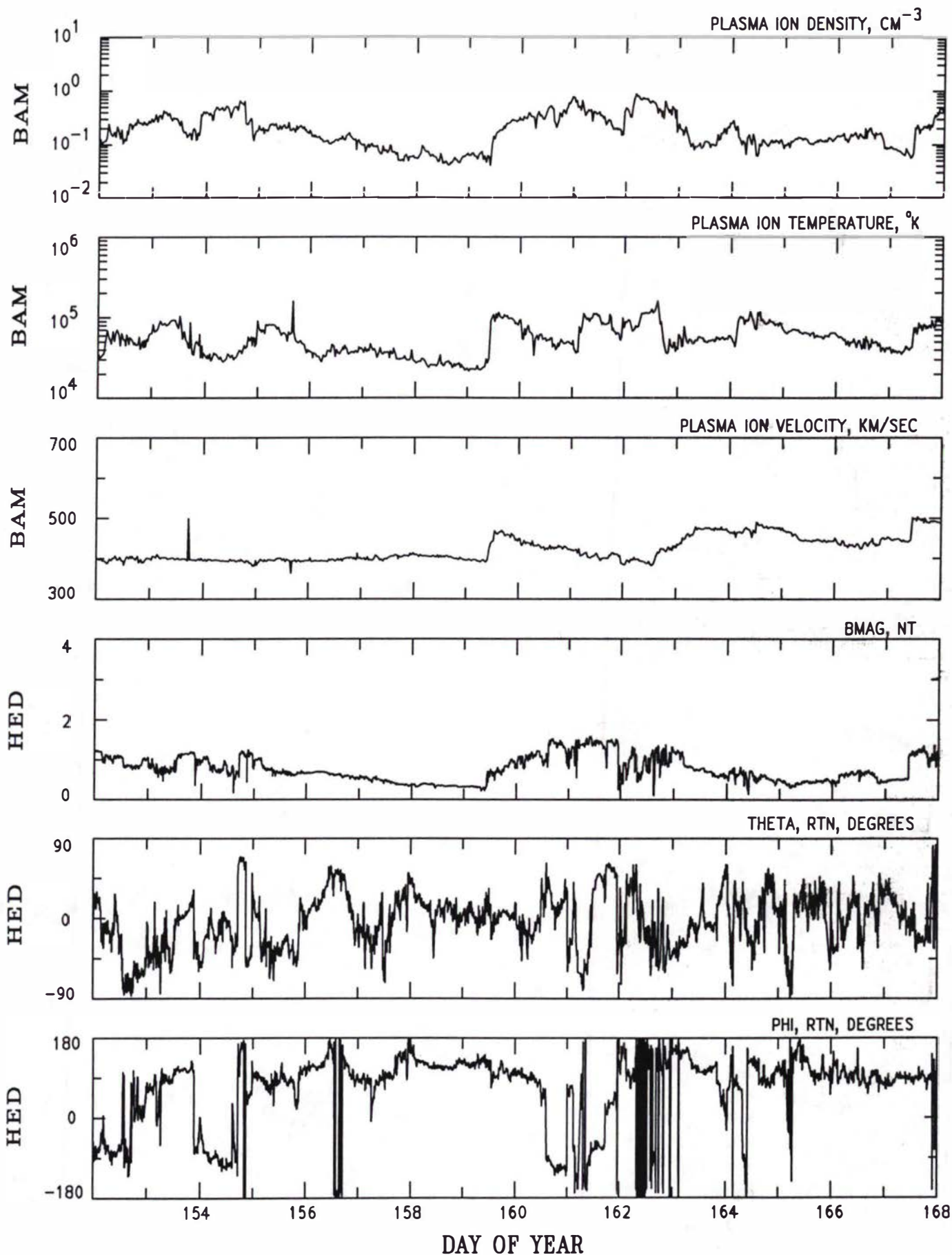


ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 152 JUN 1 00:00:00.000 - 98 168 JUN 17 00:00:00.000



THE BATHING OF THE GODS

1900-1901

THE BATHING OF THE GODS



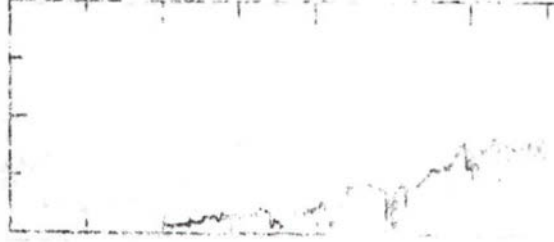
THE BATHING OF THE GODS



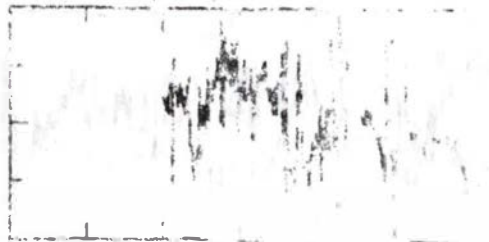
THE BATHING OF THE GODS



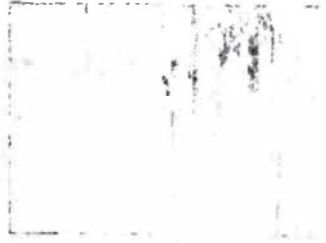
THE BATHING OF THE GODS



THE BATHING OF THE GODS

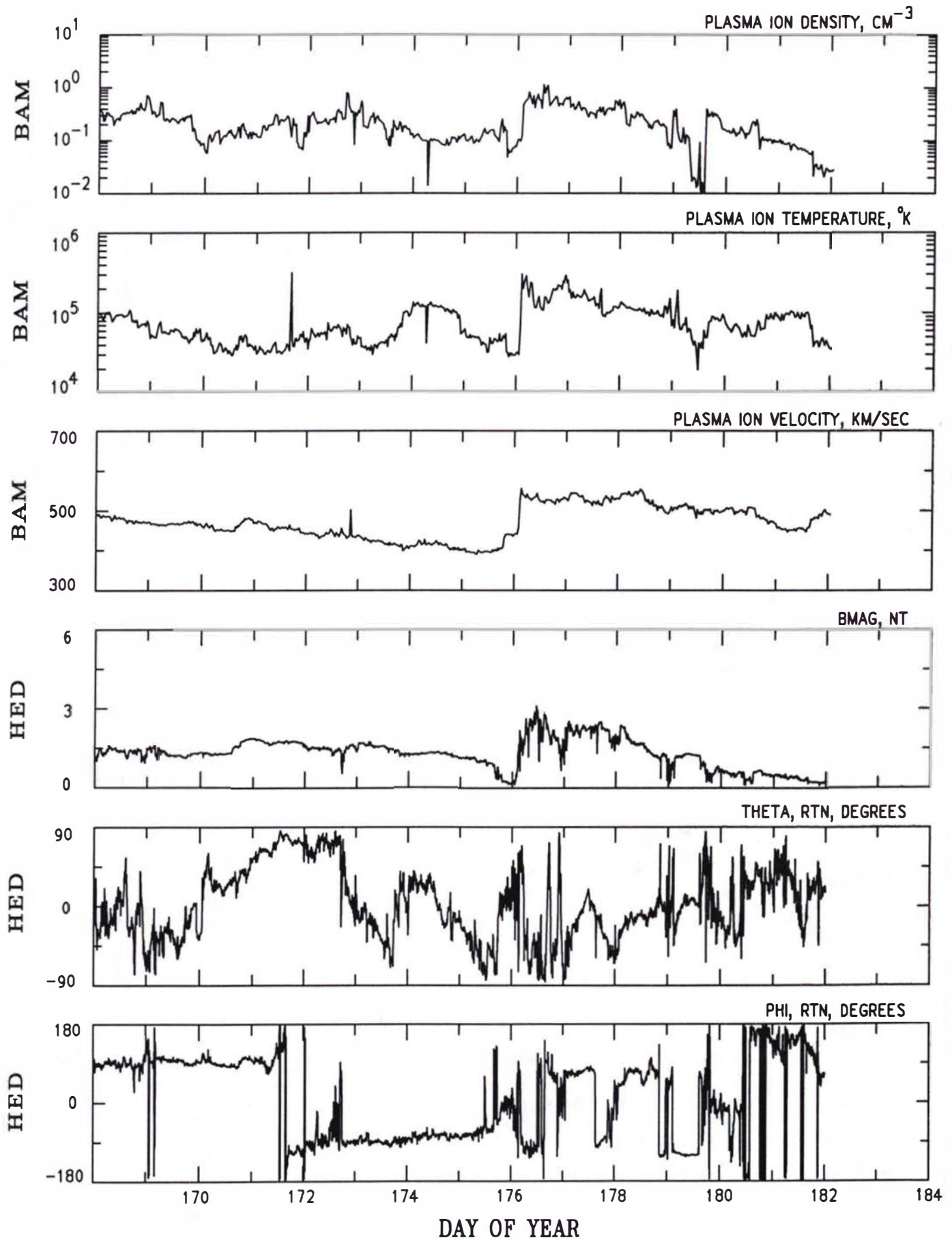


THE BATHING OF THE GODS



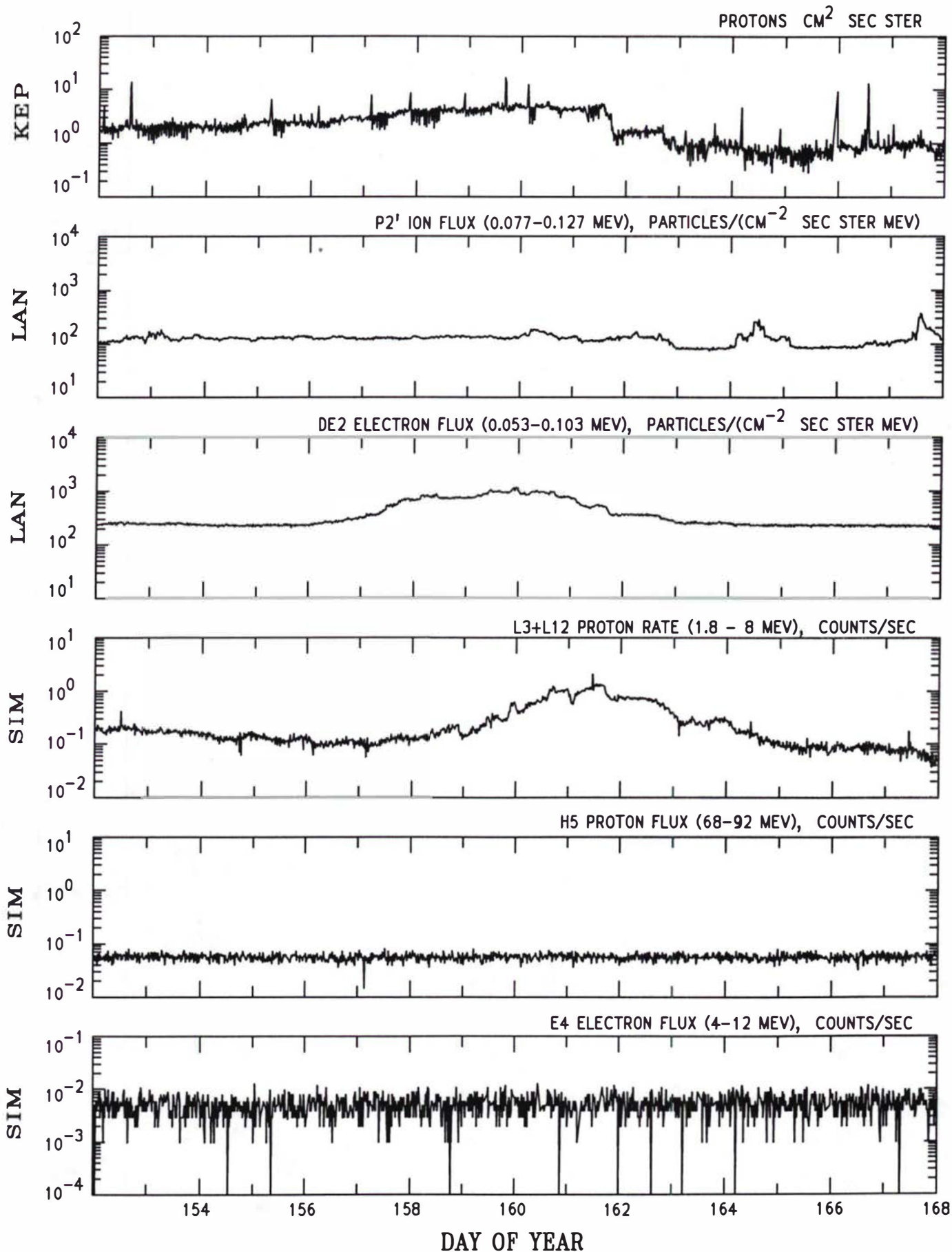
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 168 JUN 17 00:00:00.000 - 98 184 JUL 3 00:00:00.000



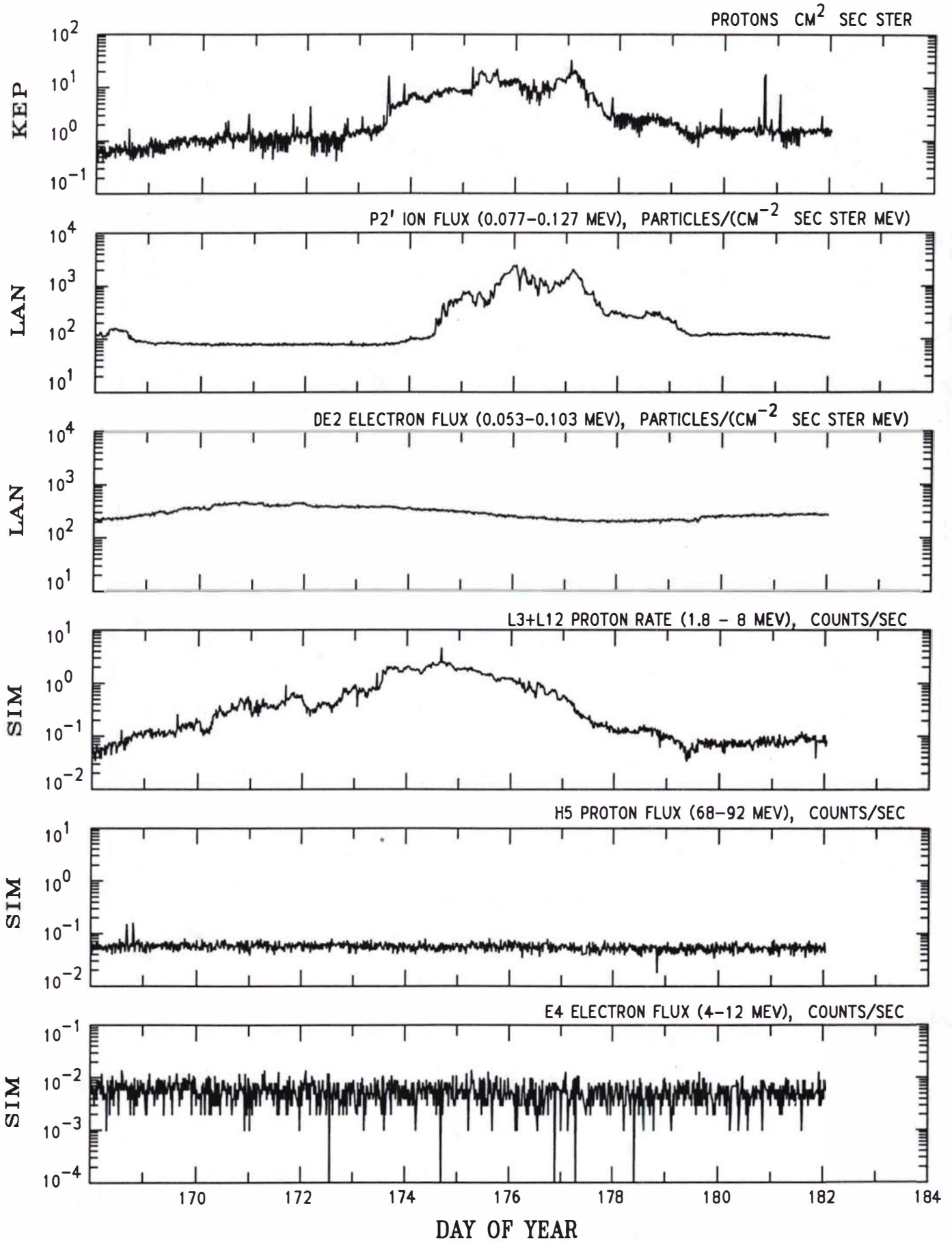
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 152 JUN 1 00:00:00.000 - 98 168 JUN 17 00:00:00.000



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

98 168 JUN 17 00:00:00.000 - 98 184 JUL 3 00:00:00.000

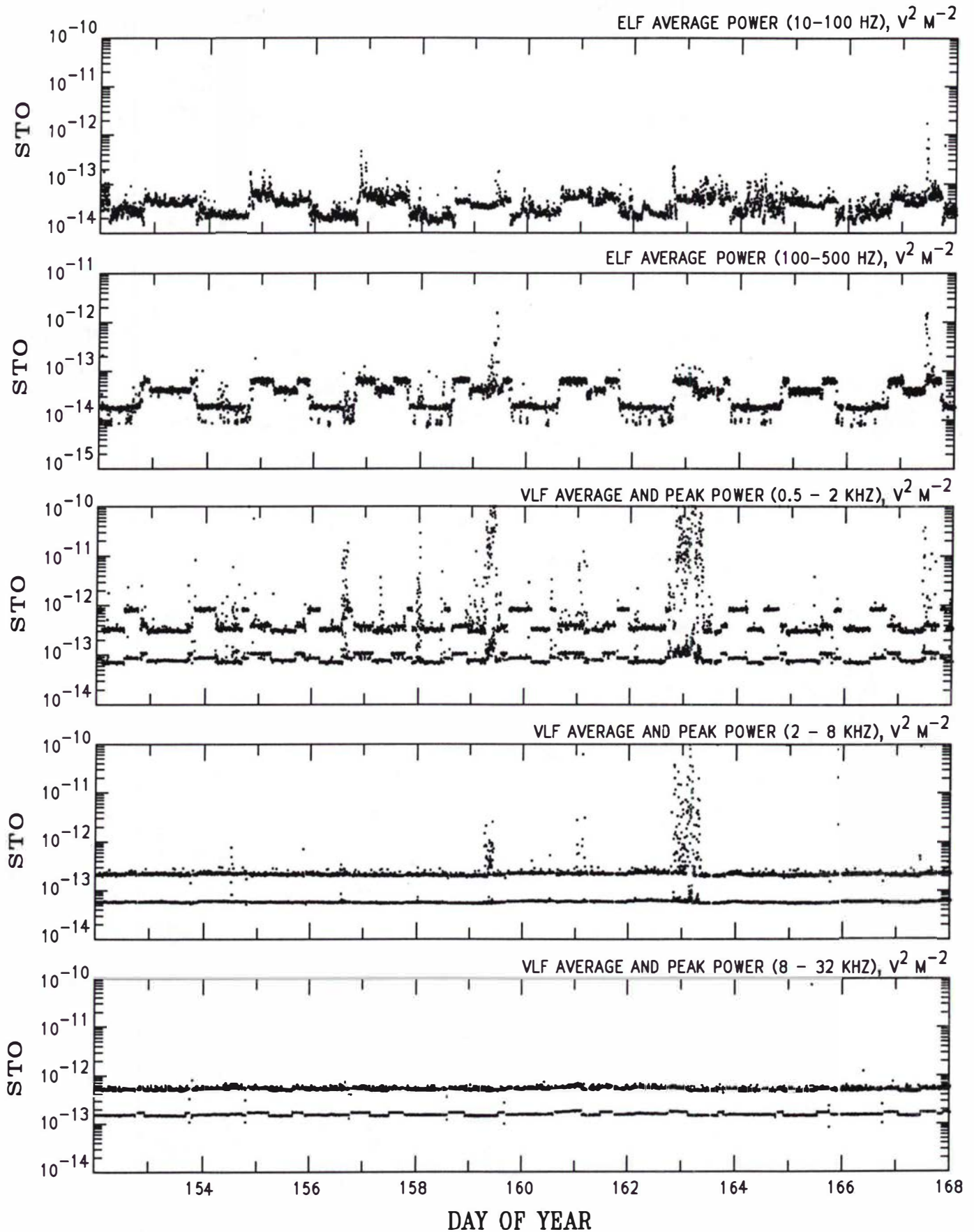


5- V (CHX) =

M^c /SHM - 8)

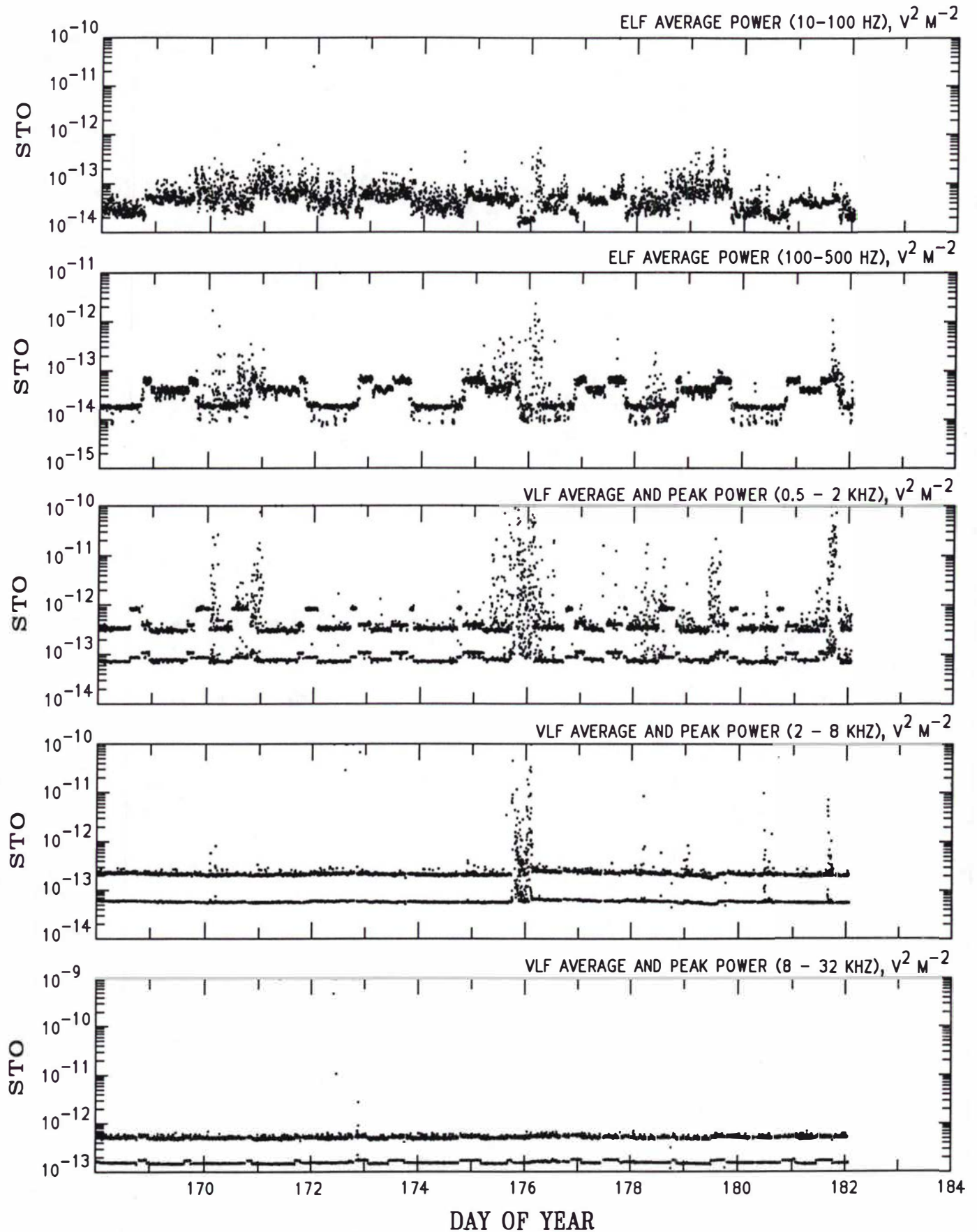
ULYSSES CDR - PLASMA WAVE

98 152 JUN 1 00:00:00.000 - 98 168 JUN 17 00:00:00.000



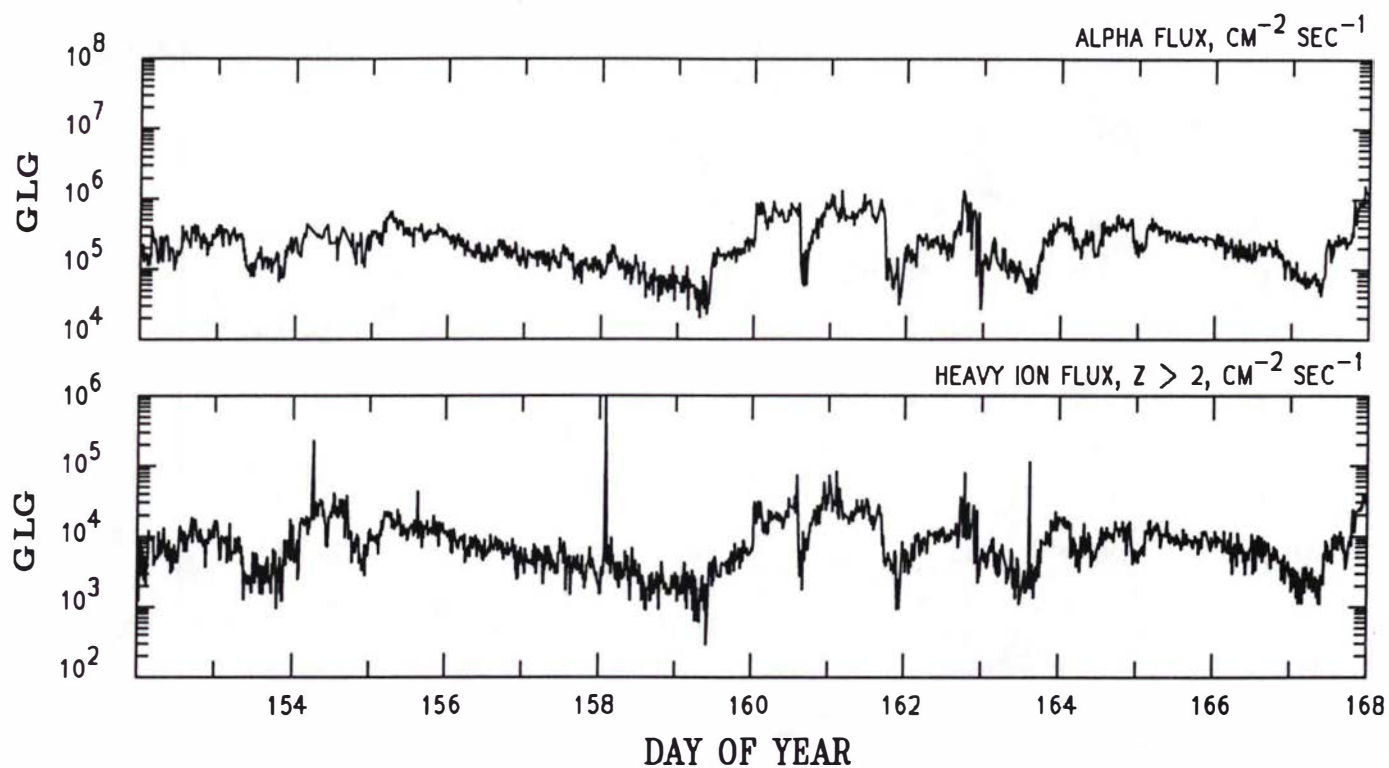
ULYSSES CDR - PLASMA WAVE

98 168 JUN 17 00:00:00.000 - 98 184 JUL 3 00:00:00.000



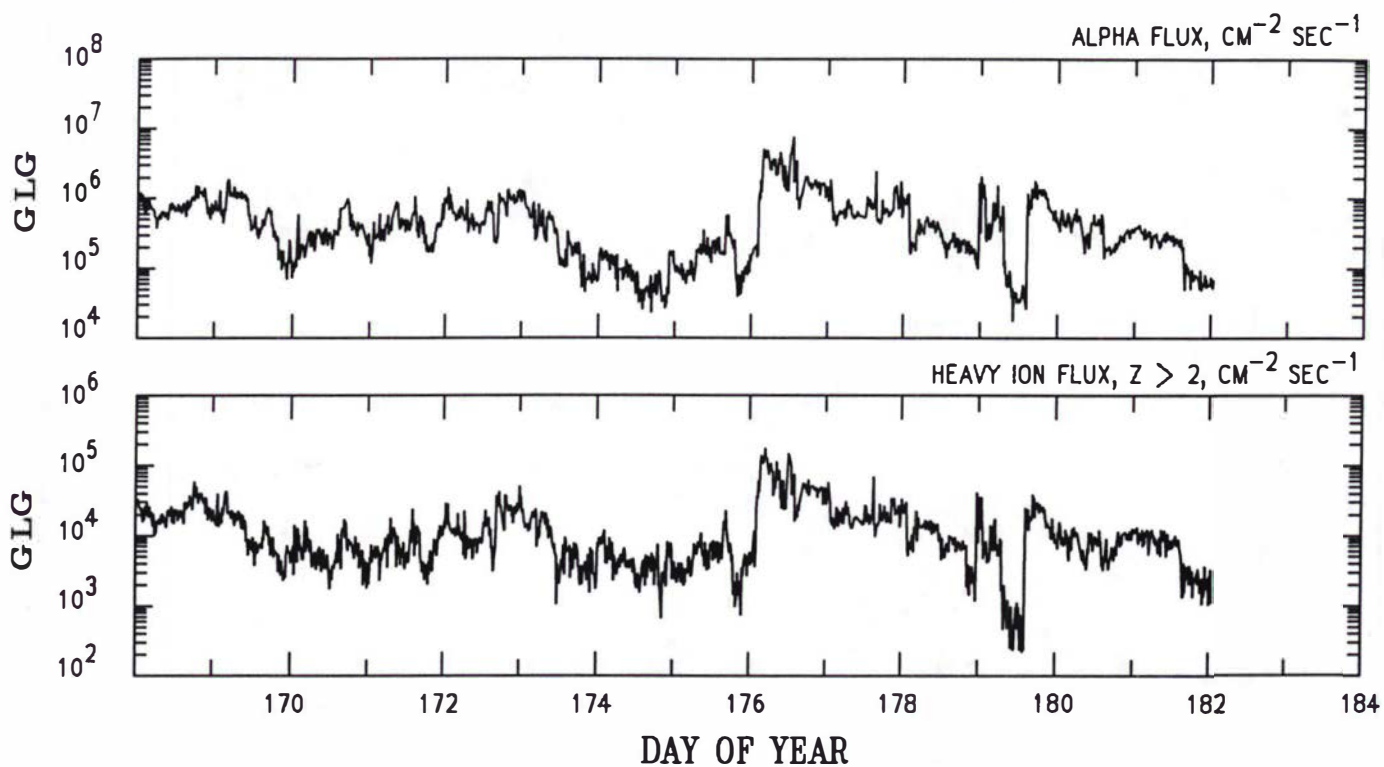
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 152 JUN 1 00:00:00.000 - 98 168 JUN 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 168 JUN 17 00:00:00.000 - 98 184 JUL 3 00:00:00.000

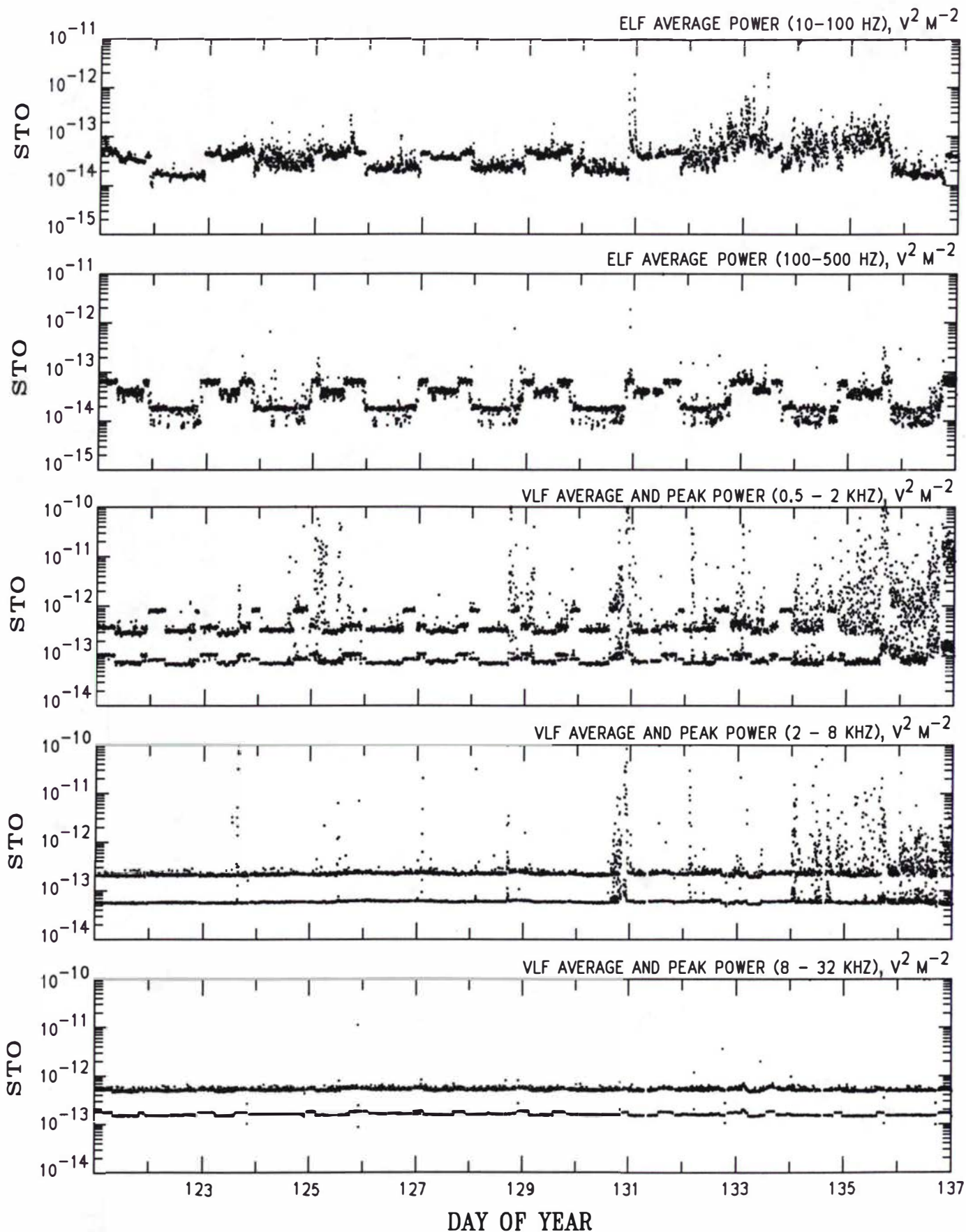


8

100

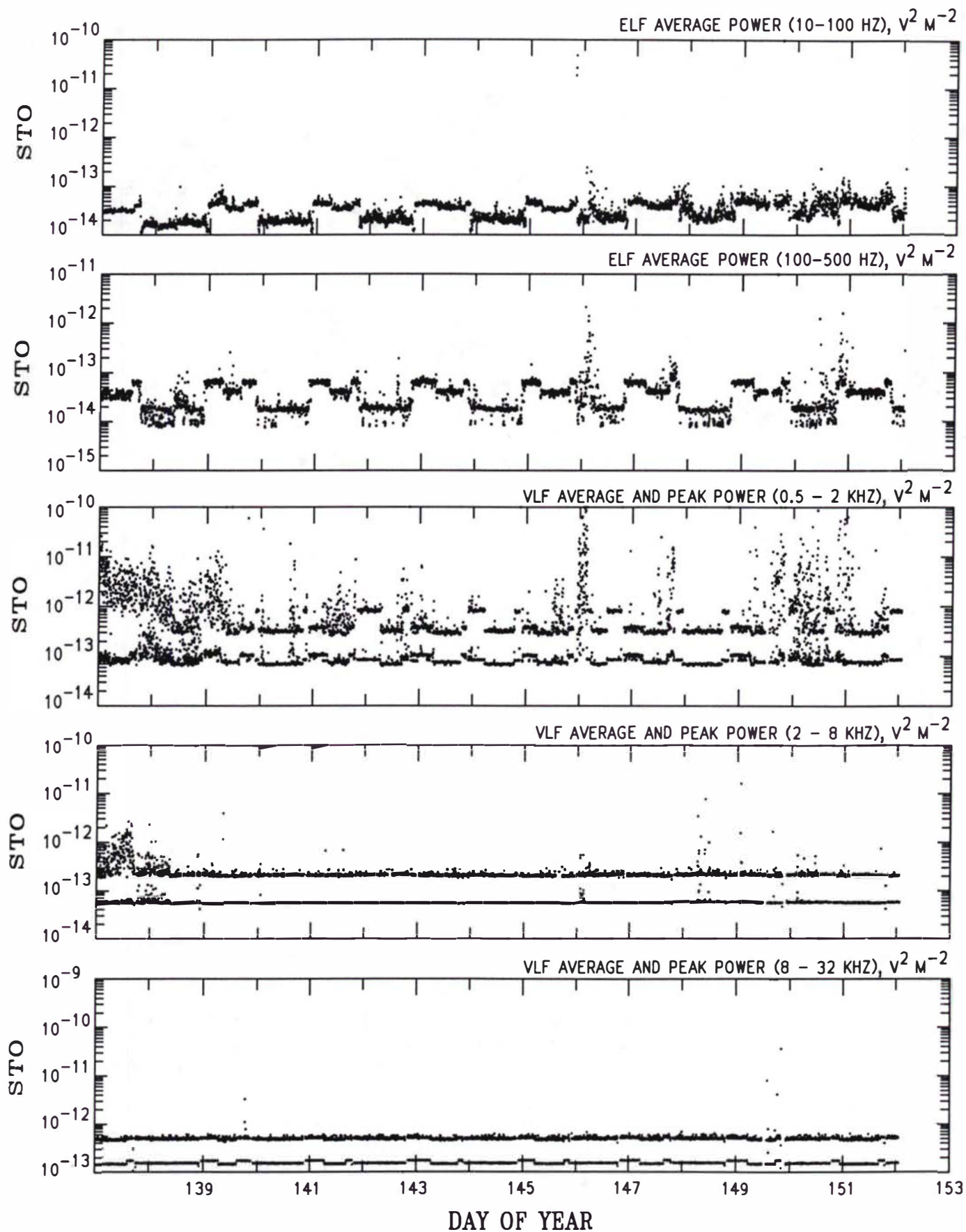
ULYSSES CDR - PLASMA WAVE

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



ULYSSES CDR - PLASMA WAVE

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



From SAHI@fender.msfc.nasa.gov Wed Jun 3 07:52:48 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA11689; Wed, 3 Jun 1998 07:52:47 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA00597; Wed, 3 Jun 1998 07:52:47 -0700
Date: Wed, 3 Jun 1998 9:49:12 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980603094912.202017c8@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6802
Content-Length: 1135
X-Lines: 26
Status: RO

*Very weak - There are at least
2 widely separated minima in
the χ^2 curve. Location is off*

BATSEARCH PROGRAM

BATSE BURST # 6802
EVENT OF 1998 JUN 1 DAY OF YEAR=152
EVENT CROSSING TIME AT BATSE : 23980. S. OR 06:39:40.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 223.000 -52.000
BATSE PEAK COUNTING RATE: 4600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/ 6/ 98 IS:
RA= 148.983 DEC= 11.382 DIST= 5.551 AU
BATSE-ULYSSES DISTANCE = 830452588. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 90.61 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -29.57 SECS.
CROSSING TIME AT ULYSSES IS 23950. S. OR 06:39:10 +/- 530.45 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/ 6/ 98 IS:
RA= 63.612 DEC= 21.475 DIST= 2.510 AU
MARS-BATSE DISTANCE = 375438144. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.44 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1032.83 SECS.
CROSSING TIME AT MARS IS 25013. S. OR 06:56:52 +/- 138.64 SECONDS

BATSE BURST TRIGGER

NO.: 6802

TIME: TJD=0965 SECONDS=23980

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=85.0 AZIMUTH=145.2 ERROR=3.7 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 30 SECS, MAX. AT T+0.5 SECS
WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6802	980601	10965	23980	4600	223	-52	30

BATSE BURST# 6802

ULYSSES RT

3 / 6 / 98

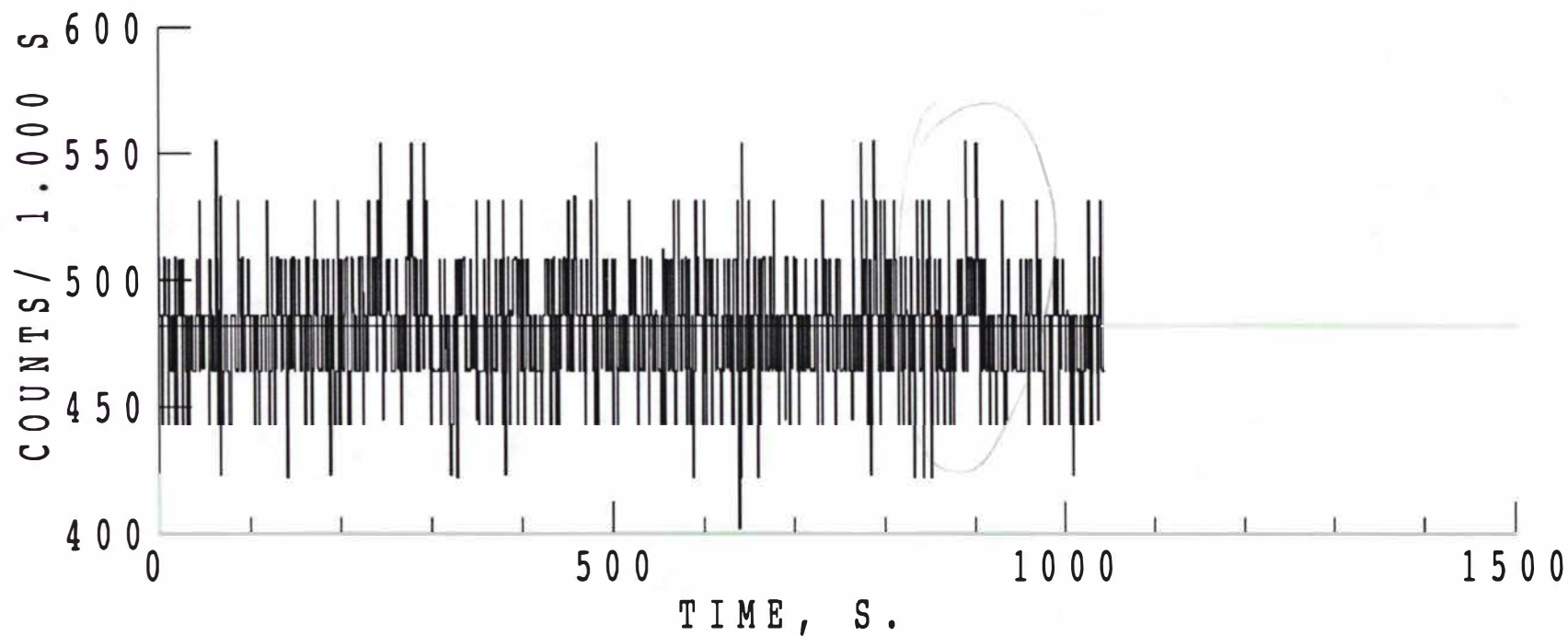
1 / 6 / 98 23436.225 s

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



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

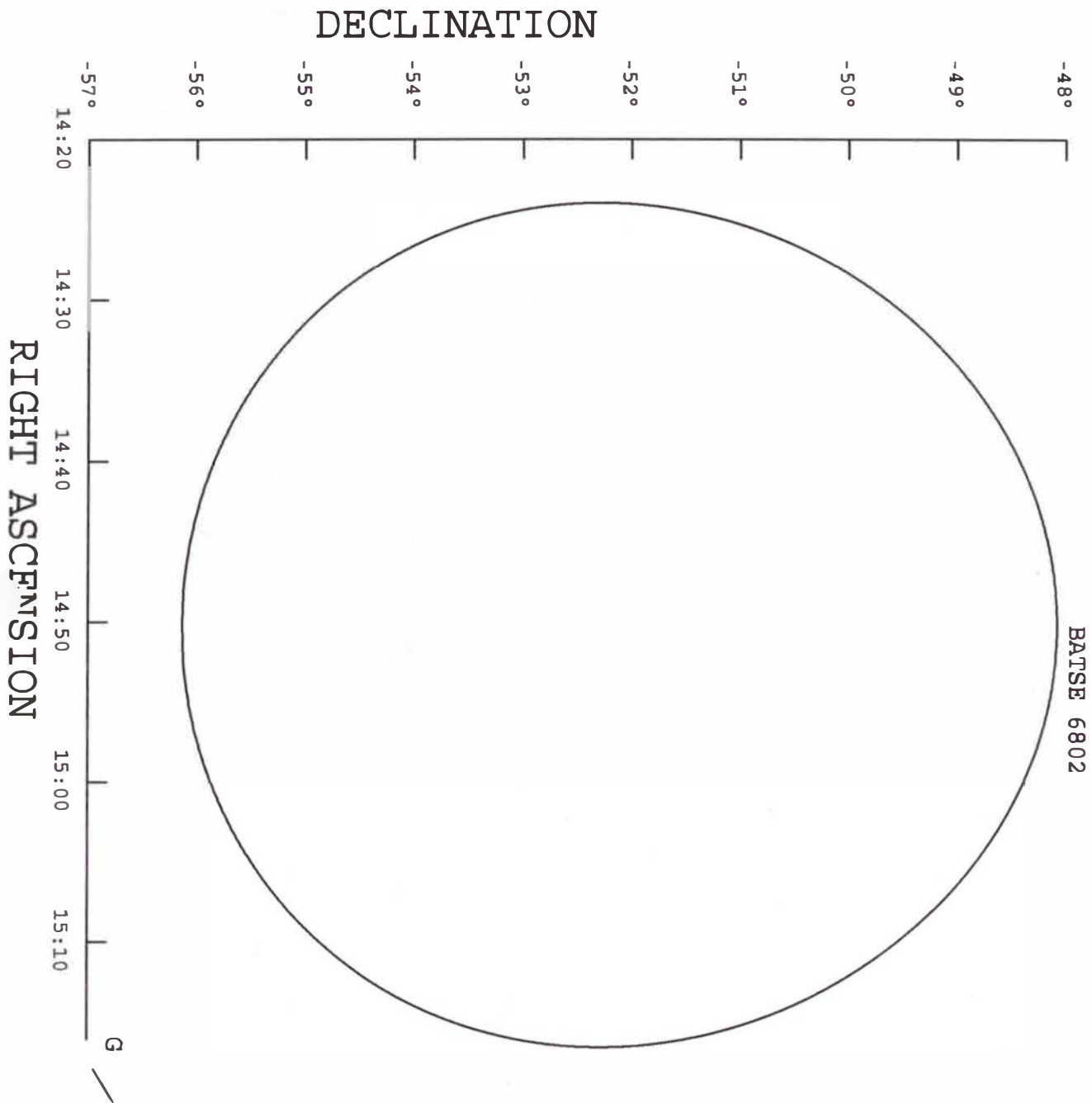
G=GALACTIC EQUATOR

1 ULYSSES

2 BATSE

EVENT OF JUN 1, 1998 6:44

25 / 6 / 93





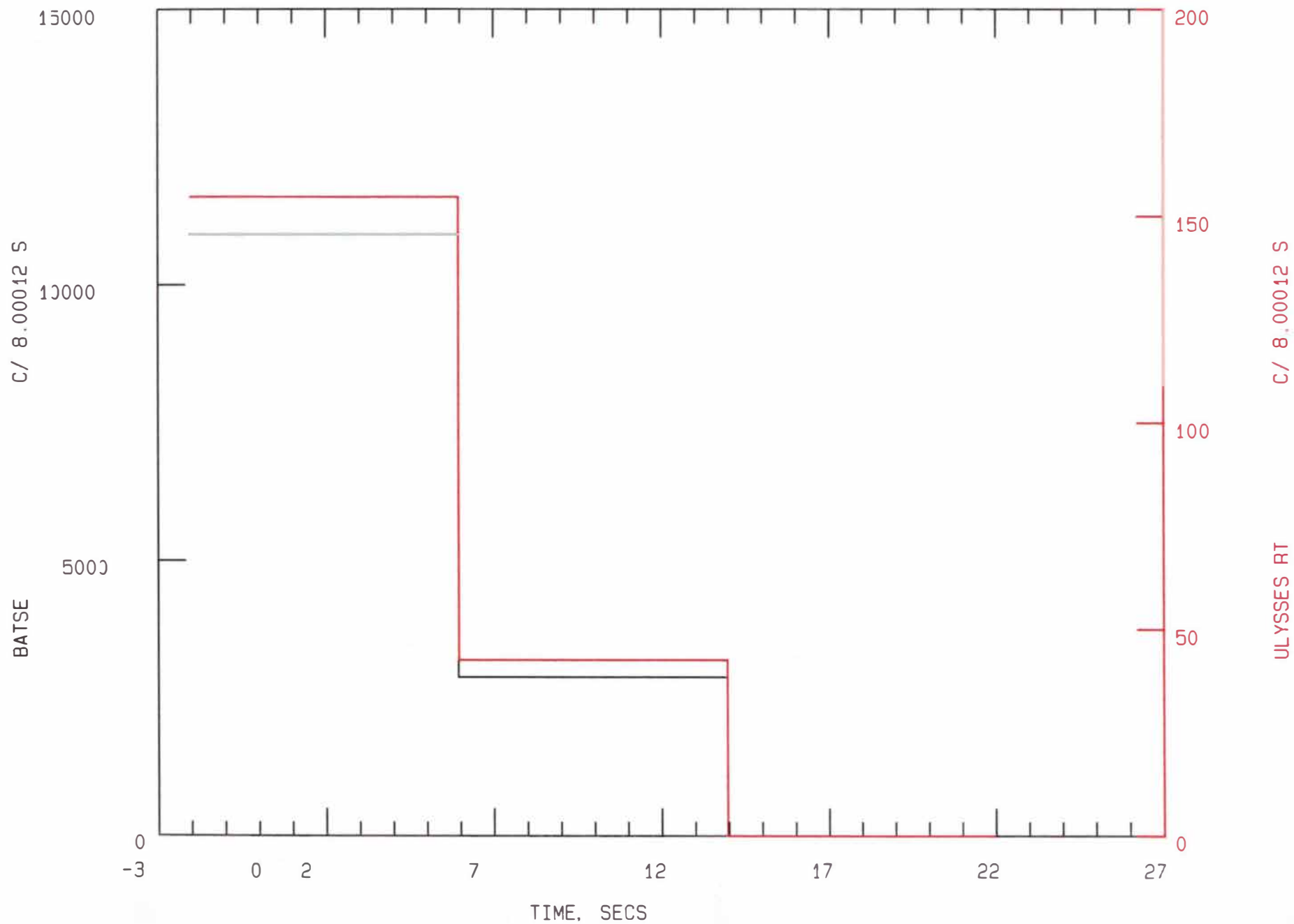
BATSE

-ULYSSES RT CORRELATION

1/ 6/98

23980.001

25/ 6/98





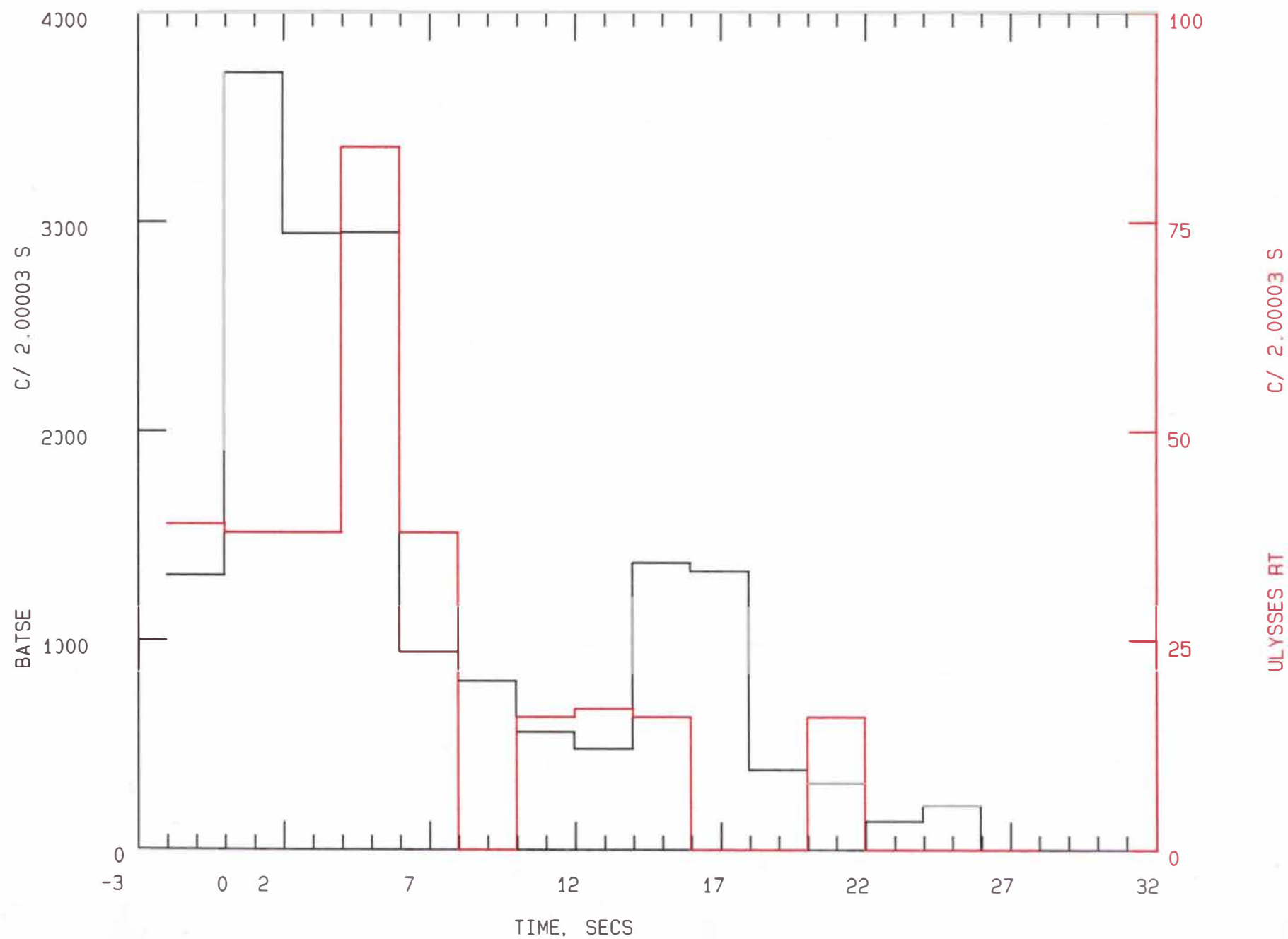
BATSE

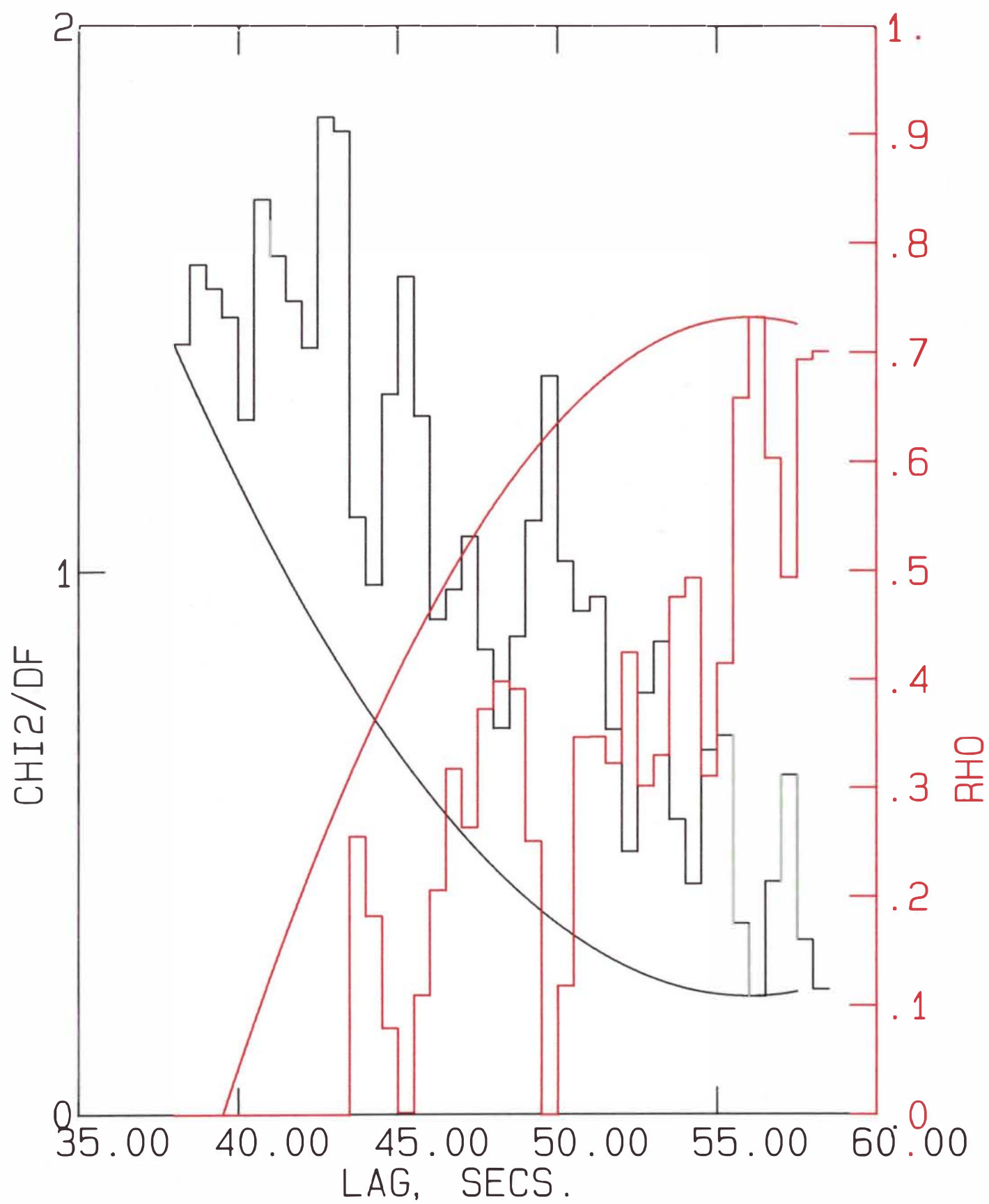
-ULYSSES RT CORRELATION

1/ 6/98

23980.001

25/ 6/98





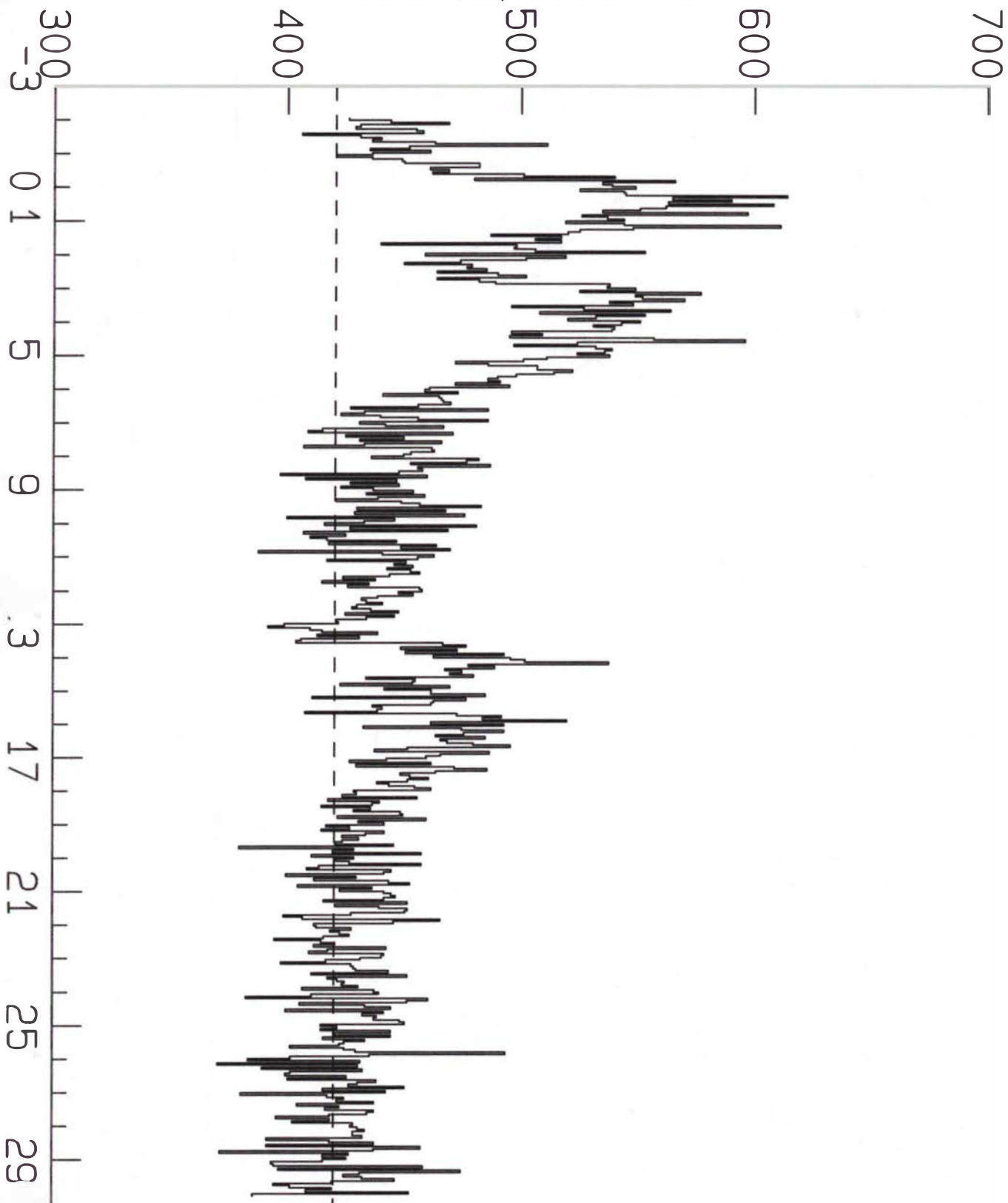
BATSE

01/06/98

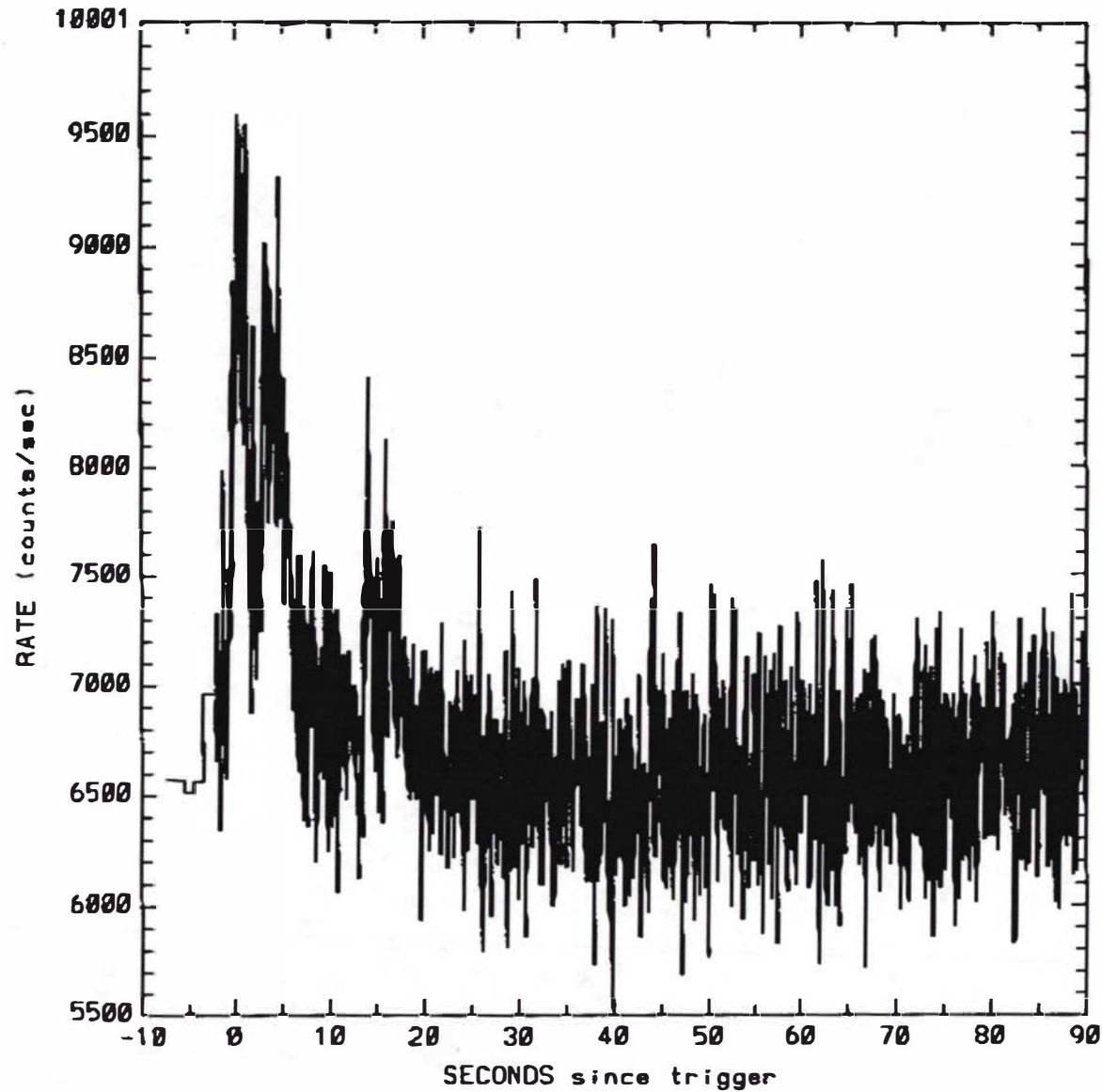
23980.001

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6802



15-JUN-1998 12:51:21

Created by MDPS BD
(Burst Display)
Version t2.25

Trigger # : 6802

Trigger Time:
18965 / 23980.001

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8].
--54----

Discriminators:
(1..2)

Quality Mask:
BDISP1

From SAHI@fender.msfc.nasa.gov Wed Jun 3 07:47:15 1998

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 3 Jun 1998 9:46:59 -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.: 6803

TIME: TJD=0965 SECONDS=48833 13:33:53

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.8 AZIMUTH=221.5 ERROR=2.5 DEGREES

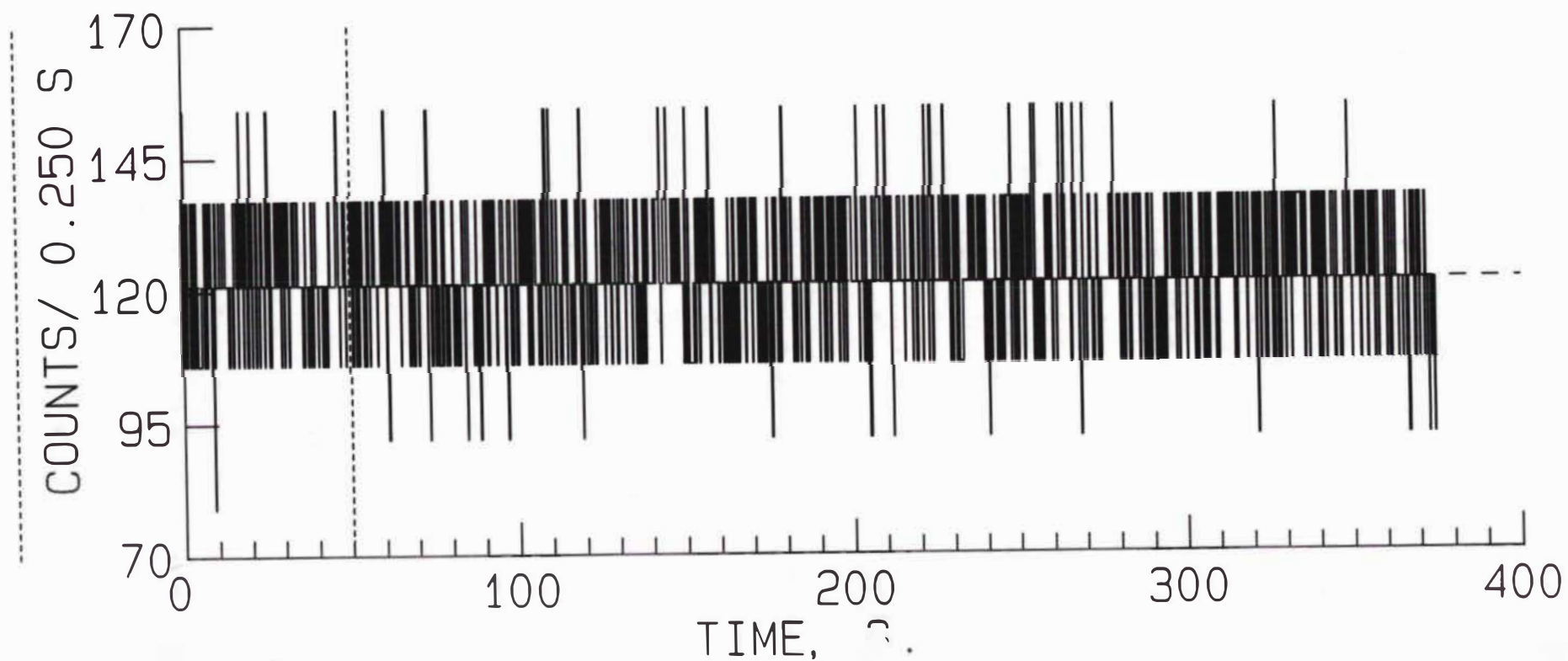
COMMENTS:

SOFT GAMMA RAY REPEATER. SINGLE SPIKE WITH SUBSTRUCTURE, DUR. APPROX. 0.09 SECS
MAX. AT T-0.016 SECS. NOT VISIBLE ABOVE 100 KEV.

Konus SGR 19007
48836

26 / 6 / 98

ULYSSES RT
1 / 6 / 98 50292.013 s
22- 148 keV

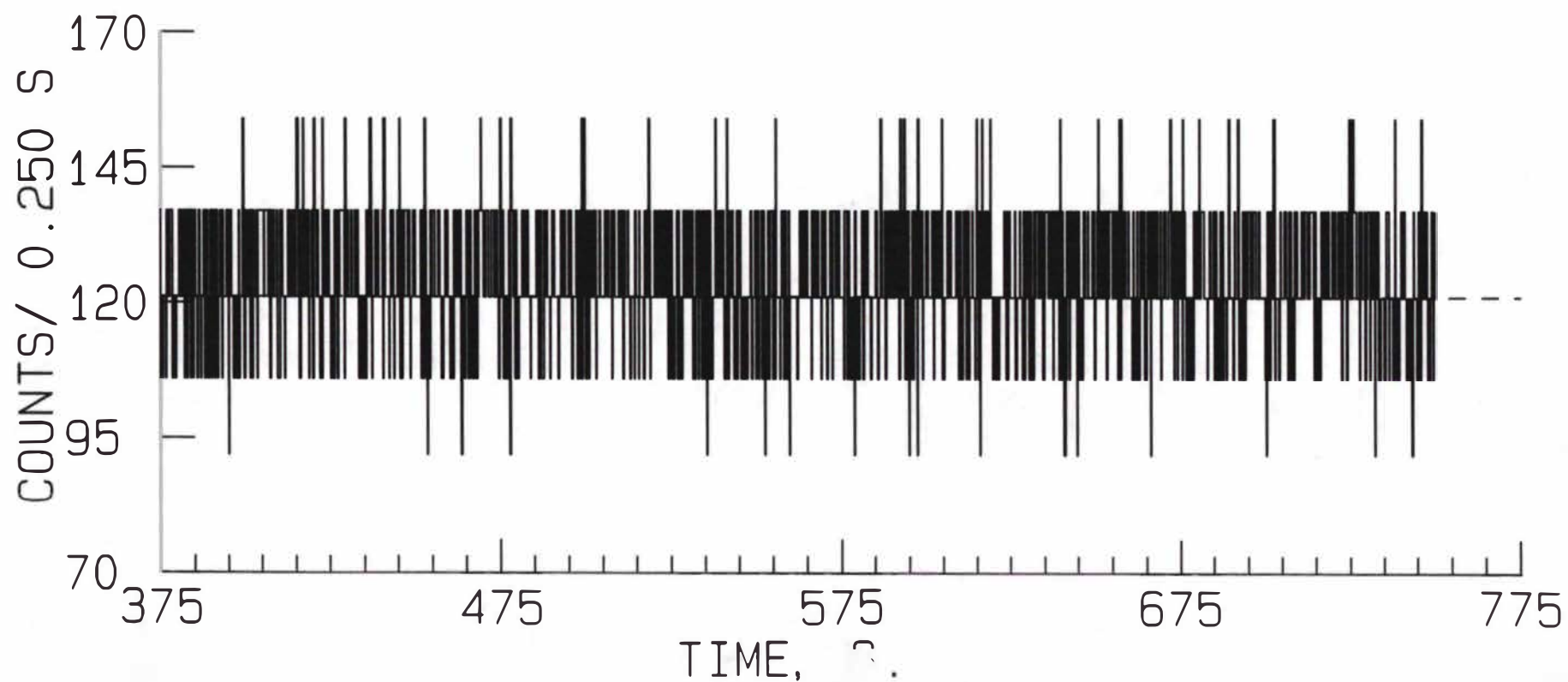


ULYSSES RT

26 / 6 / 98

1 / 6 / 98 50292.013 s

22- 148 keV

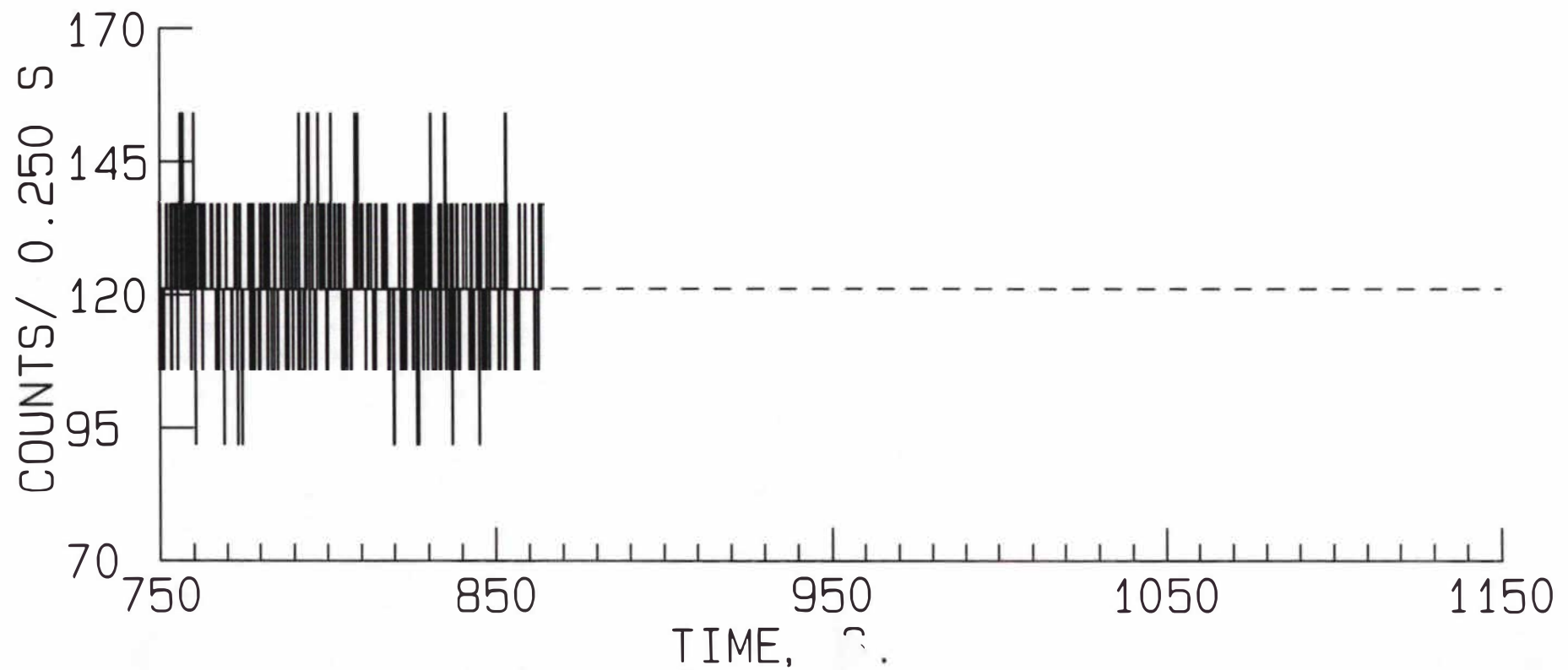


ULYSSES RT

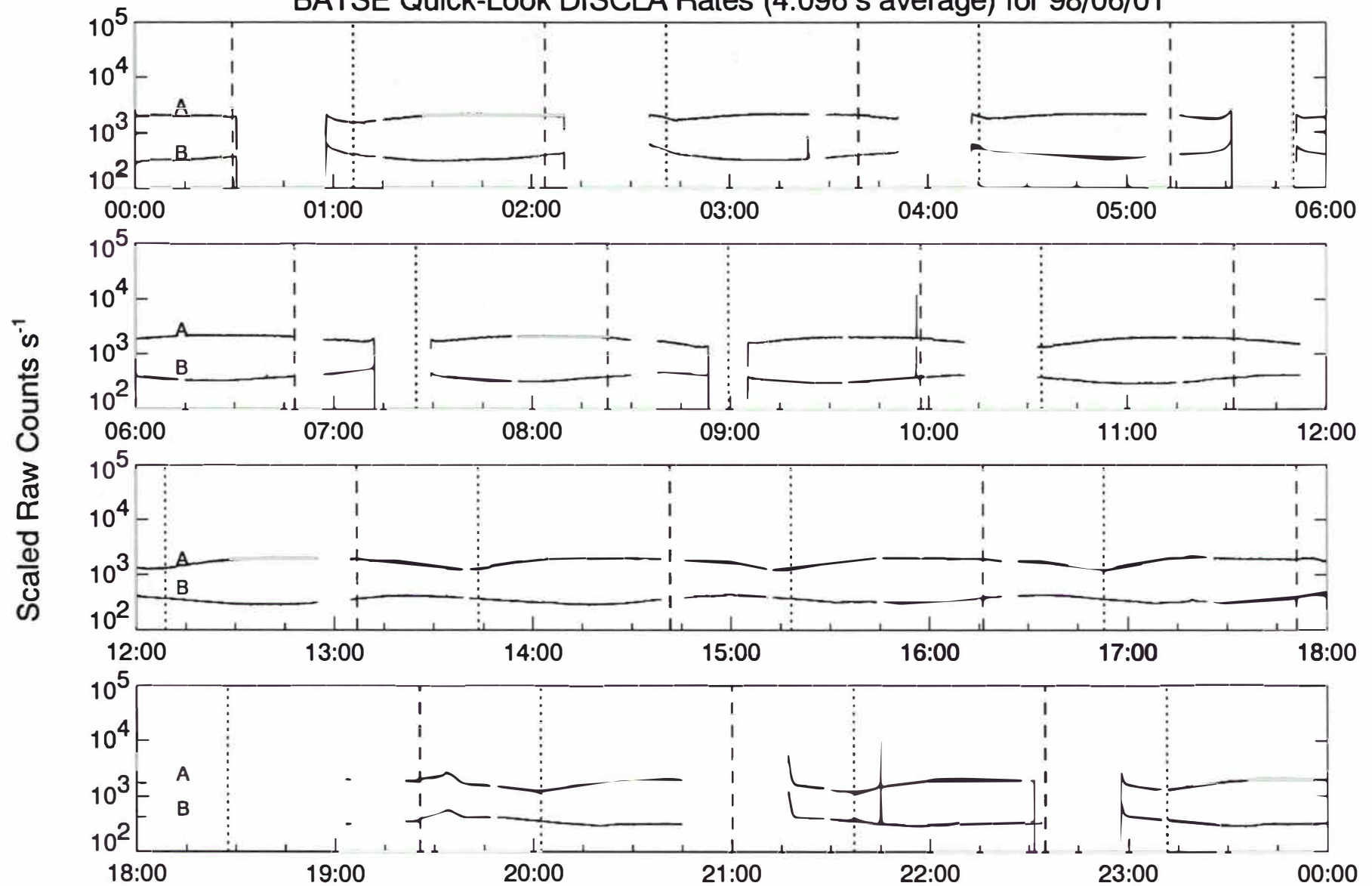
26 / 6 / 98

1 / 6 / 98 50292.013 s

22- 148 keV



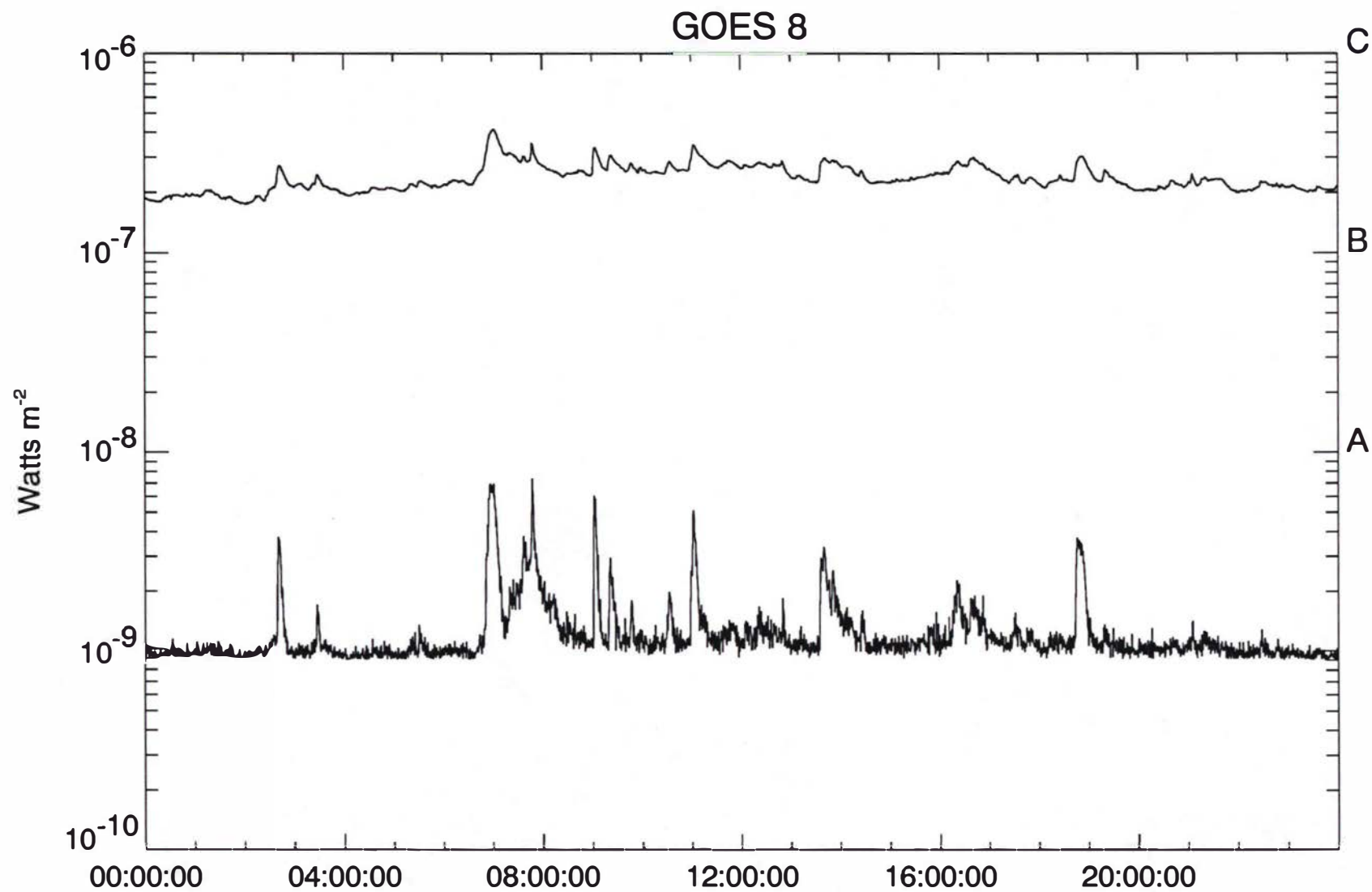
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/01



Current Time: 98/06/05, 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



Data Start: 98/06/01, 0000:00

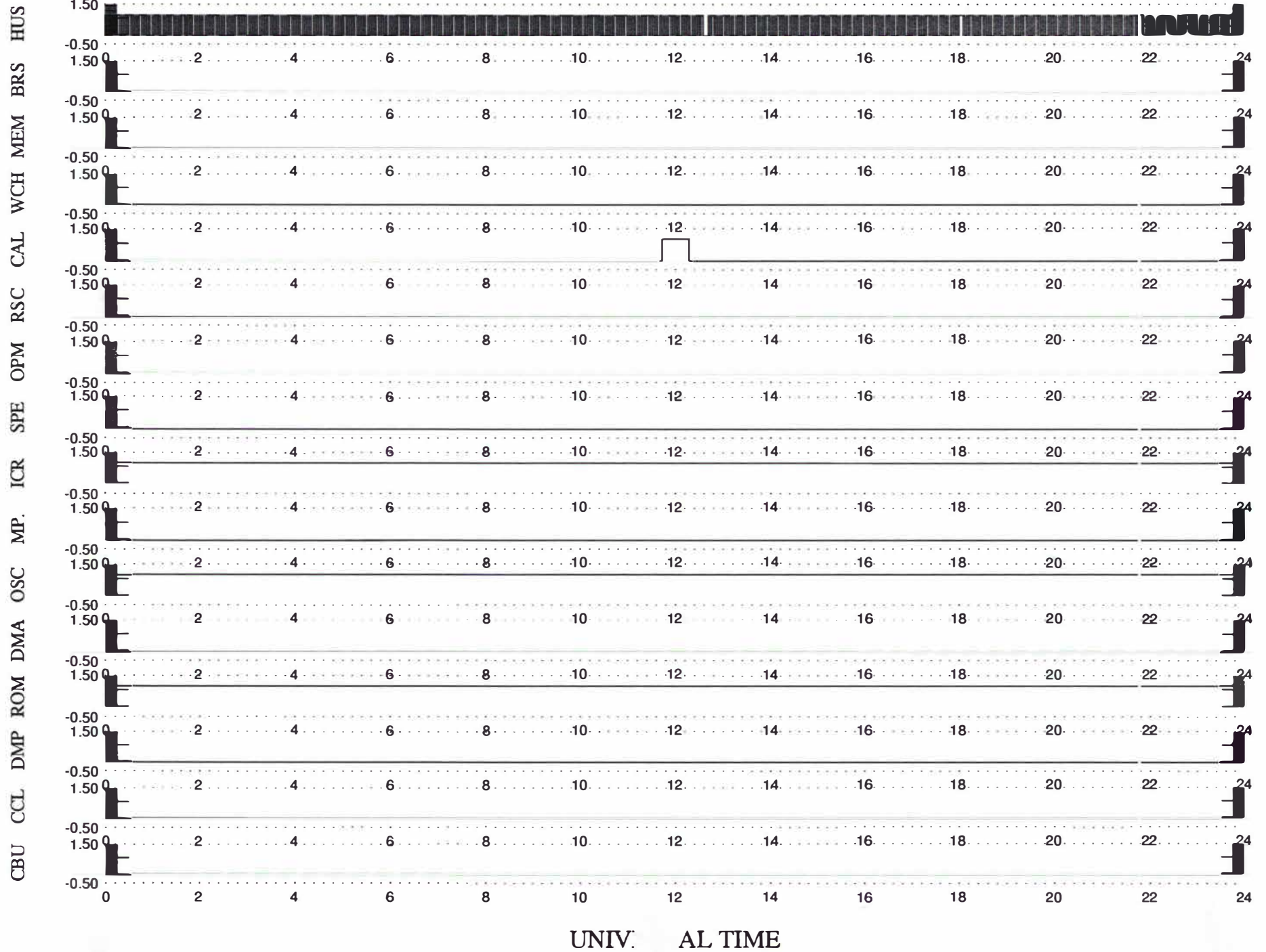
Plot created: 98/06/05, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

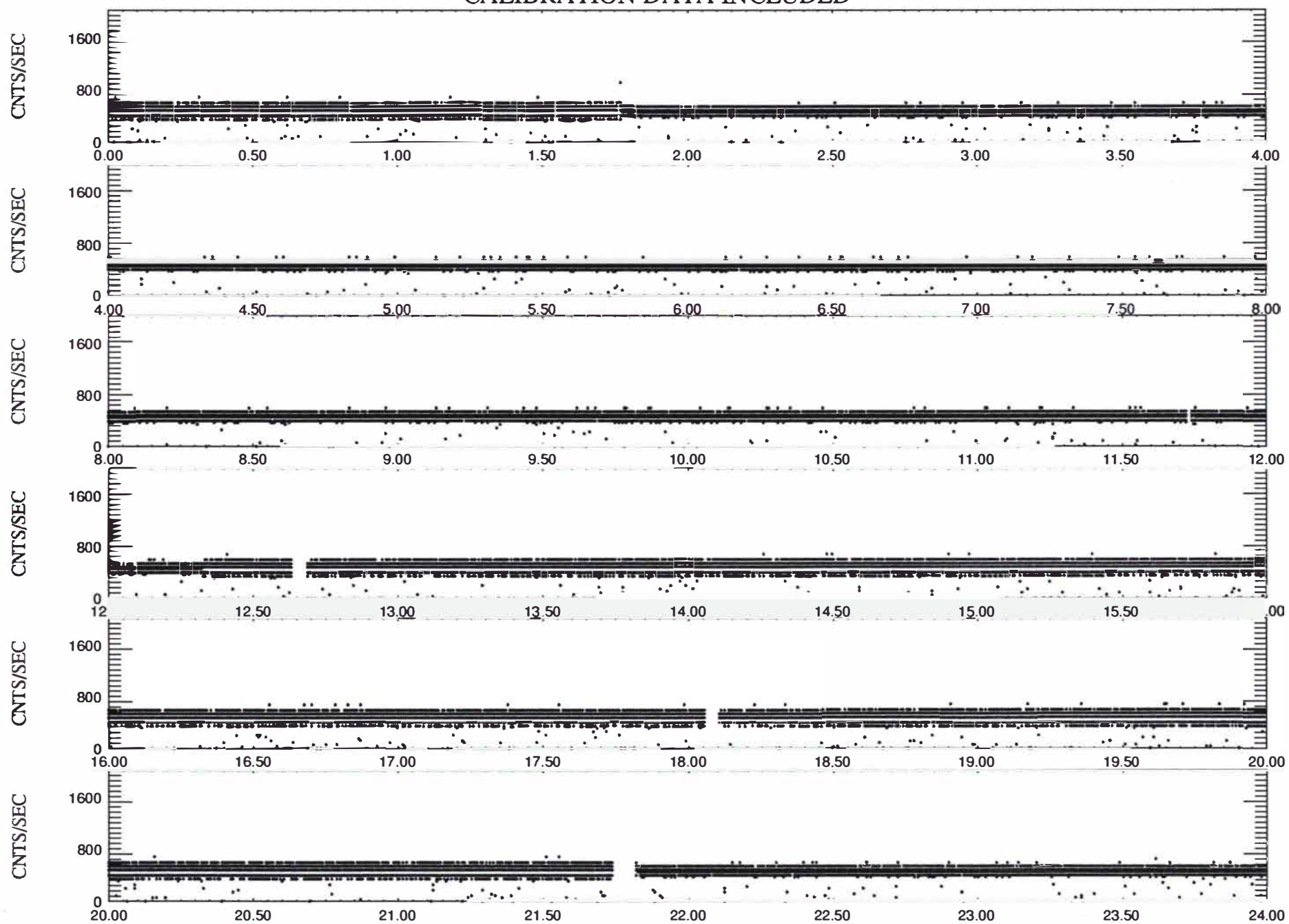
2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

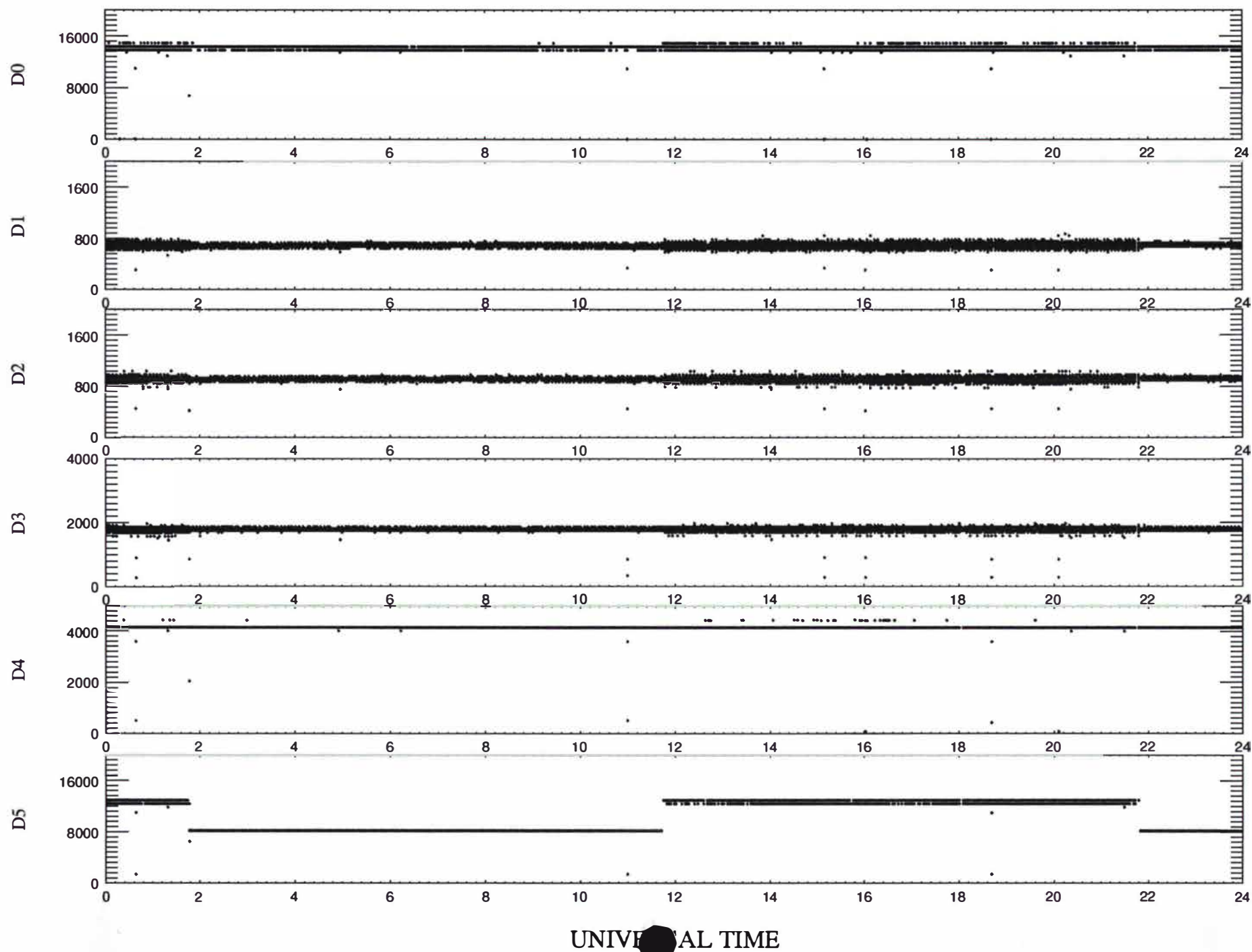
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV AL TIME



KONUS

ULYSSES RT

5 / 12 / 98

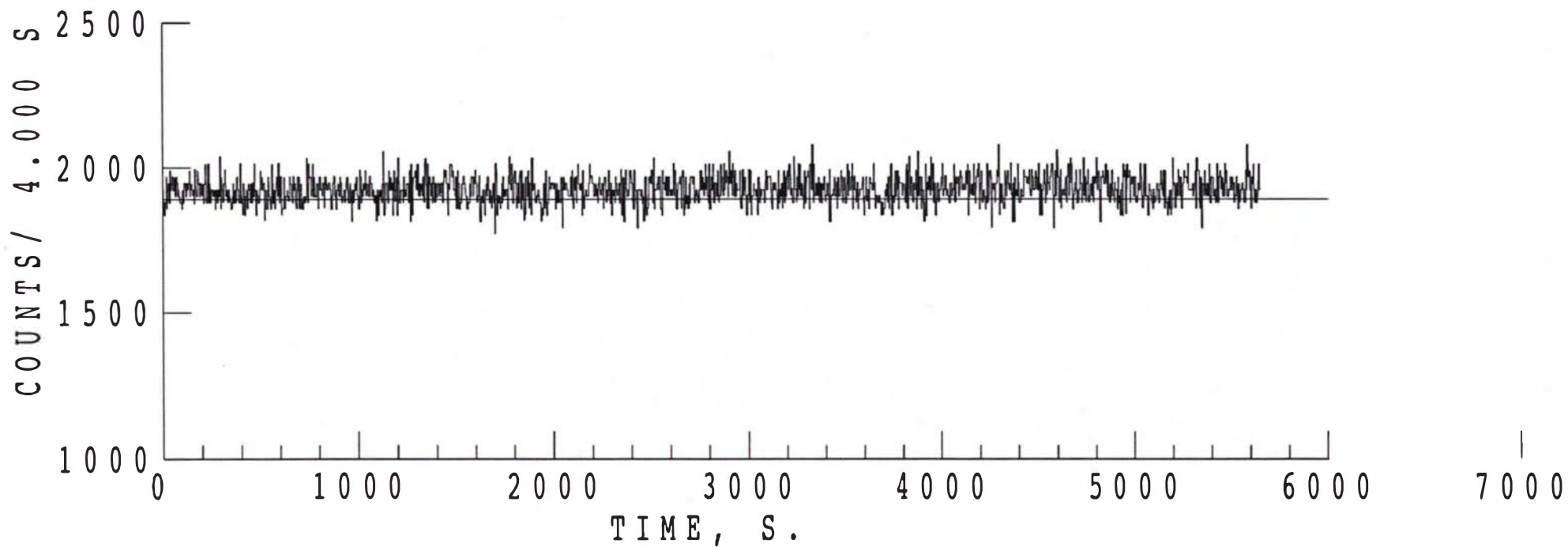
2 / 6 / 98 43704.355 s

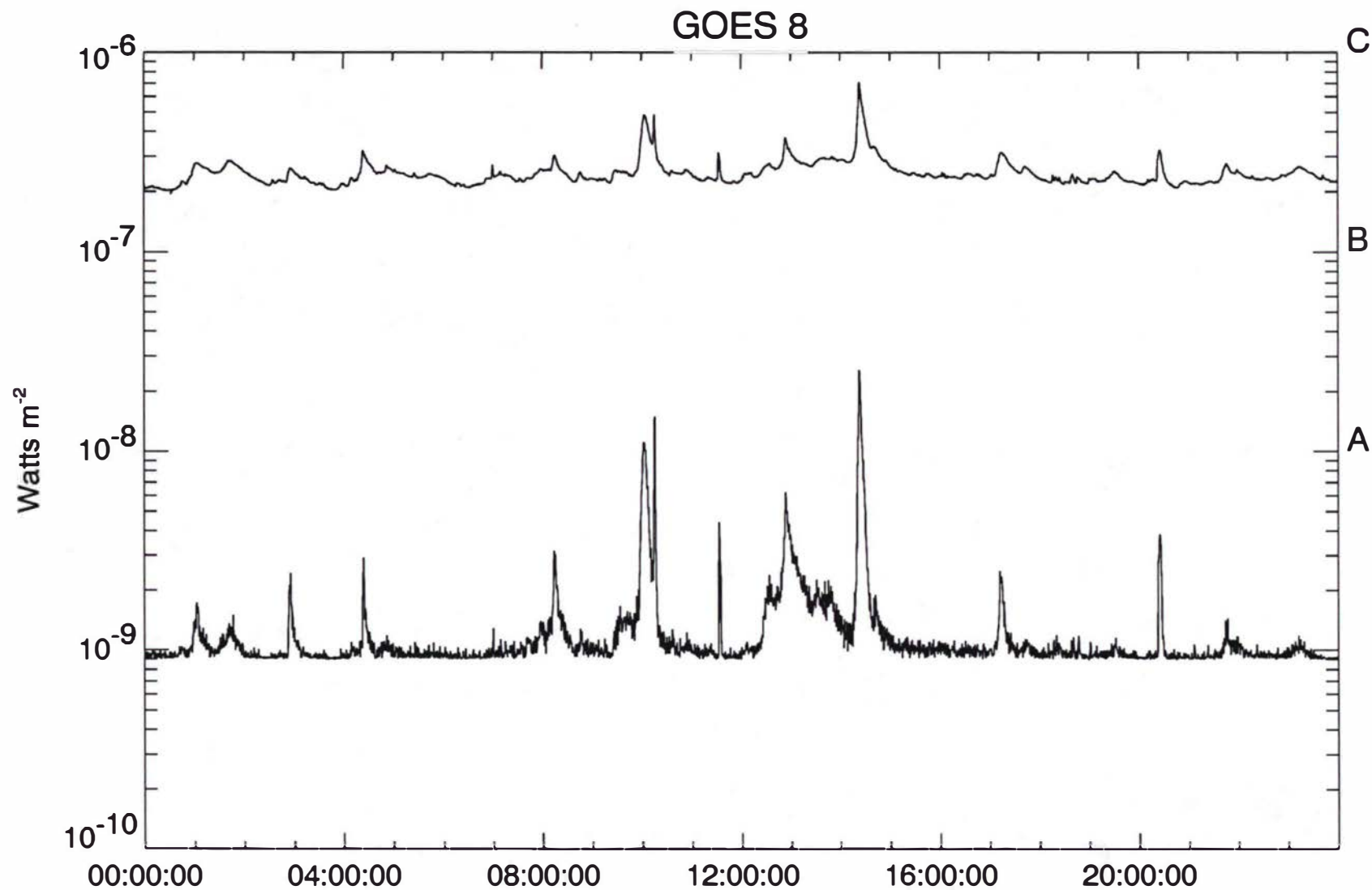
0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS





Data Start: 98/06/02, 0000:00

Plot created: 98/06/06, 1007

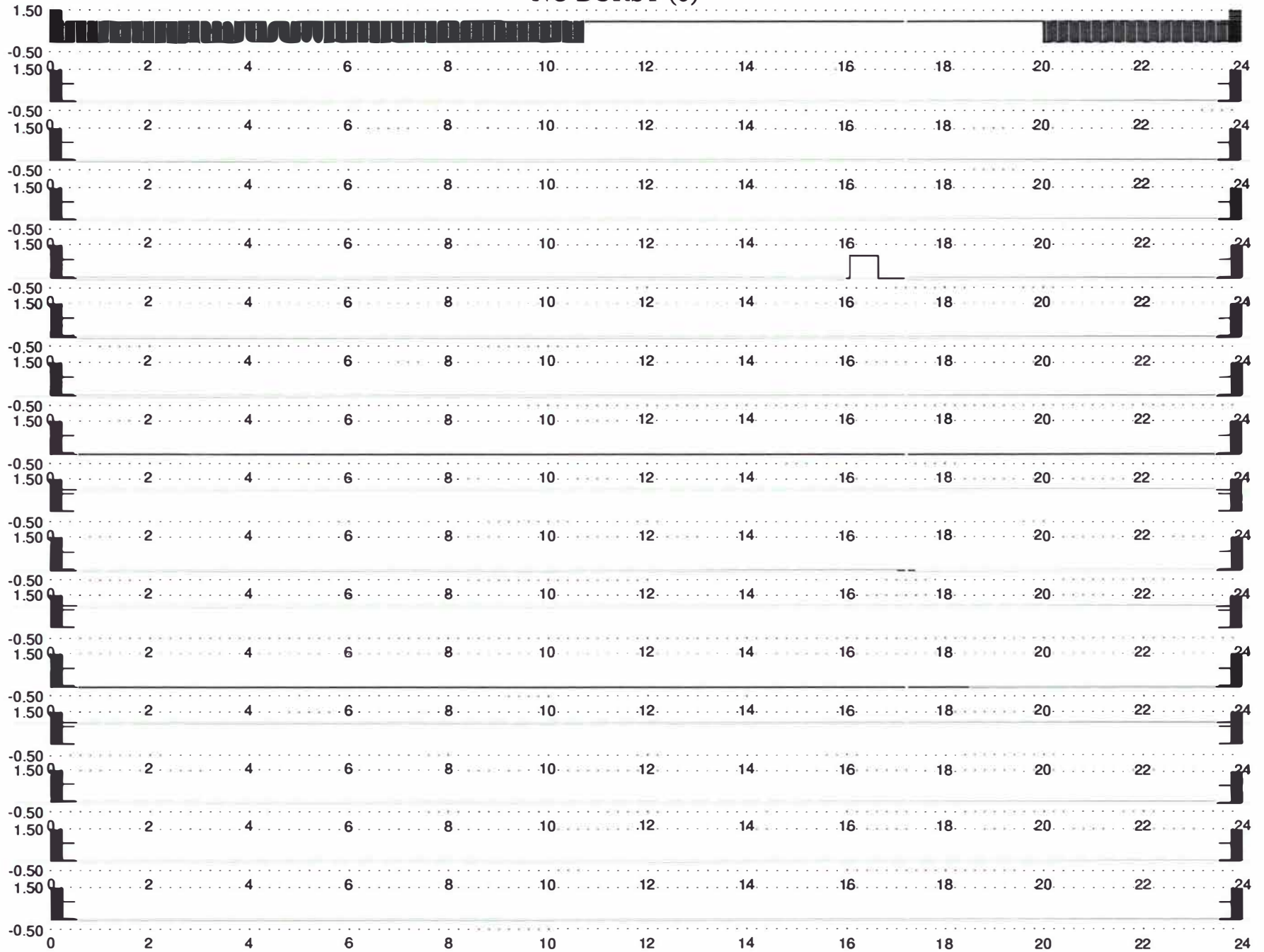
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

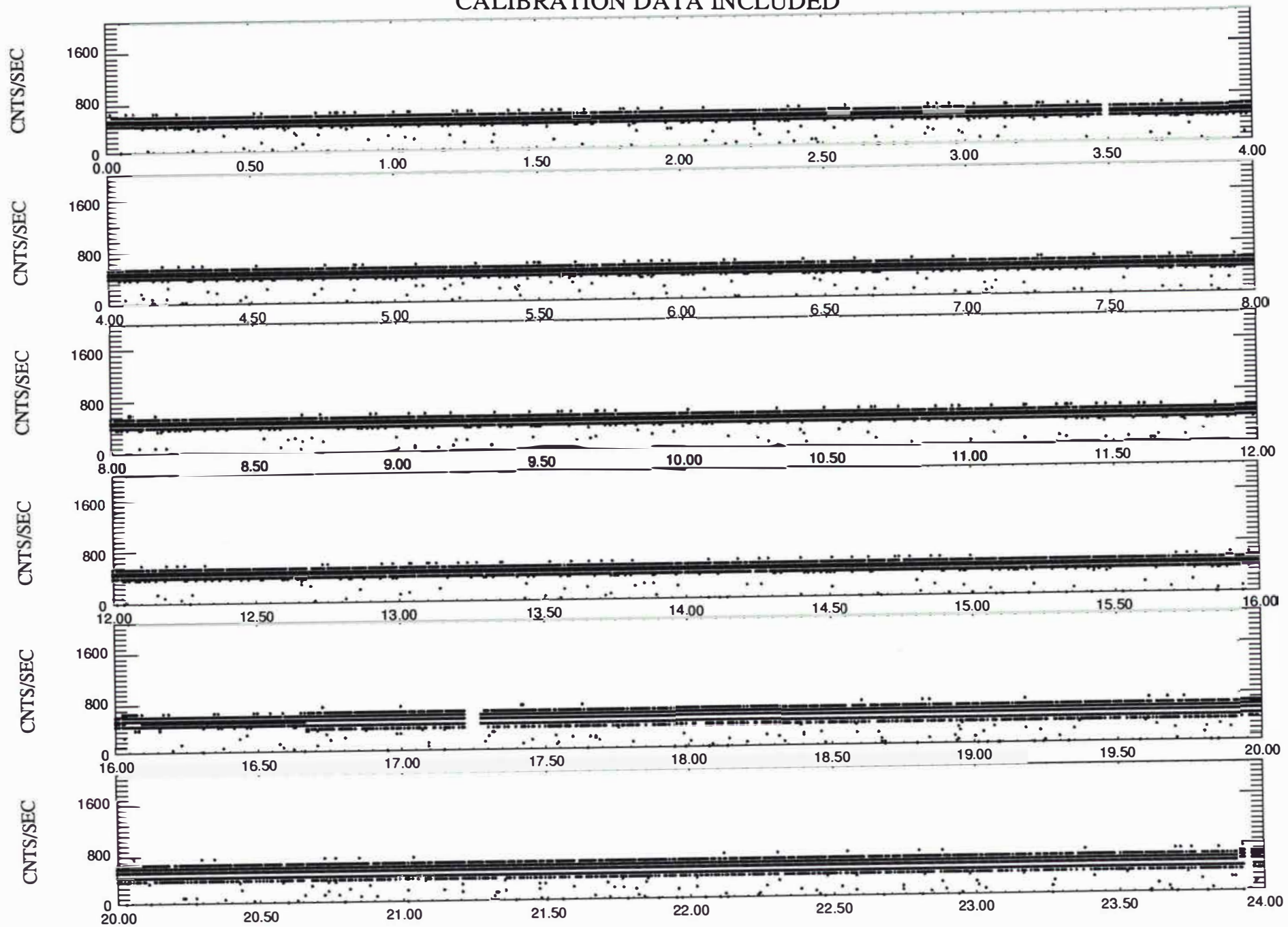
NO BURST (0)

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

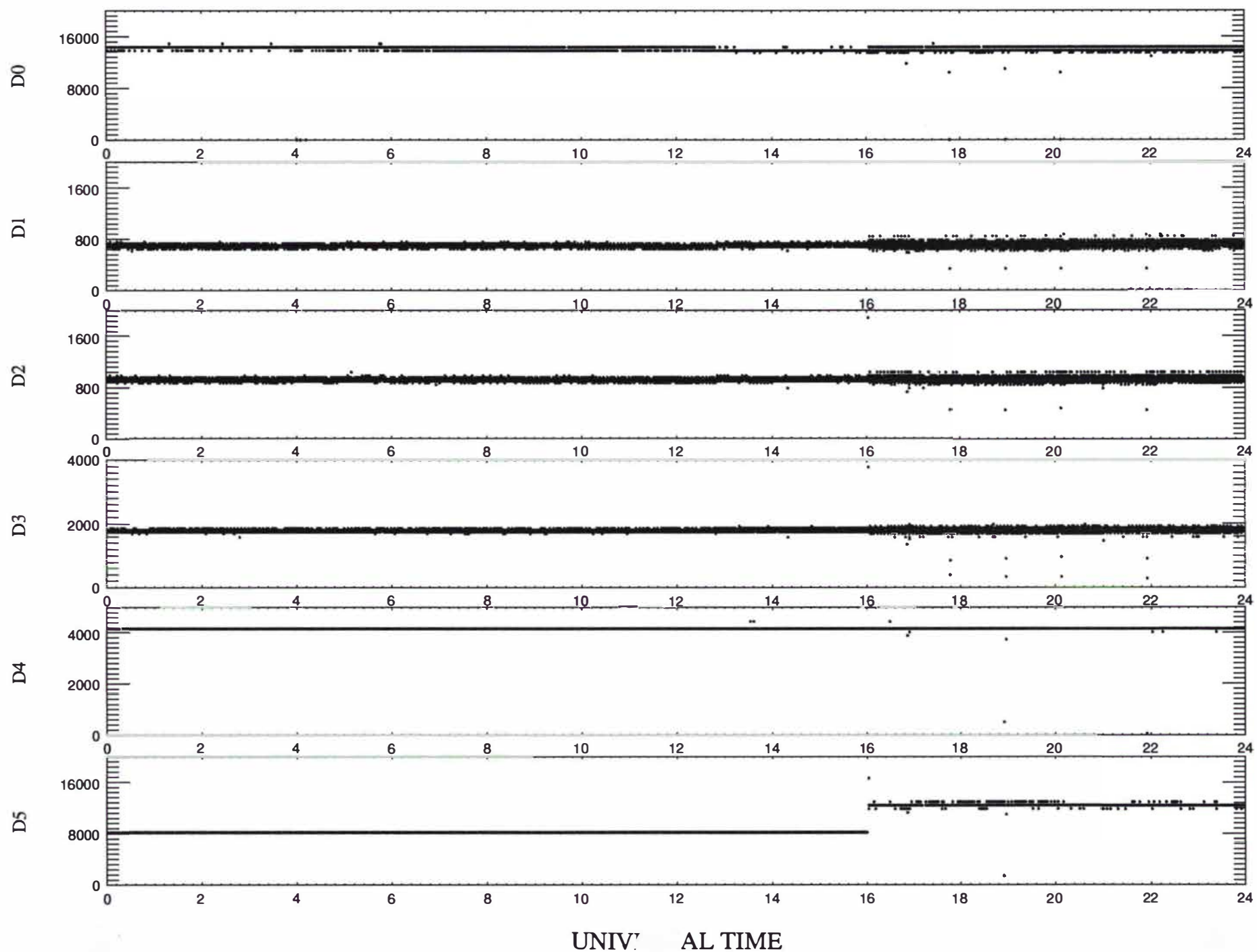


UNIVERSAL TIME

CALIBRATION DATA INCLUDED



UNIV AL TIME



SAX GRBM
HUS DATA

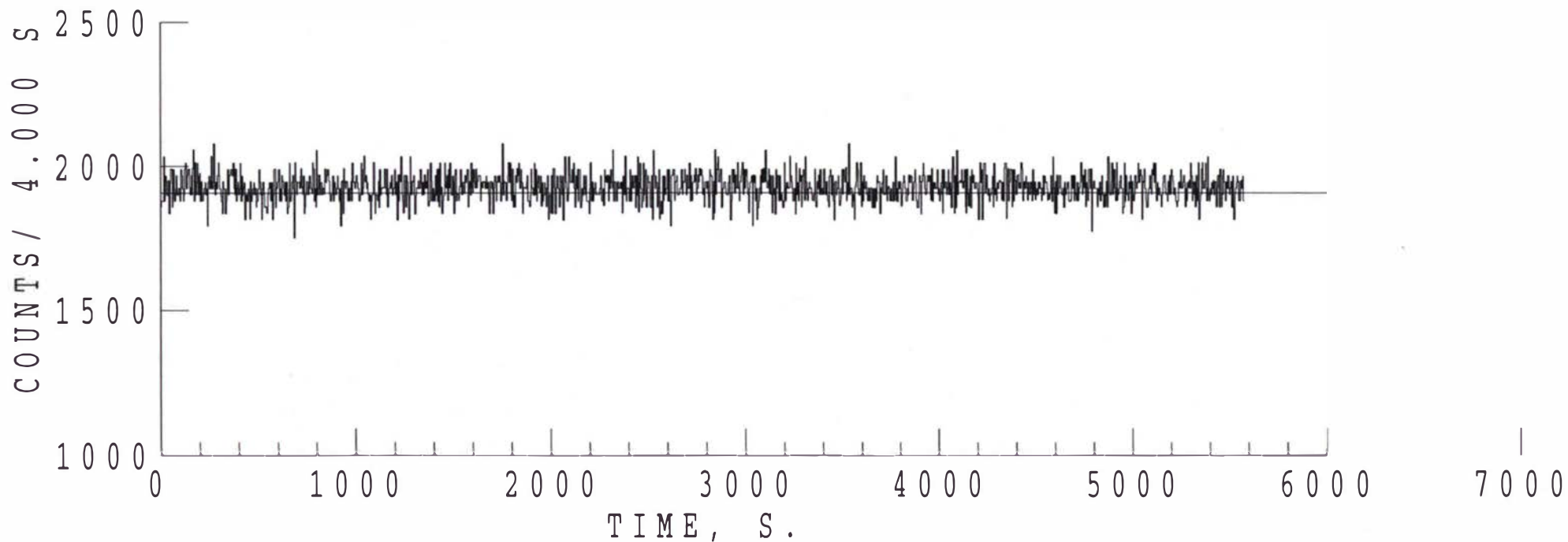
ULYSSES RT

19 / 07 / 05

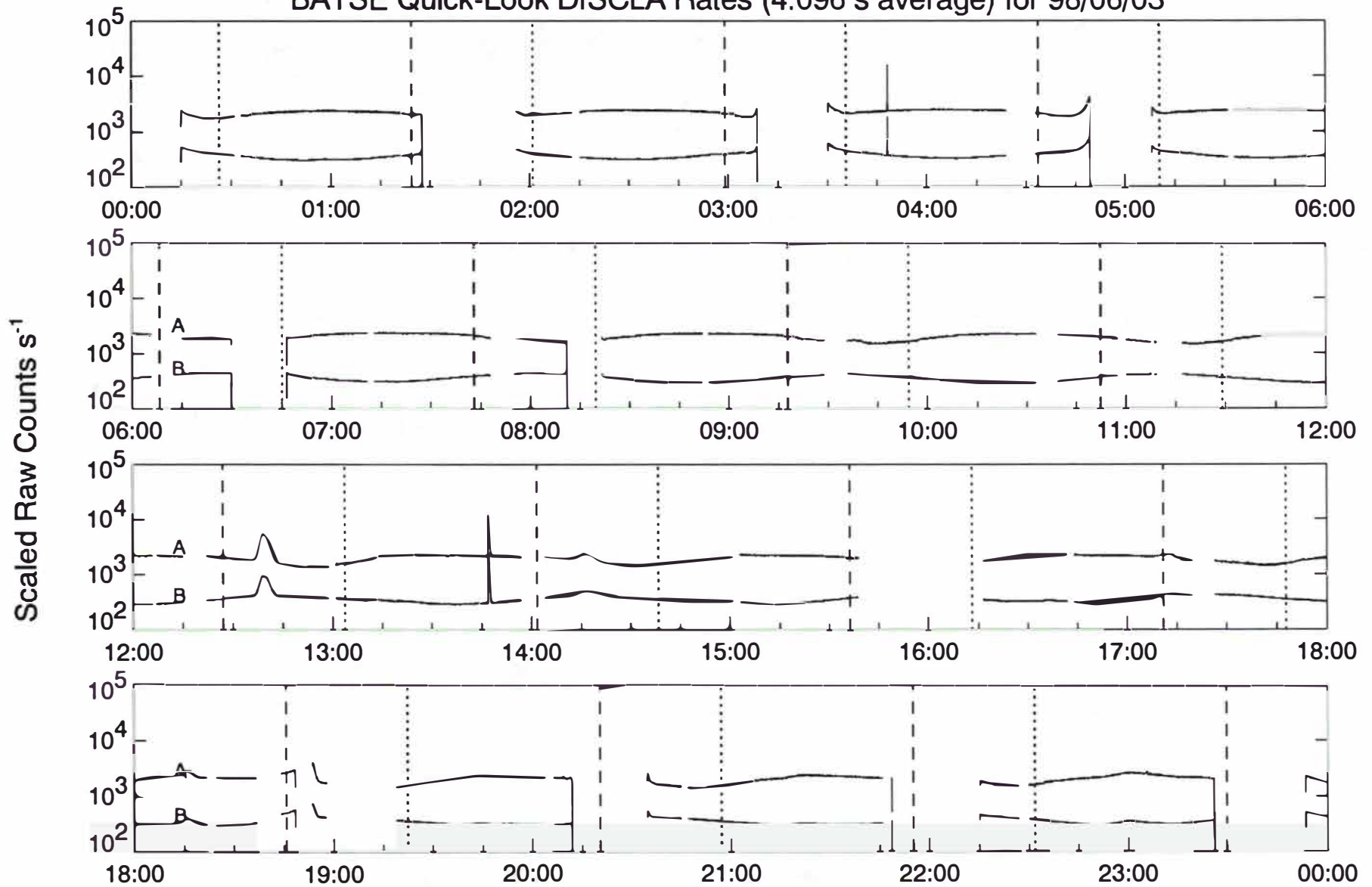
03 / 06 / 98 15516.475 s
0.500 S INTERVALS REGROUPED BY 8
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



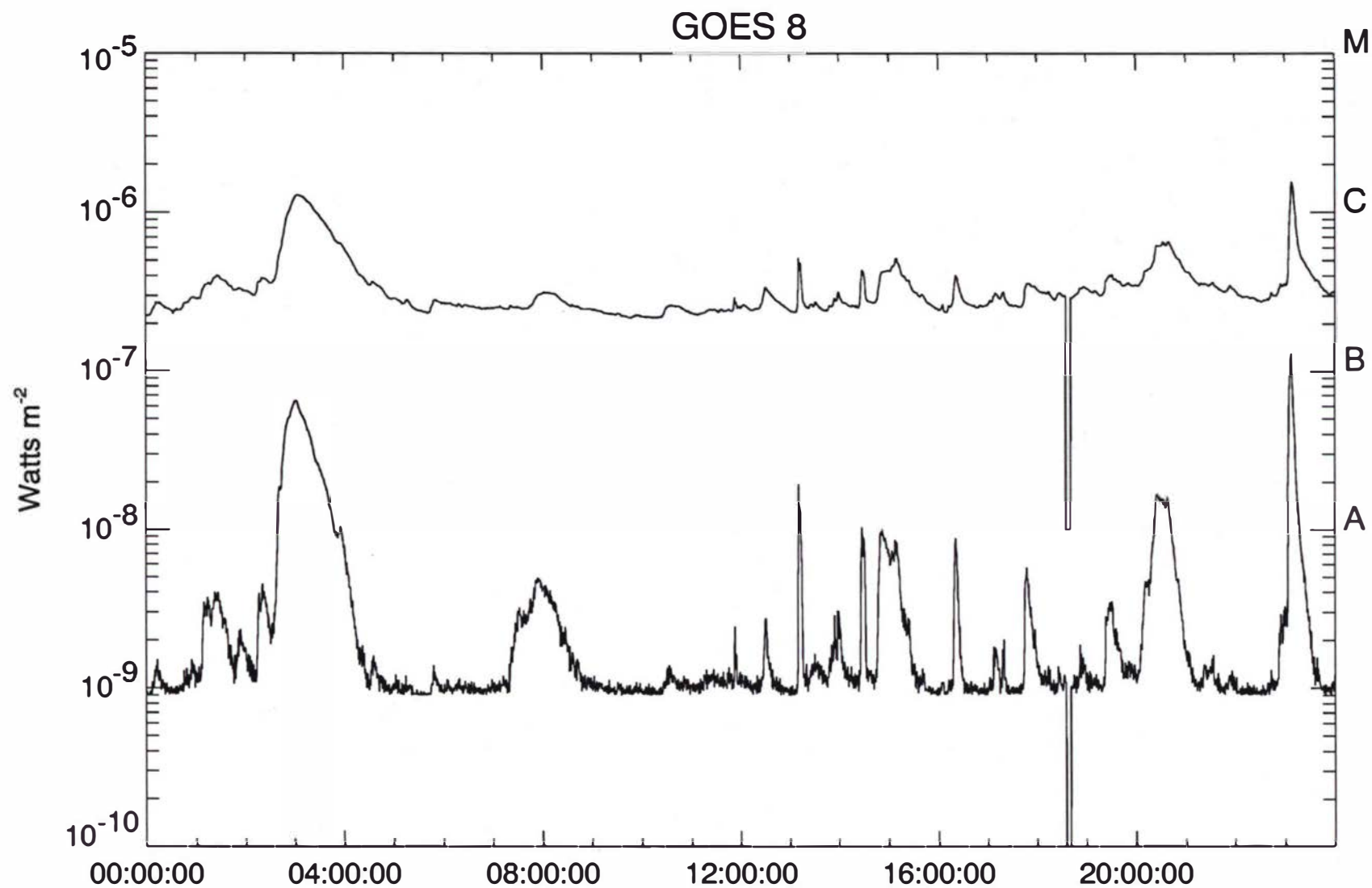
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/03



Current Time: 98/06/07, 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

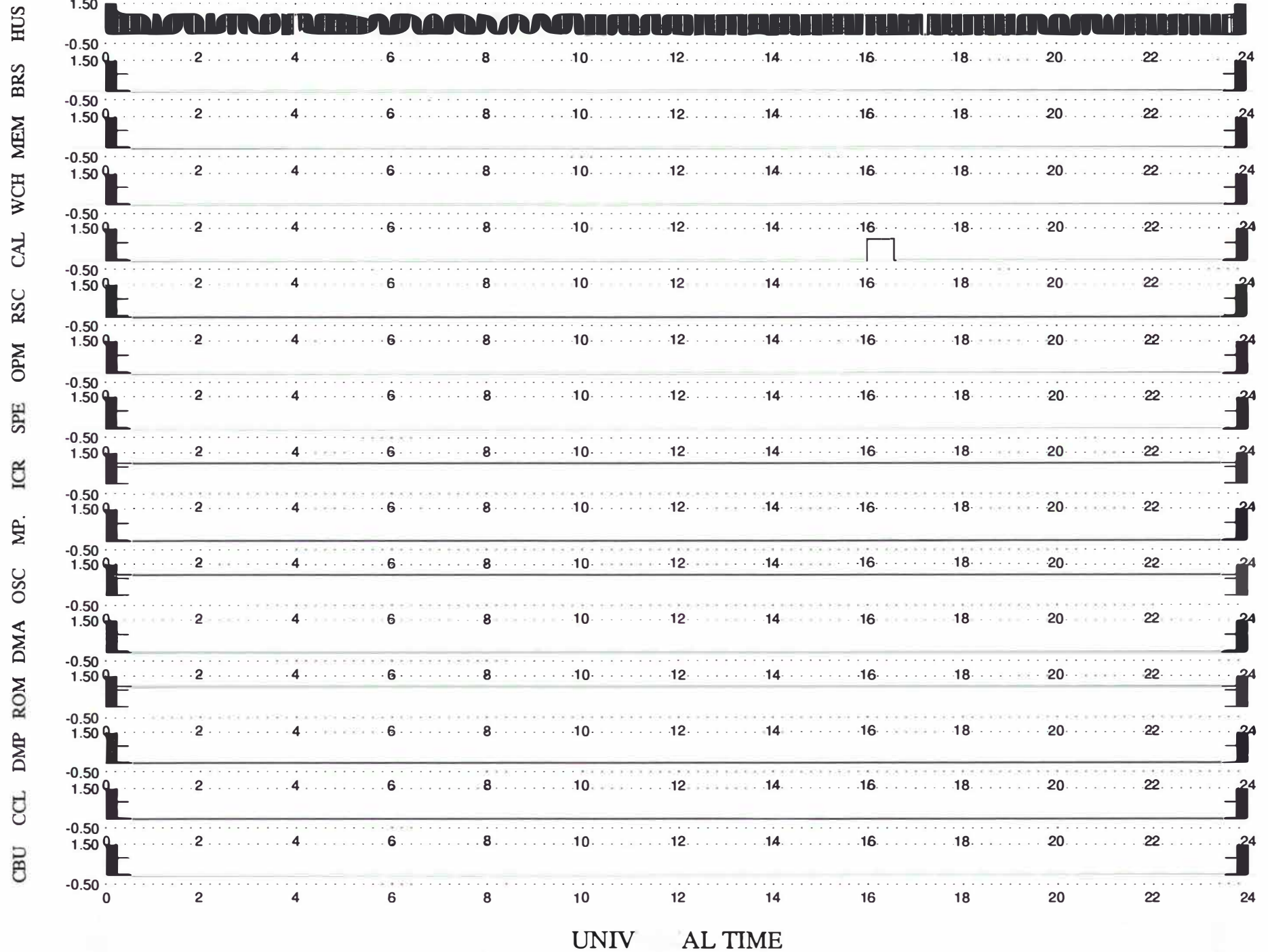


Data Start: 98/06/03, 0000:00

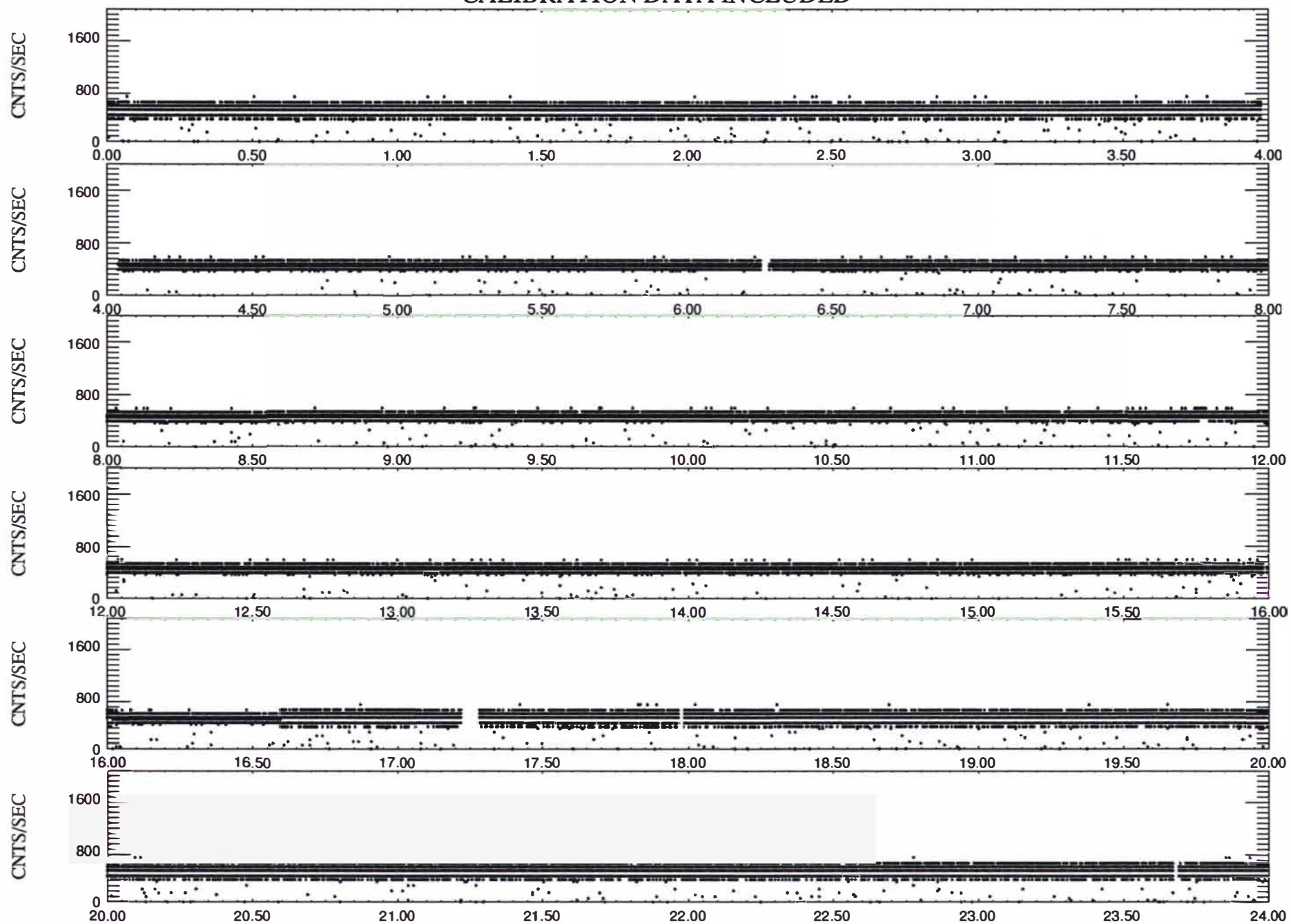
Plot created: 98/06/07, 1007

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

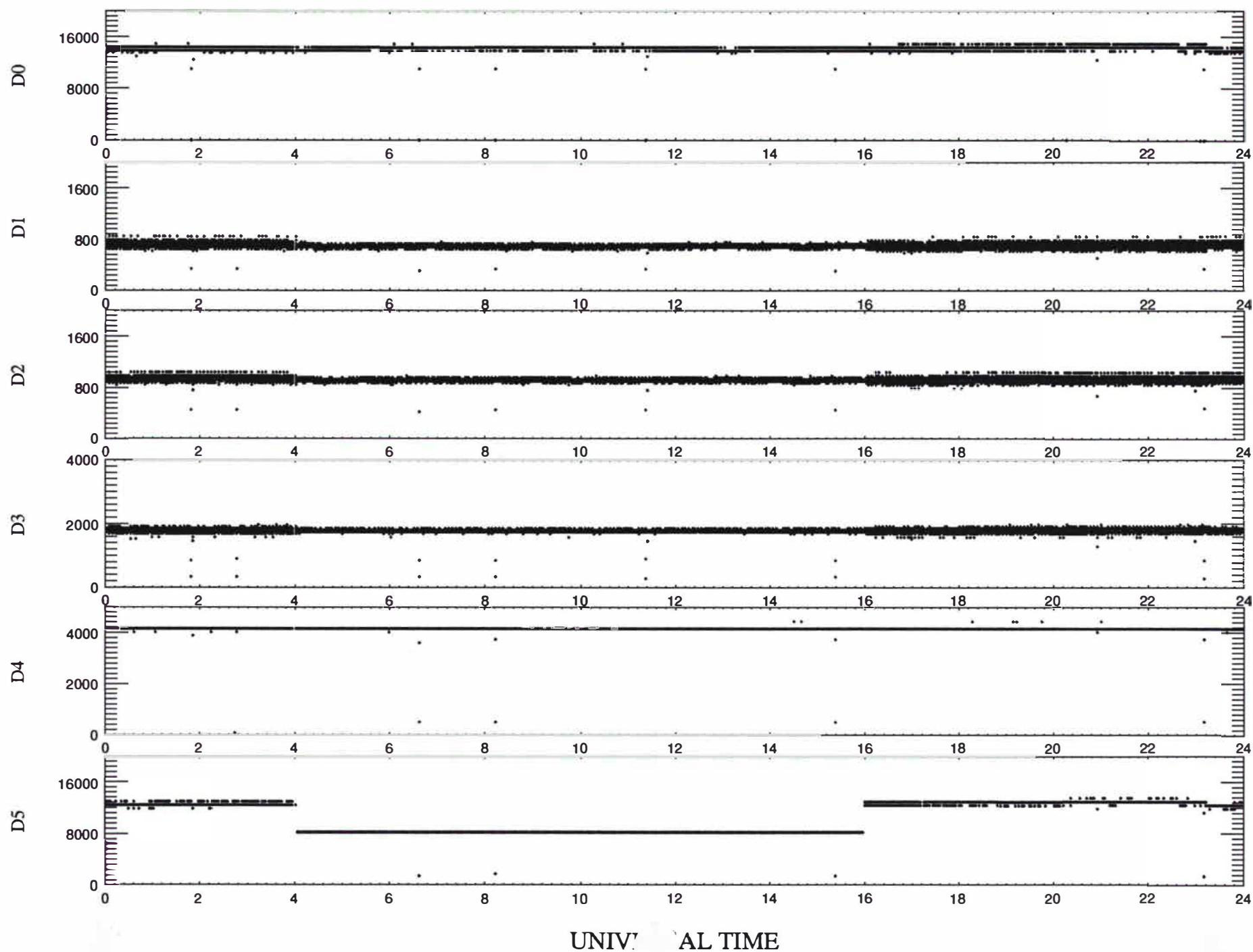
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV AL TIME



KONUS

ULYSSES RT

5 / 12 / 98

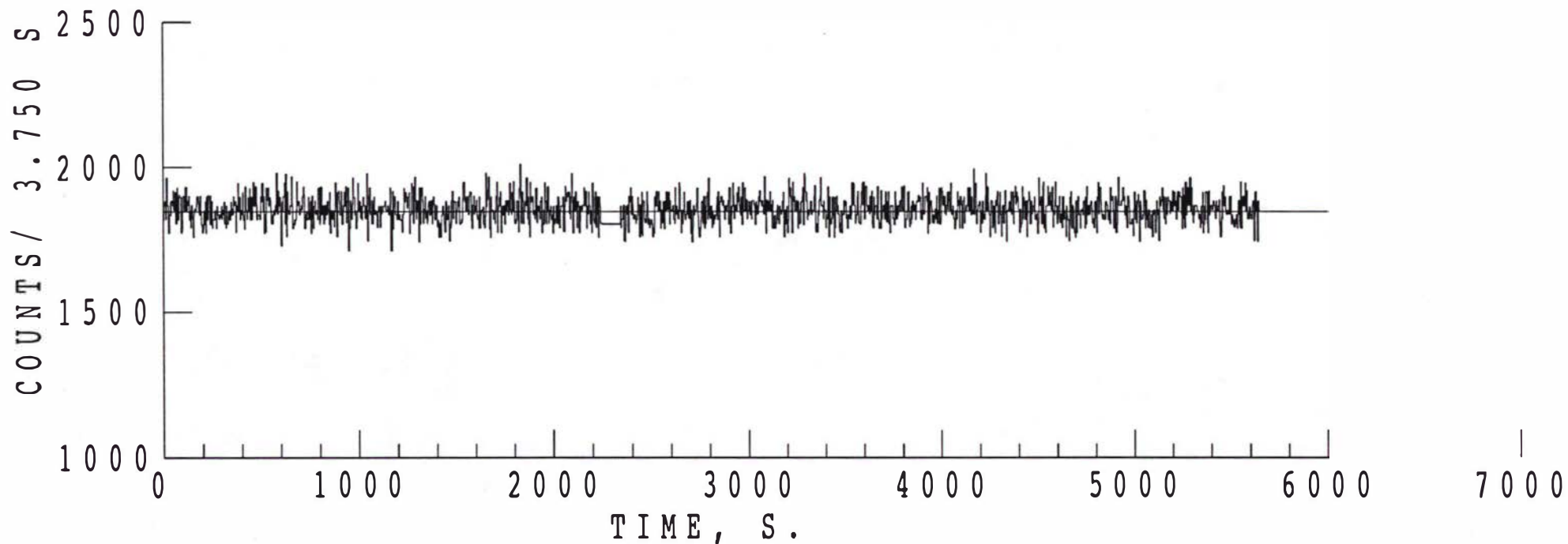
4 / 6 / 98 1692.242 s

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



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 9 09:59:52 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 9 Jun 1998 11:59:29 -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

ND

NO.: 6804

TIME: TJD=0968 SECONDS=11620

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.8 AZIMUTH=221.4 ERROR=5.4 DEGREES

COMMENTS:

SGR. DOUBLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.025 SEC.

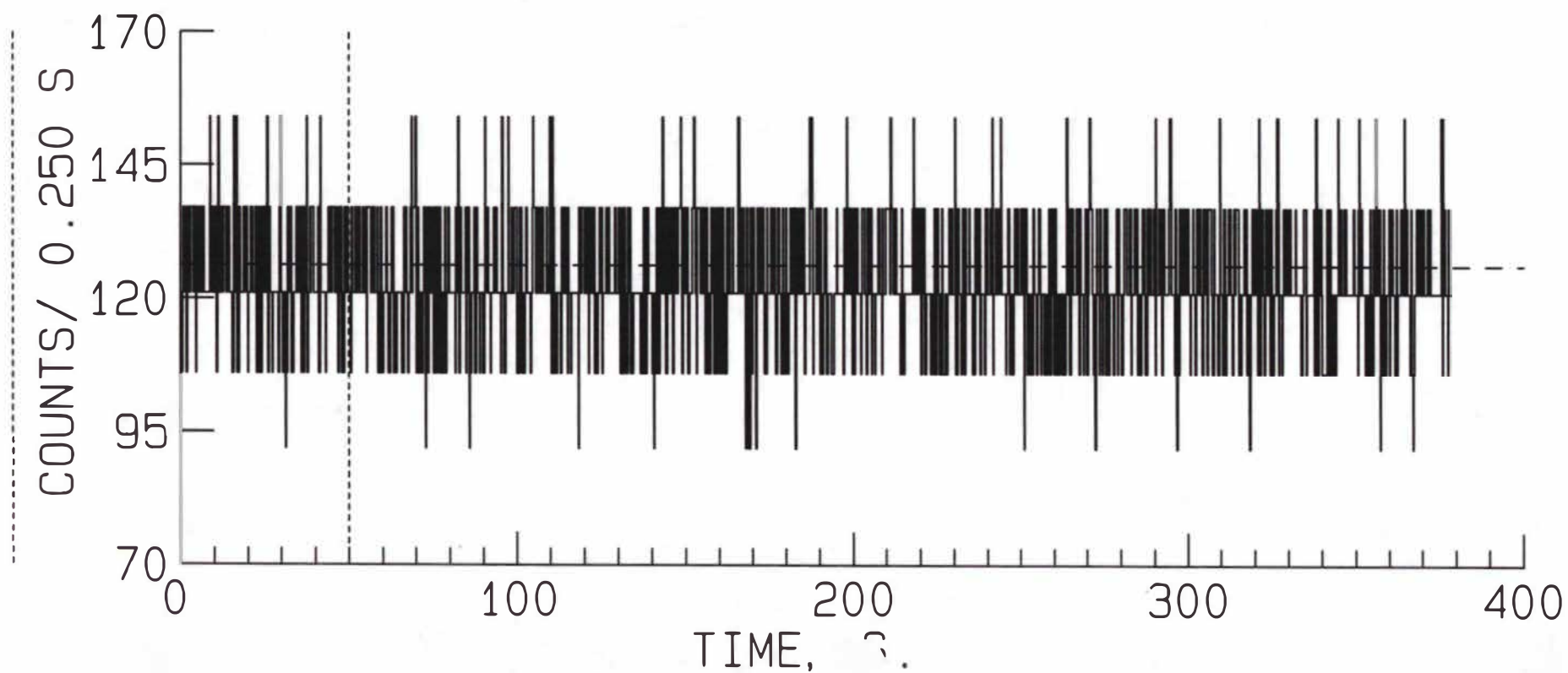
NOT VISIBLE ABOVE 300KEV.

ULYSSES RT

9 / 6 / 98

4 / 6 / 98 13104.114 s

22- 148 keV



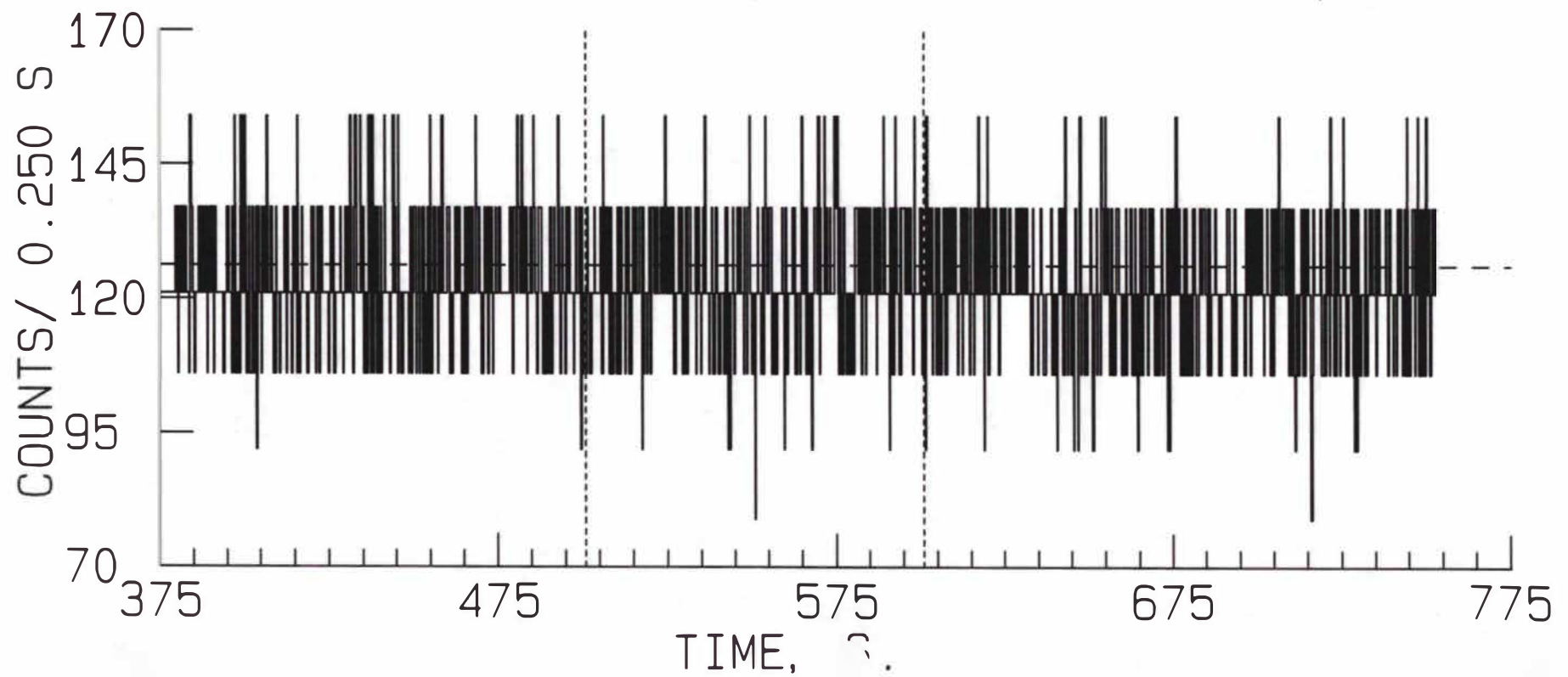
ULYSSES RT

9 / 6 / 98

4 / 6 / 98 13104.114 s

22- 148 keV

N= 10 M= 1
>3.0 SIGMA FLUCTUATIONS

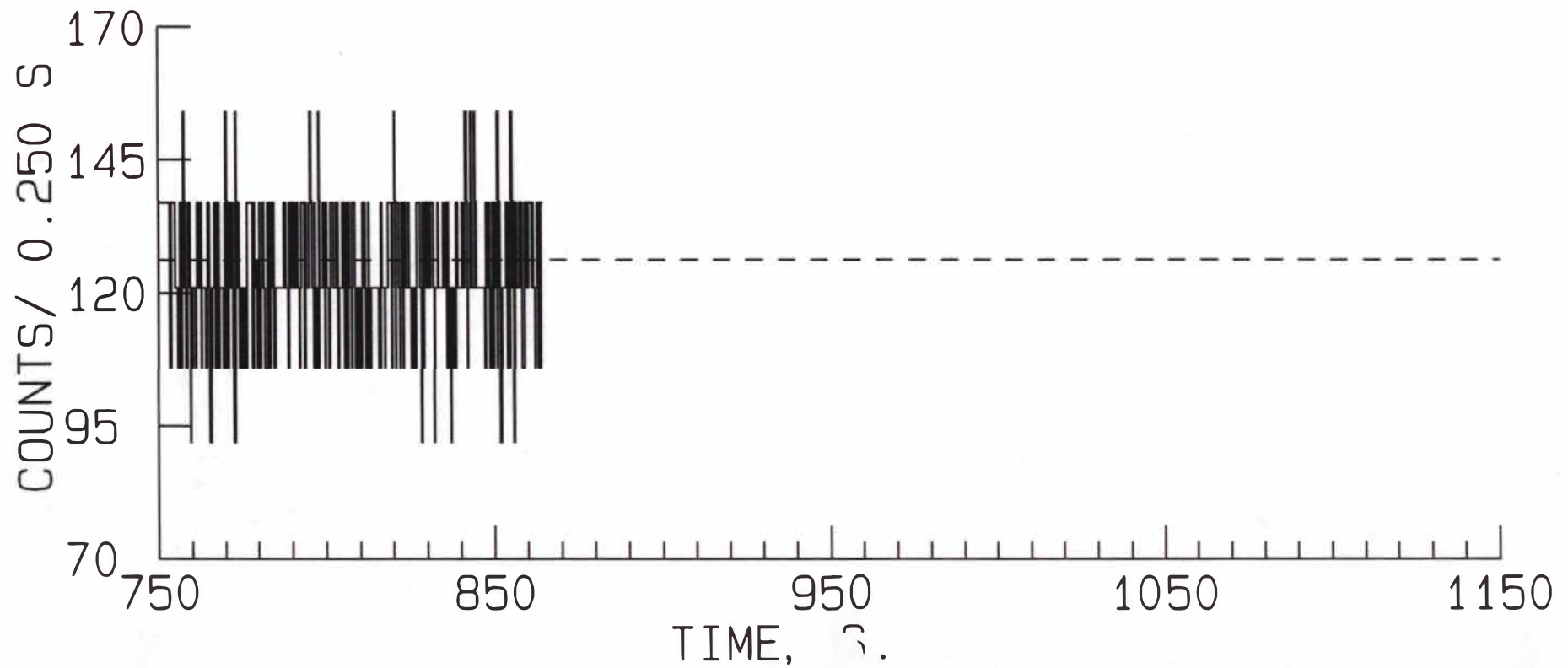


ULYSSES RT

9 / 6 / 98

4 / 6 / 98 13104.114 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Mon Jun 8 16:30:17 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 8 Jun 1998 18:29:53 -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.: 6805

TIME: TJD=0968 SECONDS=74325

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

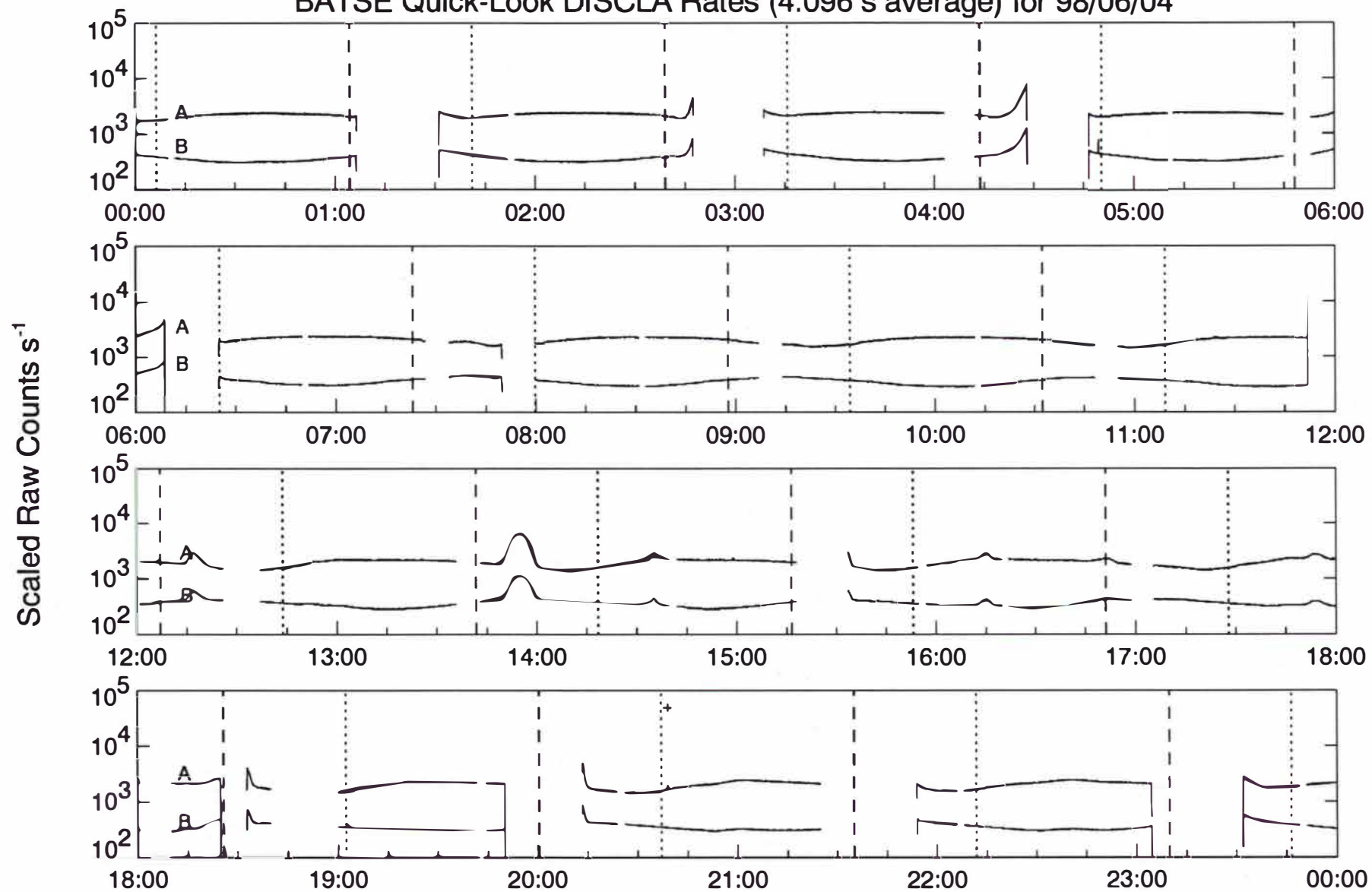
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=81.2 AZIMUTH=357.1 ERROR=1.5 DEGREES

COMMENTS:

SOLAR FLARE, GOES C1.0, OPTICAL SF. VERY SPIKEY. DURATION APPROX. = 27 SEC.
NOT VISIBLE ABOVE 100KEV.

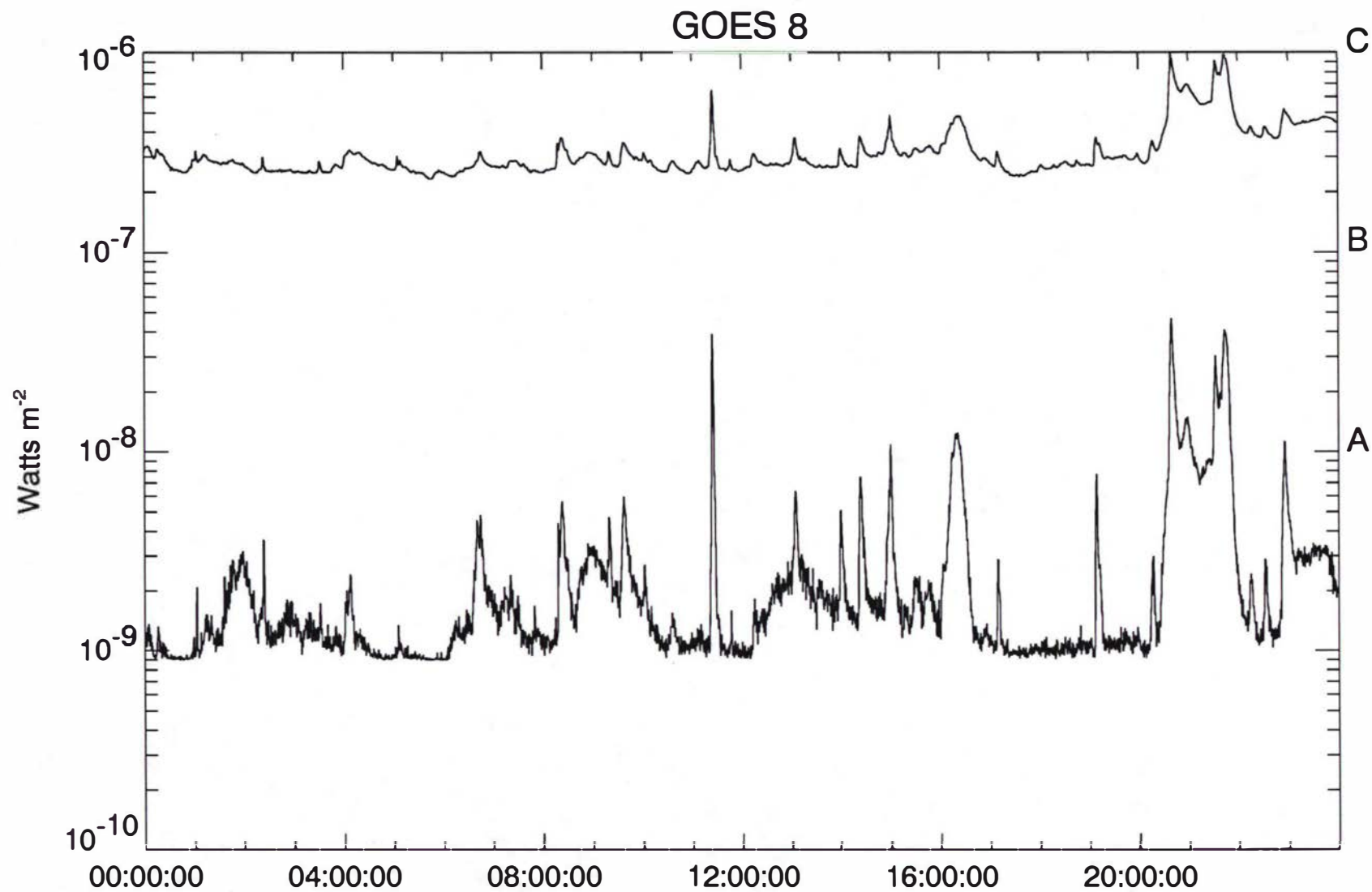
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/04



Current Time: 98/06/08, 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: 98/06/04, 0000:00

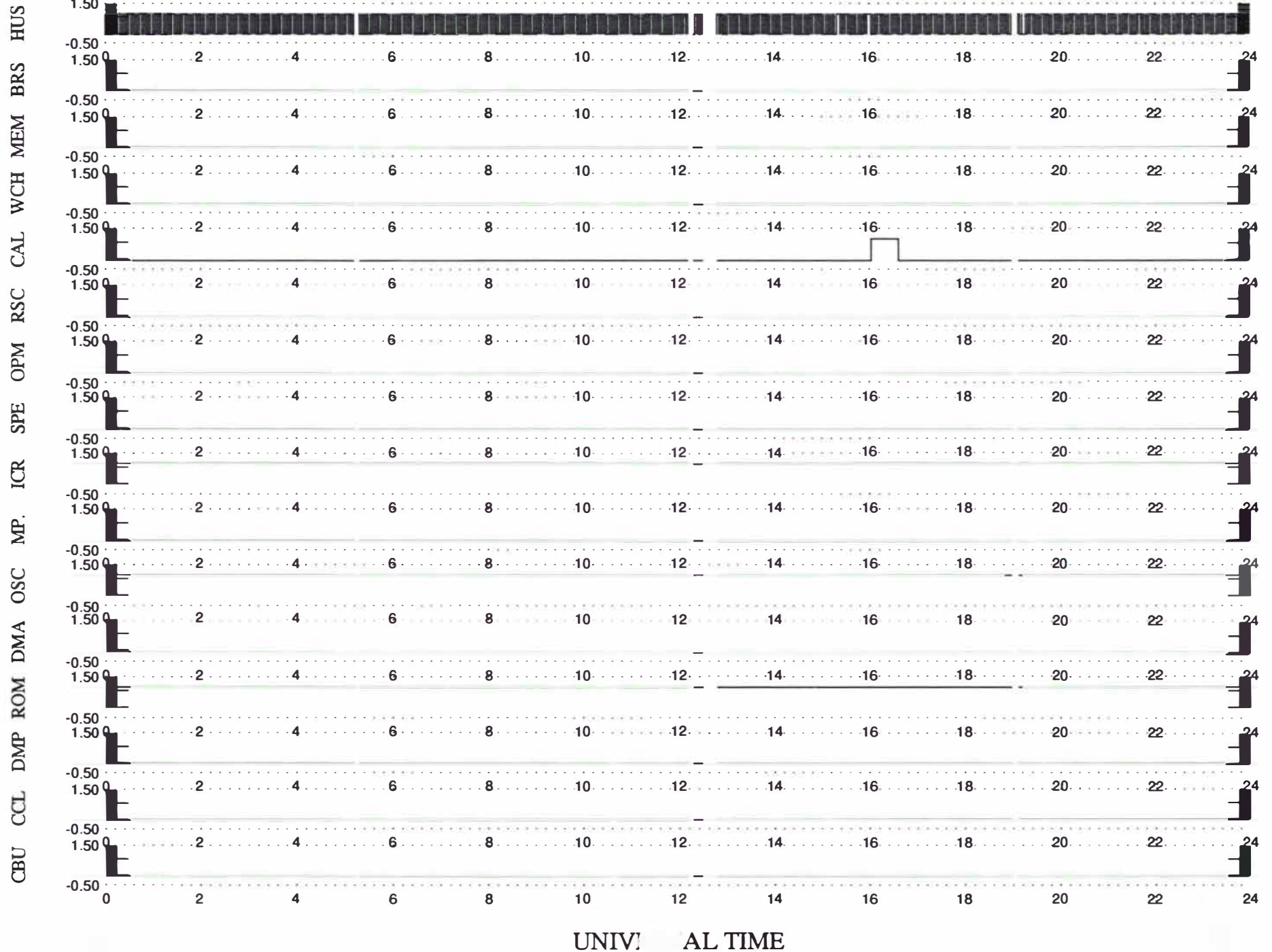
Plot created: 98/06/08, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

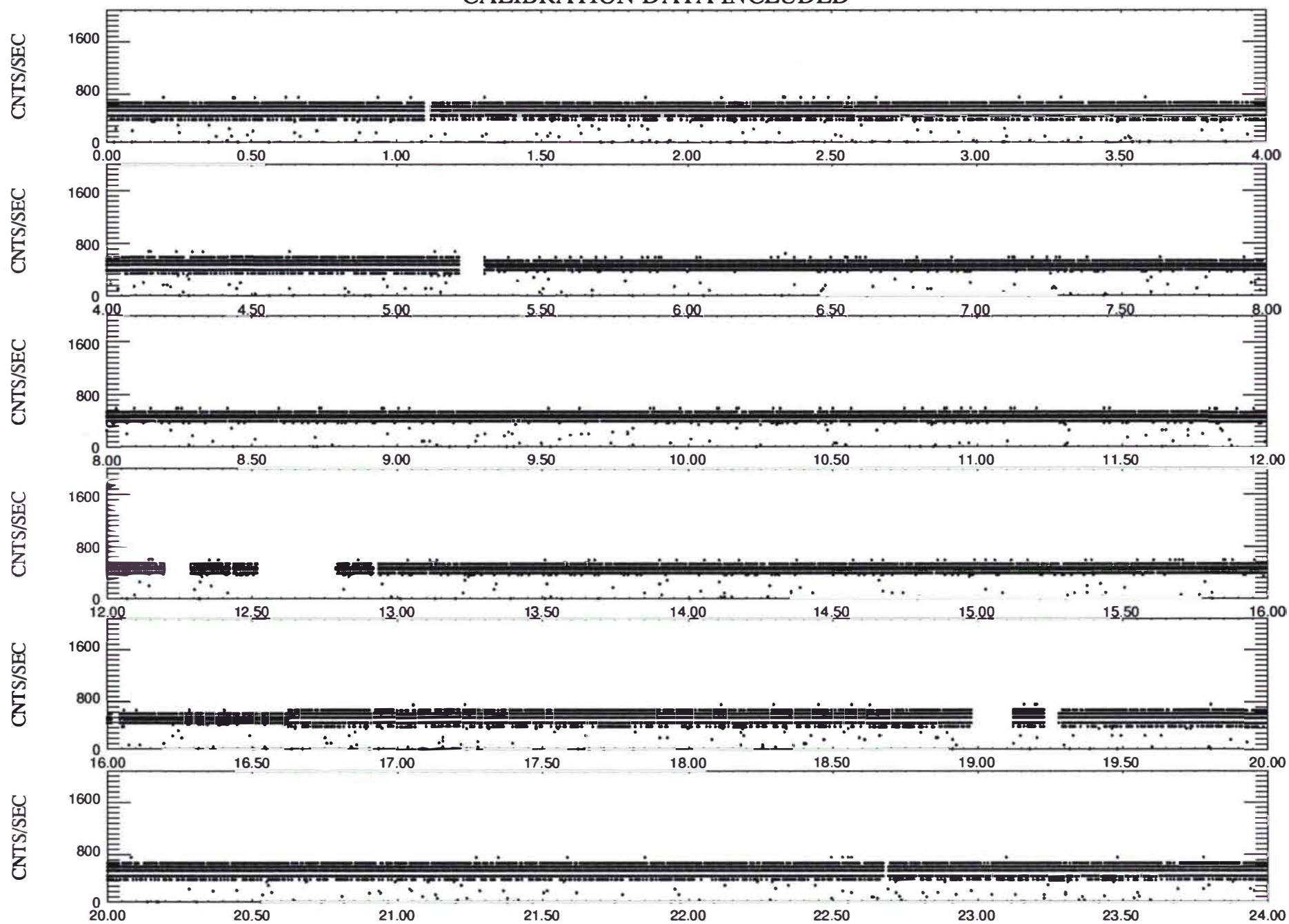
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

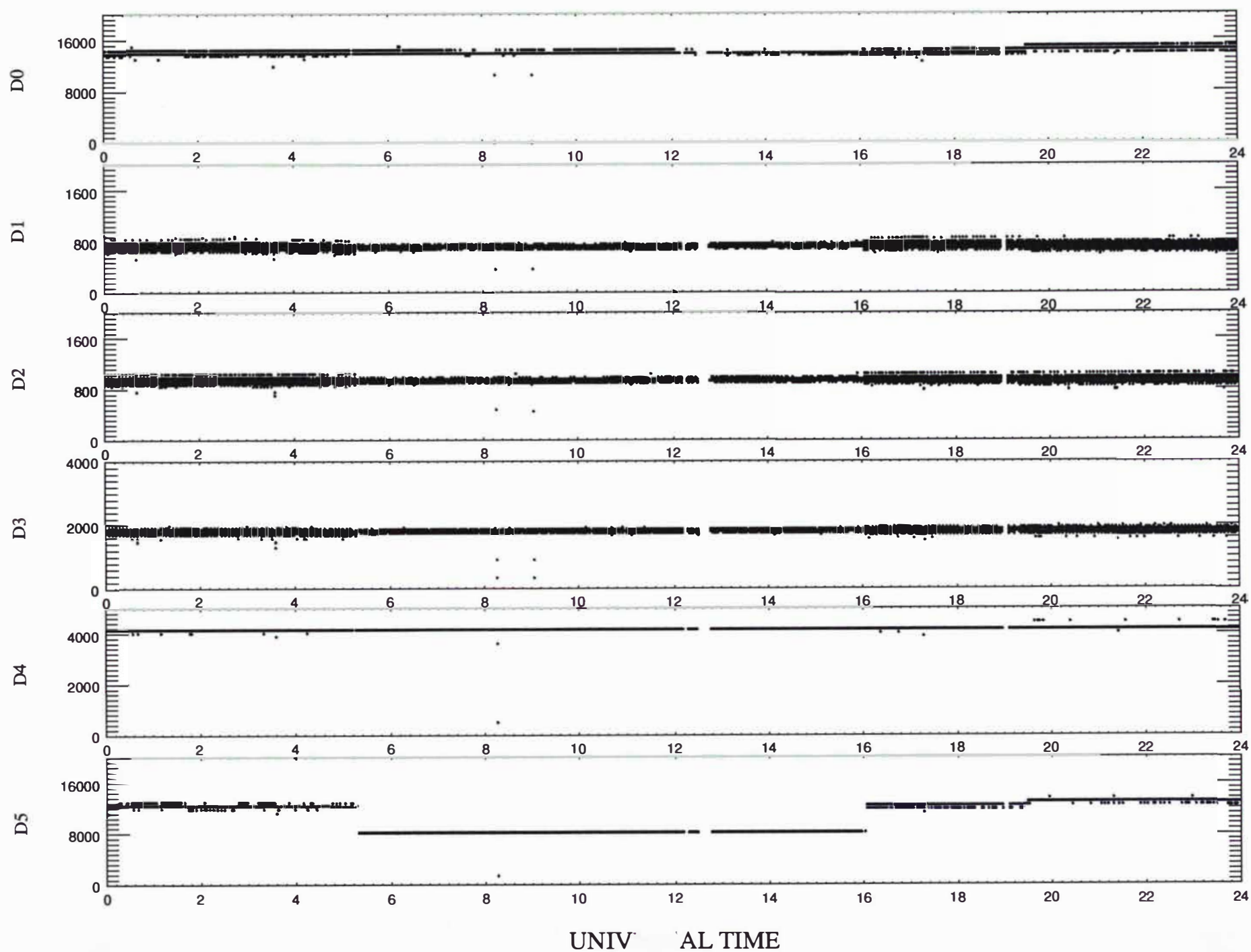
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



From SURASAK@fender.msfc.nasa.gov Mon Jun 8 09:27:55 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 8 Jun 1998 11:26:03 -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.: 6806

TIME: TJD=0969 SECONDS=35416

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=71.6 AZIMUTH=361.3 ERROR=9.498 DEGREES

COMMENTS:

SOLAR FLARE. GOSE C1.2, OPT SF. DOUBLE PULSE WITH SUBSTRUCTURE. DURATION
ABOUT 50S. STARTS AT ABOUT T-5S. NOT VISIBLE ABOVE 100 KEV.

Date: Nov 14 '08

BURST TRIANGULATION CHECKLIST

1. Ulysses Data N/A

- ☐ 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?

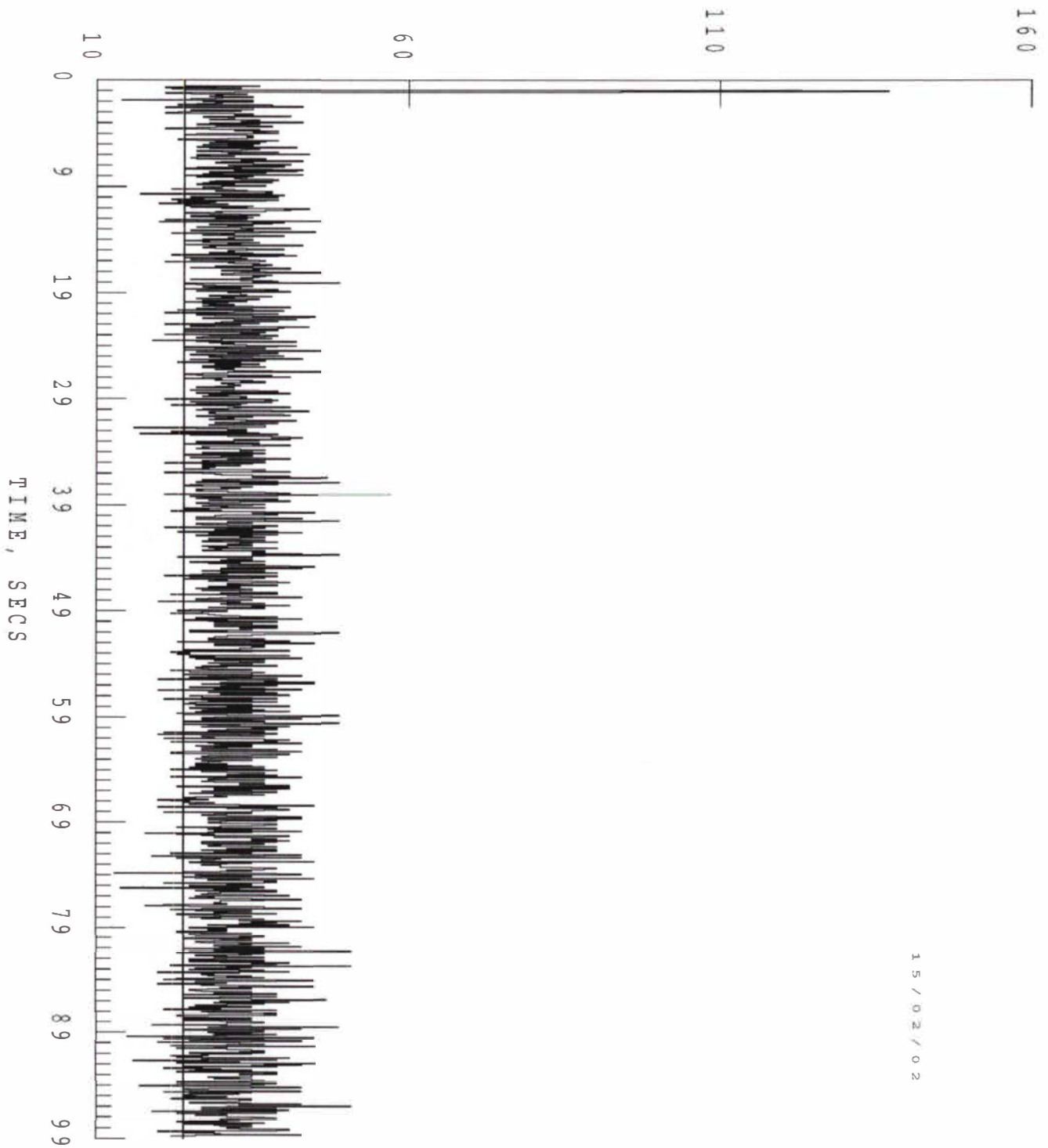
KONUS2

05/06/98

51131.976

50 - 200 keV

COUNTS/0.064 S

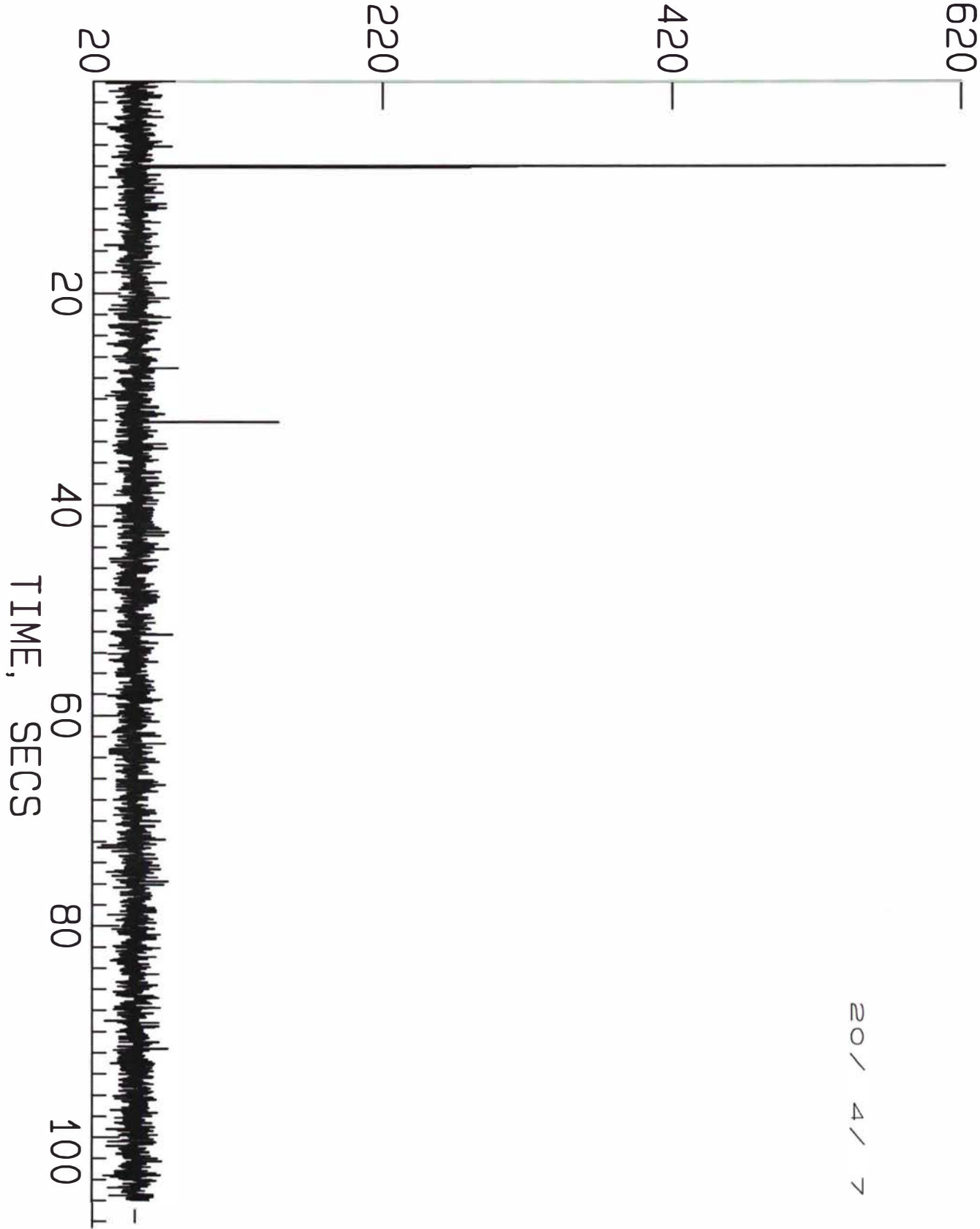


15/02/02

SAX GRBM

05/06/98 51123.316
40- 700 keV

COUNTS/0.031 S



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

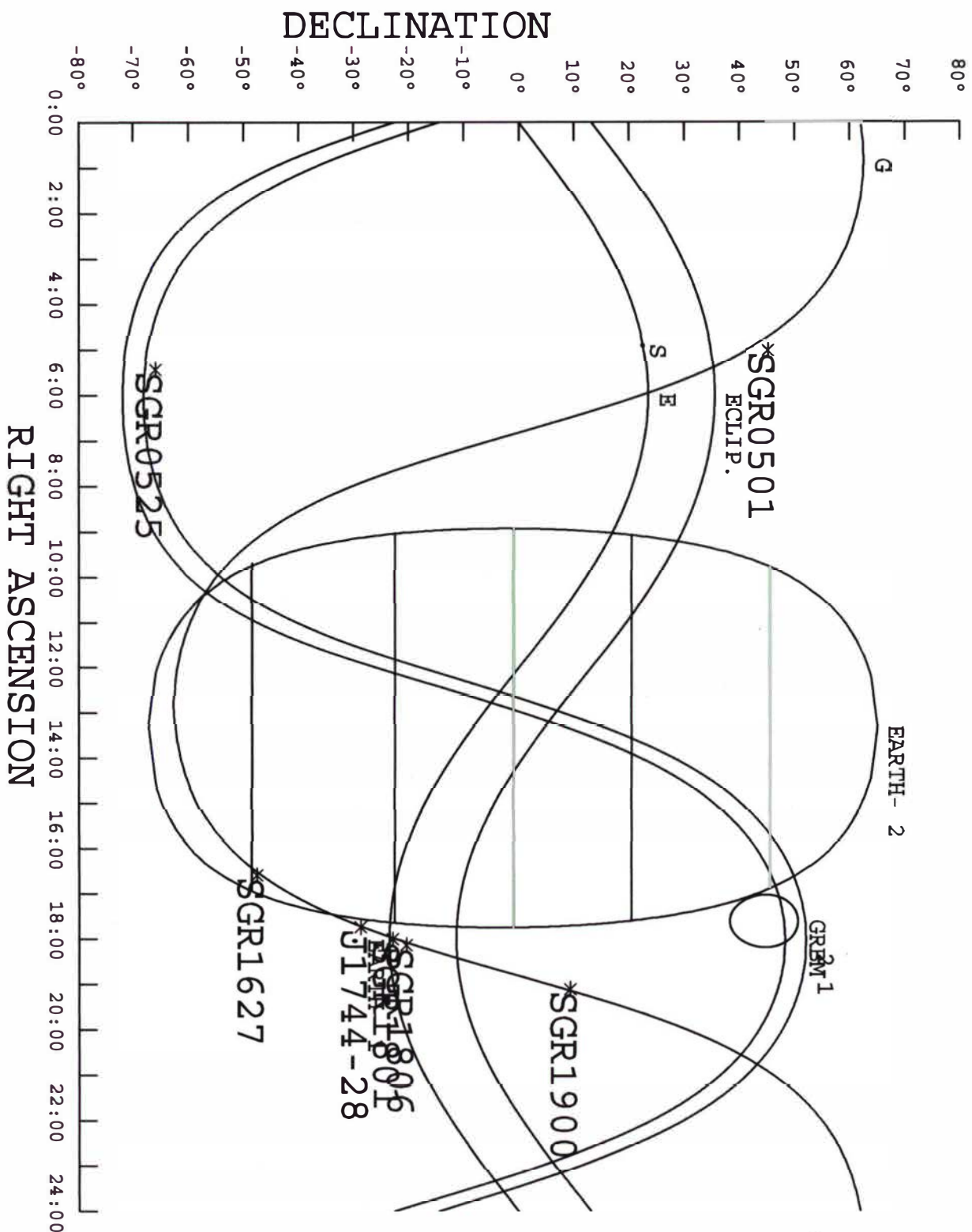
G=GALACTIC EQUATOR

1 KONUS2

2 SAX

EVENT OF JUN 5, 1998 14:12

14/11/ 8



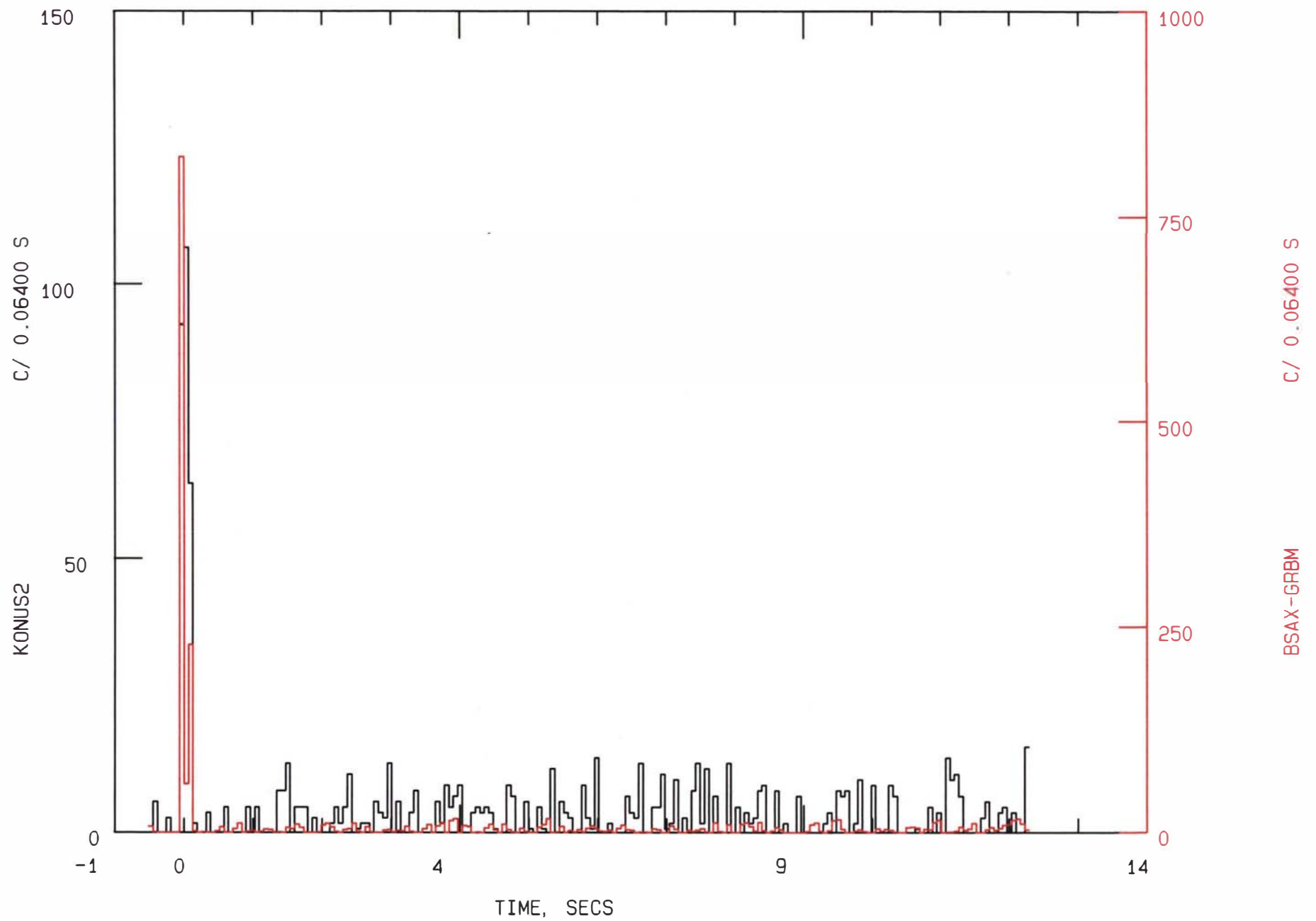
KONUS2

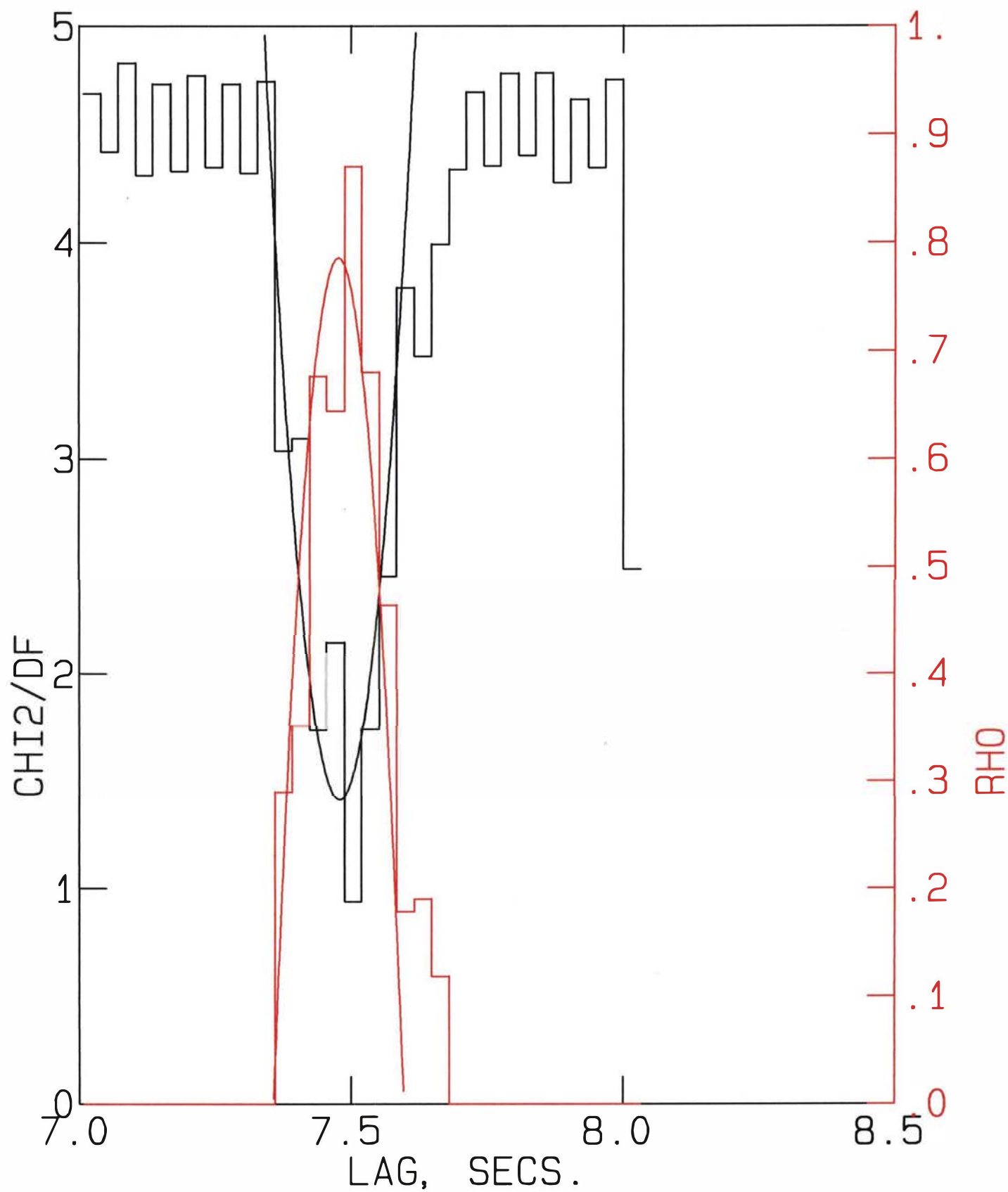
-BSAX-GRBM CORRELATION

05/06/98

51131.976

14/11/ 8

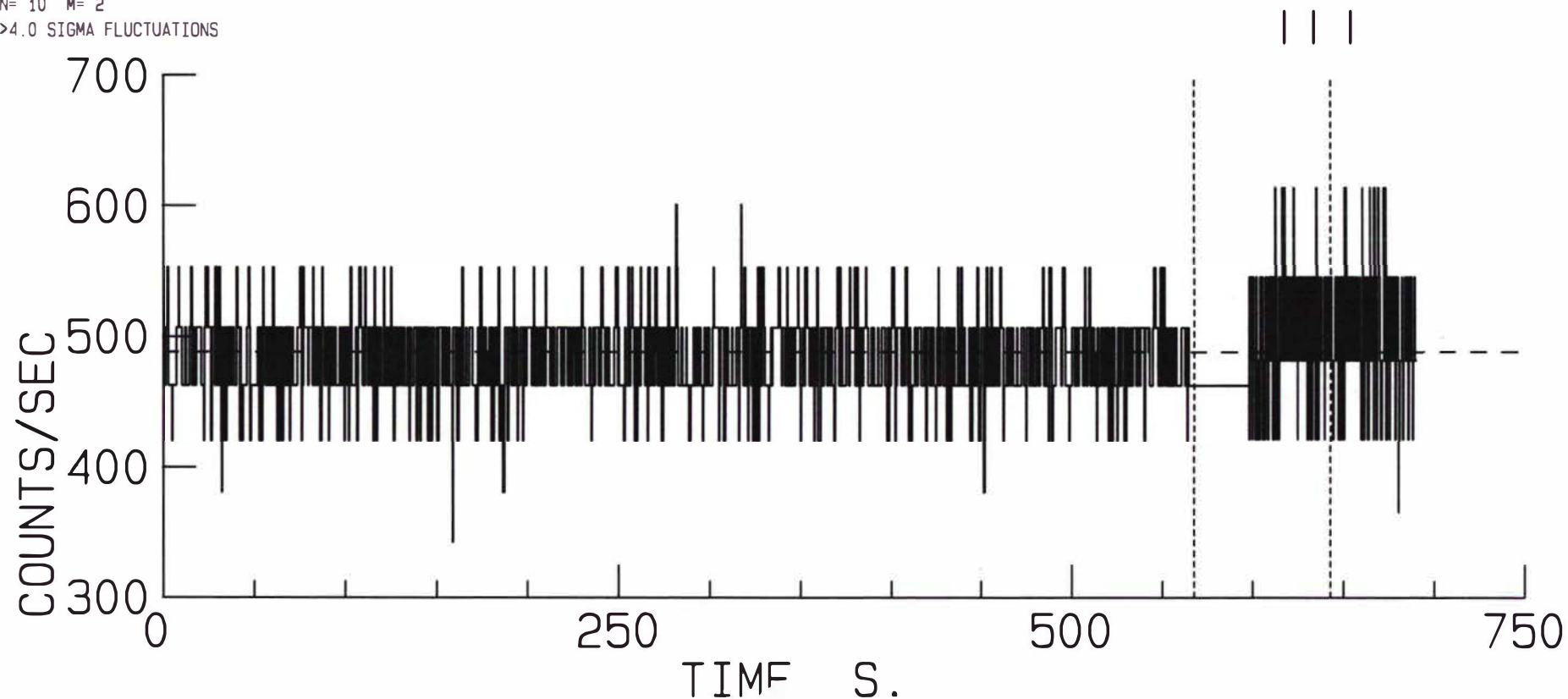




ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14 / 11 / 8

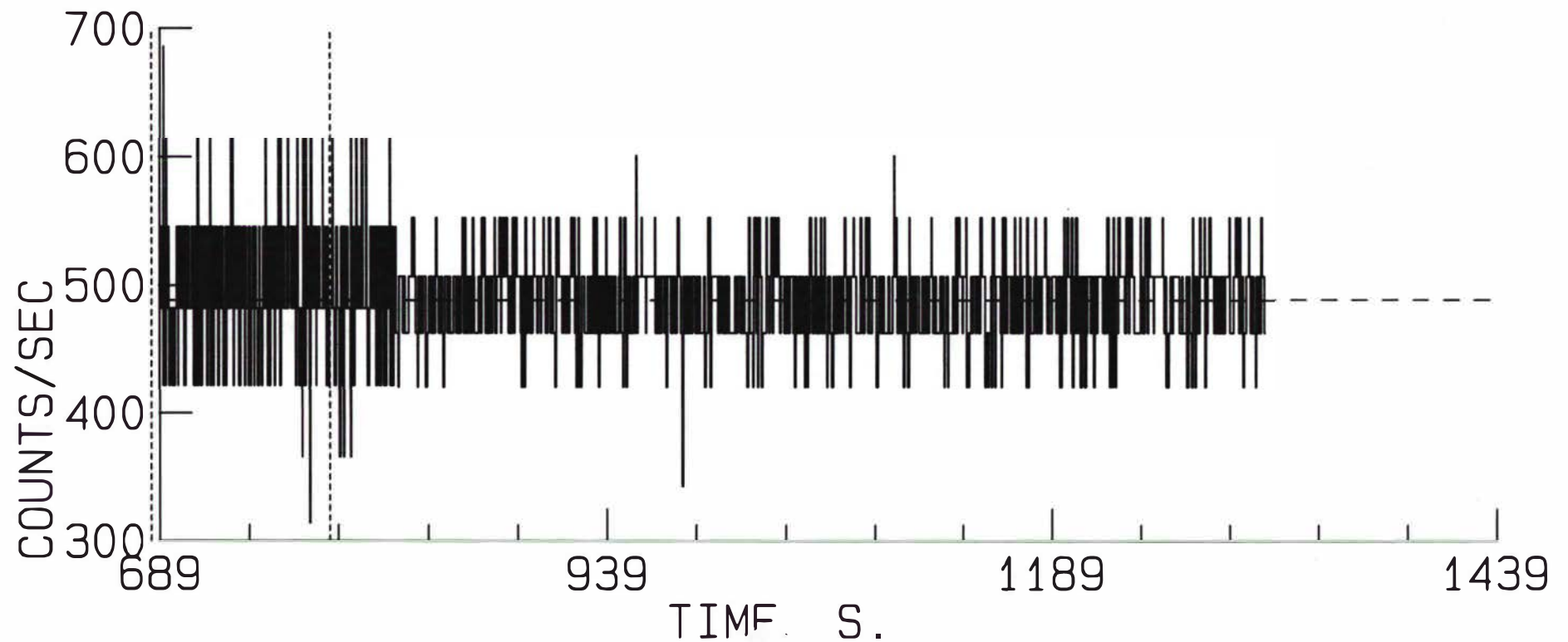
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14/11/8

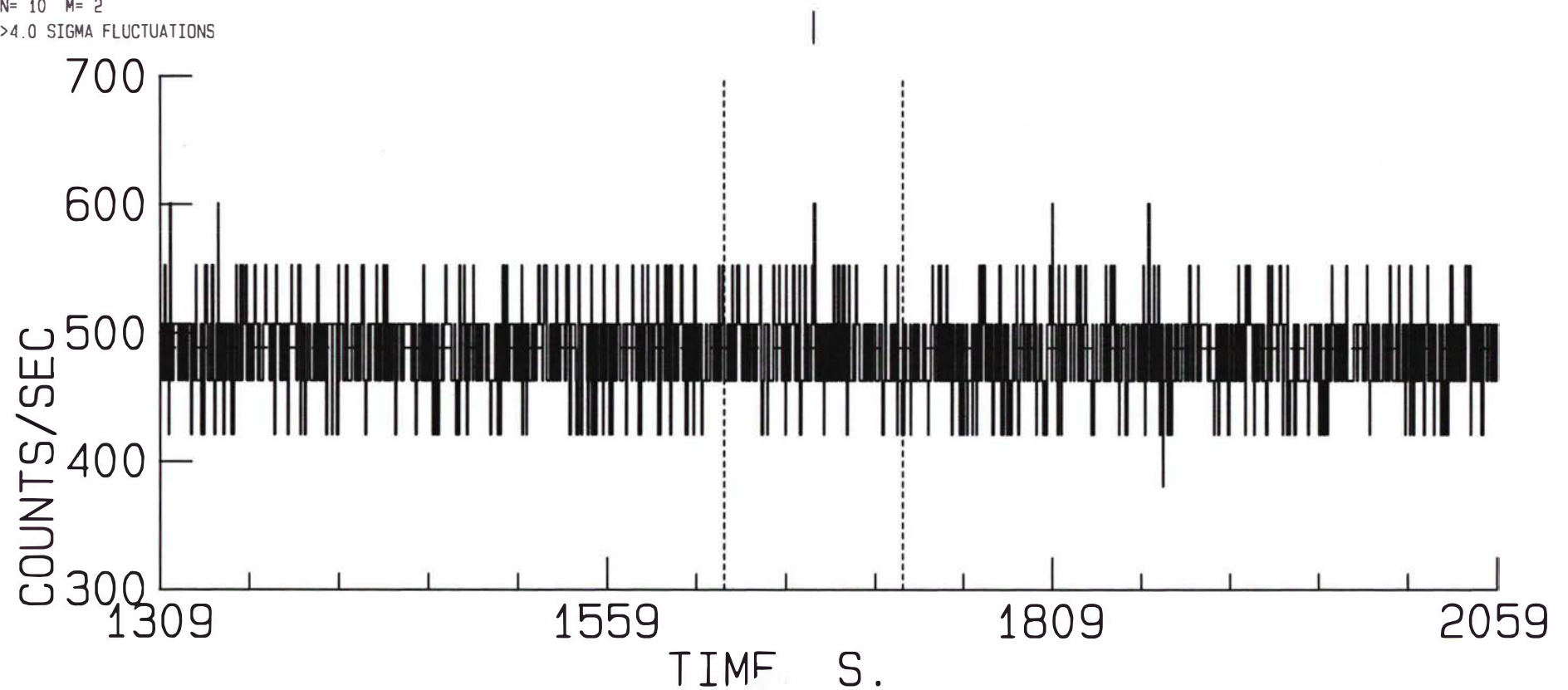
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

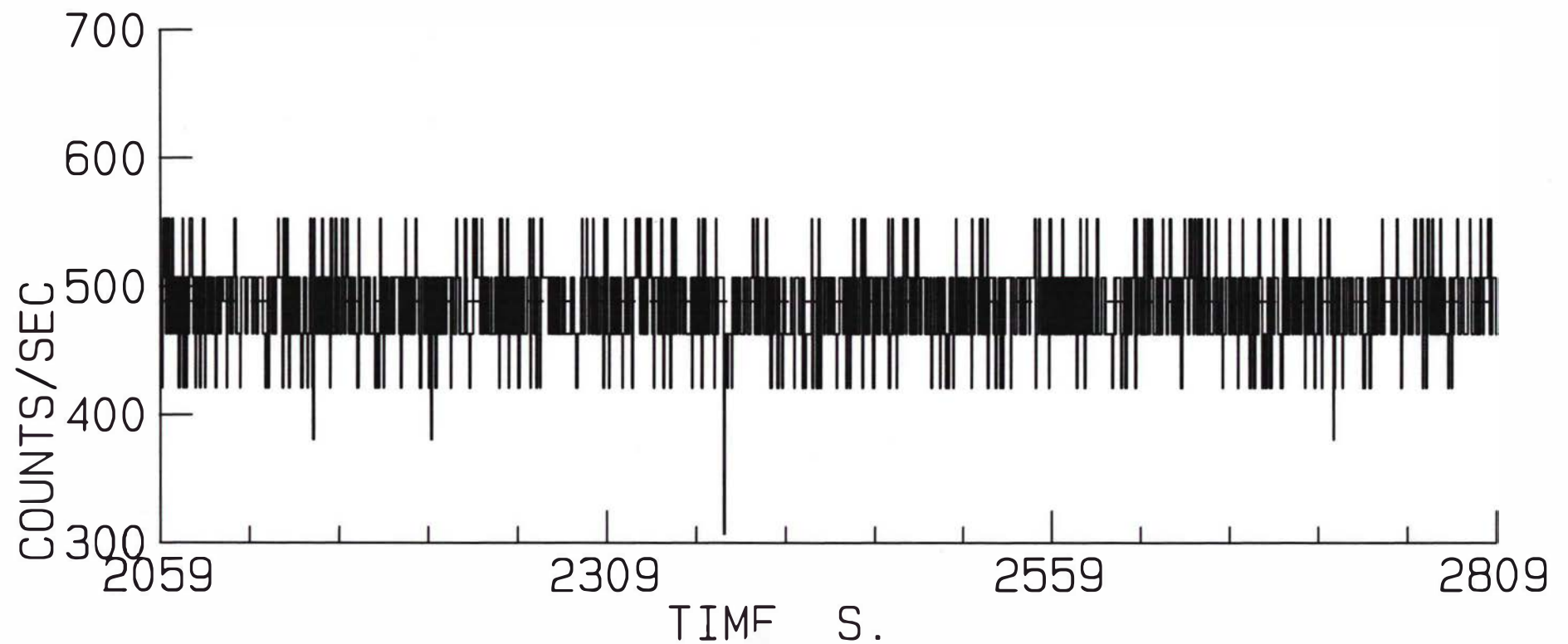
14 / 11 / 8

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

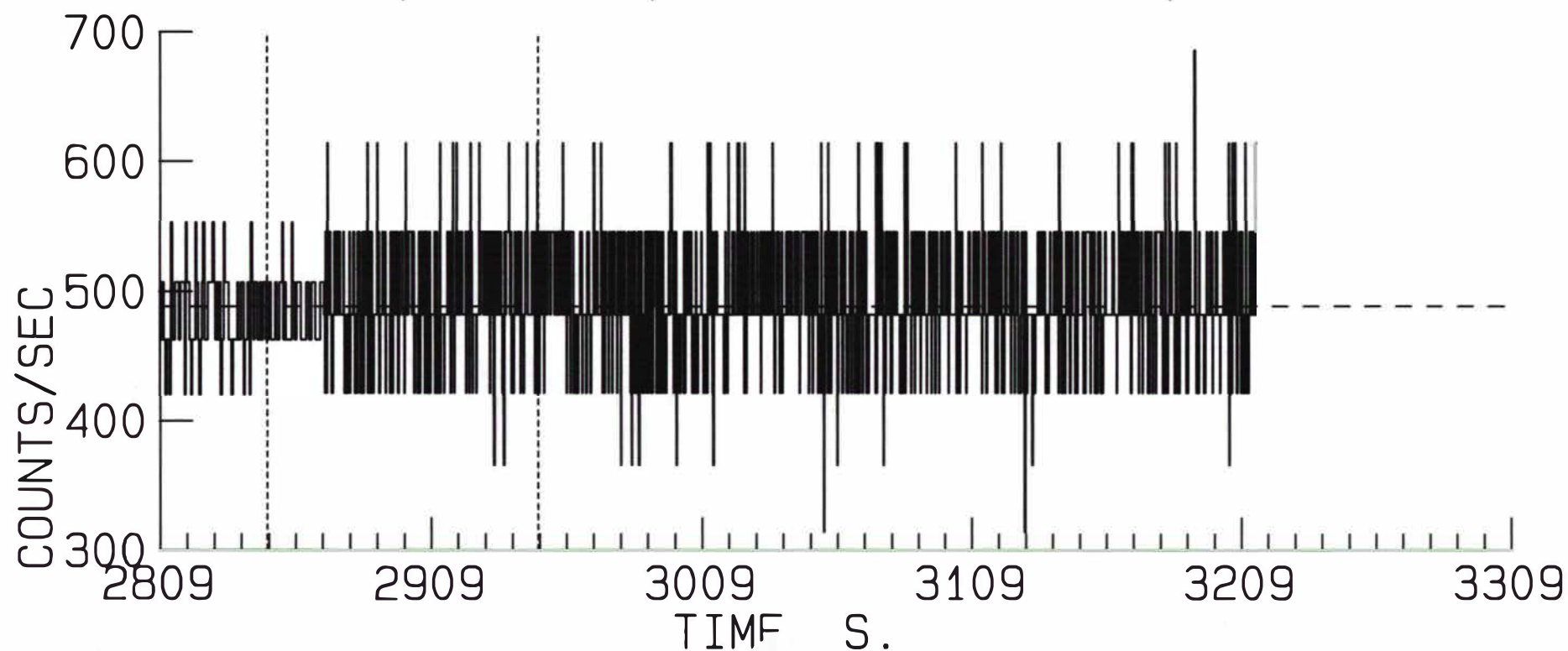
14/11/8



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14/11/8

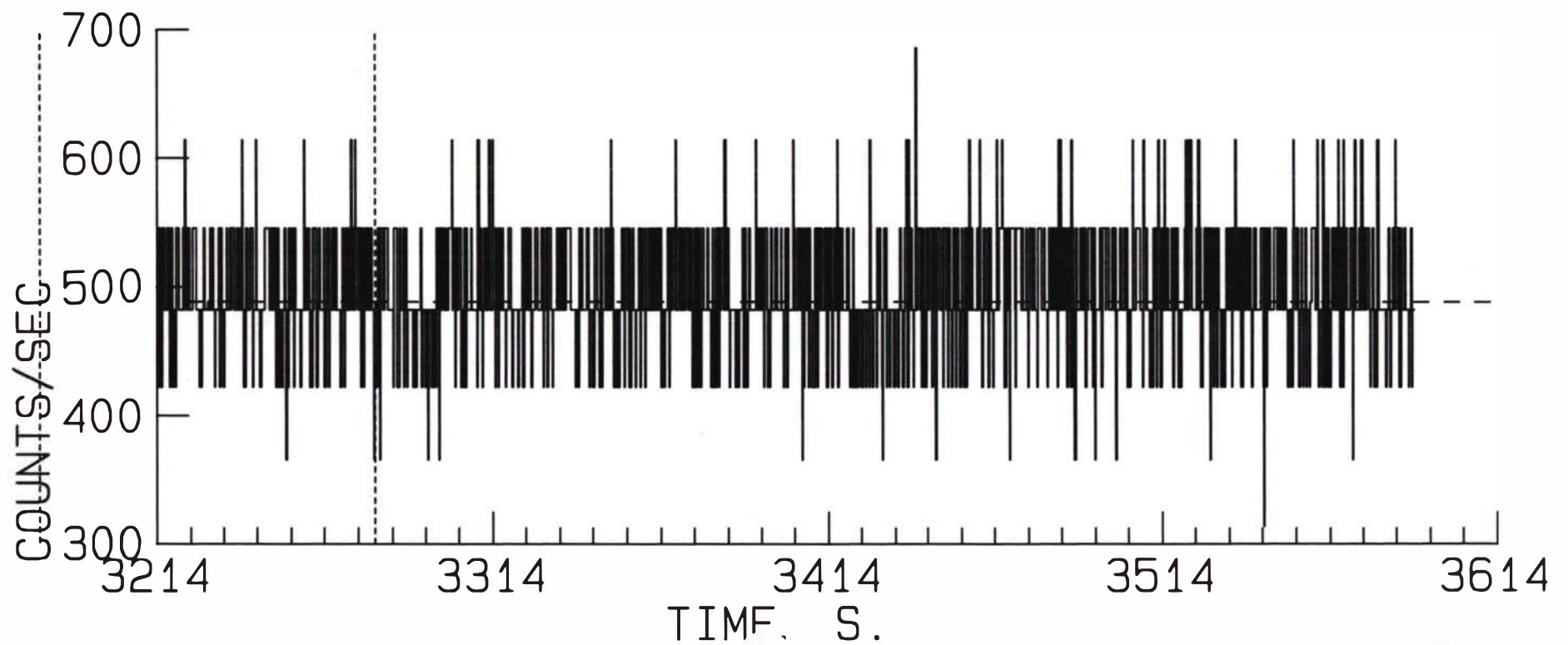
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14 / 11 / 8

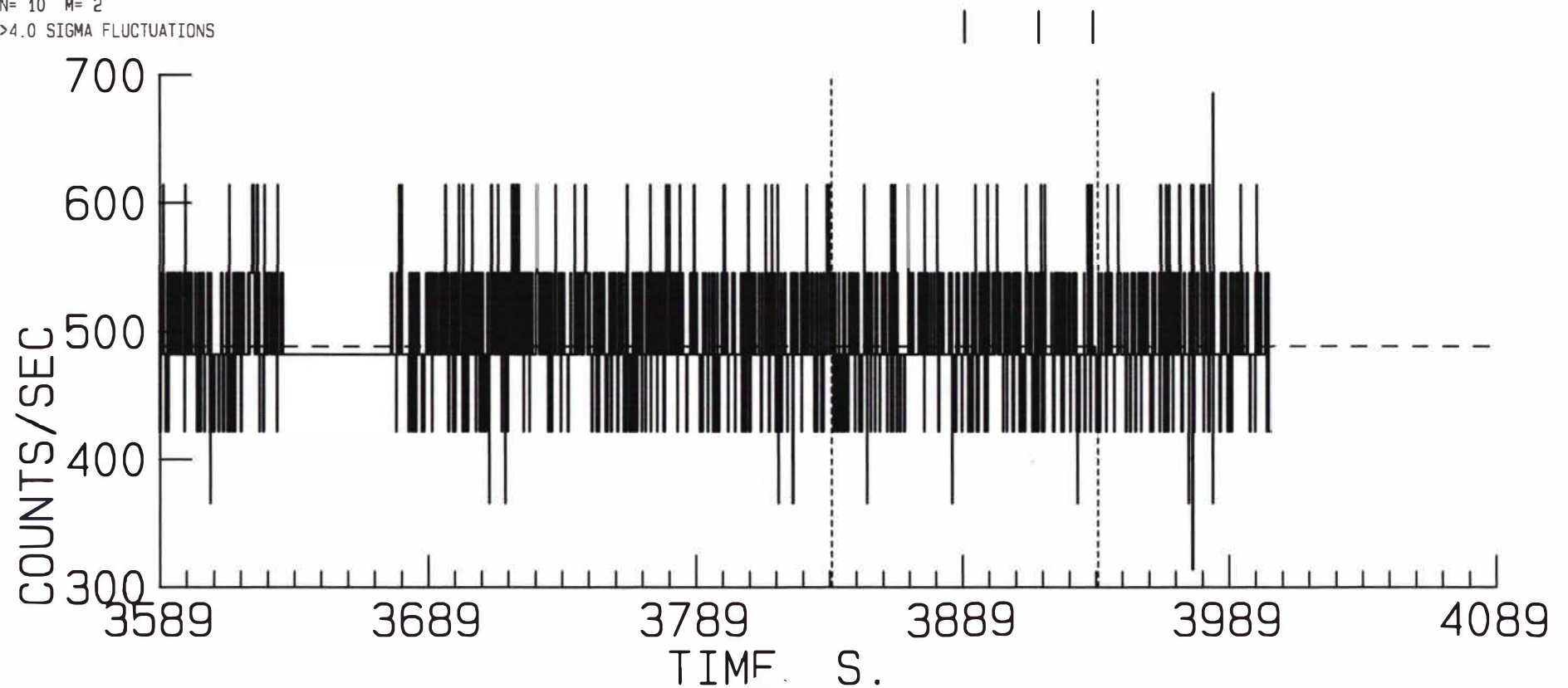
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14 / 11 / 8

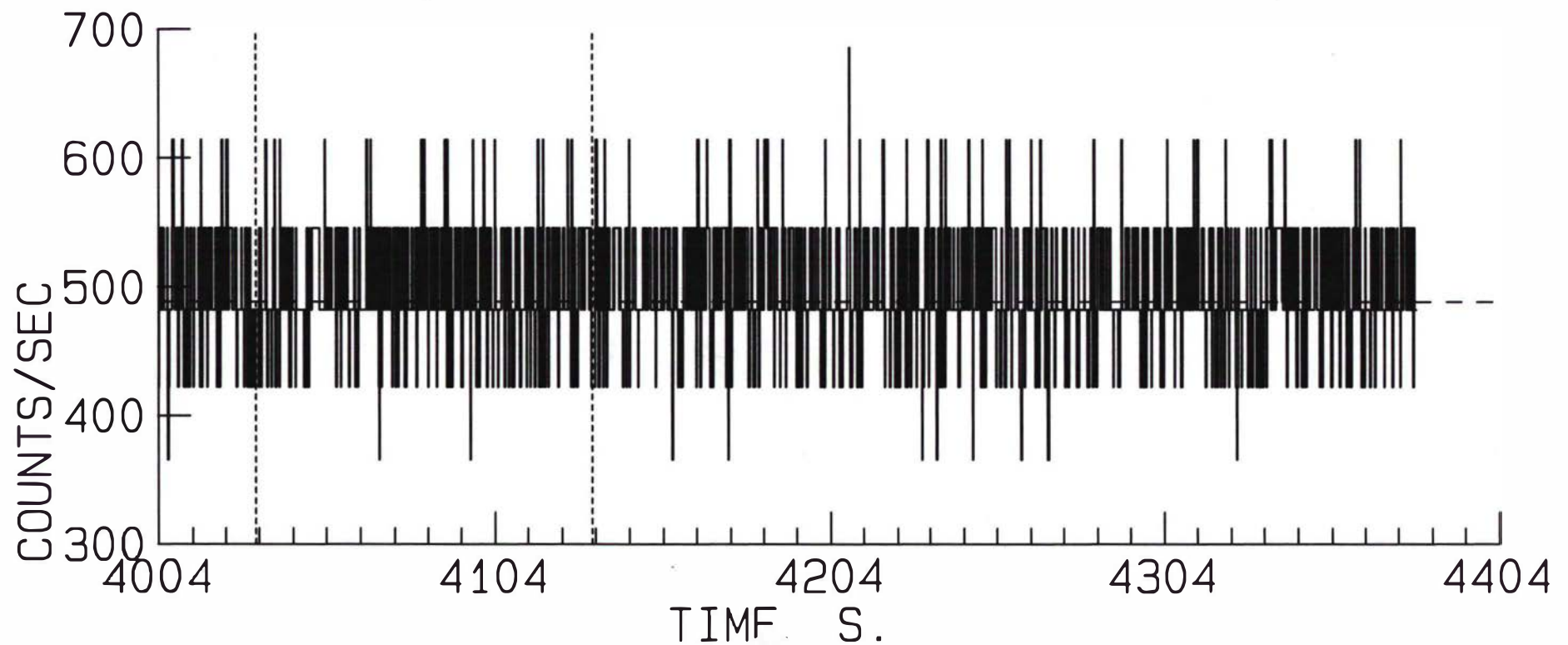
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14 / 11 / 8

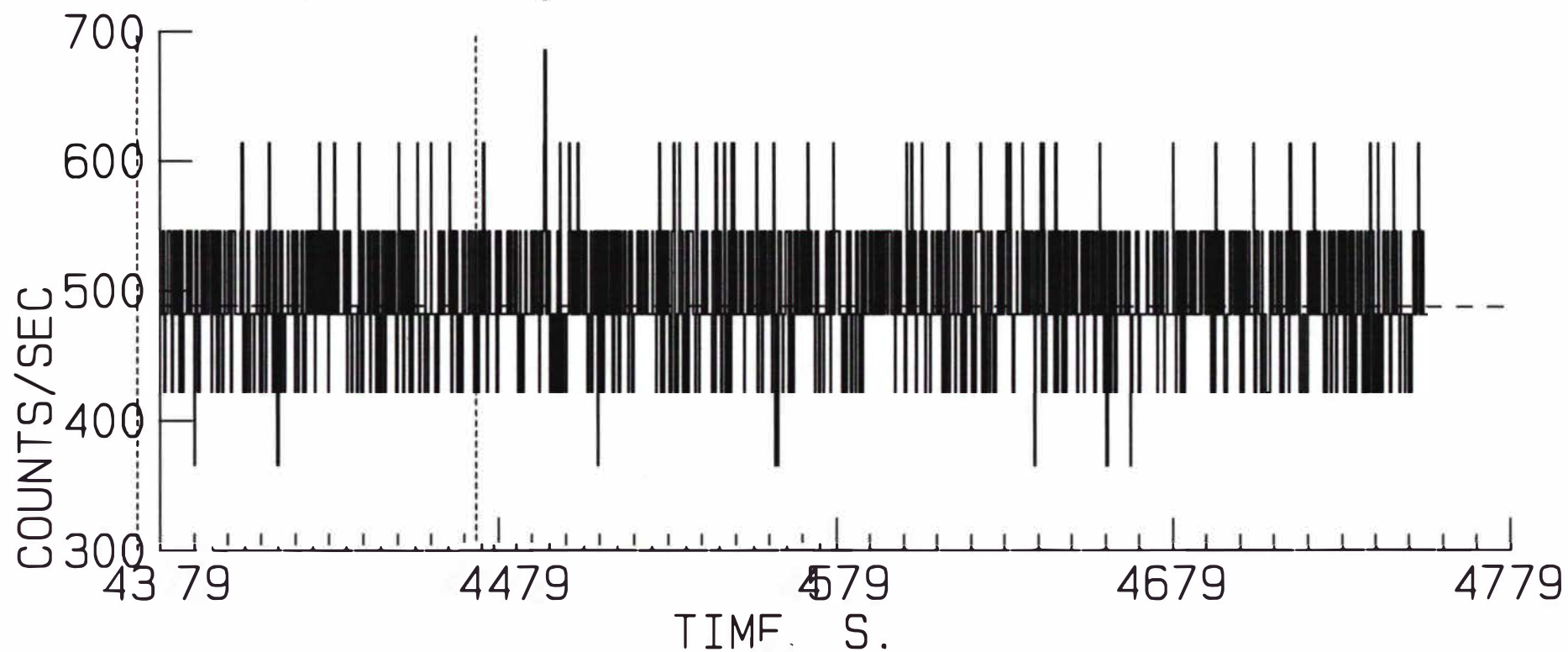
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14/11/8

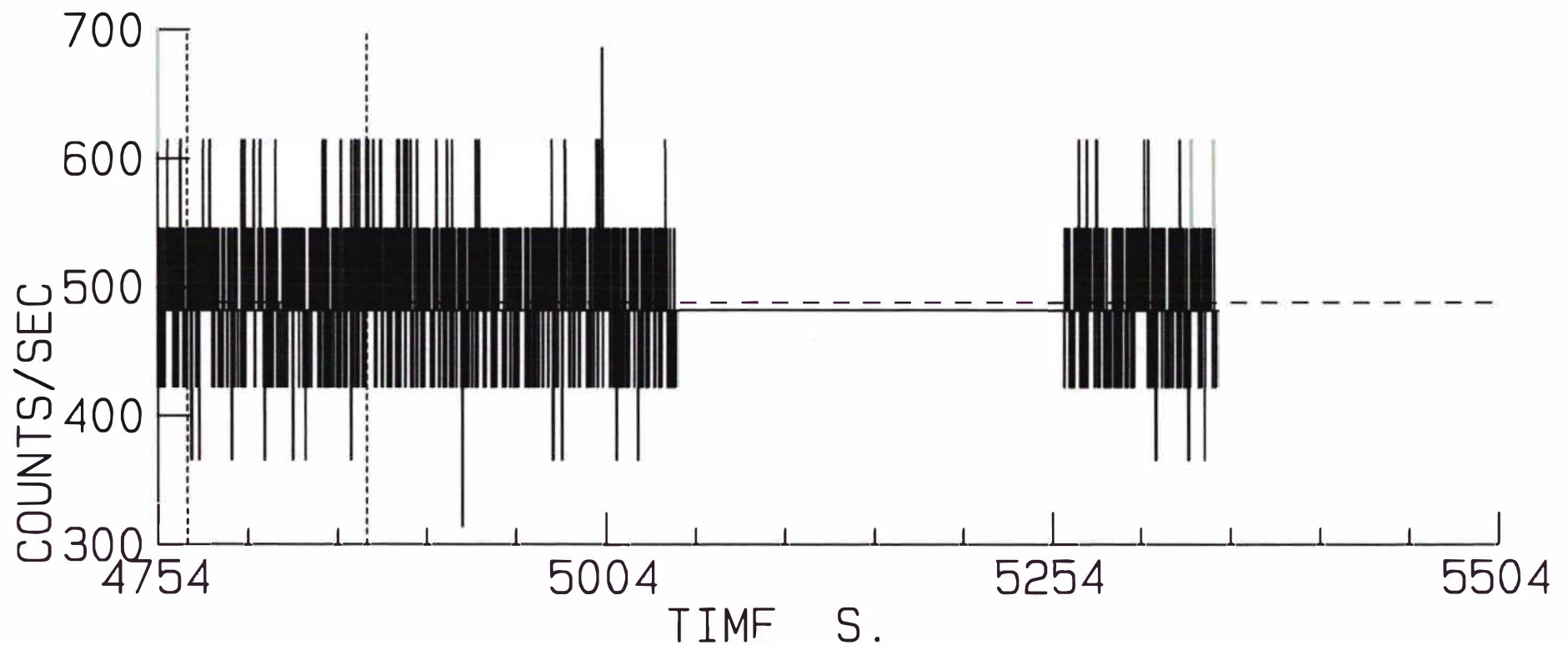
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14/11/8

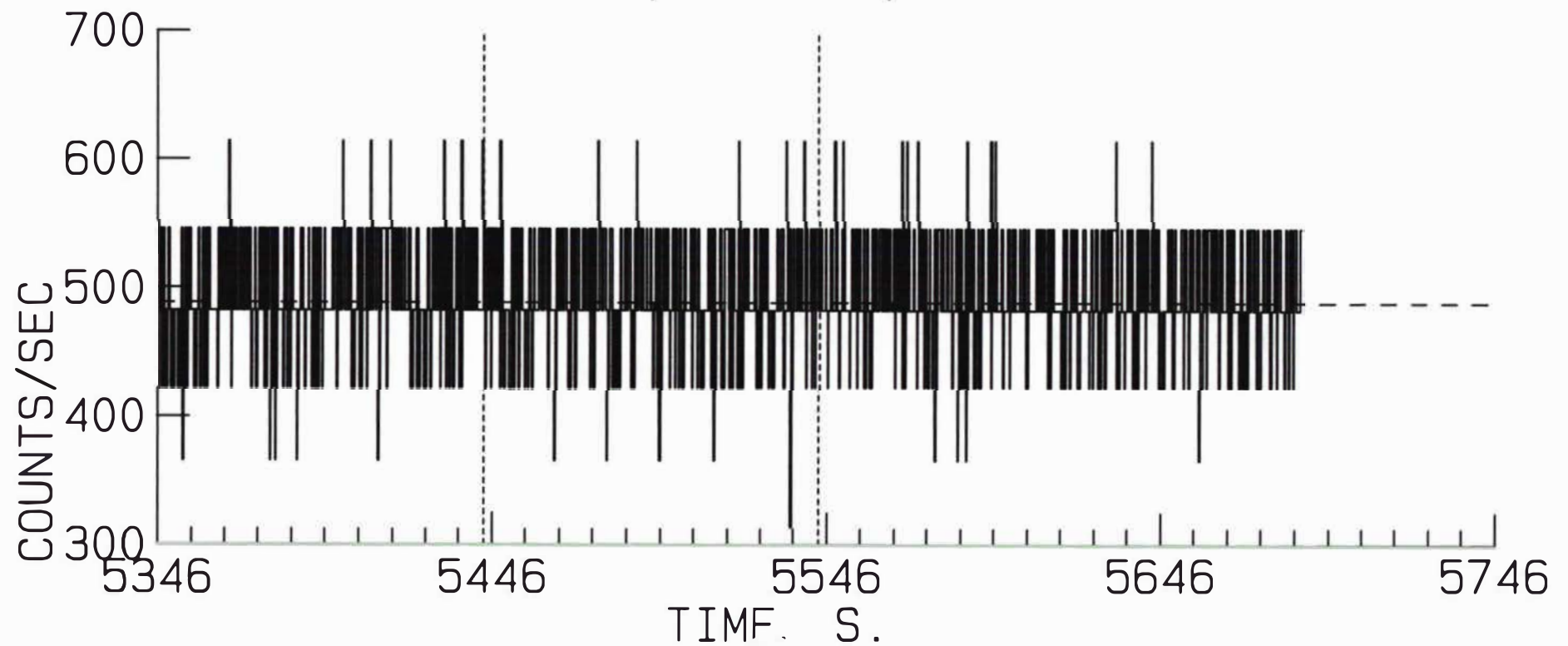
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
5/ 6/98 48276.152 s
22- 150 keV

14 / 11 / 8

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



grbm 19980605 51583

ULYSSES RT

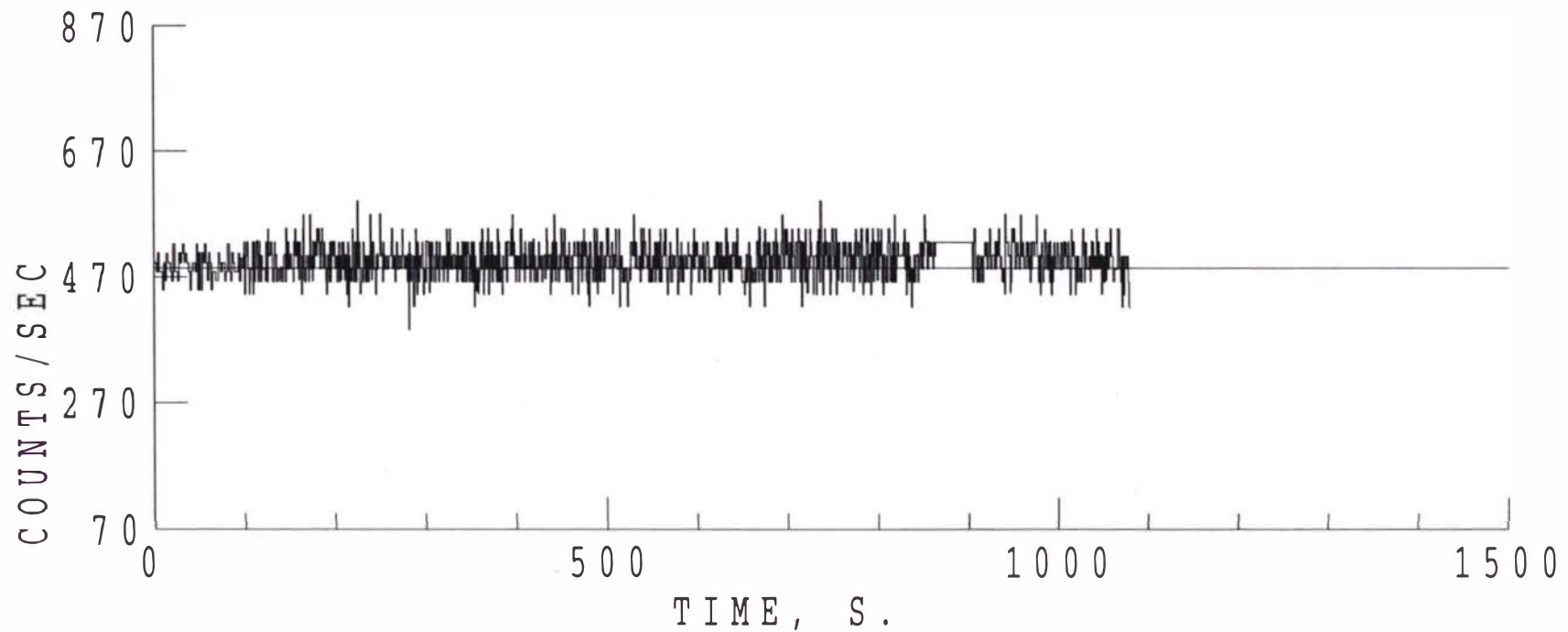
19 / 04 / 07

05/06/98 51048.184 s

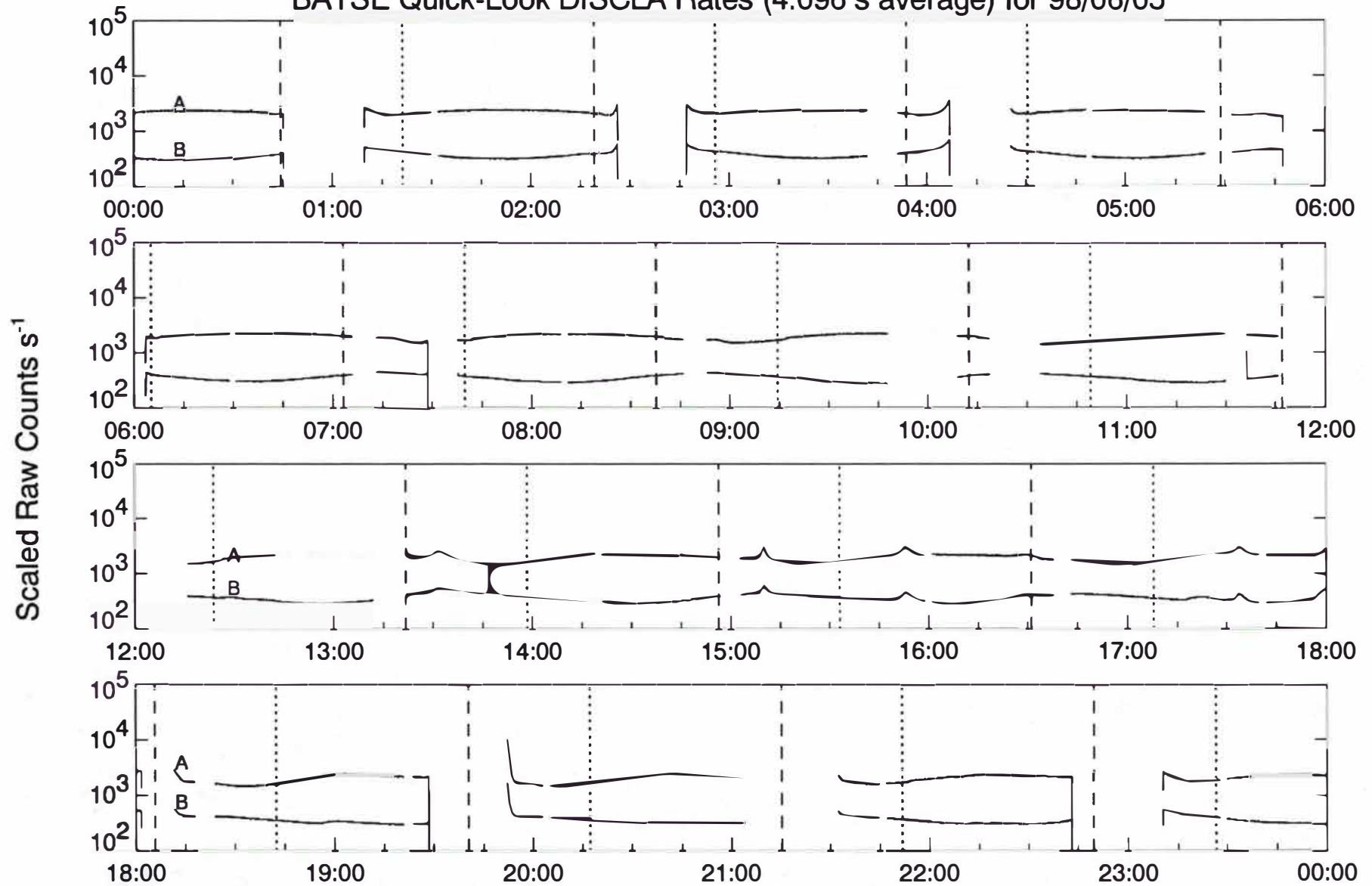
INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



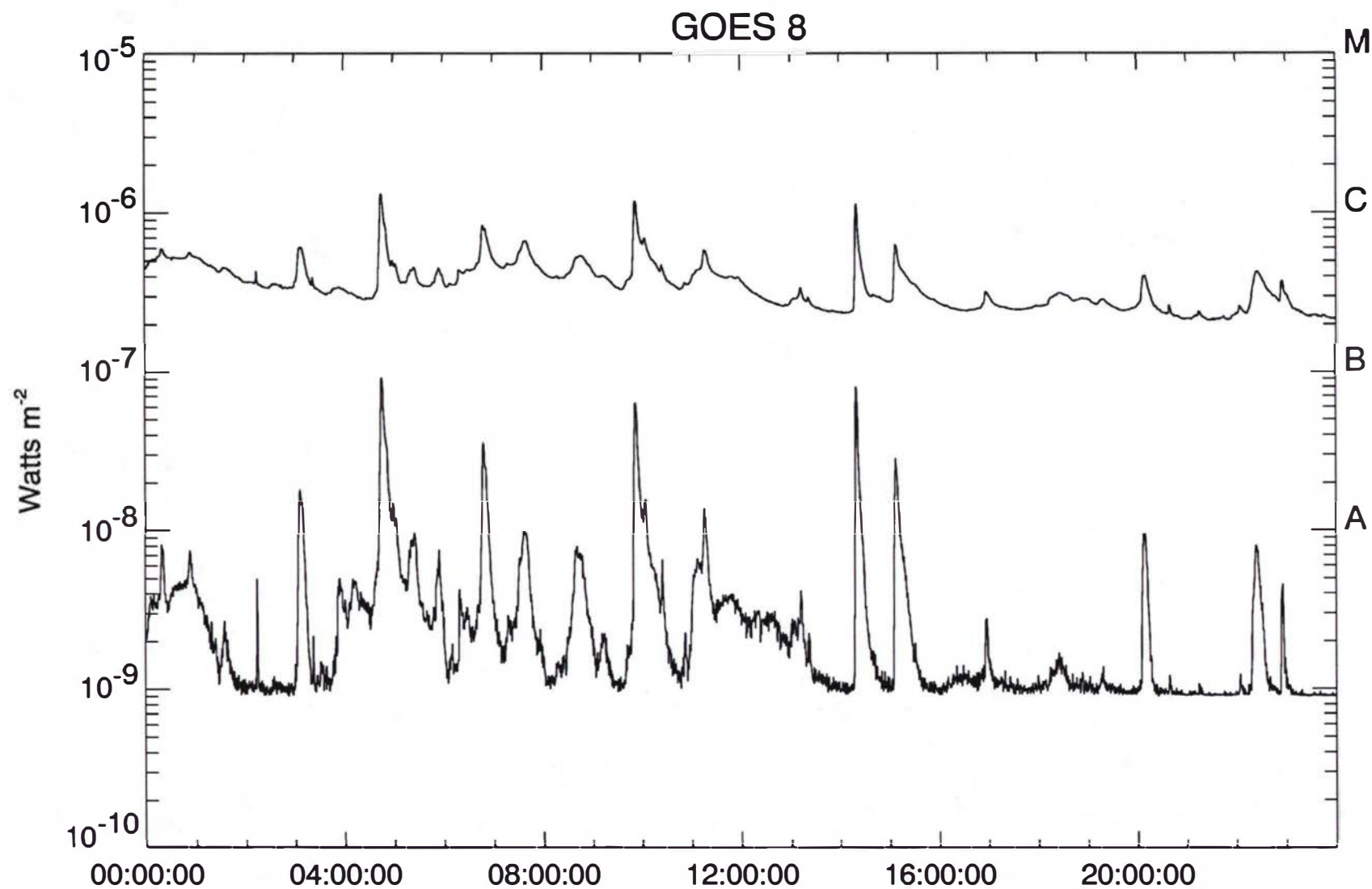
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/05



Current Time: 98/06/09, 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: 98/06/05, 0000:00

Plot created: 98/06/09, 1007

Channel

1 (1.0 - 8.0 Angstroms)

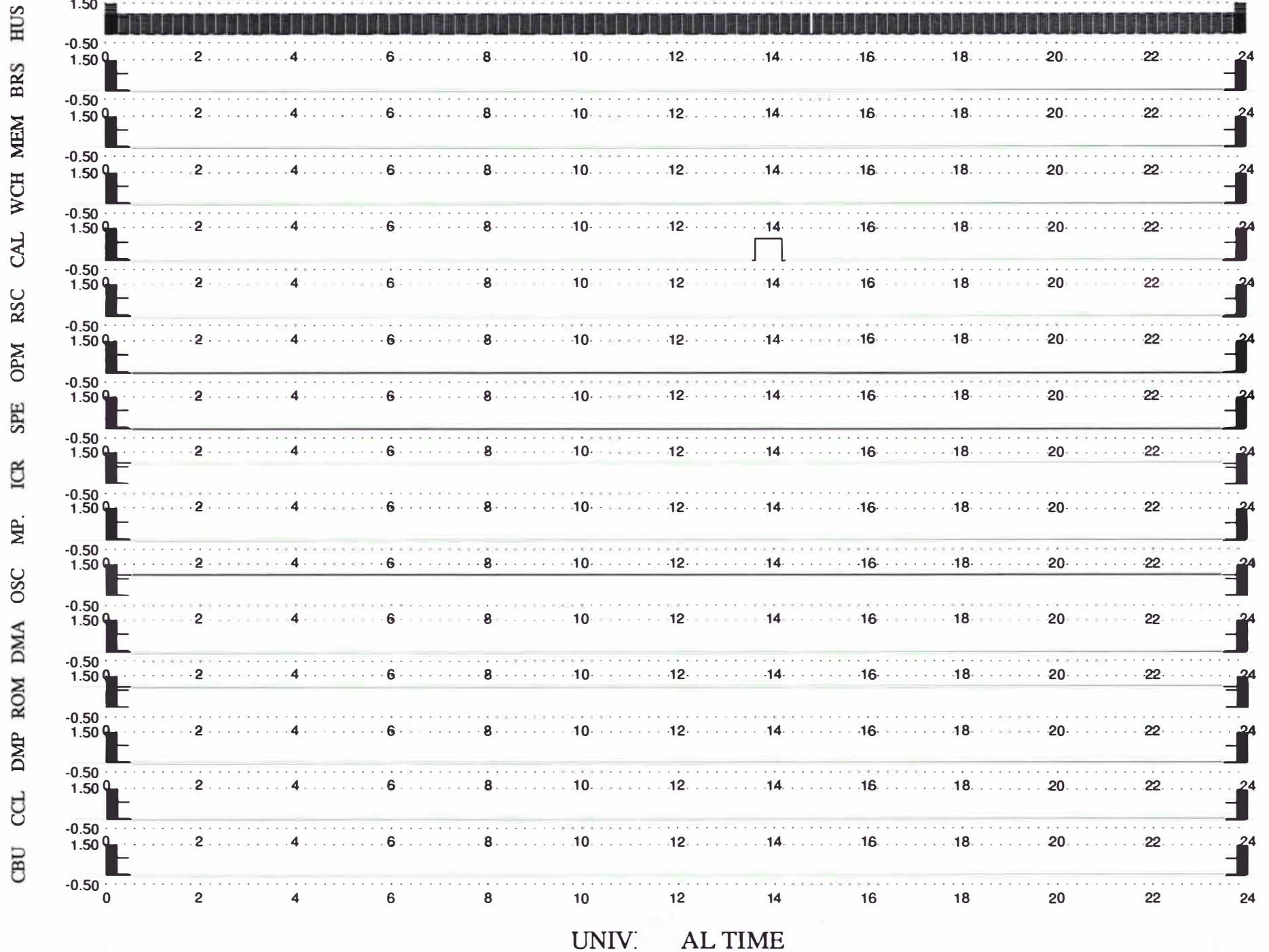
Background not subtracted

2 (0.5 - 4.0 Angstroms)

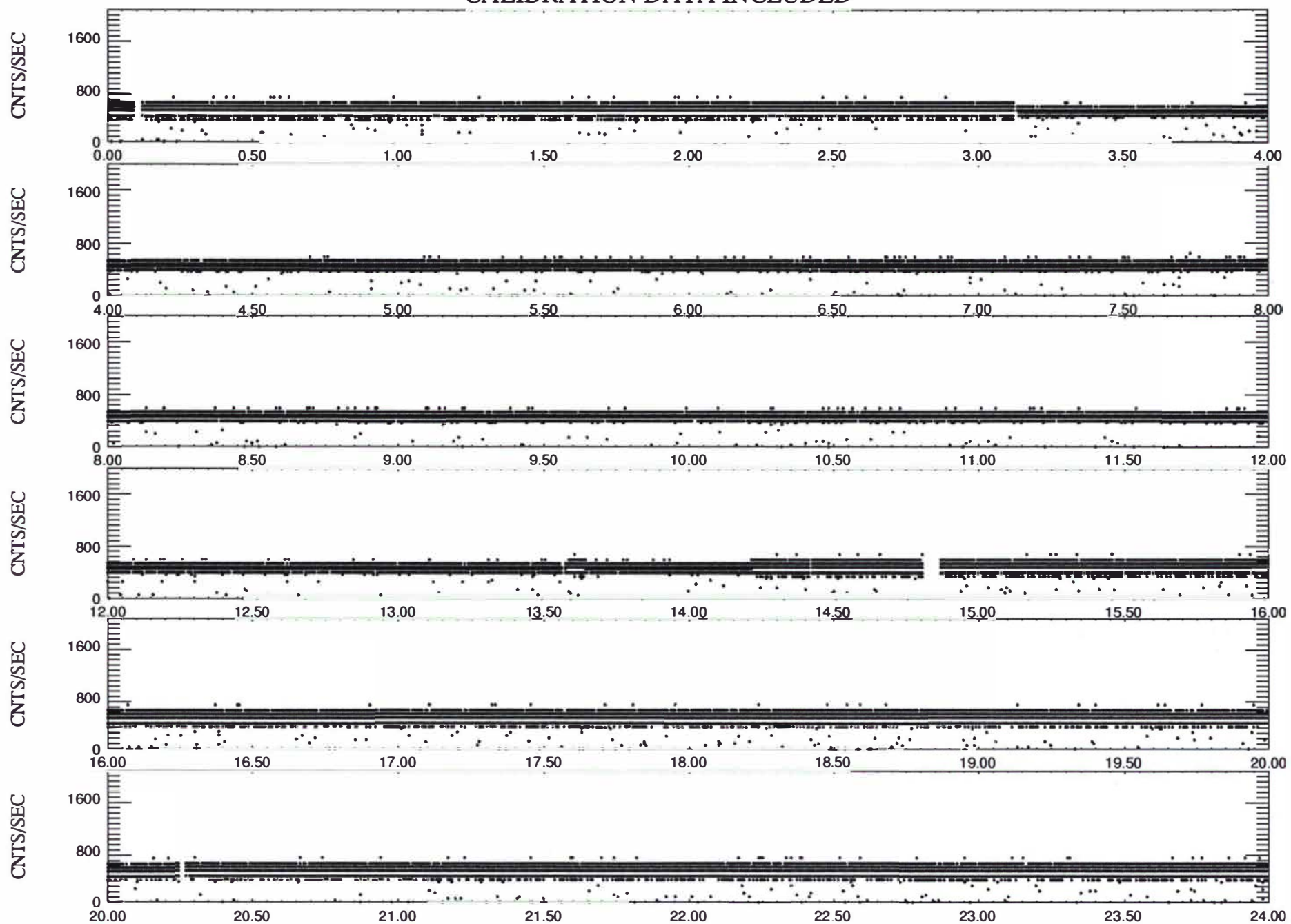
Background not subtracted

Sample average = 10

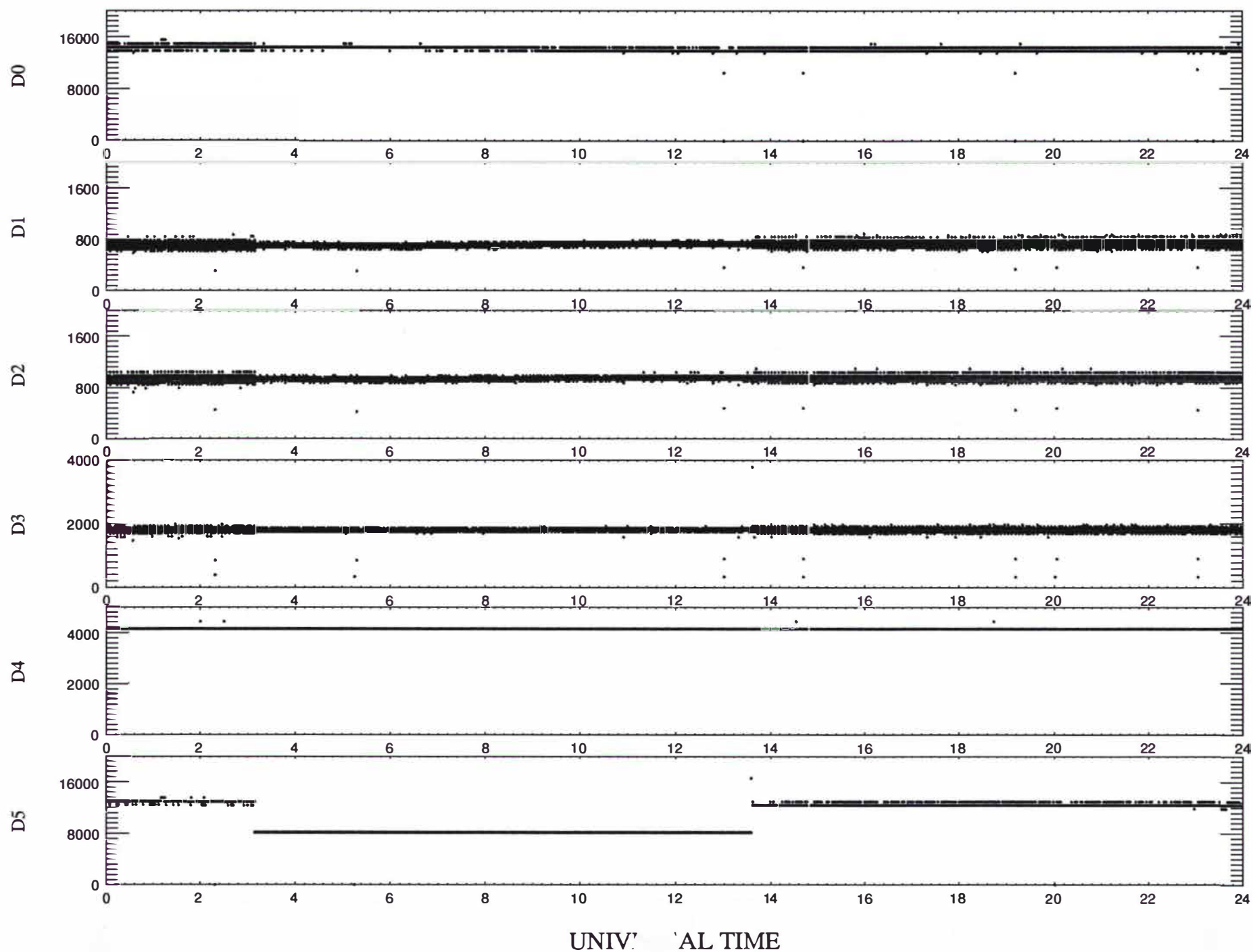
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From WOODSP@fender.msfc.nasa.gov Tue Jun 9 07:38:52 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Tue, 9 Jun 1998 9:38:20 -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.: 6807

NO

TIME: TJD=0970 SECONDS=15514

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=131.7 AZIMUTH=229.6 ERROR=5 DEGREES

COMMENTS:

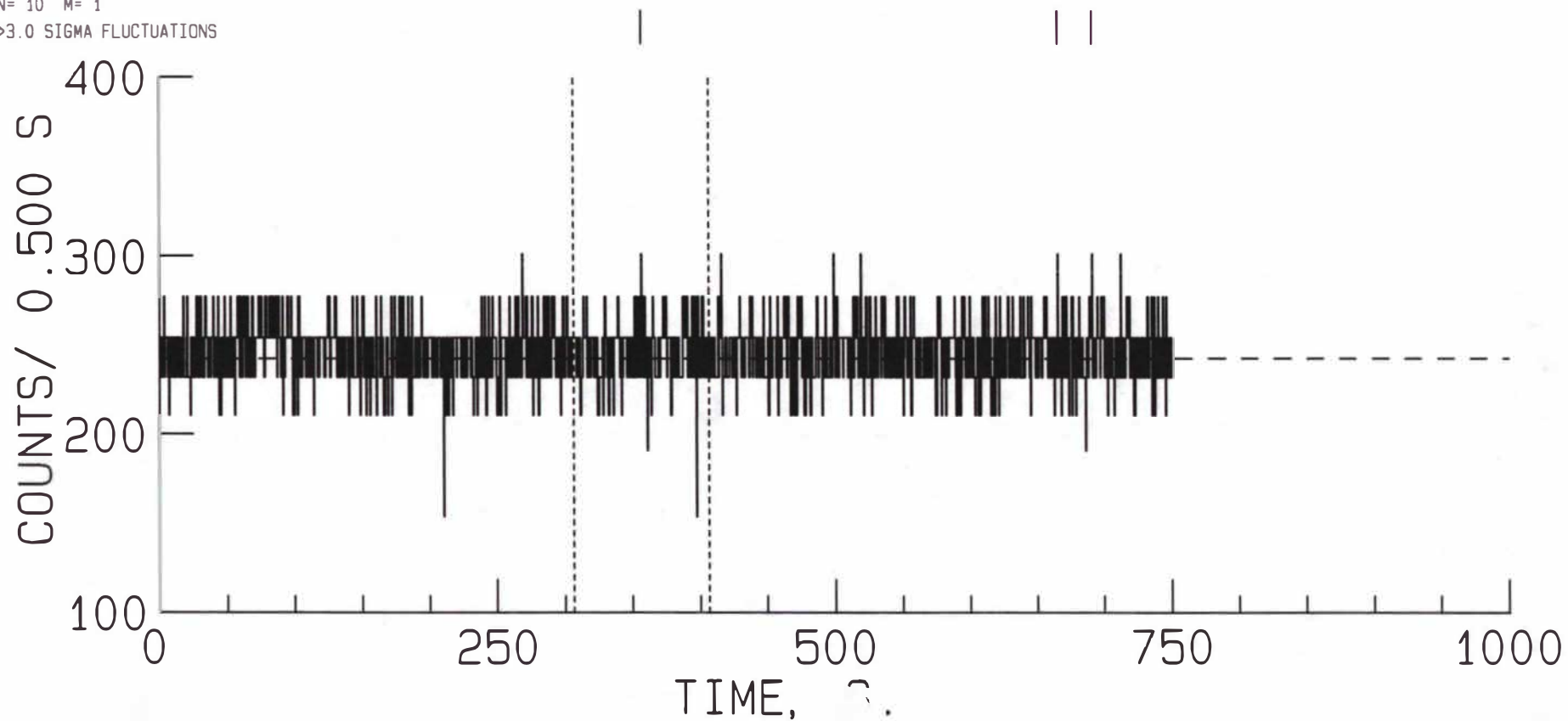
SGR 1900+14. BURST LASTING ABOUT 0.18 SEC. SINGLE SPIKE.

NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT
6/ 6/98 16992.233 s
22- 148 keV

10 / 6 / 98

N= 10 M= 1
>3.0 SIGMA FLUCTUATIONS

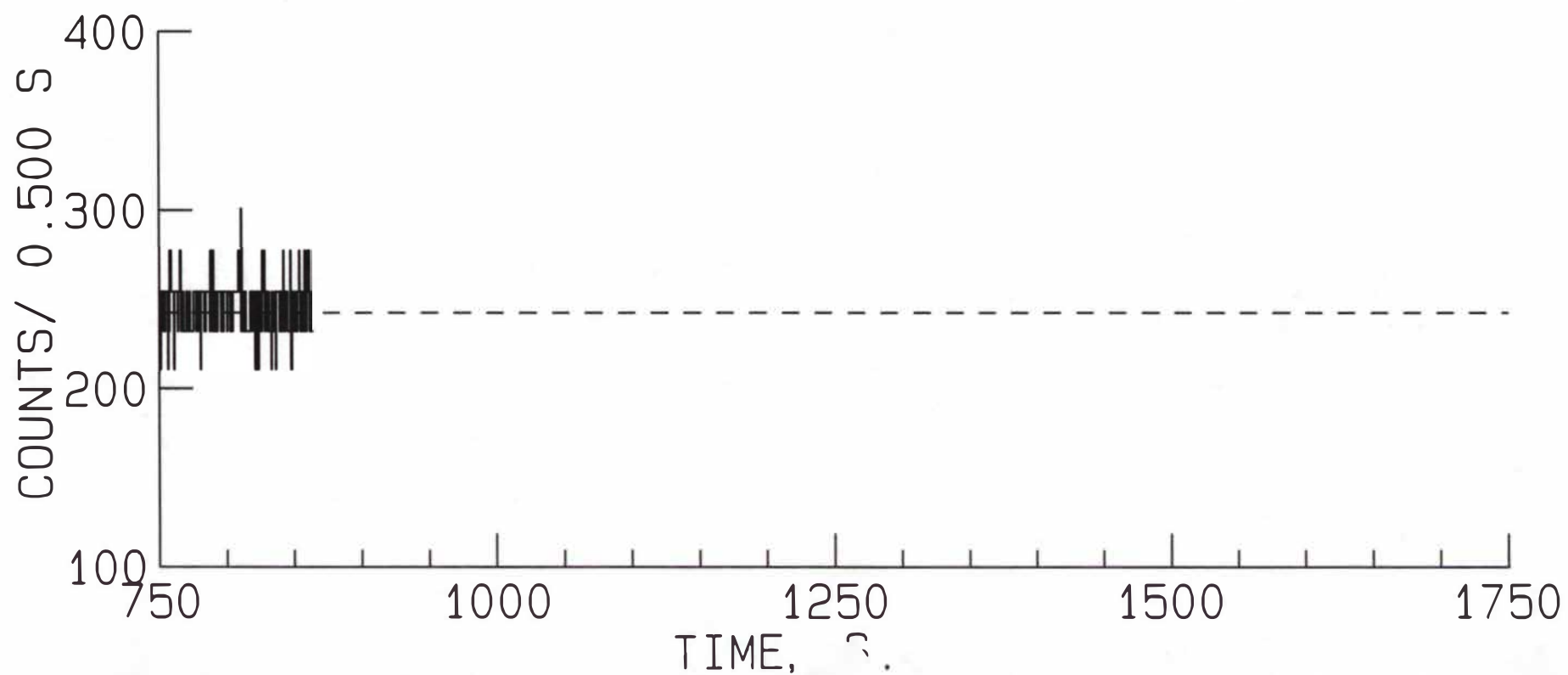


ULYSSES RT

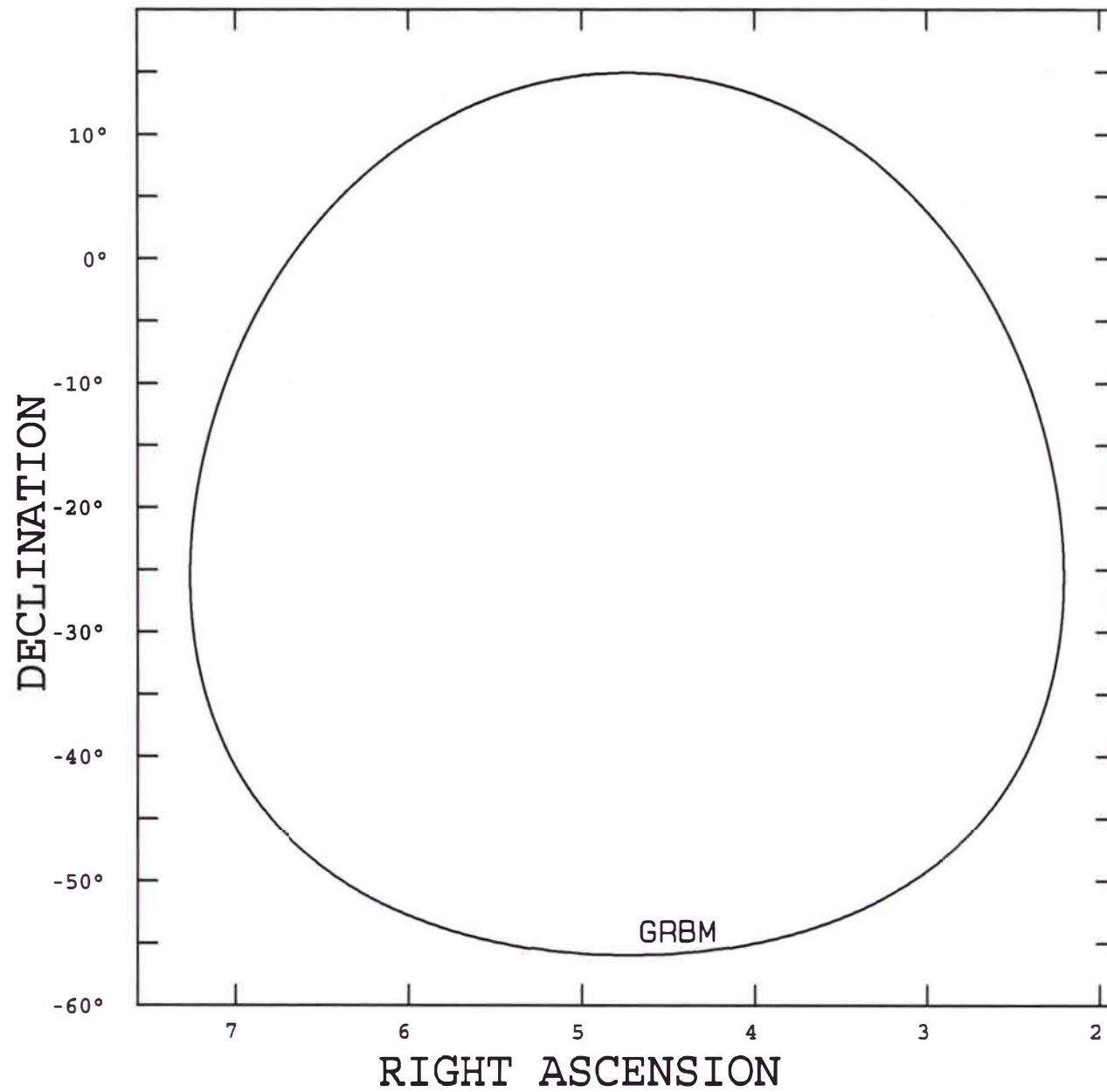
10 / 6 / 98

6 / 6 / 98 16992.233 s

22- 148 keV



09:02:15



SAX GRBM
HUS DATA

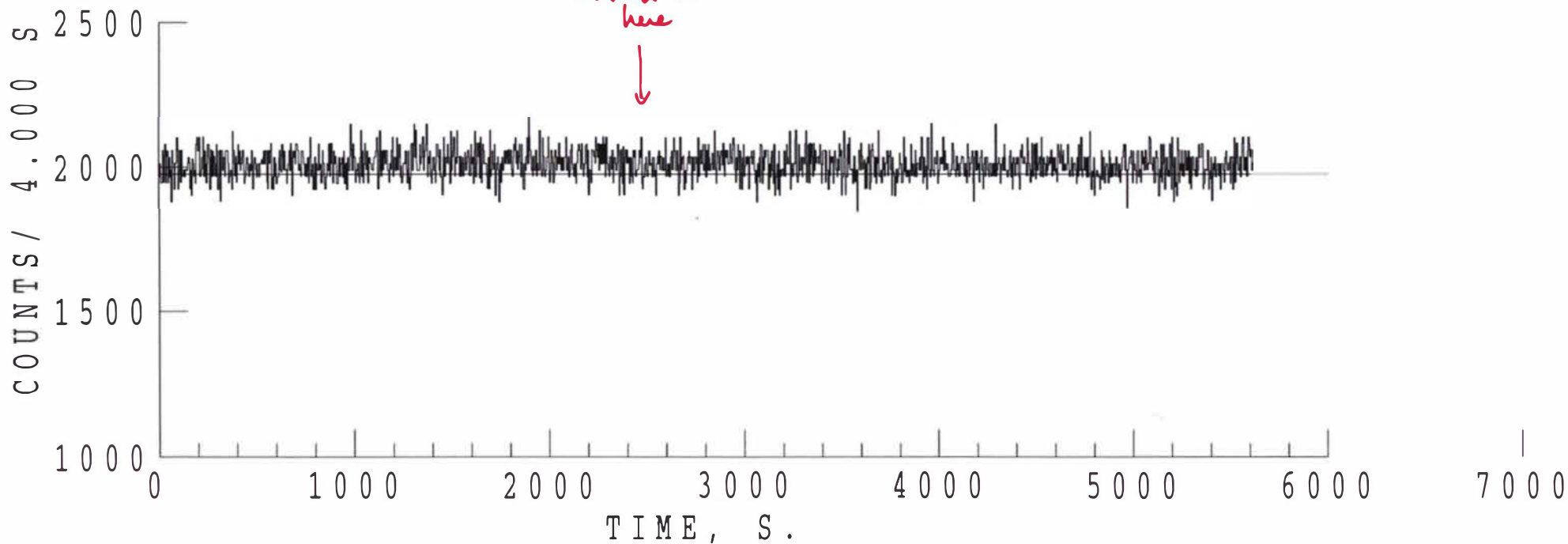
ULYSSES RT

19 / 07 / 05

06 / 06 / 98 29736.367 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 WOODSP@fender.msfc.nasa.gov Tue Jun 9 07:39:58 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Tue, 9 Jun 1998 9:39:40 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevax.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.: 6808

TIME: TJD=0970 SECONDS=82356

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

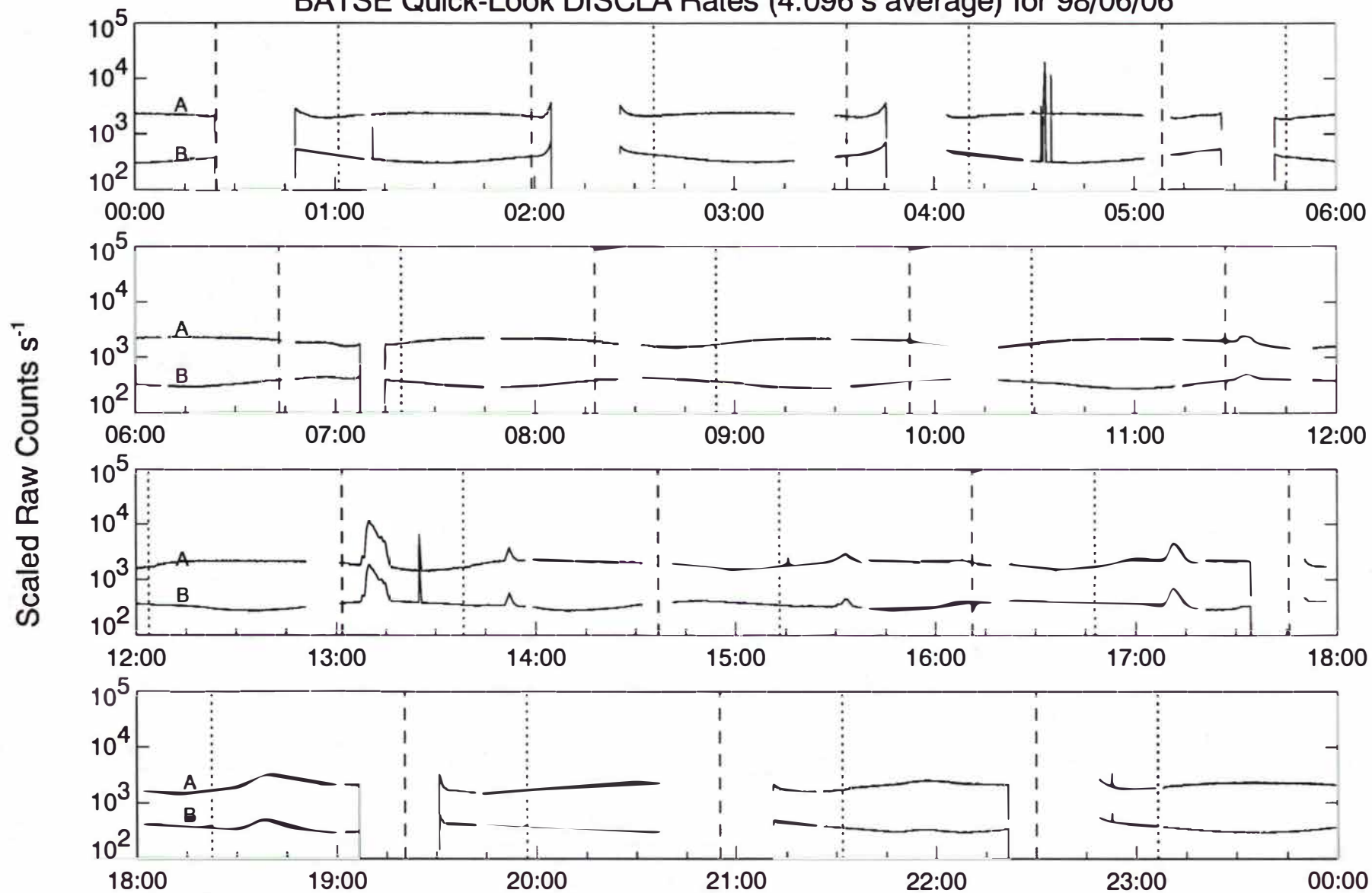
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

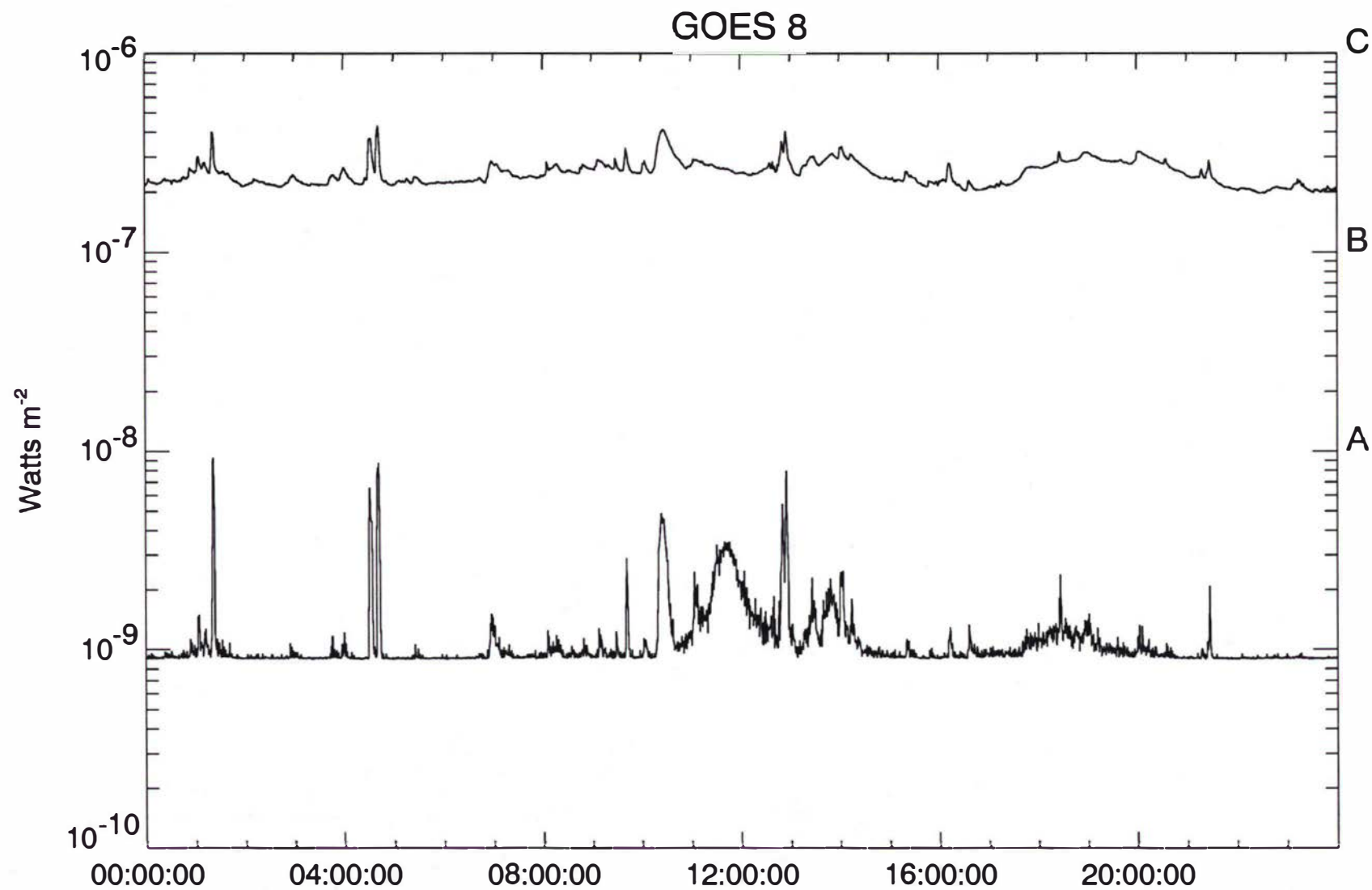
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/06



Current Time: 98/06/10, 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: 98/06/06, 0000:00

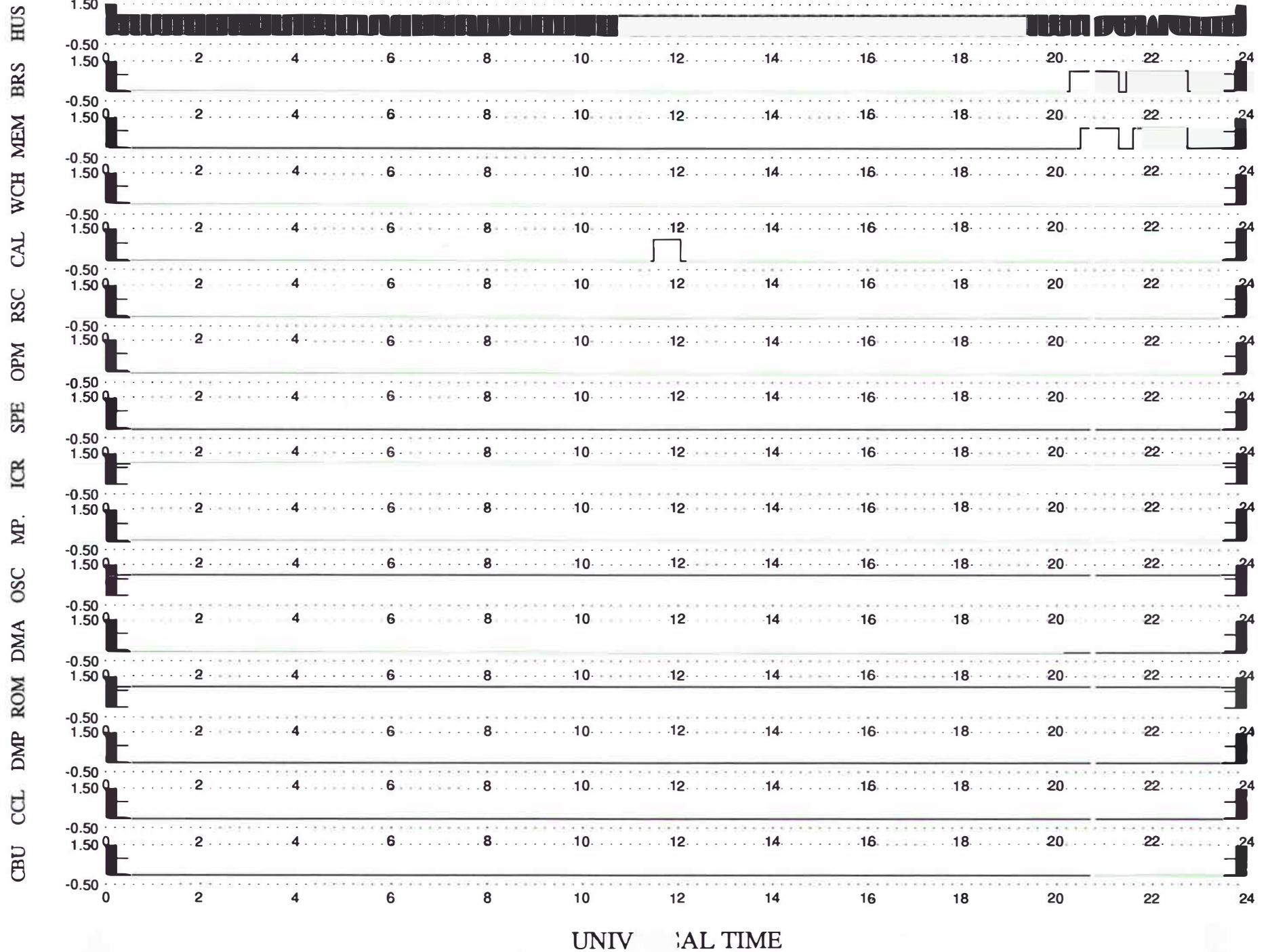
Plot created: 98/06/10, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

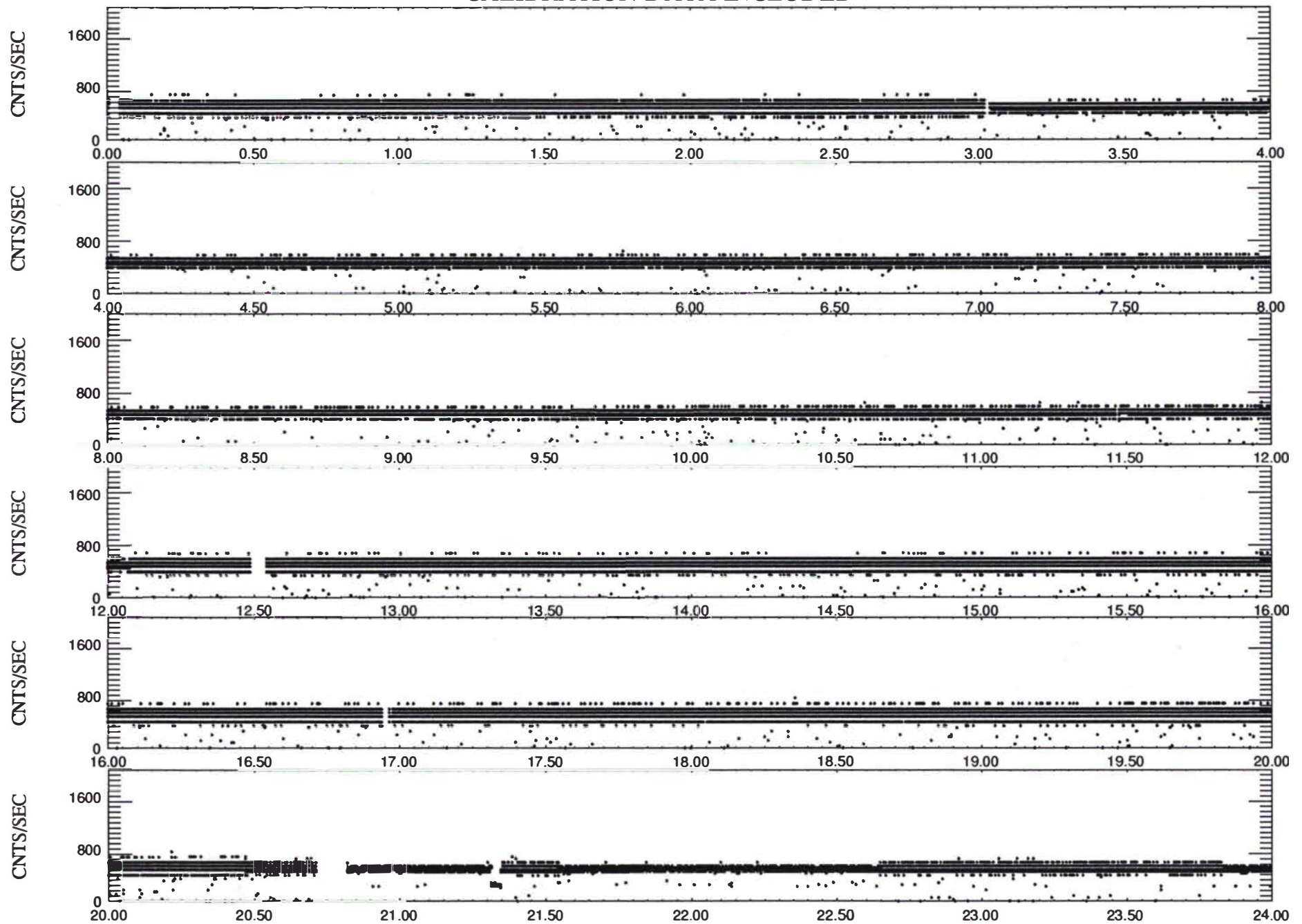
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 1 - 3

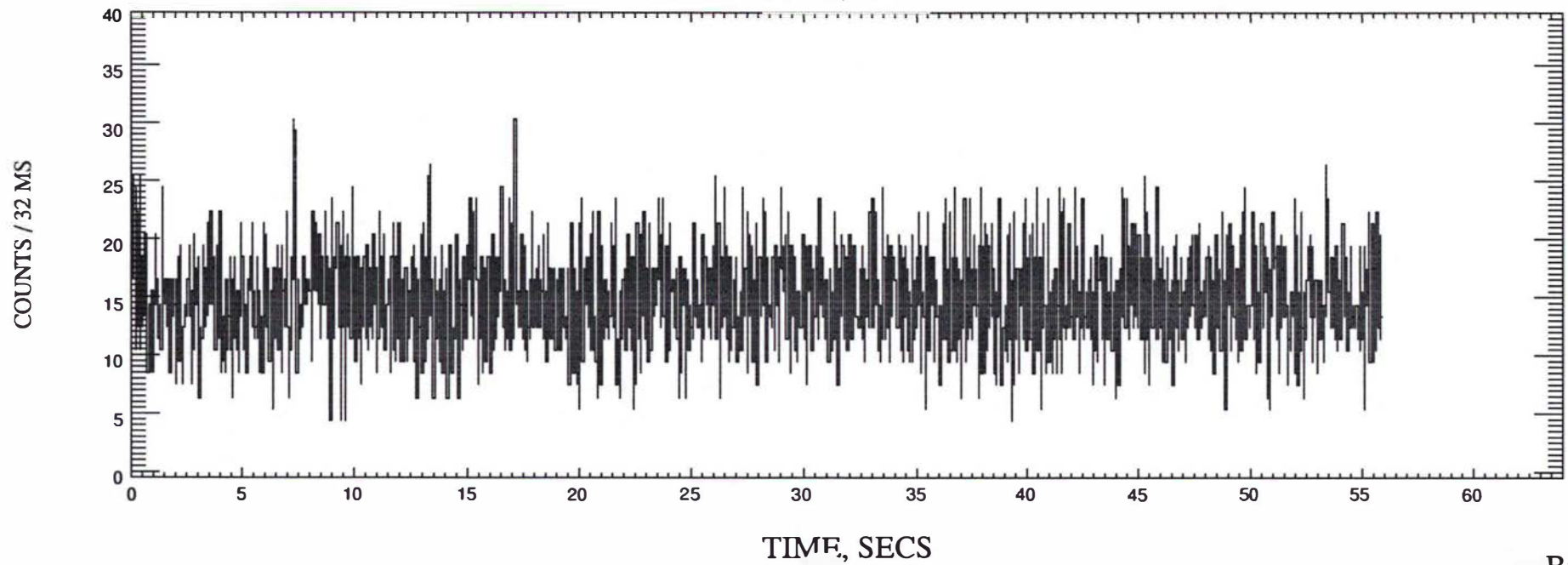
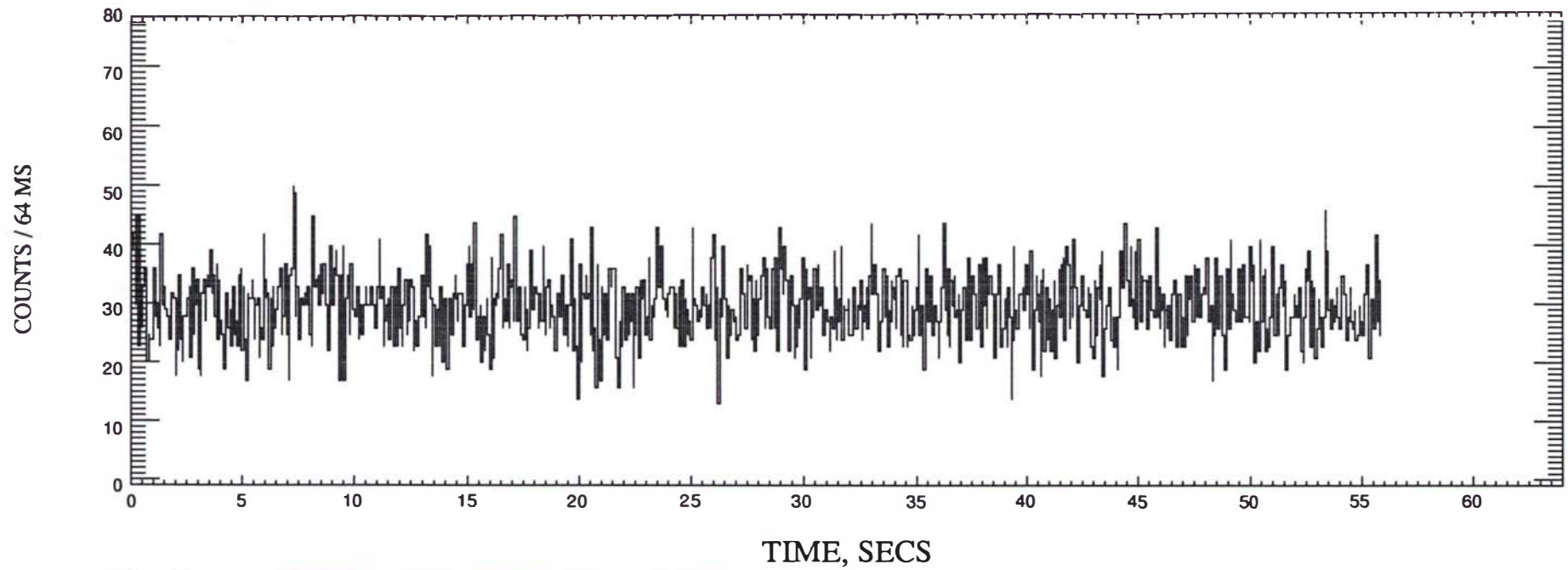


CALIBRATION DATA INCLUDED

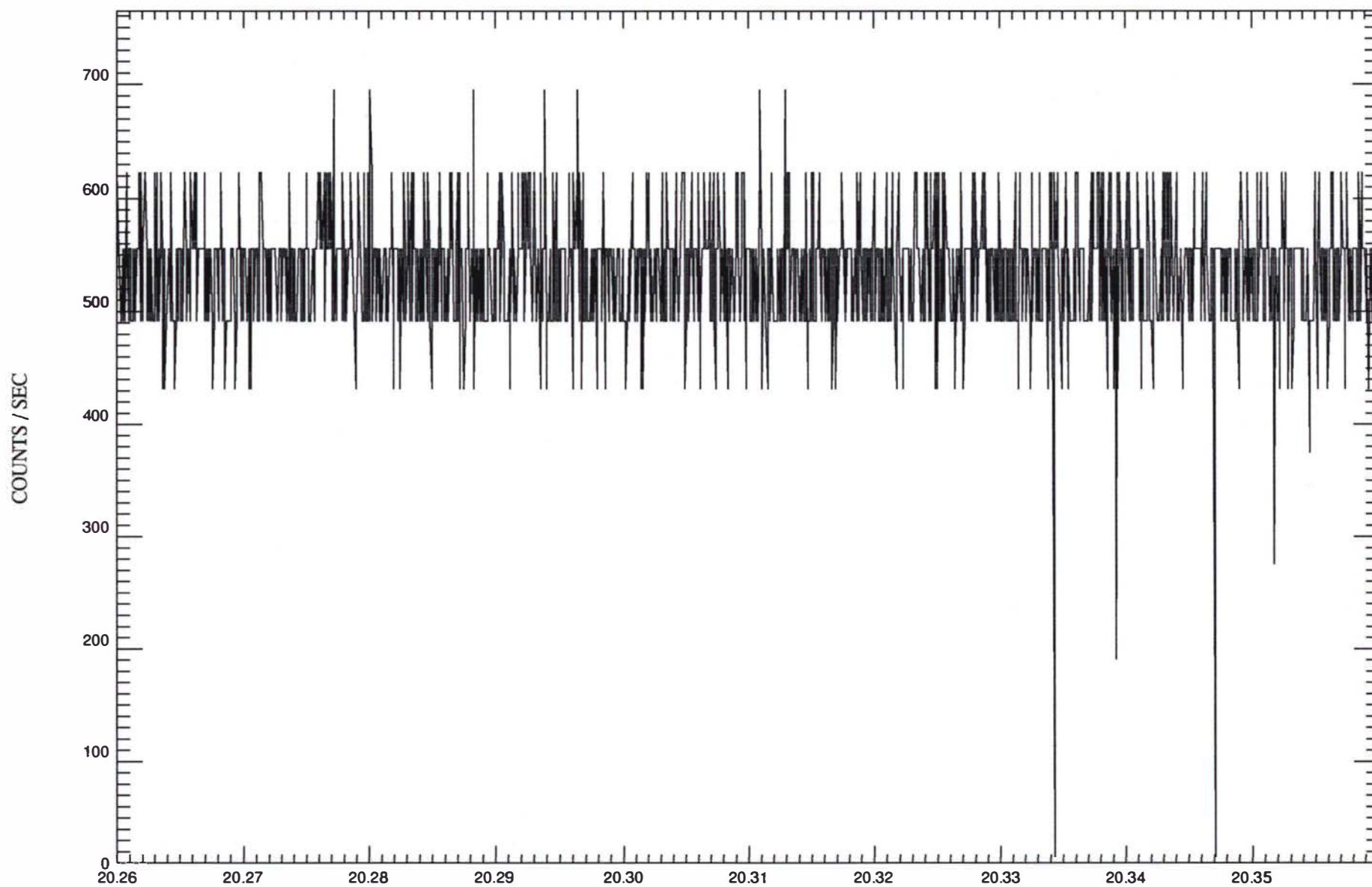


UNIV AL TIME

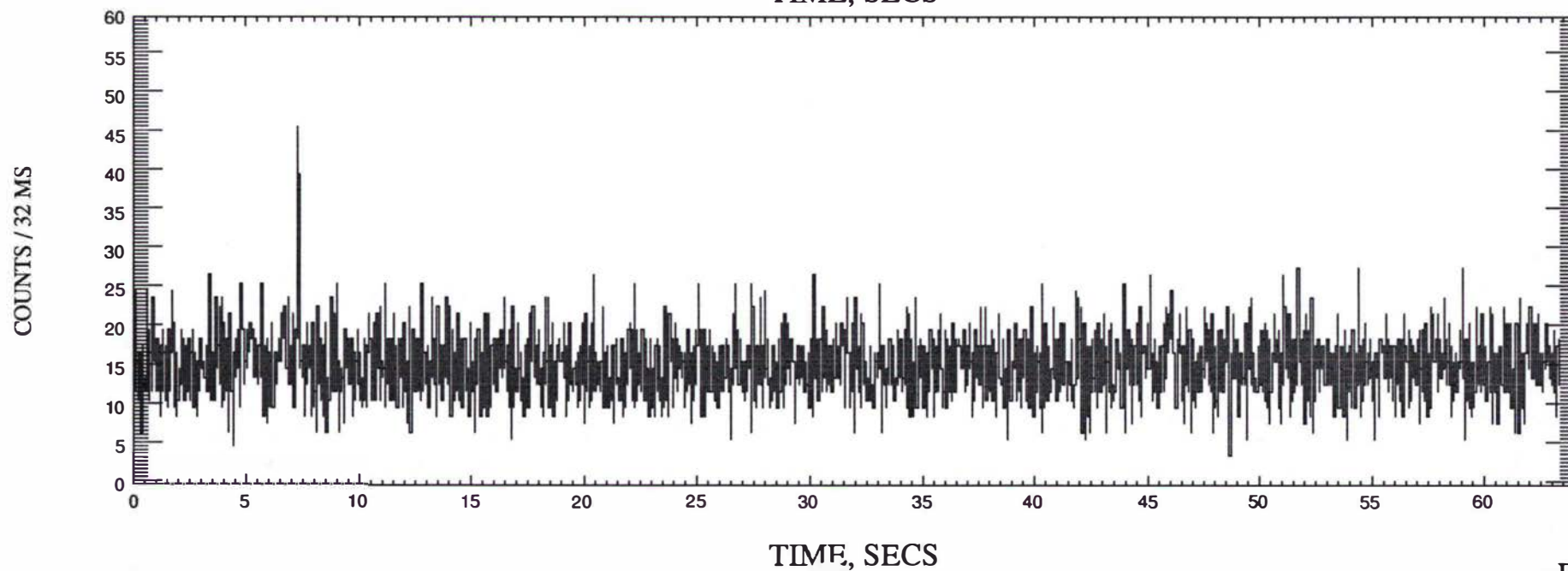
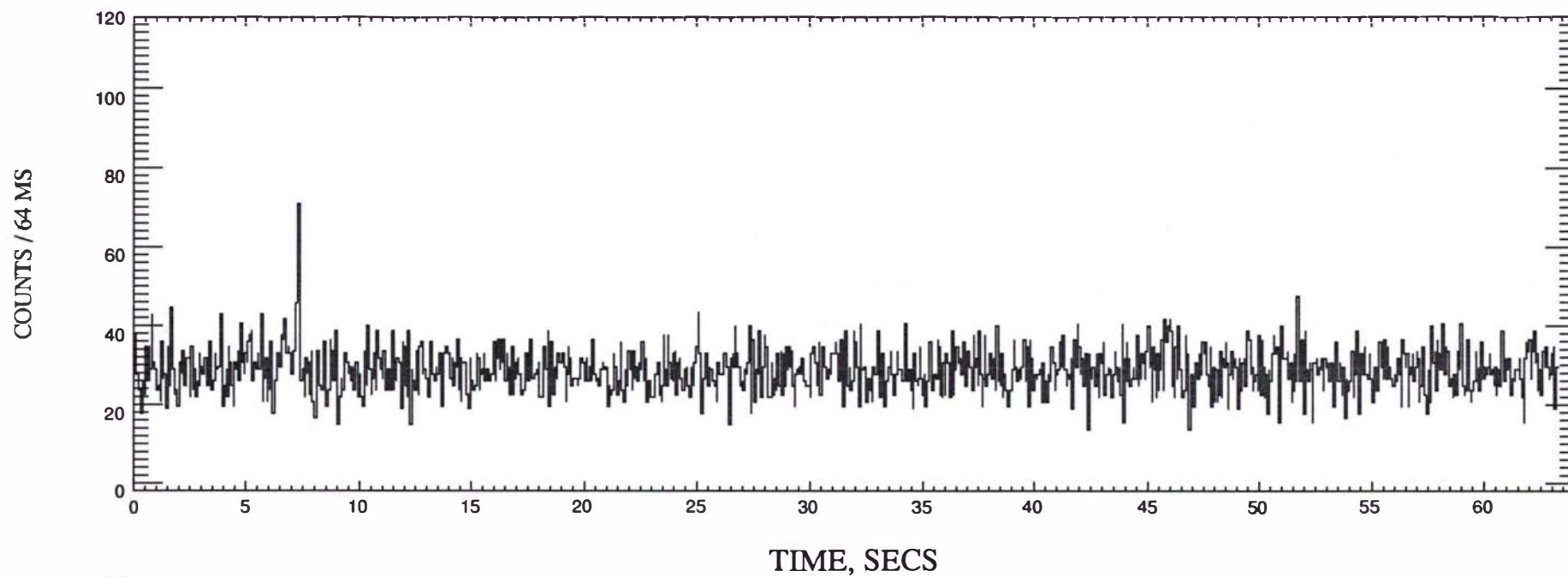
Burst Counter 1 at UT=20.312971661886 h=73126.698 s 20:18:46.698



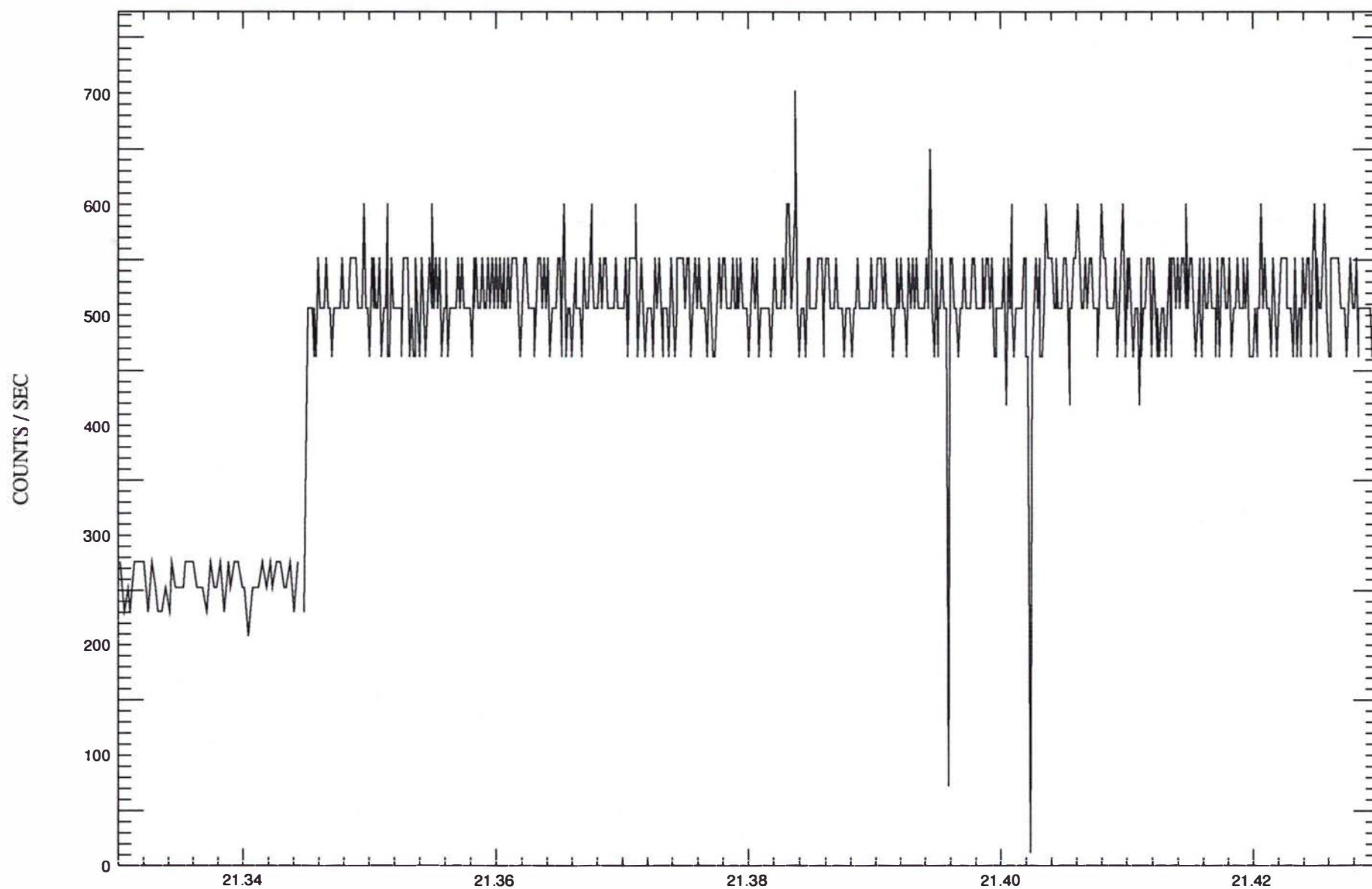
CALIBRATION DATA INCLUDED



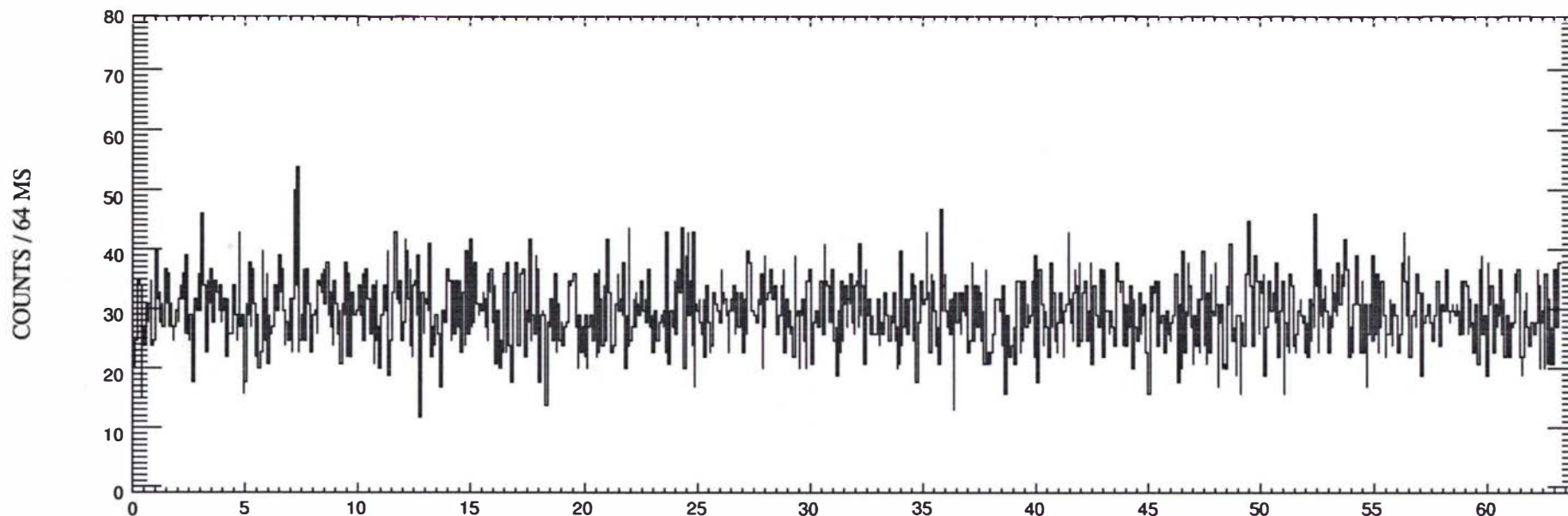
Burst Counter 2 at UT=21.383878292508 h=76981.962 s 21:23:01.962



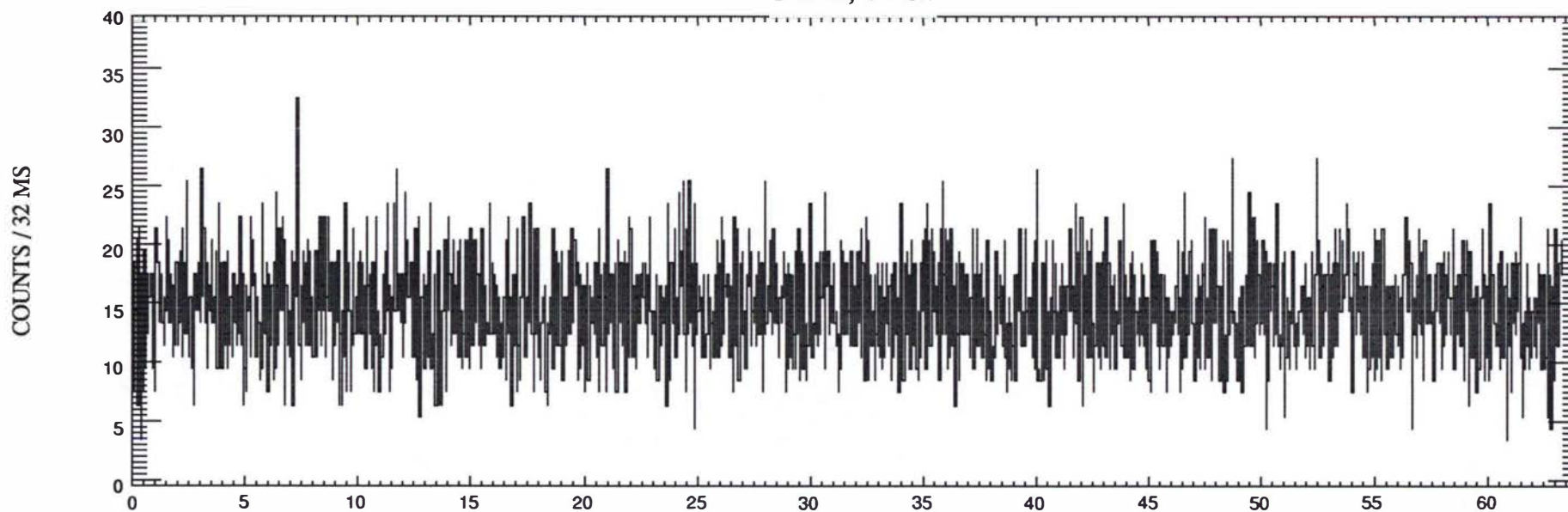
CALIBRATION DATA INCLUDED



Burst Counter 3 at UT=23.677346416050 h=85238.447 s 23:40:38.447

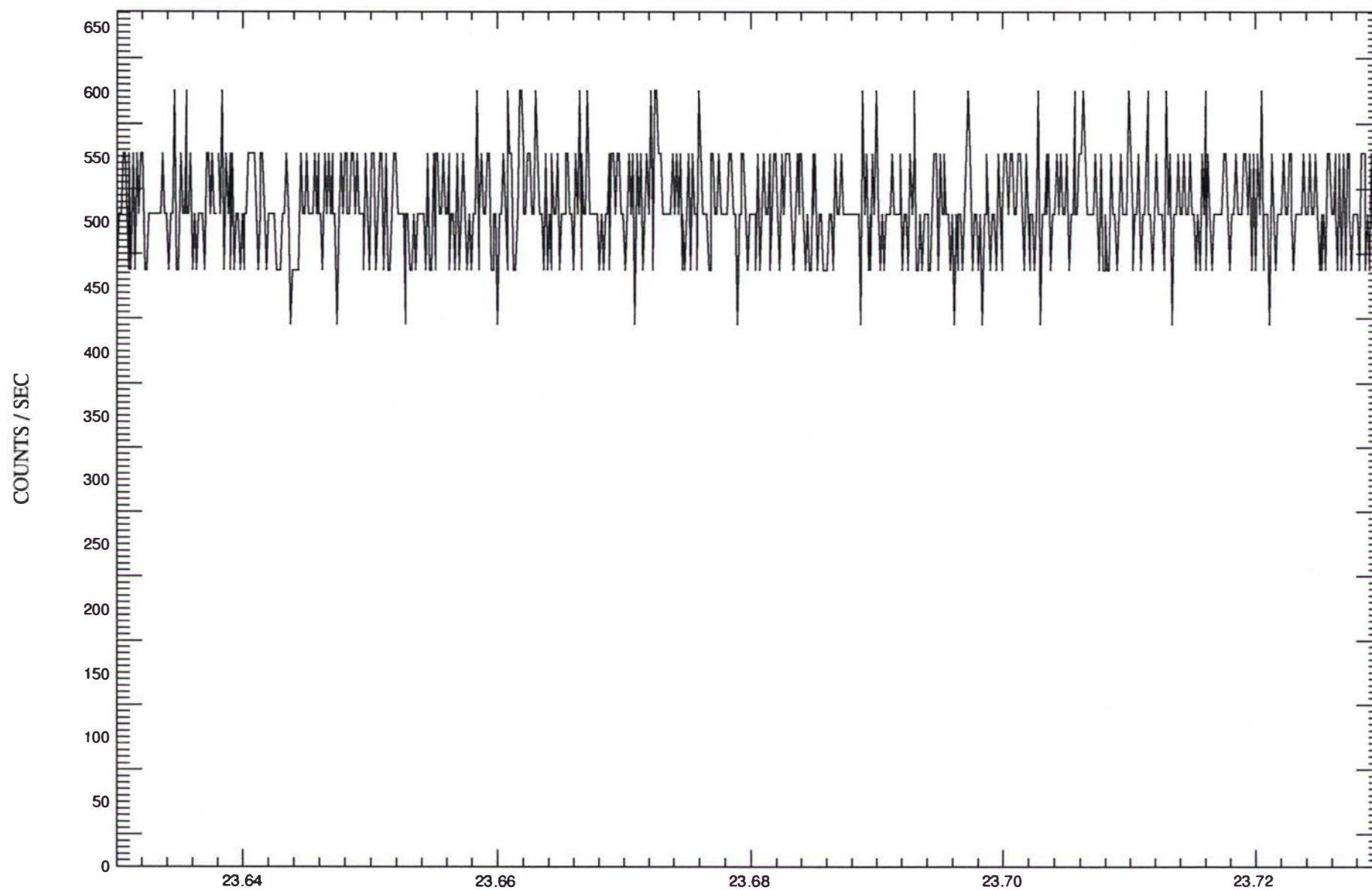


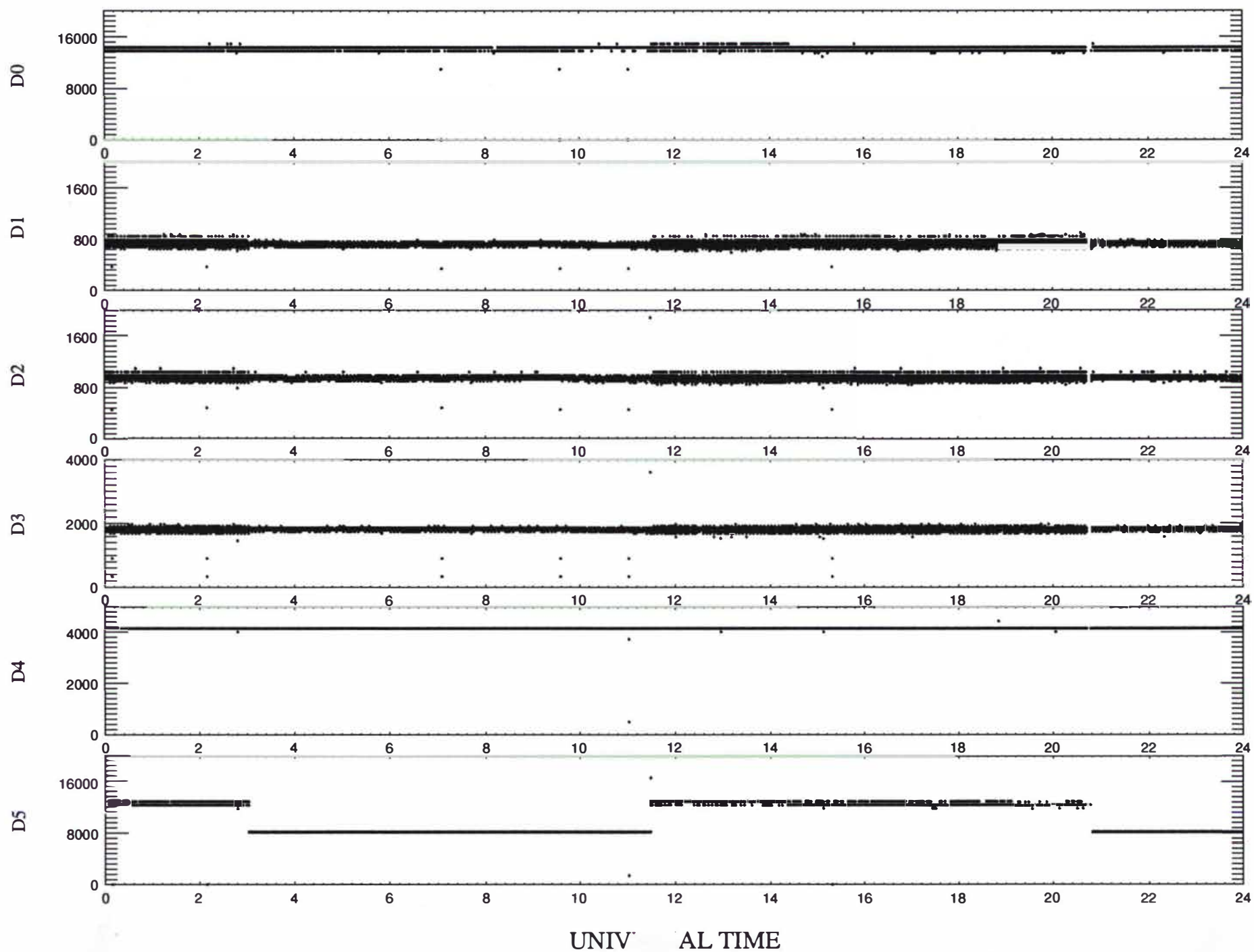
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Tue Jun 9 12:35:06 1998
From: SAHI@fender.msfc.nasa.gov
Date: Tue, 9 Jun 1998 14:34:47 -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

RI

NO.: 6809

TIME: TJD=0971 SECONDS=30749

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.2 AZIMUTH=223.1 ERROR=1.5 DEGREES

COMMENTS:

SGR. SINGLE SPIKE, DUR. APPROX 1 SEC. NOT VISIBLE ABOVE 300 KEV. UNTRIGGERED
UNRELATED BURST AT APPROX. T+220 SECS. CRAB RISE AT APPROX. T+205 SECS.

From SAHI@fender.msfc.nasa.gov Tue Jun 9 12:38:03 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 9 Jun 1998 14:37:29 -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.: 6810

Trigger

TIME: TJD=0971 SECONDS=76452

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

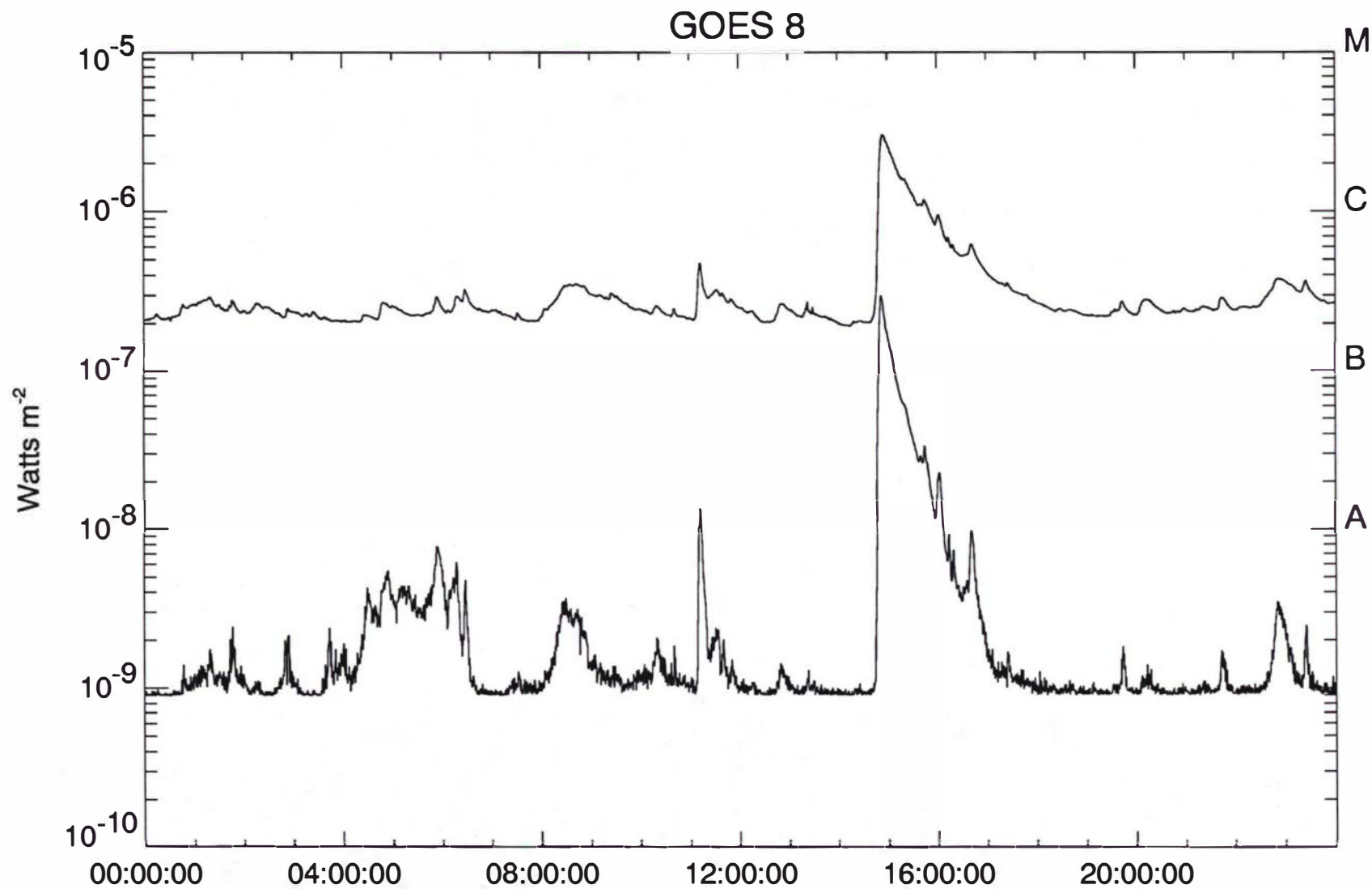
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.5 AZIMUTH=221.7 ERROR=2.1 DEGREES

COMMENTS:

SGR. SINGLE SPIKE WITH SUBSTRUCTURE, DUR. APPROX. 0.2 SECS. NOT VISIBLE ABOVE
300 KEV. CRAB RISE AT APPROX. T-40 SECS.



Data Start: 98/06/07, 0000:00

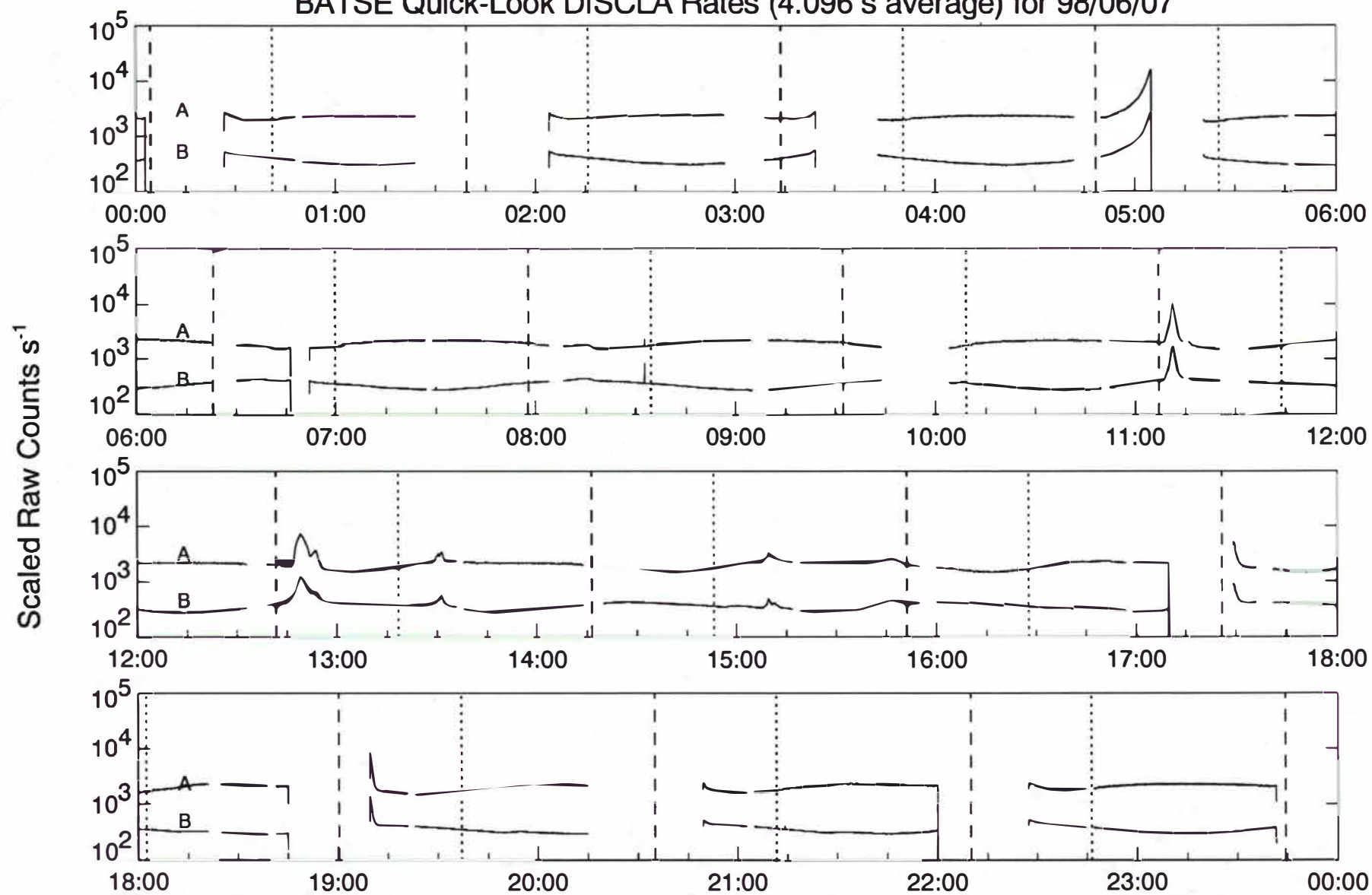
Plot created: 98/06/11, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/07

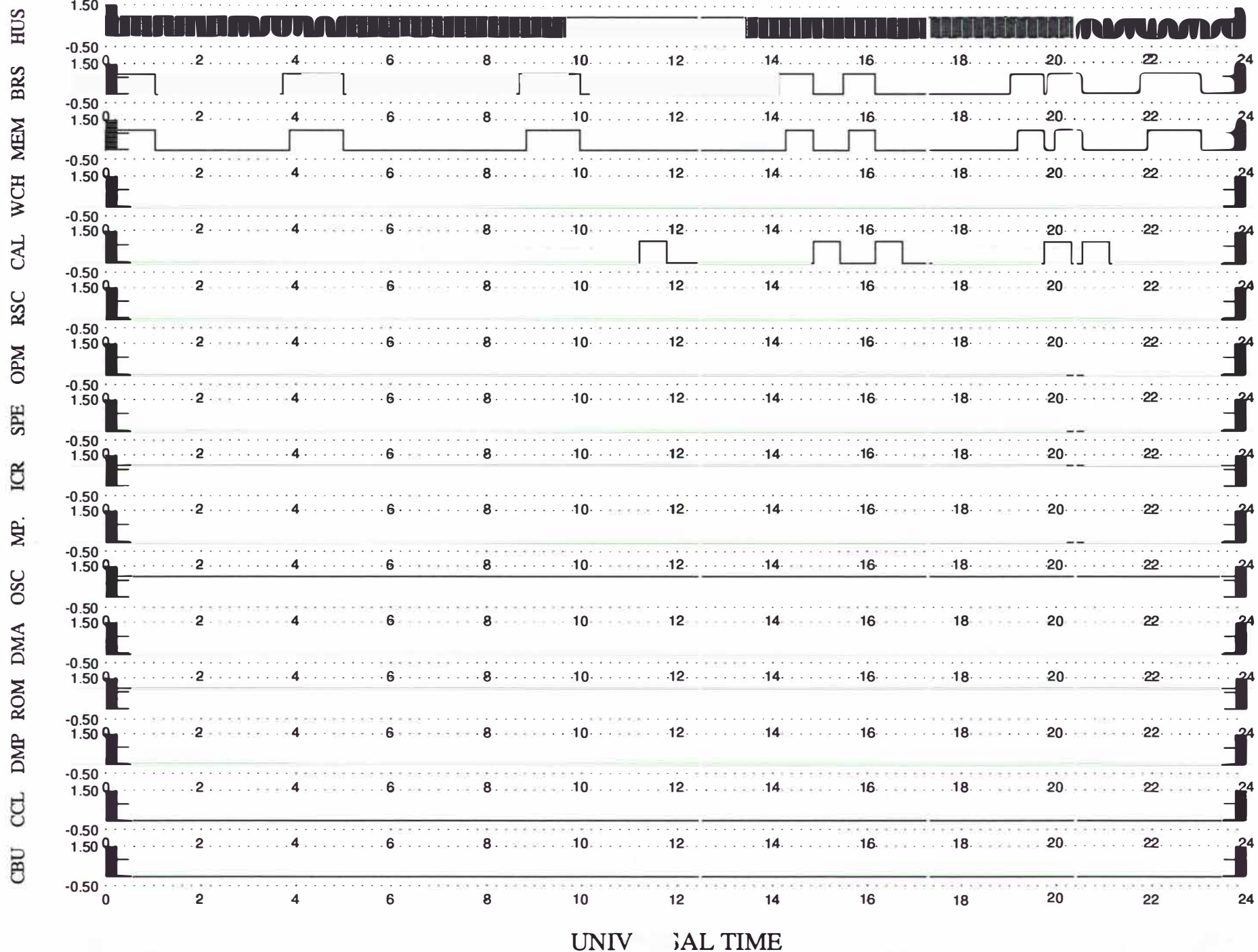


Current Time: 98/06/11, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

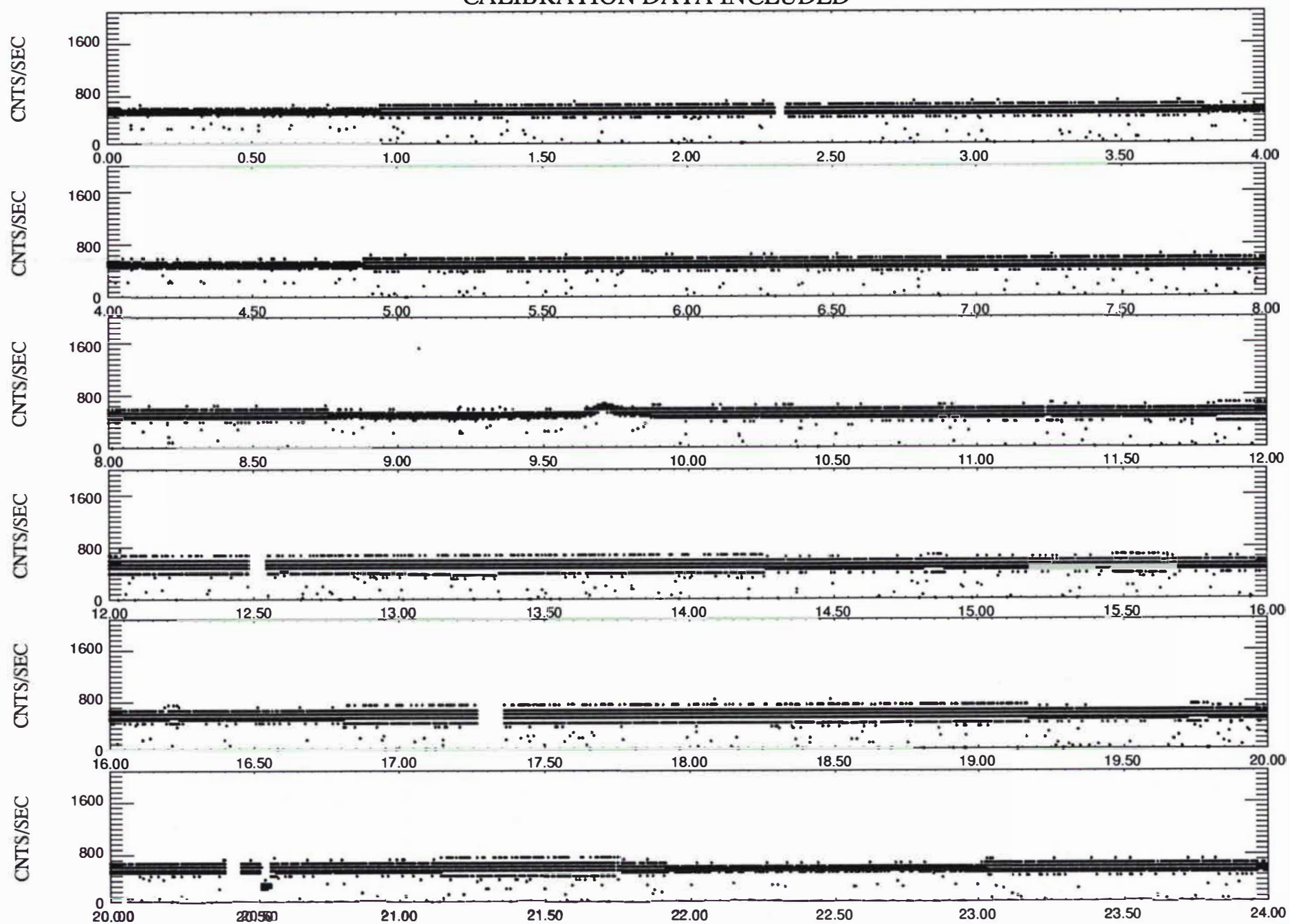
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 4 - 11

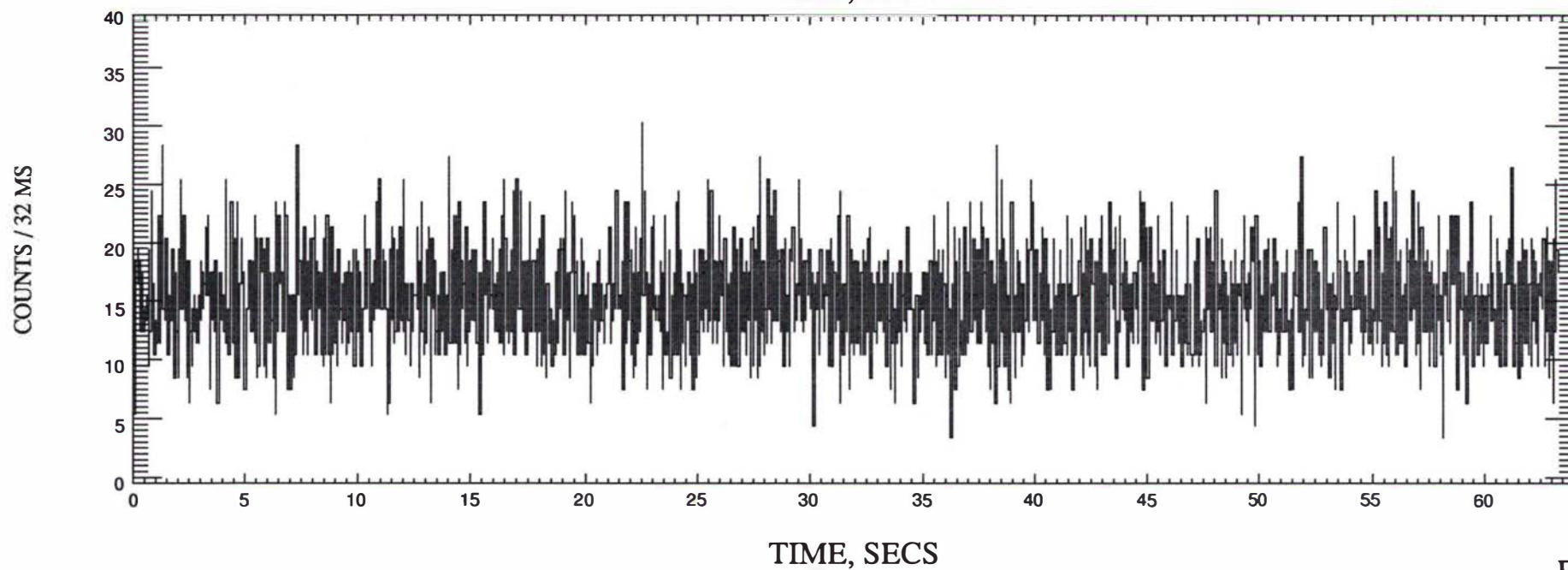
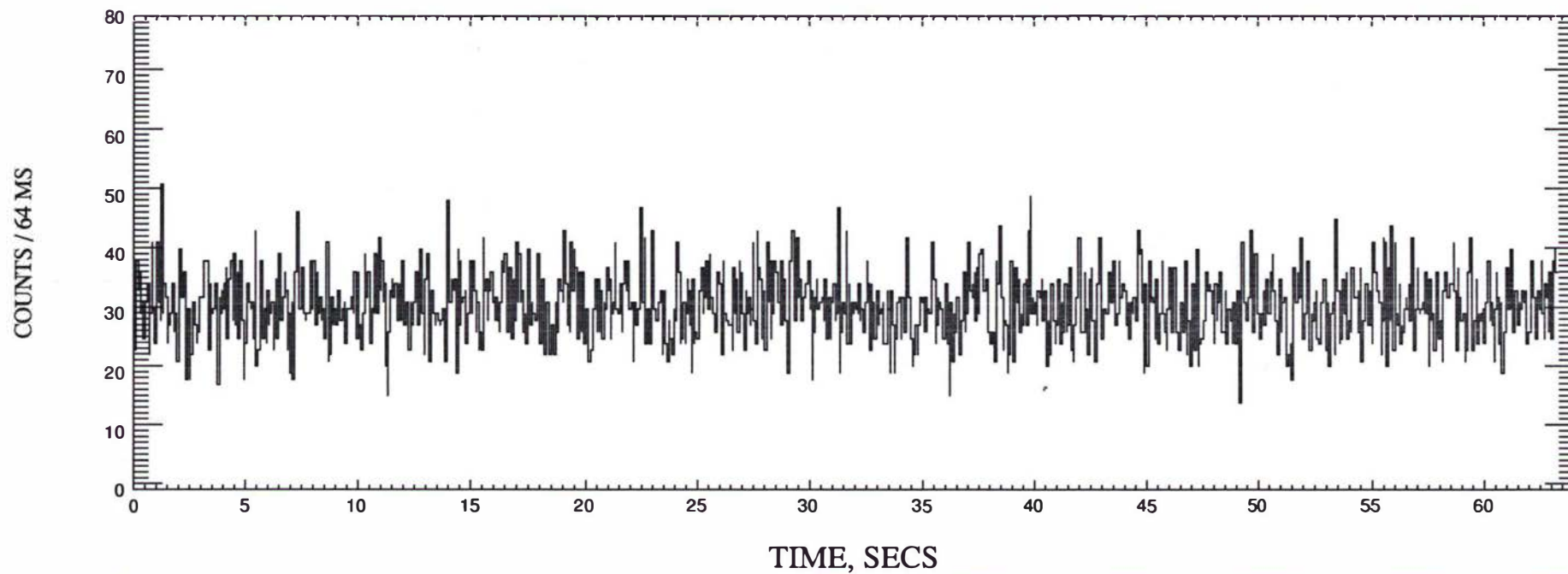


CALIBRATION DATA INCLUDED

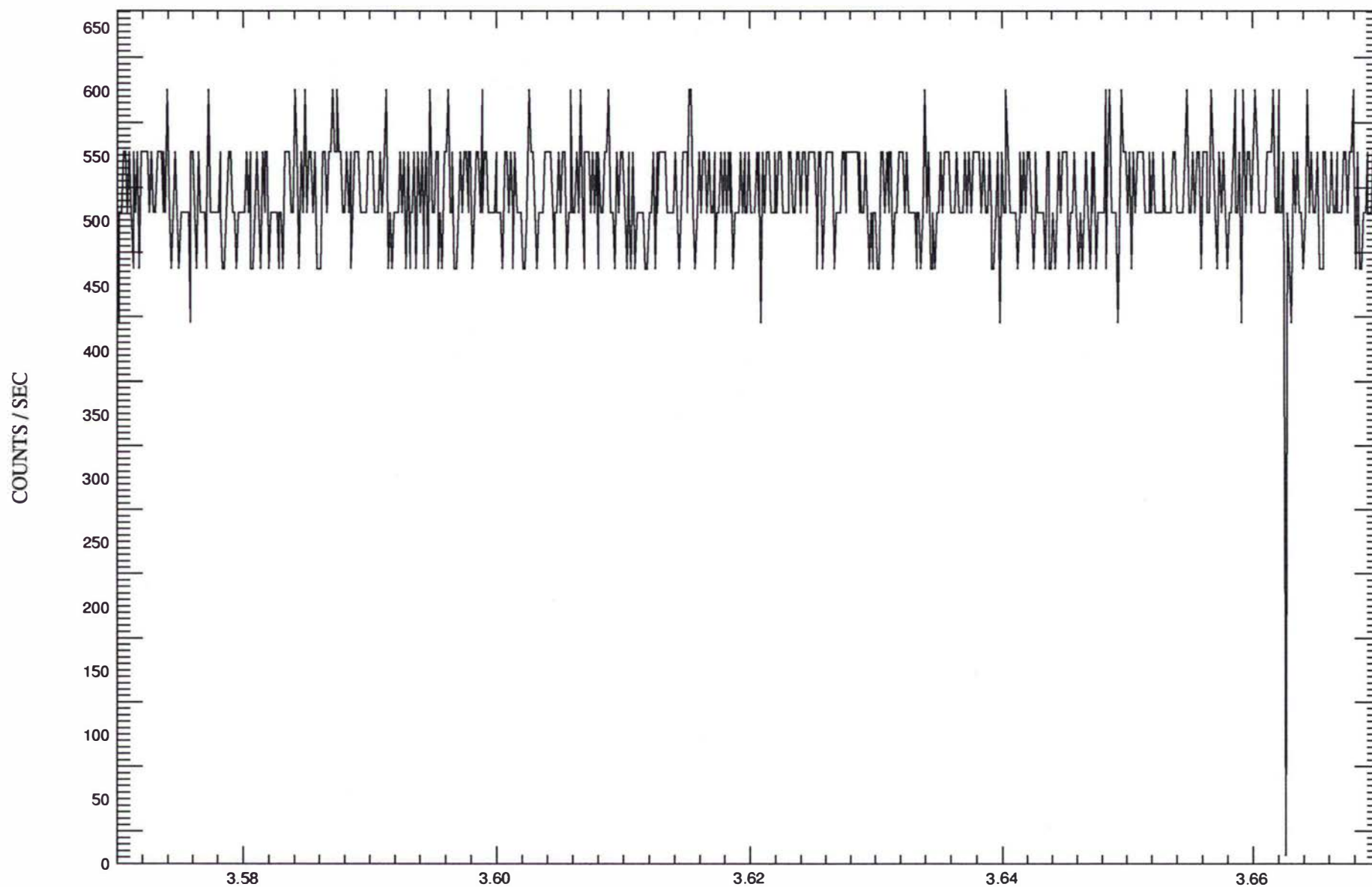


UNIVERSAL TIME

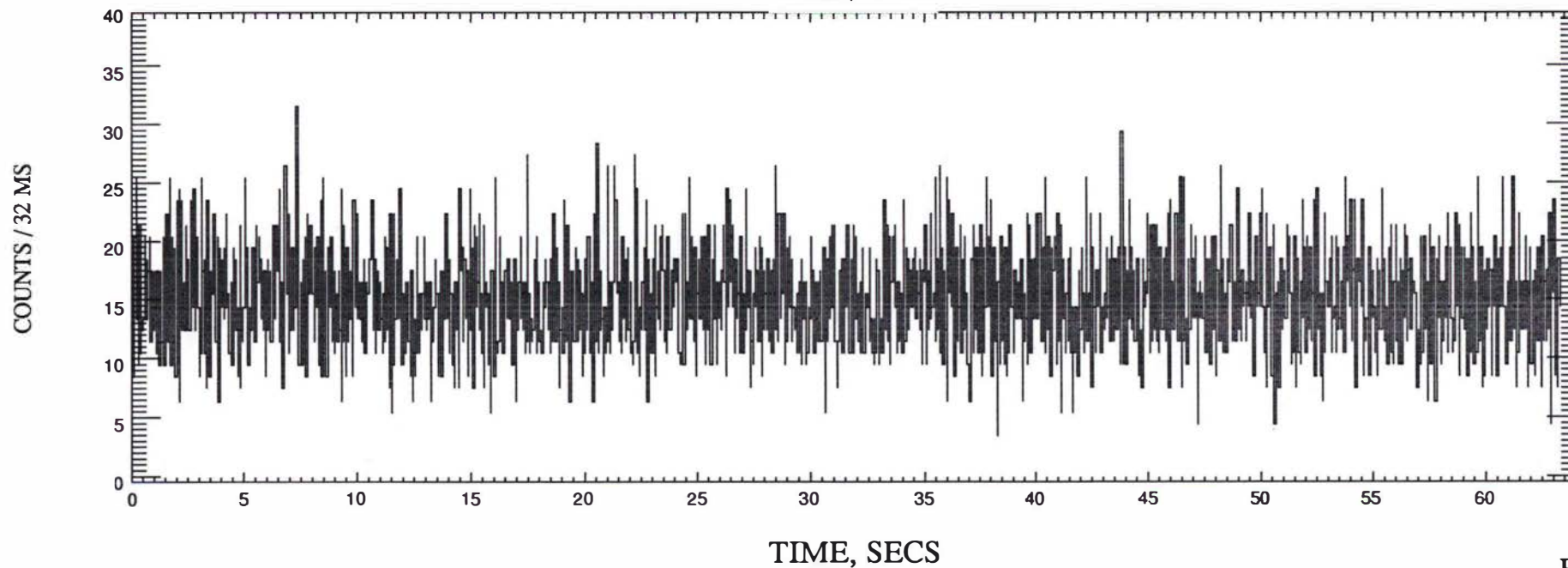
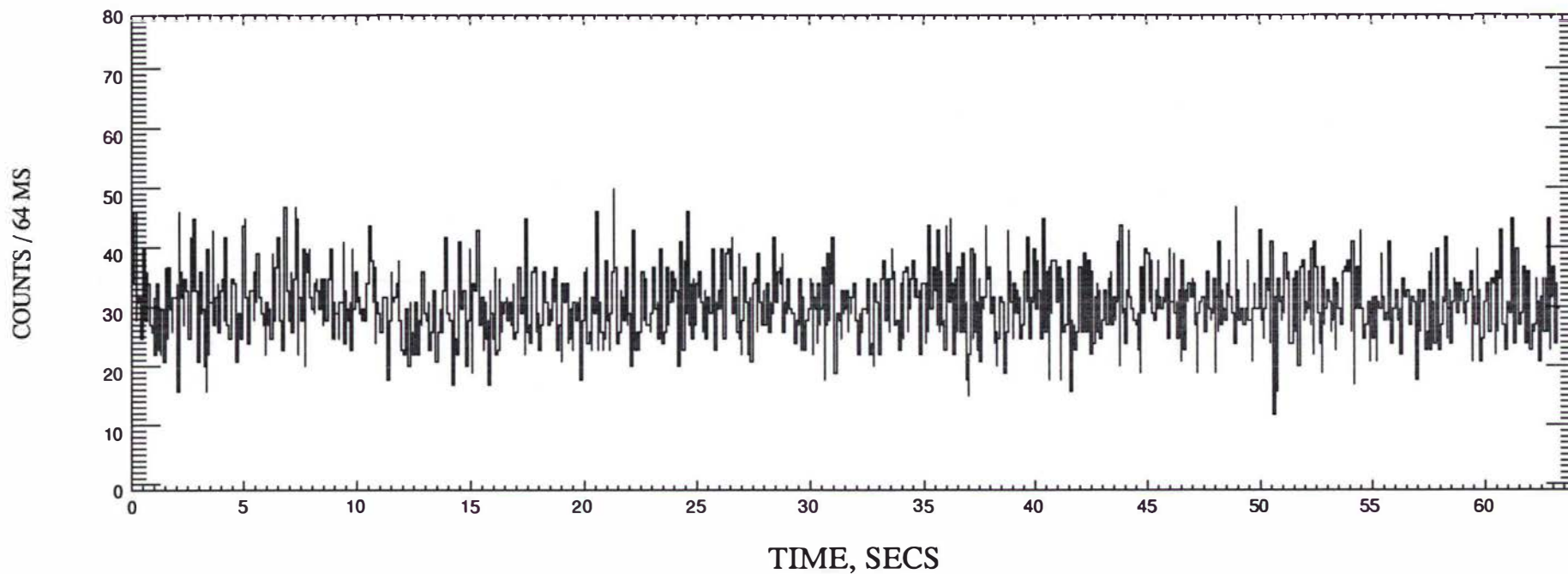
Burst Counter 4 at UT= 3.622388619317 h=13040.599 s 03:37:20.599



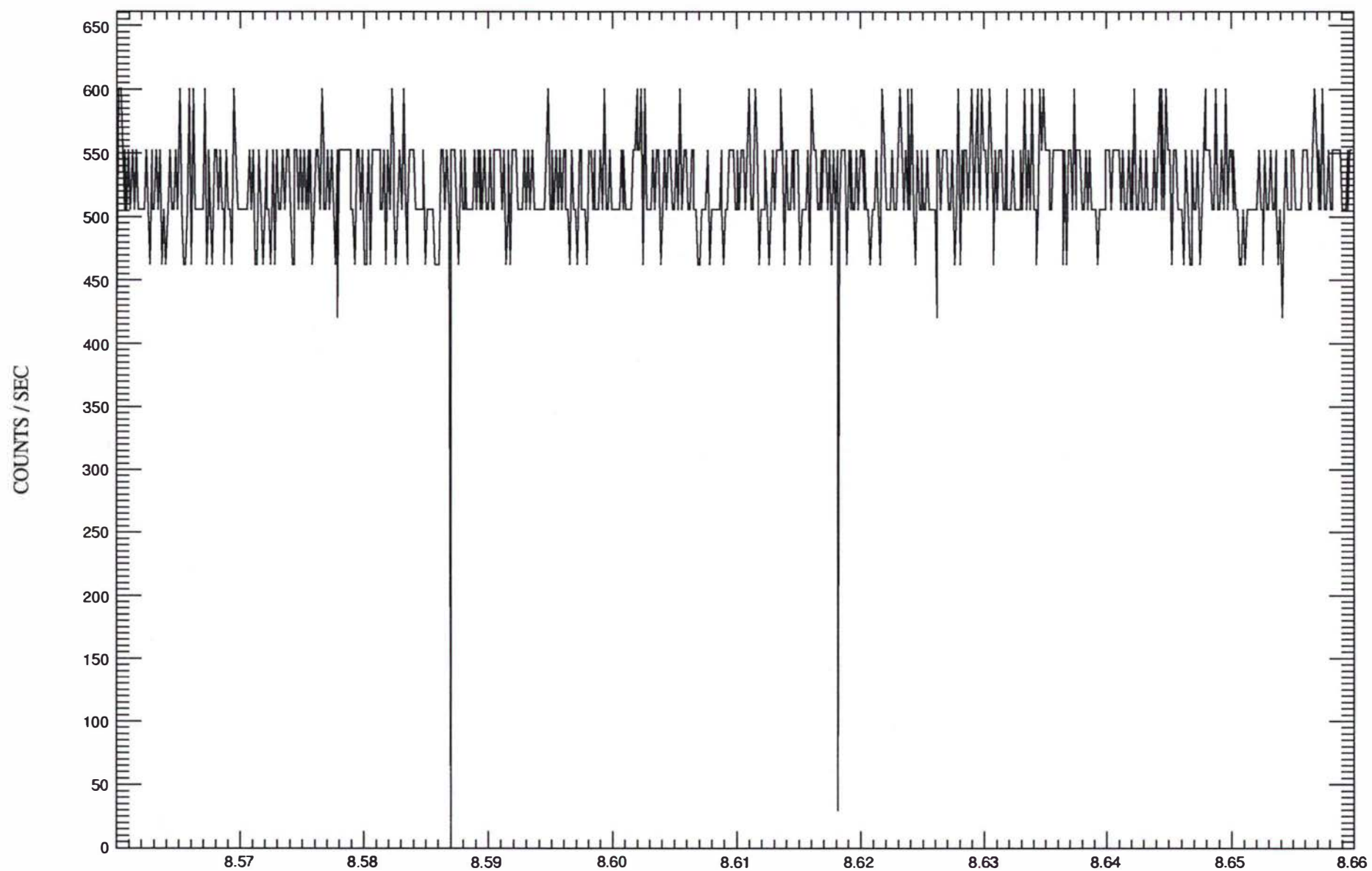
CALIBRATION DATA INCLUDED



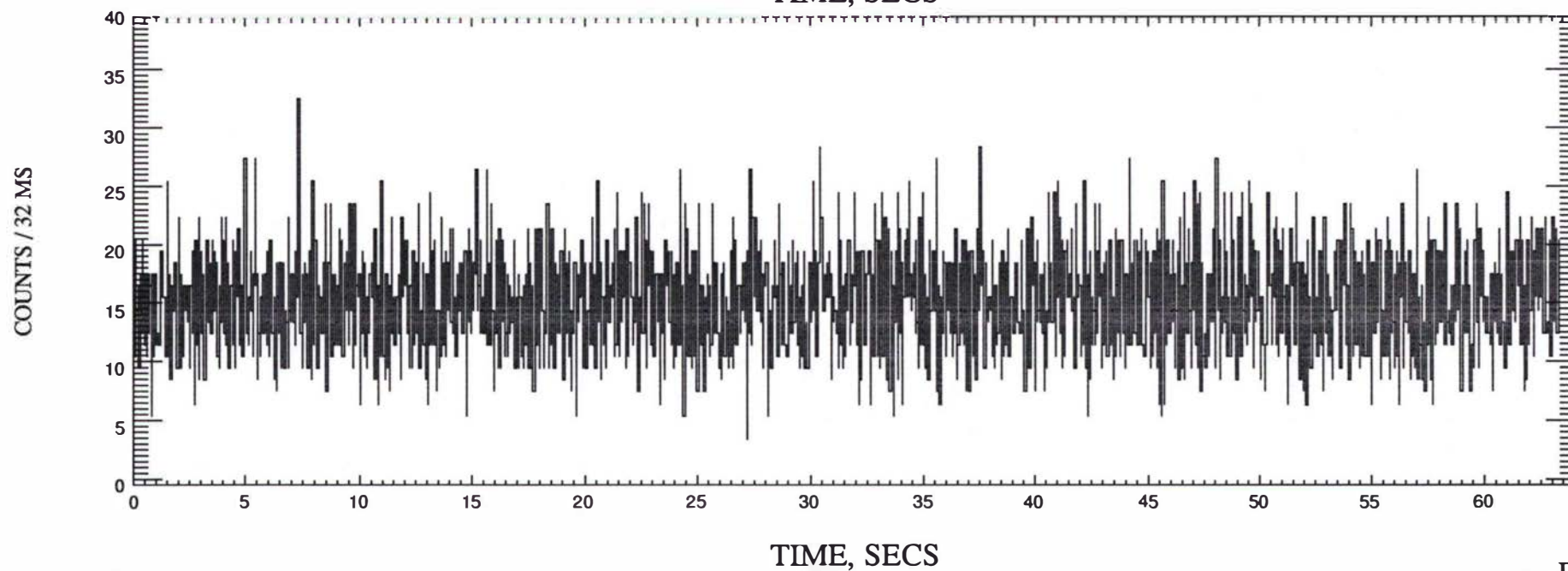
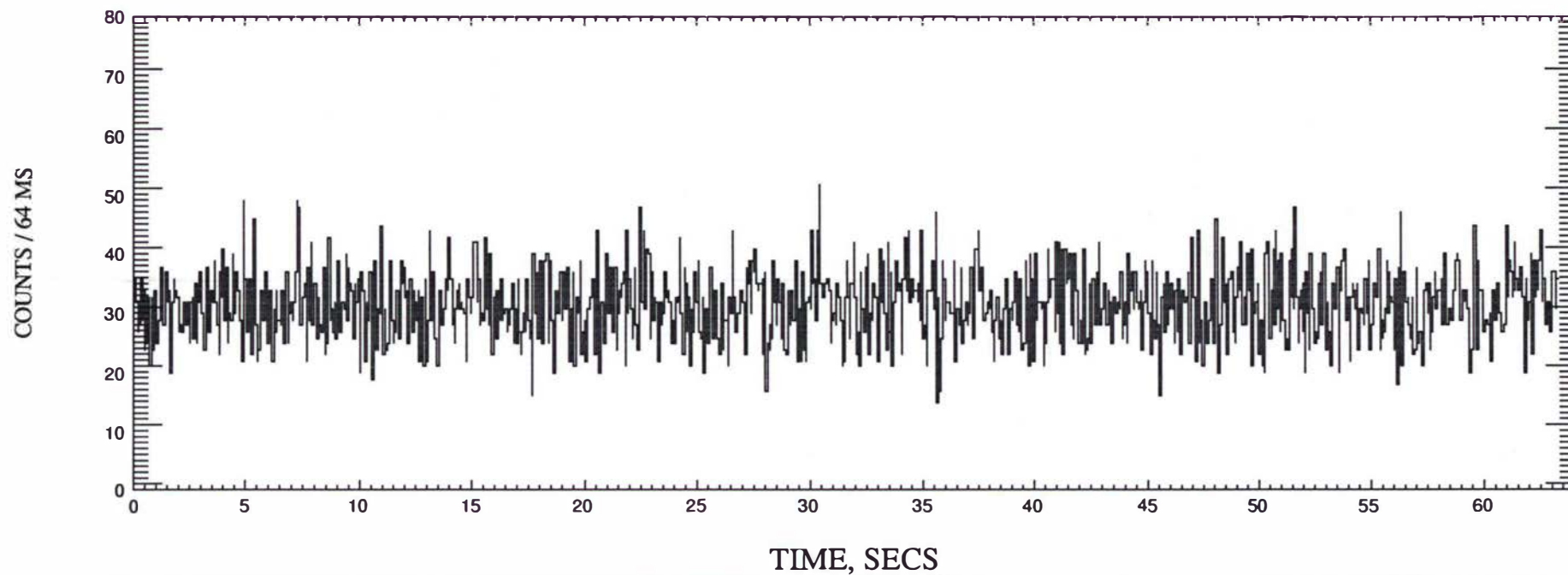
Burst Counter 5 at UT= 8.605774701436 h=30980.789 s 08:36:20.789



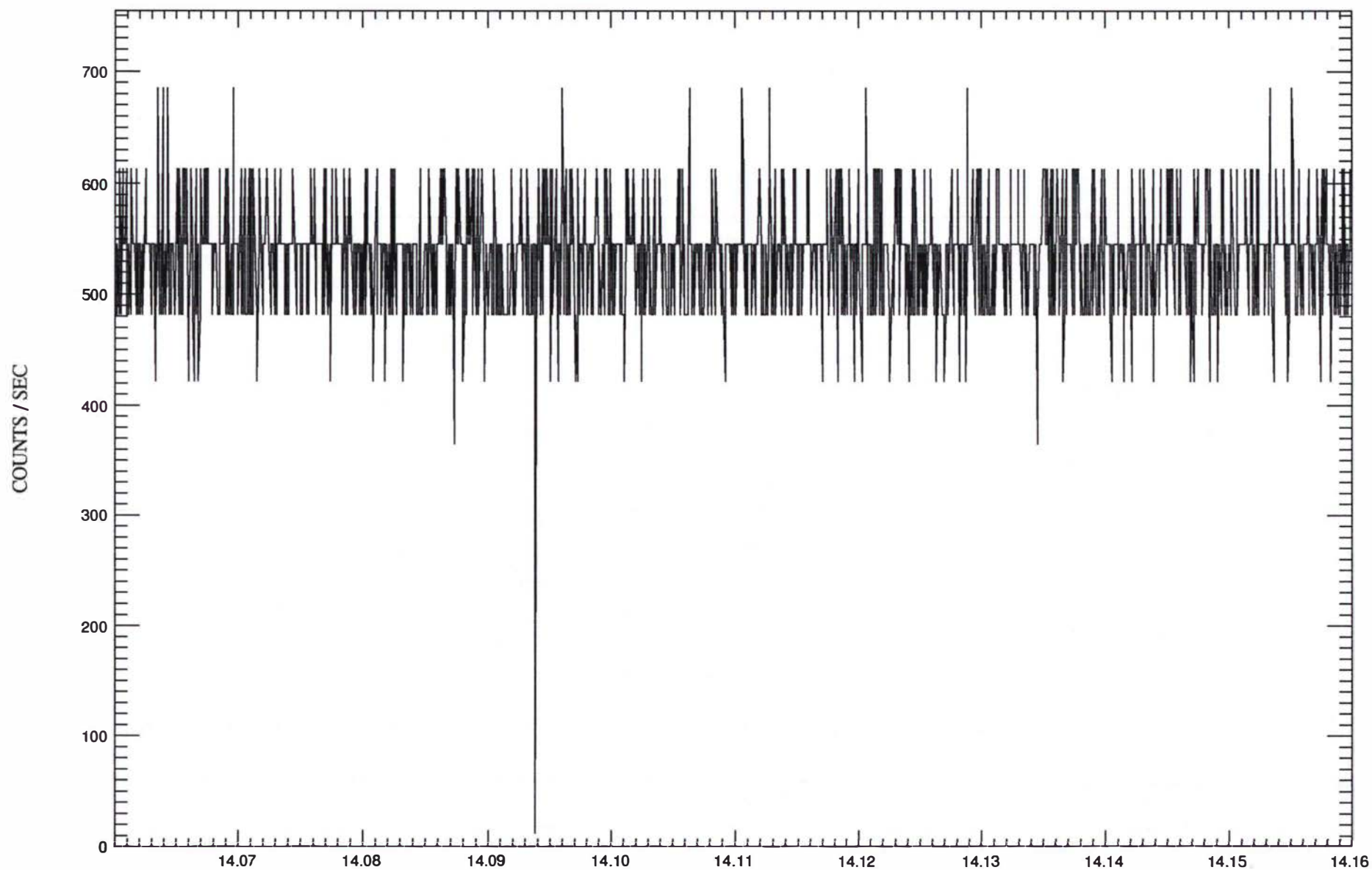
CALIBRATION DATA INCLUDED



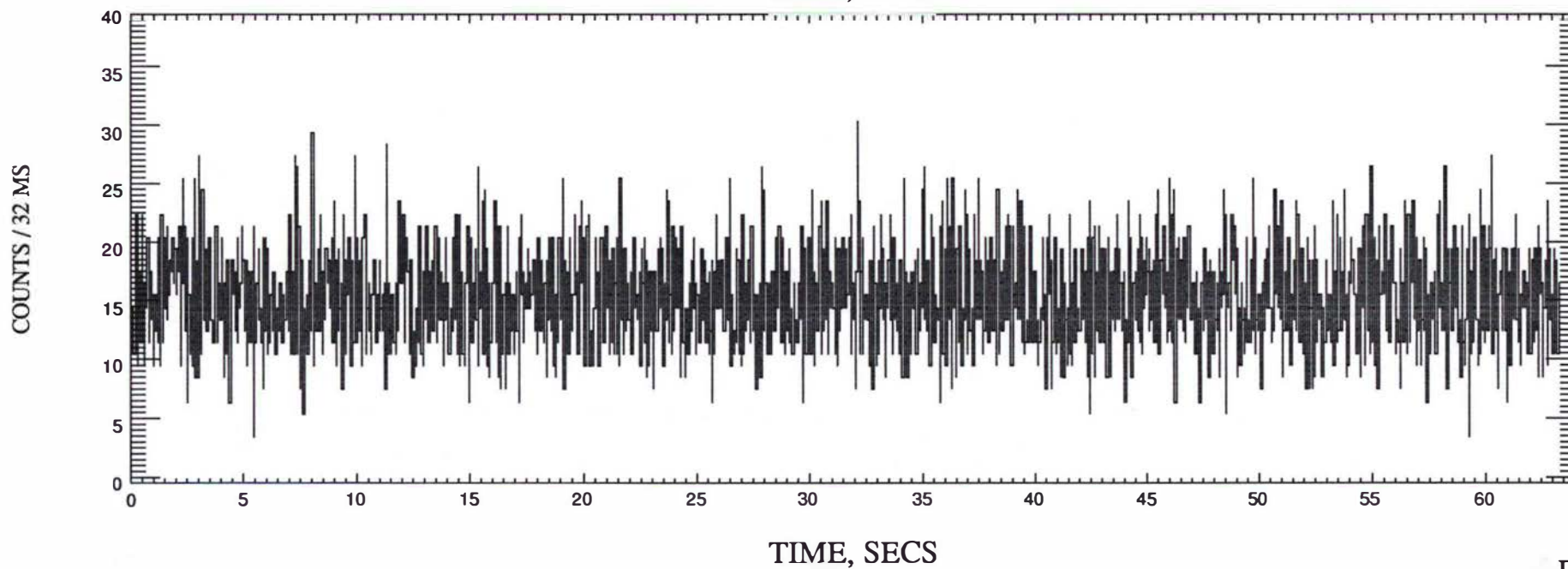
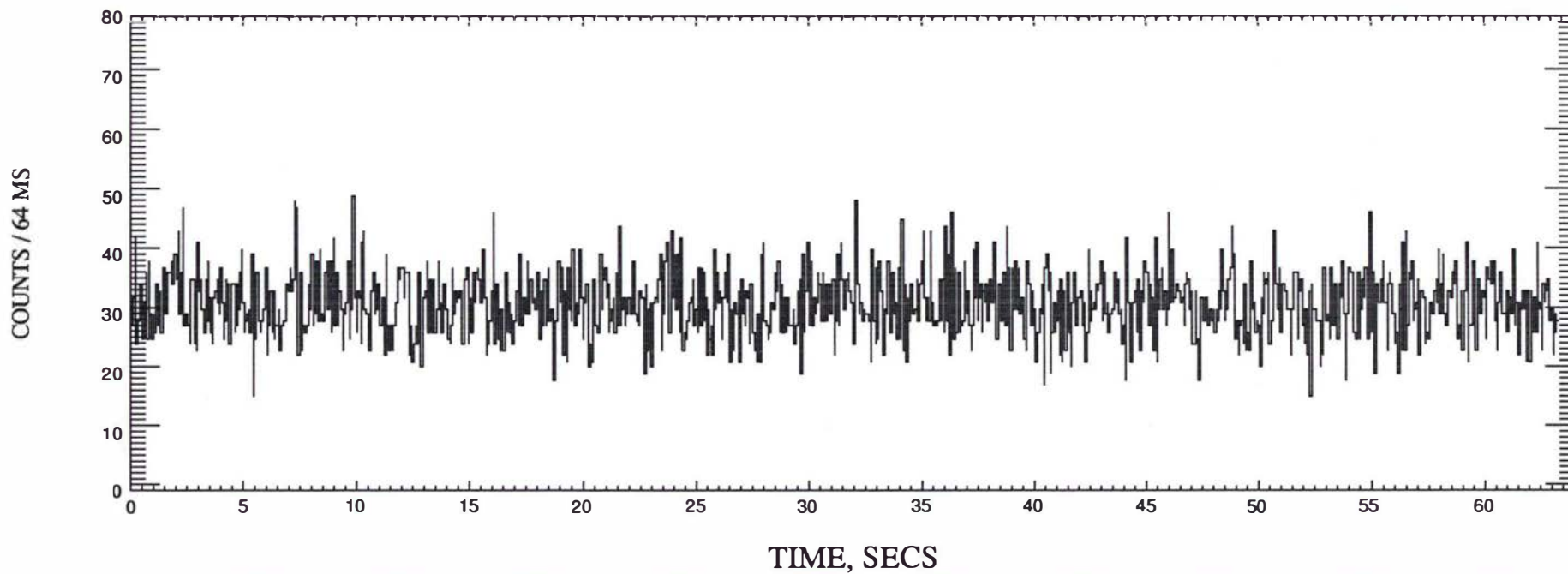
Burst Counter 6 at UT=14.106494149102 h=50783.379 s 14:06:23.379



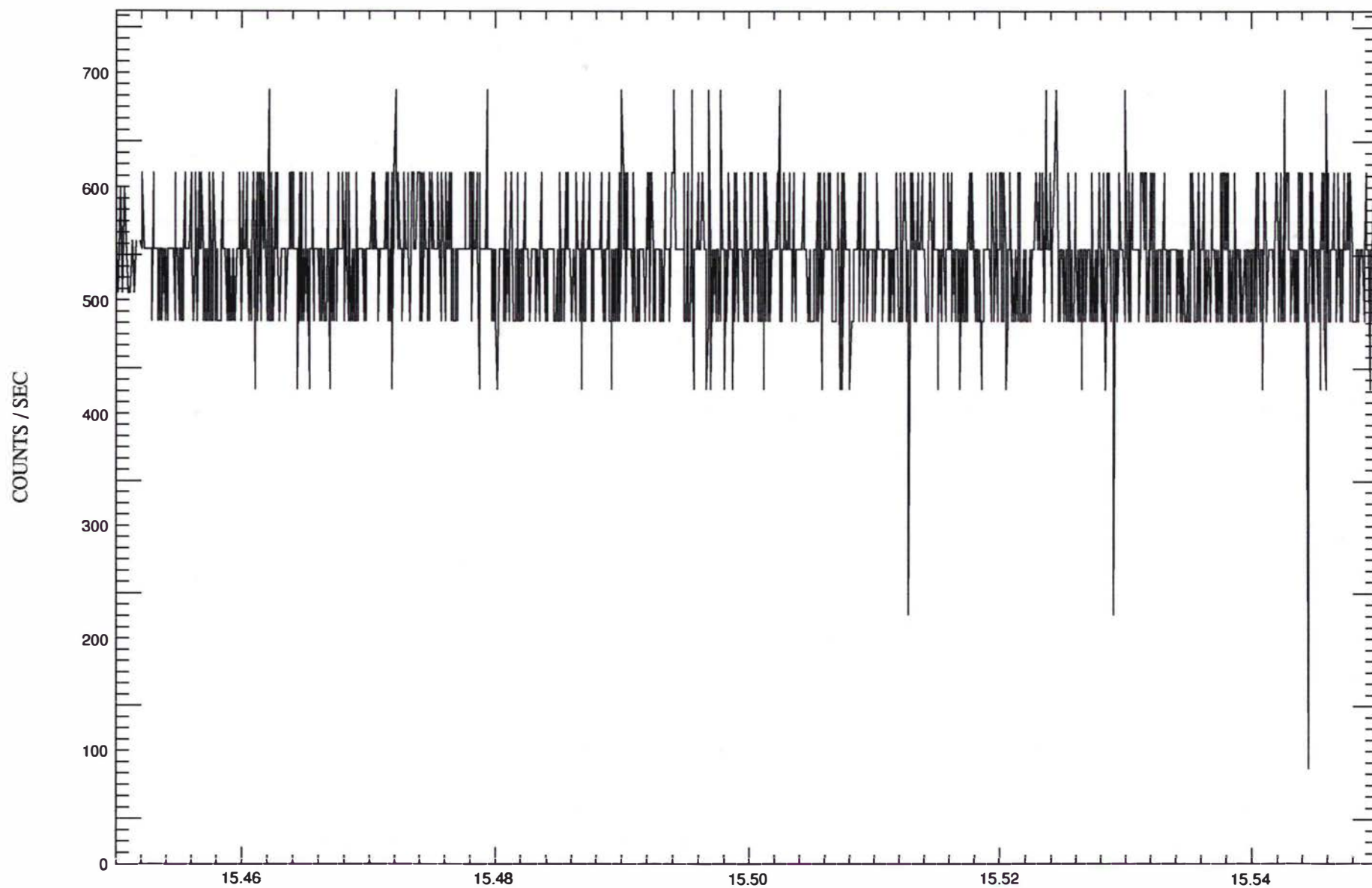
CALIBRATION DATA INCLUDED



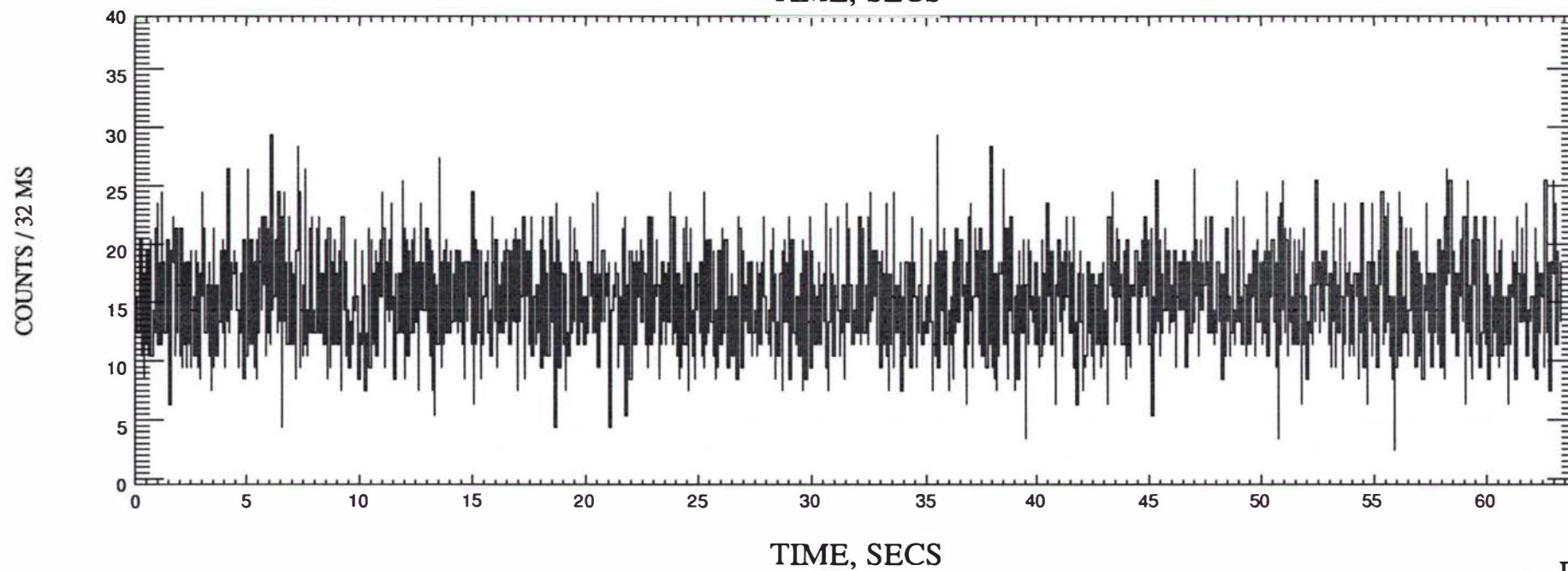
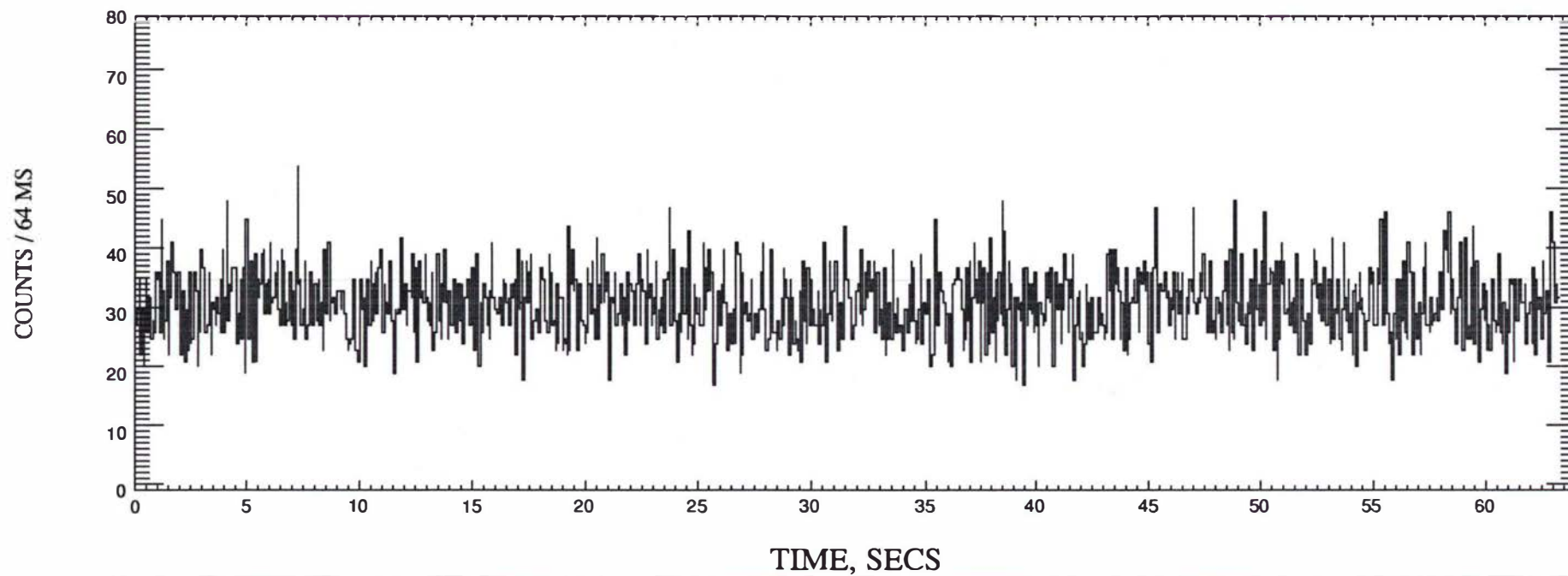
Burst Counter 7 at UT=15.495640411377 h=55784.305 s 15:29:44.305



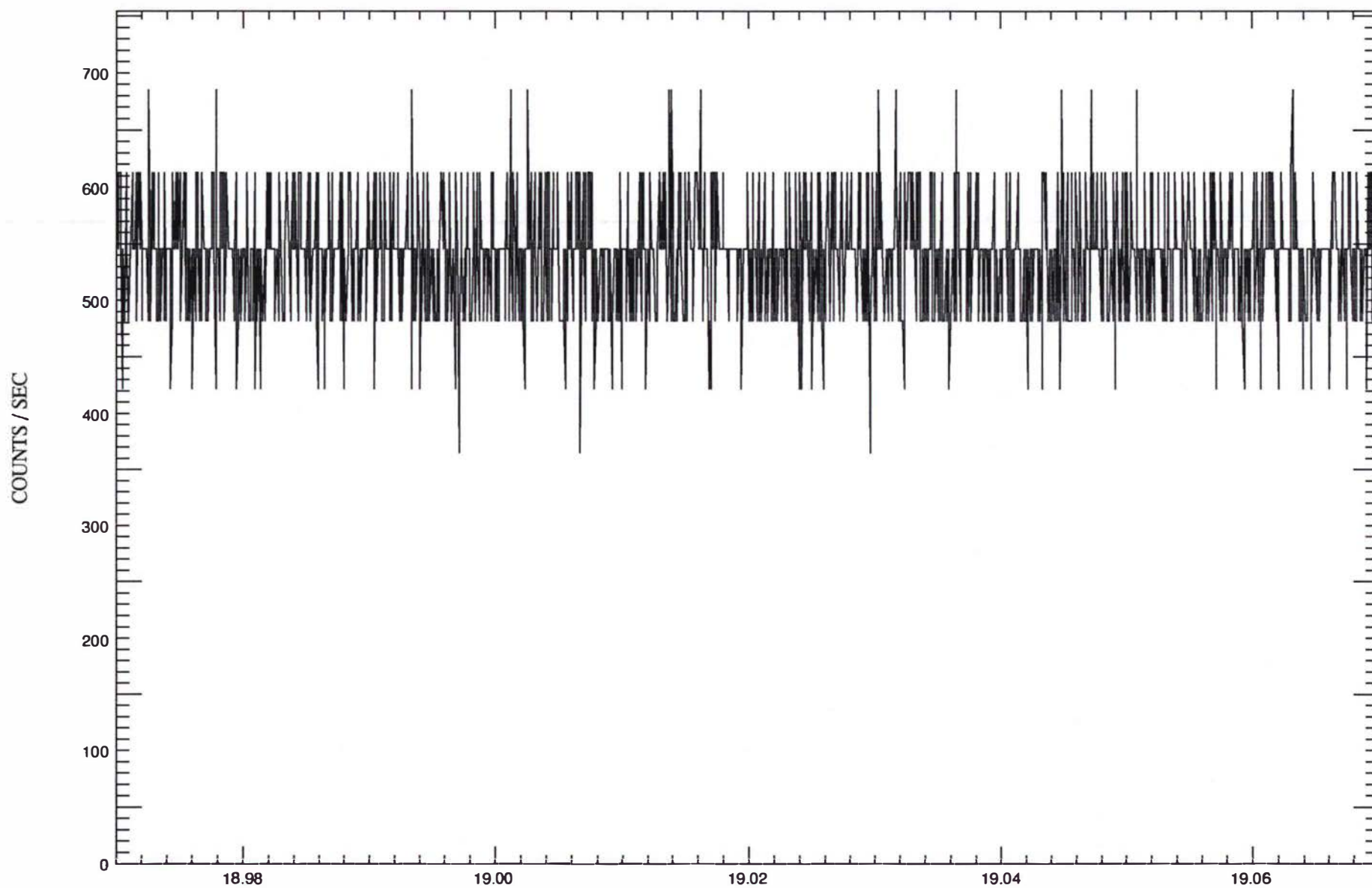
CALIBRATION DATA INCLUDED



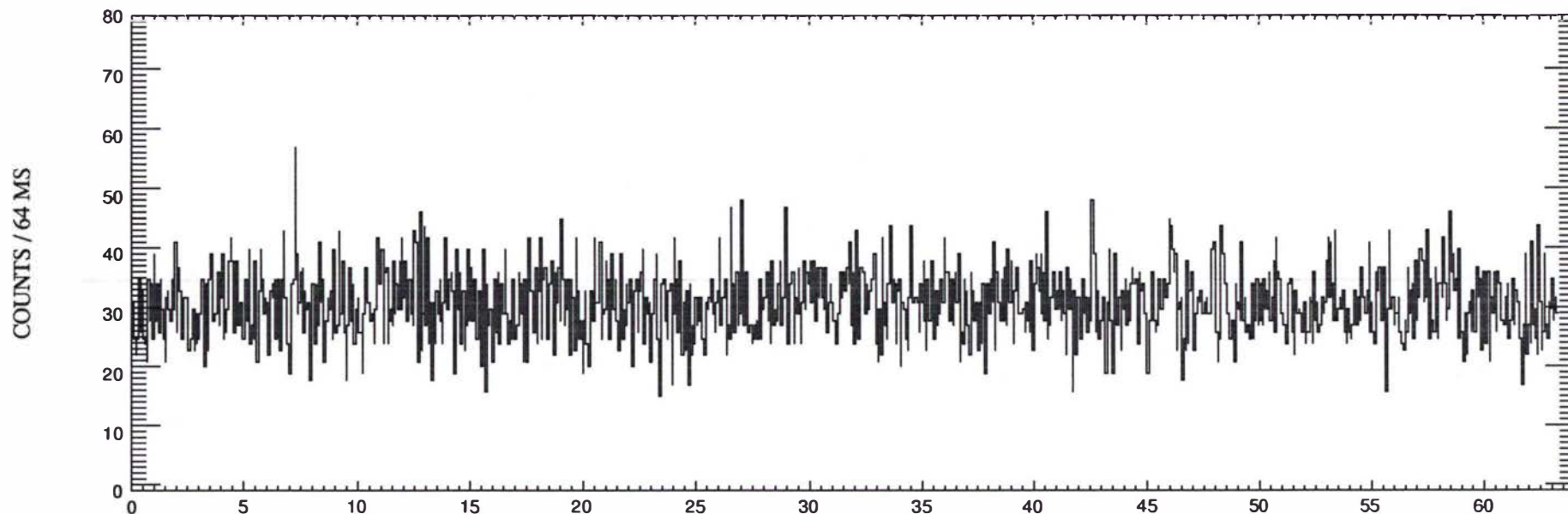
Burst Counter 8 at UT=19.016337623596 h=68458.815 s 19:00:58.815



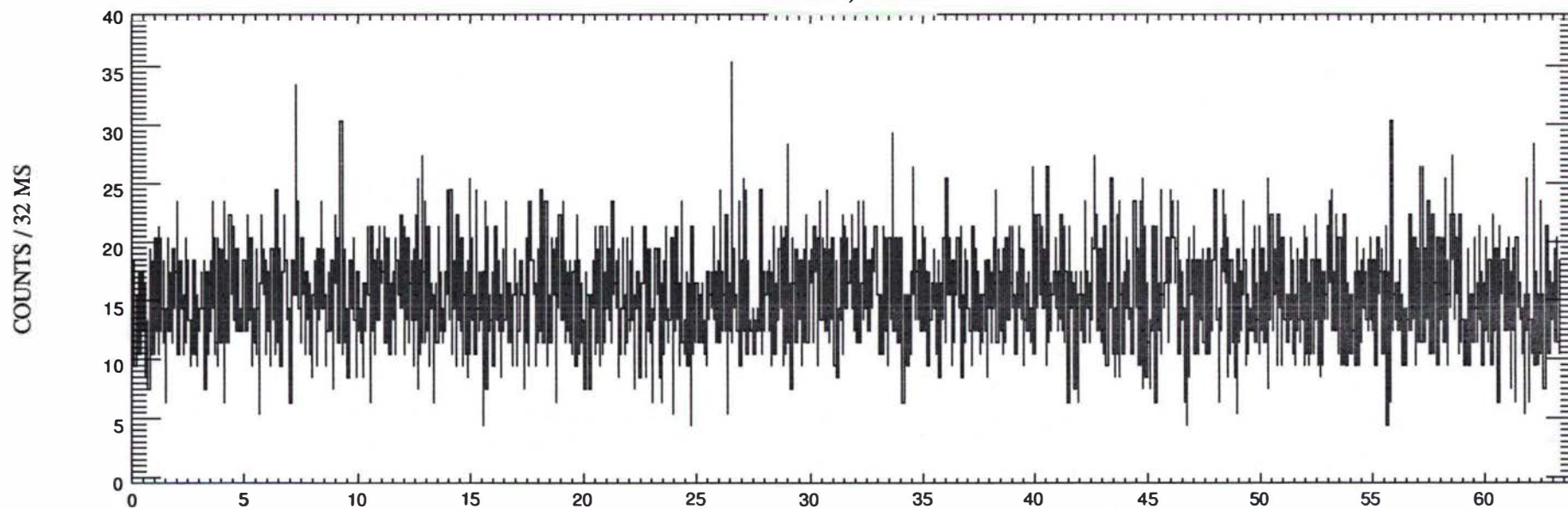
CALIBRATION DATA INCLUDED



Burst Counter 9 at UT=19.812804247538 h=71326.095 s 19:48:46.095

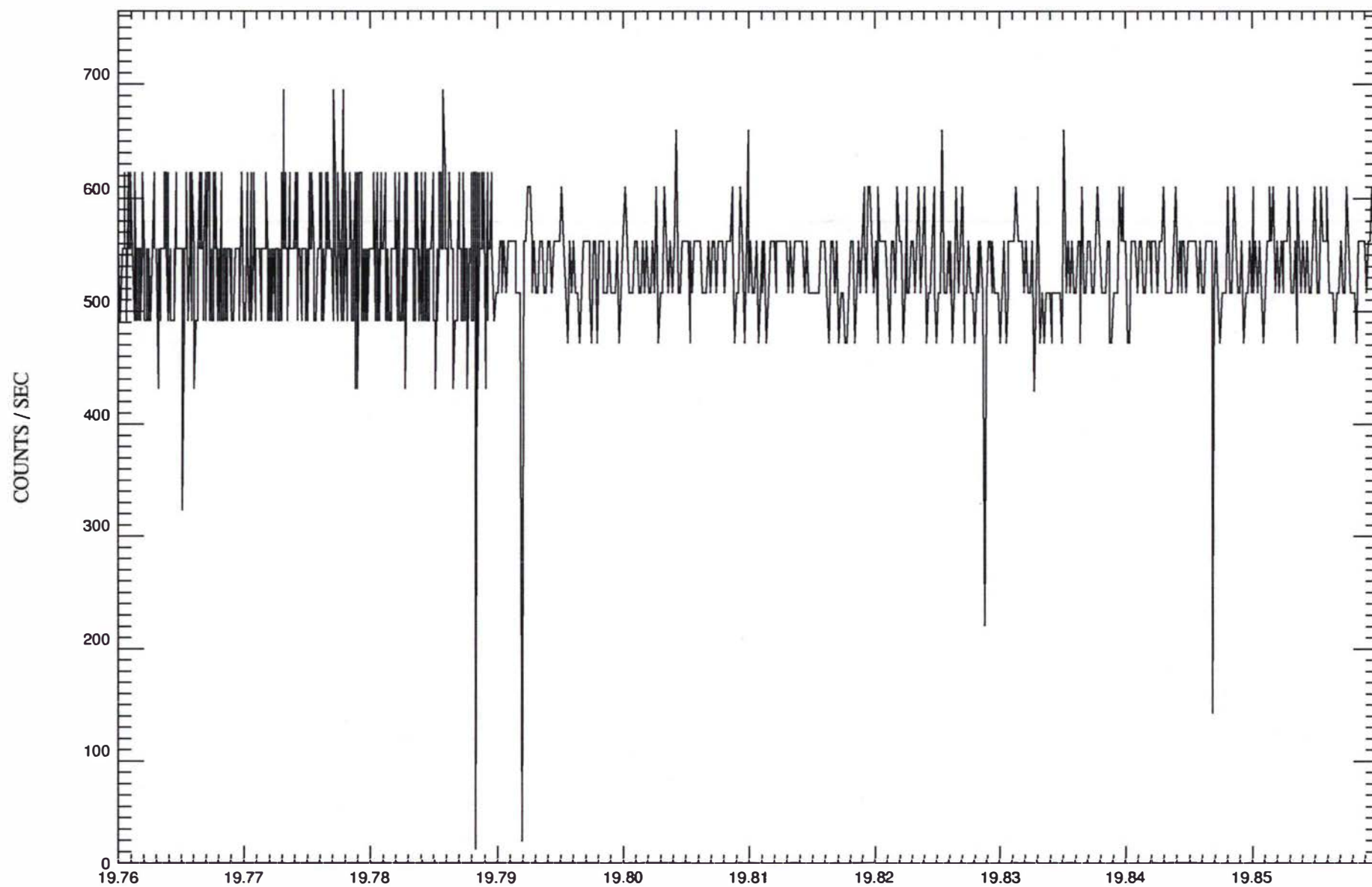


TIME, SECS

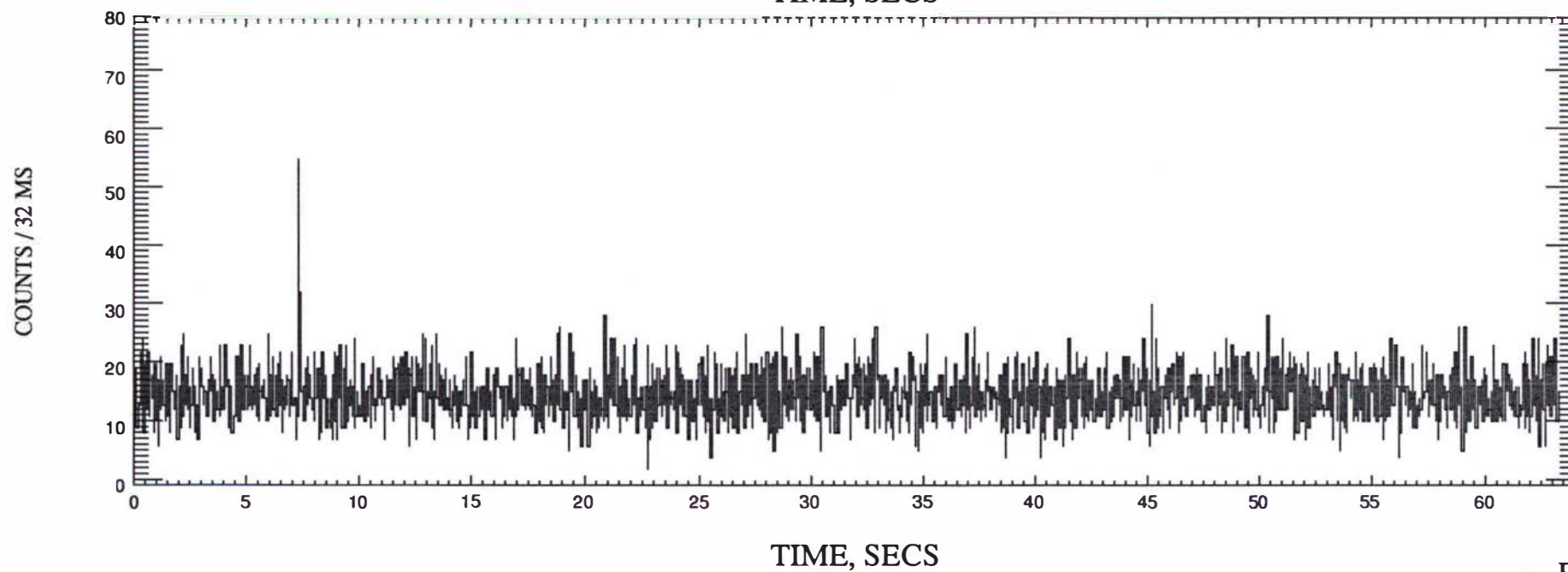
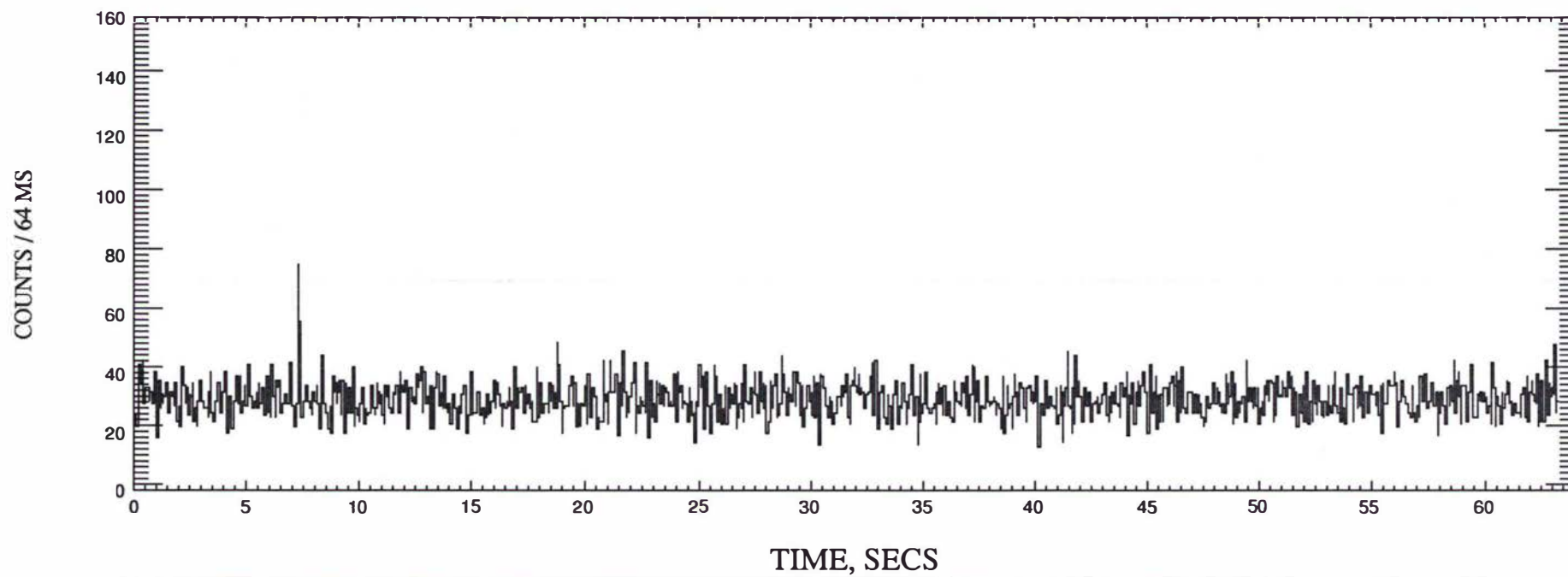


TIME, SECS

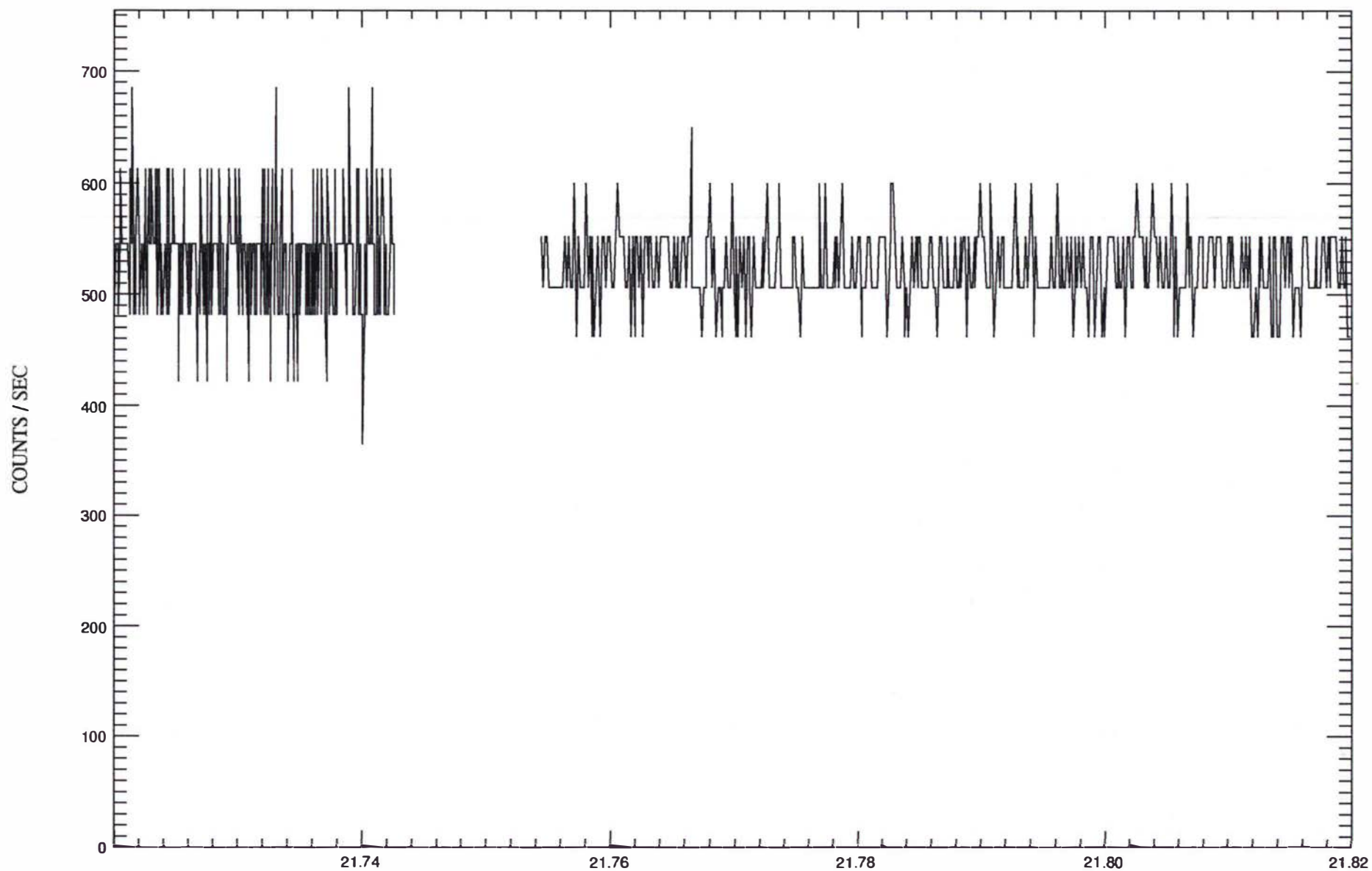
CALIBRATION DATA INCLUDED



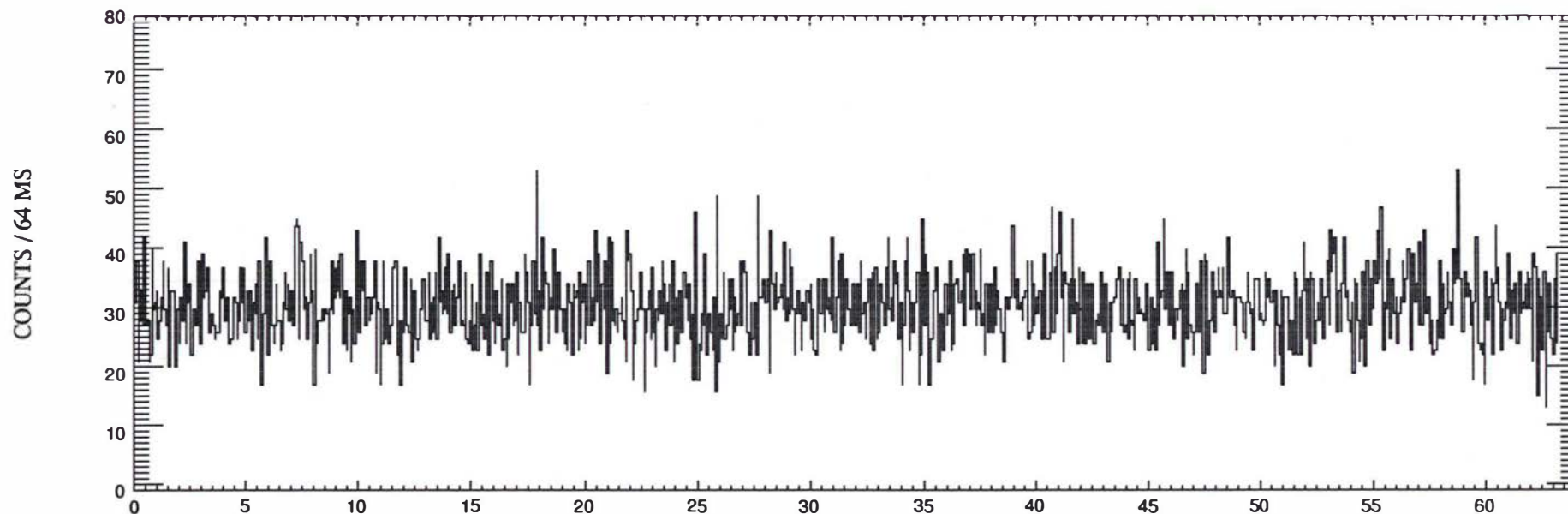
Burst Counter 10 at UT=21.766702257792 h=78360.128 s 21:46:00.128



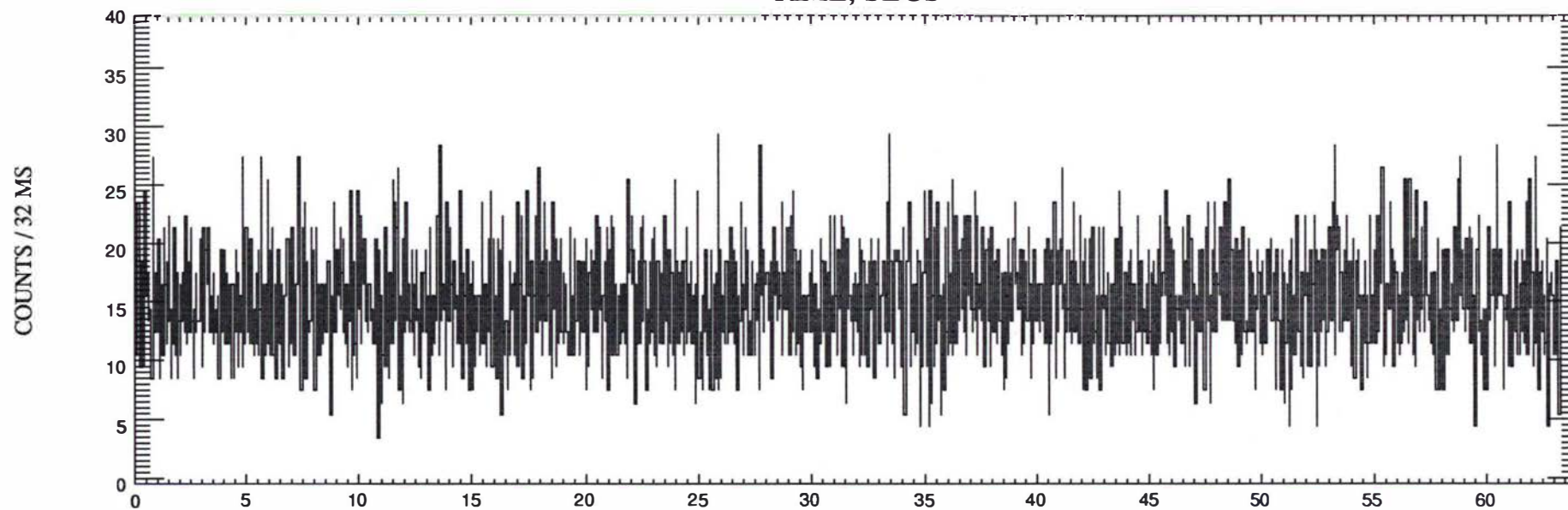
CALIBRATION DATA INCLUDED



Burst Counter 11 at UT=23.794964506361 h=85661.872 s 23:47:41.872

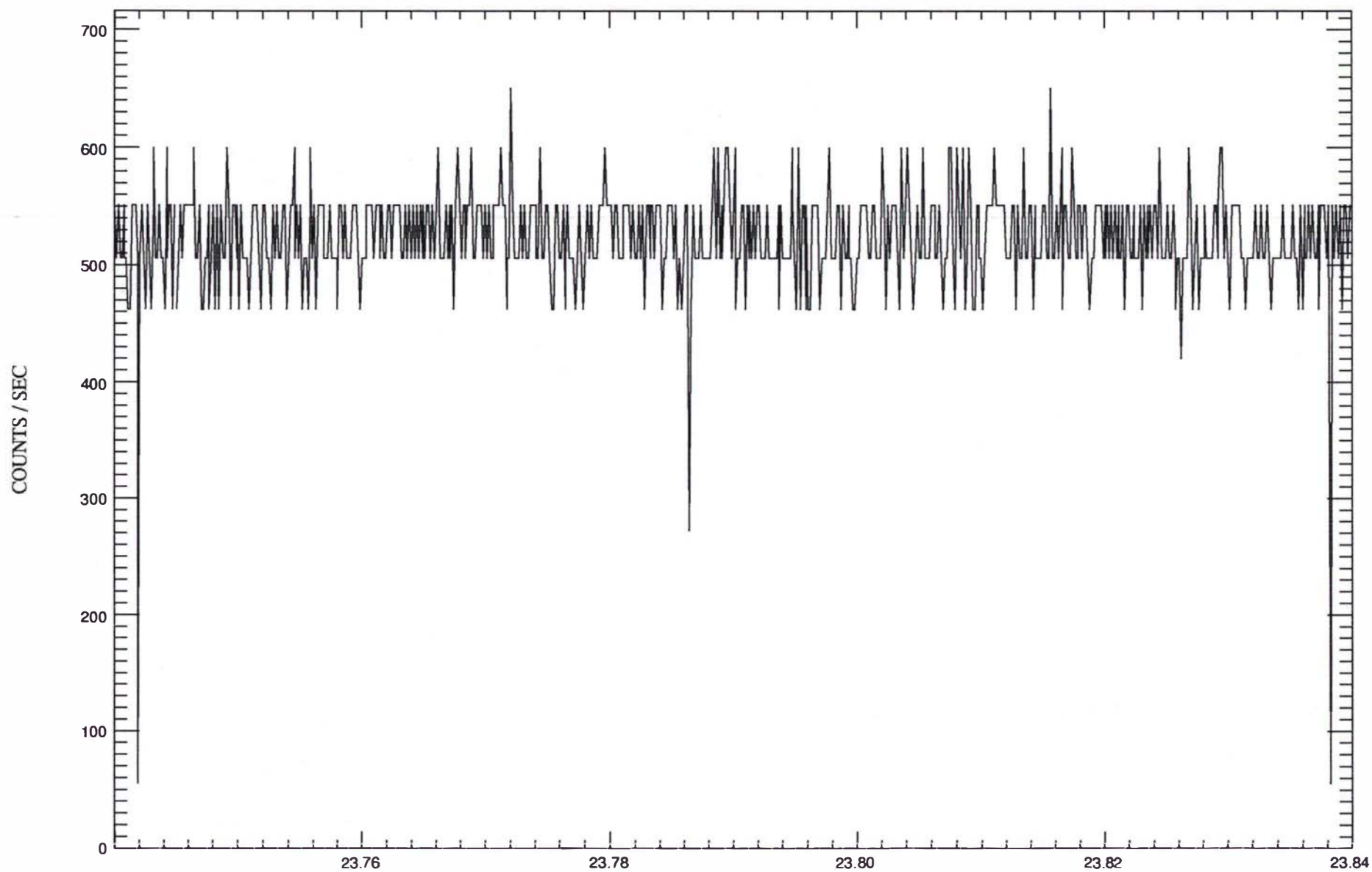


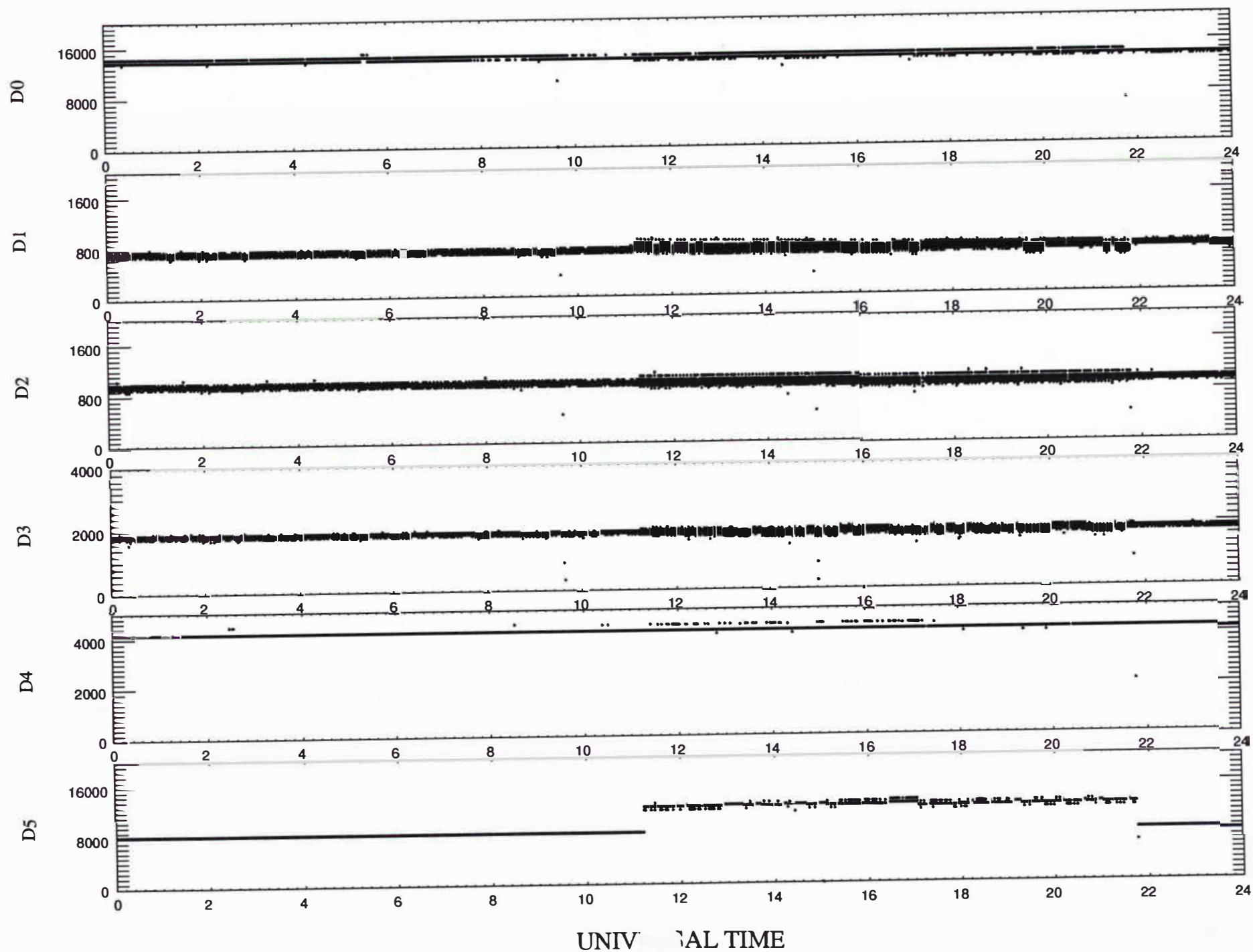
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





KONUS

ULYSSES RT

5 / 12 / 98

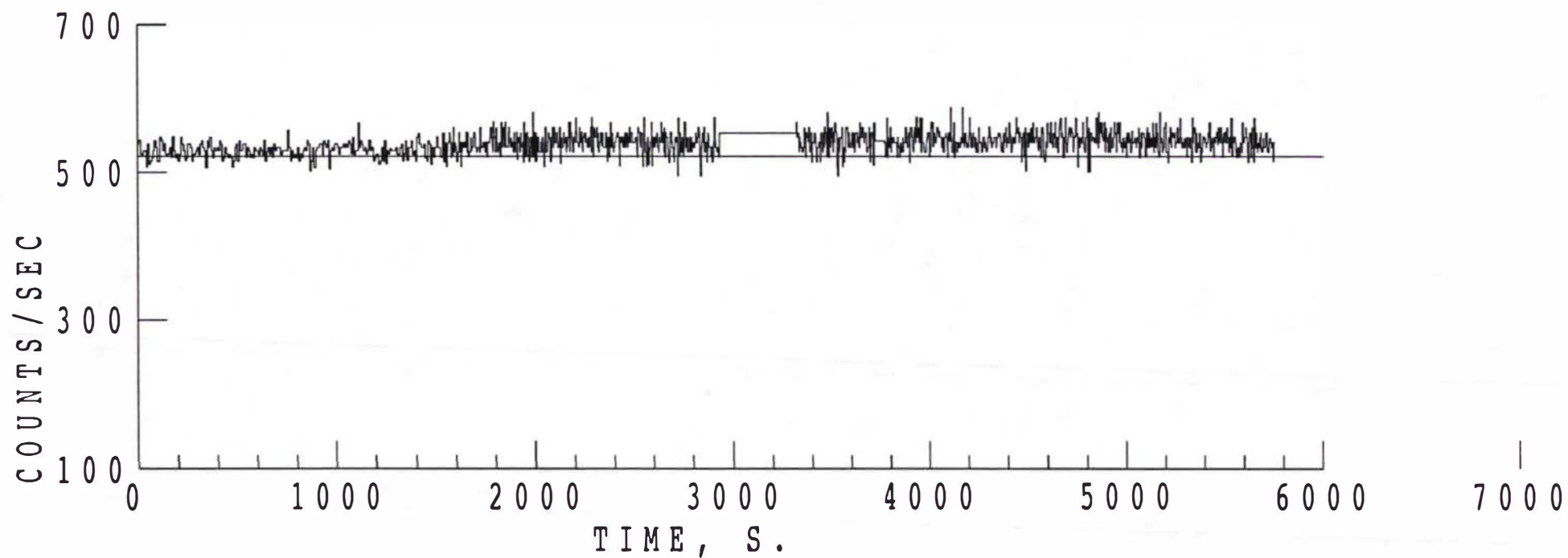
8 / 6 / 98 33840.242 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Wed Jun 10 09:27:24 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 10 Jun 1998 11:27:10 -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.: 6811

TIME: TJD=0972 SECONDS=41673 11:34:33

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=127.5 AZIMUTH=213.2 ERROR=9.421 DEGREES

COMMENTS:

SGR. SINGLE PULSE WITH DOUBLE PEAK AND SUBSTRUCTURE. DURATION ABOUT 0.8 S.
STARTS AT ABOUT T-0.08 S. MARGINALLY VISIBLE ABOVE 100 KEV.

BATSE BURST# 6811

ULYSSES RT

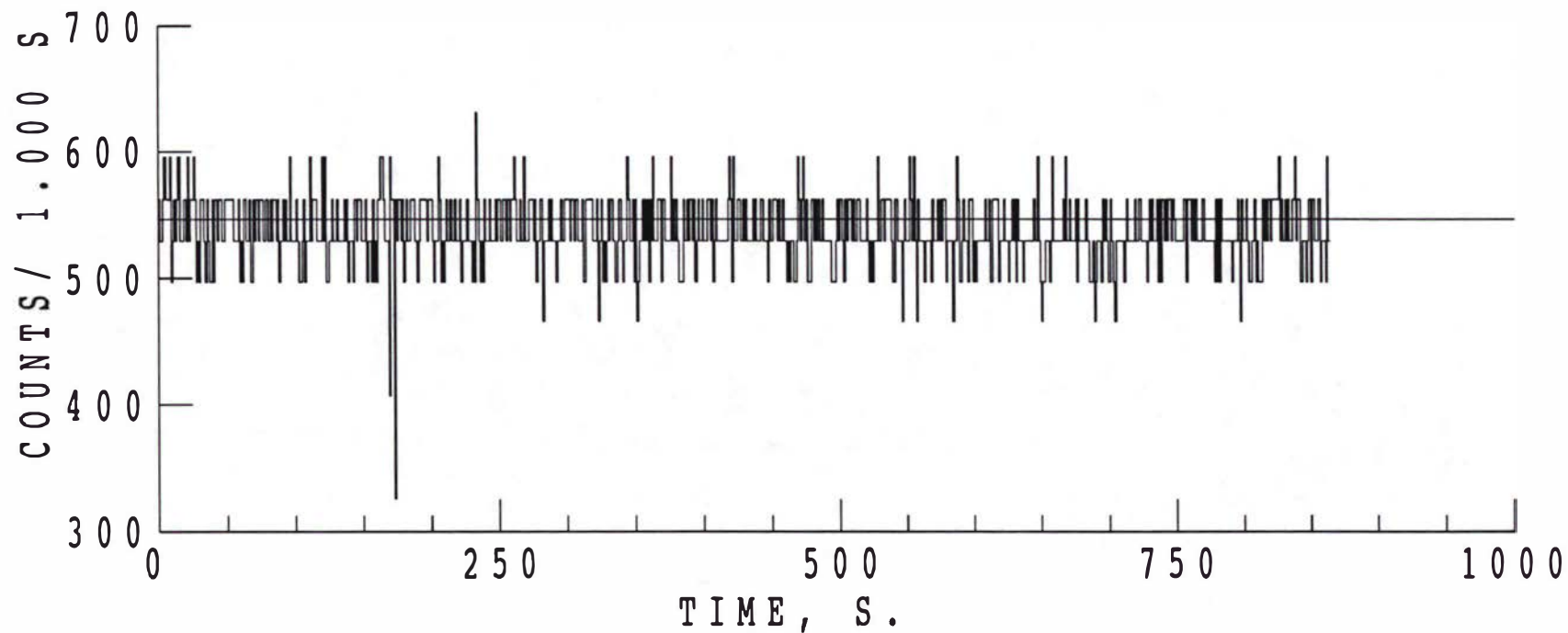
11 / 6 / 98

8 / 6 / 98 43164.344 s

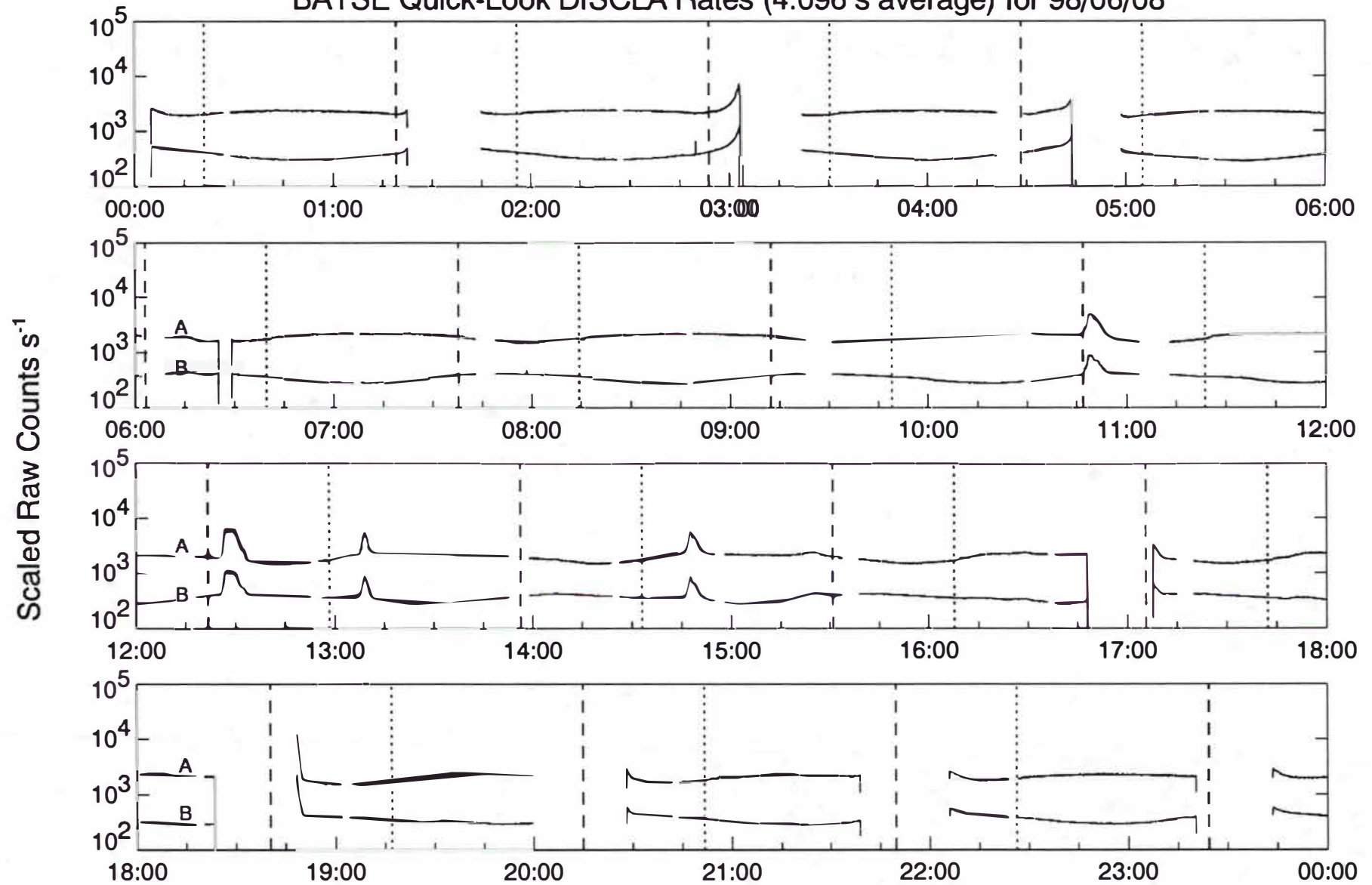
0 - 0 keV

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 98/06/08

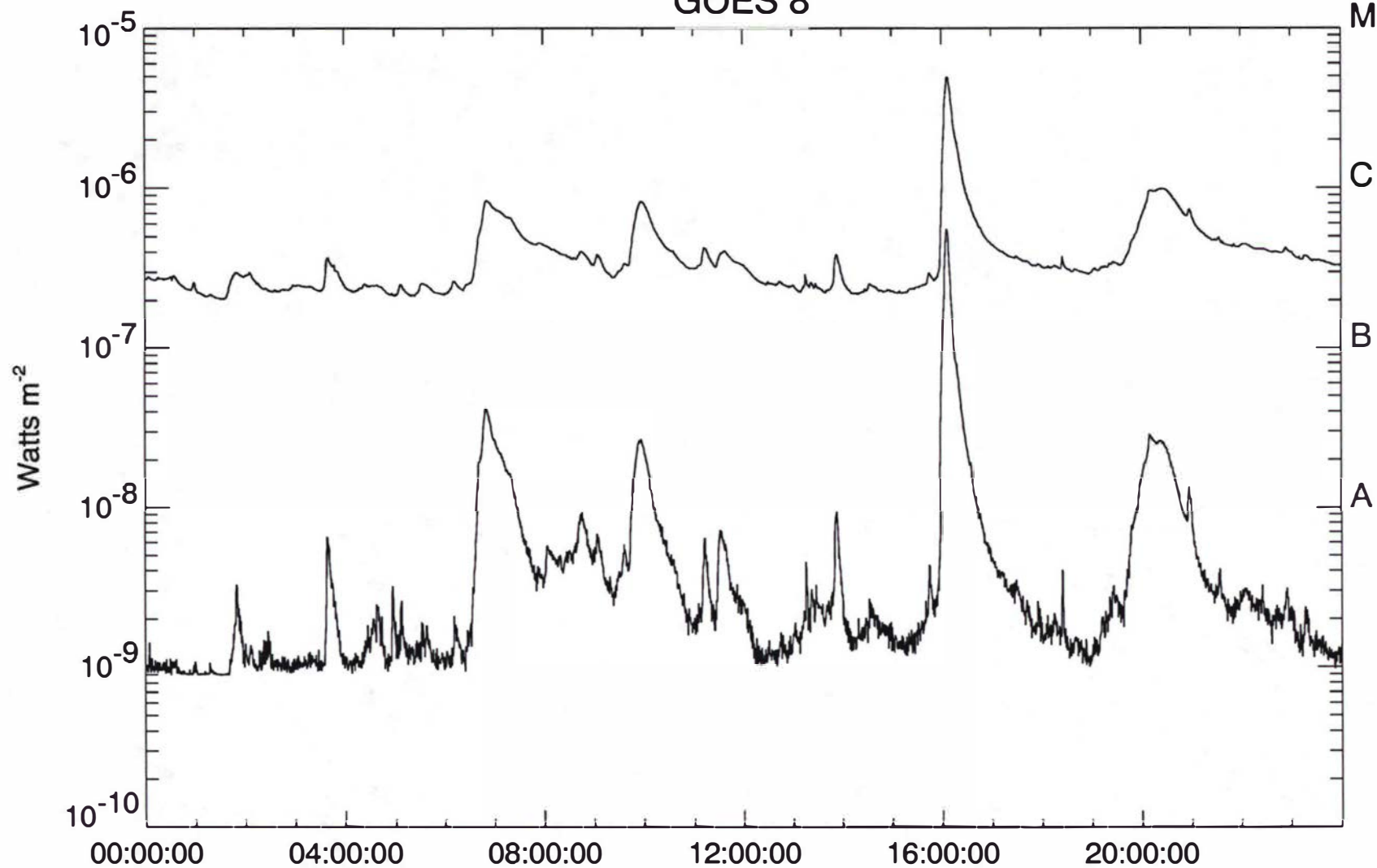


Current Time: 98/06/12, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/06/08, 0000:00

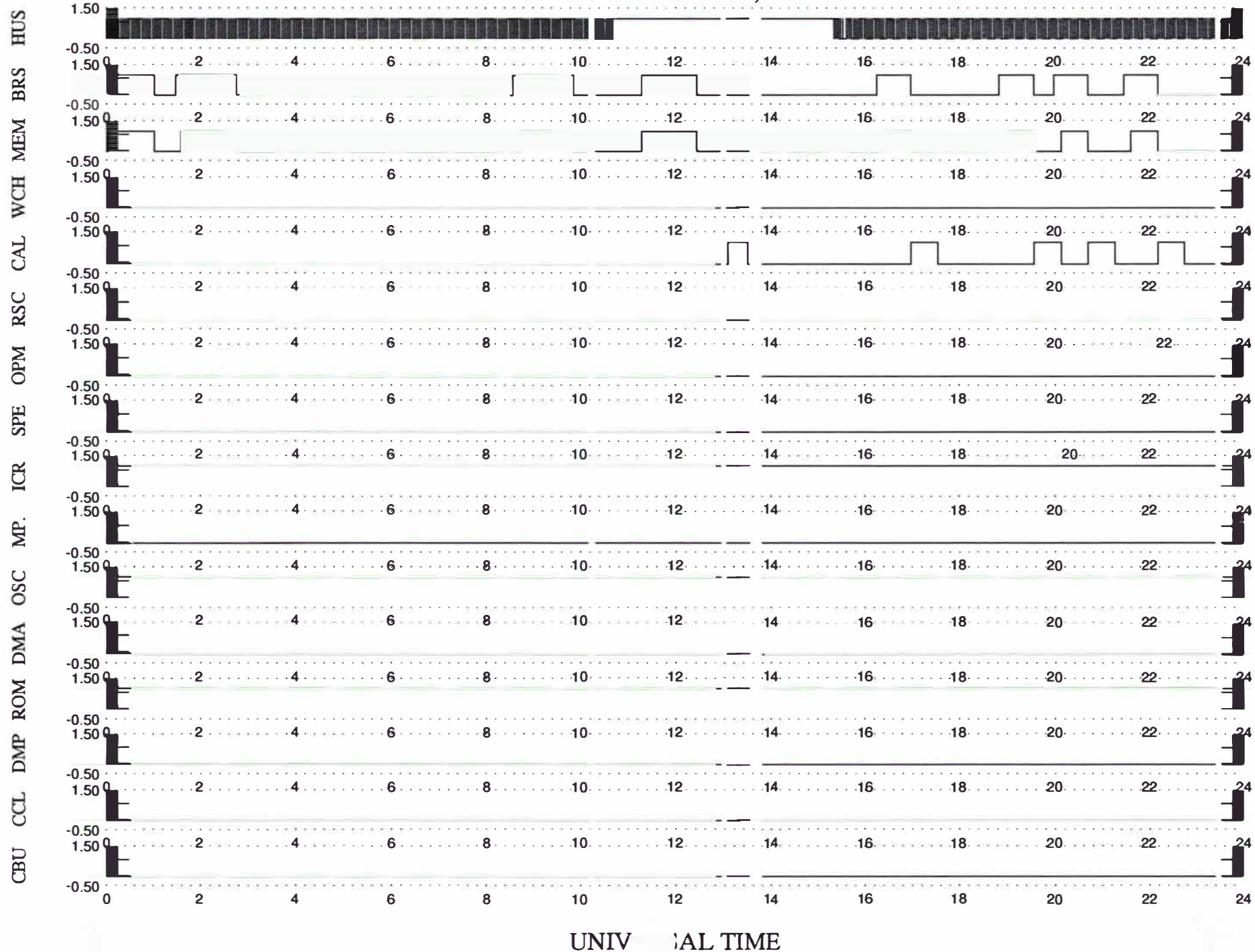
Plot created: 98/06/12, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

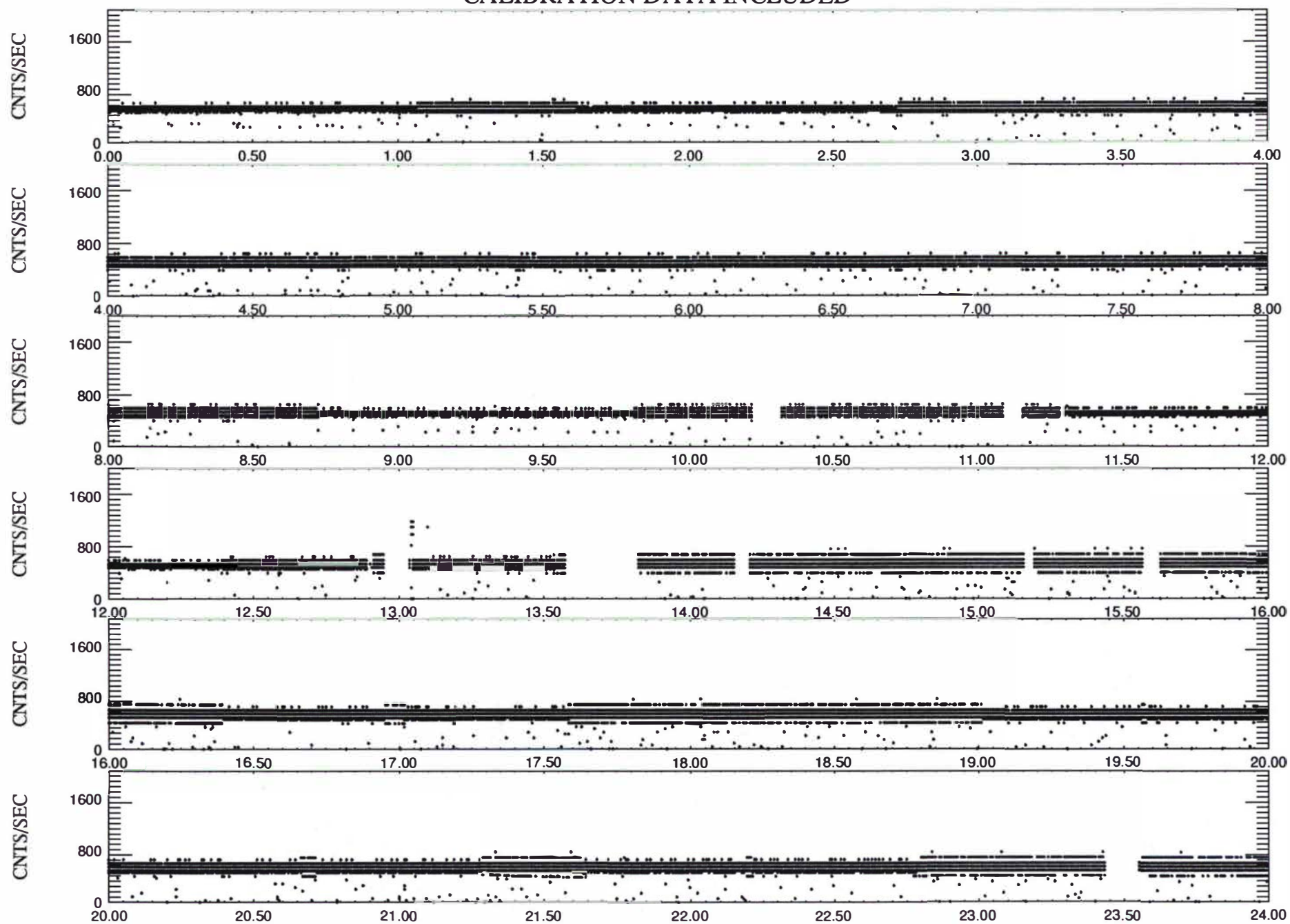
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 12 - 15, 0 - 2

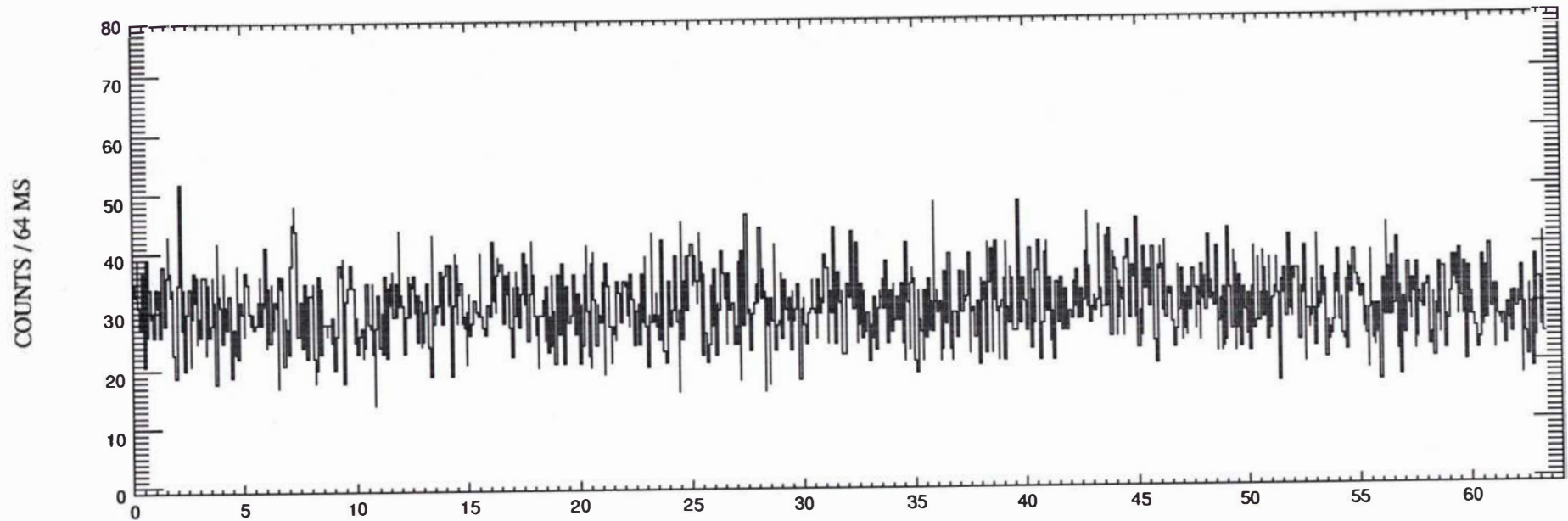


CALIBRATION DATA INCLUDED

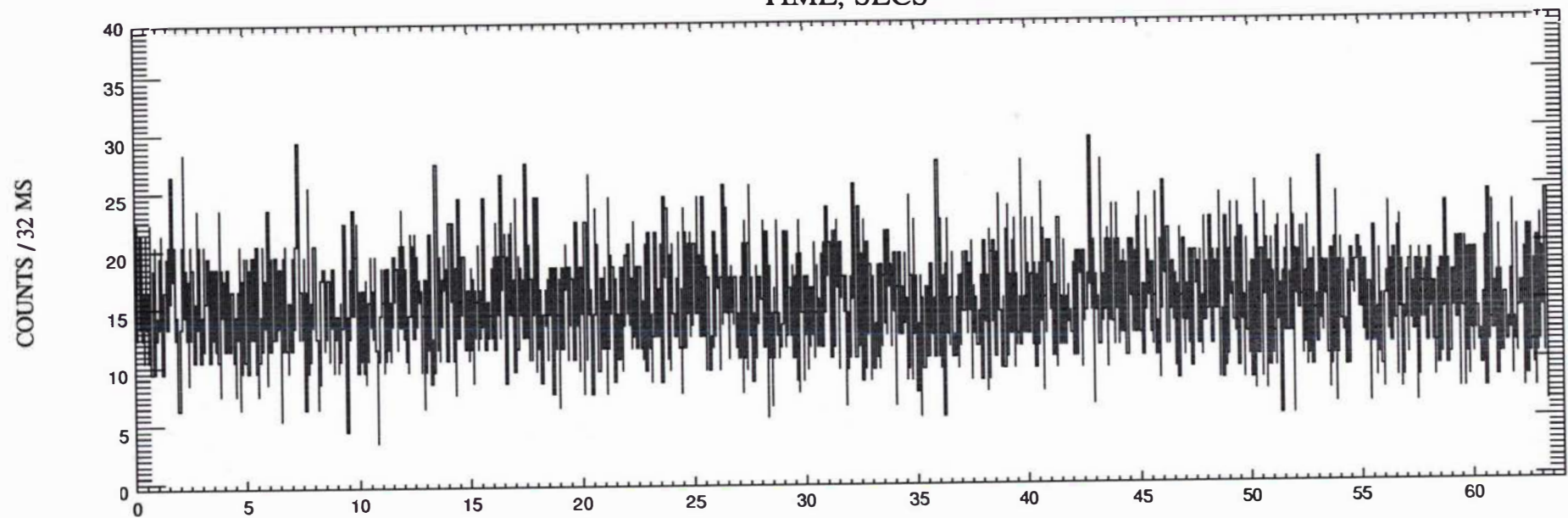


UNIV 3AL TIME

Burst Counter 12 at UT= 1.464006690979 h= 5270.424 s 01:27:50.424

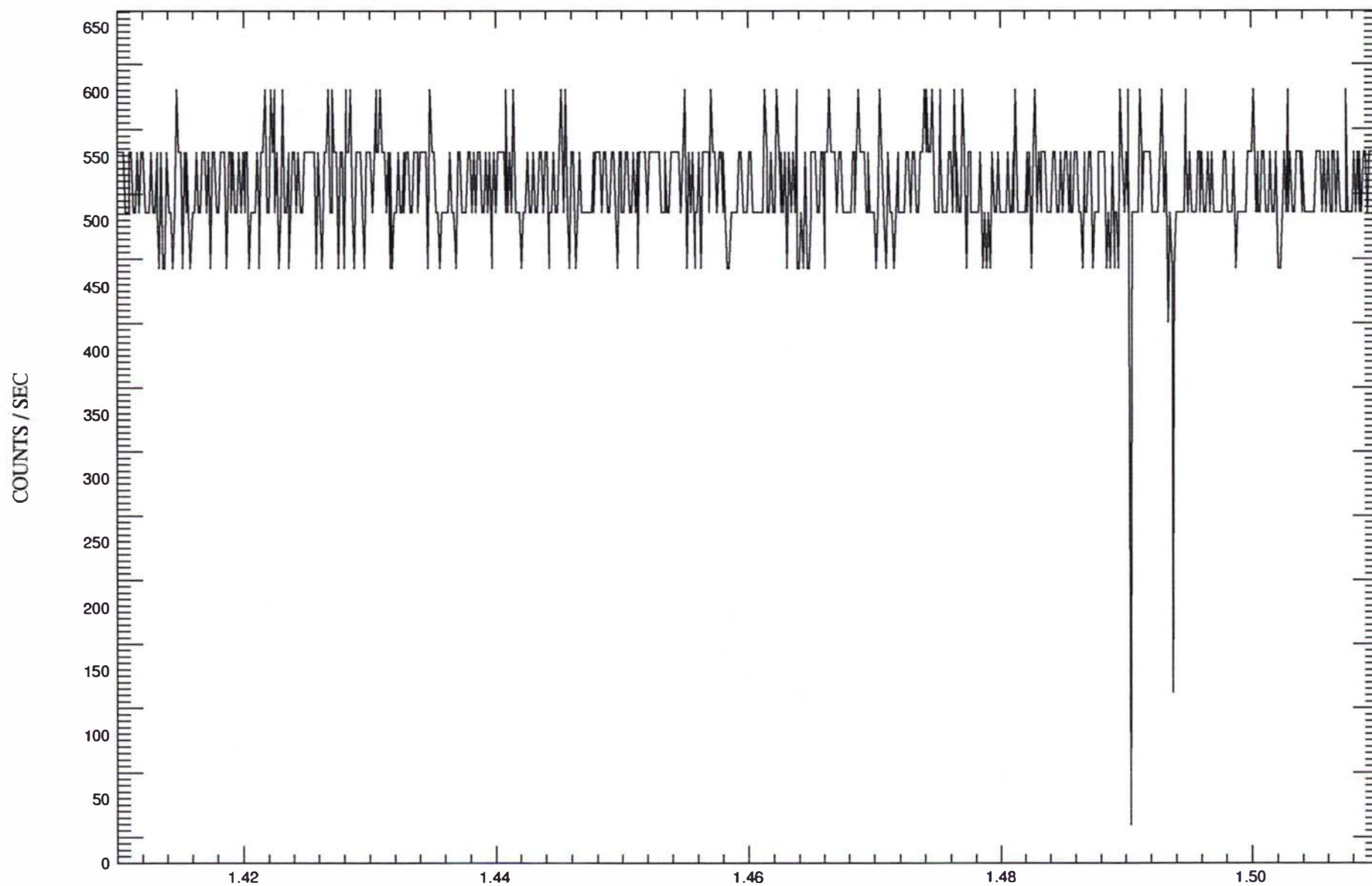


TIME, SECS

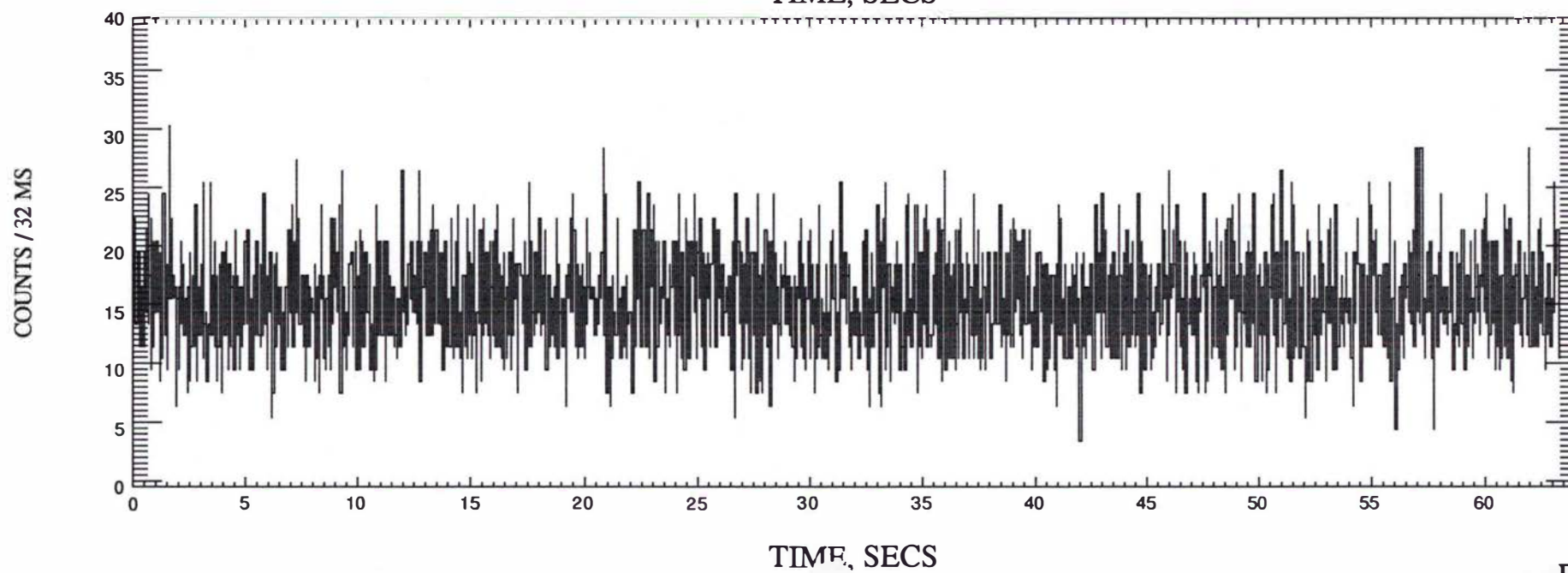
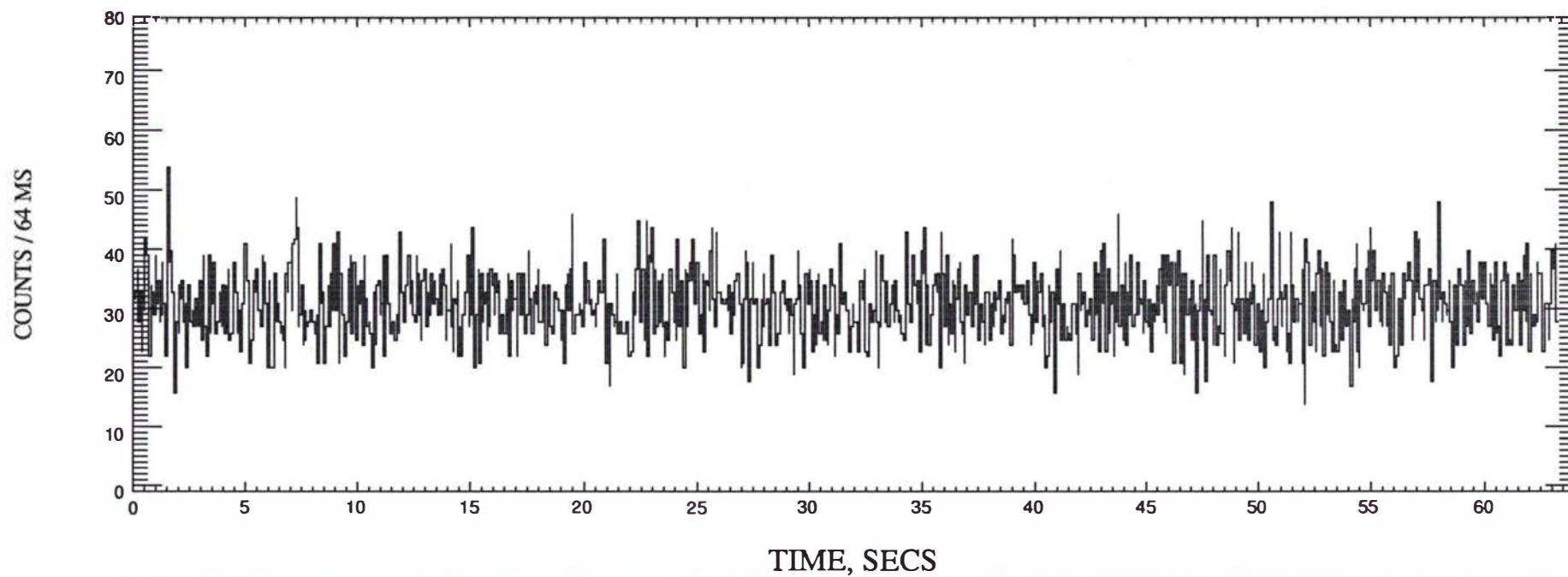


TIME, SECS

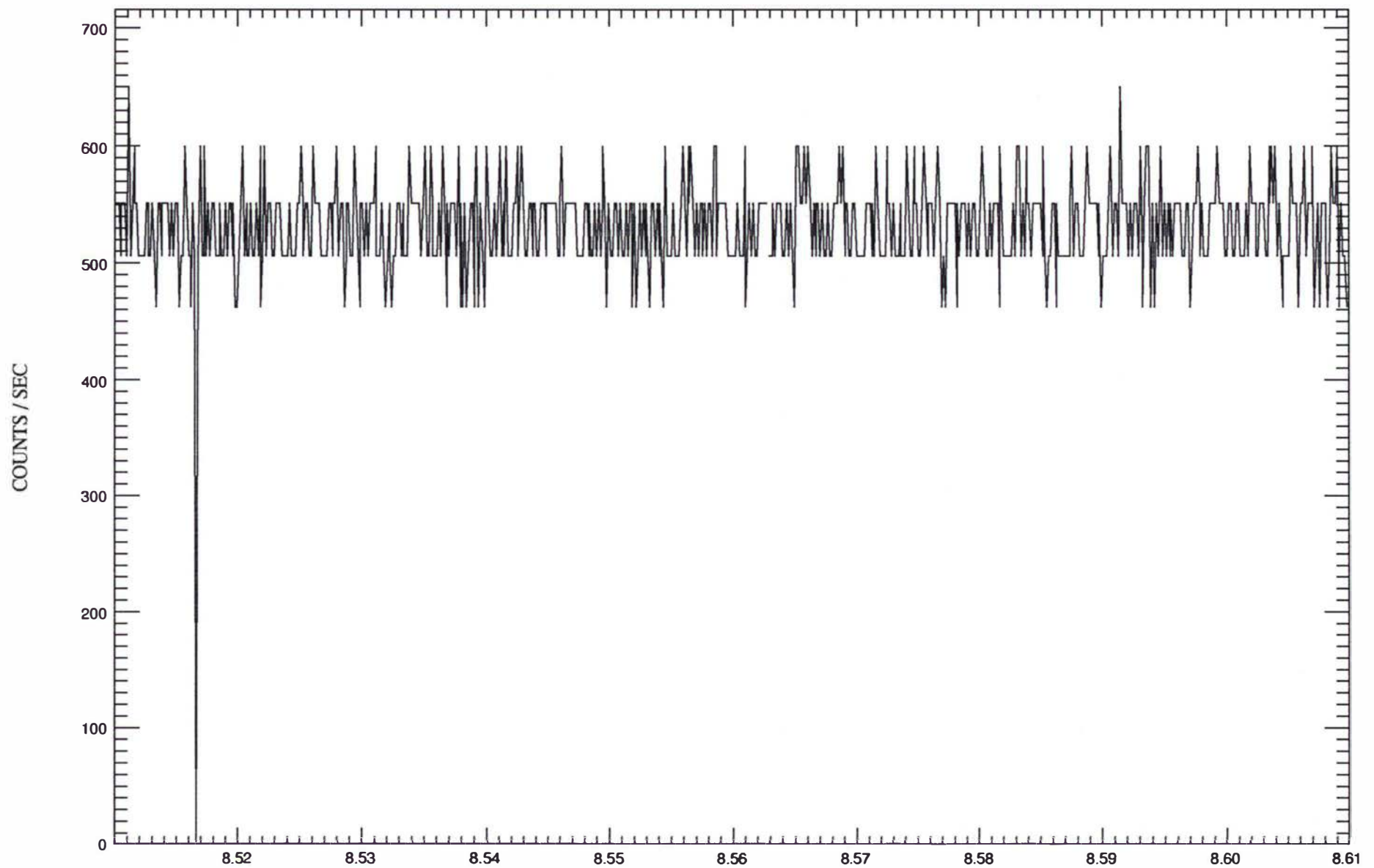
CALIBRATION DATA INCLUDED



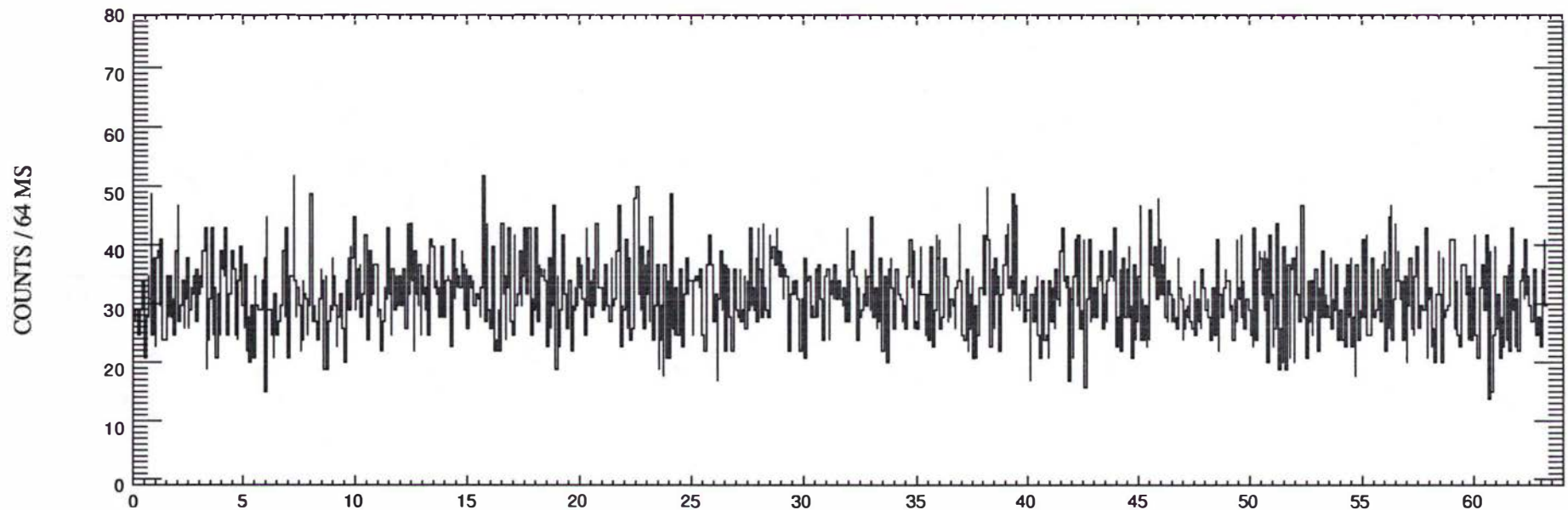
Burst Counter 13 at UT= 8.561098111471 h=30819.953 s 08:33:39.953



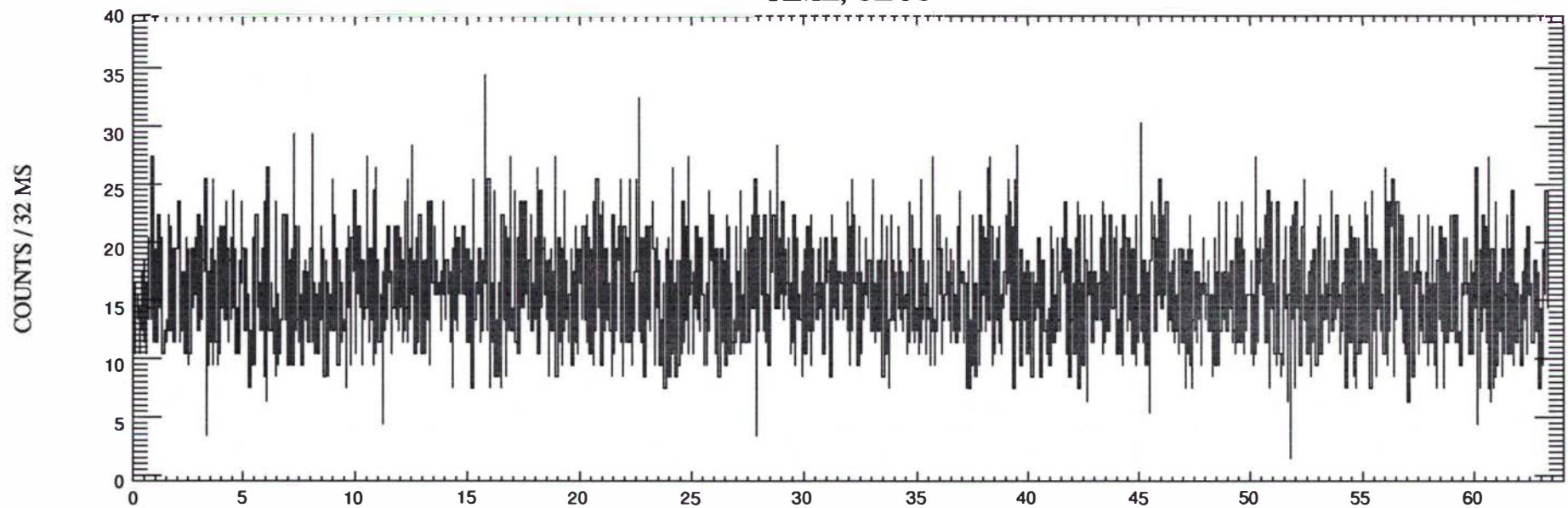
CALIBRATION DATA INCLUDED



Burst Counter 14 at UT= 9.856424174839 h=35483.127 s 09:51:23.127

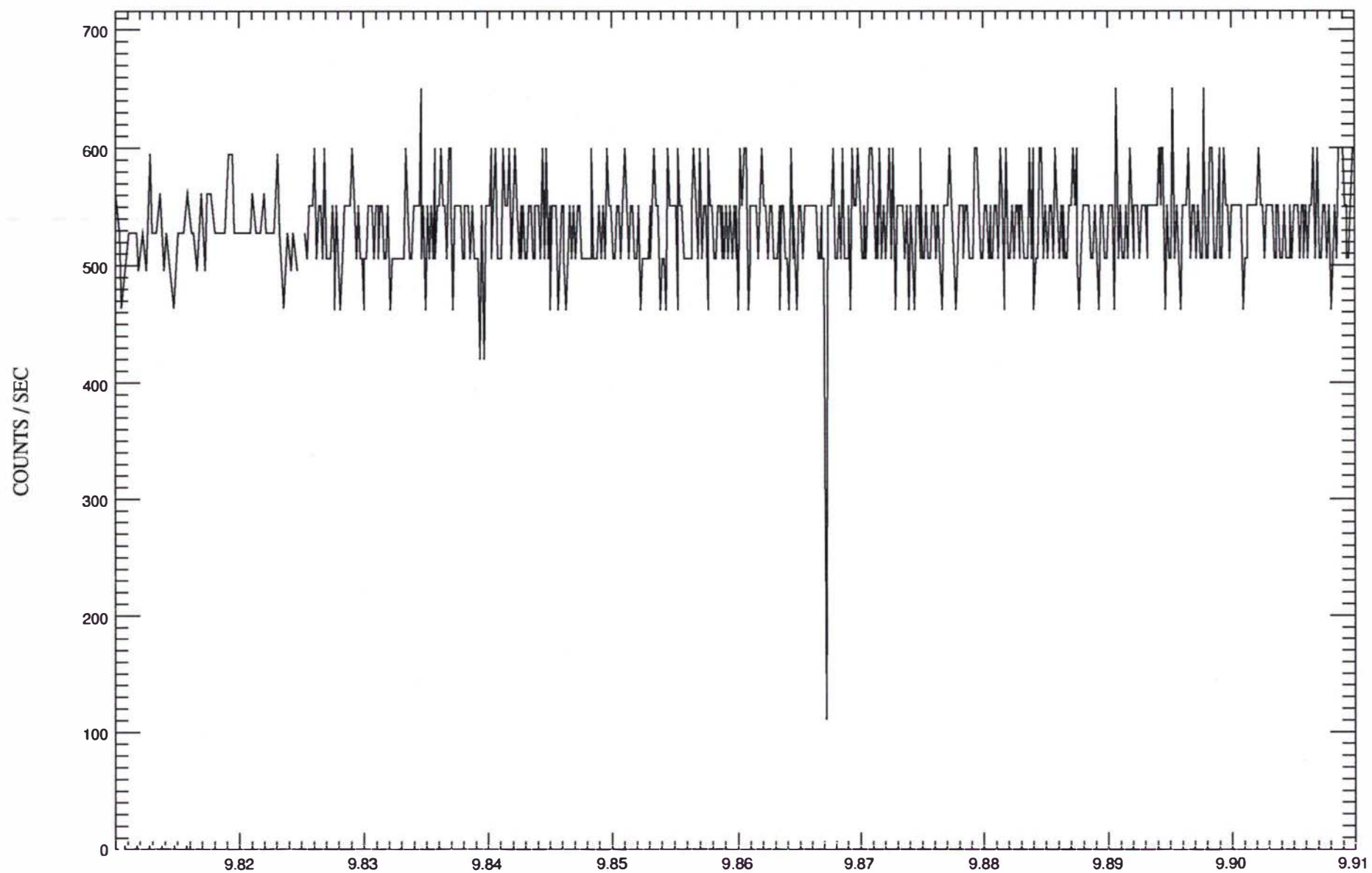


TIME, SECS

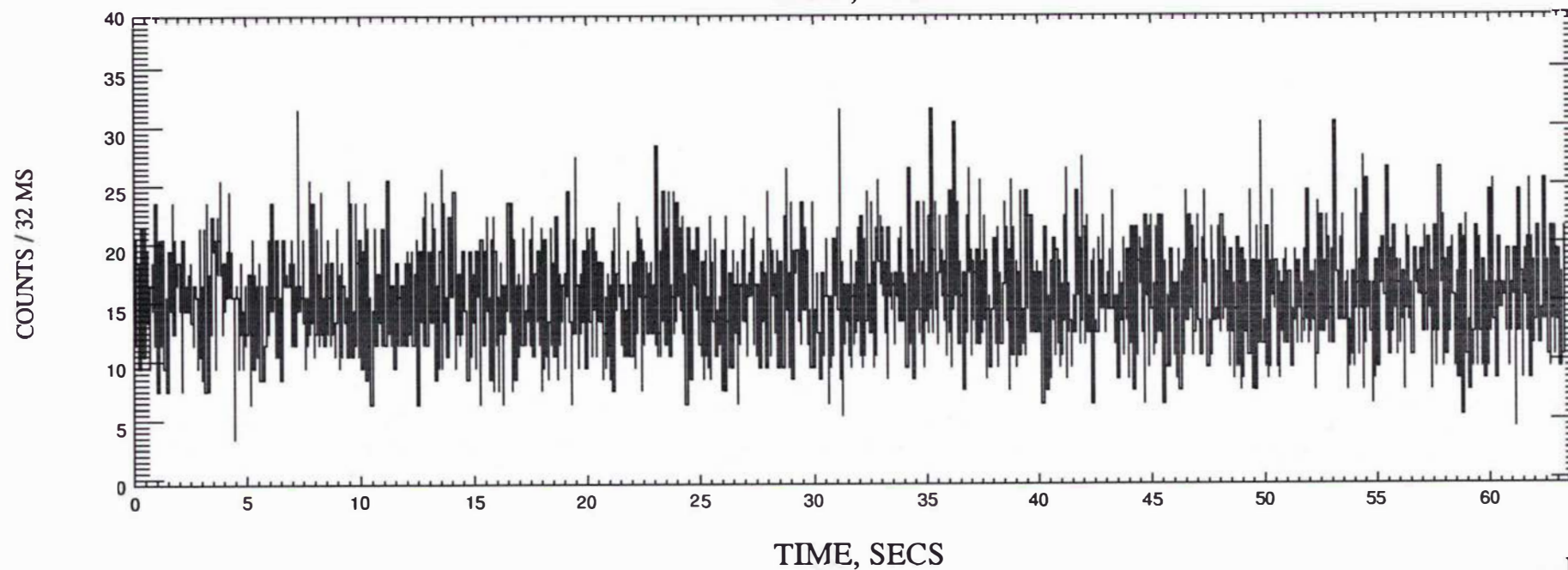
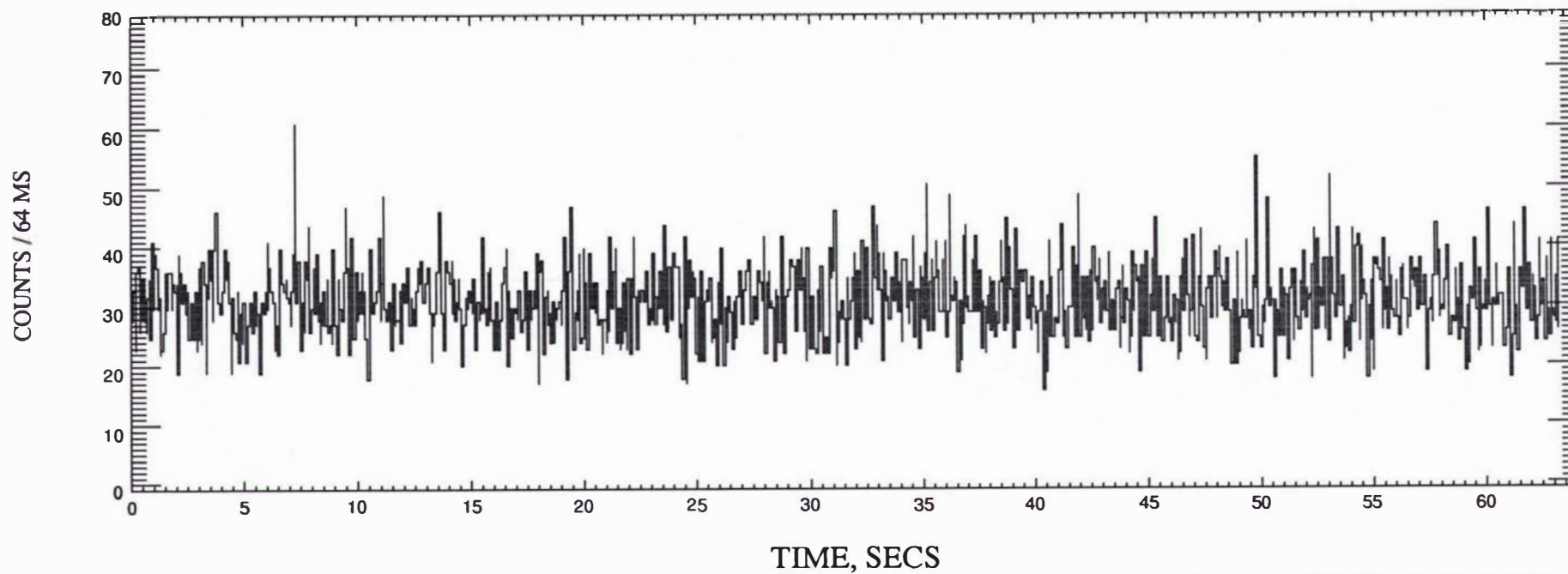


TIME, SECS

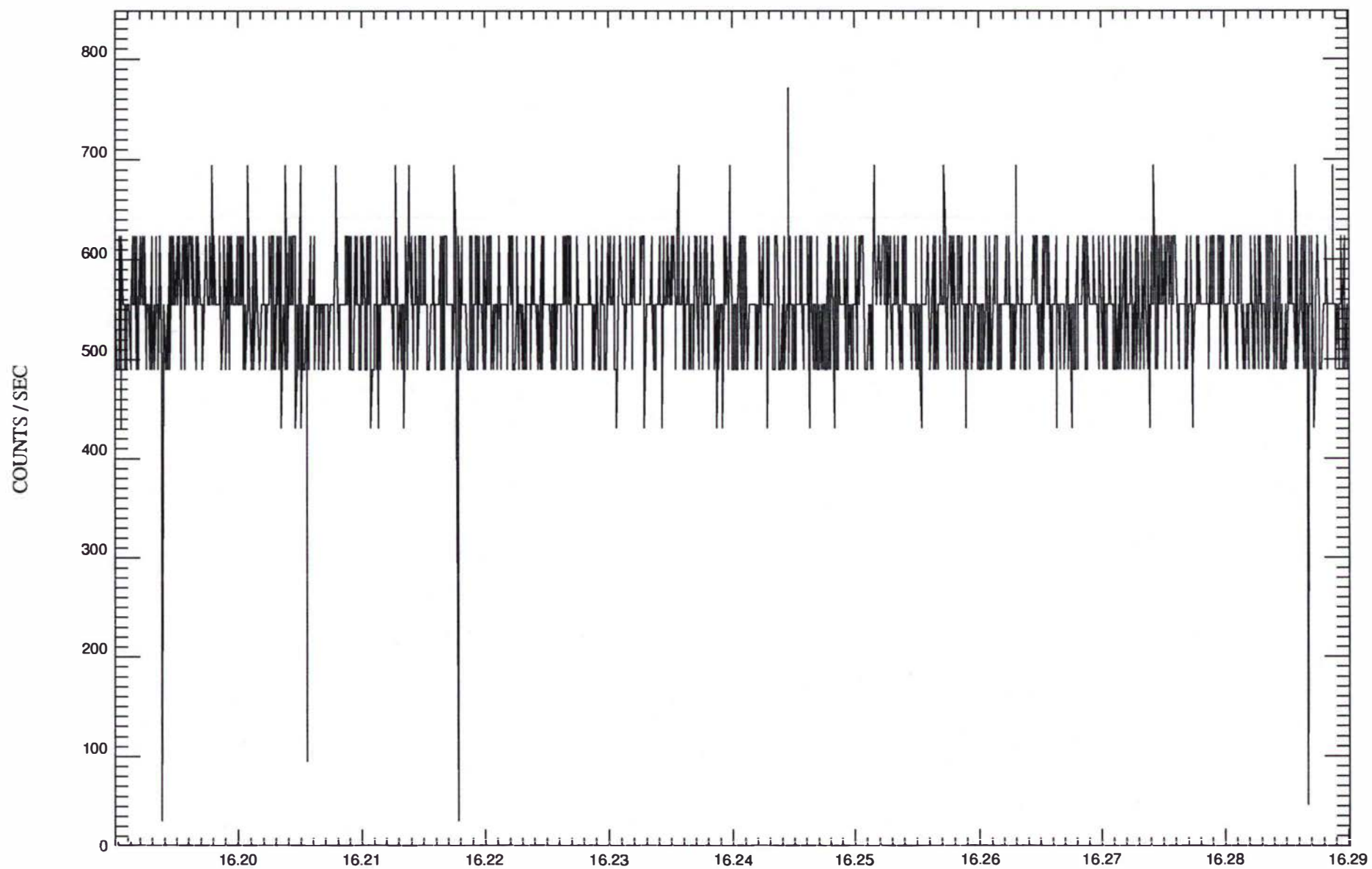
CALIBRATION DATA INCLUDED



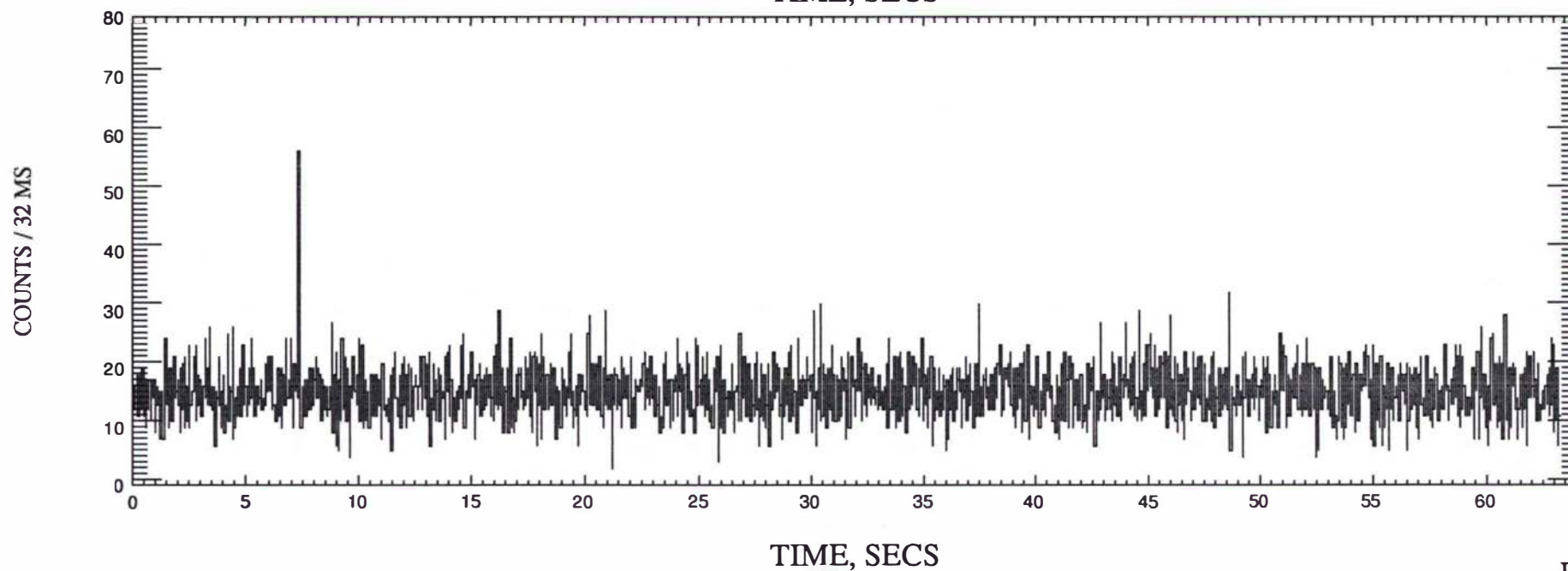
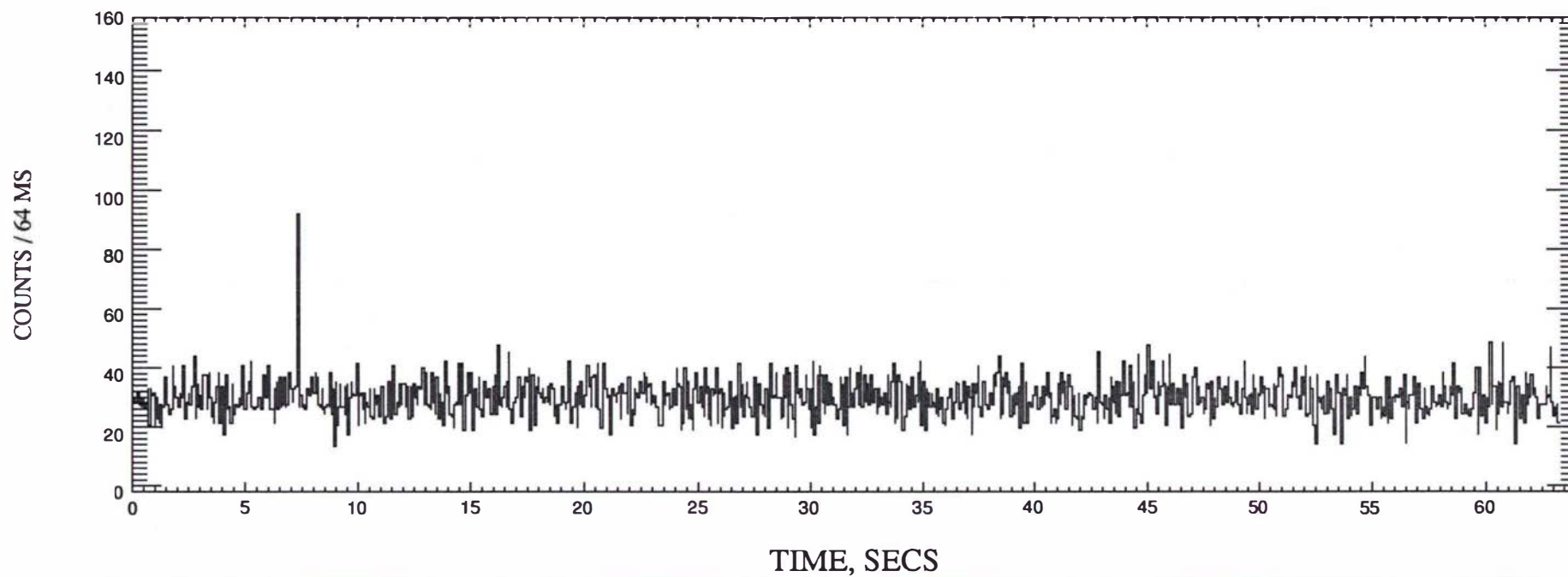
Burst Counter 15 at UT=16.244615770976 h=58480.617 s 16:14:40.617



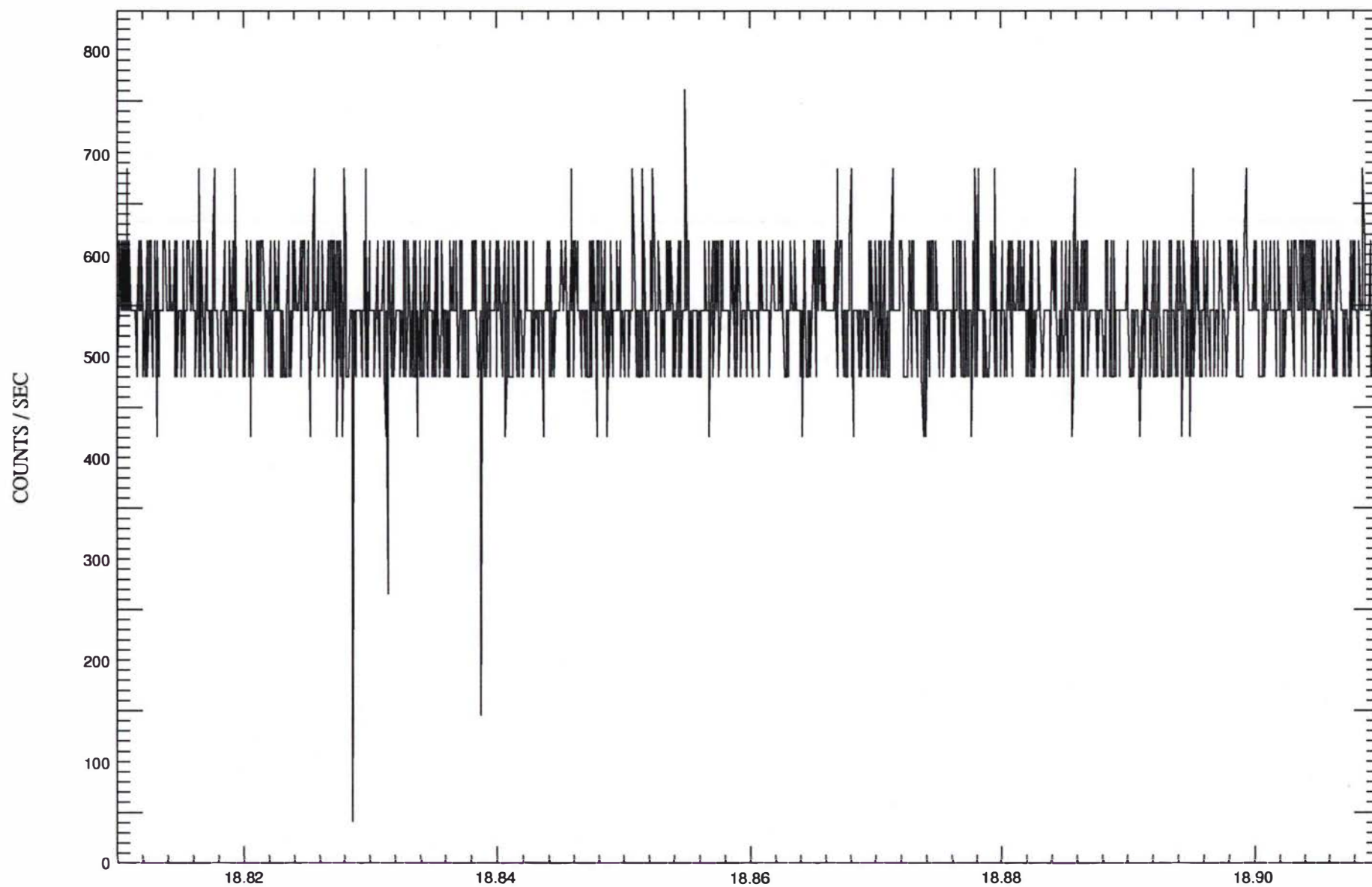
CALIBRATION DATA INCLUDED



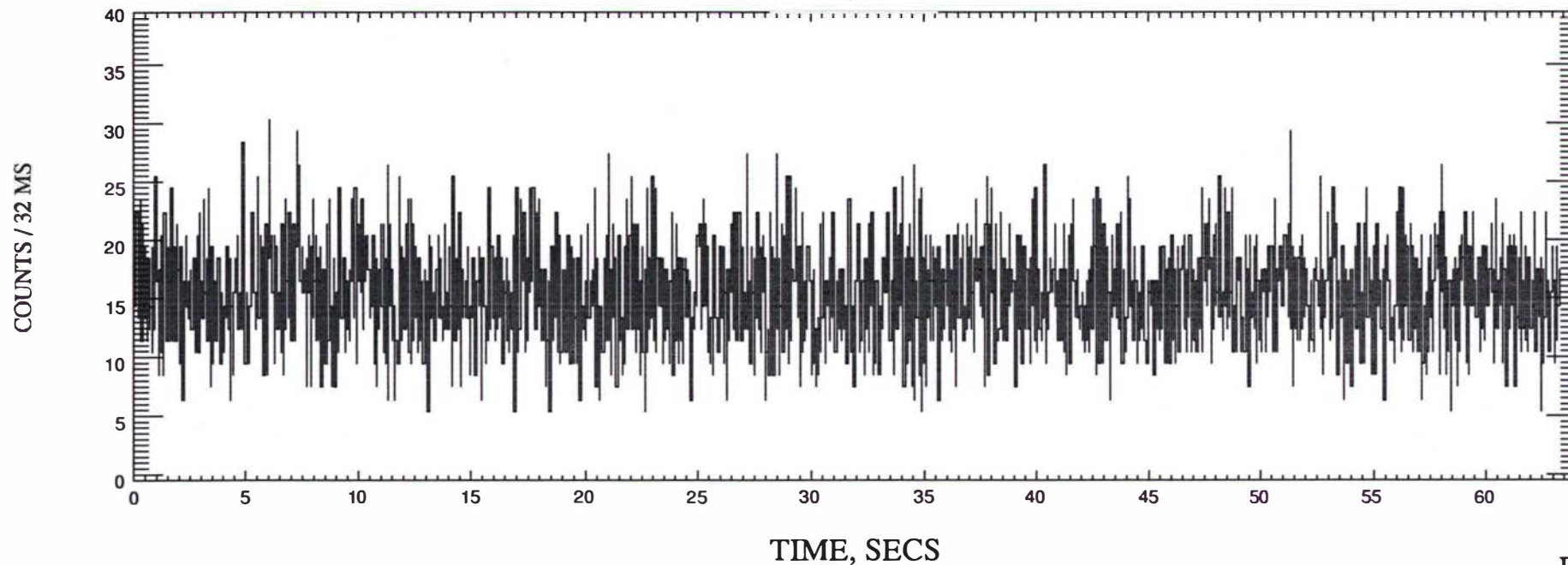
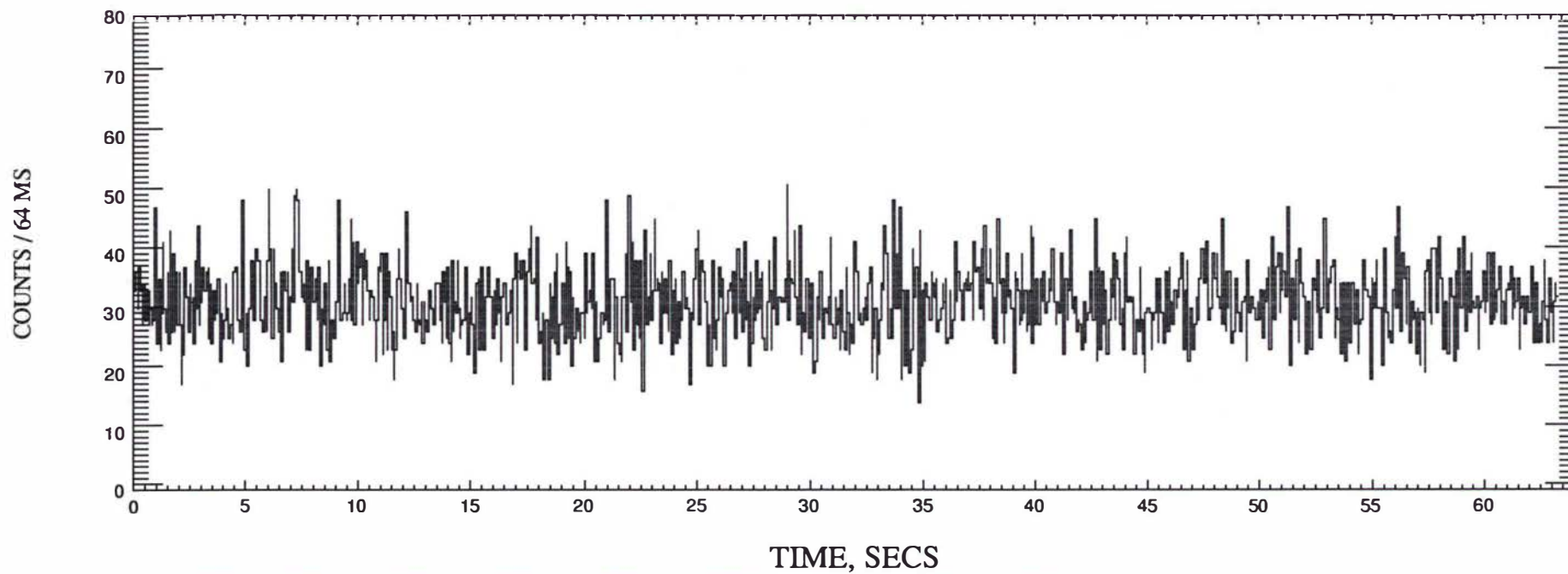
Burst Counter 0 at UT=18.855024846395 h=67878.089 s 18:51:18.089



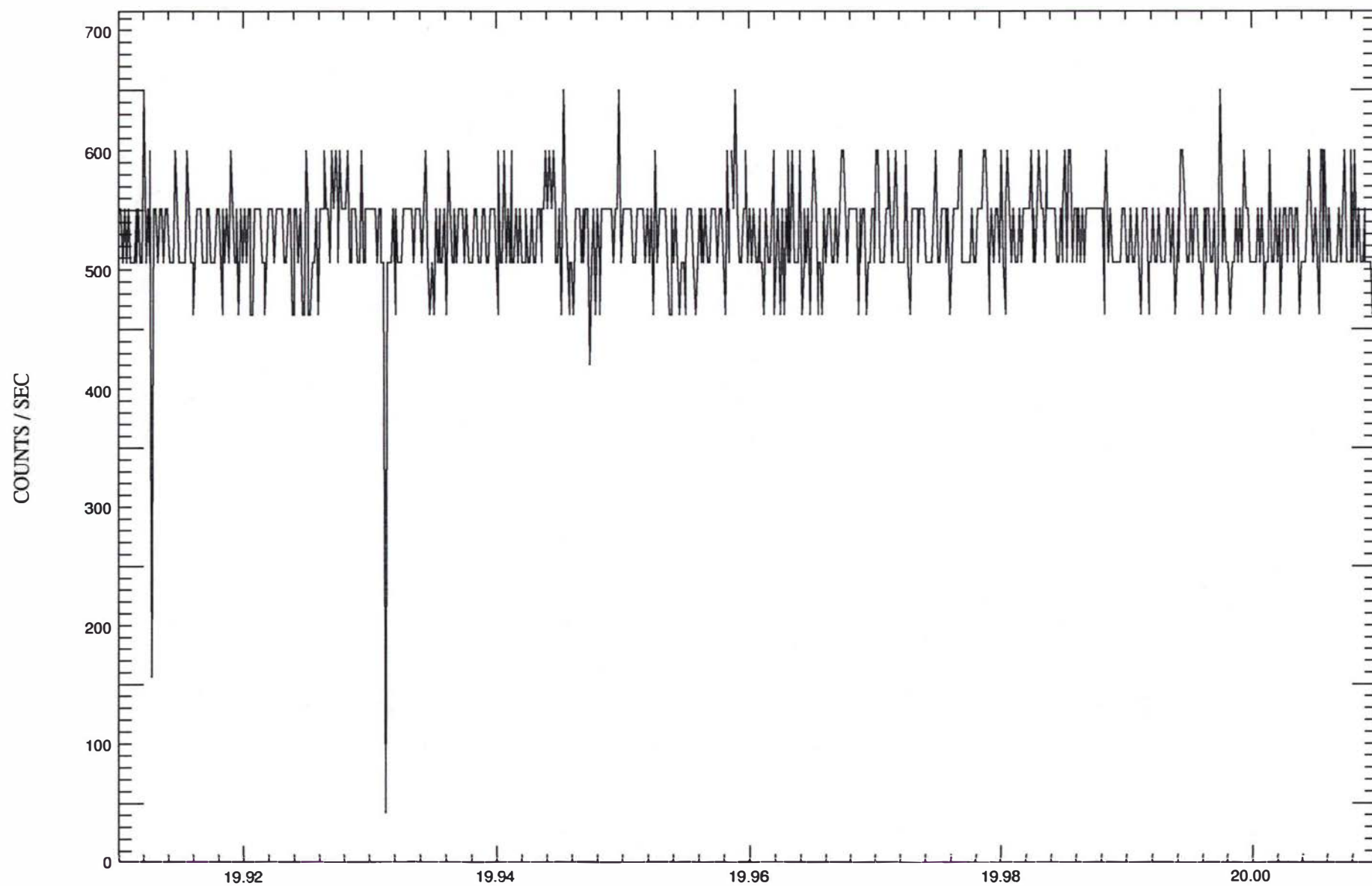
CALIBRATION DATA INCLUDED



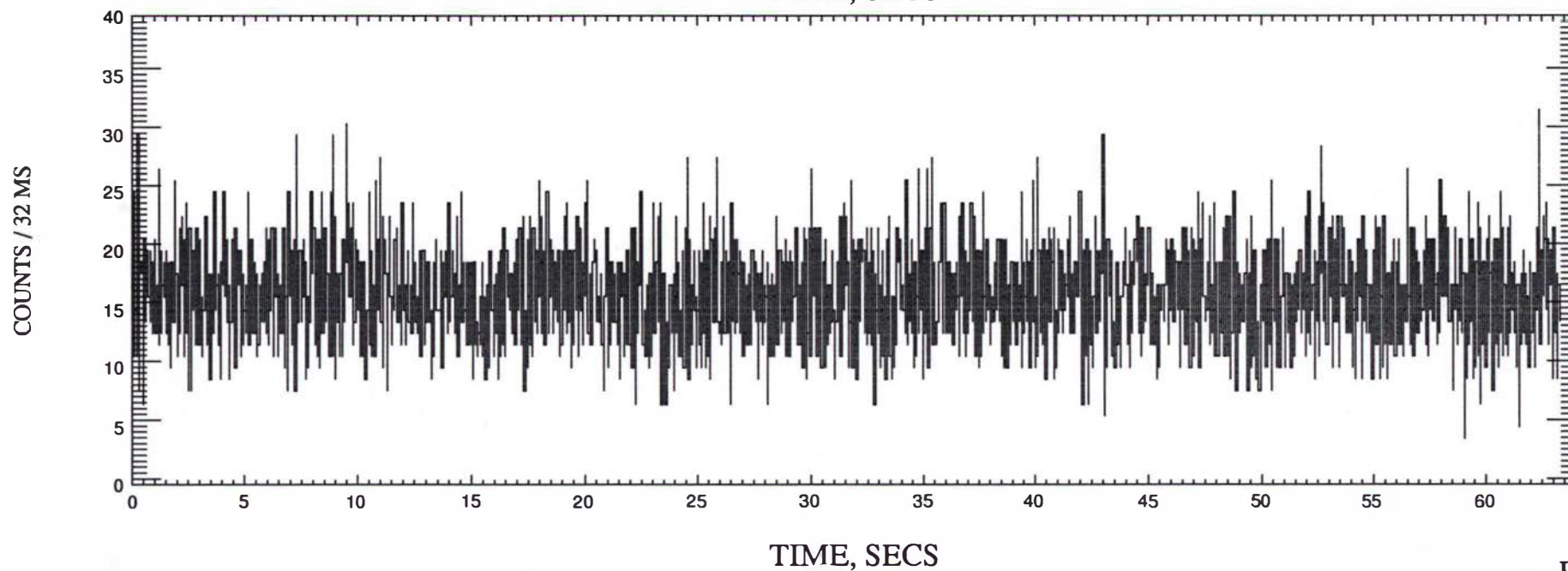
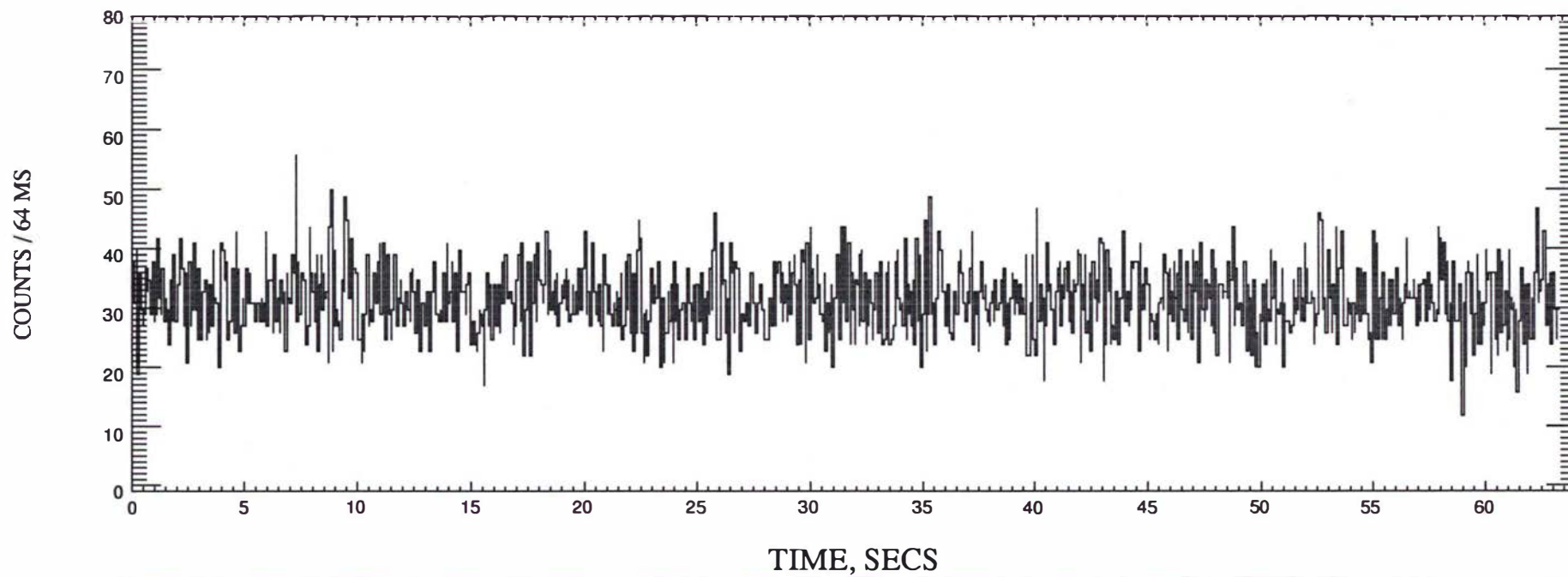
Burst Counter 1 at UT=19.959171019660 h=71853.016 s 19:57:33.016



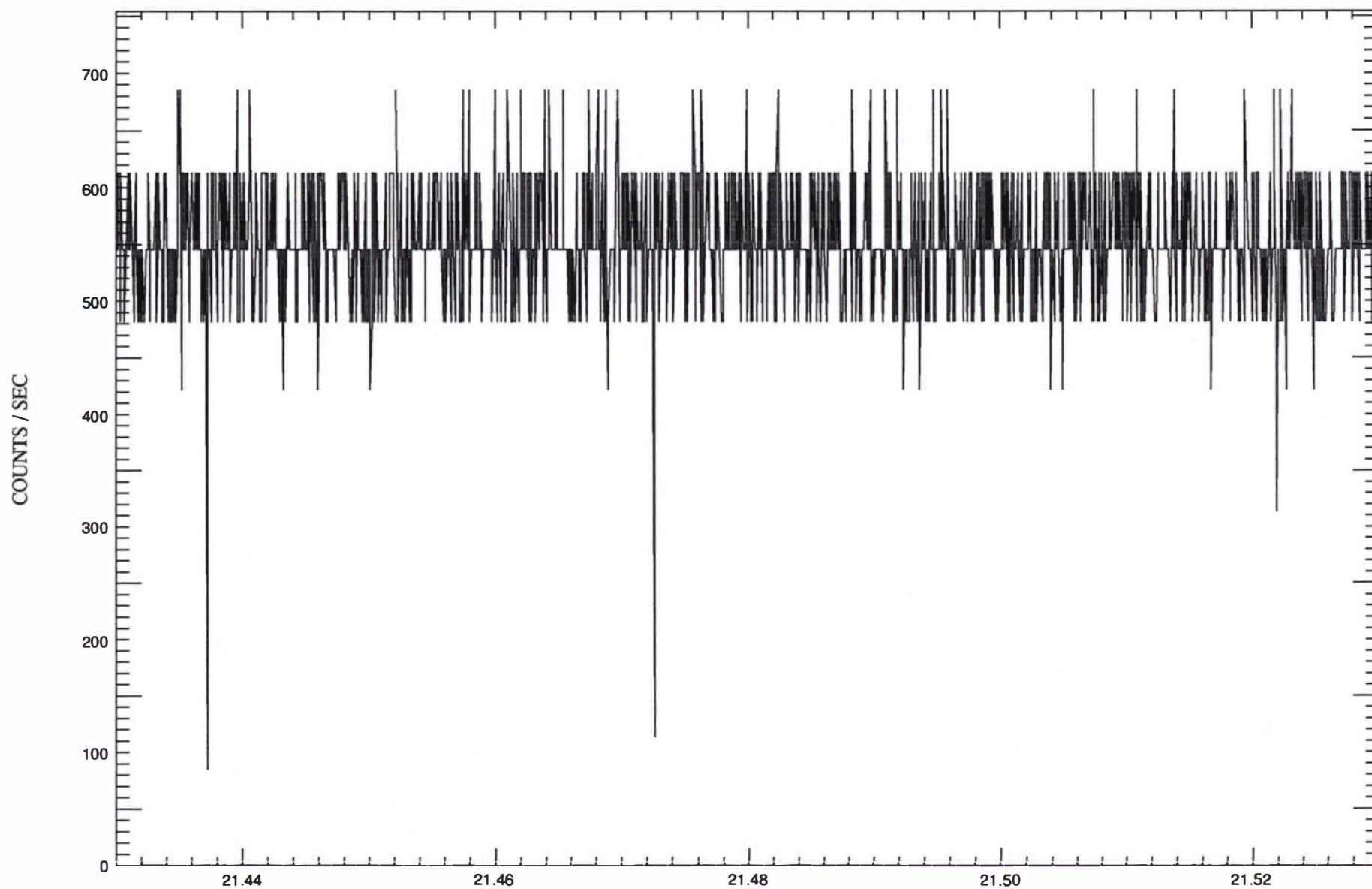
CALIBRATION DATA INCLUDED

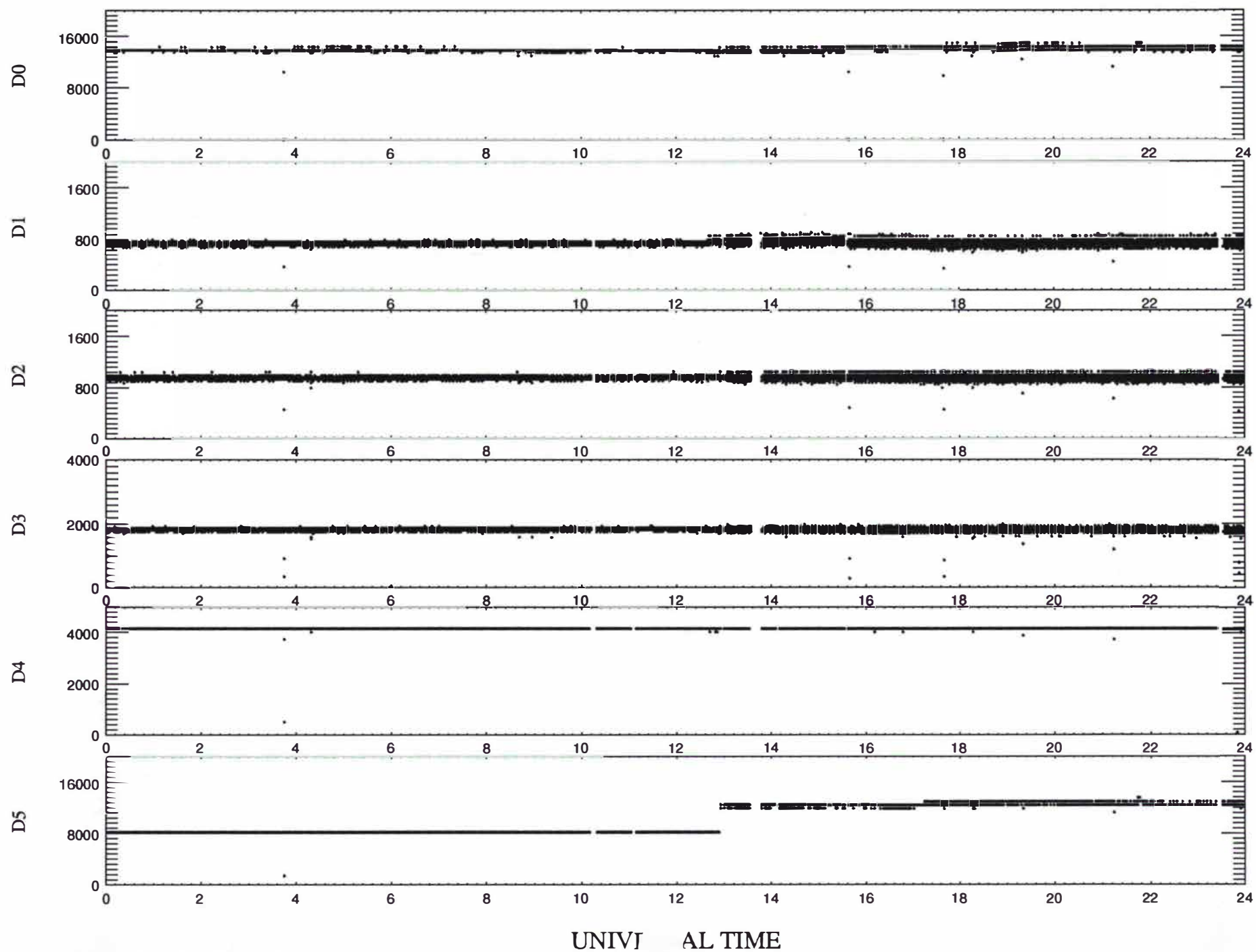


Burst Counter 2 at UT=21.475818786621 h=77312.948 s 21:28:32.948



CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Mon Jun 15 08:55:24 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 IAA08871; Mon, 15 Jun 1998 08:55:23 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA25998; Mon, 15 Jun 1998 08:55:22 -0700
Date: Mon, 15 Jun 1998 10:55:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980615105522.20202635@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6812
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6812
EVENT OF 1998 JUN 9 DAY OF YEAR=160
EVENT CROSSING TIME AT BATSE : 25094. S. OR 06:58:14.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 198.000 37.000
BATSE PEAK COUNTING RATE: 1700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 9/ 6/ 98 IS:
RA= 149.310 DEC= 10.899 DIST= 5.677 AU
BATSE-ULYSSES DISTANCE = 849319154. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=129.16 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1789.00 SECS.
CROSSING TIME AT ULYSSES IS 23305. S. OR 06:28:25 +/- 404.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 9/ 6/ 98 IS:
RA= 69.577 DEC= 22.442 DIST= 2.515 AU
MARS-BATSE DISTANCE = 376251648. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 76.76 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 287.39 SECS.
CROSSING TIME AT MARS IS 25381. S. OR 07:03:01 +/- 216.47 SECONDS

BATSE BURST TRIGGER

NO.: 6812

TIME: TJD=0973 SECONDS=25094

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=42.4 AZIMUTH=242.3 ERROR=6 DEGREES

COMMENTS:

GRB LASTING ABOUT 37 SEC. MULTI-PEAKED EVENT. NOT VISIBLE ABOVE
300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6812	980609	10973	25094	1700	198	+37	37

BATSE BURST# 6812

ULYSSES RT

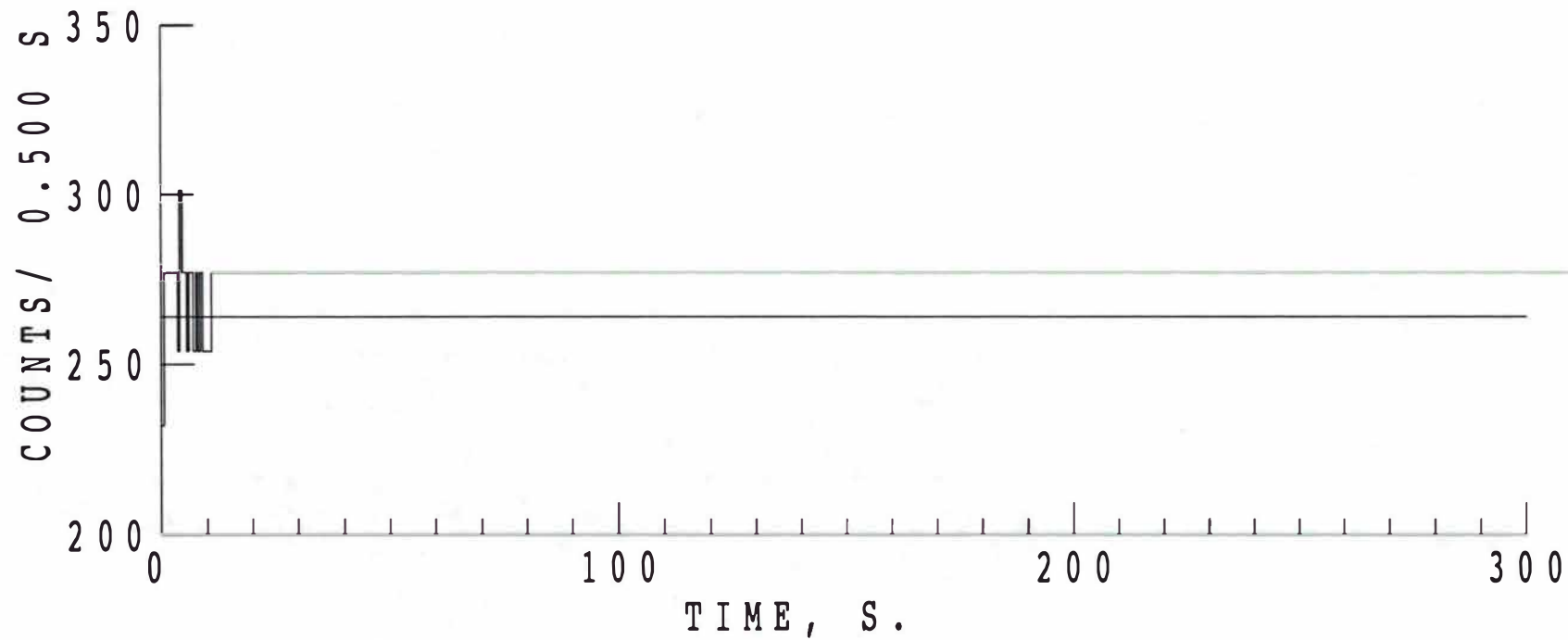
15 / 6 / 98

9 / 6 / 98 22896.047 s

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Mon Jun 15 08:52:15 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 15 Jun 1998 10:51:48 -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.: 6813

TIME: TJD=0973 SECONDS=60517

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA EXIT.

From WOODSP@fender.msfc.nasa.gov Mon Jun 15 09:03:19 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 JAA08970; Mon, 15 Jun 1998 09:03:19 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA26076; Mon, 15 Jun 1998 09:03:19 -0700
Date: Mon, 15 Jun 1998 10:57:15 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980615105715.20202635@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6814
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6814
EVENT OF 1998 JUN 9 DAY OF YEAR=160
EVENT CROSSING TIME AT BATSE : 73935. S. OR 20:32:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 321.000 -19.000
BATSE PEAK COUNTING RATE: 12500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 9/ 6/ 98 IS:
RA= 149.339 DEC= 10.863 DIST= 5.686 AU
BATSE-ULYSSES DISTANCE = 850617591. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 11.44 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2780.94 SECS.
CROSSING TIME AT ULYSSES IS 76716. S. OR 21:18:35 +/- 189.98 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 9/ 6/ 98 IS:
RA= 69.577 DEC= 22.442 DIST= 2.515 AU
MARS-BATSE DISTANCE = 376251648. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 66.25 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 505.41 SECS.
CROSSING TIME AT MARS IS 74440. S. OR 20:40:40 +/- 207.12 SECONDS

BATSE BURST TRIGGER

NO.: 6814

TIME: TJD=0973 SECONDS=73935

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=161.5 AZIMUTH=180.6 ERROR=1 DEGREES

COMMENTS:

GRB LASTING ABOUT 30 SEC. TWO SMOOTH PULSES WITH THE SECOND ONE
BEING THE BRIGHTEST. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6814	980609	10973	73935	12500	321	-19	30

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

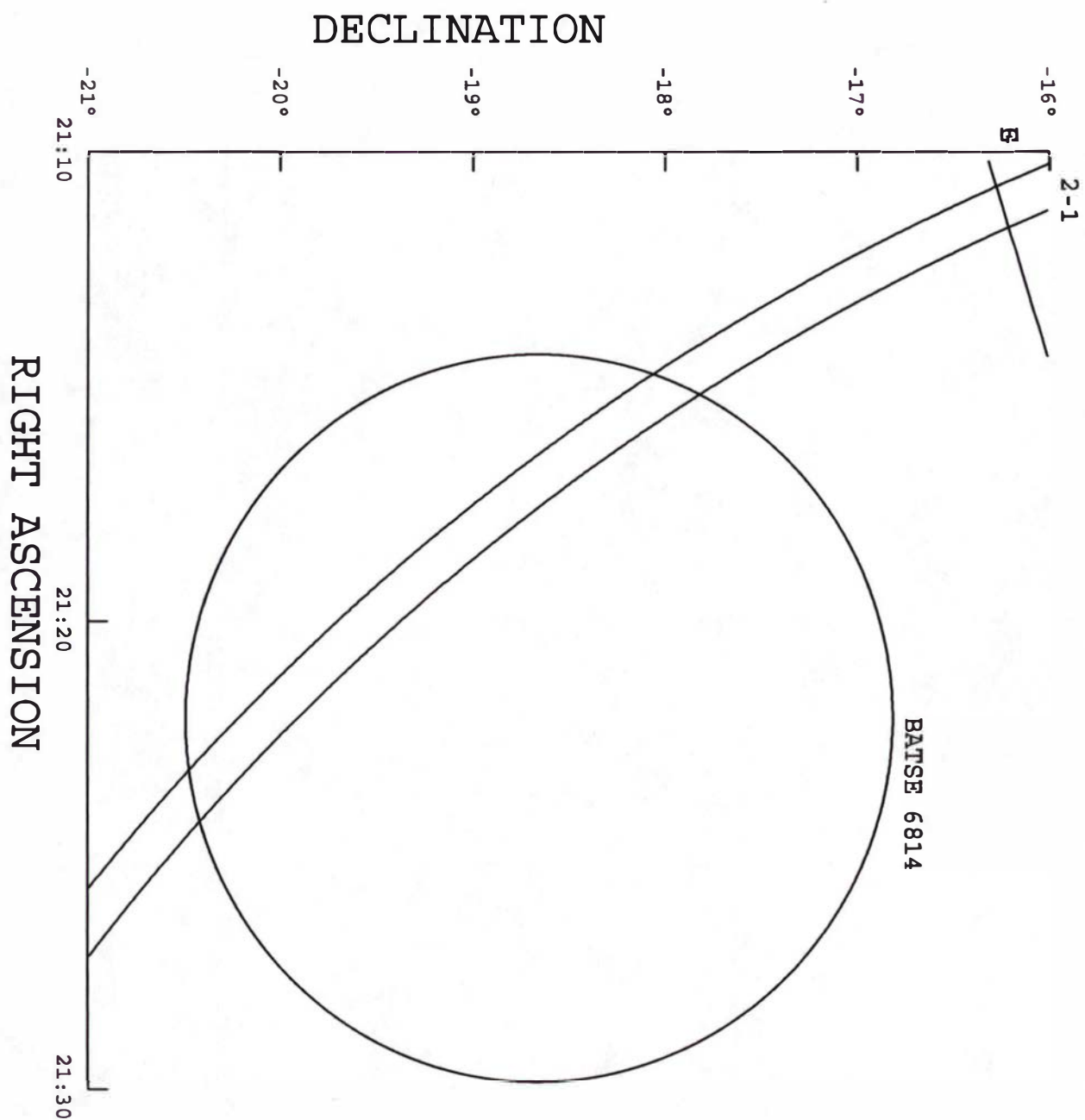
G=GALACTIC EQUATOR

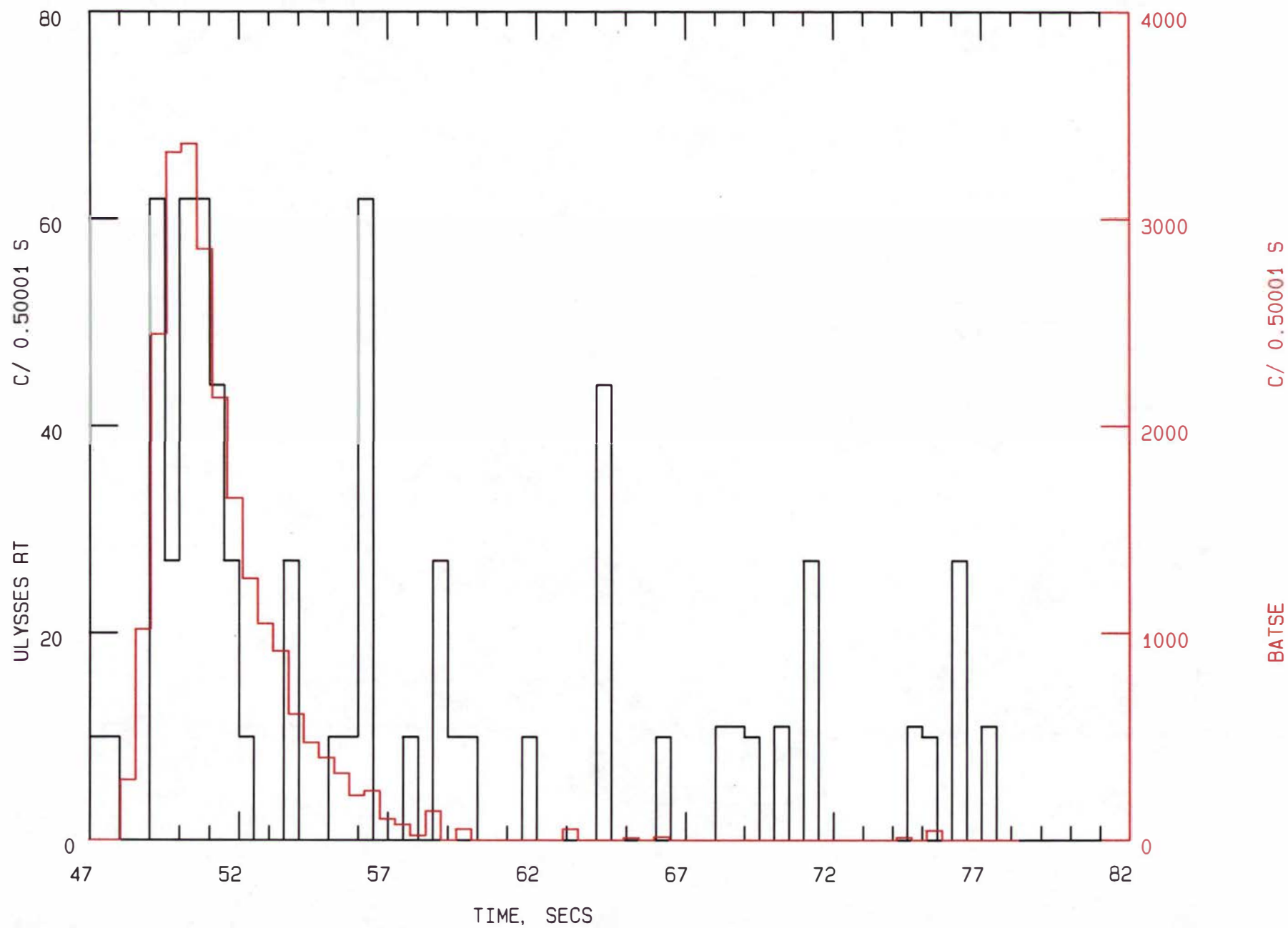
1 BATSE

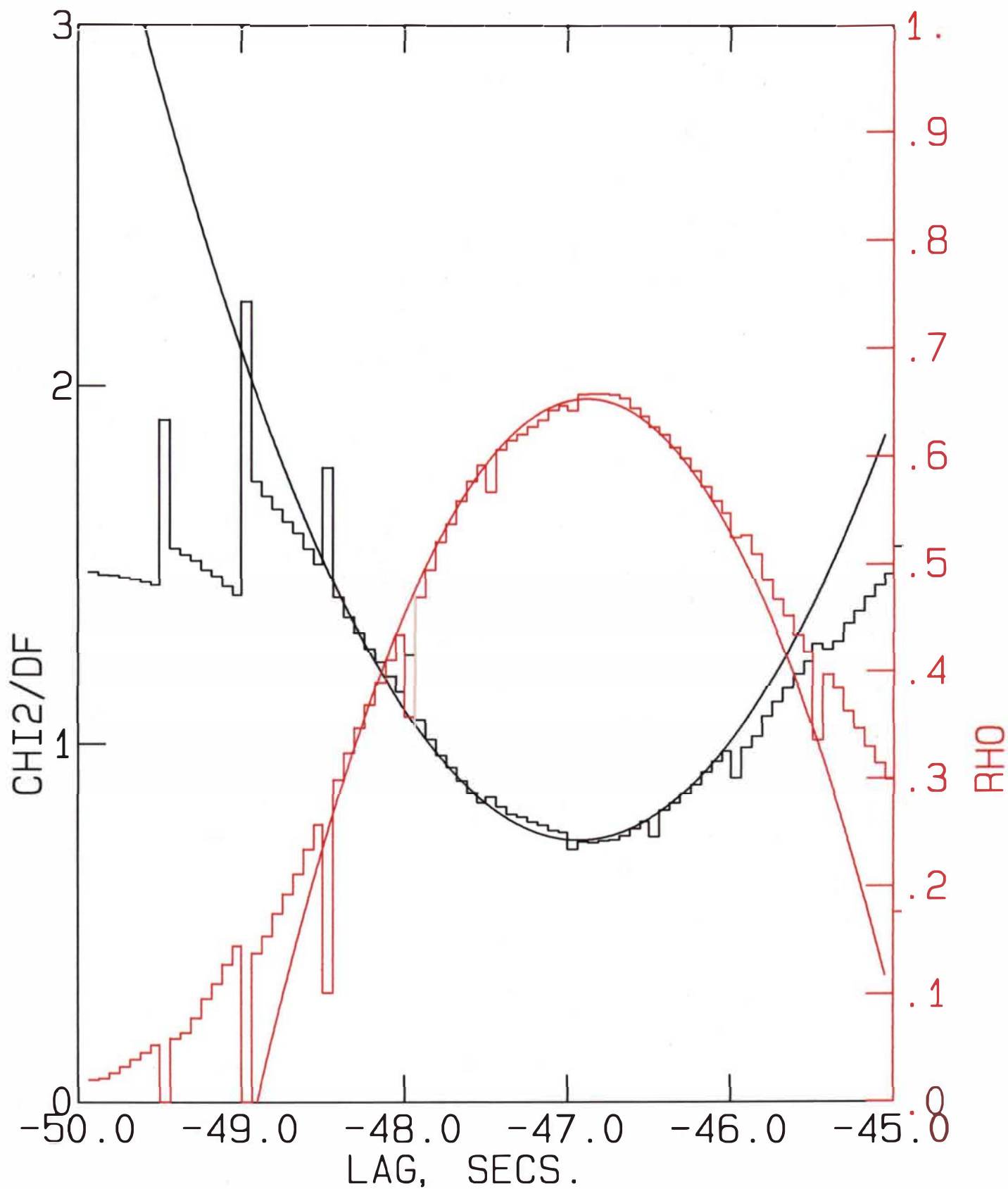
2 ULYSSES

EVENT OF JUN 9, 1998 20:32

18/ 1/ 0



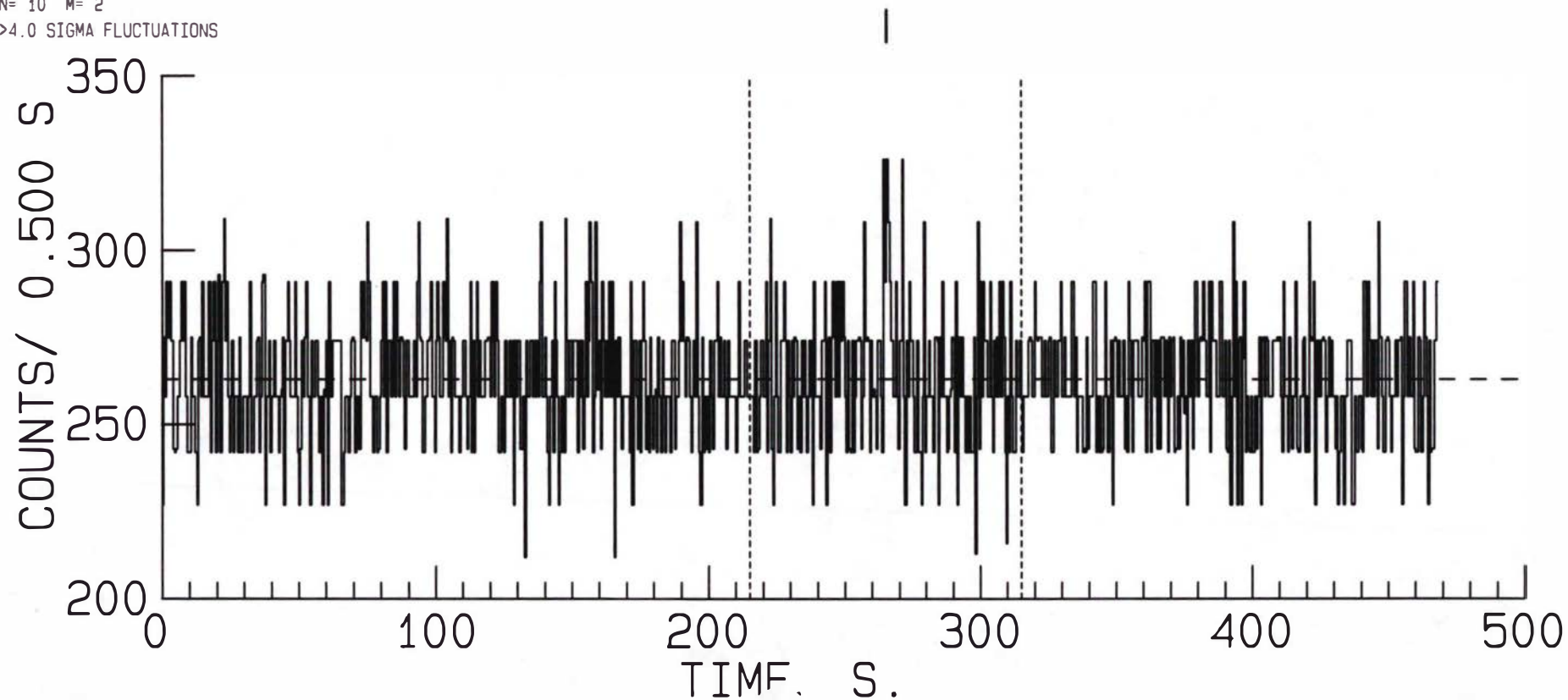




ULYSSES RT
9/ 6/98 76428.114 s
0.250 S INTERVALS REGROUPED BY 2
22- 150 keV

18/ 1/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

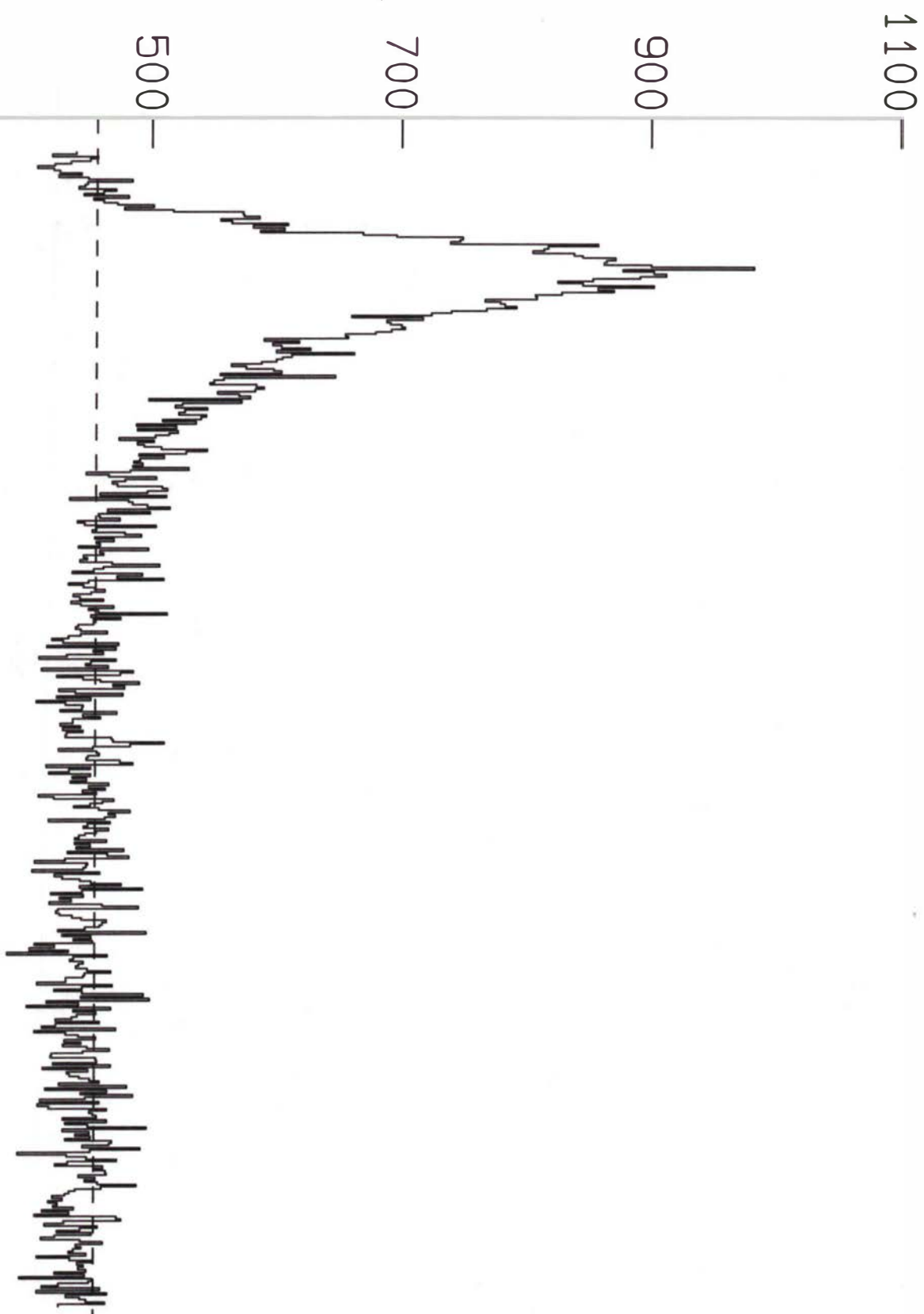
09/06/98

73935.586

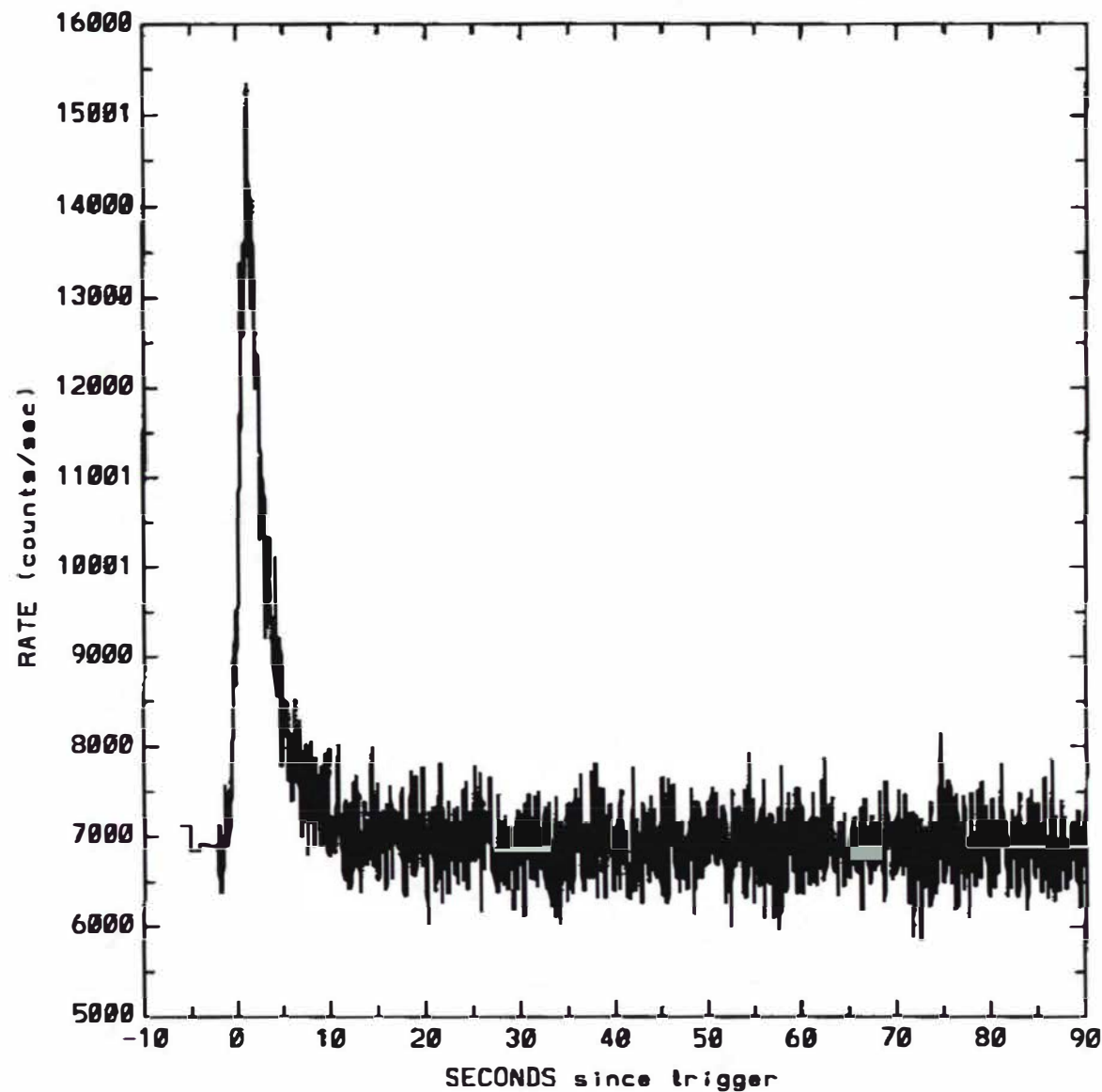
25- 100 keV

COUNTS/0.064 S

25 / 6 / 98



DISCSC Data for K. Hurley. No. 6814



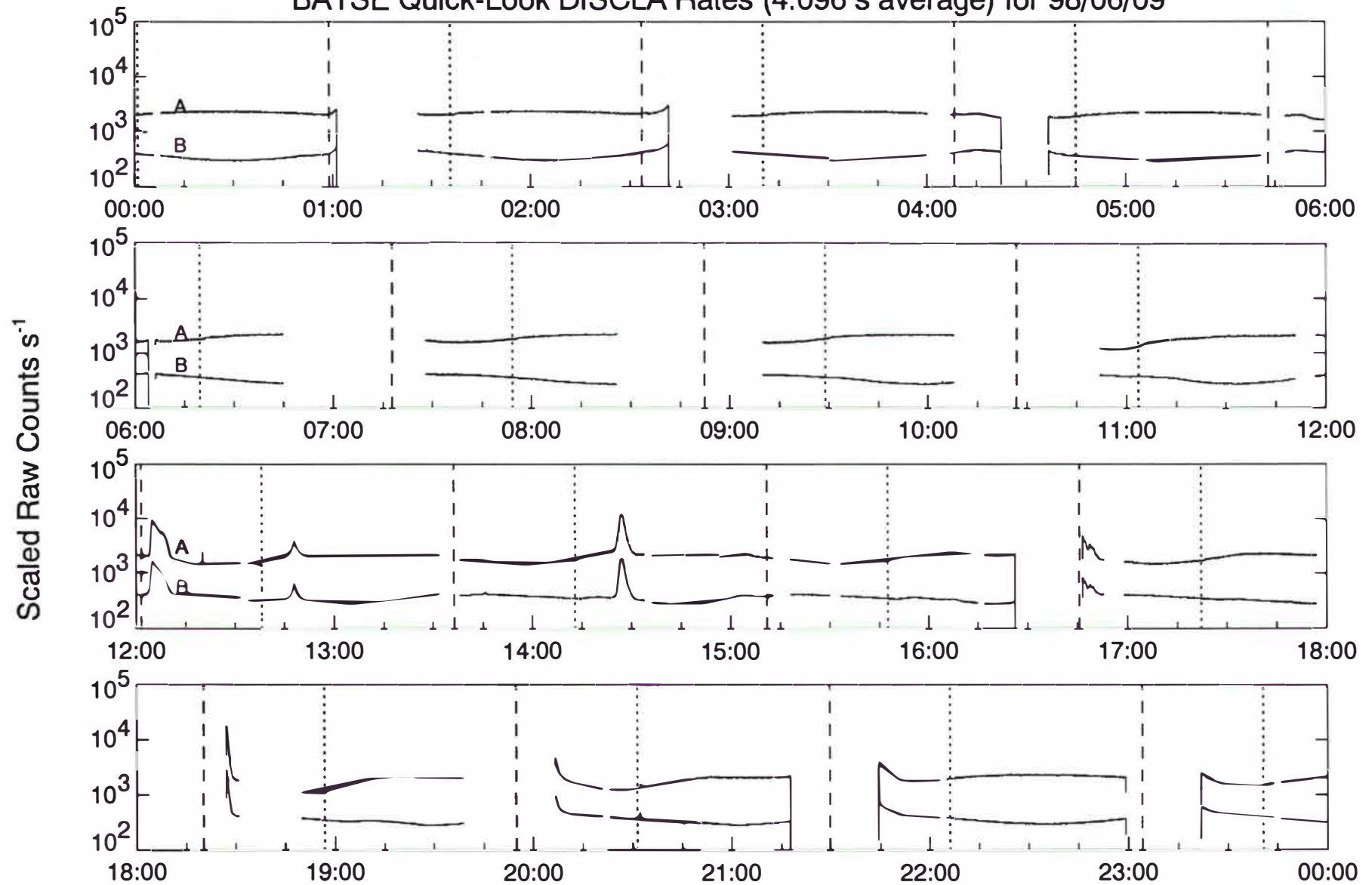
17-JUN-1998 11:57:38

Created by NOPS BD
(Burst Display)
Version t2.25

Trigger * . 6814

Trigger Time:
18973 / 73935.585Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors [7..8]:
7-5-----Discriminators:
(1 . 2)Quality Mask:
B0[SP1]

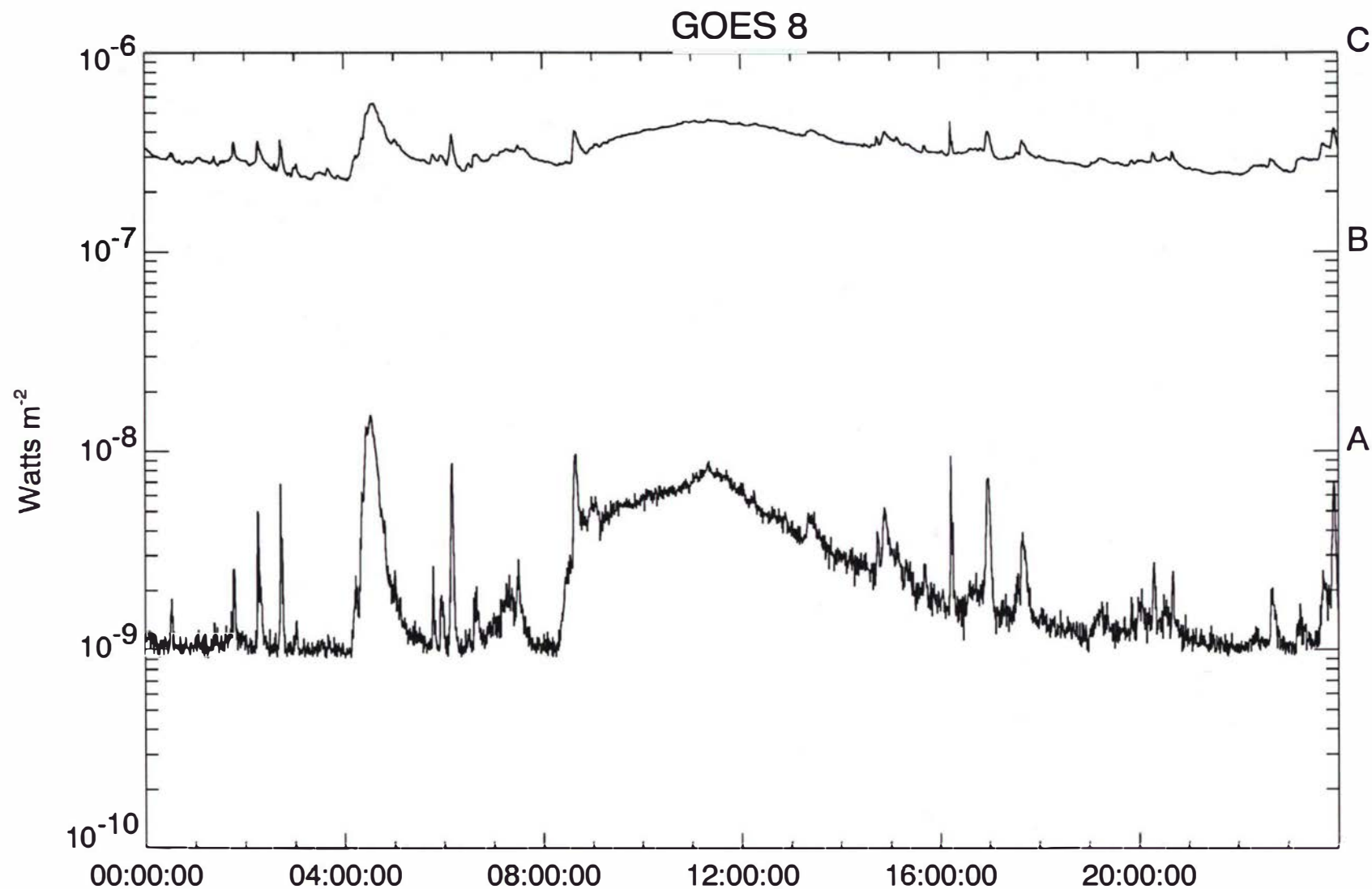
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/09



Current Time: 98/06/13, 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: 98/06/09, 0000:00

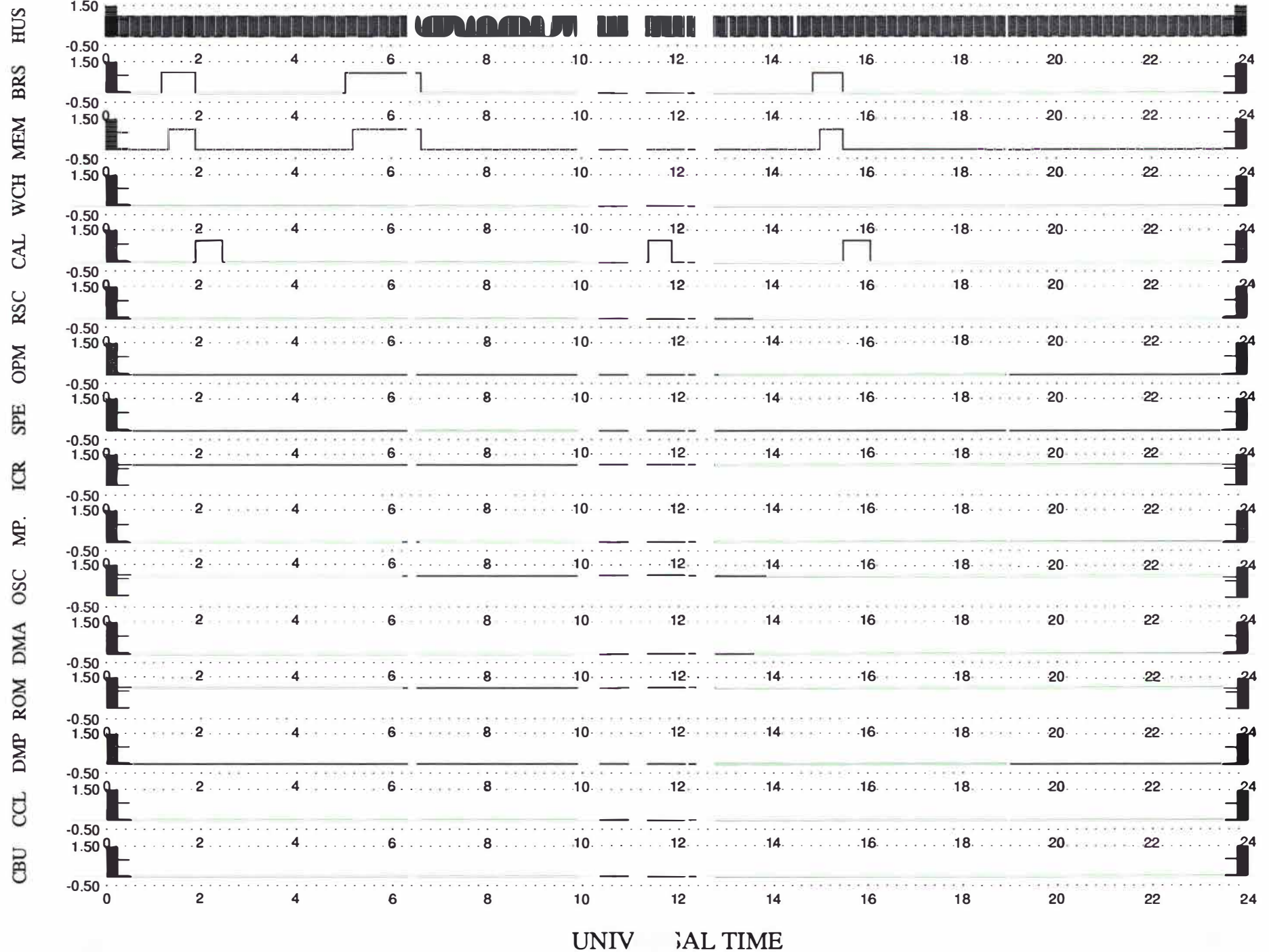
Plot created: 98/06/13, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

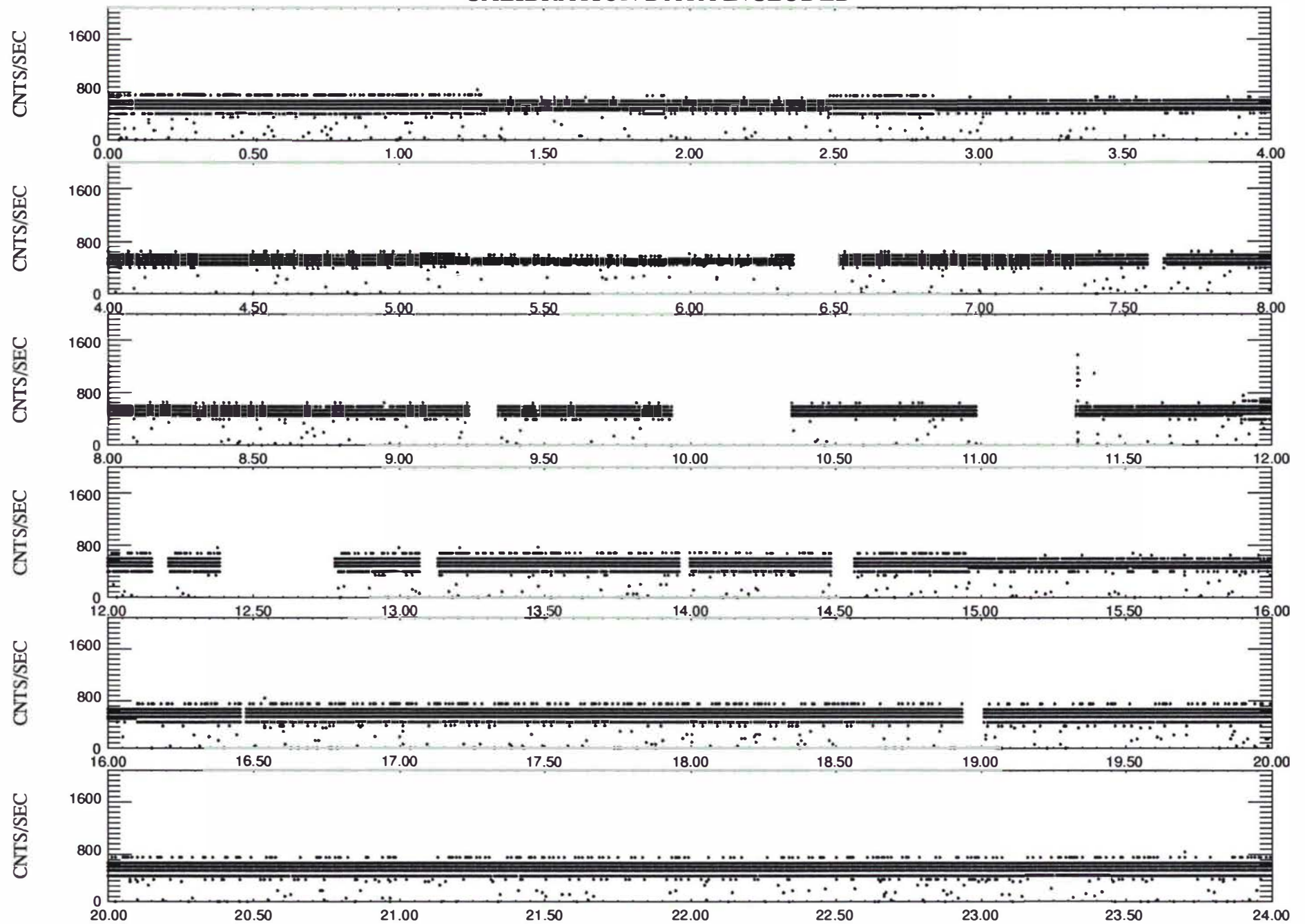
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 3 - 5

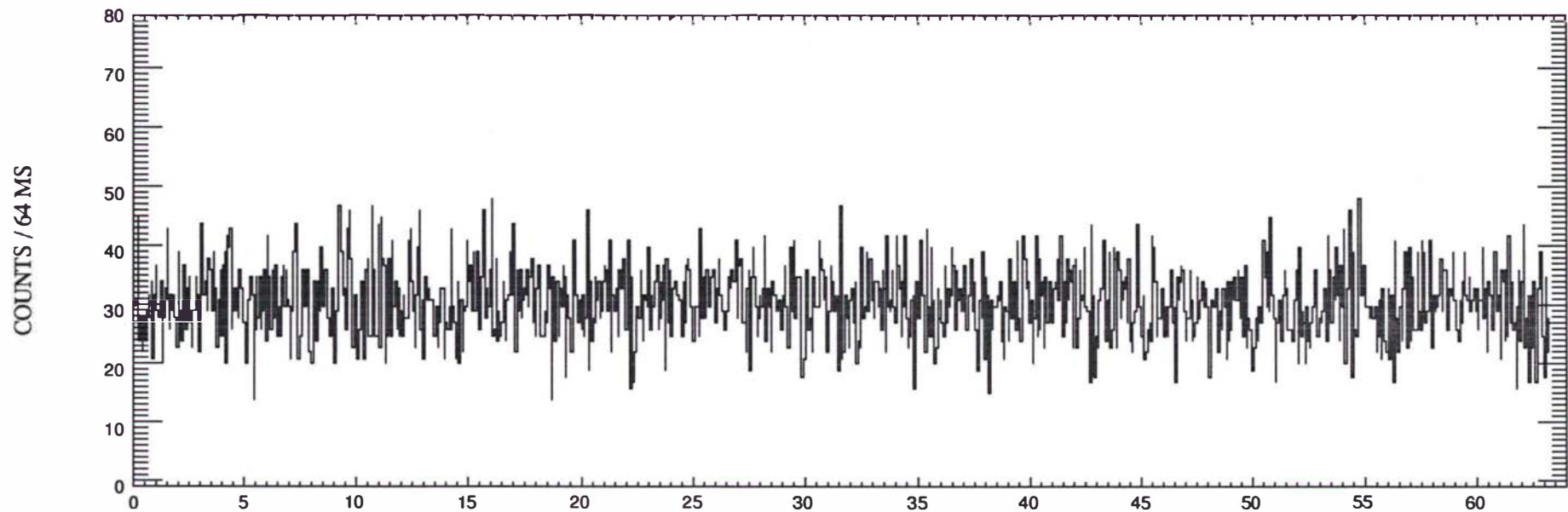


CALIBRATION DATA INCLUDED

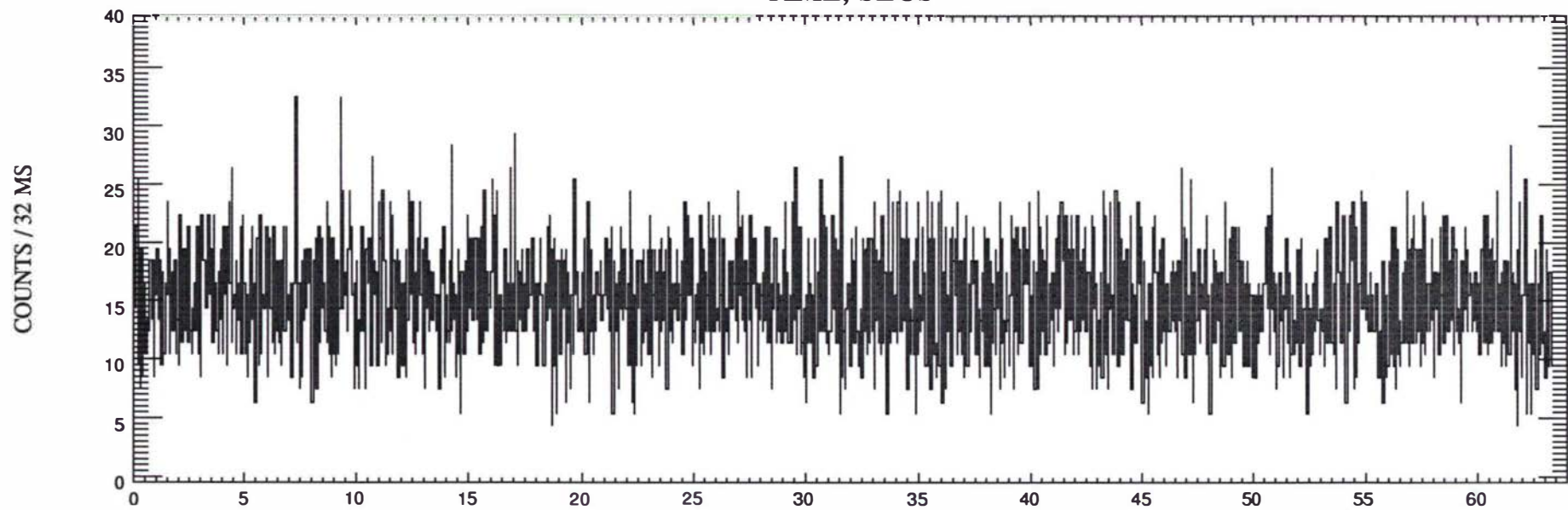


UNIV 3AL TIME

Burst Counter 3 at UT= 1.135233353509 h= 4086.840 s 01:08:06.840

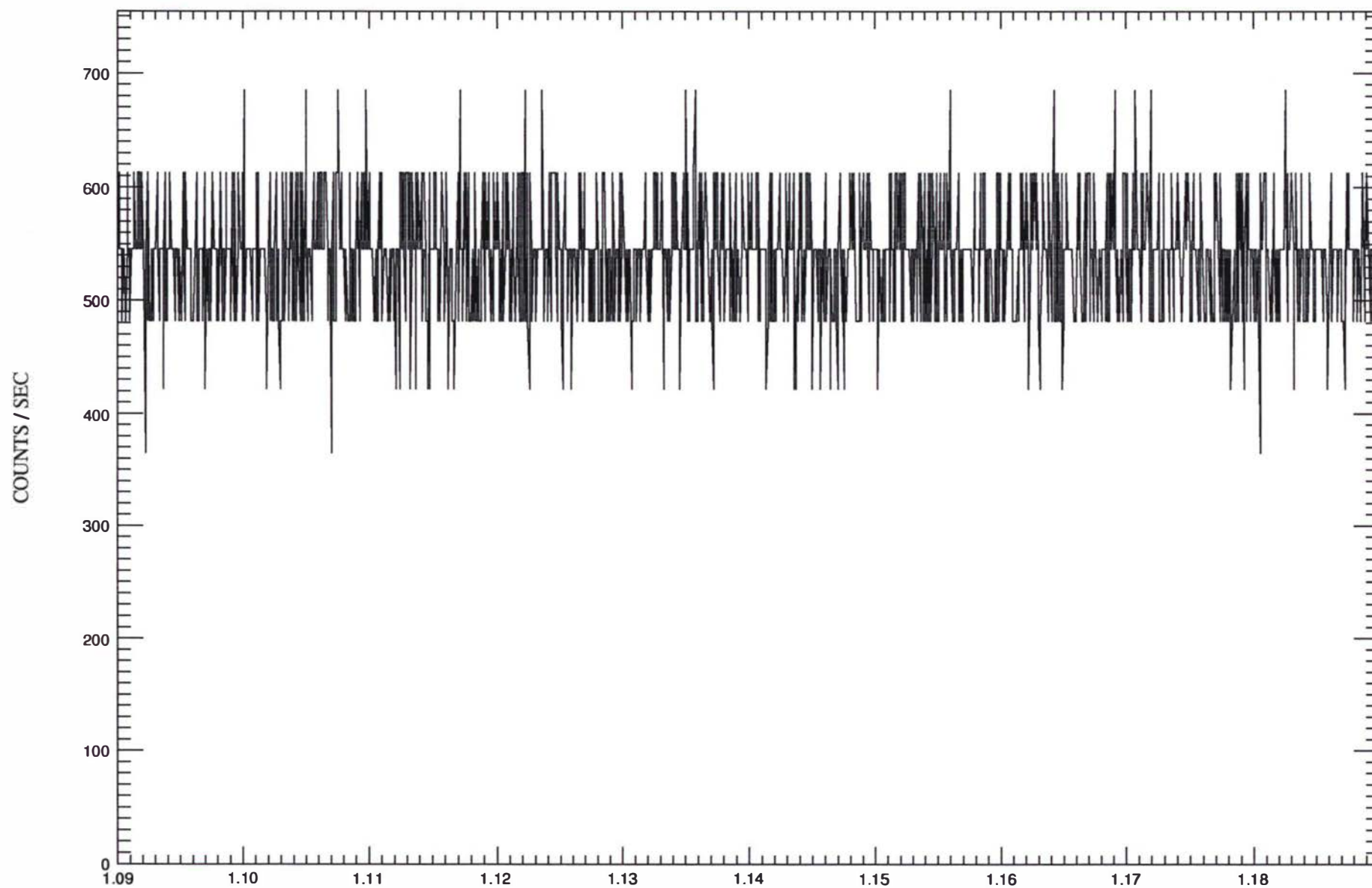


TIME, SECS

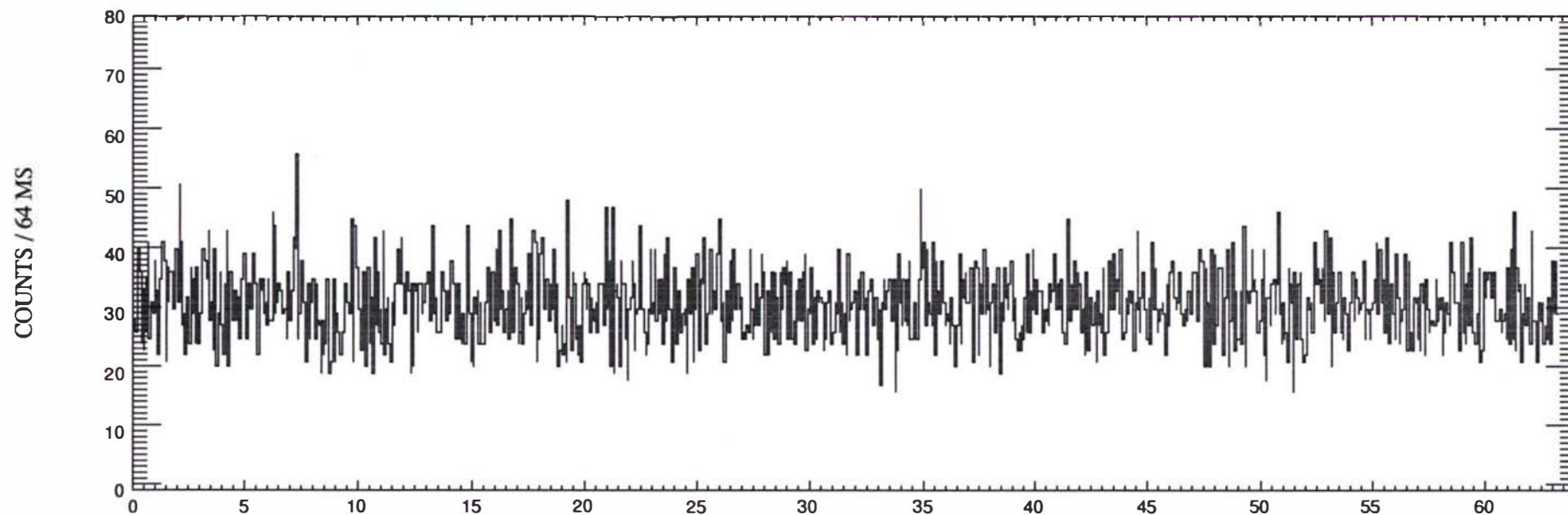


TIME, SECS

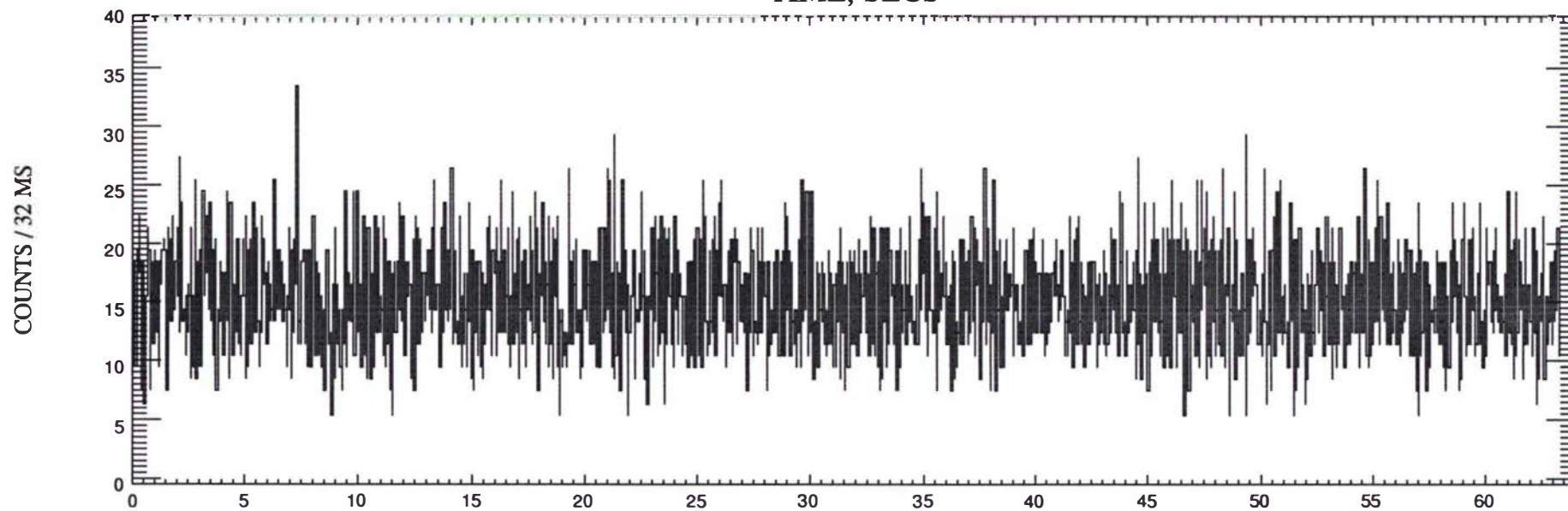
CALIBRATION DATA INCLUDED



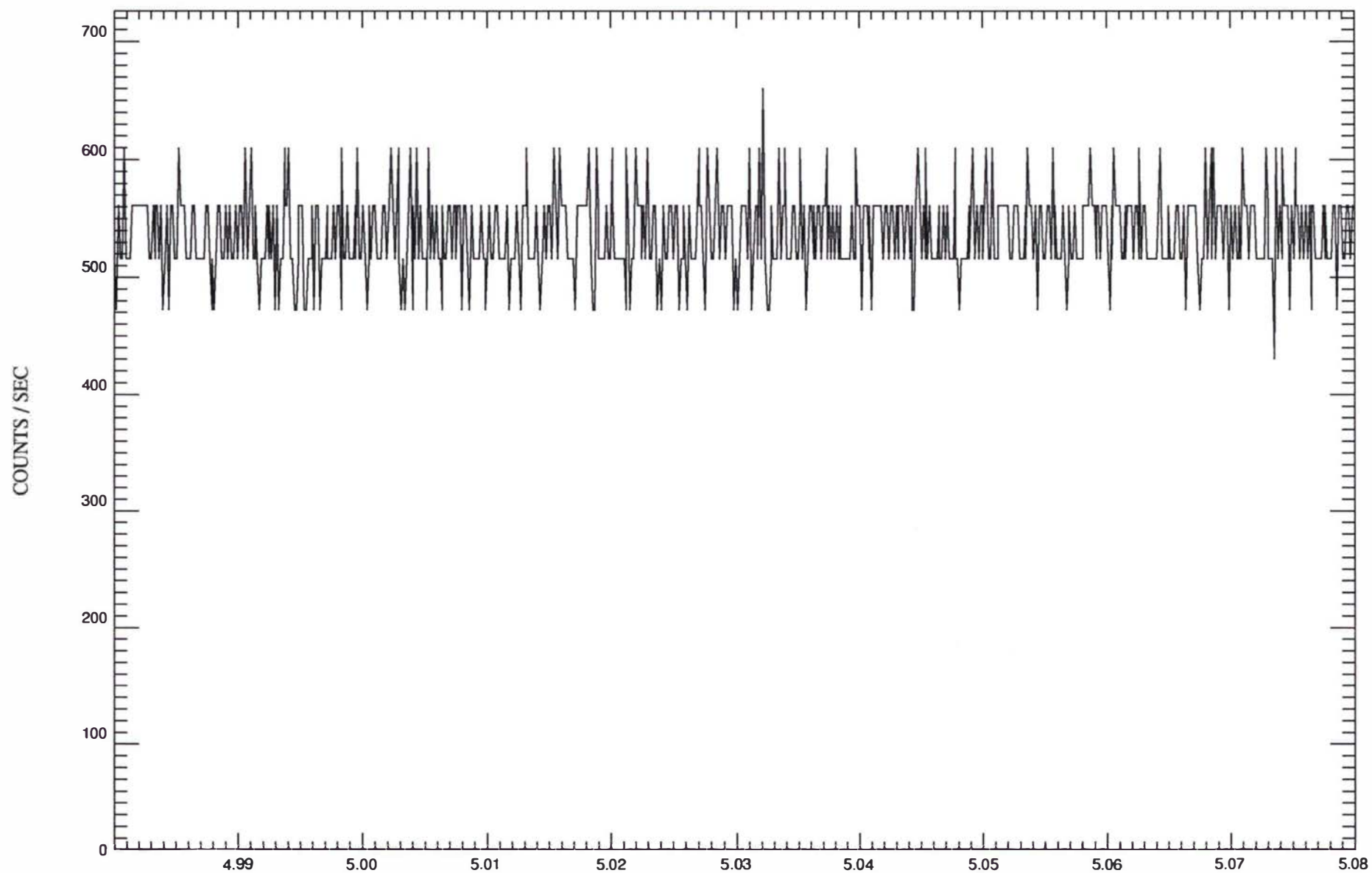
Burst Counter 4 at UT= 5.032288784451 h=18116.240 s 05:01:56.240



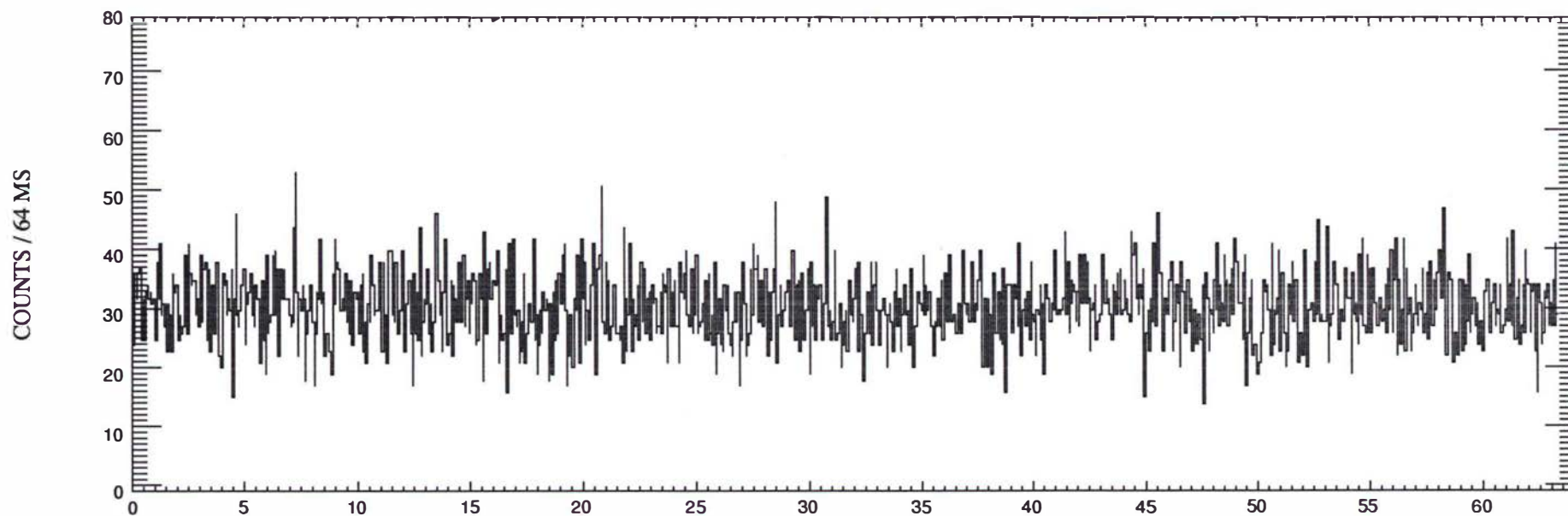
TIME, SECS



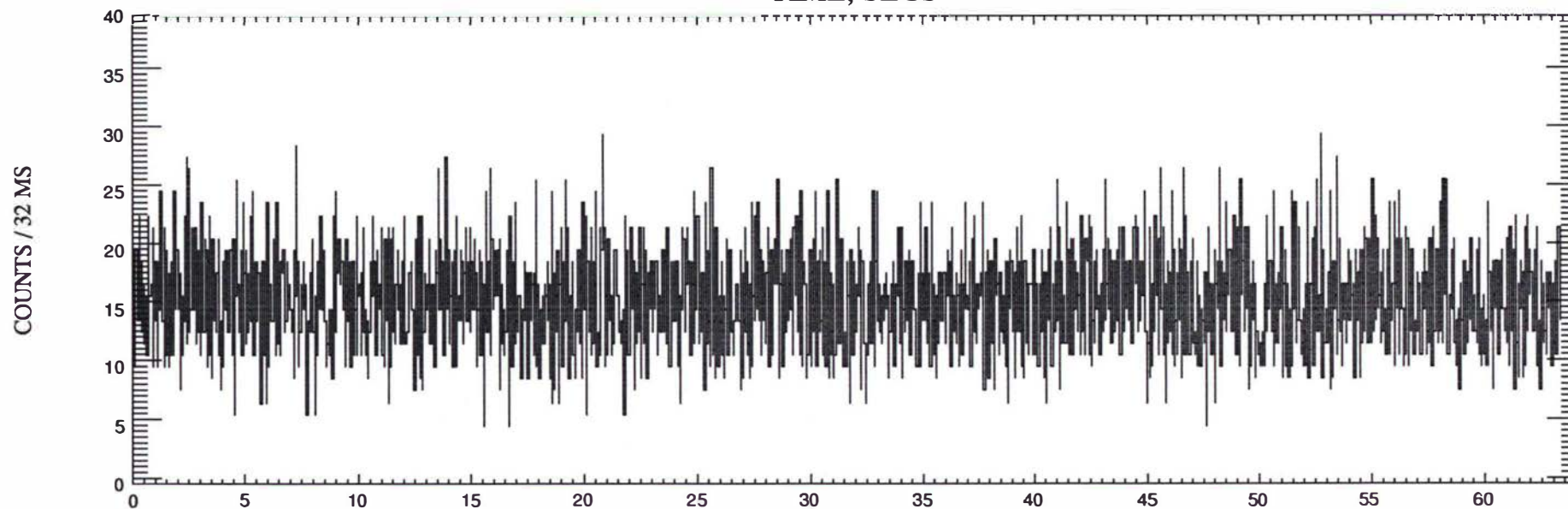
CALIBRATION DATA INCLUDED



Burst Counter 5 at UT=14.807218322754 h=53305.986 s 14:48:25.986

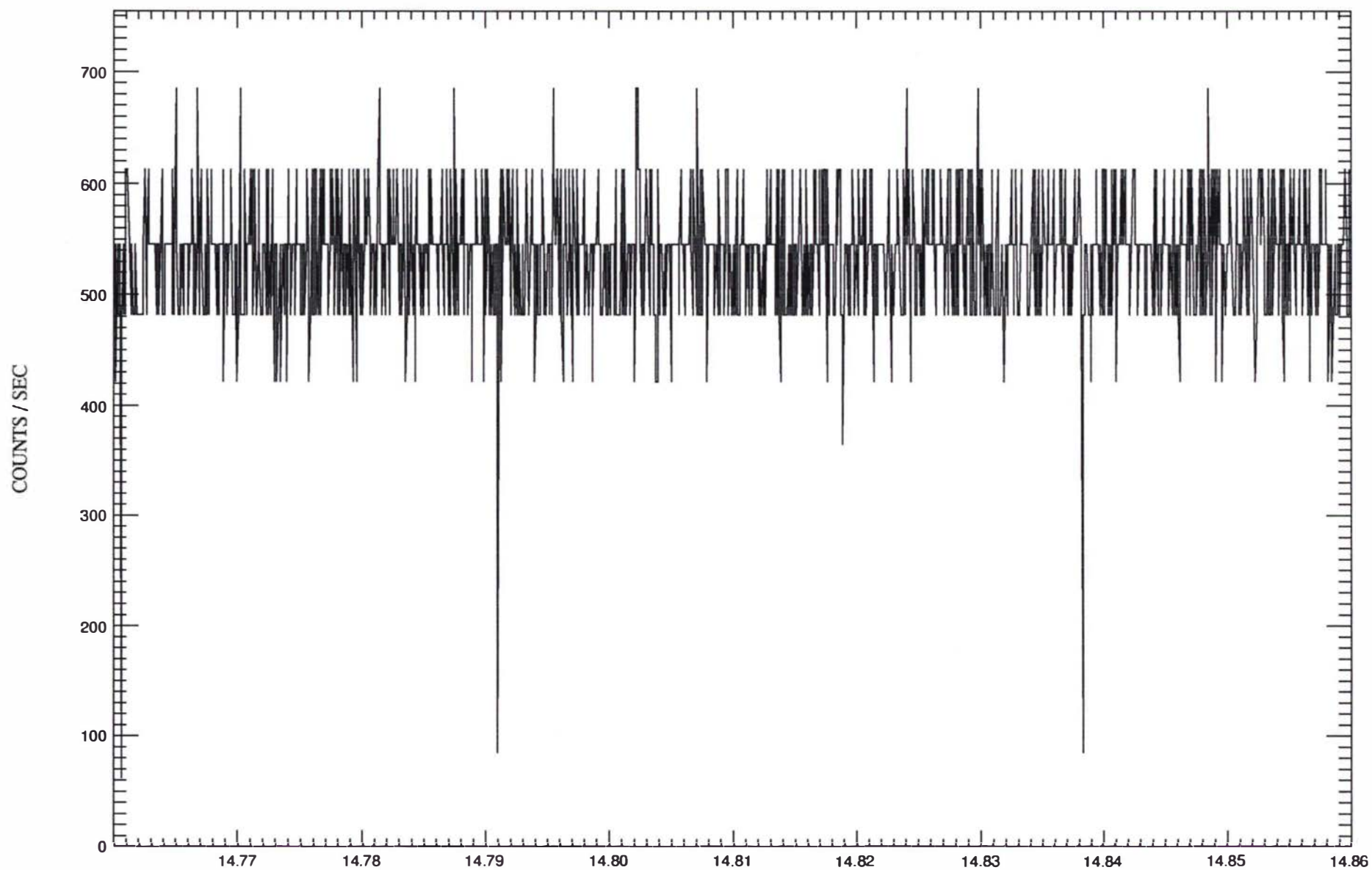


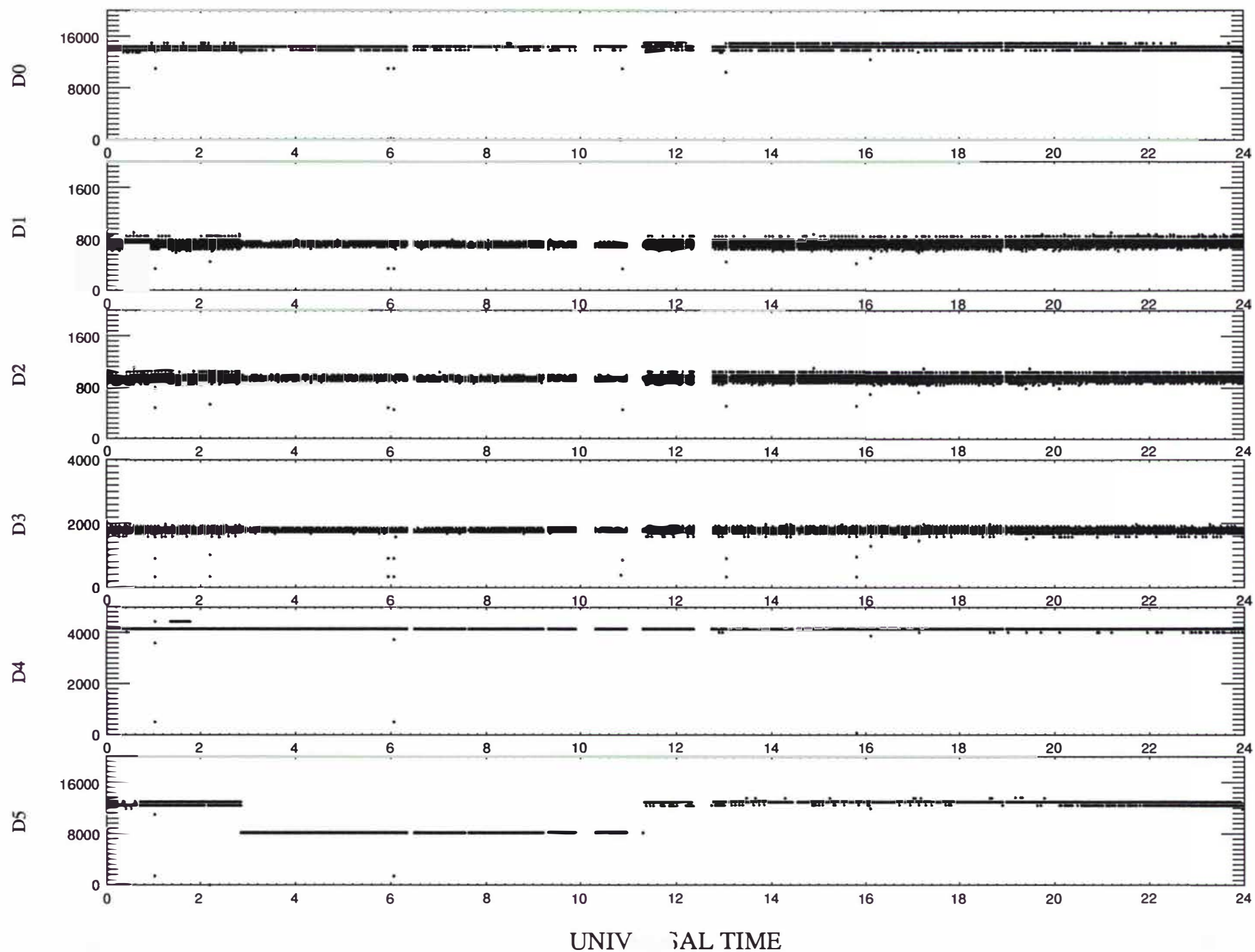
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





Date: Nov 19 '08

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

- ☐ 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

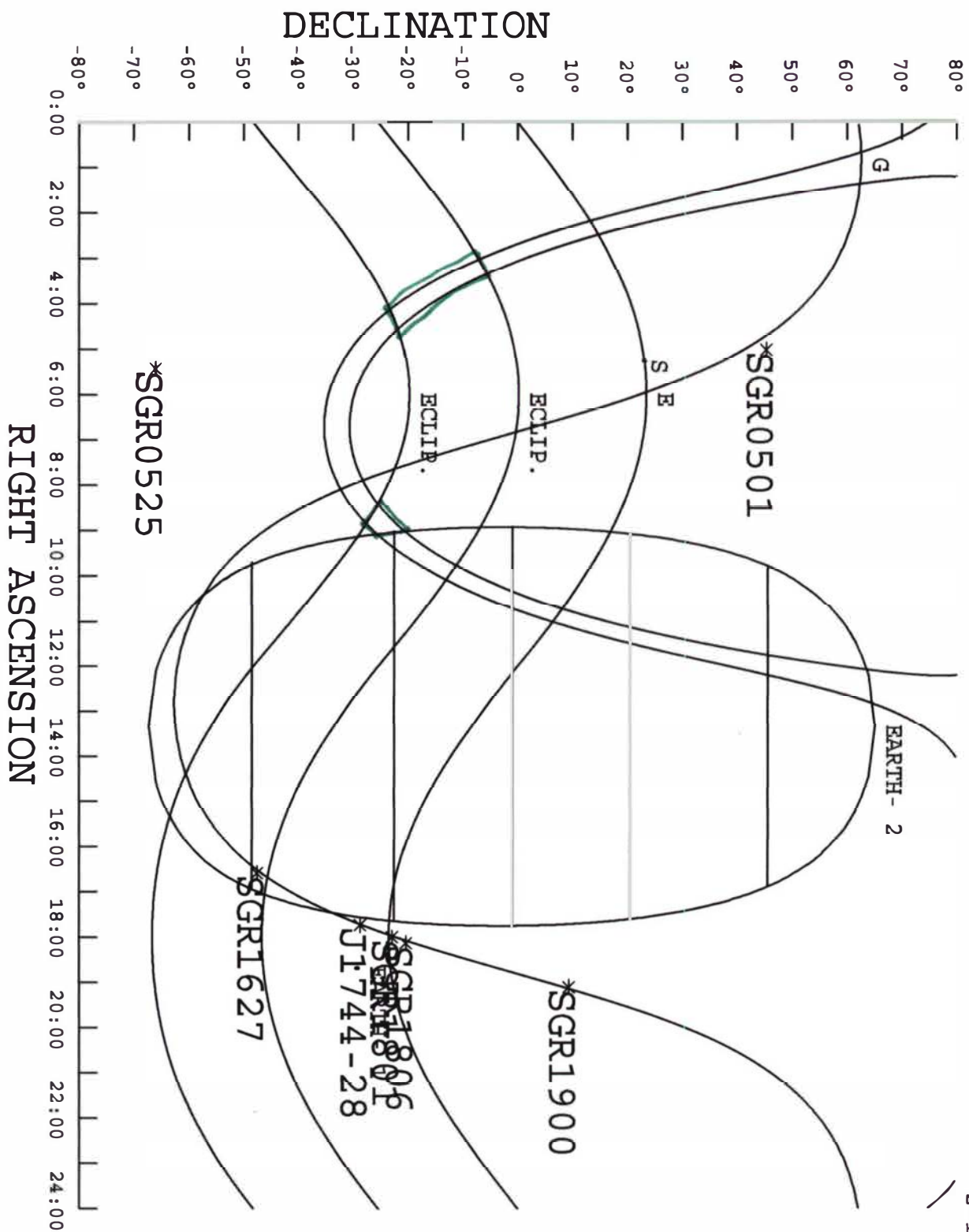
1 KONUS1

2 SAX

EVENT OF JUN 10, 1998 19:52

19/11/ 8

2-1



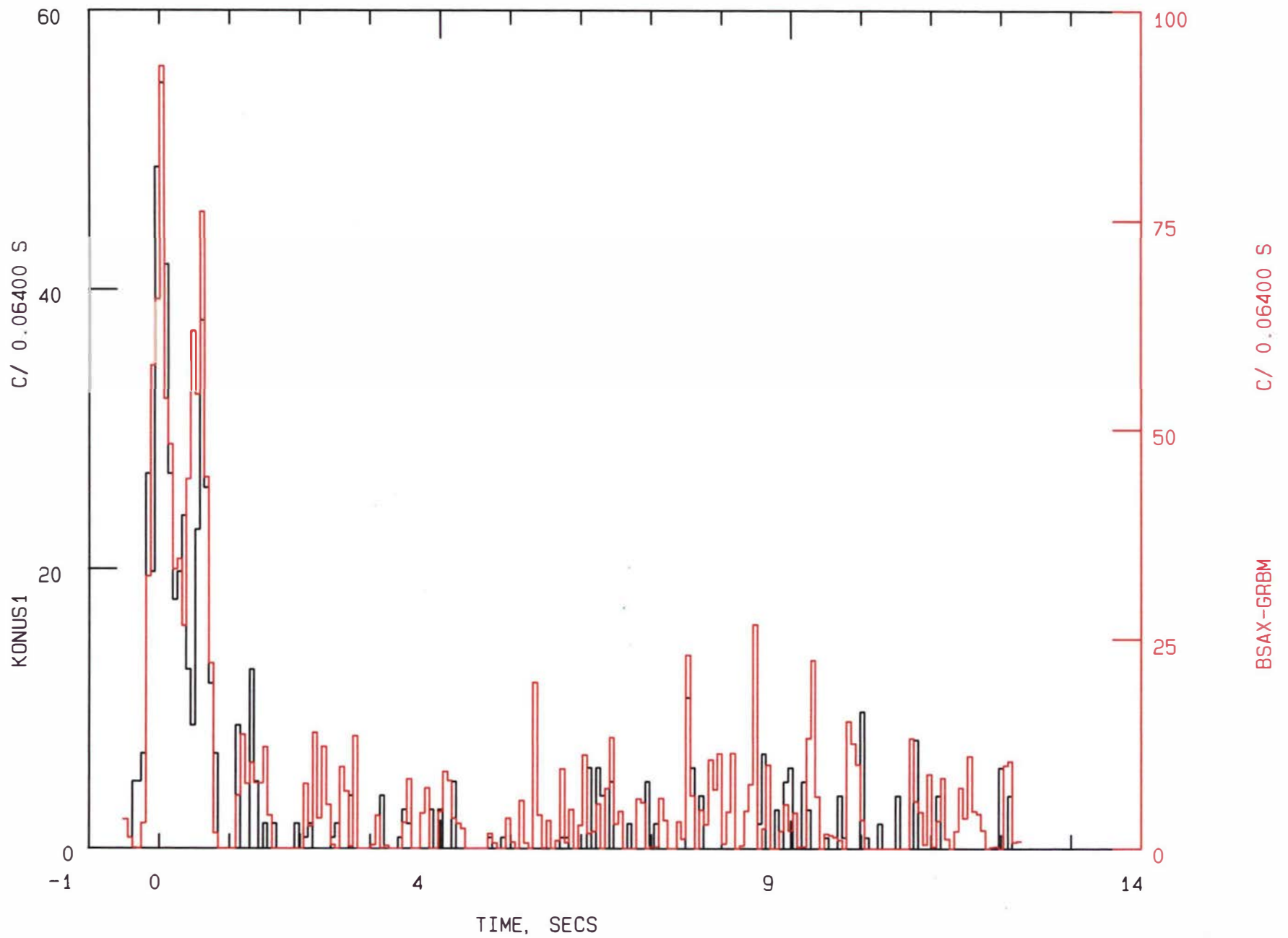
KONUS1

-BSAX-GRBM CORRELATION

10/06/98

71546.850

19/11/ 8

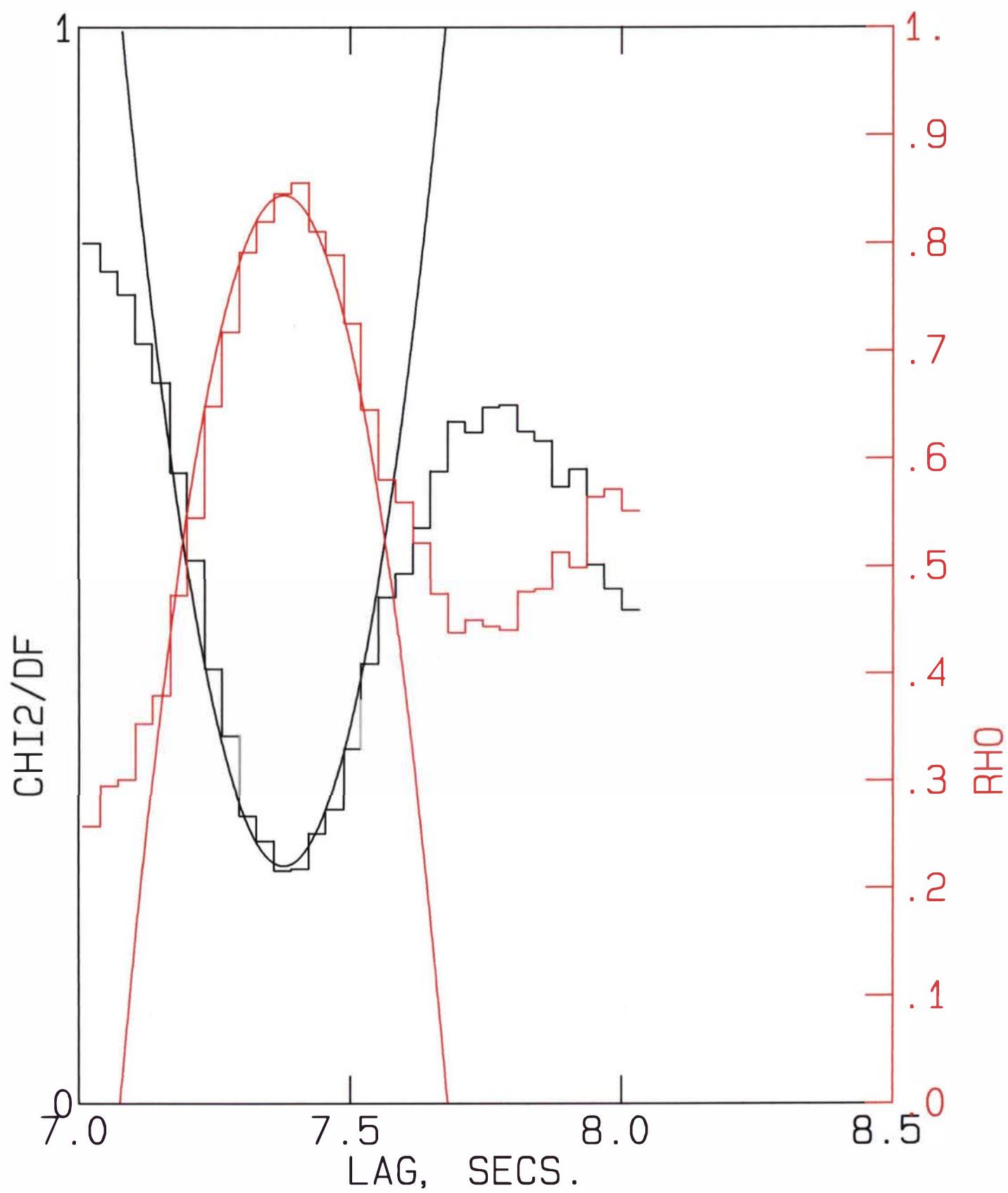


KONUS1

-BSAX-GRBM CORRELATION

10/06/98

71546.850

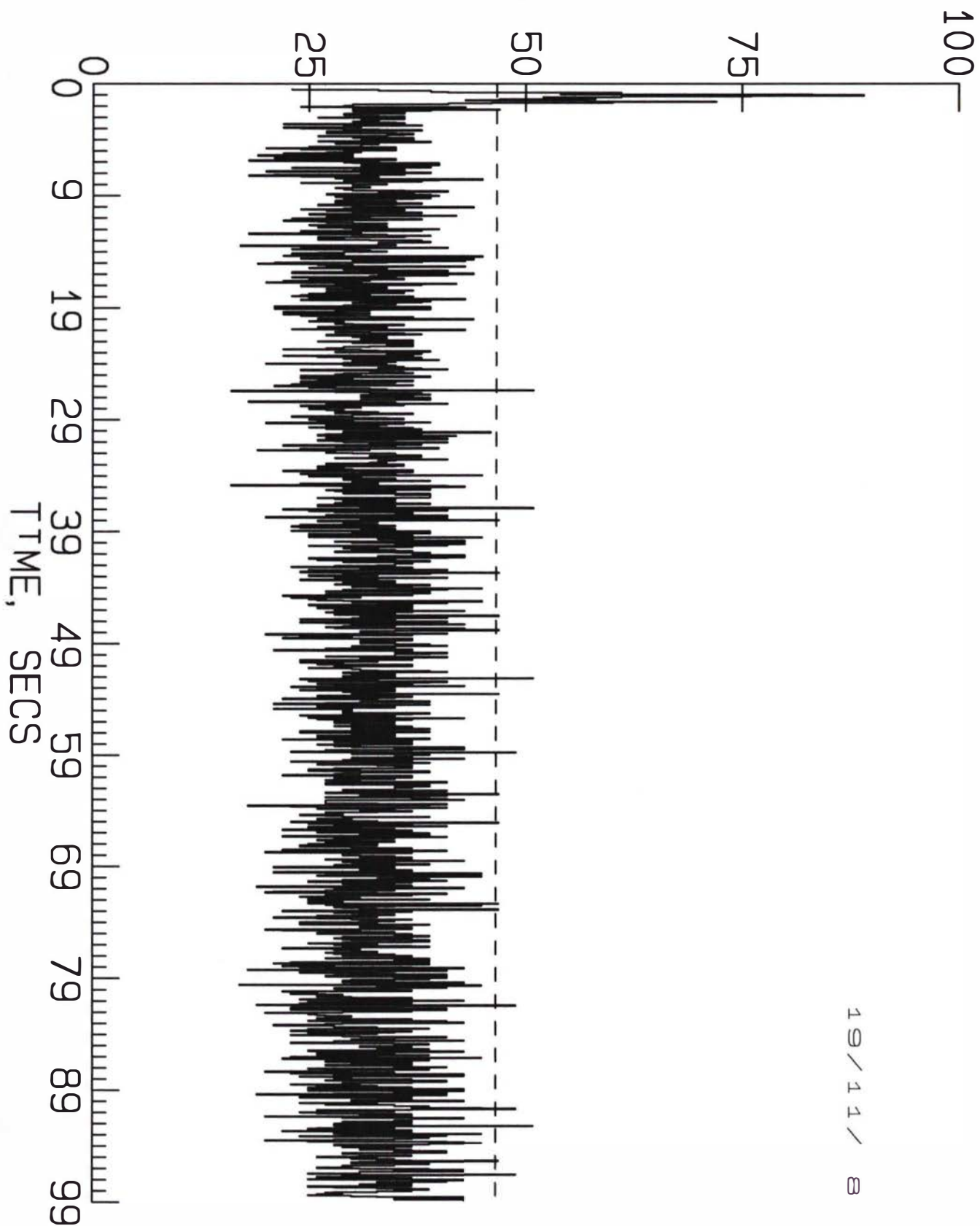


KONUS

10/06/98 71546.850

50- 200 keV

COUNTS/0.064 S

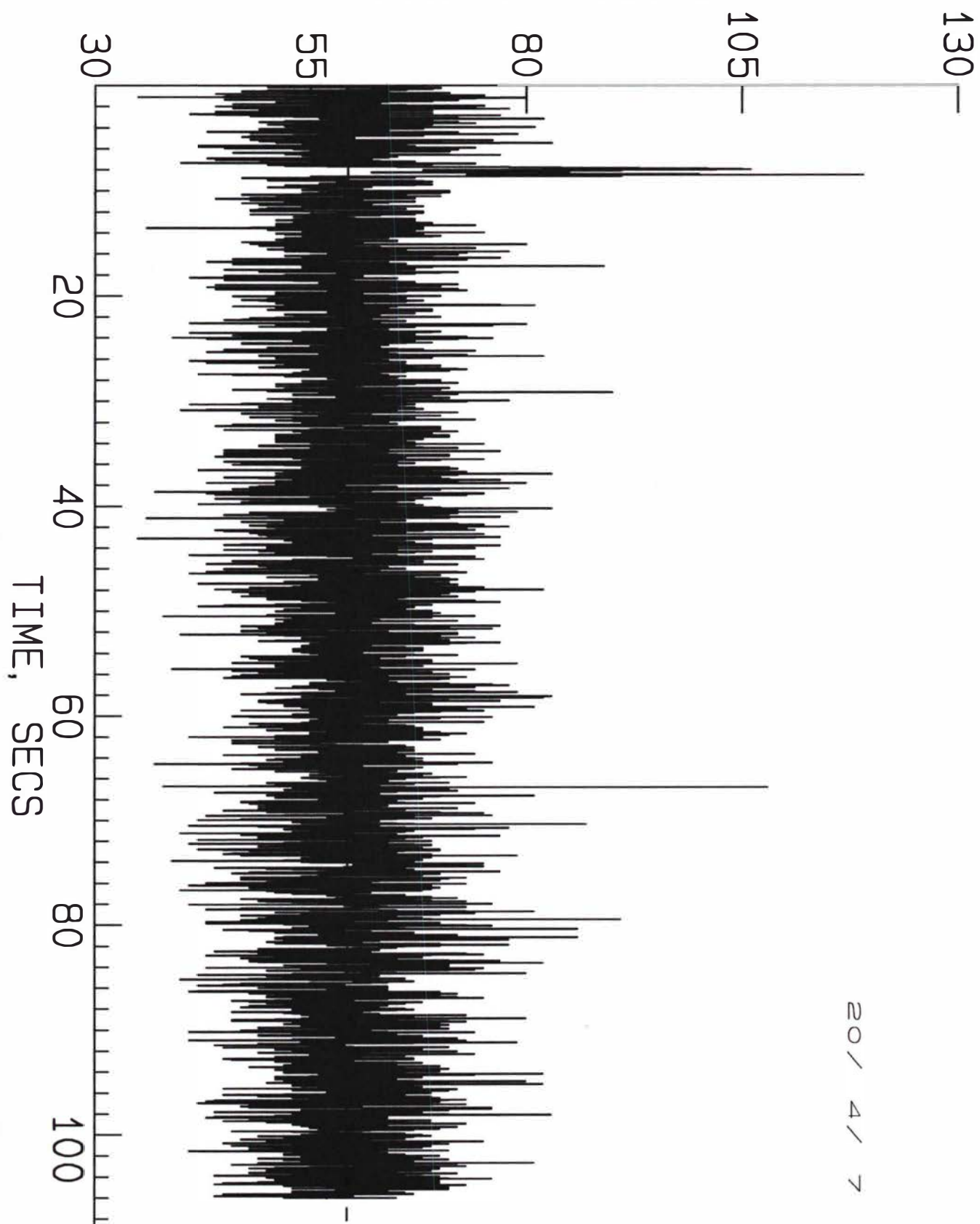


SAX GRBM

10/06/98 71540.630

40- 700 keV

COUNTS/0.031 S



KONUS

ULYSSES RT

5 / 12 / 98

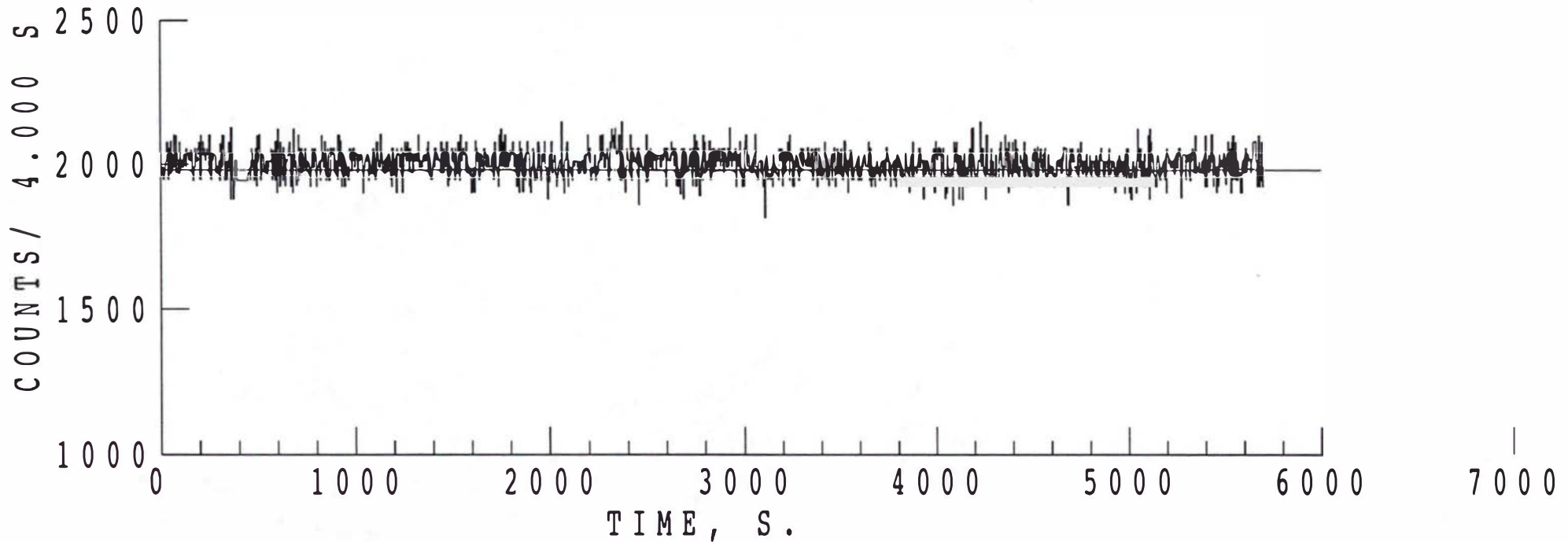
10 / 6 / 98 22444.457 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

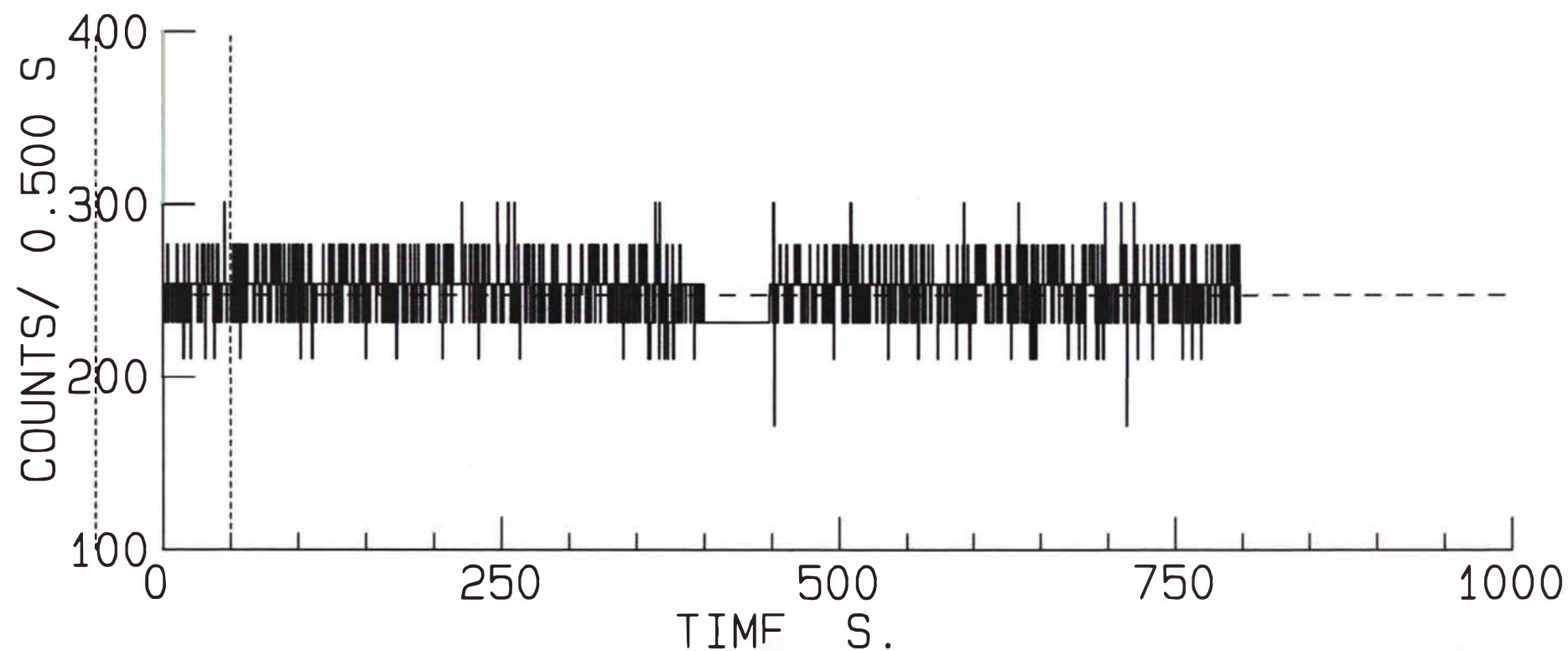
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



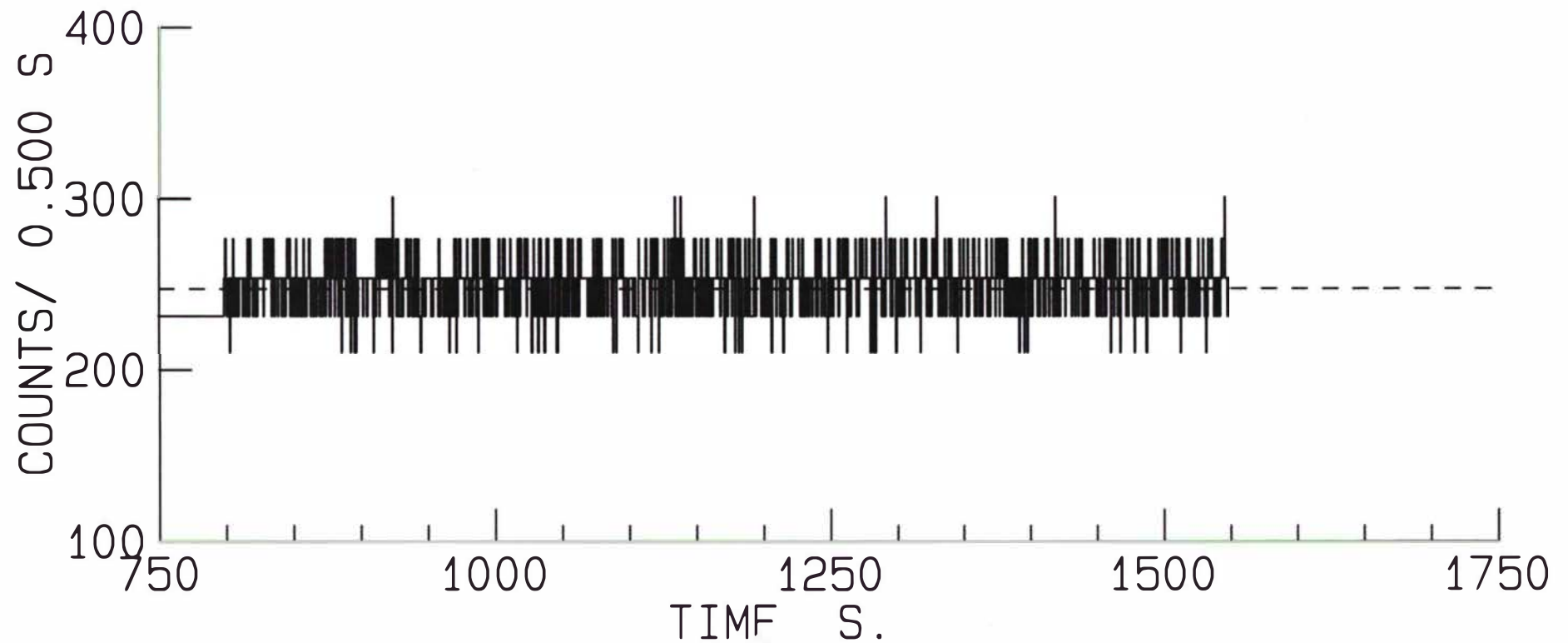
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



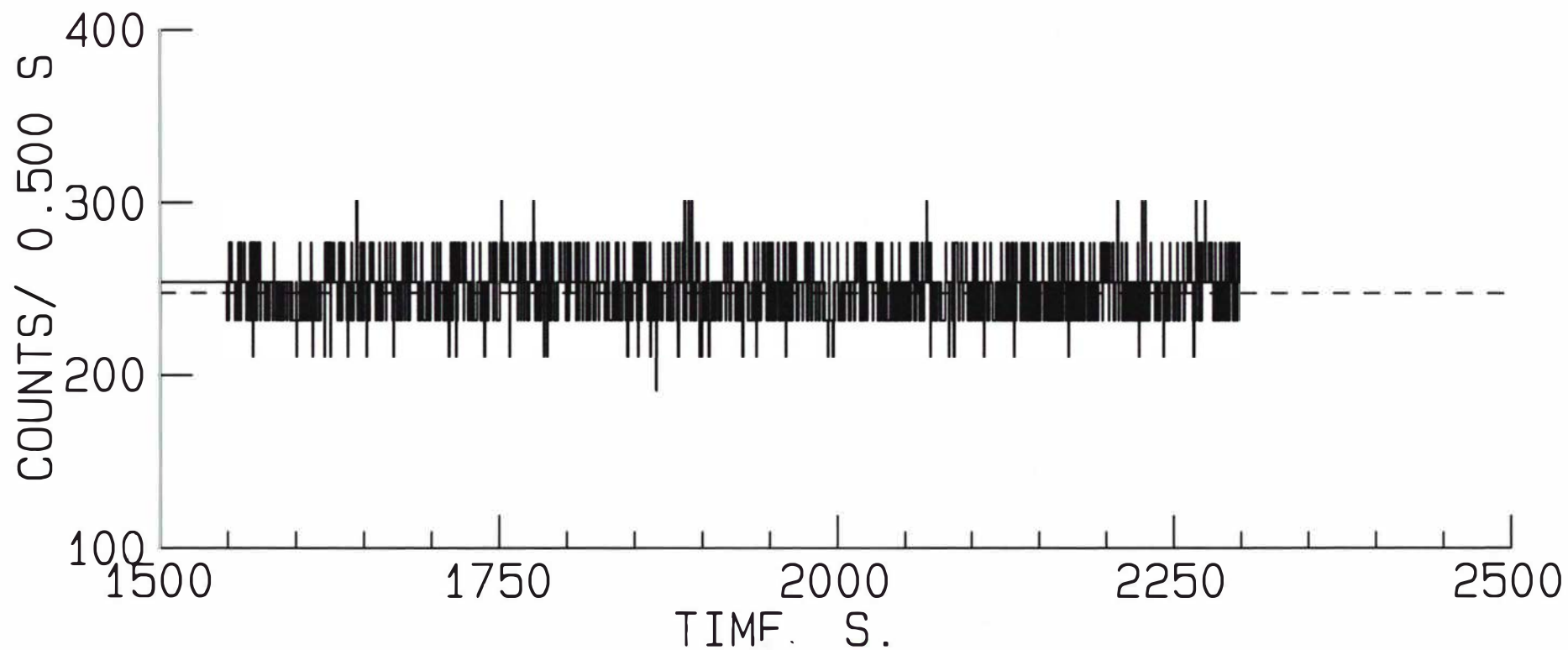
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



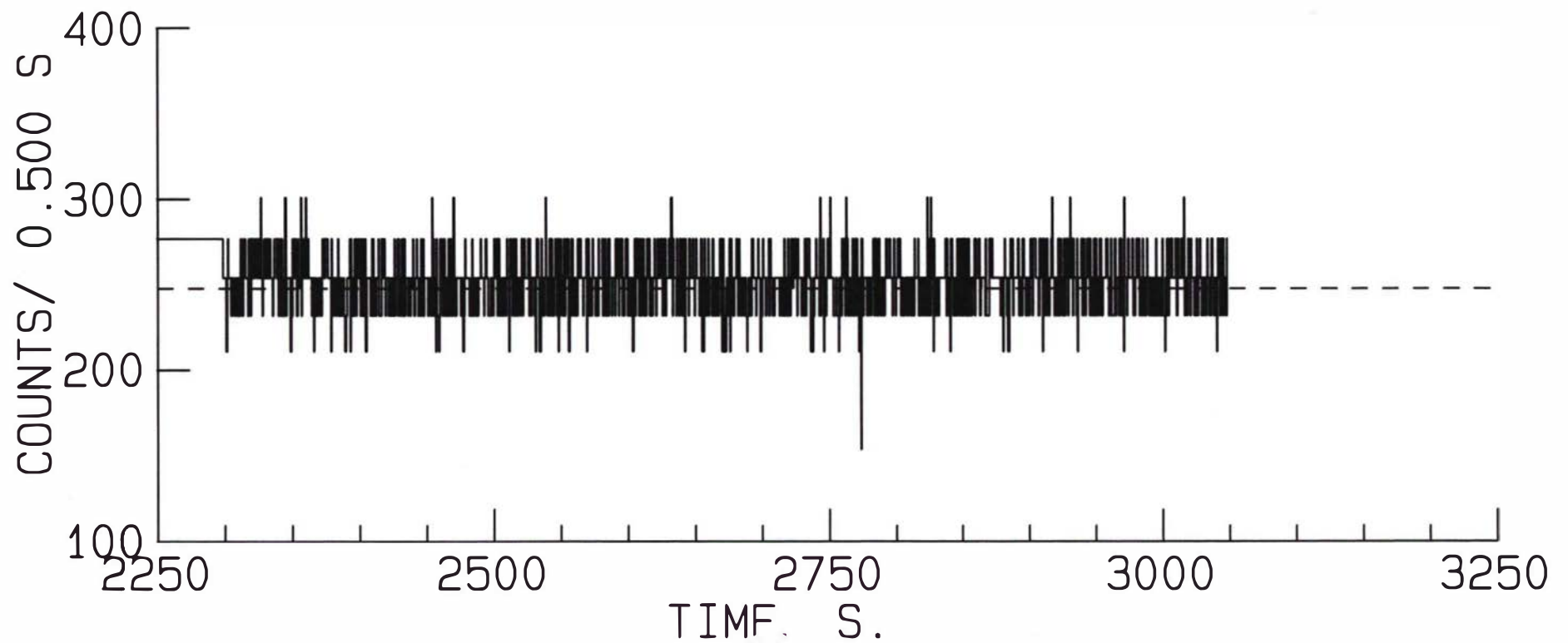
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



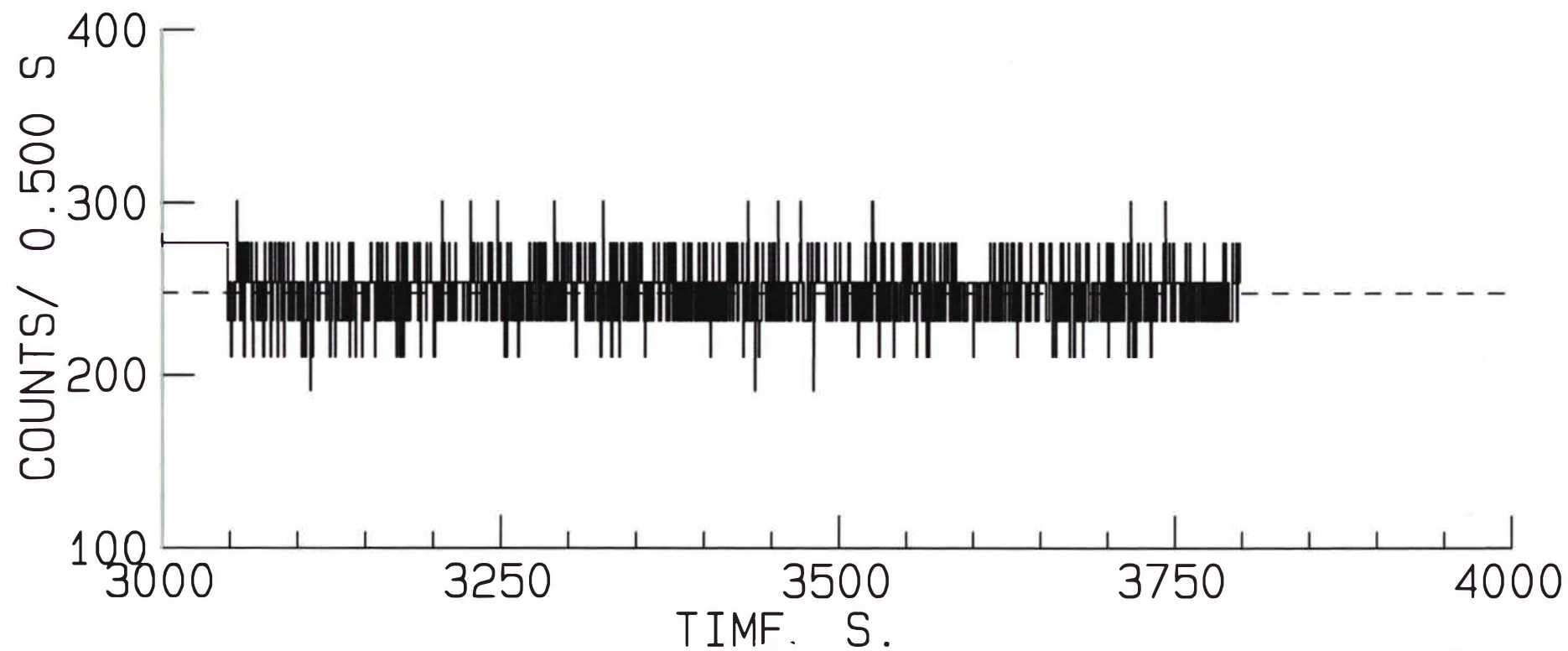
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



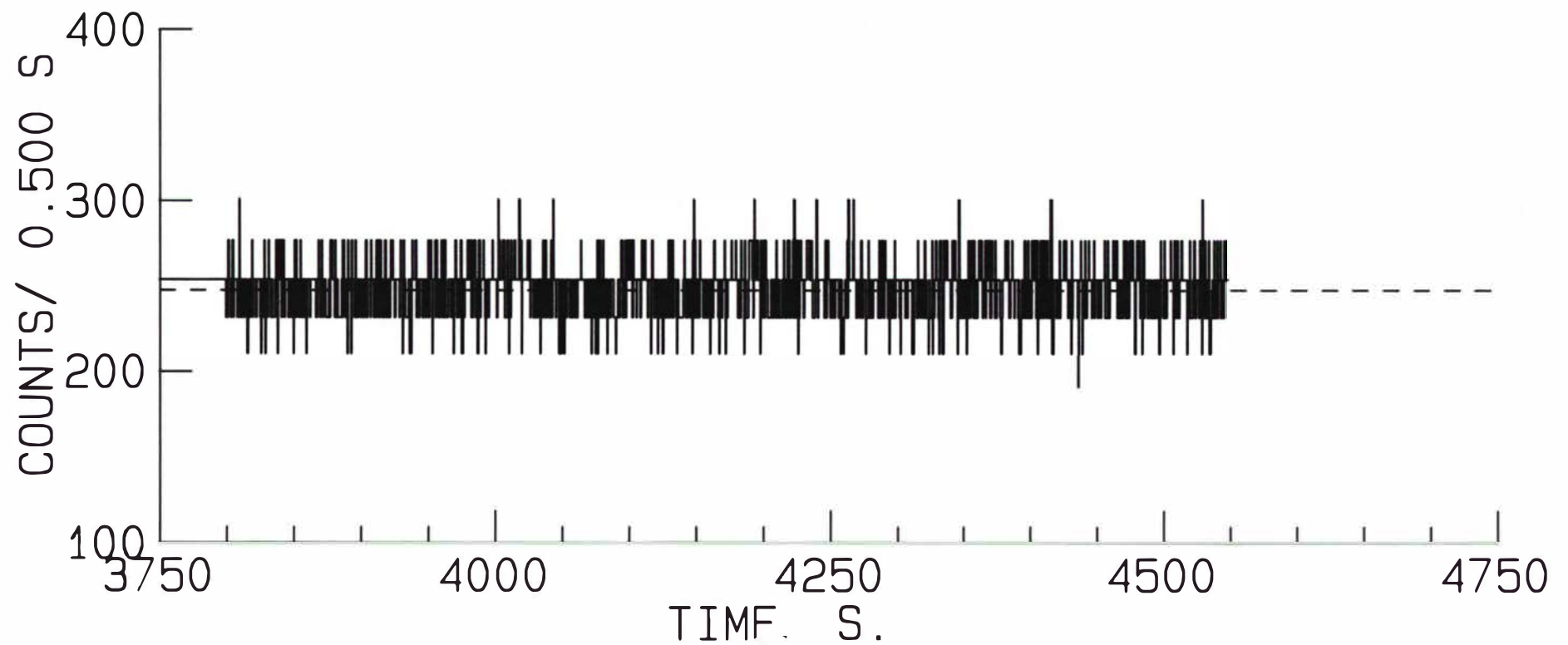
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



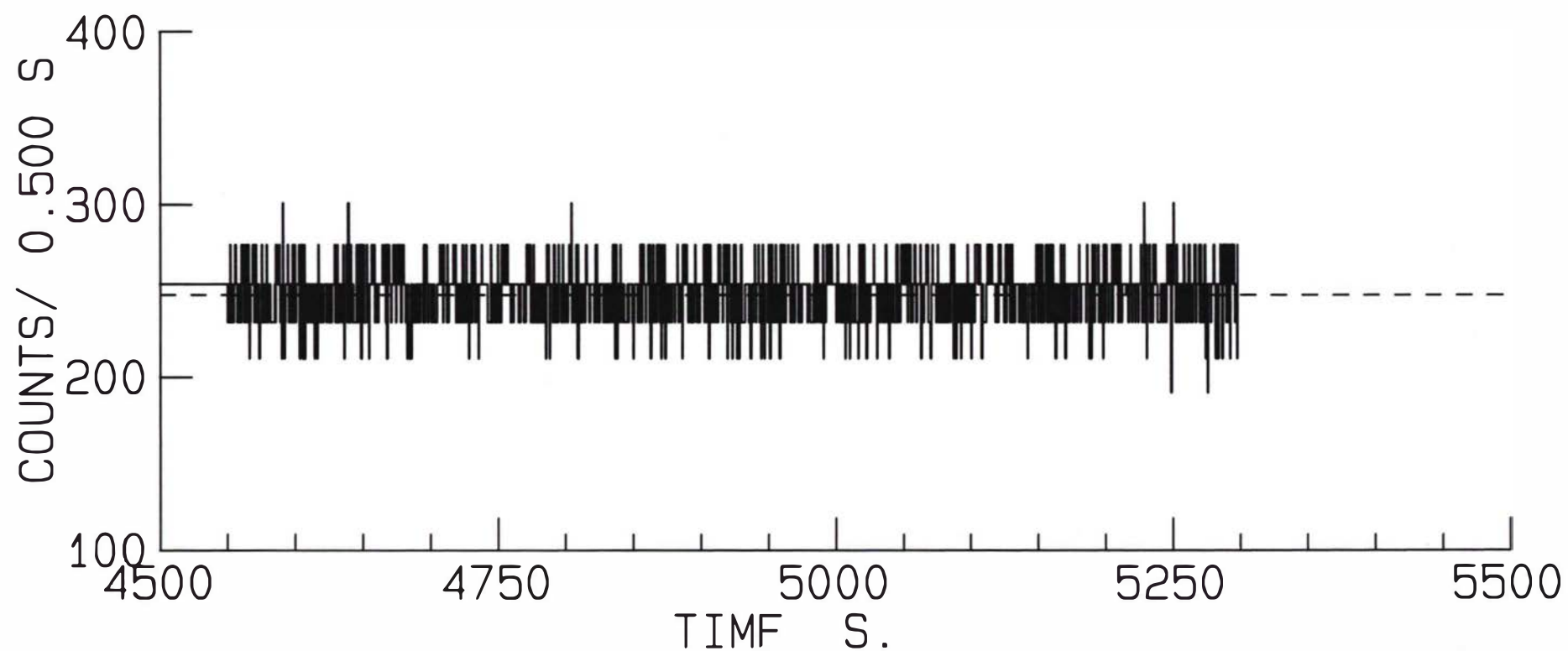
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



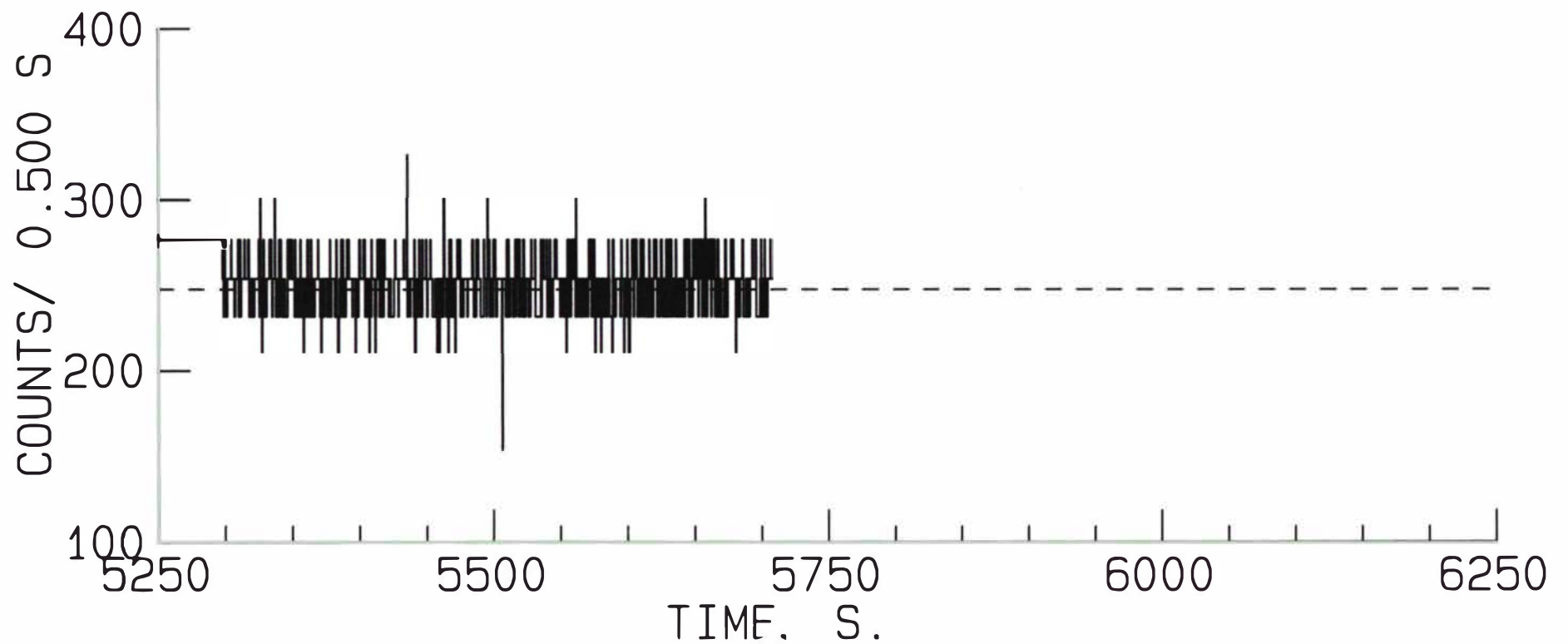
ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



ULYSSES RT
10/ 6/98 22444.457 s
22- 151 keV

17 / 11 / 8



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 11 12:48:59 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 MAA02124; Thu, 11 Jun 1998 12:48:59 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA09365; Thu, 11 Jun 1998 12:48:59 -0700
Date: Thu, 11 Jun 1998 14:49:00 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980611144900.20202973@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6815
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6815
EVENT OF 1998 JUN 10 DAY OF YEAR=161
EVENT CROSSING TIME AT BATSE : 41351. S. OR 11:29:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 53.000 26.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 6/ 98 IS:
RA= 149.371 DEC= 10.824 DIST= 5.695 AU
BATSE-ULYSSES DISTANCE = 852043289. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.10 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 44.47 SECS.
CROSSING TIME AT ULYSSES IS 41395. S. OR 11:29:55 +/- 544.05 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 6/ 98 IS:
RA= 70.324 DEC= 22.547 DIST= 2.516 AU
MARS-BATSE DISTANCE = 376327584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=163.85 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1205.74 SECS.
CROSSING TIME AT MARS IS 40145. S. OR 11:09:05 +/- 42.32 SECONDS

BATSE BURST TRIGGER

NO.: 6815

TIME: TJD=0974 SECONDS=41351

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=98.1 AZIMUTH=352 ERROR=6.4 DEGREES

COMMENTS:

GRB. TWO SPIKES WITH STRUCTURE. DURATION APPROX. = 0.45 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6815	980610	10974	41351	6000	053	+26	.45

BATSE BURST# 6815

ULYSSES RT

12 / 6 / 98

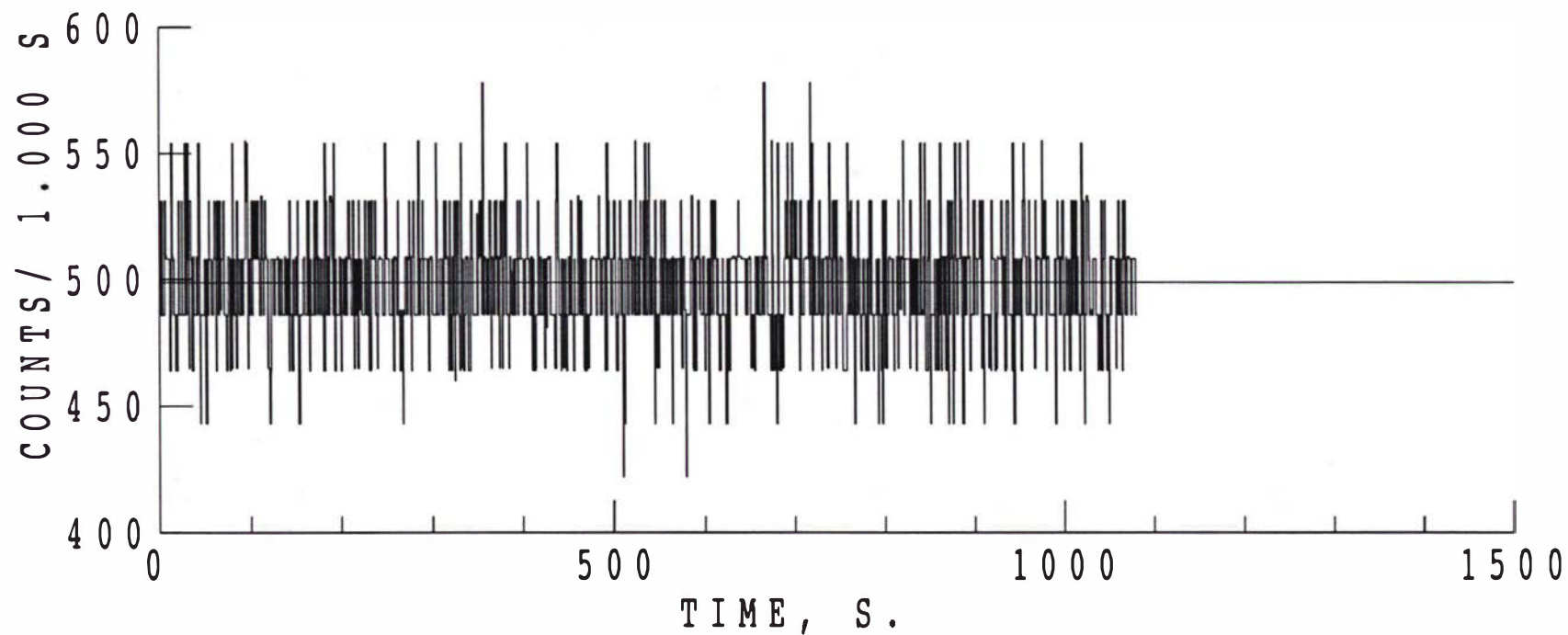
10 / 6 / 98 40860.152 s

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

5 / 12 / 98

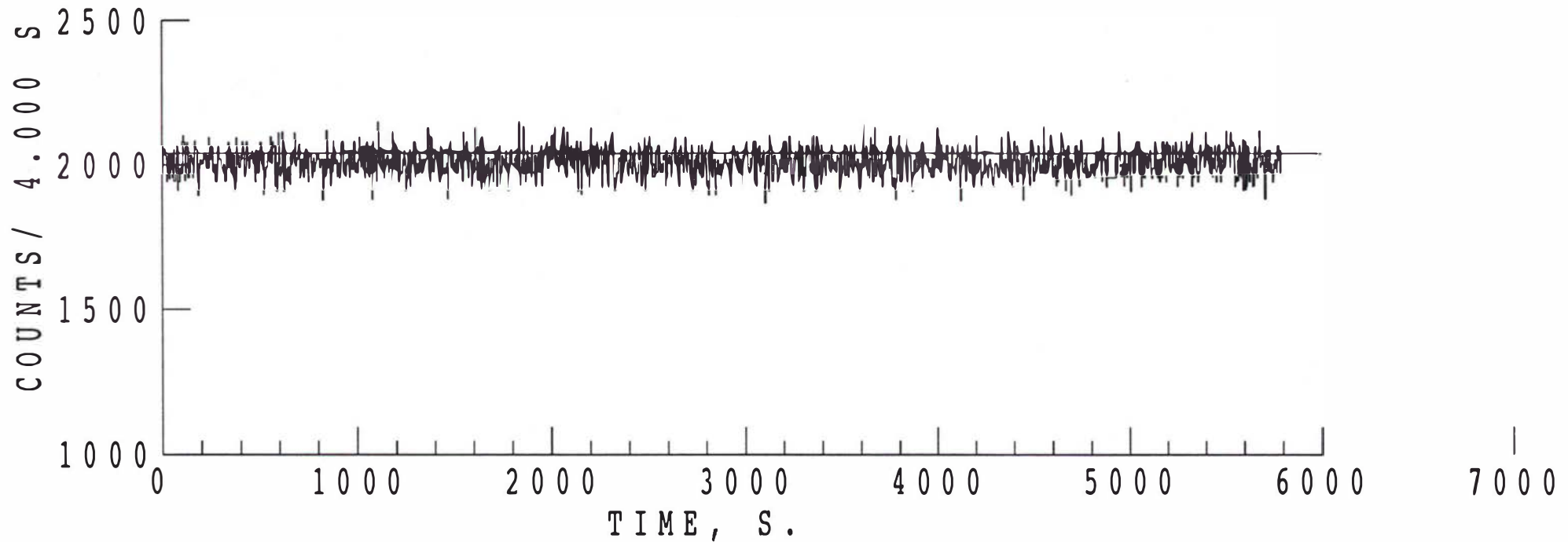
10 / 6 / 98 68652.195 s

0.250 S INTERVALS REGROUPED BY 16

0 - 0 keV

M= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS 711

ULYSSES RT

7 / 12 / 98

10 / 6 / 98 83304.094 s

0.500 S INTERVALS REGROUPED BY 8

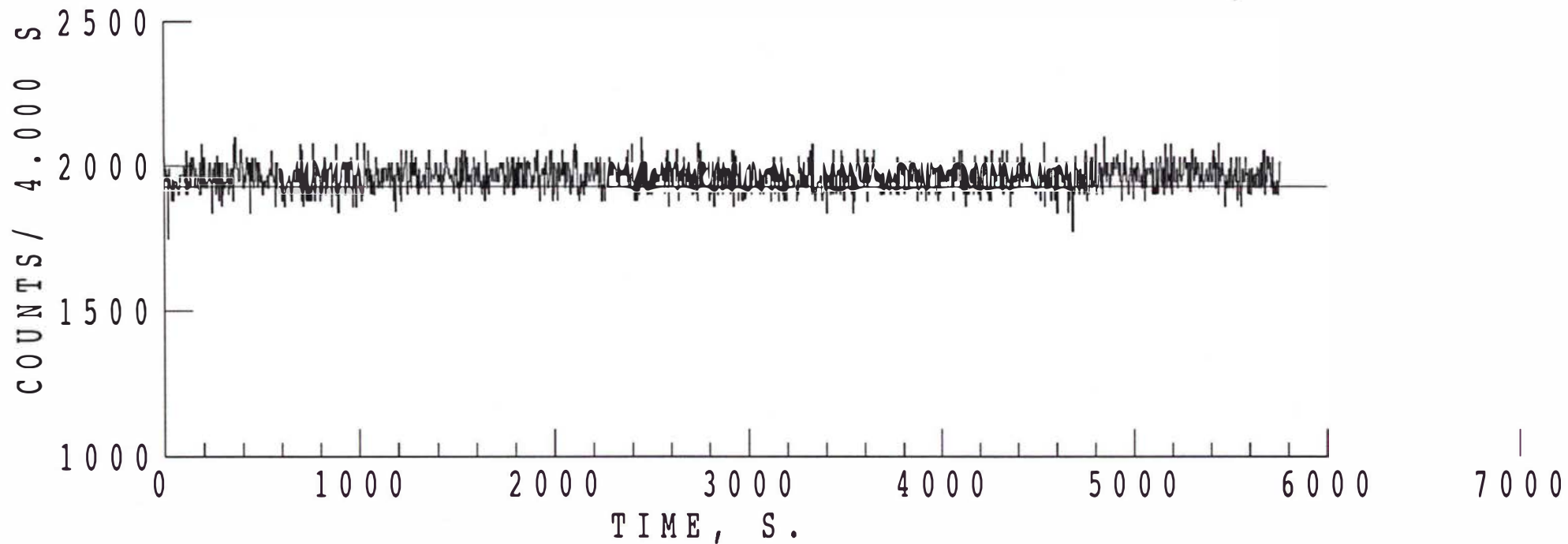
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

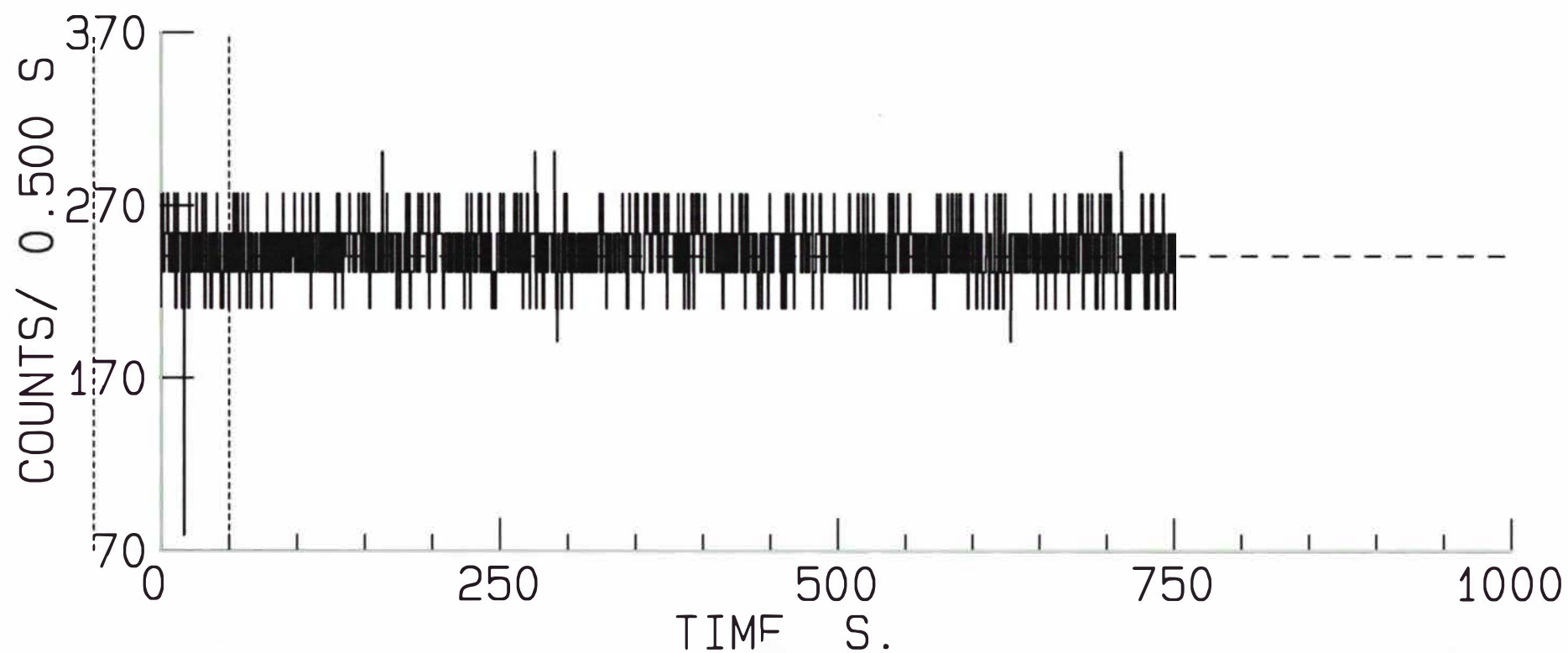
N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

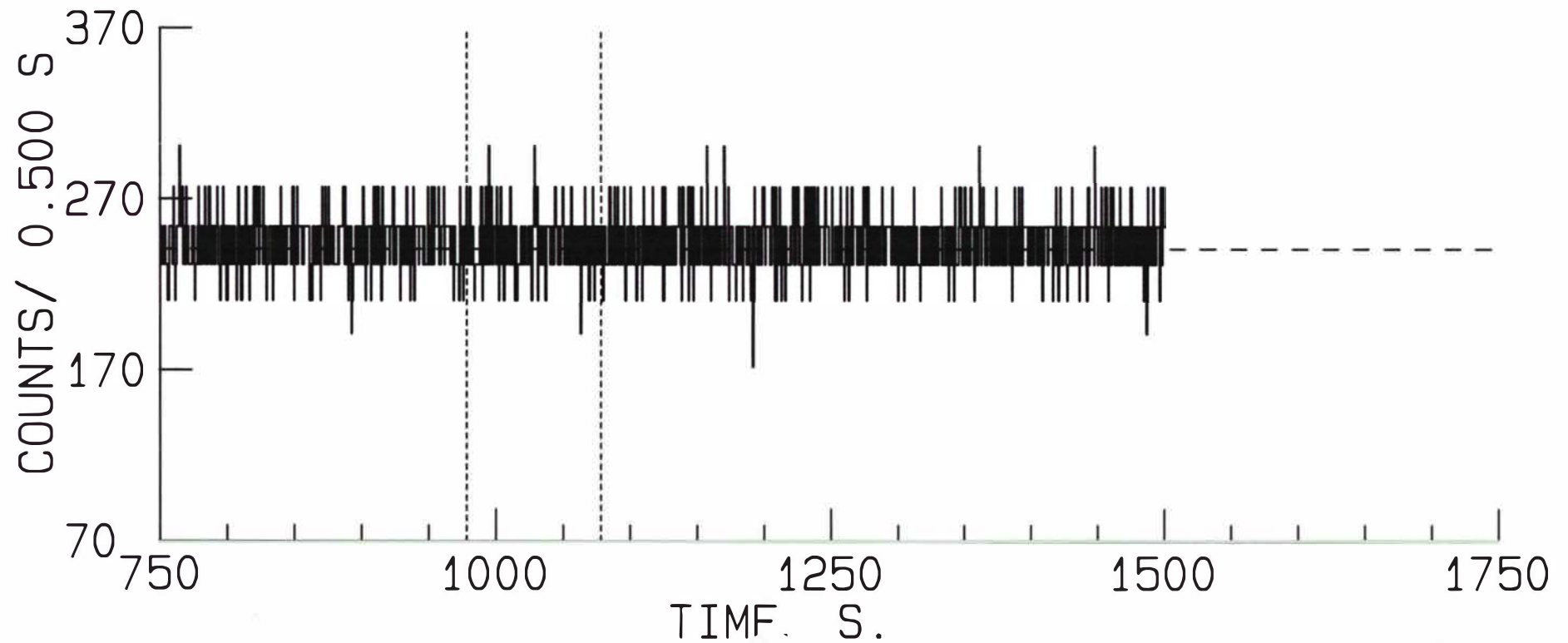
17 / 11 / 8



ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

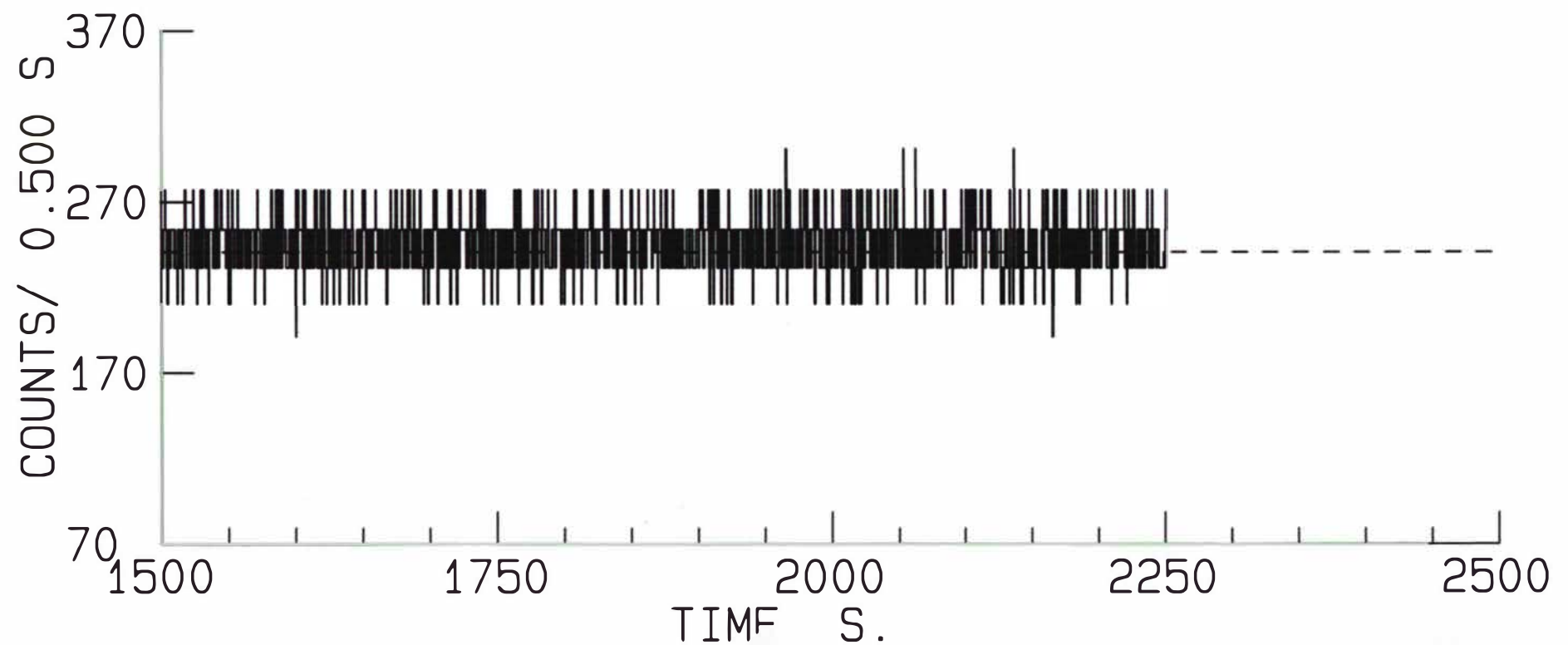
17 / 11 / 8

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



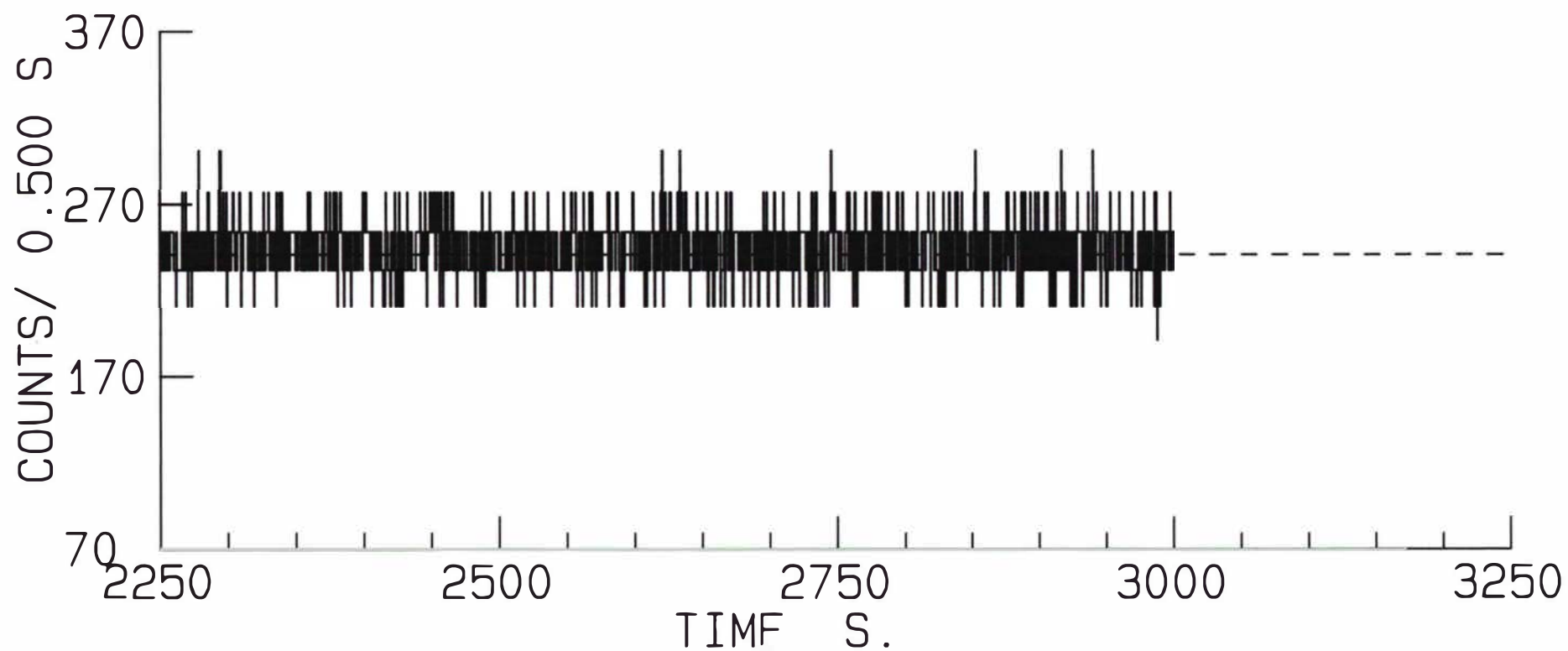
ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17/11/ 8



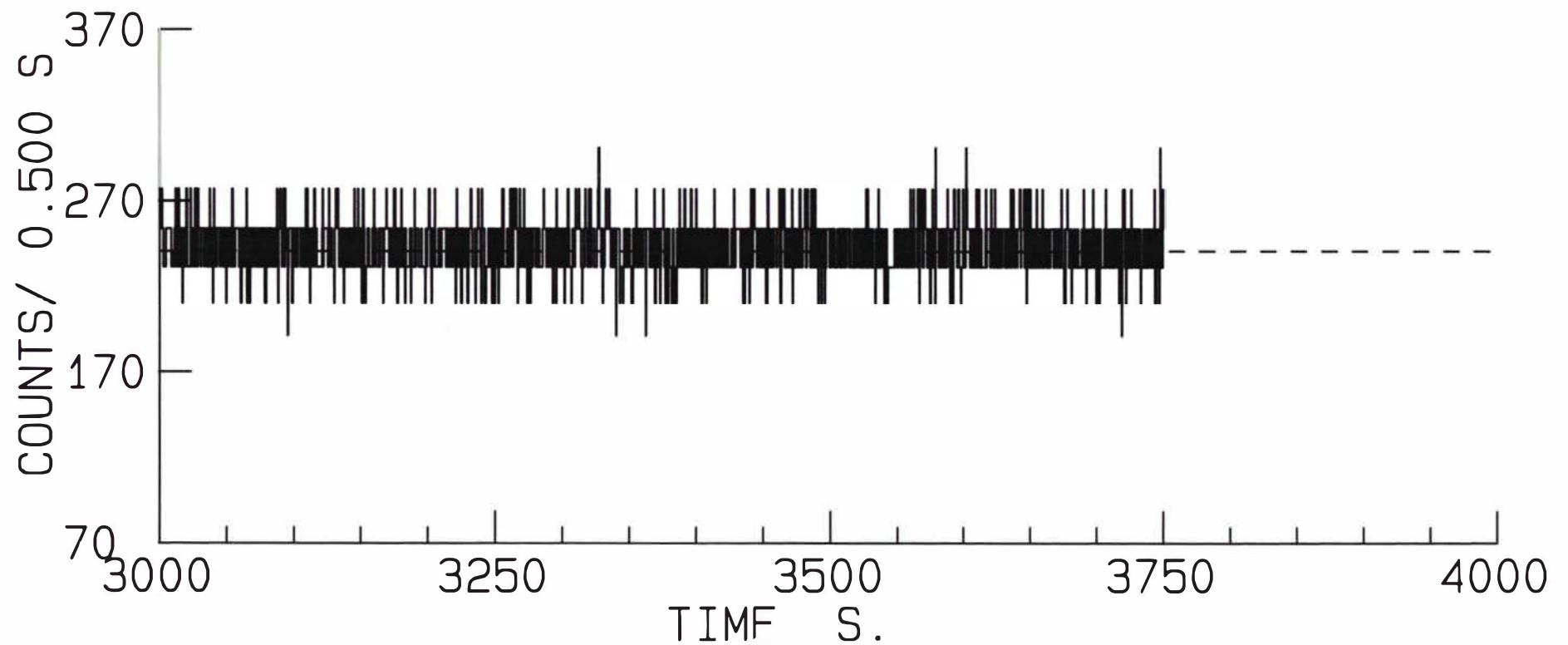
ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17 / 11 / 8



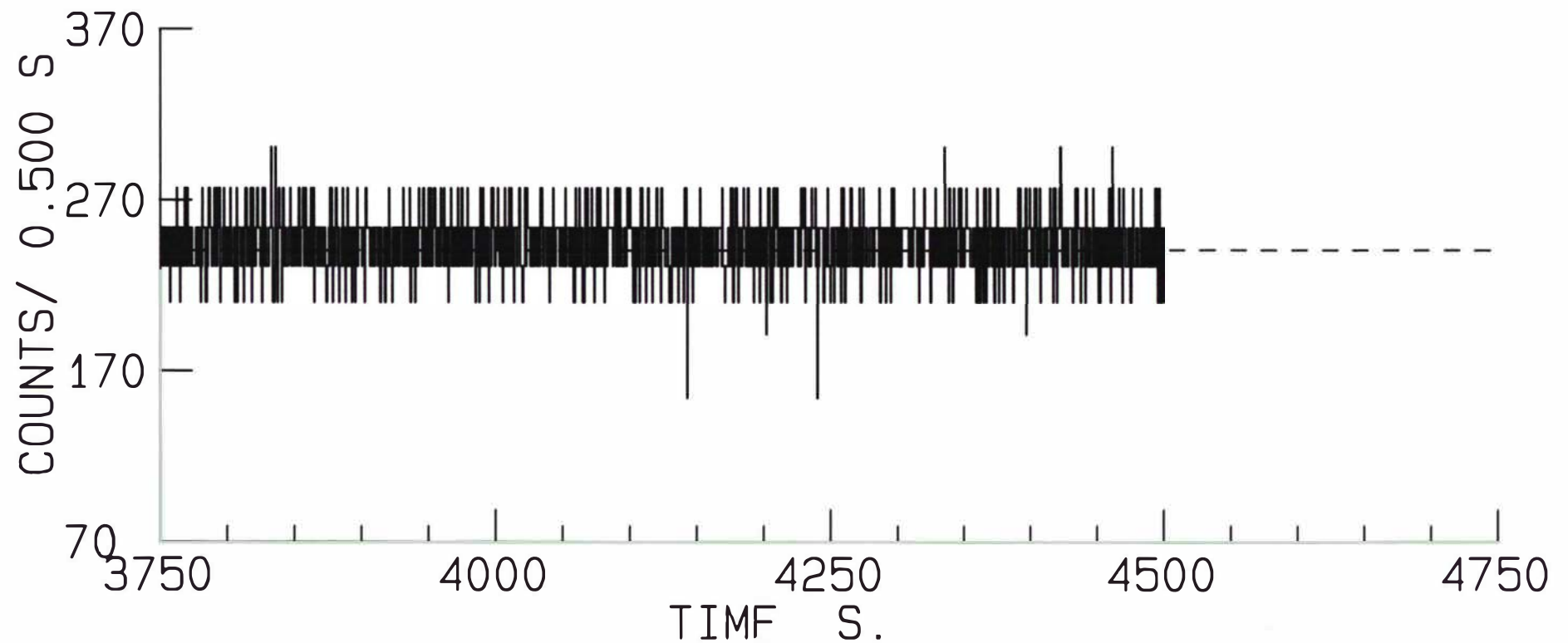
ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17 / 11 / 8



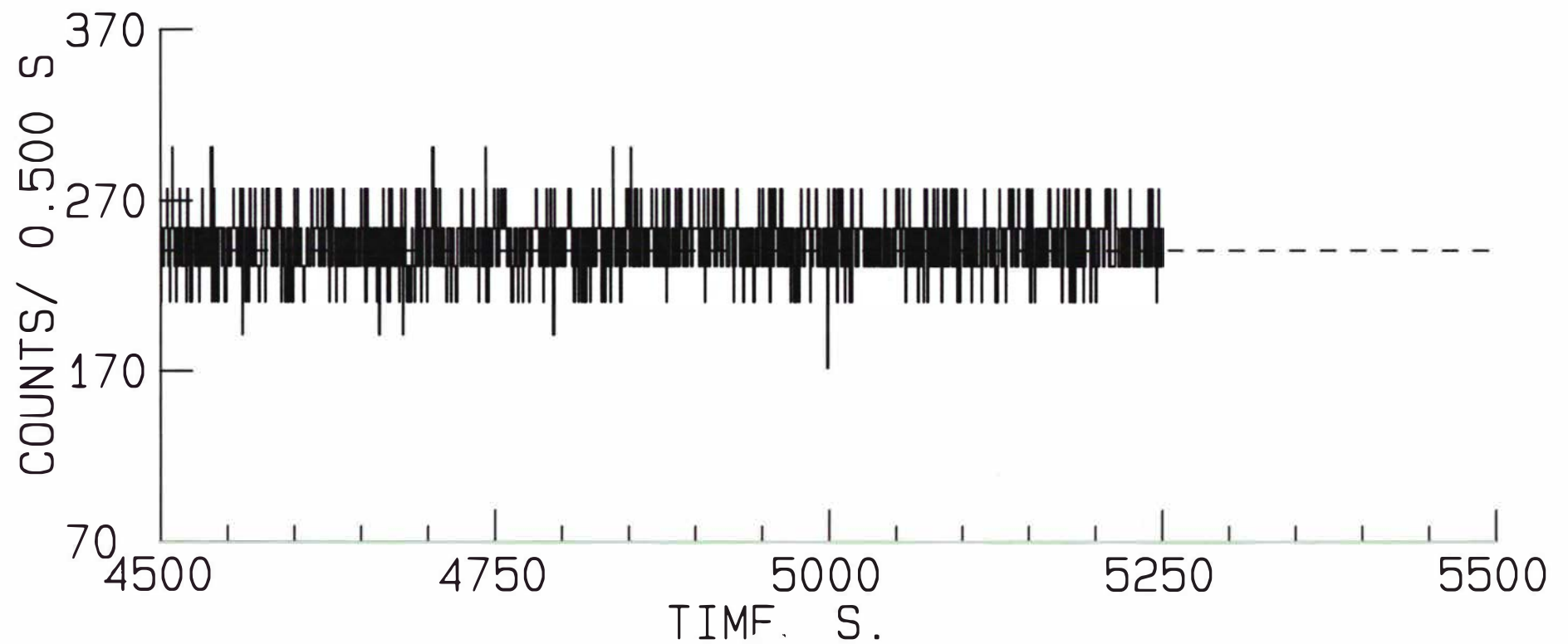
ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17 / 11 / 8



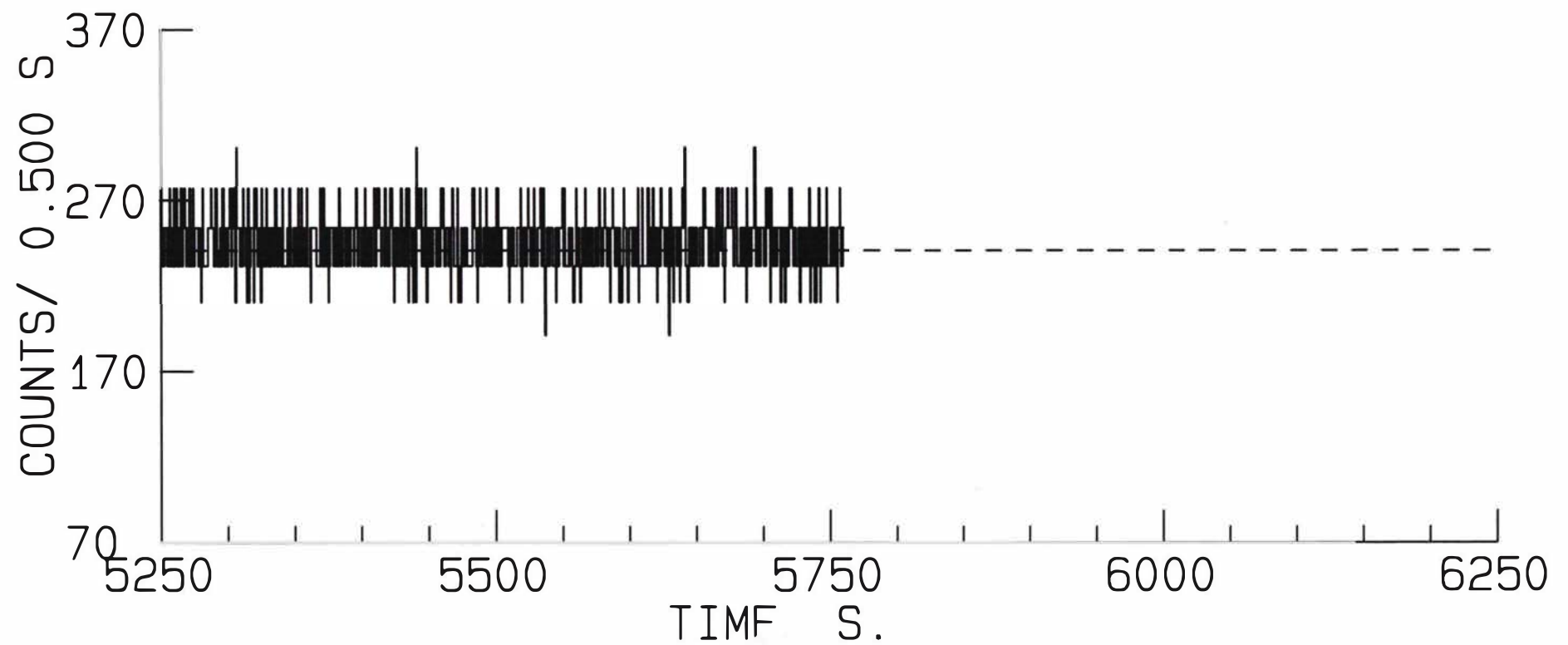
ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17 / 11 / 8

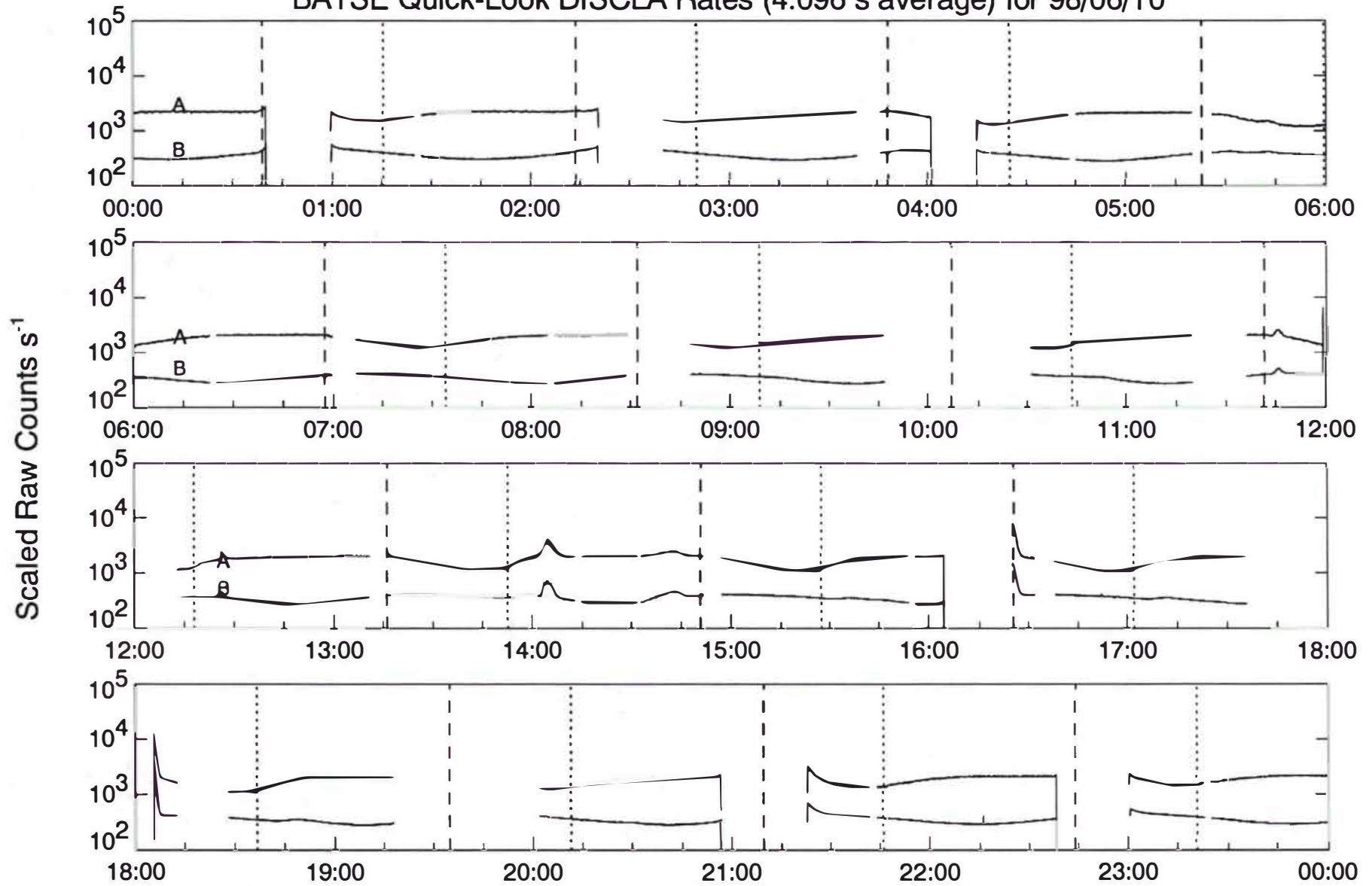


ULYSSES RT
10/ 6/98 83304.094 s
22- 151 keV

17 / 11 / 8



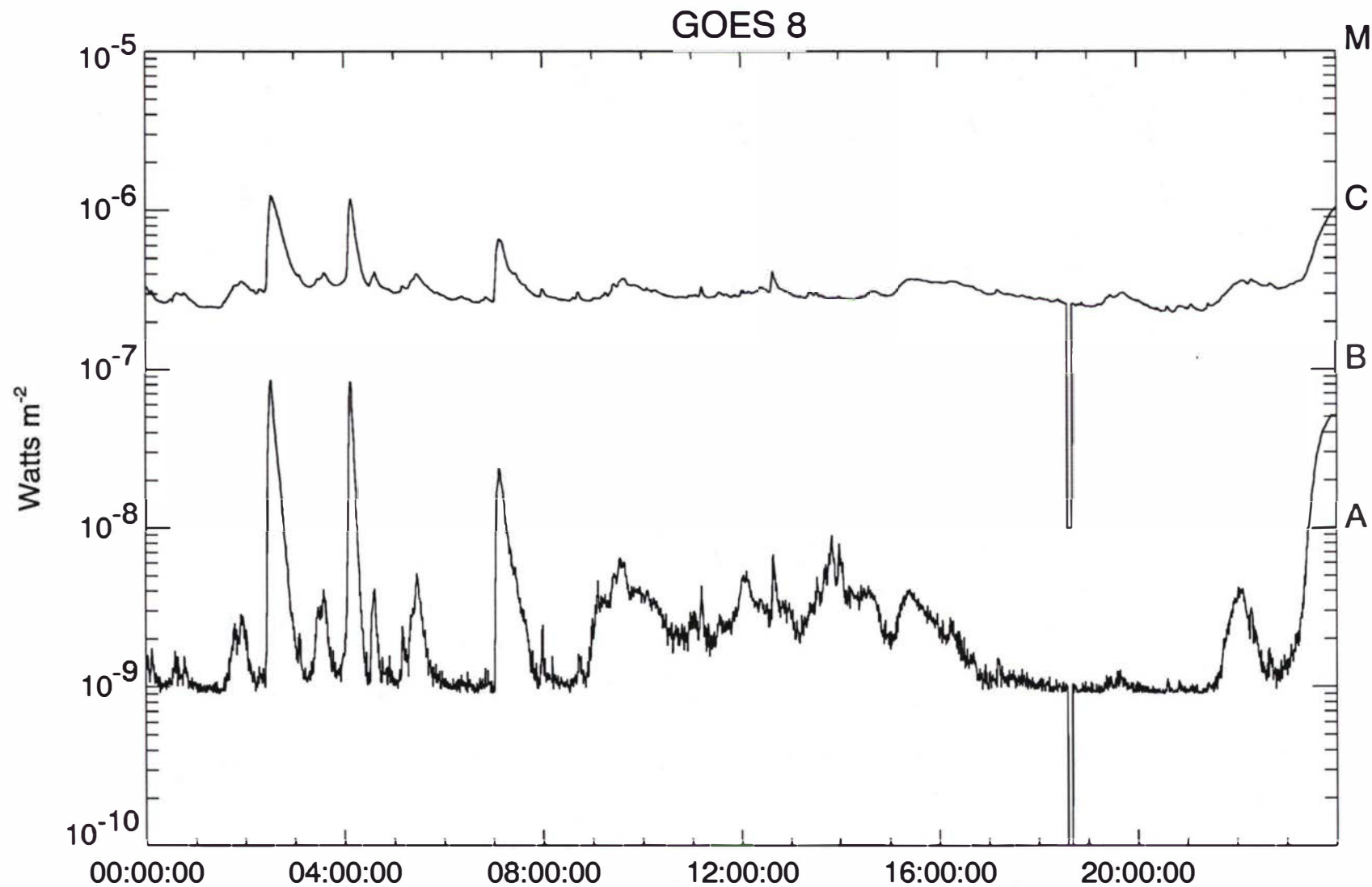
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/10



Current Time: 98/06/14, 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: 98/06/10, 0000:00

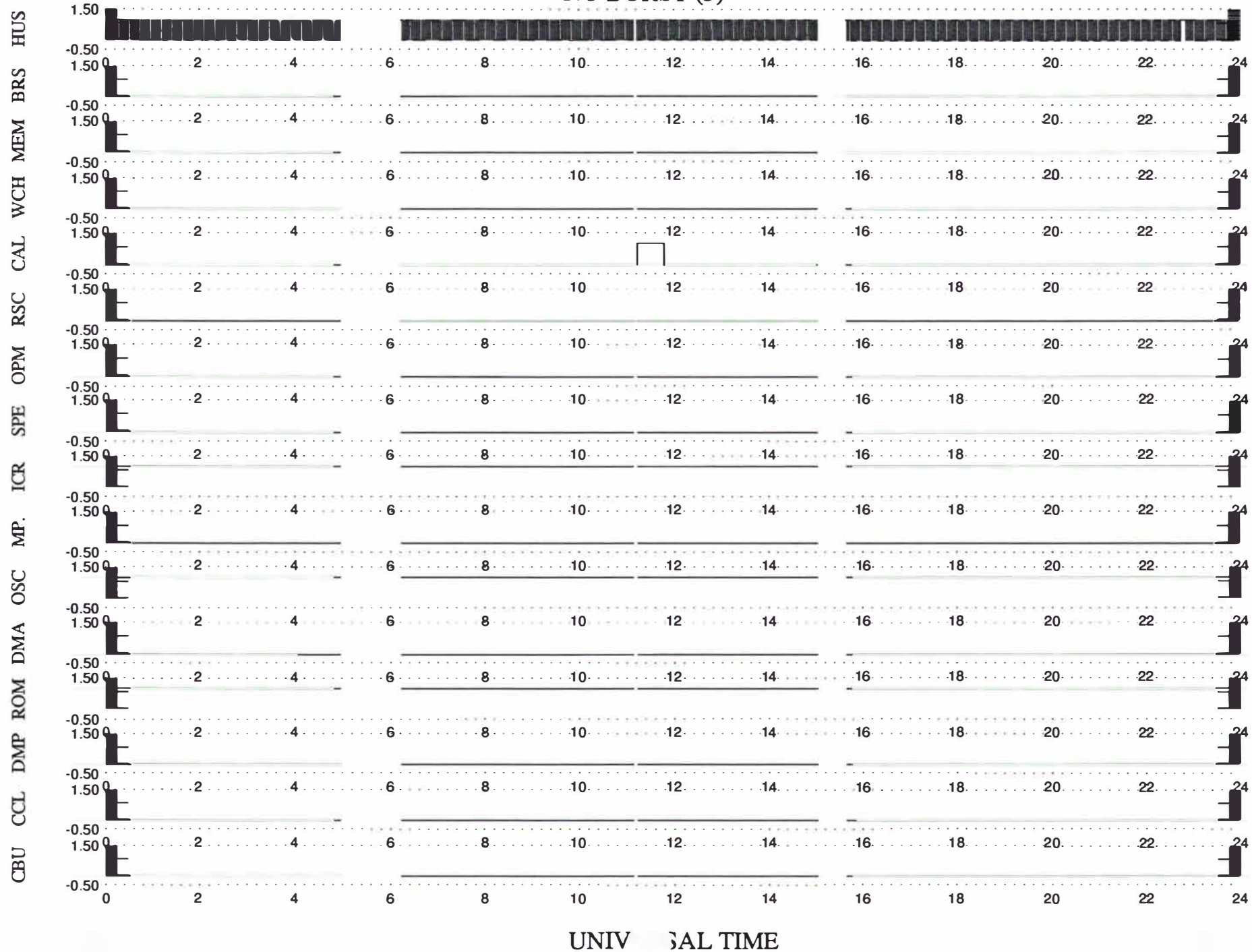
Plot created: 98/06/14, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

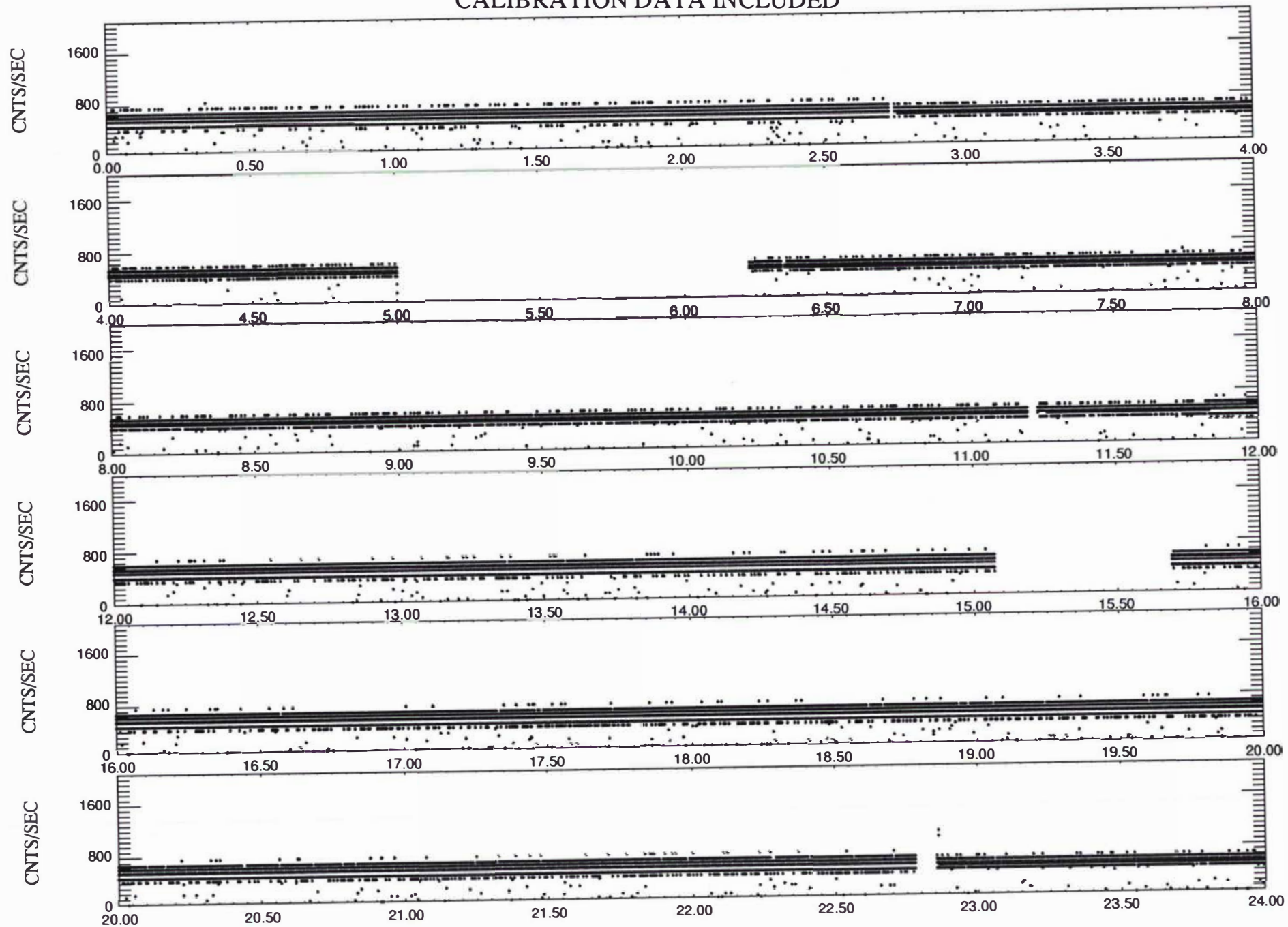
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

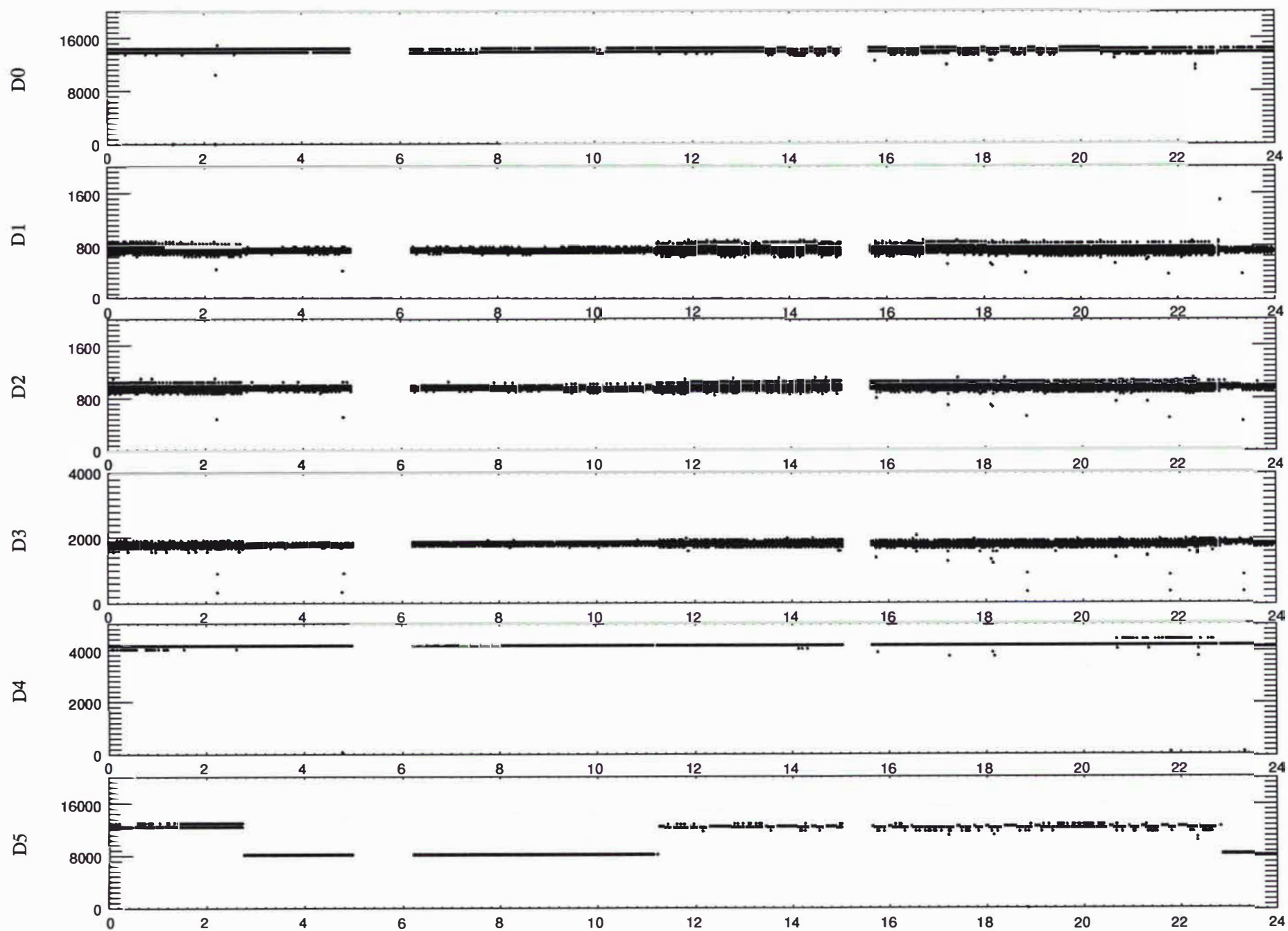
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



UNIV CAL TIME

From HENZE@fender.msfc.nasa.gov Mon Jun 15 13:55:50 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 NAA12592; Mon, 15 Jun 1998 13:55:48 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA28067; Mon, 15 Jun 1998 13:55:45 -0700
Date: Mon, 15 Jun 1998 15:55:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980615155547.202027a1@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6816
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6816
EVENT OF 1998 JUN 11 DAY OF YEAR=162
EVENT CROSSING TIME AT BATSE : 2939. S. OR 00:48:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 275.000 55.000
BATSE PEAK COUNTING RATE: 15000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 6/ 98 IS:
RA= 149.401 DEC= 10.789 DIST= 5.704 AU
BATSE-ULYSSES DISTANCE = 853307414. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 497.11 SECS.
CROSSING TIME AT ULYSSES IS 3436. S. OR 00:57:16 +/- 544.12 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 6/ 98 IS:
RA= 71.072 DEC= 22.649 DIST= 2.516 AU
MARS-BATSE DISTANCE = 376397664. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 80.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 211.45 SECS.
CROSSING TIME AT MARS IS 3150. S. OR 00:52:30 +/- 218.08 SECONDS

BATSE BURST TRIGGER

NO.: 6816

TIME: TJD=0975 SECONDS= 2939

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 93.8 AZIMUTH=260.0 ERROR= 0.7 DEGREES

COMMENTS:

COMPLEX, TOTAL DUR. APPROX. 50 S. MAX AT APPROX. T+23 S.
MARGINAL ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6816	980611	10975	02939	15000	275	+55	50

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

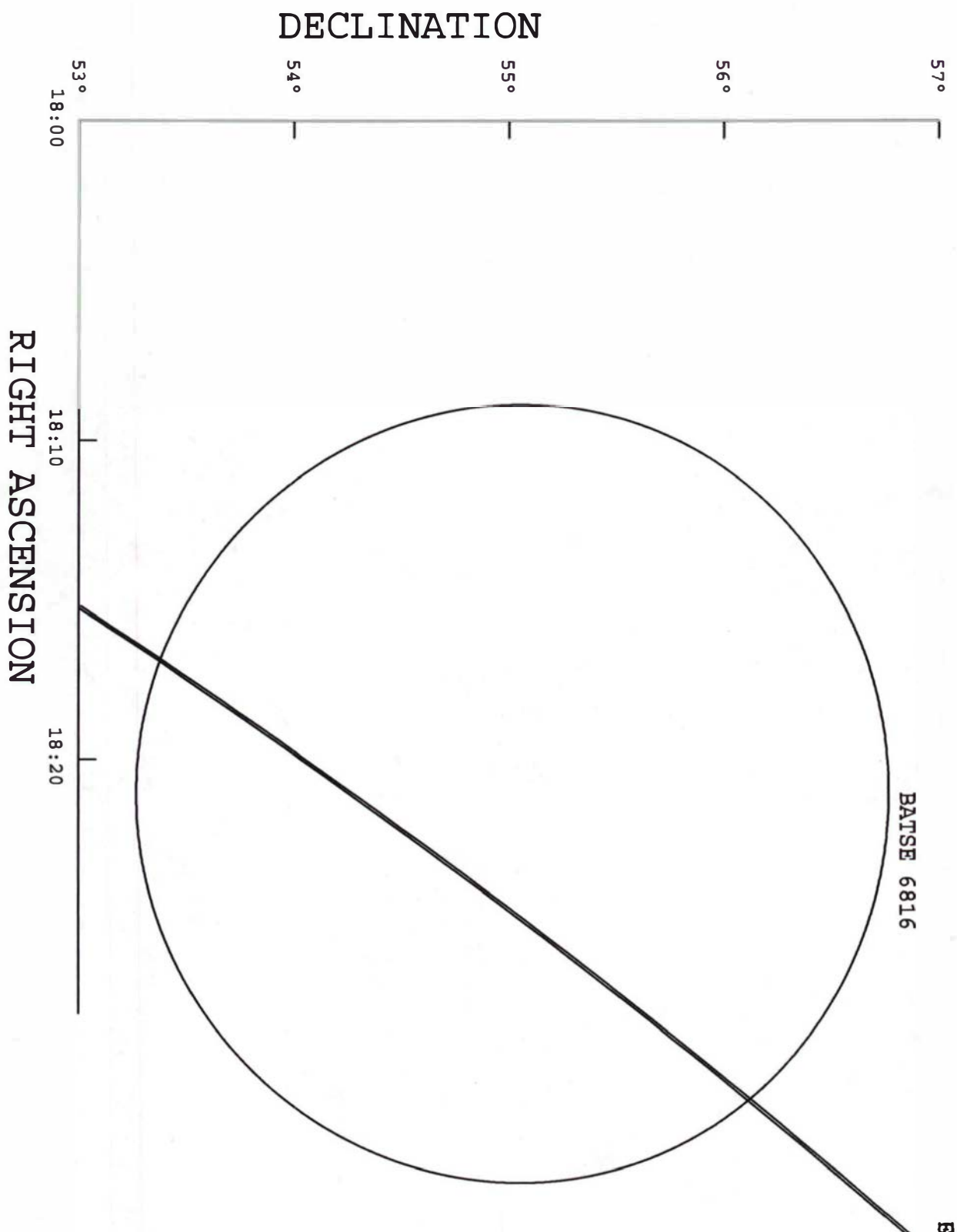
- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ 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 JUN 11, 1998 0:48

18 / 1 / 0



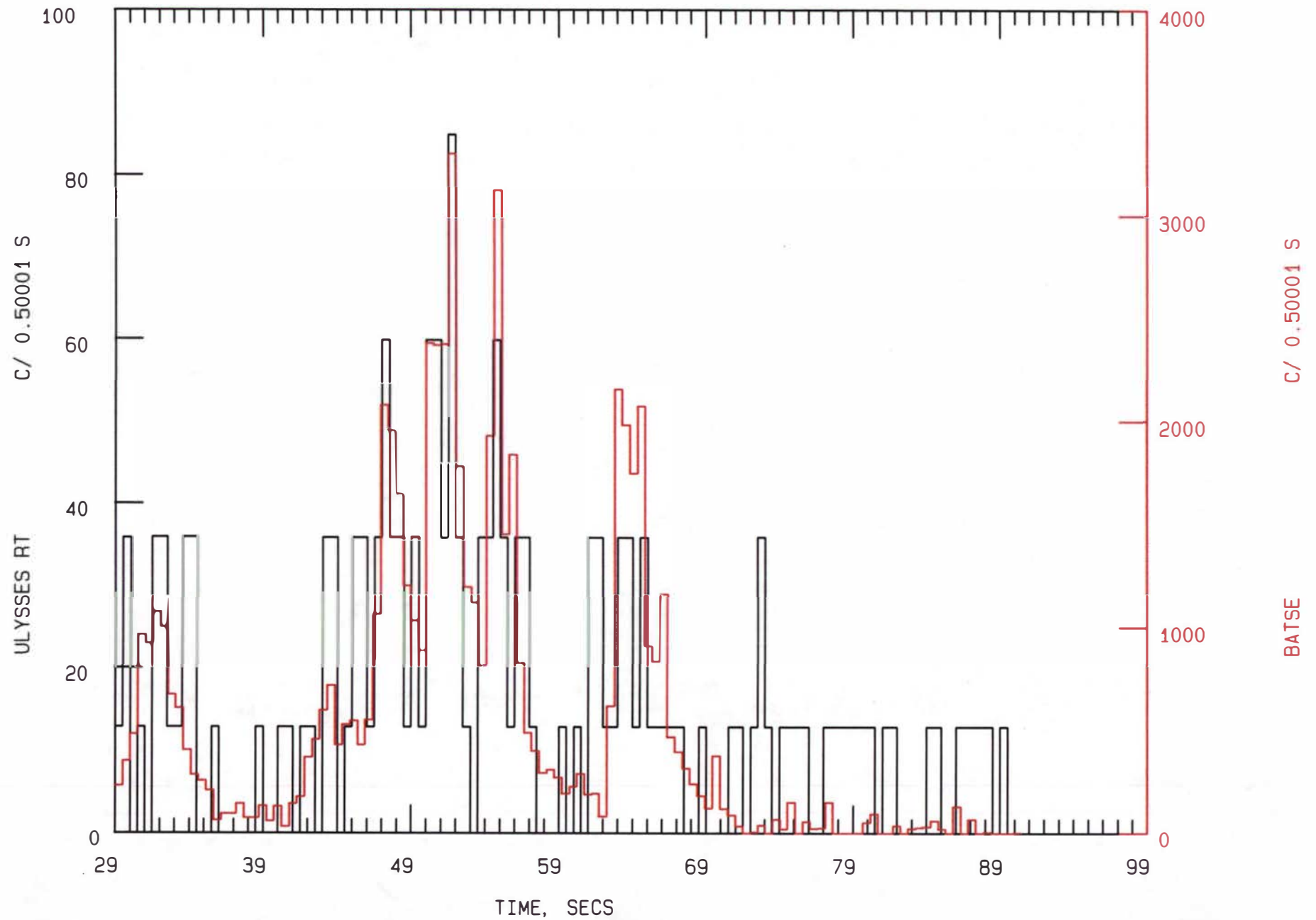
ULYSSES RT-BATSE

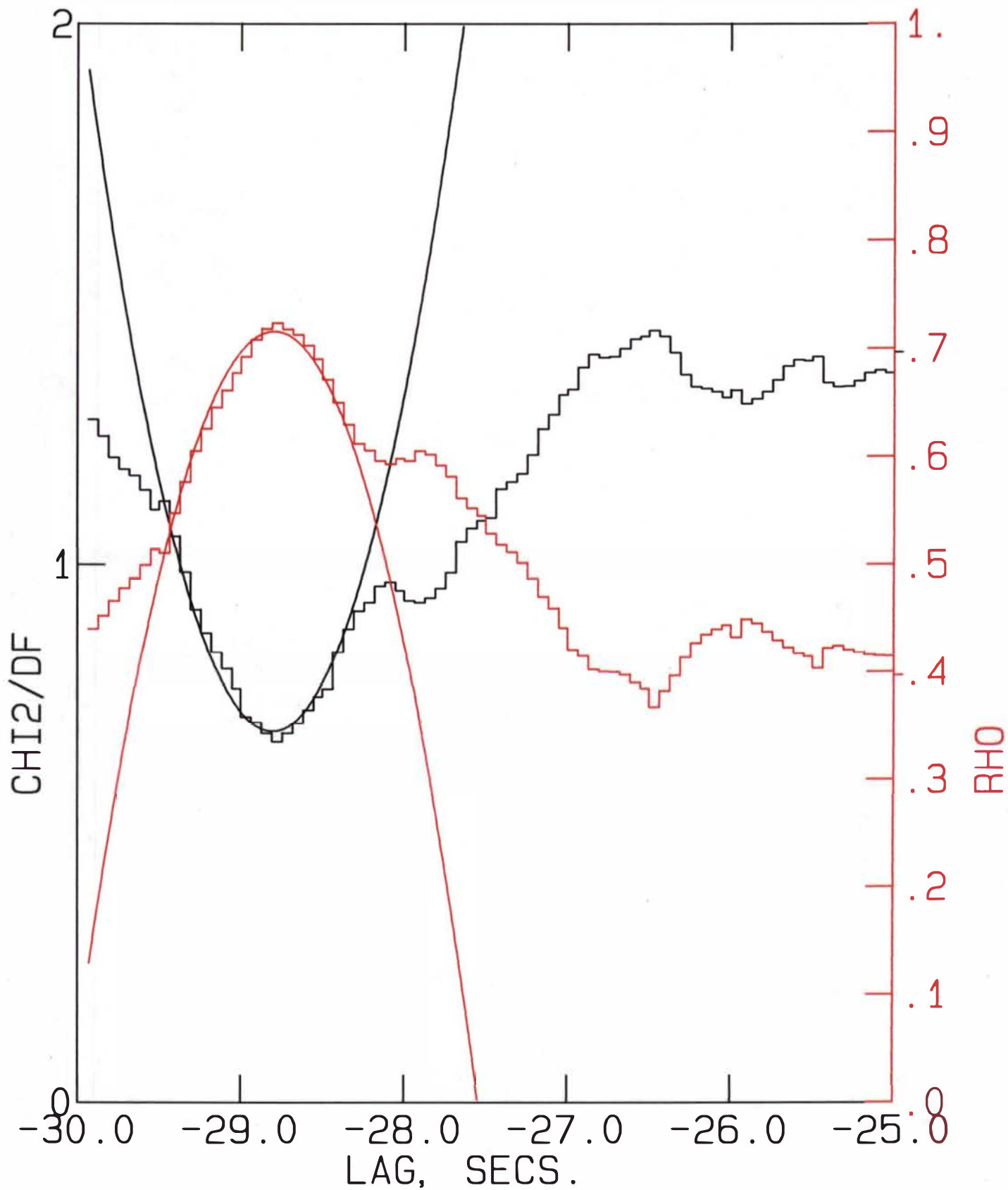
CORRELATION

11/ 6/98

3425.124

18/ 1/ 0

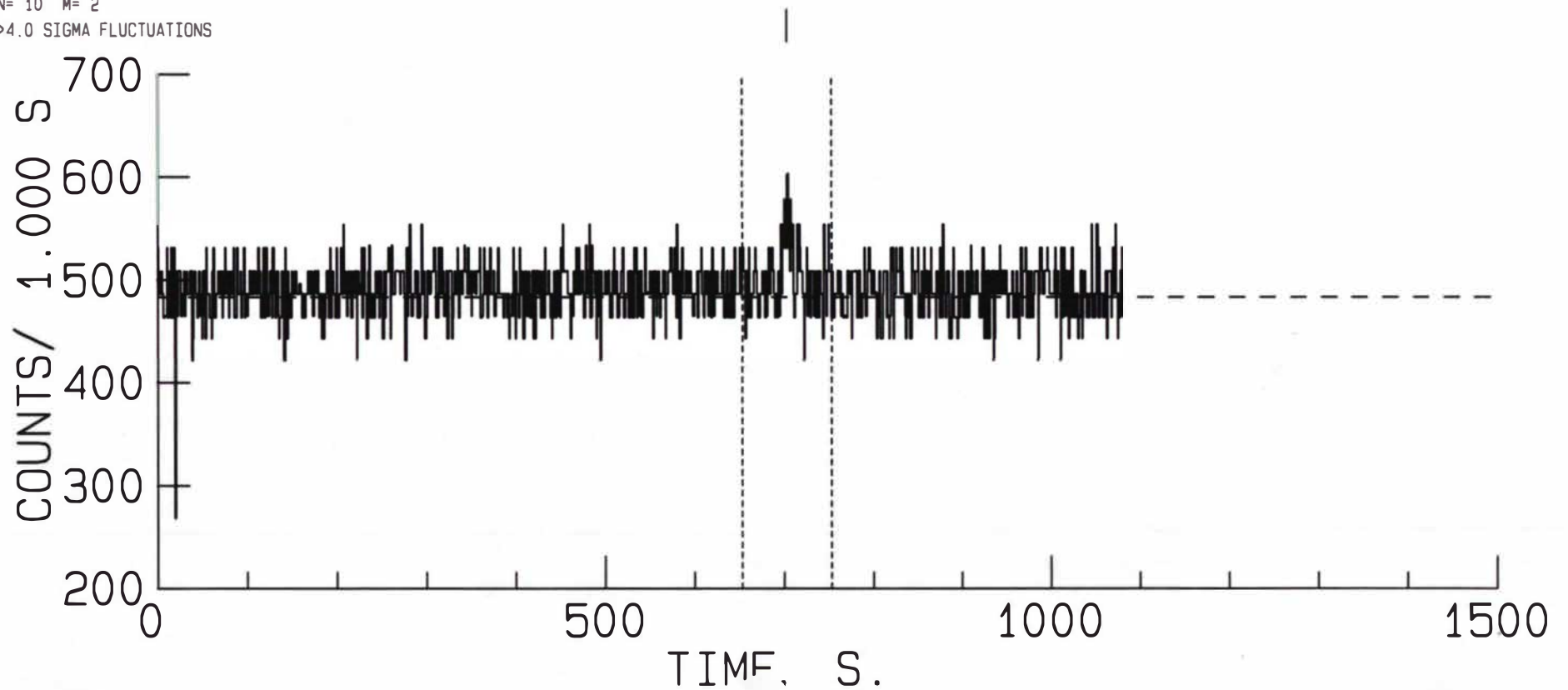




ULYSSES RT
11/ 6/98 2772.163 s
0.500 S INTERVALS REGROUPED BY 2
22- 150 keV

18/ 1/ 0.

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



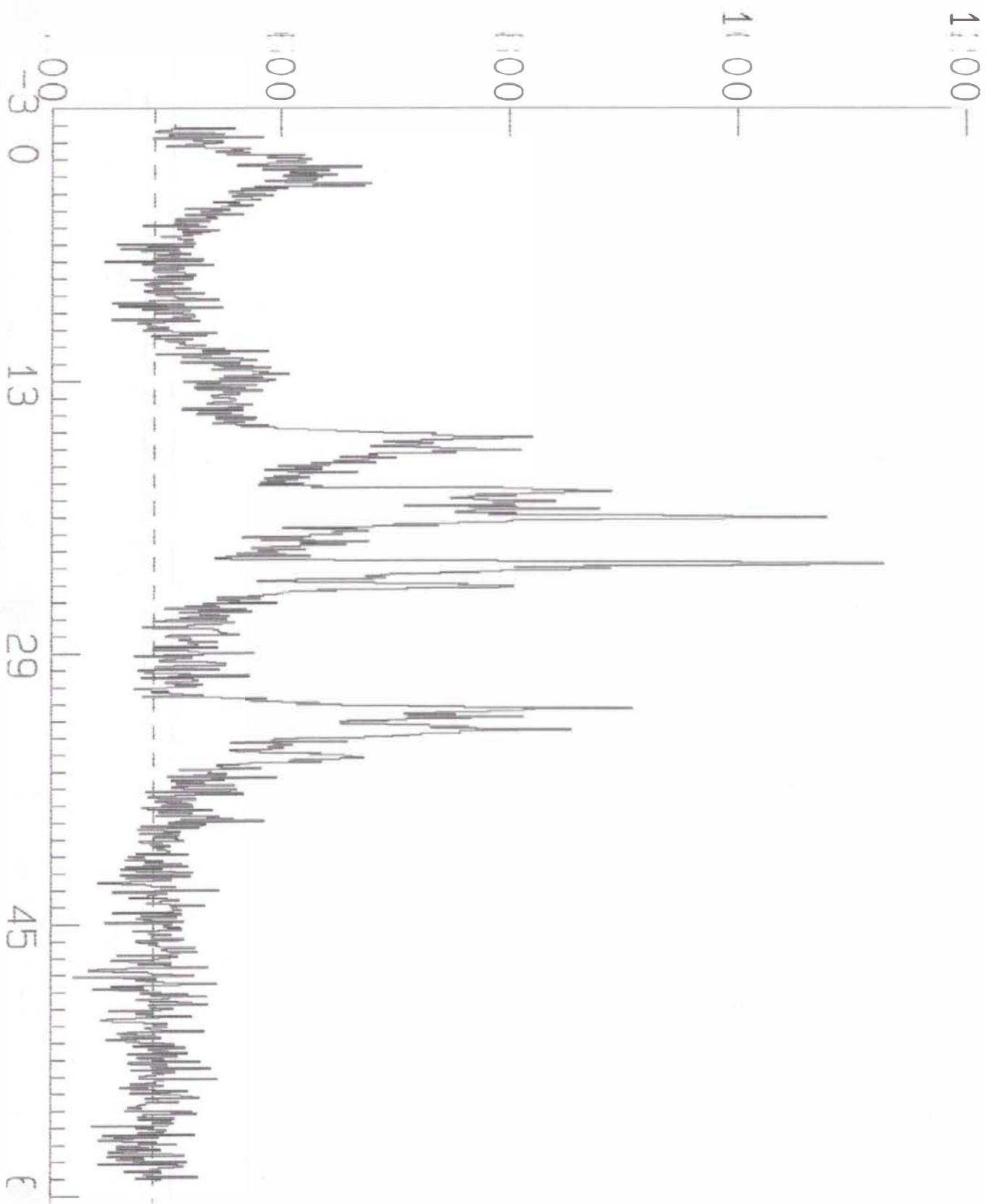
RATSE

11/06/98

2939 874

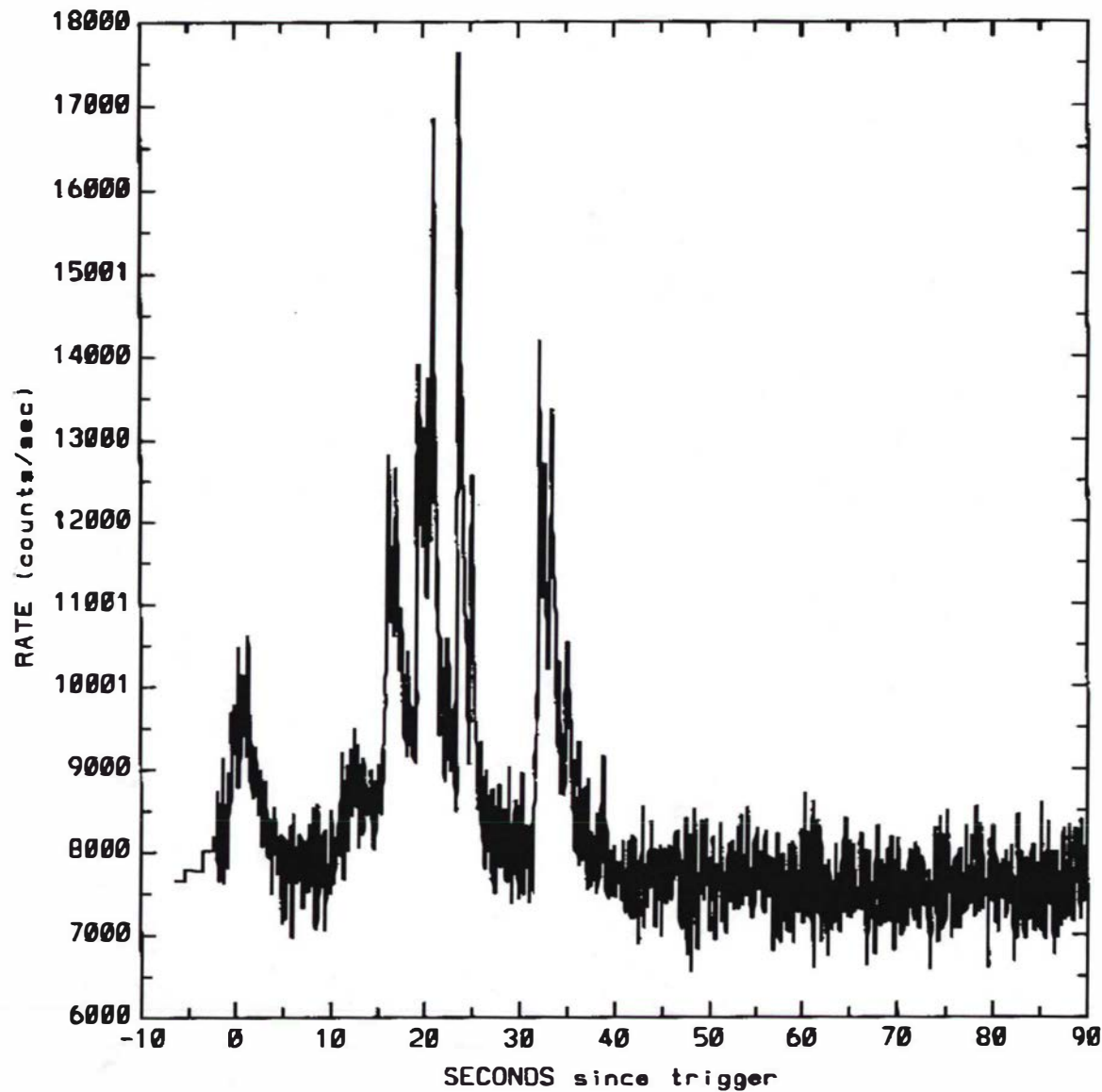
25- 100 keV

COUNTS/0.064 s



25 / 6 / 98

DISCSC Data for K. Hurley, No. 6816



15-JUN-1998 13:01:44

Created by NOPS 80
(Burst Display)
Version 12.25

Trigger # : 6816

Trigger Time:
18975 / 2939.873

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
76-----

Discriminators:
1 1 . 2 1

Quality Mask:
80ISP1

From HENZE@fender.msfc.nasa.gov Mon Jun 15 13:58:57 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 NAA12623; Mon, 15 Jun 1998 13:58:55 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA28116; Mon, 15 Jun 1998 13:58:53 -0700
Date: Mon, 15 Jun 1998 15:58:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980615155847.202027a1@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6817
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6817
EVENT OF 1998 JUN 11 DAY OF YEAR=162
EVENT CROSSING TIME AT BATSE : 20478. S. OR 05:41:18.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 279.000 76.000
BATSE PEAK COUNTING RATE: 2800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 6/ 98 IS:
RA= 149.412 DEC= 10.776 DIST= 5.707 AU
BATSE-ULYSSES DISTANCE = 853768308. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 91.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -85.31 SECS.
CROSSING TIME AT ULYSSES IS 20393. S. OR 05:39:52 +/- 542.92 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 6/ 98 IS:
RA= 71.072 DEC= 22.649 DIST= 2.516 AU
MARS-BATSE DISTANCE = 376397664. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=100.16 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -221.44 SECS.
CROSSING TIME AT MARS IS 20257. S. OR 05:37:36 +/- 211.20 SECONDS

BATSE BURST TRIGGER

NO.: 6817

TIME: TJD=0975 SECONDS=20478

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 84.3 AZIMUTH=278.8 ERROR= 2.5 DEGREES

COMMENTS:

FASTER RISE THAN DECLINE. DUR. APPROX. 100 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6817	980611	10975	20478	2800	279	+76	100

BATSE BURST# 6817

ULYSSES RT

15 / 6 / 98

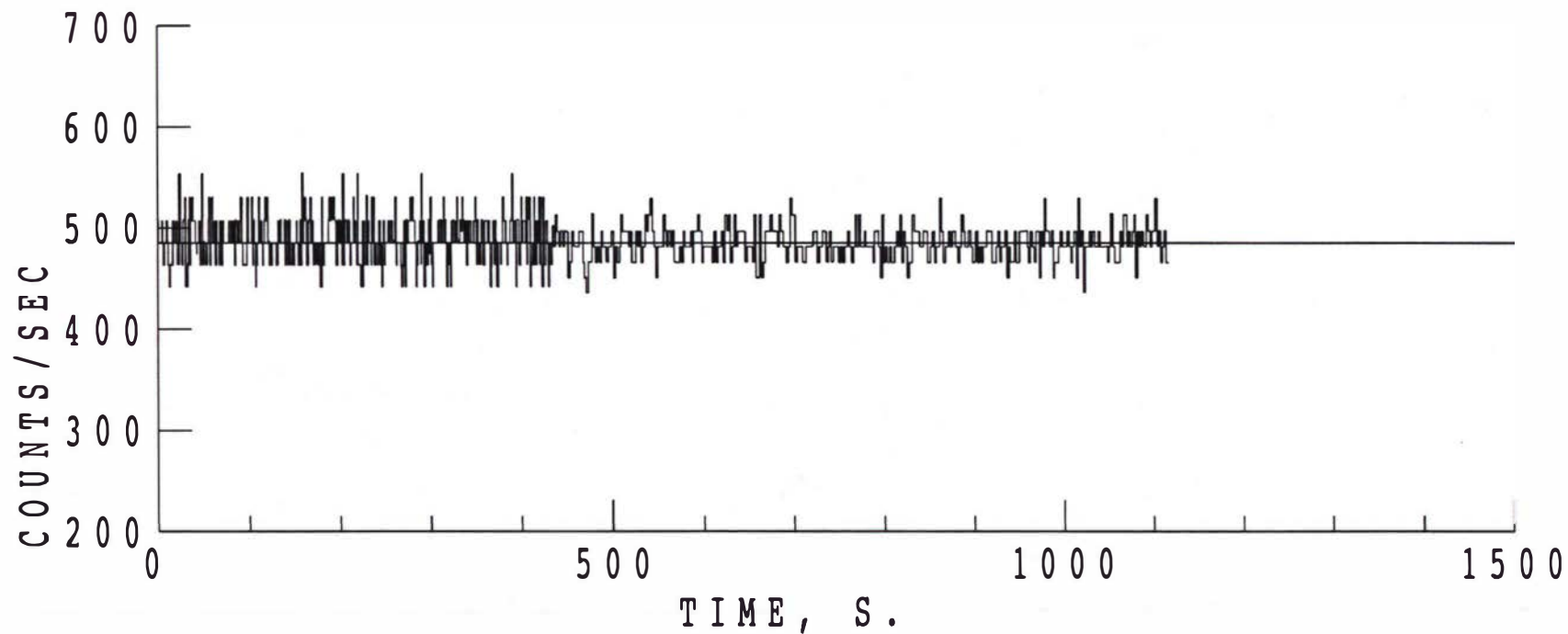
11 / 6 / 98 19836.342 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS2

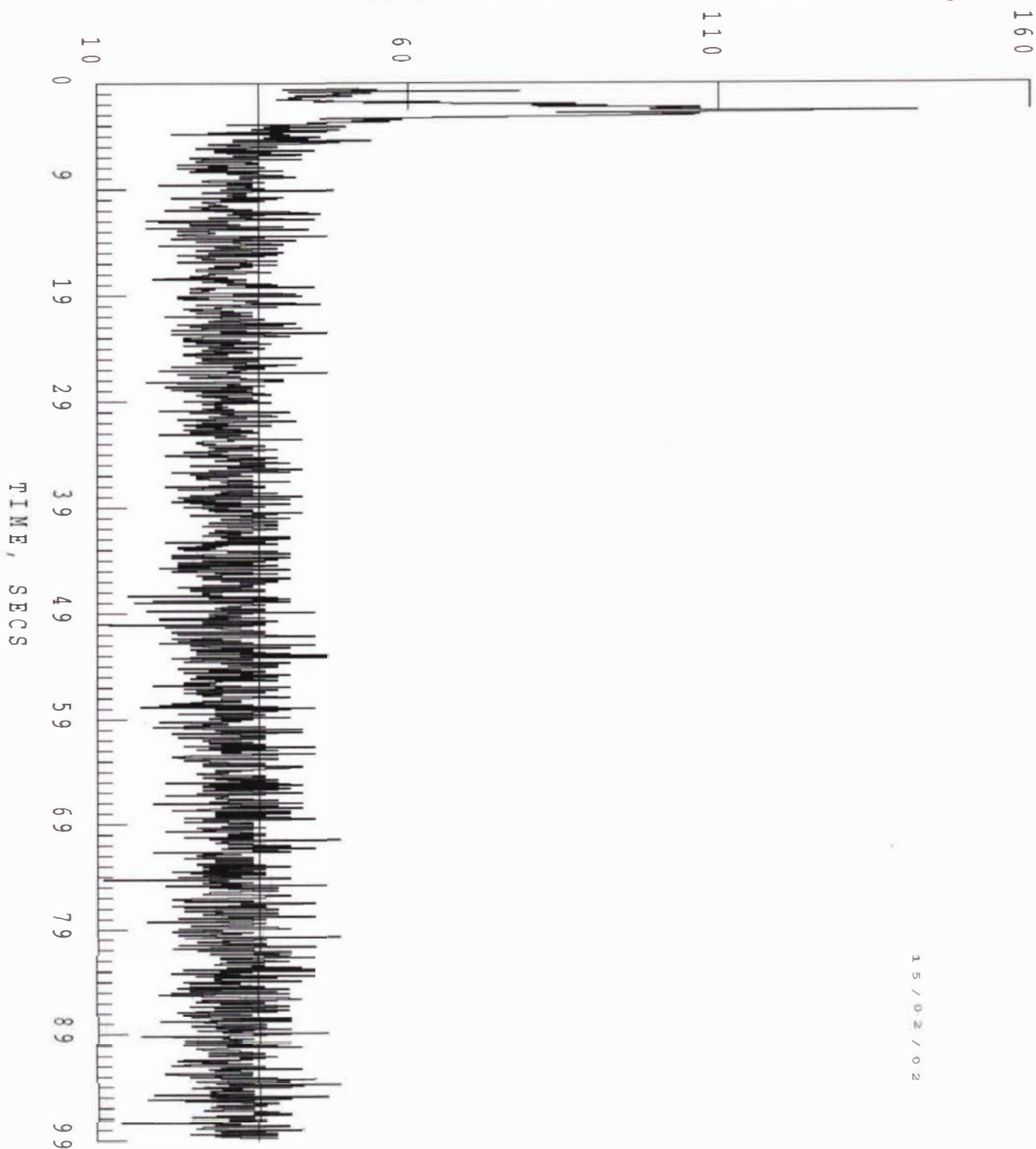
11/06/98

33051.041

50 - 200 keV

*Solar untag. event at 33 026
has $T_{90} = 30$ s, $\alpha, \delta, R = 308, 5, 26$
or $EL = +23$. KONUS $EL = 12 \rightarrow 32$*

COUNTS/0.064 S



KONUS2 19980611 33051

ULYSSES RT

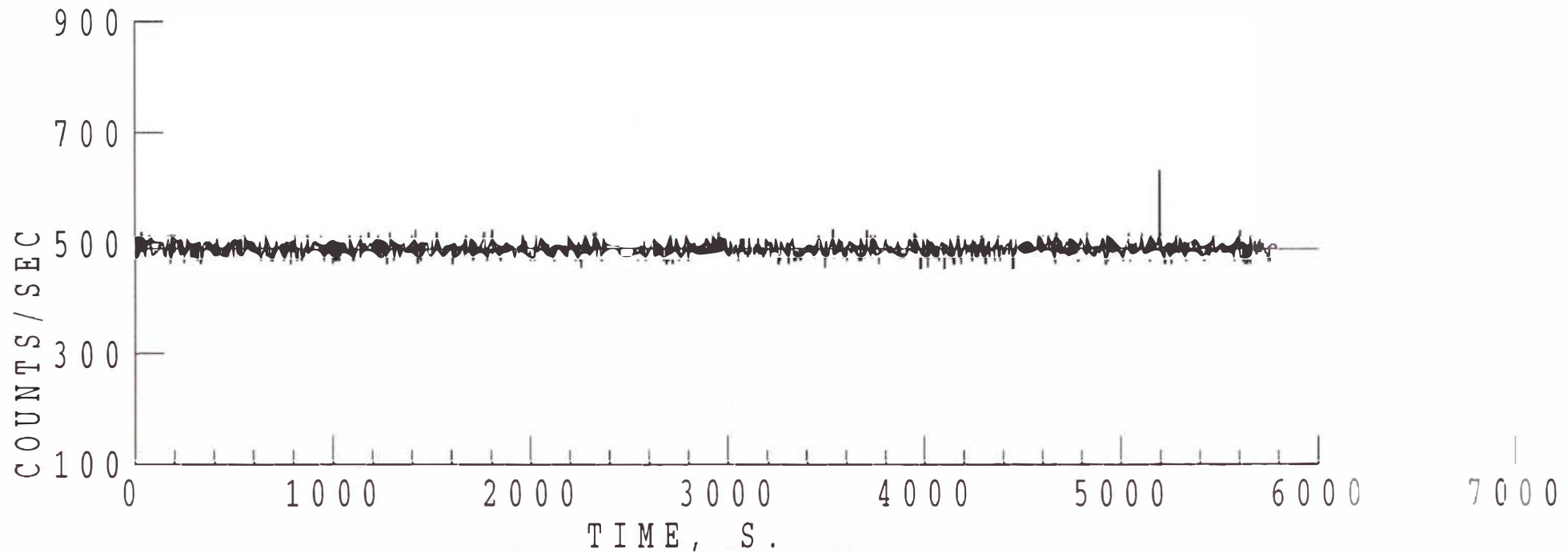
15 / 02 / 02

11/06/98 30168.451 s

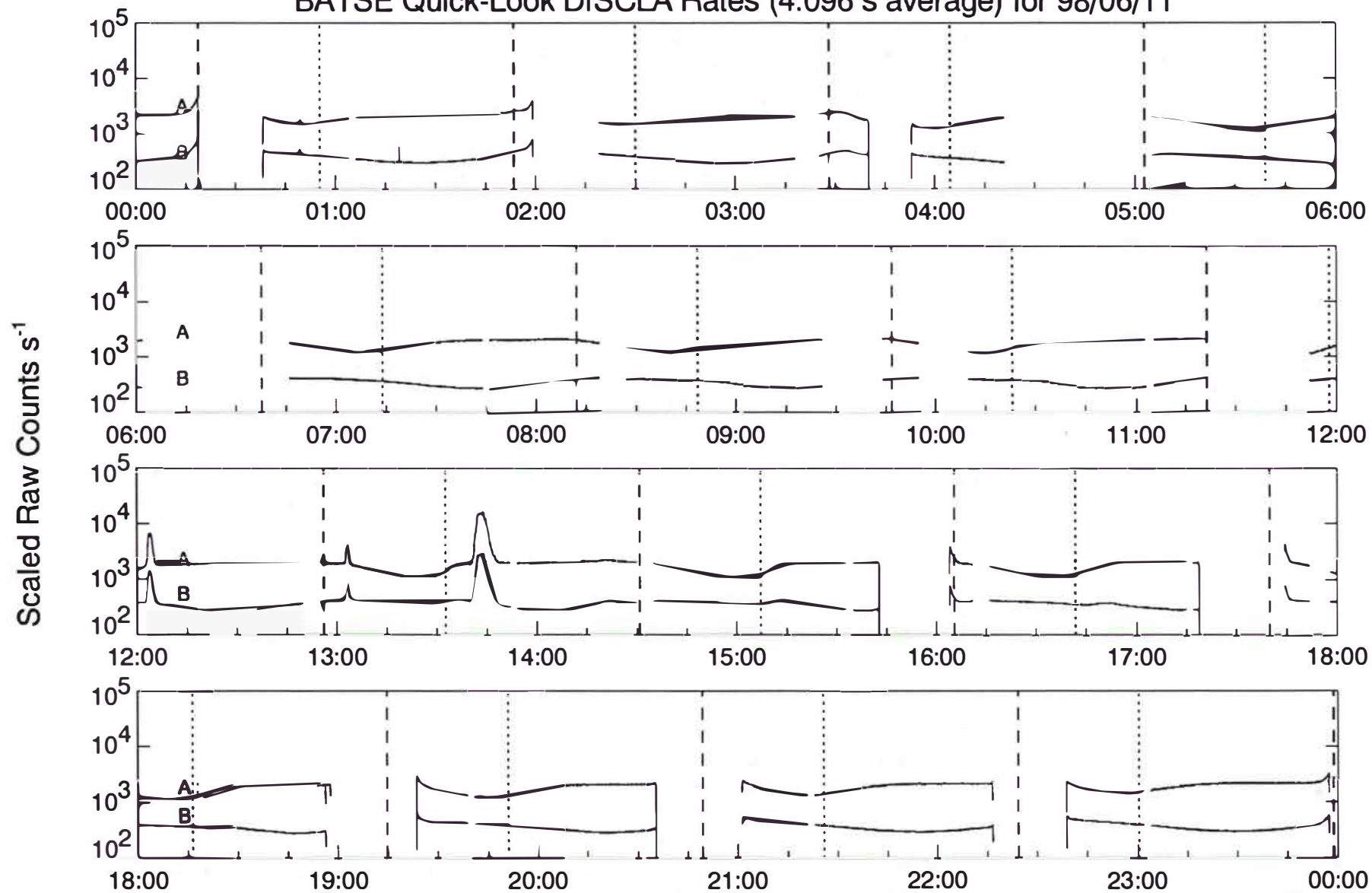
INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



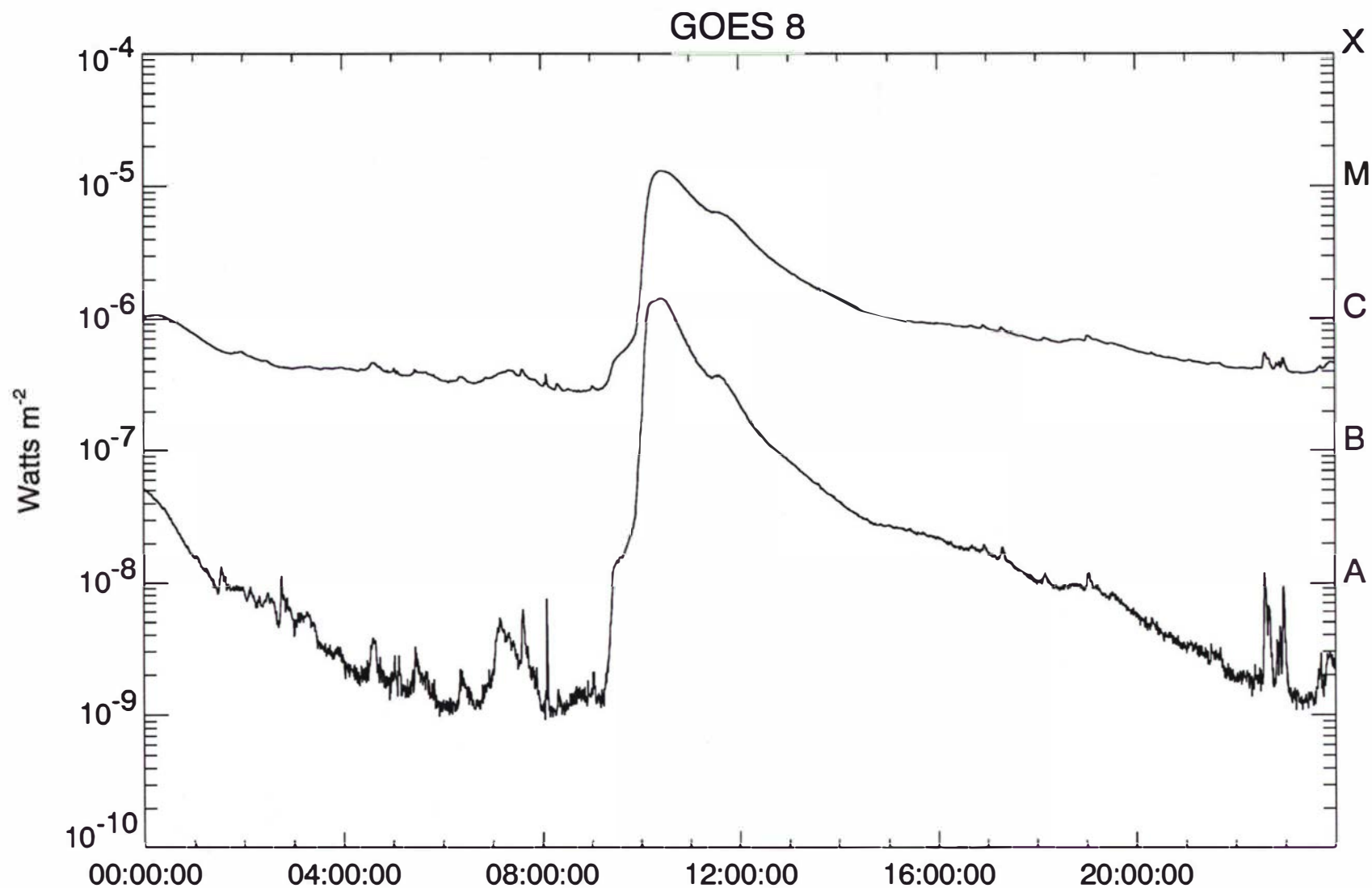
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/11



Current Time: 98/06/15, 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: 98/06/11, 0000:00

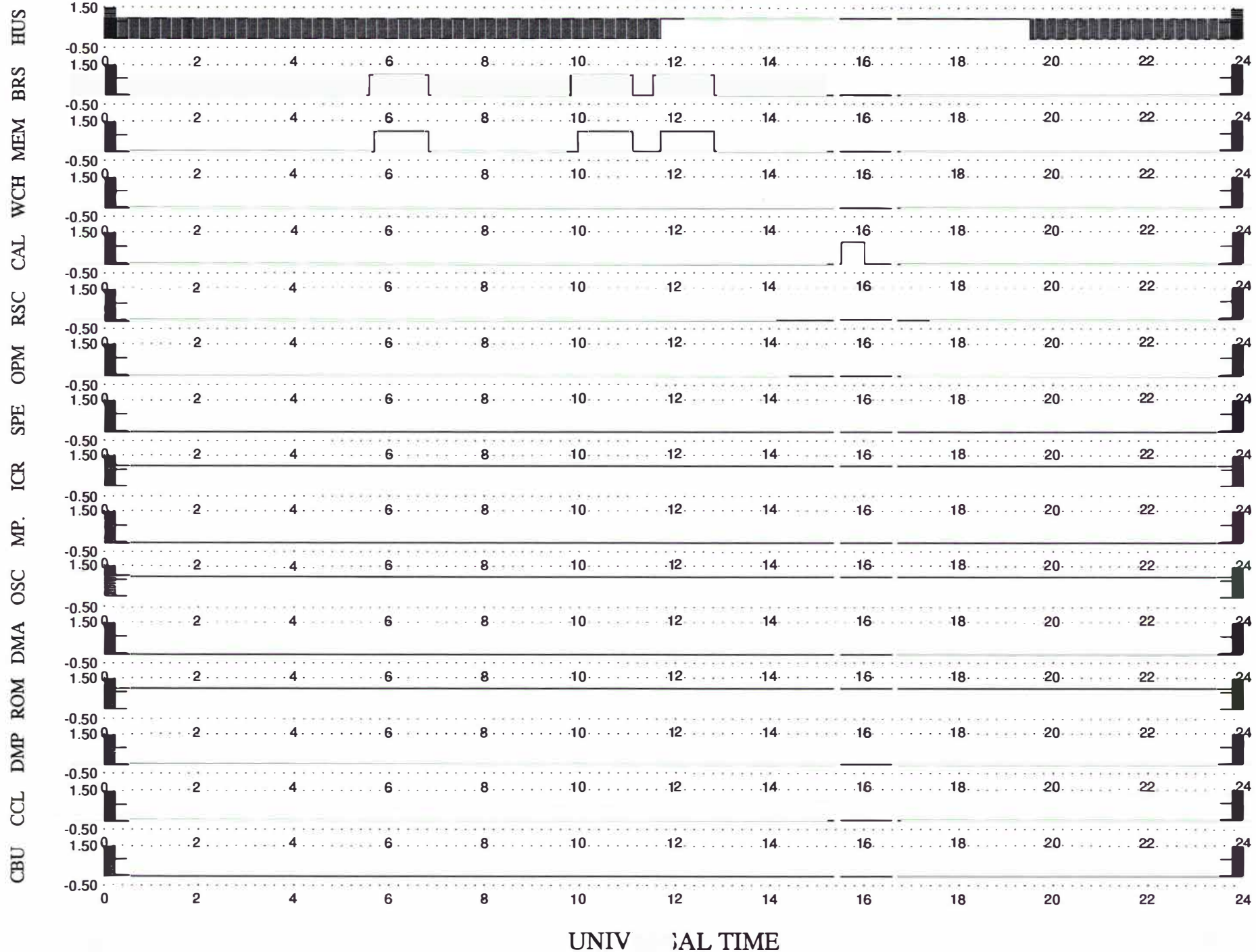
Plot created: 98/06/15, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

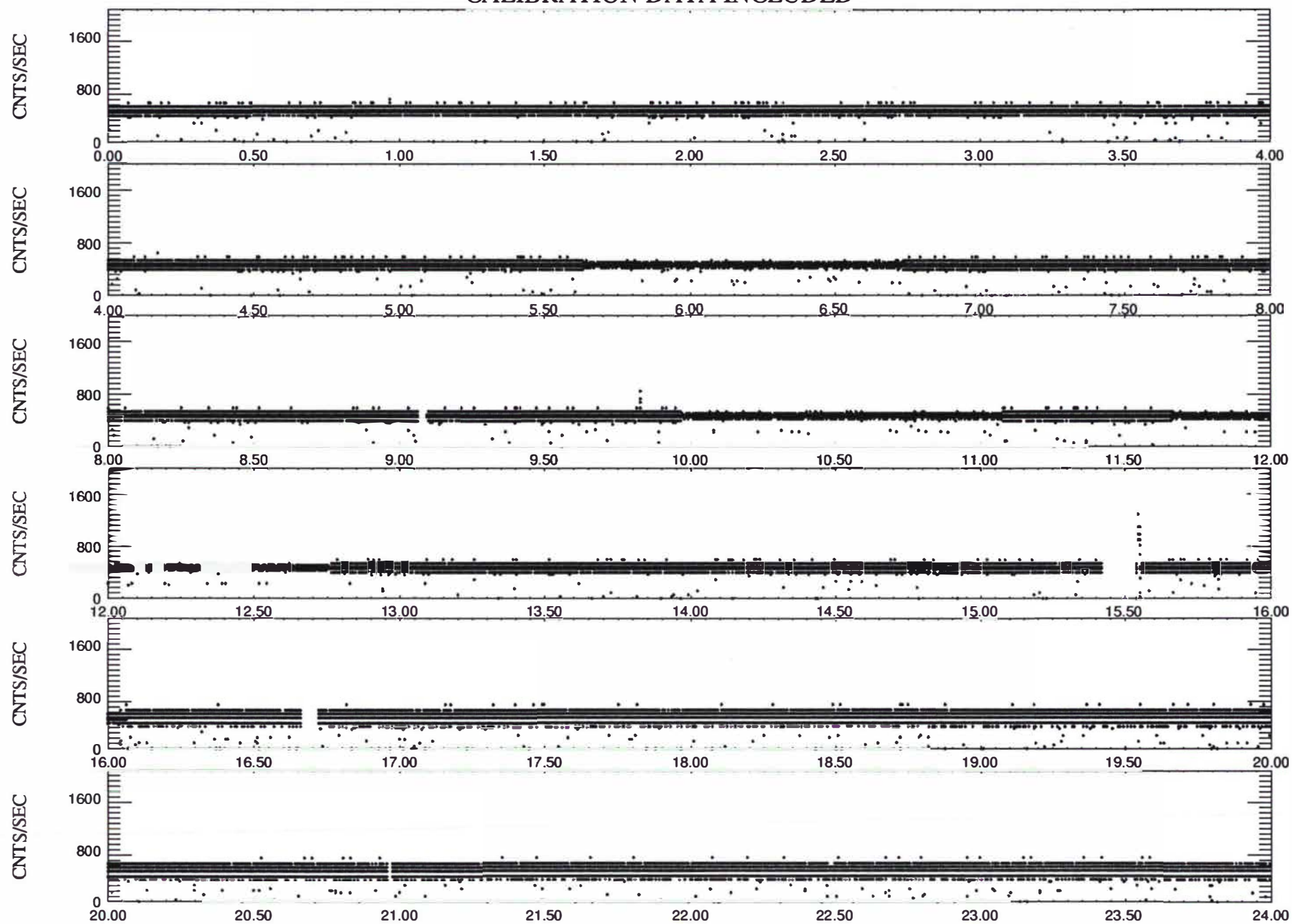
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 6 - 8

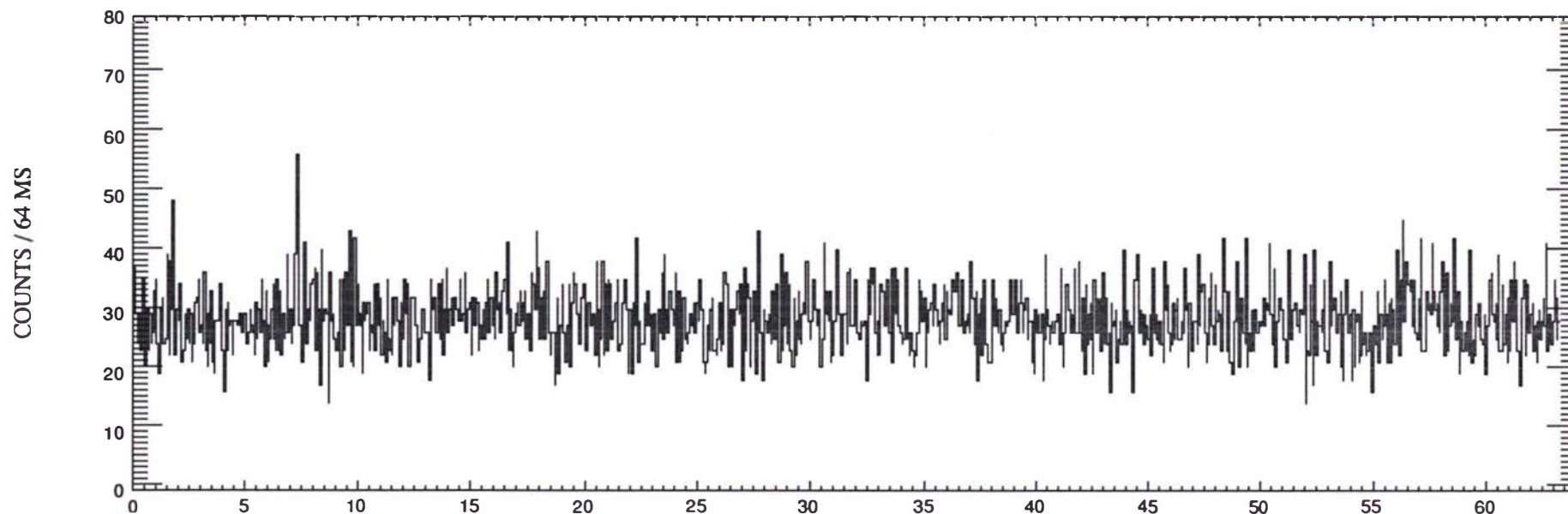


CALIBRATION DATA INCLUDED

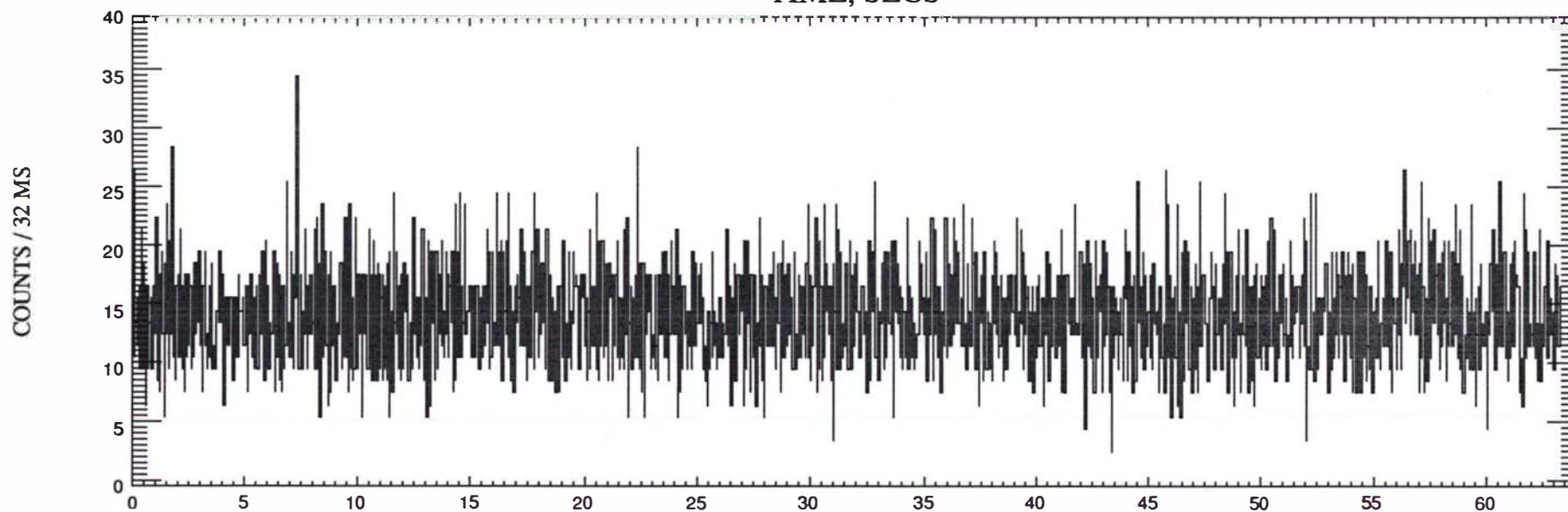


UNIV 3AL TIME

Burst Counter 6 at UT= 5.480752716064 h=19730.710 s 05:28:50.710

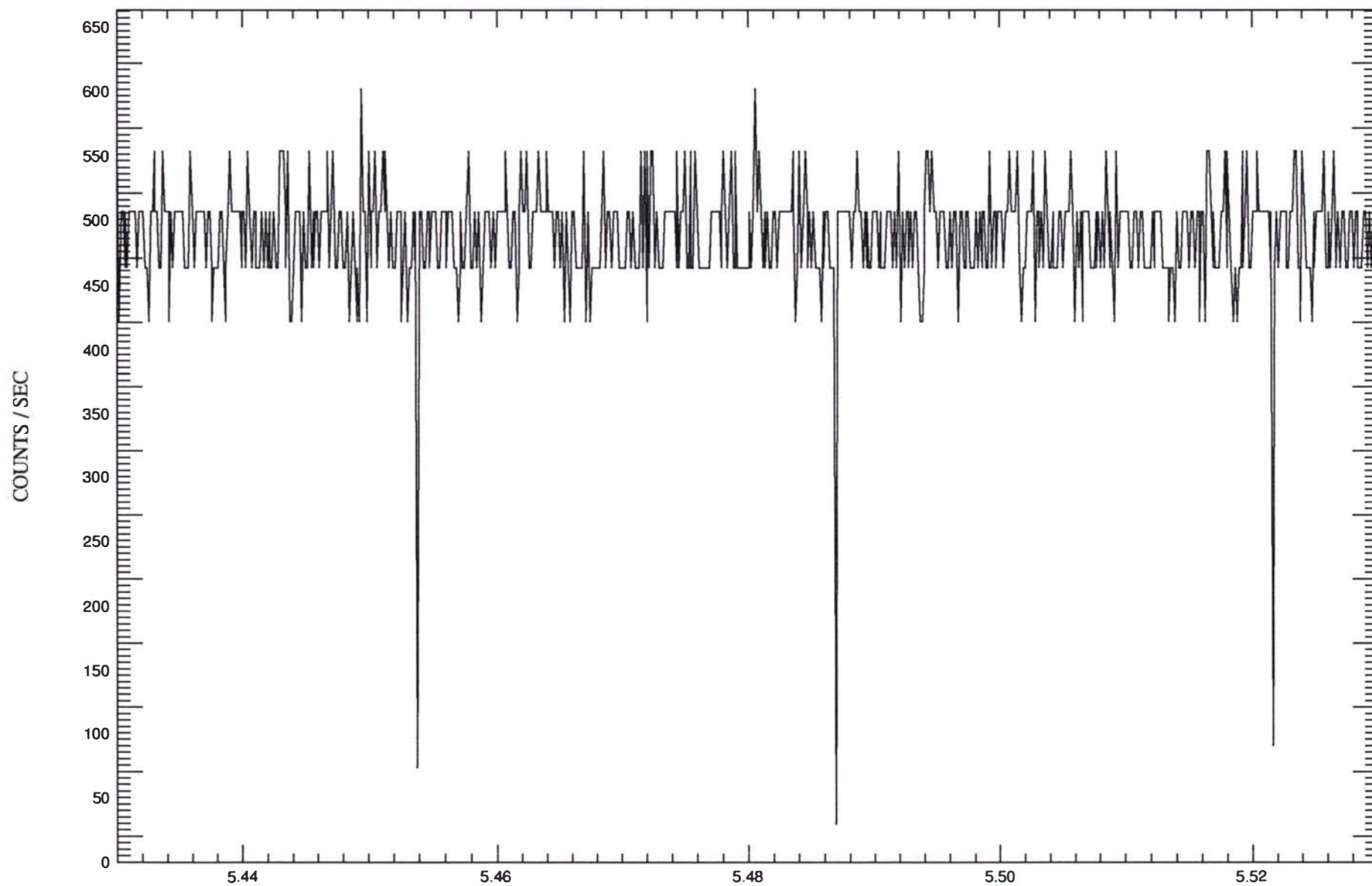


TIME, SECS

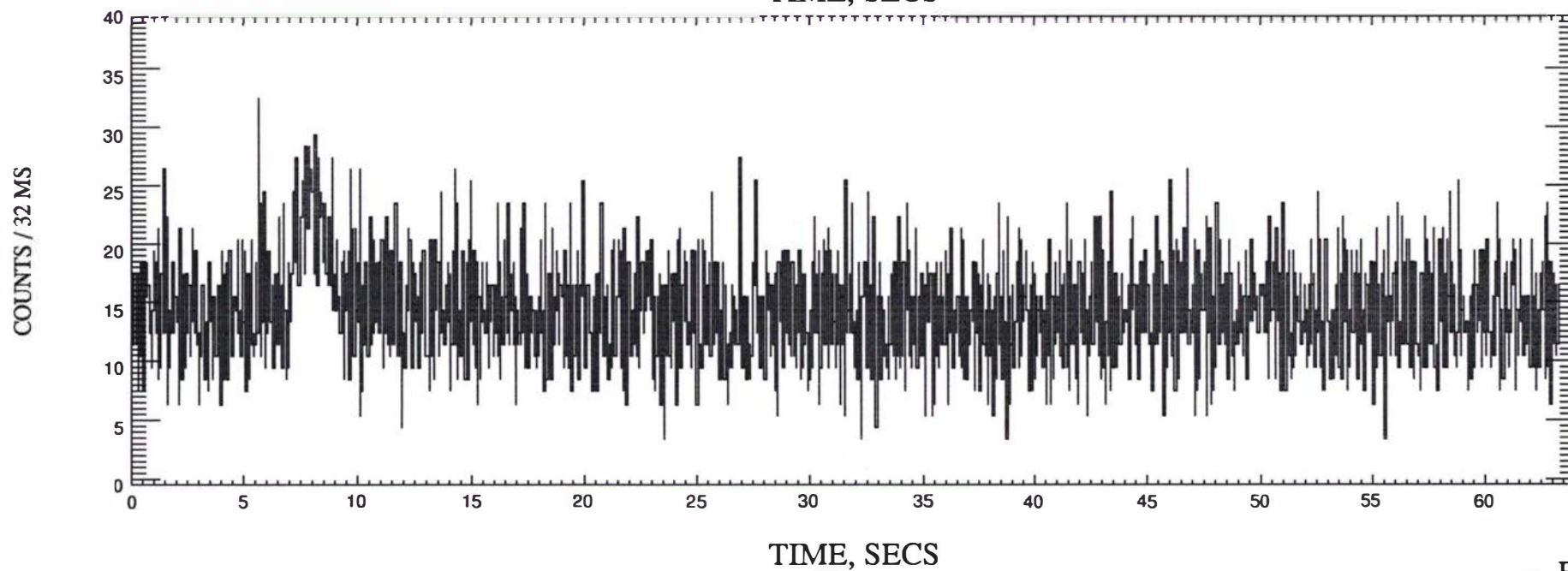
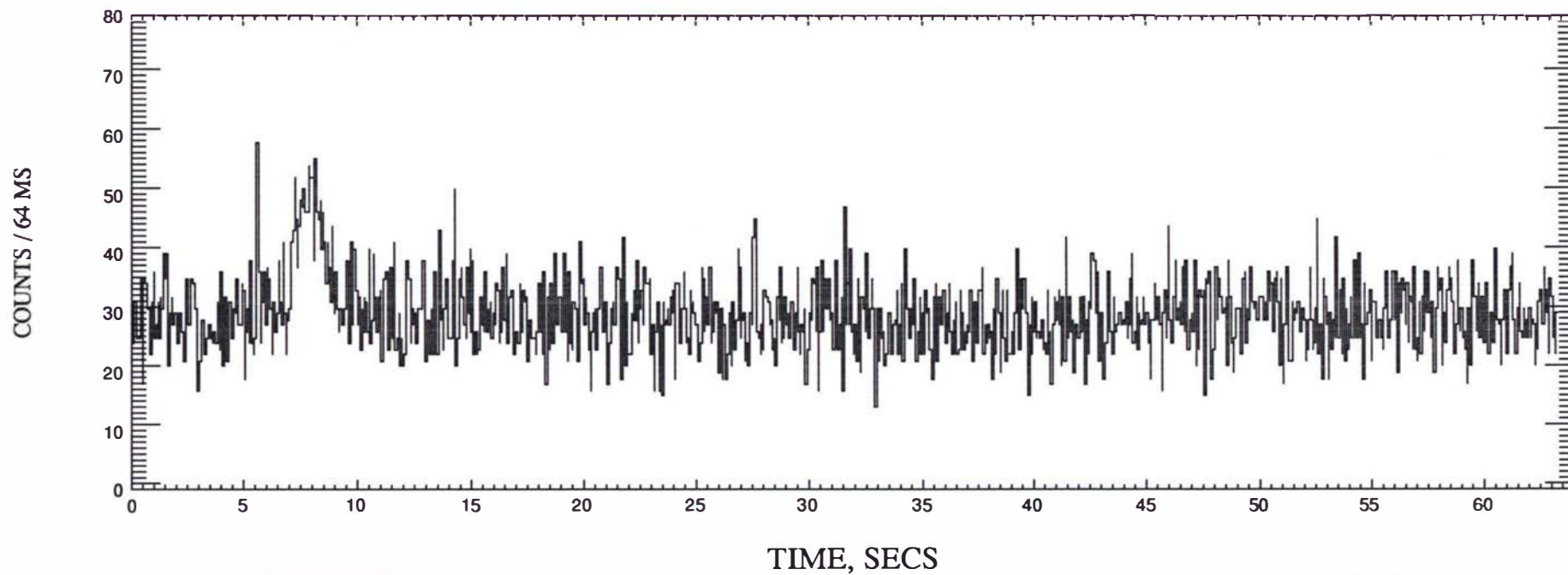


TIME, SECS

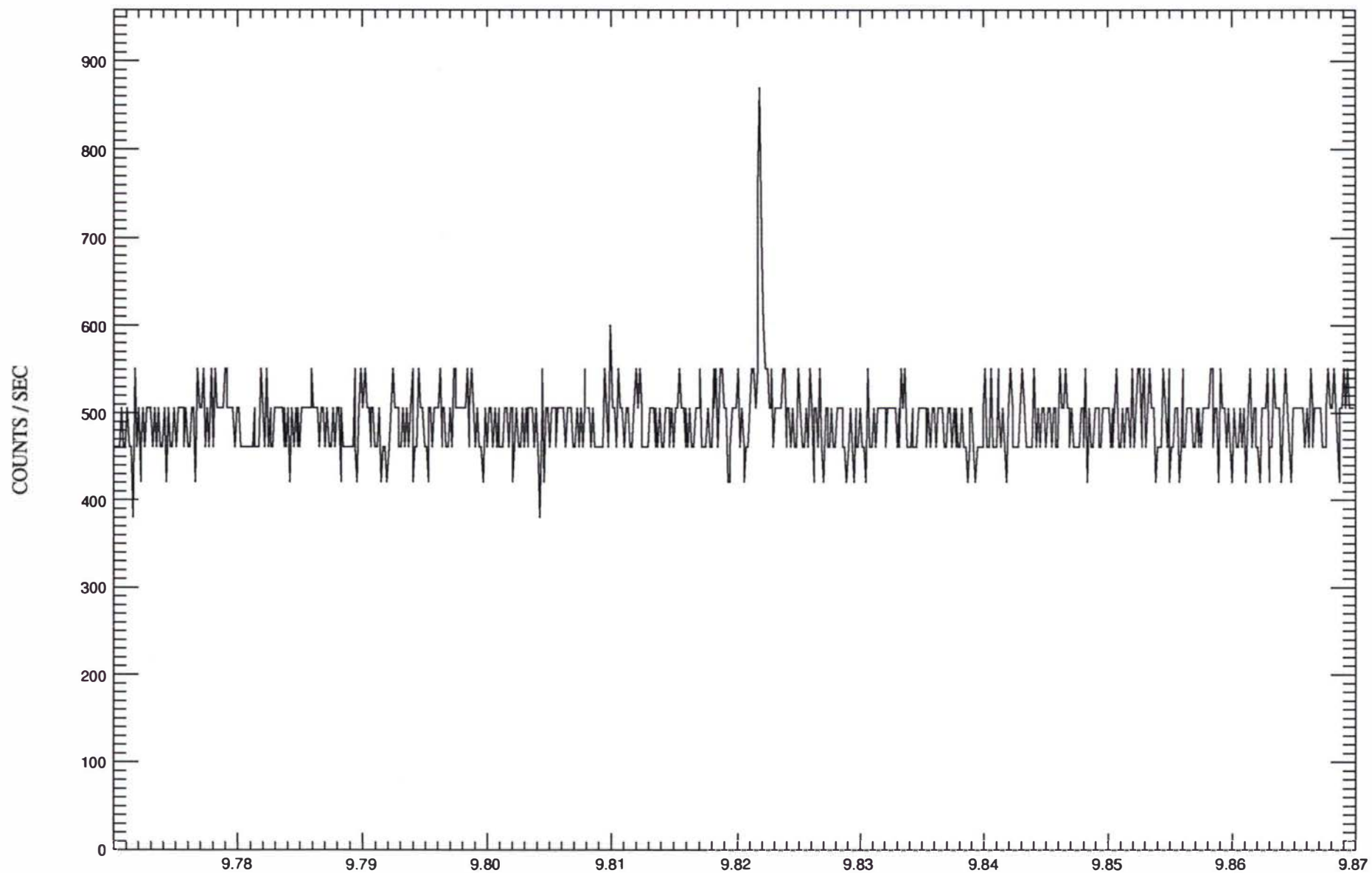
CALIBRATION DATA INCLUDED



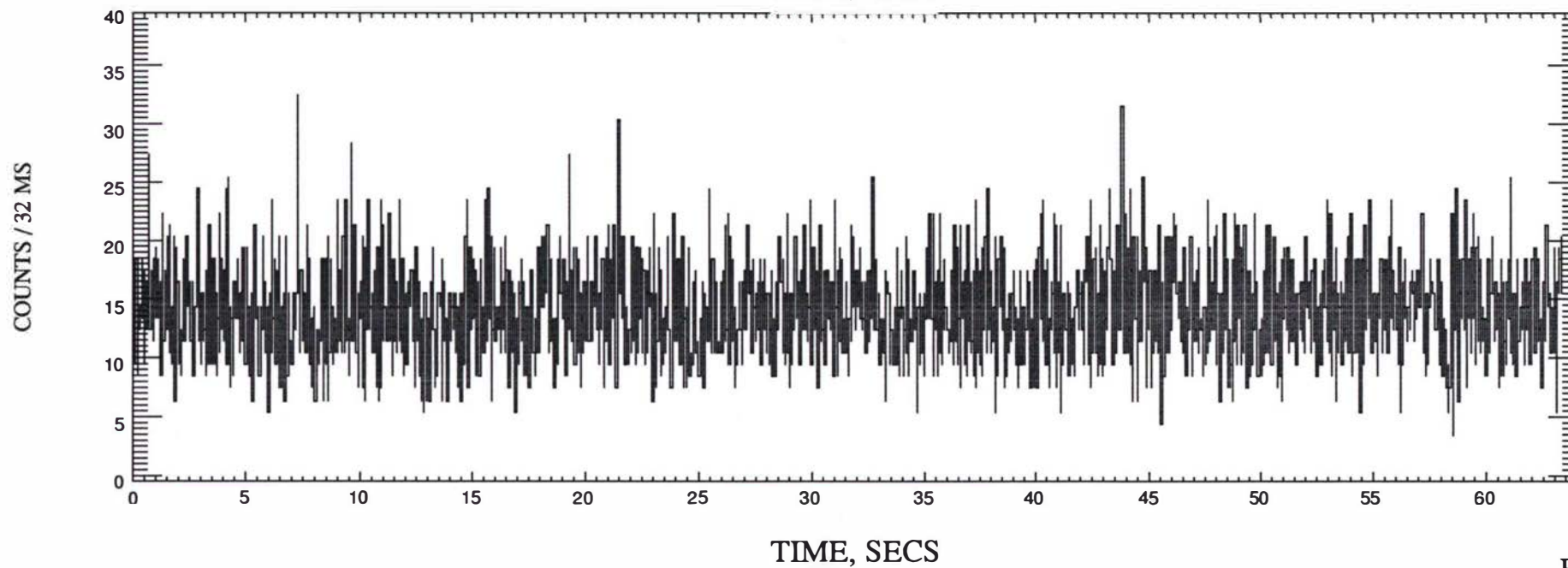
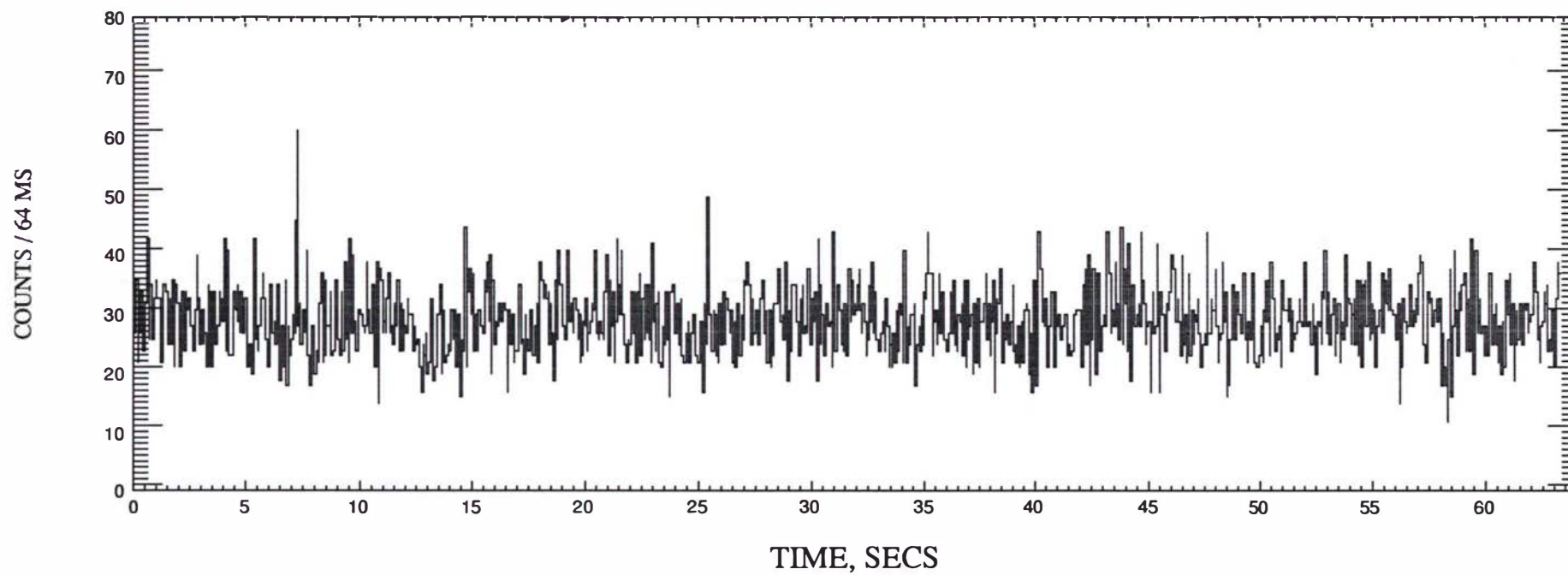
Burst Counter 7 at UT= 9.821839595371 h=35358.623 s 09:49:18.623



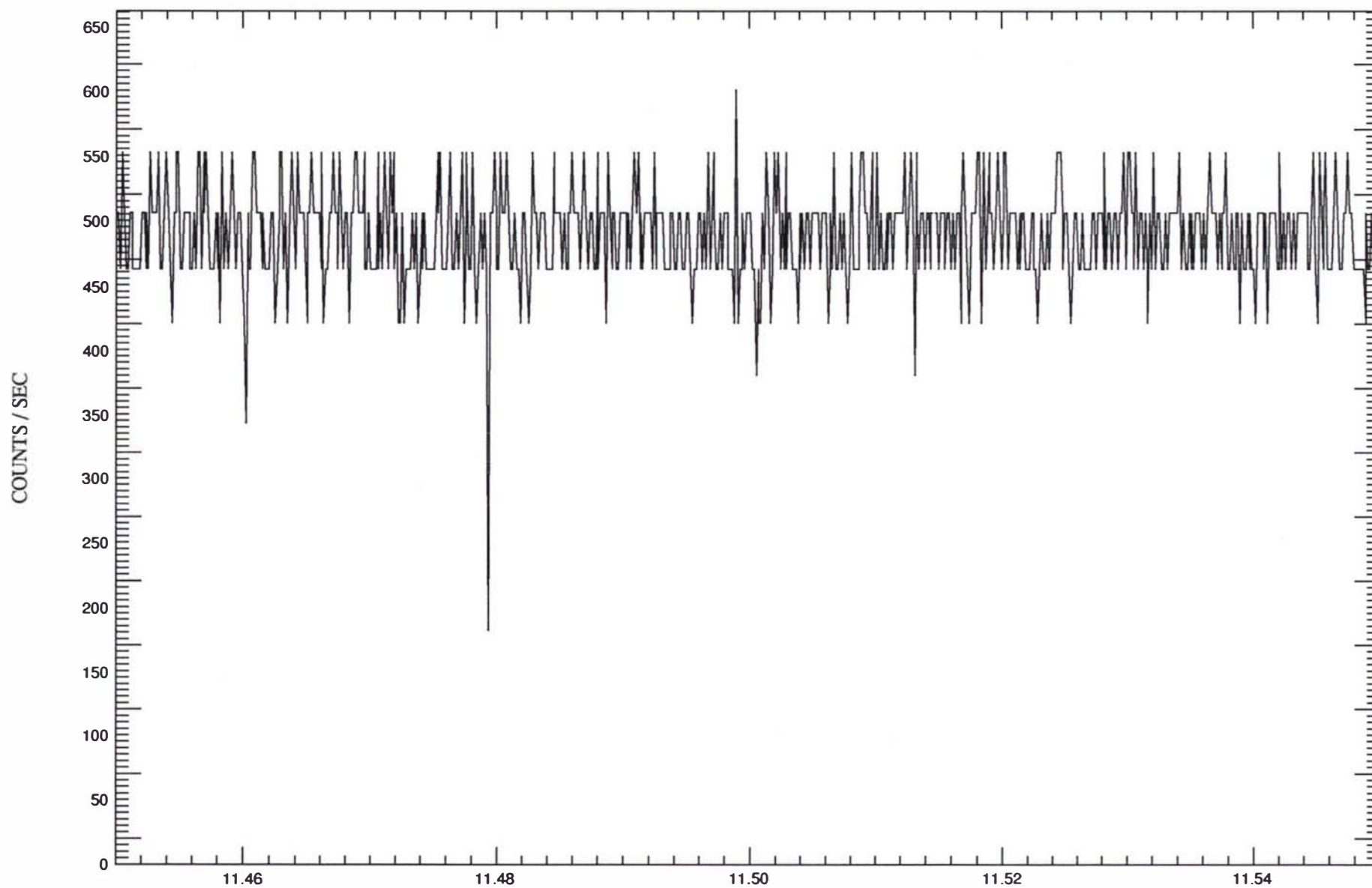
CALIBRATION DATA INCLUDED

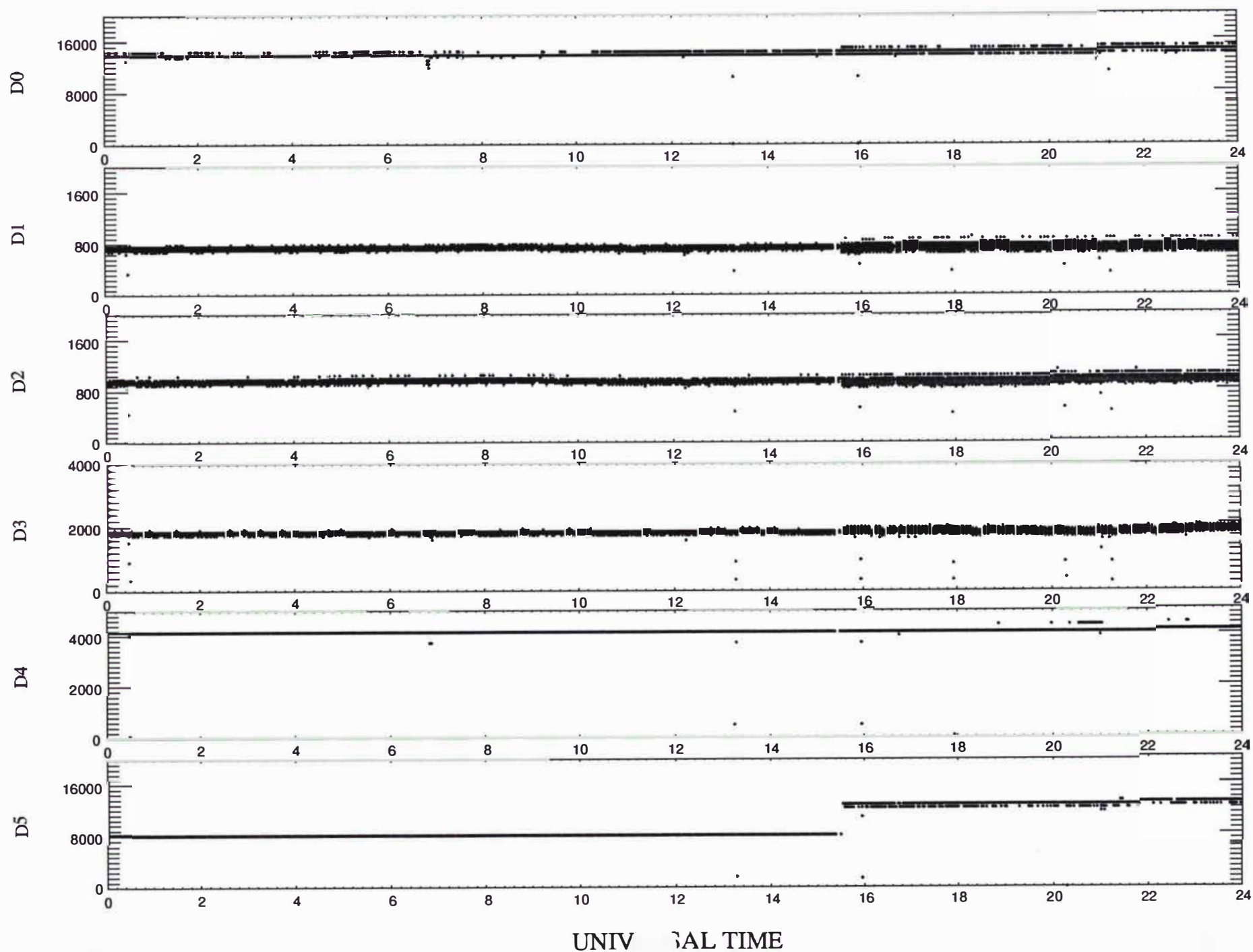


Burst Counter 8 at UT=11.499110285441 h=41396.797 s 11:29:56.797



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Thu Jun 18 12:48:02 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 14:47:41 -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.: 6818

TIME: TJD=0976 SECONDS=10286

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

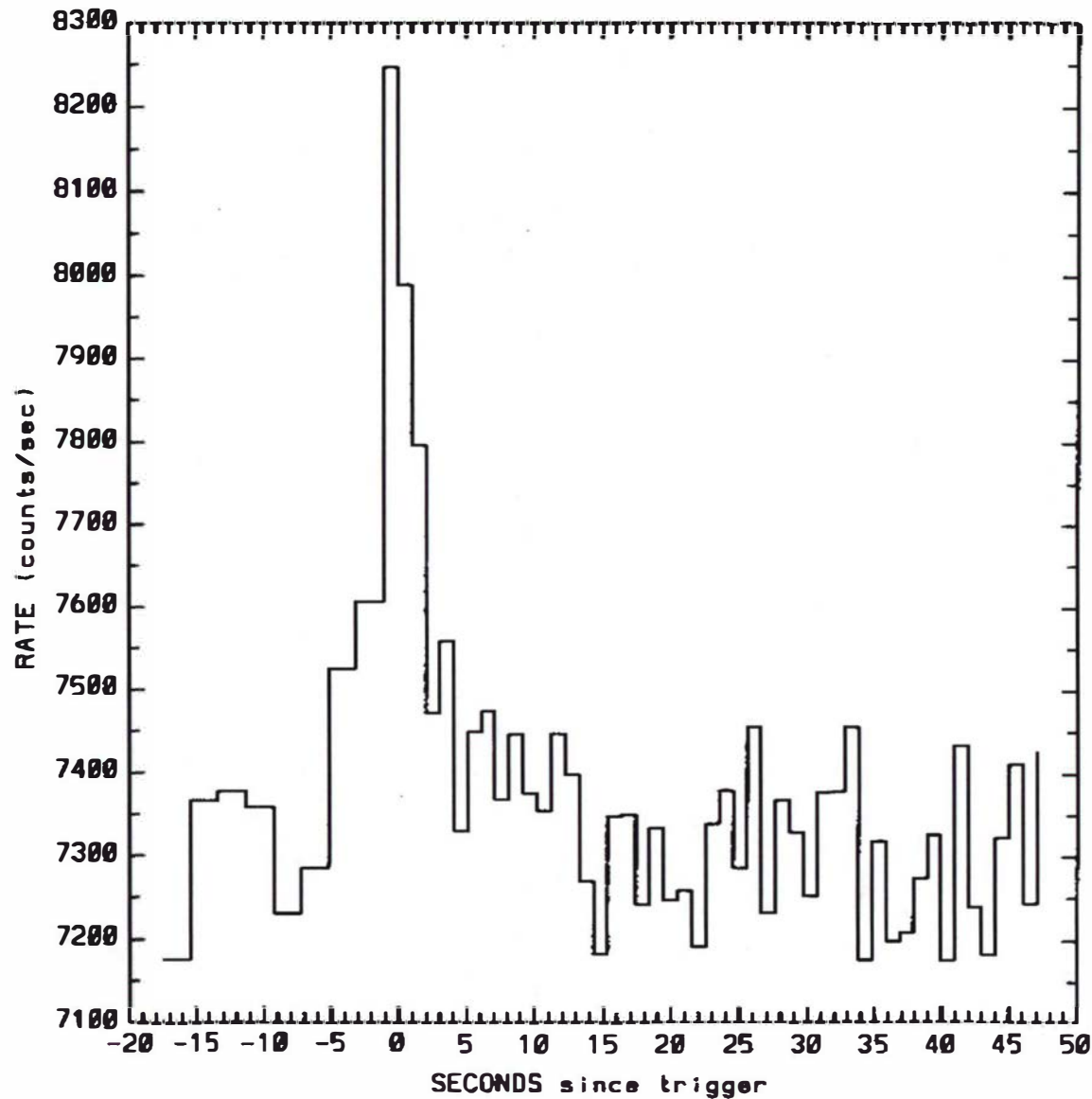
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=63.1 AZIMUTH=359.6 ERROR=6.1 DEGREES

COMMENTS:

SOLAR FLARE. GOES. C1.2 OPTICAL SF, SINGLE PULSE DUR.~10 S. NOT VISIBLE ABOVE
50 KEV.

DISCLB Data for K. Hurley, No. 6818



24-JUN-1998 11:54:48

Created by MOPS 8D
(Burst Display)
Version 12.25

Trigger # . 6818

Trigger Time:
10976 / 10286.817

Burst Data Type:
DISCLB

Deadtime
Corrected: N

Background Data
Type: None

Minimum Integ. Time:
1.024 seconds

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

Discriminators:
(1..2)

Quality Mask:
80ISP1

SROSS 19980612 74694

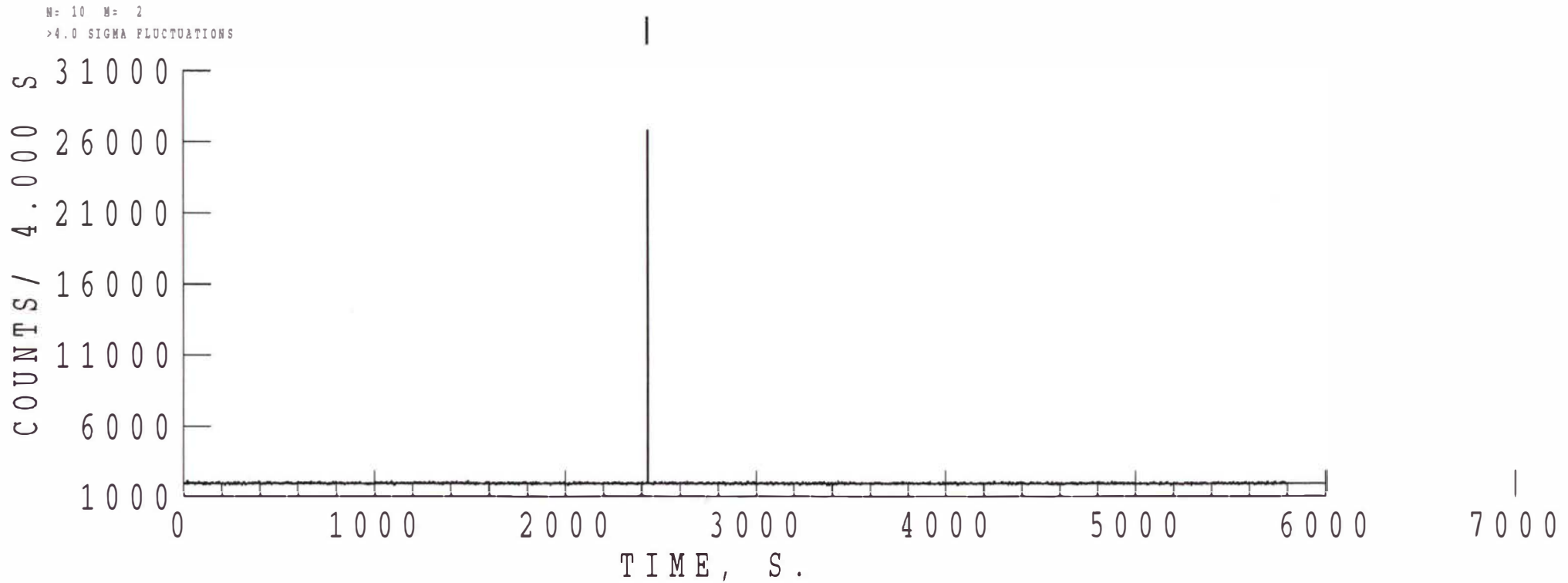
ULYSSES RT

04 / 09 / 01

12 / 06 / 98 71784.250 s

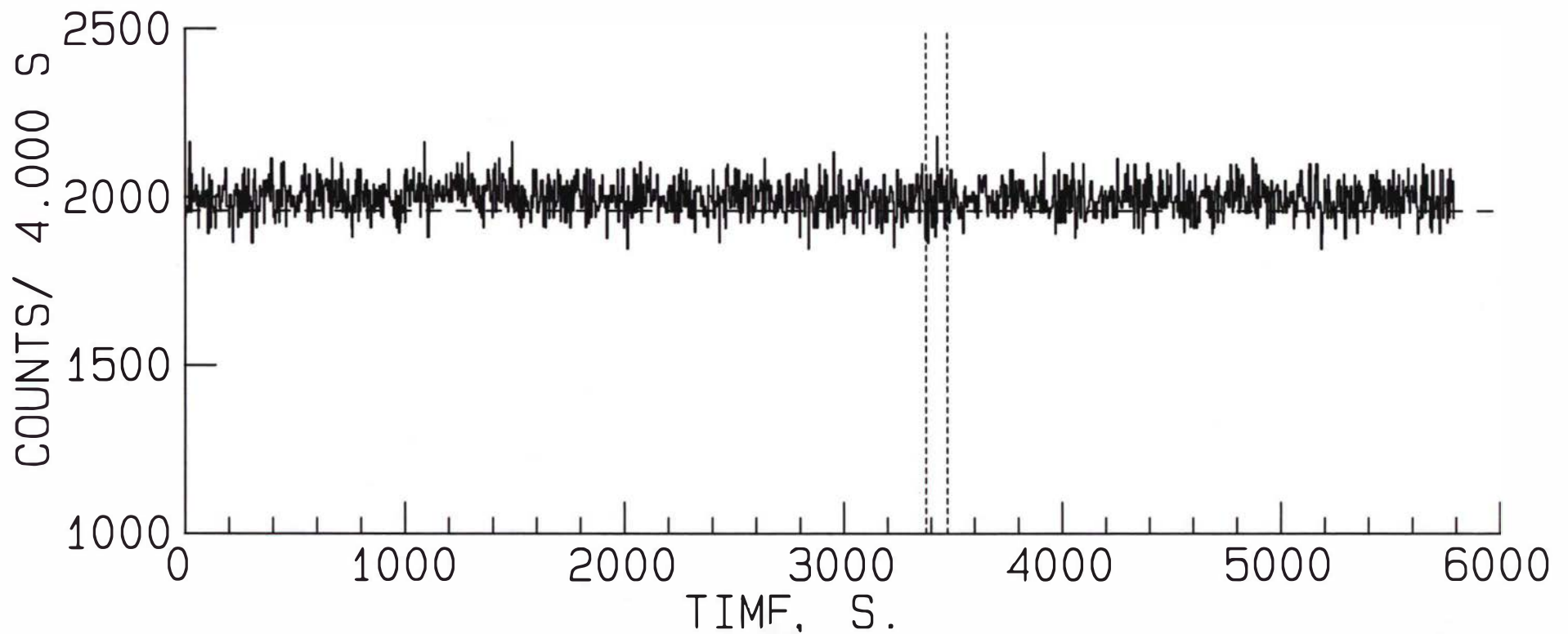
0.250 S INTERVALS REGROUPED BY 16

0 - 0 keV



ULYSSES RT
12/ 6/98 71784.247 s
0.250 S INTERVALS REGROUPED BY 16
22- 150 keV

6 / 9 / 1



From SAHI@fender.msfc.nasa.gov Thu Jun 18 12:51:44 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 14:51:30 -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.: 6819

TIME: TJD=0976 SECONDS=76147

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=73.5 AZIMUTH=357.4 ERROR=4.39 DEGREES

COMMENTS:

SOLAR FLARE. GOES. C2.1 OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE,
DUR. APPROX. 170 S, MAX. AT APPROX. T+28 S. VISIBLE ABOVE 100 KEV.

From SAHI@fender.msfc.nasa.gov Thu Jun 18 12:58:13 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 14:57:45 -0500 (CDT)

To: burst@compel.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.: 6820

TIME: TJD=0976 SECONDS=83646

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

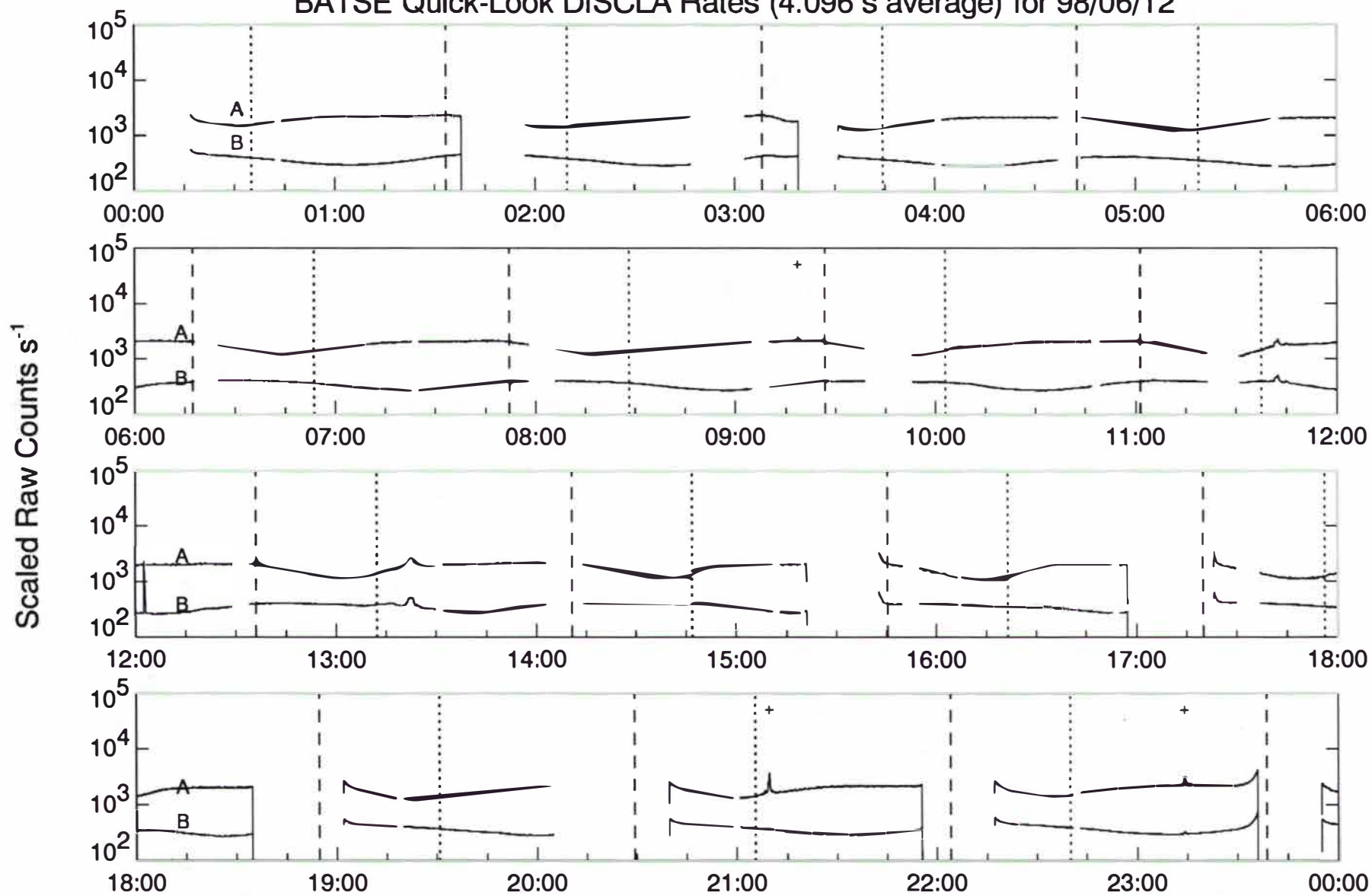
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=74.0 AZIMUTH=358.2 ERROR=0.6 DEGREES

COMMENTS:

SOLAR FLARE. GOES C1.8, OPTICAL SF. DOUBLE PEAK, DUR. APPROX. 120 S, MAX.
AT APPROX. T+8 S. NOT VISIBLE ABOVE 100 KEV.

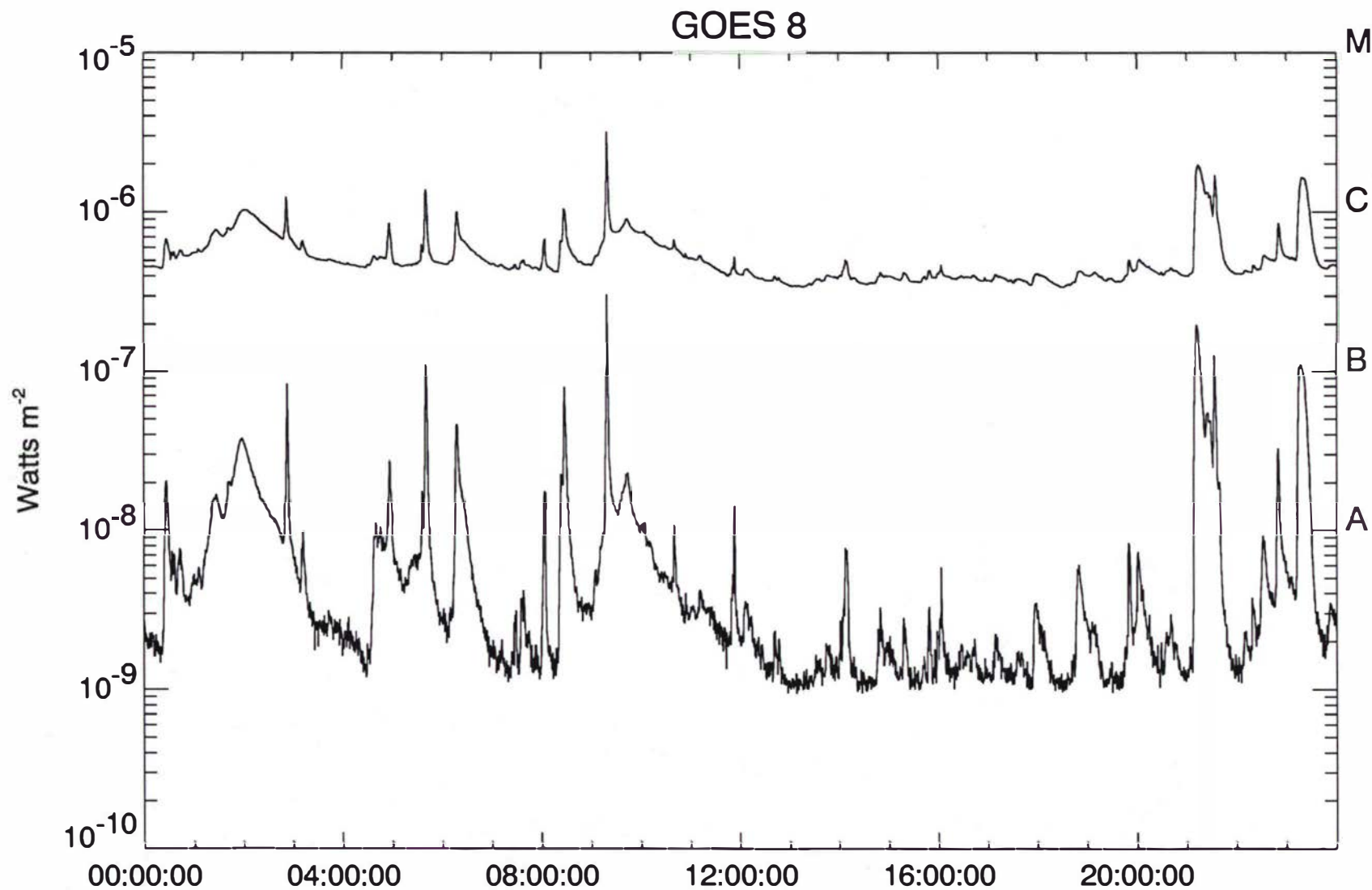
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/12



Current Time: 98/06/16, 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: 98/06/12, 0000:00

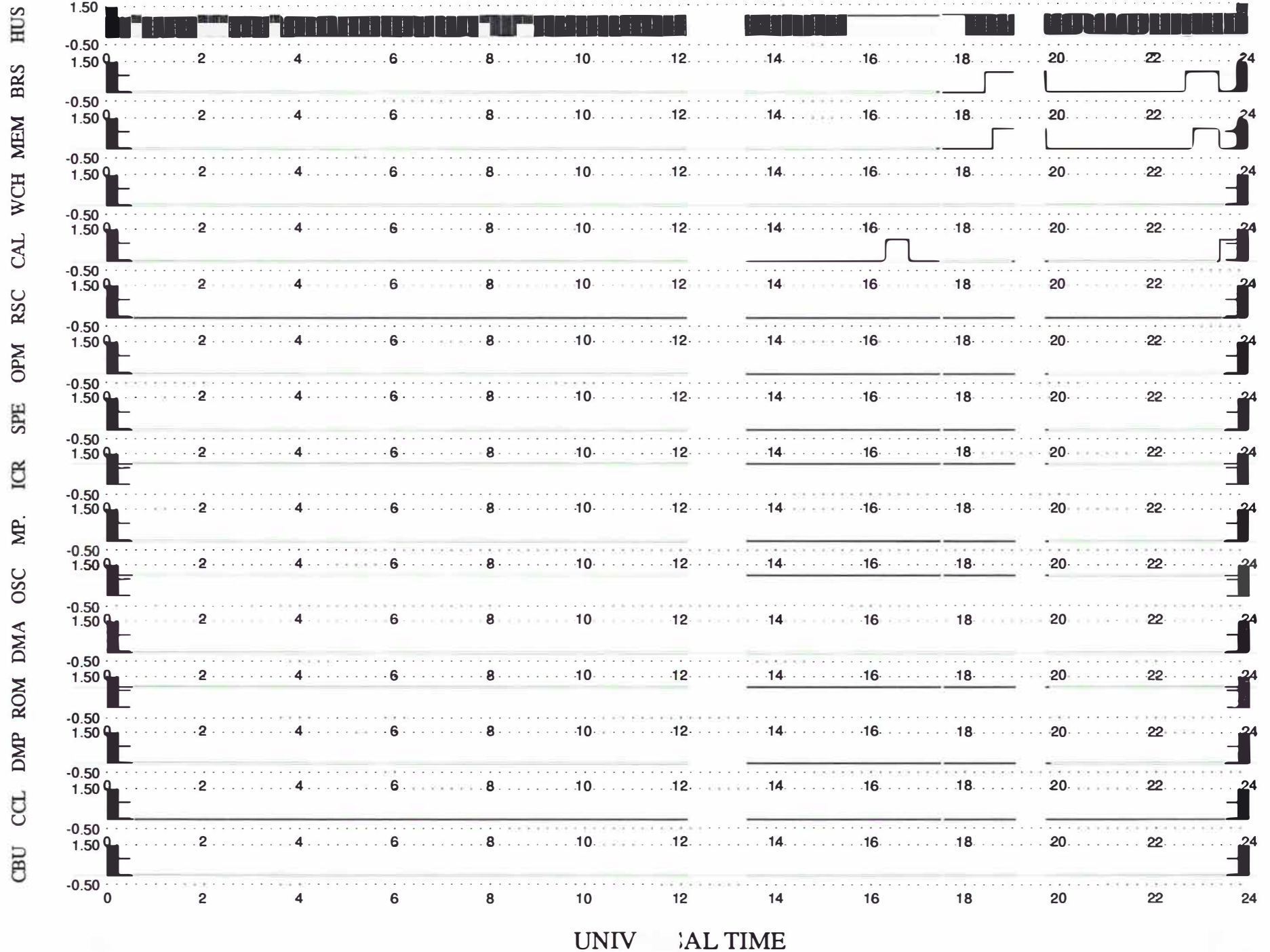
Plot created: 98/06/16, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

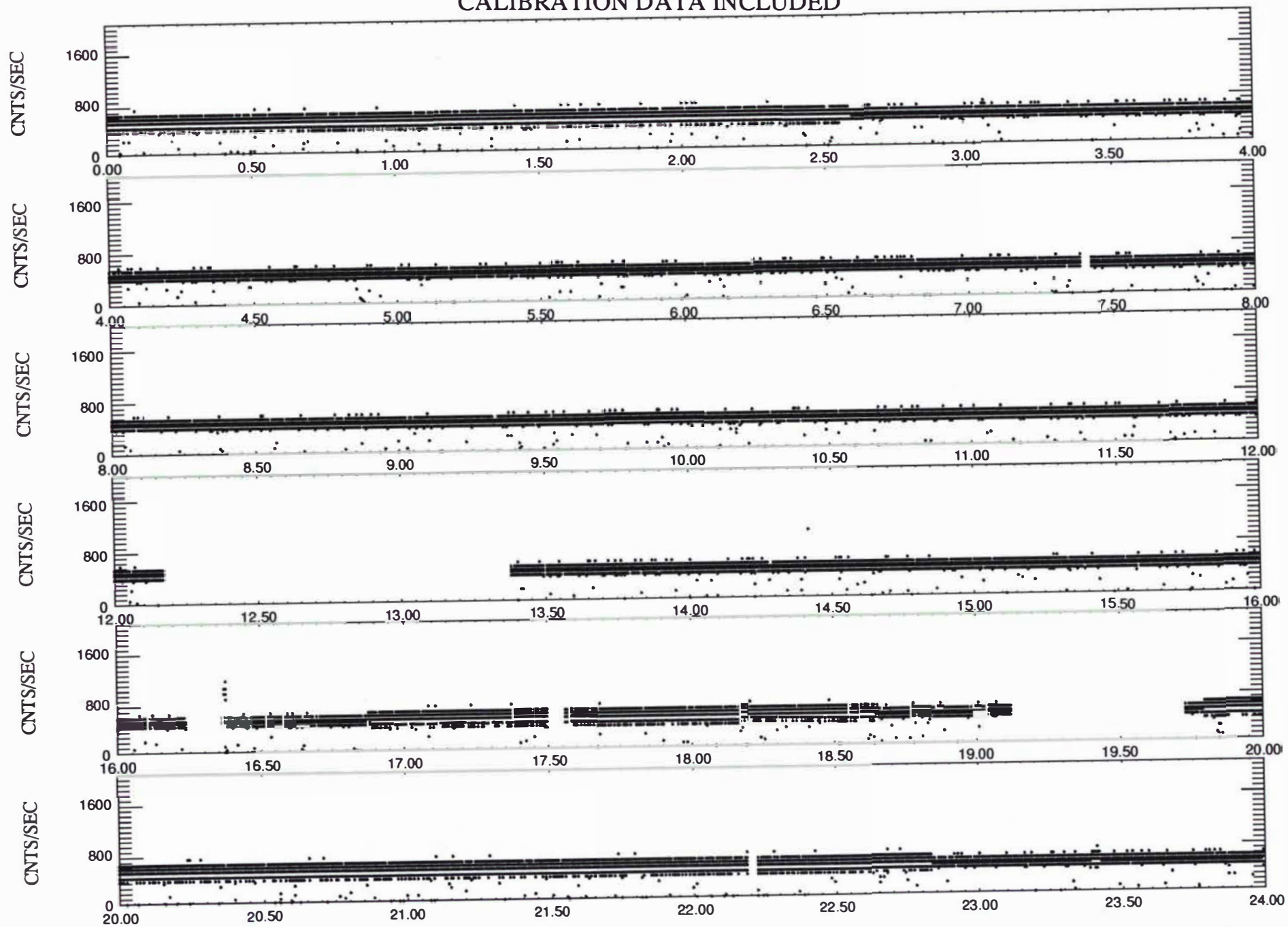
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 9, 6 - 6, 9, 10

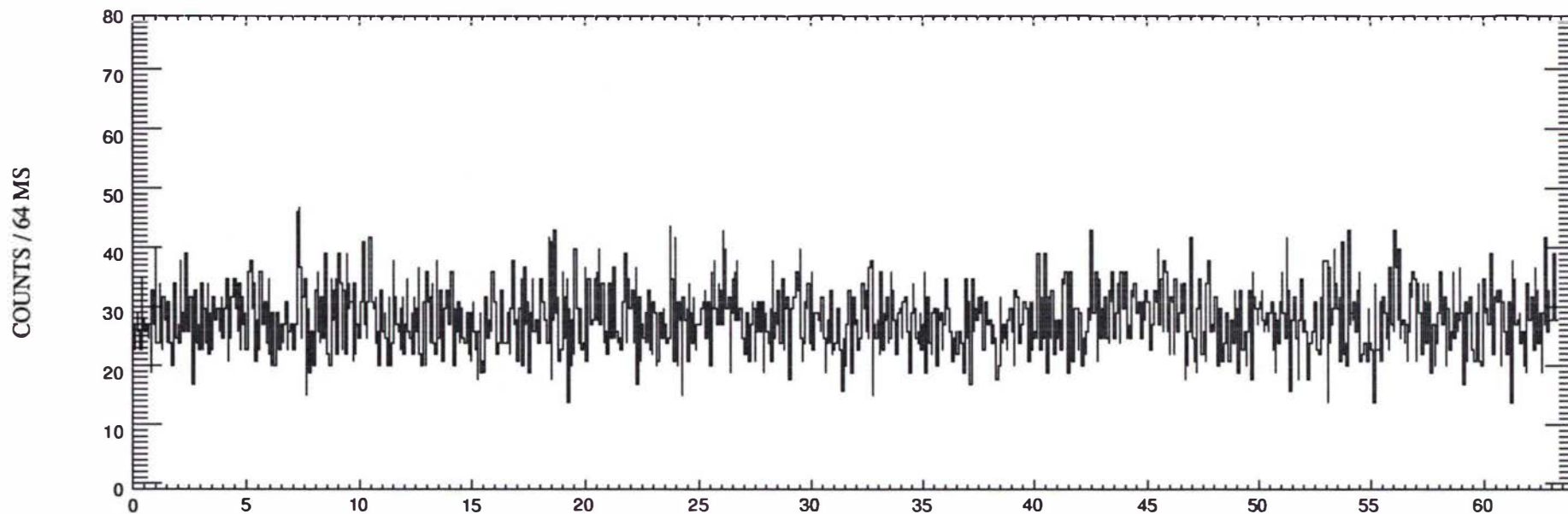


CALIBRATION DATA INCLUDED

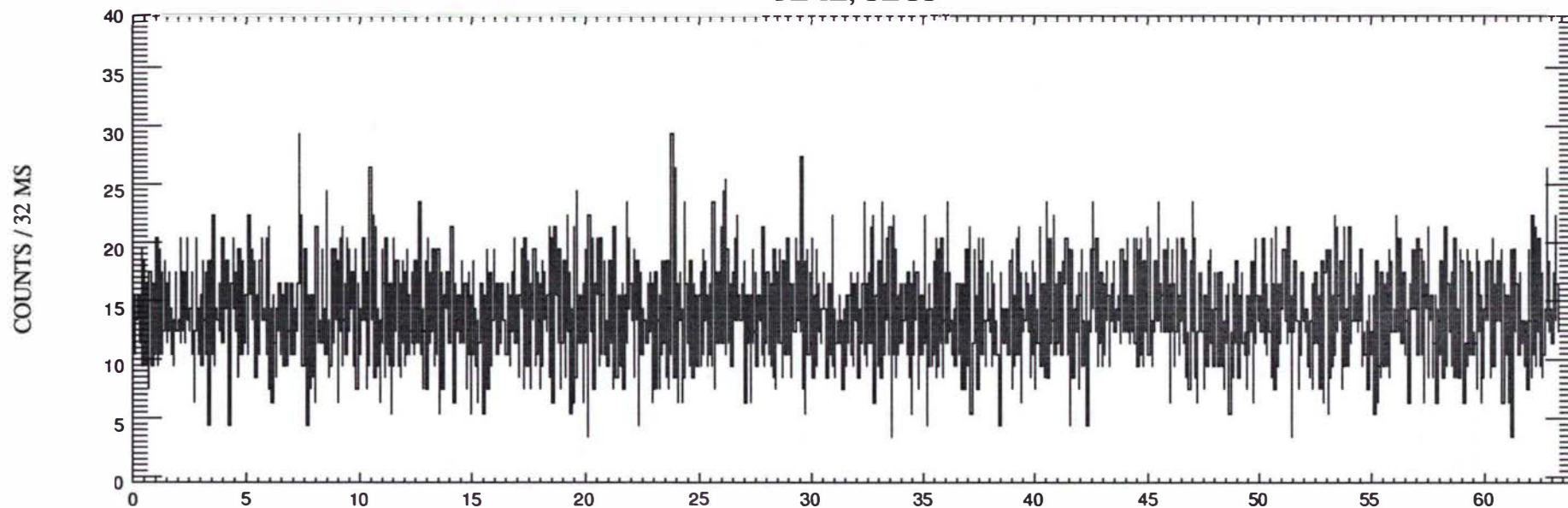


UNIV CAL TIME

Burst Counter 9 at UT=18.481787427266 h=66534.435 s 18:28:54.435

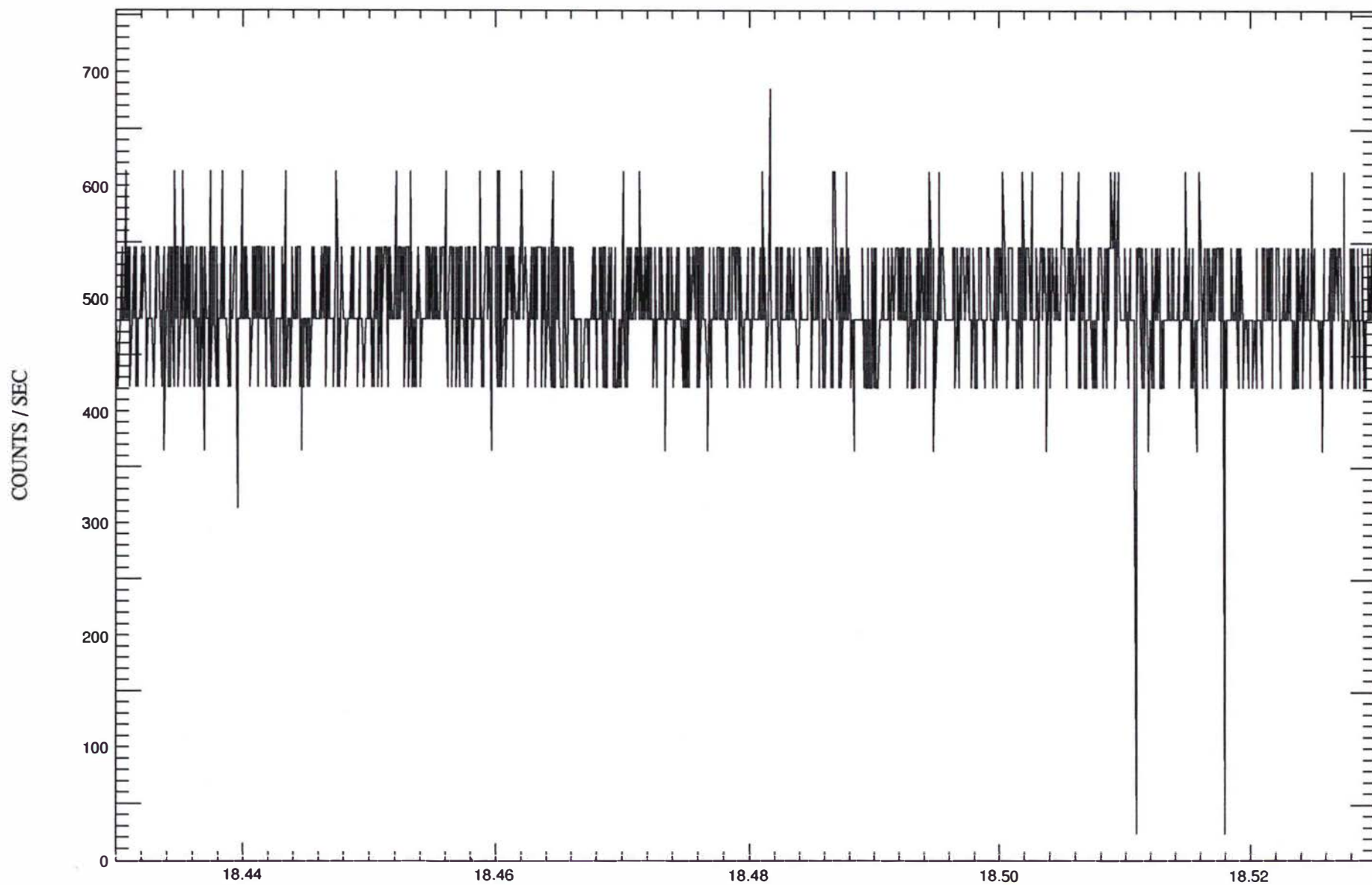


TIME, SECS

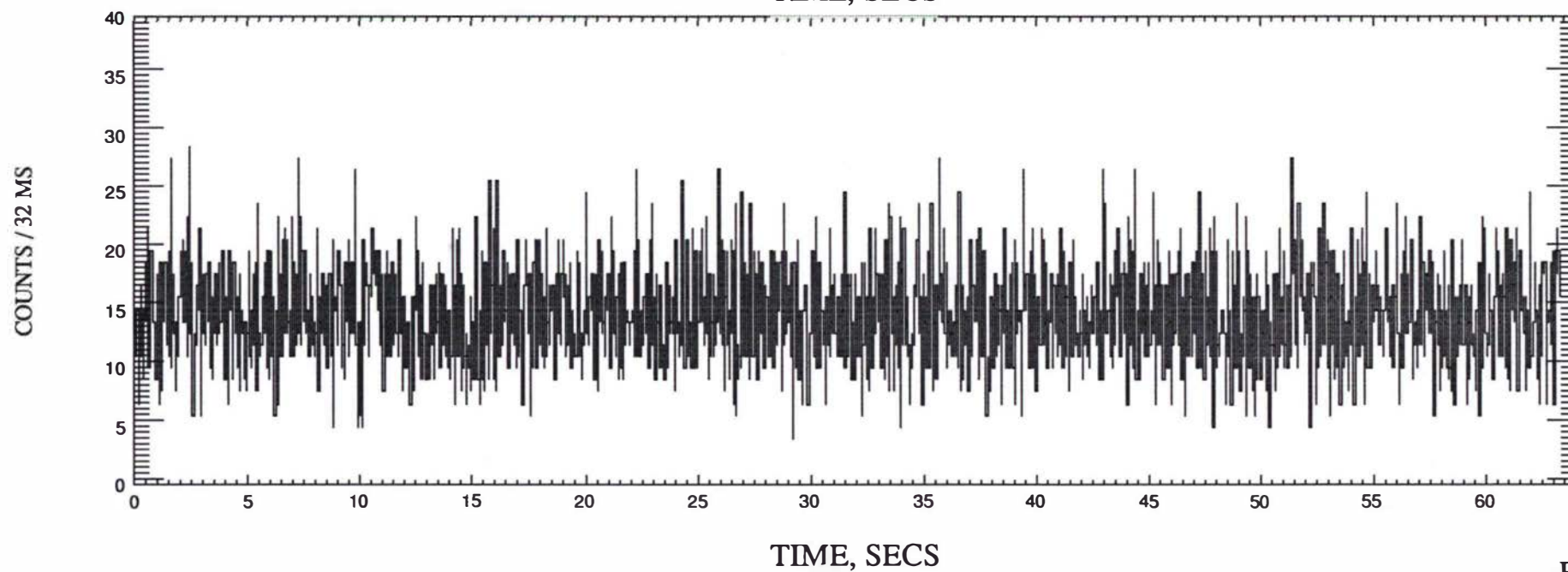
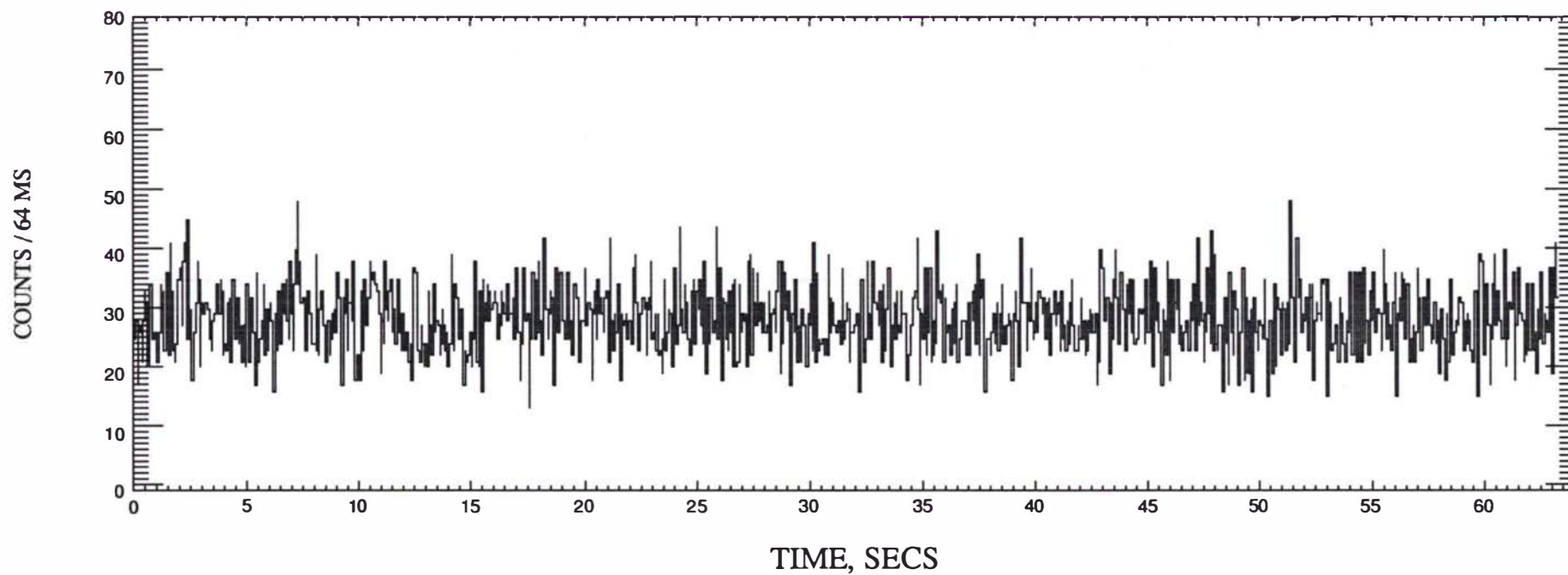


TIME, SECS

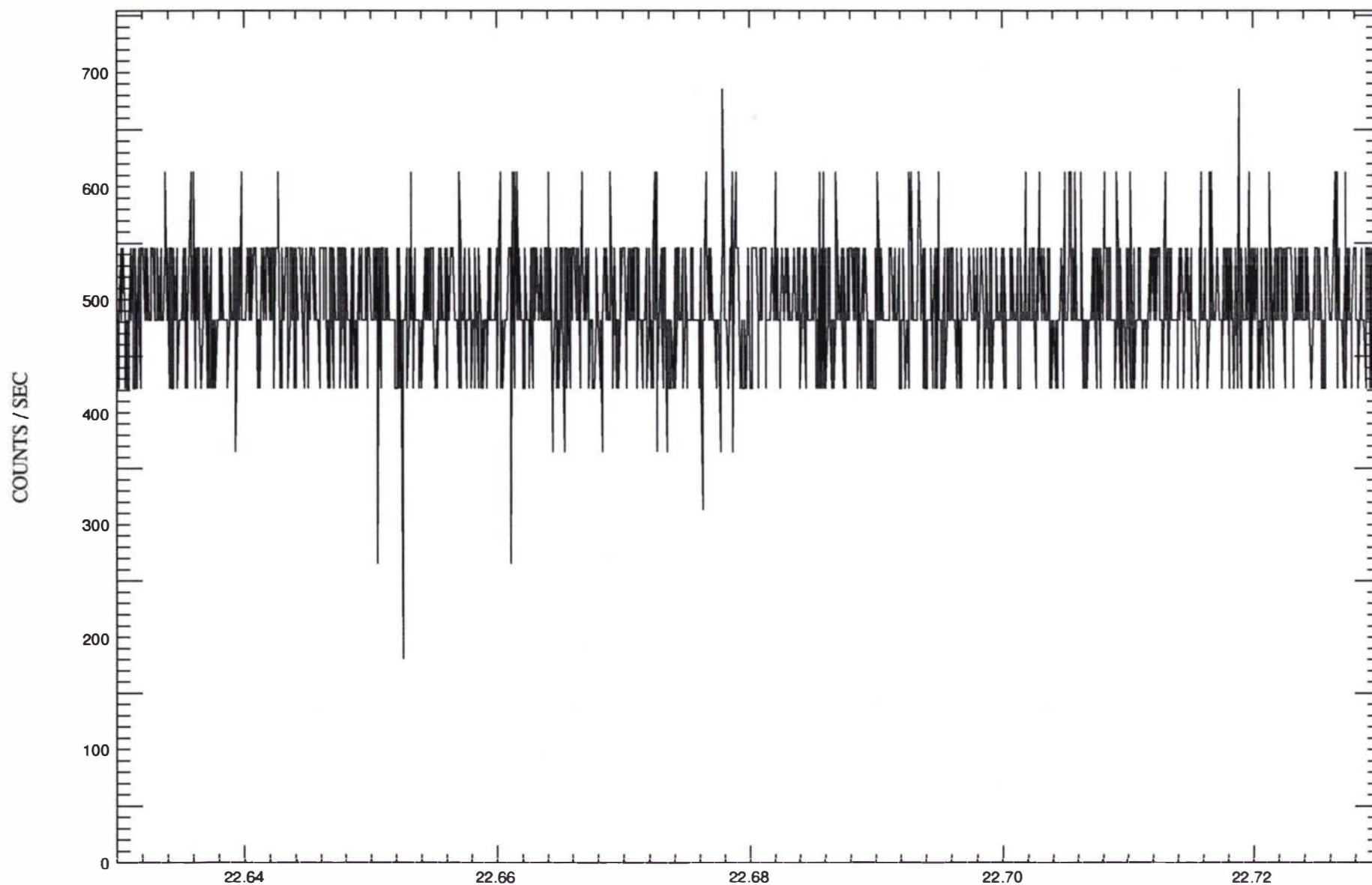
CALIBRATION DATA INCLUDED

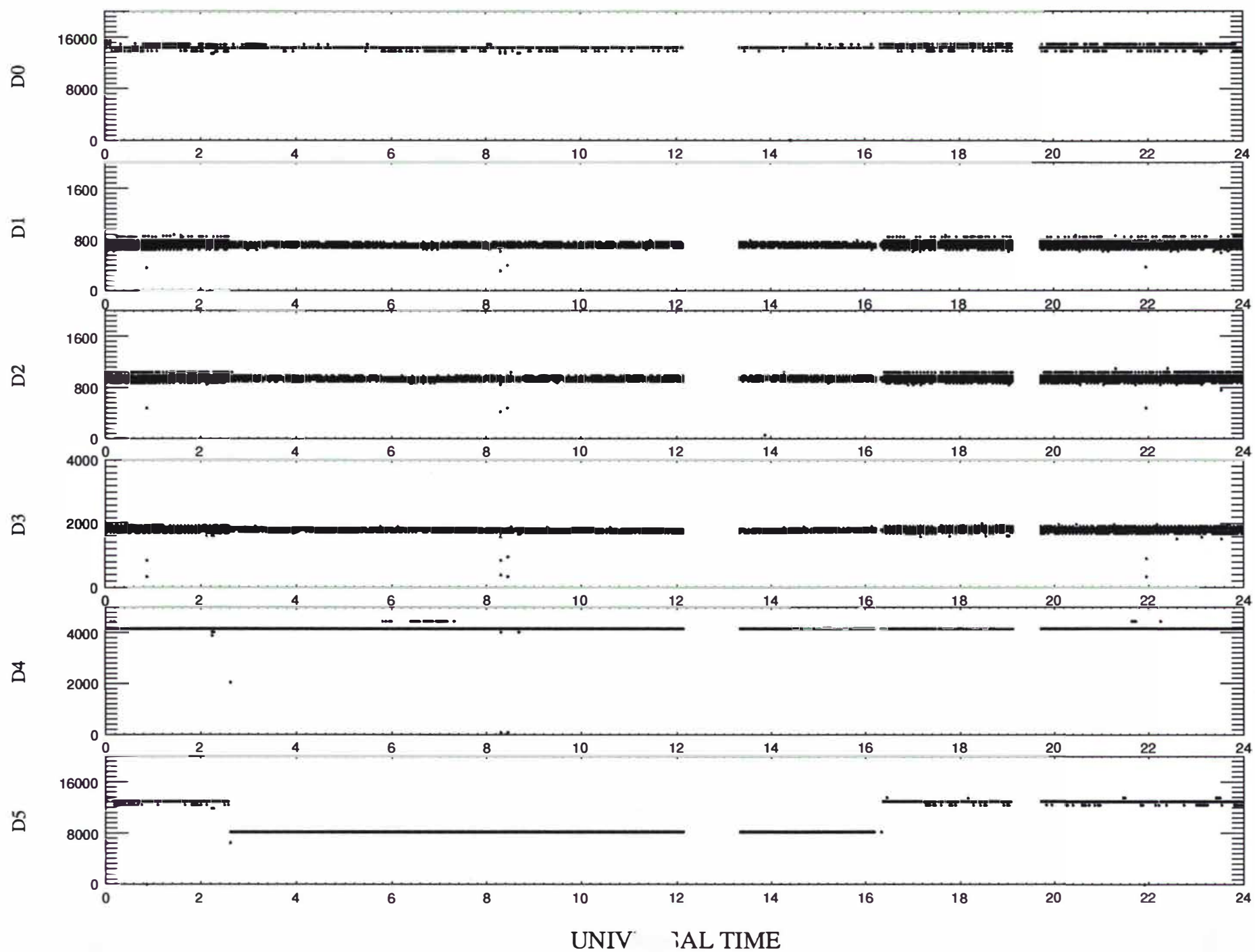


Burst Counter 10 at UT=22.678081008063 h=81641.092 s 22:40:41.092



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Tue Jun 16 11:31:24 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 16 Jun 1998 13:30:46 -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,
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.: 6821

TIME: TJD=0977 SECONDS=15491

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

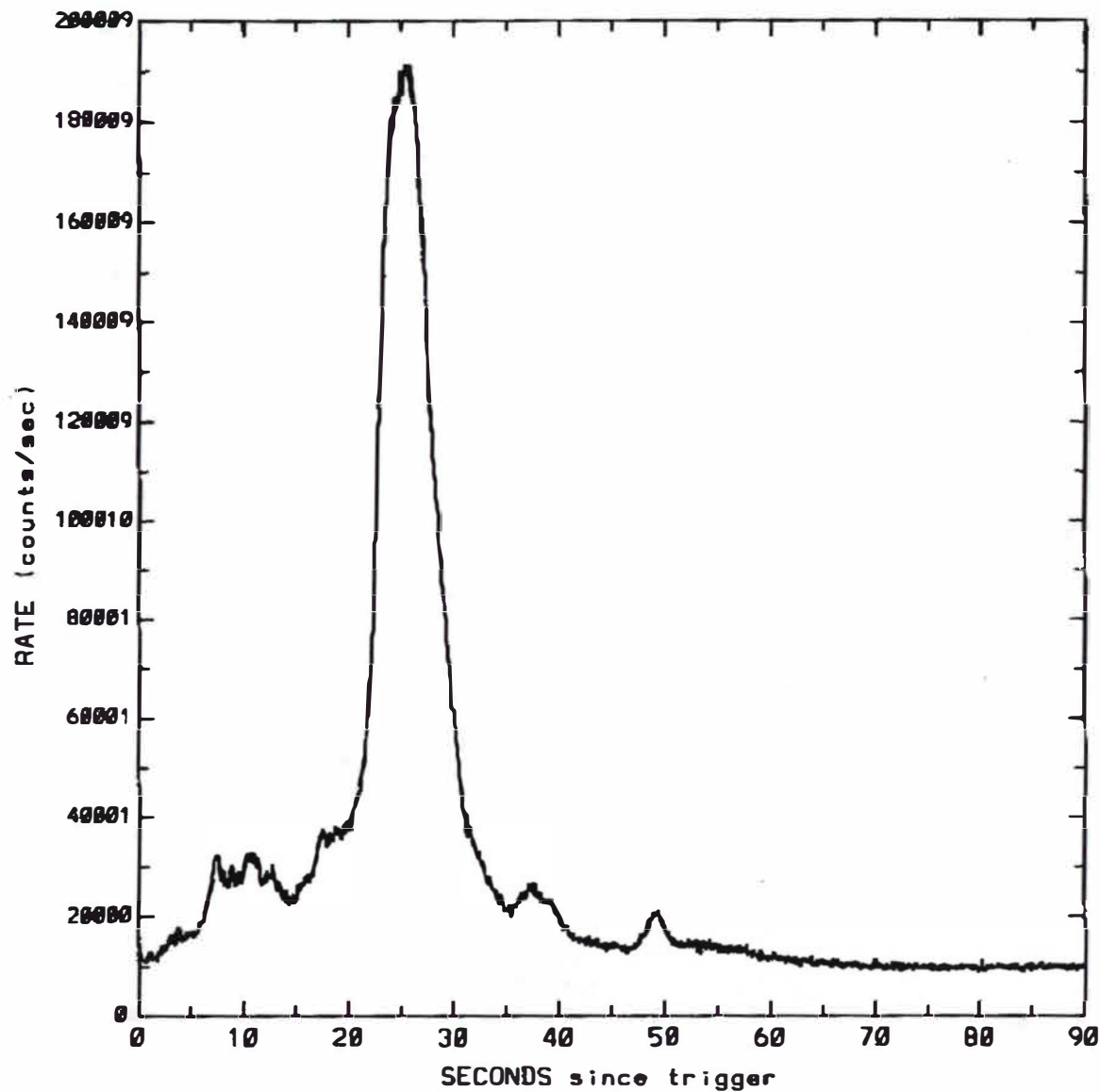
LOCATION: ZENITH=74.2 AZIMUTH=357.3 ERROR=0.178 DEGREES

COMMENTS:

SOLAR FLARE. GOES M1.9, OPT SF. STRONG SINGLE PULSE. DURATION ABOUT 55S.

VISIBLE ABOVE 300 KEV.

MER Data for K. Hurley, No. 6821



15-JUN-1998 13:05:19

Created by MDPS 8D
 (Burst Display)
 Version 12.25

Trigger # . 6821

Trigger Time.
 18977 / 15491.553

Burst Data Type.
 MER

Deadtime
 Corrected: N

Background Data
 Type: CONT

Minimum Integ. Time.
 0.864 second(s)

Detectors [7..8].
 -----2-8

Channels:
 (8 : 6)

Quality Mask.
 BDISP1

STERN UNT 19980613 17684

ULYSSES RT

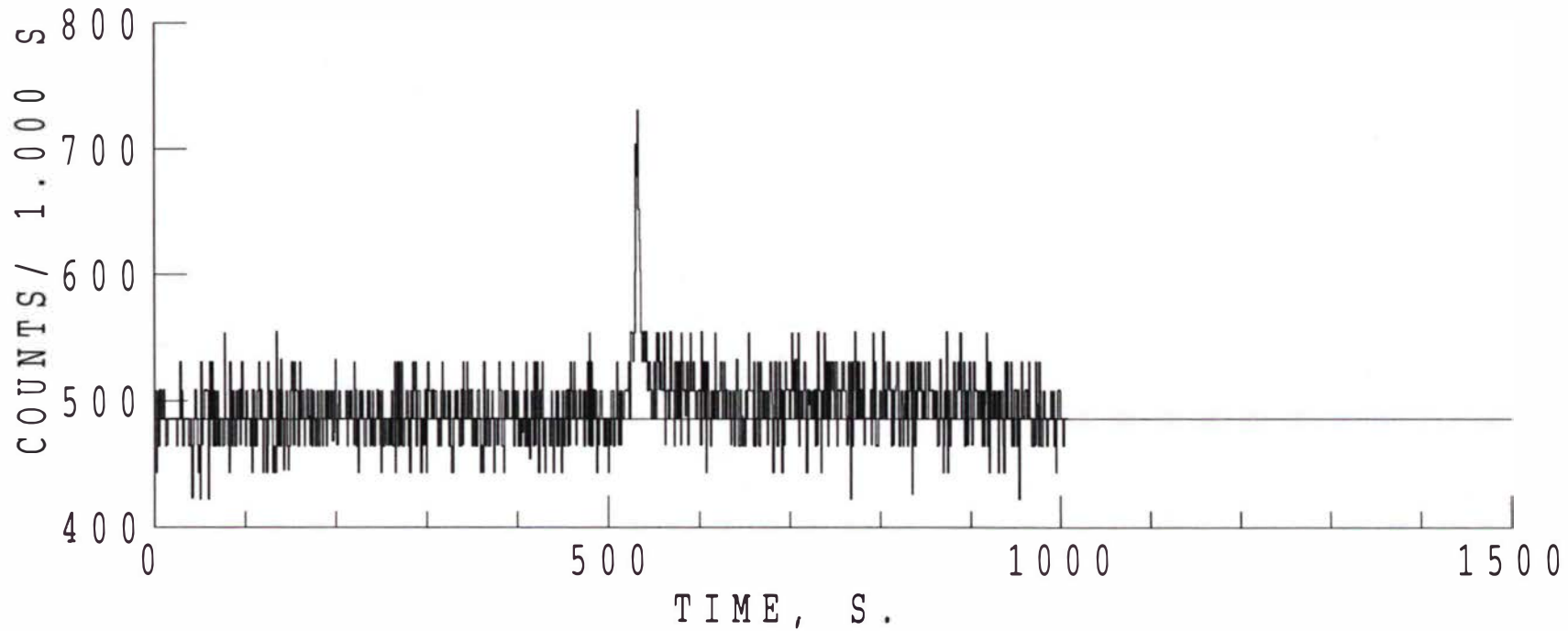
09/07/03

13/06/98 17172.082 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue Jun 16 11:33:29 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 16 Jun 1998 13:33:16 -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.: 6822

TIME: TJD=0977 SECONDS=23984

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=72.6 AZIMUTH=357.0 ERROR=4.187 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES DATA. SINGLE PULSE. STARTS AT ABOUT T-5 S. DURATION
ABOUT 12 S. NOT VISIBLE ABOVE 300 KEV.

From SURASAK@fender.msfc.nasa.gov Tue Jun 16 11:36:41 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 16 Jun 1998 13:36:25 -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.: 6823

TIME: TJD=0977 SECONDS=32023

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=71.0 AZIMUTH=355.8 ERROR=3.945 DEGREES

COMMENTS:

SOLAR FLARE. GOES C3.4, NO OPTICAL. SINGLE PULSE. STARTS AT ABOUT T-5 S.
DURATION ABOUT 35 S. NOT VISIBLE ABOVE 100 KEV.

S A X

ULYSSES RT

1 5 / 6 / 9 8

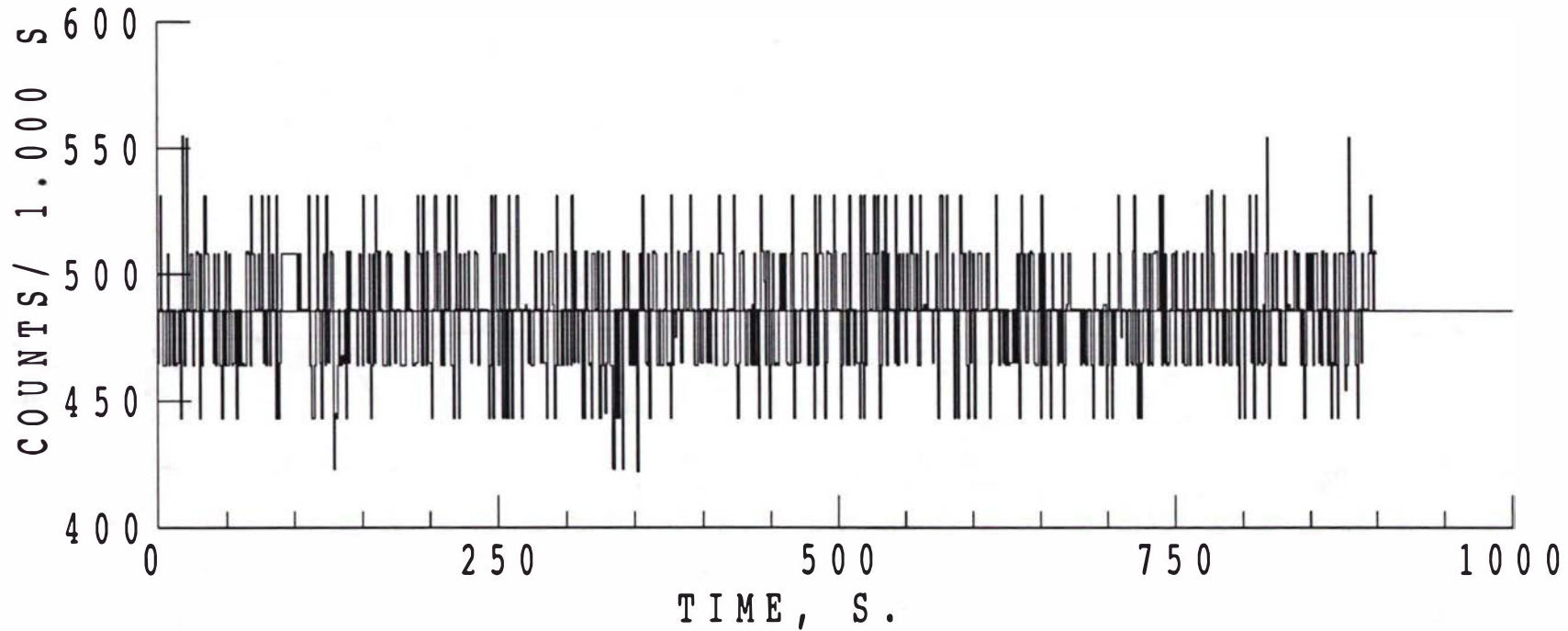
13 / 6 / 98 15624.062 s

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 costa@saturn.ias.rm.cnr.it Sat Jun 13 13:02 PDT 1998
Date: Sat, 13 Jun 1998 21:55:08 +0200 (DFT)
From: Enrico Costa <costa@ias.rm.cnr.it>
To: Kevin Hurley <khurley@sunspot.ssl.berkeley.edu>
Filippo Frontera <filippo@tesre.bo.cnr.it>,
Marco Feroci <feroci@alpha1.ias.rm.cnr.it>
Subject: IPN
MIME-Version: 1.0

Hi Kevin,
we are following the TOO on GRB980613. We hope we have a faint
afterglow source. For the IPN I have no hope because it is very faint
and we have only the 1 sec data.
By the way I would like to check something with you.
This morning at 04H18M39S UT we had a very strong event but not in
the WFC and in the side of the sky including Sun. I do not find a
BATSE trigger and it looks more like a GRB than a flare (but
we have not much experience indeed with sun events in SAX data).
Have you it in Ulysses data? It could be a nice check for IPN.
Wishes

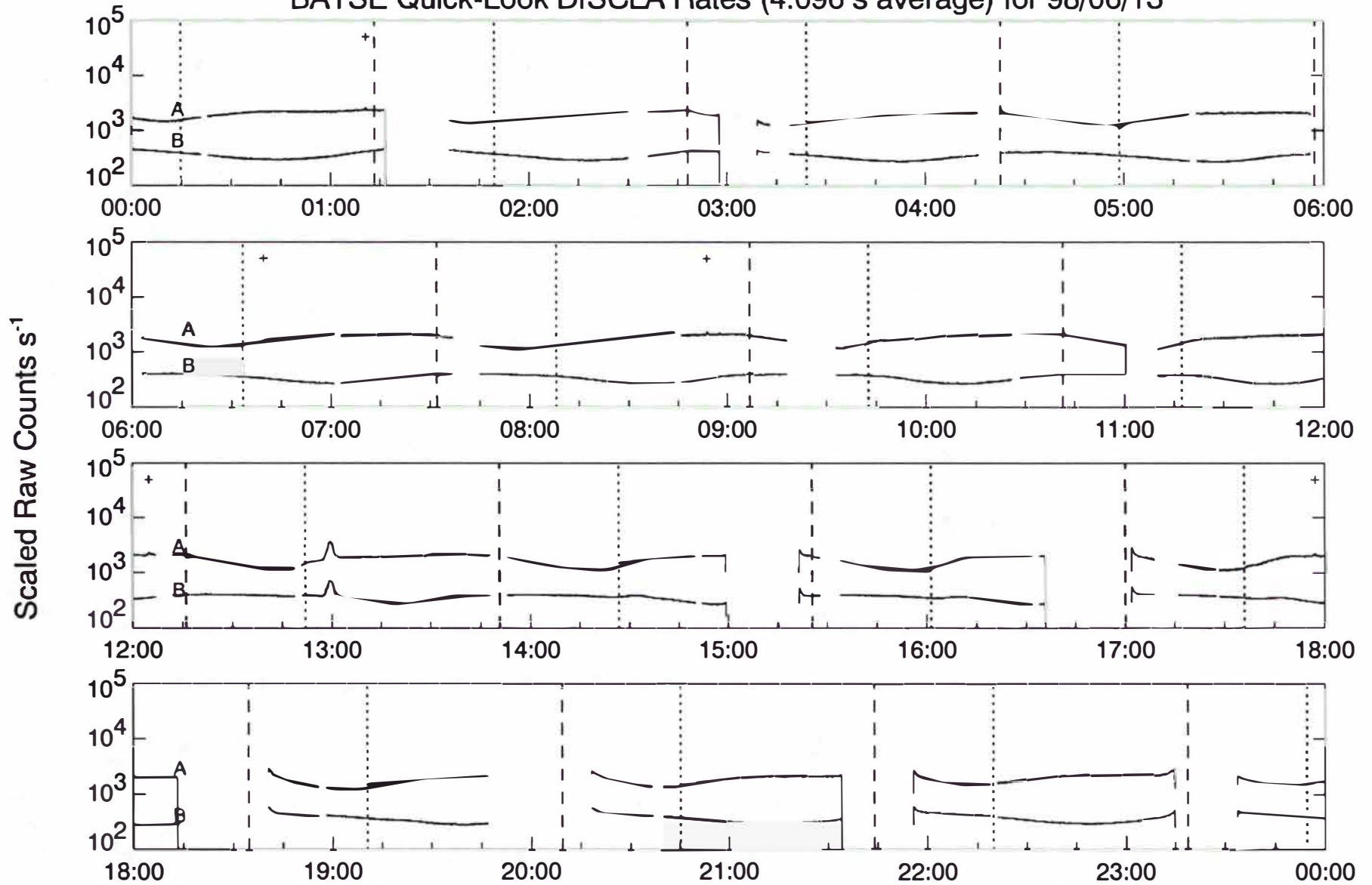
Enrico

Enrico Costa

Istituto di Astrofisica Spaziale - C.N.R.
Via Fosso del Cavaliere I-00133 Roma, ITALY
E-mail: costa@saturn.ias.rm.cnr.it

Tel.: +39-6-49934004
Fax : +39-6-20660188

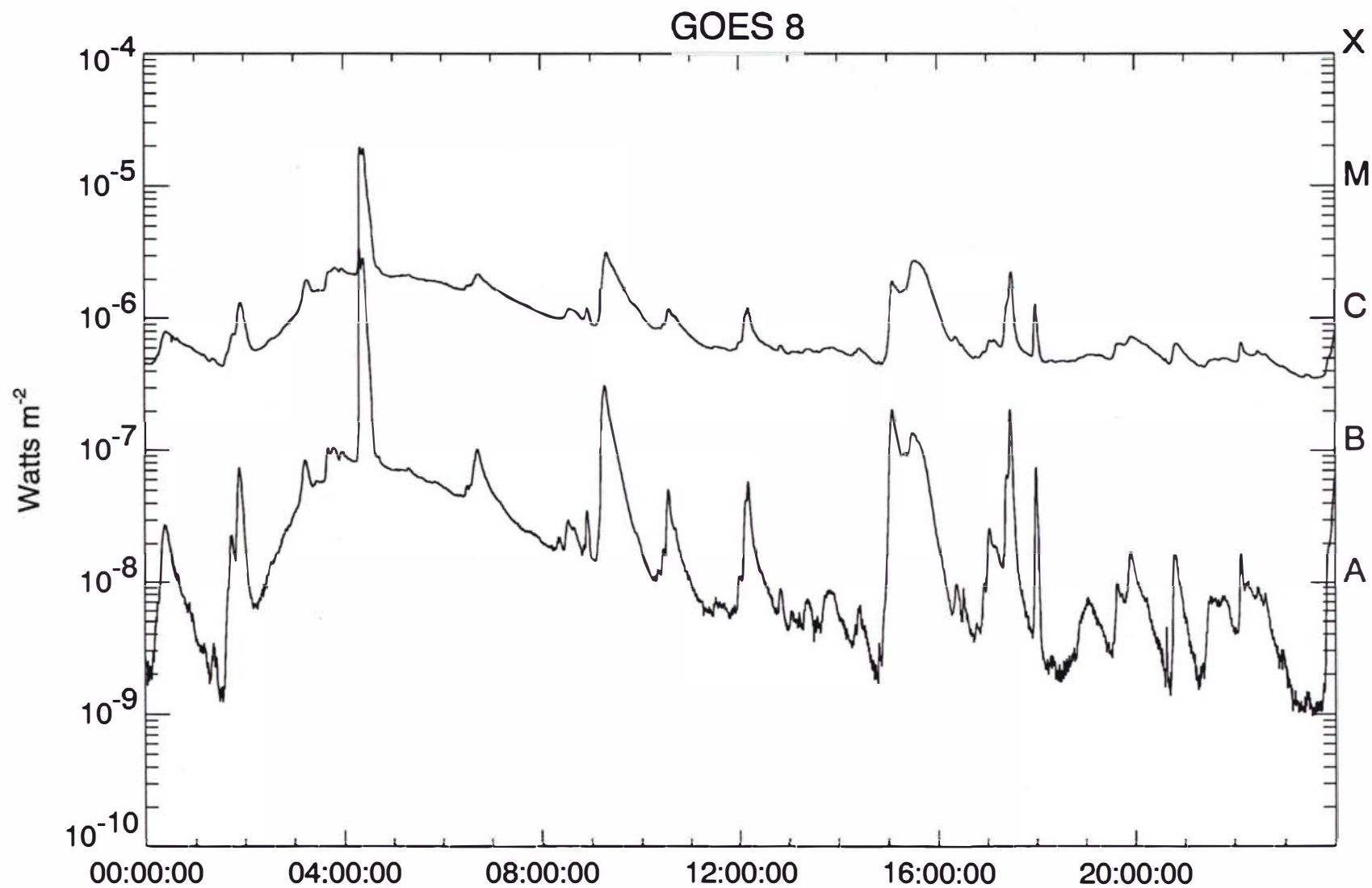
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/13



Current Time: 98/06/17, 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: 98/06/13, 0000:00

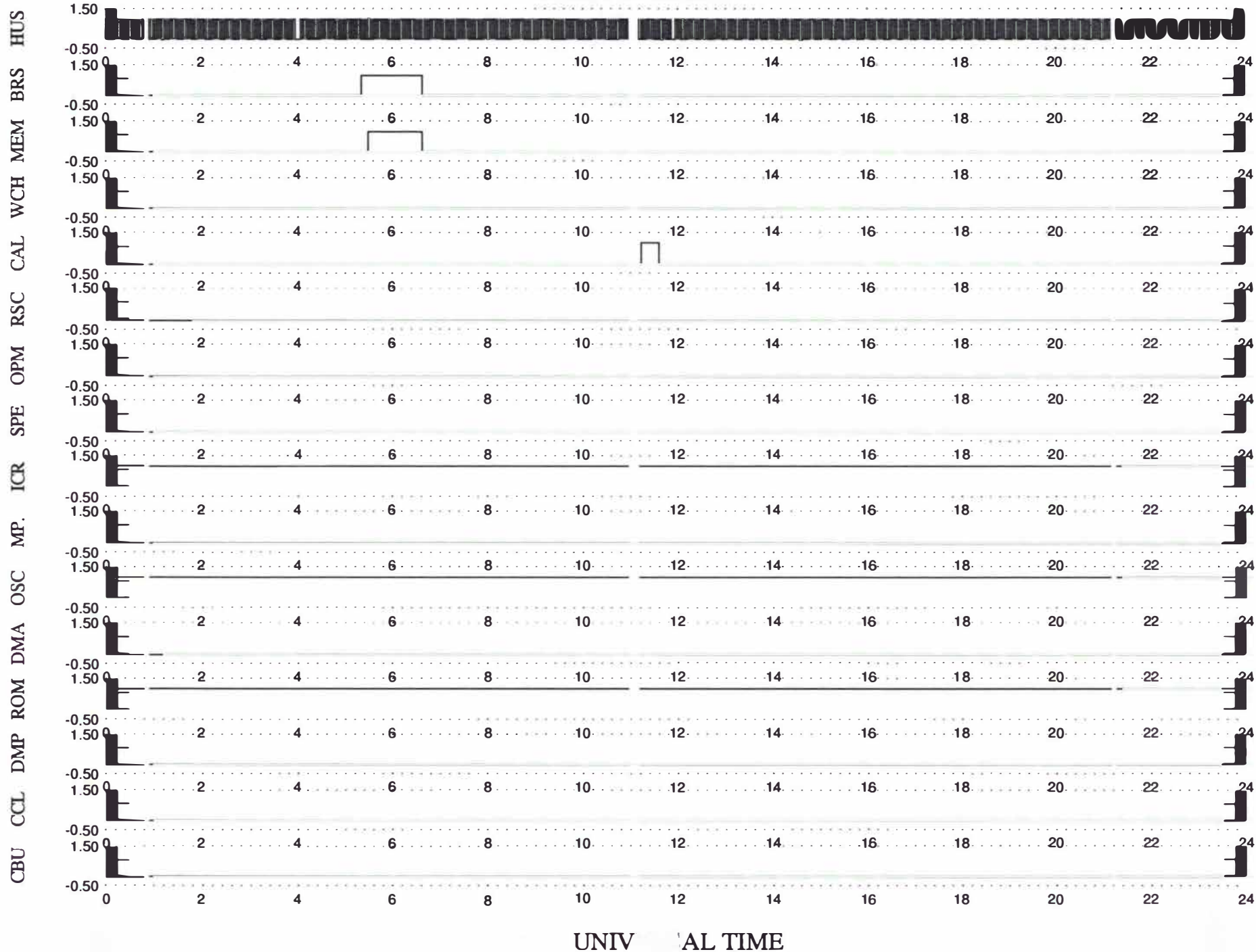
Plot created: 98/06/17, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

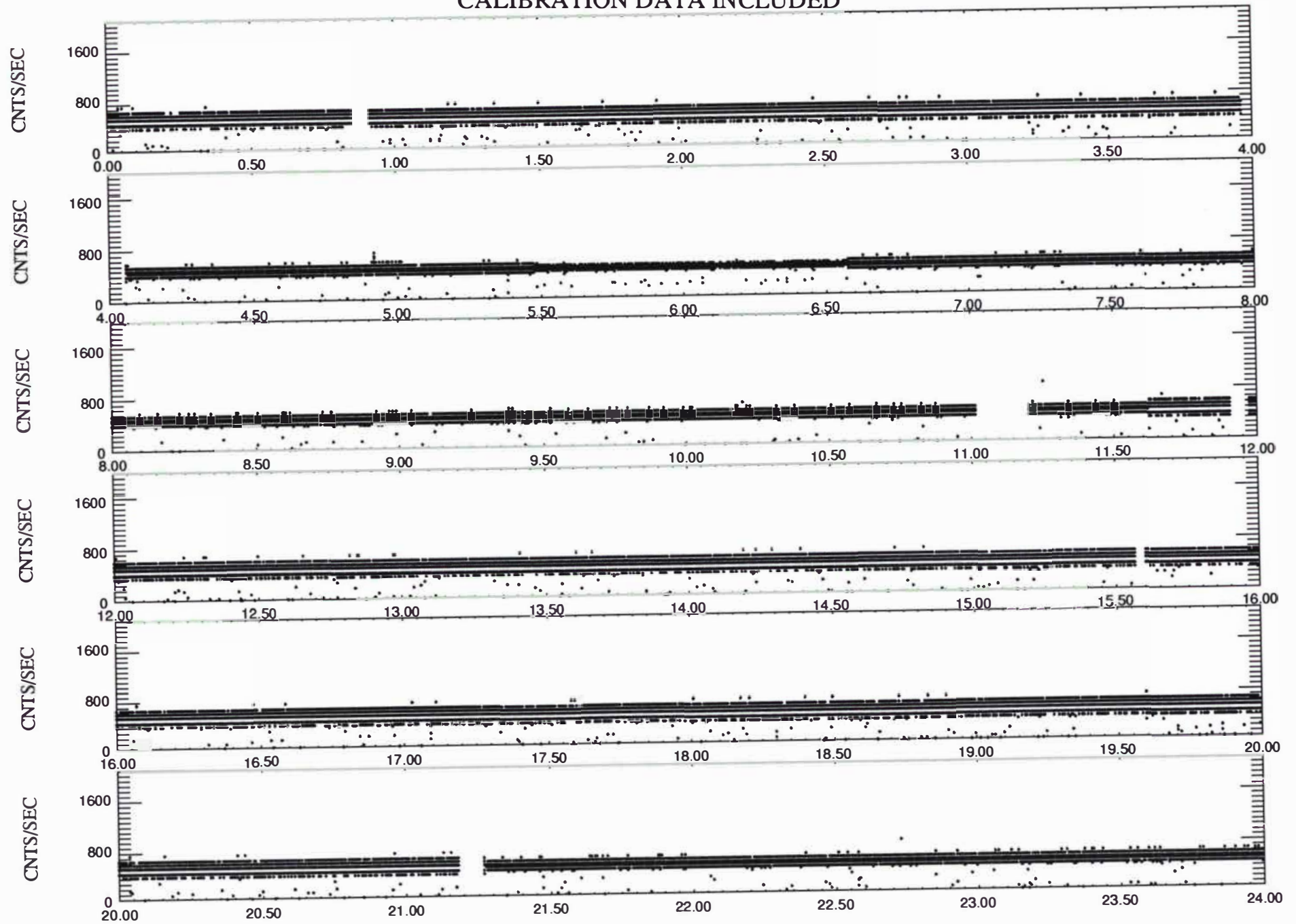
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 11

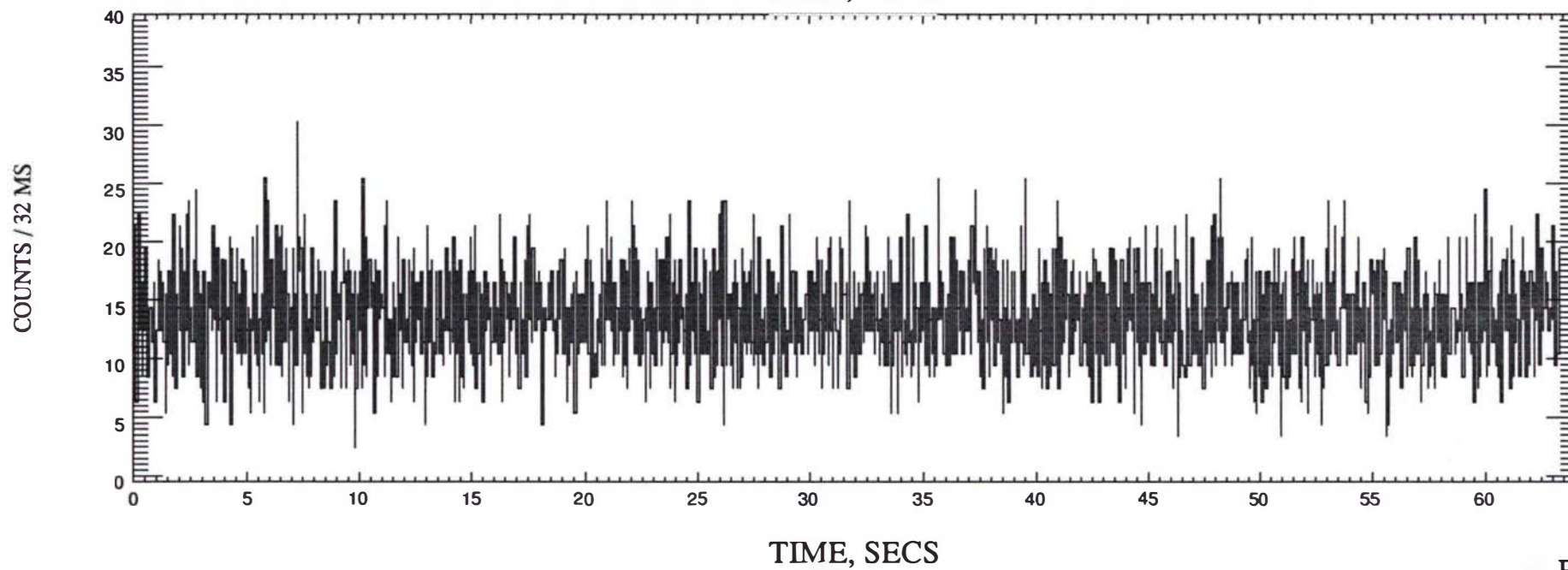
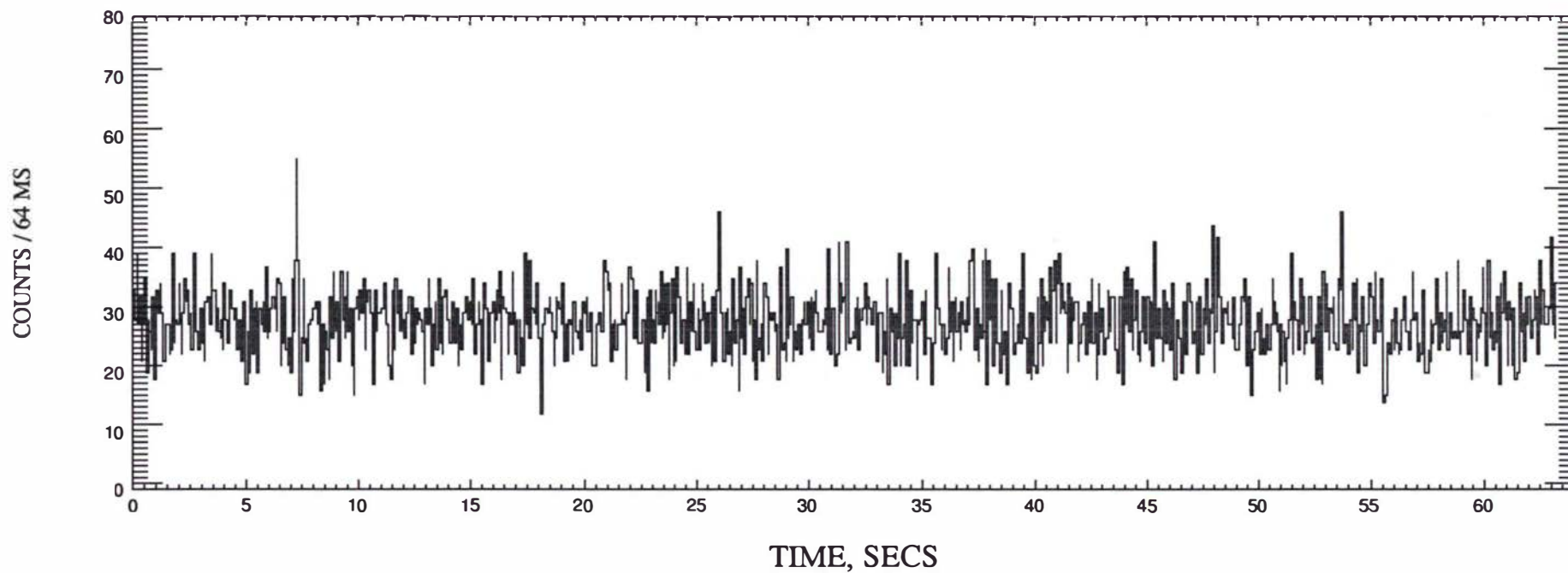


CALIBRATION DATA INCLUDED

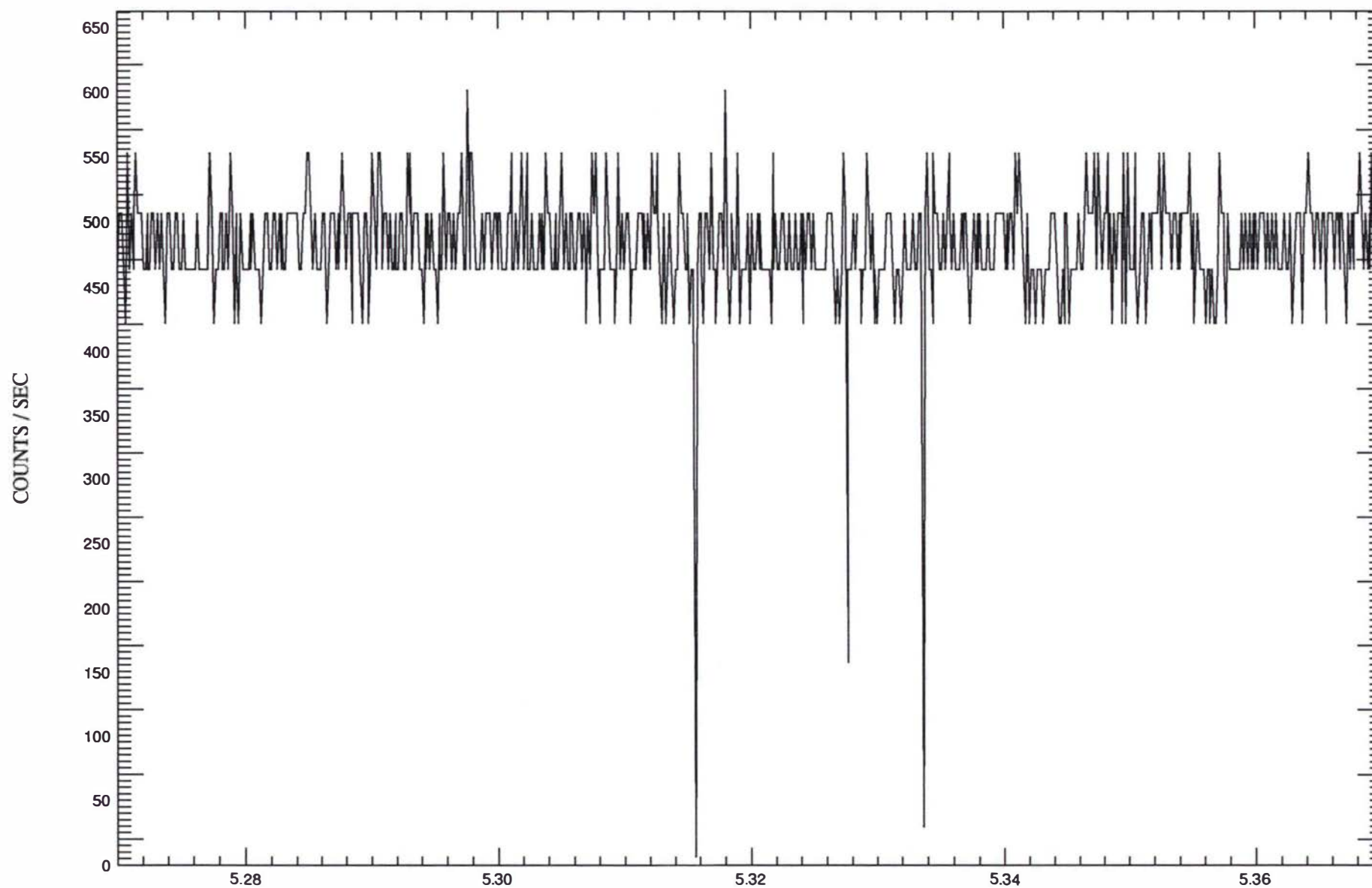


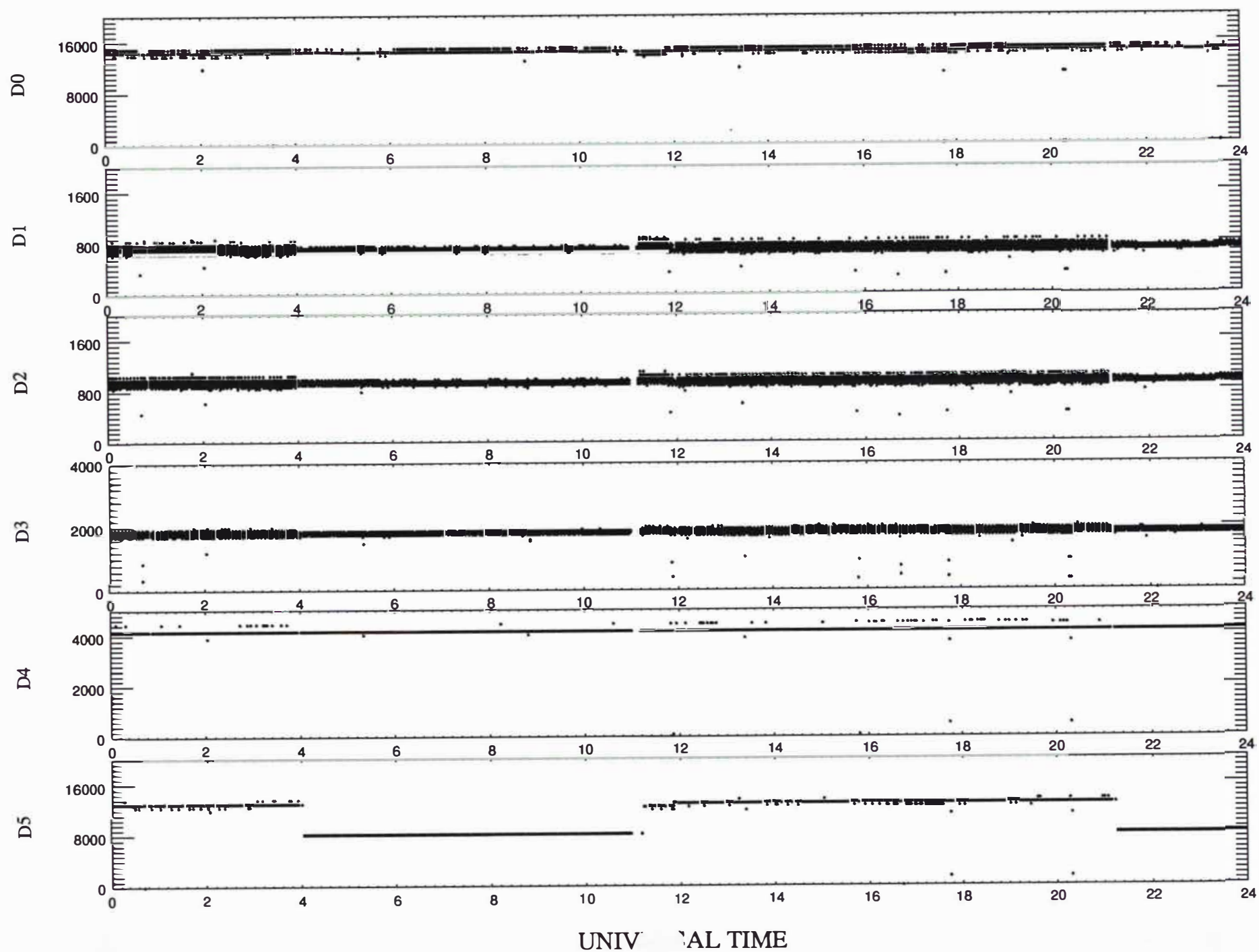
UNIV CAL TIME

Burst Counter 11 at UT= 5.318111228943 h=19145.200 s 05:19:05.200



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Fri Jun 19 06:31:23 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA23513; Fri, 19 Jun 1998 06:31:22 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA21924; Fri, 19 Jun 1998 06:31:23 -0700
Date: Fri, 19 Jun 1998 8:31:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980619083122.20200d69@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6824
Content-Length: 1135
X-Lines: 26
Status: RO

No - too weak

BATSEARCH PROGRAM

BATSE BURST # 6824
EVENT OF 1998 JUN 14 DAY OF YEAR=165
EVENT CROSSING TIME AT BATSE : 31854. S. OR 08:50:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 116.000 -36.000
BATSE PEAK COUNTING RATE: 14000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/ 6/ 98 IS:
RA= 149.593 DEC= 10.572 DIST= 5.754 AU
BATSE-ULYSSES DISTANCE = 860797144. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=123.68 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1592.50 SECS.
CROSSING TIME AT ULYSSES IS 30261. S. OR 08:24:21 +/- 440.62 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/ 6/ 98 IS:
RA= 73.315 DEC= 22.932 DIST= 2.517 AU
MARS-BATSE DISTANCE = 376572128. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.58 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -400.29 SECS.
CROSSING TIME AT MARS IS 31454. S. OR 08:44:13 +/- 200.63 SECONDS

BATSE BURST TRIGGER

NO.: 6824

TIME: TJD=0978 SECONDS=31854

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=63.4 AZIMUTH=73.5 ERROR=1.6 DEGREES

COMMENTS:

GRB. MULTIPLE SPIKES, DUR. APPROX. 15 S, STARTS AT APPROX. T-4 S, MAX. AT T+0.58 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6824	980614	10978	31854	14000	116	-36	15

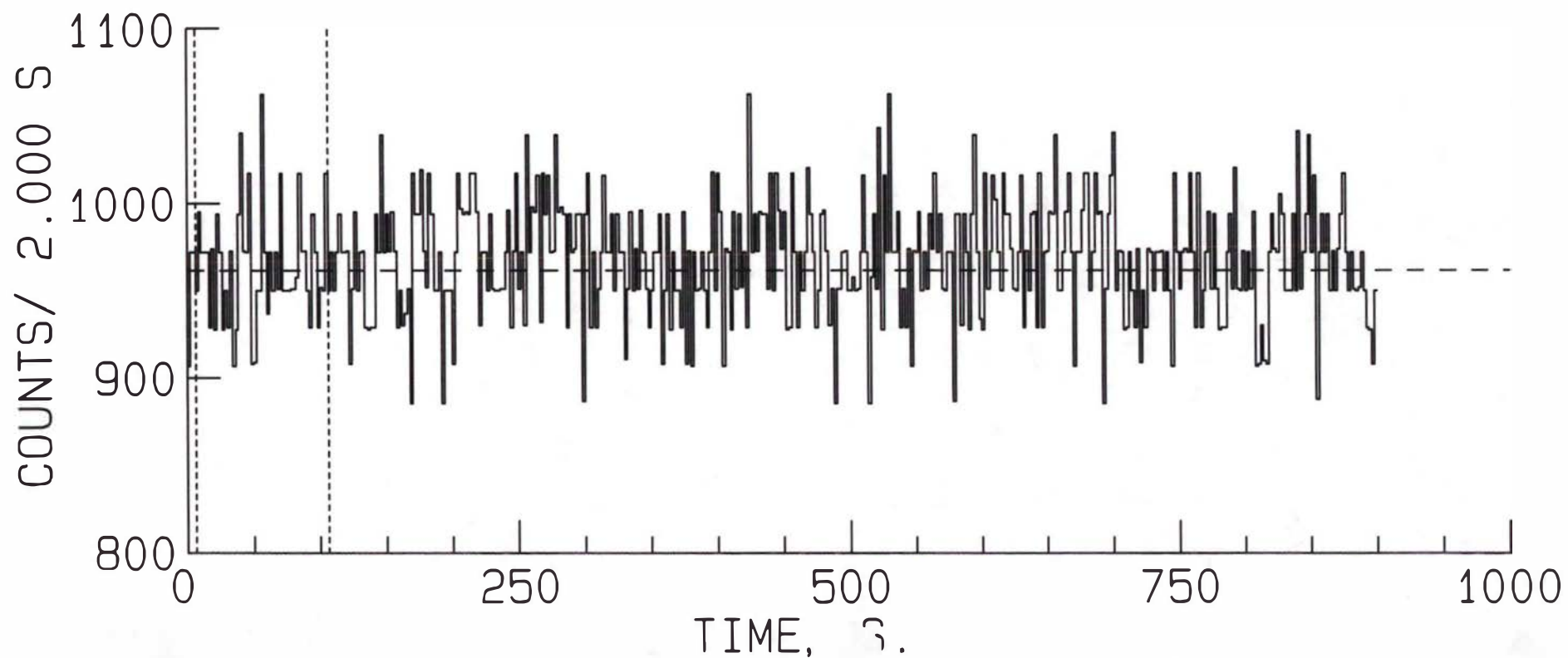
ULYSSES RT

25 / 6 / 98

14 / 6 / 98 29808.118 s

0.500 S INTERVALS REGROUPED BY 4

22- 148 keV



BATSE BURST# 6824

ULYSSES RT

19 / 6 / 98

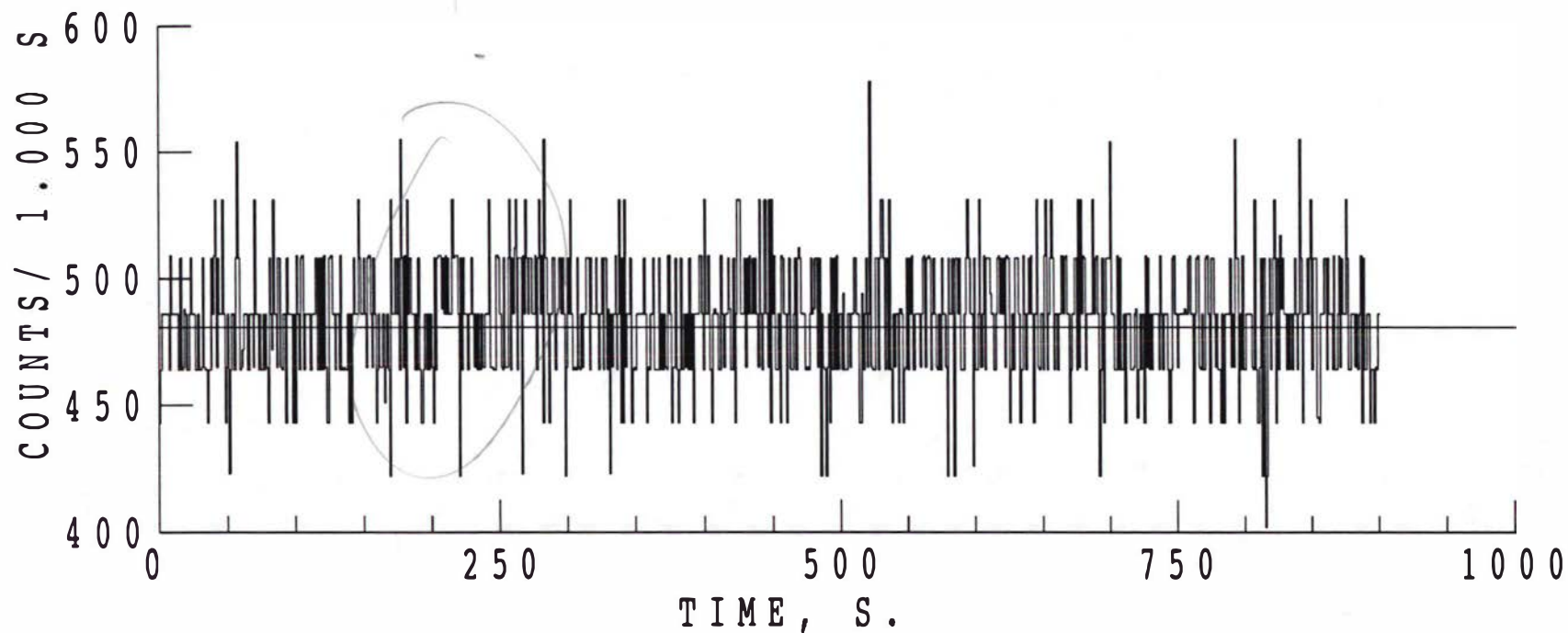
14 / 6 / 98 29808.117 s

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



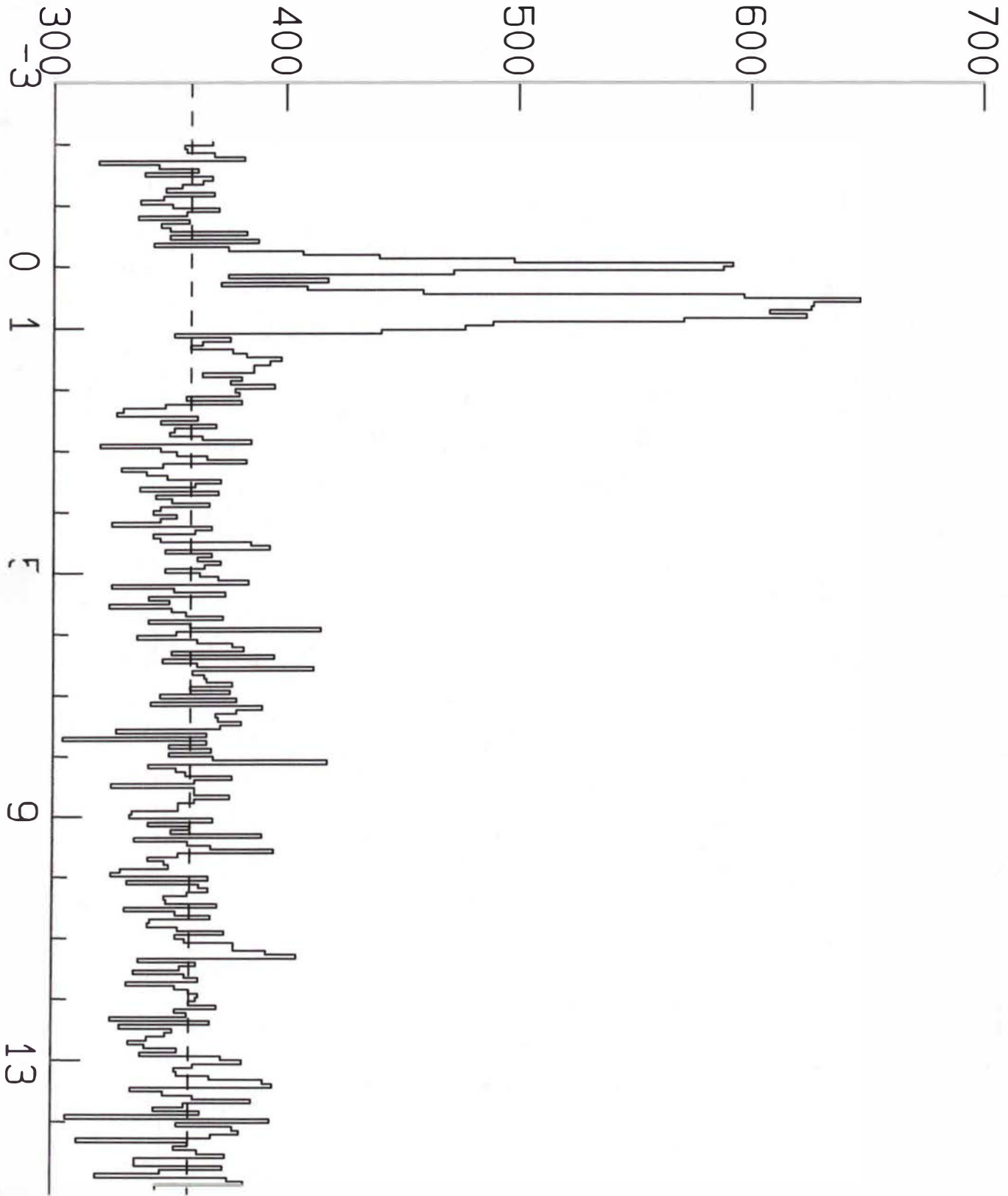
BATSE

14/06/98

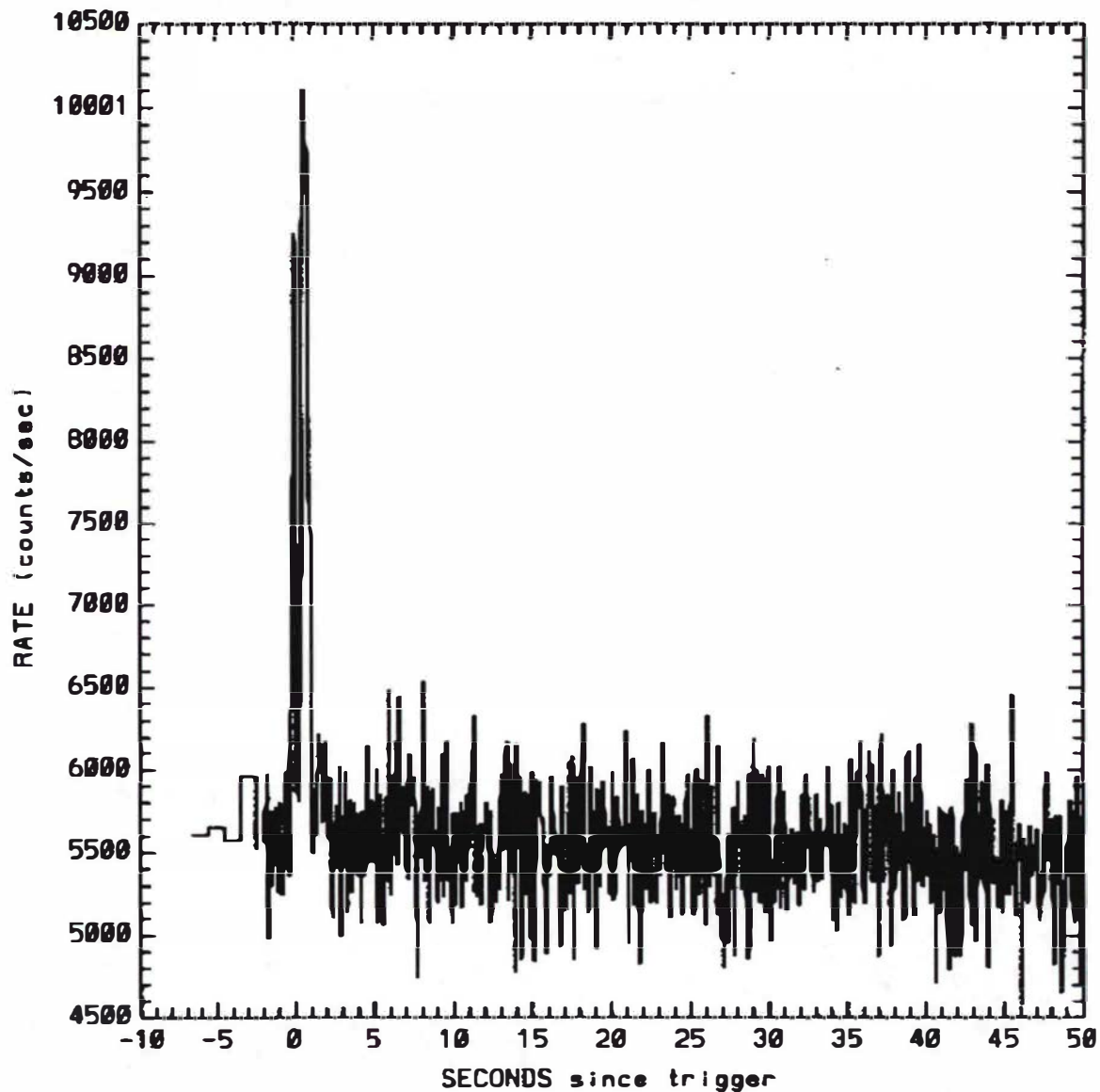
31854.753

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 6824



24-JUN-1998 11:39:16

Created by MDPS 80
(Burst Display)
Version 12.25

Trigger # = 6824

Trigger Time:
18978 / 31854.753

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

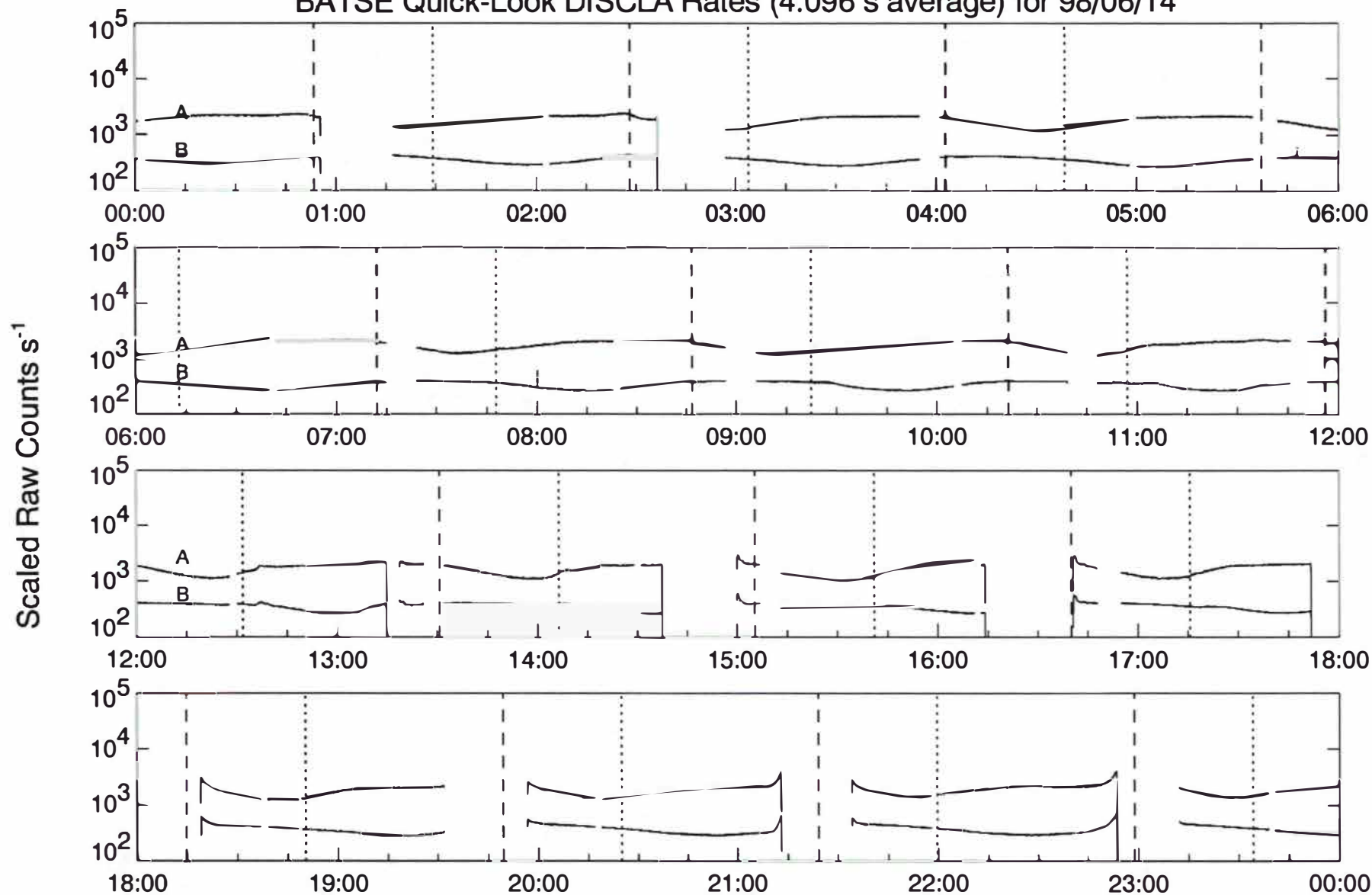
Minimum Integ. Time:
8.864 seconds

Detectors (7..8),
-----18

Discriminators:
1 1 2 1

Quality Mask:
80TSP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/14

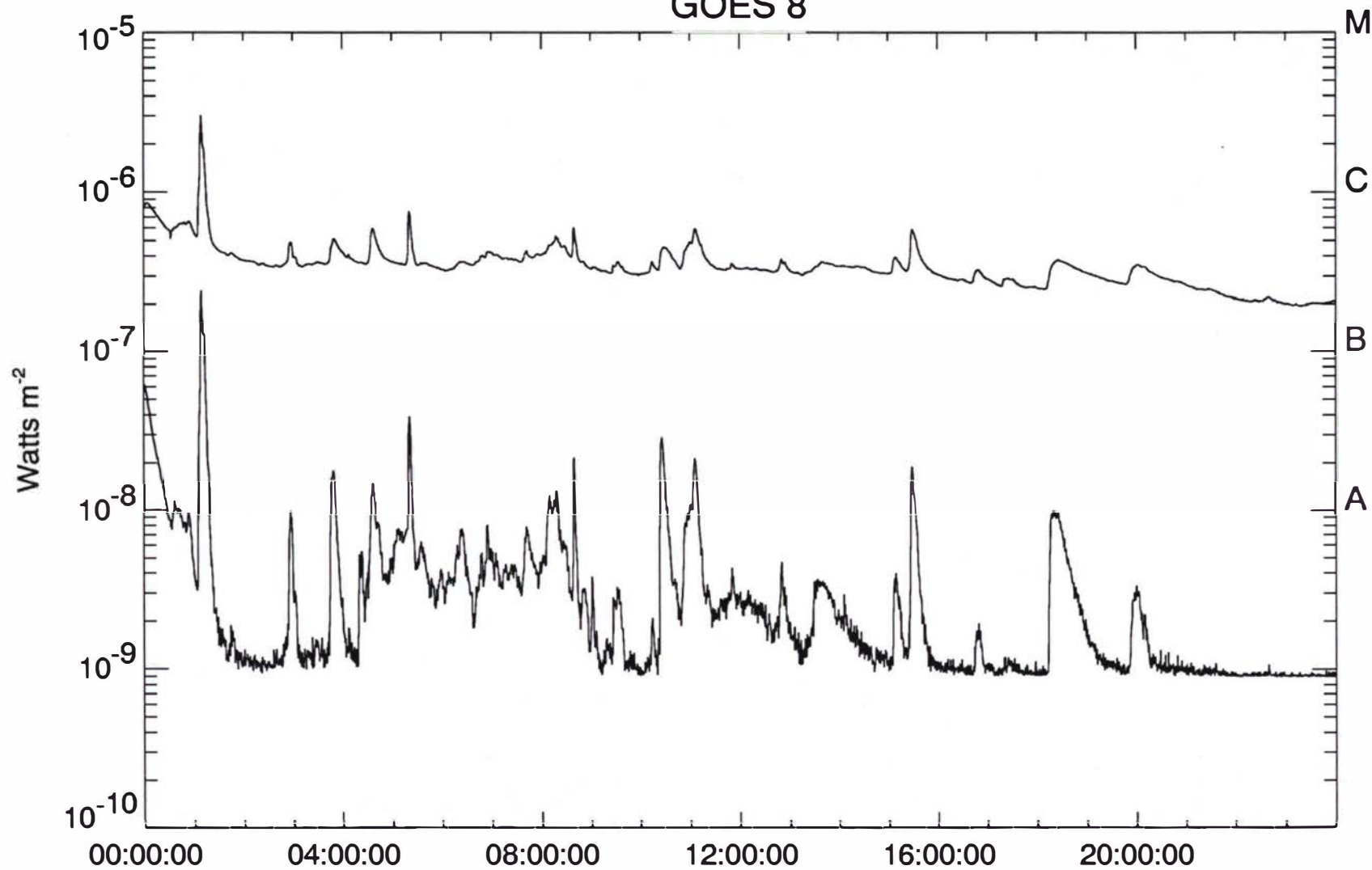


Current Time: 98/06/18, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/06/14, 0000:00

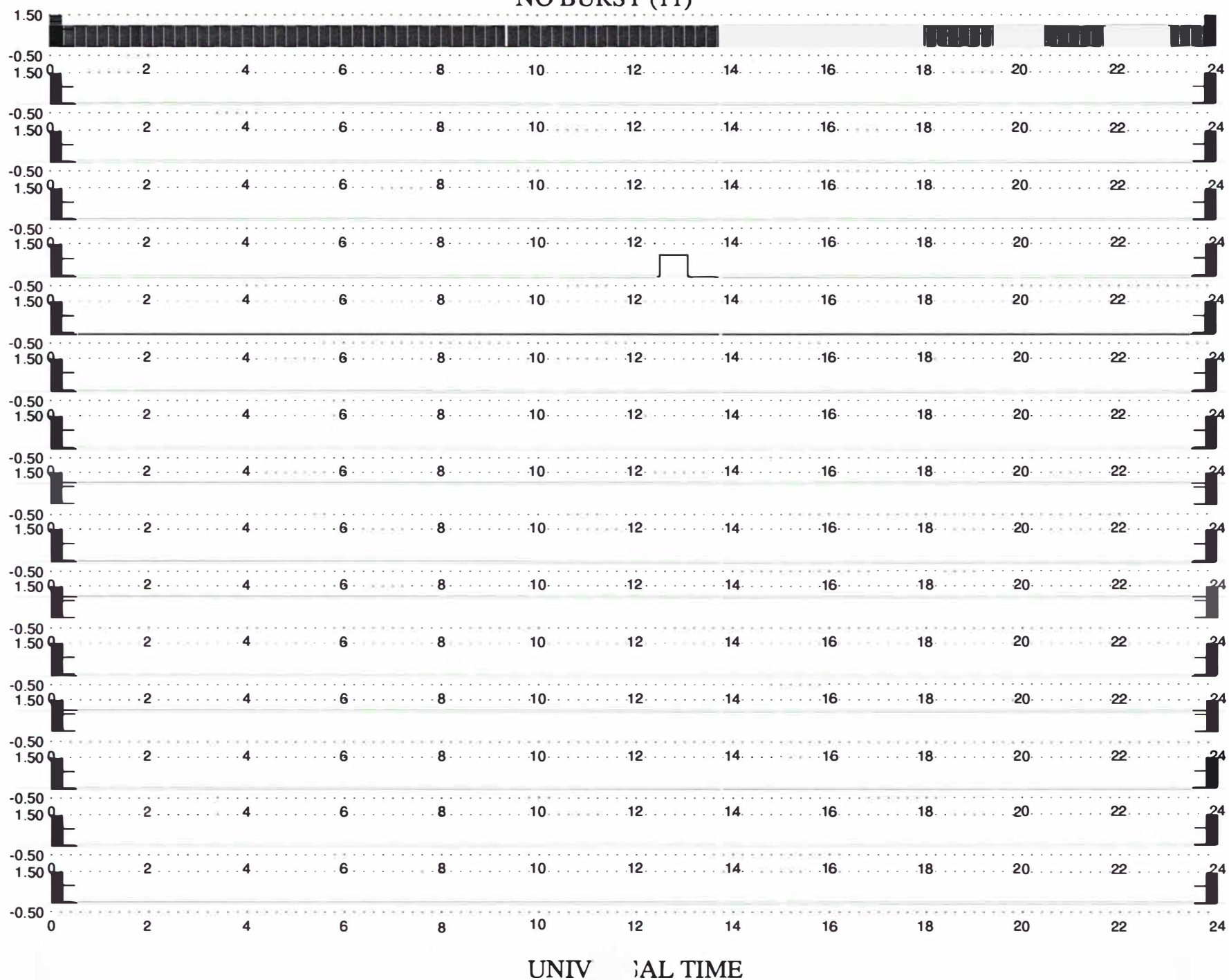
Plot created: 98/06/18, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

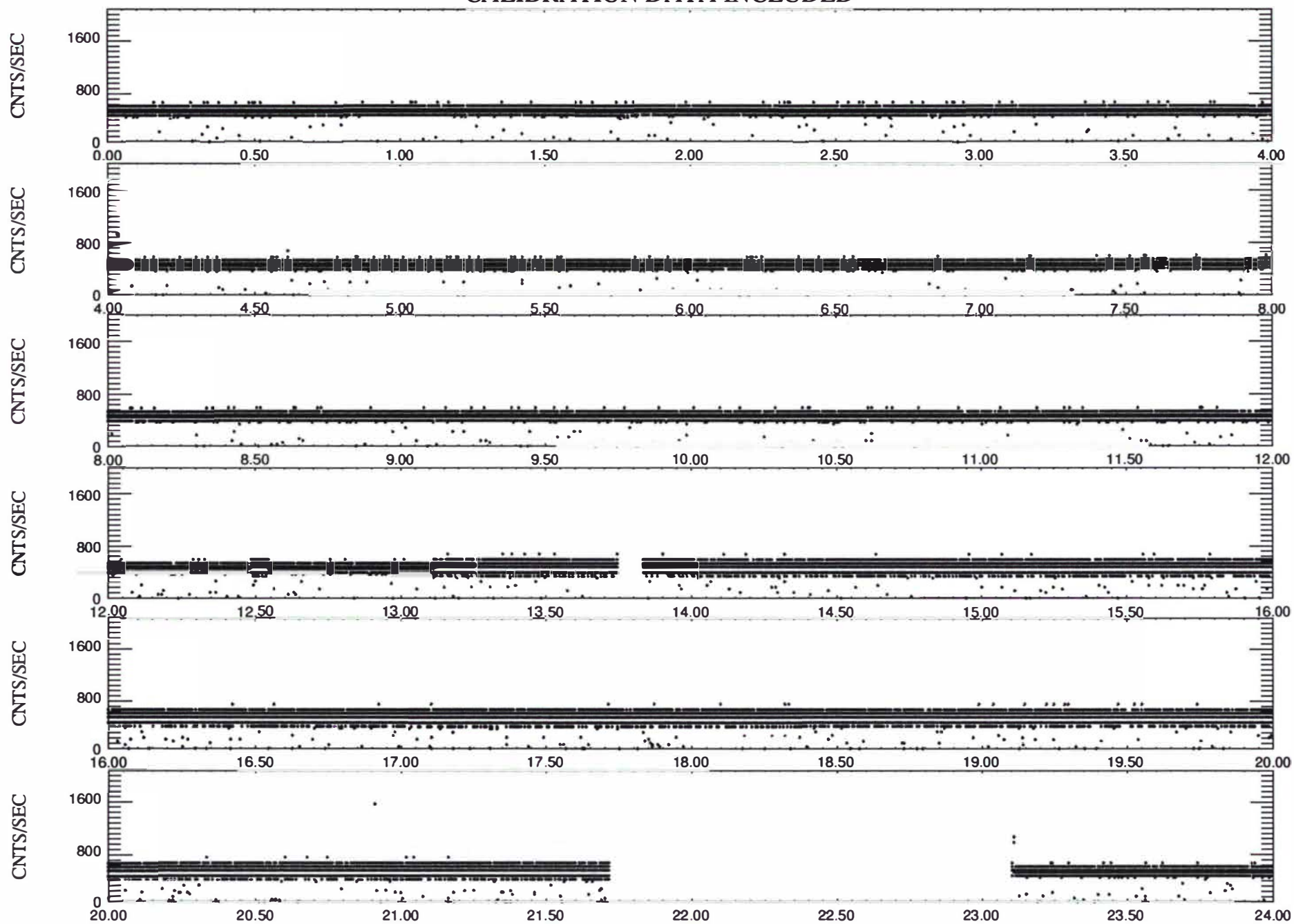
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

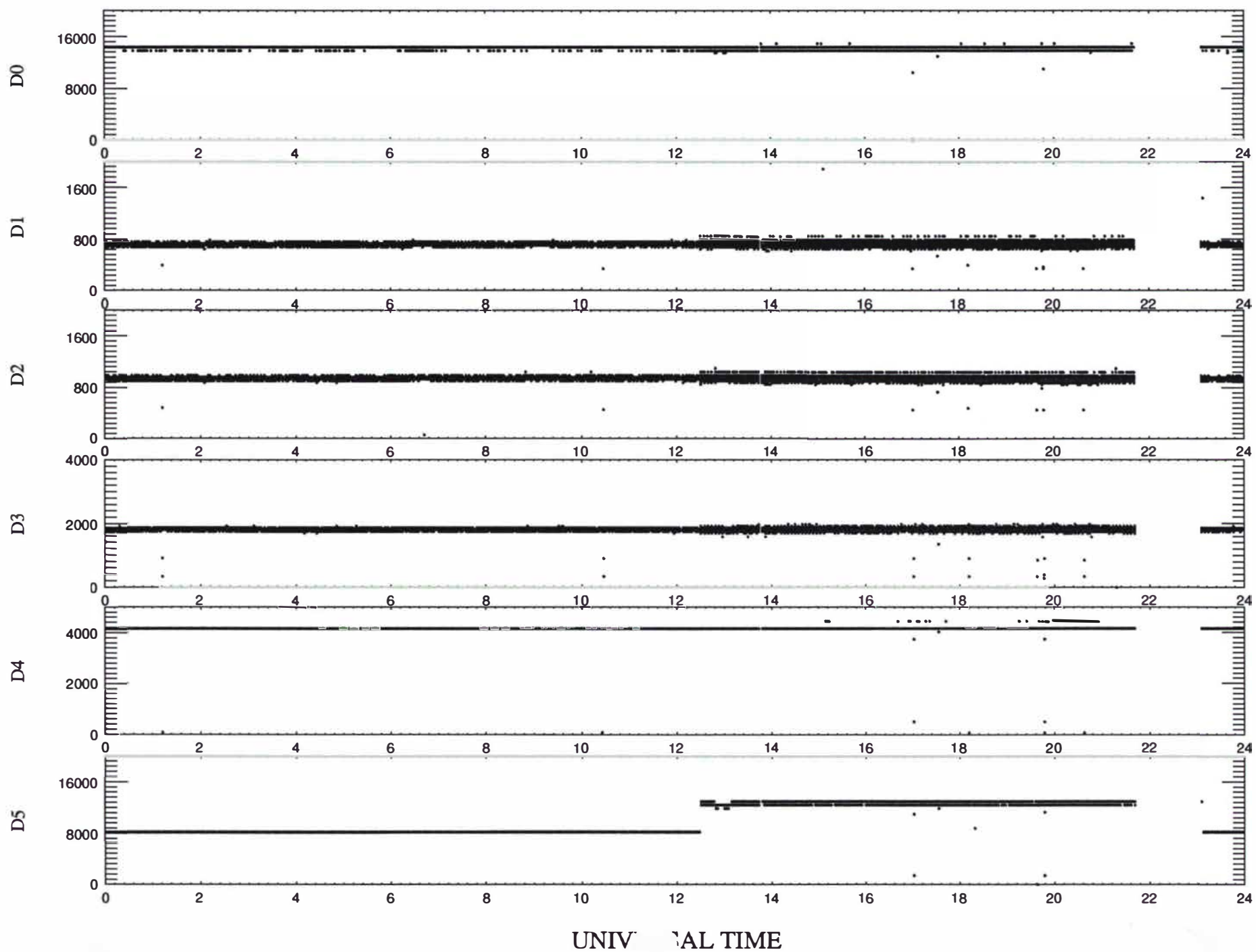
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

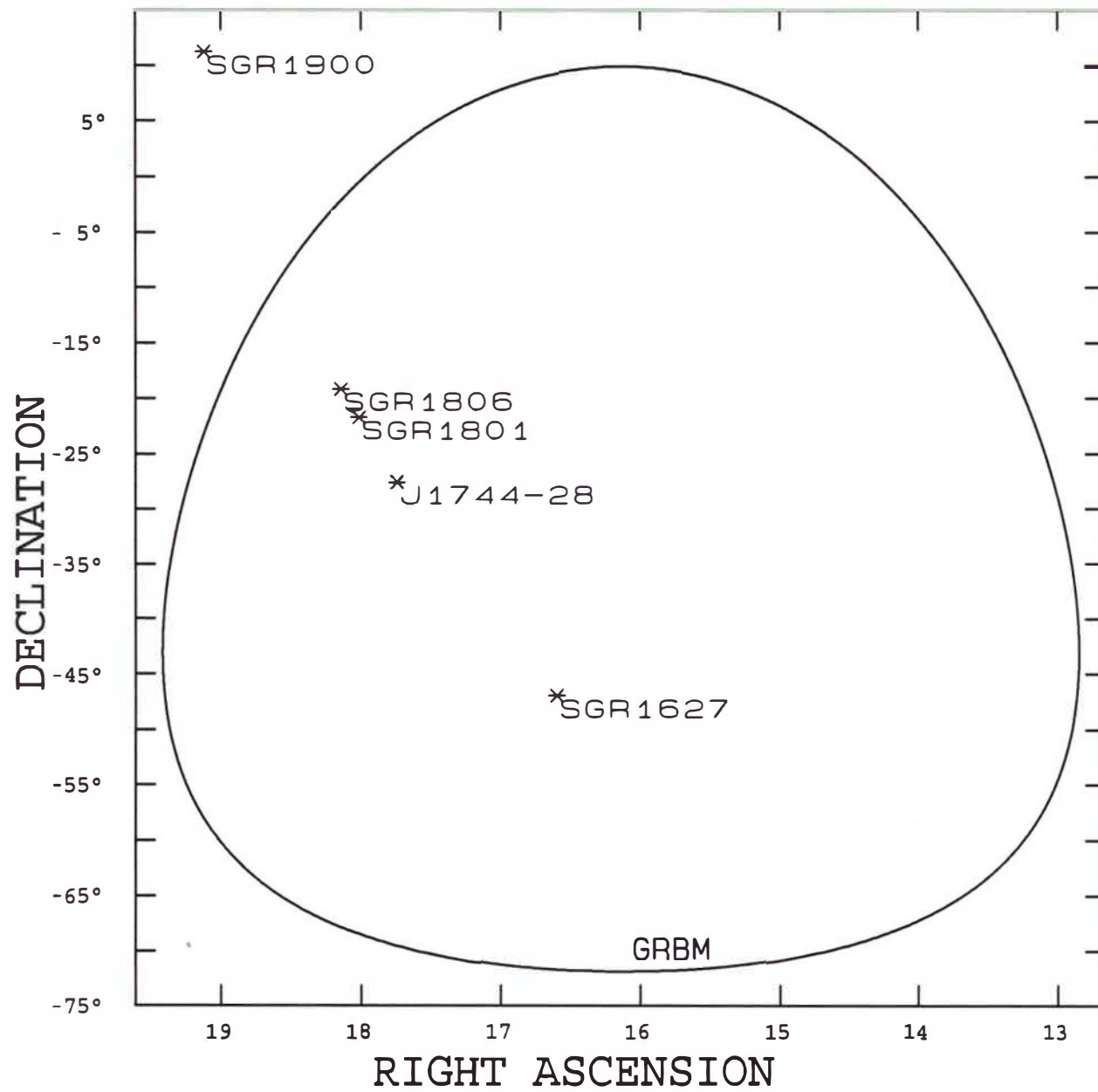


CALIBRATION DATA INCLUDED



UNIV. TIME





SAX GRB
HUS DATA

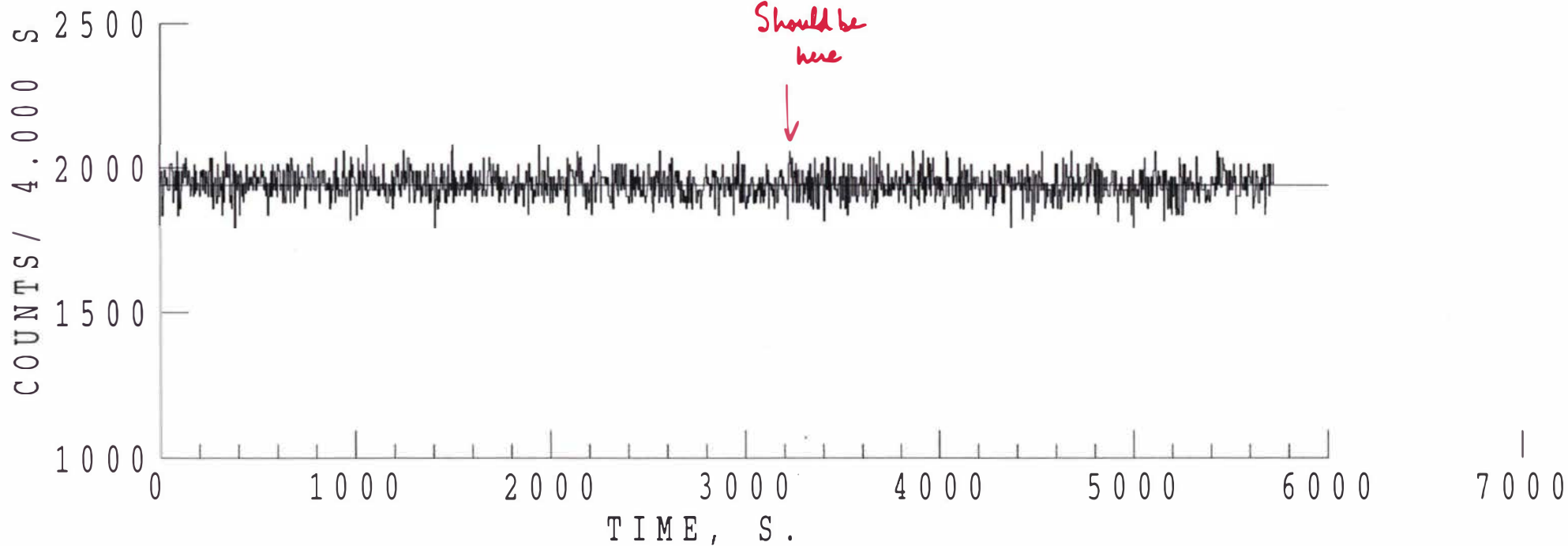
ULYSSES RT

19 / 07 / 05

15 / 06 / 98 7164.287 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 Thu Jun 18 14:15:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 16:15:23 -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.: 6825

TIME: TJD=0979 SECONDS=9454 2:37:34

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

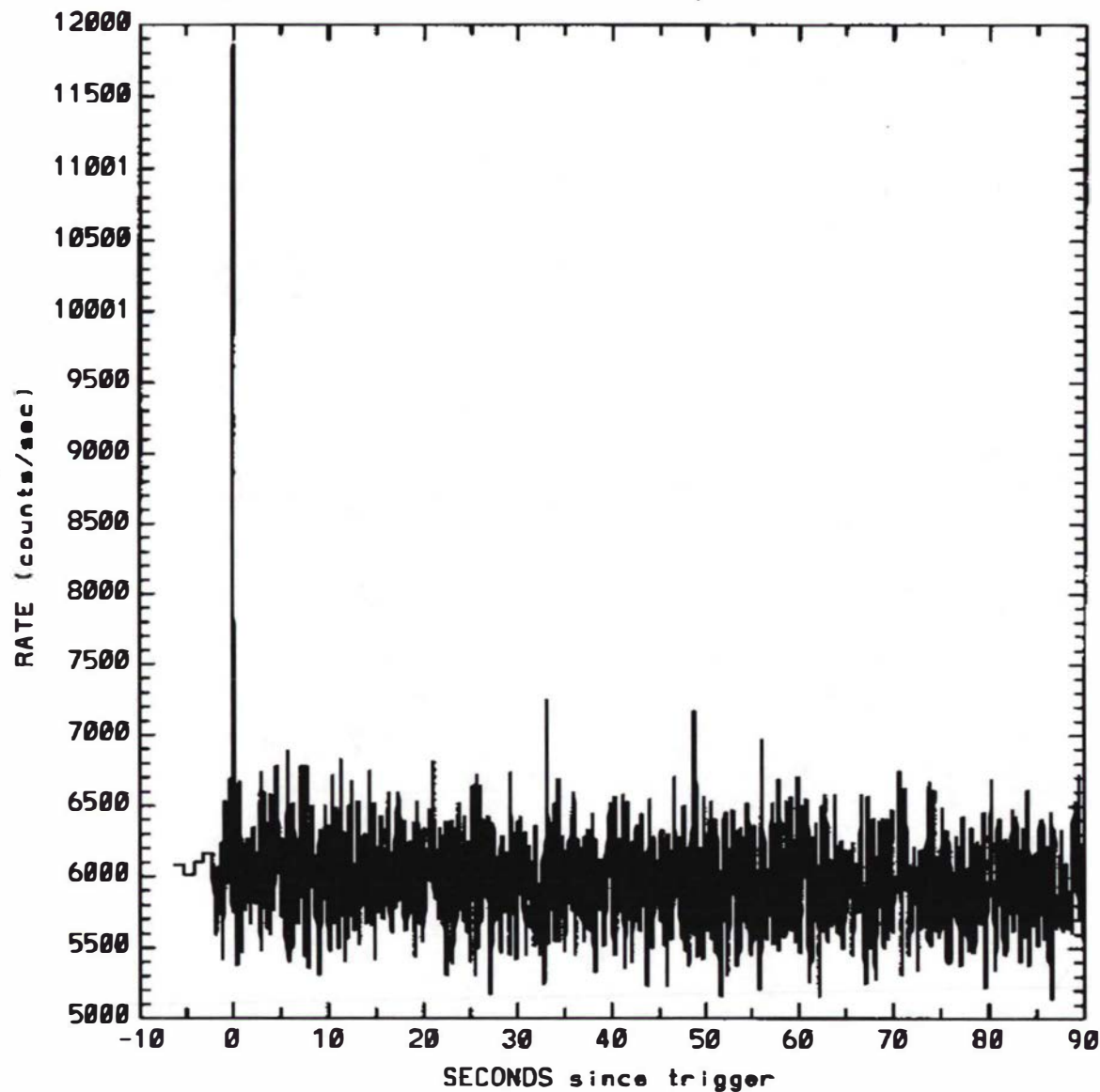
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=99.0 AZIMUTH=156.4 ERROR=5.57 DEGREES

COMMENTS:

PROBABLE NEW SGR. SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.06 SEC.
SLIGHTLY VISIBLE ABOVE 100KEV.

DISCSC Data for K. Hurley, No. 6825



17-JUN-1998 12:07.44

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

Trigger # . 6825

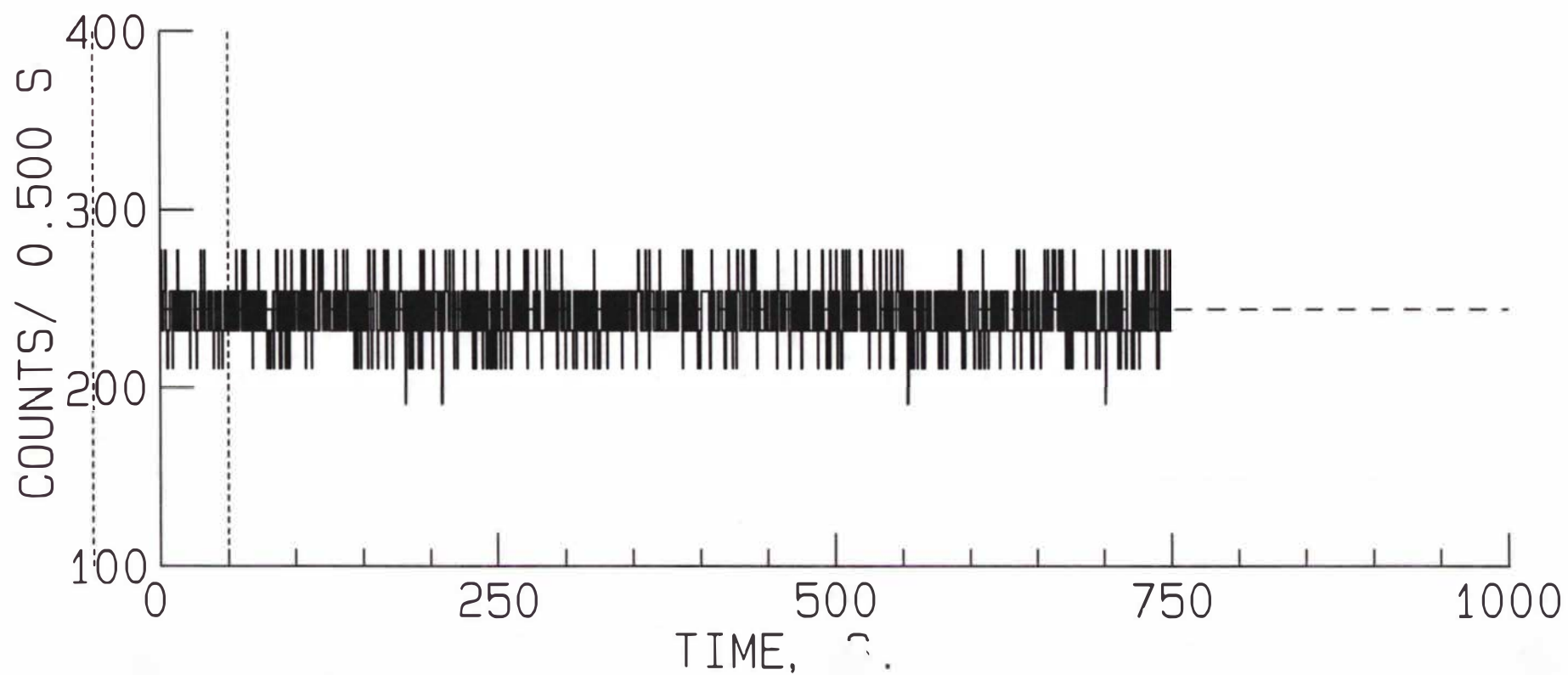
Trigger Time.
10979 / 9454.433Burst Data Type.
DISCSCDeadtime
Corrected. NBackground Data
Type. PREB + DISCLAMinimum Integ. Time.
0.064 secondsDetectors (7..0).
--54--Discriminators.
(1 . 2)Quality Mask.
BDISP1

ULYSSES RT

23 / 6 / 98

15 / 6 / 98 9612.314 s

22- 148 keV

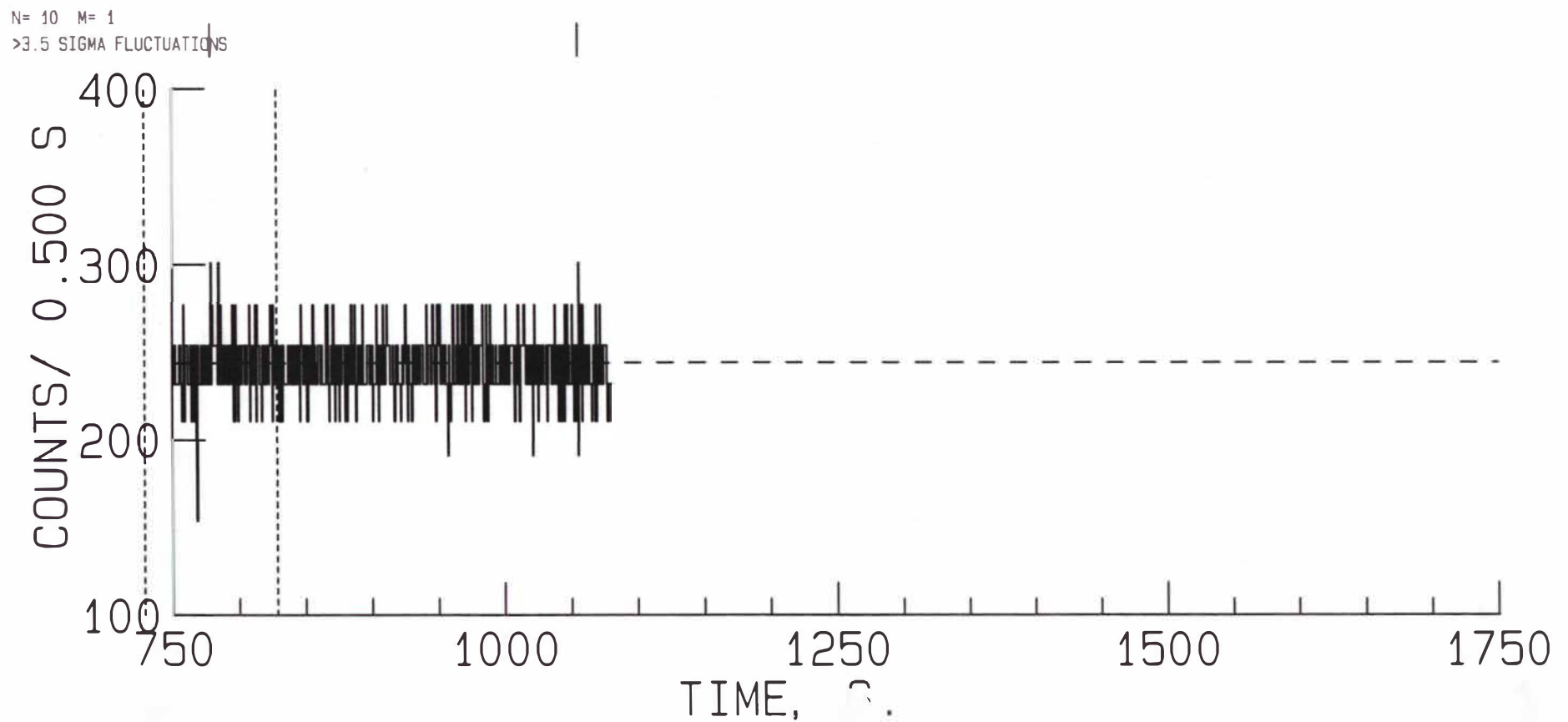


ULYSSES RT

23 / 6 / 98

15 / 6 / 98 9612.314 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 18 14:17:47 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 16:17:33 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6826

TIME: TJD=0979 SECONDS=25584 7:06:24

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

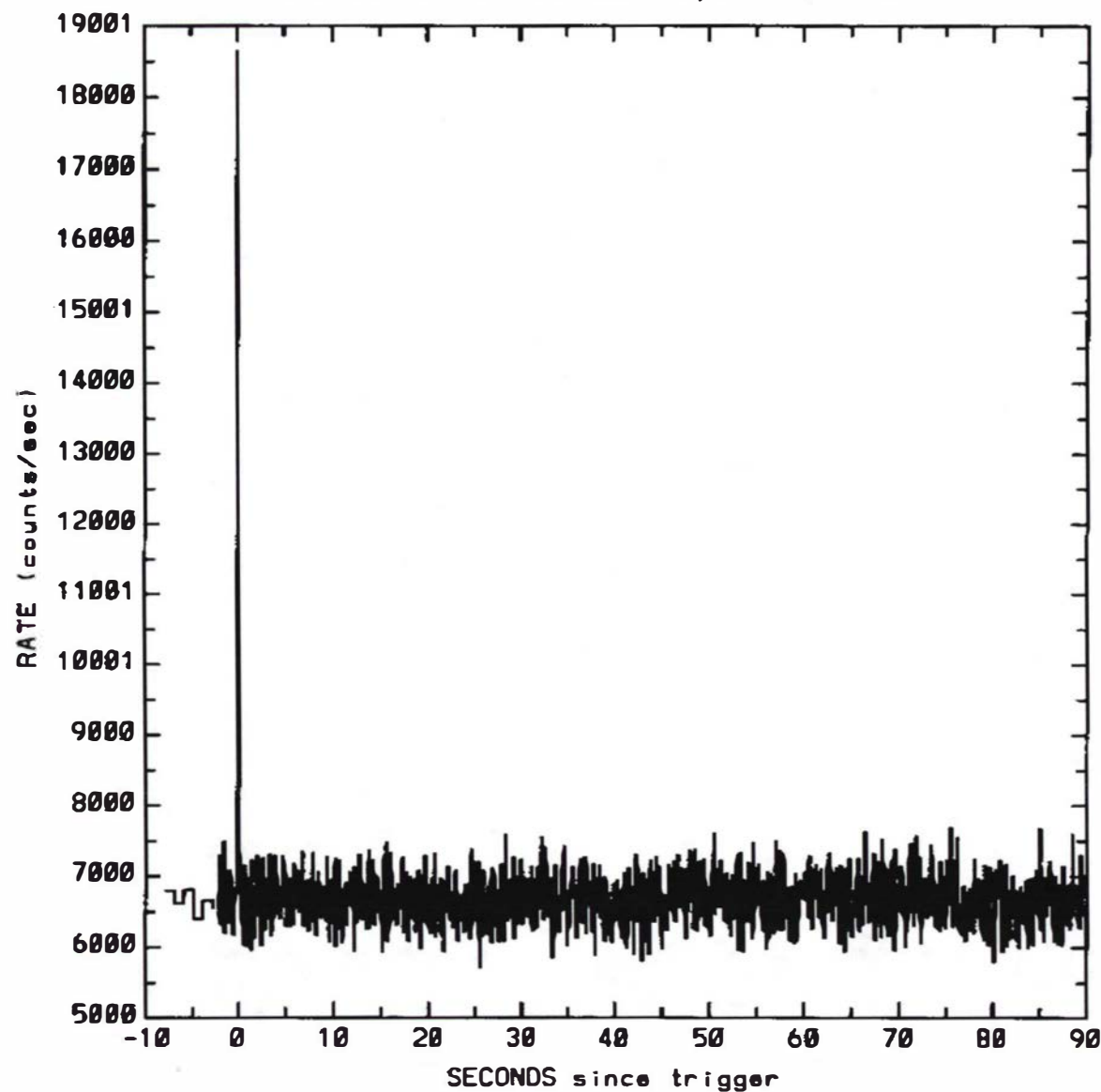
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=98.7 AZIMUTH=161.8 ERROR=3.5 DEGREES

COMMENTS:

PROBABLE NEW SGR. SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.1 SEC.
SLIGHTLY VISIBLE ABOVE 100KEV.

DISCSC Data for K. Hurley, No. 6826



17-JUN-1998 12:11:12

Created by NOPS 80
(Burst Display)
Version 12.25

Trigger # : 6826

Trigger Time:
18979 / 25584.833Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
8.864 secondsDetectors (7..8).
--54----Discriminators:
(1 : 2)Quality Mask:
BDISP1

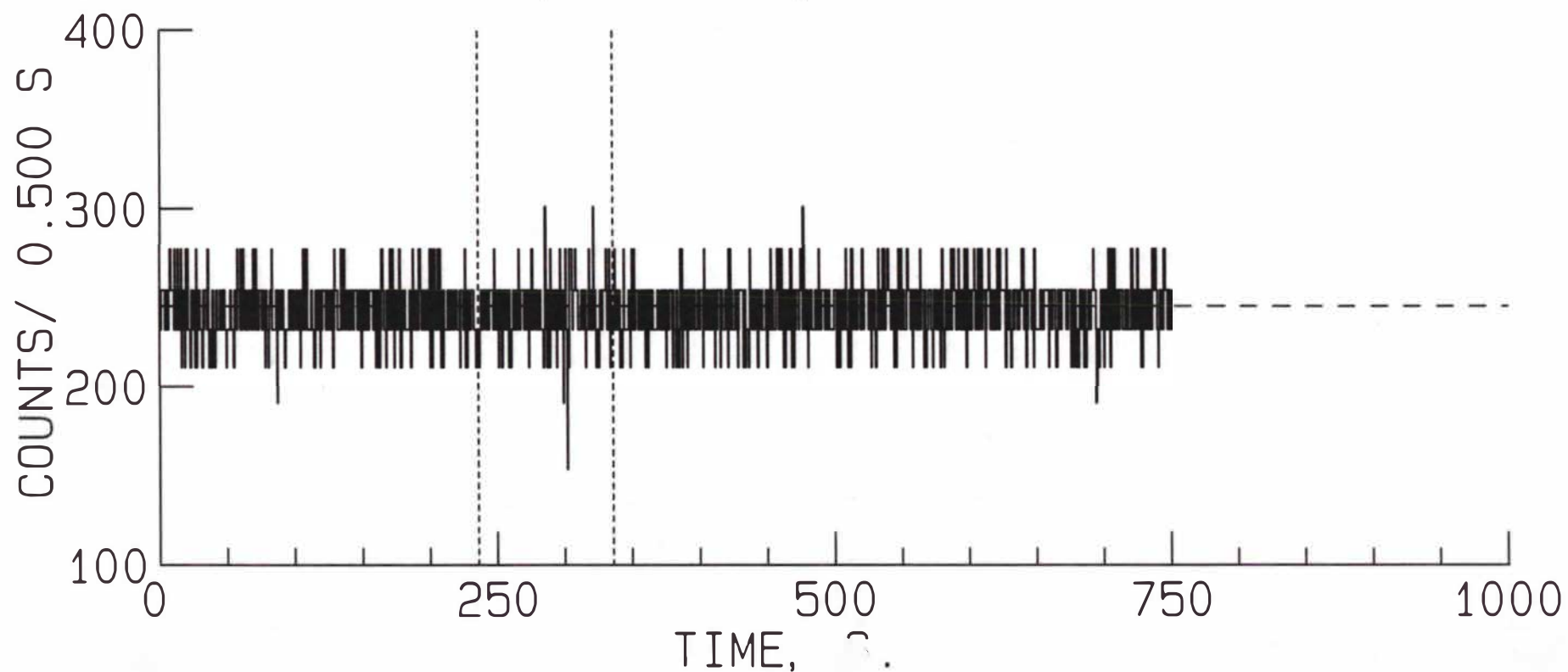
ULYSSES RT

15 / 6 / 98

15 / 6 / 98 25560.480 s

22- 148 keV

N= 10 M= 1
>3.0 SIGMA FLUCTUATIONS

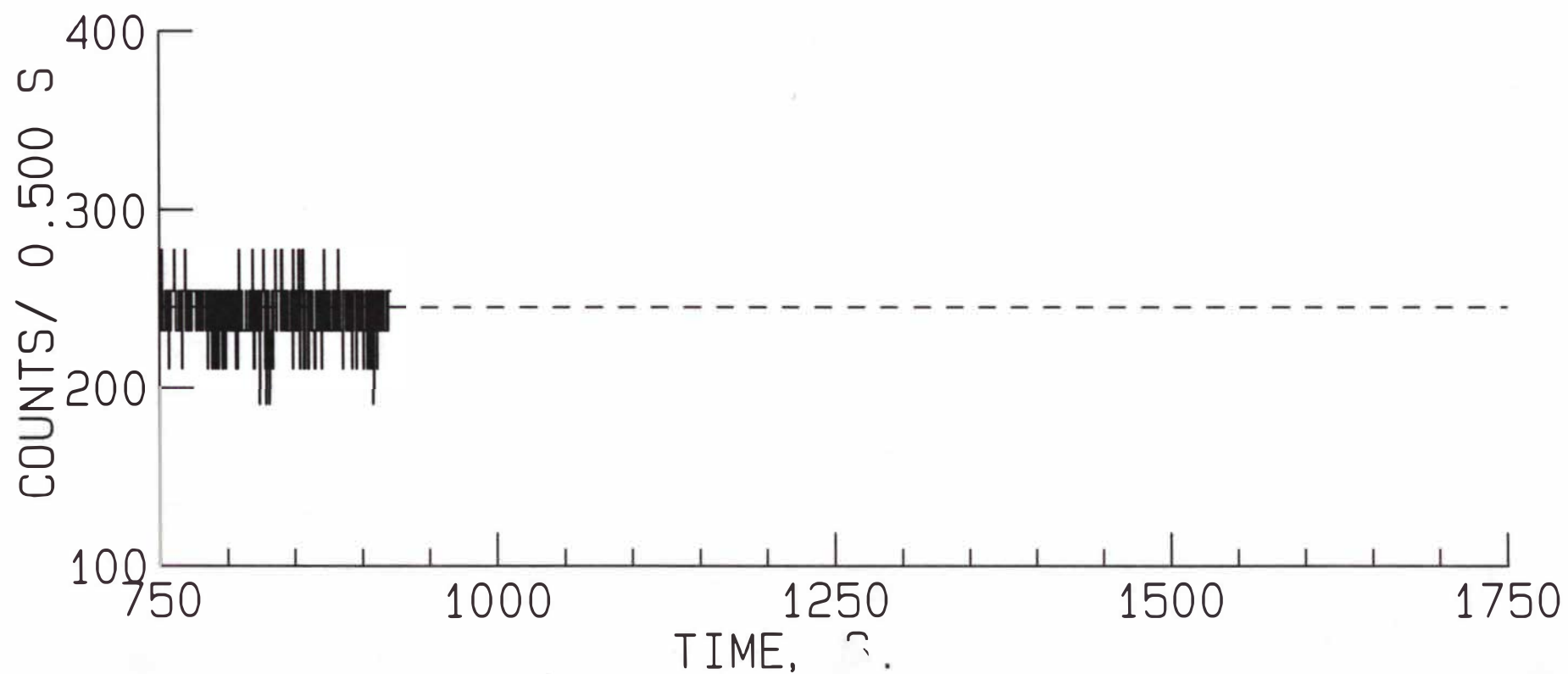


ULYSSES RT

15 / 6 / 98

15 / 6 / 98 25560.480 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 18 14:22:54 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 18 Jun 1998 16:22:42 -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.: 6827

TIME: TJD=0979 SECONDS=35505 9:51:45

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

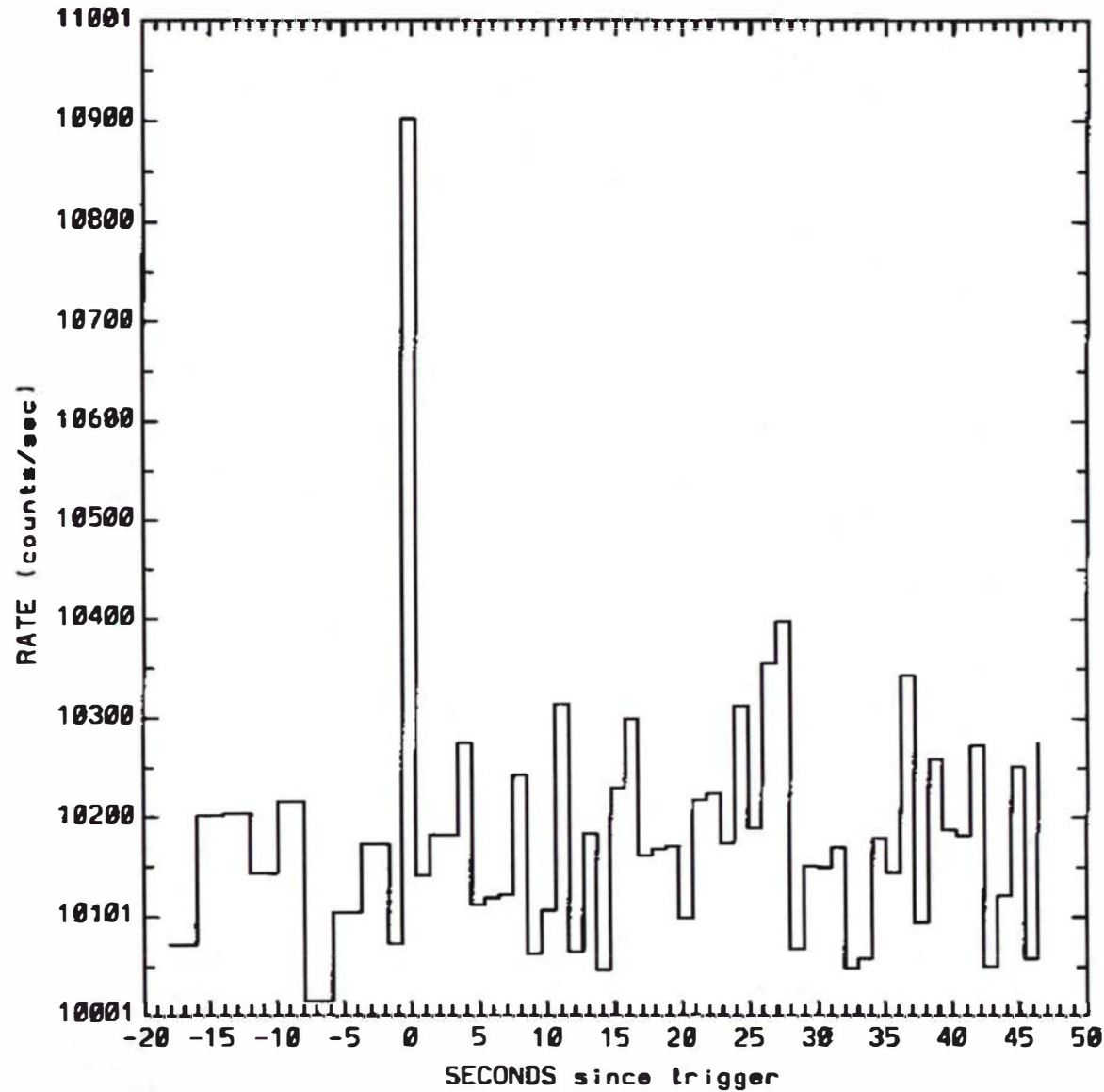
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=100.4 AZIMUTH=164.8 ERROR=2.8 DEGREES

COMMENTS:

PROBABLE NEW SGR. SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.02 SEC.
NOT VISIBLE ABOVE 100KEV.

DISCLB Data for K. Hurley, No. 6827



17-JAN-1998 12:27:22

Created by NOPS BD
(Burst Display)
Version t2.25

Trigger # : 6827

Trigger Time:
18979 / 35505.569

Burst Data Type:
DISCLB

Deadtime
Corrected: N

Background Data
Type: None

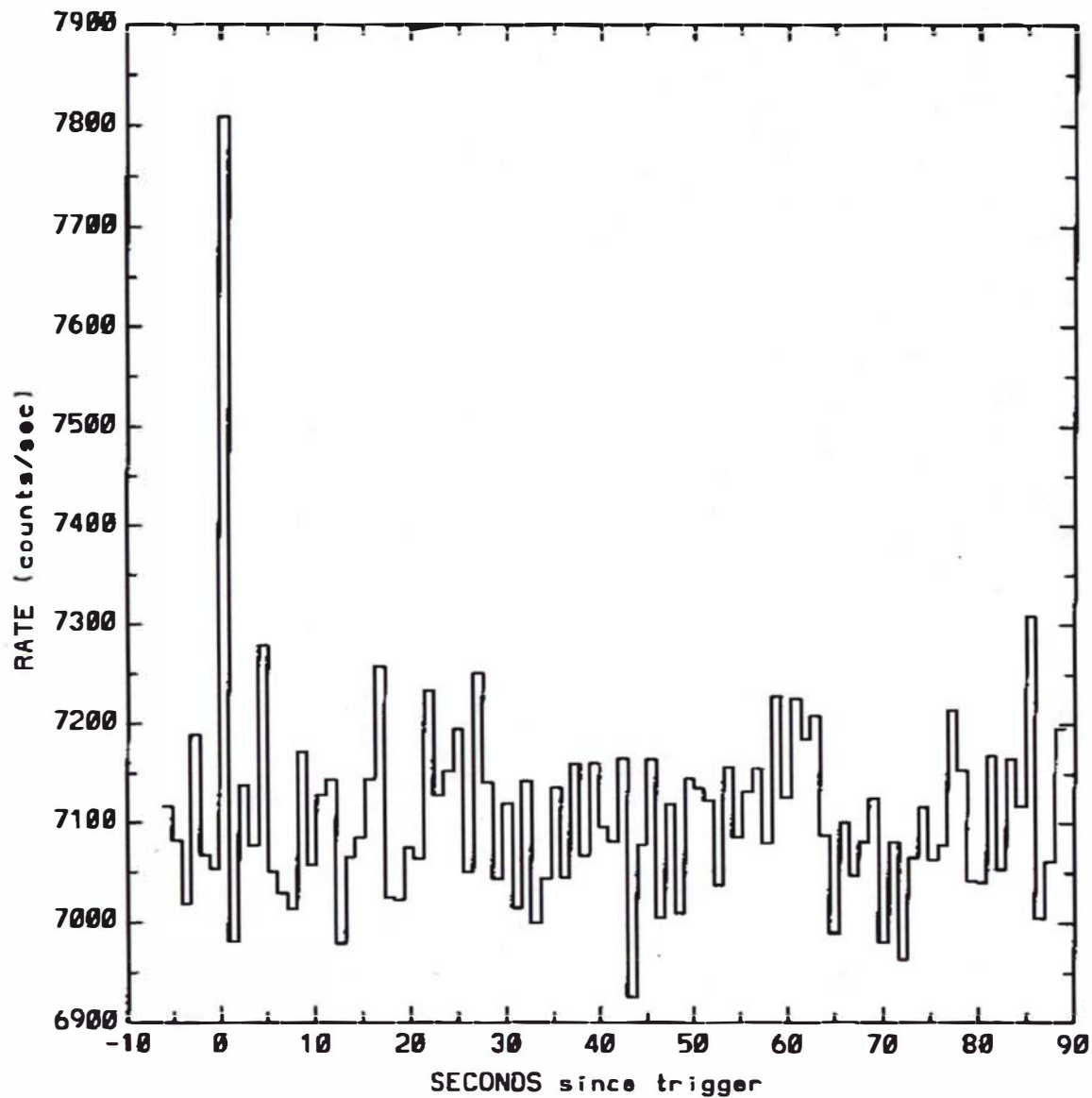
Minimum Integ. Time:
1.024 seconds

Detectors (7..8):
7-54----

Discriminators:
[1 : 2]

Quality Mask:
BDISP1

DISCLA Data for K. Hurley, No. 6827



17-JUN-1998 12:38:56

Created by MDPS 80
(Burst Display)
Version 12.25User Input Time:
18979 / 35505.000

Data Type: DISCLA

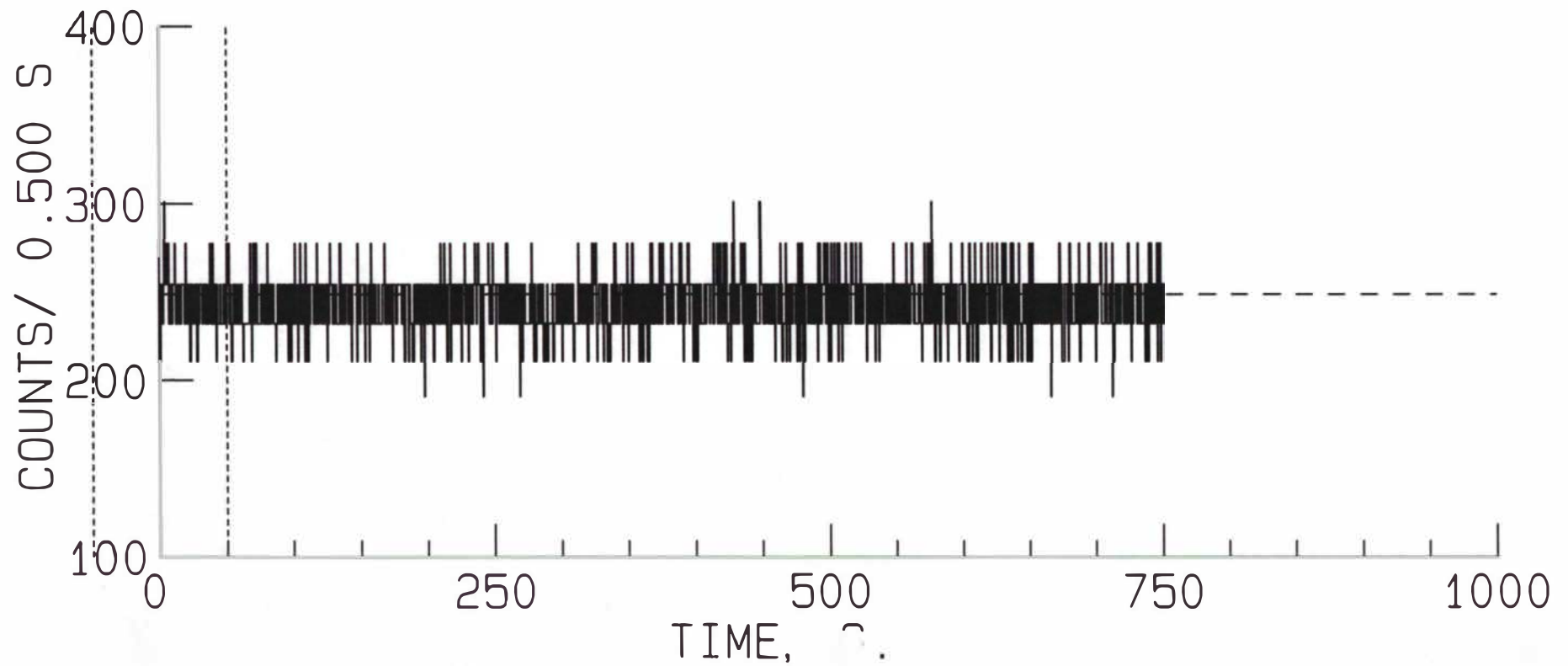
Deadtime
Corrected: NIntegration Time:
1.024 second(s)Detectors (7..8):
--54----Discriminators:
(1, 2)Quality Mask:
BDISP1

ULYSSES RT

23 / 6 / 98

15 / 6 / 98 35676.082 s

22- 148 keV

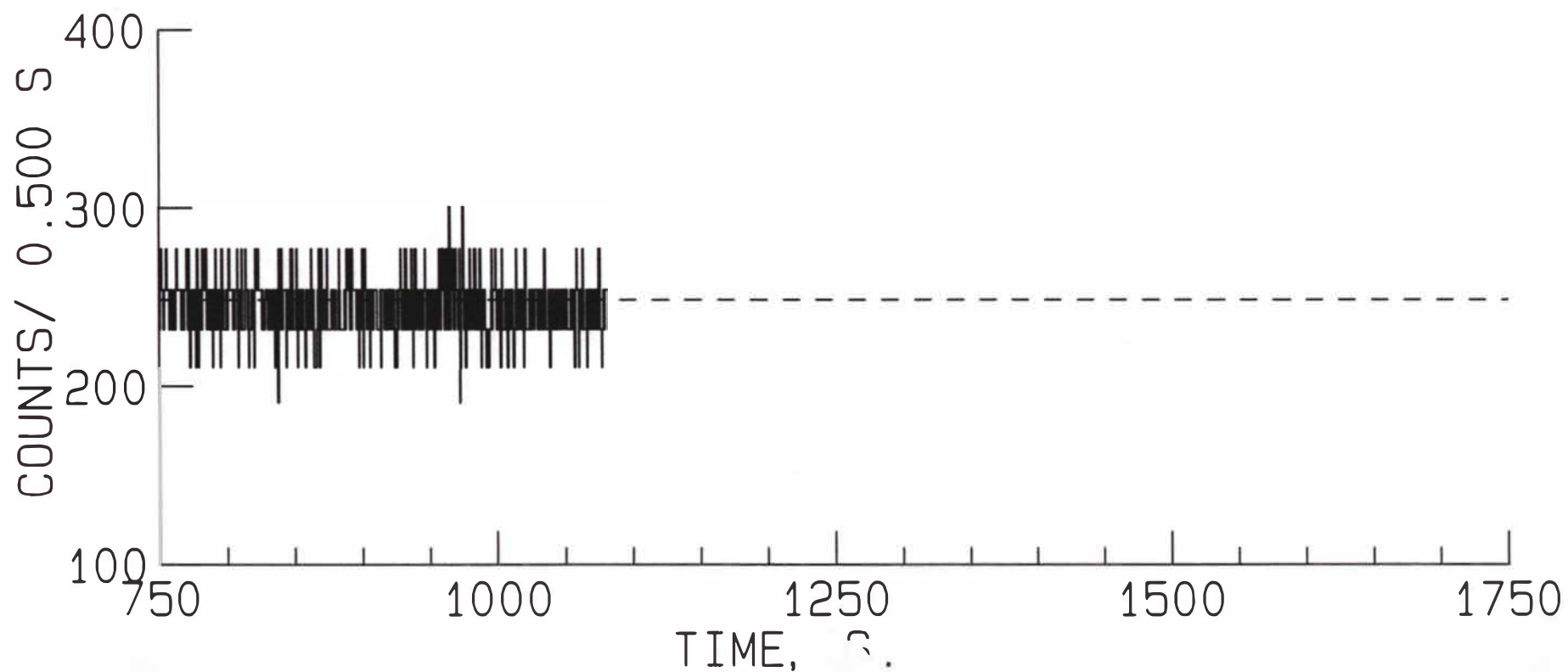


ULYSSES RT

23 / 6 / 98

15 / 6 / 98 35676.082 s

22- 148 keV



From kraken@rosserv.gsfc.nasa.gov Thu Jul 16 13:49 PDT 1998
Return-Path: <kraken@rosserv.gsfc.nasa.gov>
Received: from kangaroo.gsfc.nasa.gov by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA21535; Thu, 16 Jul 1998 13:49:34 -0700
Received: from [128.183.126.234] (plerion.gsfc.nasa.gov [128.183.126.234]) by kangaroo.gsfc.n.
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Message-Id: <v03110716bld425ed6606@[128.183.126.234]>
In-Reply-To: <199806182306.QAA06921@scylla.>
Mime-Version: 1.0
Date: Thu, 16 Jul 1998 16:51:49 -0500
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@rosserv.gsfc.nasa.gov>
Subject: Re: GRB980615
X-Lines: 26
Status: RO

TGRS also saw this burst.

TGRS #707 occurred at 36722 s. on June 15.

It occurred in the ecliptic, and appears to be a solar outburst
event. T90=82 s T50=36s Peak Flux (100-300 keV)=191 cts/s
Fluence=6612 cts.

>ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

>

>Ulysses observed the following burst:

>

>

>June 15 1998 10:31 Ulysses time; moderate burst, 40 s long

>

>

>The spacecraft was about 2850 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)

Subject: DMSP GRB detection(?):970713

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	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: Apr 23 2007

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

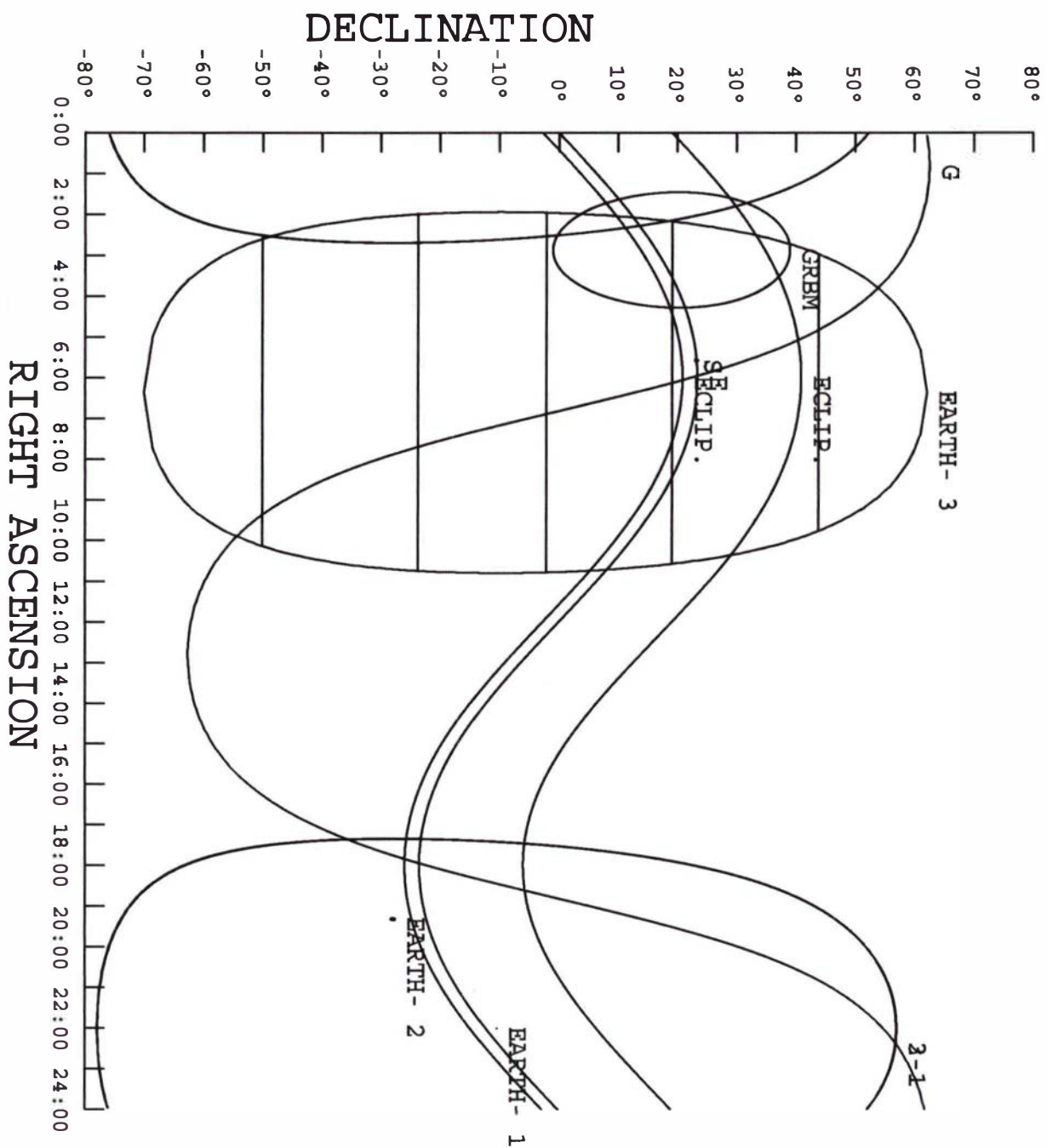
1 ULYSSES

2 KONUS2

3 SAX

EVENT OF JUN 15, 1998 10:29

19/ 5/ 9



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

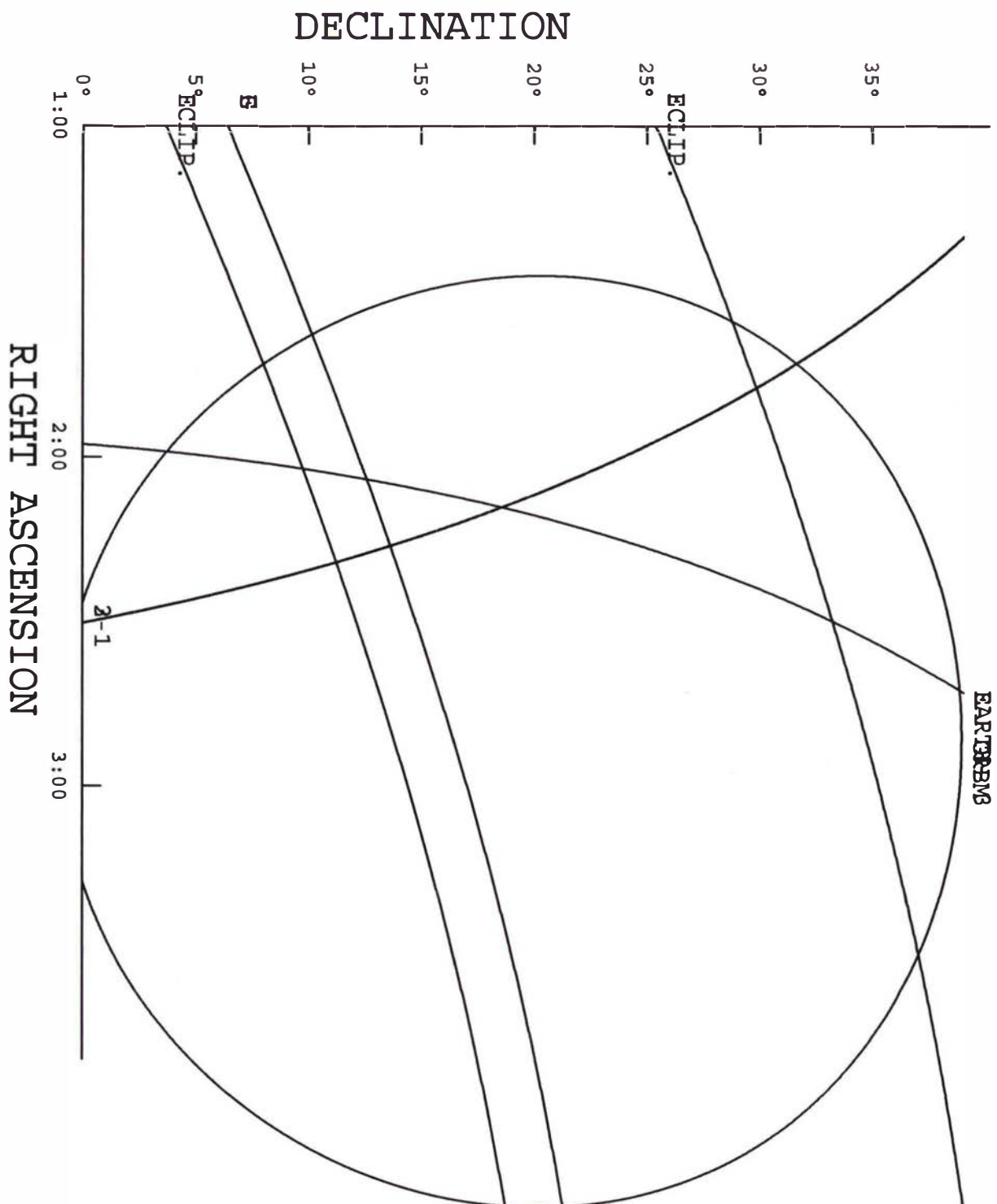
1 ULYSSES

2 KONUS2

3 SAX

EVENT OF JUN 15, 1998 10:29

23 / 4 / 7



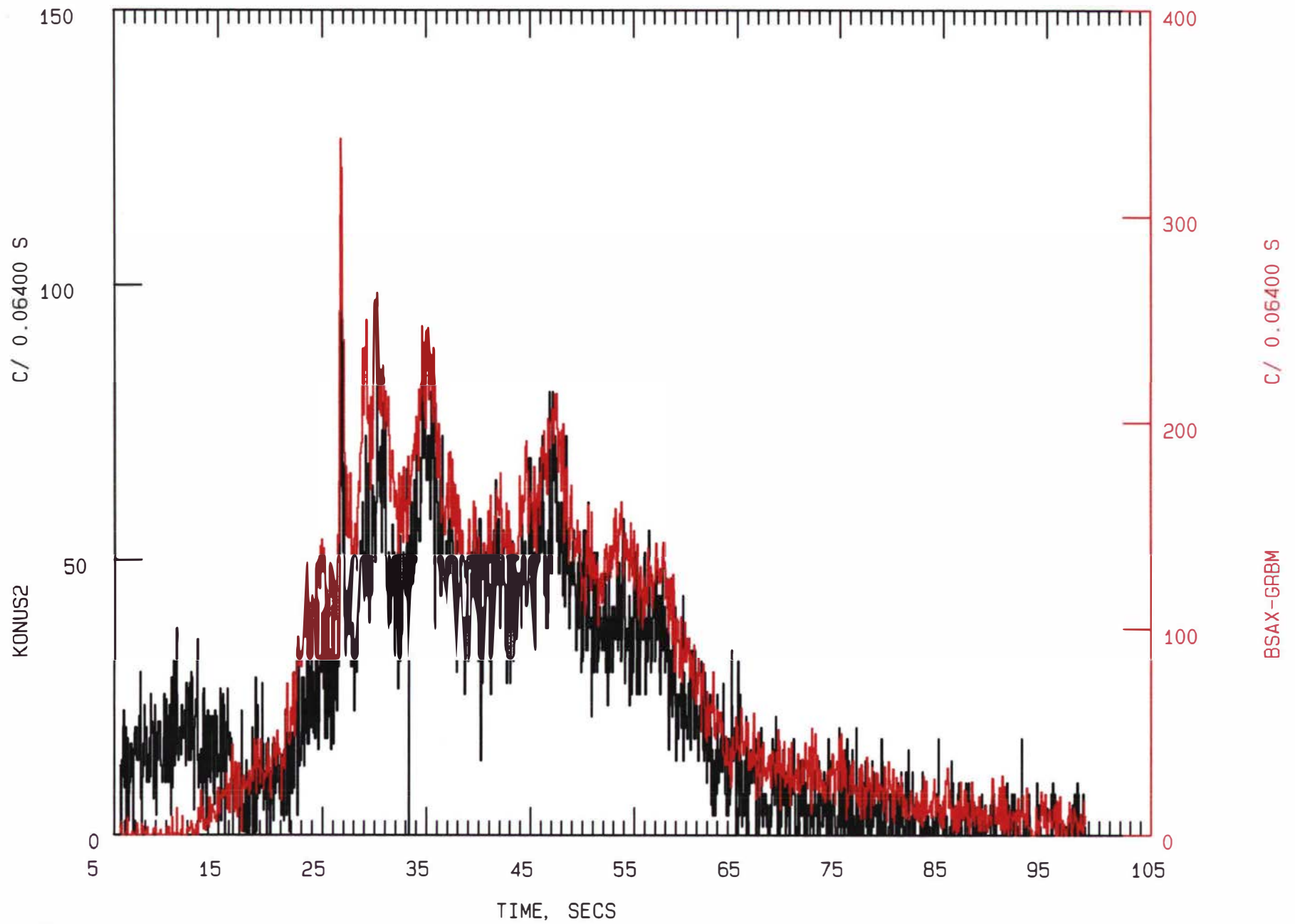
KONUS2

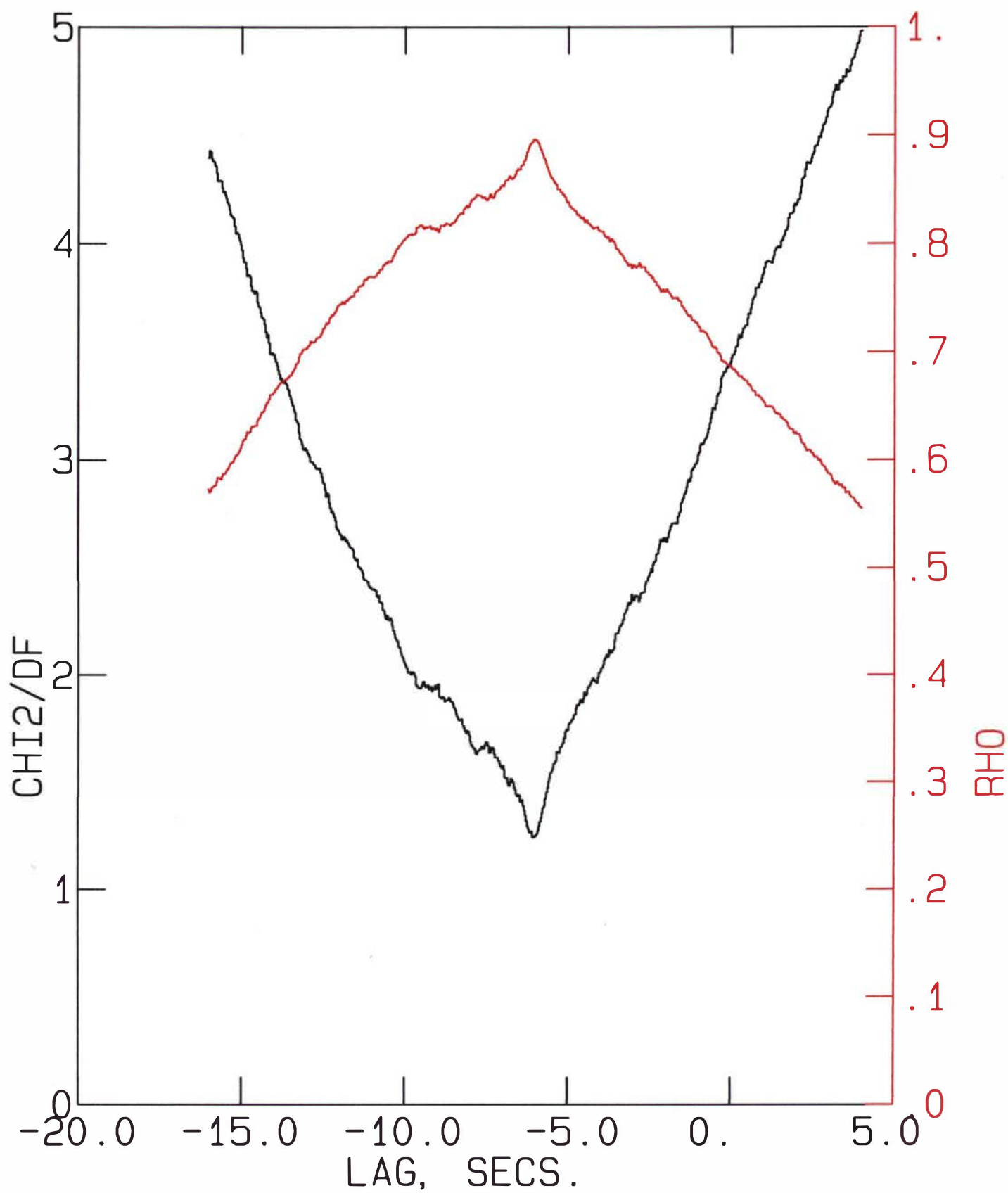
-BSAX-GRBM CORRELATION

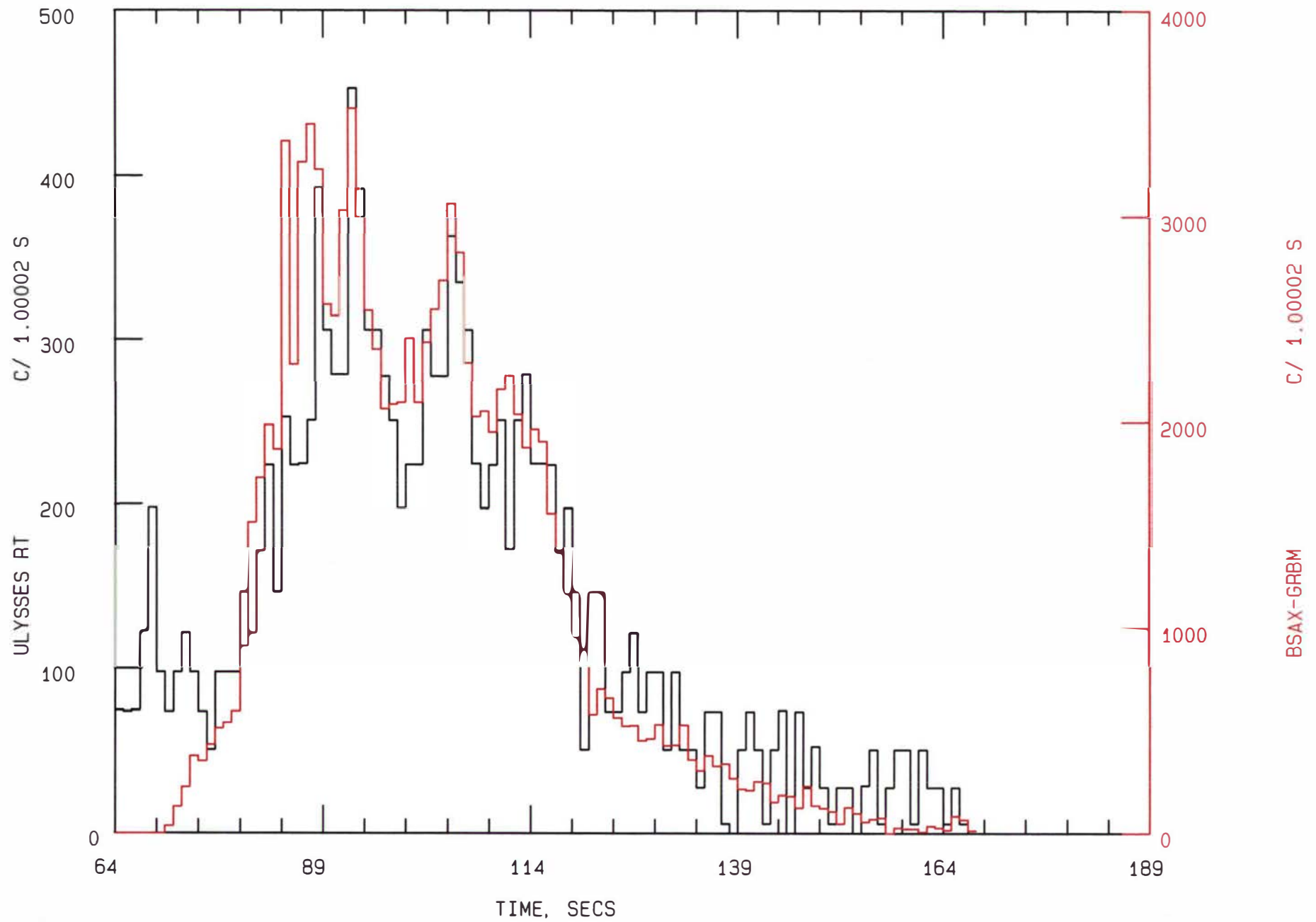
15/06/98

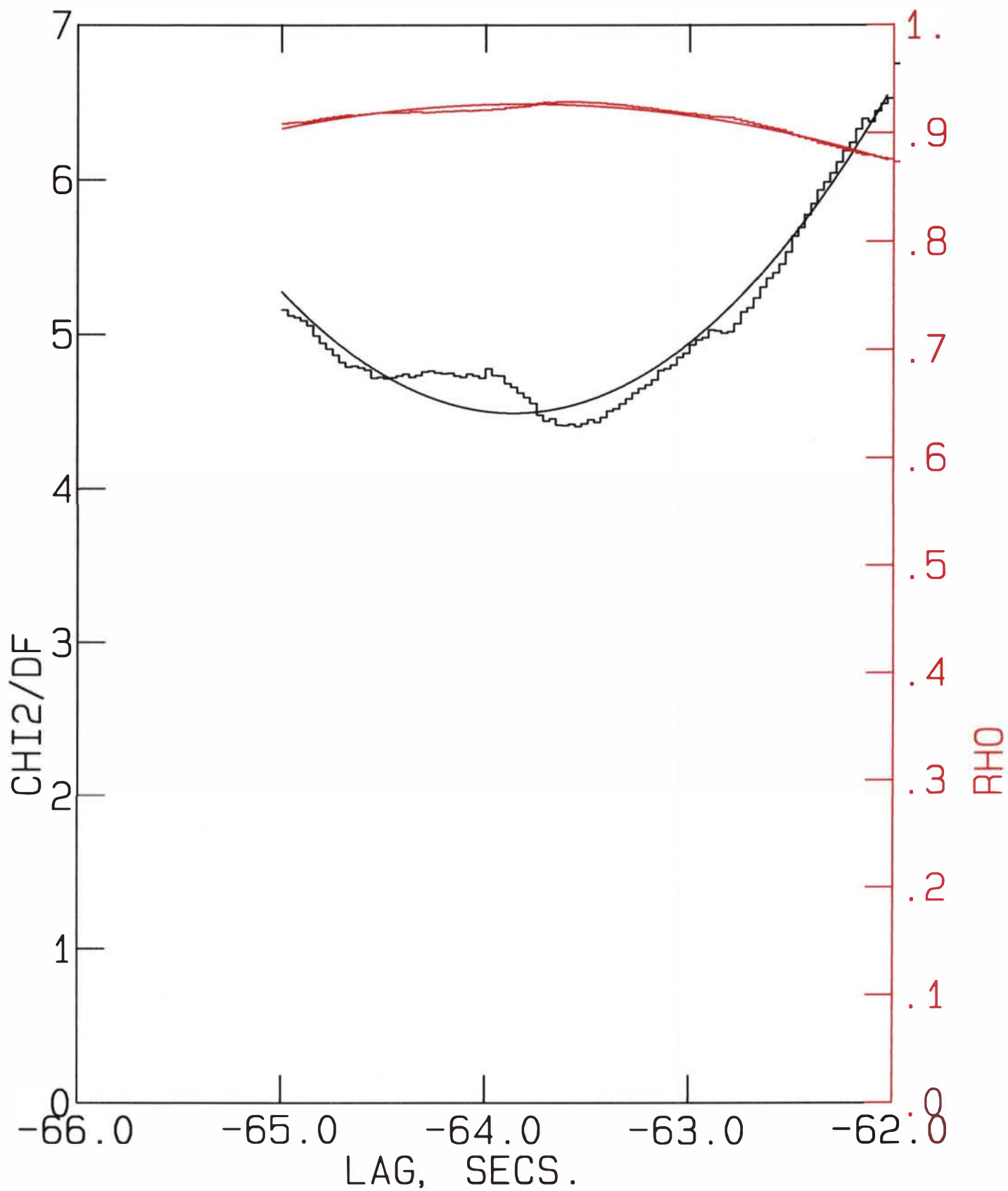
36721.359

19/ 4/ 7









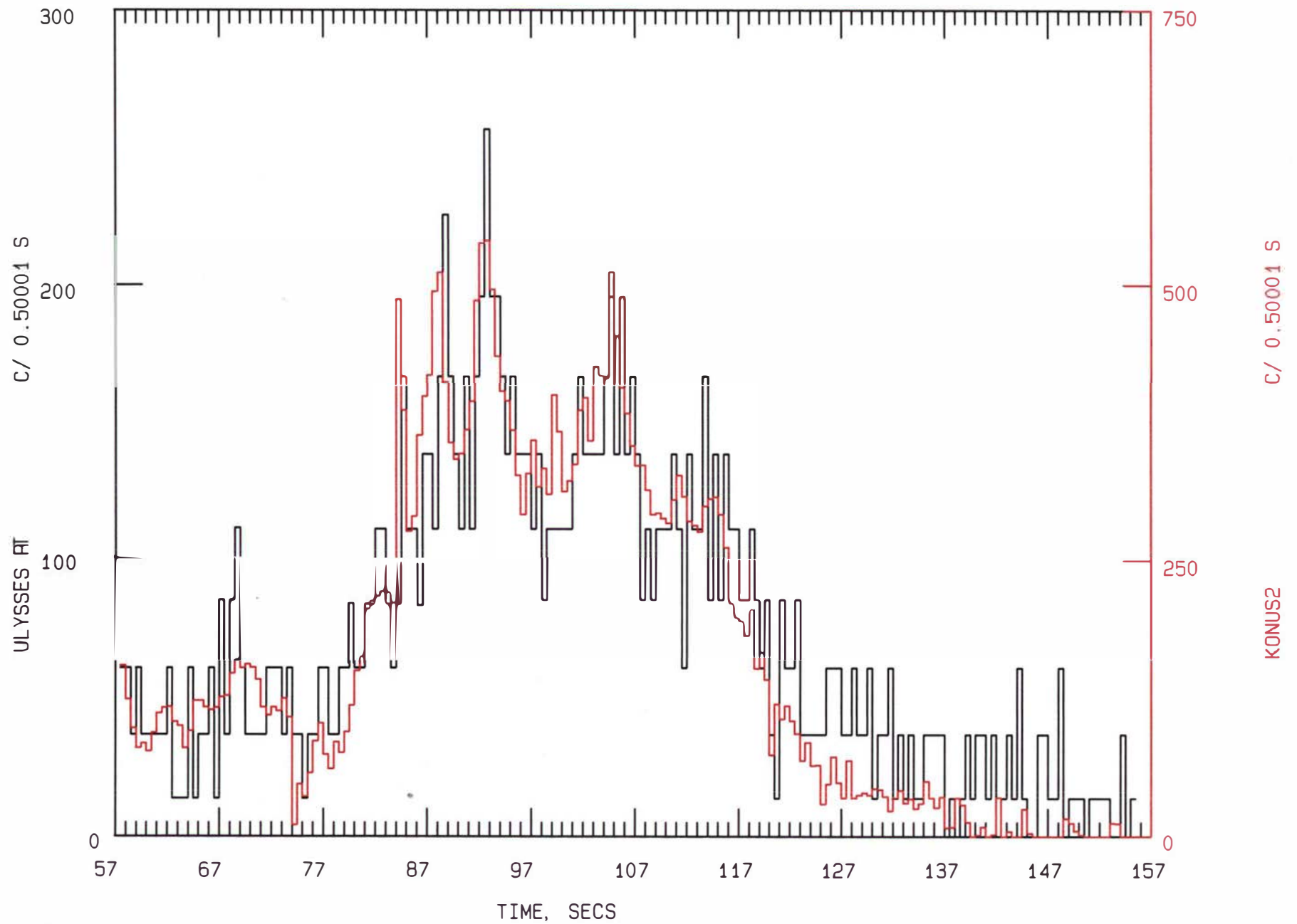
ULYSSES RT-KONUS2

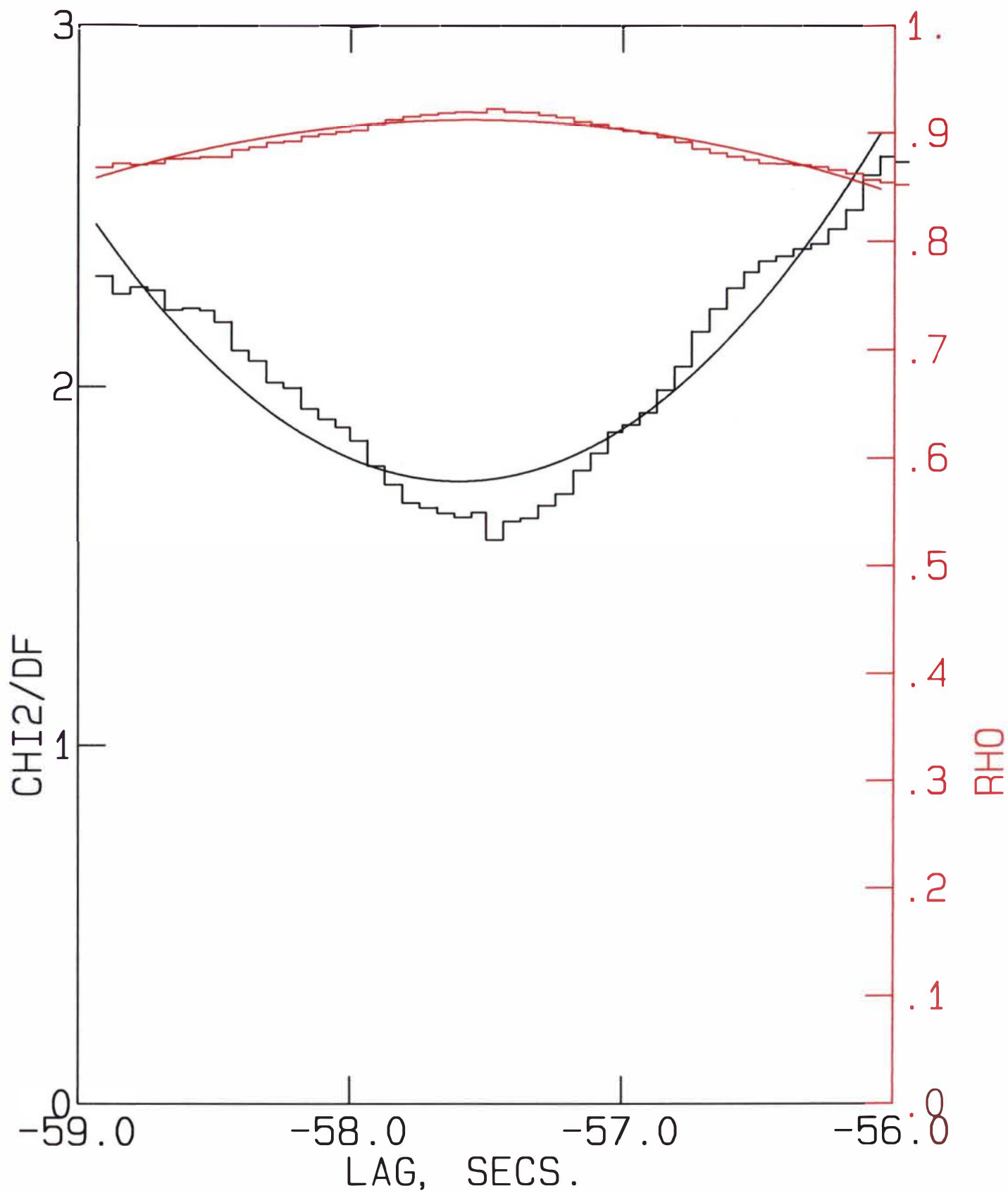
CORRELATION

15/ 6/98

37756.134

19/ 4/ 7





N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

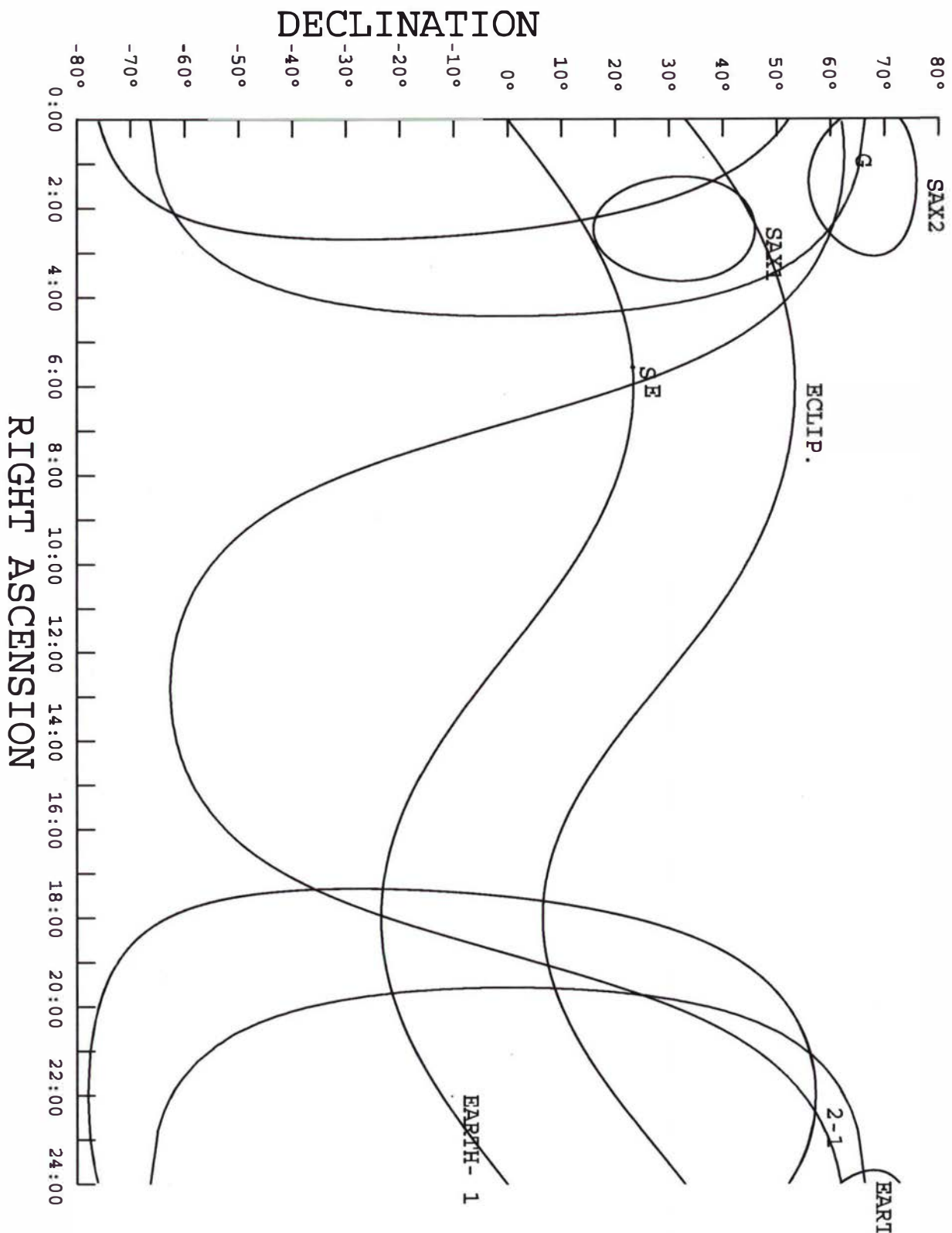
G=GALACTIC EQUATOR

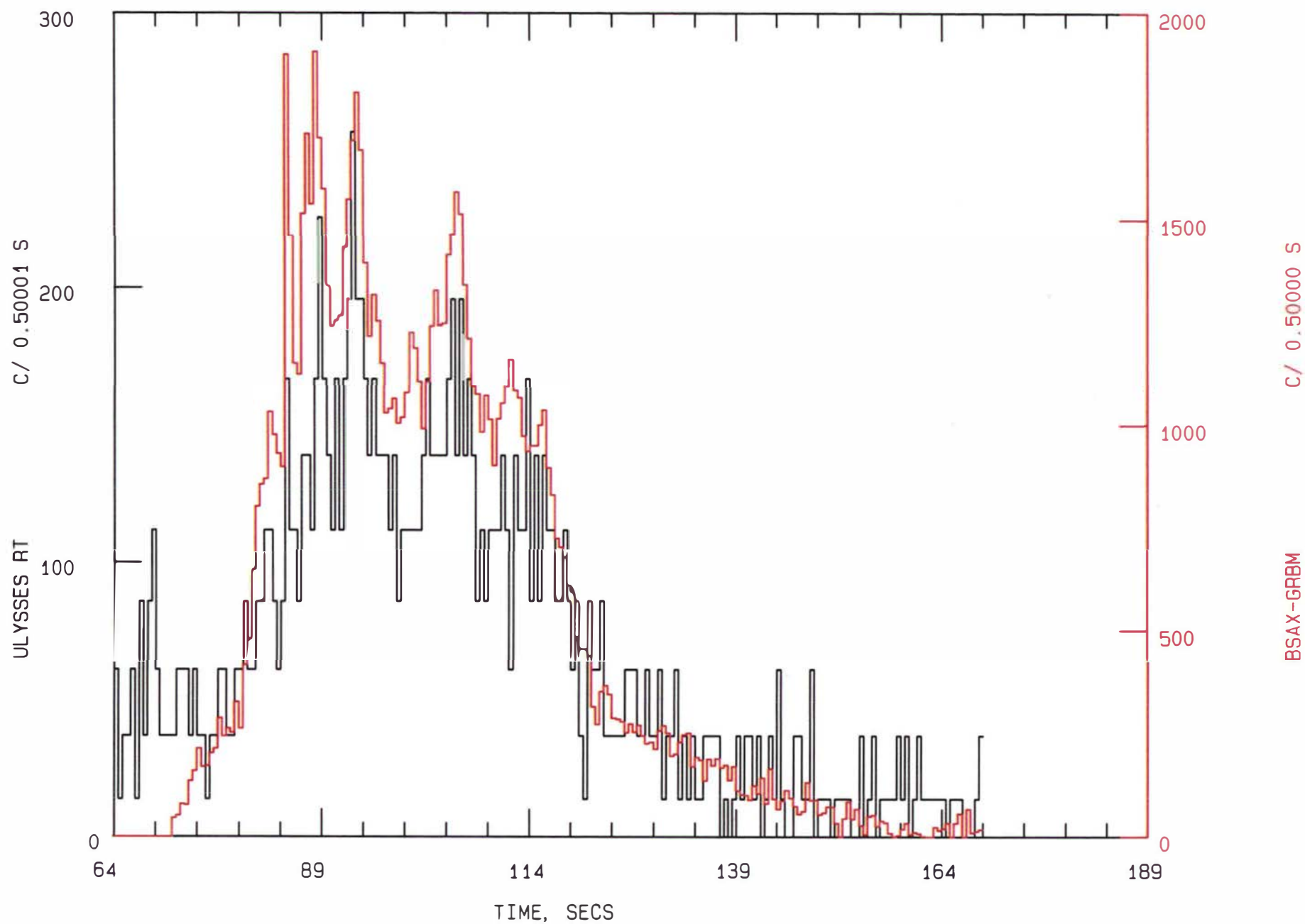
1 ULYSSES

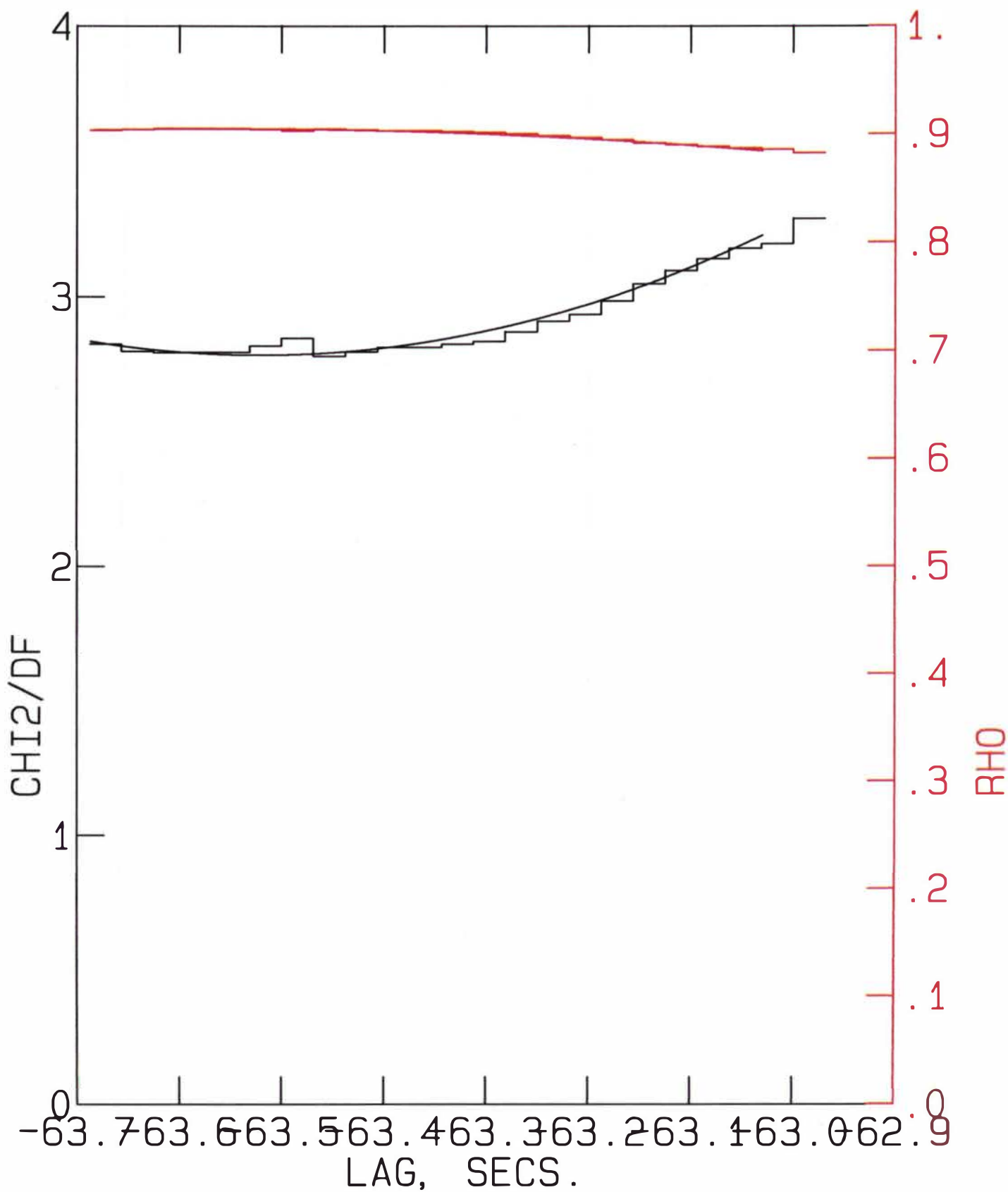
2 SAX

EVENT OF JUN 15, 1998 10:29

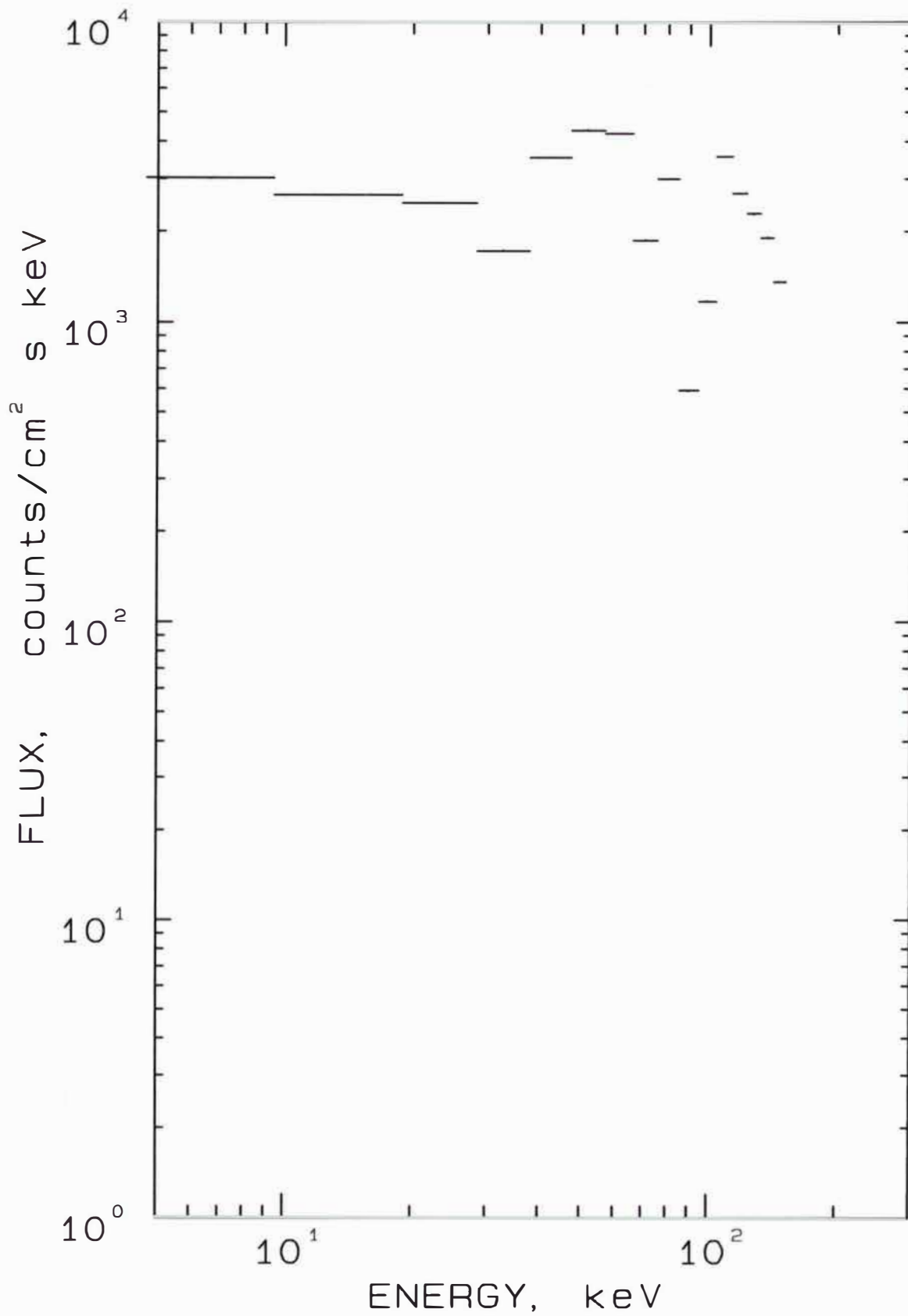
19/ 3/ 2



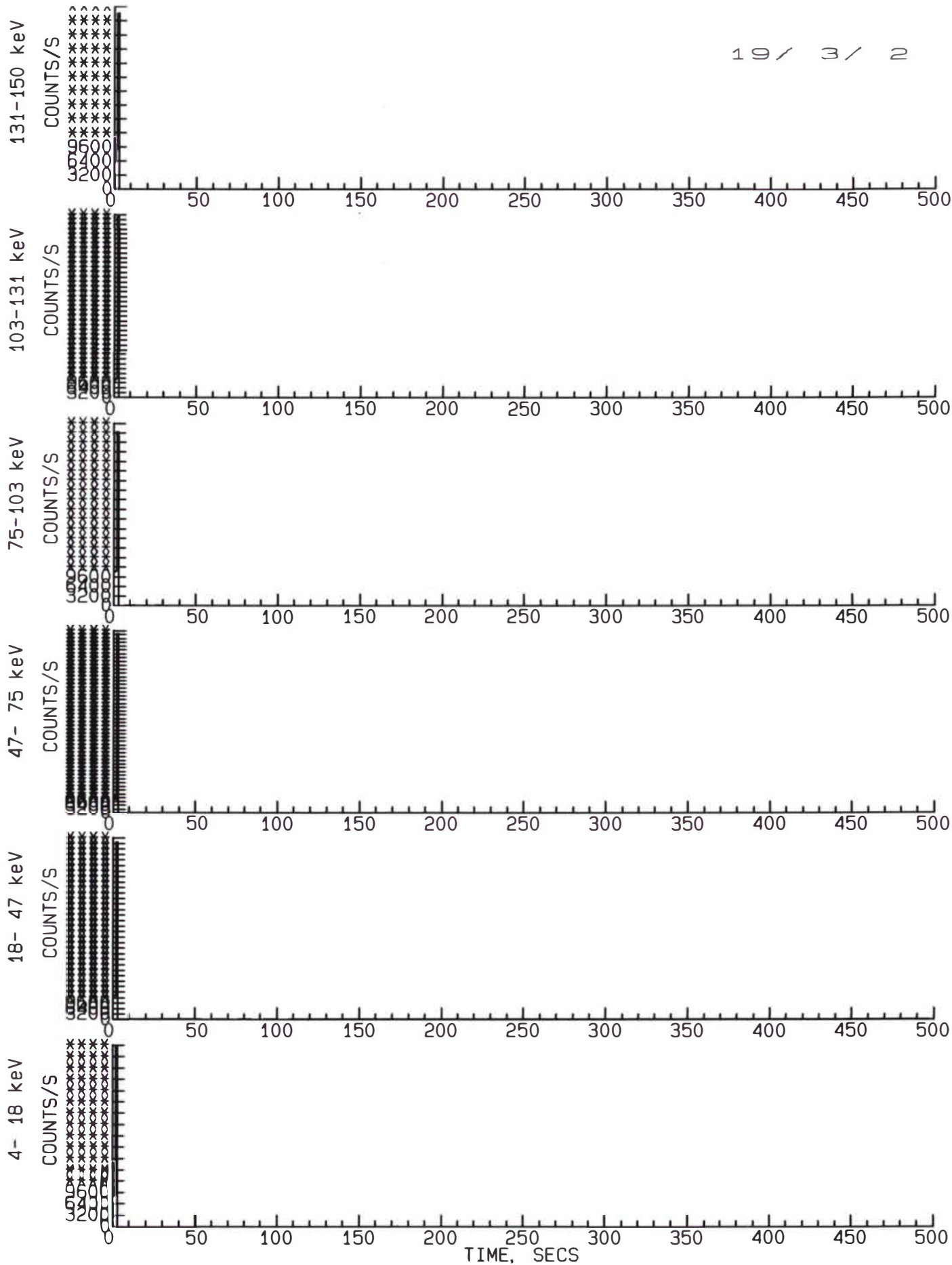




SPECTRUM INTEGRATED OVER 9.0 SECONDS, INTERVALS 2 TO 10



ULYSSES 15/06/98 37841.609 BURST SPECTRAL COUNT RATES



19 / 3 / 2

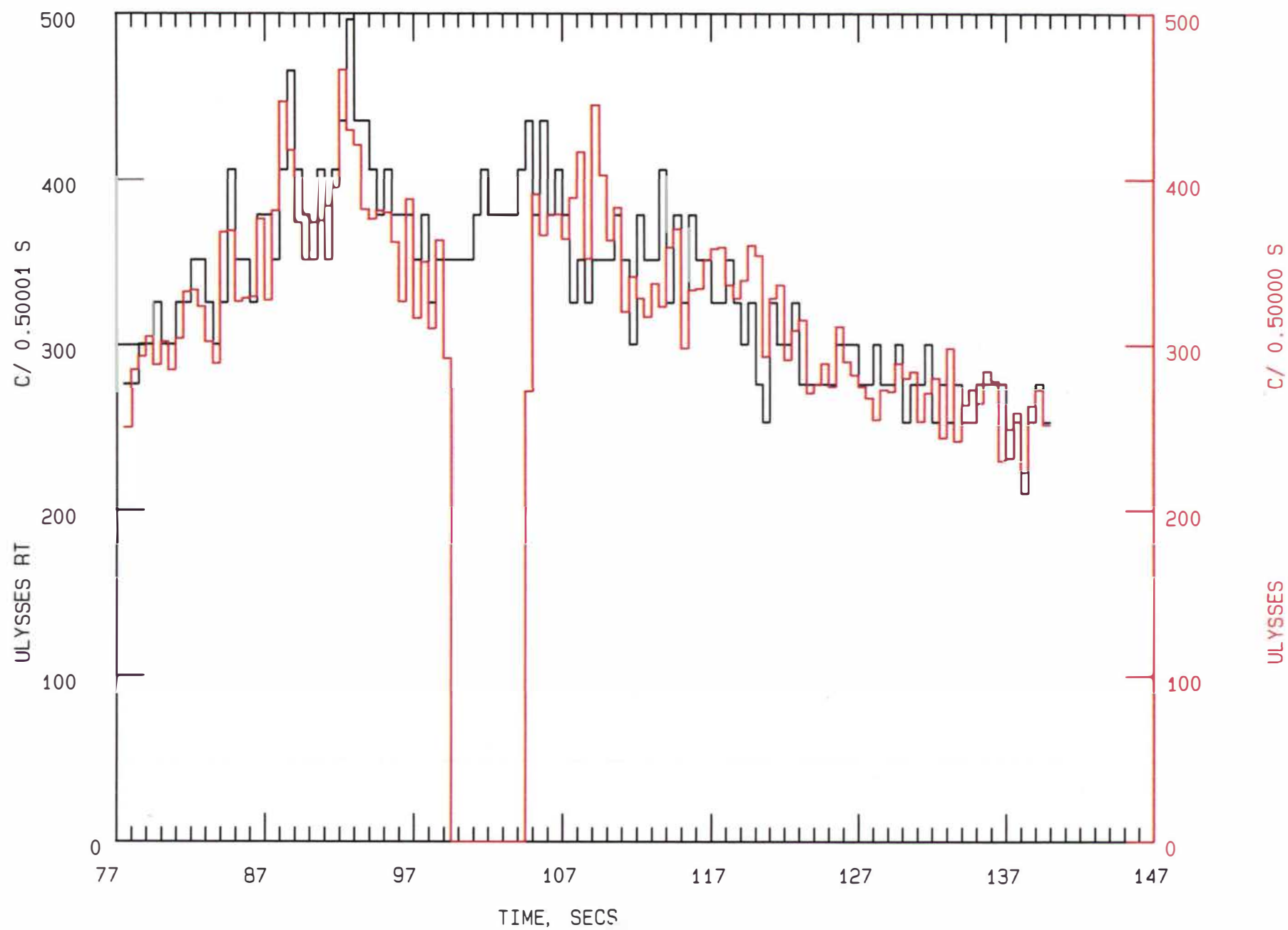
ULYSSES RT-ULYSSES

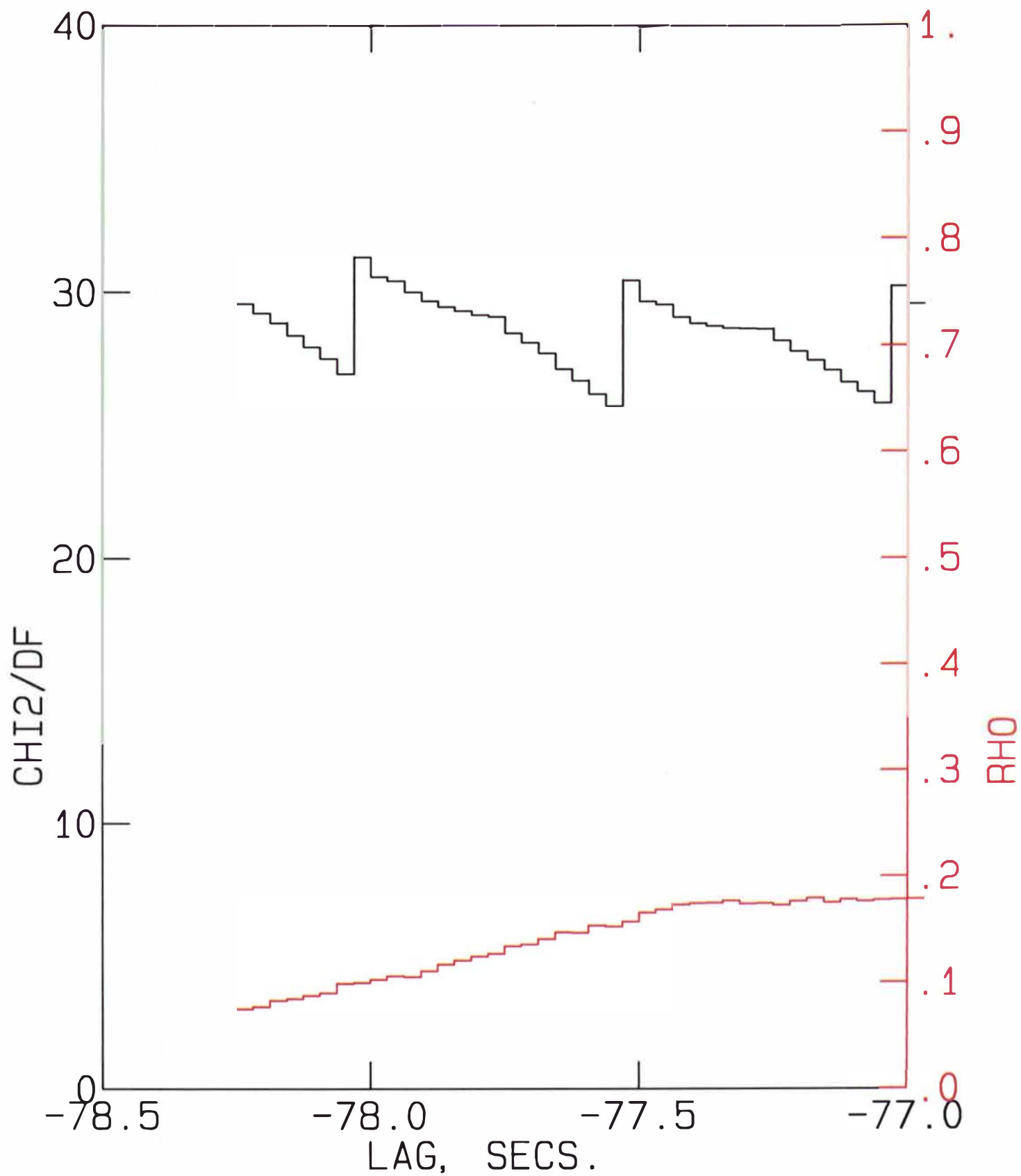
CORRELATION

15/ 6/98

37756.134

19/ 3/ 2



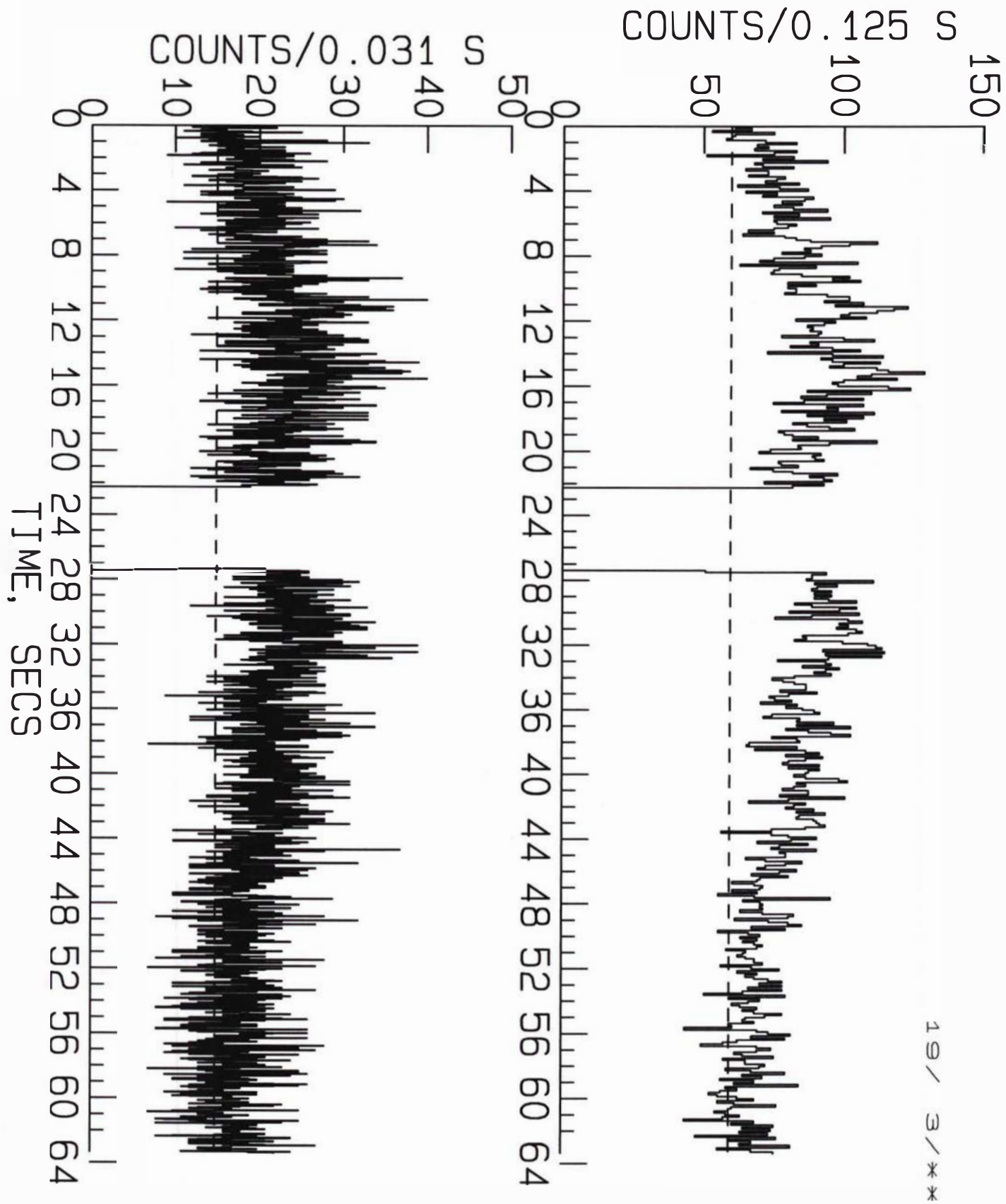


ULYSSES

15/06/98

Ttrig=37840.999

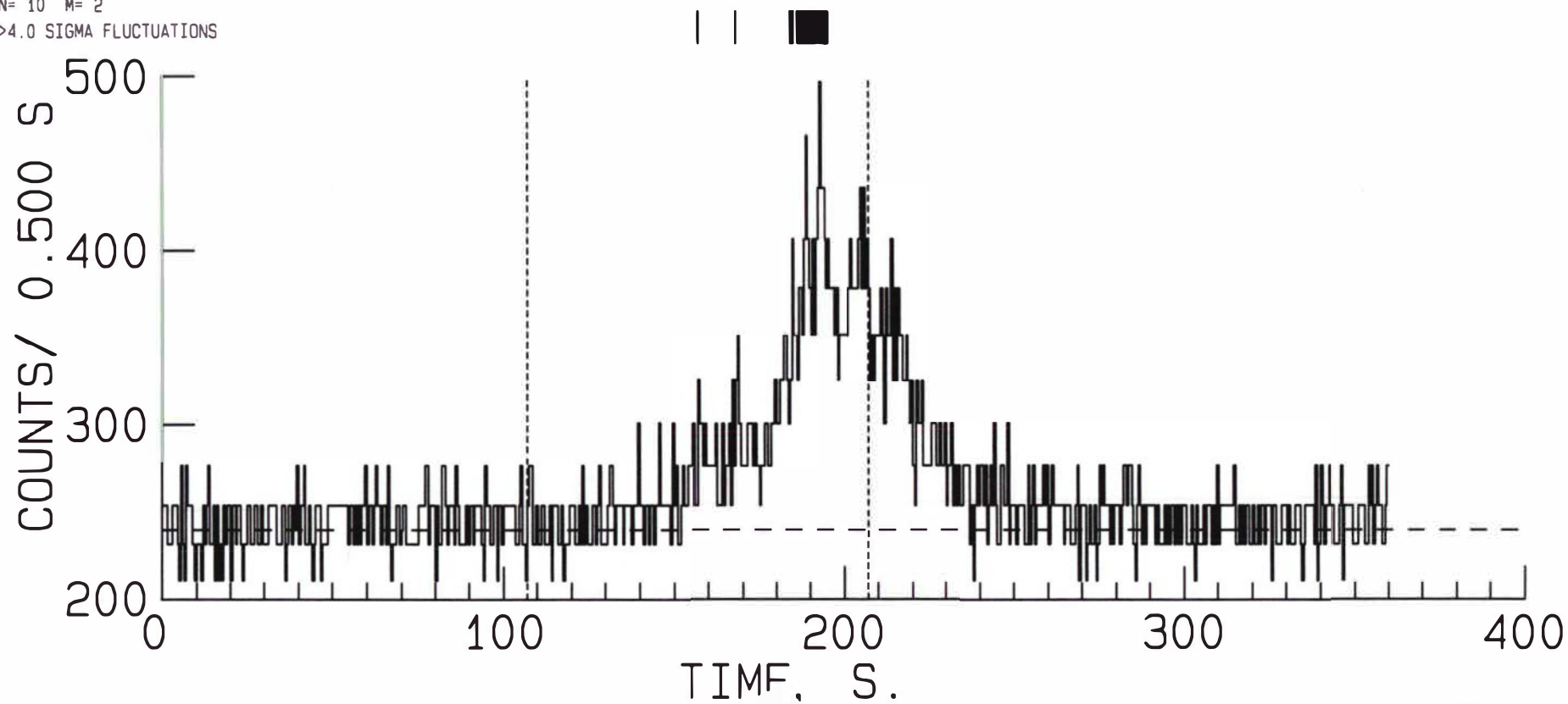
22- 150 keV



ULYSSES RT
15/ 6/98 37656.105 s
22- 150 keV

19/ 3/ 2

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



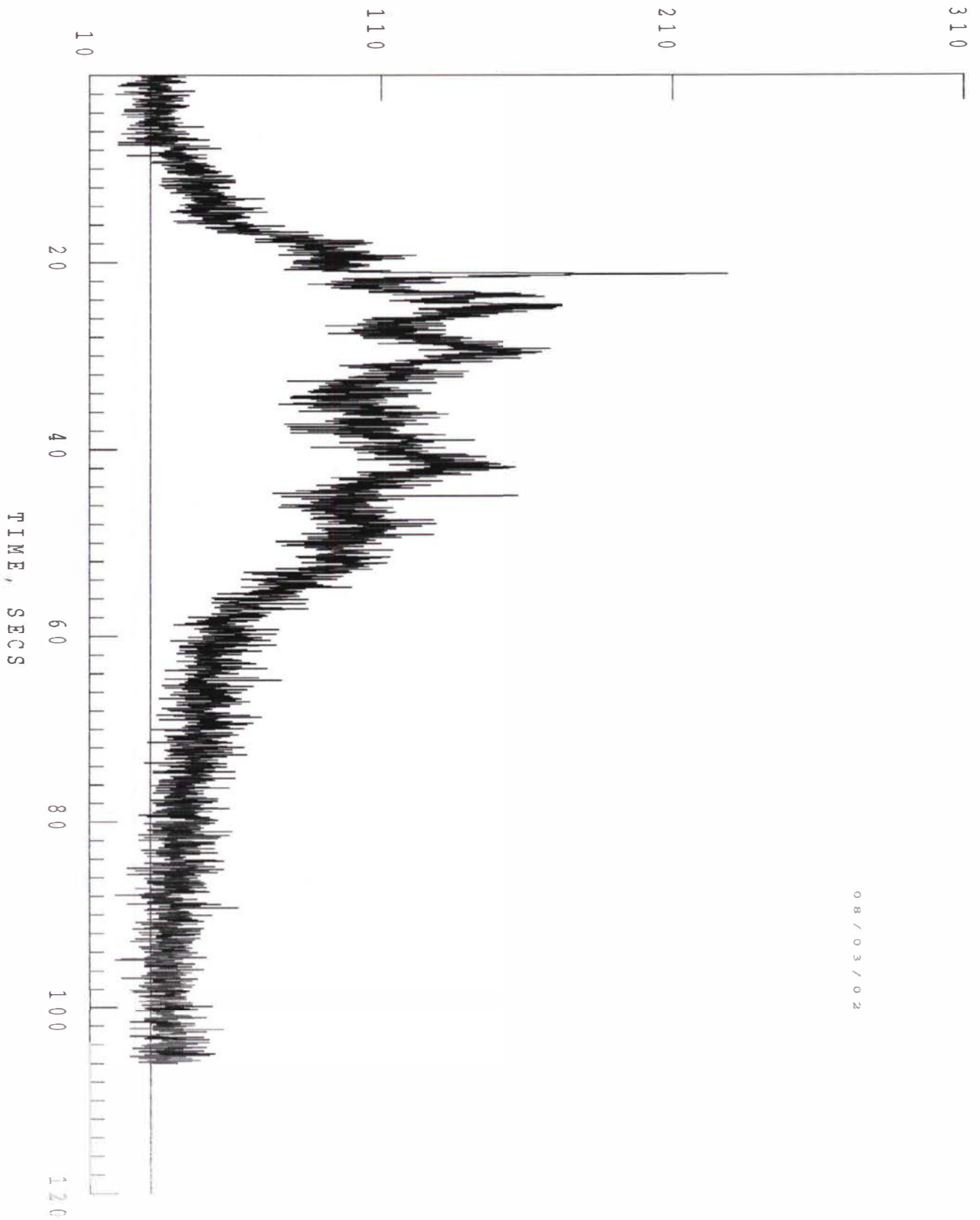
BSAX-GRBM

15/06/98

36728.169

40 - 700 keV

COUNTS/0.031 S



08/03/02

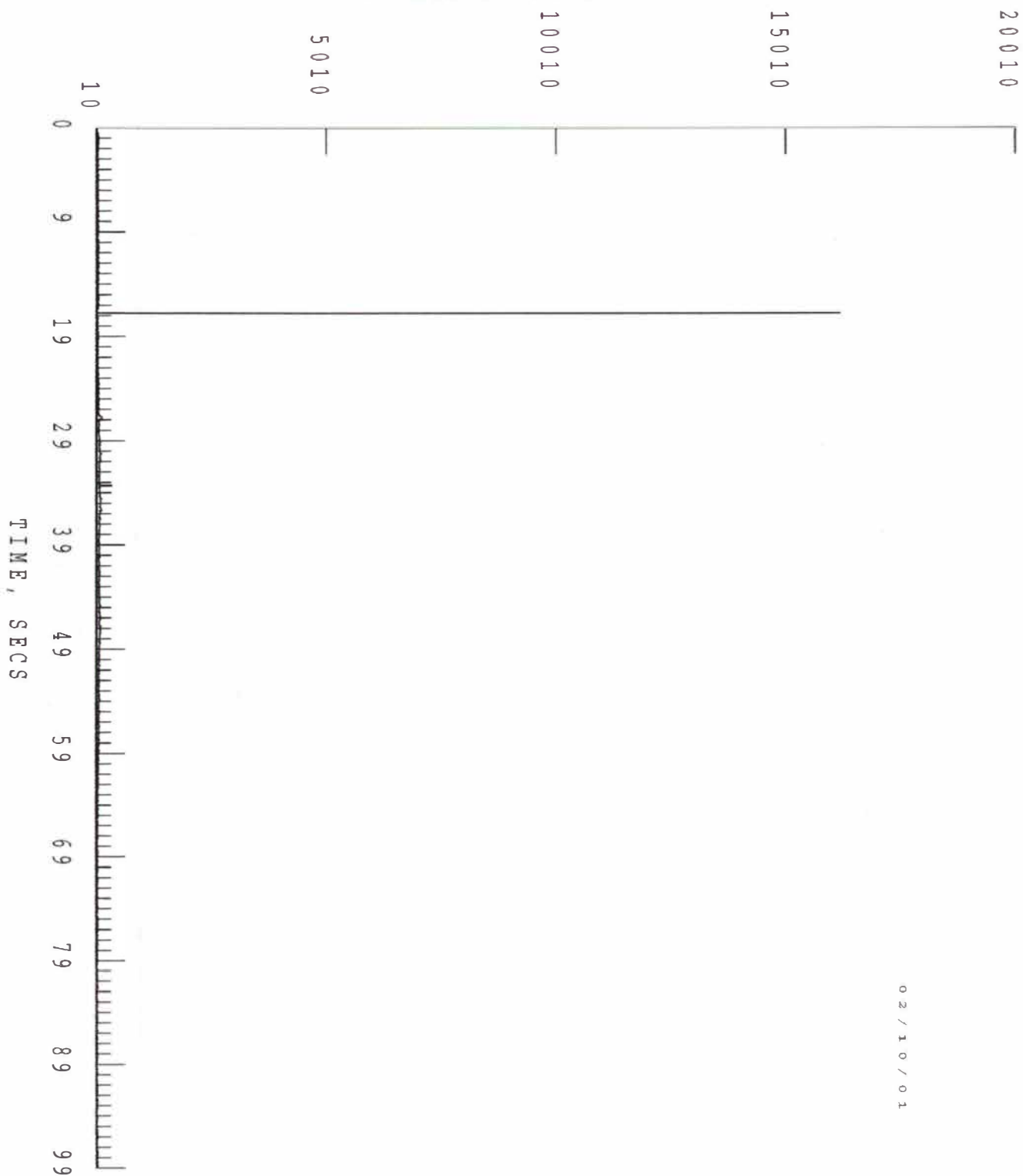
KONUS2

15/06/98

36721.359

50 - 200 keV

COUNTS/0.064 S

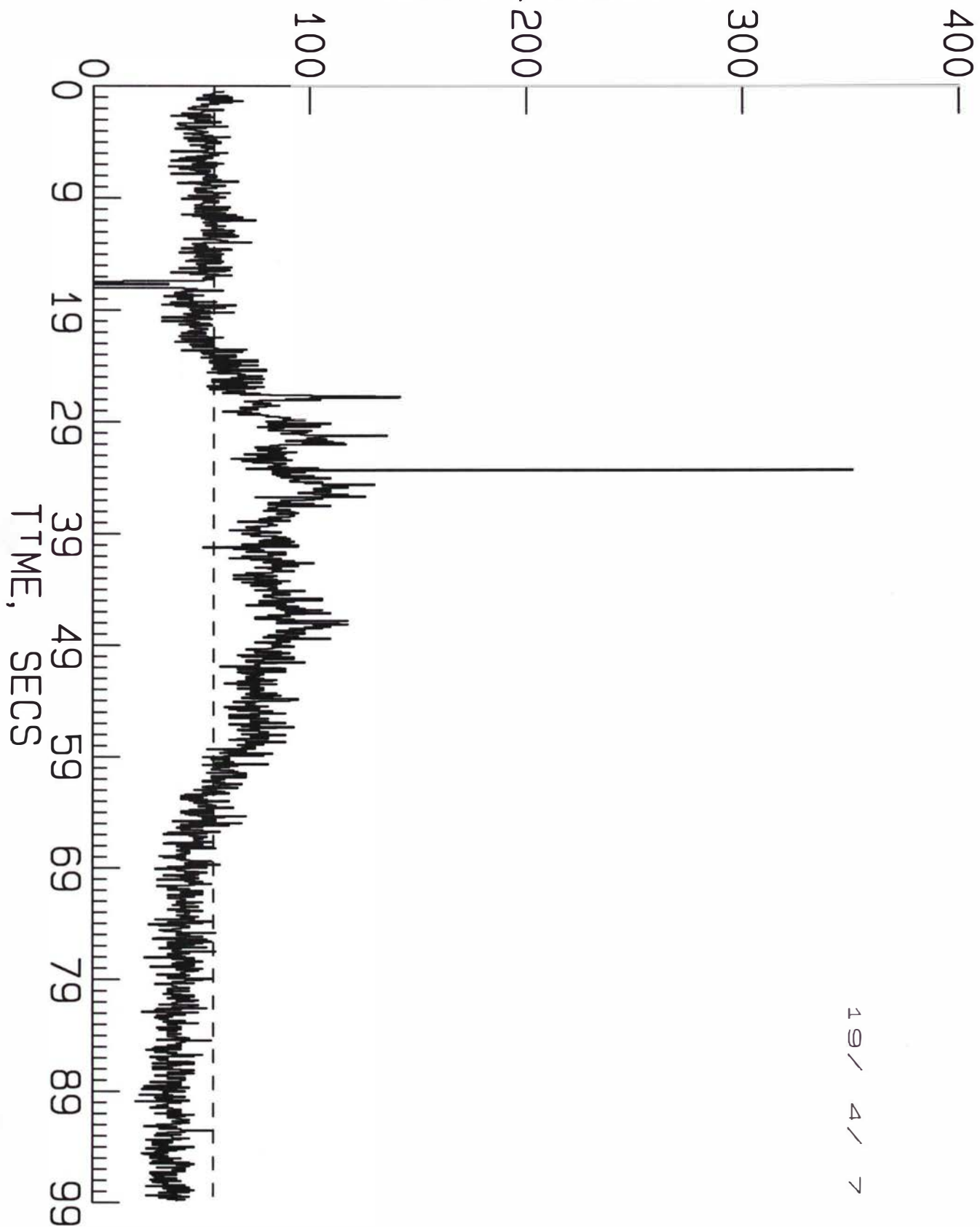


KONUS

15/06/98 36721.300

50- 200 keV

COUNTS/0.064 S

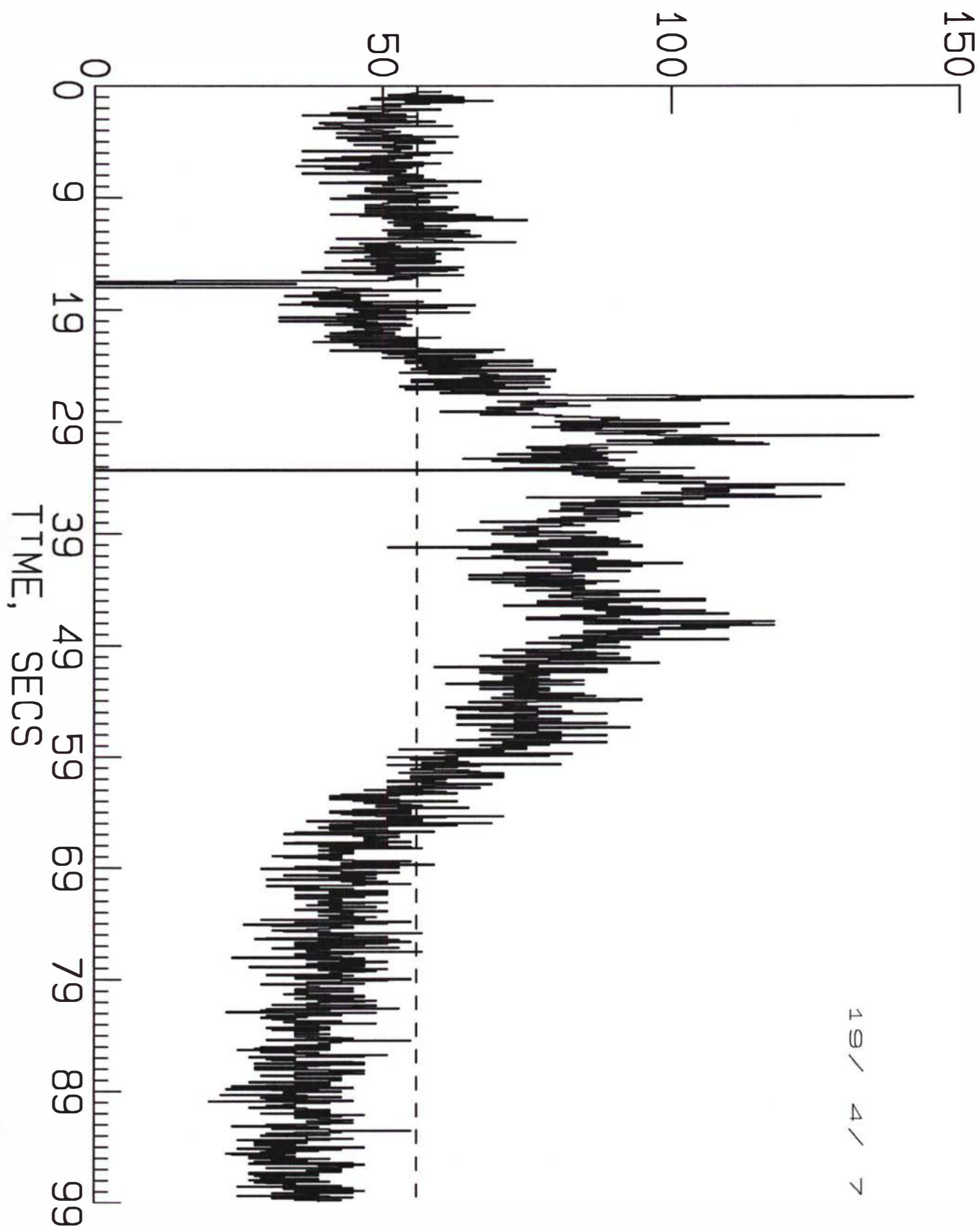


KONUS

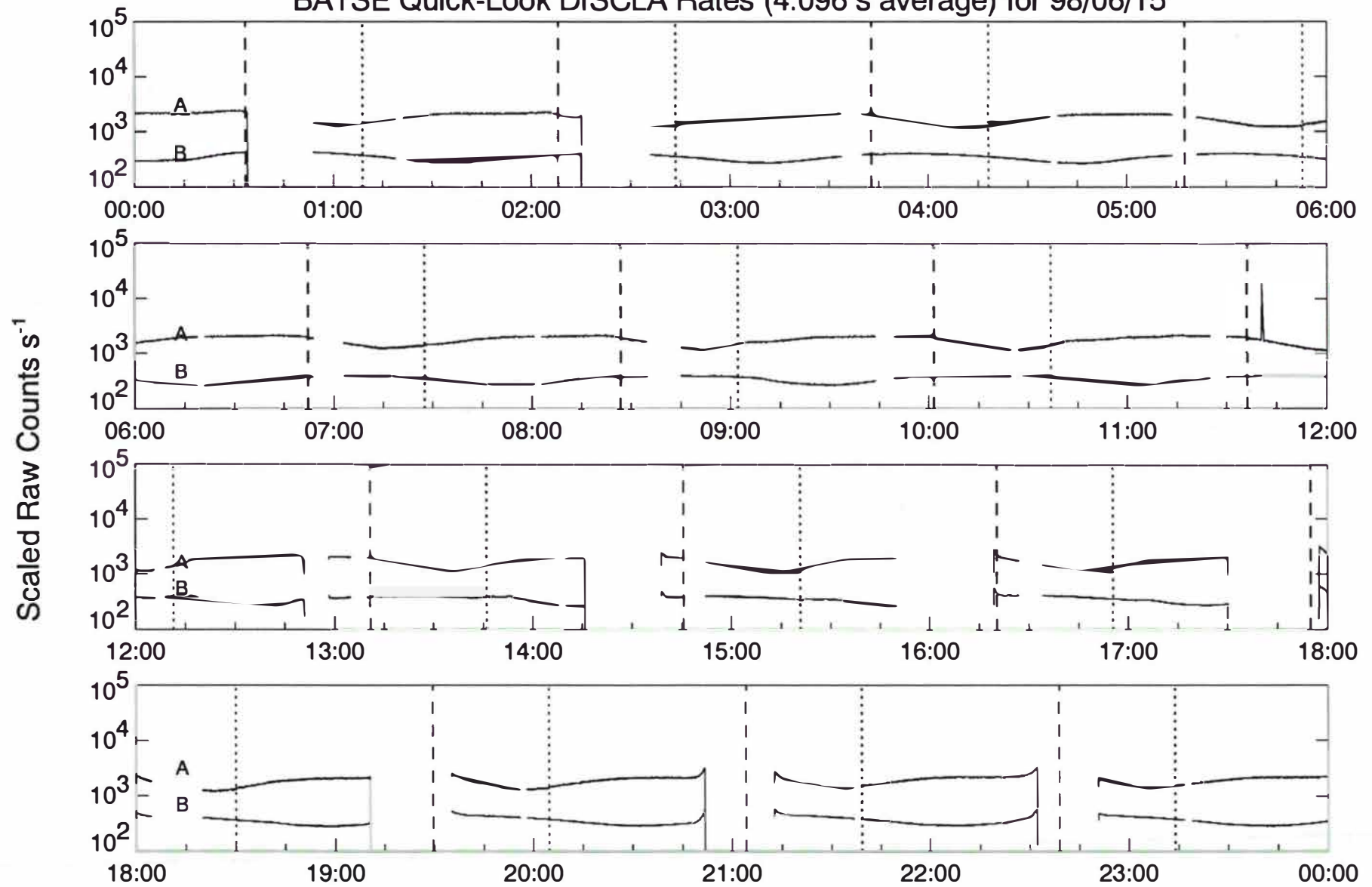
15/06/98 36721.300

50- 200 keV

COUNTS/0.064 S



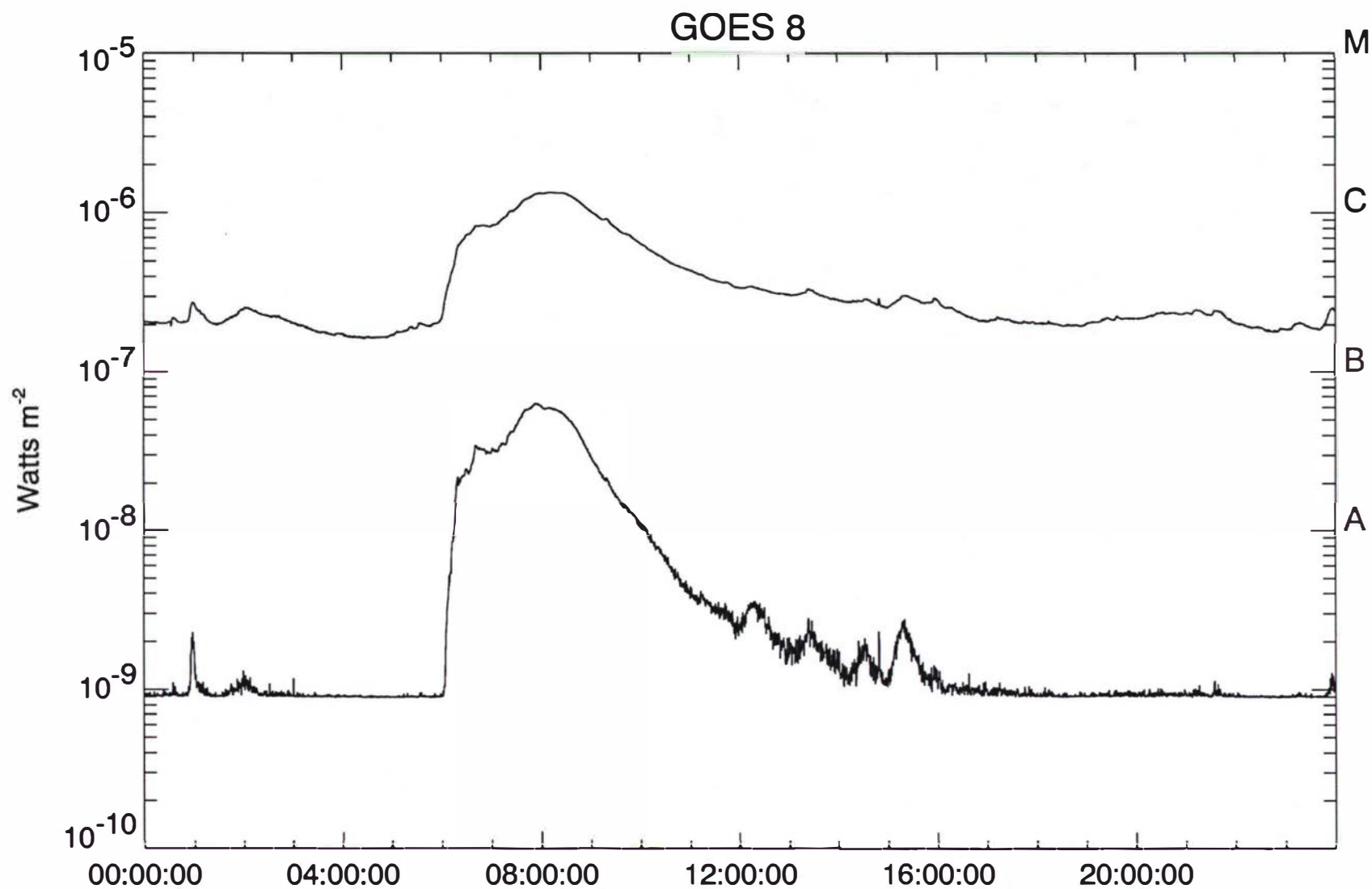
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/15



Current Time: 98/06/19, 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: 98/06/15, 0000:00

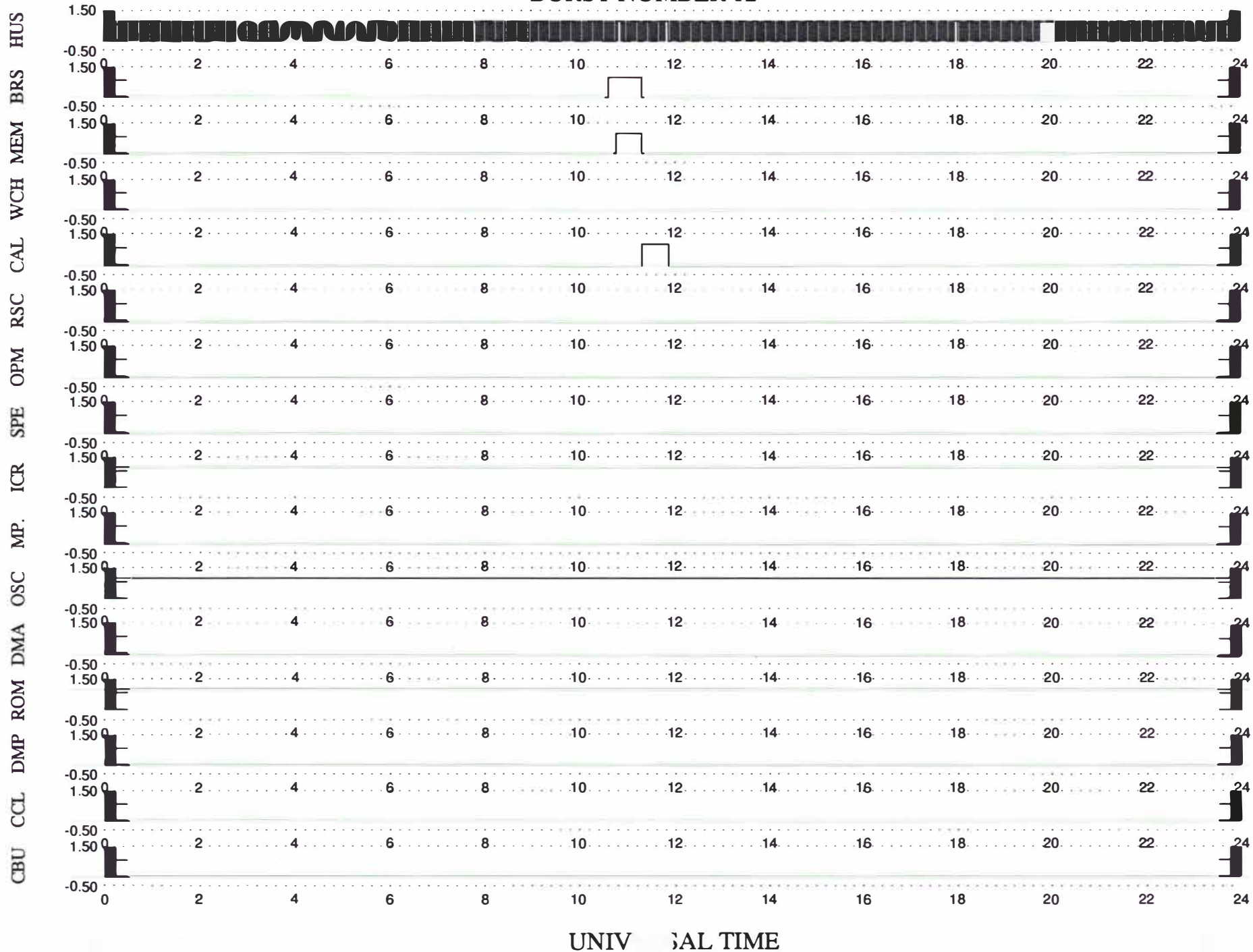
Plot created: 98/06/19, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

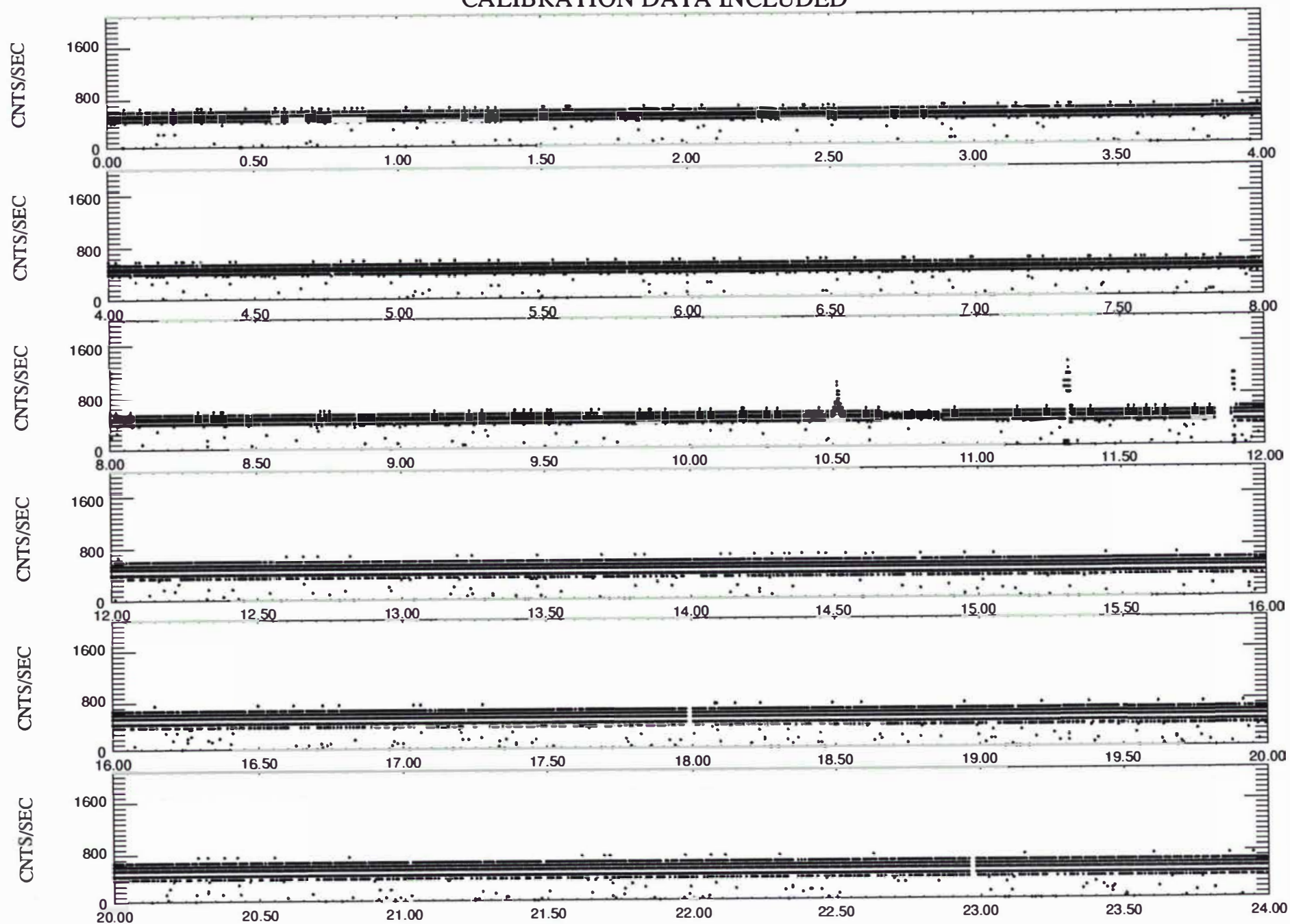
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 12

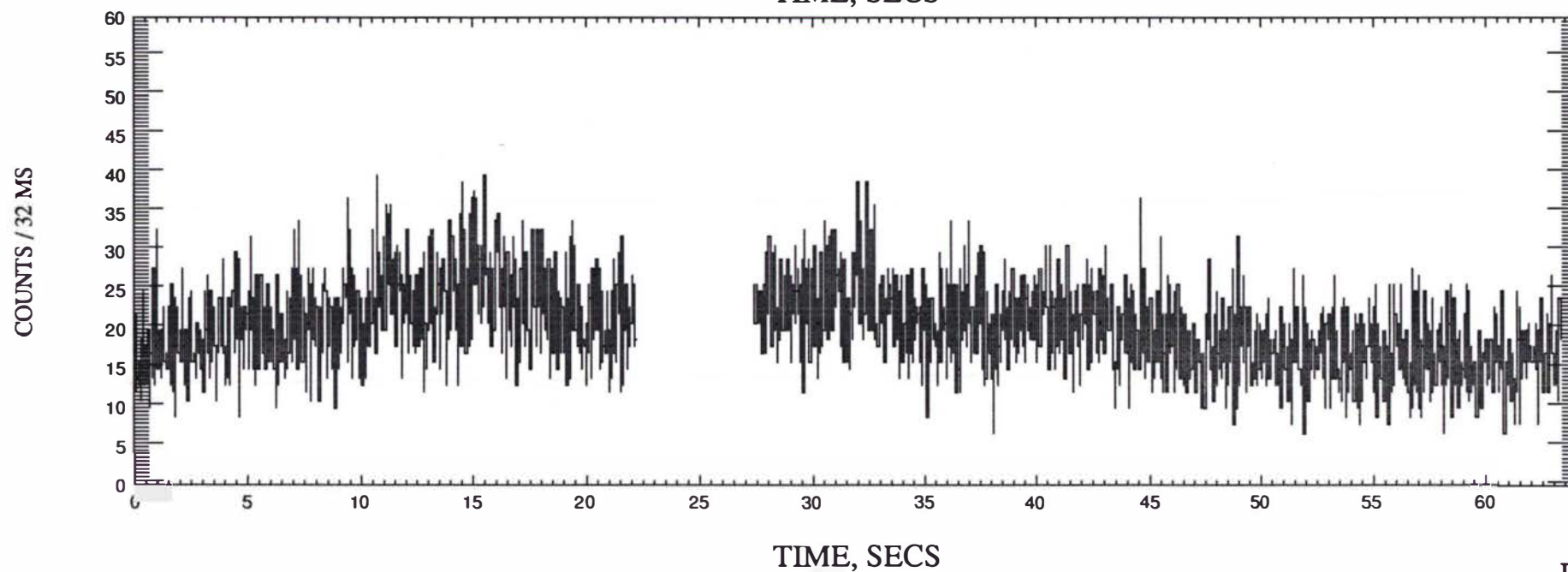
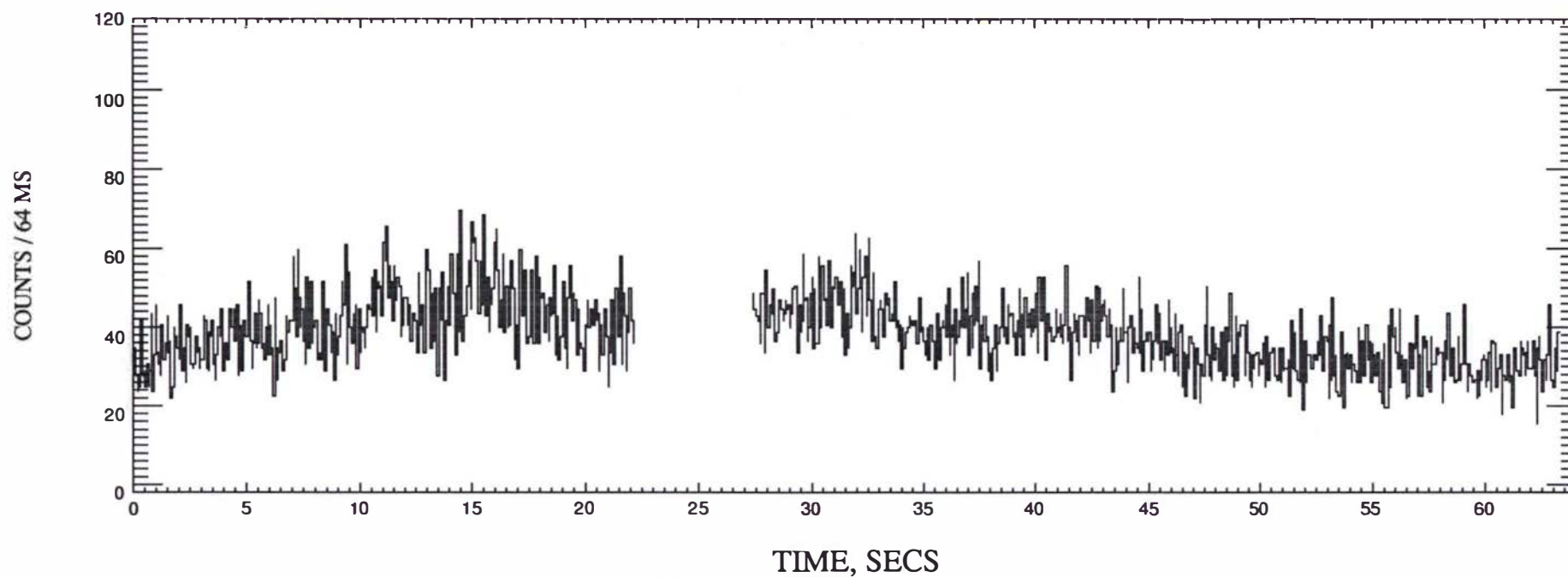


CALIBRATION DATA INCLUDED

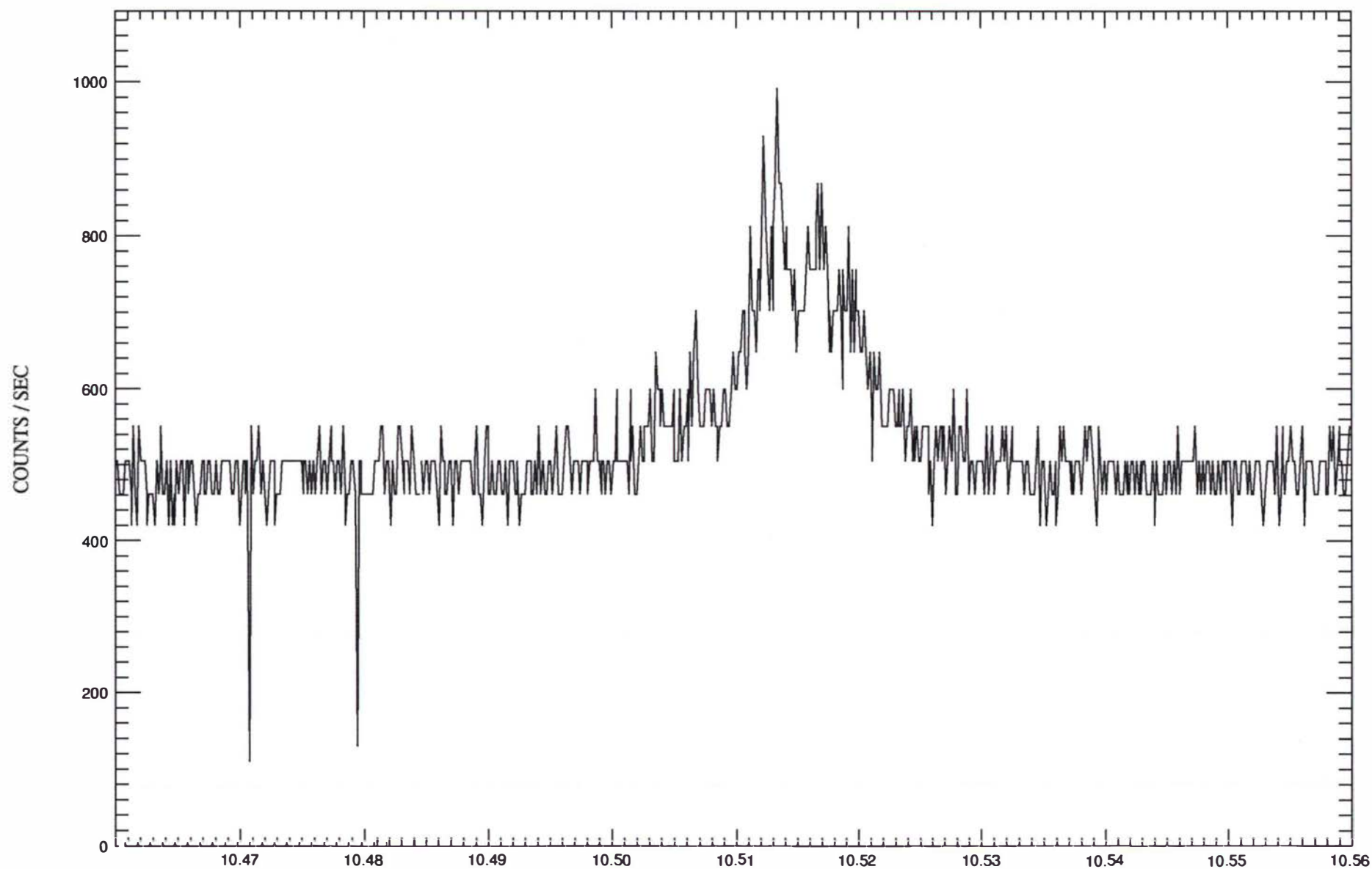


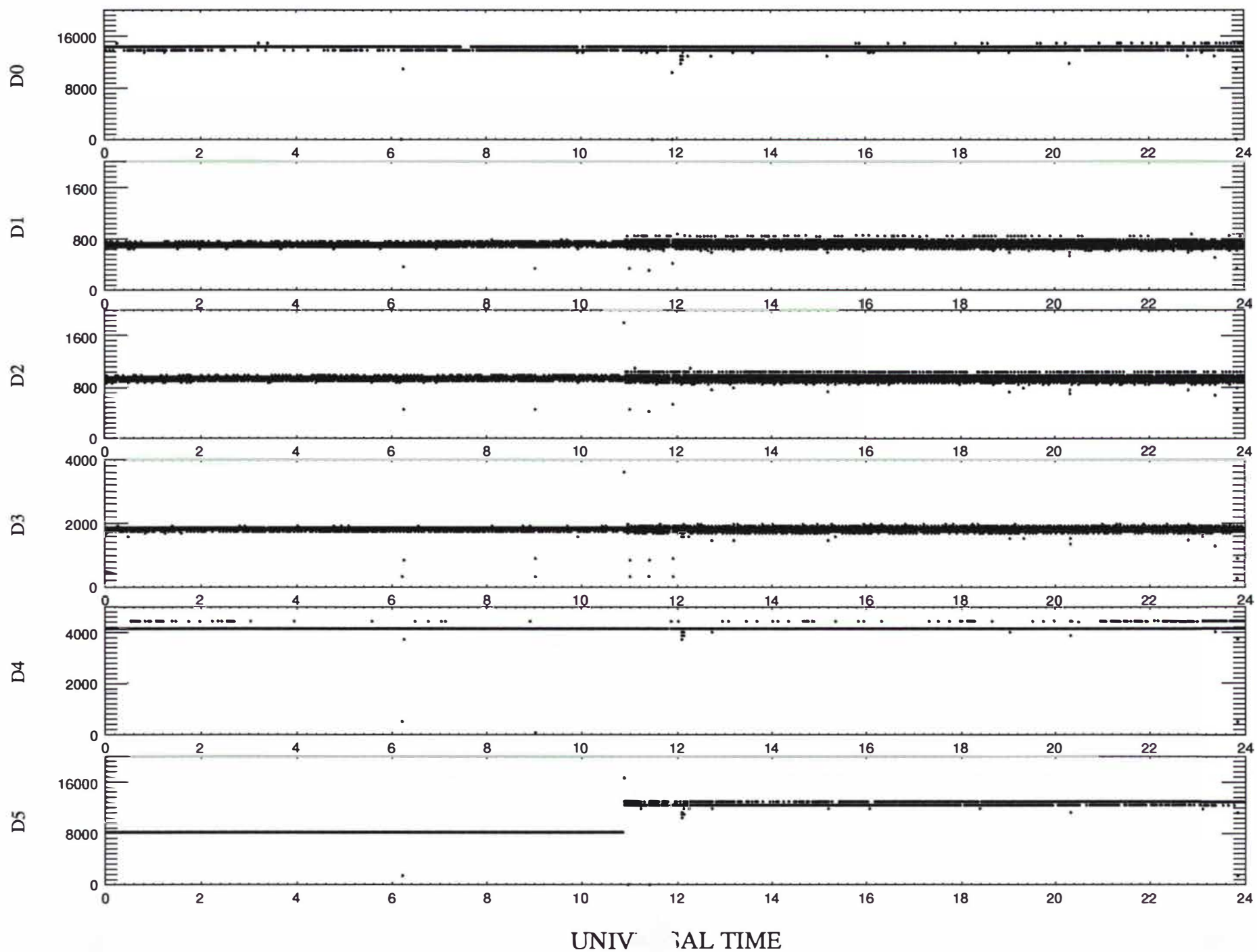
UNIV CAL TIME

Burst Counter 12 at UT=10.511380106608 h=37840.968 s 10:30:40.968



CALIBRATION DATA INCLUDED



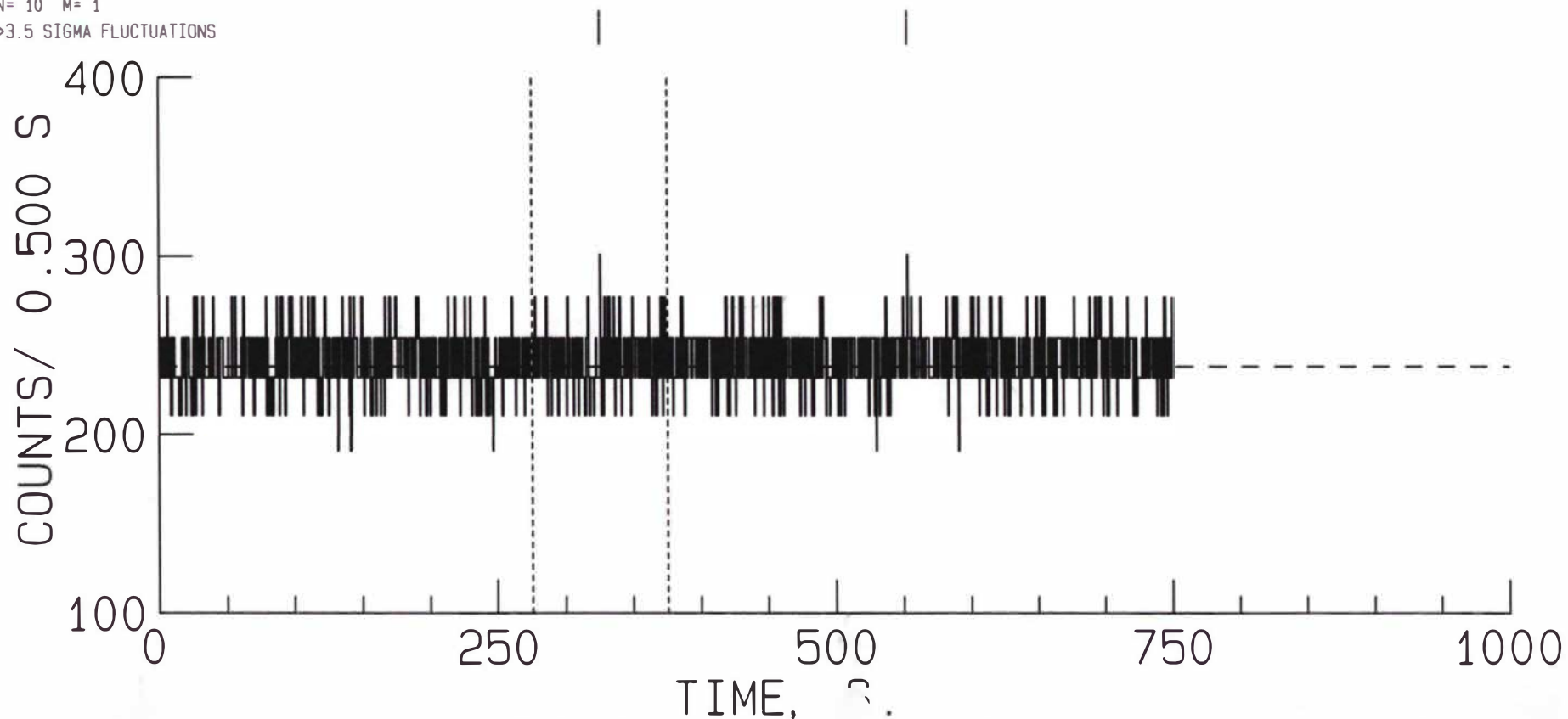


Konus SGR 1627 ?
6626

ULYSSES RT
16/ 6/98 6768.216 s
22- 148 keV

26 / 6 / 98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

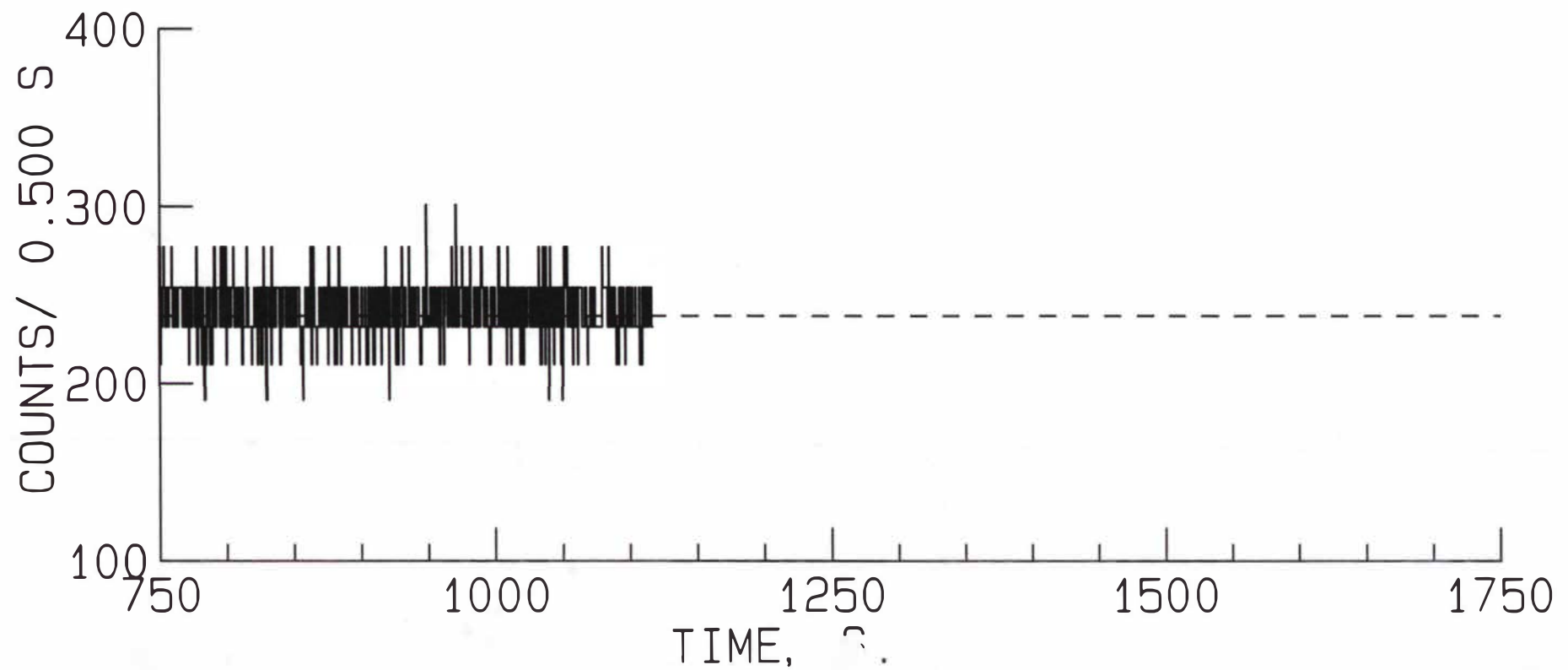


ULYSSES RT

26 / 6 / 98

16 / 6 / 98 6768.216 s

22- 148 keV



From SAHI@fender.msfc.nasa.gov Fri Jun 19 07:22:16 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA24501; Fri, 19 Jun 1998 07:22:15 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA22110; Fri, 19 Jun 1998 07:22:13 -0700
Date: Fri, 19 Jun 1998 9:22:08 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980619092208.20200d69@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6828
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6828
EVENT OF 1998 JUN 16 DAY OF YEAR=167
EVENT CROSSING TIME AT BATSE : 48535. S. OR 13:28:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 213.000 36.000
BATSE PEAK COUNTING RATE: 14000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 6/ 98 IS:
RA= 149.732 DEC= 10.426 DIST= 5.786 AU
BATSE-ULYSSES DISTANCE = 865610676. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=117.66 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1340.53 SECS.
CROSSING TIME AT ULYSSES IS 47194. S. OR 13:06:34 +/- 473.63 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 6/ 98 IS:
RA= 74.811 DEC= 23.103 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376657792. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 71.09 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 407.07 SECS.
CROSSING TIME AT MARS IS 48942. S. OR 13:35:42 +/- 212.55 SECONDS

BATSE BURST TRIGGER

NO.: 6828

TIME: TJD=0980 SECONDS=48535

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=54.0 AZIMUTH=236.8 ERROR=1.05 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 15 S, FOLLOWED BY PROBABLE EXTENDED
EMISSION TO T+60 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6828	980616	10980	48535	14000	213	+36	15

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

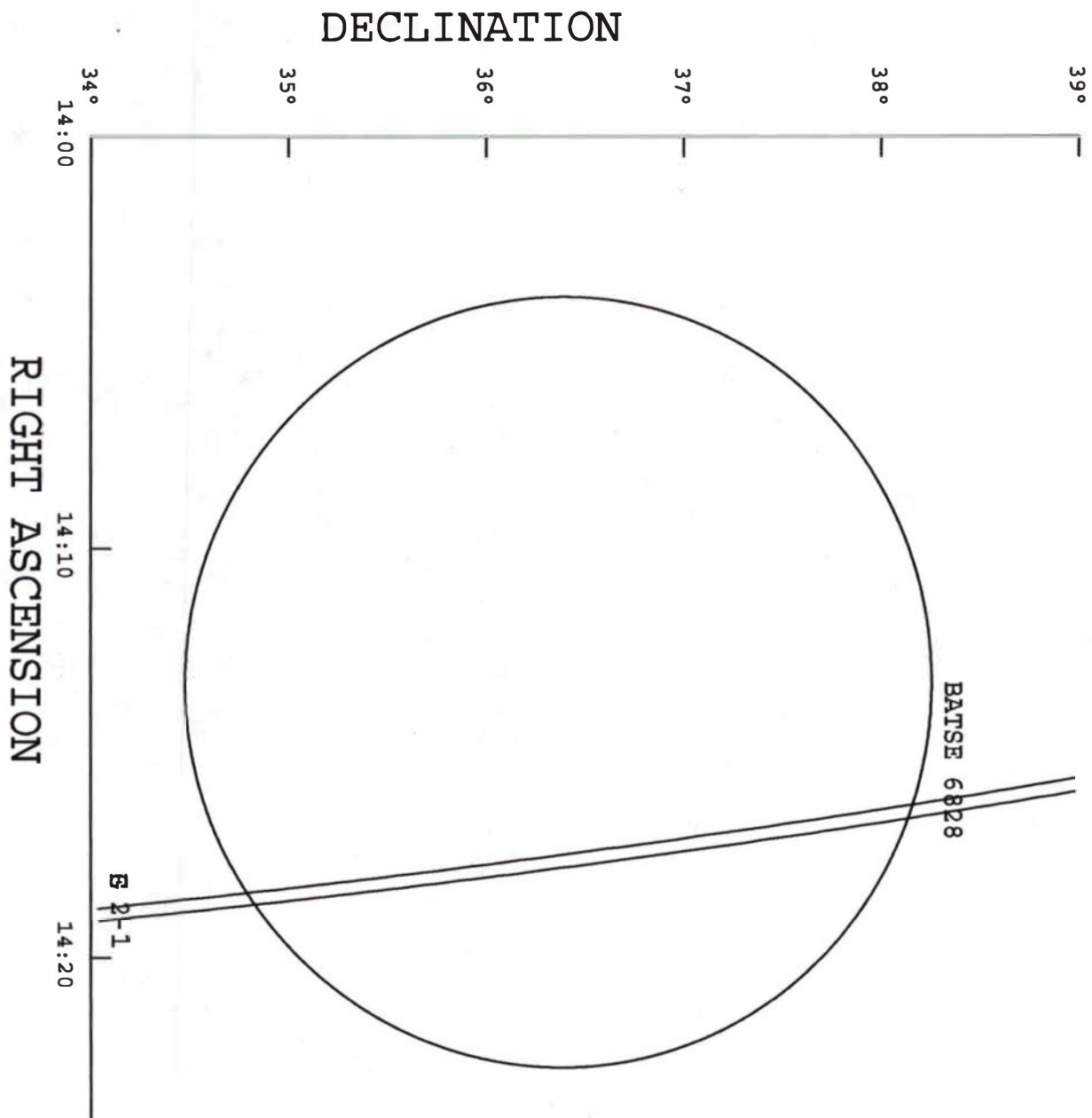
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 16, 1998 13:28

18 / 1 / 0



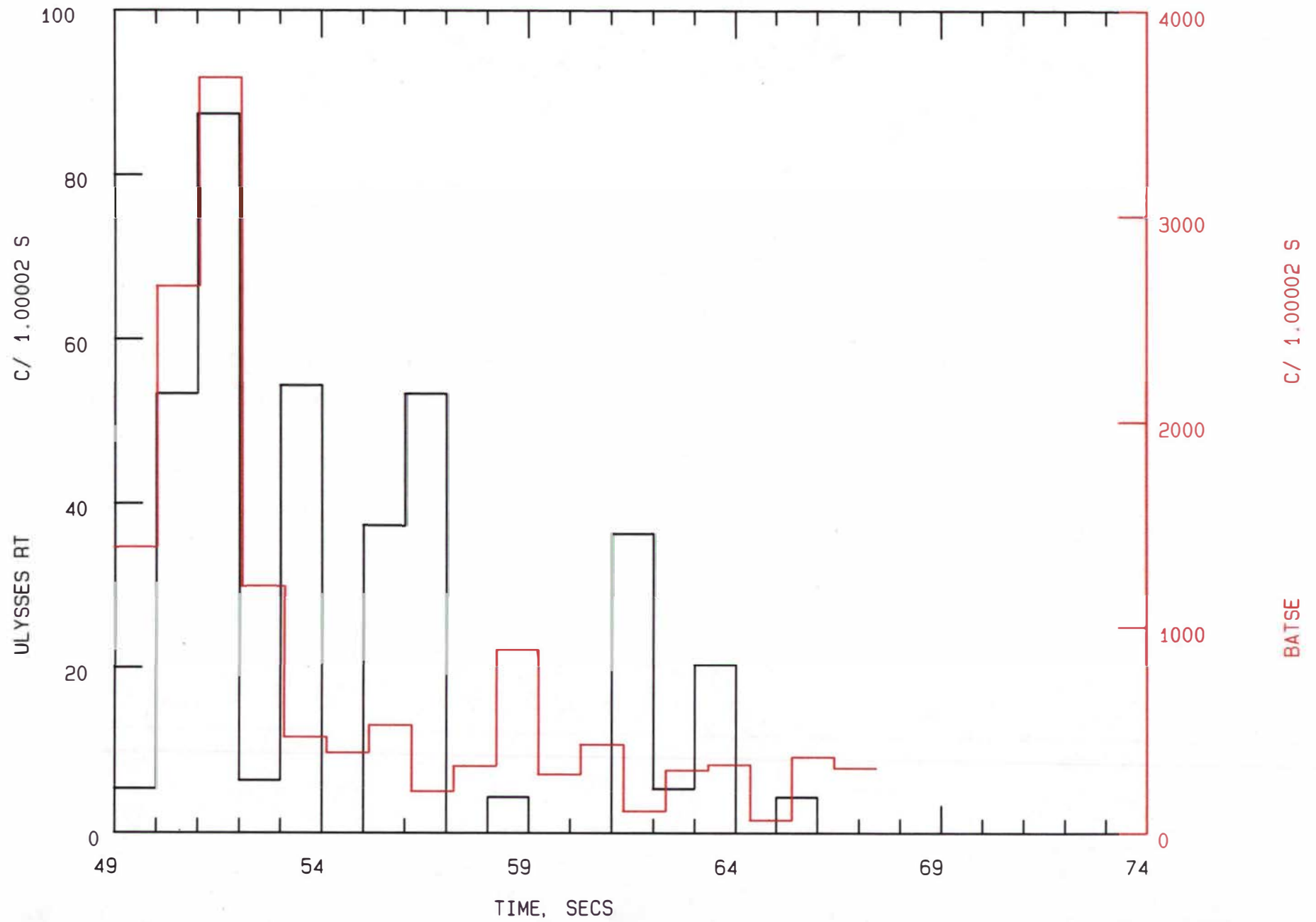
ULYSSES RT-BATSE

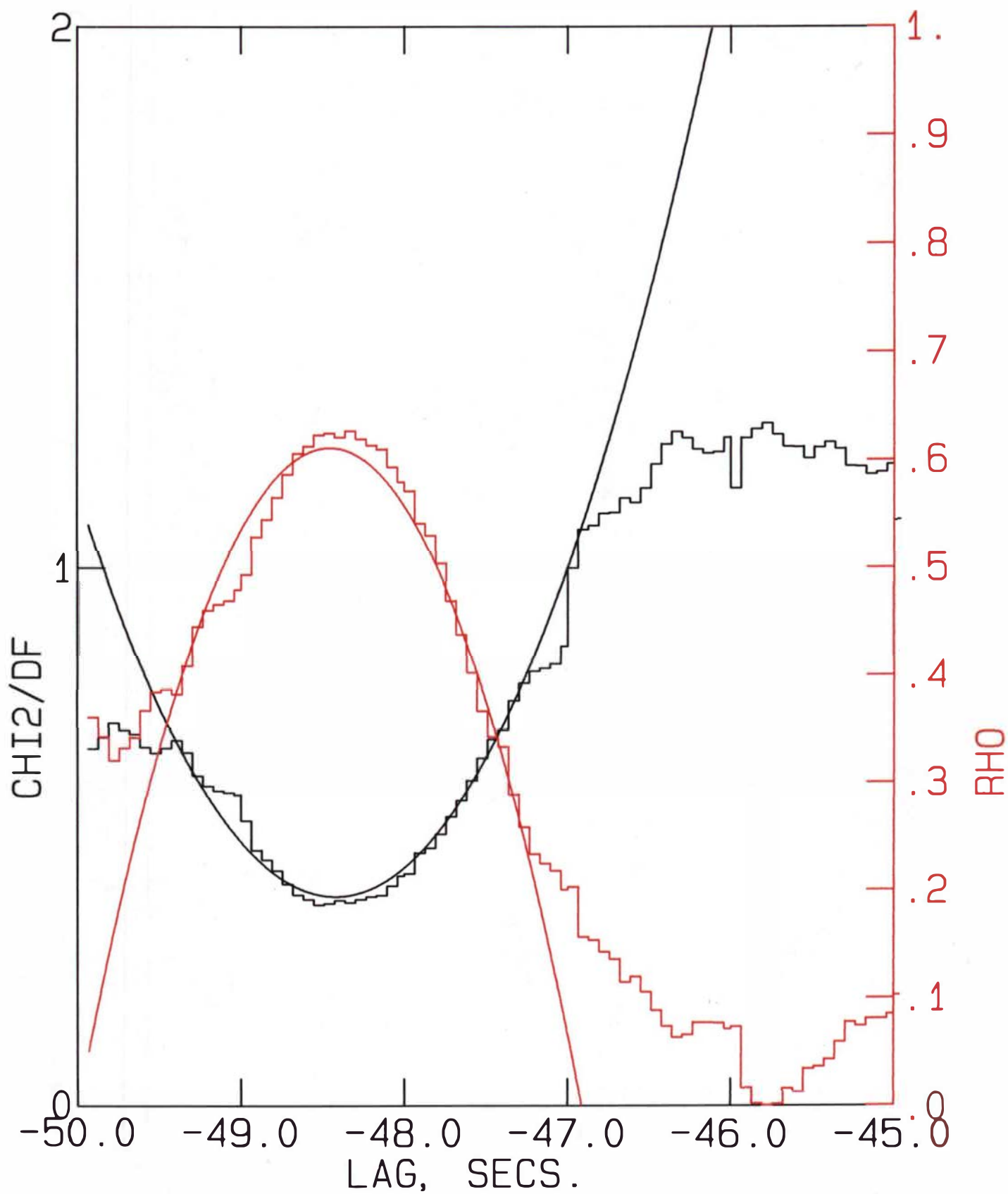
CORRELATION

16/ 6/98

47185.156

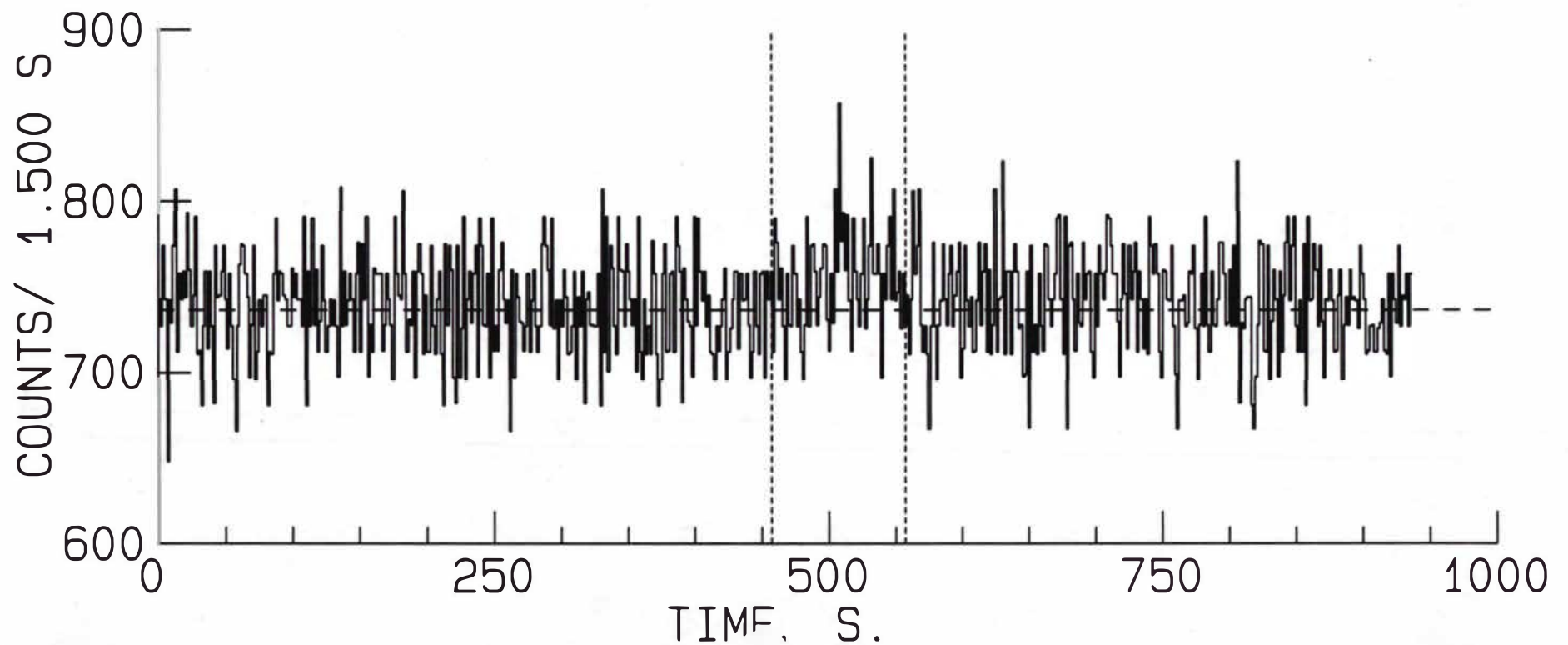
18/ 1/ 0





ULYSSES RT
16/ 6/98 46728.147 s
0.250 S INTERVALS REGROUPED BY 6
22- 149 keV

18 / 1 / 0



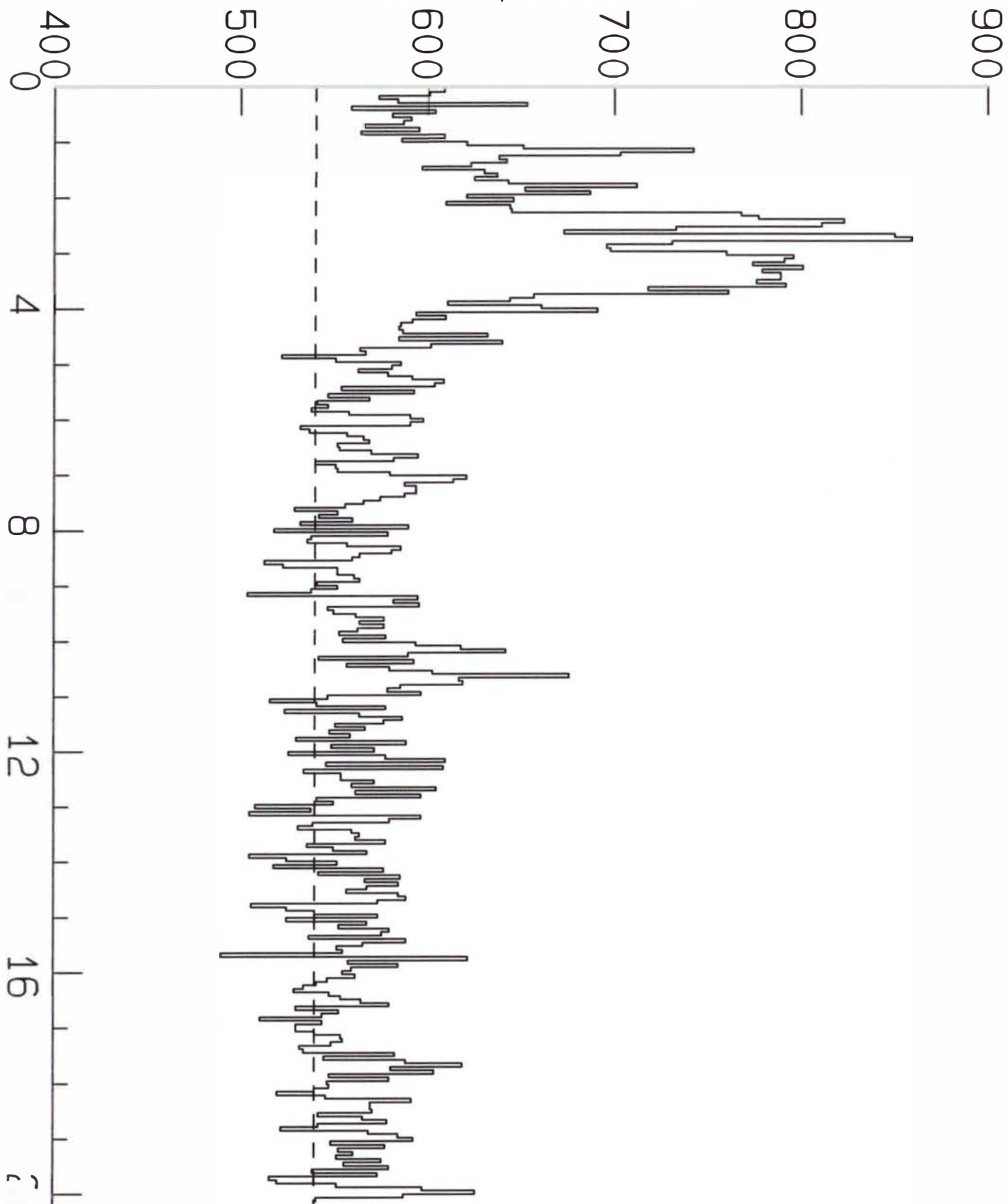
BATSE

16/06/98

48535.265

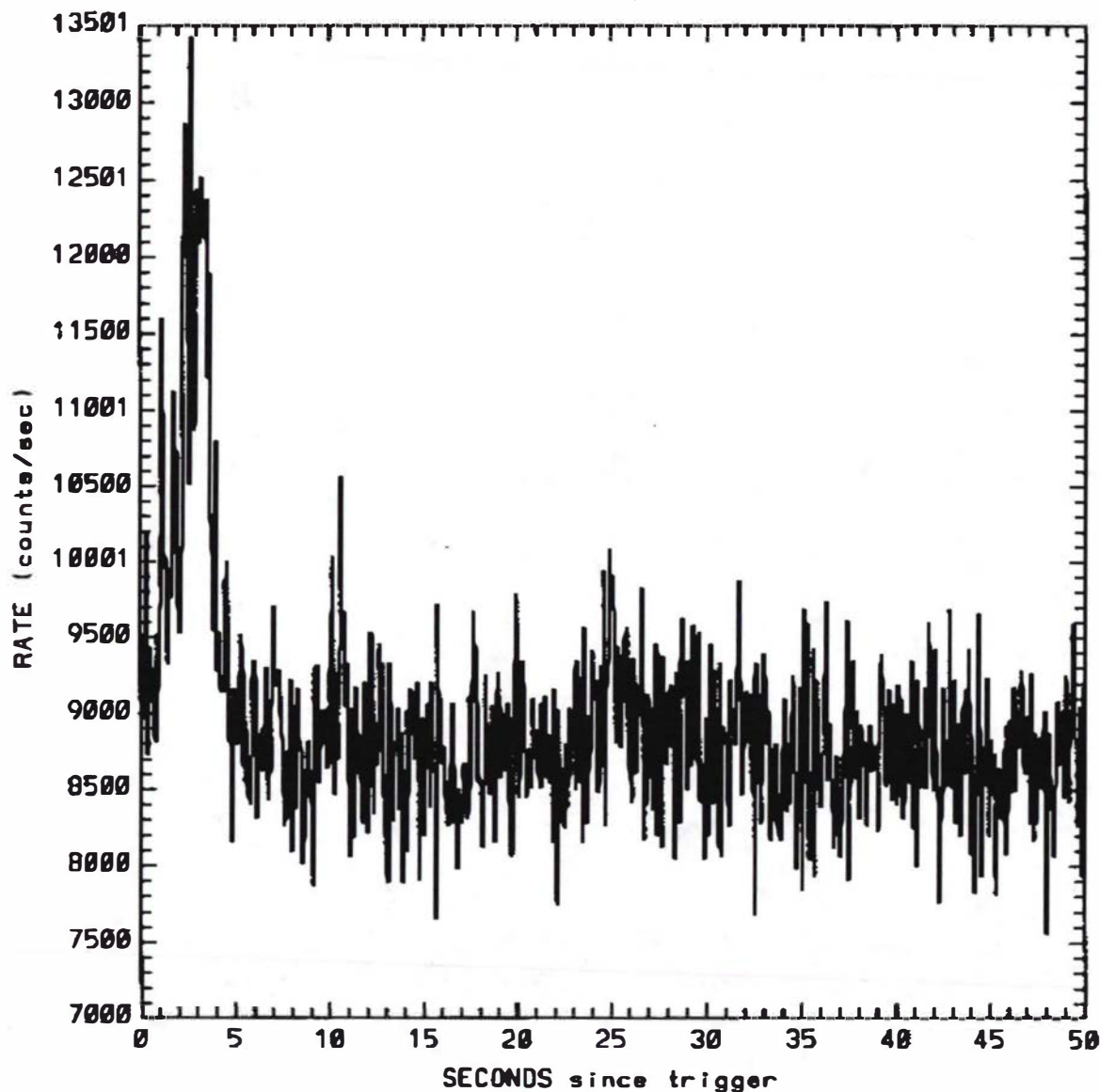
25- 100 keV

COUNTS/0.064 S



30 / 6/98

MER Data for K. Hurley, No. 6828



24-JUN-1998 11:41:38

Created by MOPS BD
(Burst Display)
Version 12.25

Trigger # . 6828

Trigger Time:
18988 / 48535.265

Burst Data Type:
MER

Deadtime
Corrected. N

Background Data
Type. CONT

Minimum Integ. Time:
9.864 seconds

Detectors (7..8):
-6---2--

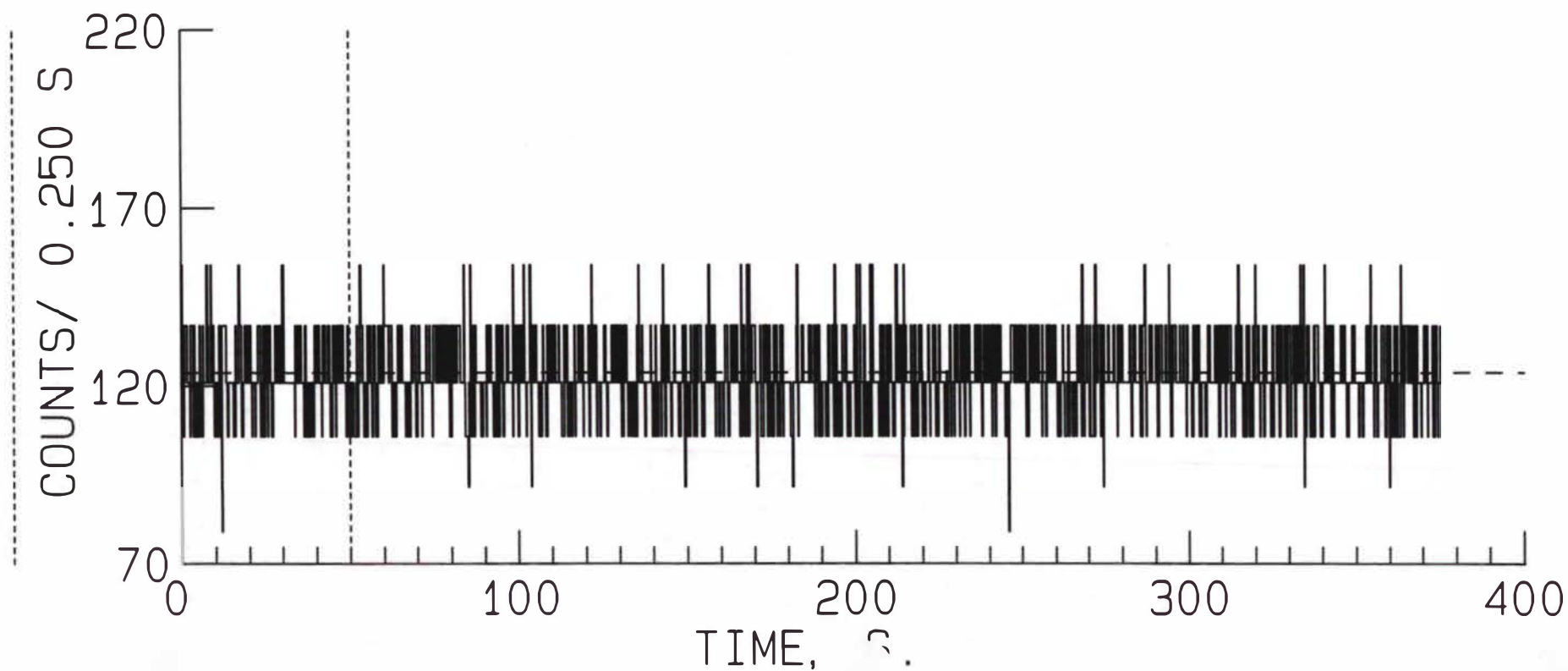
Channels:
(8 , 6)

Quality Mask:
BDISP1

KONUS SGR 1627?
62579

ULYSSES RT
16/ 6/98 62748.069 s
22- 148 keV

26/ 6/98

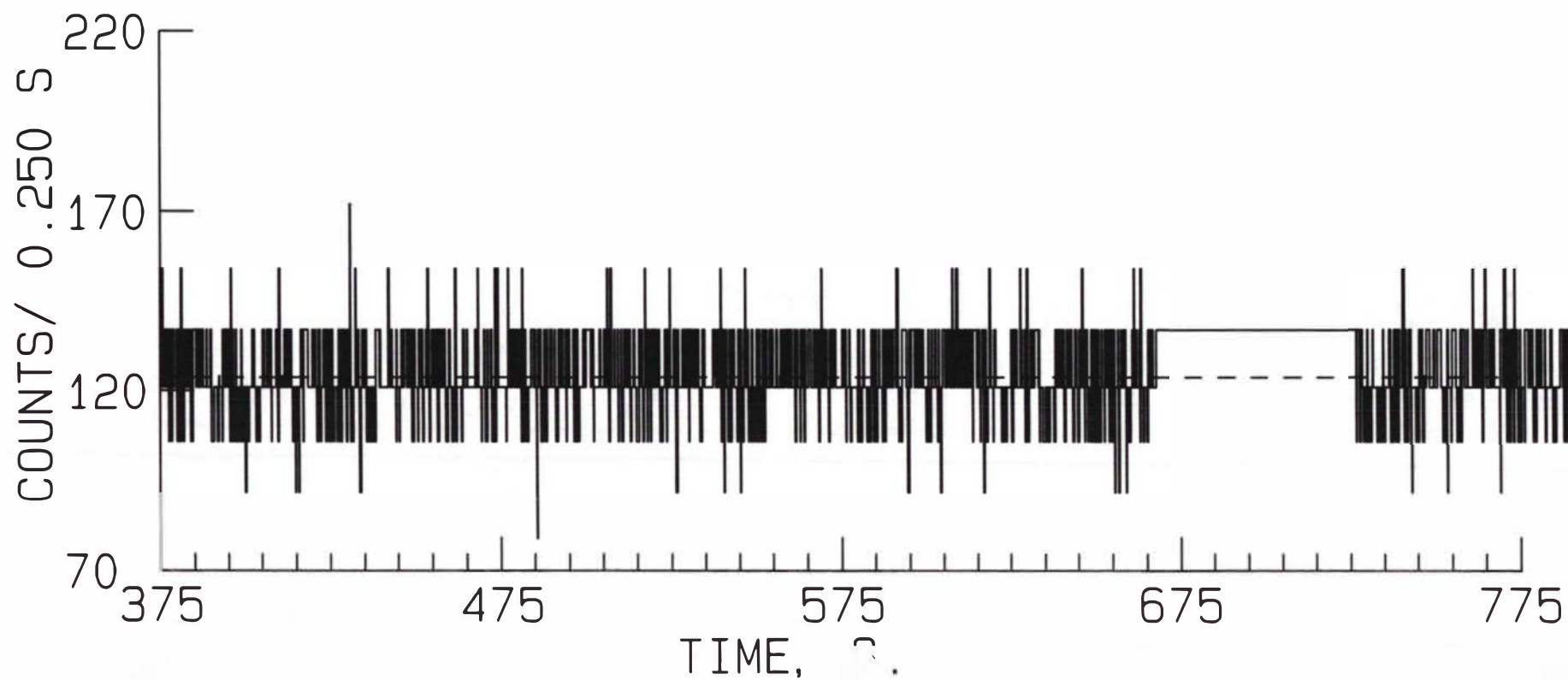


ULYSSES RT

26 / 6 / 98

16 / 6 / 98 62748.069 s

22- 148 keV

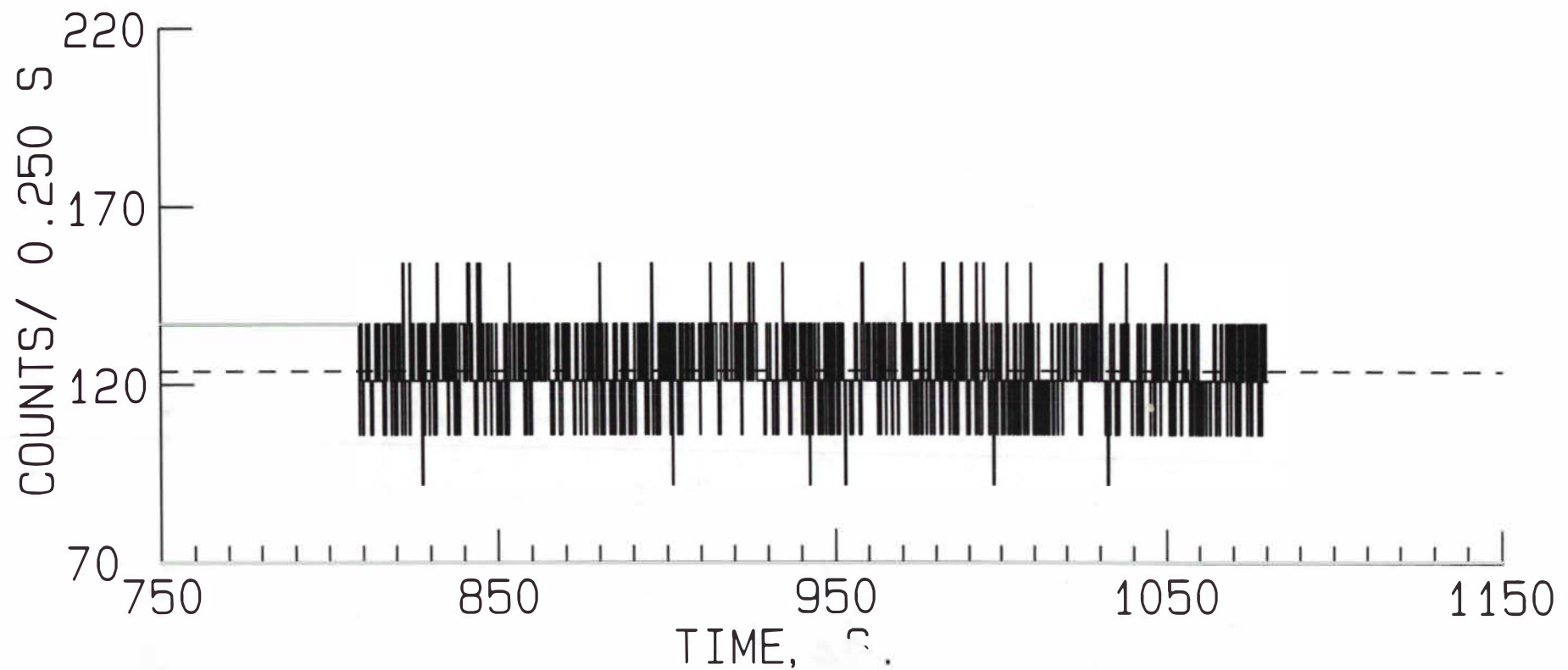


ULYSSES RT

26 / 6 / 98

16 / 6 / 98 62748.069 s

22- 148 keV



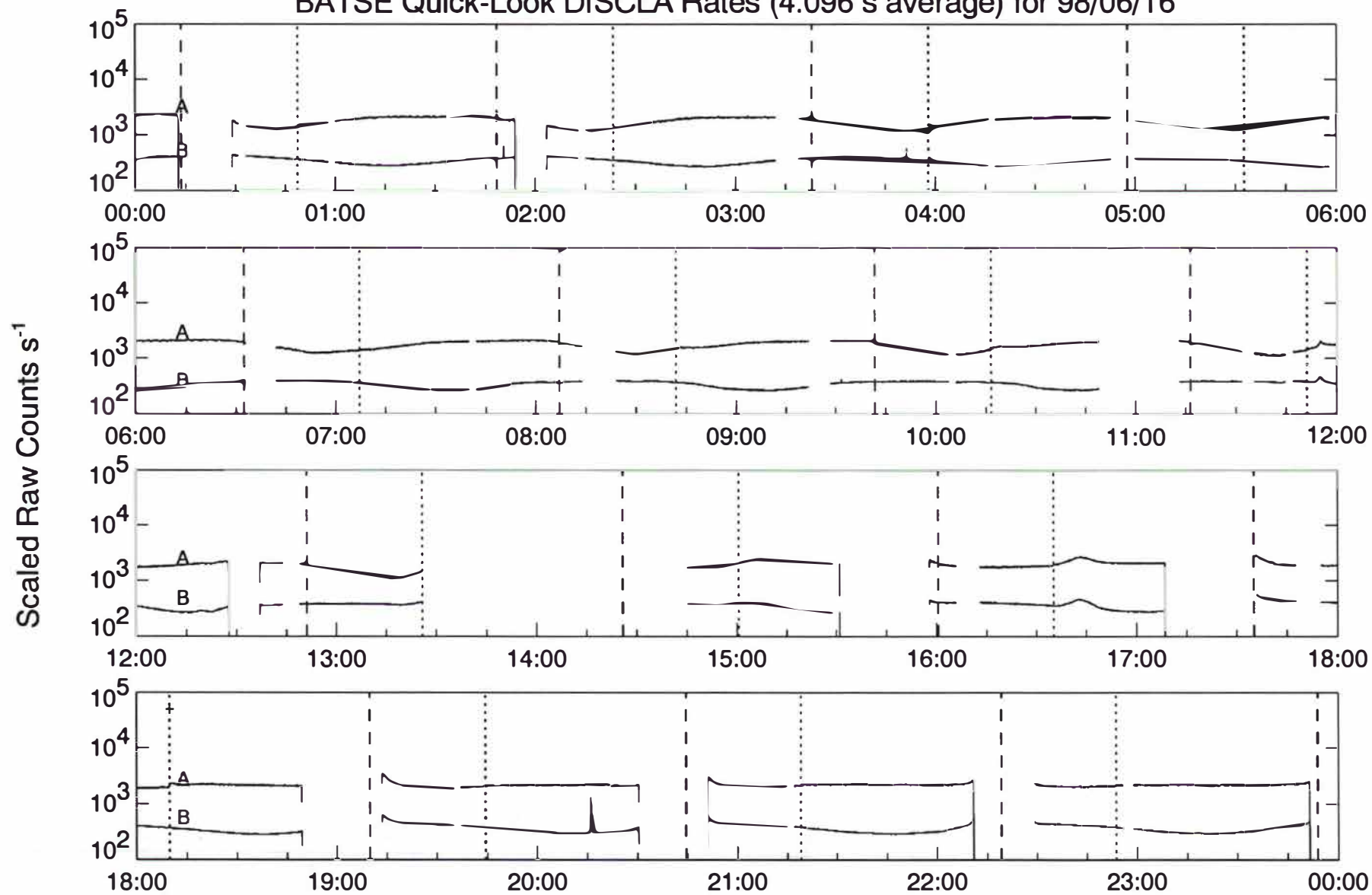
From WOODS@eagles.msfc.nasa.gov Wed Jun 17 07:48 PDT 1998
From: WOODS@eagles.msfc.nasa.gov
Date: Wed, 17 Jun 1998 9:48:24 -0500
To: khurley@sunspot.ssl.berkeley.edu,
"EAGLES::KOUVELIOTOU"@eagles.msfc.nasa.gov
Subject: sgr 1900+14

Hello sgrers,

SGR 1900+14 is still going. There was another bright event at 6624.5 sod on TJD 10980 (June 16). BATSE did not trigger unfortunately because the trigger was disabled during spacecraft passage through a box. This will keep us in trigger 1+2 mode for at least another week though.

Pete

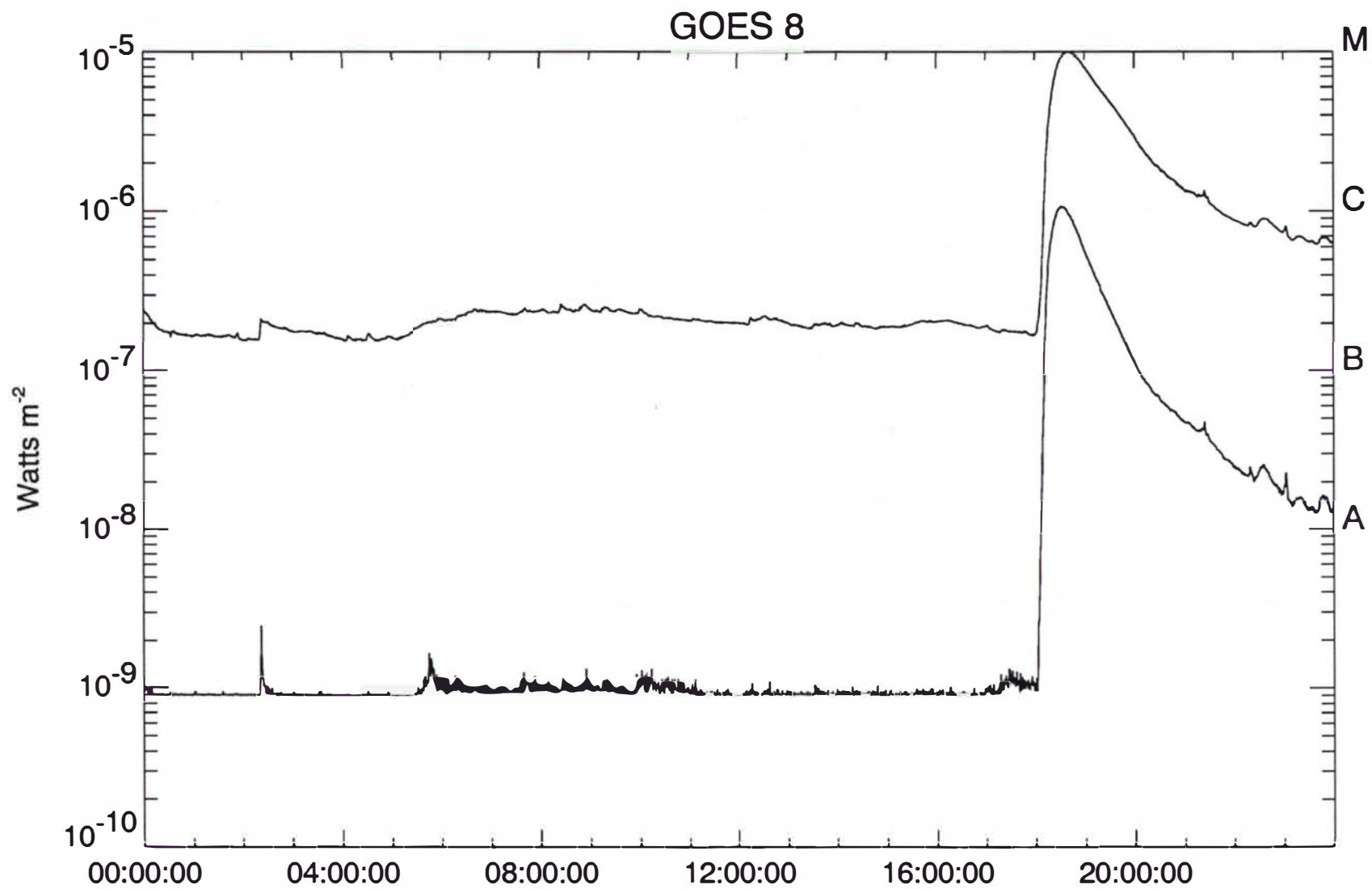
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/16



Current Time: 98/06/20, 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



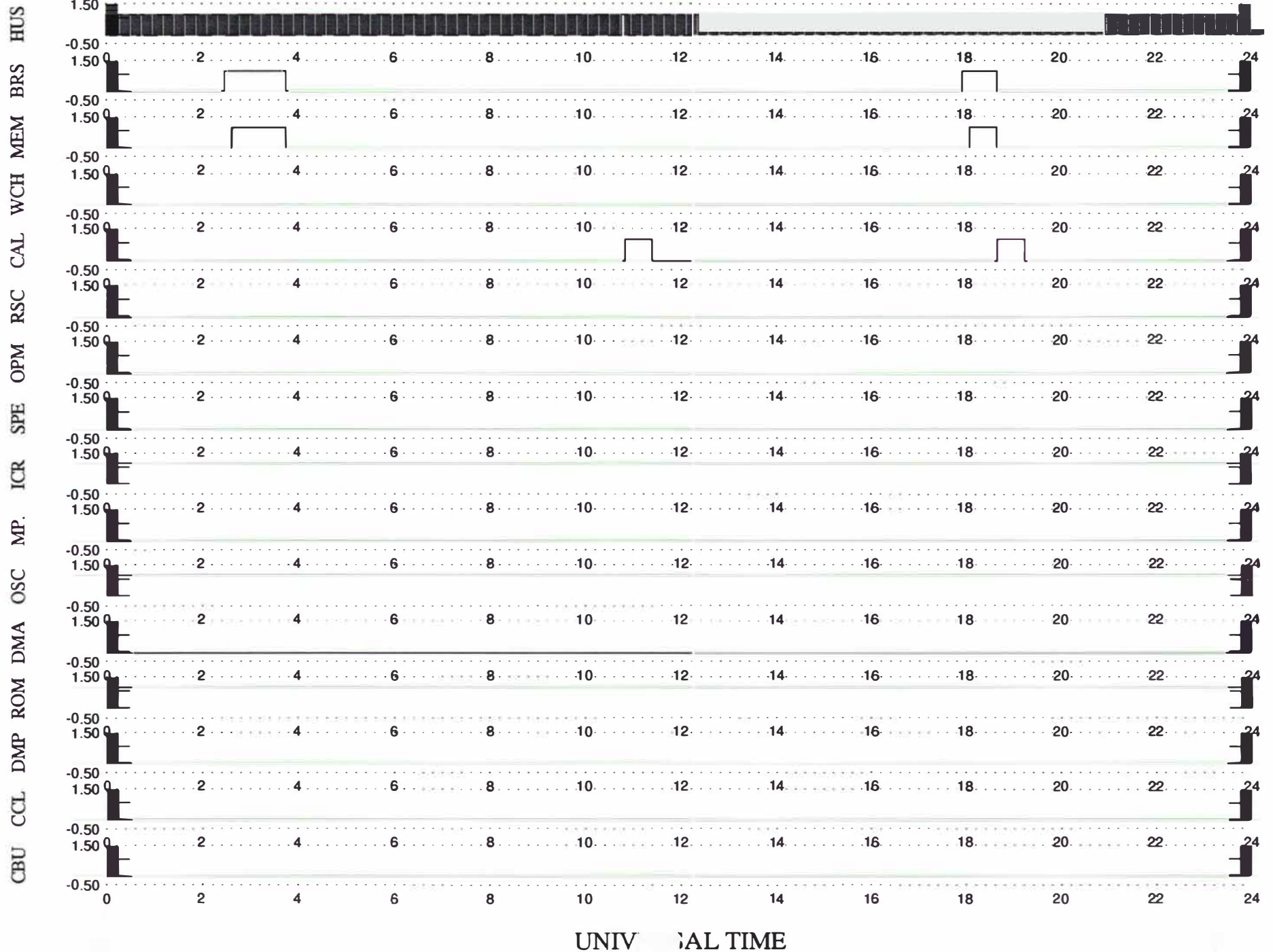
Data Start: 98/06/16, 0000:00

Plot created: 98/06/20, 1007

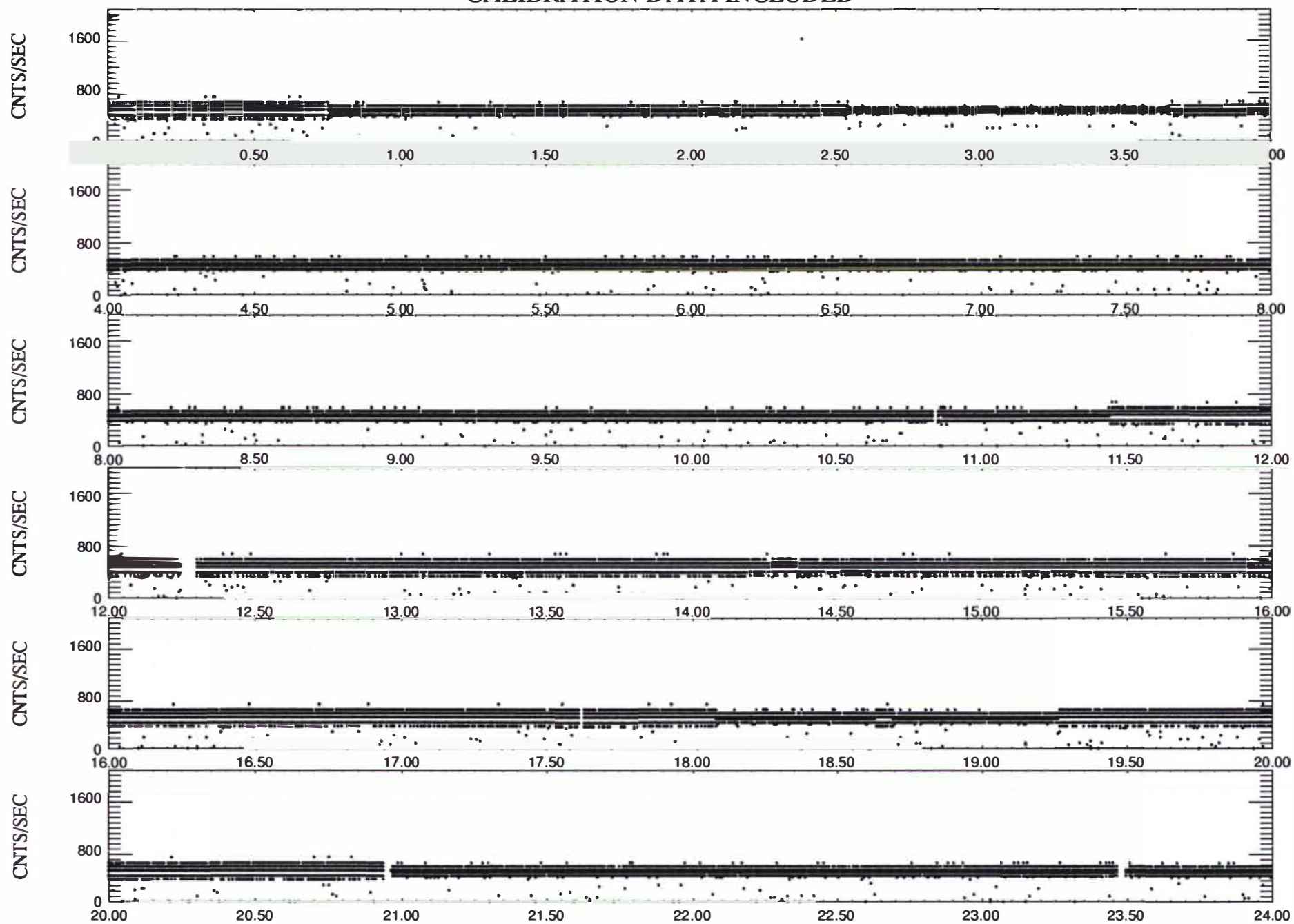
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 13, 14

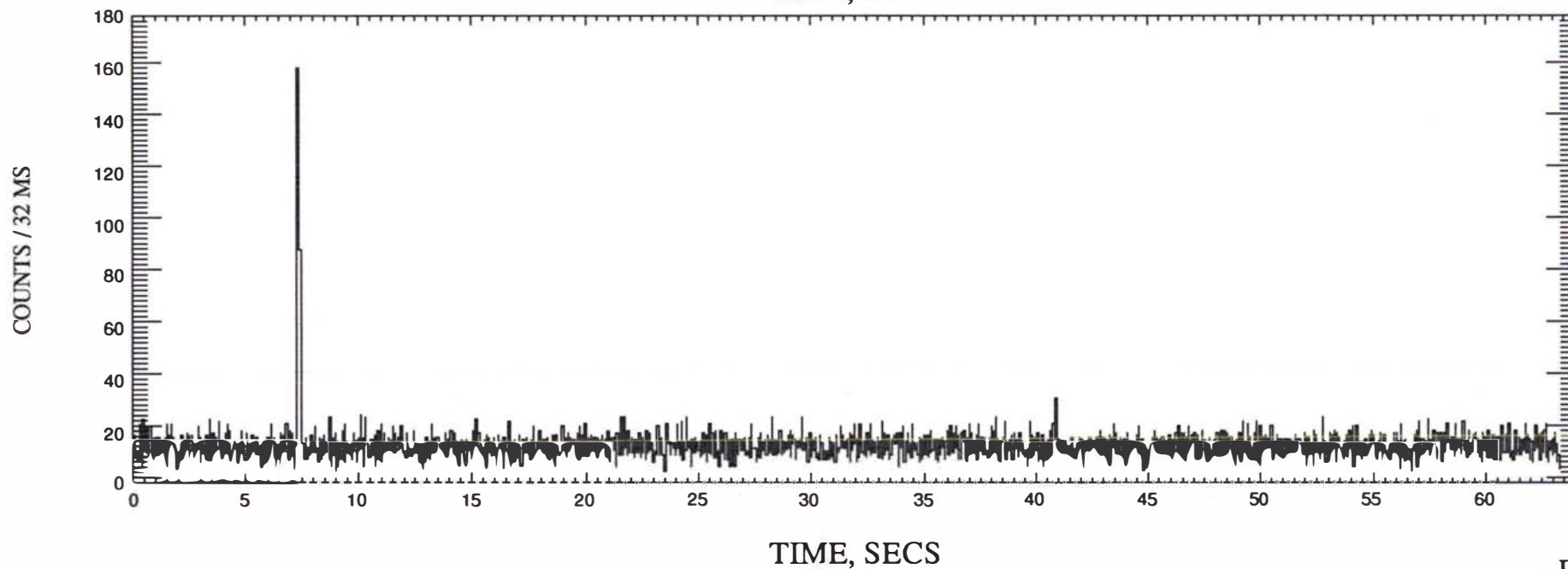
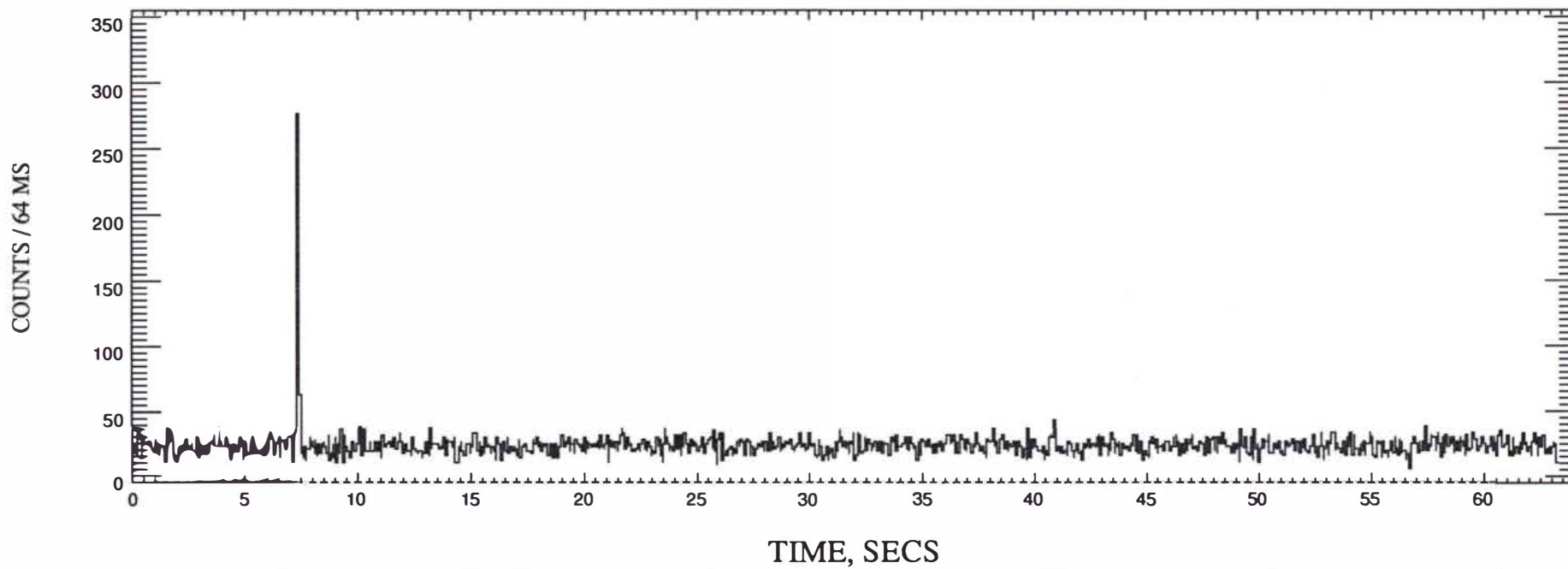


CALIBRATION DATA INCLUDED

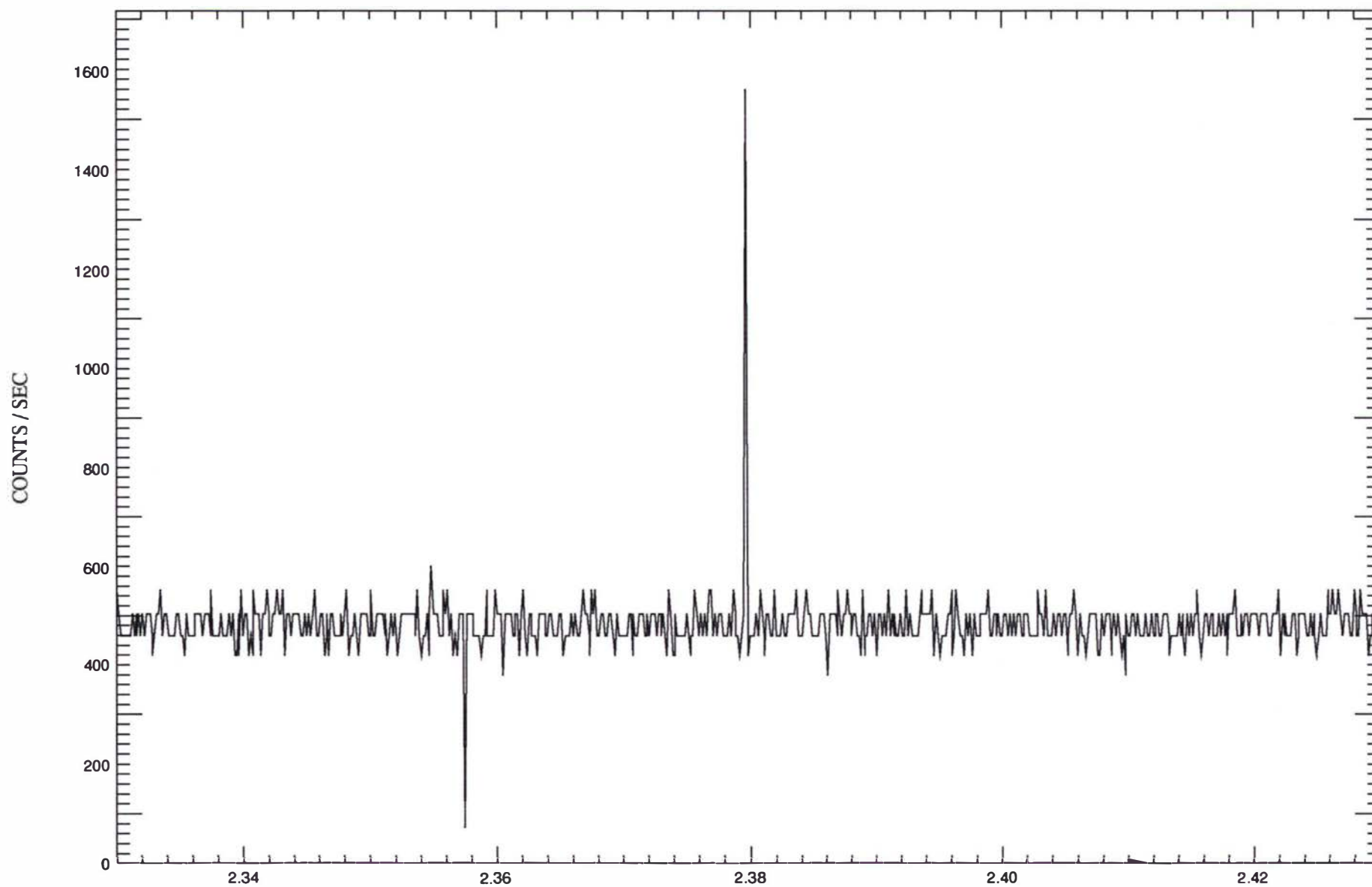


UNIV 'AL TIME

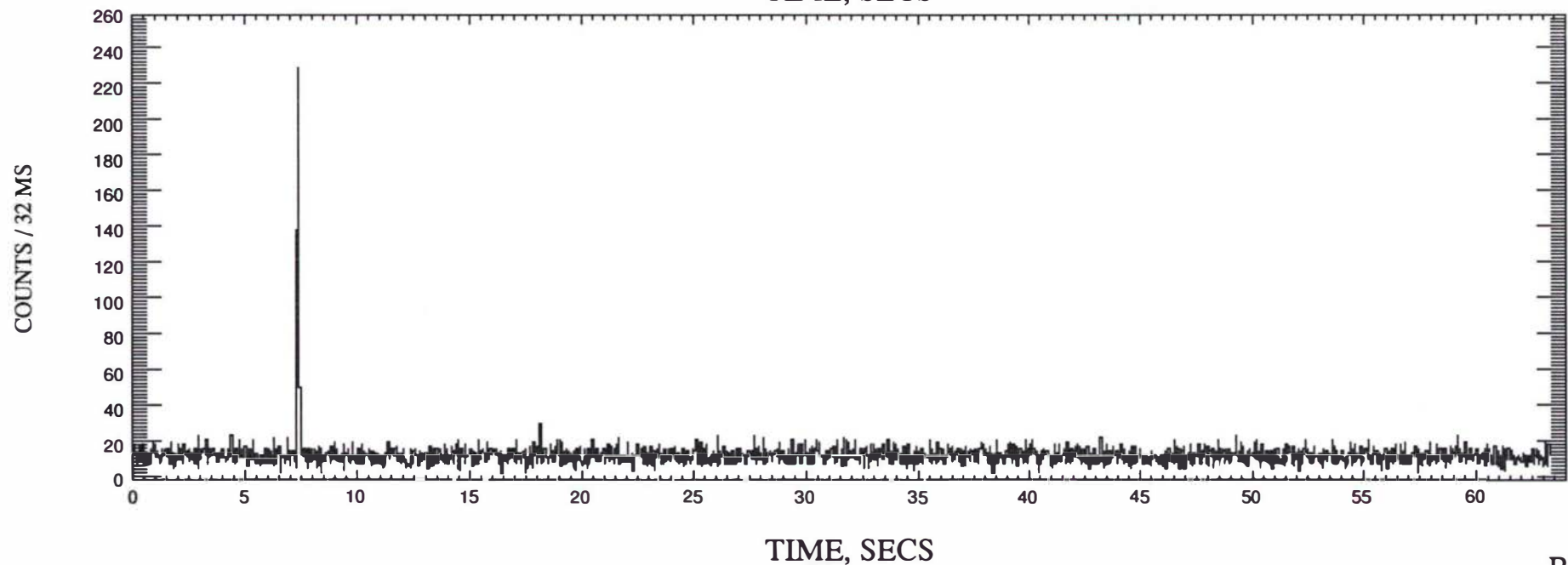
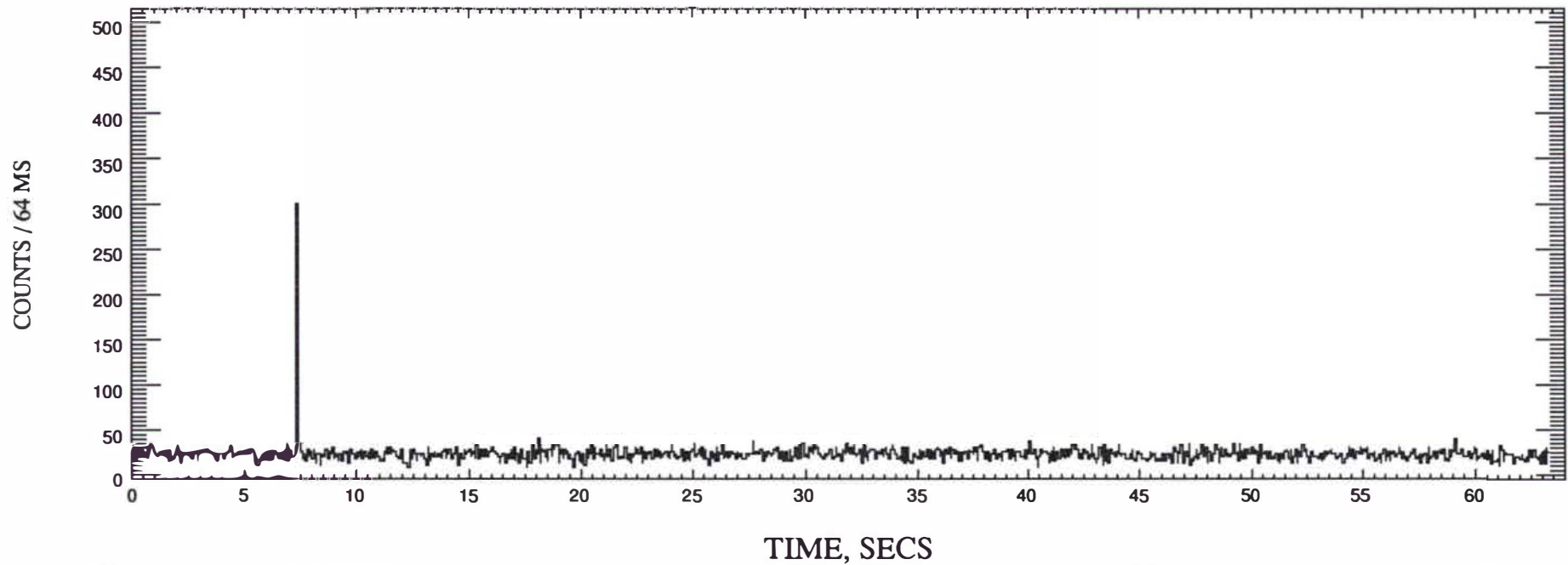
Burst Counter 13 at UT= 2.379728355408 h= 8567.022 s 02:22:47.022



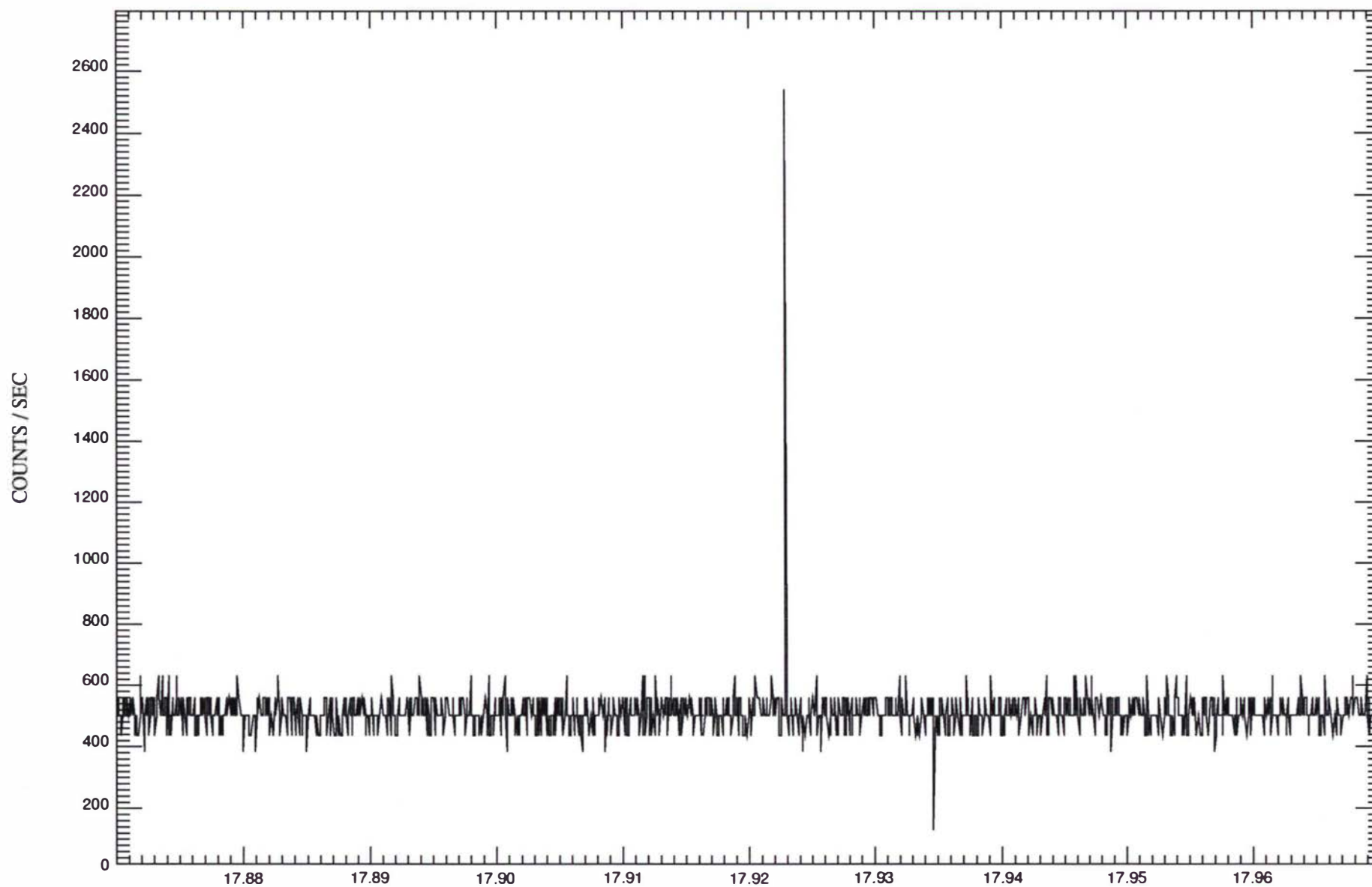
CALIBRATION DATA INCLUDED

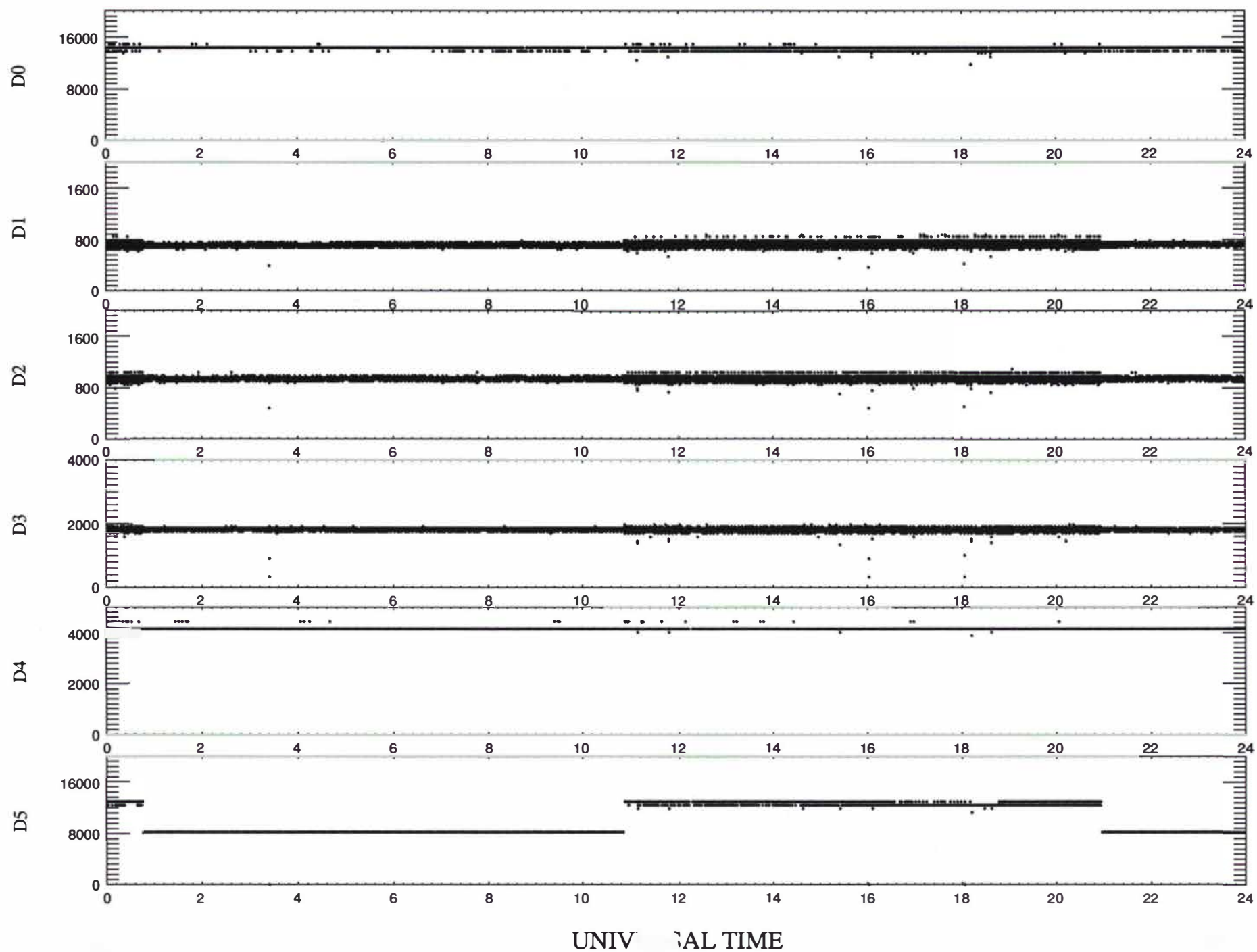


Burst Counter 14 at UT=17.922918756273 h=64522.508 s 17:55:22.508



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:32:00 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 MAA01249; Mon, 22 Jun 1998 12:32:00 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA04655; Mon, 22 Jun 1998 12:31:56 -0700
Date: Mon, 22 Jun 1998 14:27:04 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980622142704.202011b2@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6829
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

*Probably Earth occulted at start
or finish - confirm + request 1s
data for longer stretch*

BATSE BURST # 6829
EVENT OF 1998 JUN 17 DAY OF YEAR=168
EVENT CROSSING TIME AT BATSE : 10311. S. OR 02:51:51.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 56.000 -4.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 6/ 98 IS:
RA= 149.769 DEC= 10.389 DIST= 5.794 AU
BATSE-ULYSSES DISTANCE = 866828719. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.58 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 222.88 SECS.
CROSSING TIME AT ULYSSES IS 10534. S. OR 02:55:33 +/- 553.89 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 6/ 98 IS:
RA= 75.559 DEC= 23.184 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376691136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=146.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1051.24 SECS.
CROSSING TIME AT MARS IS 9260. S. OR 02:34:19 +/- 103.53 SECONDS

BATSE BURST TRIGGER

NO.: 6829

TIME: TJD=0981 SECONDS=10311

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=103.4 AZIMUTH=20.9 ERROR=3.2 DEGREES

COMMENTS:

GRB LOTS OF STRUCTURE. DURATION AT LEAST 250 SEC, BUT INTERRUPTED BY DATA GAP. VISIBLE ABOVE 300KEV.

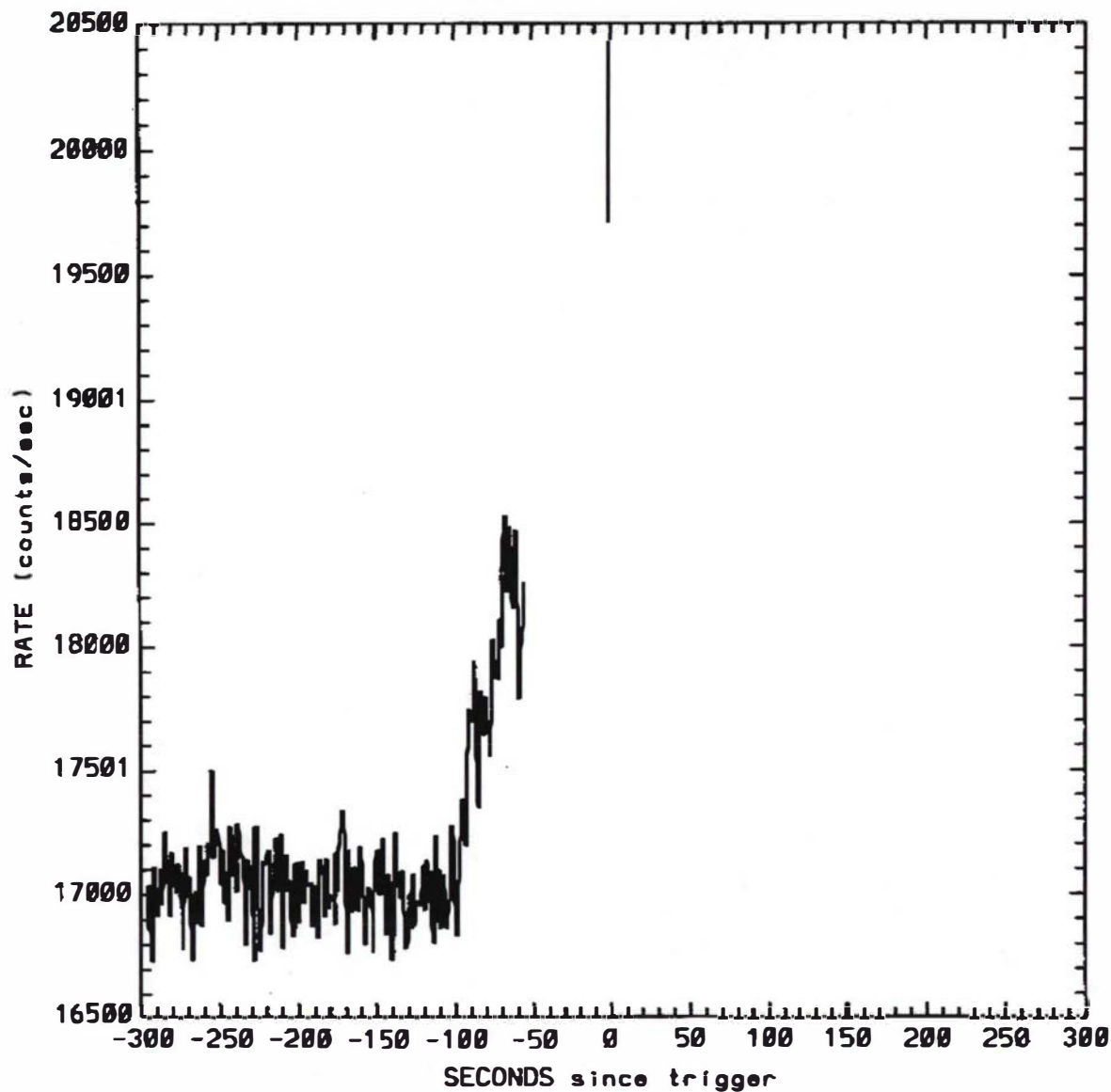
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6829	980617	10981	10311	10000	056	-04	250

From HENZE@fender.msfc.nasa.gov Thu Jul 23 11:30 PDT 1998
Date: Thu, 23 Jul 1998 13:30:48 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: khurley@sunspot.ssl.berkeley.edu
Subject: BATSE trigger 6829

BATSE trigger 6829 occurred during a data gap (which is why you were sent MER and TTS data) so we do not have any DISCSC or DISCLA data. I will fax you some already made plots which you may or may not have. Most or all of these data could also be sent in digital form via e-mail although the files would have to be generated, of course.

Bill

T90 Plot, Trigger No. 6829



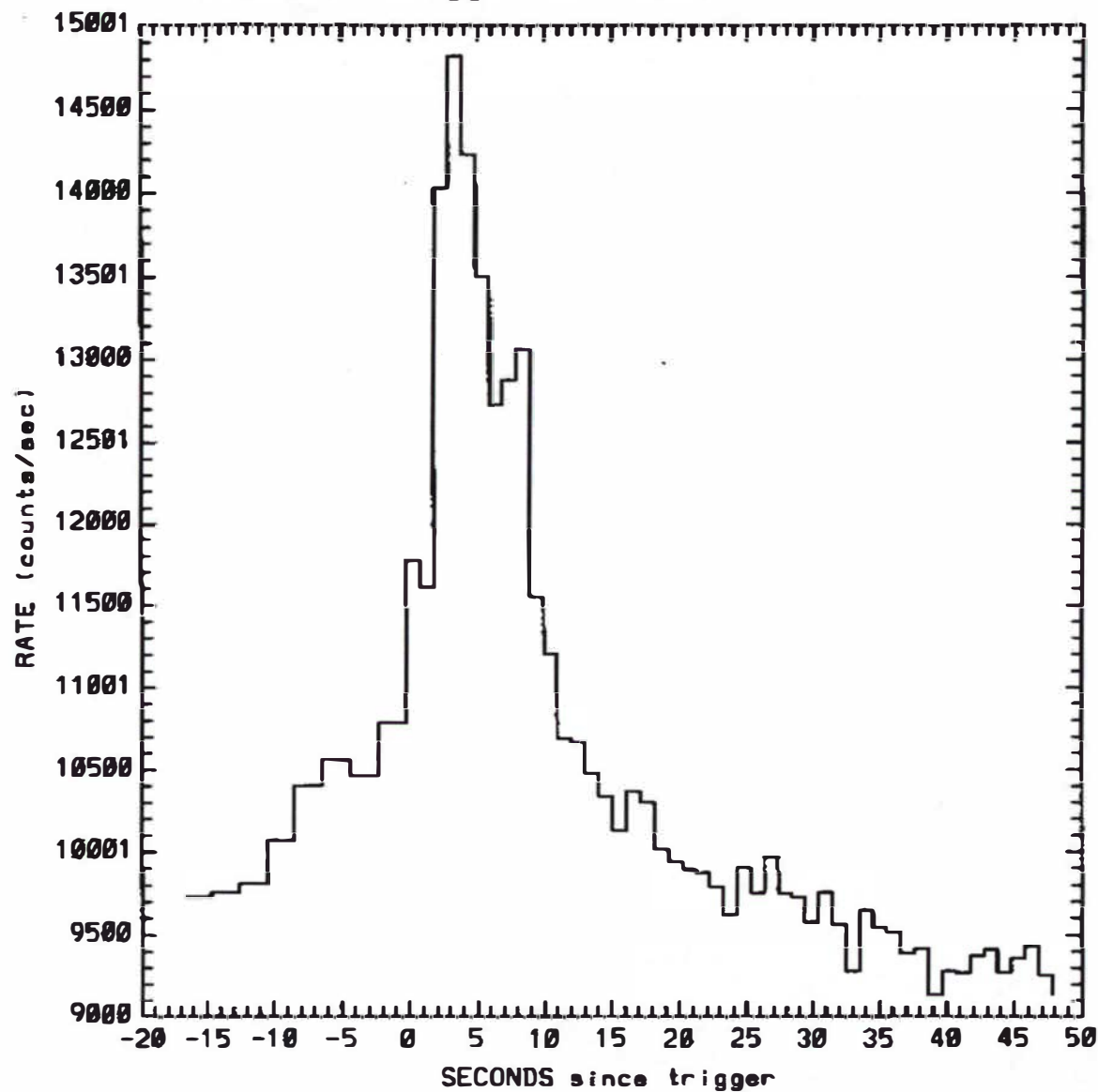
18-JUN-1998 08:18:51

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6829

Trigger Time:
18981 / 18311.649Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
1.824 second(s)Detectors [7..8]:
----3-10Discriminators:
(1 , 4)Quality Mask:
BDISP1

DISCLB, Trigger No. 6829



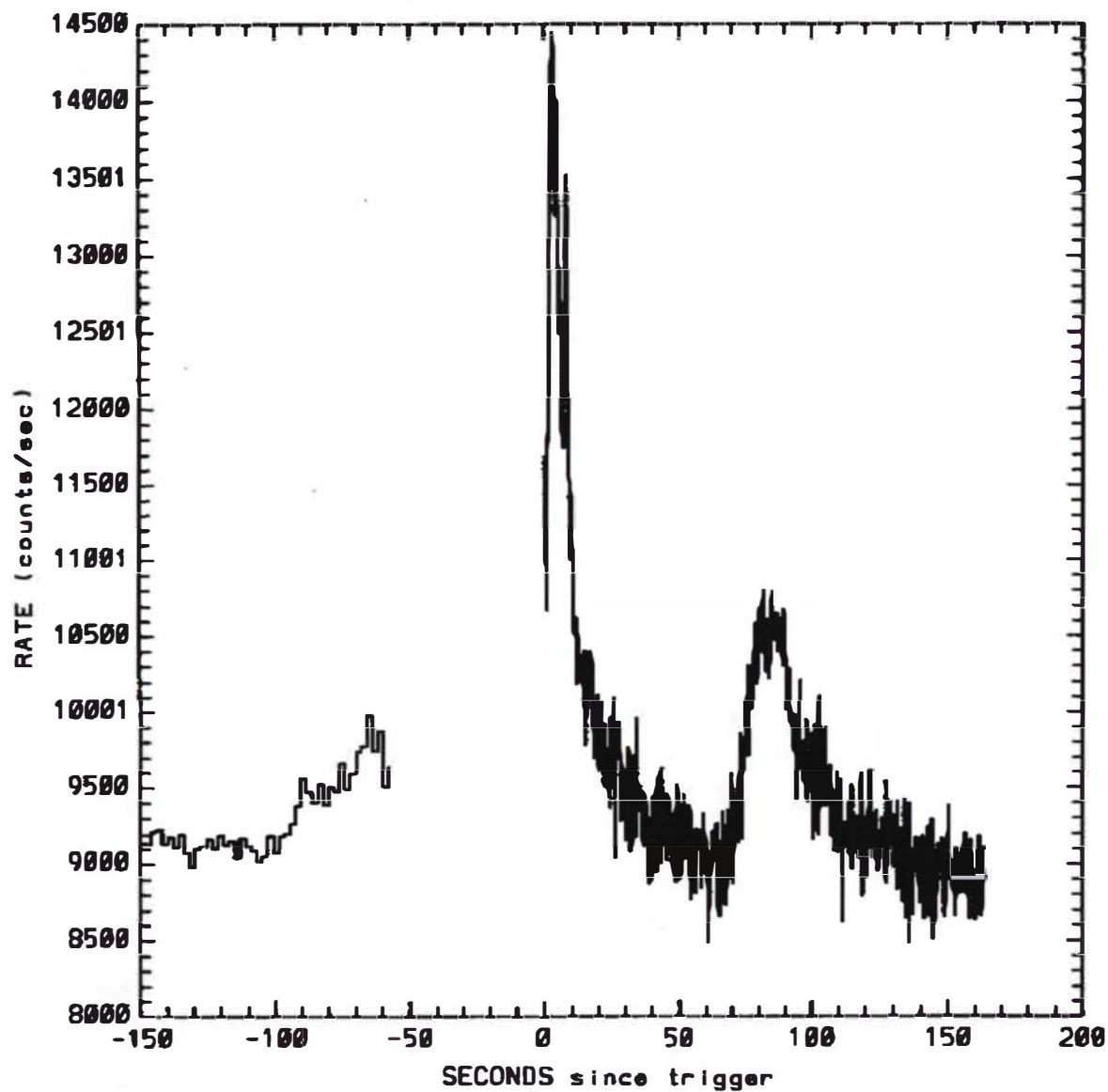
18-JUN-1998 09.49.17

Created by MDPS 80
(Burst Display)
Version 2.23

Trigger # : 6829

Trigger Time:
18981 / 18311.649Burst Data Type:
DISCLBDeadtime
Corrected: NBackground Data
Type: NoneMinimum Integ. Time:
1.024 second(s)Detectors [7..8]:
----3-18Discriminators:
[1, 2]Quality Mask:
BDISPD

MER. Trigger No. 6829



18-JUN-1998 18:19:53

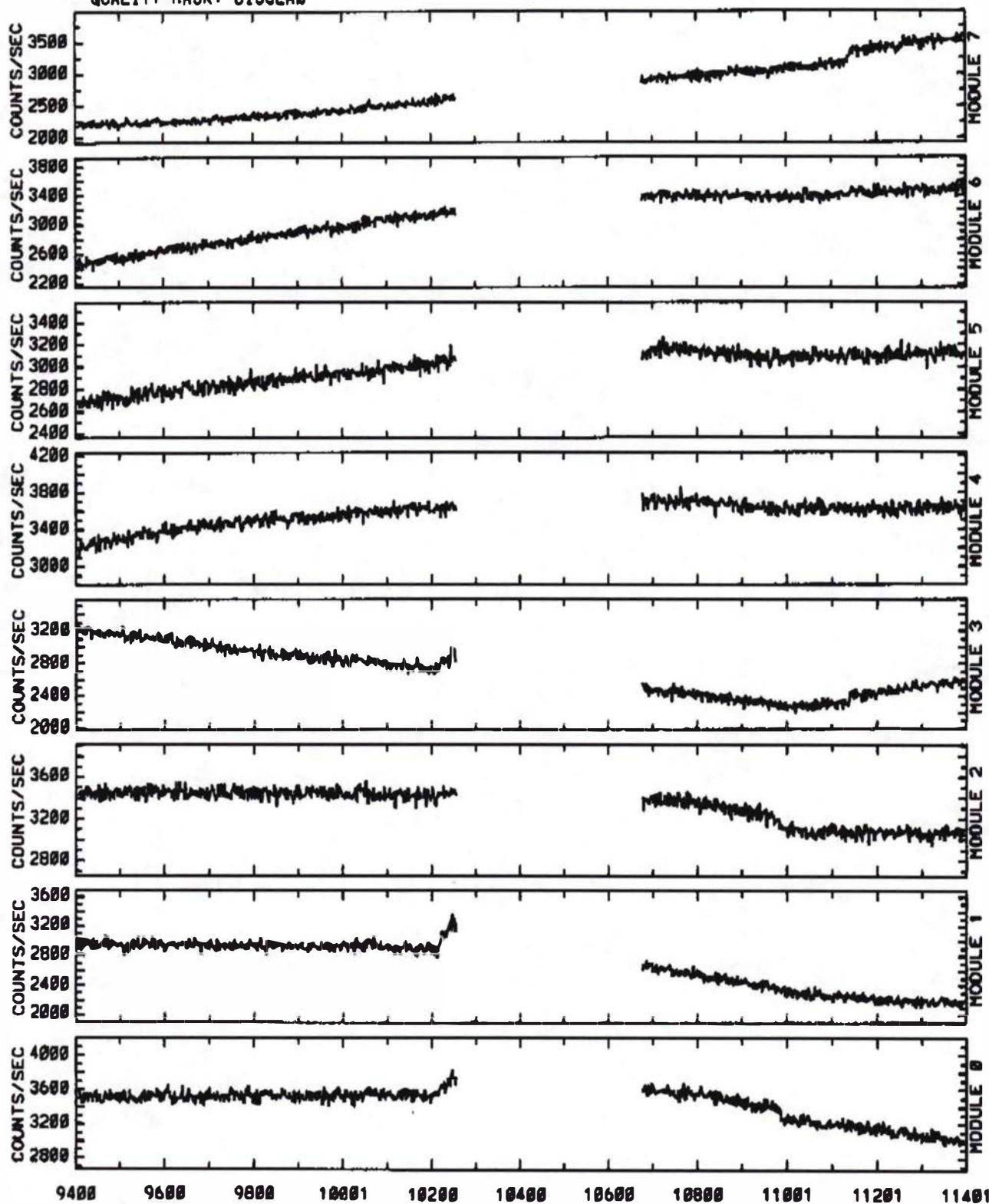
Created by MDPS 80
(Burst Display)
Version t2.25

Trigger # : 6829

Trigger Time:
18981 / 18311.649Burst Data Type:
MERDeadline
Corrected: NBackground Data
Type: CONTMinimum Integ. Time:
0.256 second(s)Detectors [7..8],
----3-18Channels:
(1 . 5)Quality Mask:
801SP8

DATA TYPE: DISCLA TIME RES: 2.048 s
 CHANNEL RANGE: 1-- 2
 DATA START TIME: 10981/ 9486.1774
 DATA STOP TIME: 10981/ 11394.7854
 QUALITY MASK: DISCLA0

CREATION DATE: 18-JUN-1998 08:21:19.99
 PROGRAM CODE: RM VERSION: 12.07

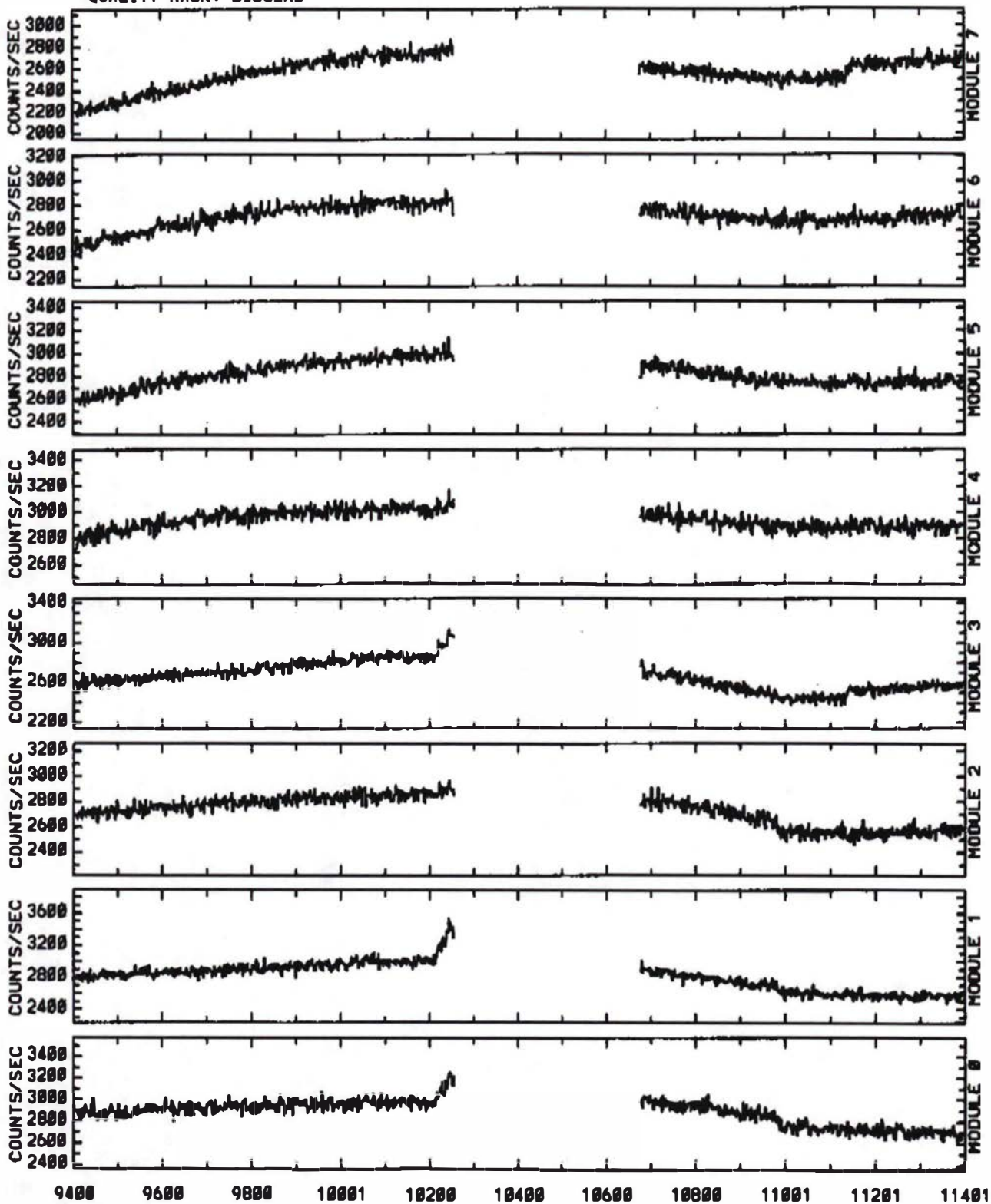


Trigger 6829, TJD 10981

DATA TYPE: DISCLA TIME RES: 2.048 s
 CHANNEL RANGE: 2-- 3
 DATA START TIME: 10981/ 9406.1774
 DATA STOP TIME: 10981/ 11394.7854
 QUALITY MASK: DISCLAB

CREATION DATE: 18-JUN-1998 00:48:18.32

PROGRAM CODE: RM VERSION: 12.07



Trigger 6829, TJD 10981

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

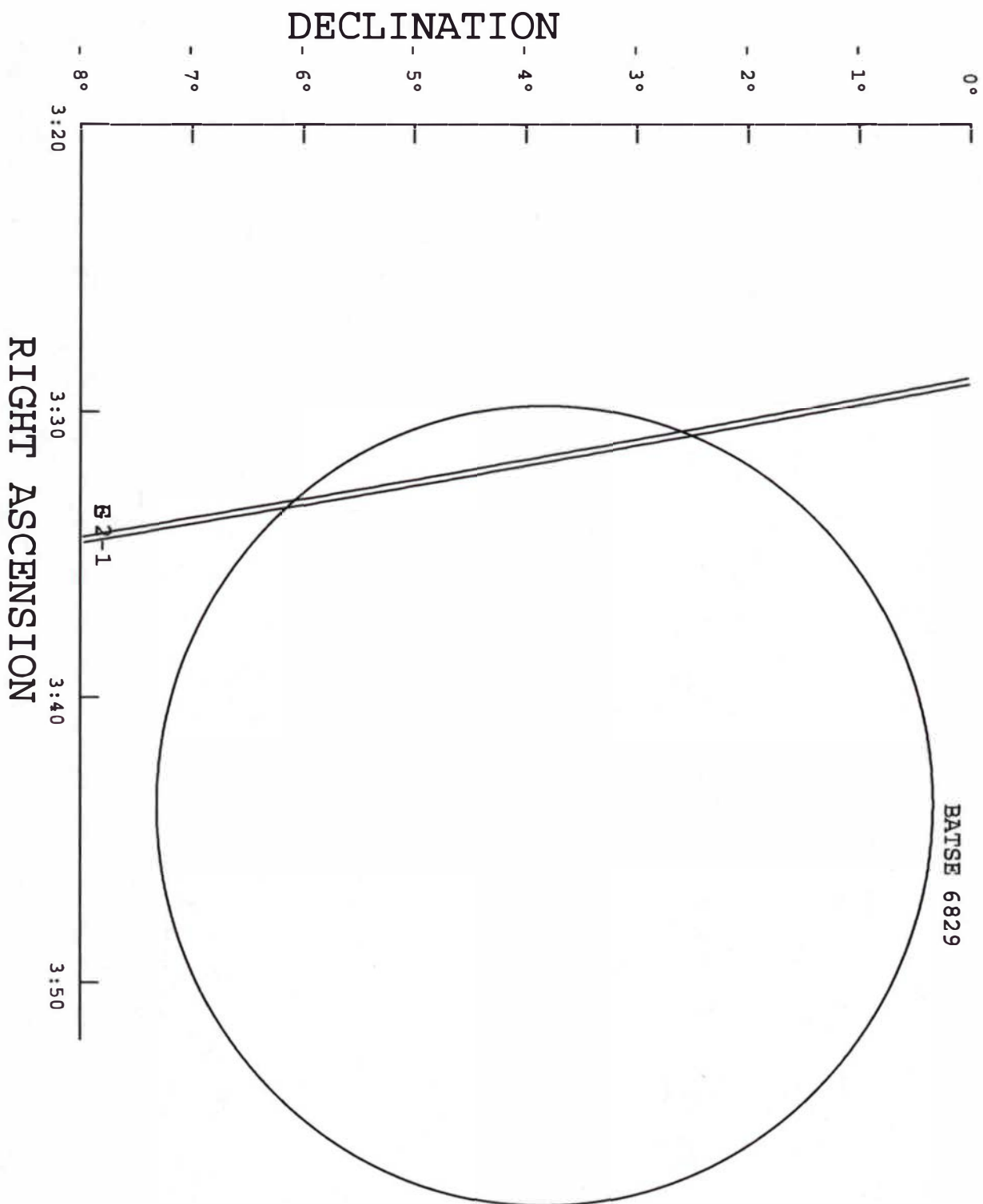
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 17, 1998 2:51

18/ 1/ 0



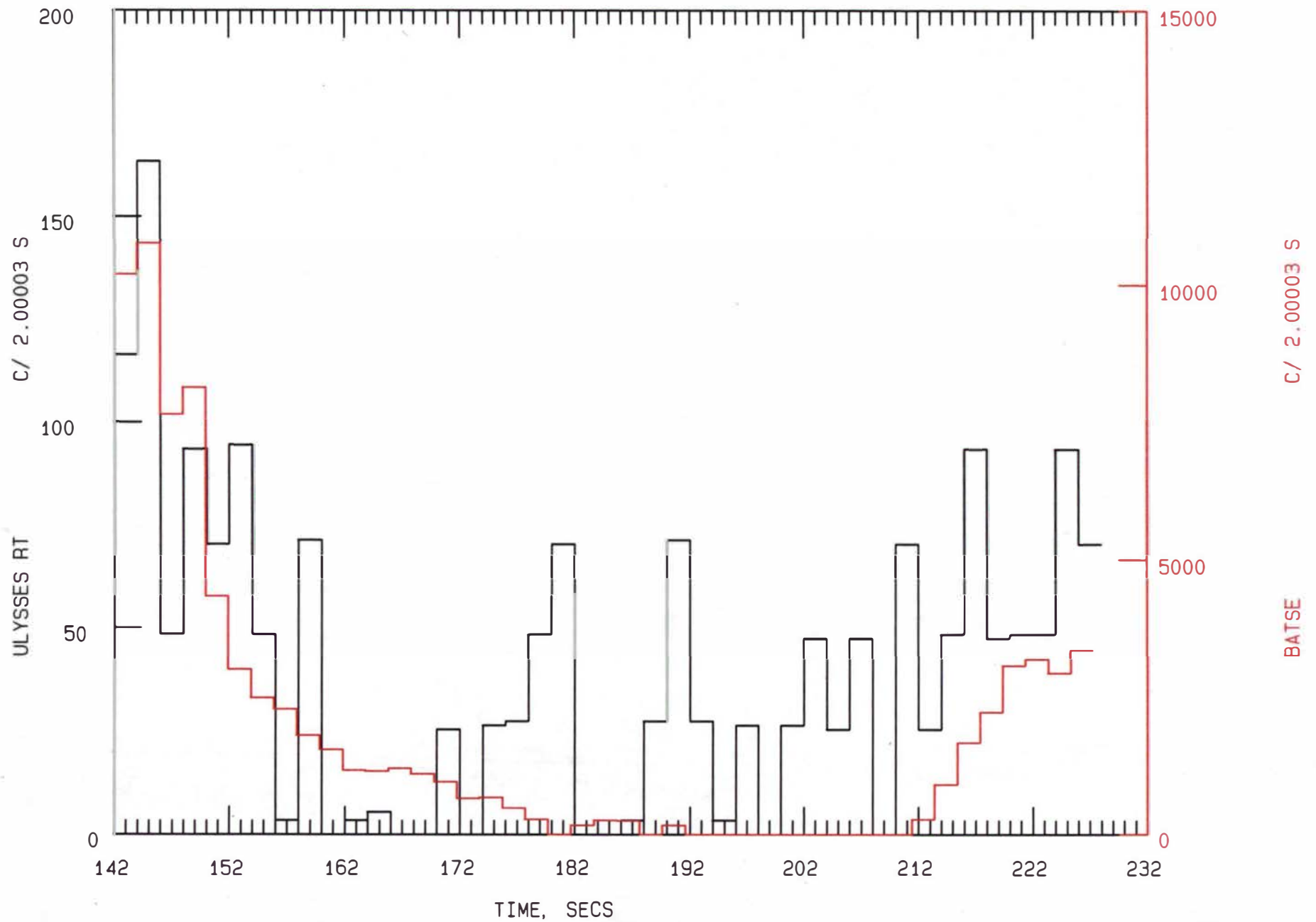
ULYSSES RT-BATSE

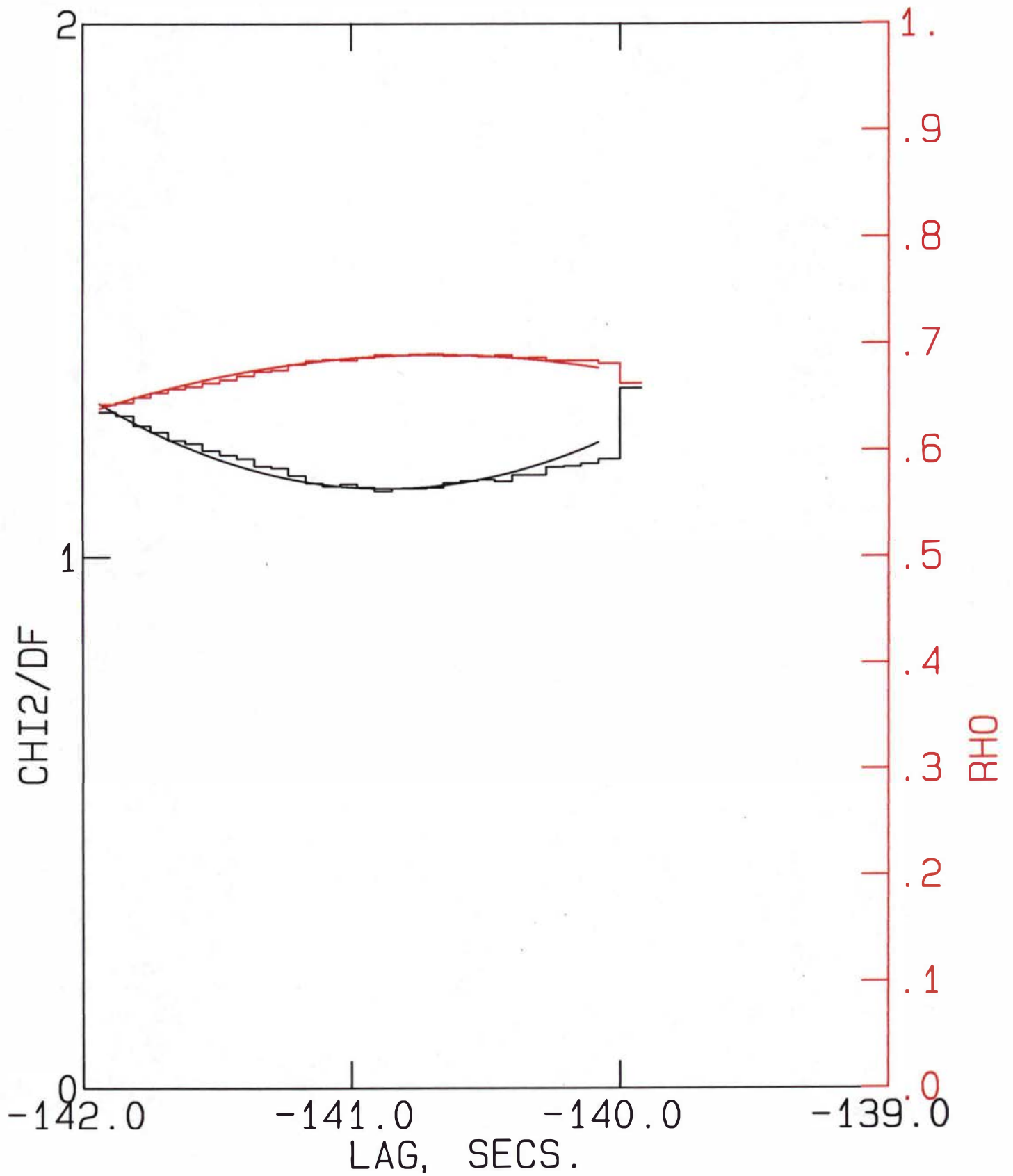
CORRELATION

17/ 6/98

10572.186

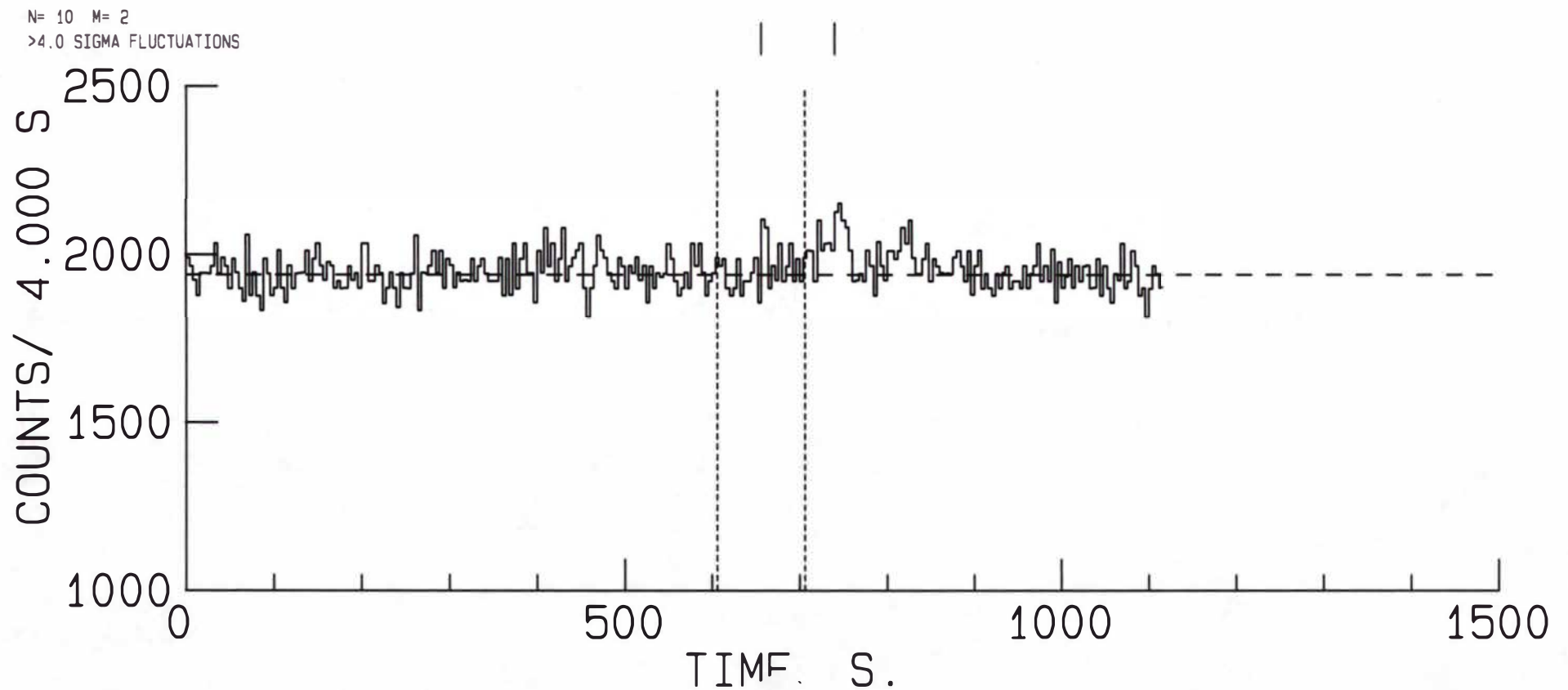
18/ 1/ 0





ULYSSES RT
17/ 6/98 9972.177 s
0.500 S INTERVALS REGROUPED BY 8
22- 150 keV

18/ 1/ 0



BATSE

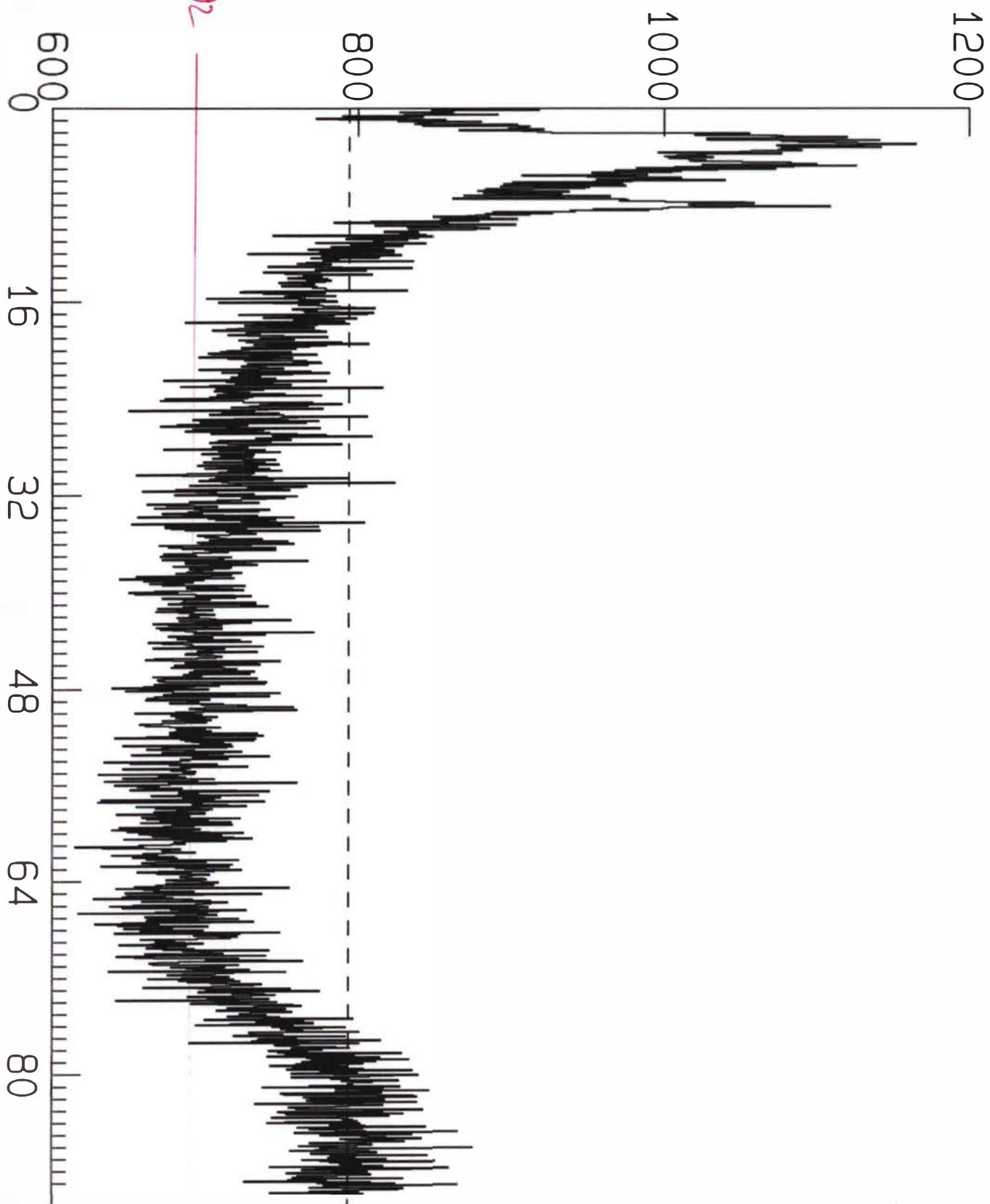
17/06/98

10311.649

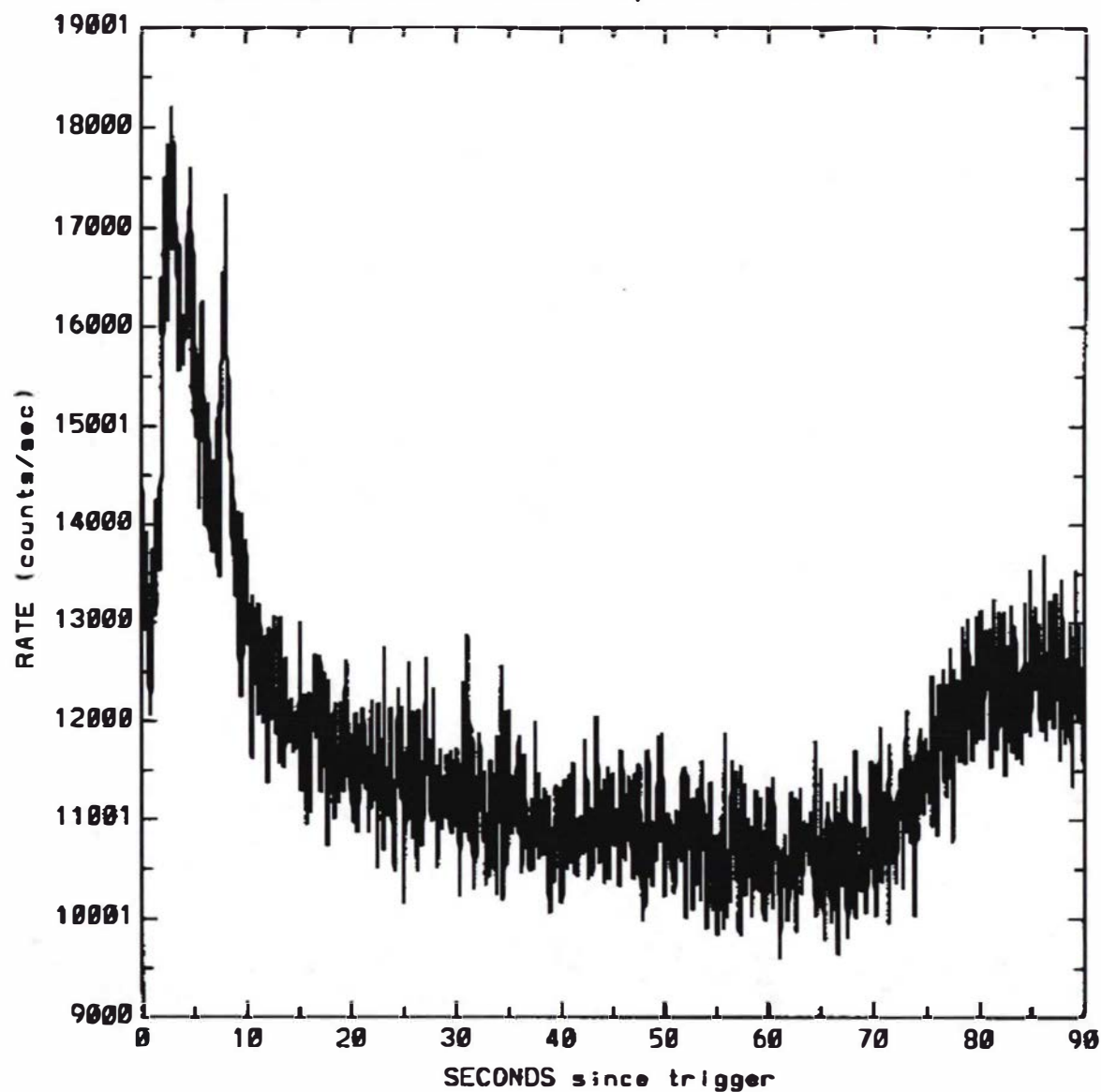
25- 100 keV

COUNTS/0.064 S

692



MER Data for K. Hurley. No. 6829



24-JUN-1998 11:43:26

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

Trigger # : 6829

Trigger Time:
19981 / 18311.649

Burst Data Type:
MER

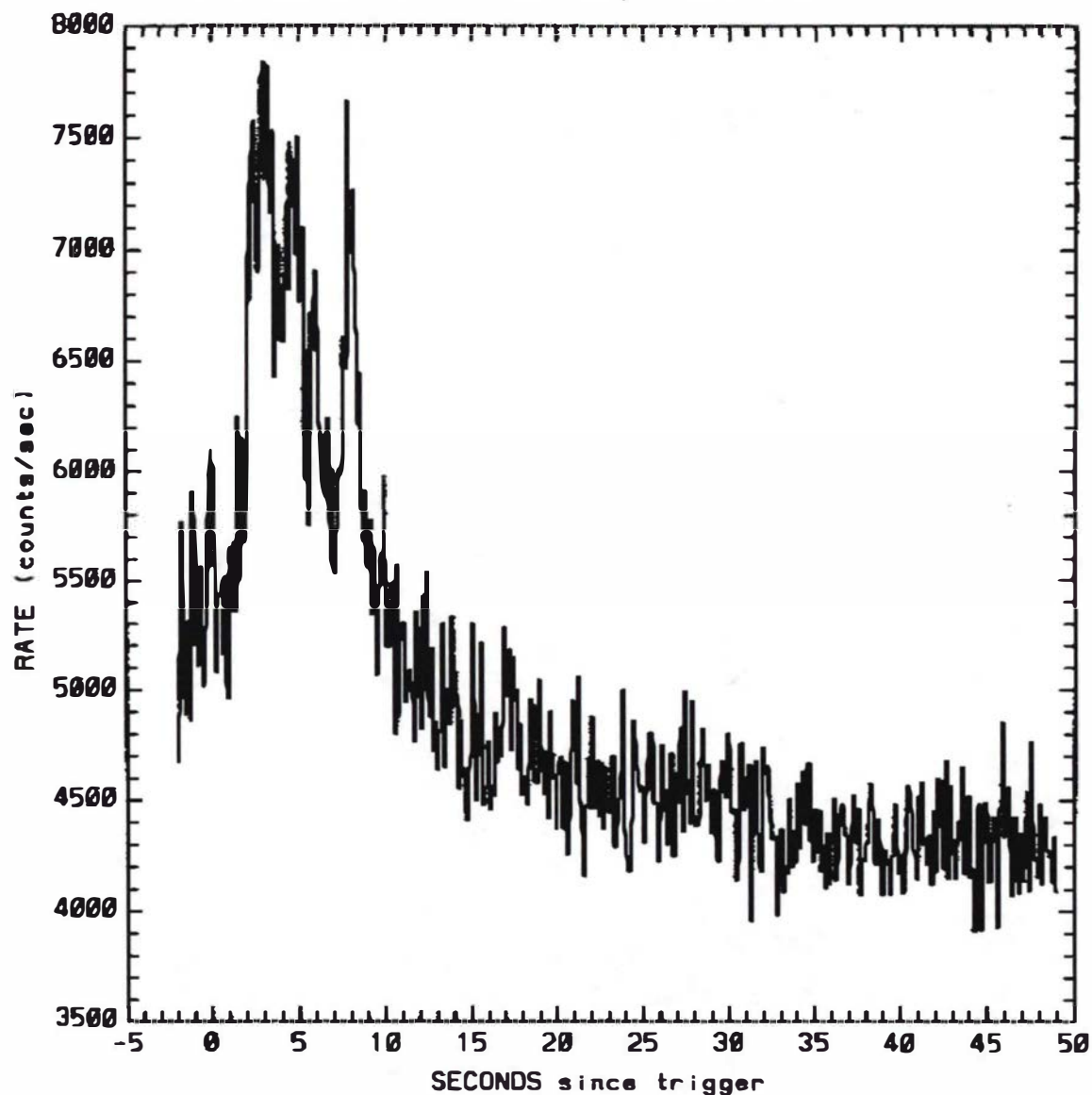
Deadtime
Corrected: N
Background Data
Type: CONT
Minimum Integ. Time:
0.064 seconds

Detectors [7..8]:
---3-18

Channels:
(8 : 6)

Quality Mask:
80ISP1

TTS Data for K. Hurley, No. 6829



24-JUN-1998 11:44:84

Created by MOPS 80
(Burst Display)
Version 82.25

Trigger # . 6829

Trigger Time:
18981 / 18311.649

Burst Data Type:
TTS

Time Corrected: Y

Maximum Time Error:
0.11262 second(s)

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Bin Count: 8

Detectors [7..8].
----3-18

Discriminators:
(2 . 2)

Quality Mask:
80ISP1

From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:32:09 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 MAA01253; Mon, 22 Jun 1998 12:32:08 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA04667; Mon, 22 Jun 1998 12:32:05 -0700
Date: Mon, 22 Jun 1998 14:28:31 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980622142831.202011b2@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6830
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6830
EVENT OF 1998 JUN 17 DAY OF YEAR=168
EVENT CROSSING TIME AT BATSE : 24767. S. OR 06:52:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 57.000 -23.000
BATSE PEAK COUNTING RATE: 3750 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 6/ 98 IS:
RA= 149.781 DEC= 10.377 DIST= 5.797 AU
BATSE-ULYSSES DISTANCE = 867189744. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.44 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 330.65 SECS.
CROSSING TIME AT ULYSSES IS 25098. S. OR 06:58:17 +/- 553.94 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 6/ 98 IS:
RA= 75.559 DEC= 23.184 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376691136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -814.65 SECS.
CROSSING TIME AT MARS IS 23952. S. OR 06:39:12 +/- 153.72 SECONDS

BATSE BURST TRIGGER

NO.: 6830

TIME: TJD=0981 SECONDS=24767

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=106.0 AZIMUTH=40.8 ERROR=3.1 DEGREES

COMMENTS:

GRB SINGLE PULSE WITH DURATION APPROX. = 15 SEC. EMISSION BEFORE PULSE BEGINS A
AT APPROX. T-35 SEC. TOTAL DURATION APPROX. = 45 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6830	980617	10981	24767	3750	057	-23	45

BATSE BURST# 6830

ULYSSES RT

22 / 6 / 98

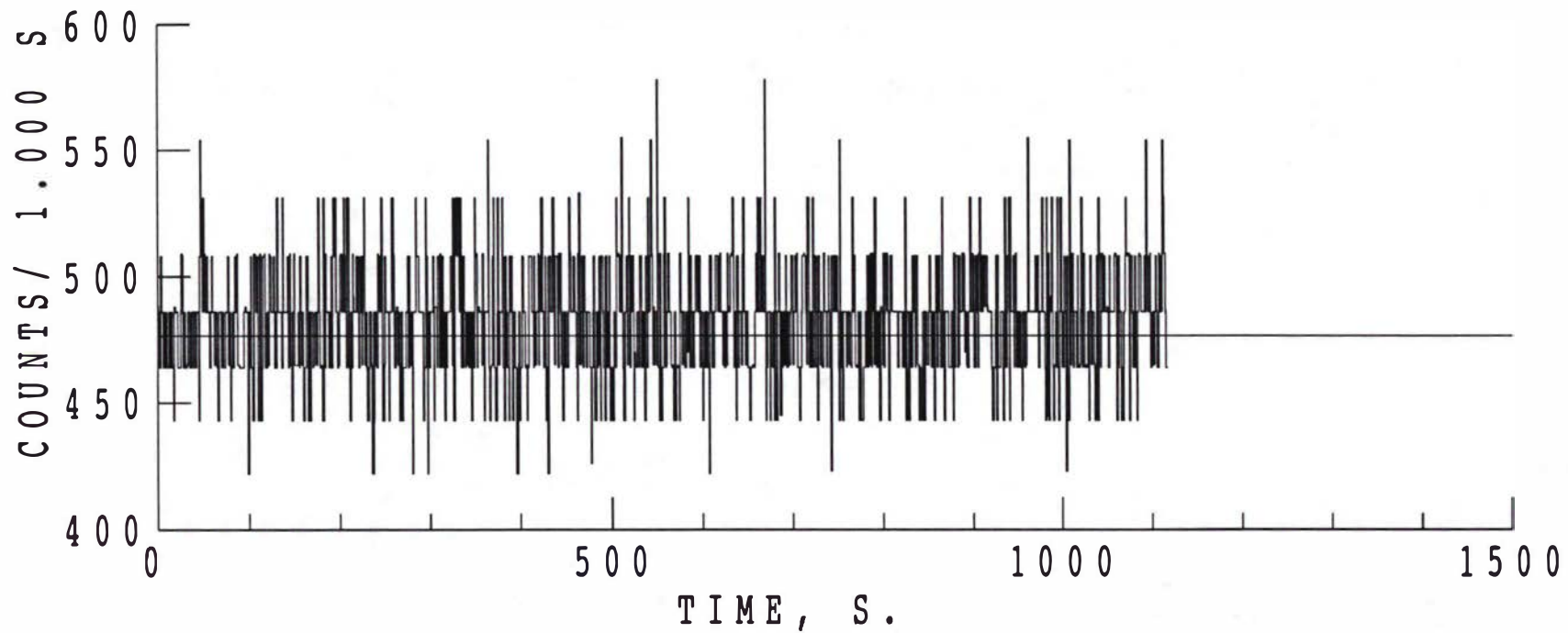
17 / 6 / 98 24552.328 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:32:19 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 MAA01307; Mon, 22 Jun 1998 12:32:18 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA04680; Mon, 22 Jun 1998 12:32:15 -0700
Date: Mon, 22 Jun 1998 14:29:52 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980622142952.202011b2@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6831
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6831
EVENT OF 1998 JUN 17 DAY OF YEAR=168
EVENT CROSSING TIME AT BATSE : 45818. S. OR 12:43:38.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 223.000 49.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 6/ 98 IS:
RA= 149.797 DEC= 10.361 DIST= 5.800 AU
BATSE-ULYSSES DISTANCE = 867713271. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -932.66 SECS.
CROSSING TIME AT ULYSSES IS 44885. S. OR 12:28:05 +/- 511.54 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 6/ 98 IS:
RA= 75.559 DEC= 23.184 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376691136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 77.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 265.36 SECS.
CROSSING TIME AT MARS IS 46083. S. OR 12:48:03 +/- 217.26 SECONDS

BATSE BURST TRIGGER

NO.: 6831

TIME: TJD=0981 SECONDS=45818

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=63.2 AZIMUTH=248.6 ERROR=5.6 DEGREES

COMMENTS:

GRB SINGLE PULSE. DURATION APPROX. = 13 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6831	980617	10981	45818	2000	223	+49	13

BATSE BURST# 6831

ULYSSES RT

22 / 6 / 98

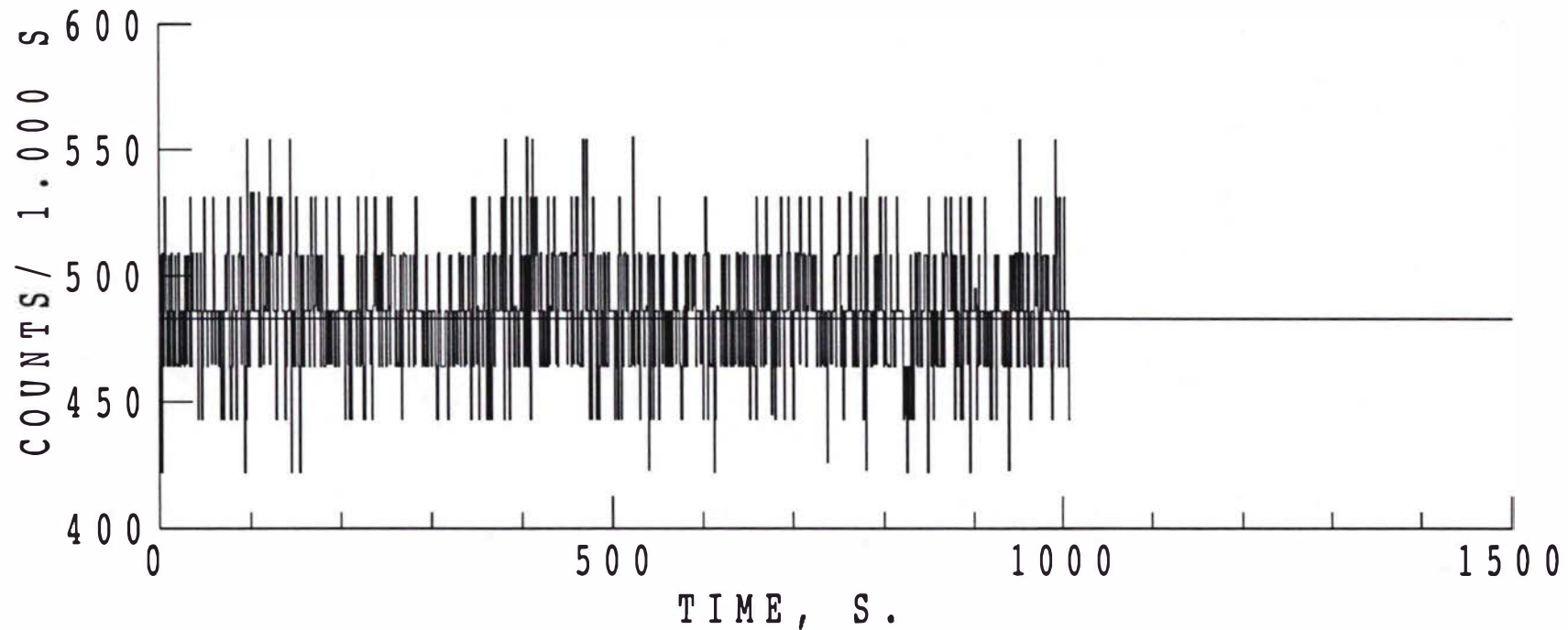
17 / 6 / 98 44388.039 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

B= 10 M=10
>4.0 SIGMA FLUCTUATIONS

B= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:25:04 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 22 Jun 1998 14:18:43 -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.: 6832

TIME: TJD=0981 SECONDS=68005 18:53:25

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=99.5 AZIMUTH=148.6 ERROR=5.0 DEGREES

COMMENTS:

SGR 1627 -41, SINGLE SPIKE. DURATION APPROX. = 0.05 SEC.
NOT VISIBLE ABOVE 100KEV.

Trigger
66Zs later
19:04

From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:31:23 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 22 Jun 1998 14:22:25 -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.: 6833

Trigger 21:08 (10 min later)

TIME: TJD=0981 SECONDS=75446 20:57:26

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.4 AZIMUTH=155.5 ERROR=2.7 DEGREES

COMMENTS:

SGR 1627-41, SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.3 SEC.
NOT VISIBLE ABOVE 100KEV.

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

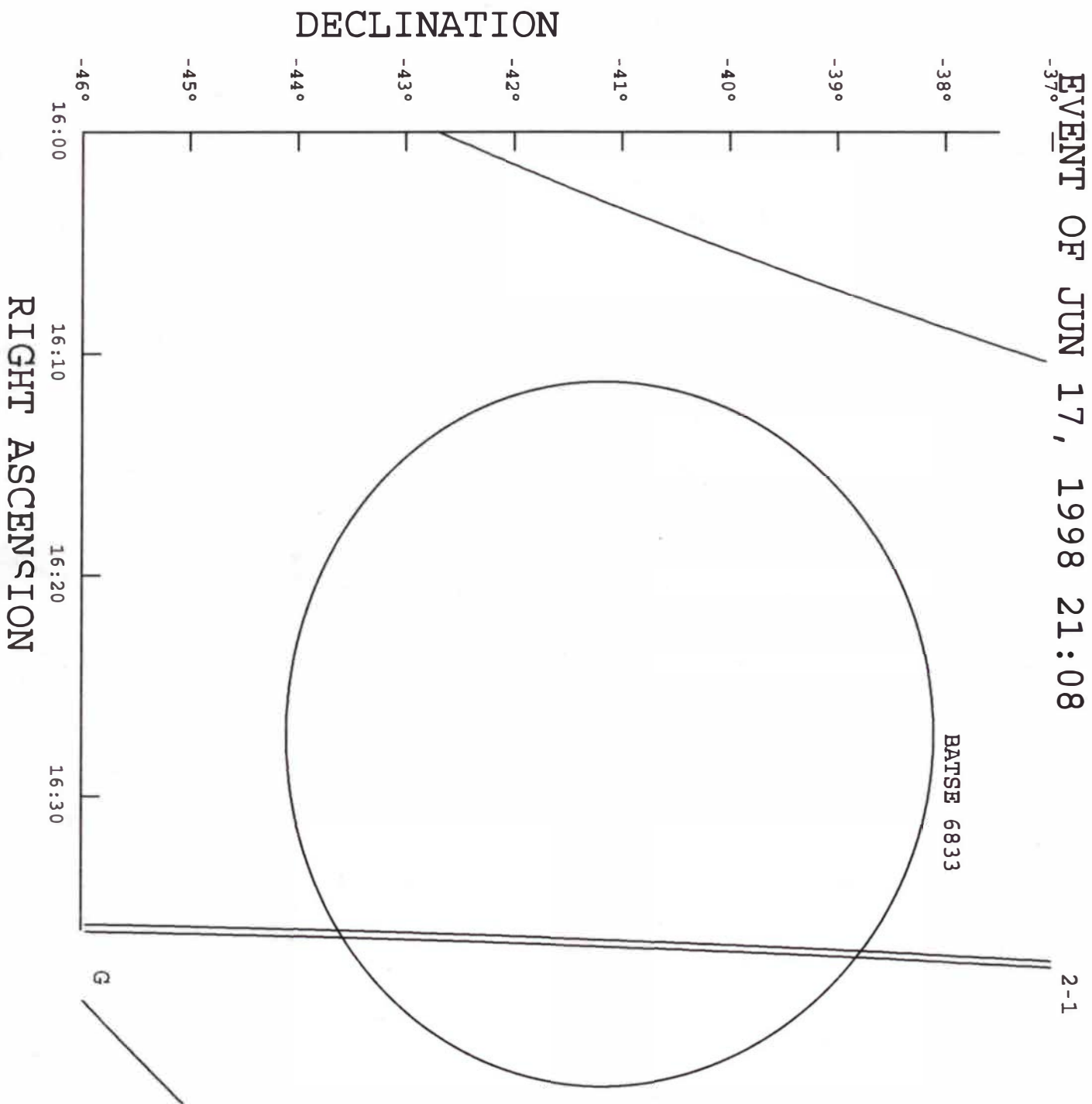
S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 ULYSSES

2 BATSE



18/ 6/98

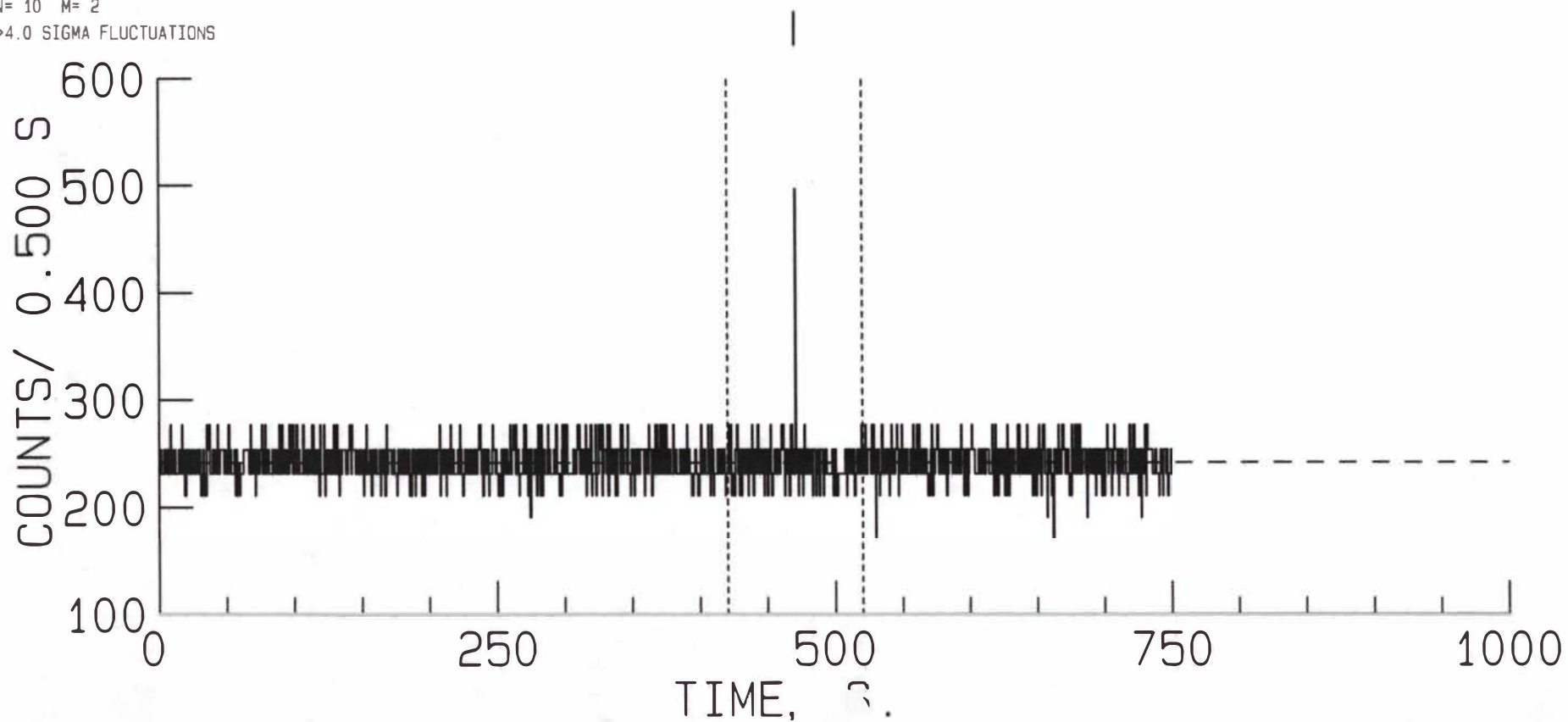
ULYSSES RT

18 / 6 / 98

17 / 6 / 98 75636.374 s

22- 148 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



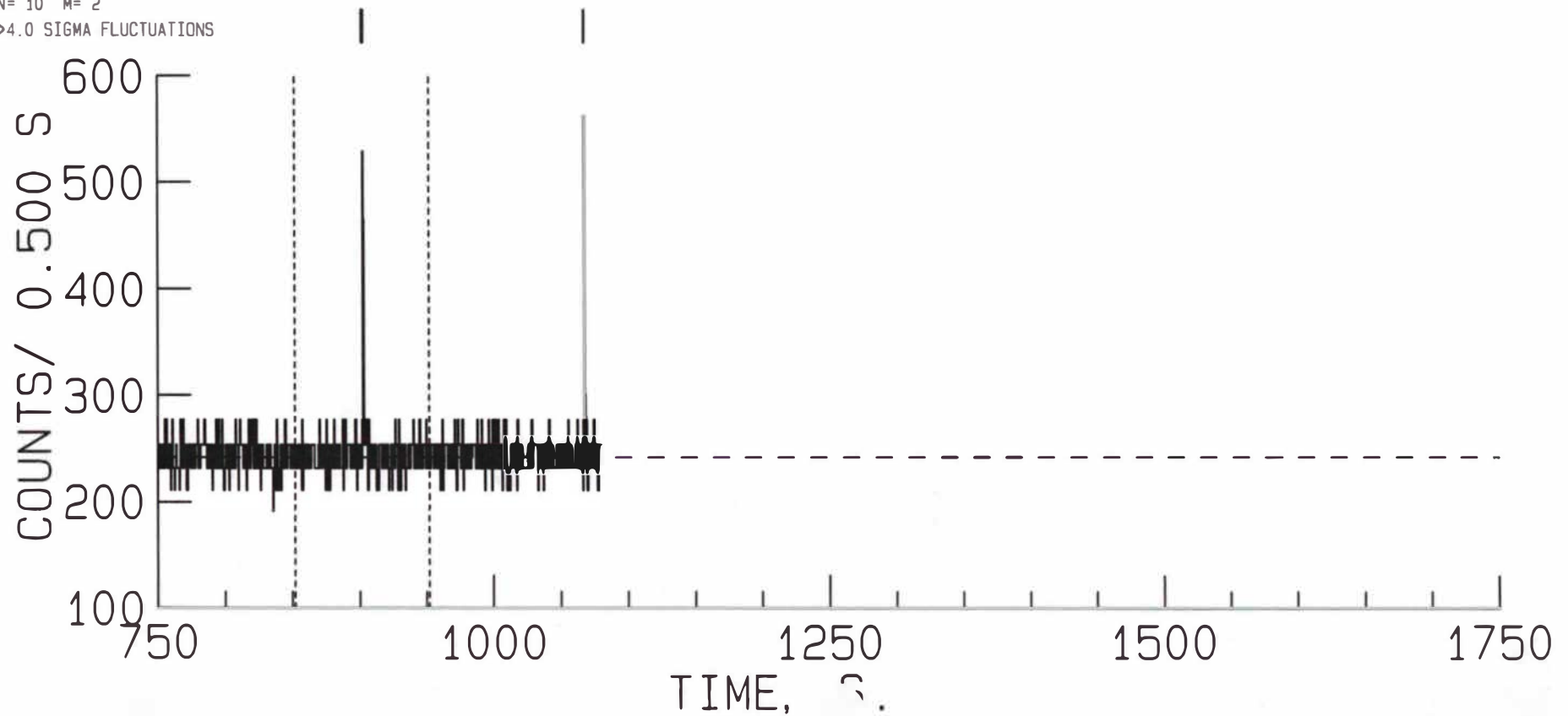
ULYSSES RT

18 / 6 / 98

17 / 6 / 98 75636.374 s

22- 148 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

ULYSSES RT

18 / 6 / 98

17 / 6 / 98 75636.375 s

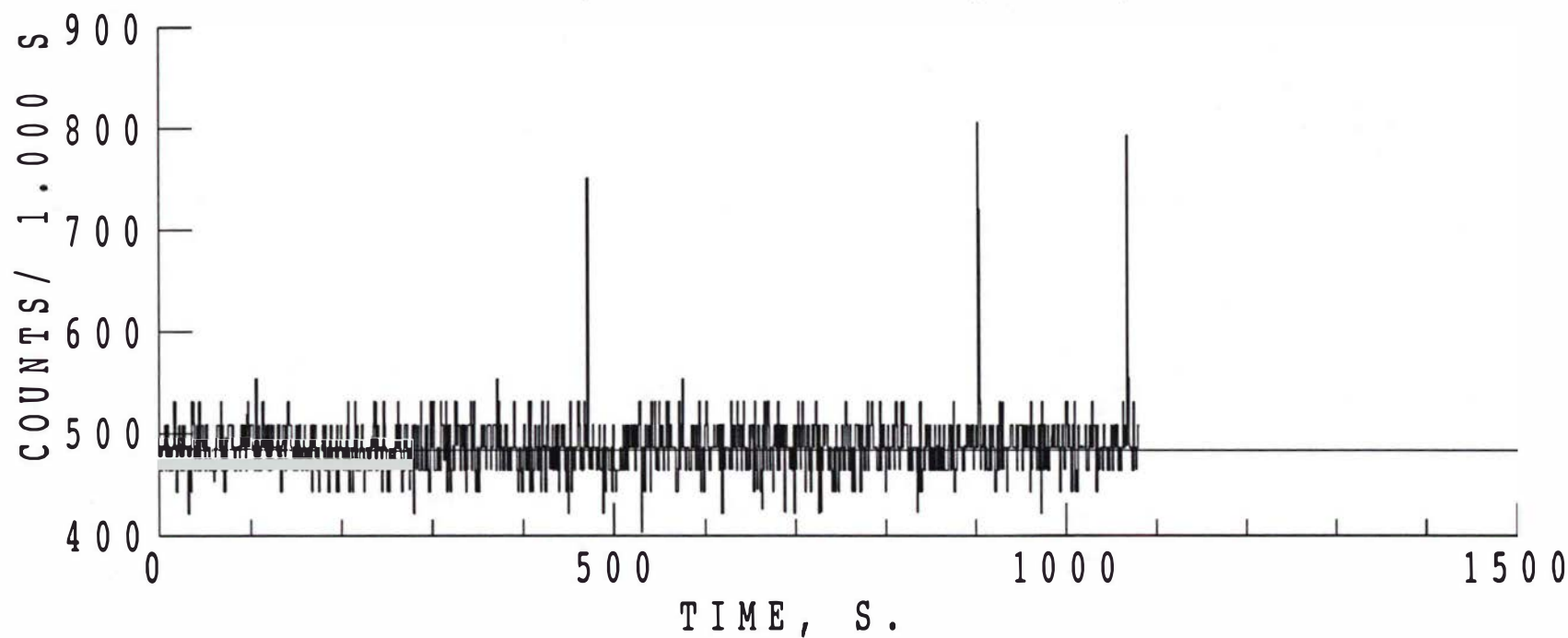
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

BATSE Trigger

431.

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

18 / 6 / 98

ULYSSES RT

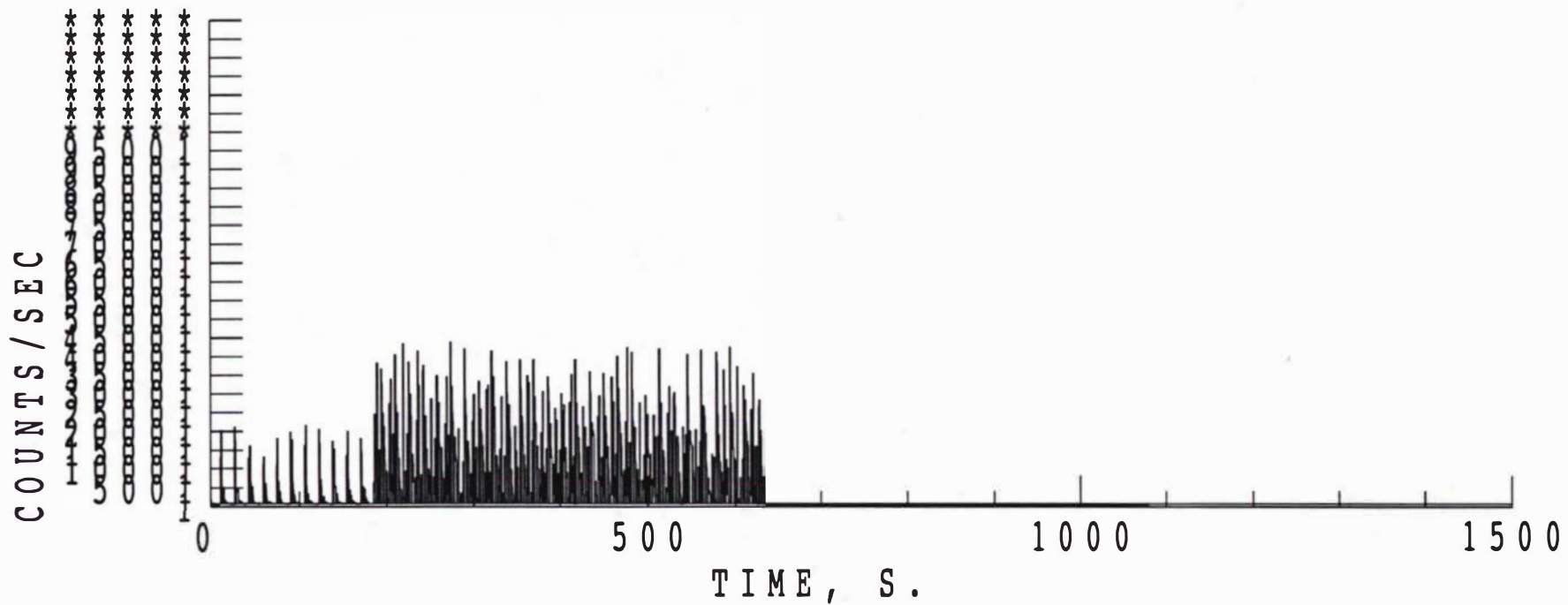
17 / 6 / 98 78012.148 s

INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Jun 22 12:38:44 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 22 Jun 1998 14:25:28 -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.: 6834

RI

TIME: TJD=0981 SECONDS=77838 21:37:18

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.2 AZIMUTH=155.8 ERROR=0.7 DEGREES

COMMENTS:

SGR 1627-41, DOUBLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.3 SEC.
NOT VISIBLE ABOVE 300KEV.

XTE ASM

6 / 3 / 99

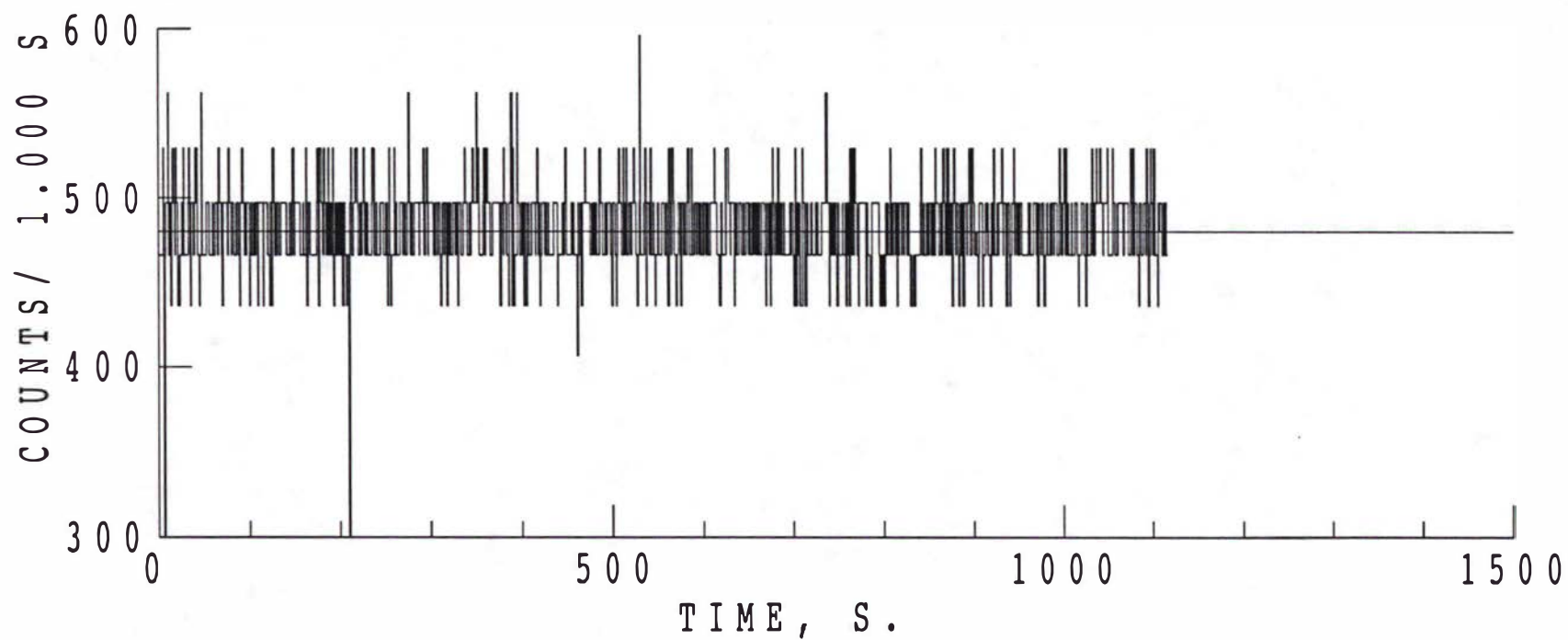
ULYSSES RT

17 / 6 / 98 81684.938 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



X T E

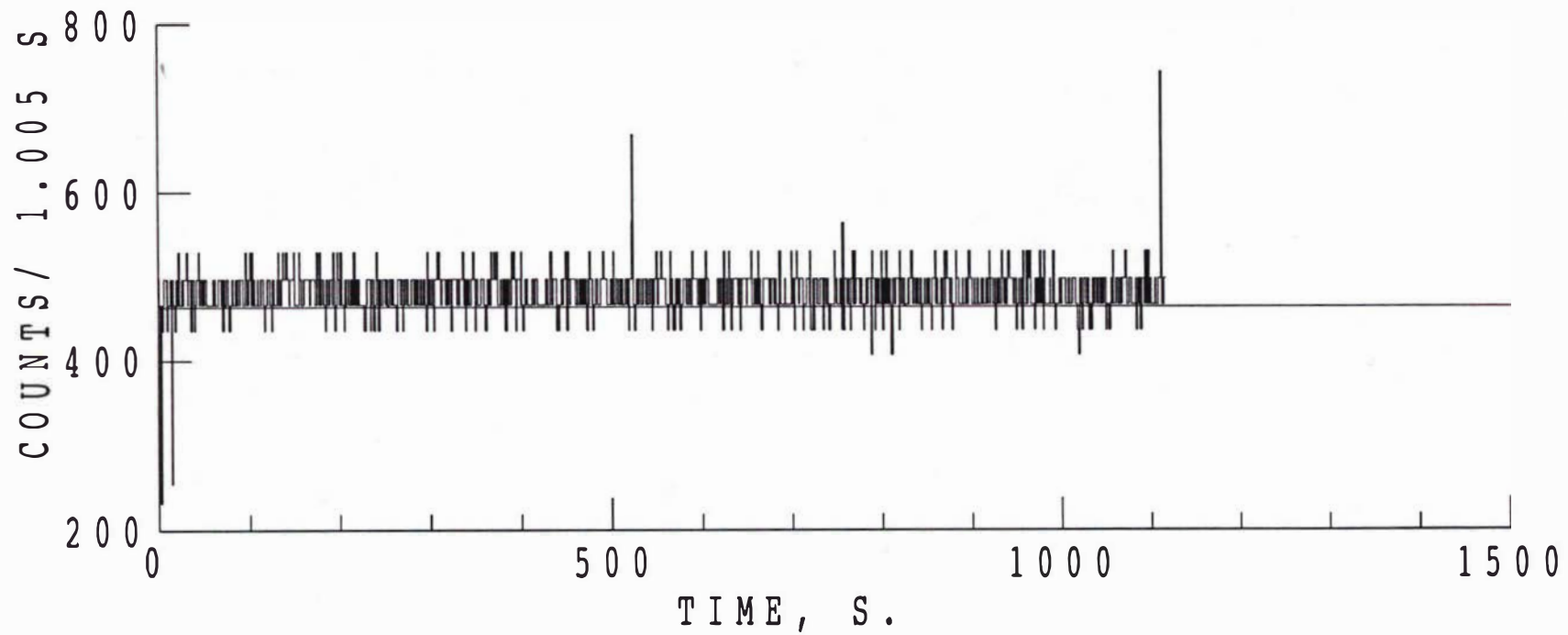
ULYSSES RT

6 / 3 / 99

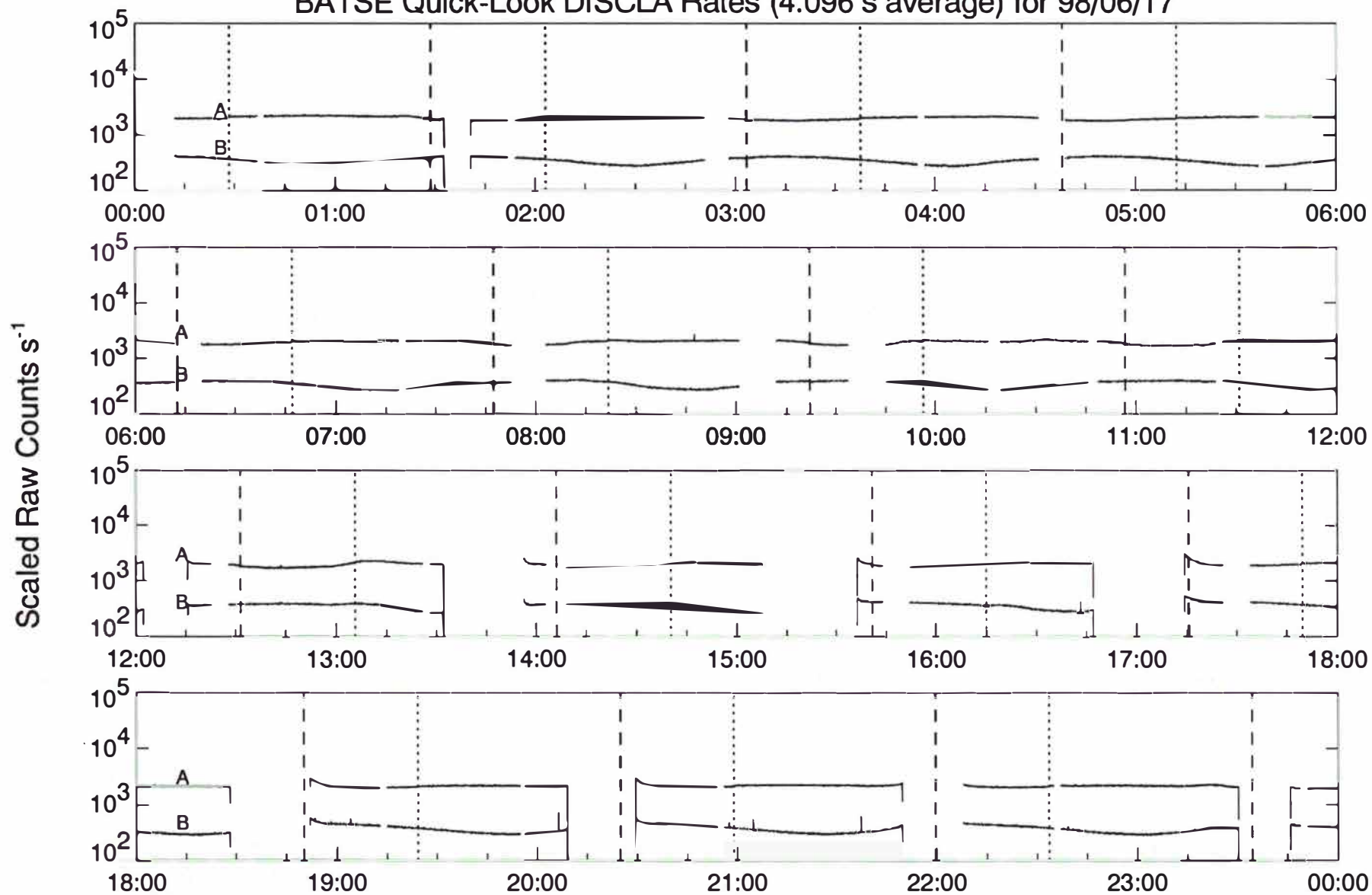
17 / 6 / 98 82584.945 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



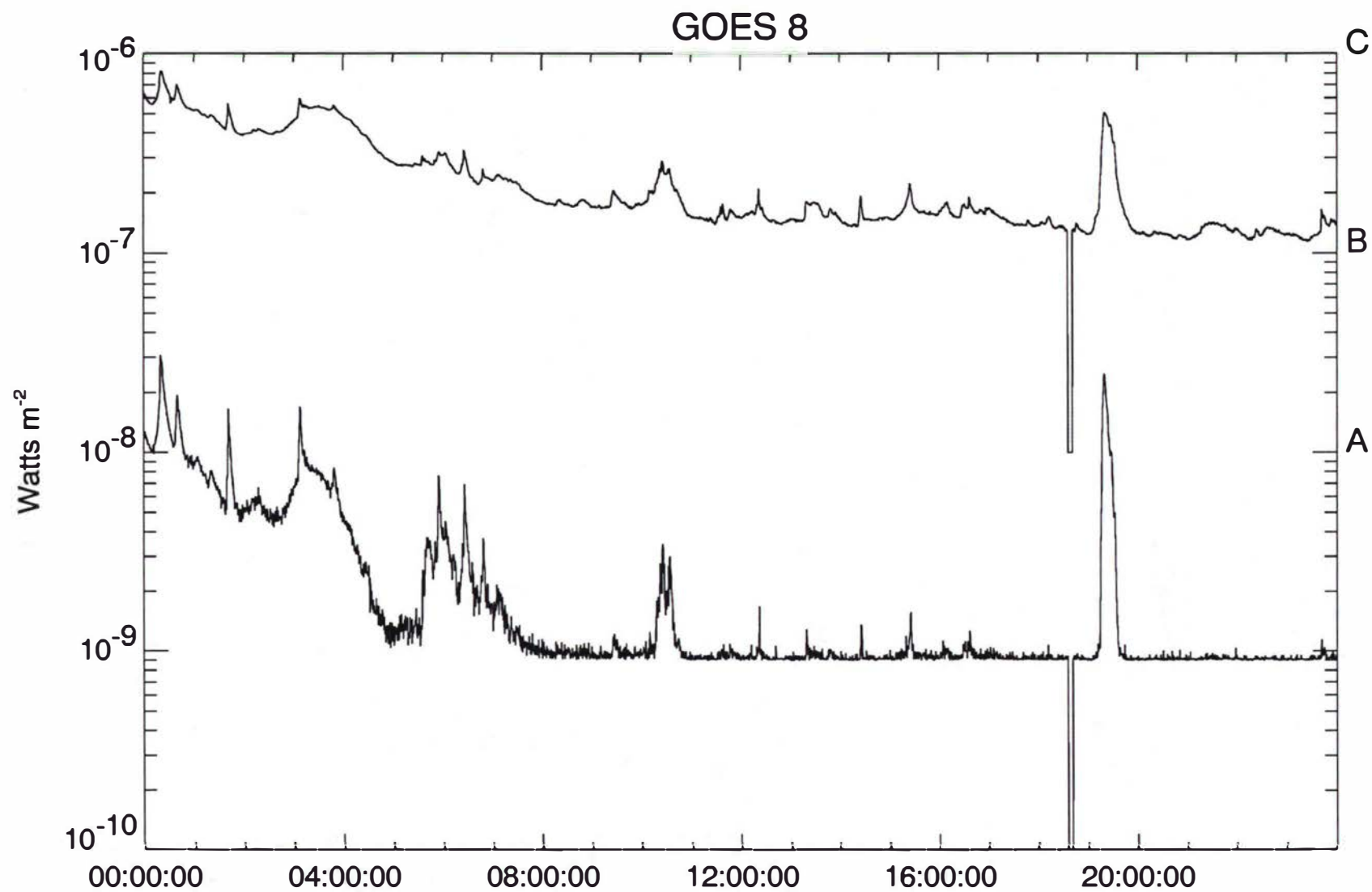
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/17



Current Time: 98/06/21, 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: 98/06/17, 0000:00

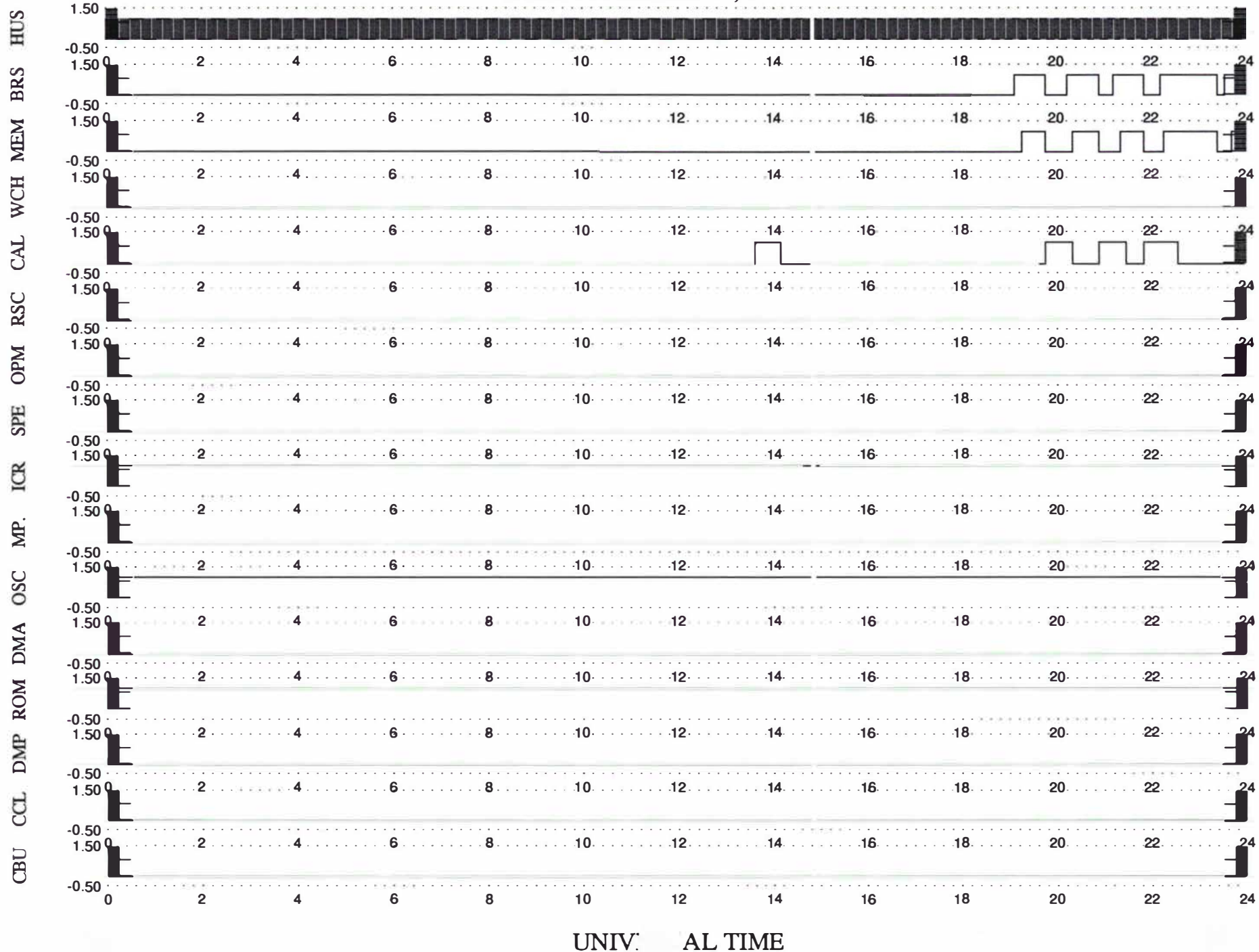
Plot created: 98/06/21, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

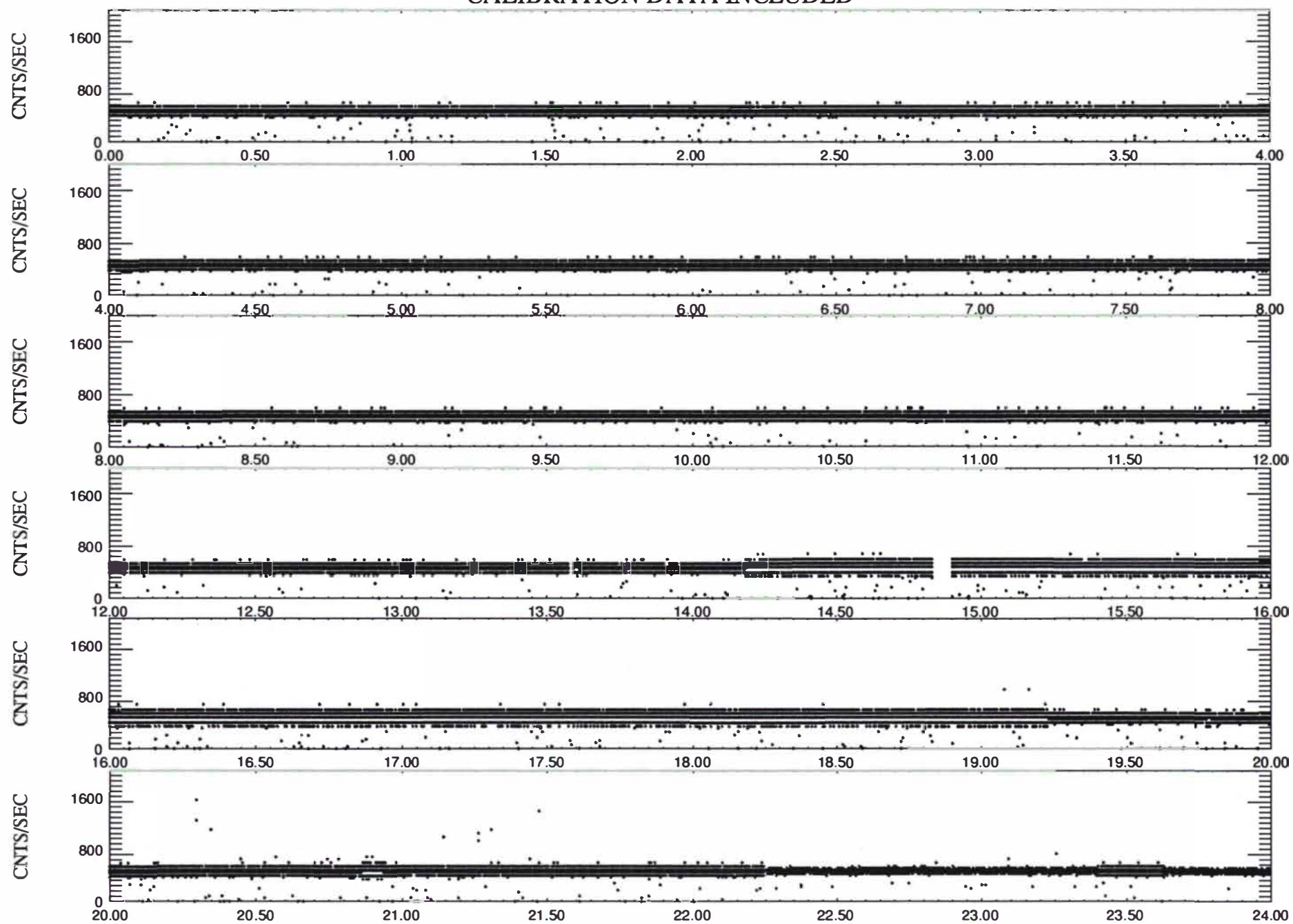
2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 15, 0 - 3

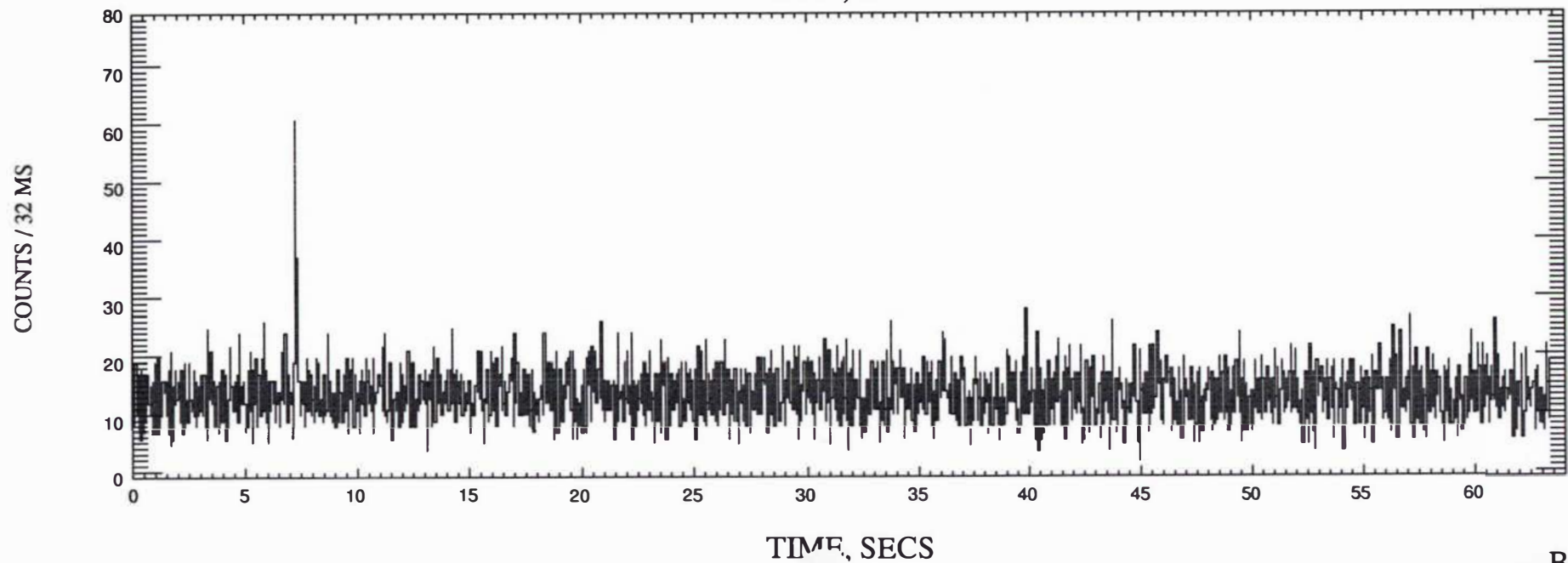
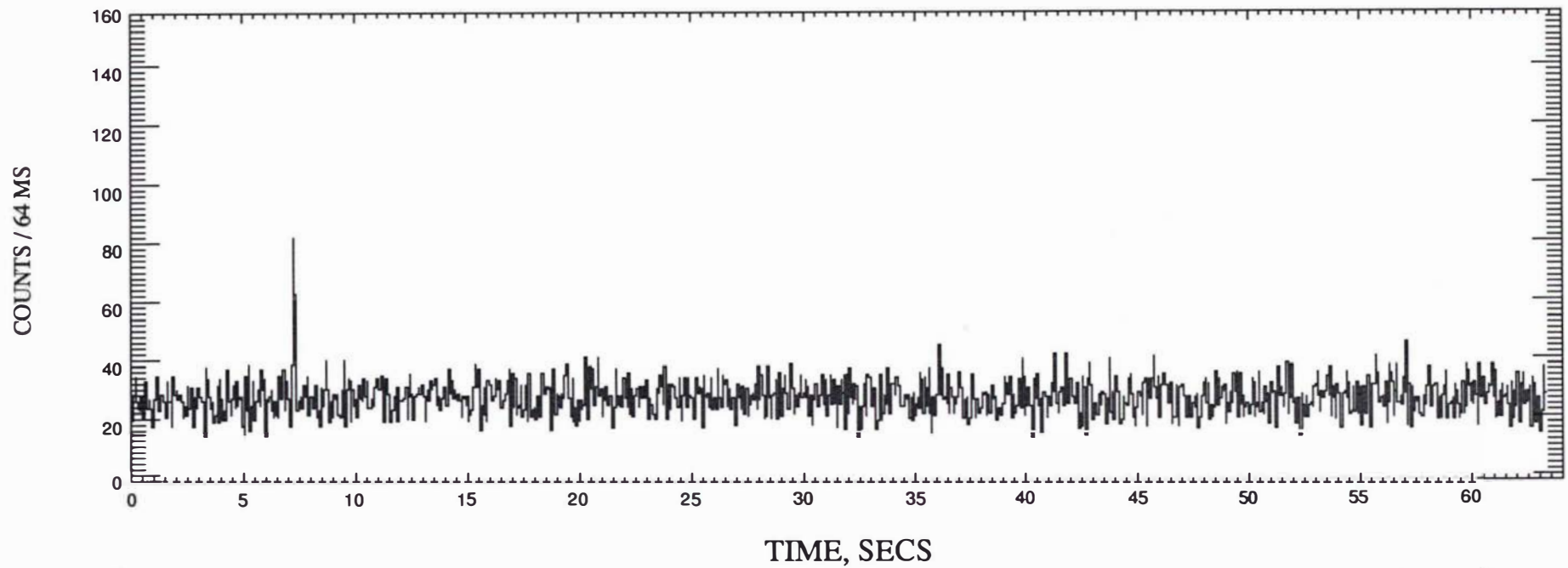


CALIBRATION DATA INCLUDED

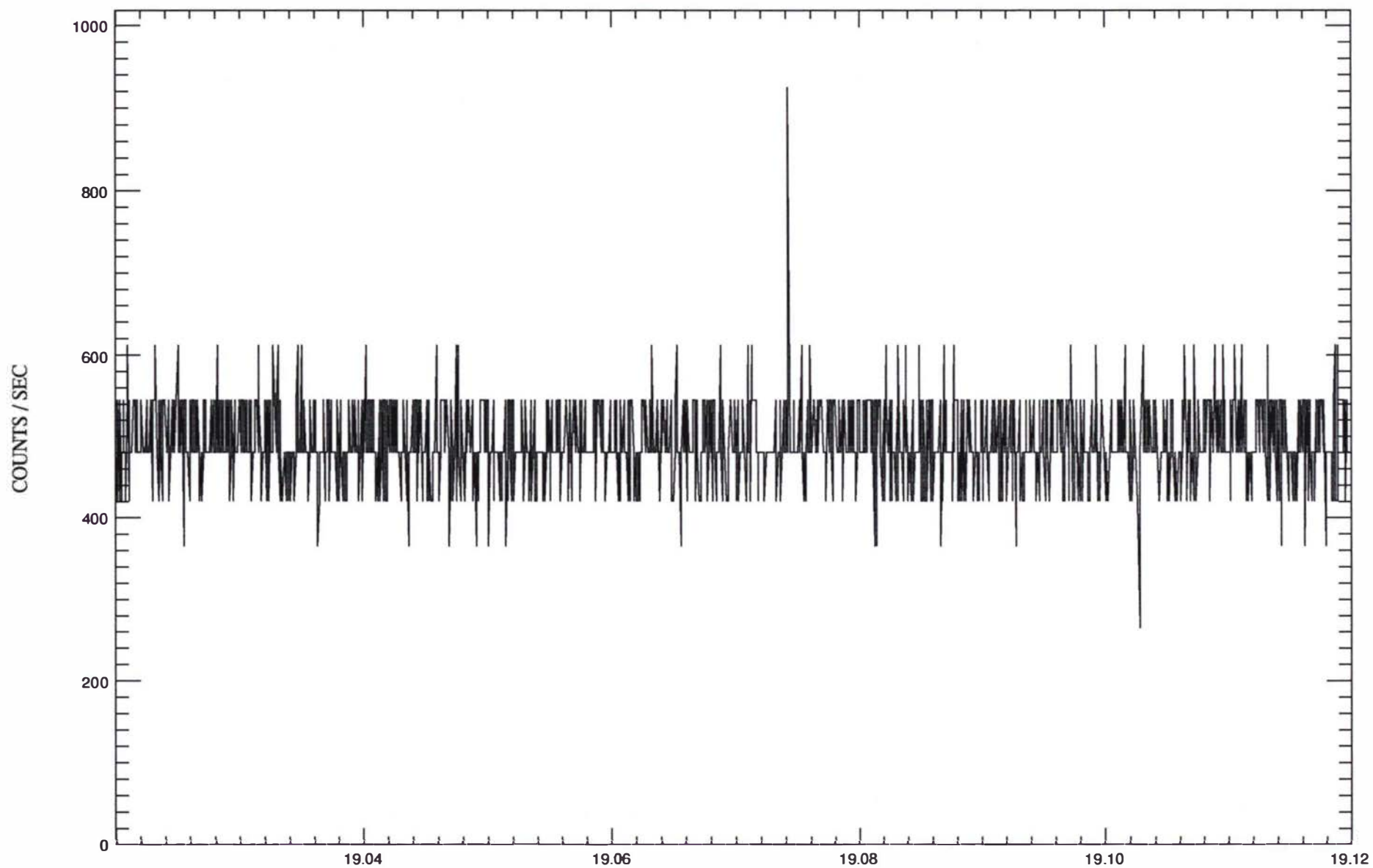


UNIV AL TIME

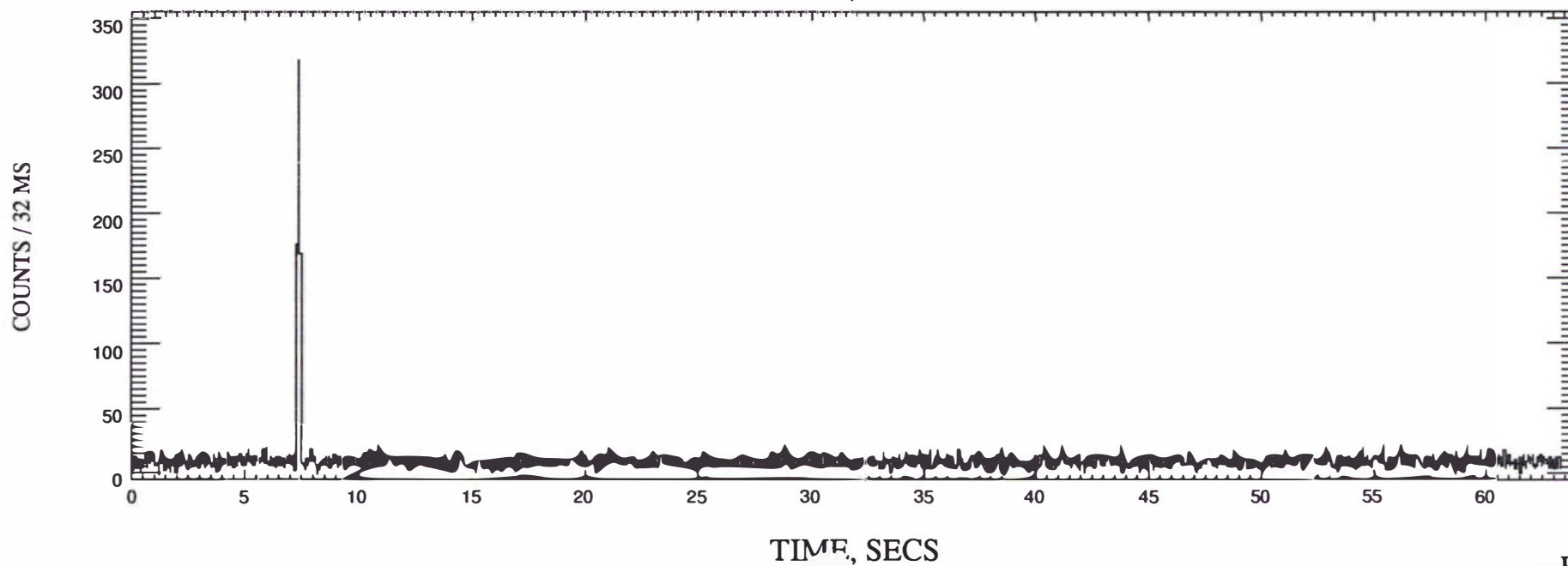
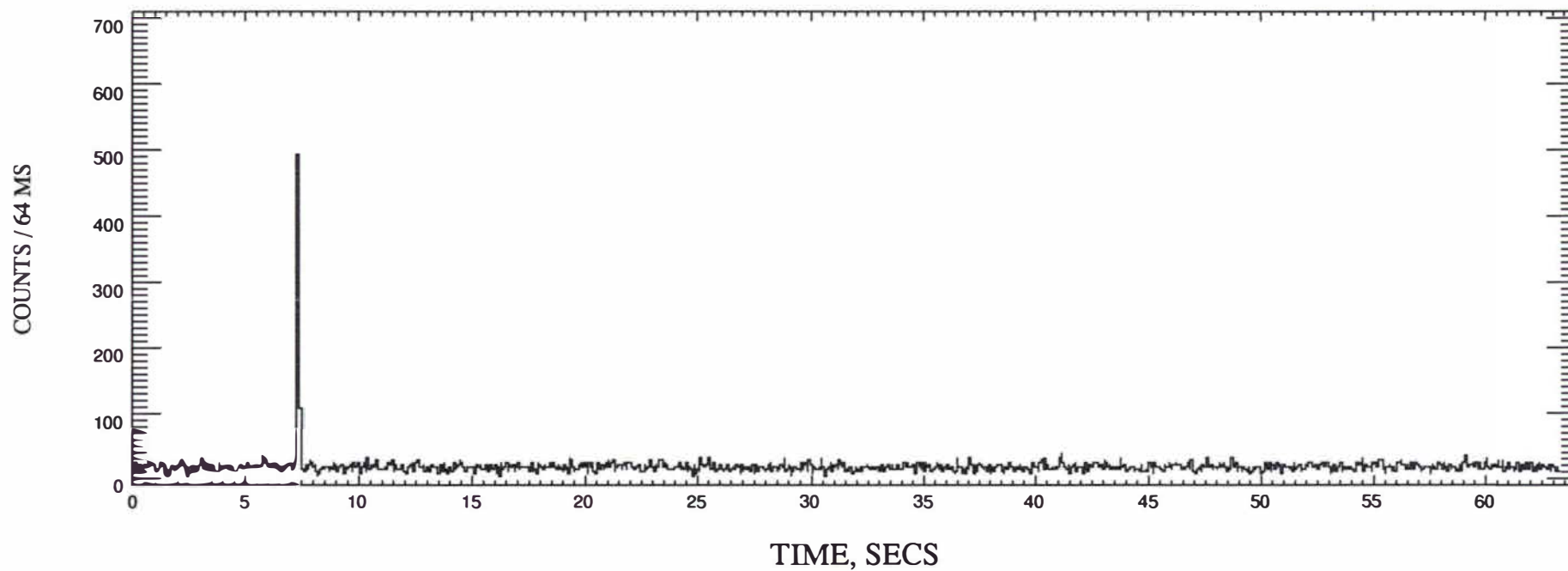
Burst Counter 15 at UT=19.074371346368 h=68667.737 s 19:04:27.737



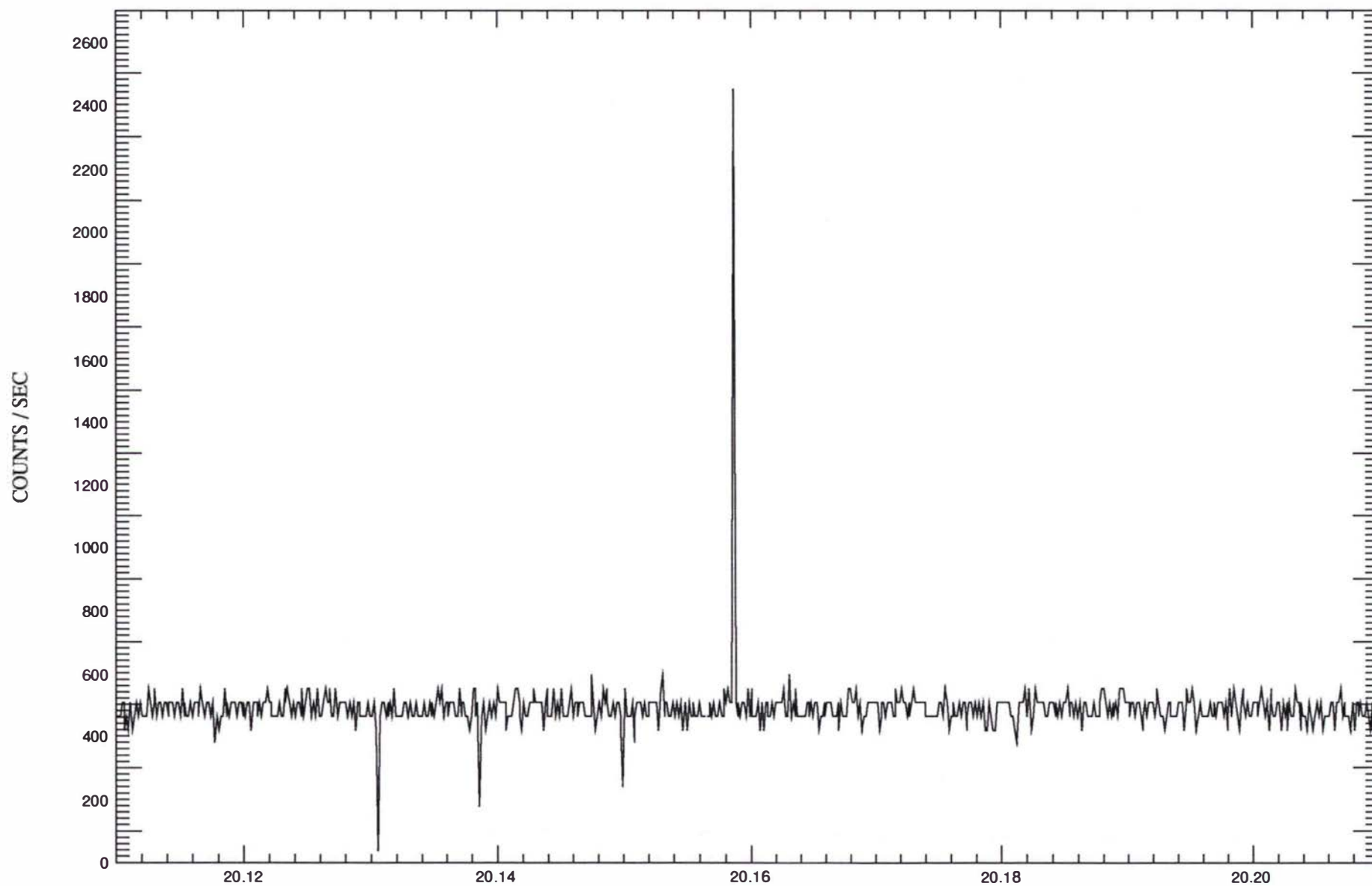
CALIBRATION DATA INCLUDED



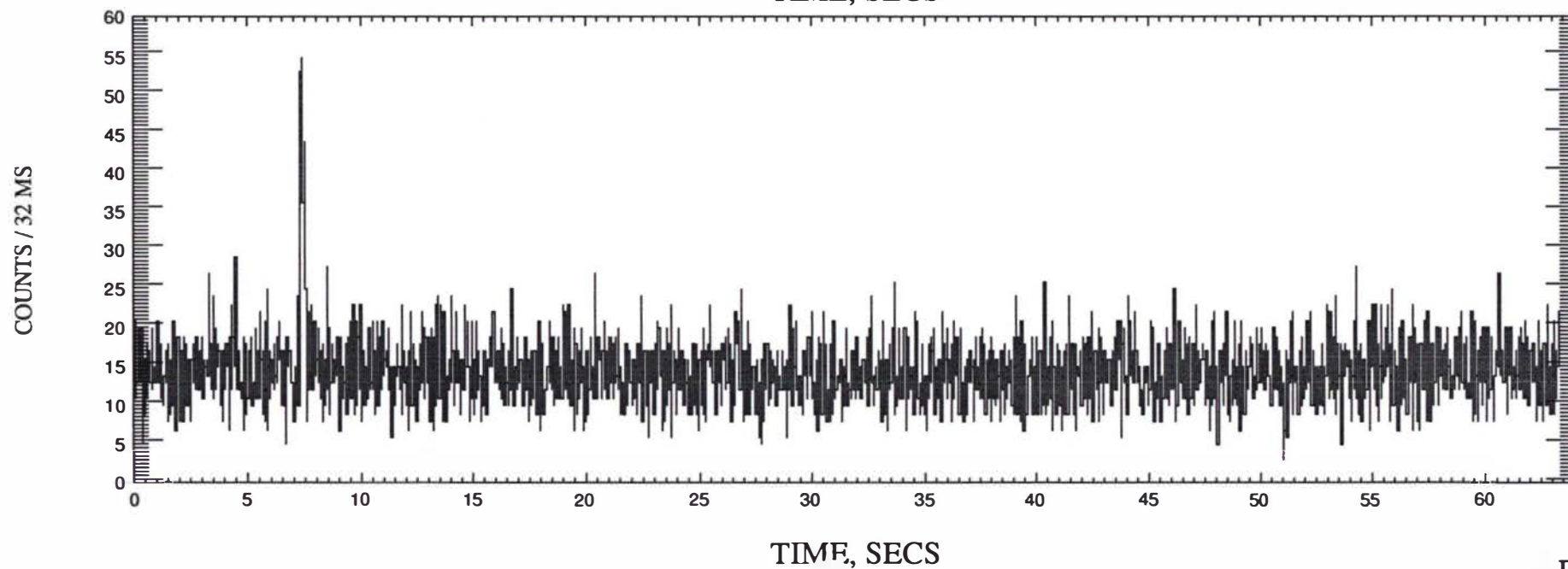
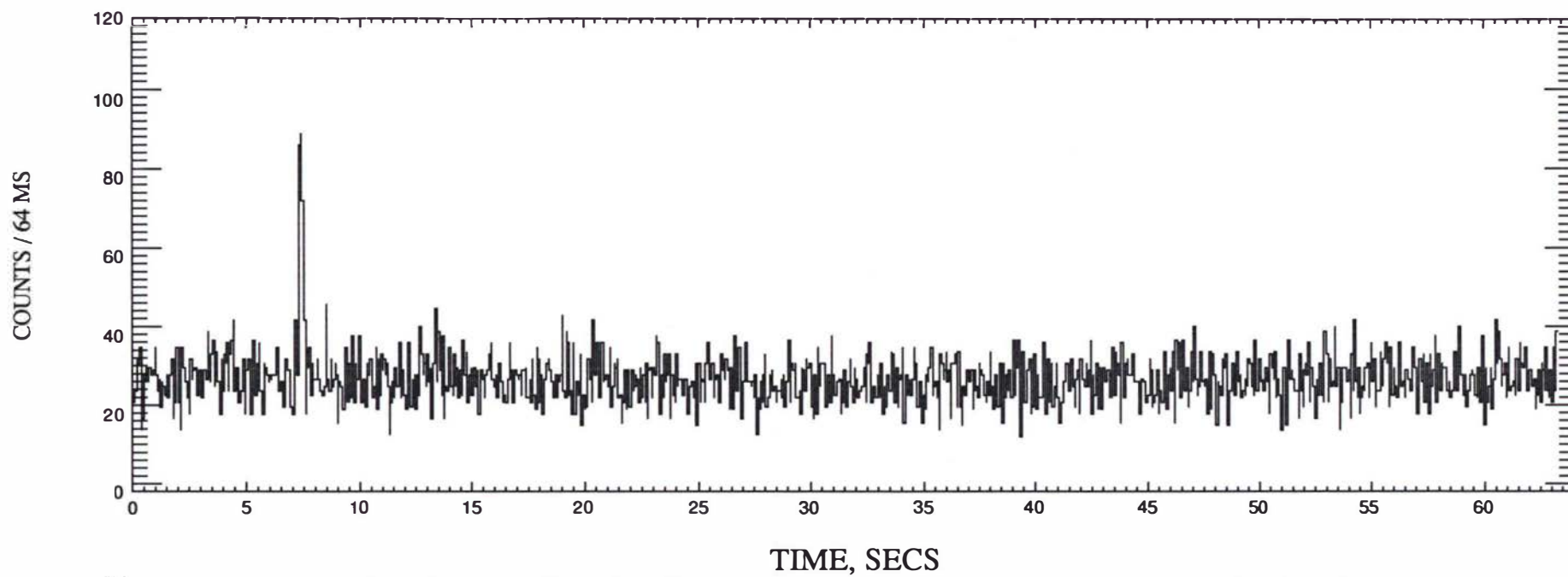
Burst Counter 0 at UT=20.158733817206 h=72571.442 s 20:09:31.442



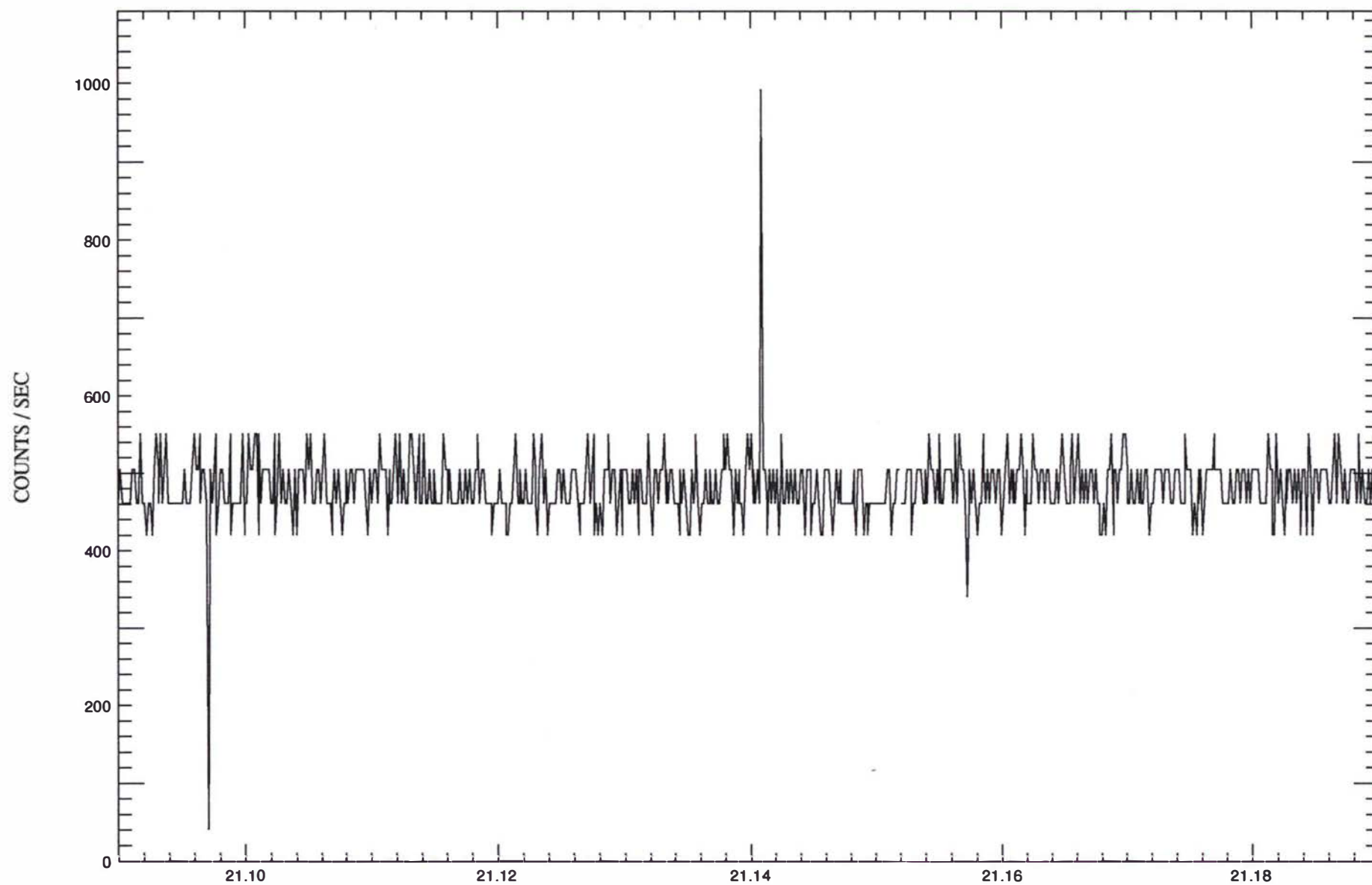
CALIBRATION DATA INCLUDED



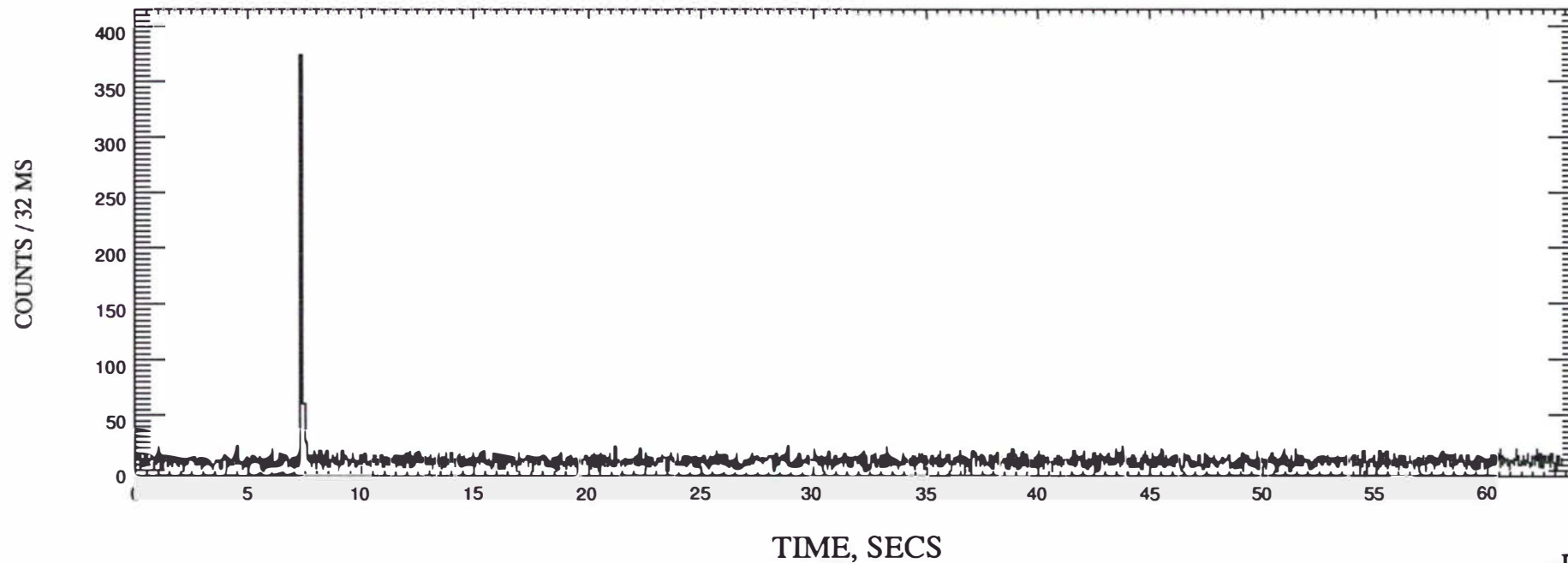
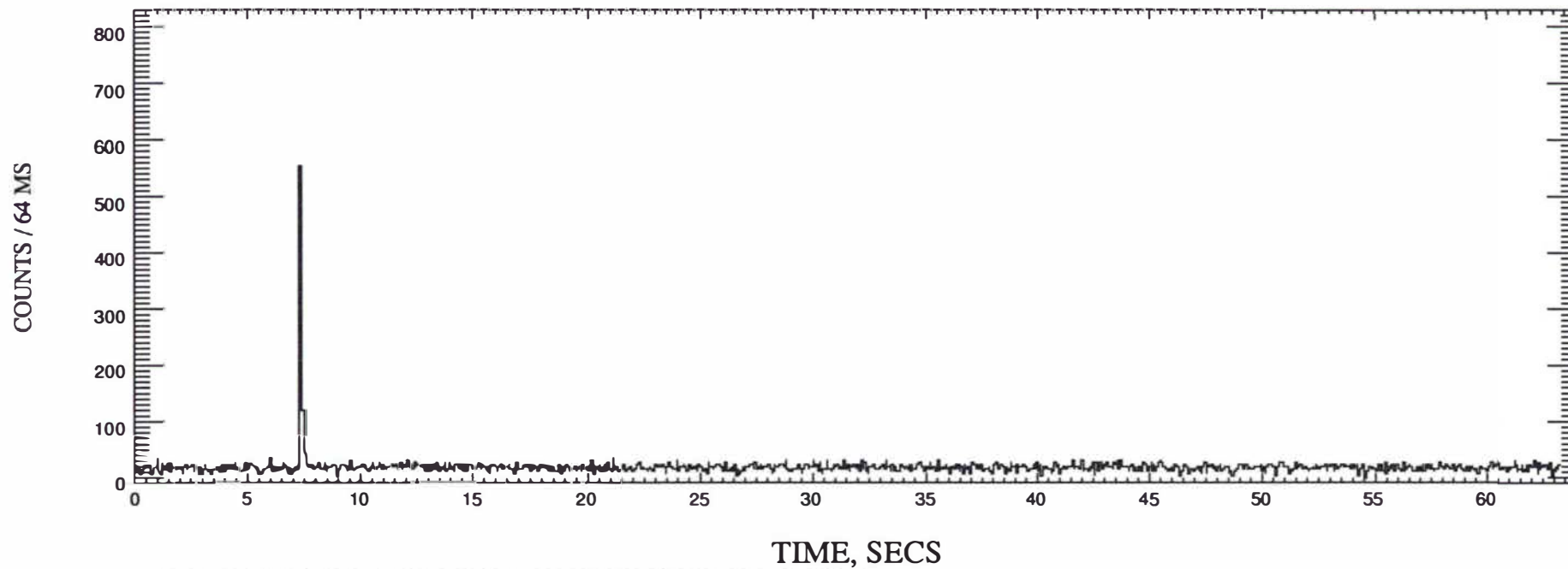
Burst Counter 1 at UT=21.140999179416 h=76107.597 s 21:08:27.597



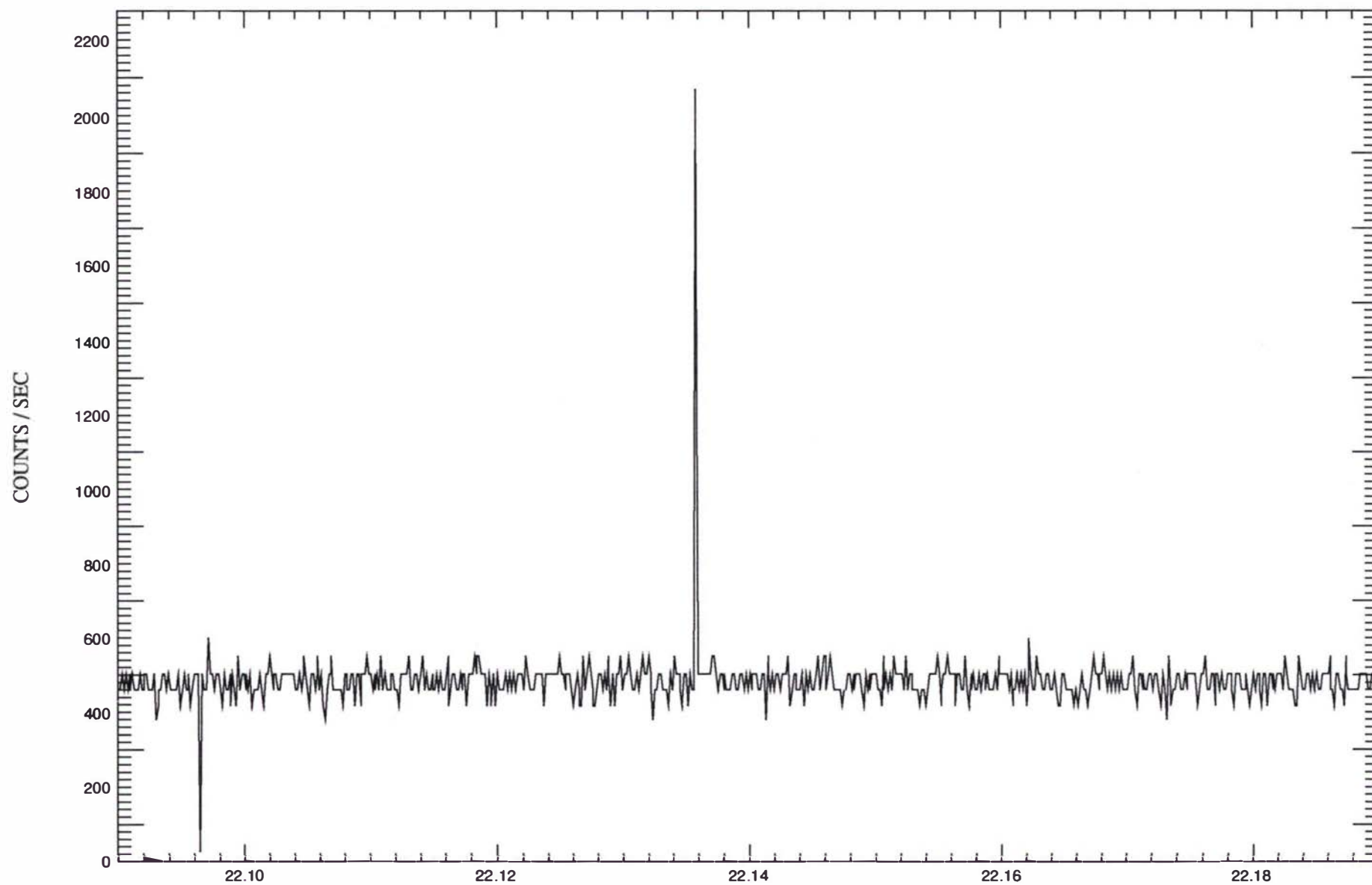
CALIBRATION DATA INCLUDED



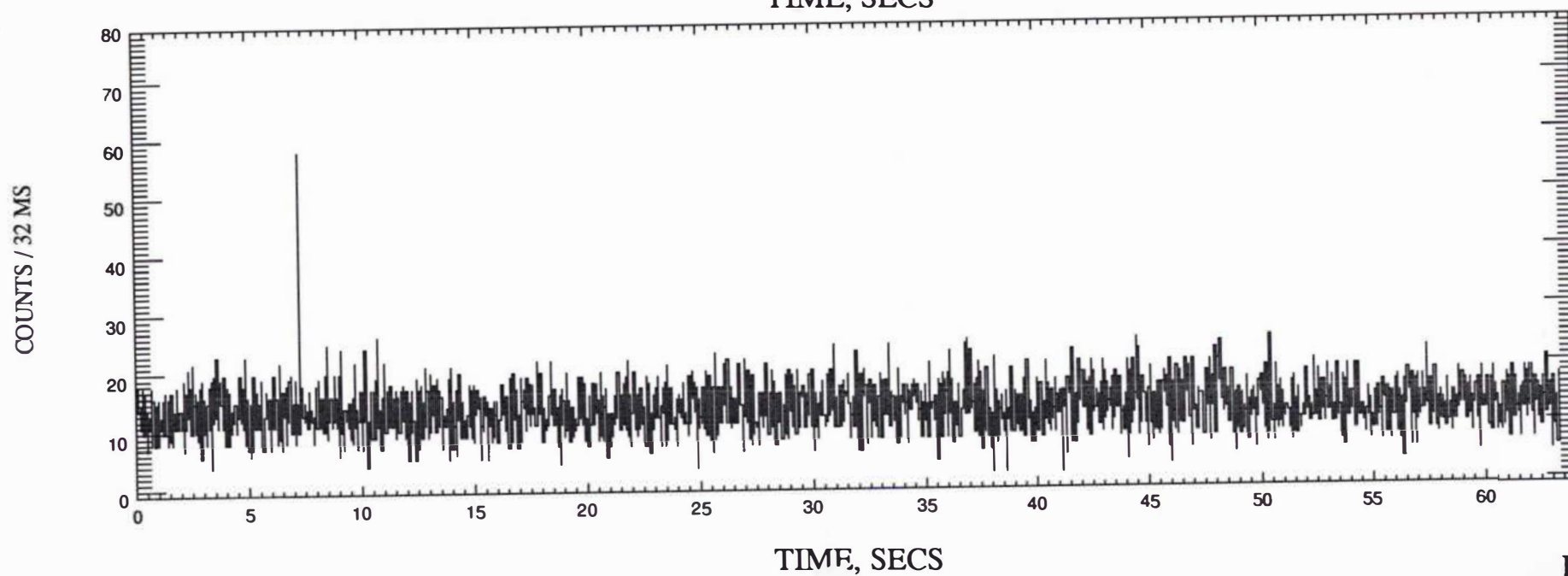
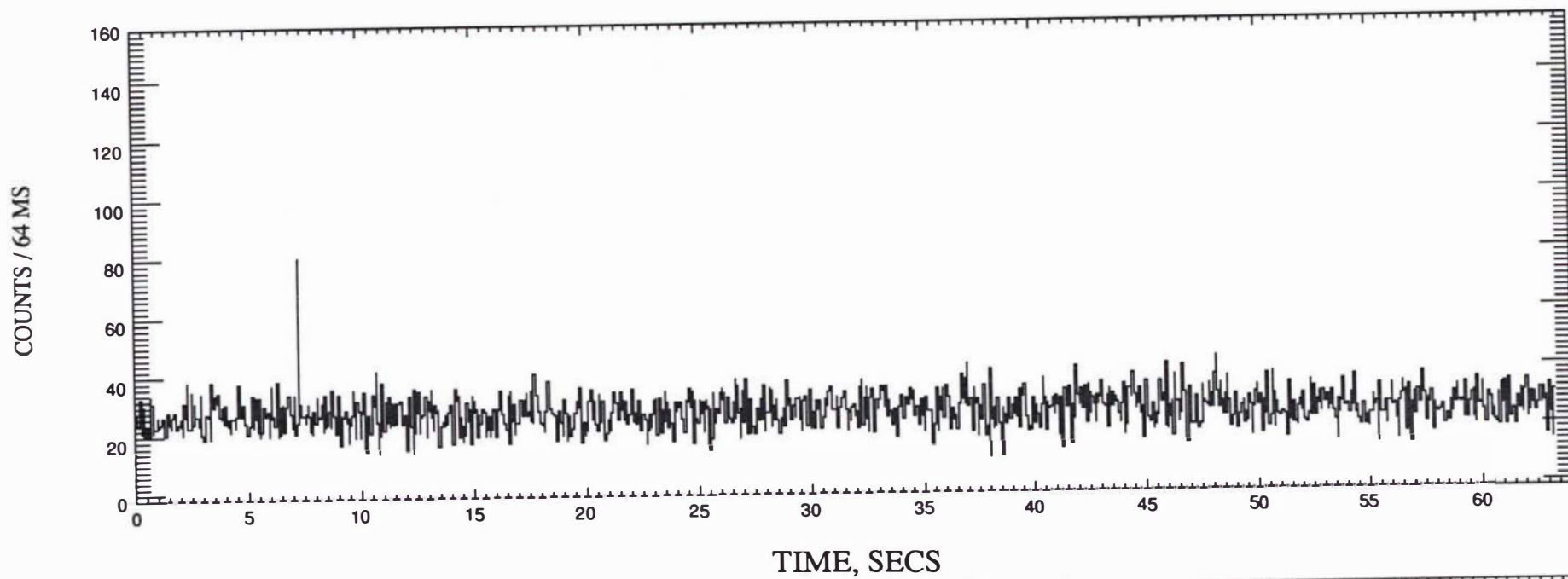
Burst Counter 2 at UT=22.136020613776 h=79689.674 s 22:08:09.674



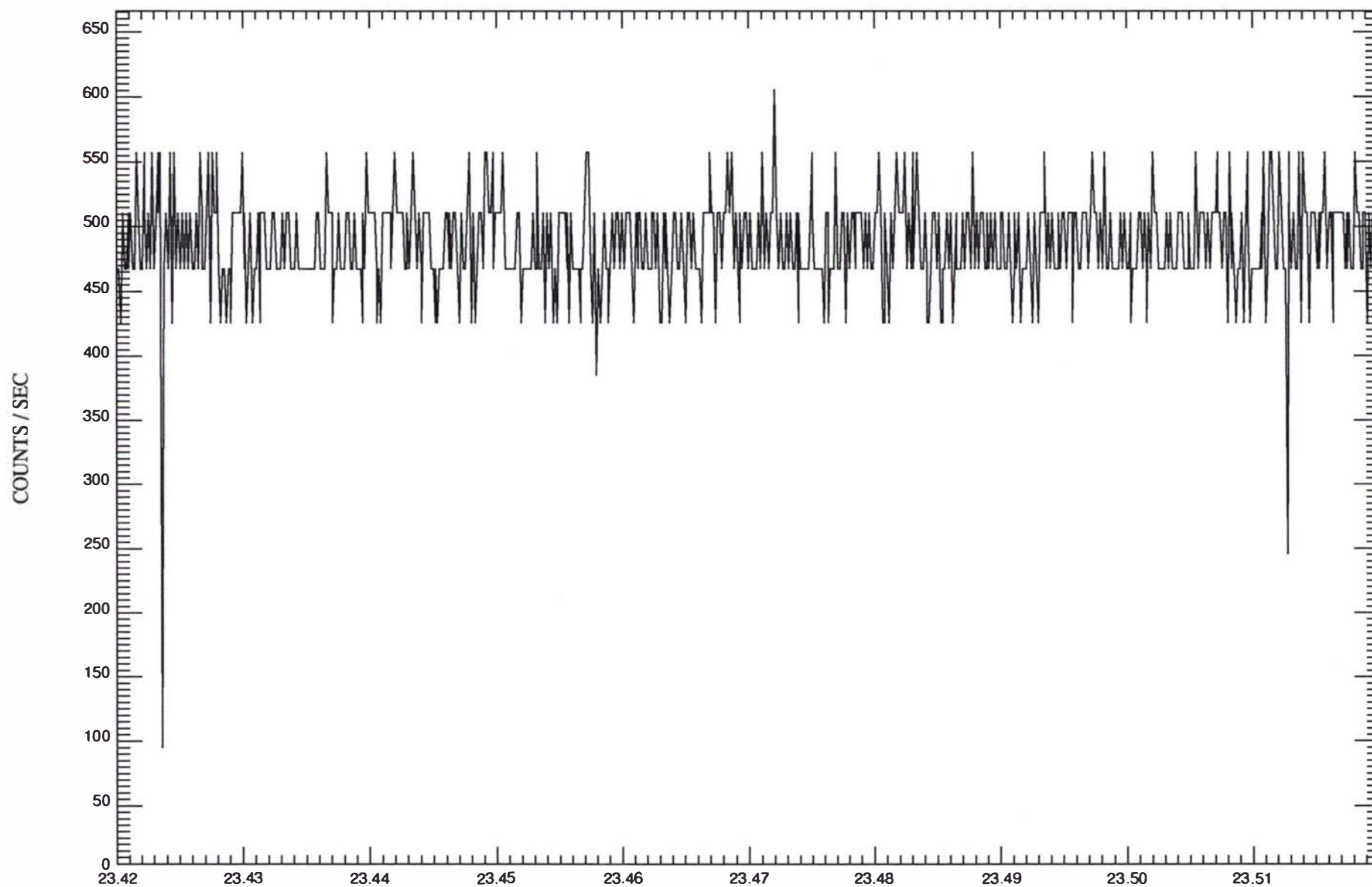
CALIBRATION DATA INCLUDED

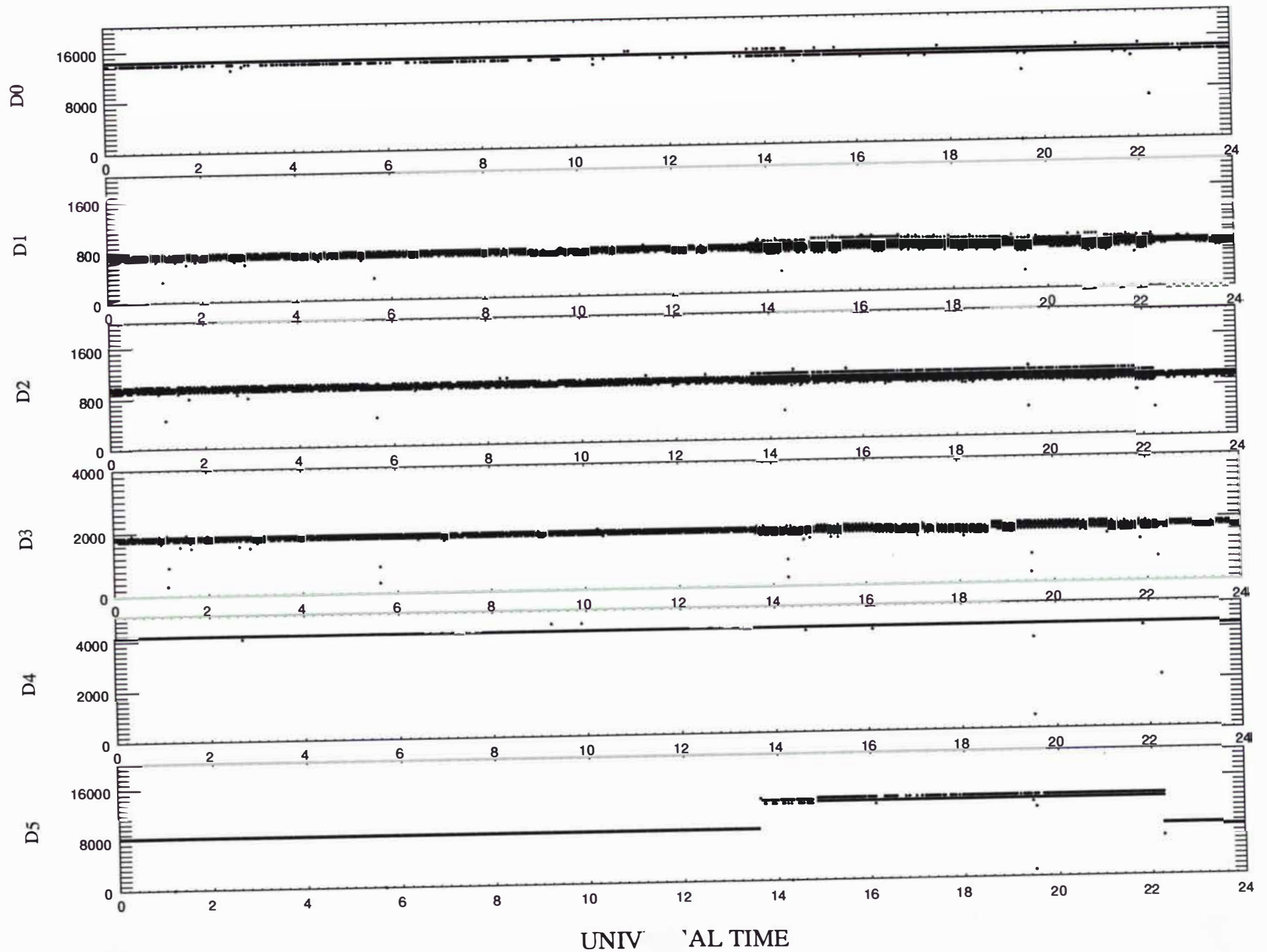


Burst Counter 3 at UT=23.472204310099 h=84499.936 s 23:28:19.936



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Tue Jun 23 11:28:58 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:28:27 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.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.: 6835

TIME: TJD=0982 SECONDS=367 00:06:07

1029@U No data yet

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=99.6 AZIMUTH=161.4 ERROR=8.63 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.4 S. NOT VISIBLE ABOVE 100 KEV.

From SURASAK@fender.msfc.nasa.gov Tue Jun 23 11:54:34 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:54:20 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavwww.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.: 6836

TIME: TJD=0982 SECONDS=3062 00:51:02 3724@U

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.5 AZIMUTH=157.2 ERROR=4.3 DEGREES

COMMENTS:

SGR. DURATION ABOUT 0.1 S. SINGLE PULSE. NOT VISIBLE ABOVE 300 KEV.

BATSE BURST# 6836

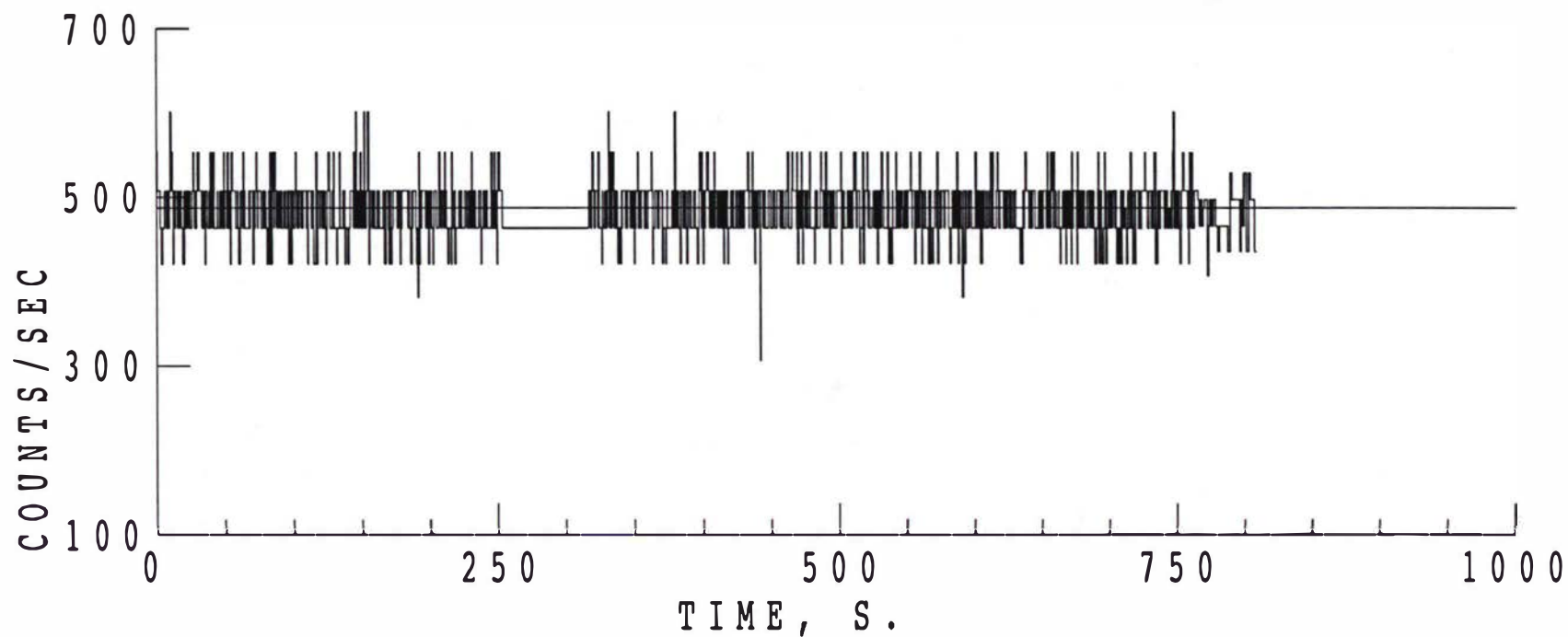
ULYSSES RT

23 / 6 / 98

18 / 6 / 98 3511.525 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 11:56:34 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:56:17 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6837

TIME: TJD=0982 SECONDS=6151 01:42:31

6813@U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.9 AZIMUTH=158.6 ERROR=8.44 DEGREES

COMMENTS:

SGR. VERY STRONG SINGLE PULSE. DUR ABOUT 0.6 S. VISIBLE ABOVE 300 KEV.

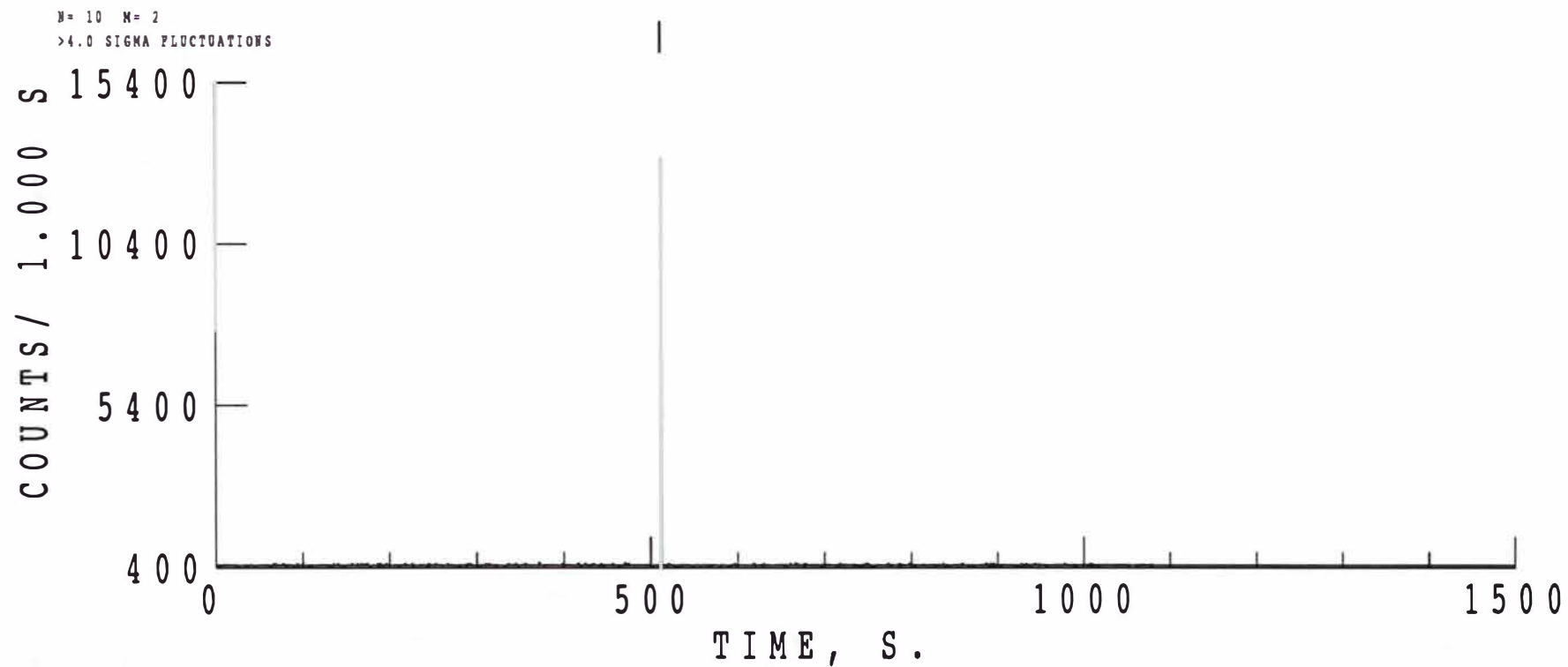
BATSE BURST# 6837

ULYSSES RT

23 / 6 / 98

18 / 6 / 98 6300.052 s

0 - 0 keV



BACODINE 6837 18/06/98 6140.641

25- 100 keV

COUNTS/1.024 S

1000000
1500000
2000000
2500000
3000000
3500000
4000000
4500000
5000000
5500000
6000000
6500000
7000000
7500000
8000000
8500000
9000000
9500000

- D

24

49

74

99

124

149

174

199

224

TIME, SECS

17 / 6 / 98

From SURASAK@fender.msfc.nasa.gov Tue Jun 23 12:23:27 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 14:22:55 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6838

TIME: TJD=0982 SECONDS=14031

03:53:51

14693@ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=

AZIMUTH=

ERROR=

DEGREES

COMMENTS:

PROBABLE SGR. SINGLE PULSE. DURATION ABOUT 0.25 S. NOT VISIBLE ABOVE 100 KEV.
NO LOCATION FOR THIS ONE DUE TO BAD DATA.

From SURASAK@fender.msfc.nasa.gov Tue Jun 23 12:58:46 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 14:58:11 -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.: 6839

TIME: TJD=0982 SECONDS=14661 04:04:21 15323@U

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PROBABLE SGR. VERY STRONG SINGLE PULSE. DURATION ABOUT 1.5 S. VISIBLE ABOVE 300 KEV. NO LOCATION DUES TO BAD DATA.

*Could either be 1627 or 1900 according to Pete Woods
But Ulysses data consistent with 1627*

BATSE BURST# 6839

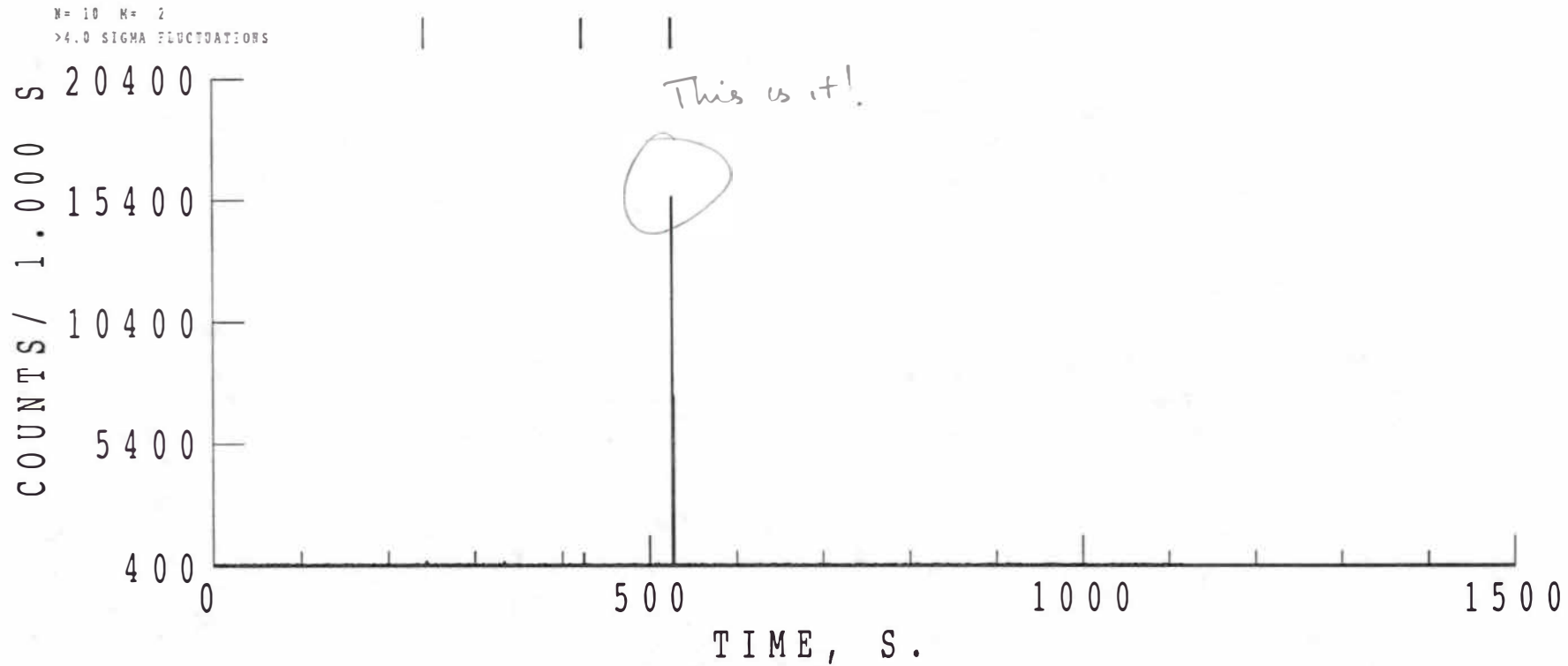
ULYSSES RT

3 / 2 / 99

18 / 6 / 98 14796.146 s

1627 window

0 - 0 keV



BATSE BURST# 6839

ULYSSES RT

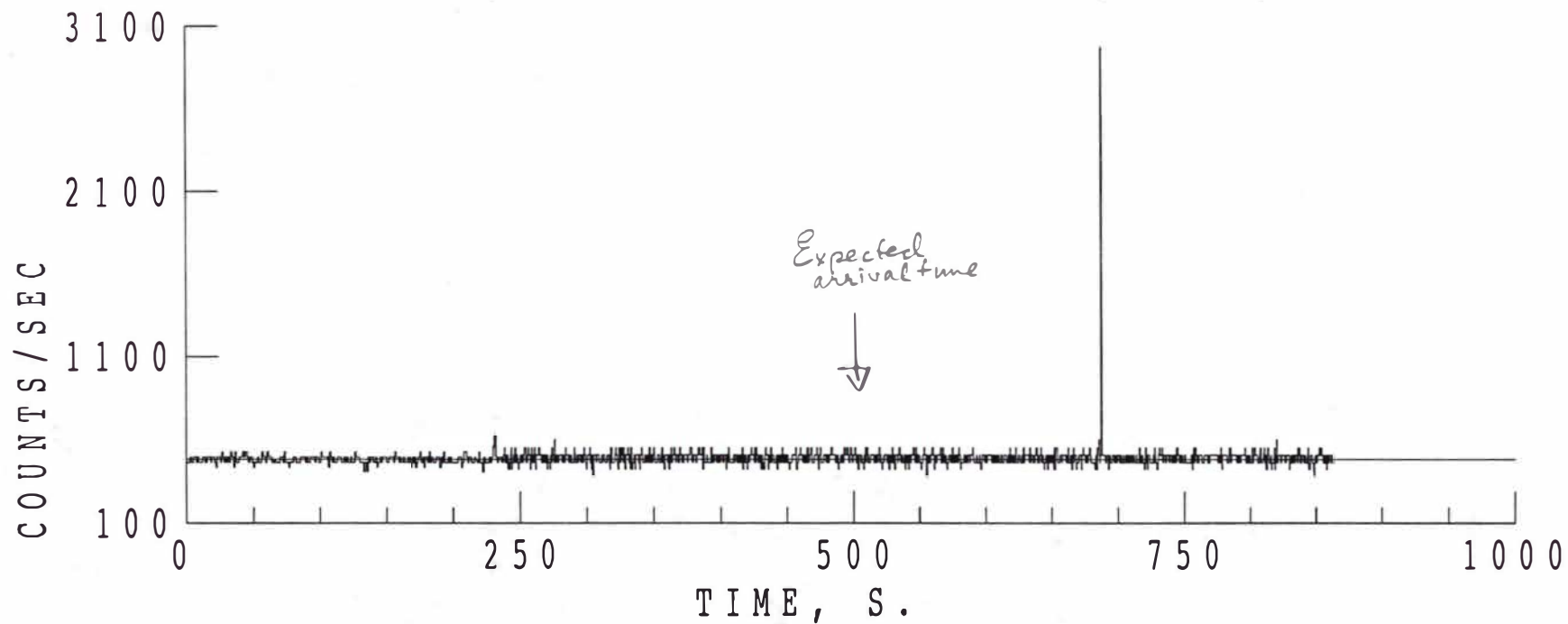
3 / 2 / 99

18 / 6 / 98 16200.157 s

1900 window

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:00:43 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:00:16 -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.: 6840

TIME: TJD=0982 SECONDS=21955 6:05:55

22657@ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=94.1 AZIMUTH=159.1 ERROR=5.57 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE 100 KEV.

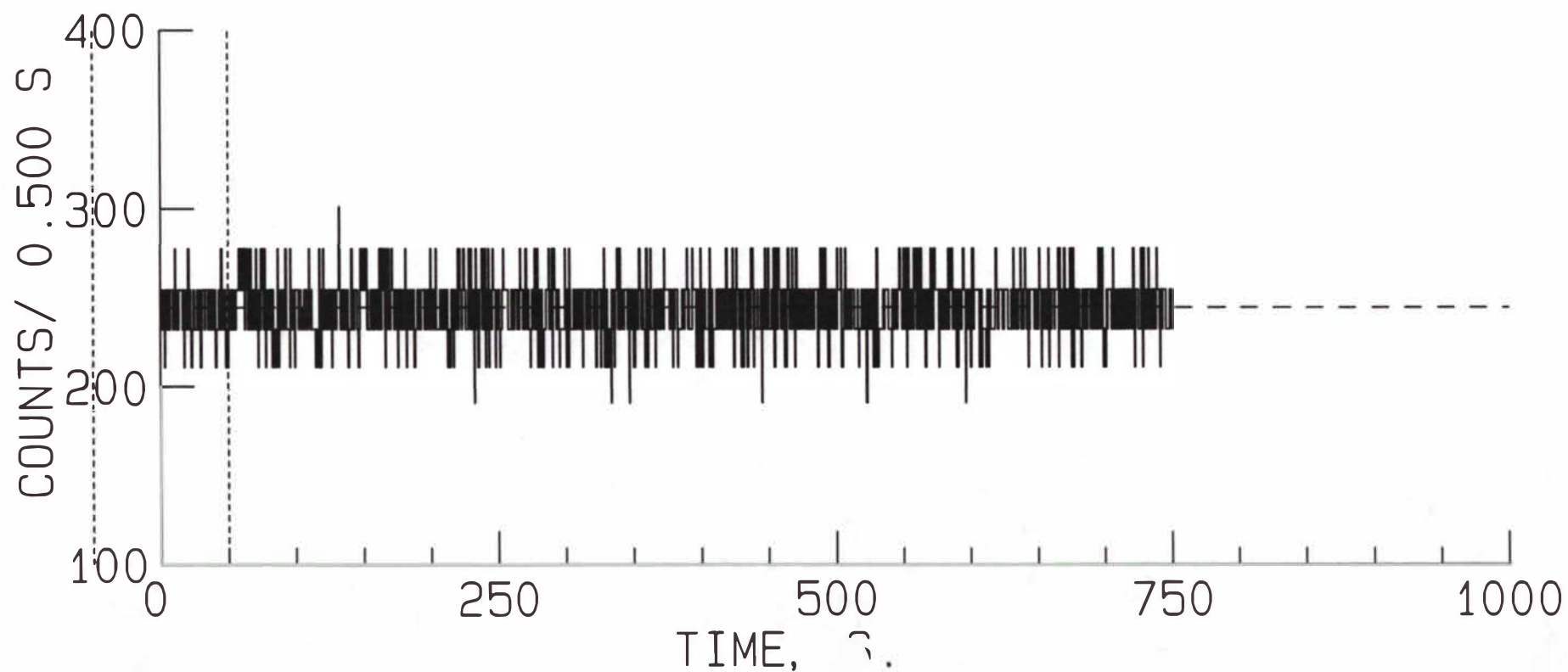
BATSE 6840

ULYSSES RT

24 / 6 / 98

18 / 6 / 98 22104.221 s

22- 148 keV

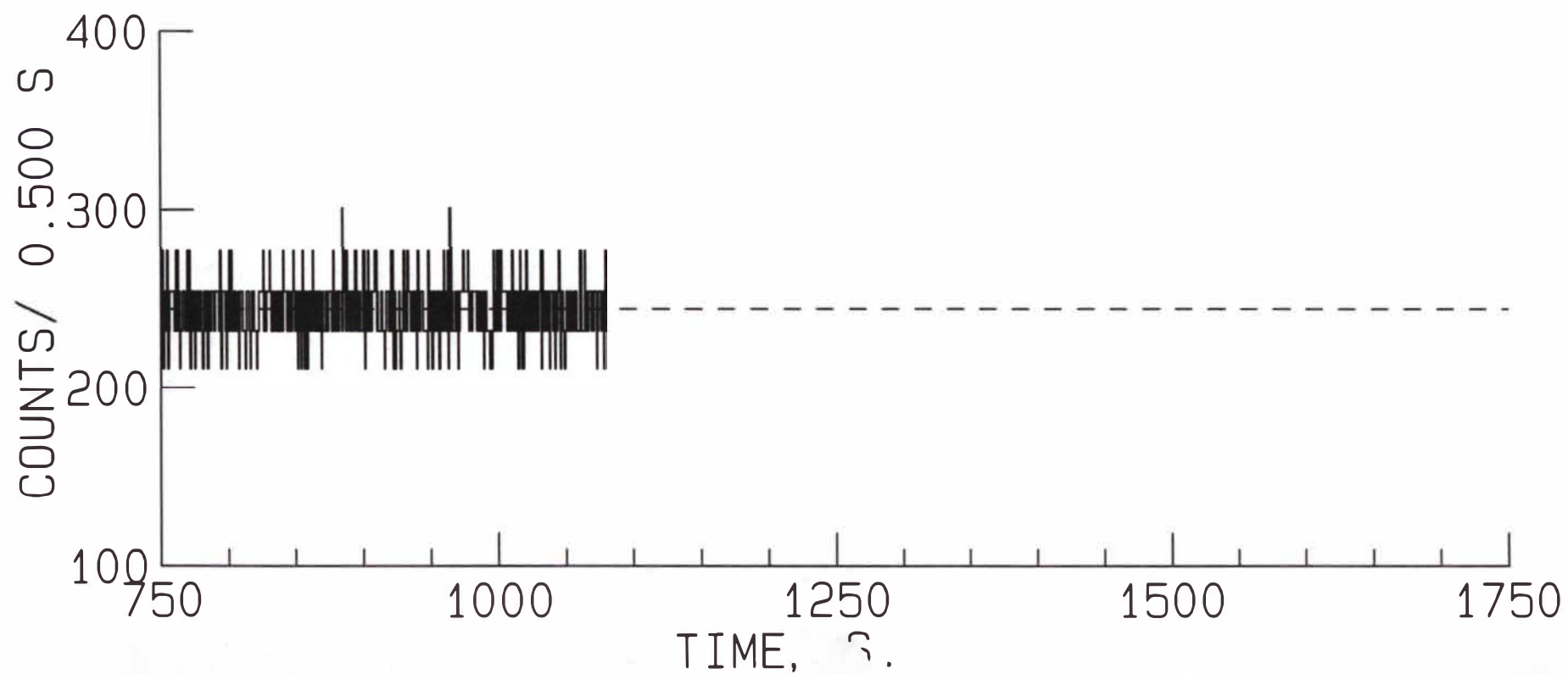


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 22104.221 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:02:41 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:02:08 -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.: 6841

TIME: TJD=0982 SECONDS=27246 07:34:06

27908@U Trigger

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.2 AZIMUTH=151.1 ERROR=4.32 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.15 S. NOT VISIBLE ABOVE 100 KEV.

From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:06:00 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:05:35 -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.: 6842

TIME: TJD=0982 SECONDS=40029

11:07:09

406915@U

TYPE: UNKNOWN

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.7 AZIMUTH=157.8 ERROR=10.75 DEGREES

COMMENTS:

UNKNOWN. CAN ALSO BE SGR OR BURST. SINGLE PULSE. DURATION ABOUT 0.1 S. NOT
VISIBLE ABOVE 300 KEV.

*Reclassified as SGR
by Briggs 2001*

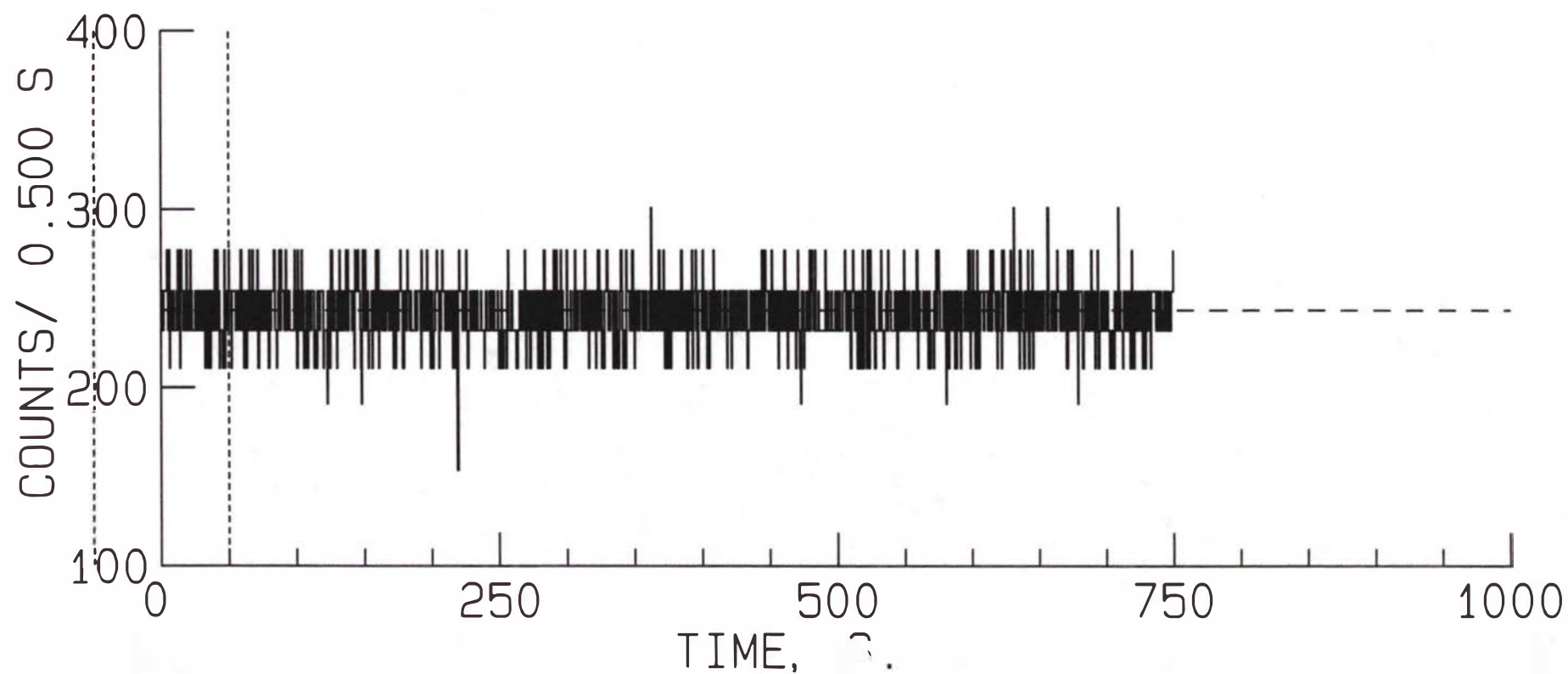
BATSE 6842

ULYSSES RT

24 / 6 / 98

18 / 6 / 98 40176.411 s

22- 148 keV

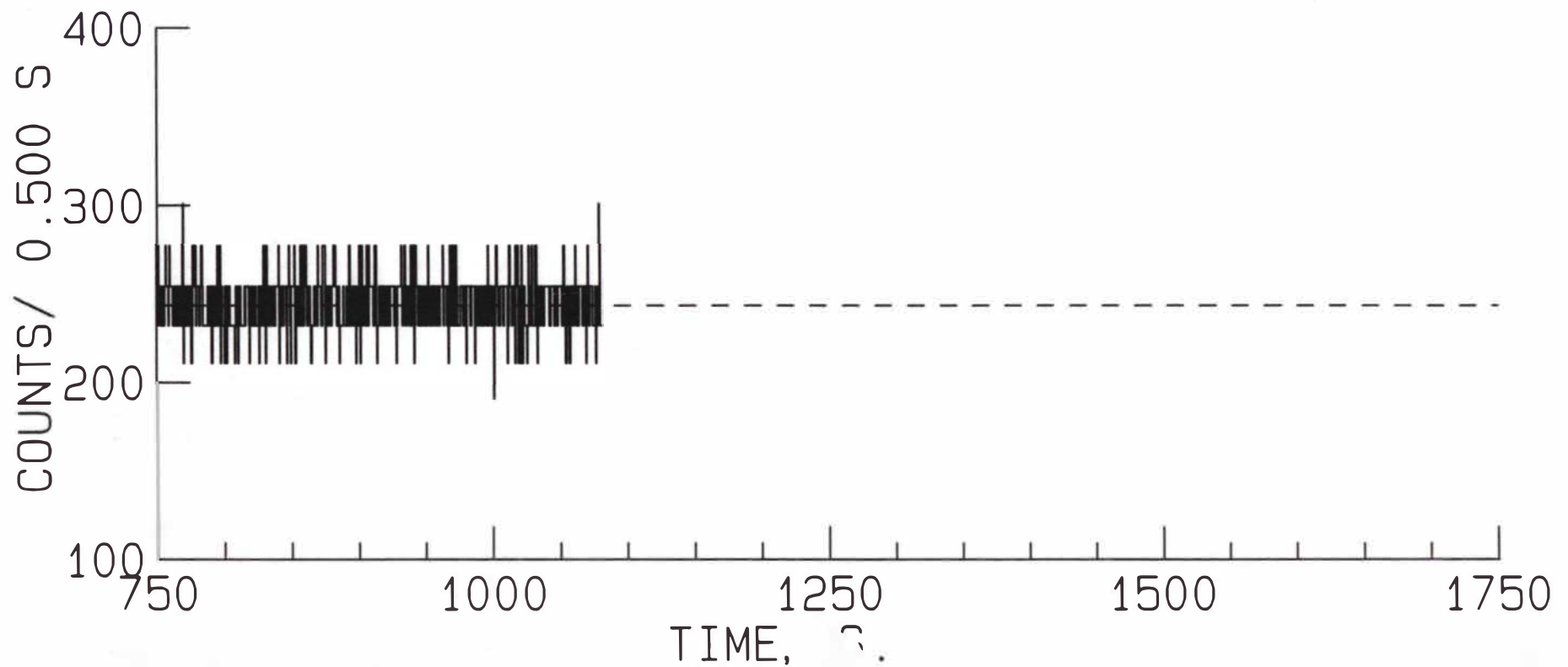


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 40176.411 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:08:12 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:07:55 -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.: 6843

TIME: TJD=0982 SECONDS=41211 11:26:51

41873@U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=125.9 AZIMUTH=219.6 ERROR=8.366 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.3 S. NOT VISBLE ABOVE 100 KEV.

BATSE 6843

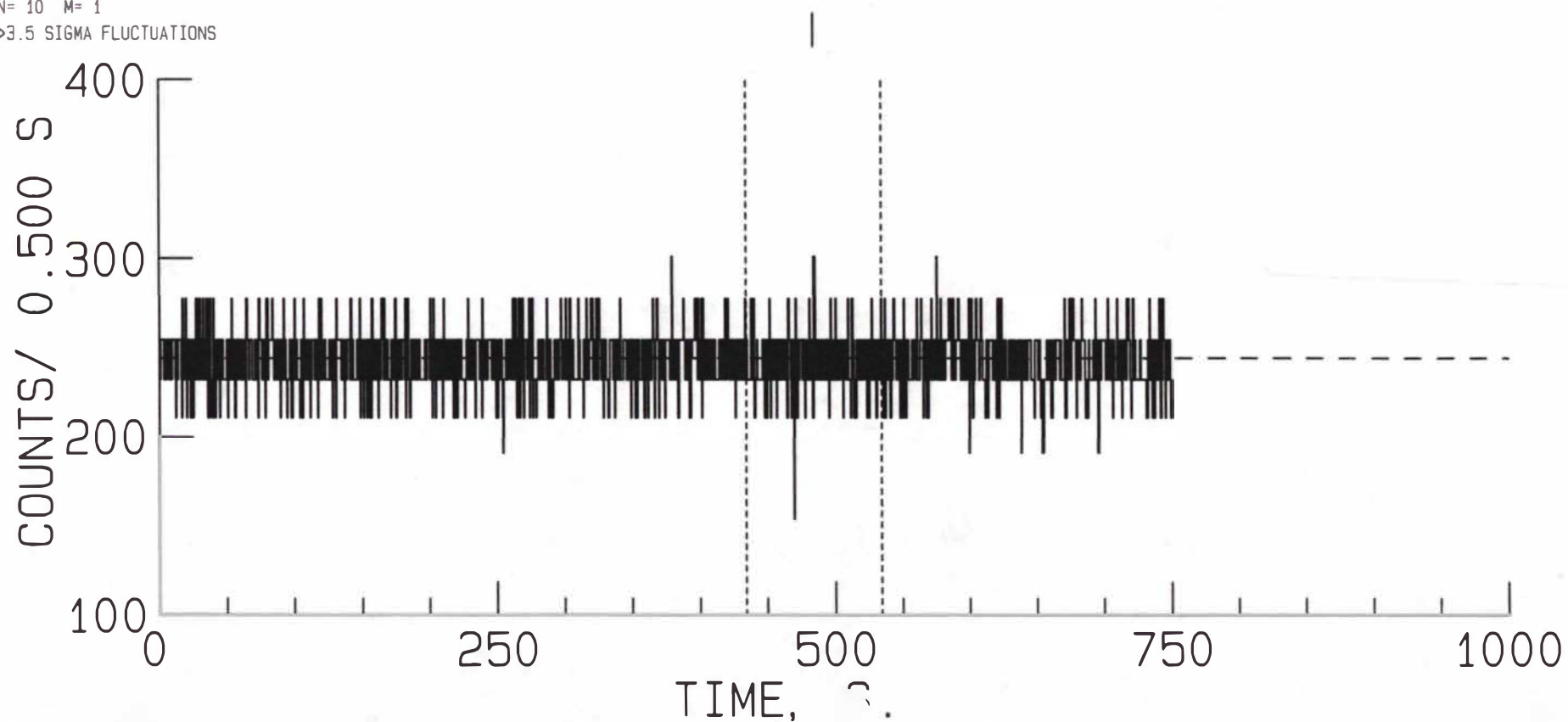
ULYSSES RT

24 / 6 / 98

18 / 6 / 98 41364.428 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

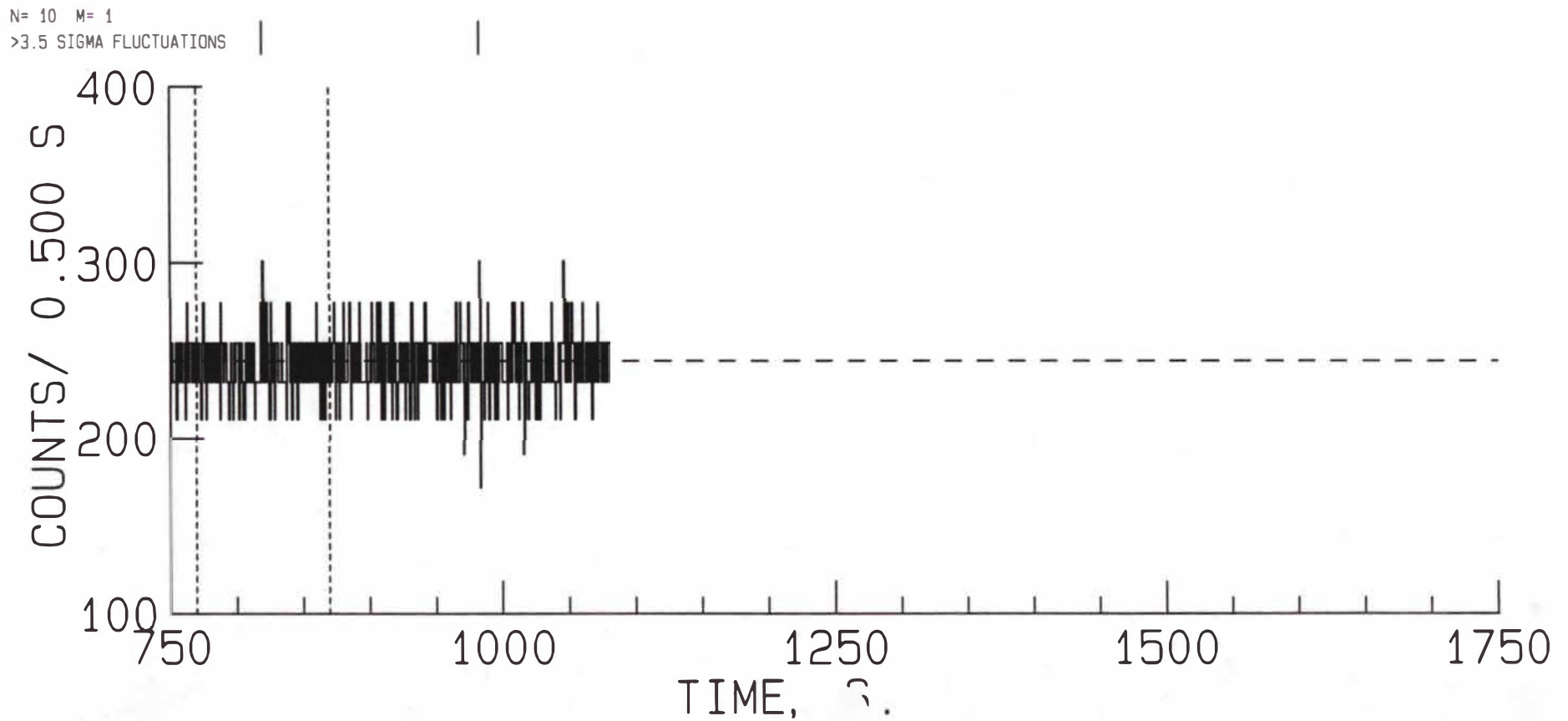


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 41364.428 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:11:21 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:10:33 -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.: 6844

TIME: TJD=0982 SECONDS=44360 12:19:20

45022 s @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=96.4 AZIMUTH=162.0 ERROR=4.71 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.1 S. NOT VISIBLE ABOVE 300 KEV.

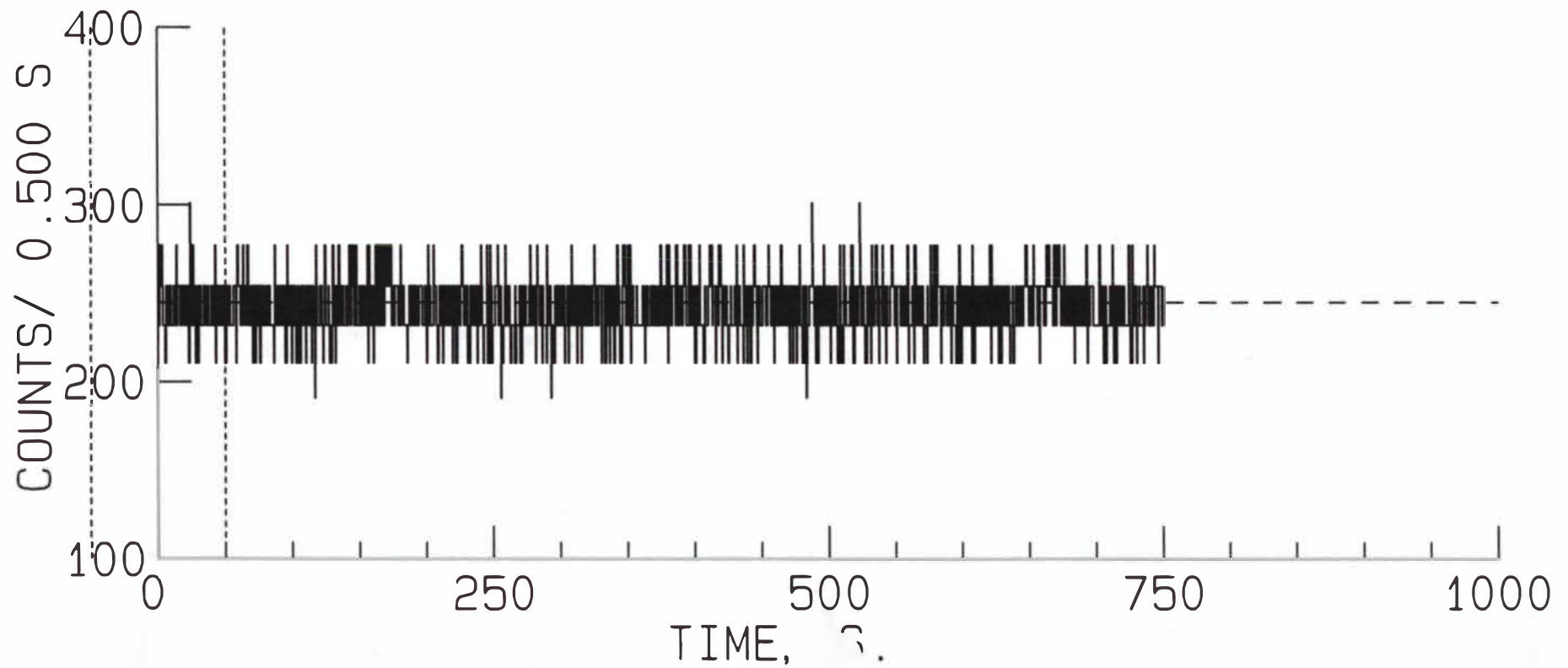
BATSE 6844

ULYSSES RT

24 / 6 / 98

18 / 6 / 98 44496.460 s

22- 148 keV

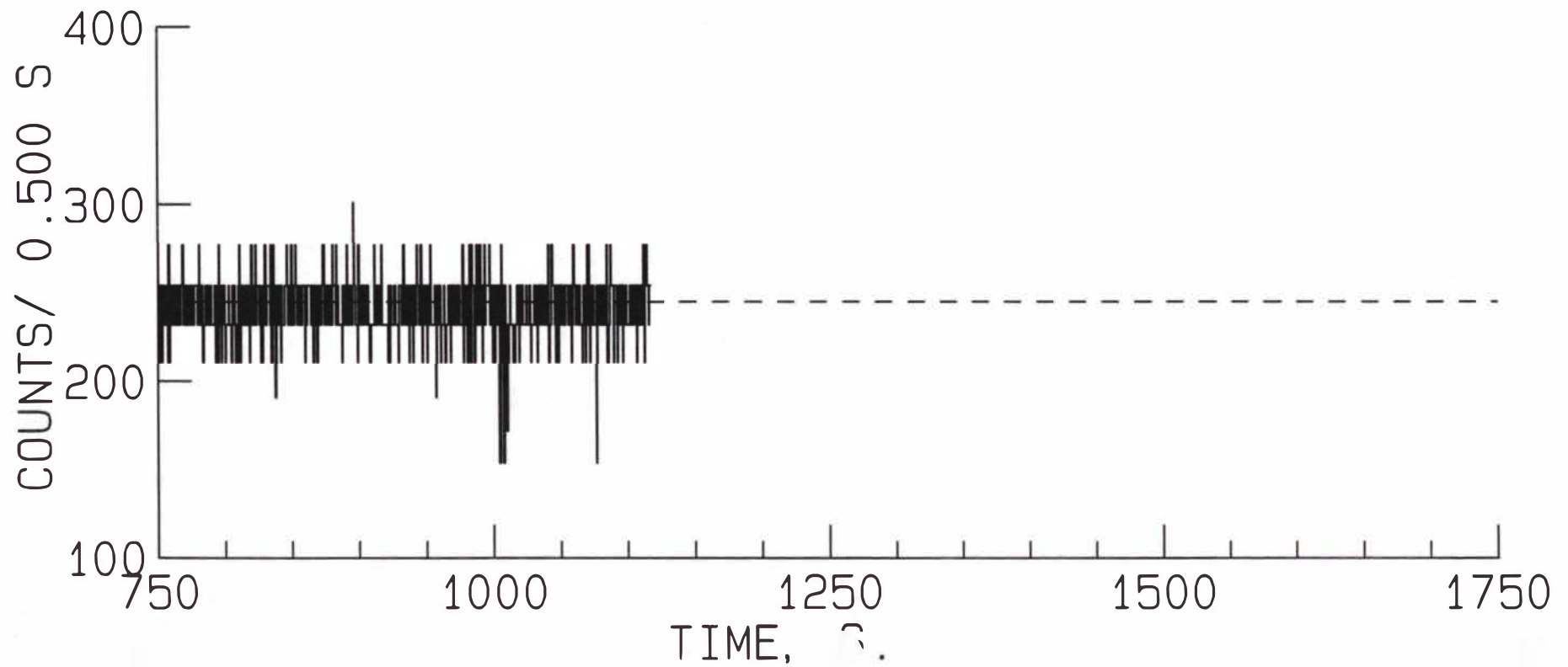


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 44496.460 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Mon Jun 29 09:20:15 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 29 Jun 1998 11:19:52 -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.: 6845

TIME: TJD=0982 SECONDS=50266 13:57:46

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=89.9 AZIMUTH=134.9 ERROR=1.93 DEGREES

COMMENTS:

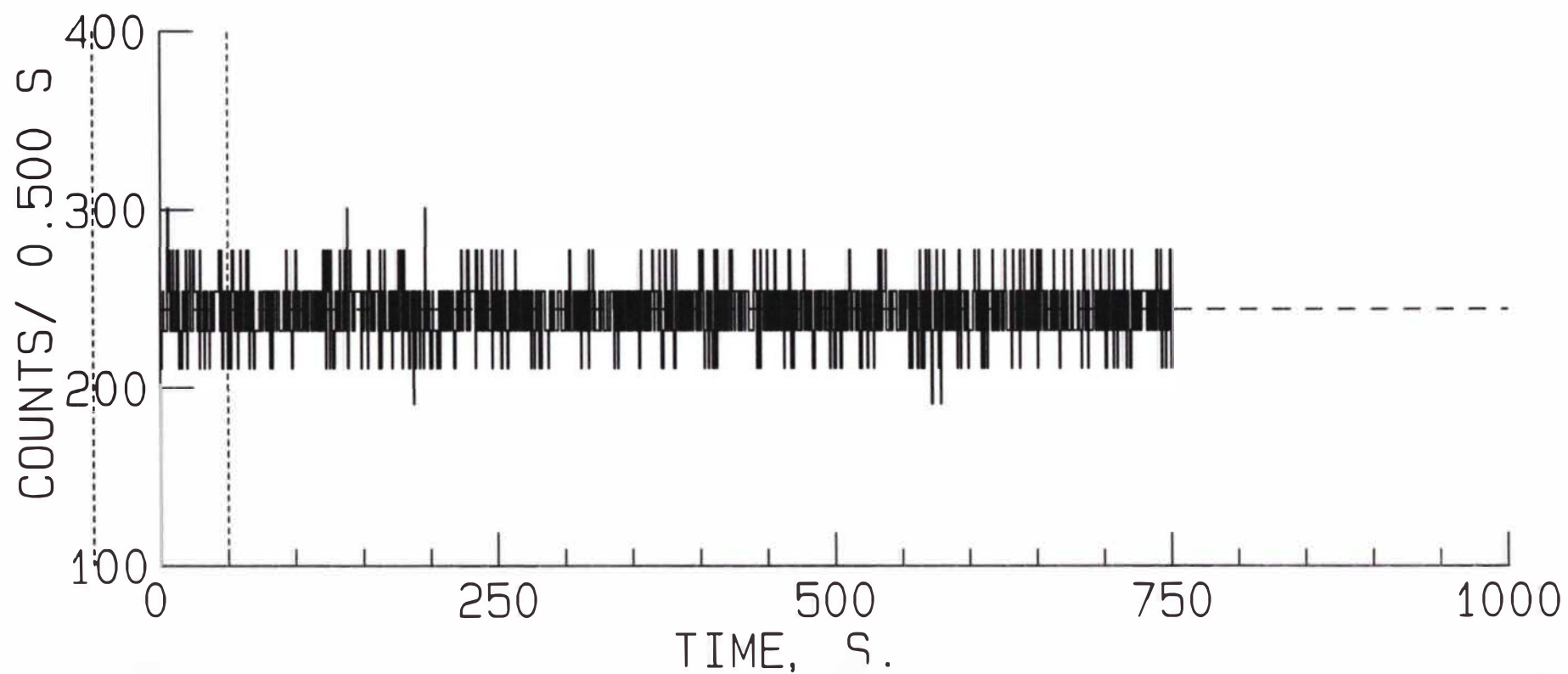
SGR 1627-41. DURATION ABOUT 0.12 S. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

30 / 6 / 98

18 / 6 / 98 50400.020 s

22- 148 keV

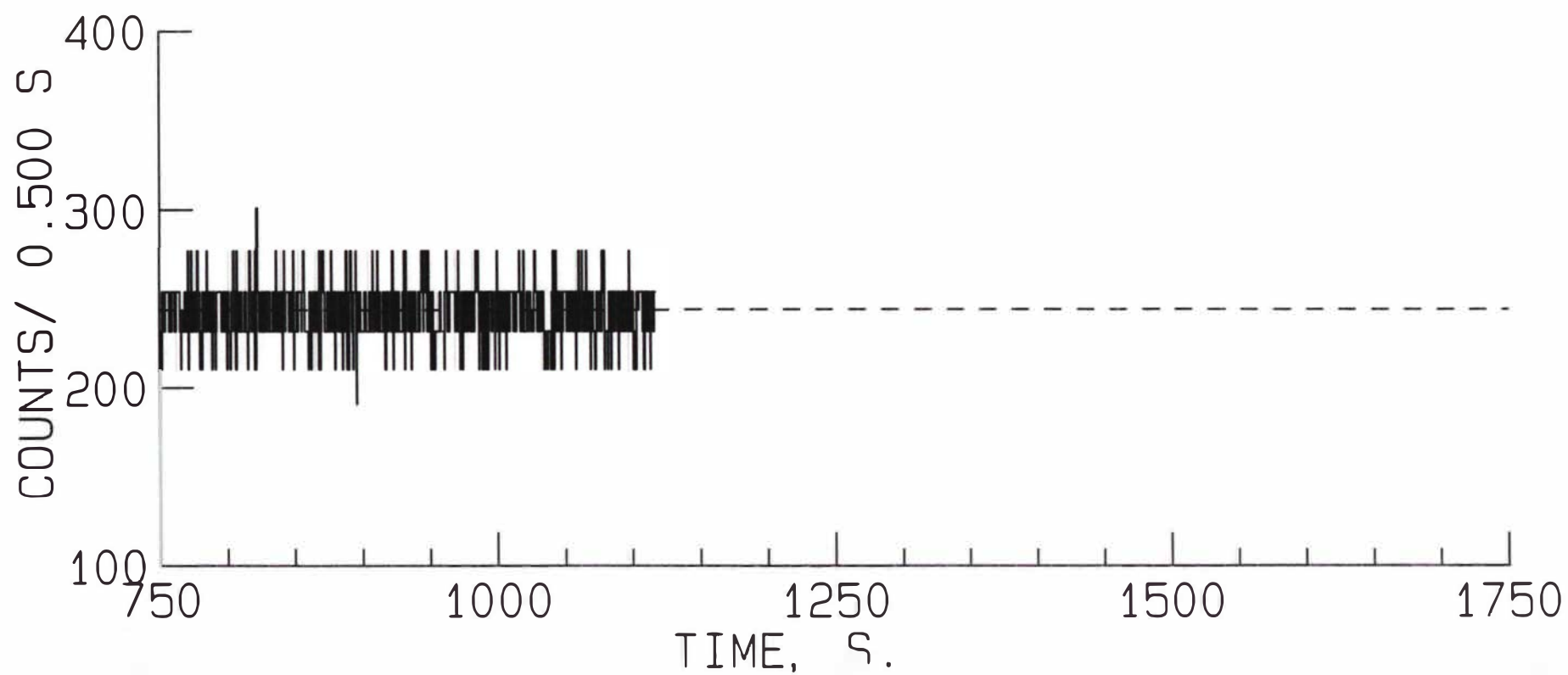


ULYSSES RT

30 / 6 / 98

18 / 6 / 98 50400.020 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Thu Jun 25 13:40:57 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Thu, 25 Jun 1998 15:40:34 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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

249 -47.6

BATSE BURST TRIGGER

NO.: 6846

TIME: TJD=0982 SECONDS=51368 14:16:08

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=103.2 AZIMUTH=145.3 ERROR=20.05 DEGREES

COMMENTS:

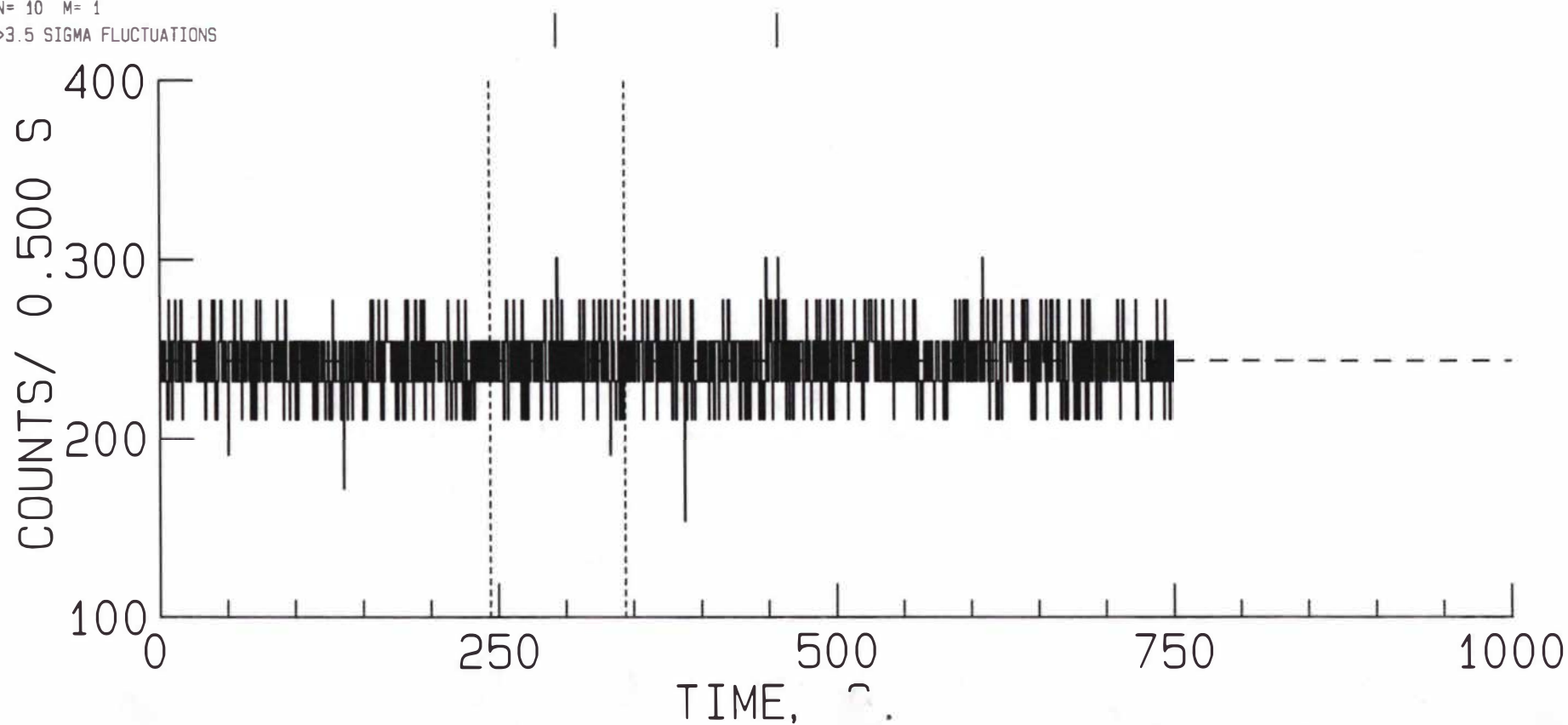
SGR 1627-41. SINGLE PULSE. DURATION ABOUT 0.06 S. NOT VISIBLE ABOVE
100 KEV.

BATSE 6846
51368

ULYSSES RT
18/ 6/98 51516.037 s
22- 148 keV

26/ 6/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

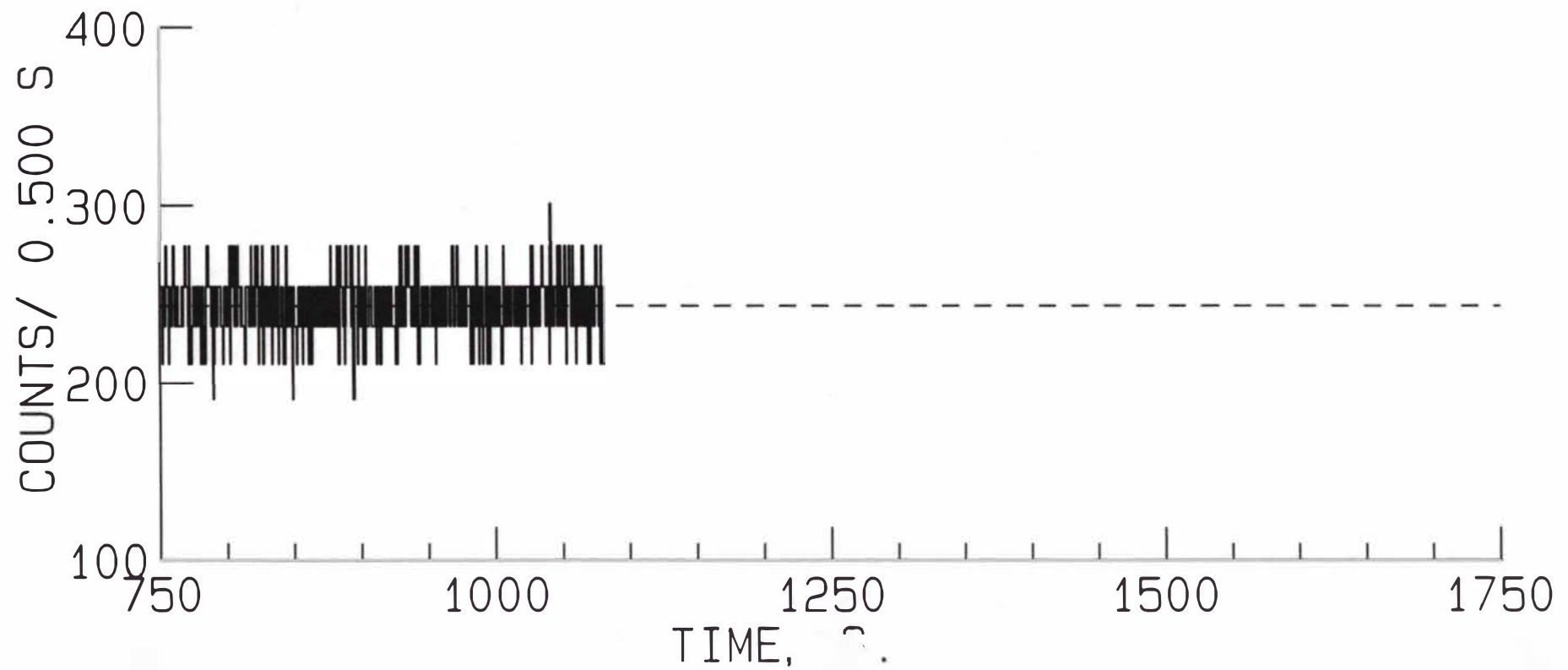


ULYSSES RT

26 / 6 / 98

18 / 6 / 98 51516.037 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:45:28 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:45:02 -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.: 6847

TIME: TJD=0982 SECONDS=62030 17:13:50

62692 s@U

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.1 AZIMUTH=157.5 ERROR=4.7 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.1 S. NOT VISIBLE ABOVE 300 KEV.

BATSE 6847

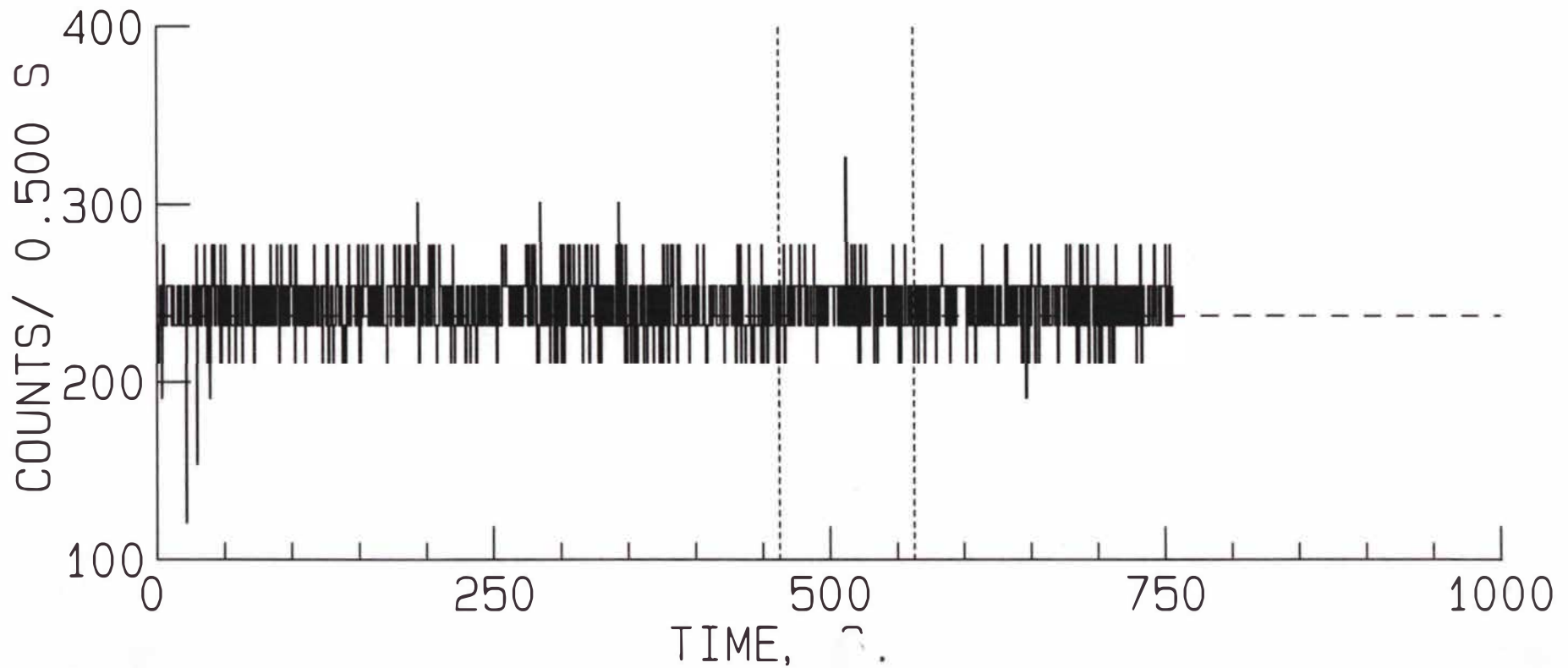
ULYSSES RT

24 / 6 / 98

18 / 6 / 98 62172.149 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

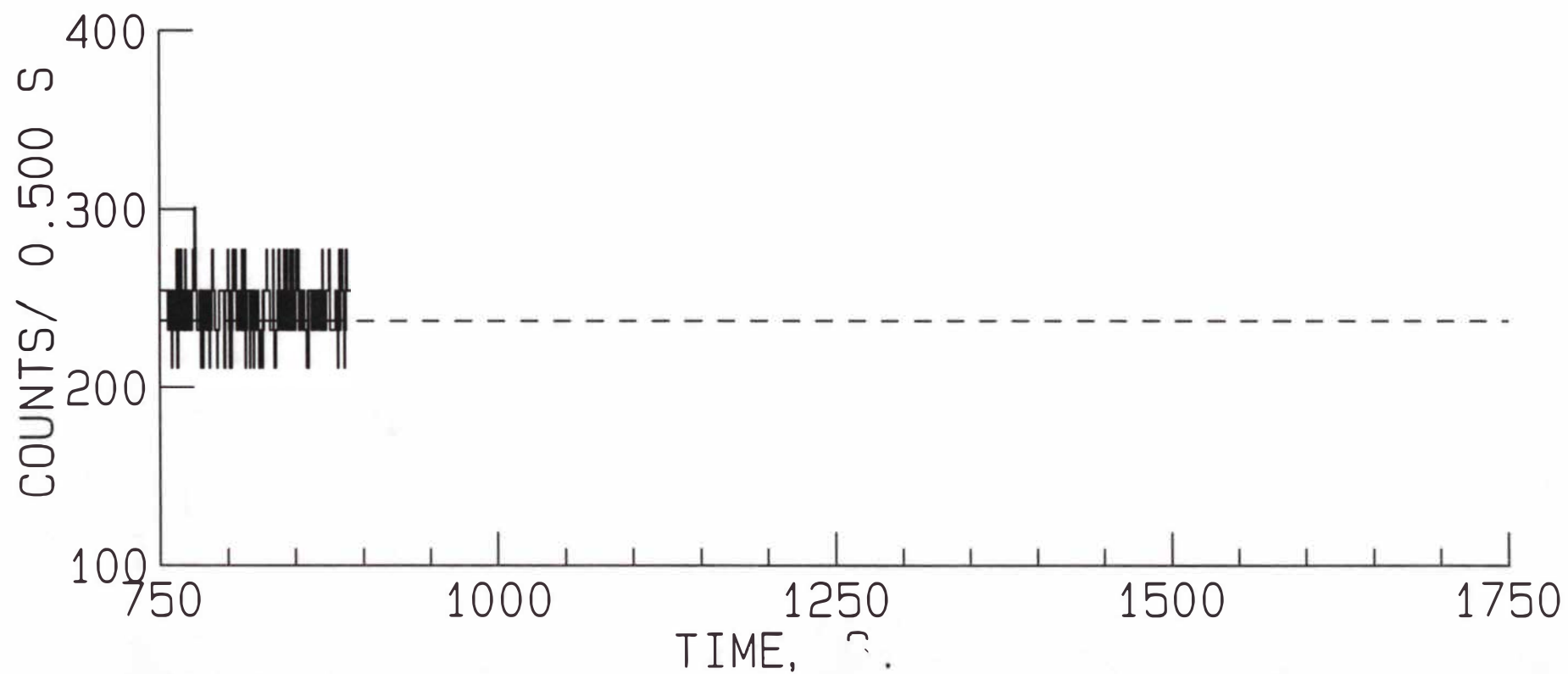


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 62172.149 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Tue Jun 23 13:48:23 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 15:47:54 -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.: 6848

TIME: TJD=0982 SECONDS=73446 20:24:06

74108 s @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=132.4 AZIMUTH=217.0 ERROR=5.87 DEGREES

COMMENTS:

SGR. SINGLE PULSE. DURATION ABOUT 0.3 S. NOT VISIBLE ABOVE 100 KEV.

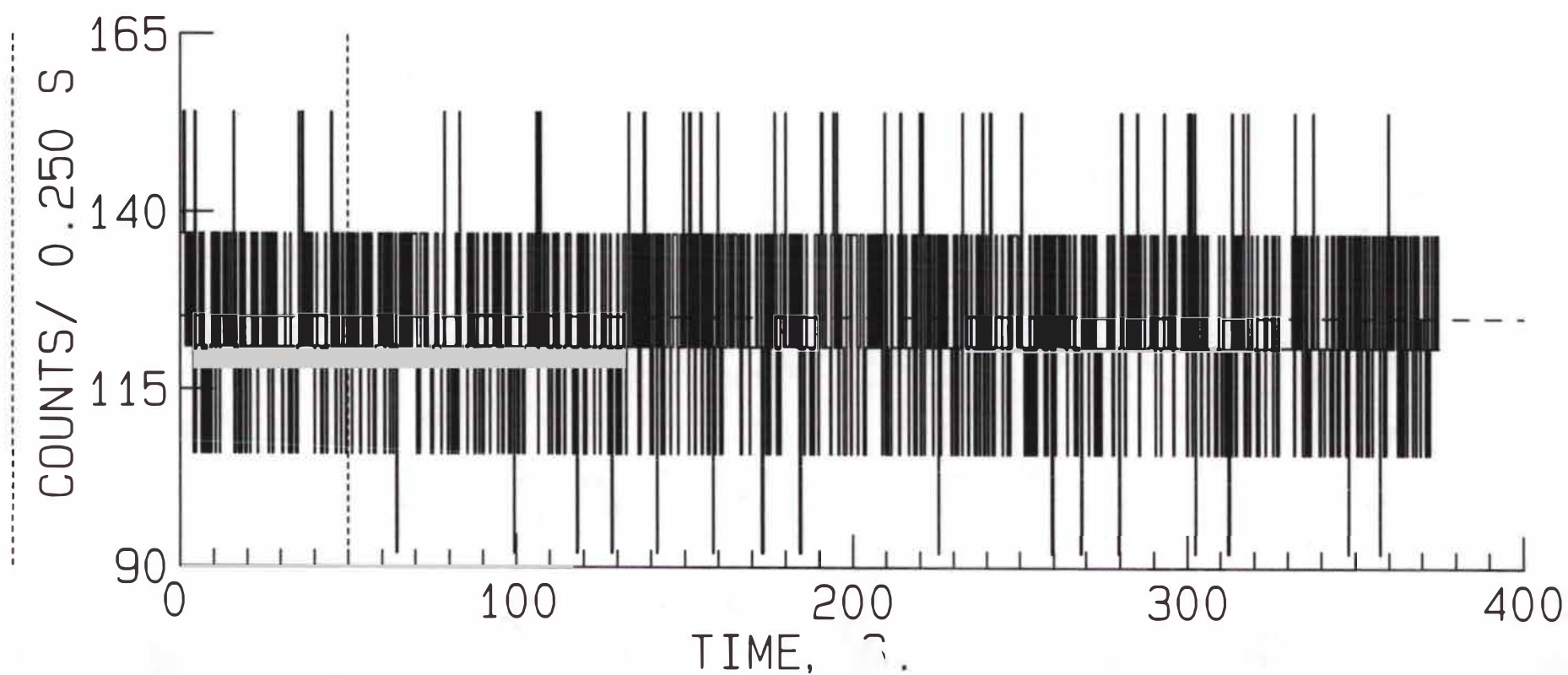
BATSE 6848

ULYSSES RT

24 / 6 / 98

18 / 6 / 98 73584.021 s

22- 148 keV

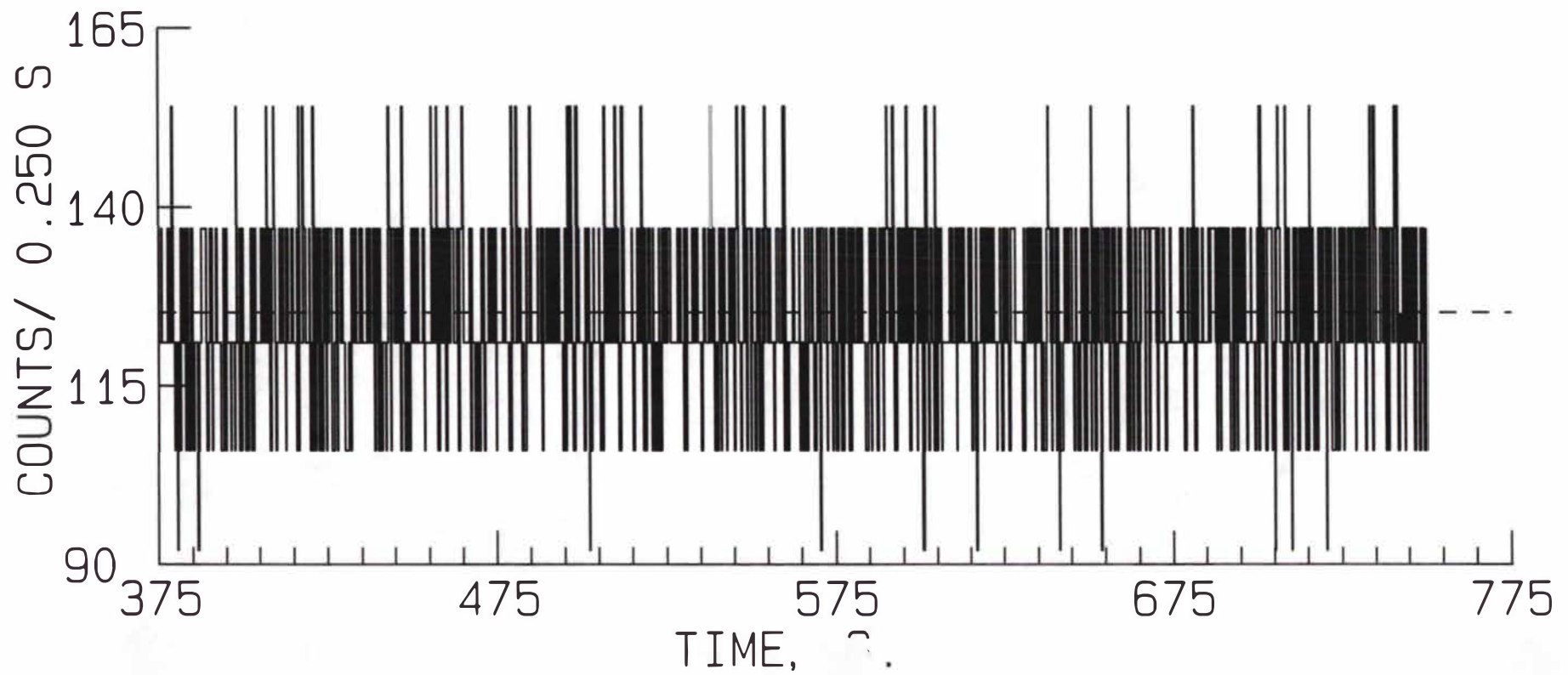


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 73584.021 s

22- 148 keV

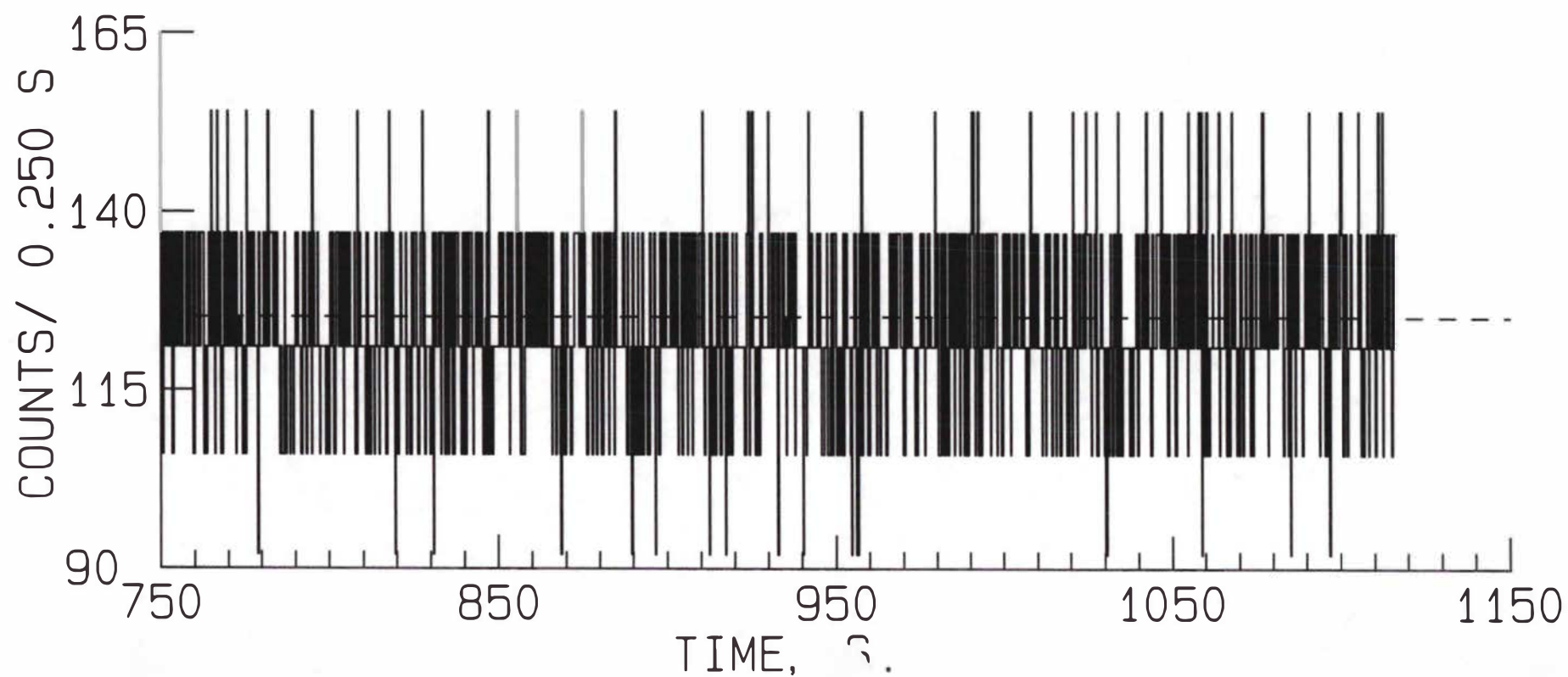


ULYSSES RT

24 / 6 / 98

18 / 6 / 98 73584.021 s

22- 148 keV



From SURASAK@fender.msfc.nasa.gov Thu Jun 25 13:43:03 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Thu, 25 Jun 1998 15:42:47 -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.: 6849

TIME: TJD=0982 SECONDS=85846 23:50:46

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=96.9 AZIMUTH=154.8 ERROR=7.057 DEGREES

COMMENTS:

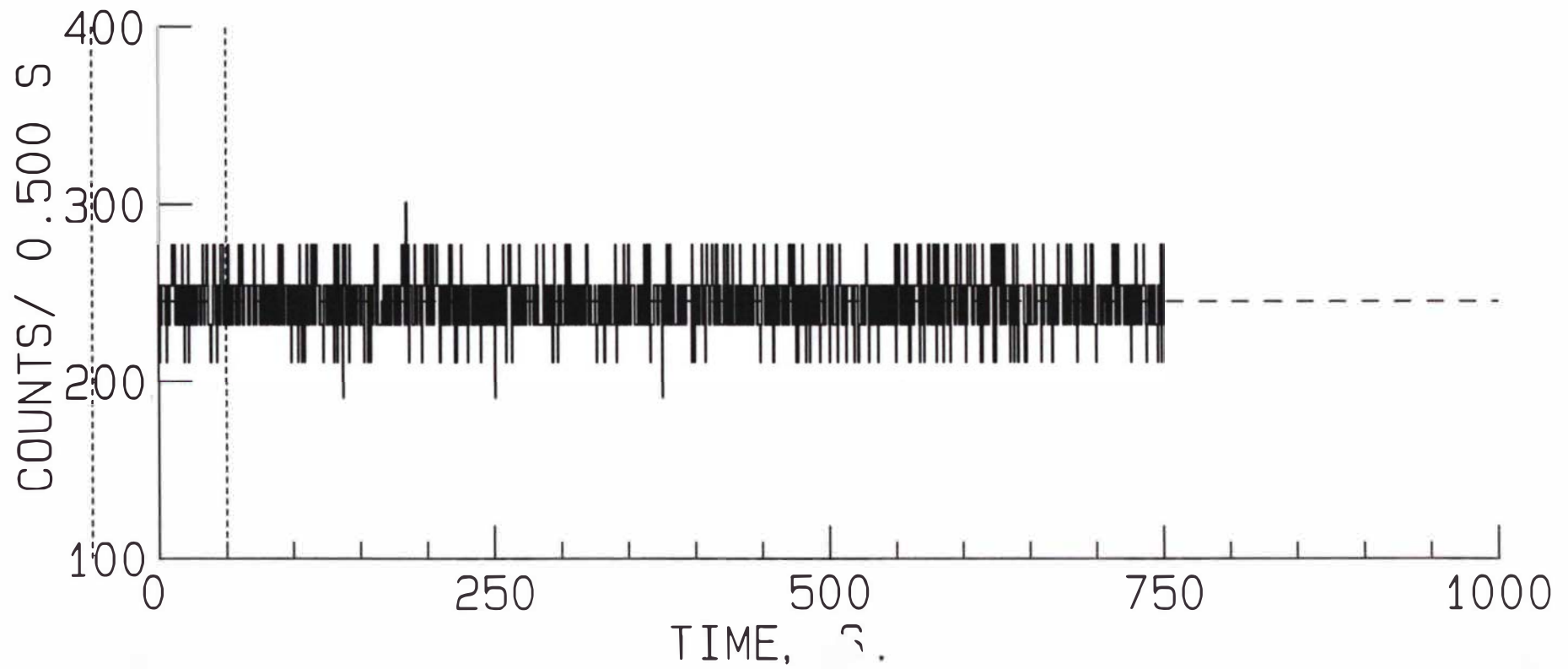
SGR 1627-41. SINGLE PULSE. DUR~0.1 S. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

8 / 7 / 98

19 / 6 / 98 86004.317 s

22- 148 keV

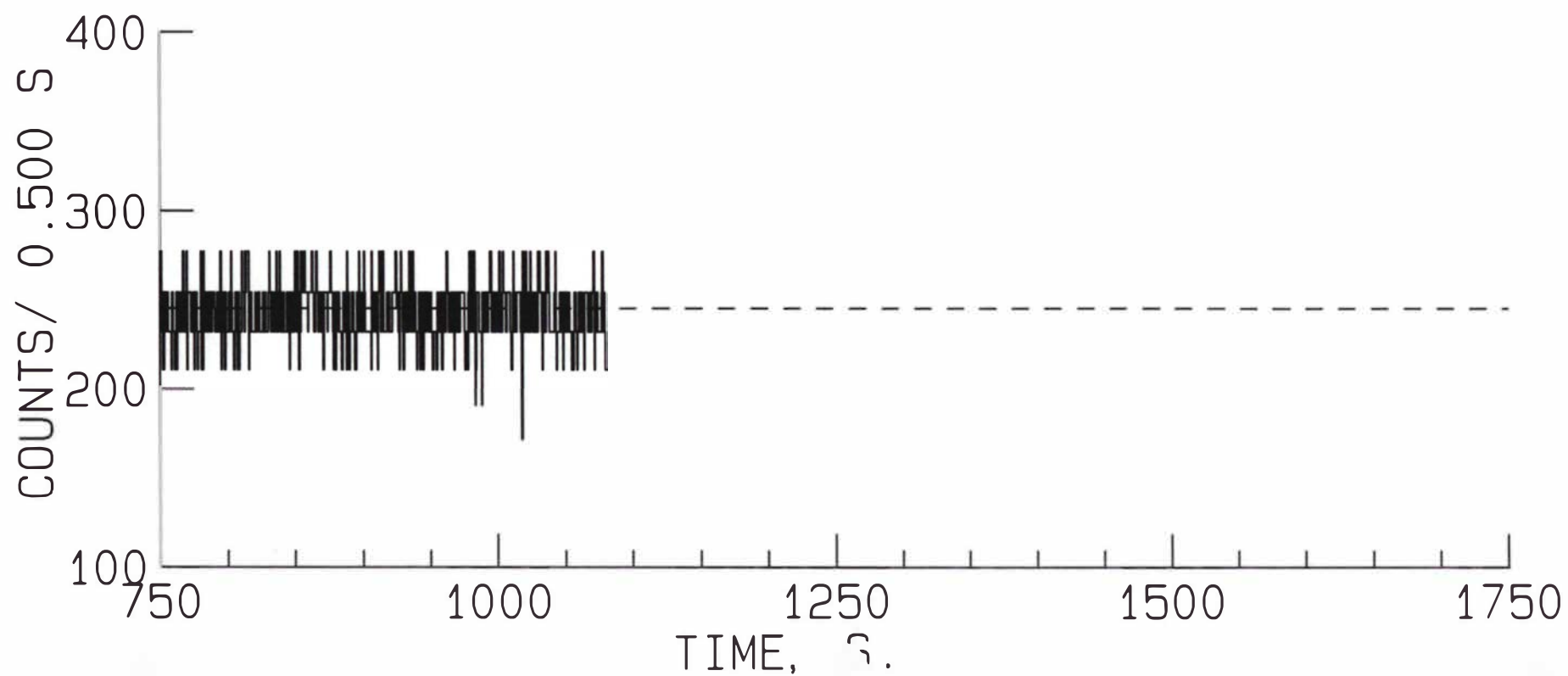


ULYSSES RT

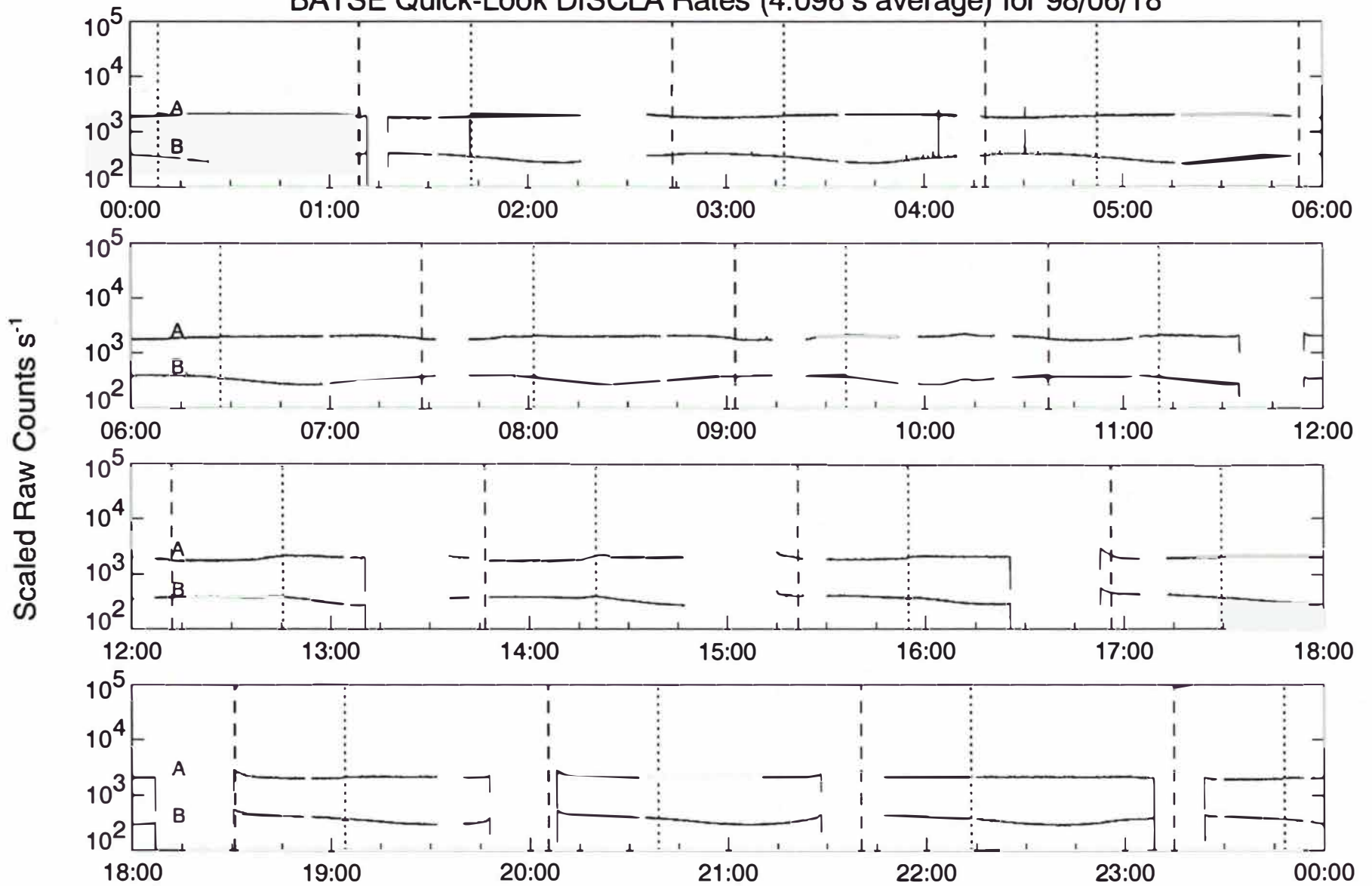
8 / 7 / 98

19 / 6 / 98 86004.317 s

22- 148 keV



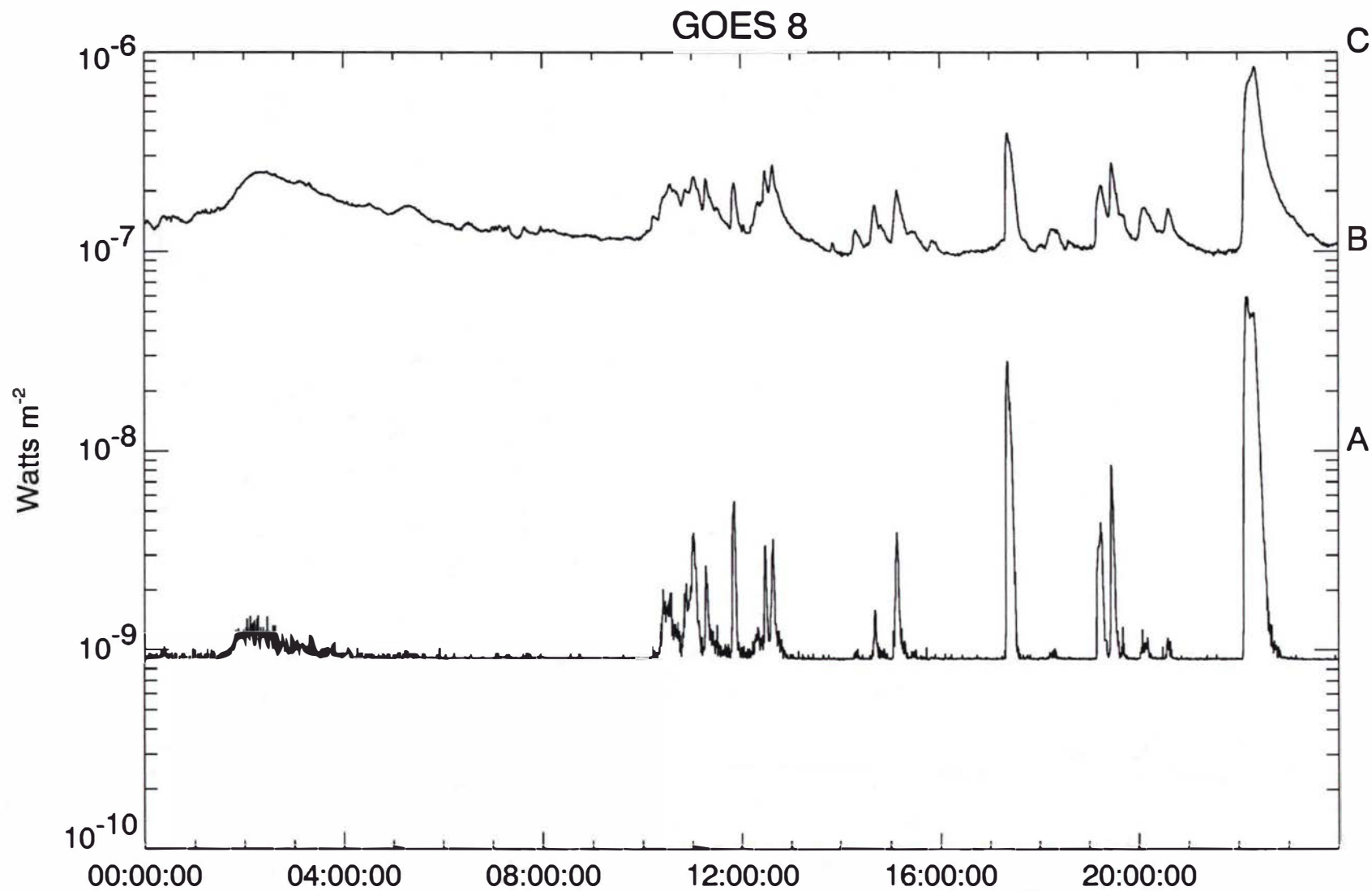
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/18



Current Time: 98/06/22, 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: 98/06/18, 0000:00

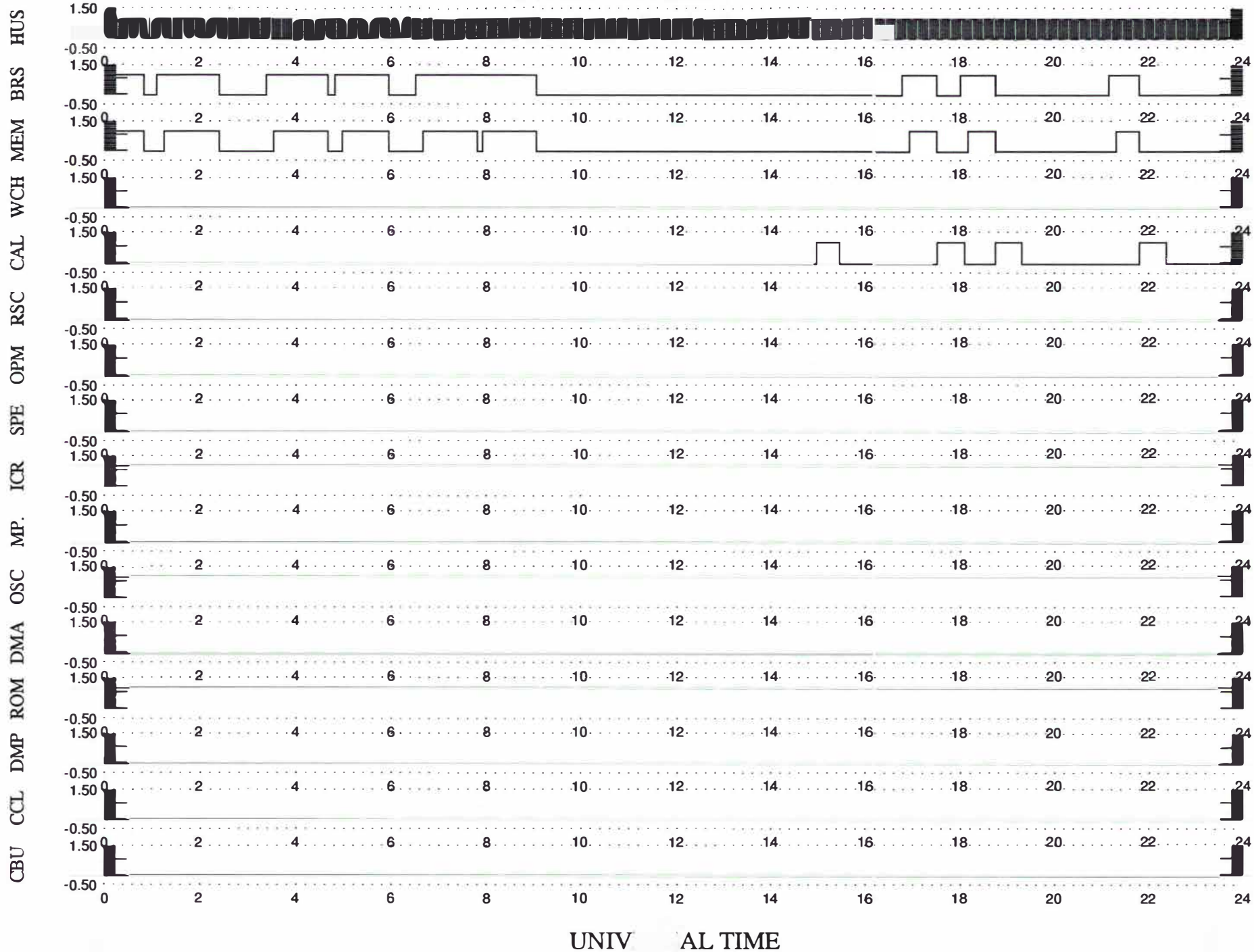
Plot created: 98/06/22, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

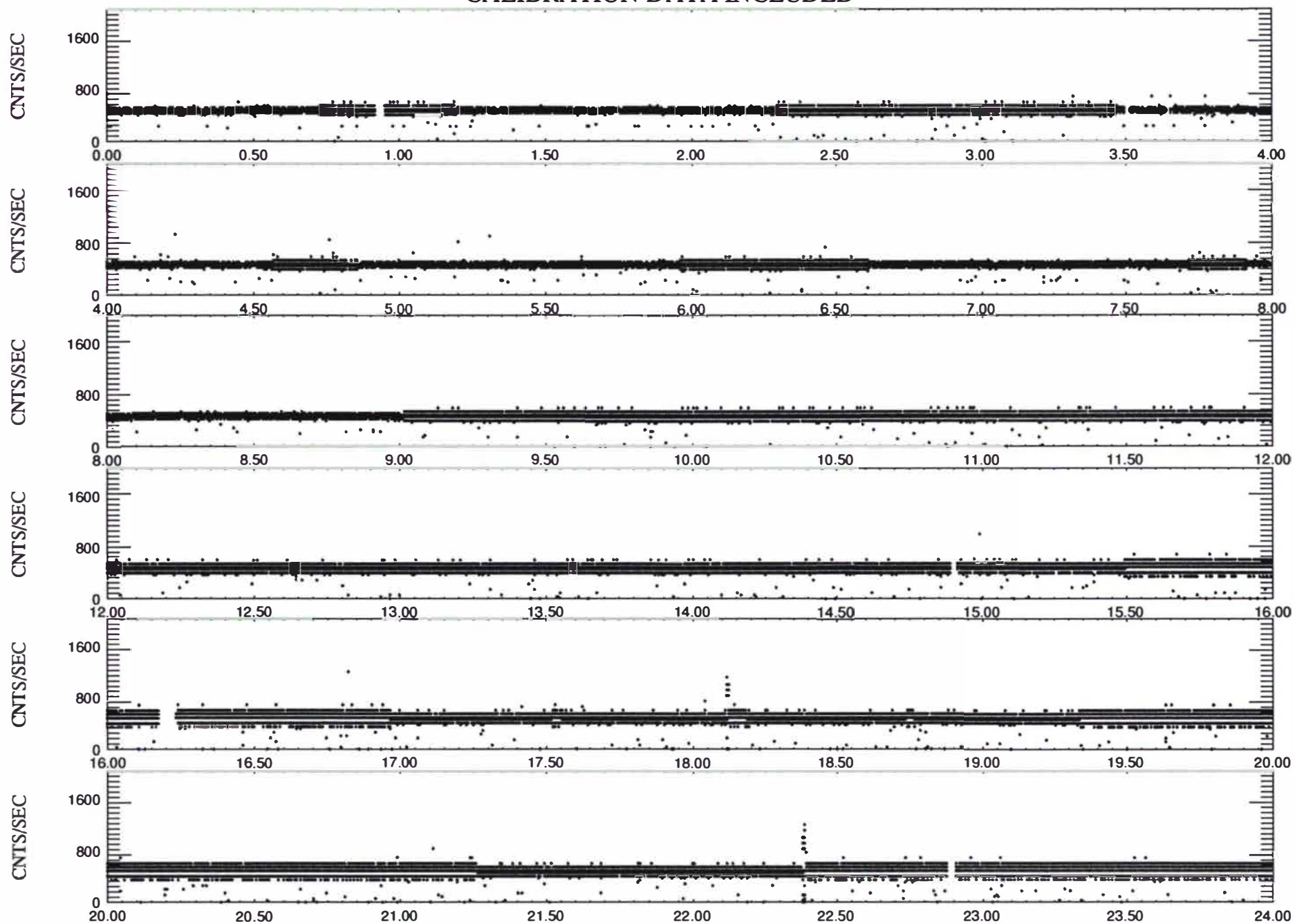
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 4 - 11

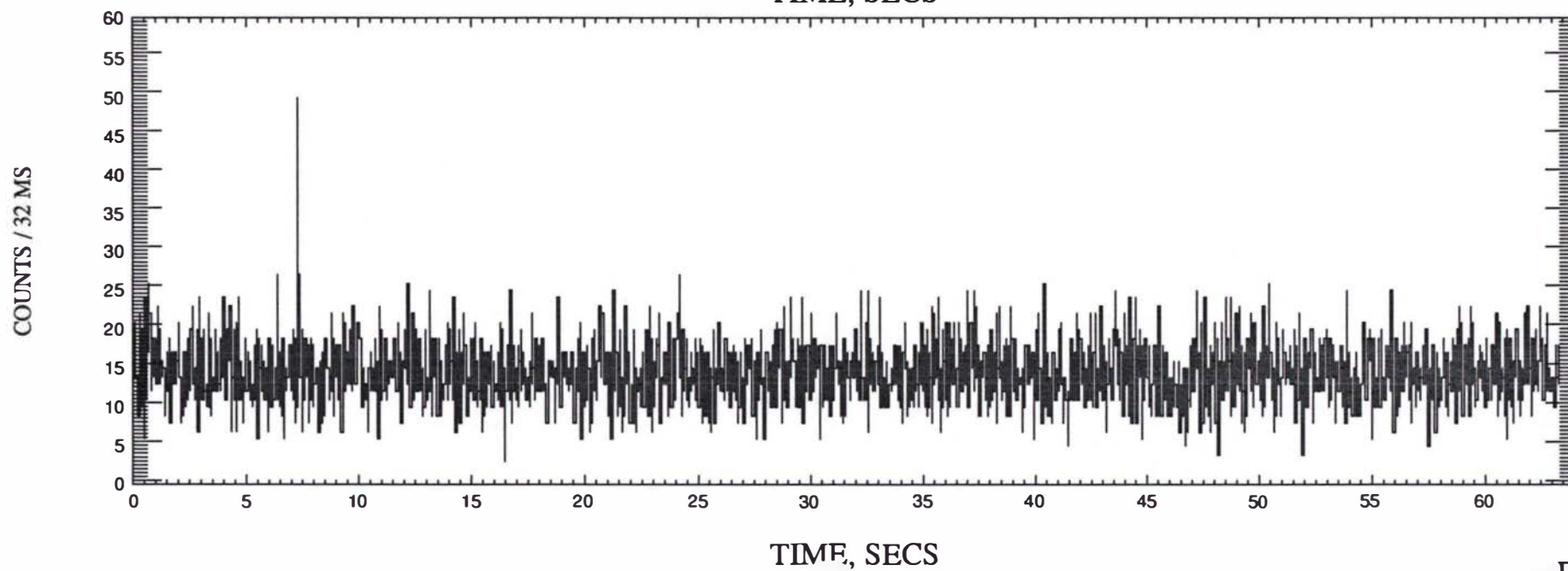
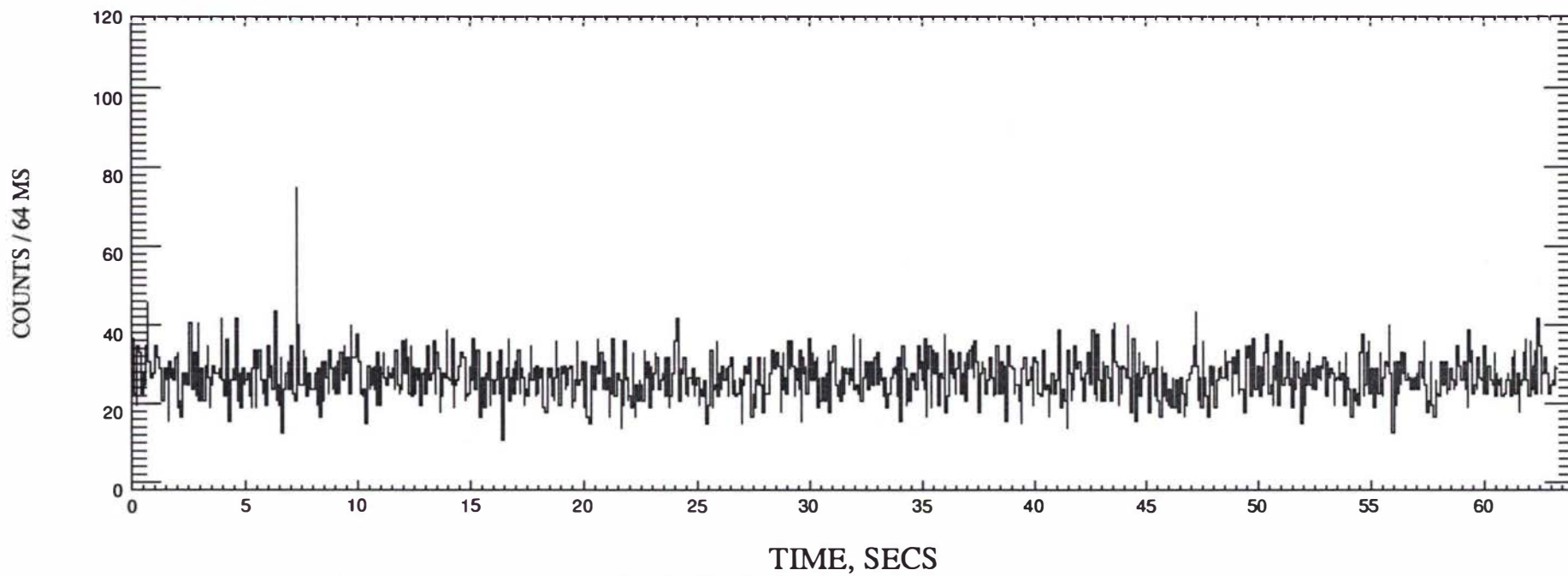


CALIBRATION DATA INCLUDED

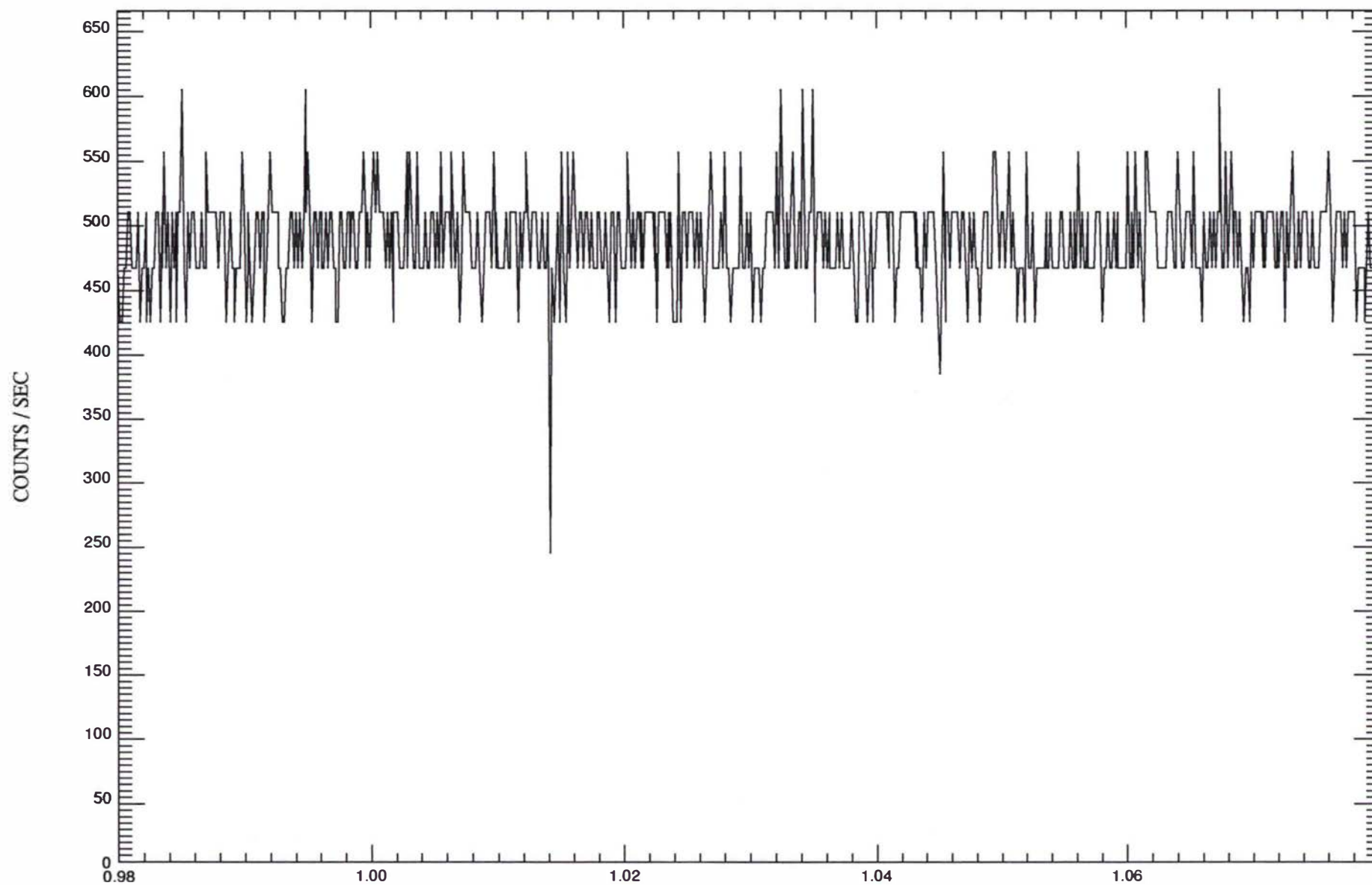


UNIV AL TIME

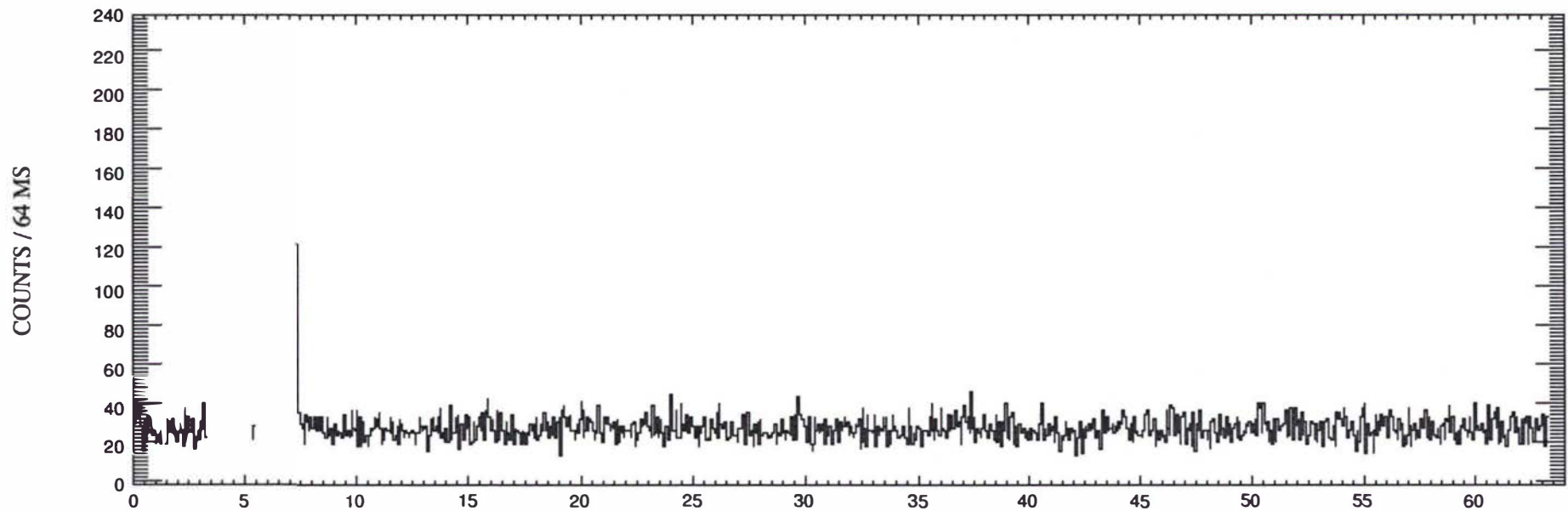
Burst Counter 4 at UT= 1.034371554057 h= 3723.738 s 01:02:03.738



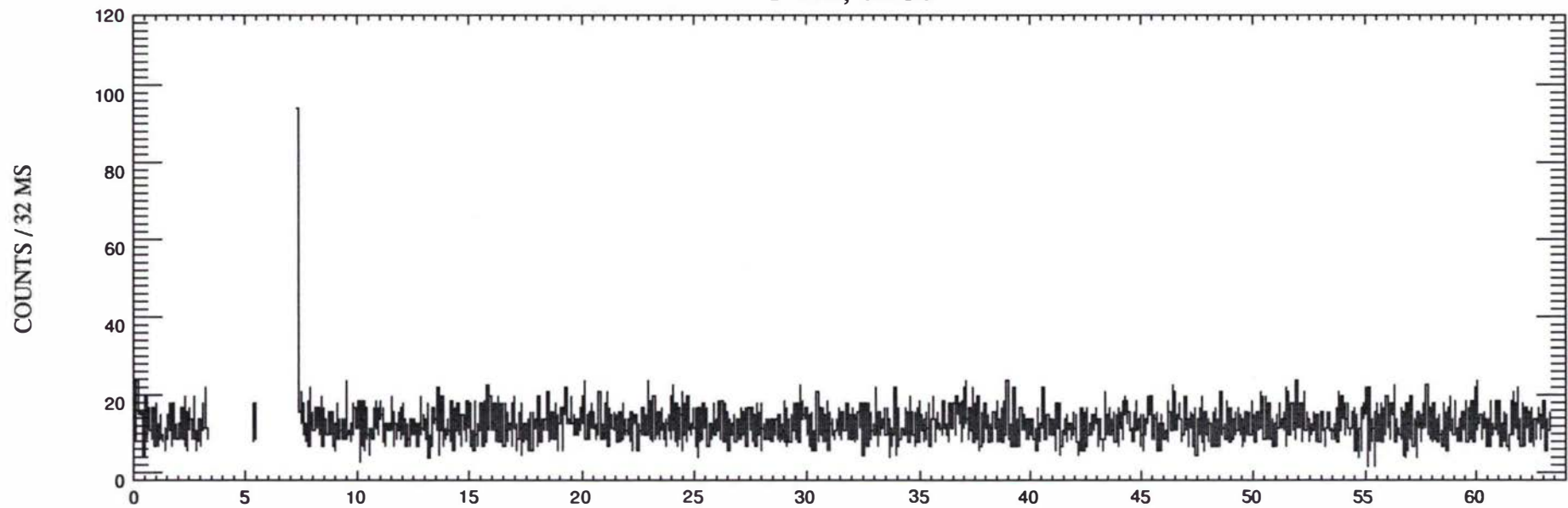
CALIBRATION DATA INCLUDED



Burst Counter 5 at UT= 3.313497314453 h=11928.590 s 03:18:48.590

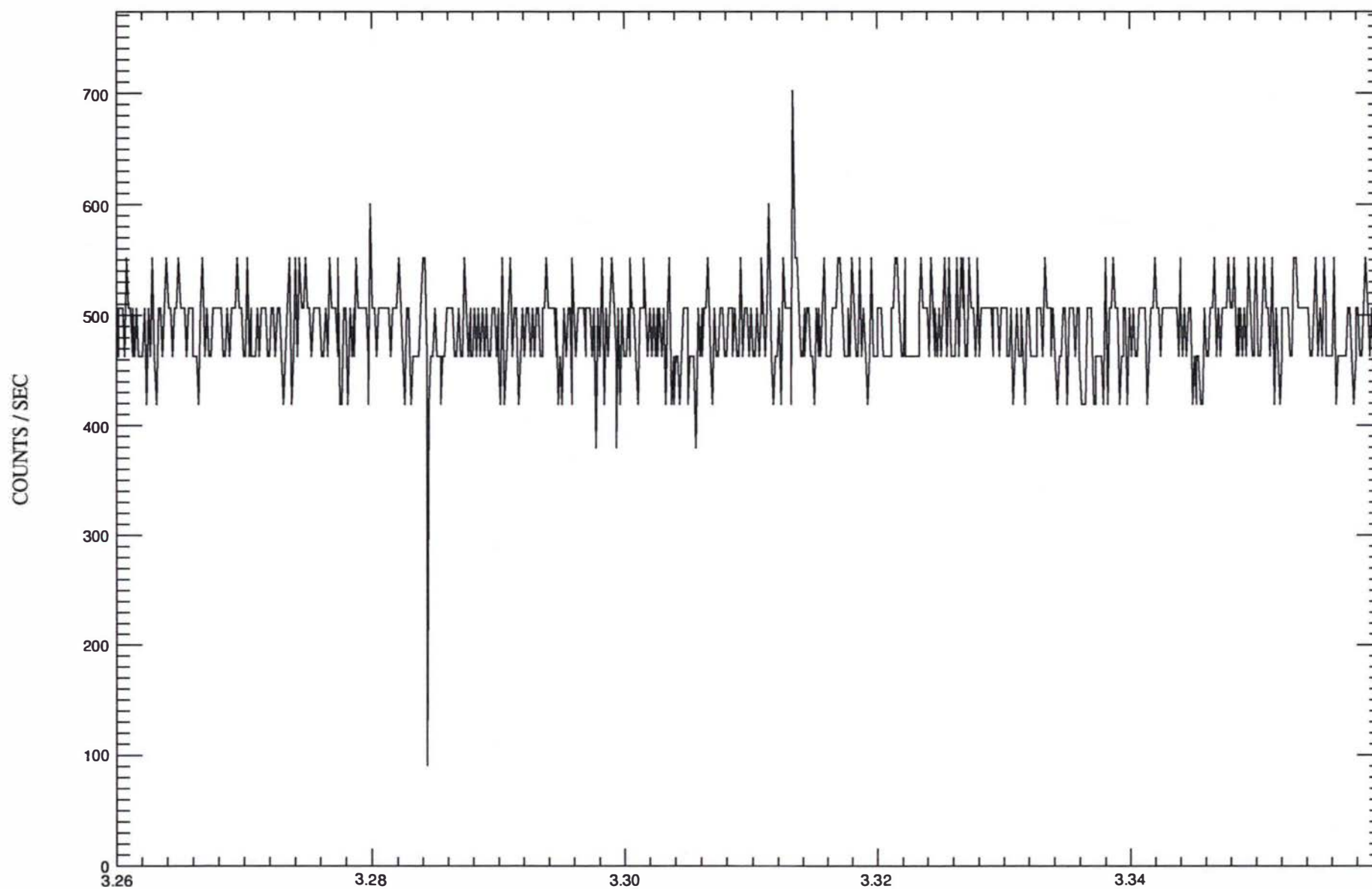


TIME, SECS

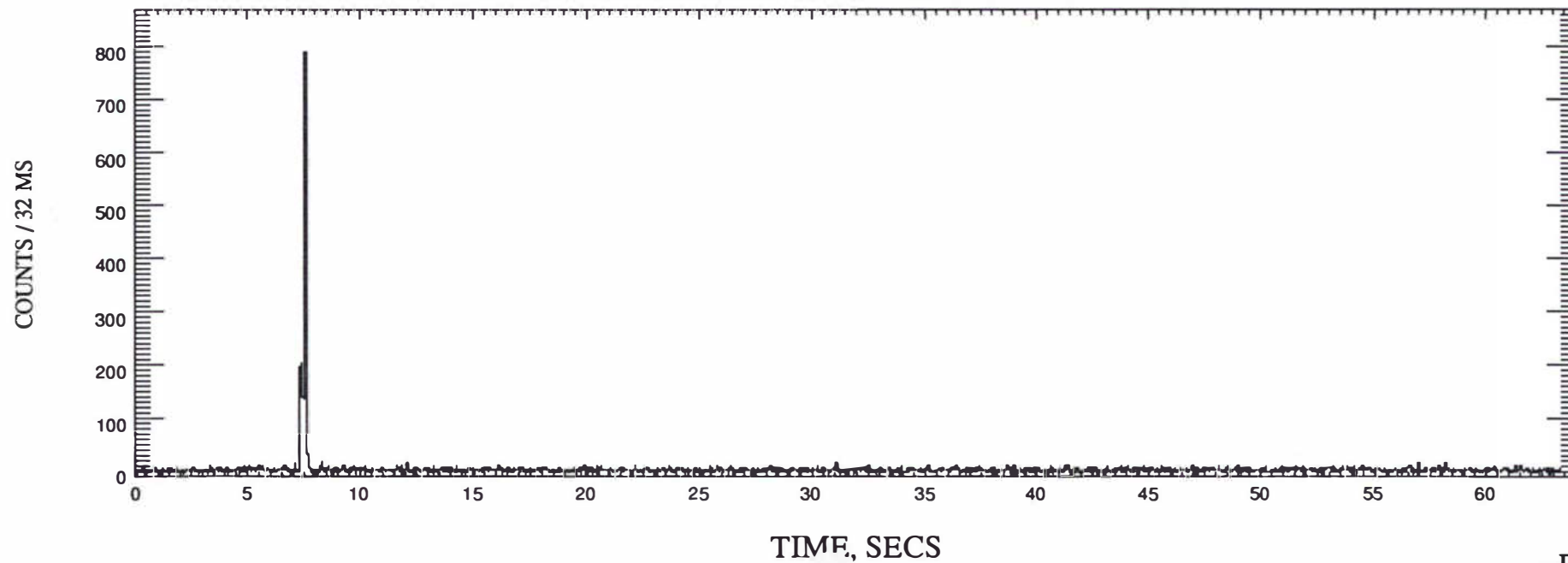
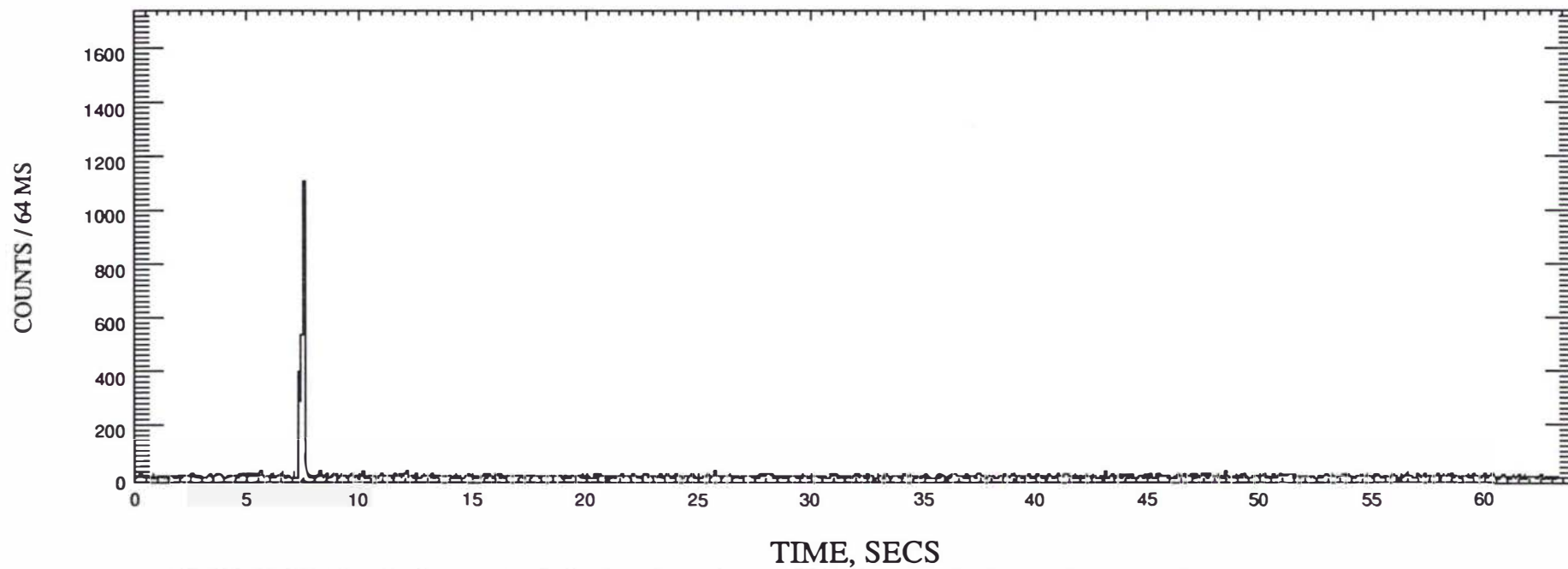


TIME, SECS

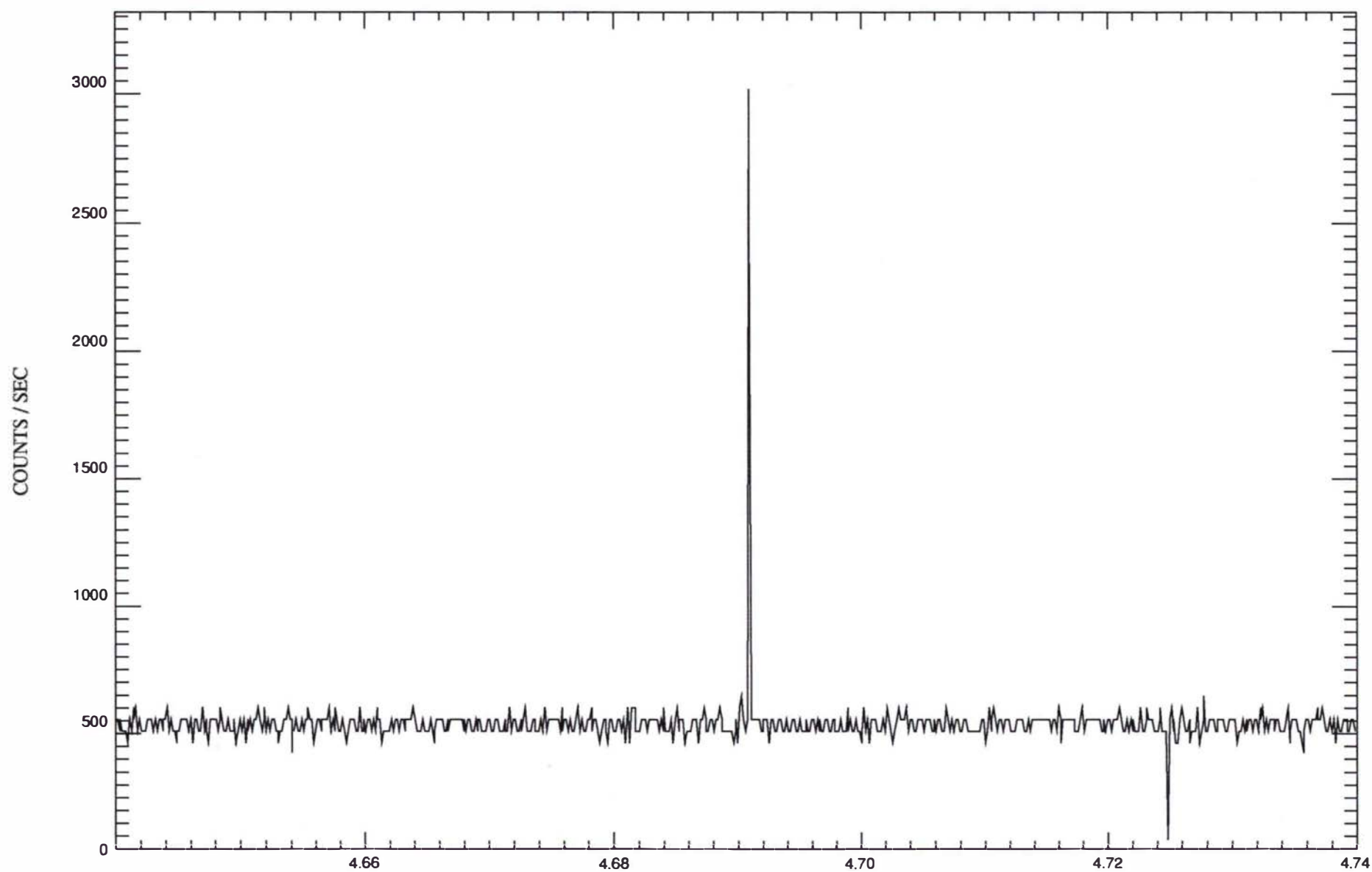
CALIBRATION DATA INCLUDED



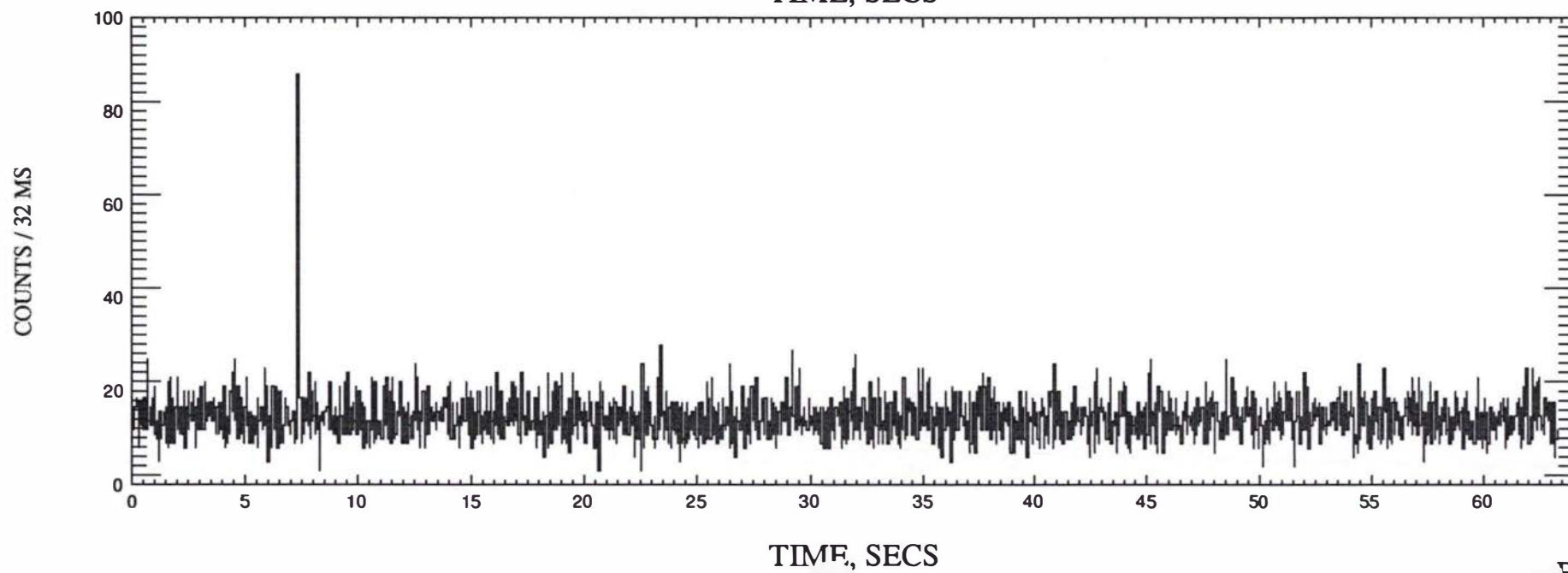
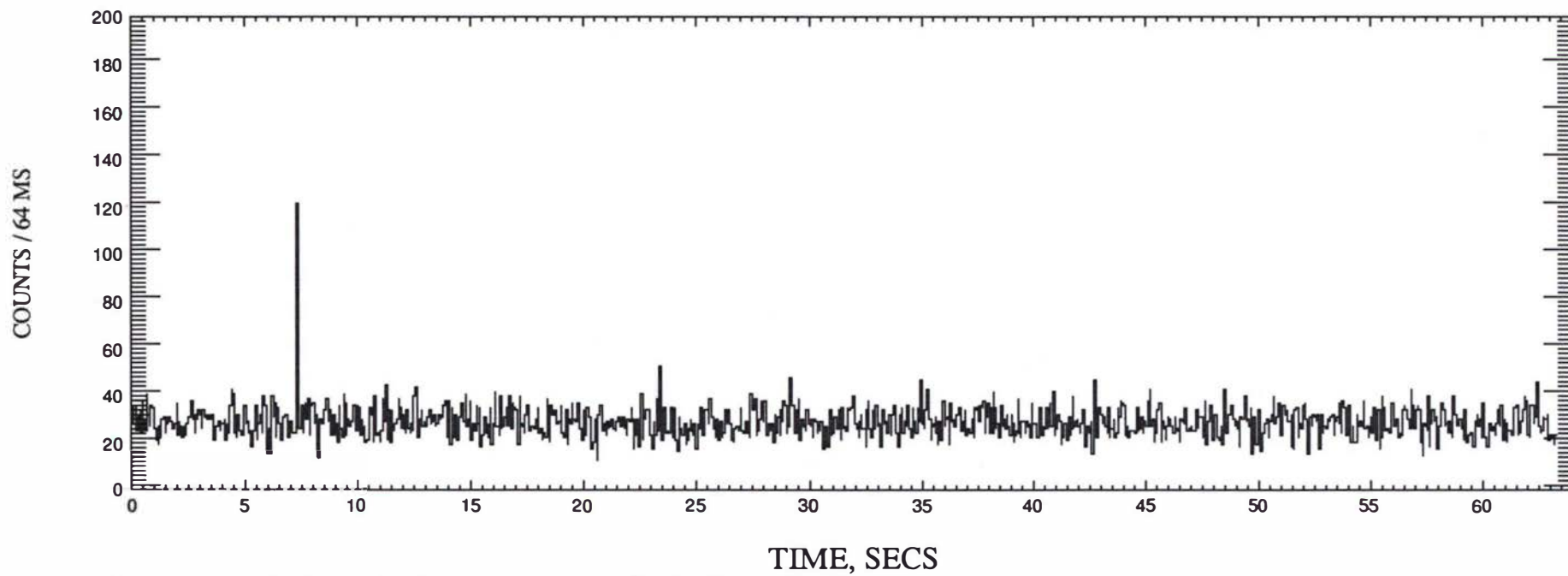
Burst Counter 6 at UT= 4.690971204970 h=16887.496 s 04:41:27.496



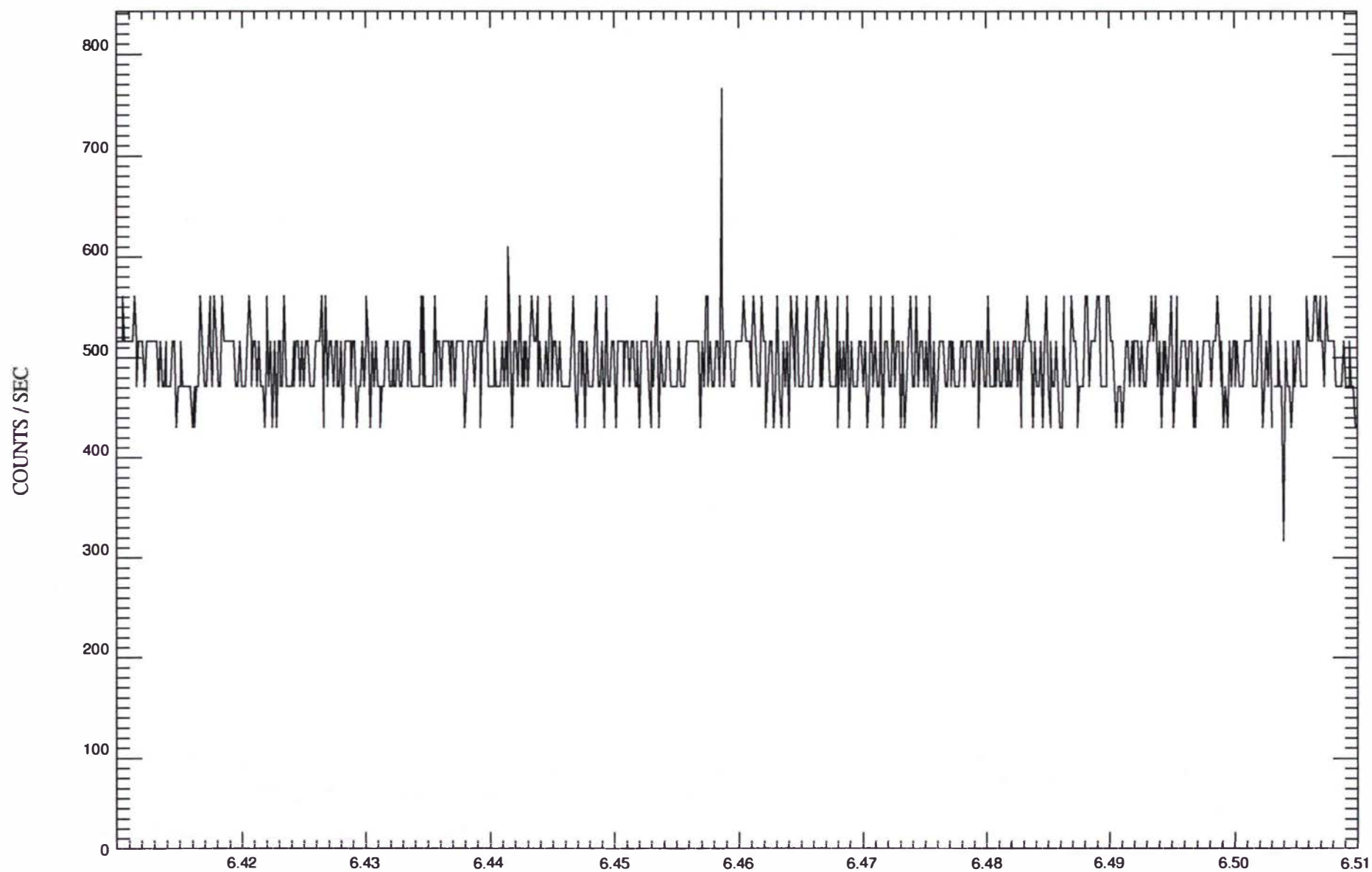
CALIBRATION DATA INCLUDED



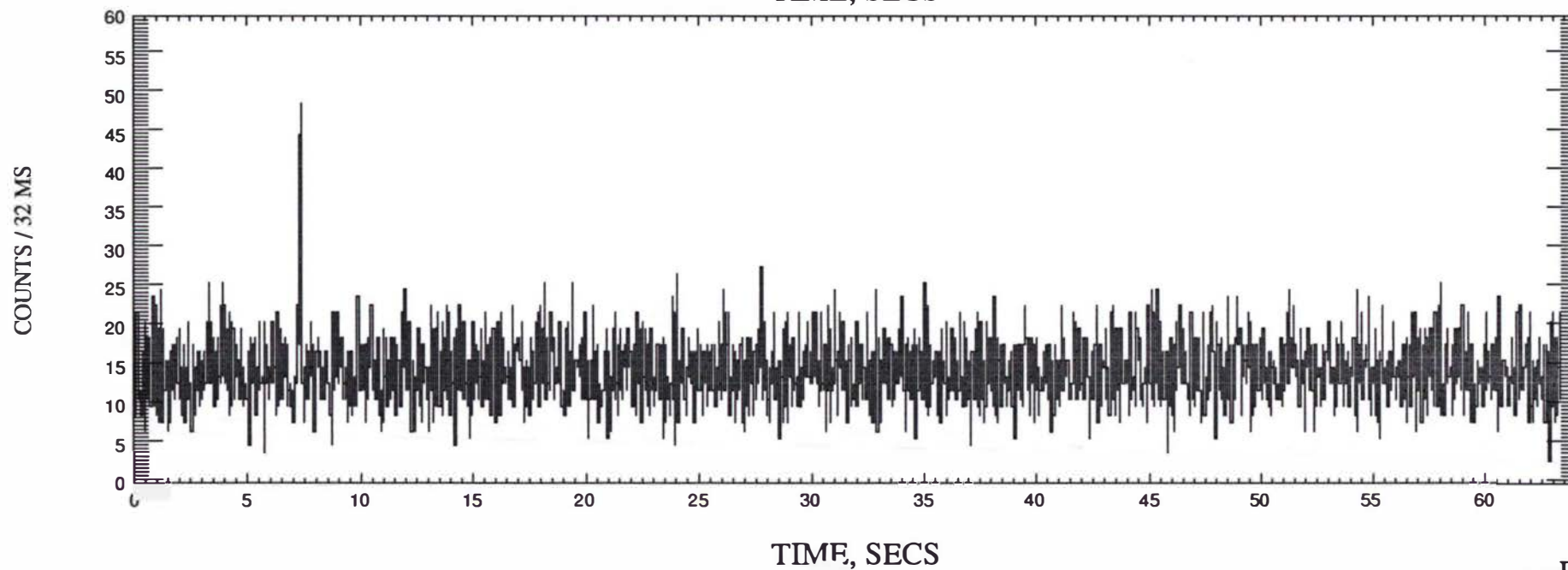
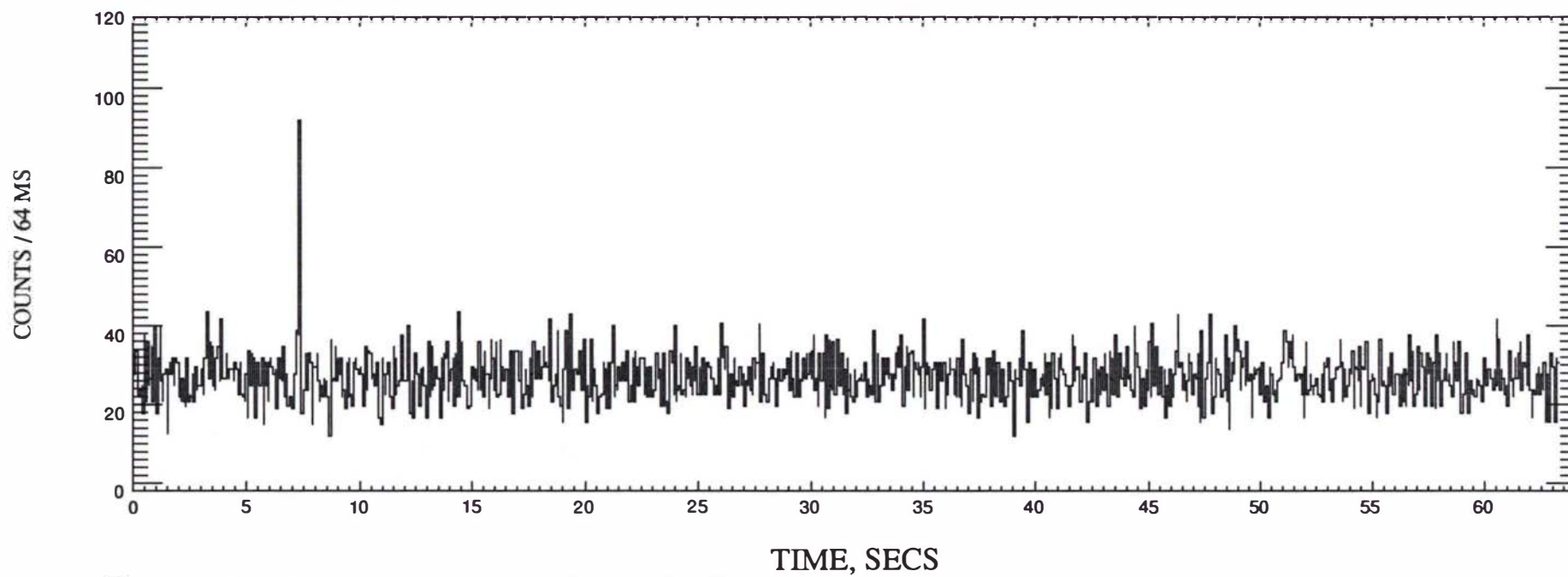
Burst Counter 7 at UT= 6.458721559313 h=23251.398 s 06:27:31.398



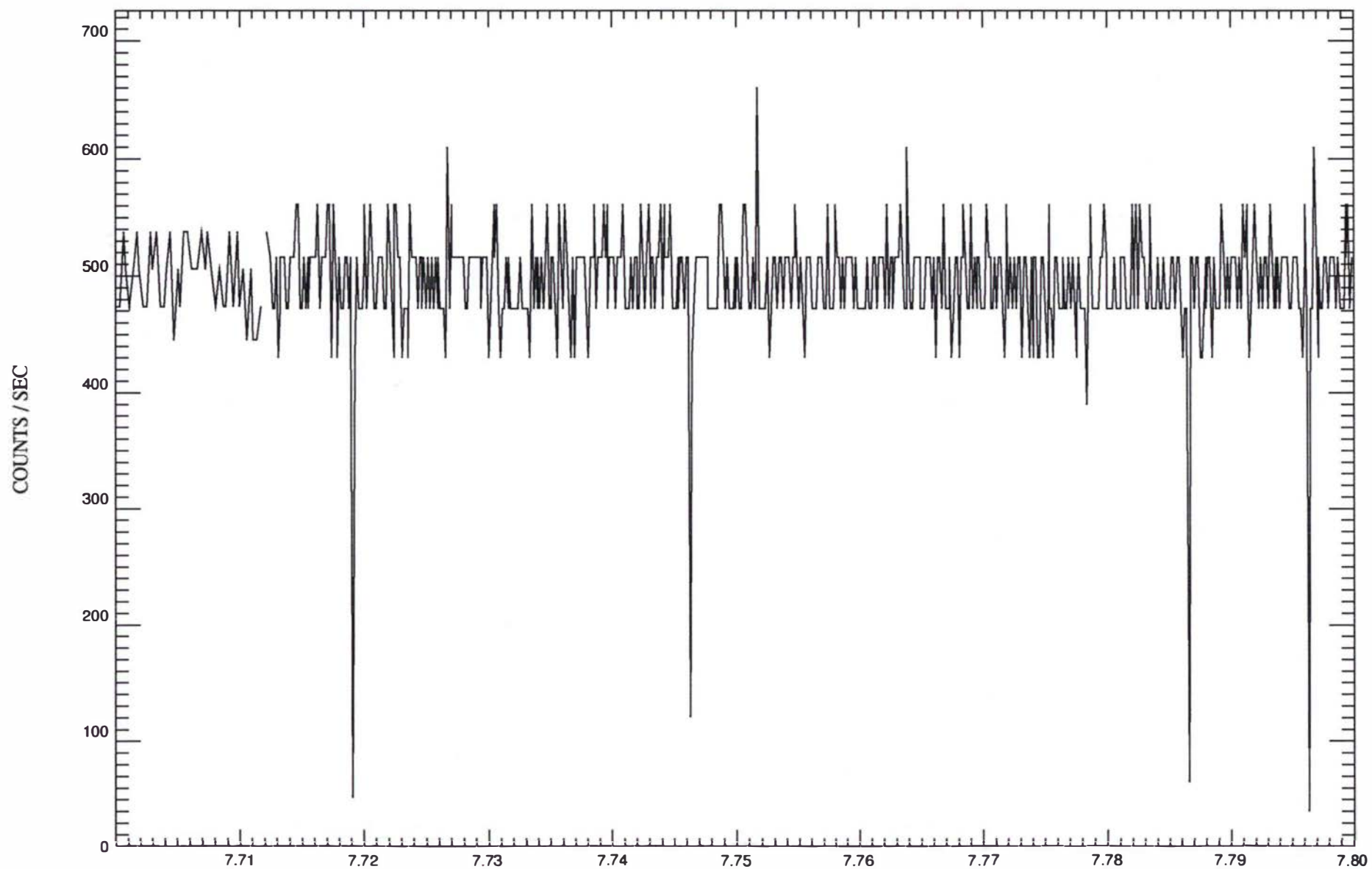
CALIBRATION DATA INCLUDED



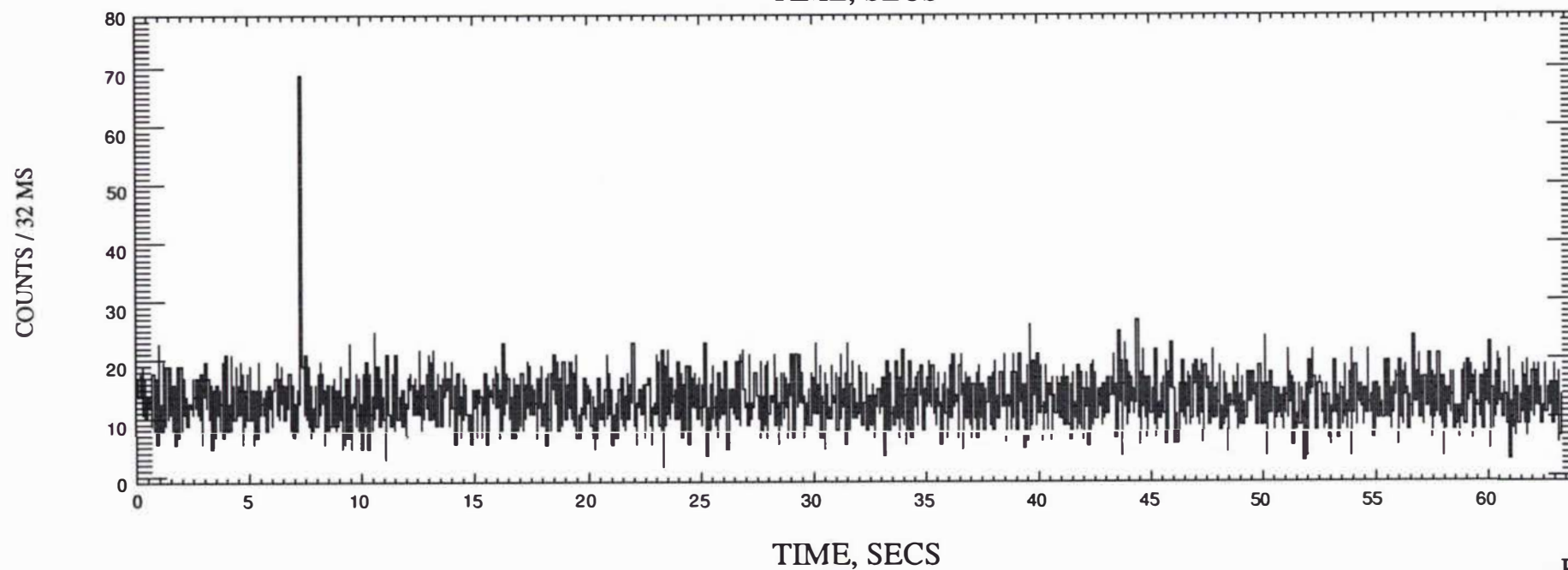
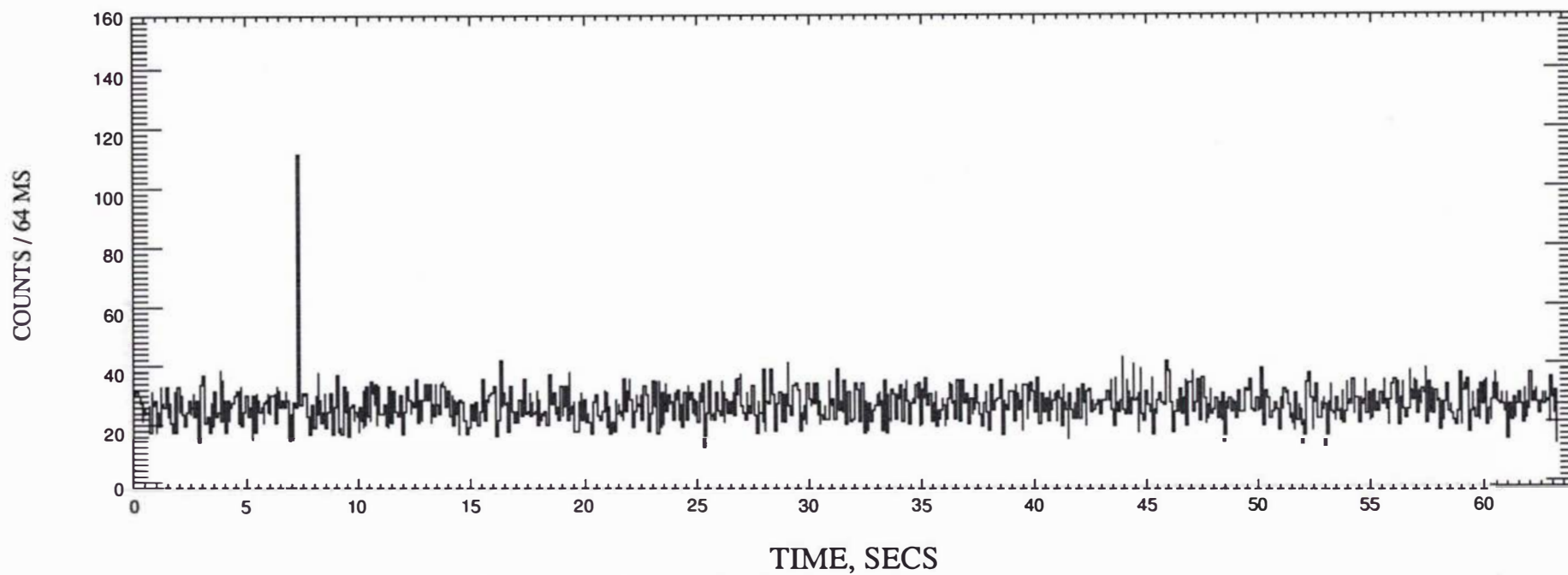
Burst Counter 8 at UT= 7.751847148471 h=27906.650 s 07:45:06.650



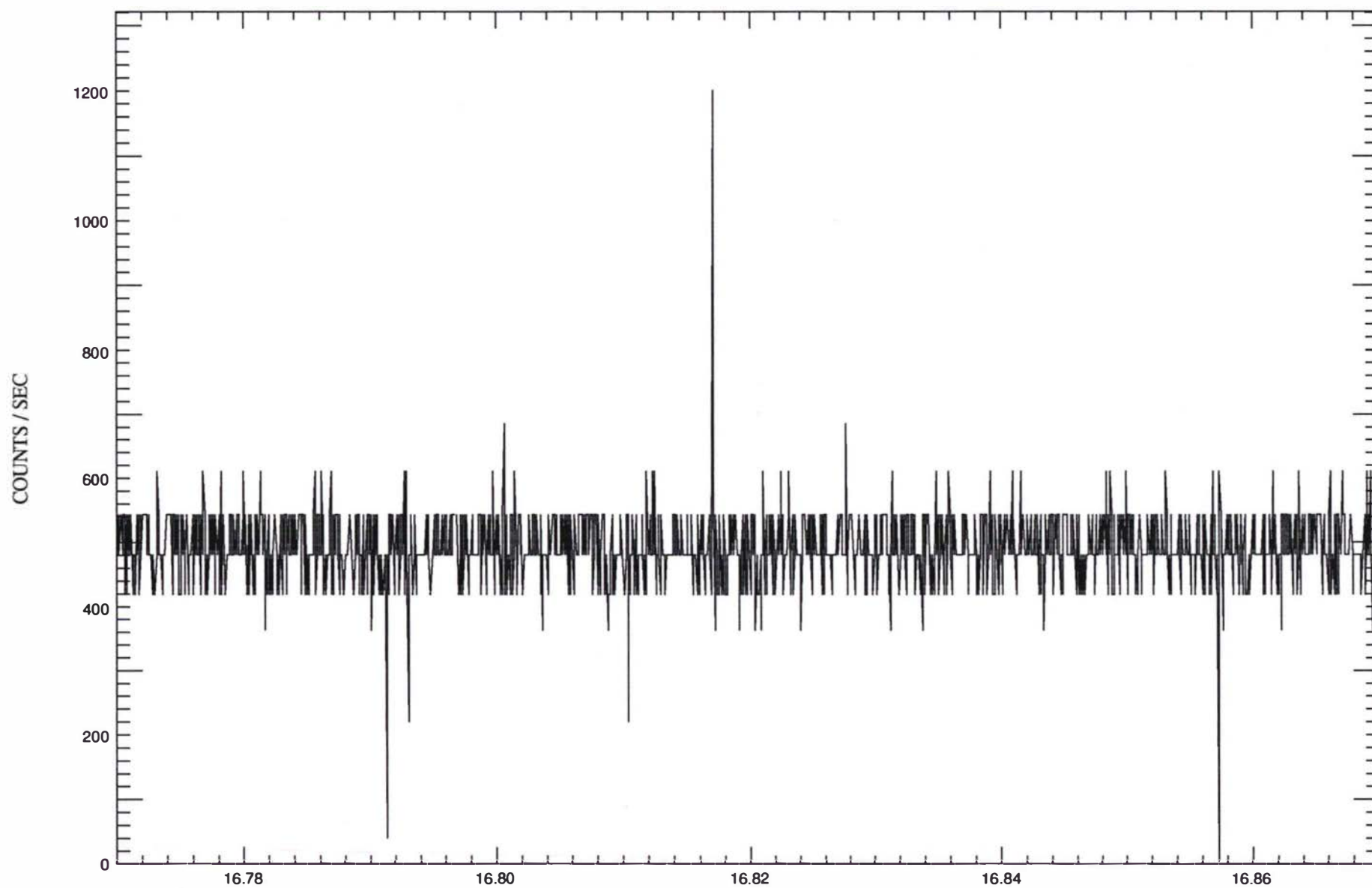
CALIBRATION DATA INCLUDED



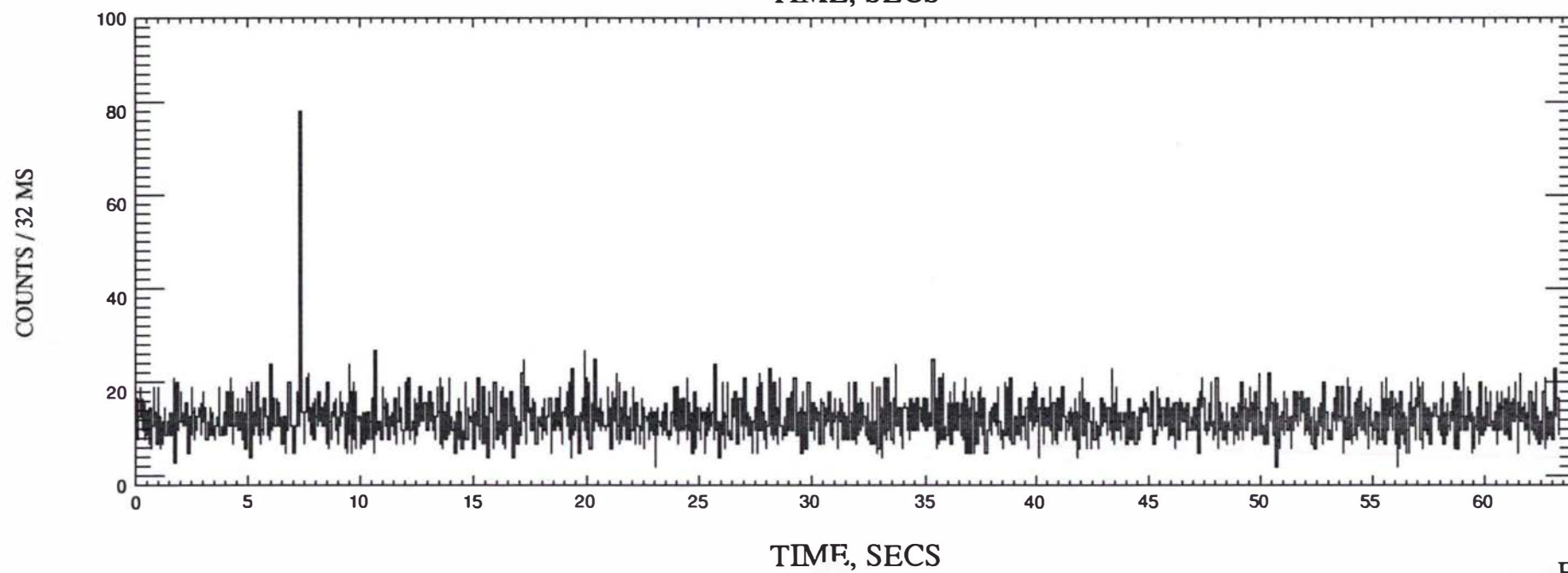
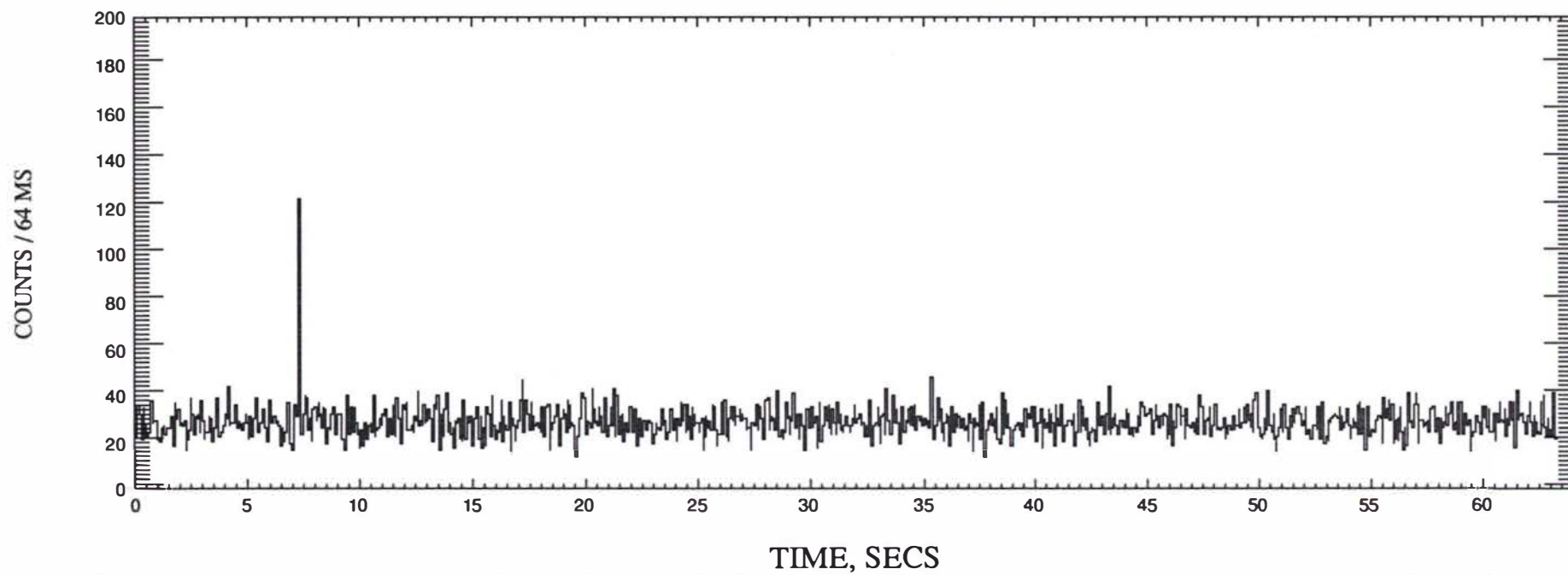
Burst Counter 9 at UT=16.817132555644 h=60541.677 s 16:49:01.677



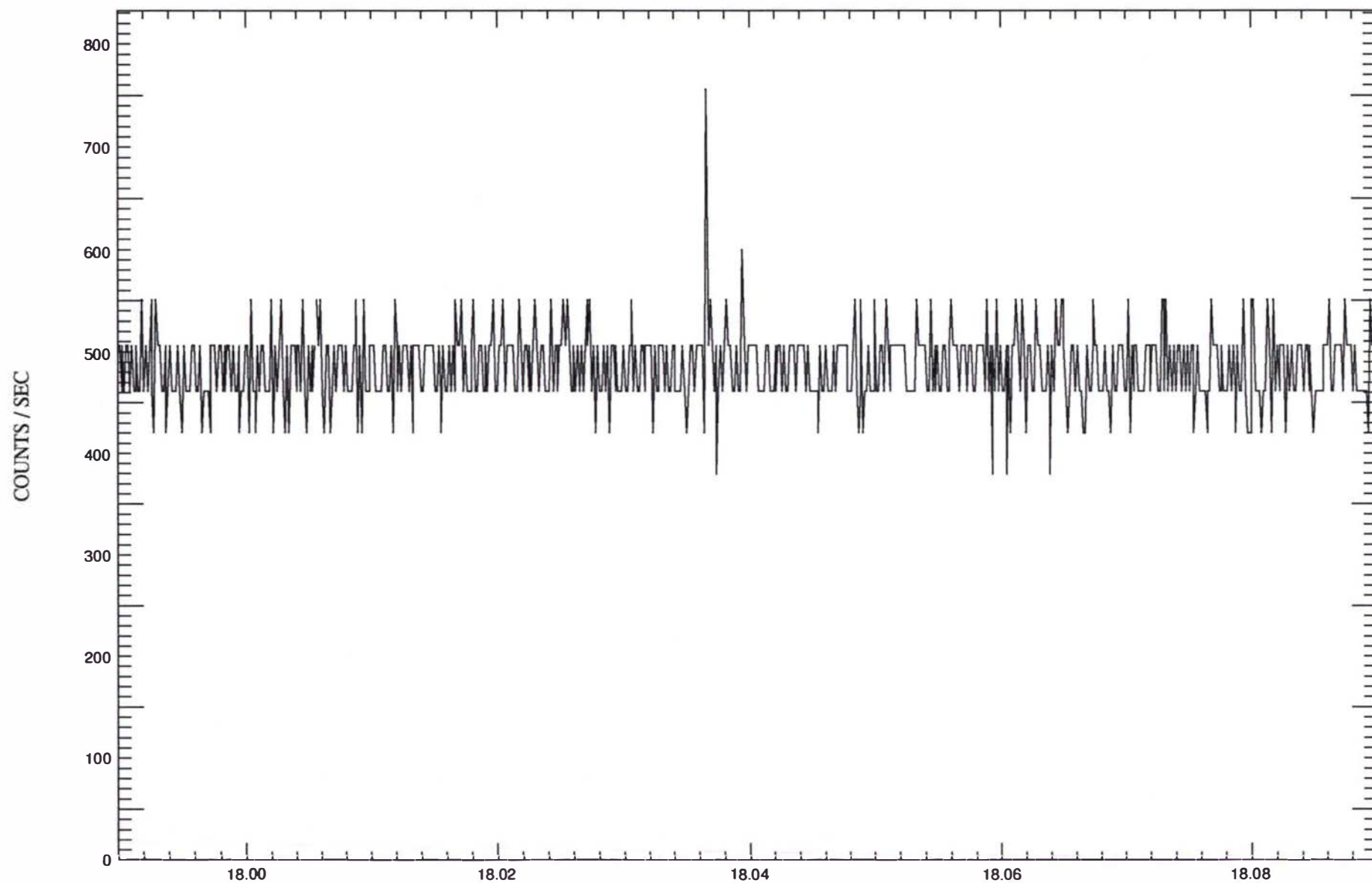
CALIBRATION DATA INCLUDED



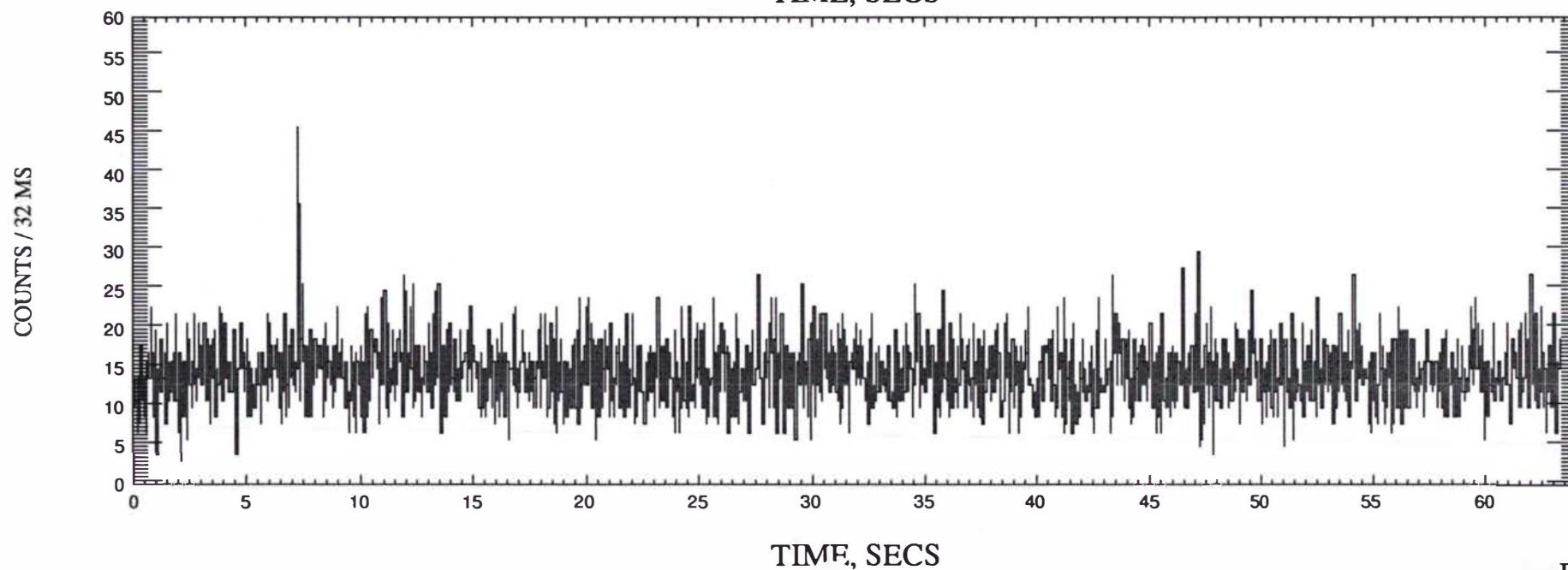
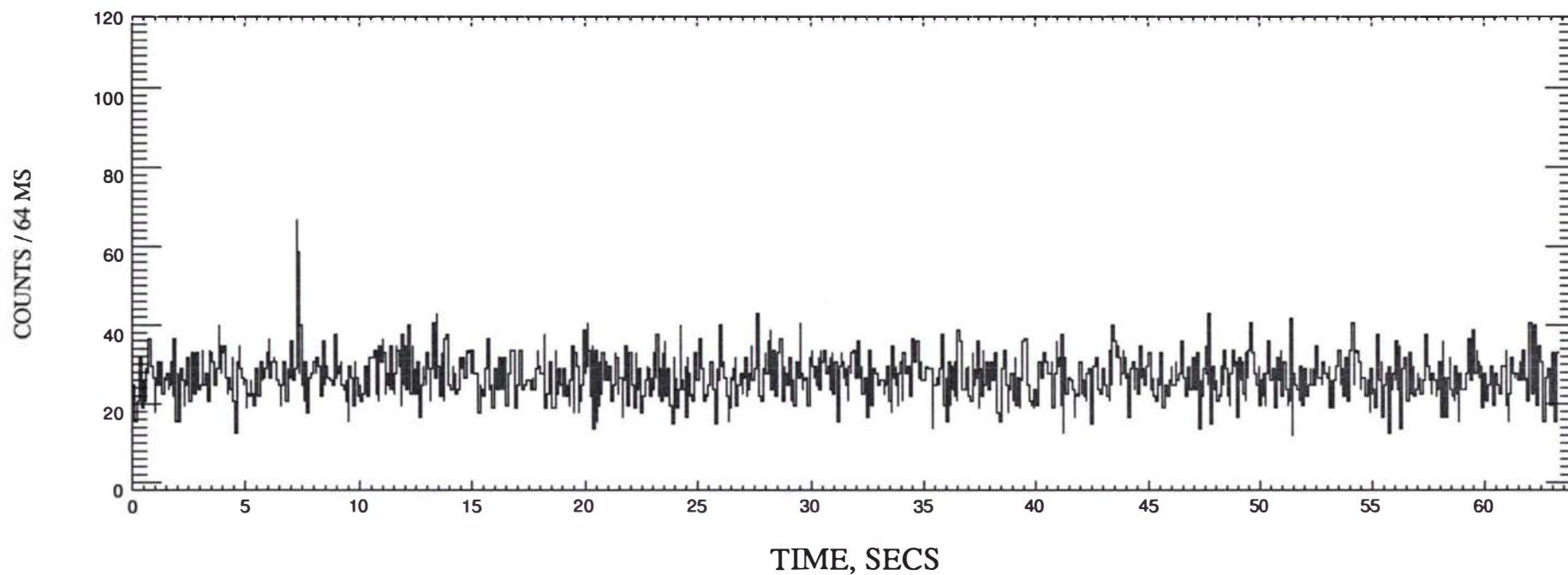
Burst Counter 10 at UT=18.036811209785 h=64932.520 s 18:02:12.520



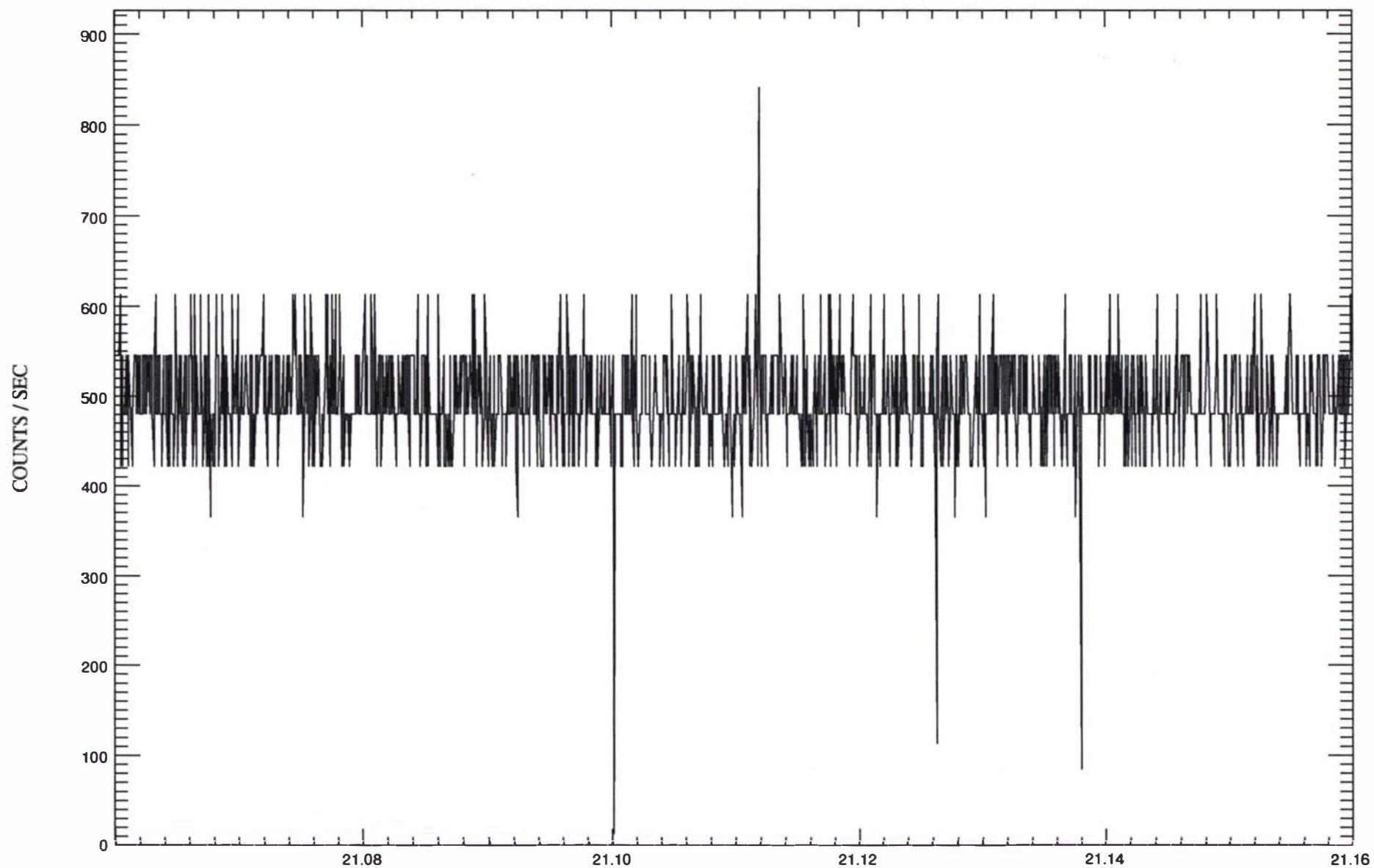
CALIBRATION DATA INCLUDED

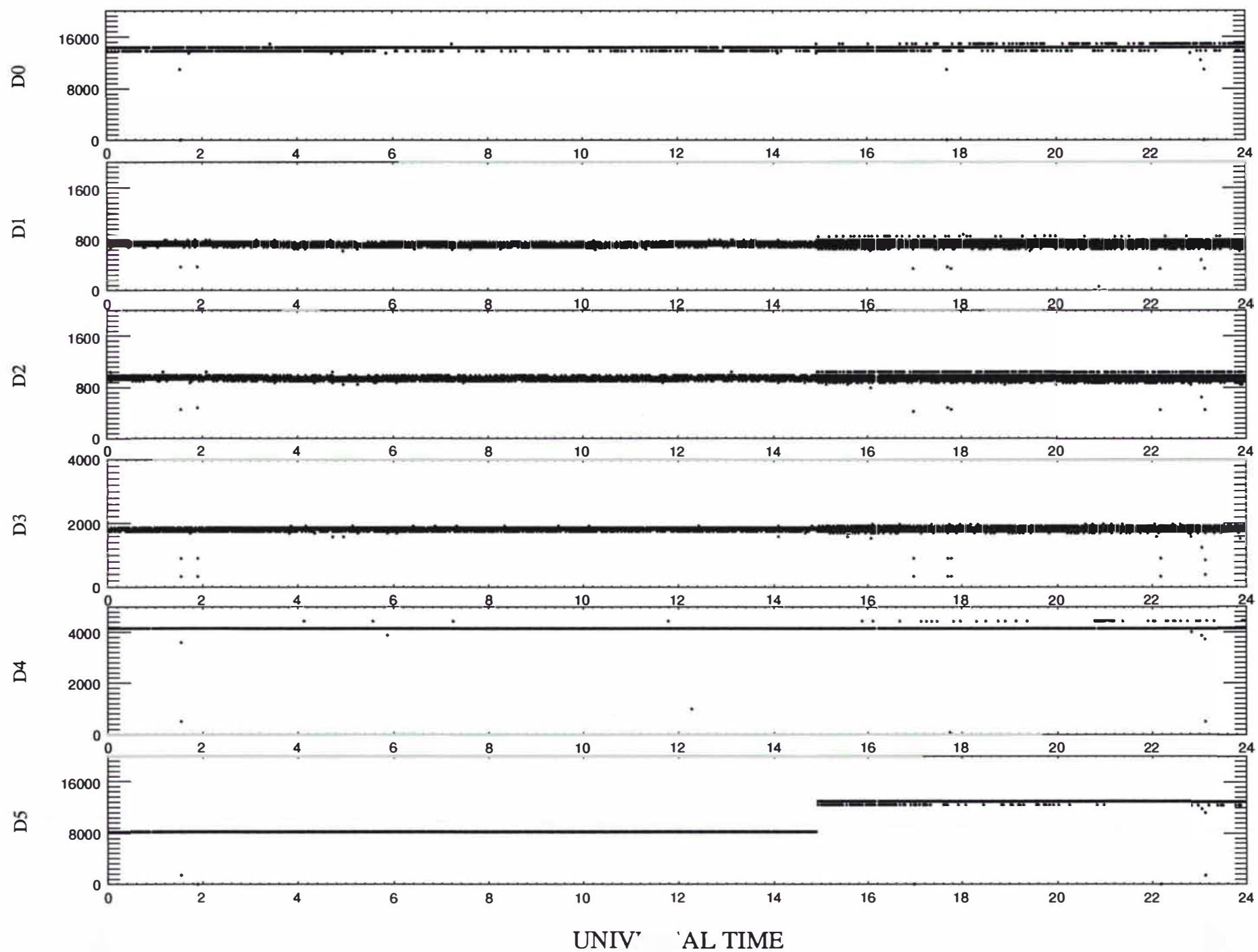


Burst Counter 11 at UT=21.112054985894 h=76003.398 s 21:06:43.398



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Tue Jun 23 11:57:01 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:56:24 -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.: 6850

TIME: TJD=0983 SECONDS=10310

02:51:50

10972 @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.2 AZIMUTH=149.6 ERROR=8.1 DEGREES

COMMENTS:

SGR 1627-41, SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.015 SEC.
NOT VISIBLE ABOVE 100KEV.

BATSE 6850

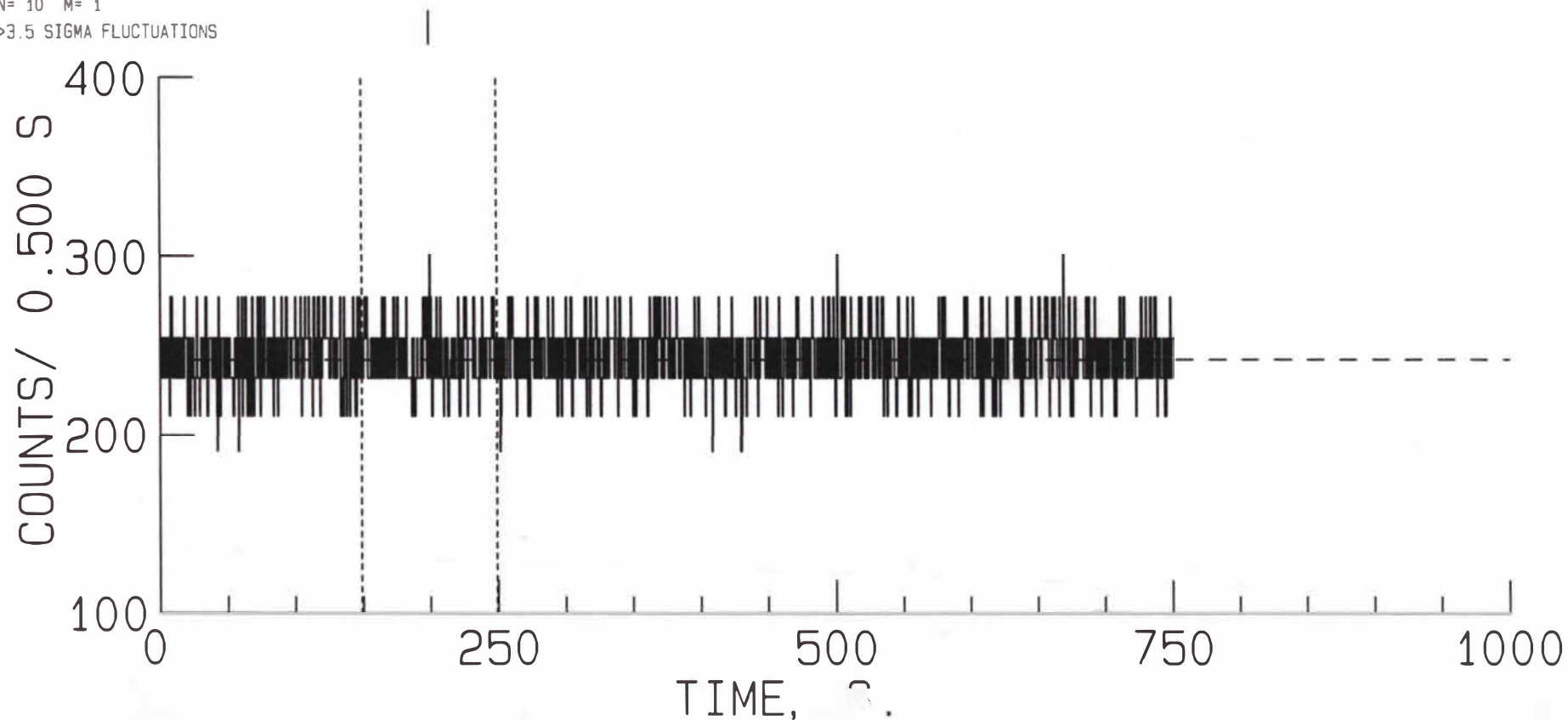
ULYSSES RT

25 / 6 / 98

19 / 6 / 98 10440.017 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

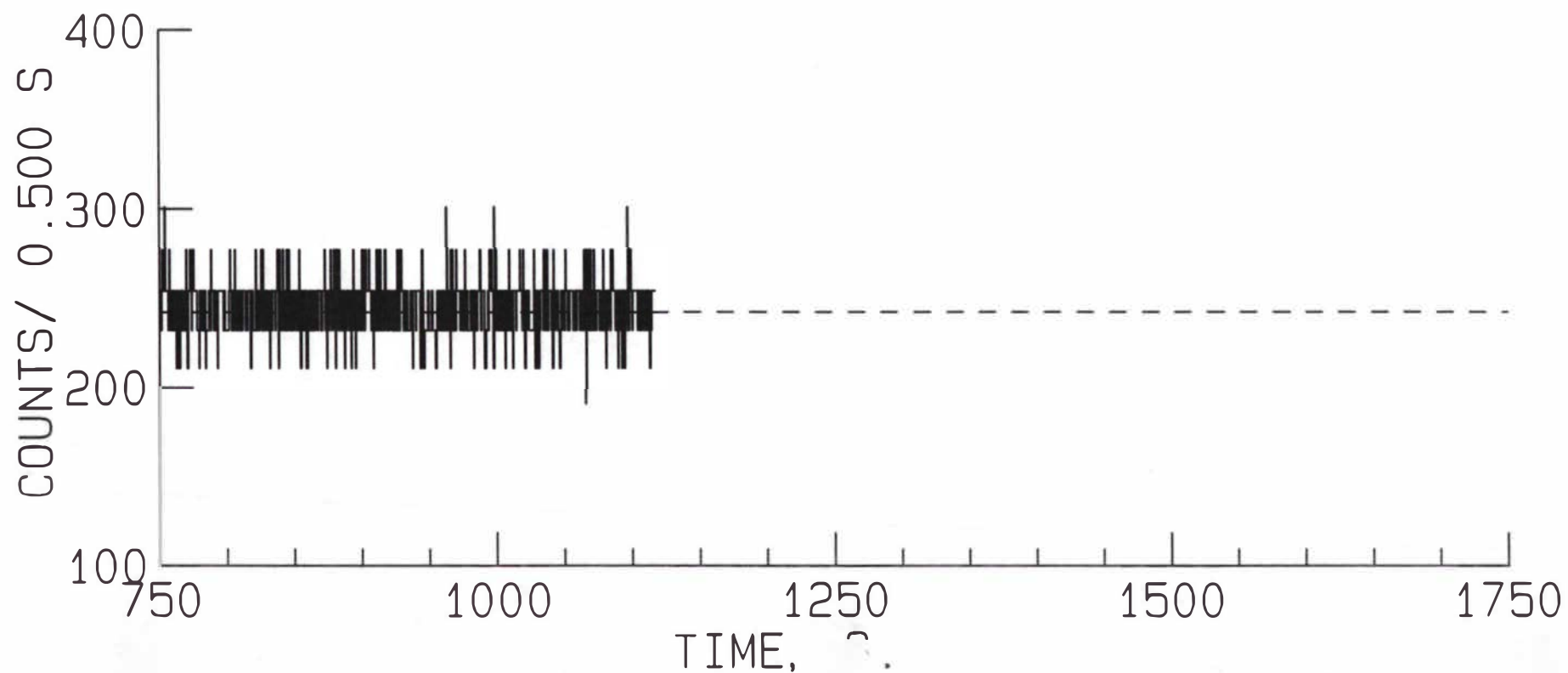


ULYSSES RT

25 / 6 / 98

19 / 6 / 98 10440.017 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 23 11:58:34 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:58:03 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.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.: 6851

TIME: TJD=0983 SECONDS=14069

03:54:29

14731@U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.8 AZIMUTH=155.4 ERROR=5.8 DEGREES

COMMENTS:

SGR 1627-41, SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.12 SEC.
NOT VISIBLE ABOVE 100KEV.

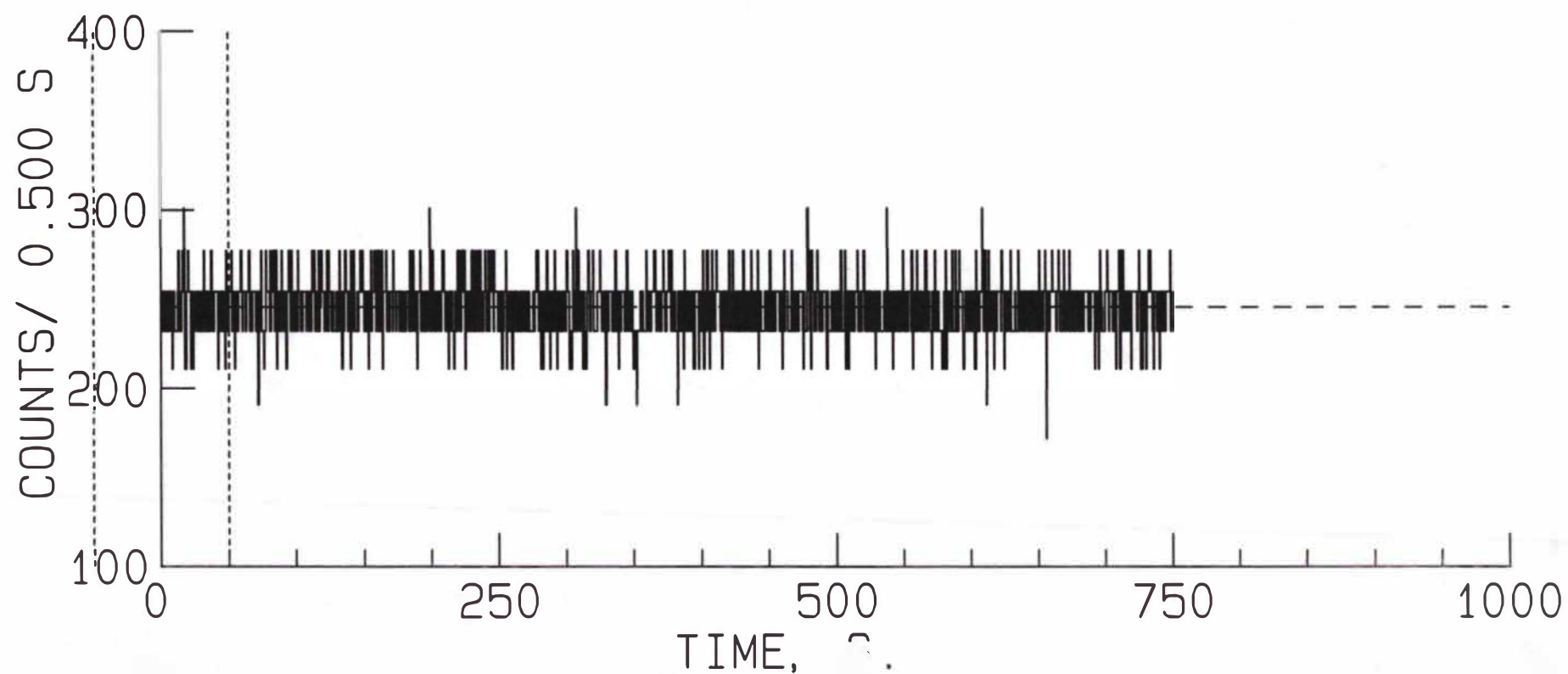
BATSE G8S1

ULYSSES RT

25 / 6 / 98

19 / 6 / 98 14220.055 s

22- 148 keV

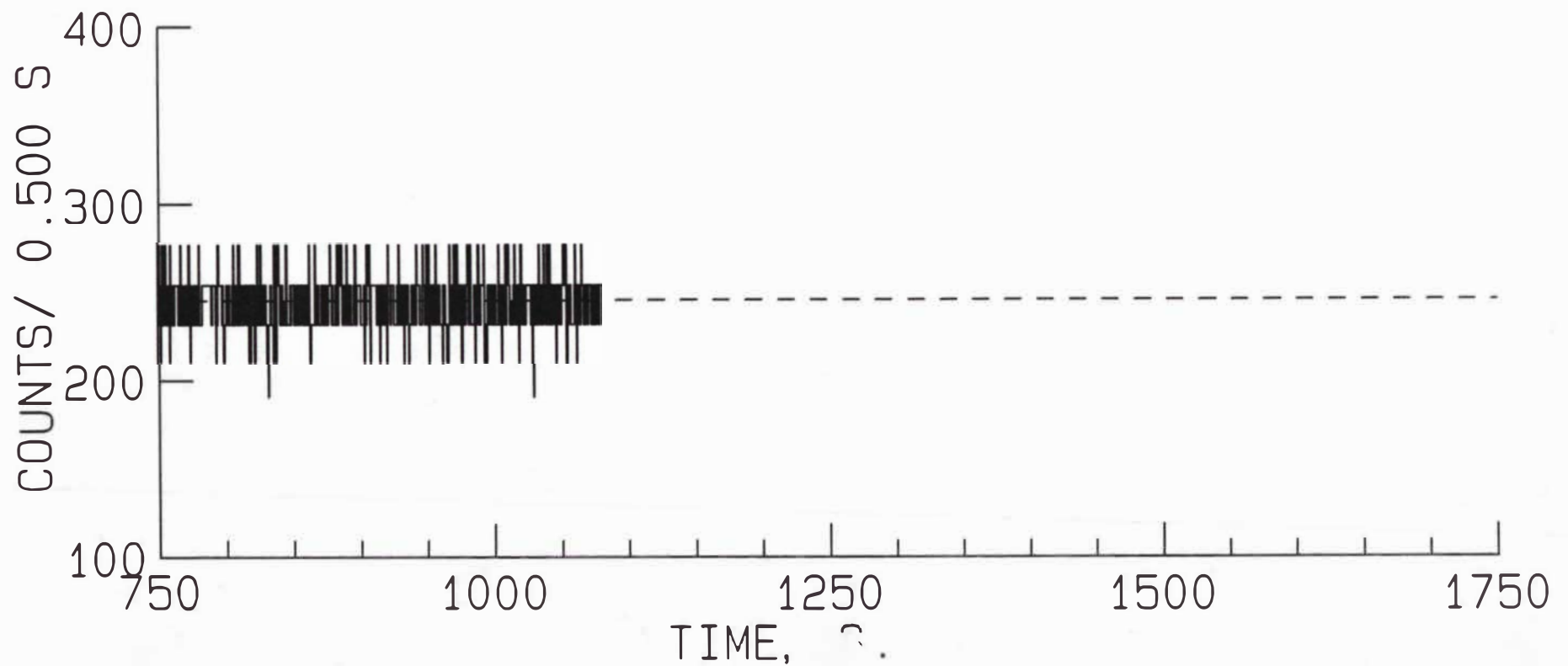


ULYSSES RT

25 / 6 / 98

19 / 6 / 98 14220.055 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 23 12:00:28 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 13:59:53 -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.: 6852

TIME: TJD=0983 SECONDS=22208

06:10:06

22870 @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=70.0 AZIMUTH=135.4 ERROR=14.6 DEGREES

COMMENTS:

SGR 1627-41, DOUBLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.14 SEC.
NOT VISIBLE ABOVE 100KEV.

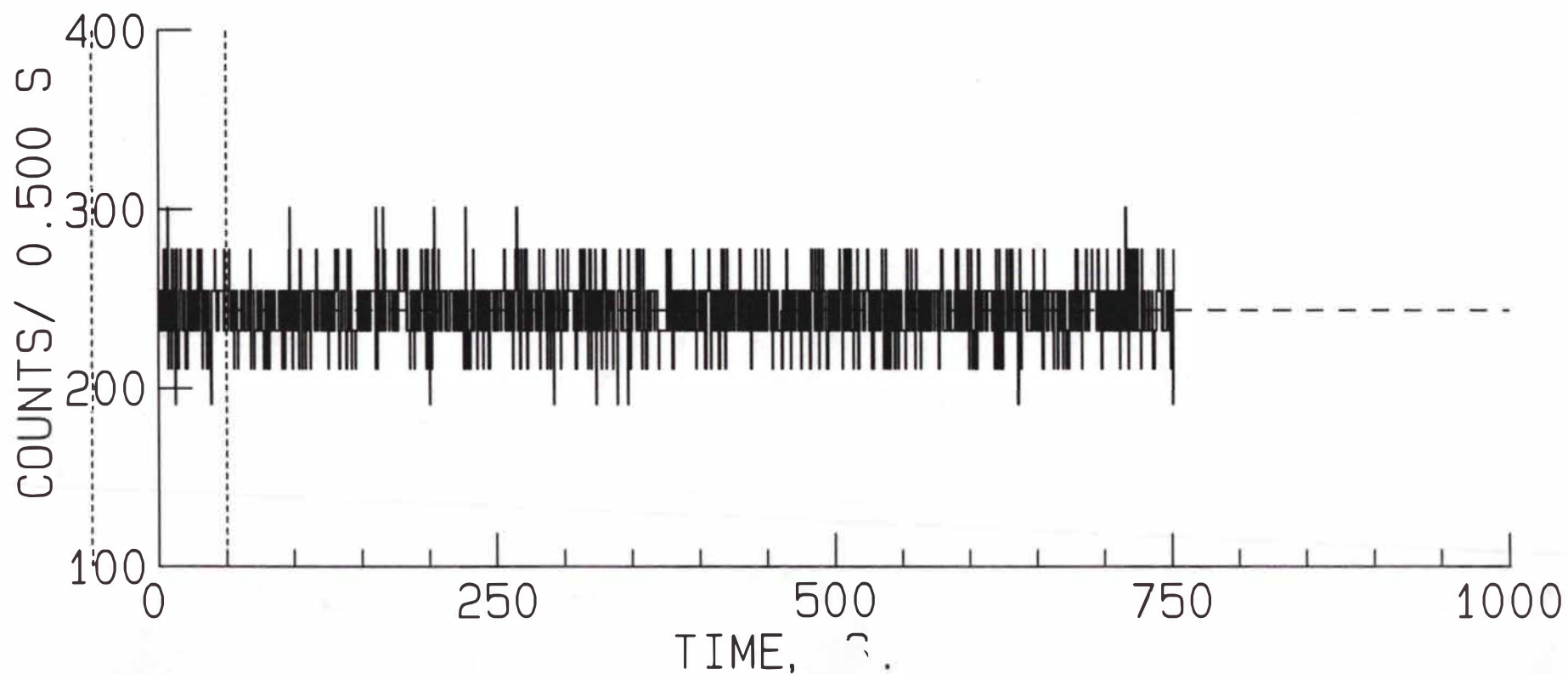
BATSE 6852

ULYSSES RT

25 / 6 / 98

19 / 6 / 98 22356.142 s

22- 148 keV

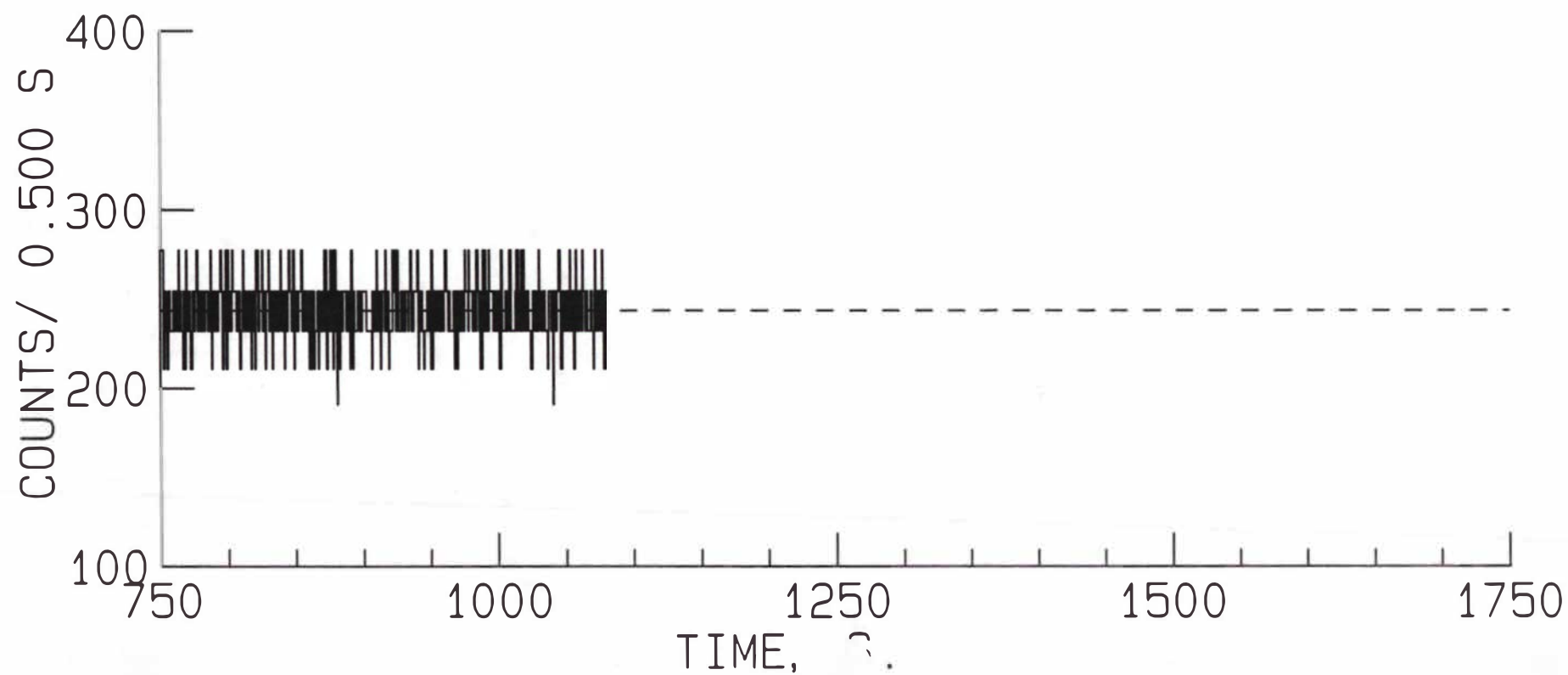


ULYSSES RT

25 / 6 / 98

19 / 6 / 98 22356.142 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 23 12:07:25 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 MAA22812; Tue, 23 Jun 1998 12:07:21 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA10444; Tue, 23 Jun 1998 12:07:17 -0700
Date: Tue, 23 Jun 1998 14:07:07 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980623140707.202011b2@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6853
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6853
EVENT OF 1998 JUN 19 DAY OF YEAR=170
EVENT CROSSING TIME AT BATSE : 43266. S. OR 12:01:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 345.000 52.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 6/ 98 IS:
RA= 149.934 DEC= 10.226 DIST= 5.828 AU
BATSE-ULYSSES DISTANCE = 871933083. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 63.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1294.72 SECS.
CROSSING TIME AT ULYSSES IS 44561. S. OR 12:22:40 +/- 521.82 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 6/ 98 IS:
RA= 77.055 DEC= 23.333 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376738464. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -366.74 SECS.
CROSSING TIME AT MARS IS 42899. S. OR 11:54:59 +/- 203.11 SECONDS

BATSE BURST TRIGGER

NO.: 6853

TIME: TJD=0983 SECONDS=43266

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=112.7 AZIMUTH=294.0 ERROR=3.2 DEGREES

COMMENTS:

GRB SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 5 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6853	980619	10983	43266	3500	345	+52	5

BATSE BURST# 6853

ULYSSES RT

23 / 6 / 98

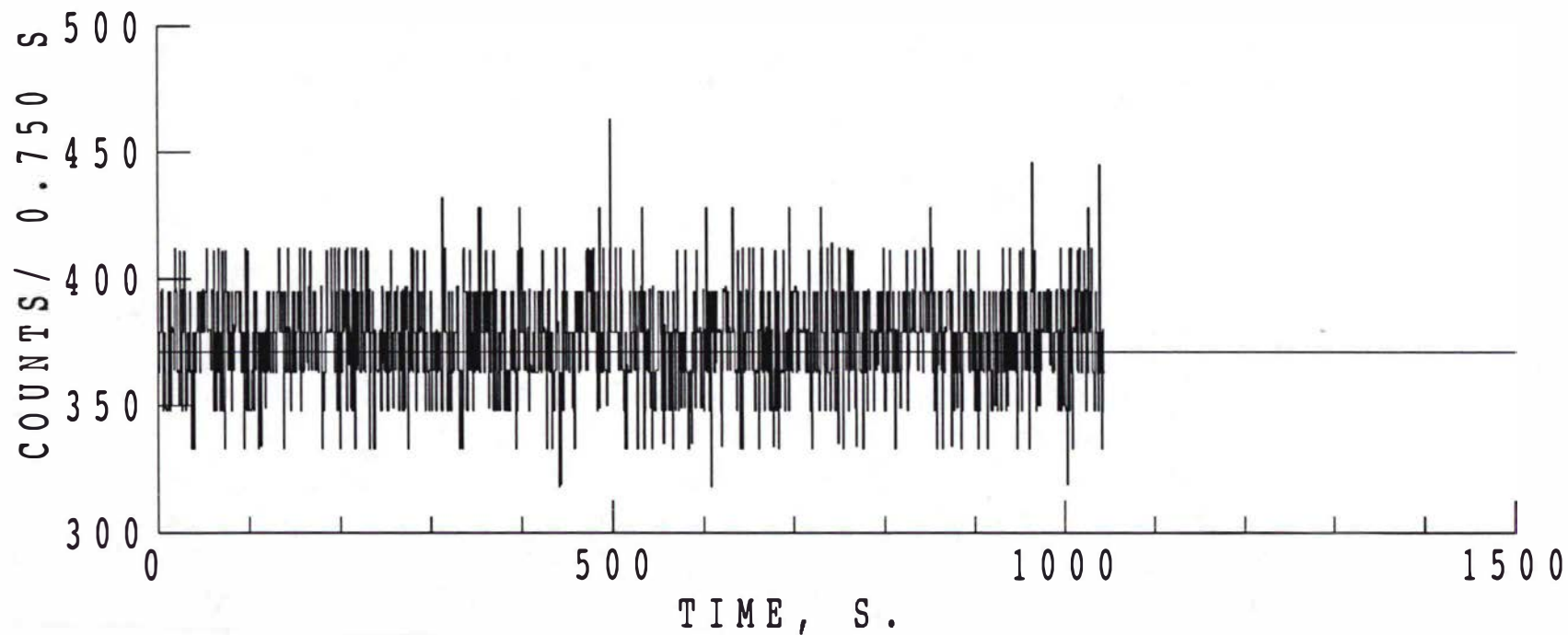
19 / 6 / 98 44028.125 s

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



Date: Nov 17 '08

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

- ☐ 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 KONUS1

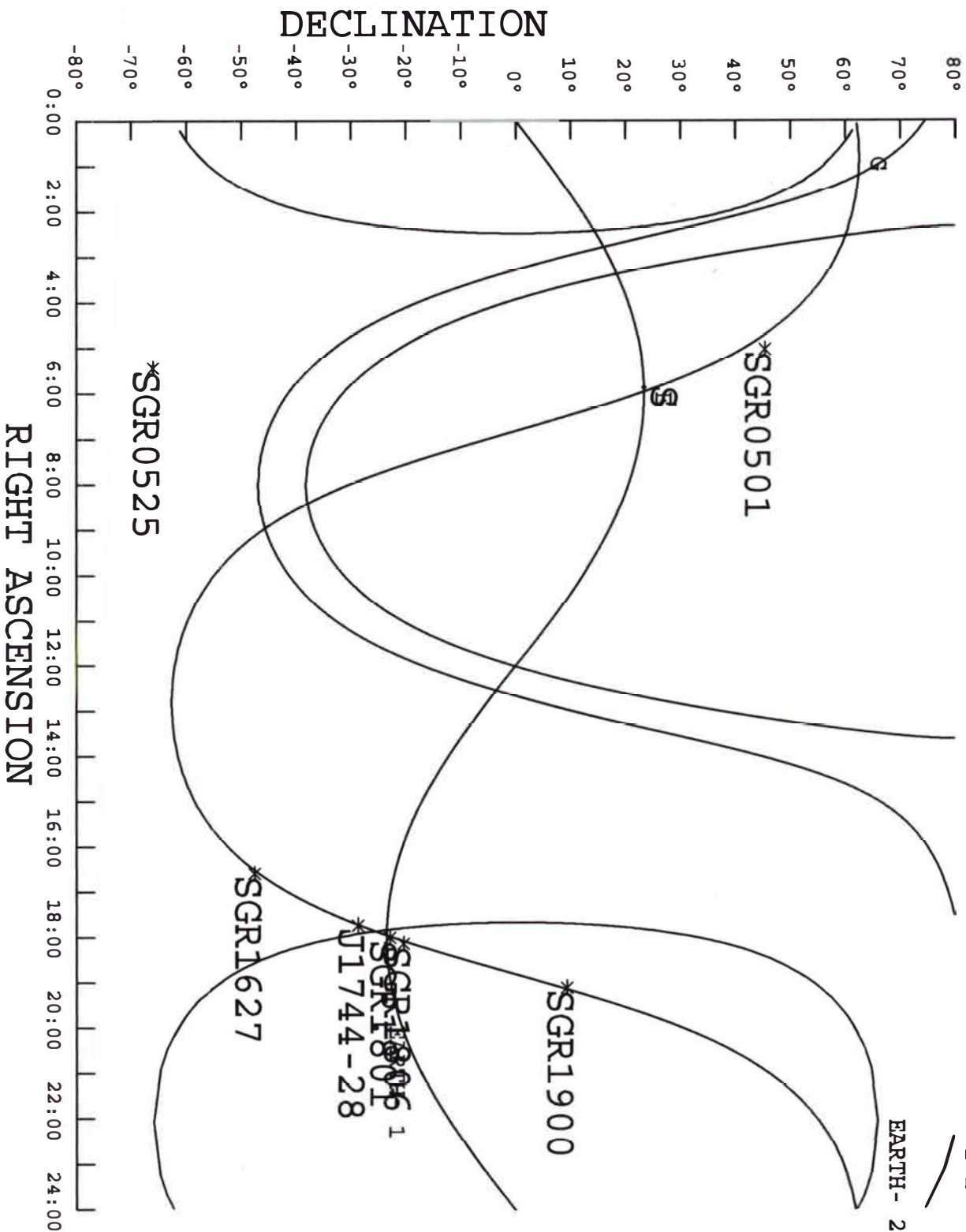
2 SAX

EVENT OF JUN 19, 1998 13:12

17/11/ 8

2-1

EARTH - 2



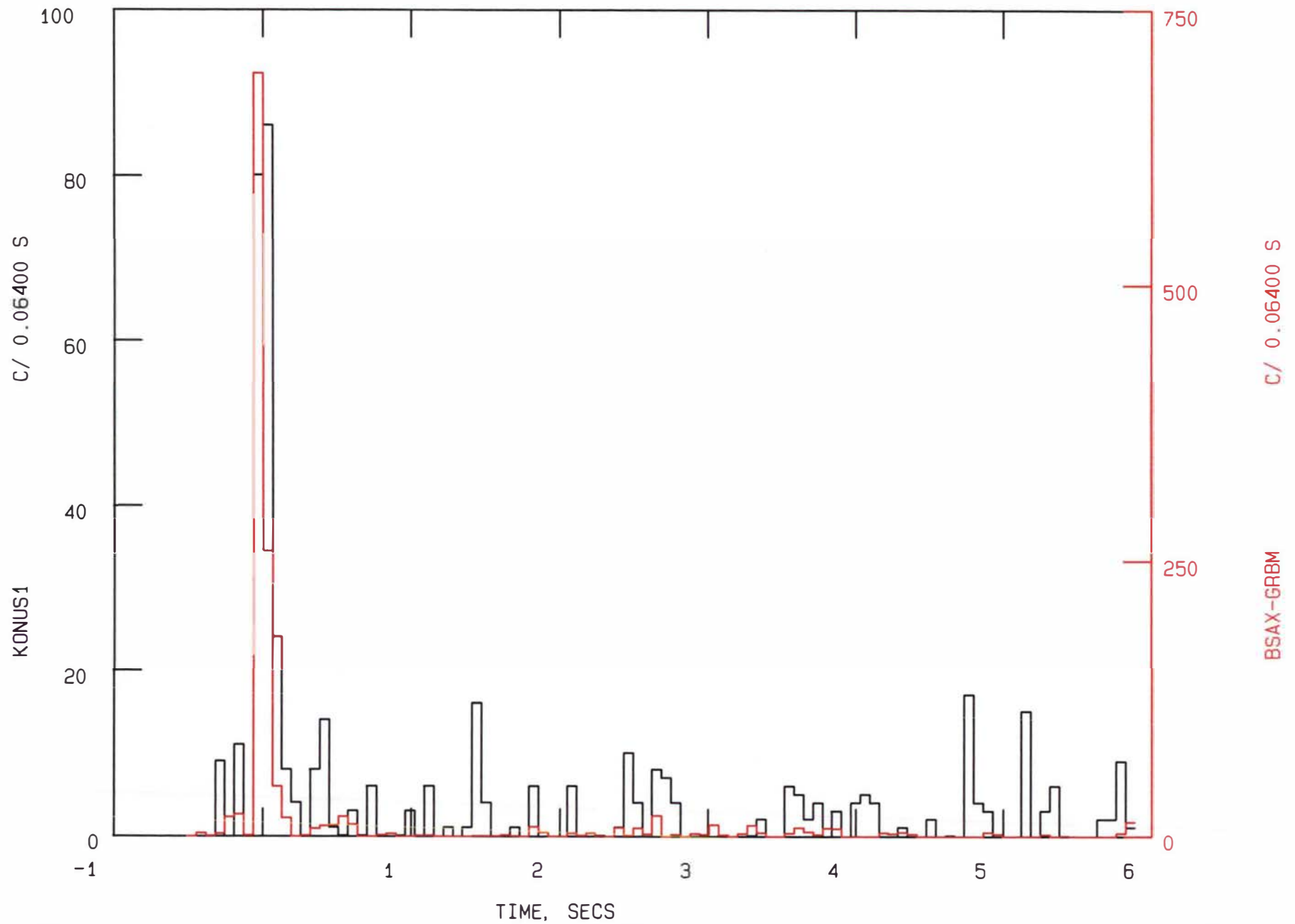
KONUS1

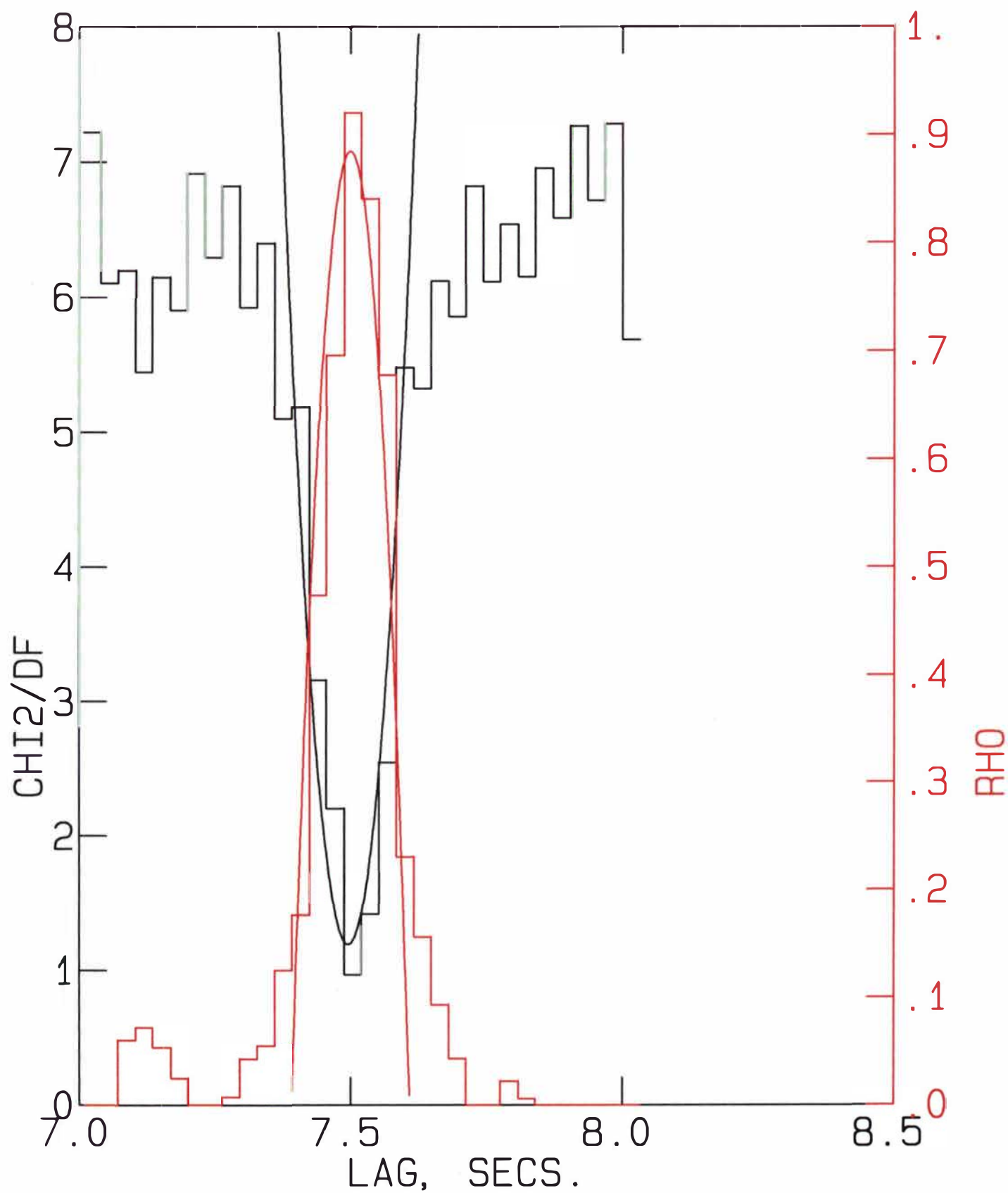
-BSAX-GRBM CORRELATION

19/06/98

47530.372

17/11/ 8





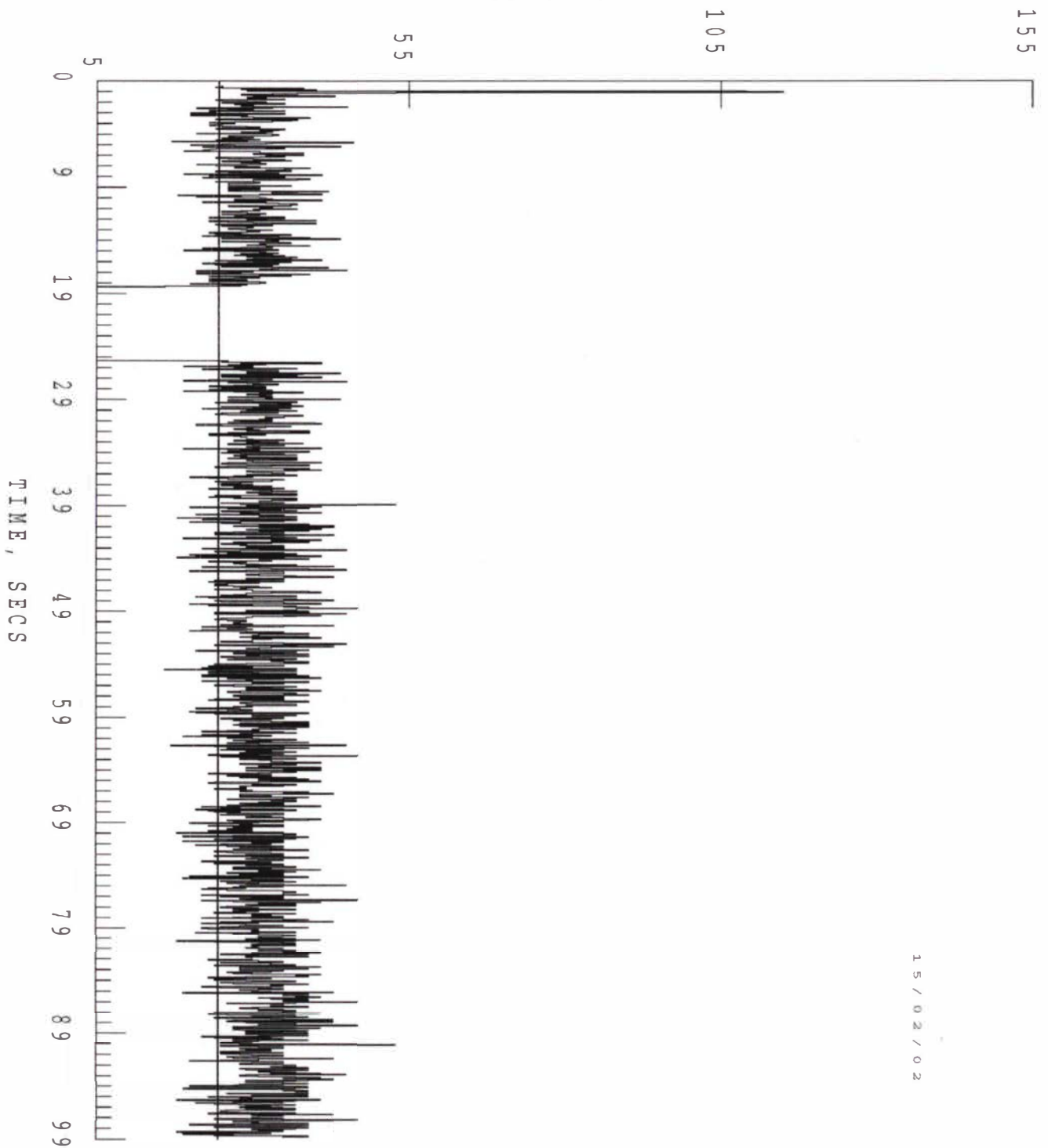
KONUS1

19/06/98

47530.372

50 - 200 keV

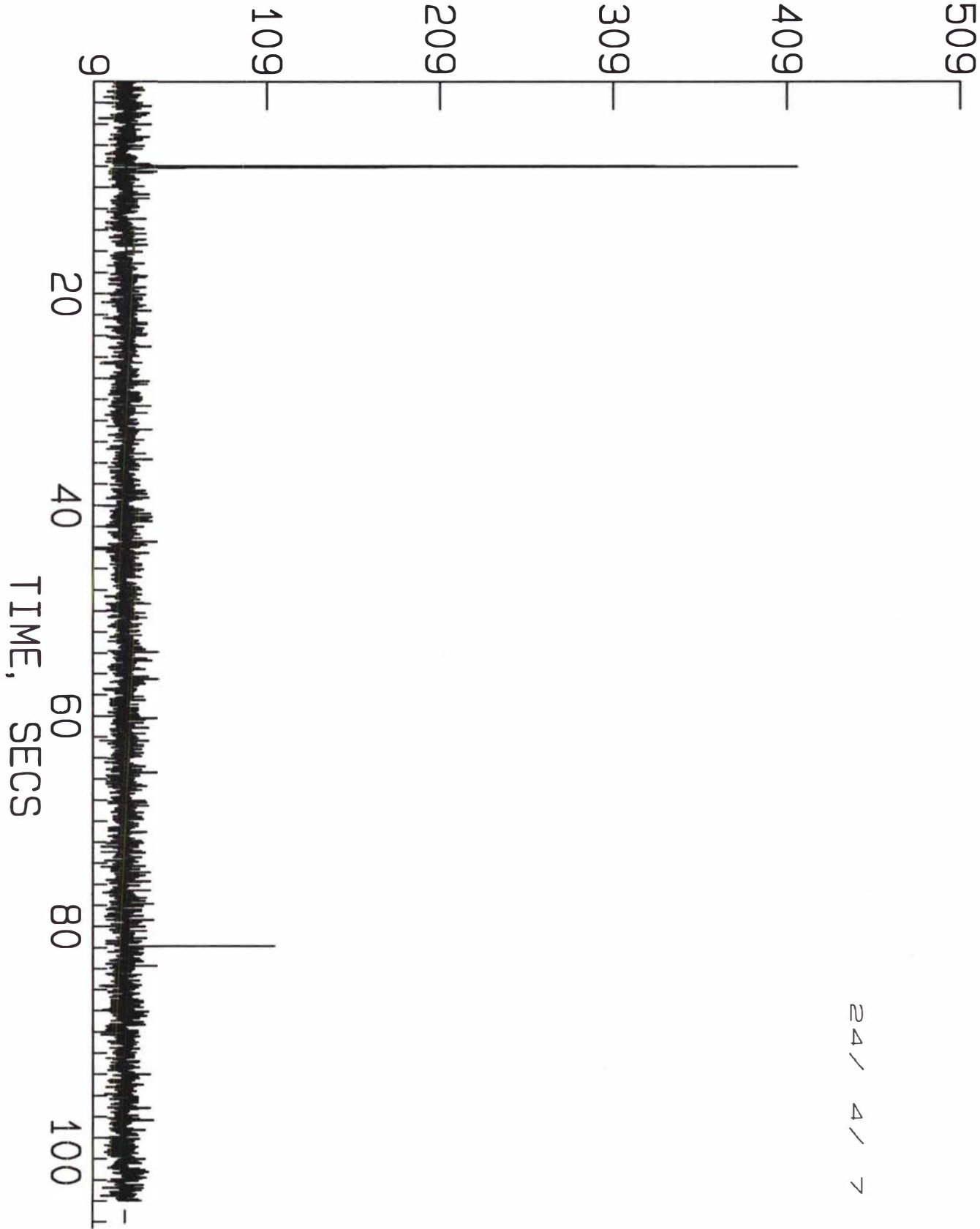
COUNTS/0.064 S



SAX GRBM

19/06/98 47523.420
40- 700 keV

COUNTS/0.031 S



KONUS1 19980619 47530

ULYSSES RT

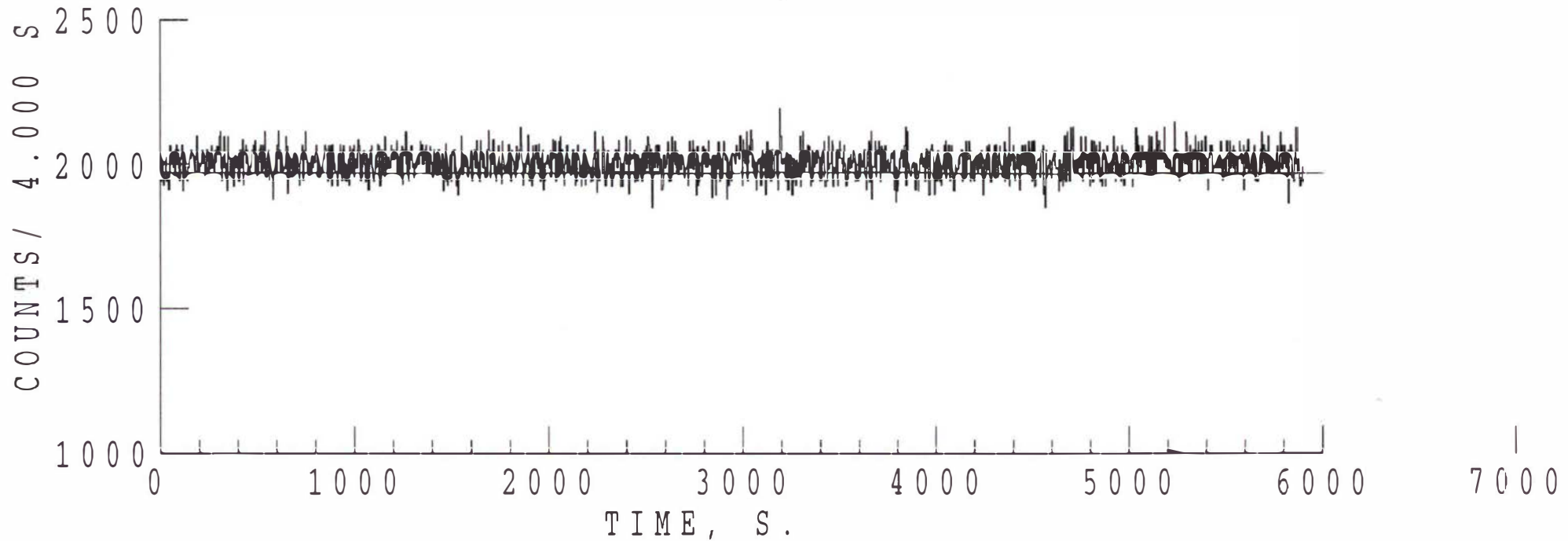
15 / 02 / 02

19 / 06 / 98 44568.129 s

0.250 S INTERVALS REGROUPED BY 16

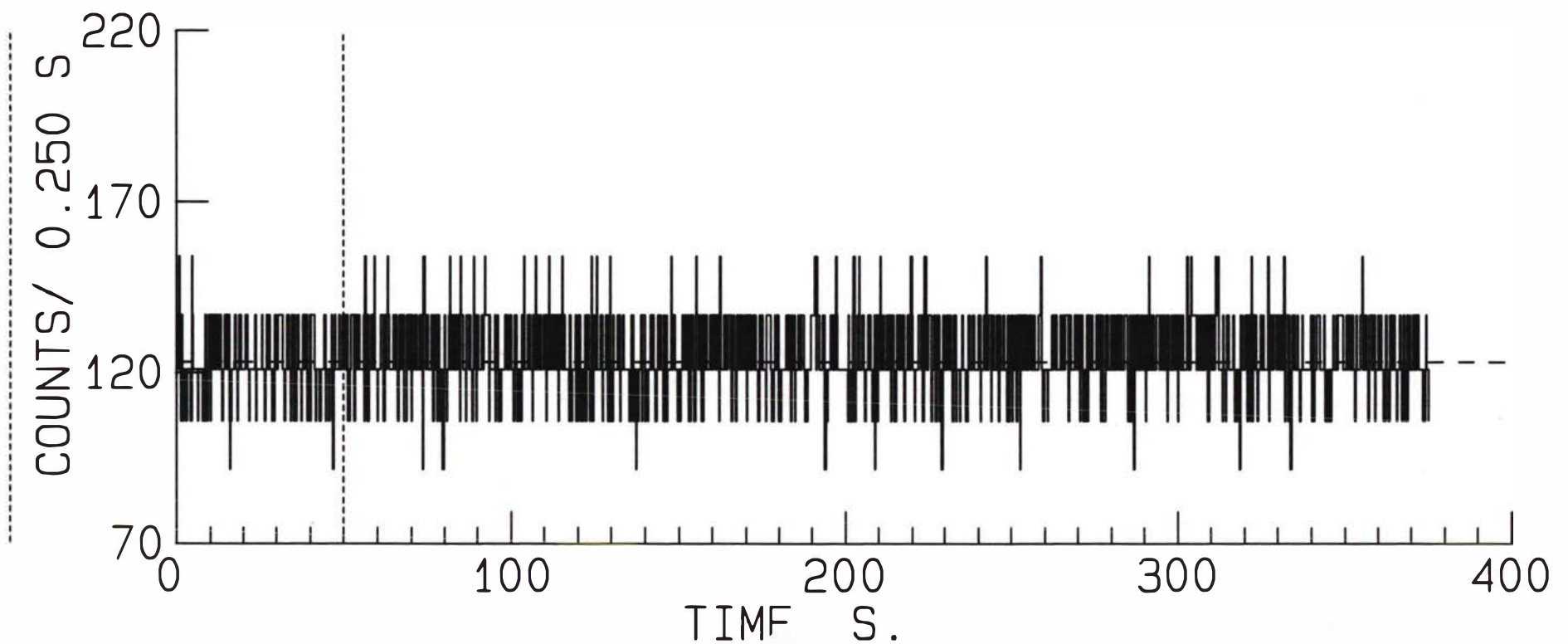
0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



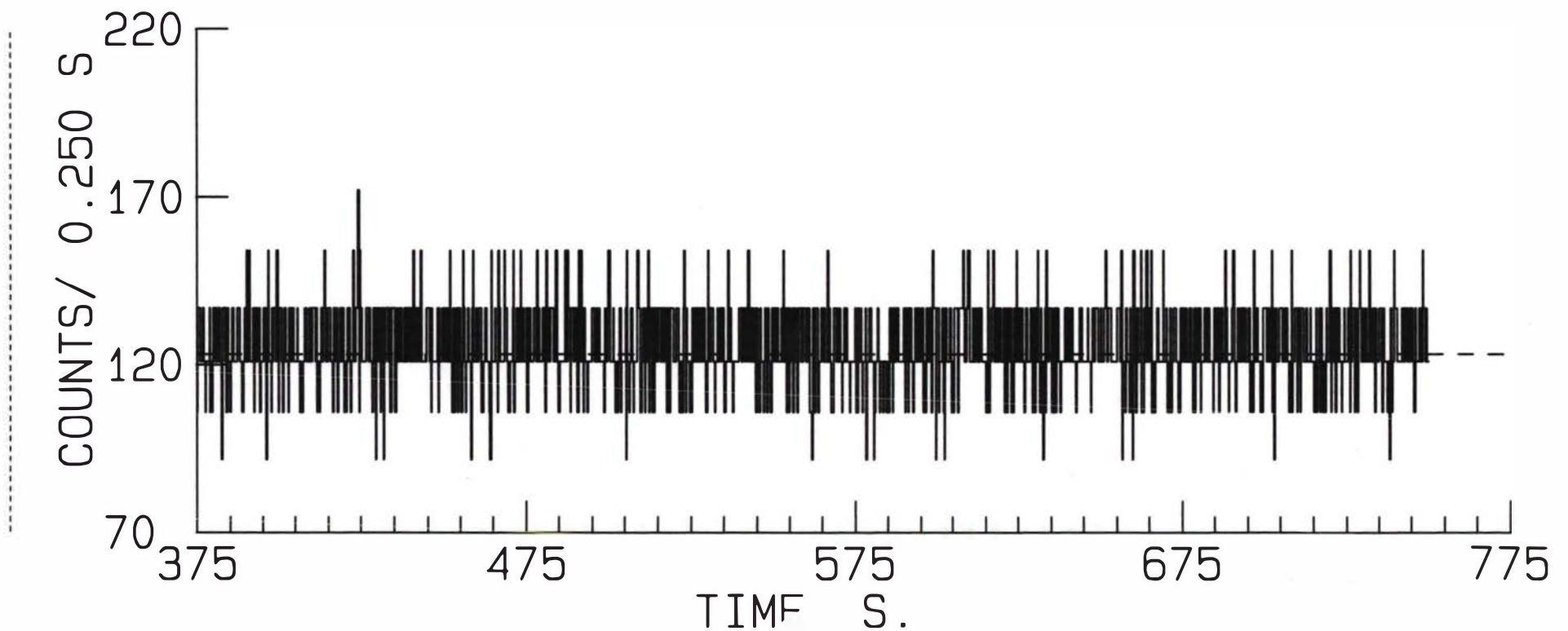
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



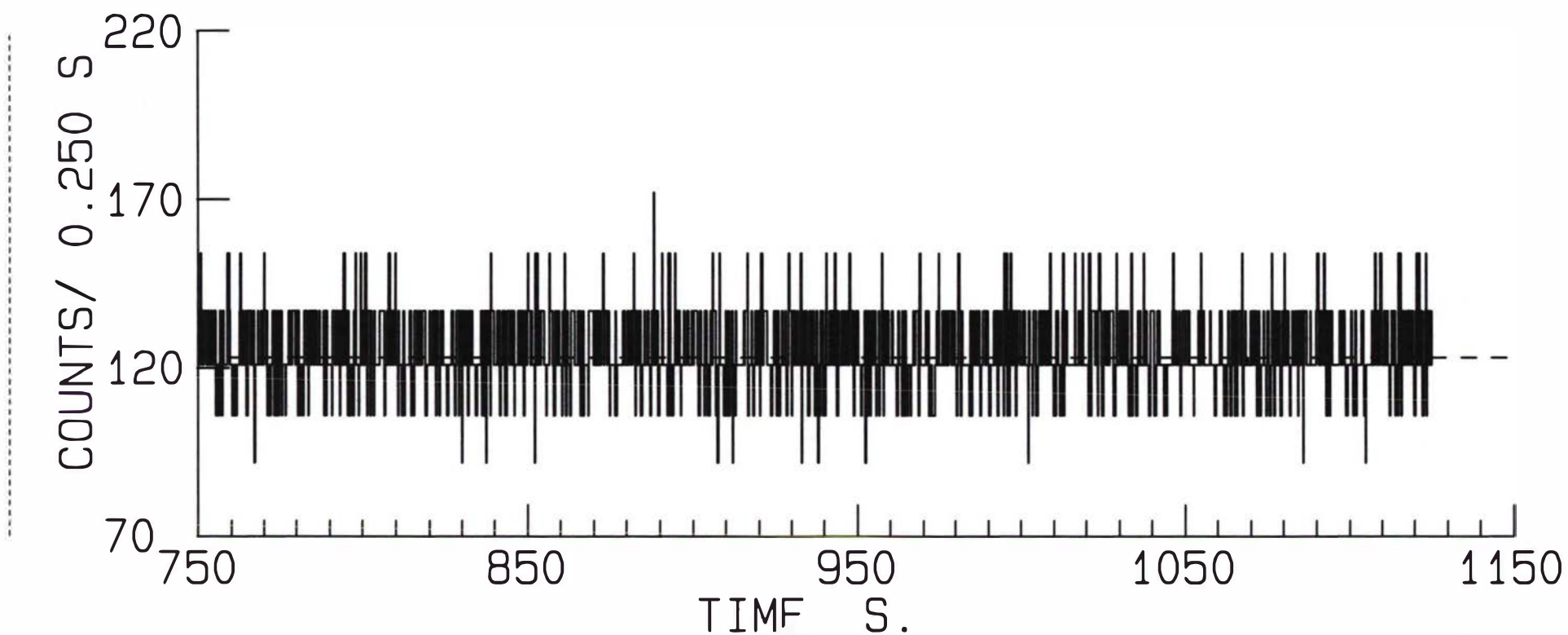
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



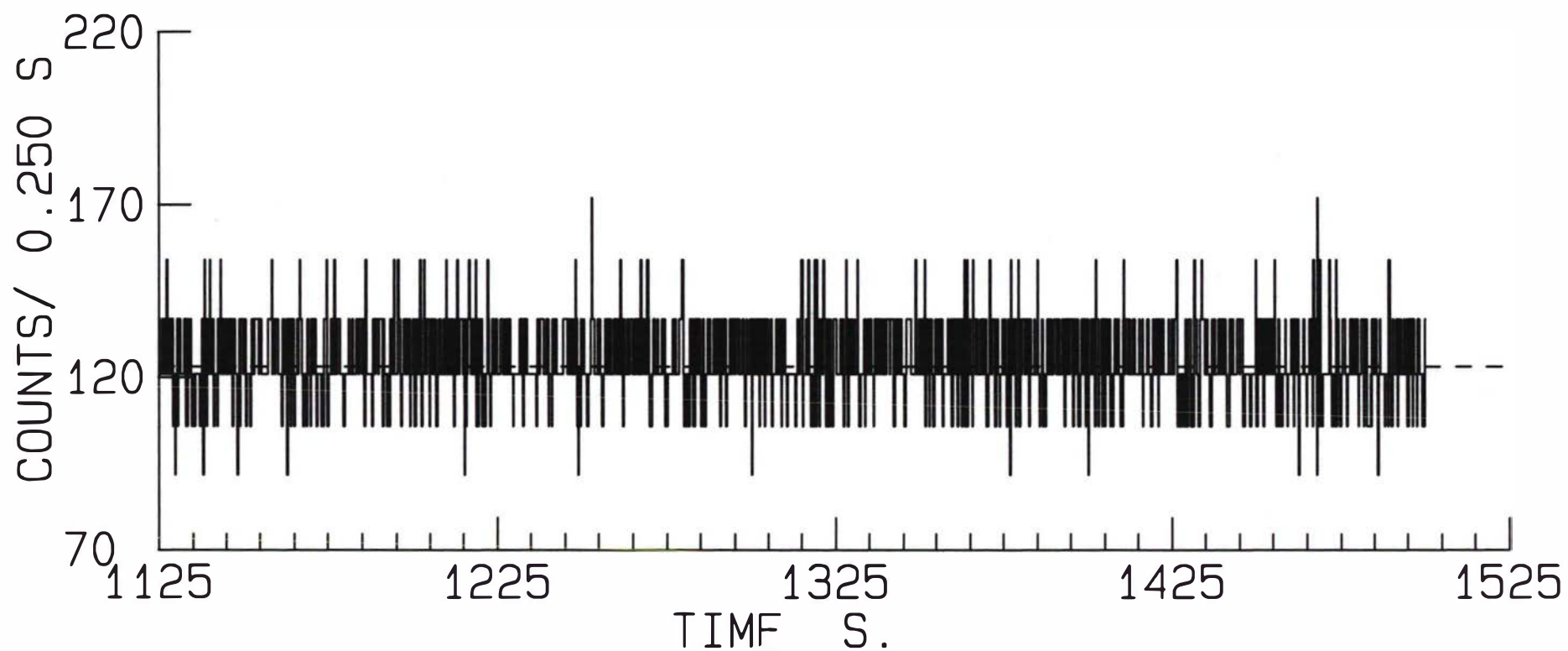
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



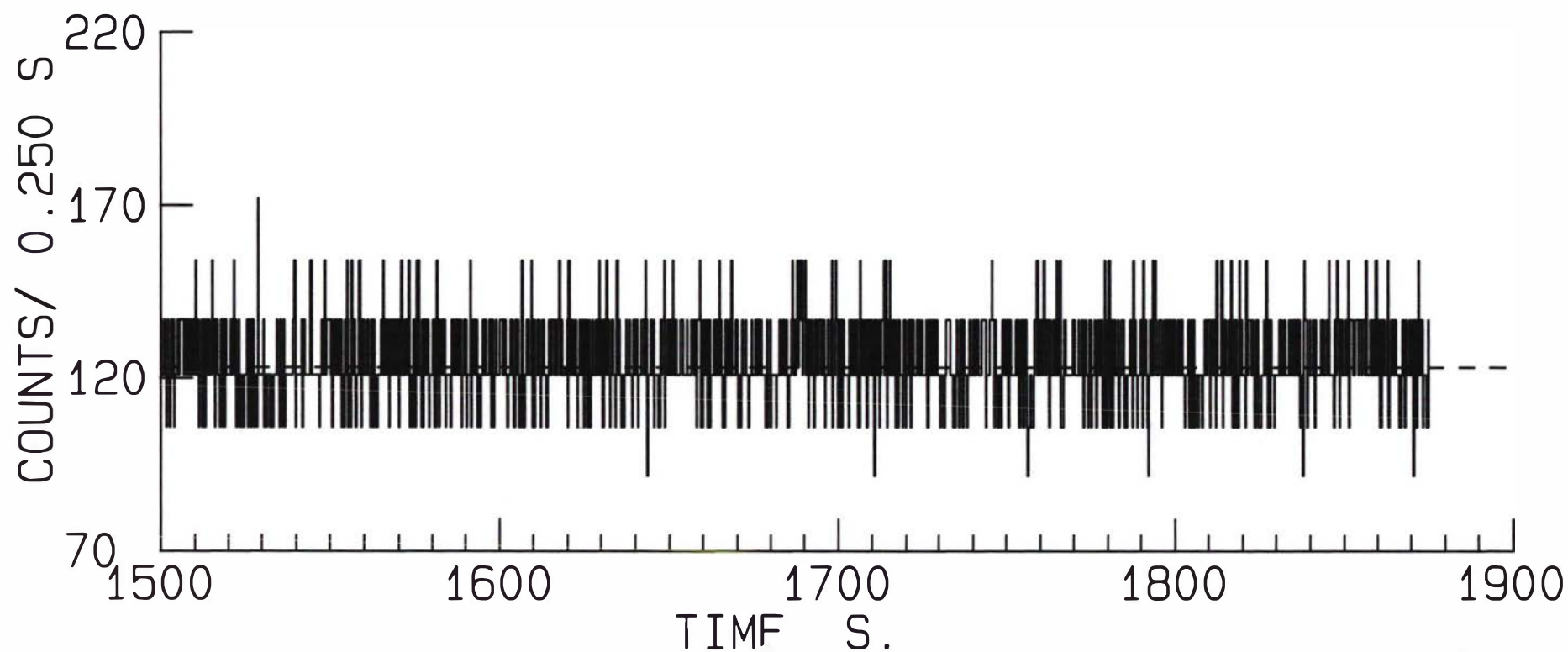
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



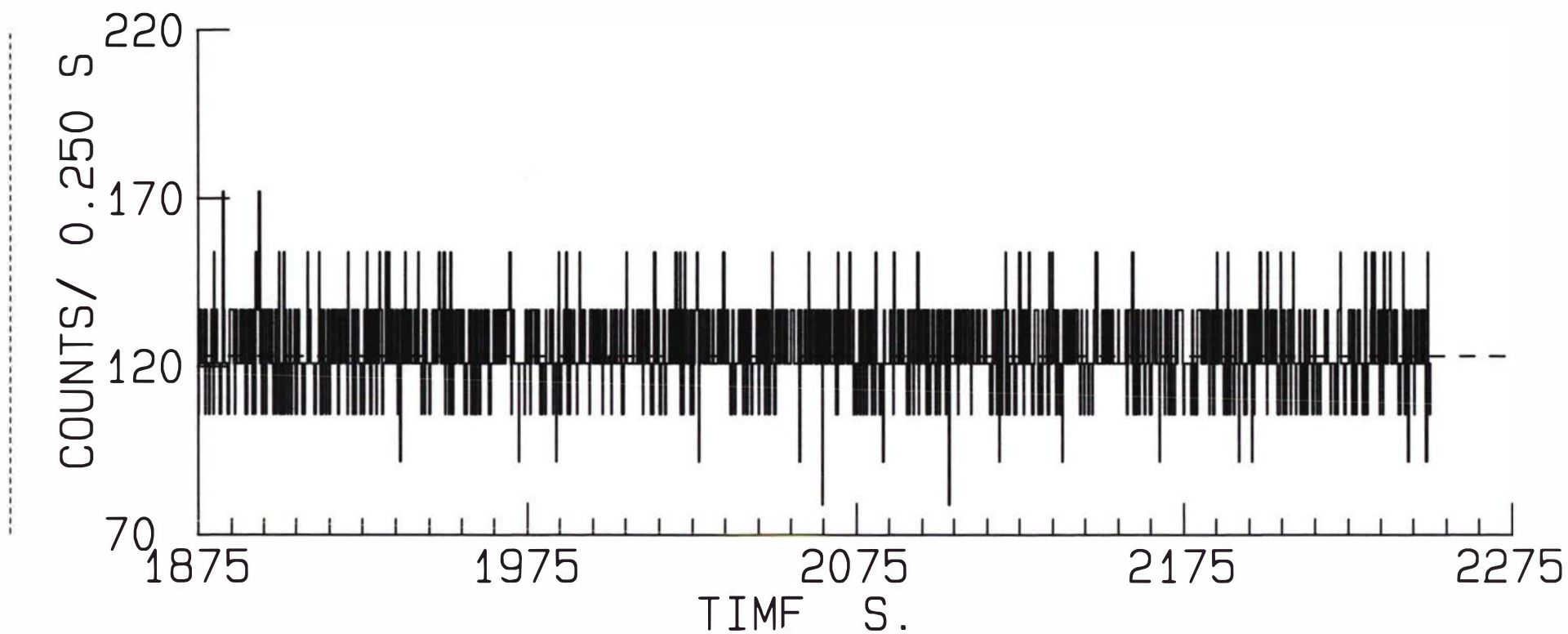
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



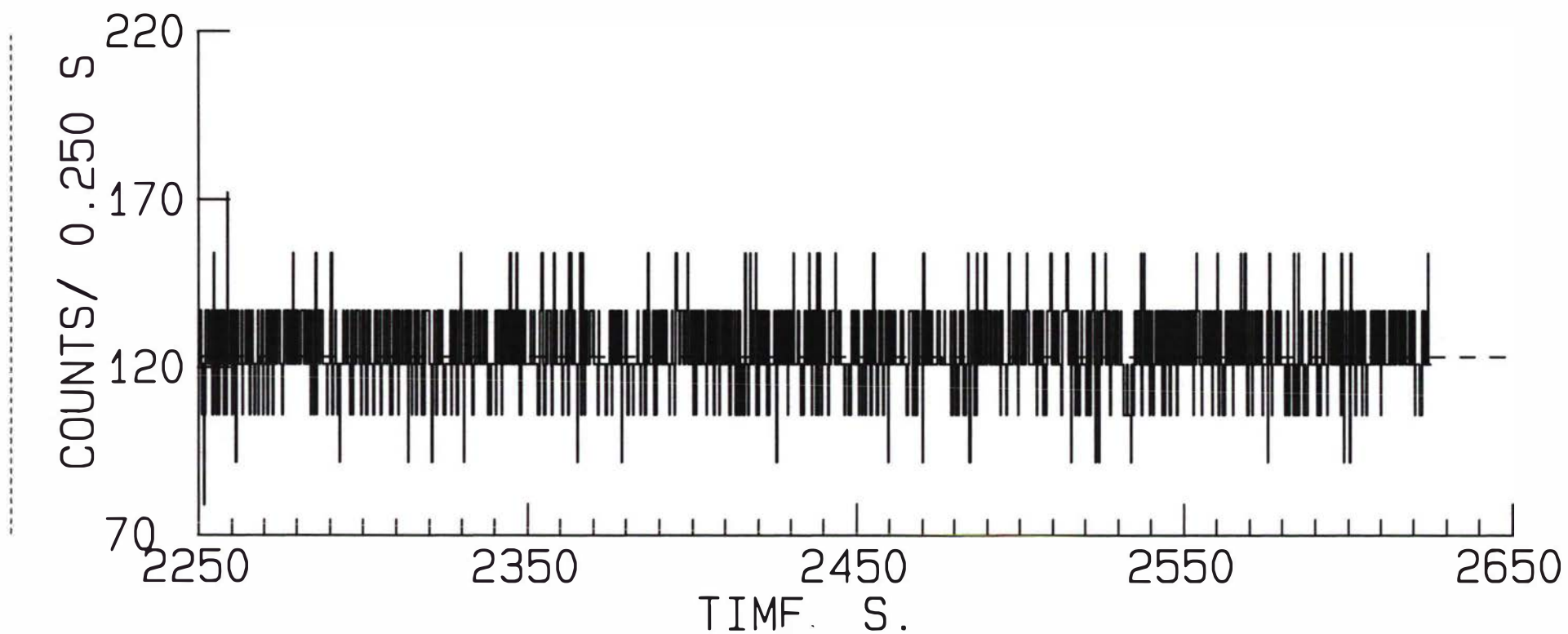
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



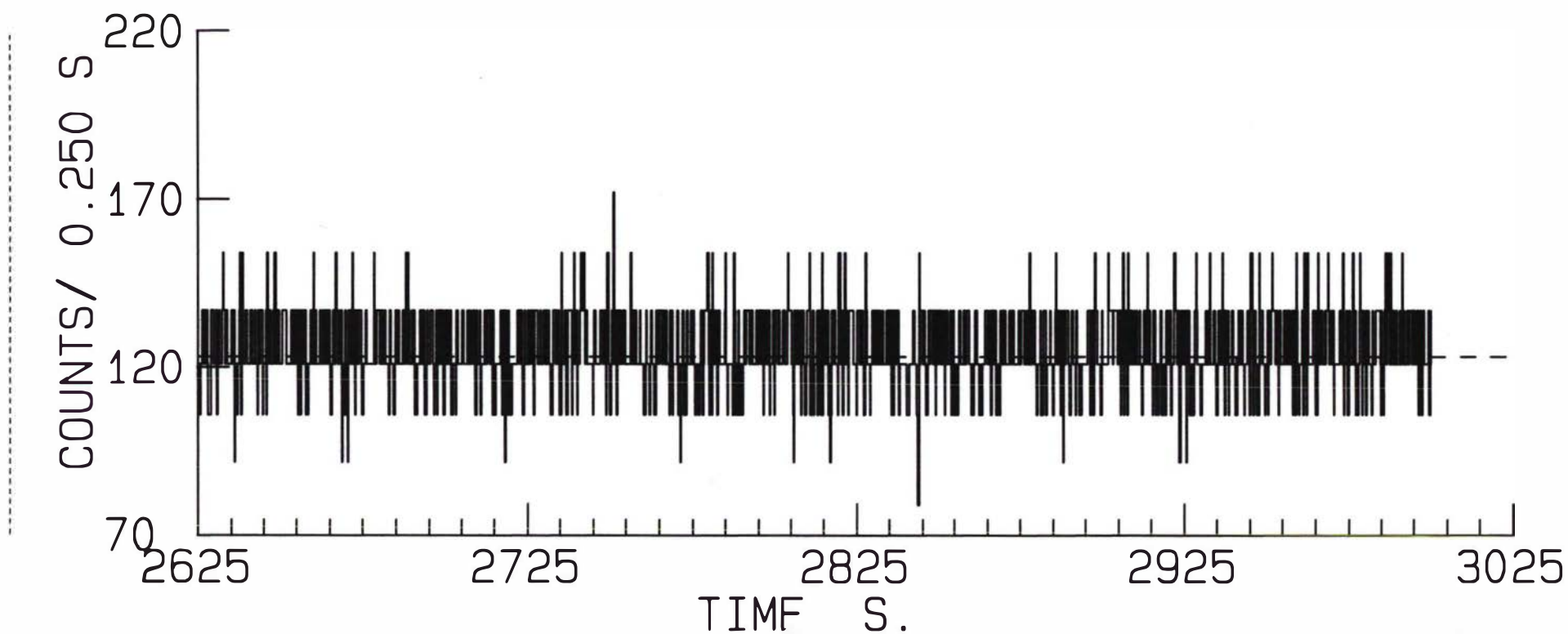
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



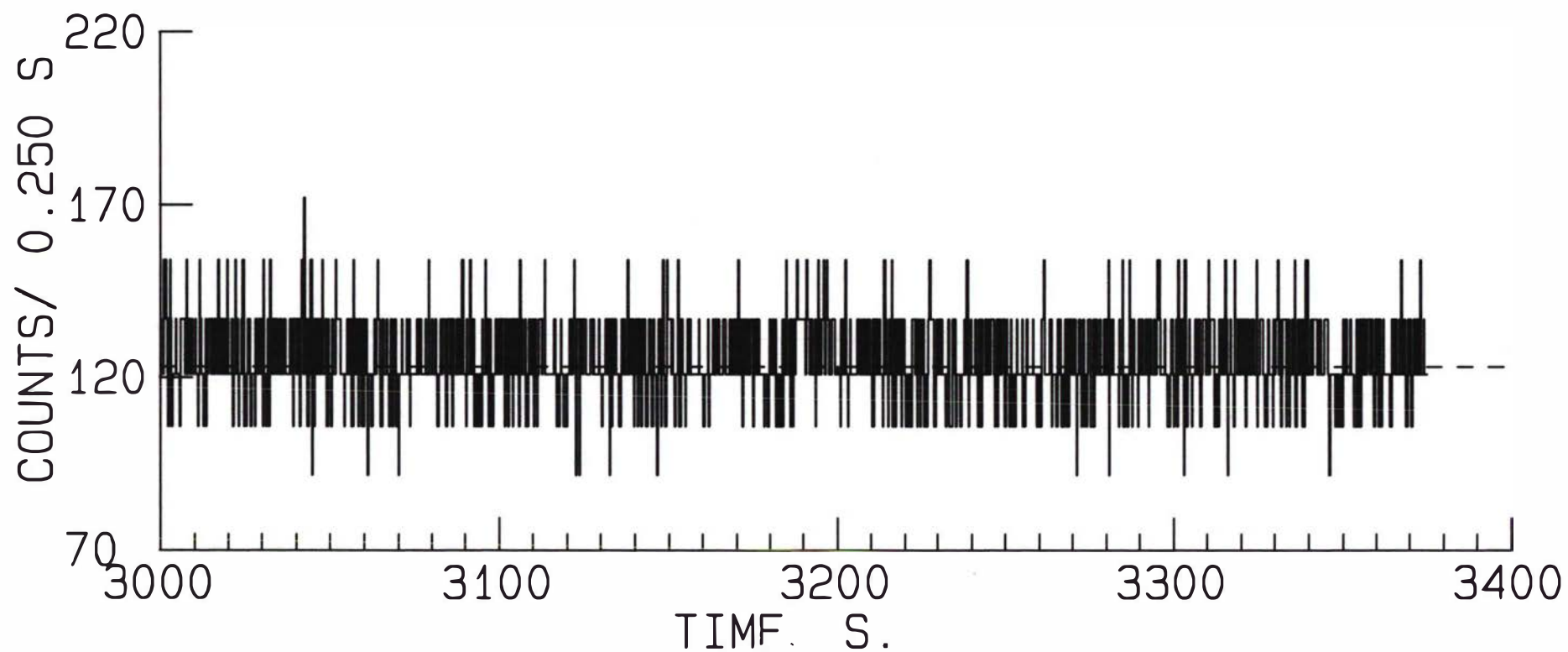
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



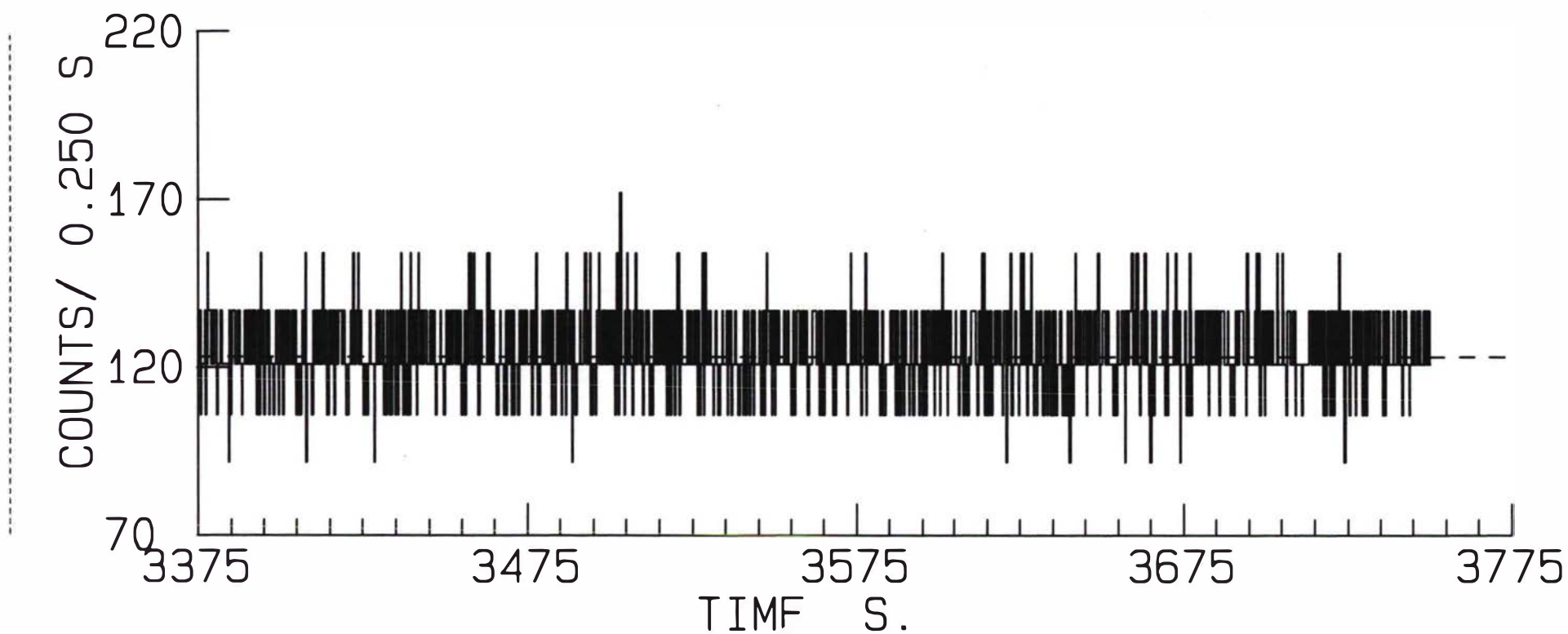
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



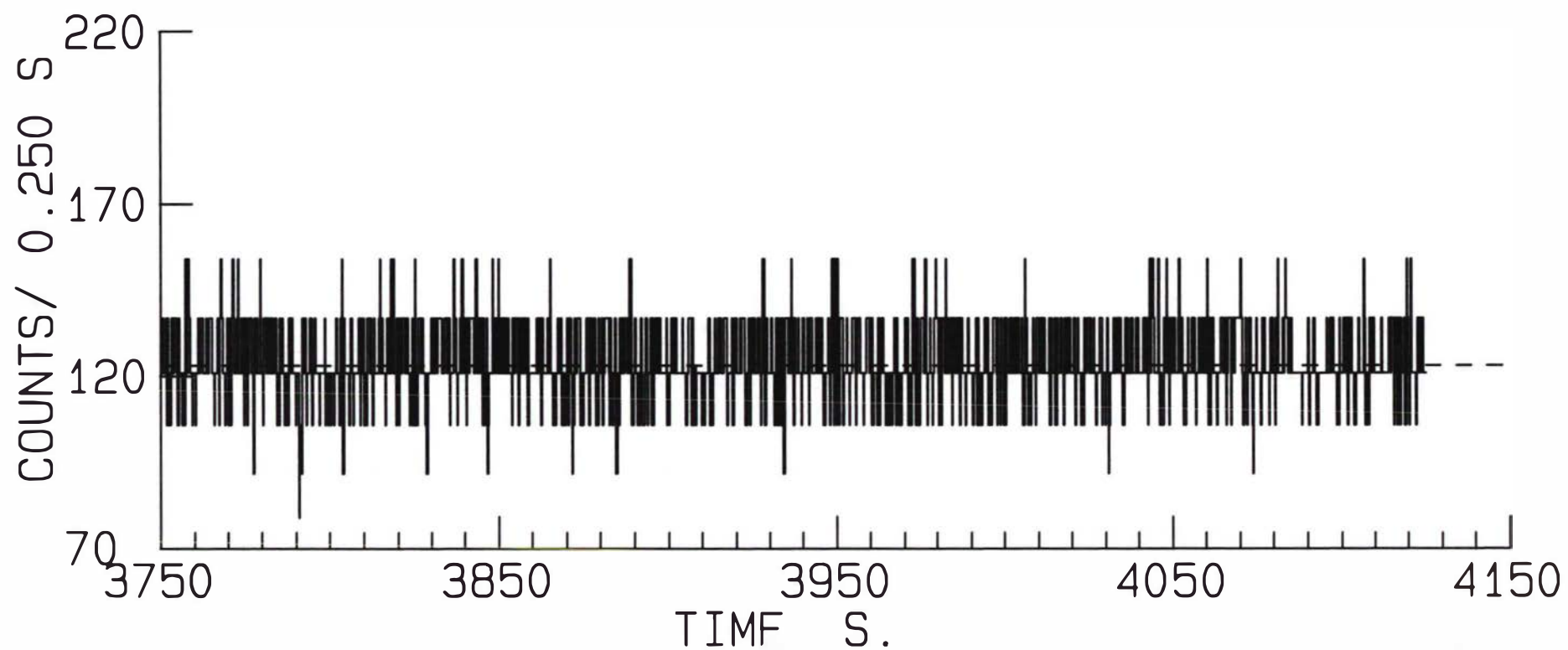
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



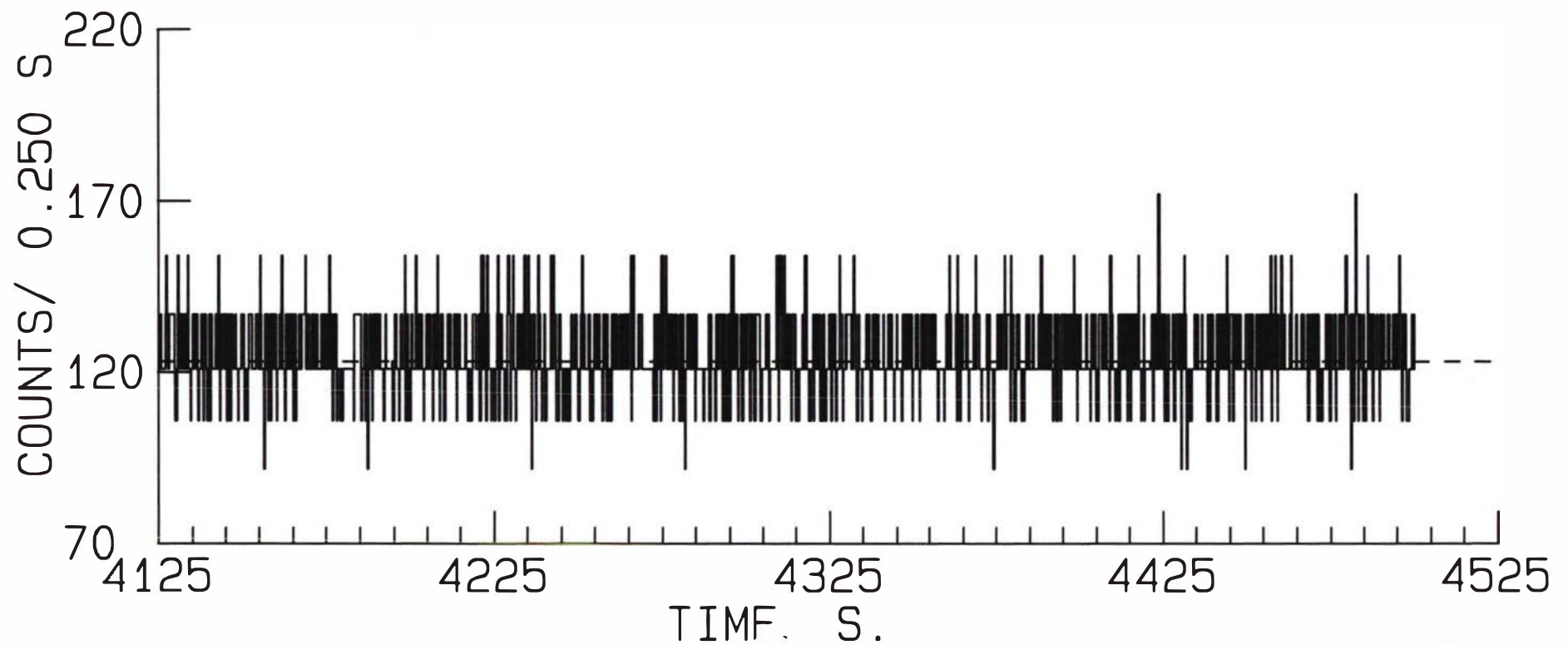
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



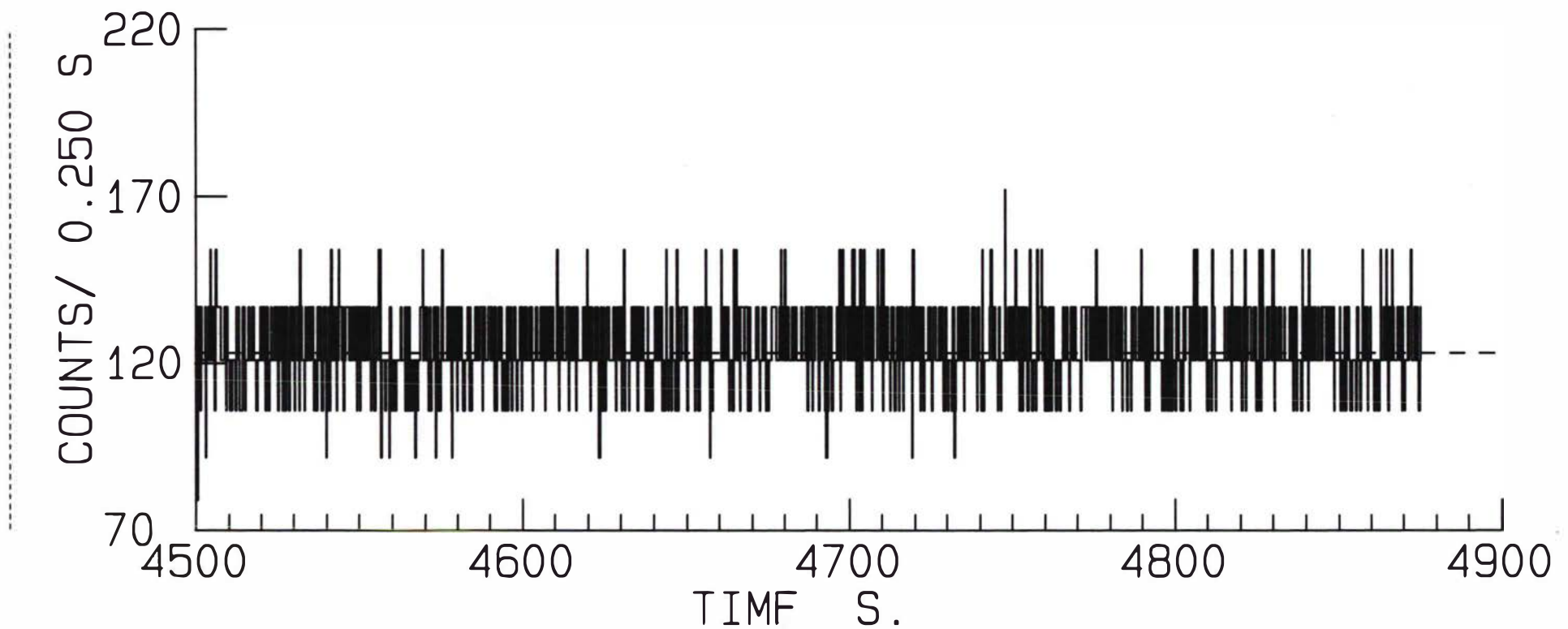
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



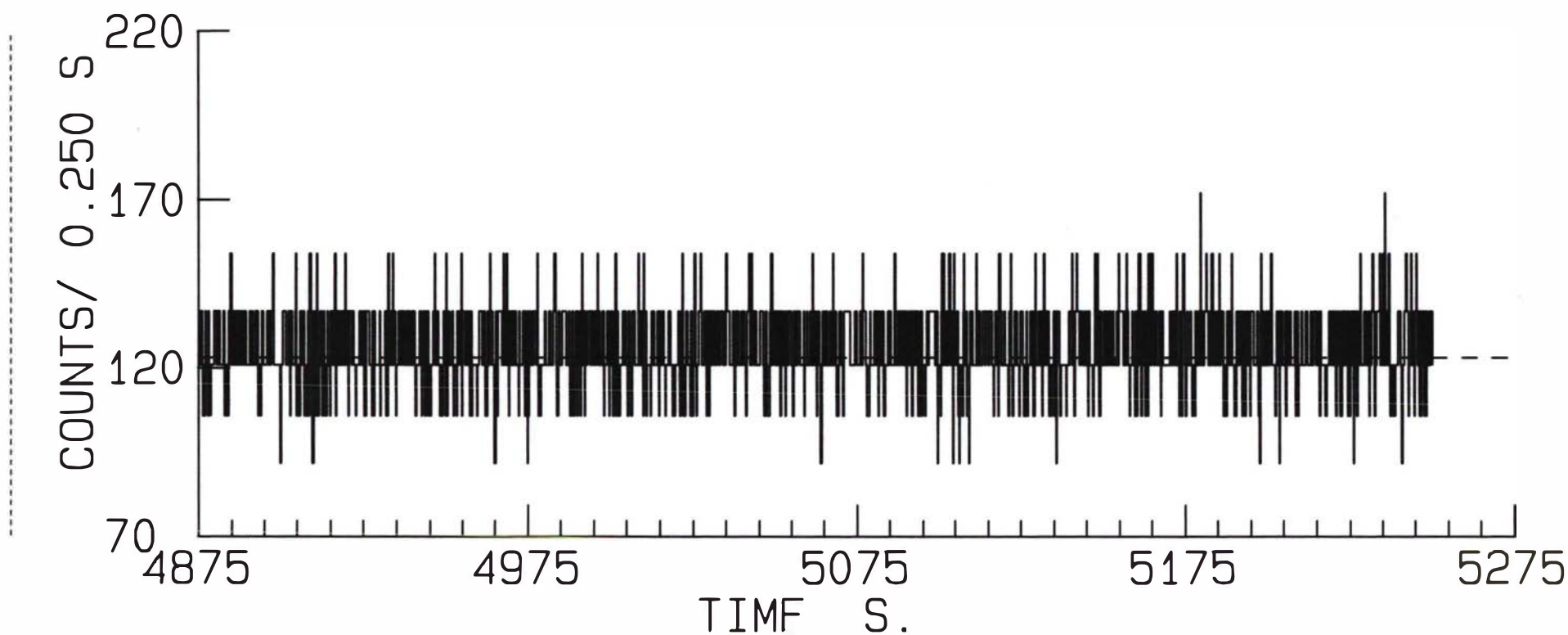
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



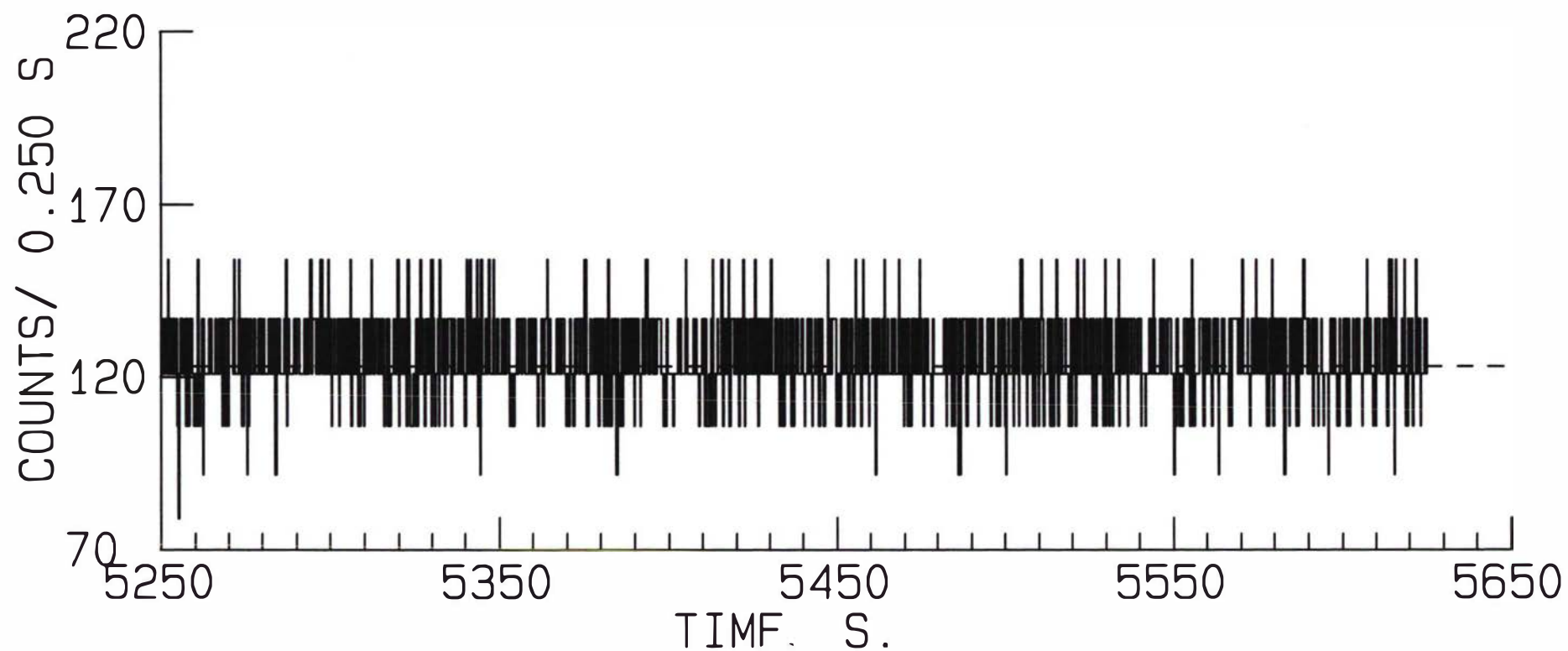
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



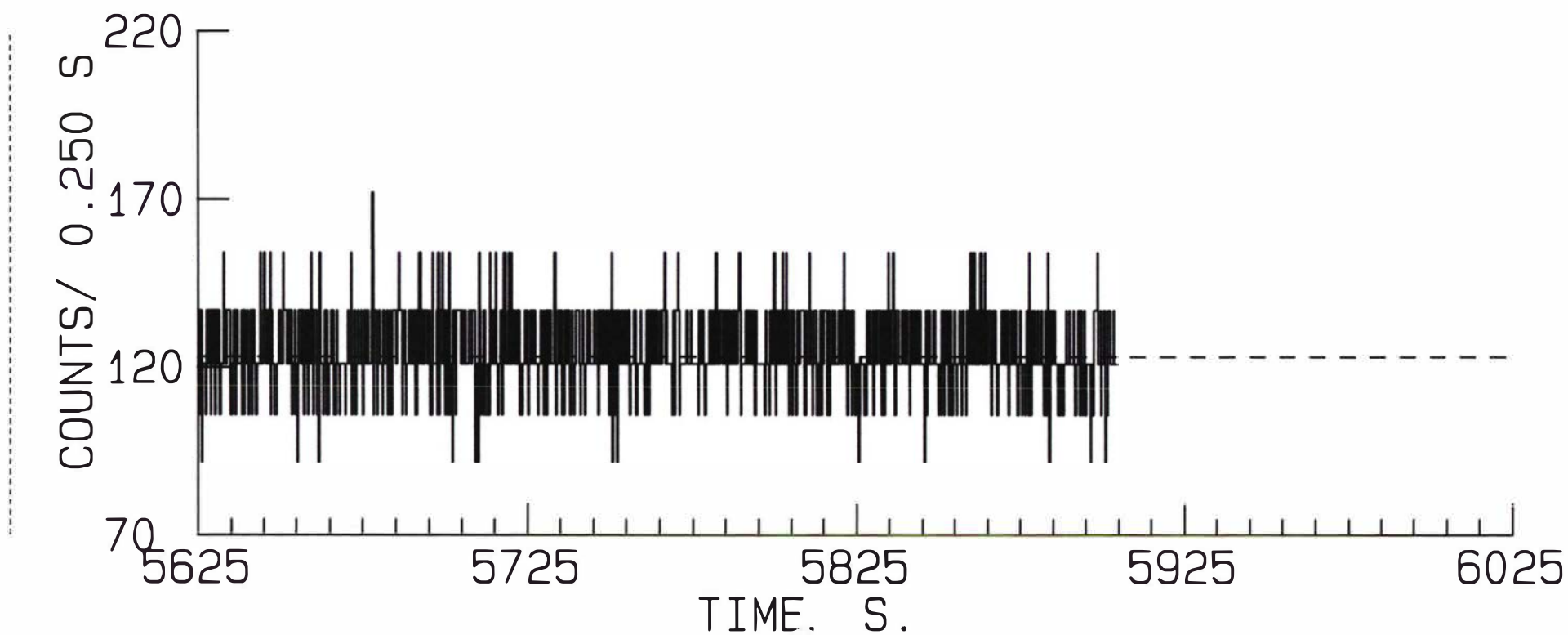
ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



ULYSSES RT
19/ 6/98 44568.129 s
22- 150 keV

17 / 11 / 8



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 23 12:05:06 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 14:04:27 -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.: 6854

TIME: TJD=0983 SECONDS=61982 17:13:02

62644 @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=90.6 AZIMUTH=164.3 ERROR=10.9 DEGREES

COMMENTS:

SGR 1627-41, SINGLE SPIKE WITH STRUCTURE. DURATION APPROX. = 0.17 SEC.
NOT VISIBLE ABOVE 100KEV.

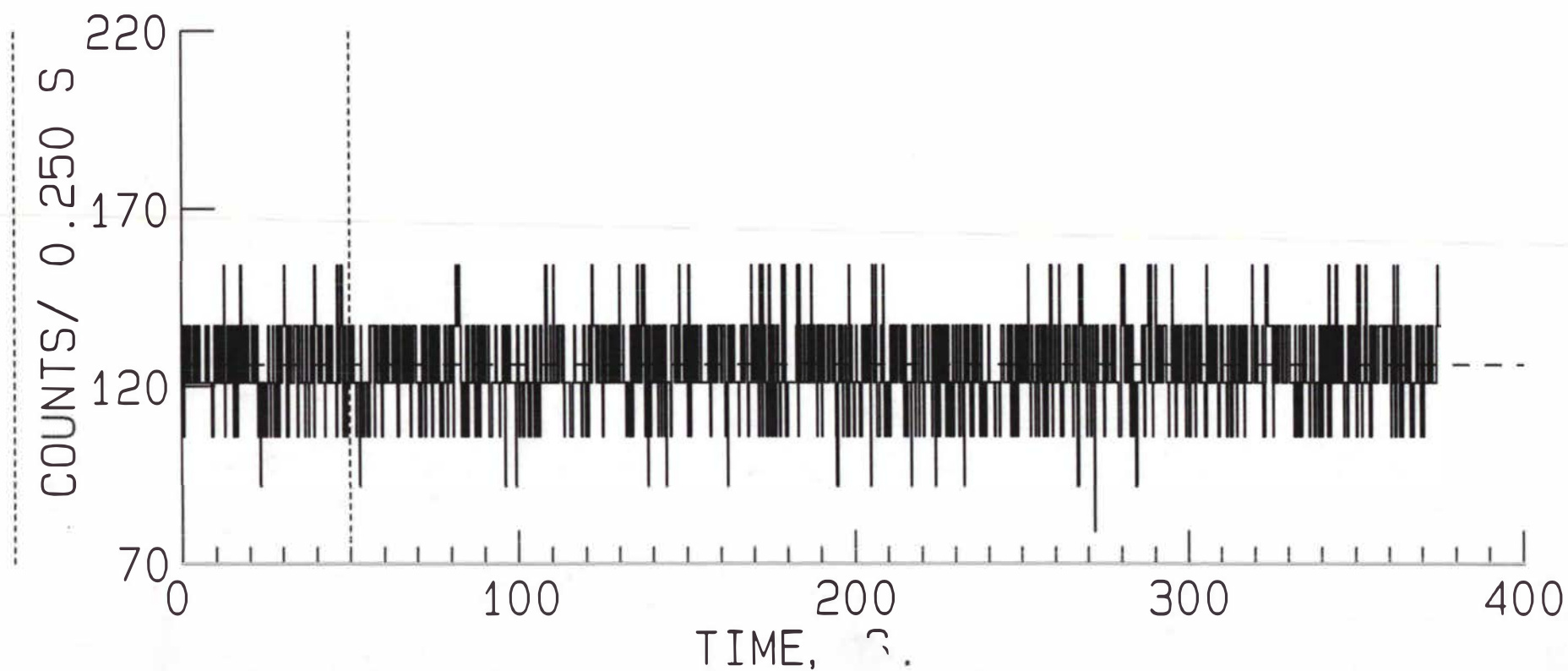
BATSE 6854

ULYSSES RT

25 / 6 / 98

19 / 6 / 98 62136.068 s

22- 148 keV

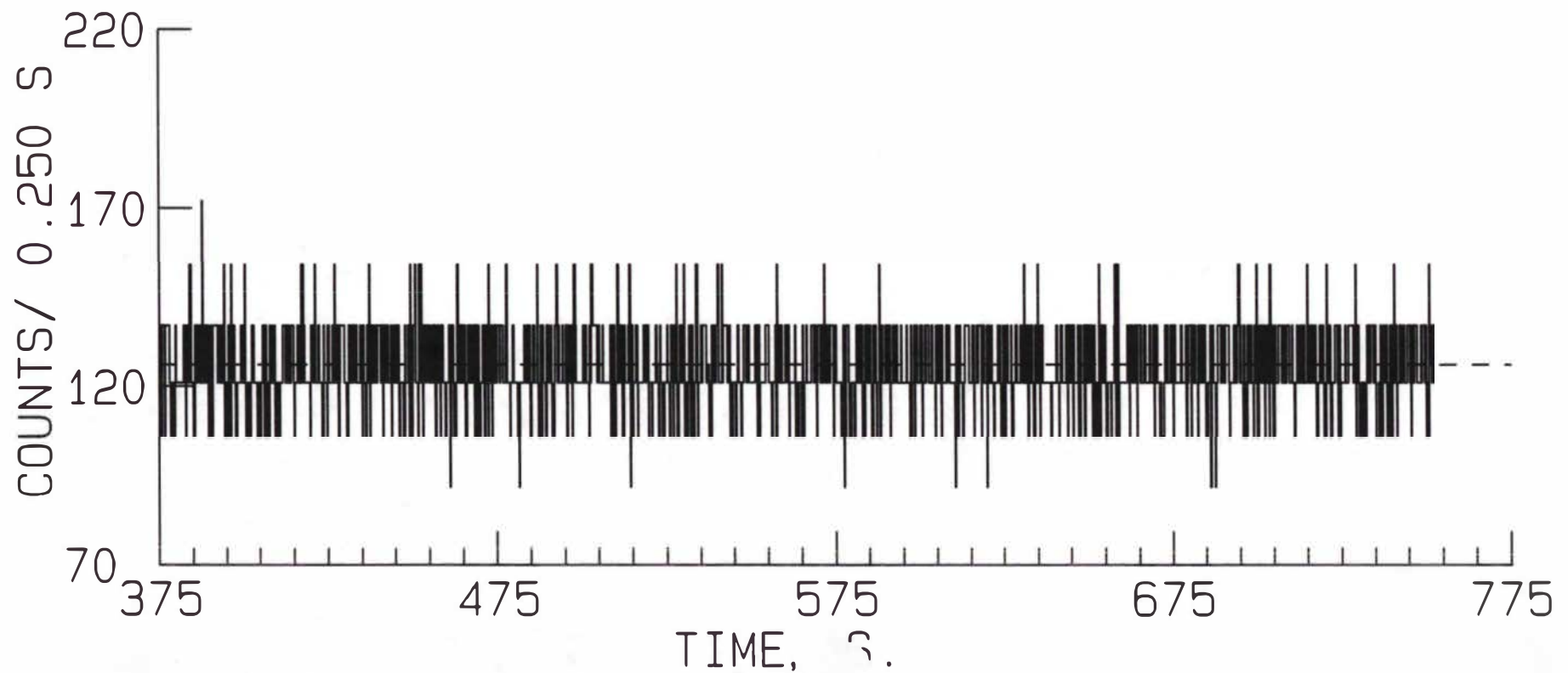


ULYSSES RT

25 / 6 / 98

19 / 6 / 98 62136.068 s

22- 148 keV

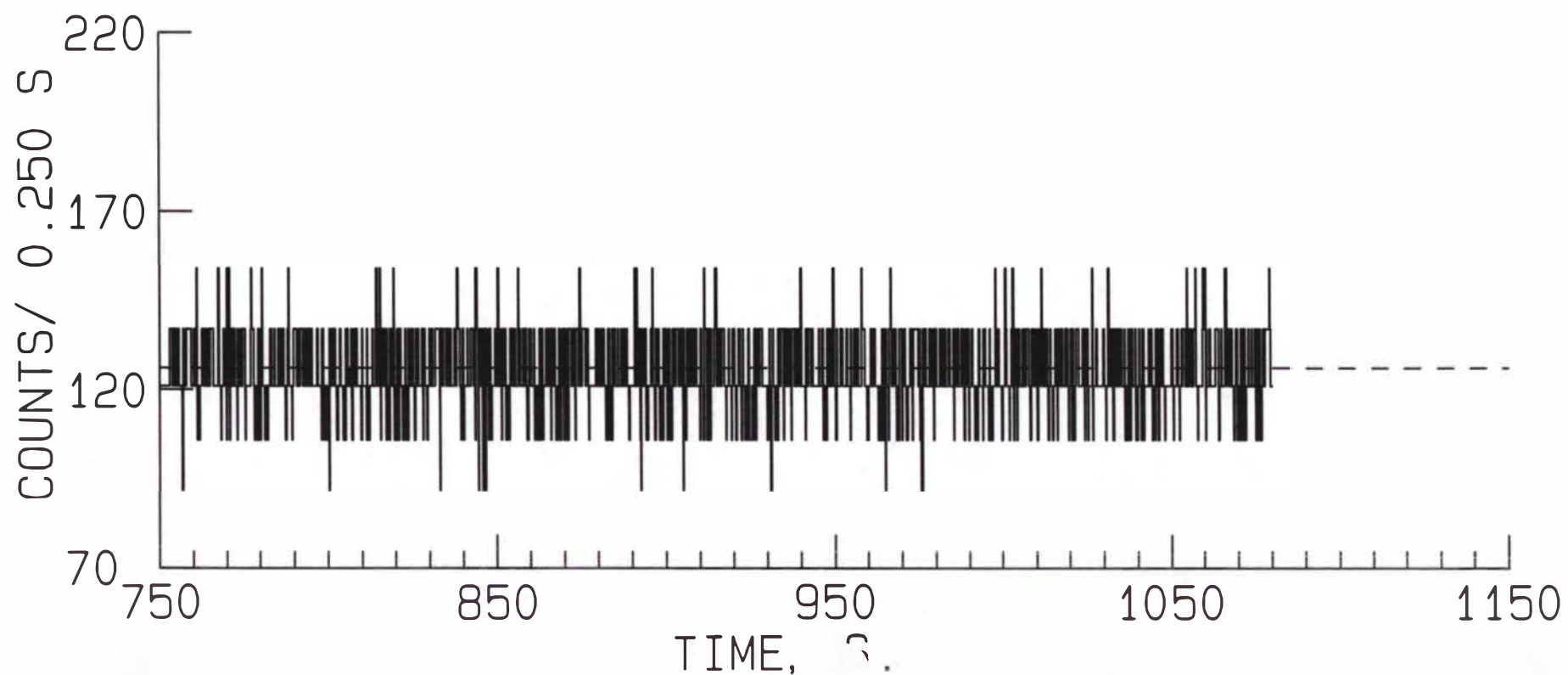


ULYSSES RT

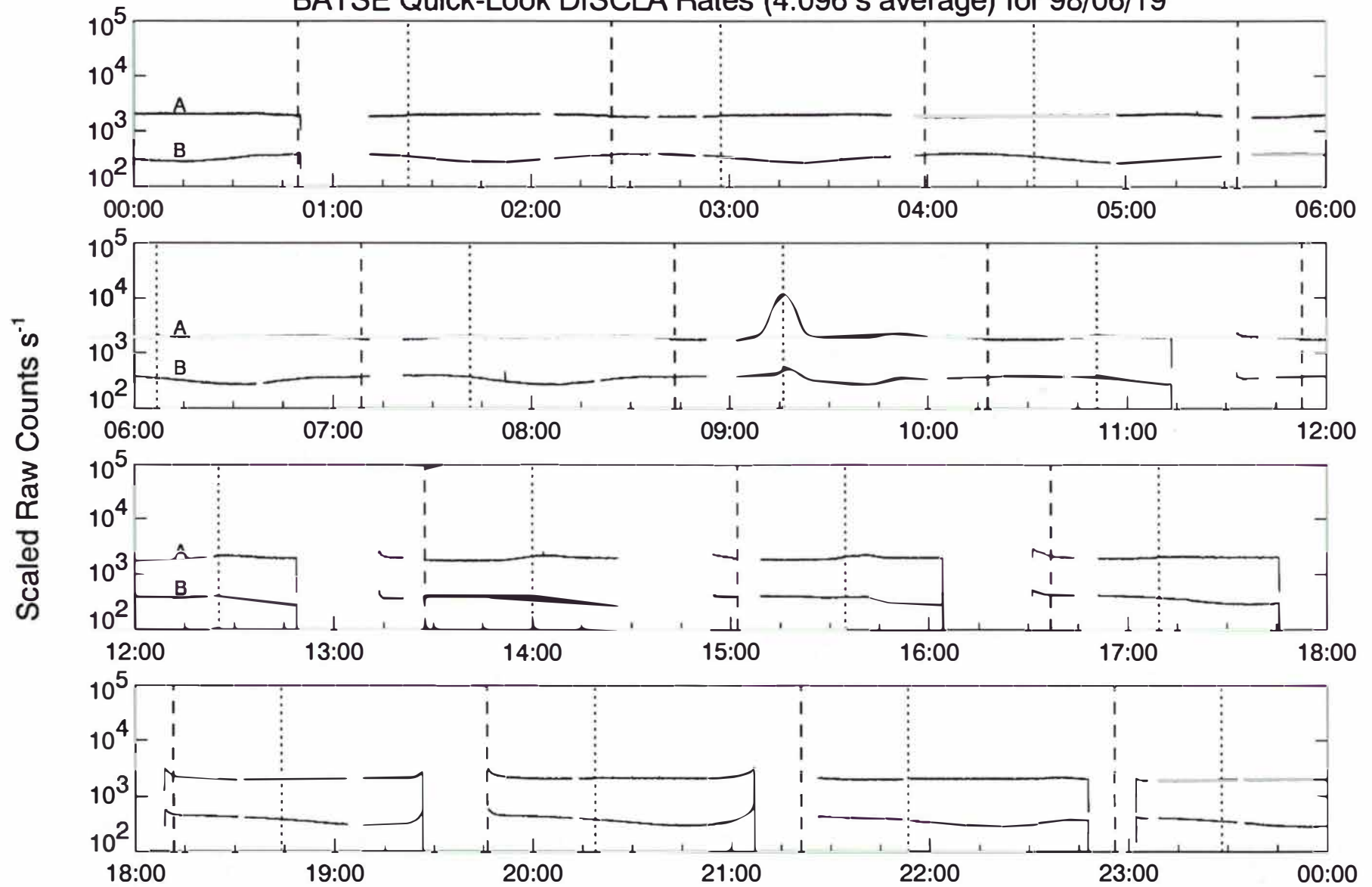
25 / 6 / 98

19 / 6 / 98 62136.068 s

22- 148 keV



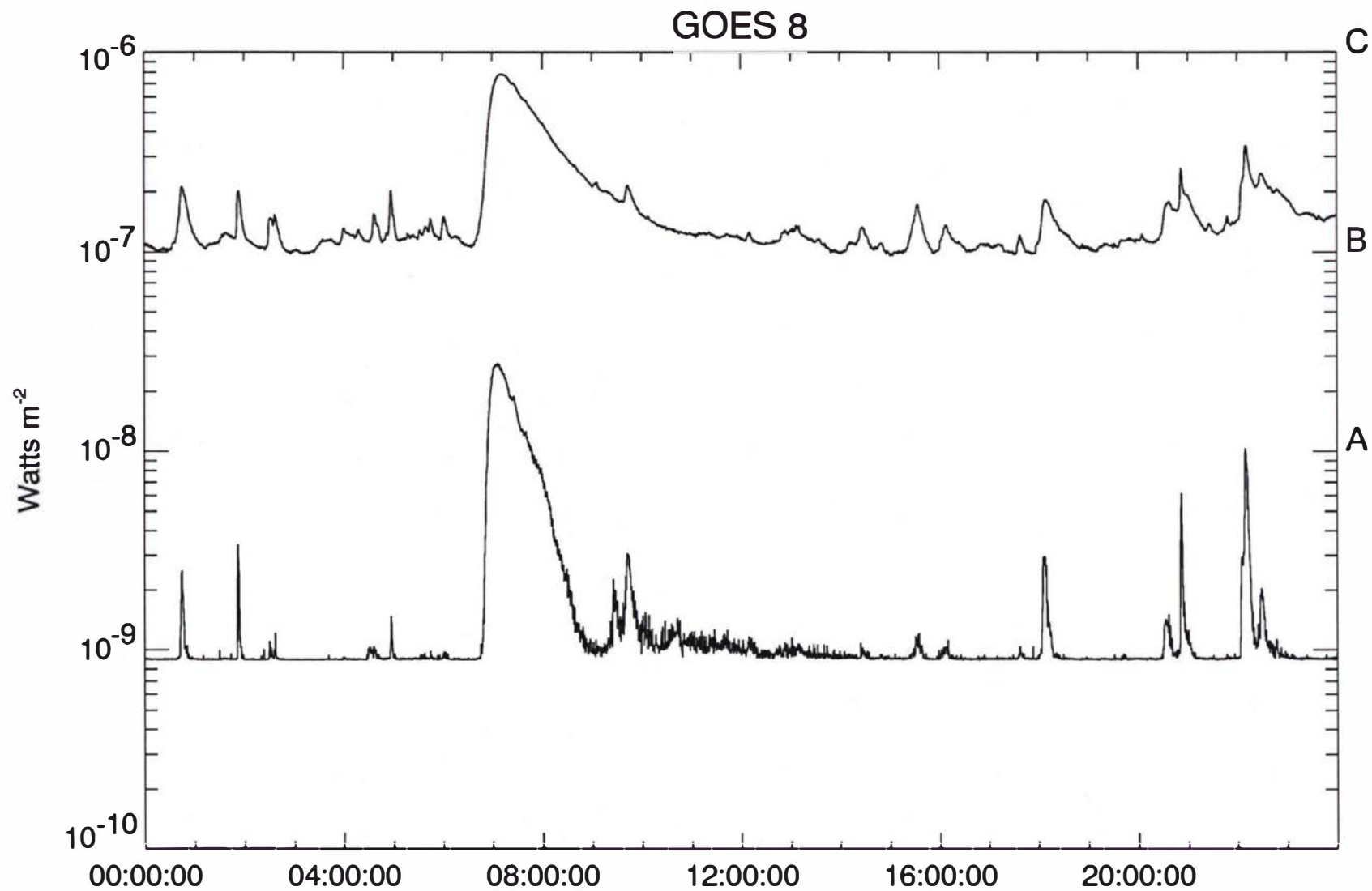
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/19



Current Time: 98/06/23, 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: 98/06/19, 0000:00

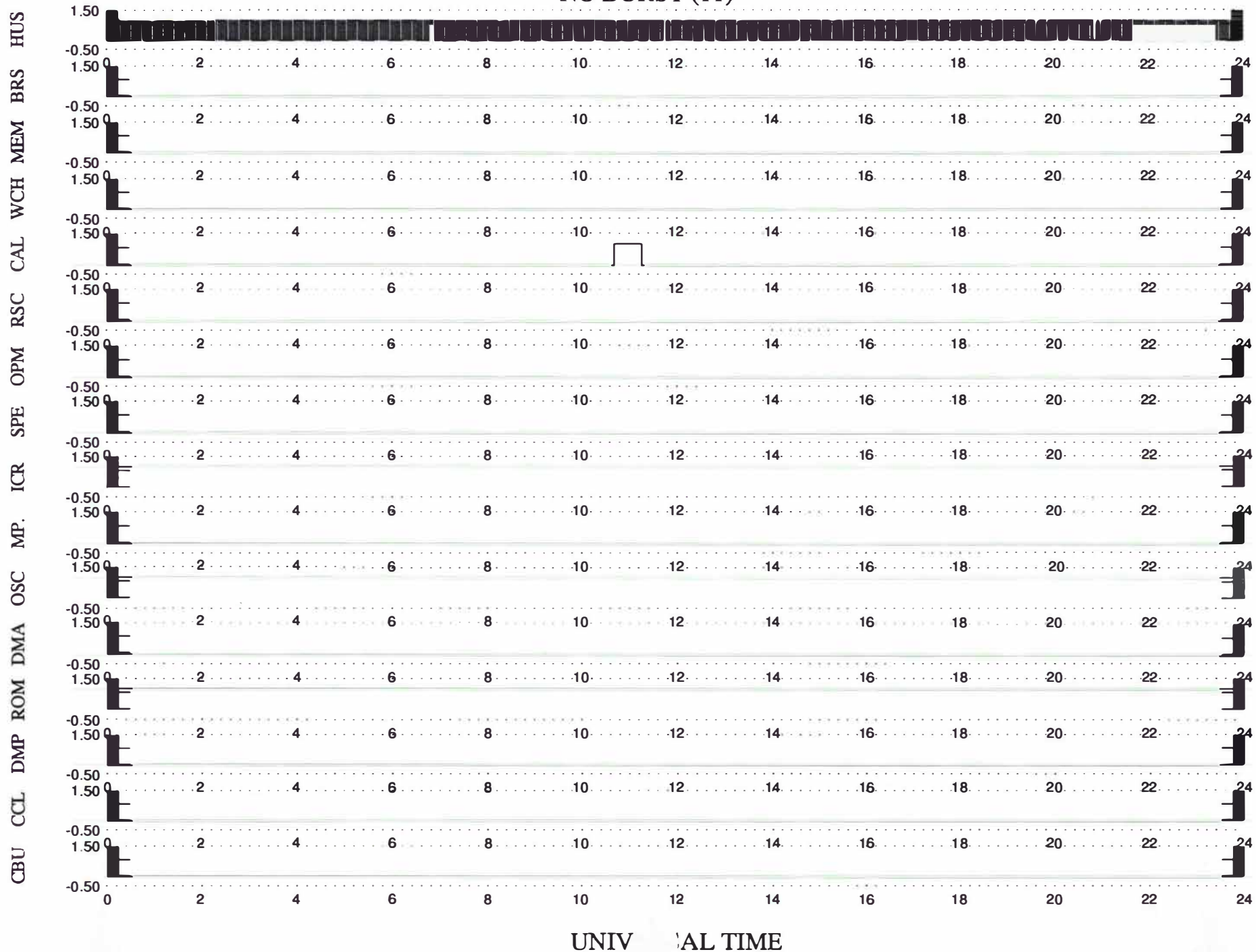
Plot created: 98/06/23, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

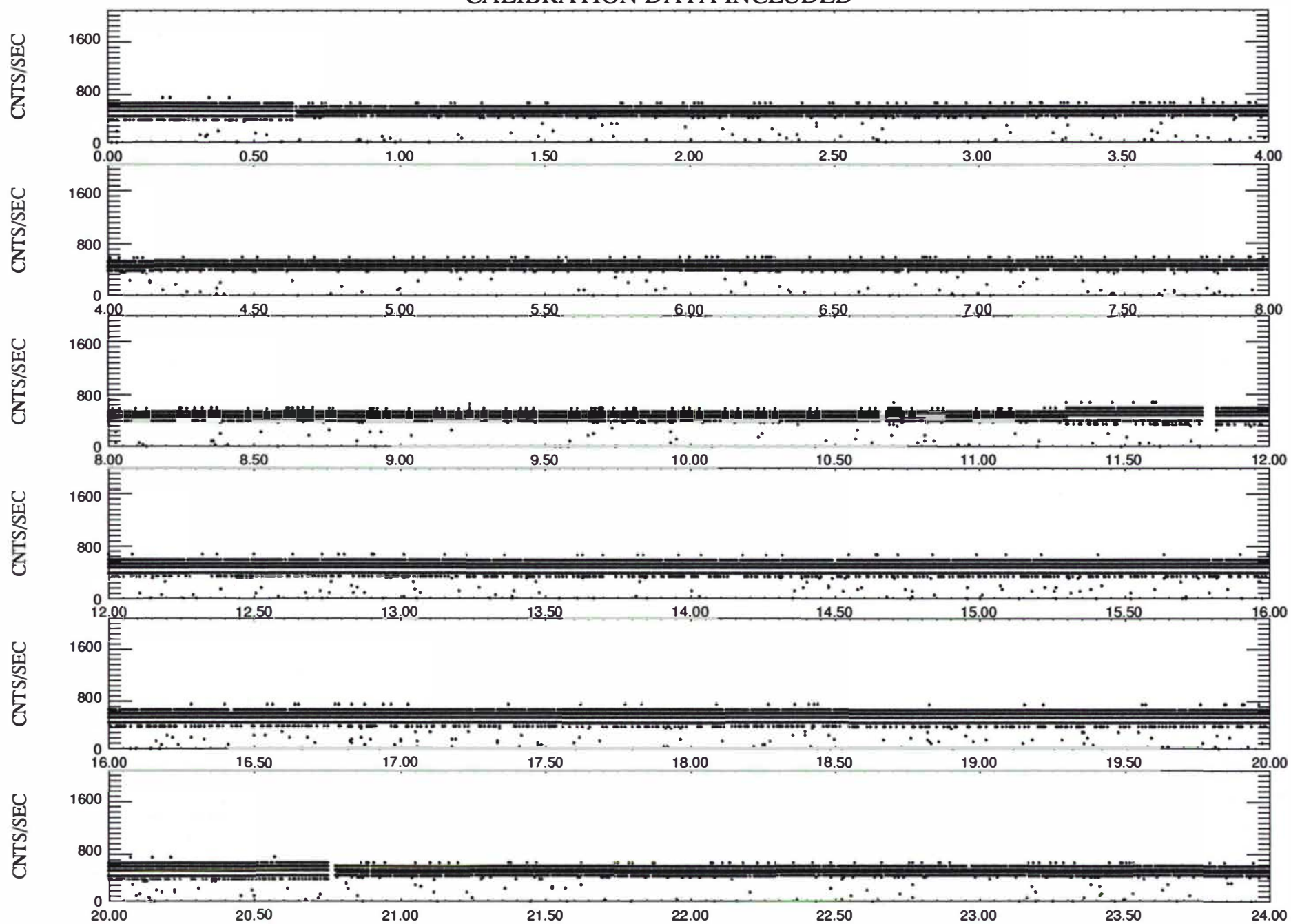
2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

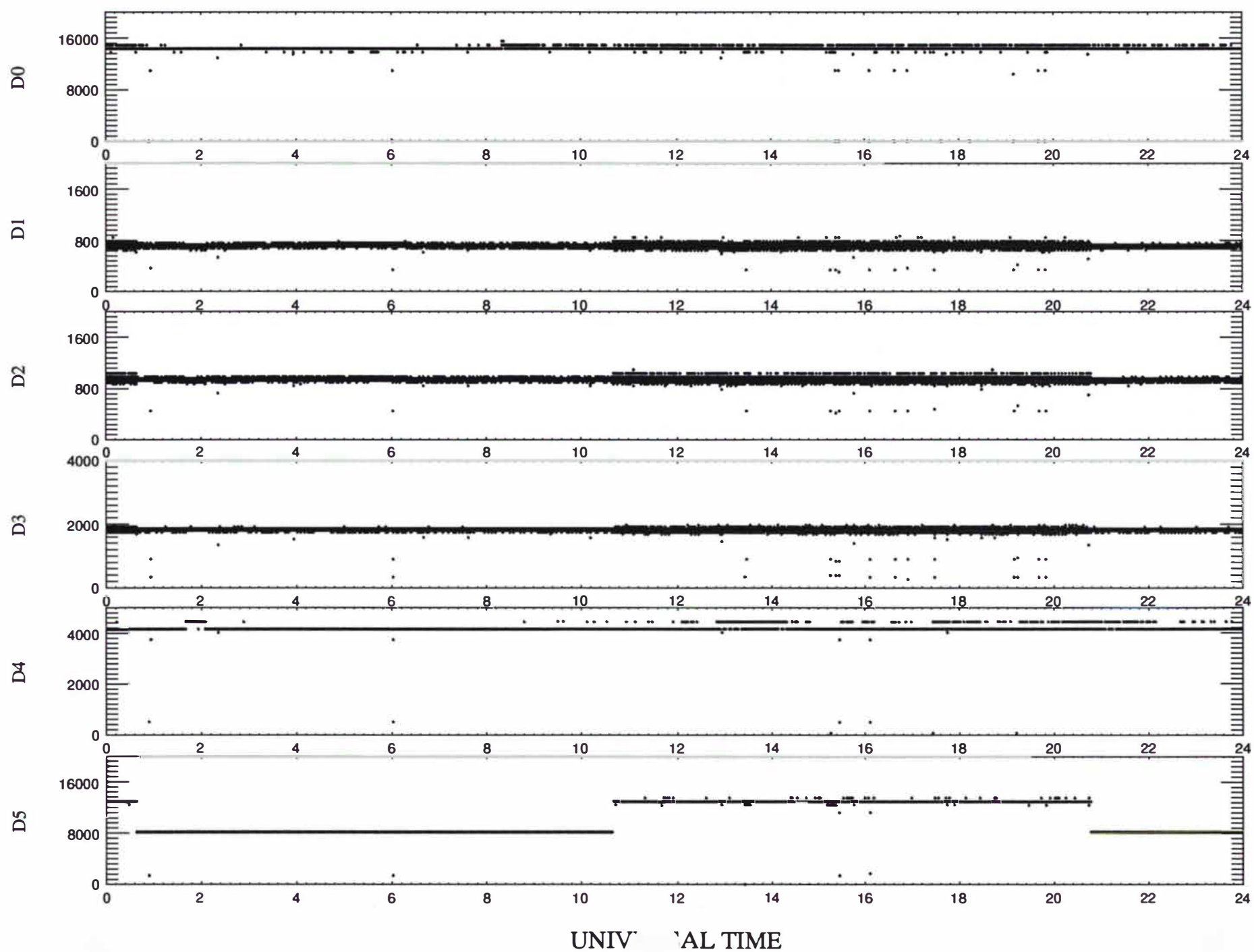
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From RICHARDSON@fender.msfc.nasa.gov Wed Jun 24 05:37:45 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 24 Jun 1998 7:35:19 -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

+ 662

BATSE BURST TRIGGER

NO.: 6855 June 20

14365@U

TIME: TJD=0984 SECONDS=13703 03:48:23

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=85.8 AZIMUTH=159.8 ERROR=17.6 DEGREES

COMMENTS:

SGR 1623-41

SINGLE SPIKE, DURATION APPROX. = 0.4 SEC. NOT VISIBLE ABOVE 100KEV.

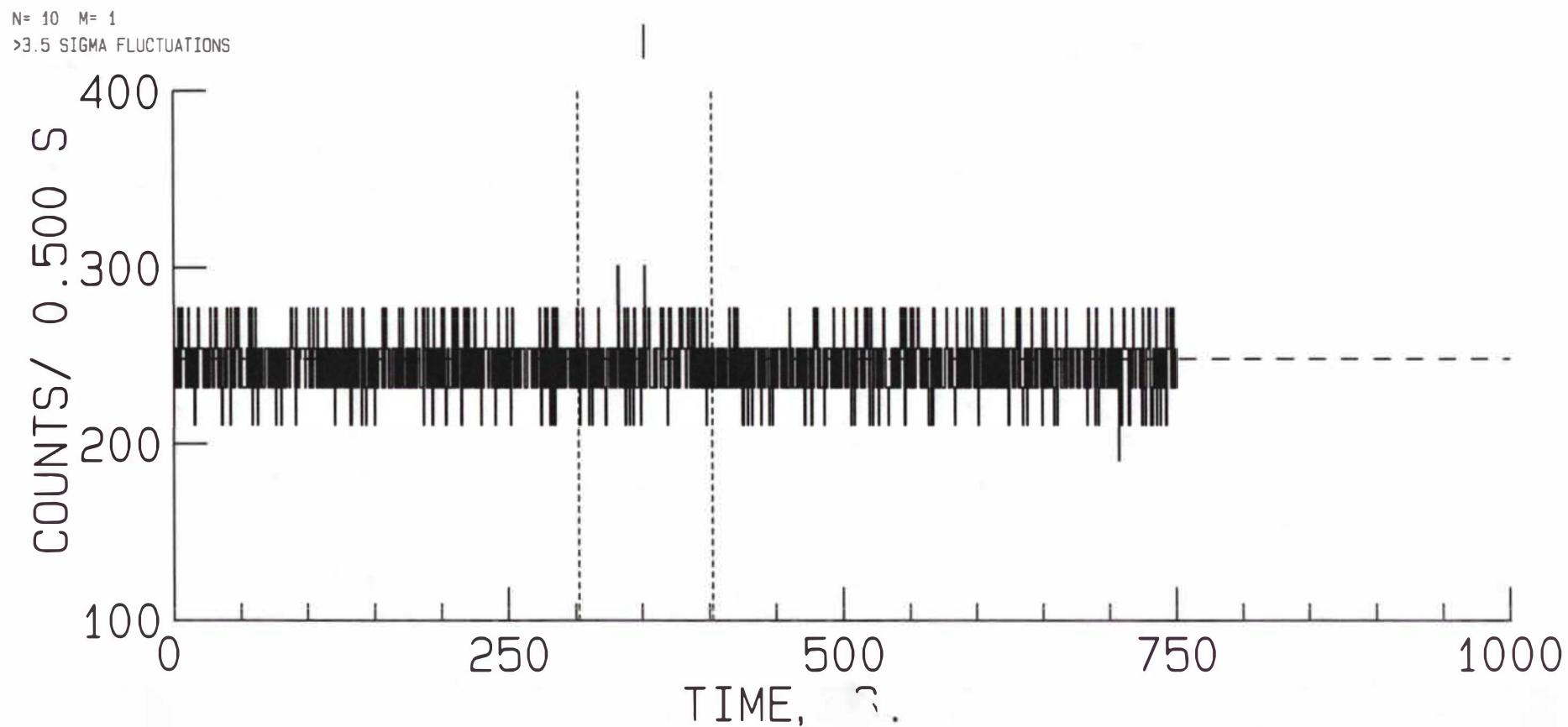
BATSE 6855

ULYSSES RT

25 / 6 / 98

20 / 6 / 98 13824.471 s

22- 148 keV

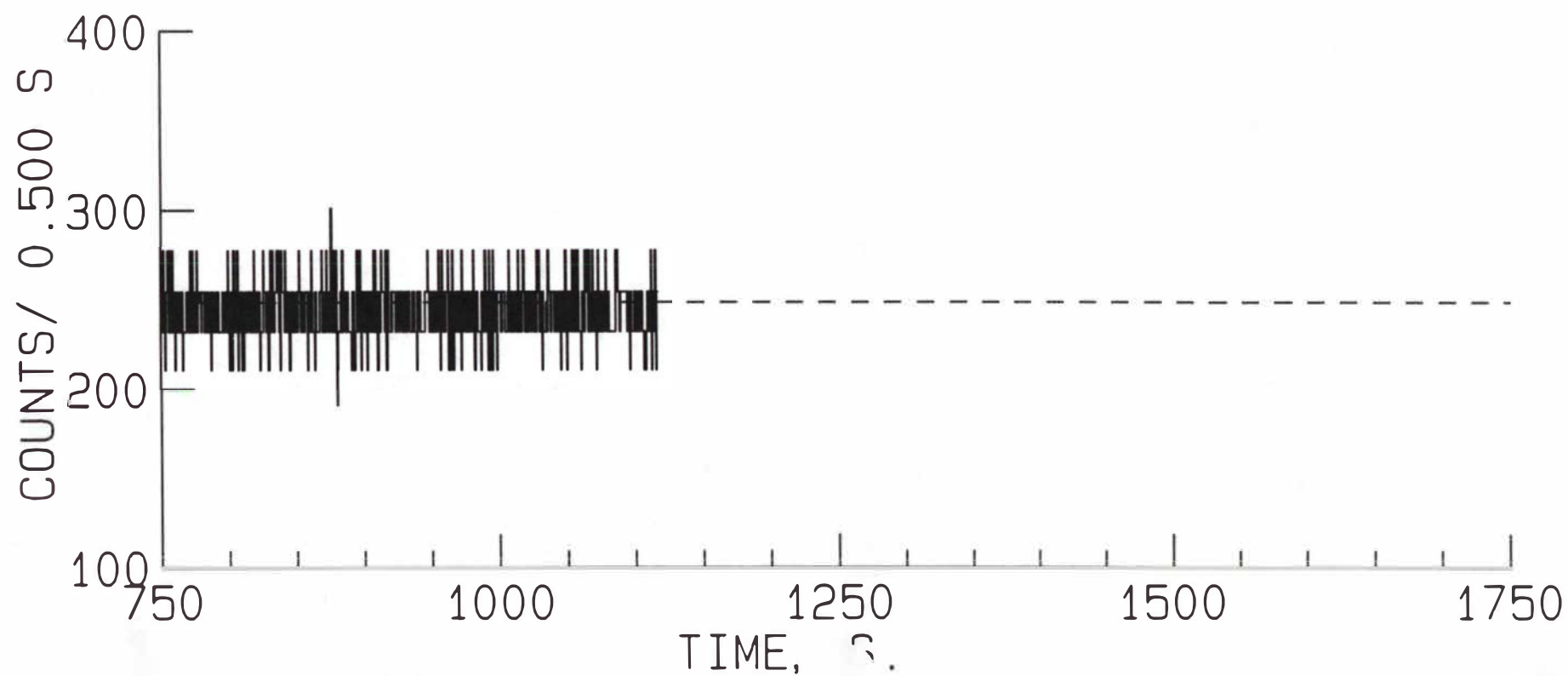


ULYSSES RT

25 / 6 / 98

20 / 6 / 98 13824.471 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Wed Jun 24 05:41:11 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 24 Jun 1998 7:38:59 -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.: 6856

June 20

TIME: TJD=0984 SECONDS=24606 06:50:06

252684@U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=102.8 AZIMUTH=128.3 ERROR=22.7 DEGREES

COMMENTS:

SGR 1627-41

SINGLE SPIKE, DURATION LESS THAN ONE SECOND. NOT VISIBLE ABOVE 100KEV.

BATSE 6856

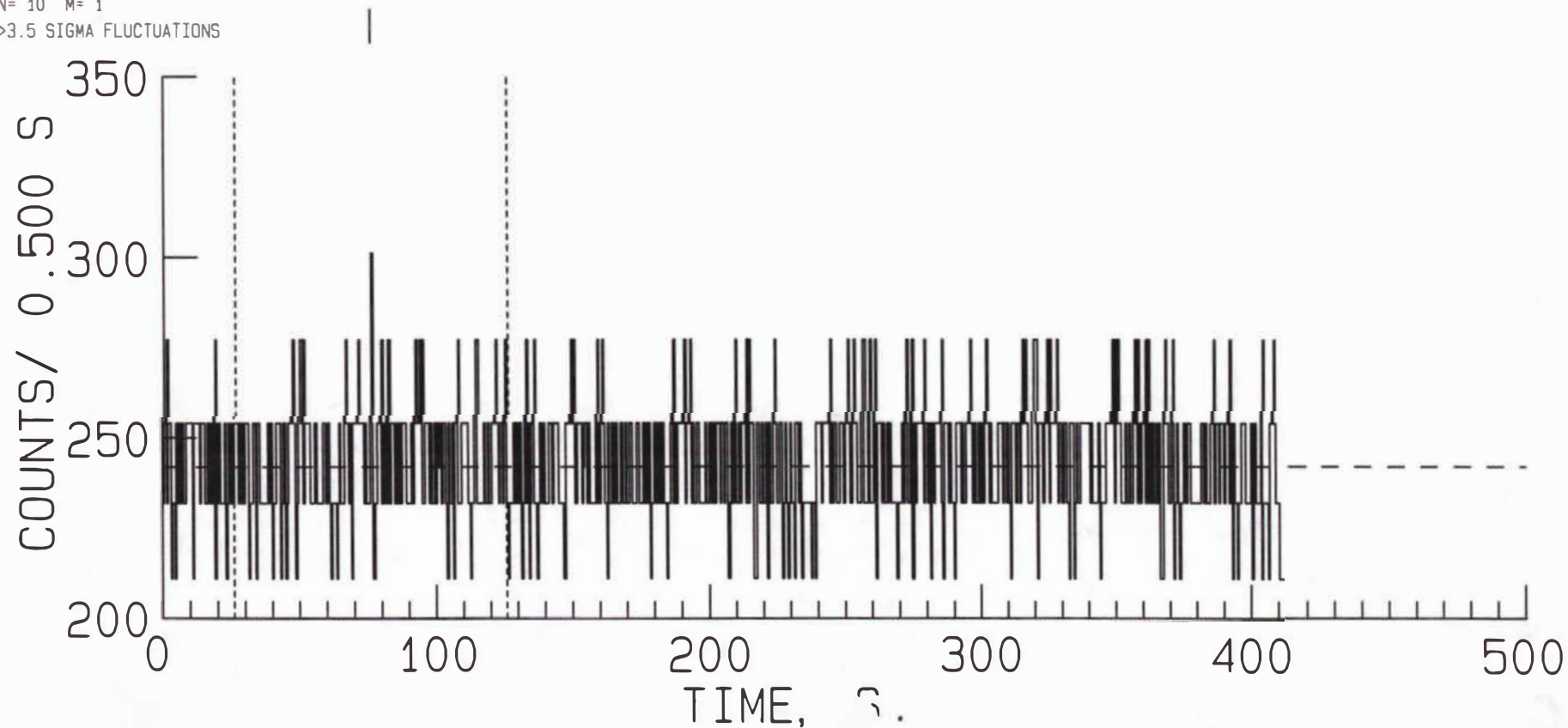
ULYSSES RT

25 / 6 / 98

20 / 6 / 98 24732.086 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



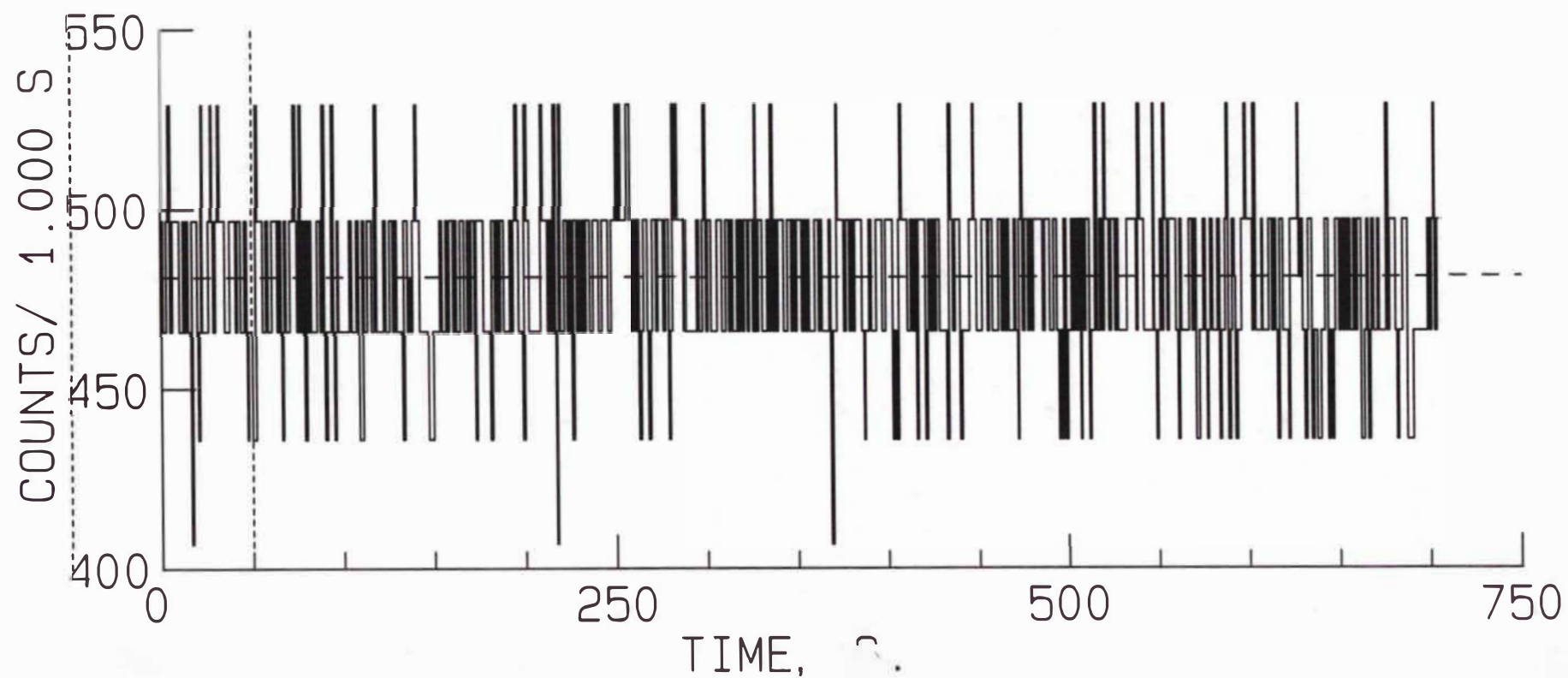
BATSE 6856 (cont)

ULYSSES RT

25 / 6 / 98

20 / 6 / 98 25143.091 s

22- 148 keV



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 25 05:56:50 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 25 Jun 1998 7:56:29 -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.: 6857

TIME: TJD=0984 SECONDS=79837 22:10:37

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

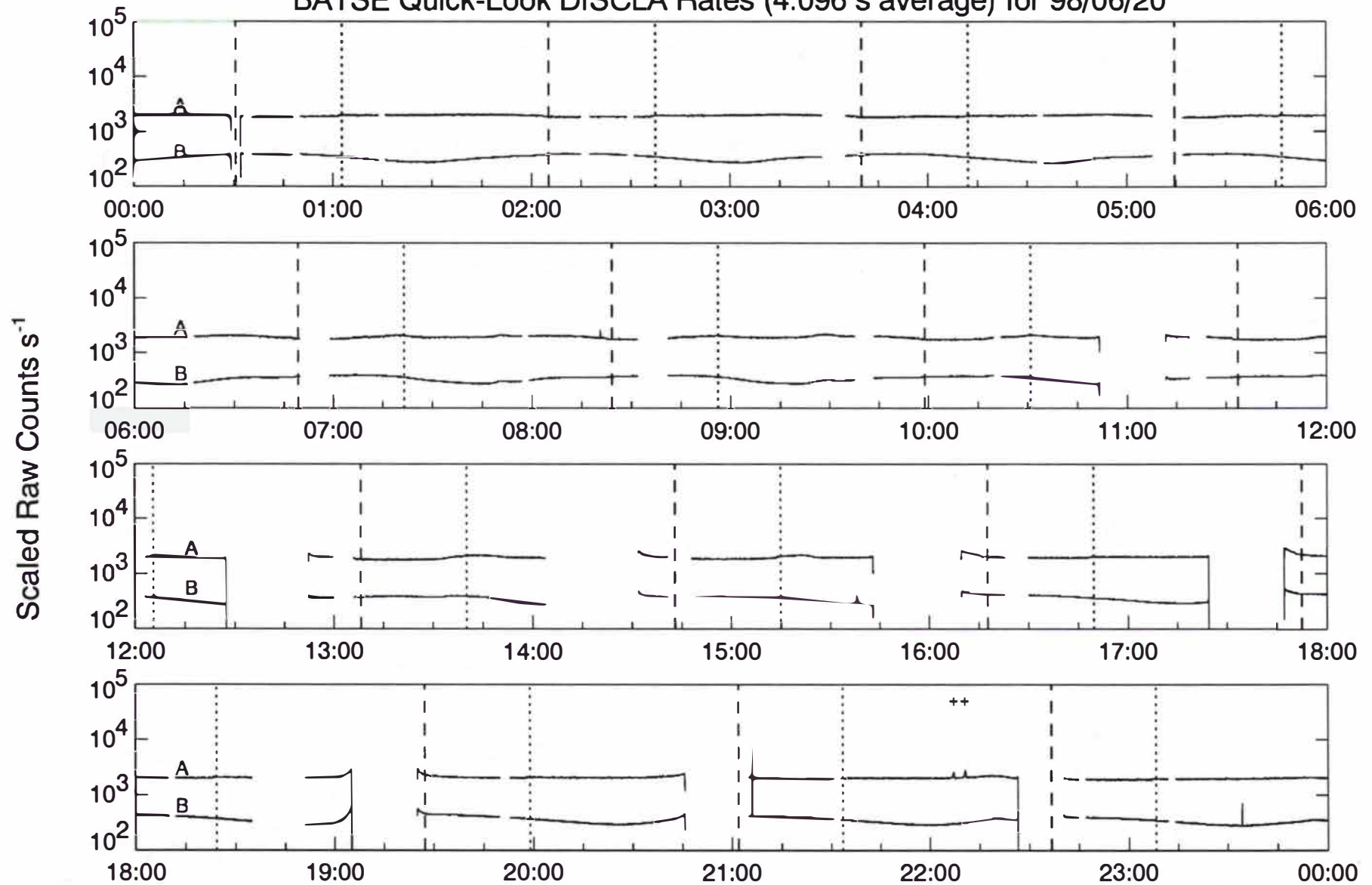
LOCATION: ZENITH=58.8 AZIMUTH=355.1 ERROR=3.4 DEGREES

COMMENTS:

SOLAR FLARE, GOES C3.9, OPTICAL SF

TWO PULSES, DURATION APPROX. = 250 SEC. MARGINALLY VISIBLE ABOVE 50KEV.

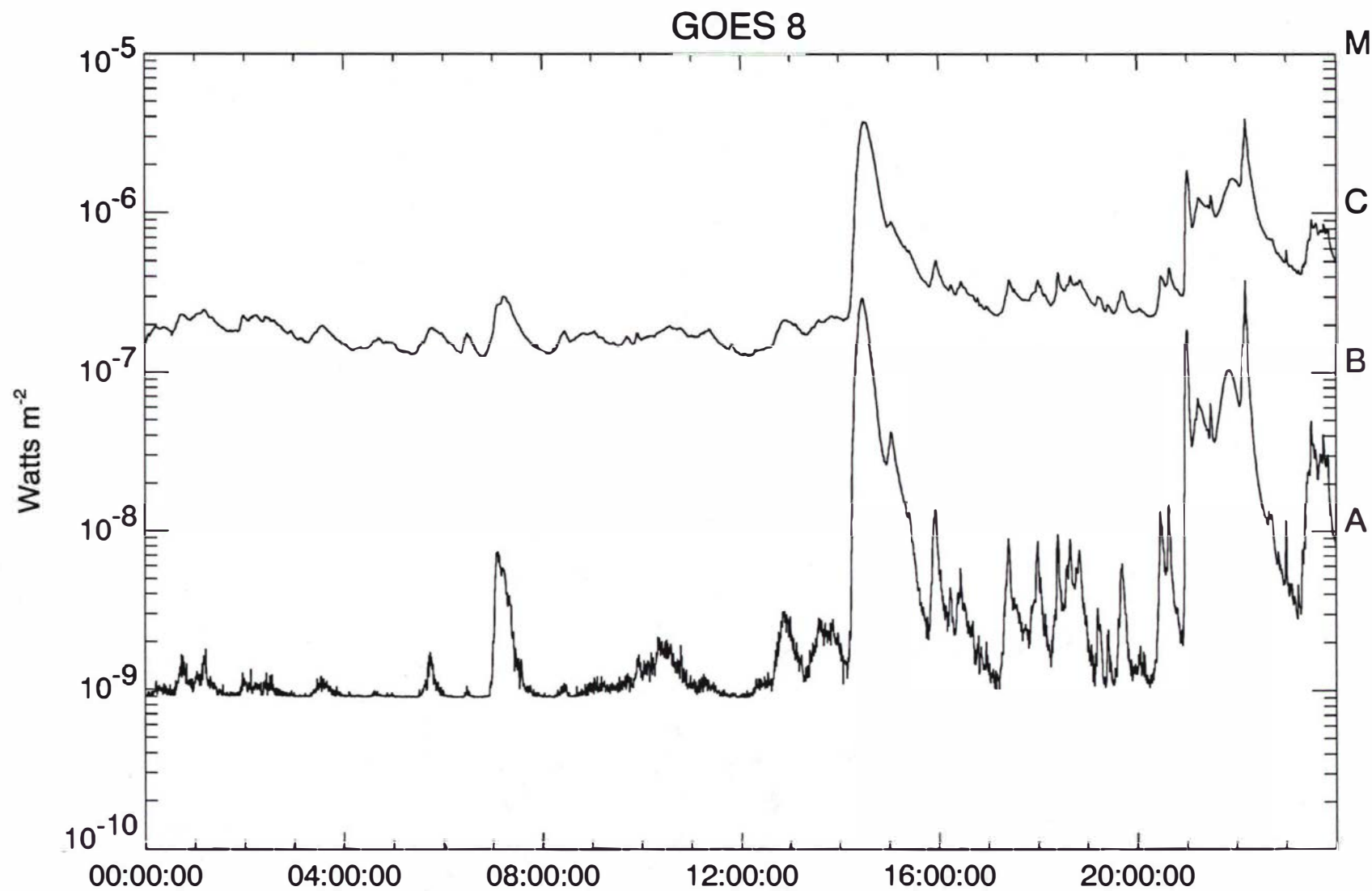
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/20



Current Time: 98/06/24, 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: 98/06/20, 0000:00

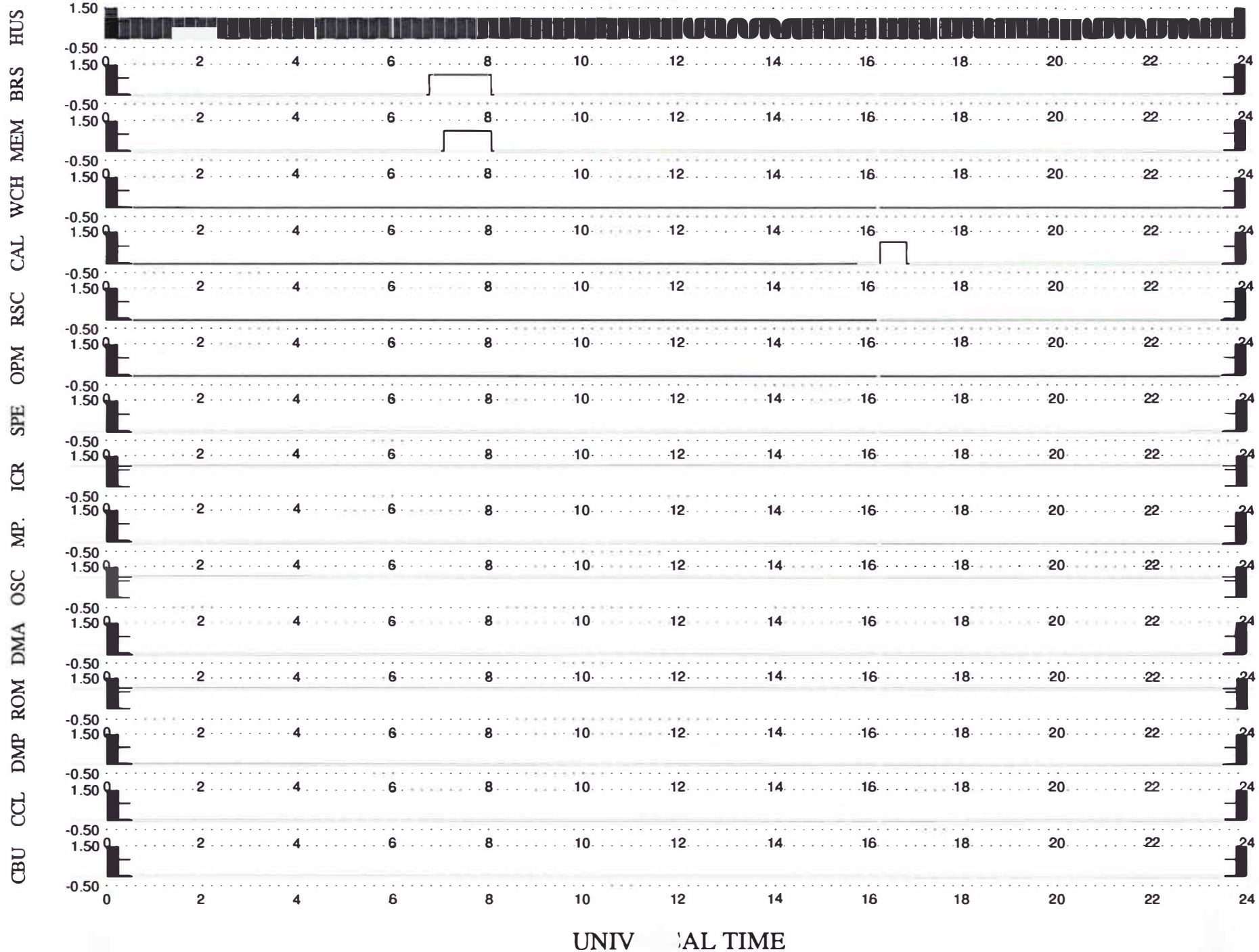
Plot created: 98/06/24, 1008

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

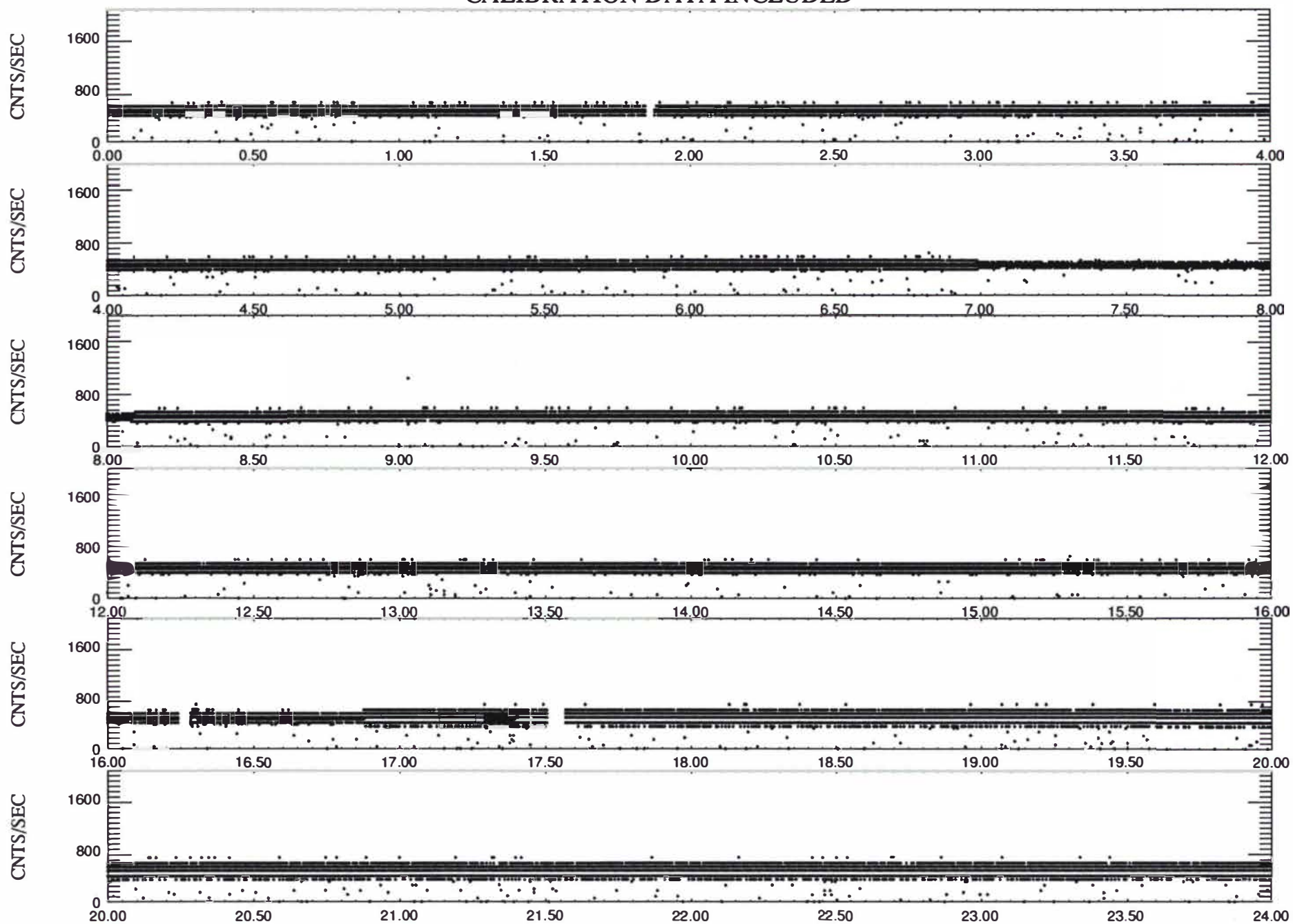
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 12

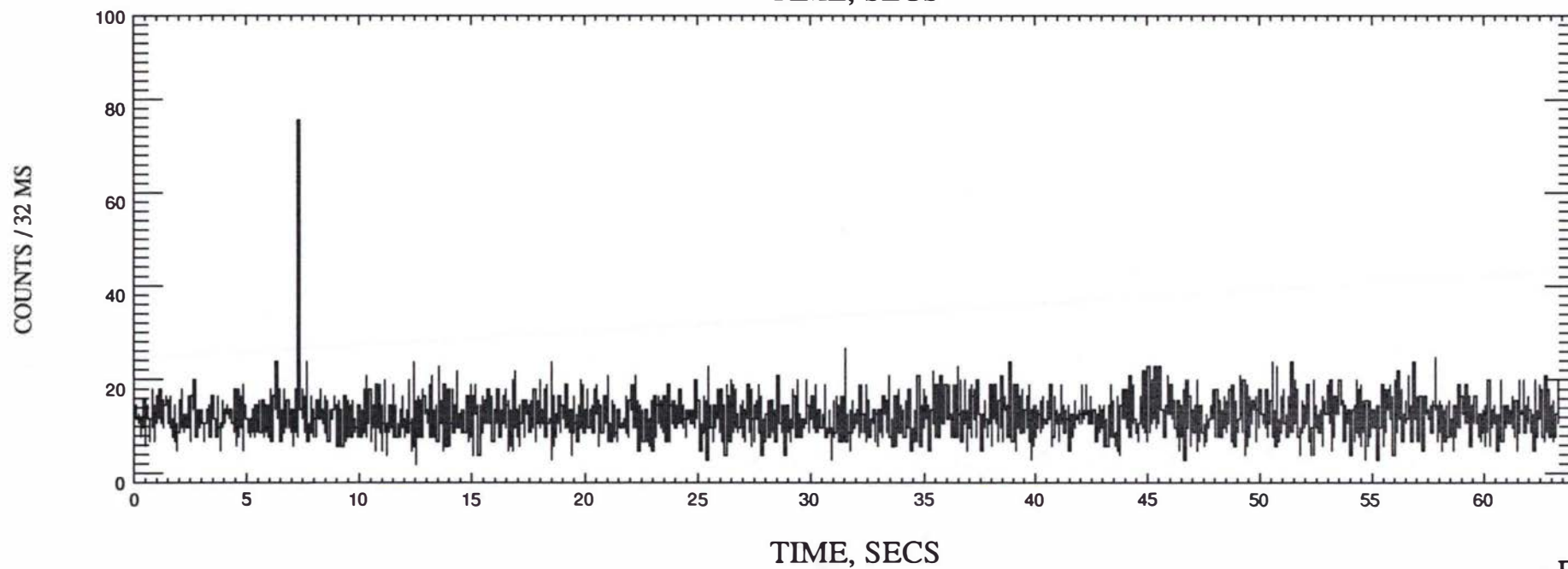
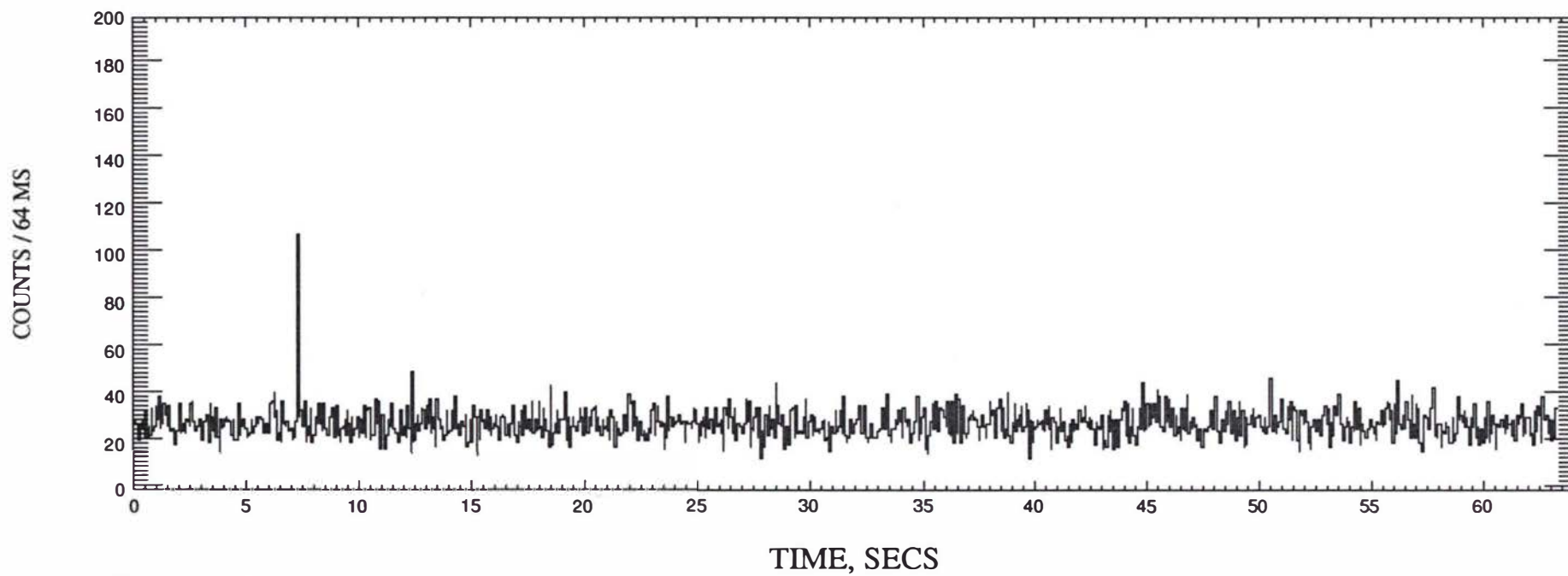


CALIBRATION DATA INCLUDED

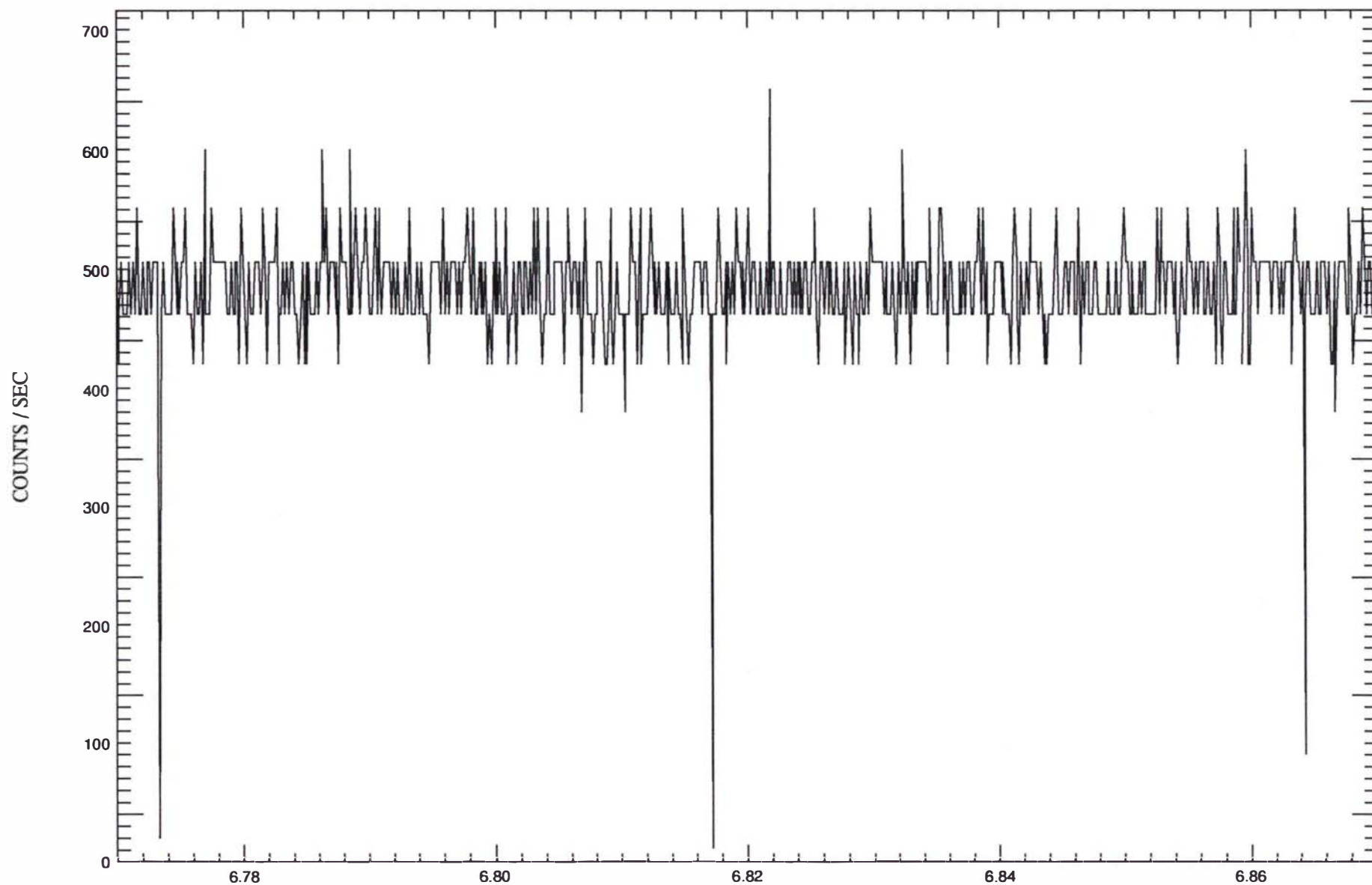


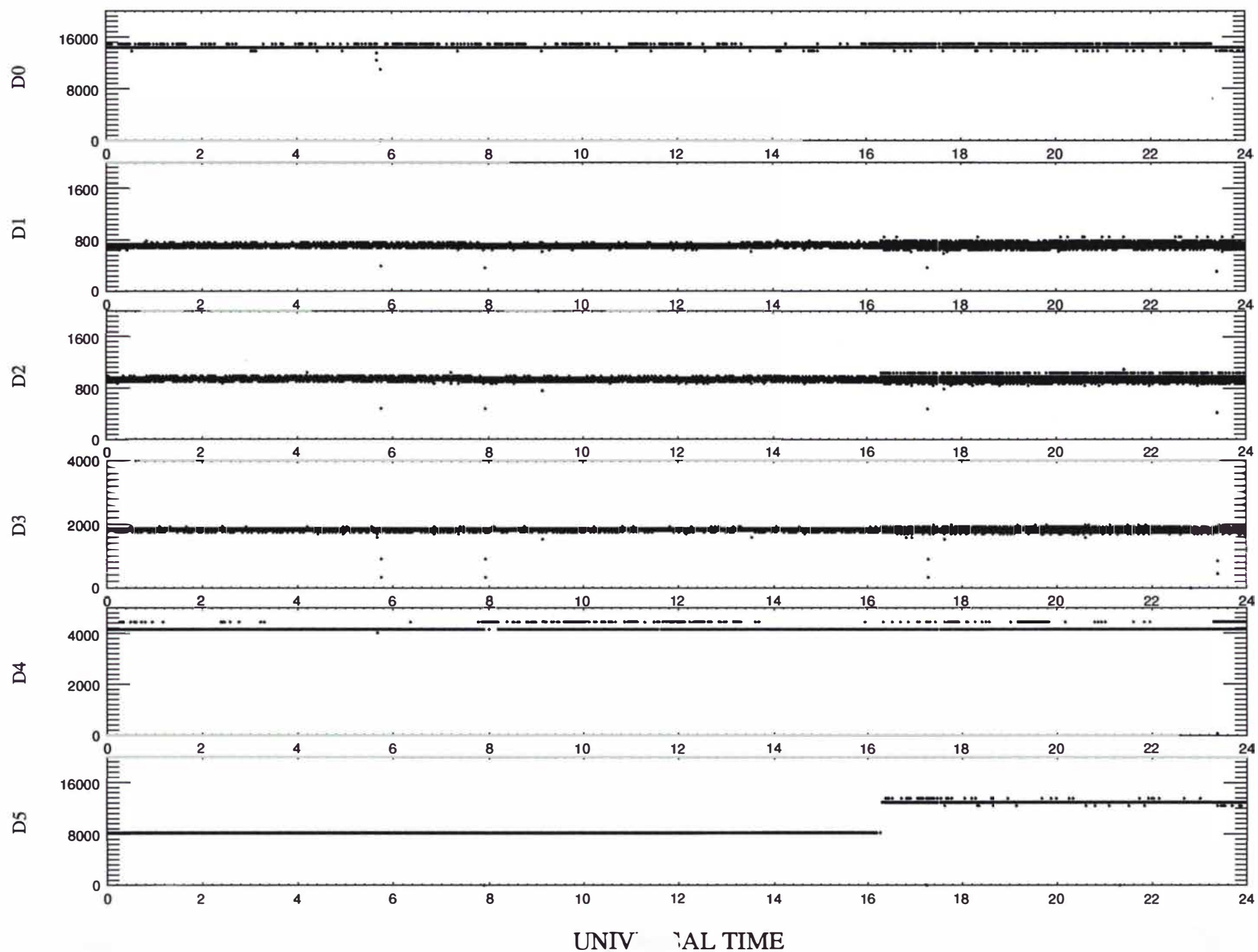
UNIV. TIME

Burst Counter 12 at UT= 6.821894849141 h=24558.821 s 06:49:18.821



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Tue Jun 23 10:59:50 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 23 Jun 1998 12:59:12 -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.: 6858

TIME: TJD=0985 ^{215T} SECONDS=8641

2:24:01

9303 @ U

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=132.0 AZIMUTH=220.5 ERROR=8.7 DEGREES

COMMENTS:

SGR. SINGLE SPIKE, DUR. APPROX. 0.04 S. marginally visible above 100 KEV.

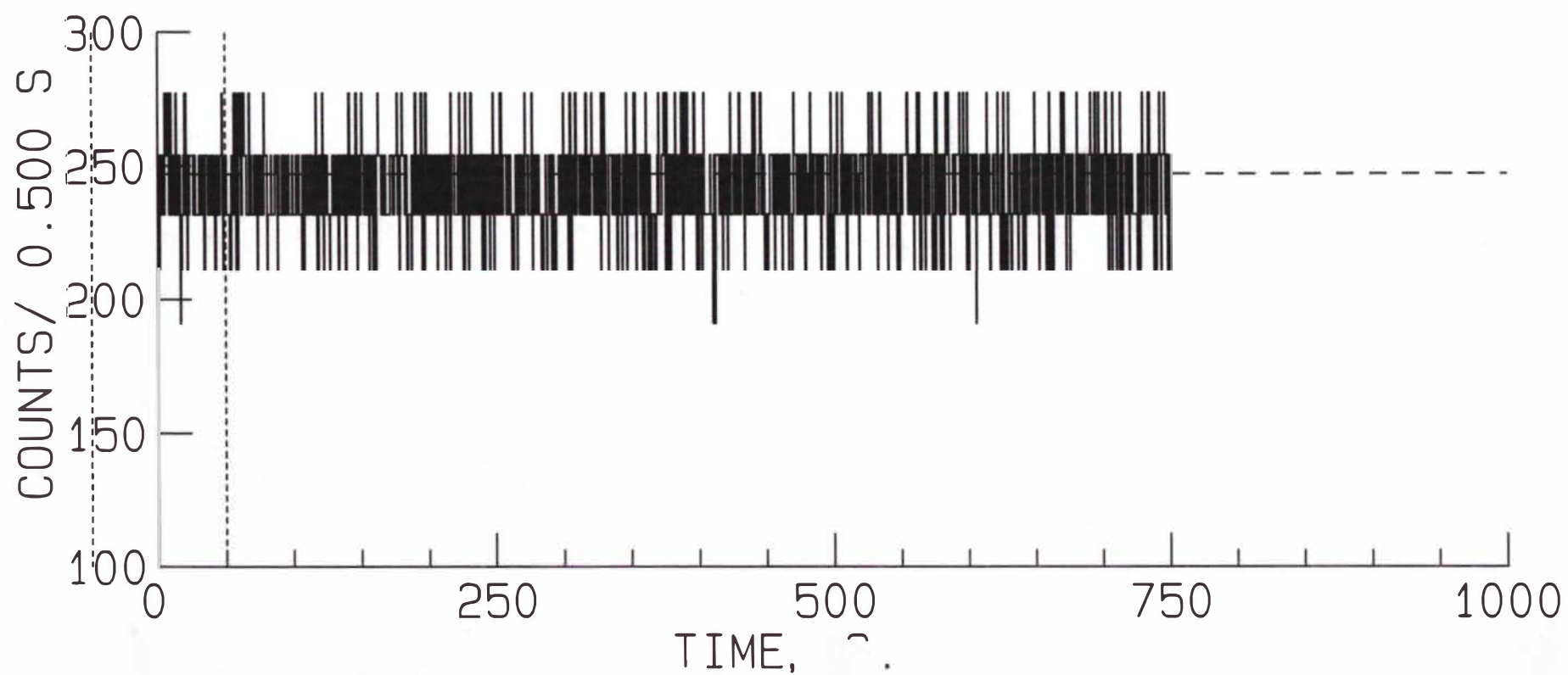
BATSE 6858

ULYSSES RT

25 / 6 / 98

21 / 6 / 98 8784.338 s

22- 148 keV

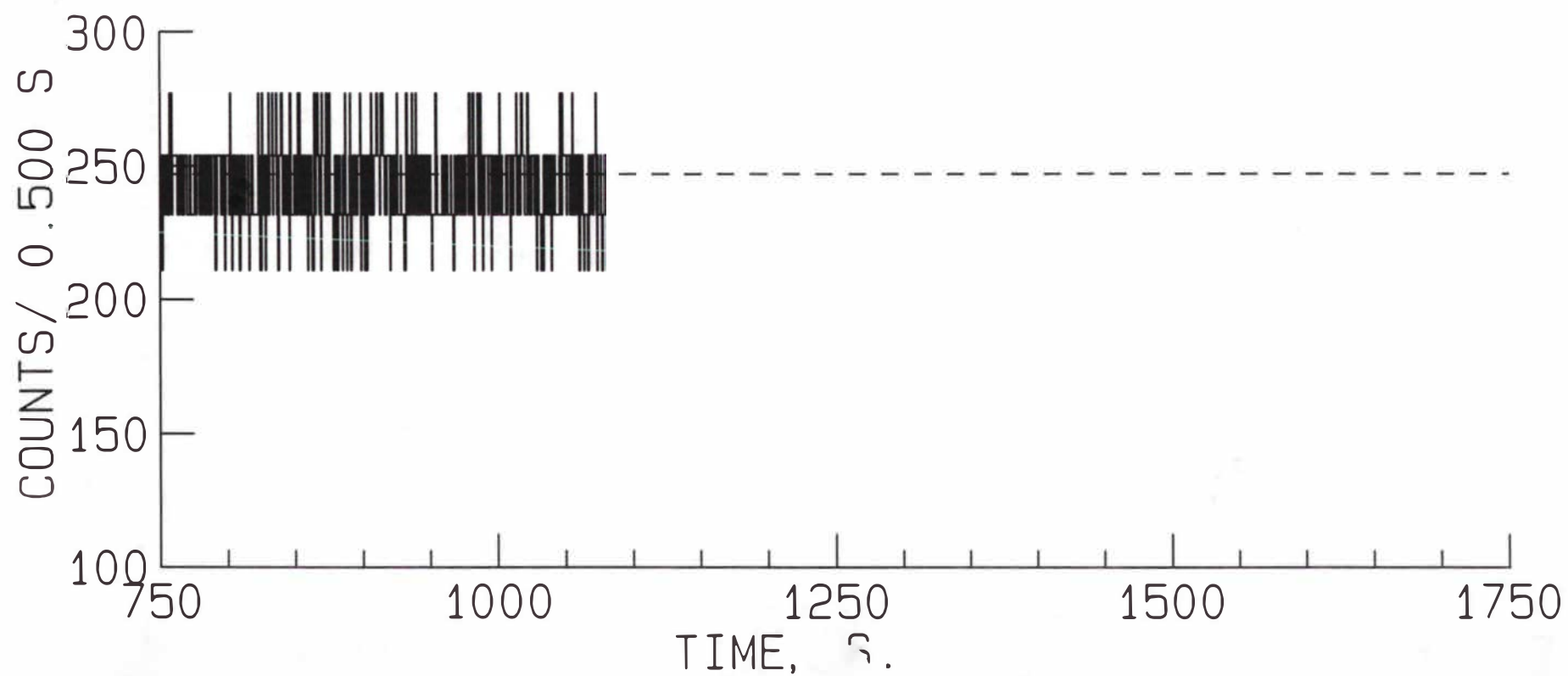


ULYSSES RT

25 / 6 / 98

21 / 6 / 98 8784.338 s

22- 148 keV



From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:32:10 1998
From: SAHI@fender.msfc.nasa.gov
Date: Wed, 8 Jul 1998 8:31:57 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevax.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.: 6859

TIME: TJD=0985 SECONDS=26858 7:27:38

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=65.8 AZIMUTH=359.2 ERROR=0.83 DEGREES

COMMENTS:

SOLAR FLARE. GOES. C1.6 NO OPTICAL ID. SINGLE PULSE WITH SUBSTRUCTURE, DUR.
APPROX. 40 SECS. NOT VISIBLE ABOVE 100 KEV.

From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:29:57 1998
From: SAHI@fender.msfc.nasa.gov
Date: Wed, 8 Jul 1998 8:29:18 -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.: 6860

TIME: TJD=0985 SECONDS=32062

08:54:22

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

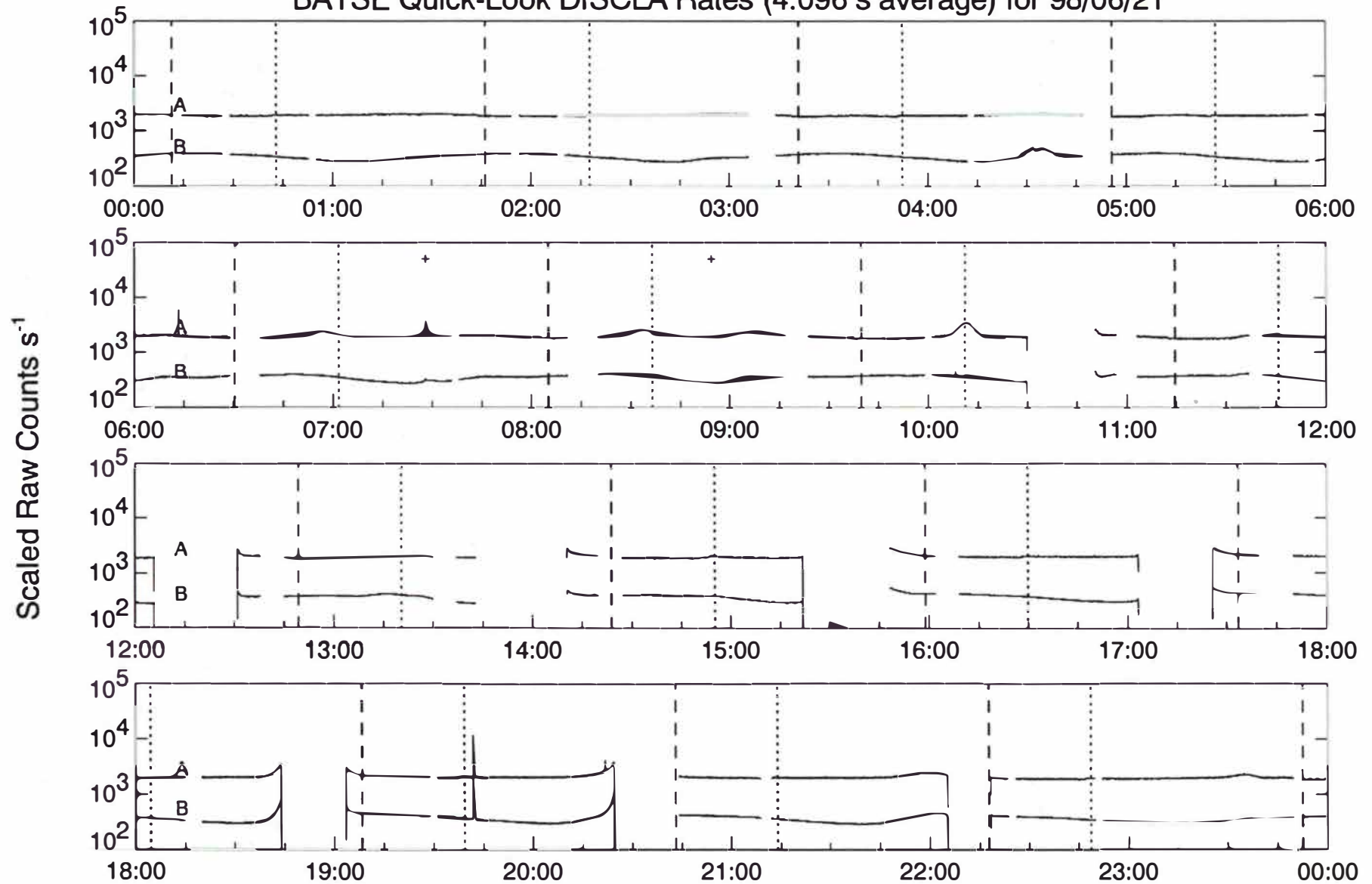
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=66.3 AZIMUTH=358.1 ERROR=4.2 DEGREES

COMMENTS:

SOLAR FLARE. GOES. UNKNOWN. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 30
SECS. NOT VISIBLE ABOVE 50 KEV.

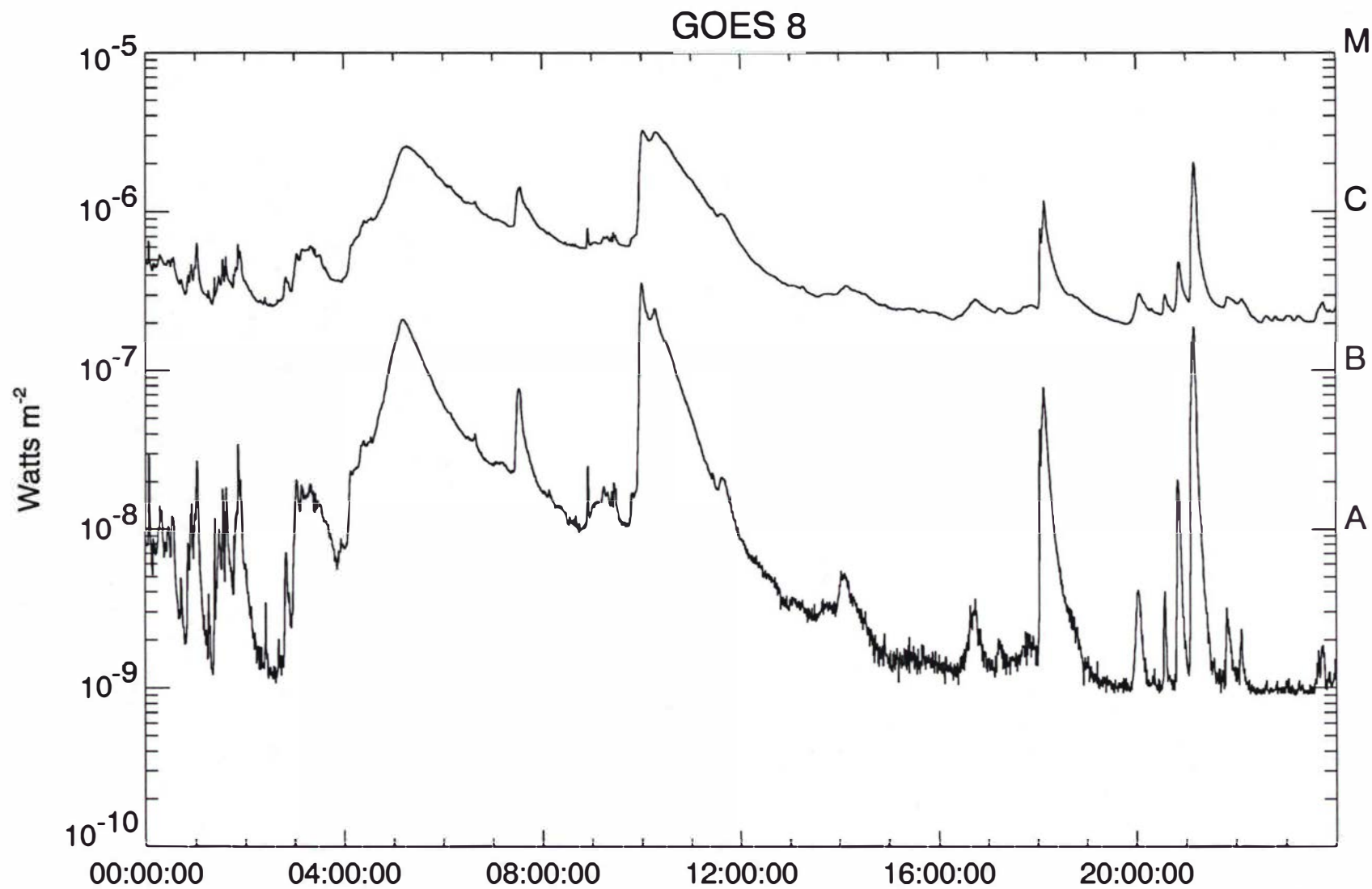
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/21



Current Time: 98/06/25, 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: 98/06/21, 0000:00

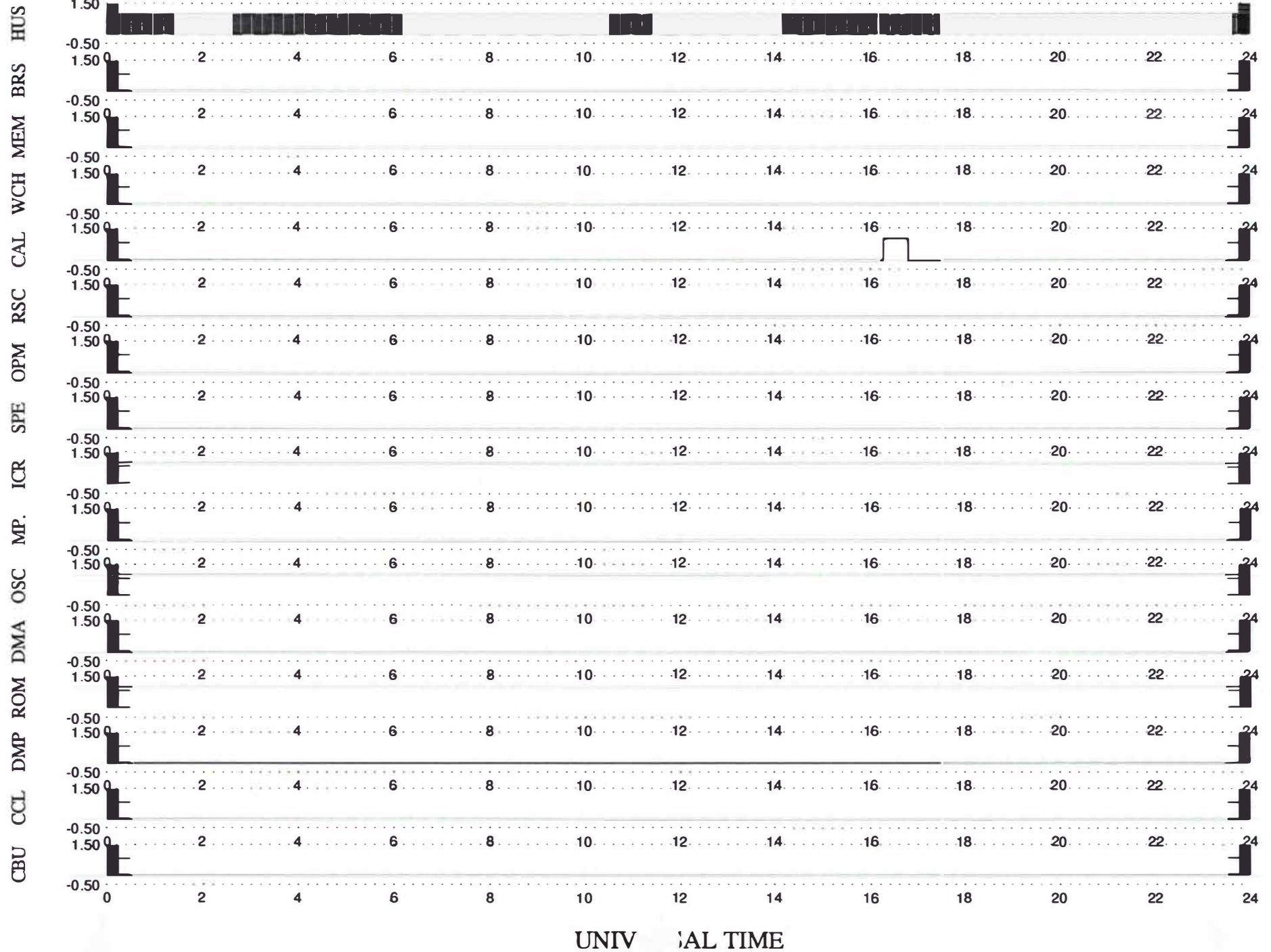
Plot created: 98/06/25, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

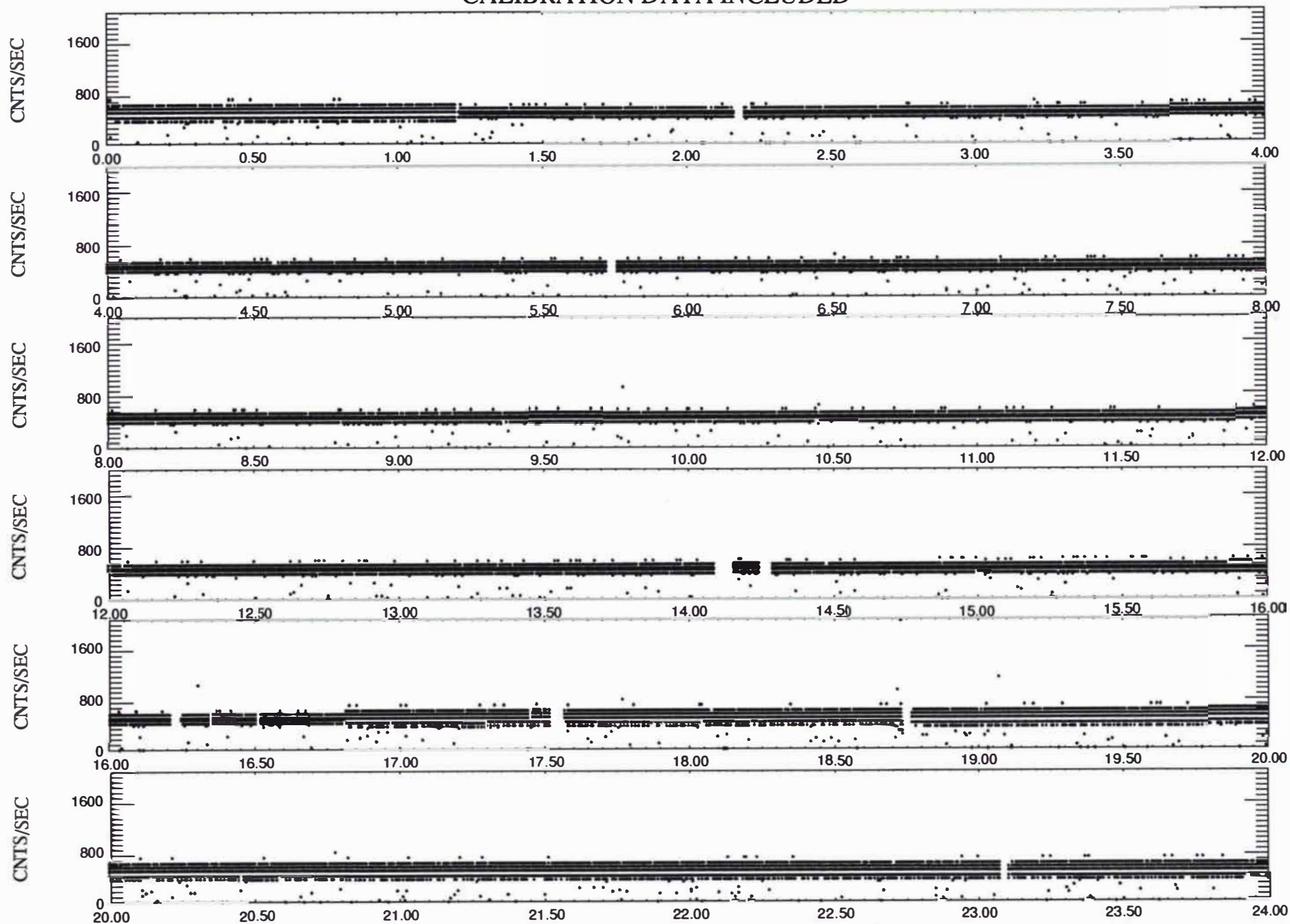
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

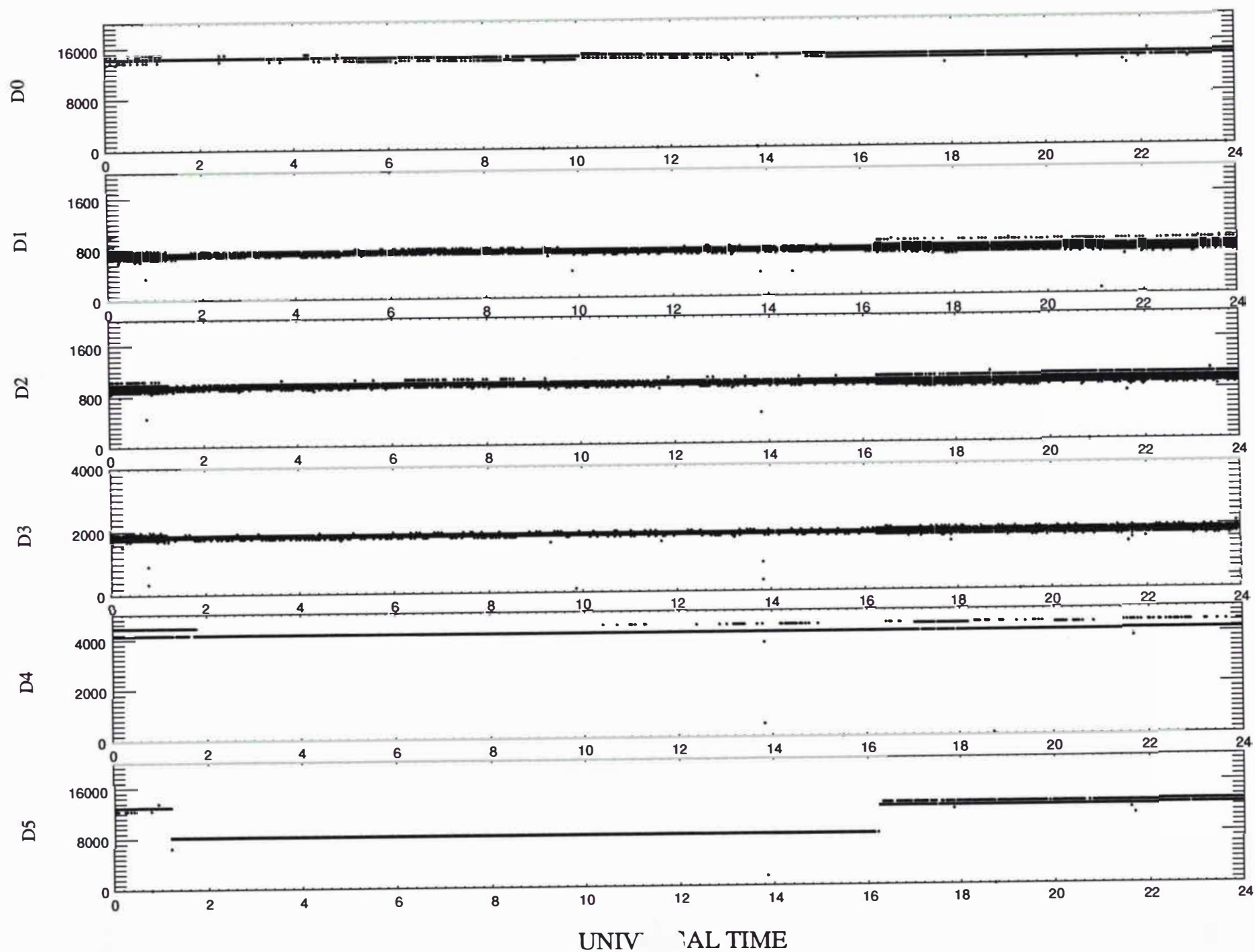
NO BURST (12)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 25 11:51:52 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 25 Jun 1998 13:51:33 -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.: 6861

TIME: TJD=0986 SECONDS=51084 14:11:24

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=98.5 AZIMUTH=155.3 ERROR=2.3 DEGREES

COMMENTS:

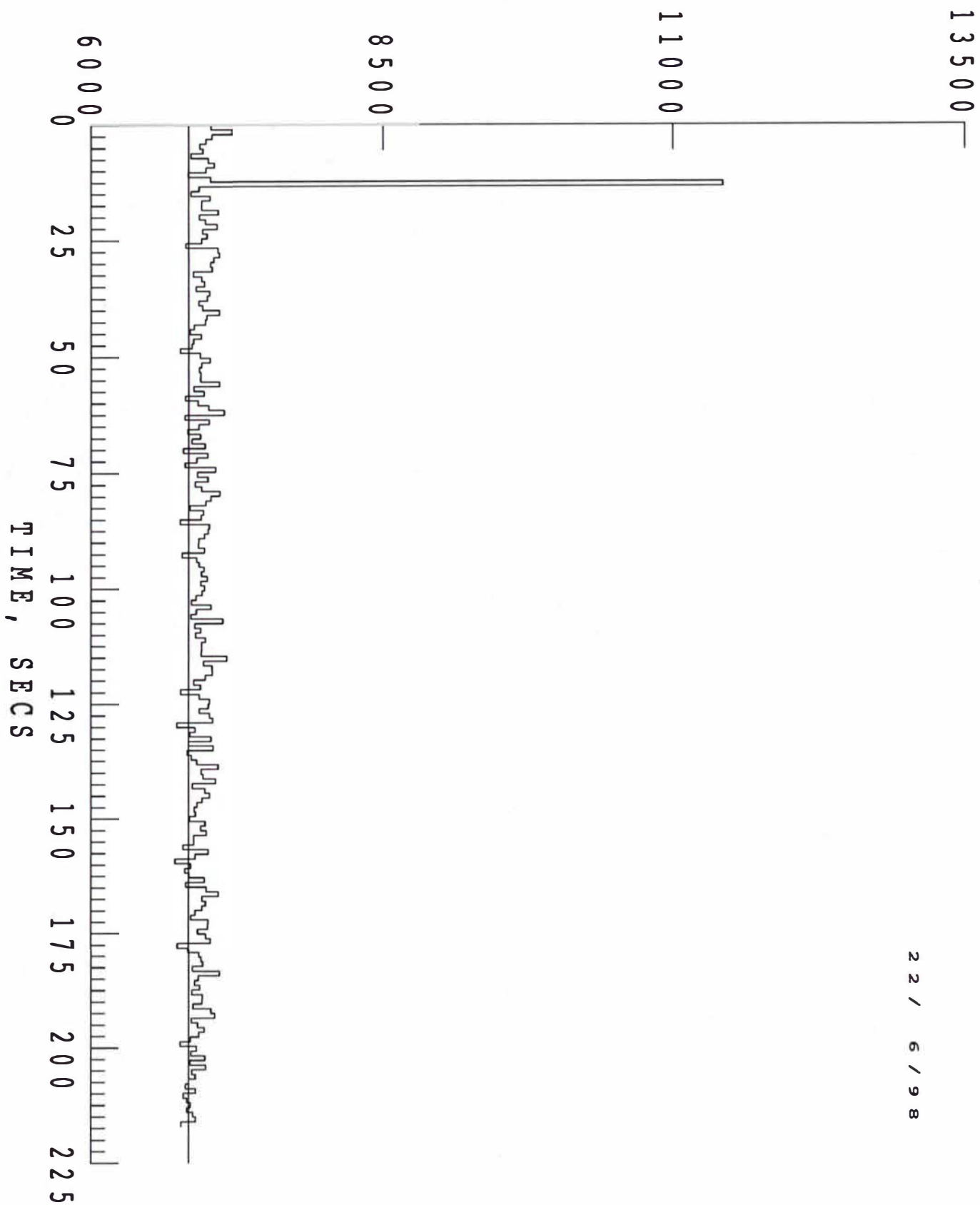
SGR 1627-41

SINGLE SPIKE WITH SLOW DECAY. DURATION APPROX. = 0.4 SEC. NOT VISIBLE ABOVE 300 KEV

BACODINE 6861 22/06/98 51071.713

25 - 100 keV

COUNTS/1.024 S



Stem untrigger event, SGR1627

Date: 15 Oct 02

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? **No**

2. BATSE Data **N/A**

- ☐ BATSE ephemeris for T_0 ?
- ☐ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data

- ☐ Final, correct time used? (Files postmarked vwx@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? **No**

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

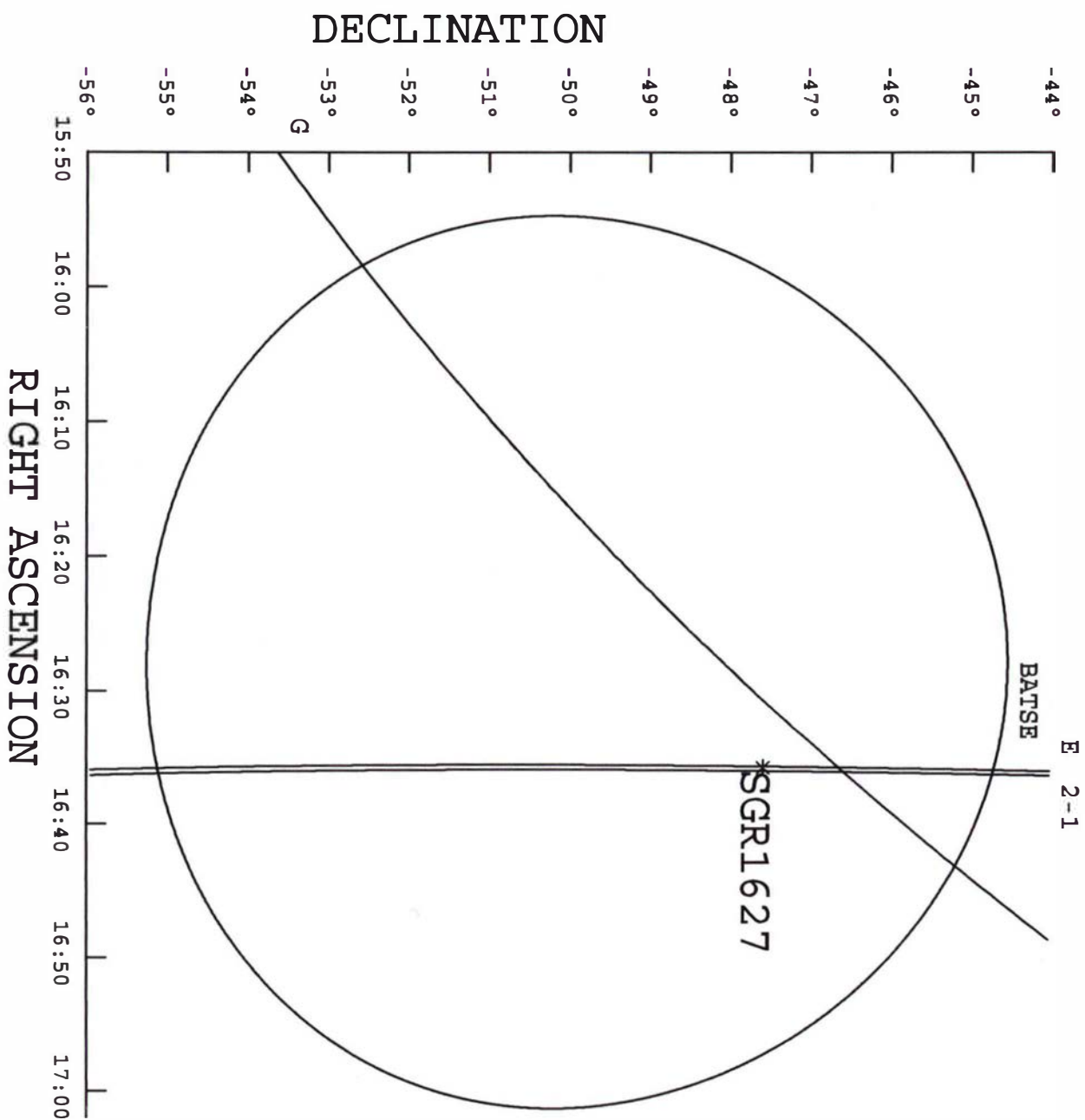
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 22, 1998 14:11

15/10/ 2



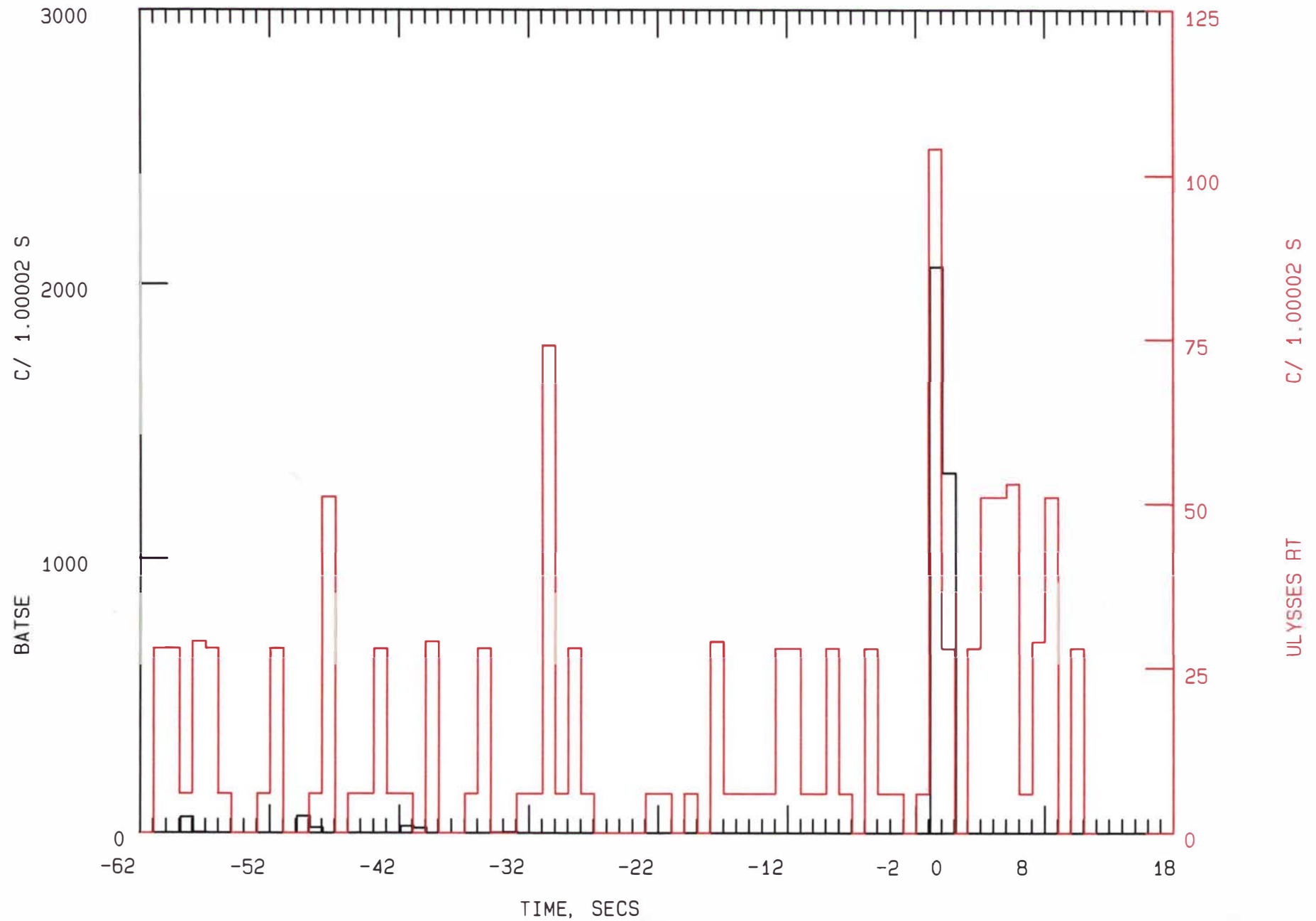
BATSE

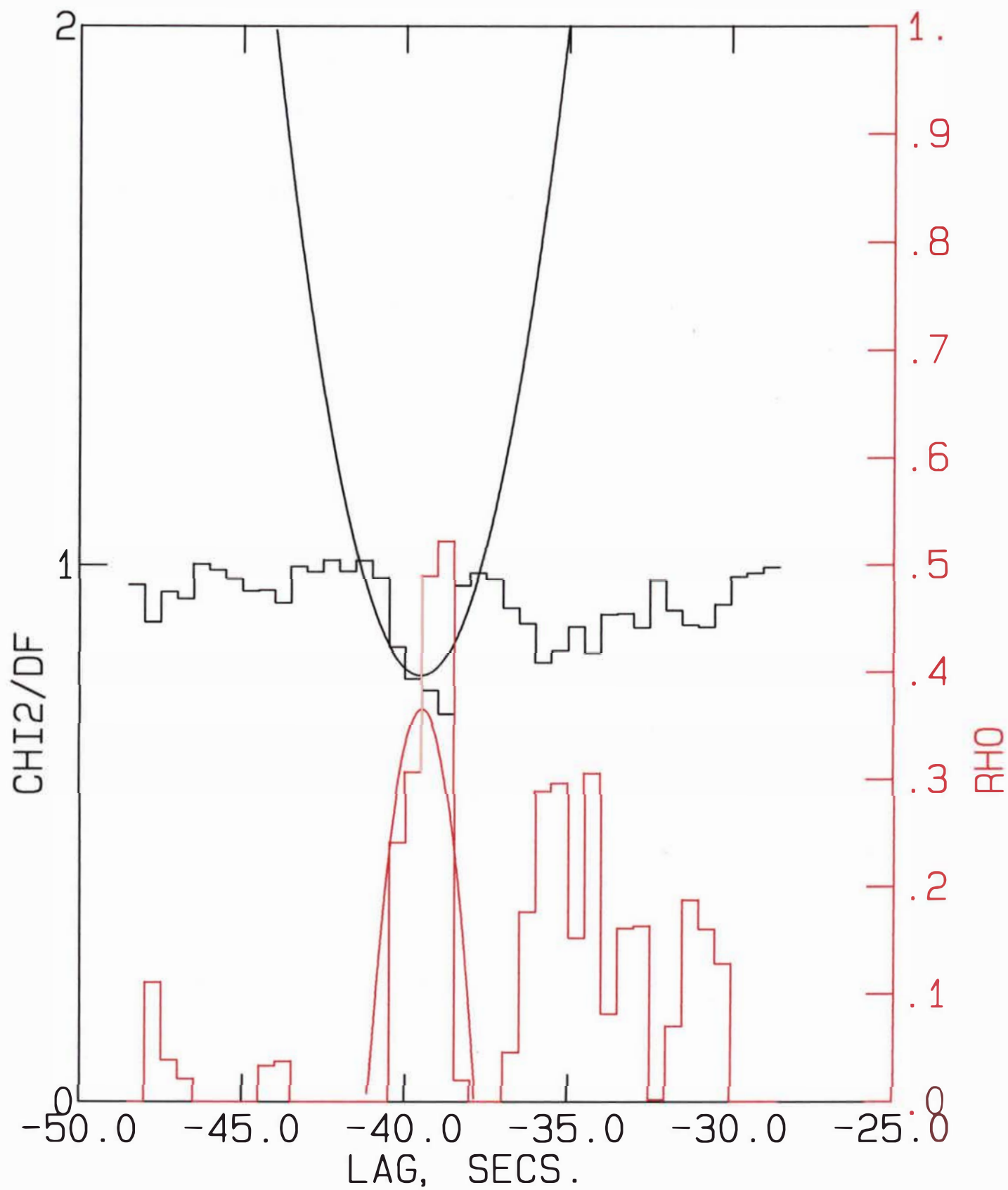
-ULYSSES RT CORRELATION

22/06/98

51084.513

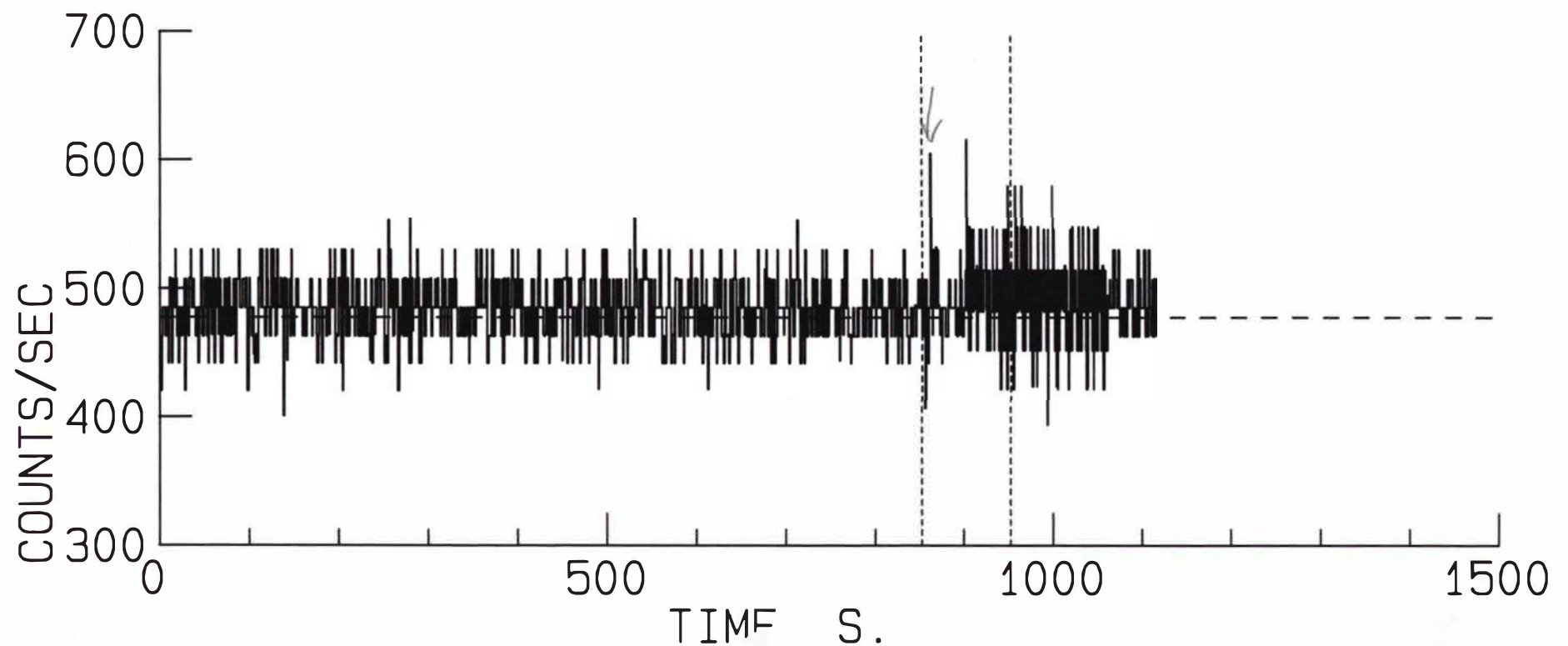
15/10/ 2





ULYSSES RT
22/ 6/98 50868.203 s
INTERVALS REGROUPED BY 2
22- 150 keV

15/10/ 2



From RICHARDSON@fender.msfc.nasa.gov Thu Jun 25 11:54:13 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 25 Jun 1998 13:53:53 -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.: 6862

TIME: TJD=0986 SECONDS=68197

Trigger

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.9 AZIMUTH=158.6 ERROR=4.4 DEGREES

COMMENTS:

SGR 1627-41, STRONG SINGLE SPIKE. DURATION APPROX. = 0.06 SEC.

NOT VISIBLE ABOVE 300KEV.

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

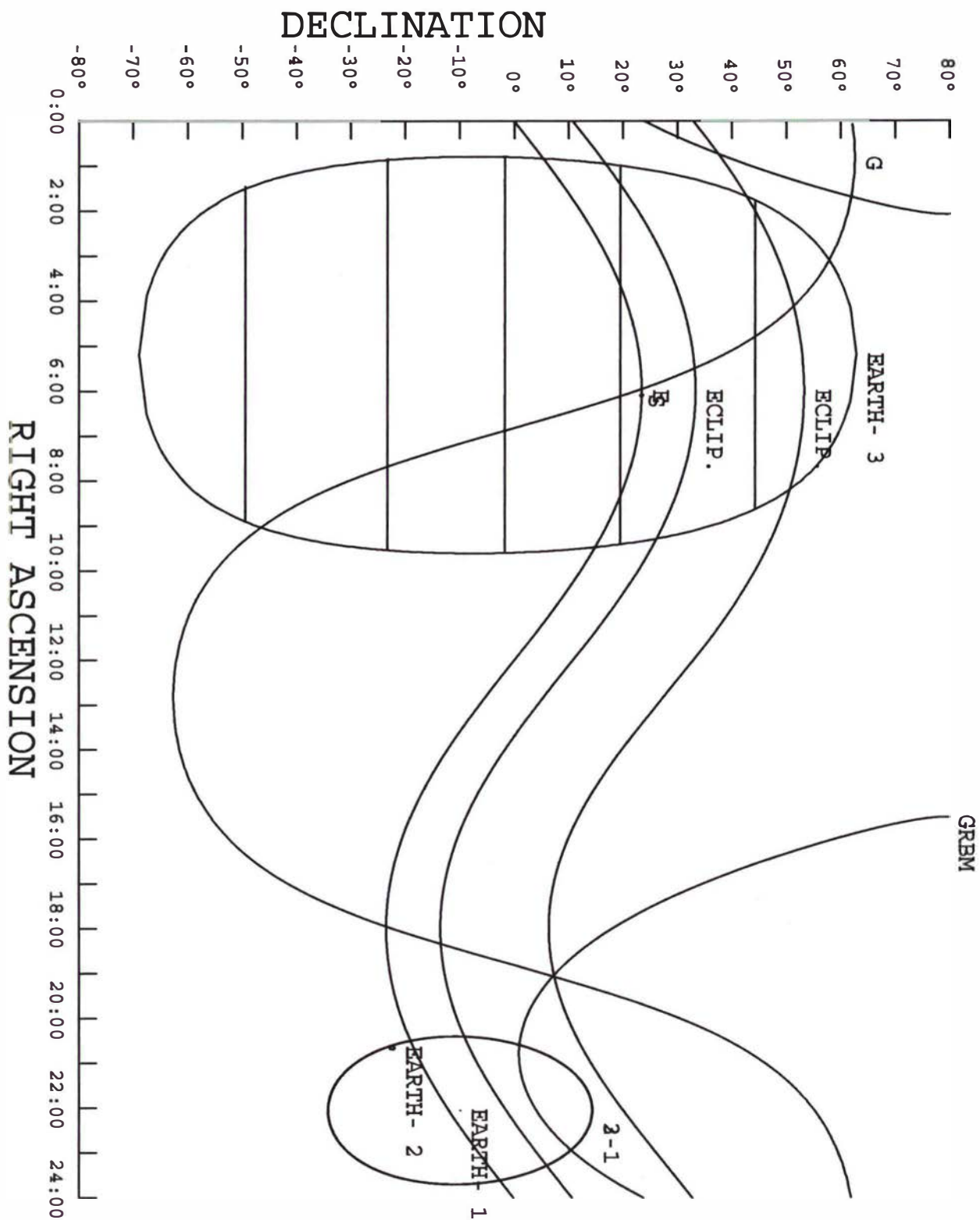
1 ULYSSES

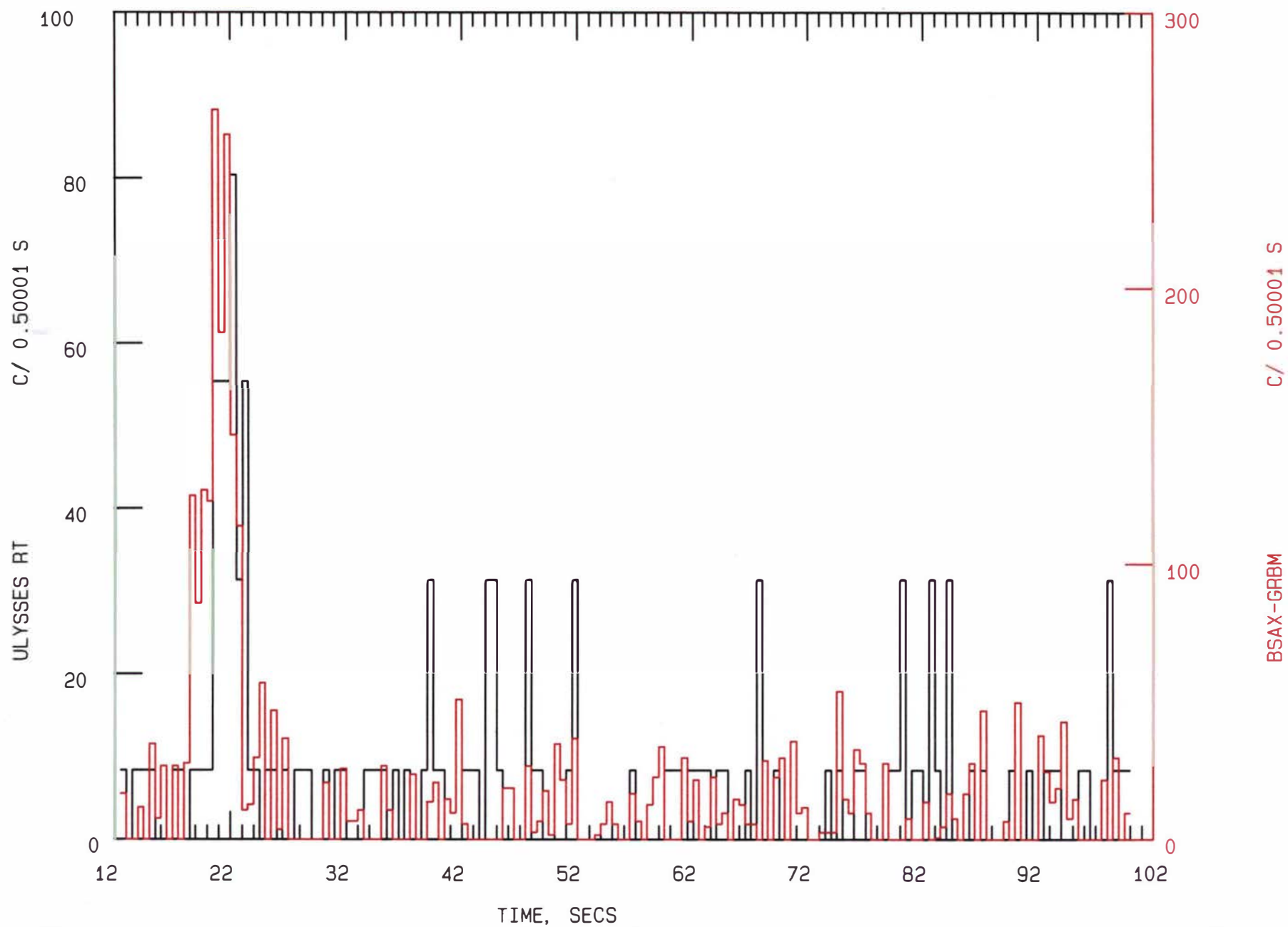
2 KONUS2

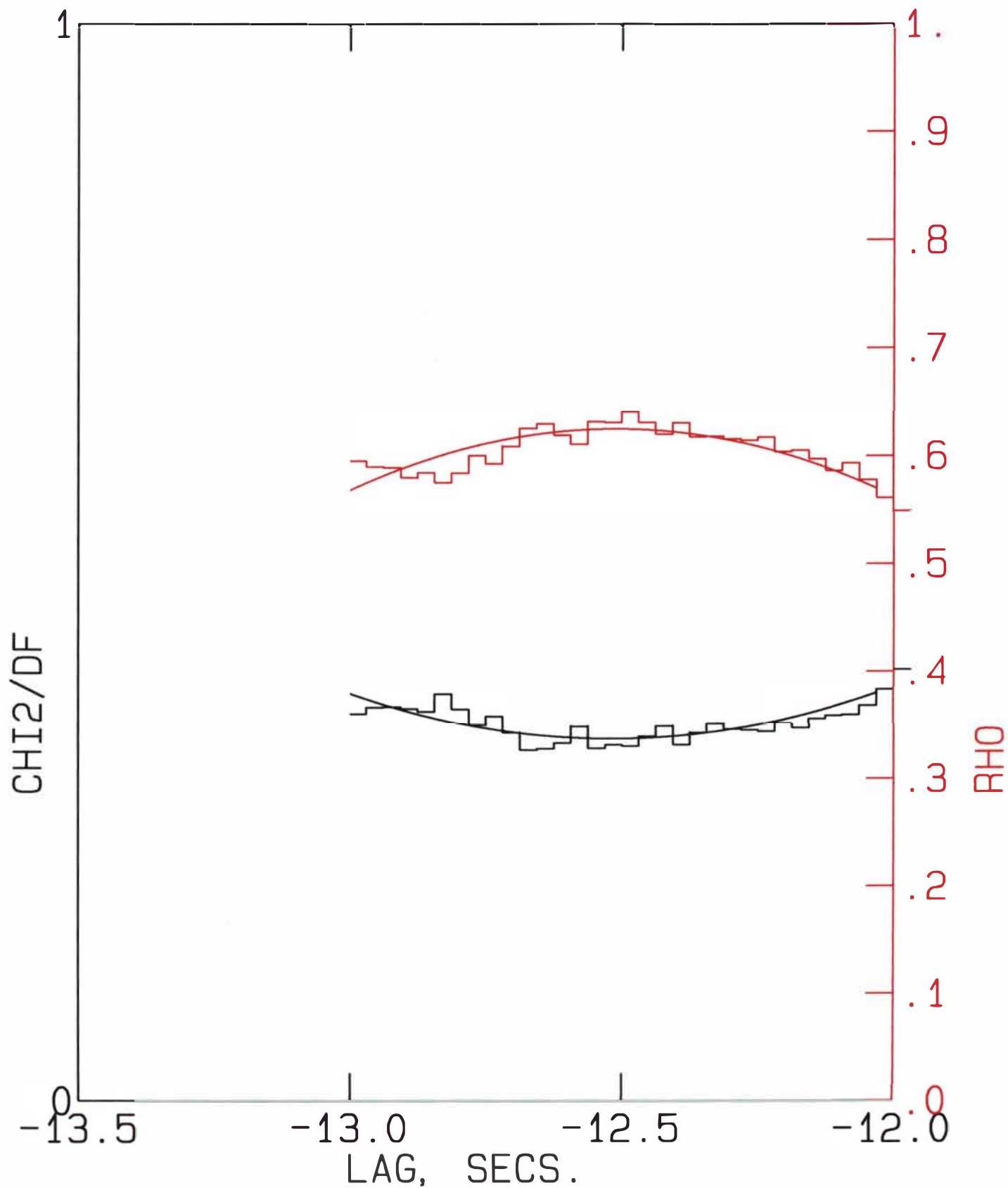
3 SAX

EVENT OF JUN 22, 1998 21:05

24 / 4 / 7







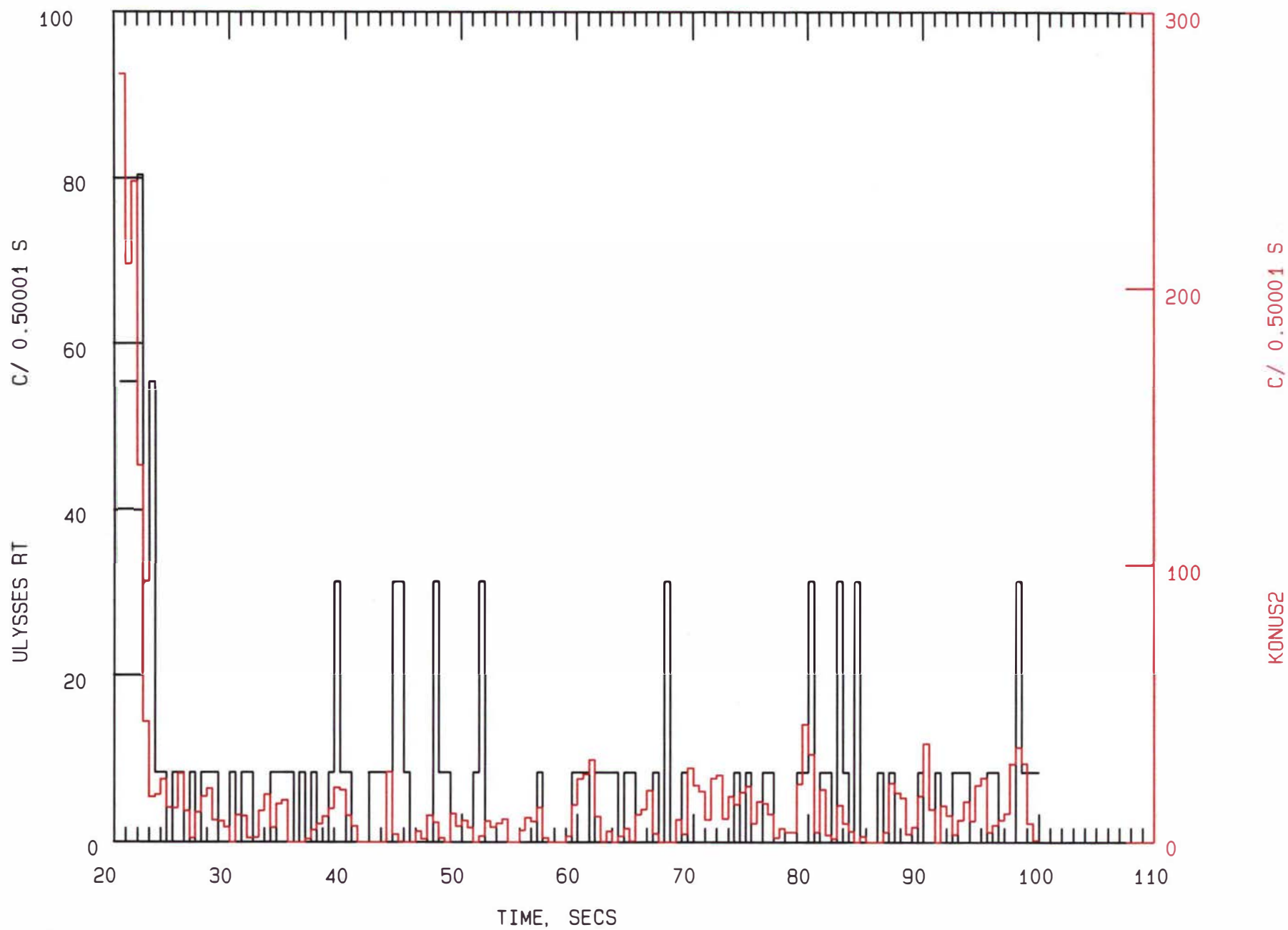
ULYSSES RT-KONUS2

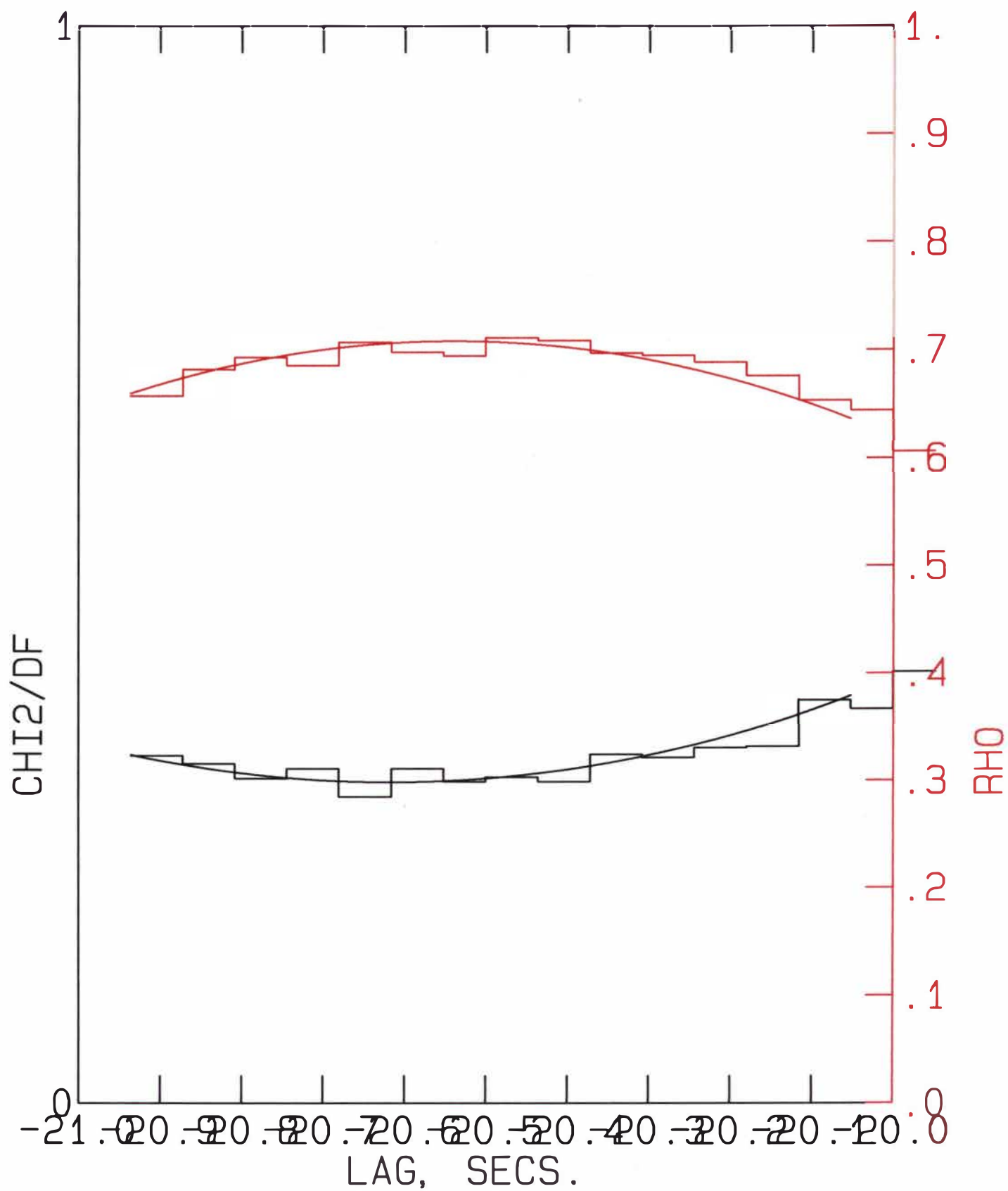
CORRELATION

22/ 6/98

75944.468

24/ 4/ 7

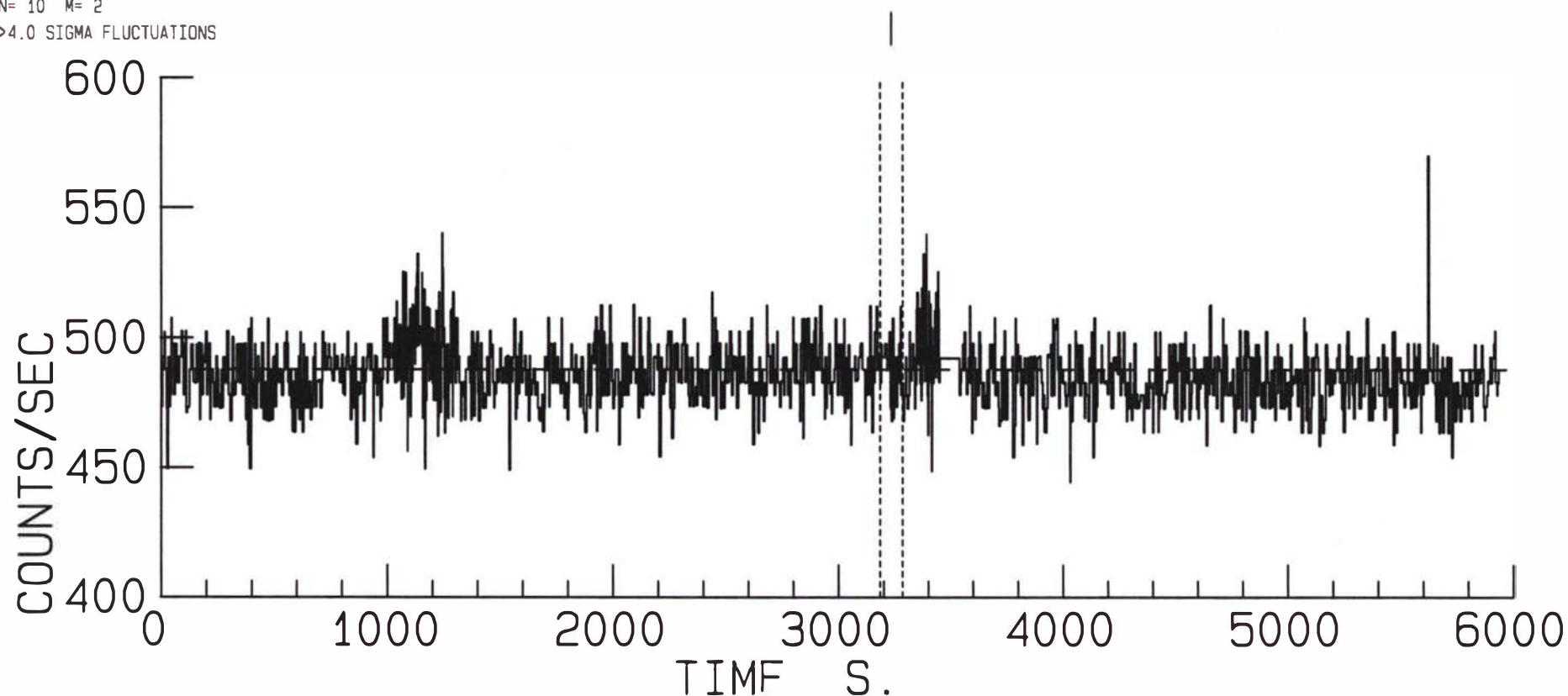




ULYSSES RT
22/ 6/98 70344.414 s
INTERVALS REGROUPED BY 9
22- 150 keV

24/ 4/ 7

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS2

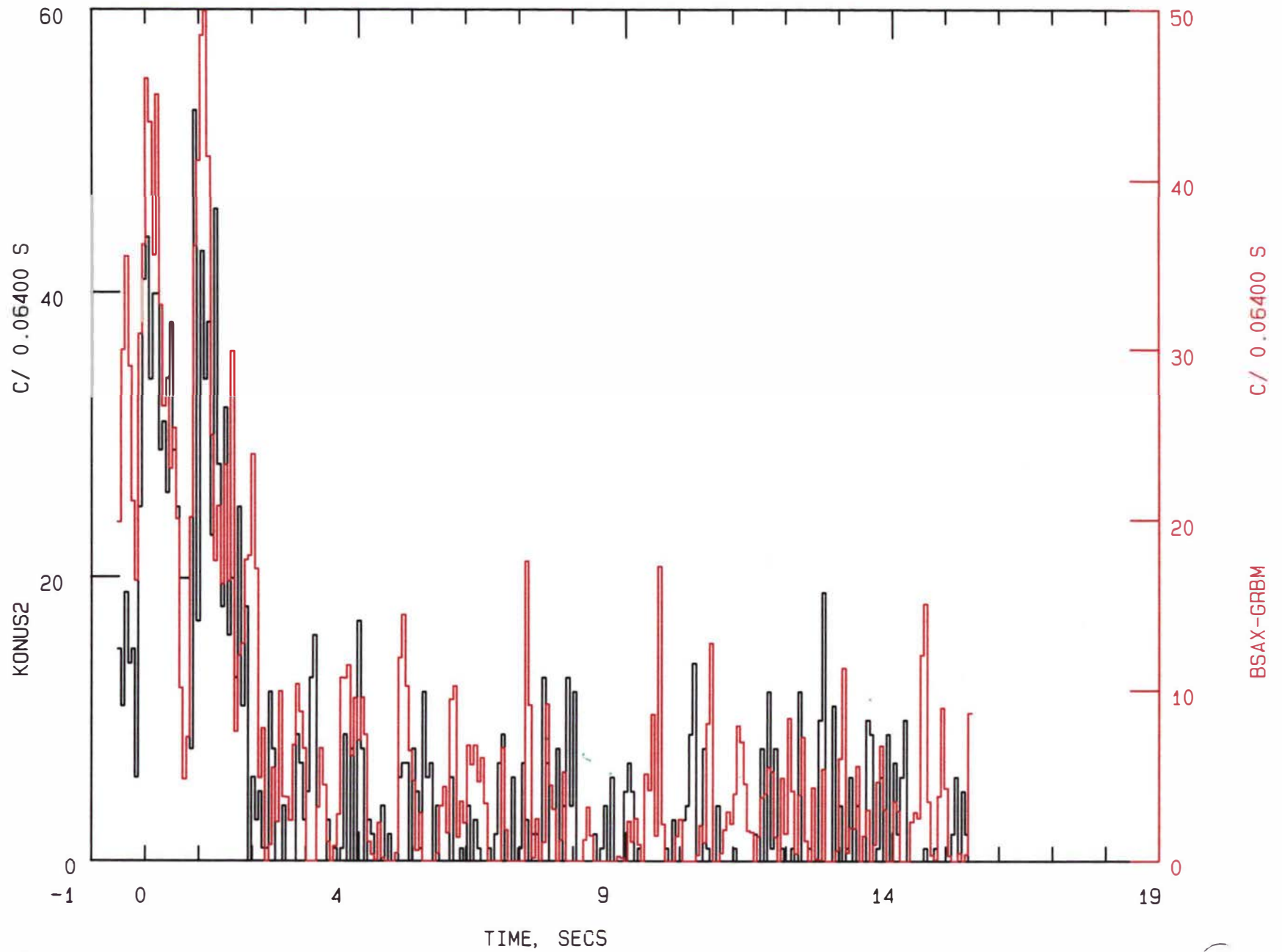
-BSAX-GRBM

CORRELATION

22/06/98

73302.184

24/ 4/ 7



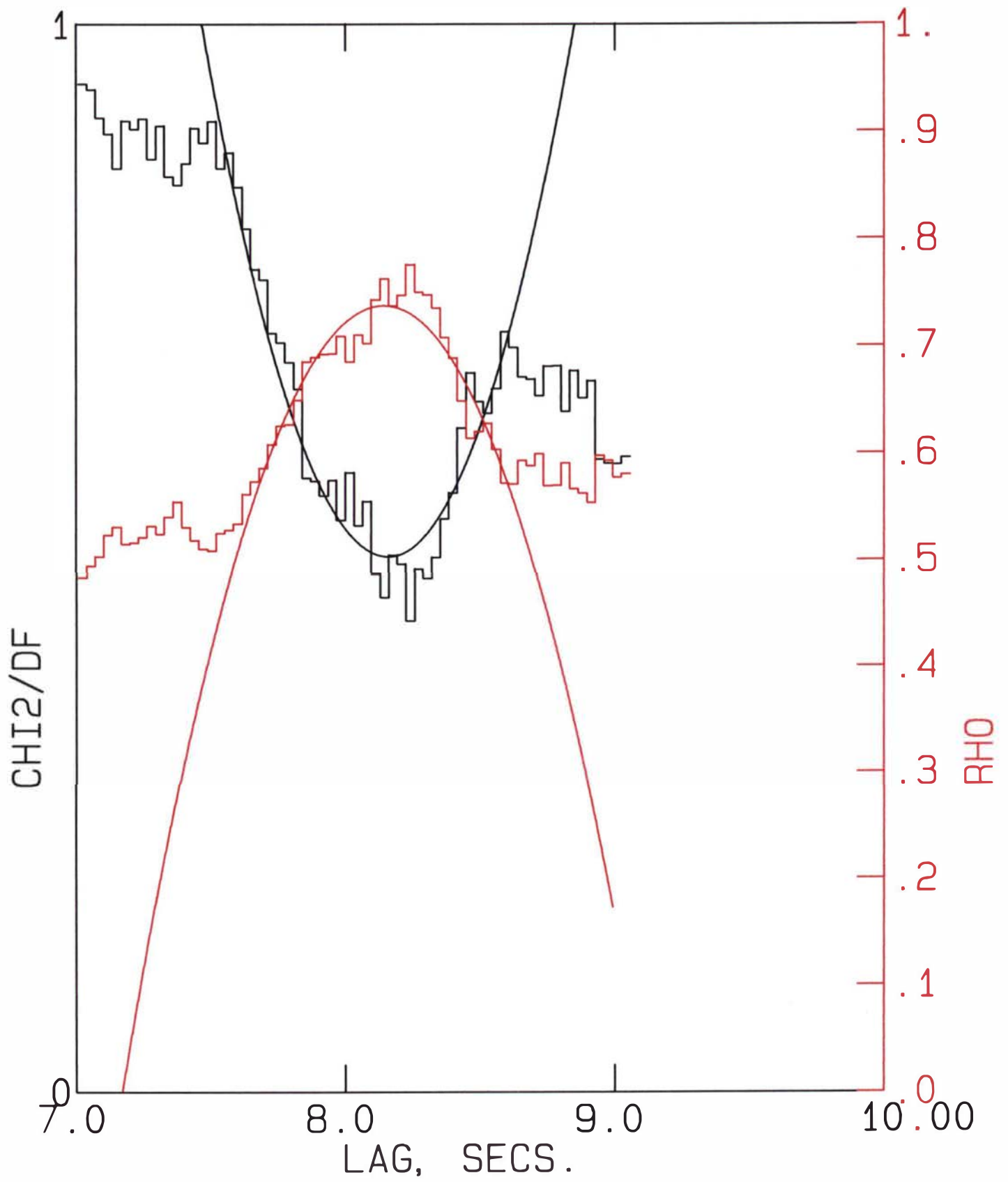
KONUS2

-BSAX-GRBM

CORRELATION

22/06/98

73302.184

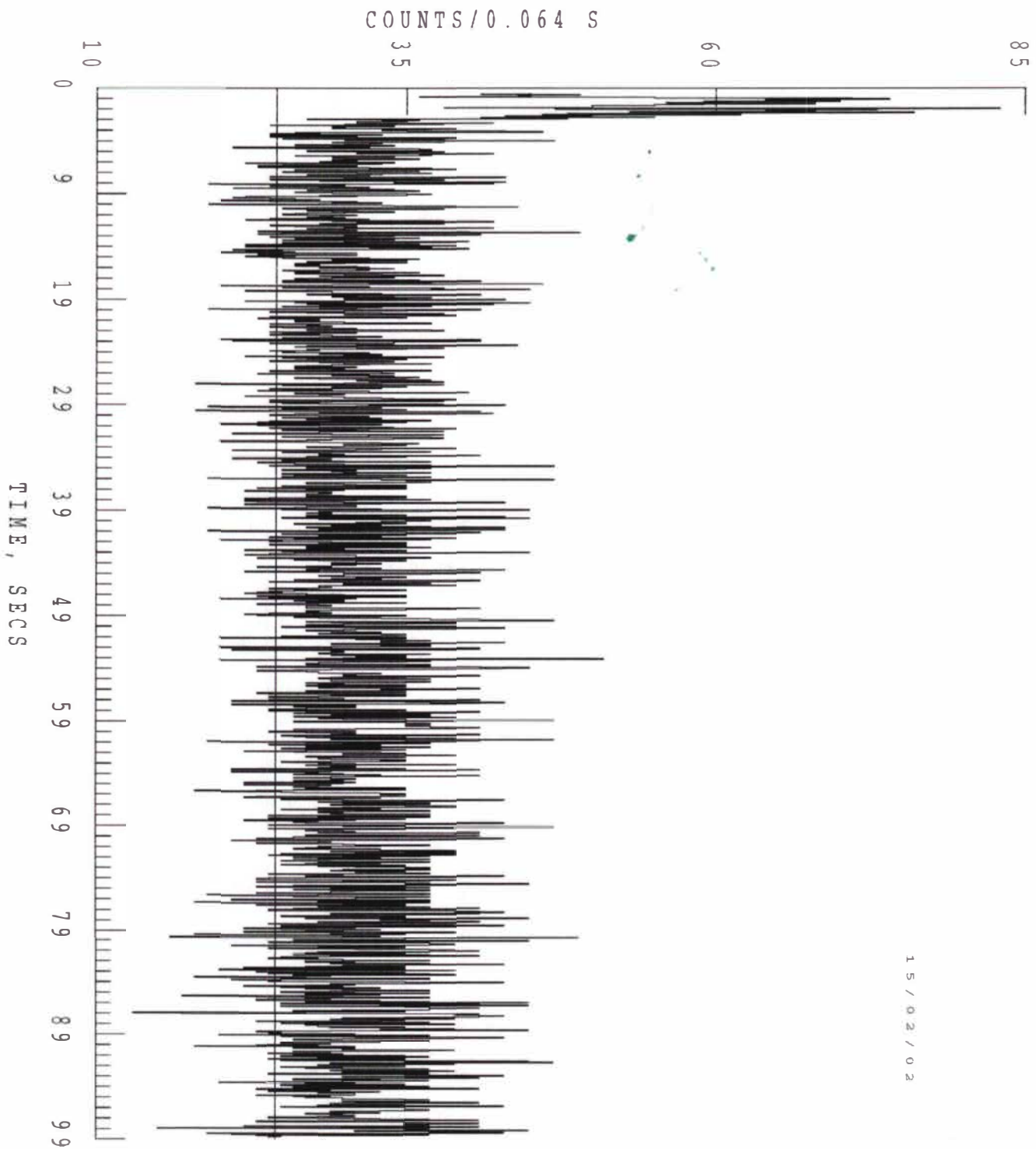


KONUS2

22/06/98

73302.184

50 - 200 keV

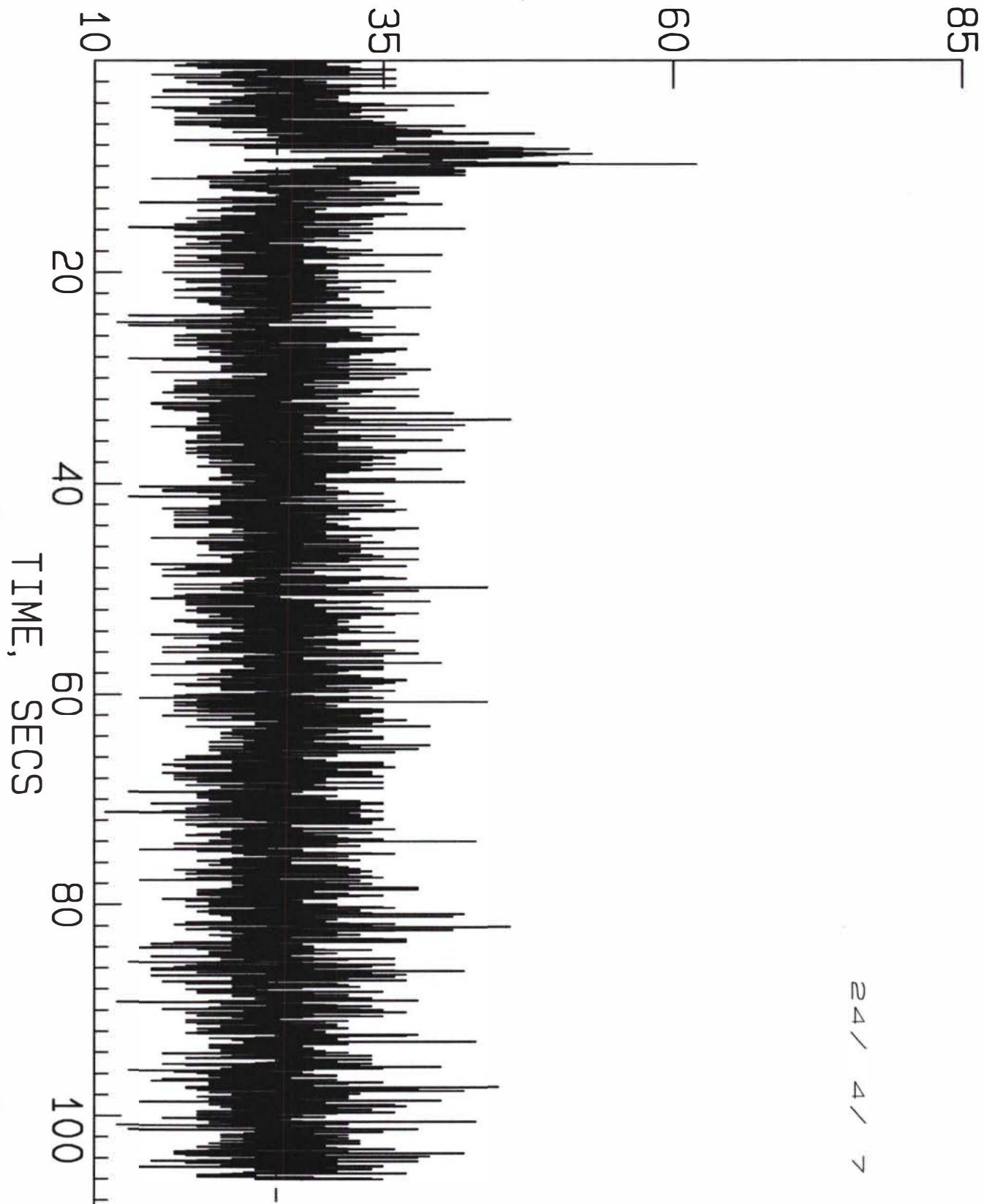


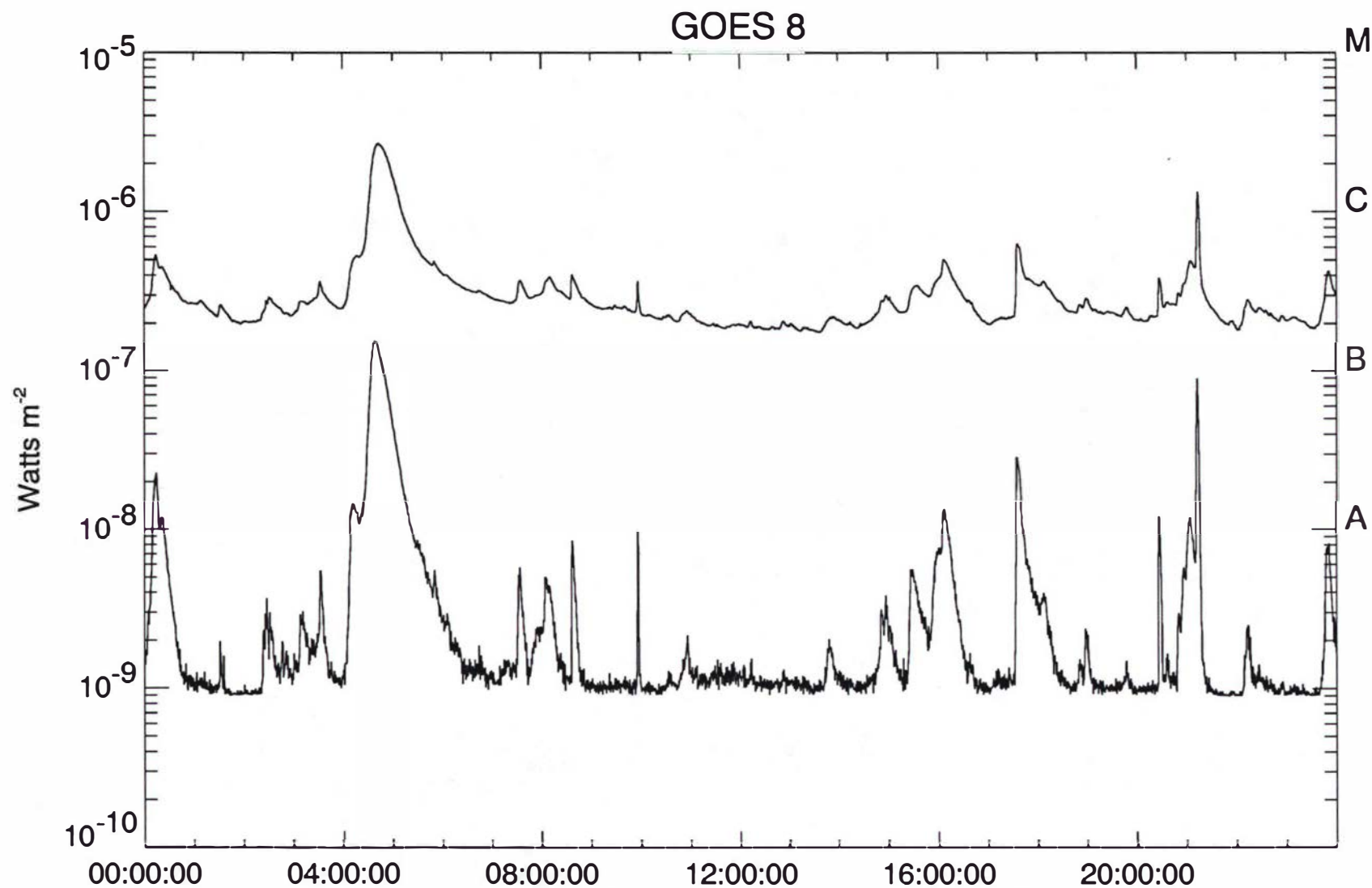
SAX GRBM

22/06/98 73291.511

40- 700 keV

COUNTS/0.031 S





Data Start: 98/06/22, 0000:00

Plot created: 98/06/26, 1007

Channel

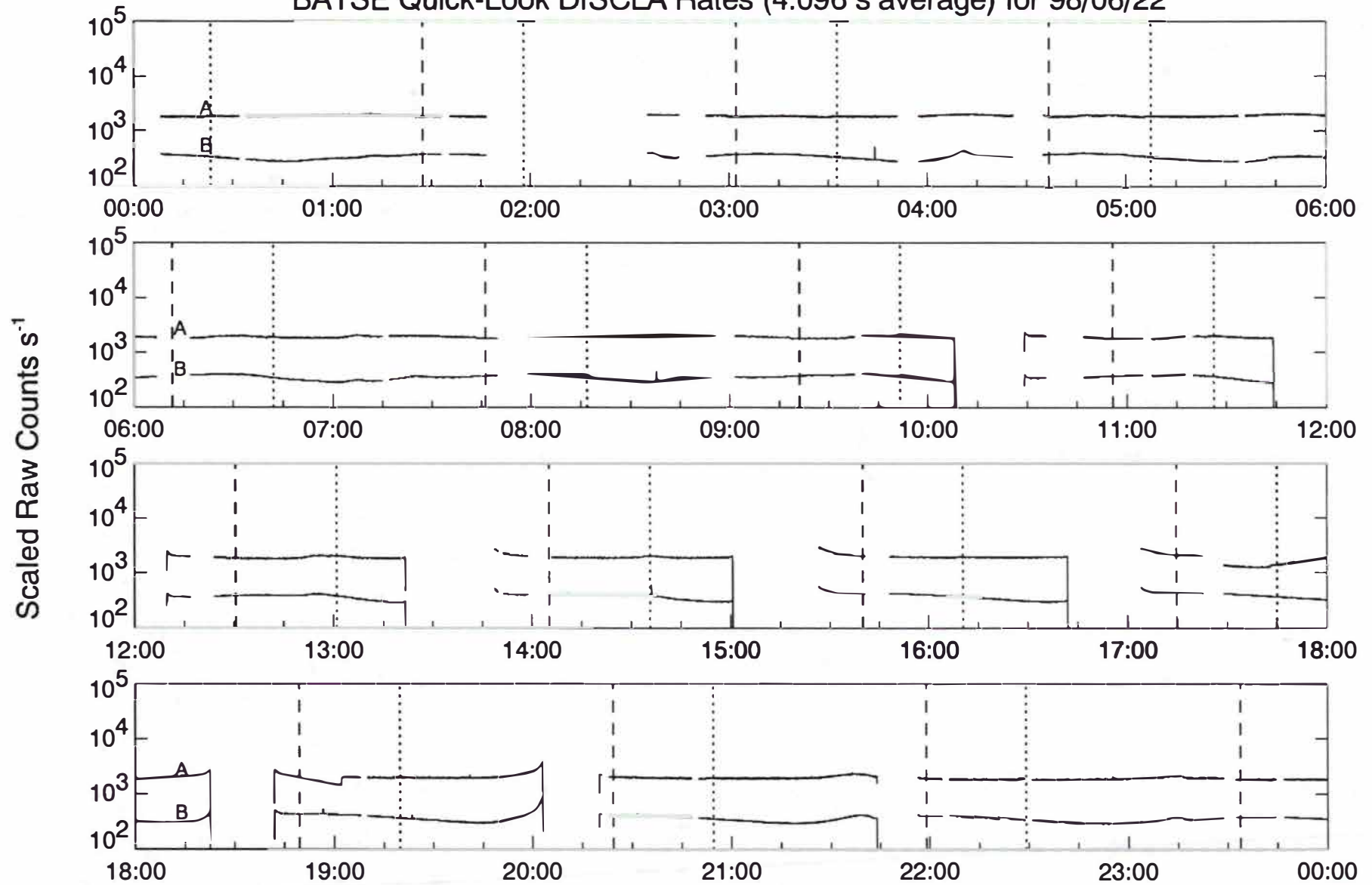
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/22

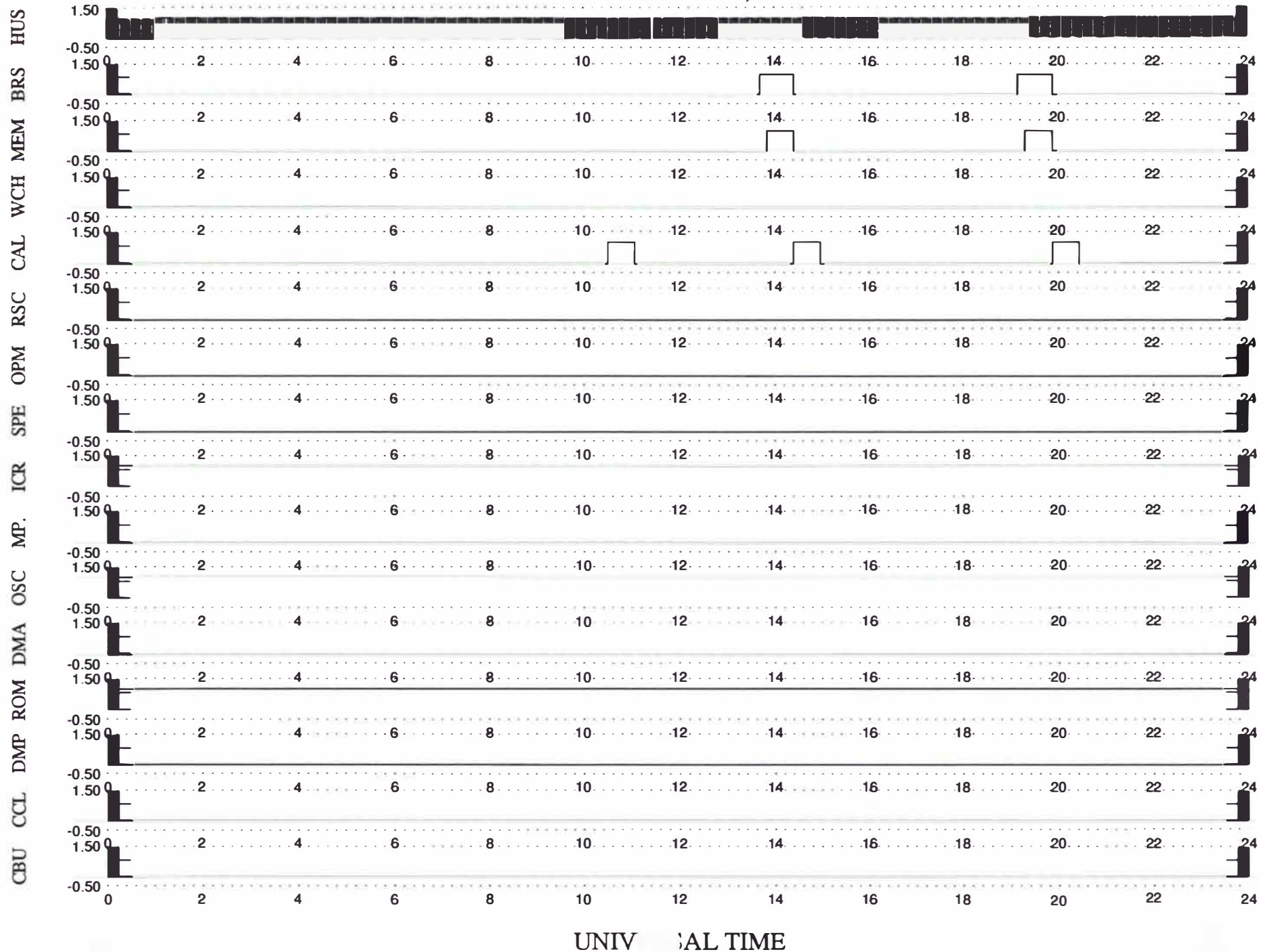


Current Time: 98/06/26, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

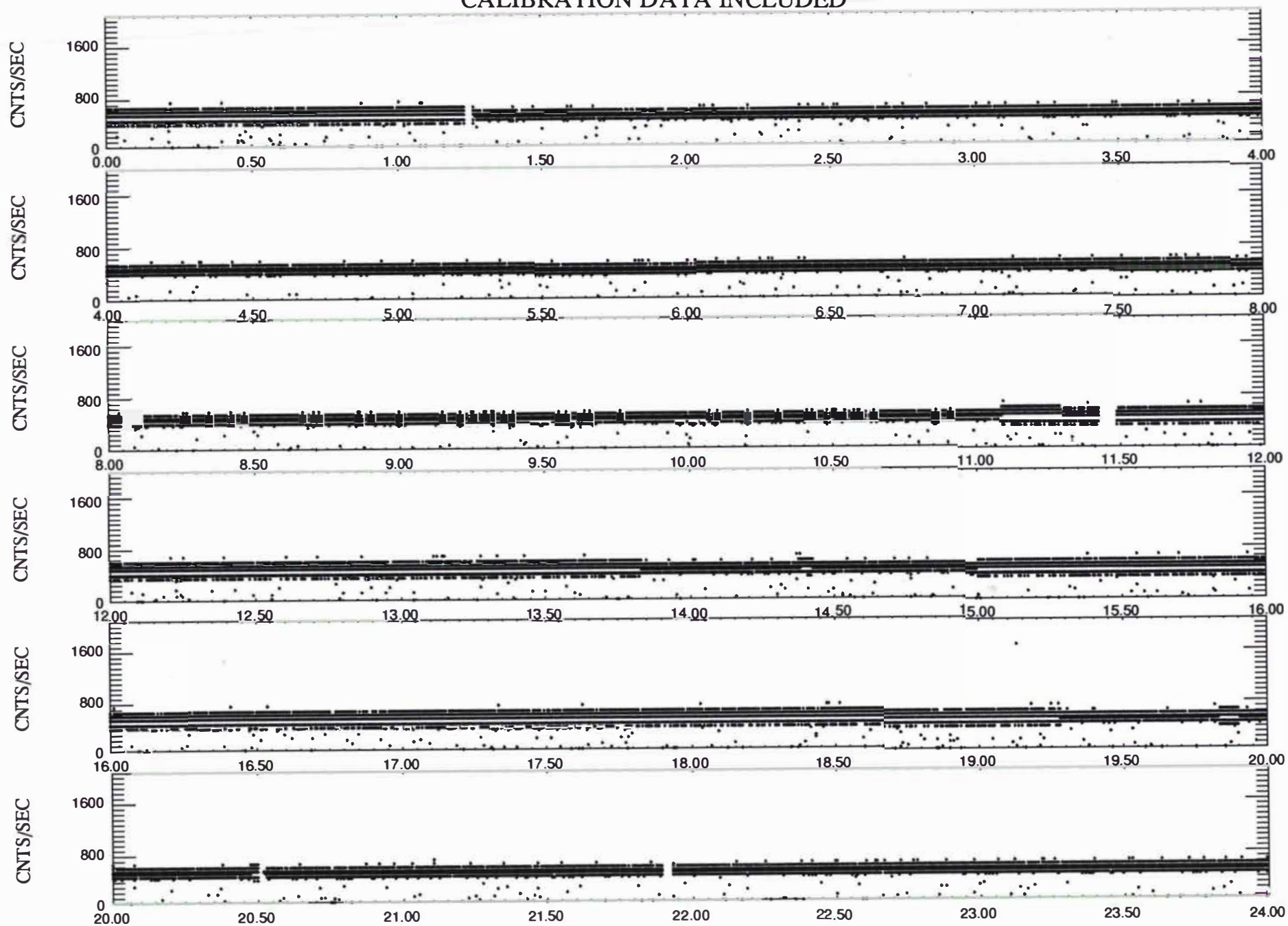
Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

BURST NUMBER 13, 14

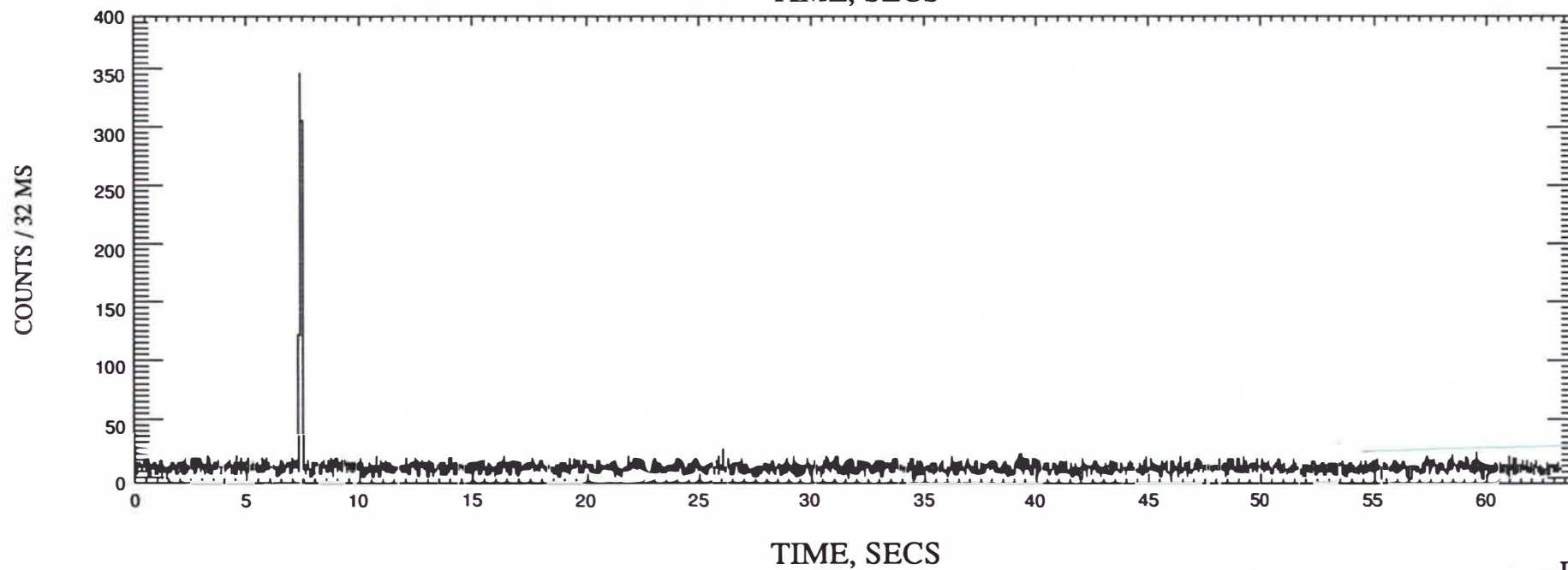
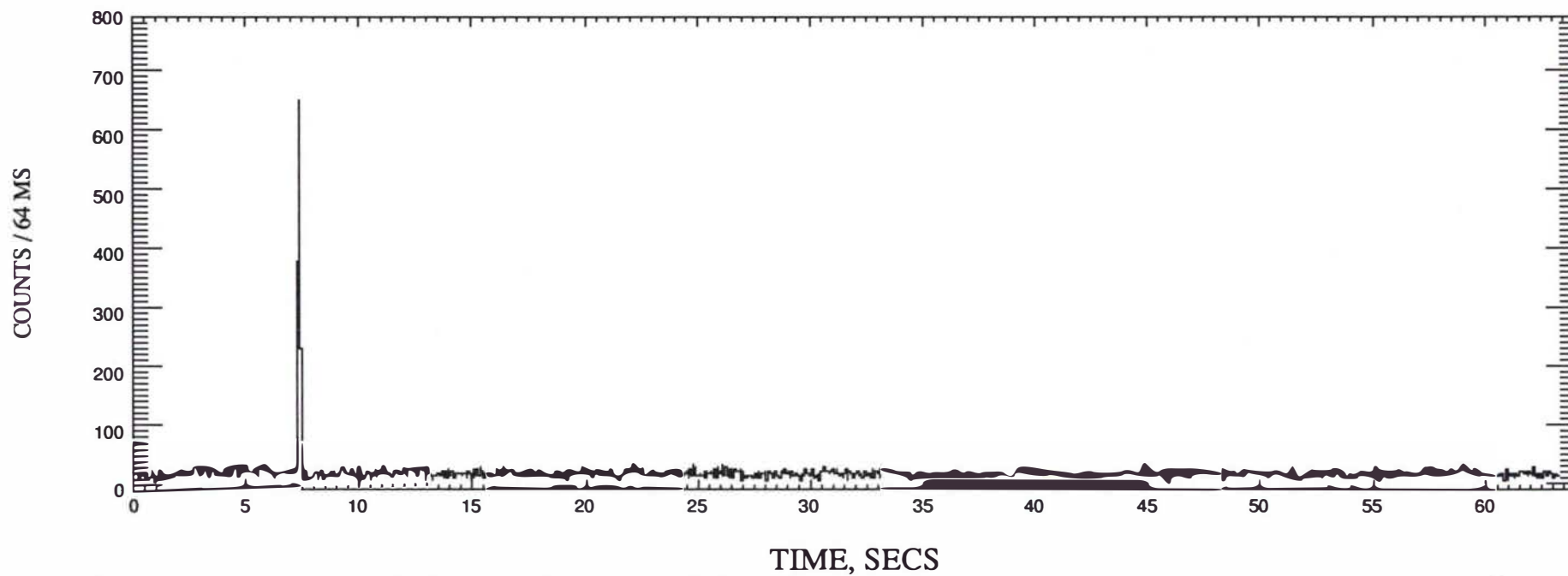


CALIBRATION DATA INCLUDED

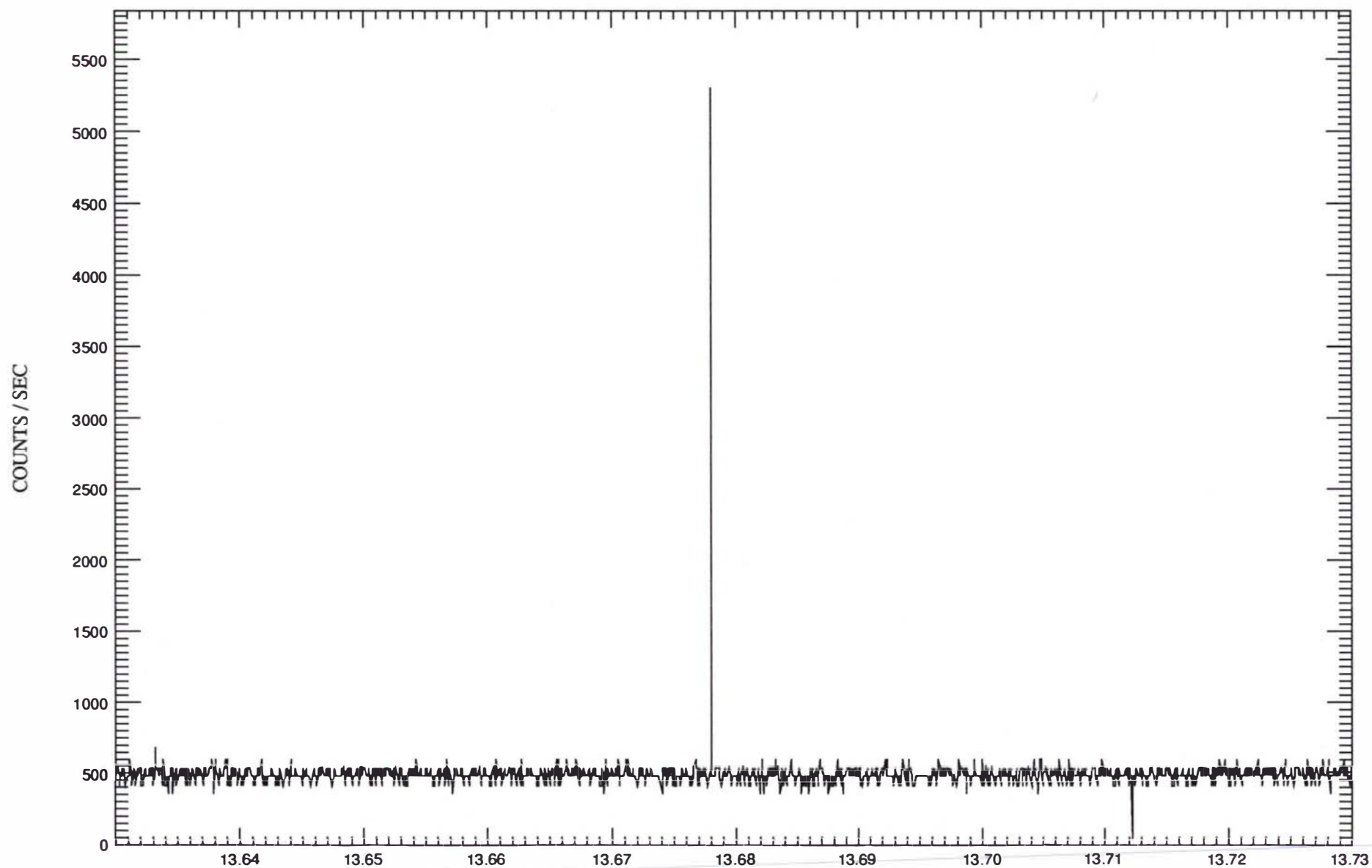


UNIVERSAL TIME

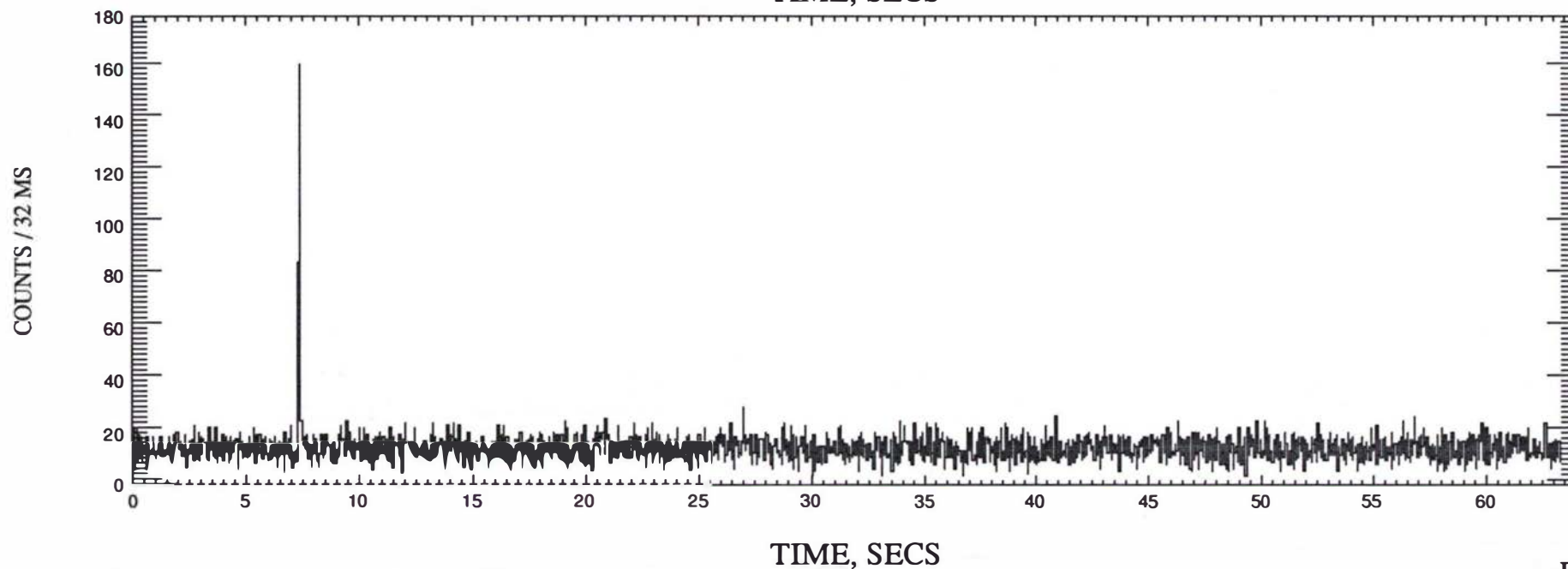
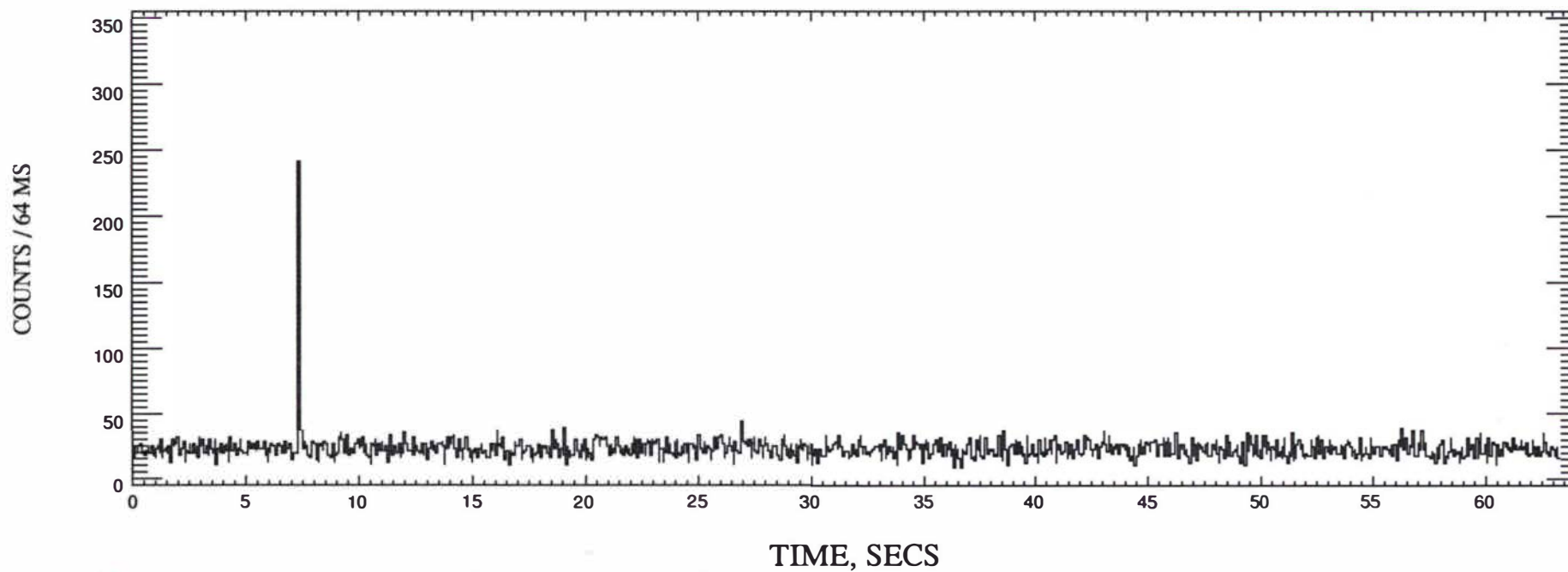
Burst Counter 13 at UT=13.678113827176 h=49241.210 s 13:40:41.210



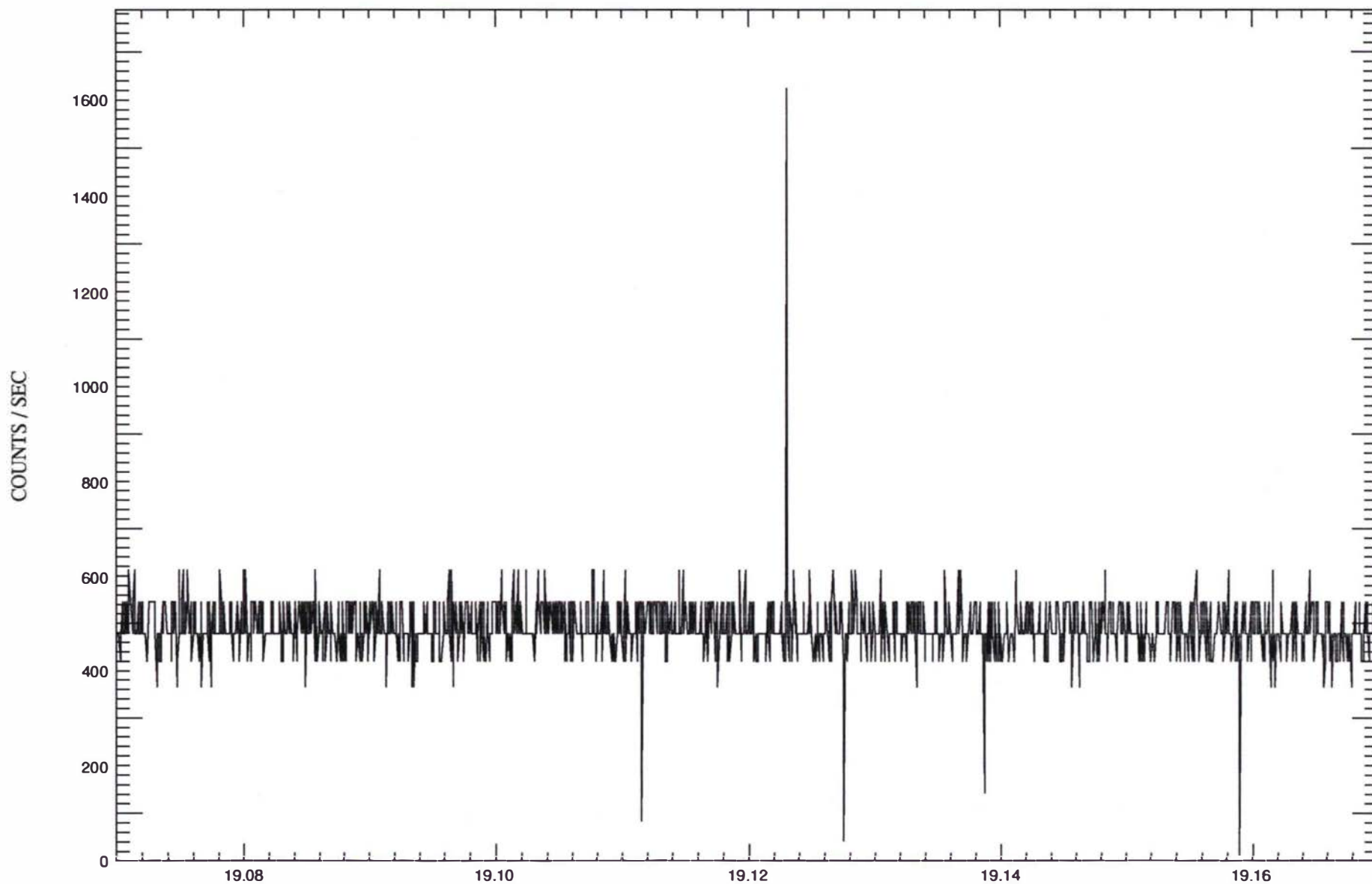
CALIBRATION DATA INCLUDED

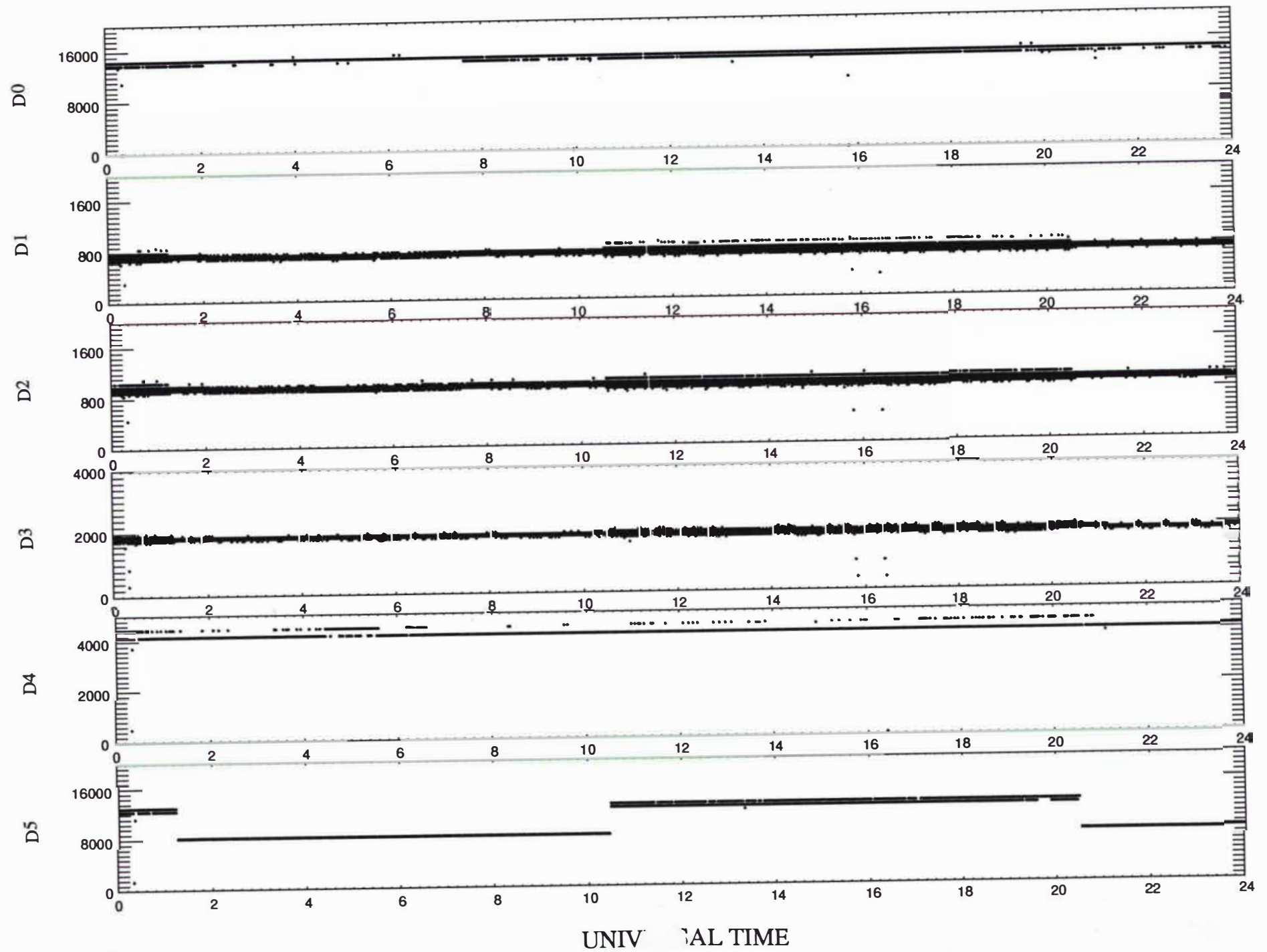


Burst Counter 14 at UT=19.123119968838 h=68843.232 s 19:07:23.232



CALIBRATION DATA INCLUDED





SAX GRBM
HUS DATA

ULYSSES RT

19 / 07 / 05

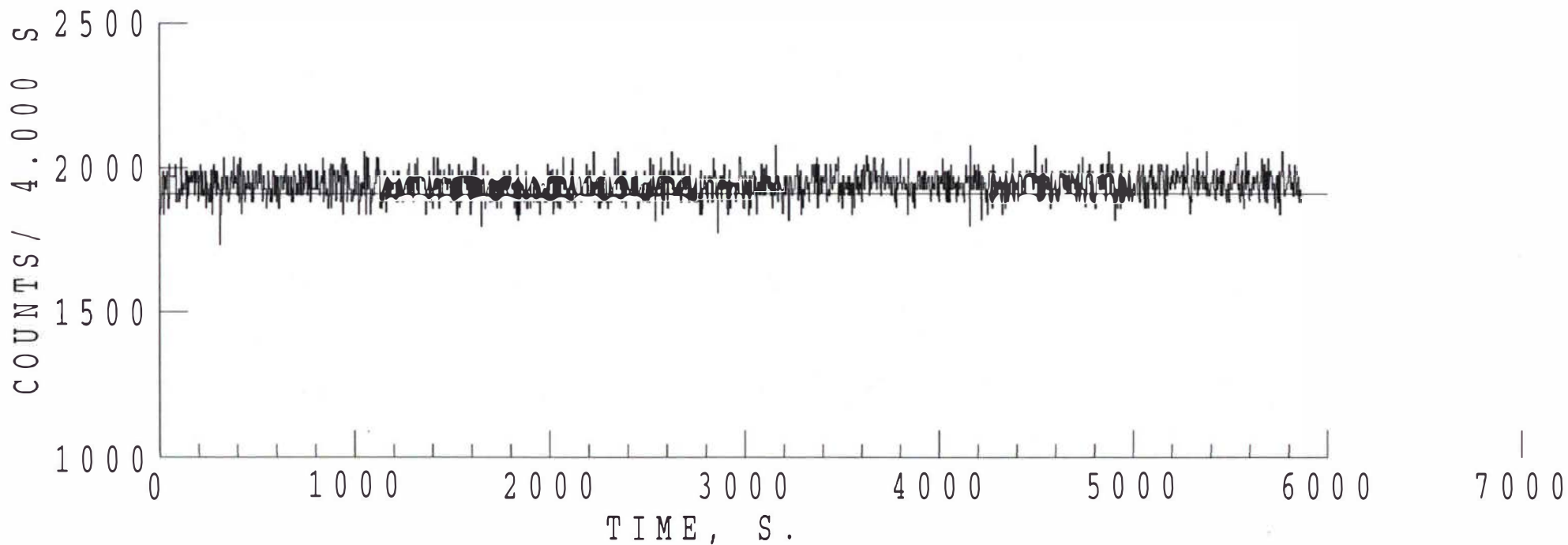
22 / 06 / 98 83772.055 s

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 SAHI@fender.msfc.nasa.gov Tue Jul 7 06:51:46 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 8:51:10 -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.: 6863

TIME: TJD=0987 SECONDS=8094 02:14:54

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=94.9 AZIMUTH=169.5 ERROR=7.04 DEGREES

COMMENTS:

SGR. WEAK SINGLE SPIKE, DUR.~0.02 S. NOT VISIBLE ABOVE 50 KEV.

No

SGR 1627

249, -47.6

June 23

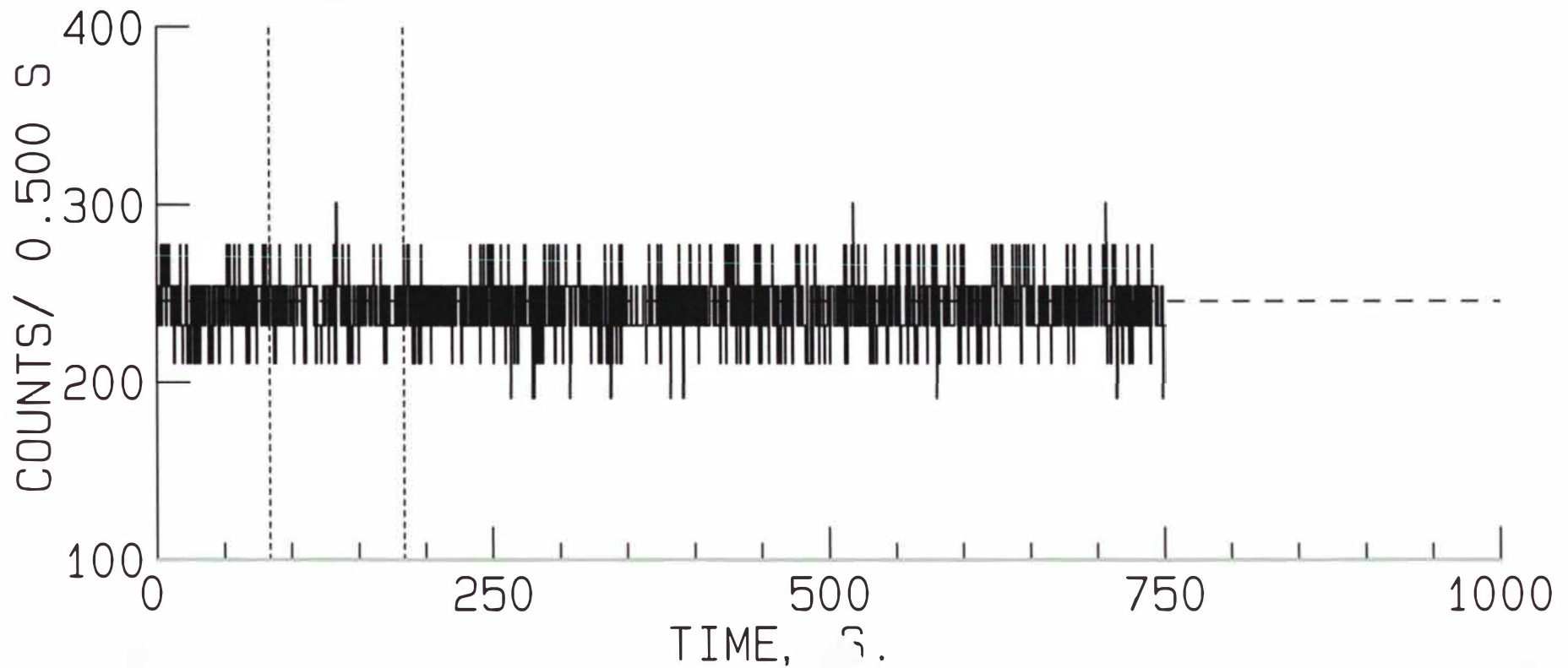
ULYSSES RT

8 / 7 / 98

23 / 6 / 98 8208.169 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

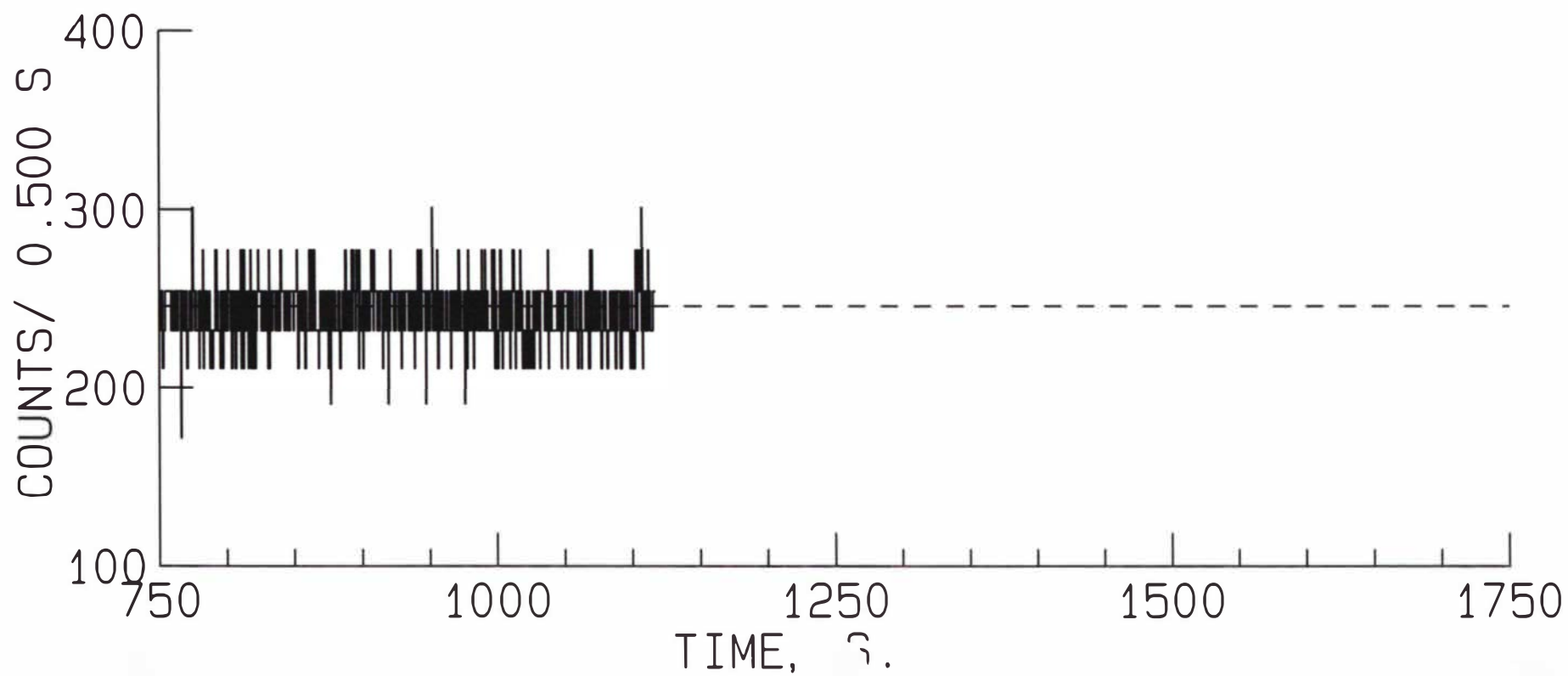


ULYSSES RT

8 / 7 / 98

23 / 6 / 98 8208.169 s

22- 148 keV



From SAHI@fender.msfc.nasa.gov Tue Jul 7 07:06:11 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:05:48 -0500 (CDT)

NO

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.: 6864

SGR 1627

TIME: TJD=0987 SECONDS=44156 12:15:56

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=90.4 AZIMUTH=153.9 ERROR=8.36 DEGREES

COMMENTS:

SGR. SINGLE SPIKE DUR.~0.025 S. NOT VISIBLE ABOVE 50 KEV.

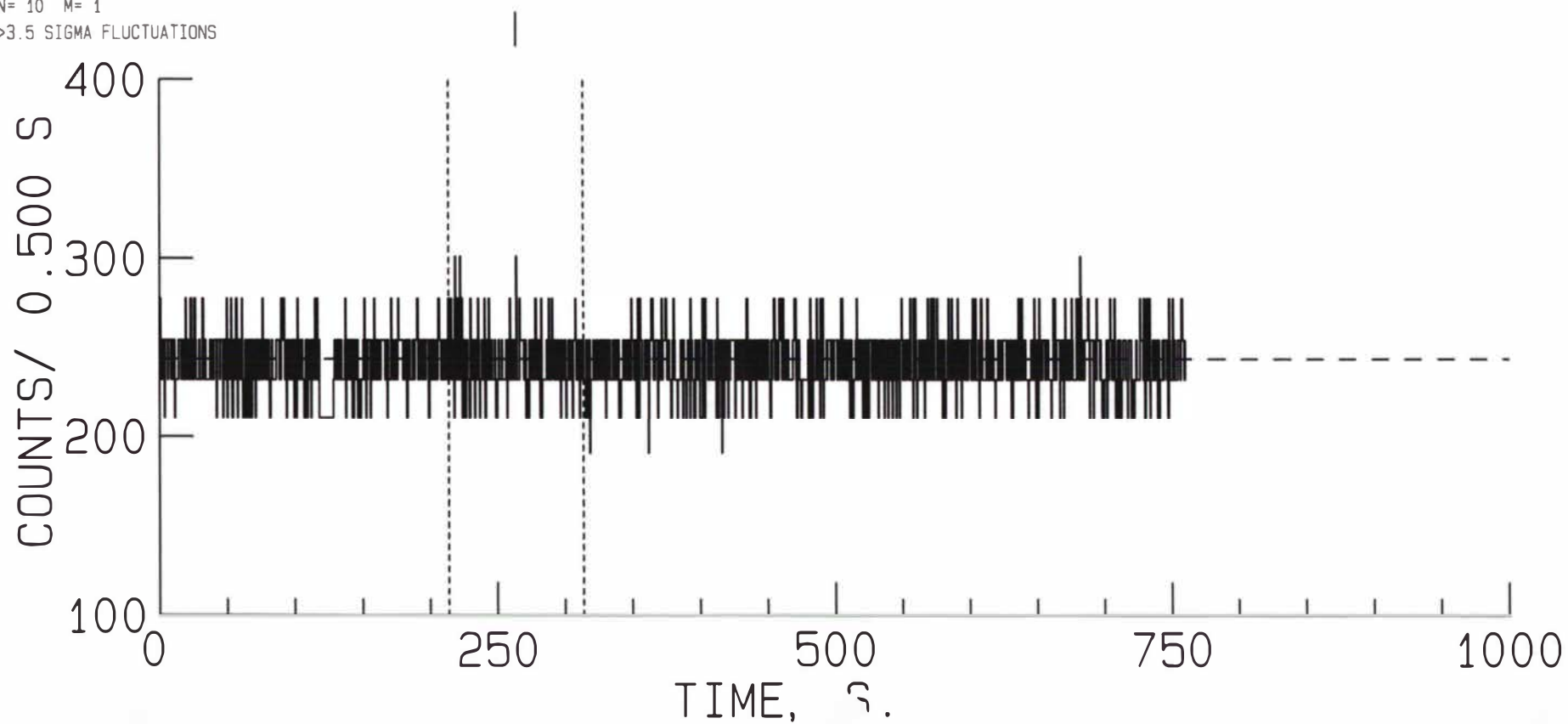
ULYSSES RT

8 / 7 / 98

23 / 6 / 98 44280.050 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

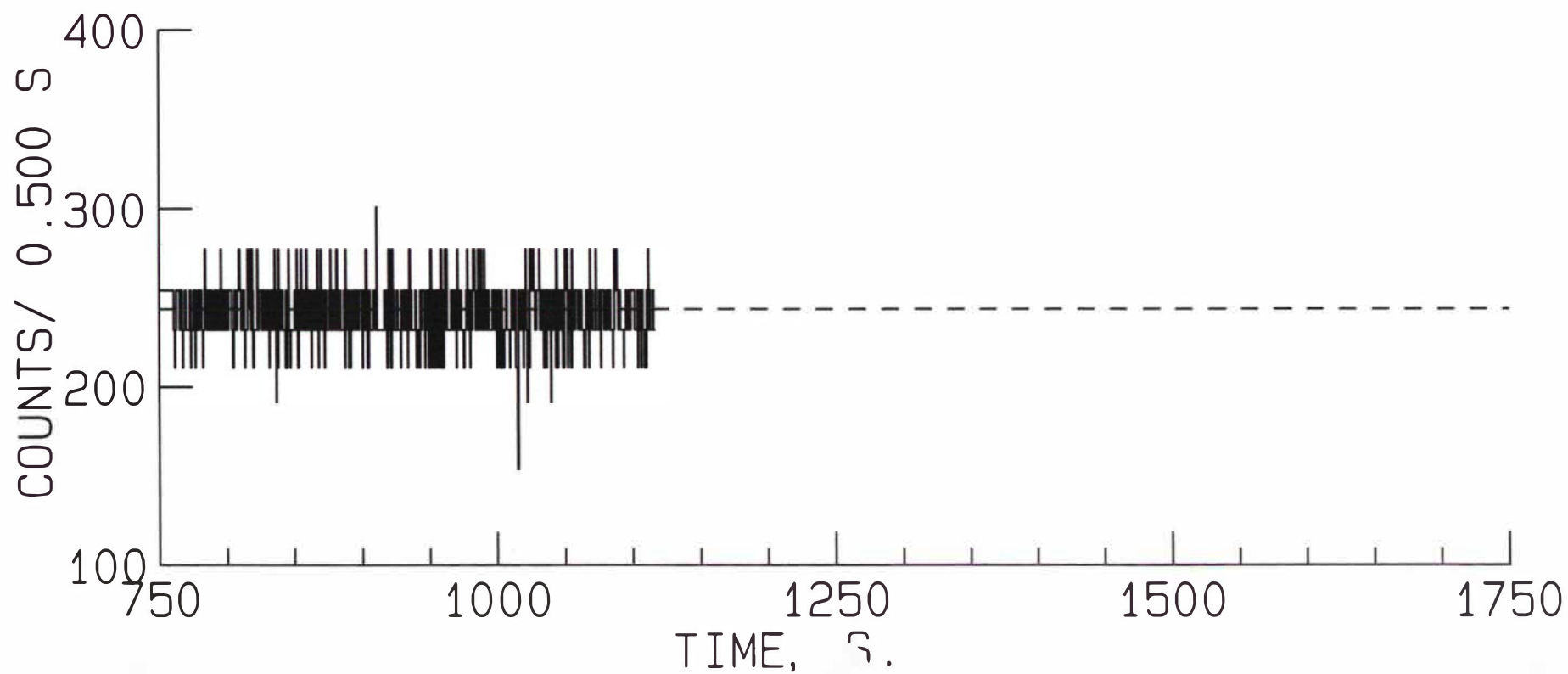


ULYSSES RT

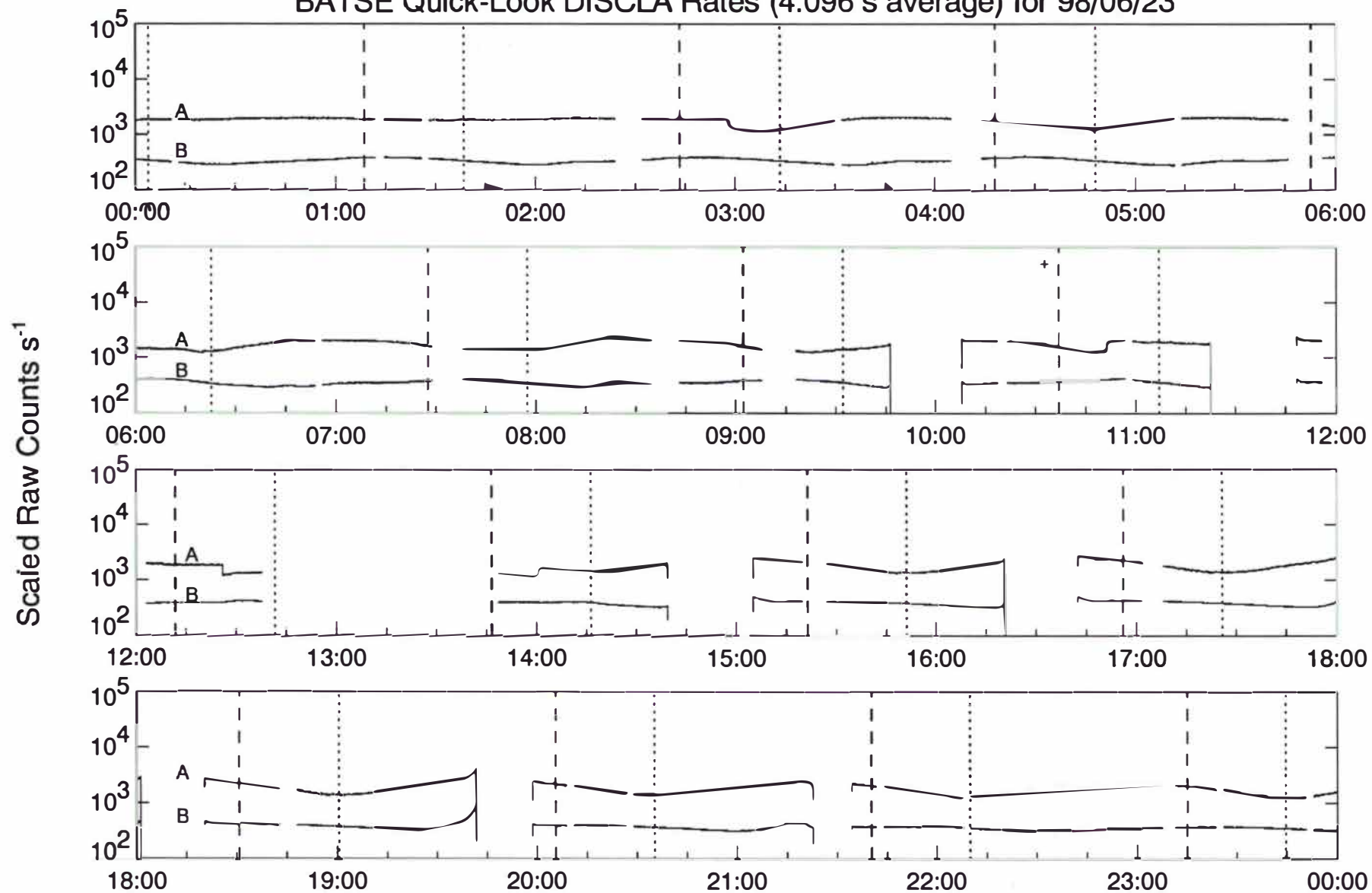
8 / 7 / 98

23 / 6 / 98 44280.050 s

22- 148 keV



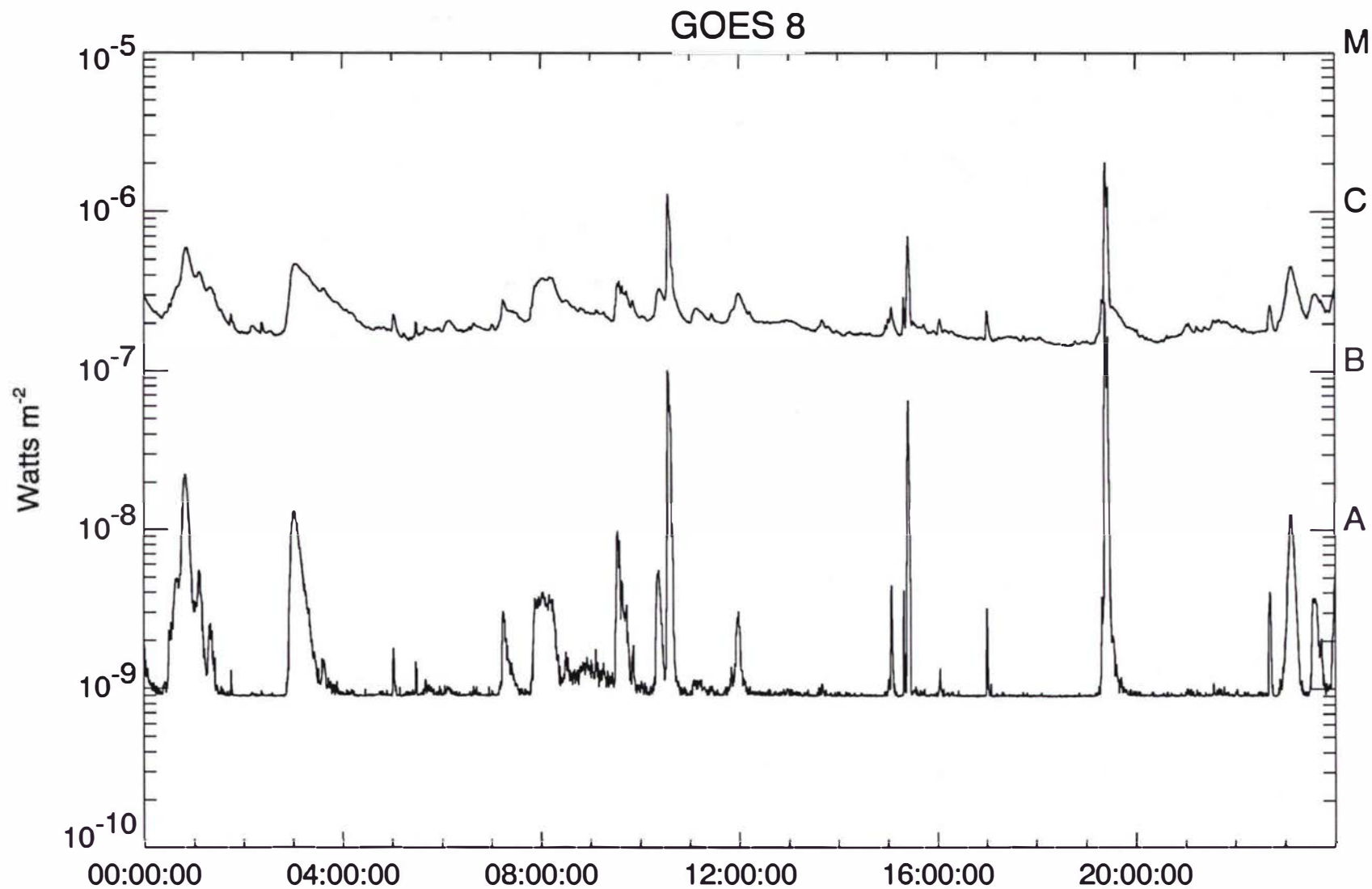
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/23



Current Time: 98/06/27, 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: 98/06/23, 0000:00

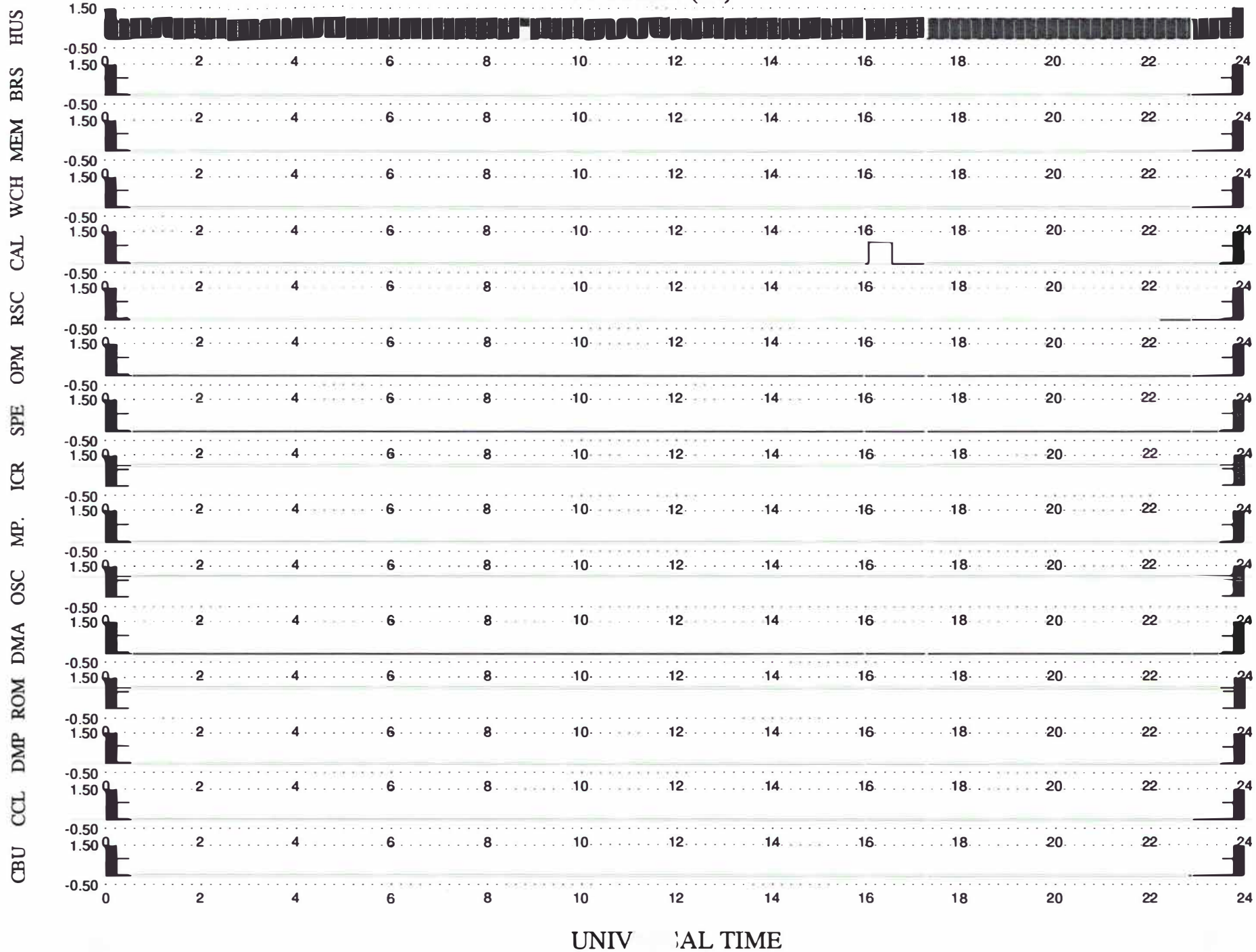
Plot created: 98/06/27, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

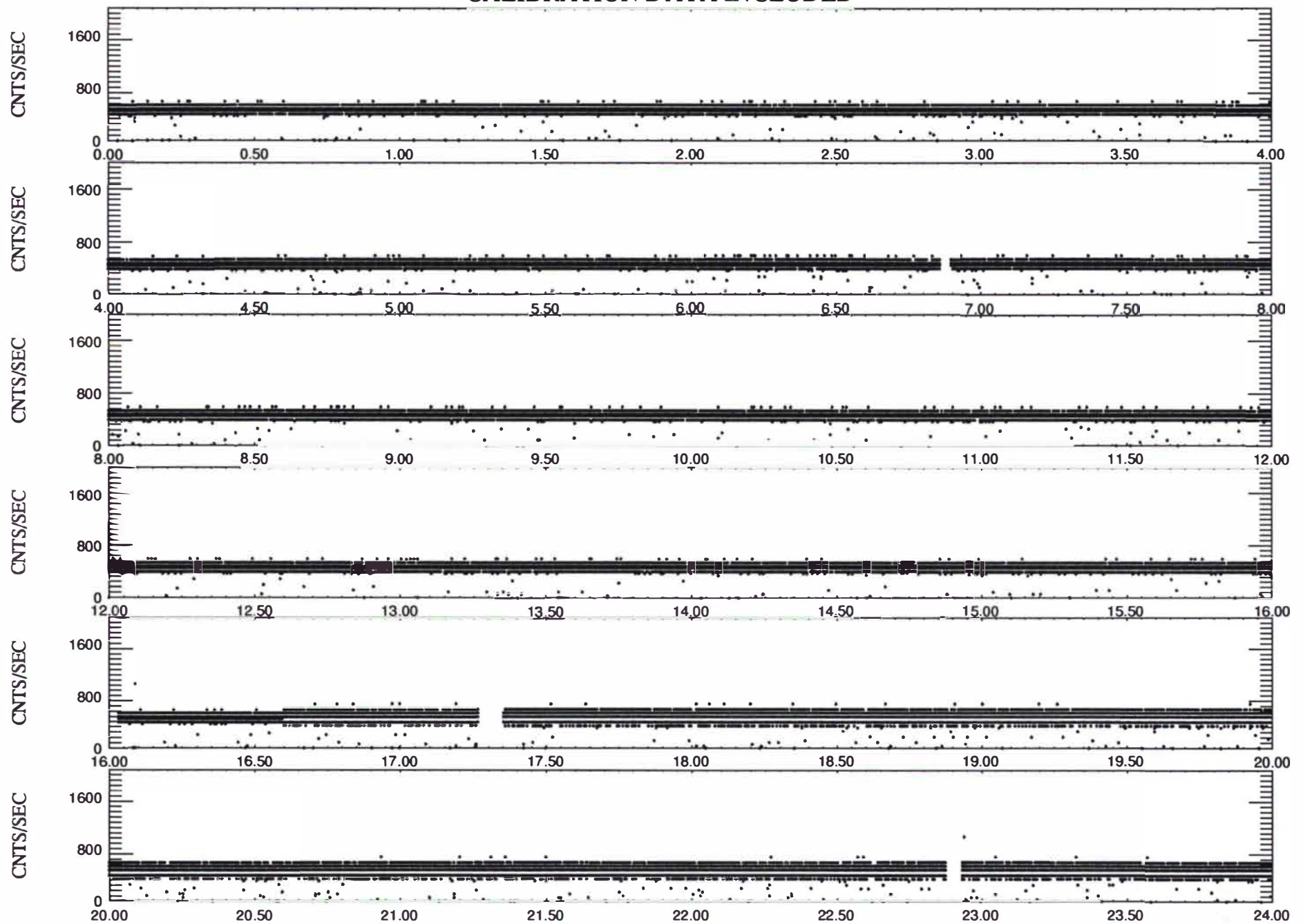
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

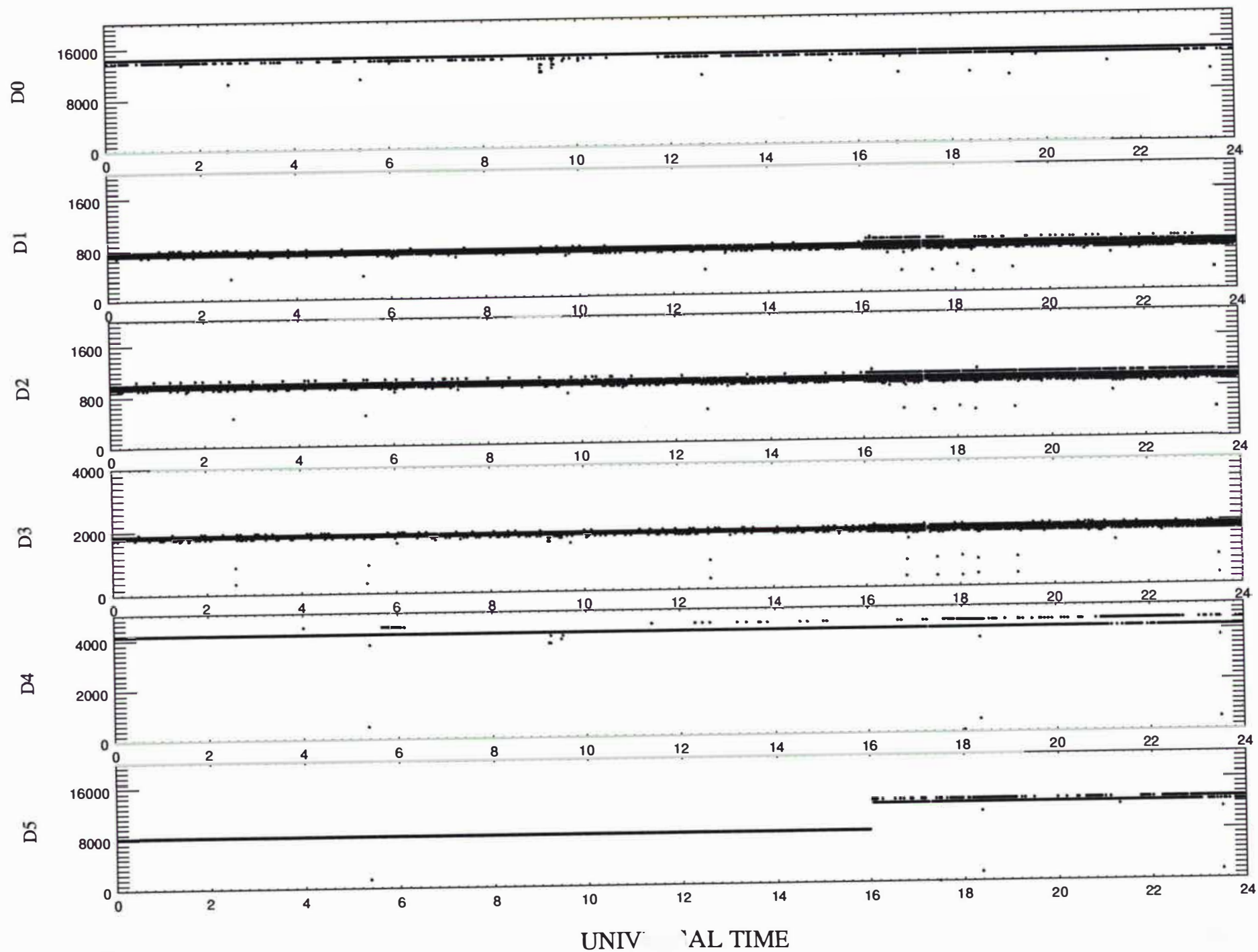
NO BURST (14)



CALIBRATION DATA INCLUDED



UNIV AL TIME



From SAHI@fender.msfc.nasa.gov Tue Jul 7 07:11:51 1998

No

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:11:18 -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.: 6865

June 24

SGR 1627

TIME: TJD=0988 SECONDS=15644 04:20:44

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=71.3 AZIMUTH=184.1 ERROR=5.42 DEGREES

COMMENTS:

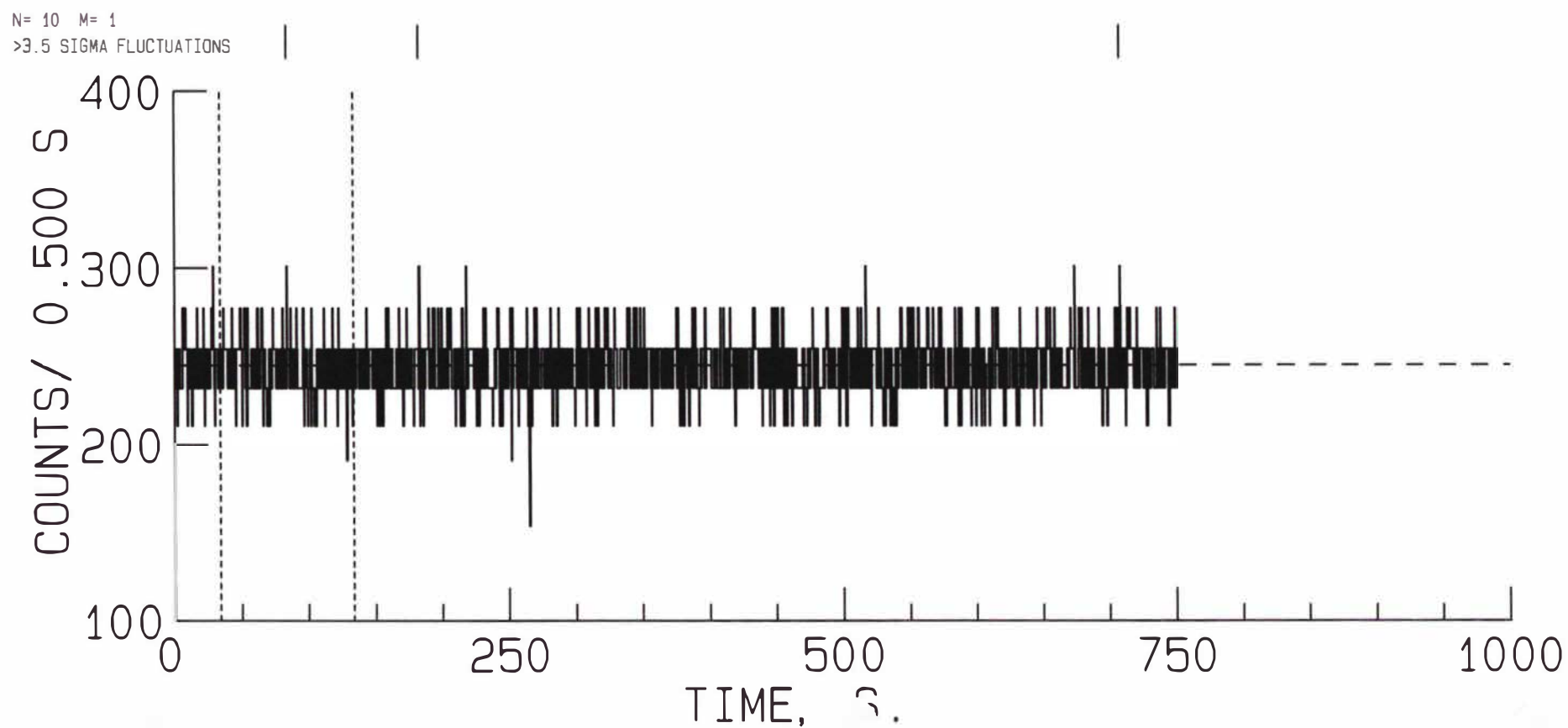
SGR. SINGLE SPIKE, DUR.~0.12 S. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

8 / 7 / 98

24 / 6 / 98 15768.170 s

22- 148 keV

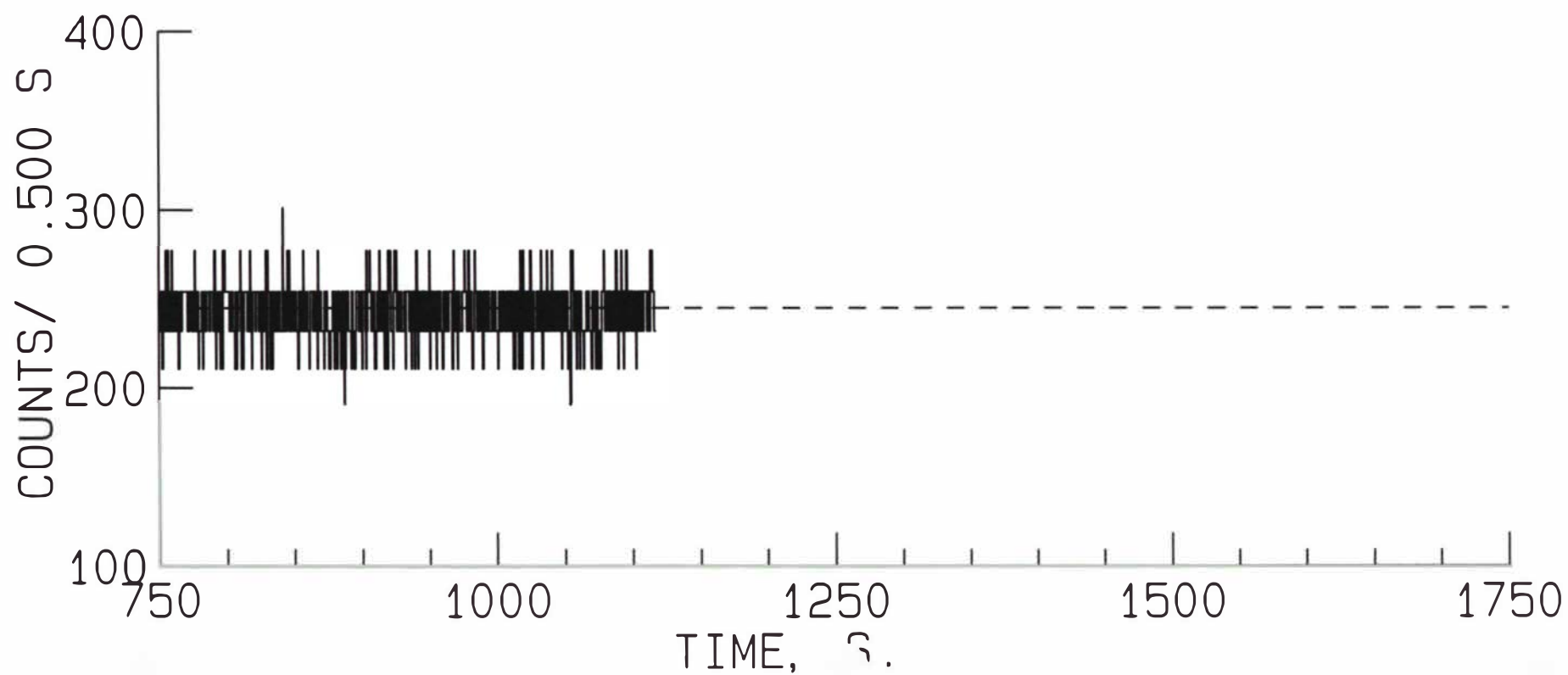


ULYSSES RT

8 / 7 / 98

24 / 6 / 98 15768.170 s

22- 148 keV



From SAHI@fender.msfc.nasa.gov Tue Jul 7 13:17:05 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01371; Tue, 7 Jul 1998 13:17:04 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA20797; Tue, 7 Jul 1998 13:17:02 -0700
Date: Tue, 7 Jul 1998 15:17:03 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980707151703.20205236@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6866
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6866
EVENT OF 1998 JUN 24 DAY OF YEAR=175
EVENT CROSSING TIME AT BATSE : 36165. S. OR 10:02:45.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 175.000 -39.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 24/ 6/ 98 IS:
RA= 150.309 DEC= 9.881 DIST= 5.896 AU
BATSE-ULYSSES DISTANCE = 882108284. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=125.99 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1729.02 SECS.
CROSSING TIME AT ULYSSES IS 34436. S. OR 09:33:55 +/- 437.09 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 24/ 6/ 98 IS:
RA= 80.794 DEC= 23.645 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376739424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 382.79 SECS.
CROSSING TIME AT MARS IS 36548. S. OR 10:09:07 +/- 213.62 SECONDS

BATSE BURST TRIGGER

NO.: 6886

TIME: TJD=0993 SECONDS=5641

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=173.6 AZIMUTH=177.4 ERROR=2.58 DEGREES

COMMENTS:

GRB. SINGLE PUSLE WITH SUBSTRUCTURE, DUR. APPROX. 50 SECS, MAX. AT T+11 SECS.
STARTS AT T-2.5 SECS. VISIBLE ABOVE 300 KEV. CYGX-1 SET AT T-30 SECS.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6866	980624	10988	36165	5000	175	-39	.5

BATSE BURST# 6866

ULYSSES RT

7 / 7 / 98

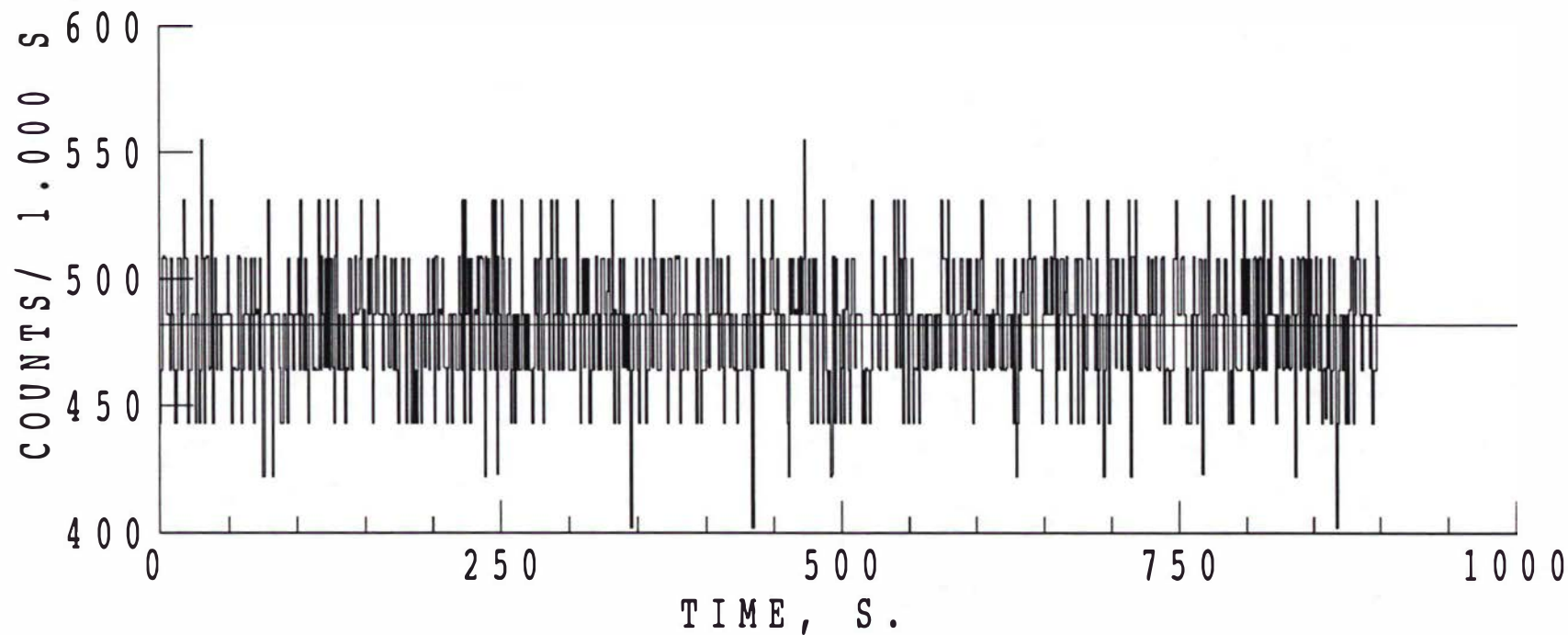
24 / 6 / 98 33984.363 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

M= 10 M=10
>4.0 SIGMA FLUCTUATIONS

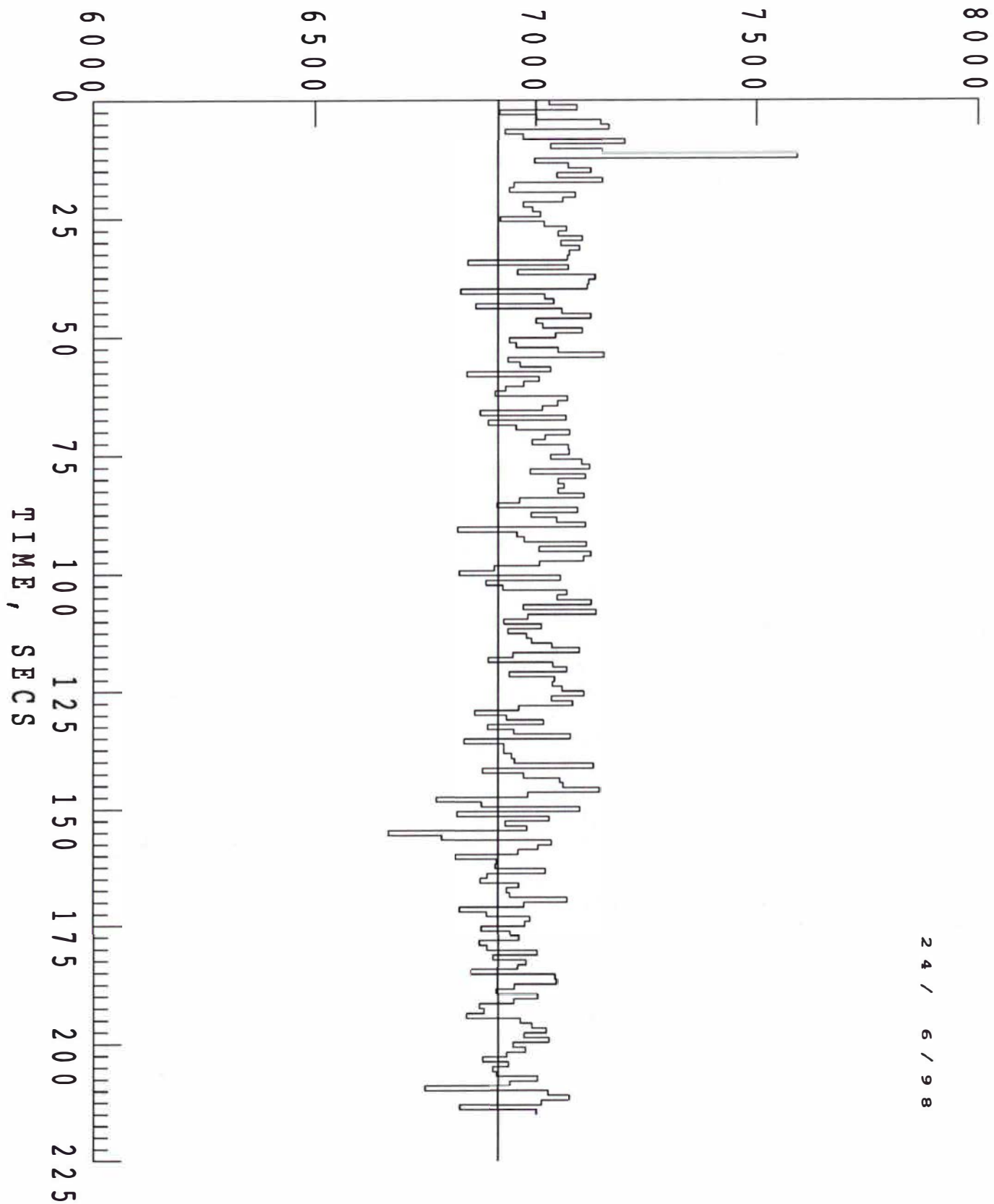
M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 6866 24/06/98 36154.081

25 - 100 keV

COUNTS/1.024 S



From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:51:14 1998
 Return-Path: <SAHI@fender.msfc.nasa.gov>
 Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id GAA05740; Wed, 8 Jul 1998 06:51:13 -0700
 From: SAHI@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id GAA25392; Wed, 8 Jul 1998 06:51:12 -0700
 Date: Wed, 8 Jul 1998 8:51:12 -0500 (CDT)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <980708085112.20207d2b@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 6867
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 6867
 EVENT OF 1998 JUN 24 DAY OF YEAR=175
 EVENT CROSSING TIME AT BATSE : 43103. S. OR 11:58:23.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 185.000 10.000
 BATSE PEAK COUNTING RATE: 800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 24/ 6/ 98 IS:
 RA= 150.316 DEC= 9.876 DIST= 5.898 AU
 BATSE-ULYSSES DISTANCE = 882270500. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=145.85 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2435.54 SECS.
 CROSSING TIME AT ULYSSES IS 40667. S. OR 11:17:47 +/- 299.82 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 24/ 6/ 98 IS:
 RA= 80.794 DEC= 23.645 DIST= 2.518 AU
 MARS-BATSE DISTANCE = 376739424. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.27 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 190.70 SECS.
 CROSSING TIME AT MARS IS 43294. S. OR 12:01:33 +/- 218.55 SECONDS

BATSE BURST TRIGGER

NO.: 6867

TIME: TJD=0988 SECONDS=43103

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=74.8 AZIMUTH=268.8 ERROR=6.9 DEGREES

COMMENTS:

GRB. SINGLE SPIKE DUR. APPROX. 0.8 SECS. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6867	980624	10988	43103	800	185	+10	.8

BATSE BURST# 6867

ULYSSES RT

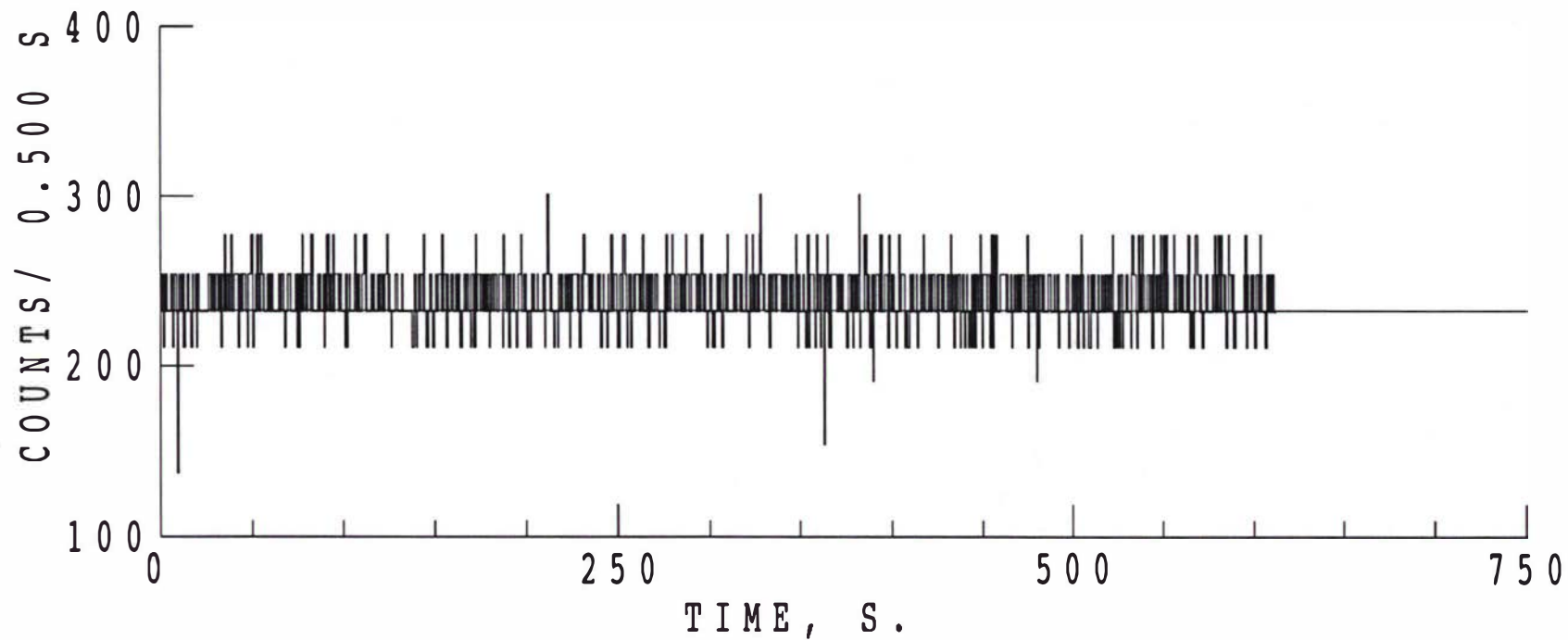
8 / 7 / 98

24 / 6 / 98 40356.430 s

0 - 0 keV

M= 10 M=10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Oct 28 '09

BURST TRIANGULATION CHECKLIST

I. Ulysses Data *N/A*

- ☒ 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

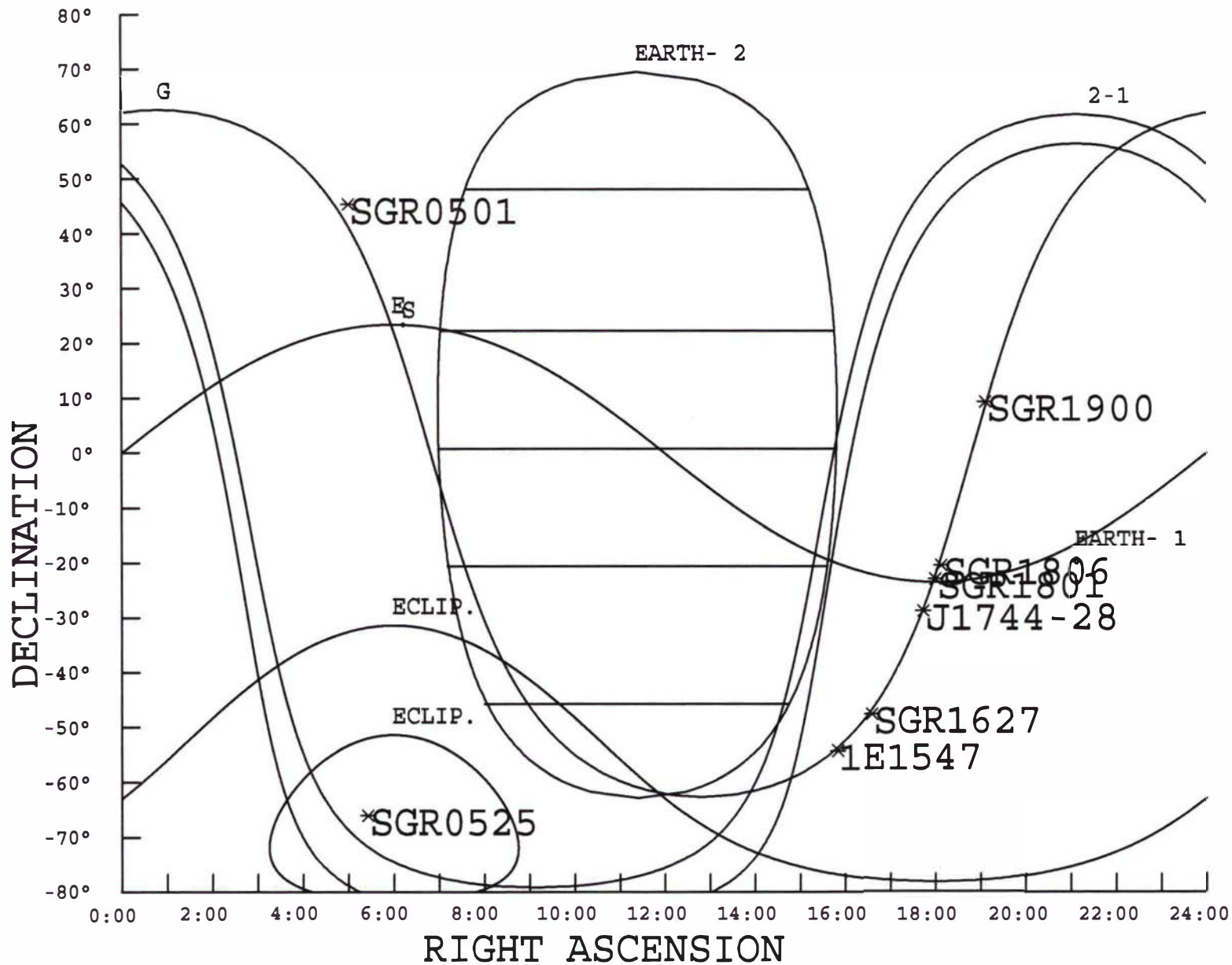
- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

-
- ☒ ACCESS and MBL4 databases updated?

EVENT OF JUN 24, 1998 16:07

28/10/ 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 KONUS1 2 SAX



KONUS1

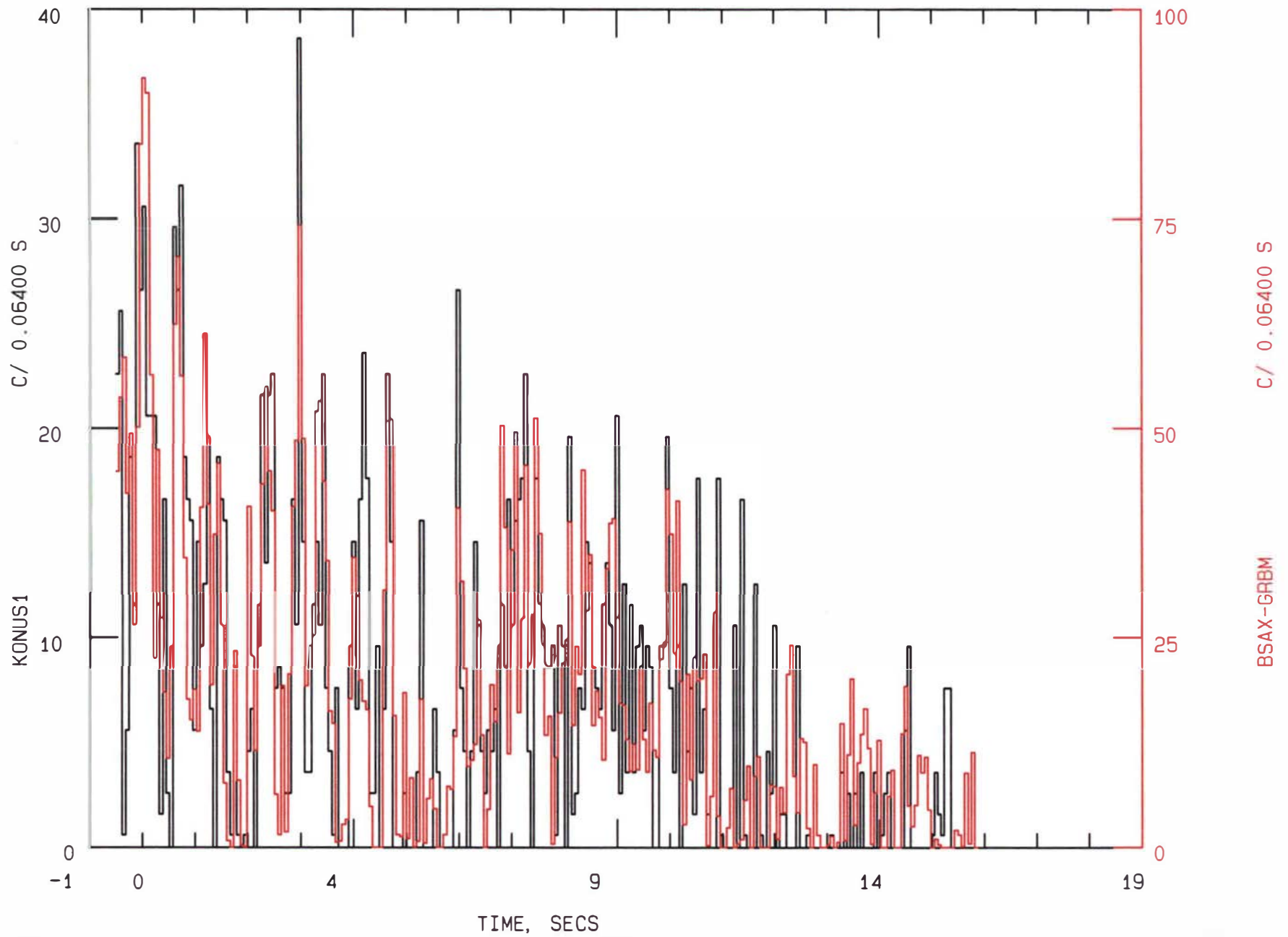
-BSAX-GRBM

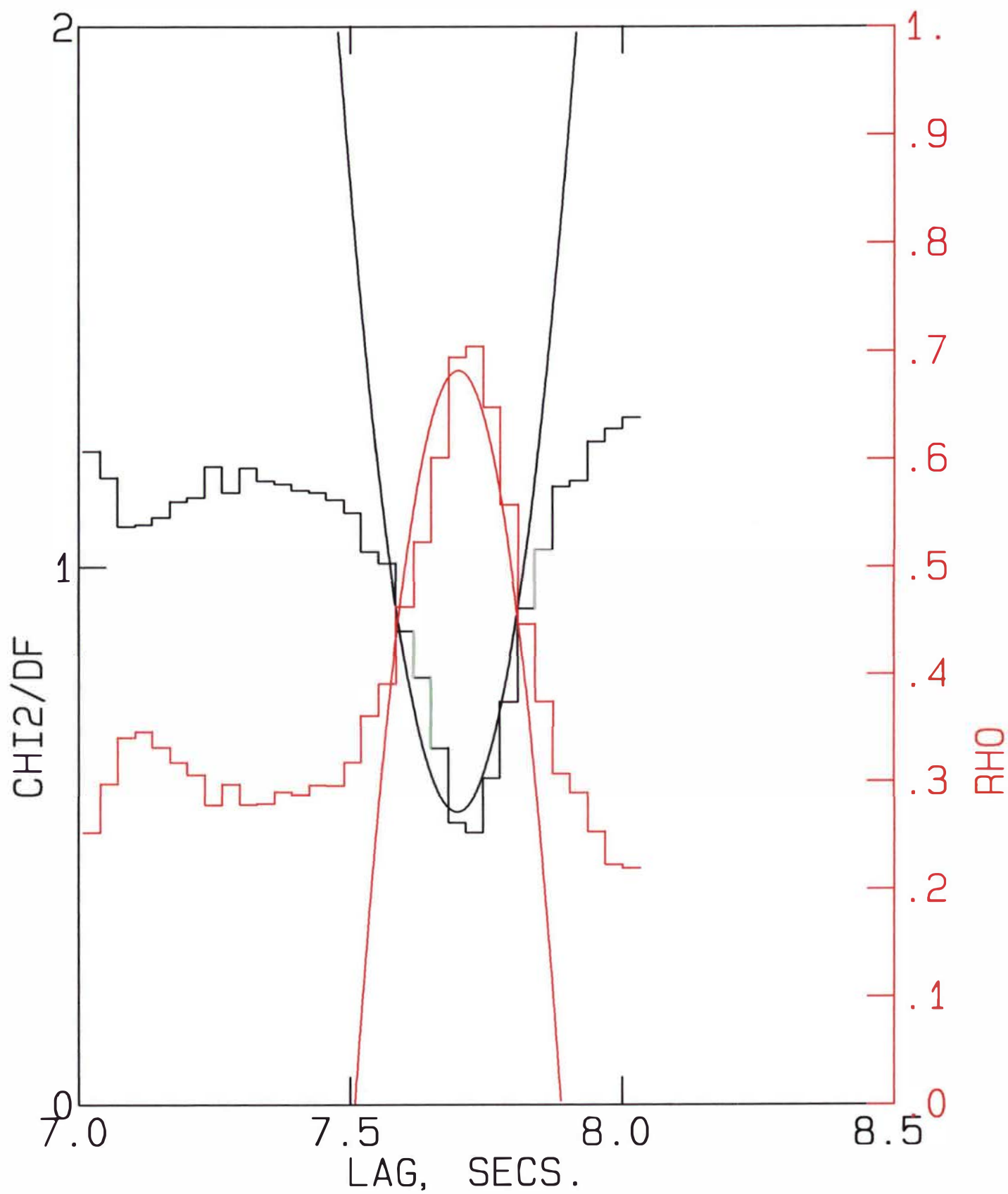
CORRELATION

24/06/98

58074.800

28/10/ 9





KONUS1

24/06/98

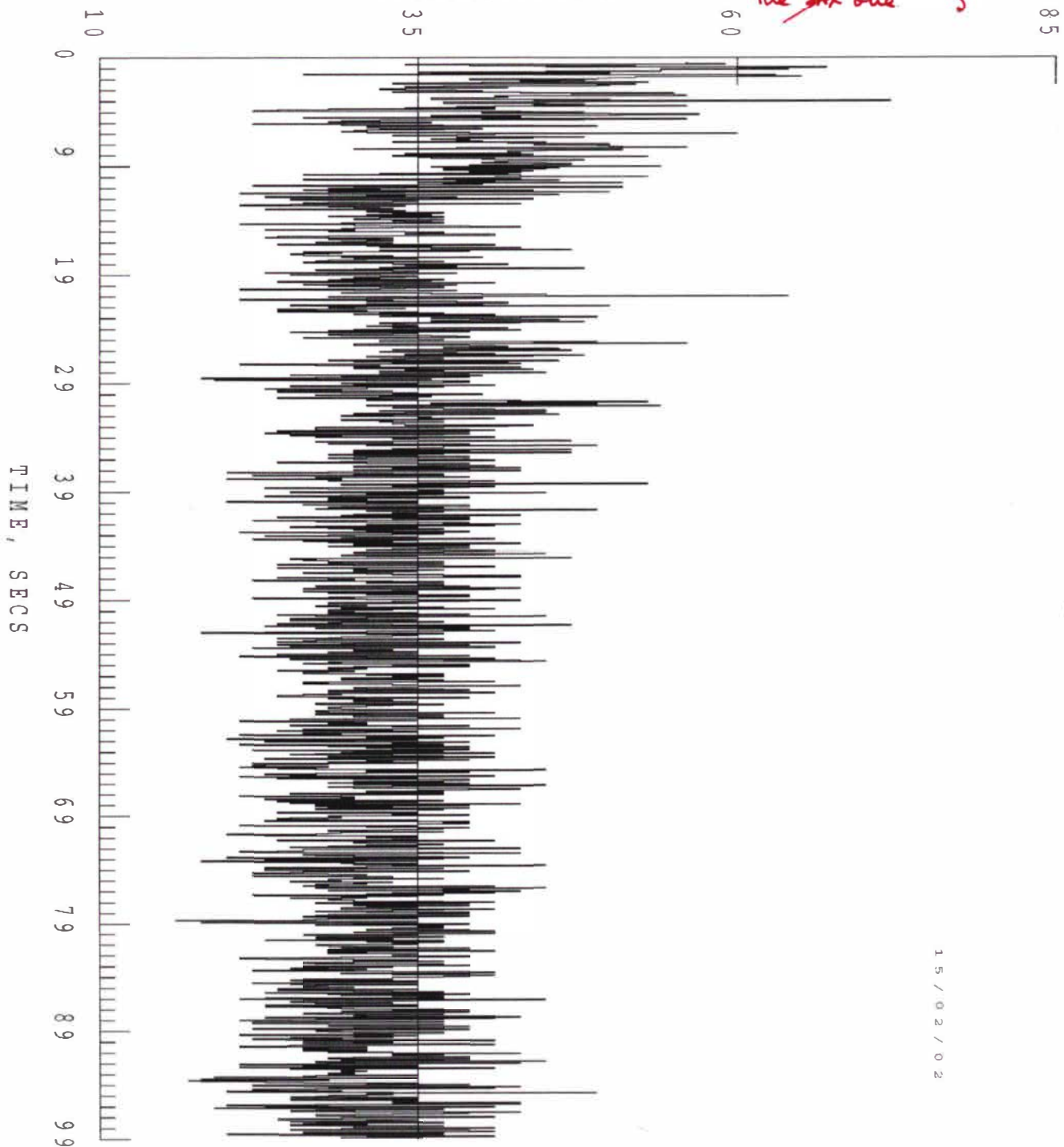
58074.800

16:07:54

50 - 200 keV

~~Konus was only ~ 2 l.s
from Earth, so this event
must be different from
the SXX one~~

COUNTS/0.064 S

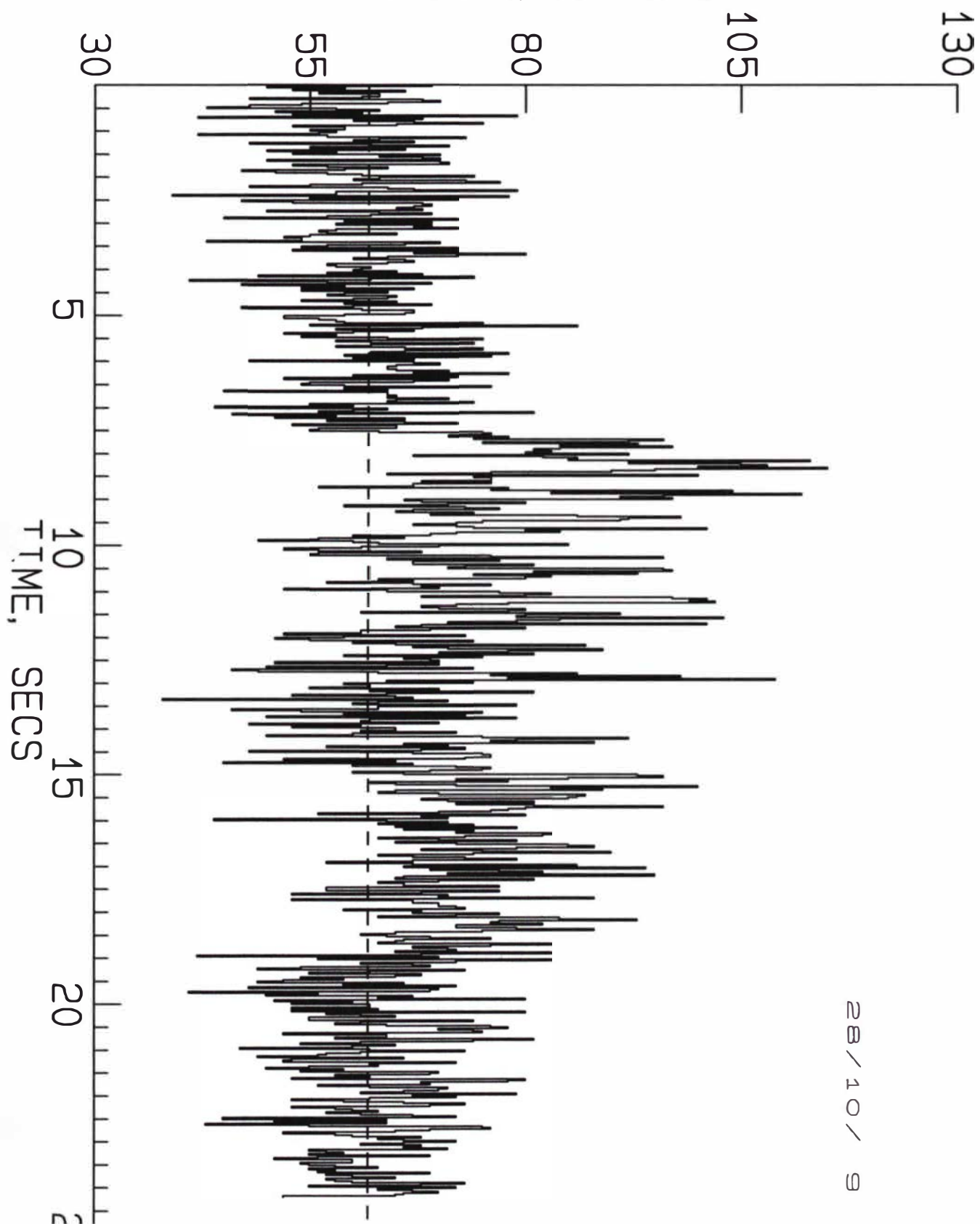


SAX GRBM

24/06/98 58066.141

40- 700 keV

COUNTS/0.031 S



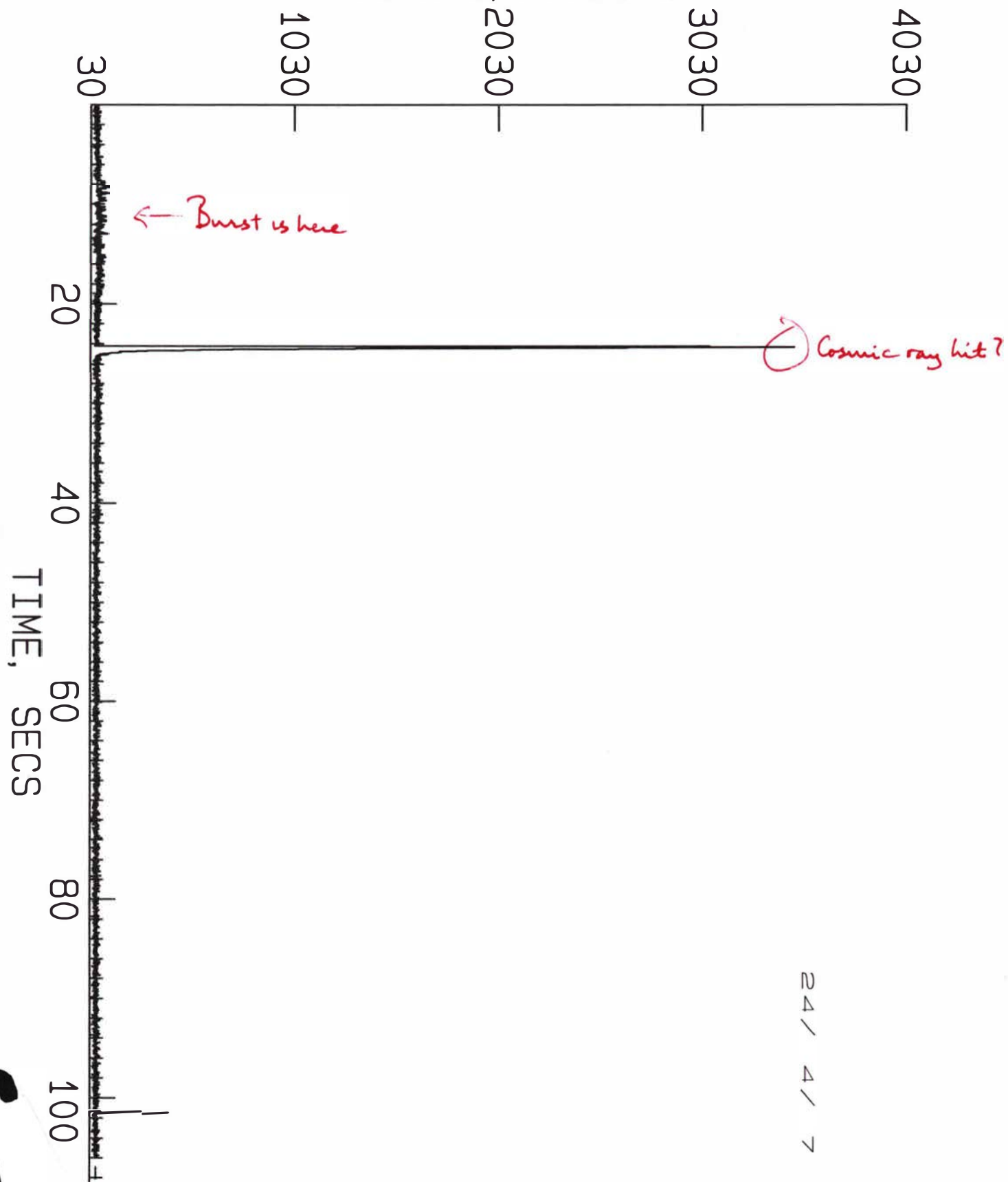
28/10/9

SAX GRBM

24/06/98 58066.141

40- 700 keV

COUNTS/0.031 S



konus 19980624 84312

ULYSSES RT

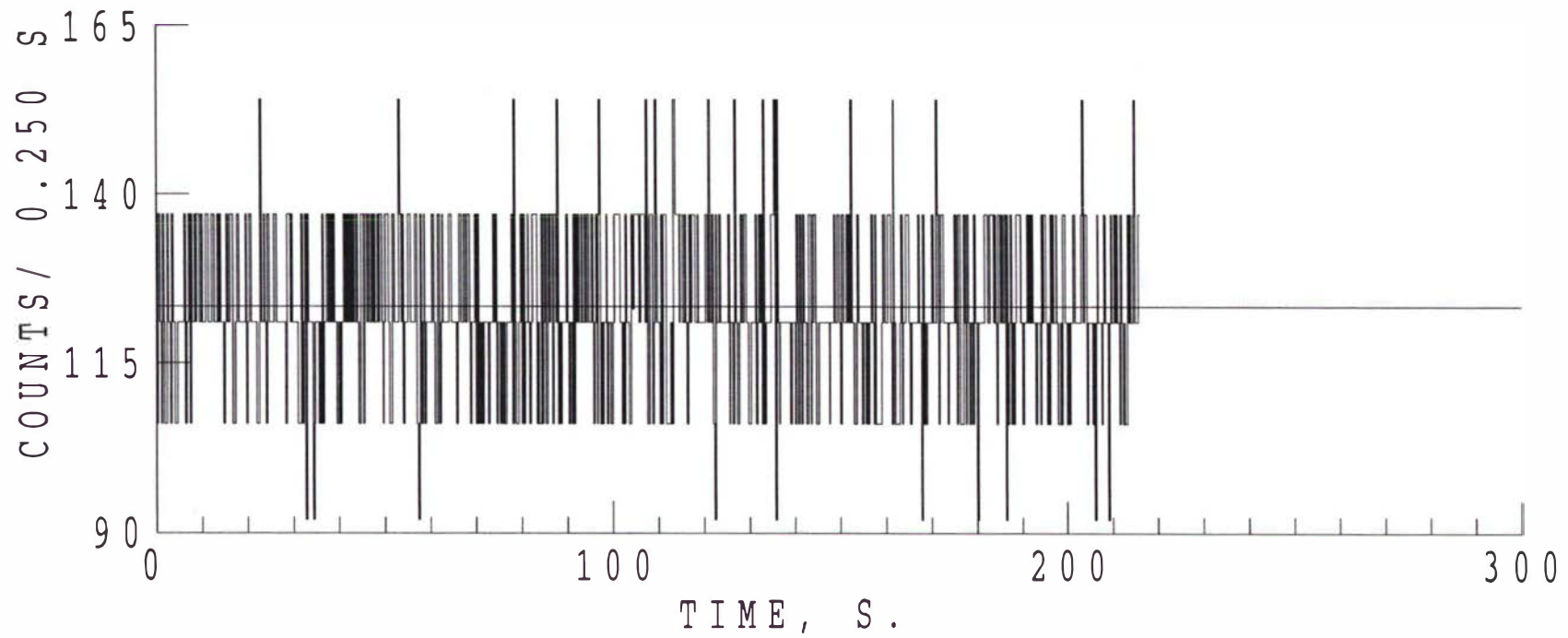
23 / 03 / 12

24 / 06 / 98 84204.141 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



k o n u s 1 9 9 8 0 6 2 4 8 5 5 1 4

U L Y S S E S R T

2 3 / 0 3 / 1 2

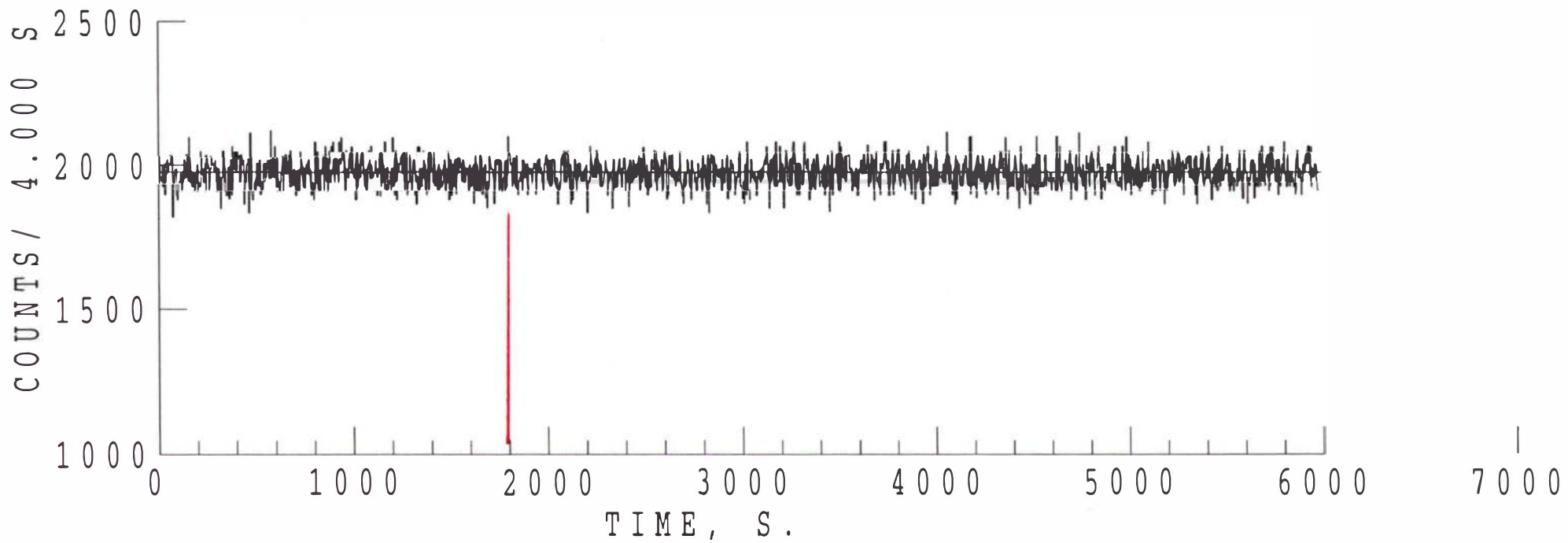
2 4 / 0 6 / 9 8 8 2 5 1 2 . 1 2 5 s

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 6

0 - 0 k e V

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS1 19980624 58074

ULYSSES RT

15 / 02 / 02

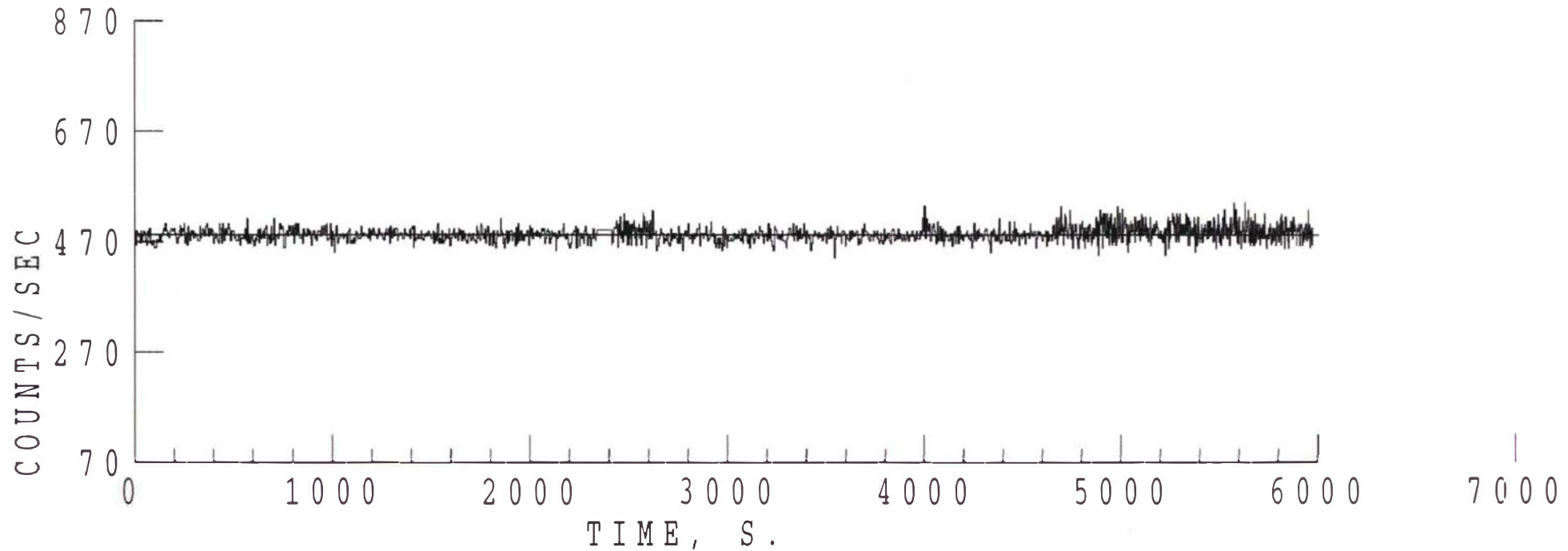
24 / 06 / 98 55080.086 s

INTERVALS REGROUPED BY 10

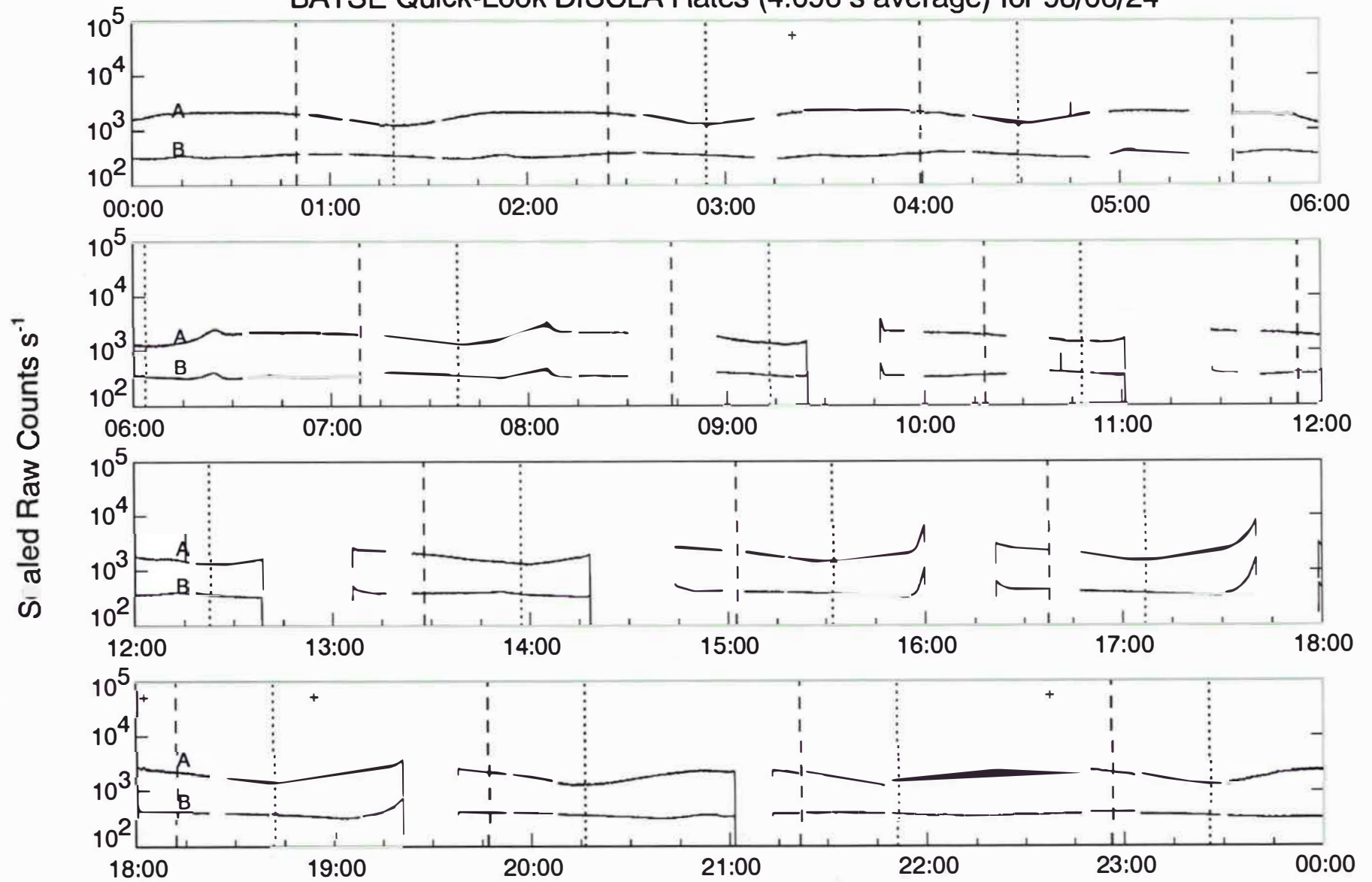
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



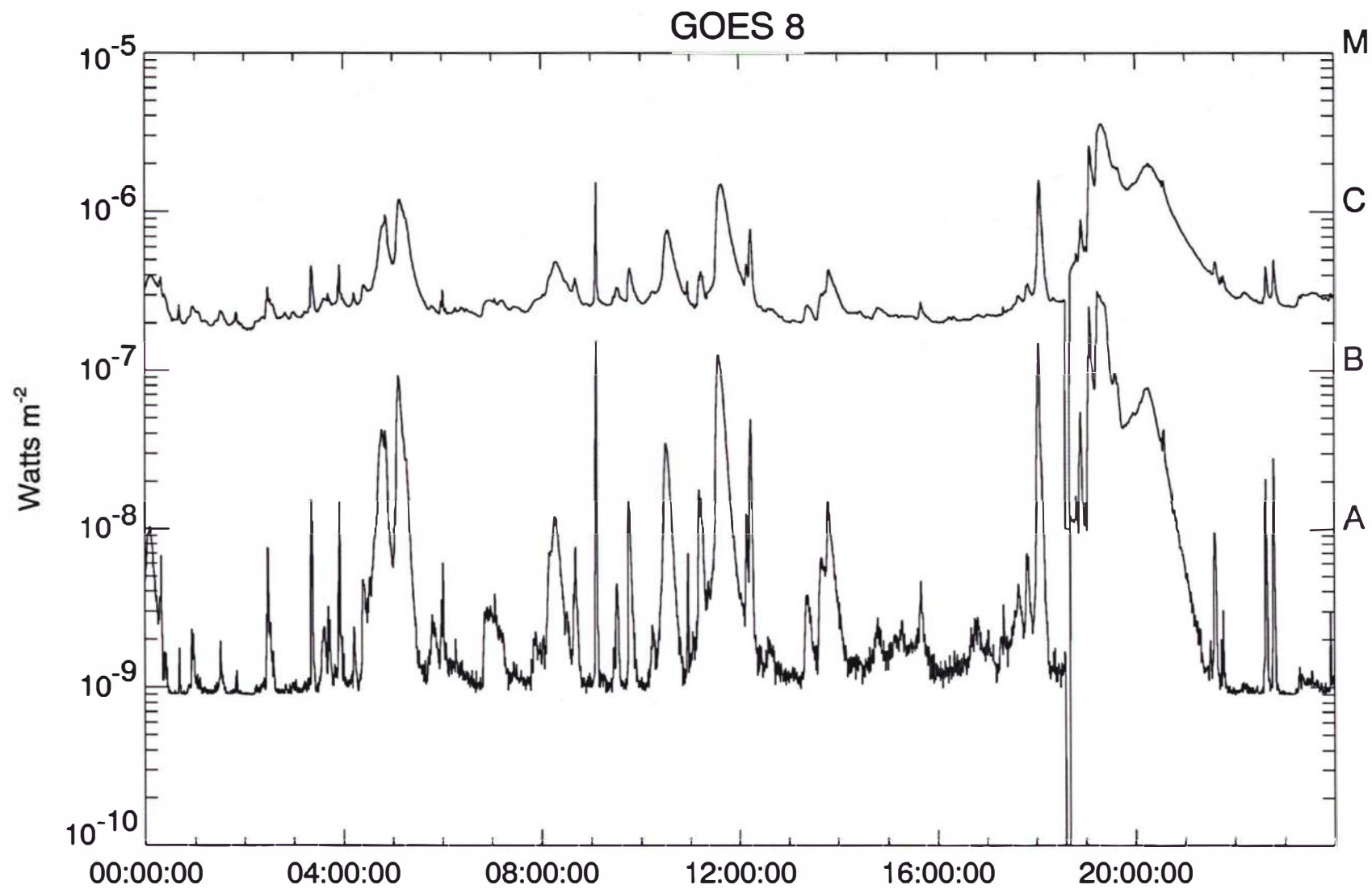
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/24



Current Time: 98/06/28, 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: 98/06/24, 0000:00

Plot created: 98/06/28, 1007

Channel

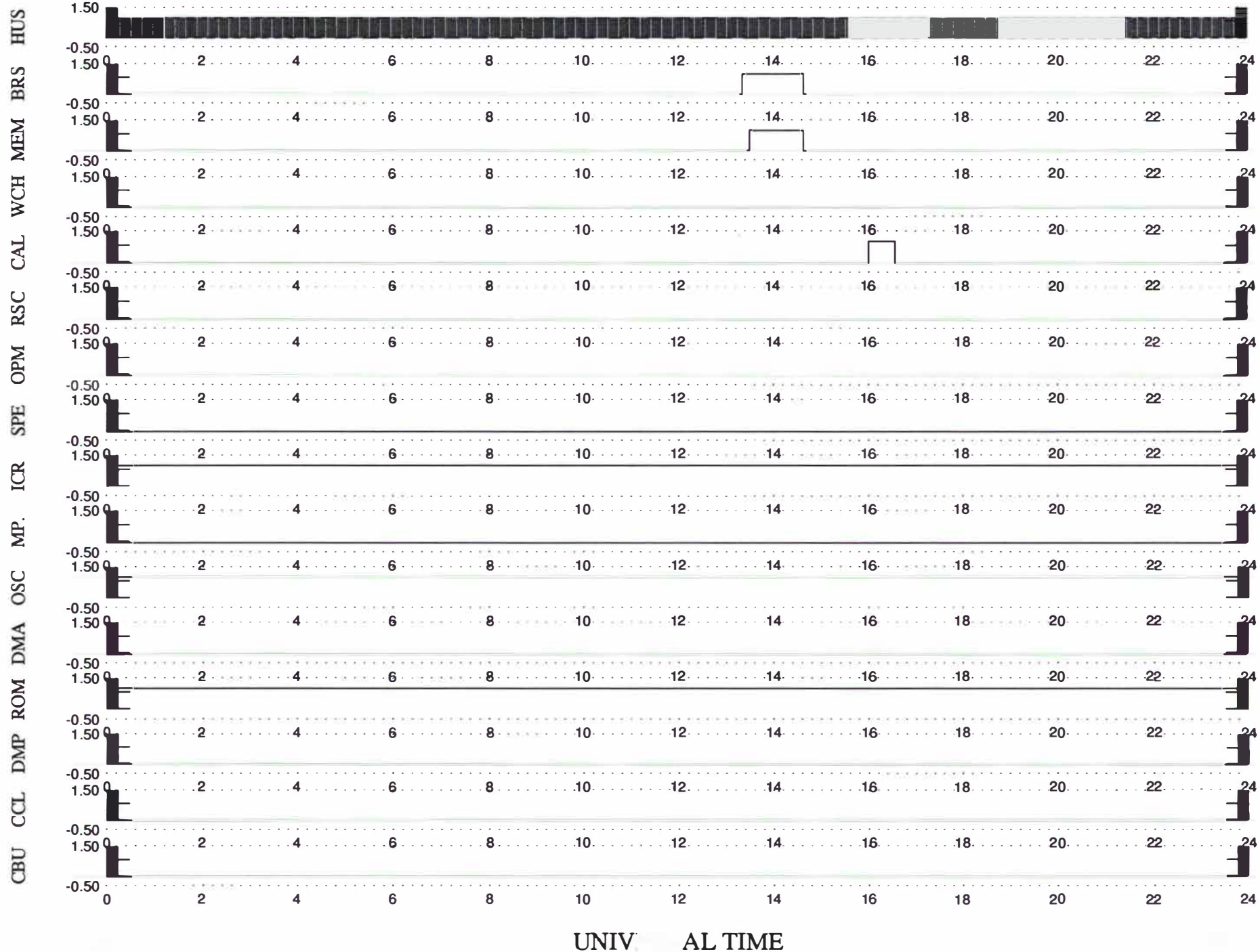
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

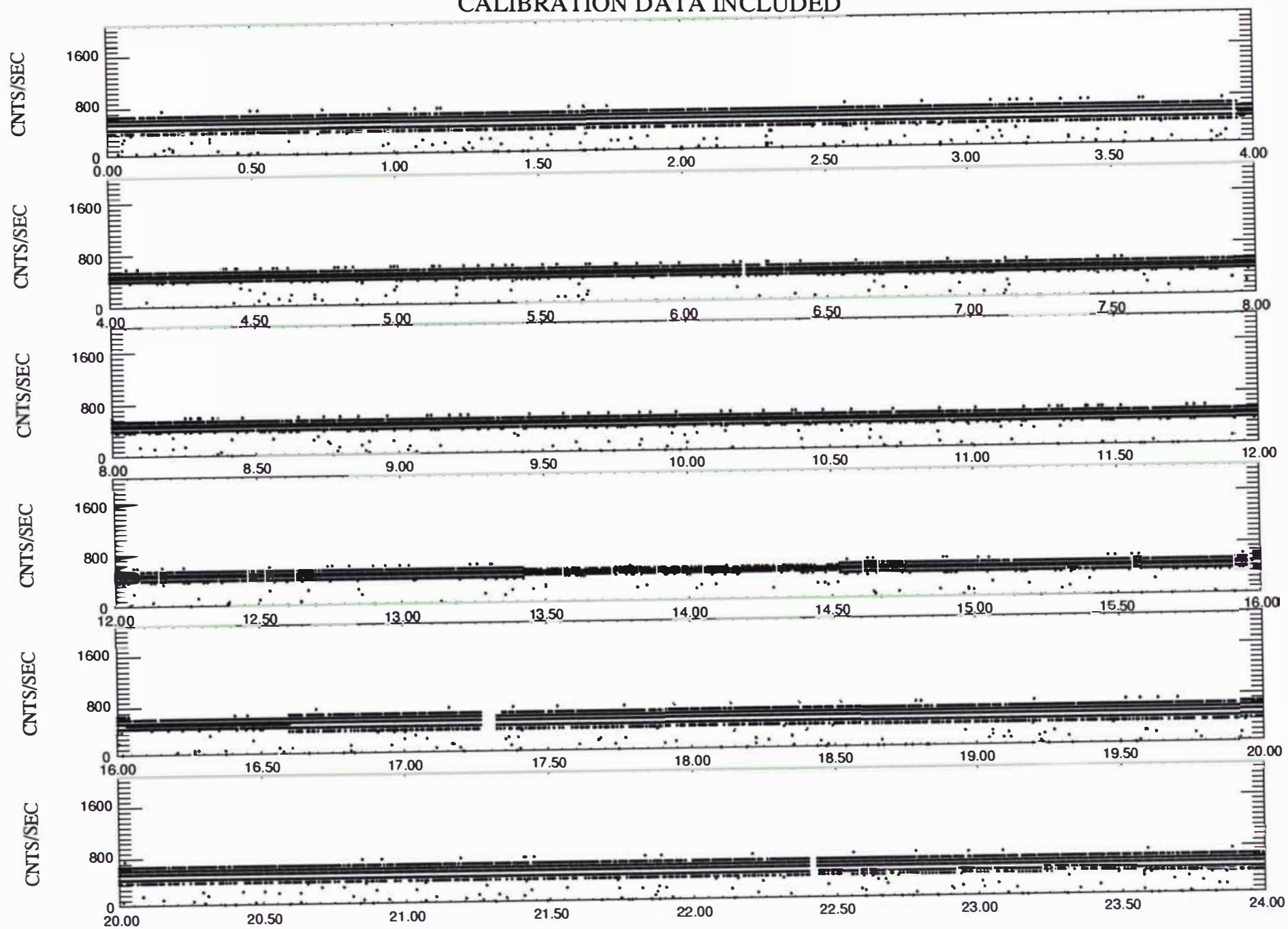
Background not subtracted

Sample average = 10

BURST NUMBER 15

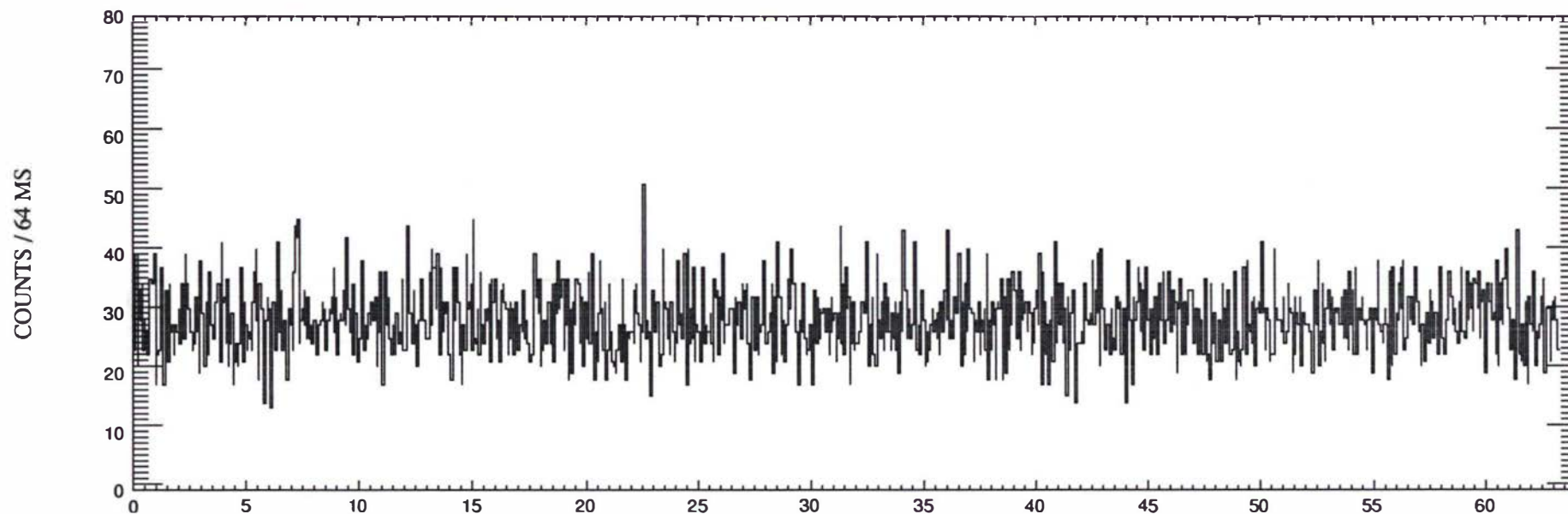


CALIBRATION DATA INCLUDED

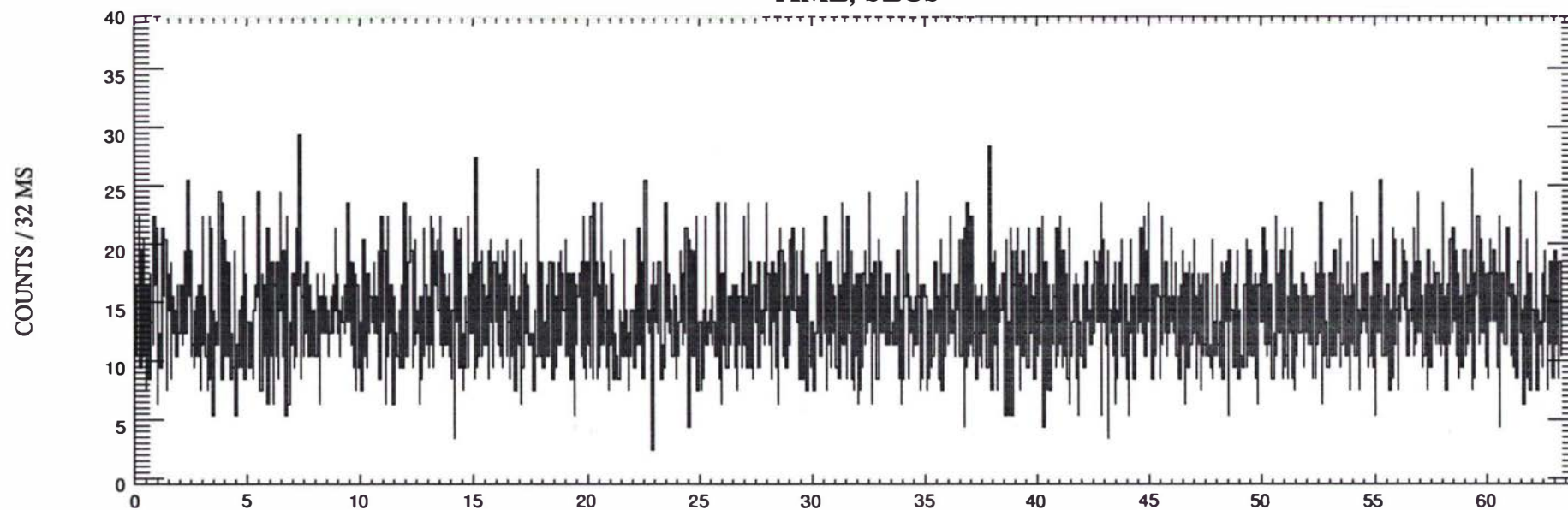


UNIV 'AL TIME

Burst Counter 15 at UT=13.264166594611 h=47751.000 s 13:15:51.000

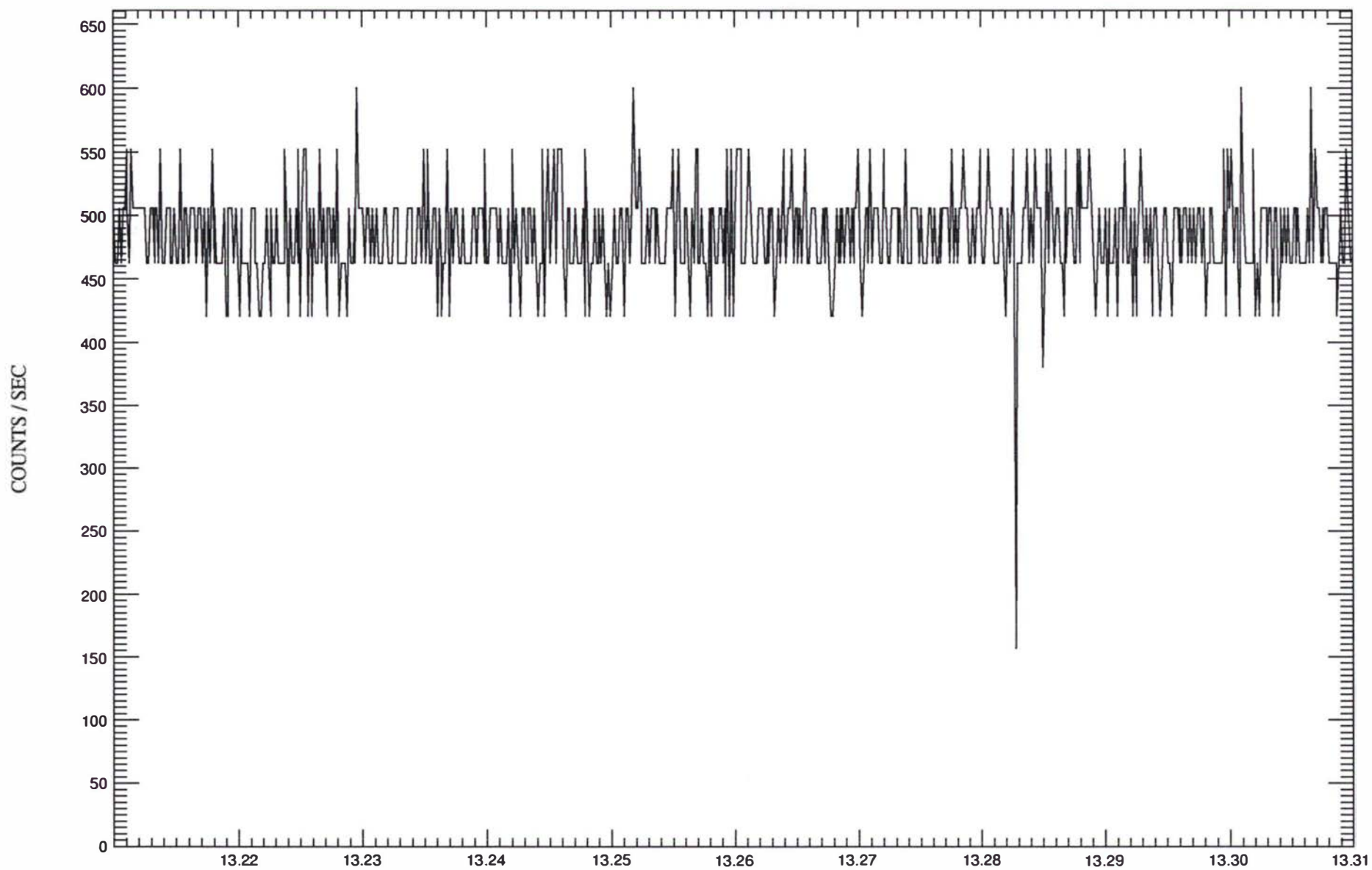


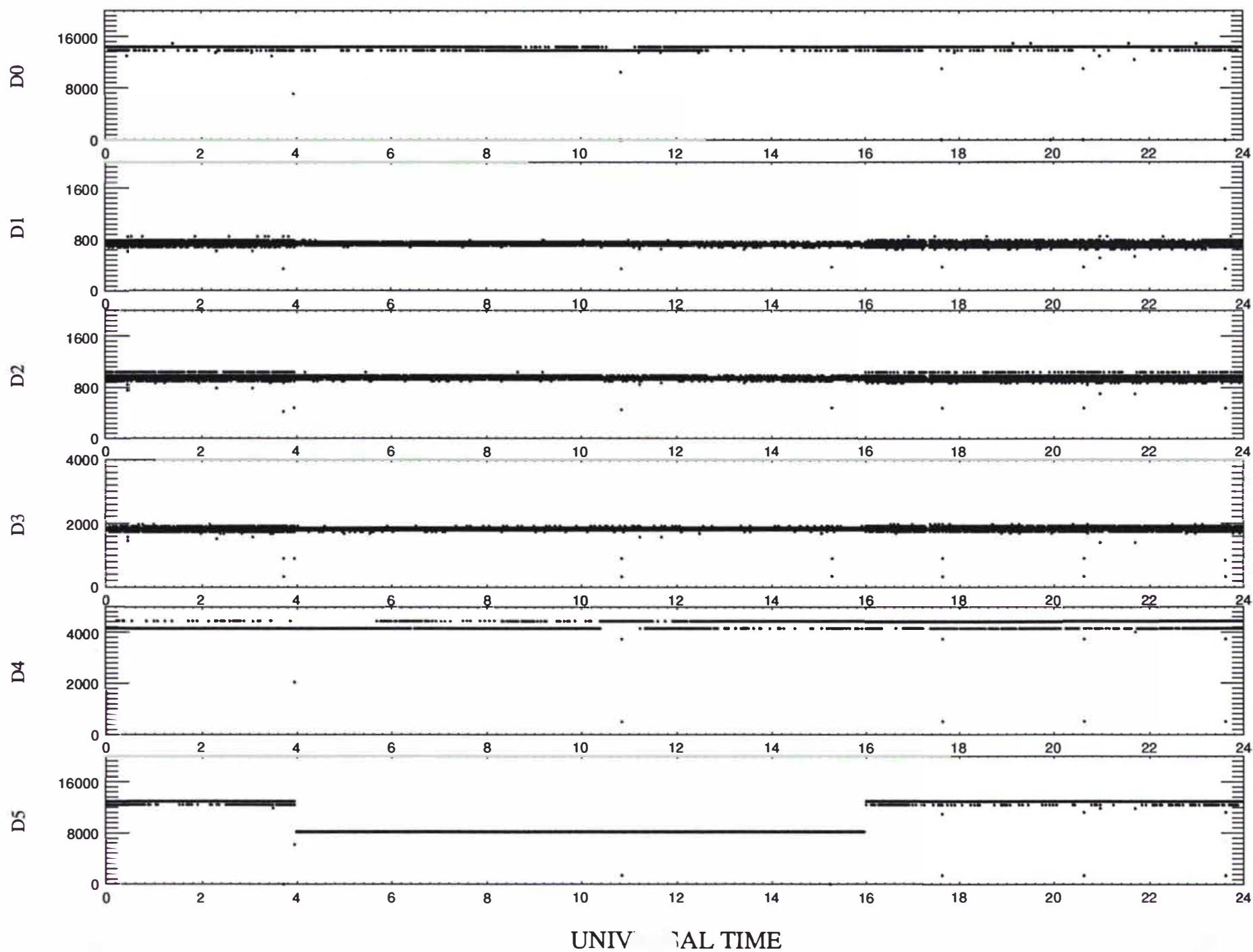
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From PREECE@fender.msfc.nasa.gov Mon Jun 29 11:13:02 1998

From: PREECE@fender.msfc.nasa.gov

Date: Mon, 29 Jun 1998 13:12:24 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov, +1992s
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

286.8, 9.3

BATSE BURST TRIGGER

NO.: 06868

TIME: TJD=0989 SECONDS=07270 02:01:10

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=135.8 AZIMUTH=181.9 ERROR= 14.7 DEGREES

COMMENTS:

SGR 1900+14. 0.3 S. DURATION, NOT VISIBLE IN CHANNEL 3 AND ABOVE.

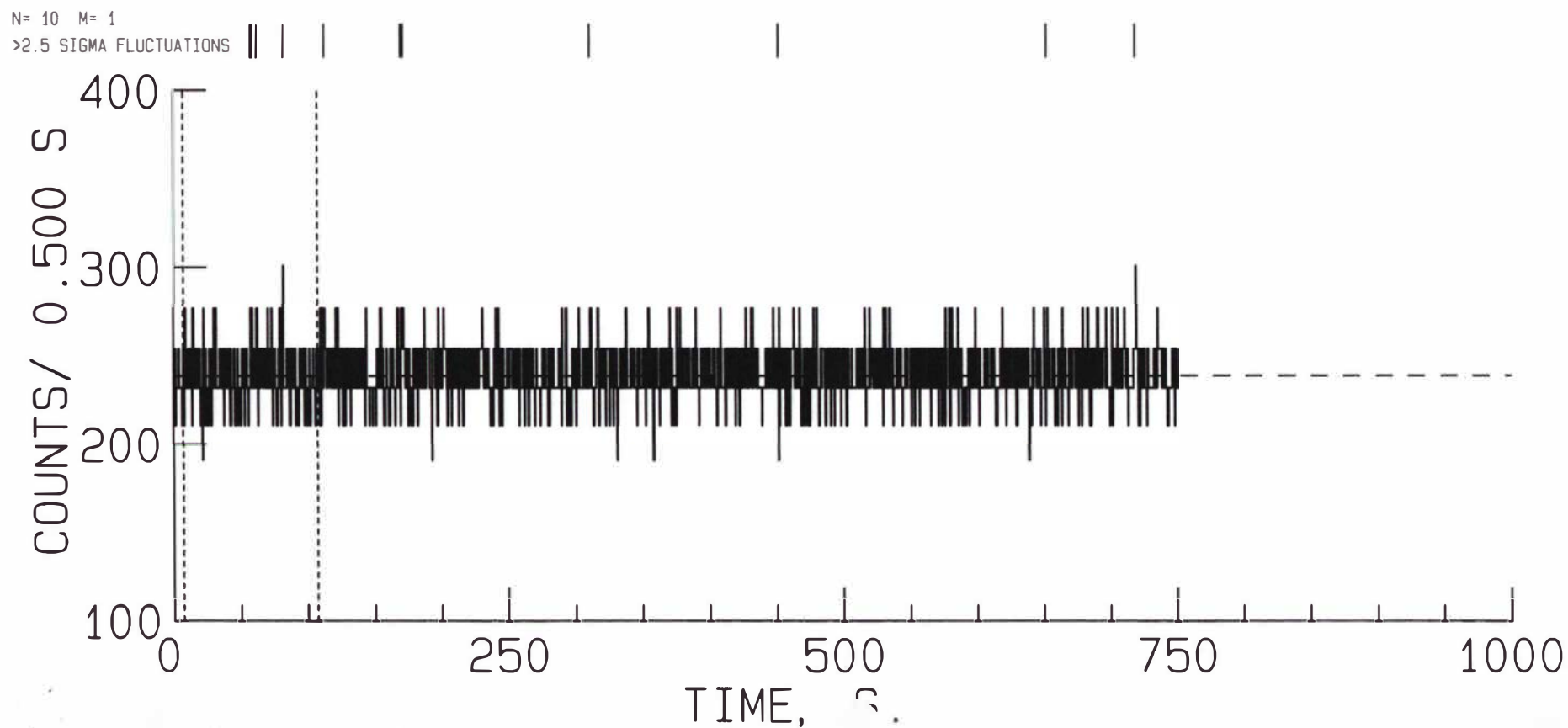
TTE DATA IS NO GOOD.

ULYSSES RT

30 / 6 / 98

25 / 6 / 98 8820.011 s

22- 148 keV

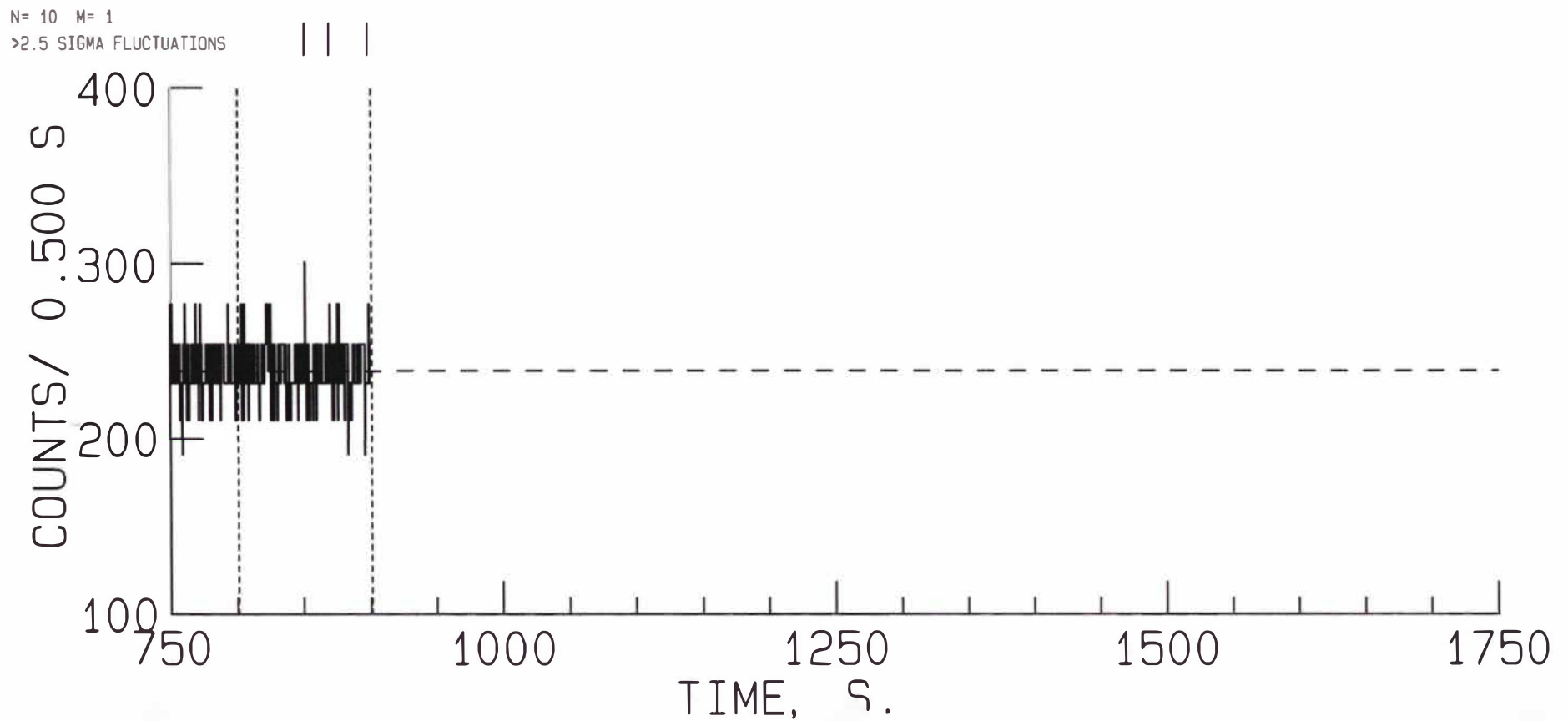


ULYSSES RT

30 / 6 / 98

25 / 6 / 98 8820.011 s

22- 148 keV



KONUS

ULYSSES RT

5 / 12 / 98

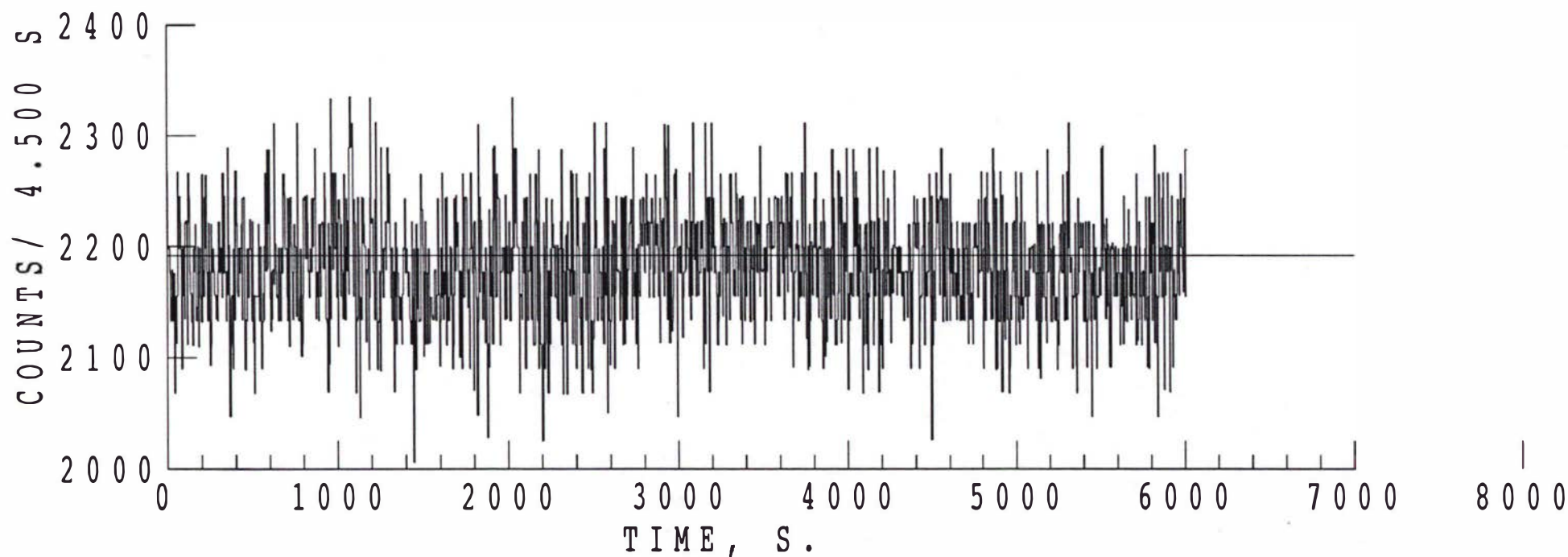
25 / 6 / 98 46656.414 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PREECE@fender.msfc.nasa.gov Mon Jun 29 11:15:25 1998

From: PREECE@fender.msfc.nasa.gov

Date: Mon, 29 Jun 1998 13:15:02 -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

249, -47.6

BATSE BURST TRIGGER

NO.: 06869 June 25

TIME: TJD=0989 SECONDS=65579 18:12:59

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 65.0 AZIMUTH=187.4 ERROR= 8.6 DEGREES

COMMENTS:

SGR 1627-41. 0.3 S. DURATION, NOT VISIBLE ABOVE CHANNEL 2.

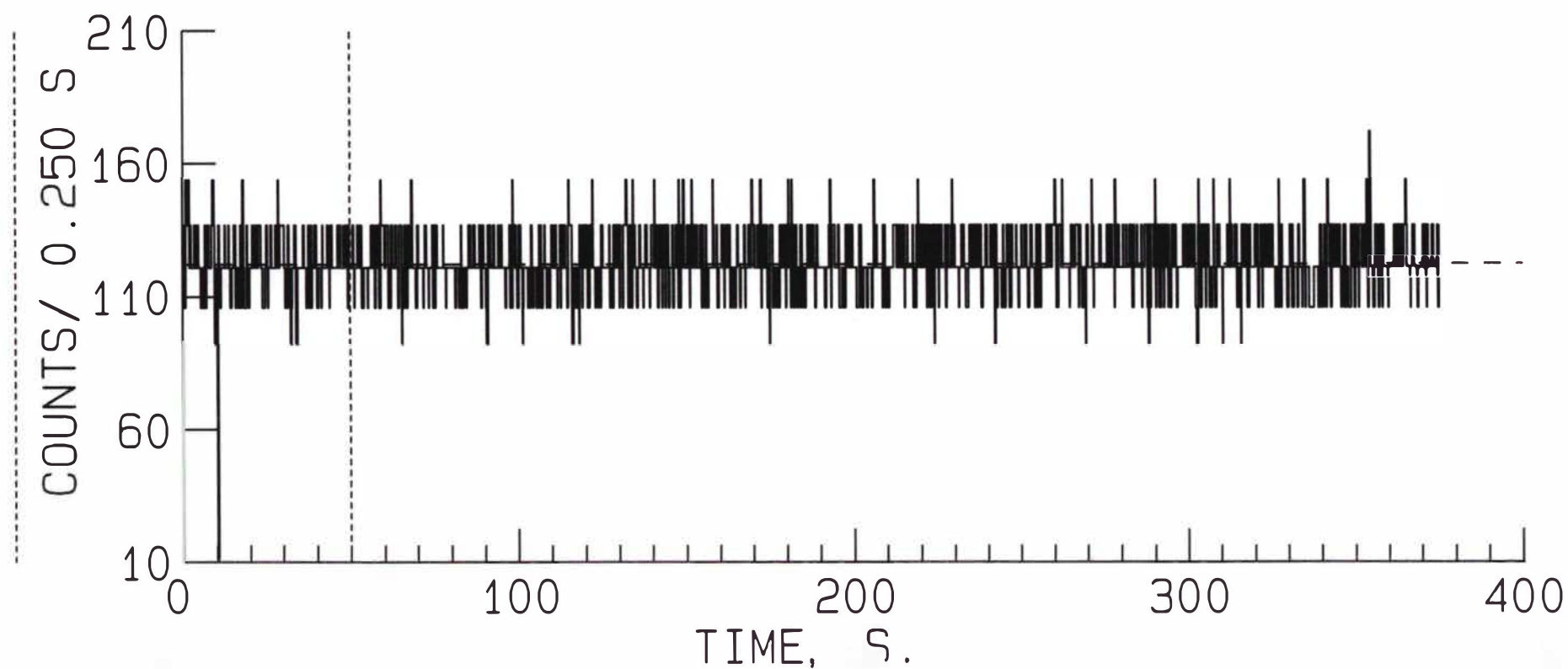
TTE DATA IS NOT GOOD.

ULYSSES RT

30 / 6 / 98

25 / 6 / 98 65700.118 s

22- 148 keV

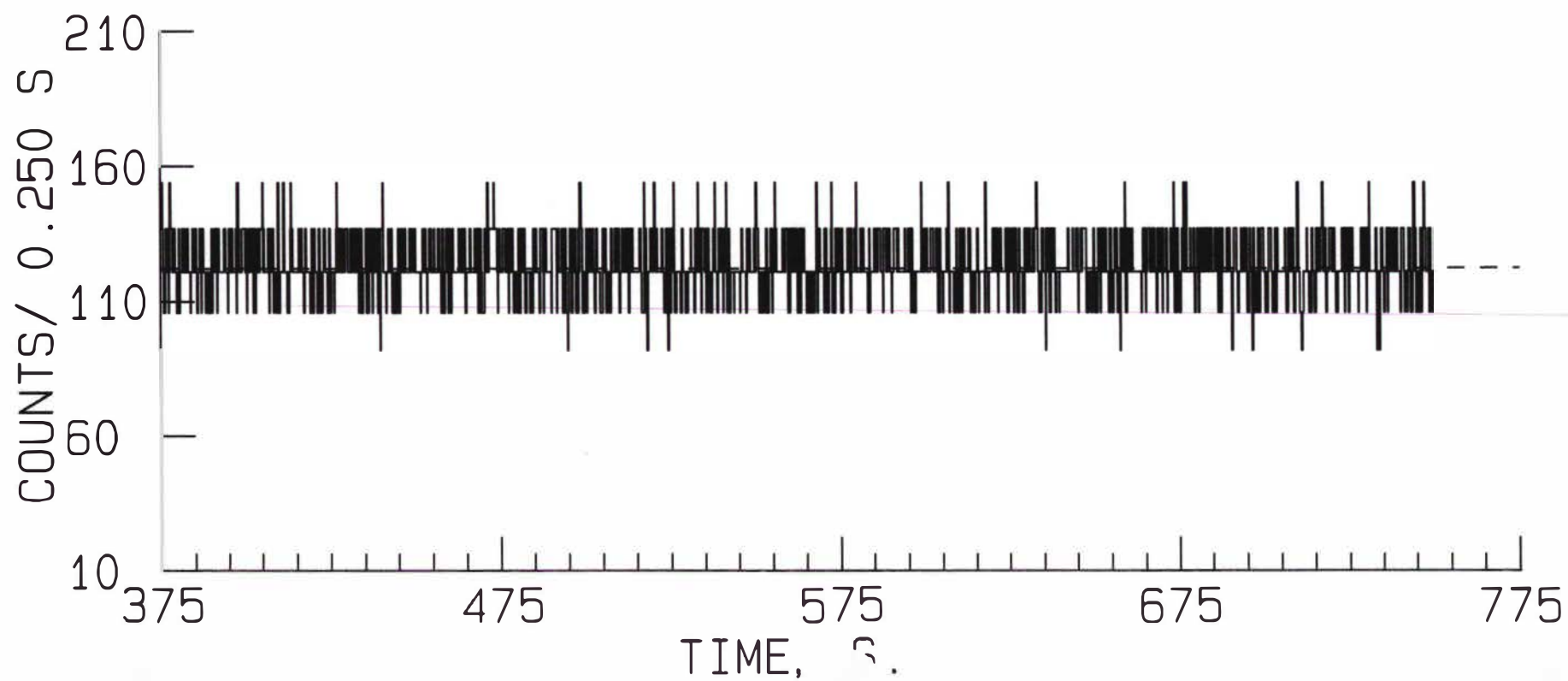


ULYSSES RT

30 / 6 / 98

25 / 6 / 98 65700.118 s

22- 148 keV



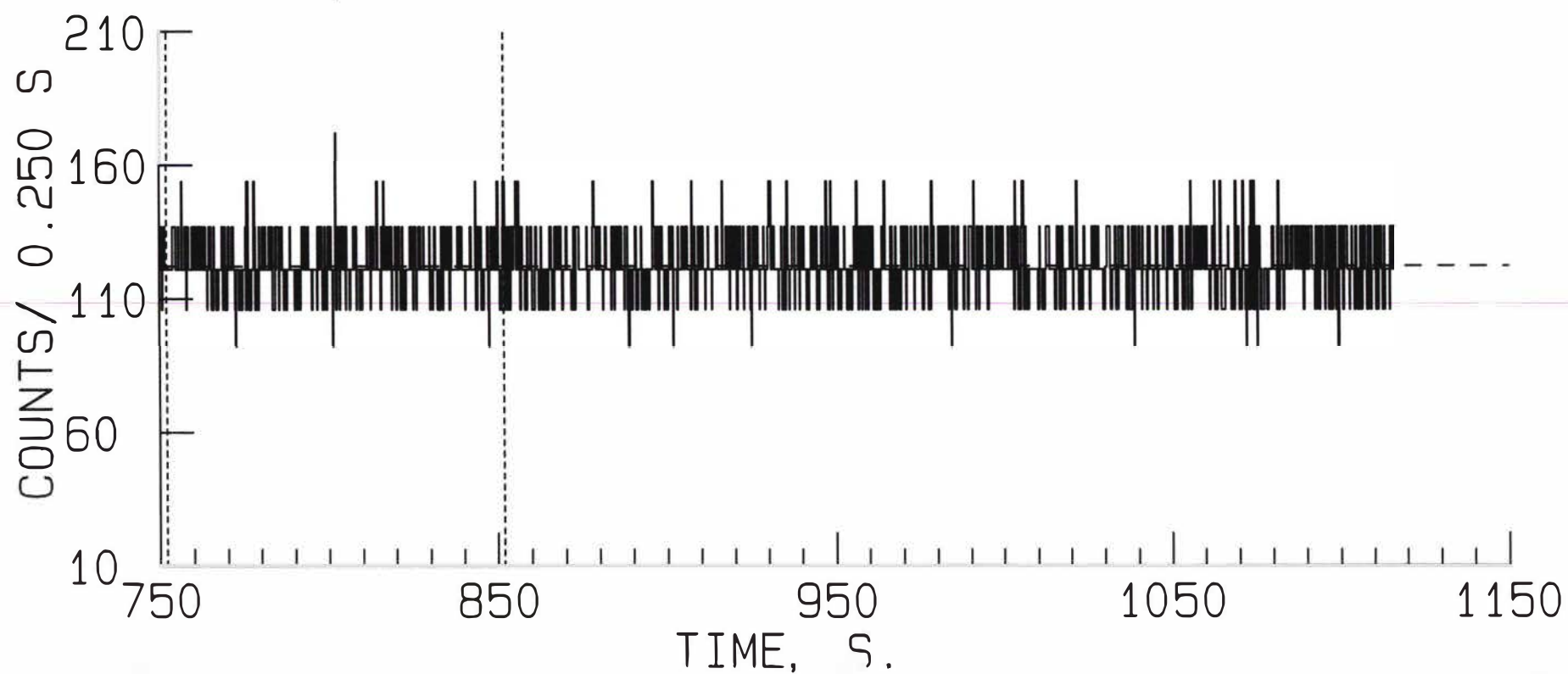
ULYSSES RT

30 / 6 / 98

25 / 6 / 98 65700.118 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

5 / 12 / 98

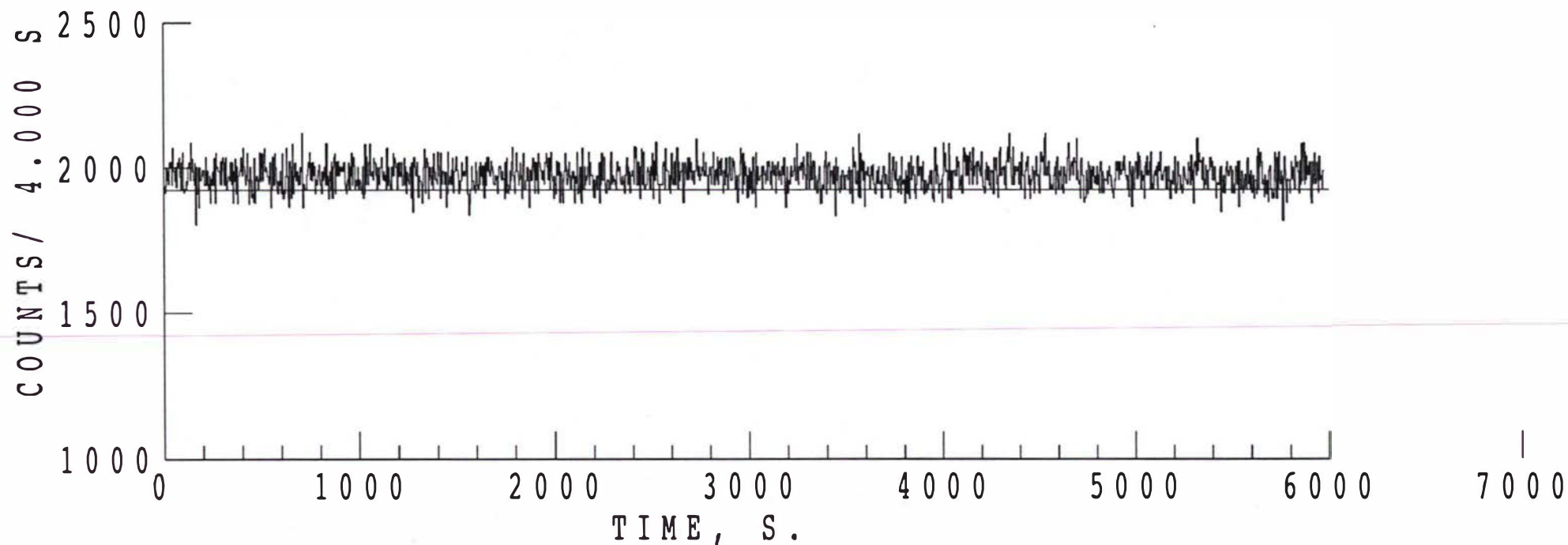
25 / 6 / 98 82512.047 s

0.250 S INTERVALS REGROUPED BY 16

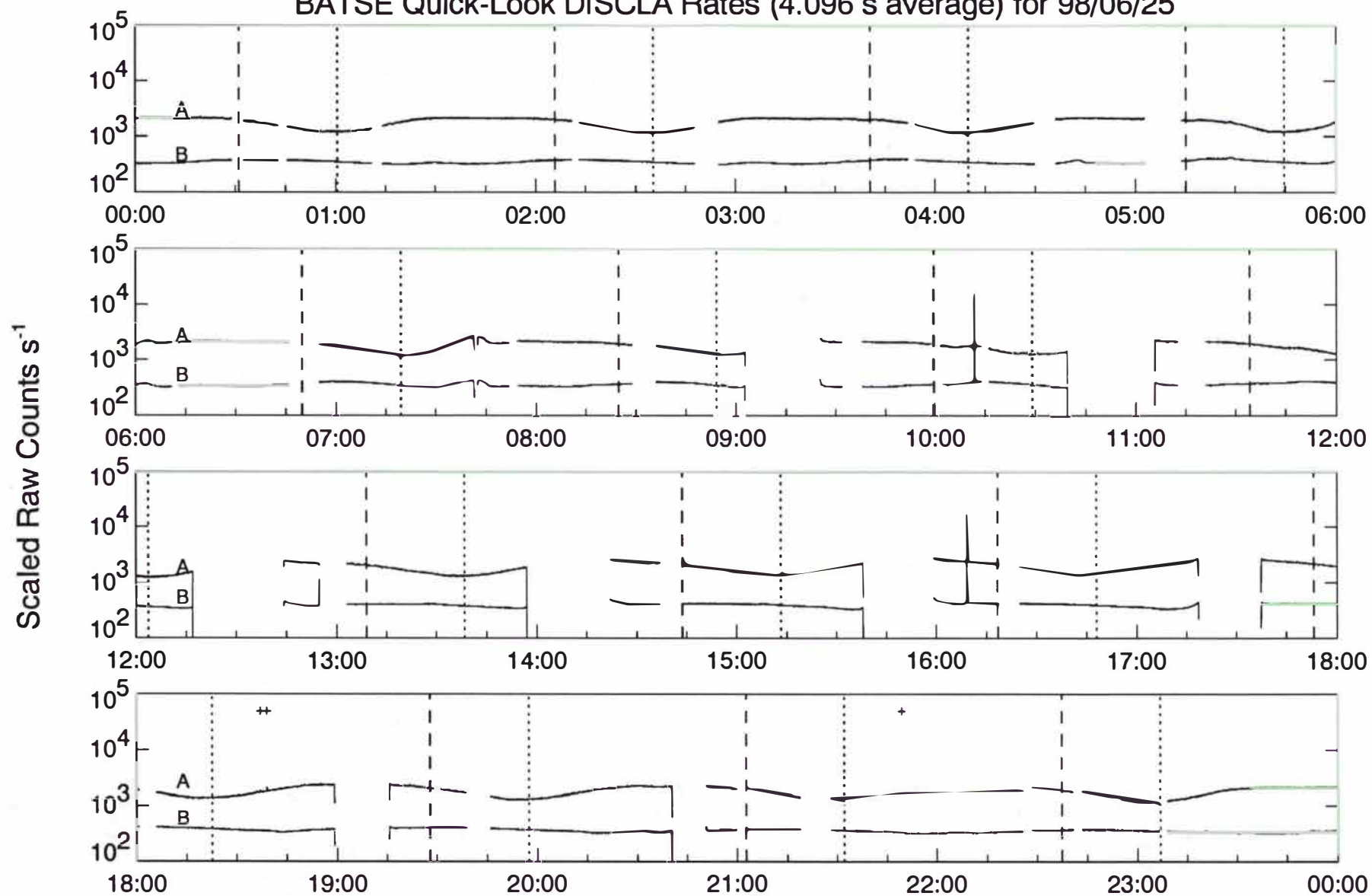
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



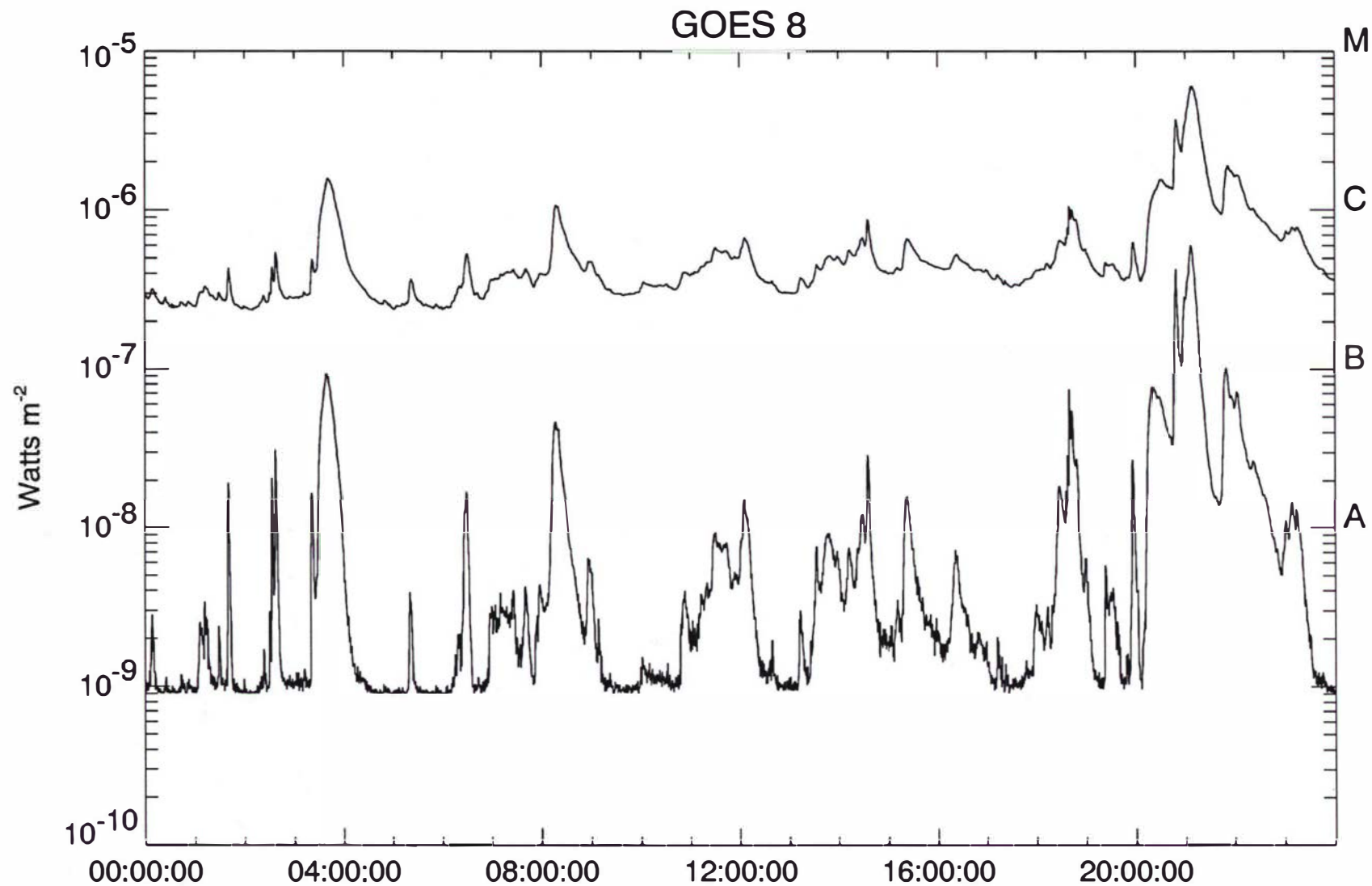
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/25



Current Time: 98/06/29, 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: 98/06/25, 0000:00

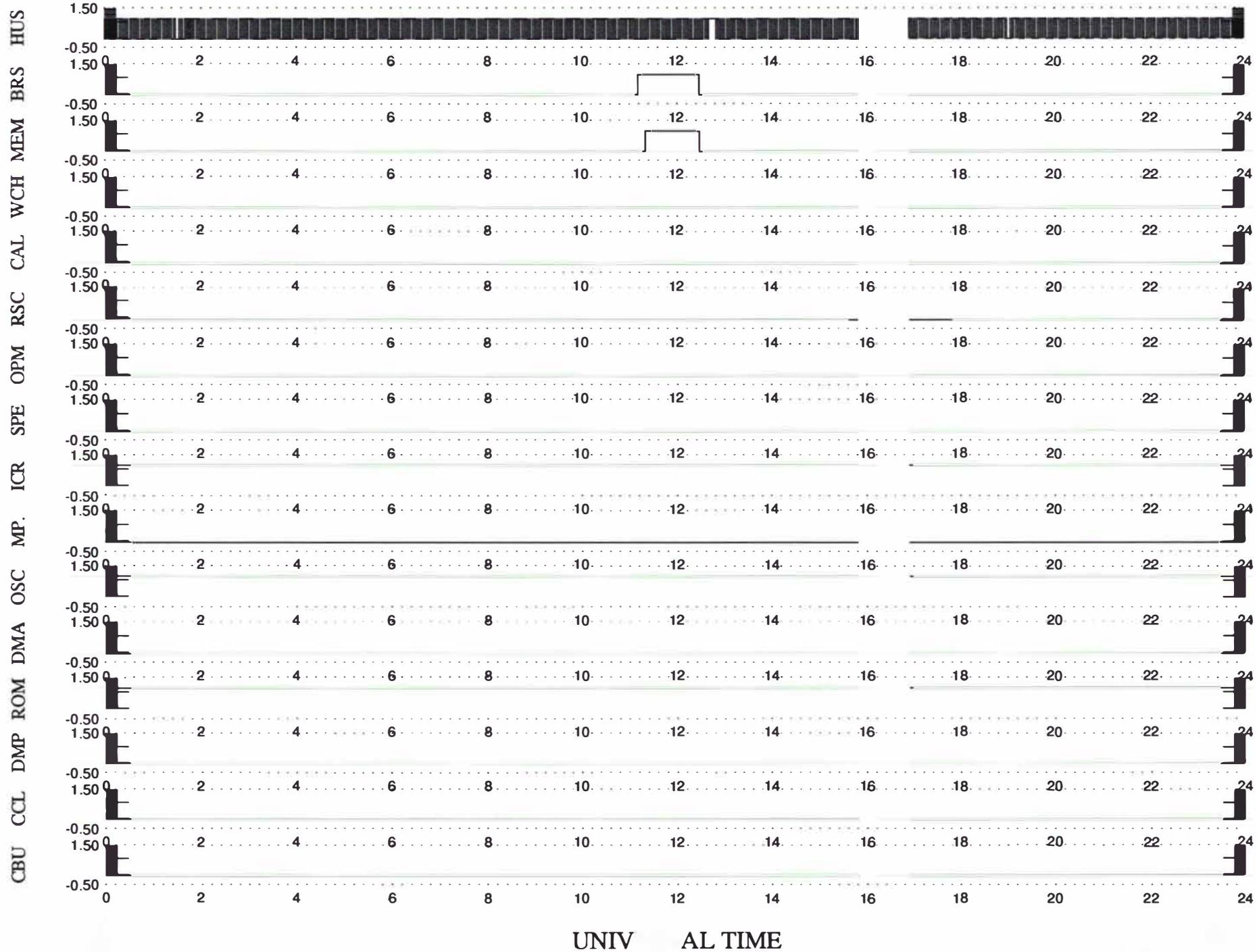
Plot created: 98/06/29, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

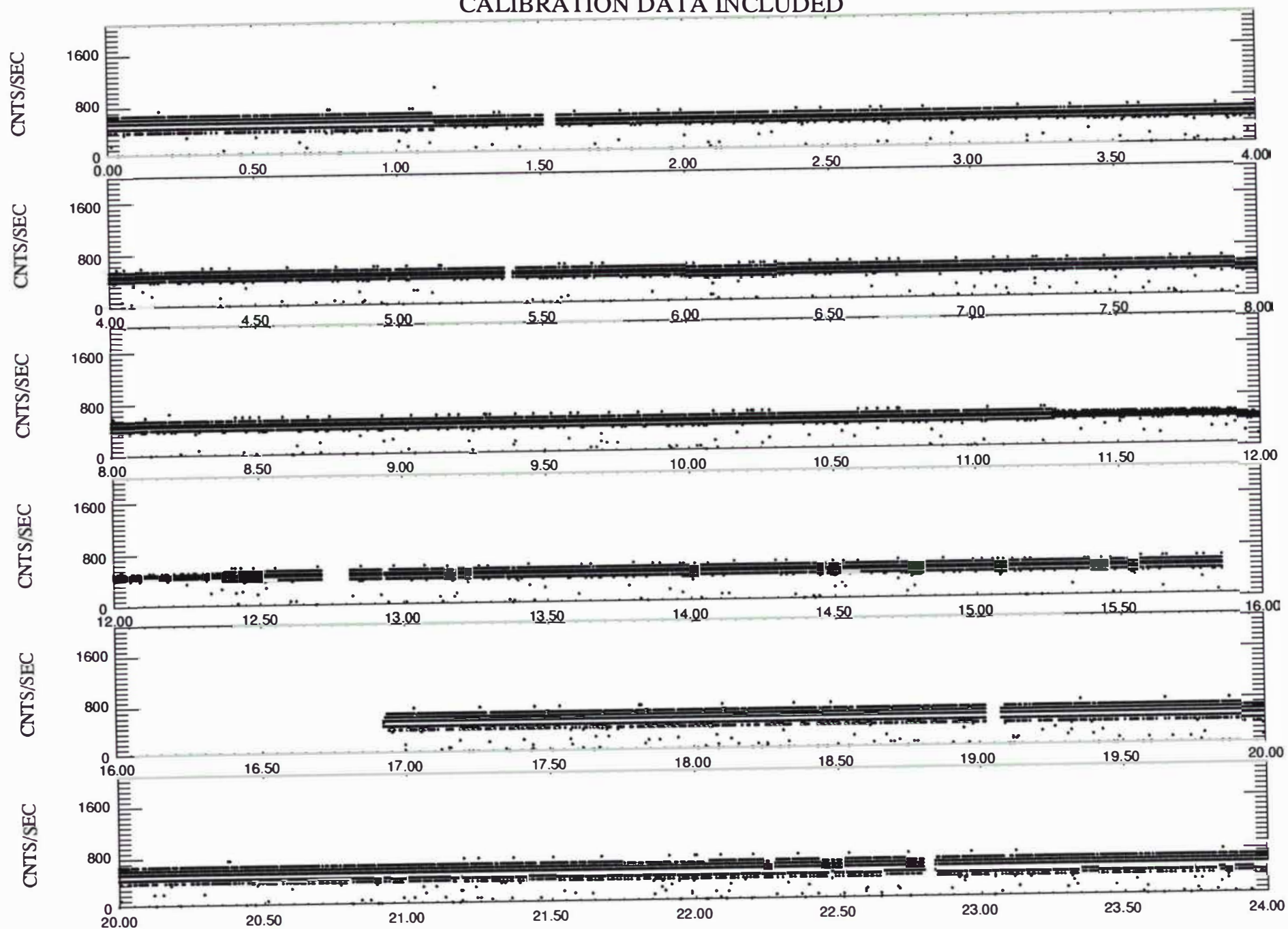
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 0

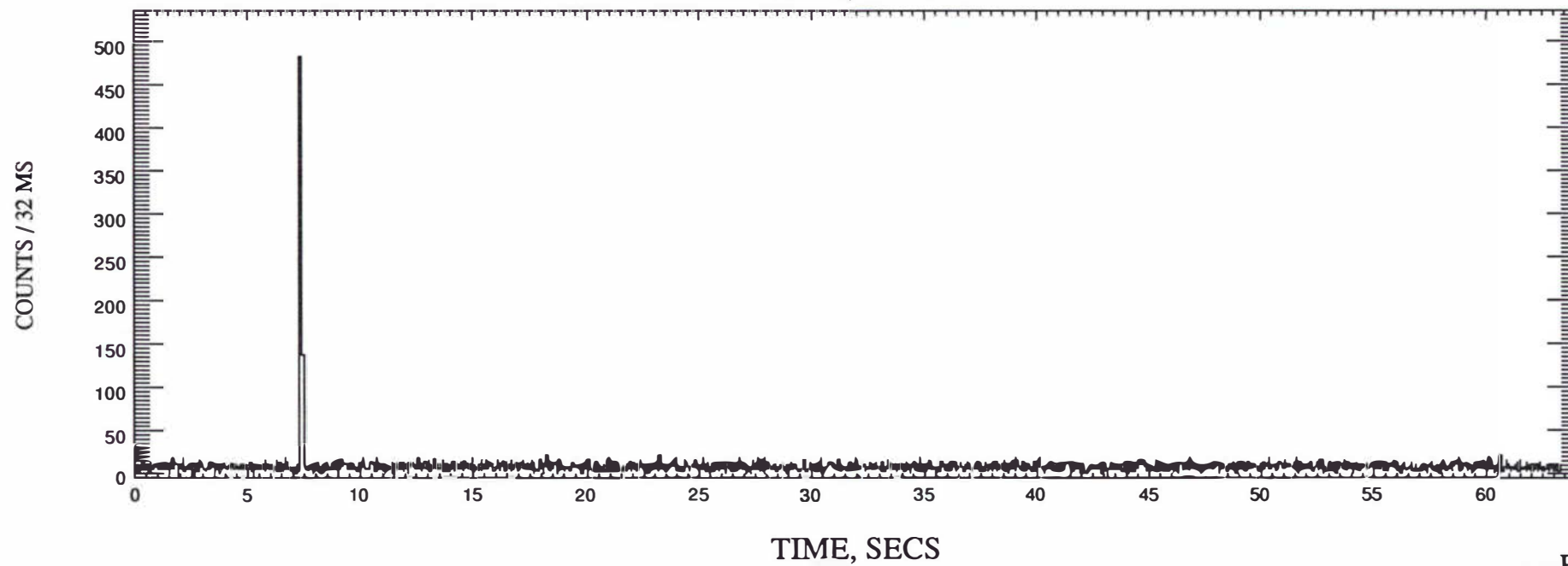
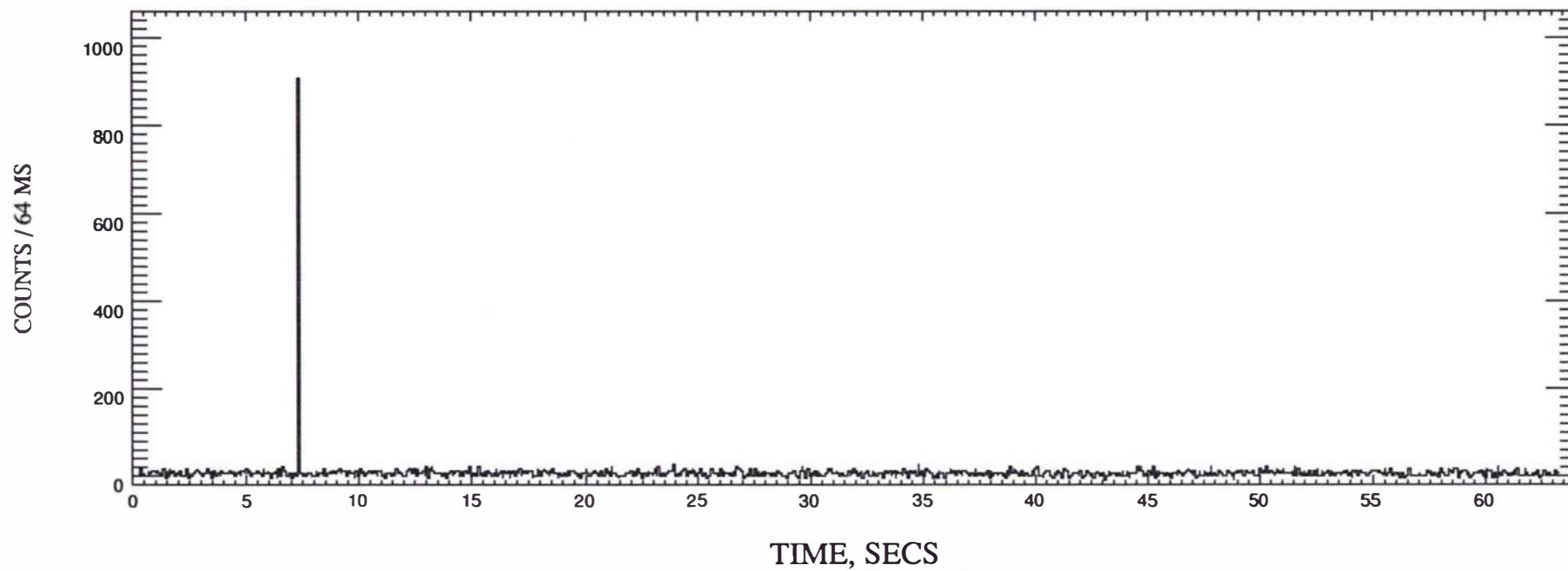


CALIBRATION DATA INCLUDED

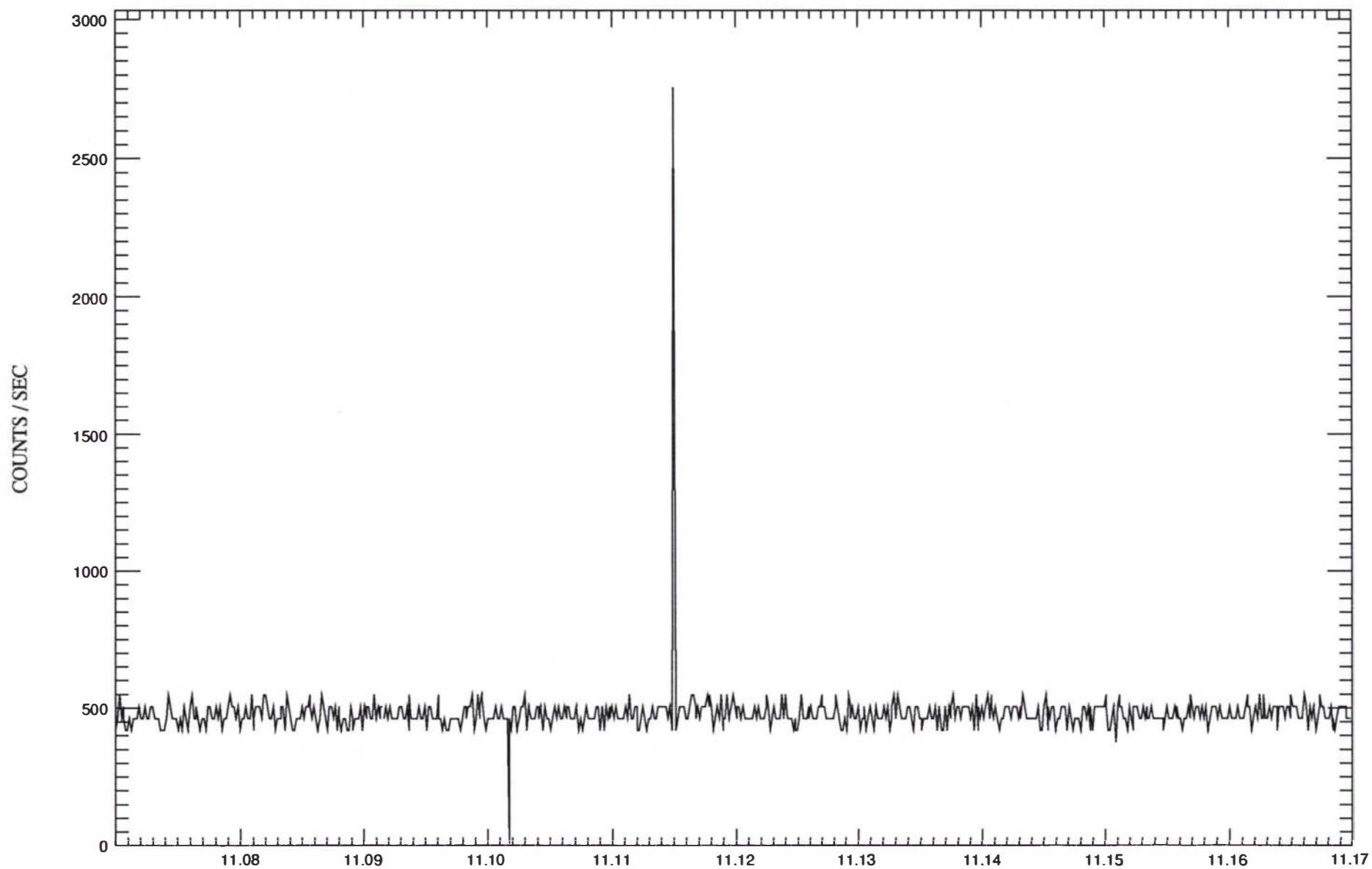


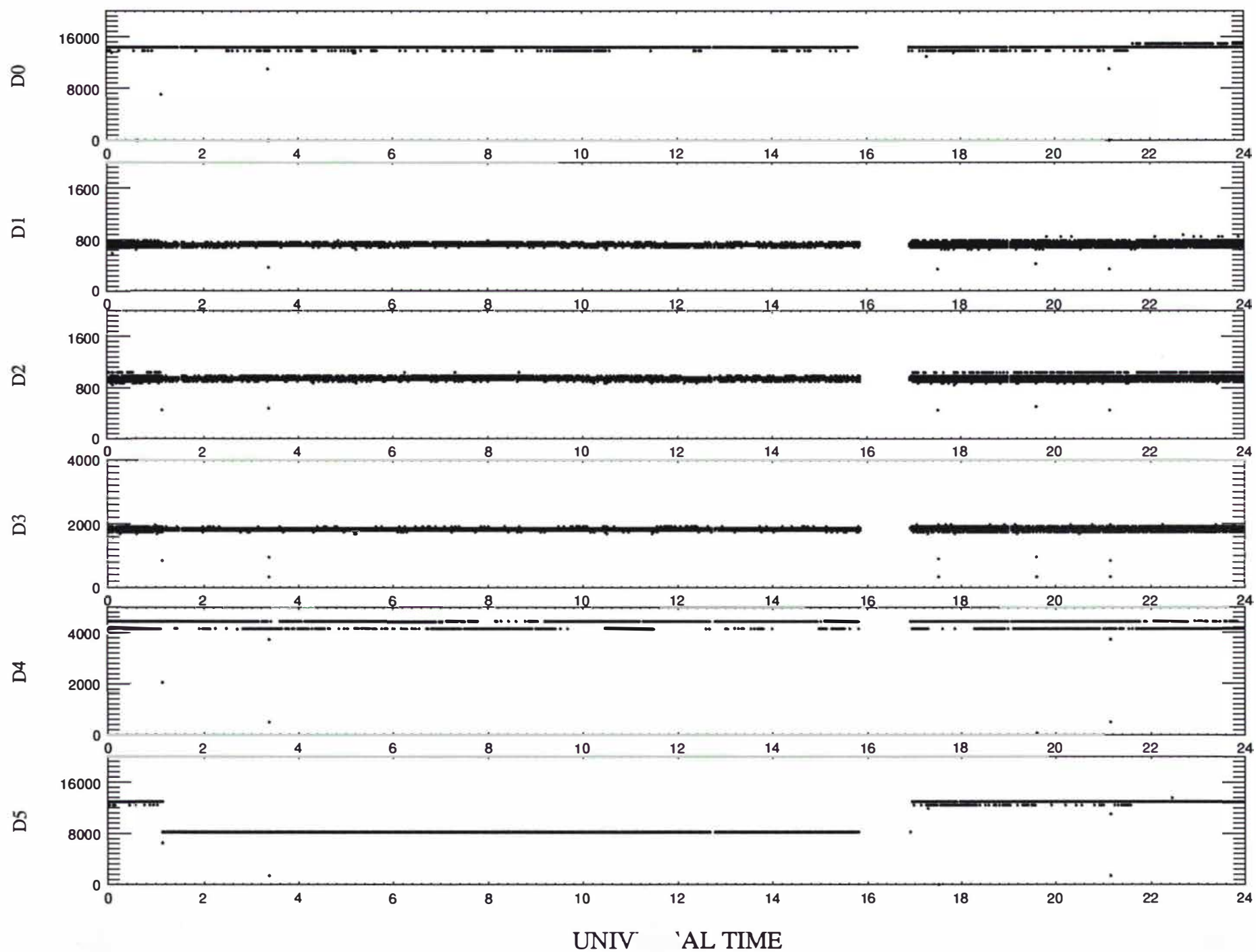
UNIV AL TIME

Burst Counter 0 at UT=11.115096774631 h=40014.348 s 11:06:54.348



CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Thu Jul 2 07:02:53 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 HAA06210; Thu, 2 Jul 1998 07:02:53 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA05690; Thu, 2 Jul 1998 07:02:51 -0700
Date: Thu, 2 Jul 1998 9:02:50 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980702090250.20200954@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6870
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6870
EVENT OF 1998 JUN 26 DAY OF YEAR=177
EVENT CROSSING TIME AT BATSE : 5159. S. OR 01:25:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 59.000 -73.000
BATSE PEAK COUNTING RATE: 2900 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 6/ 98 IS:
RA= 150.443 DEC= 9.764 DIST= 5.918 AU
BATSE-ULYSSES DISTANCE = 885383552. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 80.25 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 500.39 SECS.
CROSSING TIME AT ULYSSES IS 5659. S. OR 01:34:19 +/- 562.93 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 6/ 98 IS:
RA= 82.288 DEC= 23.744 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376691424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 174.95 SECS.
CROSSING TIME AT MARS IS 5334. S. OR 01:28:53 +/- 218.68 SECONDS

BATSE BURST TRIGGER

NO.: 6870

TIME: TJD=0990 SECONDS=5159

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=38.9 AZIMUTH=114.7 ERROR=12 DEGREES

COMMENTS:

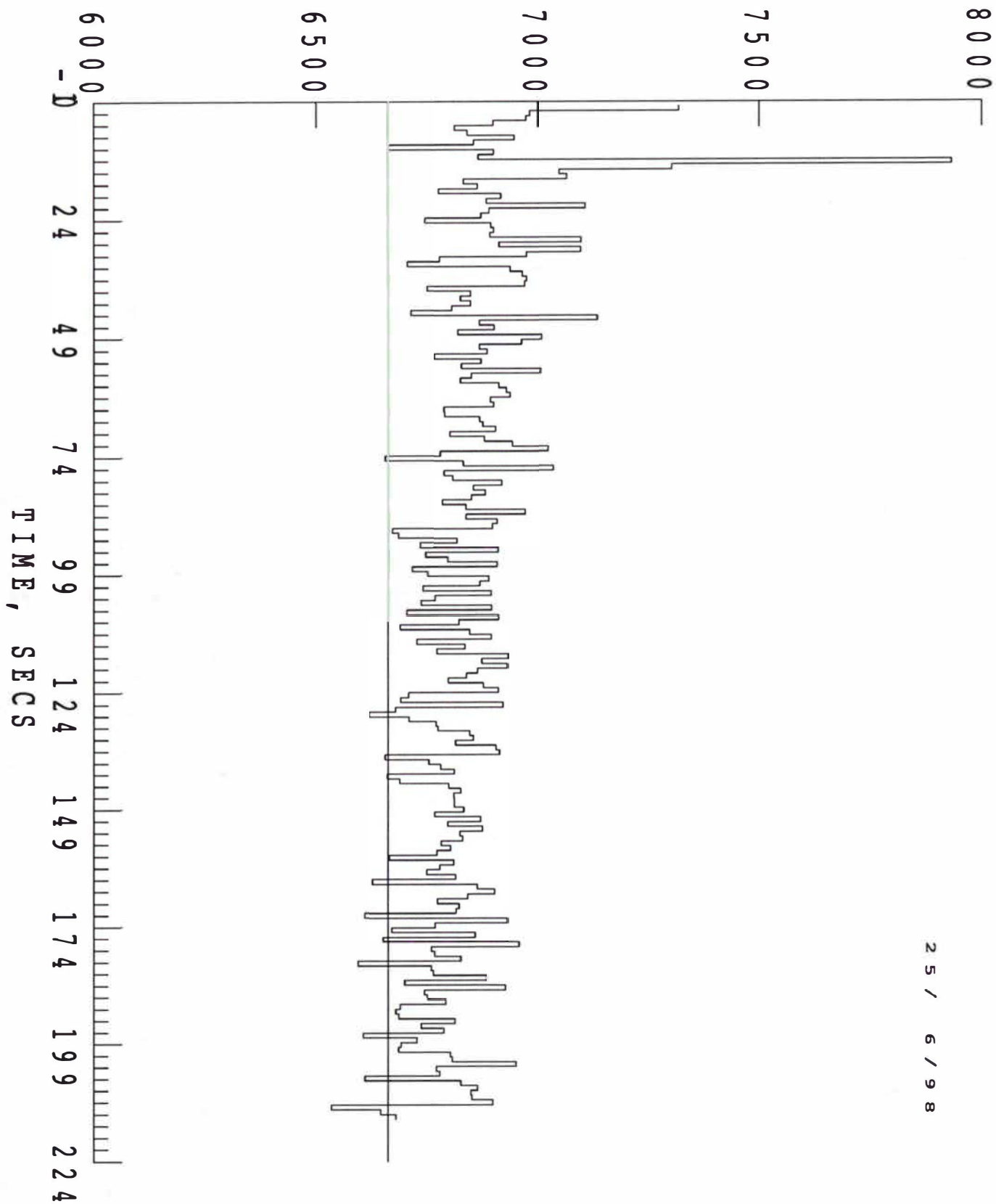
GRB LASTING ABOUT 13 SEC. TWO PULSES SEPARATED BY 11 SEC. NOT
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6870	980626	10990	05159	2900	059	-73	13

BACODINE 6870 26/06/98 5147.361

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 6870

ULYSSES RT

2 / 7 / 98

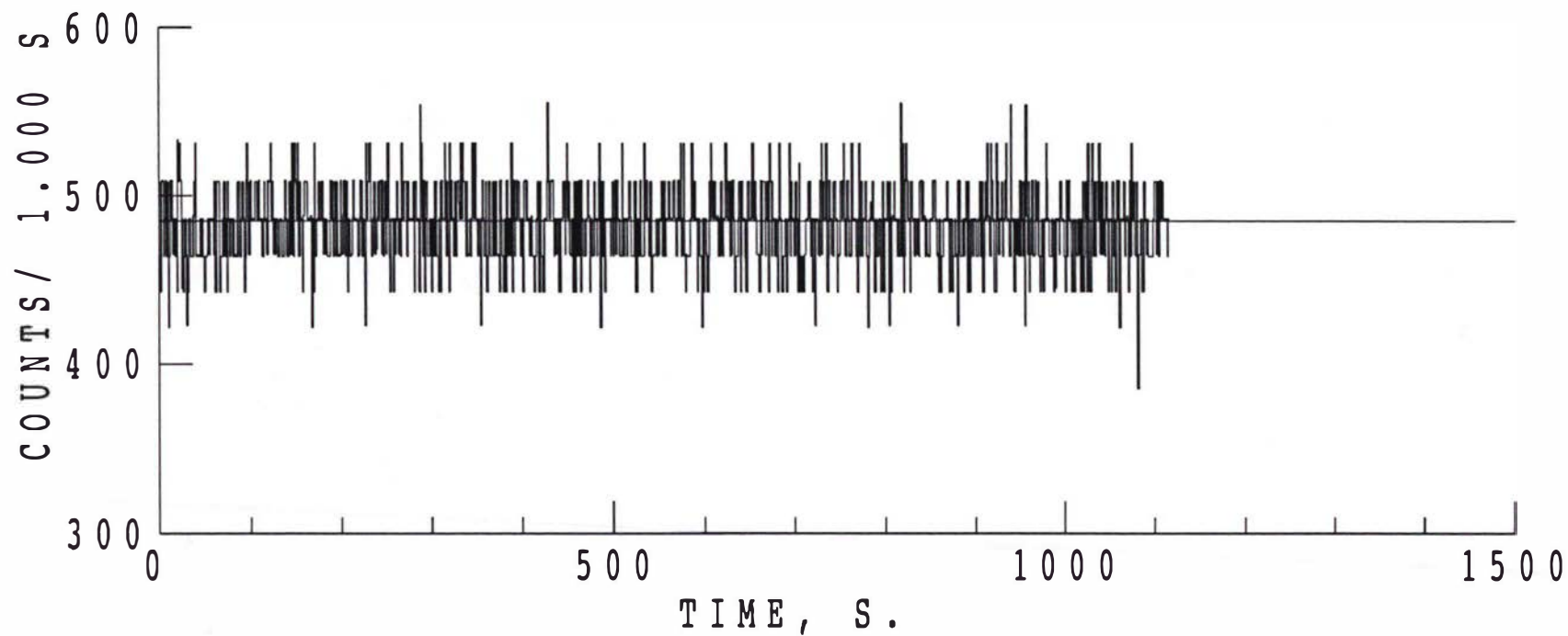
26 / 6 / 98 5112.393 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Thu Jul 2 07:29:23 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 9:28:54 -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.: 6871

TIME: TJD=0990 SECONDS=9298

TYPE: ELECTRI SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From WOODSP@fender.msfc.nasa.gov Thu Jul 2 07:40:44 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 9:40:09 -0500 (CDT)

To: burst@compel.sr.unh.edu, grobad@estsa2.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.: 6872

TIME: TJD=0990 SECONDS=17456

TYPE: ELECTRI SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE

From WOODSP@fender.msfc.nasa.gov Thu Jul 2 07:57:48 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 9:57:29 -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.: 6873

TIME: TJD=0990 SECONDS=25772

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=81.9 AZIMUTH=356 ERROR=3.0 DEGREES

COMMENTS:

SOLAR FLARE. OVERWRITTEN DURING STTE. NO GOES IDENTIFICATION.

From WOODSP@fender.msfc.nasa.gov Thu Jul 2 08:04:51 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 10:04:36 -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.: 6874

TIME: TJD=0990 SECONDS=26793

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

From WOODSP@fender.msfc.nasa.gov Thu Jul 2 08:26:05 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 10:25:44 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhea-www.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.: 6875

TIME: TJD=0990 SECONDS=35056

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE

Date: Oct 28 '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?

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

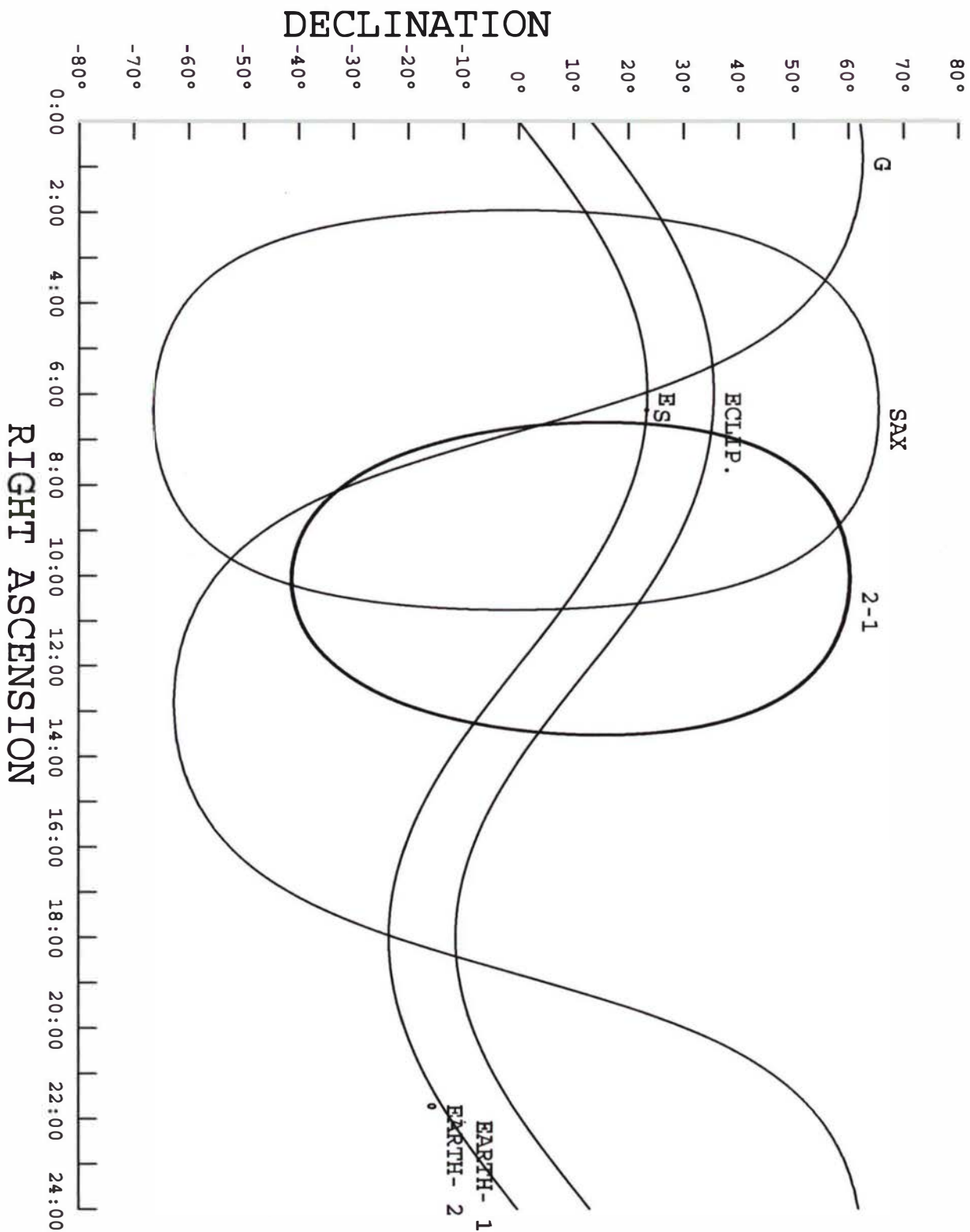
G=GALACTIC EQUATOR

1 ULYSSES

2 KONUS

EVENT OF JUN 26, 1998 13:49

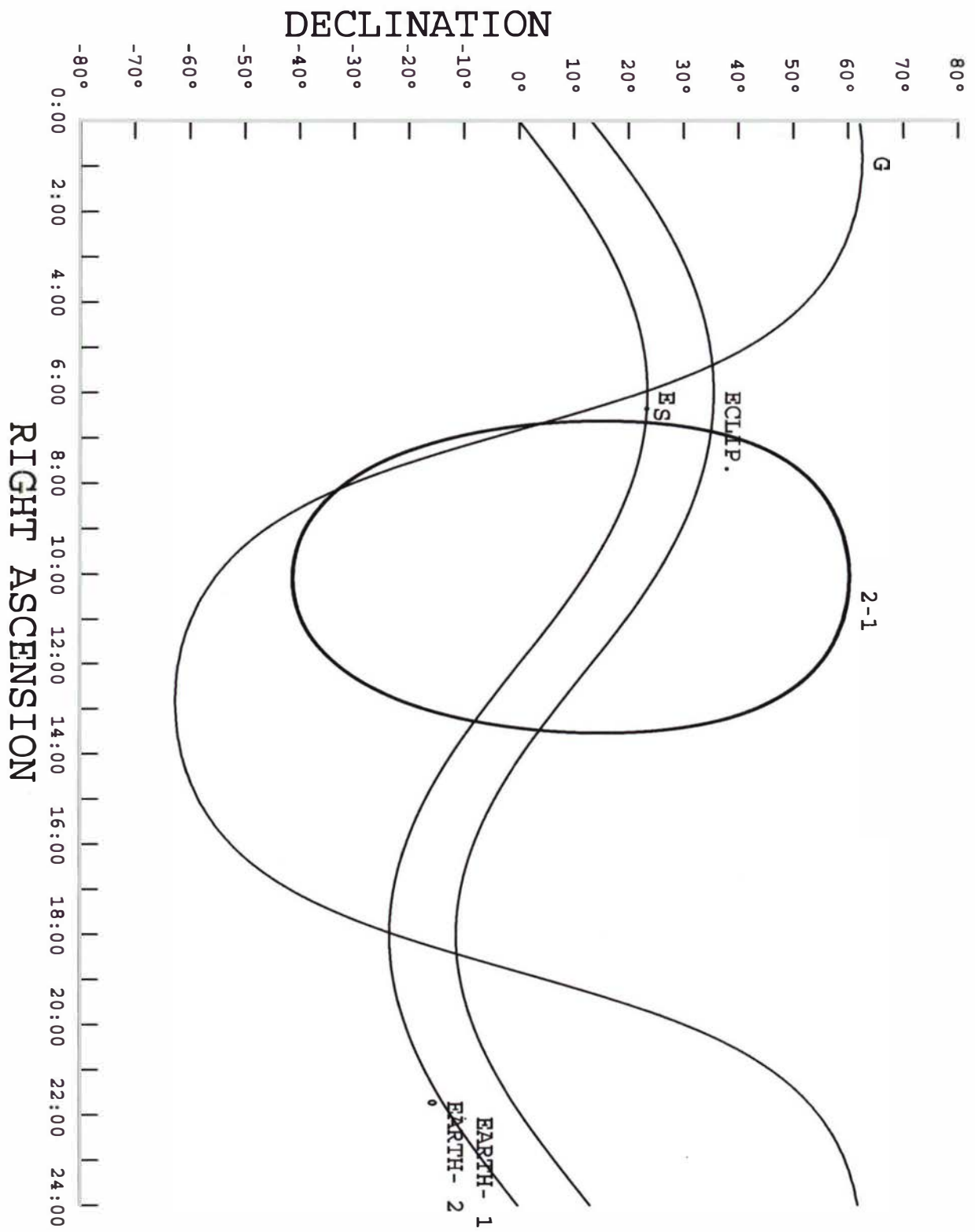
28/10/ 9



EVENT OF JUN 26, 1998 13:49

28/10/ 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 KONUS



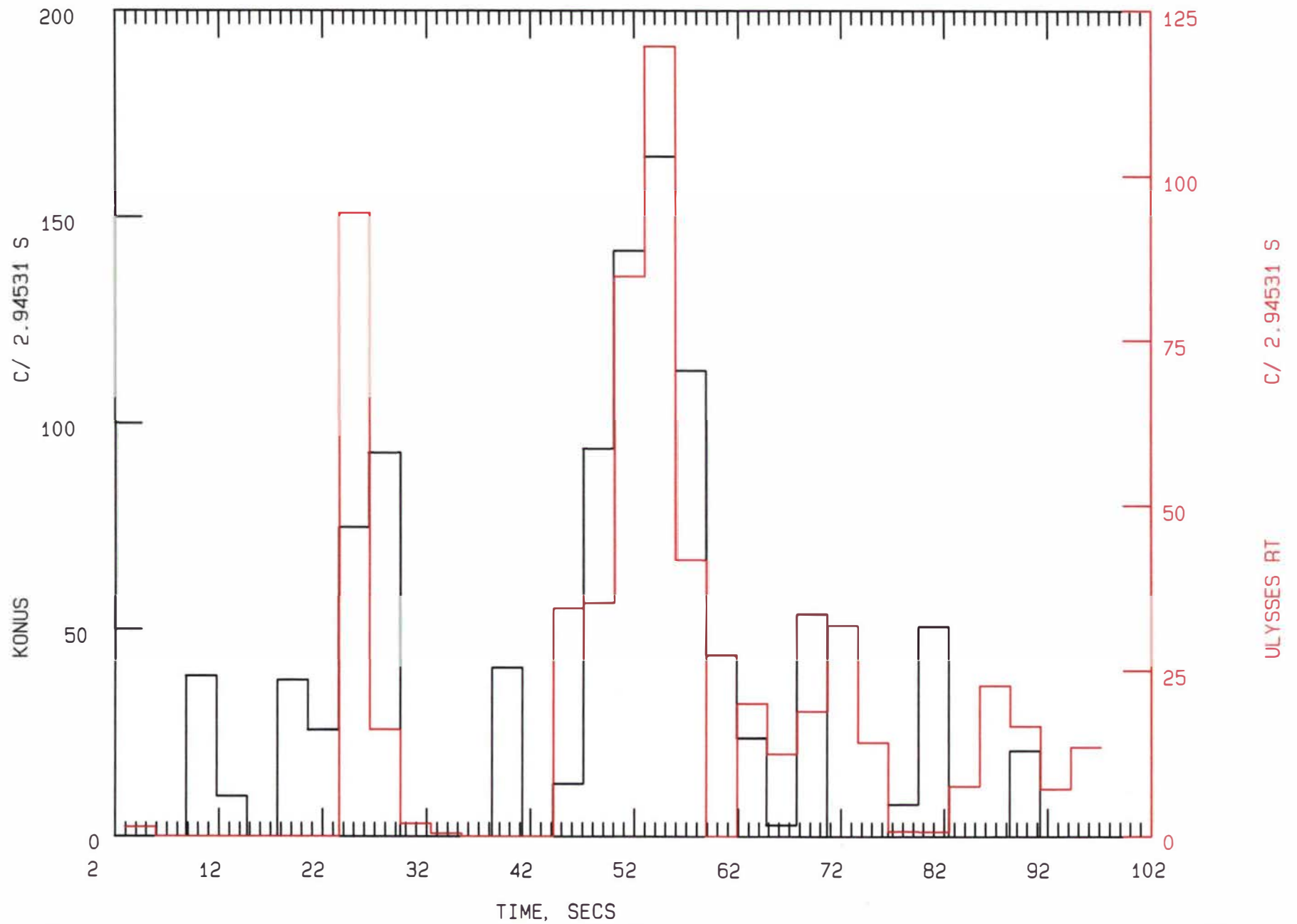
KONUS

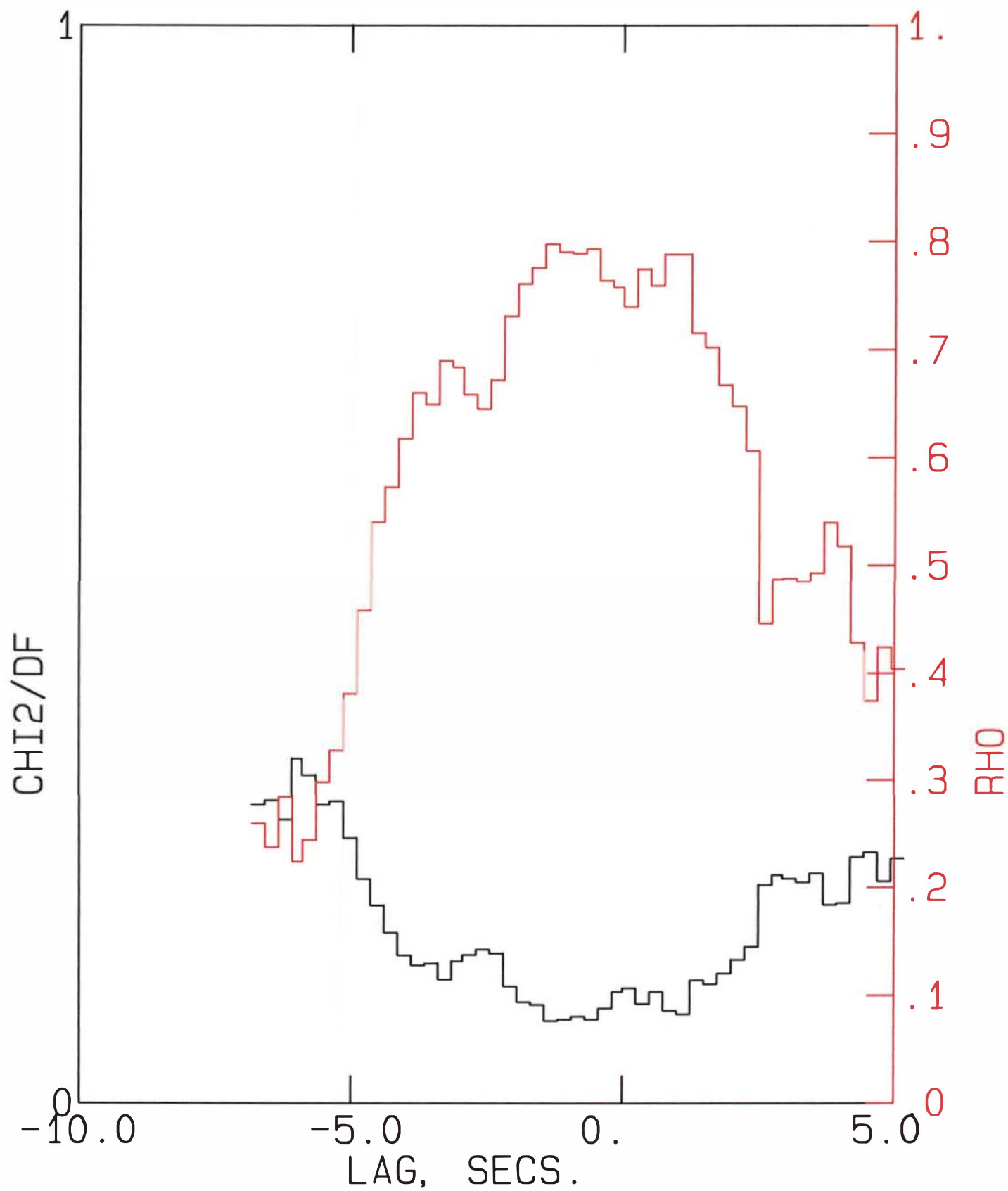
-ULYSSES RT CORRELATION

26/06/98

51640.441

28/10/ 9





KONUS

26/06/98 51640.441

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

3500

DETECTOR 1 - S. ECLIPTEIC

2500

1500

500

20

40

60

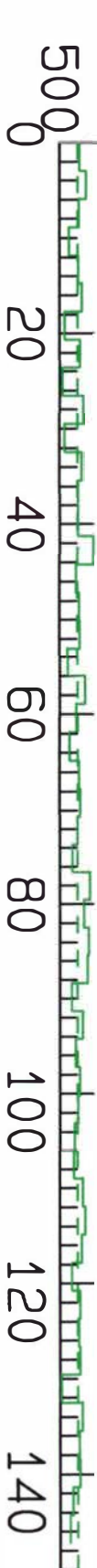
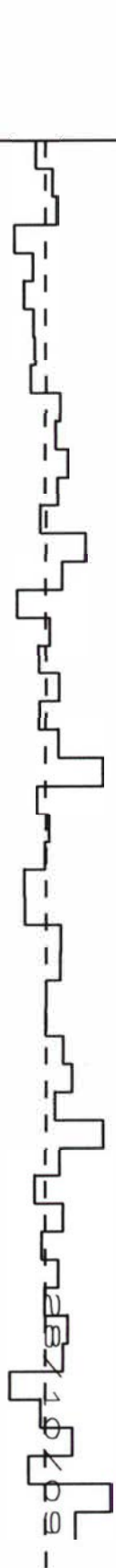
80

100

120

140

TIME, SECS



KONUS

26/06/98 51640.441

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

4300

3300

2300

1300

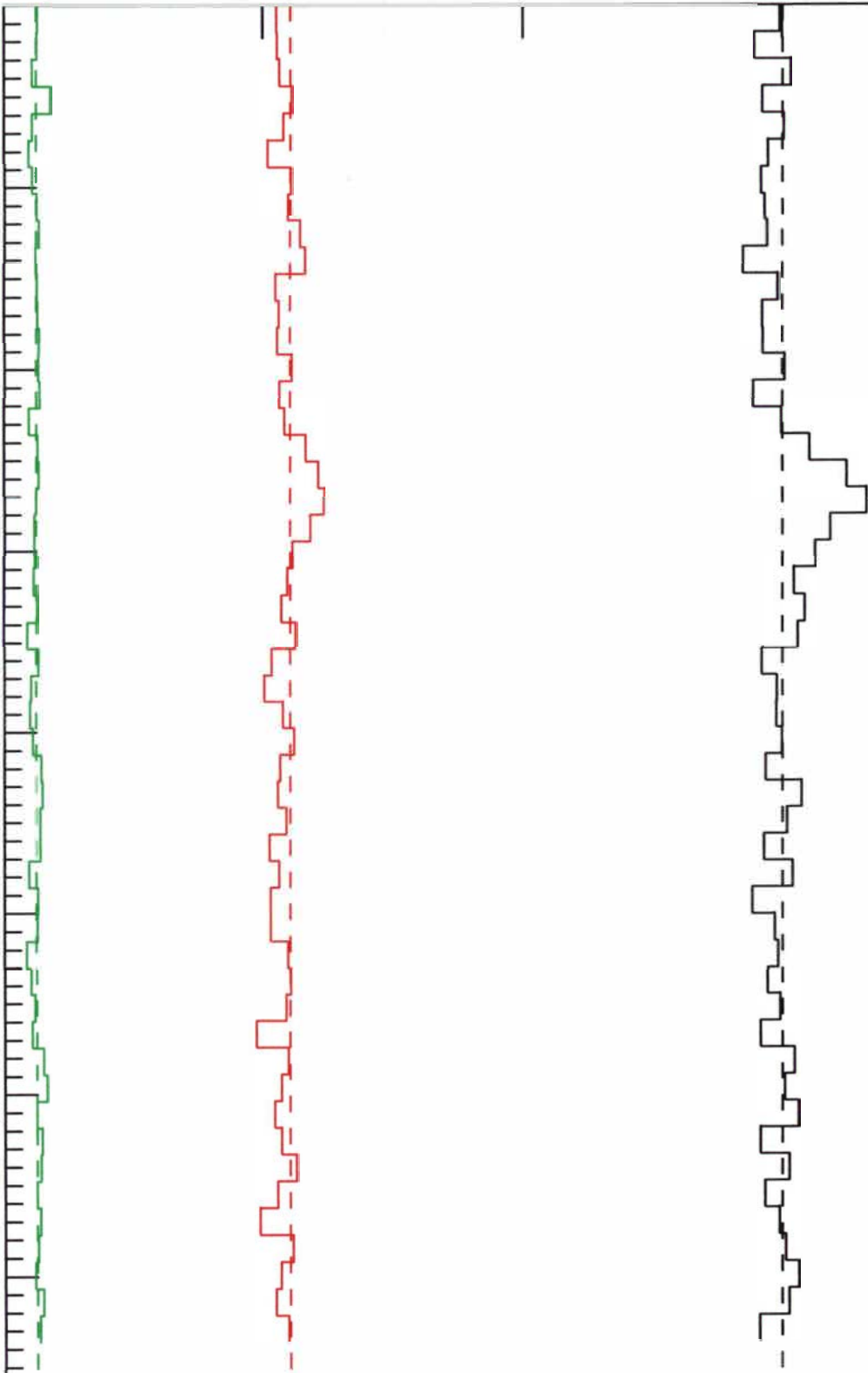
300

DETECTOR 2 - N. ECLIPTIC

28/10/09

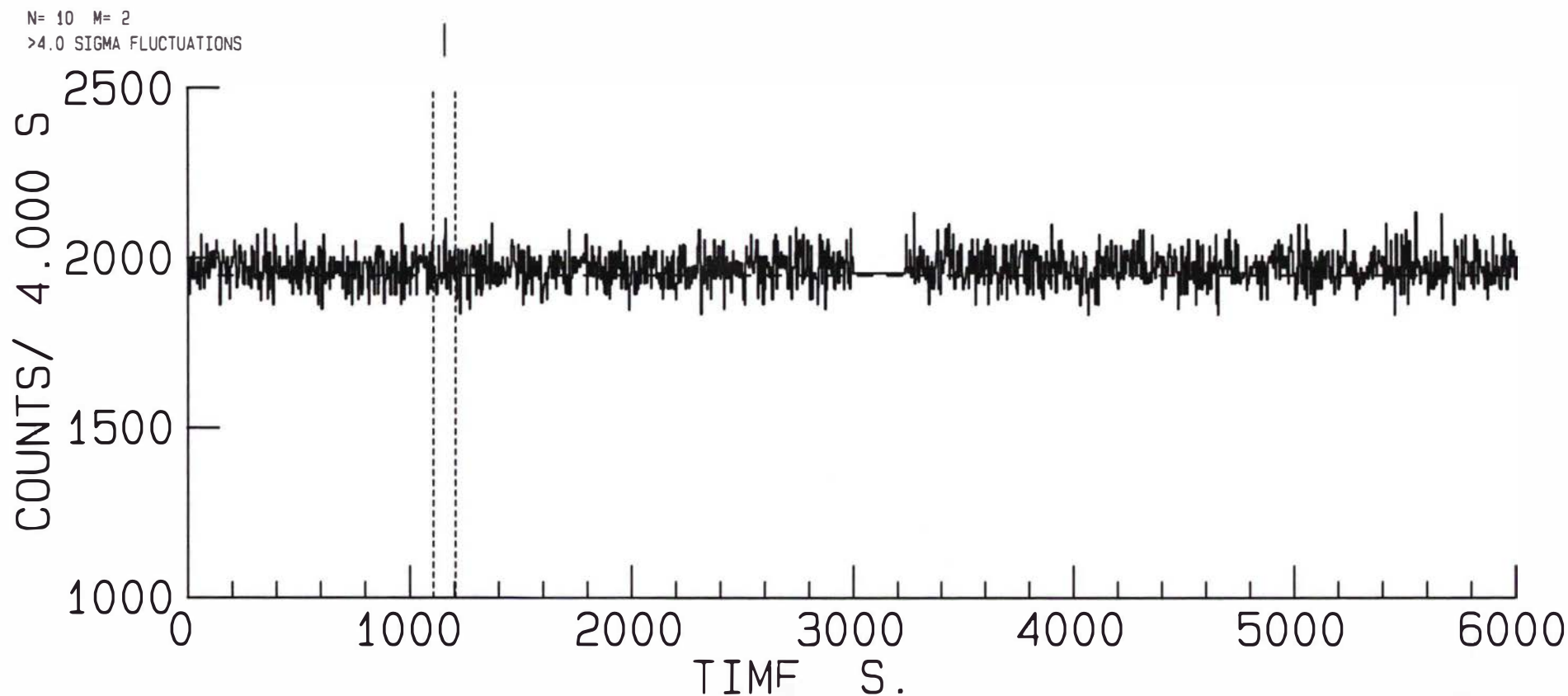
TIME, SECS

0 20 40 60 80 100 120 140



ULYSSES RT
26/ 6/98 48672.105 s
0.250 S INTERVALS REGROUPED BY 16
22- 150 keV

28/10/ 9

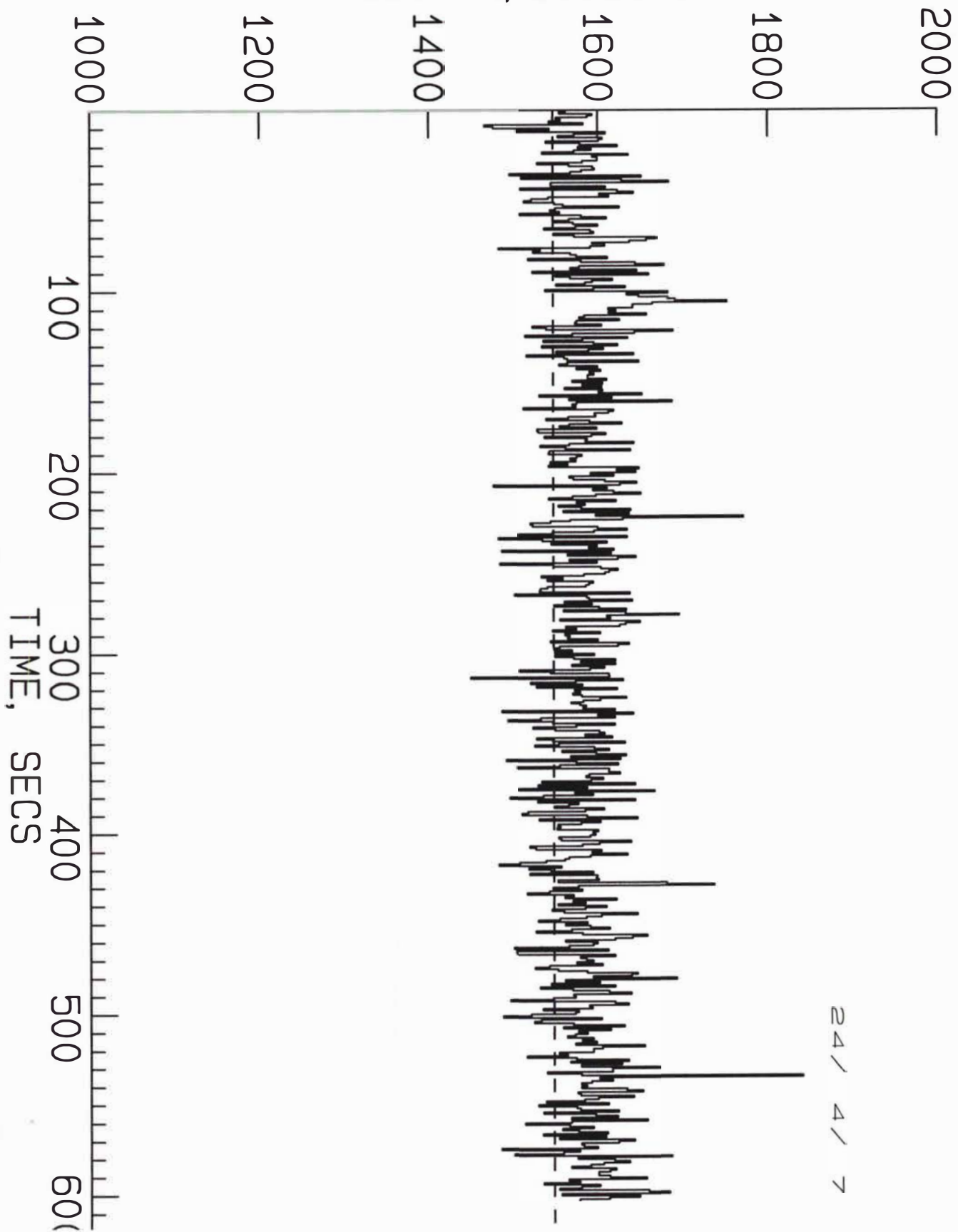


SAX GRBM

26/06/98 51586.964

40- 700 keV 14:19:46

COUNTS/1.000 S



KONUS

ULYSSES RT

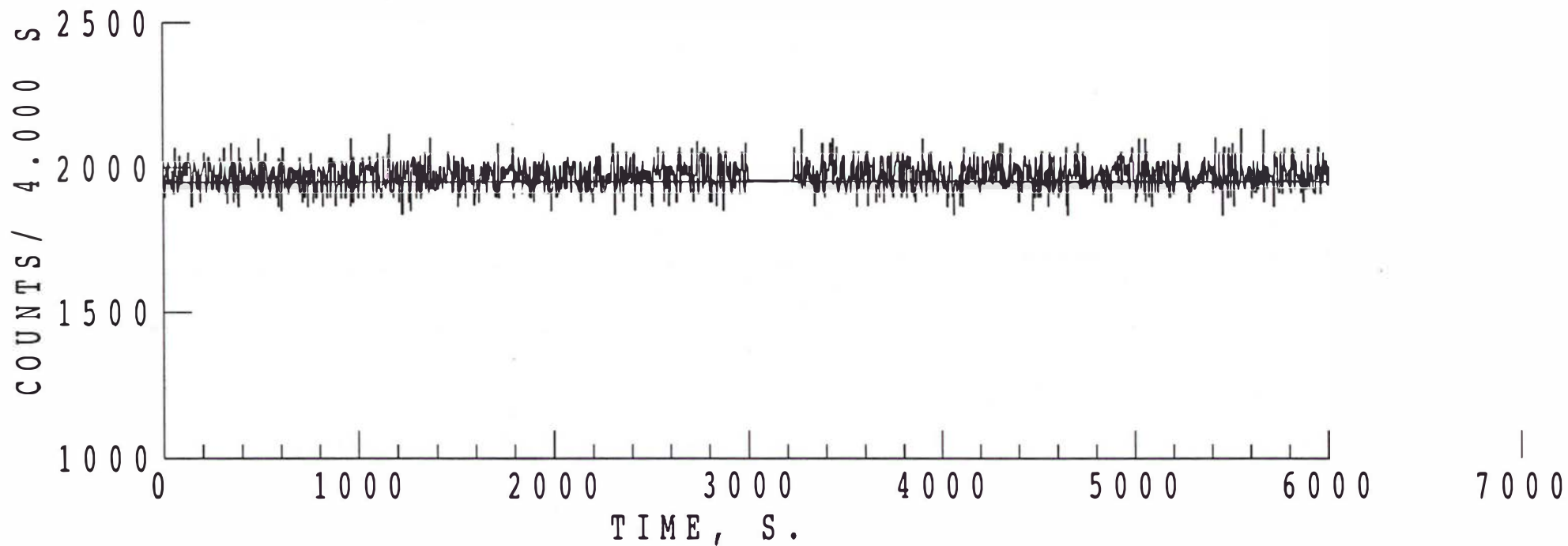
5 / 12 / 98

26 / 6 / 98 48672.105 s

0.250 S INTERVALS REGROUPED BY 16

0 - 0 keV

H= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Thu Jul 2 08:12:31 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 2 Jul 1998 10:12:09 -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

No

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6876

June 26

286.8 9.3

TIME: TJD=0990 SECONDS=51928

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=142.6 AZIMUTH=176 ERROR=13 DEGREES

COMMENTS:

SGR 1900 + 14. SHORT WEAK BURST. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 6876

ULYSSES RT

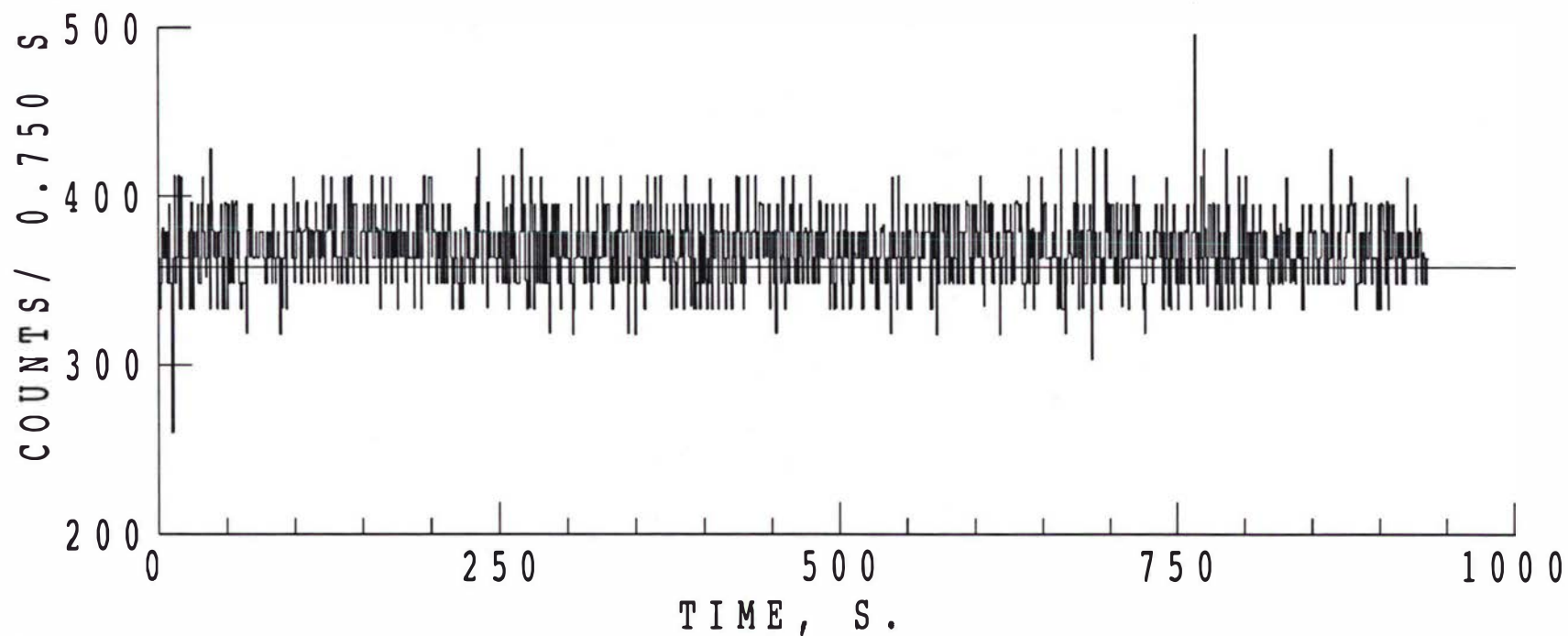
2 / 7 / 98

26 / 6 / 98 53460.160 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

B= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

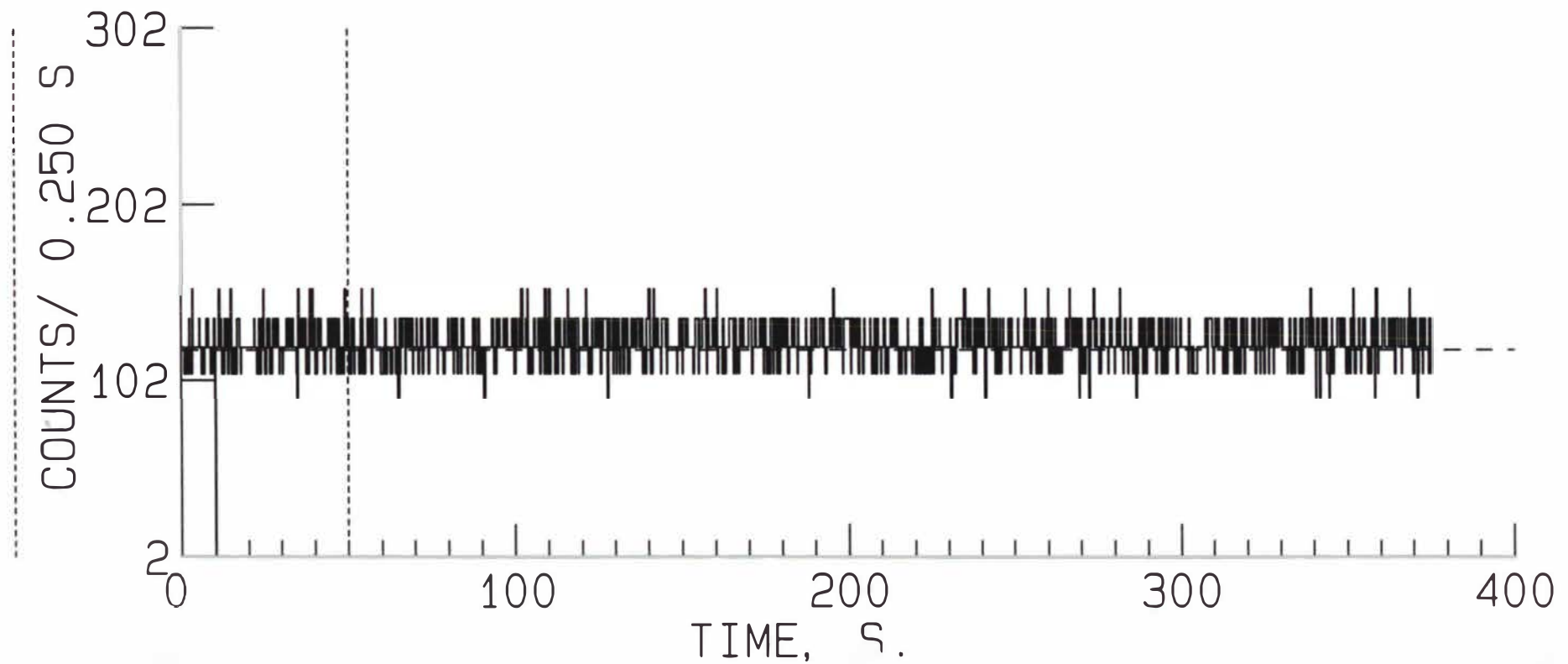


ULYSSES RT

3 / 7 / 98

26 / 6 / 98 53460.158 s

22- 148 keV

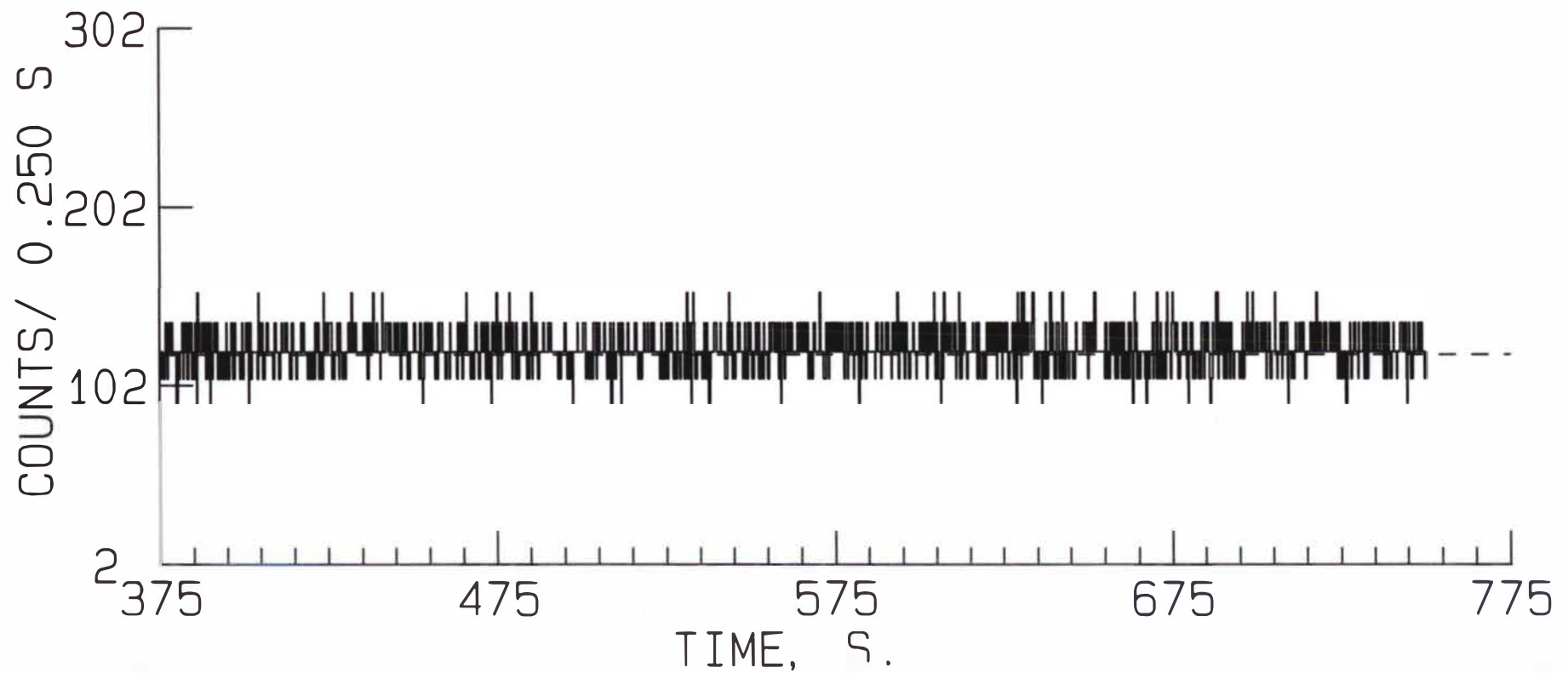


ULYSSES RT

3 / 7 / 98

26 / 6 / 98 53460.158 s

22- 148 keV

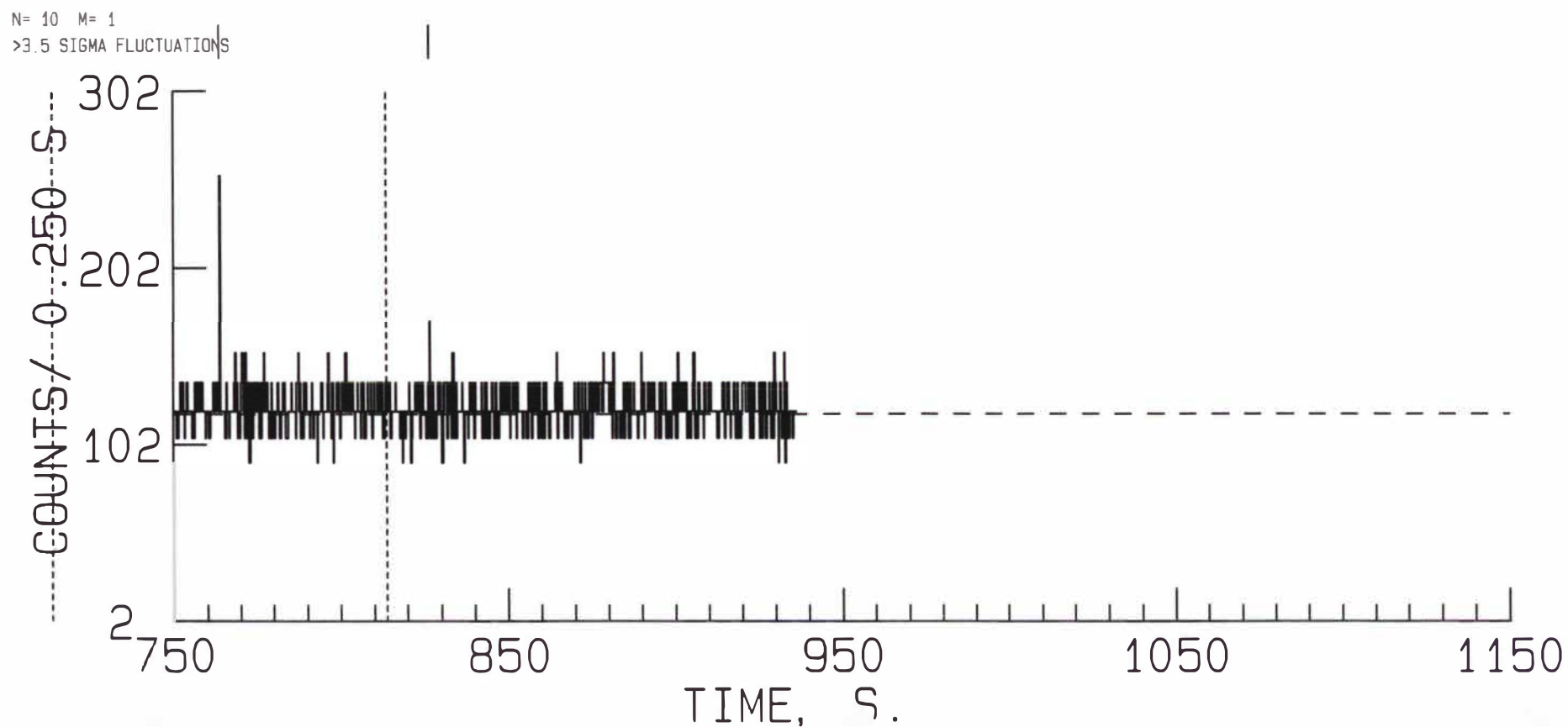


ULYSSES RT

3 / 7 / 98

26 / 6 / 98 53460.158 s

22- 148 keV



KONUS

ULYSSES RT

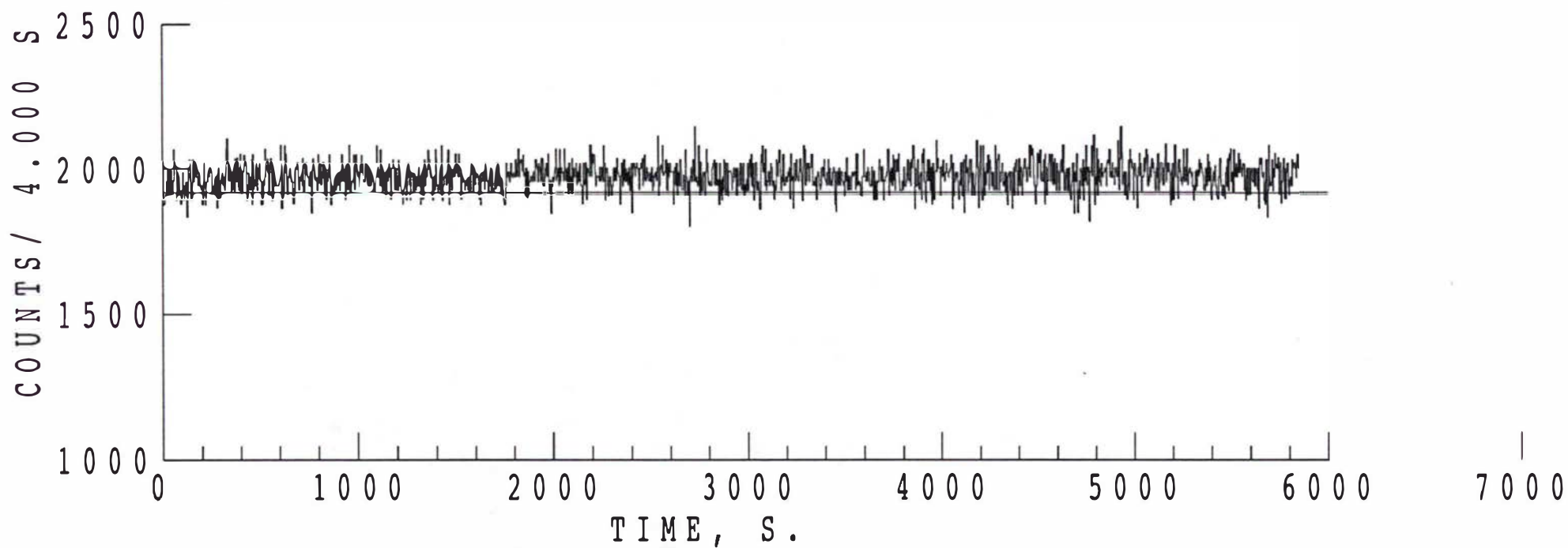
5 / 12 / 98

26 / 6 / 98 67176.047 s

0.250 S INTERVALS REGROUPED BY 16

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Thu Jul 2 07:18:28 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 HAA06336; Thu, 2 Jul 1998 07:18:28 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA05747; Thu, 2 Jul 1998 07:18:26 -0700
Date: Thu, 2 Jul 1998 9:18:26 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980702091826.20200954@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6877
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6877
EVENT OF 1998 JUN 26 DAY OF YEAR=177
EVENT CROSSING TIME AT BATSE : 81586. S. OR 22:39:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 17.000 -73.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 6/ 98 IS:
RA= 150.518 DEC= 9.699 DIST= 5.930 AU
BATSE-ULYSSES DISTANCE = 887126120. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 68.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1063.98 SECS.
CROSSING TIME AT ULYSSES IS 82650. S. OR 22:57:29 +/- 545.55 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 6/ 98 IS:
RA= 82.288 DEC= 23.744 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376691424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 74.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 343.25 SECS.
CROSSING TIME AT MARS IS 81929. S. OR 22:45:29 +/- 215.06 SECONDS

X-Lines: 15
Status: RO

BATSE BURST TRIGGER

NO.: 6877

TIME: TJD=0990 SECONDS=81586

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=49.8 AZIMUTH=122 ERROR=10 DEGREES

COMMENTS:

5

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6877	980626	10990	81586	6000	017	-73	18

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

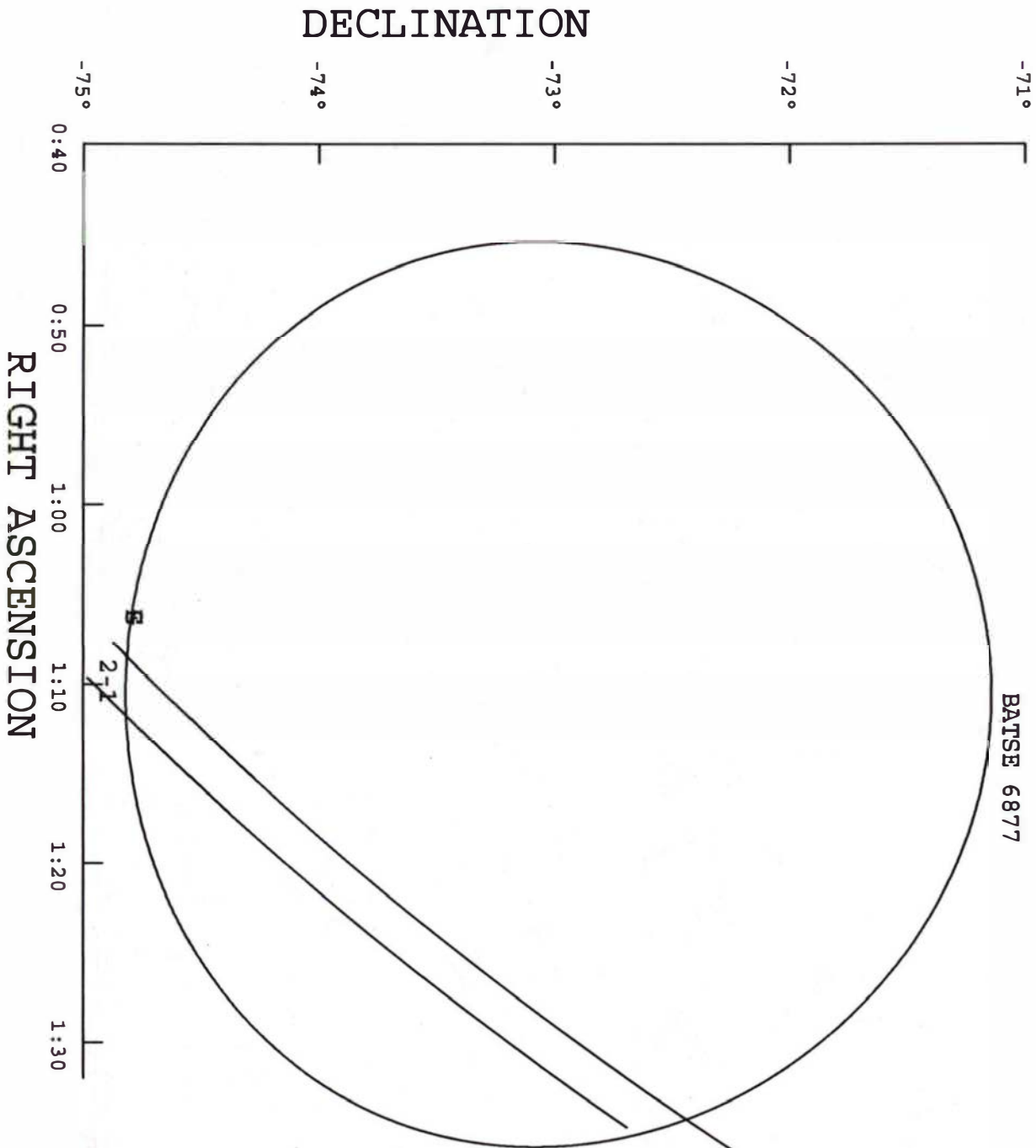
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 26, 1998 22:39

18 / 1 / 0

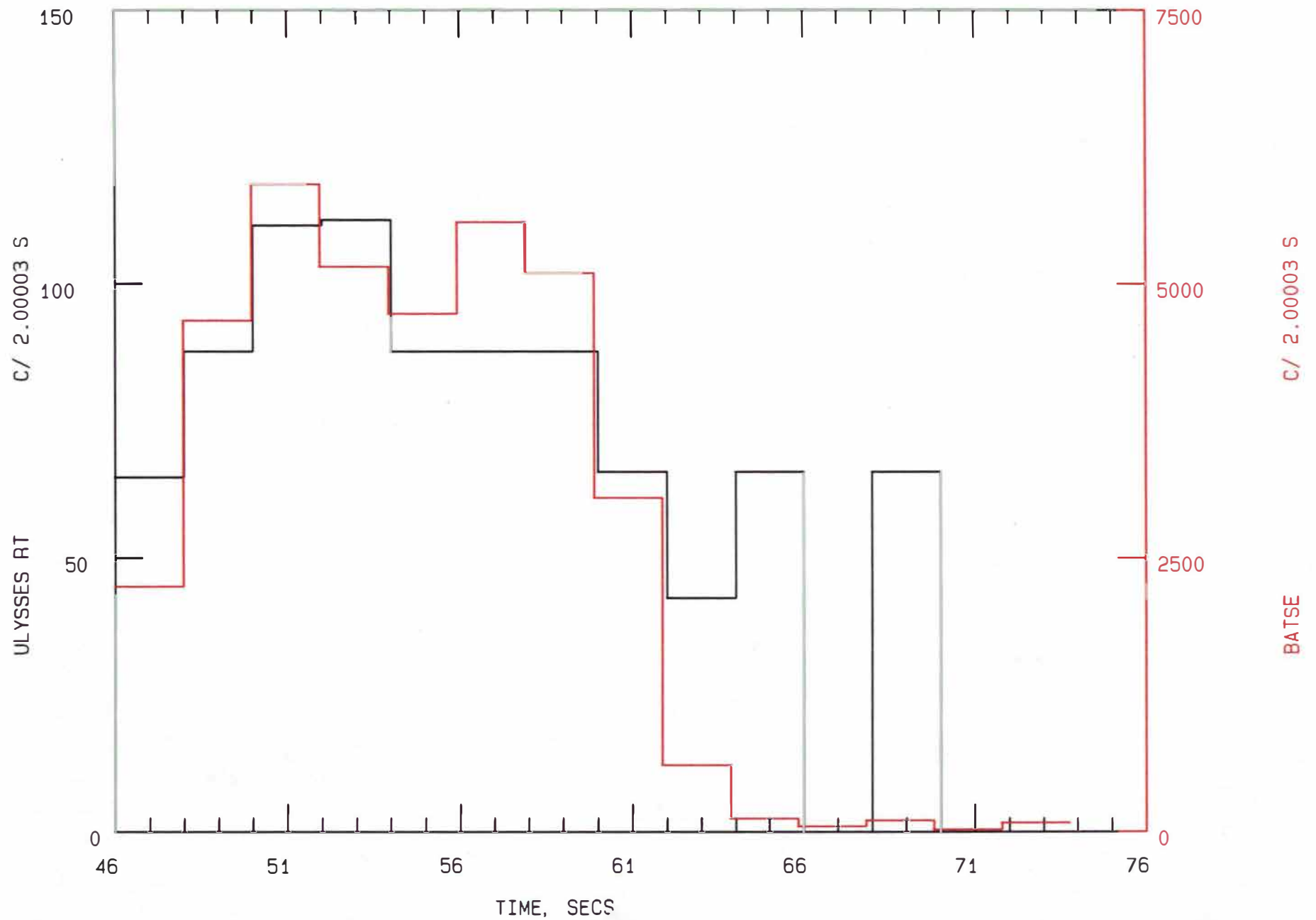


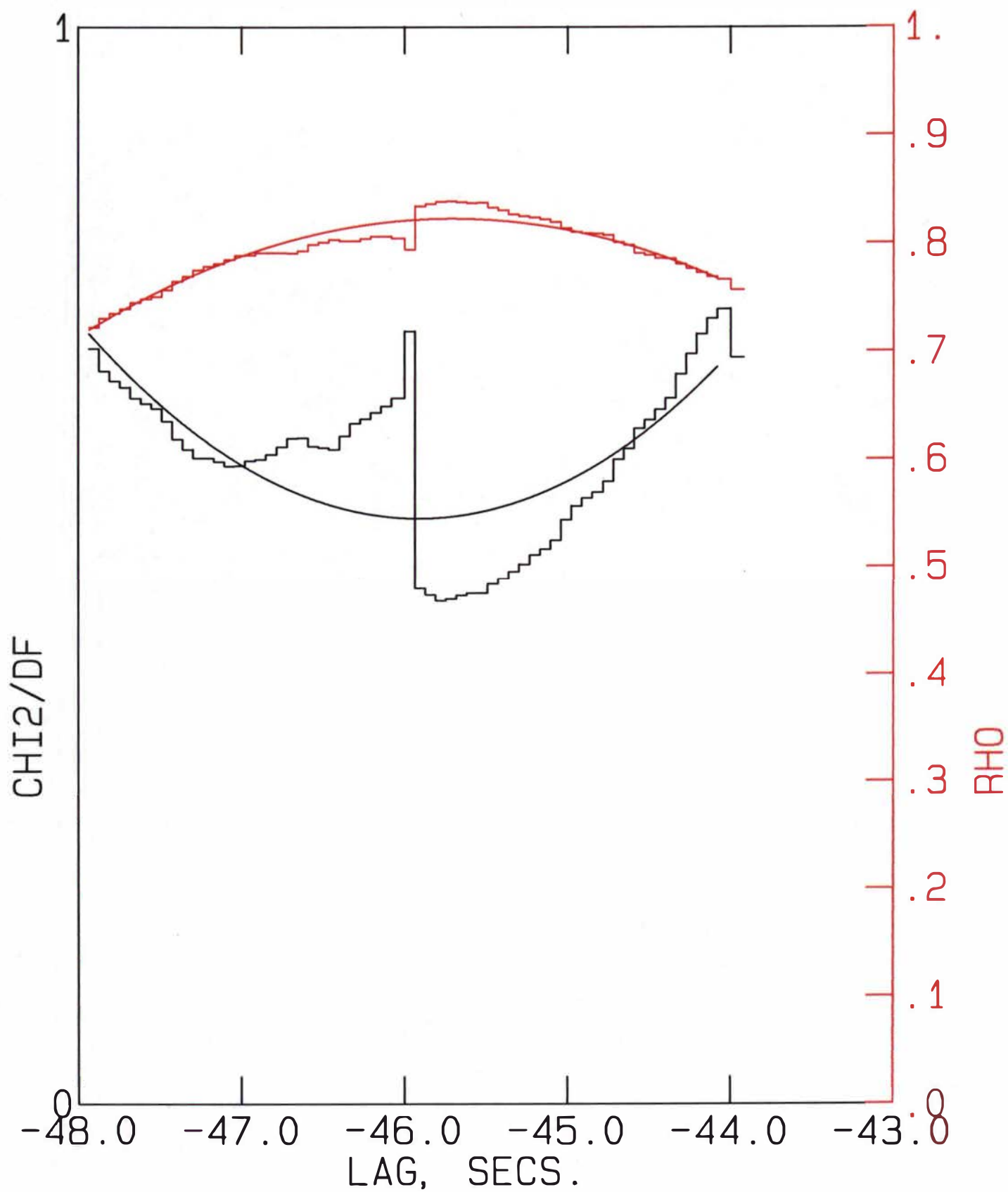
ULYSSES RT-BATSE

CORRELATION

26/ 6/98 82536.184

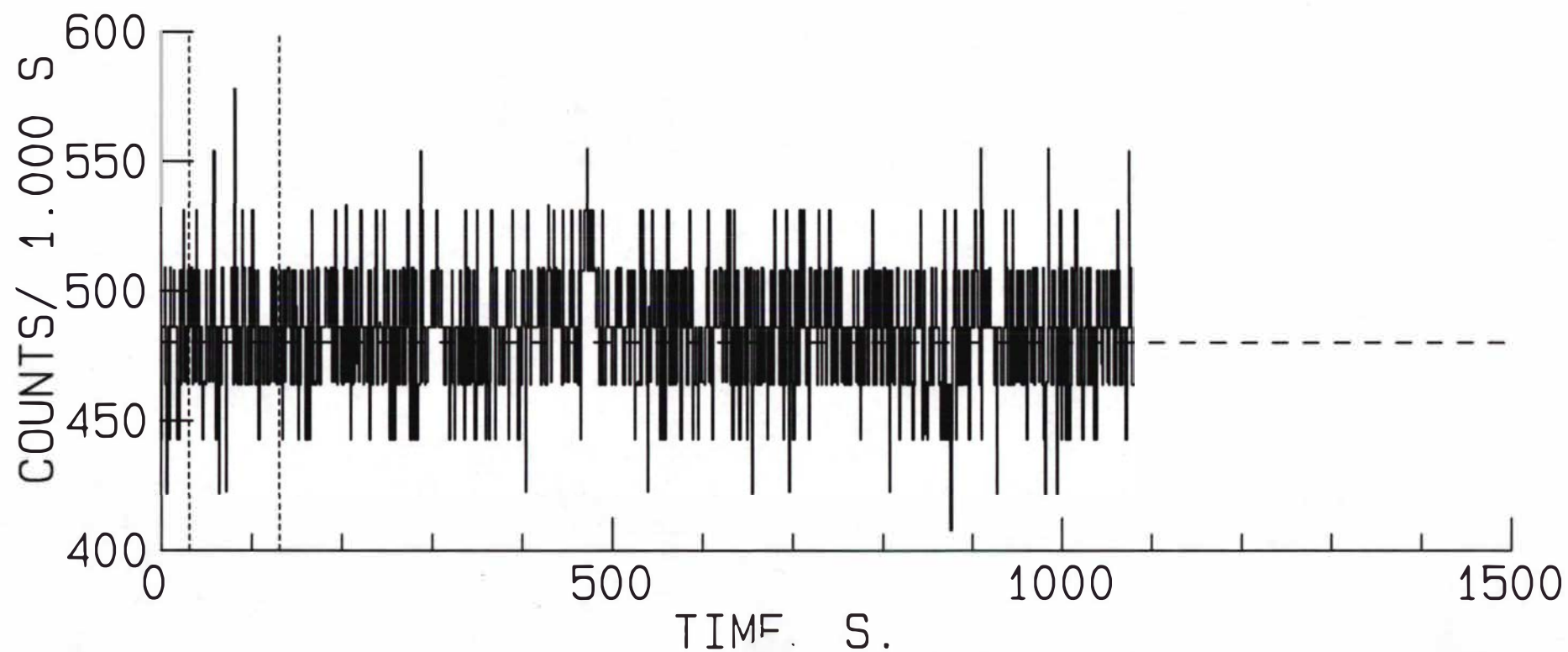
18/ 1/ 0





ULYSSES RT
26/ 6/98 82116.212 s
0.500 S INTERVALS REGROUPED BY 2
22- 150 keV

18/ 1/ 0



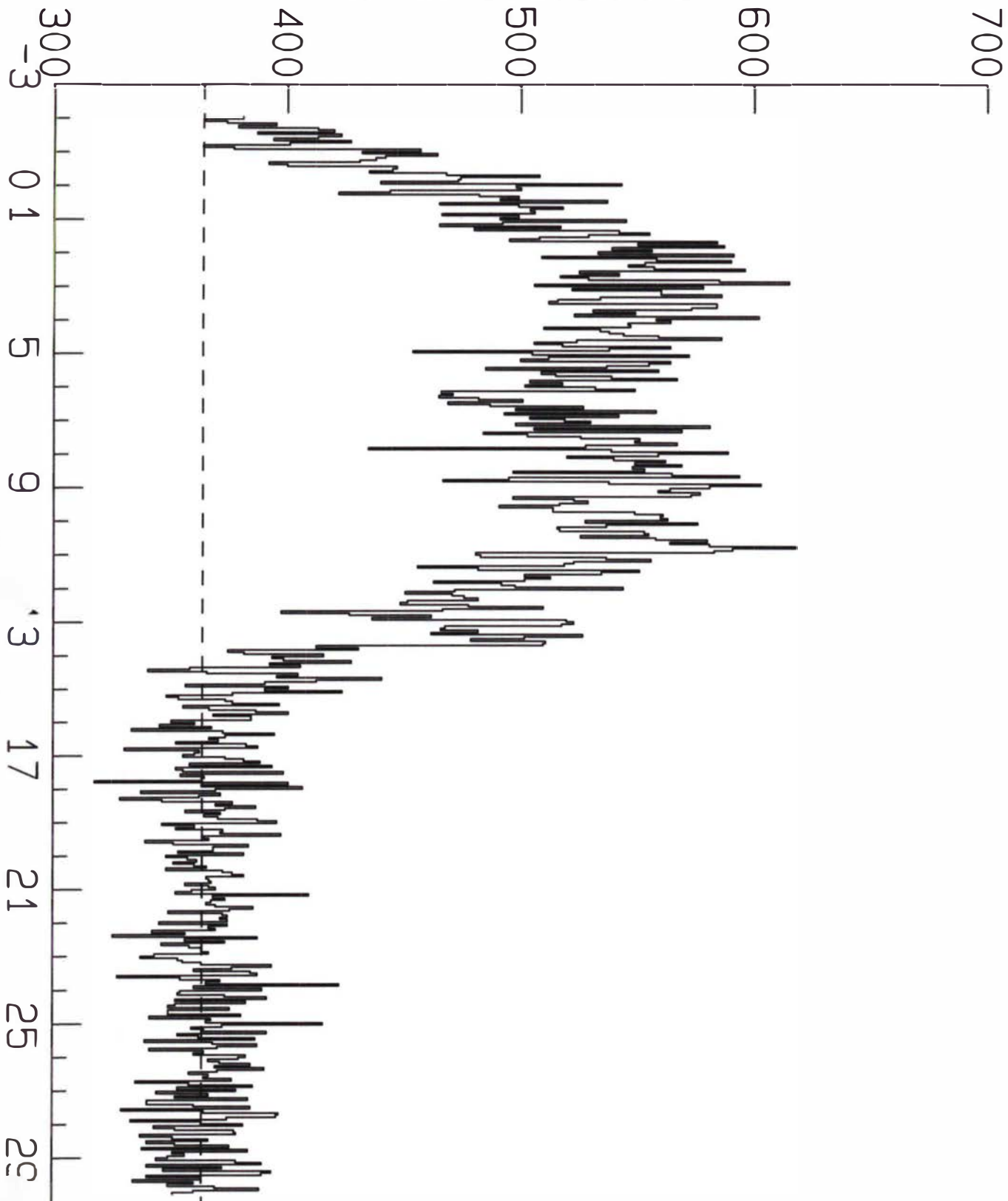
BATSE

26/06/98

81586.721

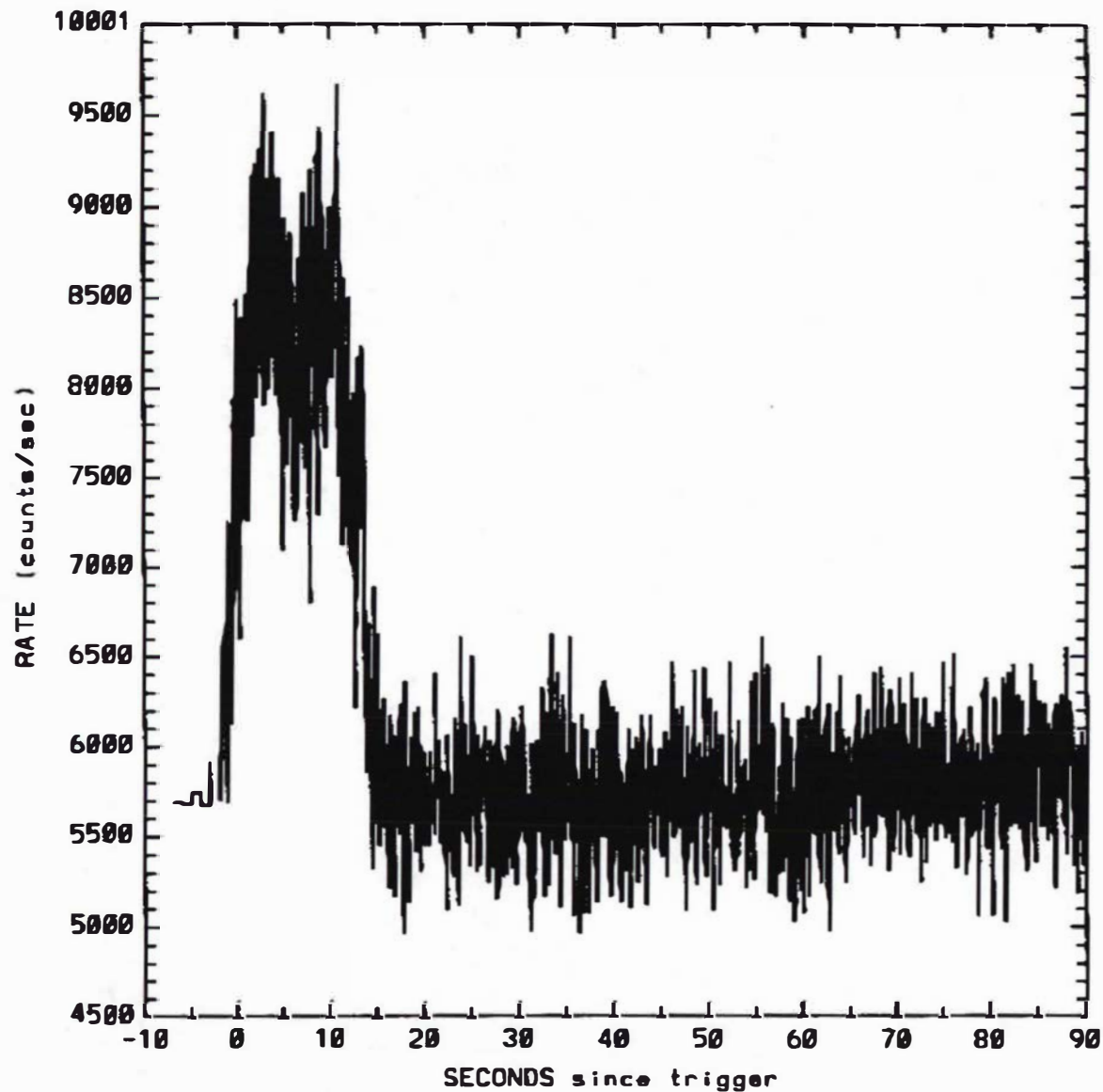
25- 100 keV

COUNTS/0.064 S



23 / 7 / 98

DISCSC Data for K. Hurley, No. 6877



9-JUL-1998 14:07:18

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger = 6877

Trigger Time:
10990 / 81586.721

Burst Data Type:
DISCSC

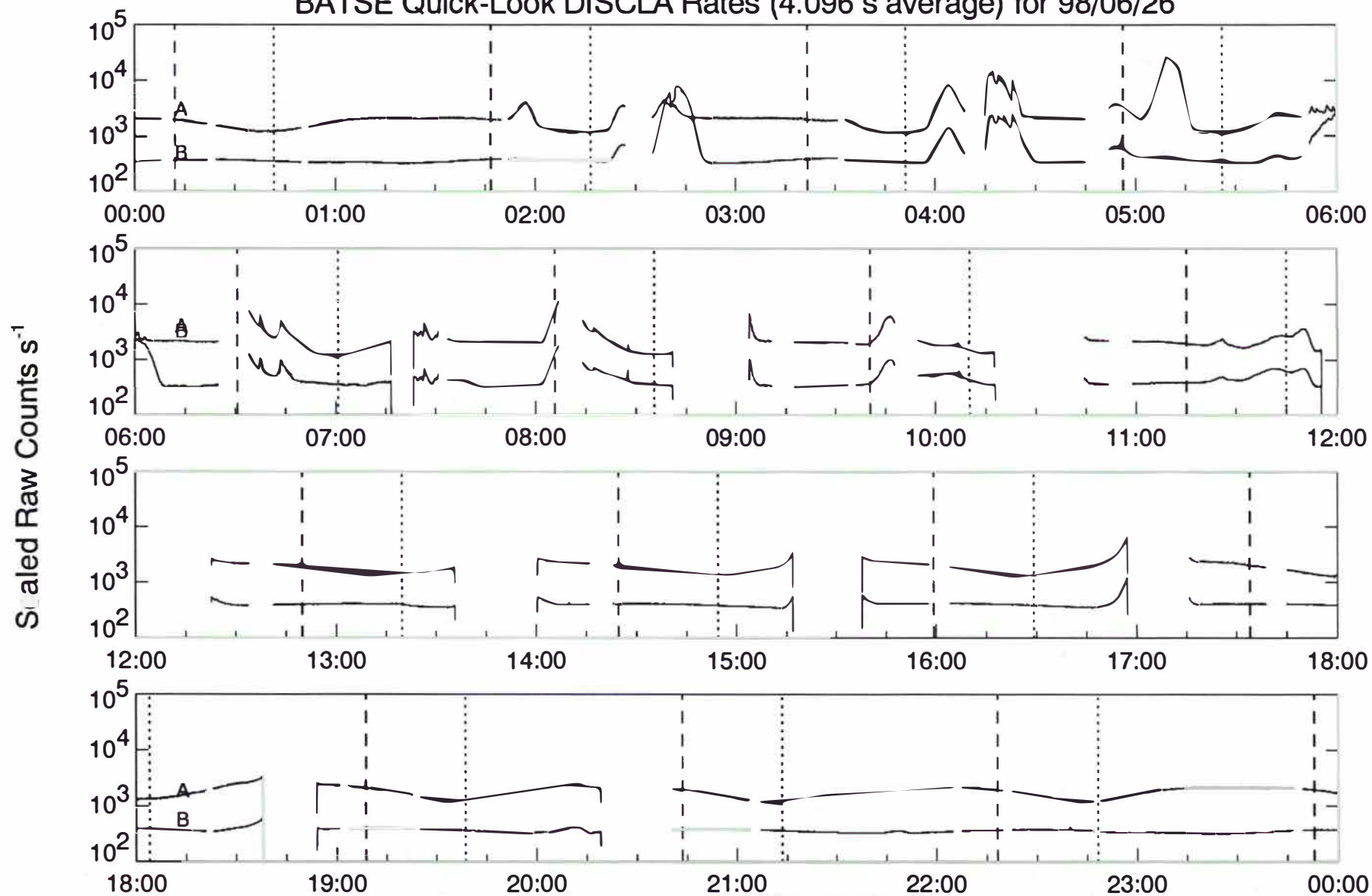
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)

Detectors [7..0].
---4---0

Discriminators:
(1..2)

Quality Mask:
BDISP1

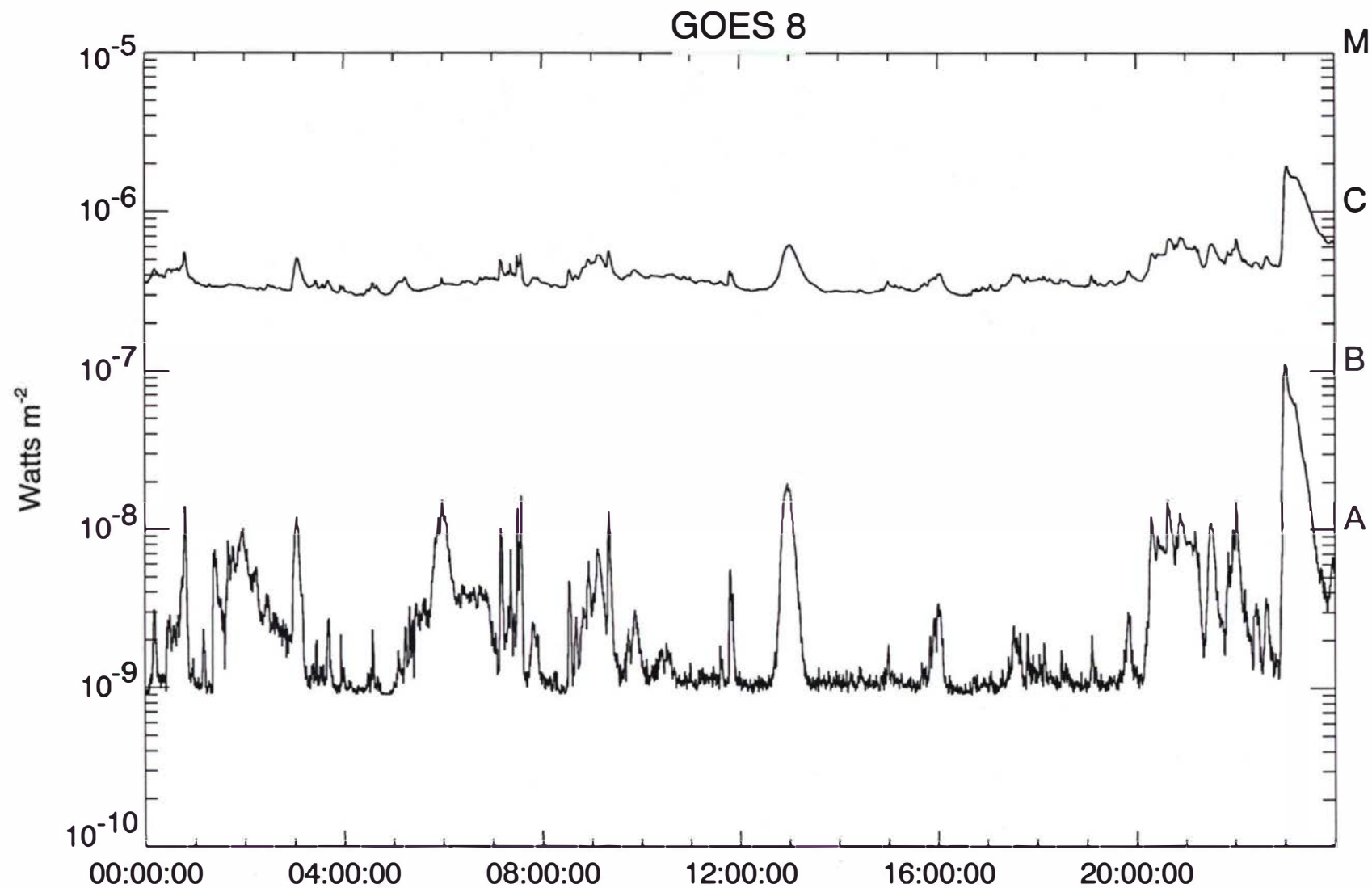
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/26



Current Time: 98/06/30, 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



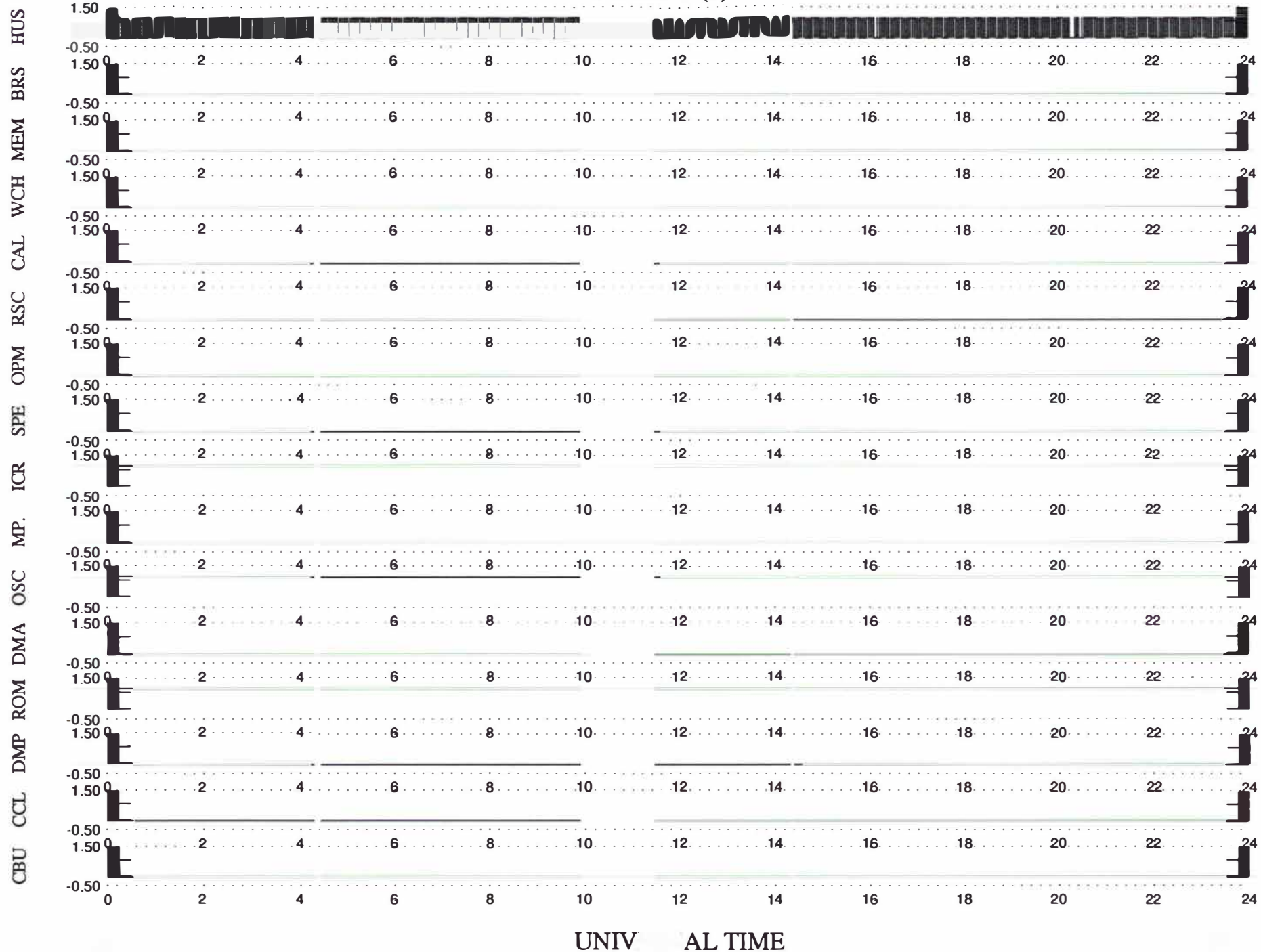
Data Start: 98/06/26, 0000:00

Plot created: 98/06/30, 1007

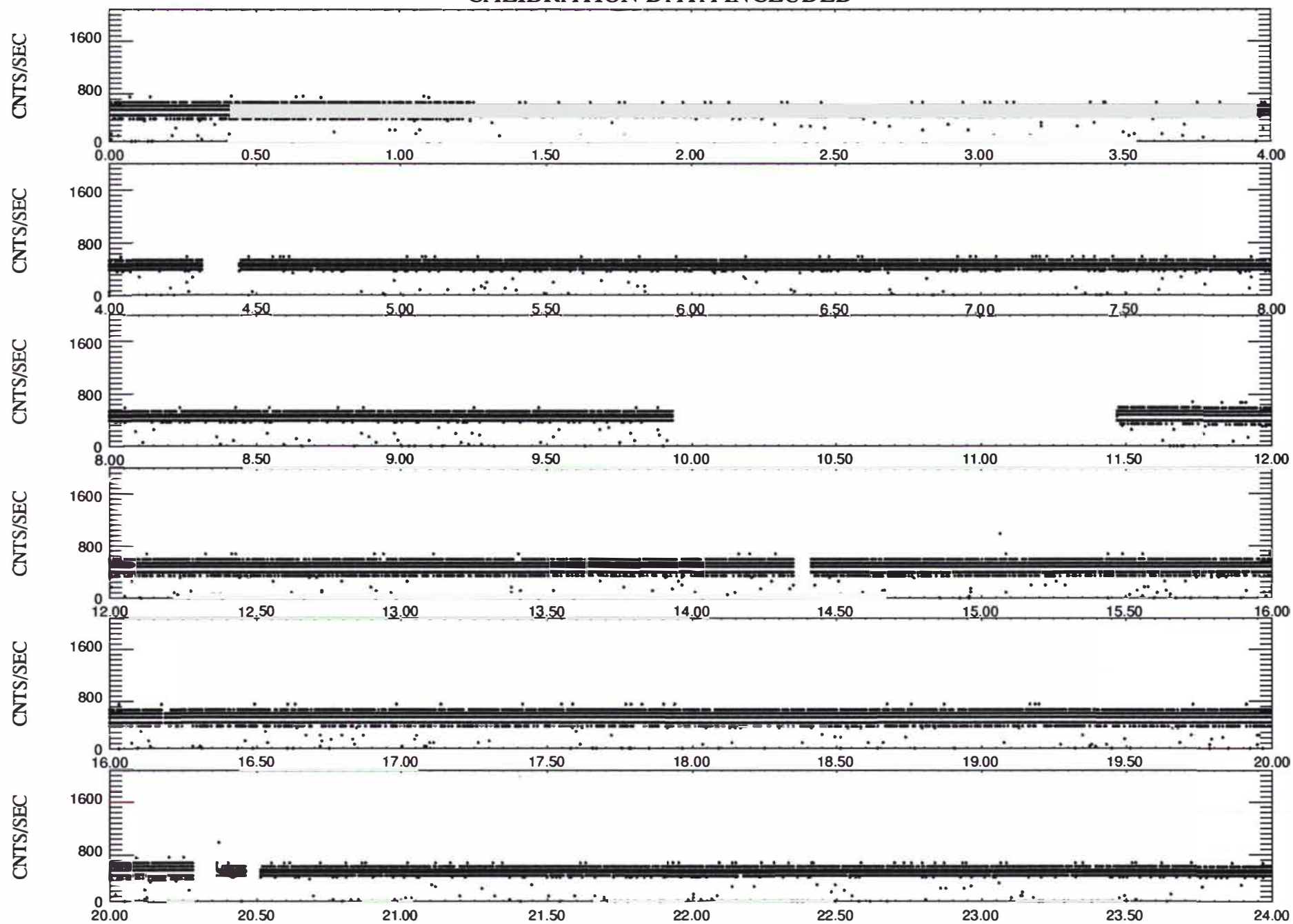
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

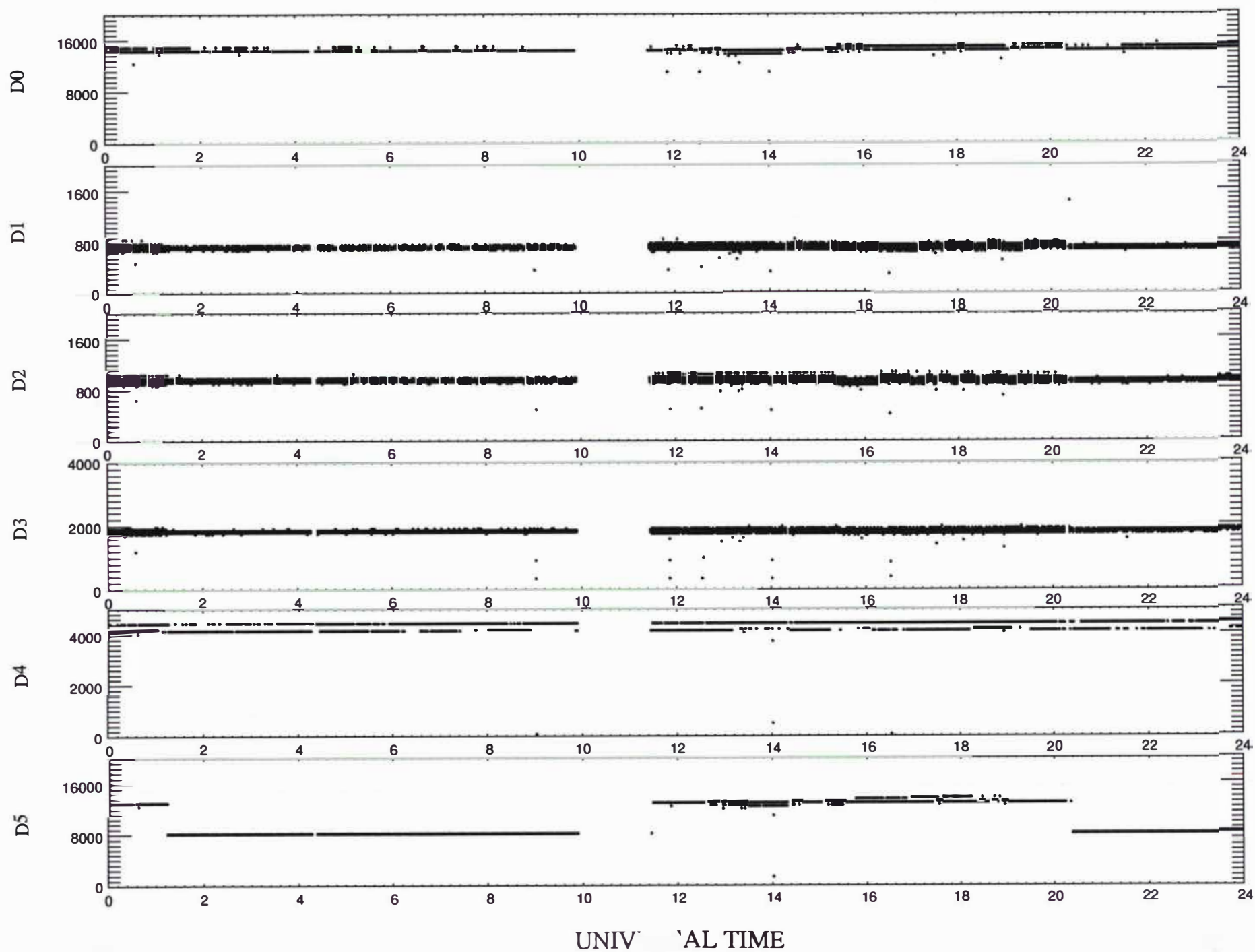
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



From SAHI@fender.msfc.nasa.gov Tue Jul 7 07:19:48 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:19:27 -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.: 6878

TIME: TJD=0991 SECONDS=4562

June 27
01:16:02

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=77.1 AZIMUTH=349.5 ERROR=0.23 DEGREES

COMMENTS:

GOES. M1.0, OPTICAL 1N. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 600 SECS
STARTS AT T-90 SECS, MAX. AT T+25 SECS. NOT VISIBLE ABOVE 100 KEV.

From SAHI@fender.msfc.nasa.gov Tue Jul 7 07:22:08 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:21:50 -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.: 6879

June 27

SGR 1900

286.8, 9.3

TIME: TJD=0991 SECONDS=12492 03:26:12

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.7 AZIMUTH=196.3 ERROR=13.9 DEGREES

COMMENTS:

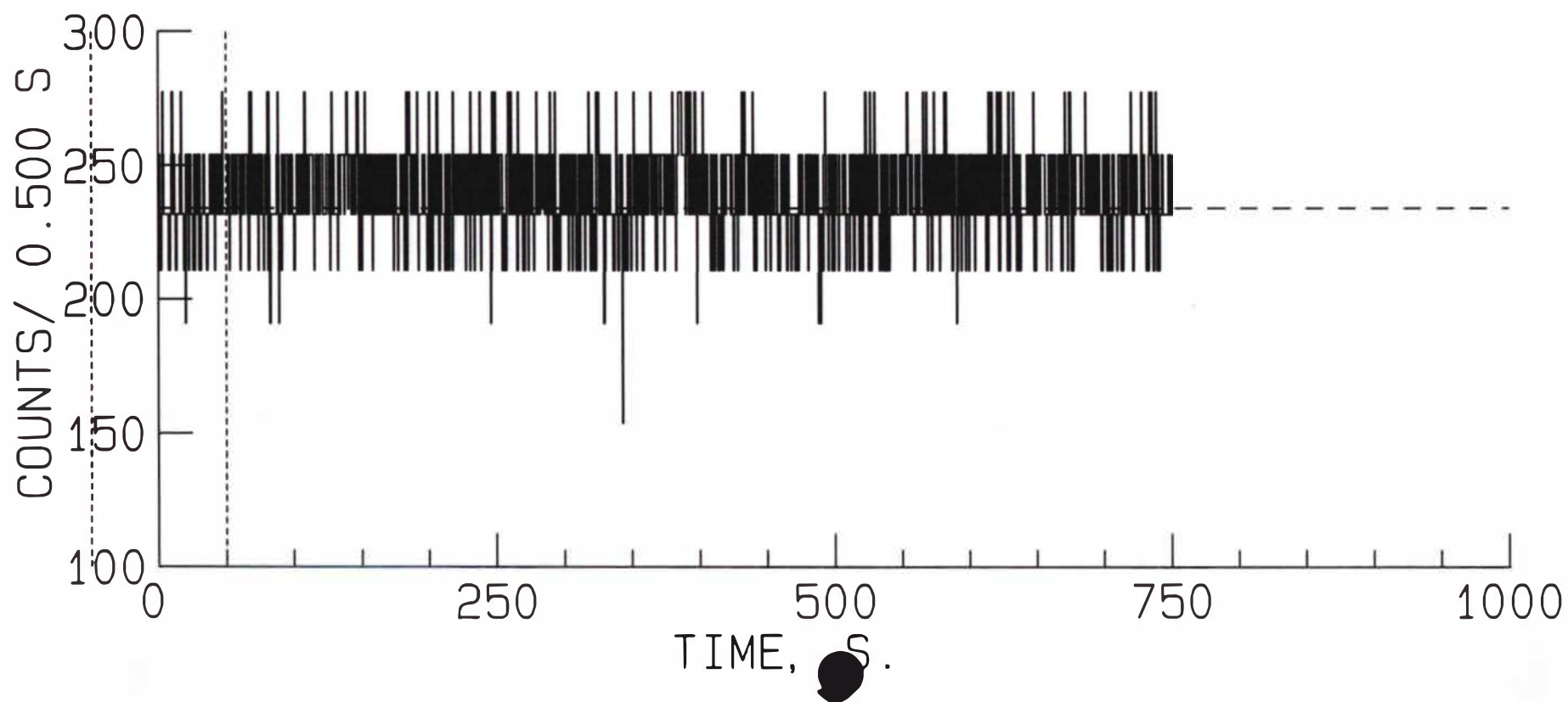
SGR. SINGLE SPIKE, DUR. APPROX. 0.04 SECS. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

8 / 7 / 98

27 / 6 / 98 14040.403 s

22- 148 keV

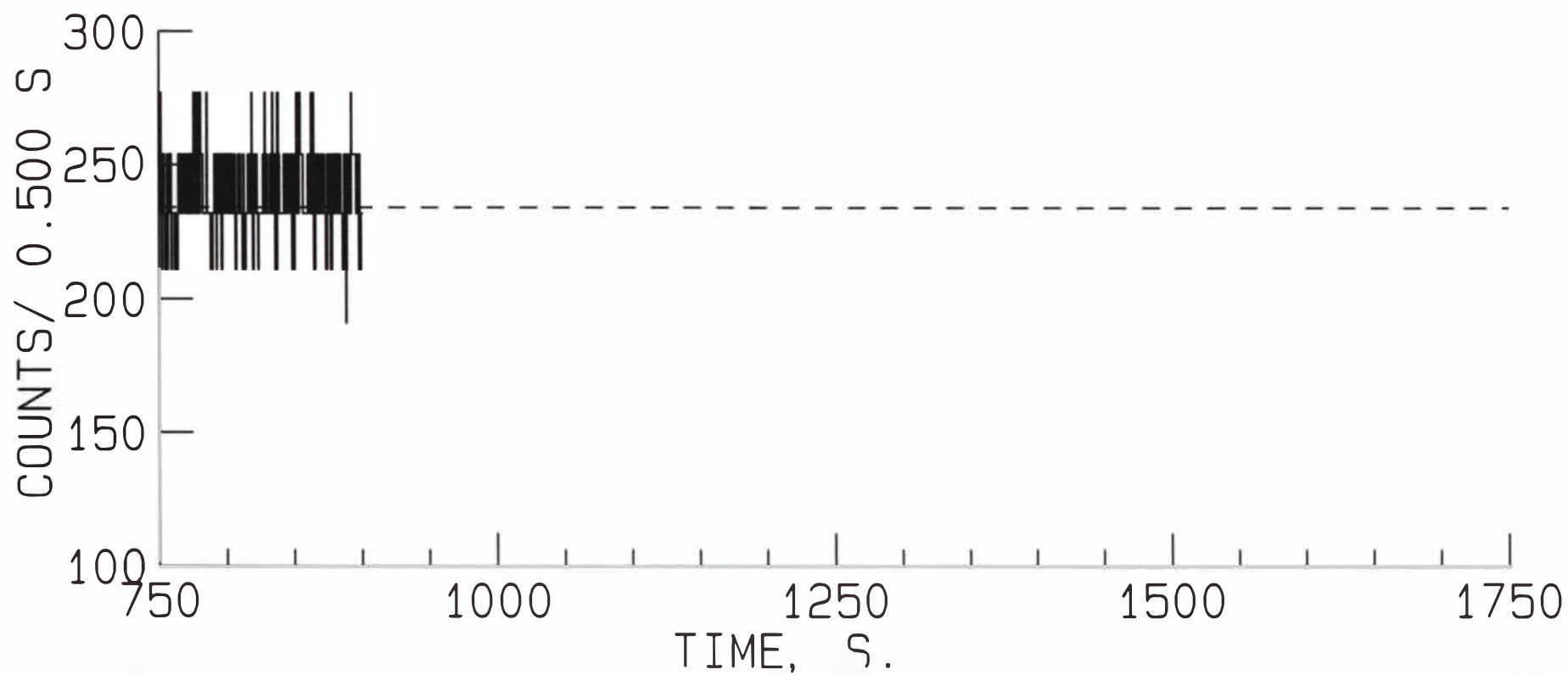


ULYSSES RT

8 / 7 / 98

27 / 6 / 98 14040.403 s

22- 148 keV



From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:54:19 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA05775; Wed, 8 Jul 1998 06:54:18 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA25414; Wed, 8 Jul 1998 06:54:18 -0700
Date: Wed, 8 Jul 1998 8:54:17 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980708085417.20207d2b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6880
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6880
EVENT OF 1998 JUN 27 DAY OF YEAR=178
EVENT CROSSING TIME AT BATSE : 15629. S. OR 04:20:29.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 160.000 -1.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 6/ 98 IS:
RA= 150.539 DEC= 9.682 DIST= 5.933 AU
BATSE-ULYSSES DISTANCE = 887587513. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=165.76 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2869.67 SECS.
CROSSING TIME AT ULYSSES IS 12759. S. OR 03:32:39 +/- 132.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 6/ 98 IS:
RA= 83.035 DEC= 23.788 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376656896. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=101.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -250.41 SECS.
CROSSING TIME AT MARS IS 15379. S. OR 04:16:18 +/- 209.95 SECONDS

BATSE BURST TRIGGER

NO.: 6880

TIME: TJD=0991 SECONDS=15629

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=54.2 AZIMUTH=289.2 ERROR=3.2 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. APPROX. 14 SECS, RISE IS FASTER THAN FALL. MARGINALLY
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6880	980627	10991	15629	4000	160	-01	14

Date: Nov 4 99

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? *N/A*
- ☒ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution?

2. BATSE Data

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

3. PVO Data

- ☐ Ephemeris of PVO used (not Venus)?
- ☐ 2000 coordinates used?
- ☐ Geocentric time used?

- ☒ ACCESS database updated?

No - burst is beyond end of current database

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

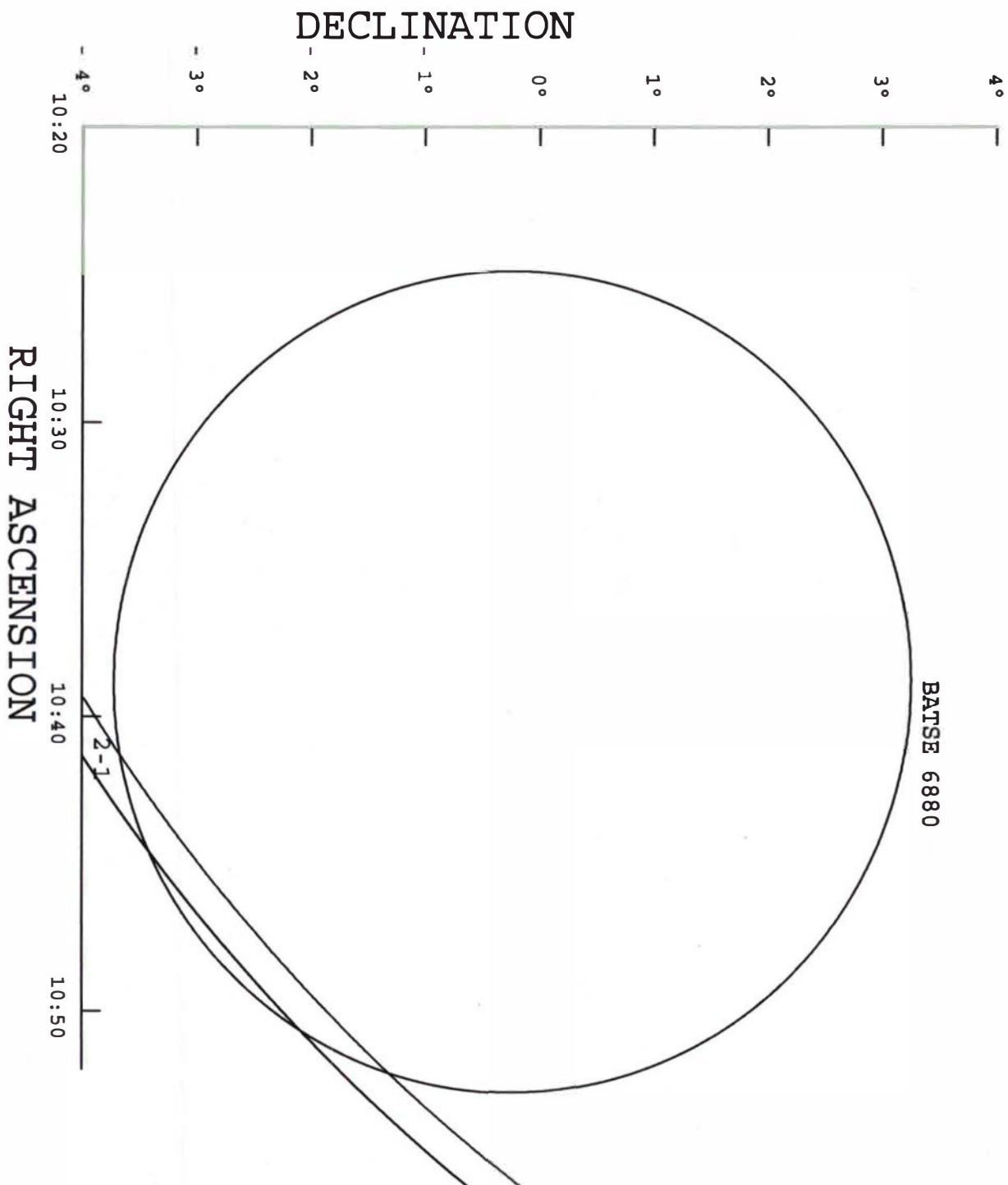
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 27, 1998 4:20

4/11/99



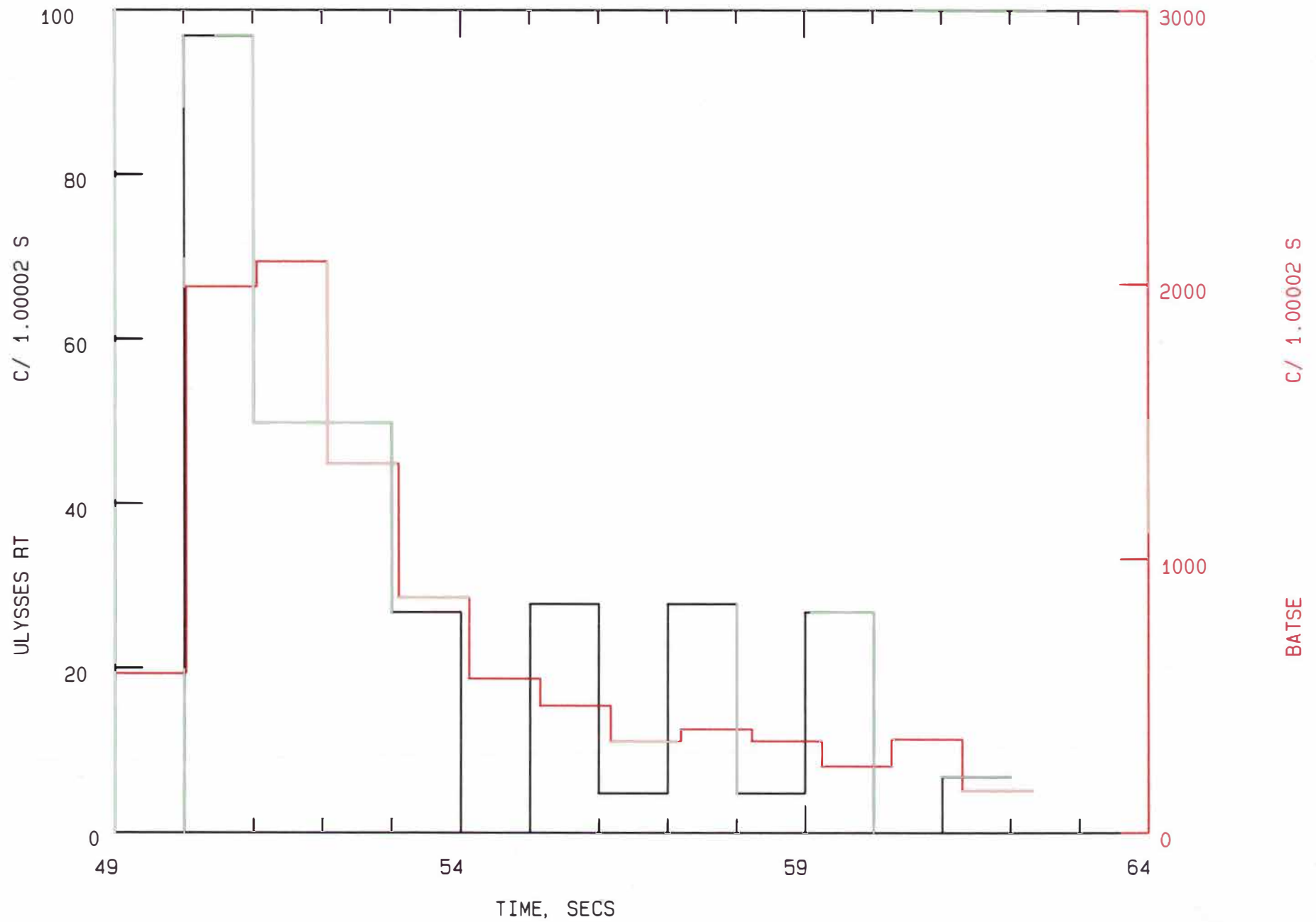
ULYSSES RT-BATSE

CORRELATION

27/ 6/98

12742.363

4/11/99



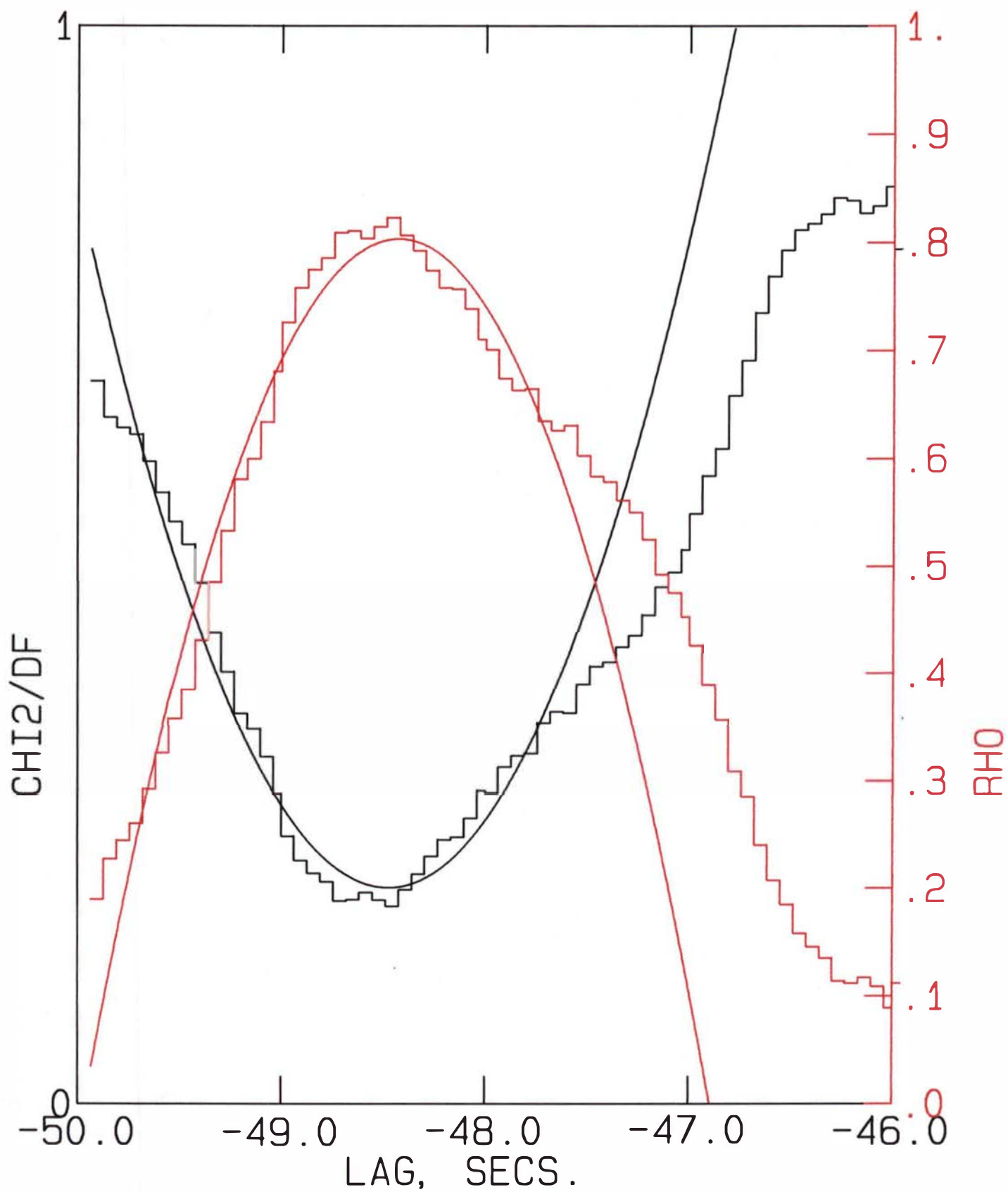
4/11/99

ULYSSES RT-BATSE

CORRELATION

27/ 6/98

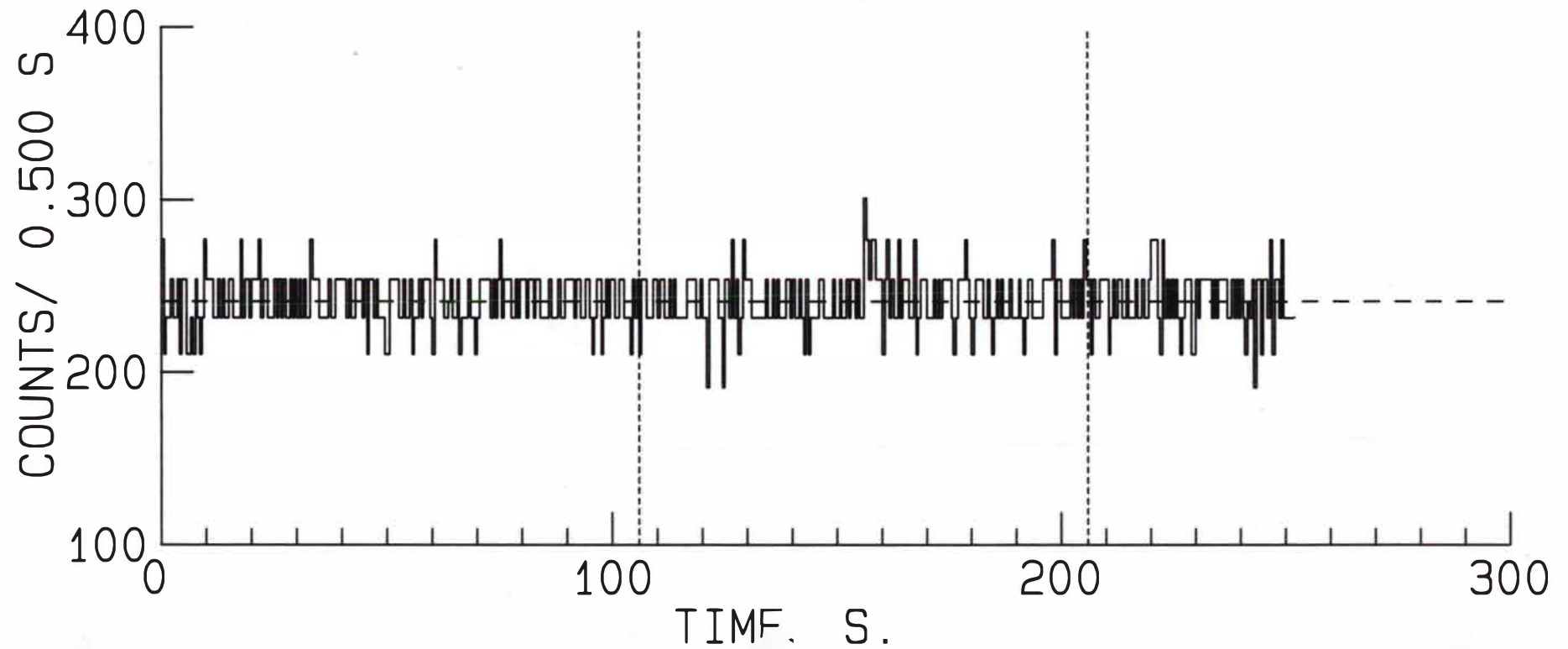
12742.363



ULYSSES RT
27/ 6/98 12636.392 s
22- 150 keV

4/11/99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



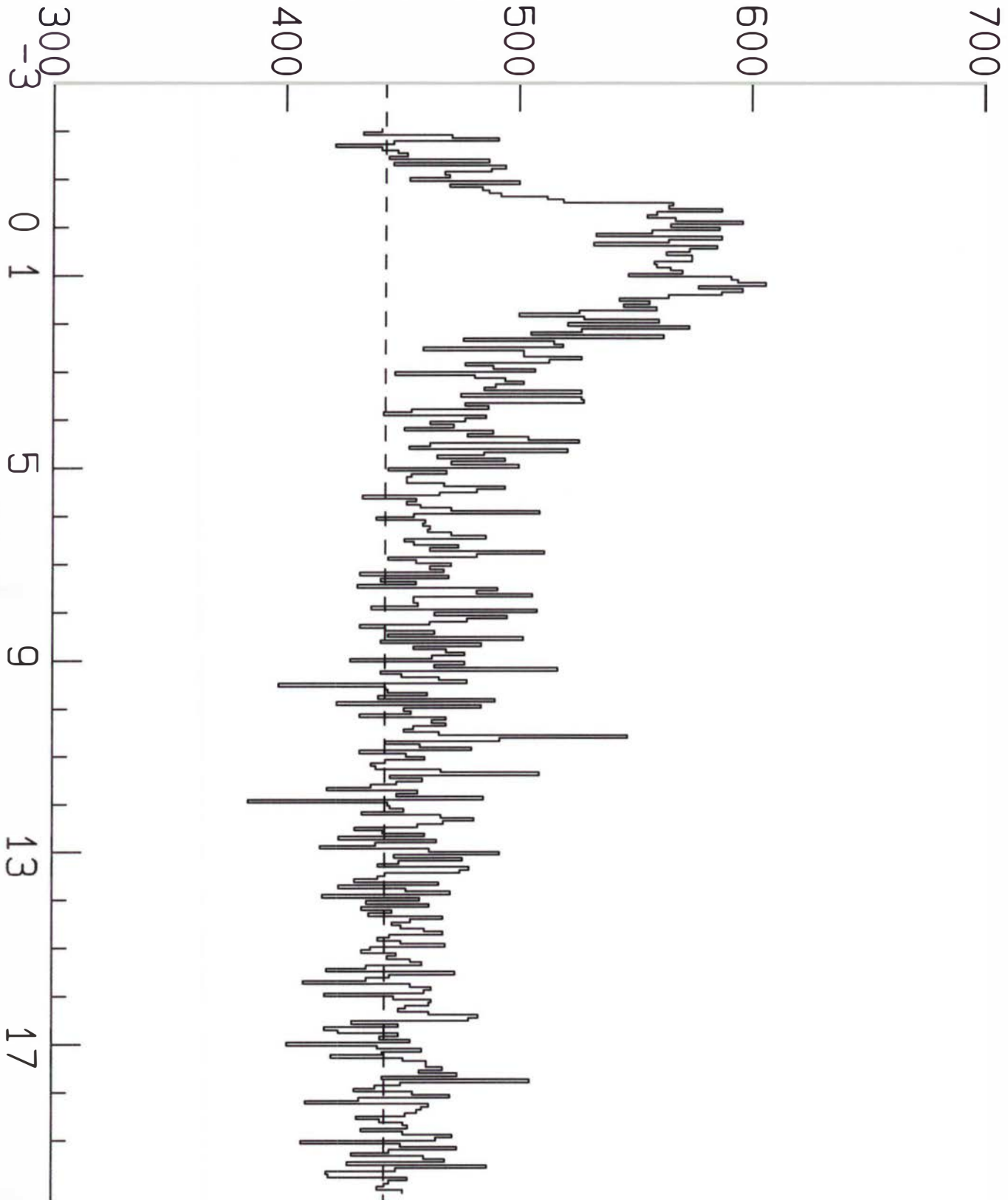
BATSE

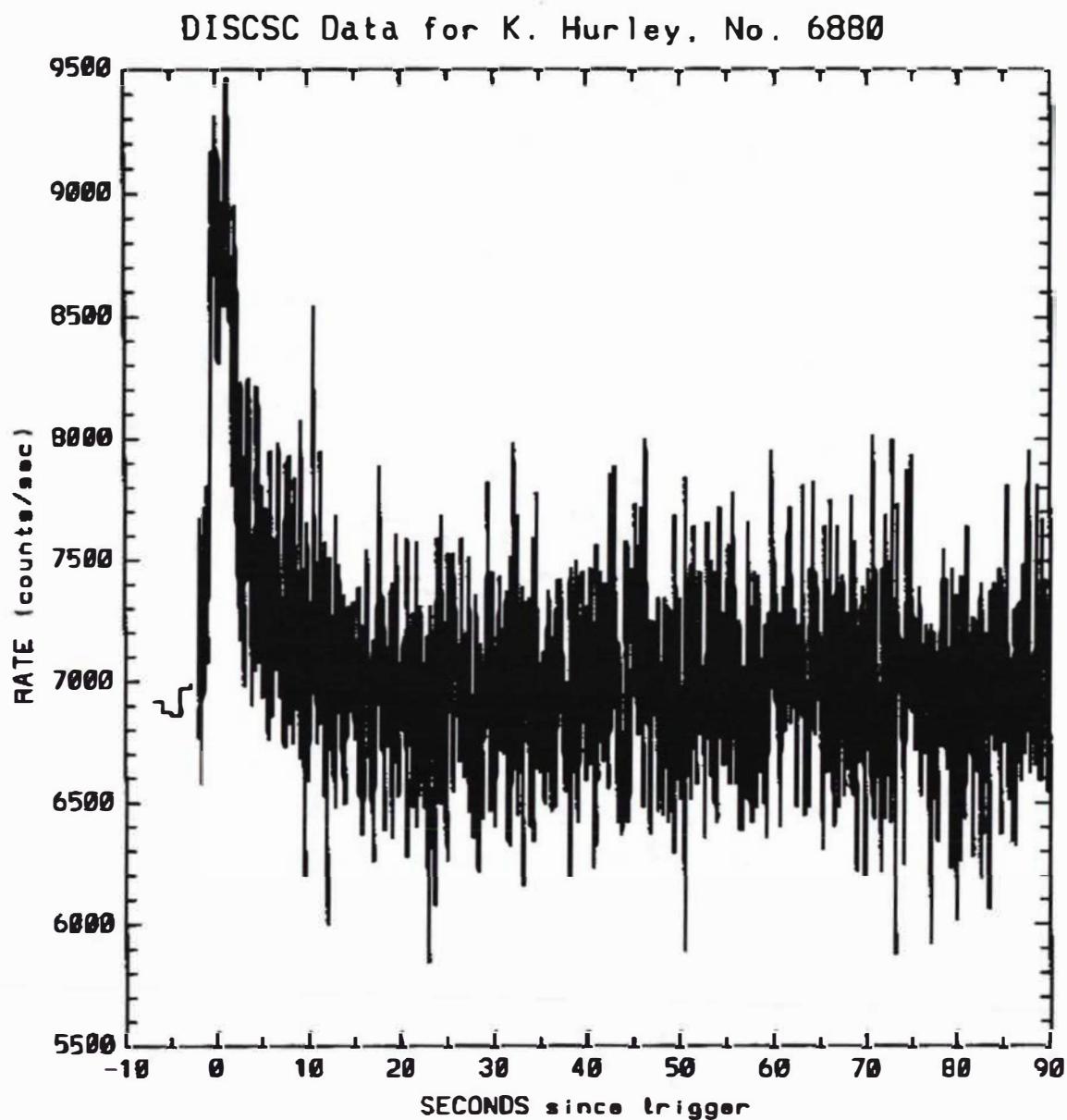
27/06/98

15629.793

25- 100 keV

COUNTS/0.064 S





9-JUL-1998 14.01.53

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

Trigger # : 6880

Trigger Time:
18991 / 15629.793

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum (integ. Time:
0.064 second(s)

Detectors [7..0].
-6---2--

Discriminators:
[1 . 2]

Quality Mask:
80ISP1

From SAHI@fender.msfc.nasa.gov Tue Jul 7 07:35:44 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:35:20 -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.: 6881

TIME: TJD=0991 SECONDS=19753

TYPE: ELECTRO

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

ELECTRON EVENT.

From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:56:24 1998
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA05799; Wed, 8 Jul 1998 06:56:23 -0700
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA25442; Wed, 8 Jul 1998 06:56:23 -0700
Date: Wed, 8 Jul 1998 8:56:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980708085622.20207d2b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6882
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6882
EVENT OF 1998 JUN 27 DAY OF YEAR=178
EVENT CROSSING TIME AT BATSE : 45395. S. OR 12:36:35.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 180.000 23.000
BATSE PEAK COUNTING RATE: 6500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 6/ 98 IS:
RA= 150.568 DEC= 9.657 DIST= 5.938 AU
BATSE-ULYSSES DISTANCE = 888253353. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2535.90 SECS.
CROSSING TIME AT ULYSSES IS 42859. S. OR 11:54:19 +/- 277.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 6/ 98 IS:
RA= 83.035 DEC= 23.788 DIST= 2.518 AU
MARS-BATSE DISTANCE = 376656896. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -69.68 SECS.
CROSSING TIME AT MARS IS 45325. S. OR 12:35:25 +/- 216.74 SECONDS

BATSE BURST TRIGGER

NO.: 6882

TIME: TJD=0991 SECONDS=45395

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=83.4 AZIMUTH=279.7 ERROR=2.0 DEGREES

COMMENTS:

GRB. DOUBLE PULSE, DUR. APPROX 20 SECS, SECOND MAX. AT T+7.3 SECS. BOTH HAVE
RISE FASTER THAN FALL. FIRST IS WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6882	980627	10991	45395	6500	180	+23	20

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

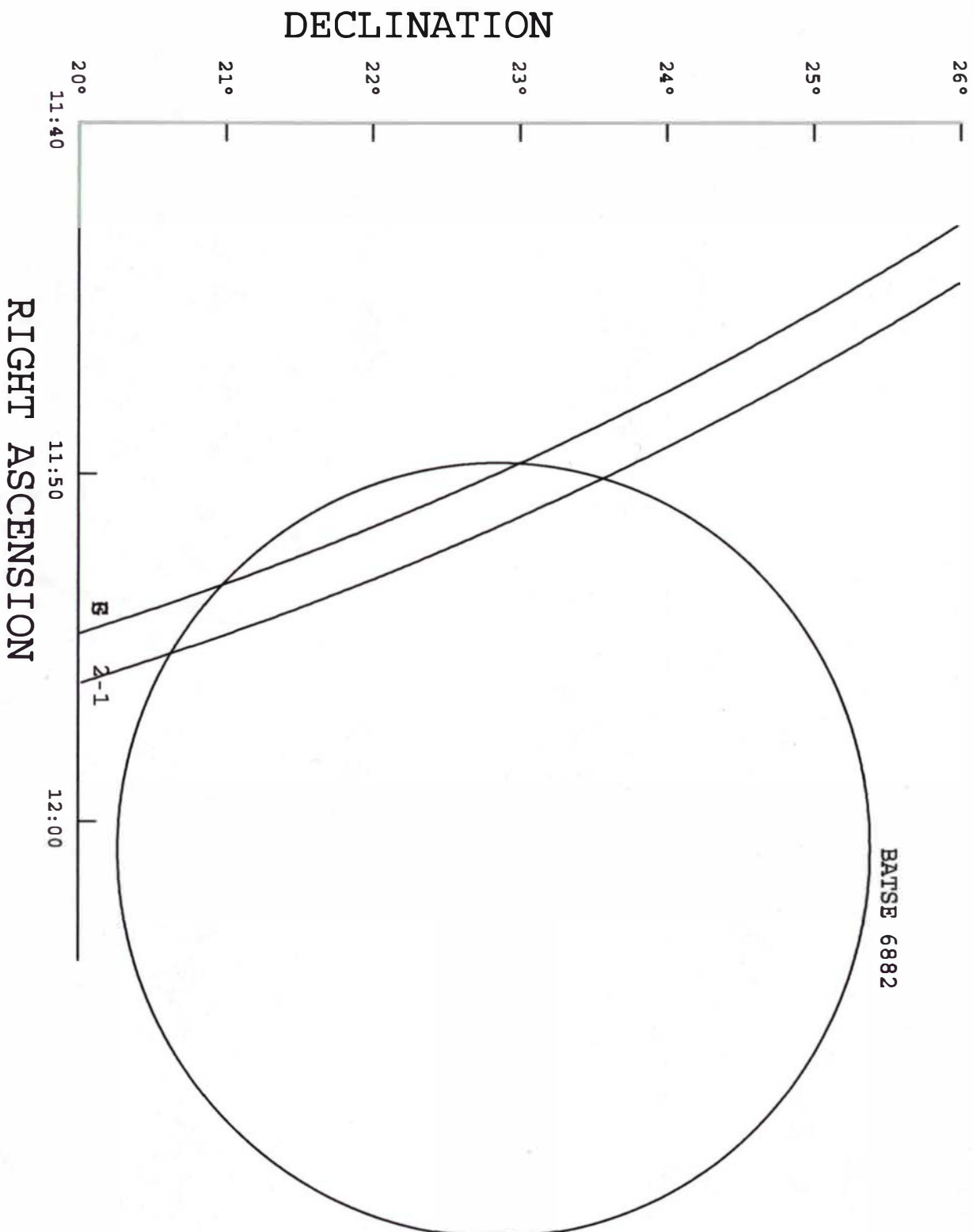
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JUN 27, 1998 12:36

18 / 1 / 0



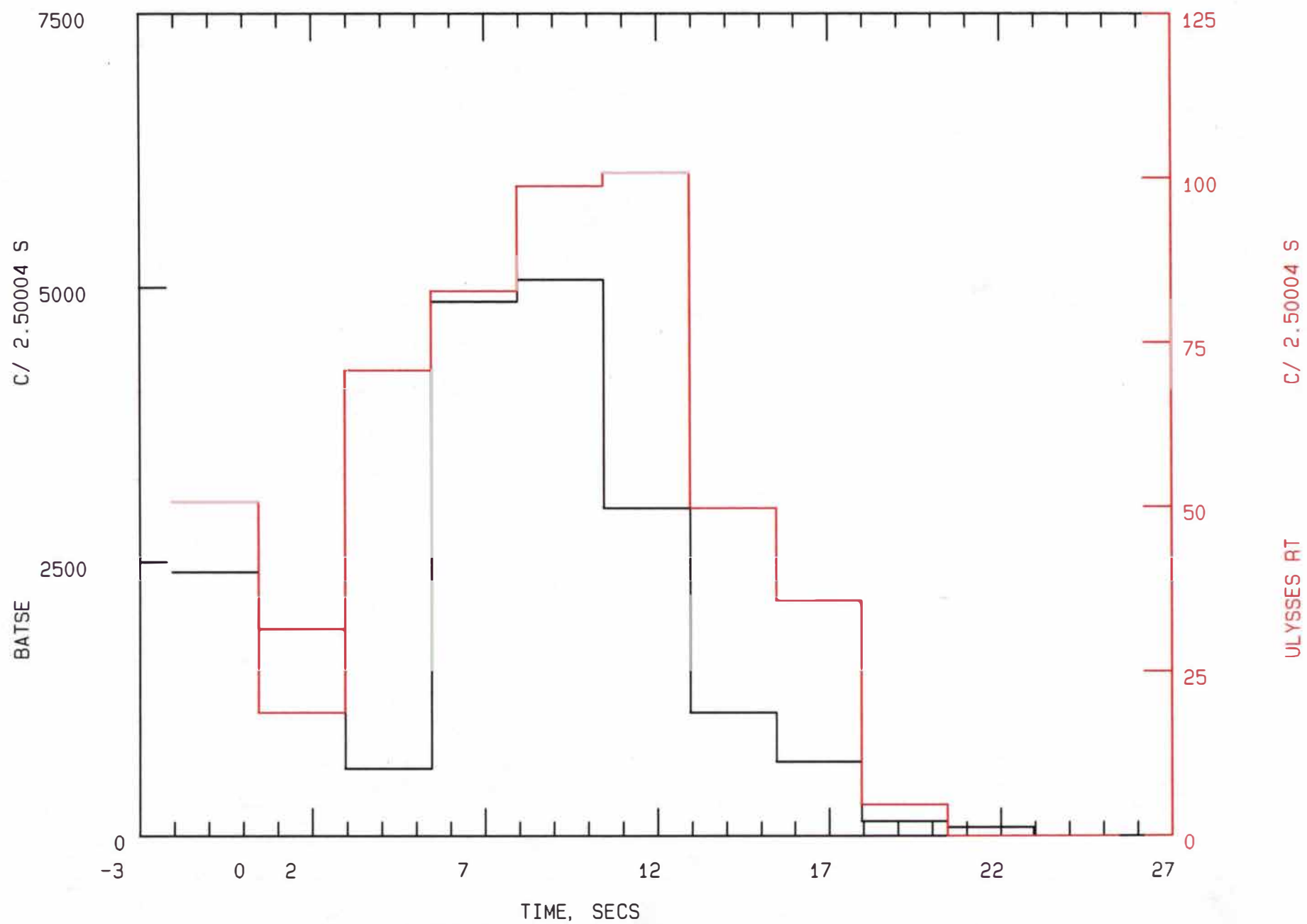
BATSE

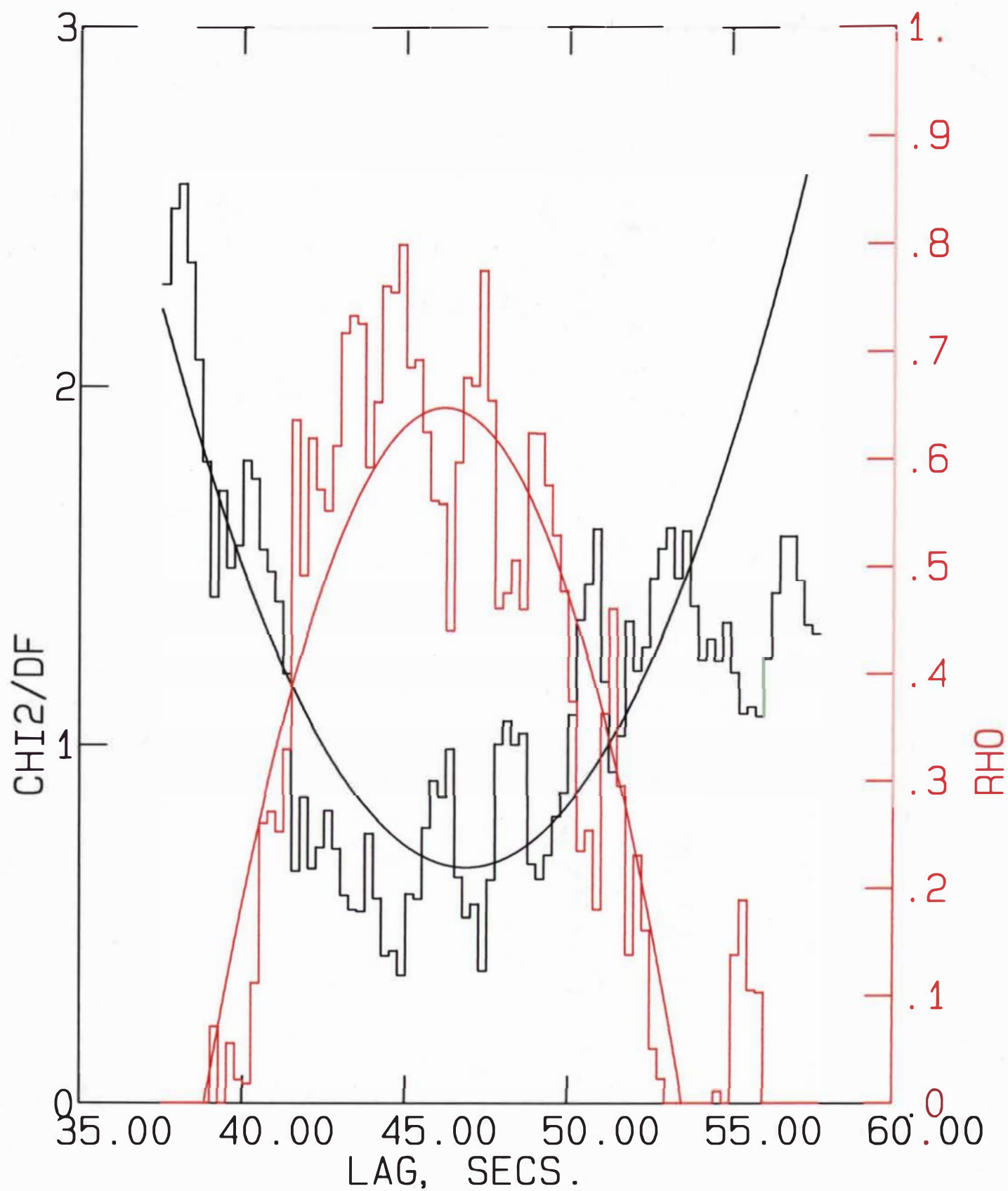
-ULYSSES RT CORRELATION

27/ 6/98

45395.169

18/ 1/ 0

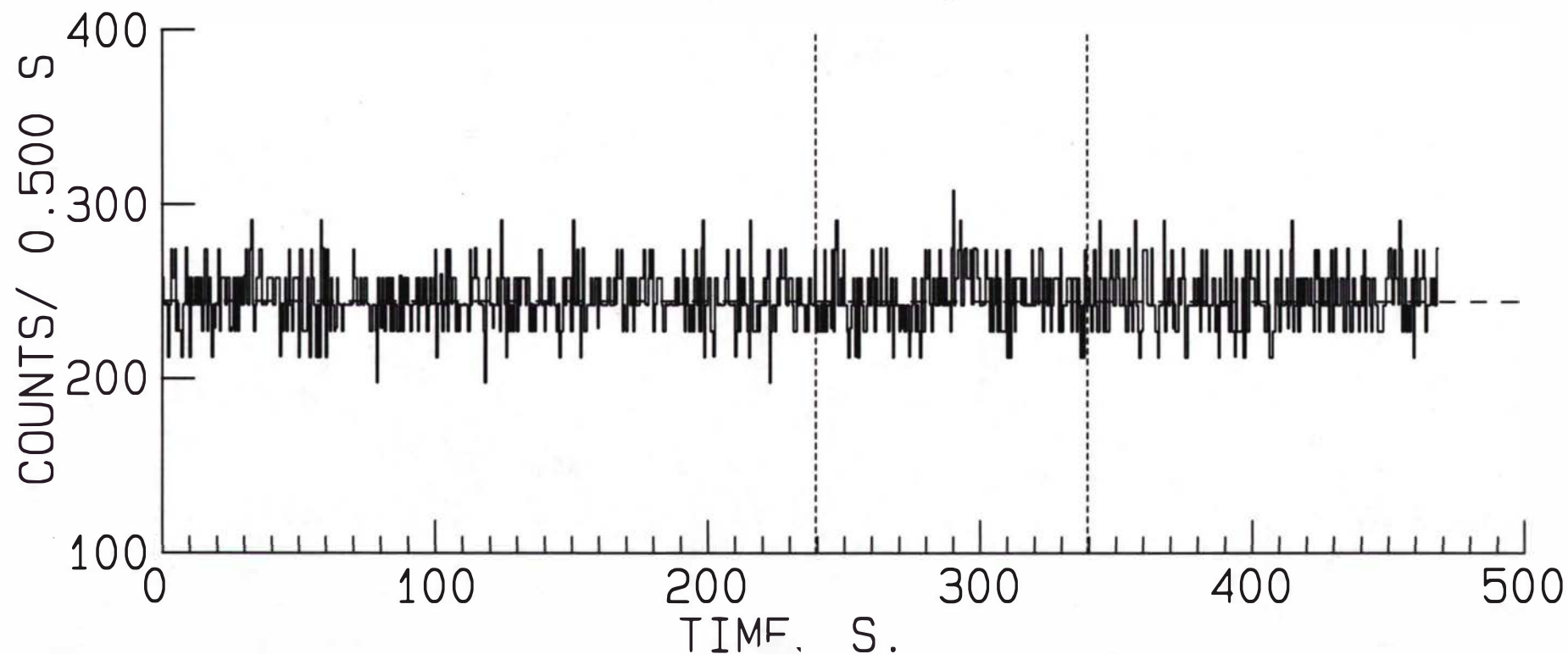




ULYSSES RT
27/ 6/98 42516.209 s
0.250 S INTERVALS REGROUPED BY 2
22- 150 keV

18/ 1/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



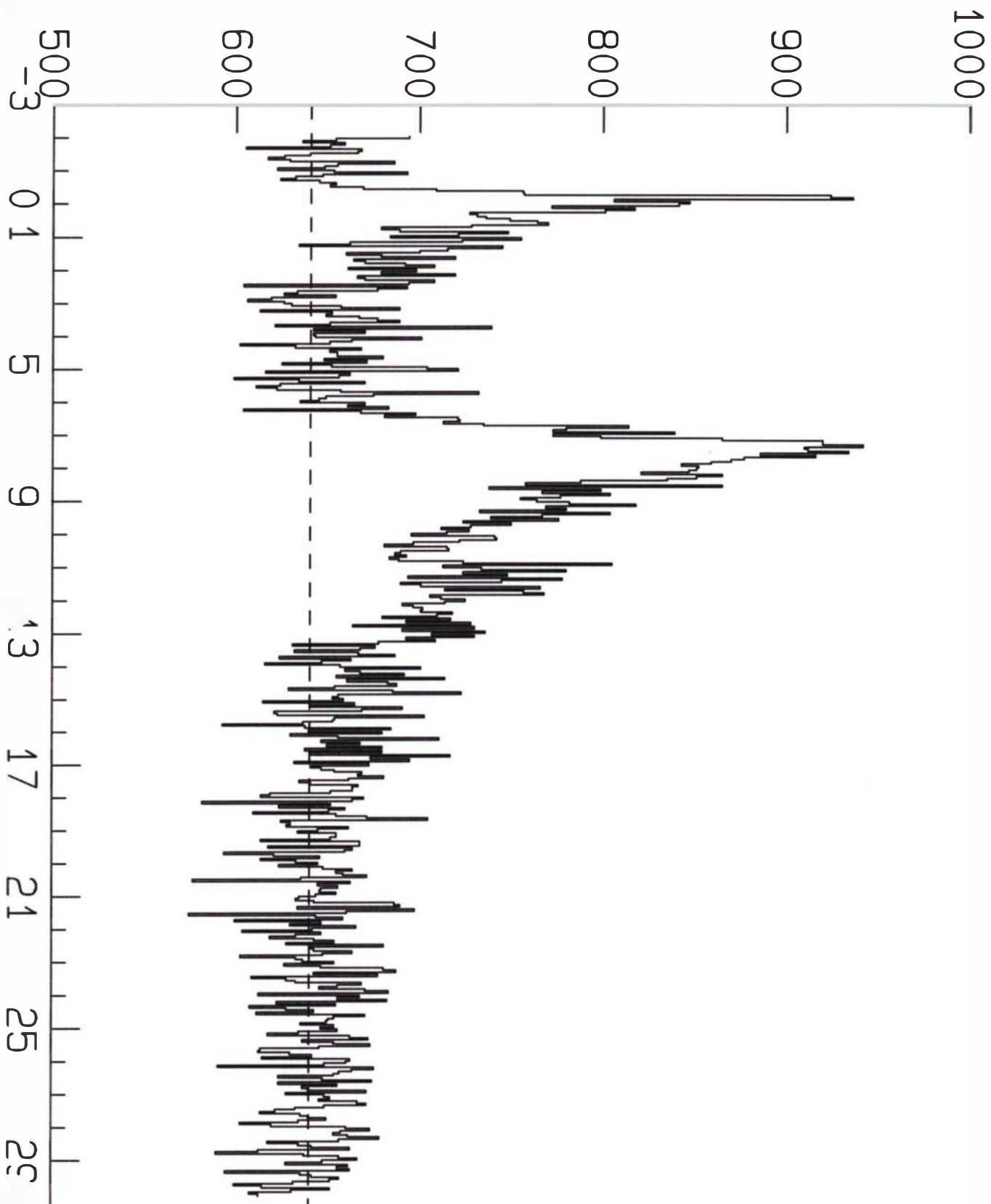
BATSE

27/06/98

45395.169

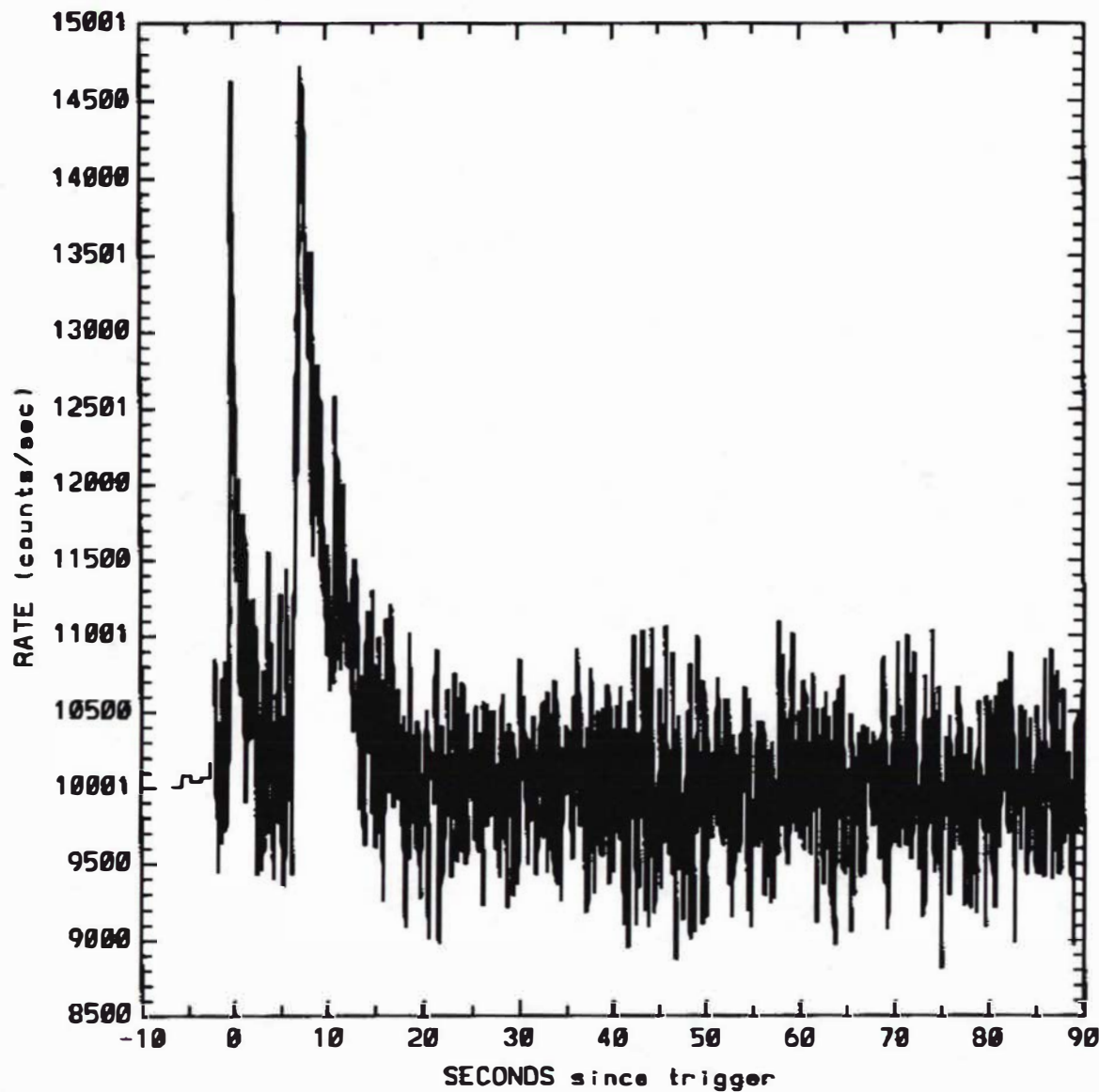
25- 100 keV

COUNTS/0.064 S



23 / 7 / 98

DISCSC Data for K. Hurley, No. 6882



9-JUL-1998 14:04:24

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6882

Trigger Time:
10991 / 45395.169

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

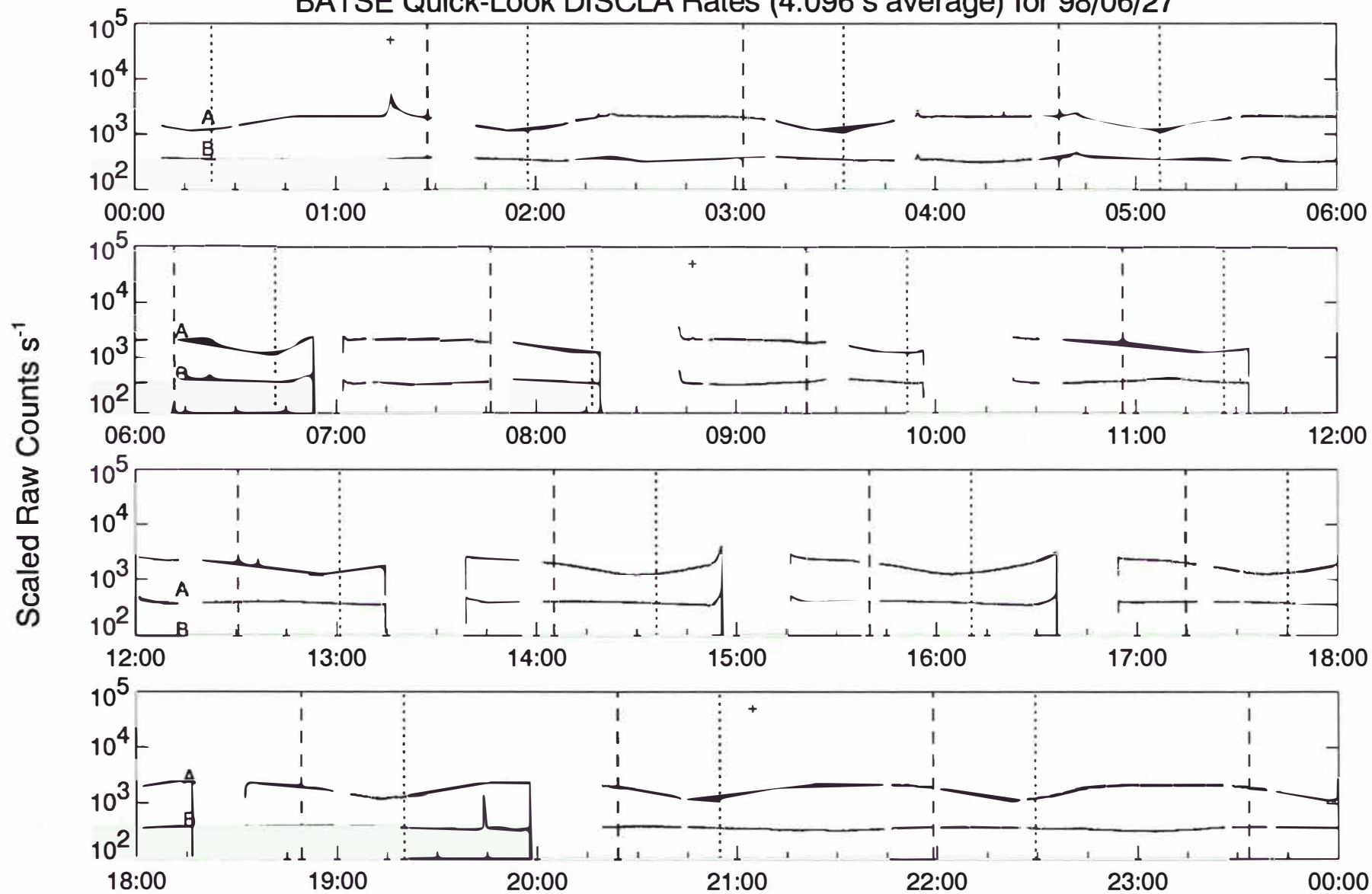
Minimum Integ. Time:
0.064 second(s)

Detectors (7..0):
-6--32--

Discriminators:
(1..2)

Quality Mask:
BDISP1

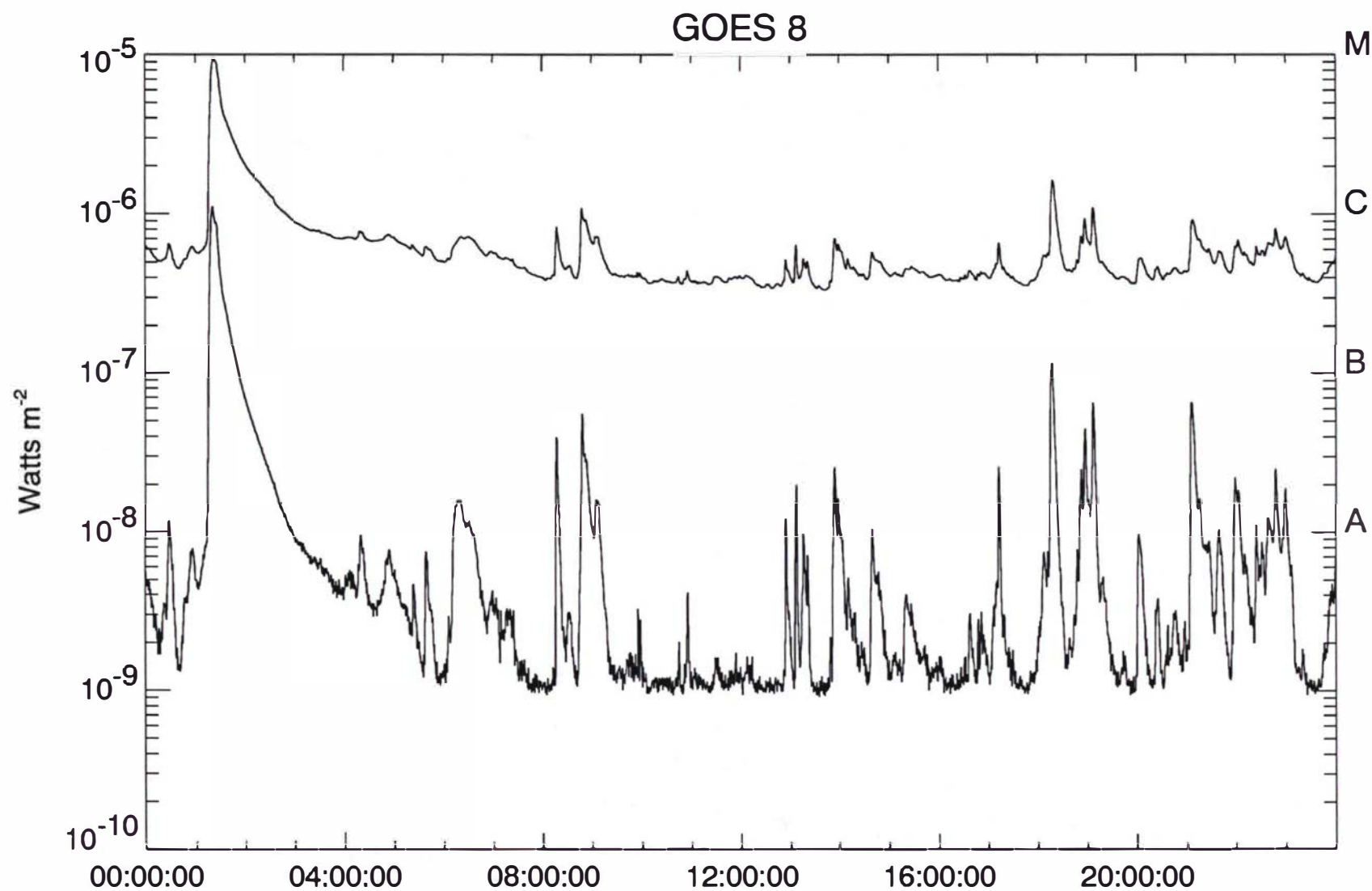
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/27



Current Time: 98/07/01, 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: 98/06/27, 0000:00

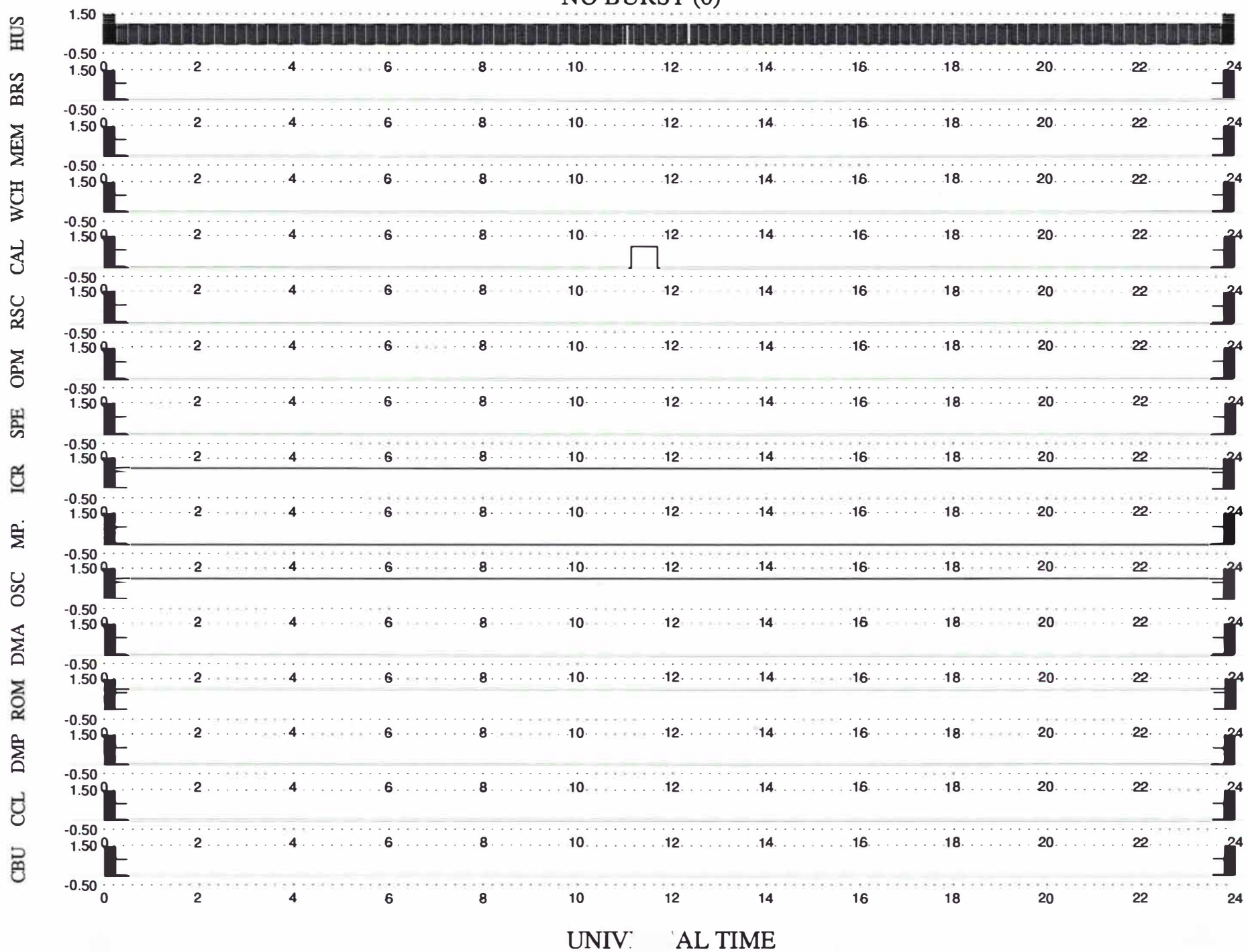
Plot created: 98/07/01, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

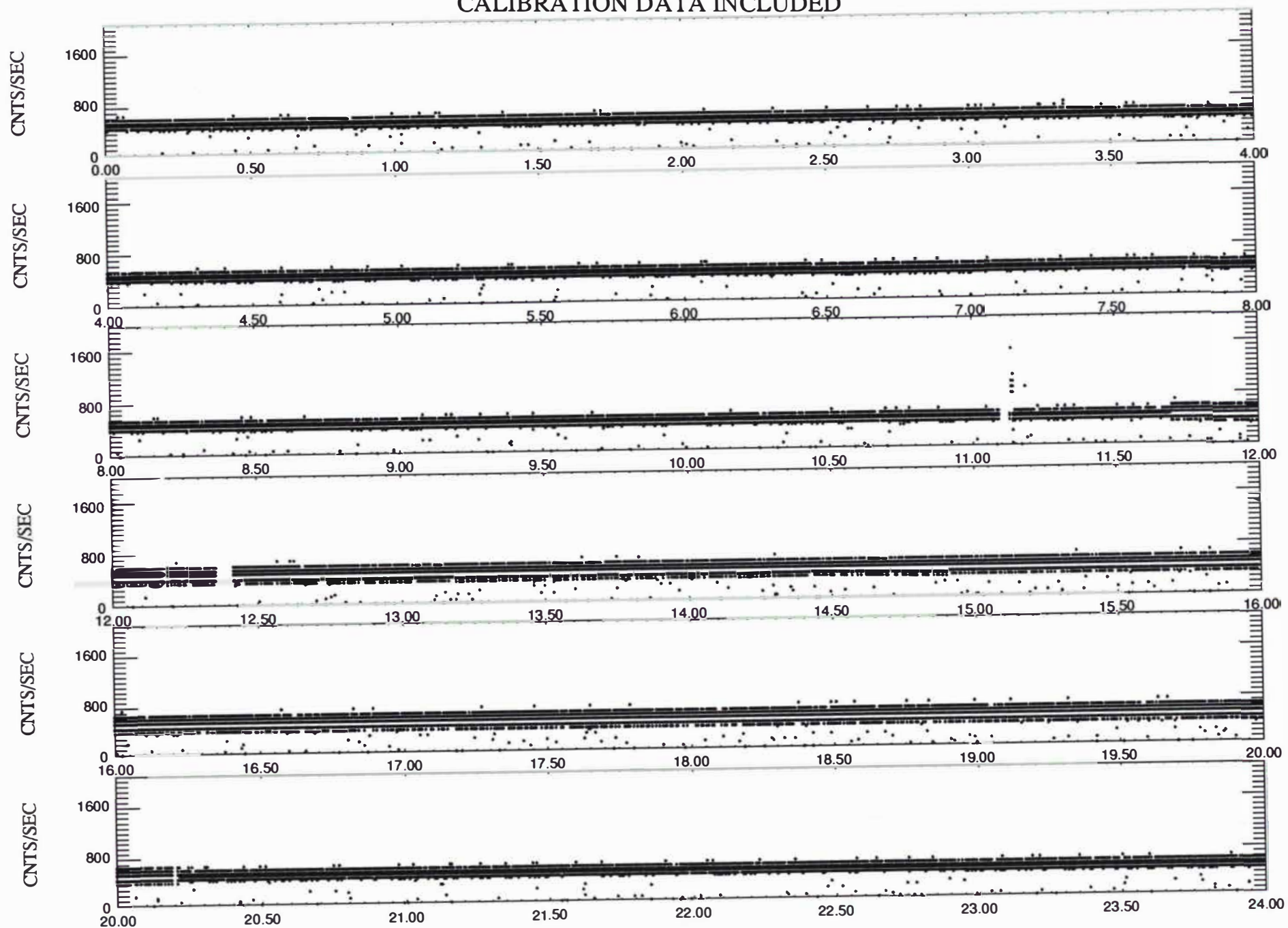
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

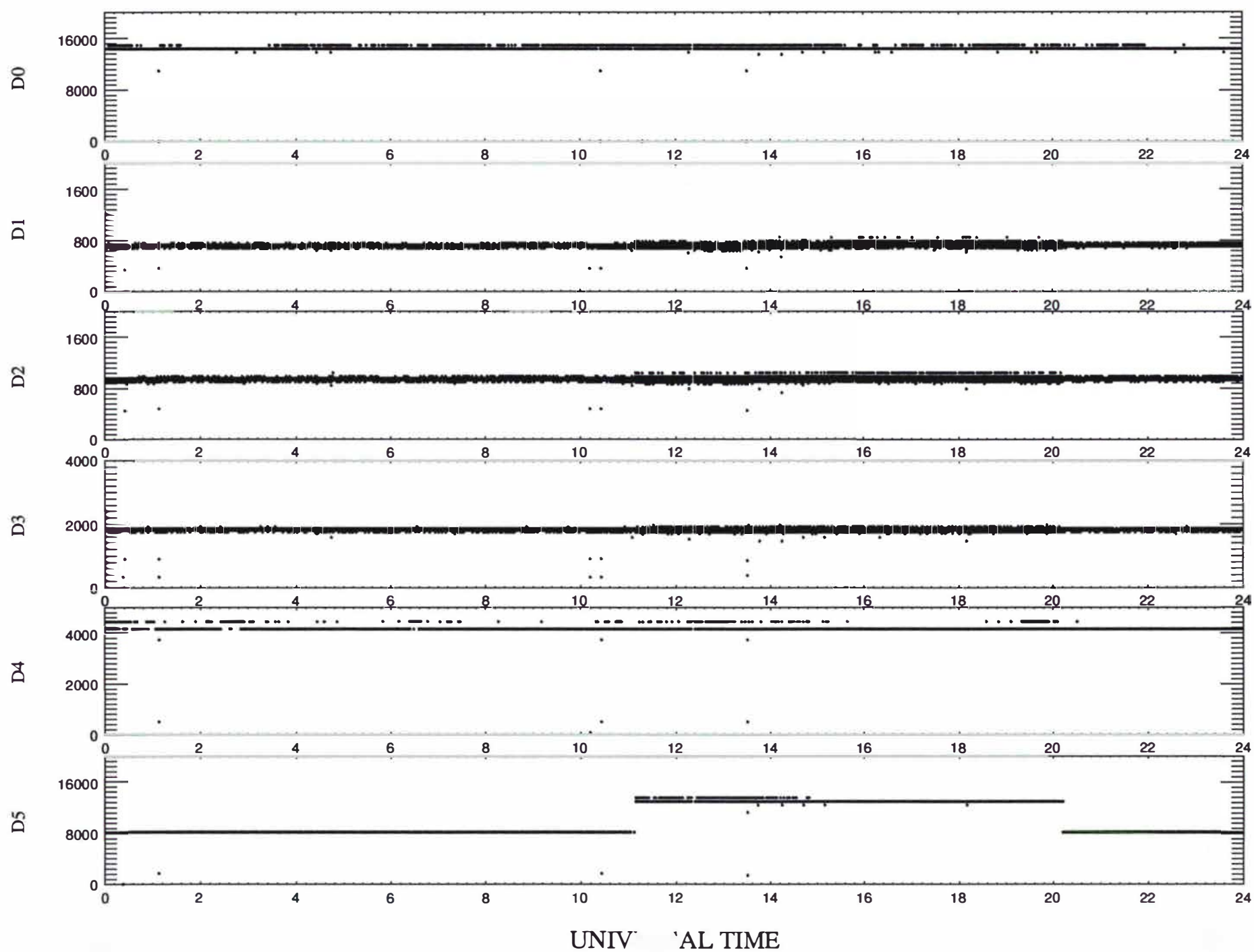
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV 'AL TIME



From SURASAK@fender.msfc.nasa.gov Wed Jul 1 14:06:45 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 1 Jul 1998 16:06:22 -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.: 6883

TIME: TJD=0992 SECONDS=42060 11:41:00

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=78.4 AZIMUTH=354.3 ERROR=0.117 DEGREES

COMMENTS:

SOLAR FLARE. GOES B8.8, OPT SF. SINGLE PULSE. DURATION ABOUT 40 S. NOT VISIBLE
ABOVE 300 KEV.

From SURASAK@fender.msfc.nasa.gov Wed Jul 1 14:30:29 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 OAA12908; Wed, 1 Jul 1998 14:30:28 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA01775; Wed, 1 Jul 1998 14:30:25 -0700
Date: Wed, 1 Jul 1998 16:30:27 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980701163027.20203ff0@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6884
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6884
EVENT OF 1998 JUN 28 DAY OF YEAR=179
EVENT CROSSING TIME AT BATSE : 54093. S. OR 15:01:33.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 183.000 58.000
BATSE PEAK COUNTING RATE: 3340 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 6/ 98 IS:
RA= 150.664 DEC= 9.576 DIST= 5.952 AU
BATSE-ULYSSES DISTANCE = 890381984. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=125.63 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1730.24 SECS.
CROSSING TIME AT ULYSSES IS 52363. S. OR 14:32:42 +/- 442.82 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 6/ 98 IS:
RA= 83.781 DEC= 23.829 DIST= 2.517 AU
MARS-BATSE DISTANCE = 376615328. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.36 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -332.85 SECS.
CROSSING TIME AT MARS IS 53760. S. OR 14:56:00 +/- 205.26 SECONDS

BATSE BURST TRIGGER

NO.: 6884

TIME: TJD=0992 SECONDS=54093

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

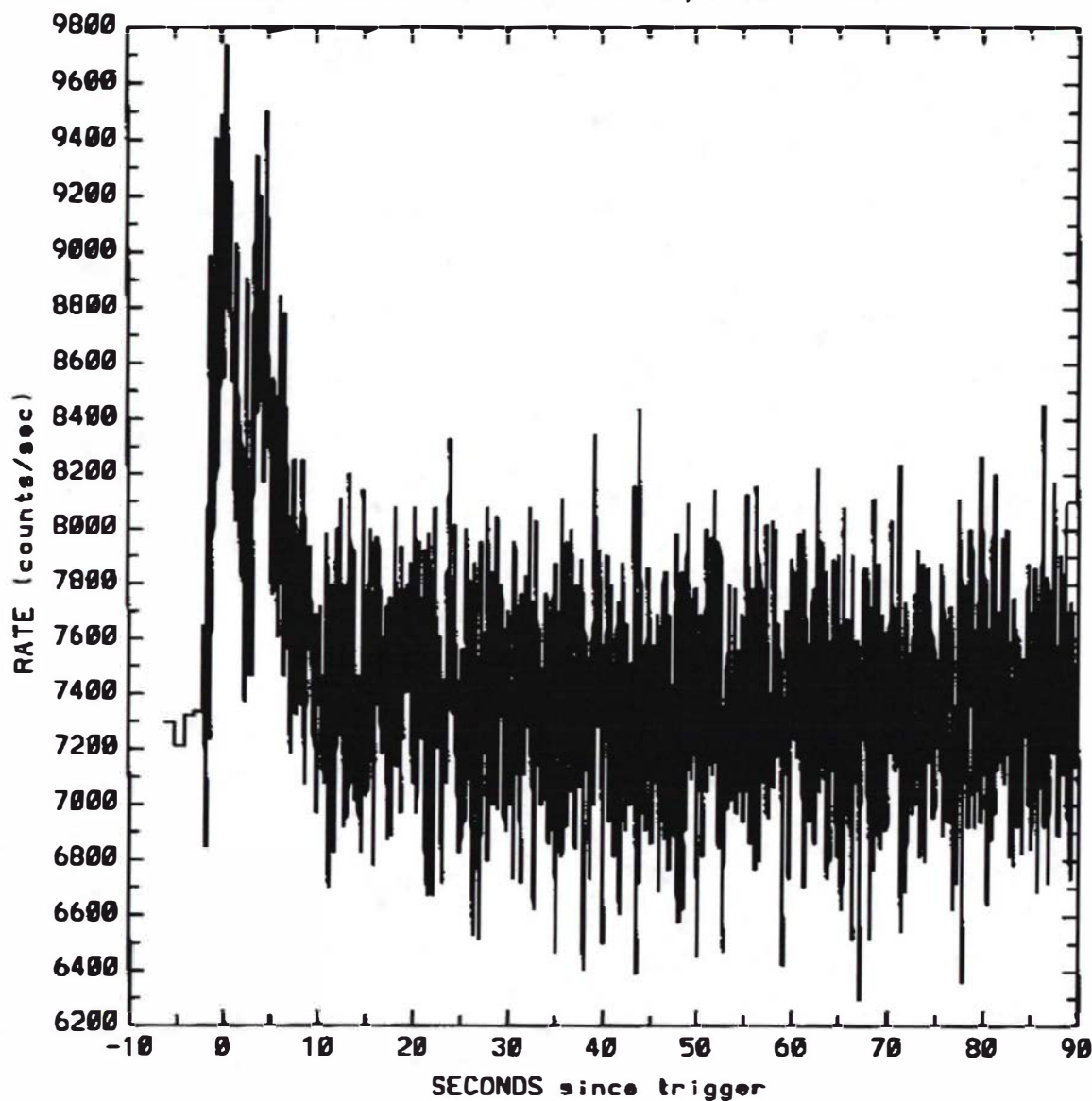
LOCATION: ZENITH=115.0 AZIMUTH=295.7 ERROR=3.18 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE. DURATION ABOUT 13 S. LOOK MORE LIKE FRED.
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6884	980628	10992	54093	3340	183	+58	13

DISCSC Data for K. Hurley, No. 6884



9-JUL-1998 14:05:43

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger = 6884

Trigger Time:
10992 / 54093.537

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
[1 . 2]

Quality Mask:
BDTSP1

BATSE BURST# 6884

ULYSSES RT

1 / 7 / 98

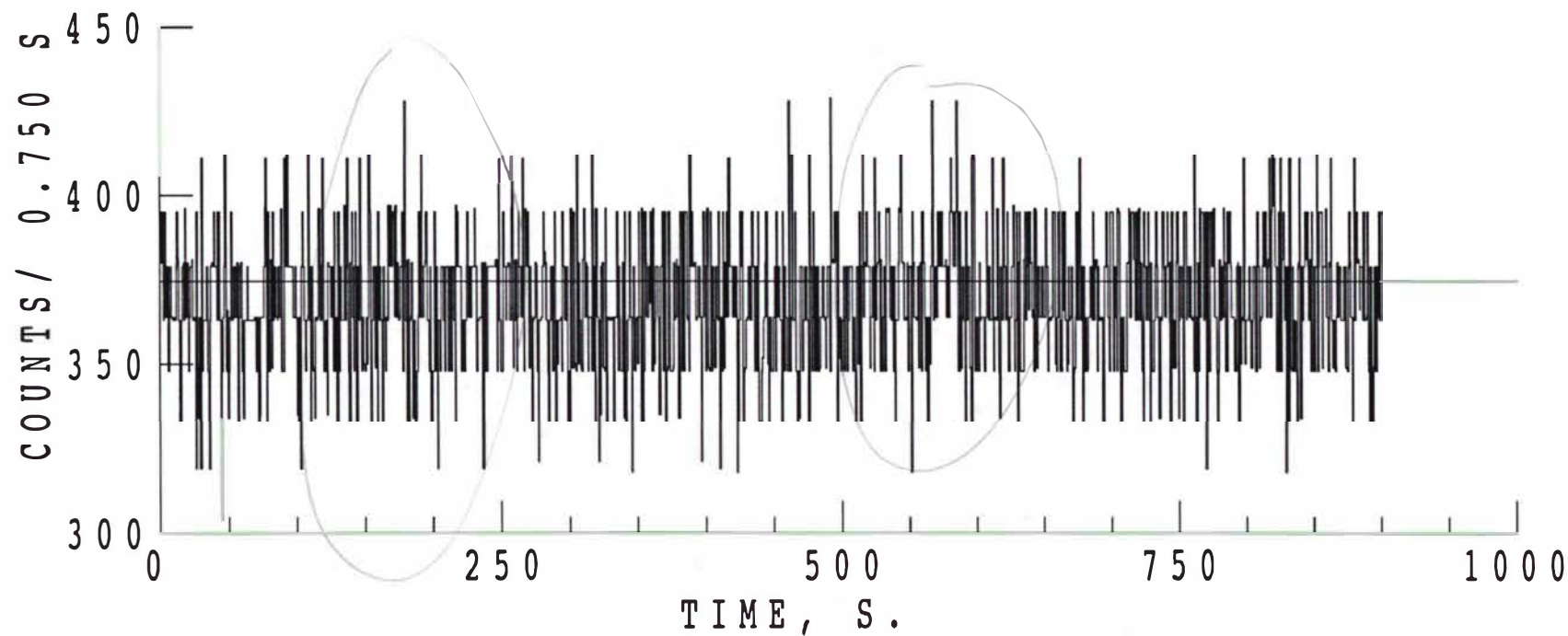
28 / 6 / 98 51912.227 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

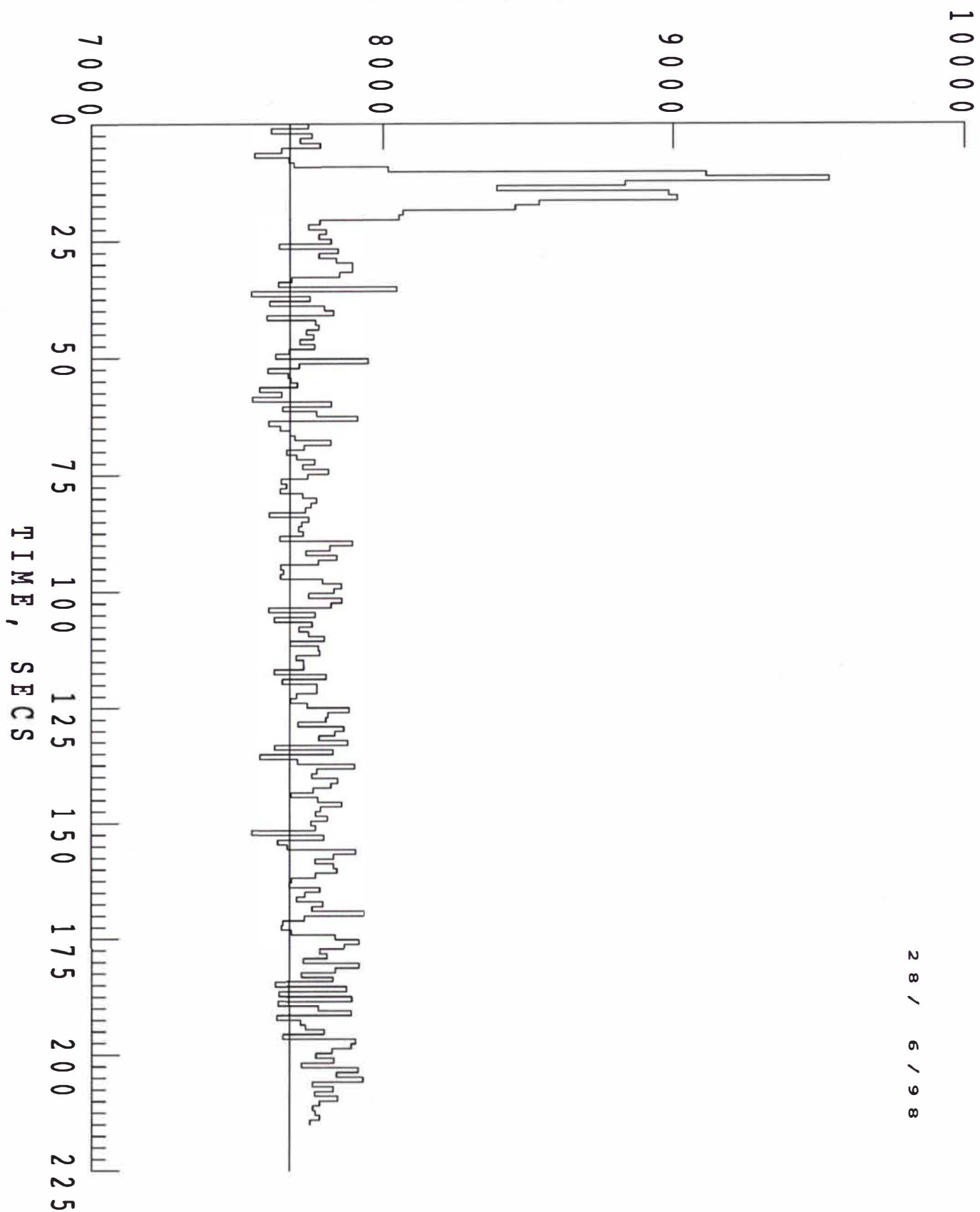
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 6884 28/06/98 54082.273

25 - 100 keV

COUNTS/1.024 S



28 / 6 / 98

From SURASAK@fender.msfc.nasa.gov Wed Jul 1 14:14:16 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 1 Jul 1998 16:14:03 -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.: 6885

249, -47.6

TIME: TJD=0992 SECONDS=77523 *June 28*

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=68.1 AZIMUTH=186.5 ERROR=8.848 DEGREES

COMMENTS:

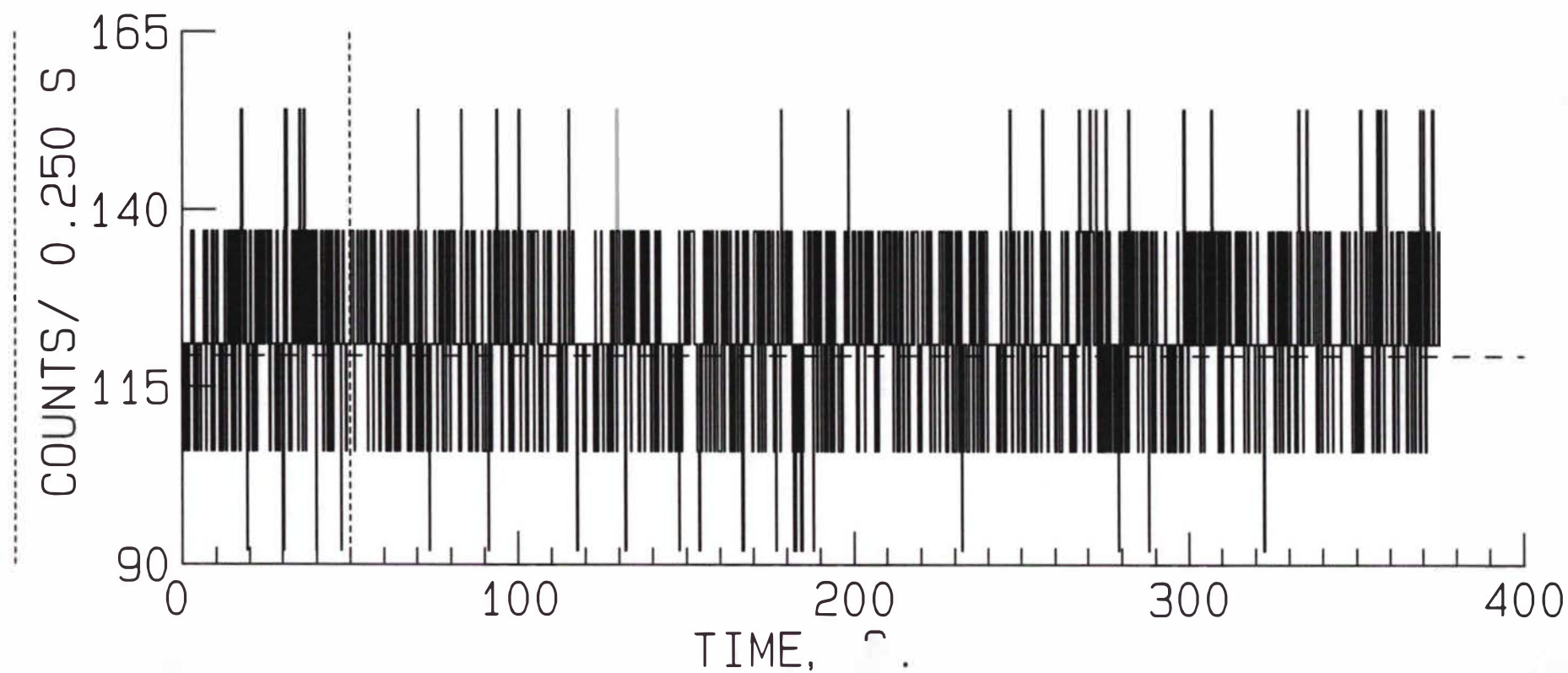
SGR 1627-41. SINGLE PULSE. DURATION ABOUT 1 SECOND. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

3 / 7 / 98

28 / 6 / 98 77616.001 s

22 - 148 keV

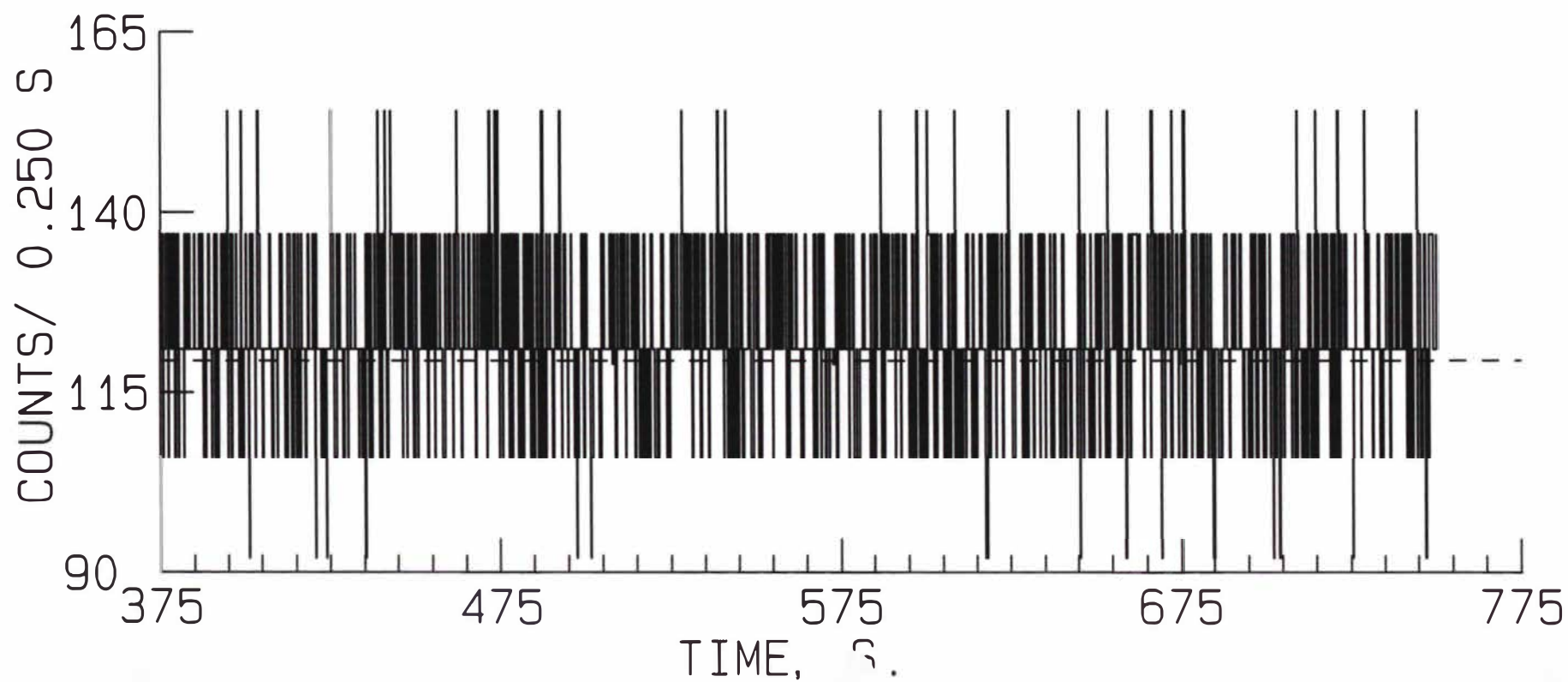


ULYSSES RT

3 / 7 / 98

28 / 6 / 98 77616.001 s

22 - 148 keV

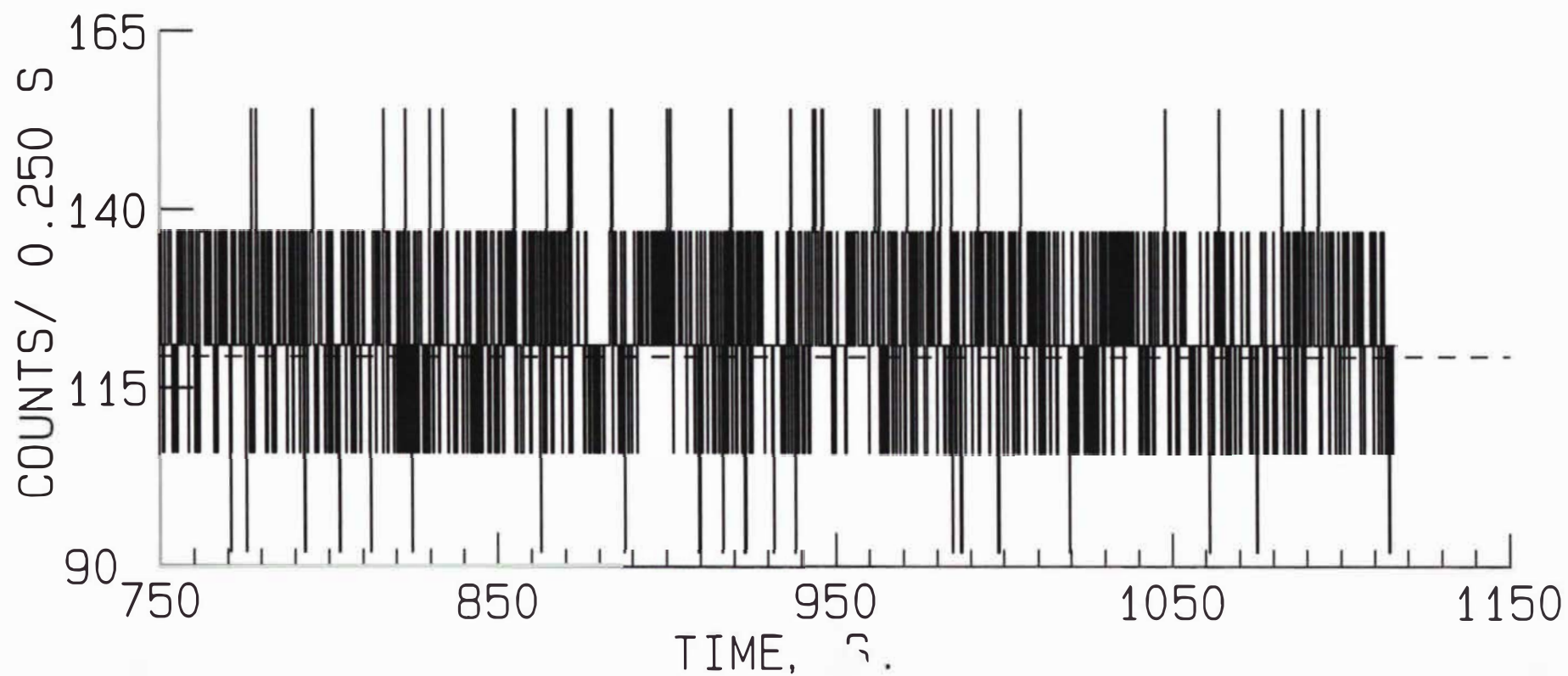


ULYSSES RT

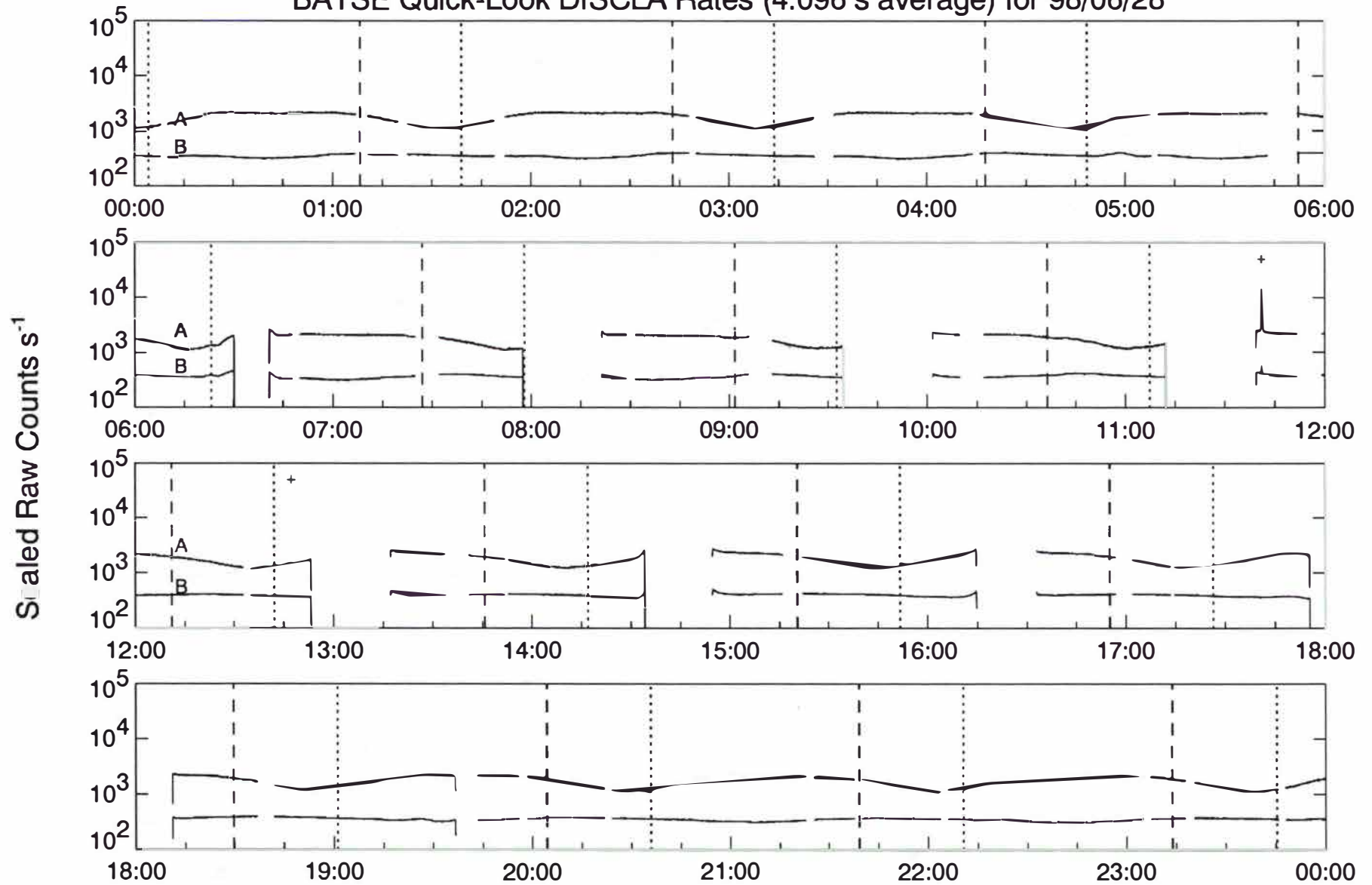
3 / 7 / 98

28 / 6 / 98 77616.001 s

22- 148 keV



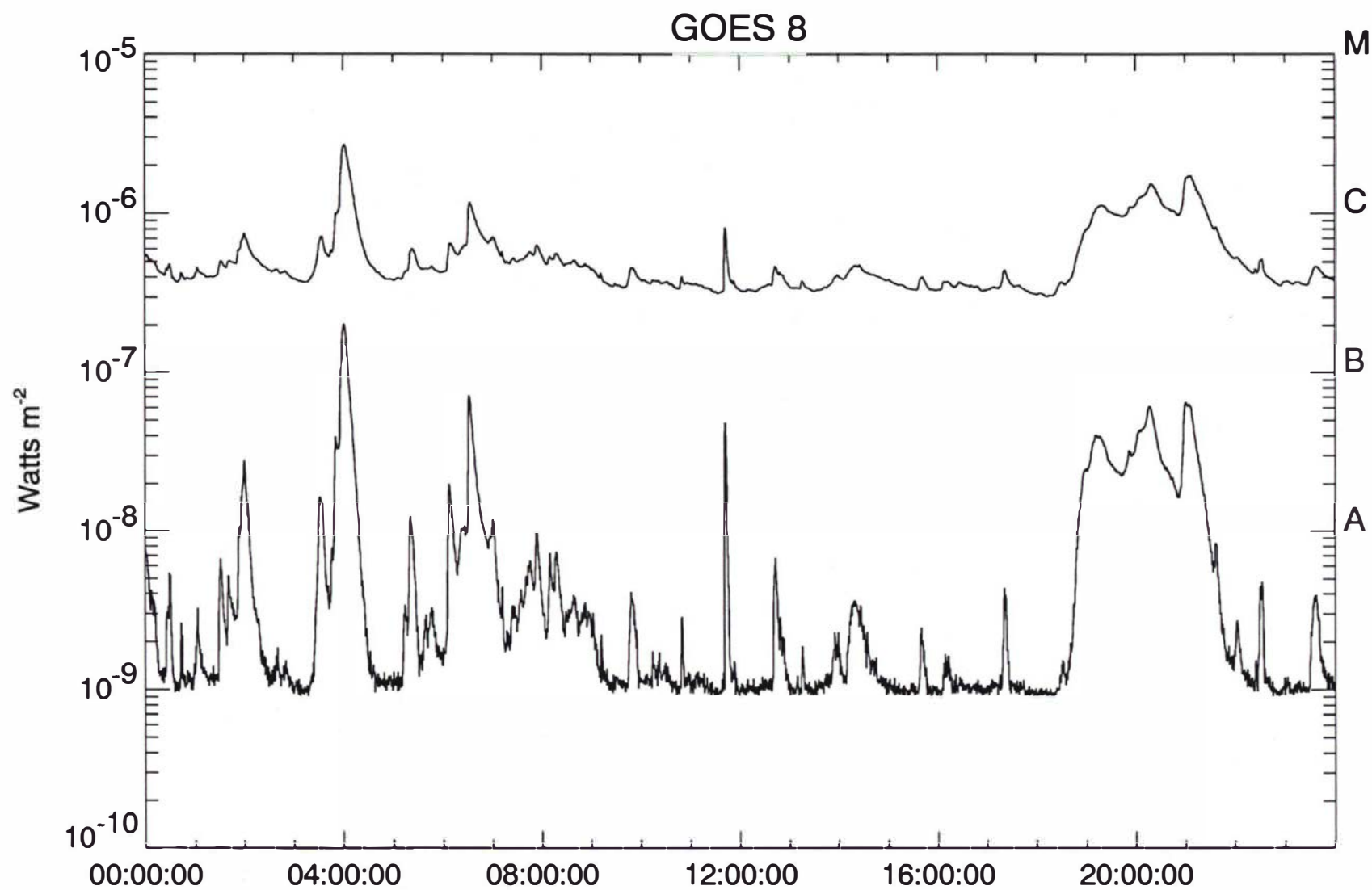
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/28



Current Time: 98/07/02, 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: 98/06/28, 0000:00

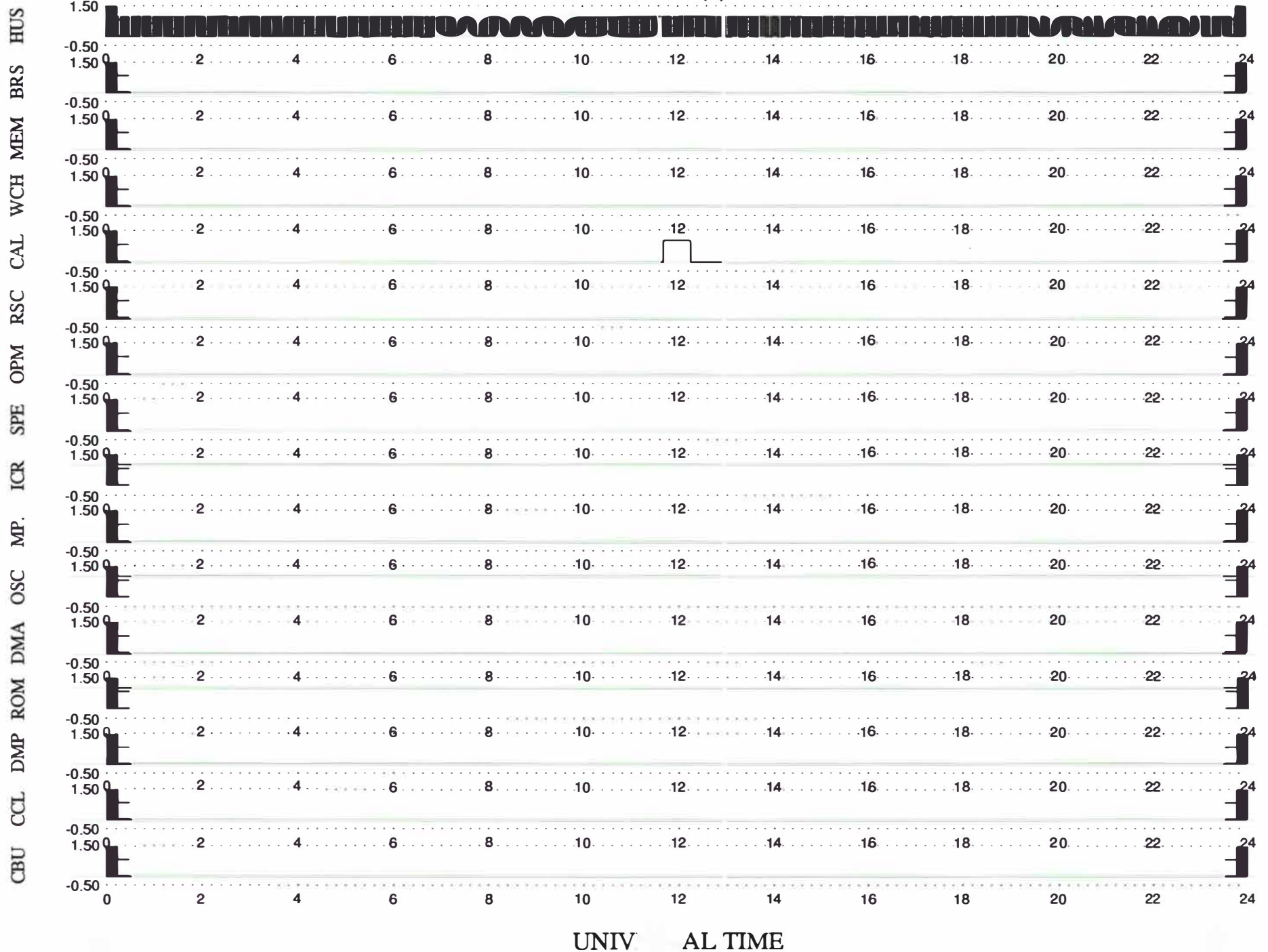
Plot created: 98/07/02, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

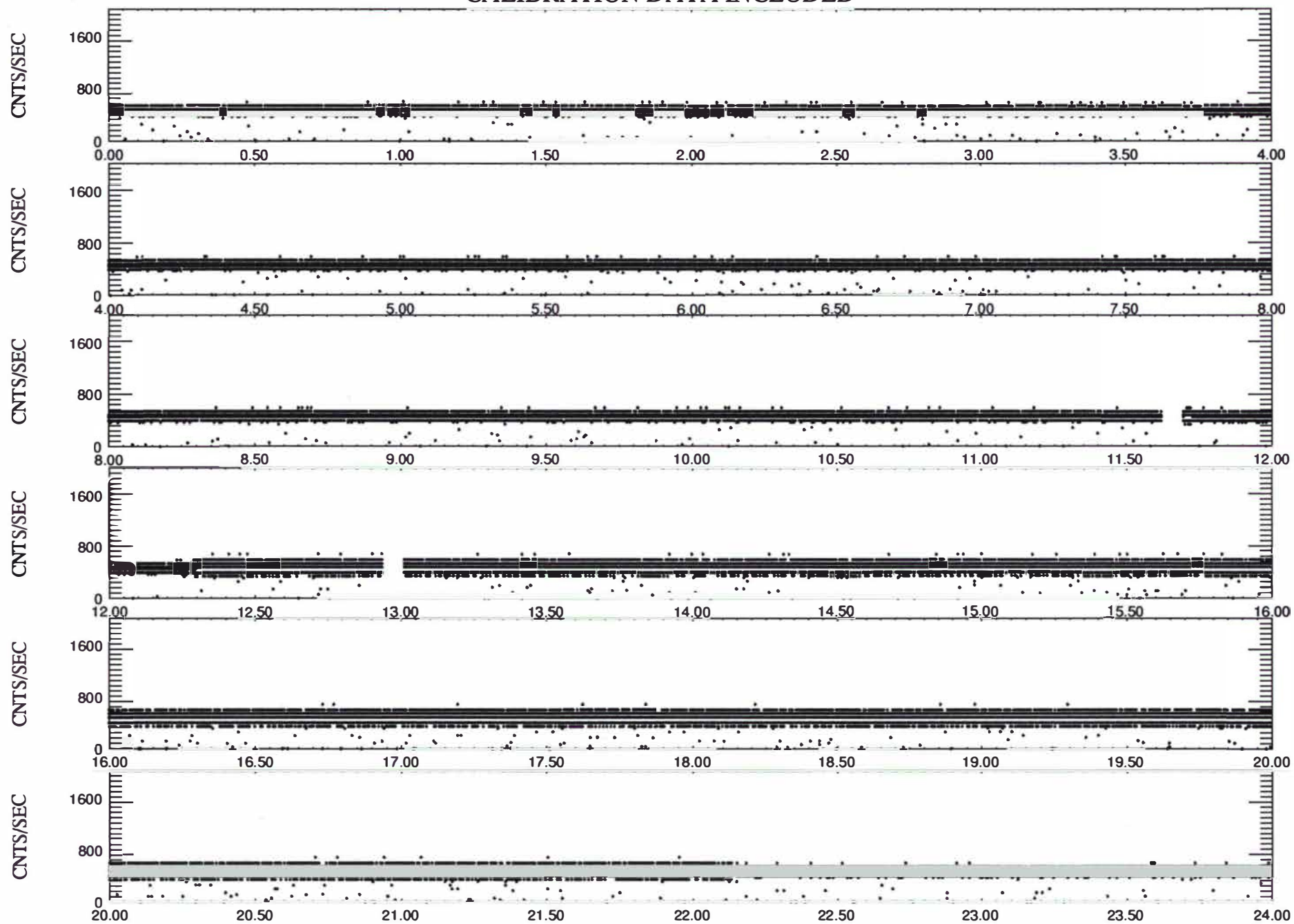
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

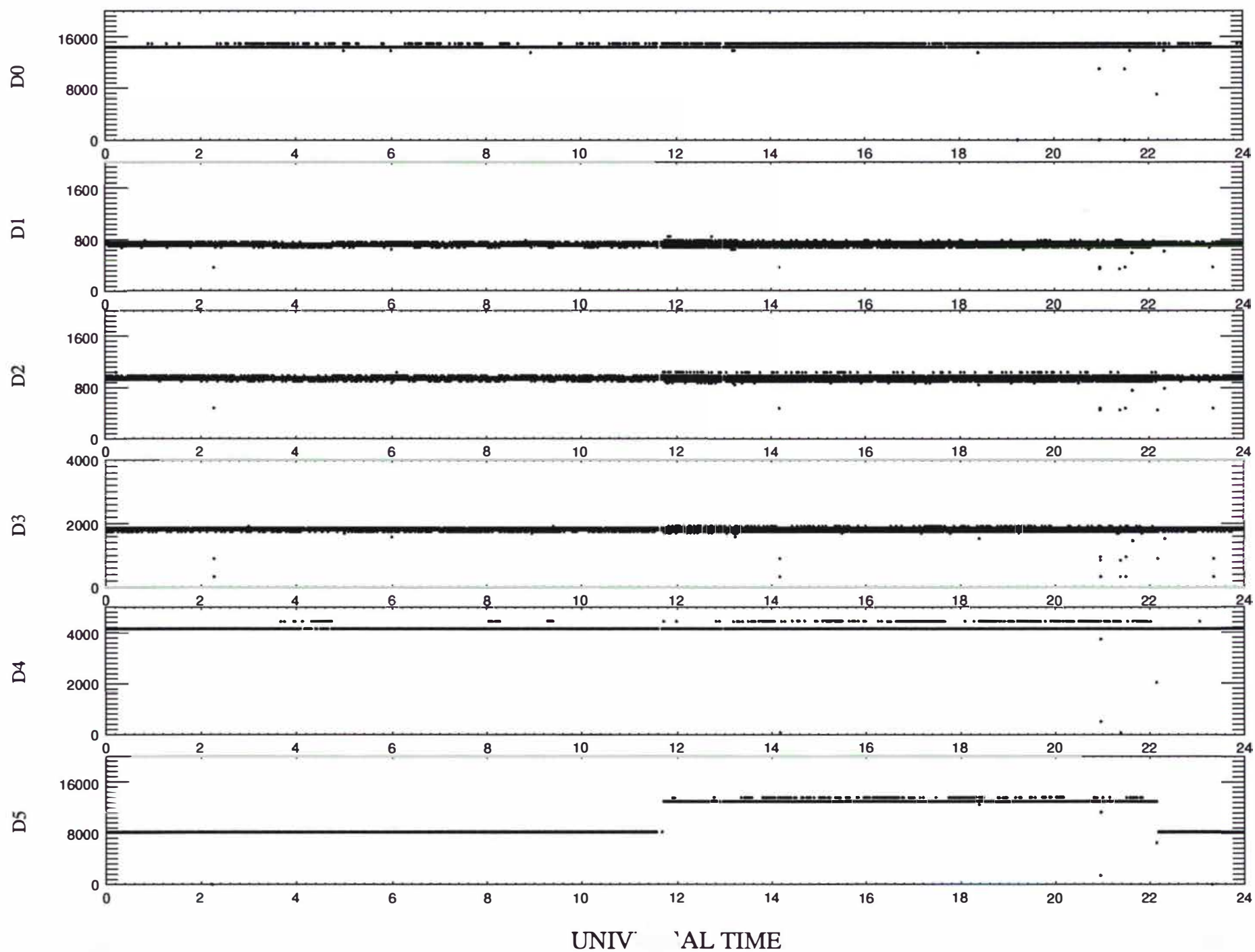
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV AL TIME



6882 980627 10991 45395 6500 180 +23 20

From SAHI@fender.msfc.nasa.gov Wed Jul 8 06:57 PDT 1998

Return-Path: <SAHI@fender.msfc.nasa.gov>

Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR
id GAA25463; Wed, 8 Jul 1998 06:57:38 -0700

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 8 Jul 1998 8:57:38 -0500 (CDT)

To: khurley@sunspot.ssl.berkeley.edu

Message-Id: <980708085738.20207d2b@fender.msfc.nasa.gov>

Subject: Crossing Windows for BATSE Burst 6886

Content-Type: text

Content-Length: 1135

X-Lines: 26

Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6886

EVENT OF 1998 JUN 29 DAY OF YEAR=180

EVENT CROSSING TIME AT BATSE : 5641. S. OR 01:34:01.0

COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)

BURST ARRIVAL DIRECTION: 309.000 44.000

BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND

INTERPOLATED POSITION OF ULYSSES ON 29/ 6/ 98 IS:

RA= 150.702 DEC= 9.543 DIST= 5.957 AU

BATSE-ULYSSES DISTANCE = 891219812. KM.

ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 57.05 DEG.

LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1617.01 SECS.

CROSSING TIME AT ULYSSES IS 7258. S. OR 02:00:58 +/- 507.65 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND

POSITION OF MARS ON 29/ 6/ 98 IS:

RA= 84.526 DEC= 23.866 DIST= 2.517 AU

MARS-BATSE DISTANCE = 376566688. KM.

ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.14 DEG.

LIGHT TRAVEL TIME ALONG PROJECTED PATH= 236.59 SECS.

CROSSING TIME AT MARS IS 5878. S. OR 01:37:57 +/- 217.77 SECONDS

BATSE BURST TRIGGER

NO.: 6886

TIME: TJD=0993 SECONDS=5641

TYPE: BURST

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

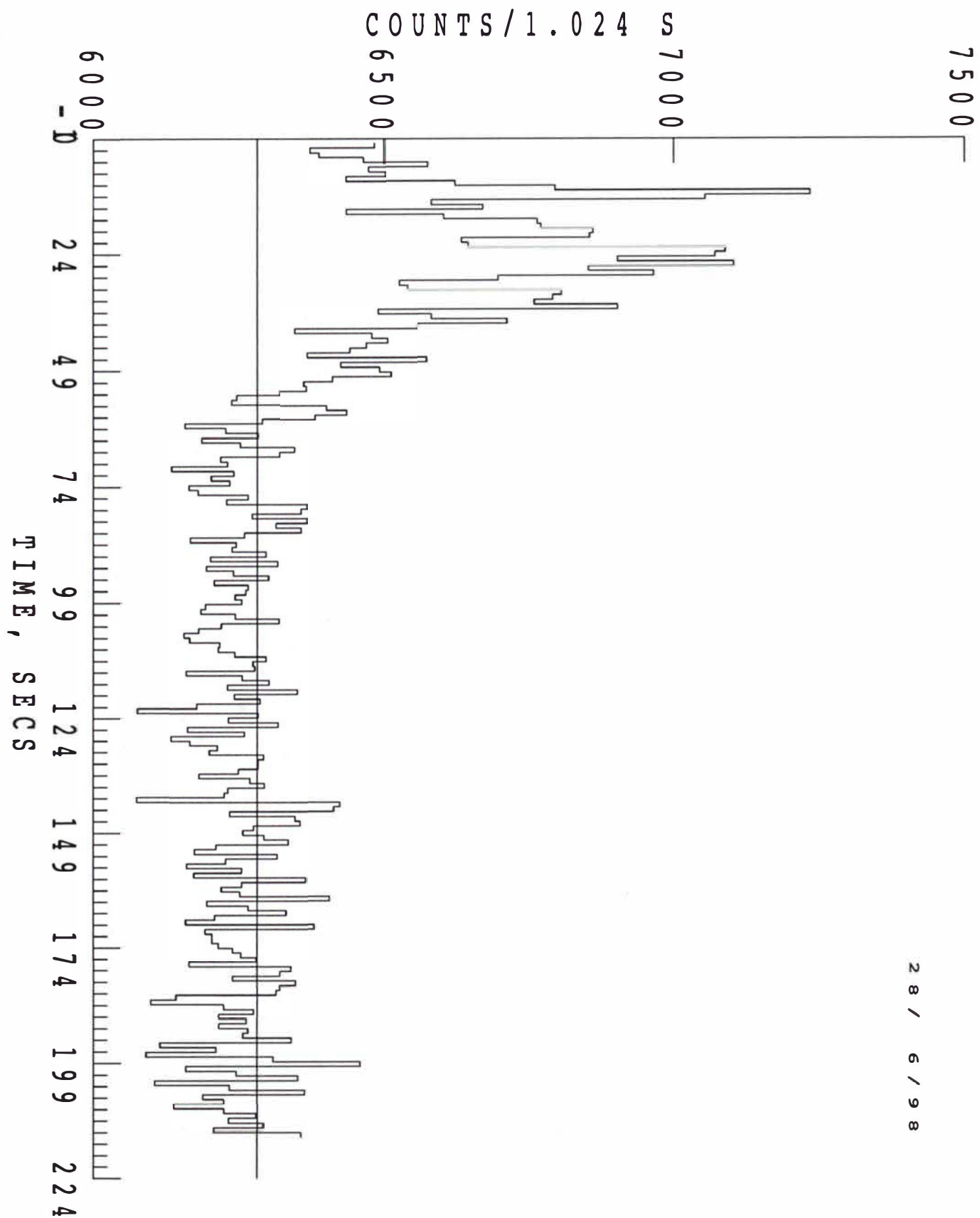
LOCATION: ZENITH=173.6 AZIMUTH=177.4 ERROR=2.58 DEGREES

REMARKS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 50 SECS, MAX. AT T+11 SECS.
STARTS AT T-2.5 SECS. VISIBLE ABOVE 300 KEV. CYGX-1 SET AT T-30 SECS.

#	Date	TJD	SOD	Max c/s	α	δ	Dur
6886	980629	10993	05641	3500	309	44	50

BACODINE 6886 29/06/98 5629.665
25 - 100 keV



BATSE BURST# 6886

ULYSSES RT

8 / 7 / 98

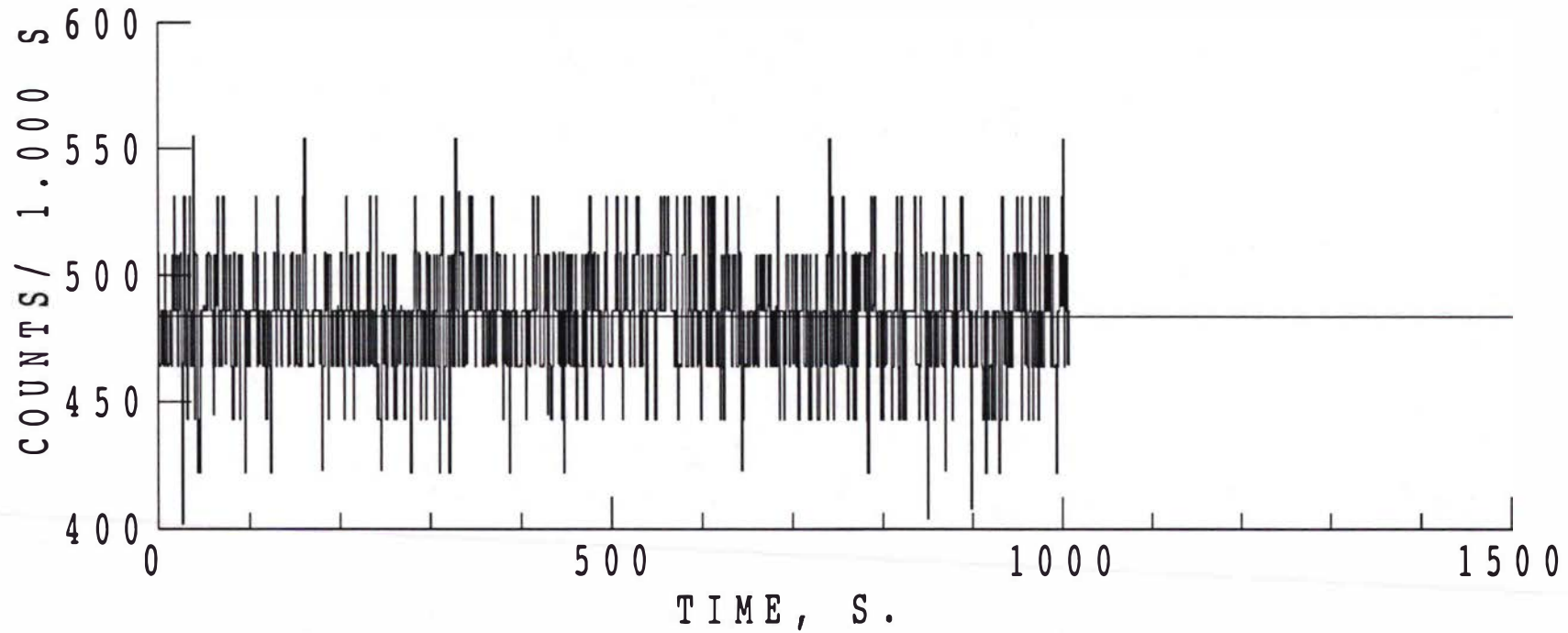
29 / 6 / 98 6768.167 s

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 SAHI@fender.msfc.nasa.gov Tue Jul 7 07:44:29 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 7 Jul 1998 9:44:13 -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.: 6887

June 29

SGR 1627

TIME: TJD=0993 SECONDS=26706

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=66.7 AZIMUTH=182.0 ERROR=2.25 DEGREES

COMMENTS:

SGR. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 0.16 SECS, MAX. AT T+0.02 SECS
STARTS AT T-0.04 SECS. WEAKLY VISIBLE ABOVE 100 KEV.

Data gap

BATSE UNT

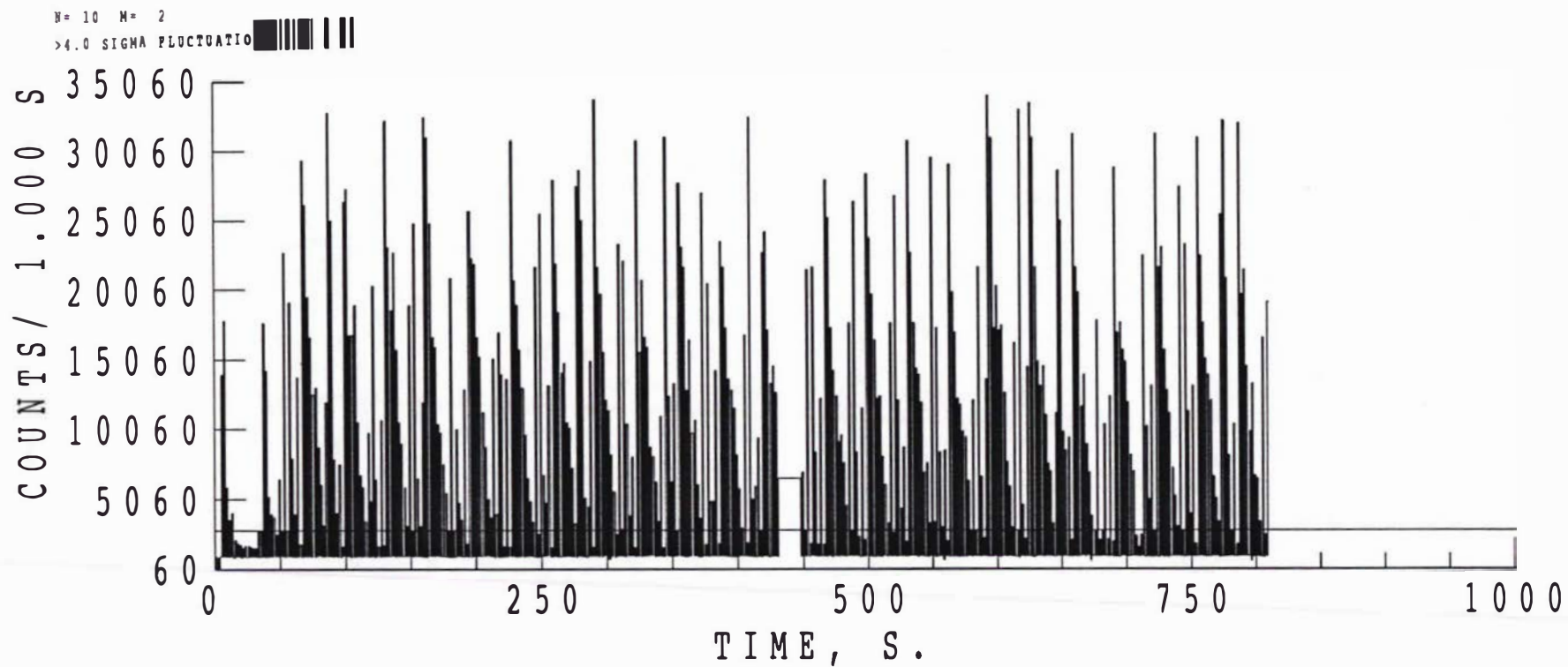
ULYSSES RT

5 / 12 / 98

29 / 6 / 98 28349.896 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV



BATSE time corrected 9/26

Date: June 17 2002

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? *No*

2. 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

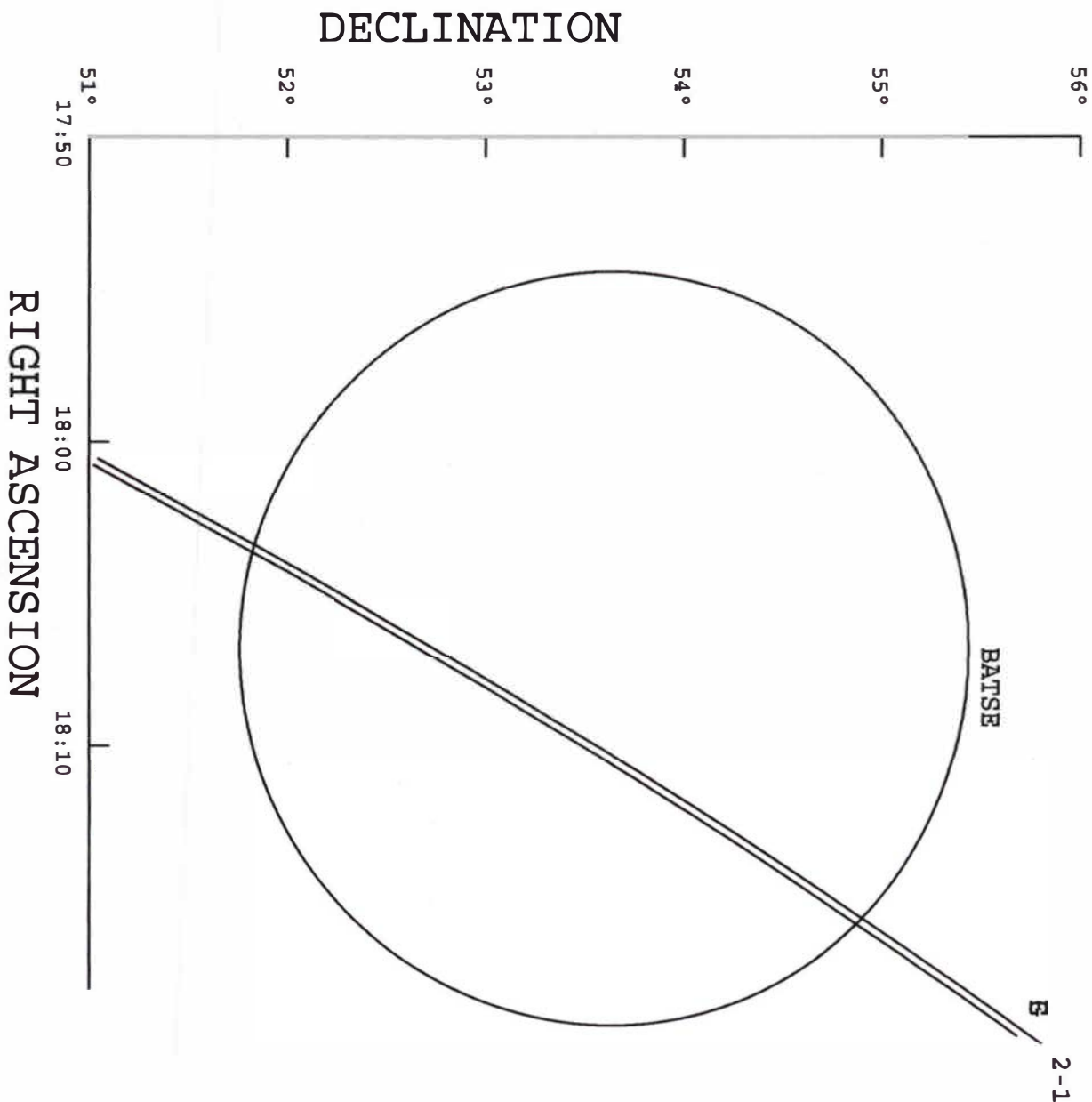
- ☐ Final, correct time used? (Files postmarked vwxbocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ 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 JUN 29, 1998 8:59

17/ 6/ 2



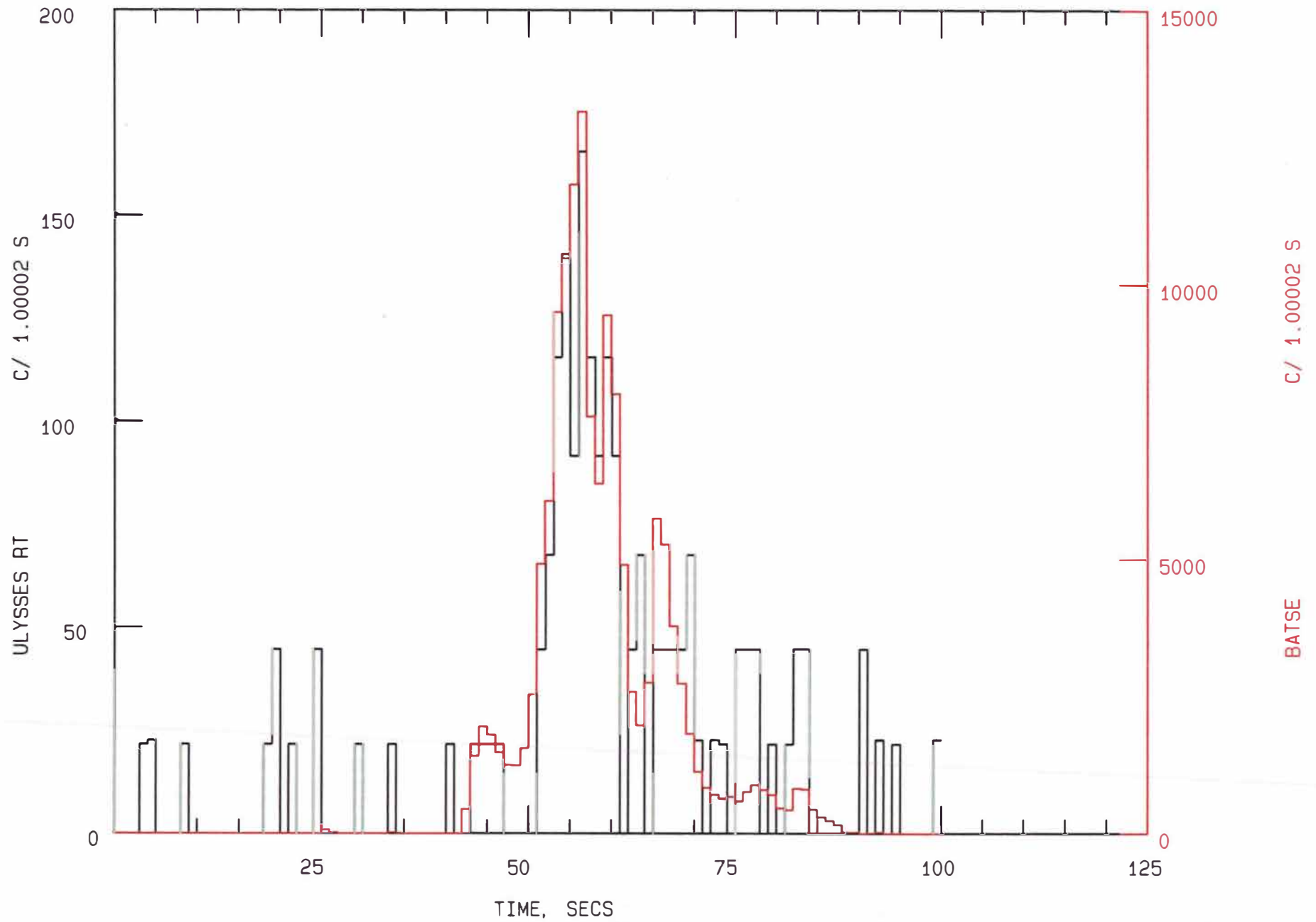
ULYSSES RT-BATSE

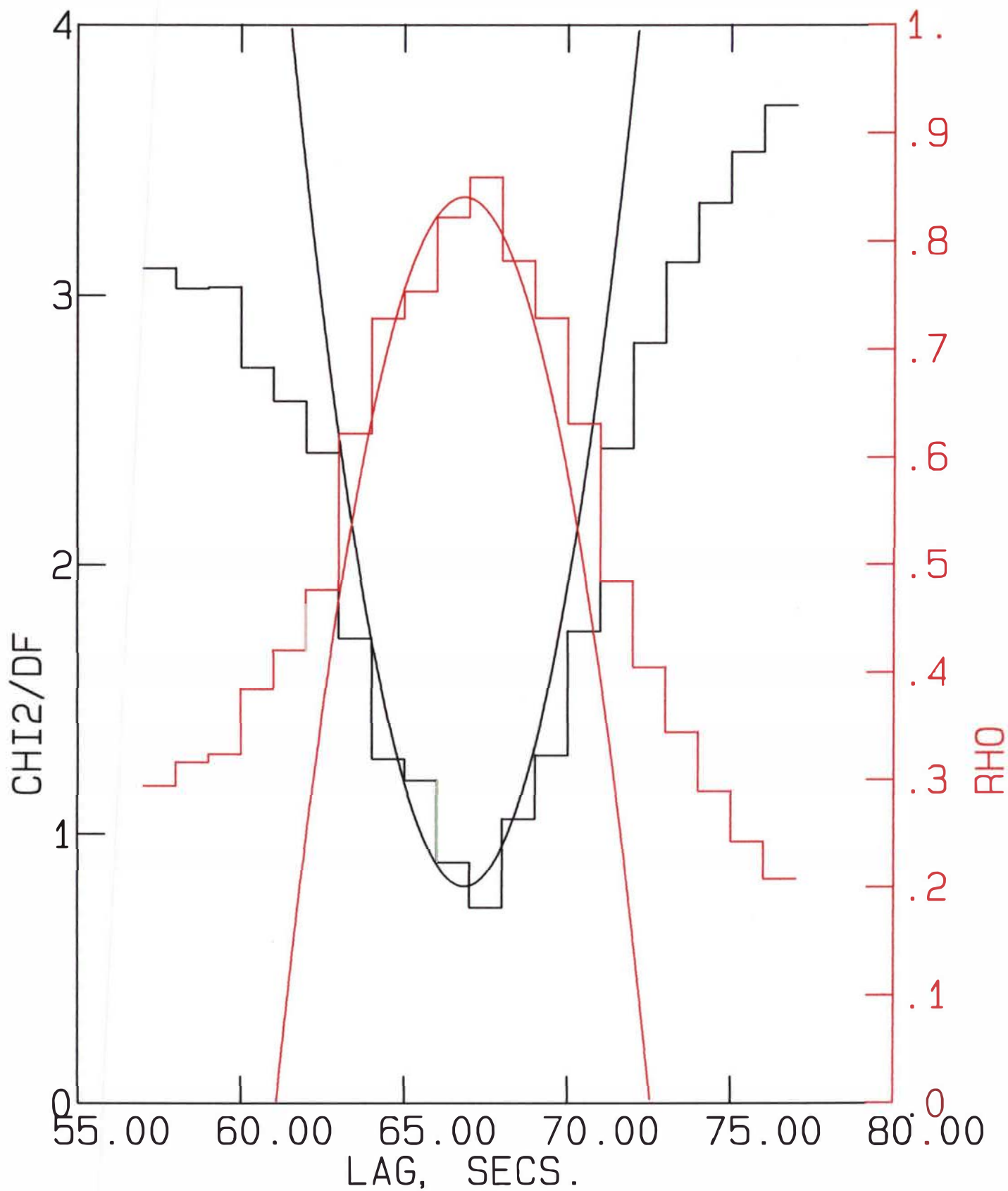
CORRELATION

29/ 6/98

32848.404

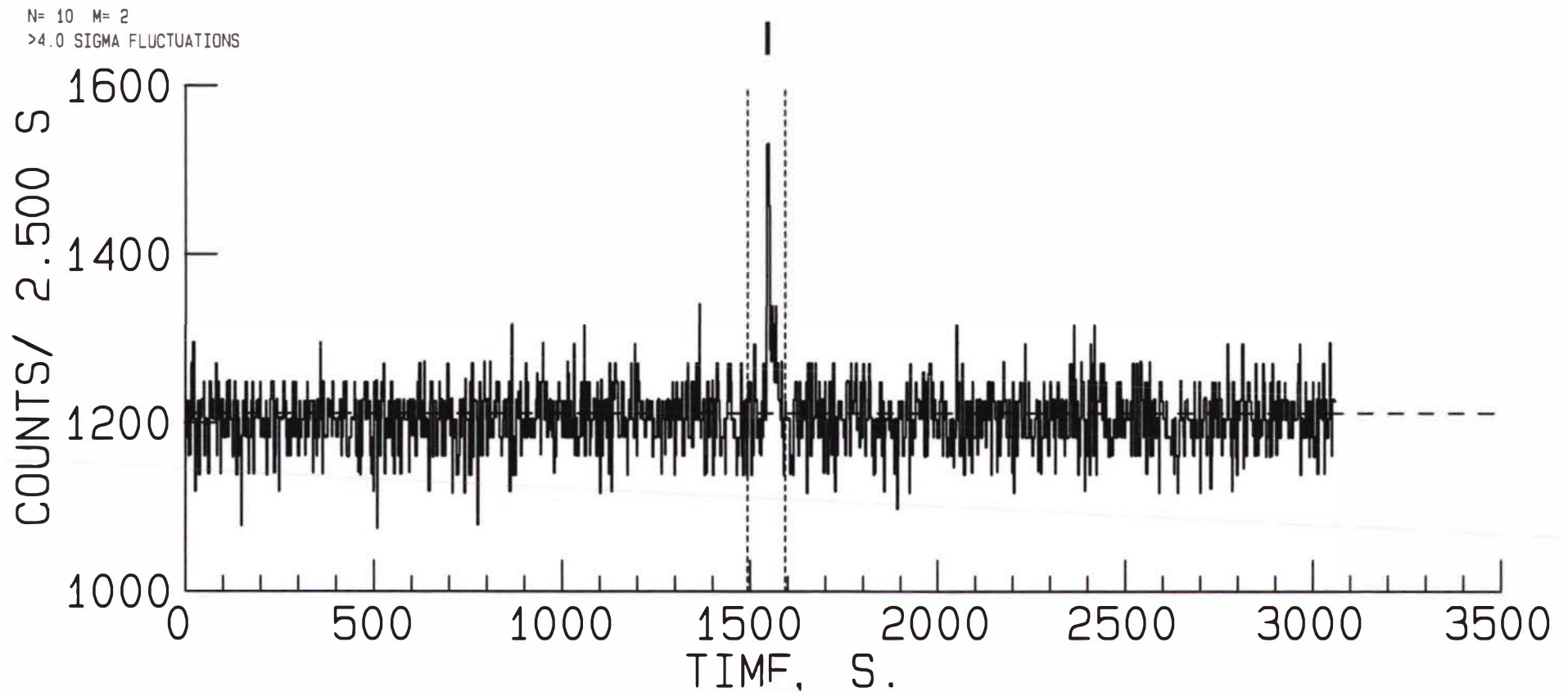
17/ 6/ 2





ULYSSES RT
29/ 6/98 31356.424 s
0.500 S INTERVALS REGROUPED BY 5
22- 151 keV

17 / 6 / 2



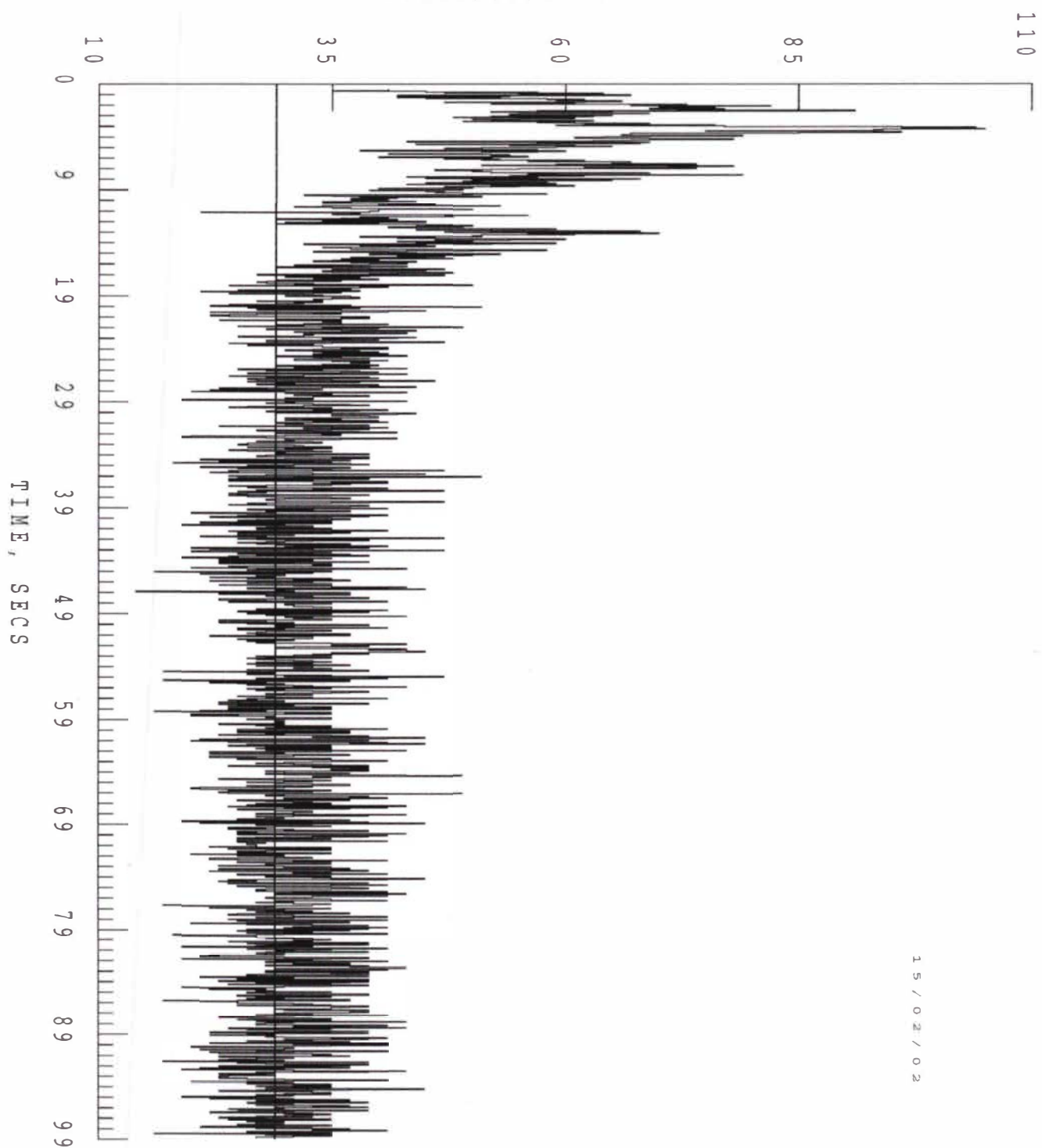
KONUS2

29/06/98

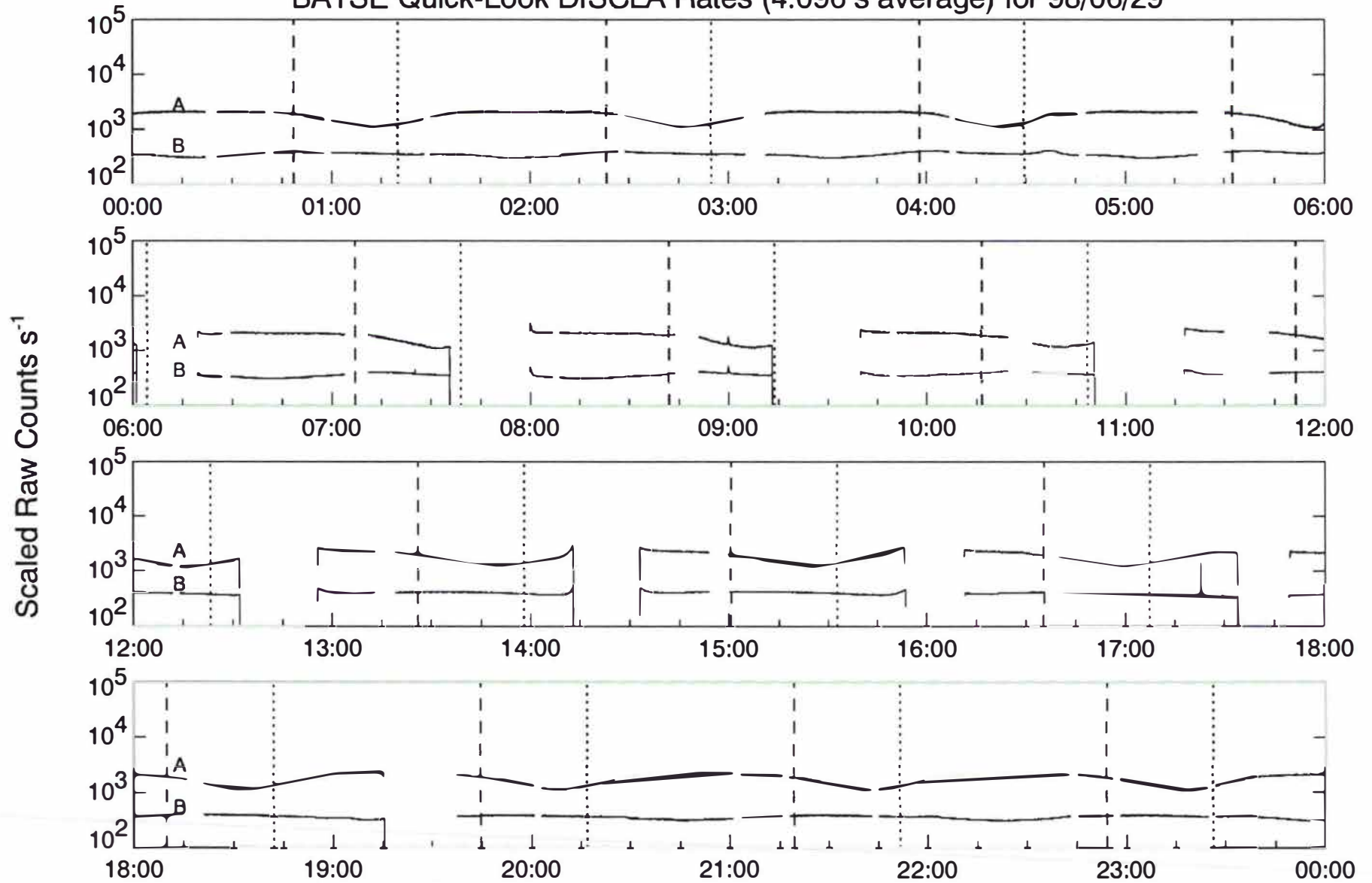
32386.765

50 - 200 keV

COUNTS/0.064 S



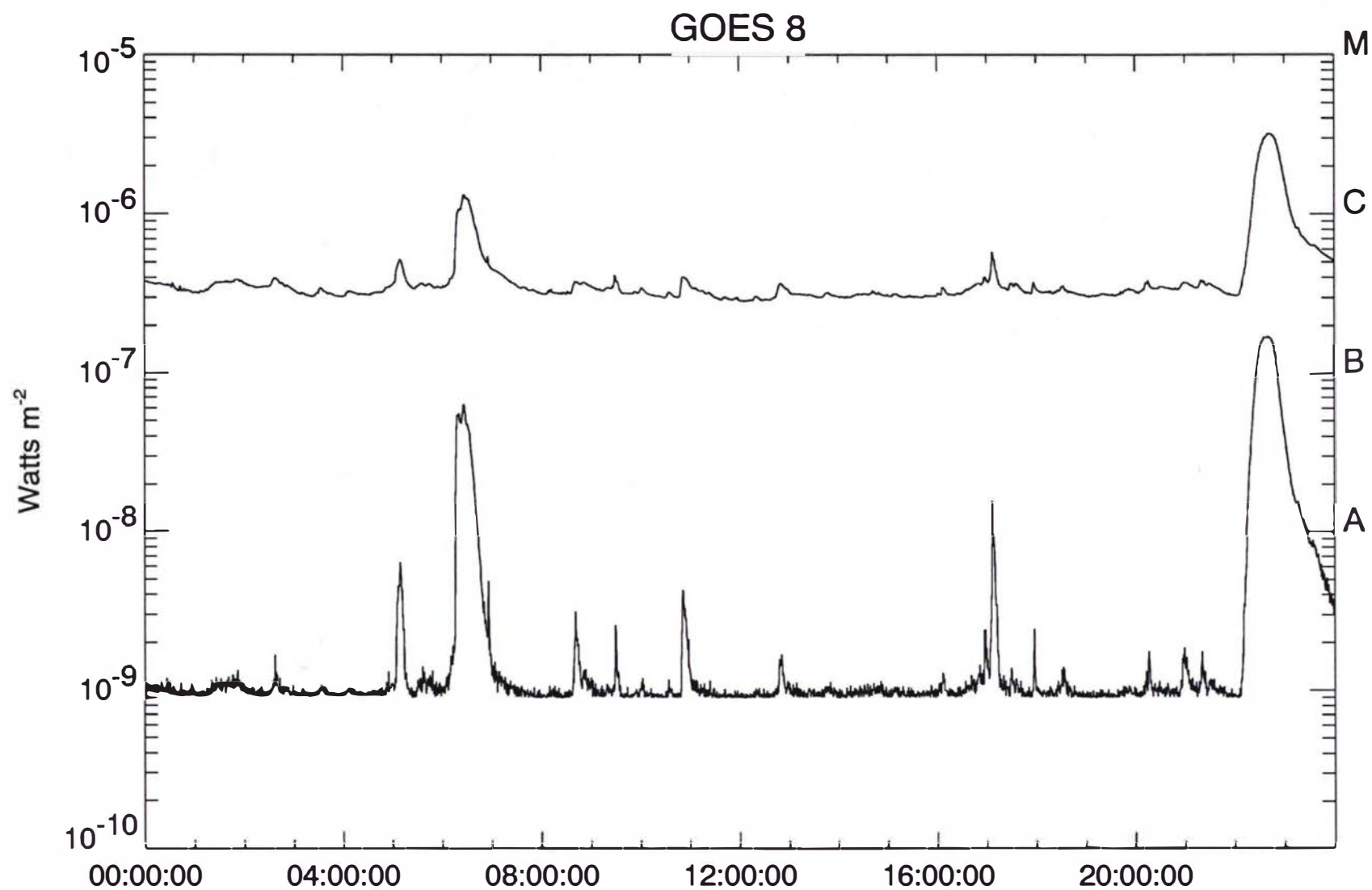
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/29



Current Time: 98/07/03, 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: 98/06/29, 0000:00

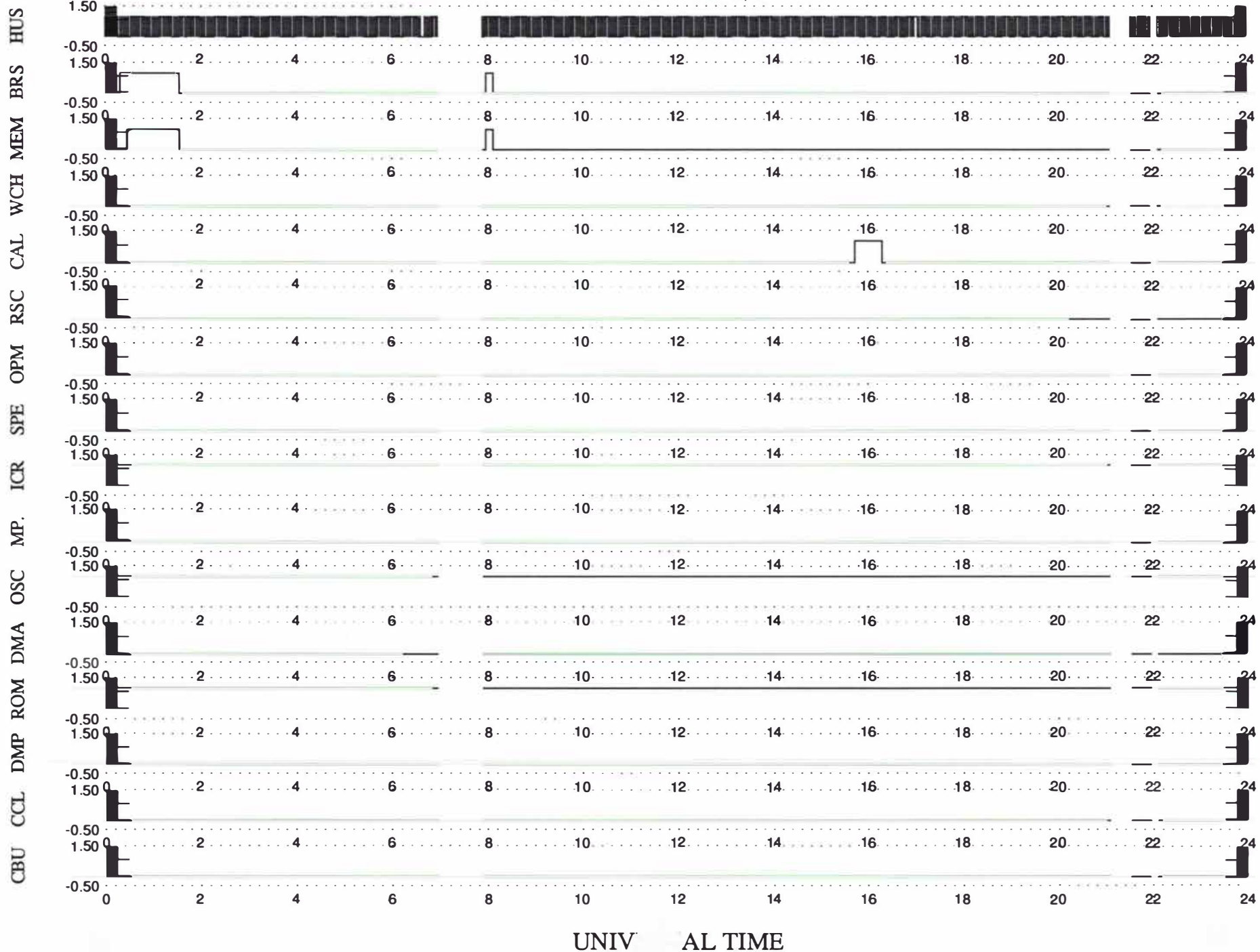
Plot created: 98/07/03, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

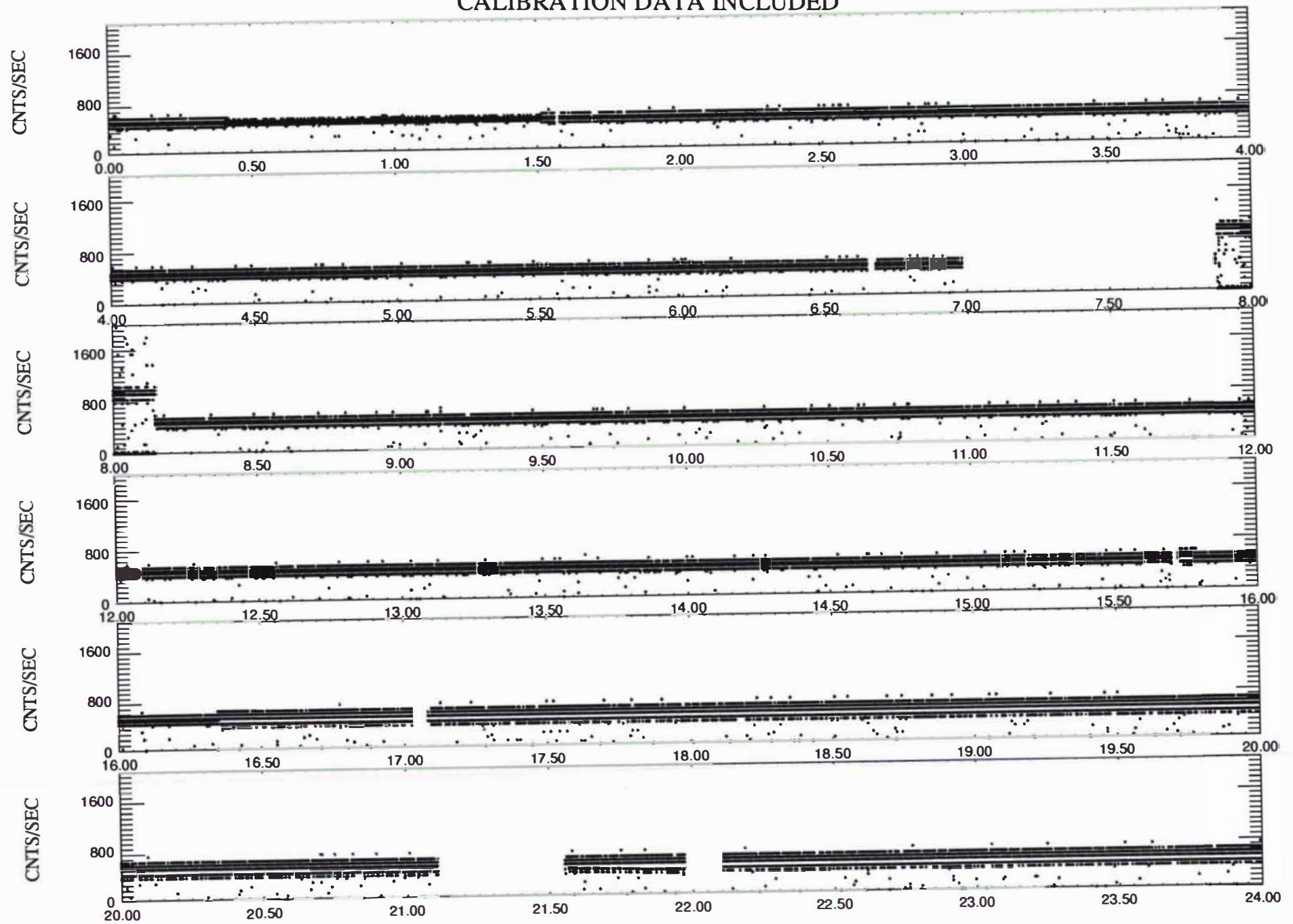
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 1, 2

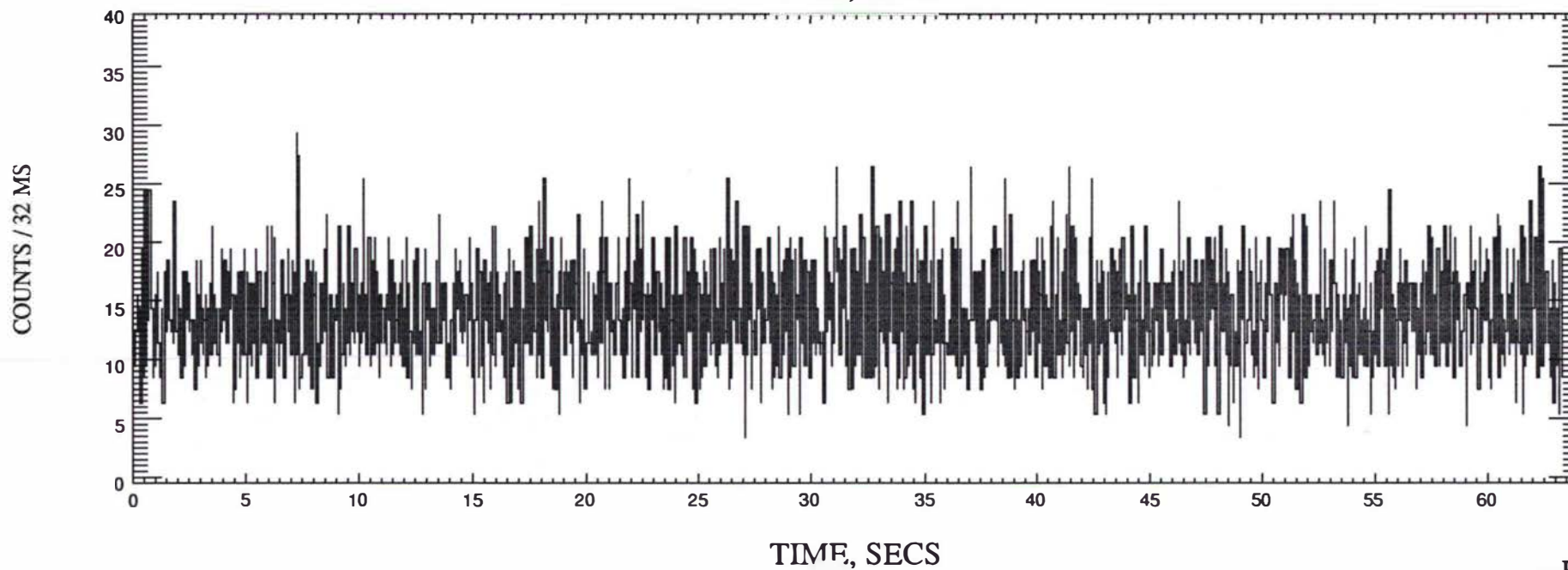
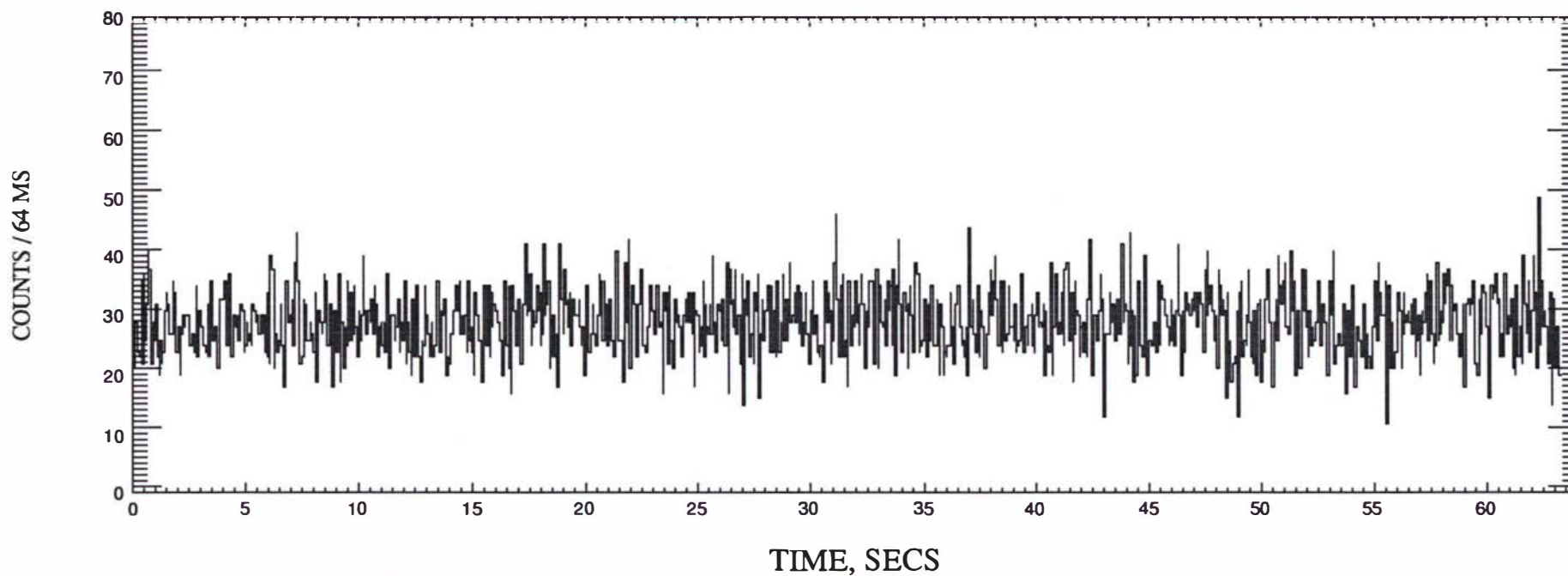


CALIBRATION DATA INCLUDED

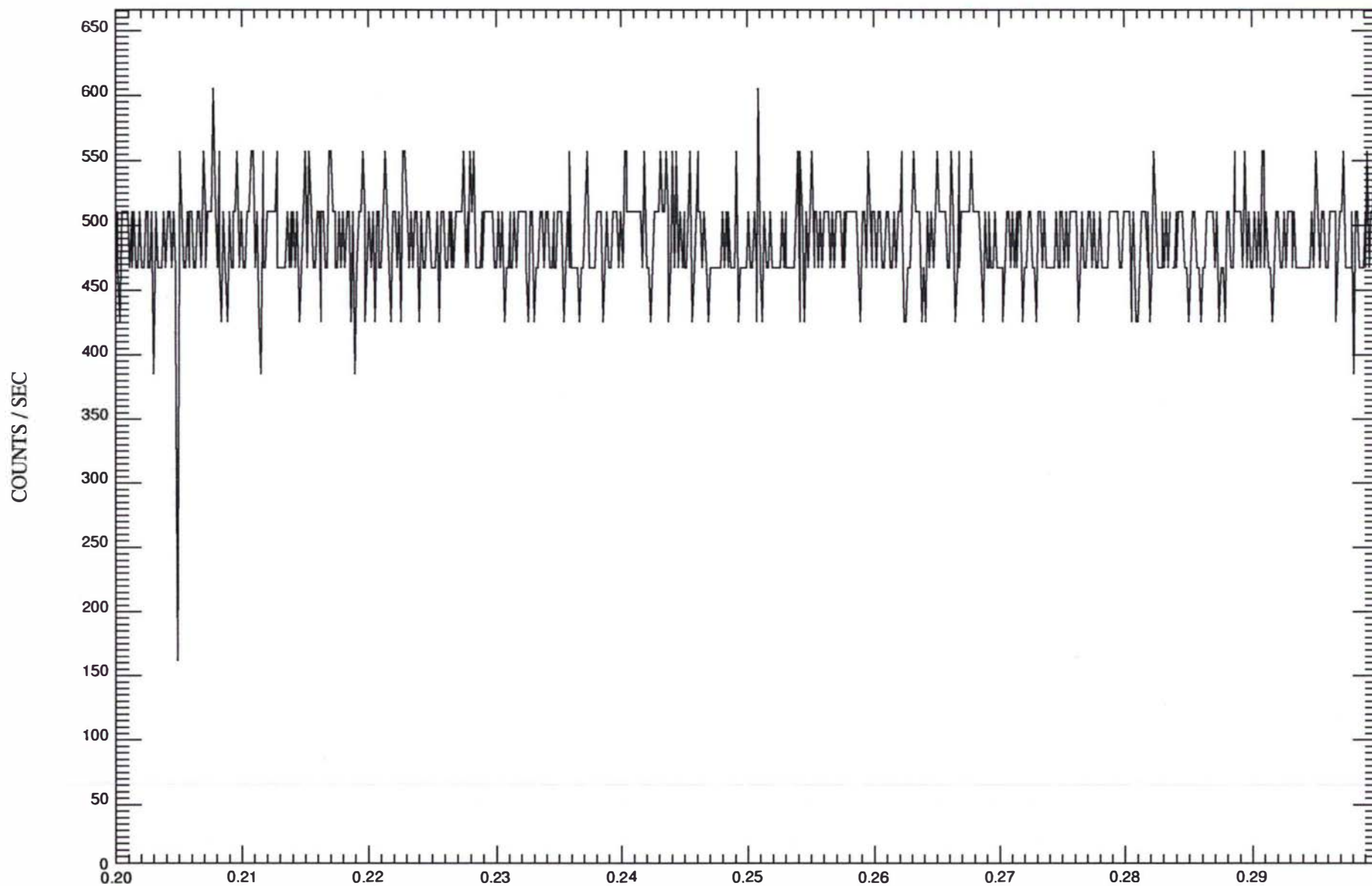


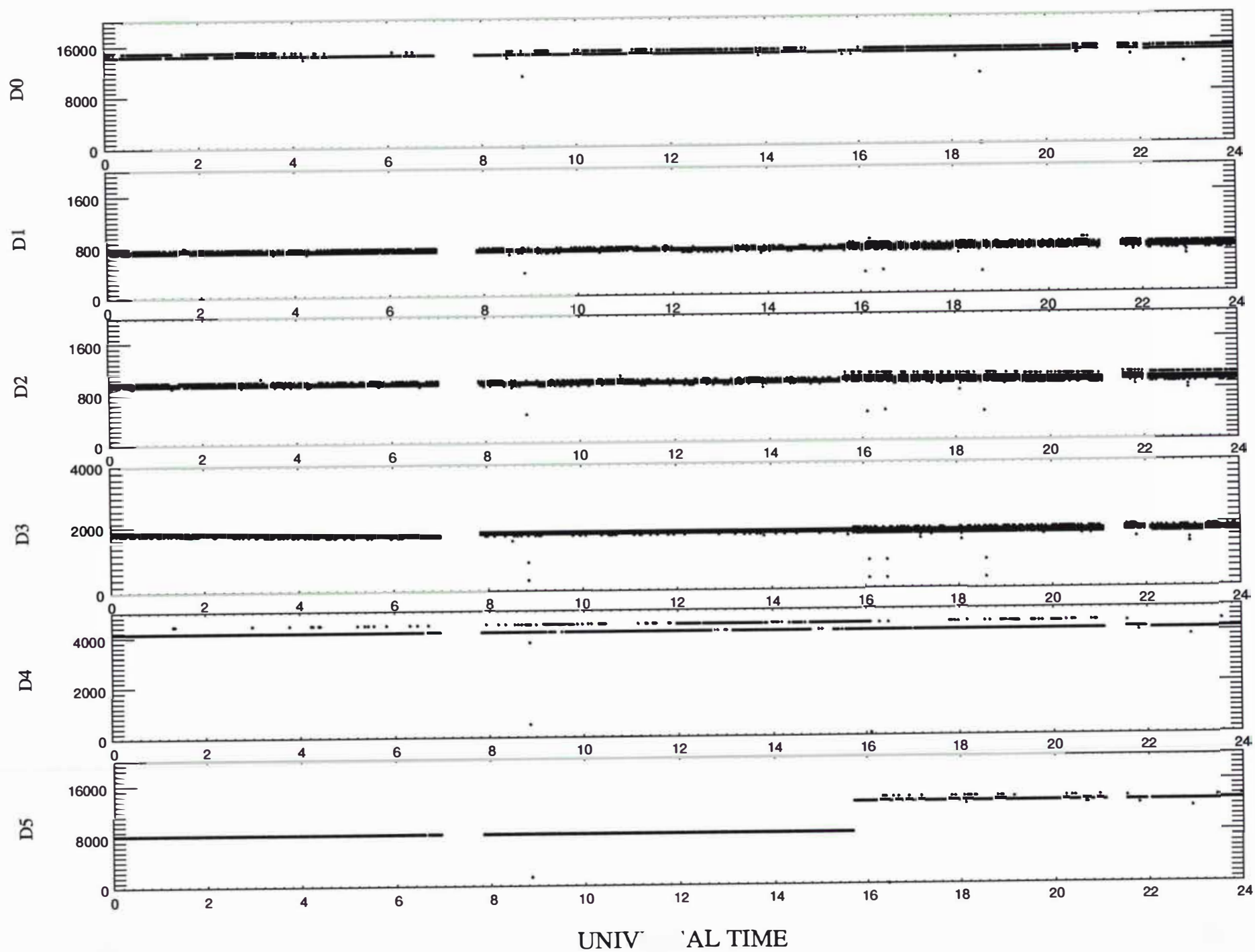
UNIV 'AL TIME

Burst Counter 1 at UT= 0.251139416165 h= 904.102 s 00:15:04.102



CALIBRATION DATA INCLUDED





From JONESSD@fender.msfc.nasa.gov Thu Jul 23 10:16:33 1998

From: JONESSD@fender.msfc.nasa.gov

Date: Thu, 23 Jul 1998 10:10:06 -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.: 6888

TIME: TJD=0994 SECONDS=6382 01:46:22

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=75.1 AZIMUTH=346.1 ERROR=1.6 DEGREES

COMMENTS:

SOLAR FLARE: GOES 9 C5.0, SINGLE PULSE WITH SUBSTRUCTURE. NOT VISIBLE
ABOVE 50 KEV, DURATION ABOUT 70 SEC.

From PETERSON@fender.msfc.nasa.gov Wed Jul 8 06:30:26 1998

From: PETERSON@fender.msfc.nasa.gov

NO

Date: Wed, 8 Jul 1998 8:30:04 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevax.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

286.8, 9.3

NO.: 6889

June 30

TIME: TJD=0994 SECONDS=75193 20:53:13

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=118.9 AZIMUTH=223 ERROR=3.14 DEGREES

COMMENTS:

SGR 1900+14 BURST LASTING ABOUT 0.1SEC. NOT VISIBLE ABOVE 100KEV.

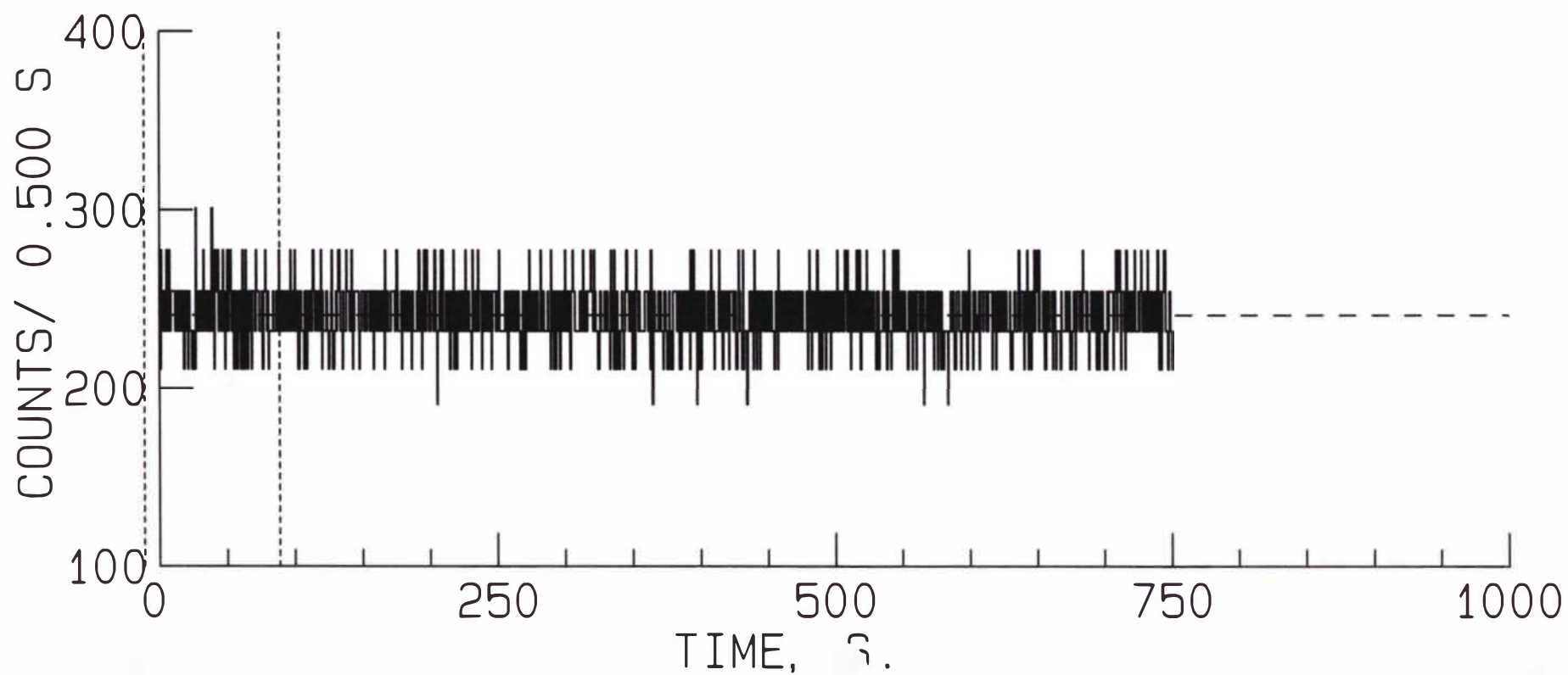
ULYSSES RT

8 / 7 / 98

30 / 6 / 98 76752.327 s

22- 148 keV

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

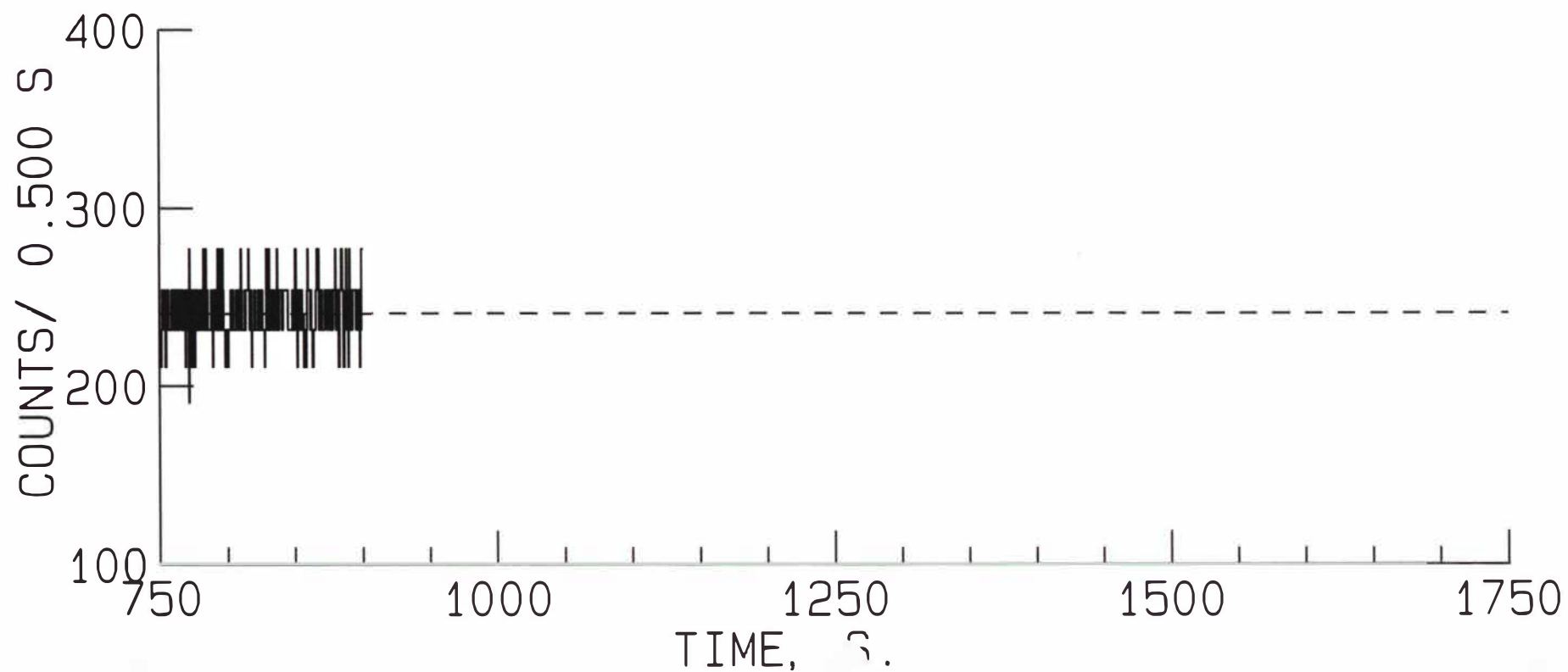


ULYSSES RT

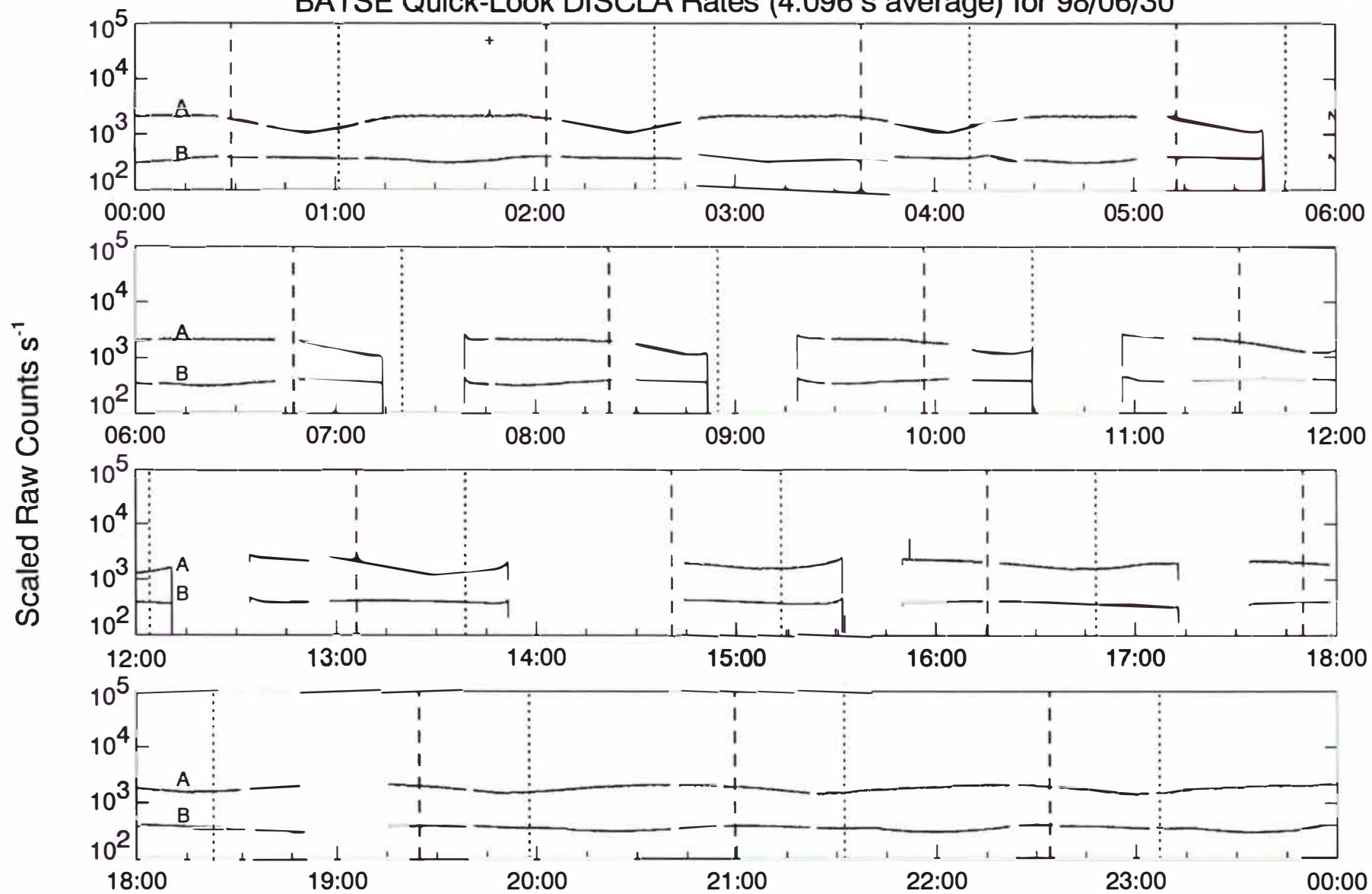
8 / 7 / 98

30 / 6 / 98 76752.327 s

22- 148 keV



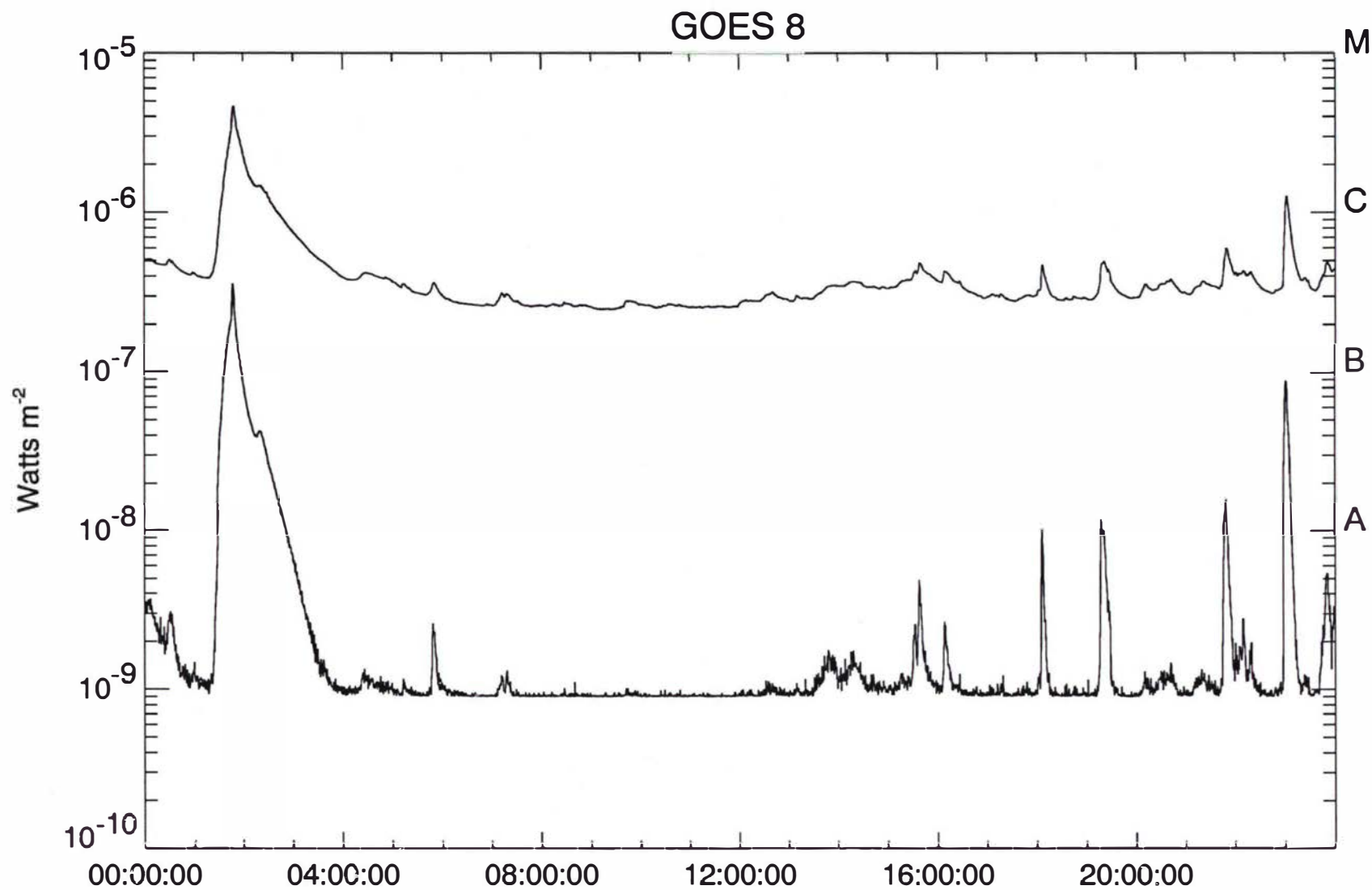
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/06/30



Current Time: 98/07/04, 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: 98/06/30, 0000:00

Plot created: 98/07/04, 1007

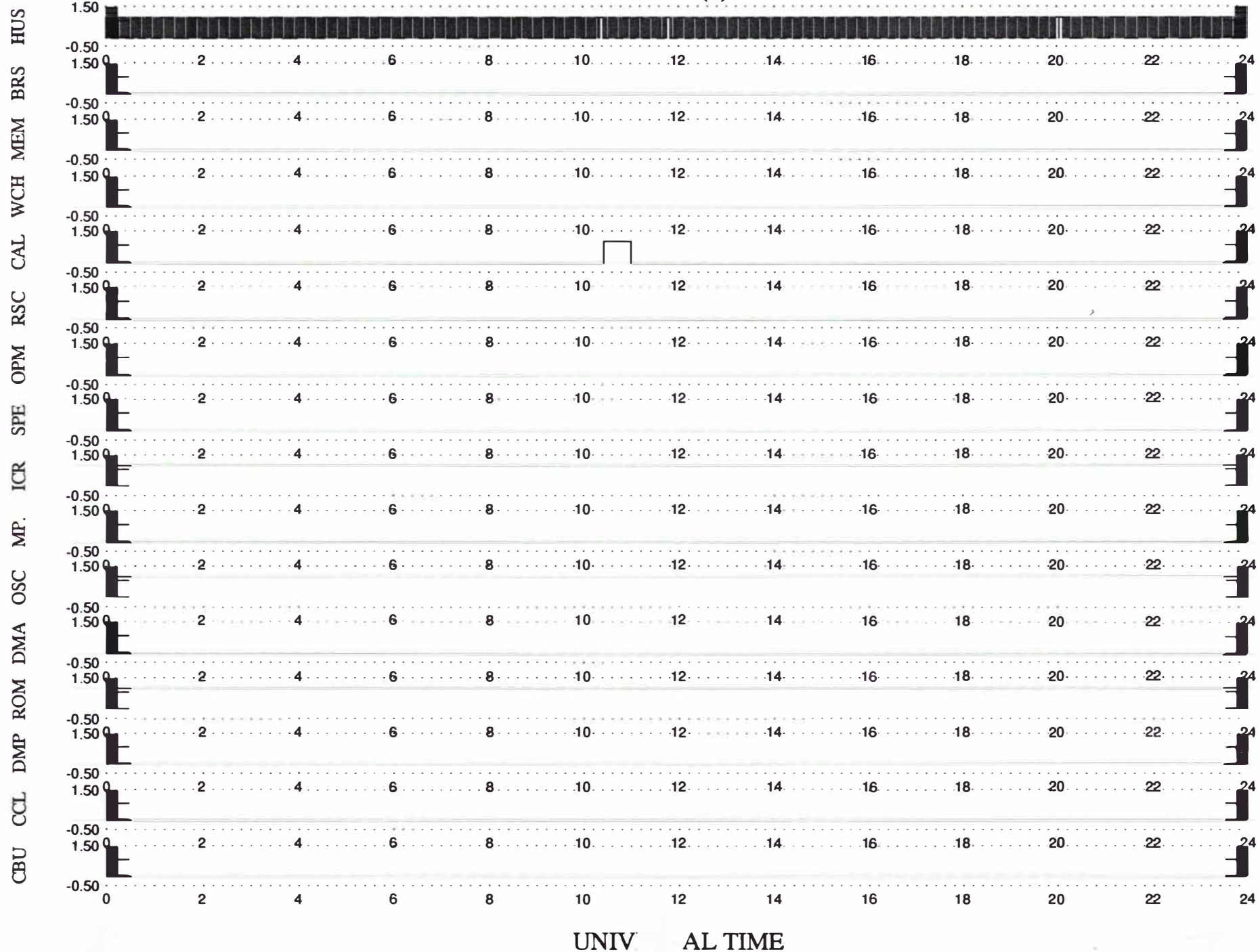
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

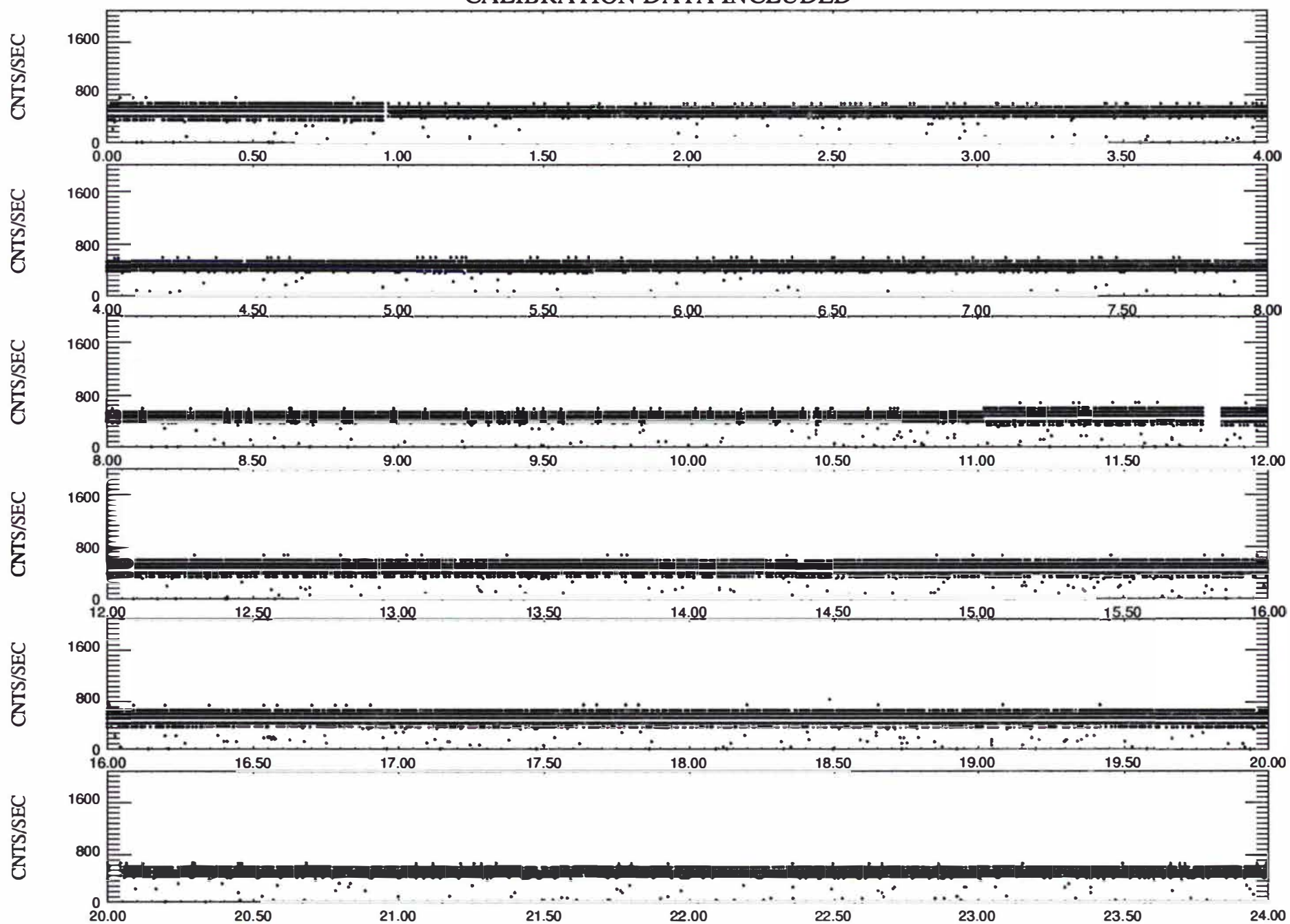
Sample average = 10

168

NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV AL TIME



