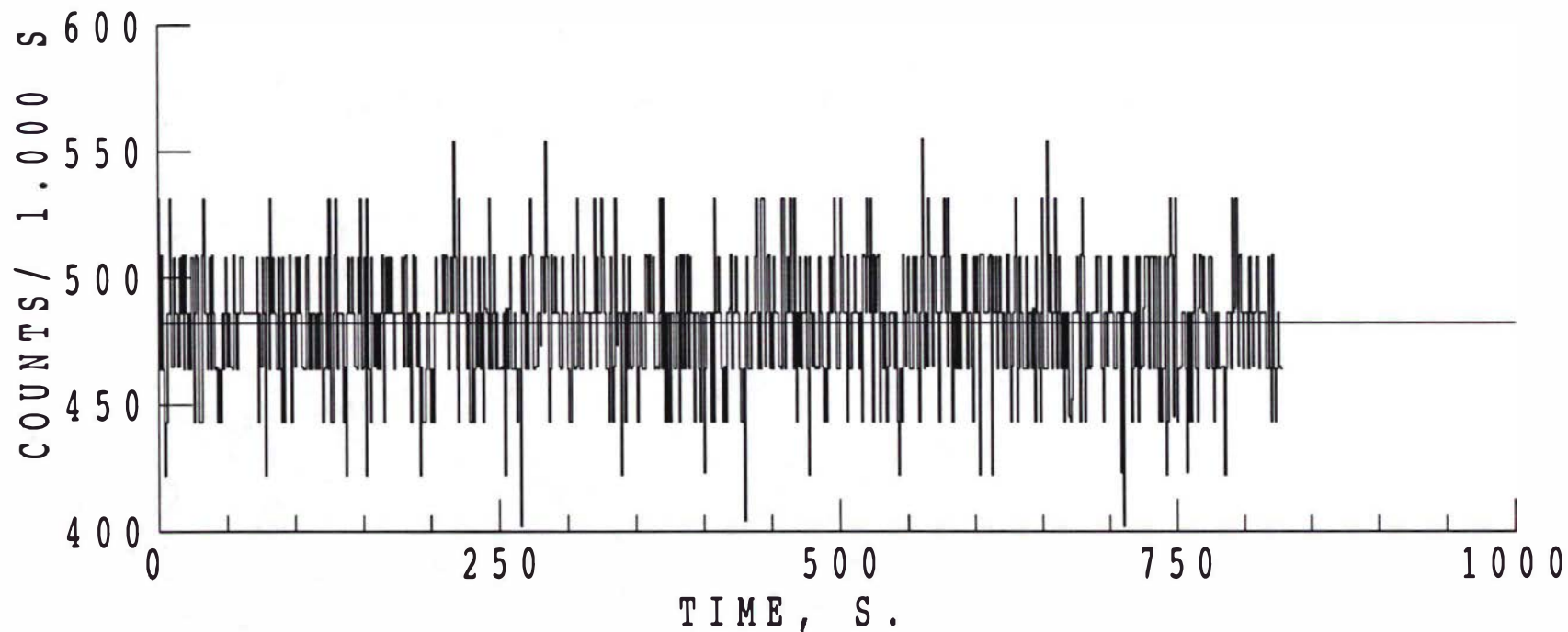
18 / 5 / 98 22572.400 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

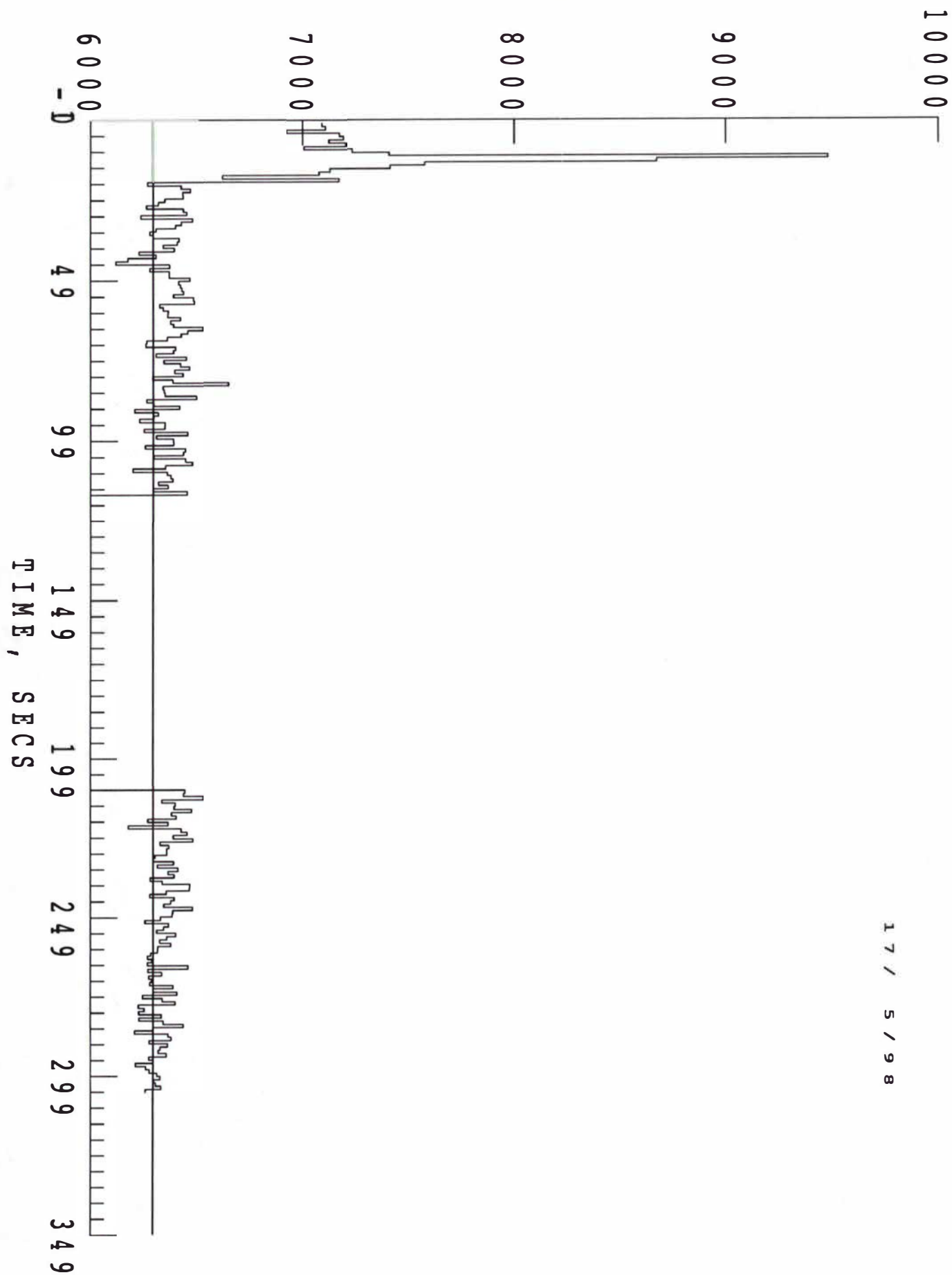
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 6762 18/05/98 24430.305

25 - 100 keV

COUNTS/1.024 S



17 / 5 / 98

From WOODSP@fender.msfc.nasa.gov Wed May 20 12:02:07 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01143; Wed, 20 May 1998 12:02:06 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA23820; Wed, 20 May 1998 12:02:04 -0700
Date: Wed, 20 May 1998 14:02:03 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980520140203.2020d0b6@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6763
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6763
EVENT OF 1998 MAY 18 DAY OF YEAR=138
EVENT CROSSING TIME AT BATSE : 35231. S. OR 09:47:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 331.000 58.000
BATSE PEAK COUNTING RATE: 8500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 5/ 98 IS:
RA= 148.816 DEC= 12.116 DIST= 5.323 AU
BATSE-ULYSSES DISTANCE = 796354249. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 70.14 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 902.46 SECS.
CROSSING TIME AT ULYSSES IS 36133. S. OR 10:02:13 +/- 497.46 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 5/ 98 IS:
RA= 53.249 DEC= 19.259 DIST= 2.494 AU
MARS-BATSE DISTANCE = 373156384. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -432.14 SECS.
CROSSING TIME AT MARS IS 34799. S. OR 09:39:58 +/- 196.10 SECONDS

BATSE BURST TRIGGER

NO.: 6763

TIME: TJD=0951 SECONDS=35231

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=50.7 AZIMUTH=341.2 ERROR=2.8 DEGREES

COMMENTS:

GRB LASTING ABOUT 110 SEC. PRECURSOR AT T-60 SEC. CYG X-1 RISE
AT T-28 SEC. TRIGGERED PULSE HAS SMOOTH TRIANGULAR PROFILE WITH
SMALL BUMP DURING DECAY. VISIBLE ABOVE 300 KEV.

Date: 17/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Were data checked by Joe Springer for 0.5 s errors? N/A
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

- ☒ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)?
- ☒ BATSE ephemeris for T_0 ?
- ☒ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

N/A

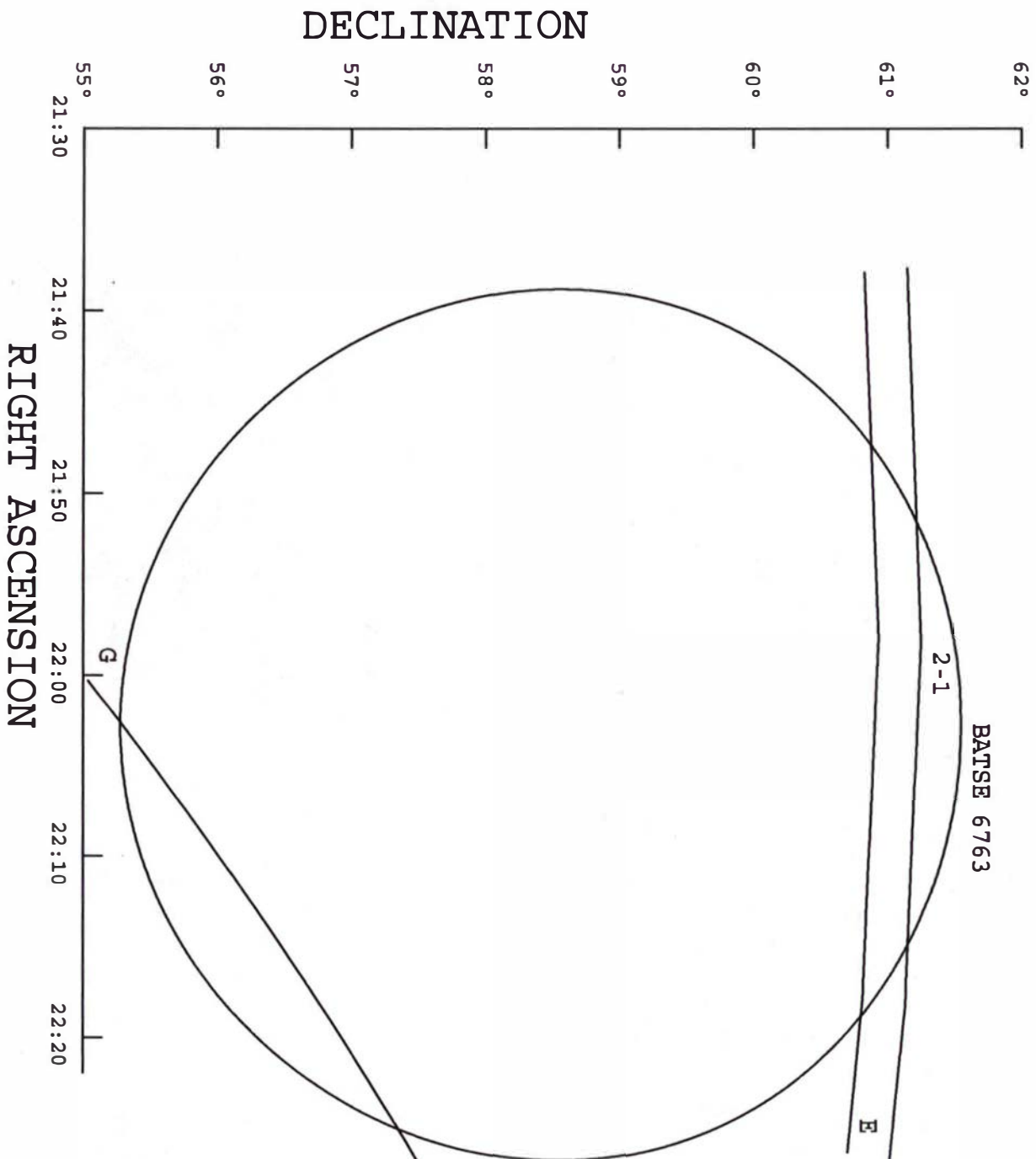
- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

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

EVENT OF MAY 18, 1998 9:47

18 / 1 / 0



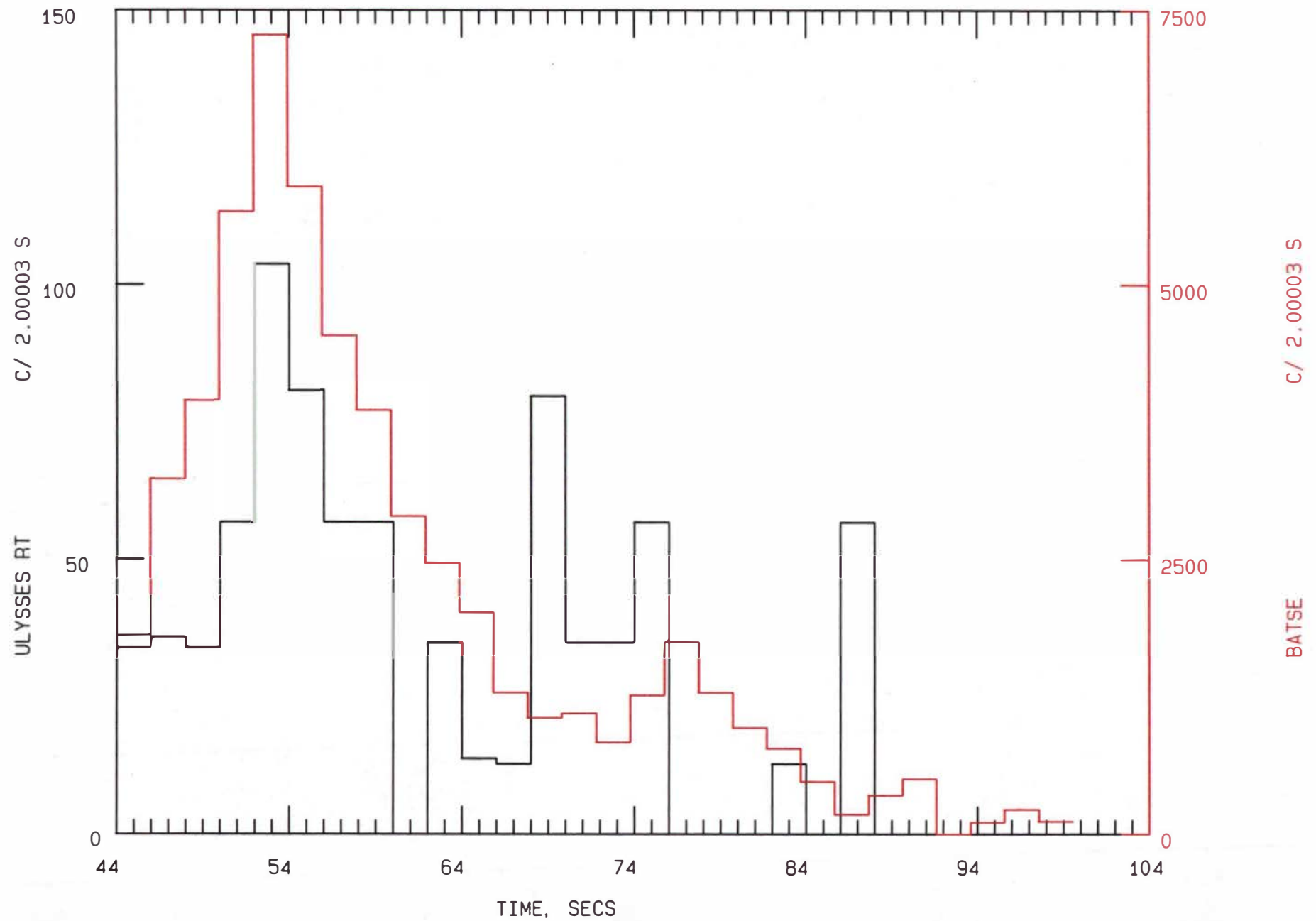
ULYSSES RT-BATSE

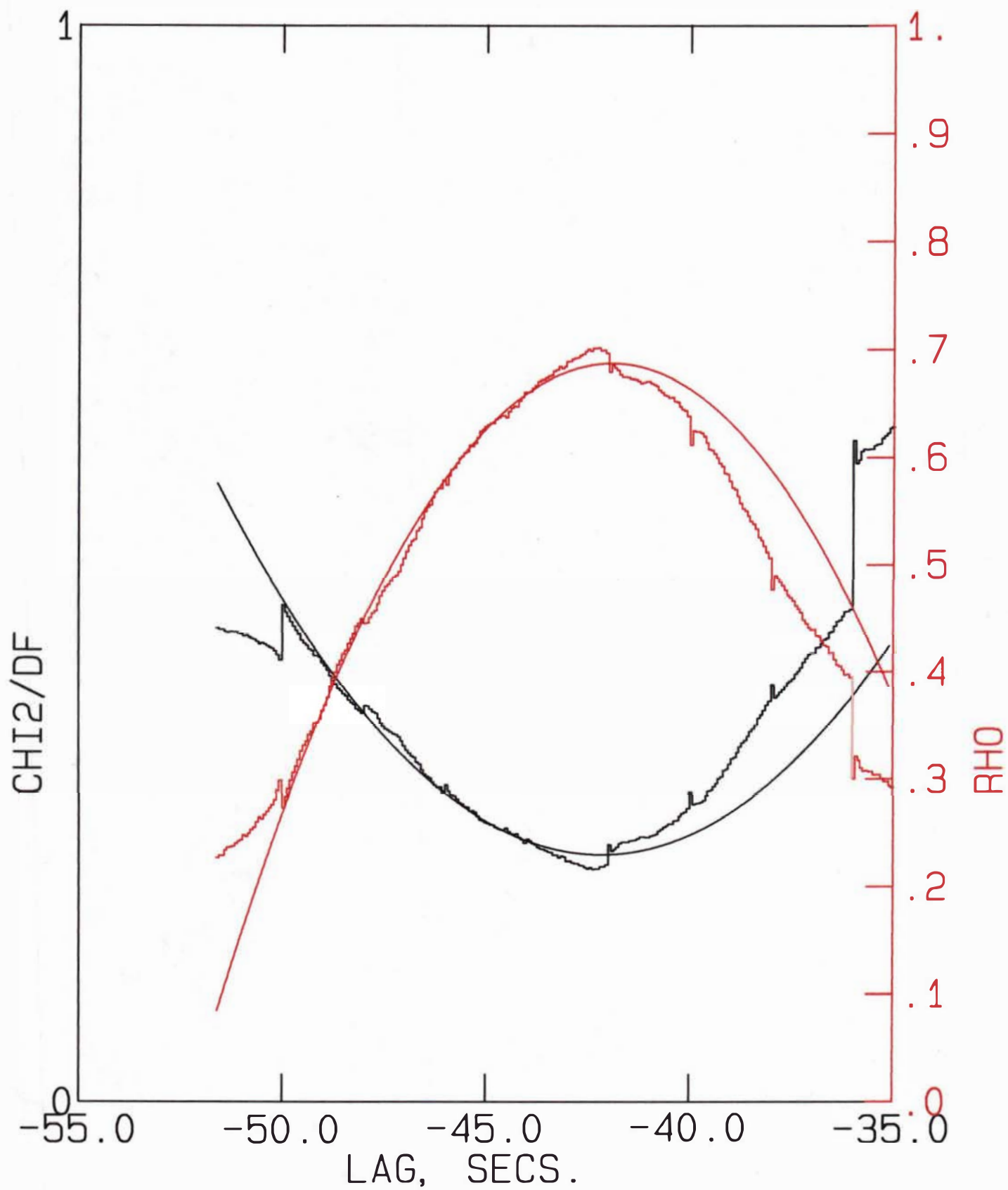
CORRELATION

18/ 5/98

35960.041

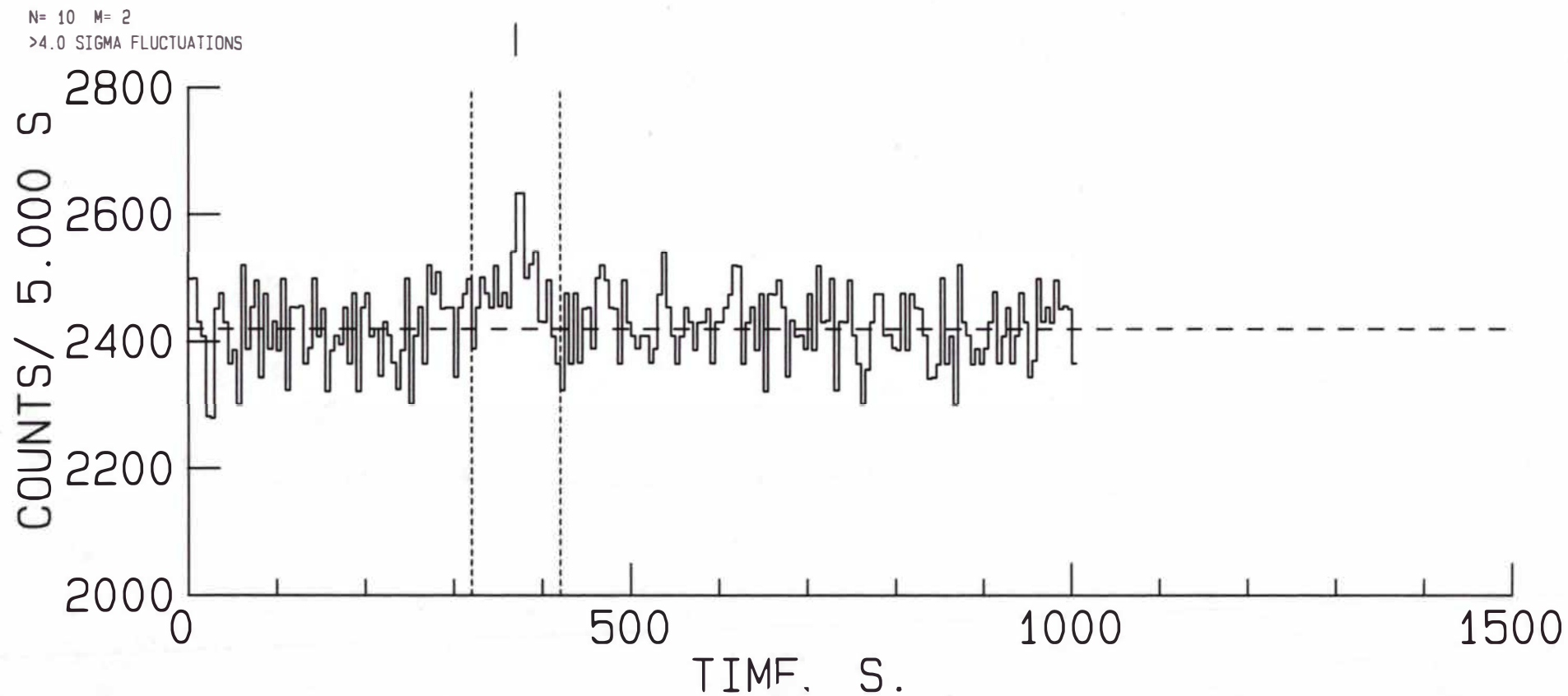
17/ 1/**





ULYSSES RT
18/ 5/98 35640.035 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

17 / 1 / 0



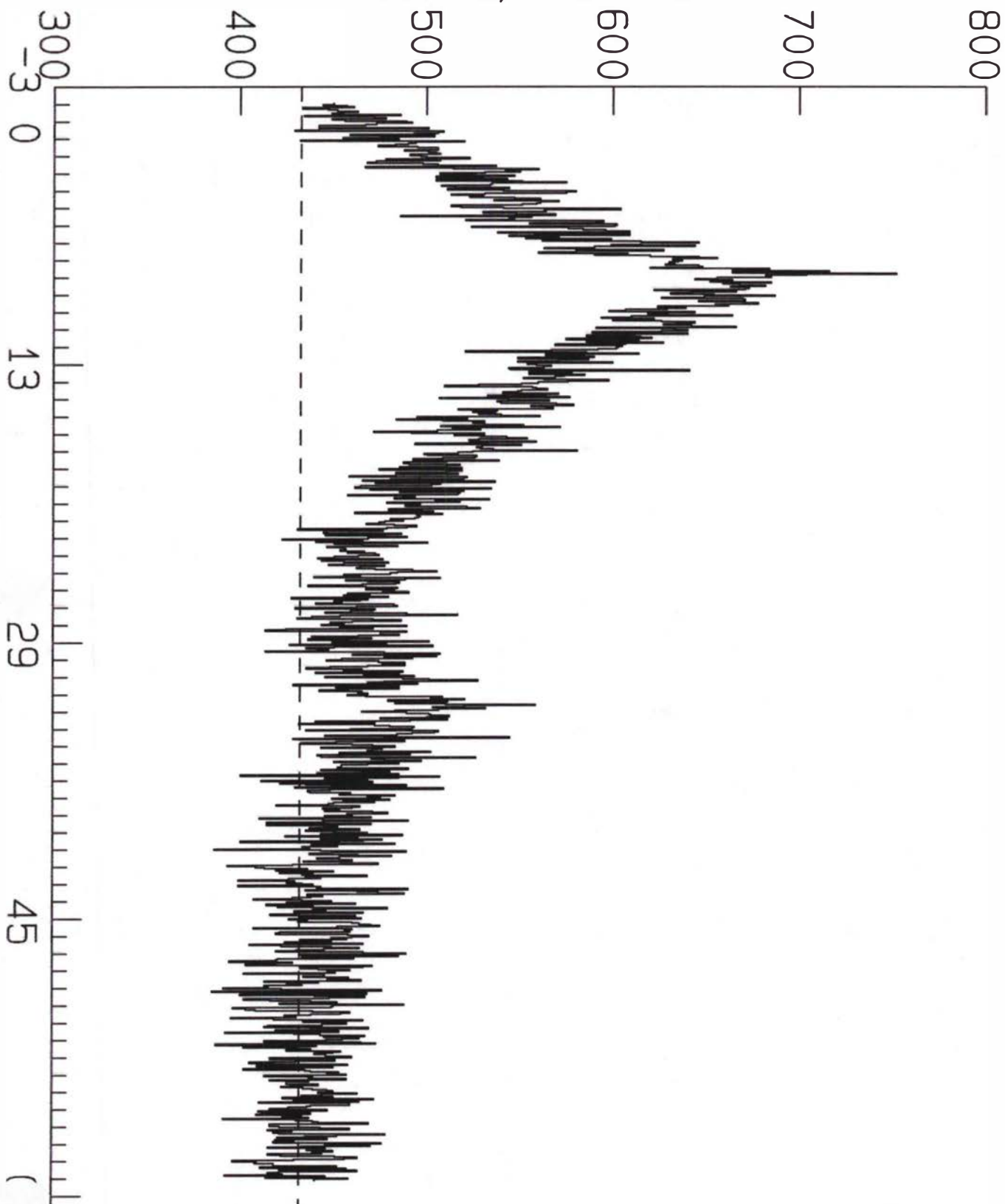
BATSE

18/05/98

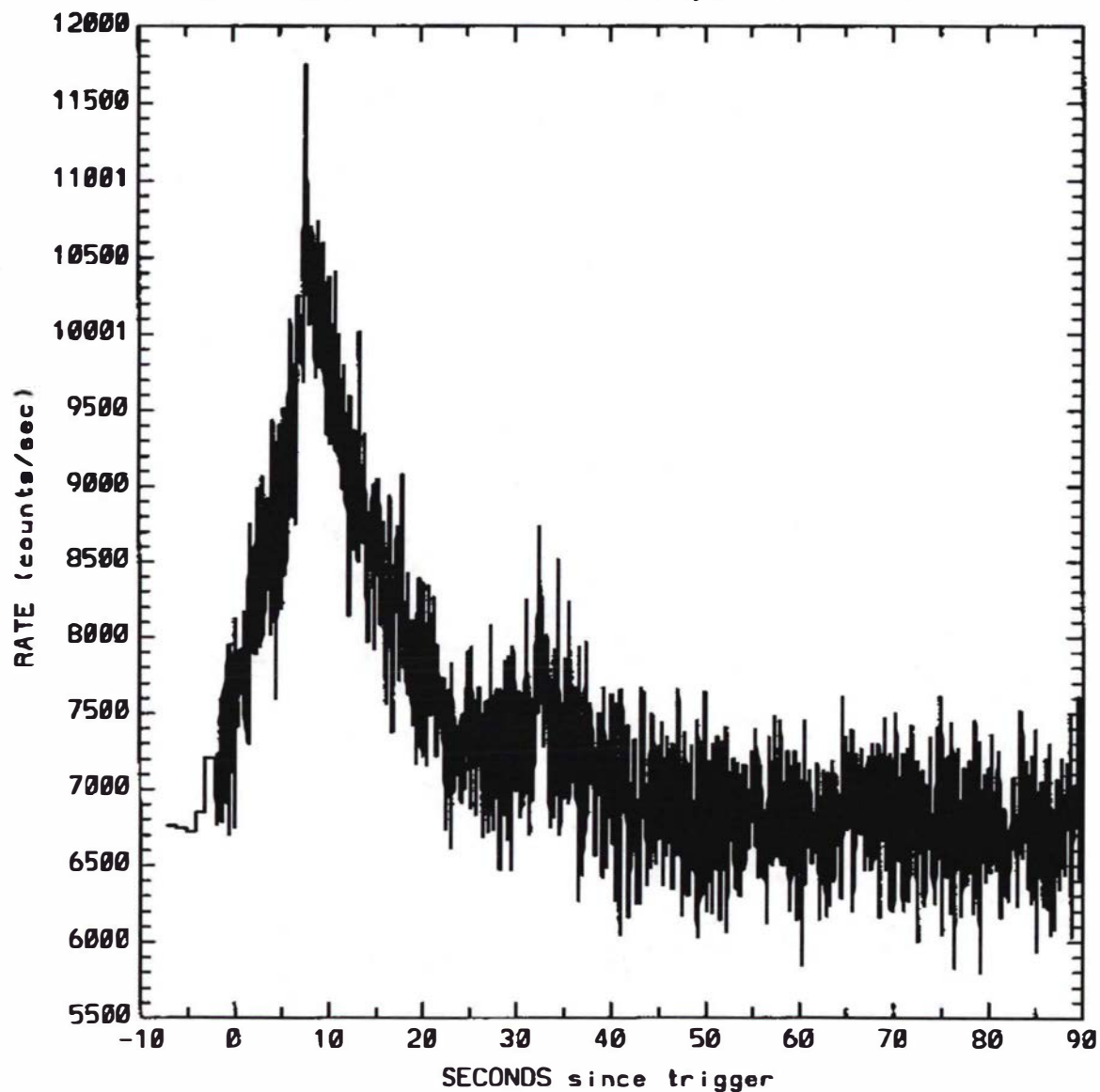
35231.457

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6763



2-JUN-1998 14:01.21

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6763

Trigger Time:
10951 / 35231.457

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

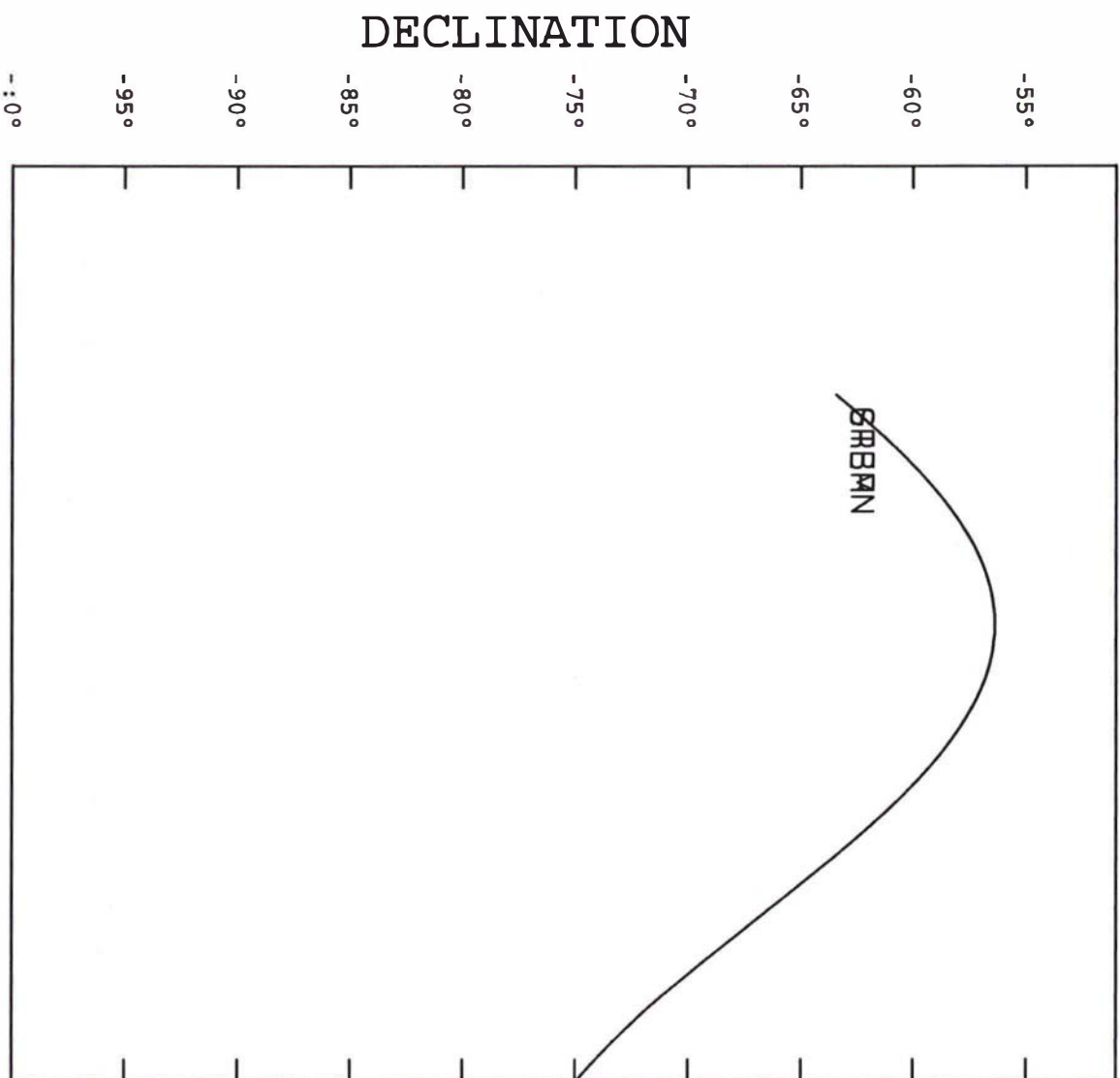
Minimum Integ. Time:
0.064 seconds

Detectors (7..0).
-----2-8

Discriminators:
(1, 2)

Quality Mask:
BDISP1

*SGR 1627



grbm 19980518 68491

ULYSSES RT

19 / 04 / 07

18/05/98 66996.367 s

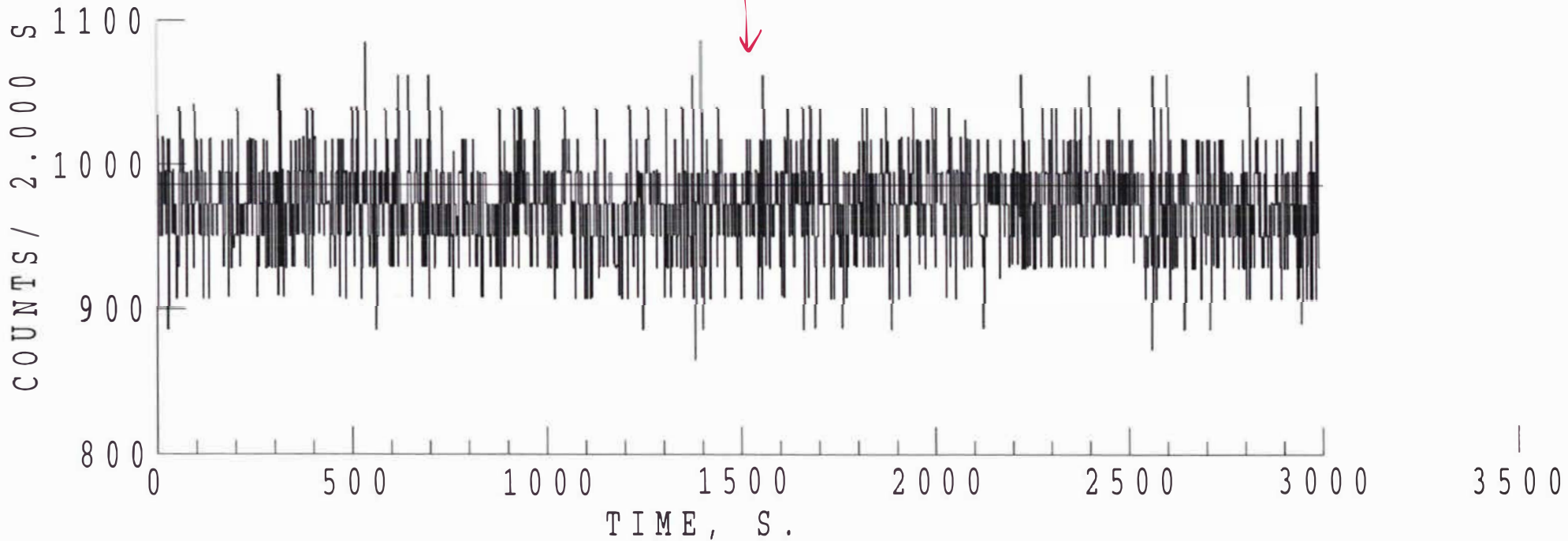
0.500 S INTERVALS REGROUPED BY 4

0 - 0 keV

M= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

Should be here



SAX GRBM
HUS DATA

ULYSSES RT

19 / 07 / 05

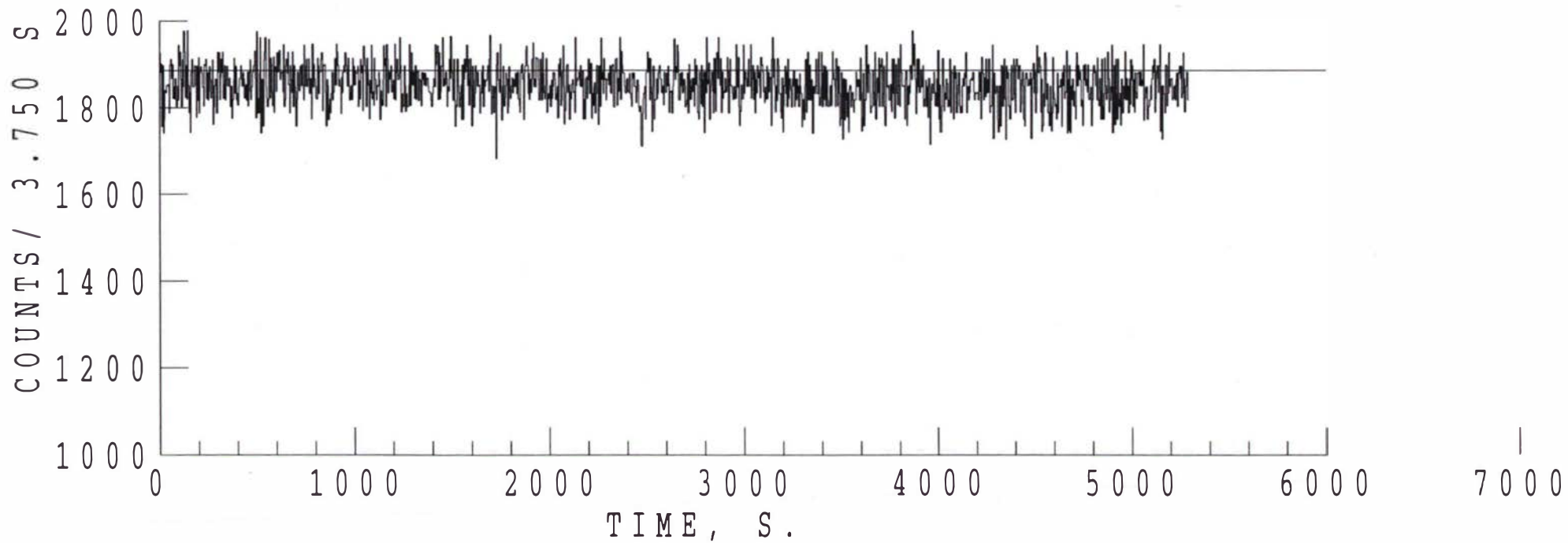
18 / 05 / 98 77940.242 s

0.250 S INTERVALS REGROUPED BY 15

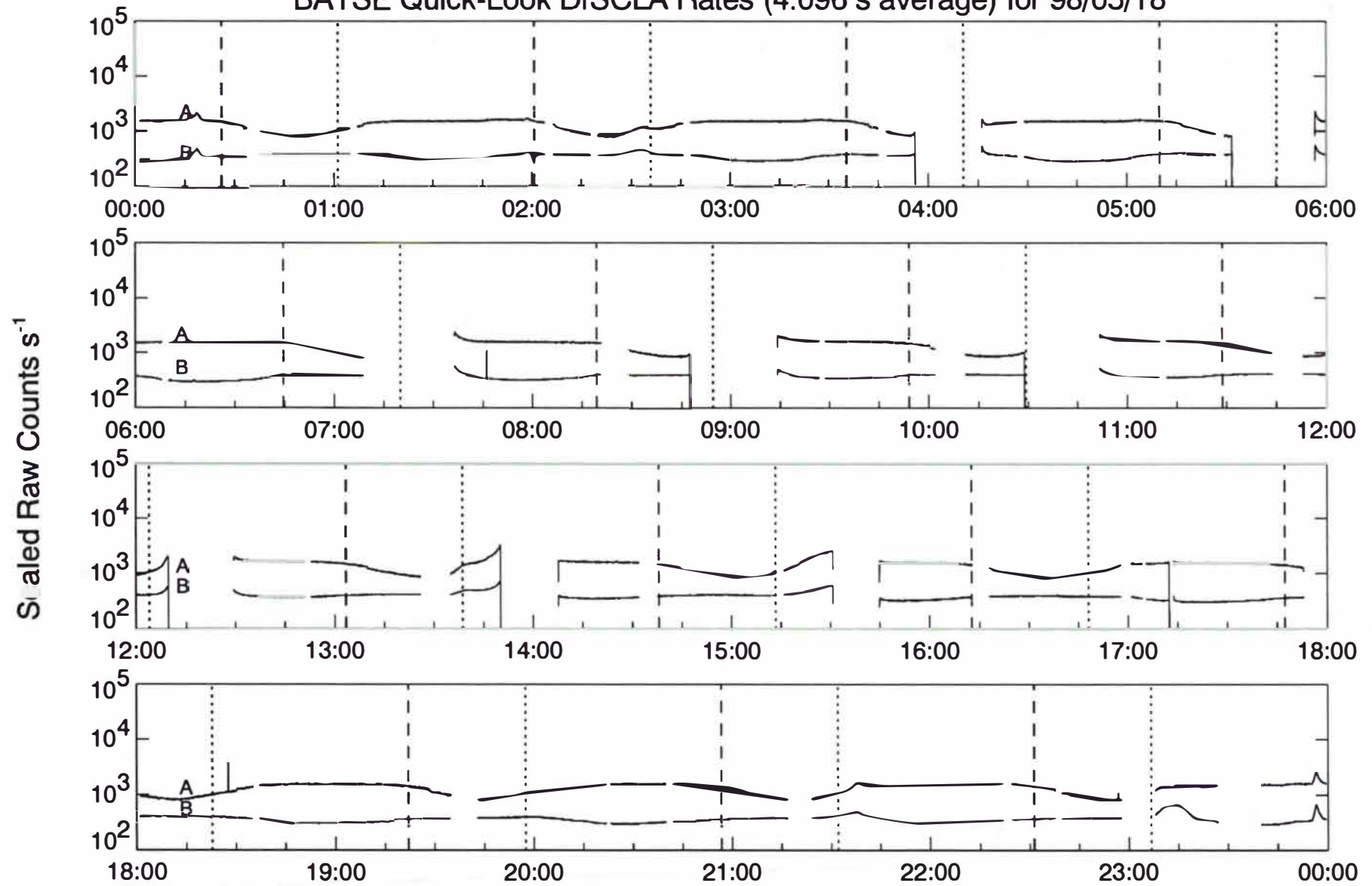
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



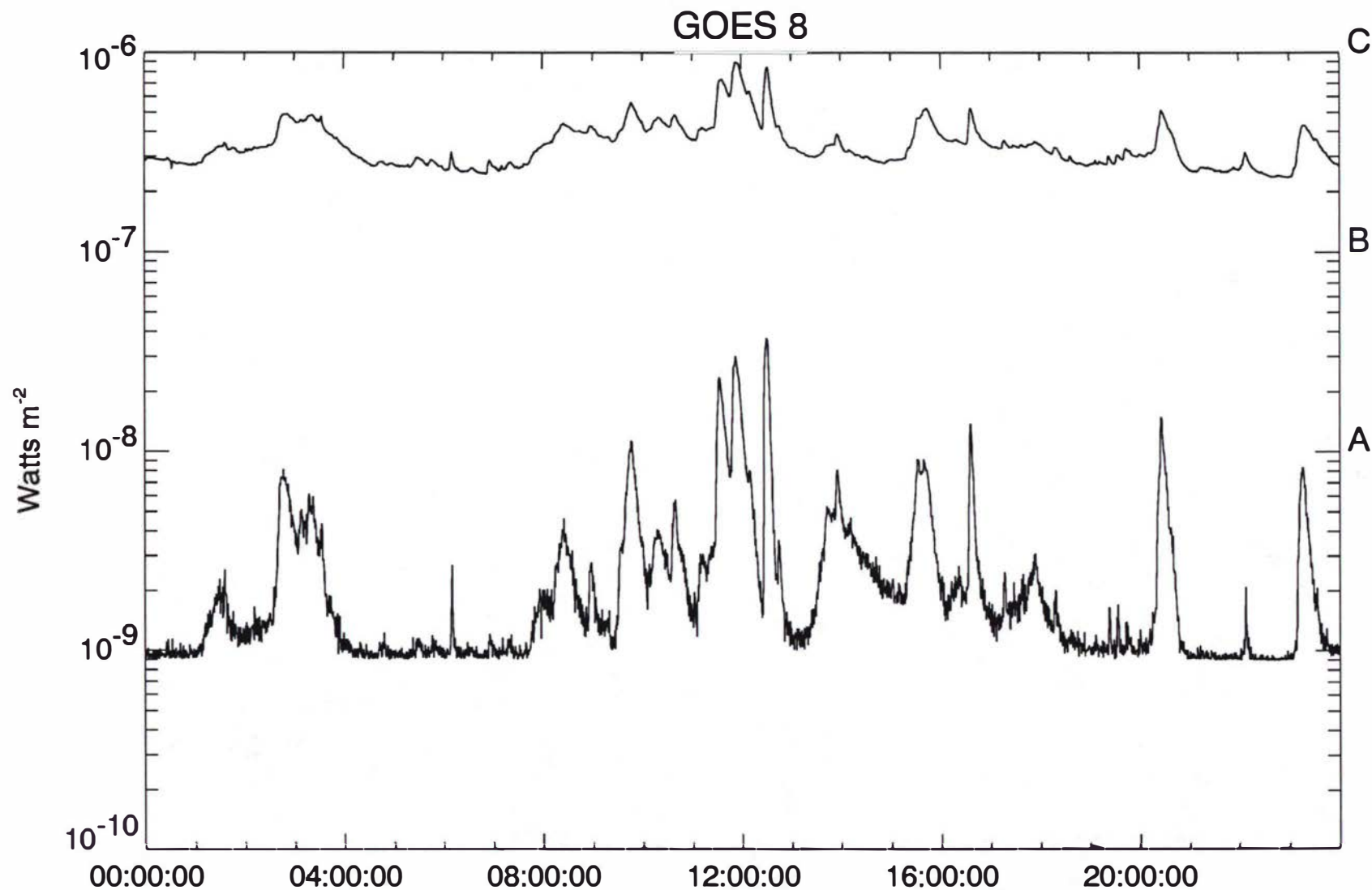
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/18



Current Time: 98/05/22, 1008 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



Data Start: 98/05/18, 0000:00

Plot created: 98/05/22, 1007

Channel

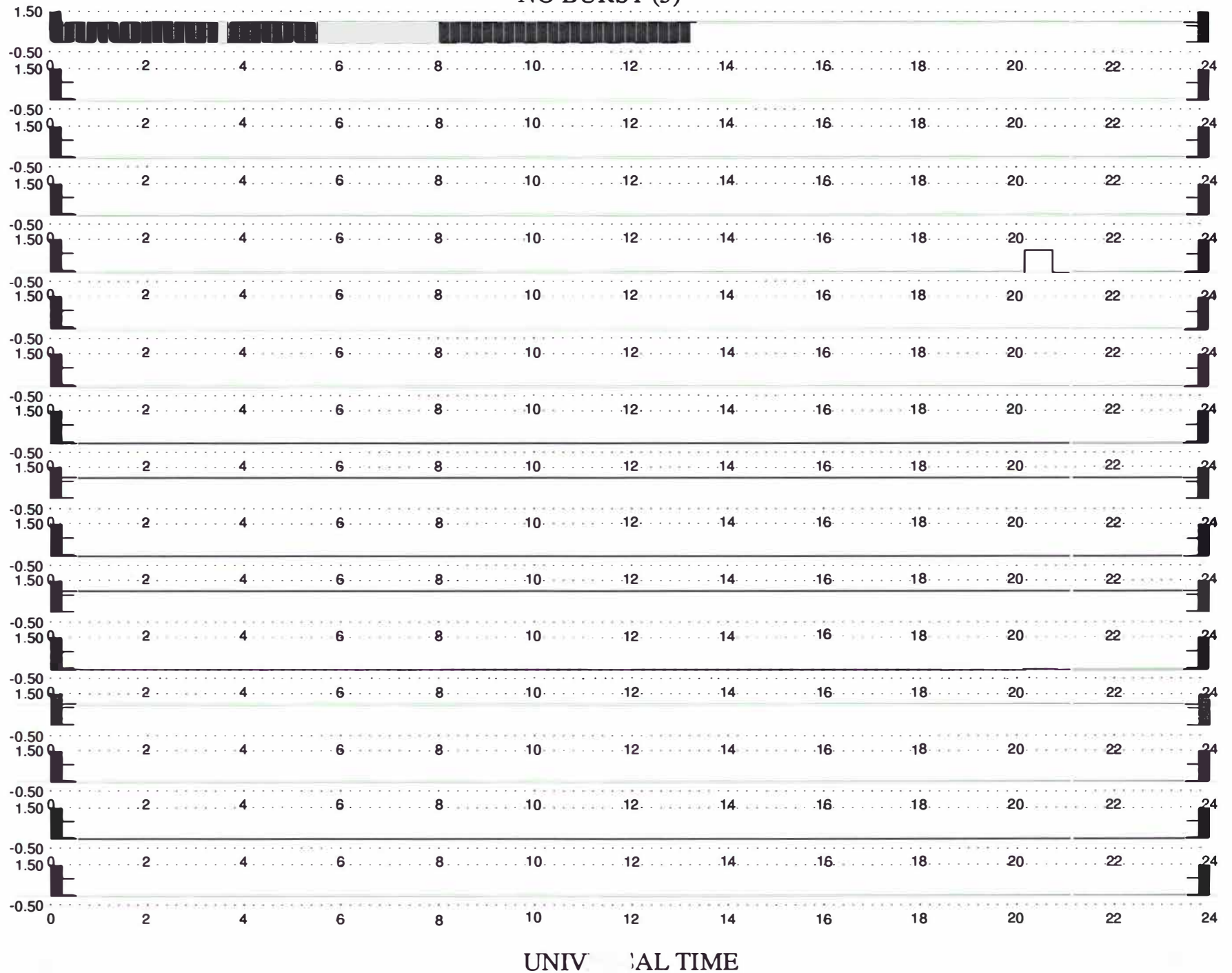
1 (1.0 - 8.0 Angstroms)

Background not subtracted

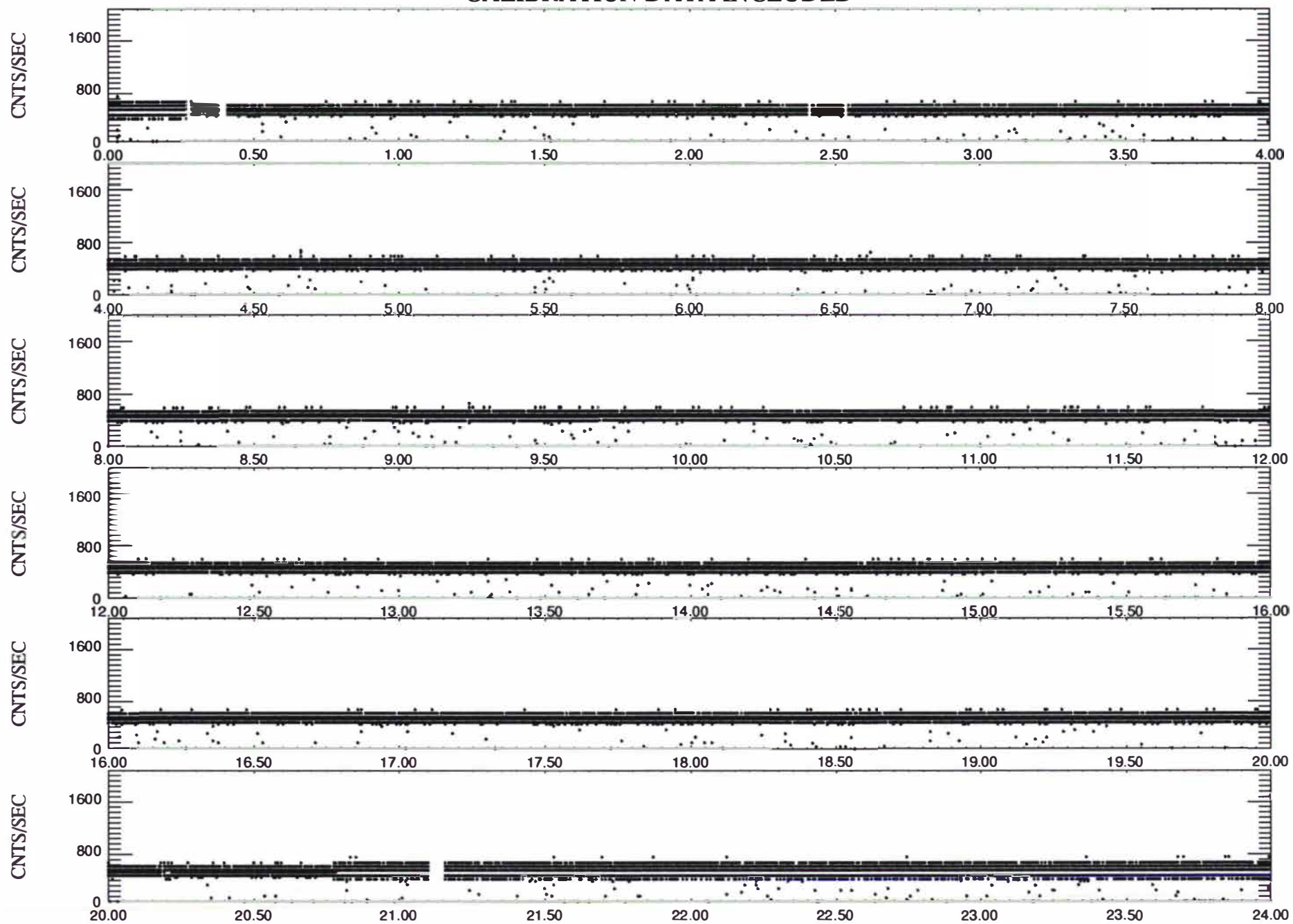
2 (0.5 - 4.0 Angstroms)

Background not subtracted

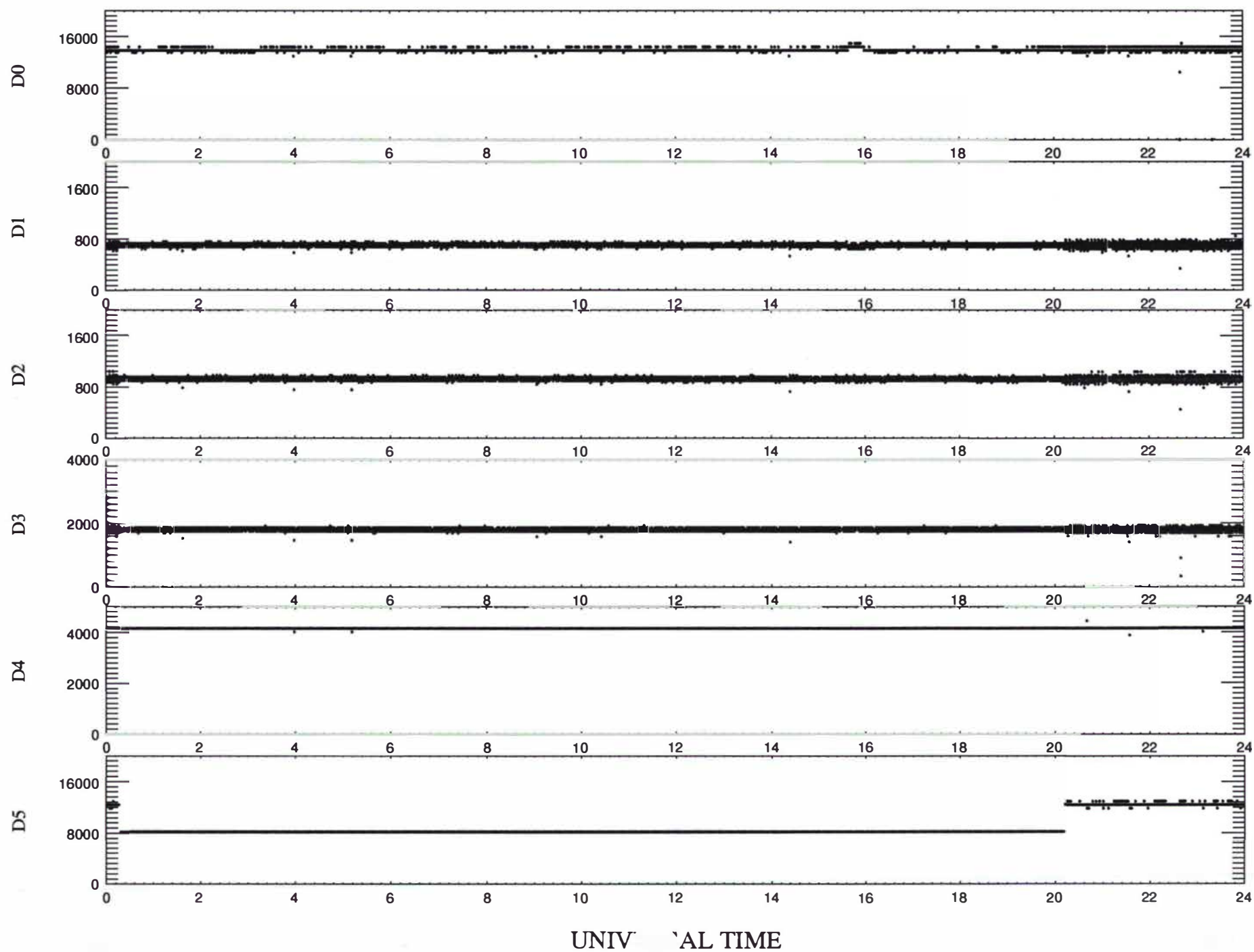
Sample average = 10

[illegible]

CALIBRATION DATA INCLUDED



UNIV' AL TIME



Date: Oct 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?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

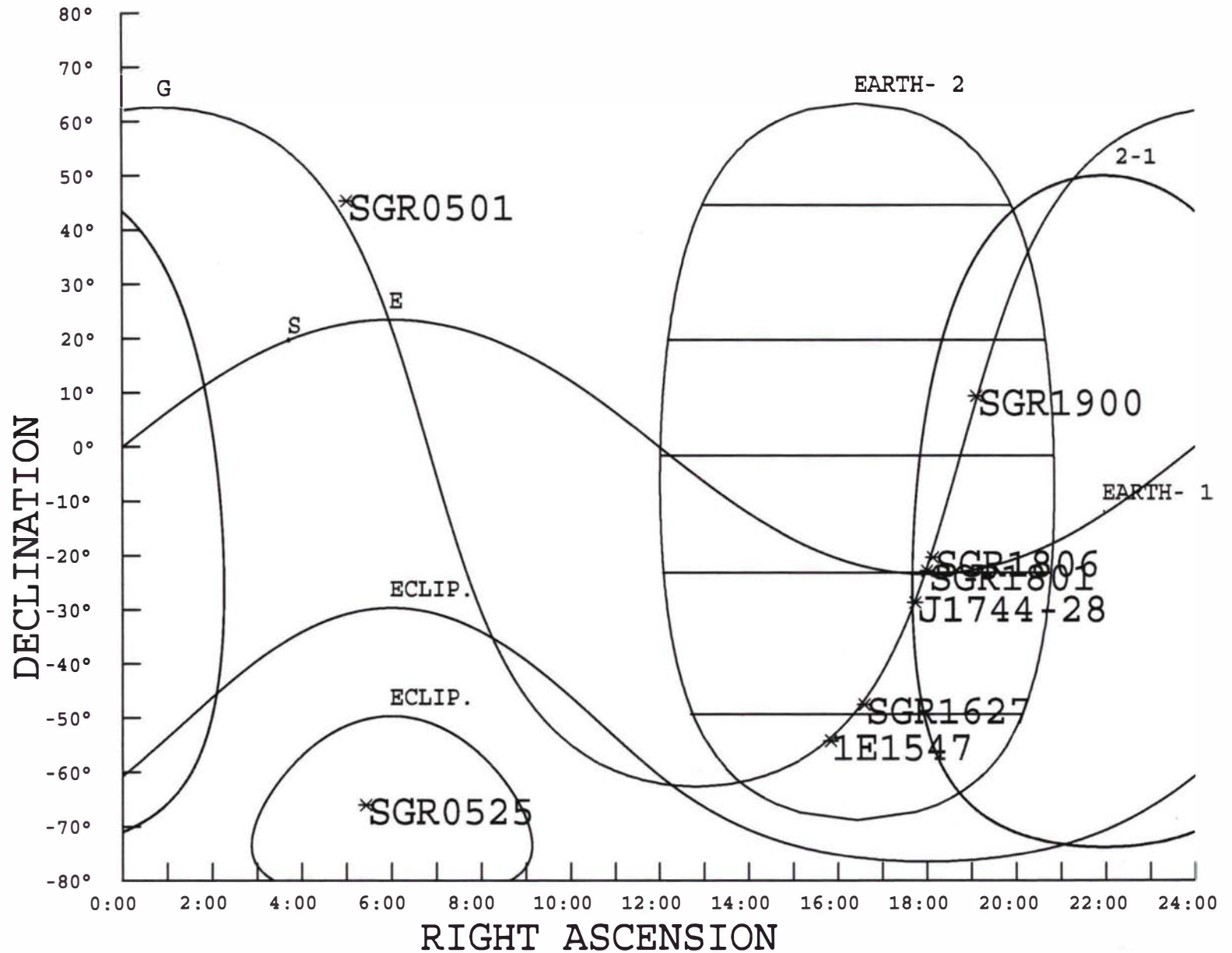
- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

EVENT OF MAY 19, 1998 4:03

27/10/ 9

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



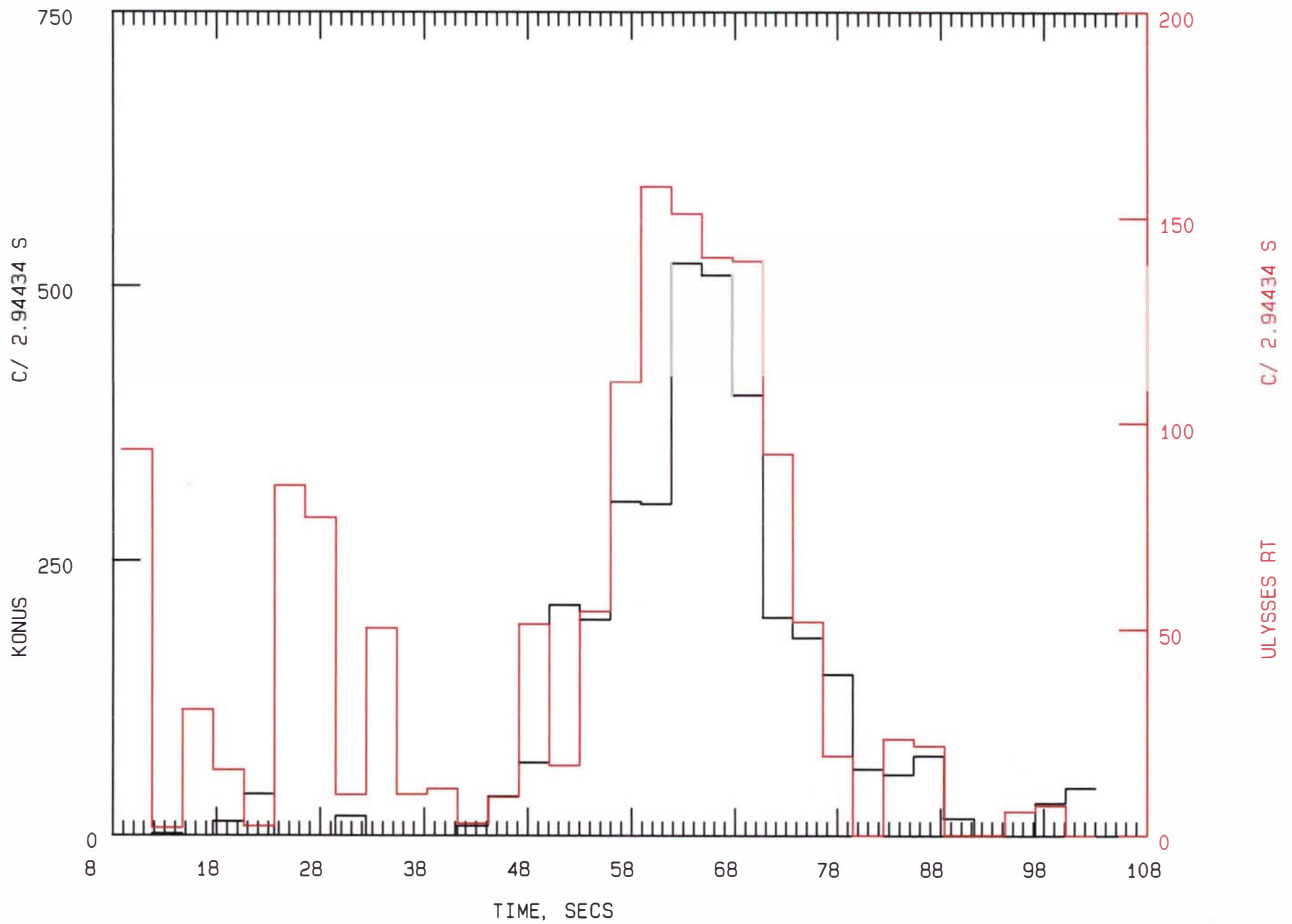
KONUS

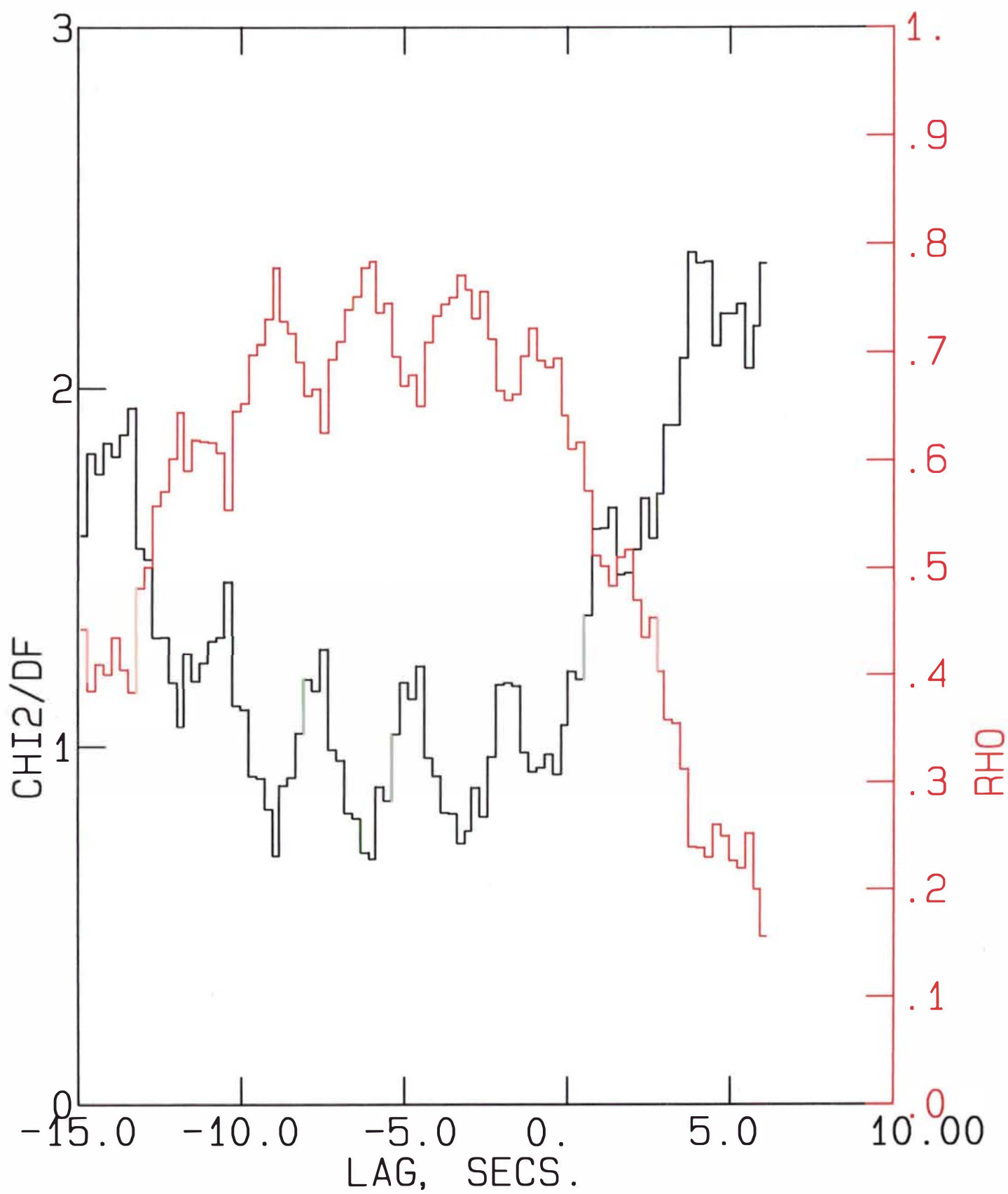
-ULYSSES RT CORRELATION

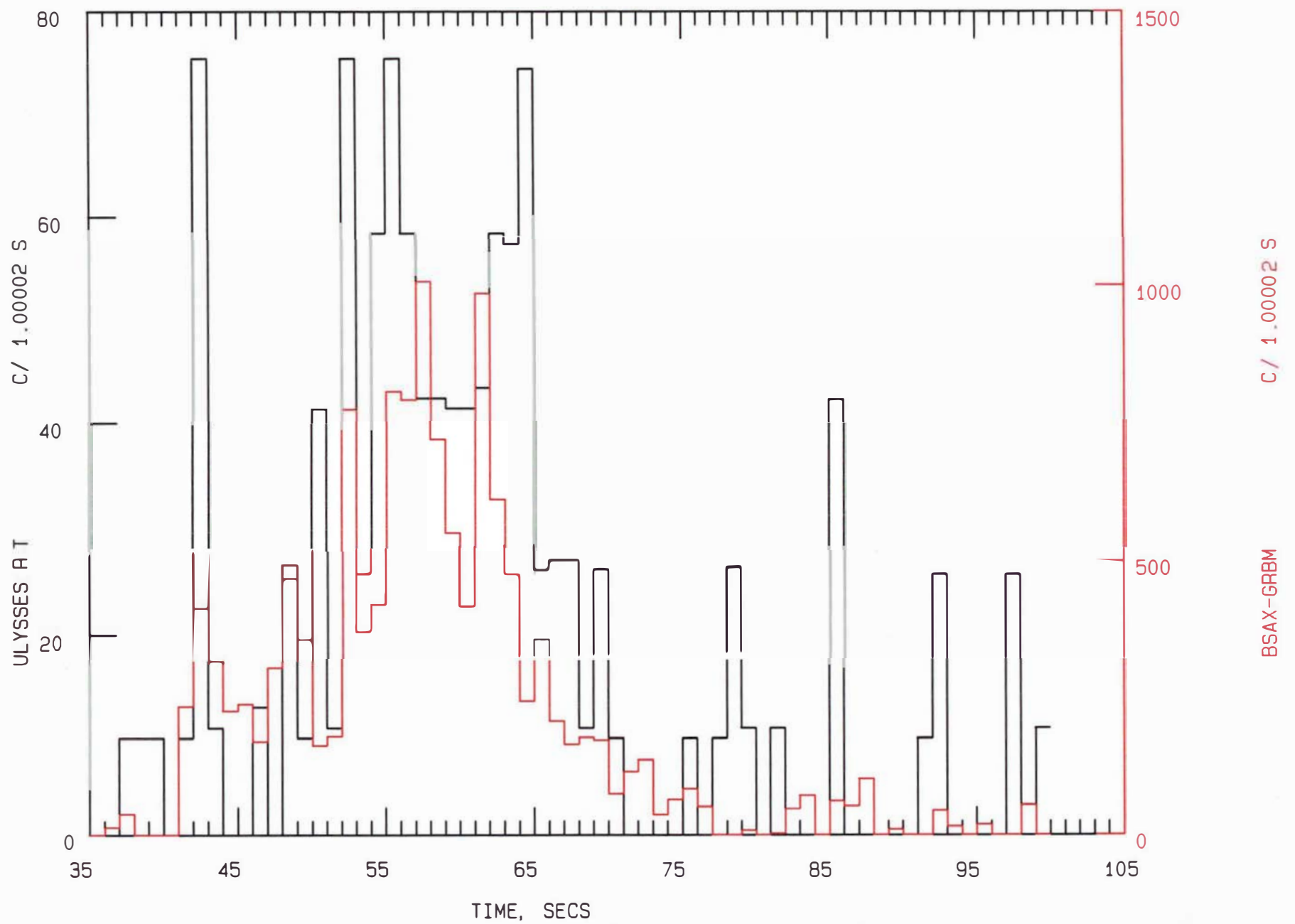
19/05/98

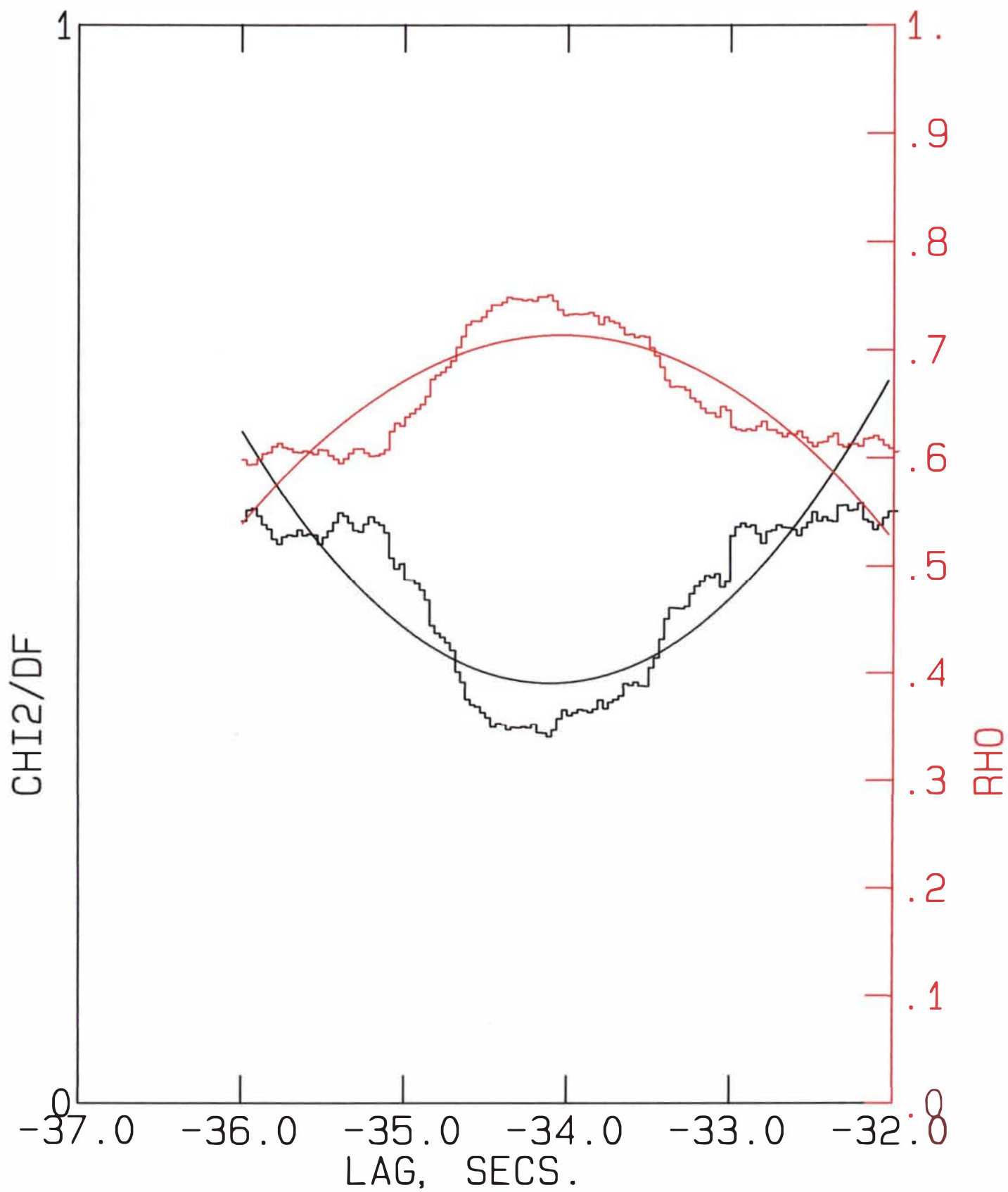
13362.070

27/10/ 9









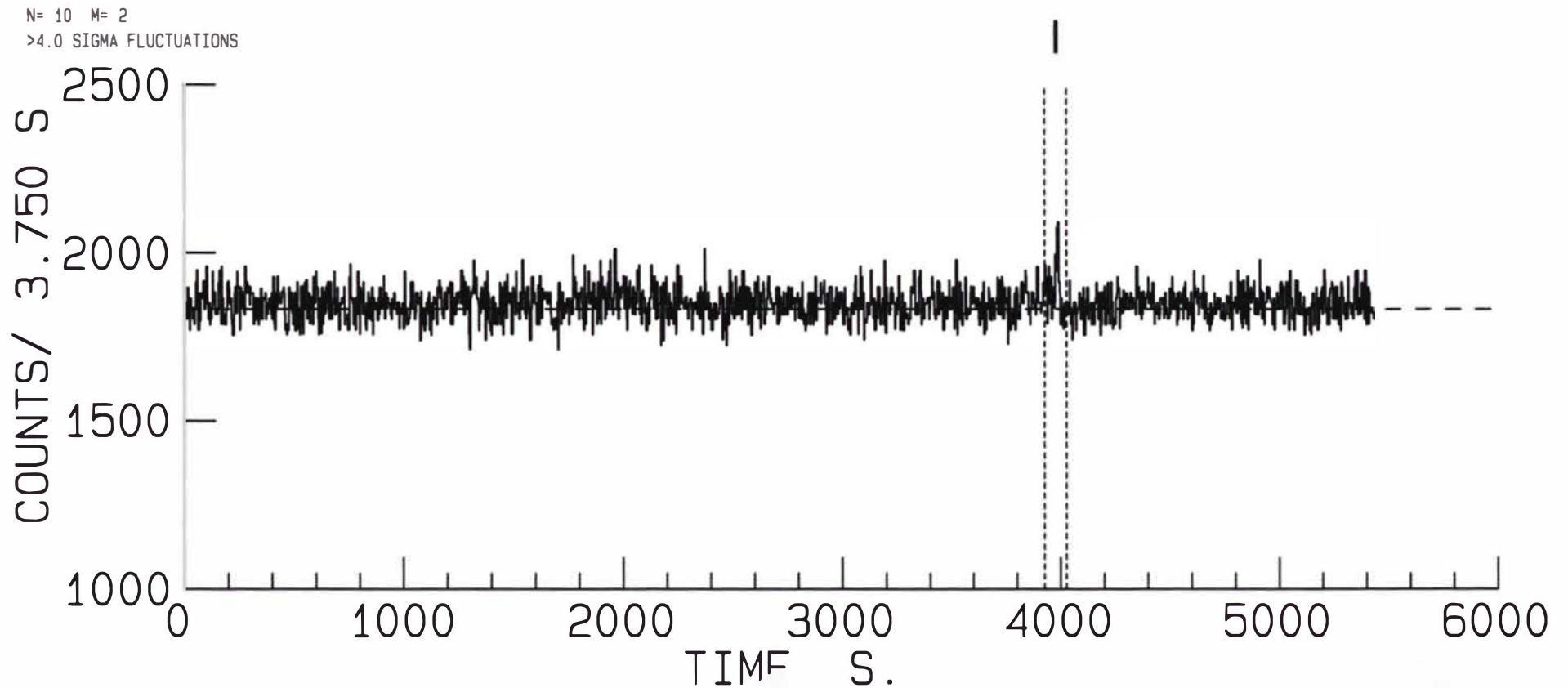
ULYSSES RT

27/10/9

19/ 5/98 10692.188 s

0.250 S INTERVALS REGROUPED BY 15

22- 151 keV



KONUS

19/05/98 13362.070

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.944 S

4500

DETECTOR 1 - S. ECLIPTEIC

3500

2500

1500

500

20

40

60

80

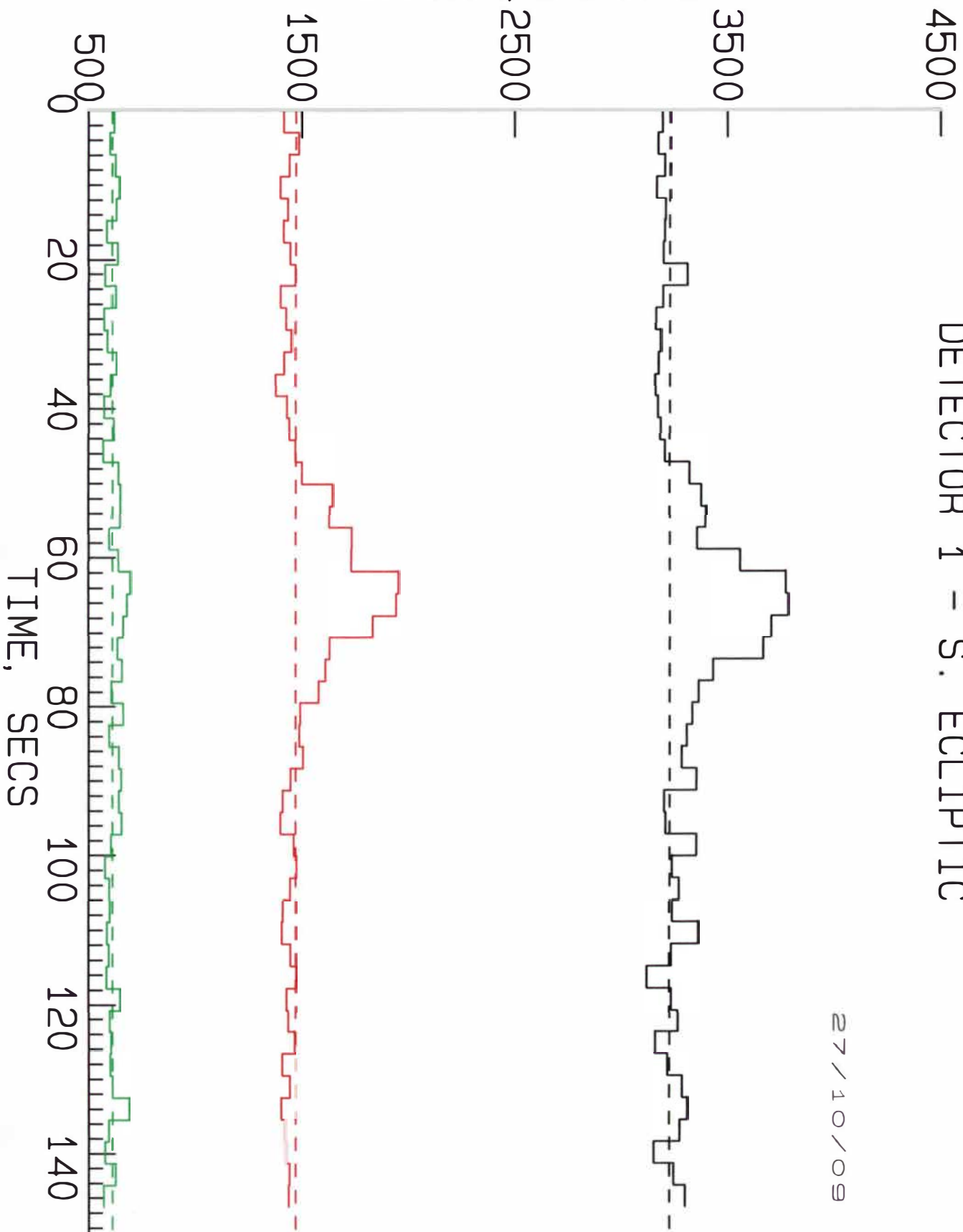
100

120

140

TIME, SECS

27/10/09



KONUS

19/05/98 13362.070

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.944 S

4400

DETECTOR 2 - N. ECLIPHTIC

27 / 10 / 09

3400

2400

1400

400

20

40

60

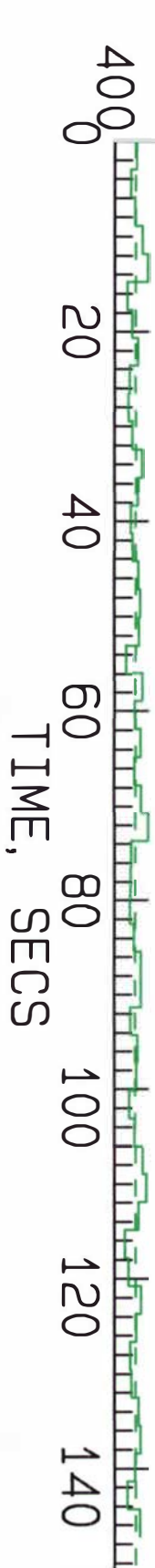
80

100

120

140

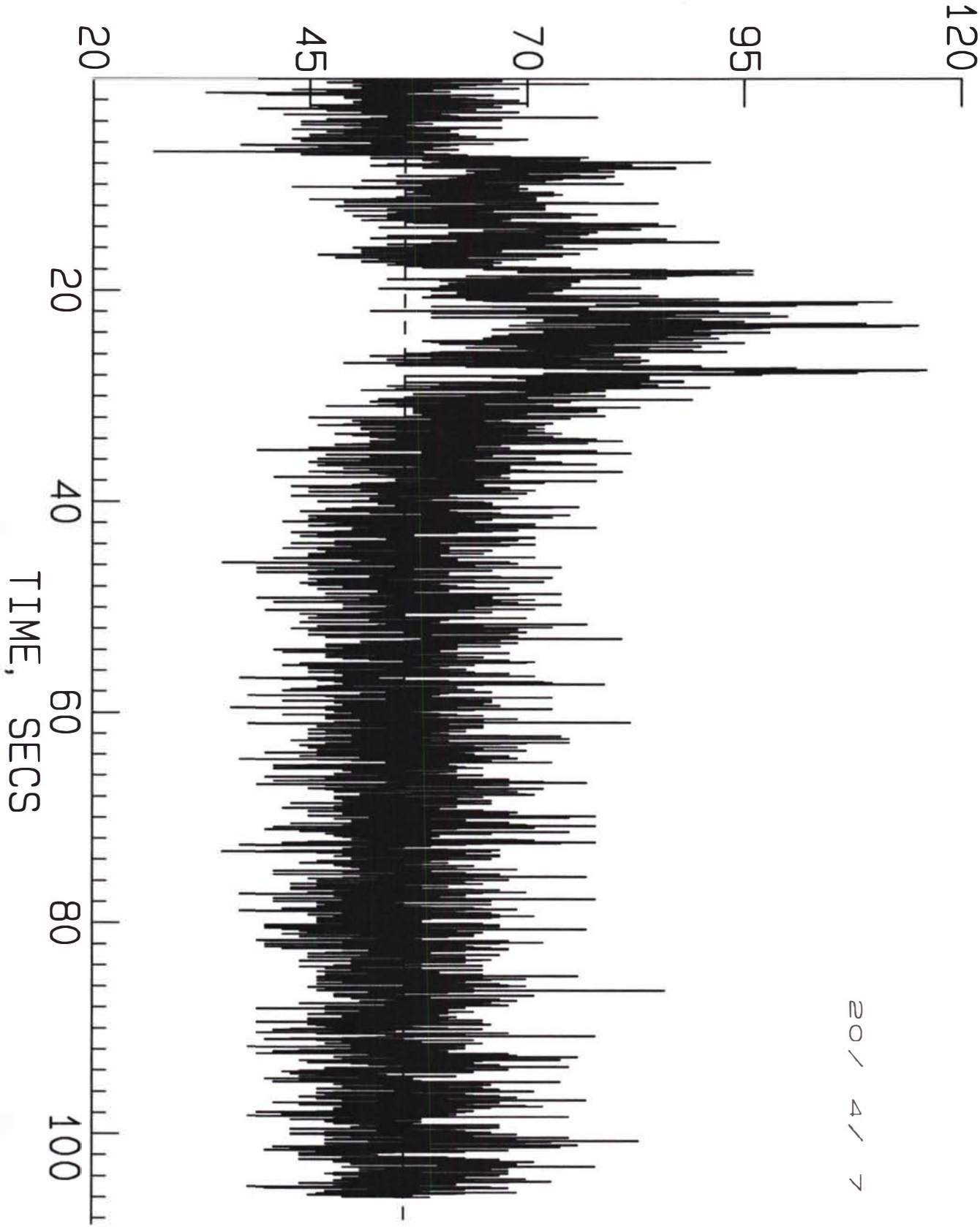
TIME, SECS



SAX GRBM

19/05/98 13404.340
40- 700 keV

COUNTS/0.031 S



From RICHARDSON@fender.msfc.nasa.gov Wed May 20 10:33:16 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA28507; Wed, 20 May 1998 10:33:15 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA22975; Wed, 20 May 1998 10:33:14 -0700
Date: Wed, 20 May 1998 12:33:11 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980520123311.2020d730@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6764
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6764
EVENT OF 1998 MAY 19 DAY OF YEAR=139
EVENT CROSSING TIME AT BATSE : 44412. S. OR 12:20:12.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 356.000 76.000
BATSE PEAK COUNTING RATE: 17000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 5/ 98 IS:
RA= 148.808 DEC= 12.063 DIST= 5.342 AU
BATSE-ULYSSES DISTANCE = 799107061. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 20.40 SECS.
CROSSING TIME AT ULYSSES IS 44432. S. OR 12:20:32 +/- 513.07 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 5/ 98 IS:
RA= 53.985 DEC= 19.439 DIST= 2.496 AU
MARS-BATSE DISTANCE = 373353632. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.35 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -552.76 SECS.
CROSSING TIME AT MARS IS 43859. S. OR 12:10:59 +/- 185.36 SECONDS

BATSE BURST TRIGGER

NO.: 6764

TIME: TJD=0952 SECONDS=44412

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=54.6 AZIMUTH=6.1 ERROR=1.1 DEGREES

COMMENTS:

GRB. LOTS OF STRUCTURE. DURATION APPROX. = 60 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6764	980519	10952	44412	17000	356	+76	60

Date: 18/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Were data checked by Joe Springer for 0.5 s errors? **N/A**
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

- ☒ 2.042 s subtracted for bursts prior to June 25 1992 and DISCSC programs prior to Version 2.16 (August 28 1992)?
- ☒ BATSE ephemeris for T_0 ?
- ☒ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data **N/A**

- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

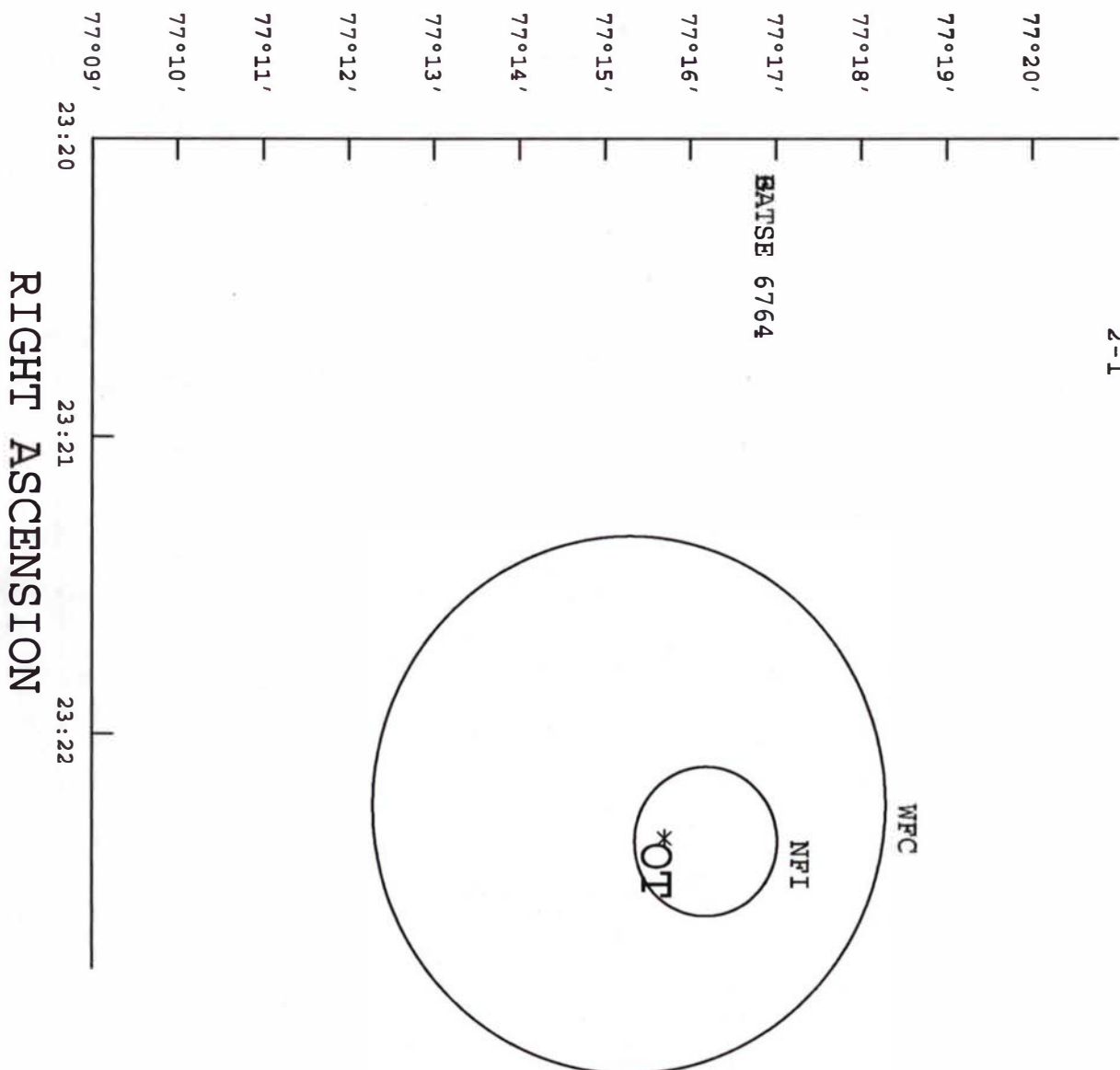
1 BATSE

2 ULYSSES

DECLINATION

EVENT OF MAY 19, 1998 12:20

2-1



18 / 1 / 0

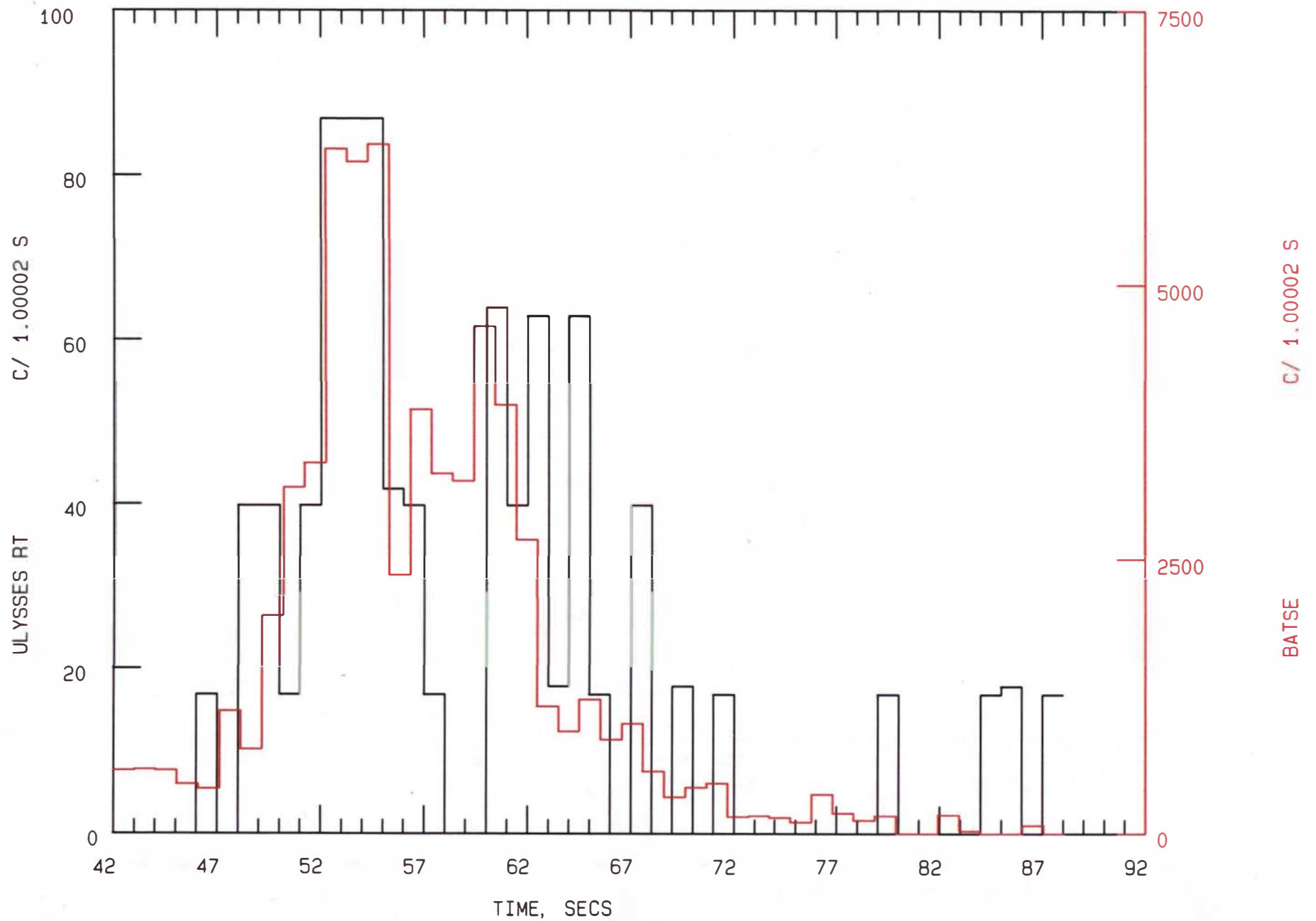
ULYSSES RT-BATSE

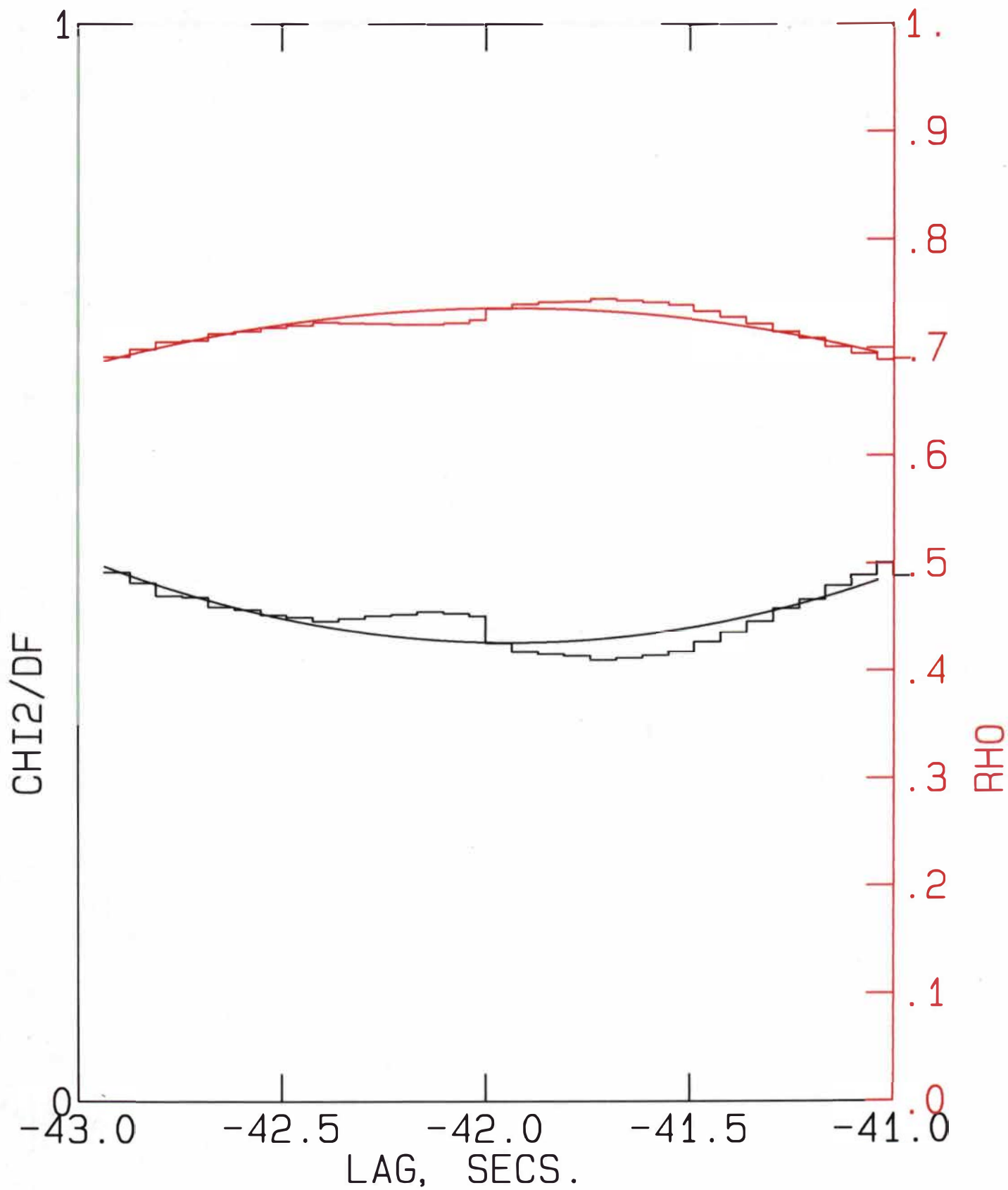
CORRELATION

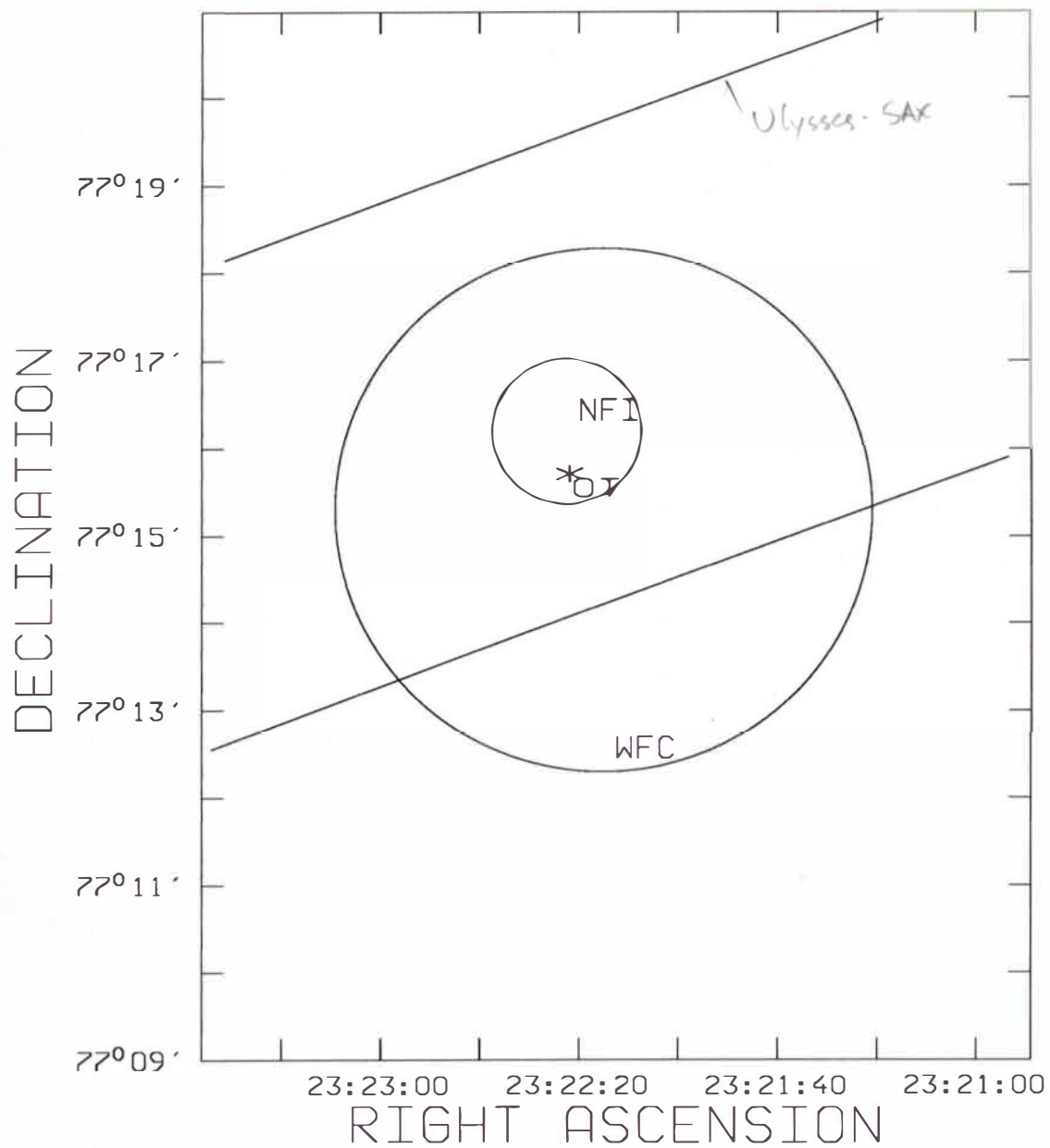
19/ 5/98

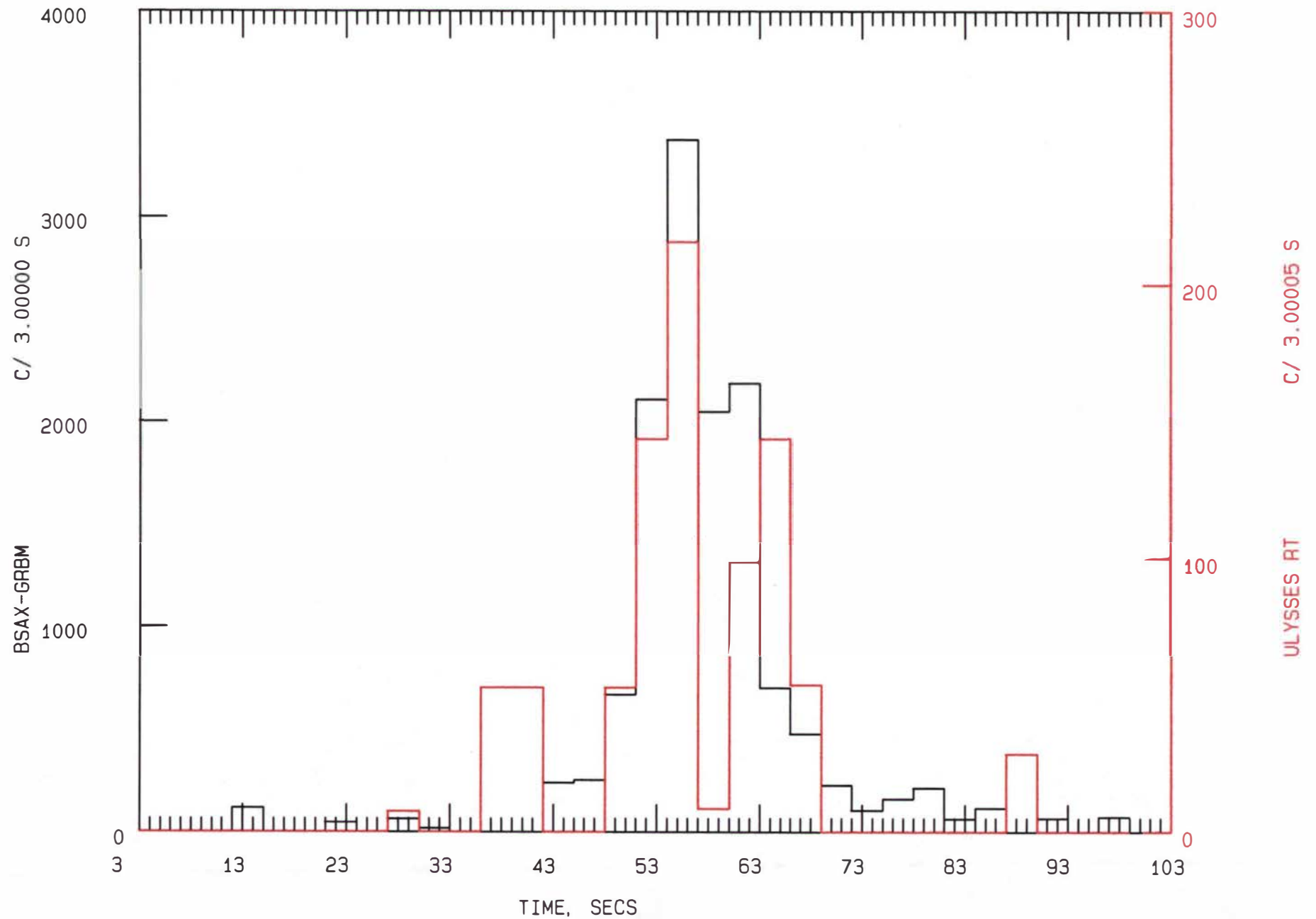
44370.044

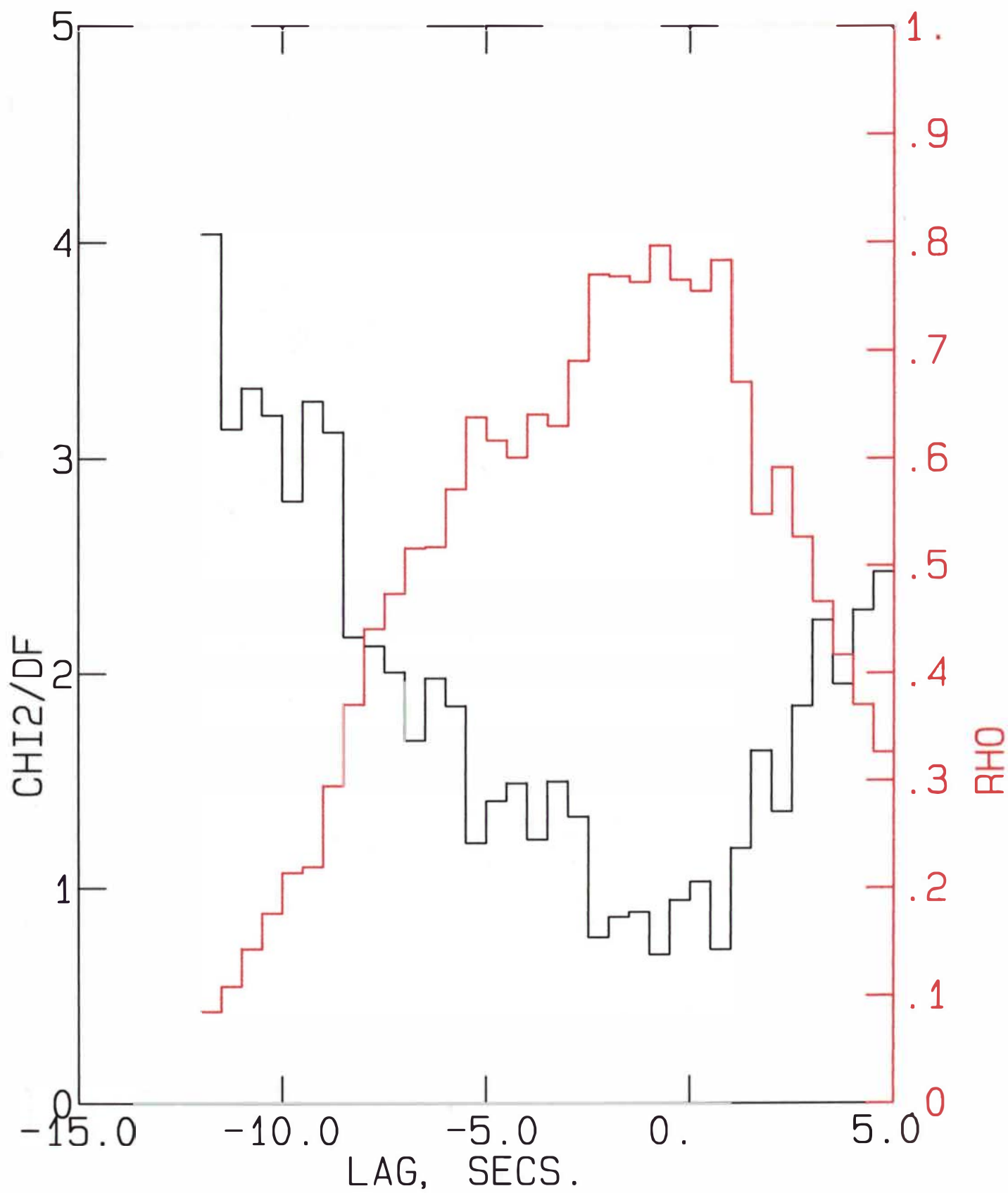
18/ 1/ 0







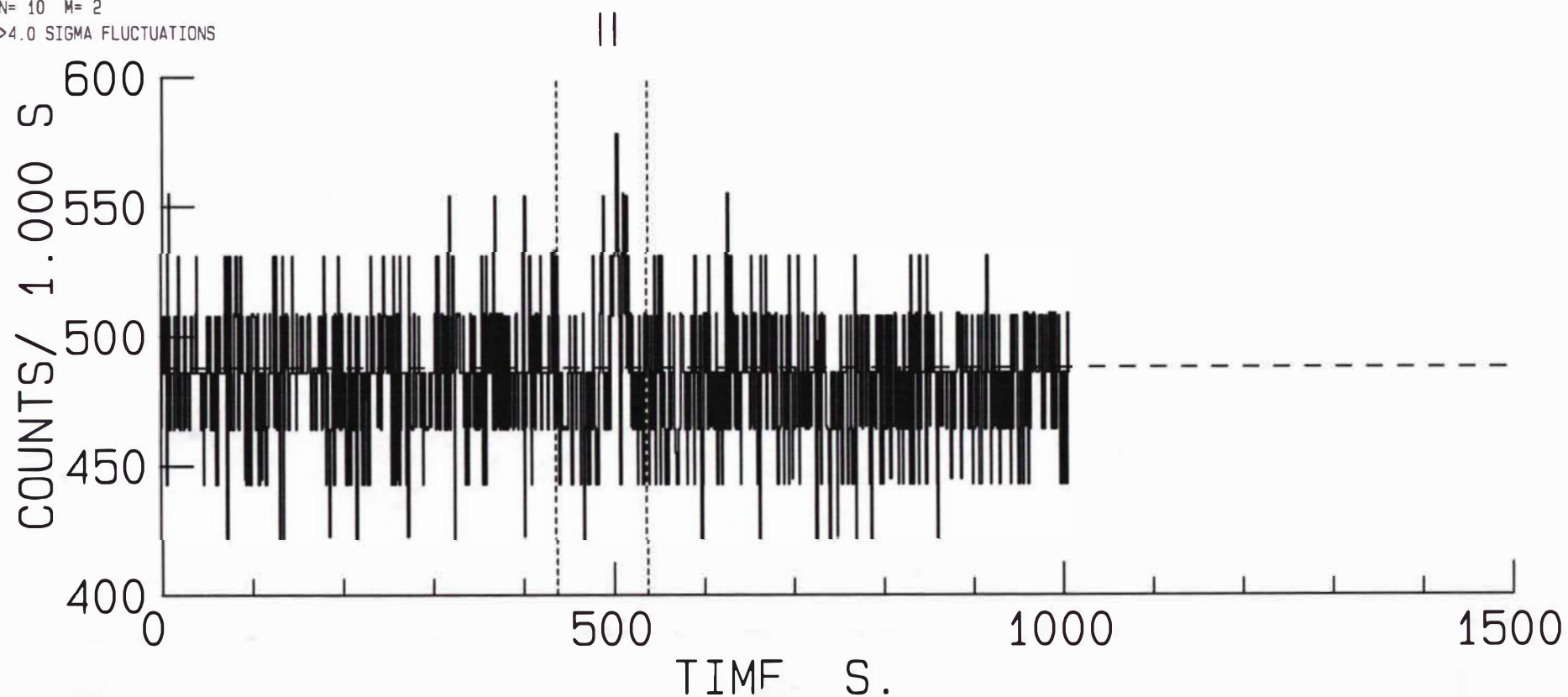




ULYSSES RT
19/ 5/98 43920.038 s
0.500 S INTERVALS REGROUPED BY 2
22- 151 keV

14/ 6/99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



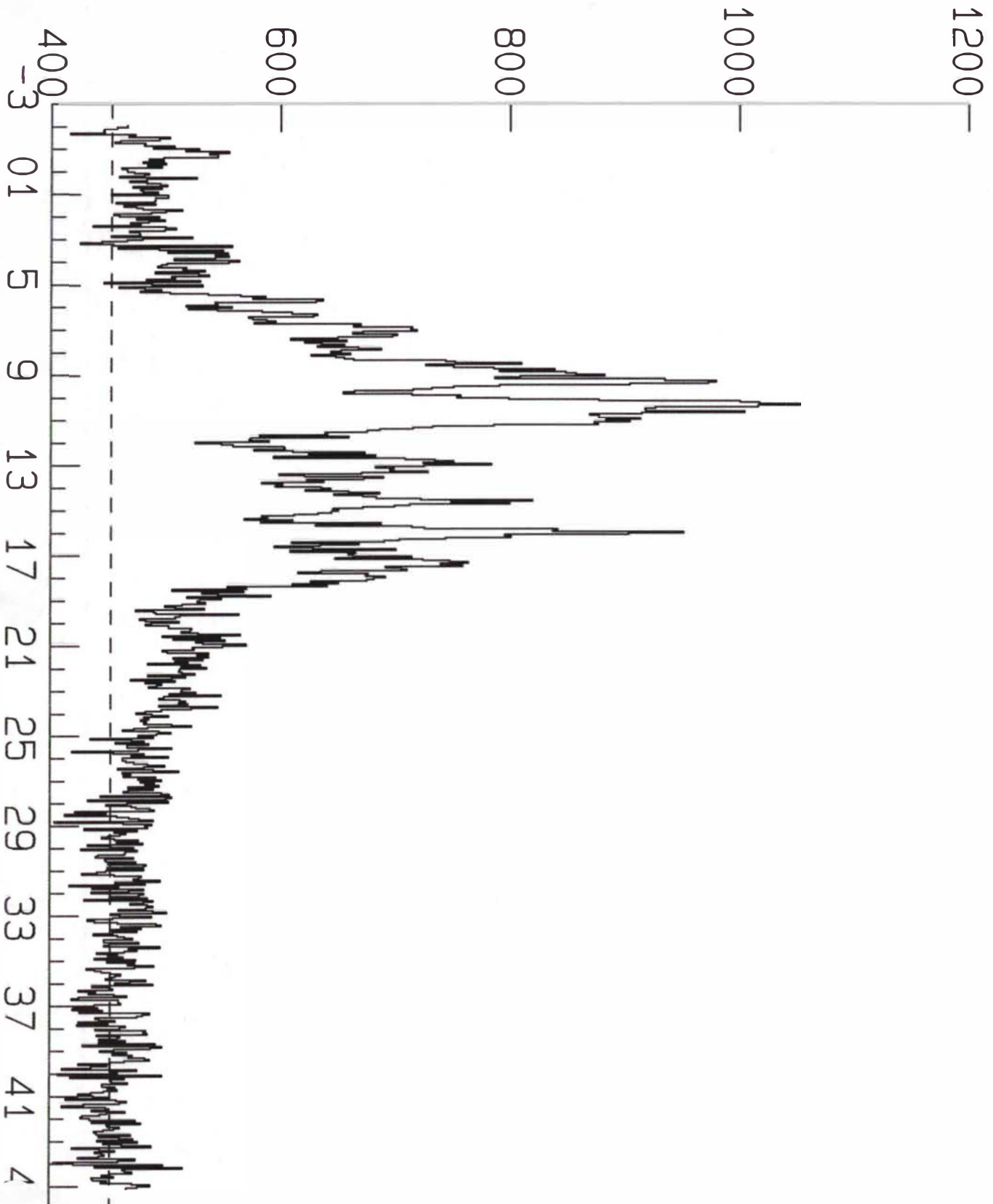
BATSE

19/05/98

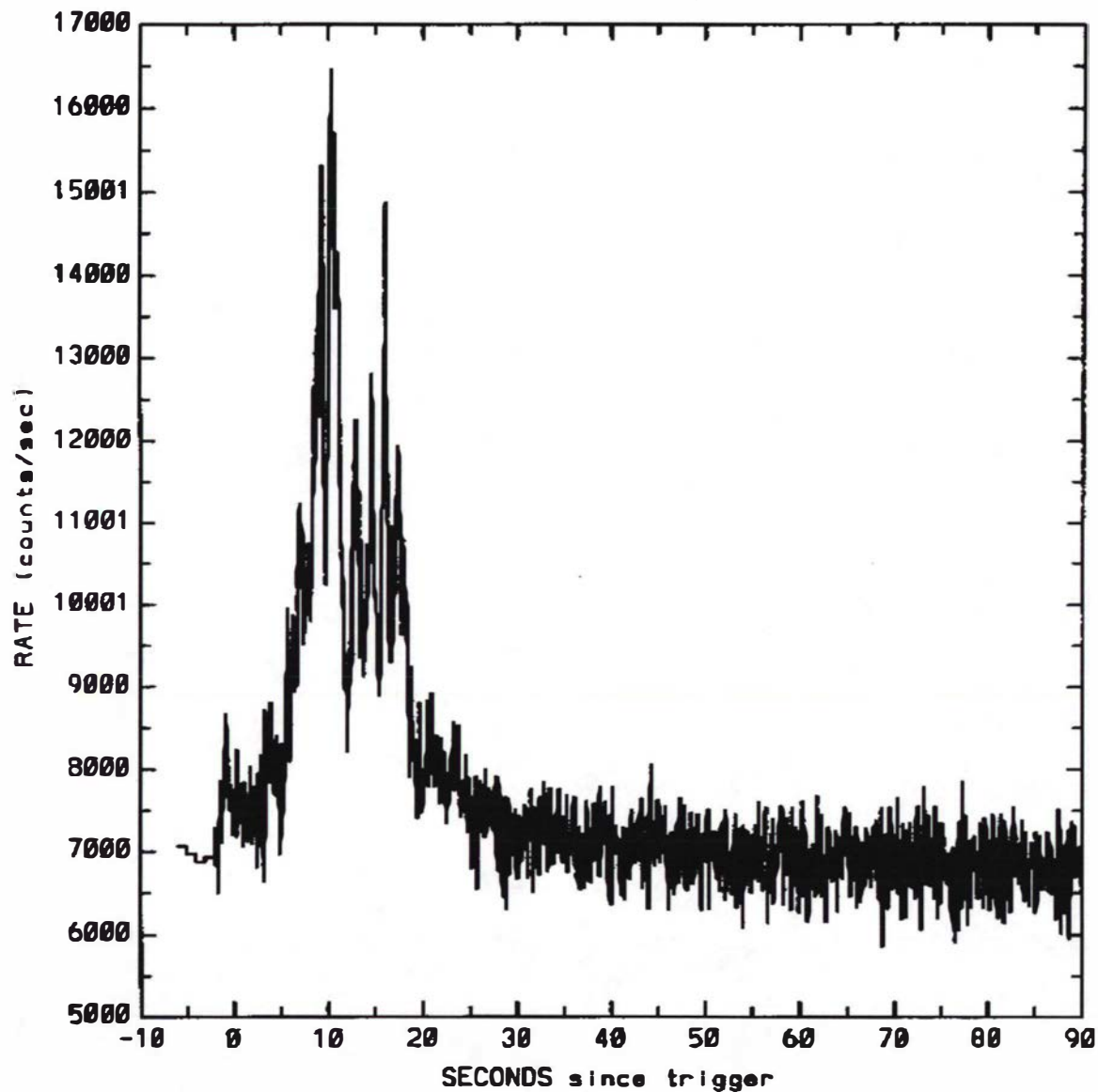
44412.641

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6764



22-MAY-1998 15:02:19

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6764

Trigger Time:
18952 / 44412.641

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

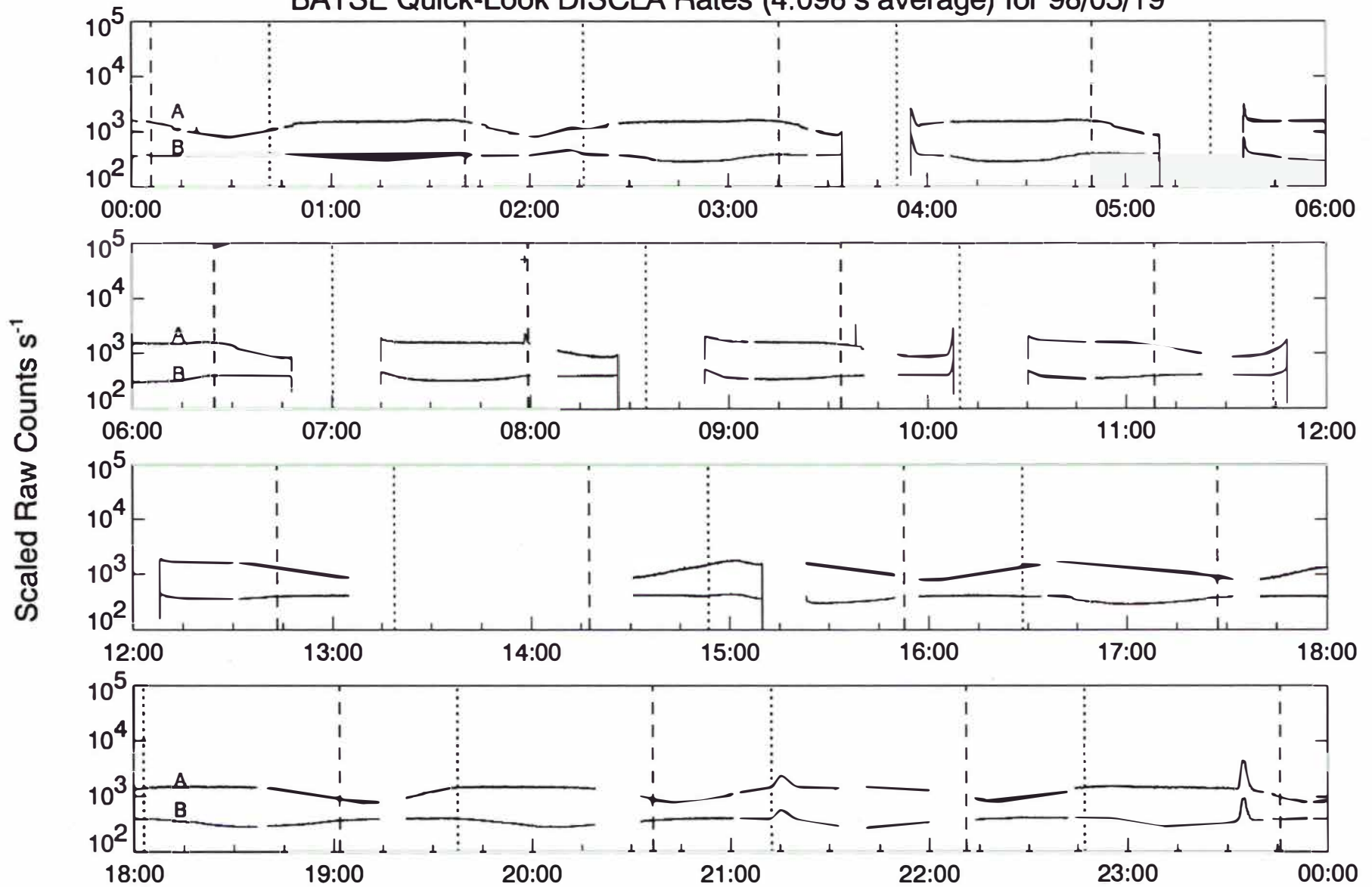
Minimum Integ. Time:
0.064 seconds

Detectors (7..0):
-----2-8

Discriminators:
(1, 2)

Quality Mask:
BDISP1

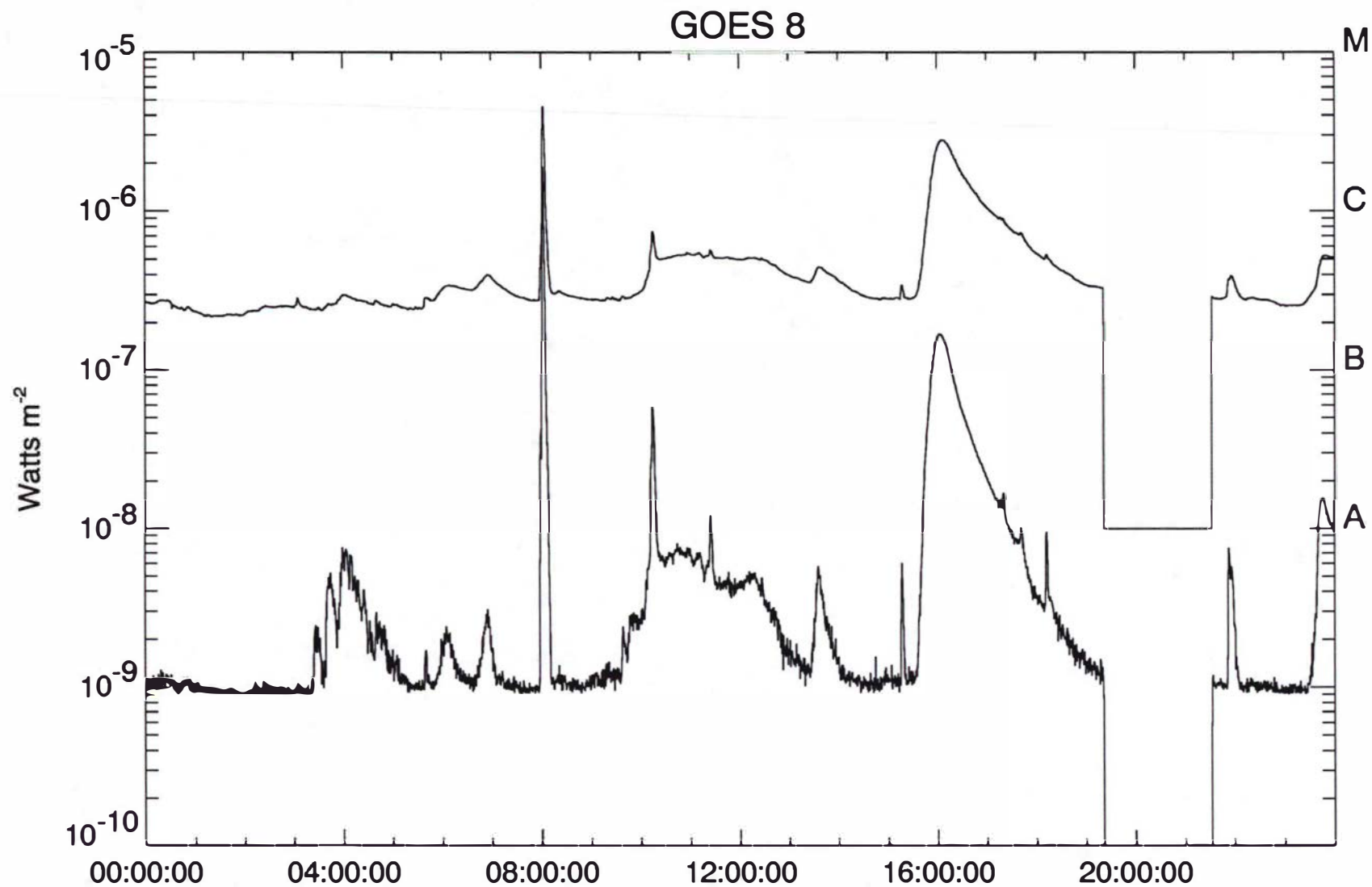
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/19



Current Time: 98/05/23, 1008 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



Data Start: 98/05/19, 0000:00

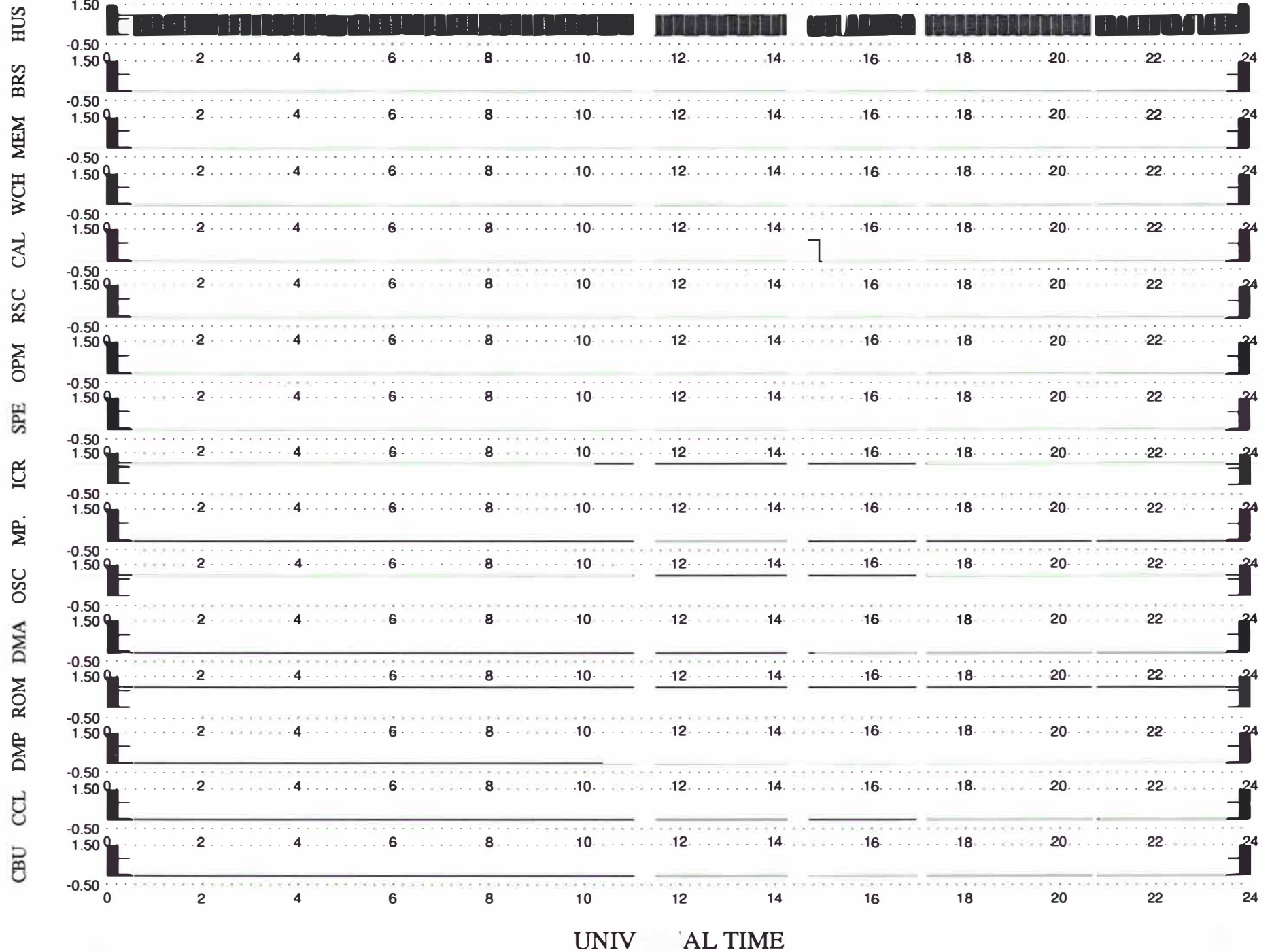
Plot created: 98/05/23, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

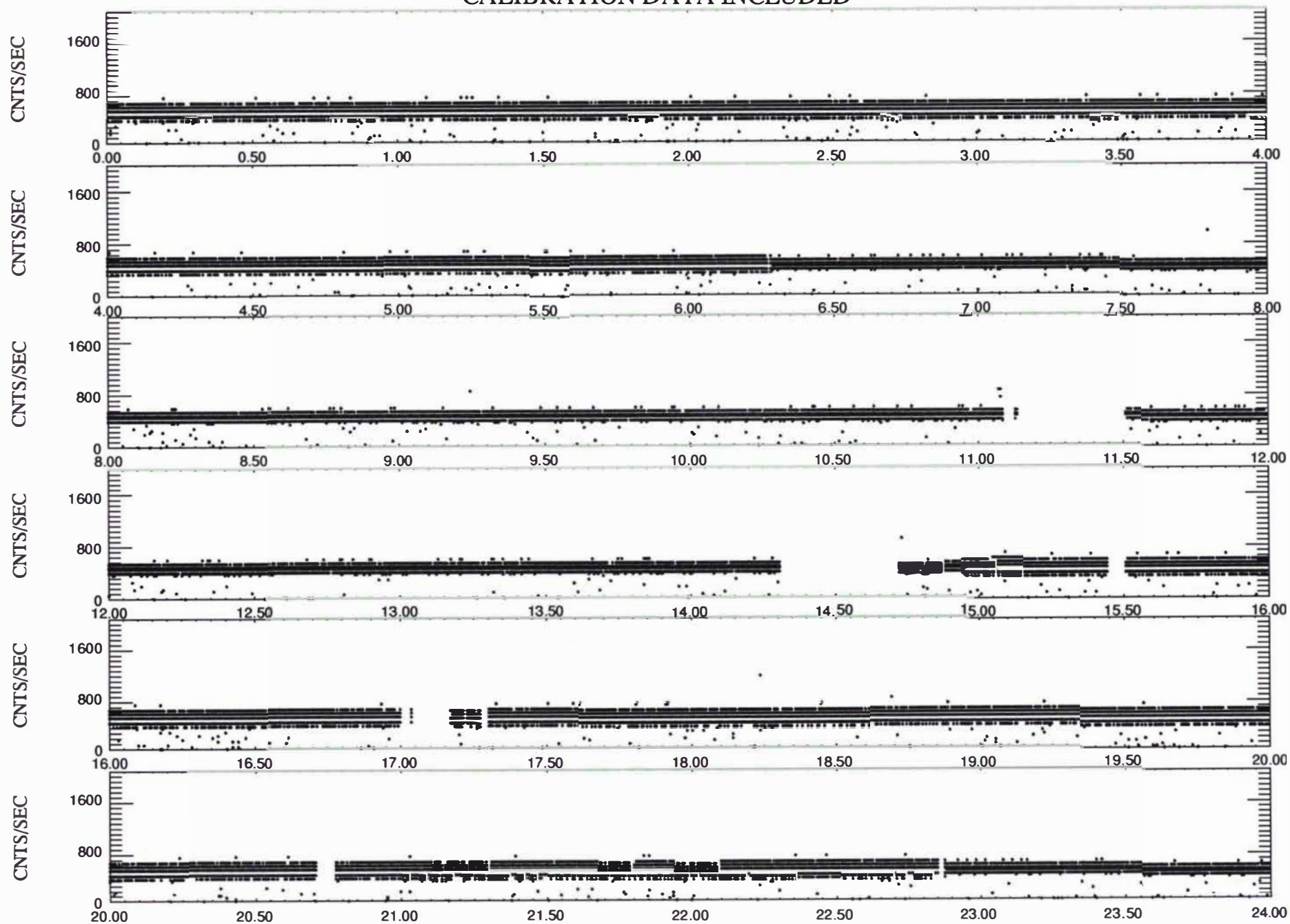
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

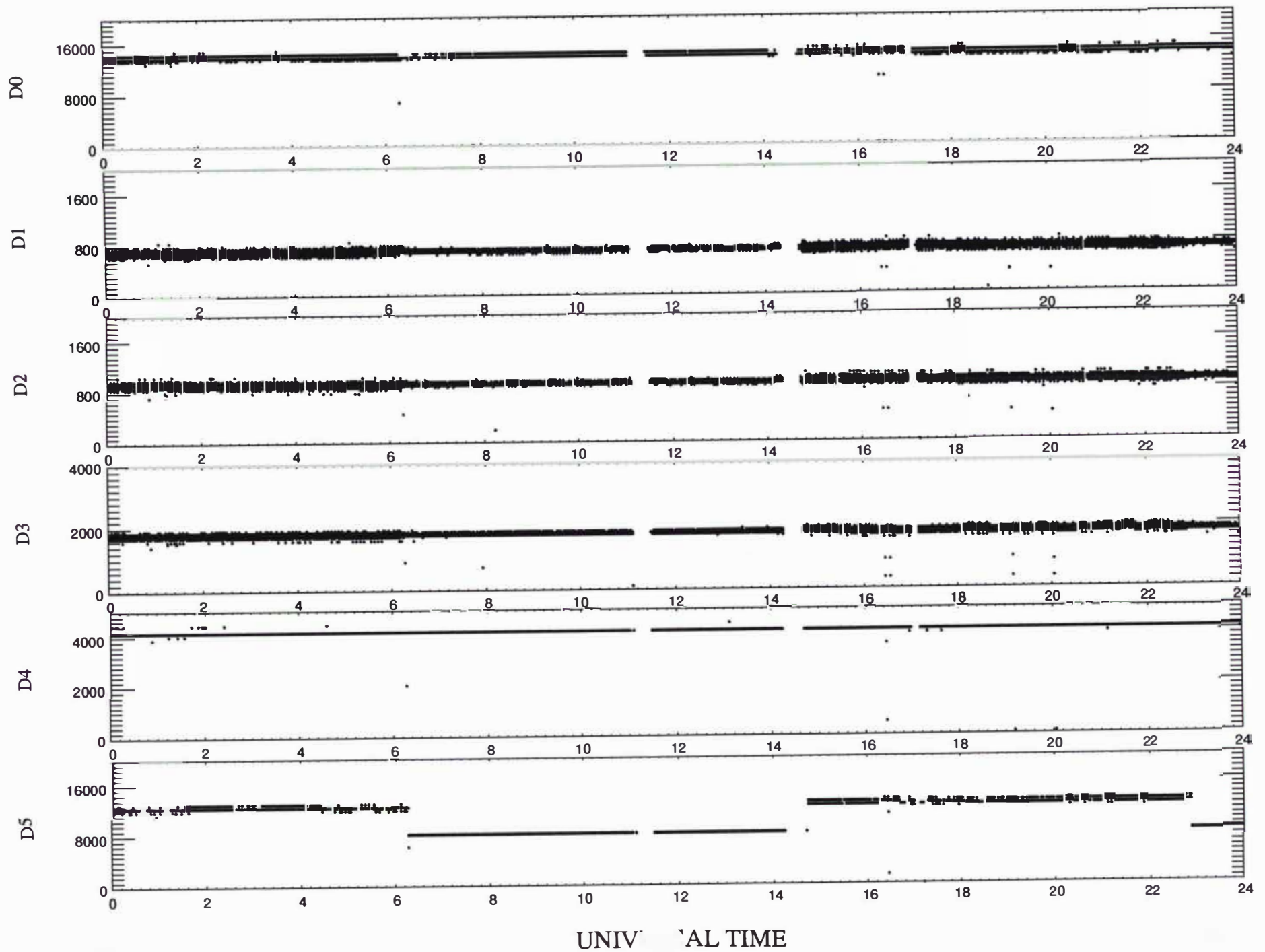
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



Sax GRIM
HUS DATA

ULYSSES RT

19 / 07 / 05

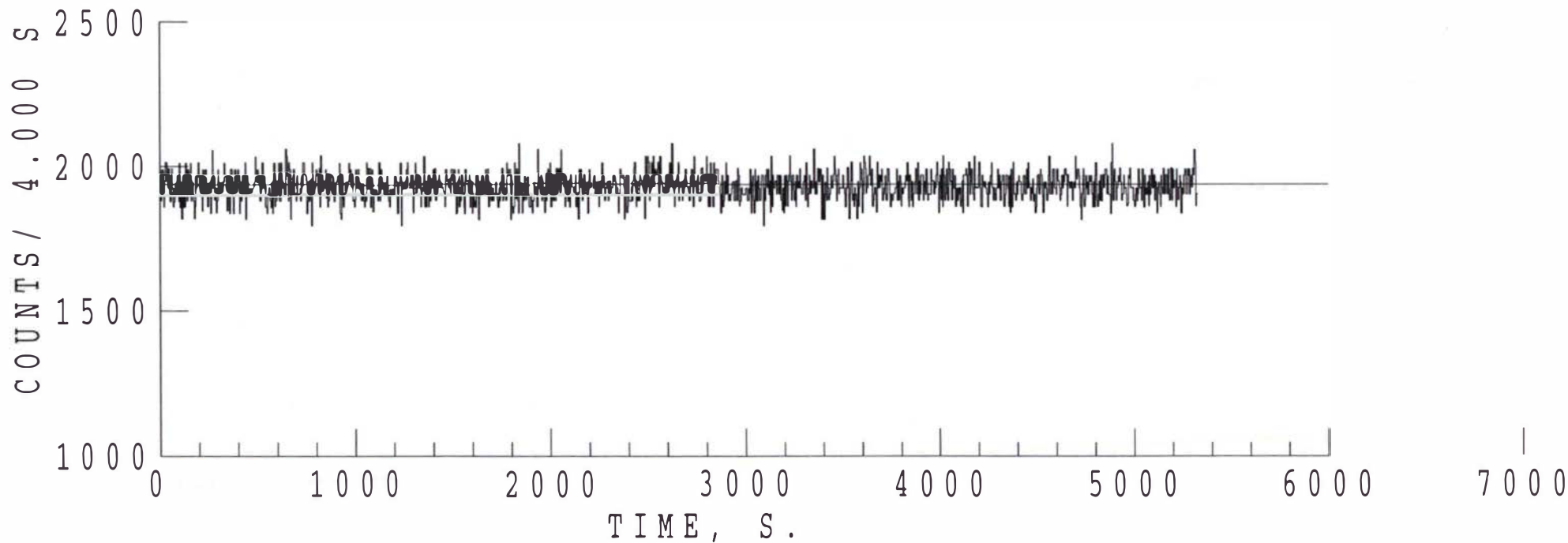
20 / 05 / 98 3744.030 s

0.500 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 TERRELL@nisdpo.lanl.gov Fri Jun 19 14:20 PDT 1998

From: TERRELL@nisdpo.lanl.gov

Date: Fri, 19 Jun 1998 15:20:37 -0600

khurley@sunspot.ssl.berkeley.edu, bonnard@milkyway.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
henze@fender.msfc.nasa.gov, filippo@botes1.tesre.bo.cnr.it,
kmarar@isac.ernet.in

X-Vmsmail-To: @MAILOUTUL.DIS

Subject: DMSP GRB detection(?):970713

From: jterrell@lanl.gov (James Terrell) 980619

To: khurley@sunspot.ssl.berkeley.edu, bonnard@milkyway.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
kmarar@isac.ernet.in, kraken@rosserv.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, teegarden@lheavx.gsfc.nasa.gov,
vnp@isac.ernet.in, yosimori@rikkyo.ac.jp

Subj: DMSP GRB detection(?):970713

The following GRB were detected by DMSP13 or DMSP14 (or NOT detected, if indicated).

No detection can occur for bursts more than ~118 degrees from spacecraft zenith,
or in the presence of very high counting rates (SAA,SR,NR).

Data are normally in 2-sec counts, except when the DMSP14 trigger circuit is
tripped, giving 12.8ms data, usually reported here as 102.4ms counts.

Various other BATSE GRB were also detected, but not reported here; numerous
weak detections by Ulysses have not been checked because of low counting
rates expected at an indefinite time.

DATE FL DAY TIME NOTES--- (ND=NO DATA,NA=NOT APPARENT & NOT ANALYZED) -----REPORTED
(NO=DATA CHECKED--SHOWS NO DETECTION) (SR=S. RADIATION BELT)
(NR=NORTH RADIATION BELT) (SAA=SOUTH ATLANTIC ANOMALY)

960103	003U61530	UL MOD GRB,20S @1400LS (12NA,13NA) (UL 980528)
960126	026U56158	UL MOD GRB,20S @1400LS (12NA,13NA) (UL 980528)
970214	045U82605	UL MOD GRB,40S @1950LS (13NA) (UL 980527)
970316	075U63496	UL MOD GRB,30S @2050LS (13NA) (UL 980527)
970401	091U51752	UL MOD GRB,100S @2150LS (13NA) (UL 980527)
970523	143U64475	UL MOD GRB,20S @2550LS (13NA,14NA) (UL 980527)
970610	161U54659	UL MOD GRB,100S @2750LS (13NA,14NA) (UL 980527)
970624	175U25599	UL MOD GRB,15S @2850LS (13NA,14NA) (UL 980527)
970713	194U20652	UL MOD GRB,20S @2950LS (14NA) (UL 980527)
13 970723	194 18772.2	PKS(360/S,<14S),18860.2(SOFT,1150/S,<6S) (14:NO SUCH PKS)
970723	204U17822	UL MOD GRB,20S @3000LS (13NA,13NA) (UL 980527)
971207	341U21979	UL MOD GRB, 5S @2600LS (13NA,14NA) (UL 980603)
980520	140U42420	UL MOD GRB,20S @2650LS (13NA,14NA)
980615	166 9464.4	BATSE#6825...NEW SGR(1627-41),V.SOFT(IAU6944) (13NO,14NO)
980615A	166U37860.	UL MOD GRB,40S @2750LS (13NA,14NA)

Date: Mar 21 2012

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 ?
- ☐ 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@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?

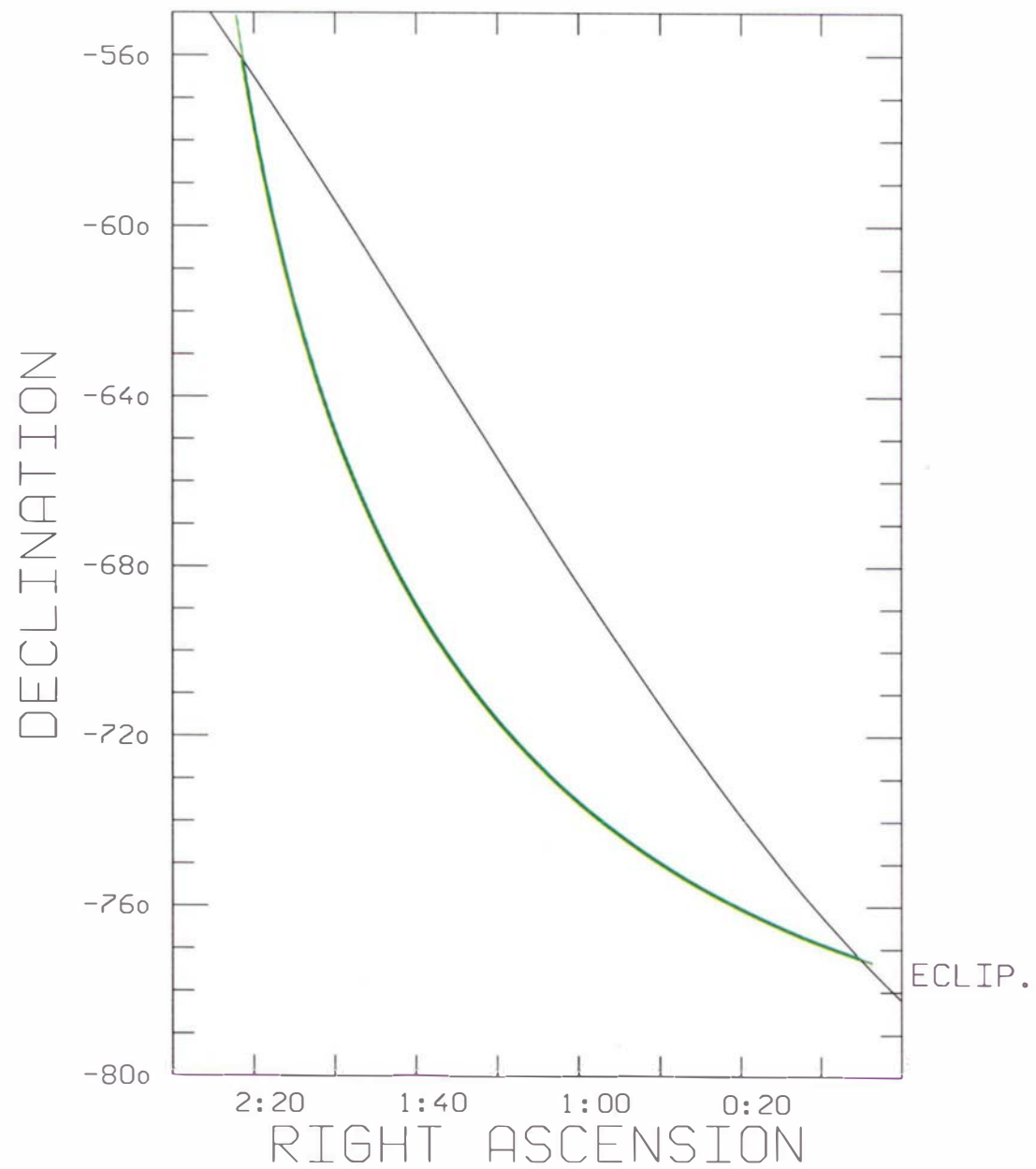
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

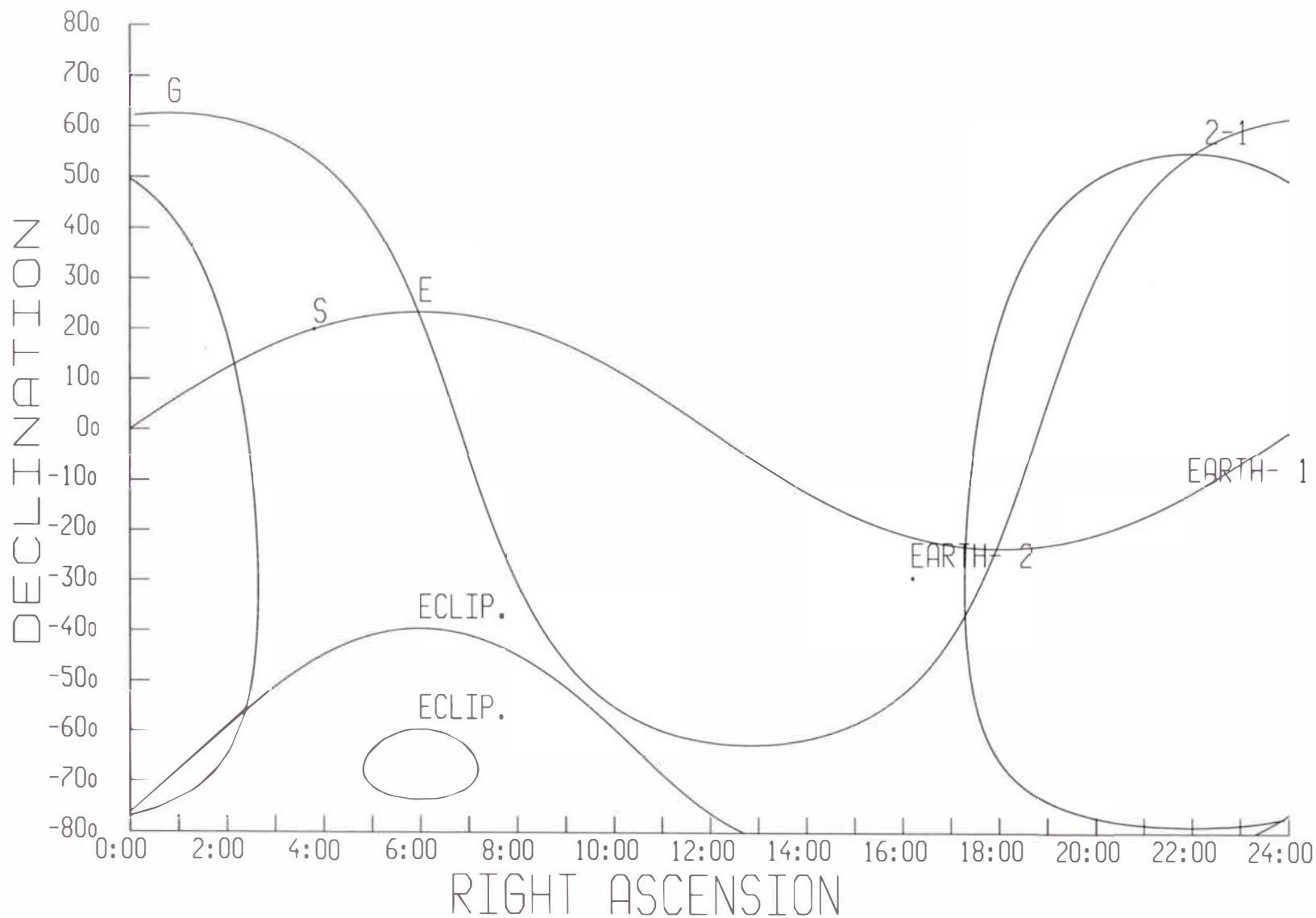
- ☒ ACCESS database updated?

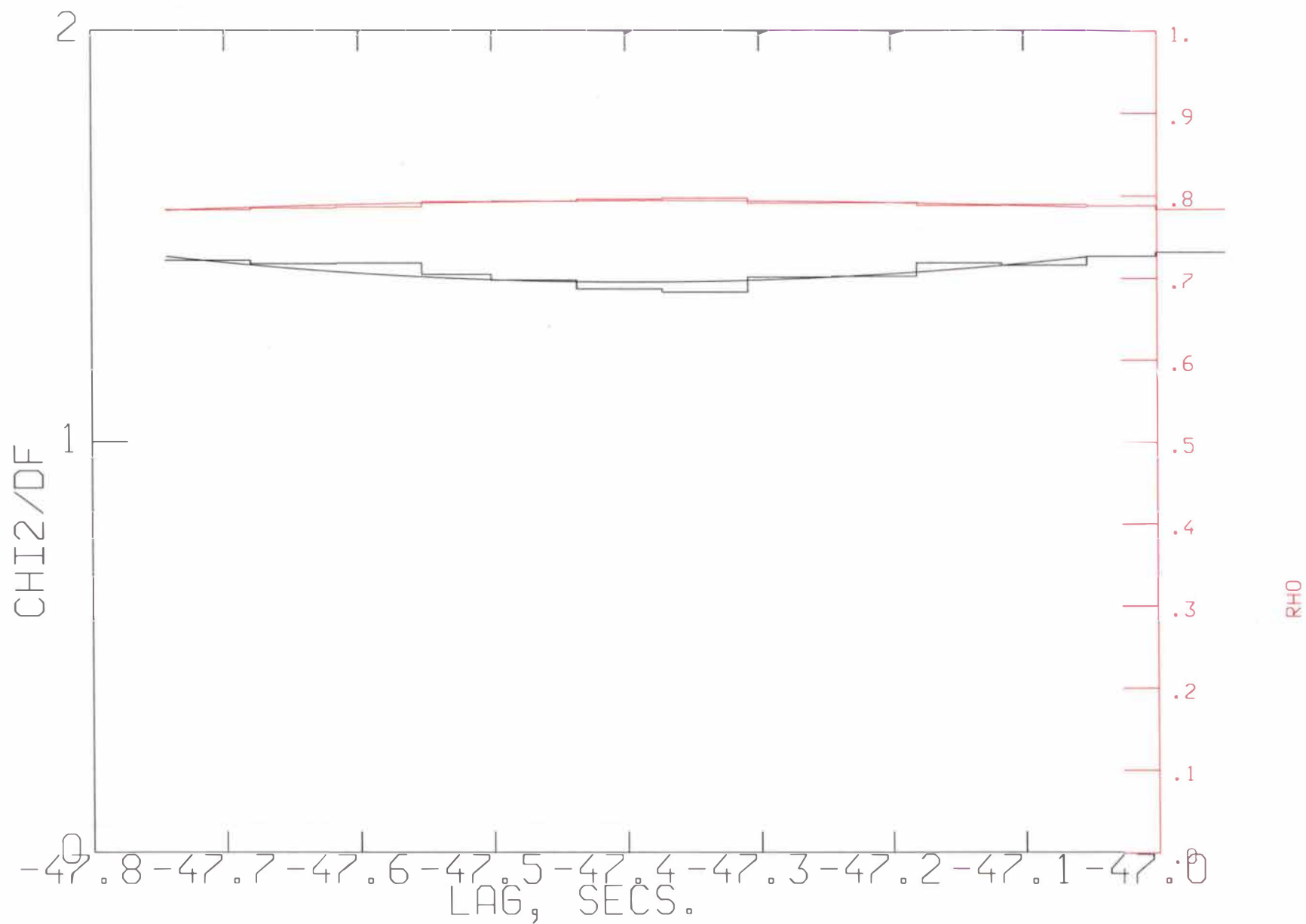


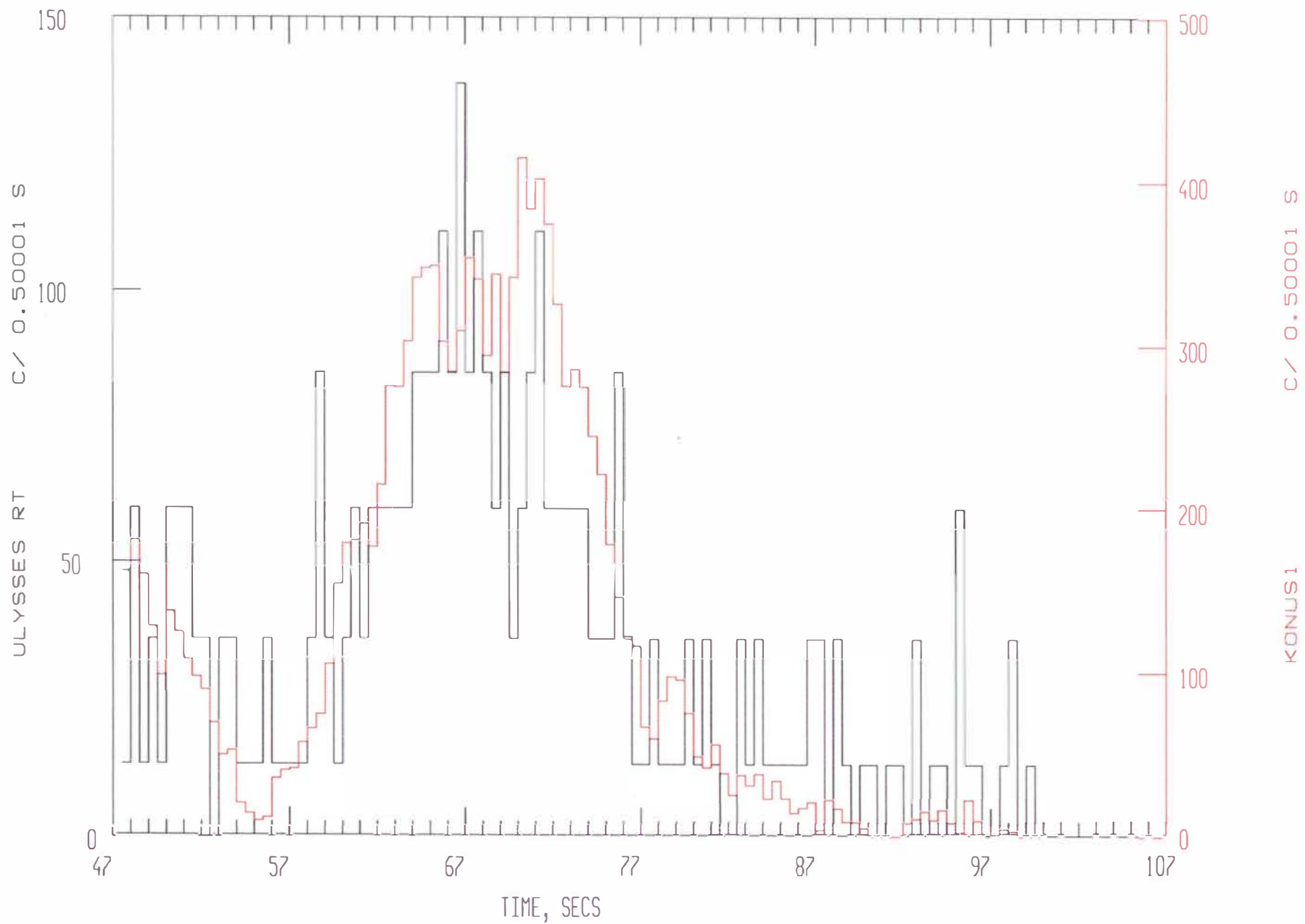
EVENT OF MAY 20, 1998 11:46

21/03/2012

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







KONUS 19980520 42436

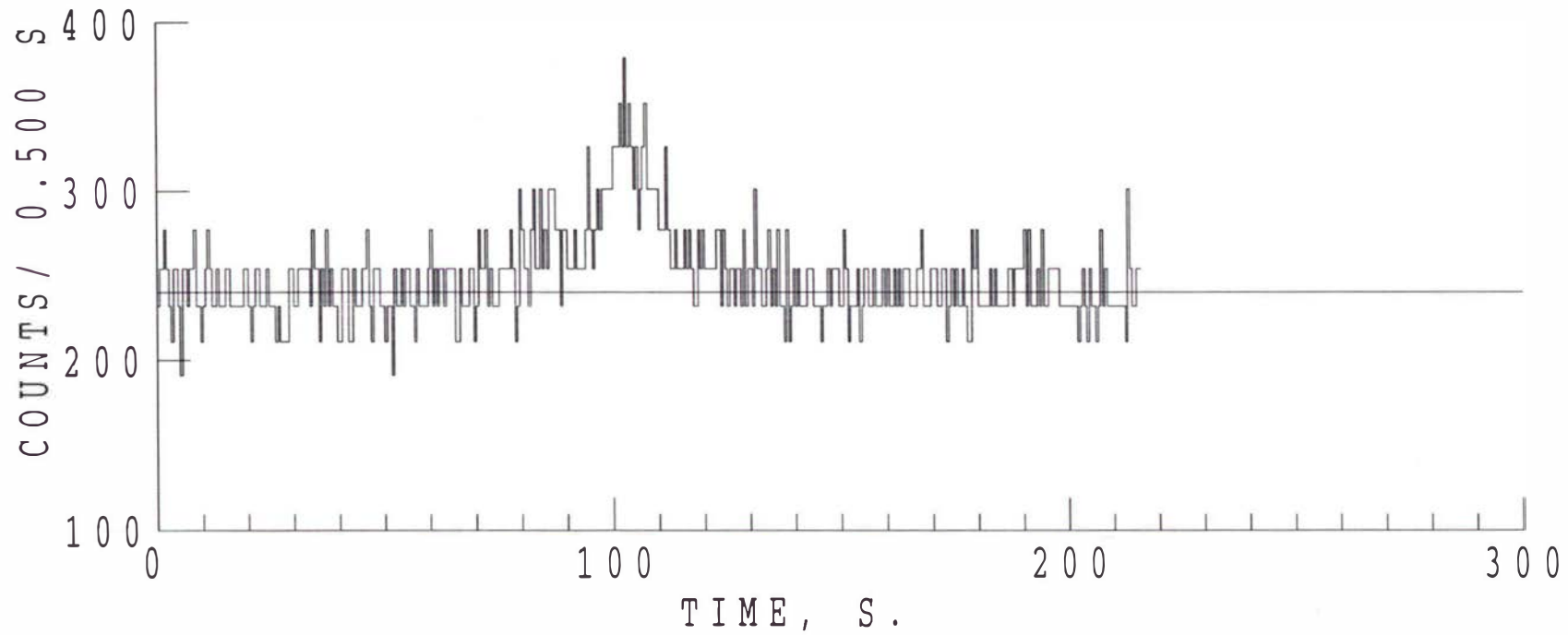
ULYSSES RT

20 / 03 / 12

20 / 05 / 98 42336.438 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



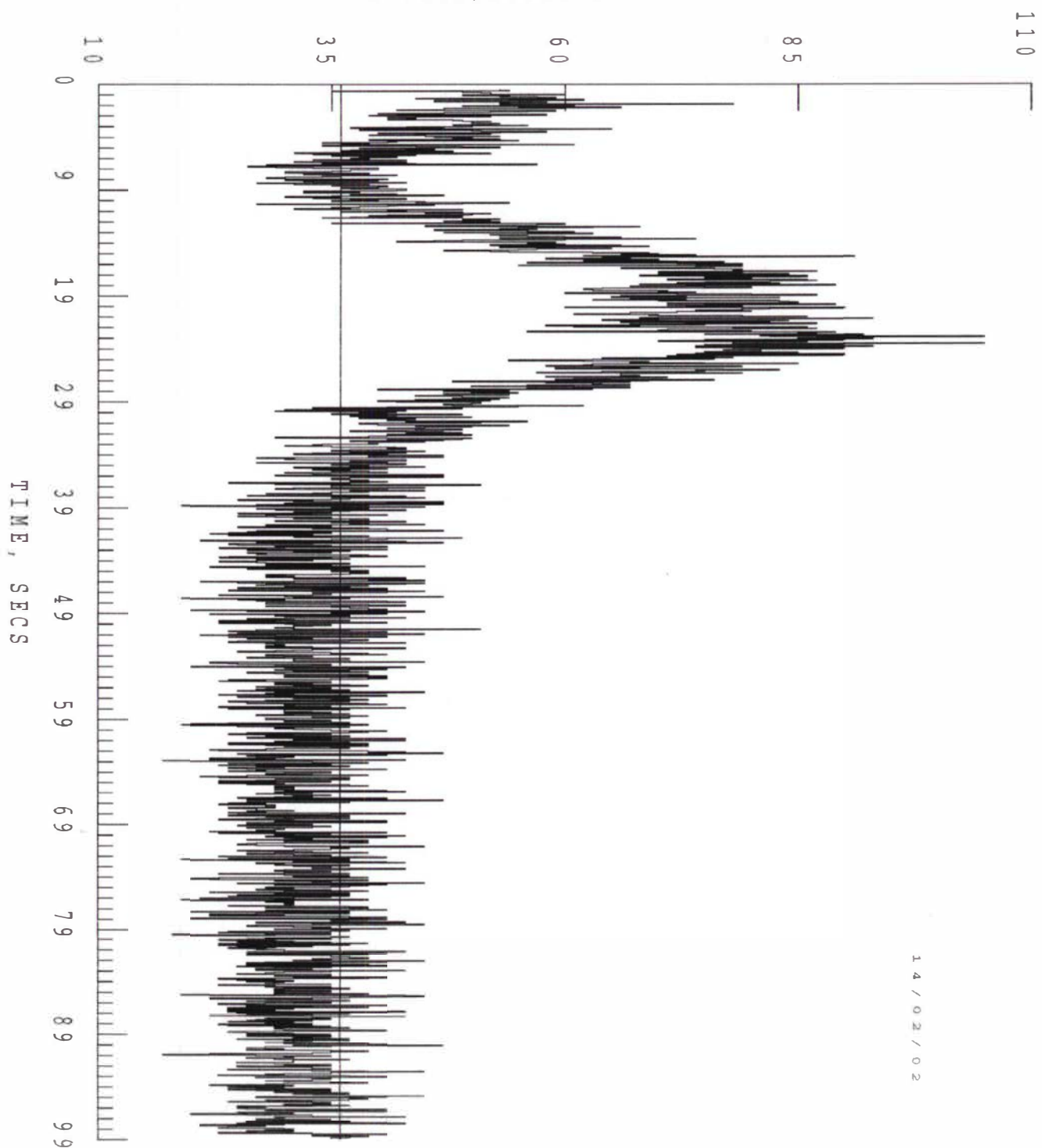
KONUS1

20/05/98

41379.782

50 - 200 keV

COUNTS/0.064 S



From kraken@rosserv.gsfc.nasa.gov Wed Jun 3 15:38 PDT 1998
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Wed, 3 Jun 1998 18:39:26 -0500
khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@rosserv.gsfc.nasa.gov>
Subject: Re: GRB980520
Cc: TEEGARDEN@tgrs2.gsfc.nasa.gov

>ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

>

>Ulysses observed the following burst:

>

>

>May 20 1998 11:47 Ulysses time; moderate burst, 20 s long

>

>

>The spacecraft was about 2650 light-seconds from Earth.

>Was this event detected by anyone else?

>

>CC: ulyssesbursts alias list

> (barthelmy, butterworth, cline, frontera, henze, kouveliotou,

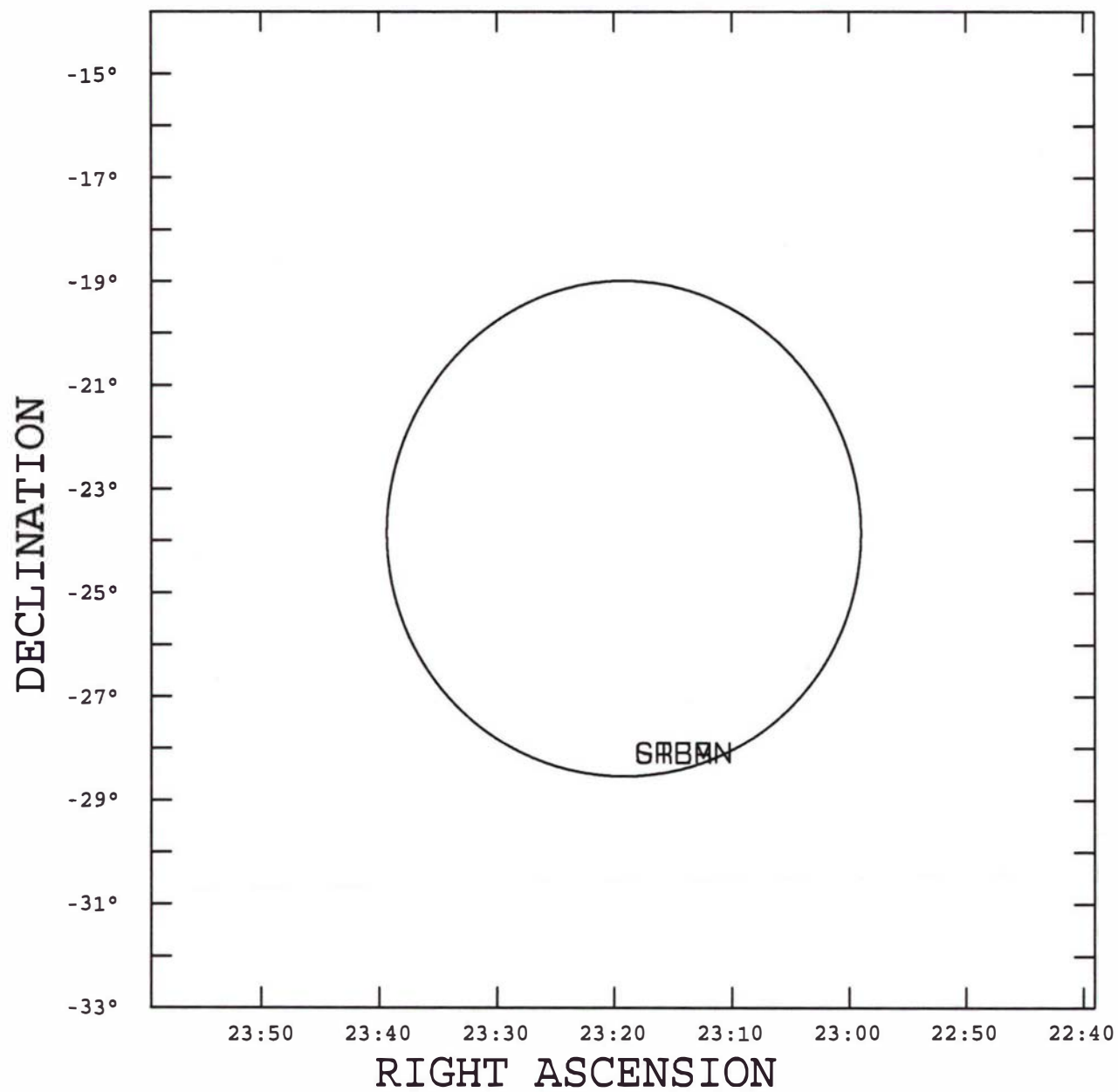
>kurczynski, marar, teegarden, terrell, yoshimori)

TGRS saw this burst, at 41395.6 s UT.

It registered a peak flux of 148 cts/s (100-300 keV)

and a T90 = 33s, T50 = 12 s.

14:26:57



From RICHARDSON@fender.msfc.nasa.gov Fri May 22 11:54:16 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA20326; Fri, 22 May 1998 11:54:15 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA08395; Fri, 22 May 1998 11:54:14 -0700
Date: Fri, 22 May 1998 13:54:14 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980522135414.2020e36a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6767
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

*Caution: U/B ratio very high
Also, BATSE burst time history
doesn't show all the peaks,
so it's not clear if Ulysses peak
is the correct one*

BATSE BURST # 6767
EVENT OF 1998 MAY 20 DAY OF YEAR=140
EVENT CROSSING TIME AT BATSE : 69135. S. OR 19:12:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 354.000 -11.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 5/ 98 IS:
RA= 148.805 DEC= 12.000 DIST= 5.363 AU
BATSE-ULYSSES DISTANCE = 802308283. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 24.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2431.35 SECS.
CROSSING TIME AT ULYSSES IS 71566. S. OR 19:52:46 +/- 281.08 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 5/ 98 IS:
RA= 54.722 DEC= 19.615 DIST= 2.497 AU
MARS-BATSE DISTANCE = 373545952. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.84 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -483.64 SECS.
CROSSING TIME AT MARS IS 68651. S. OR 19:04:11 +/- 192.02 SECONDS

BATSE BURST TRIGGER

NO.: 6767

TIME: TJD=0953 SECONDS=69135

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=168.2 AZIMUTH=22.1 ERROR=2.1 DEGREES

COMMENTS:

GRB. MULTIPLE PULSES WITH STRUCTURE. FIRST PULST AT APPROX. T-60 SEC. WITH
DURATION APPROX. = 40 SEC. SECOND PULSE AT APPROX. T-10SEC. THIRD PULSE AT
APPROX. T+45 SEC. FOURTH PULSE AT APPROX. T+150 WITH DURATION APPROX. =
80 SEC. TOTAL DURATION APPROX. = 300 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6767	980520	10953	69135	2500	354	-11	300

Date: 18/1/00

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? *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)?
- ☒ 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 *N/A*

- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

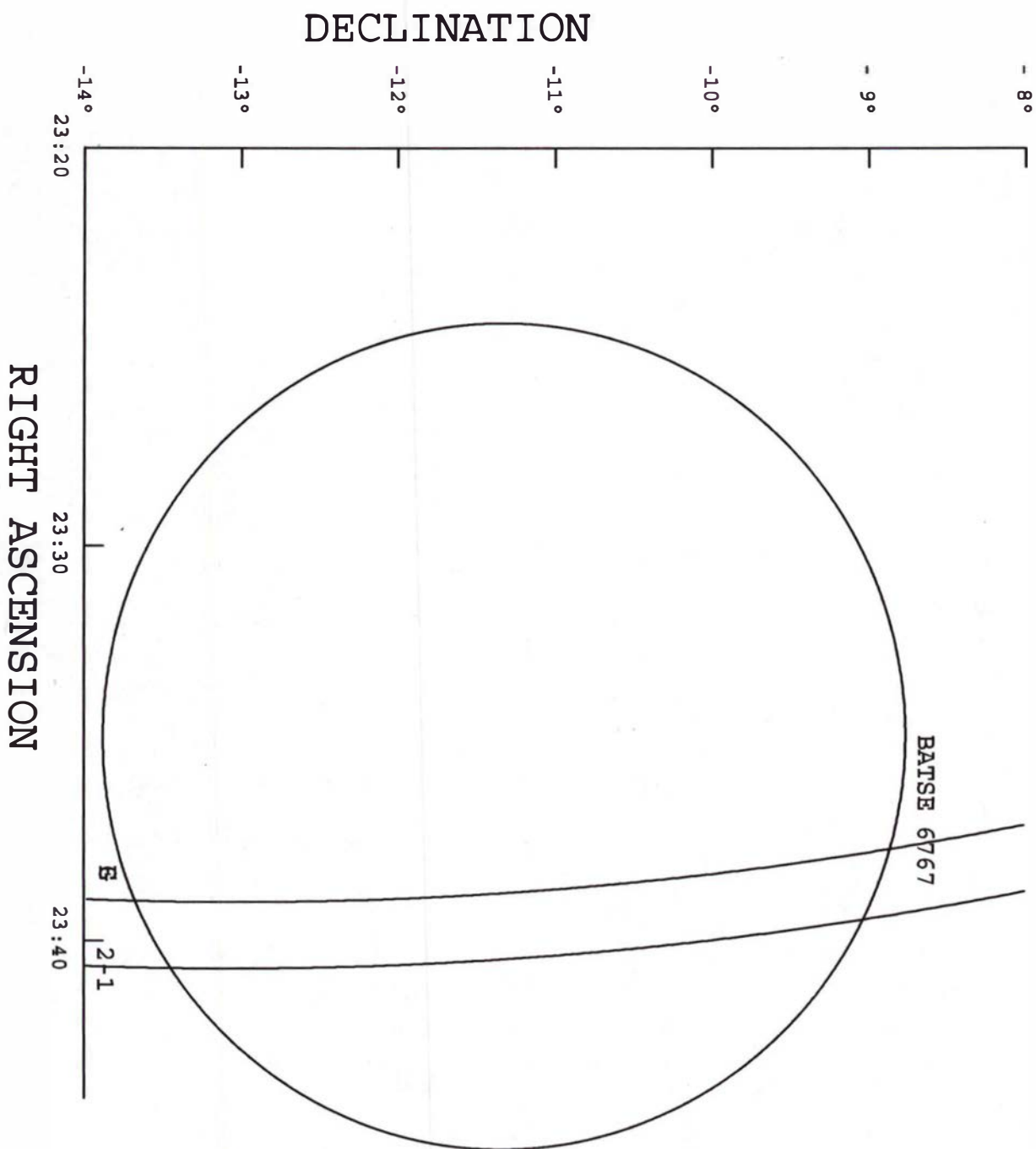
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAY 20, 1998 19:12

18 / 1 / 0



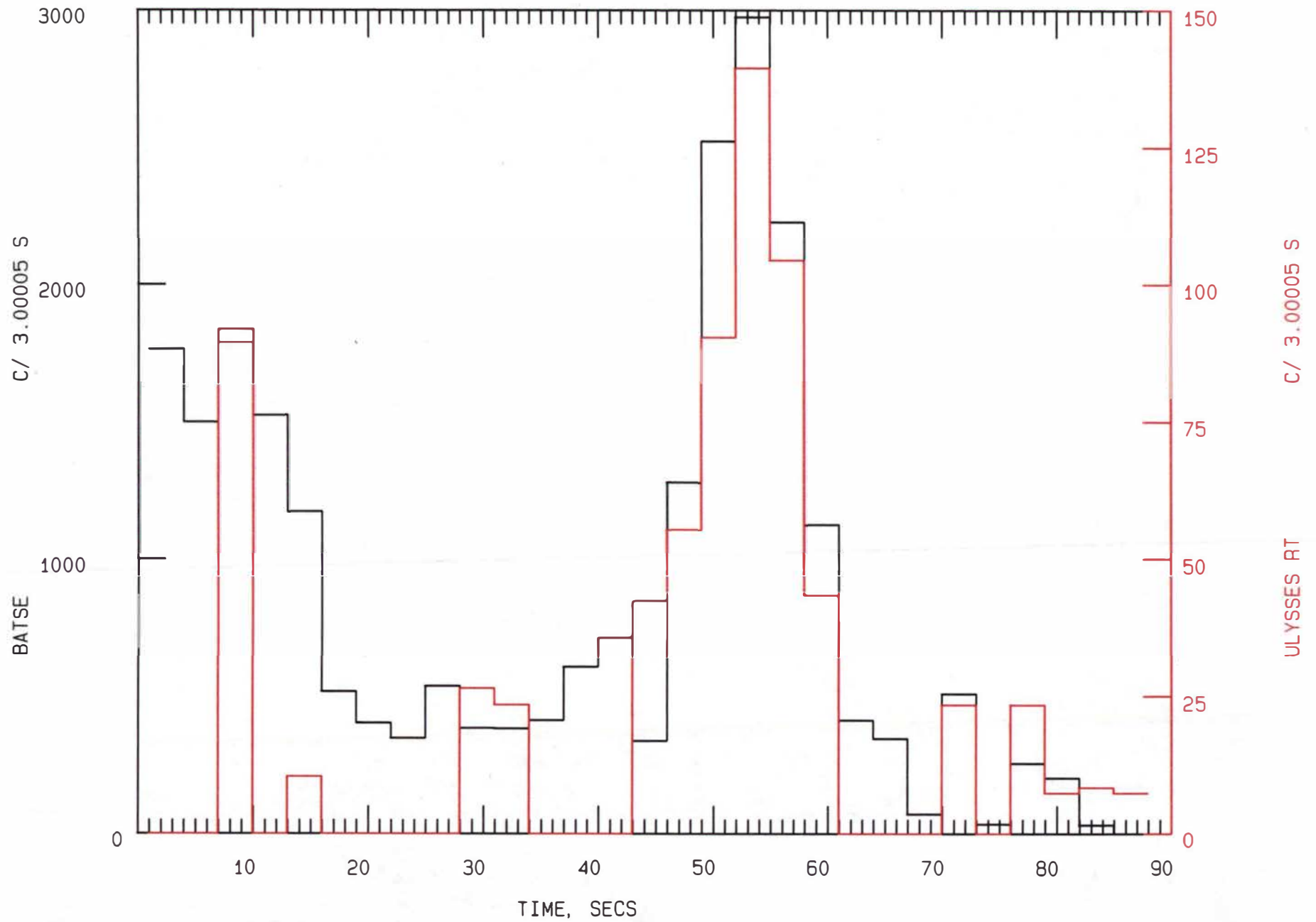
BATSE

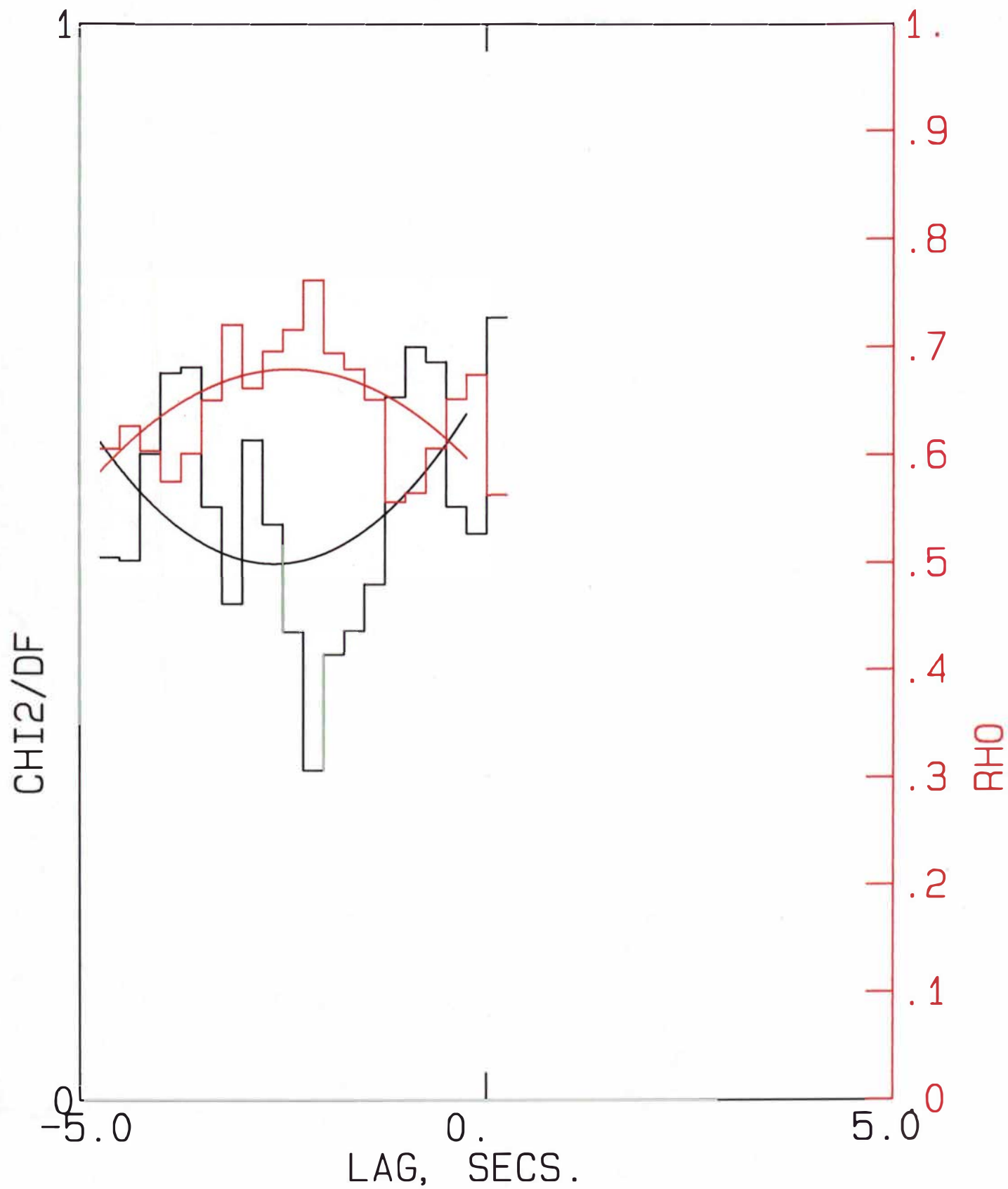
-ULYSSES RT CORRELATION

20/ 5/98

69135.073

18/ 1/ 0



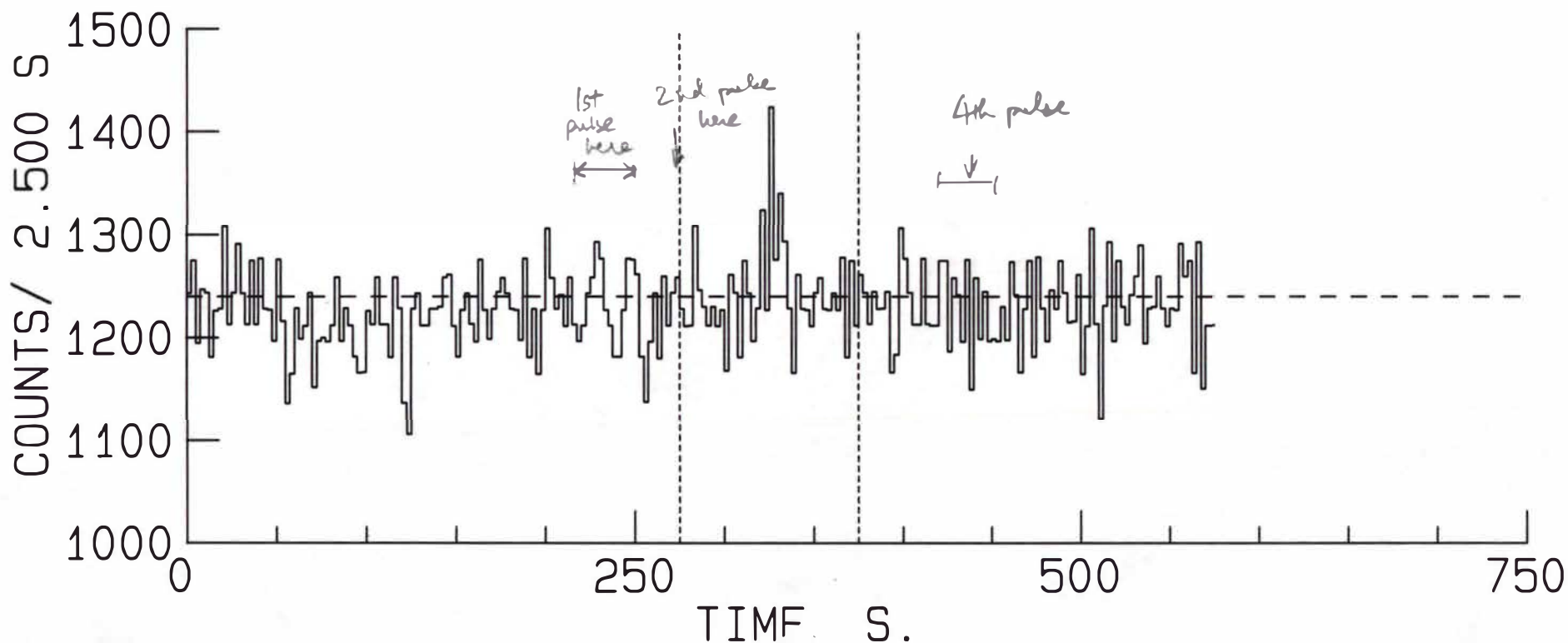


ULYSSES RT
20/ 5/98 71280.247 s
0.250 S INTERVALS REGROUPED BY 10
22- 150 keV

18 / 1 / 0

3rd pulse in BATSE
| description

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



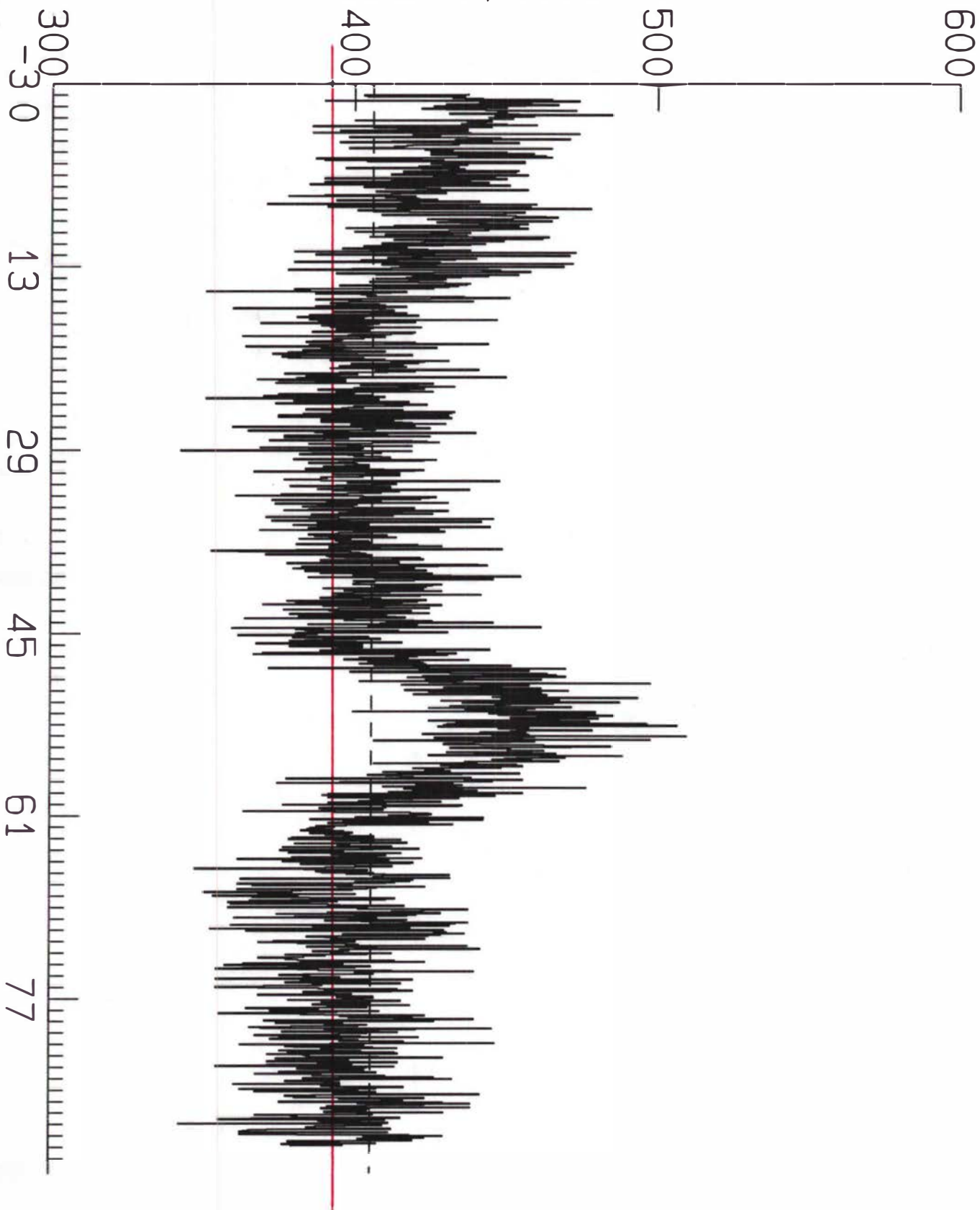
BATSE

20/05/98

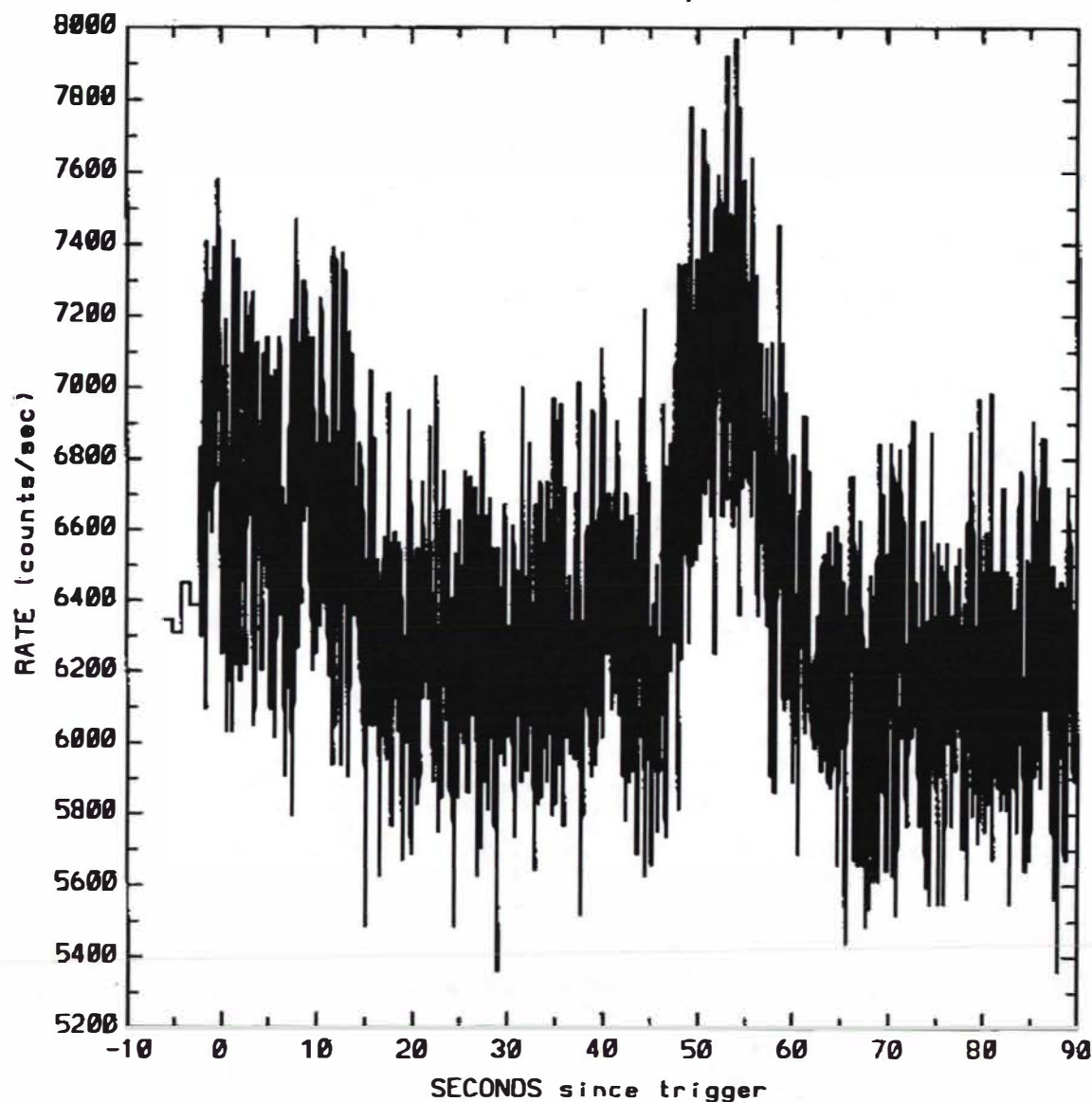
69135.073

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6767



2-JUN-1998 14.03.14

Created by MOPS BD
(Burst Display)
Version 12.25

Trigger # : 6767

Trigger Time:
10953 / 69135.073

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

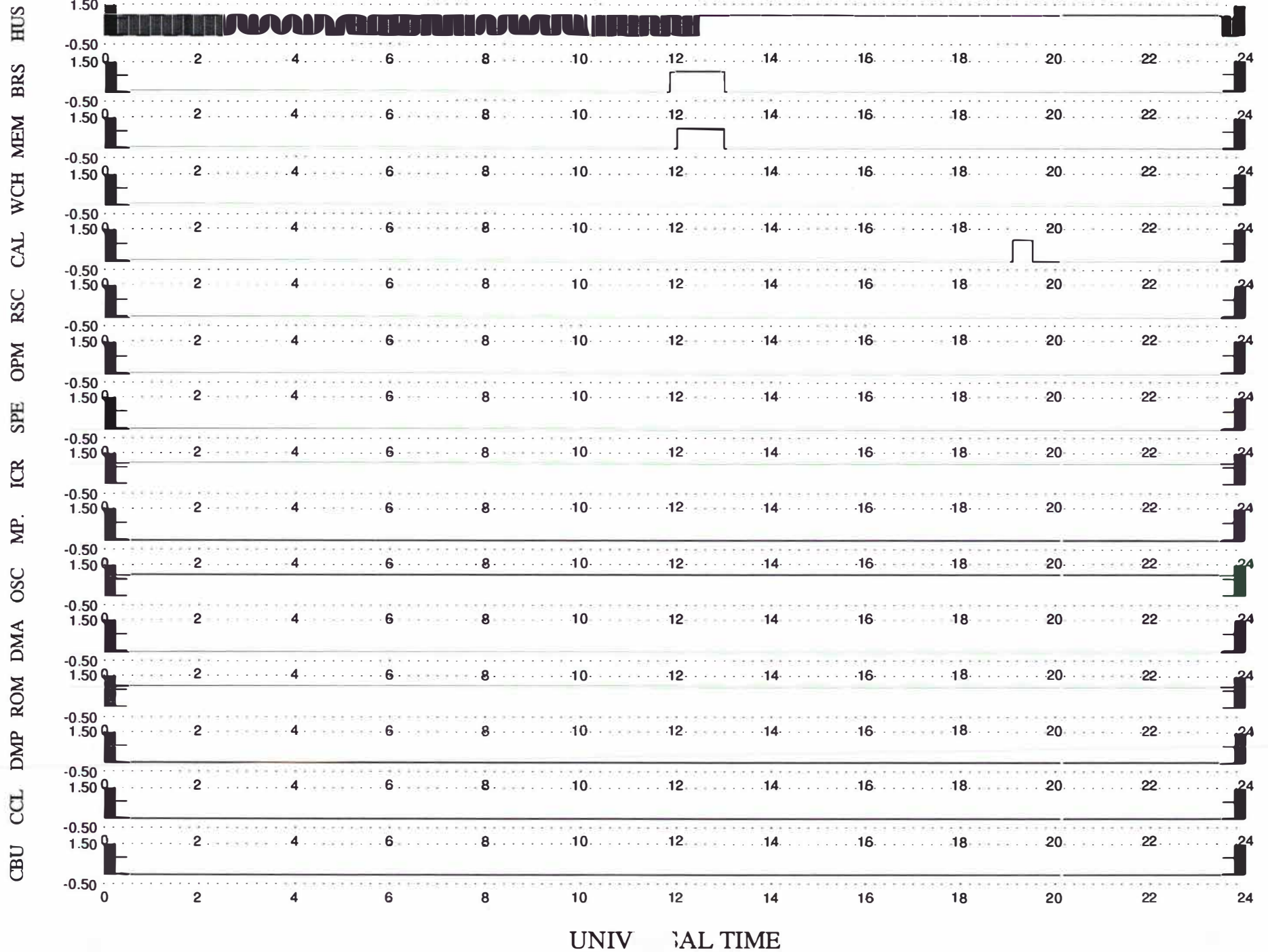
Minimum Integ. Time:
0.064 second(s)

Detectors [7..0].
----3-1-

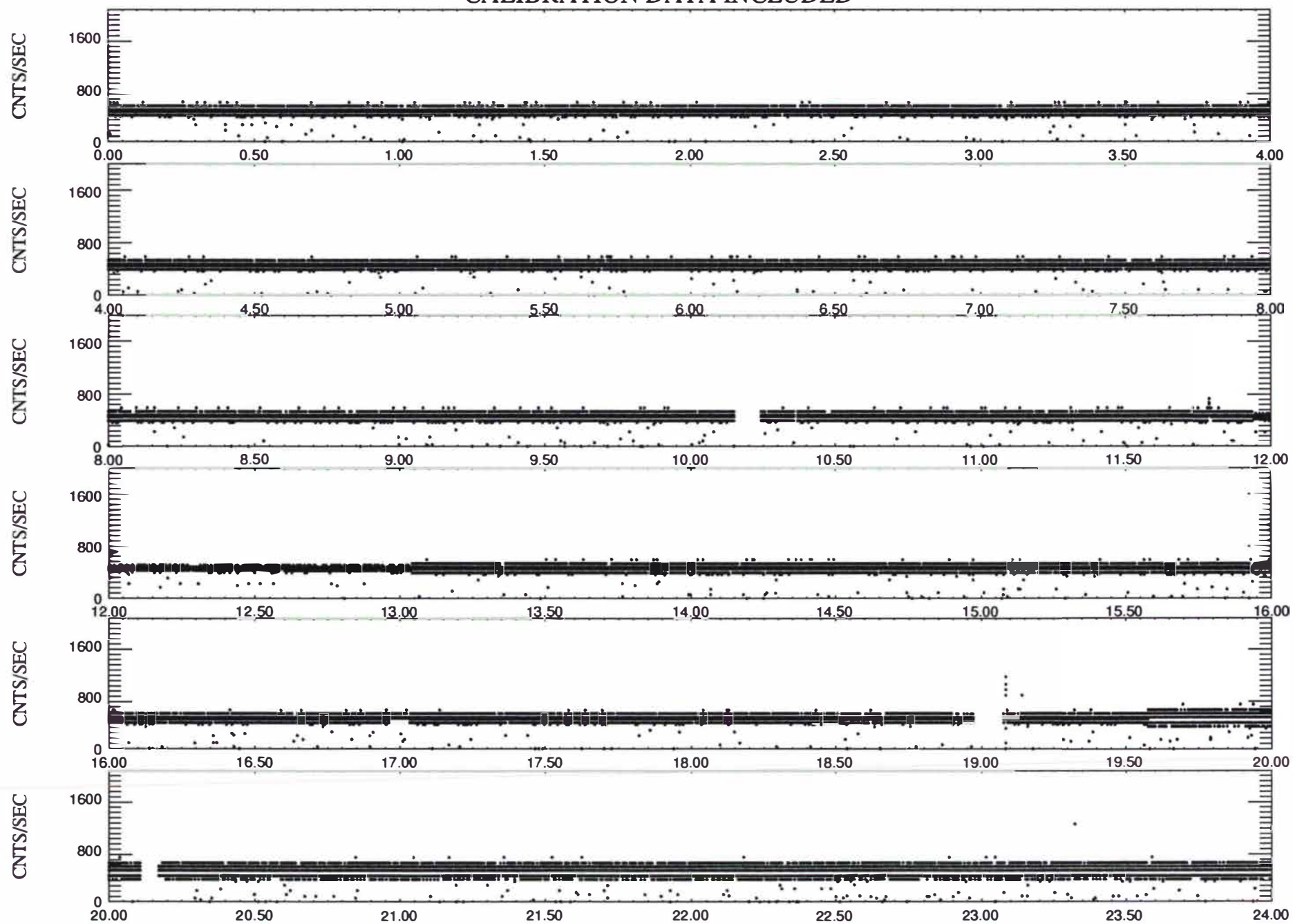
Discriminators:
(1 . 2)

Quality Mask:
BDISP1

BURST NUMBER 6

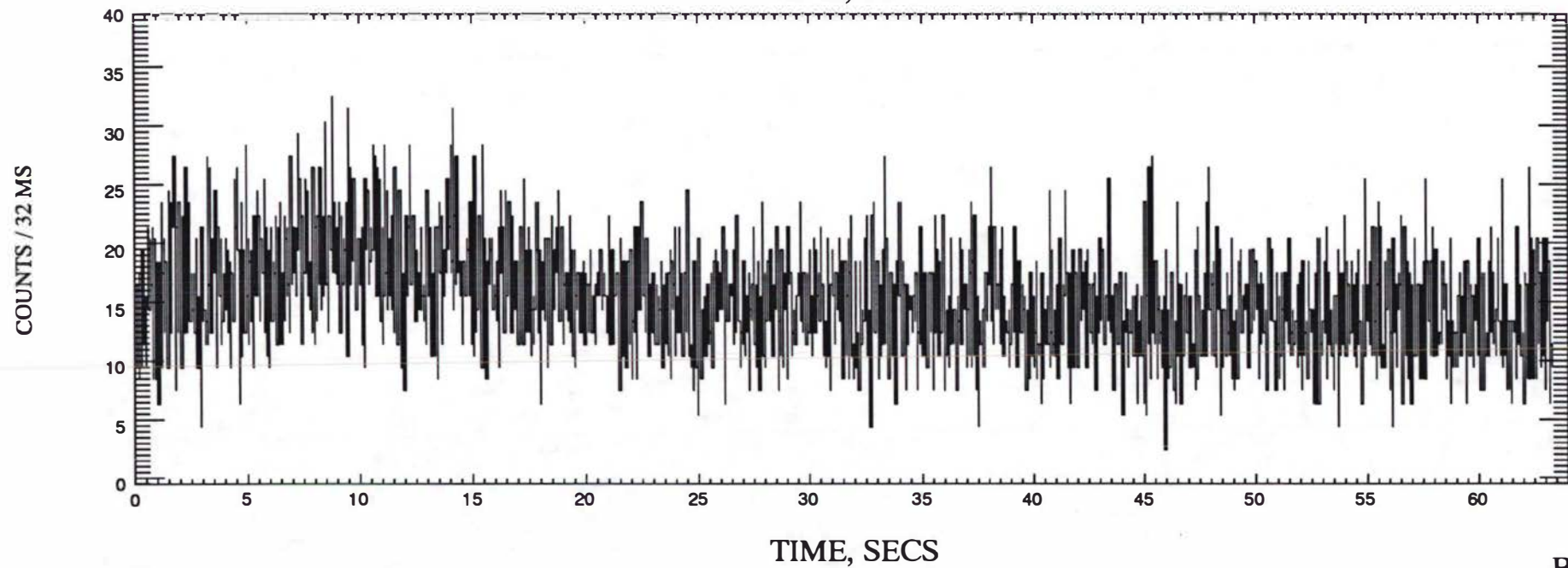
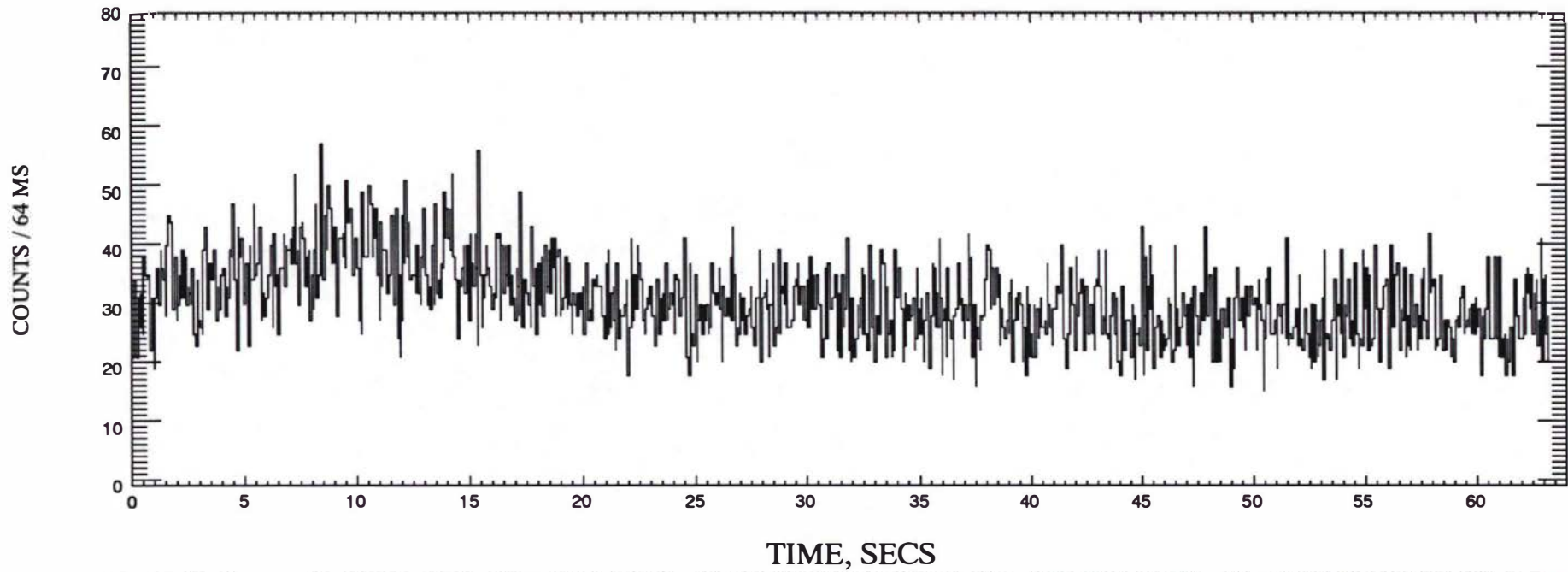


CALIBRATION DATA INCLUDED

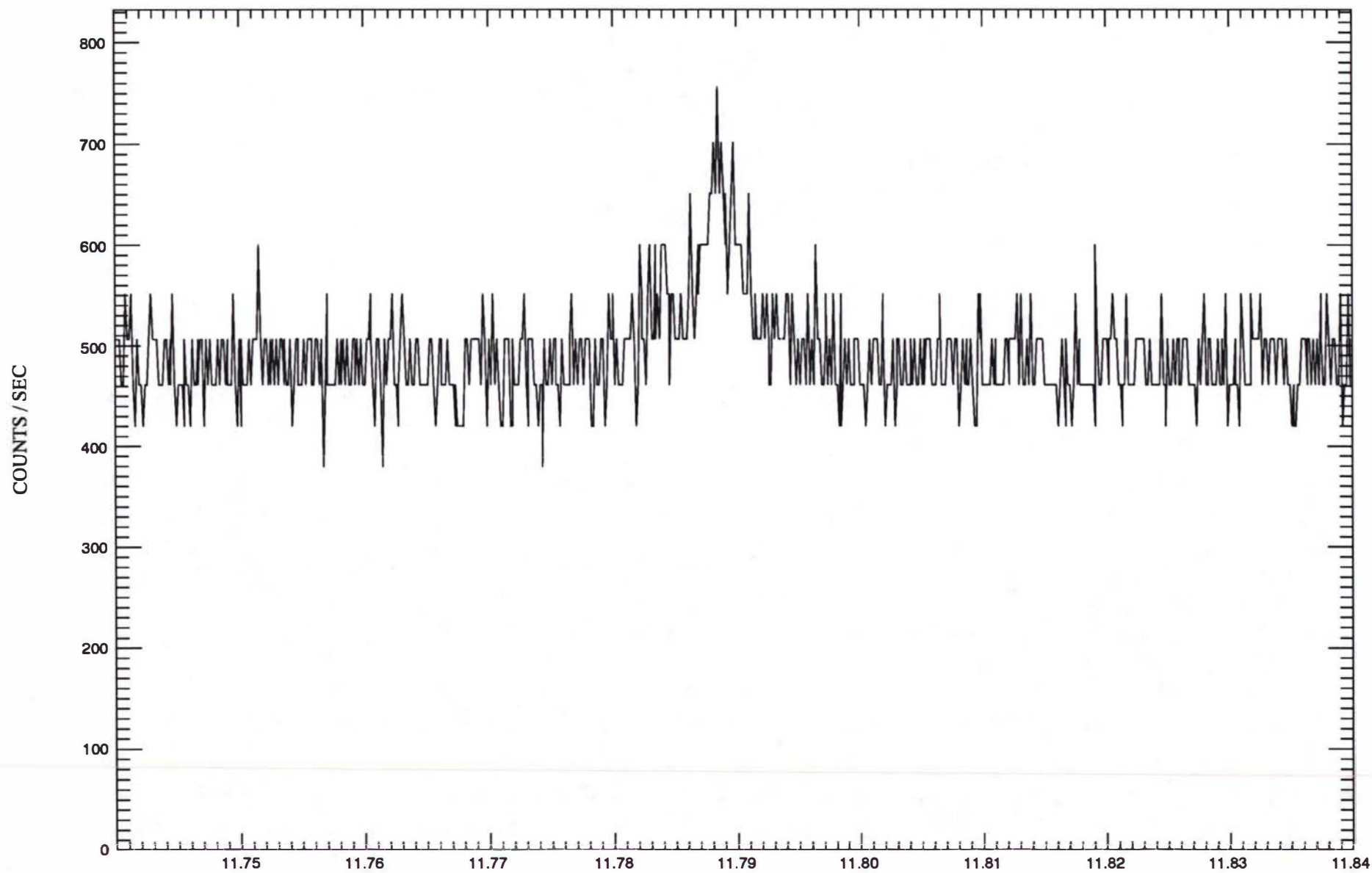


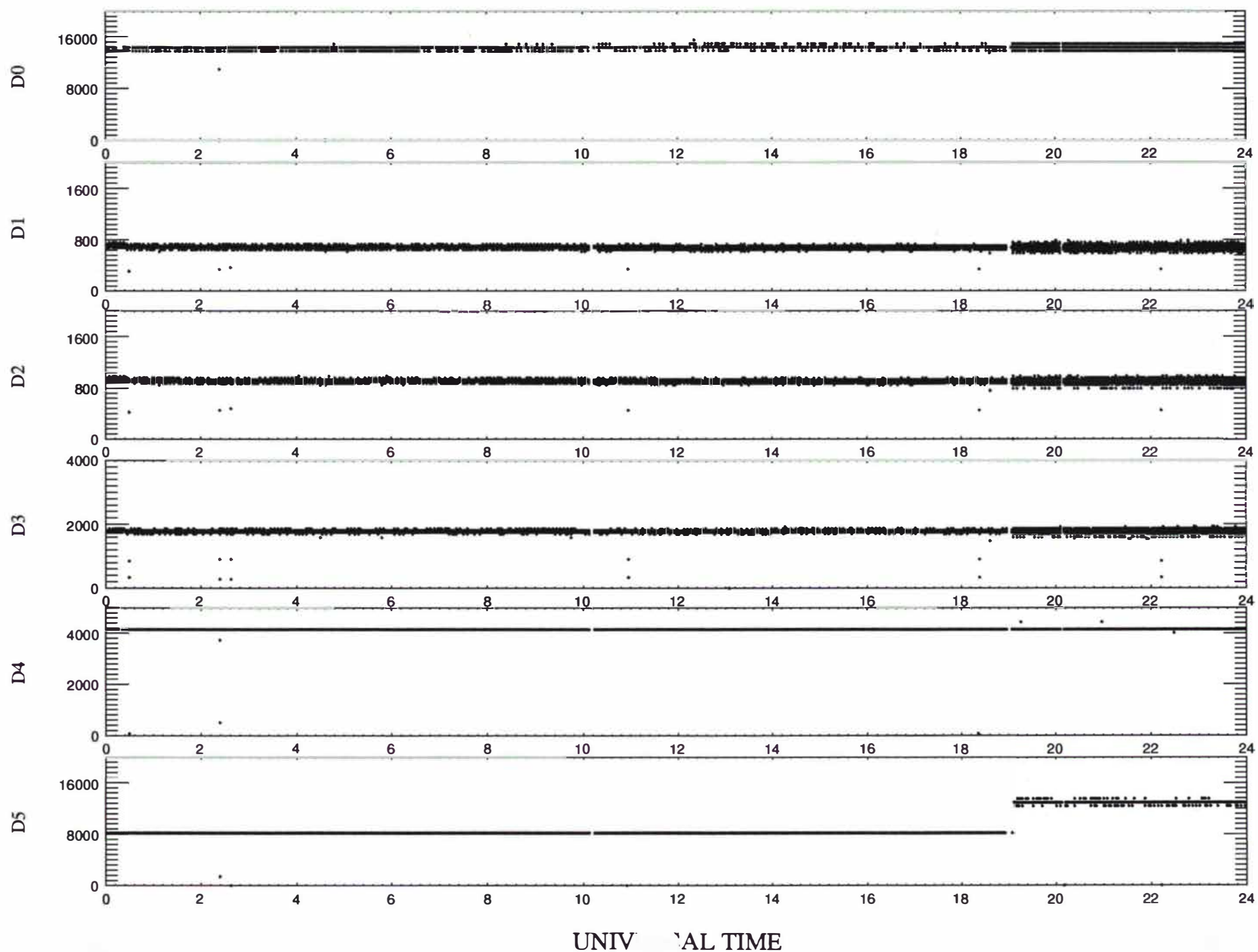
UNIV 'AL TIME

Burst Counter 6 at UT=11.788001327515 h=42436.805 s 11:47:16.805

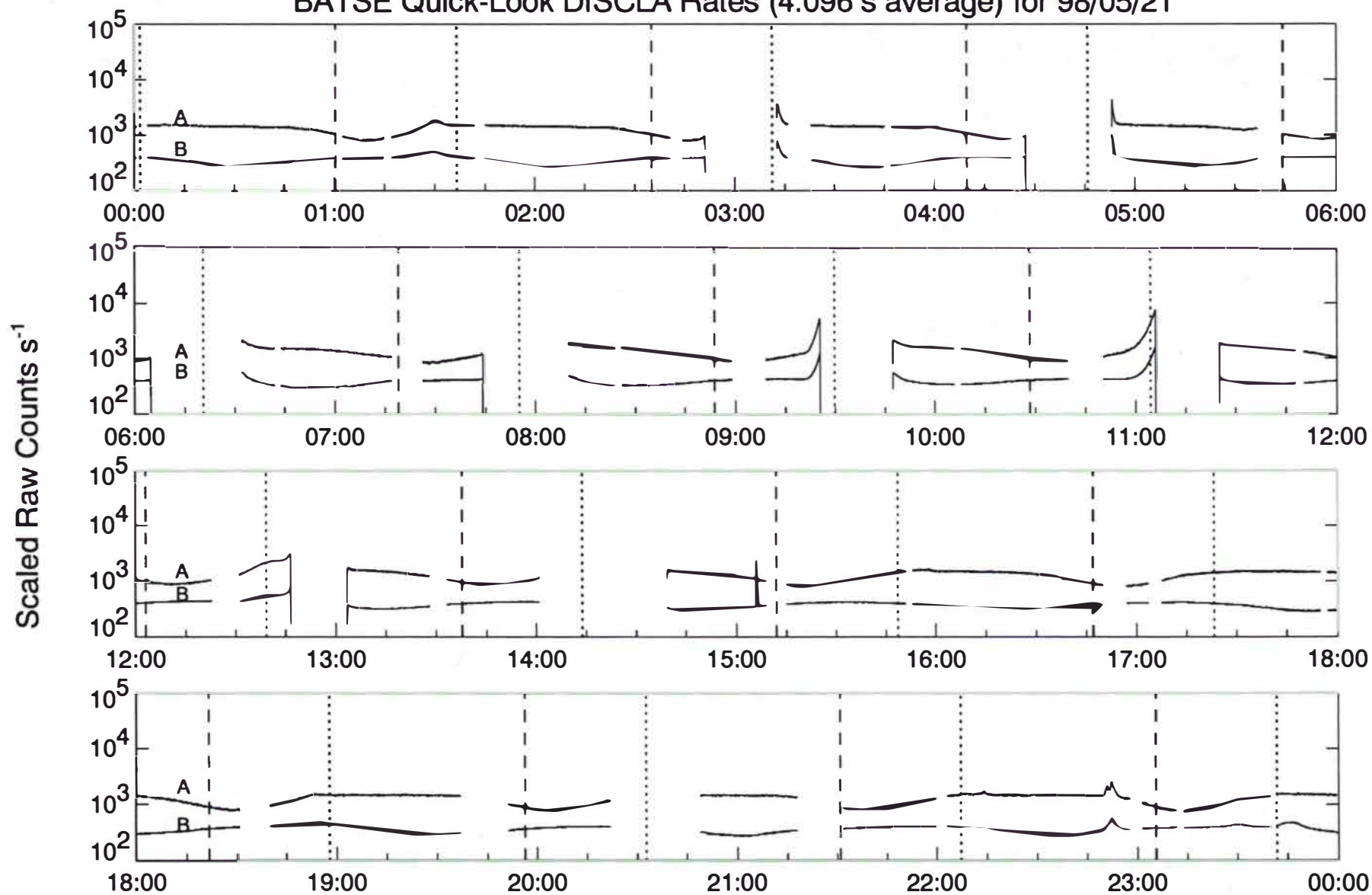


CALIBRATION DATA INCLUDED





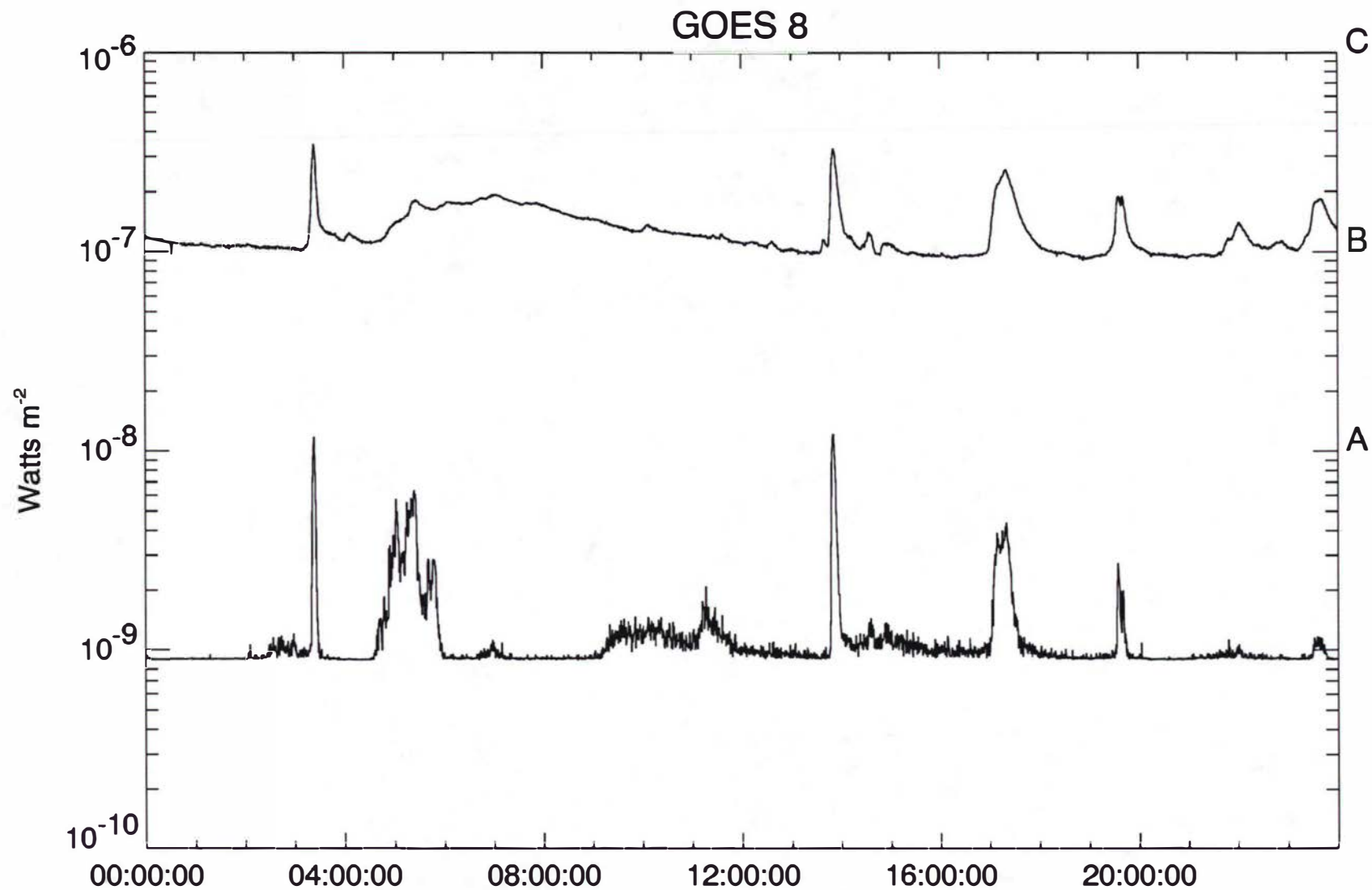
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/21



Current Time: 98/05/25, 1009 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



Data Start: 98/05/21, 0000:00

Plot created: 98/05/25, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:47:50 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:47:18 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6769

TIME: TJD=0954 SECONDS=10239

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:49:11 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:48:28 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6770

TIME: TJD=0954 SECONDS=52048

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

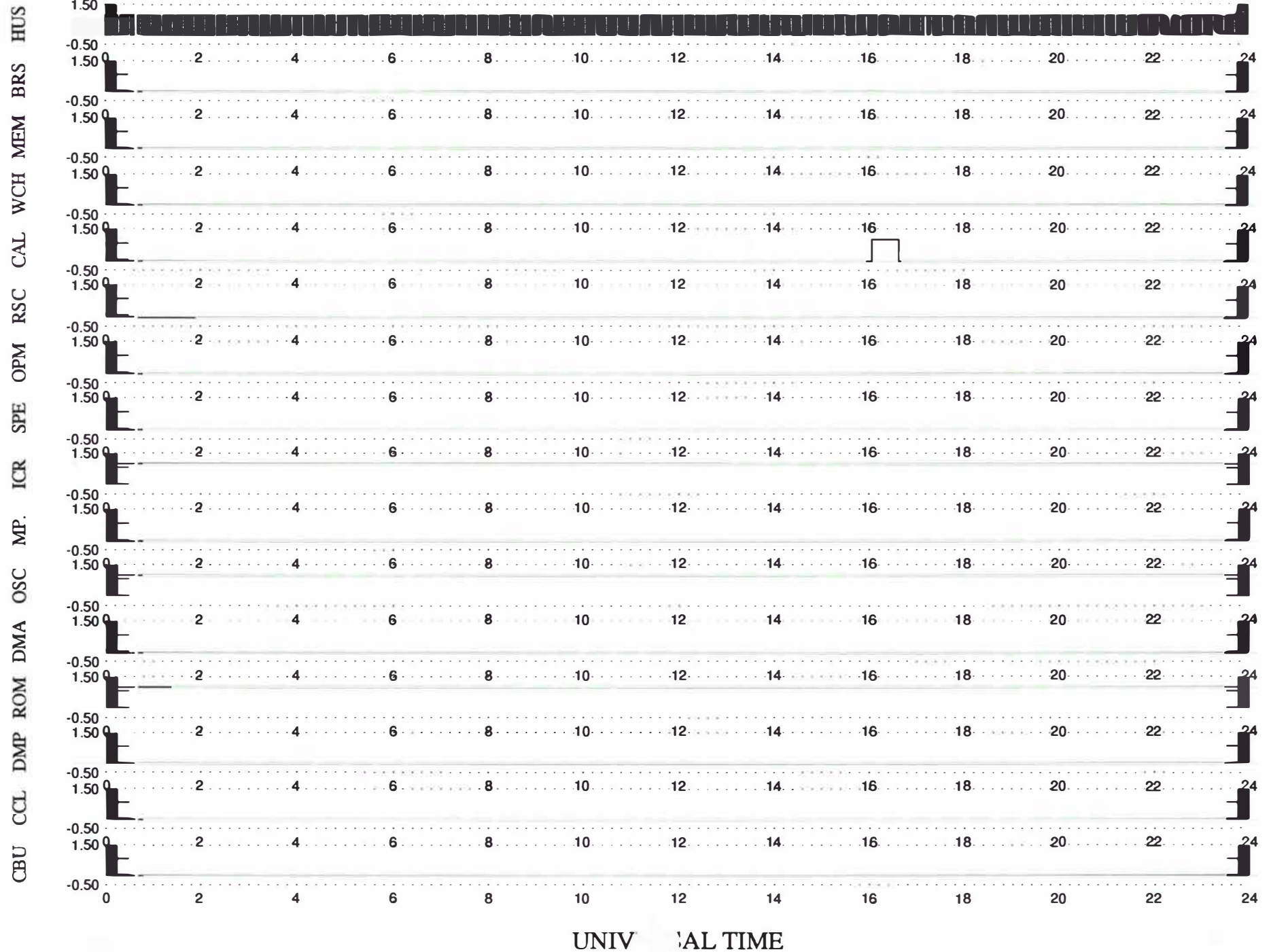
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

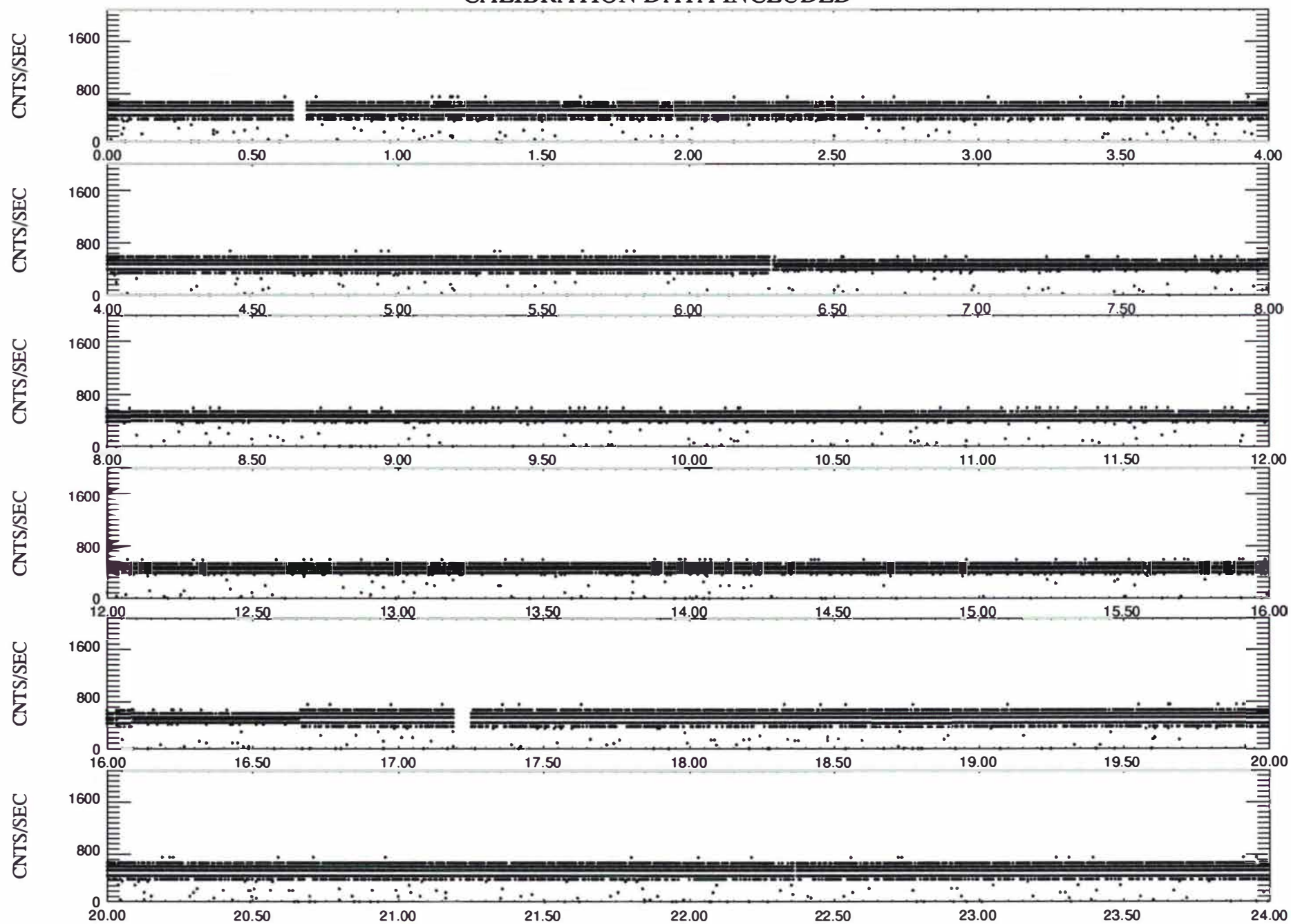
COMMENTS:

SAA ENTRY

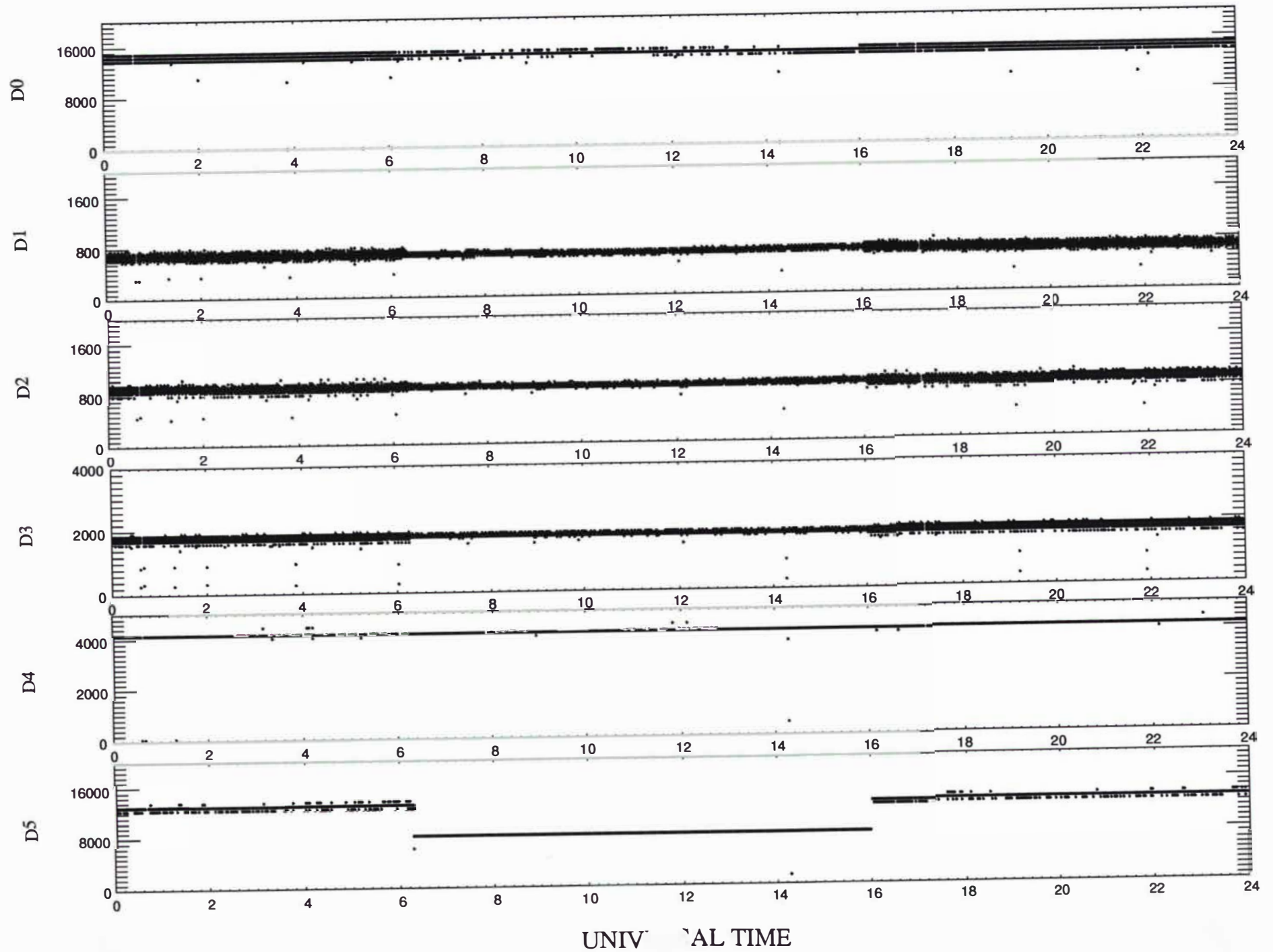
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:51:18 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:50:54 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6771

TIME: TJD=0955 SECONDS=8940

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:52:46 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:52:19 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6772

TIME: TJD=0955 SECONDS=50766

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Tue May 26 12:32:14 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 14:31:55 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6773

TIME: TJD=0955 SECONDS=76751

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

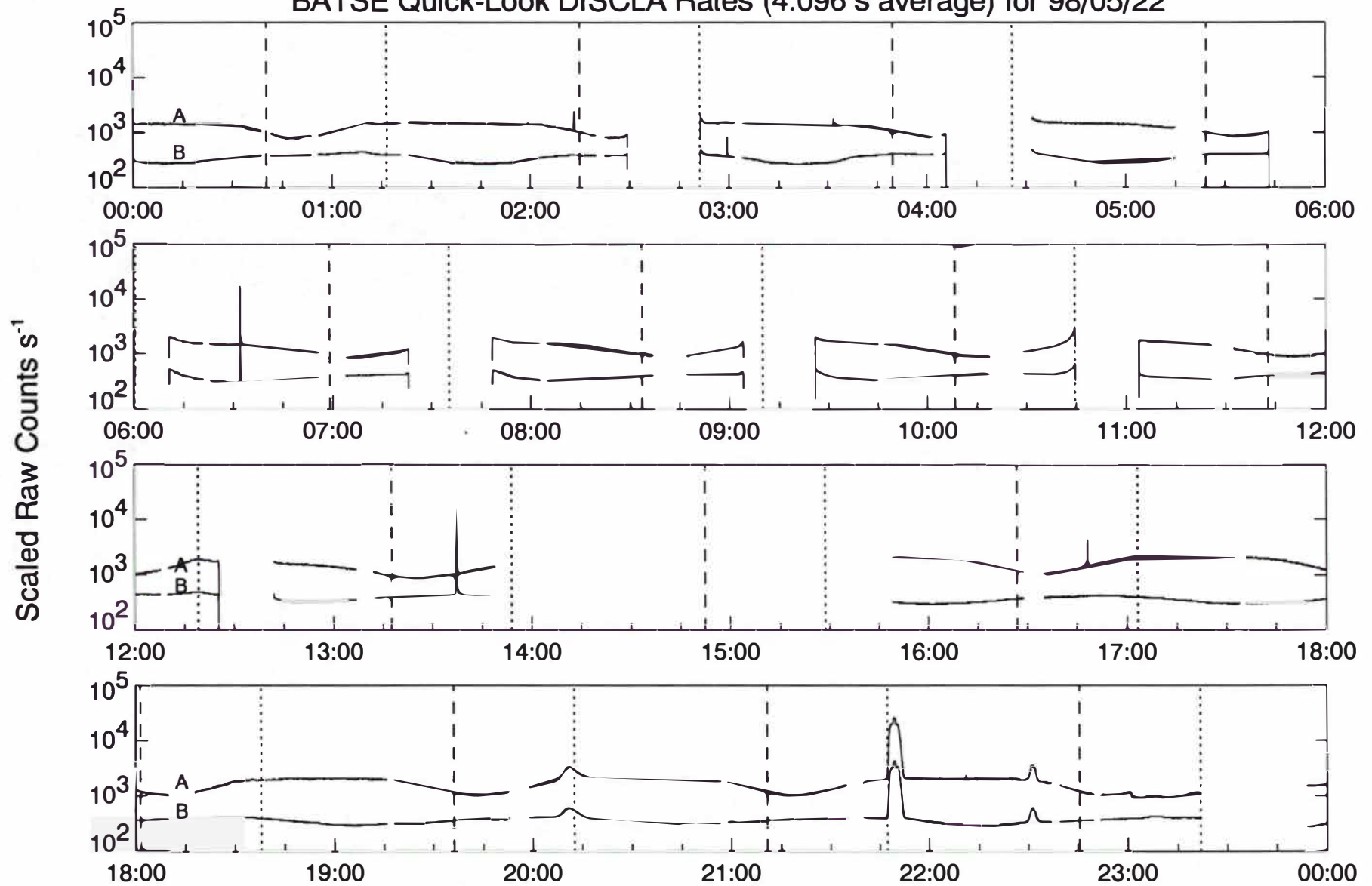
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.5 AZIMUTH=7.9 ERROR=10.4 DEGREES

COMMENTS:

TGF. TWO SPIKES. FIRST SPIKE WITH DUR. APPROX = 0.002 SEC. SECOND SPIKE
WITH DUR. APPROX. = 0.001 SEC. TOTAL DURATION APPROX. = 0.007 SEC.
STRONGLY VISIBLE ABOVE 300KEV.

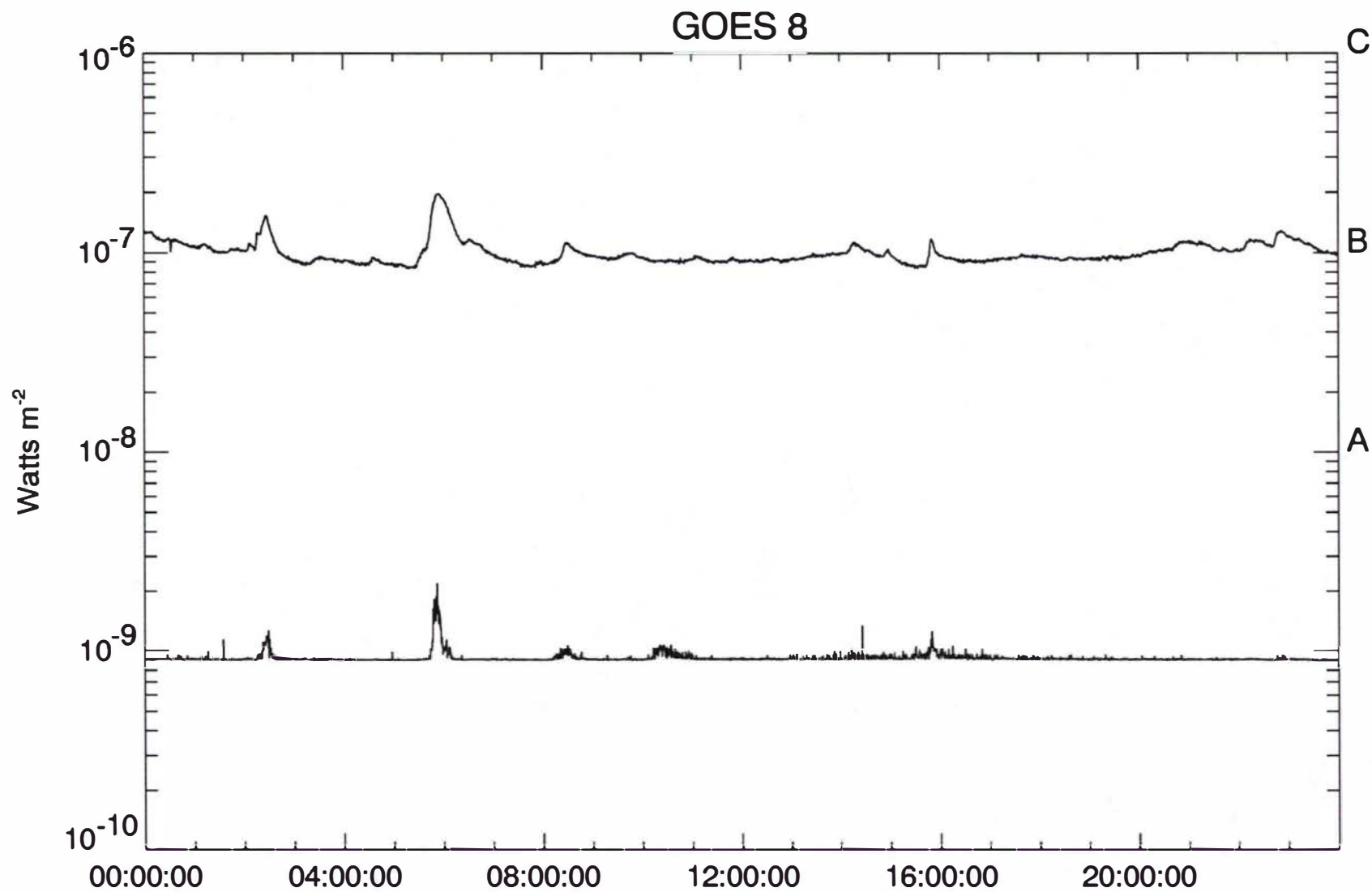
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/22



Current Time: 98/05/26, 1008 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



Data Start: 98/05/22, 0000:00

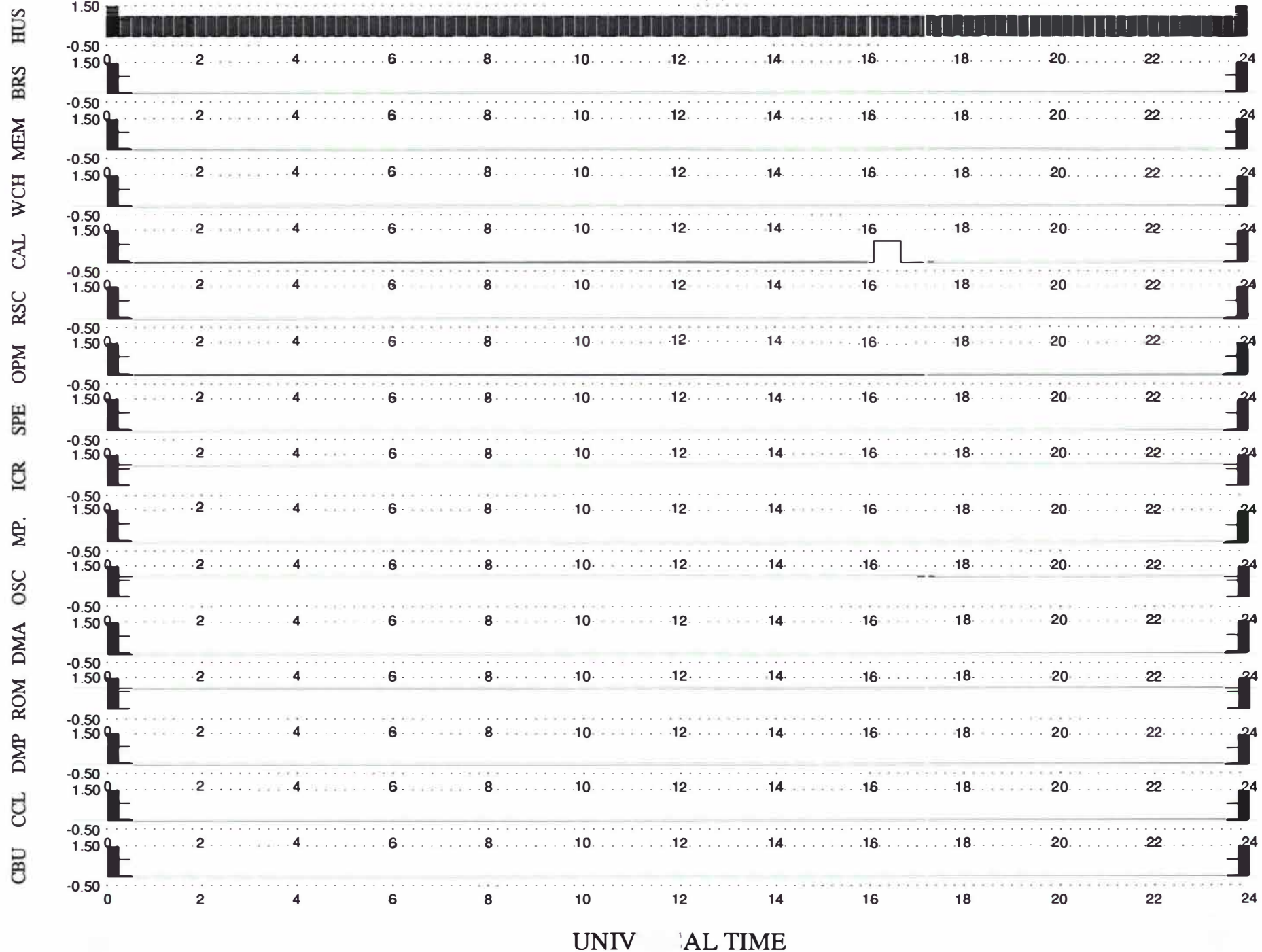
Plot created: 98/05/26, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

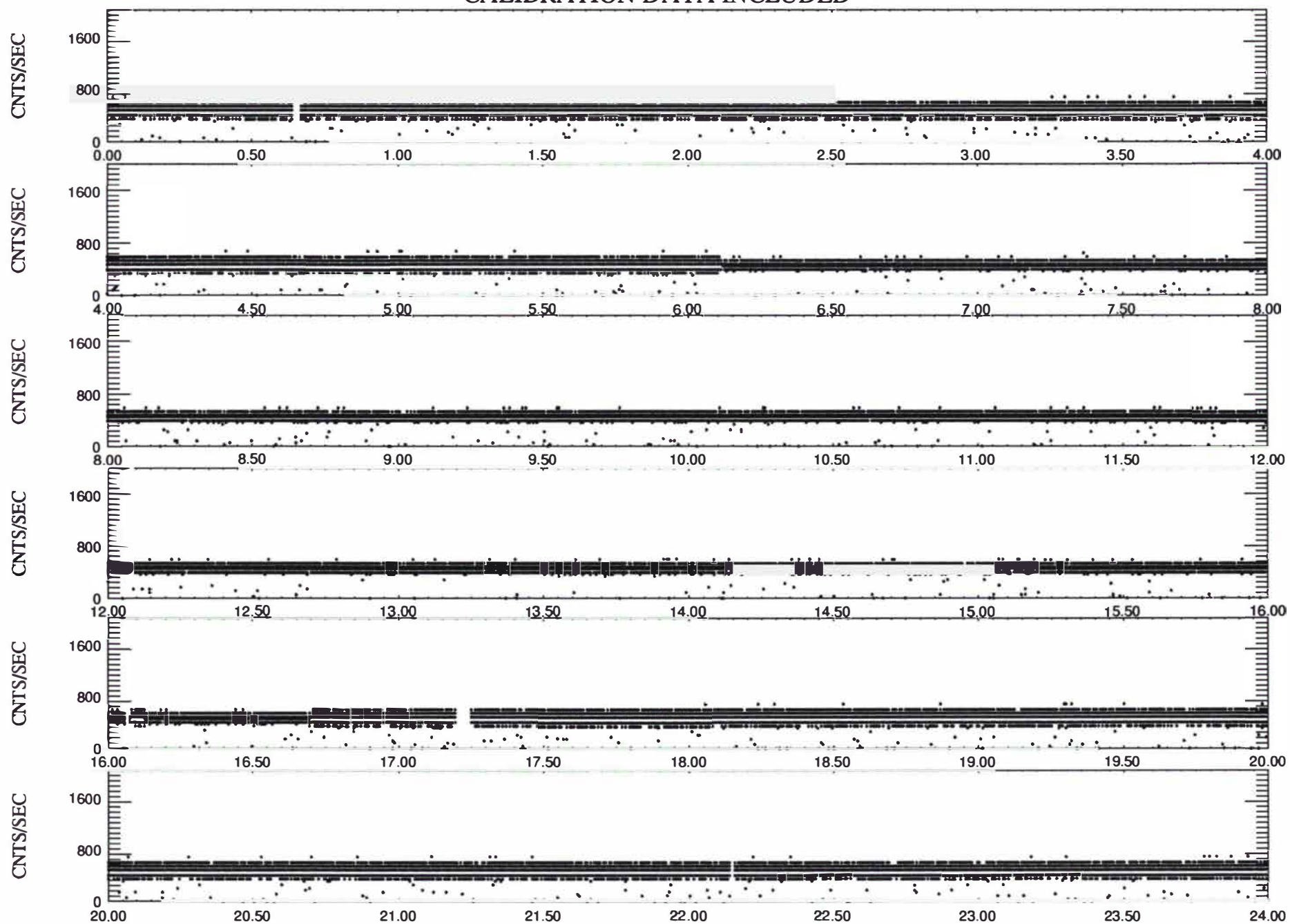
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

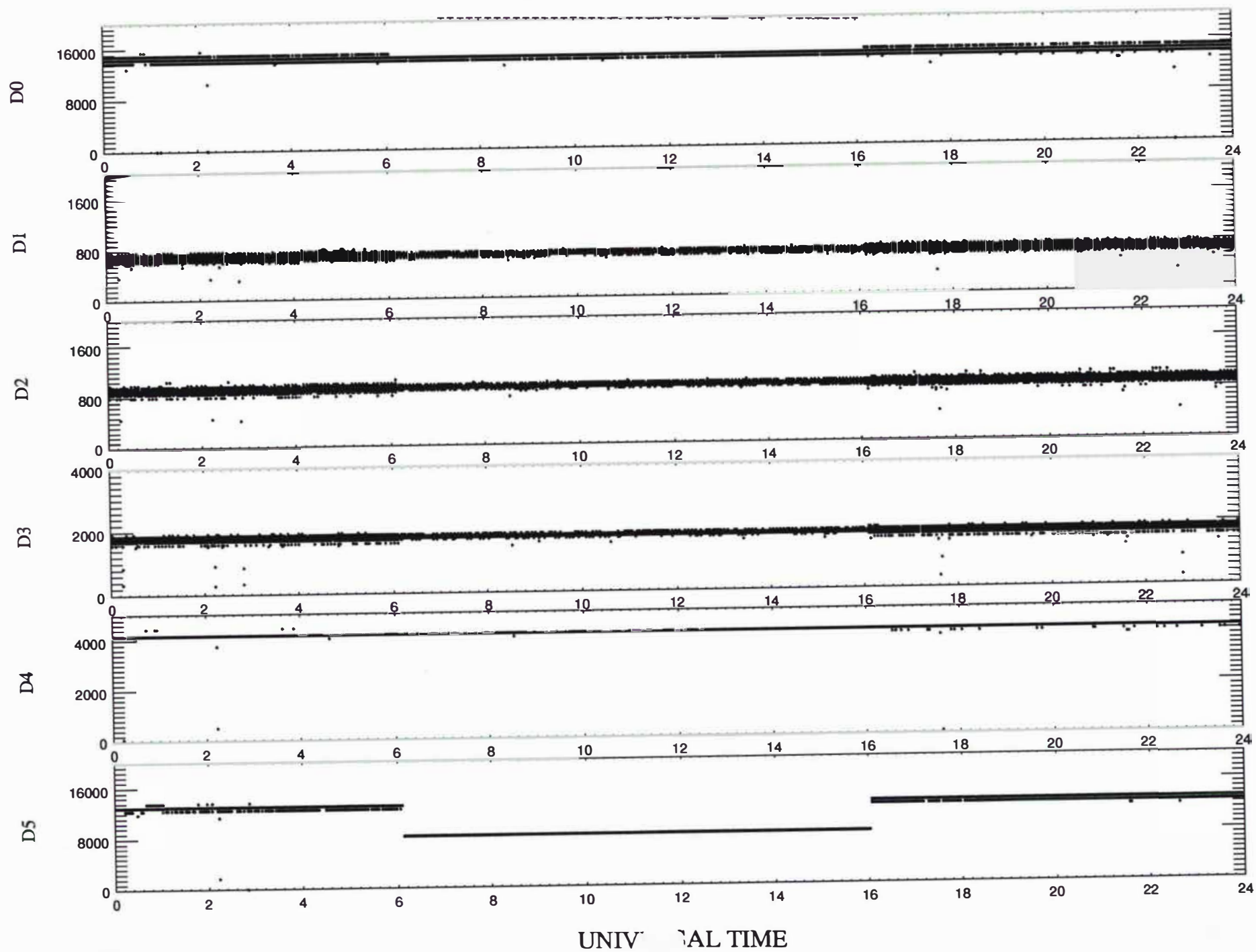
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From RICHARDSON@fender.msfc.nasa.gov Tue May 26 14:02:08 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA28105; Tue, 26 May 1998 14:02:07 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA01213; Tue, 26 May 1998 14:02:06 -0700
Date: Tue, 26 May 1998 16:02:06 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980526160206.20212a62@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6774
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6774
EVENT OF 1998 MAY 23 DAY OF YEAR=143
EVENT CROSSING TIME AT BATSE : 2821. S. OR 00:47:01.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 199.000 -42.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 5/ 98 IS:
RA= 148.810 DEC= 11.887 DIST= 5.400 AU
BATSE-ULYSSES DISTANCE = 807838017. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=109.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -883.19 SECS.
CROSSING TIME AT ULYSSES IS 1938. S. OR 00:32:17 +/- 478.58 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 5/ 98 IS:
RA= 56.936 DEC= 20.124 DIST= 2.501 AU
MARS-BATSE DISTANCE = 374092224. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 974.01 SECS.
CROSSING TIME AT MARS IS 3795. S. OR 01:03:15 +/- 150.21 SECONDS

BATSE BURST TRIGGER

NO.: 6774

TIME: TJD=0956 SECONDS=2821

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.9 AZIMUTH=157.6 ERROR=4.0 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION APPROX. = 2 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6774	980523	10956	02821	3500	199	-42	2

BATSE BURST# 6774

ULYSSES RT

26 / 5 / 98

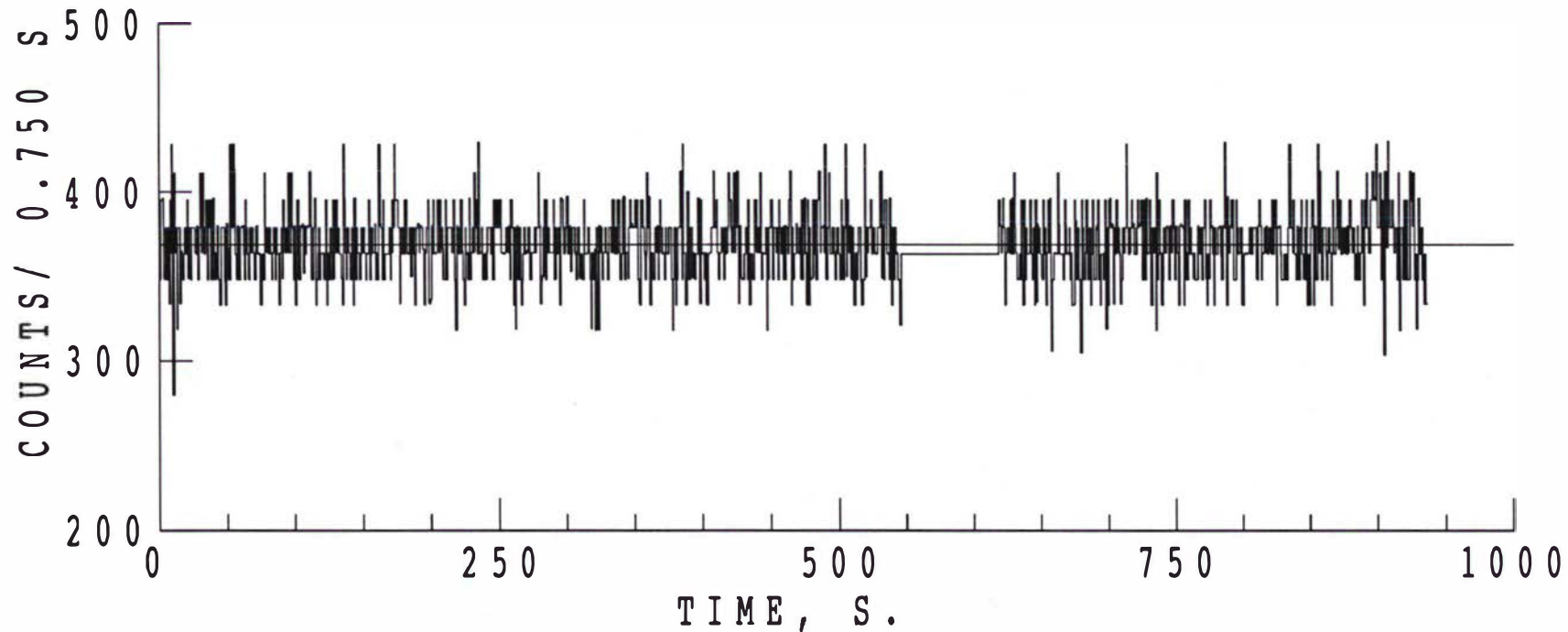
23 / 5 / 98 1476.003 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

W= 10 M=10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:56:53 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:56:18 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@heavx.gsfc.nasa.gov, barthelmy@heavx.gsfc.nasa.gov,
bacodine@heavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@heavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6775

TIME: TJD=0956 SECONDS=7642

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

Date: Oct 27 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

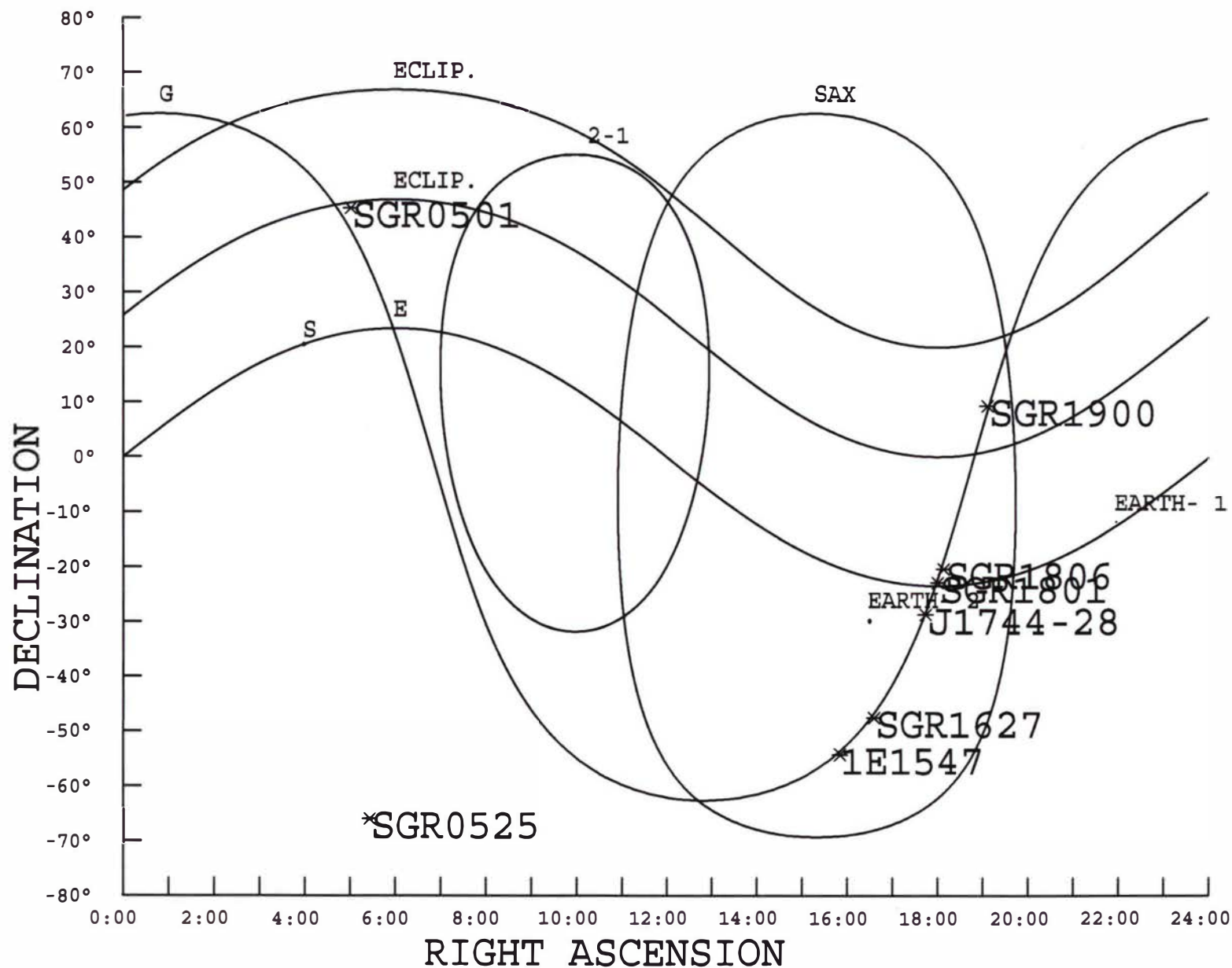
- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

EVENT OF MAY 23, 1998 1:49

27/10/ 9

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



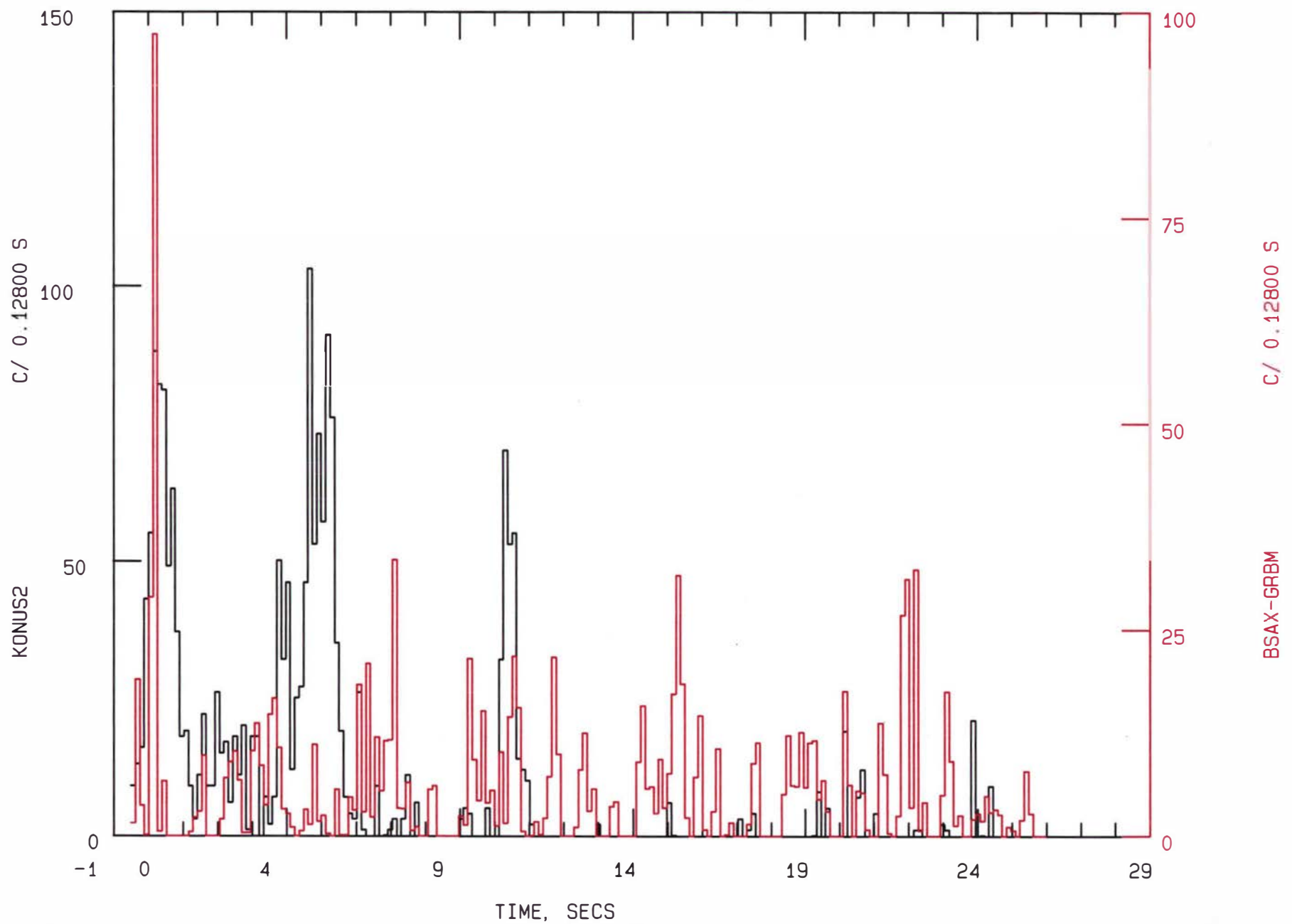
KONUS2

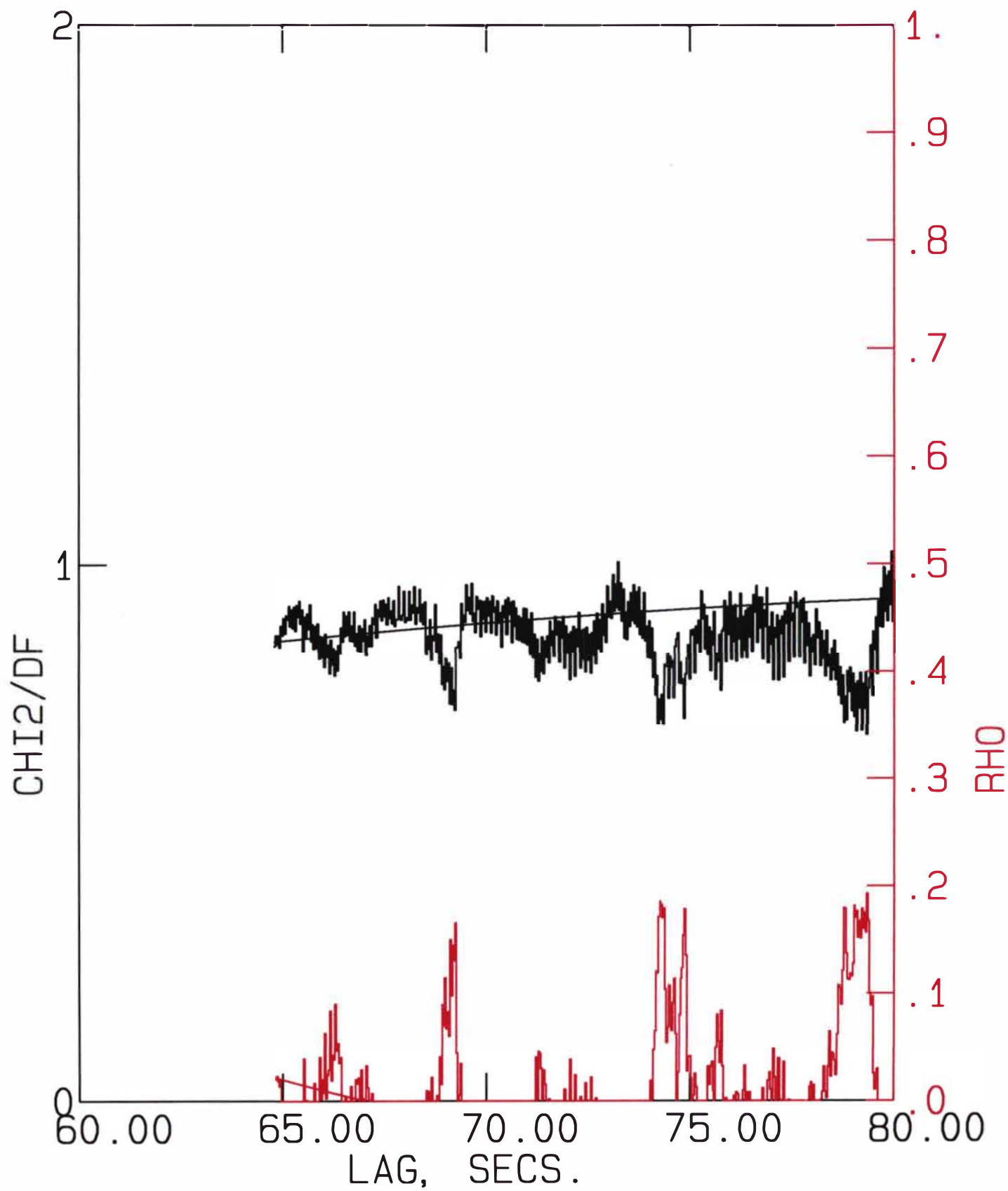
-BSAX-GRBM CORRELATION

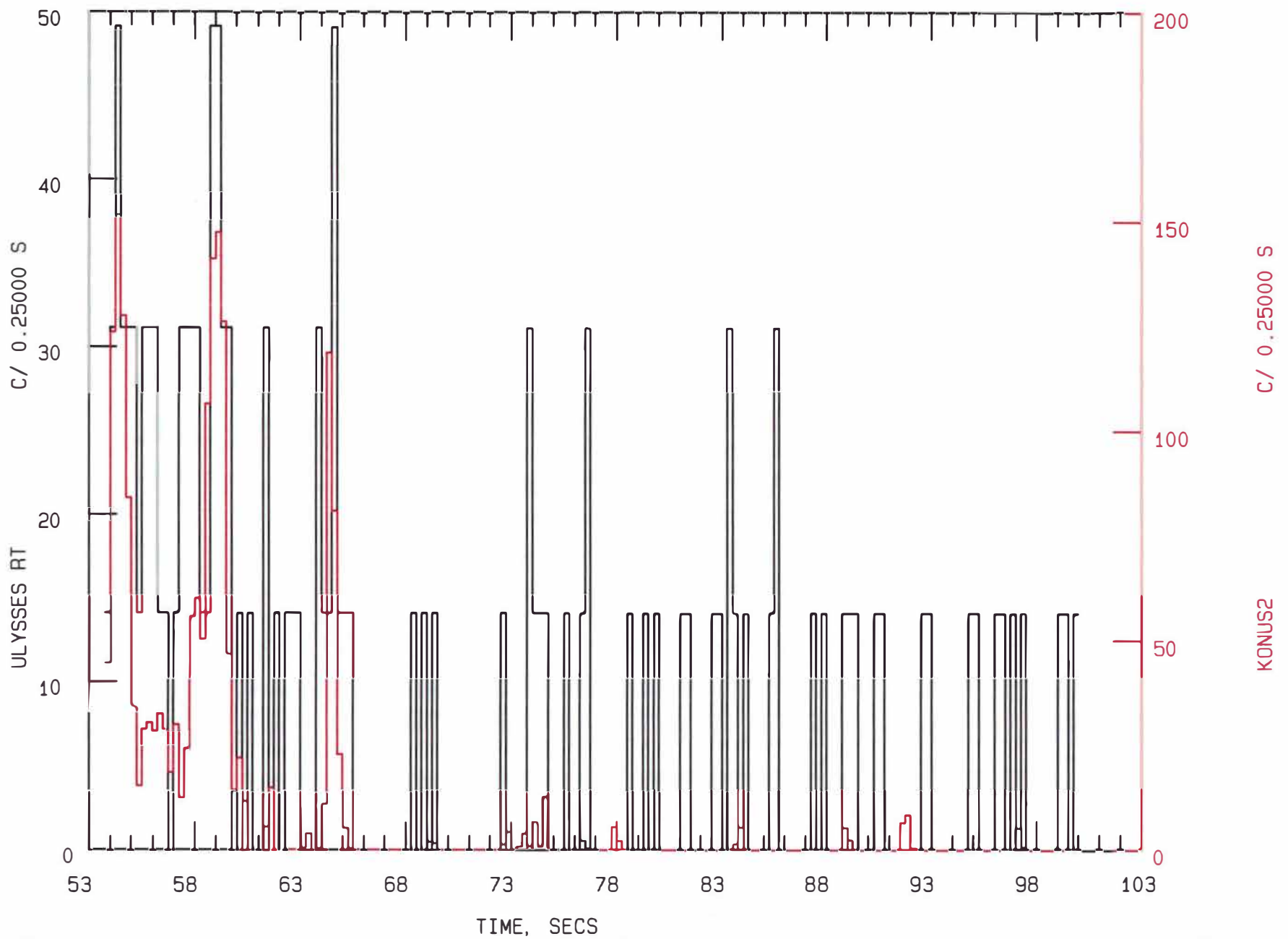
23/05/98

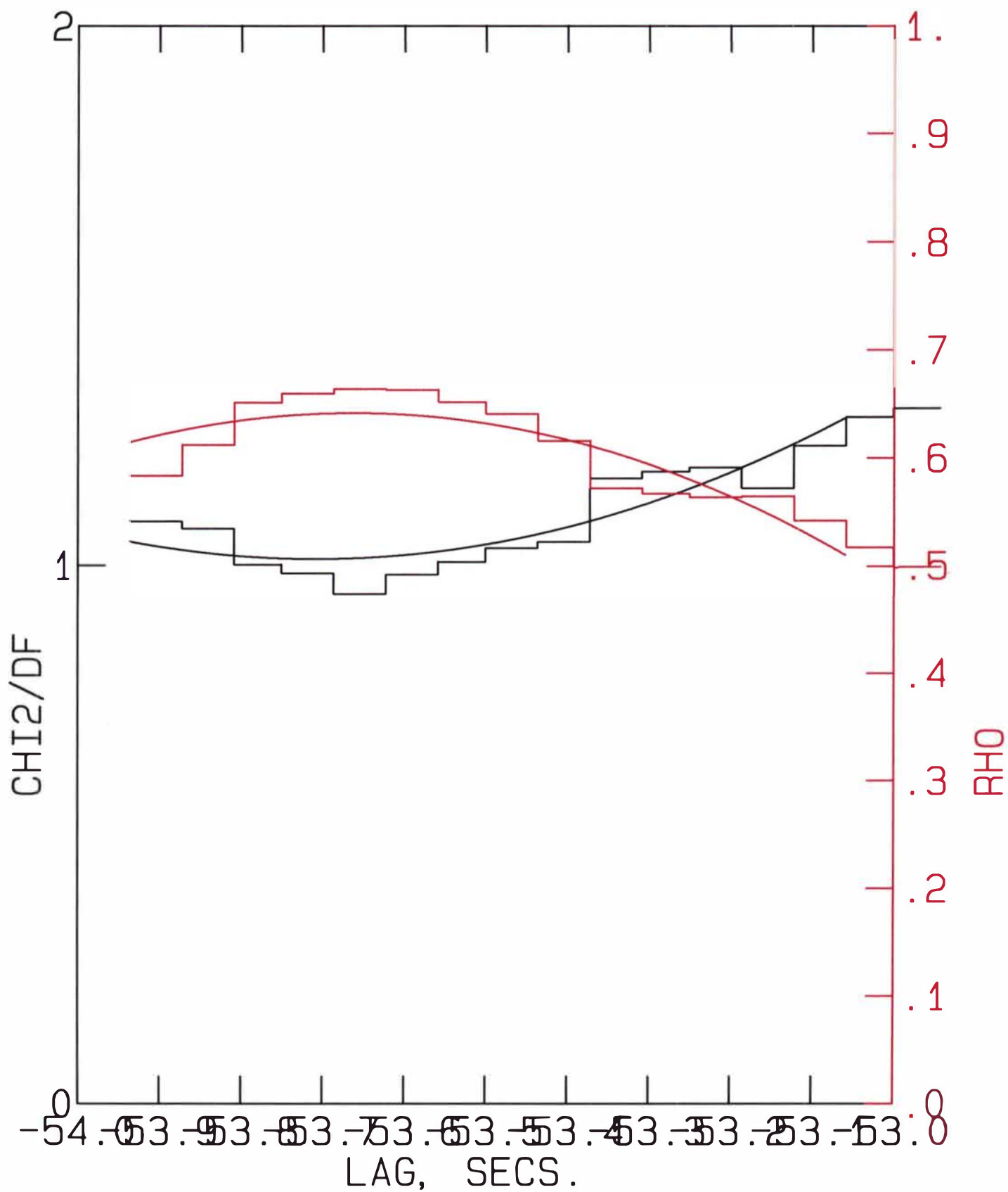
8600.843

27/10/ 9









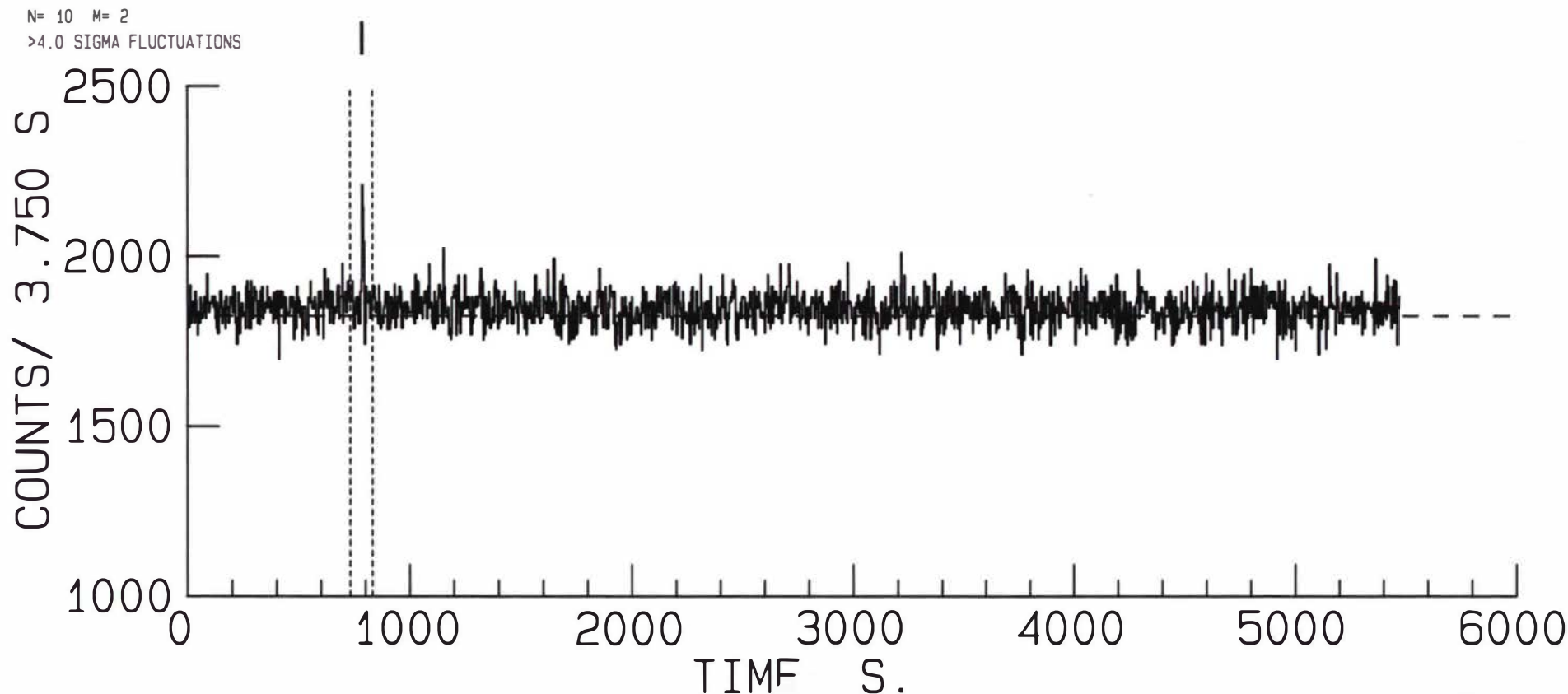
ULYSSES RT

27/10/9

23/ 5/98 5868.049 s

0.250 S INTERVALS REGROUPED BY 15

22- 150 keV



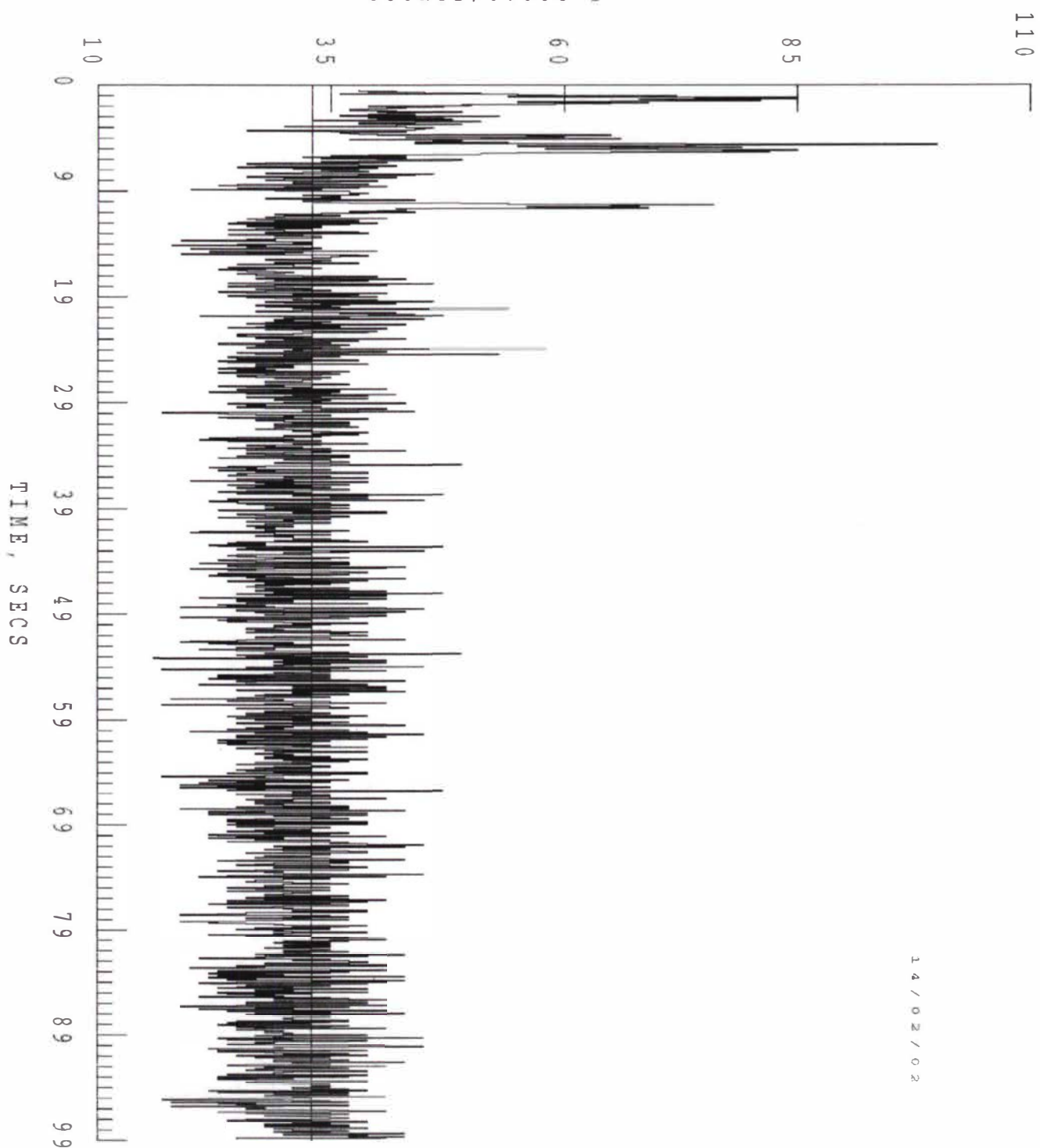
KONUS2

23/05/98

8600.843

50 - 200 keV

COUNTS/0.064 S



KONUS2 19980523 08600

ULYSSES RT

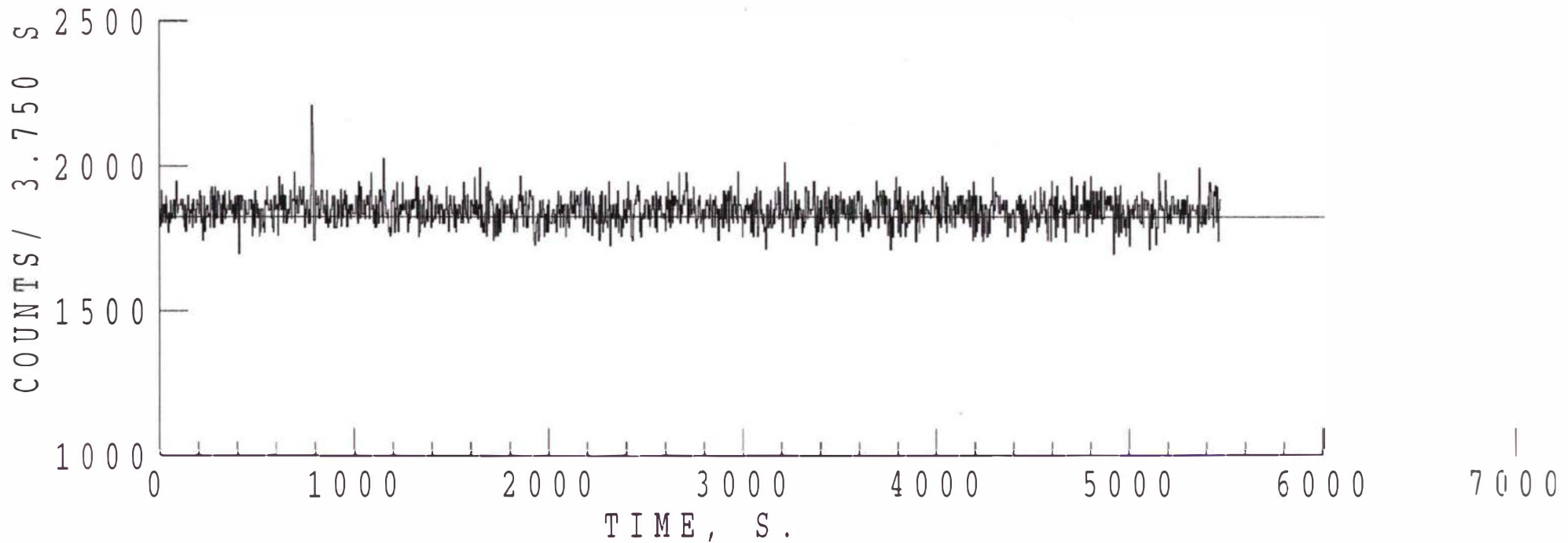
14 / 02 / 02

23 / 05 / 98 5868.049 s

0.250 S INTERVALS REGROUPED BY 15

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

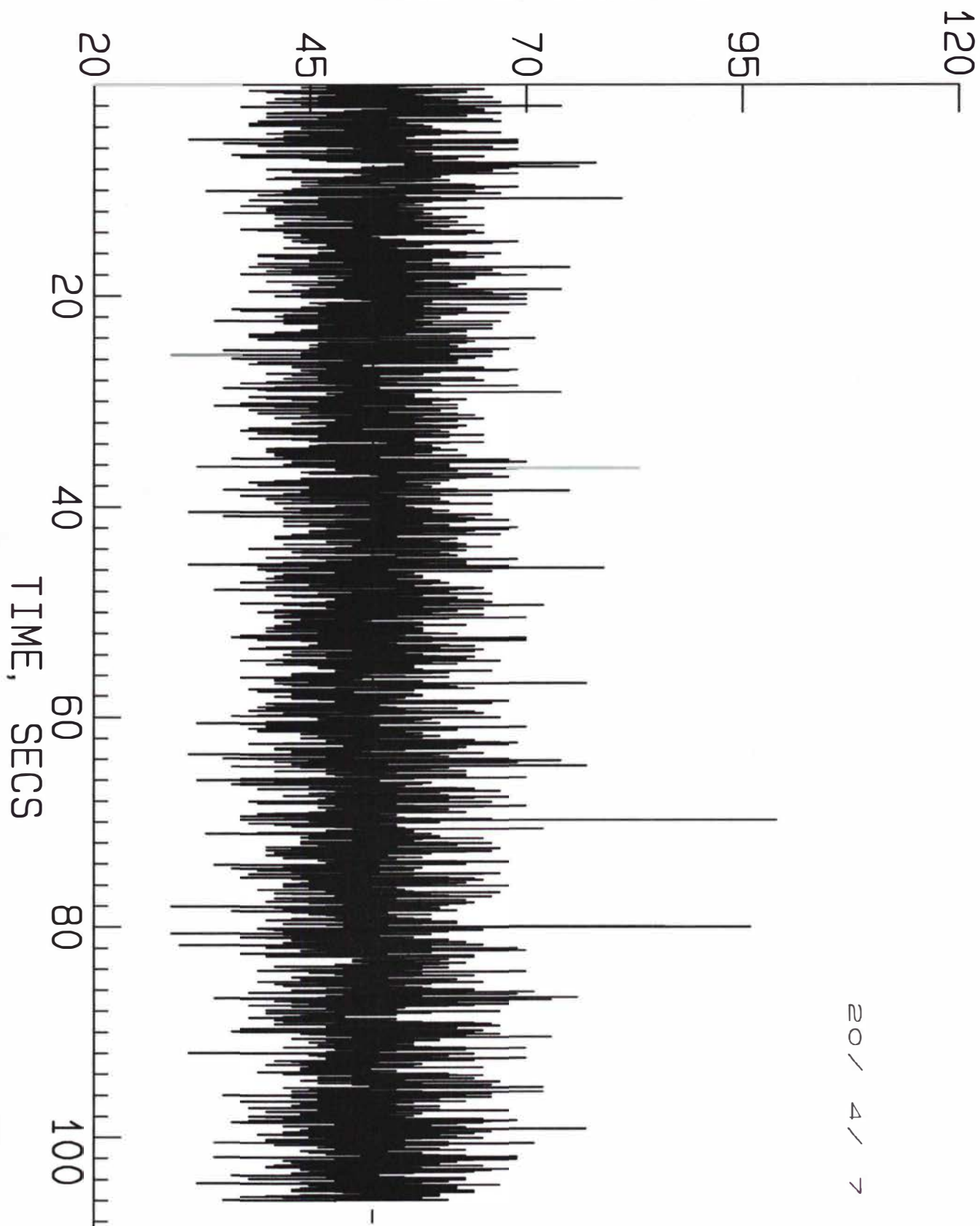


SAX GRBM

23/05/98 8604.662

40- 700 keV

COUNTS/0.031 S



From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:58:13 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:57:46 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6776

TIME: TJD=0956 SECONDS=19302

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

Date: Oct 17 '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

- ☐ 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?

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?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

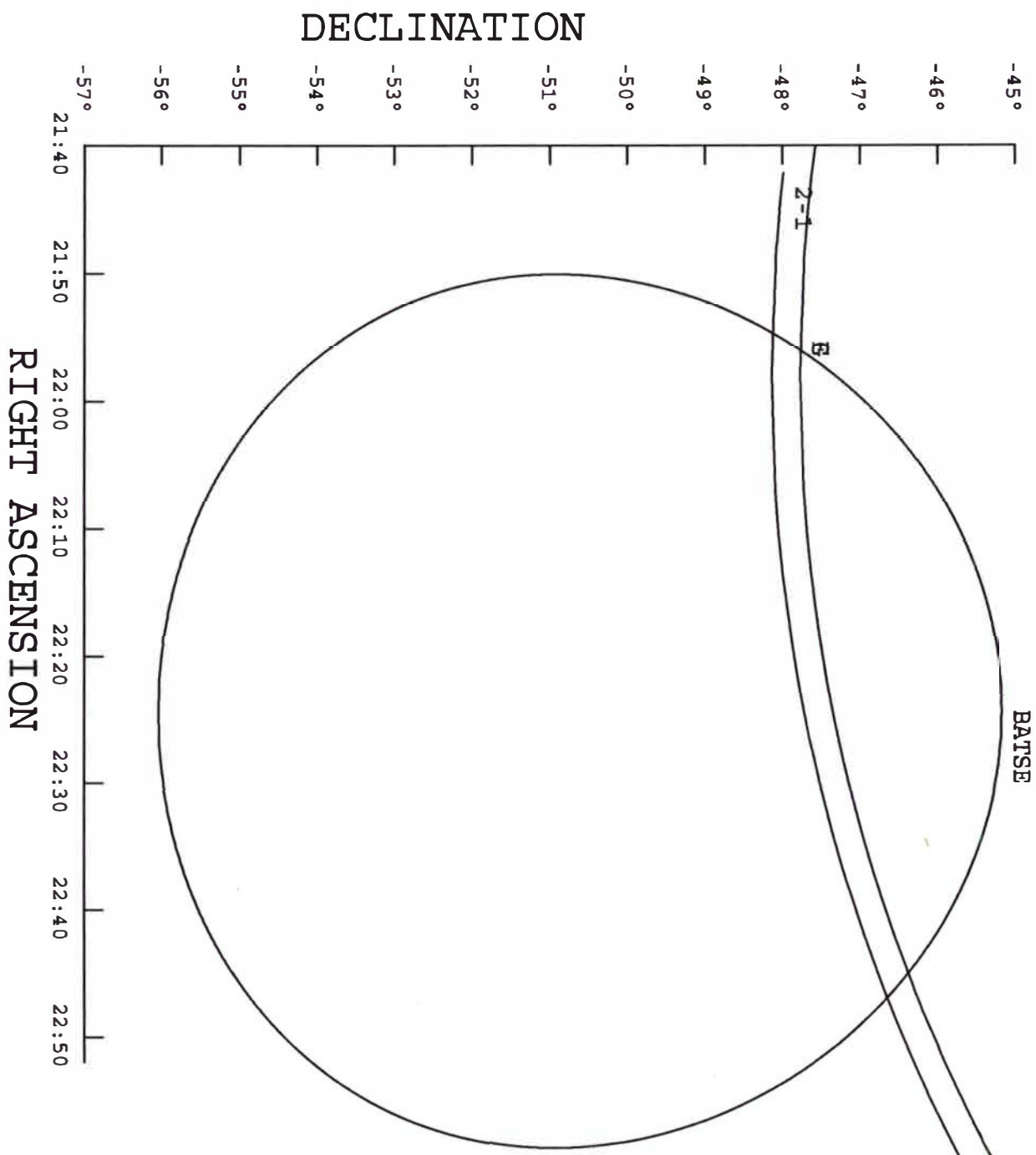
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAY 23, 1998 8:40

17/10/ 2



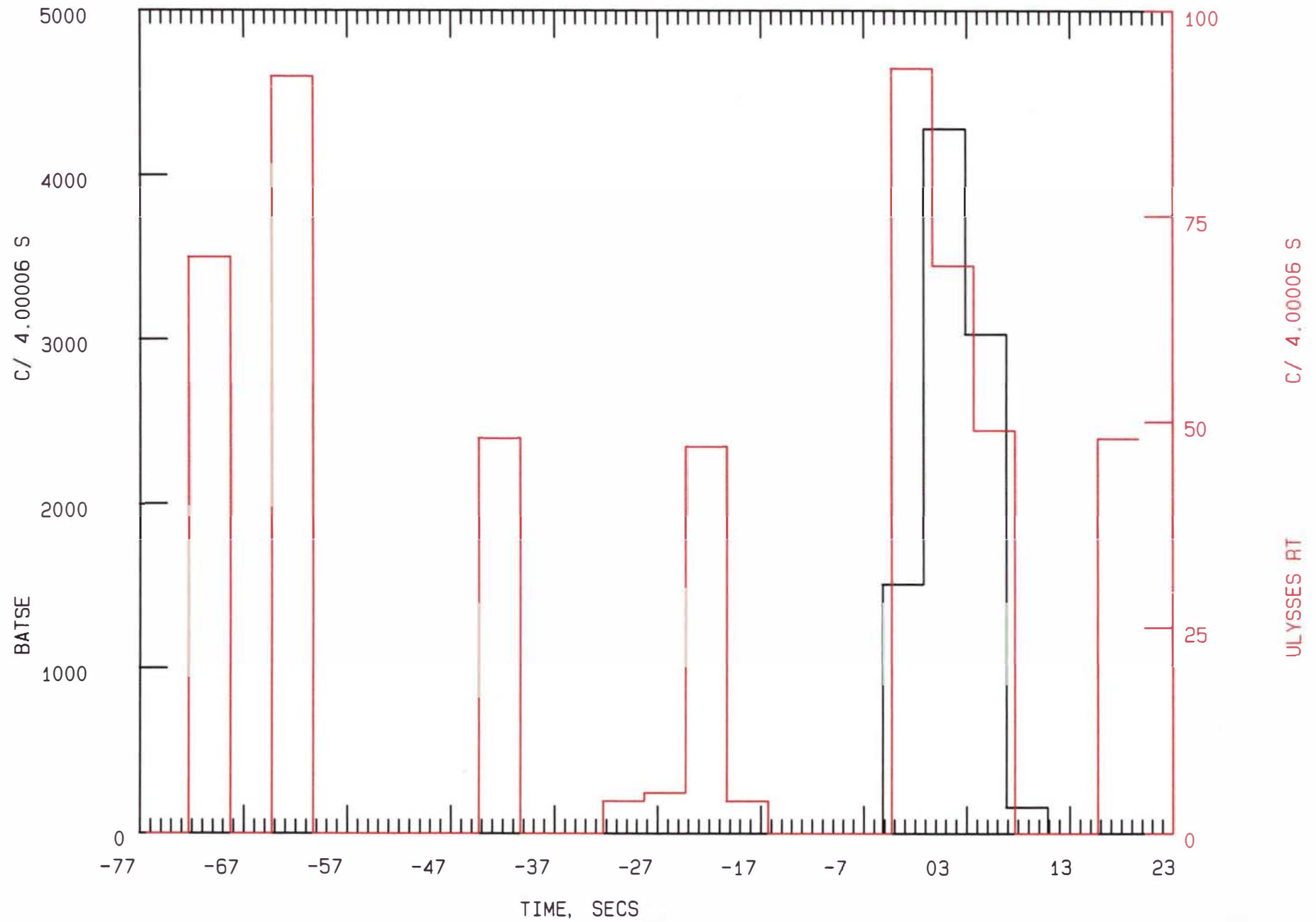
BATSE

-ULYSSES RT CORRELATION

23/05/98

31207.649

17/10/ 2



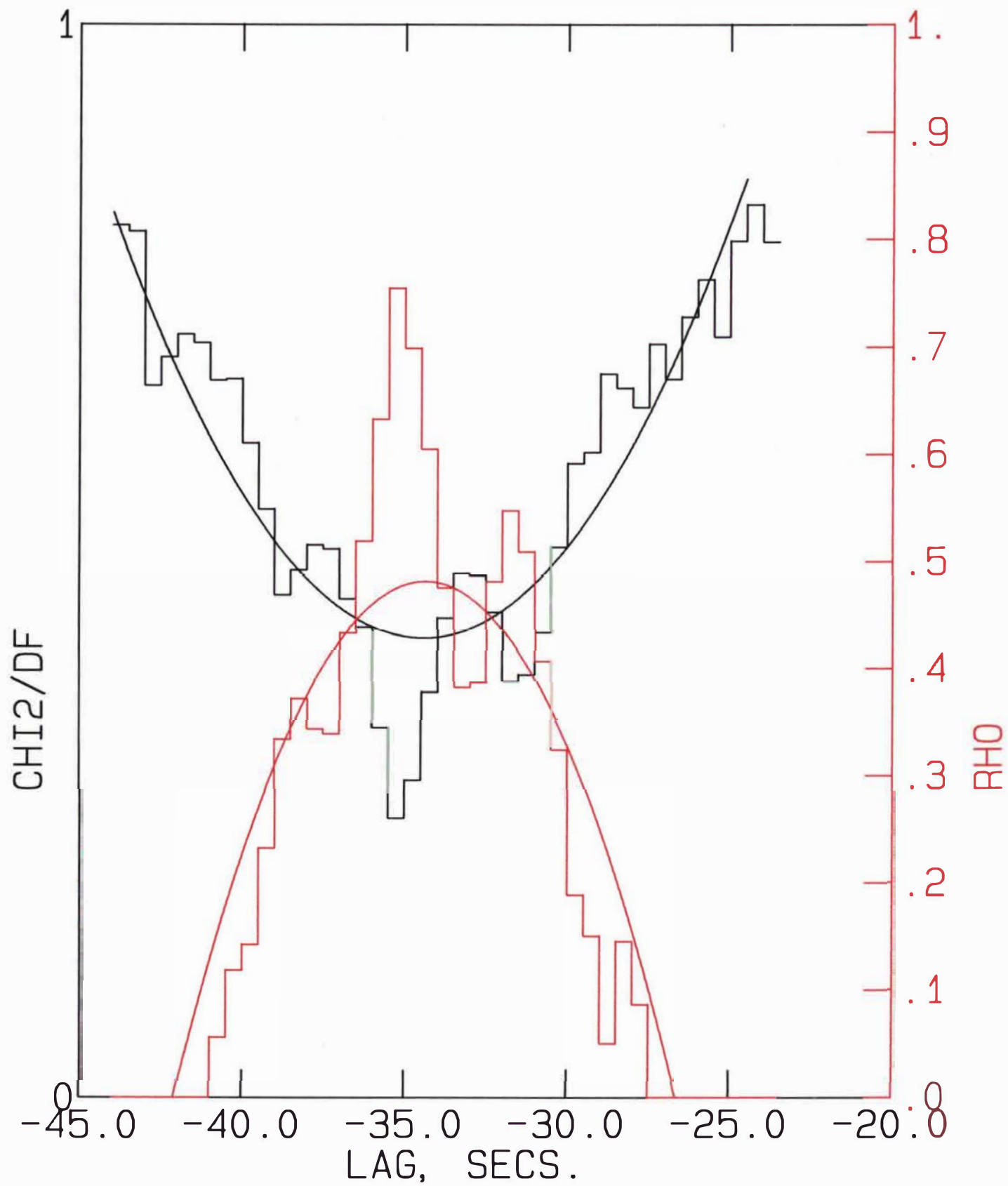
BATSE

-ULYSSES RT CORRELATION

23/05/98

31207.649

17/10/ 2



KONUS

ULYSSES RT

08/02/00

23/05/98 28476.035 s

0.500 S INTERVALS REGROUPED BY 8

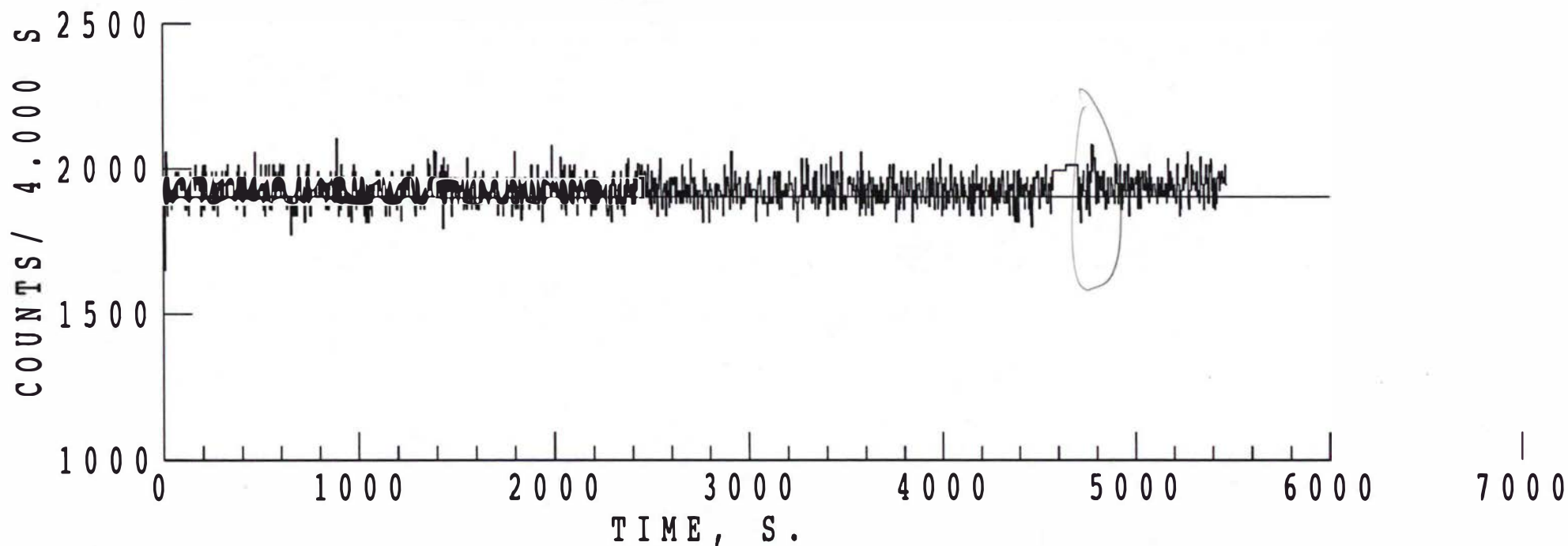
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue May 26 12:35:15 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 14:34:08 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6777

TIME: TJD=0956 SECONDS=46630

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=85.0 AZIMUTH=276.8 ERROR=6.3 DEGREES

COMMENTS:

TGF TWO SPIKES. FIRST WITH DURATION APPROX. = 0.002 SEC. SECOND WITH DURATION
APPROX. = 0.001 SEC. TOTAL DURATION APPROX. = 0.02 SEC. STRONGLY VISIBLE
ABOVE 300KEV.

From RICHARDSON@fender.msfc.nasa.gov Tue May 26 13:59:18 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 May 1998 15:58:48 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6778

TIME: TJD=0956 SECONDS=77382

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

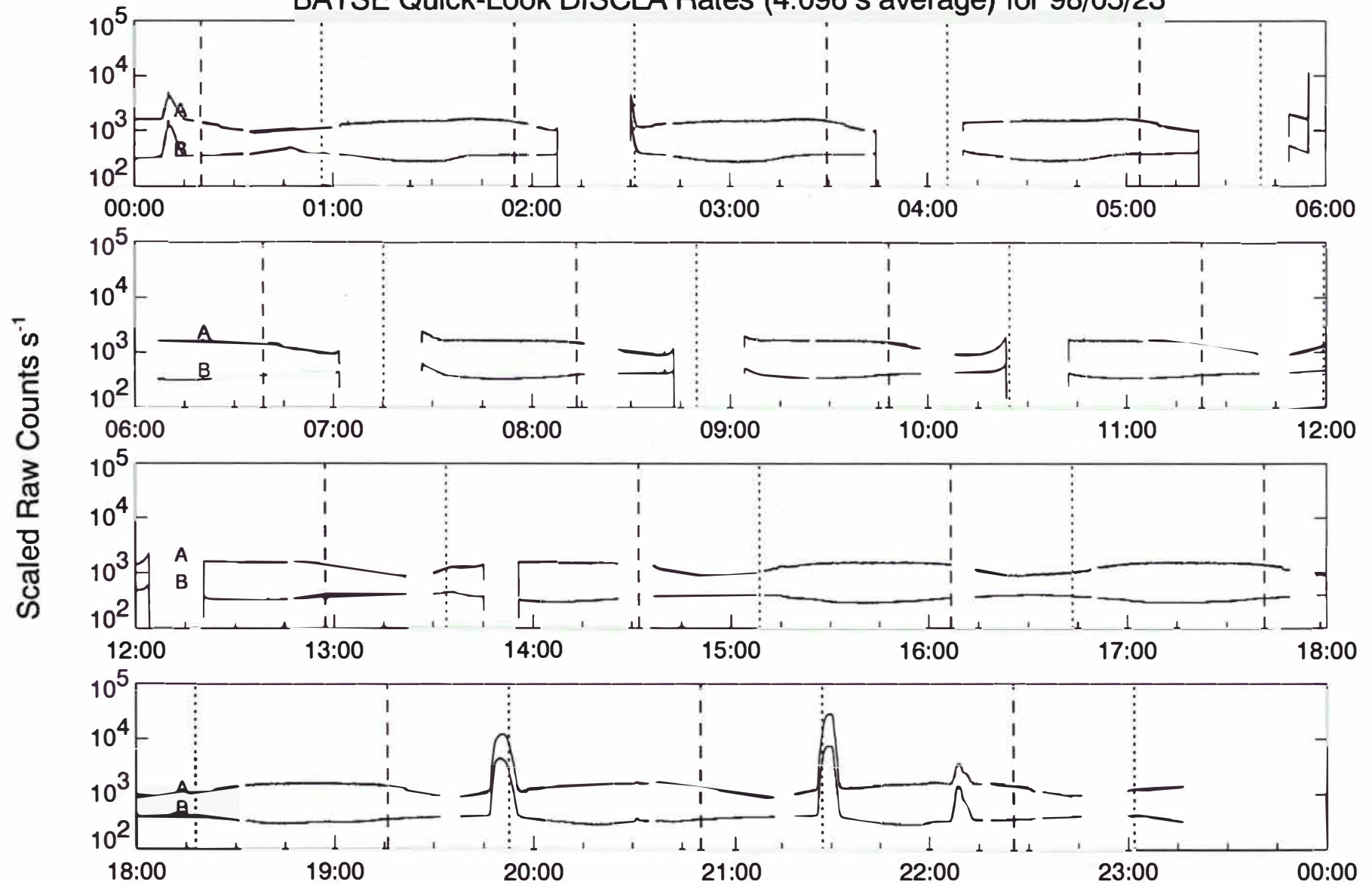
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

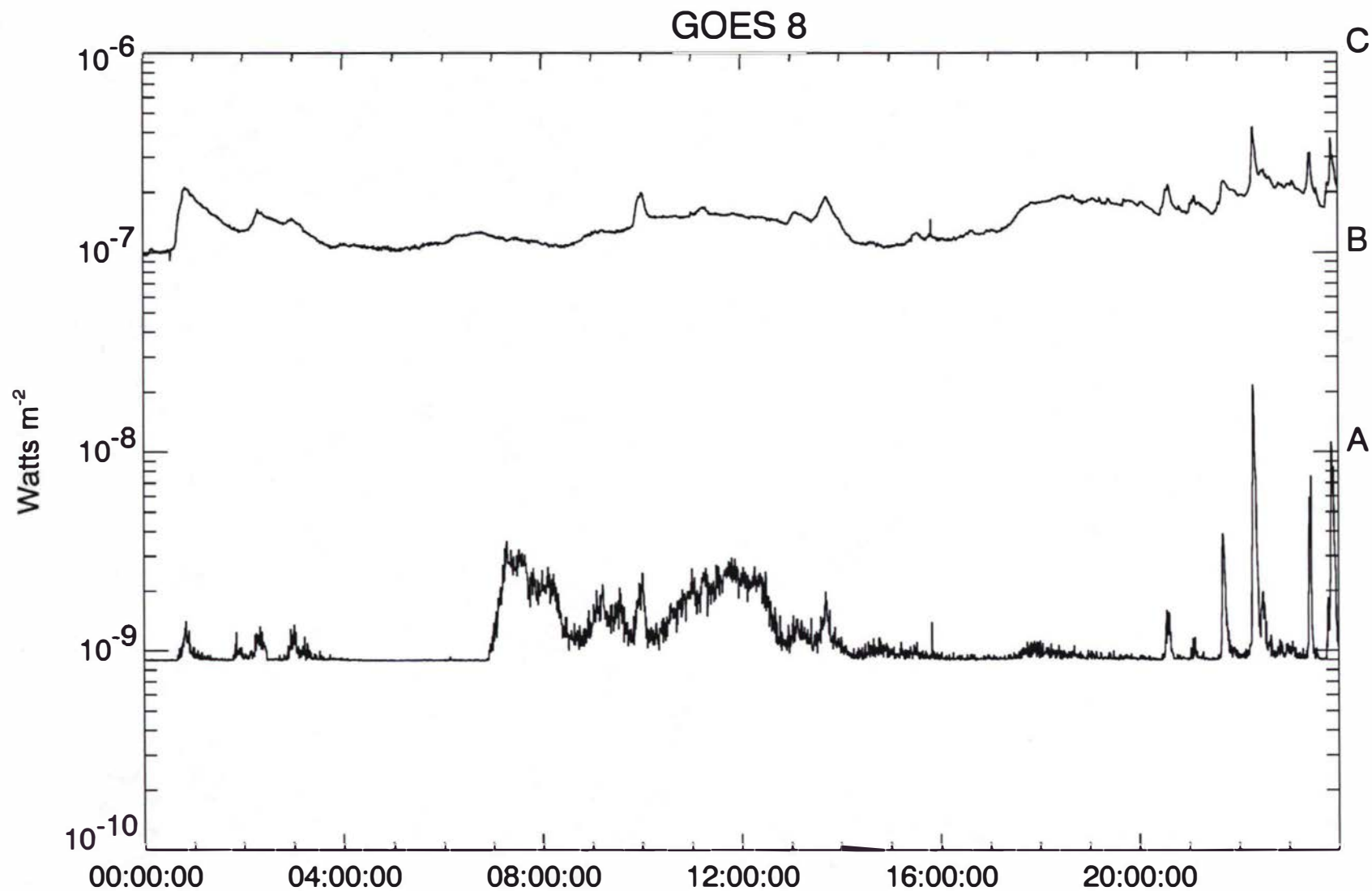
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/23



Current Time: 98/05/27, 1008 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



Data Start: 98/05/23, 0000:00

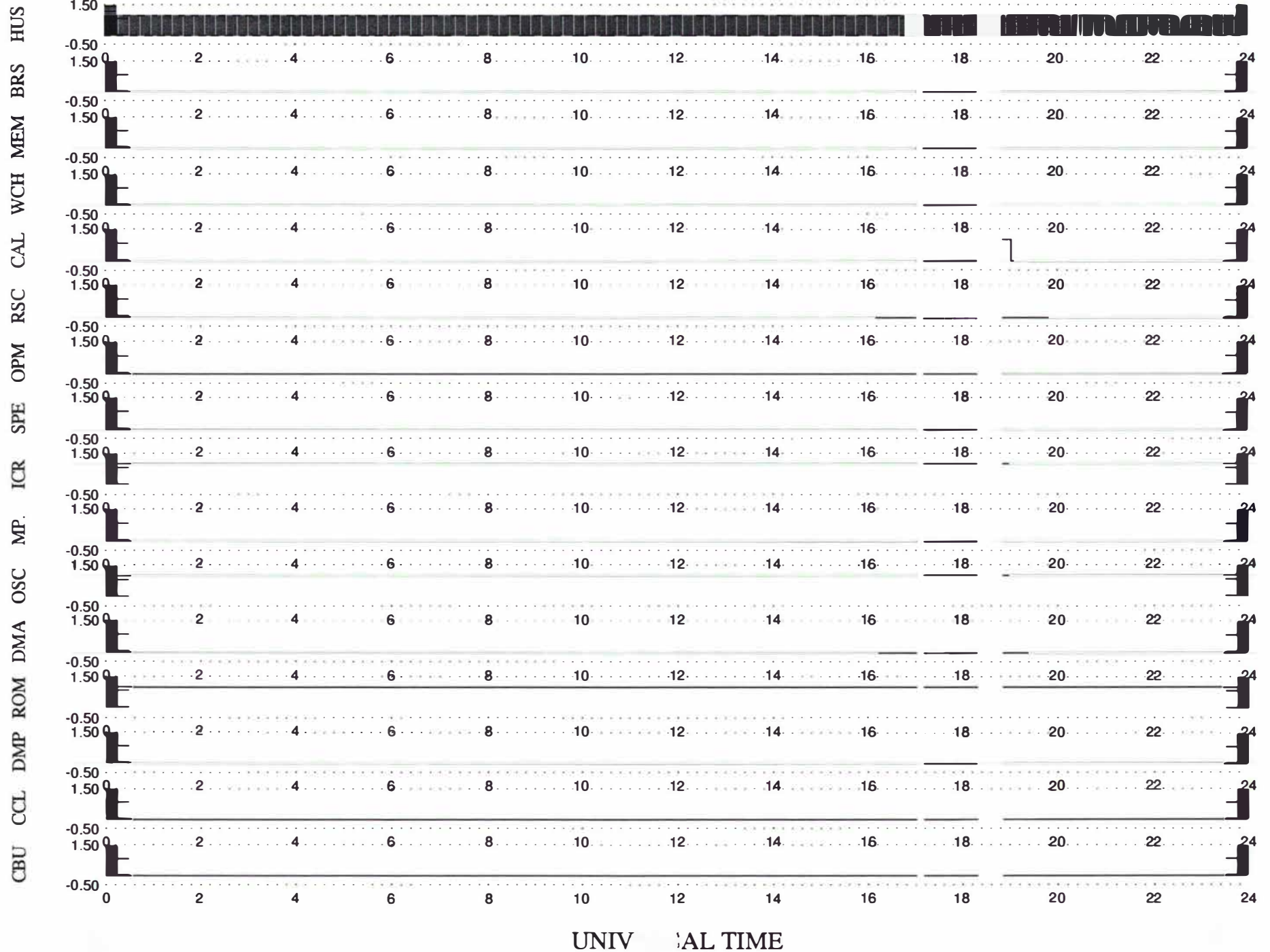
Plot created: 98/05/27, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

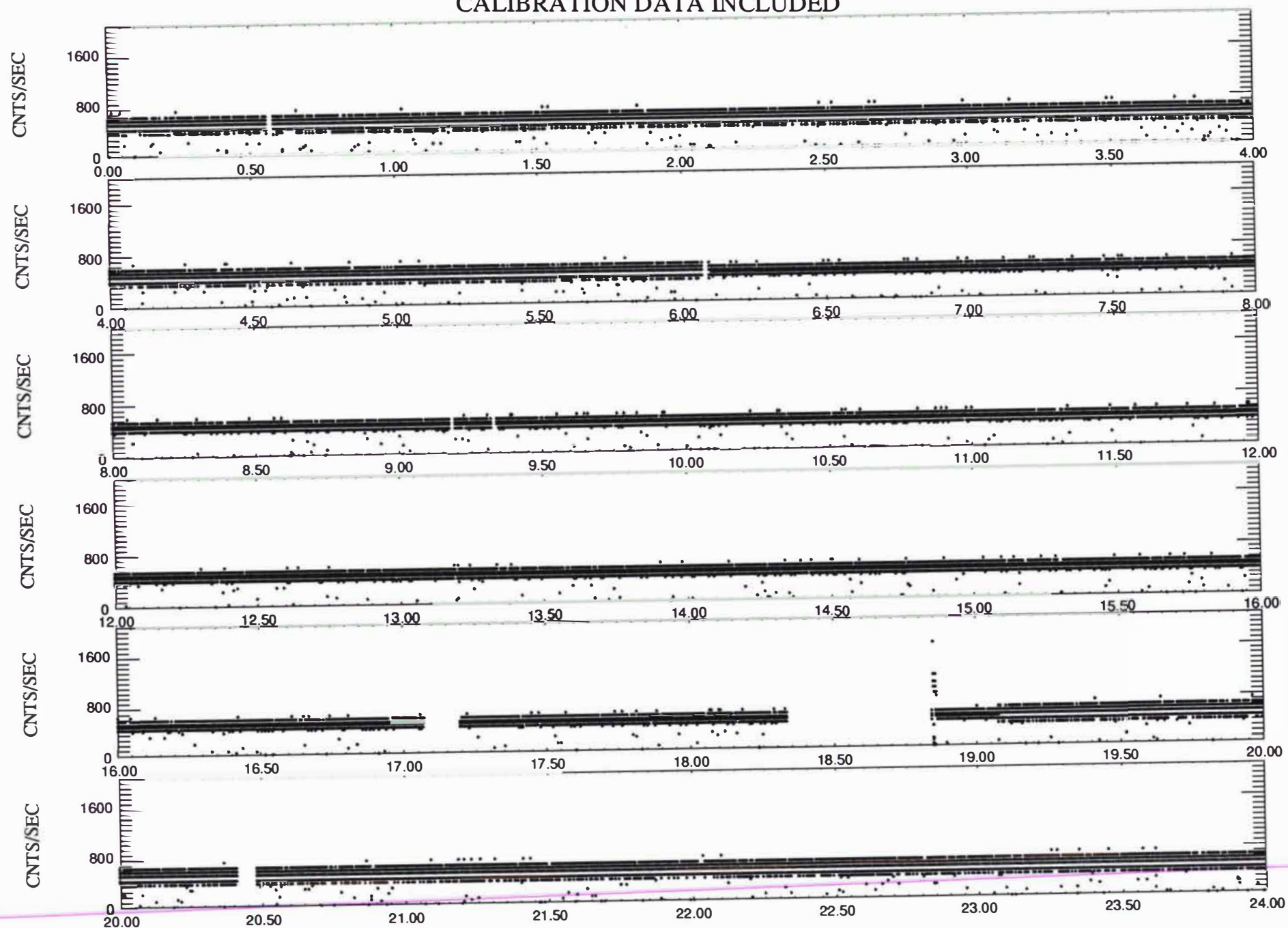
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

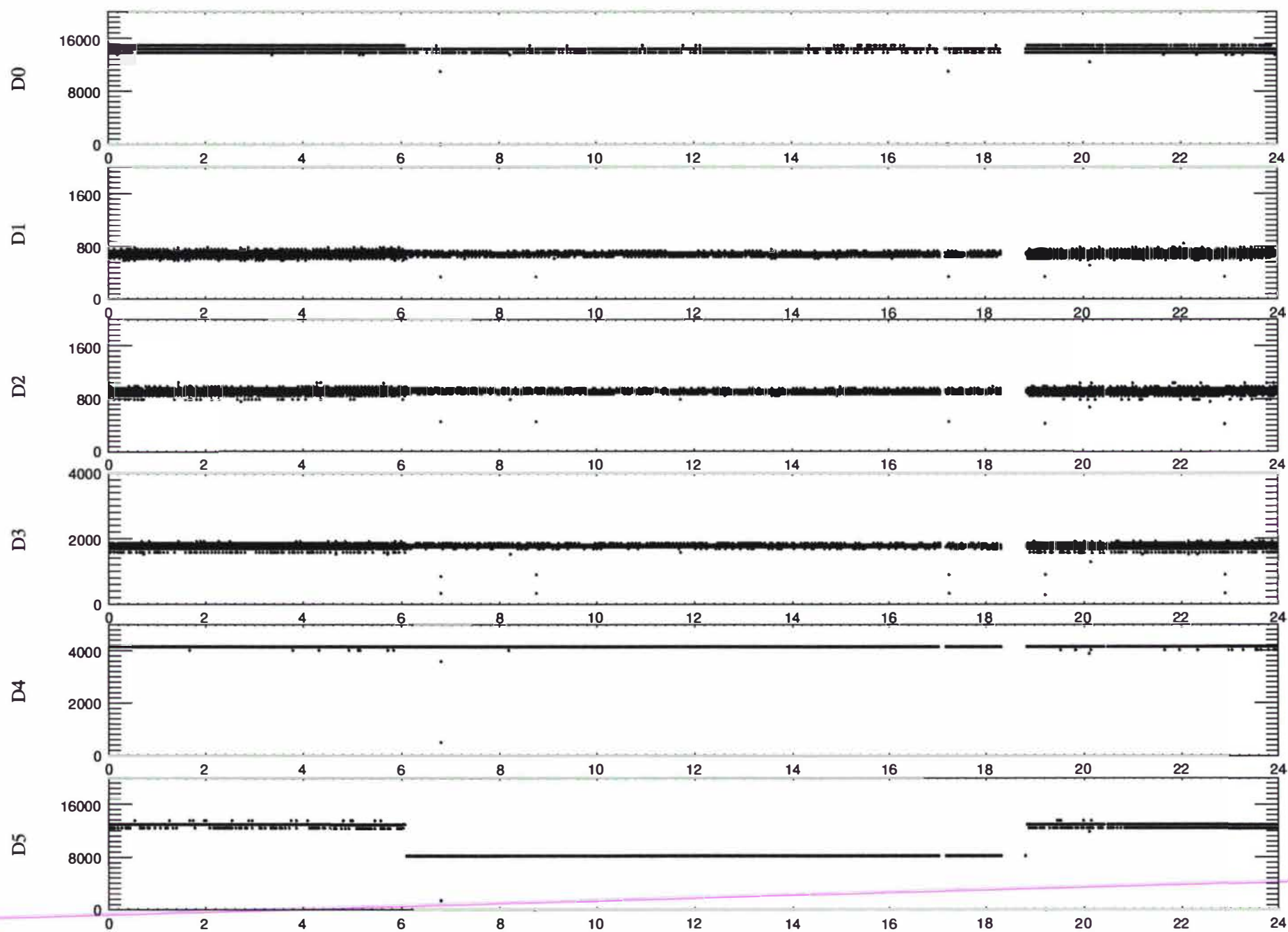
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV AL TIME



UNIV 'AL TIME

From HENZE@fender.msfc.nasa.gov Tue May 26 12:31:30 1998
Date: Tue, 26 May 1998 14:29:14 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6780

TIME: TJD=0957 SECONDS=48227

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT T+17 S.

From HENZE@fender.msfc.nasa.gov Tue May 26 12:36:49 1998
Date: Tue, 26 May 1998 14:36:37 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6781

TIME: TJD=0957 SECONDS=84241

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

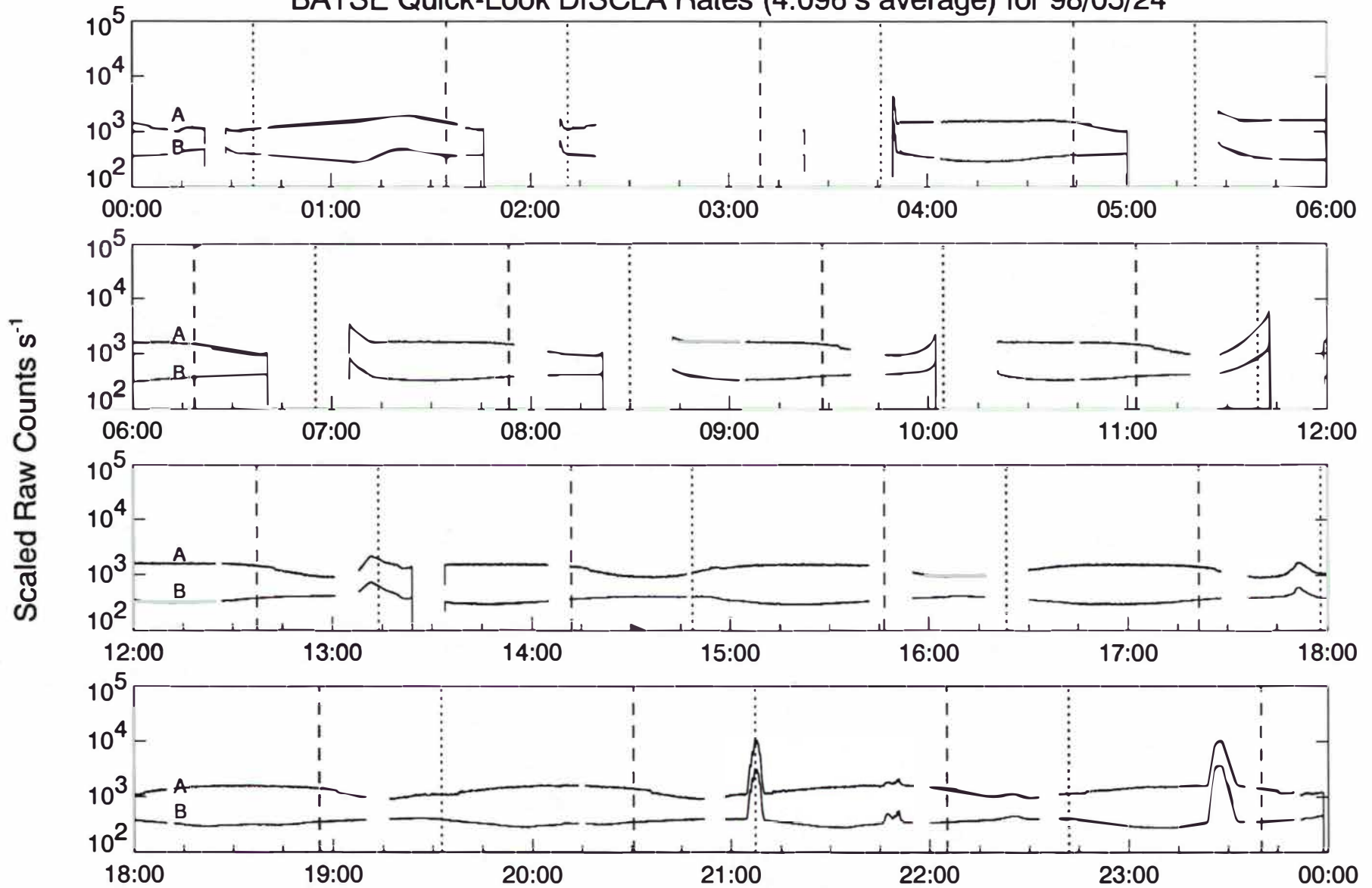
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT, OVER WESTERN NORTH AMERICA.

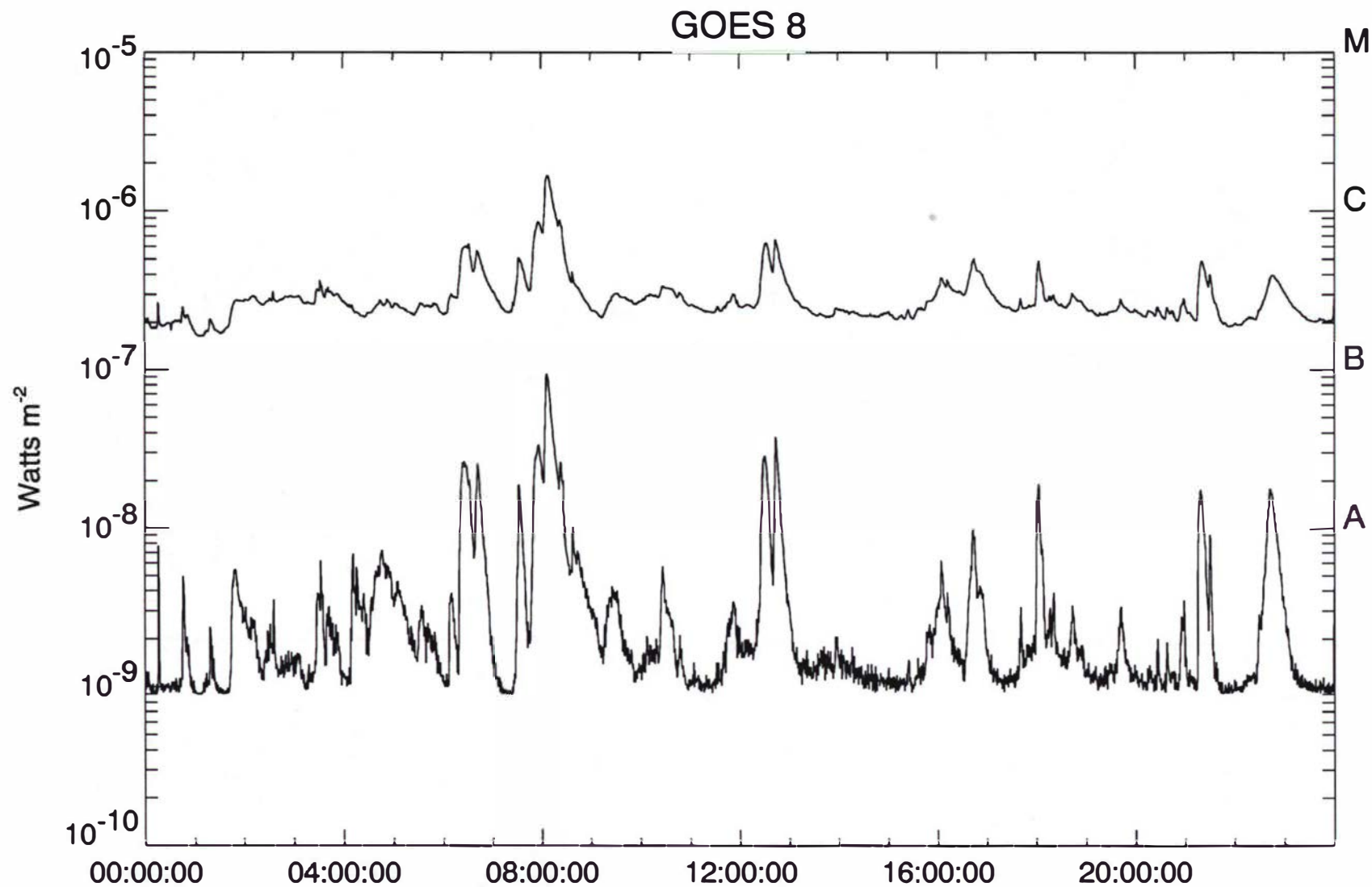
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/24



Current Time: 98/05/28, 1008 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

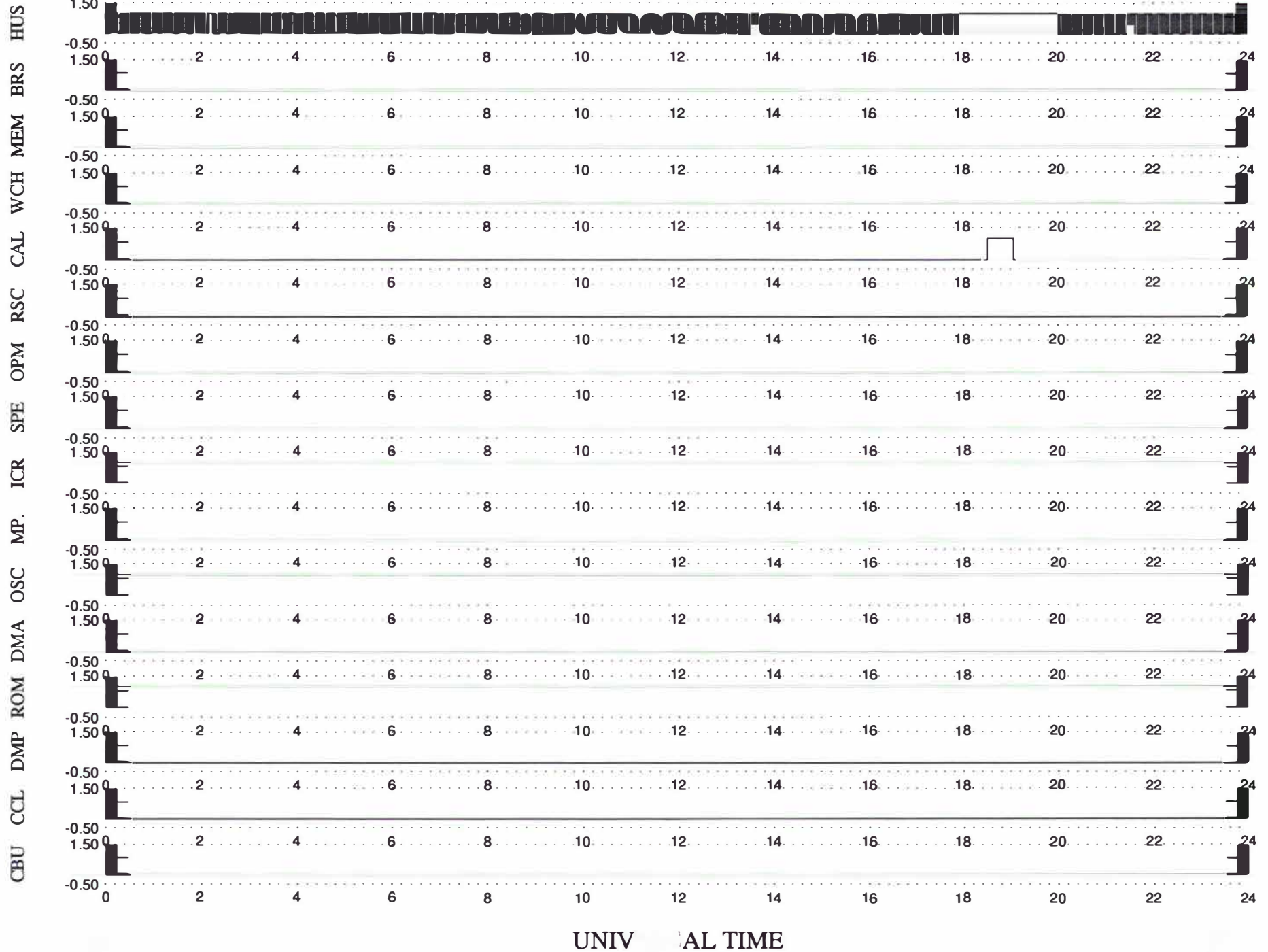


Data Start: 98/05/24, 0000:00

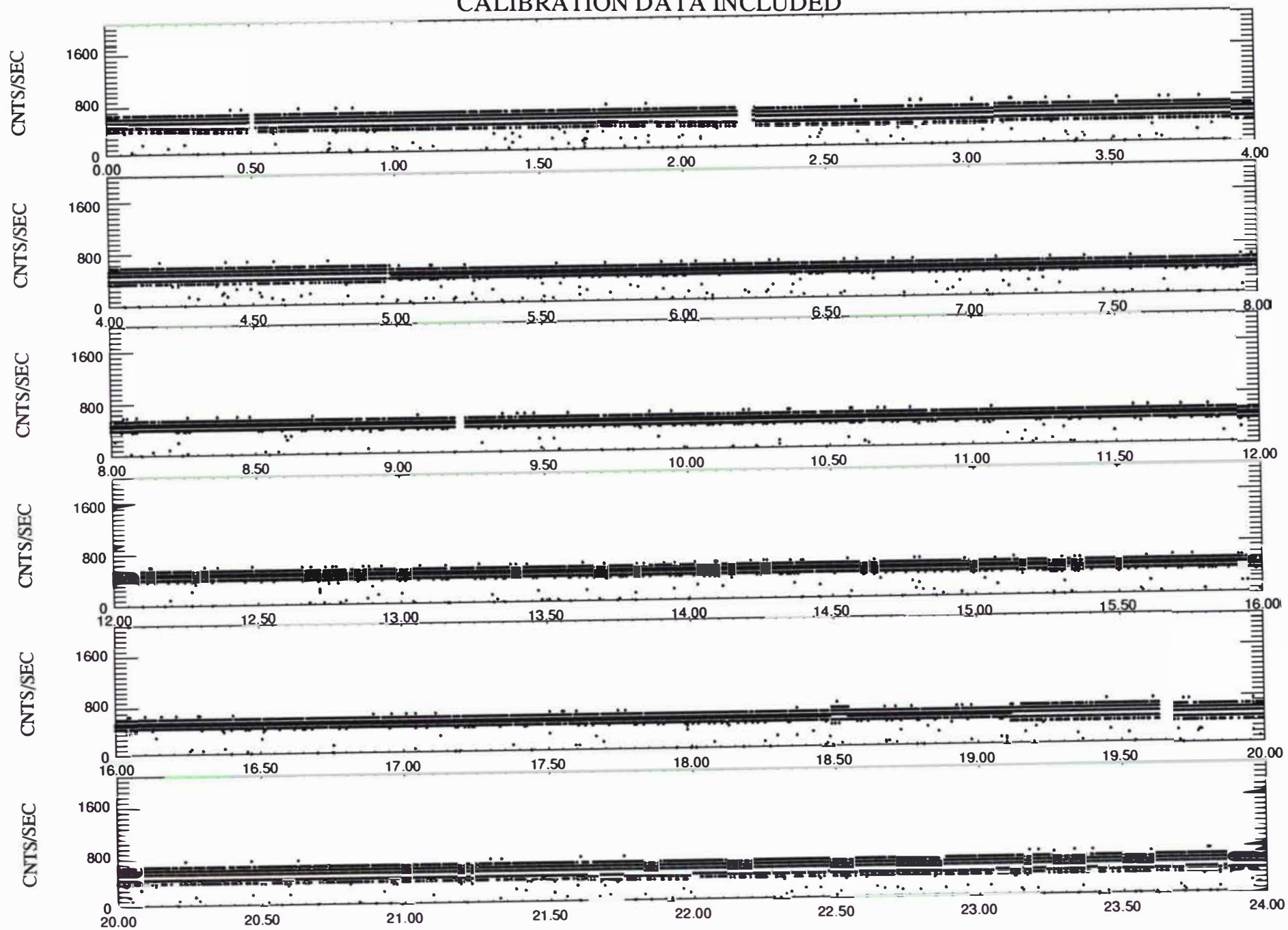
Plot created: 98/05/28, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
Sample average = 10

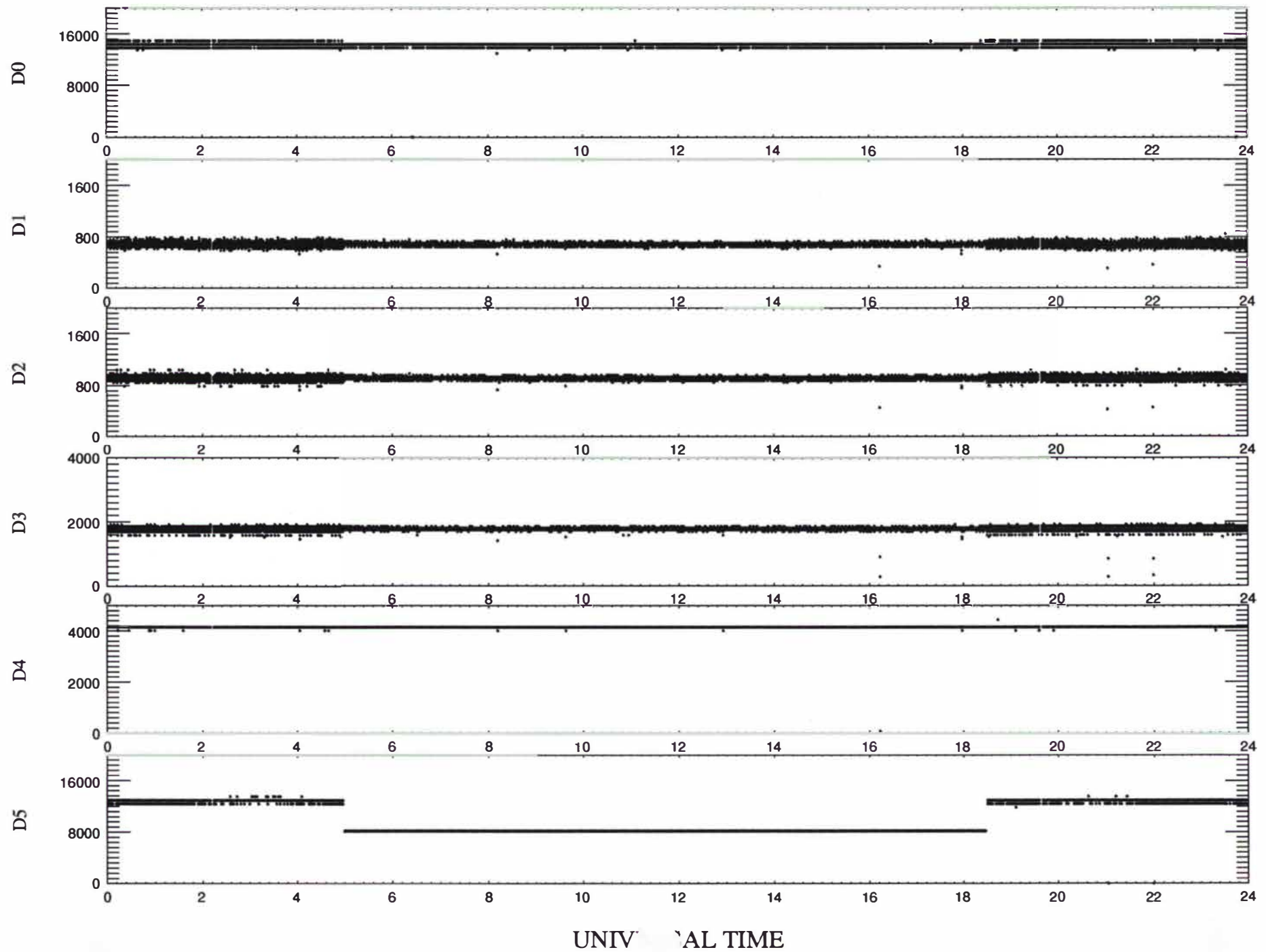
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



From HENZE@fender.msfc.nasa.gov Wed May 27 12:19:04 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA16404; Wed, 27 May 1998 12:19:03 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA07017; Wed, 27 May 1998 12:19:02 -0700
Date: Wed, 27 May 1998 14:19:02 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980527141902.20210e74@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6782
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6782
EVENT OF 1998 MAY 25 DAY OF YEAR=145
EVENT CROSSING TIME AT BATSE : 9287. S. OR 02:34:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 158.000 -18.000
BATSE PEAK COUNTING RATE: 5600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/ 5/ 98 IS:
RA= 148.828 DEC= 11.779 DIST= 5.434 AU
BATSE-ULYSSES DISTANCE = 812967277. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.87 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2321.38 SECS.
CROSSING TIME AT ULYSSES IS 6966. S. OR 01:56:05 +/- 258.11 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/ 5/ 98 IS:
RA= 58.415 DEC= 20.448 DIST= 2.503 AU
MARS-BATSE DISTANCE = 374429984. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 320.16 SECS.
CROSSING TIME AT MARS IS 9607. S. OR 02:40:07 +/- 214.46 SECONDS

BATSE BURST TRIGGER

NO.: 6782

TIME: TJD=0958 SECONDS= 9287

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

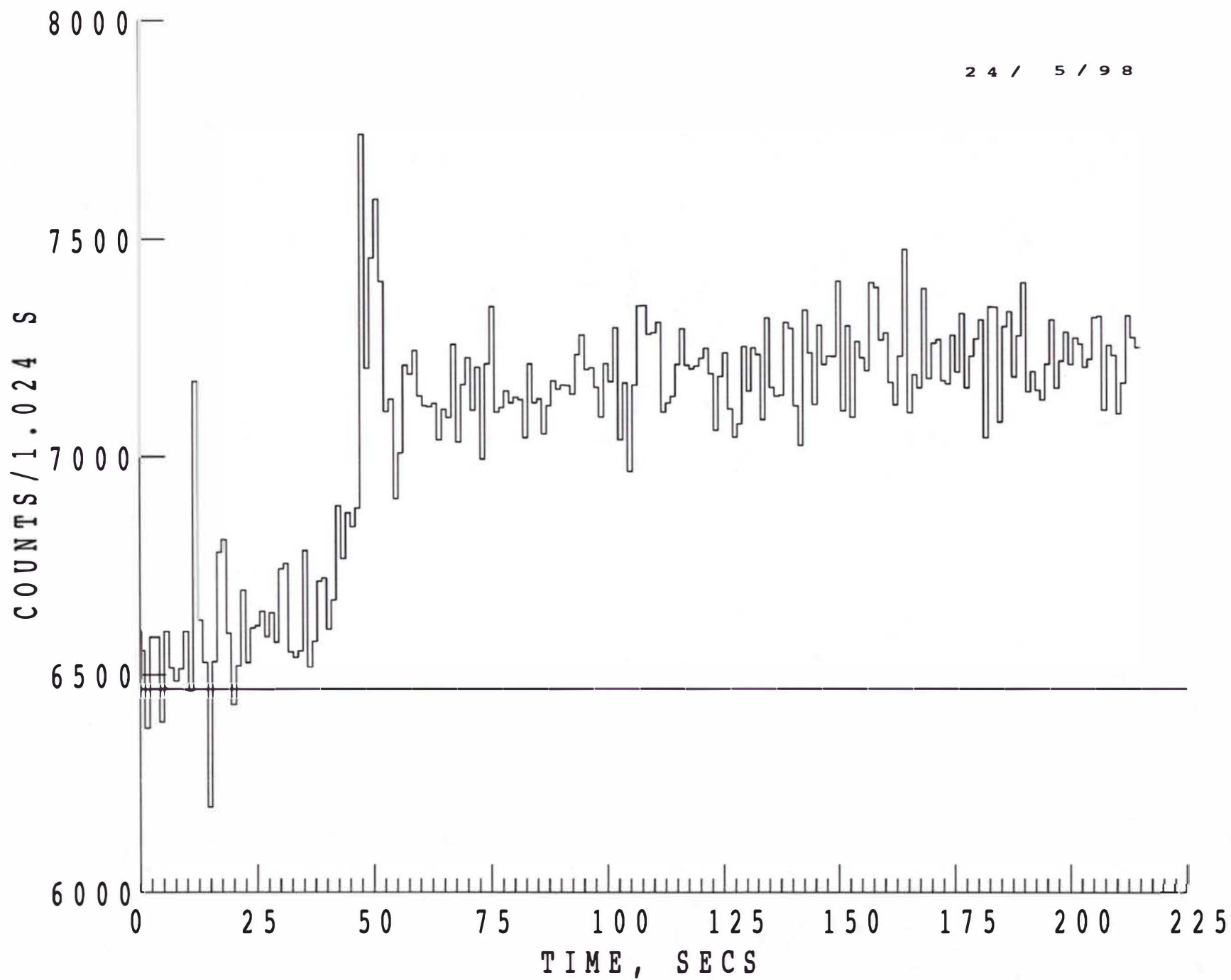
LOCATION: ZENITH=105.7 AZIMUTH=115.3 ERROR= 6.8 DEGREES

COMMENTS:

COMPLEX WITH MULTIPLE SPIKES. TOTAL DUR. APPROX. 40 S.
DUR. OF TRIGGER SPIKE APPROX. 0.6 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6782	980525	10958	09287	5600	158	-18	40

BACODINE 6782 25/05/98 9276.129
25- 100 keV



BATSE BURST# 6782

ULYSSES RT

28 / 5 / 98

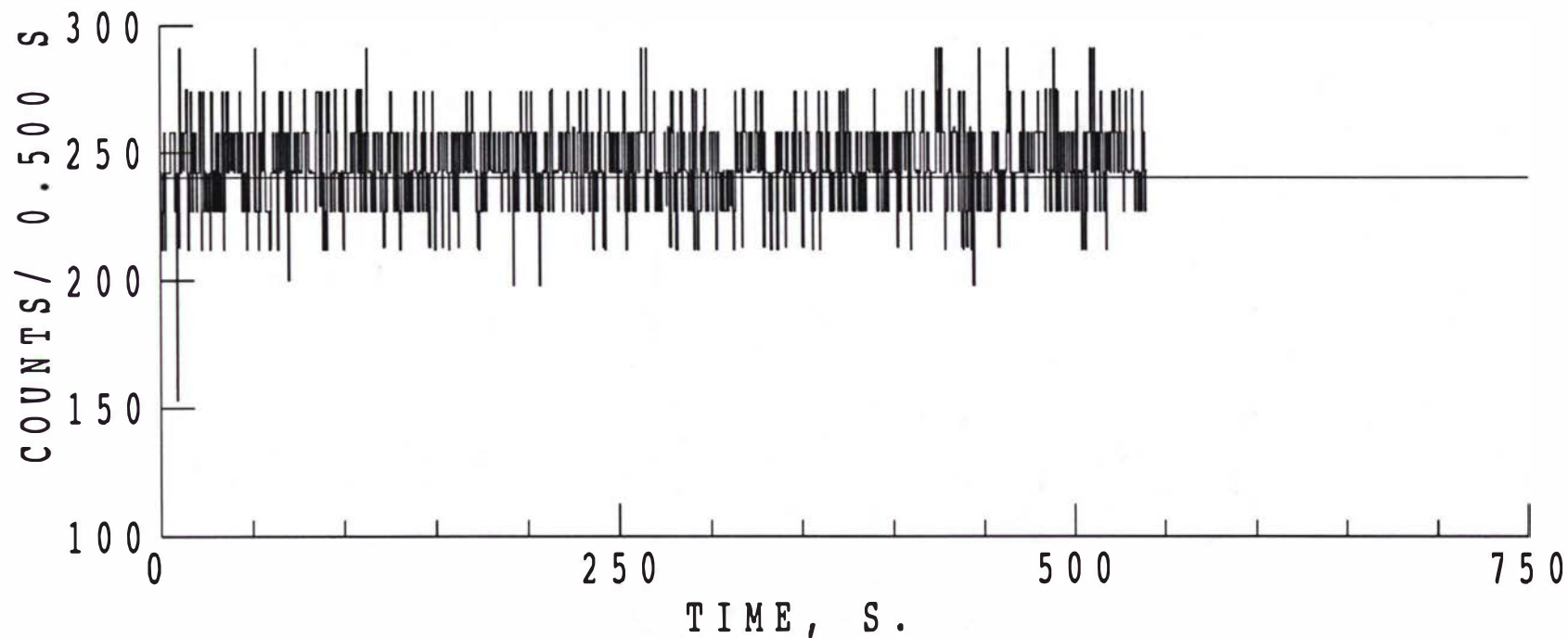
25 / 5 / 98 6696.142 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Tue May 26 13:15:25 1998
Date: Tue, 26 May 1998 15:15:09 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6783

TIME: TJD=0958 SECONDS=46958

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

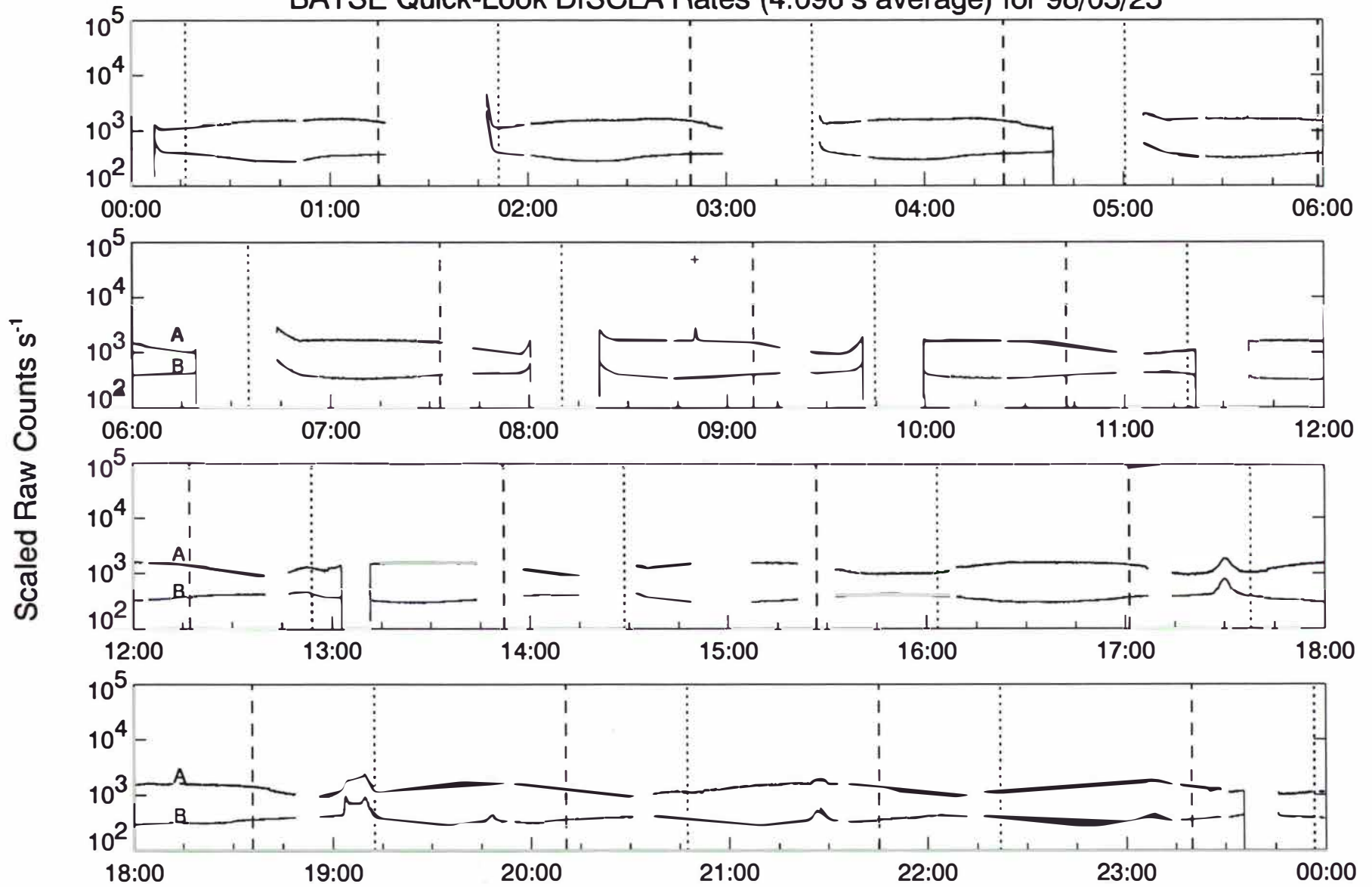
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT T+18 S.

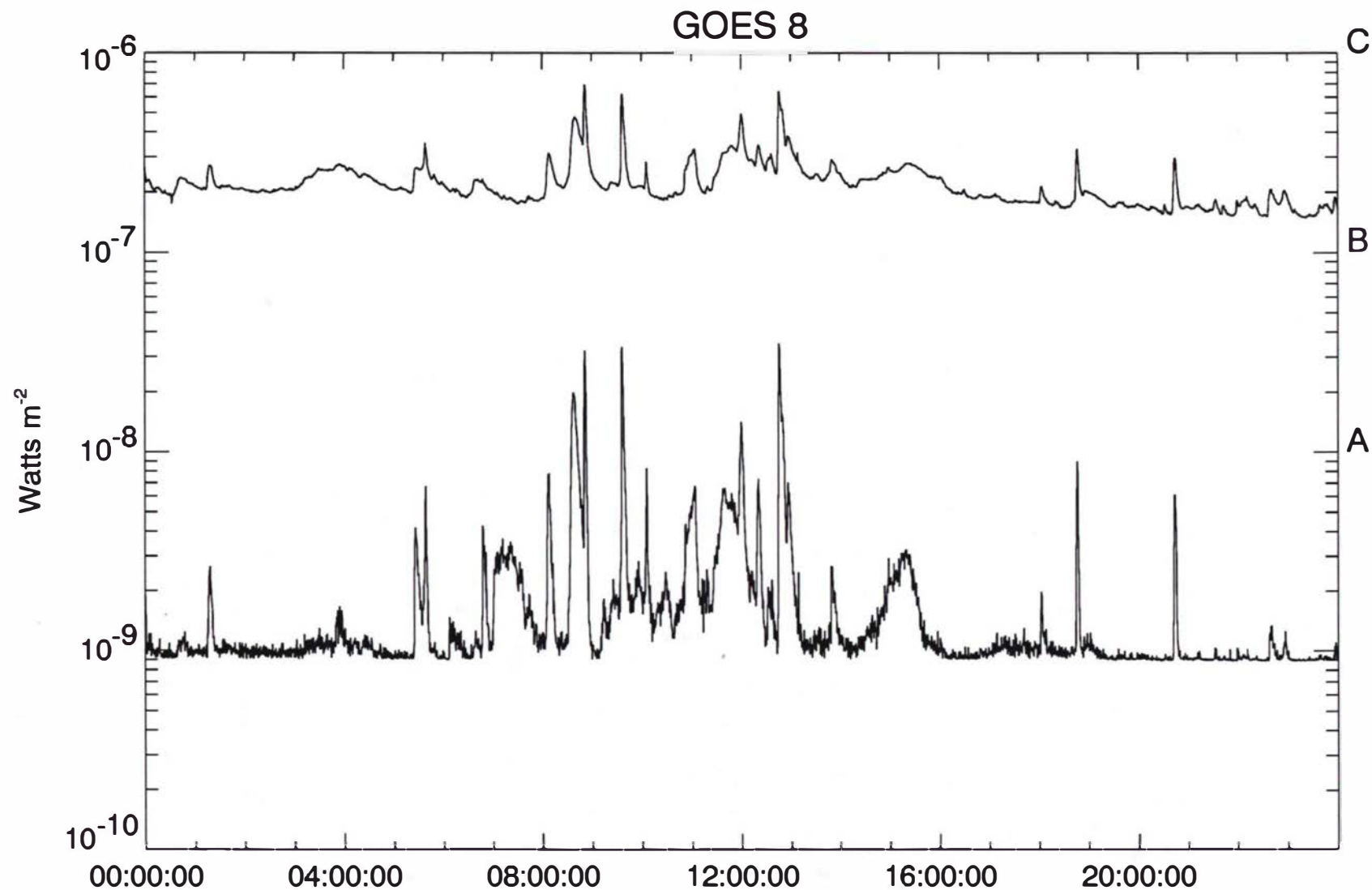
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/25



Current Time: 98/05/29, 1009 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



Data Start: 98/05/25, 0000:00

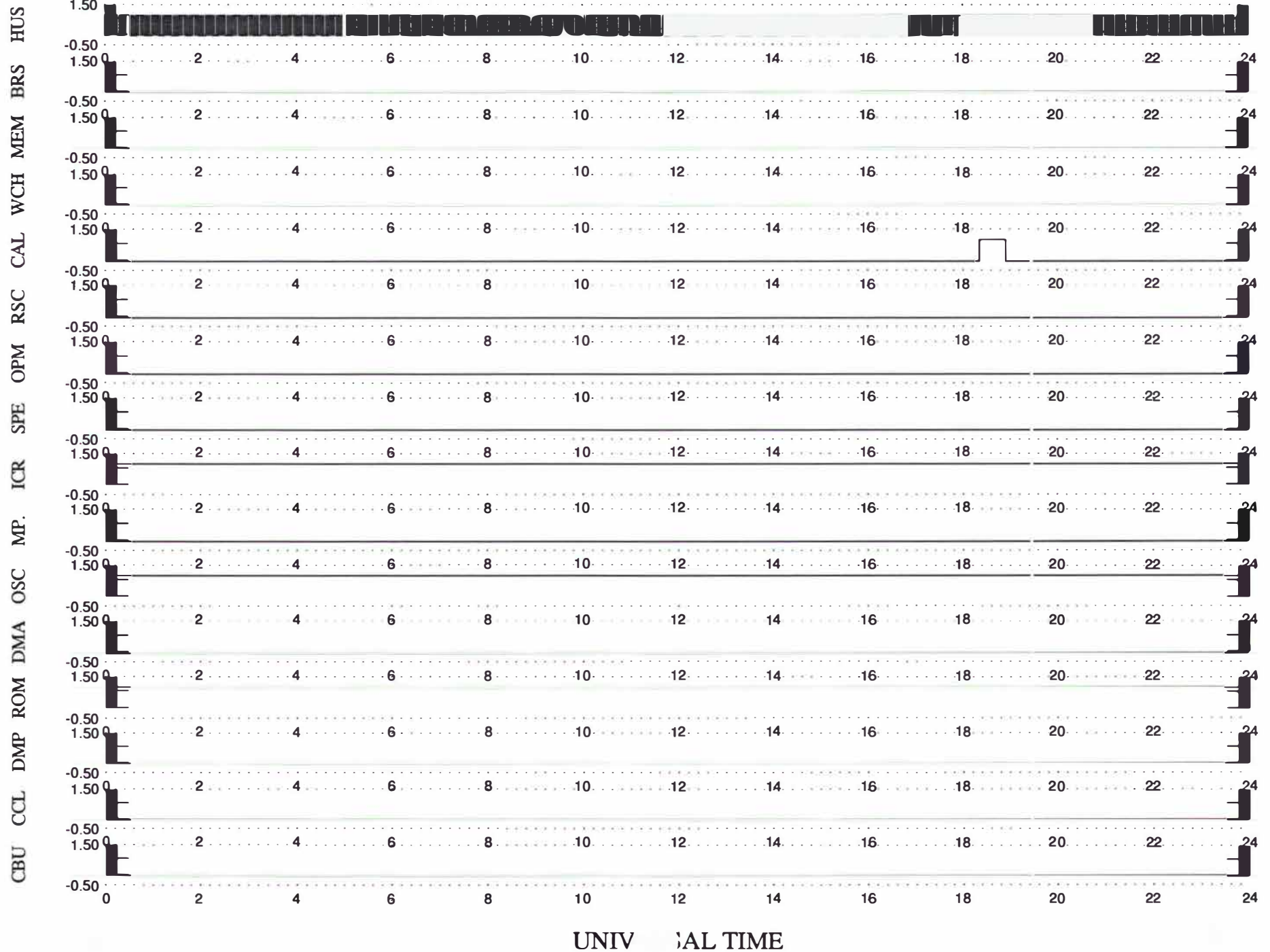
Plot created: 98/05/29, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

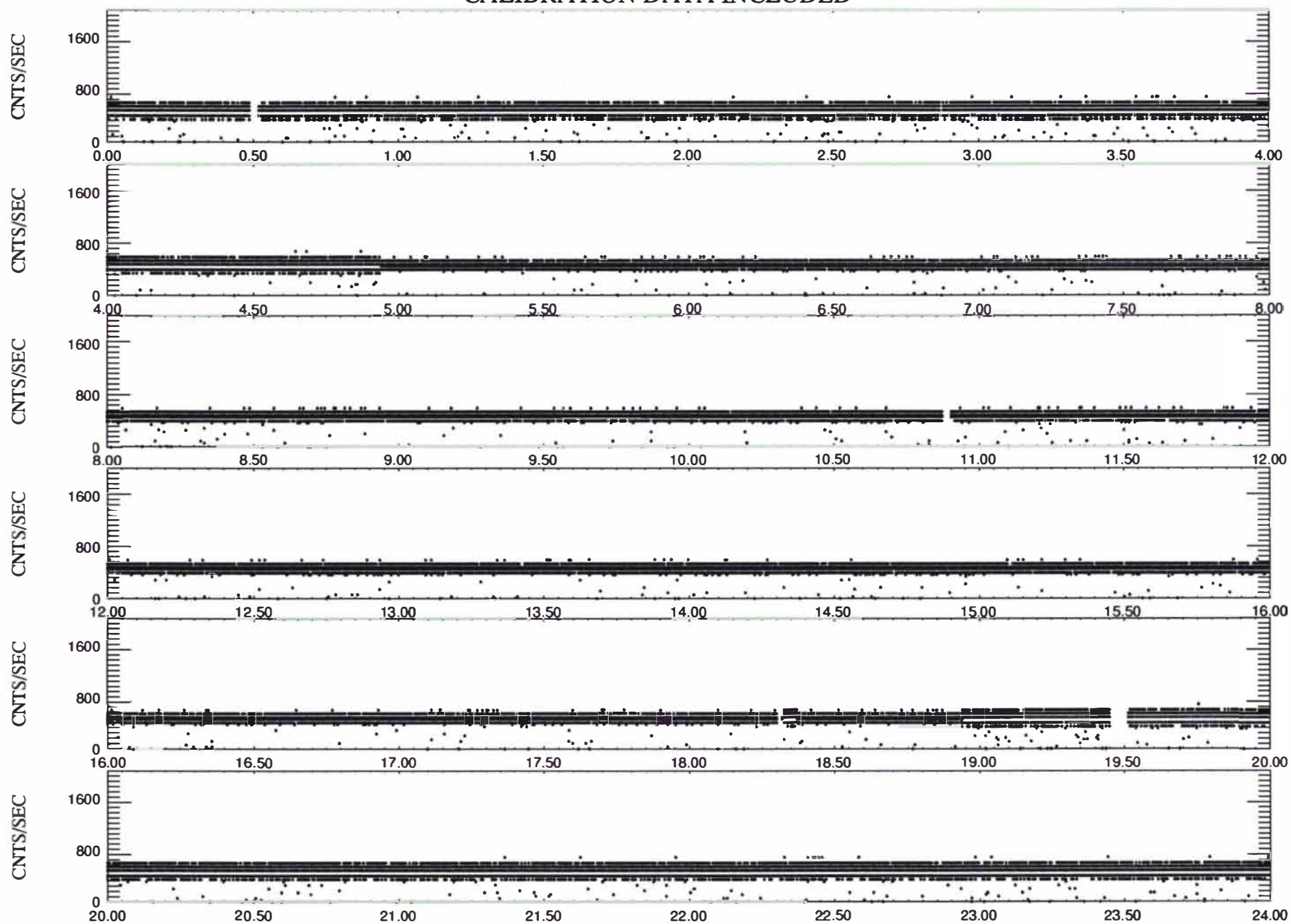
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

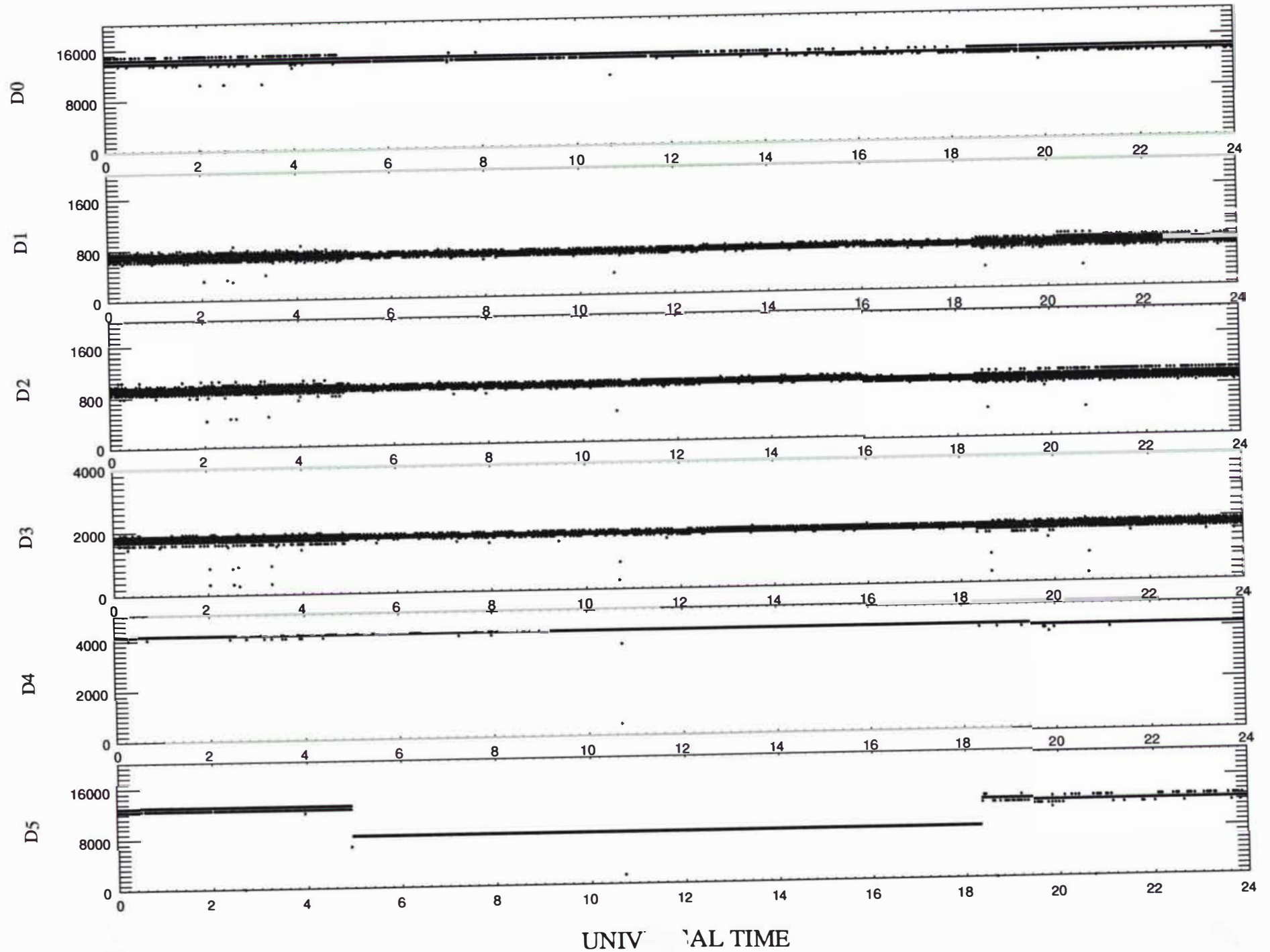
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV' 'AL TIME



From WOODSP@fender.msfc.nasa.gov Mon Jun 8 07:08:21 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA01597; Mon, 8 Jun 1998 07:07:41 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA16553; Mon, 8 Jun 1998 07:06:29 -0700
Date: Mon, 8 Jun 1998 9:05:24 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980608090524.202027ad@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6784
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6784
EVENT OF 1998 MAY 26 DAY OF YEAR=146
EVENT CROSSING TIME AT BATSE : 25766. S. OR 07:09:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 248.000 -52.000
BATSE PEAK COUNTING RATE: 8500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 5/ 98 IS:
RA= 148.845 DEC= 11.716 DIST= 5.454 AU
BATSE-ULYSSES DISTANCE = 815902492. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 696.53 SECS.
CROSSING TIME AT ULYSSES IS 26463. S. OR 07:21:02 +/- 517.35 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 5/ 98 IS:
RA= 59.156 DEC= 20.605 DIST= 2.504 AU
MARS-BATSE DISTANCE = 374590688. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 32.14 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1058.00 SECS.
CROSSING TIME AT MARS IS 26824. S. OR 07:27:04 +/- 131.48 SECONDS

BATSE BURST TRIGGER

NO.: 6784

TIME: TJD=0959 SECONDS=25766

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=92.2 AZIMUTH=191.5 ERROR=4.2 DEGREES

COMMENTS:

GRB LASTING ABOUT 0.15 SEC. SINGLE PULSE WITH SUBSTRUCTURE.
NOT VISIBLE ABOVE 300 KEV. CYG X-1 RISE PREDICTED AT T - 7 SEC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6784	980526	10959	25766	8500	248	-52	.15

BATSE BURST# 6784

ULYSSES RT

29 / 5 / 98

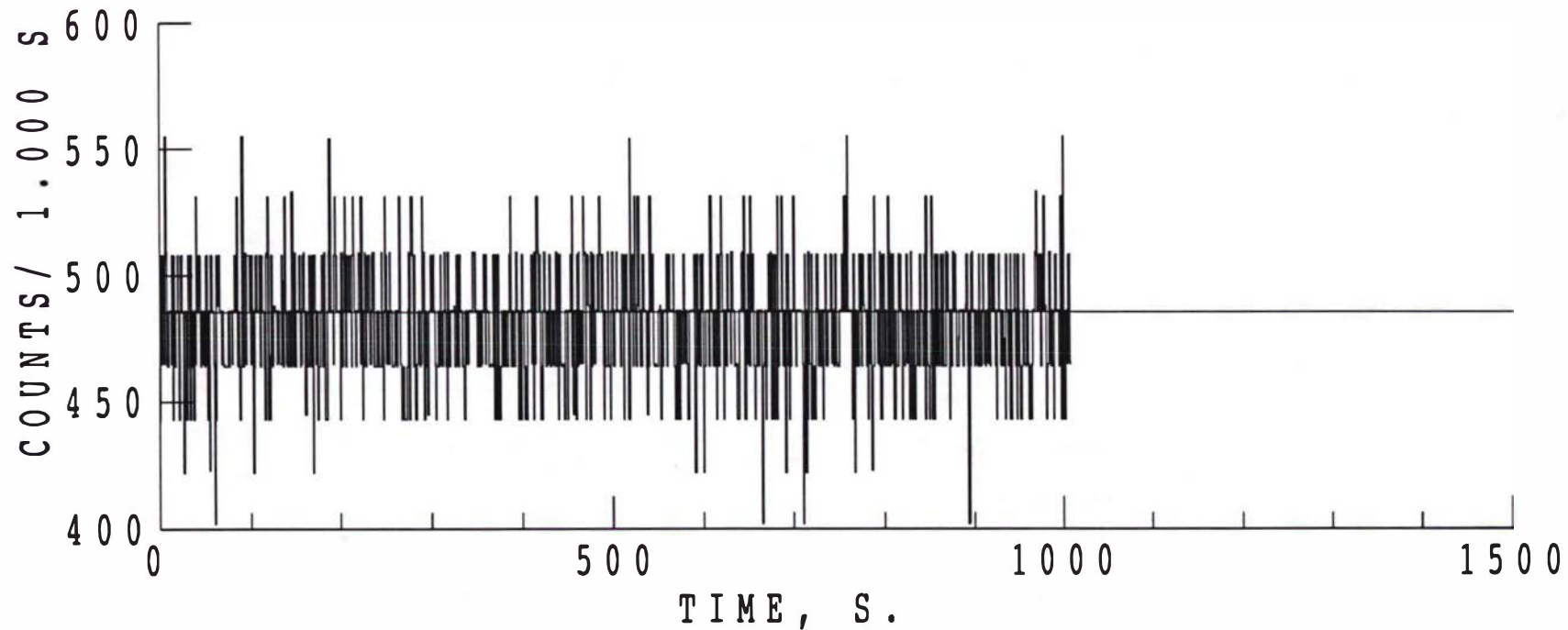
26 / 5 / 98 25956.260 s

0.500 S INTERVALS REGROUPED BY 2

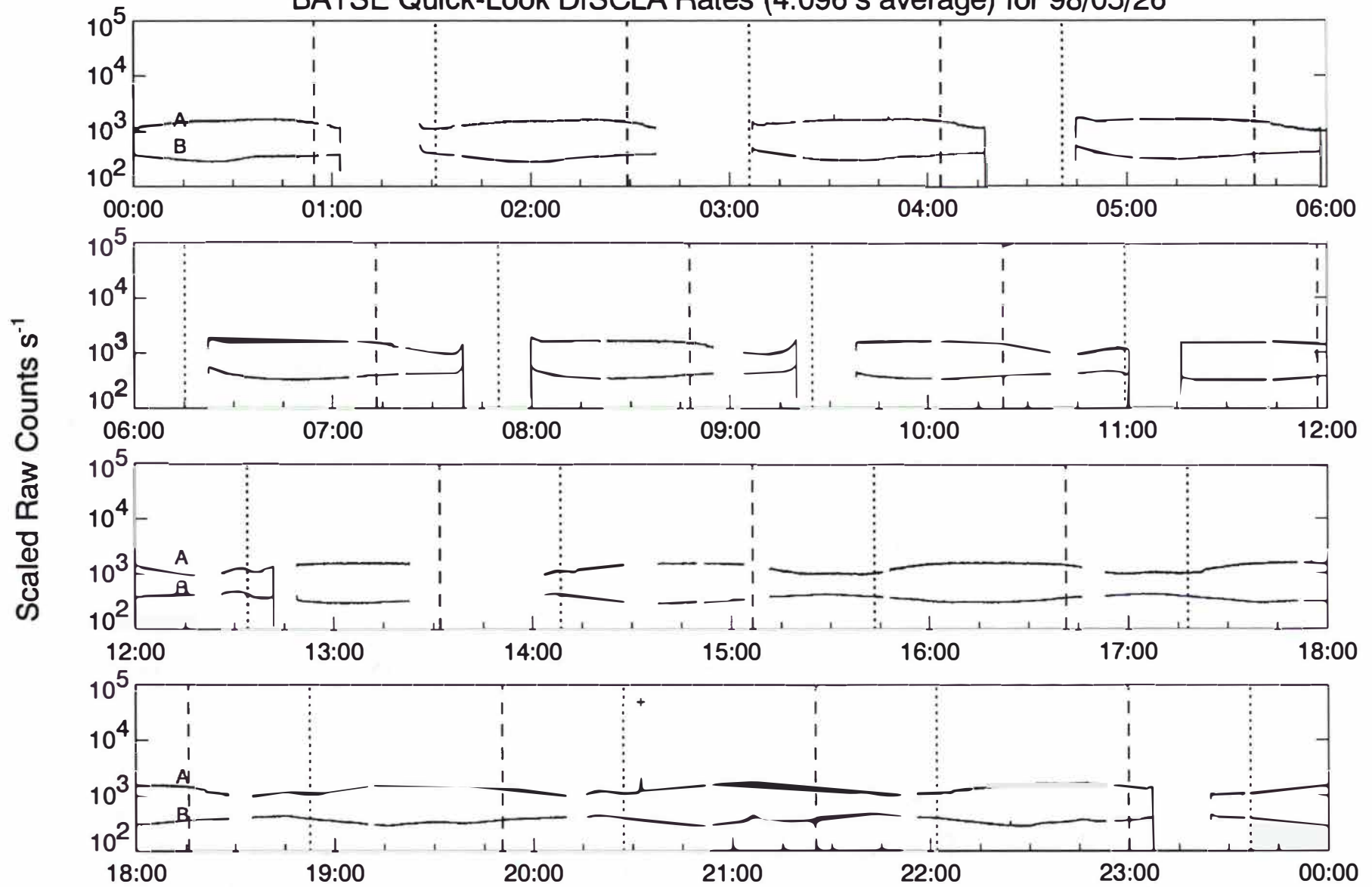
0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



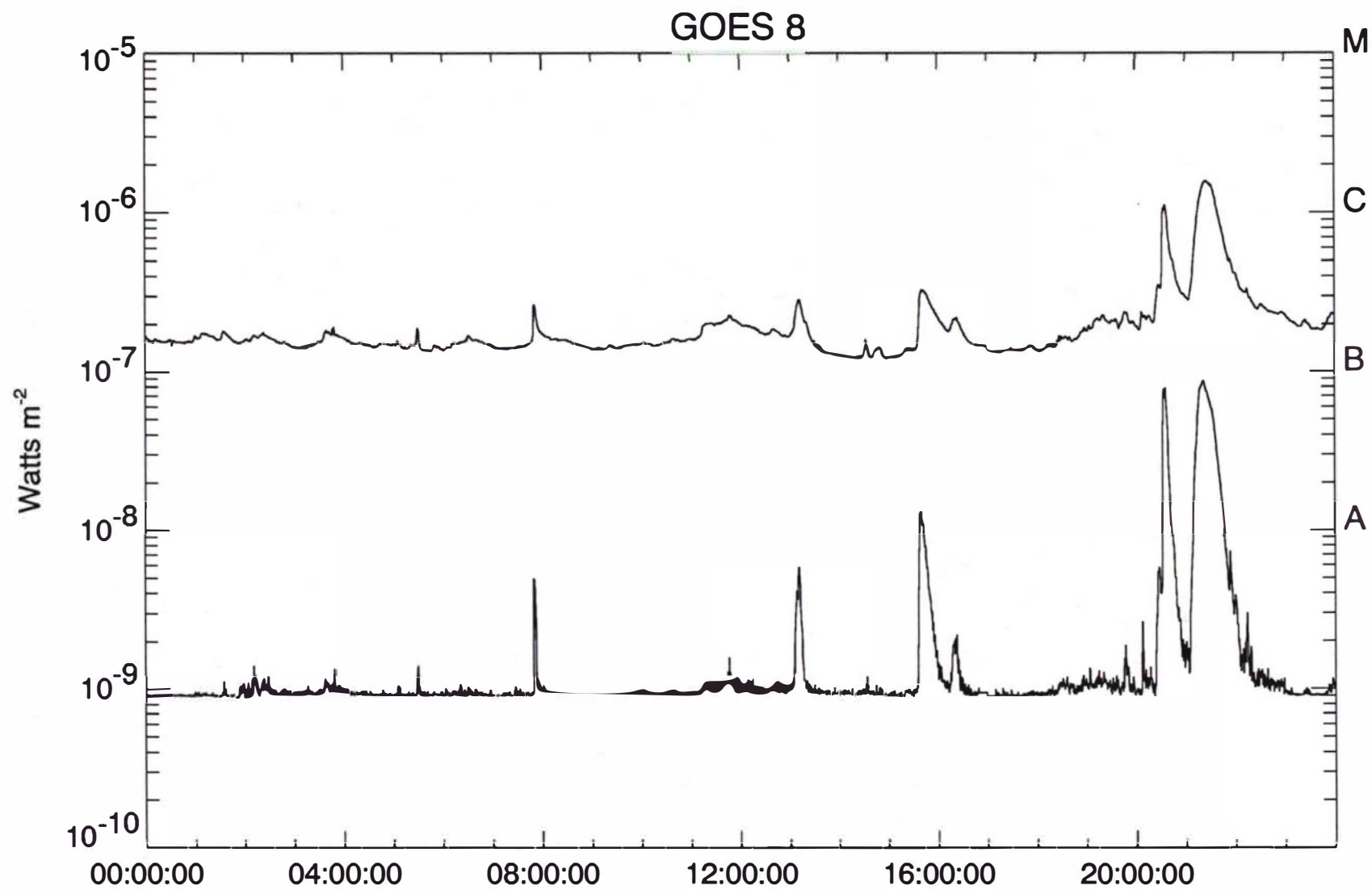
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/26



Current Time: 98/05/30, 1009 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



Data Start: 98/05/26, 0000:00

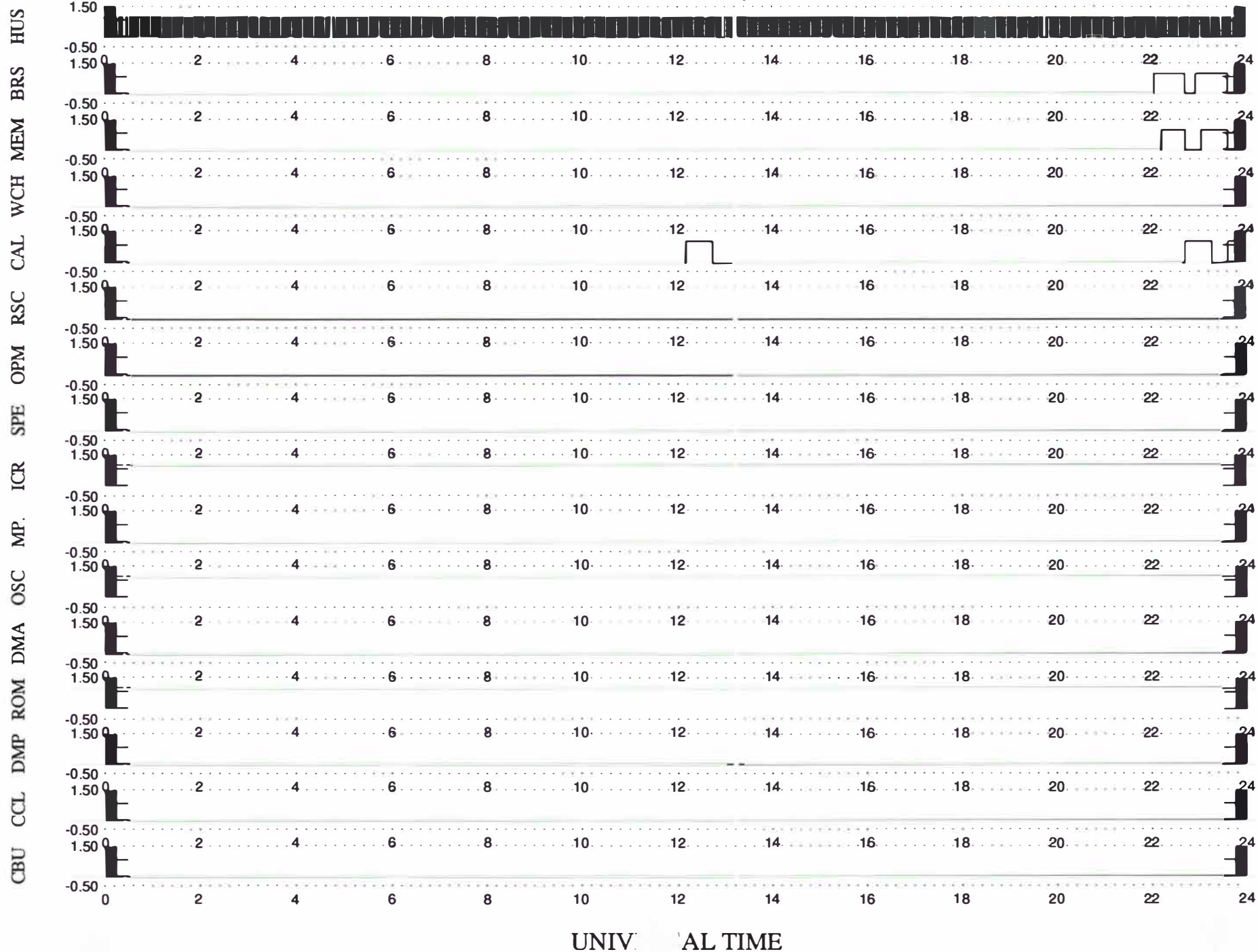
Plot created: 98/05/30, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 7, 8

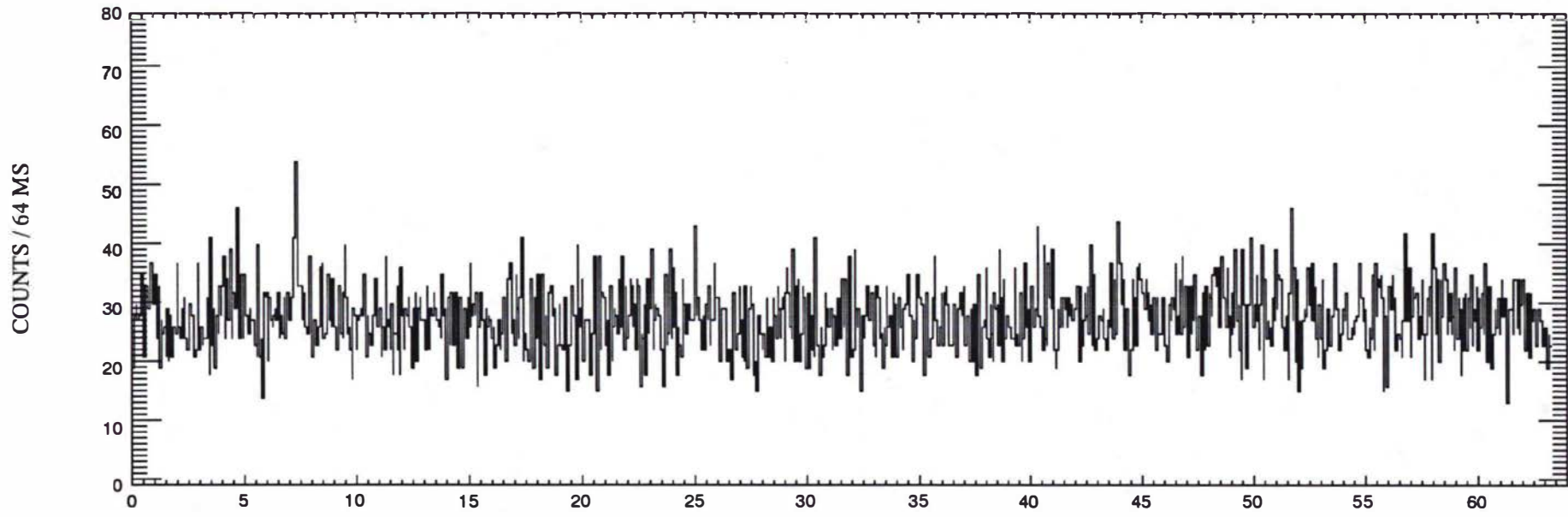


CALIBRATION DATA INCLUDED

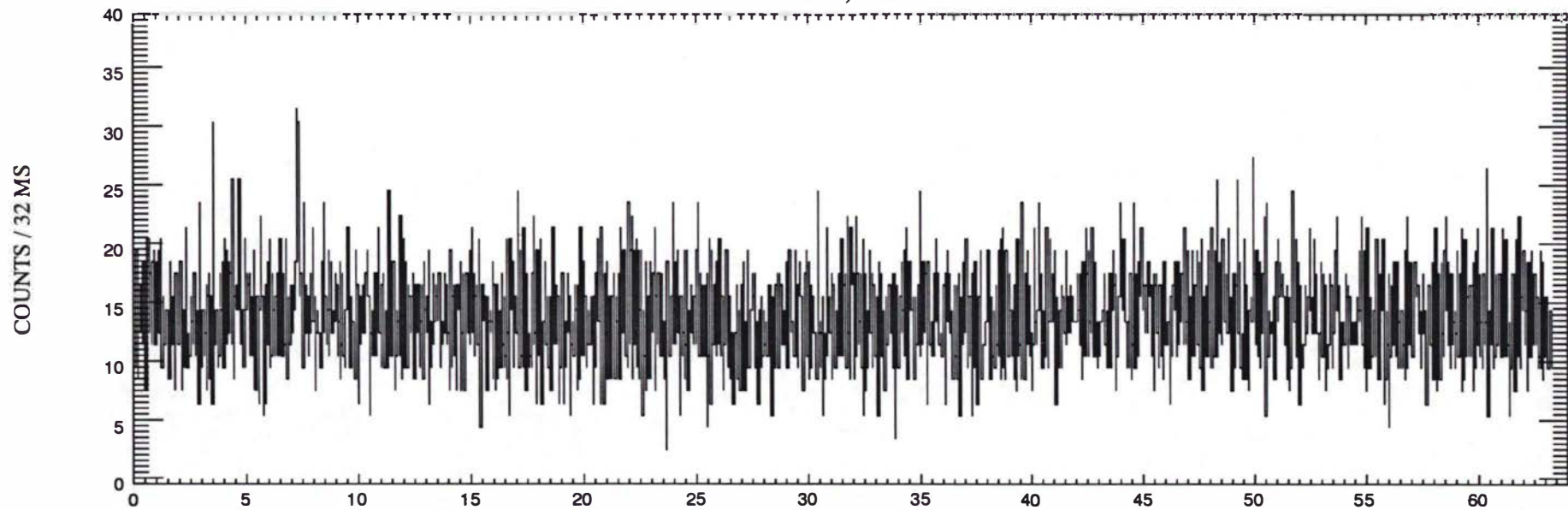


UNIV 'AL TIME

Burst Counter 7 at UT=22.020262018840 h=79272.943 s 22:01:12.943

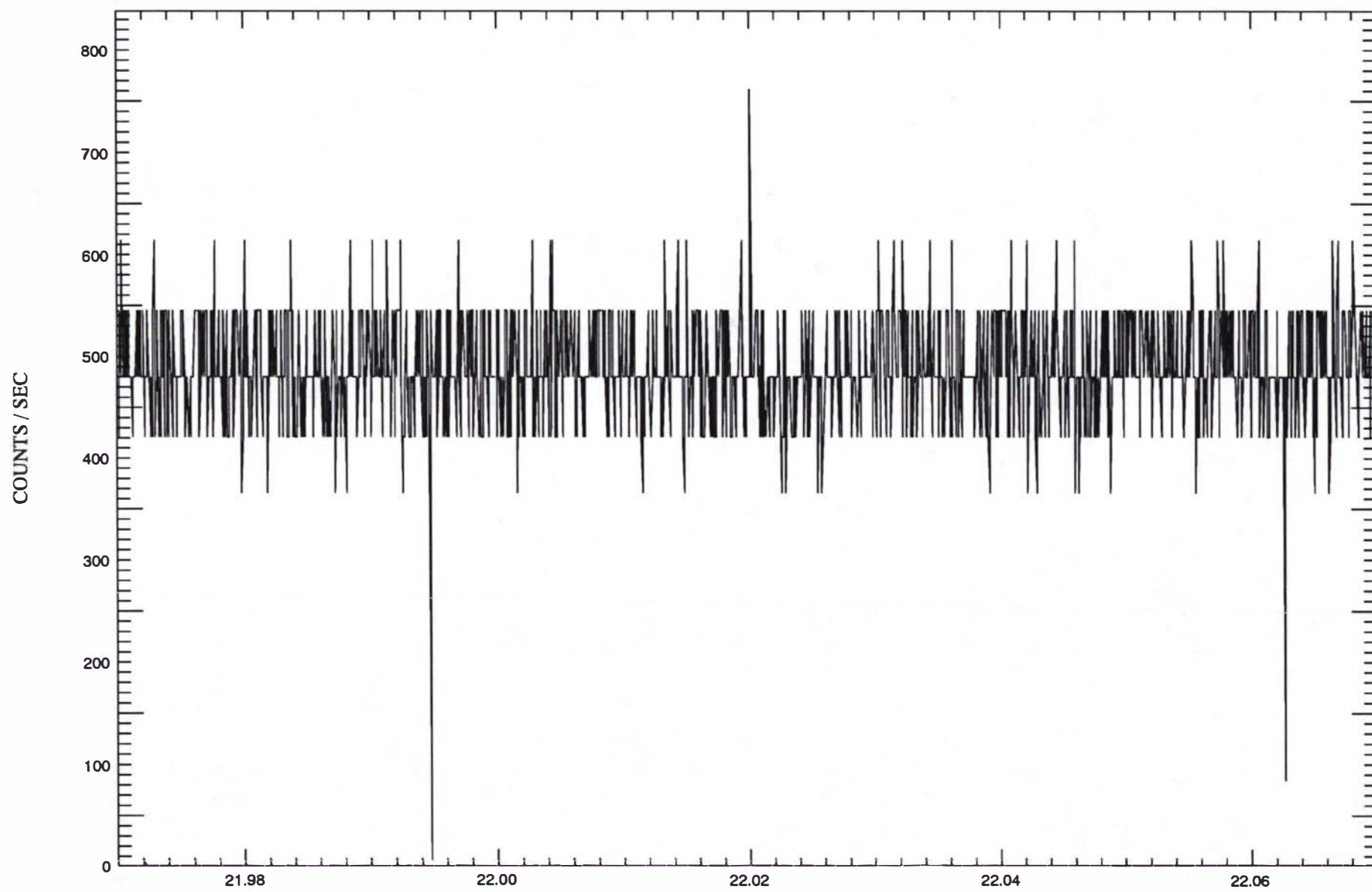


TIME, SECS

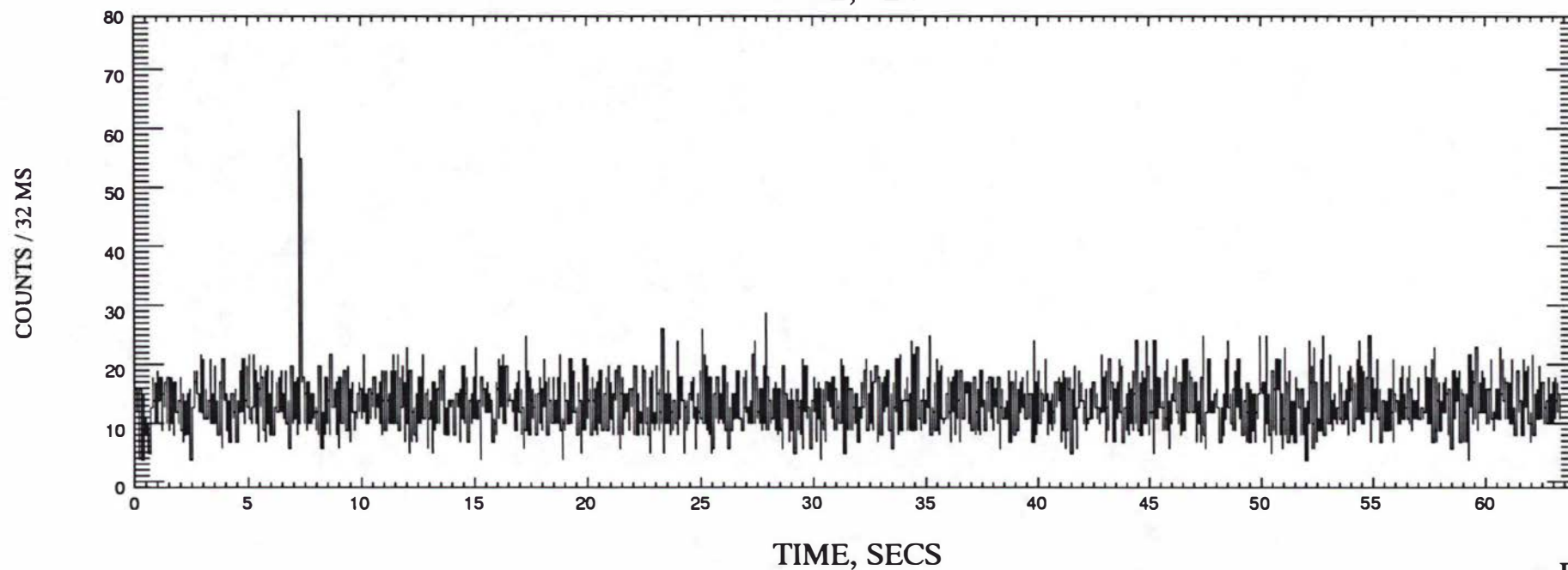
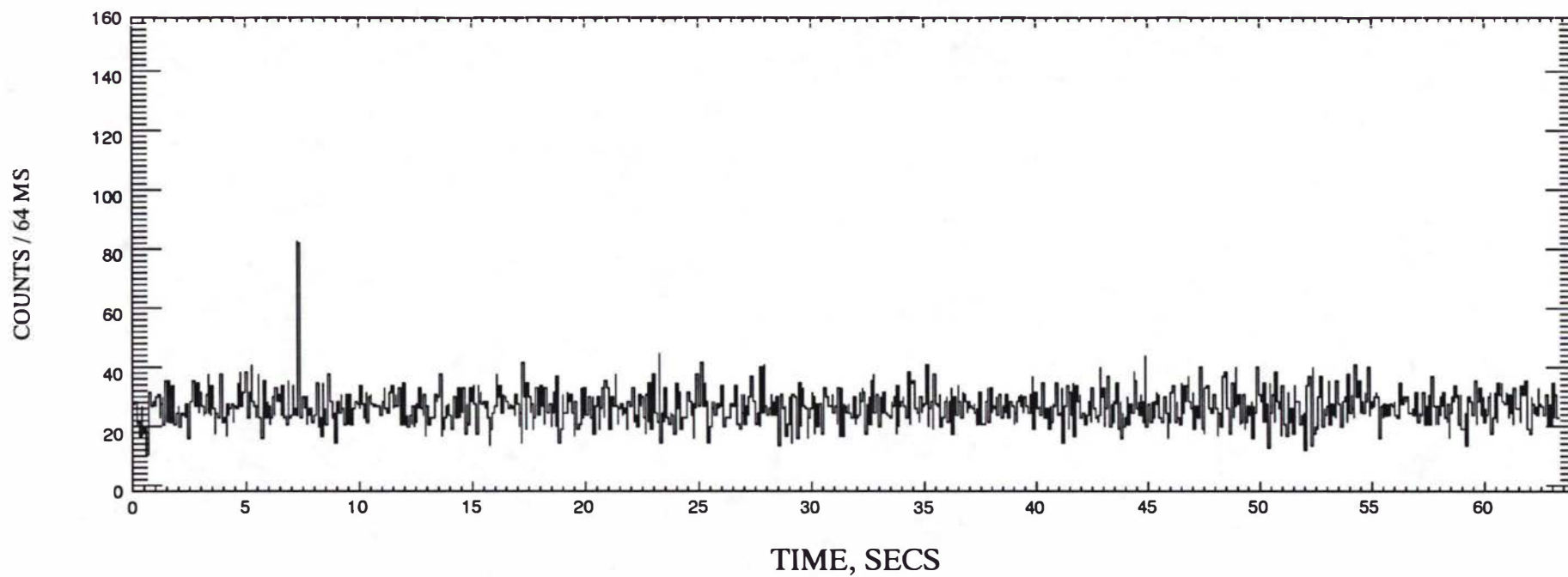


TIME, SECS

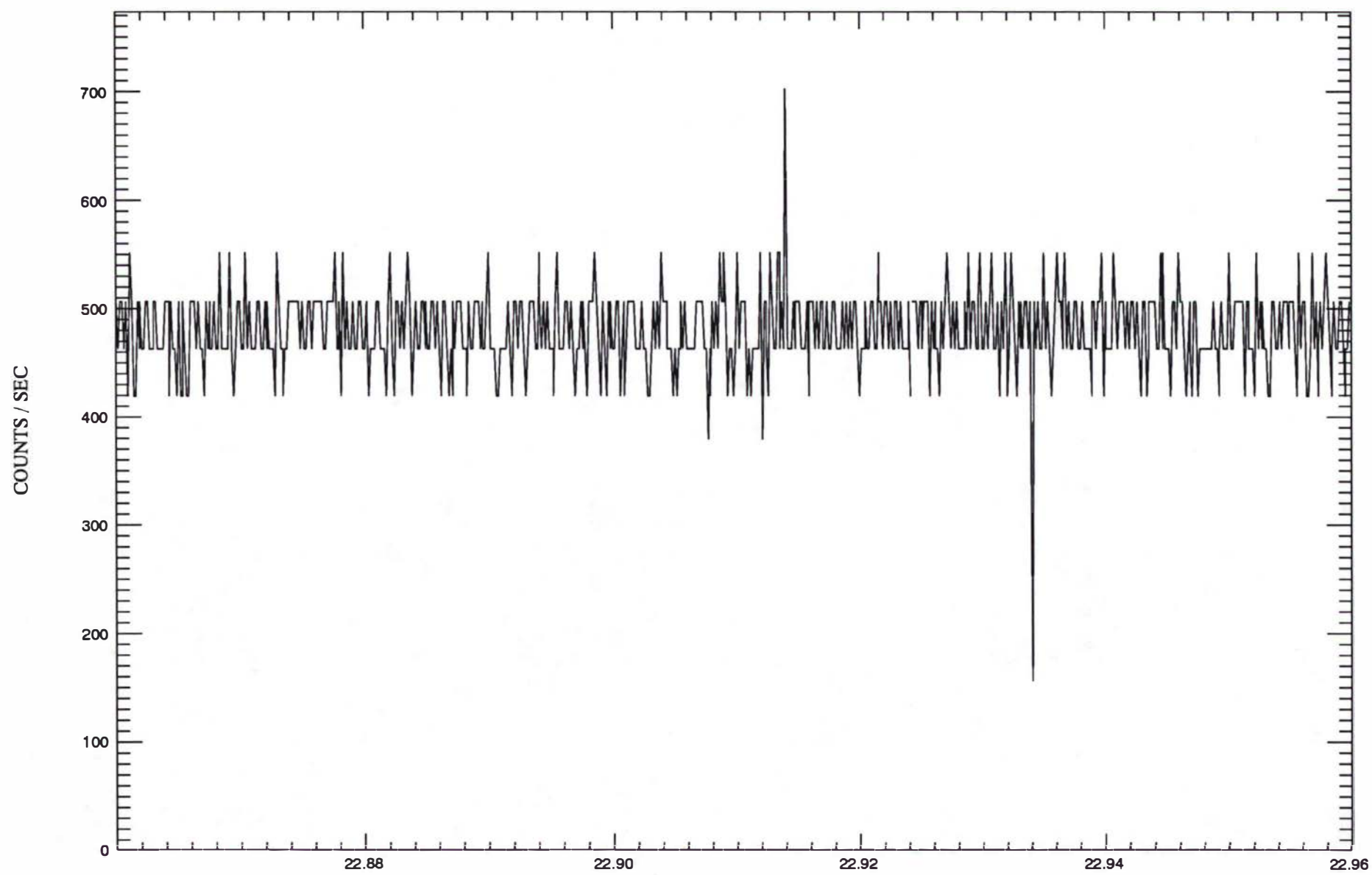
CALIBRATION DATA INCLUDED

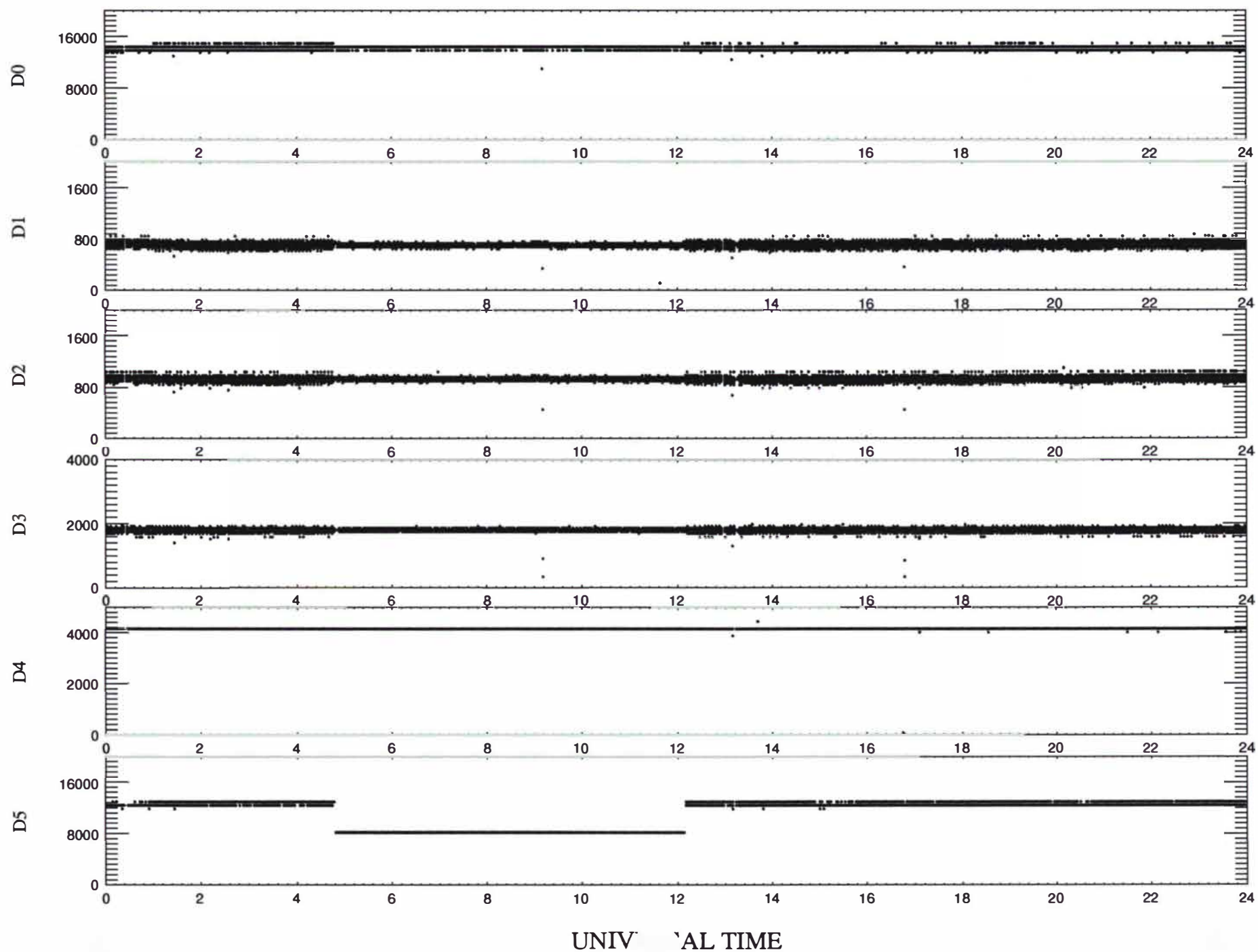


Burst Counter 8 at UT=22.914172969394 h=82491.023 s 22:54:51.023



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Fri May 29 09:45:38 1998
Date: Fri, 29 May 1998 11:45:21 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6785

TIME: TJD=0960 SECONDS= 8293

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT APPROX. T+4 S.

From RICHARDSON@fender.msfc.nasa.gov Fri May 29 11:15:18 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16756; Fri, 29 May 1998 11:15:17 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA04560; Fri, 29 May 1998 11:15:15 -0700
Date: Fri, 29 May 1998 13:15:16 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980529131516.20217570@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6786
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6786
EVENT OF 1998 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 22187. S. OR 06:09:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 344.000 45.000
BATSE PEAK COUNTING RATE: 5200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 98 IS:
RA= 148.861 DEC= 11.664 DIST= 5.470 AU
BATSE-ULYSSES DISTANCE = 818254401. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1434.35 SECS.
CROSSING TIME AT ULYSSES IS 23621. S. OR 06:33:41 +/- 474.94 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 98 IS:
RA= 59.897 DEC= 20.758 DIST= 2.505 AU
MARS-BATSE DISTANCE = 374745920. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -514.66 SECS.
CROSSING TIME AT MARS IS 21672. S. OR 06:01:12 +/- 189.96 SECONDS

BATSE BURST TRIGGER

NO.: 6786

TIME: TJD=0960 SECONDS=22187

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=63.5 AZIMUTH=322.9 ERROR=7.8 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION APPROX. = 0.5 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6786	980527	10960	22187	5200	344	+45	.5

BATSE BURST# 6786

ULYSSES RT

29 / 5 / 98

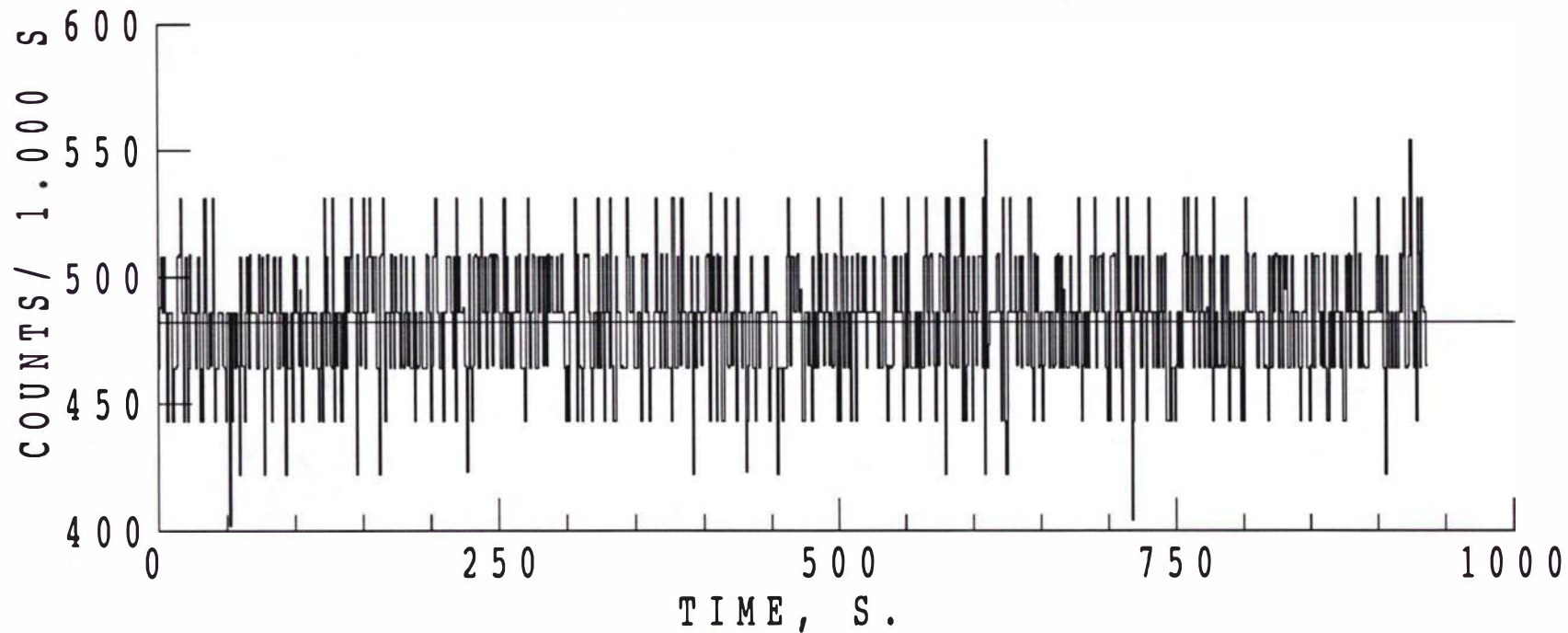
27 / 5 / 98 23148.145 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

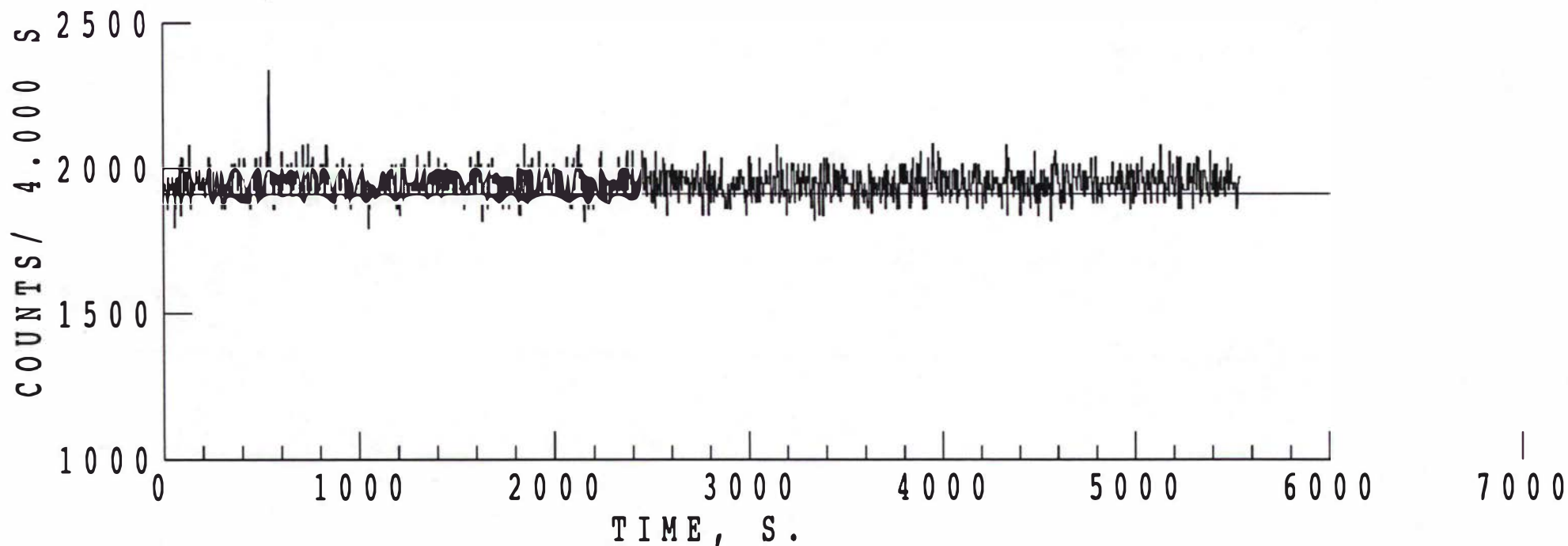
08/02/00

27/05/98 24516.160 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N=10 M=2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Fri May 29 11:16:33 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16774; Fri, 29 May 1998 11:16:32 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA04581; Fri, 29 May 1998 11:16:30 -0700
Date: Fri, 29 May 1998 13:16:32 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980529131632.20217570@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6787
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6787
EVENT OF 1998 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 24928. S. OR 06:55:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 108.000 15.000
BATSE PEAK COUNTING RATE: 8000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 98 IS:
RA= 148.861 DEC= 11.662 DIST= 5.470 AU
BATSE-ULYSSES DISTANCE = 818336222. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=140.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2095.74 SECS.
CROSSING TIME AT ULYSSES IS 22832. S. OR 06:20:32 +/- 321.83 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 98 IS:
RA= 59.897 DEC= 20.758 DIST= 2.505 AU
MARS-BATSE DISTANCE = 374745920. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=134.02 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -868.64 SECS.
CROSSING TIME AT MARS IS 24059. S. OR 06:40:59 +/- 142.87 SECONDS

BATSE BURST TRIGGER

NO.: 6787

TIME: TJD=0960 SECONDS=24928

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=116.7 AZIMUTH=53.2 ERROR=8.4 DEGREES

COMMENTS:

GRB SINGLE SPIKE. DURATION APPROX. = 0.5 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6787	980527	10960	24928	8000	108	+15	.5

BATSE BURST# 6787

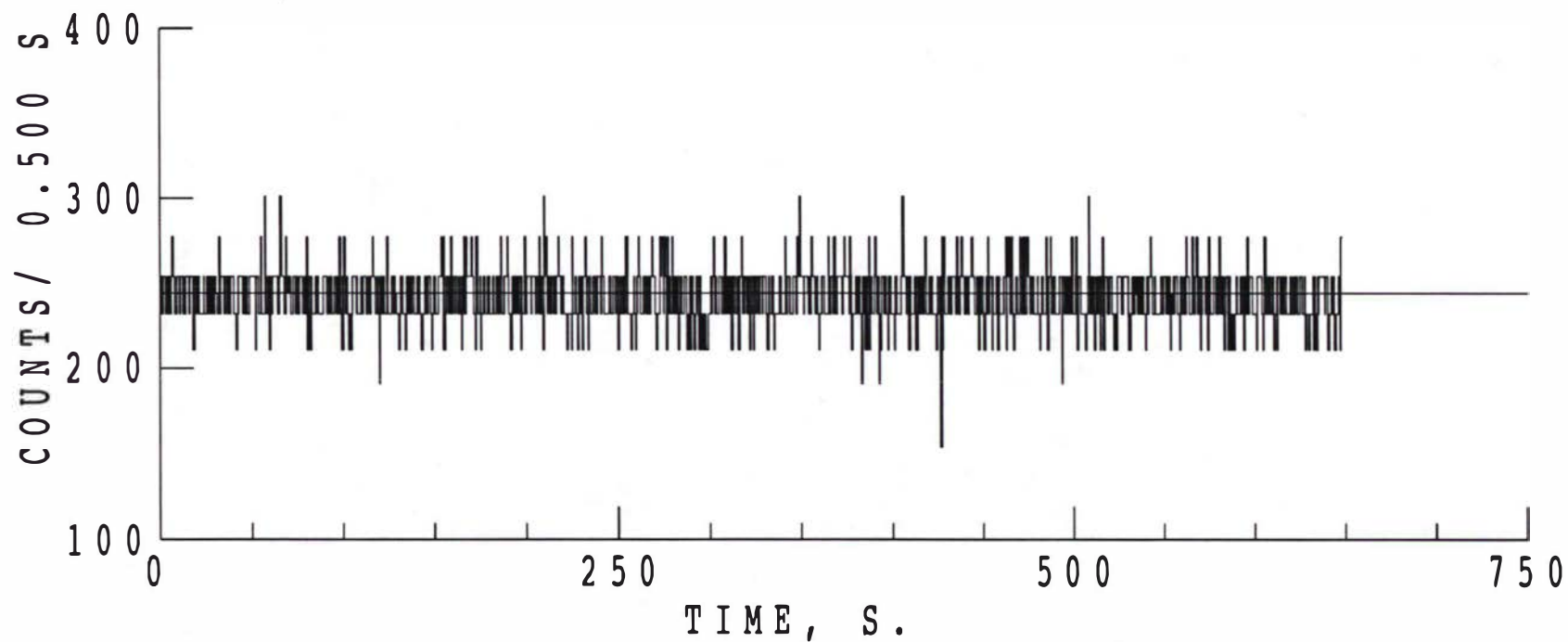
ULYSSES RT

29 / 5 / 98

27 / 5 / 98 22500.141 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Mar 22 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

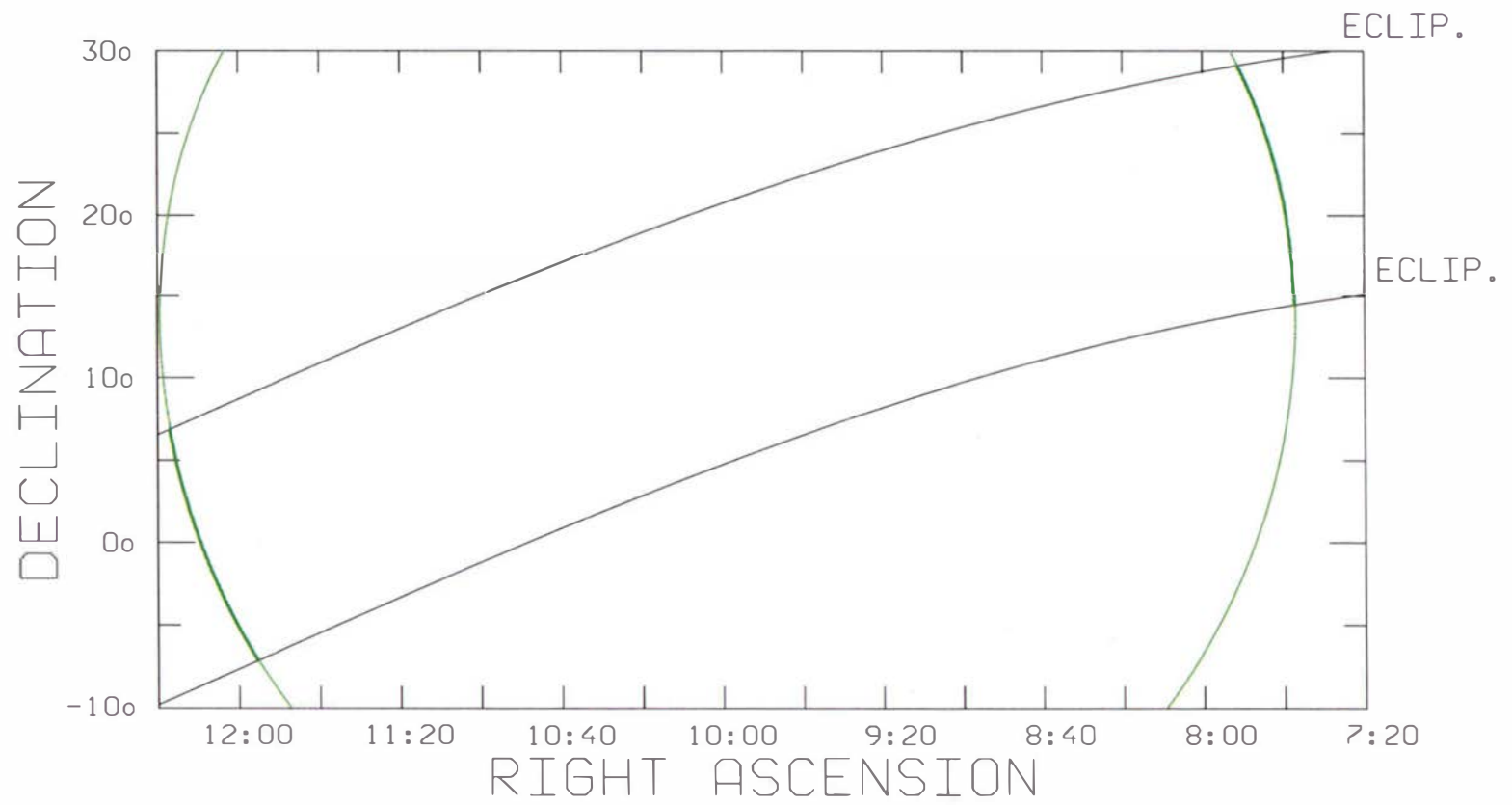
- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Were data checked by Joe Springer for 0.5 s errors?
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is 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

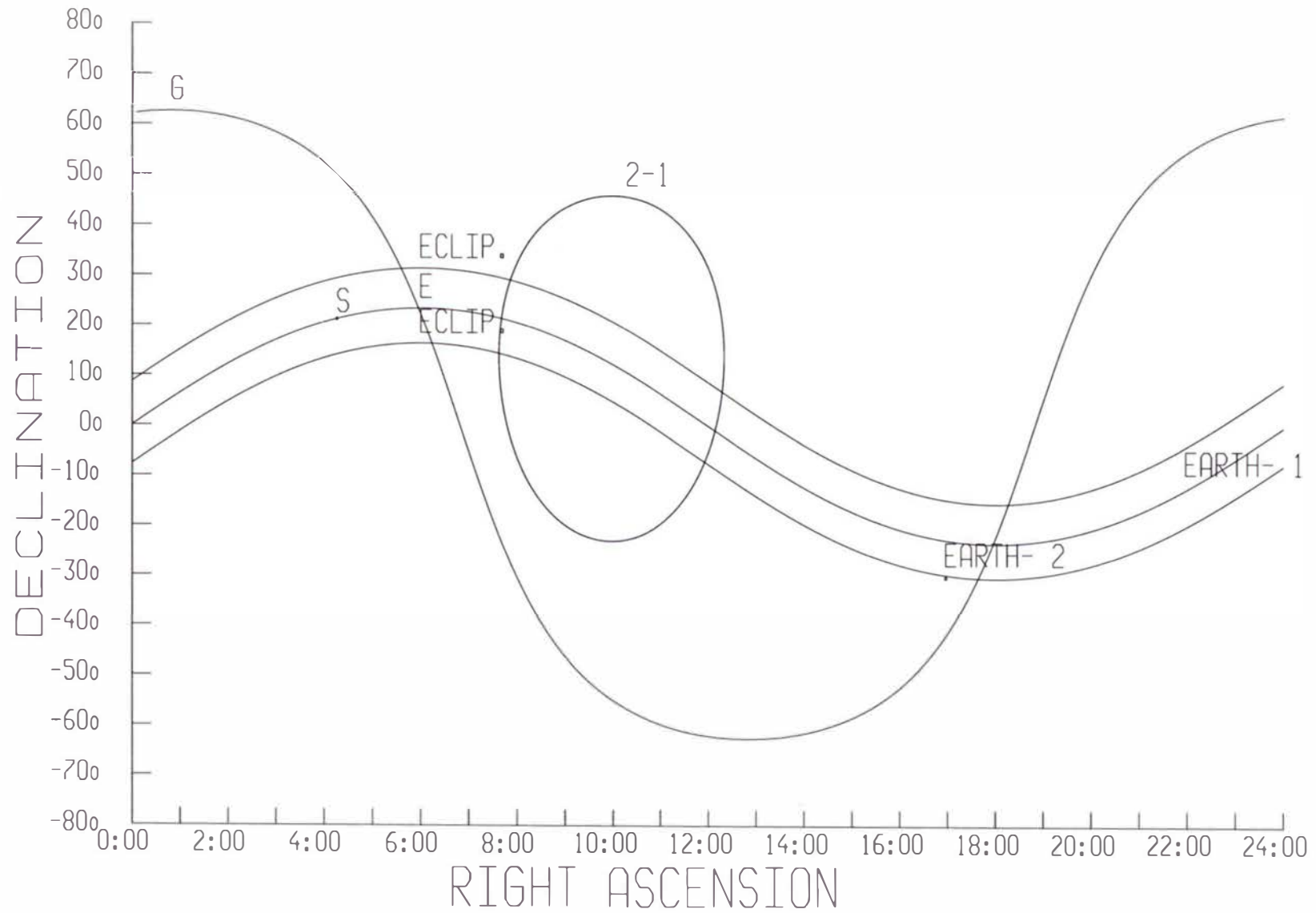
- ☐ Ephemeris of PVO used (not Venus)?
- ☐ 2000 coordinates used?
- ☐ Geocentric time used?
- ☒ ACCESS and MBL databases updated with identical times?

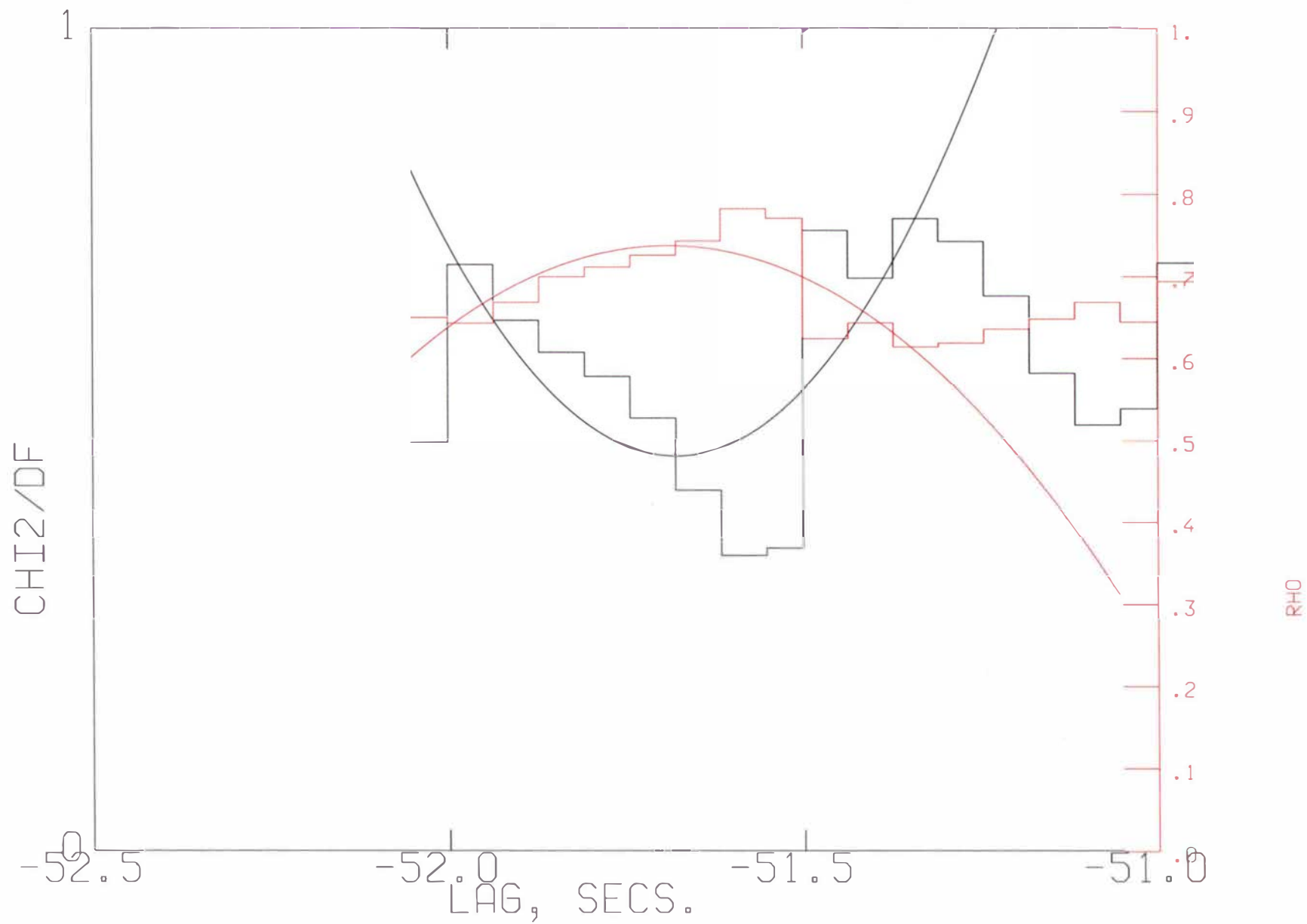


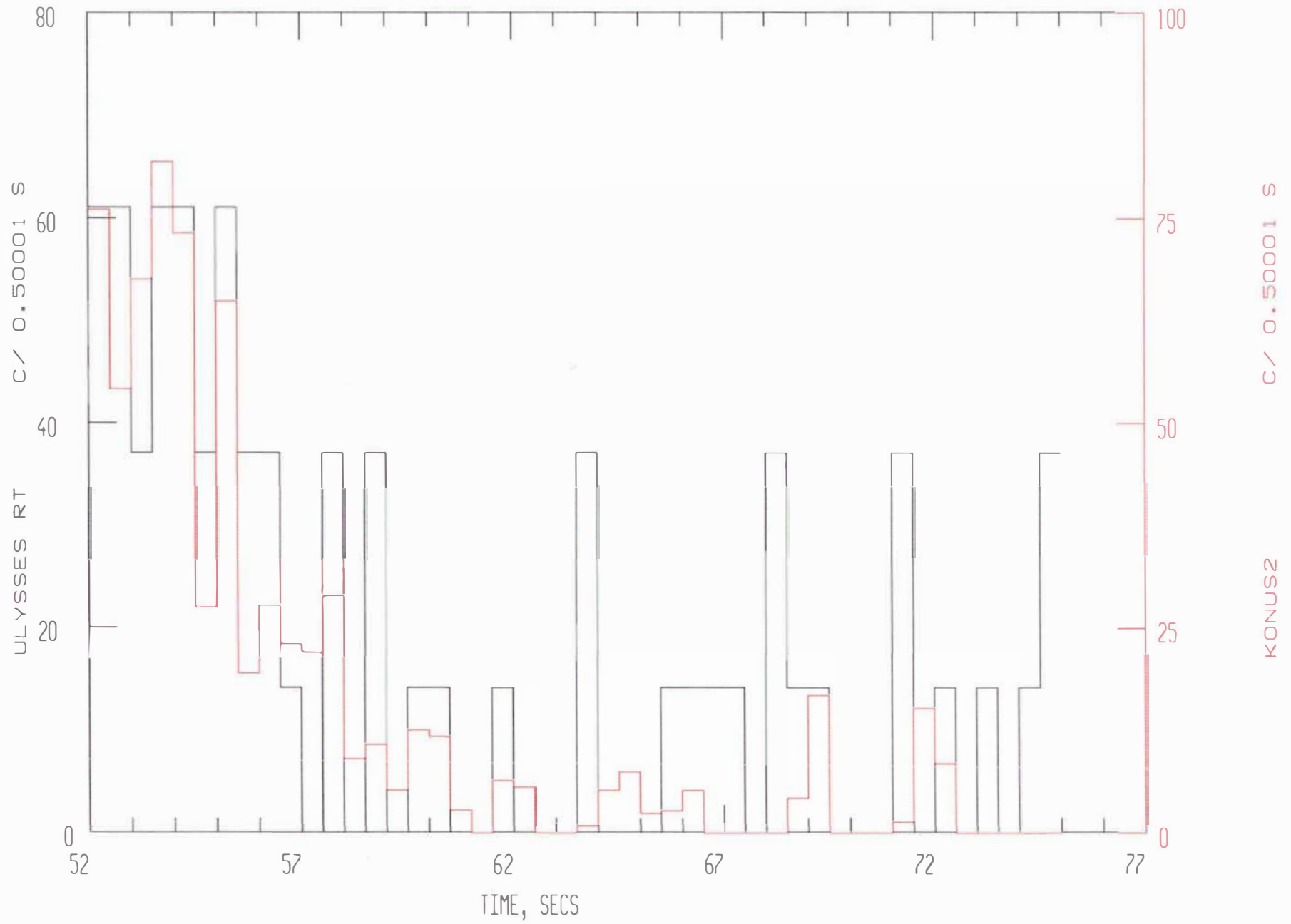
EVENT OF MAY 27, 1998 6:56

22/03/2012

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







KONUS 19980527 25066

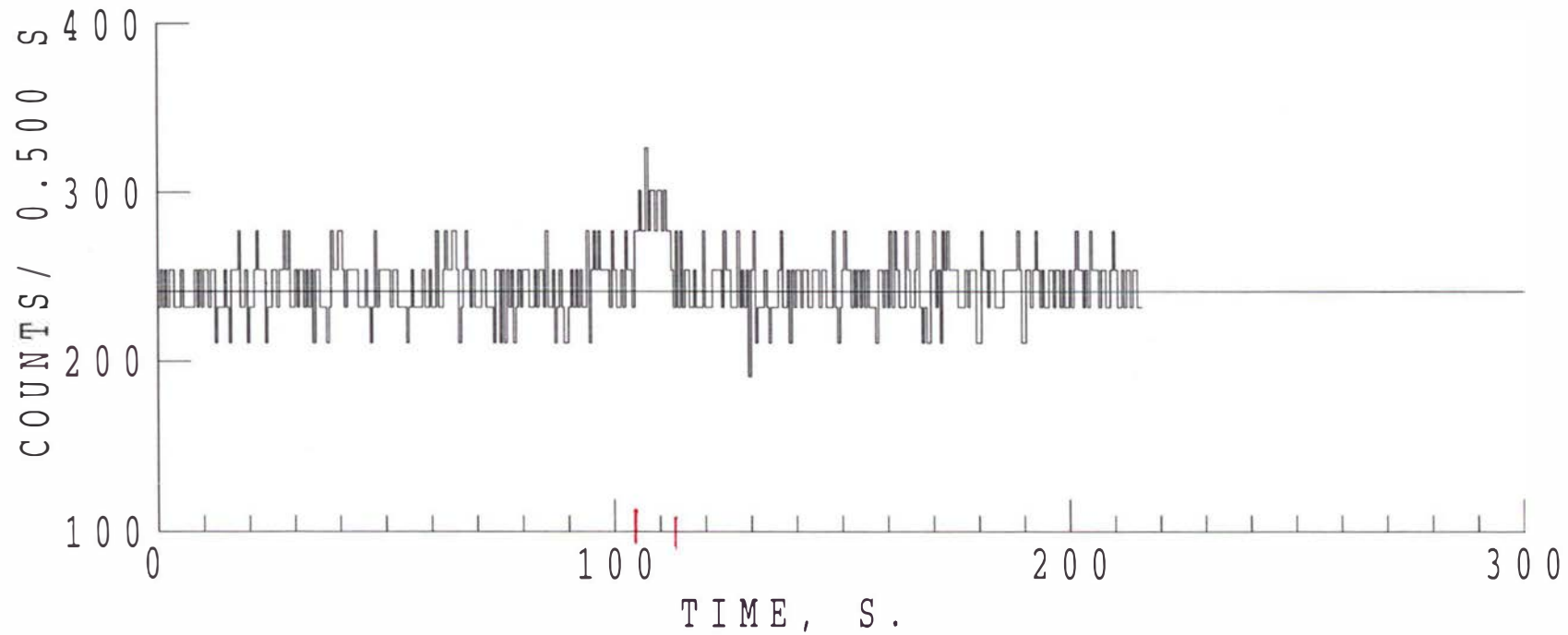
ULYSSES RT

20 / 03 / 12

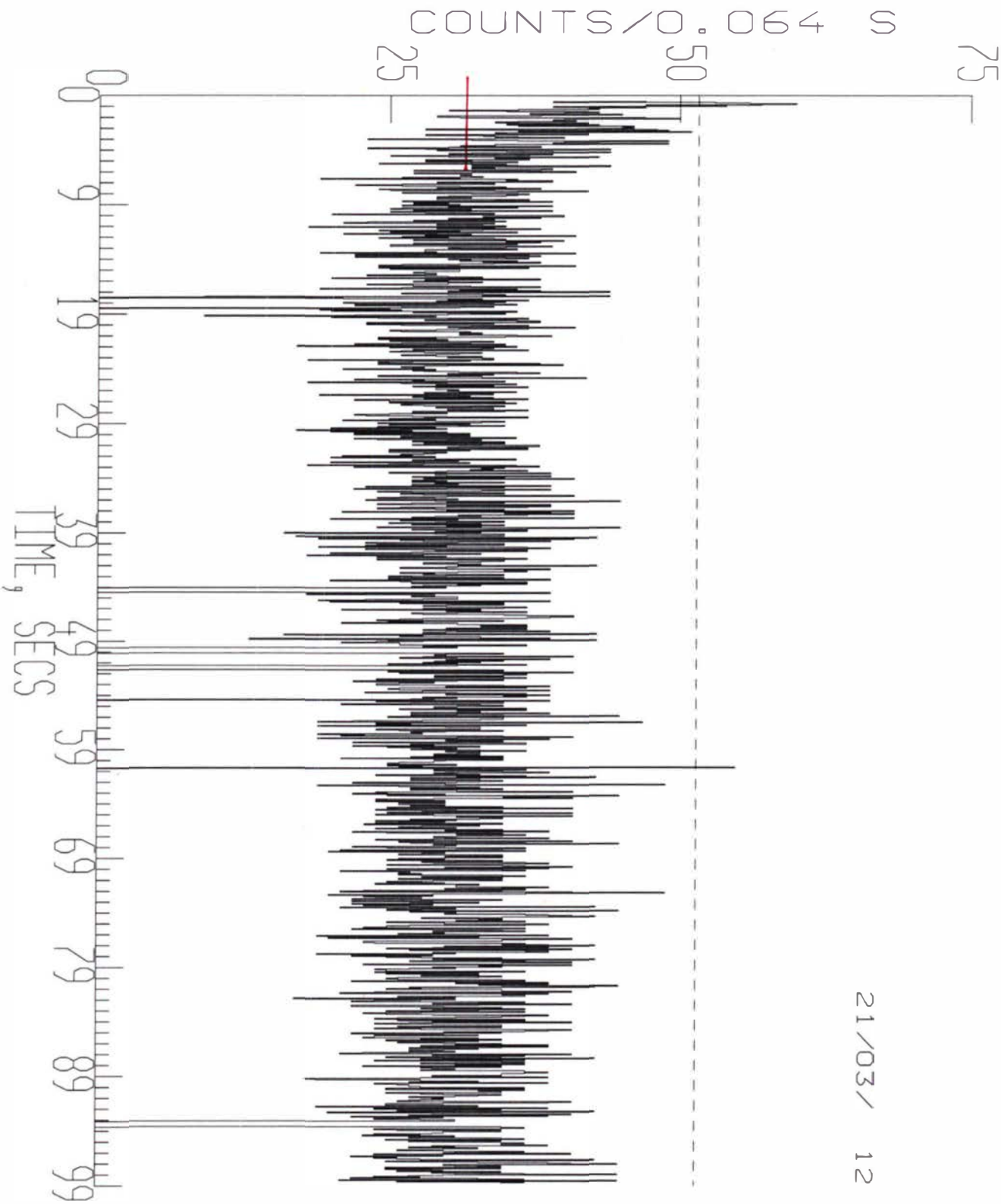
27 / 05 / 98 24948.166 s

0 - 0 keV

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS 27/05/98 27298.900
50- 200 keV



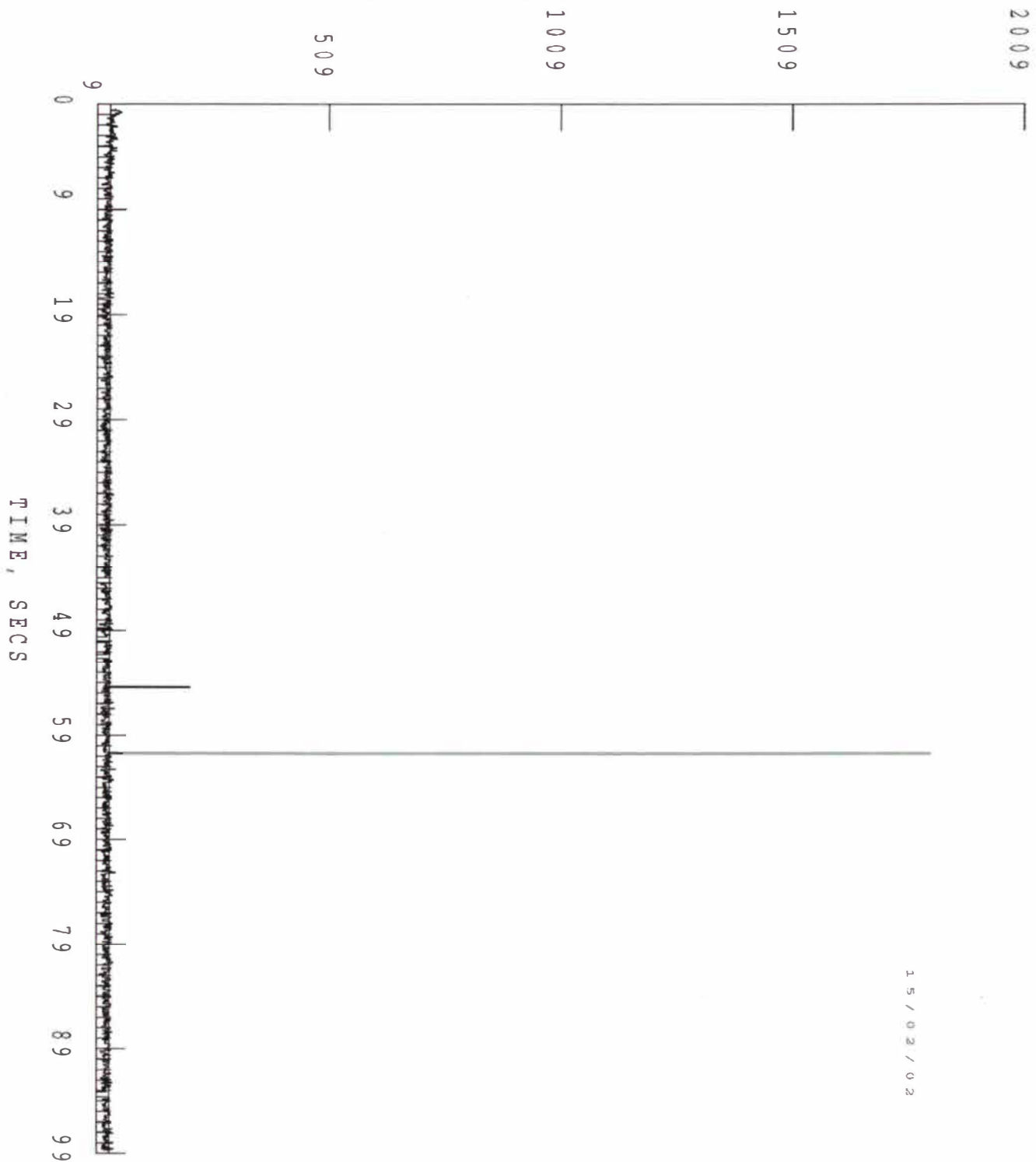
KONUS2

27/05/98

27298.900

50 - 200 keV

COUNTS/0.064 S



From RICHARDSON@fender.msfc.nasa.gov Fri May 29 11:17:59 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16824; Fri, 29 May 1998 11:17:59 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA04611; Fri, 29 May 1998 11:17:56 -0700
Date: Fri, 29 May 1998 13:17:55 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980529131755.20217570@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6788
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6788
EVENT OF 1998 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 30119. S. OR 08:21:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 277.000 24.000
BATSE PEAK COUNTING RATE: 110000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 98 IS:
RA= 148.862 DEC= 11.659 DIST= 5.471 AU
BATSE-ULYSSES DISTANCE = 818479534. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1284.07 SECS.
CROSSING TIME AT ULYSSES IS 31403. S. OR 08:43:23 +/- 487.80 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 98 IS:
RA= 59.897 DEC= 20.758 DIST= 2.505 AU
MARS-BATSE DISTANCE = 374745920. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 57.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 671.45 SECS.
CROSSING TIME AT MARS IS 30790. S. OR 08:33:10 +/- 193.25 SECONDS

BATSE BURST TRIGGER

NO.: 6788

TIME: TJD=0960 SECONDS=30119

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=25.1 AZIMUTH=253.6 ERROR=1.1 DEGREES

COMMENTS:

GRB. SINGLE SPIKE WITH LOTS OF STRUCTURE. DURATION APPROX. = 0.1 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6788	980527	10960	30119	110000	277	+24	.1

Redo for position of 1900+14

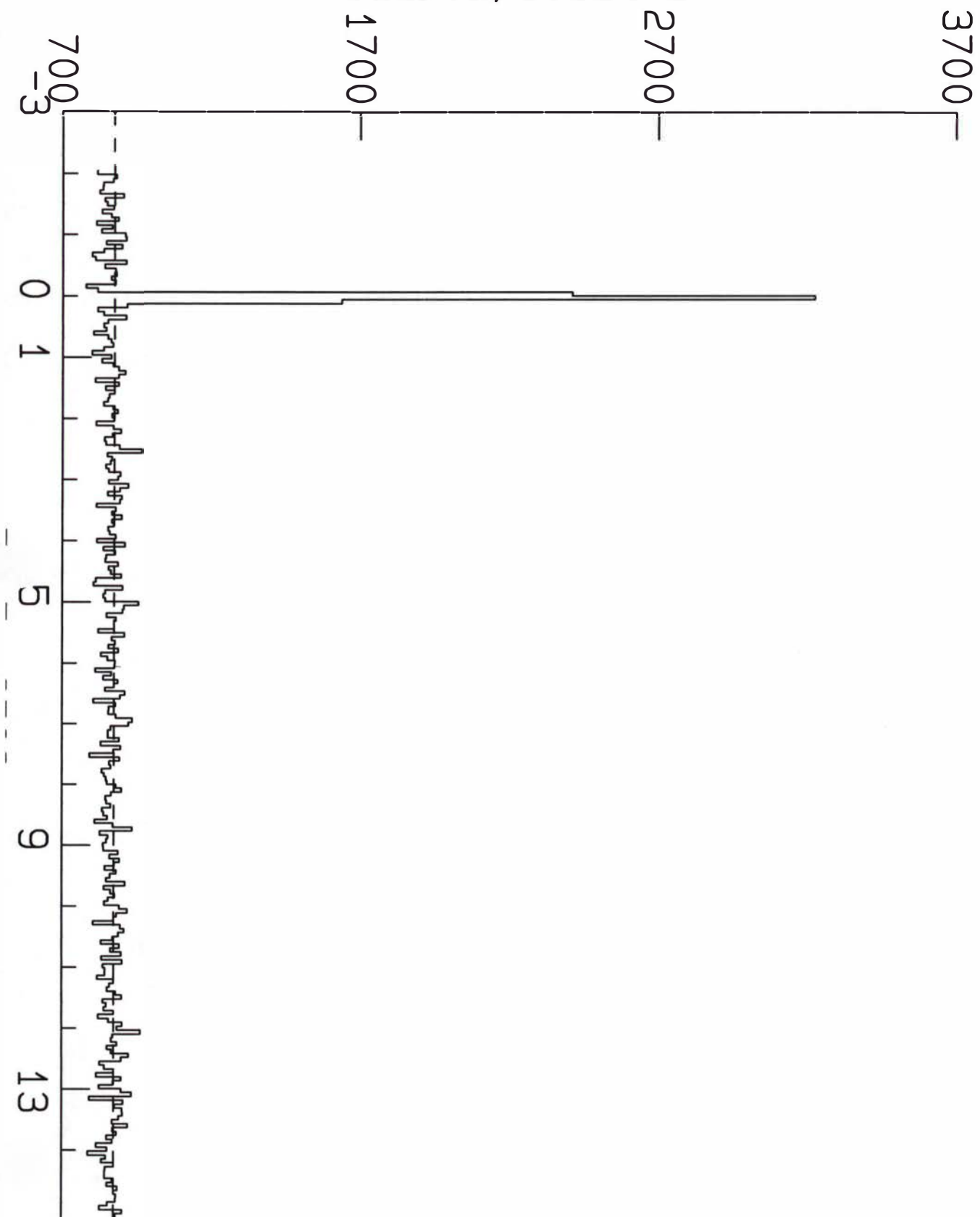
BATSE

27/05/98

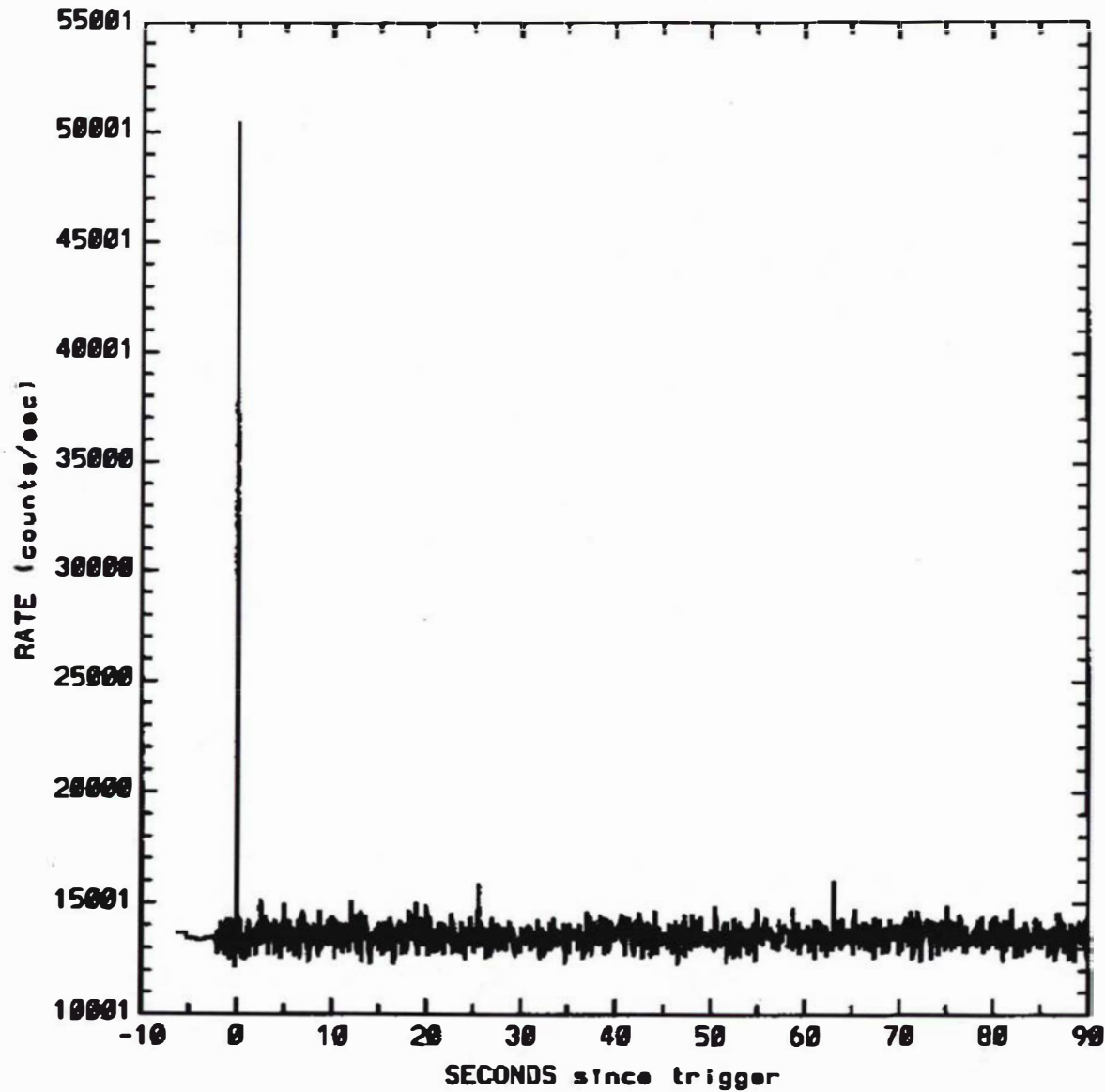
30119.777

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6788



2-DEC-1998 11:34:17

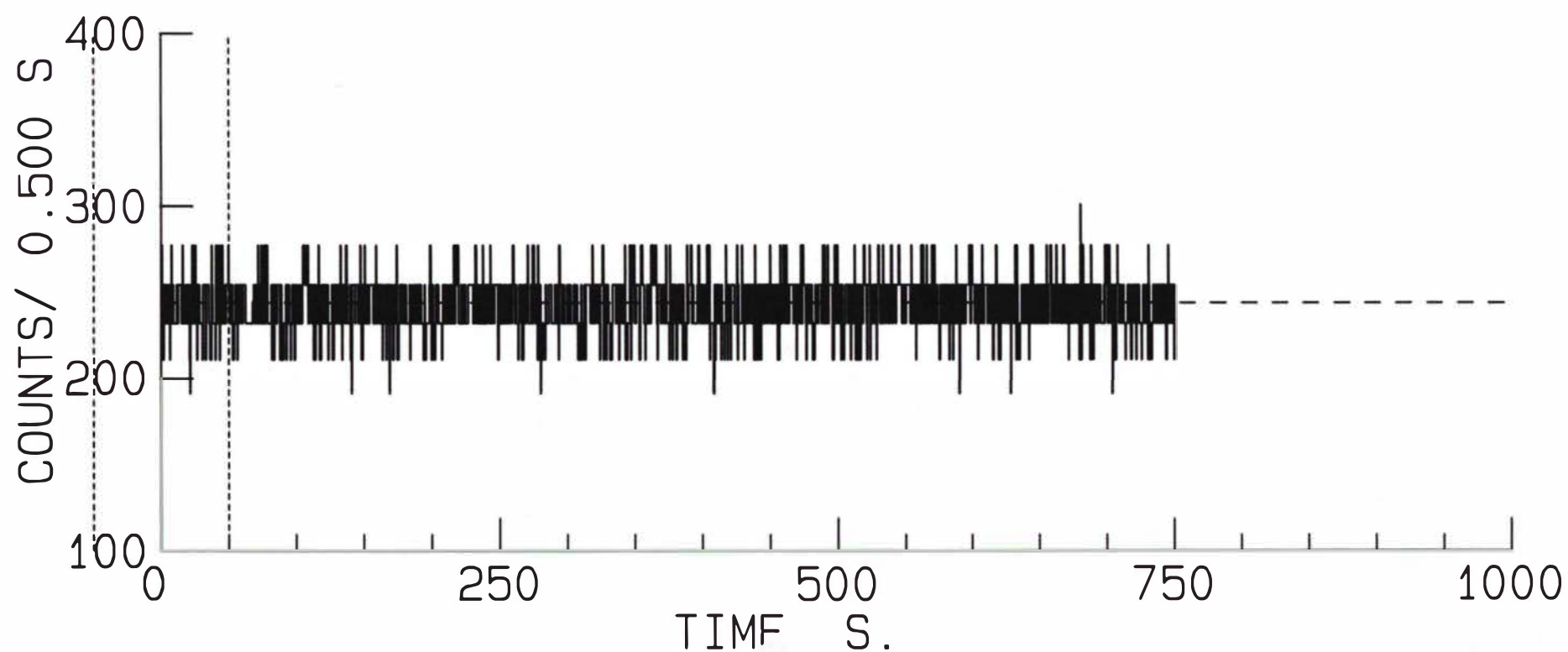
Created by MOPS 80
(Burst Display)
Version t2.26

Trigger # : 6788

Trigger Time:
10960 / 30119.777Burst Data Type:
DISCSCDeadline
Corrected: NBackground Data
Type: PWEB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..0):
-6-4-2-8Discriminators:
(1 : 2)Quality Mask:
B0ISP1

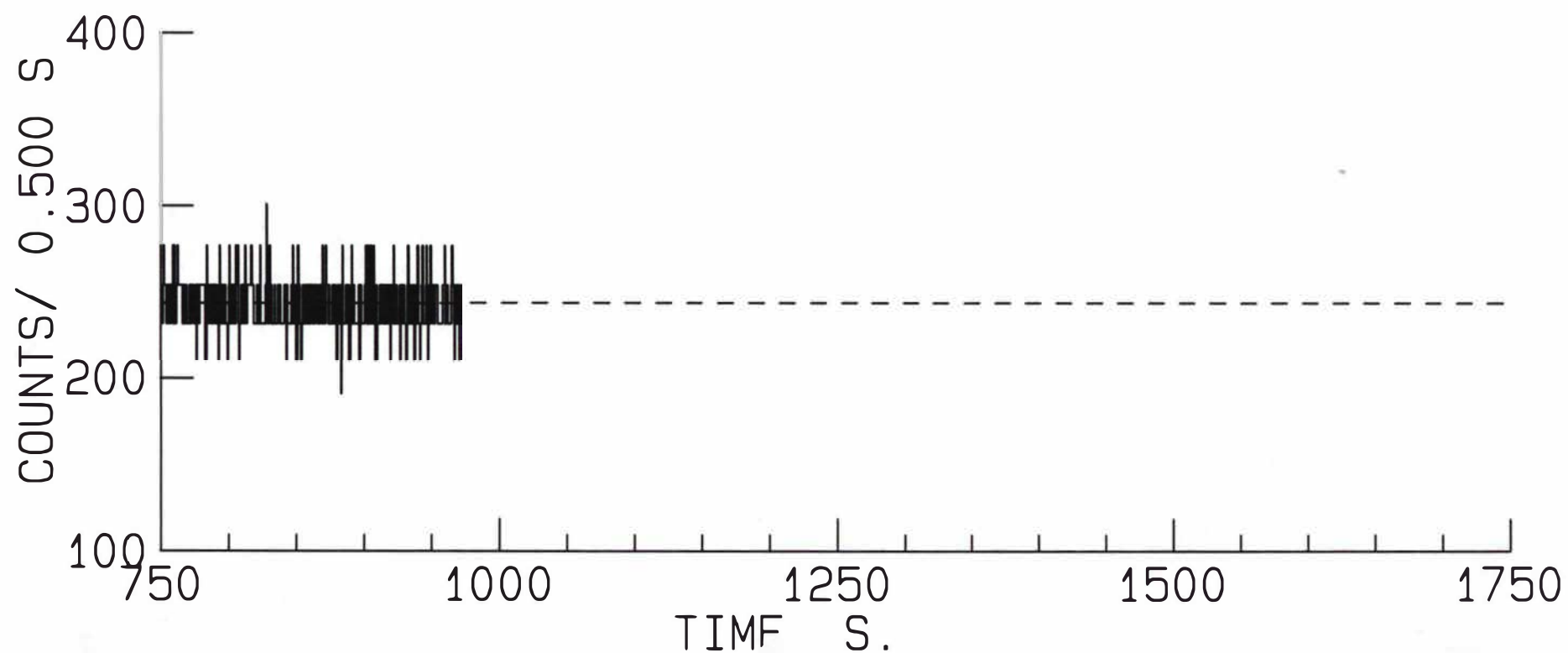
ULYSSES RT
27/ 5/98 30816.226 s
22- 150 keV

9/12/98



ULYSSES RT
27/ 5/98 30816.226 s
22- 150 keV

9/12/98



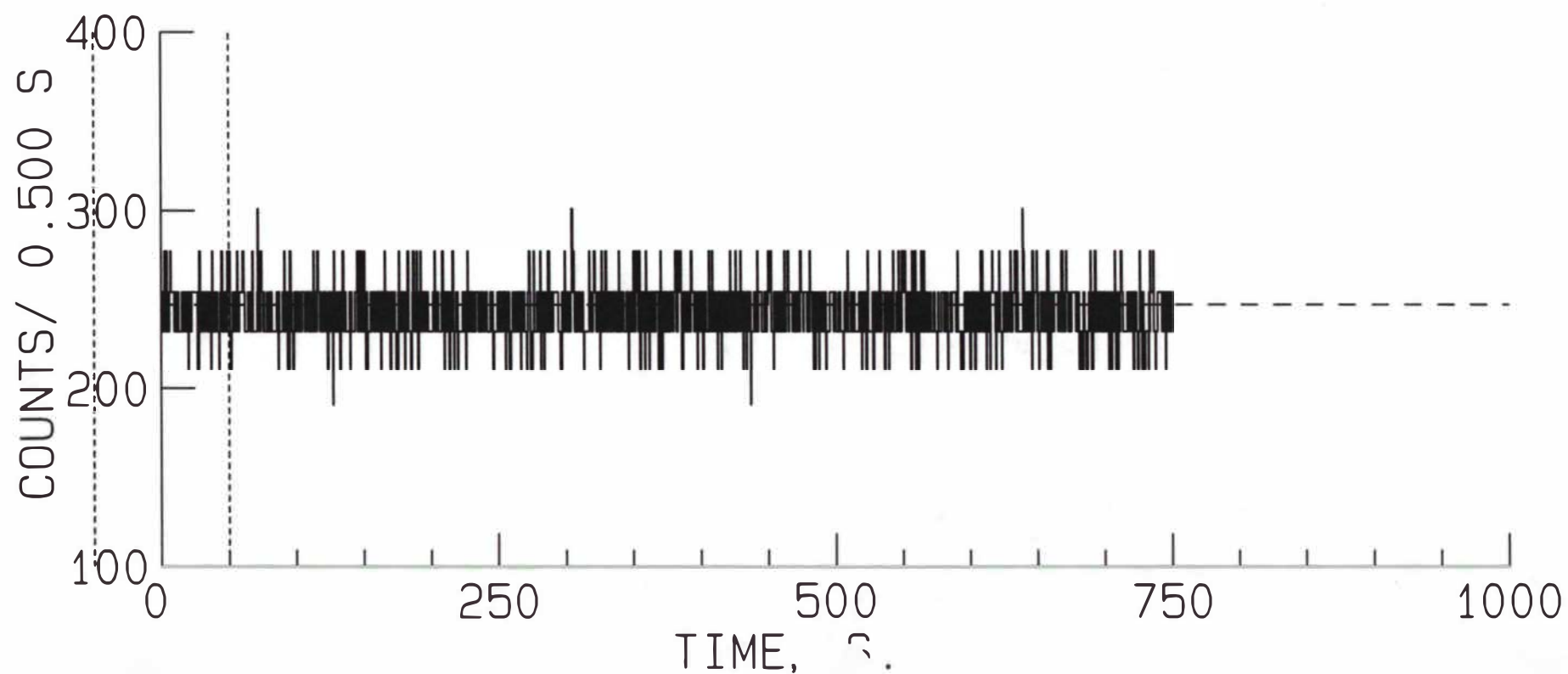
ULYSSES RT

2 / 6 / 98

27 / 5 / 98 31572.231 s

22- 148 keV

(Position of 1900+14)

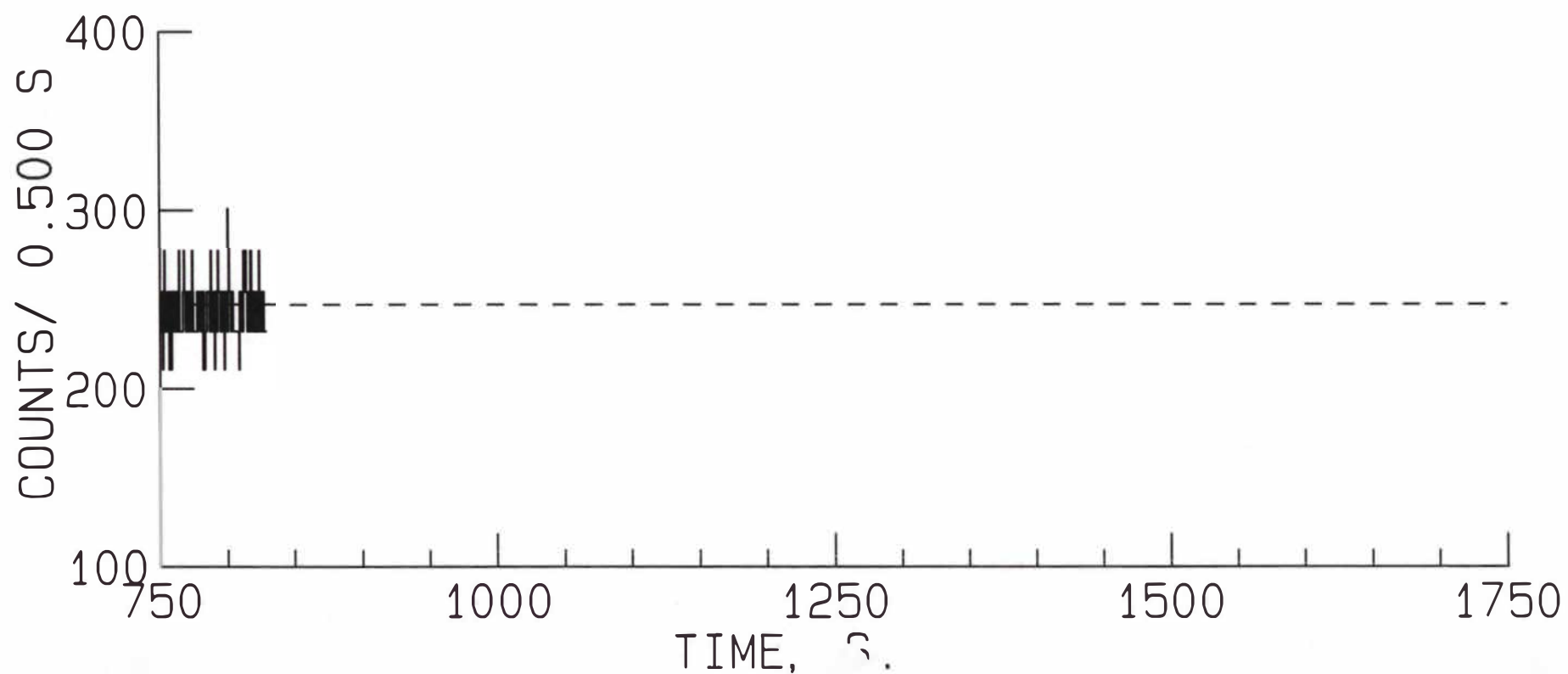


ULYSSES RT

2 / 6 / 98

27 / 5 / 98 31572.231 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Fri May 29 11:19:10 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16844; Fri, 29 May 1998 11:19:10 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA04641; Fri, 29 May 1998 11:19:08 -0700
Date: Fri, 29 May 1998 13:19:09 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980529131909.20217570@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6789
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6789
EVENT OF 1998 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 49272. S. OR 13:41:12.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 197.000 5.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 98 IS:
RA= 148.866 DEC= 11.647 DIST= 5.475 AU
BATSE-ULYSSES DISTANCE = 819025246. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=131.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1827.03 SECS.
CROSSING TIME AT ULYSSES IS 47445. S. OR 13:10:44 +/- 374.90 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 98 IS:
RA= 59.897 DEC= 20.758 DIST= 2.505 AU
MARS-BATSE DISTANCE = 374745920. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.34 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 814.42 SECS.
CROSSING TIME AT MARS IS 50086. S. OR 13:54:46 +/- 177.01 SECONDS

BATSE BURST TRIGGER

NO.: 6789

TIME: TJD=0960 SECONDS=49272

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=61.1 AZIMUTH=124.1 ERROR=7.0 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION APPROX. = 0.2 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6789	980527	10960	49272	4000	197	+05	.2

BATSE BURST# 6789

ULYSSES RT

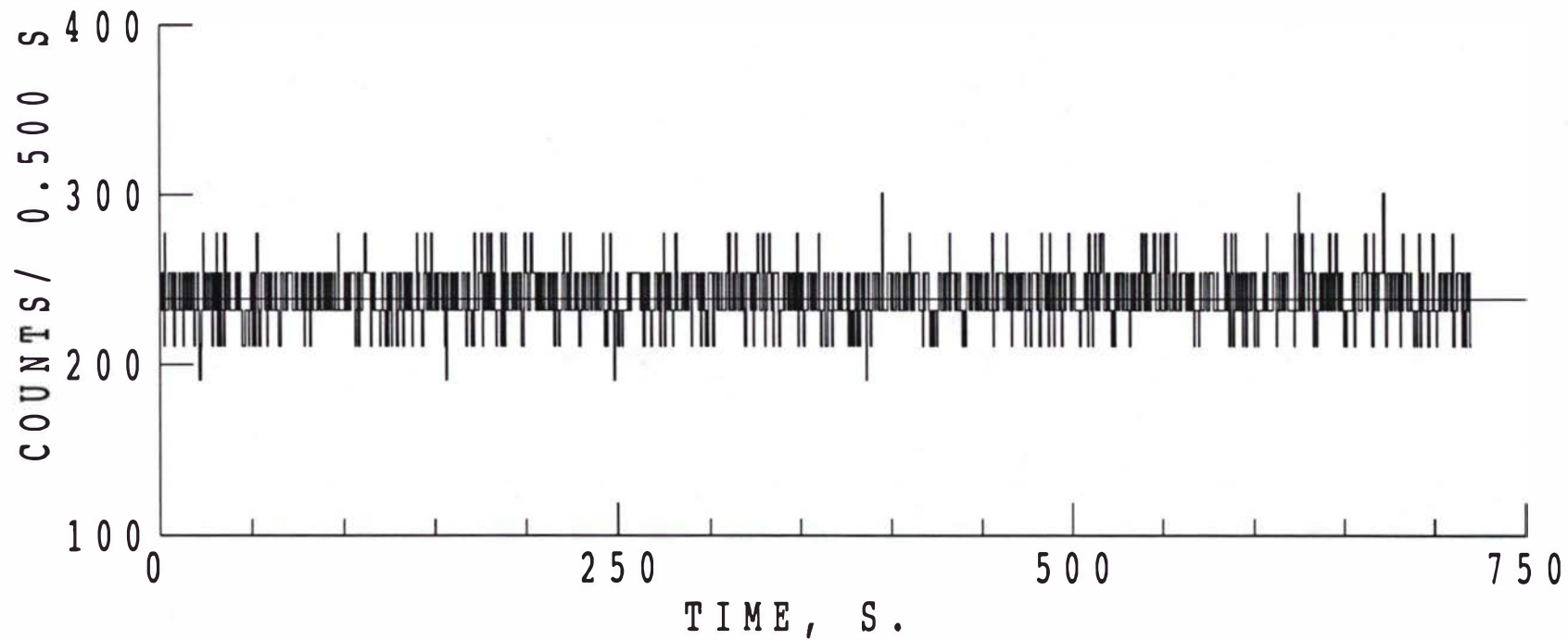
29 / 5 / 98

27 / 5 / 98 47088.398 s

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri May 29 09:48:06 1998
Date: Fri, 29 May 1998 11:47:52 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6790

TIME: TJD=0960 SECONDS=81790

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

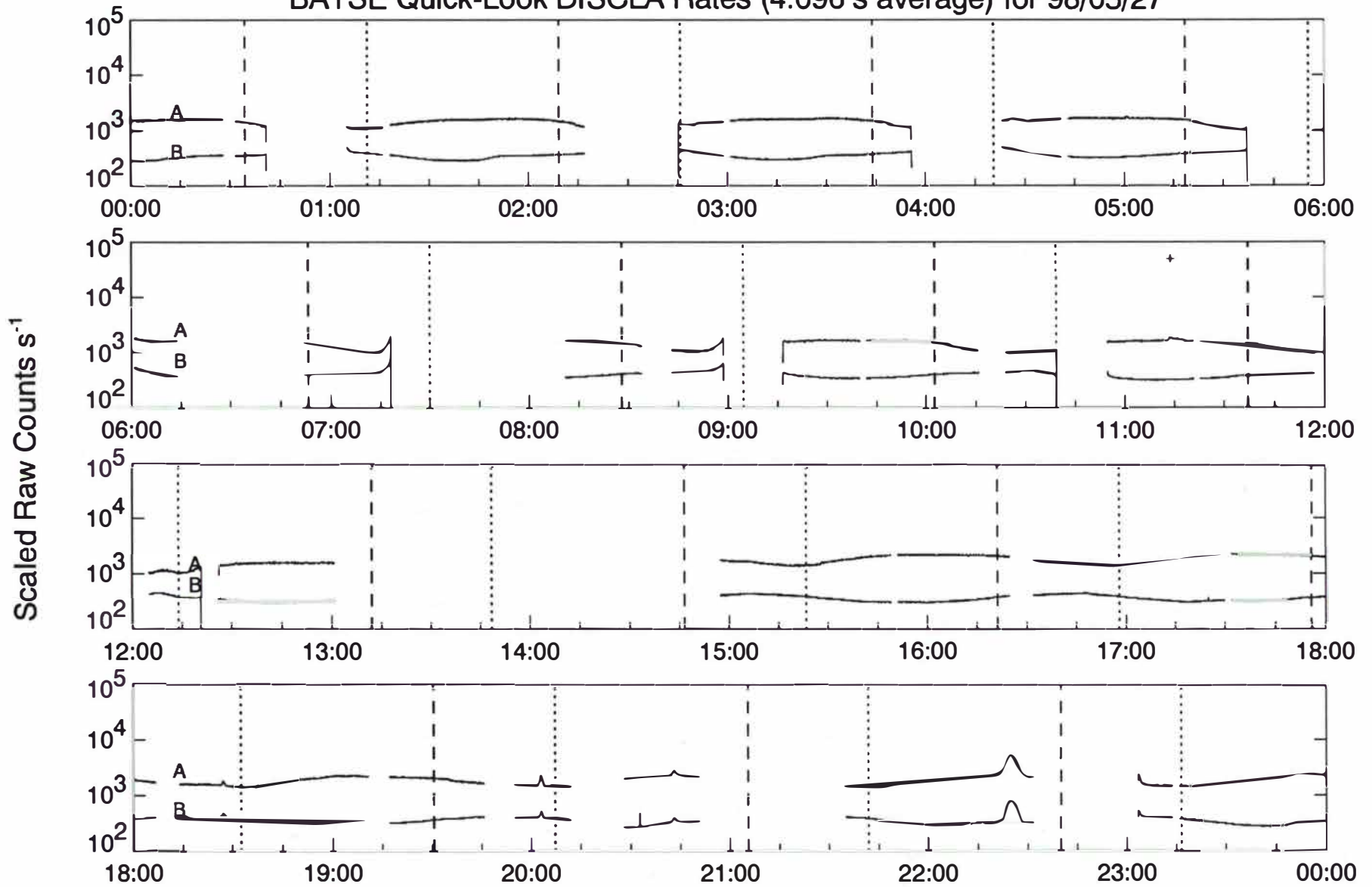
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT APPROX. T+41 S.

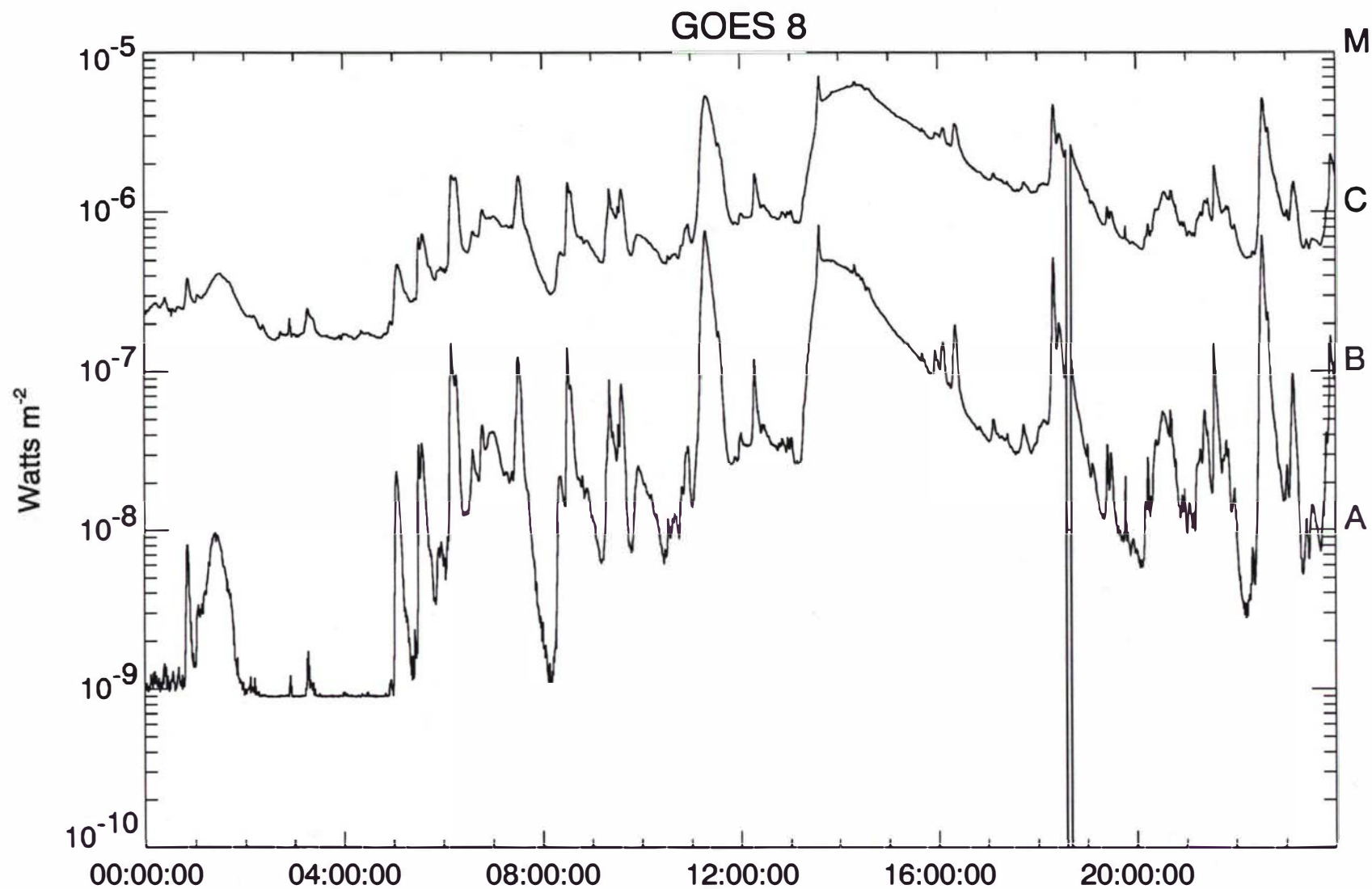
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/27



Current Time: 98/05/31, 1008 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



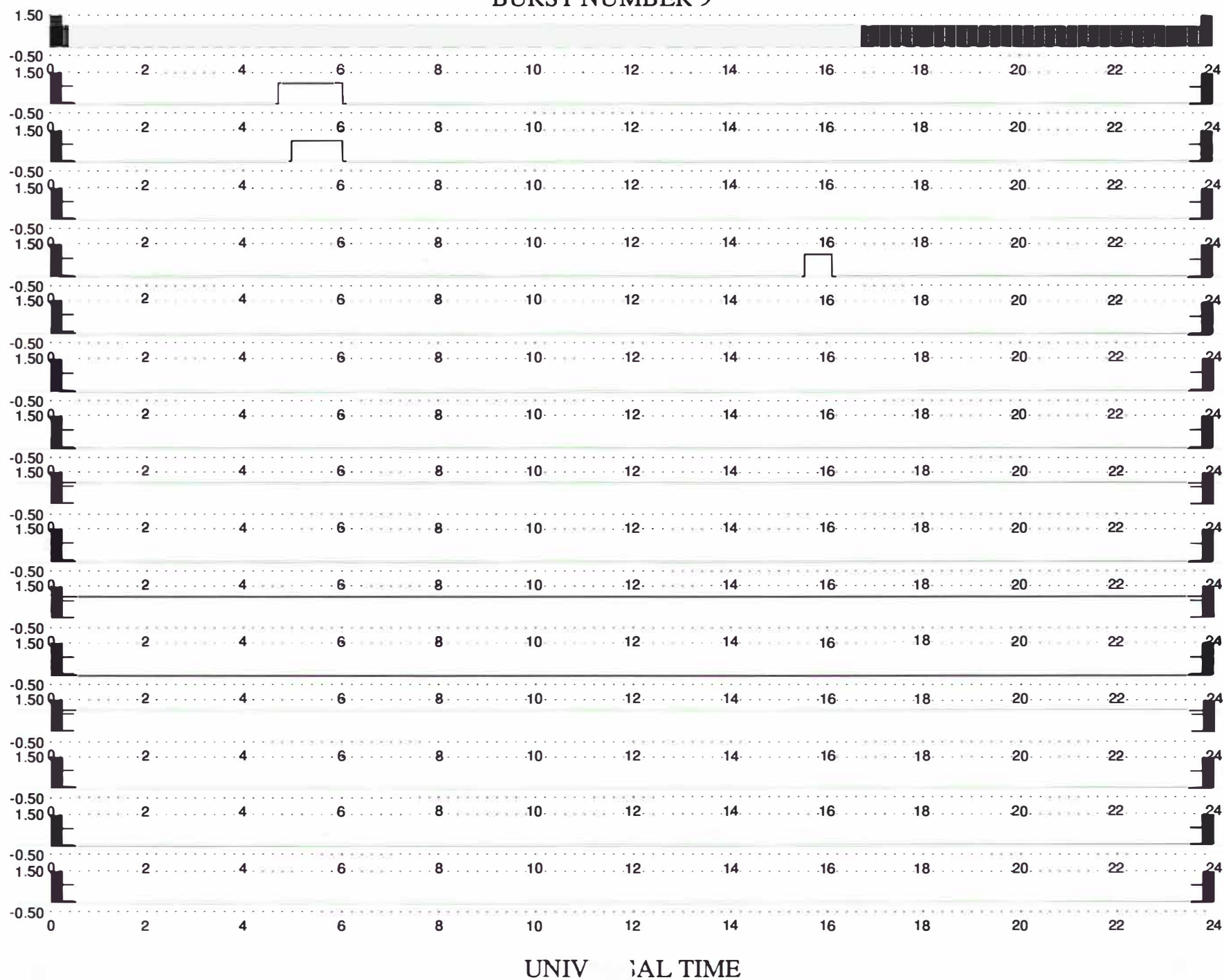
Data Start: 98/05/27, 0000:00

Plot created: 98/05/31, 1007

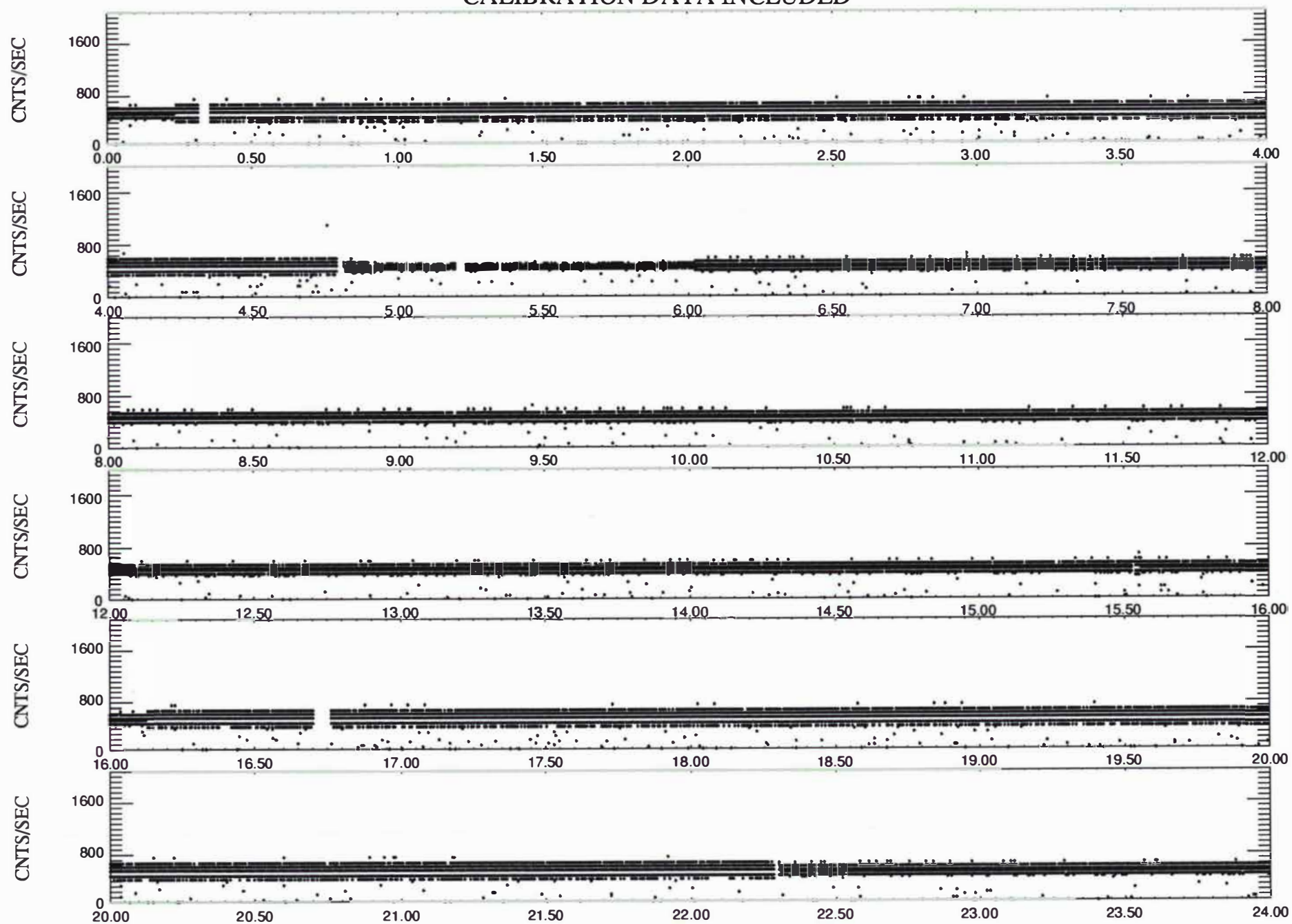
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

	CPU	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

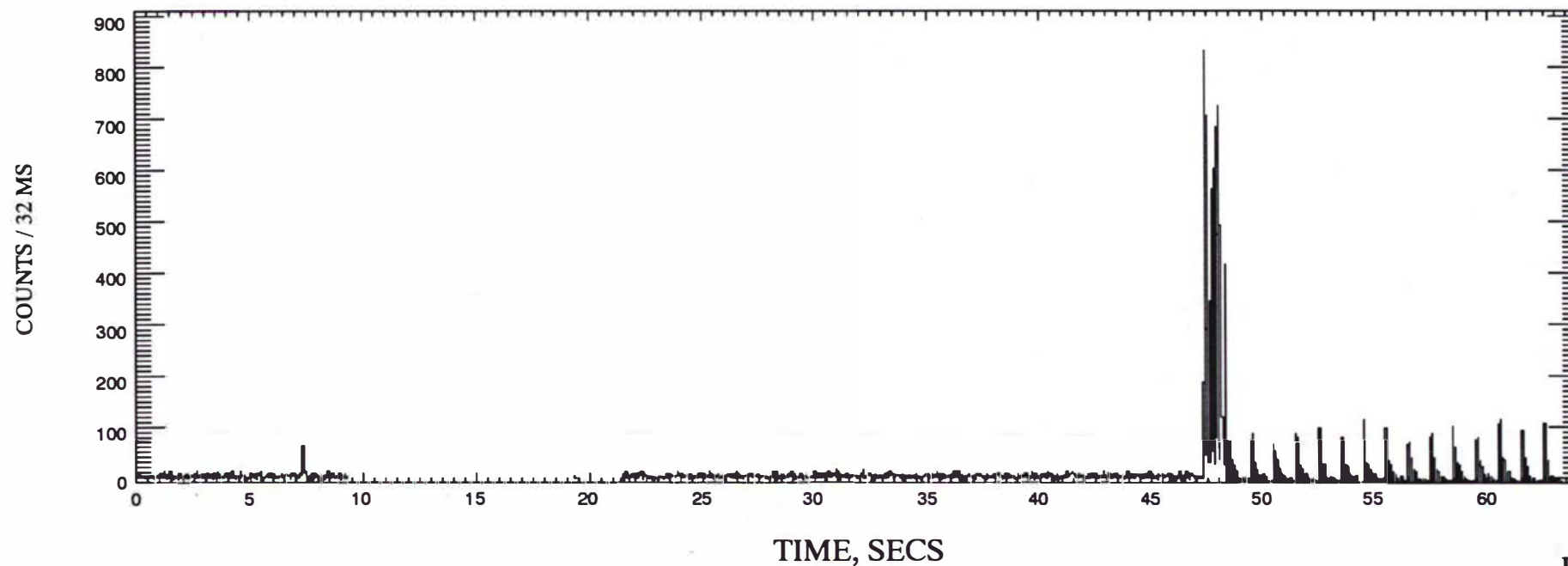
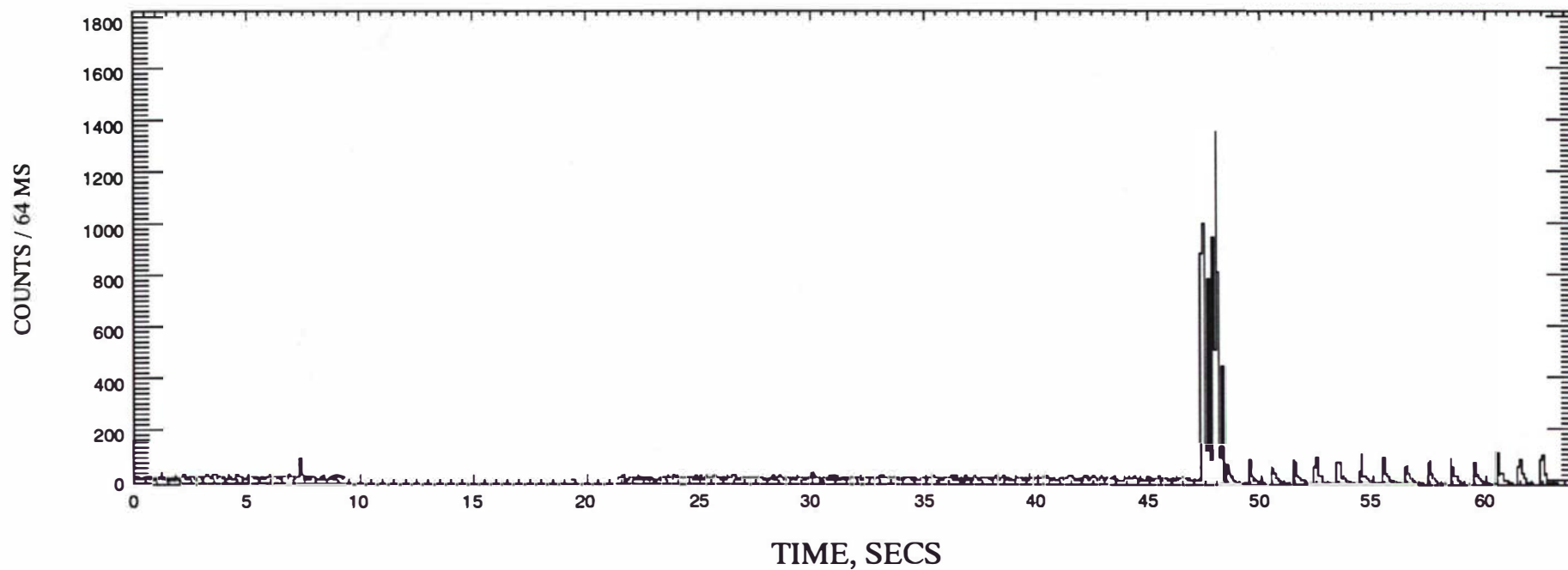


CALIBRATION DATA INCLUDED

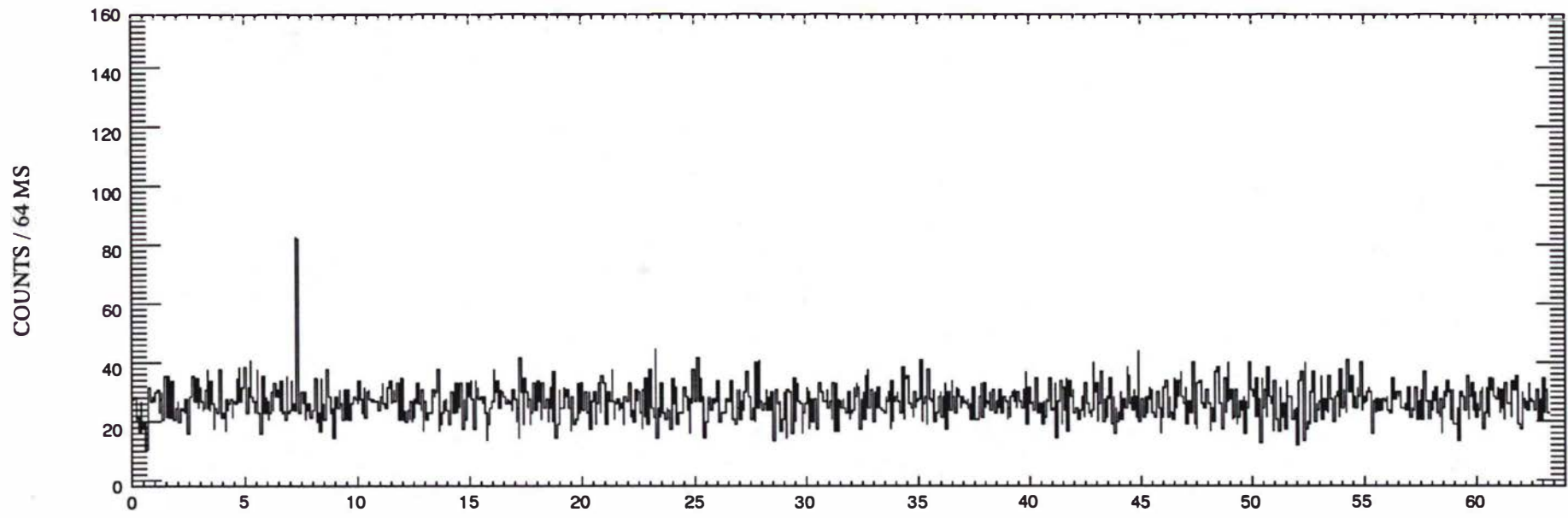


UNIV 'AL TIME

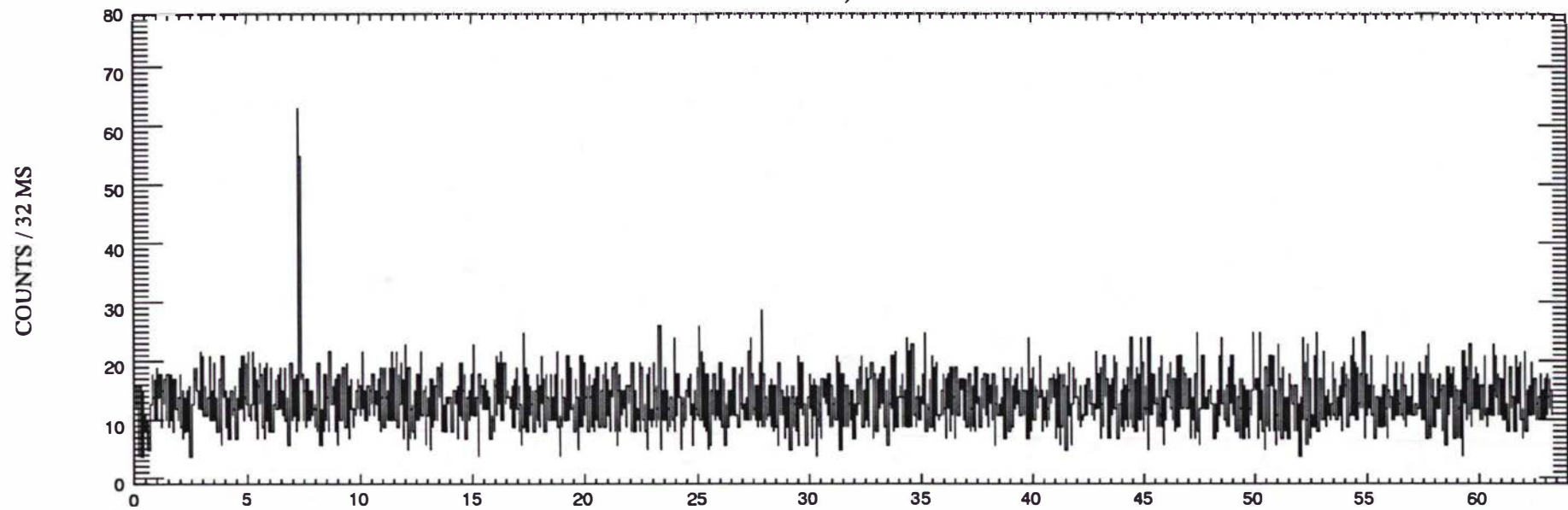
Burst Counter 9 at UT= 4.753937458462 h=17114.175 s 04:45:14.175



Burst Counter 8 at UT= 5.936468666924 h=21371.287 s 05:56:11.287

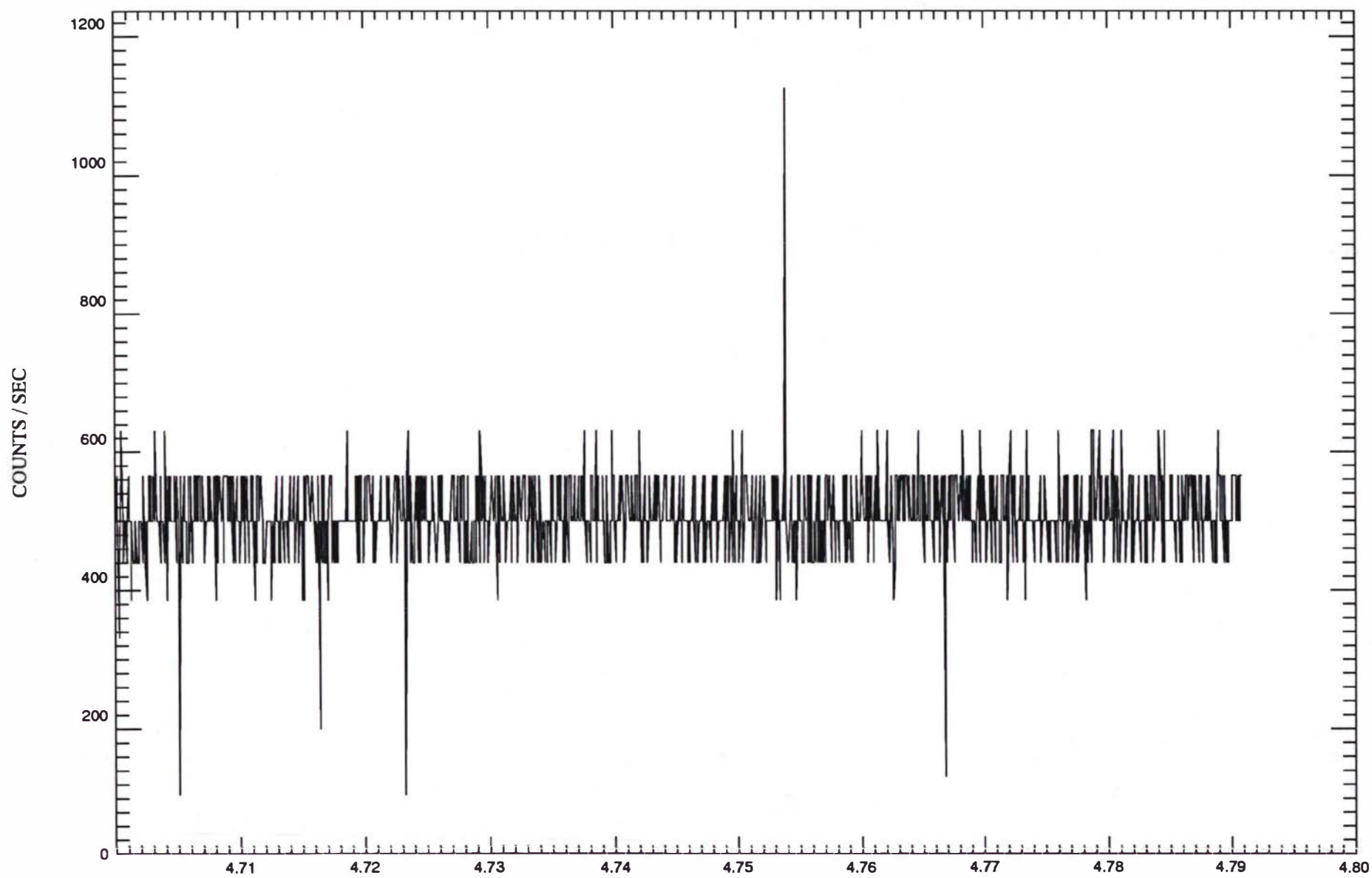


TIME, SECS

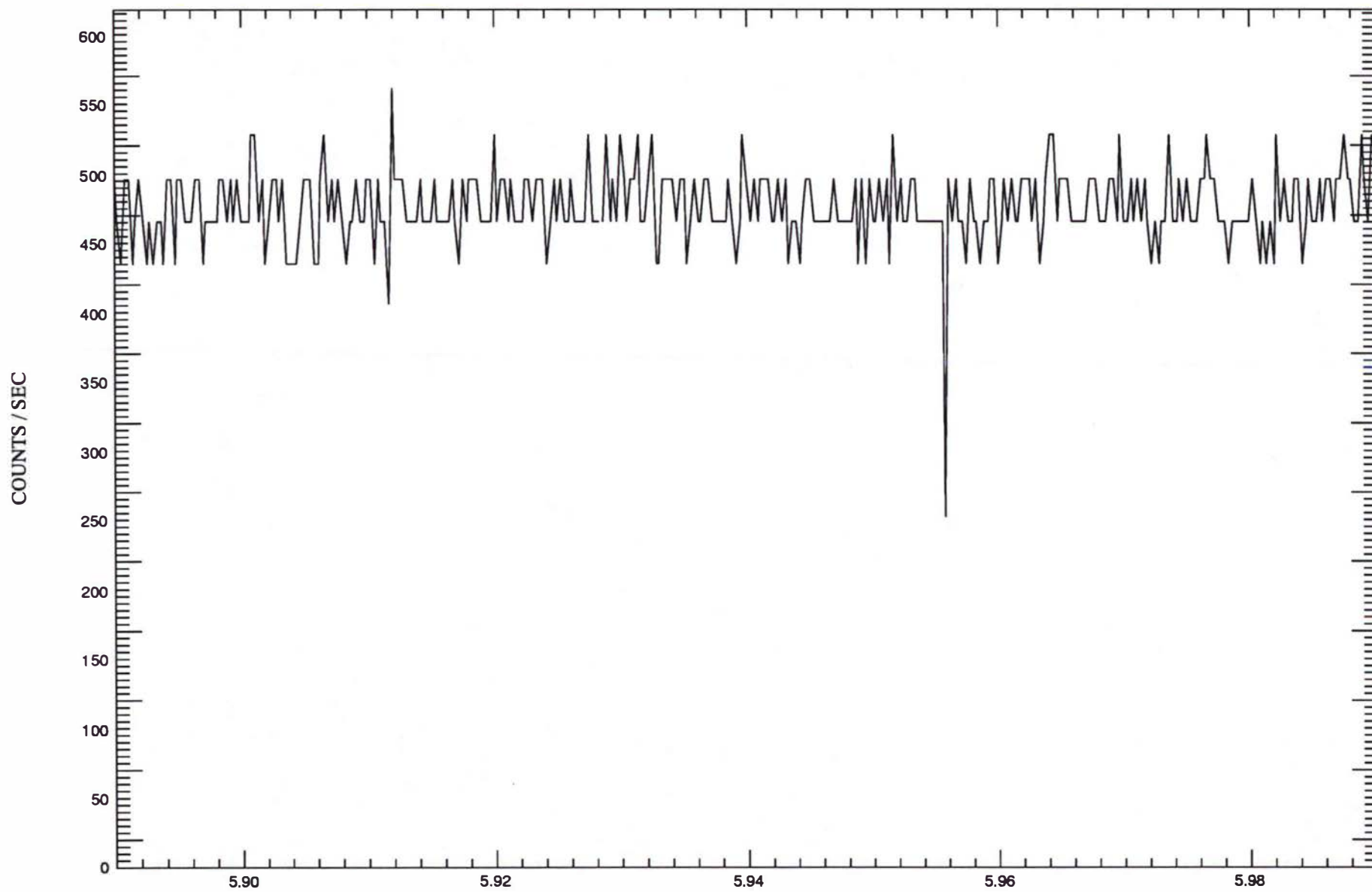


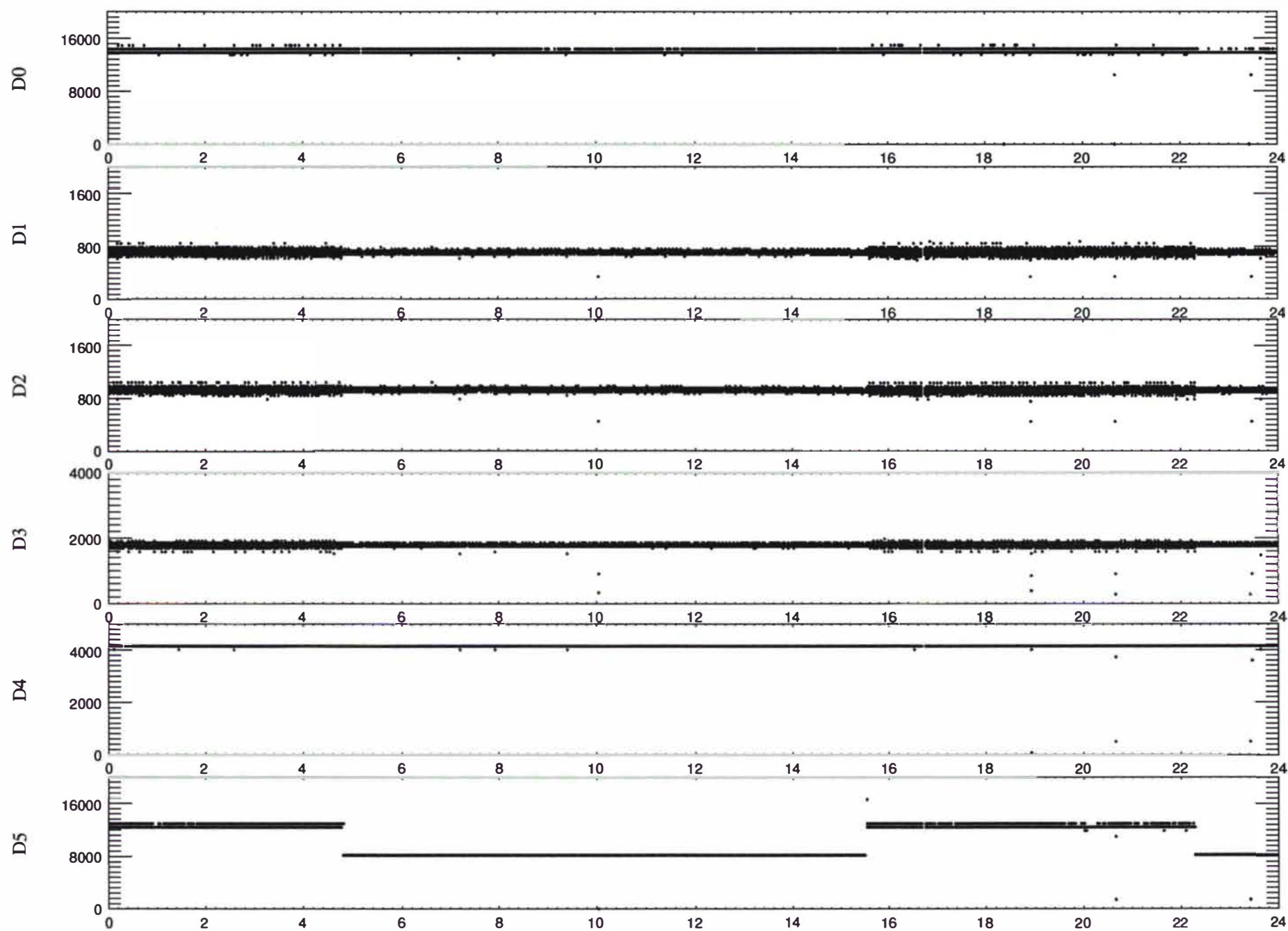
TIME, SECS

CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





UNIV. CAL TIME

From WOODSP@fender.msfc.nasa.gov Mon Jun 1 12:55:15 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 14:40:22 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6791

TIME: TJD=0961 SECONDS=7001

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From WOODSP@fender.msfc.nasa.gov Mon Jun 1 12:55:42 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 14:41:27 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6792

TIME: TJD=0961 SECONDS=68579 19:02:59

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=87.4 AZIMUTH=356.5 ERROR=1.1 DEGREES

COMMENTS:

SOLAR FLARE. GOES C8.7. ERUPTIVE PROMINENCE.

From WOODSP@fender.msfc.nasa.gov Mon Jun 1 12:56:18 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 14:42:35 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6793

TIME: TJD=0961 SECONDS=80483

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

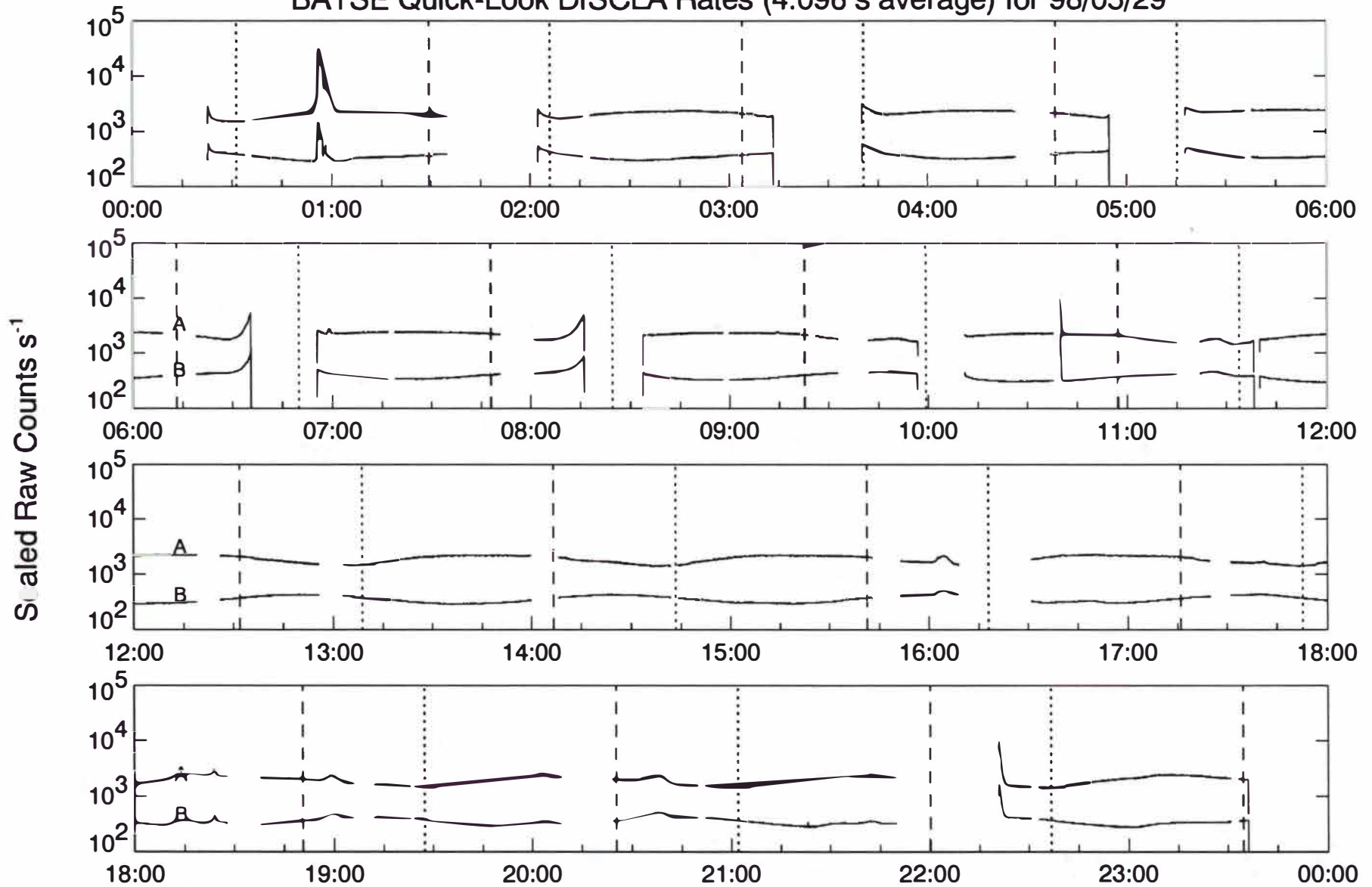
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/29



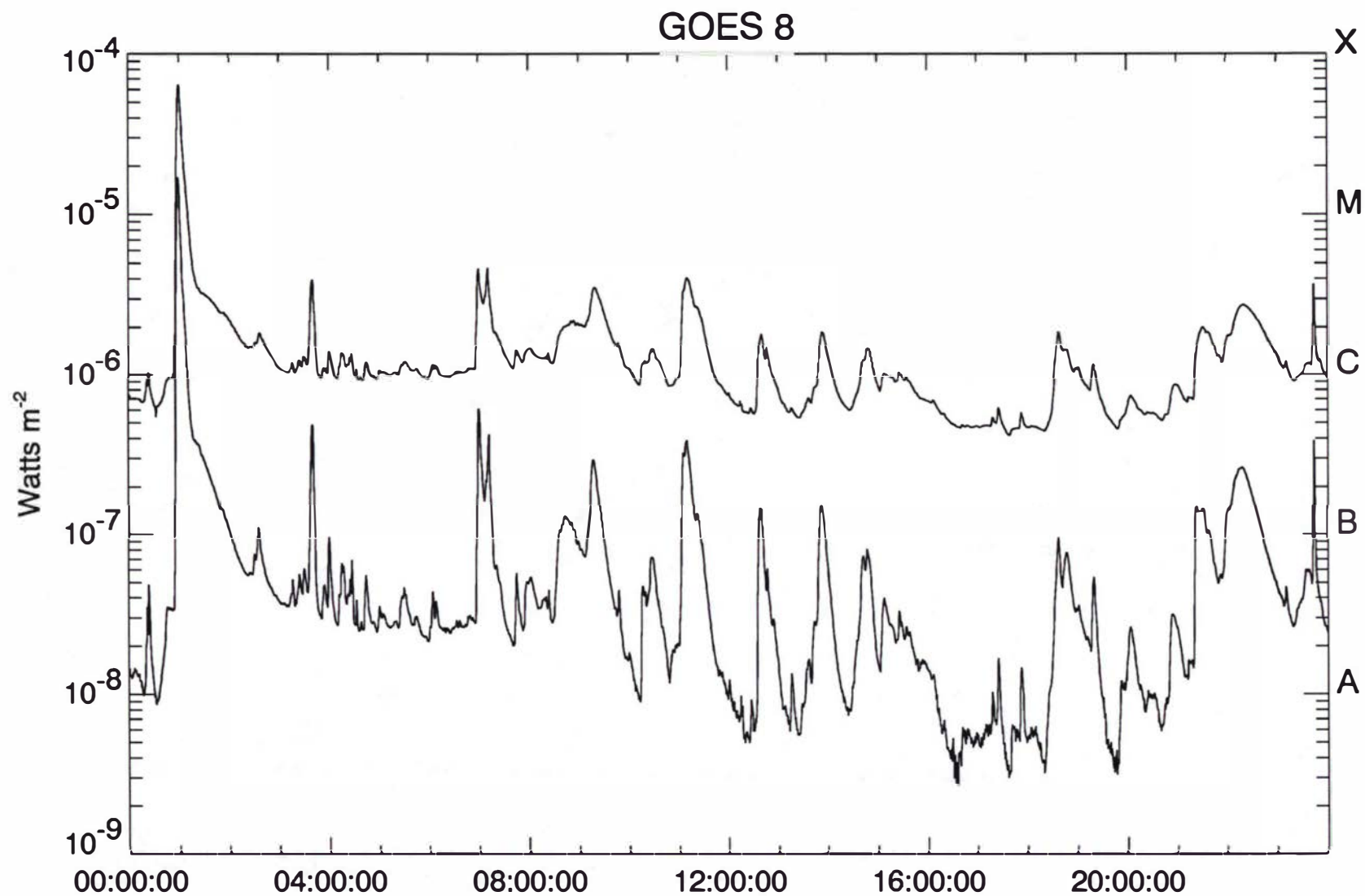
Current Time: 98/06/02, 1009 EDT

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



Data Start: 98/05/29, 0000:00

Plot created: 98/06/02, 1008

Channel 1 (1.0 - 8.0 Angstroms)

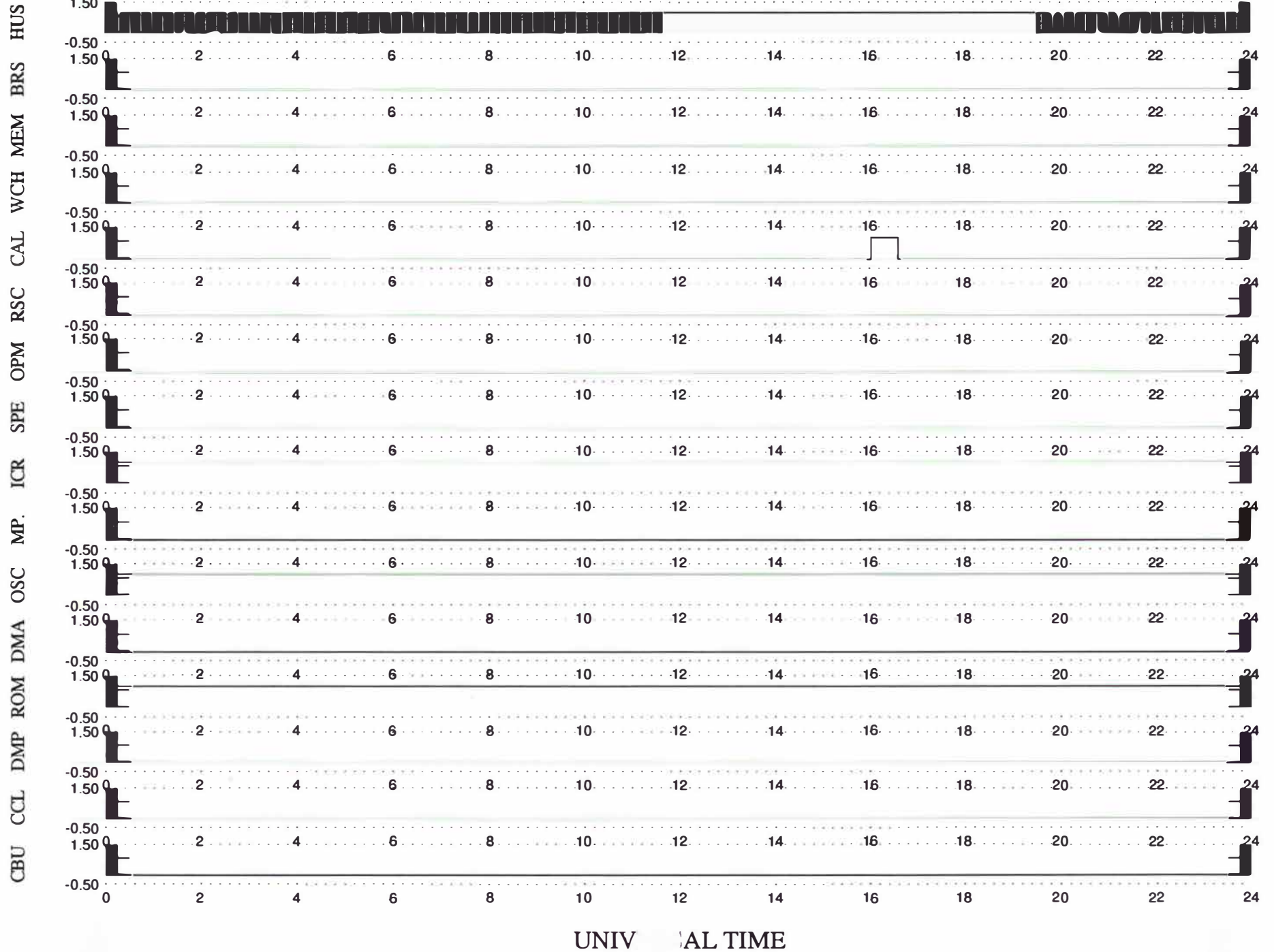
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

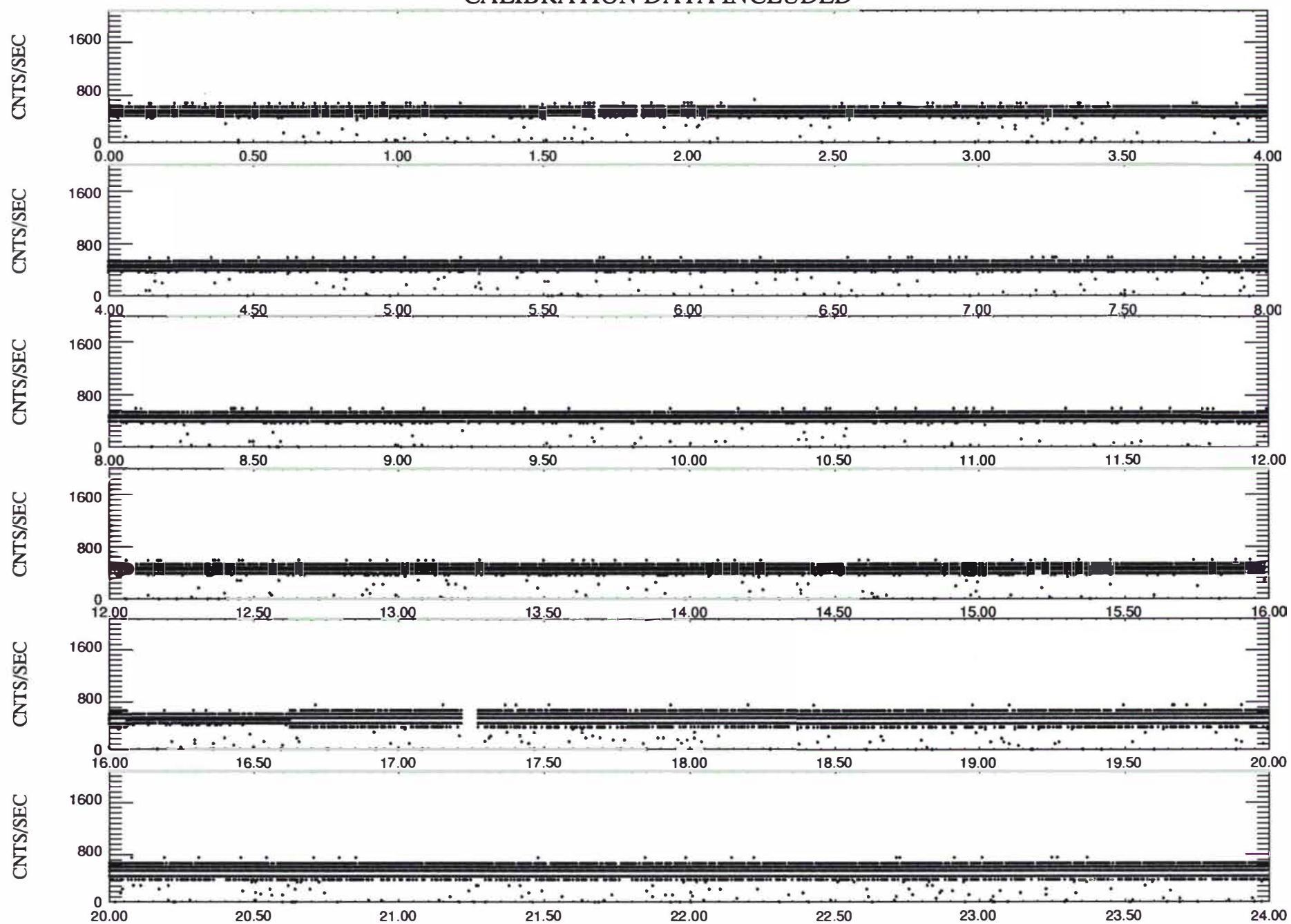
Background not subtracted

Sample average = 10

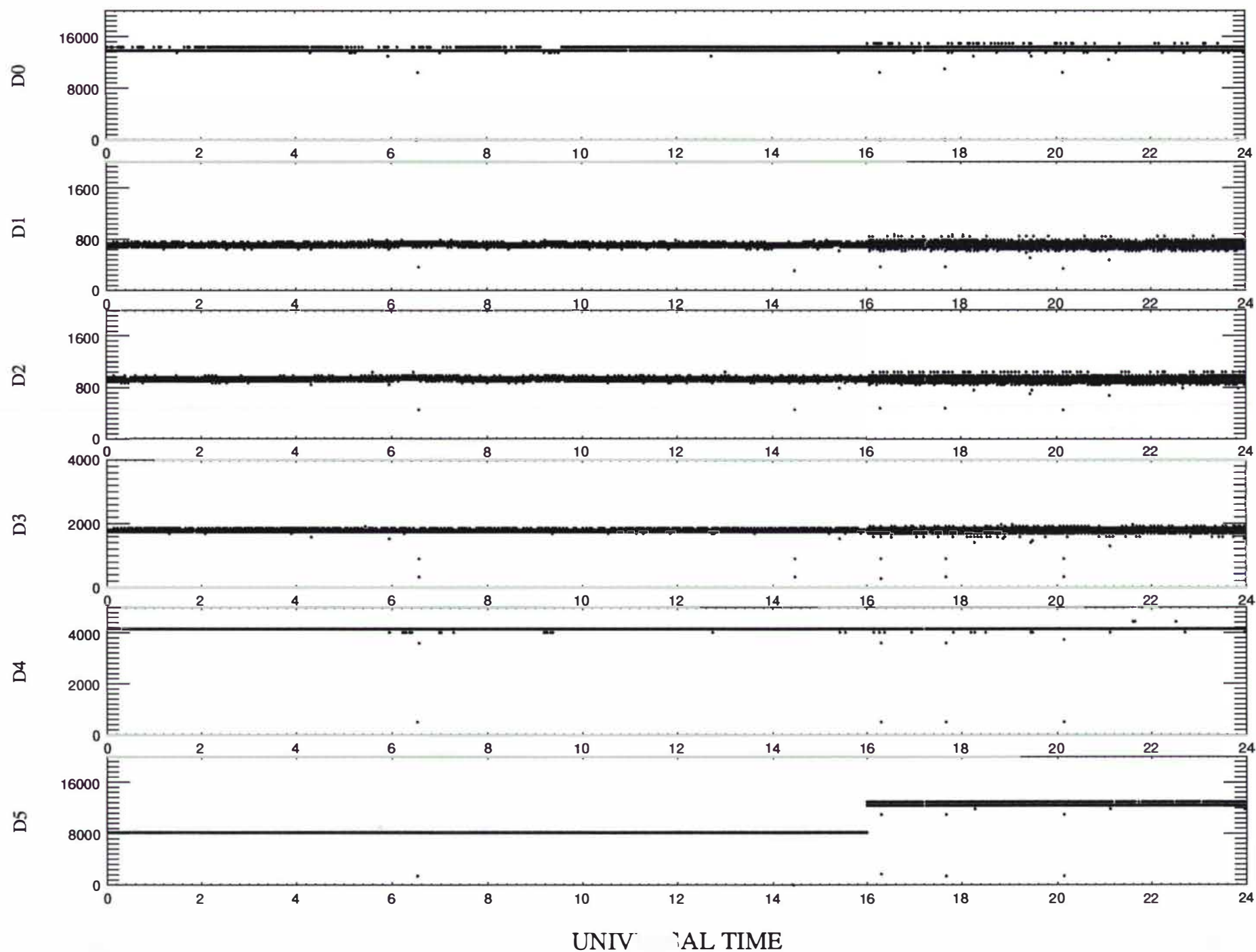
NO BURST (9)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SURASAK@fender.msfc.nasa.gov Mon Jun 1 19:05:01 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 21:04:51 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6794

TIME: TJD=0962 SECONDS=3340 00:55:40

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=87.6 AZIMUTH=356.4 ERROR=0.125 DEGREES

COMMENTS:

SOLAR FLARE. GOES M6.7, NO OPTICAL. SINGLE PULSE WITH SUBSTRUCTURE. DURATION
ABOUT 400 S. VISIBLE ABOVE 300 KEV.

From SURASAK@fender.msfc.nasa.gov Mon Jun 1 18:59:43 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 20:58:50 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6795

TIME: TJD=1096 SECONDS=79187

TYPE: SAA ENT

SOLAR FLARE TRIGGER SIGNAL:N

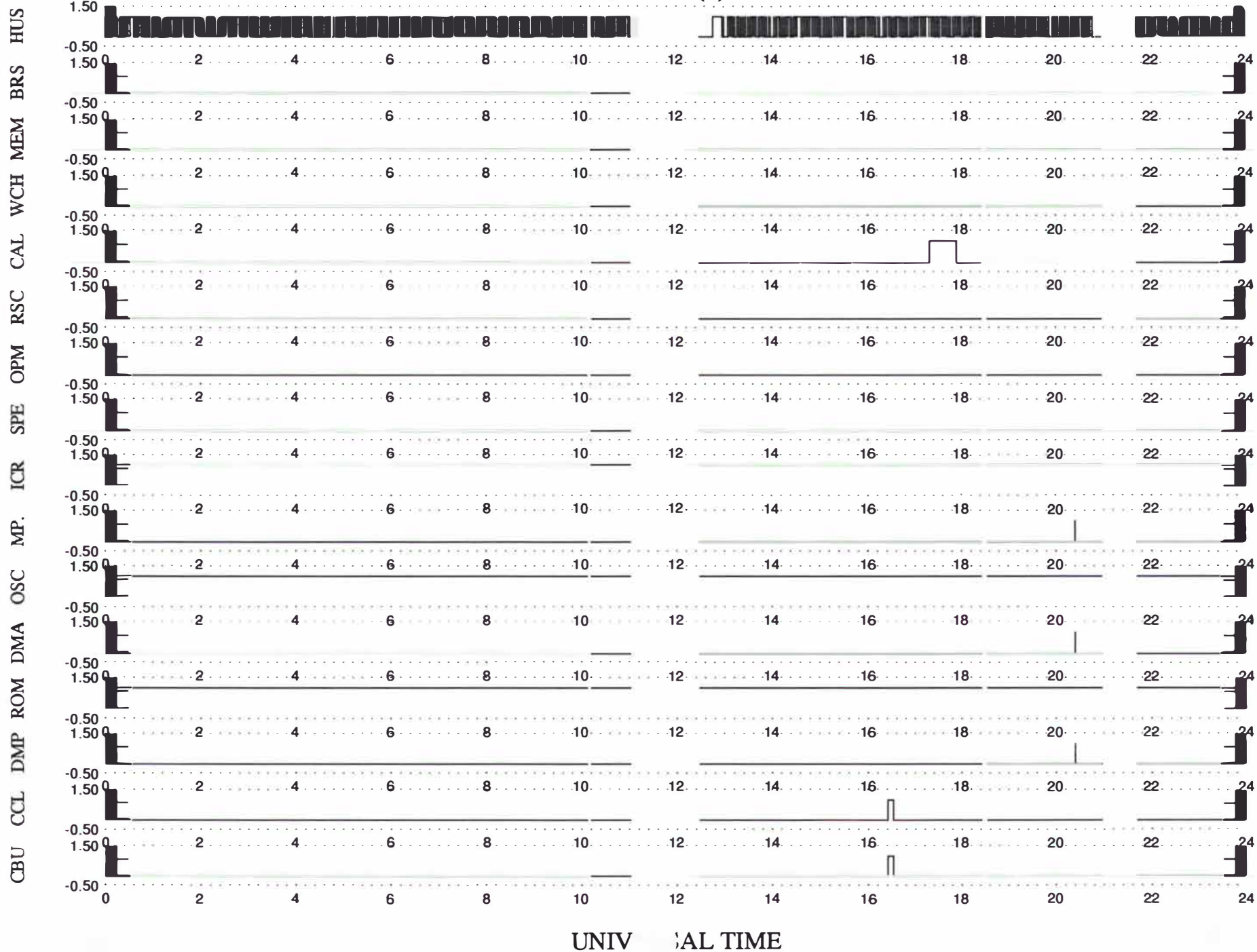
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

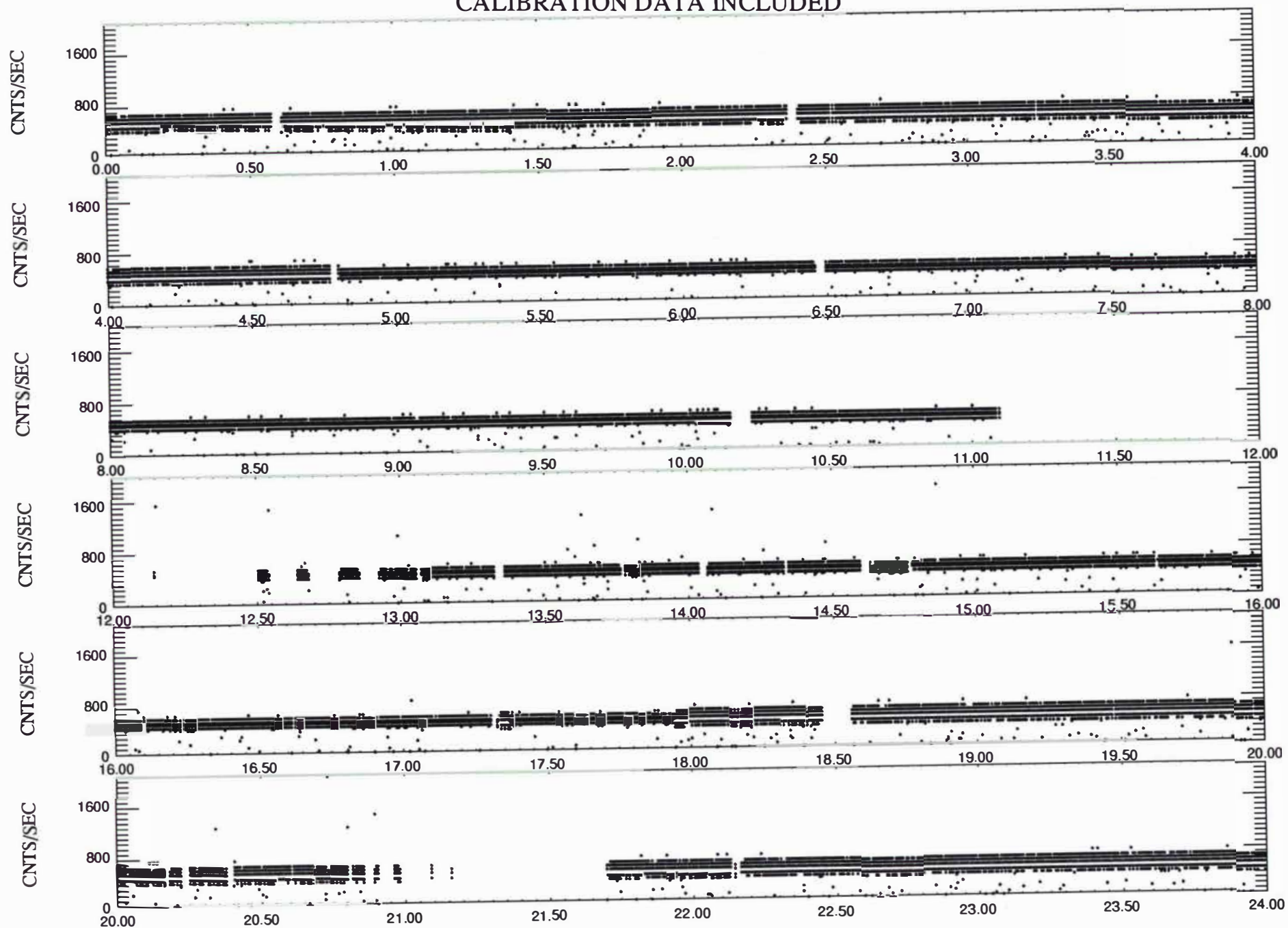
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

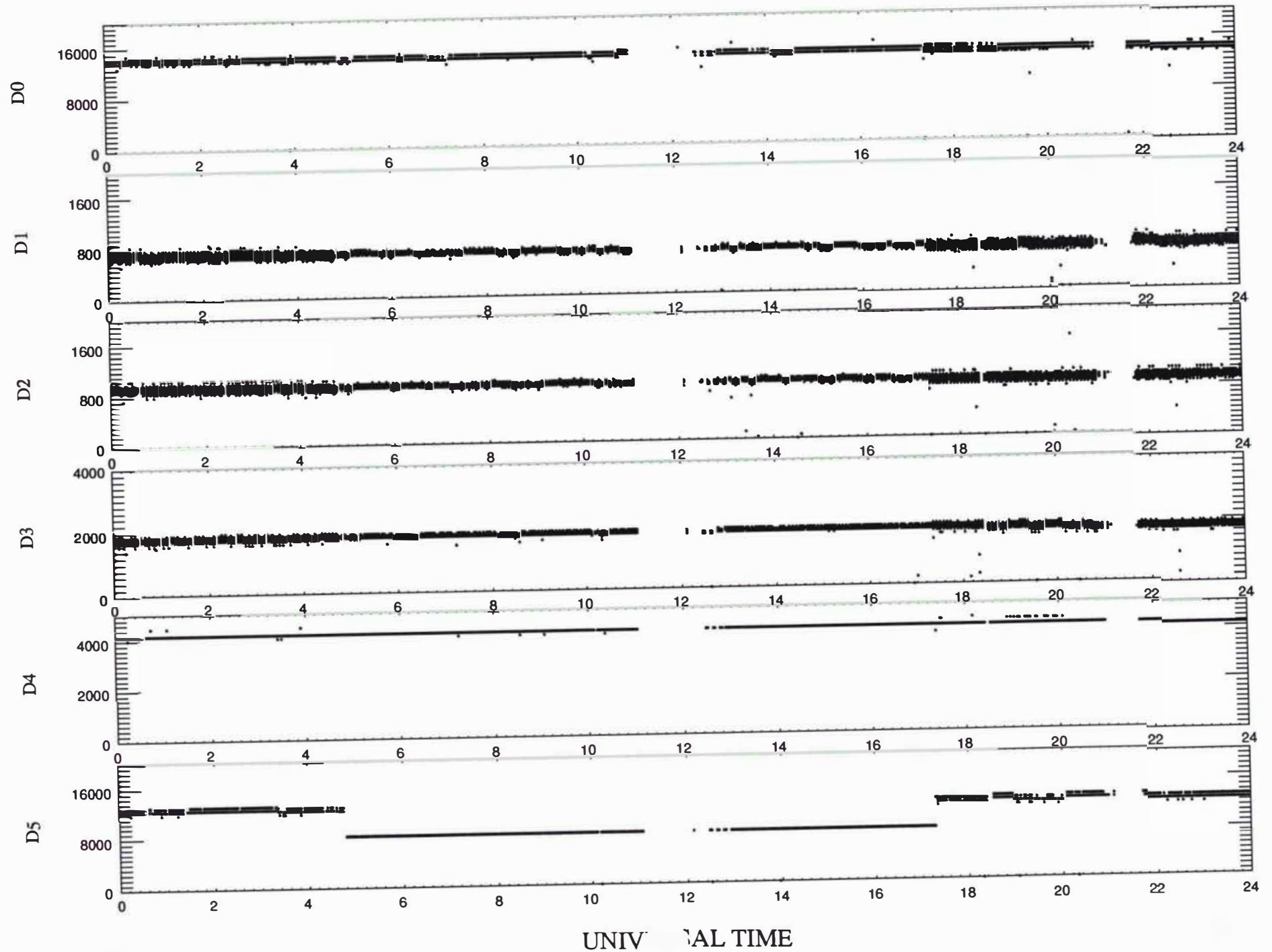
NO BURST (9)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From SURASAK@fender.msfc.nasa.gov Wed Jun 3 08:14:01 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA11809; Wed, 3 Jun 1998 08:14:01 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA00708; Wed, 3 Jun 1998 08:14:00 -0700
Date: Wed, 3 Jun 1998 10:13:48 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980603101348.20200e6c@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6796
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6796
EVENT OF 1998 MAY 30 DAY OF YEAR=150
EVENT CROSSING TIME AT BATSE : 3638. S. OR 01:00:38.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 148.000 -27.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 5/ 98 IS:
RA= 148.920 DEC= 11.510 DIST= 5.515 AU
BATSE-ULYSSES DISTANCE = 825049544. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2153.19 SECS.
CROSSING TIME AT ULYSSES IS 1485. S. OR 00:24:44 +/- 314.87 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 5/ 98 IS:
RA= 62.125 DEC= 21.198 DIST= 2.508 AU
MARS-BATSE DISTANCE = 375178112. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 130.67 SECS.
CROSSING TIME AT MARS IS 3769. S. OR 01:02:48 +/- 218.07 SECONDS

BATSE BURST TRIGGER

NO.: 6796

TIME: TJD=0963 SECONDS=3638

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

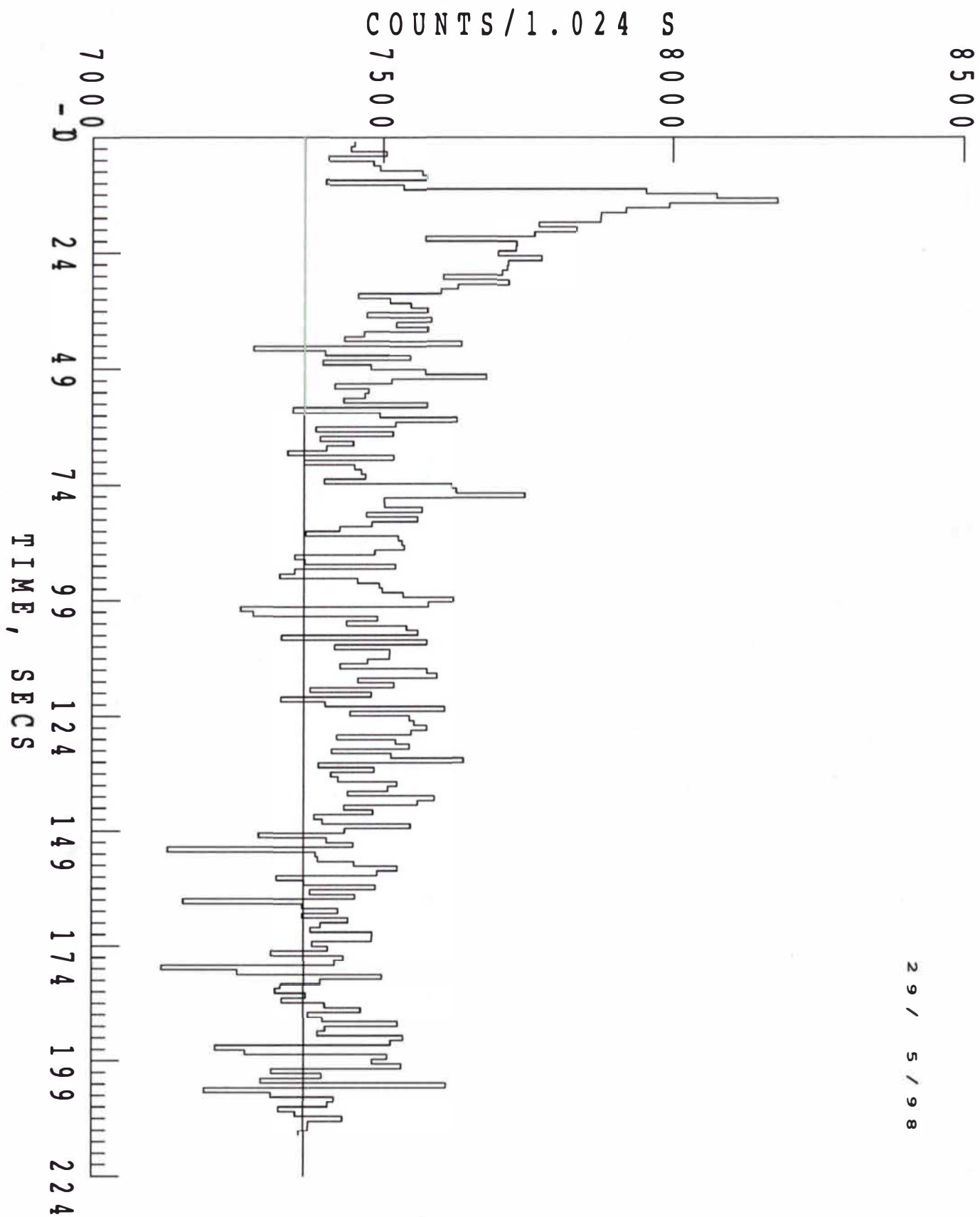
LOCATION: ZENITH=41.6 AZIMUTH=97.5 ERROR=8.693 DEGREES

COMMENTS:

GRB. SINGLE PULSE. FRED. DURATION ABOUT 23 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6796	980530	10963	03638	2000	148	-27	23

BACODINE 6796 30/05/98 3626.721
25- 100 keV



BATSE BURST# 6796

ULYSSES RT

3 / 6 / 98

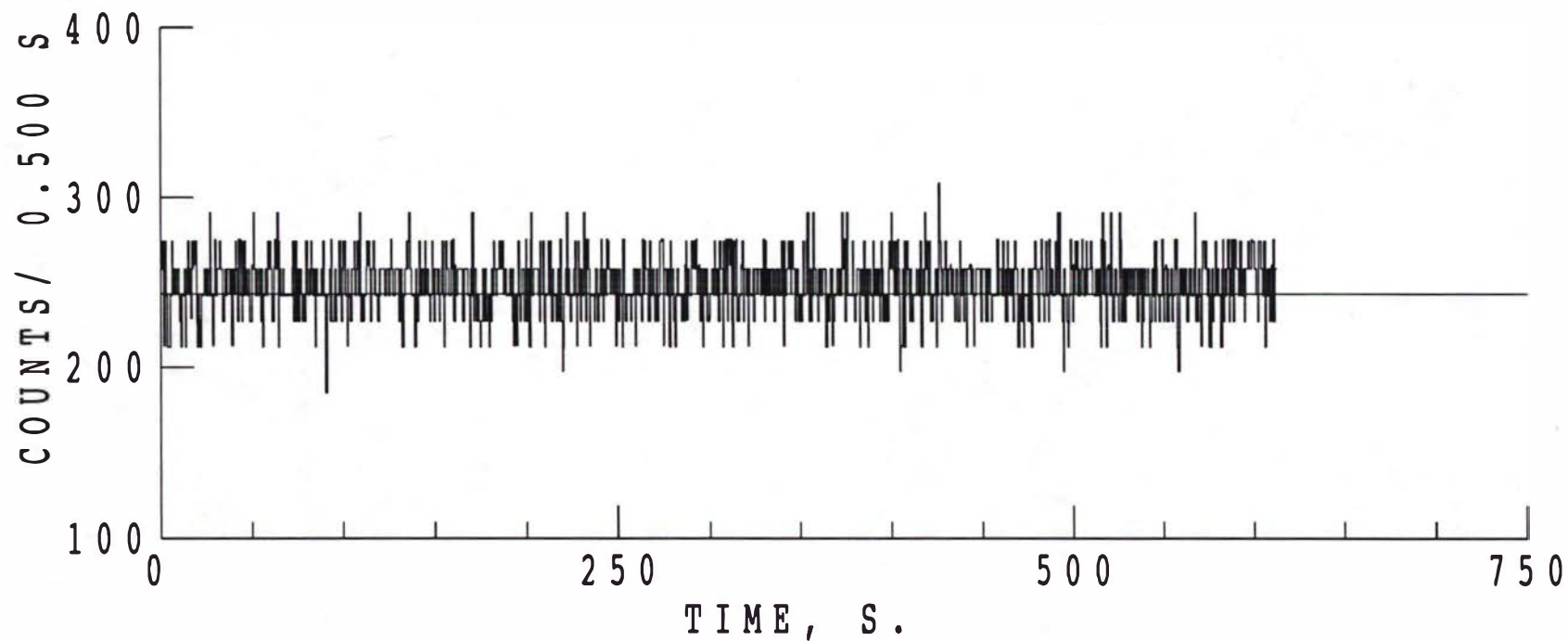
30 / 5 / 98 1188.160 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Wed Jun 3 07:47:48 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 3 Jun 1998 9:47:30 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6797

TIME: TJD=0963 SECONDS=16300

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From WOODSP@fender.msfc.nasa.gov Wed Jun 3 12:48:39 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 3 Jun 1998 14:48:16 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6798

TIME: TJD=0963 SECONDS=32624

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.3 AZIMUTH=222.5 ERROR=0.4 DEGREES

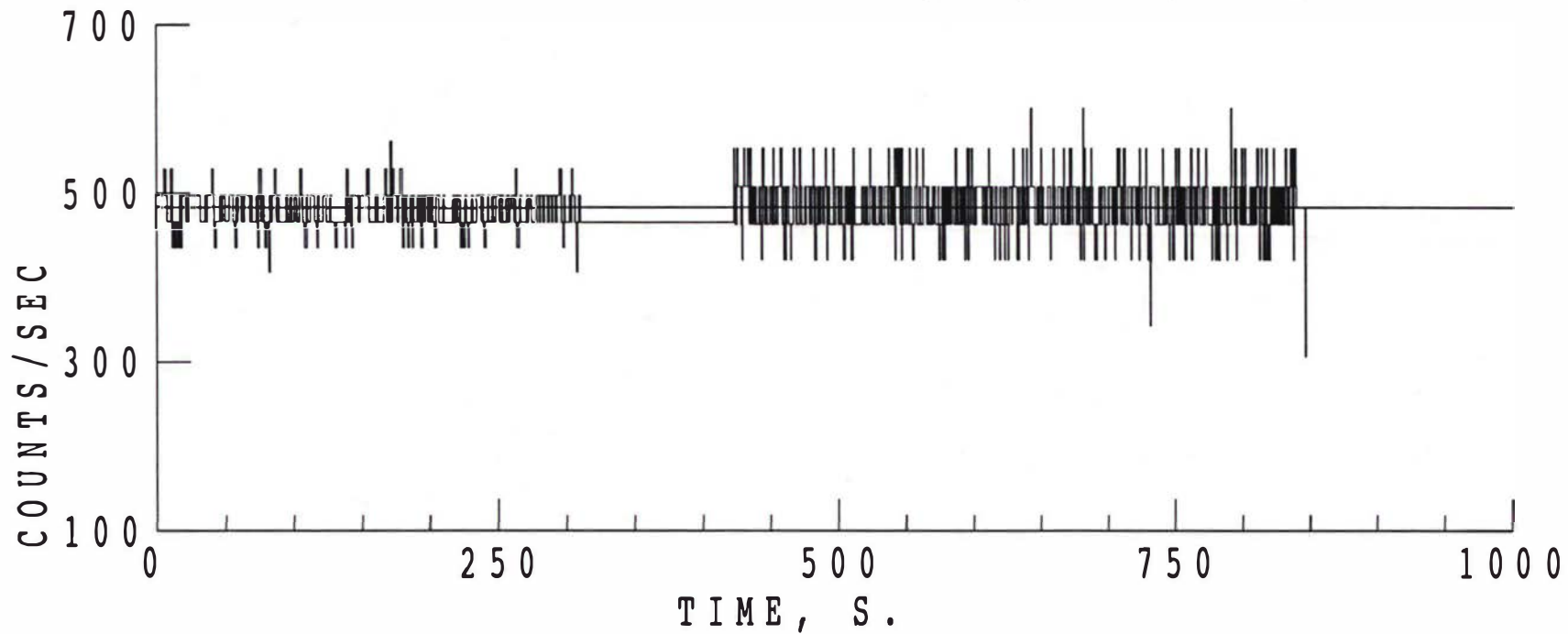
COMMENTS:

SGR 1900+14. INTENSE, LONG-LIVED OUTBURST. MULTIPLE EVENTS SEEN
DURING 350 SEC AROUND TRIGGER. VISIBLE ABOVE 100 KEV.

KONUS SG12 1900?
46038
25 / 6 / 98

ULYSSES RT
30 / 5 / 98 47484.152 s
0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Wed Jun 3 07:53:08 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 3 Jun 1998 9:48:48 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6799

TIME: TJD=0963 SECONDS=77889

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From SURASAK@fender.msfc.nasa.gov Wed Jun 3 08:16:36 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA11861; Wed, 3 Jun 1998 08:16:36 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA00739; Wed, 3 Jun 1998 08:16:36 -0700
Date: Wed, 3 Jun 1998 10:16:33 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980603101633.20200e6c@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6800
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6800
EVENT OF 1998 MAY 30 DAY OF YEAR=150
EVENT CROSSING TIME AT BATSE : 82312. S. OR 22:51:52.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 194.000 57.000
BATSE PEAK COUNTING RATE: 28300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 5/ 98 IS:
RA= 148.944 DEC= 11.458 DIST= 5.530 AU
BATSE-ULYSSES DISTANCE = 827257001. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=122.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1500.22 SECS.
CROSSING TIME AT ULYSSES IS 80812. S. OR 22:26:51 +/- 429.31 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 5/ 98 IS:
RA= 62.125 DEC= 21.198 DIST= 2.508 AU
MARS-BATSE DISTANCE = 375178112. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.95 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 44.68 SECS.
CROSSING TIME AT MARS IS 82357. S. OR 22:52:36 +/- 217.81 SECONDS

BATSE BURST TRIGGER

NO.: 6800

TIME: TJD=0963 SECONDS=82312

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=51.9 AZIMUTH=268.2 ERROR=4.518 DEGREES

COMMENTS:

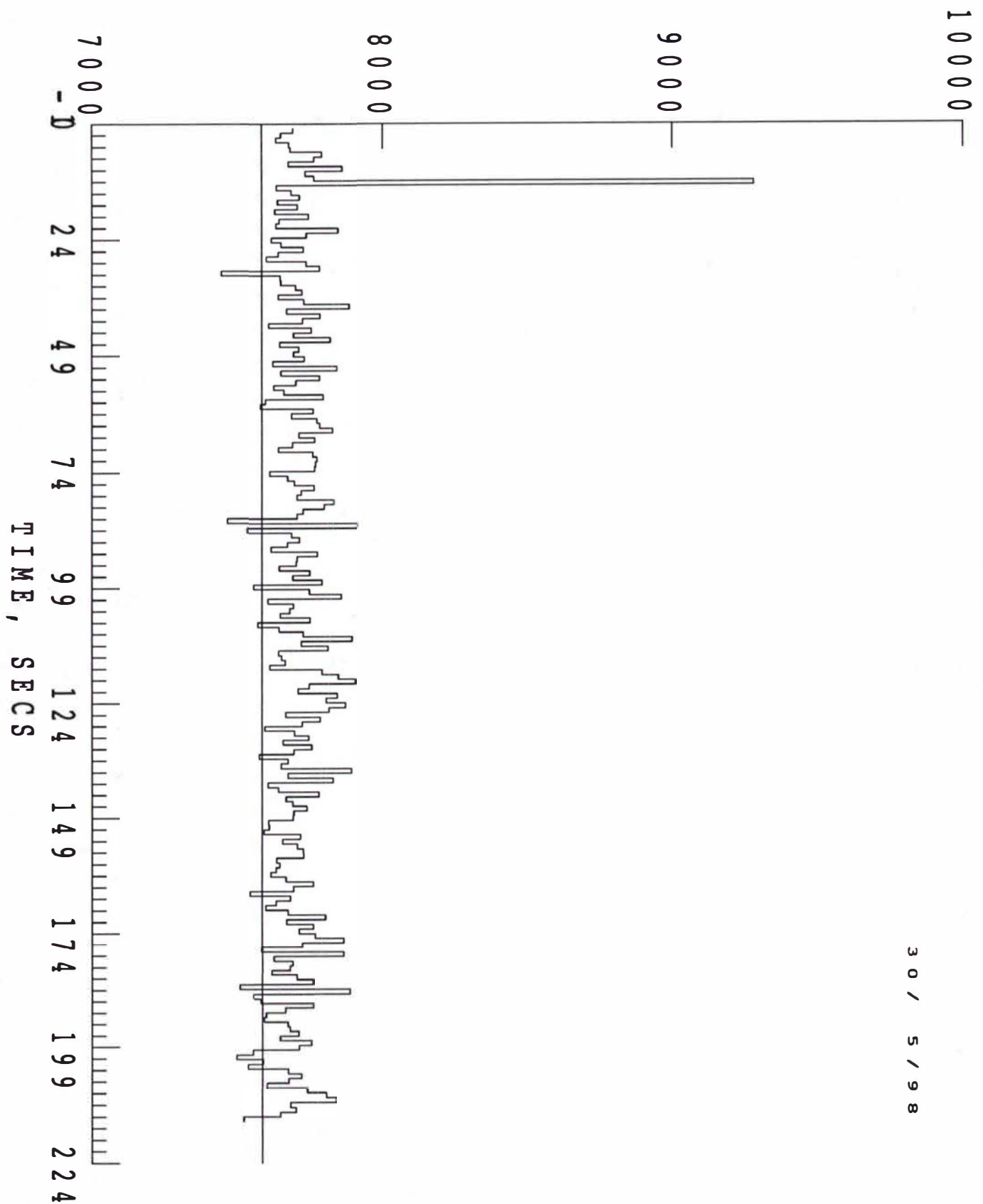
GRB. DOUBLE PULSE. START AT ABOUT T-0.06 S. DURATION ABOUT 0.26 S.
VISISBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6800	980530	10963	82312	28300	194	+57	.26

BACODINE 6800 30/05/98 82300.641

25- 100 keV

COUNTS/1.024 S



30 / 5 / 98

BATSE BURST# 6800

ULYSSES RT

3 / 6 / 98

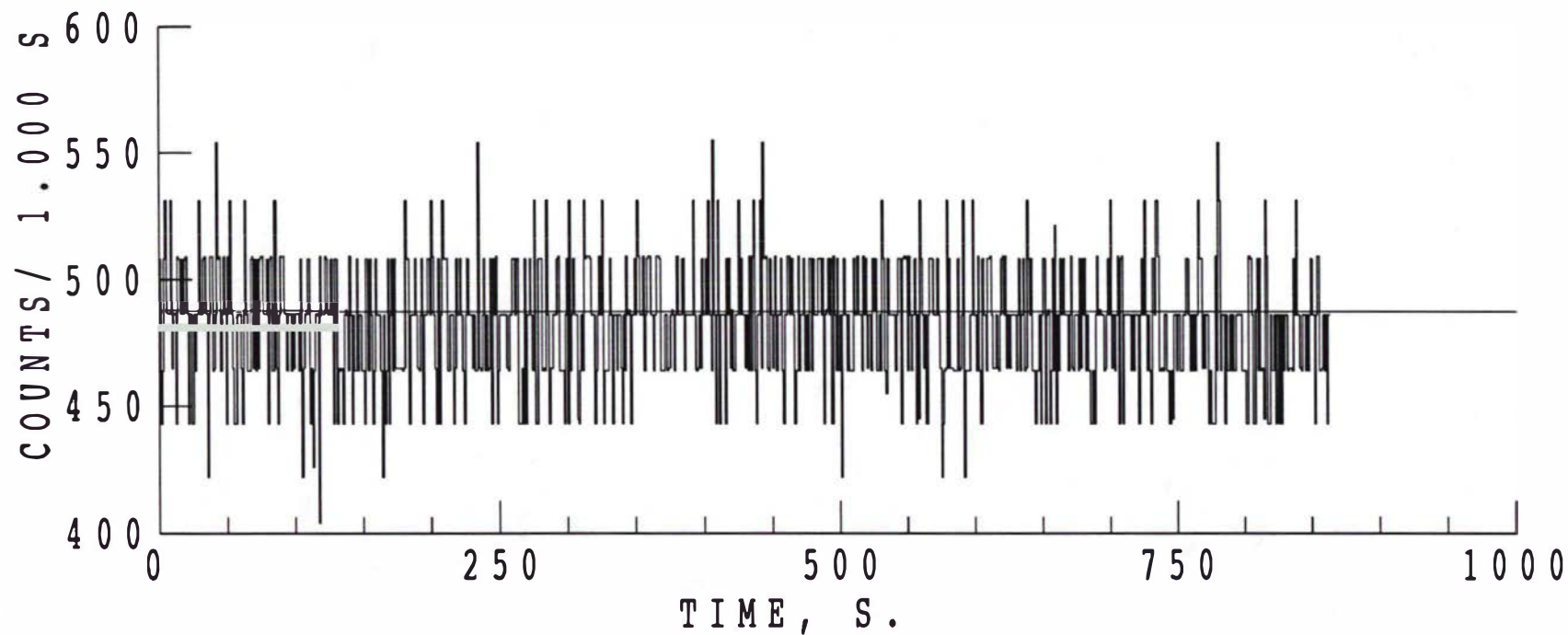
30 / 5 / 98 80388.492 s

0.500 S INTERVALS REGROUPED BY 2

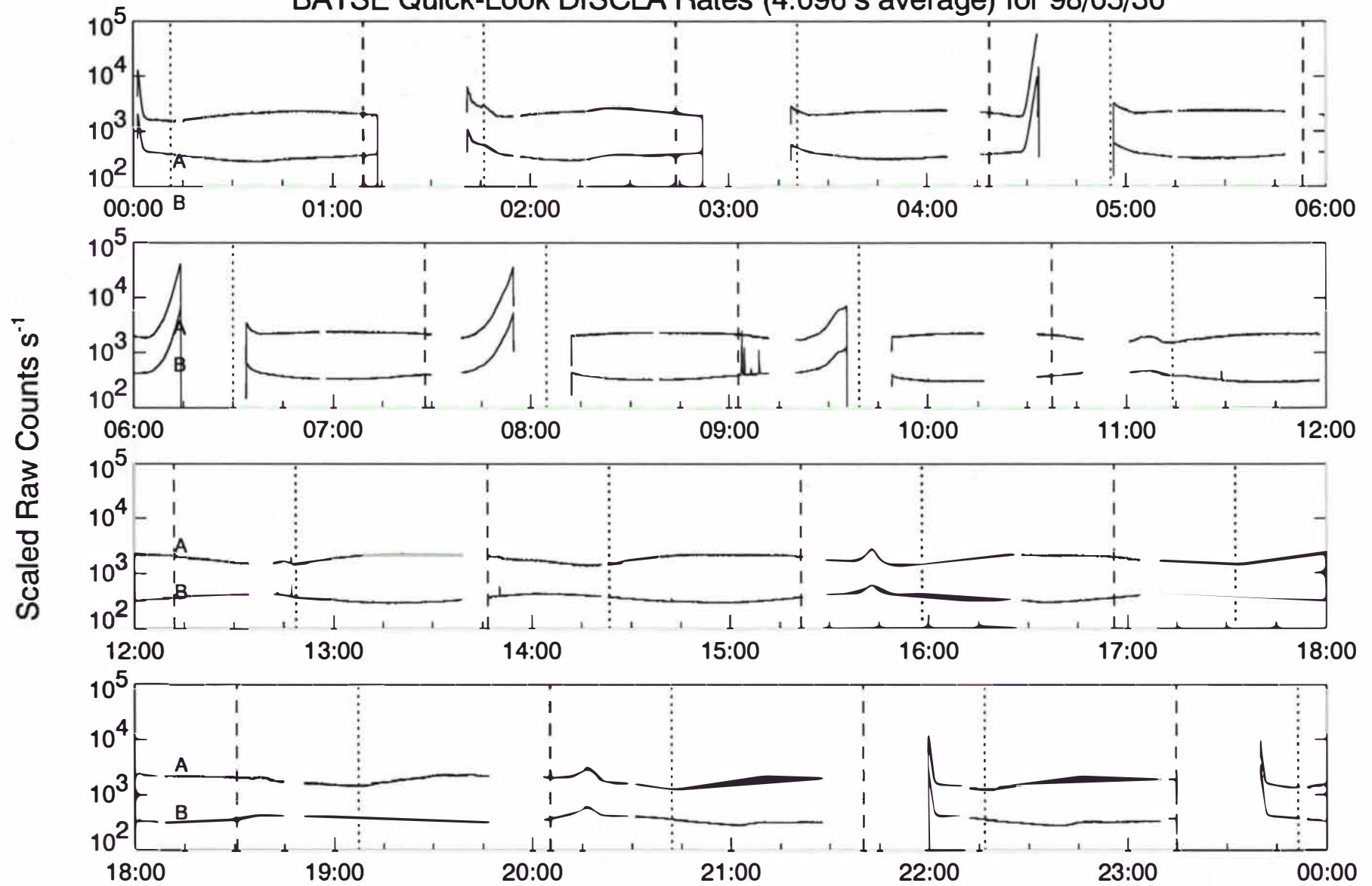
0 - 0 keV

M= 10 M=10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



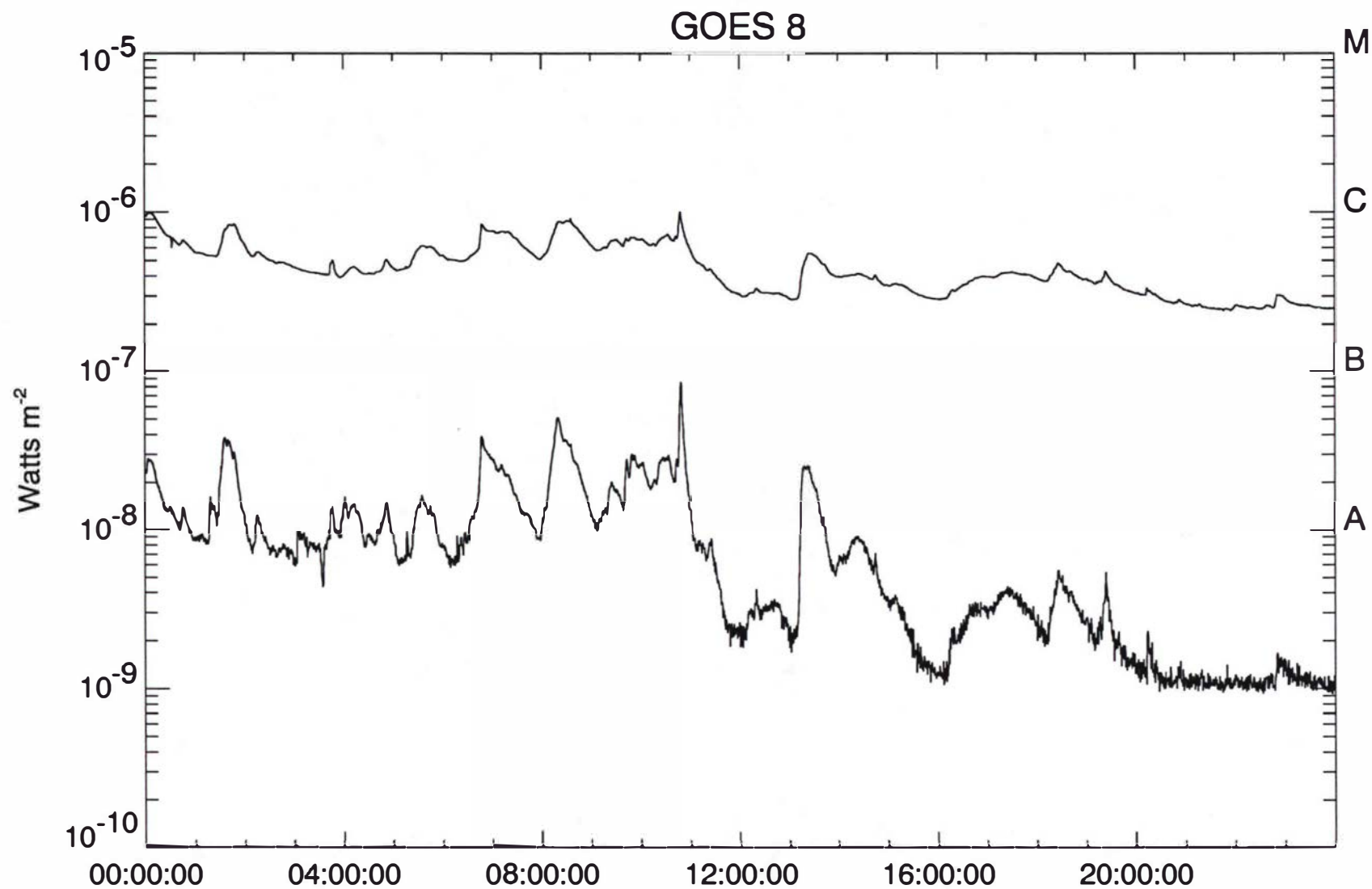
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/30



Current Time: 98/06/03, 1008 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



Data Start: 98/05/30, 0000:00

Plot created: 98/06/03, 1007

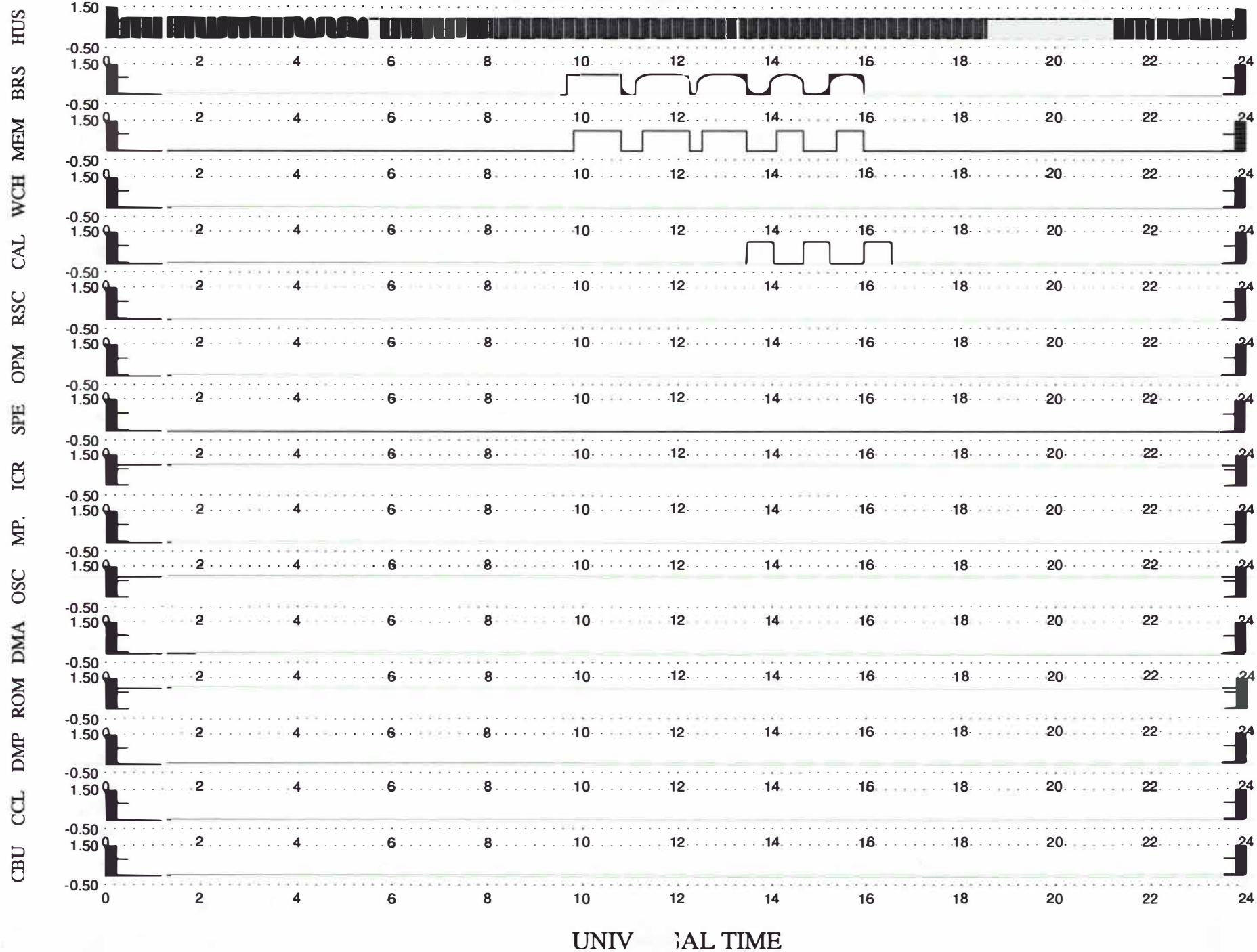
Channel

1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

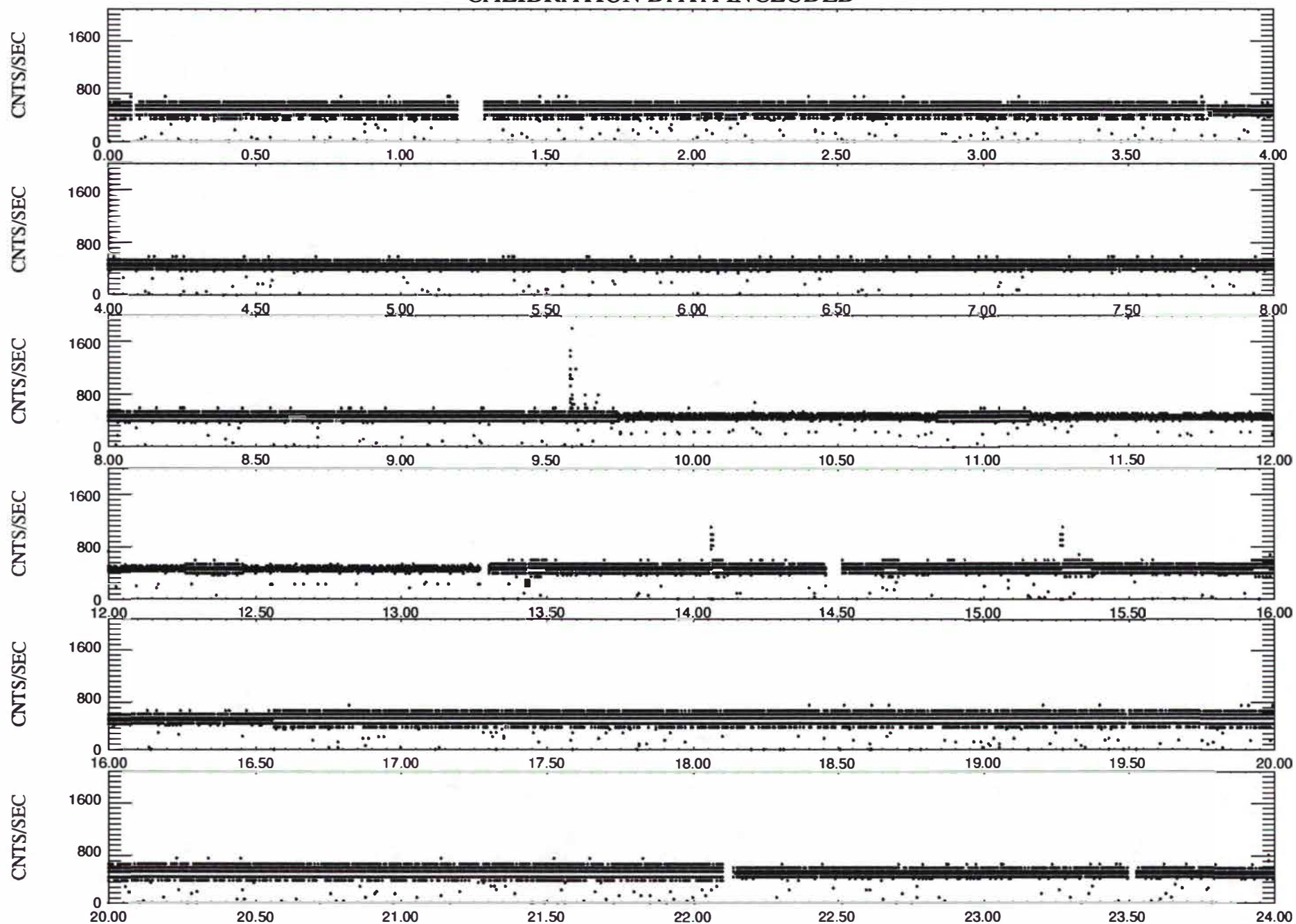
Background not subtracted

Background not subtracted

Sample average = 10

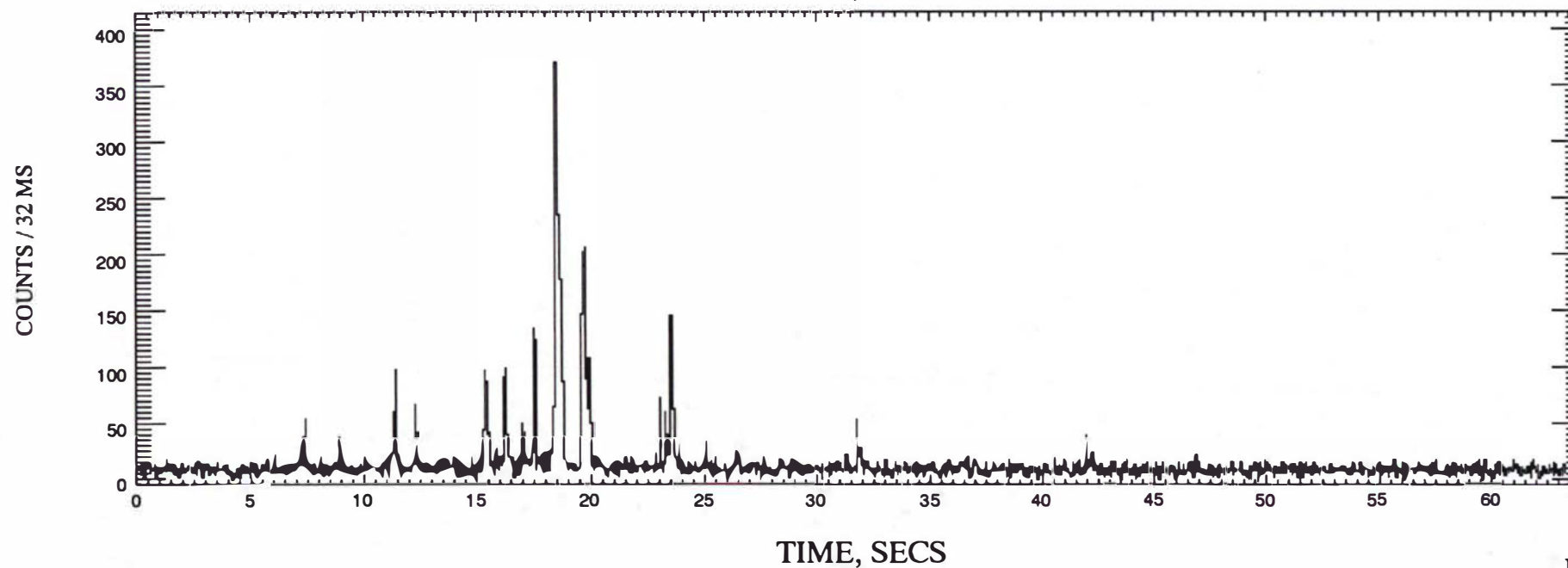
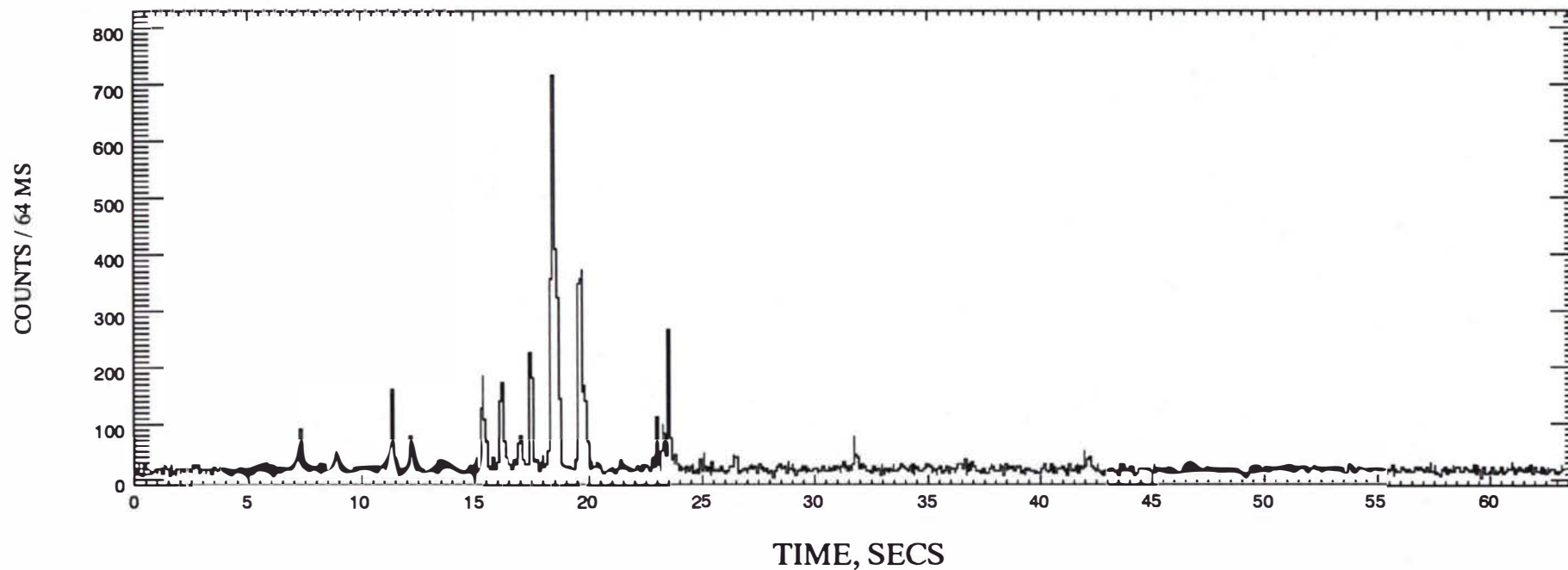


CALIBRATION DATA INCLUDED

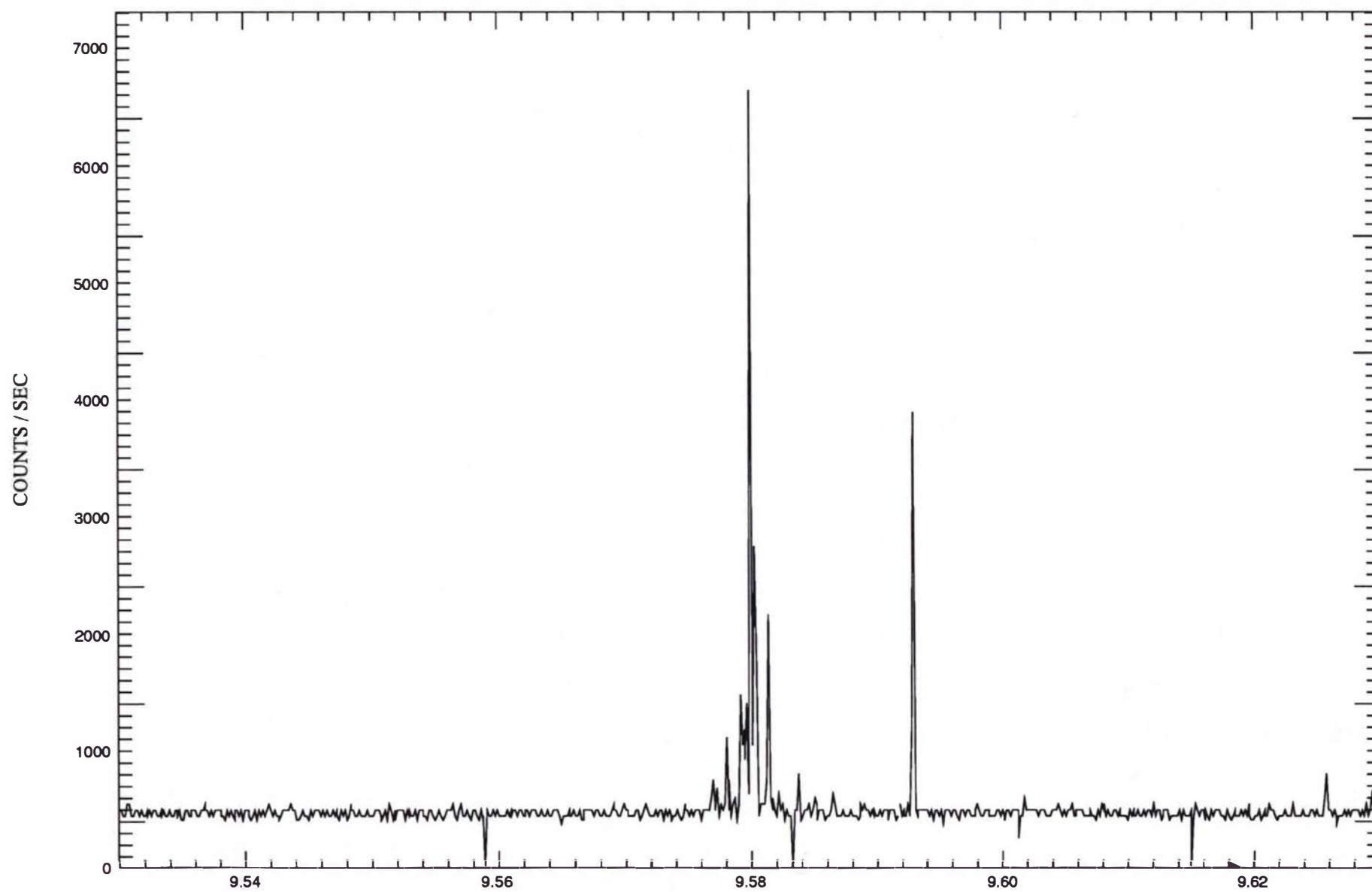


UNIV. TIME

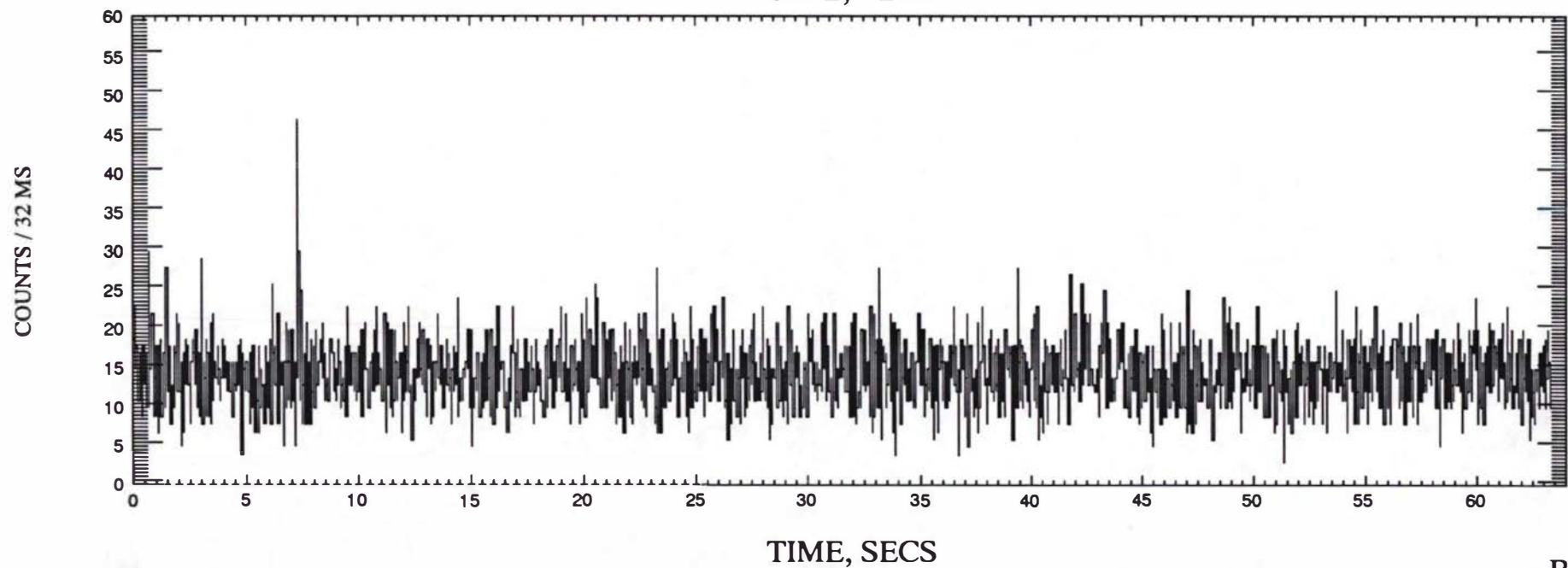
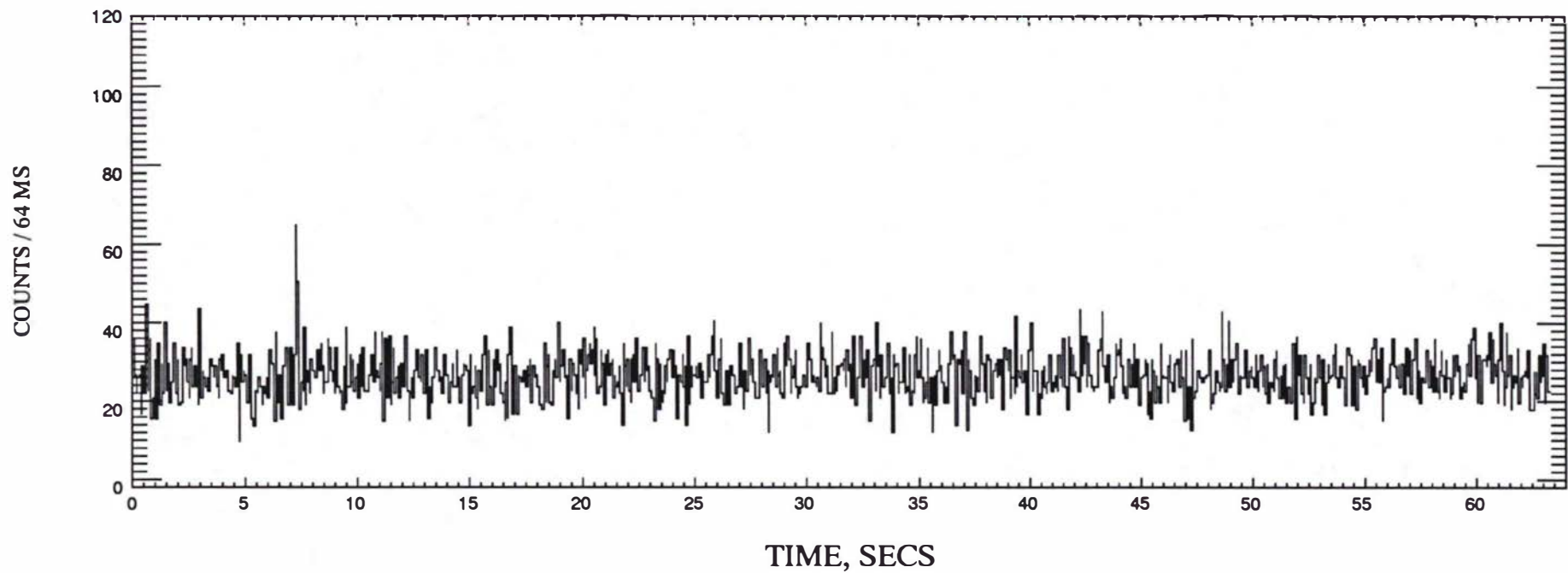
Burst Counter 10 at UT= 9.576977530585 h=34477.119 s 09:34:37.119



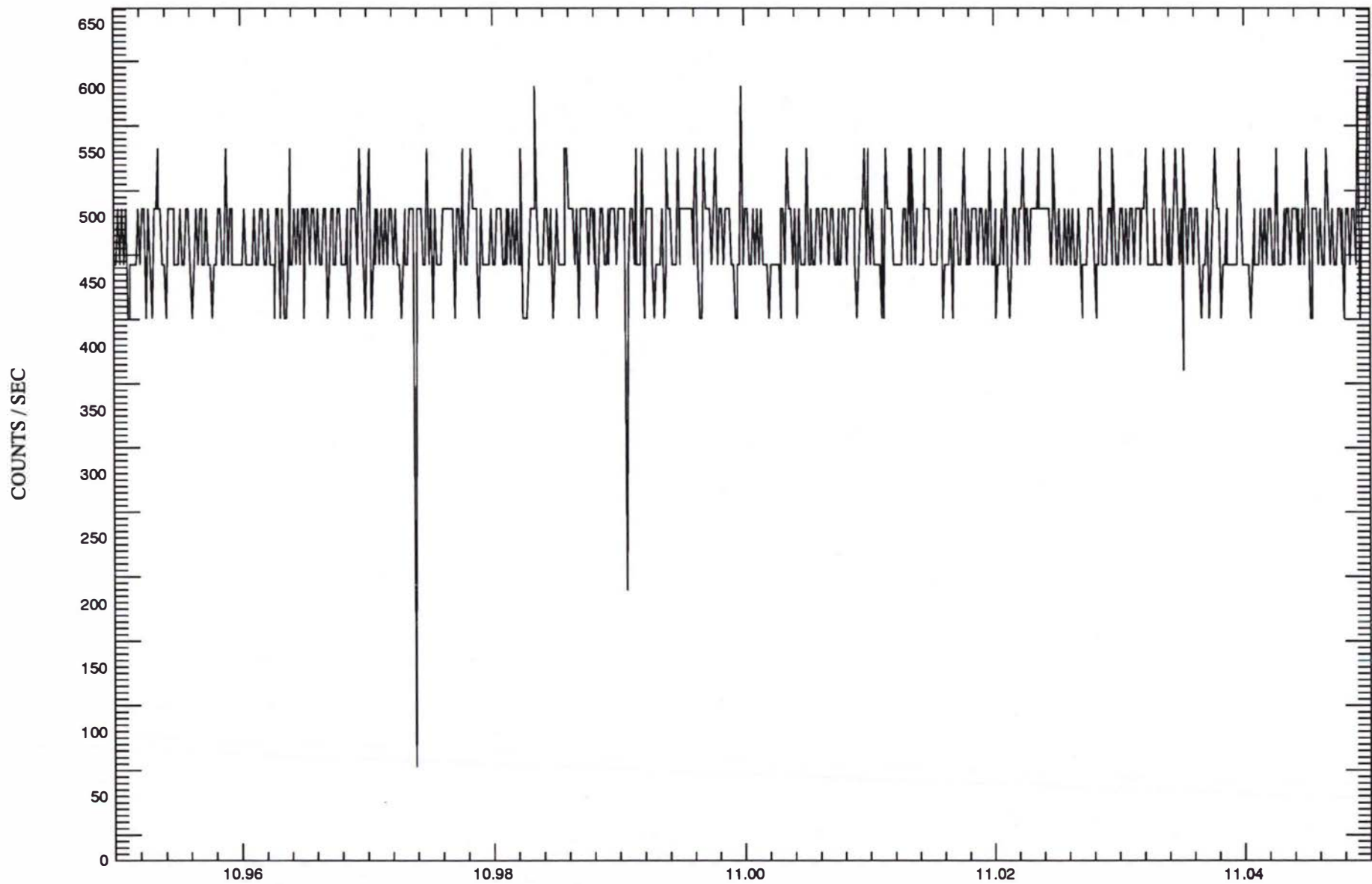
CALIBRATION DATA INCLUDED



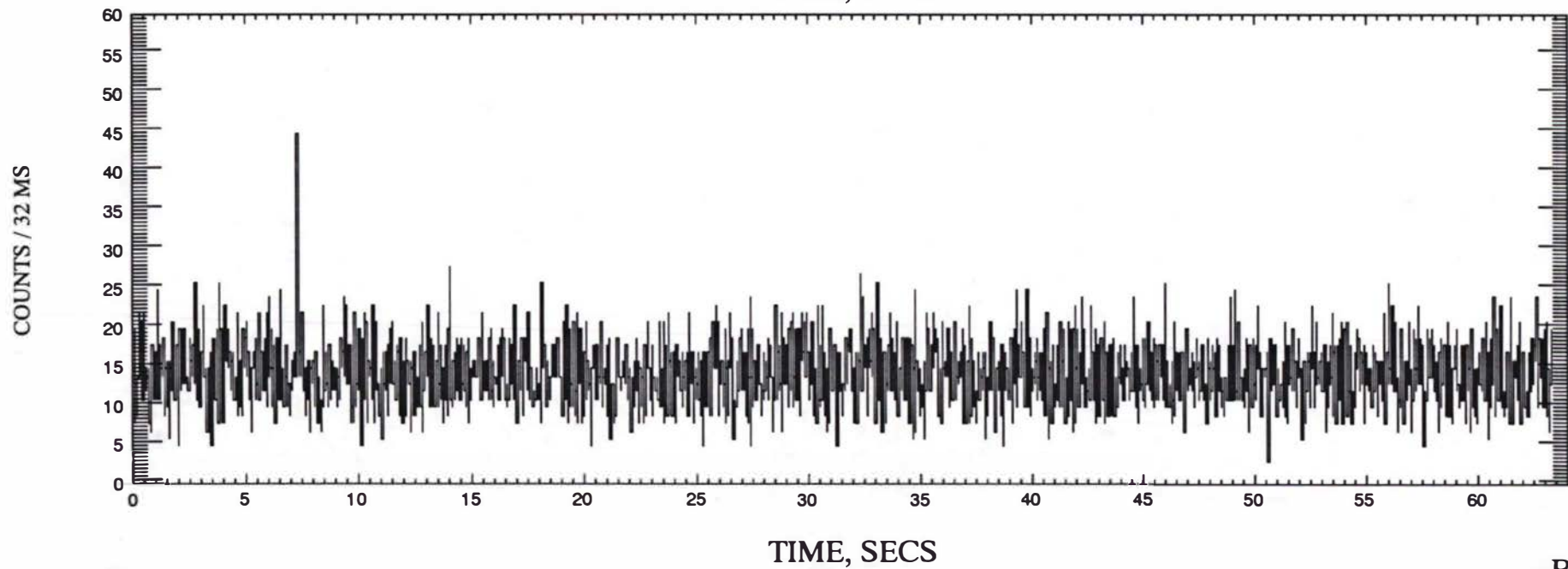
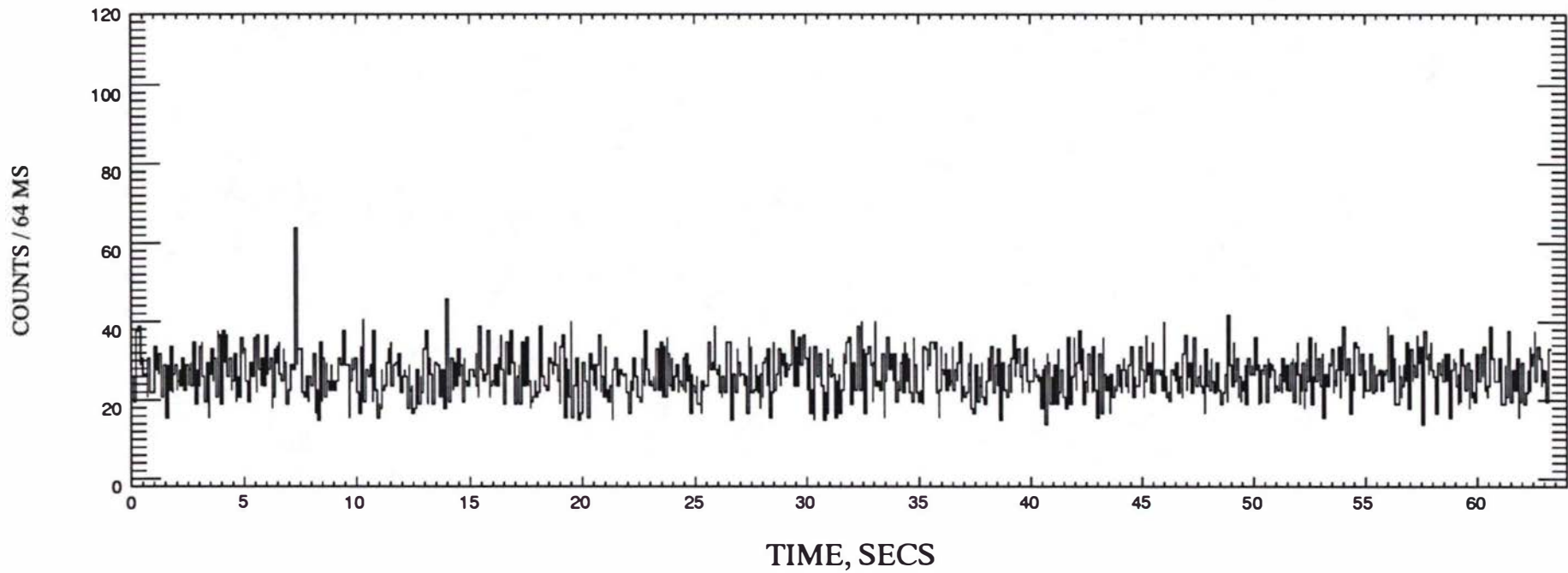
Burst Counter 11 at UT=10.999941821628 h=39599.791 s 10:59:59.791



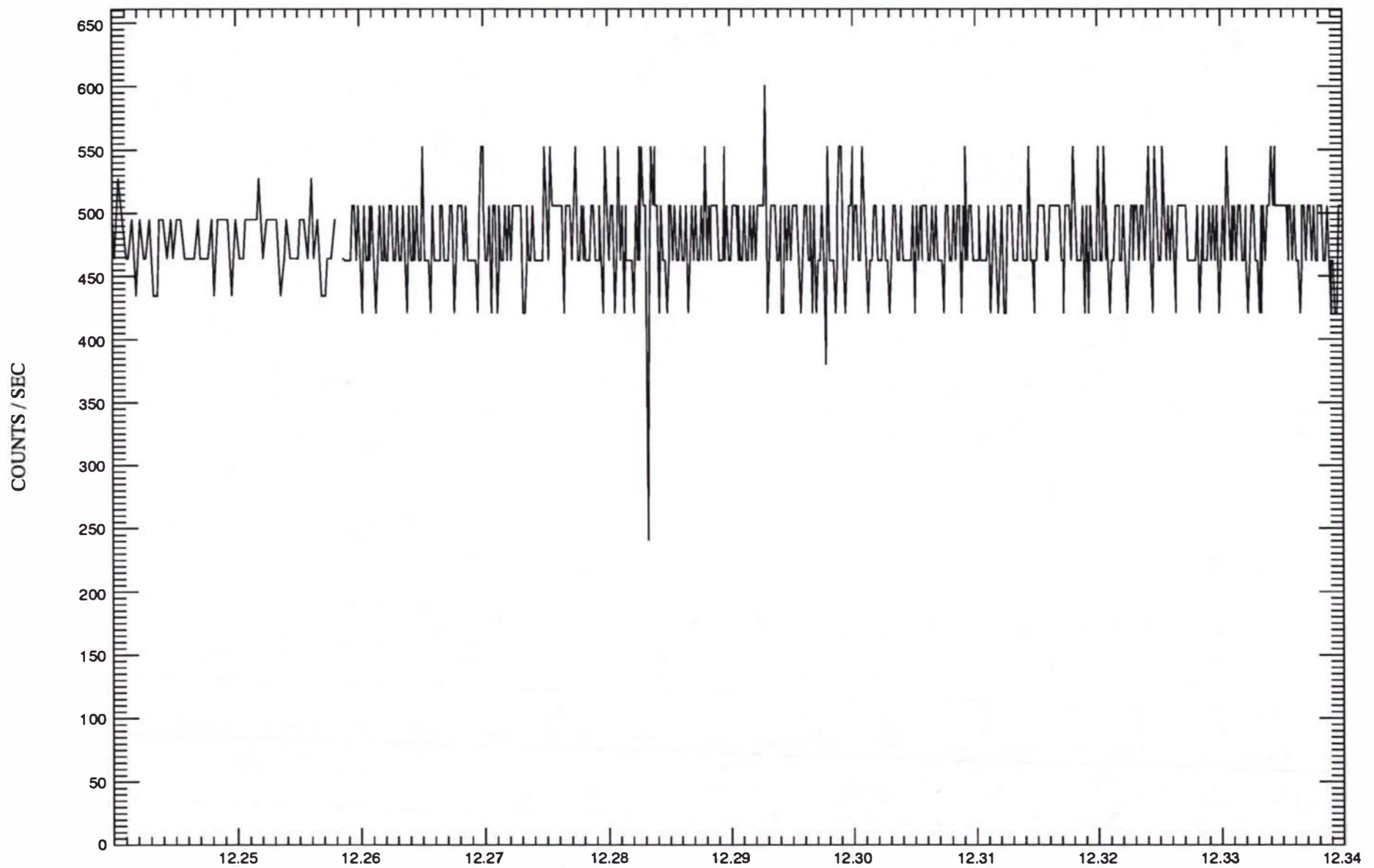
CALIBRATION DATA INCLUDED



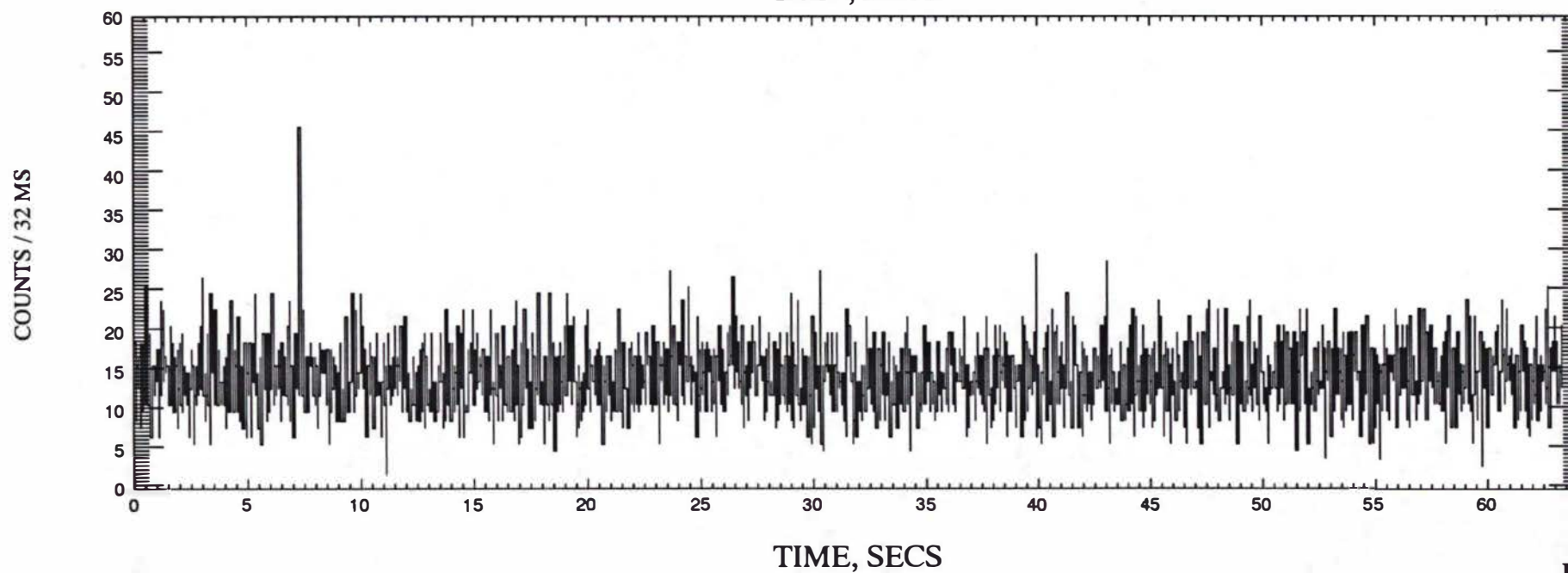
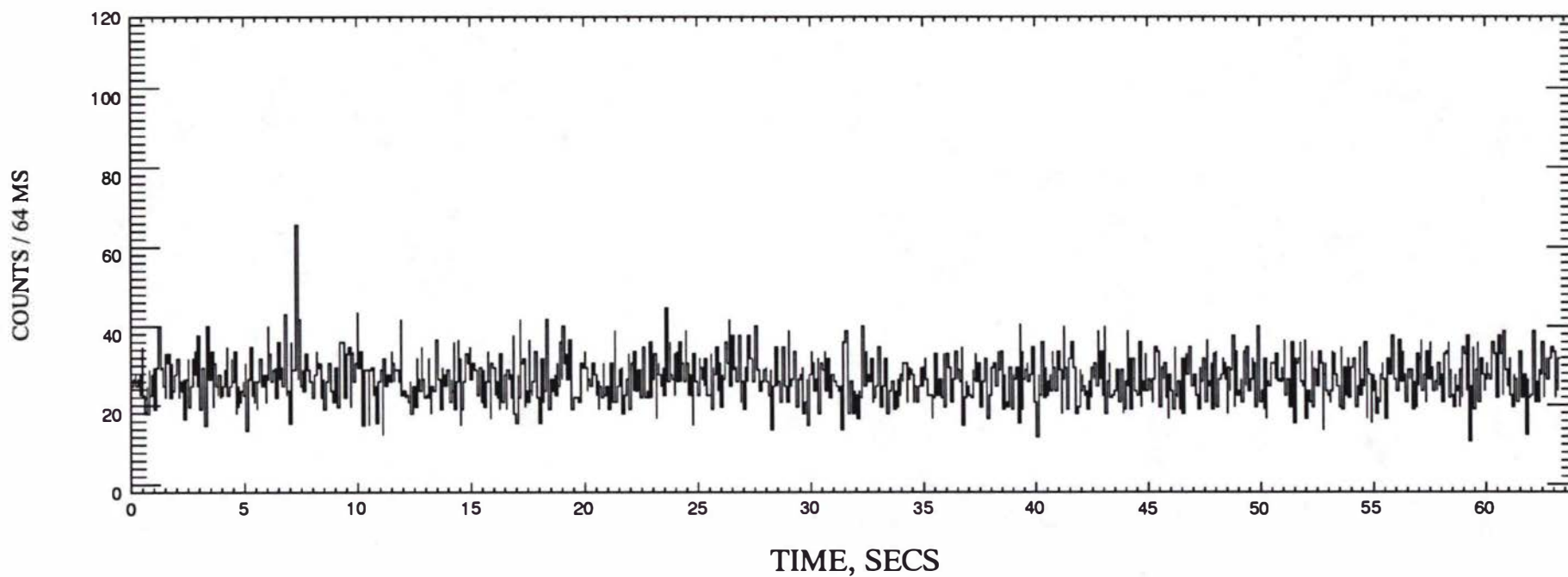
Burst Counter 12 at UT=12.293050003052 h=44254.980 s 12:17:34.980



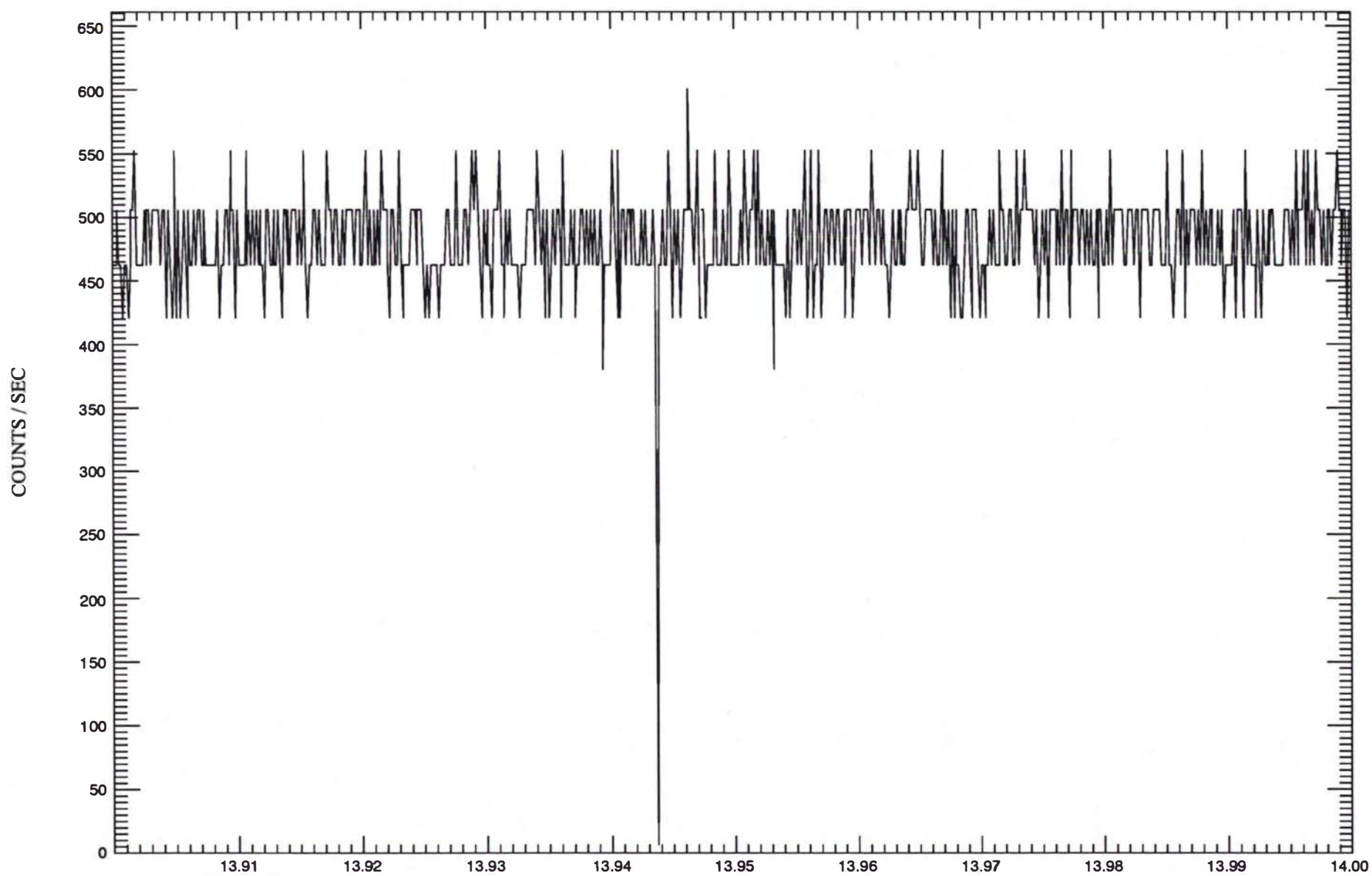
CALIBRATION DATA INCLUDED



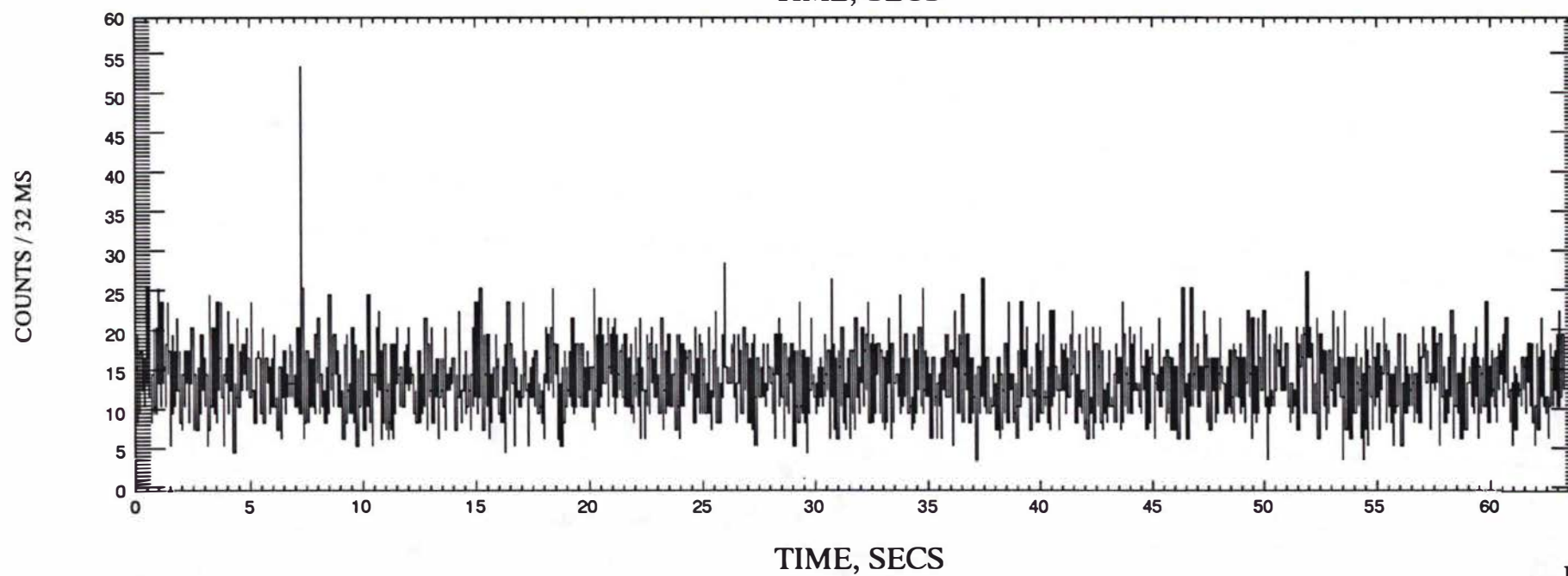
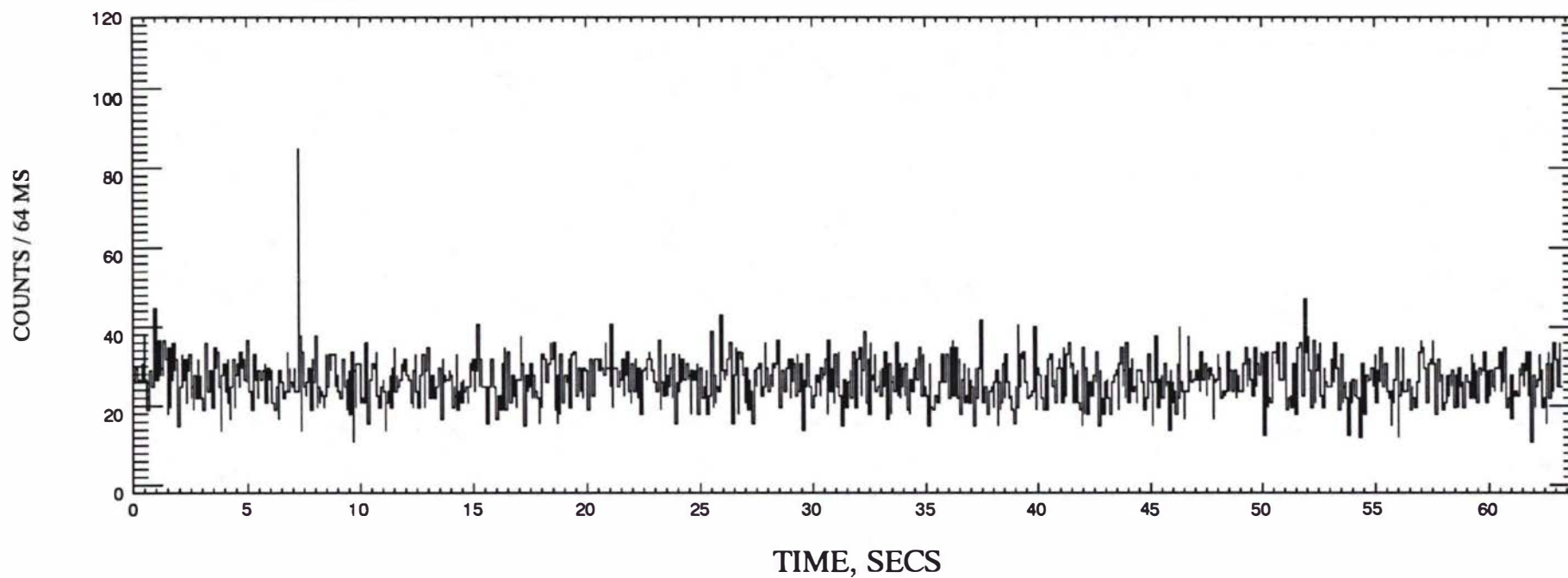
Burst Counter 13 at UT=13.946471057468 h=50207.296 s 13:56:47.296



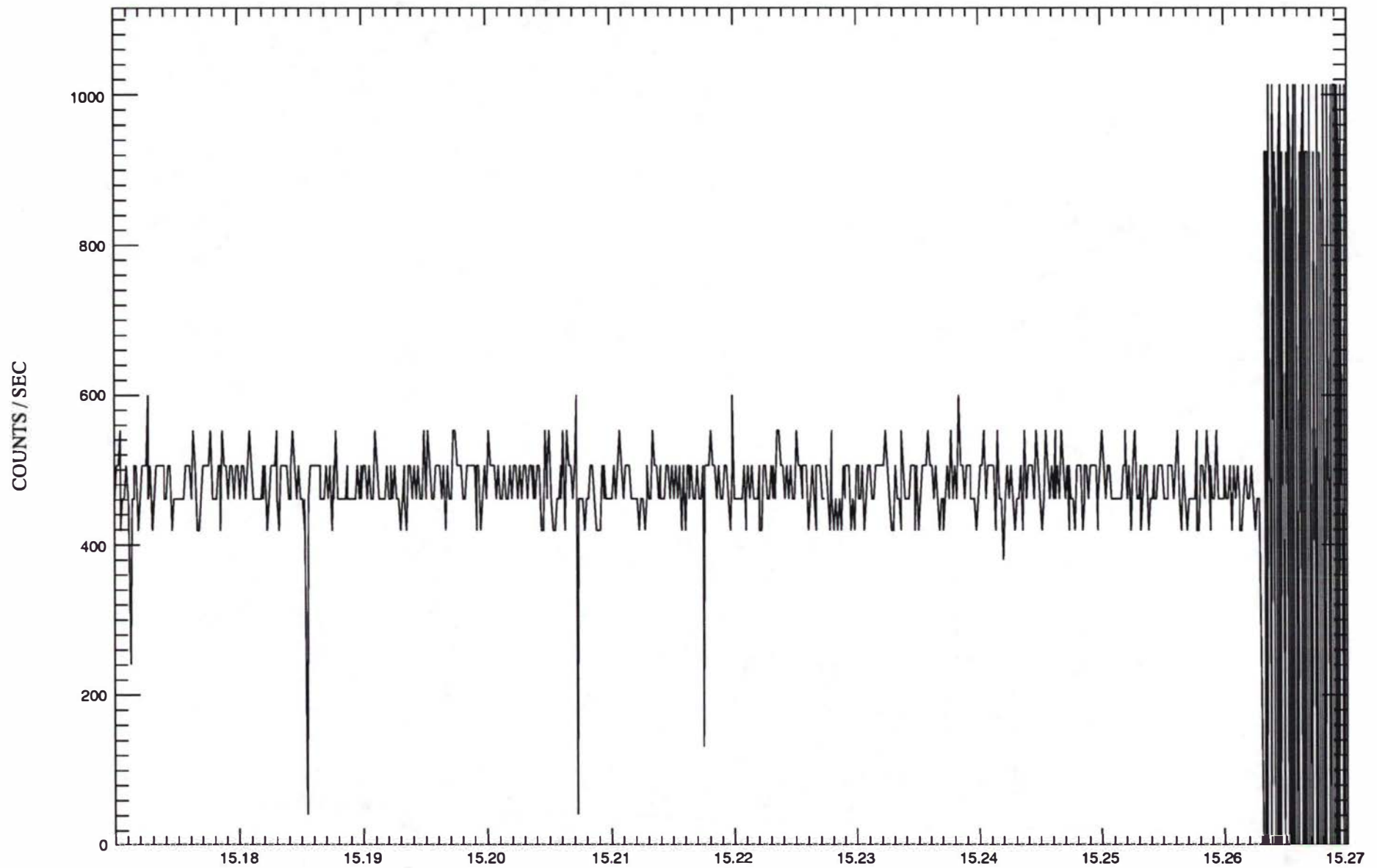
CALIBRATION DATA INCLUDED



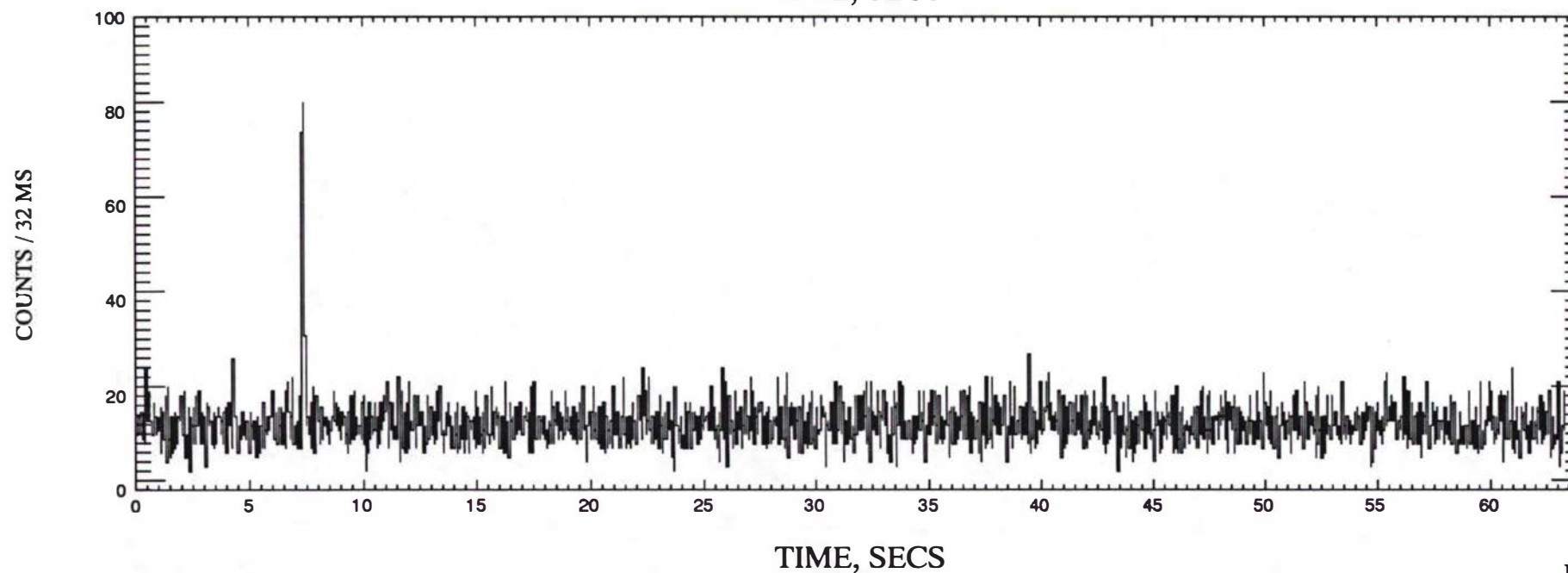
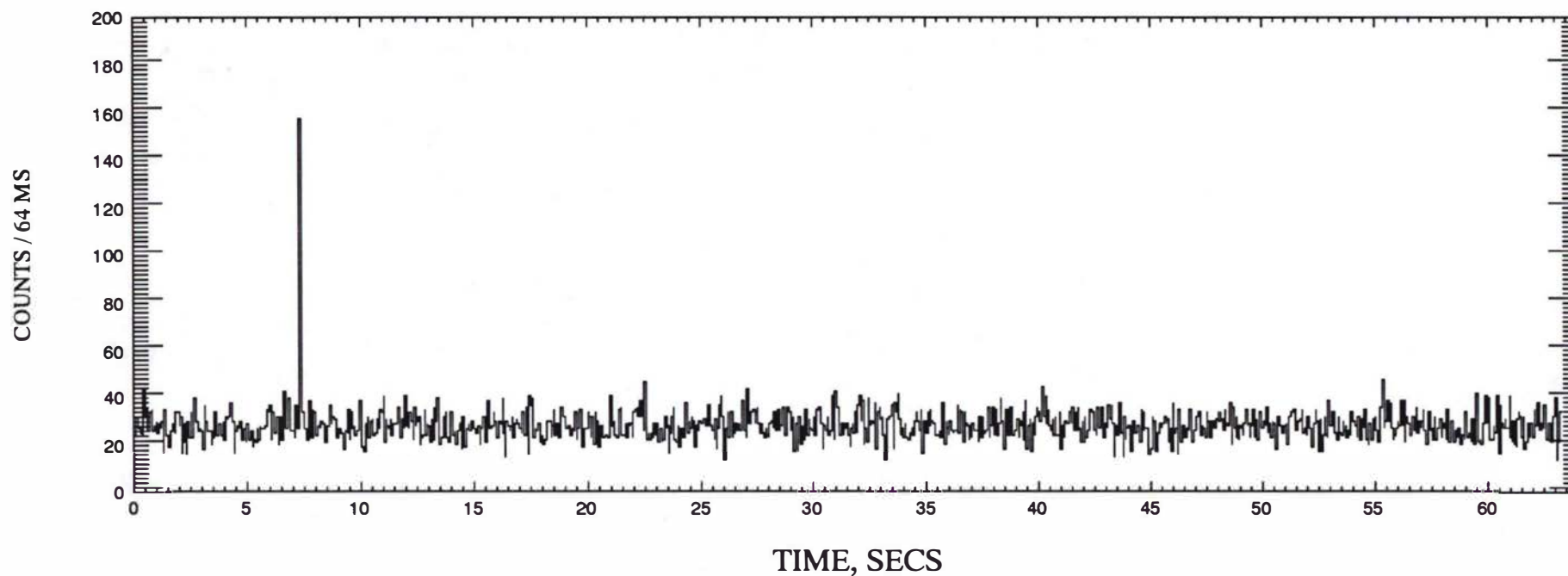
Burst Counter 14 at UT=15.220082711114 h=54792.298 s 15:13:12.298



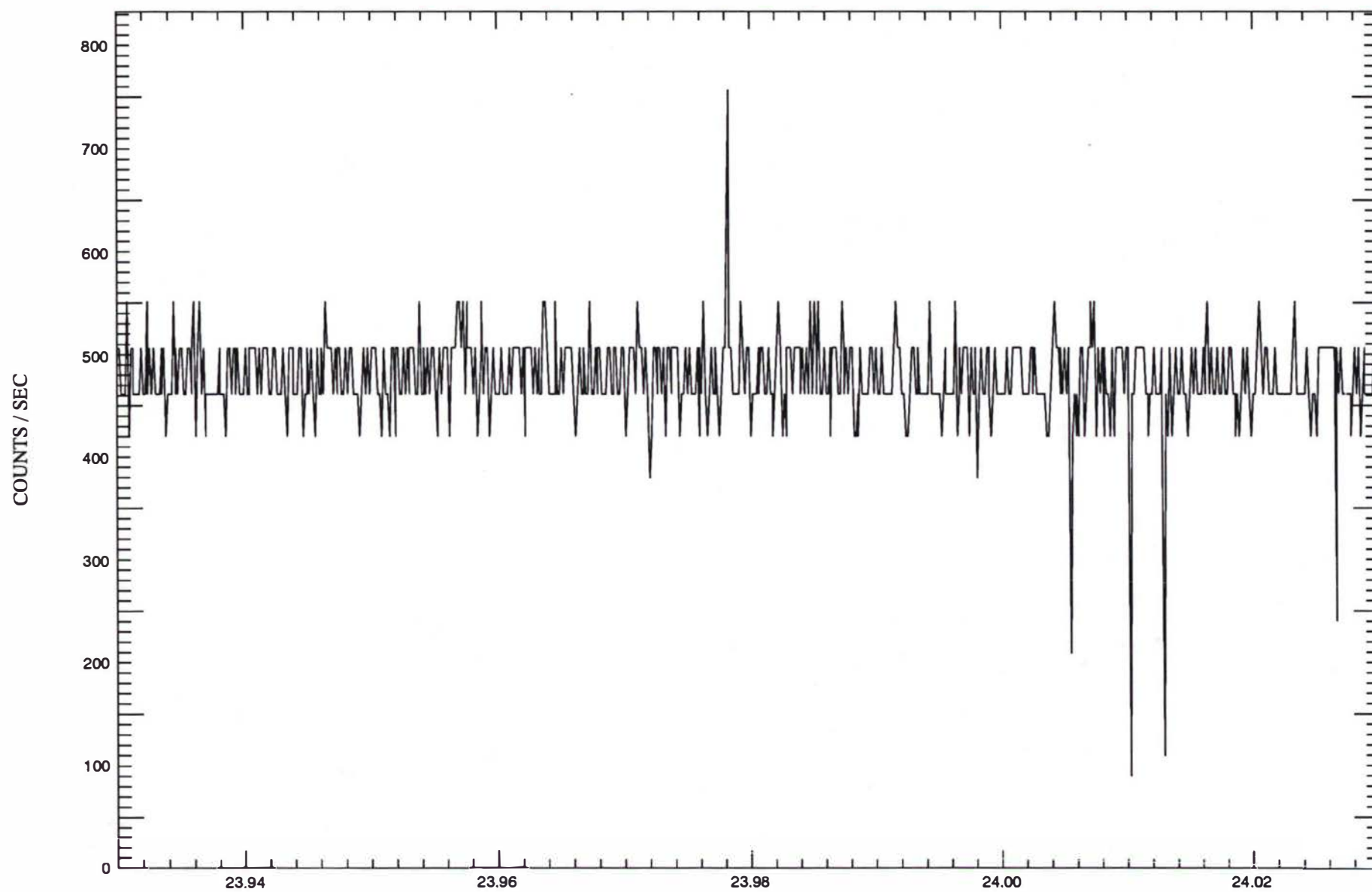
CALIBRATION DATA INCLUDED

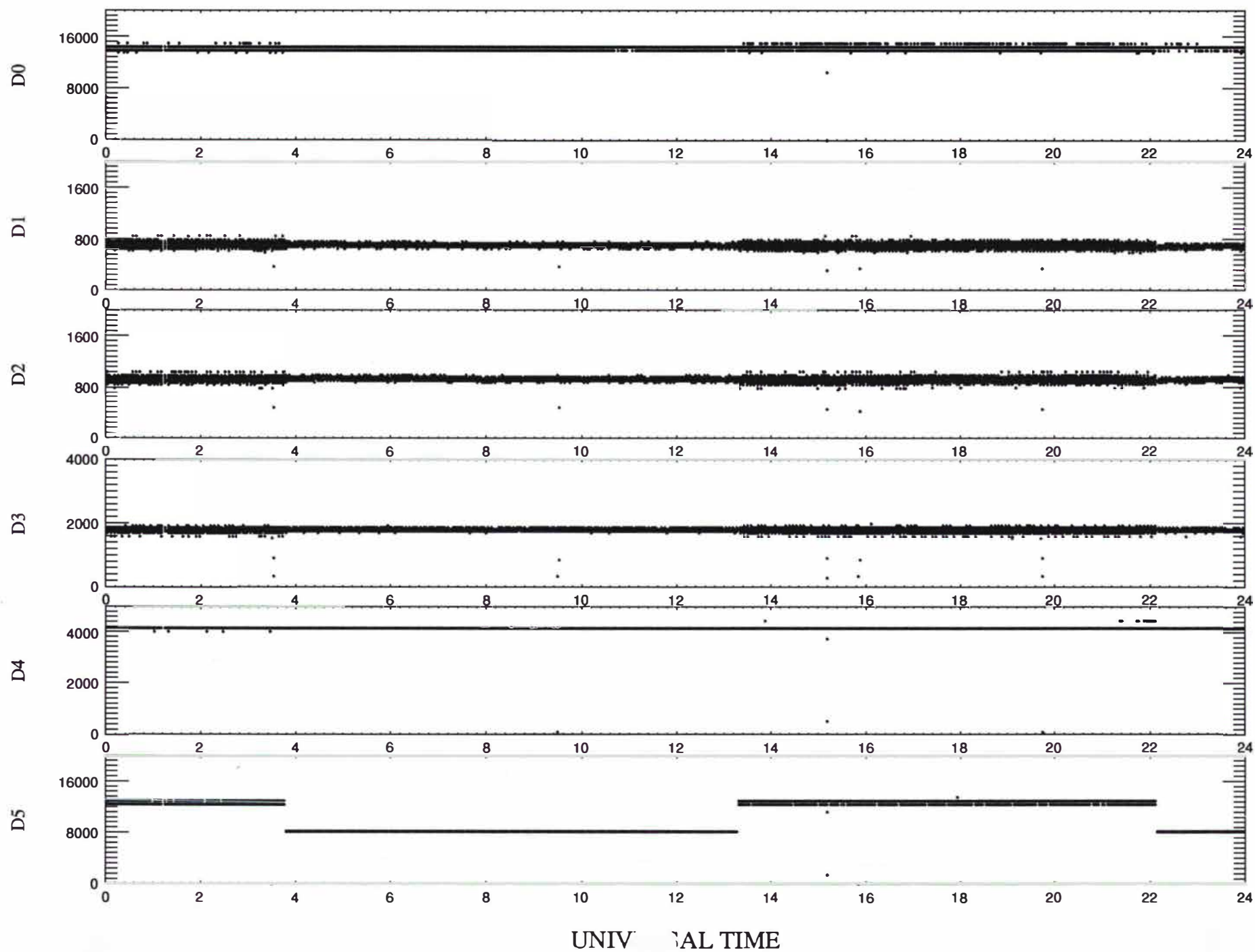


Burst Counter 15 at UT=23.978343620300 h=86322.037 s 23:58:42.037



CALIBRATION DATA INCLUDED





Date: Oct 27 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

- ☐ Was CHECKMO run to eliminate data gaps?
- ☐ Did the Odyssey ephemeris correspond to the event time? (When there is data in the database, the ephemeris is for the start of record, usually ~1320 s prior to the request time; when there is no data in the database, the ephemeris is for the request time in the e-mail, so the request time in mosearch should be equal to the GRB time. Note that the time in the return e-mail will be ~1320 s prior to the time requested, in the line "no HEND data...")
- ☐ Was Mars-blocking used?
- ☐ For cruise phase data (April – October 2001), was the updated data used? (Old data has timing errors)
- ☐ GRS database searched for triggered data? Database data between August 2005 and January 2006 should be re-extracted, due to timing errors. (E-mailed data should be OK).
- ☐ GRS and HEND data cross-correlated to check timing?

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

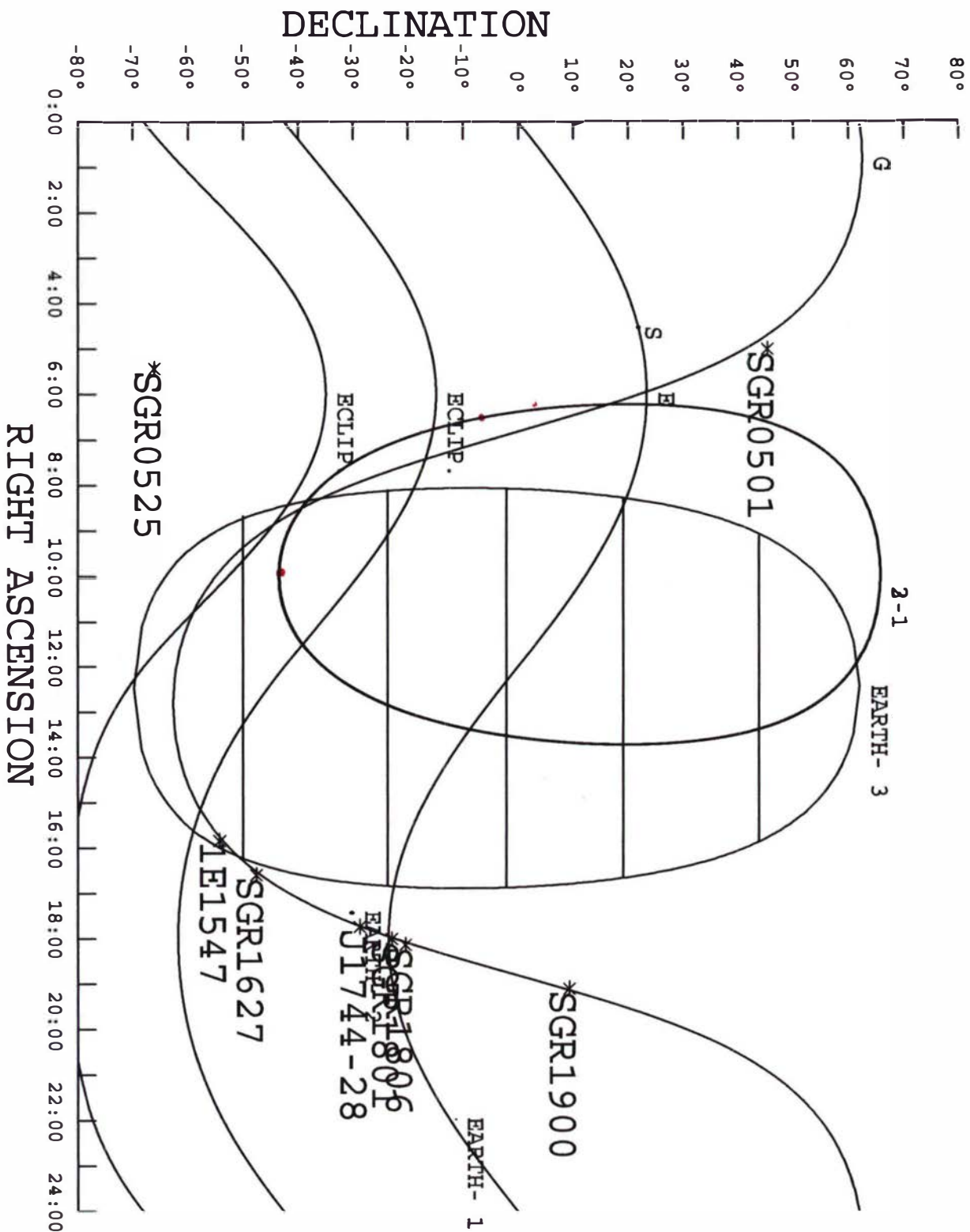
1 ULYSSES

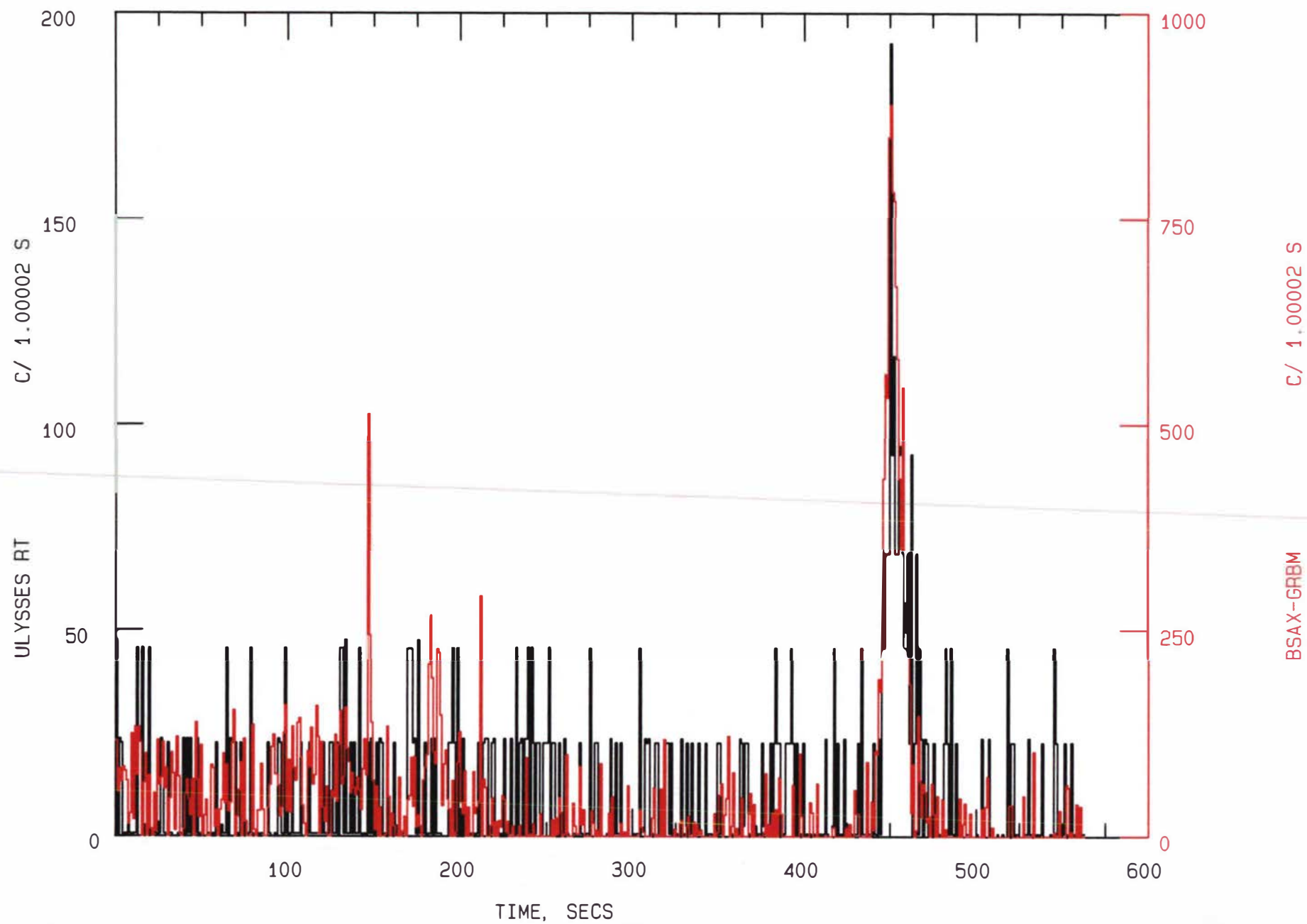
2 KONUS

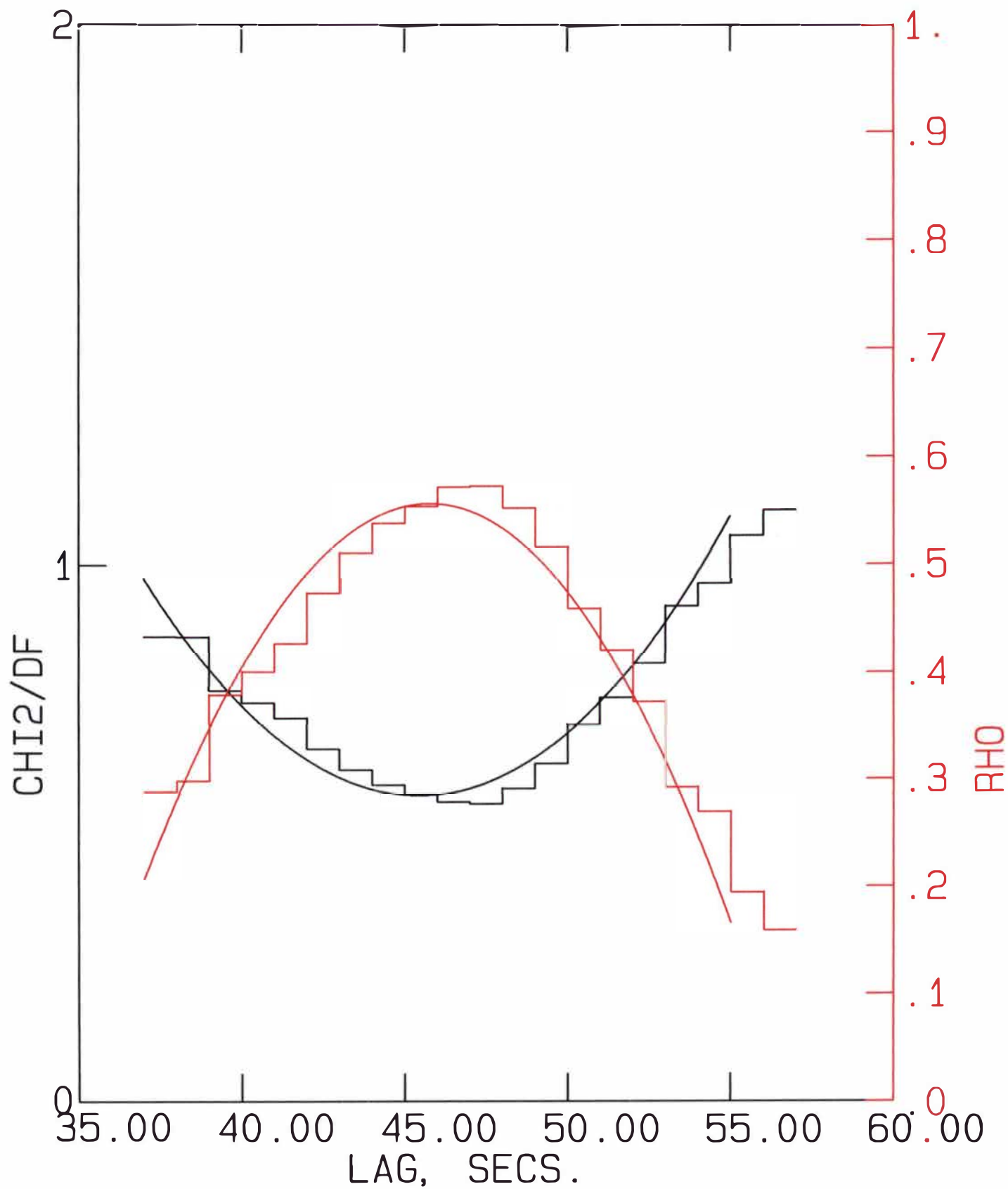
3 SAX

EVENT OF MAY 31, 1998 7:13

27/10/ 9







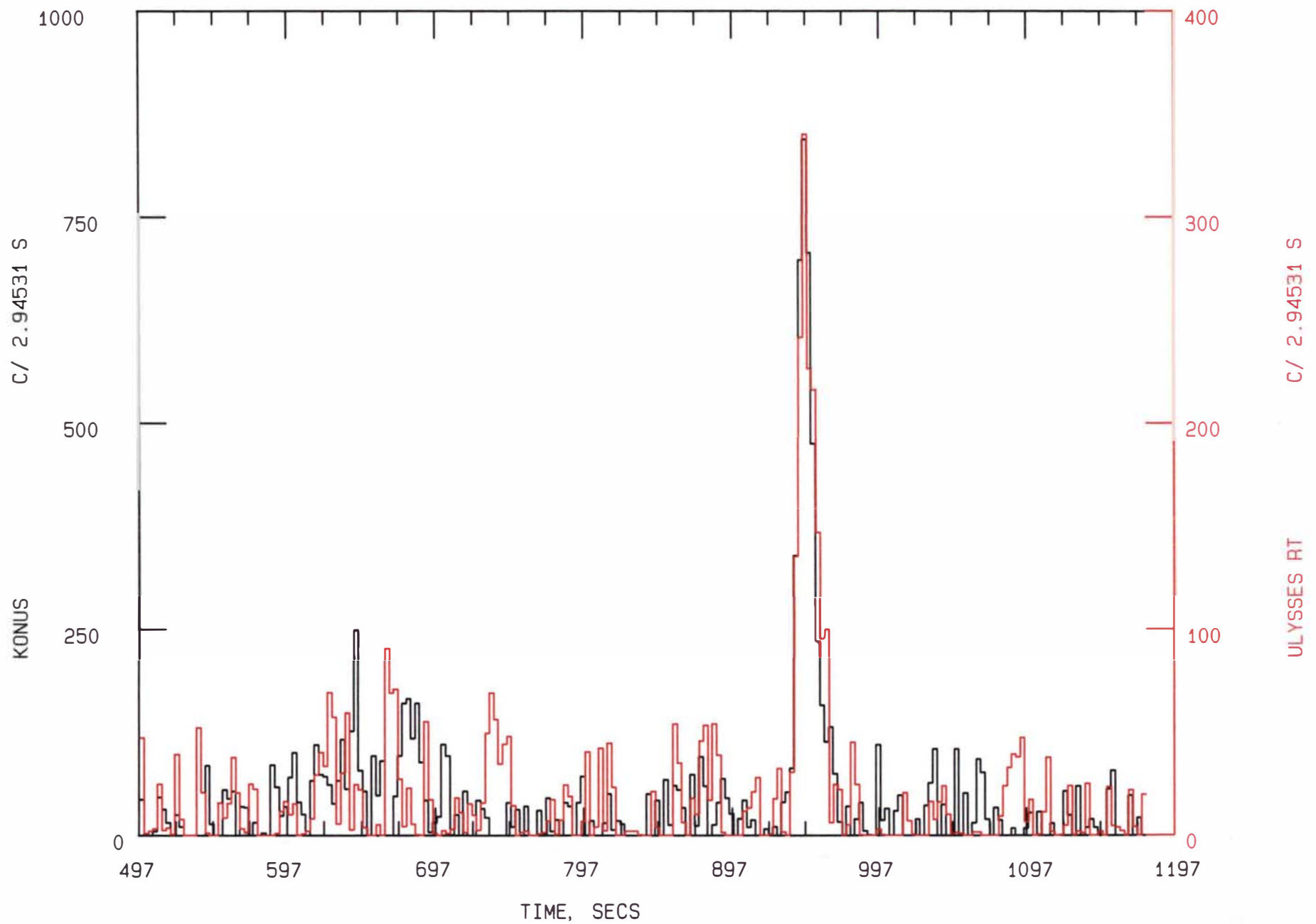
KONUS

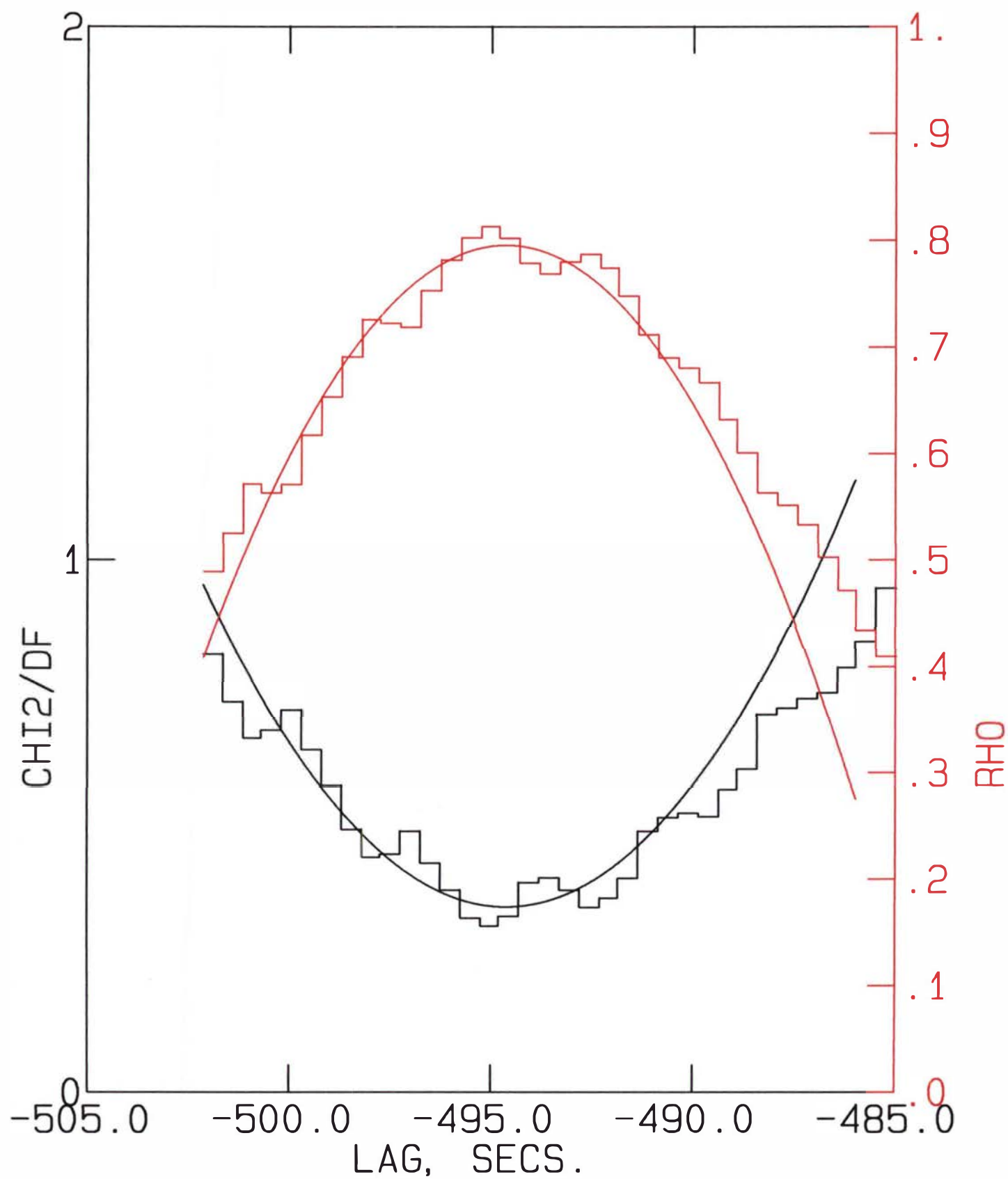
-ULYSSES RT CORRELATION

31/05/98

27116.631

27/10/ 9





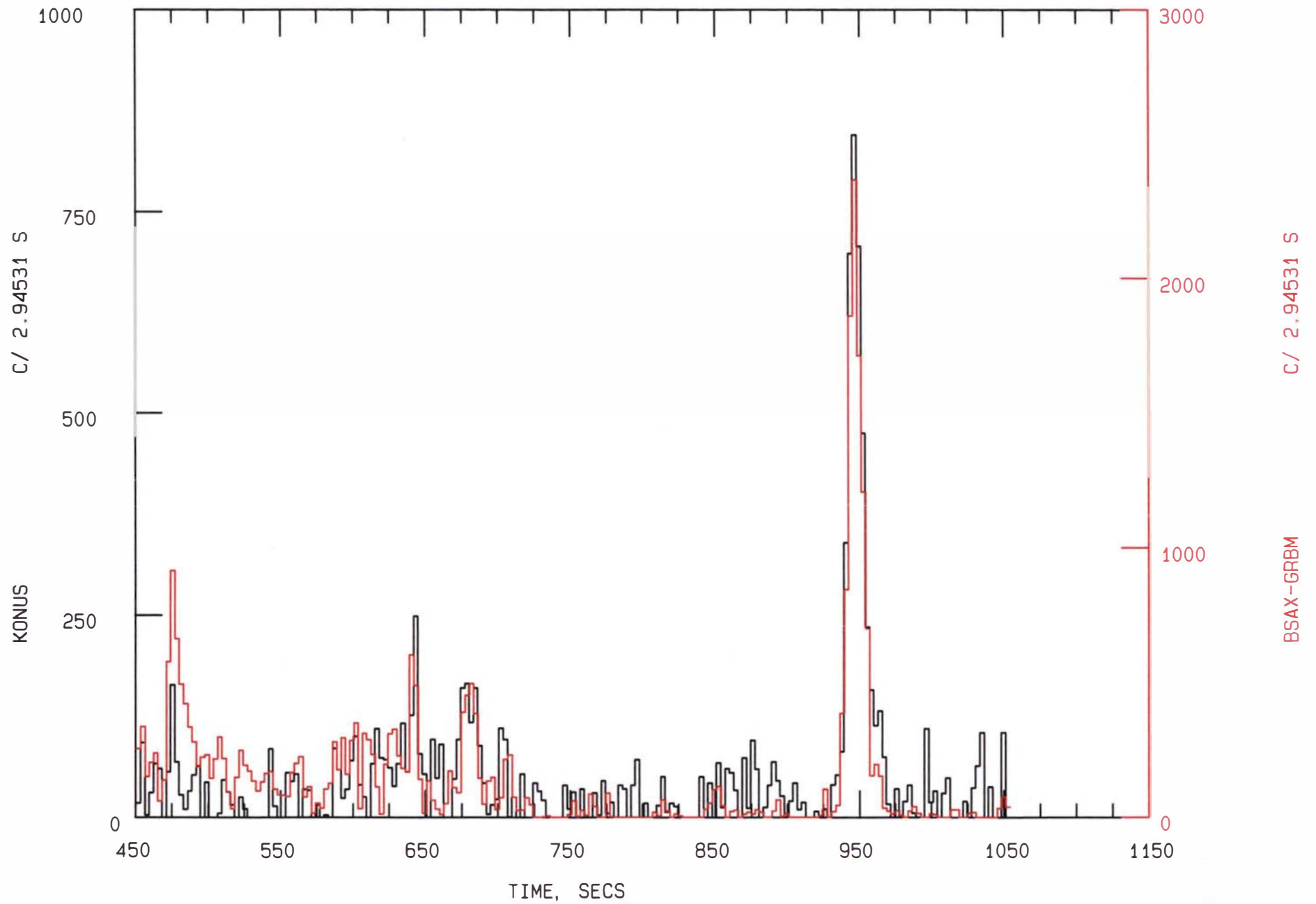
KONUS

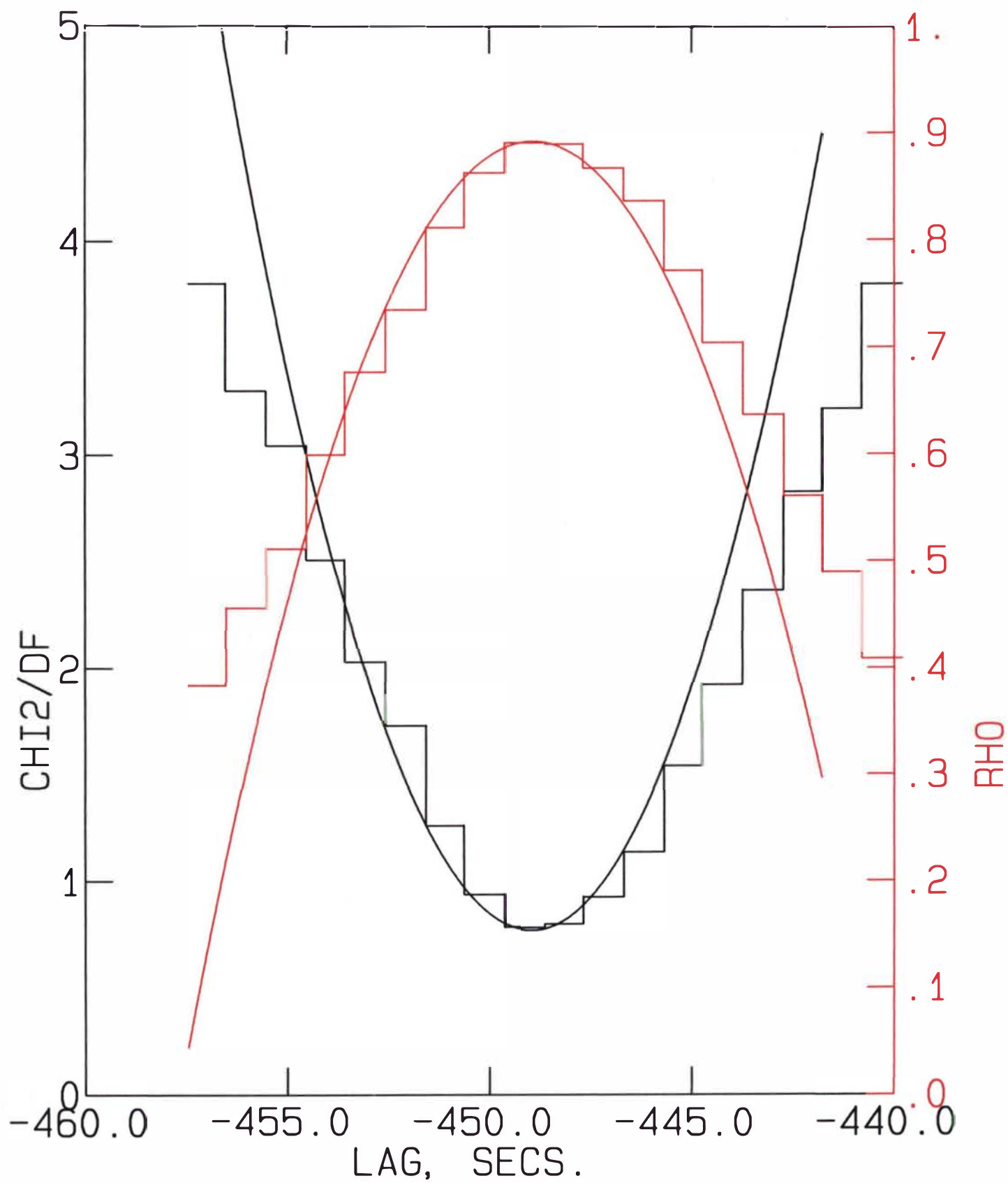
-BSAX-GRBM CORRELATION

31/05/98

27116.631

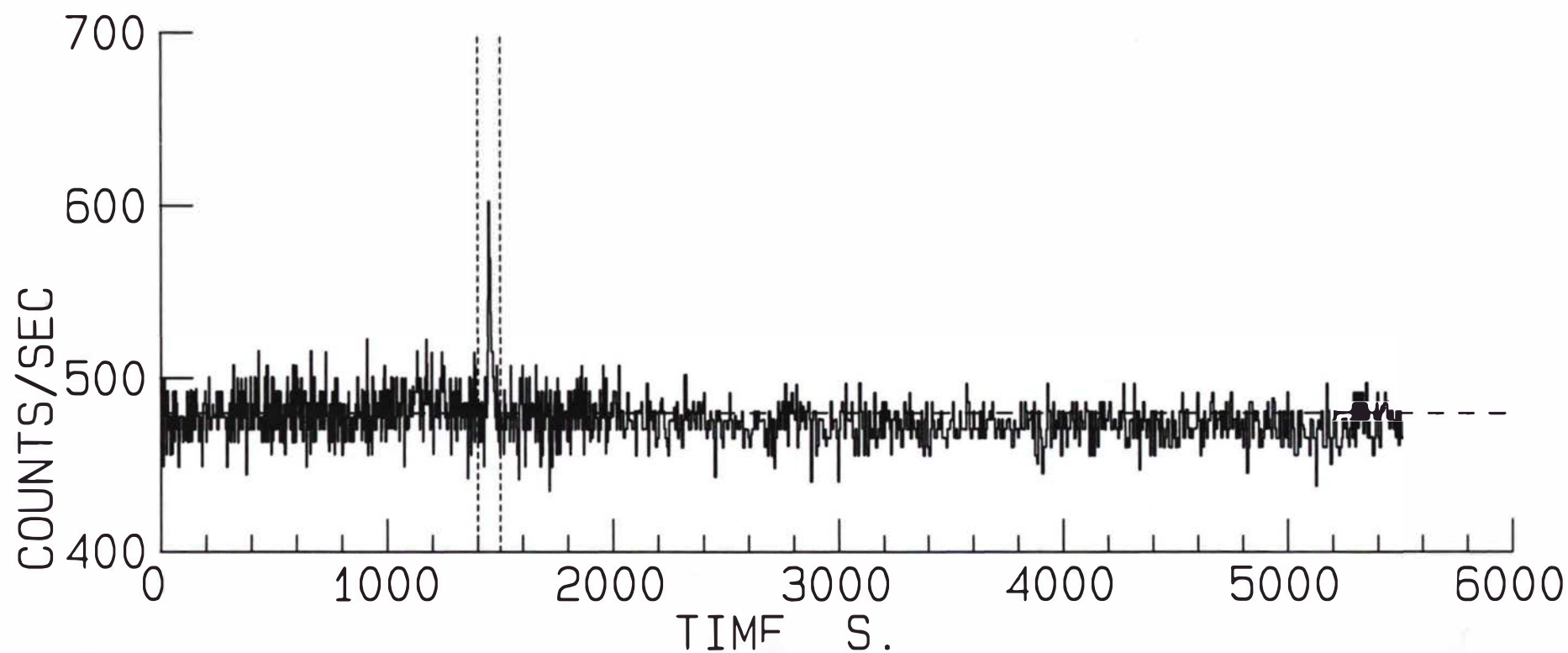
27/10/ 9





ULYSSES RT
31/ 5/98 25020.328 s
INTERVALS REGROUPED BY 6
22- 151 keV

27/10/ 9



KONUS

31/05/98 27116.631

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S

5700

4700

3700

2700

1700

700

DETECTOR 1 - S. ECLIPHTIC

28065

22/09/05



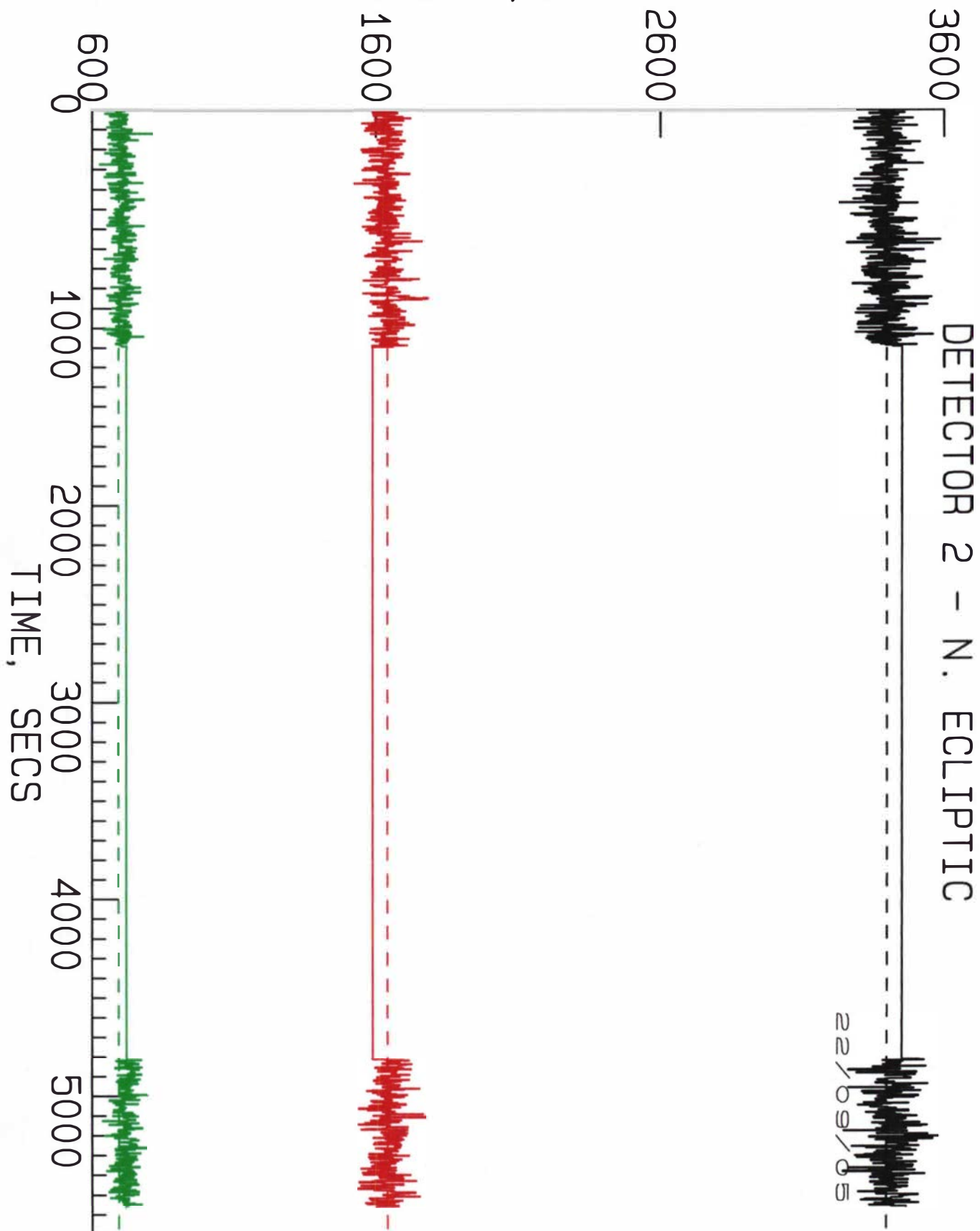
KONUS

31/05/98 27116.631

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S



KONUS

31/05/98 27116.631

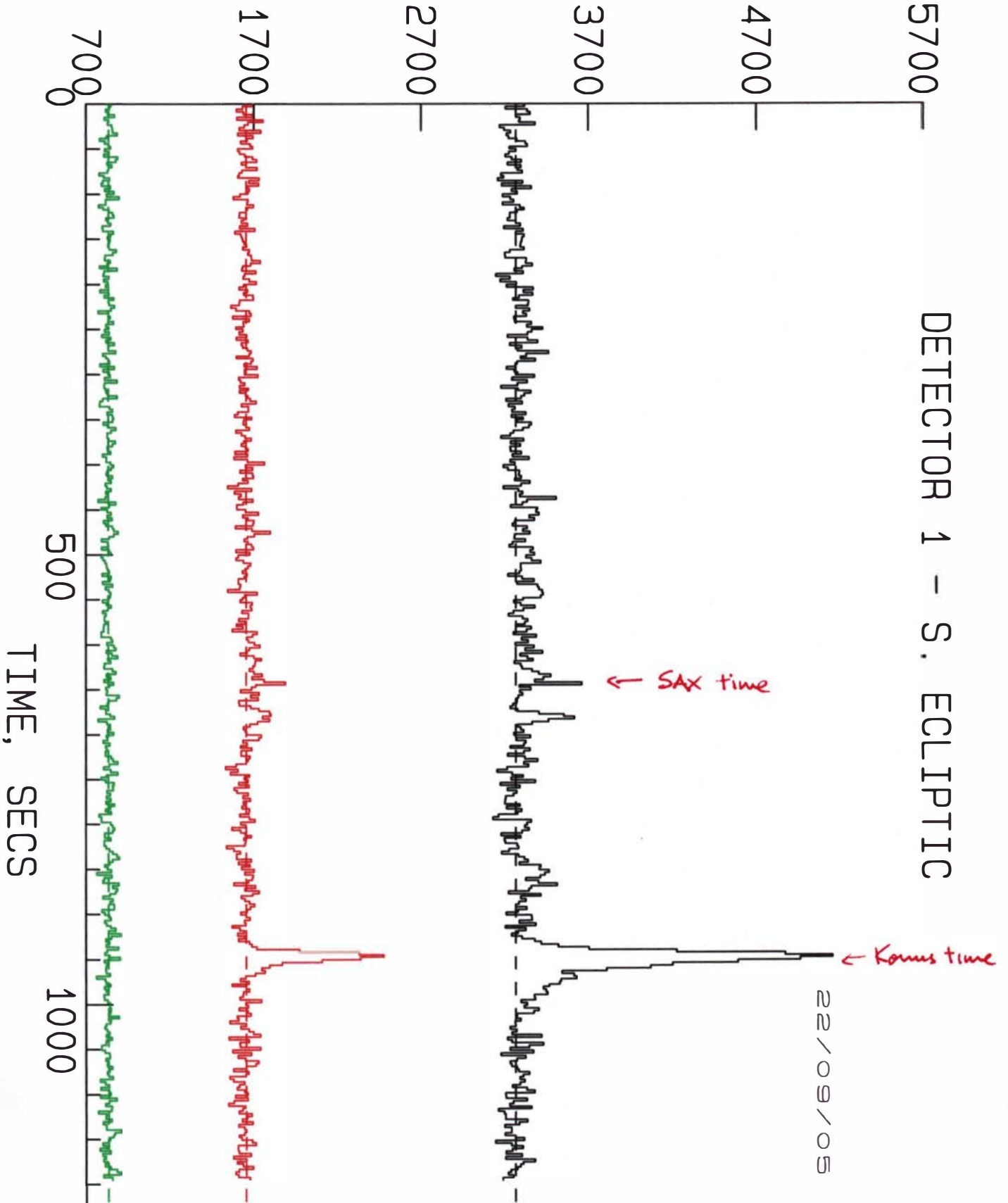
10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

DETECTOR 1 - S. ECLIPIC



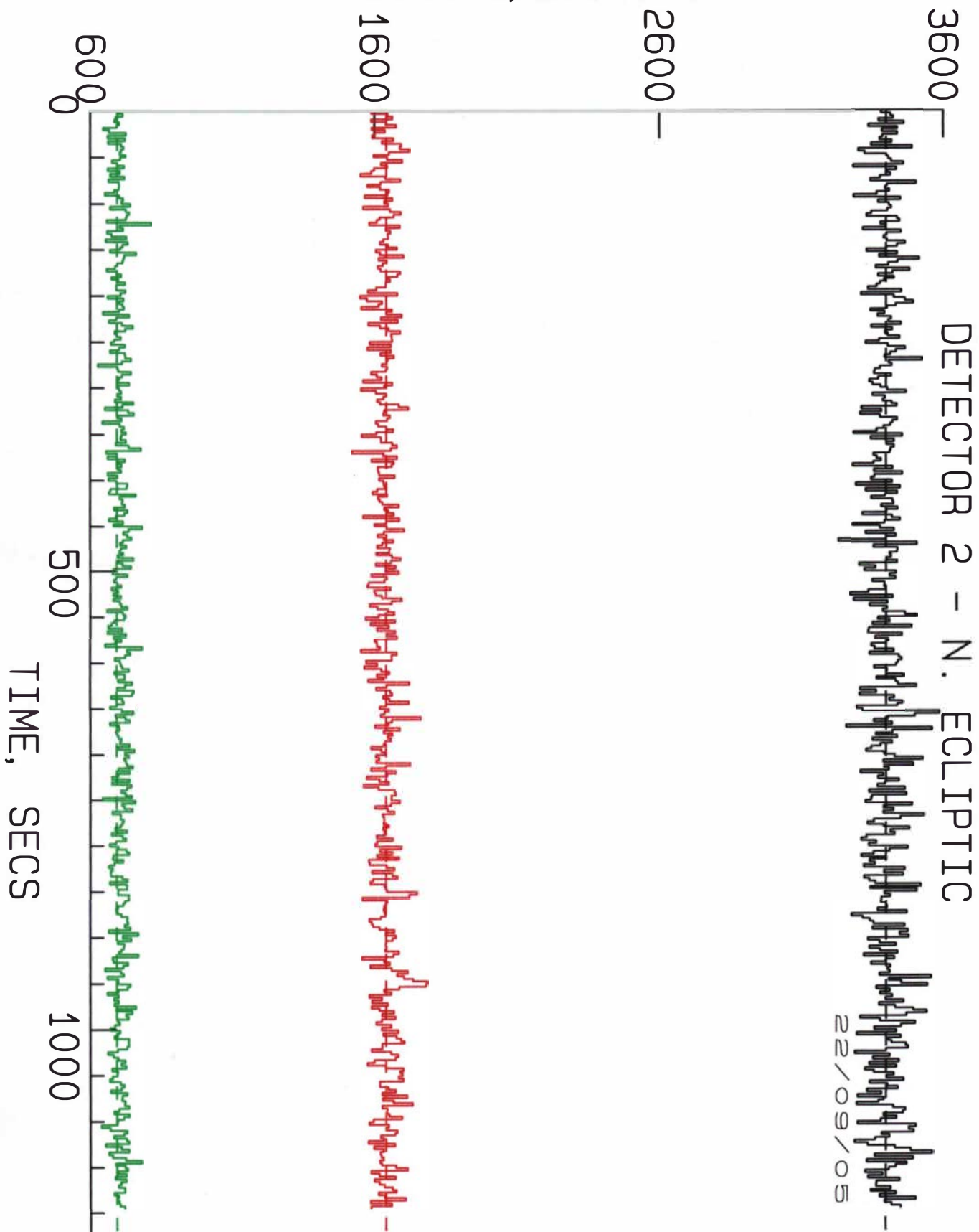
KONUS

31/05/98 27116.631

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S

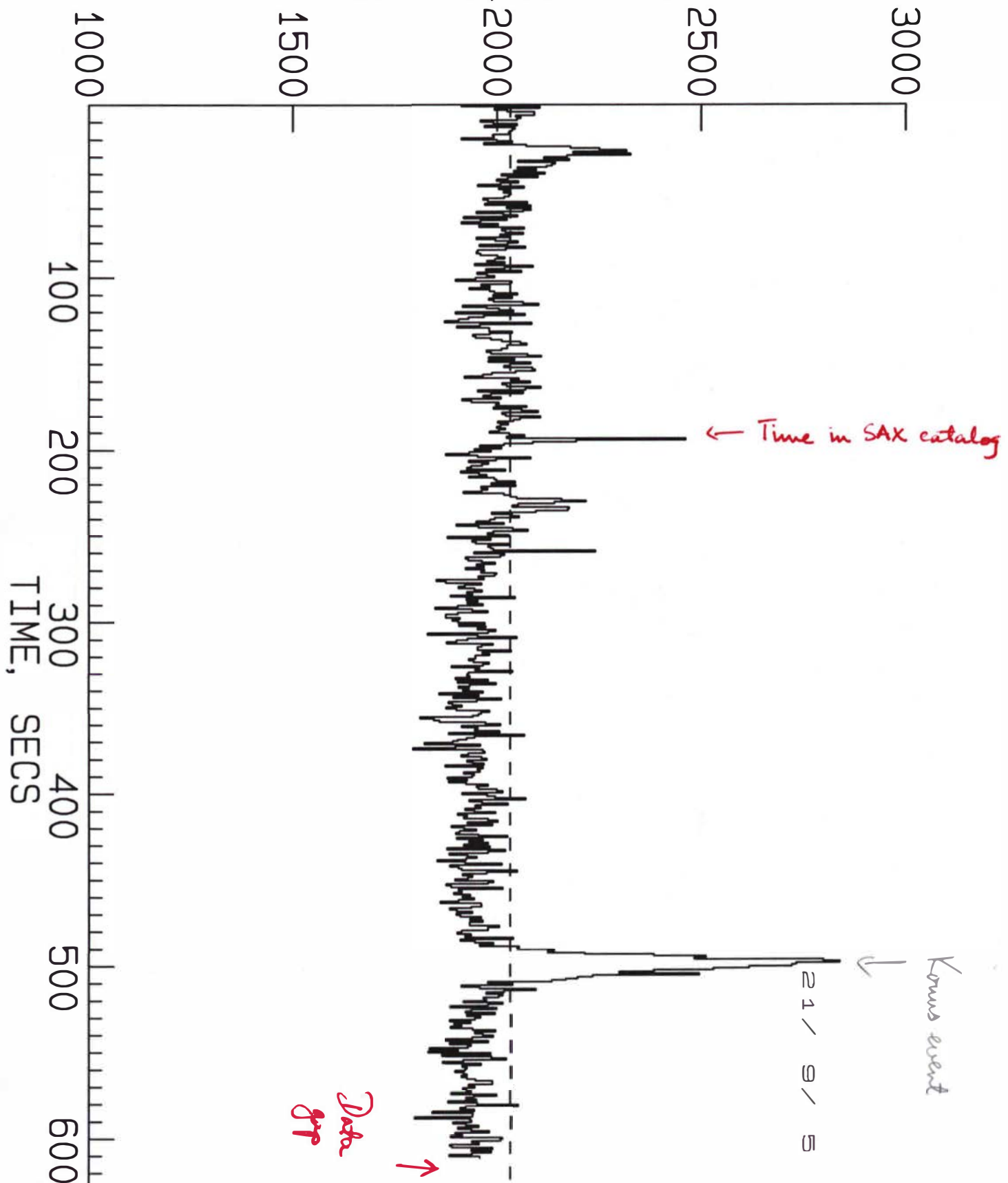


SAX GRBM

31/05/98 27567.892

40- 700 keV

COUNTS/1.000 S

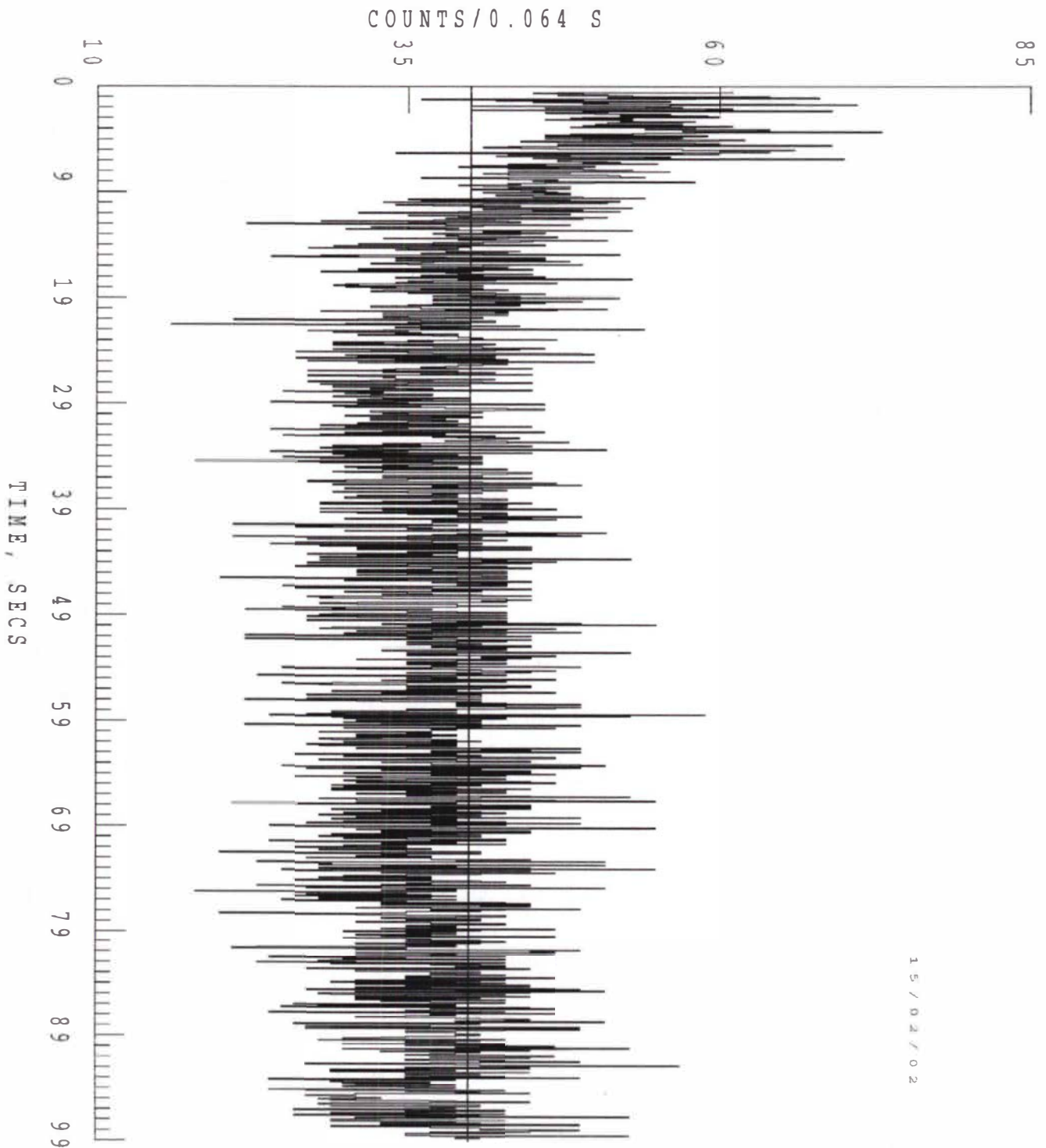


KONUS1

31/05/98

28060.677

50 - 200 keV



KONUS1 19980531 28060

ULYSSES RT

15 / 02 / 02

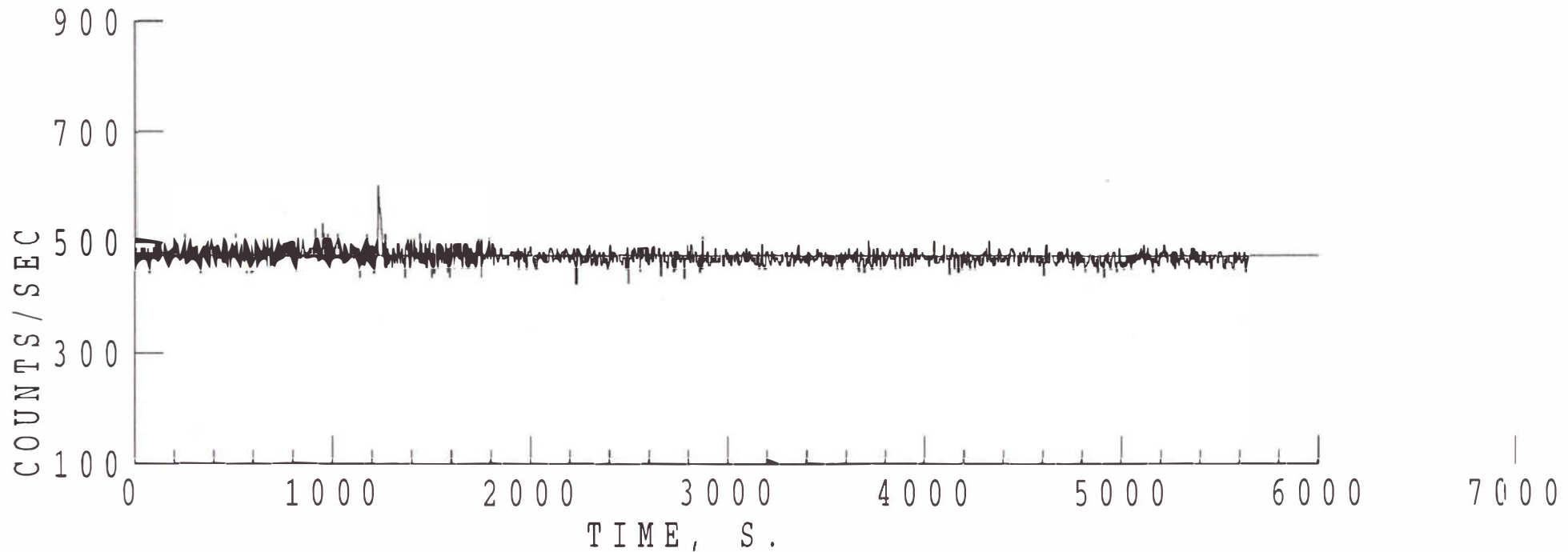
31 / 05 / 98 25236.328 s

INTERVALS REGROUPED BY 5

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot Wed Jun 3 14:30 PDT 1998

Date: Wed, 3 Jun 1998 14:30:23 -0700

From: khurley@sunspot (Kevin Hurley)

To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov

Subject: GRB980531

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed the following burst:

May 31 1998 07:21 Ulysses time; weak burst, 20 s long

The spacecraft was about 2750 light-seconds from Earth.
Was this event detected by anyone else?

CC: ulyssesbursts alias list

(barthelmy, butterworth, cline, frontera, henze, kouveliotou, kurczyski, marar, teegarden, t

From RICHARDSON@fender.msfc.nasa.gov Mon Jun 1 10:18:05 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 1 Jun 1998 12:17:28 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6801

TIME: TJD=0964 SECONDS=67660

TYPE: ACCIDEN

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

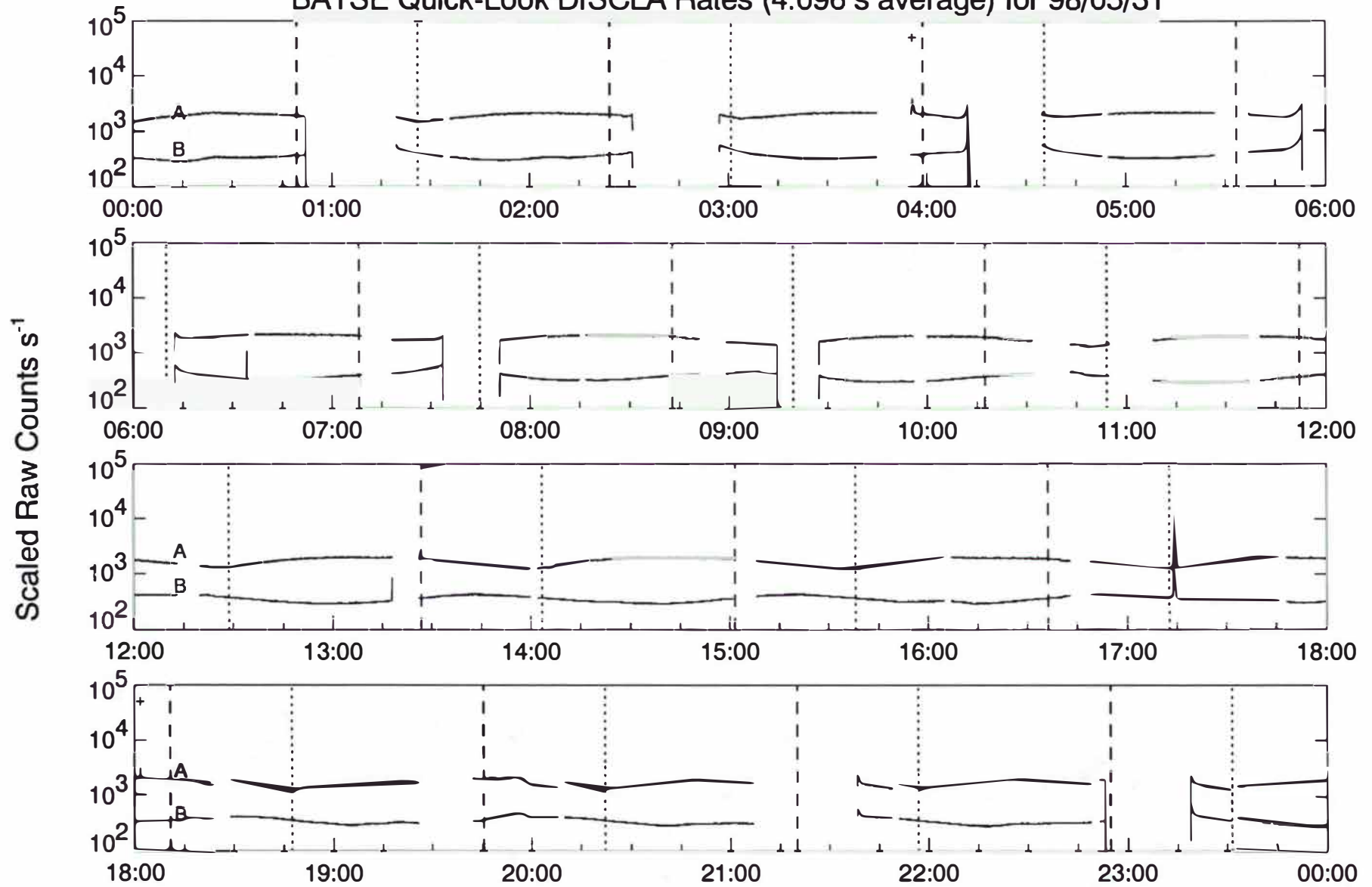
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

ACCIDENTAL TRIGGER AT TIME OF SENT COMMAND TO CHANGE TRIGGER CHANNELS TO
1+2.

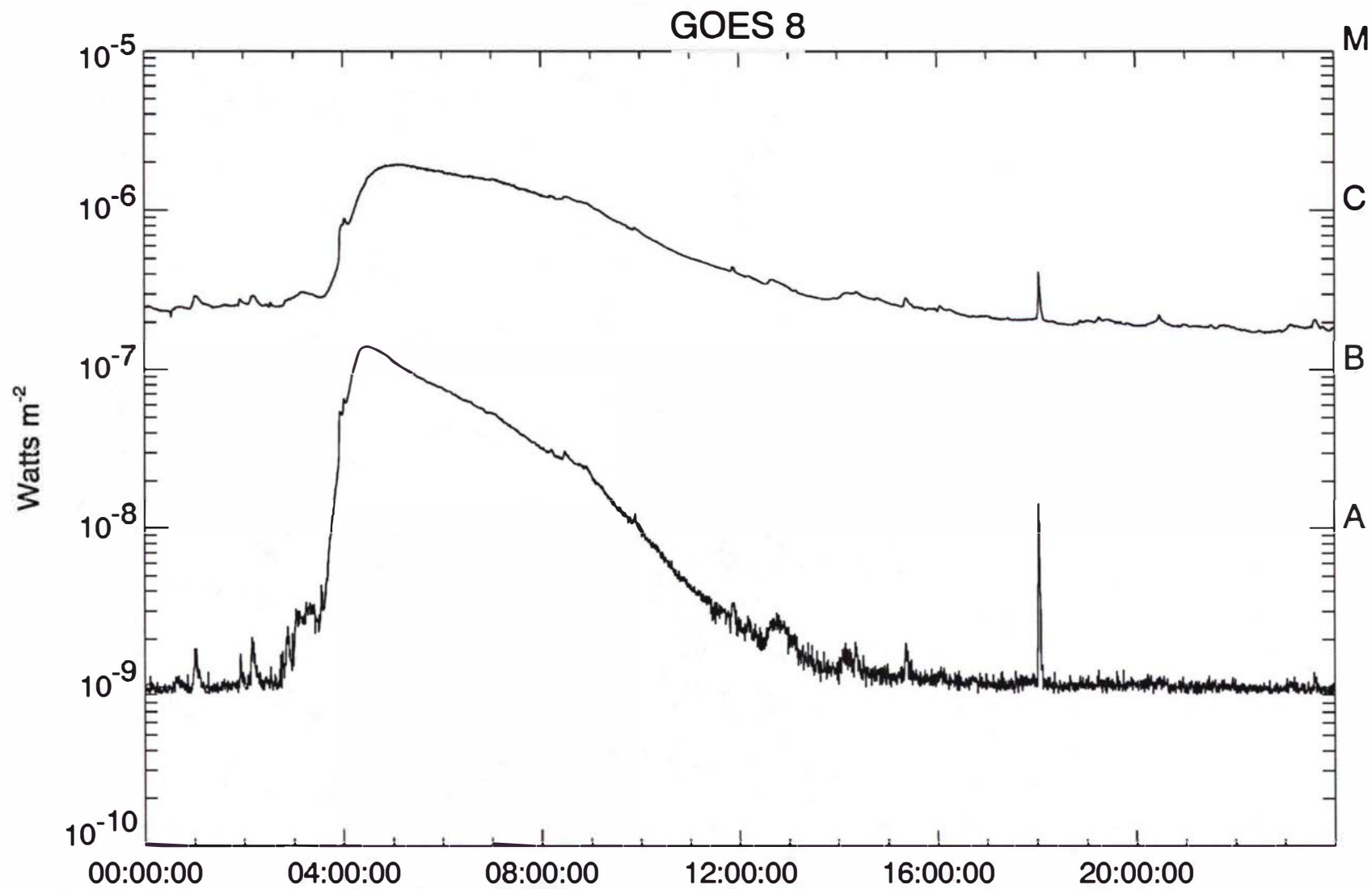
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/05/31



Current Time: 98/06/04, 1008 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



Data Start: 98/05/31, 0000:00

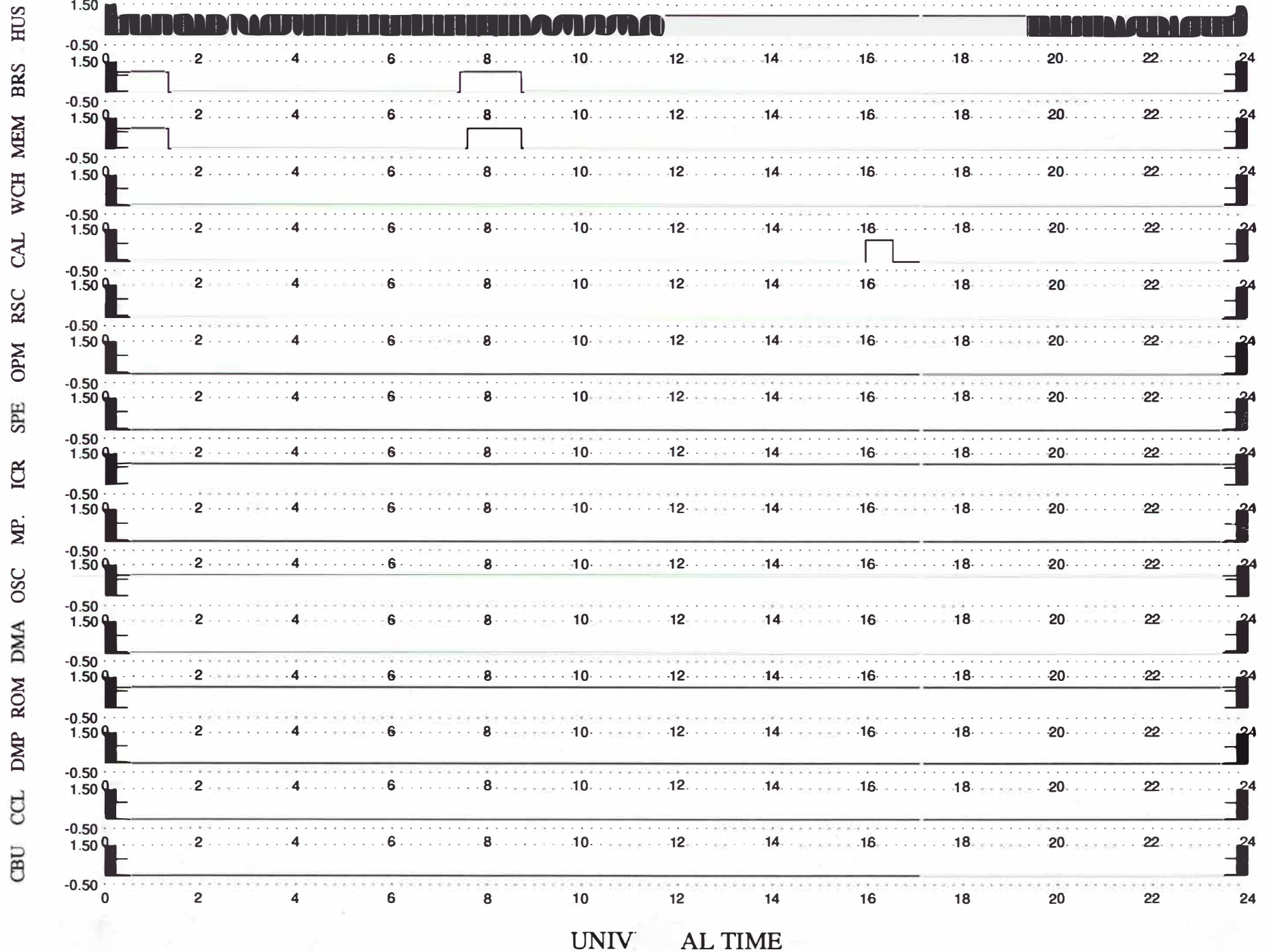
Plot created: 98/06/04, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

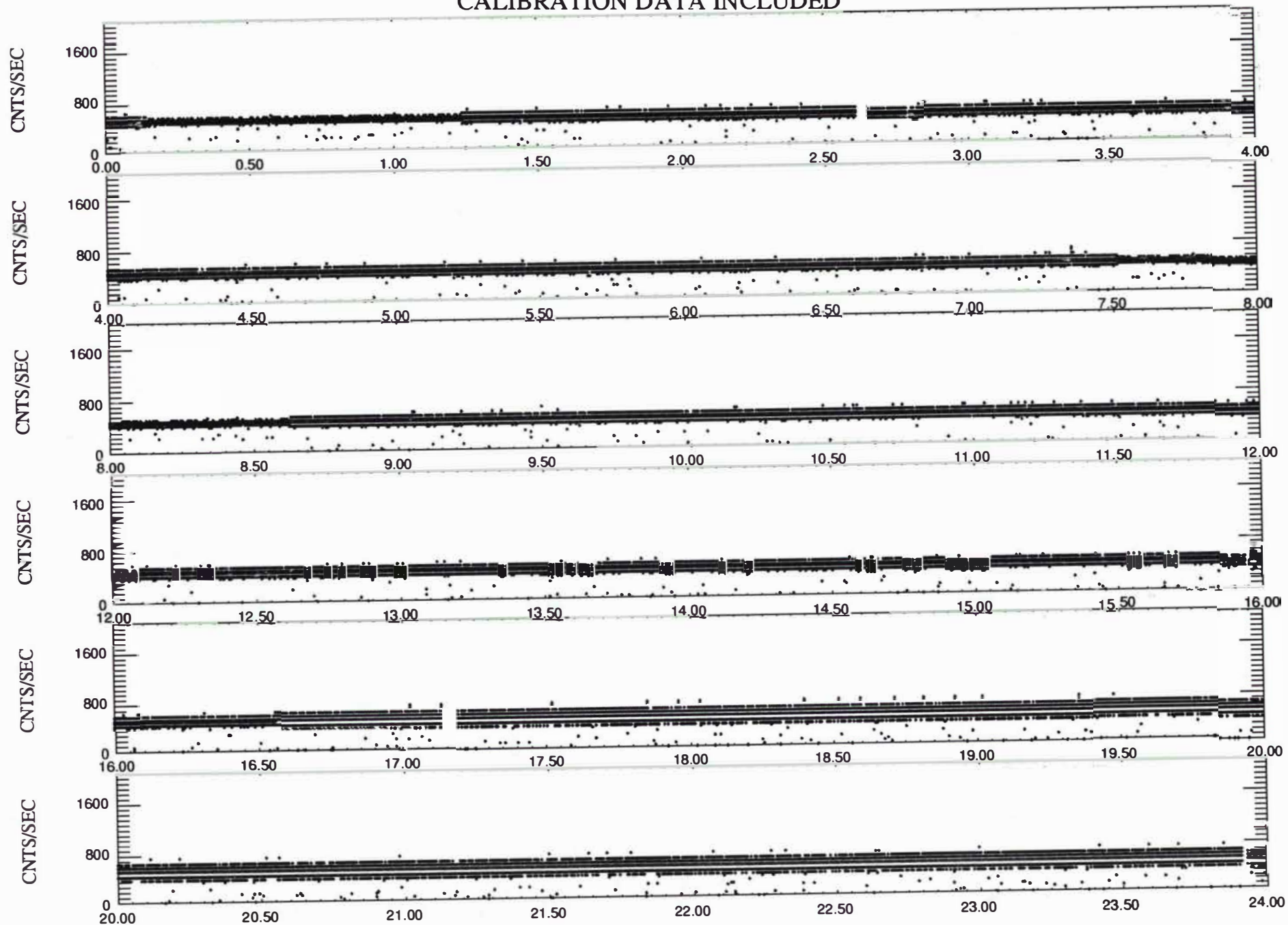
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 15, 0

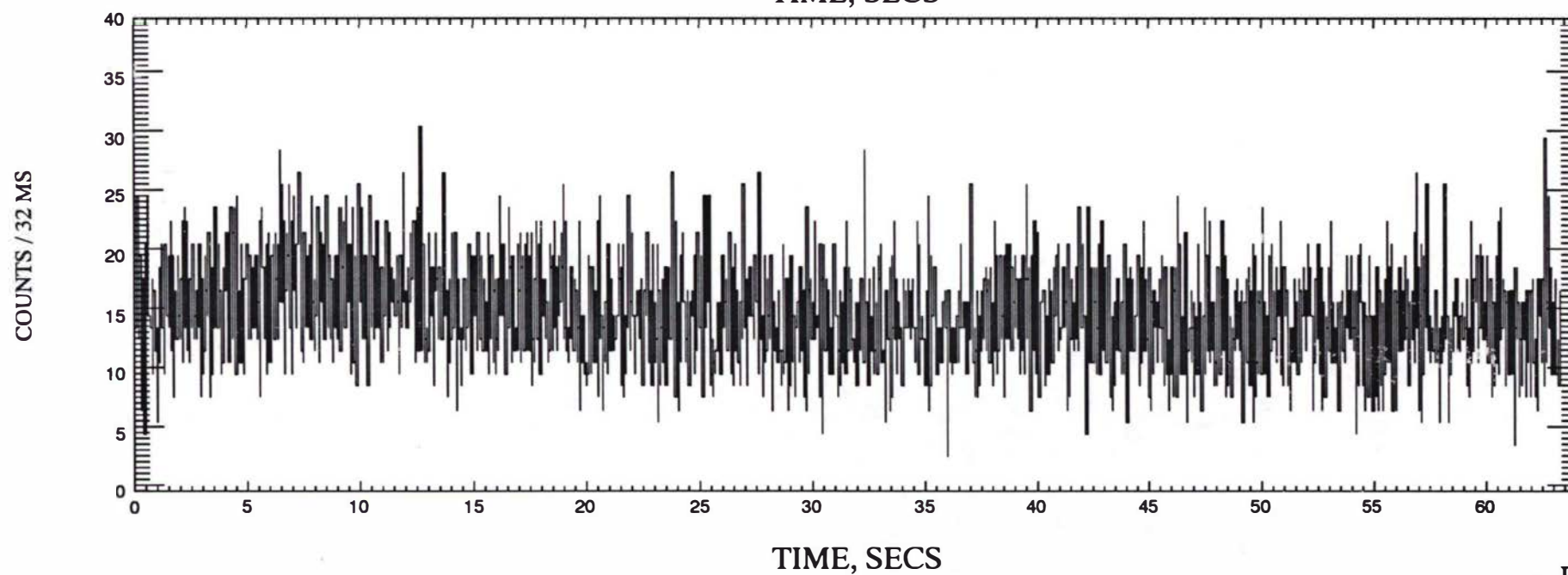
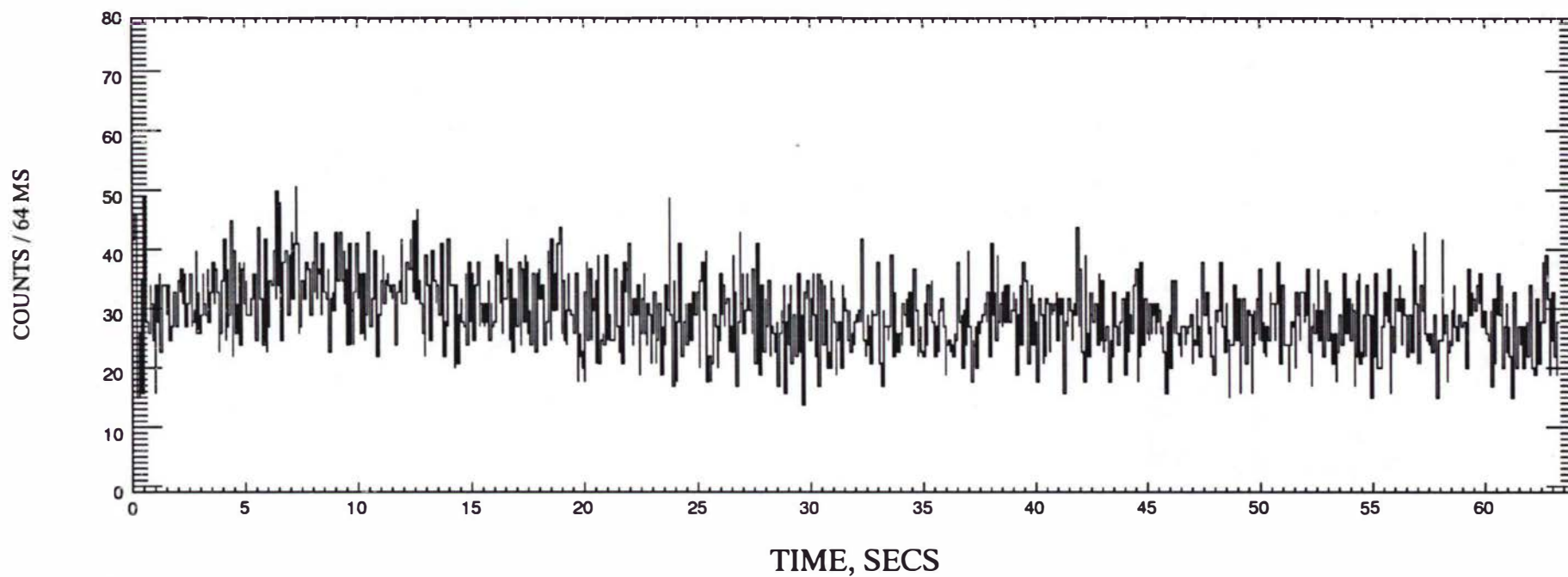


CALIBRATION DATA INCLUDED



UNIV AL TIME

Burst Counter 0 at UT= 7.353147803413 h=26471.332 s 07:21:11.332



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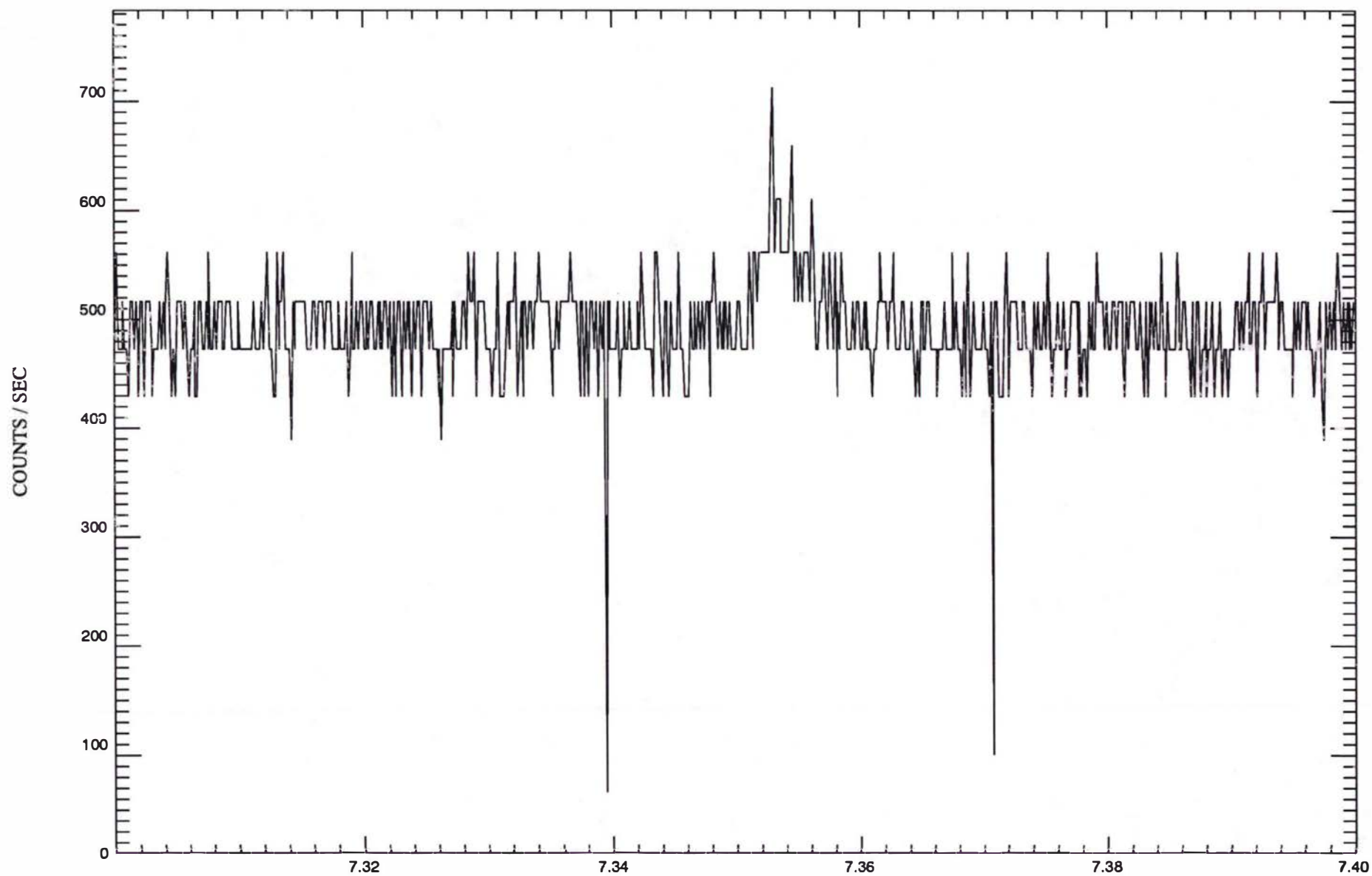
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1000000

CALIBRATION DATA INCLUDED



55

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2

11-1

11

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10

Index

507

6

1

61

DC:

2000

July 1998

10

11

52

905

2

21153

