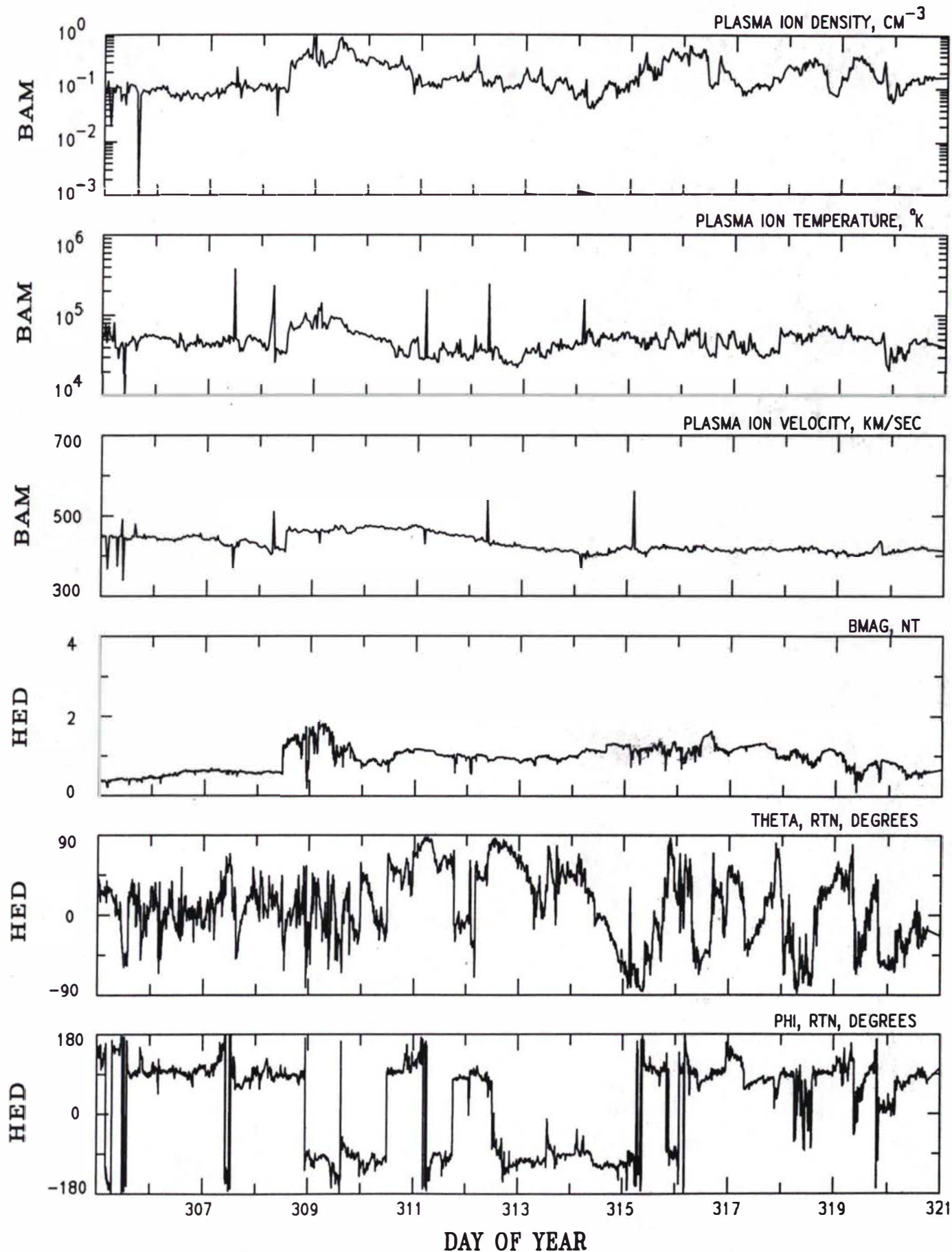


ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 305 NOV 1 00:00:00.000 - 98 321 NOV 17 00:00:00.000



17. 11. 1971
10. 11. 1971

1. 11. 1971

2. 11. 1971

3. 11. 1971

4. 11. 1971

5. 11. 1971

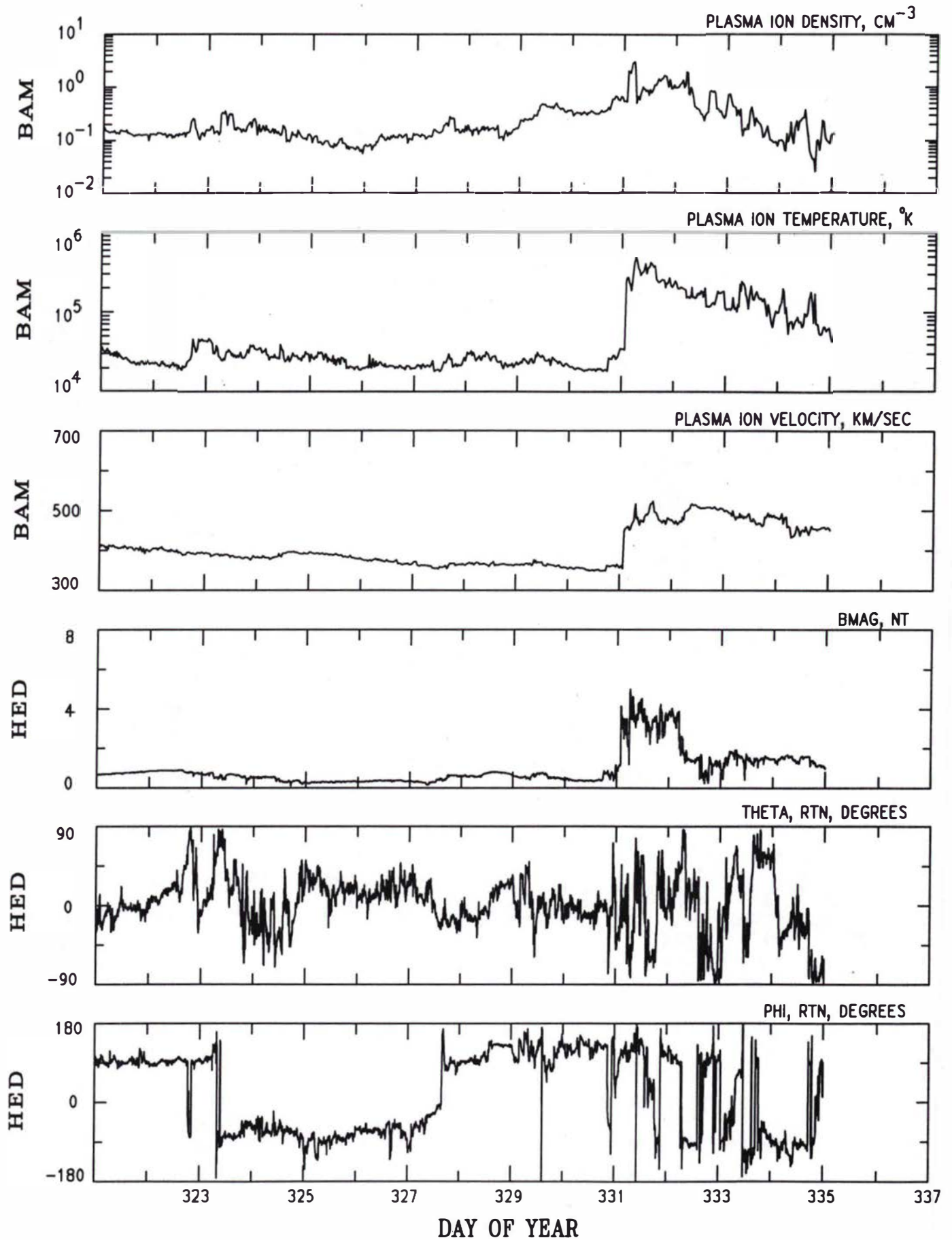
6. 11. 1971

7. 11. 1971

8. 11. 1971

ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 321 NOV 17 00:00:00.000 - 98 337 DEC 3 00:00:00.000



Washington, D.C.

June 1, 1911

Dear Sir:

I have the honor to acknowledge the receipt of your letter of May 24, 1911, in relation to the matter of the proposed amendment to the Act of March 3, 1907, relating to the exportation of certain agricultural products.

The Department is at present considering the same, and will advise you as soon as a decision has been reached.

Very respectfully,
J. B. HARRIS, Secretary

Enclosed for you are two copies of the proposed amendment to the Act of March 3, 1907, relating to the exportation of certain agricultural products.

Very truly yours,
J. B. HARRIS, Secretary

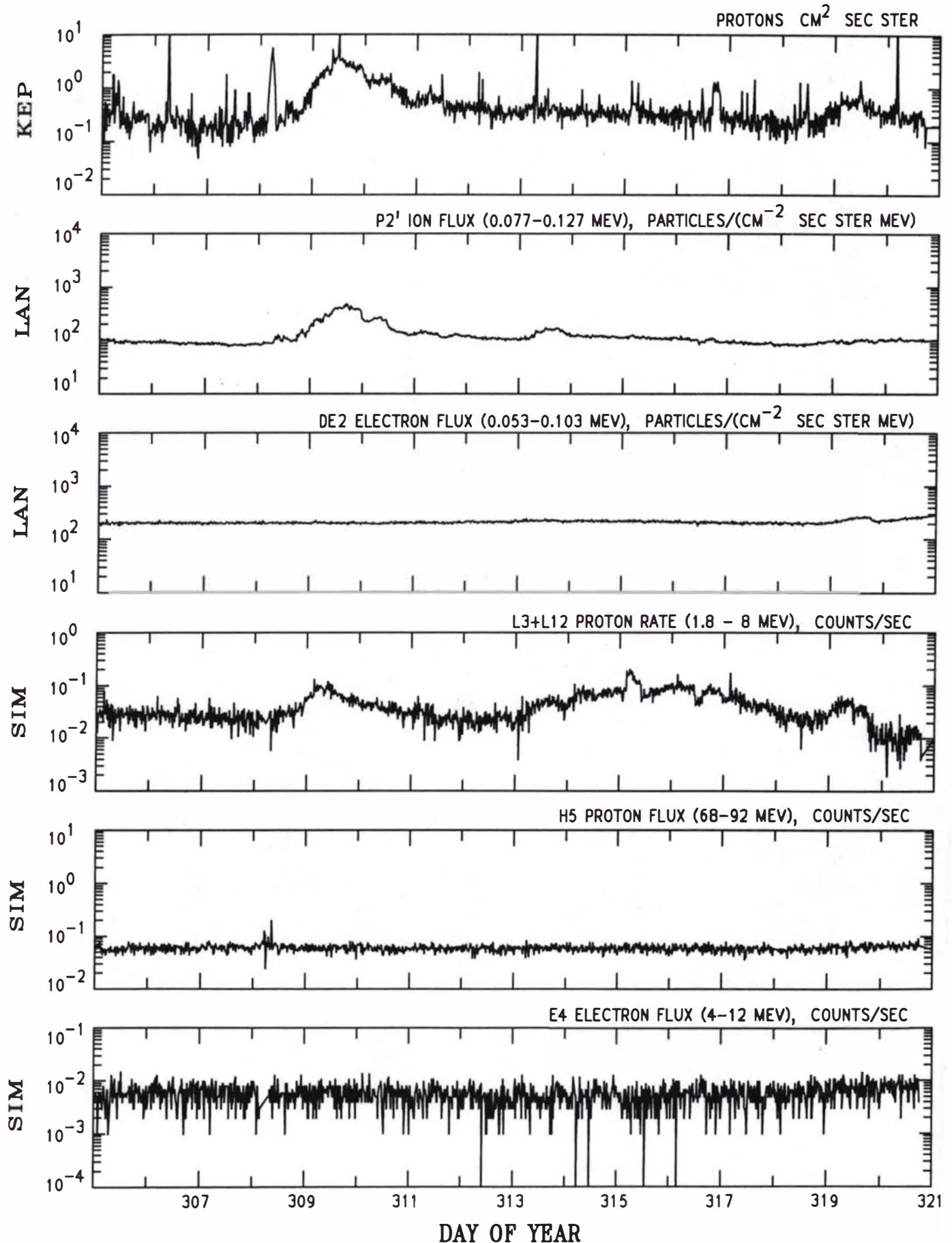
Enclosed for you are two copies of the proposed amendment to the Act of March 3, 1907, relating to the exportation of certain agricultural products.

Very truly yours,
J. B. HARRIS, Secretary

Enclosed for you are two copies of the proposed amendment to the Act of March 3, 1907, relating to the exportation of certain agricultural products.

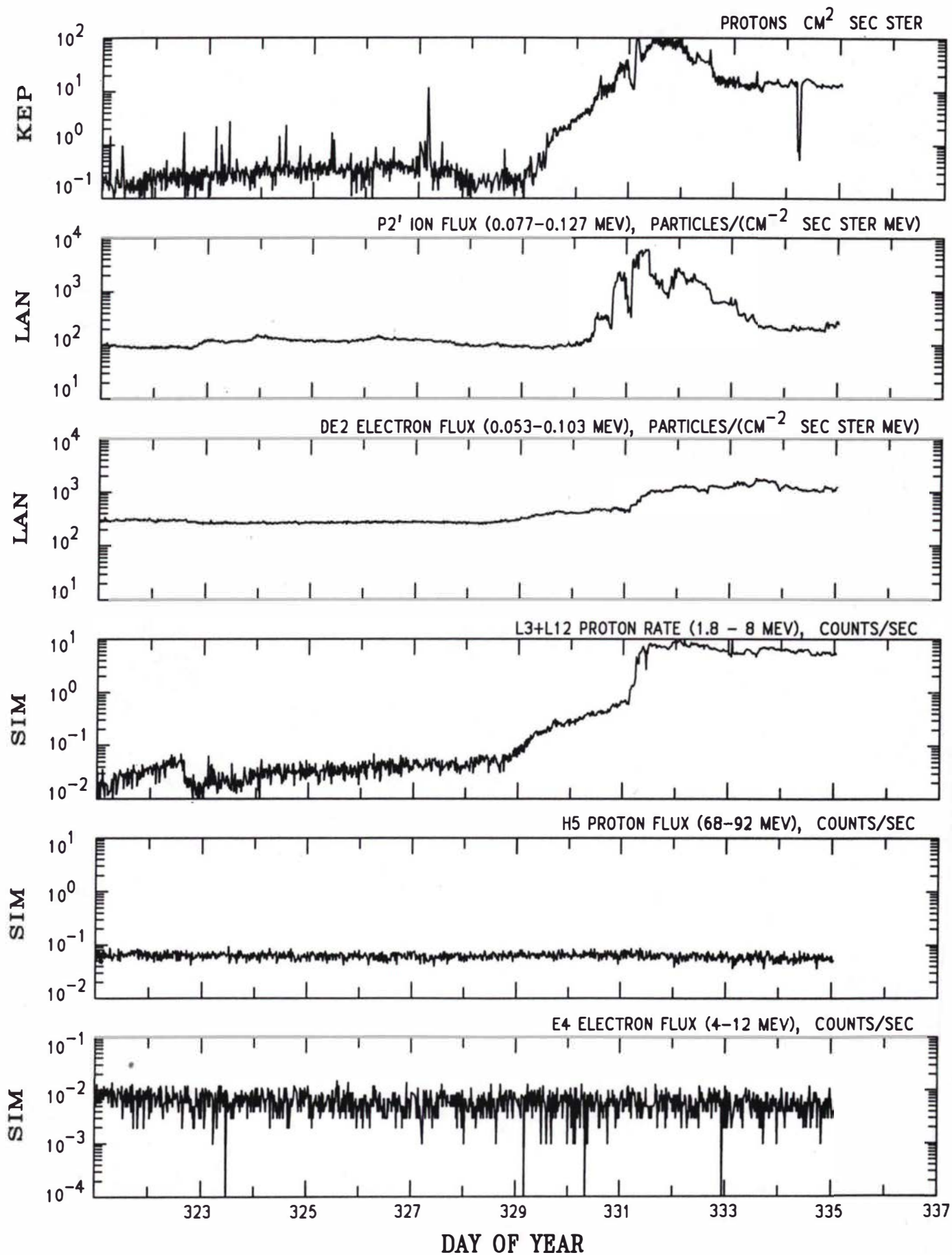
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 305 NOV 1 00:00:00.000 - 98 321 NOV 17 00:00:00.000



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

98 321 NOV 17 00:00:00.000 - 98 337 DEC 3 00:00:00.000



1911
2000

1911
2000

1911
2000

1911
2000

1911
2000

1911
2000

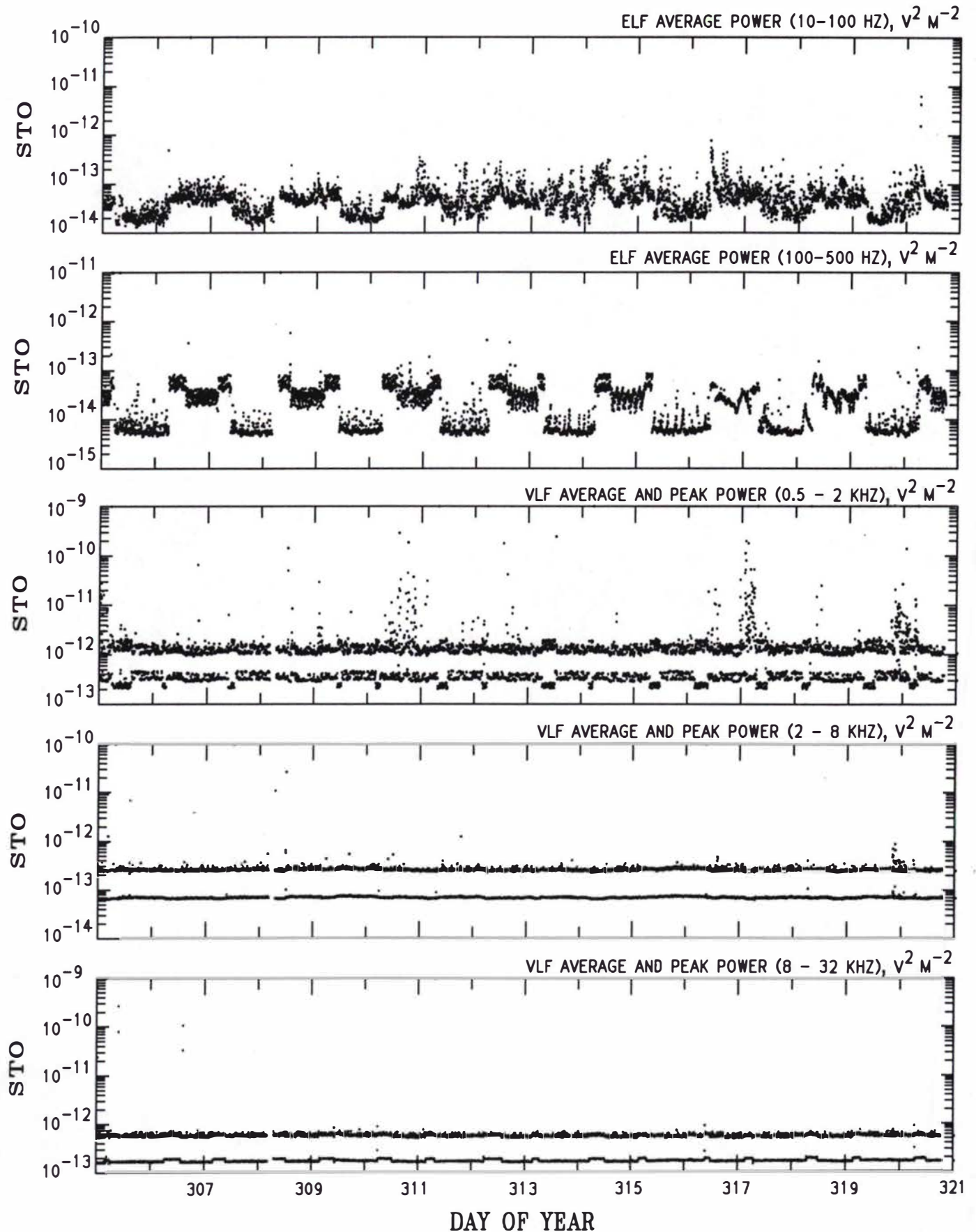
1911
2000

1911
2000

1911
2000

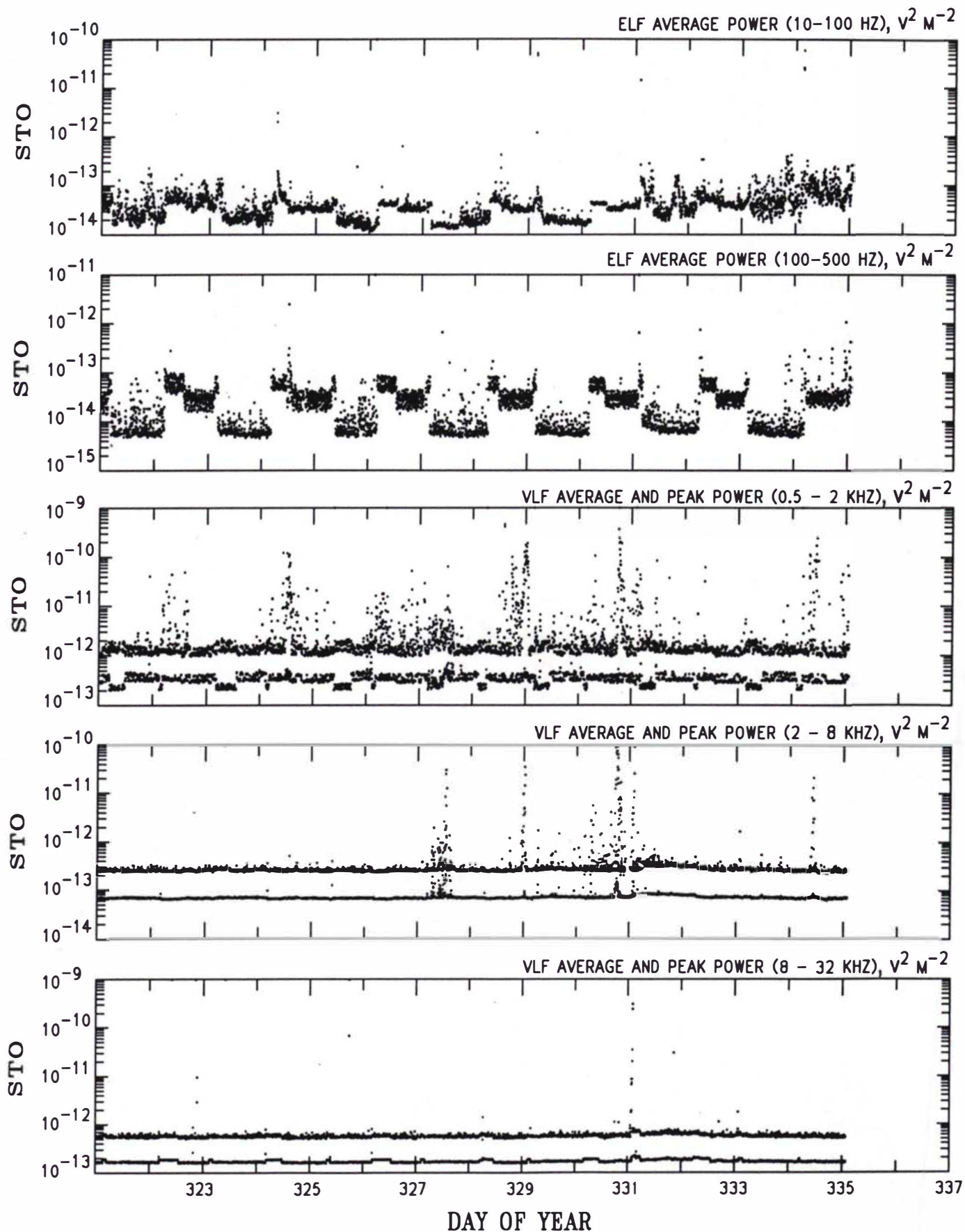
ULYSSES CDR - PLASMA WAVE

98 305 NOV 1 00:00:00.000 - 98 321 NOV 17 00:00:00.000



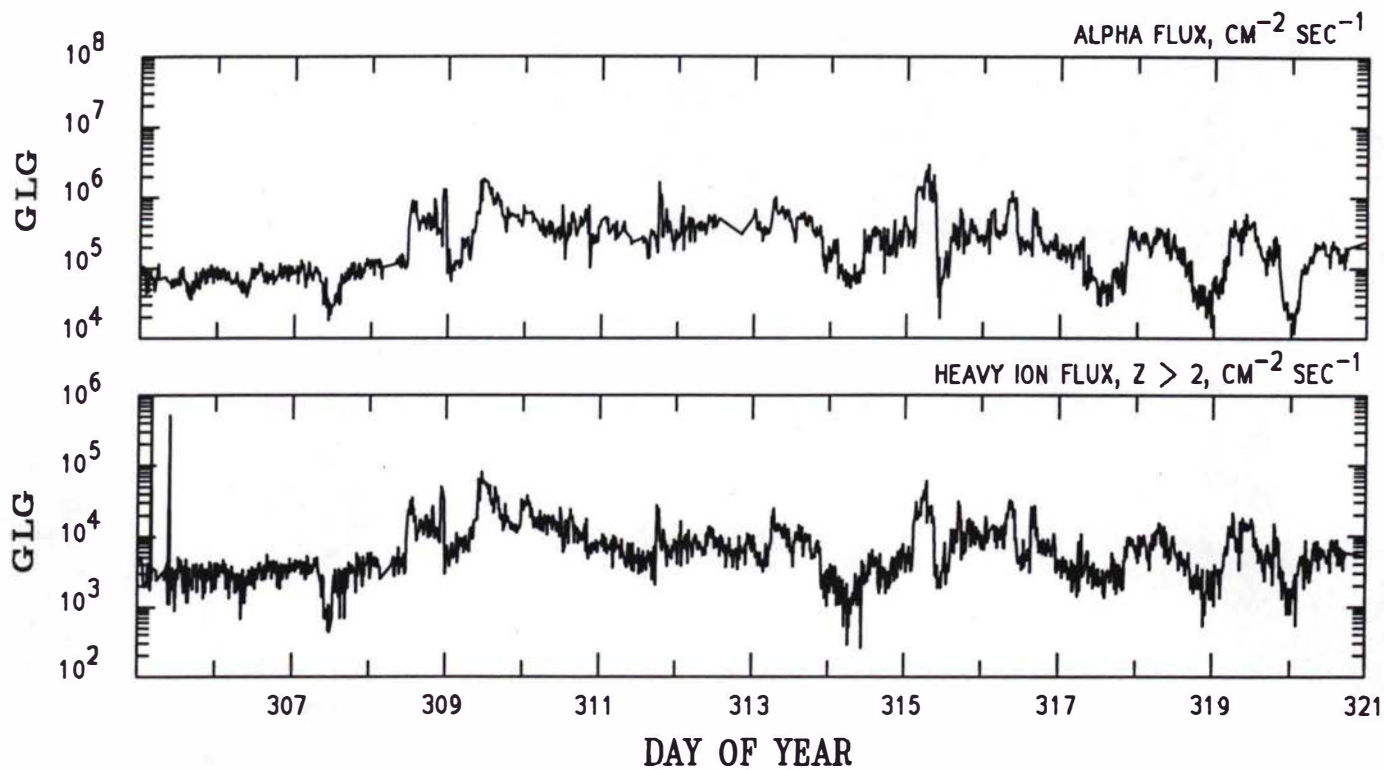
ULYSSES CDR - PLASMA WAVE

98 321 NOV 17 00:00:00.000 - 98 337 DEC 3 00:00:00.000



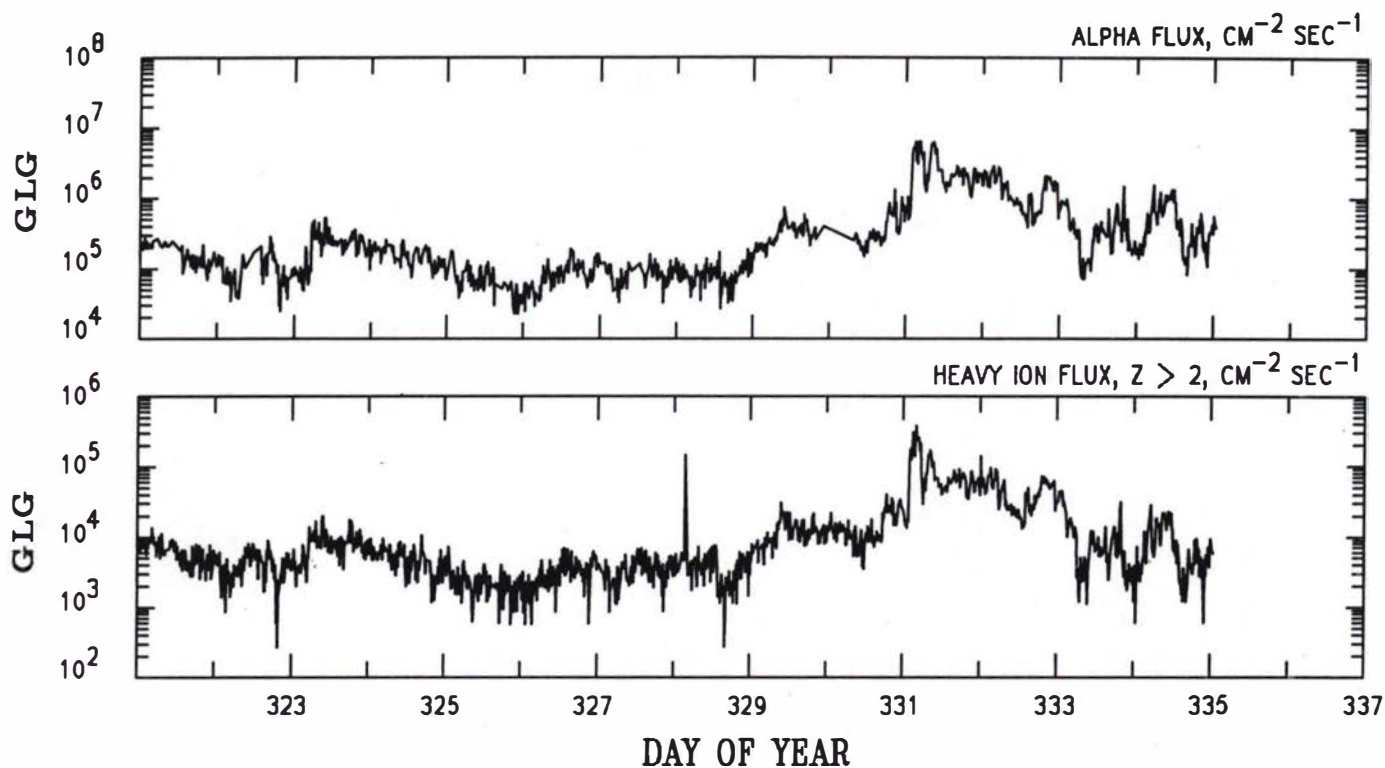
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 305 NOV 1 00:00:00.000 - 98 321 NOV 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 321 NOV 17 00:00:00.000 - 98 337 DEC 3 00:00:00.000

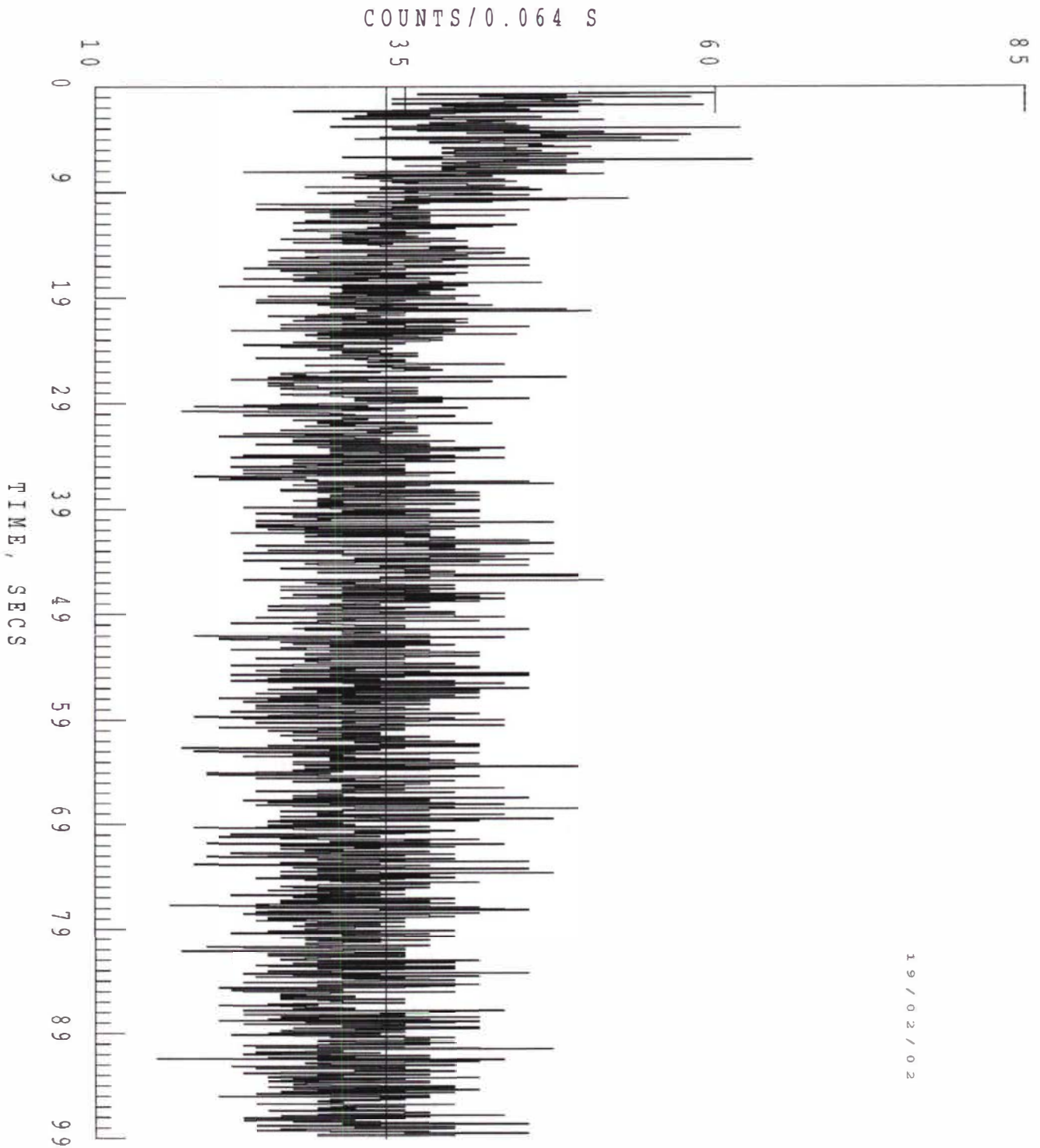


KONUS2

01/11/98

26941.871

50 - 200 keV

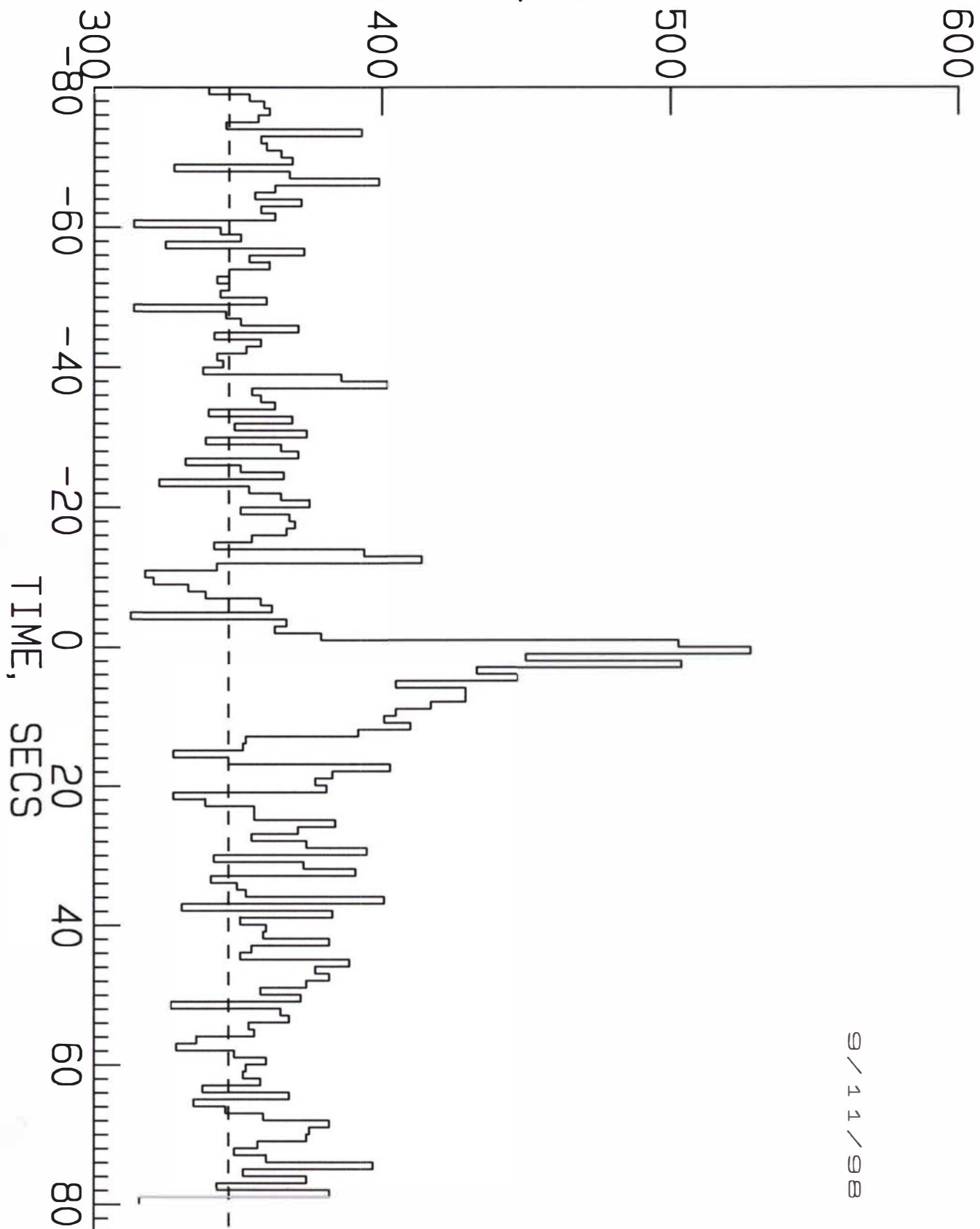


NEAR

01/11/98 26200.817

100-1000 keV

COUNTS/1.000 S



9 / 11 / 98

BATSE data corrected 10/01

Date: July 9 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 vwx@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times) **No - redo with newer data - Done May 11 '04**
- ☐ BATSE >100 keV data used for NEAR correlation? **No**

- ☒ 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

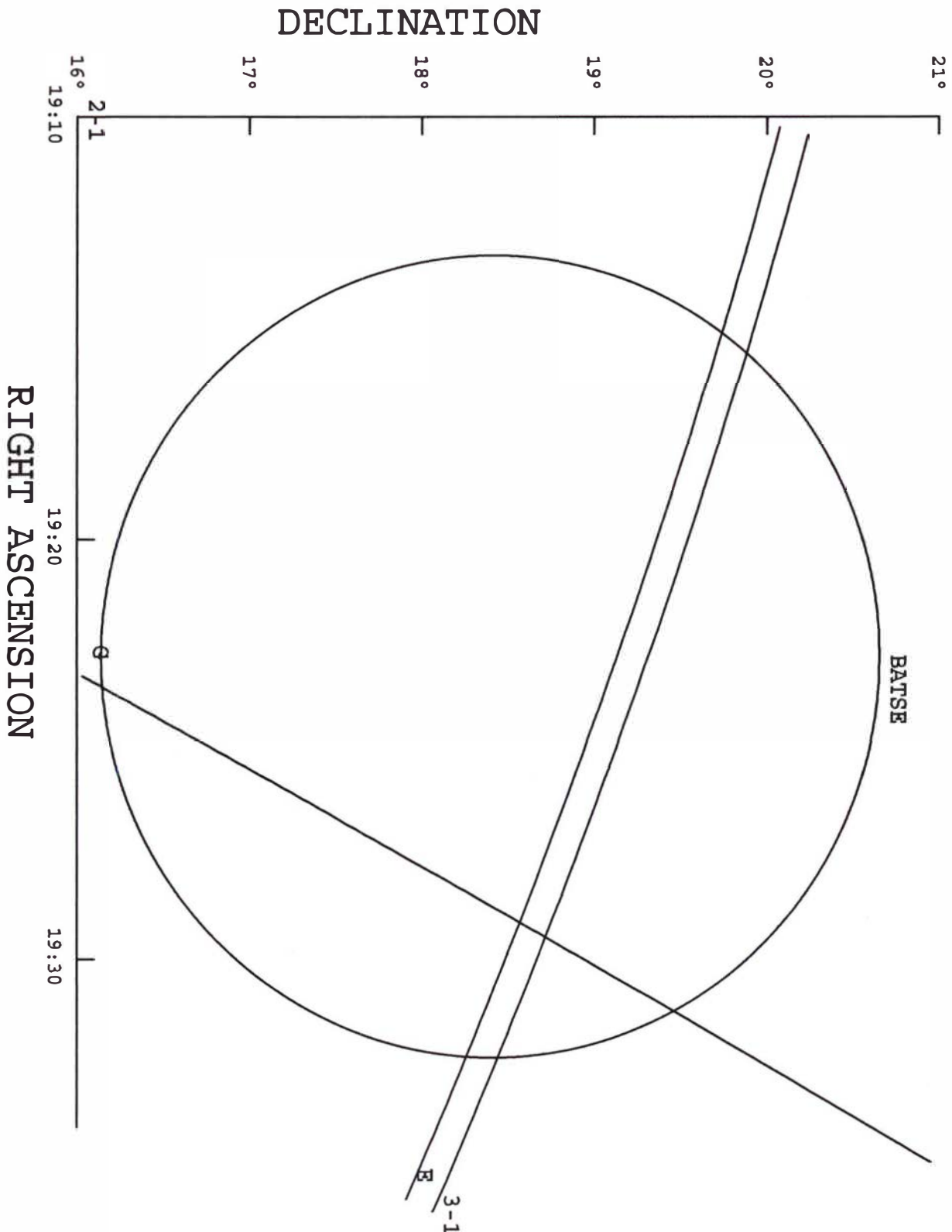
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF NOV 1, 1998 7:28

11/ 5/ 4

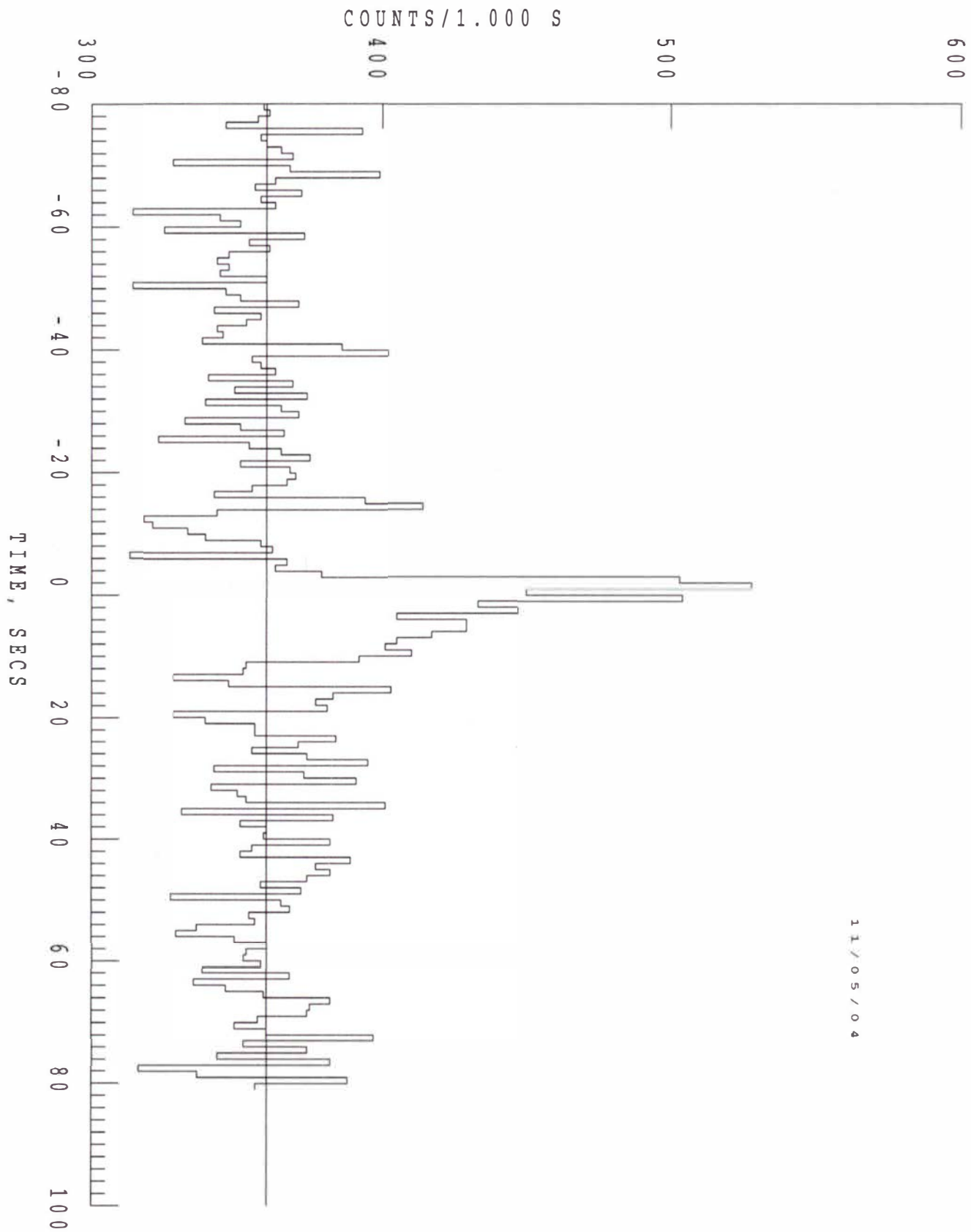


NEAR

01/11/98

26199.632

100-1000 keV



11/05/04

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

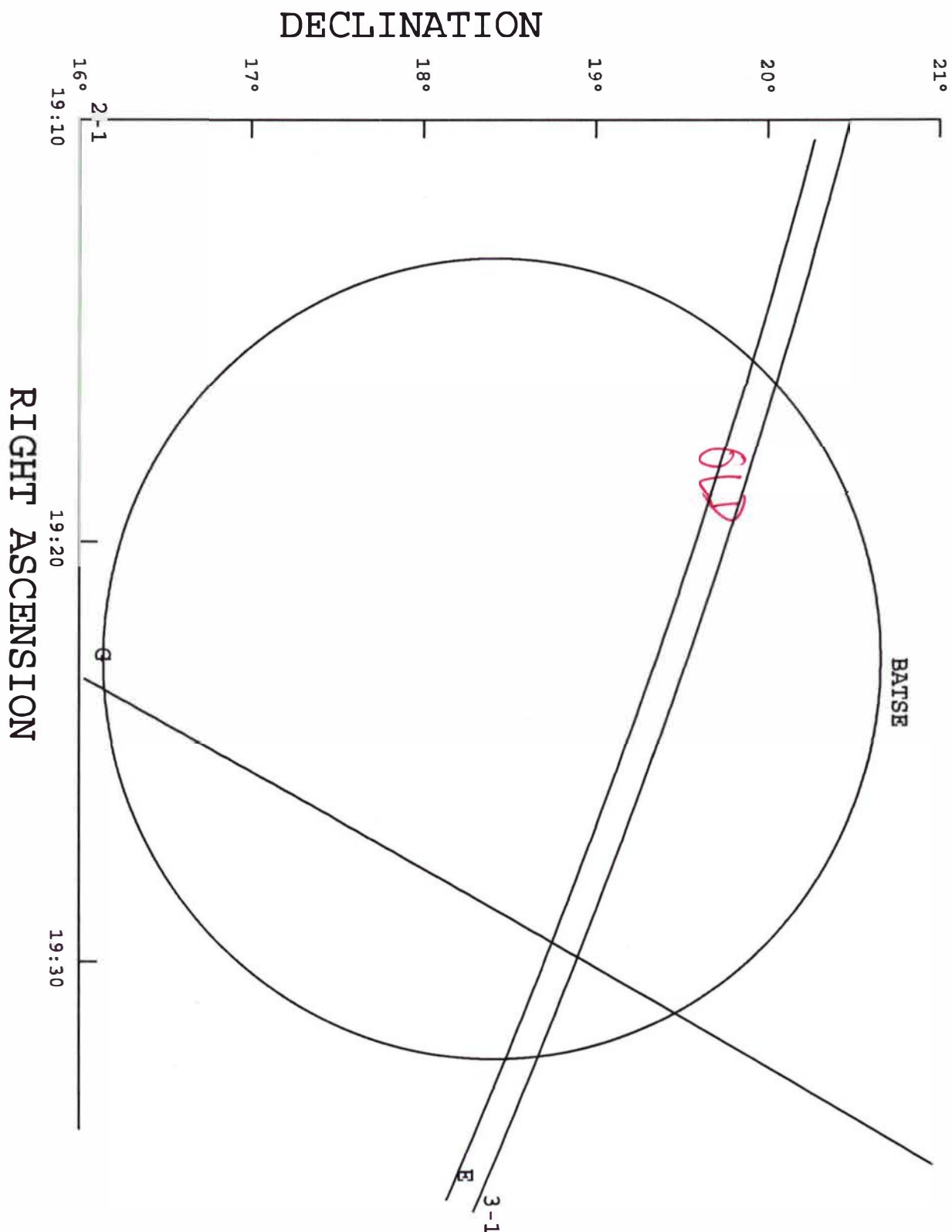
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF NOV 1, 1998 7:28

9 / 7 / 2



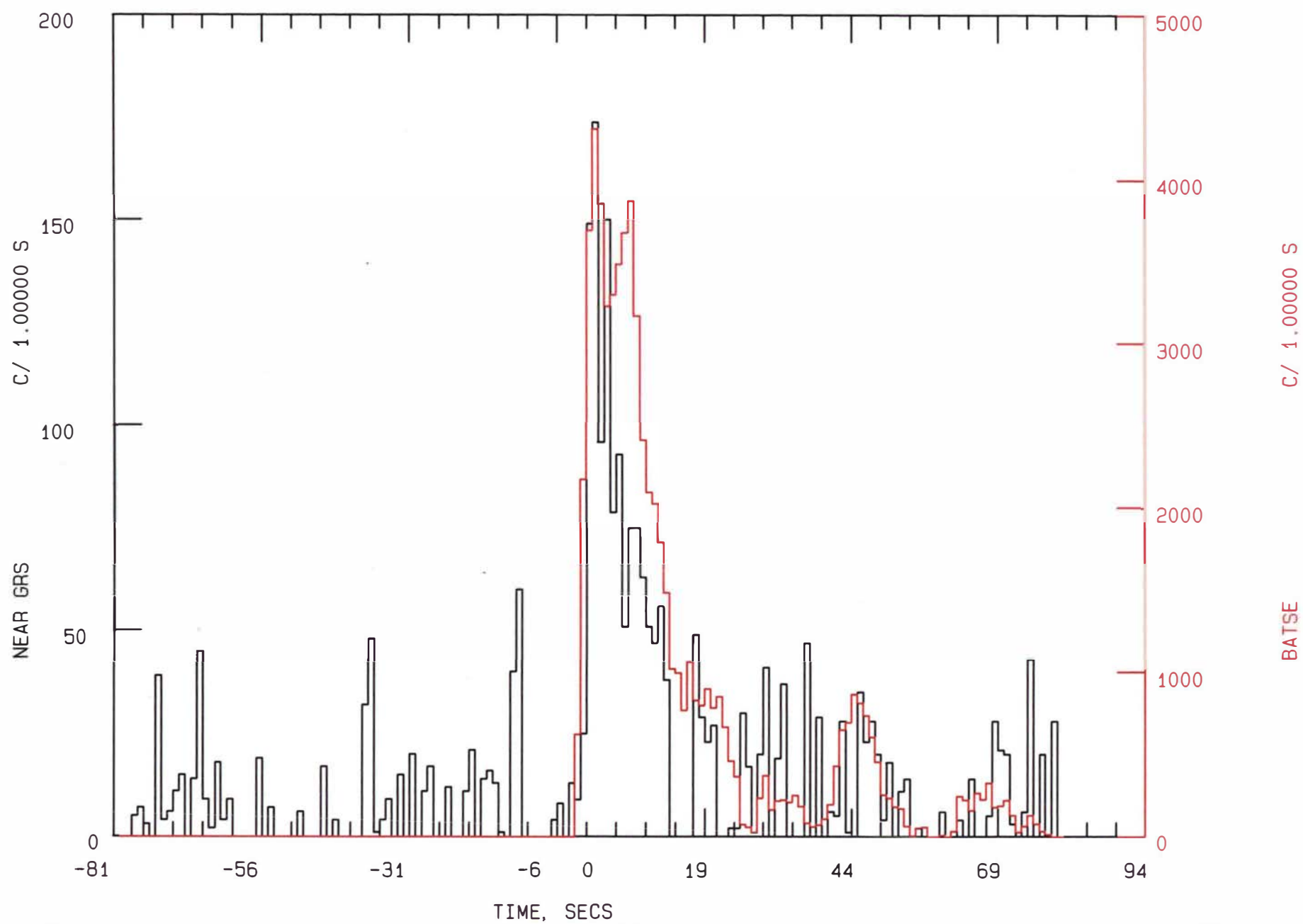
NEAR GRS -BATSE

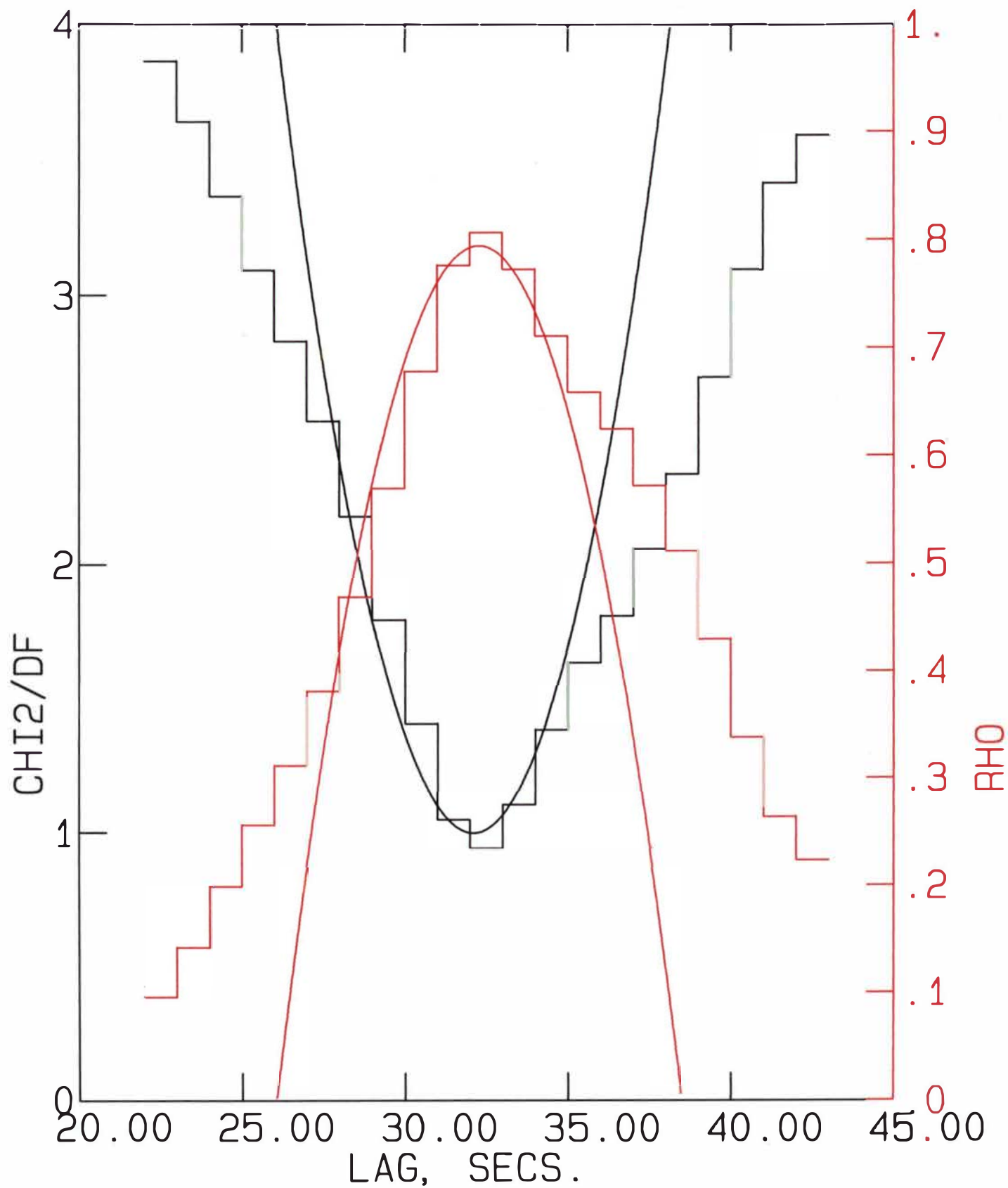
CORRELATION

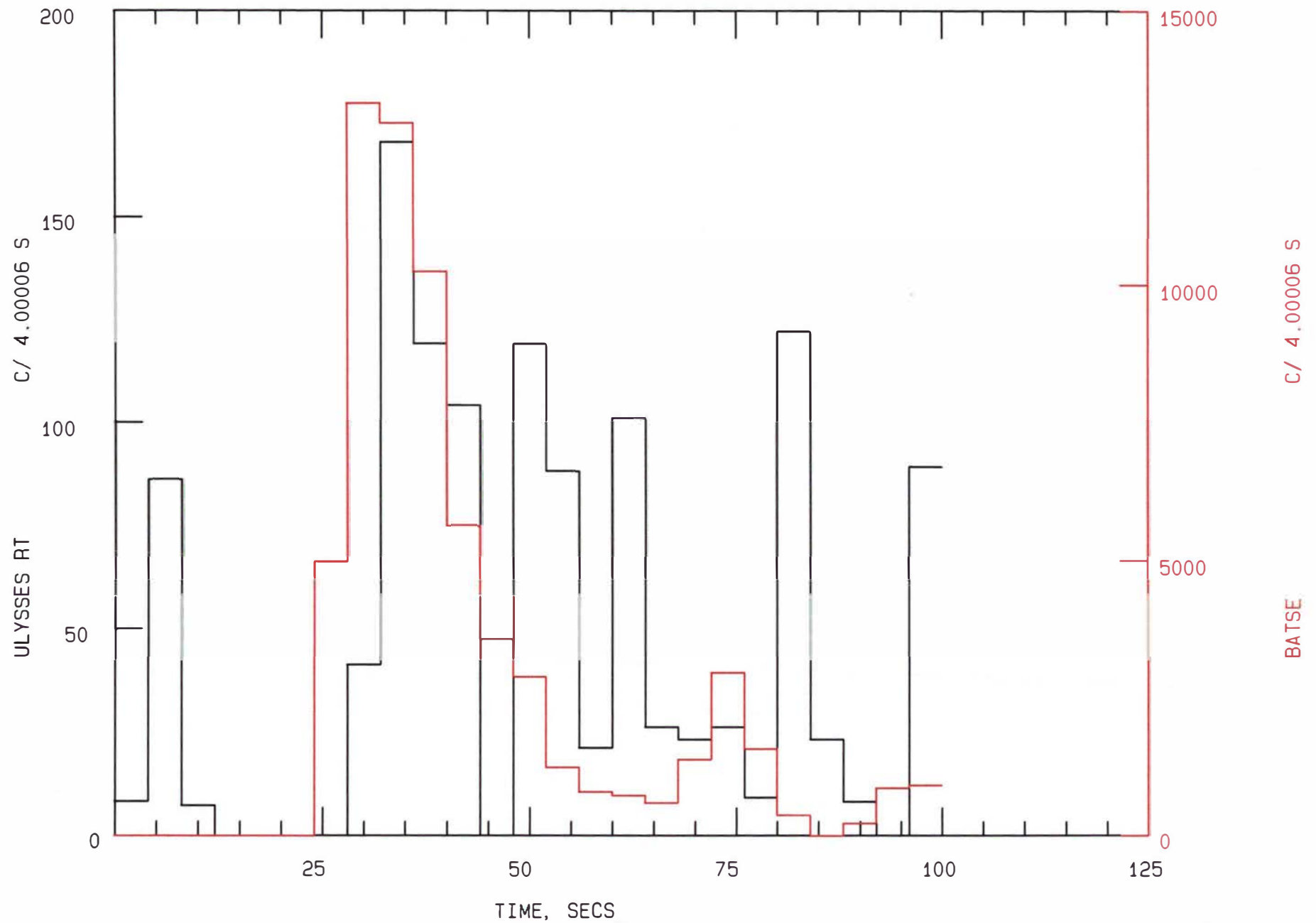
01/11/98

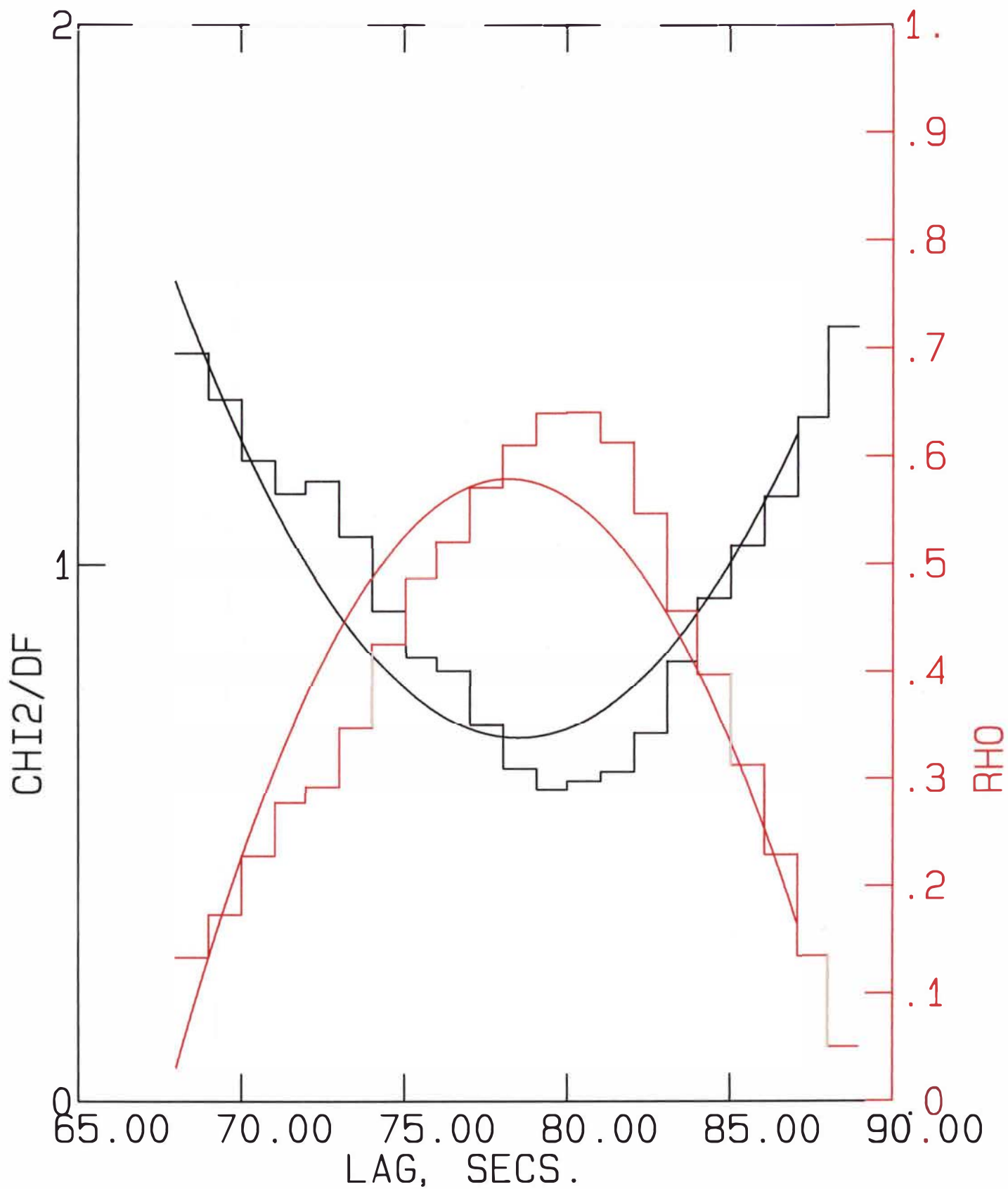
26200.817

9/ 7/ 2



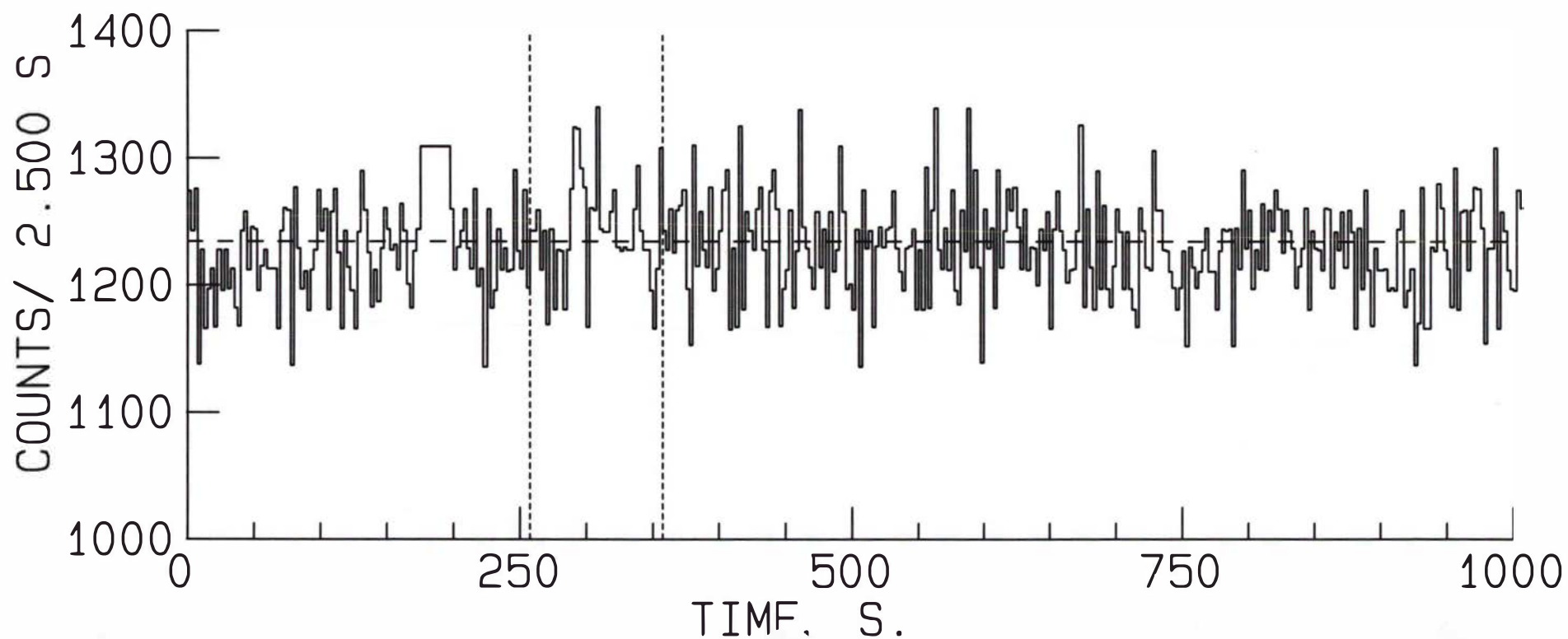






ULYSSES RT
1/11/98 28044.240 s
0.250 S INTERVALS REGROUPED BY 10
22- 150 keV

9 / 7 / 2



From khurley@sunspot Mon Nov 9 09:34 PST 1998
Date: Mon, 9 Nov 1998 09:30:51 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981028, 981031A,B,C,D, 981101

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

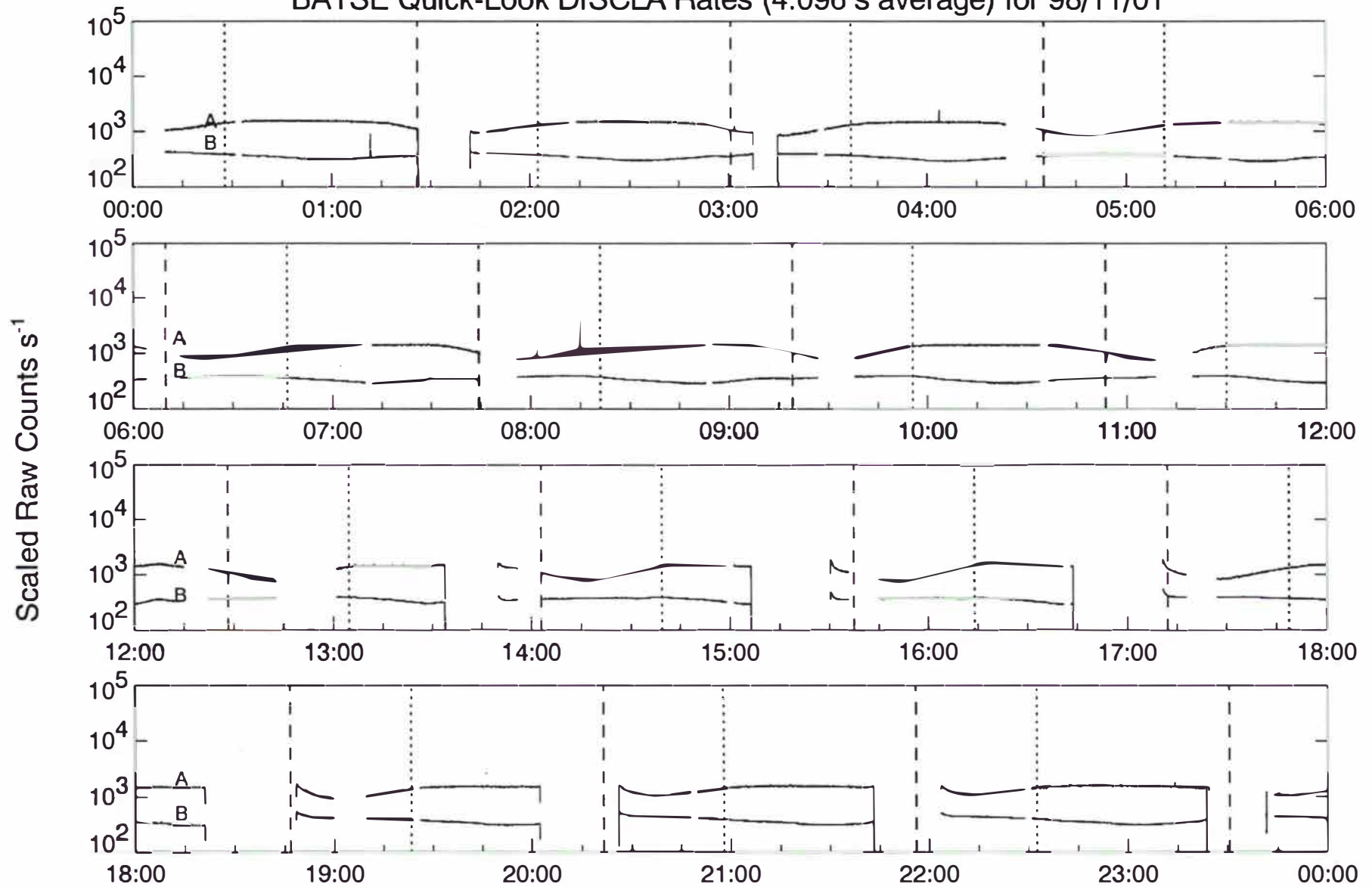
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
OCT 28 1998 20:46	moderate, 32 ms long	2990
OCT 31 1998 03:09	moderate, 128 ms long	2990
OCT 31 1998 18:57	intense, 1 s long	2990
OCT 31 1998 20:14	moderate, 128 ms long	2990
OCT 31 1998 23:55	intense, 128 ms long	2990
NOV 01 1998 01:15	intense, 64 ms long	2990

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

TGRS:NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/01

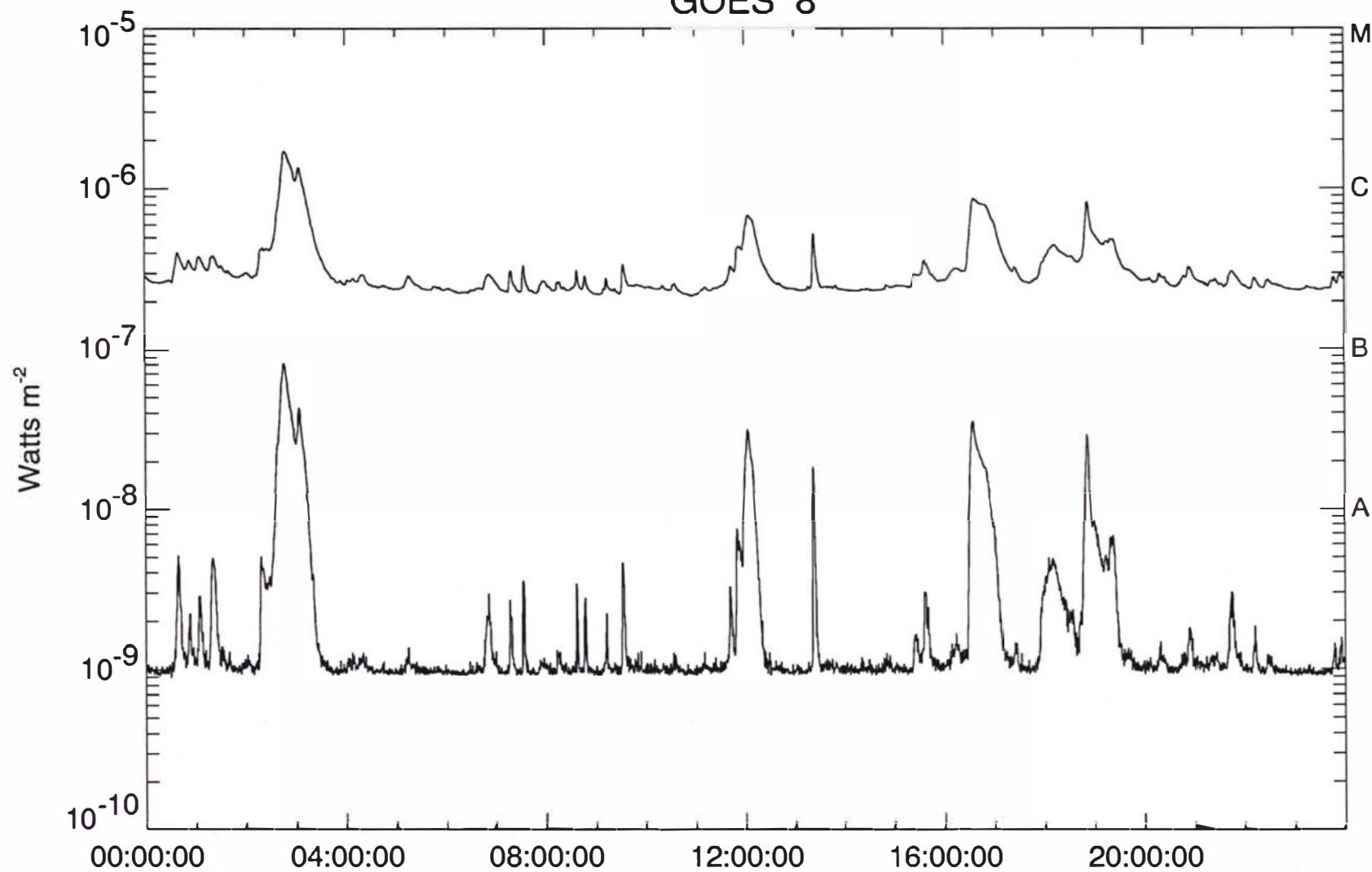


Current Time: 98/11/05, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/01, 0000:00

Plot created: 98/11/05, 1007

Channel

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

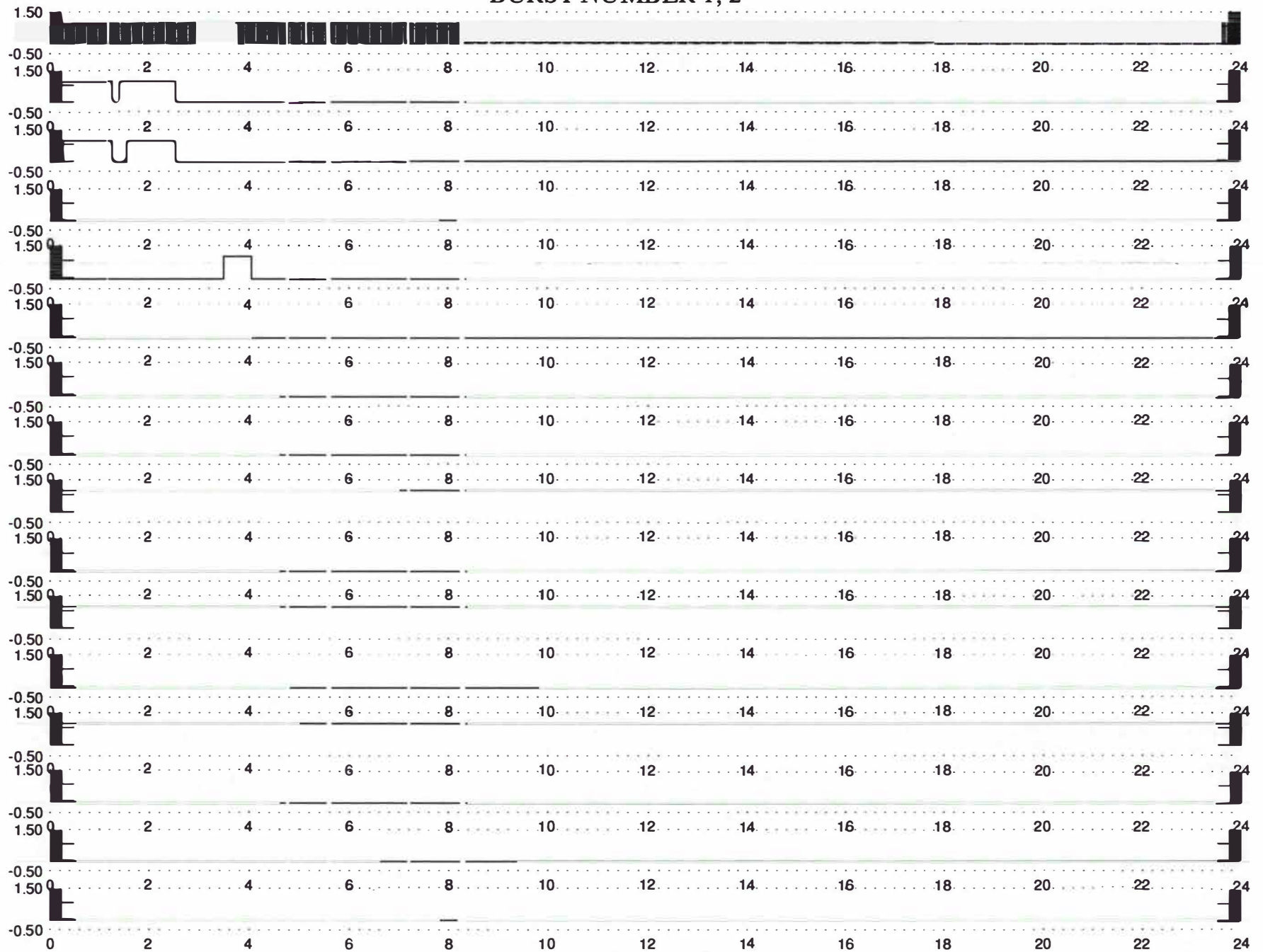
Background not subtracted

Background not subtracted

Sample average = 10

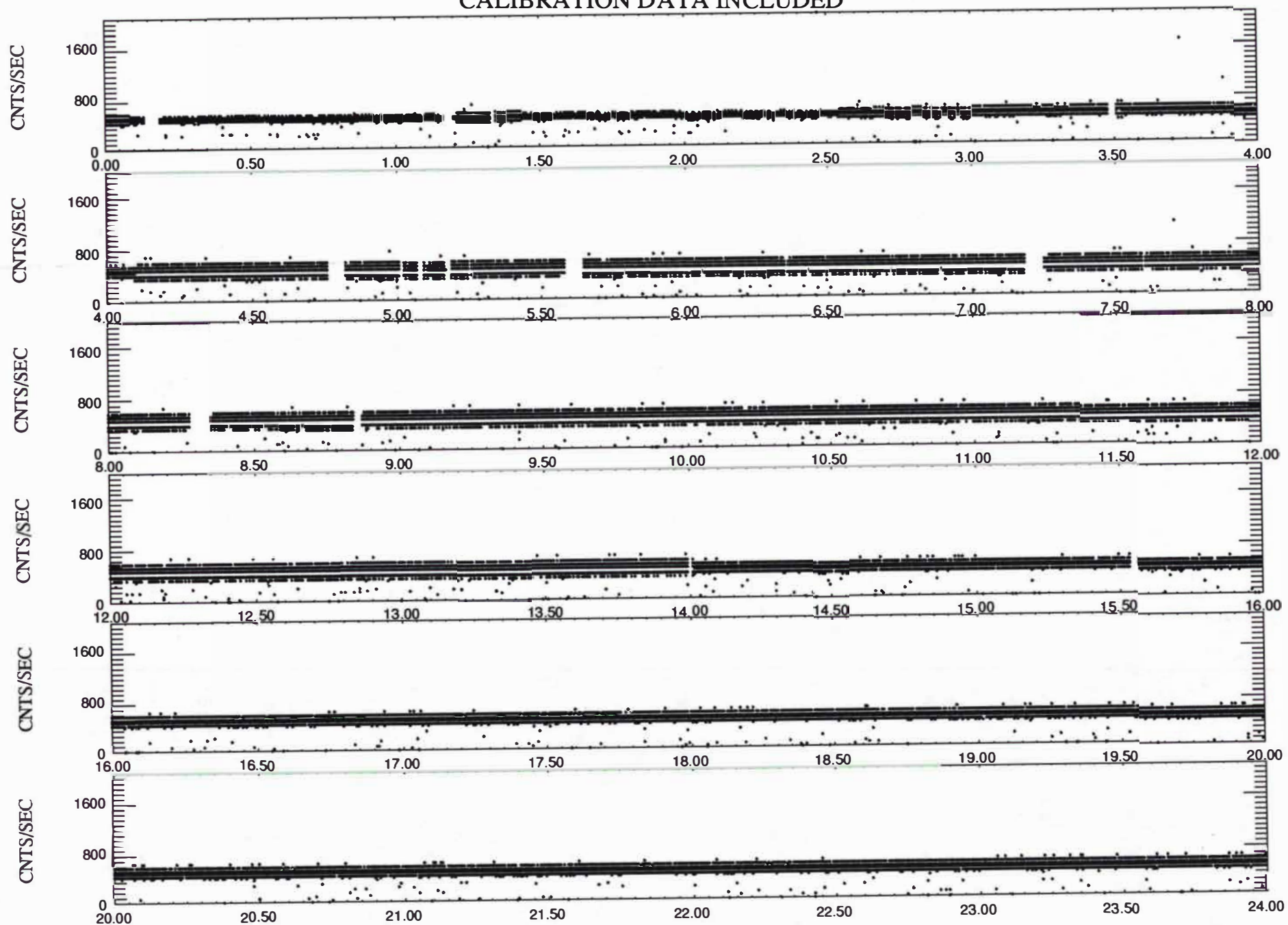
BURST NUMBER 1, 2

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



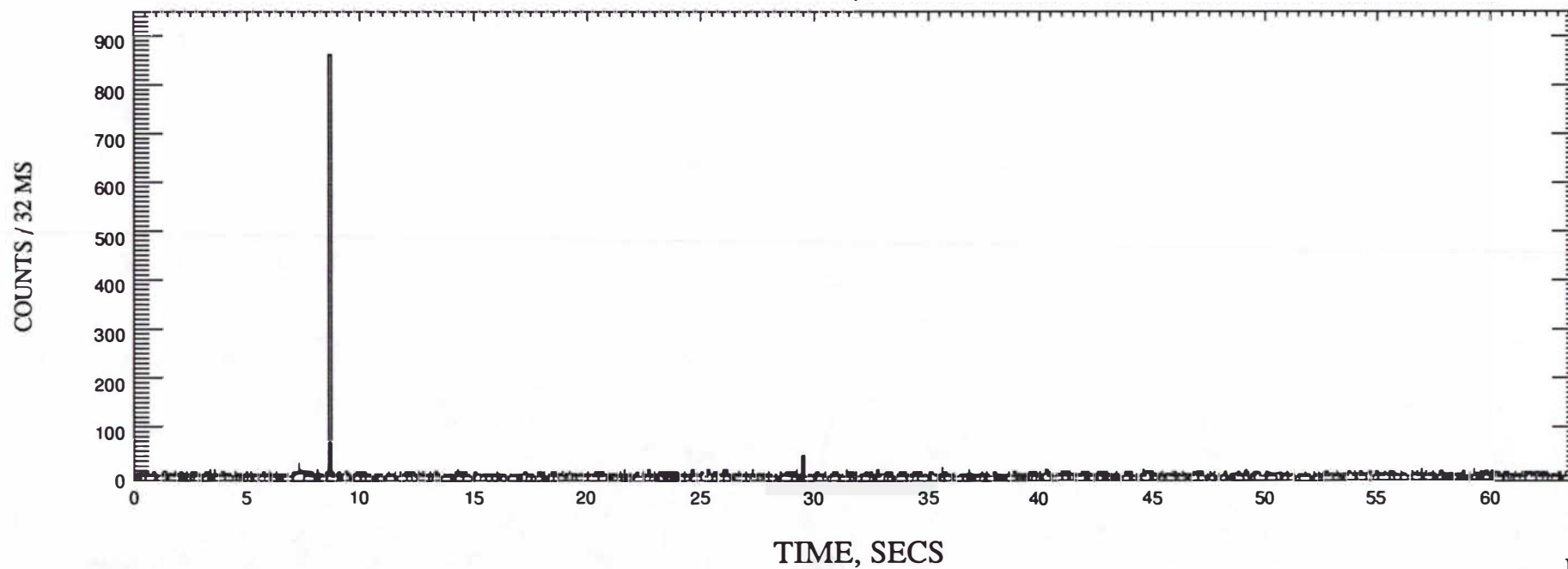
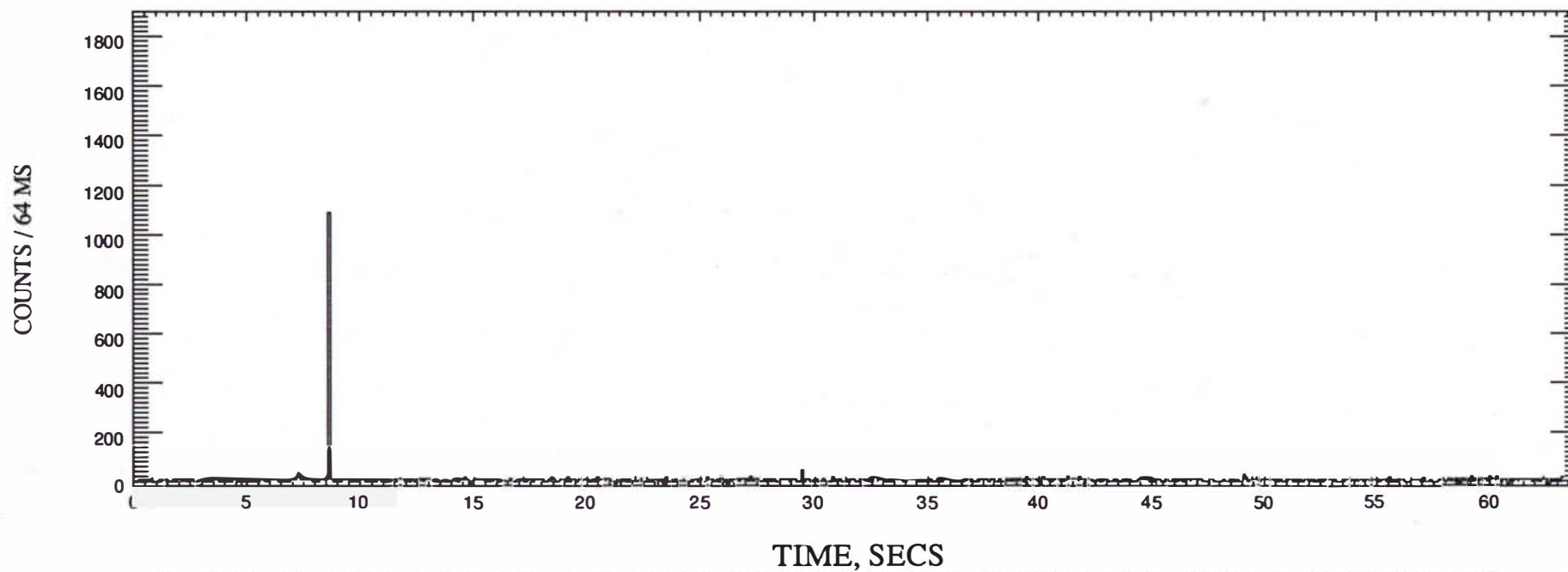
UNIT SAL TIME

CALIBRATION DATA INCLUDED

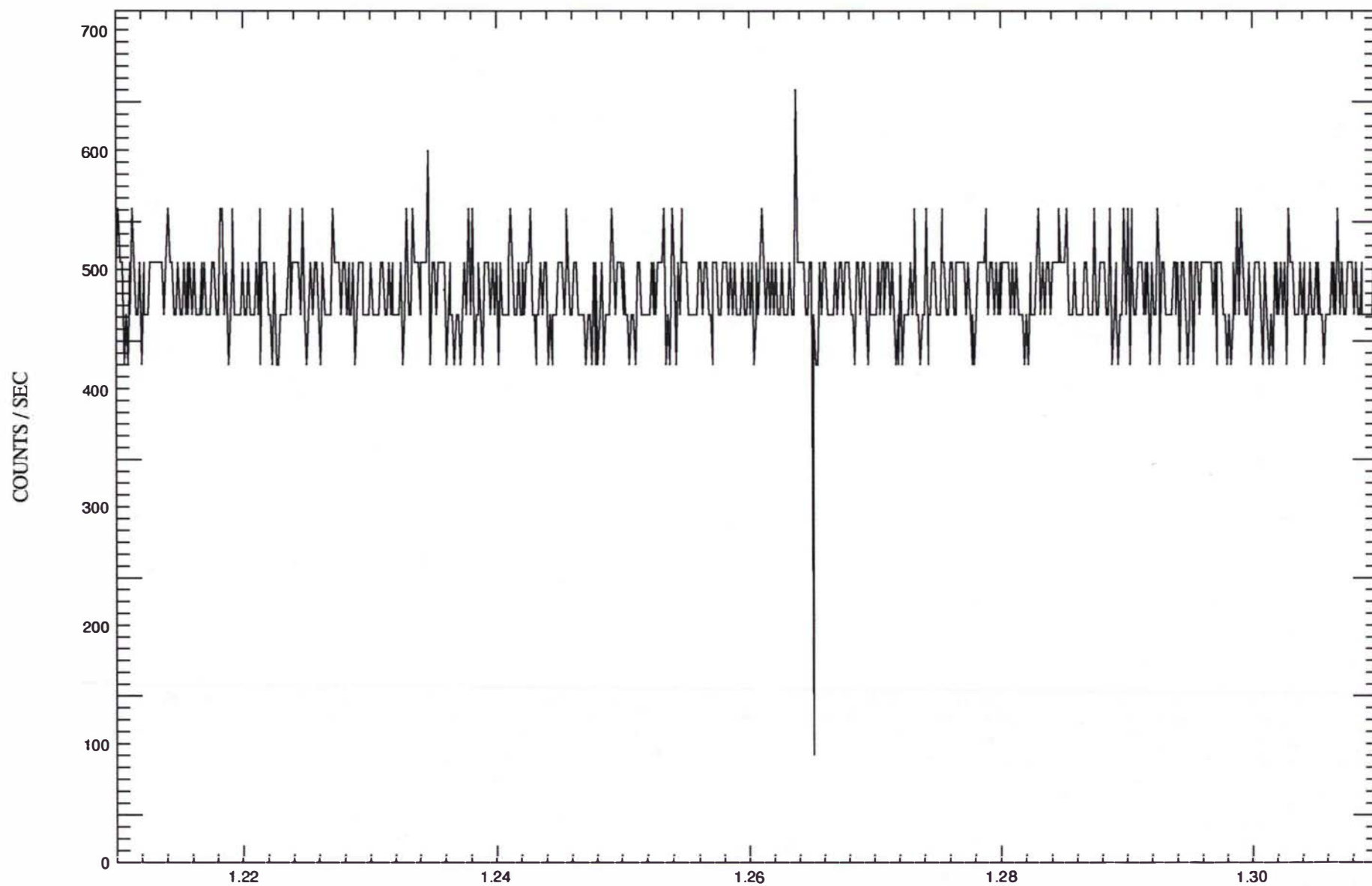


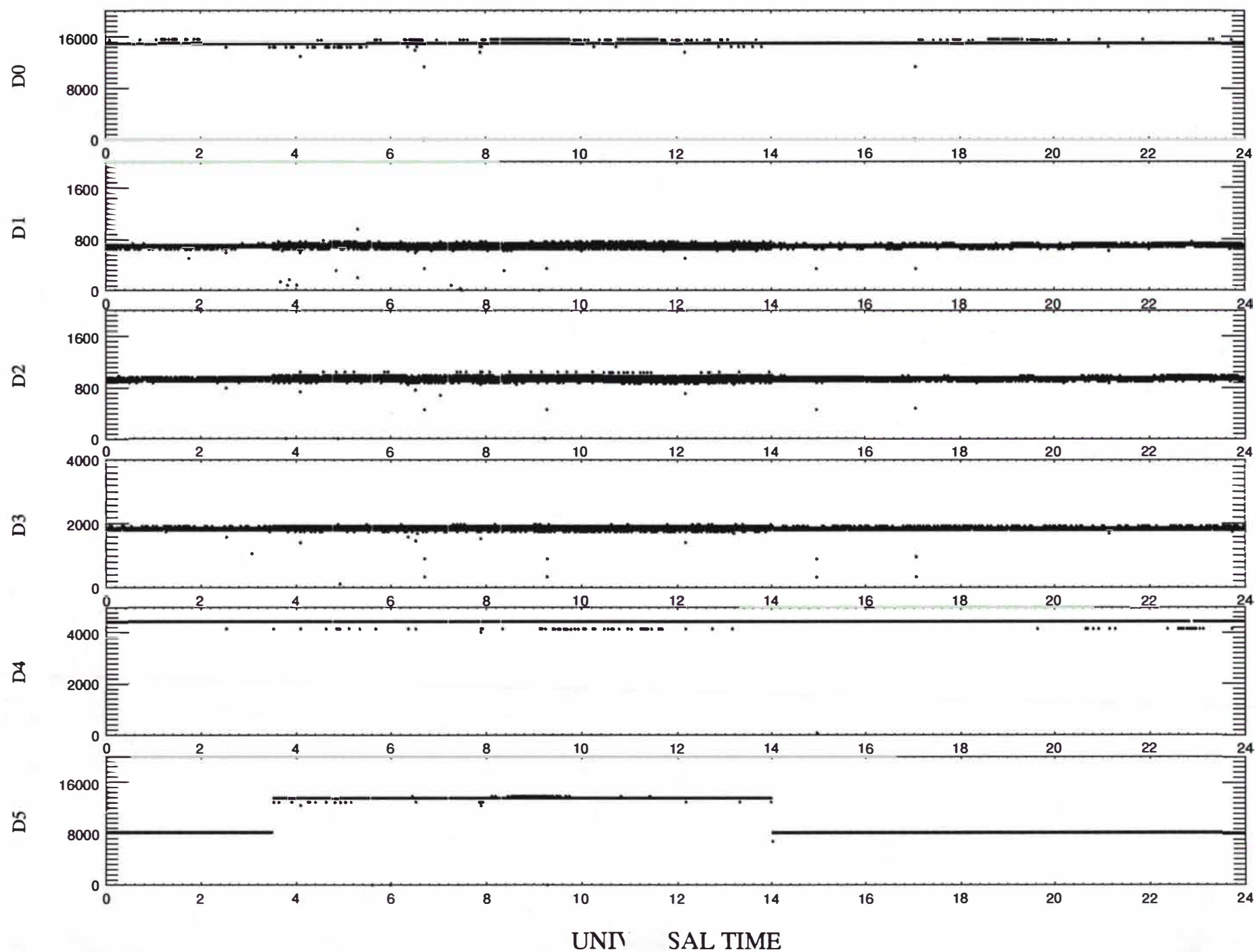
UNIV SAL TIME

Burst Counter 2 at UT= 1.263816473219 h= 4549.739 s 01:15:49.739



CALIBRATION DATA INCLUDED





Date: Nov 30 2004

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data *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 vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

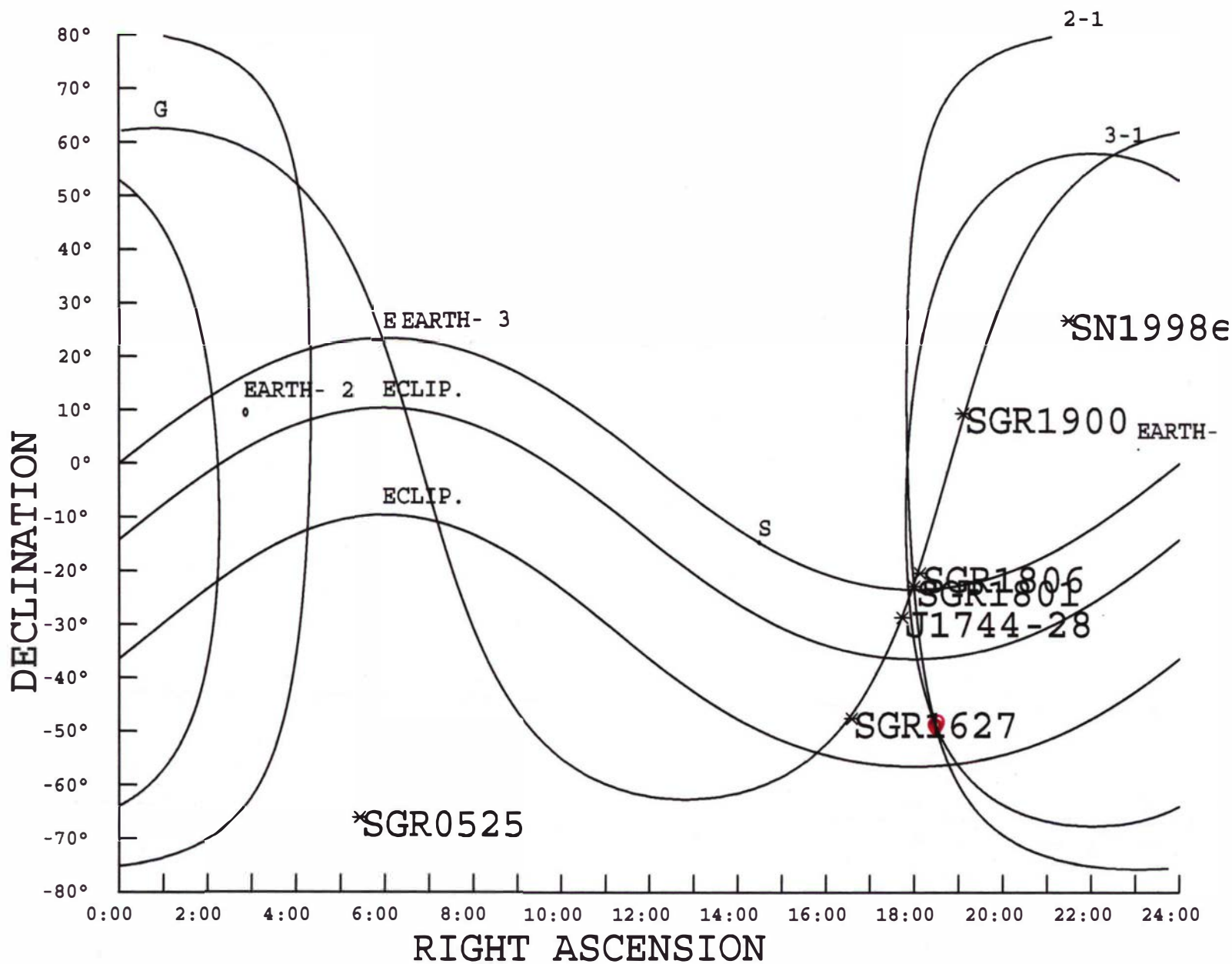
5. For 3 Spacecraft events

- ☒ $\Sigma 3\Delta t$'s calculated?
- ☒ ACCESS database updated?

EVENT OF NOV 2, 1998 8:04

30/11/ 4

N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN
1 ULYSSES 2 KONUS1 3 NEAR
E=ECLIPTIC G=GALACTIC EQUATOR



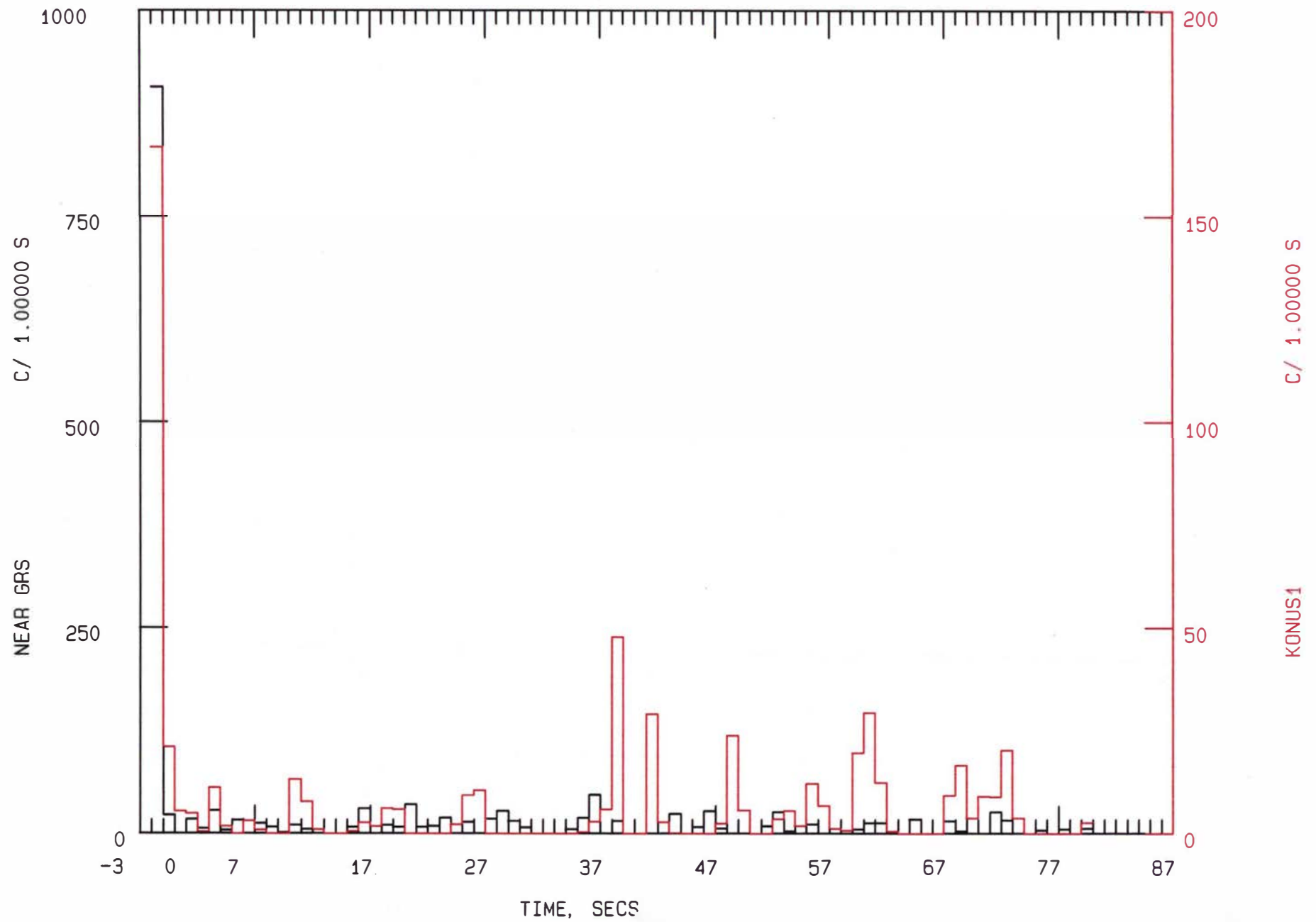
NEAR GRS -KONUS1

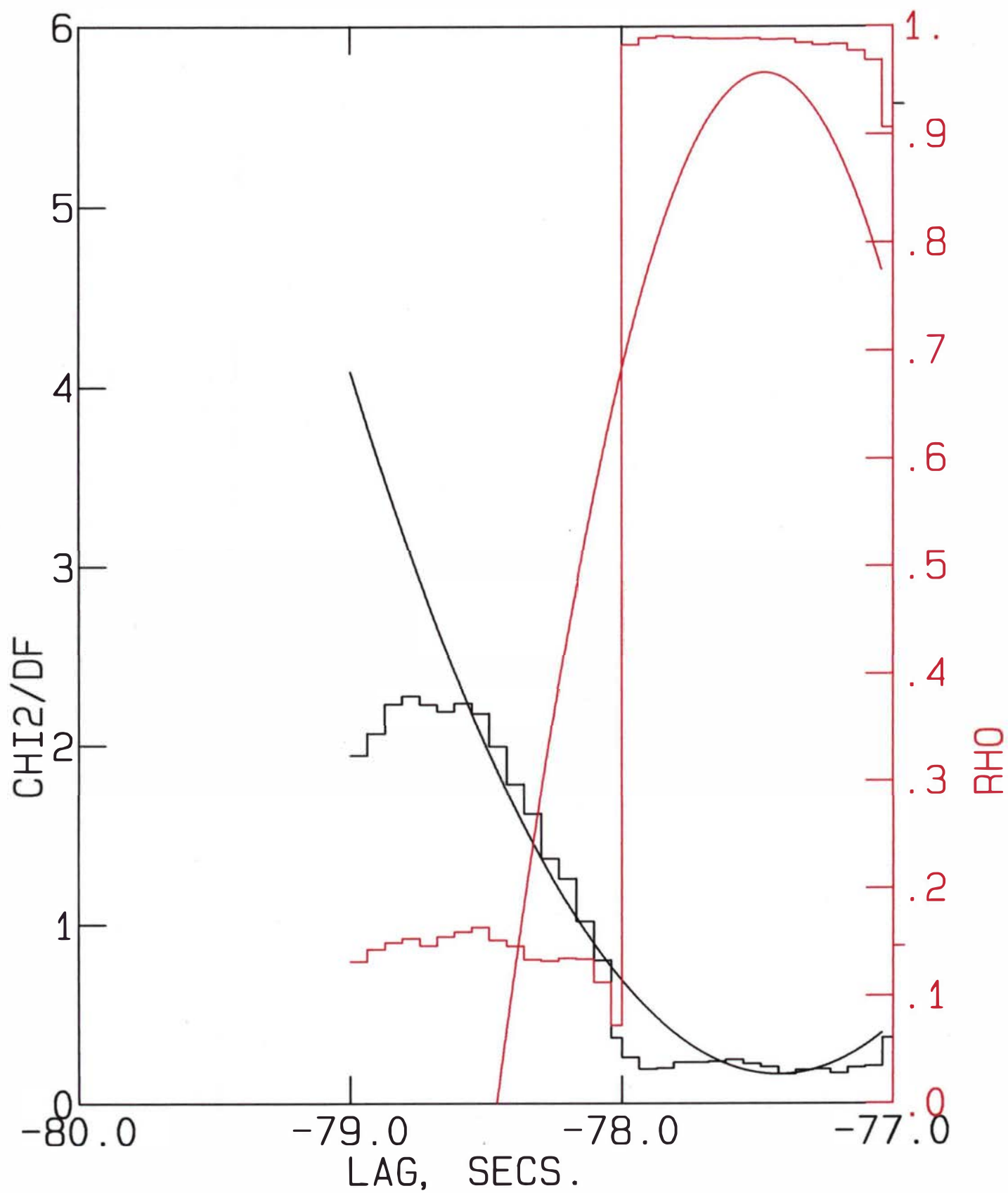
CORRELATION

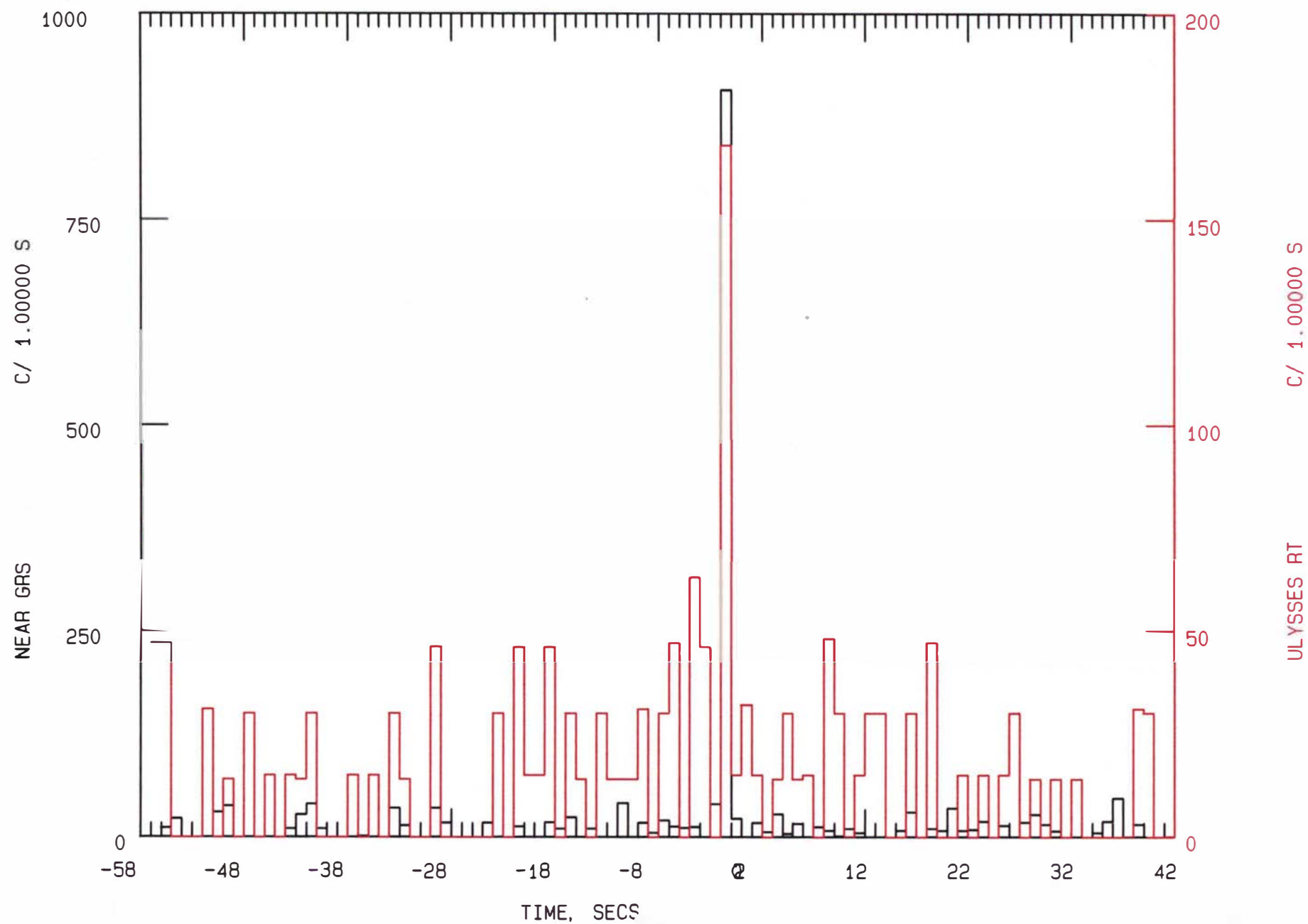
02/11/98

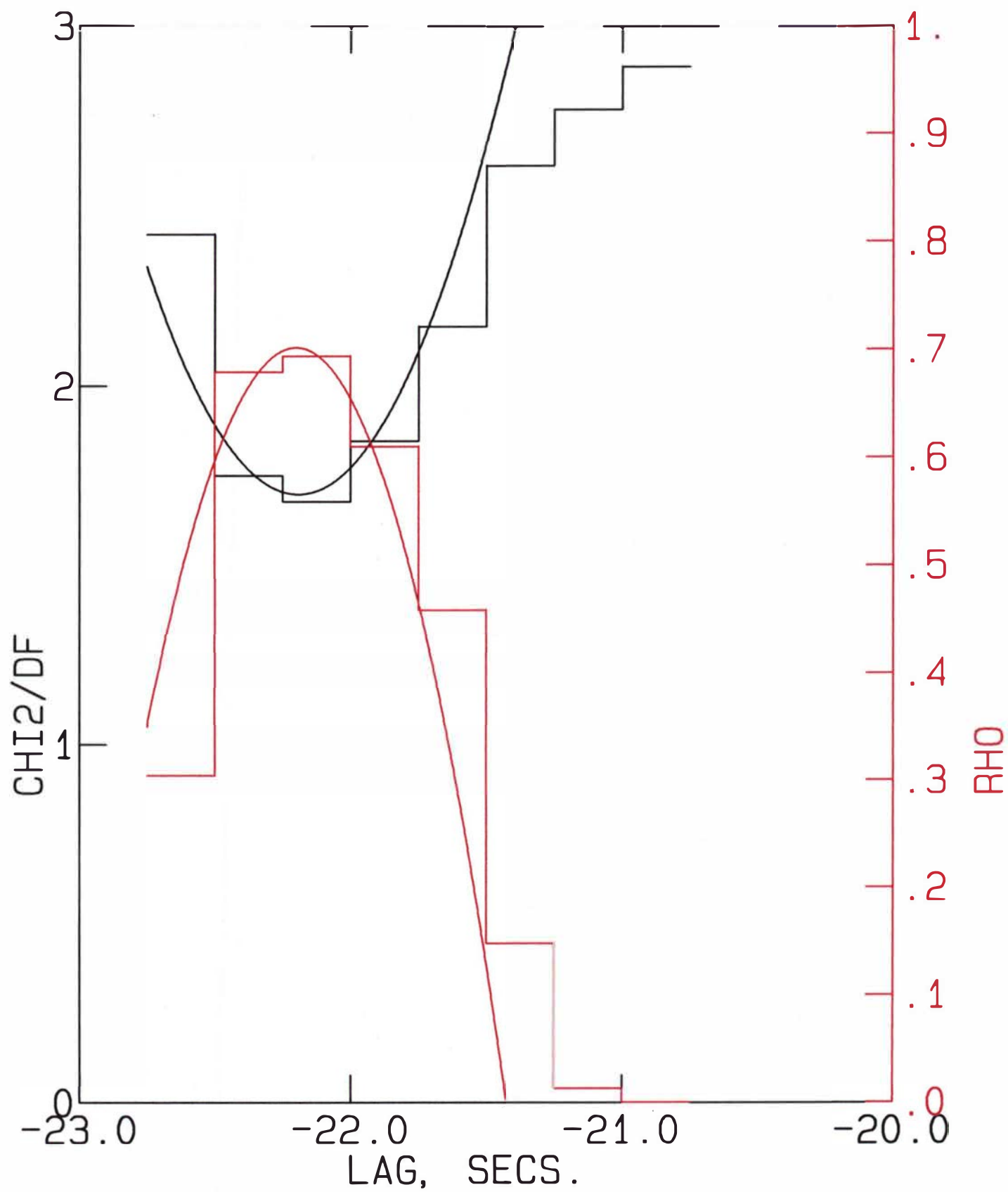
27600.608

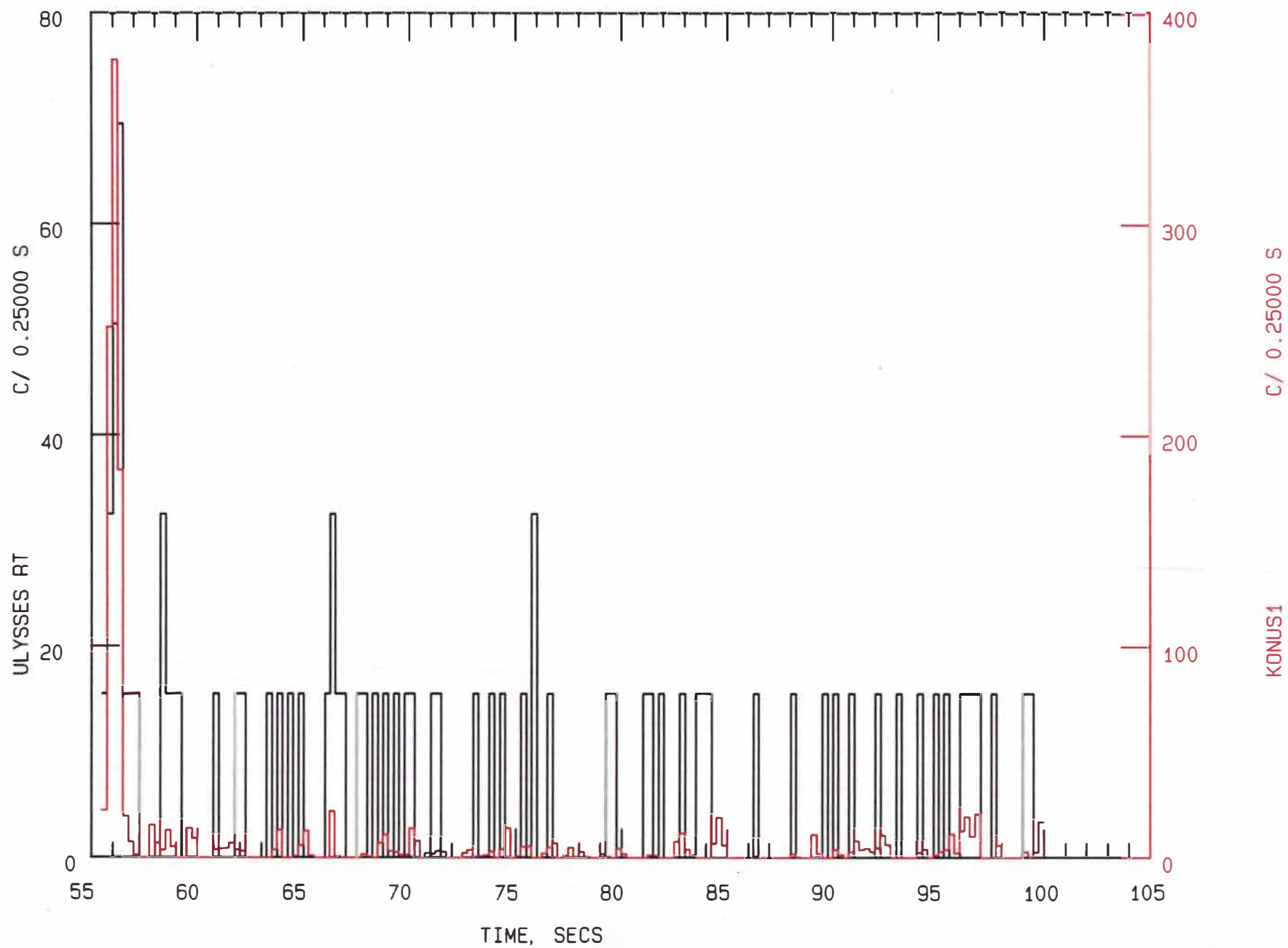
30/11/ 4

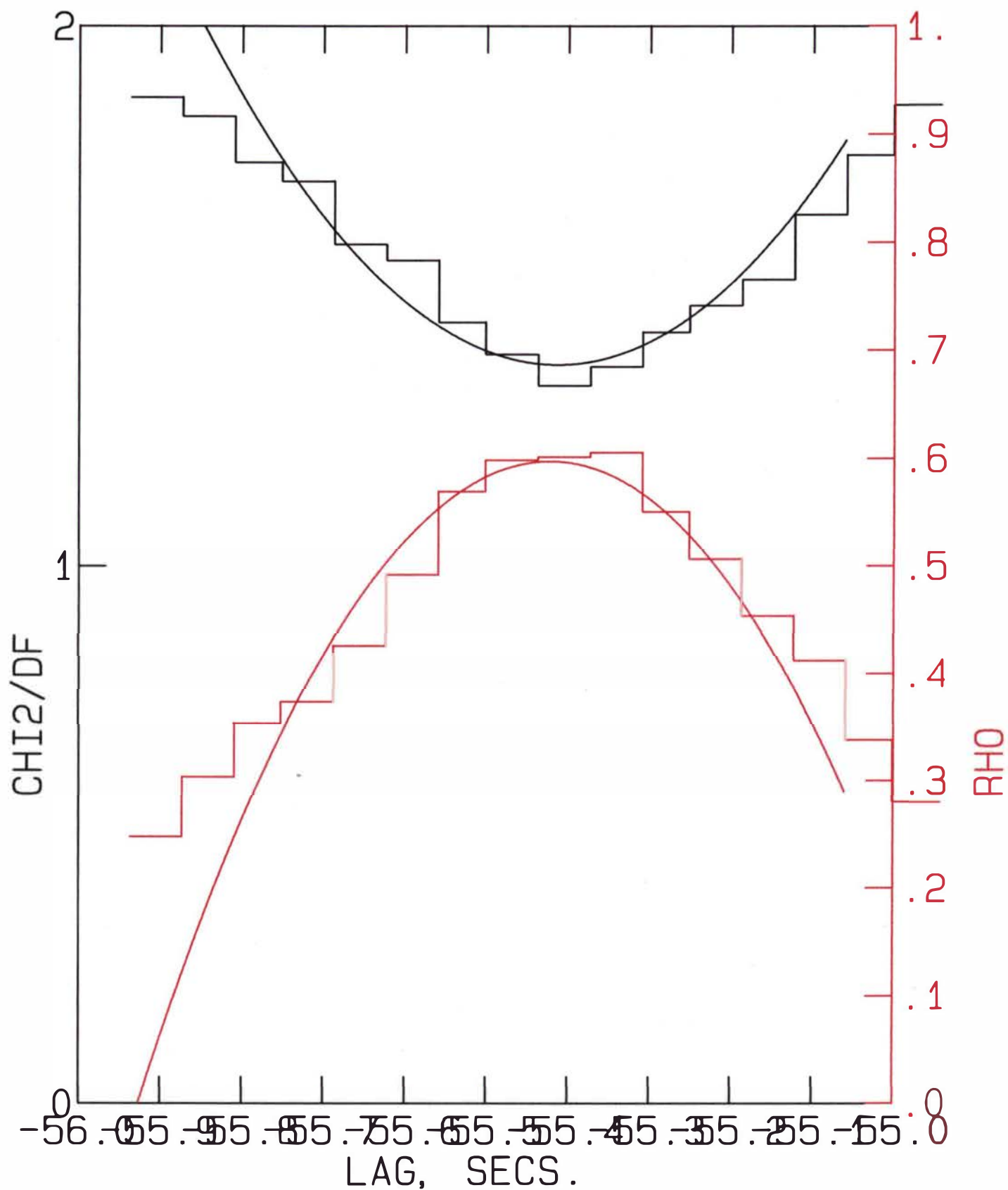






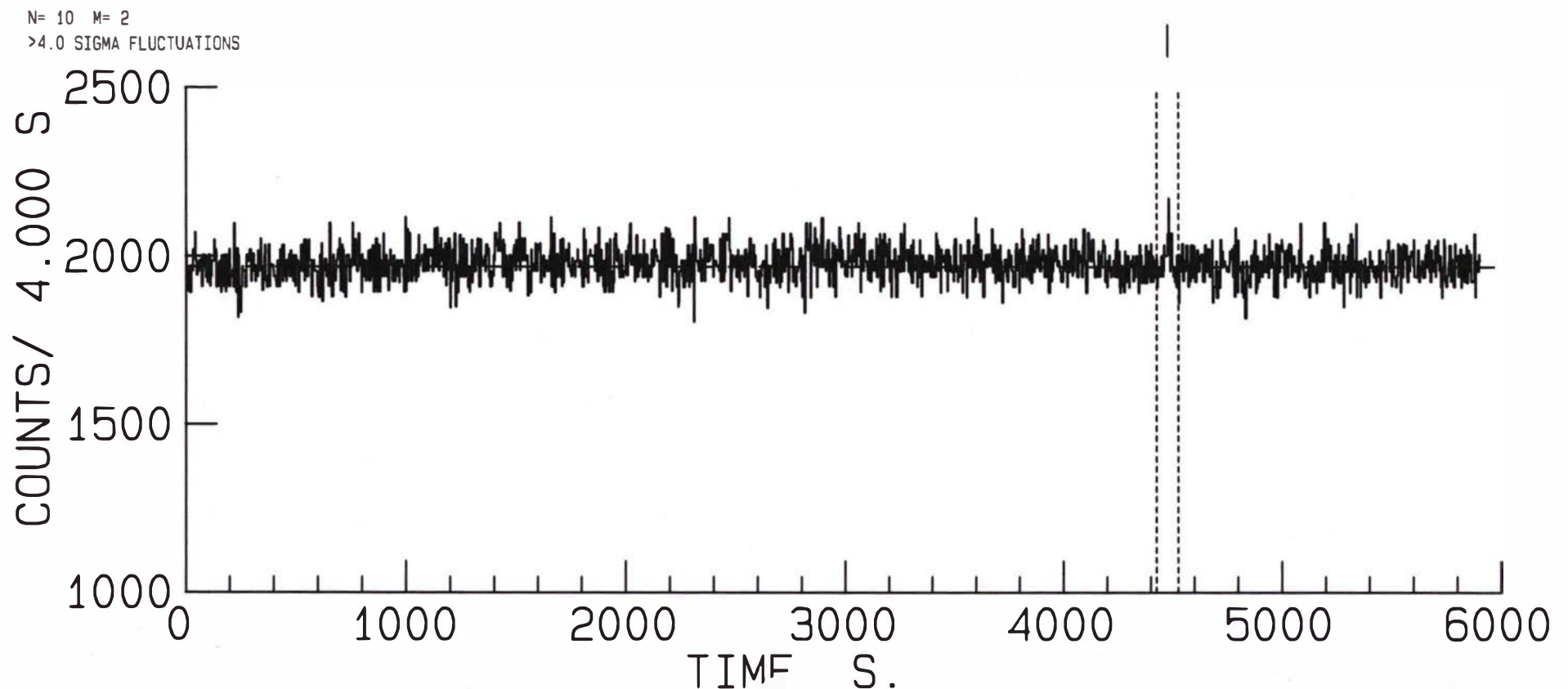






ULYSSES RT
2/11/98 24660.092 s
0.250 S INTERVALS REGROUPED BY 16
22- 150 keV

30 / 11 / 4

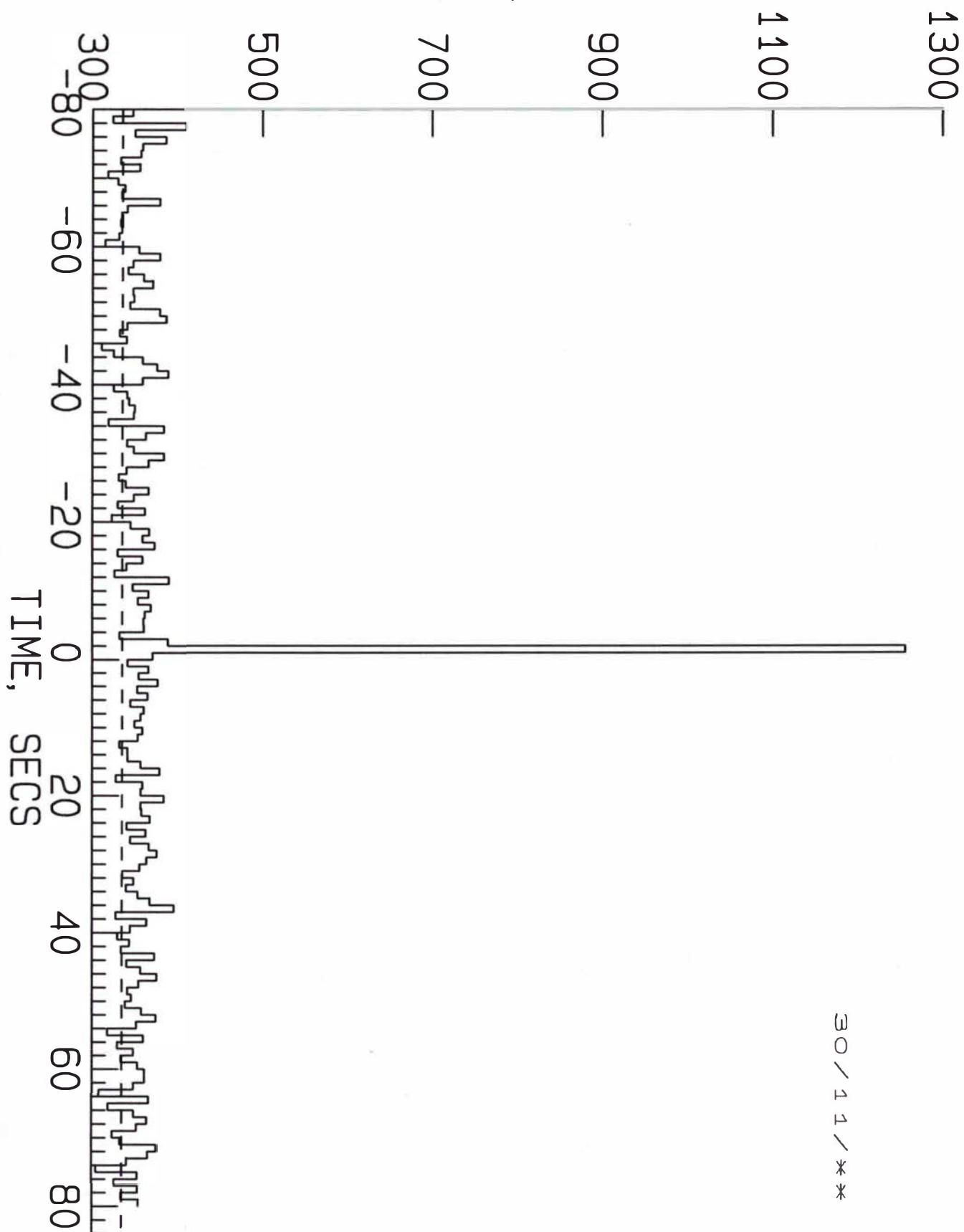


NEAR

02/11/98 27600.608

100-1000 keV

COUNTS/1.000 S



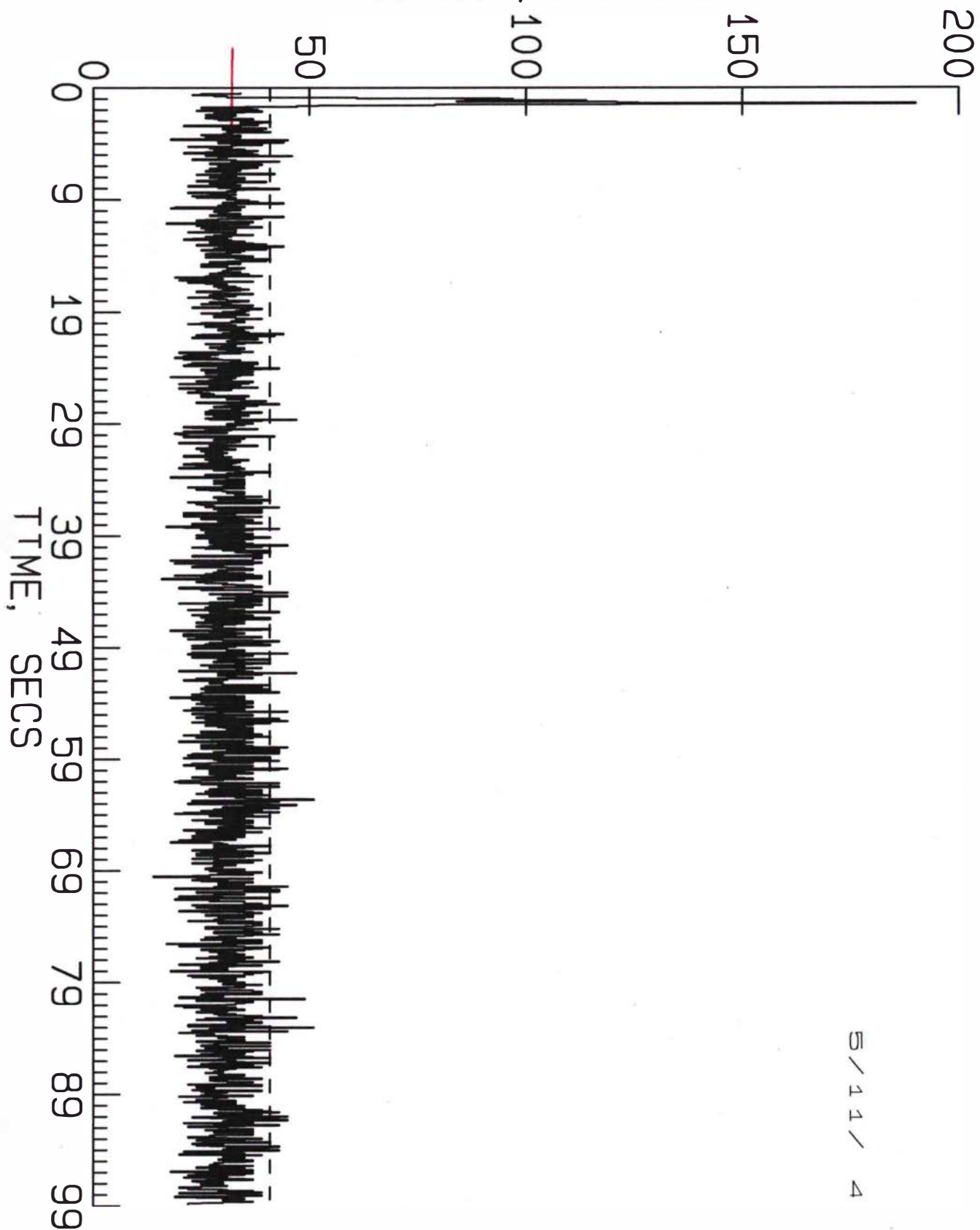
30 / 11 / **

KONUS

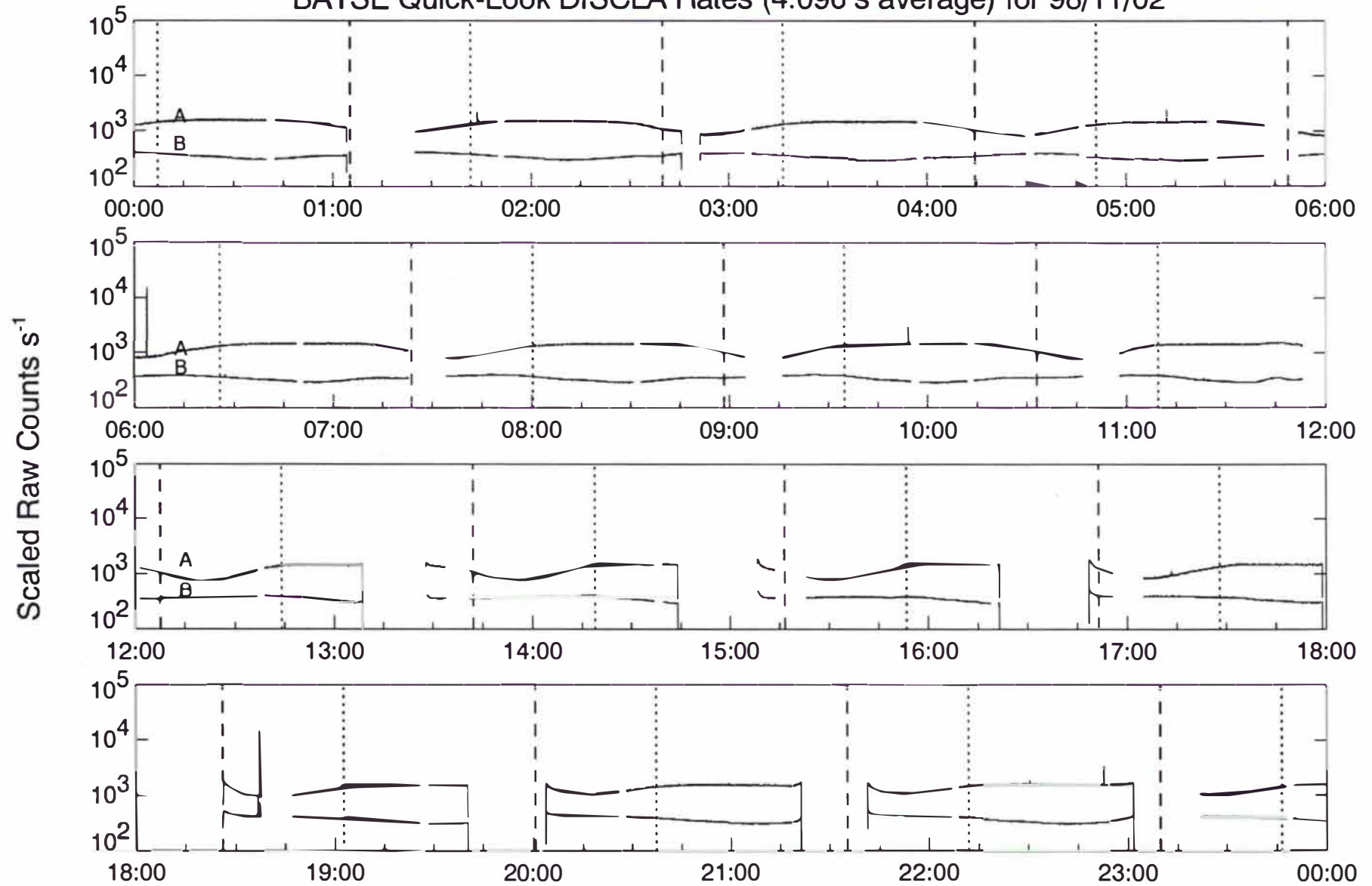
02/11/98 28554.500

50- 200 keV

COUNTS/0.064 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/02

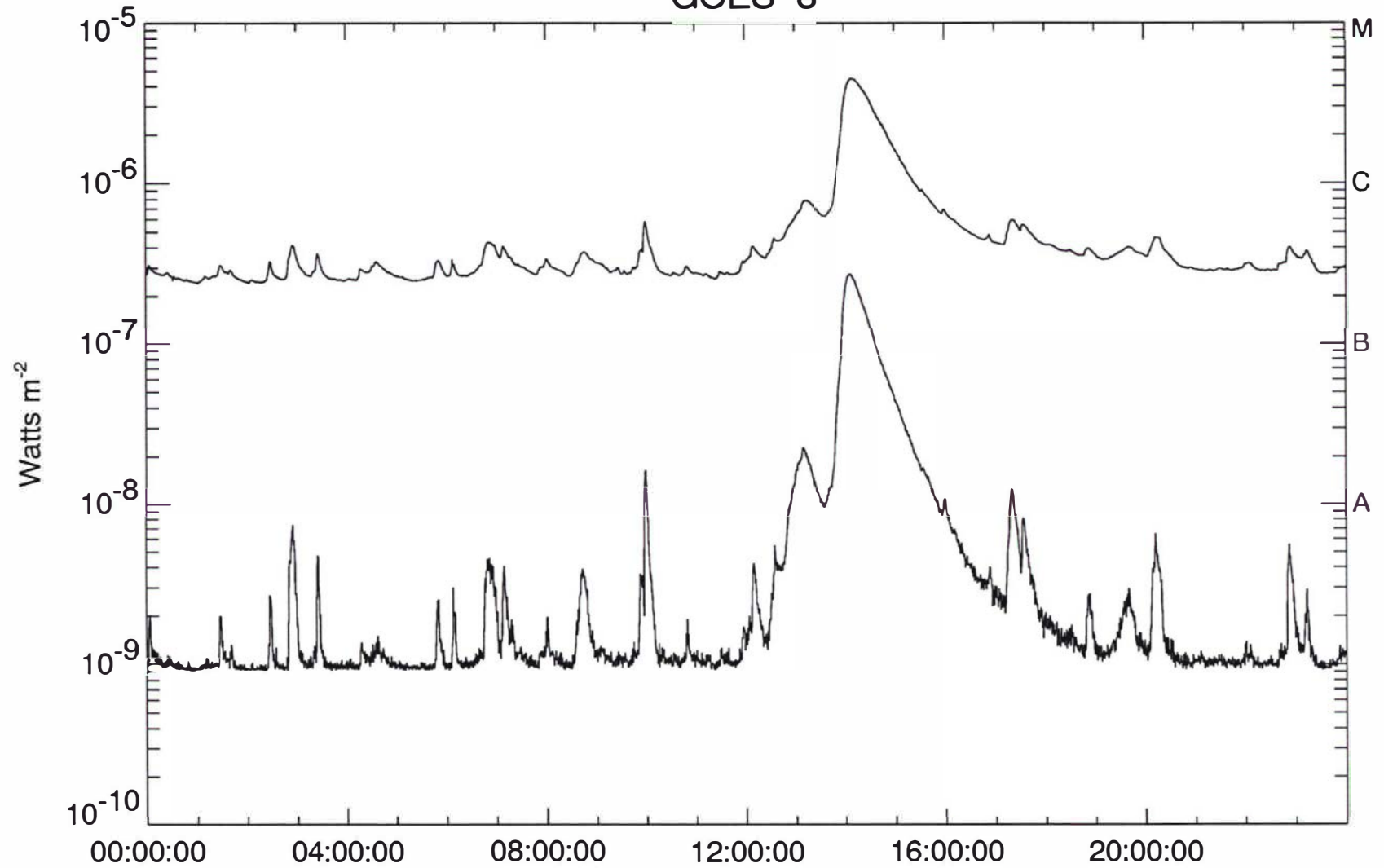


Current Time: 98/11/06, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/02, 0000:00

Plot created: 98/11/06, 1007

Channel 1 (1.0 - 8.0 Angstroms)

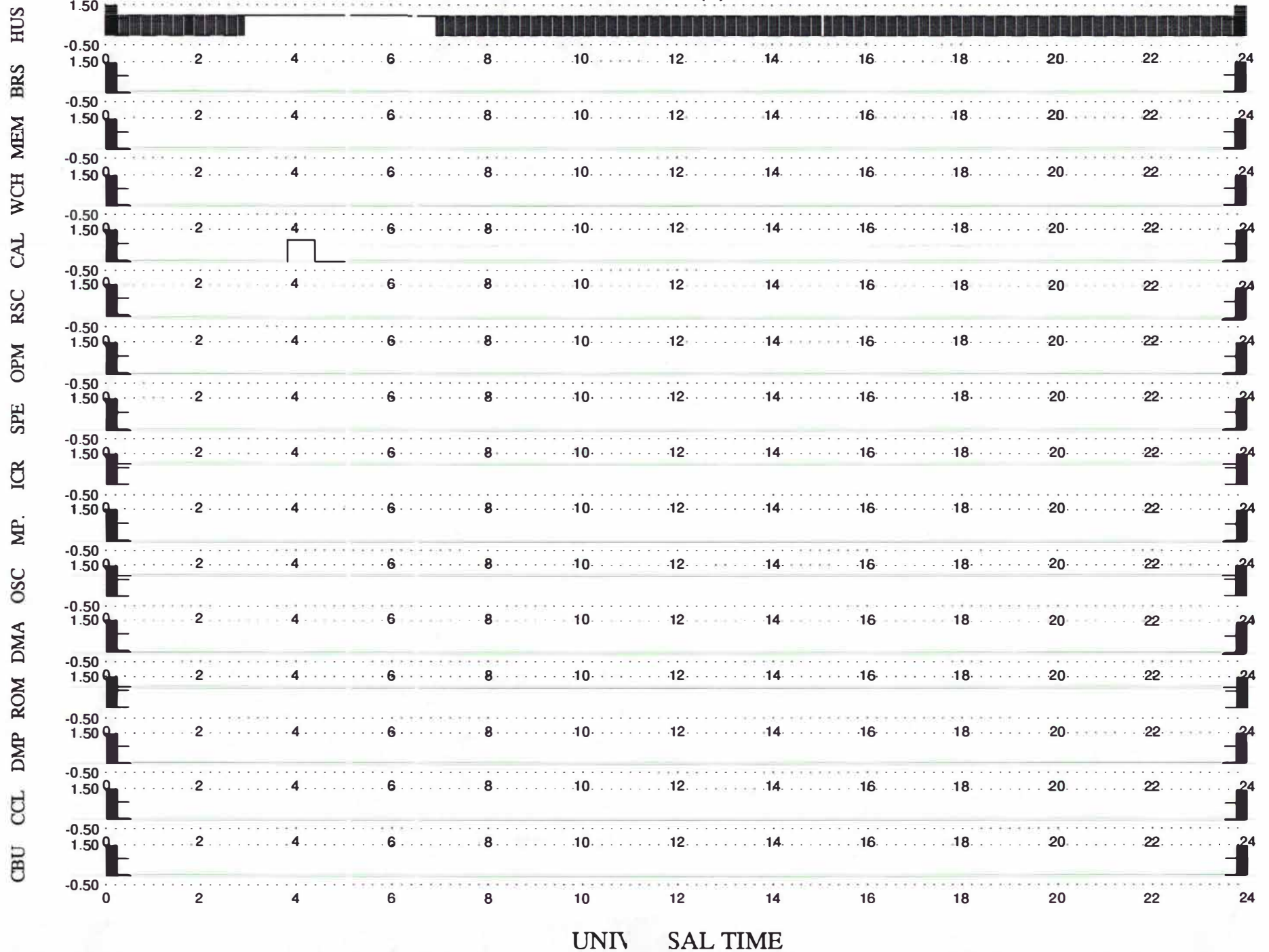
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

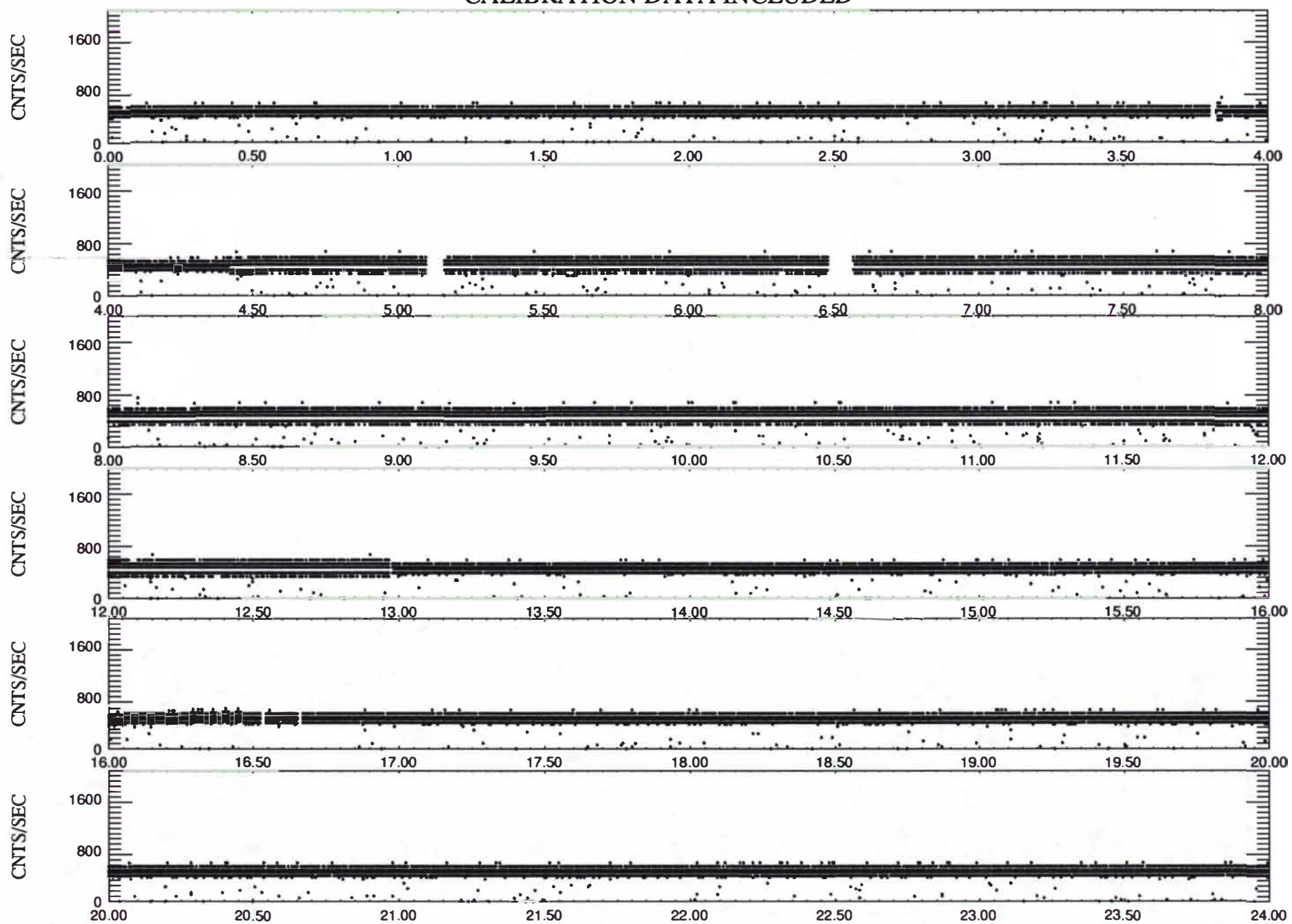
Background not subtracted

Sample average = 10

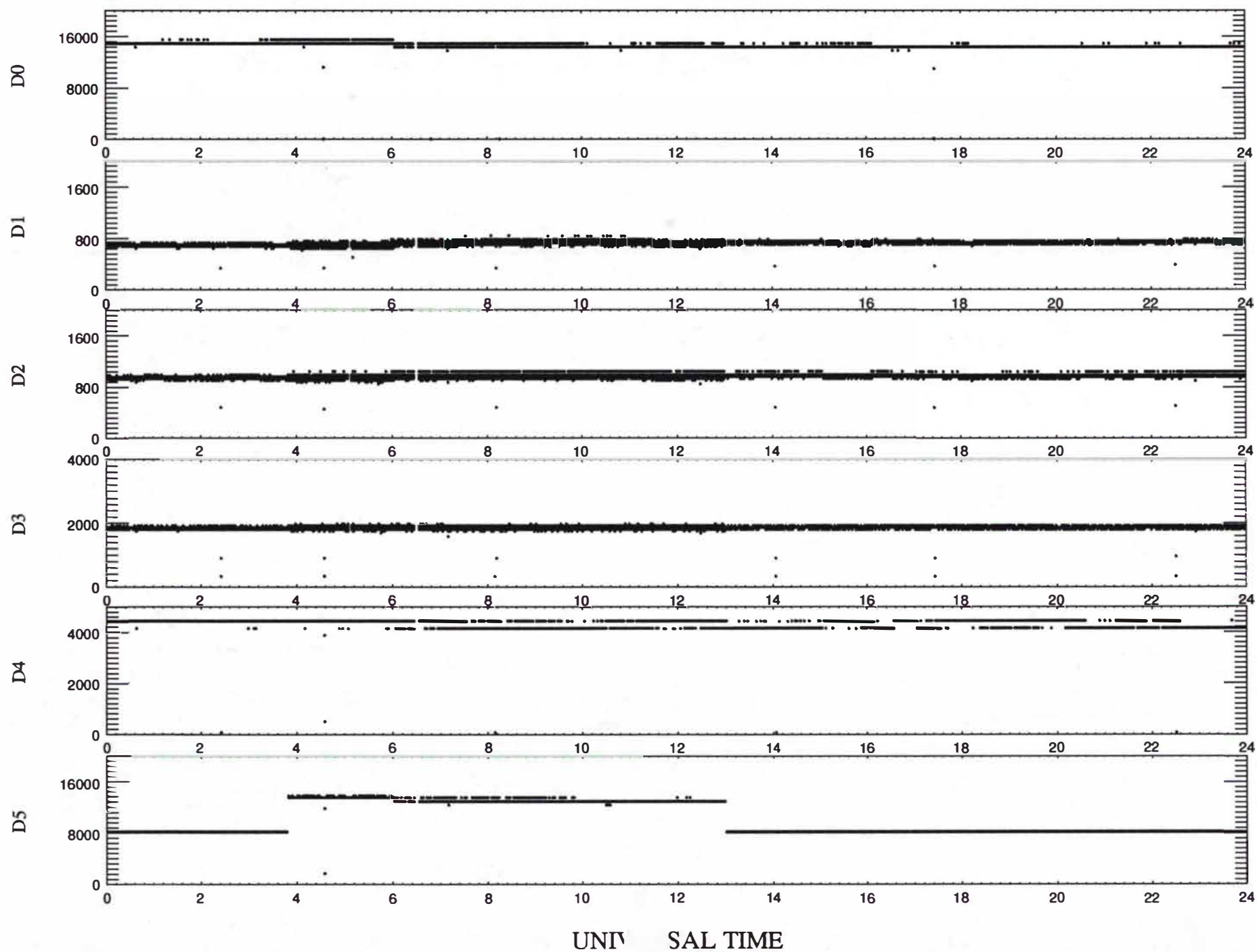
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From HENZE@fender.msfc.nasa.gov Wed Nov 4 08:44:47 1998
Date: Wed, 4 Nov 1998 10:44:15 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7186

Nov 3

TIME: TJD=1120 SECONDS=45969

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From HENZE@fender.msfc.nasa.gov Thu Nov 5 11:21:30 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 LAA09788; Thu, 5 Nov 1998 11:21:30 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA00733; Thu, 5 Nov 1998 11:21:27 -0800
Date: Thu, 5 Nov 1998 13:20:16 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981105132016.20224438@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7187
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7187
EVENT OF 1998 NOV 3 DAY OF YEAR=307
EVENT CROSSING TIME AT BATSE : 49225. S. OR 13:40:25.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 27.000 -42.000
BATSE PEAK COUNTING RATE: 20000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/11/ 98 IS:
RA= 165.768 DEC= -2.640 DIST= 5.810 AU
BATSE-ULYSSES DISTANCE = 869151738. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1529.23 SECS.
CROSSING TIME AT ULYSSES IS 50754. S. OR 14:05:54 +/- 500.85 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/11/ 98 IS:
RA= 167.640 DEC= 6.944 DIST= 2.023 AU
MARS-BATSE DISTANCE = 302678656. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.36 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 657.53 SECS.
CROSSING TIME AT MARS IS 49883. S. OR 13:51:22 +/- 143.00 SECONDS

BATSE BURST TRIGGER

NO.: 7187

TIME: TJD=1120 SECONDS=49225

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 84.0 AZIMUTH=229.1 ERROR= 3.8 DEGREES

COMMENTS:

SINGLE SPIKE, DUR. APPROX. 0.14 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7187	981103	11120	49225	20000	027	-42	.14

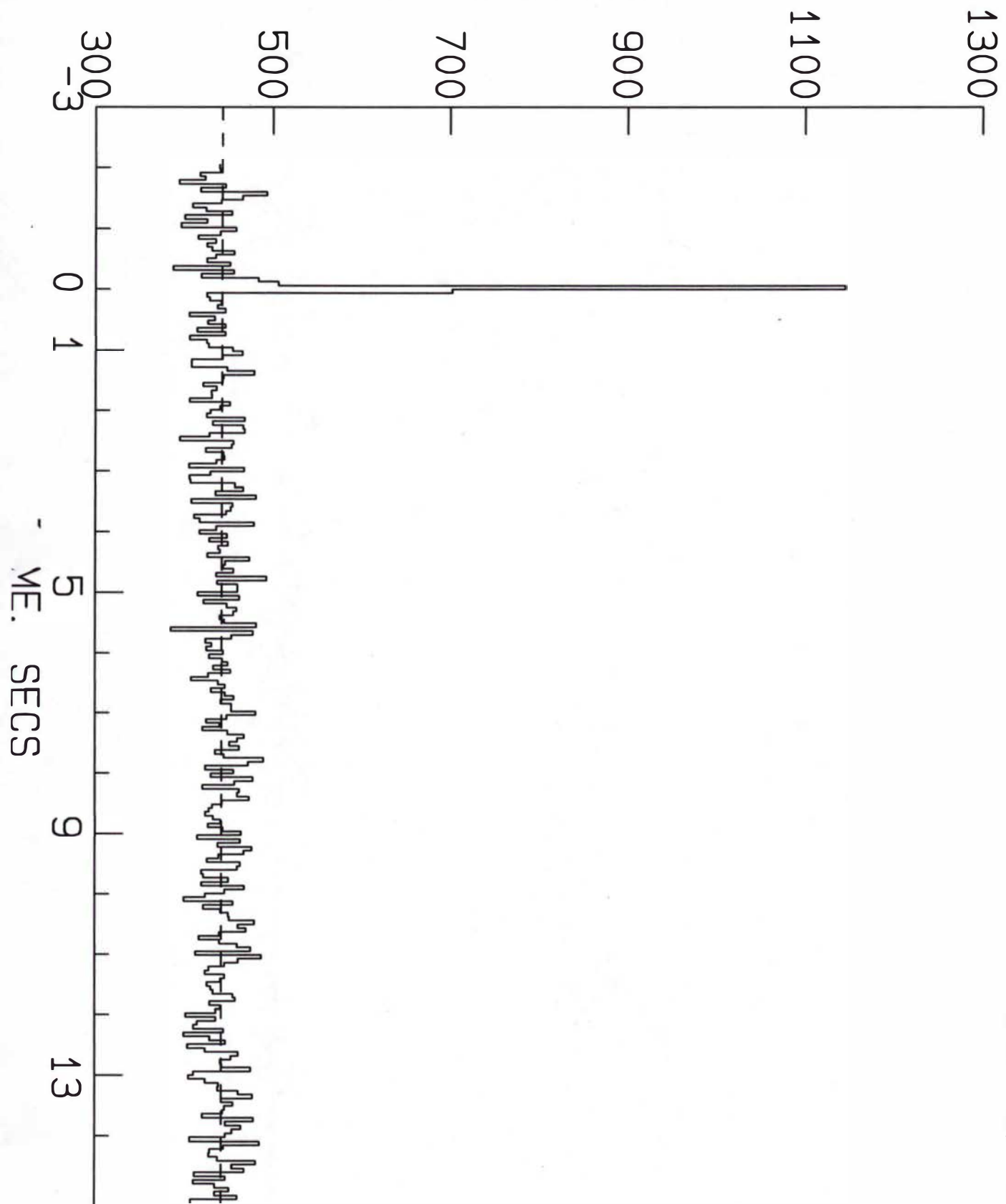
BATSE

03/11/98

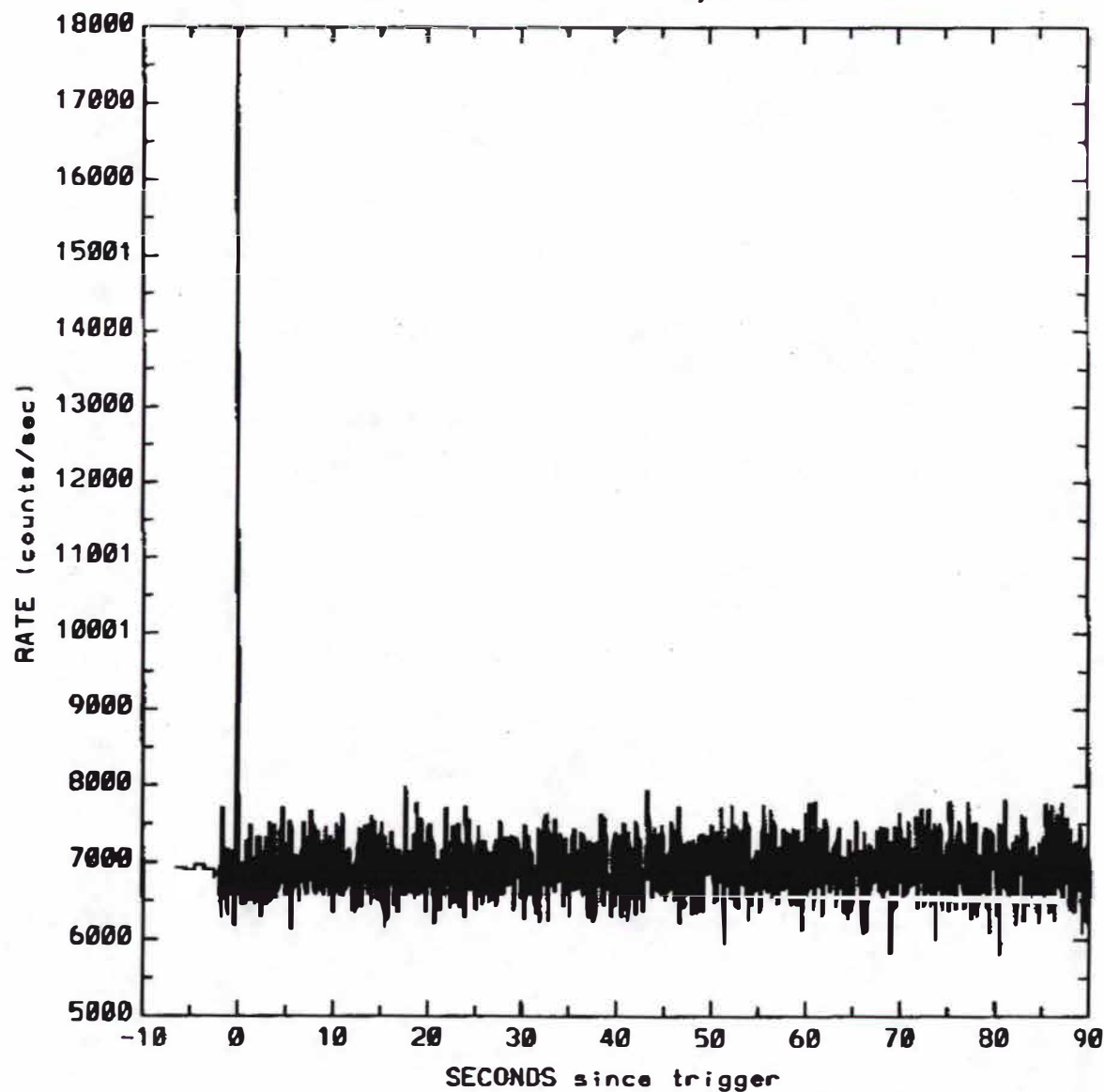
49225.825

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7187



9-FEB-2000 09:36:52

Created by MOPS 80
(Burst Display)
Version 2.26

Trigger # : 7187

Trigger Time:
11120 / 49225.825Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..0):
765--2--Discriminators:
(3 . 4 1Quality Mask:
BDISP1

BATSE BURST# 7187

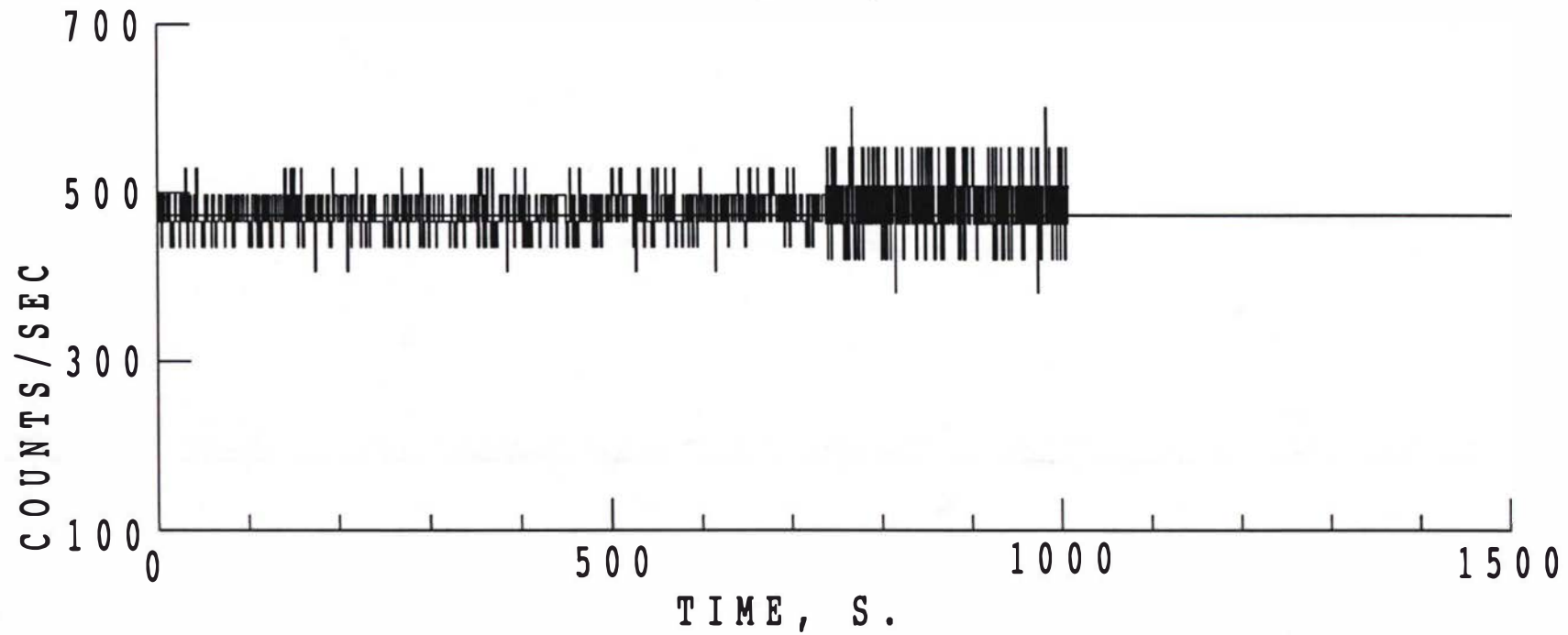
ULYSSES RT

5 / 4 / 99

3 / 11 / 98 50256.242 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



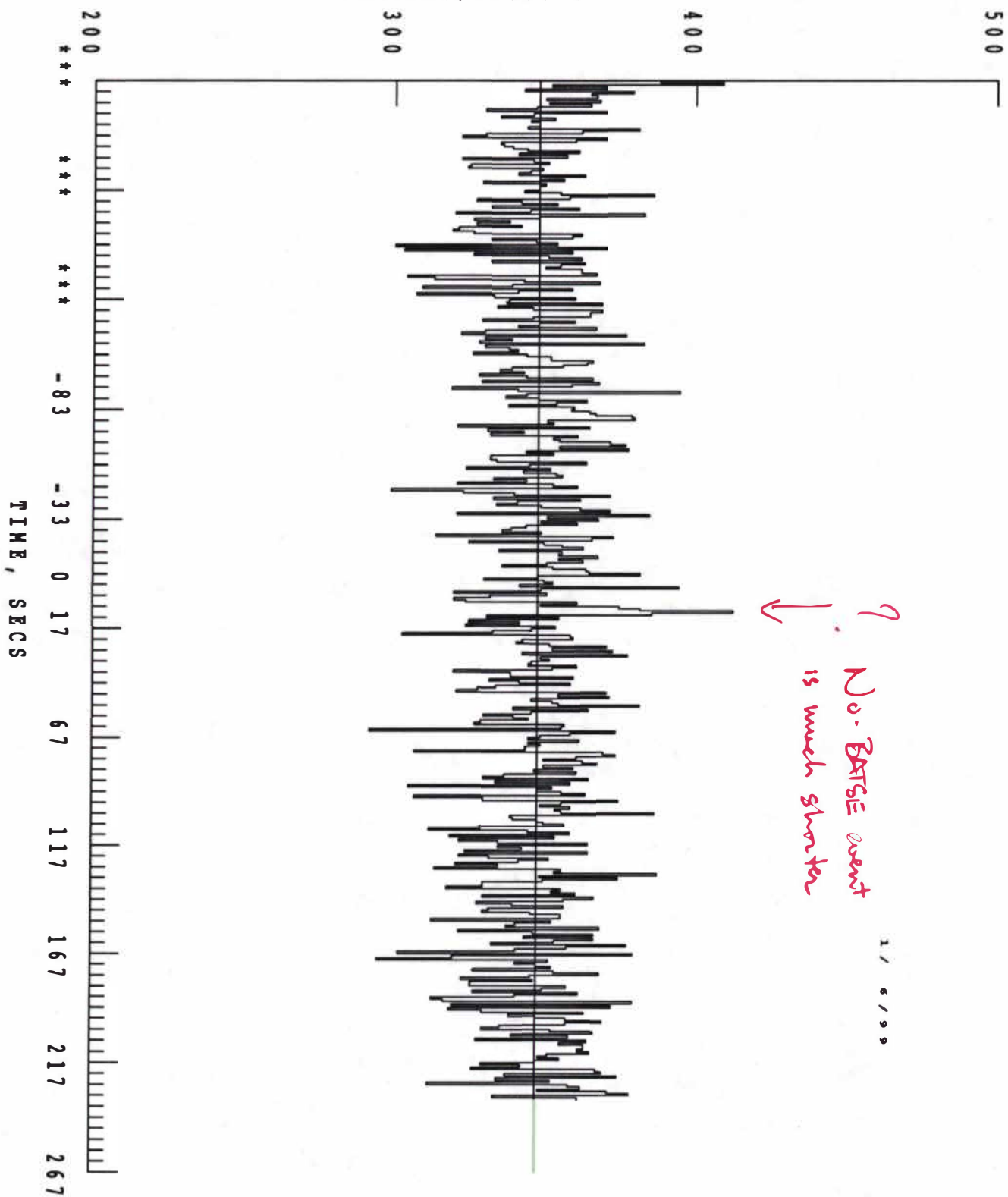
NEAR

03/11/98

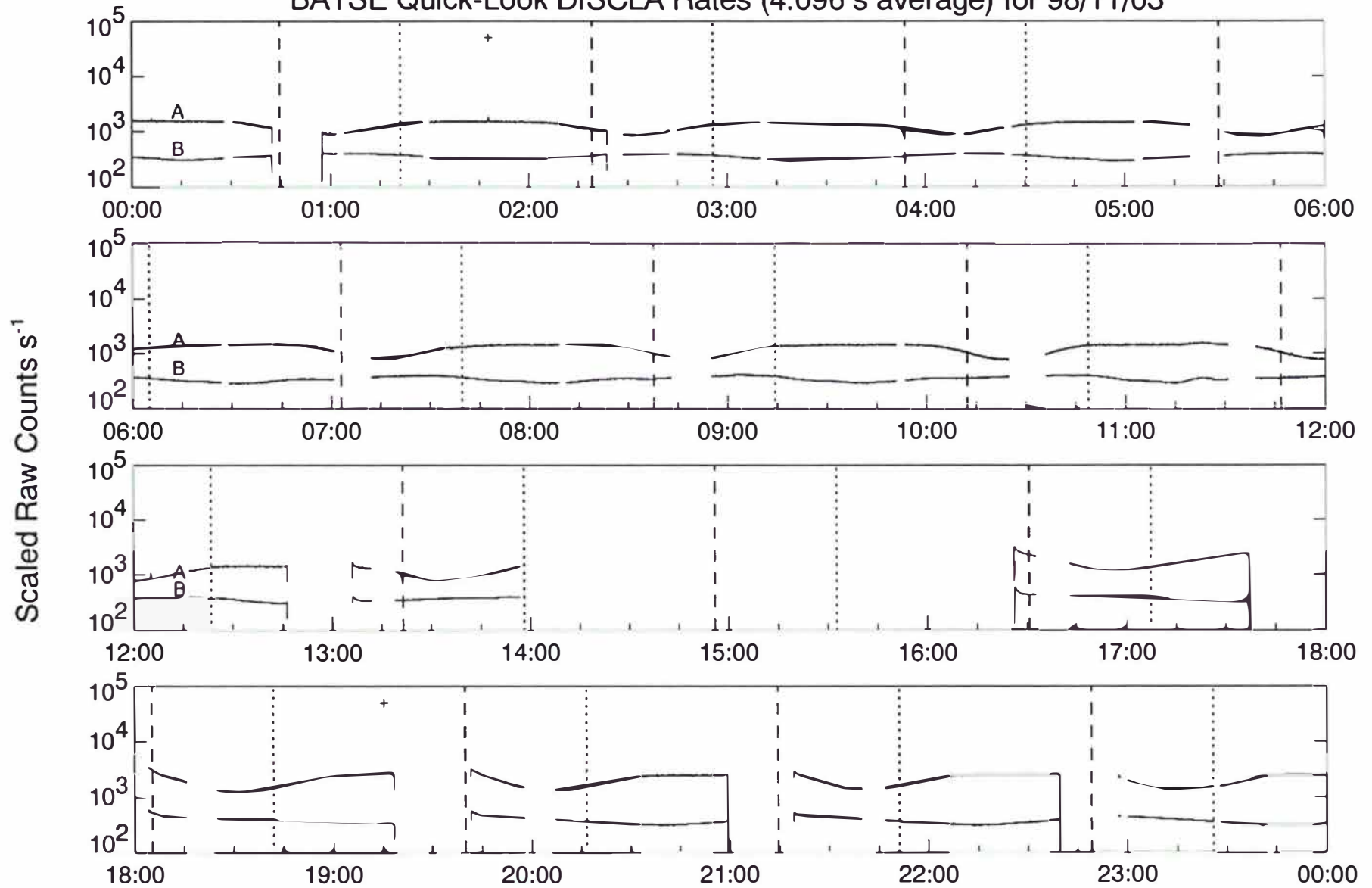
49186.571

100-1000 keV

COUNTS/1.000 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/03

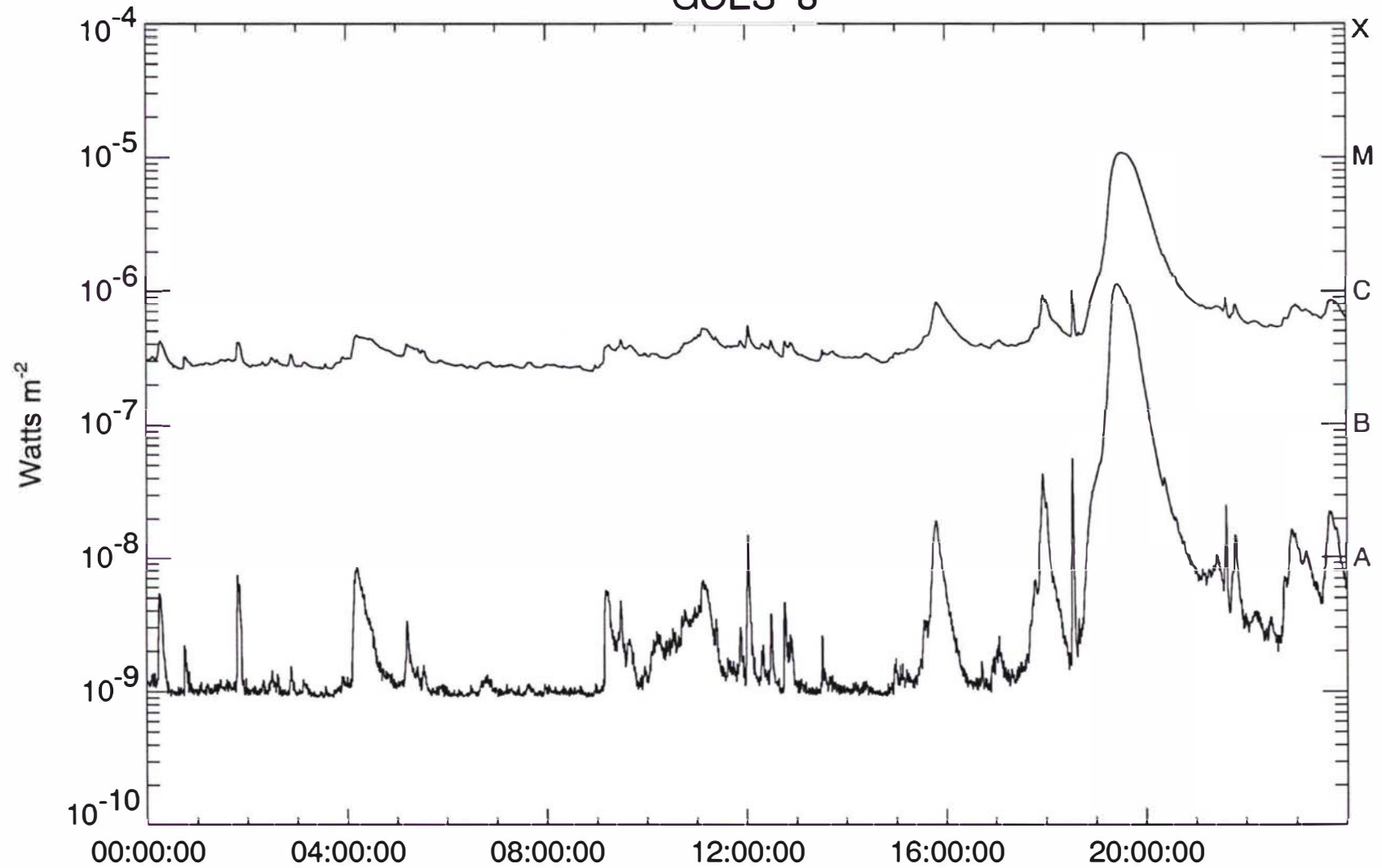


Current Time: 98/11/07, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/03, 0000:00

Plot created: 98/11/07, 1007

Channel 1 (1.0 - 8.0 Angstroms)

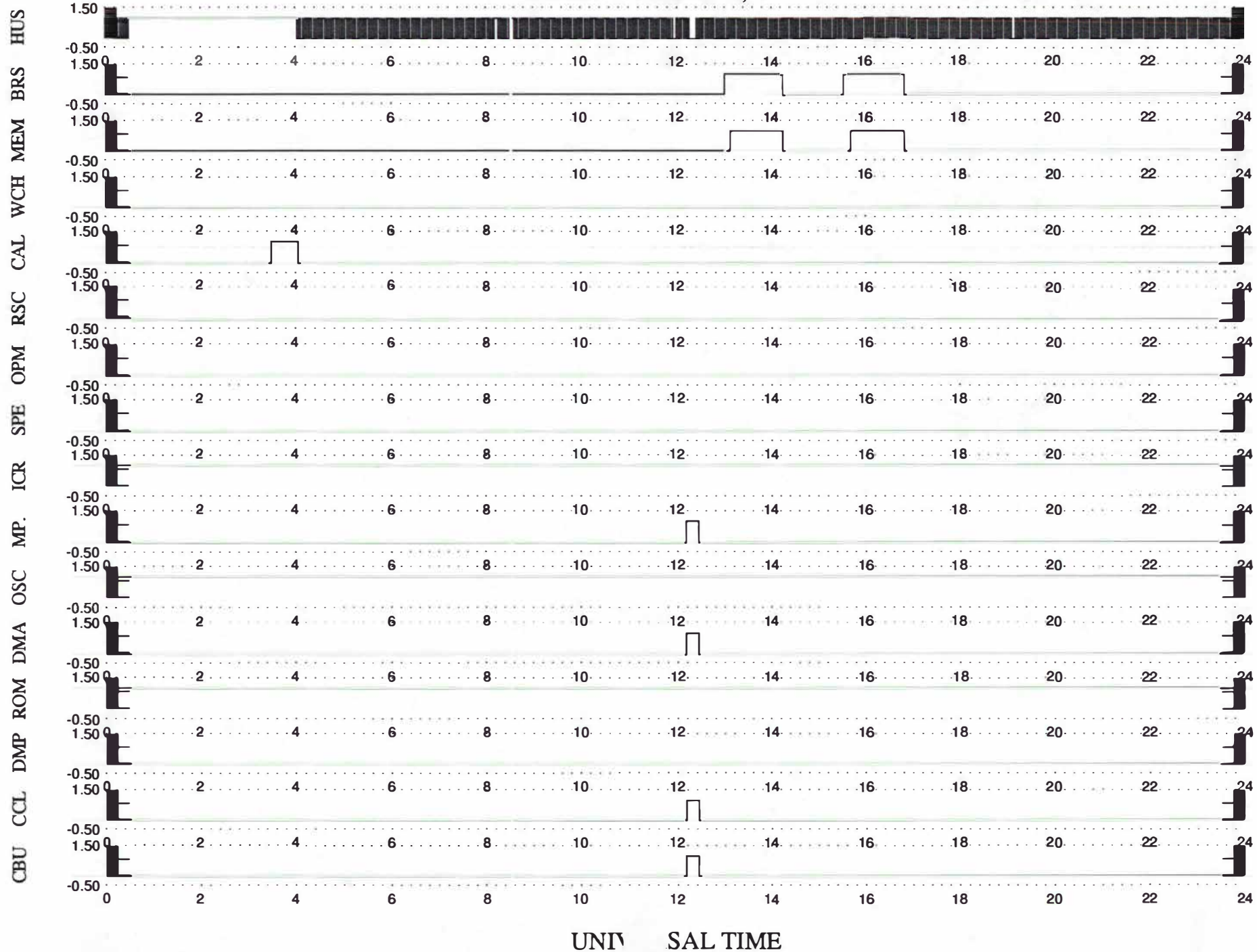
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

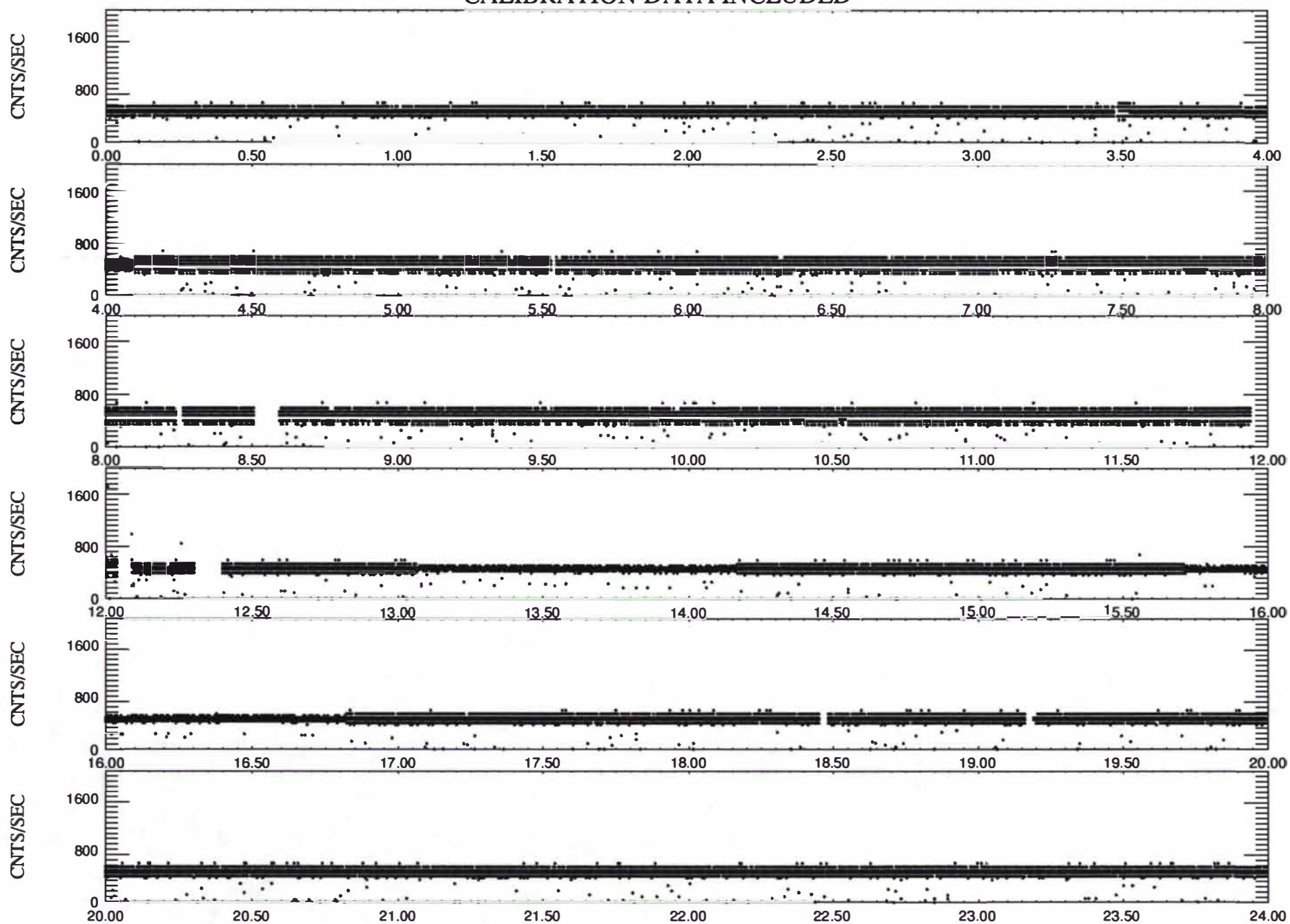
Background not subtracted

Sample average = 10

BURST NUMBER 3, 4

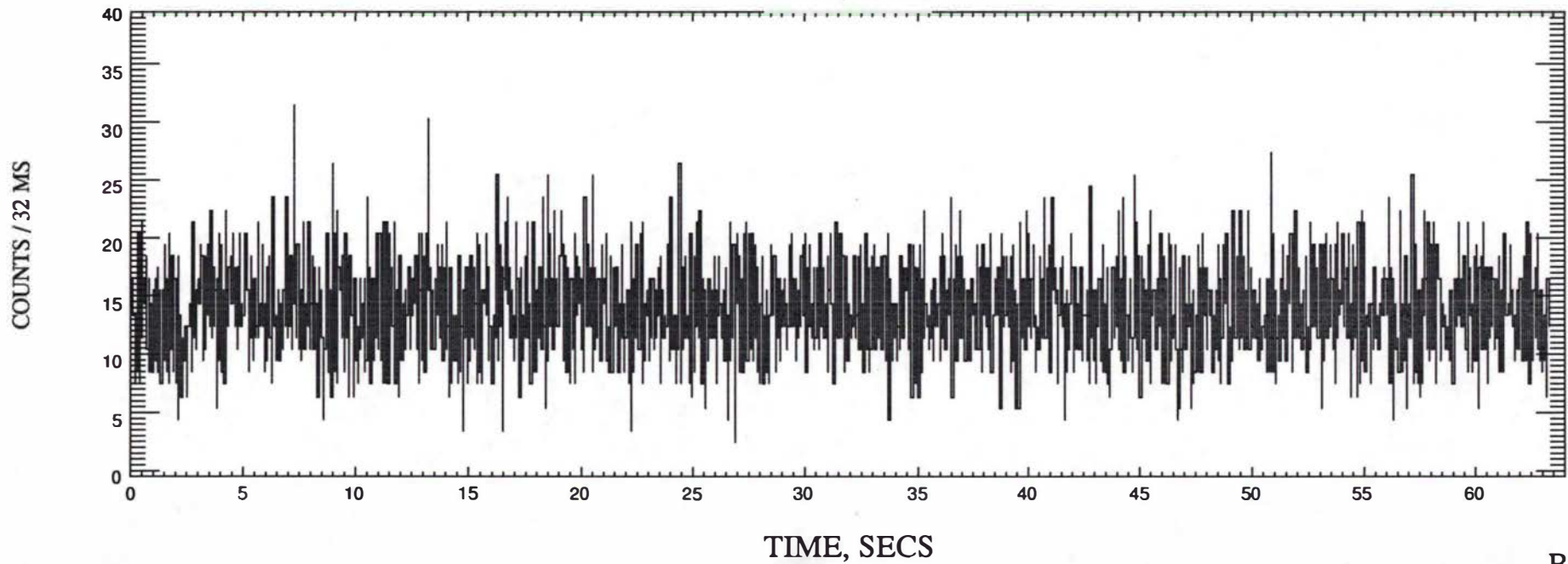
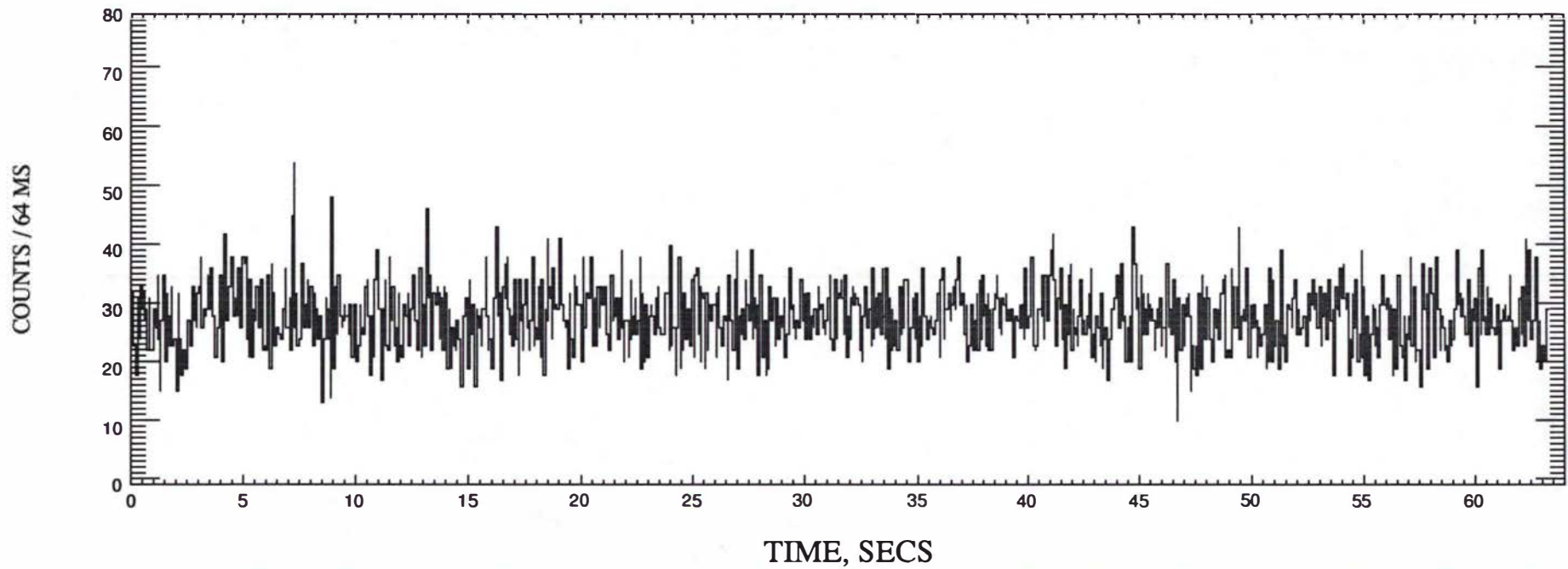


CALIBRATION DATA INCLUDED

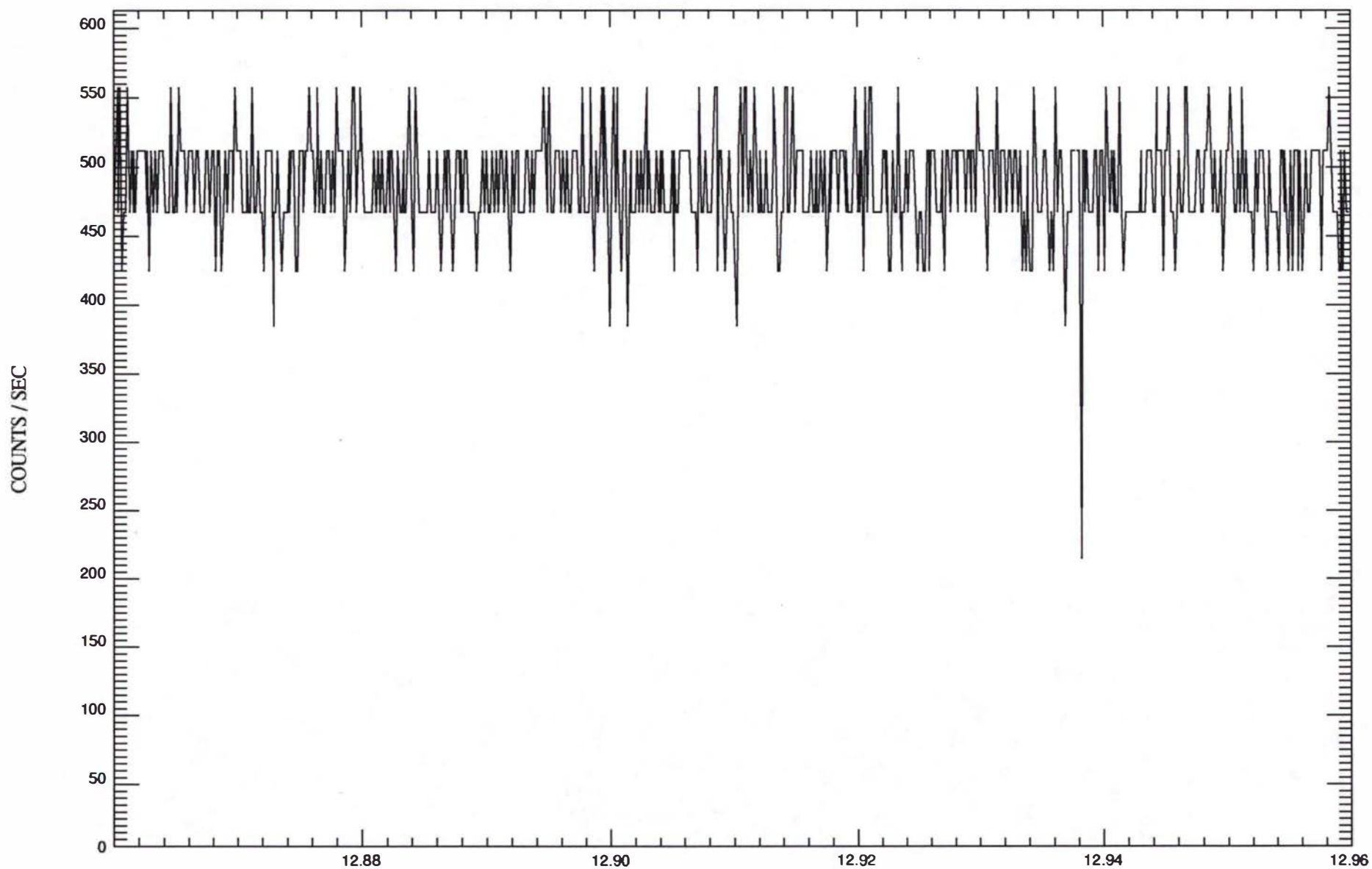


UNIT SAL TIME

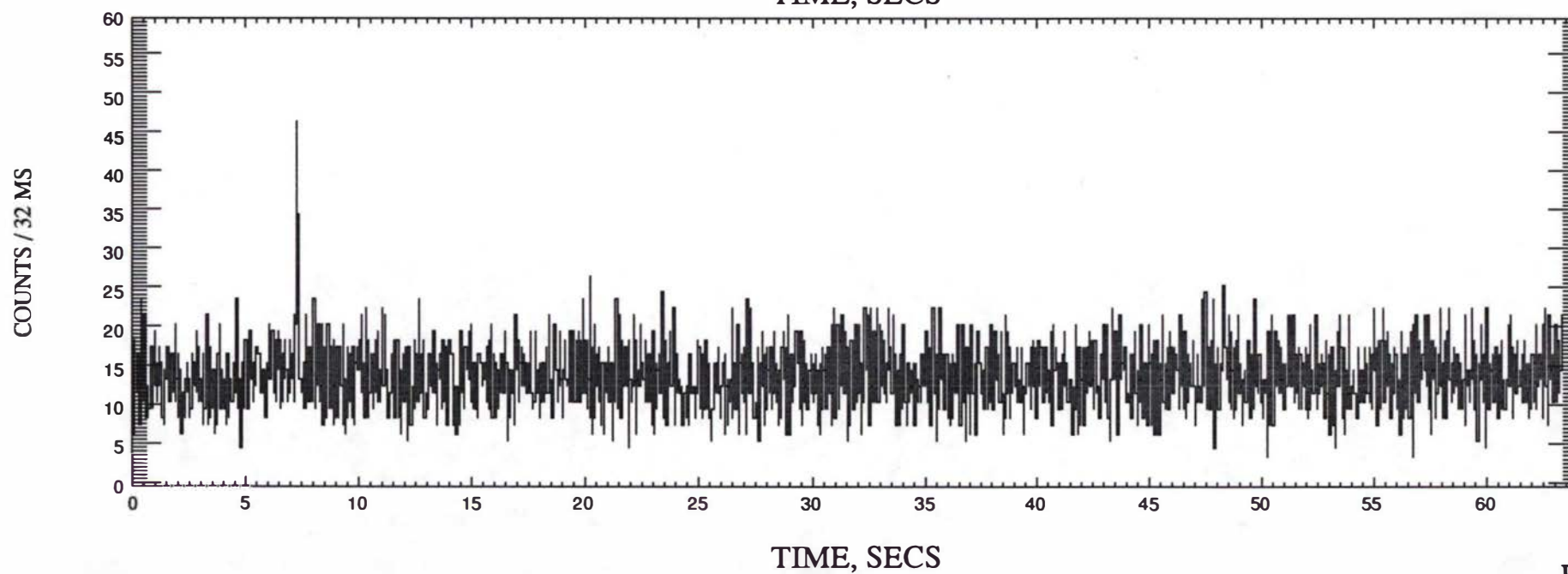
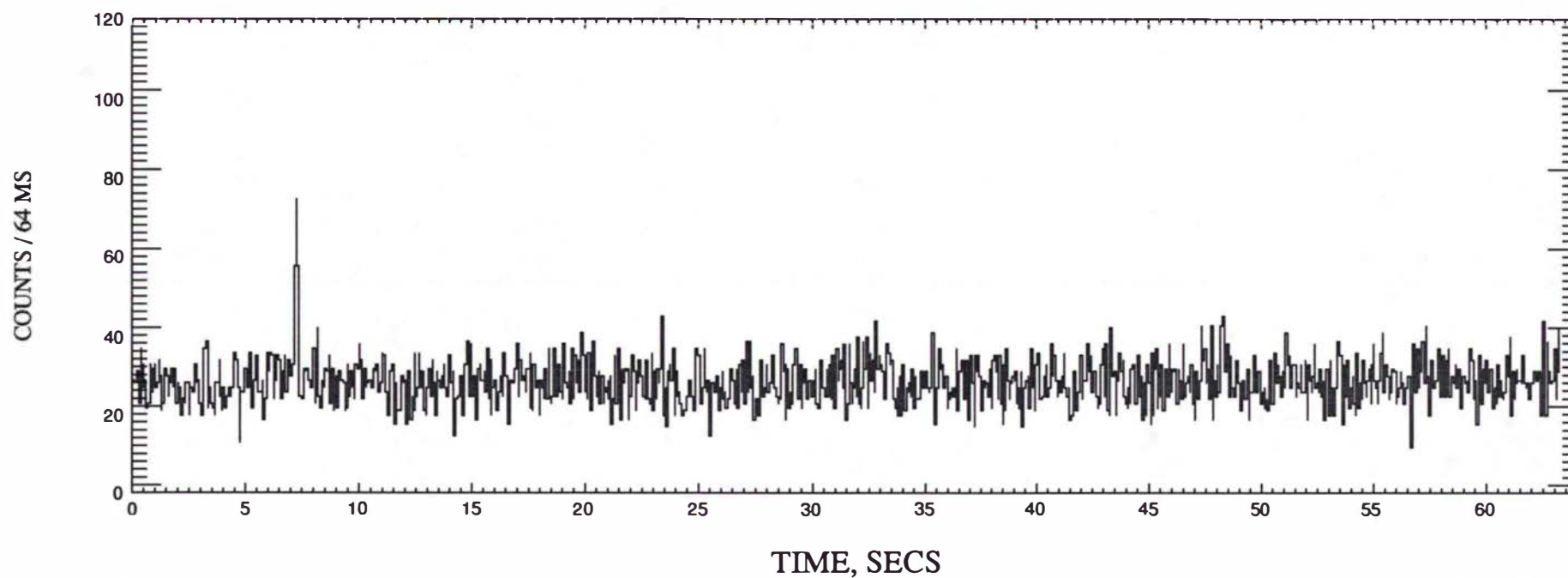
Burst Counter 3 at UT=12.911790241665 h=46482.445 s 12:54:42.445



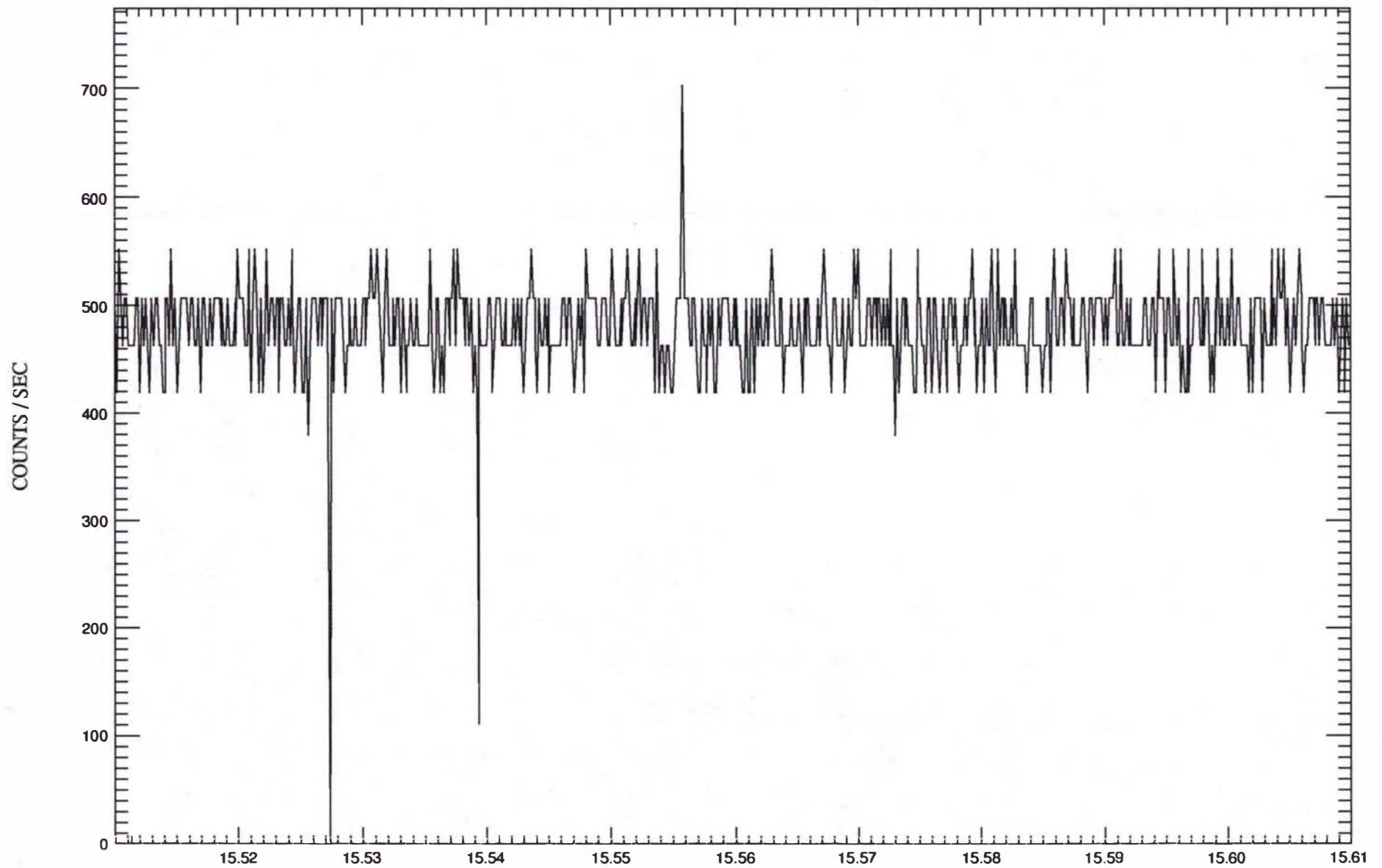
CALIBRATION DATA INCLUDED

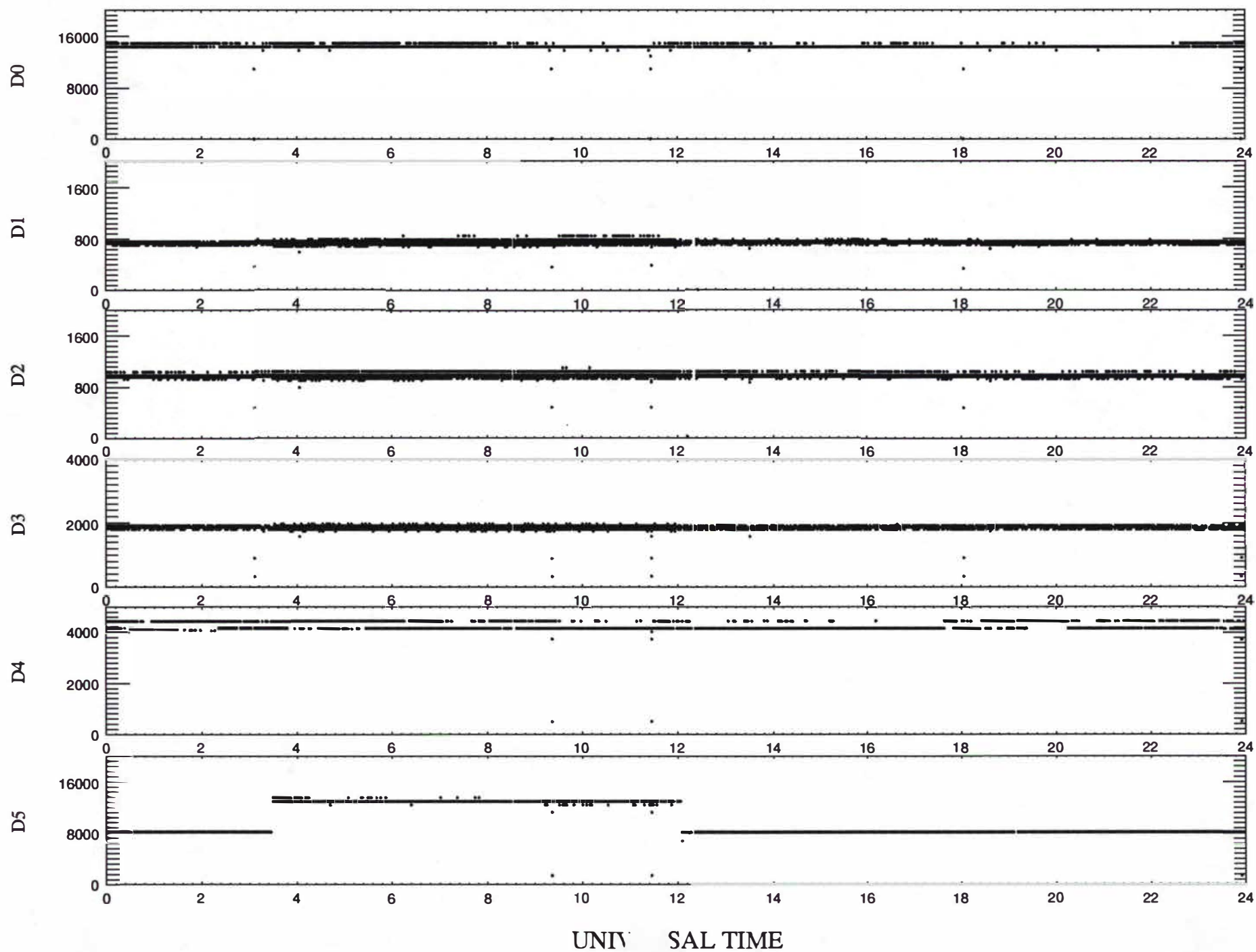


Burst Counter 4 at UT=15.556041819255 h=56001.751 s 15:33:21.751



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Fri Nov 6 12:47:53 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 MAA05971; Fri, 6 Nov 1998 12:47:52 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA29877; Fri, 6 Nov 1998 12:47:49 -0800
Date: Fri, 6 Nov 1998 14:46:20 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981106144620.20225536@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7188
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7188
EVENT OF 1998 NOV 4 DAY OF YEAR=308
EVENT CROSSING TIME AT BATSE : 8160. S. OR 02:16:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 104.000 12.000
BATSE PEAK COUNTING RATE: 8000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/11/ 98 IS:
RA= 165.809 DEC= -2.695 DIST= 5.802 AU
BATSE-ULYSSES DISTANCE = 867964298. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1308.05 SECS.
CROSSING TIME AT ULYSSES IS 6852. S. OR 01:54:11 +/- 478.56 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/11/ 98 IS:
RA= 168.188 DEC= 6.721 DIST= 2.016 AU
MARS-BATSE DISTANCE = 301530912. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -449.90 SECS.
CROSSING TIME AT MARS IS 7710. S. OR 02:08:30 +/- 149.35 SECONDS

BATSE BURST TRIGGER

NO.: 7188

TIME: TJD=1121 SECONDS=8160

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=78.9 AZIMUTH=108.2 ERROR=2.8 DEGREES

COMMENTS:

GRB. MULTI-PEAKED, DUR. APPROX. 600 S, STARTS AT APPROX. T-50 S, MAX. AT APPROX. T+41 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7188	981104	11121	08160	8000	104	+12	600

Date: Feb 17 00

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. BATSE Data

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

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *No - bad data. Used 25-100 keV DISCLB*
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

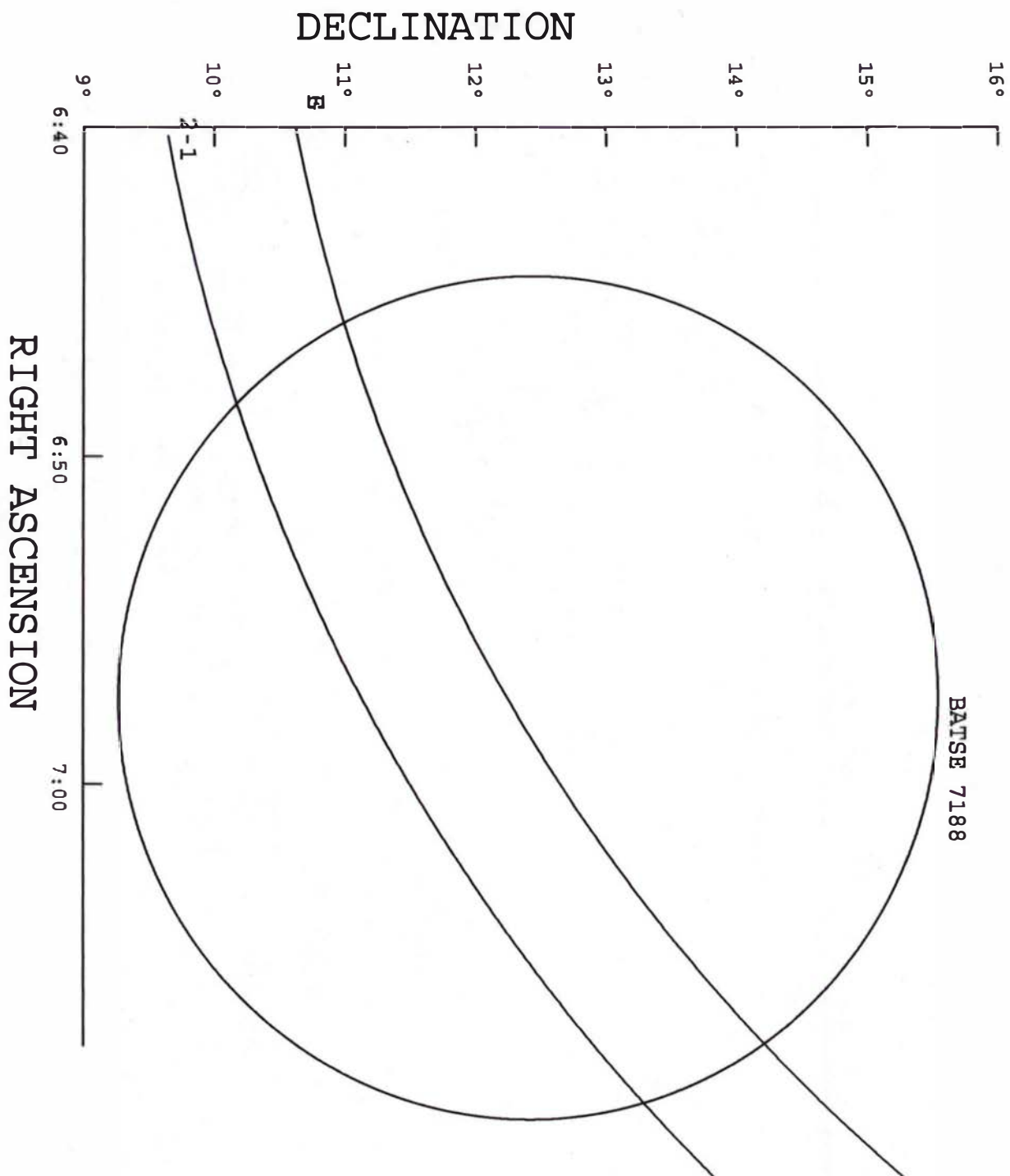
G=GALACTIC EQUATOR

1 BATSE

2 NEAR

EVENT OF NOV 4, 1998 2:16

16 / 2 / 0



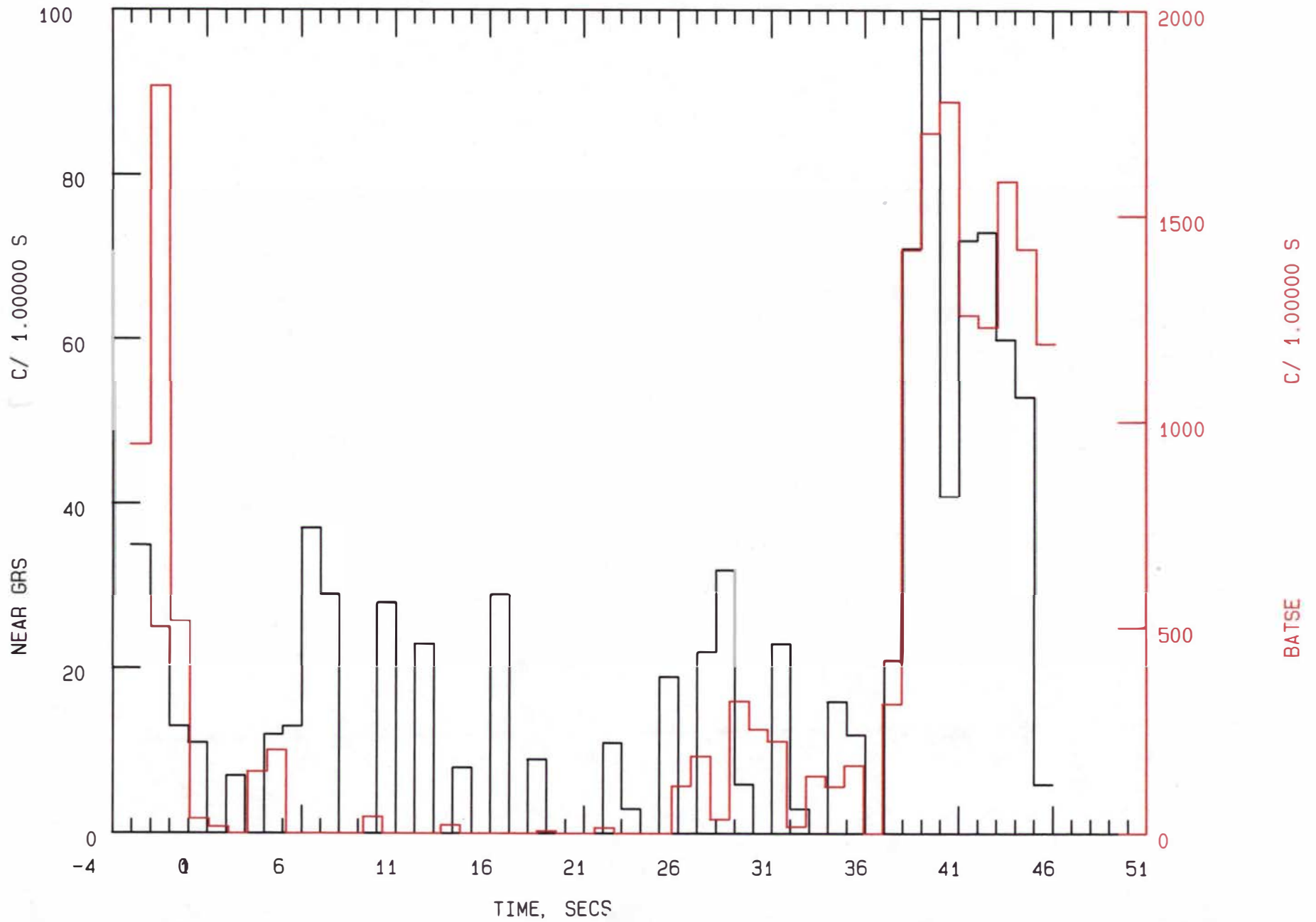
NEAR GRS -BATSE

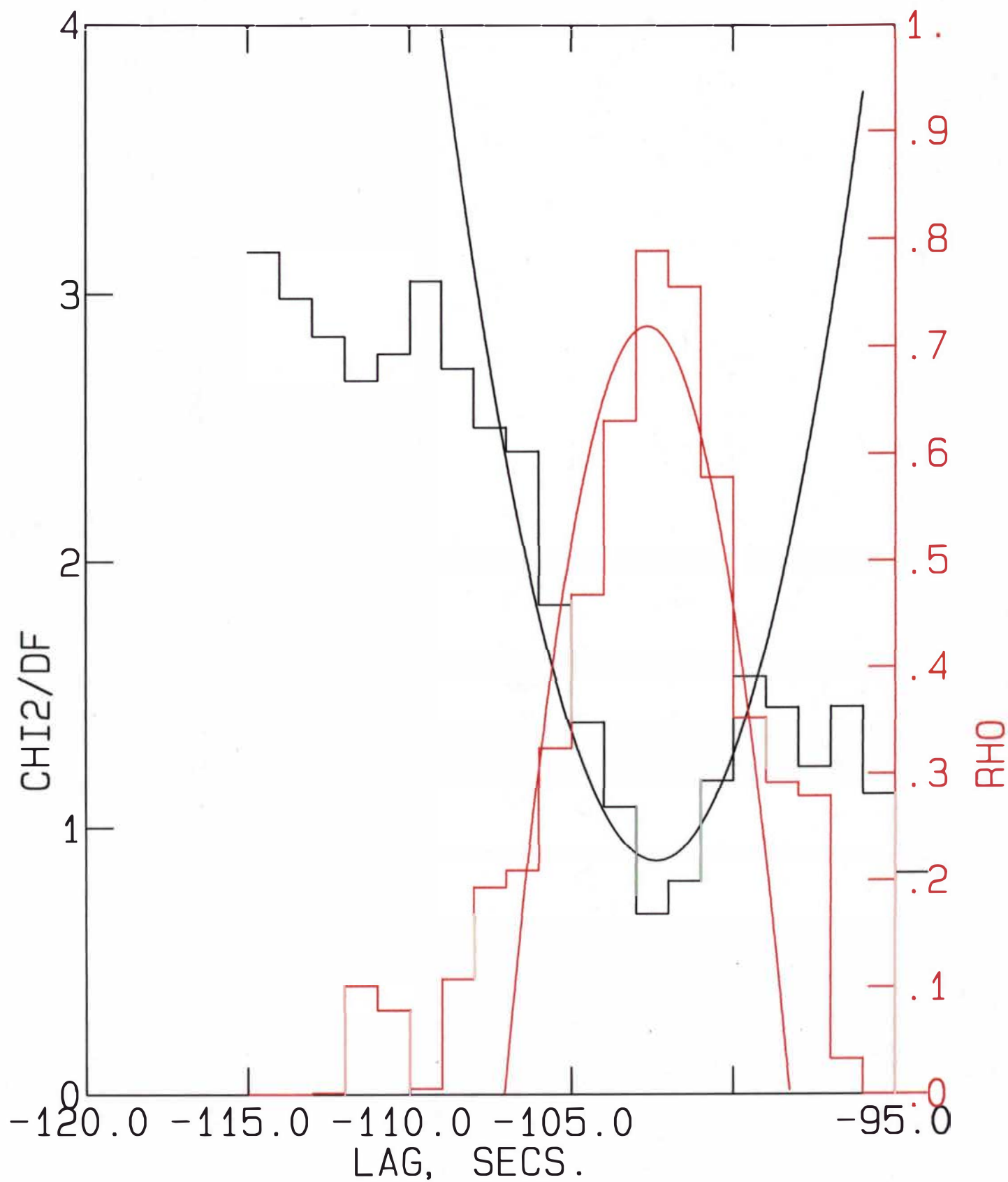
CORRELATION

04/11/98

9198.558

16/ 2/ 0



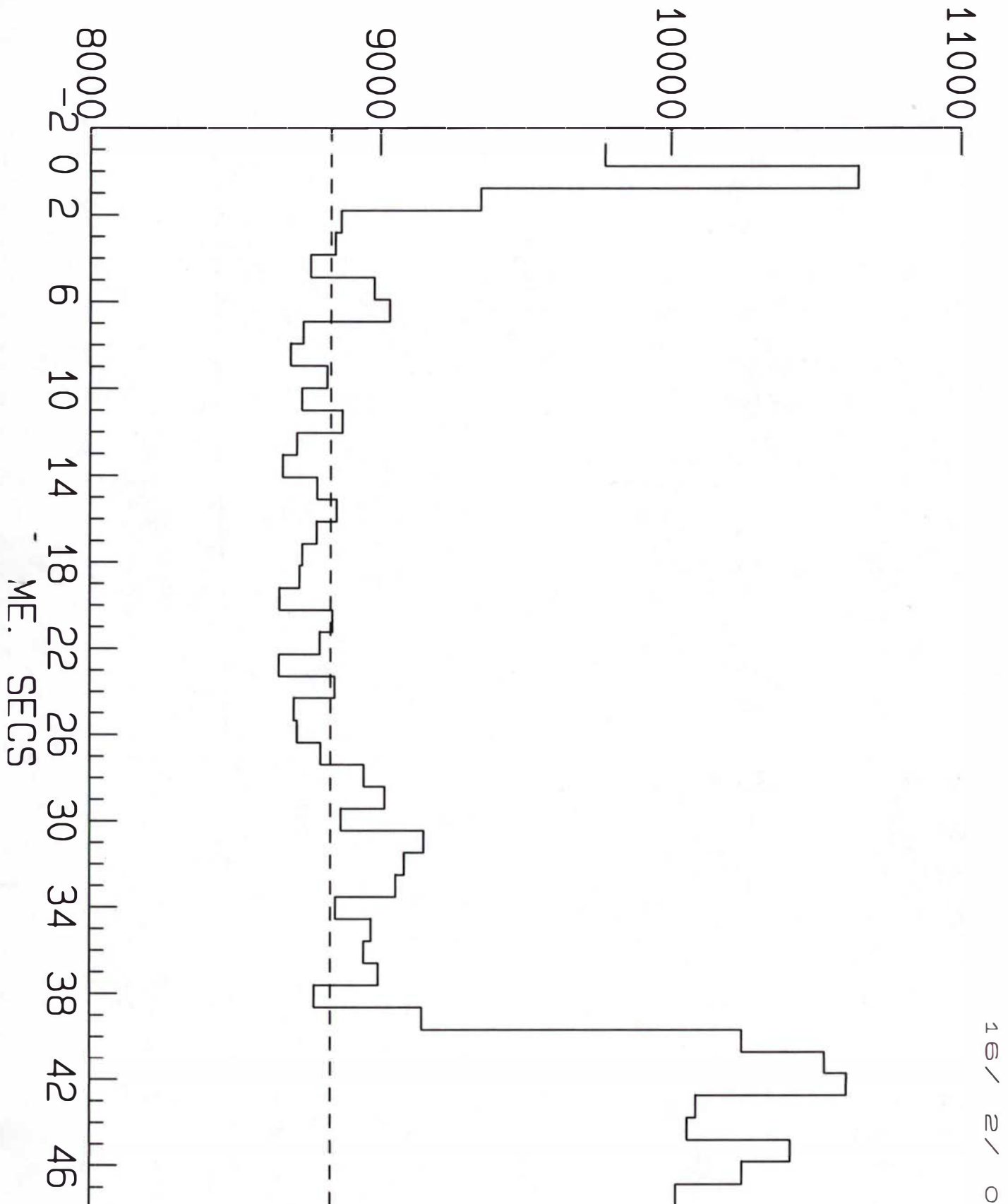


BATSE

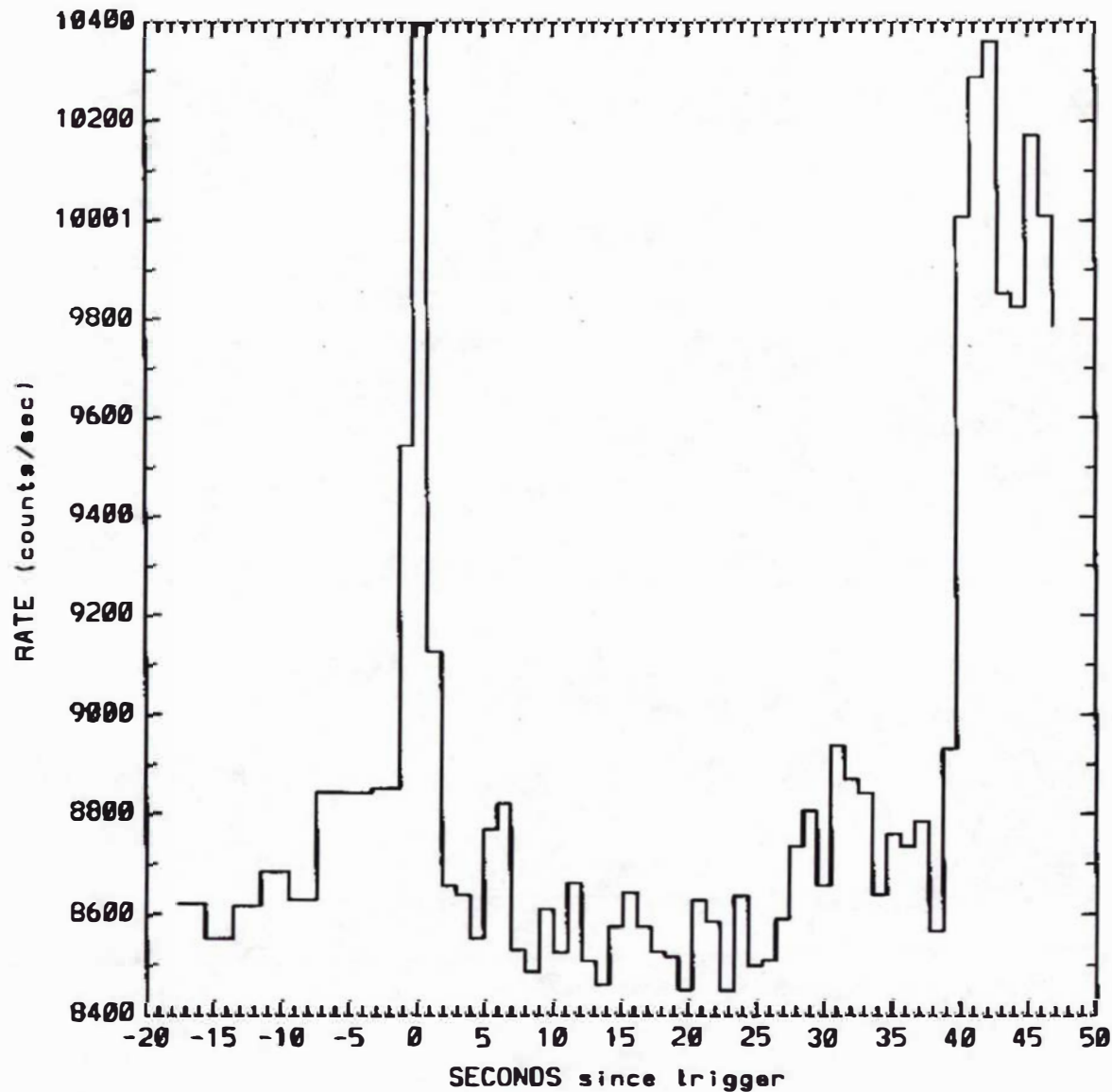
04/11/98

8160.225

25- 100 keV
COUNTS/1.024 S



DISCLB Data for K. Hurley, No. 7188



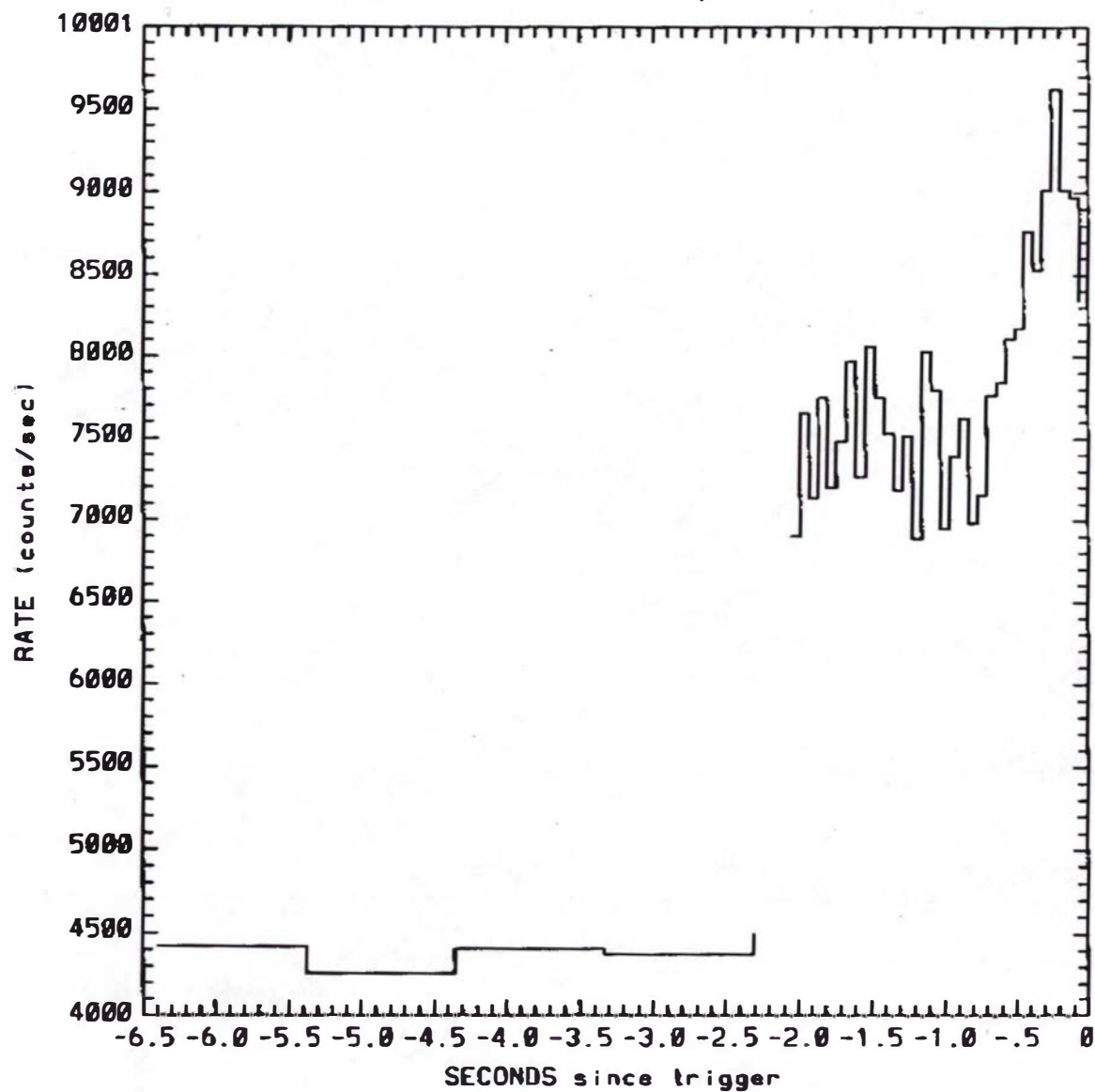
9-FEB-2000 09:39:52

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7188

Trigger Time:
11121 / 8160.225Burst Data Type:
DISCLBDeadtime
Corrected: NBackground Data
Type: NoneMinimum Integ. Time:
1.824 secondsDetectors [7..8],
--54--1-Discriminators:
1 1 . 2 1Quality Mask:
BDISP1

DISCSC Data for K. Hurley, No. 7188



9-FEB-2000 09:38:28

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

Trigger # : 7188

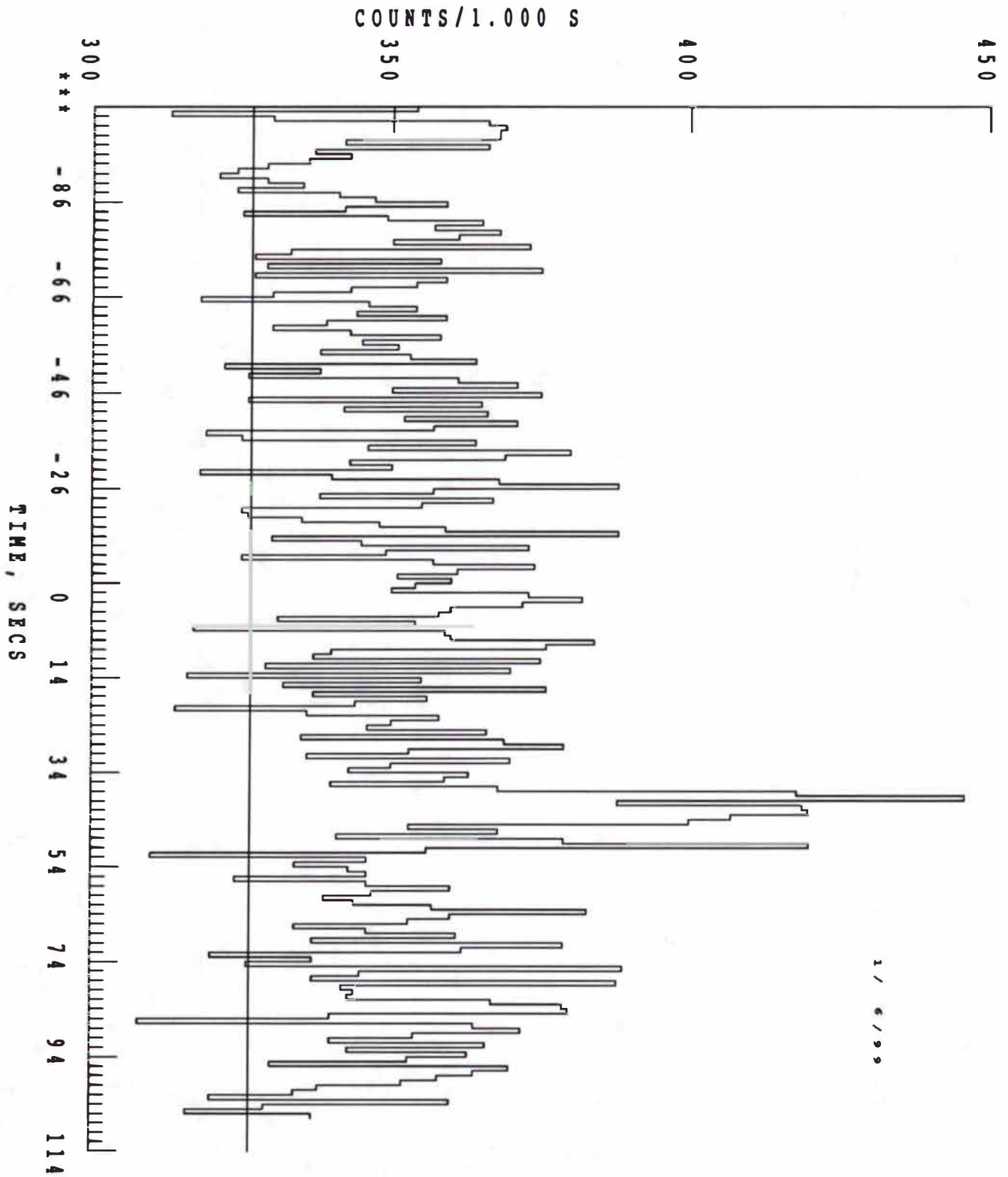
Trigger Time:
11121 / 8160.225Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..0):
--54--1-Discriminators:
(3 , 4)Quality Mask:
BDISP1

NEAR

04/11/98

9198.558

100-1000 keV



BATSE BURST# 7188

ULYSSES RT

6 / 11 / 98

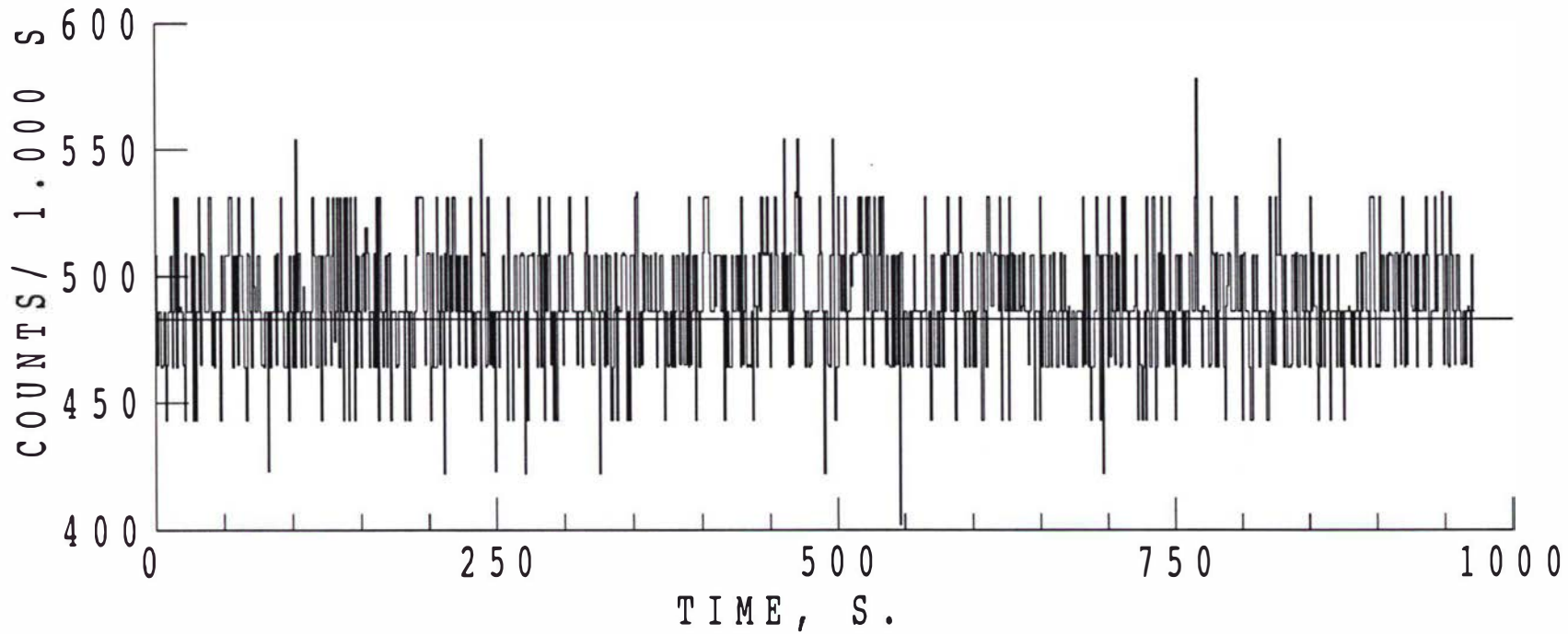
4 / 11 / 98 6372.179 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Nov 5 11:34:54 1998

Date: Thu, 5 Nov 1998 13:27:06 -0600 (CST)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7189

TIME: TJD=1121 SECONDS=44609

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

Date: Nov 30 2004

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. 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 vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events *N/A*

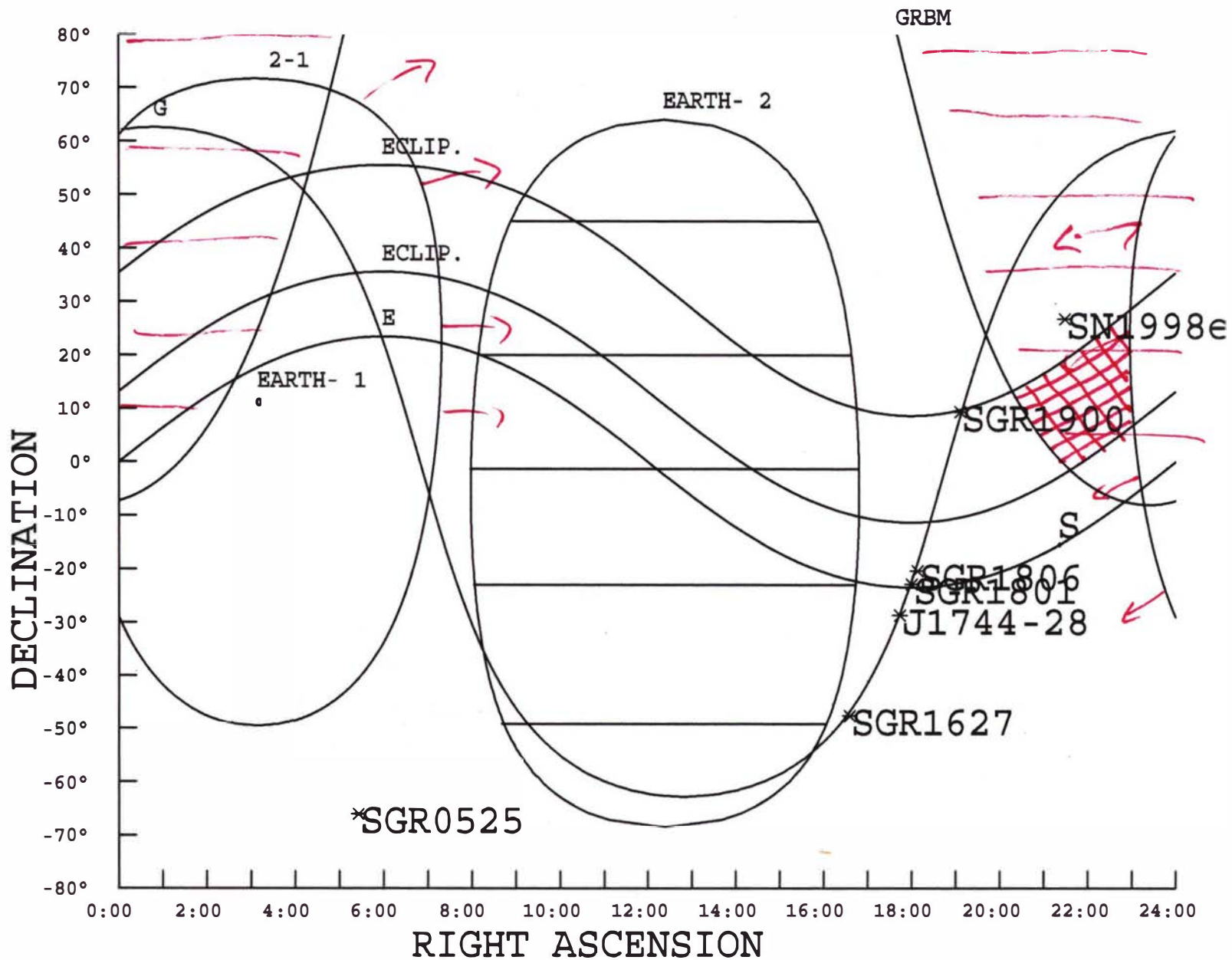
- ☐ $\Sigma 3\Delta t$'s calculated?

- ☒ ACCESS database updated?

EVENT OF NOV 98, 2004 17:12

30/11/ 4

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



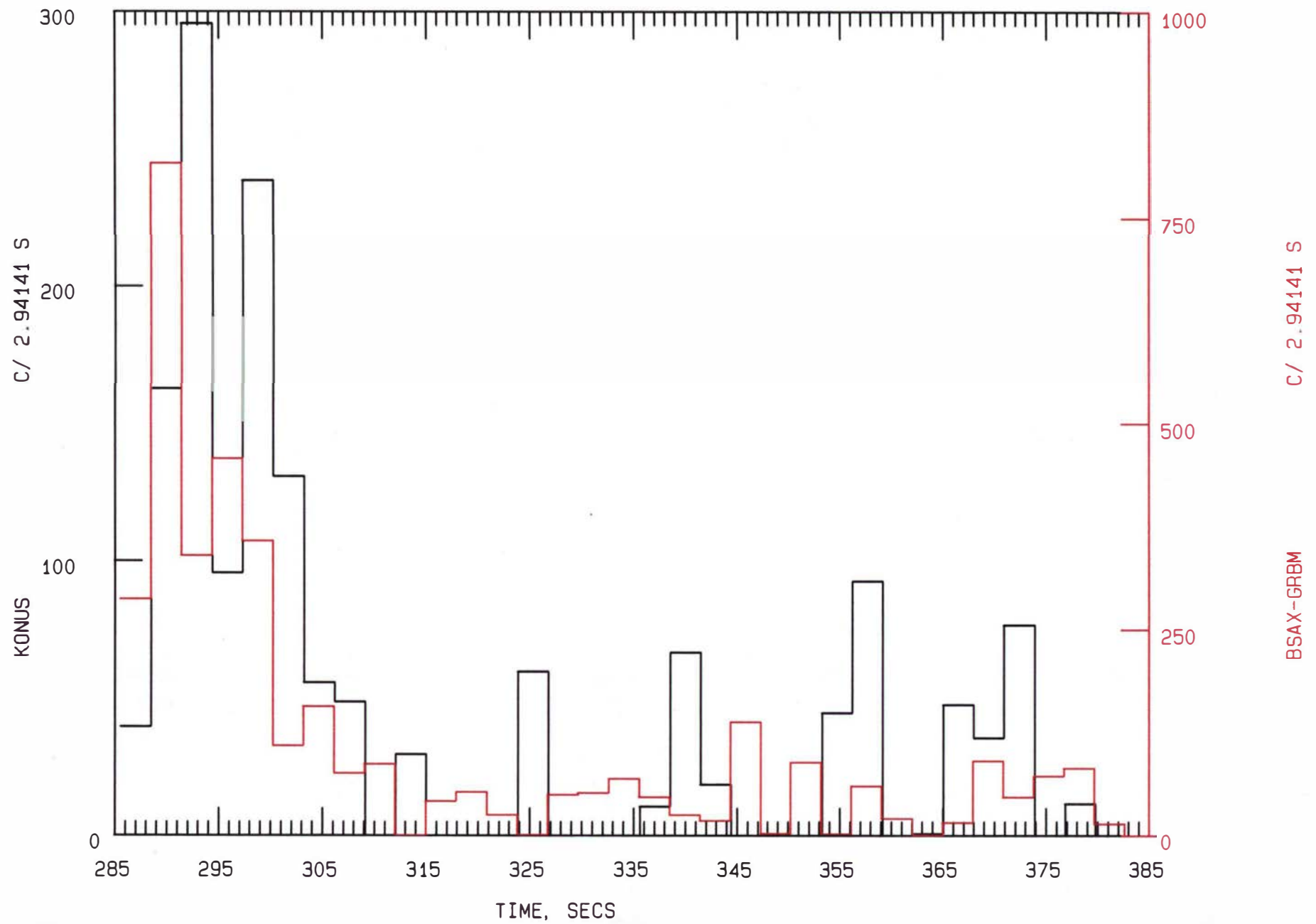
KONUS

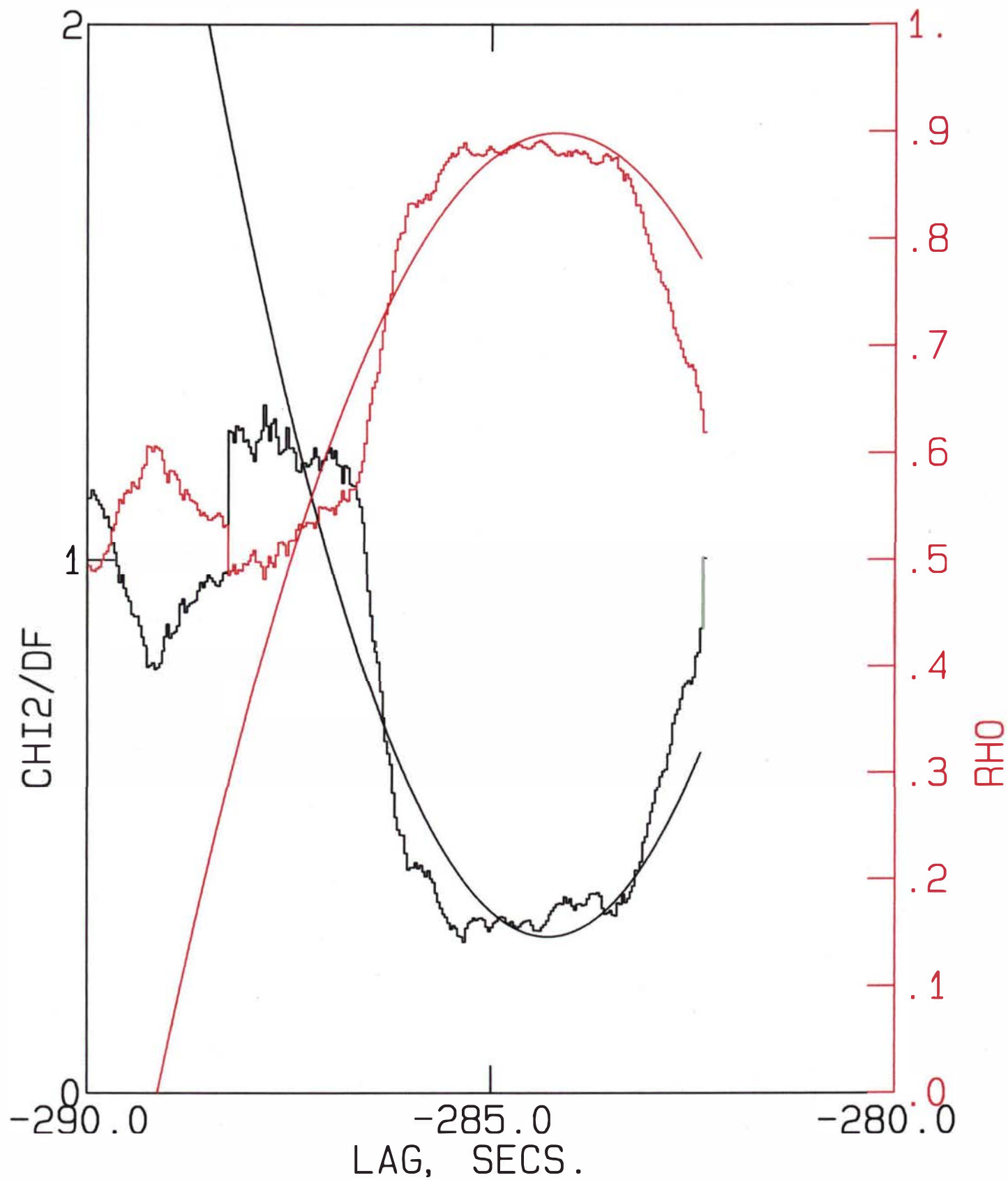
-BSAX-GRBM CORRELATION

98/11/04

61946.758

30/11/ 4





KONUS

98/11/04 61946.758

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.941 S

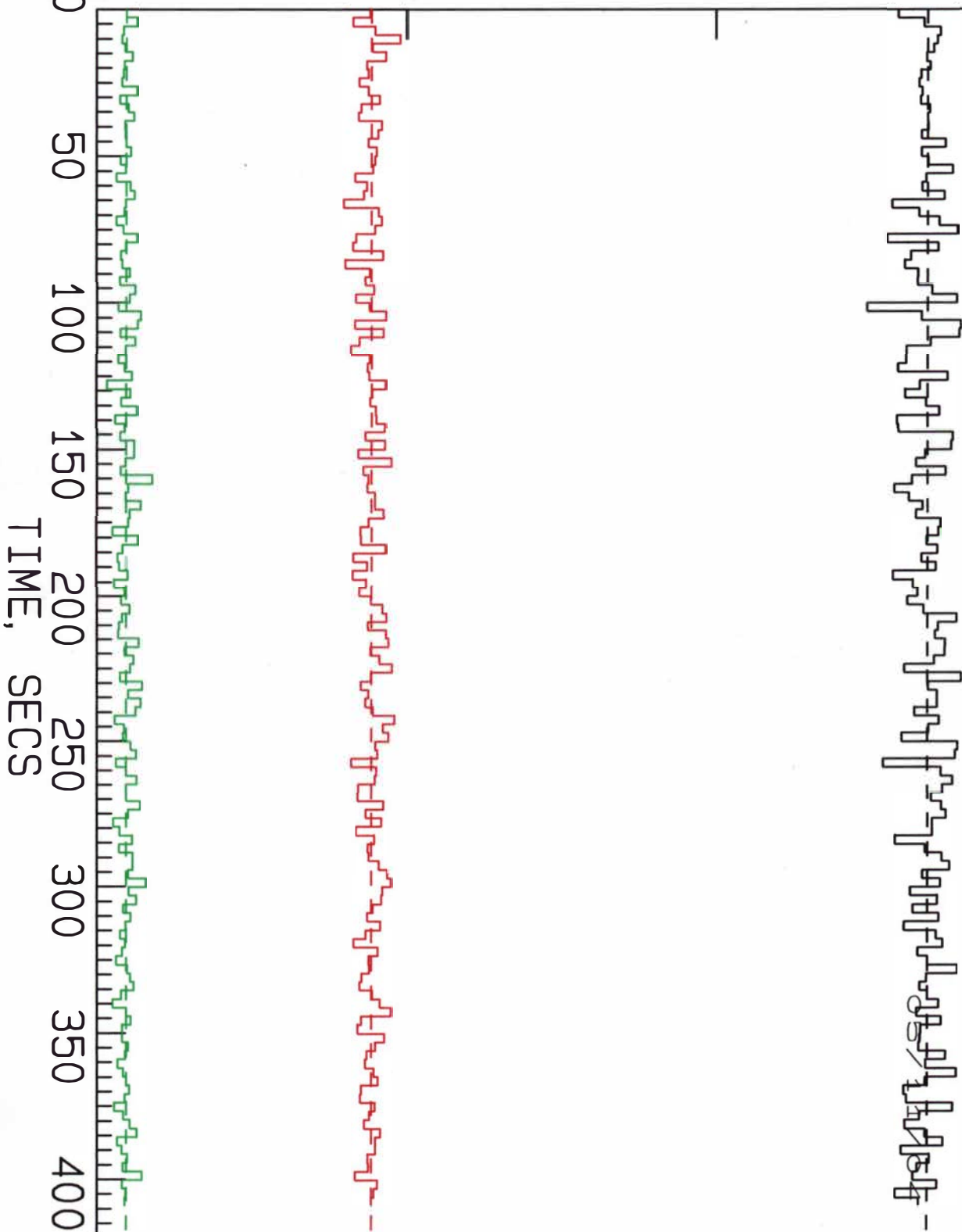
3500

2500

1500

500

DETECTOR 1 - S. ECLIPSE



KONUS

98/11/04 61946.758

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.941 S

4300

DETECTOR 2 - N. ECLIPTEIC

3300

2300

1300

05/11/04

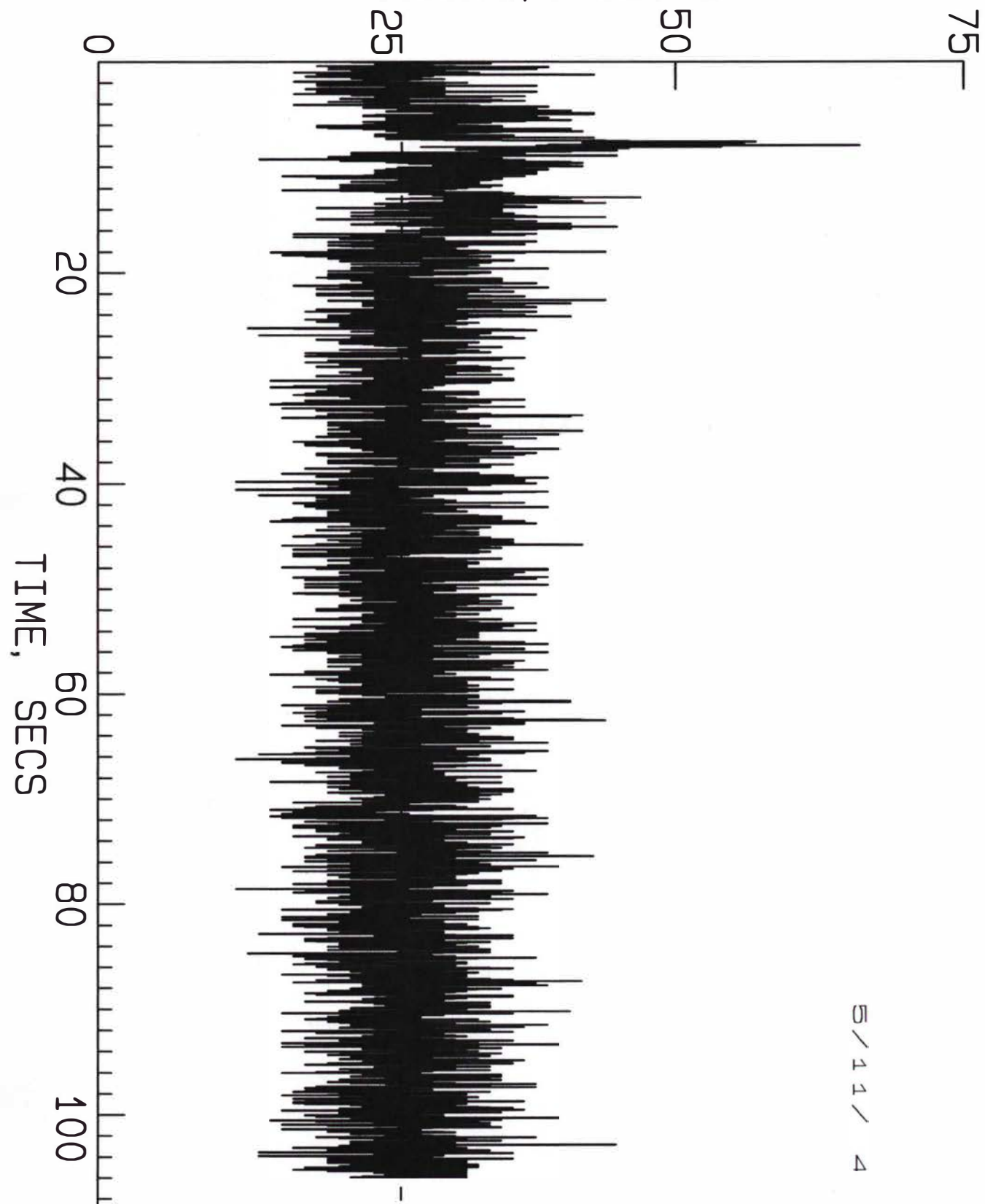
300
0
50
100
150
200
250
300
350
400
TIME, SECS

SAX GRBM

04/11/98 62230.500

40- 700 keV

COUNTS/0.031 S



5/11/4

KONUS

ULYSSES RT

10 / 02 / 00

04 / 11 / 98 59220.223 s

0.500 S INTERVALS REGROUPED BY 8

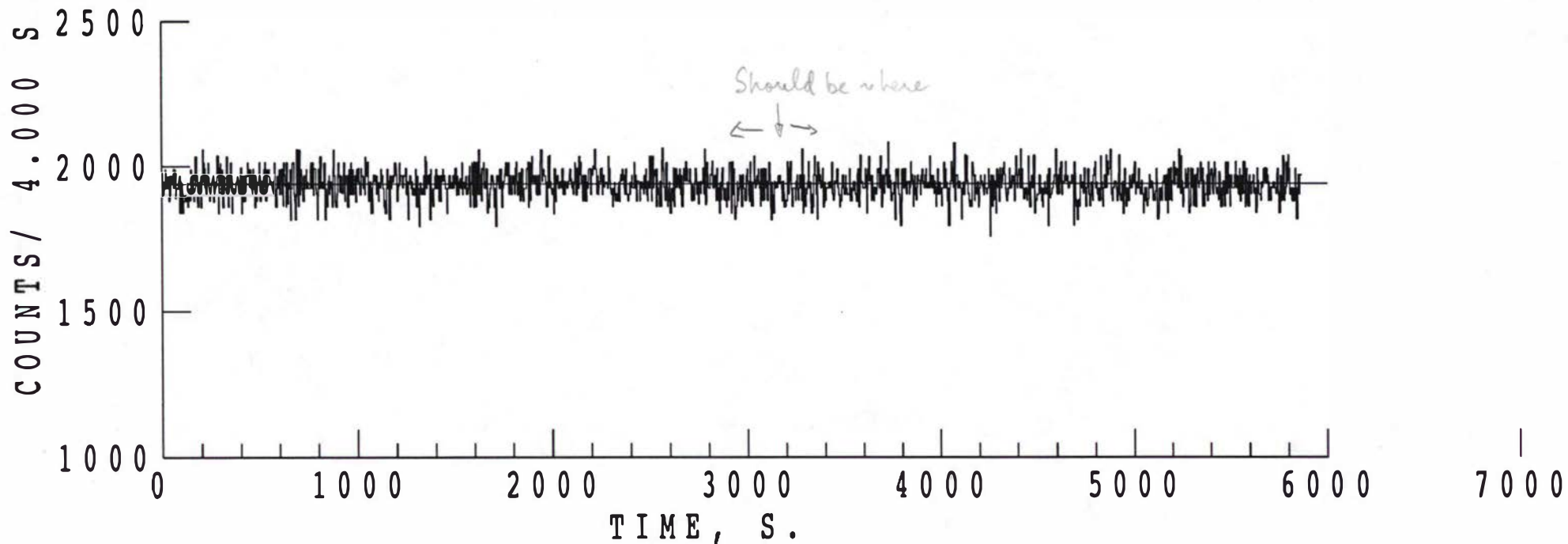
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Nov 5 11:42:48 1998
Date: Thu, 5 Nov 1998 13:28:52 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7190

TIME: TJD=1121 SECONDS=62113

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

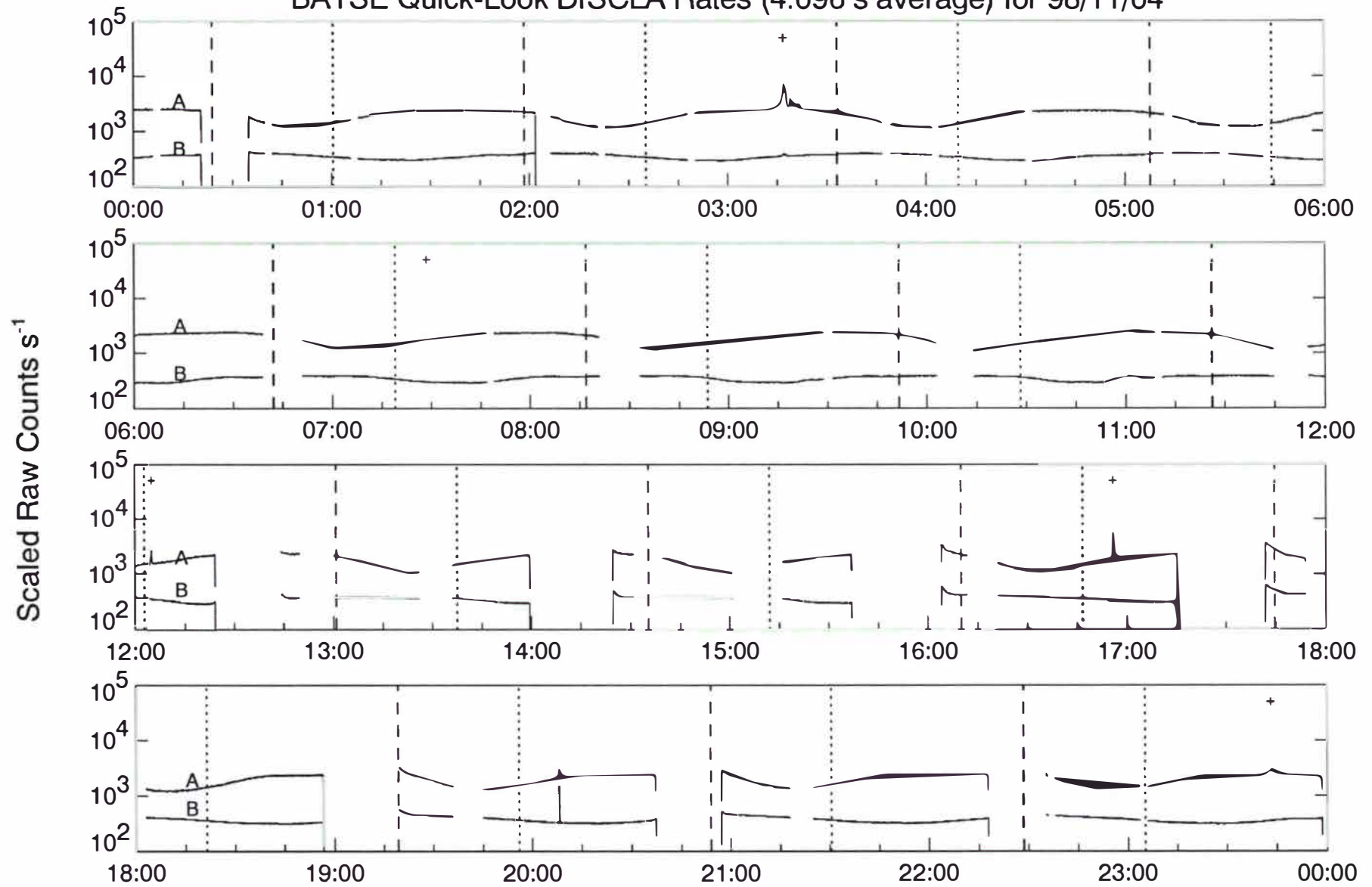
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/04

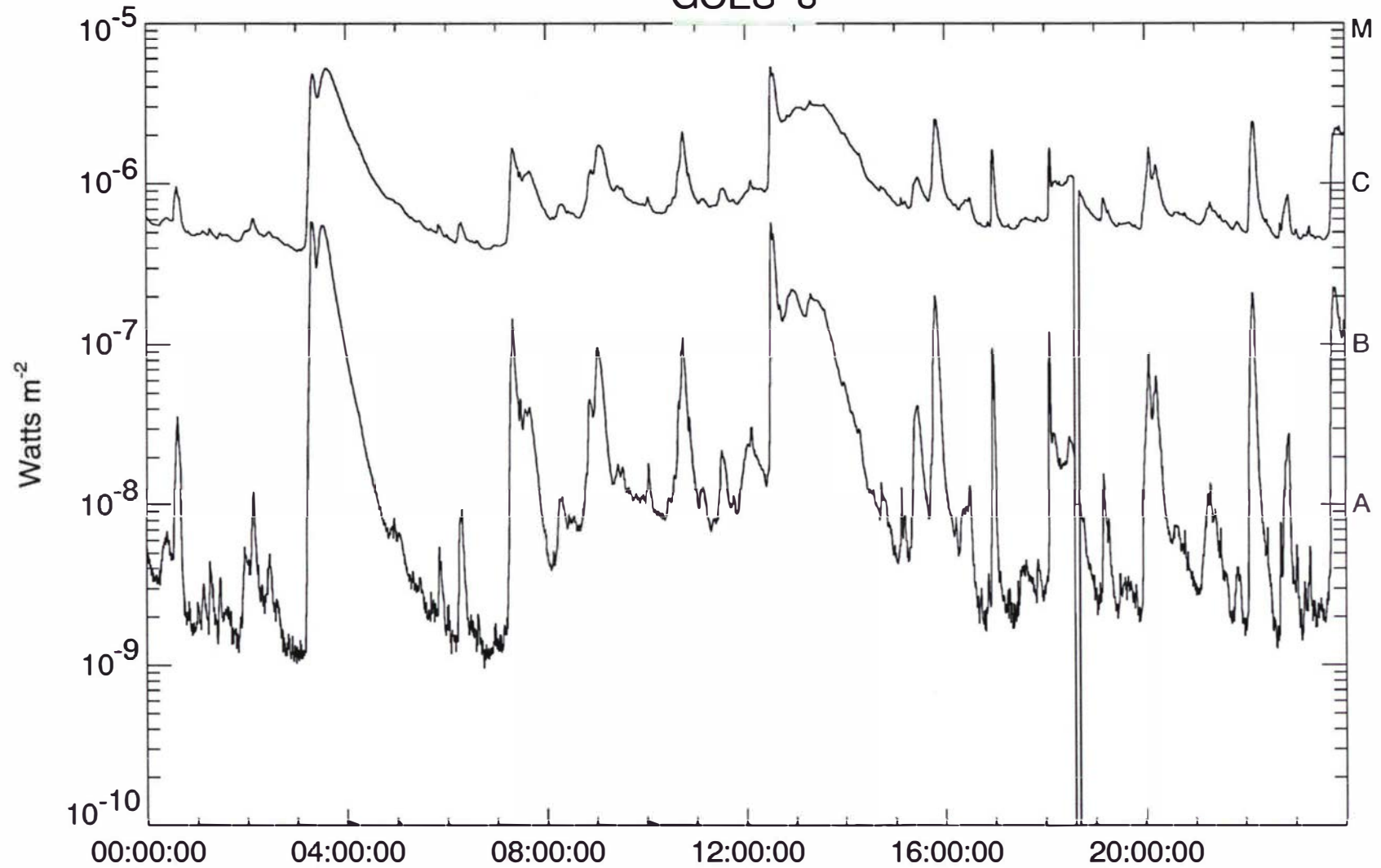


Current Time: 98/11/08, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



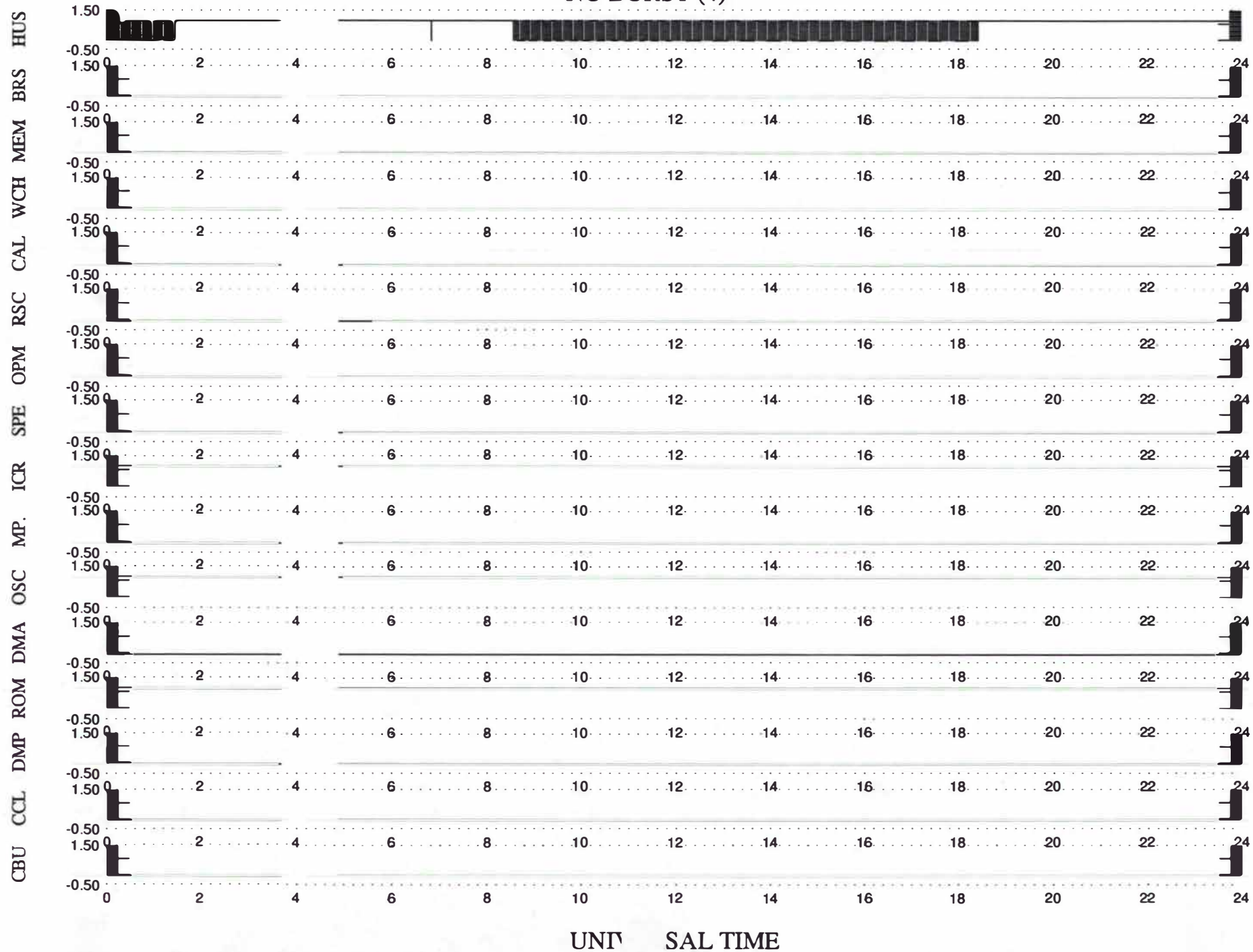
Data Start: 98/11/04, 0000:00

Plot created: 98/11/08, 1007

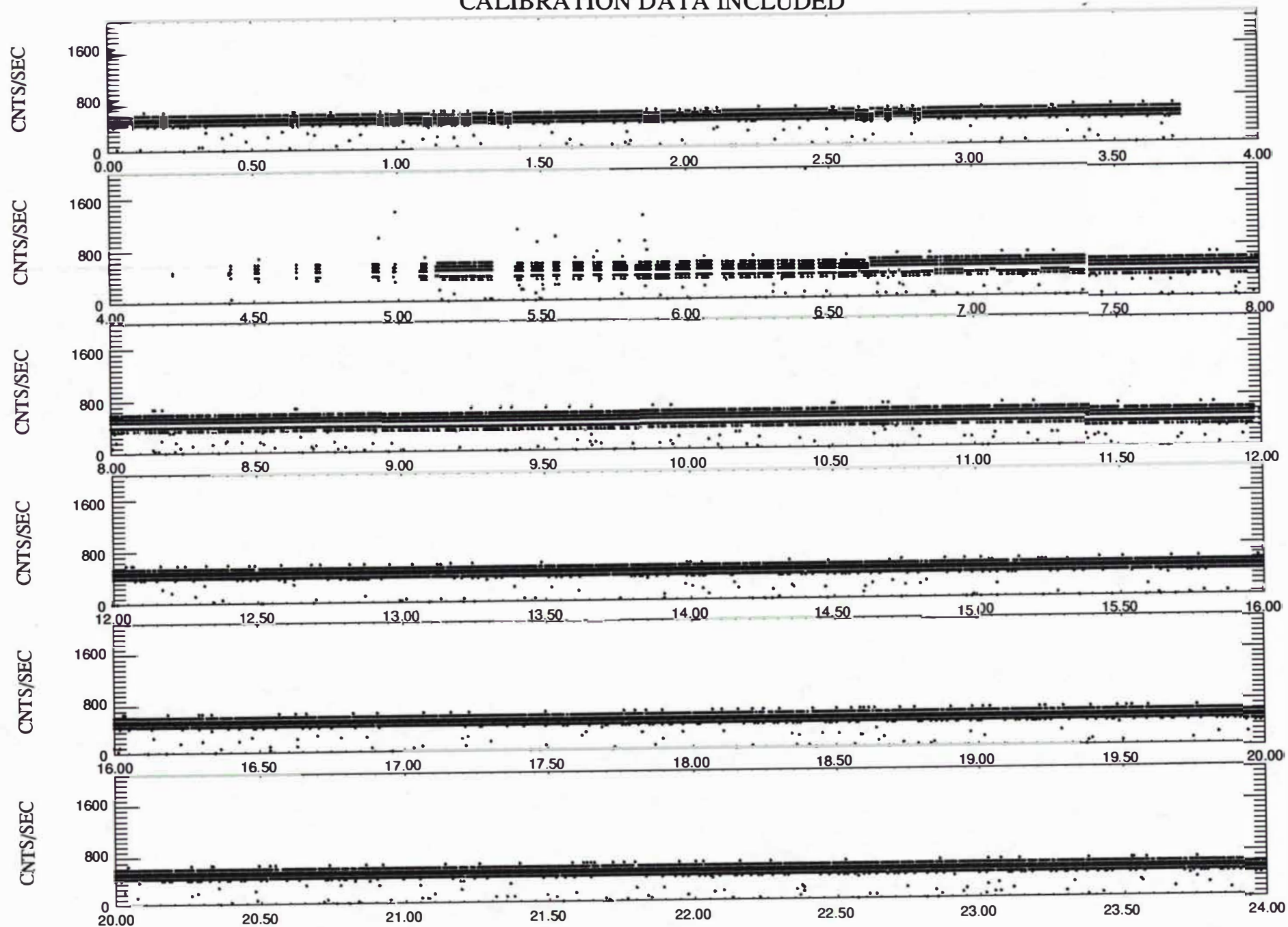
Channel 1 (1.0 - 8.0 Angstroms)
Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

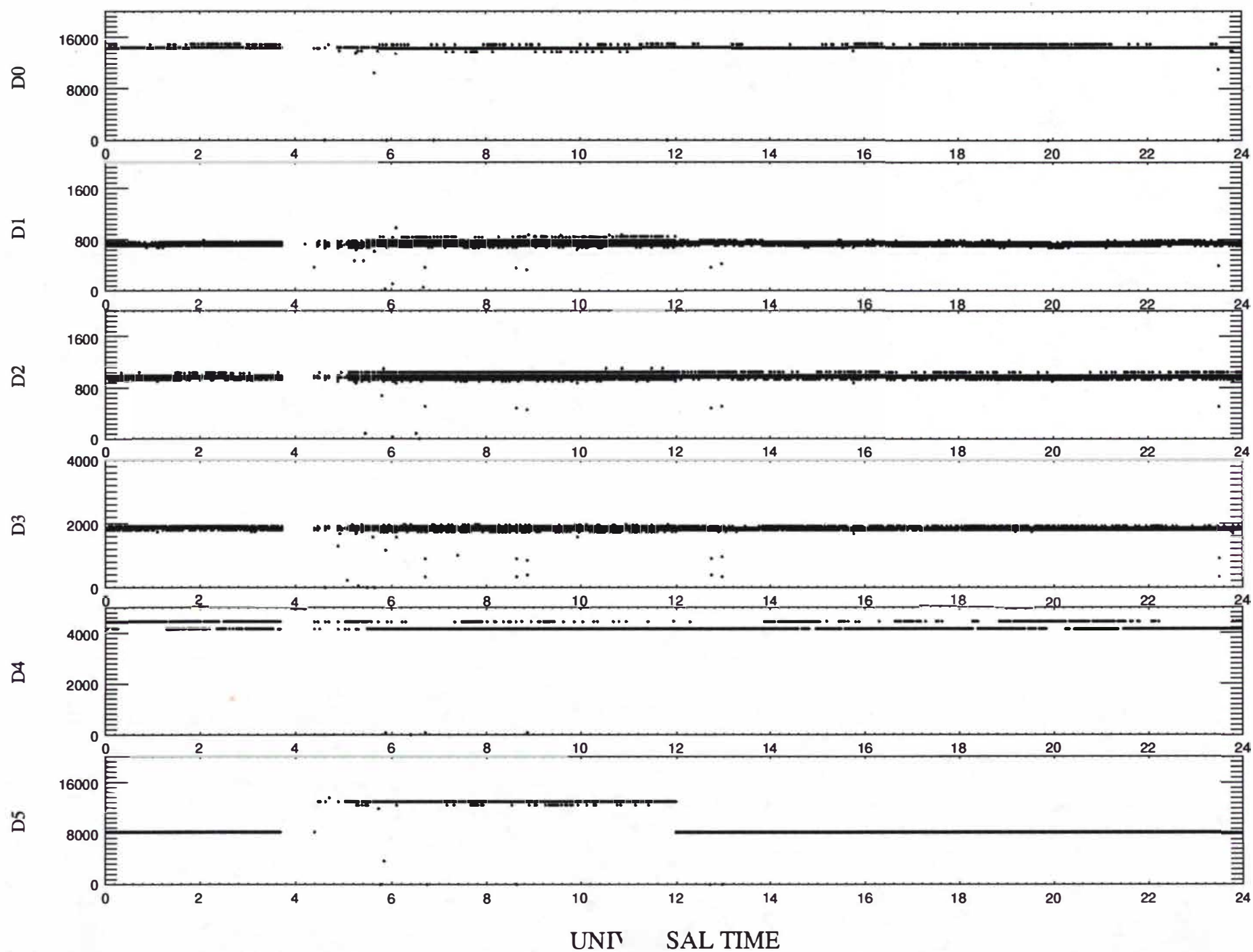
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIT SAL TIME



From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:03:29 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 NAA17524; Mon, 9 Nov 1998 13:03:29 -0800
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA24750; Mon, 9 Nov 1998 13:03:25 -0800
Date: Mon, 9 Nov 1998 15:03:27 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981109150327.2022921a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7191
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7191
EVENT OF 1998 NOV 5 DAY OF YEAR=309
EVENT CROSSING TIME AT BATSE : 5169. S. OR 01:26:09.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 171.000 -52.000
BATSE PEAK COUNTING RATE: 2700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/11/ 98 IS:
RA= 165.882 DEC= -2.794 DIST= 5.787 AU
BATSE-ULYSSES DISTANCE = 865771322. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.61 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1879.70 SECS.
CROSSING TIME AT ULYSSES IS 3289. S. OR 00:54:49 +/- 402.09 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/11/ 98 IS:
RA= 168.736 DEC= 6.498 DIST= 2.008 AU
MARS-BATSE DISTANCE = 300375168. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=121.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -523.07 SECS.
CROSSING TIME AT MARS IS 4646. S. OR 01:17:25 +/- 140.42 SECONDS

BATSE BURST TRIGGER

NO.: 7191

TIME: TJD=1122 SECONDS=5169

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

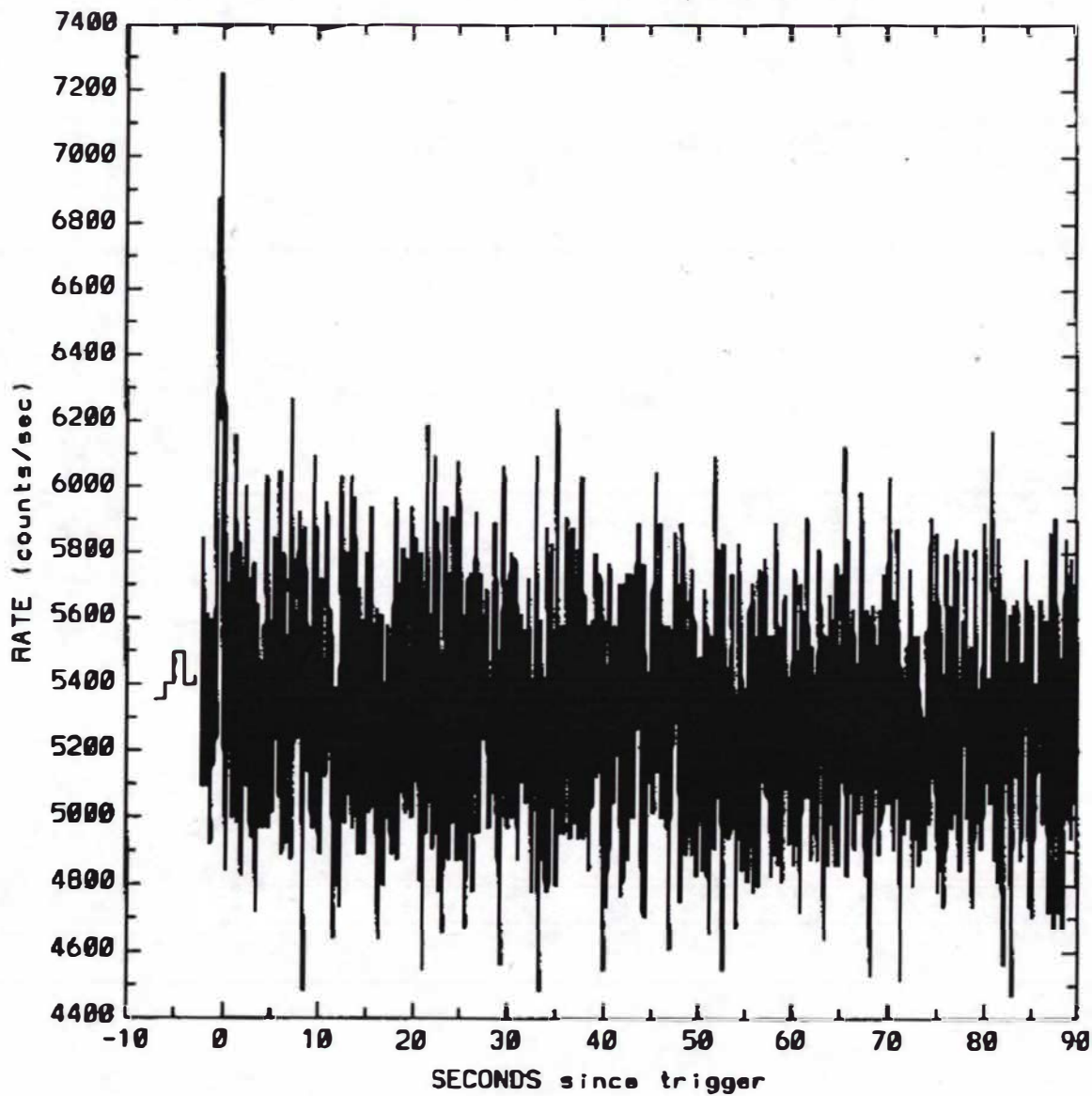
LOCATION: ZENITH=96.4 AZIMUTH=23.2 ERROR=7.2 DEGREES

COMMENTS:

GRB LASTING ABOUT 1 SEC. SINGLE PULSE. BURST TRIGGERED DURING
UNTRIGGERED SOLAR FLARE IN COMMON DETECTORS. NOT VISIBLE ABOVE
300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7191	981105	11122	05169	2700	171	-52	1

DISCSC Data for K. Hurley, No. 7191



9-FEB-2000 09:42:01

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger = 7191

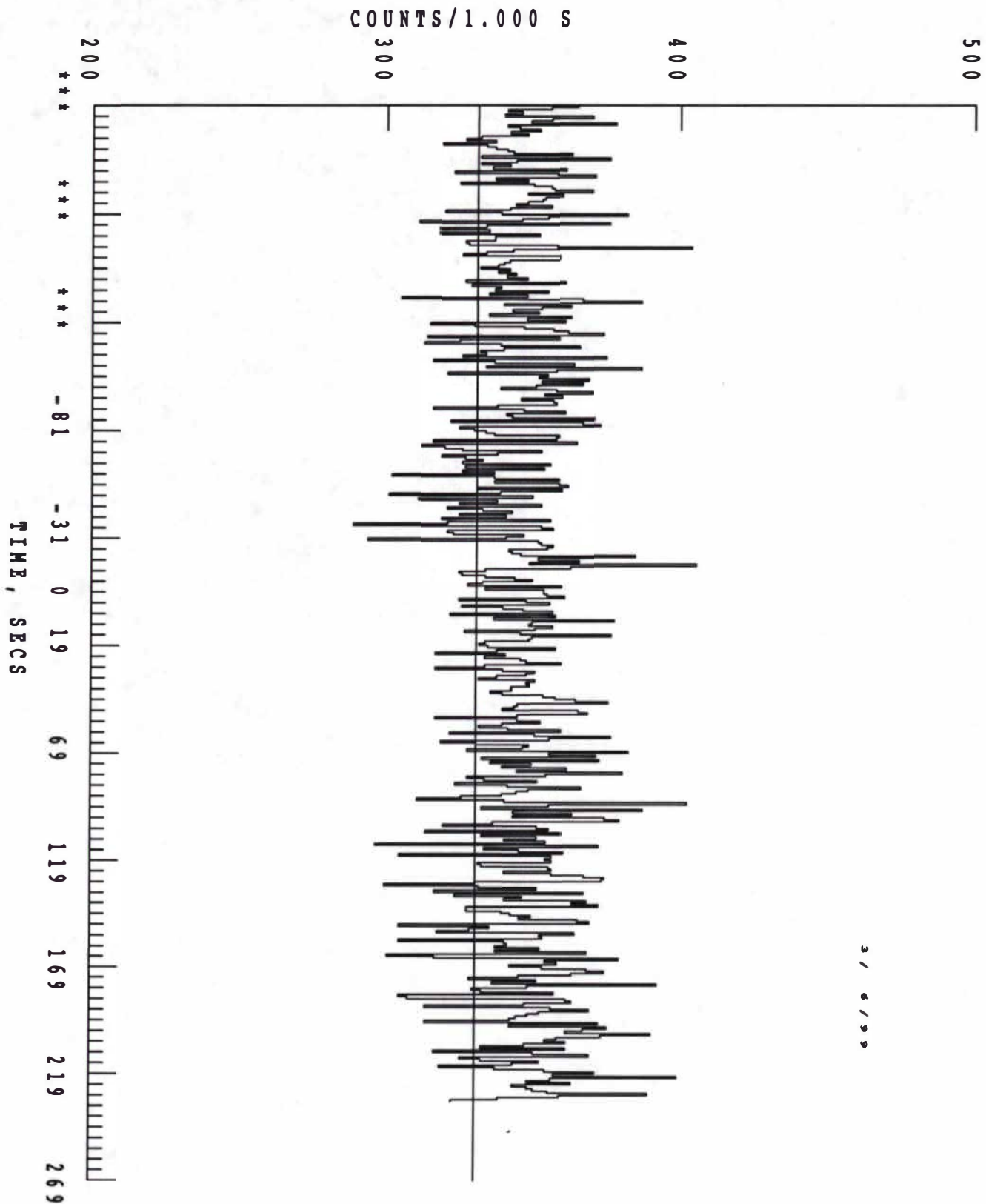
Trigger Time:
11122 / 5169.633Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..8):
-----10Discriminators:
(3 , 4)Quality Mask:
BDISP1

NEAR

05/11/98

5010.541

100-1000 keV



BATSE BURST# 7191

ULYSSES RT

9 / 11 / 98

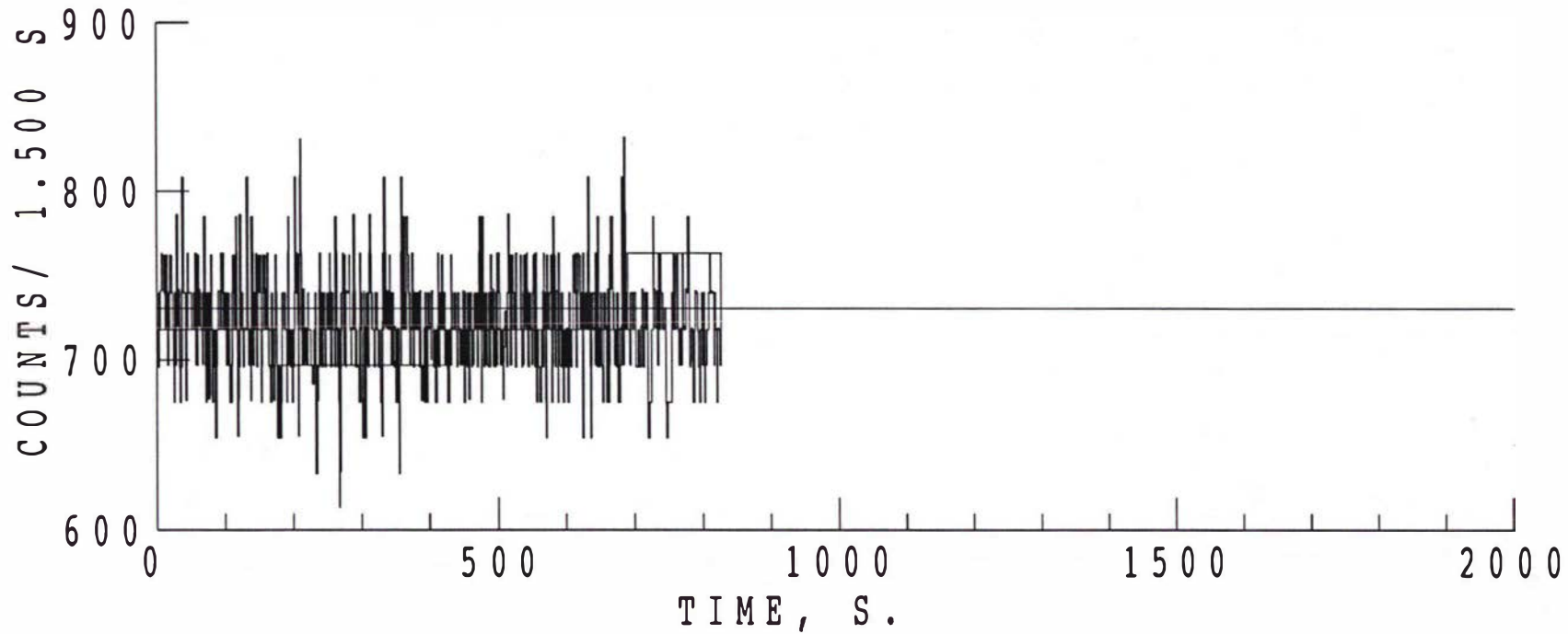
5 / 11 / 98 2880.031 s

0.500 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:05:40 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 9 Nov 1998 15:05:06 -0600 (CST)

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.: 7192

TIME: TJD=1122 *Nov 5* SECONDS=22478

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=136.4 AZIMUTH=147.6 ERROR=1.7 DEGREES

COMMENTS:

SOLAR FLARE LASTING ABOUT 100 SEC. PRECURSOR AT T-180 SEC.
GOES C2.7 OPTICAL SF VISIBLE ABOVE 100 KEV.

From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:06:19 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 9 Nov 1998 15:05:57 -0600 (CST)

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,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7193

TIME: TJD=1112 SECONDS=43262

TYPE: SAA SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:08:30 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 9 Nov 1998 15:08:01 -0600 (CST)

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.: 7194

TIME: TJD=1122 SECONDS=48885

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=137.7 AZIMUTH=349.2 ERROR=2.6 DEGREES

COMMENTS:

SOLAR FLARE LASTING ABOUT 120 SEC. BRIGHT COMPLEX EVENT. GOES
M1.5. OPTICAL 1B, DSD. VISIBLE ABOVE 100 KEV.

From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:10:13 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 9 Nov 1998 15:09:52 -0600 (CST)

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.: 7195

TIME: TJD=1122 SECONDS=66269

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=137.8 AZIMUTH=346.7 ERROR=2.7 DEGREES

COMMENTS:

SOLAR FLARE LASTING ABOUT 450 SEC. BRIGHT COMPLEX EVENT. NO
GOES. NO OPTICAL. VISIBLE ABOVE 100 KEV.

From WOODSP@fender.msfc.nasa.gov Mon Nov 9 13:11:44 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 9 Nov 1998 15:11:25 -0600 (CST)

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.: 7196

TIME: TJD=1122 SECONDS=71503

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

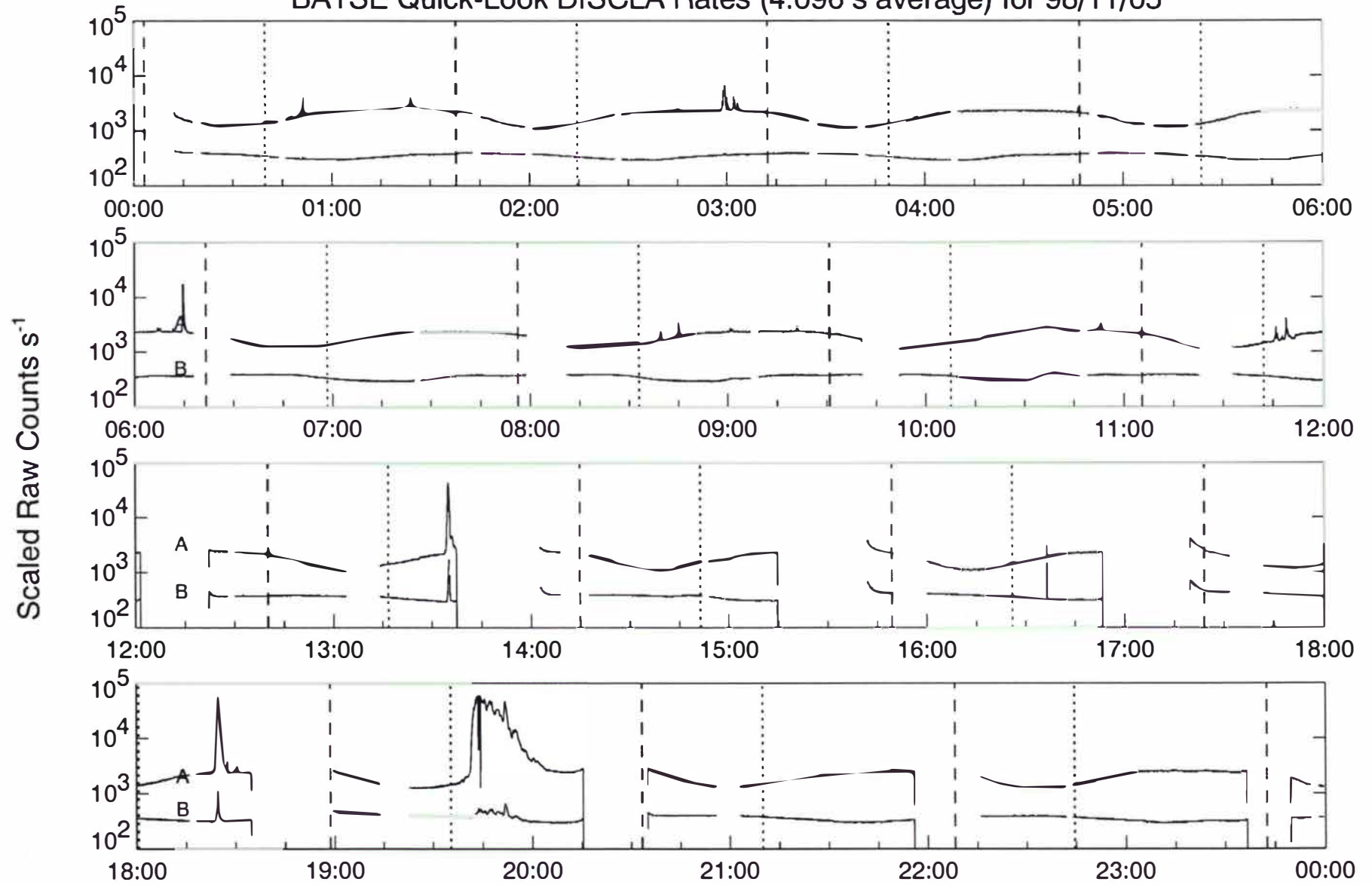
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=142.0 AZIMUTH=348.7 ERROR=4.0 DEGREES

COMMENTS:

SOLAR FLARE LASTING ABOUT 1000 SEC. LONG, SMOOTH EVENT WITH
SOFT TO HARD EVOLUTION. GOES M8.4. OPTICAL 2B. VISIBLE ABOVE
100 KEV.

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

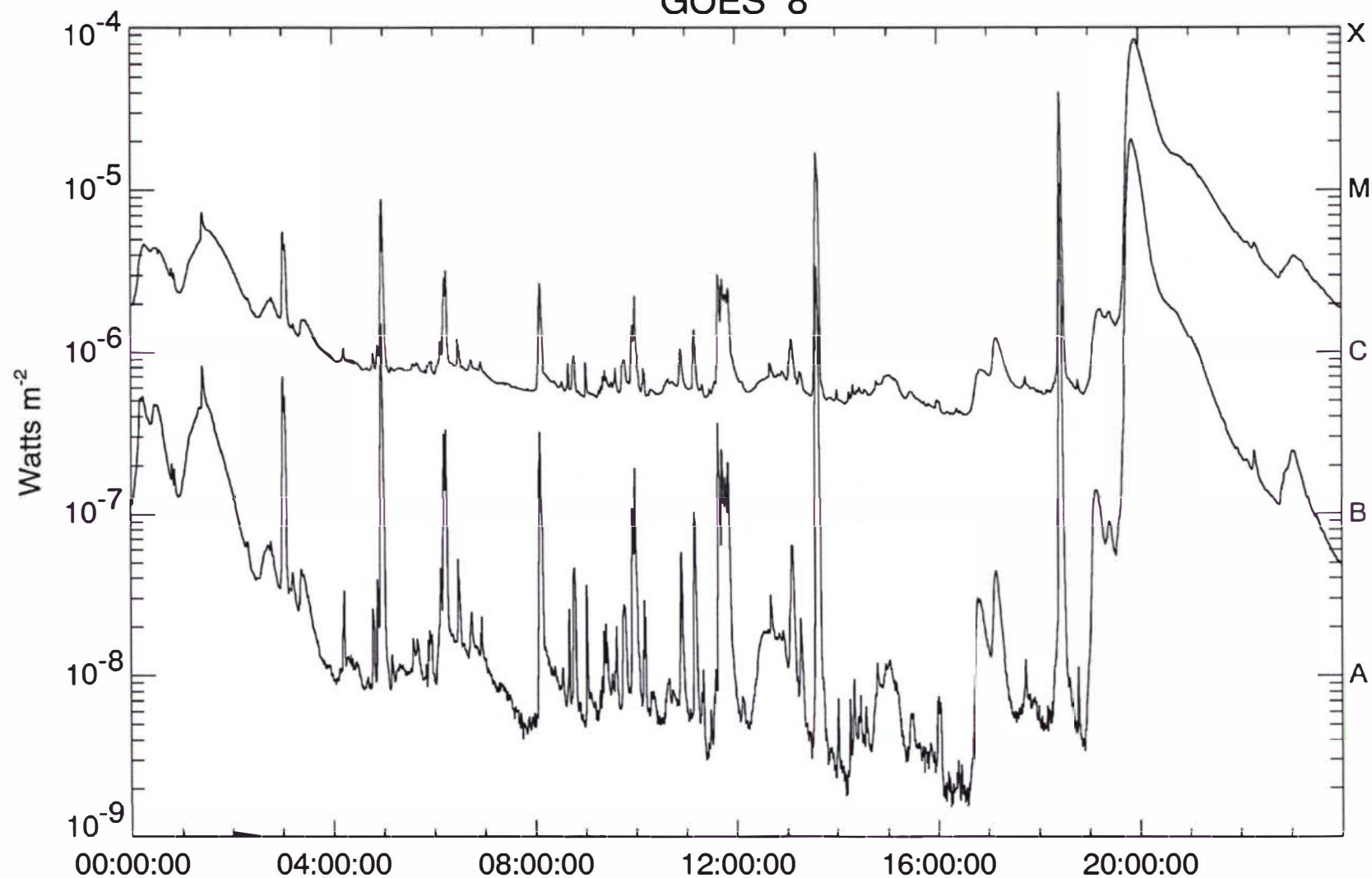


Current Time: 98/11/09, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



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

Plot created: 98/11/09, 1007

Channel 1 (1.0 - 8.0 Angstroms)

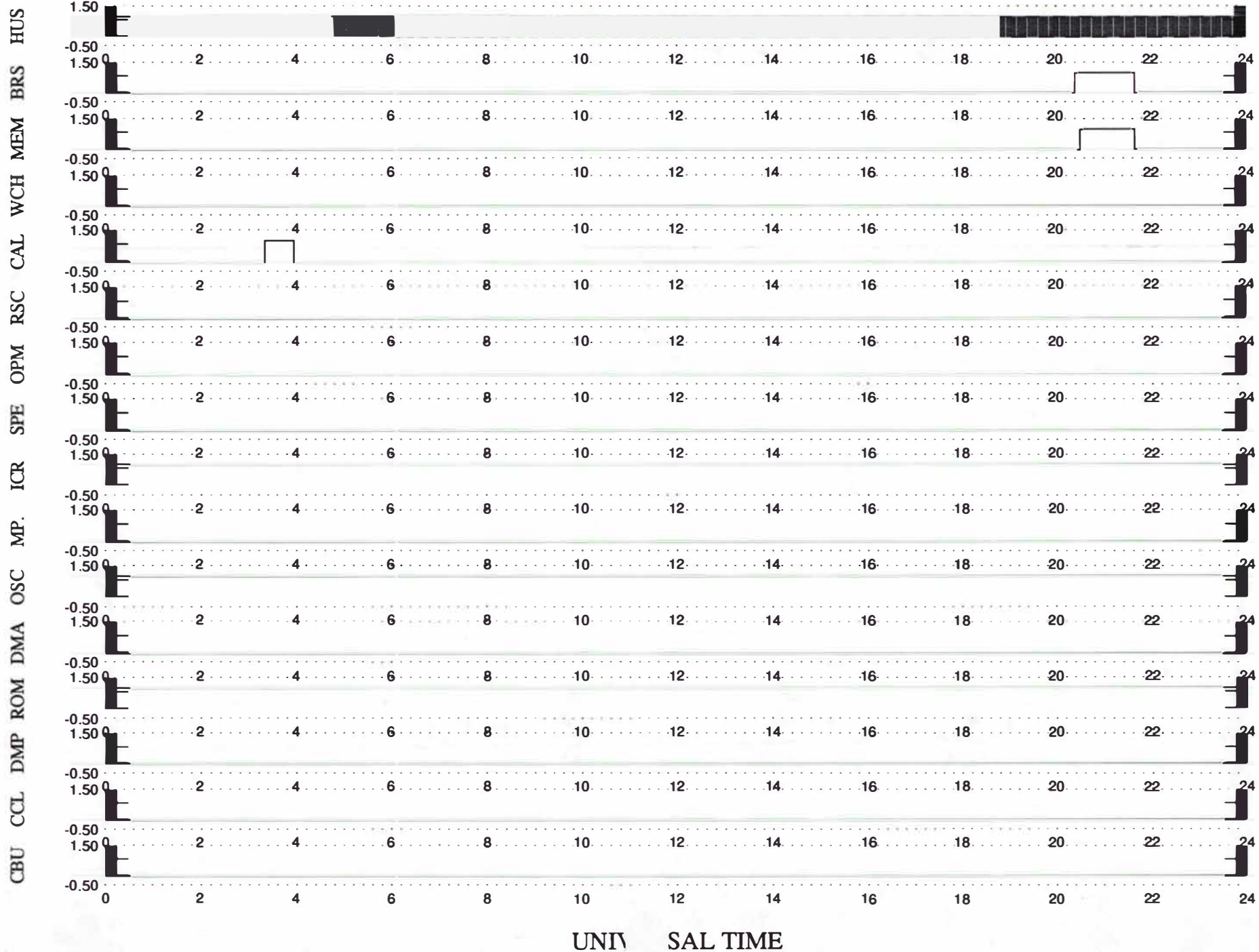
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

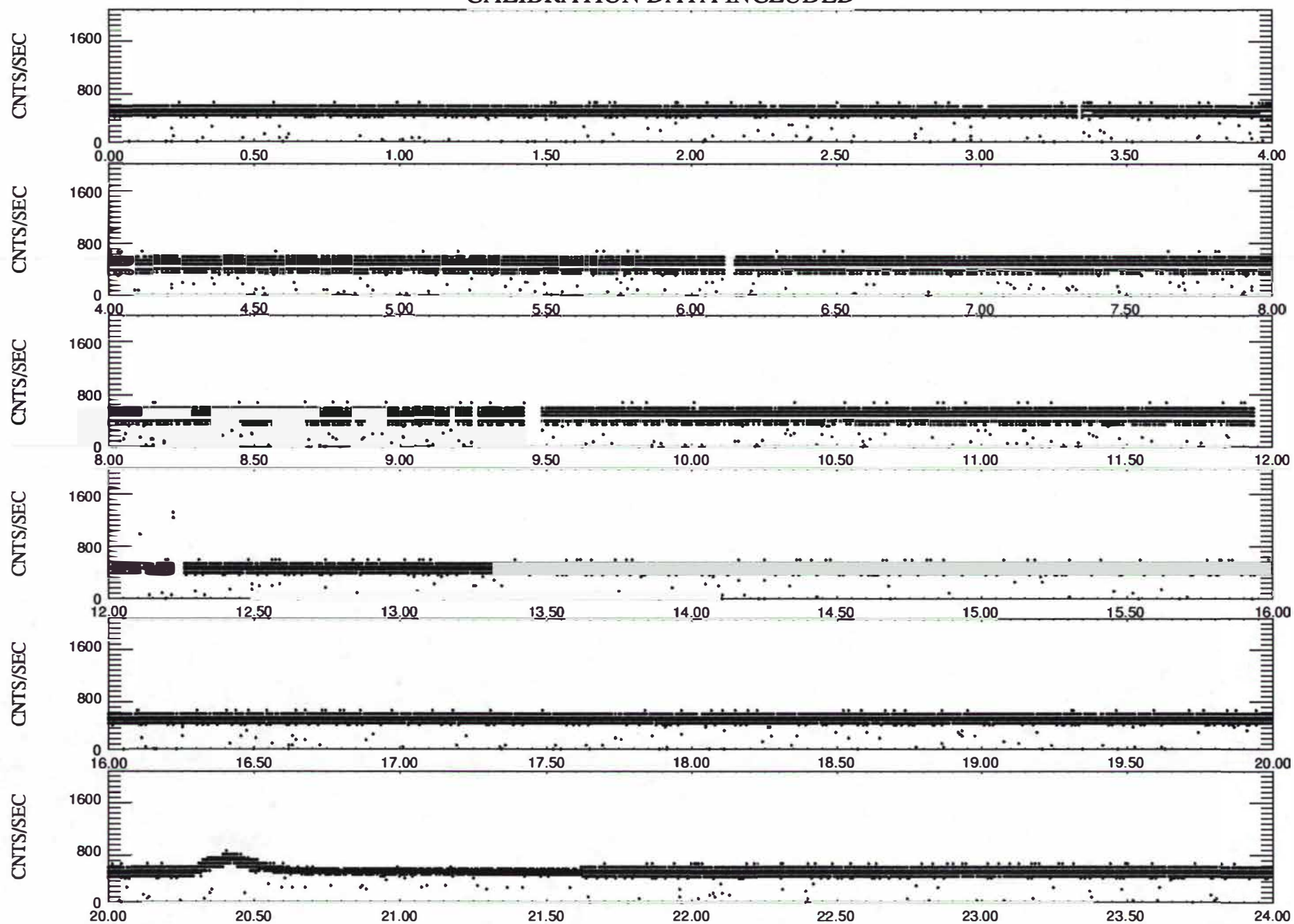
Background not subtracted

Sample average = 10

BURST NUMBER 5

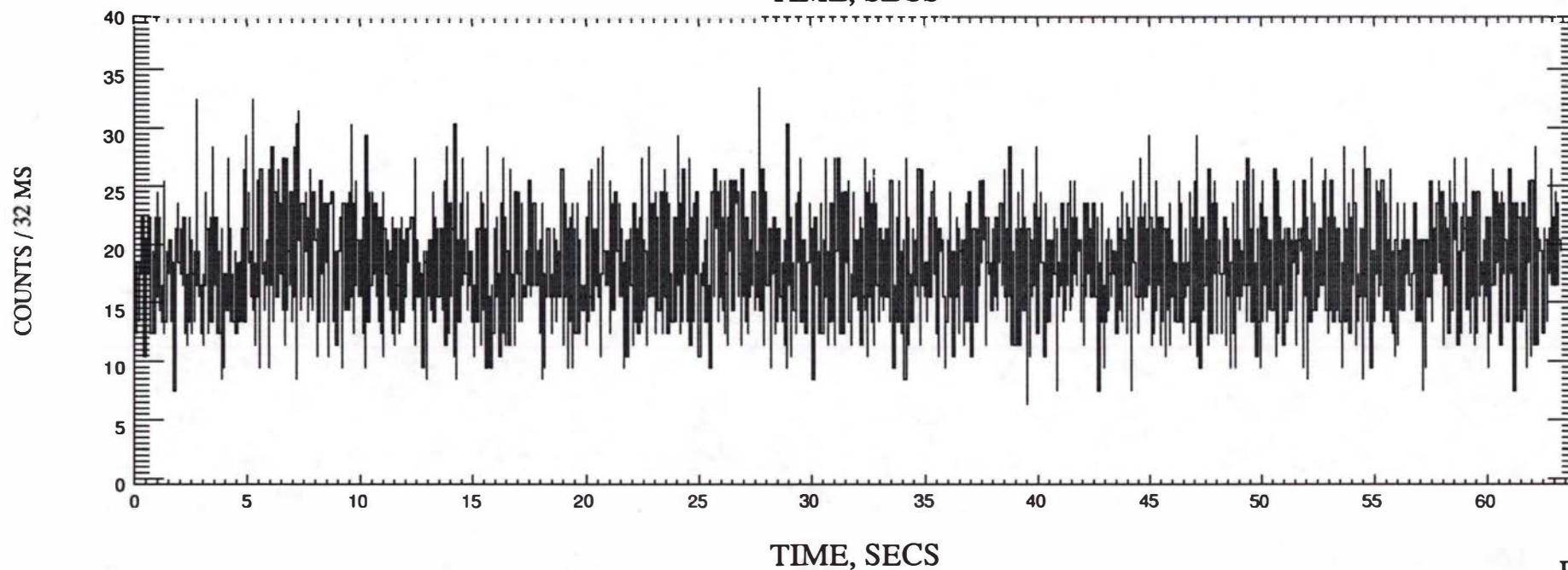
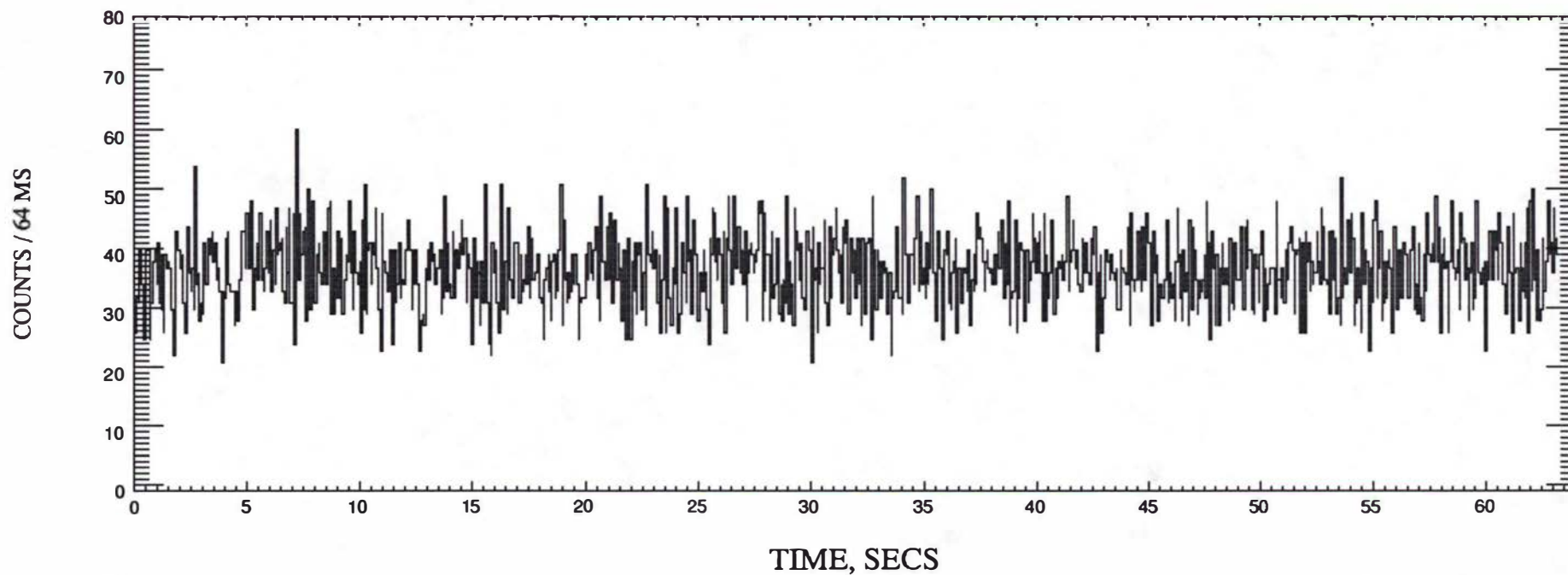


CALIBRATION DATA INCLUDED

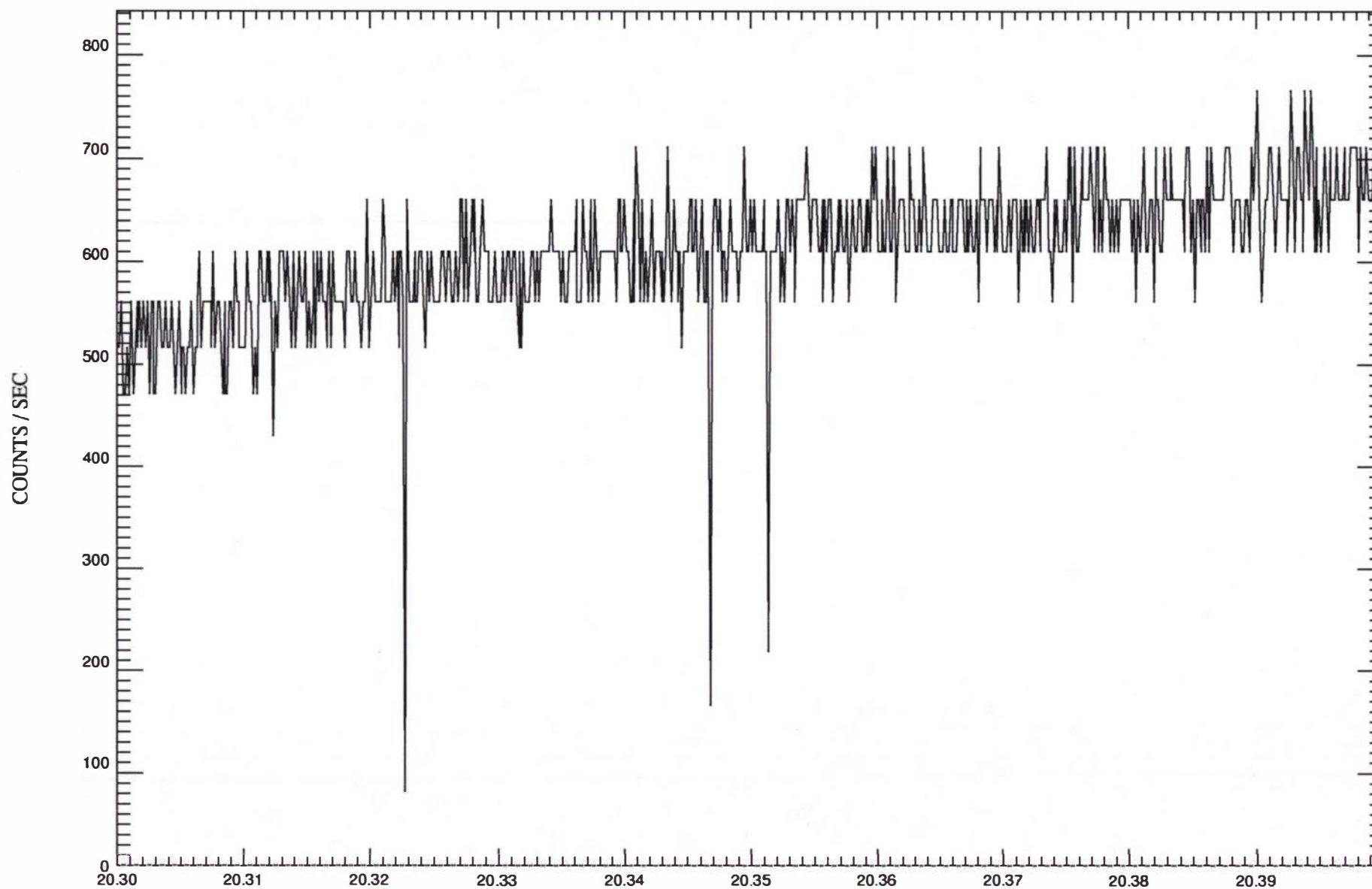


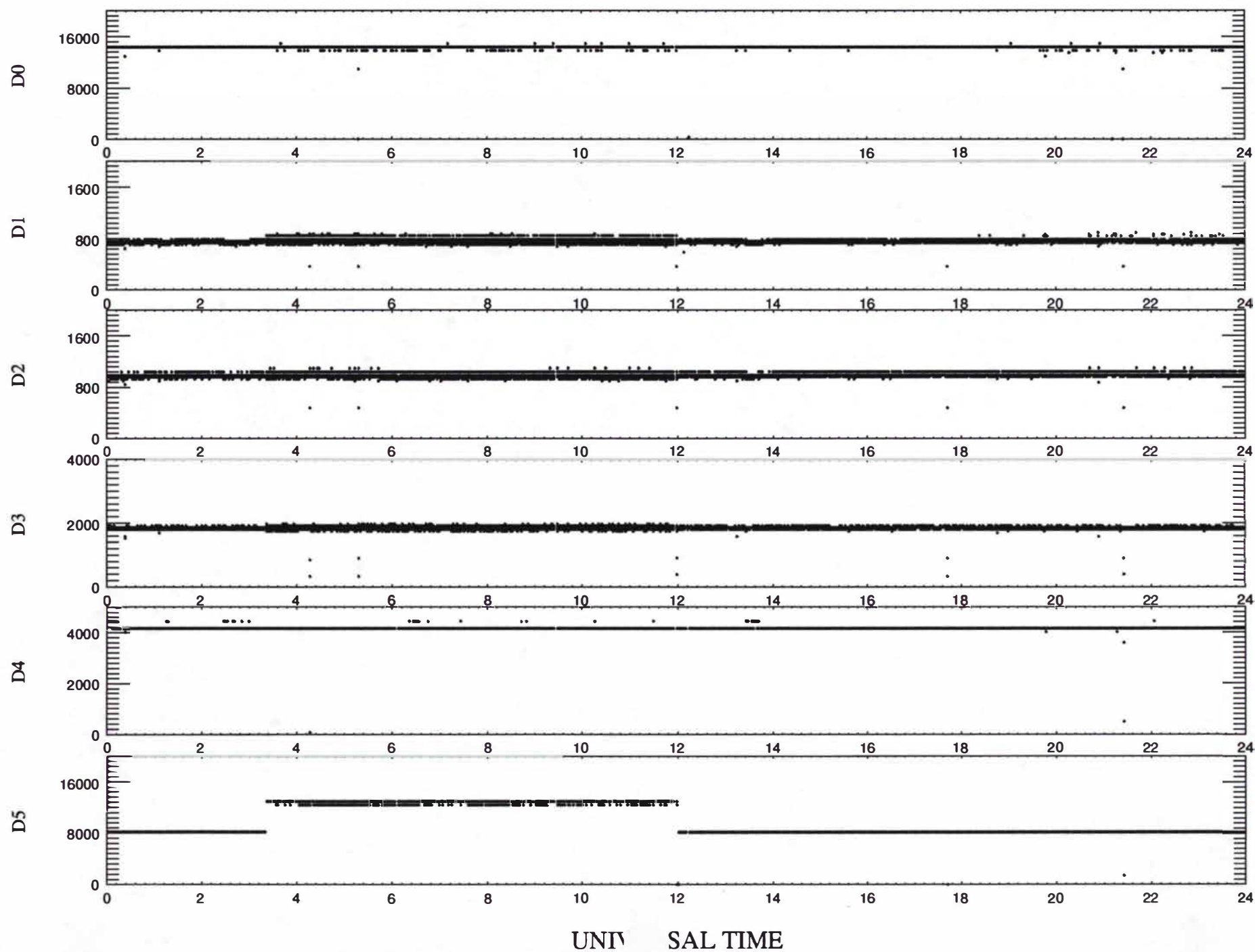
UNIT SAL TIME

Burst Counter 5 at UT=20.354371846517 h=73275.739 s 20:21:15.739



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Tue Nov 10 13:28:52 1998
Date: Tue, 10 Nov 1998 15:28:30 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7197

TIME: TJD=1123 SECONDS=30643

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=138.7 AZIMUTH=345.1 ERROR=0.4 DEGREES

COMMENTS:

GOES C3.5, OPTICAL SF FLARE. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 100 S
NOT VISIBLE ABOVE 300 KEV.

From HENZE@fender.msfc.nasa.gov Tue Nov 10 13:32:49 1998
Date: Tue, 10 Nov 1998 15:32:27 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7198

TIME: TJD=1123 SECONDS=32993

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=138.1 AZIMUTH=342.0 ERROR= 0.9 DEGREES

COMMENTS:

GOES C4.2, OPTICAL SN FLARE. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 30 S.
WEAKLY VISIBLE ABOVE 300 KEV. WEAK PRECURSOR EMISSION BEGINNING APPROX. T-90 S.

From HENZE@fender.msfc.nasa.gov Mon Nov 9 11:38:24 1998
Date: Mon, 9 Nov 1998 13:37:54 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7199

TIME: TJD=1123 SECONDS=41924

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From HENZE@fender.msfc.nasa.gov Tue Nov 10 13:36:30 1998
Date: Tue, 10 Nov 1998 15:36:02 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7200

TIME: TJD=1123 SECONDS=43453

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

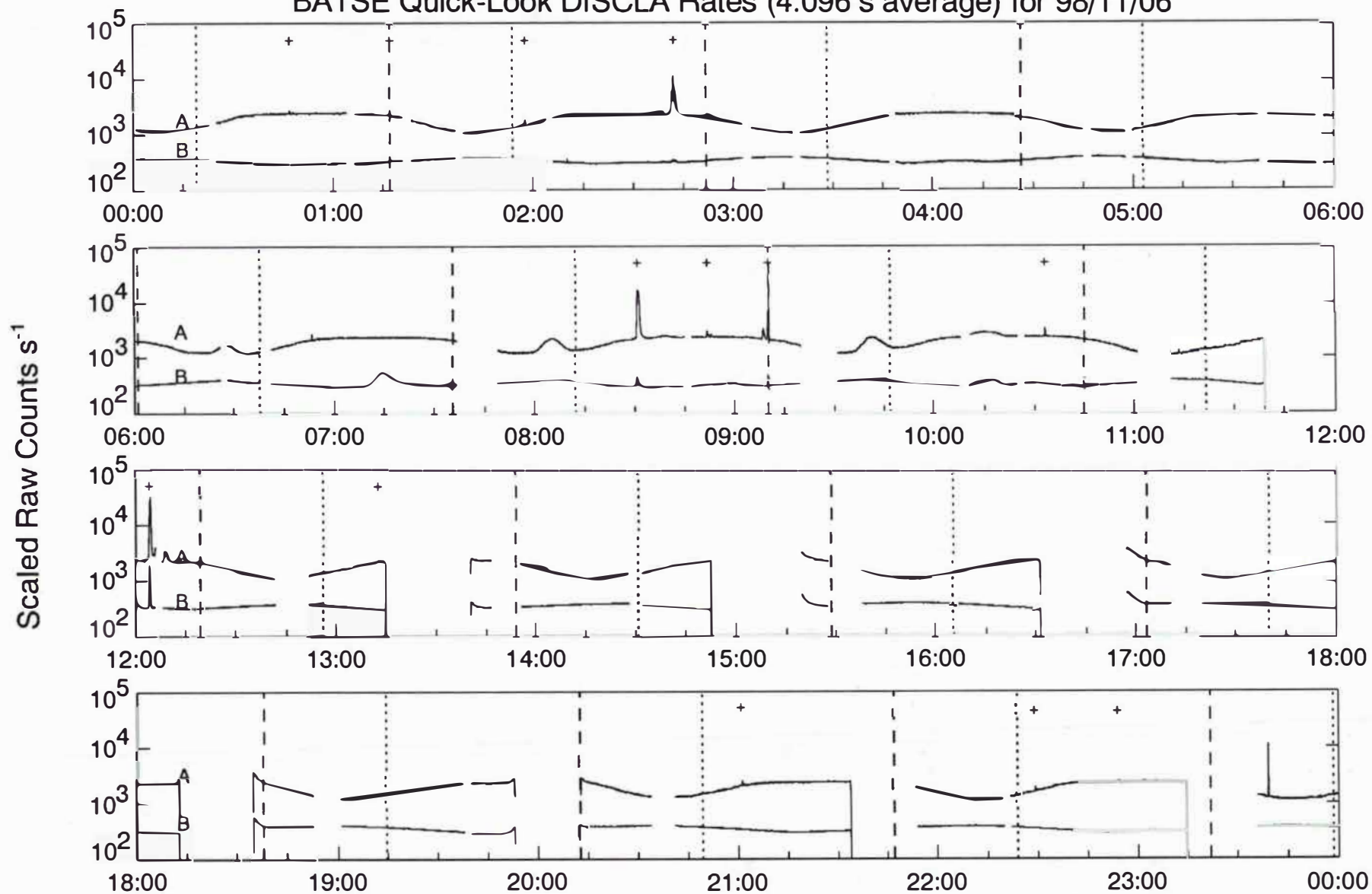
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=138.0 AZIMUTH=341.6 ERROR= 0.6 DEGREES

COMMENTS:

GOES C6.4, OPTICAL SB FLARE. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 60 S.
NOT VISIBLE ABOVE 300 KEV. POSTCURSOR EMISSION AT APPROX. T+95 S.

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

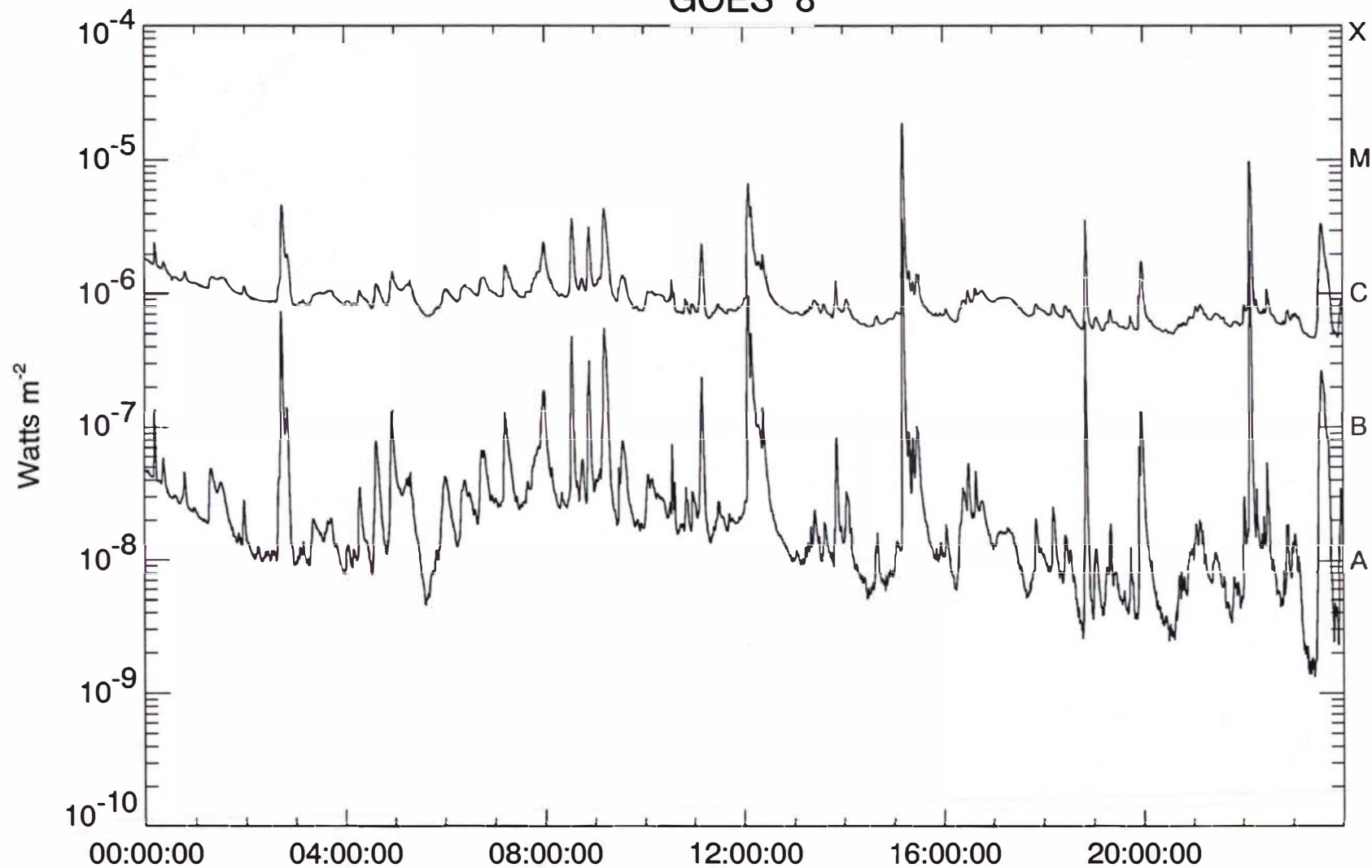


Current Time: 98/11/10, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

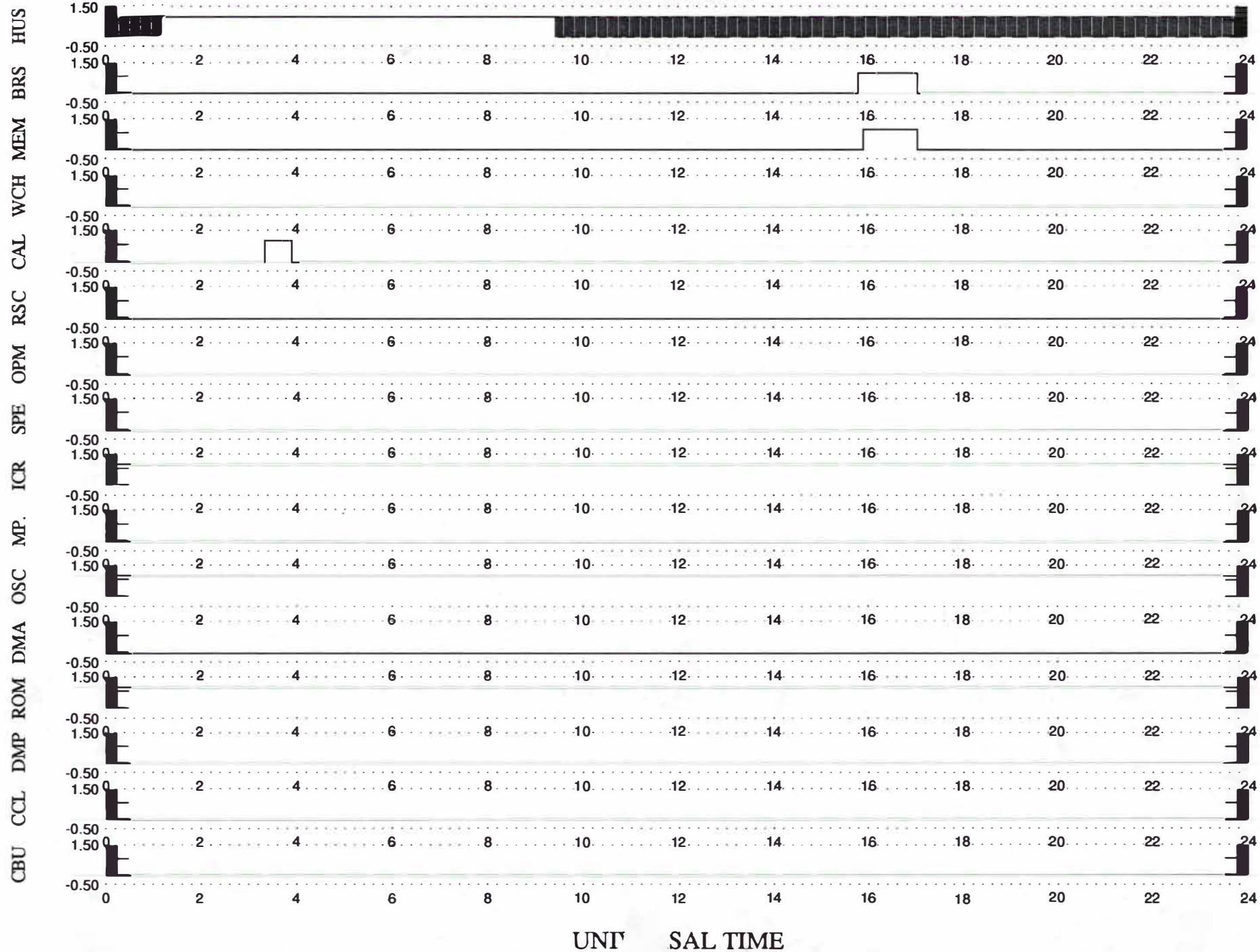


Data Start: 98/11/06, 0000:00

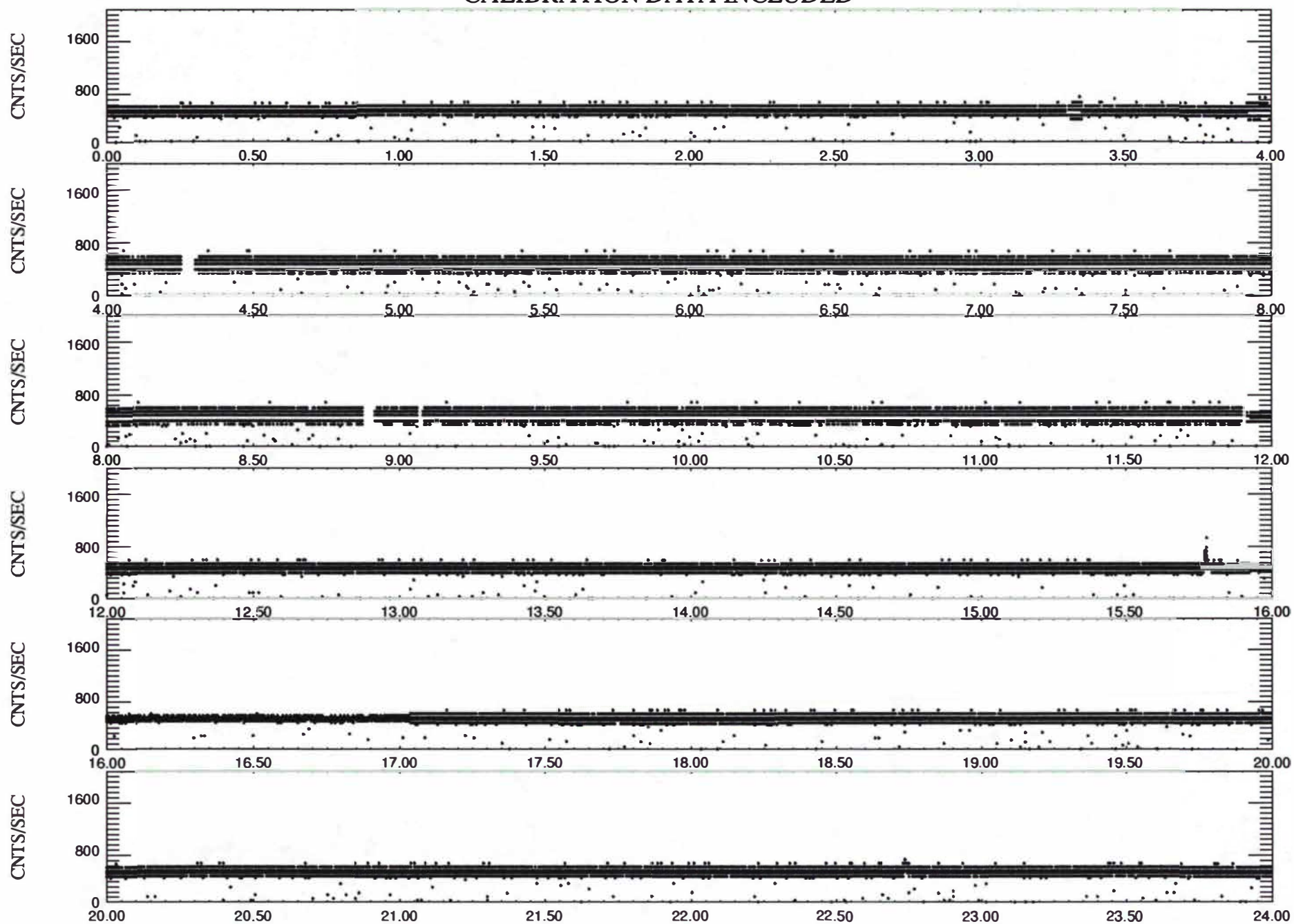
Plot created: 98/11/10, 1007

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 6

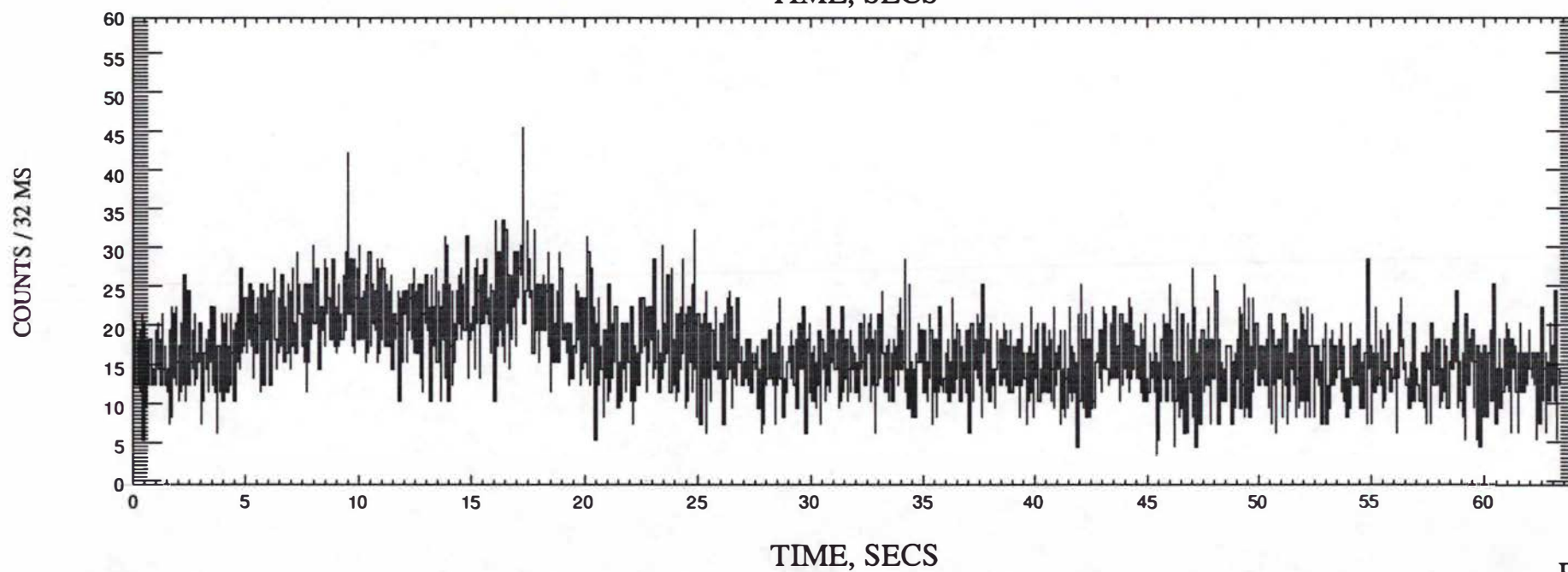
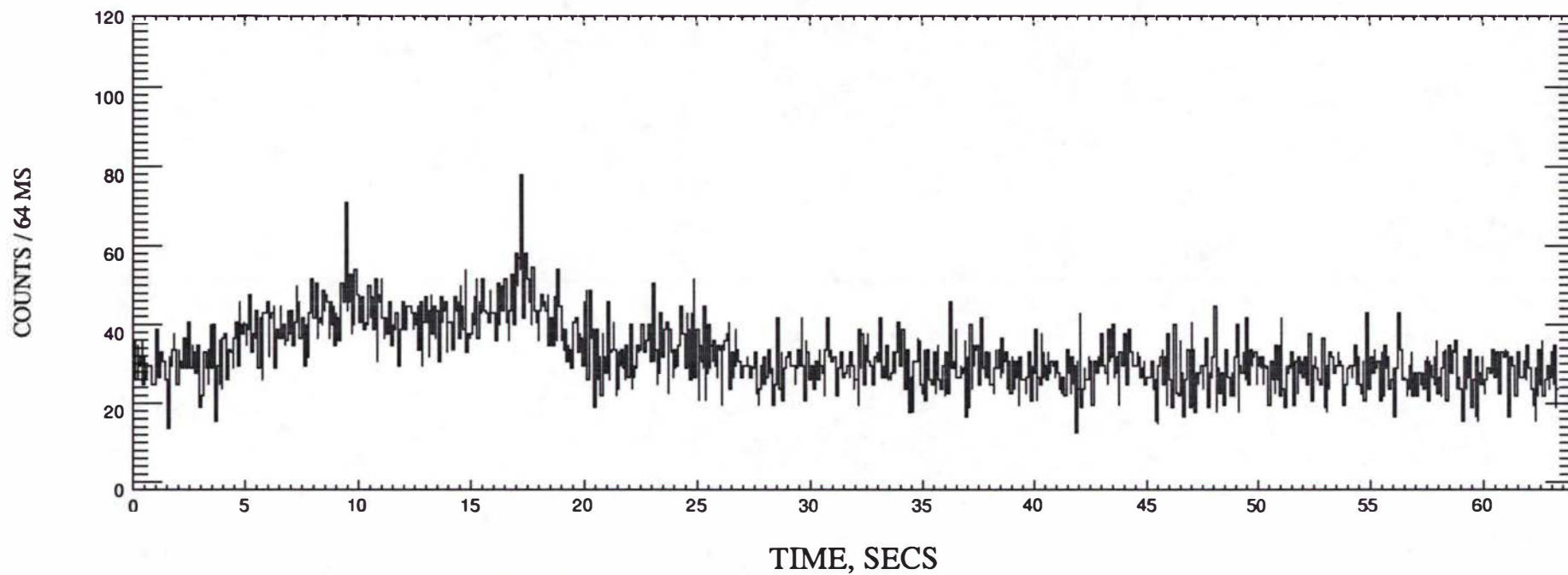


CALIBRATION DATA INCLUDED

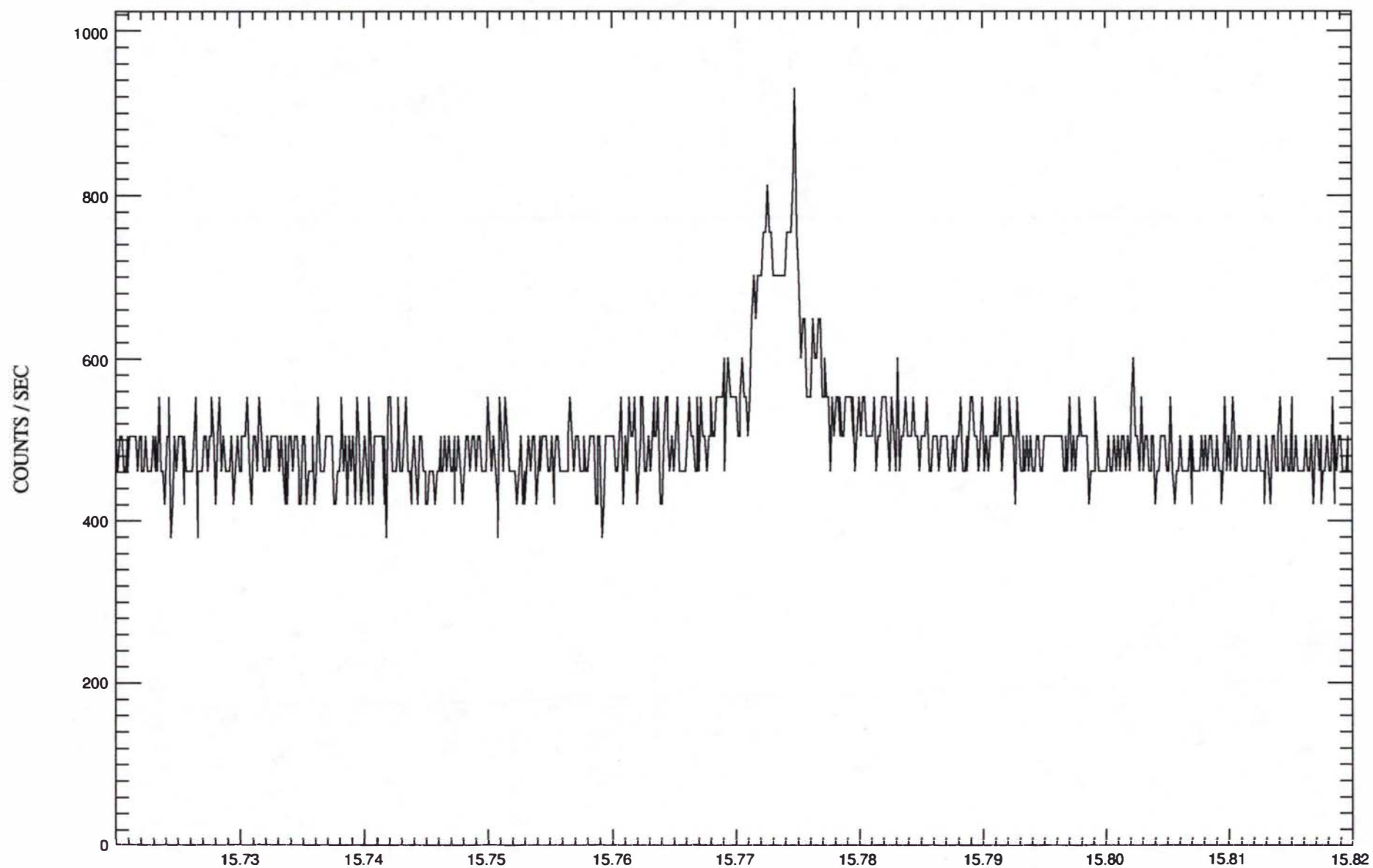


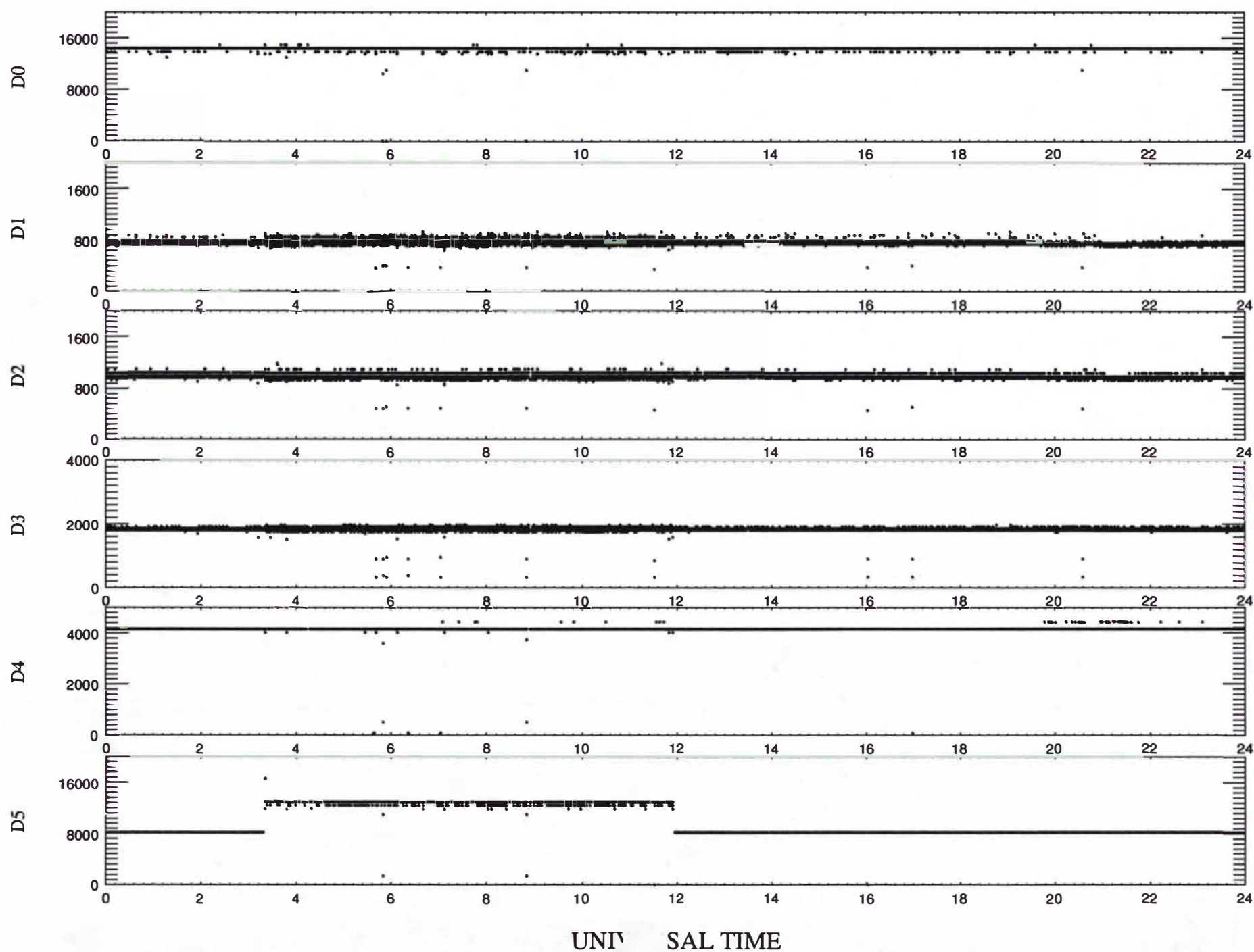
UNIT SAL TIME

Burst Counter 6 at UT=15.772129431831 h=56779.666 s 15:46:19.666



CALIBRATION DATA INCLUDED





Date: Nov 30 2001

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data *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 vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

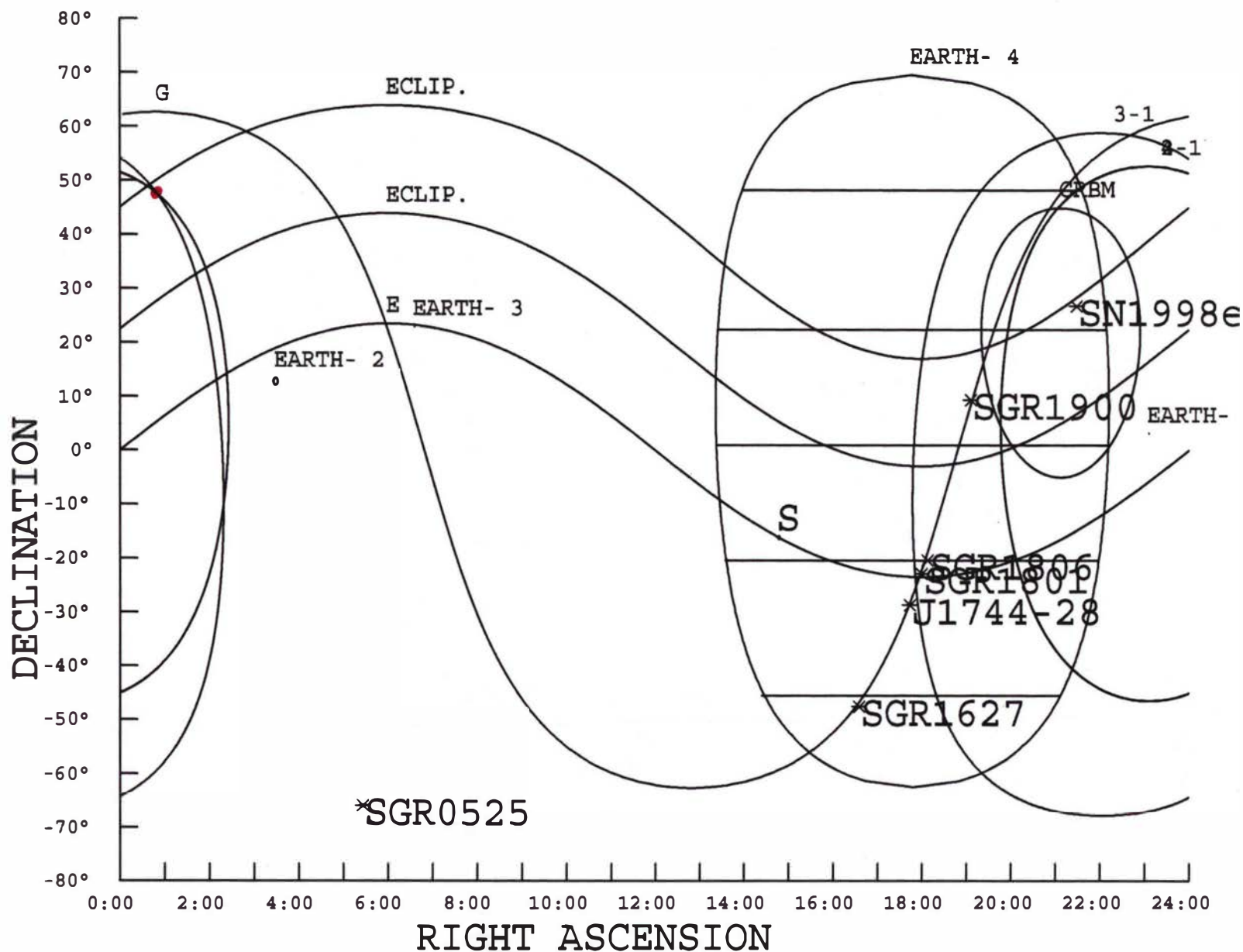
5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?
- ☒ ACCESS database updated?

EVENT OF NOV 7, 1998 0:44

30/11/ 4

N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN
 1 ULYSSES 2 KONUS2 3 NEAR 4 SAX
 E=ECLIPTIC G=GALACTIC EQUATOR



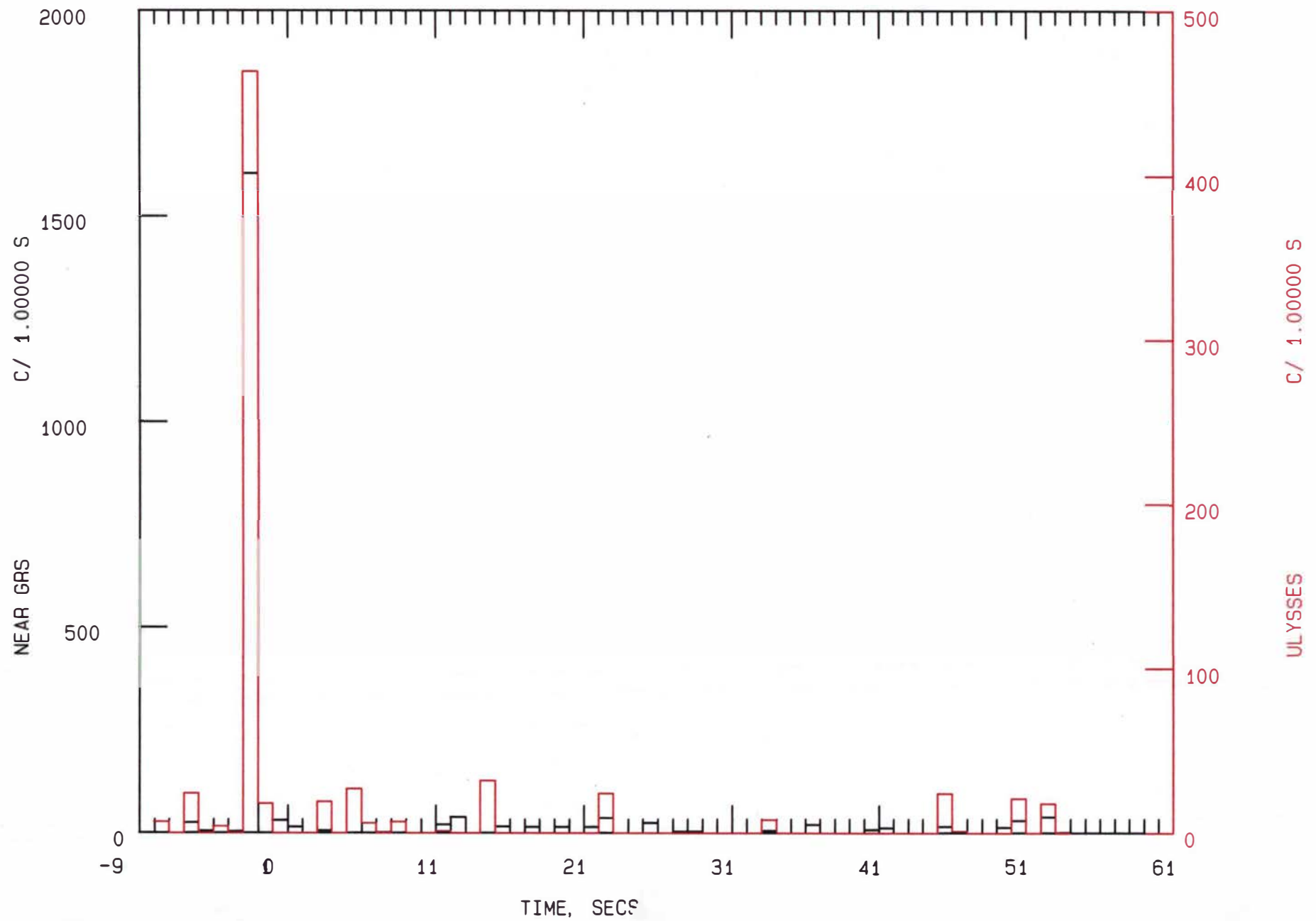
NEAR GRS -ULYSSES

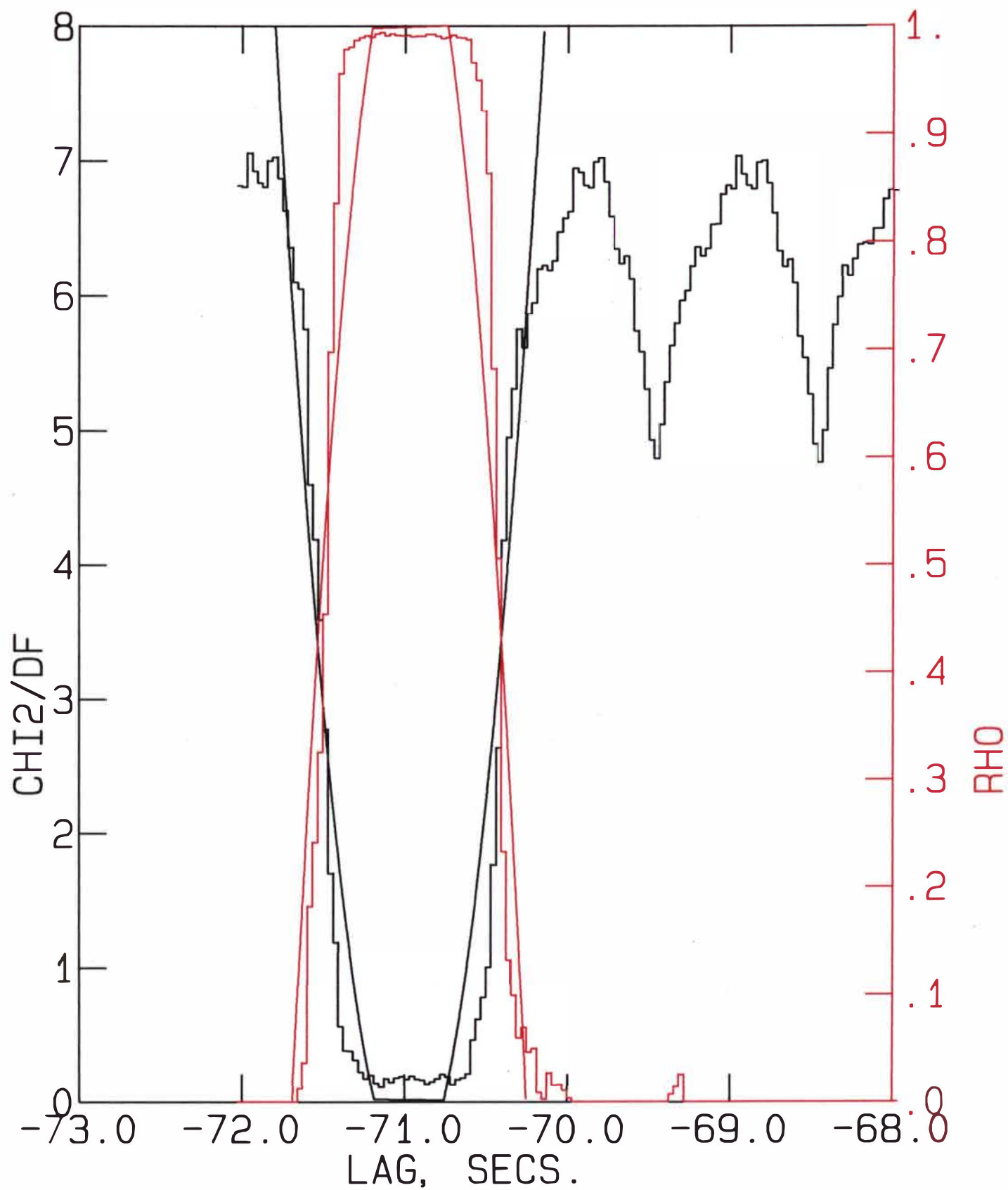
CORRELATION

07/11/98

1131.497

30/11/ 4





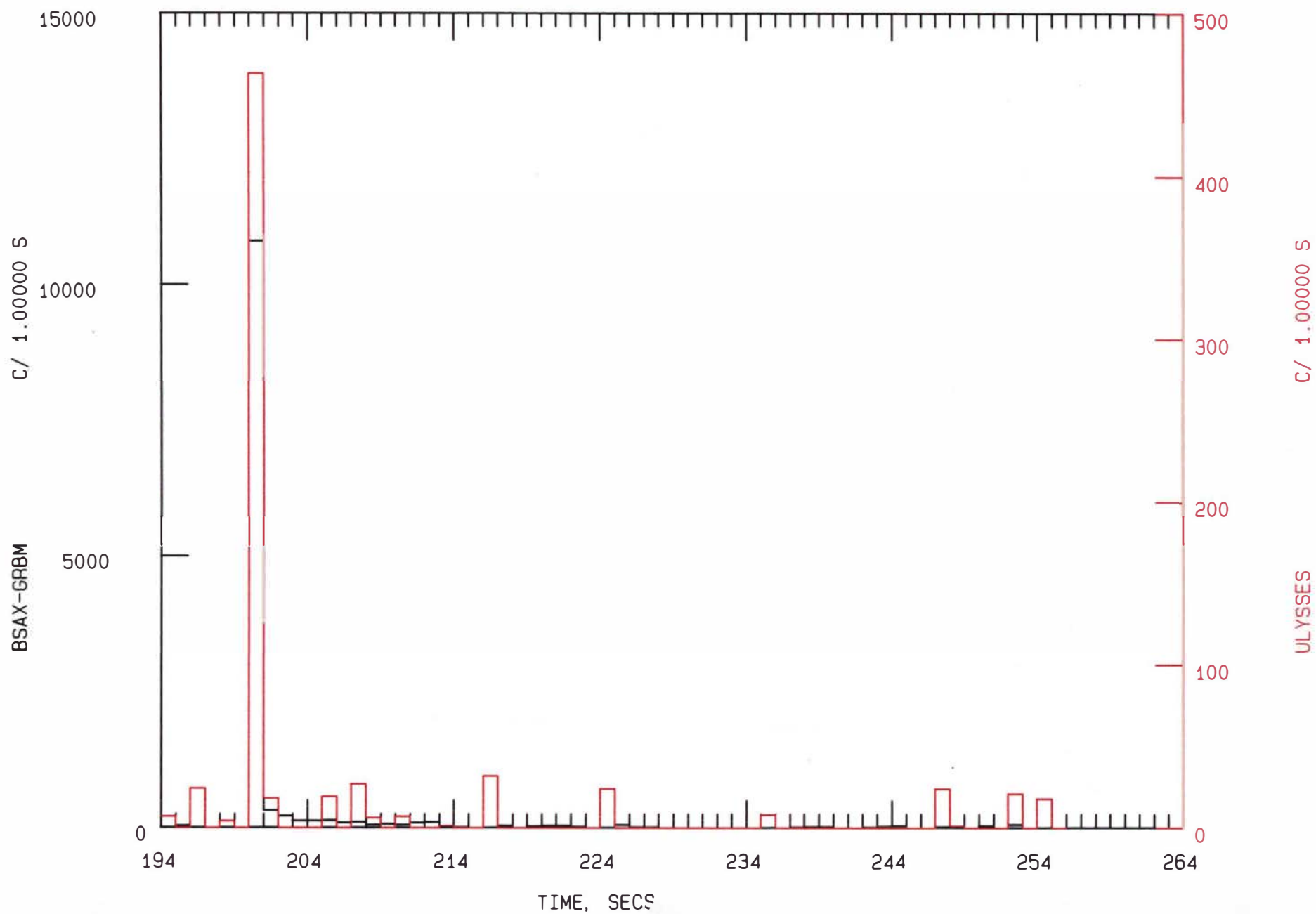
BSAX-GRBM -ULYSSES

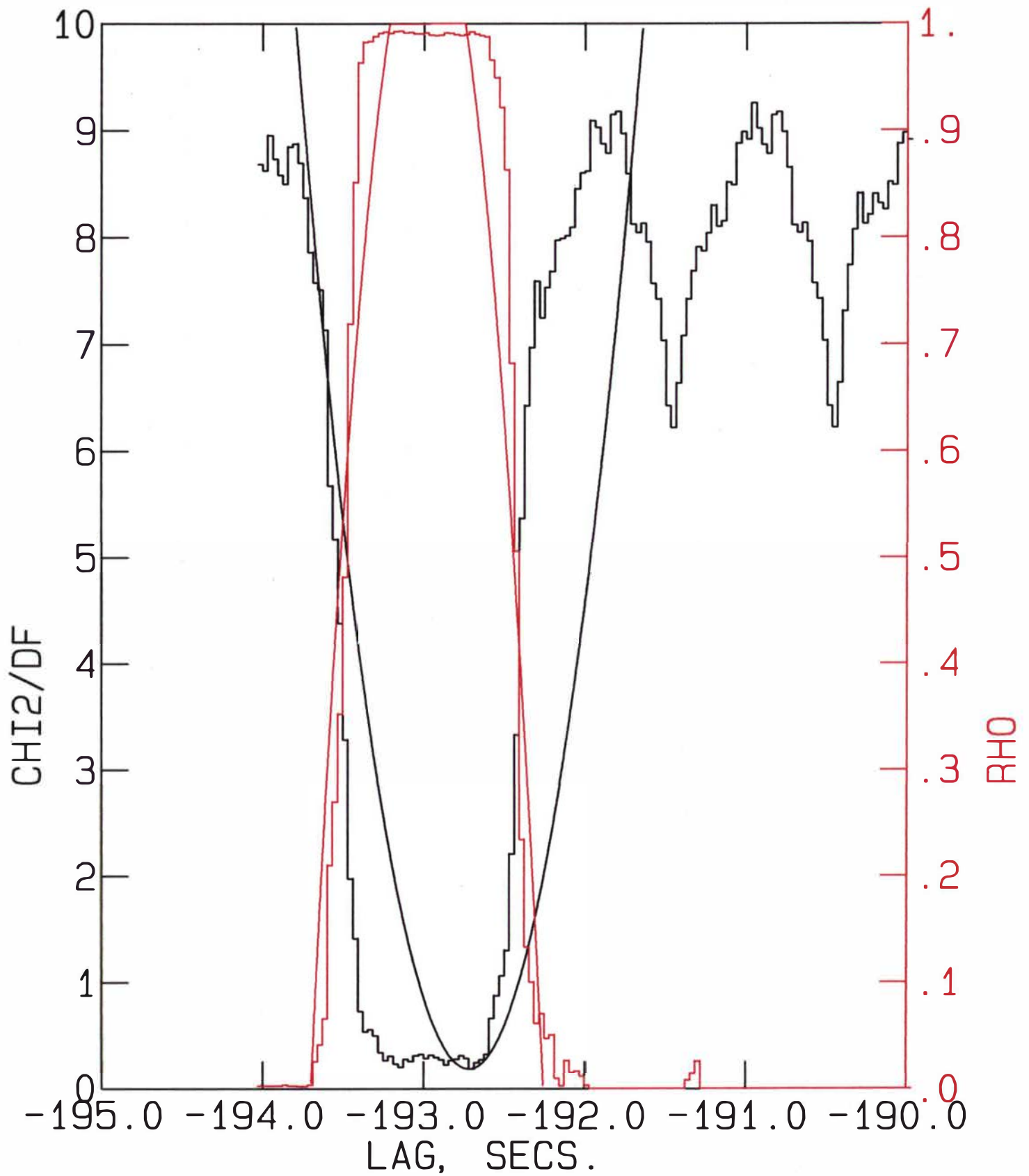
CORRELATION

071198

579.955

30/11/ 4





KONUS2

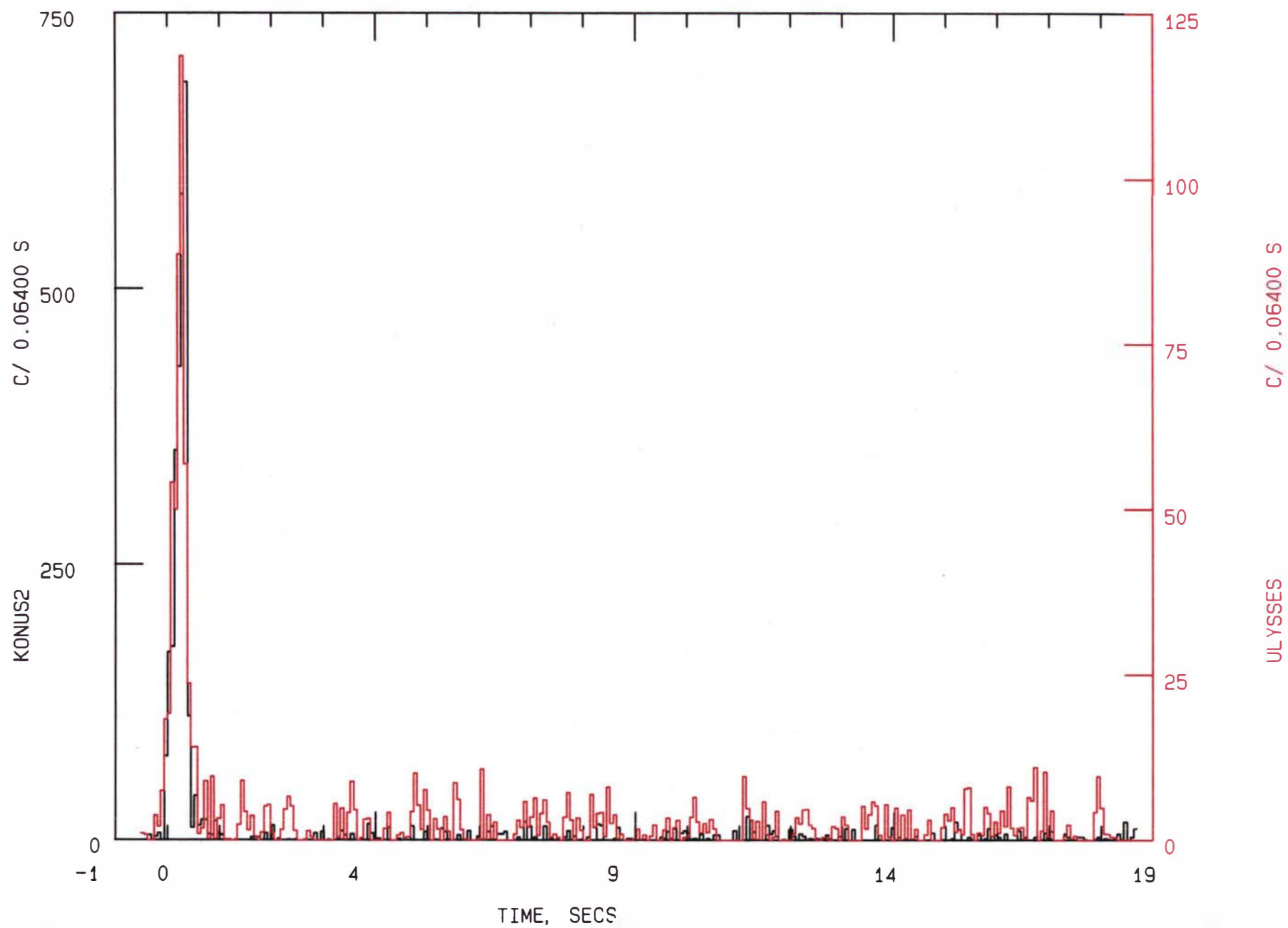
-ULYSSES

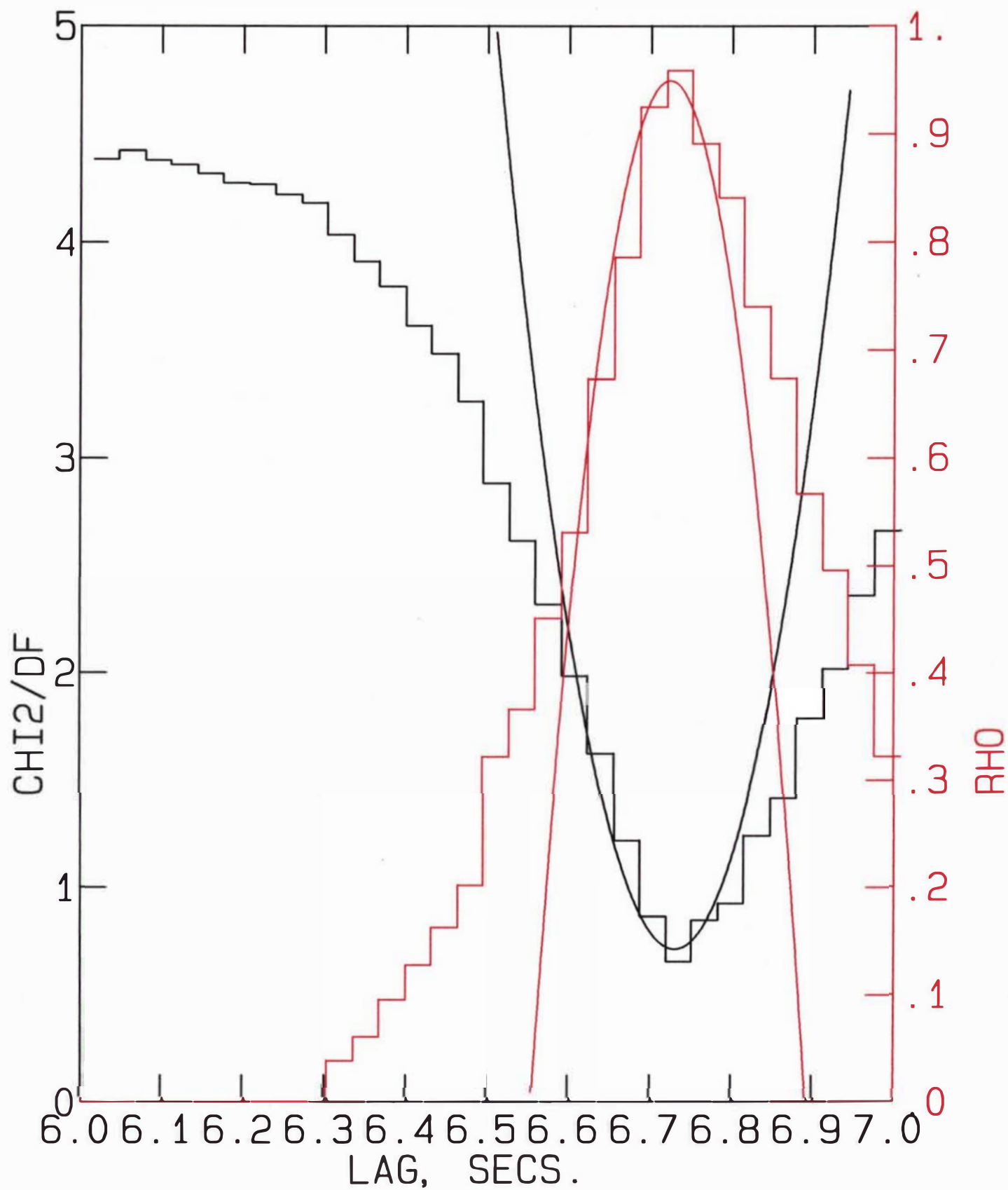
CORRELATION

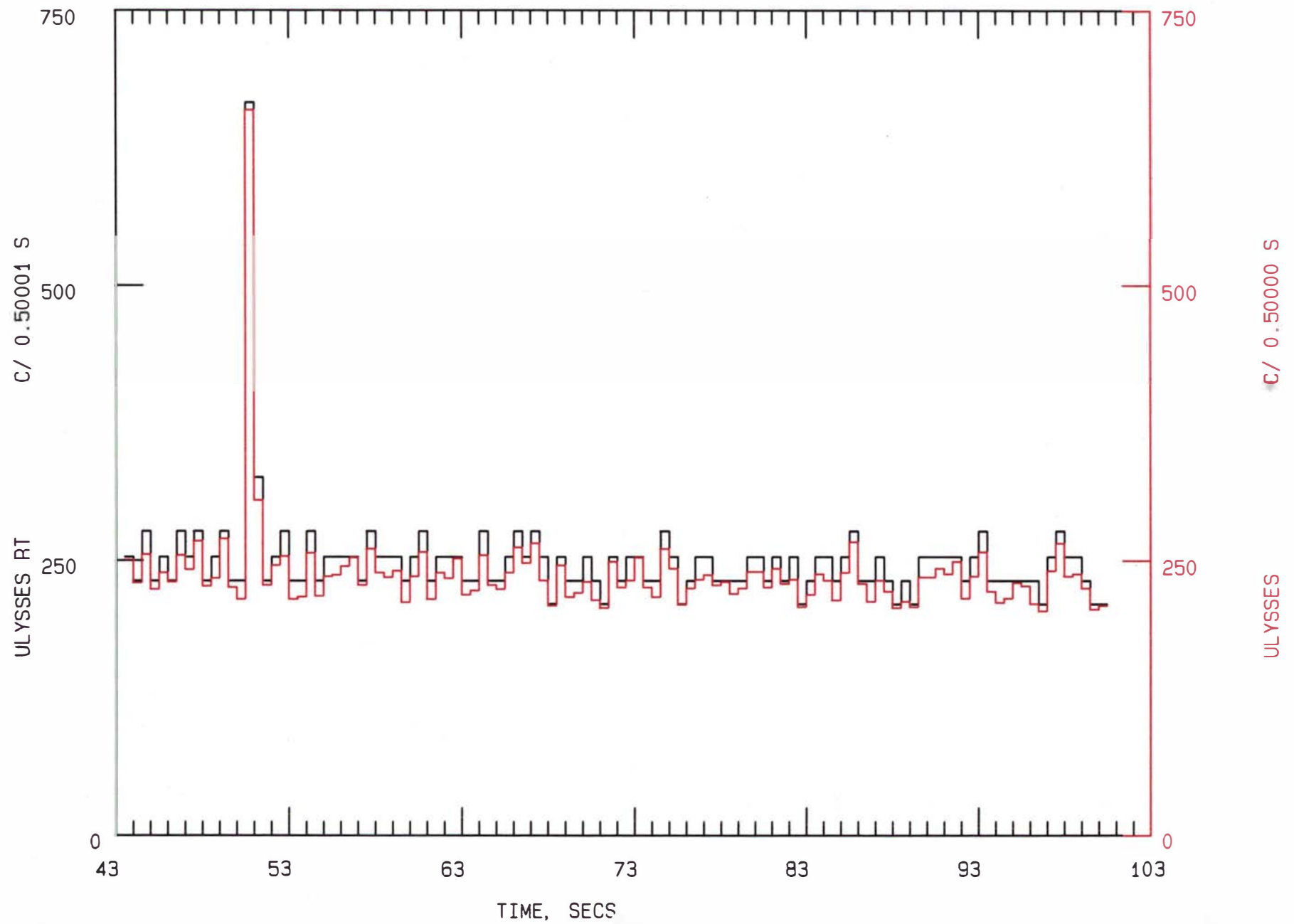
07/11/98

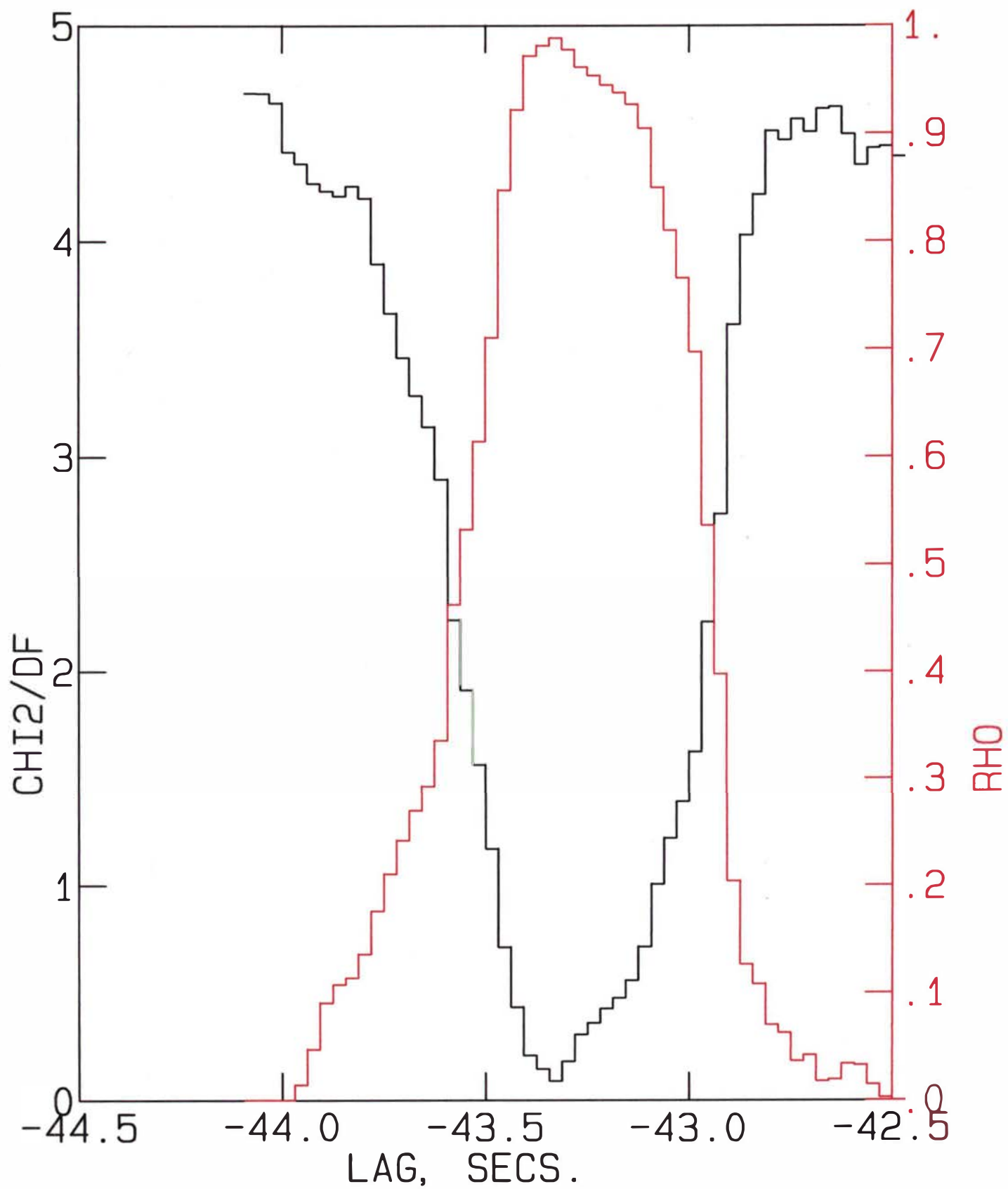
781.395

30/11/ 4







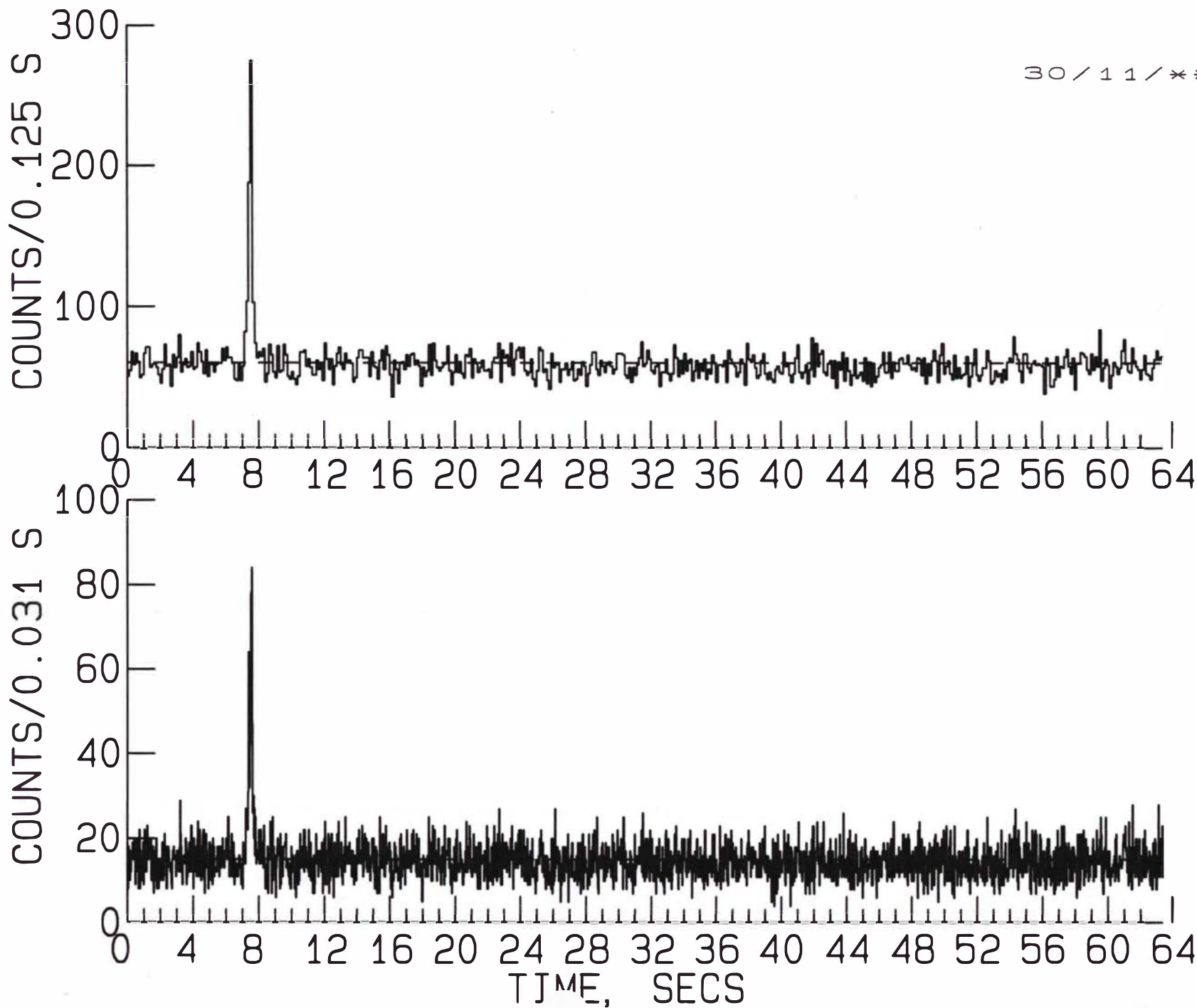


ULYSSES

07/11/98

Ttrig= 2645.991

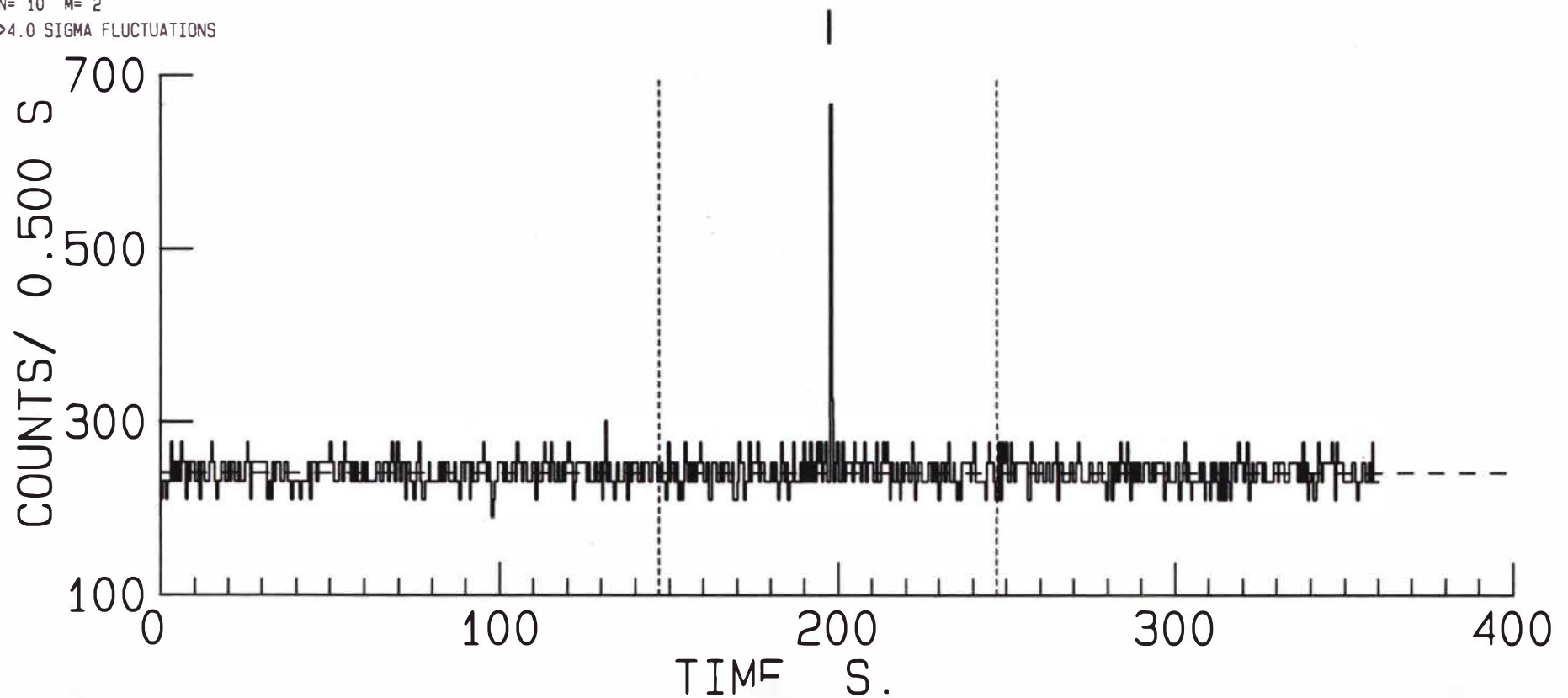
22- 150 keV



ULYSSES RT
7/11/98 2448.253 s
22- 150 keV

30 / 11 / 4

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

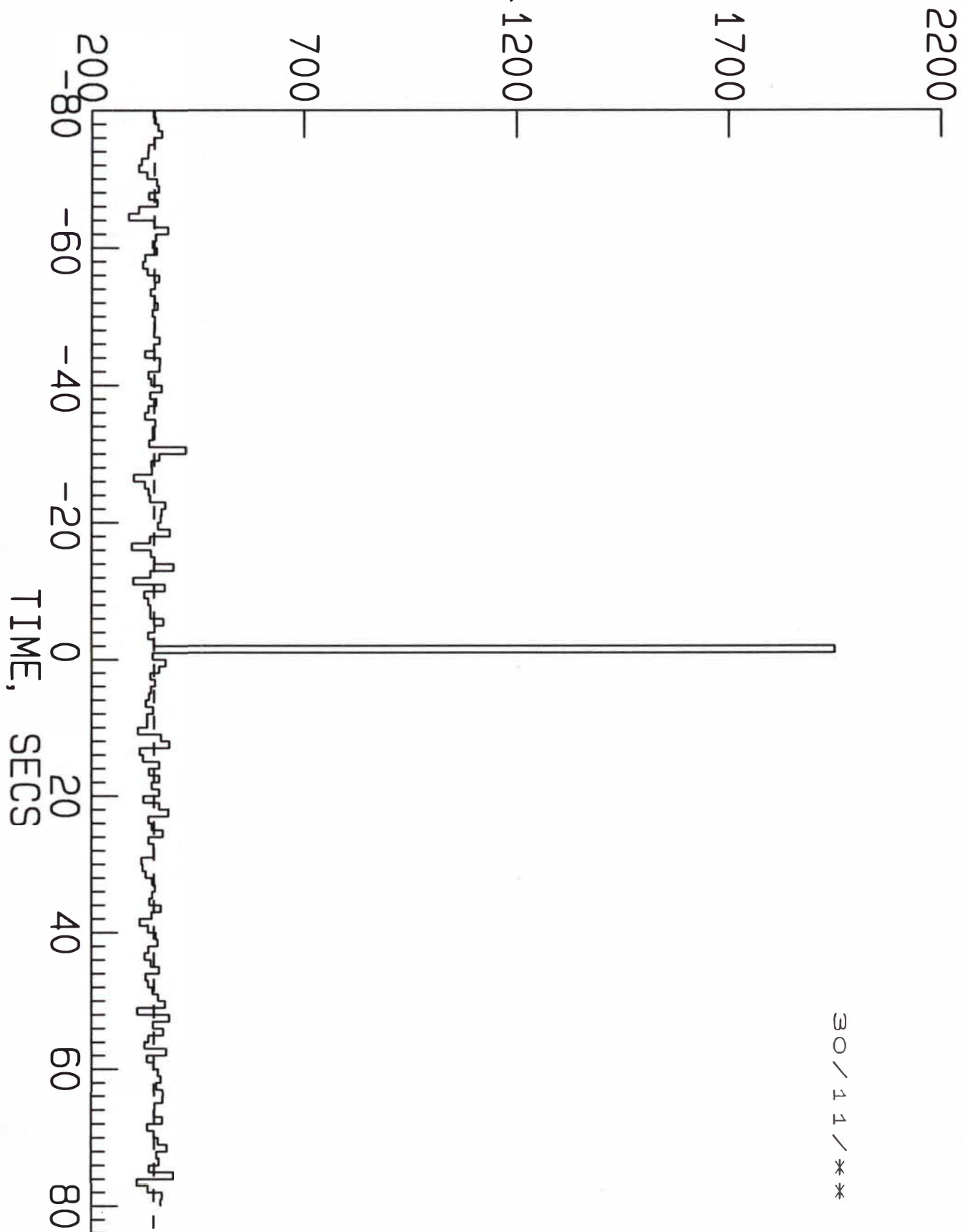


NEAR

07/11/98 1131.497

100-1000 keV

COUNTS/1.000 S



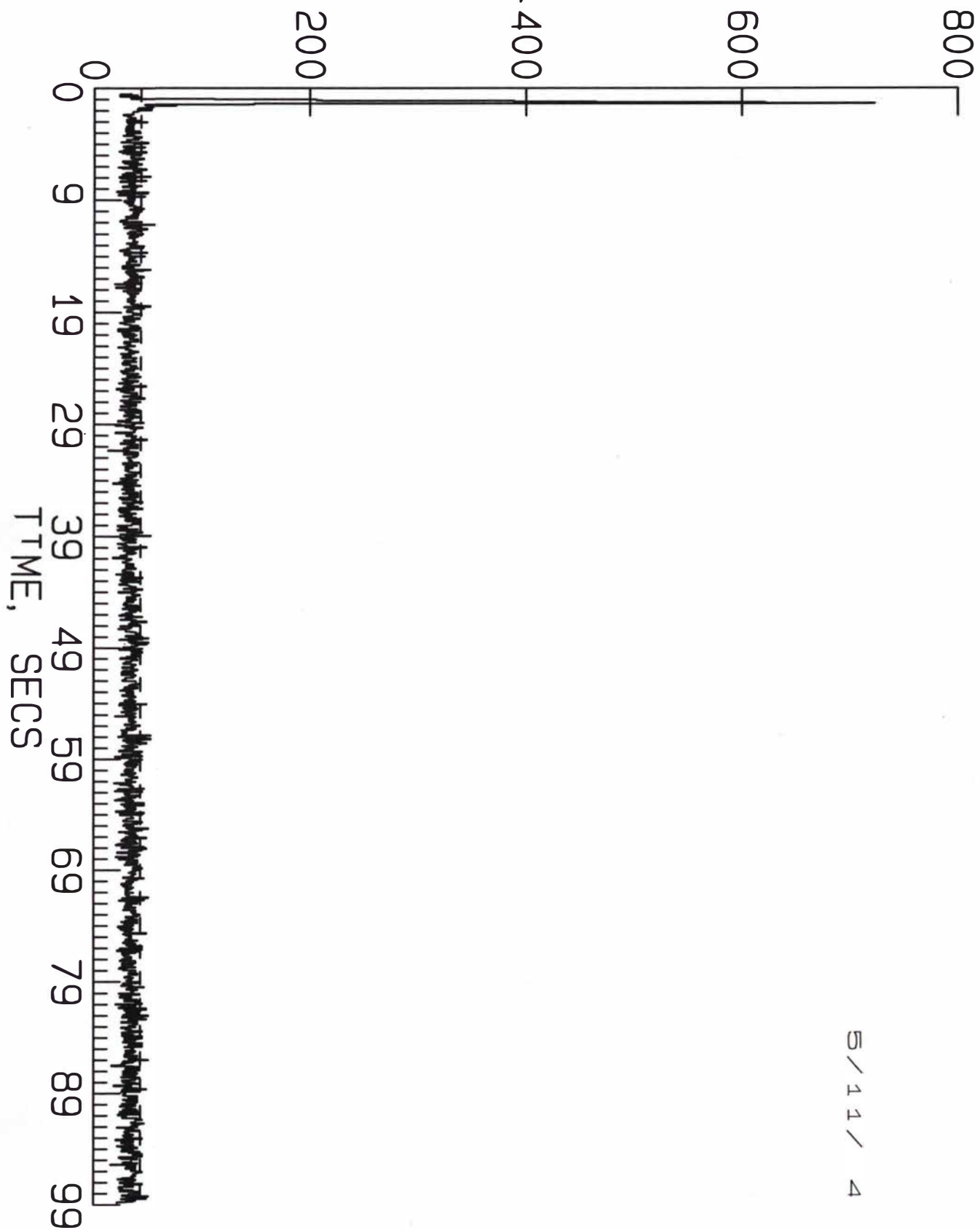
30 / 11 / **

KONUS

07/11/98 781.300

50- 200 keV

COUNTS/0.064 S

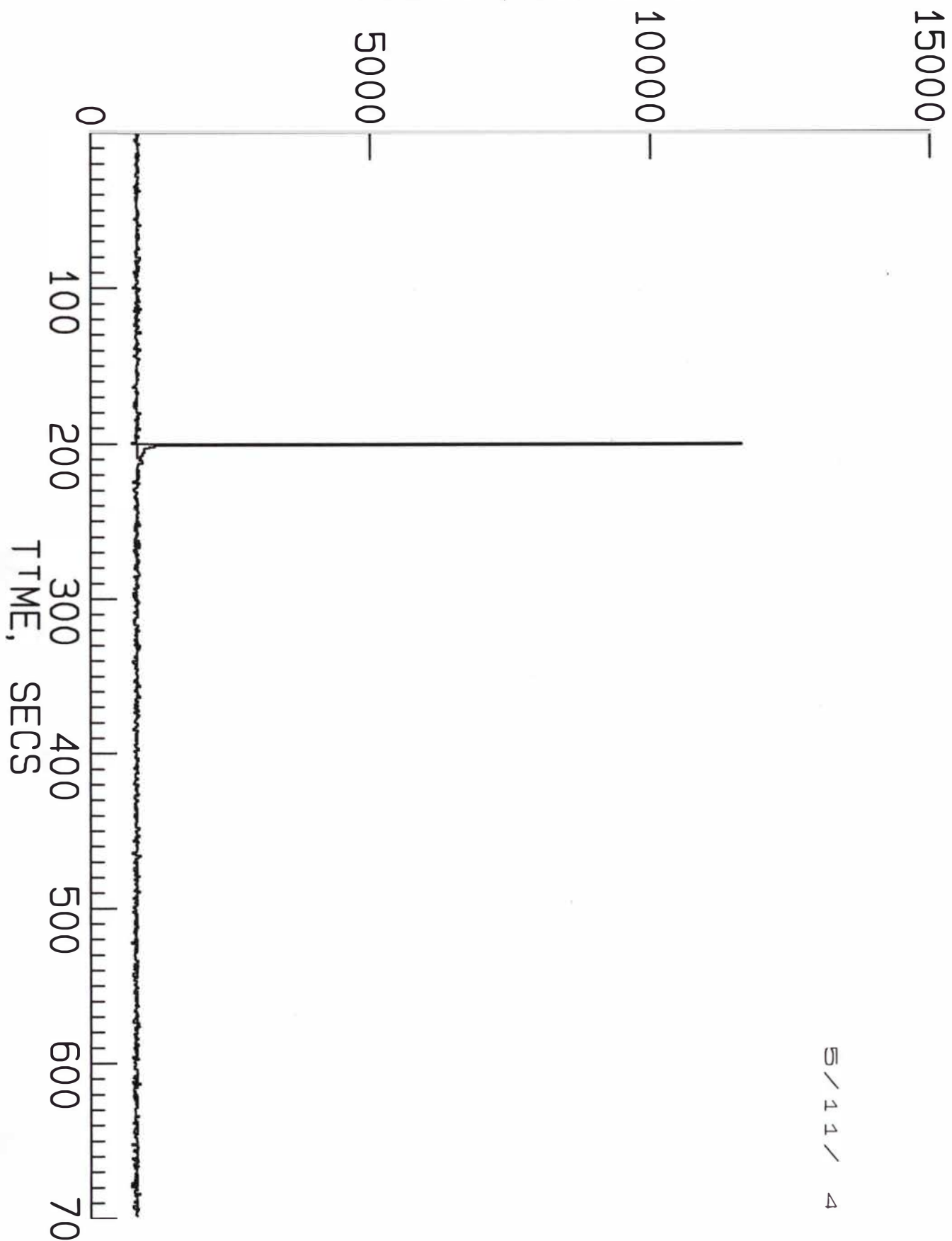


SAX GRBM

07/19/00 579.900

40- 700 keV

COUNTS/1.000 S



From sinha@isac.ernet.in Tue Dec 8 21:41 PST 1998
From: sinha@isac.ernet.in
Date: Wed, 9 Dec 1998 10:54:02 +0000 (CUT)
X-Sender: sinha@xs15
 : Kevin Hurley <khurley@sunspot.ssl.berkeley.edu>
Subject: Confirmation of GRB event
Mime-Version: 1.0

From
Srikanta Sinha
In-charge, SROSS C-2 GRB Experiment
ISRO Satellite Center, Bangalore

To
Prof Kevin Hurley

Dear Prof Hurley,

We have an interesting trigger on 7th Nov, 1998.
The time is 00:13:00.249 UT. Could you please confirm whether Ulysses,
BATSE or any other spacecraft in the IPN3 detected this event ? Also
will it be possible for you kindly to send us the profile of this event
if detected by Ulysses and Batse together with the spacecraft positions
?

We are planning to start working on the analysis of GRB archival data.
For this purpose we need to study the existing literature on GRBs.

You are one of the editors of the AIP Conf. Proc. 307 on GRBs
(2nd Workshop at Huntsville, 1993).

May I request if it will be possible for you kindly to send us a
copy of this conf. proc. alongwith any other recent conf. proc. on GRBs
that you feel will be useful to us ? Or, could you pl. let us know whom
should write to procure these volumes ?

Thanking you.

yours sincerely,
SRIKANTA SINHA

E-mail: sinha@isac.ernet.in

From HENZE@fender.msfc.nasa.gov Tue Nov 10 13:40:32 1998
Date: Tue, 10 Nov 1998 15:40:08 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7201

TIME: TJD=1124 SECONDS=39878

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

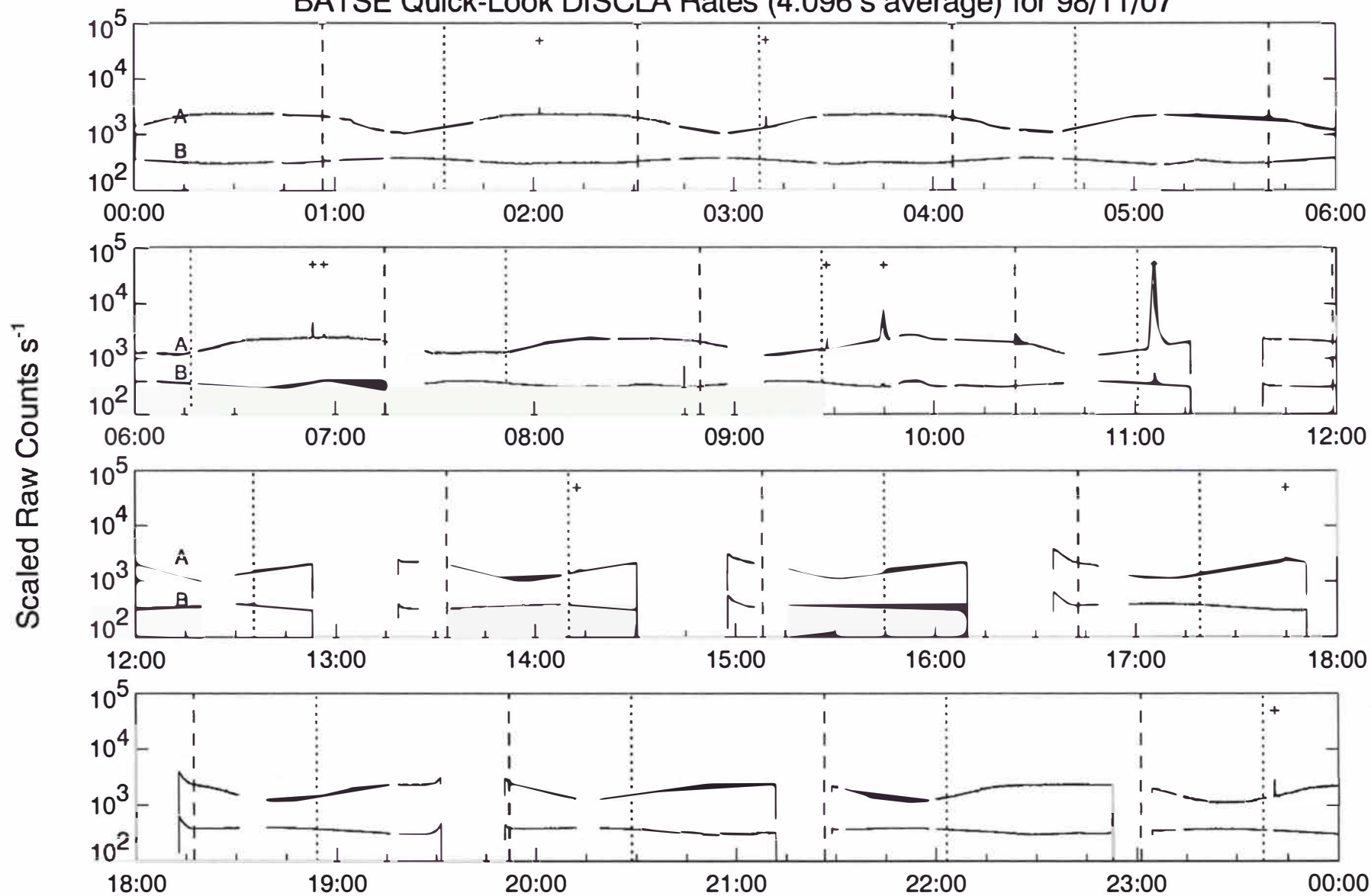
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=138.8 AZIMUTH=343.0 ERROR= 0.5 DEGREES

COMMENTS:

GOES M2.4 FLARE, NO OPTICAL IDENT. SINGLE EPISODE WITH MUCH STRUCTURE, TOTAL
DUR. APPROX. 170 S, MAX AT APPROX. T+78 S. NOT VISIBLE ABOVE 300 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/07

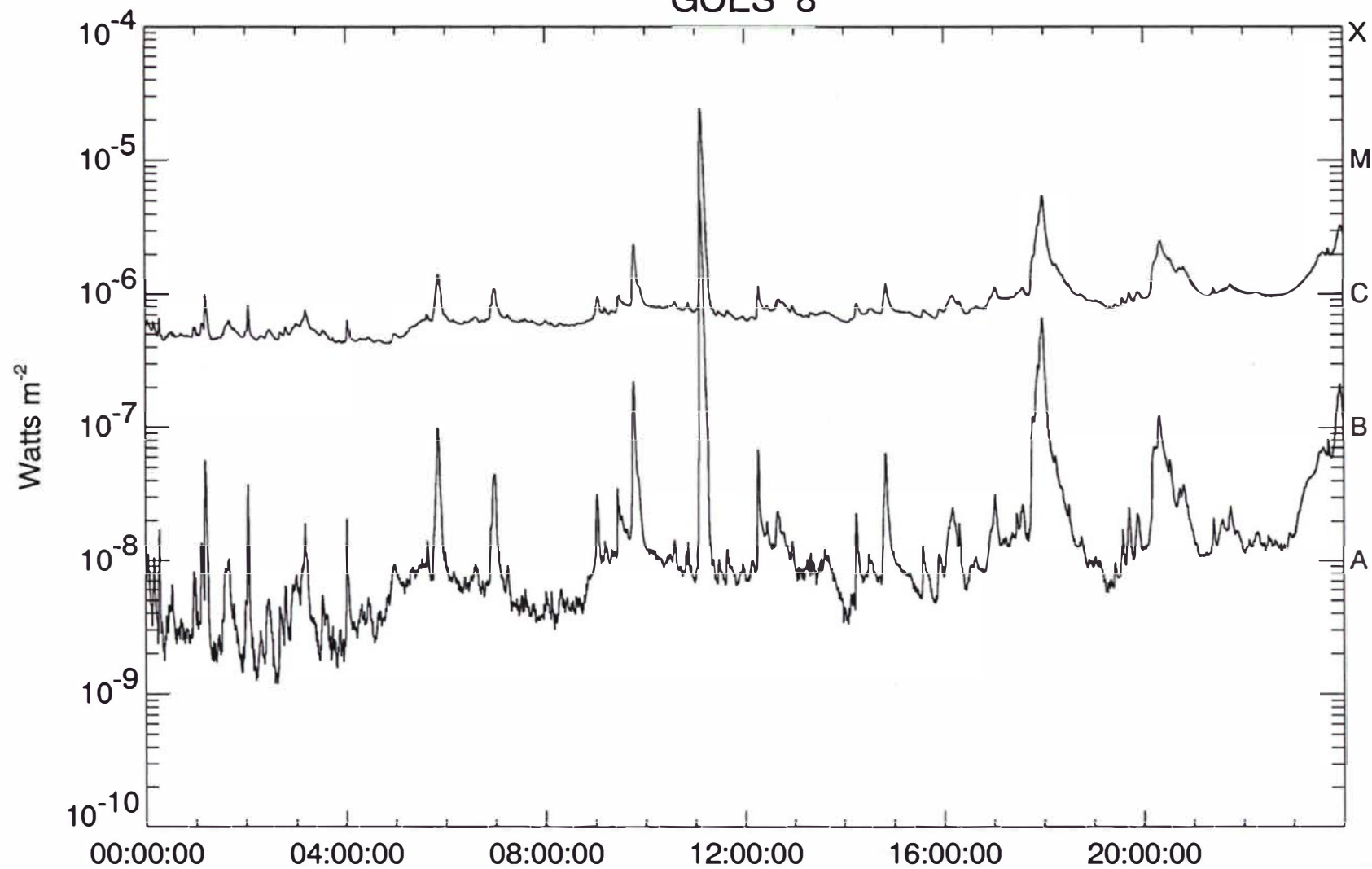


Current Time: 98/11/11, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/07, 0000:00

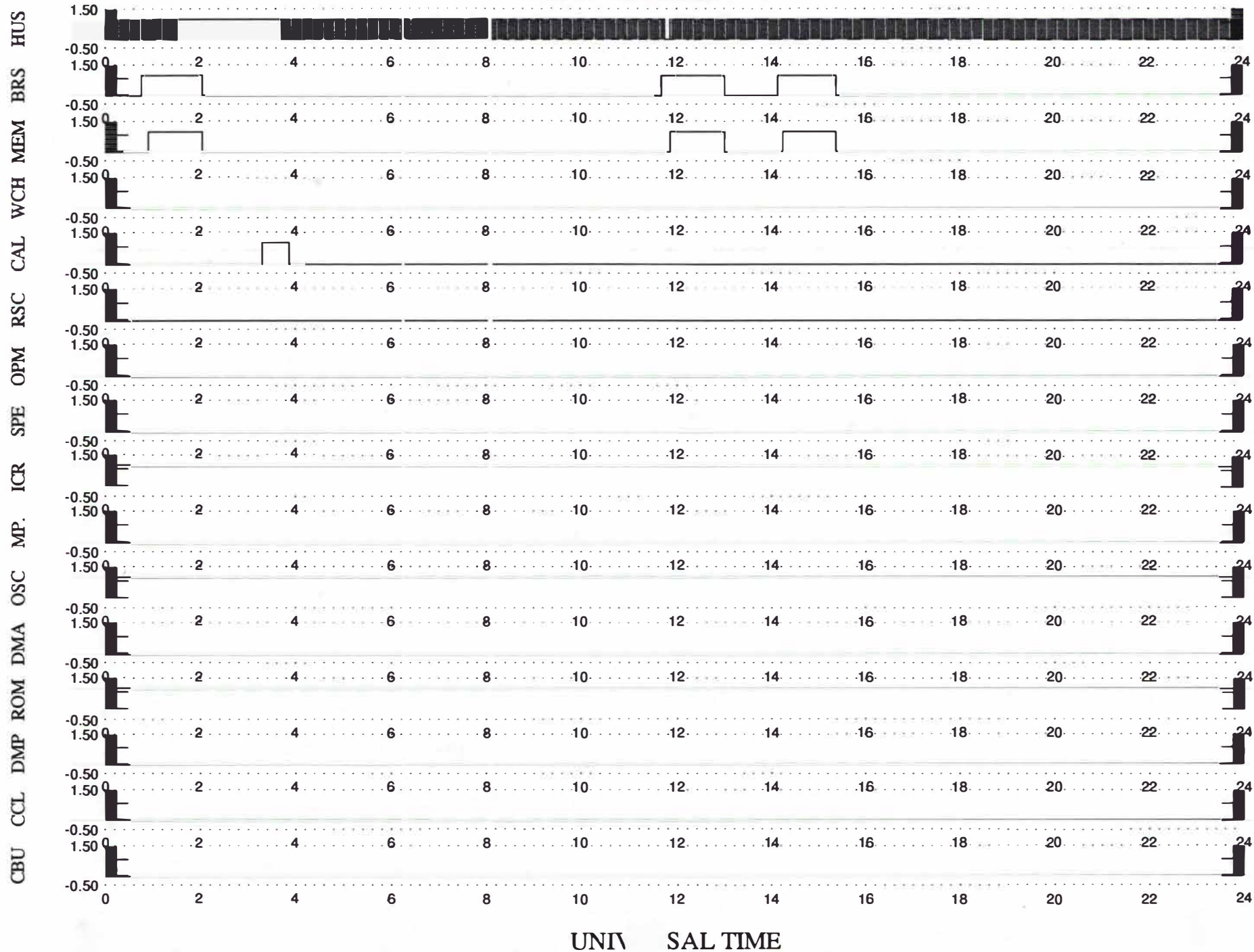
Plot created: 98/11/11, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

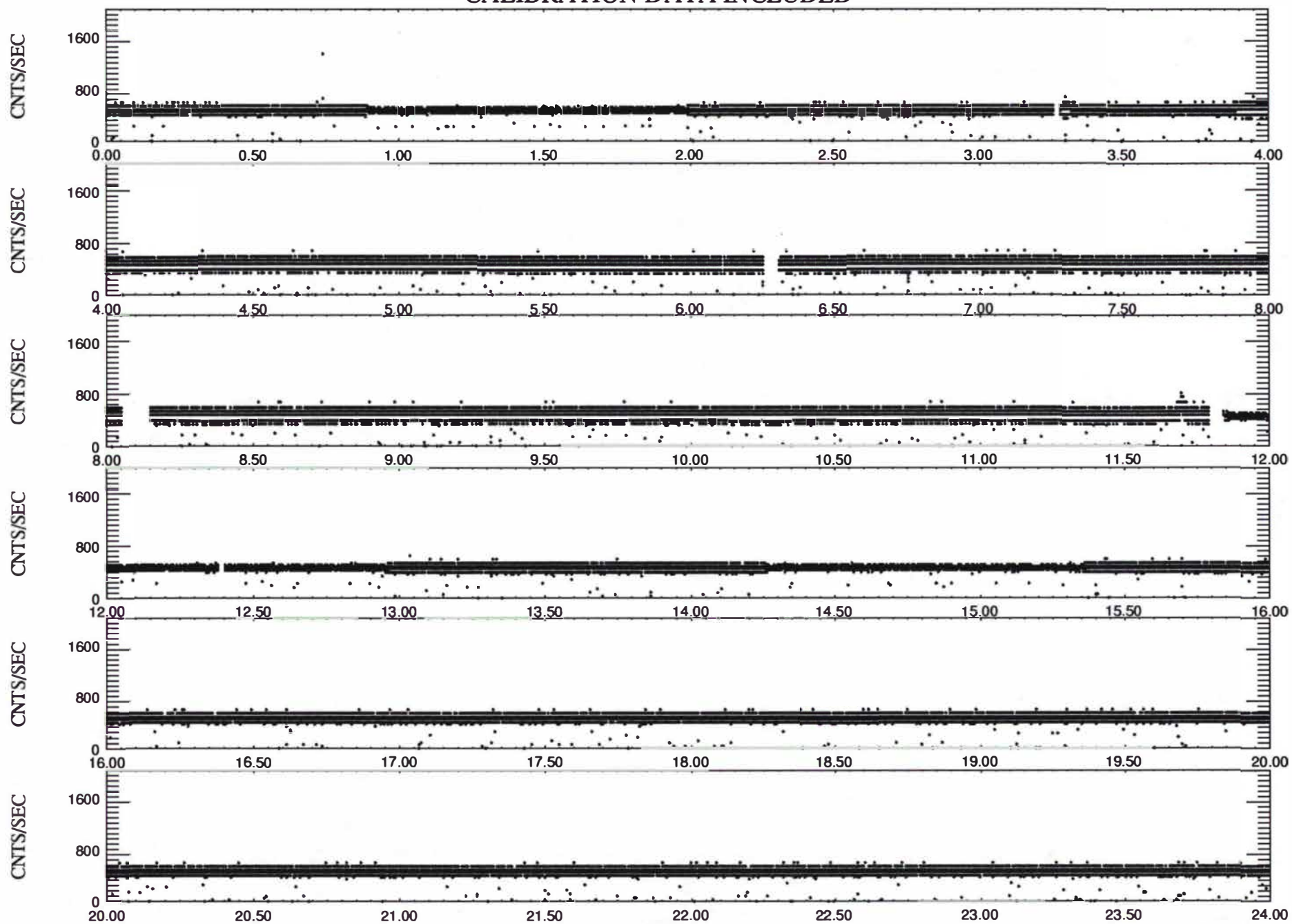
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 7 - 9

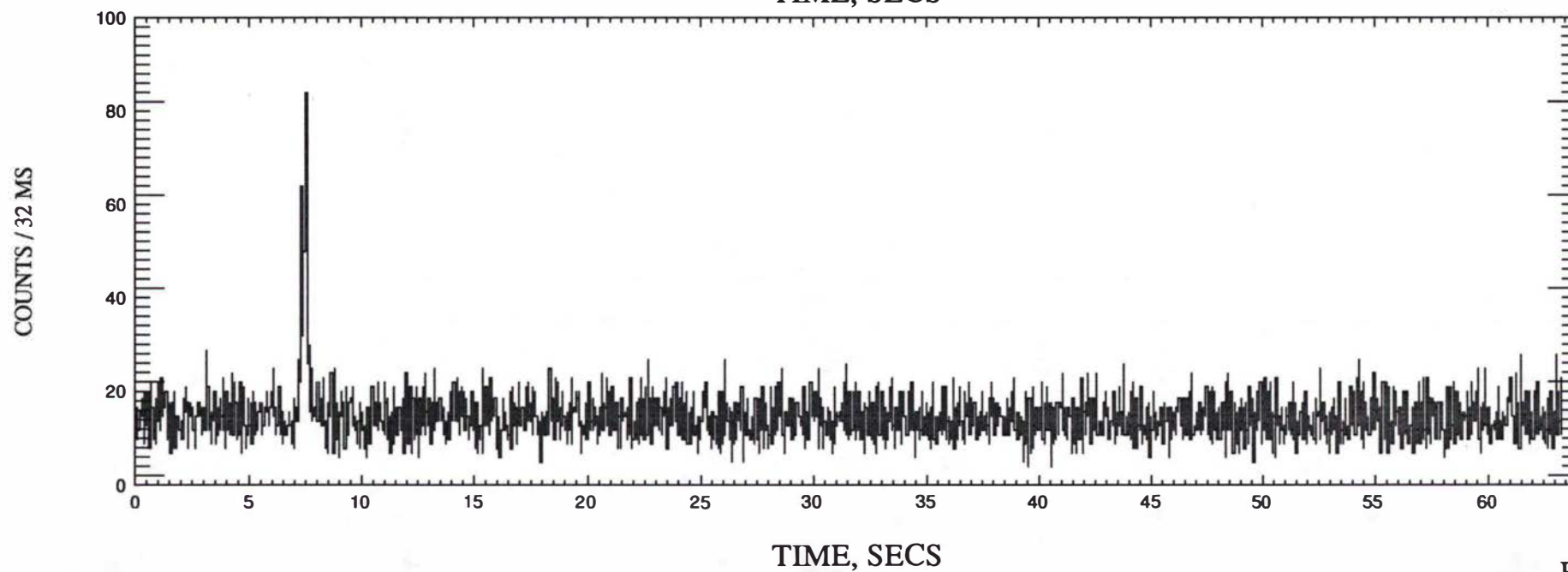
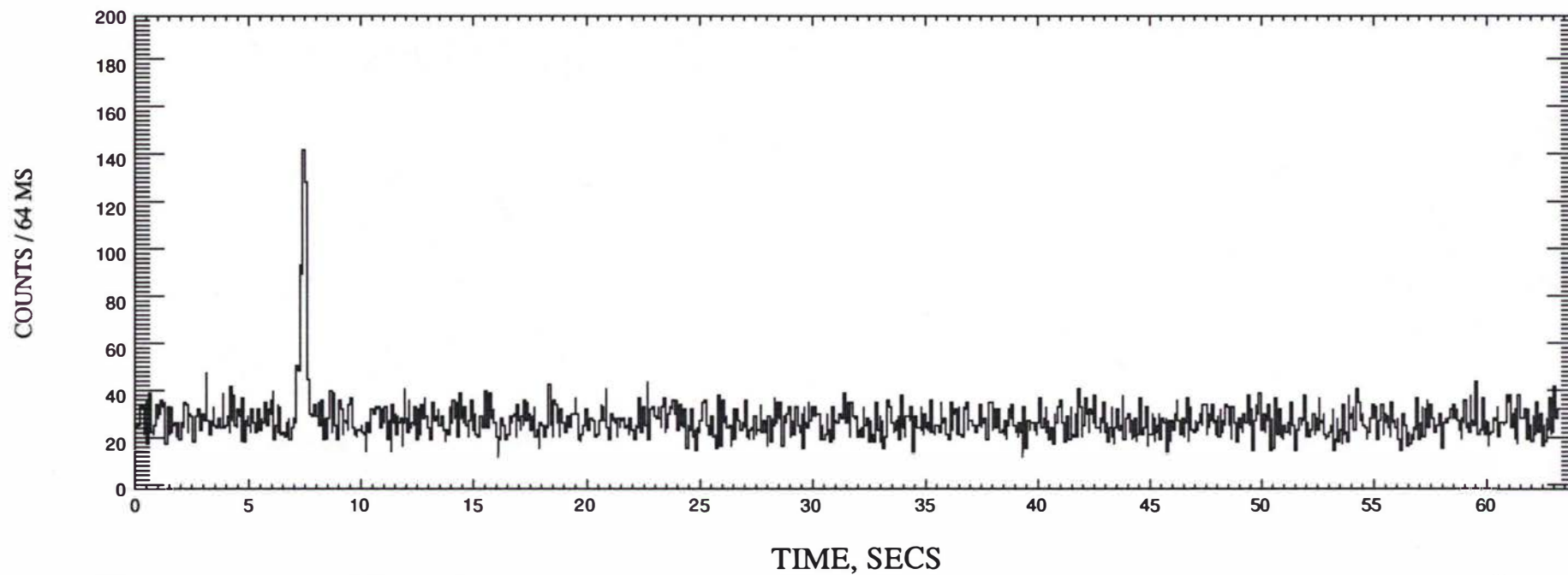


CALIBRATION DATA INCLUDED

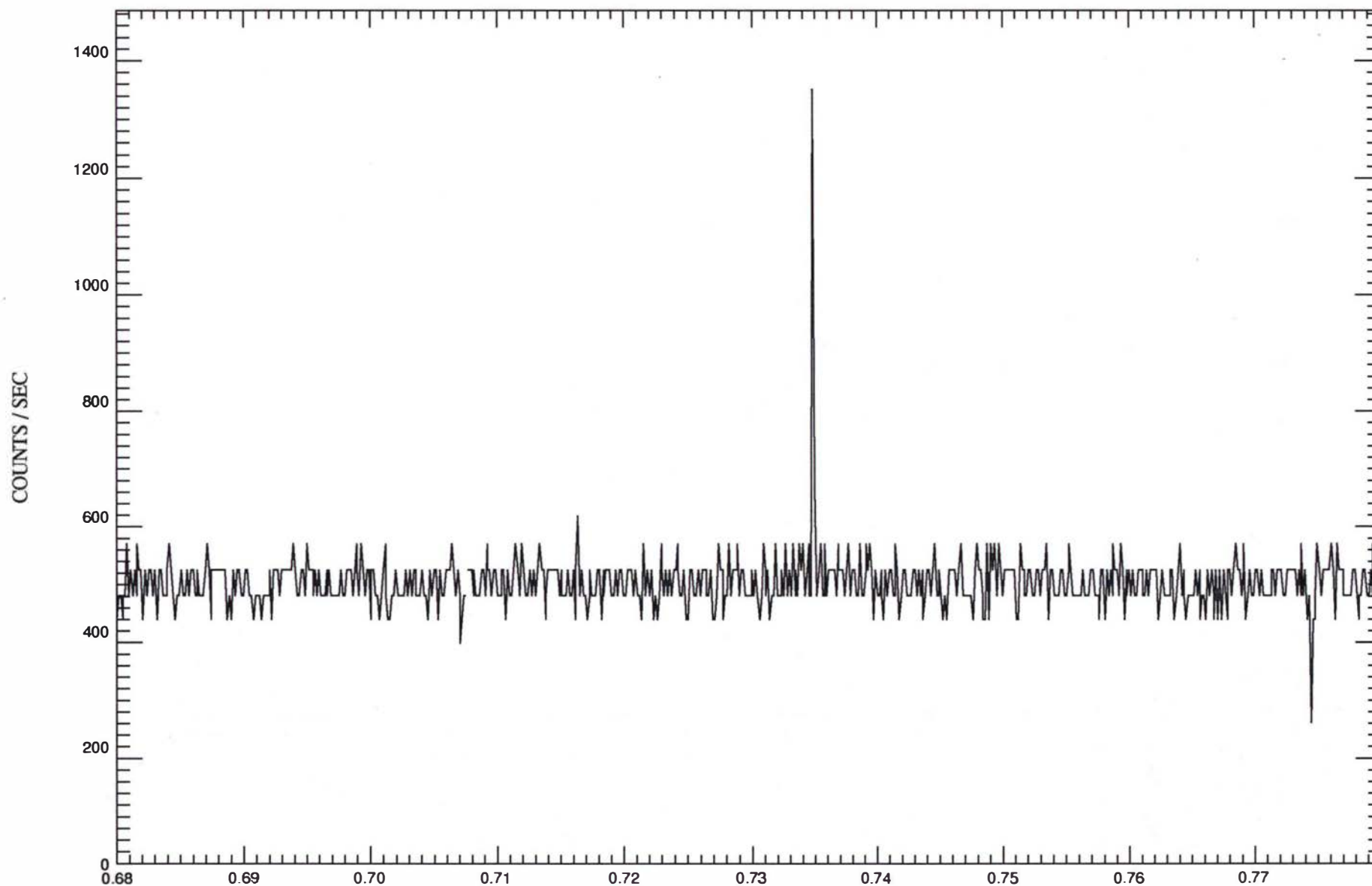


UNT SAL TIME

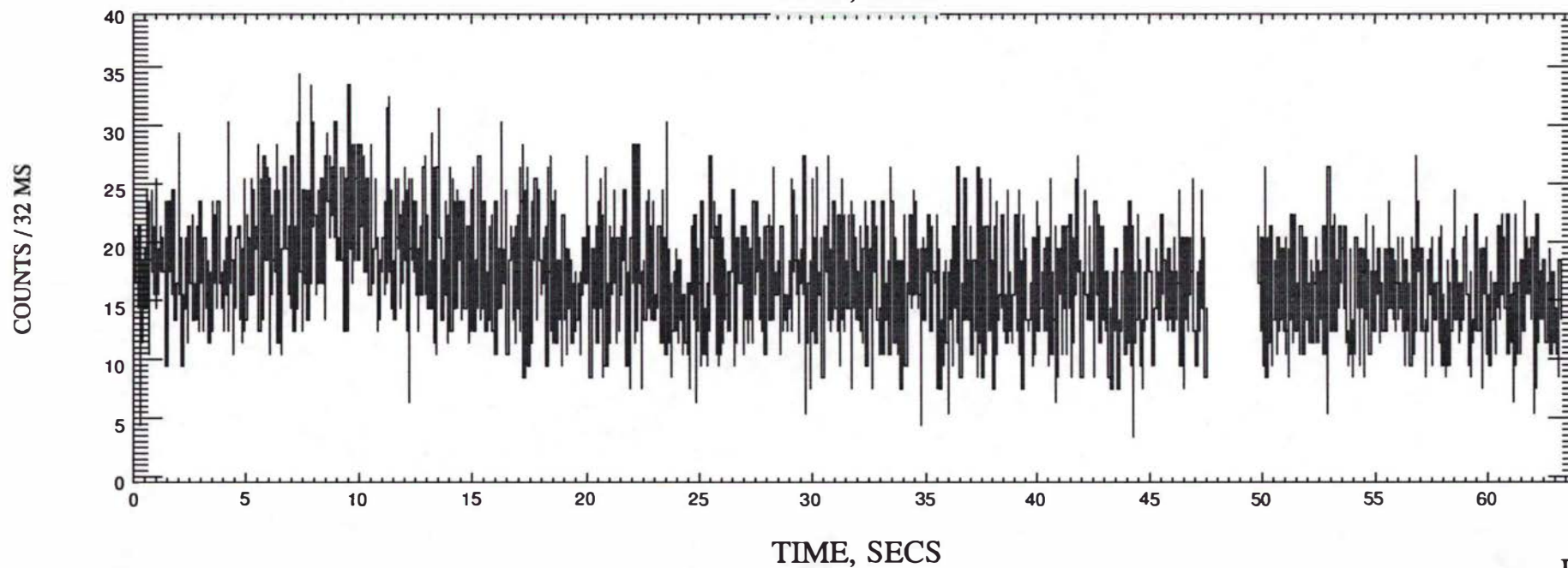
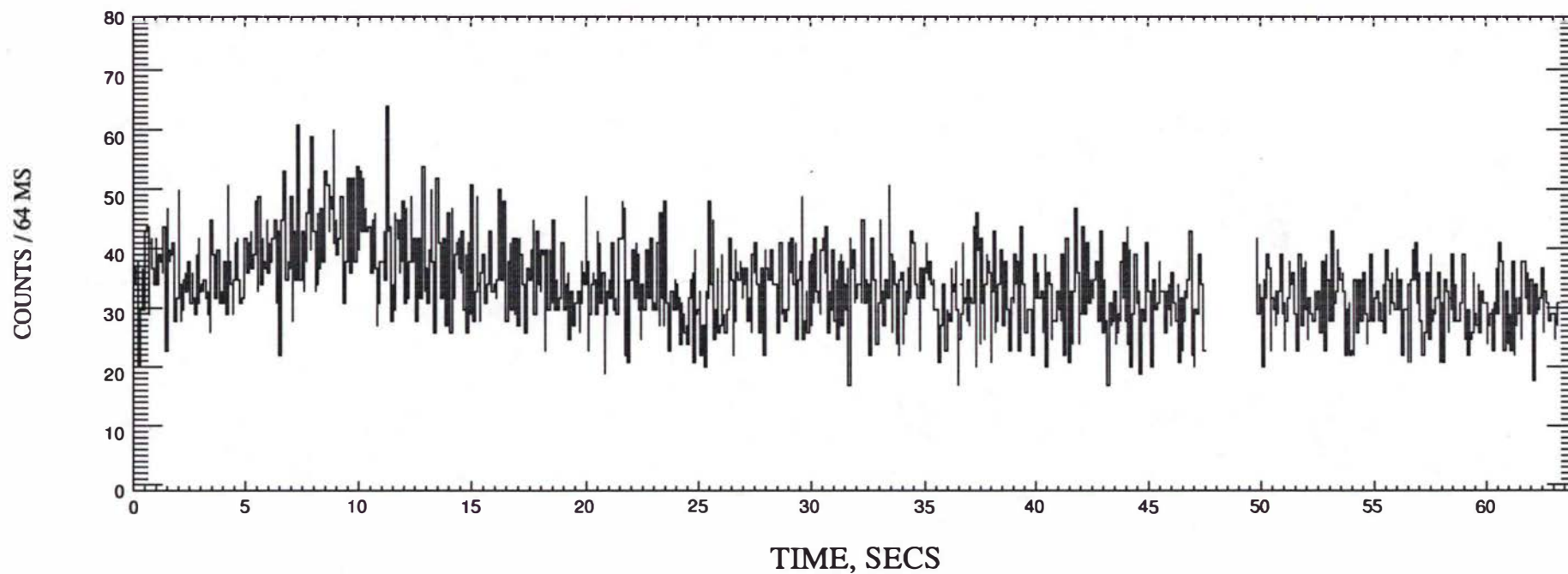
Burst Counter 7 at UT= 0.734994485643 h= 2645.980 s 00:44:05.980



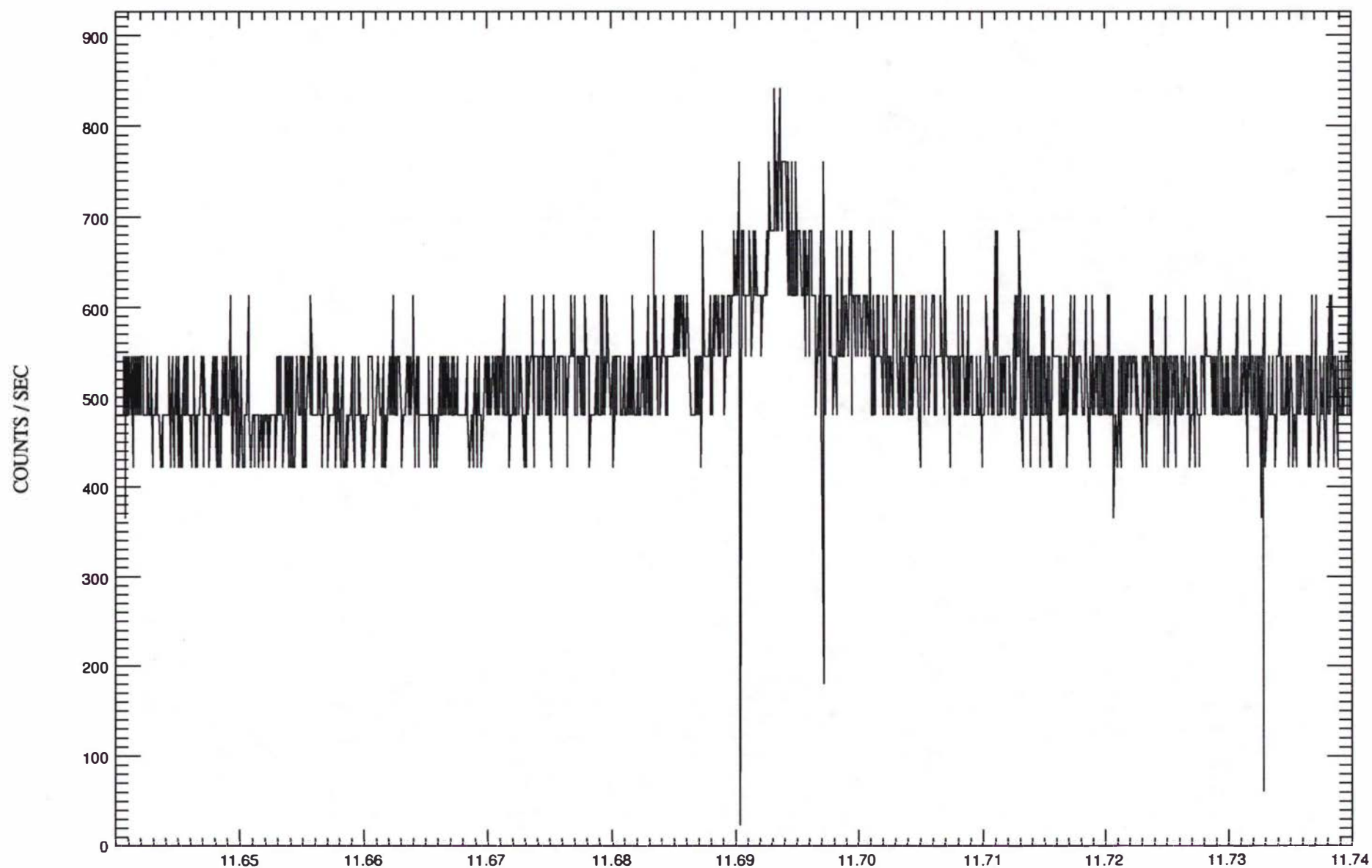
CALIBRATION DATA INCLUDED



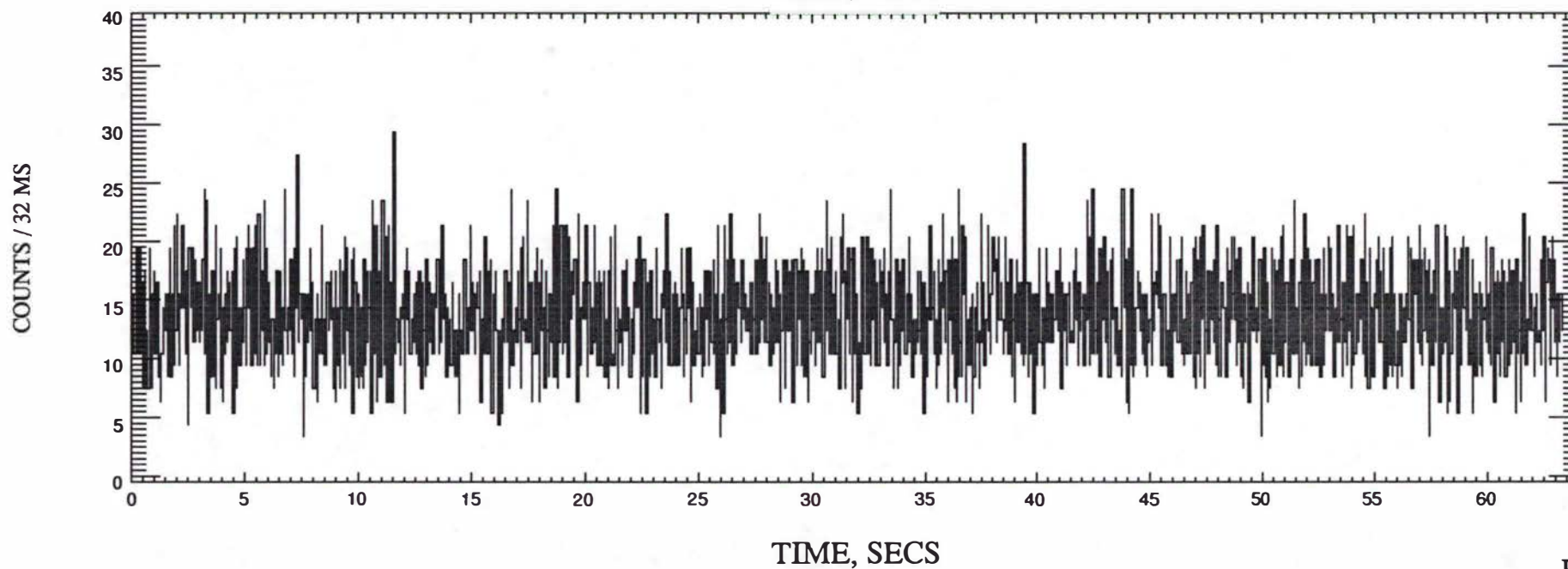
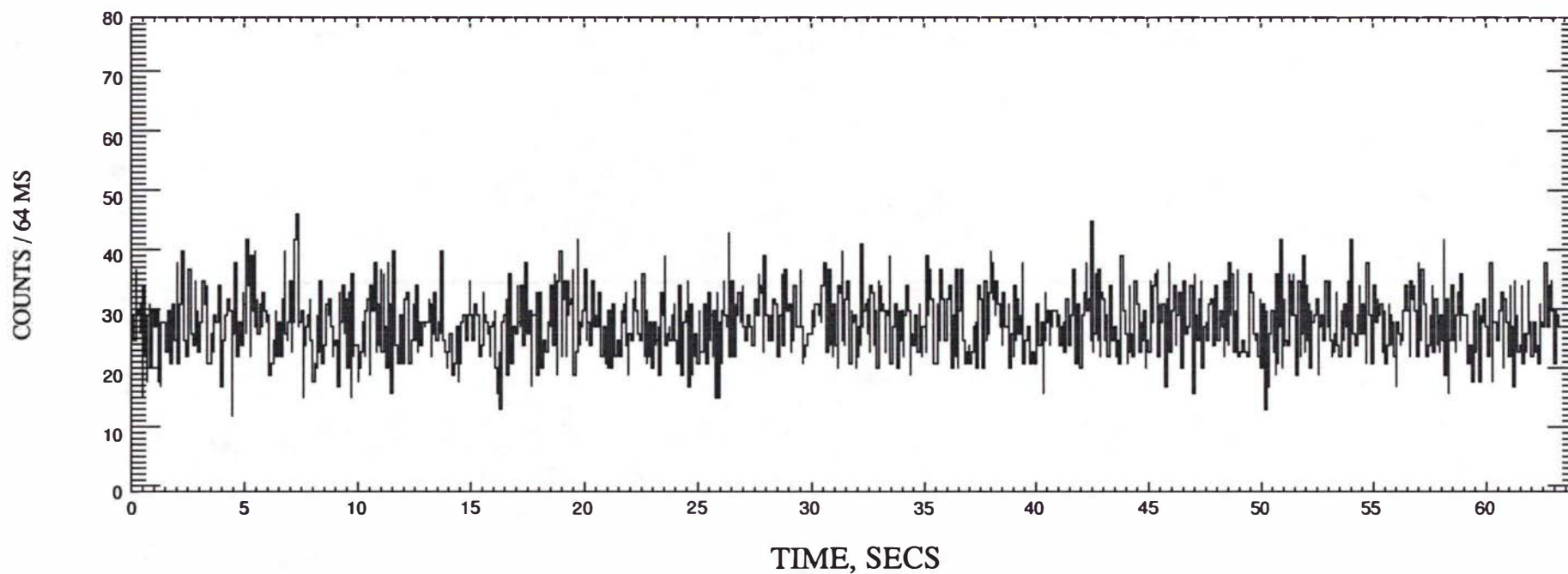
Burst Counter 8 at UT=11.693410504659 h=42096.278 s 11:41:36.278



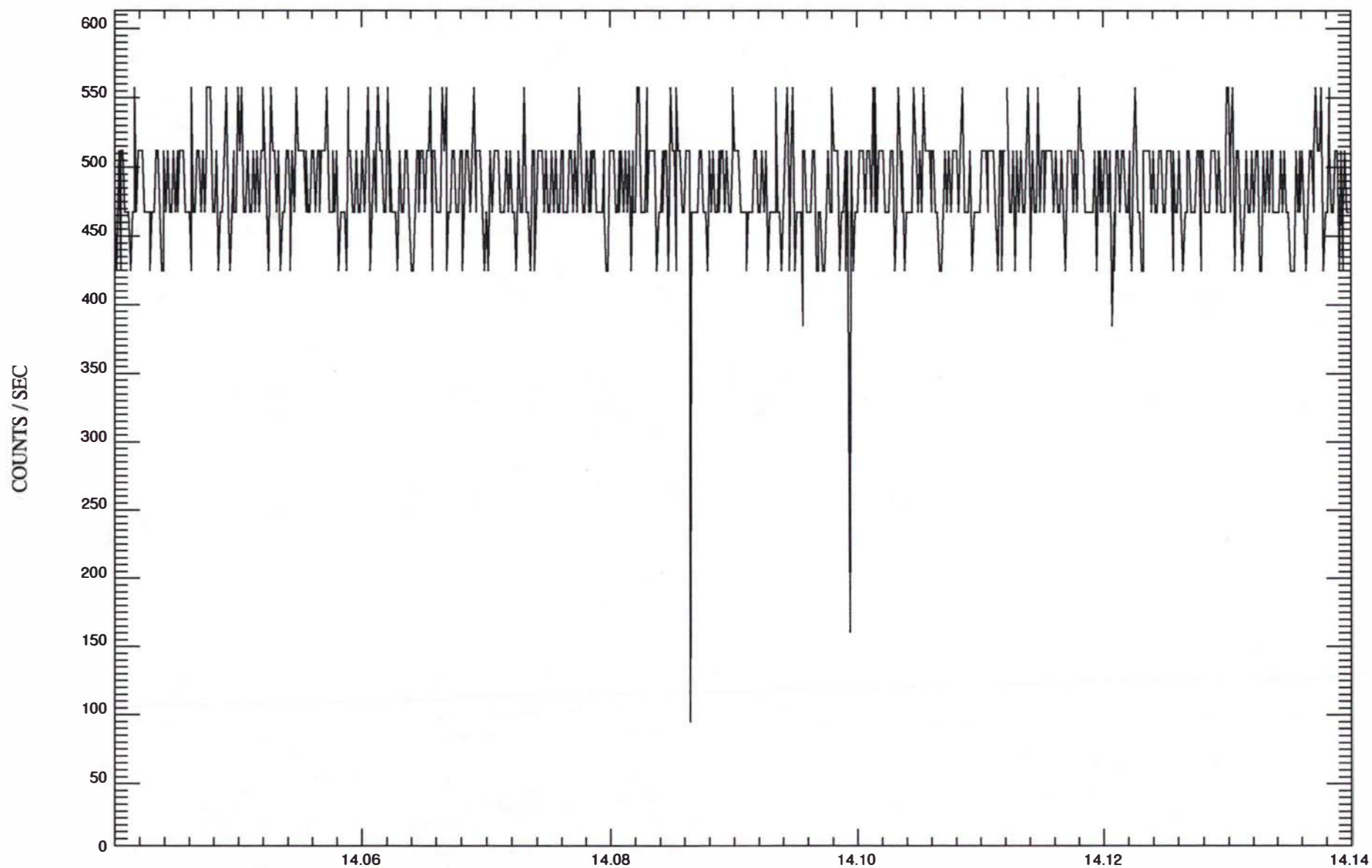
CALIBRATION DATA INCLUDED

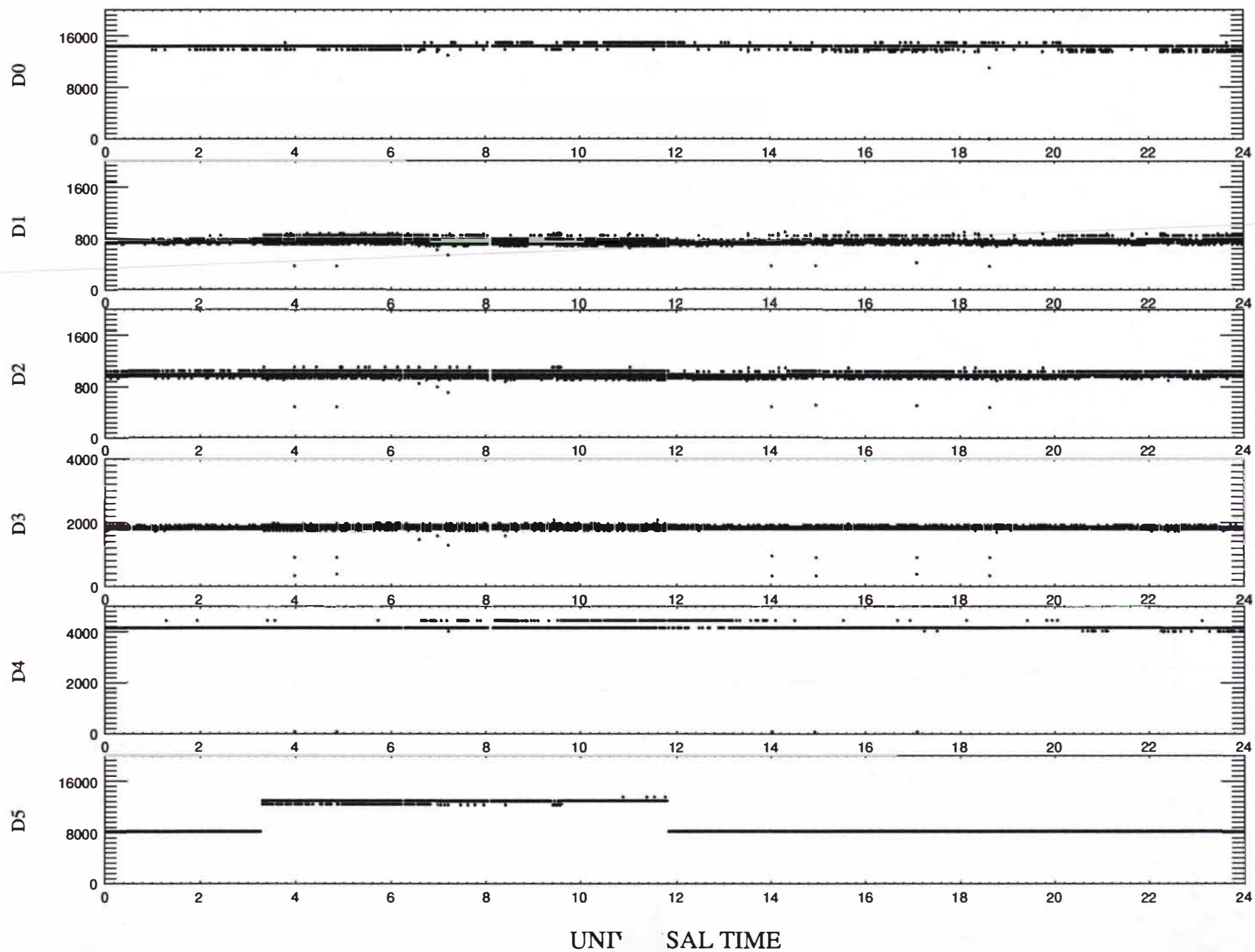


Burst Counter 9 at UT=14.094962276883 h=50741.864 s 14:05:41.864

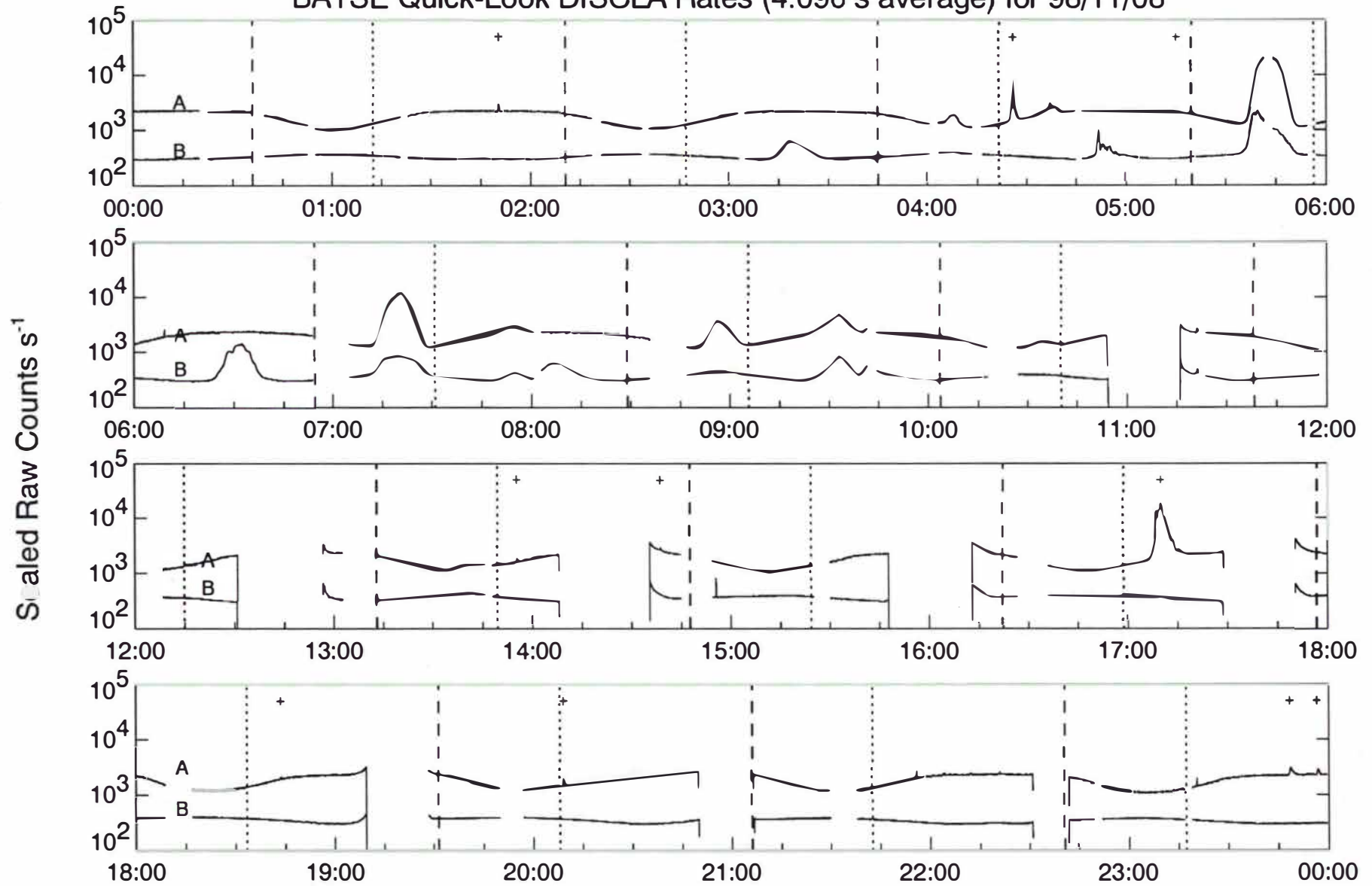


CALIBRATION DATA INCLUDED





BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/08

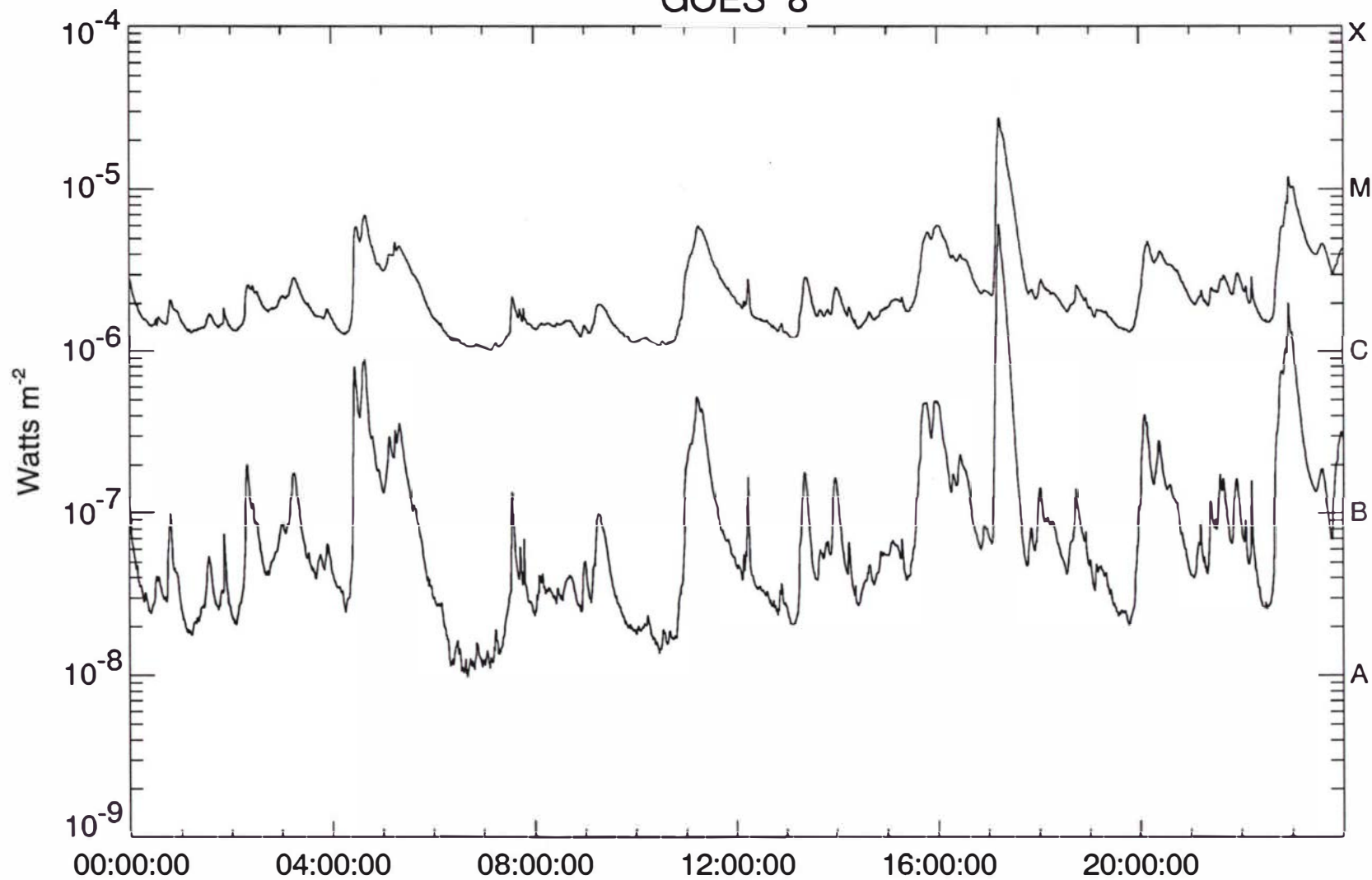


Current Time: 98/11/12, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/08, 0000:00

Plot created: 98/11/12, 1007

Channel 1 (1.0 - 8.0 Angstroms)

Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

From HENZE@fender.msfc.nasa.gov Mon Nov 9 11:46:08 1998

Date: Mon, 9 Nov 1998 13:45:46 -0600 (CST)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7202

TIME: TJD=1125 SECONDS=39255

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

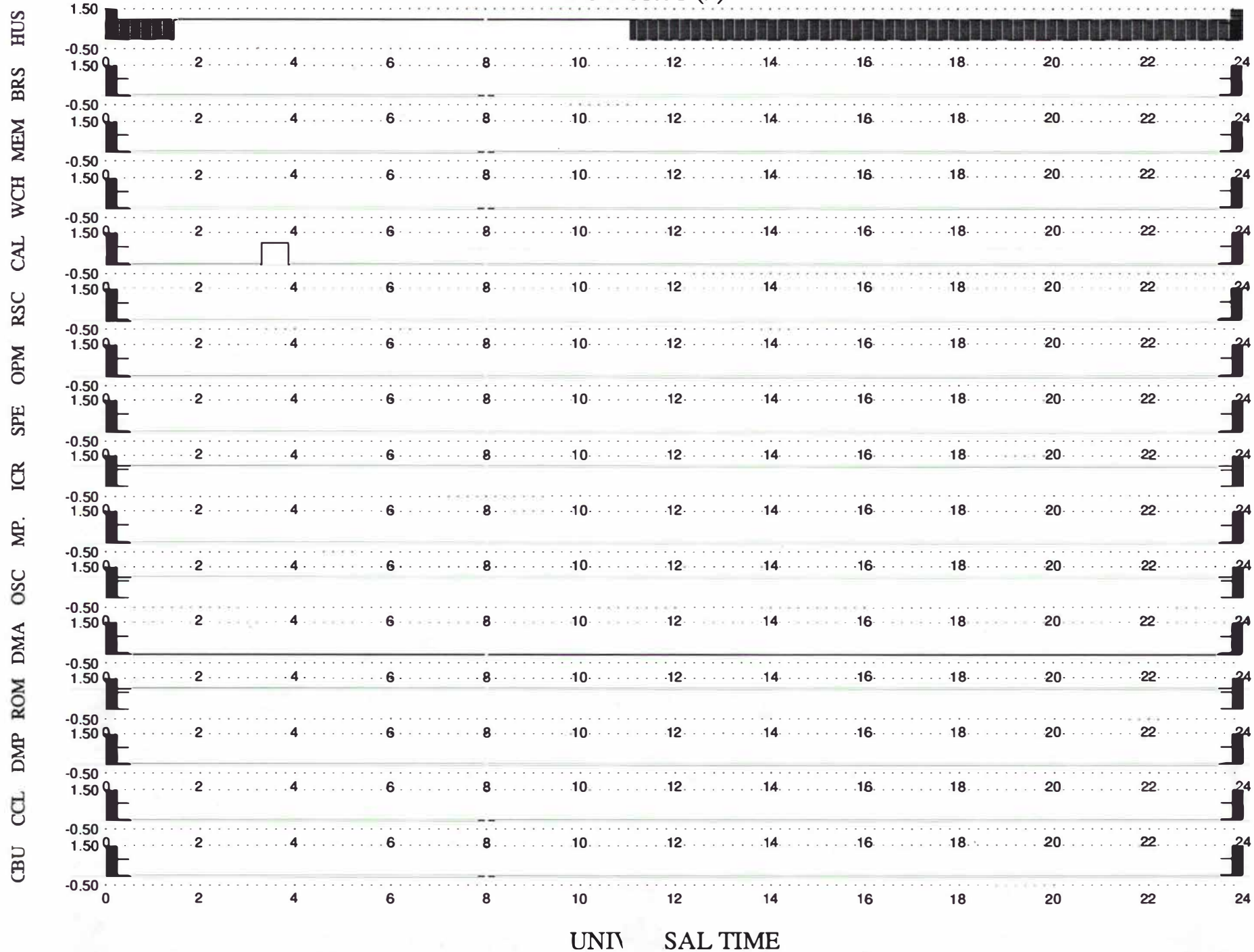
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

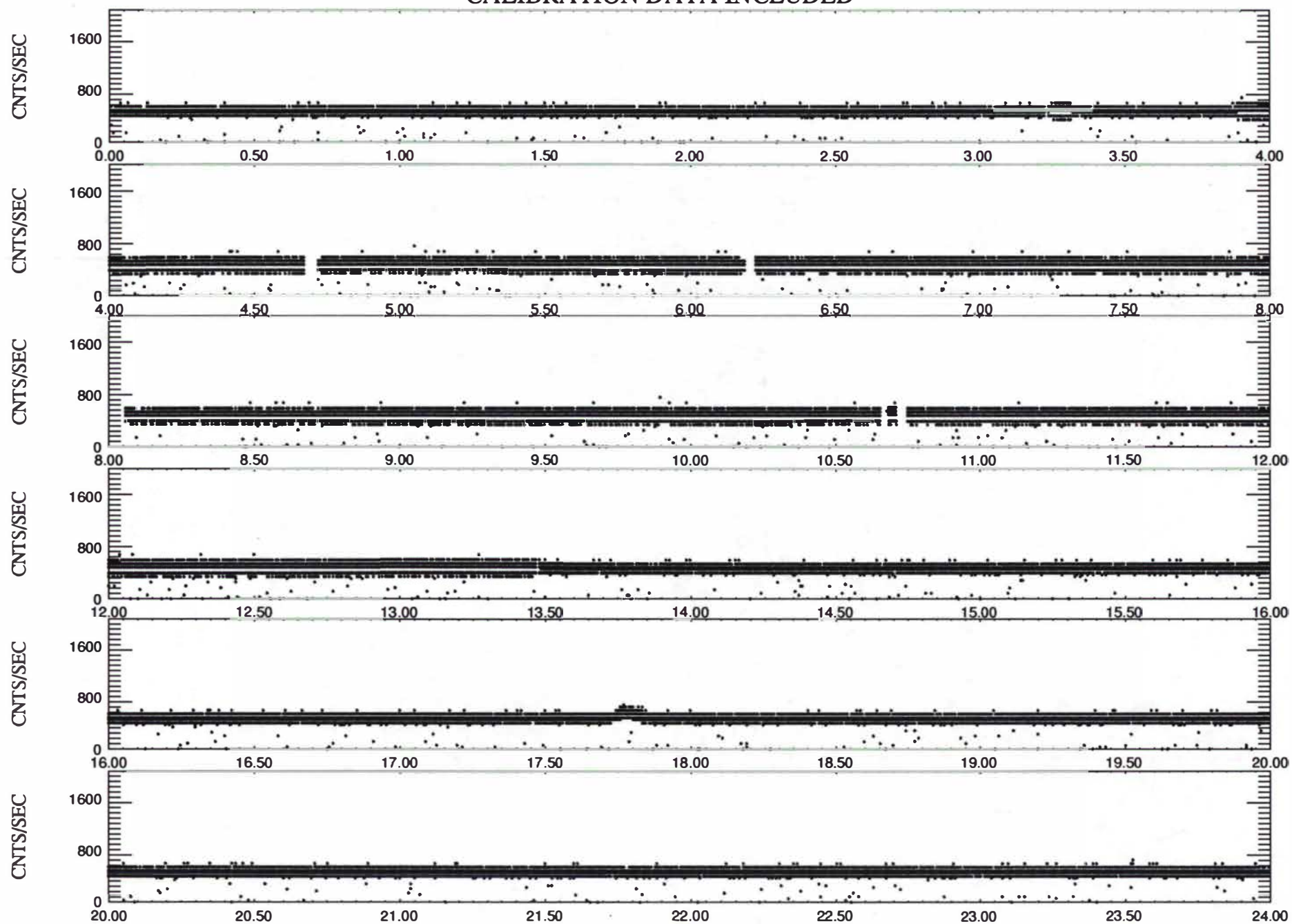
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

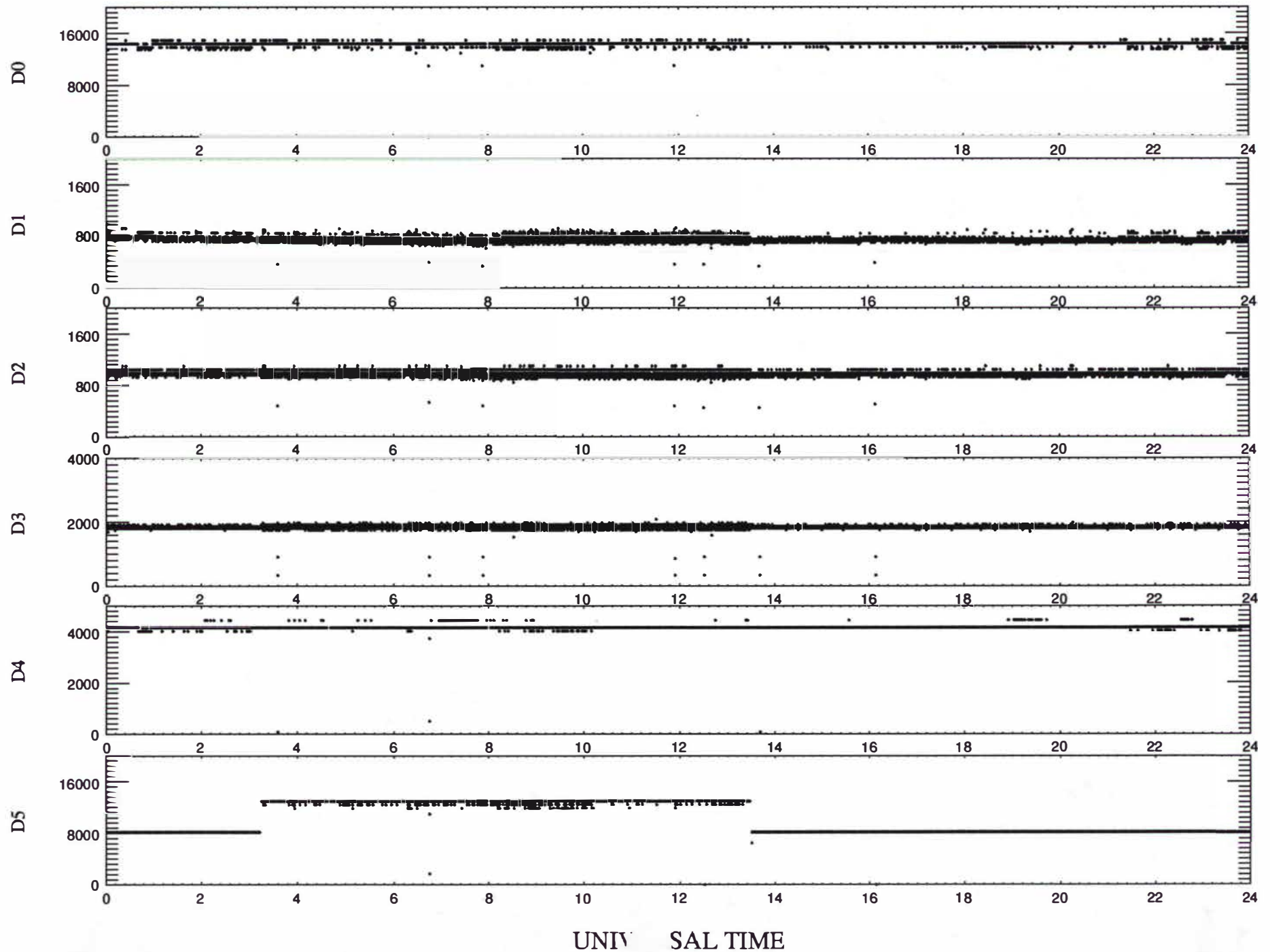
NO BURST (9)



CALIBRATION DATA INCLUDED



UNIT SAL TIME



From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

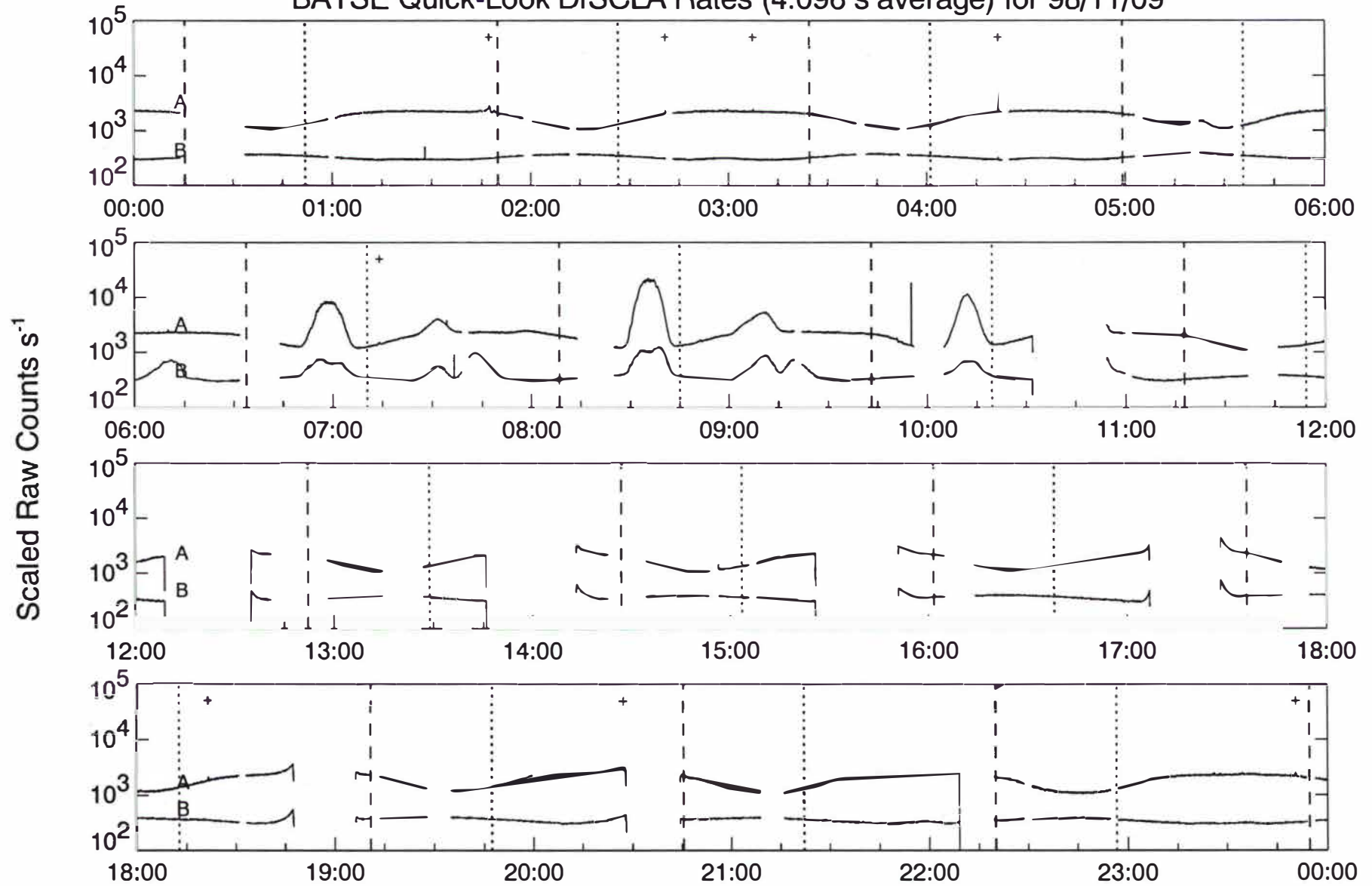
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS: NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/09

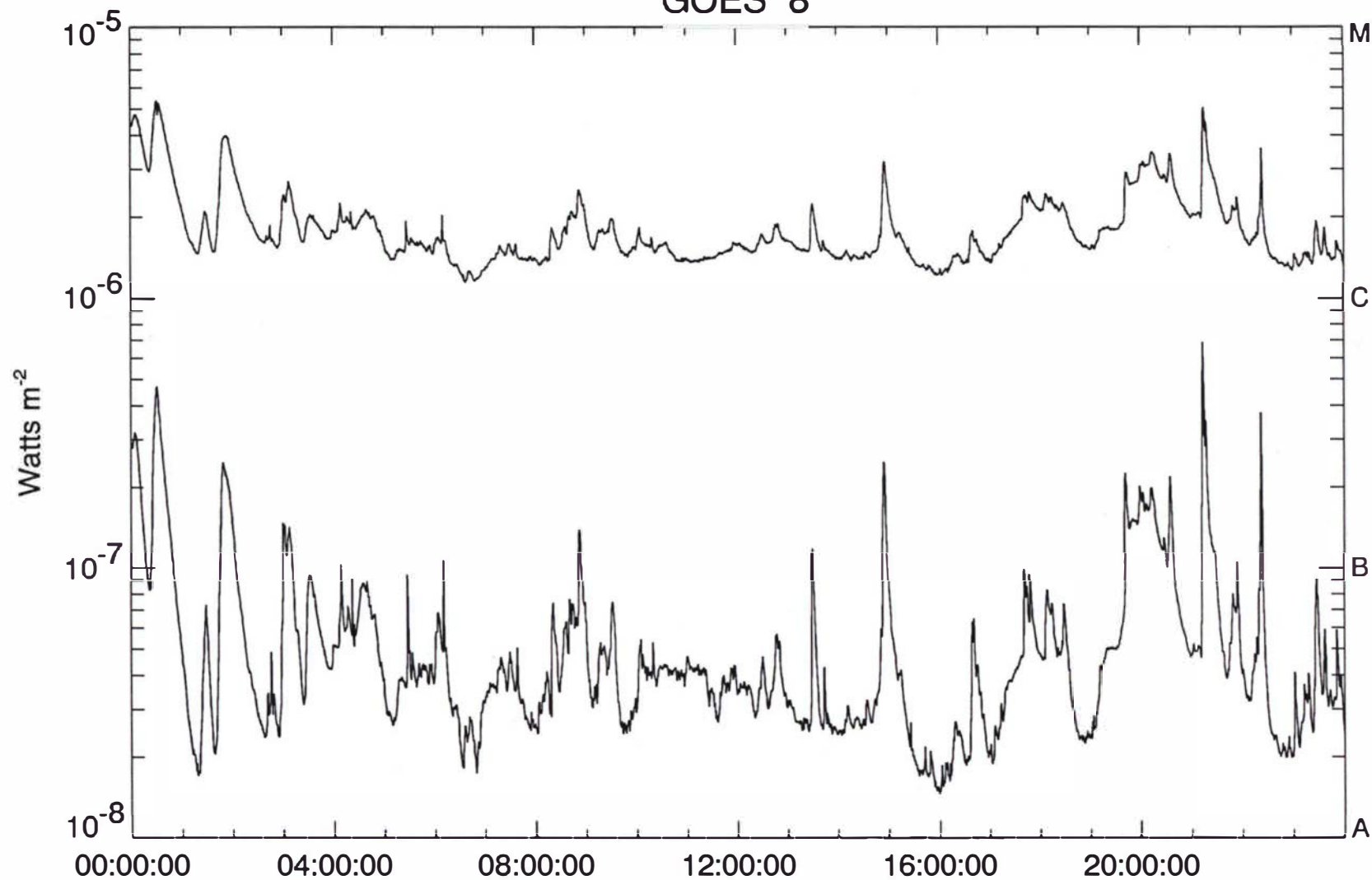


Current Time: 98/11/13, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/09, 0000:00

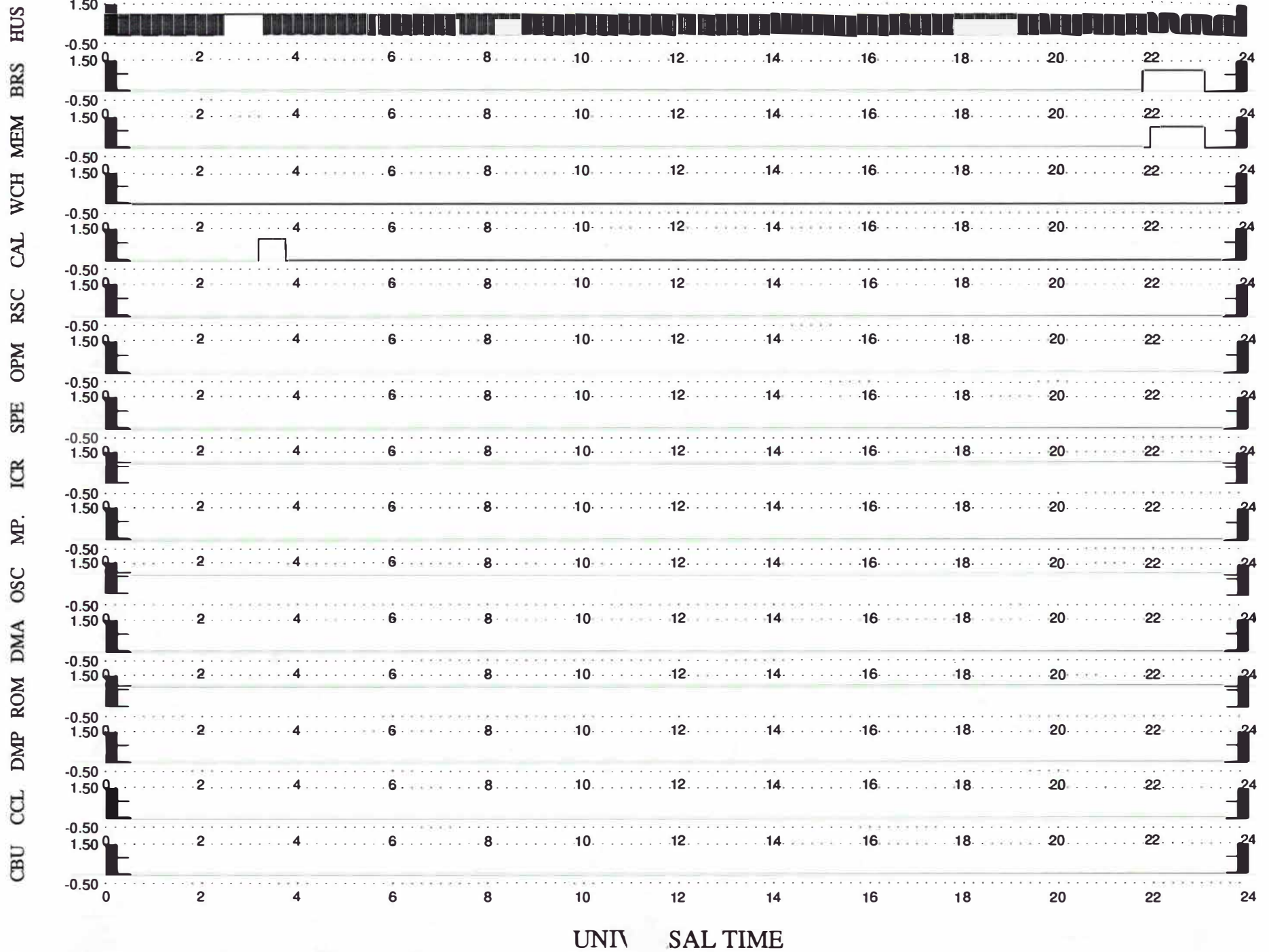
Plot created: 98/11/13, 1007

Channel

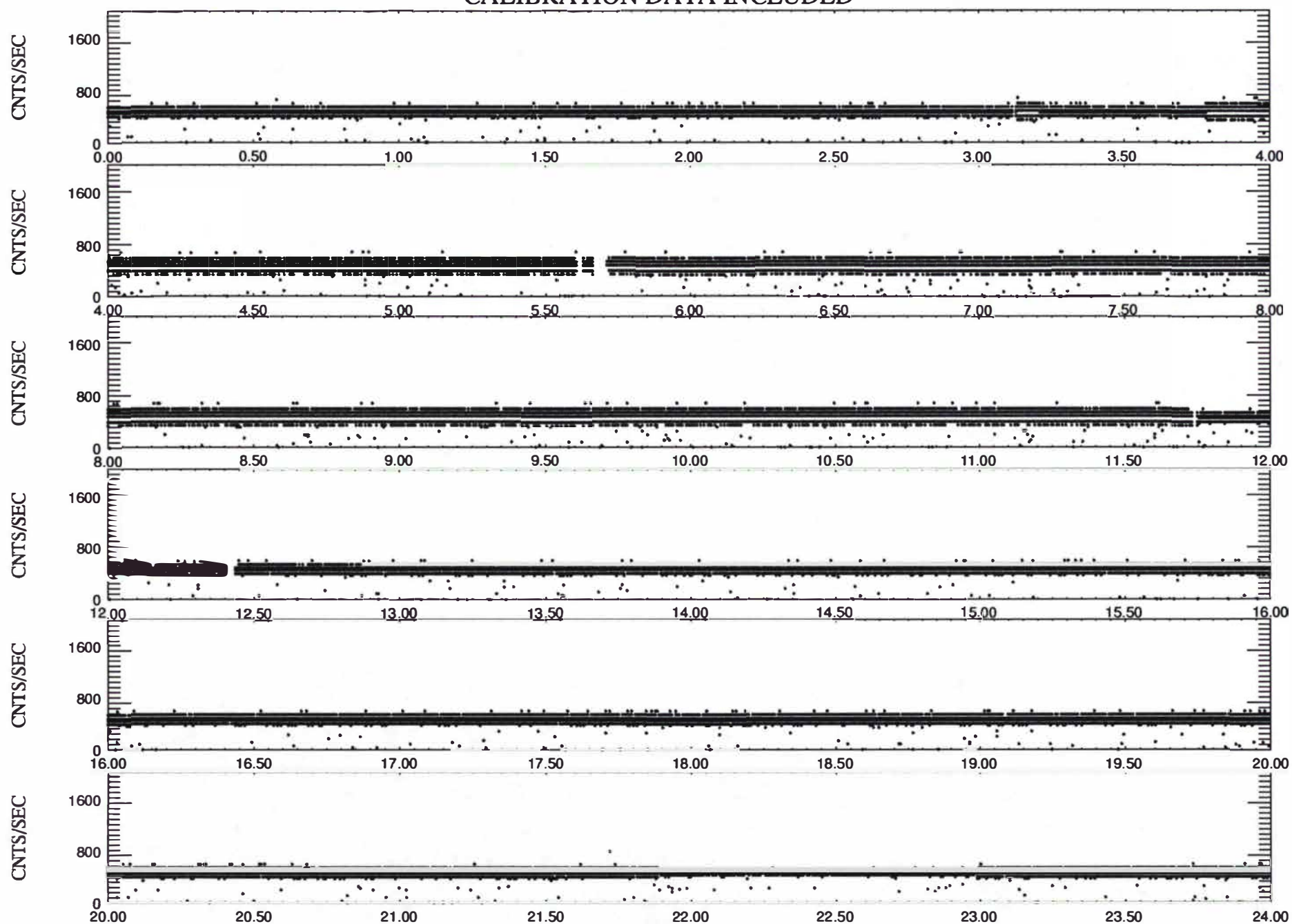
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 10

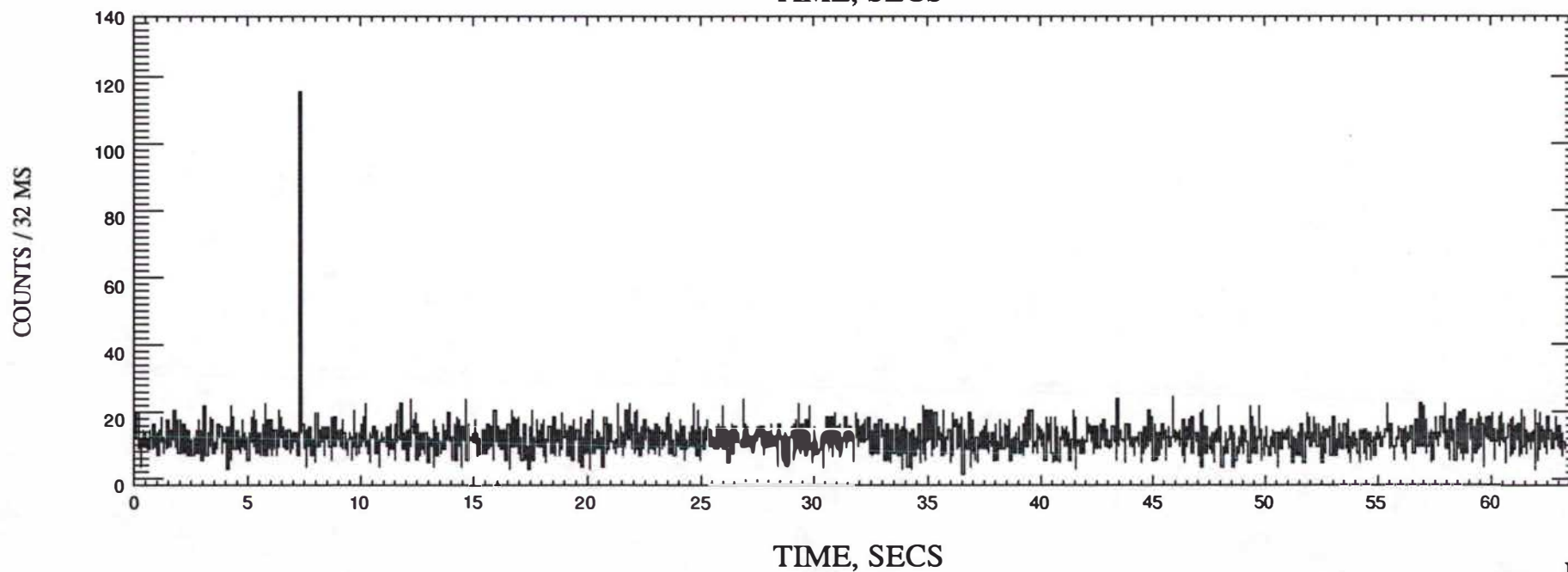
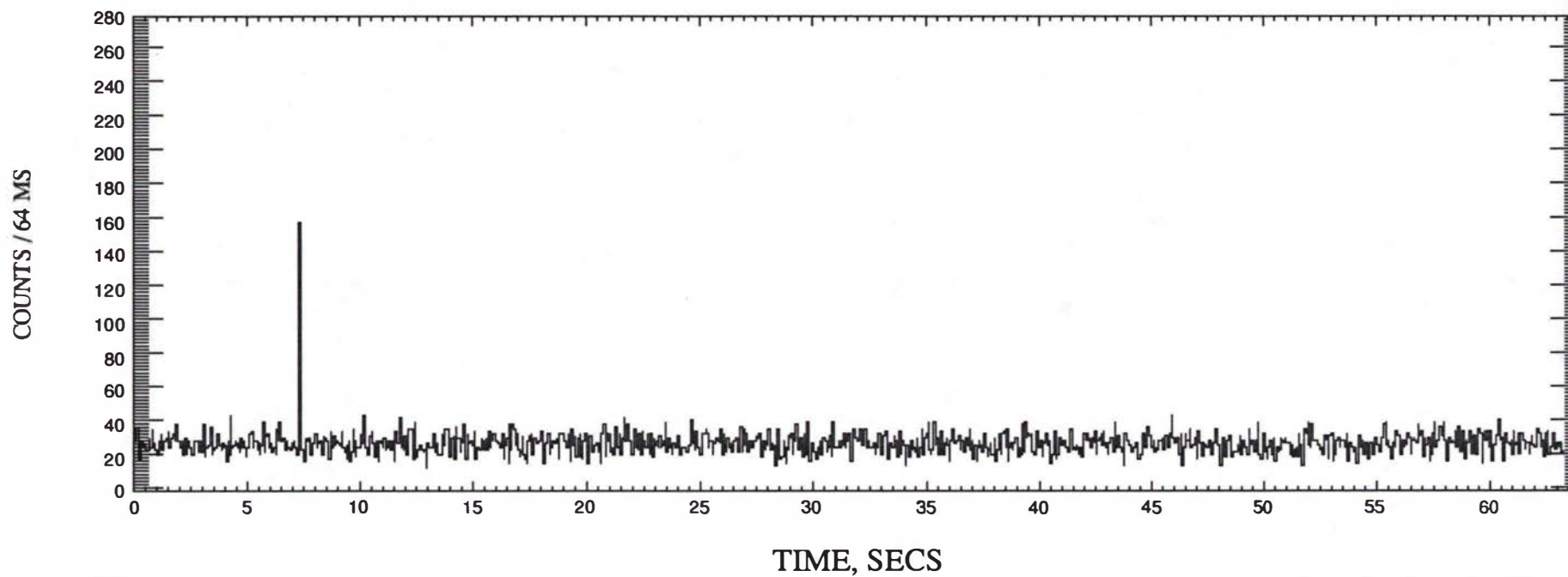


CALIBRATION DATA INCLUDED

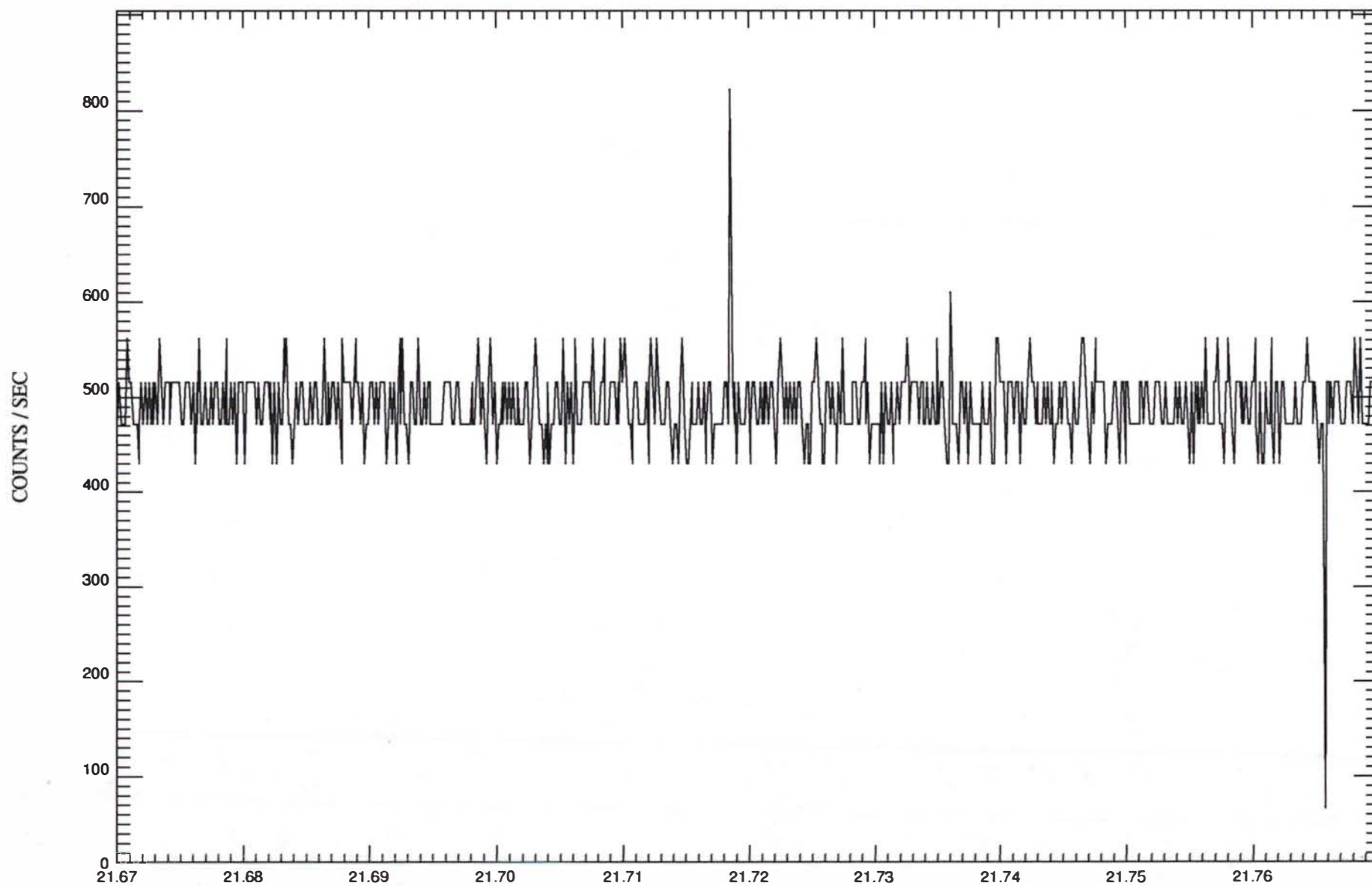


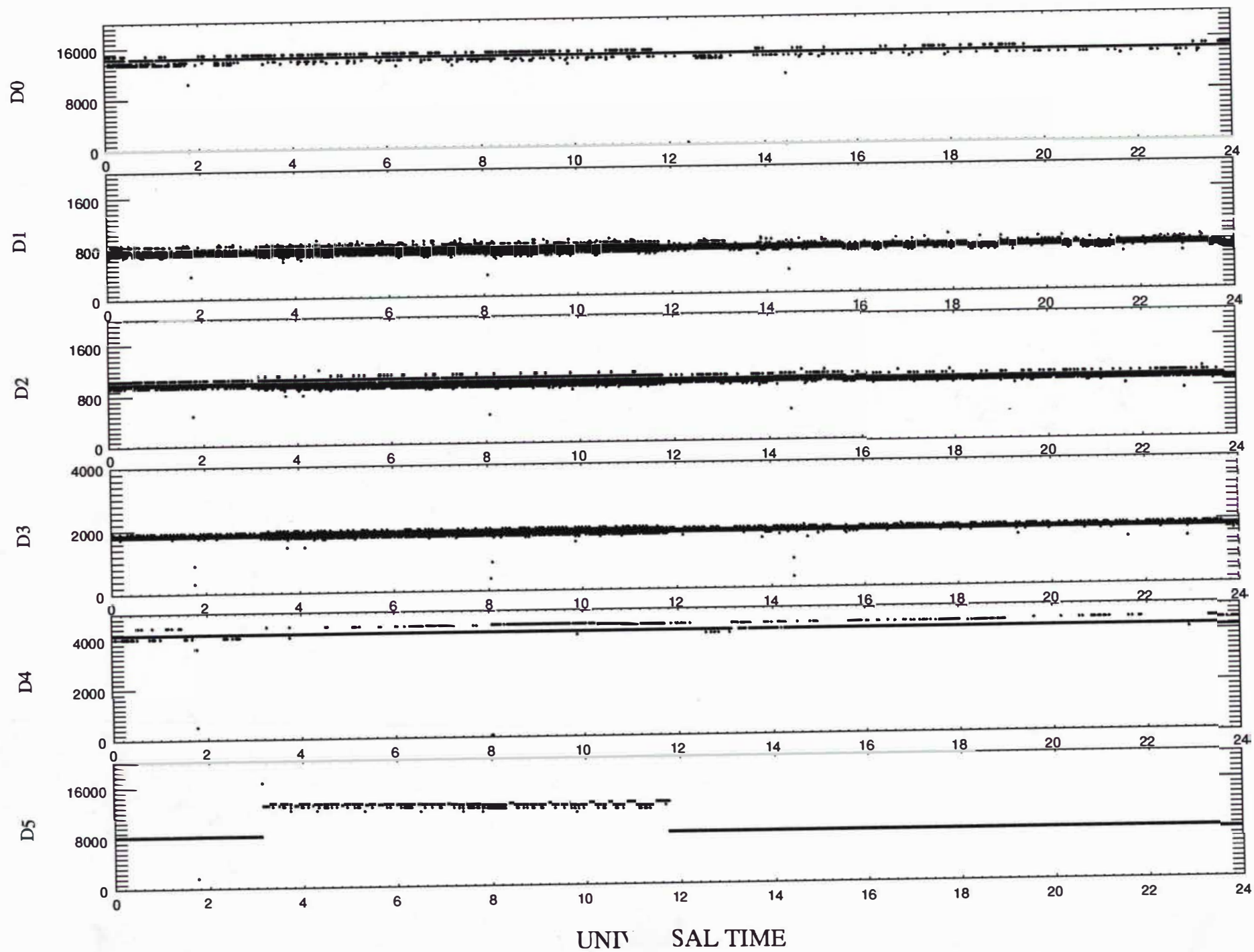
UNIT SAL TIME

Burst Counter 10 at UT=21.718596204122 h=78186.946 s 21:43:06.946



CALIBRATION DATA INCLUDED





From khurley@sunspot Sat Nov 21 11:17 PST 1998

Date: Sat, 21 Nov 1998 11:16:17 -0800

From: khurley@sunspot (Kevin Hurley)

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

Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list

(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS: NO

From RICHARDSON@fender.msfc.nasa.gov Thu Nov 12 09:30:34 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 12 Nov 1998 11:18:20 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@estsa2.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.: 7203

TIME: TJD=1127 SECONDS=24746

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=133.4 AZIMUTH=336.6 ERROR=0.2 DEGREES

COMMENTS:

SOLAR FLARE. UNDETERMINED GOES AND OPTICAL CLASSIFICATION.

STRONG PULSE WITH PRE AND EXTENDED EMISSION. TOTAL DURATION APPROX. = 110 SEC.

NOT VISIBLE ABOVE 300KEV.

From RICHARDSON@fender.msfc.nasa.gov Thu Nov 12 09:31:01 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 12 Nov 1998 11:19:28 -0600 (CST)

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.: 7204

TIME: TJD=1127 SECONDS=48213

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Thu Nov 12 09:31:35 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 12 Nov 1998 11:20:27 -0600 (CST)

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.: 7205

TIME: TJD=1127 SECONDS=78422

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Thu Nov 12 09:29:53 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 JAA23031; Thu, 12 Nov 1998 09:29:52 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA23977; Thu, 12 Nov 1998 09:29:50 -0800
Date: Thu, 12 Nov 1998 11:24:01 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981112112401.20229d3a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7206
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7206
EVENT OF 1998 NOV 10 DAY OF YEAR=314
EVENT CROSSING TIME AT BATSE : 82359. S. OR 22:52:39.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 169.000 -45.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/11/ 98 IS:
RA= 166.290 DEC= -3.400 DIST= 5.694 AU
BATSE-ULYSSES DISTANCE = 851895269. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.33 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2122.72 SECS.
CROSSING TIME AT ULYSSES IS 80236. S. OR 22:17:16 +/- 345.75 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/11/ 98 IS:
RA= 171.454 DEC= 5.382 DIST= 1.968 AU
MARS-BATSE DISTANCE = 294476352. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=129.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -625.72 SECS.
CROSSING TIME AT MARS IS 81733. S. OR 22:42:13 +/- 121.96 SECONDS

BATSE BURST TRIGGER

NO.: 7206

TIME: TJD=1127 SECONDS=82359

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=60.2 AZIMUTH=5.5 ERROR=4.2 DEGREES

COMMENTS:

GRB SINGLE PULSE. DURATION APPROX. = 15 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7206	981110	11127	82359	4500	169	-45	15

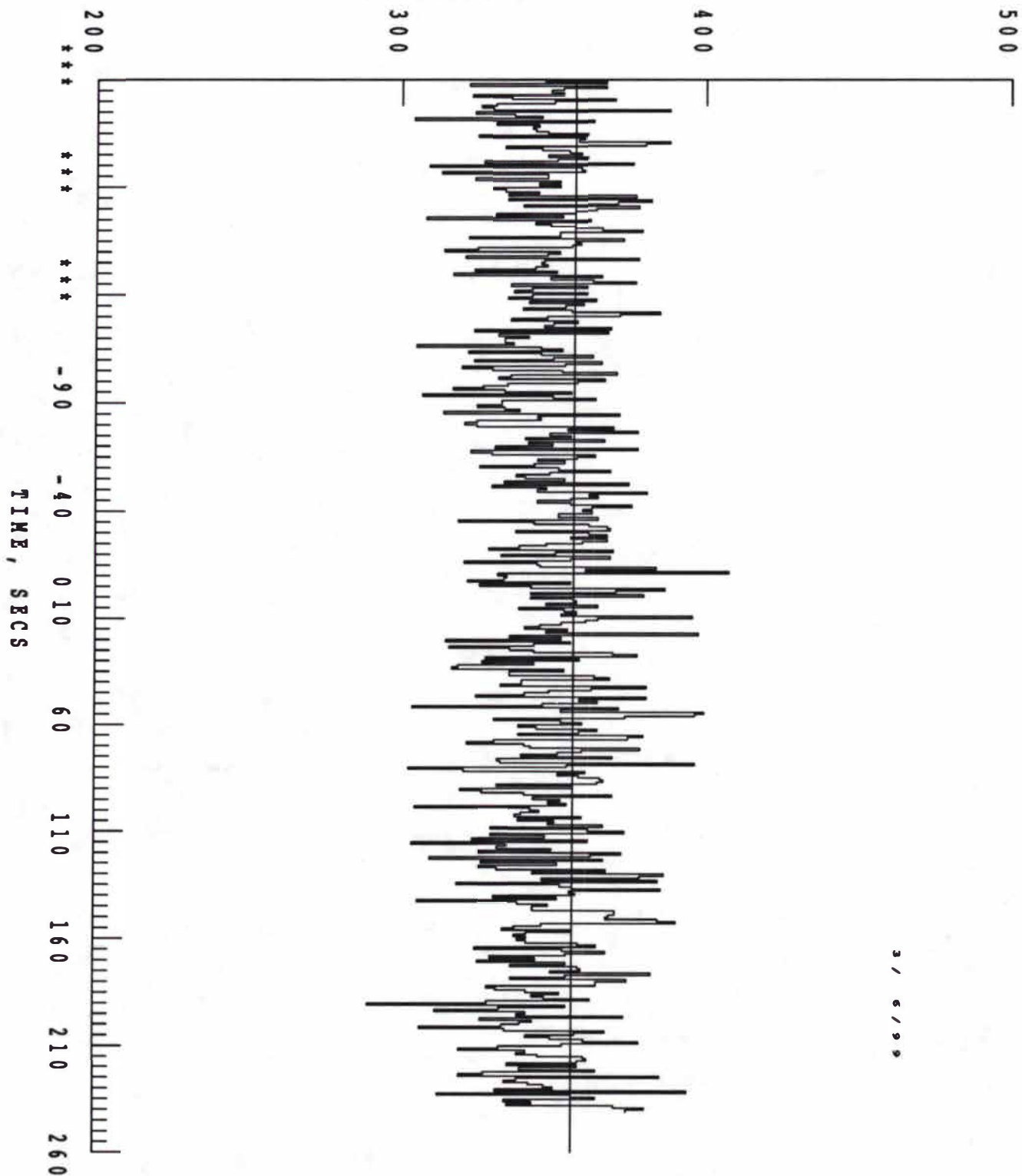
NEAR

10/11/98

82337.410

100-1000 keV

COUNTS/1.000 S



BATSE BURST# 7206

ULYSSES RT

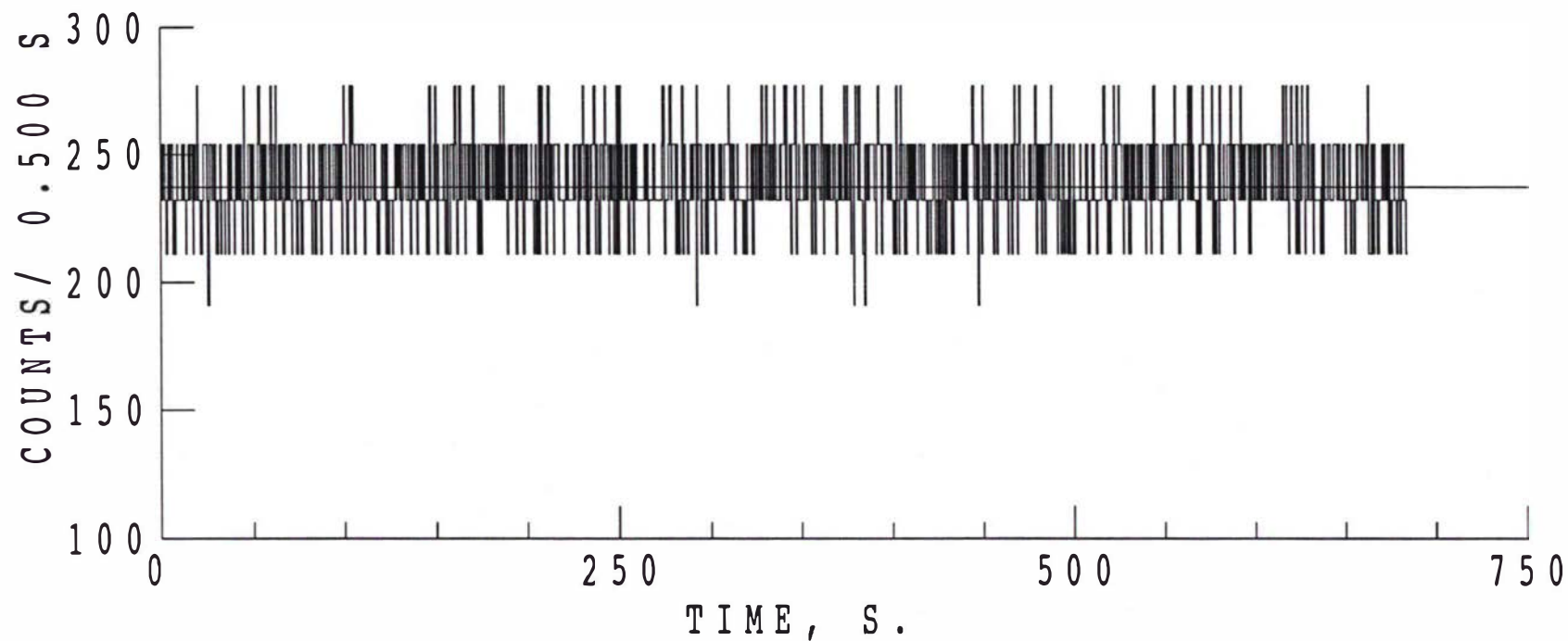
12 / 11 / 98

10 / 11 / 98 79884.195 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

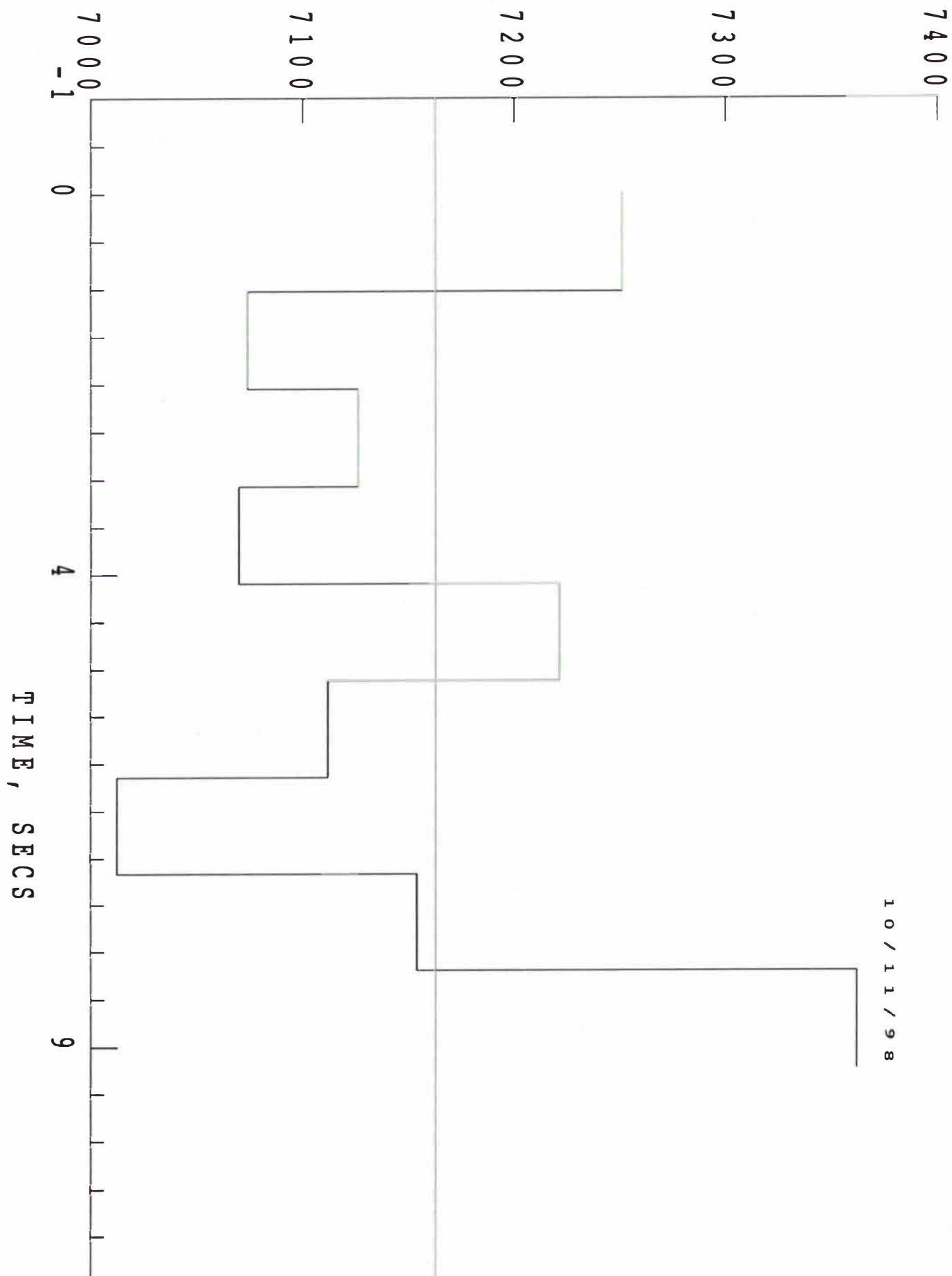
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



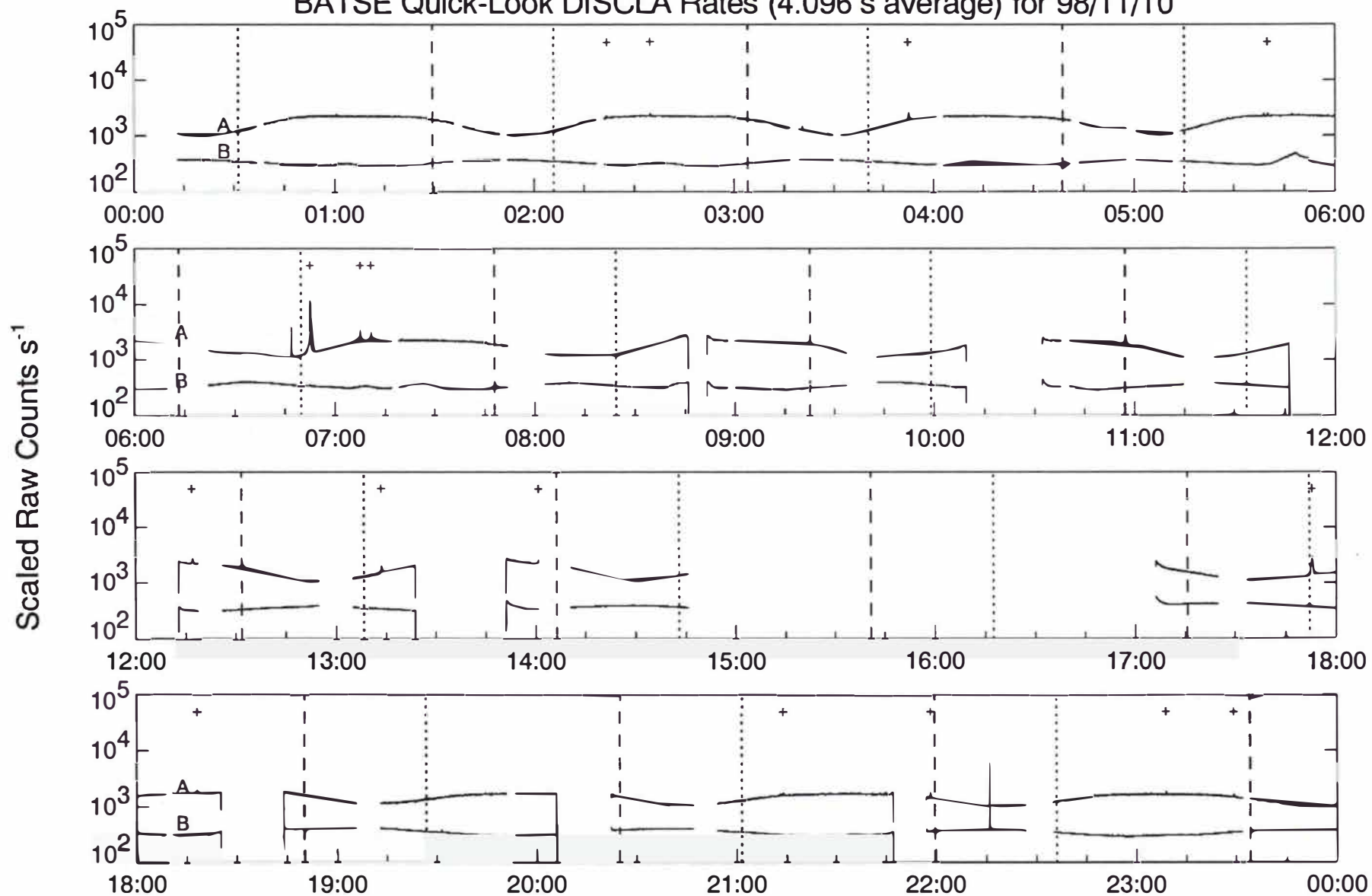
BACODINE 7206 10/11/98 82347.745

25- 100 keV

COUNTS/1.024 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/10

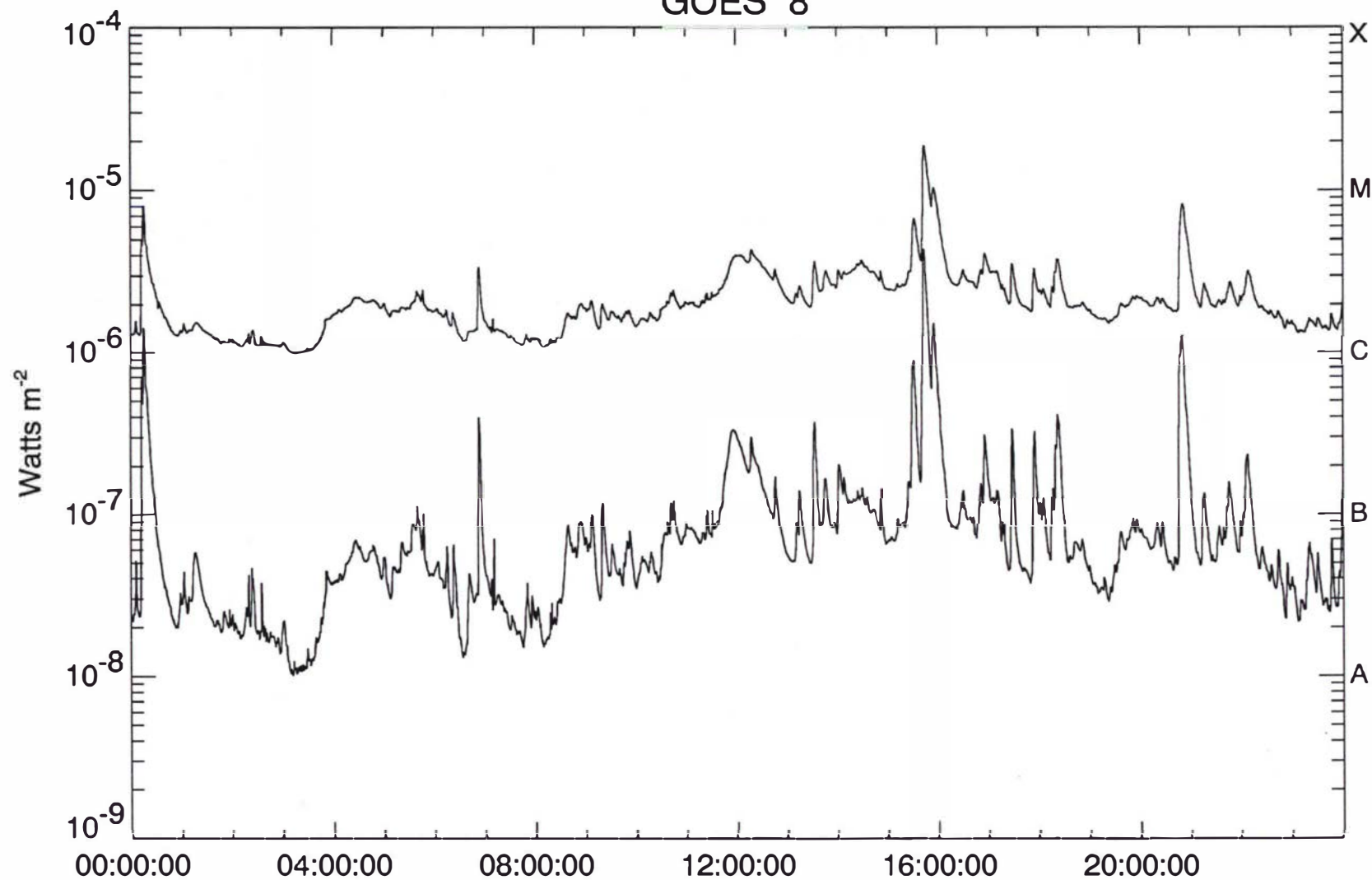


Current Time: 98/11/14, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/10, 0000:00

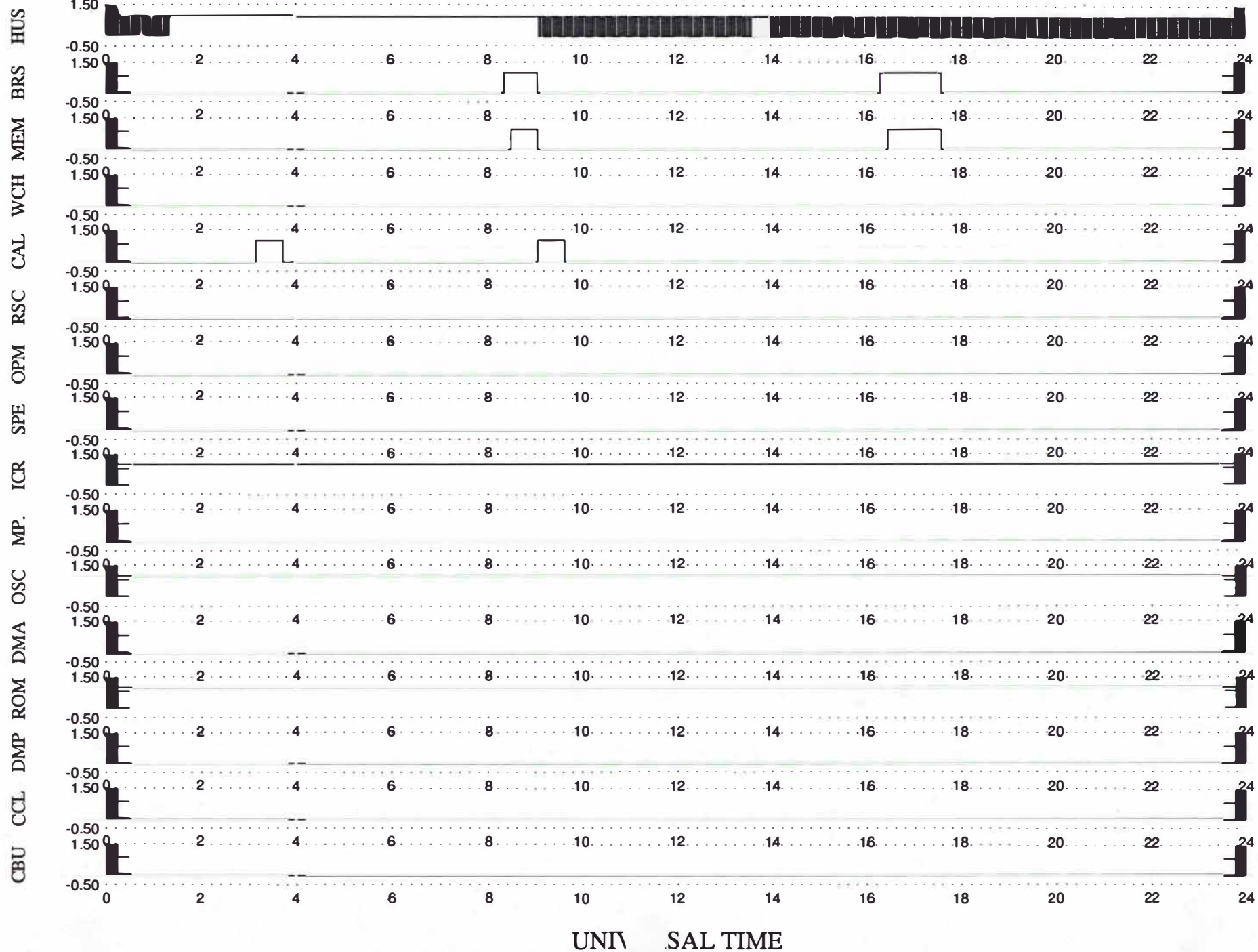
Plot created: 98/11/14, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

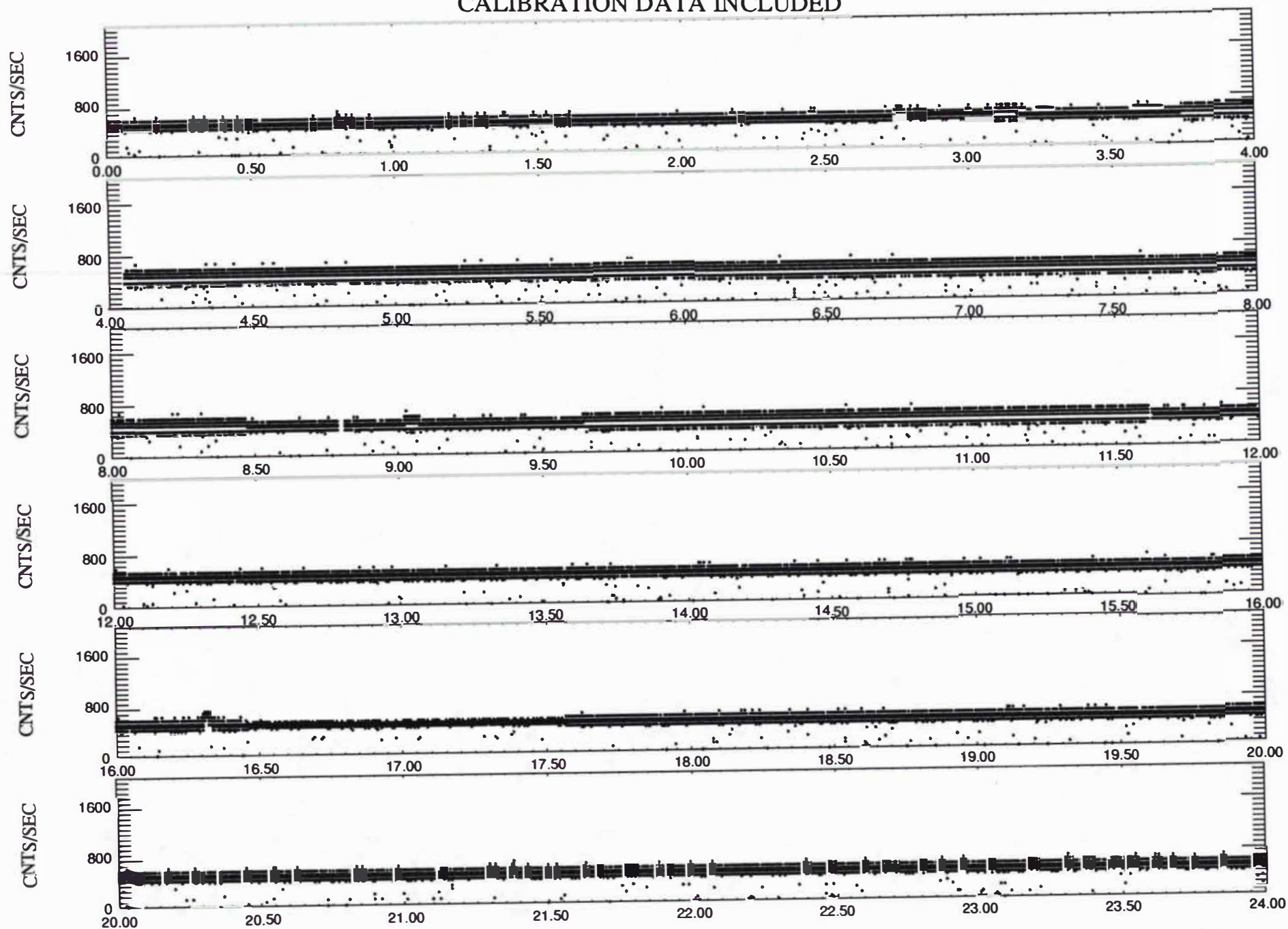
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 11, 12

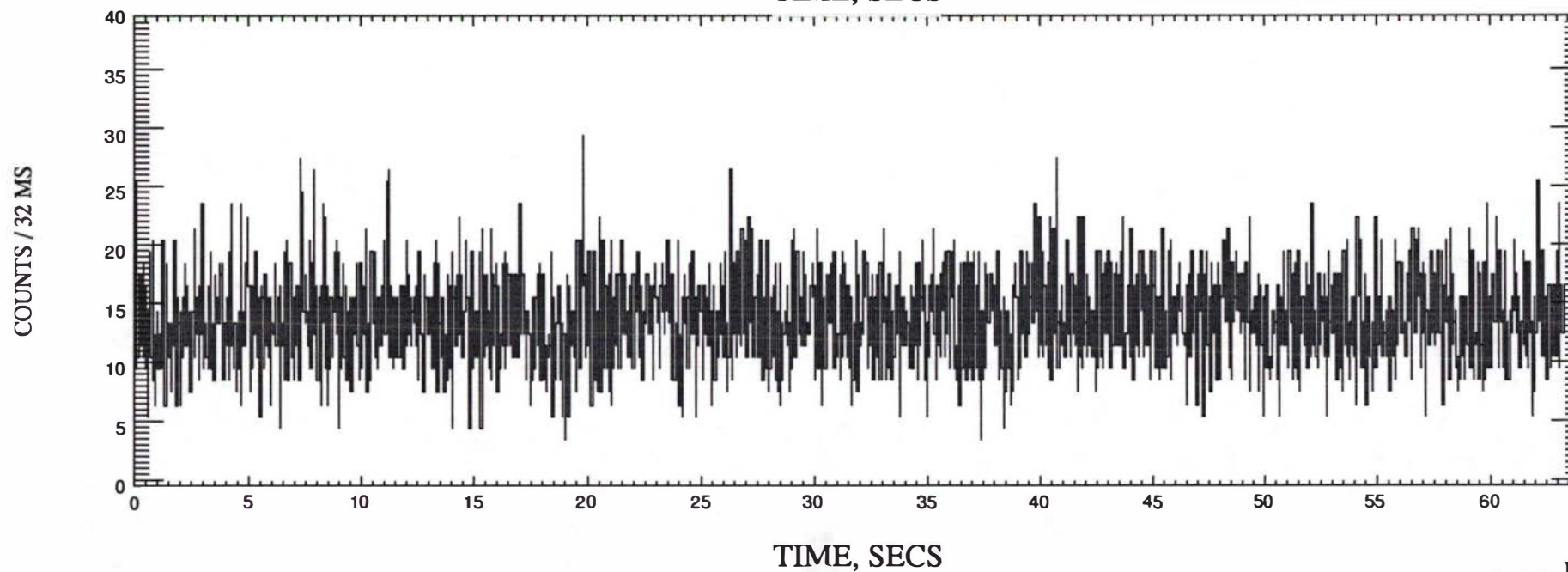
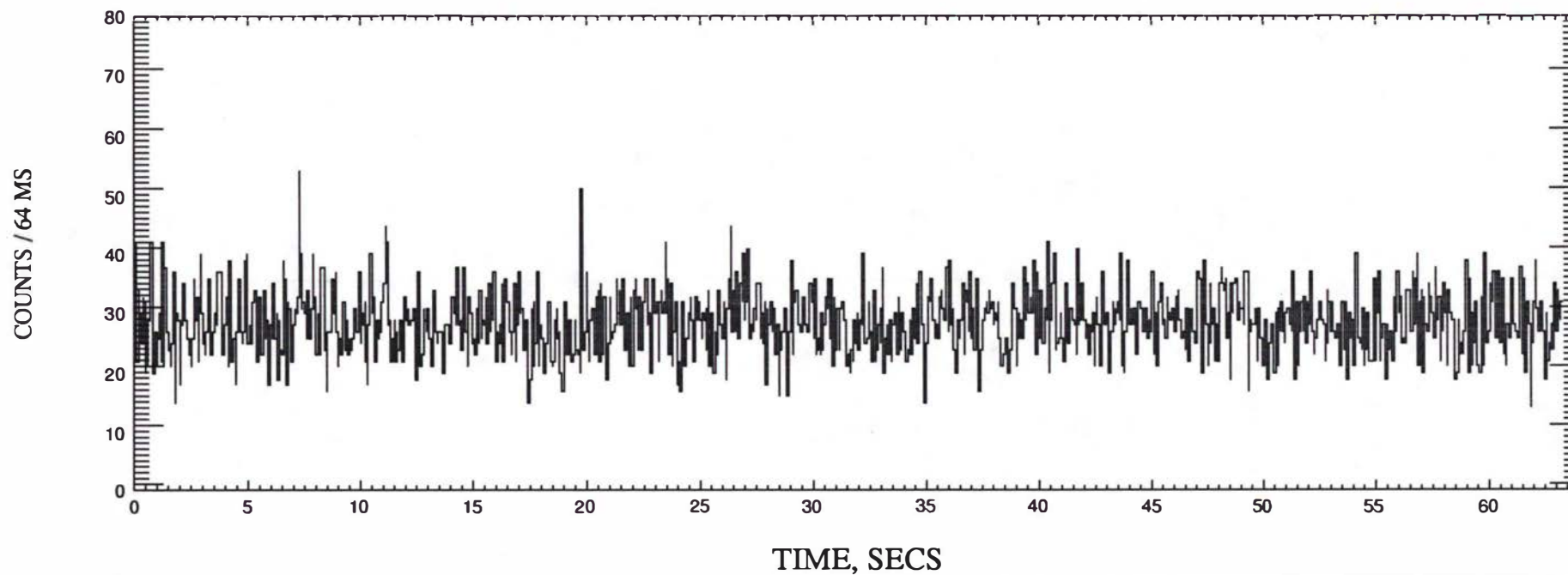


CALIBRATION DATA INCLUDED

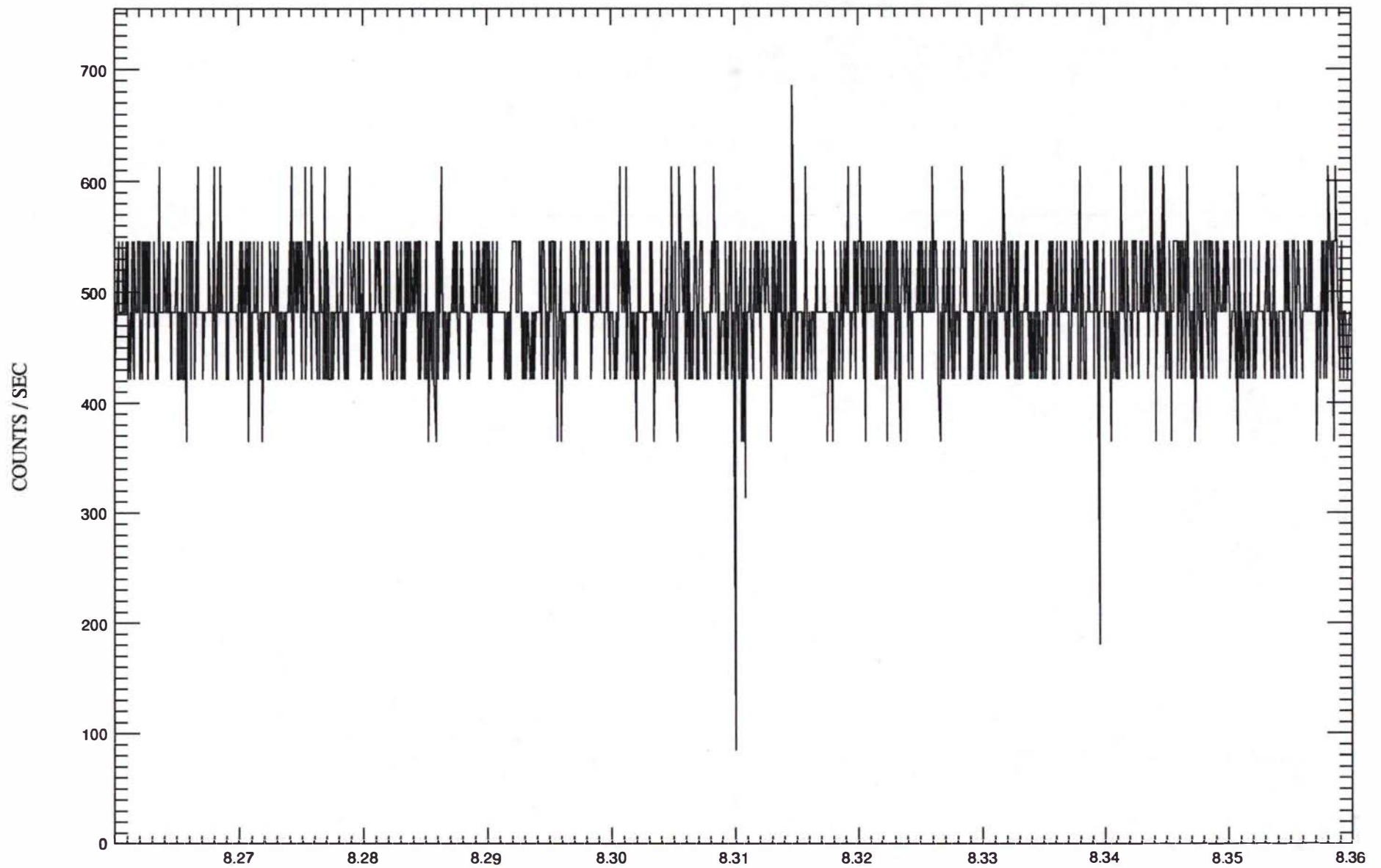


UNIT SAL TIME

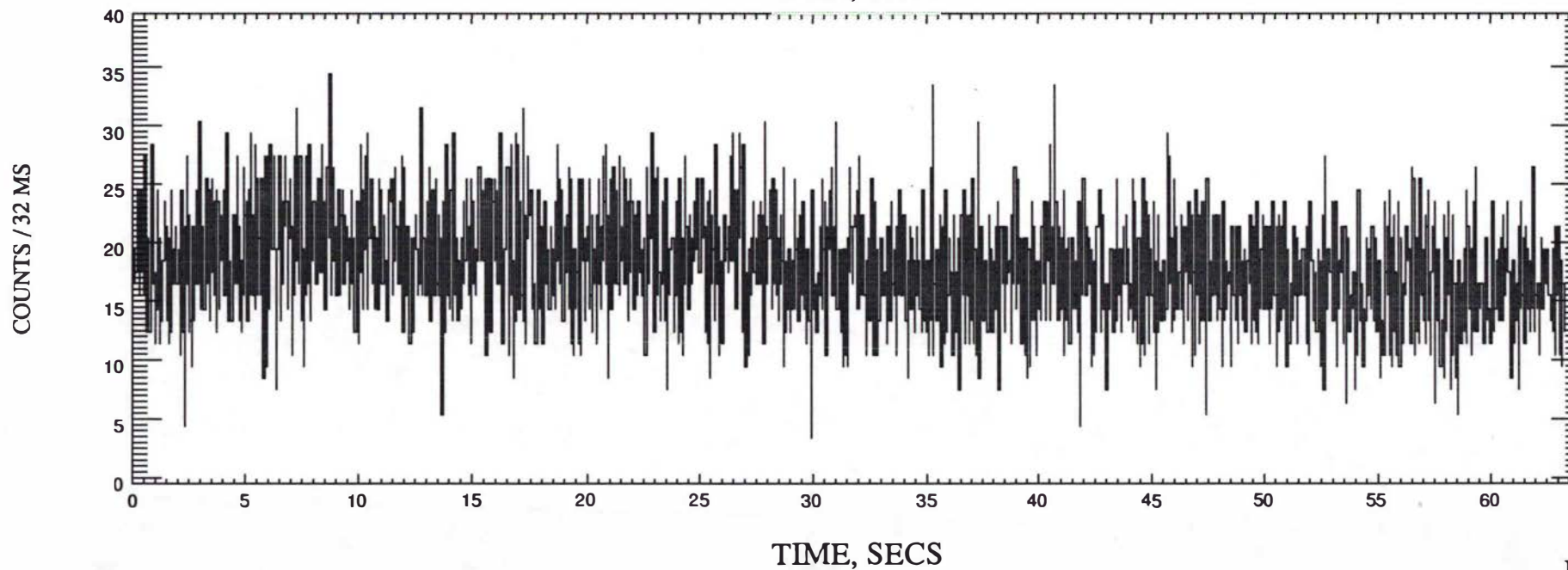
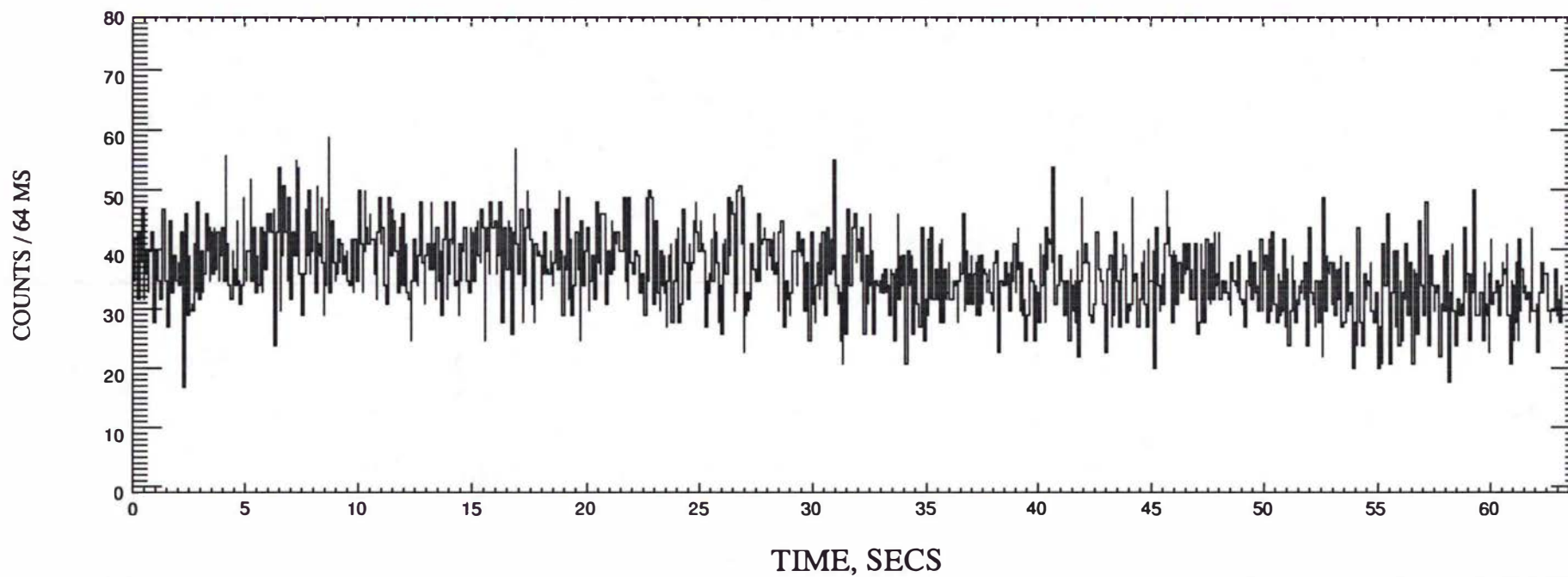
Burst Counter 11 at UT= 8.314841329787 h=29933.429 s 08:18:53.429



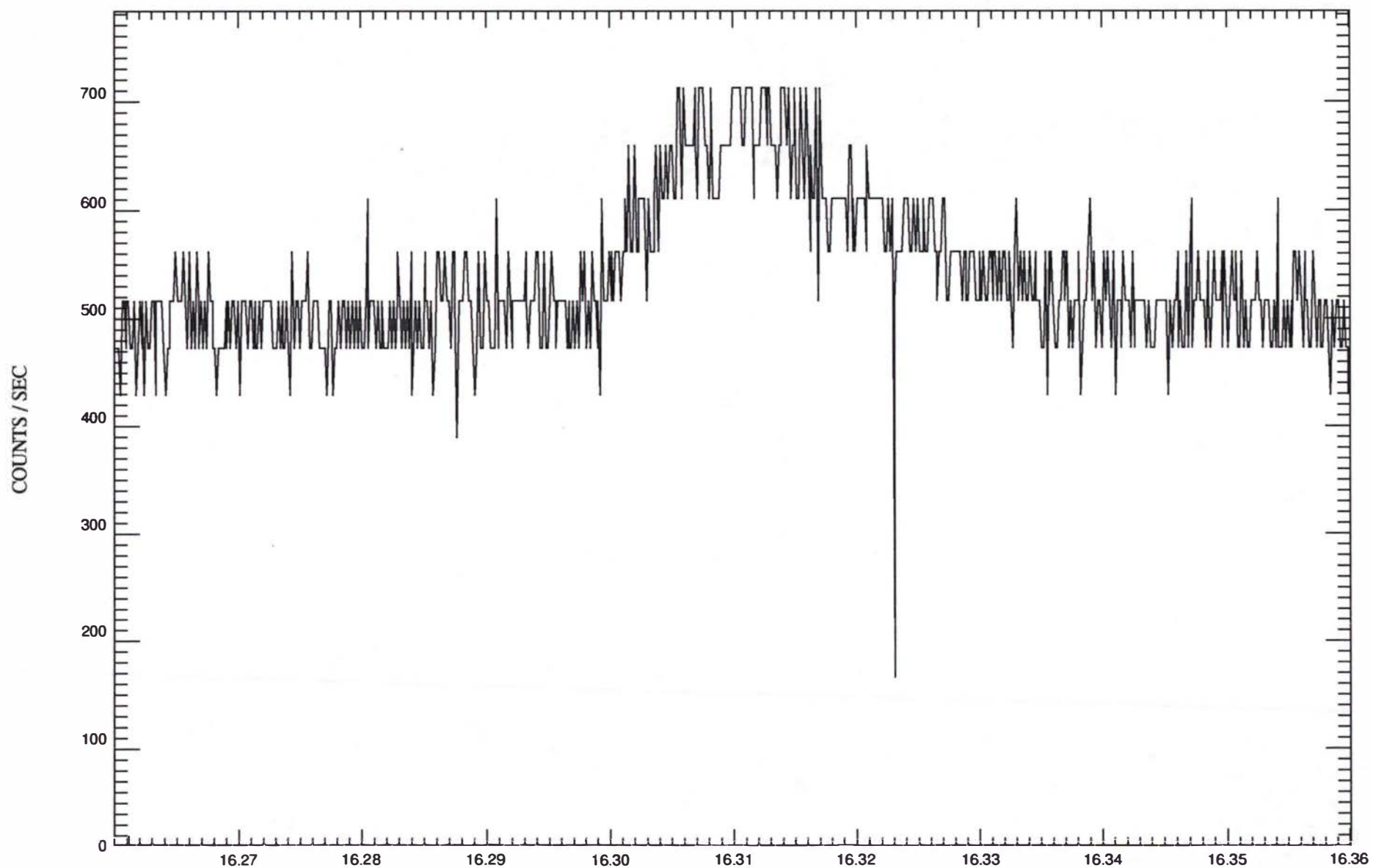
CALIBRATION DATA INCLUDED

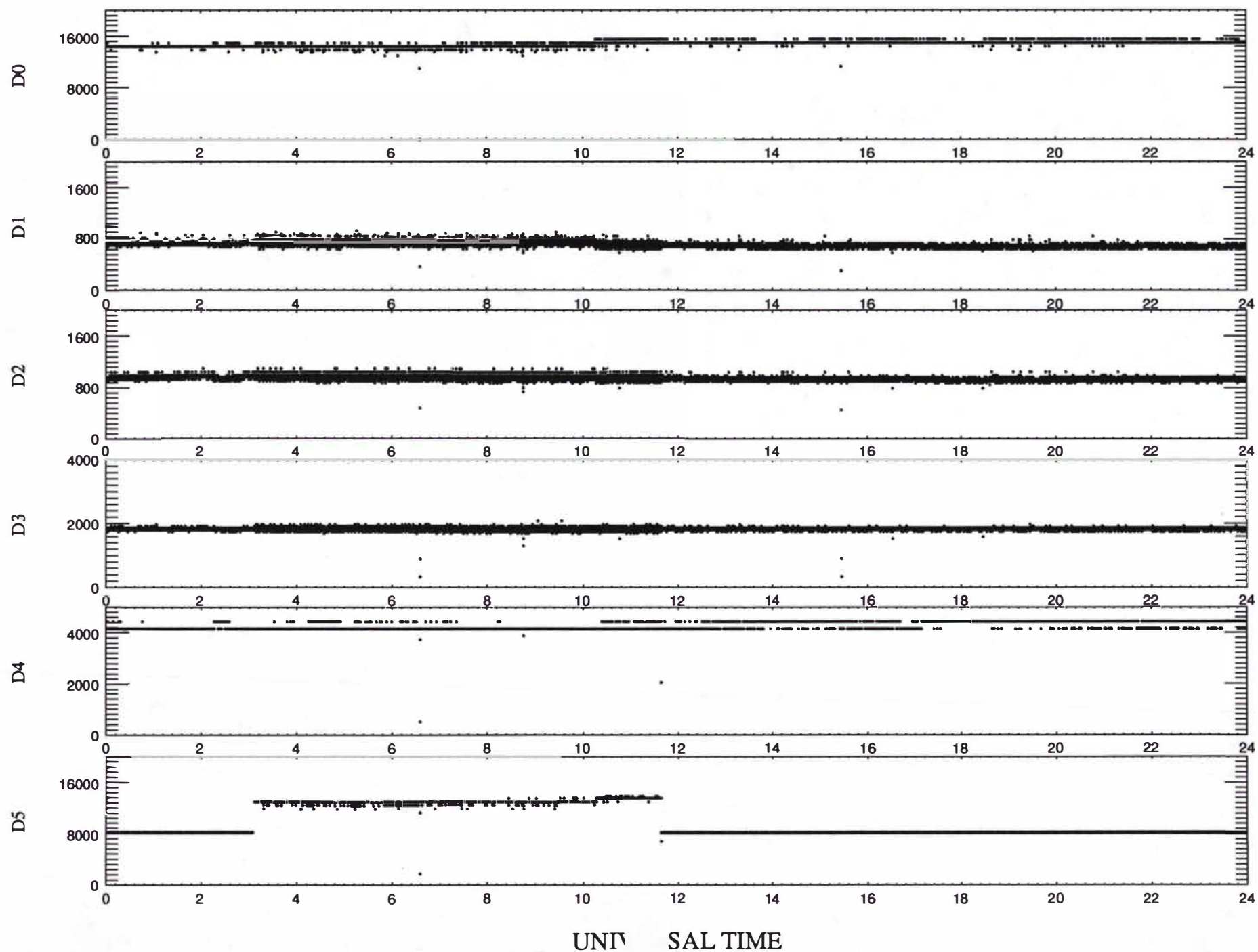


Burst Counter 12 at UT=16.310339071486 h=58717.221 s 16:18:37.221



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Fri Nov 13 11:36:02 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 LAA20977; Fri, 13 Nov 1998 11:36:02 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16995; Fri, 13 Nov 1998 11:35:58 -0800
Date: Fri, 13 Nov 1998 13:36:00 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981113133600.2022df3f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7207
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7207
EVENT OF 1998 NOV 11 DAY OF YEAR=315
EVENT CROSSING TIME AT BATSE : 24220. S. OR 06:43:40.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 111.000 66.000
BATSE PEAK COUNTING RATE: 10500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/11/ 98 IS:
RA= 166.310 DEC= -3.434 DIST= 5.689 AU
BATSE-ULYSSES DISTANCE = 851107233. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=100.16 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -500.67 SECS.
CROSSING TIME AT ULYSSES IS 23719. S. OR 06:35:19 +/- 527.56 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/11/ 98 IS:
RA= 171.994 DEC= 5.159 DIST= 1.960 AU
MARS-BATSE DISTANCE = 293272640. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -272.52 SECS.
CROSSING TIME AT MARS IS 23947. S. OR 06:39:07 +/- 158.98 SECONDS

BATSE BURST TRIGGER

NO.: 7207

TIME: TJD=1128 SECONDS=24220

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 80.9 AZIMUTH=136.4 ERROR= 1.5 DEGREES

COMMENTS:

MULTIPEAKED, TOTAL DUR. APPROX. 45 S, STARTS AT APPROX. T-7 S, MAX AT APPROX.
T+5.5 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7207	981111	11128	24220	10500	111	+66	45

Date: 1/17/00

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

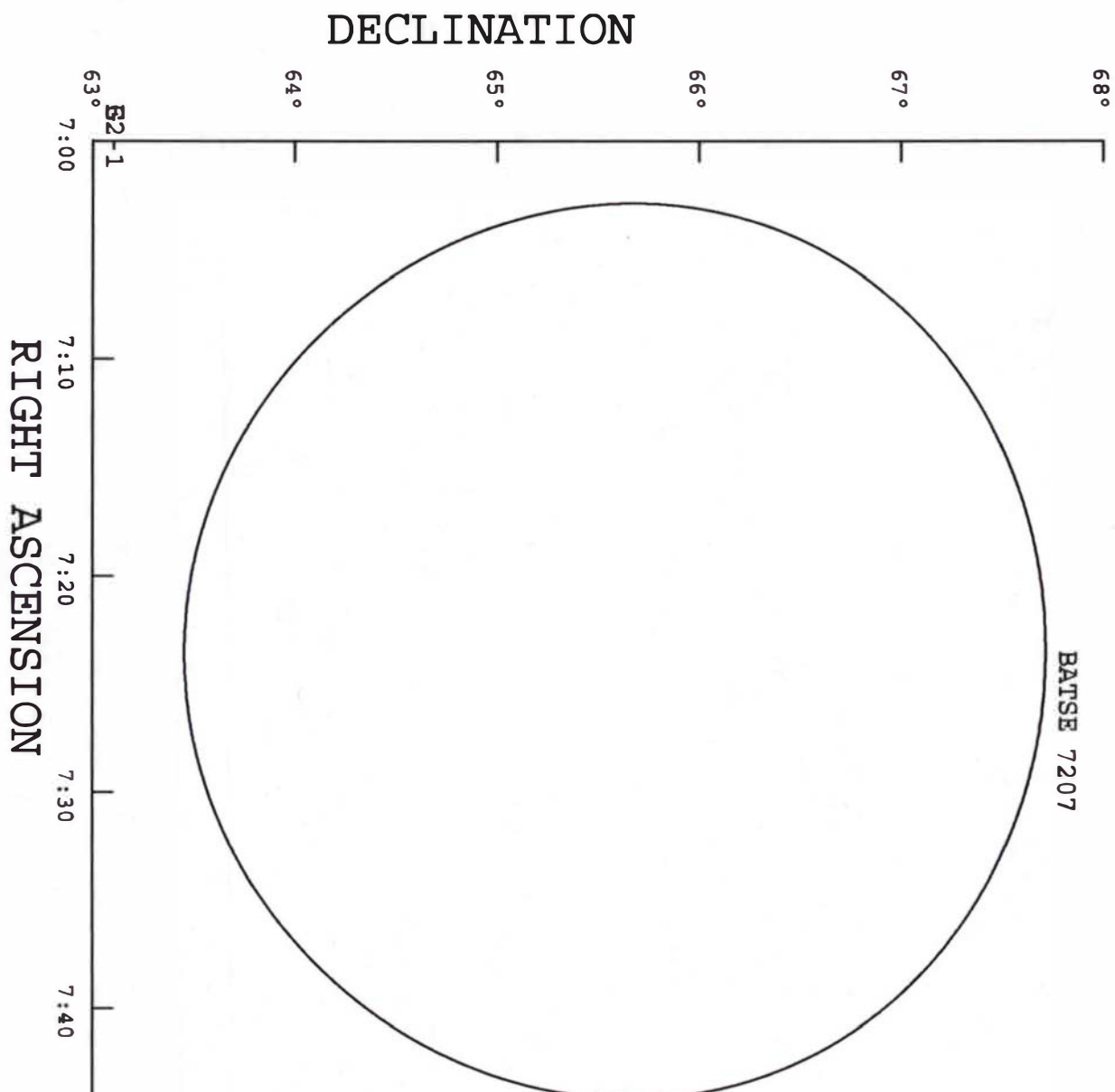
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF NOV 11, 1998 6:43

17 / 1 / 0



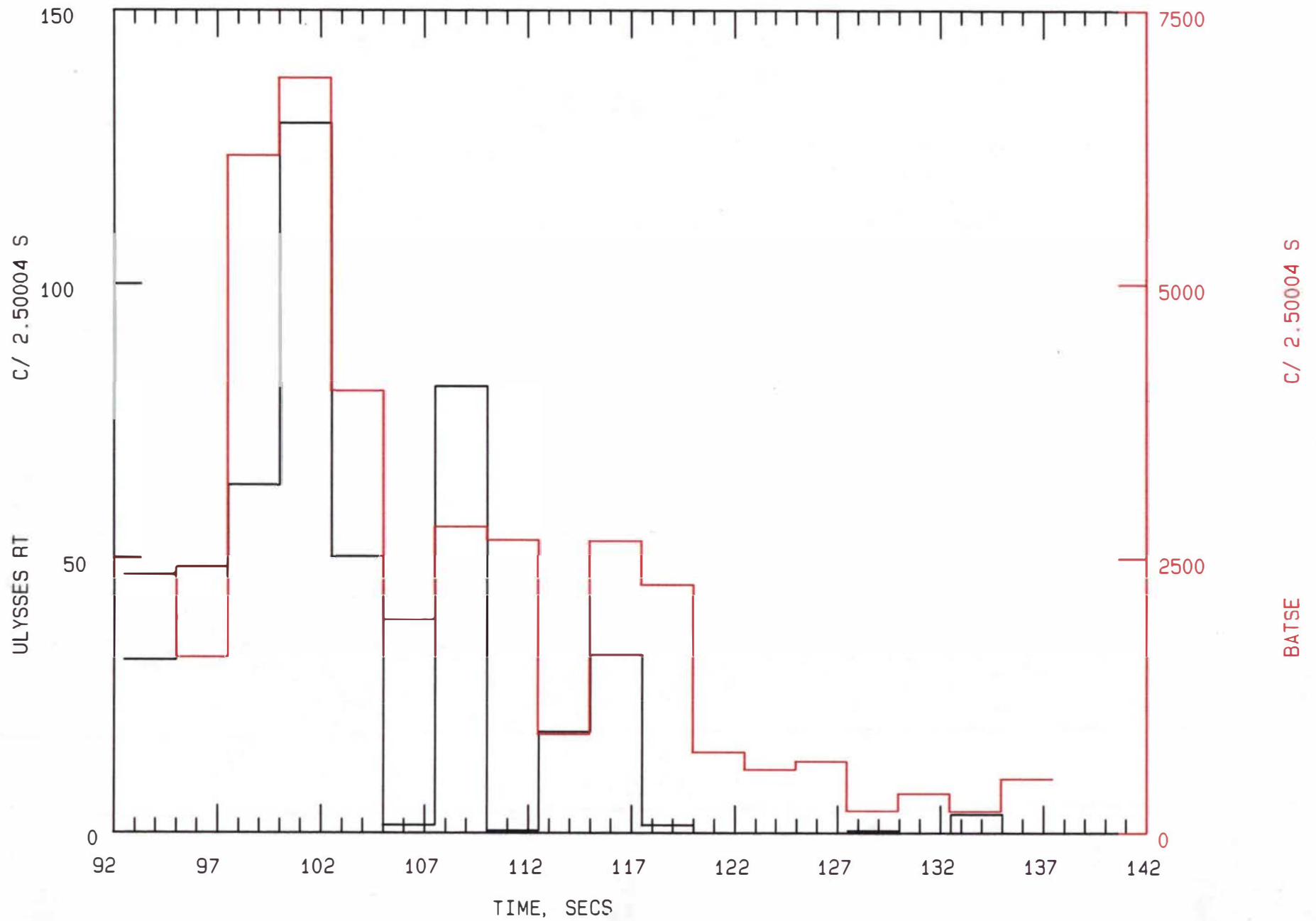
ULYSSES RT-BATSE

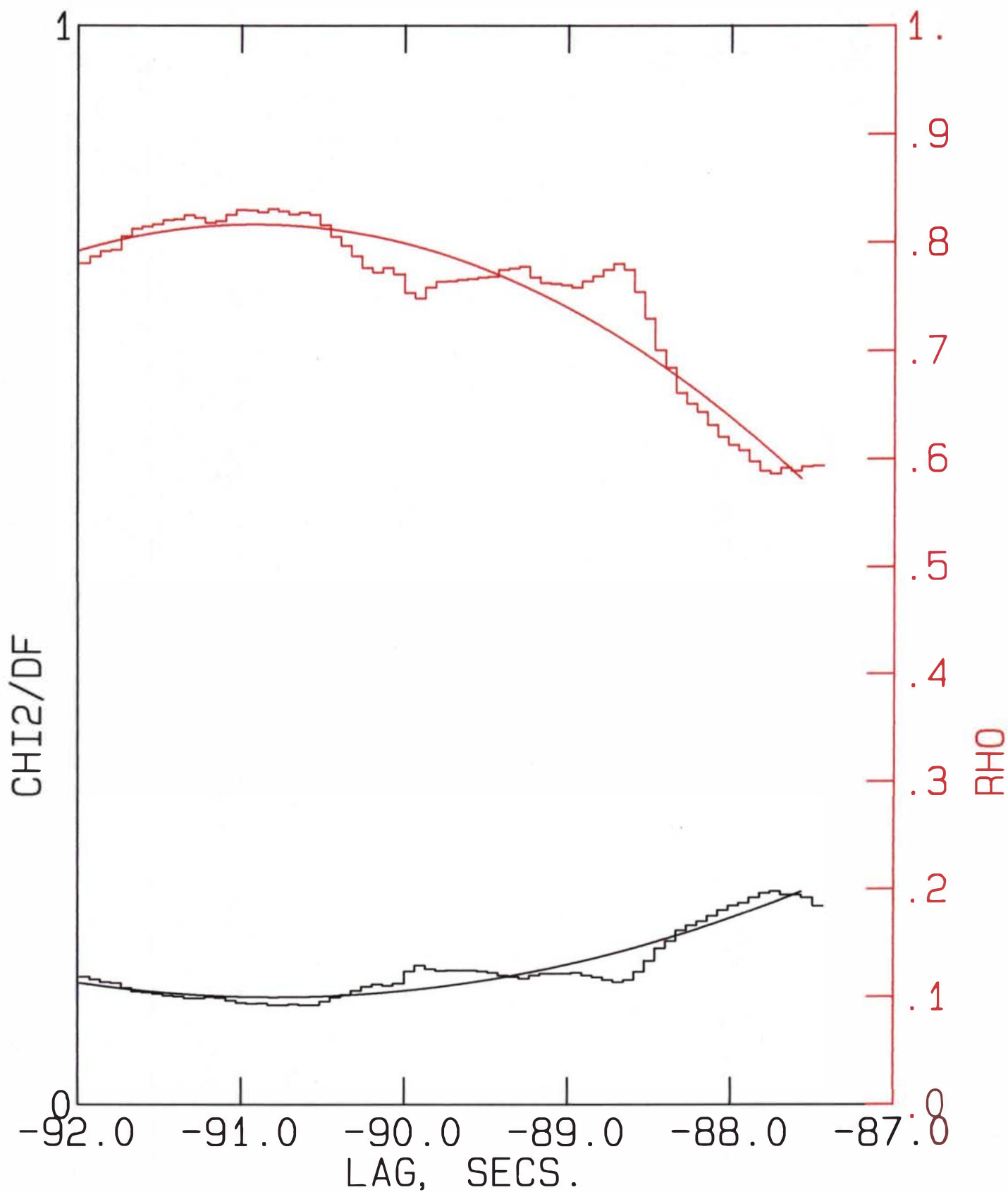
CORRELATION

11/11/98

23454.033

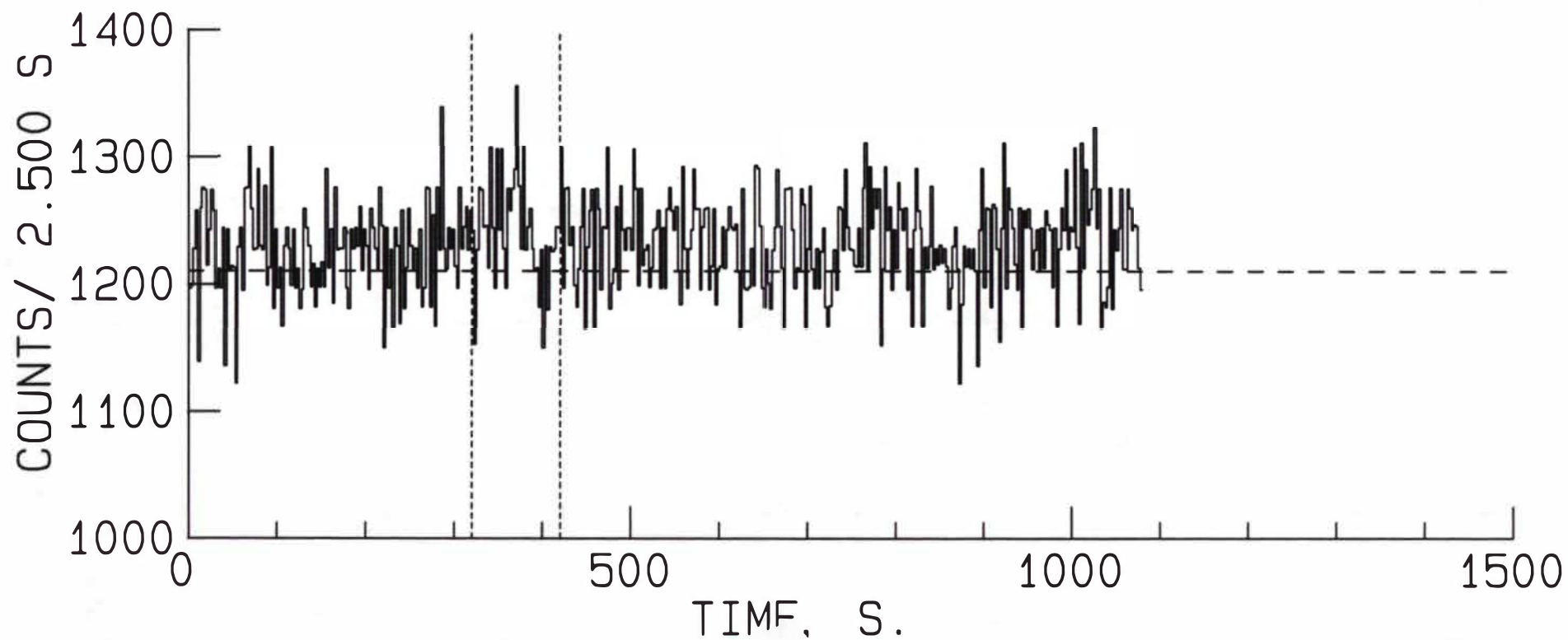
17/ 1/ 0





ULYSSES RT
11/11/98 23184.001 s
0.250 S INTERVALS REGROUPED BY 10
22- 150 keV

17 / 1 / 0



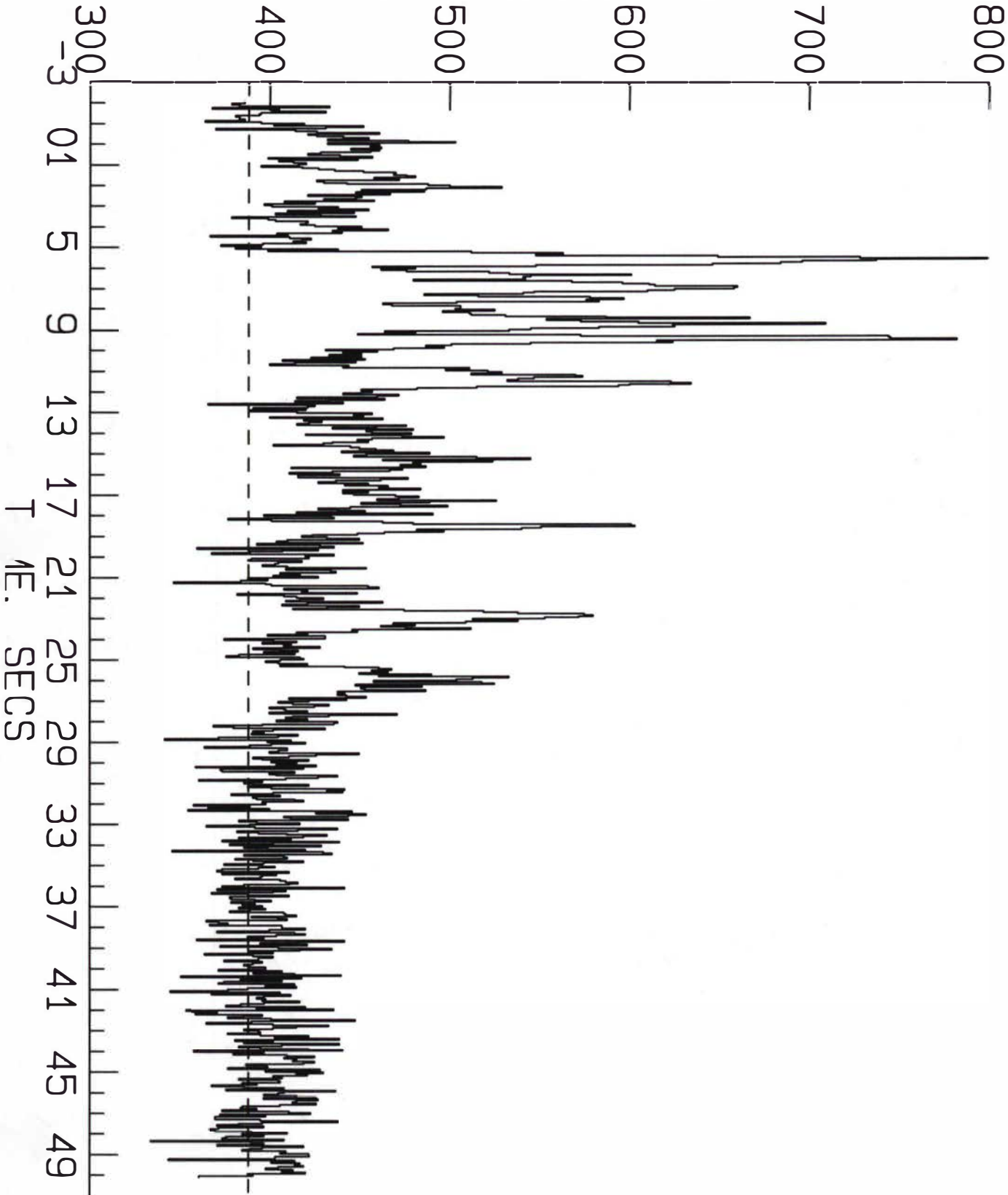
BATSE

11/11/98

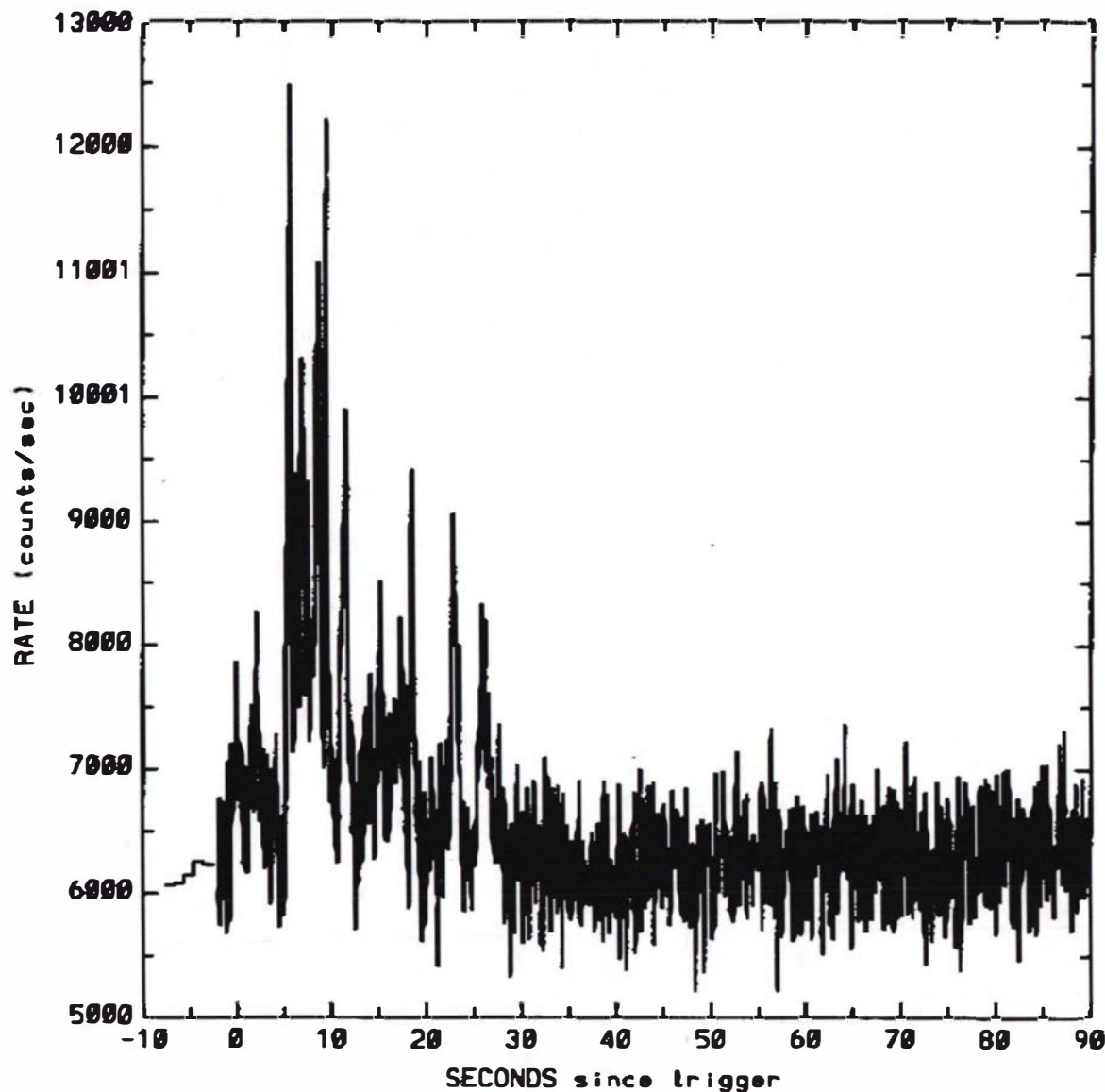
24220.897

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7207



25-NOV-1998 08:24:14

Created by NDPS 80
(Burst Display)
Version 12.26

Trigger # : 7207

Trigger Time:
11128 / 24228.897

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 1 . 2 1

Quality Mask:
BDISP1

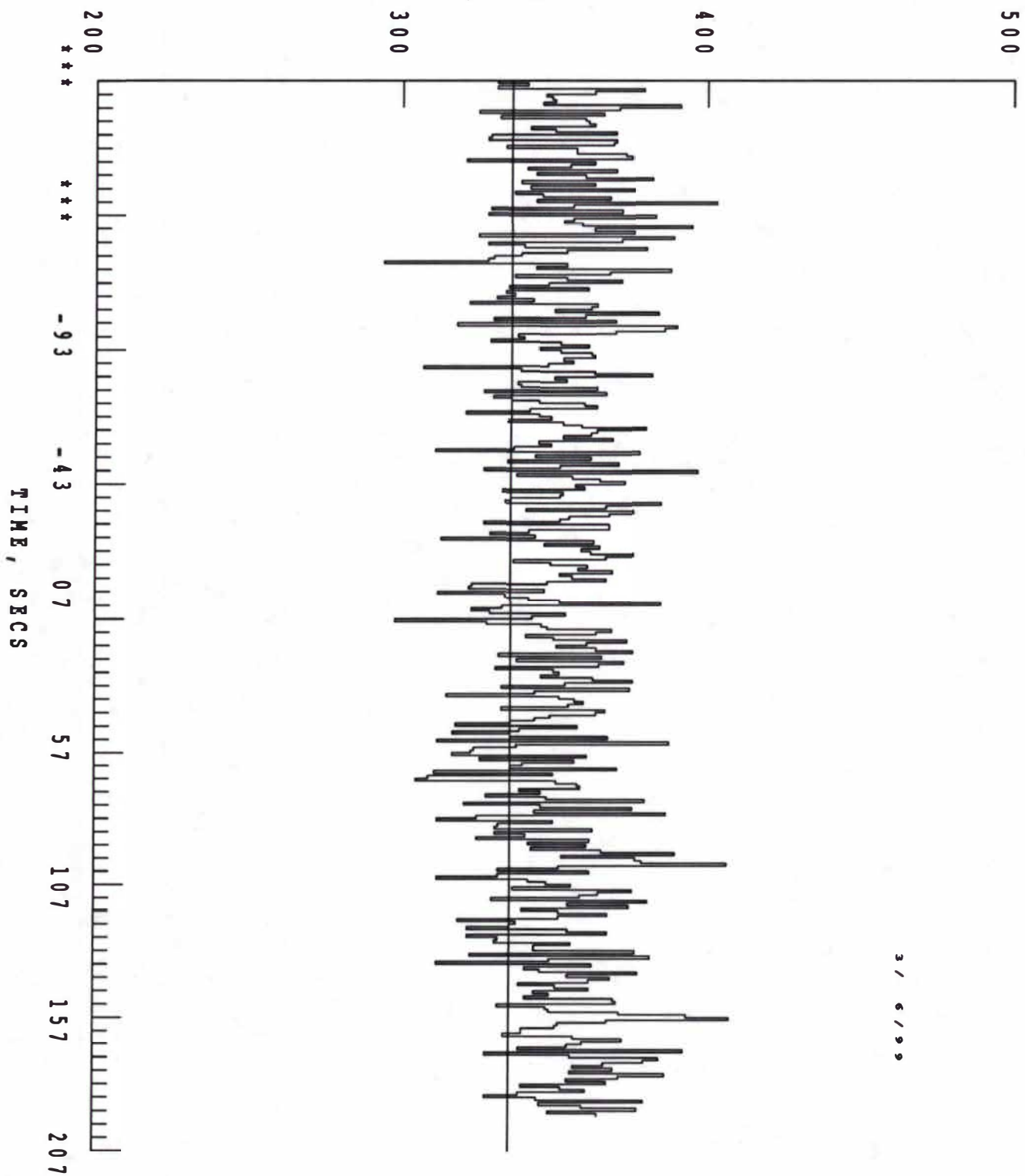
NEAR

11/11/98

25016.403

100-1000 keV

COUNTS/1.000 S



From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

From kraken@milkyway.gsfc.nasa.gov Tue Jan 12 08:40 PST 1999
Return-Path: <kraken@milkyway.gsfc.nasa.gov>
Received: from lheapop.gsfc.nasa.gov by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)

id IAA03702; Tue, 12 Jan 1999 08:40:11 -0800
Received: from [128.183.19.126] (plerion.gsfc.nasa.gov [128.183.19.126]) by lheapop.gsfc.nasa.gov (LHEA9504/950407.sl) with ESMTP id LAA09619 for <khurley@sunspot.ssl.berkeley.edu>; Tue, 12 Jan 1999 11:39:53 -0500
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Message-Id: <v03110703b2c12983133b@[128.183.19.126]>
In-Reply-To: <199811211916.LAA00948@scylla.>
Mime-Version: 1.0
Date: Tue, 12 Jan 1999 11:42:04 -0500
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@milkyway.gsfc.nasa.gov>
Subject: Ulysses burst seen by TGRS
X-Lines: 18
Status: RO

Hi Kevin,

I've looked through TGRS data for bursts from December and November of last year, and have found only one potential match to Ulysses bursts. The TRGS trigger is 1187 s AFTER the Ulysses trigger.

Pete

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
>11 NOV 98 11:08	moderate, 7 s long	2850

TGRS trigger 787 occurred at 41386.8 s on 11 NOV 98
it appears as a weak burst, peak flux 176 cts/s (100-300 keV)
T90 = 35 s

KONUS

ULYSSES RT

10 / 02 / 00

11 / 11 / 98 47556.246 s

0.500 S INTERVALS REGROUPED BY 8

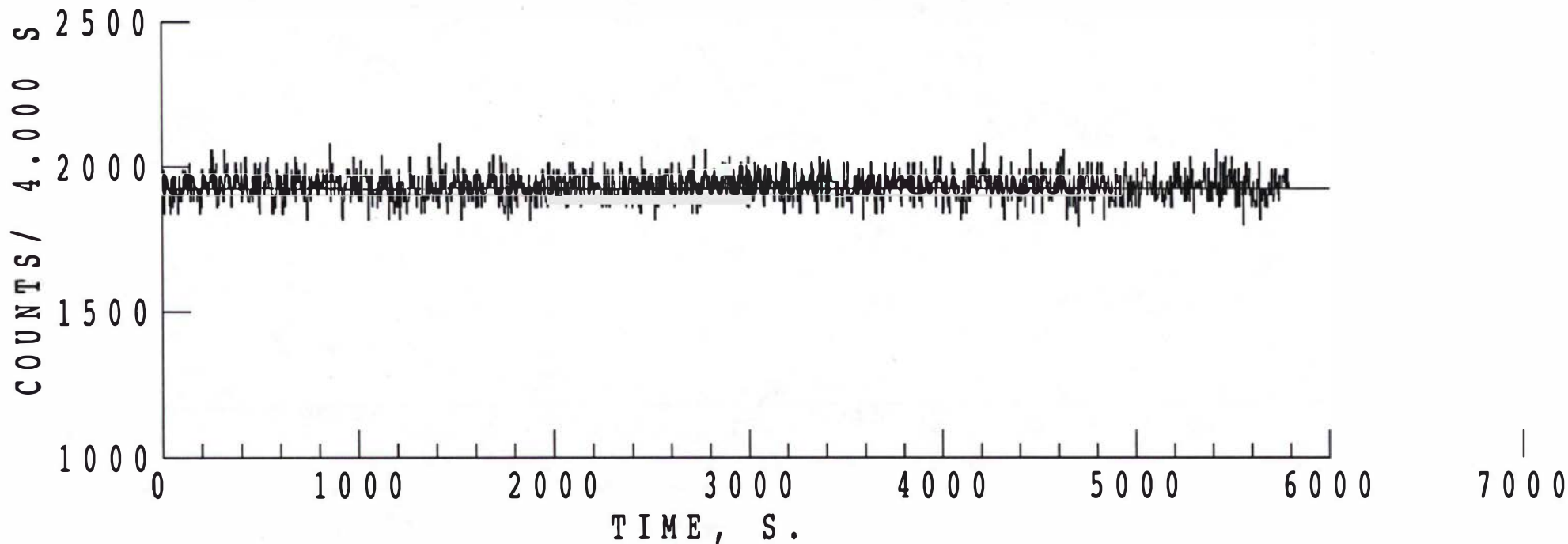
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri Nov 13 11:24:35 1998
Date: Fri, 13 Nov 1998 13:24:00 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7208

TIME: TJD=1128 SECONDS=44176

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 84.8 AZIMUTH= 19.0 ERROR= 5.6 DEGREES

COMMENTS:

TERRESTRIAL GAMMA FLASH. SINGLE HARD SPIKE, DUR. APPROX. 0.015 S.
WEAKLY VISIBLE BELOW 50 KEV.

Date: Dec 1 2004

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data *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 vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☒ $3\Delta t$'s calculated?
- ☒ ACCESS database updated?

22. 1870-1871

23. 1871-1872

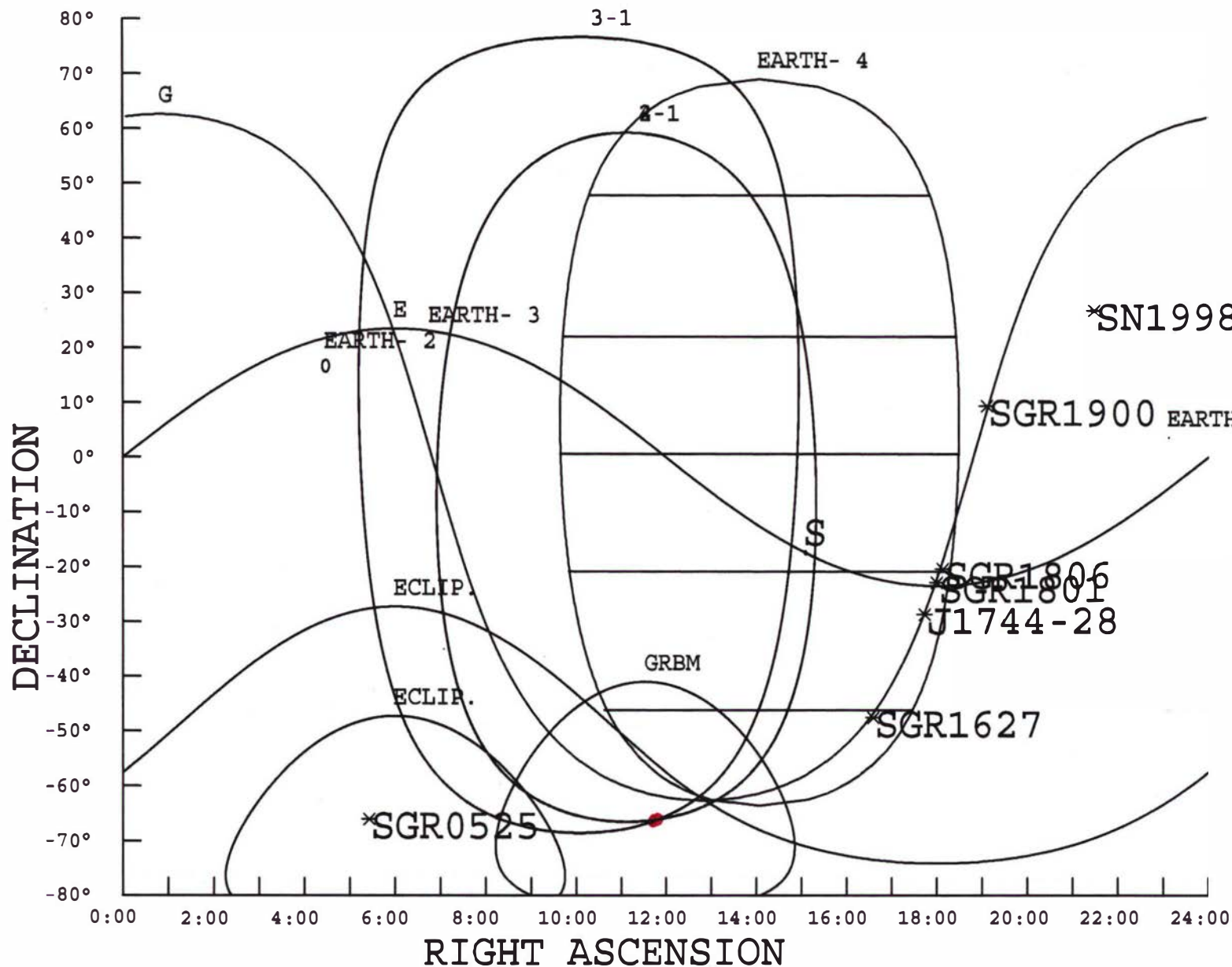
24. 1872-1873



EVENT OF NOV 11, 1998 11:07

1/12/ 4

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



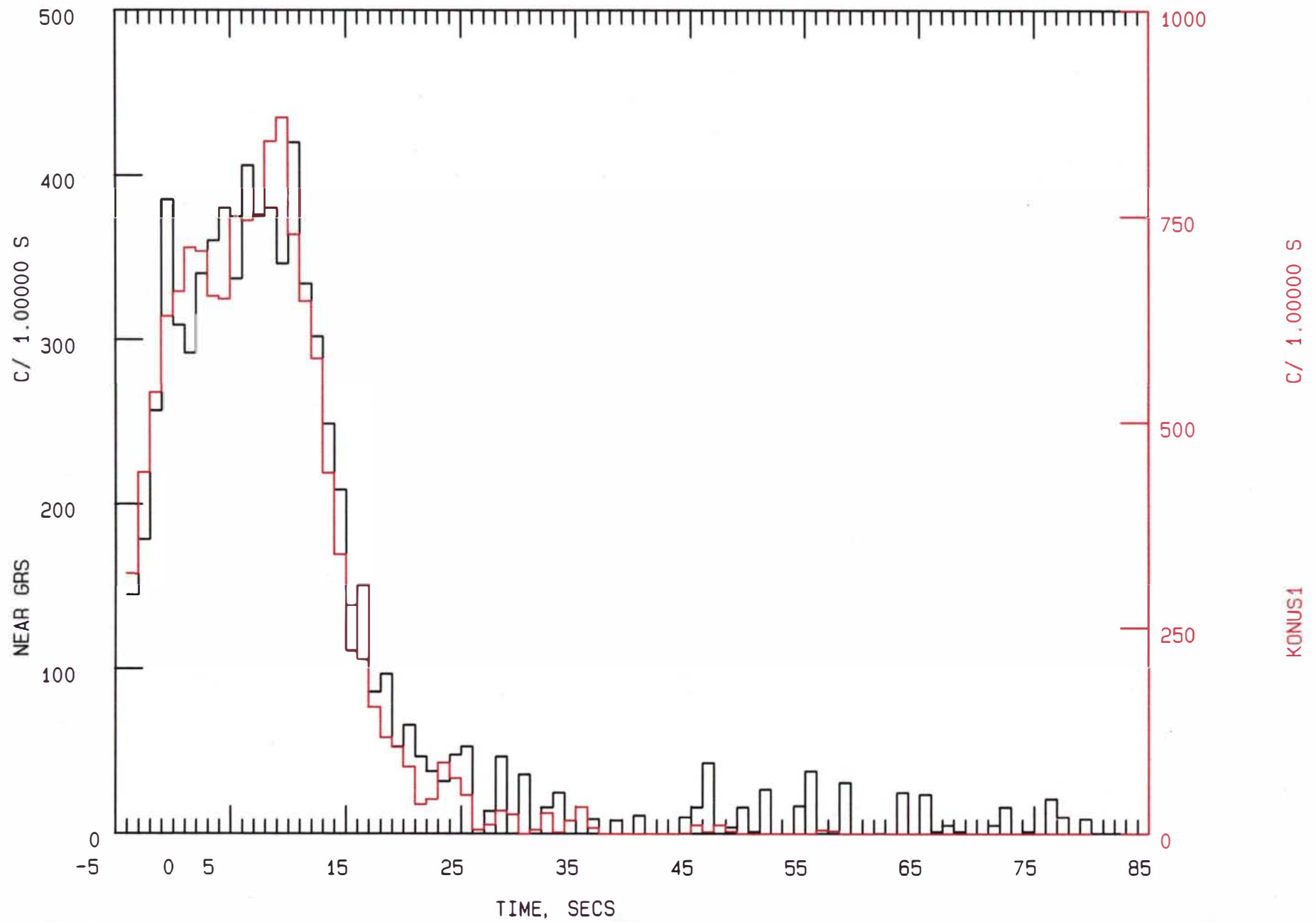
NEAR GRS -KONUS1

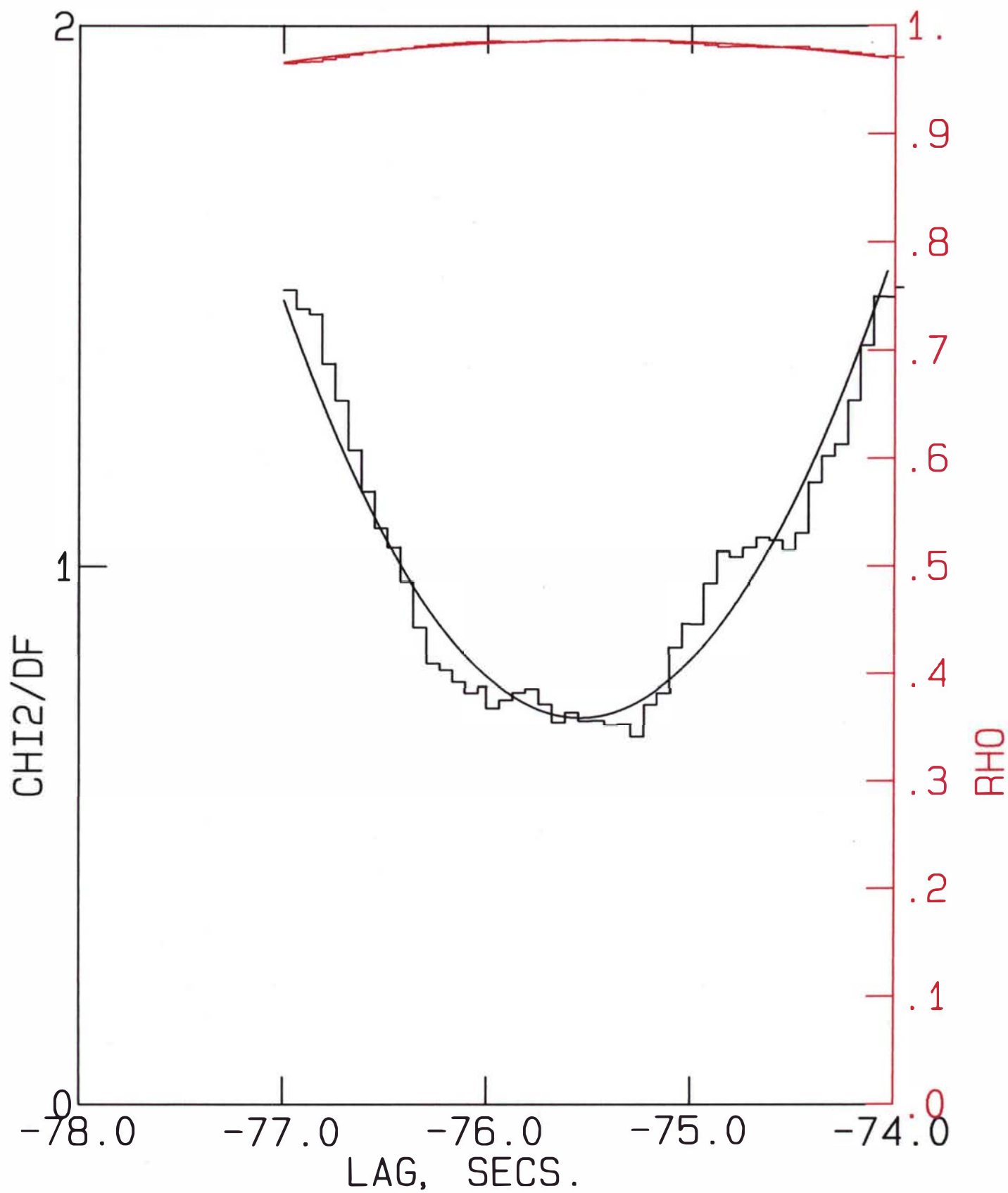
CORRELATION

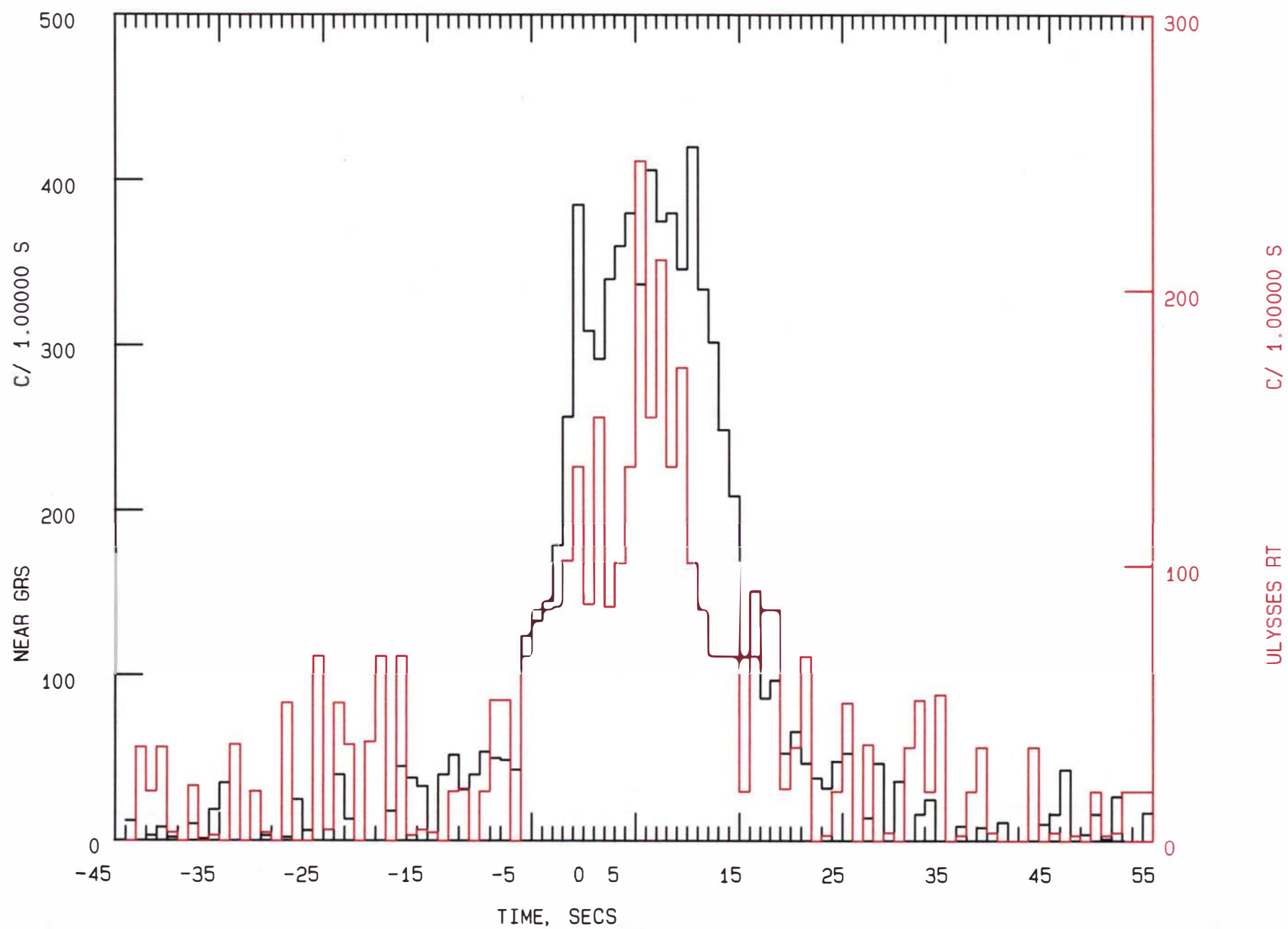
11/11/98

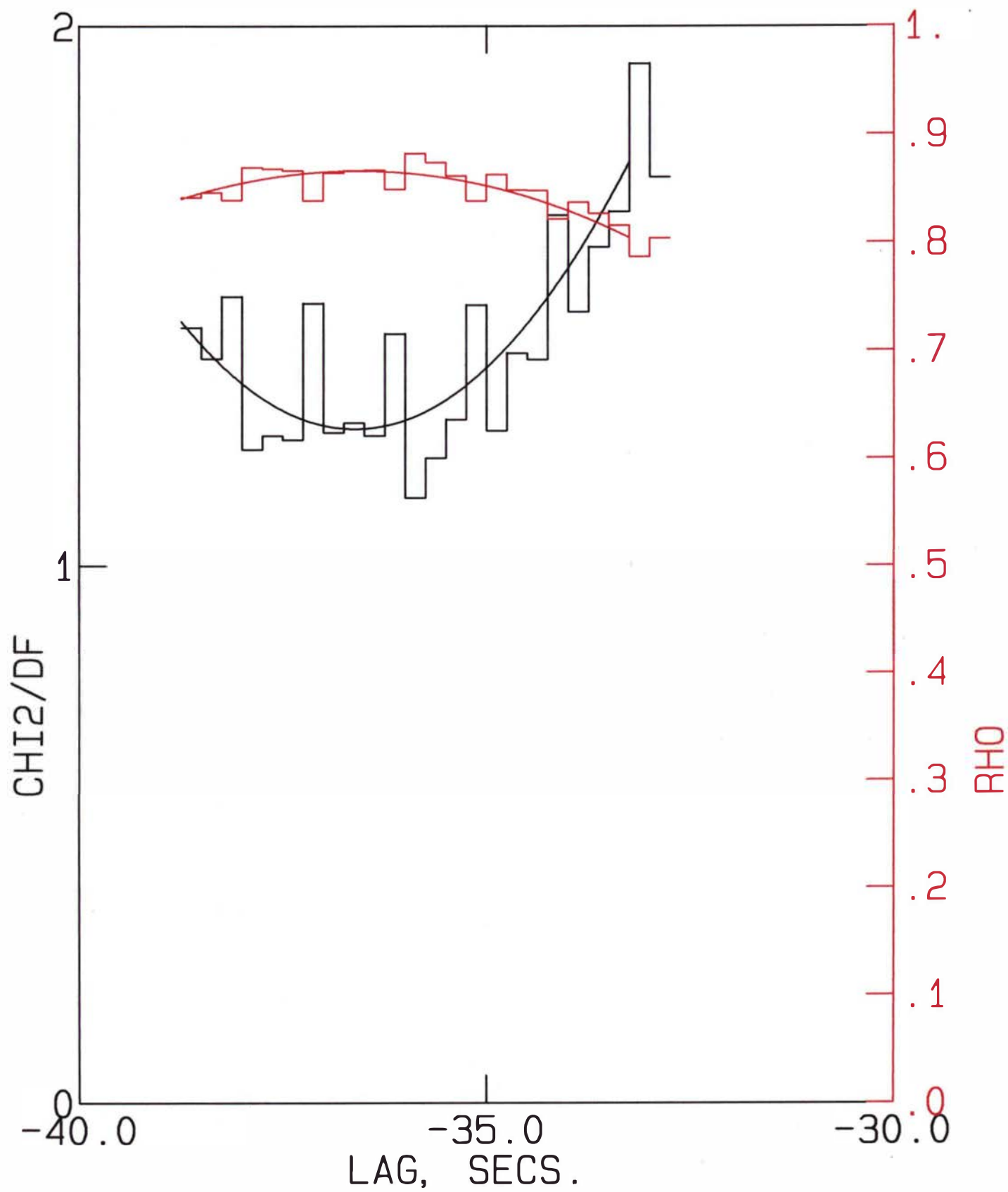
41107.399

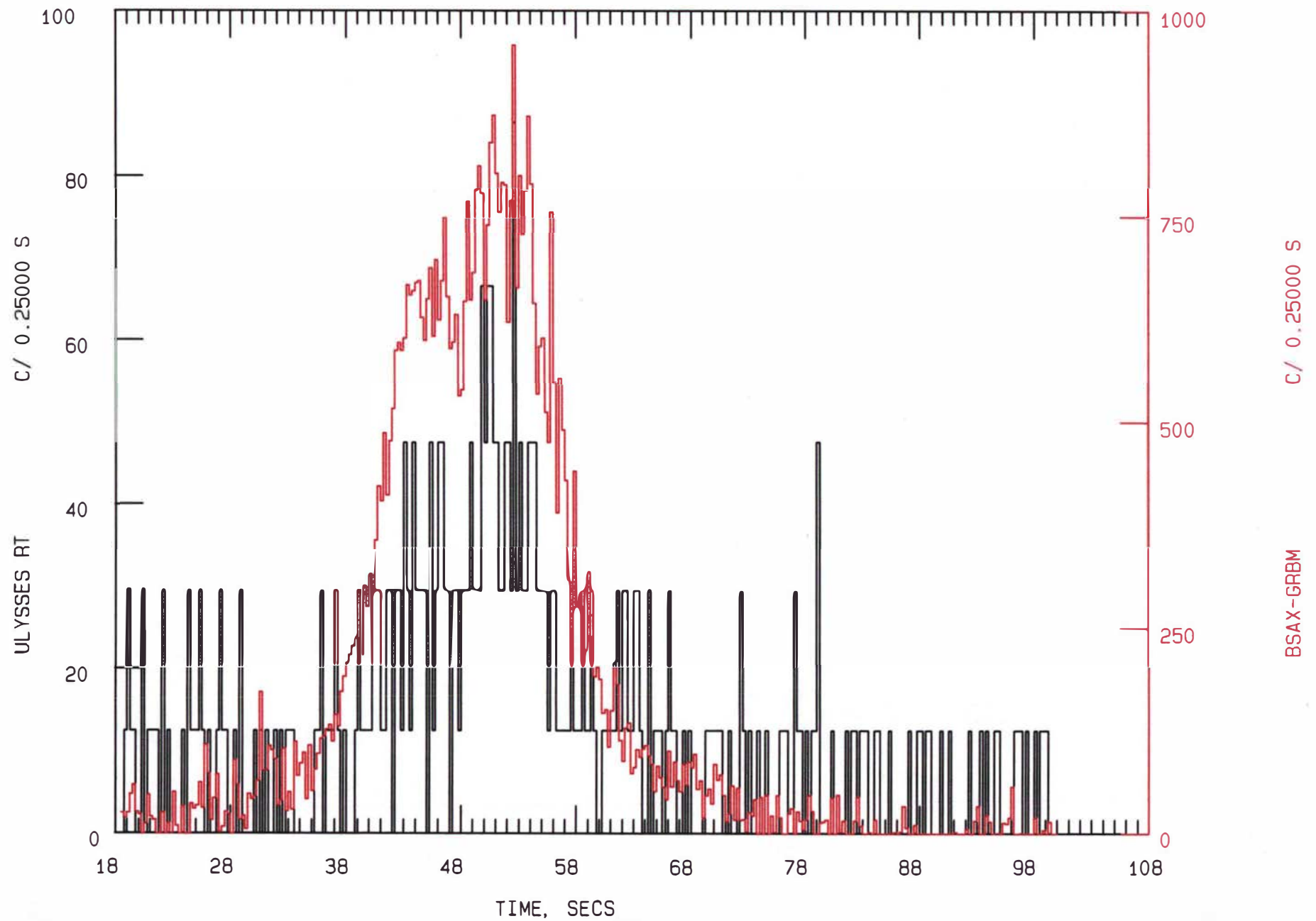
1/12/ 4

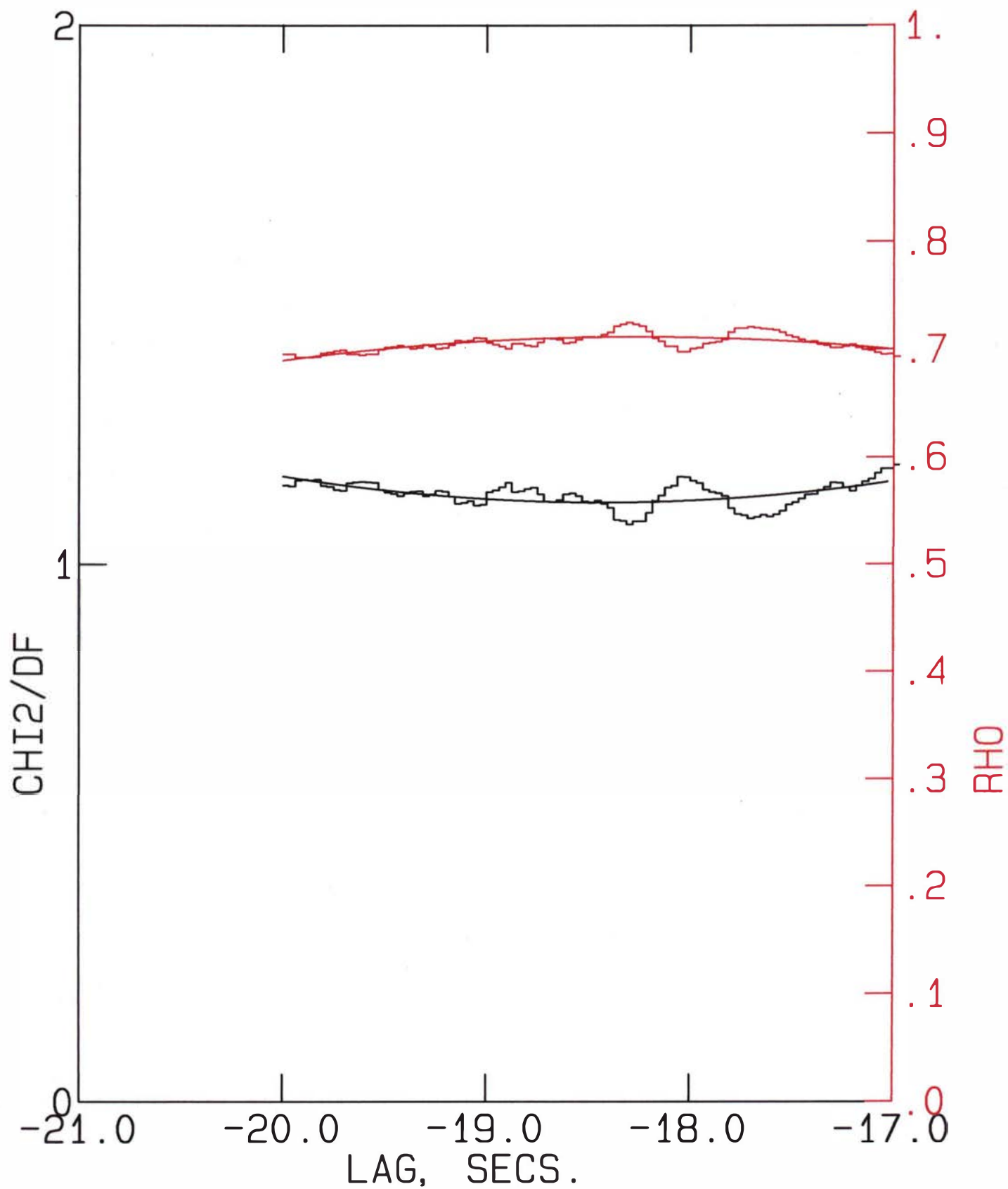


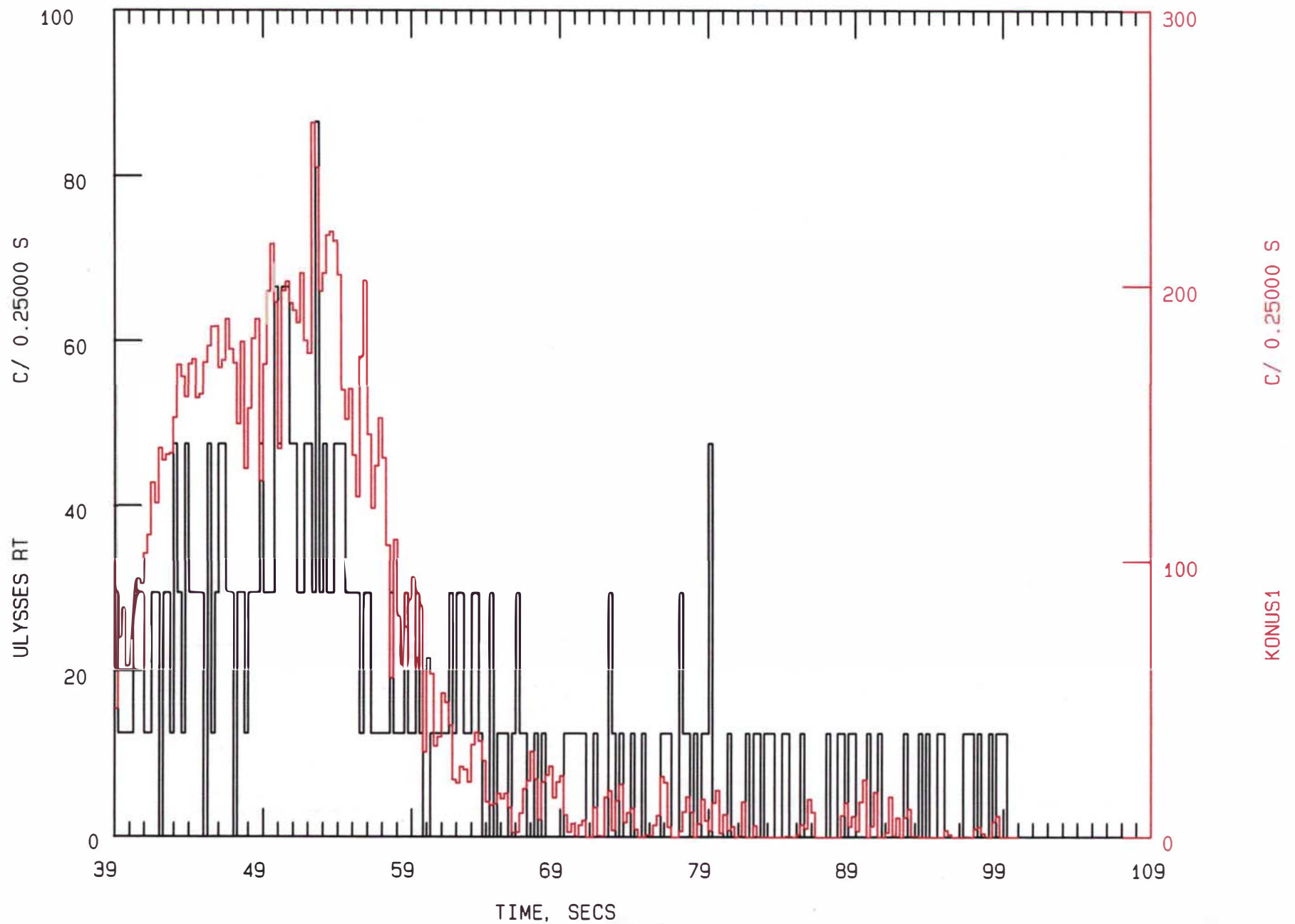


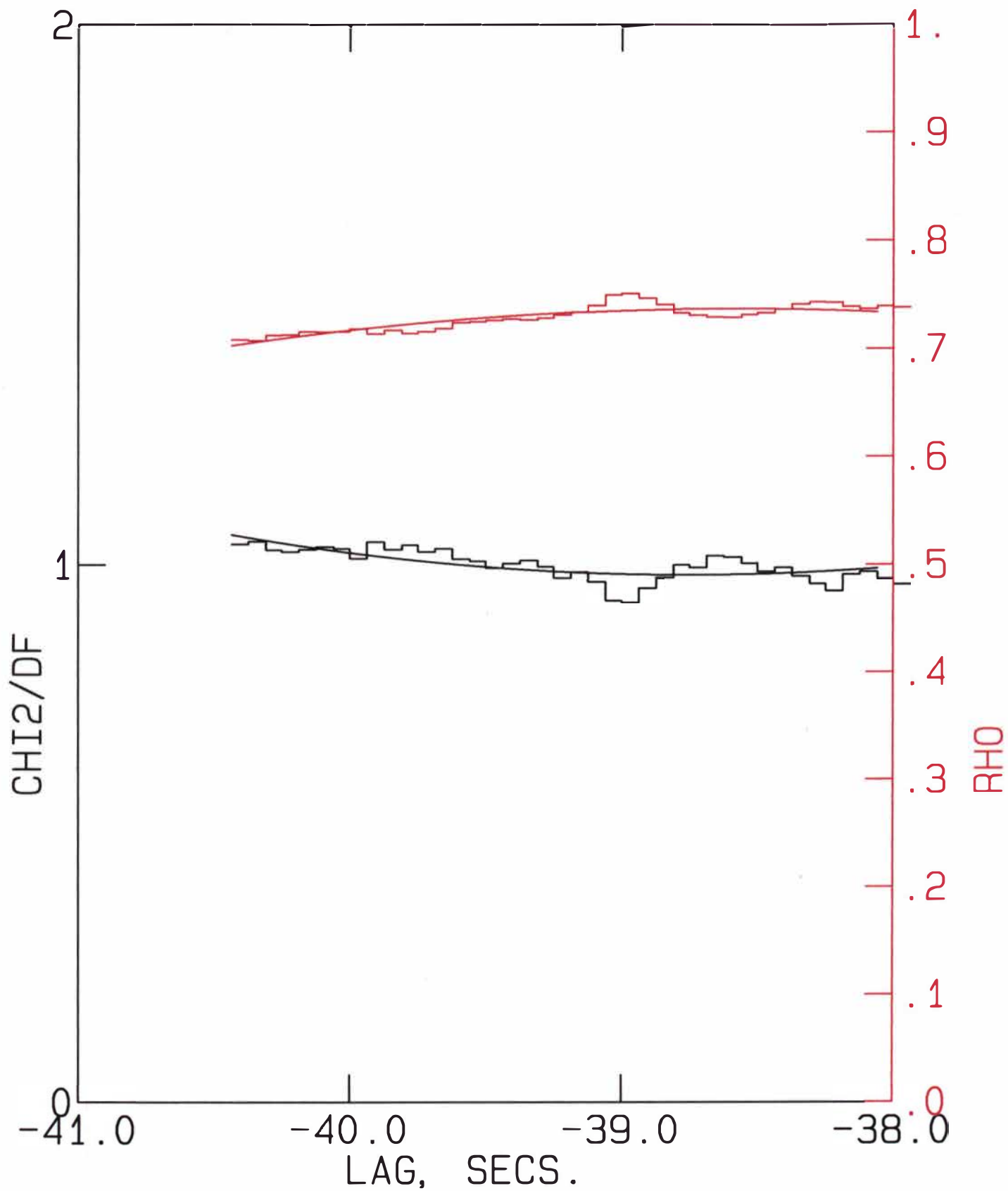






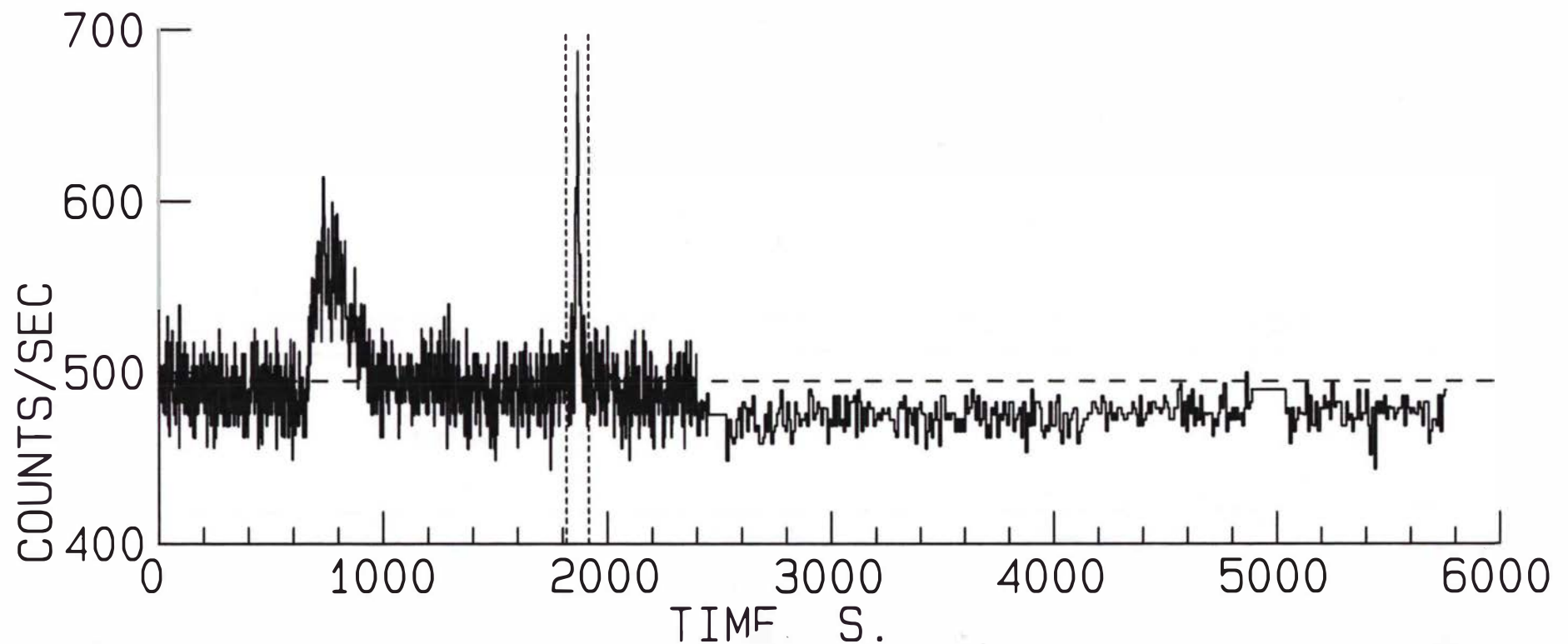






ULYSSES RT
11/11/98 38232.156 s
INTERVALS REGROUPED BY 9
22- 150 keV

1 / 12 / 4

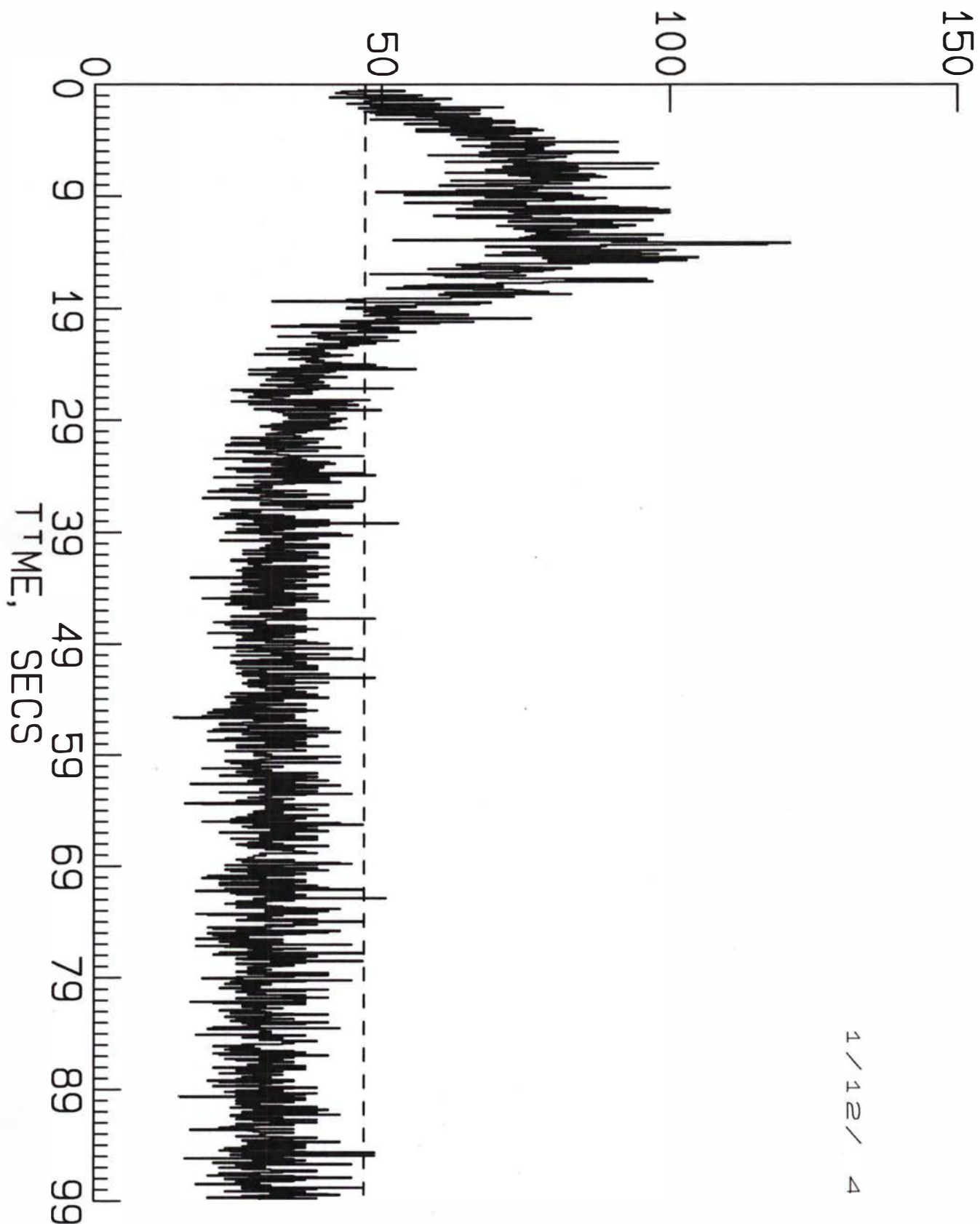


KONUS

11/11/98 41384.300

50- 200 keV

COUNTS/0.064 S

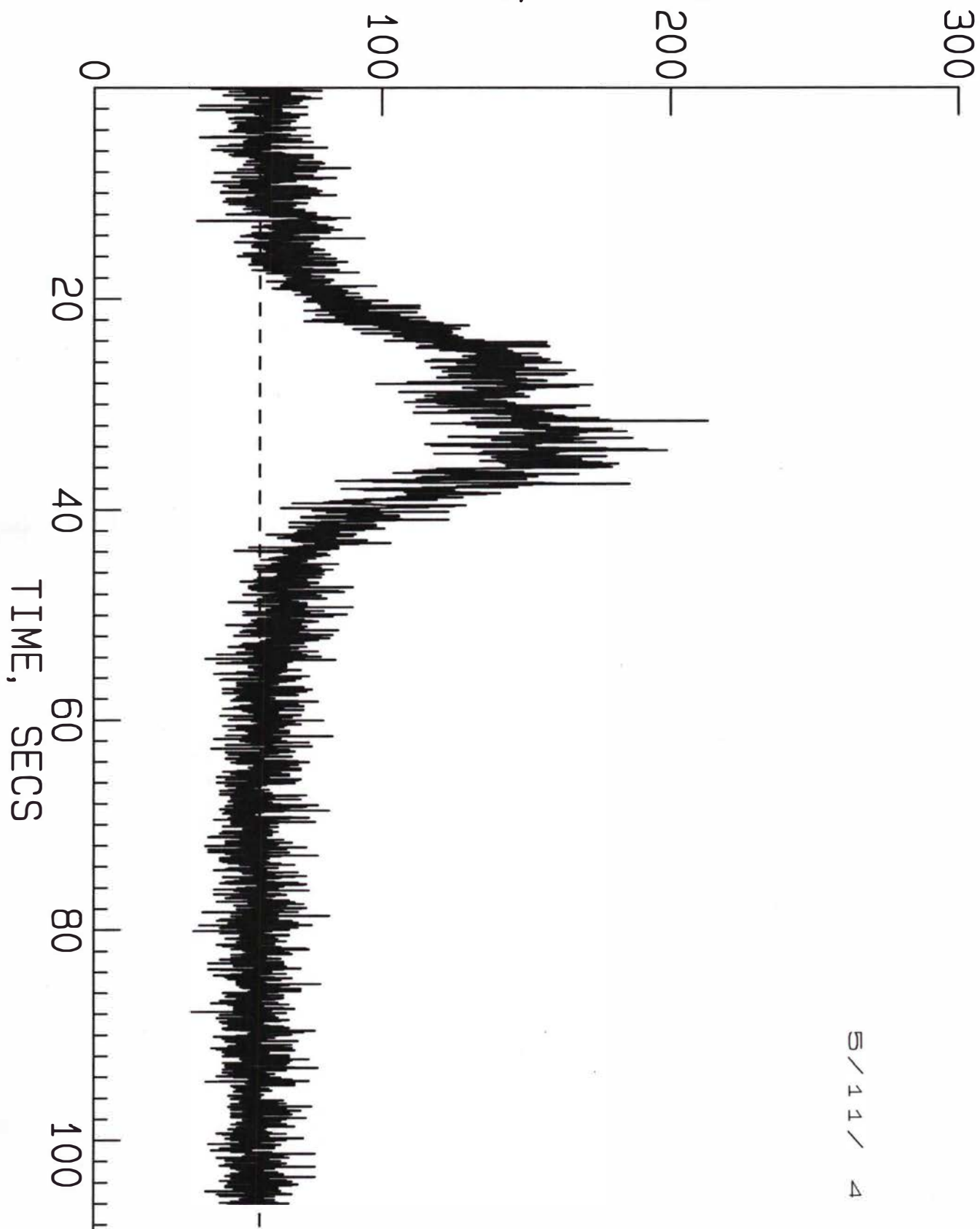


SAX GRBM

11/11/98 41363.700

40- 700 keV

COUNTS/0.031 S

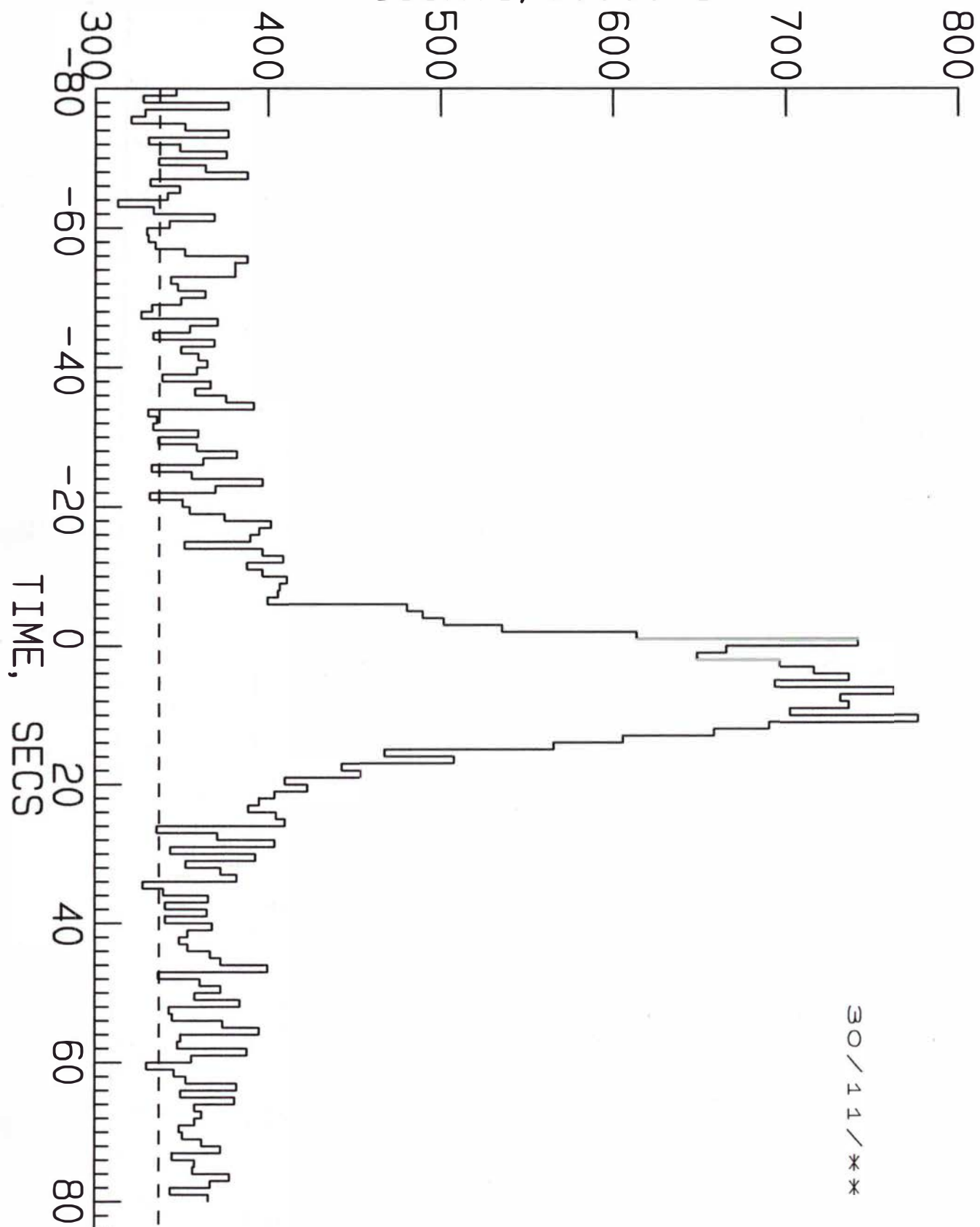


NEAR

11/11/98 41107.399

100-1000 keV

COUNTS/1.000 S



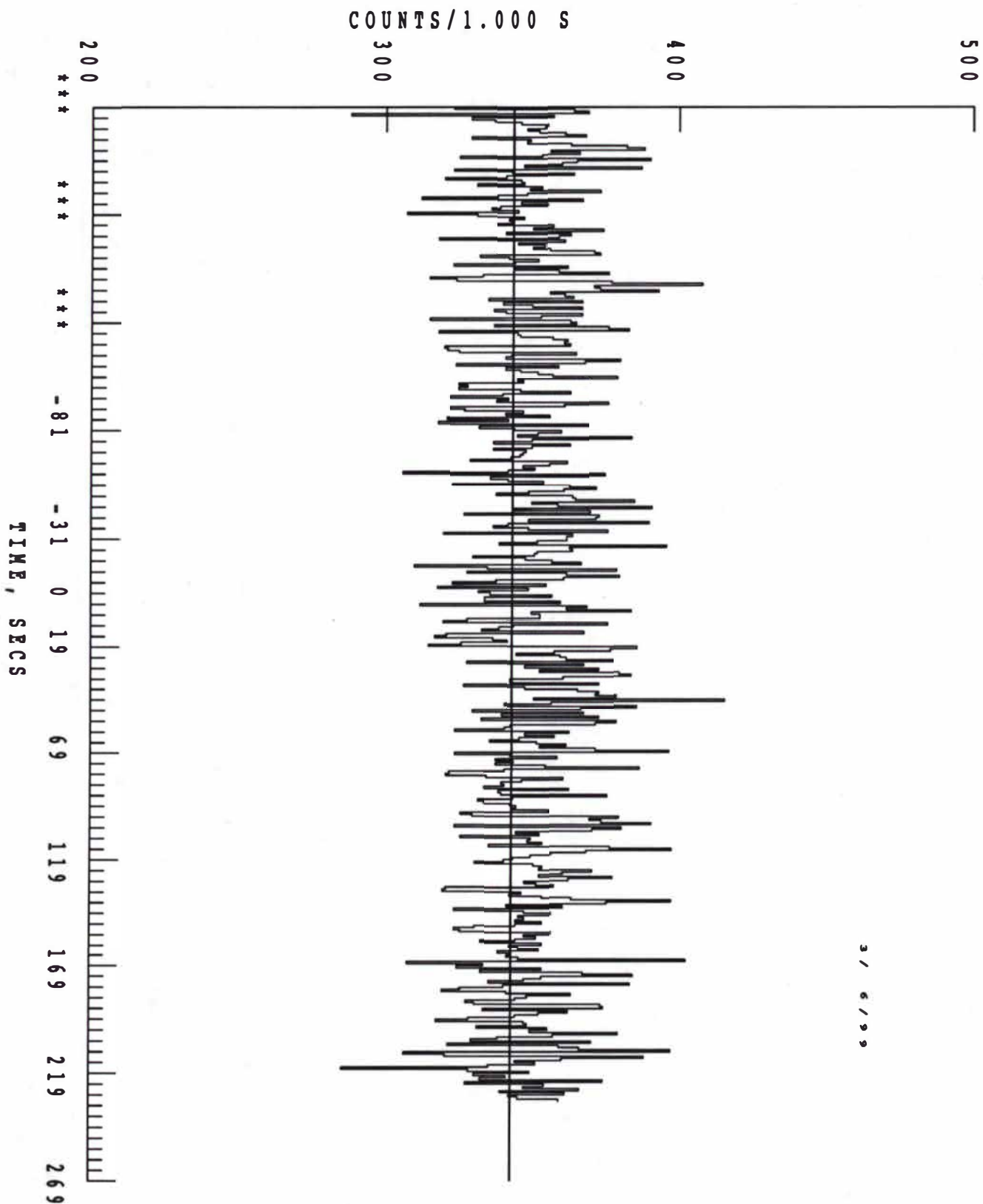
30 / 11 / **

NEAR

11/11/98

50206.396

100-1000 keV



3 / 6 / 9 9

From HENZE@fender.msfc.nasa.gov Fri Nov 13 11:37:41 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 LAA21003; Fri, 13 Nov 1998 11:37:40 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA17045; Fri, 13 Nov 1998 11:37:36 -0800
Date: Fri, 13 Nov 1998 13:37:38 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981113133738.2022df3f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7209
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7209
EVENT OF 1998 NOV 11 DAY OF YEAR=315
EVENT CROSSING TIME AT BATSE : 50461. S. OR 14:01:01.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 248.000 48.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/11/ 98 IS:
RA= 166.329 DEC= -3.464 DIST= 5.684 AU
BATSE-ULYSSES DISTANCE = 850372485. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 92.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -147.05 SECS.
CROSSING TIME AT ULYSSES IS 50314. S. OR 13:58:33 +/- 539.57 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/11/ 98 IS:
RA= 171.994 DEC= 5.159 DIST= 1.960 AU
MARS-BATSE DISTANCE = 293272640. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -223.02 SECS.
CROSSING TIME AT MARS IS 50238. S. OR 13:57:17 +/- 161.98 SECONDS

BATSE BURST TRIGGER

NO.: 7209

TIME: TJD=1128 SECONDS=50461

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=134.9 AZIMUTH=103.2 ERROR= 2.5 DEGREES

COMMENTS:

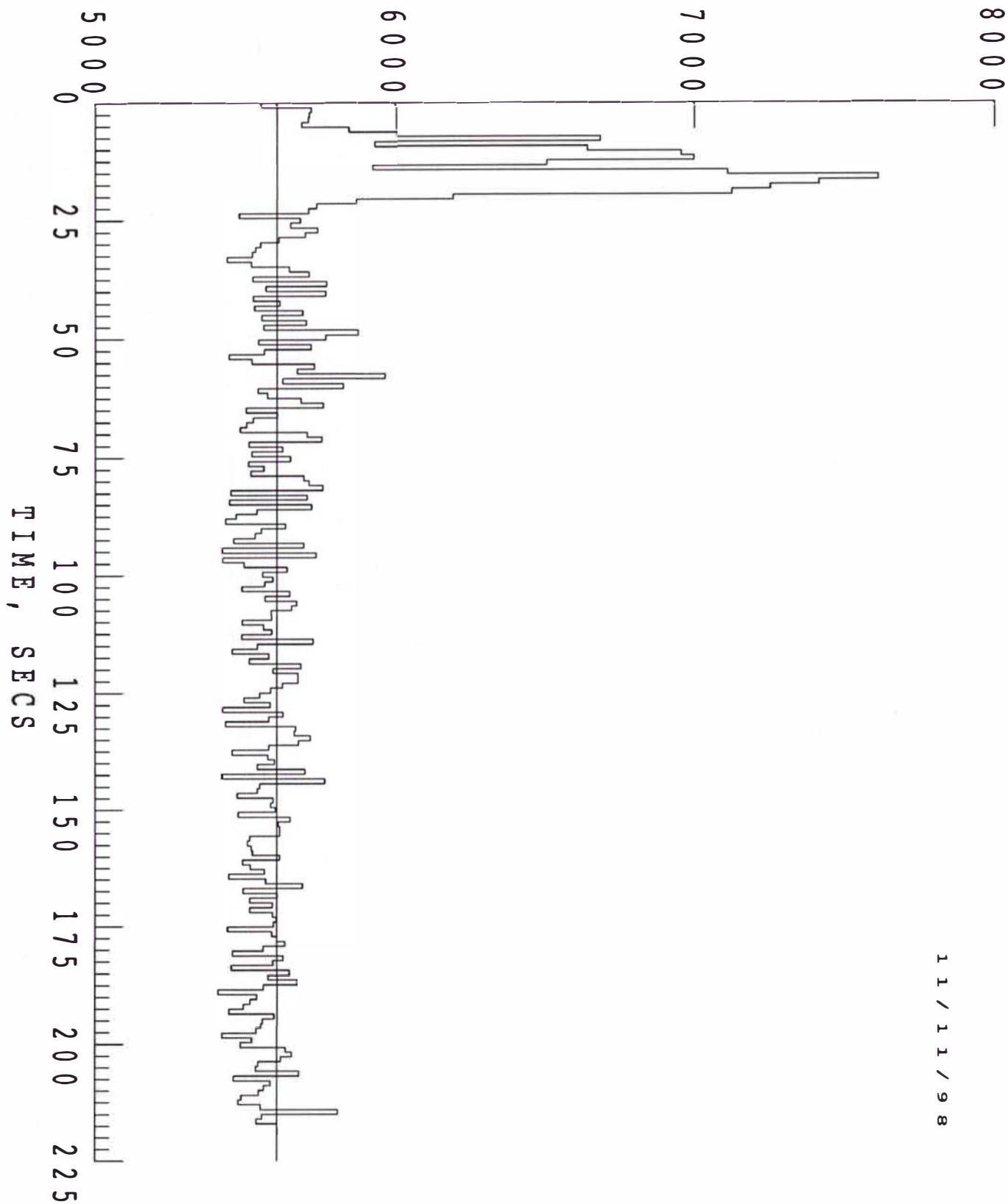
MULTIPEAKED, TOTAL DUR. APPROX. 23 S, STARTS AT APPROX. T-11 S, MAX AT APPROX.
T+3.5 S. POSSIBLY marginally visible ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7209	981111	11128	50461	5000	248	+48	23

BACODINE 7209 11/11/98 50449.121

25 - 100 keV

COUNTS/1.024 S



11/11/98

BATSE BURST# 7209

ULYSSES RT

13 / 11 / 98

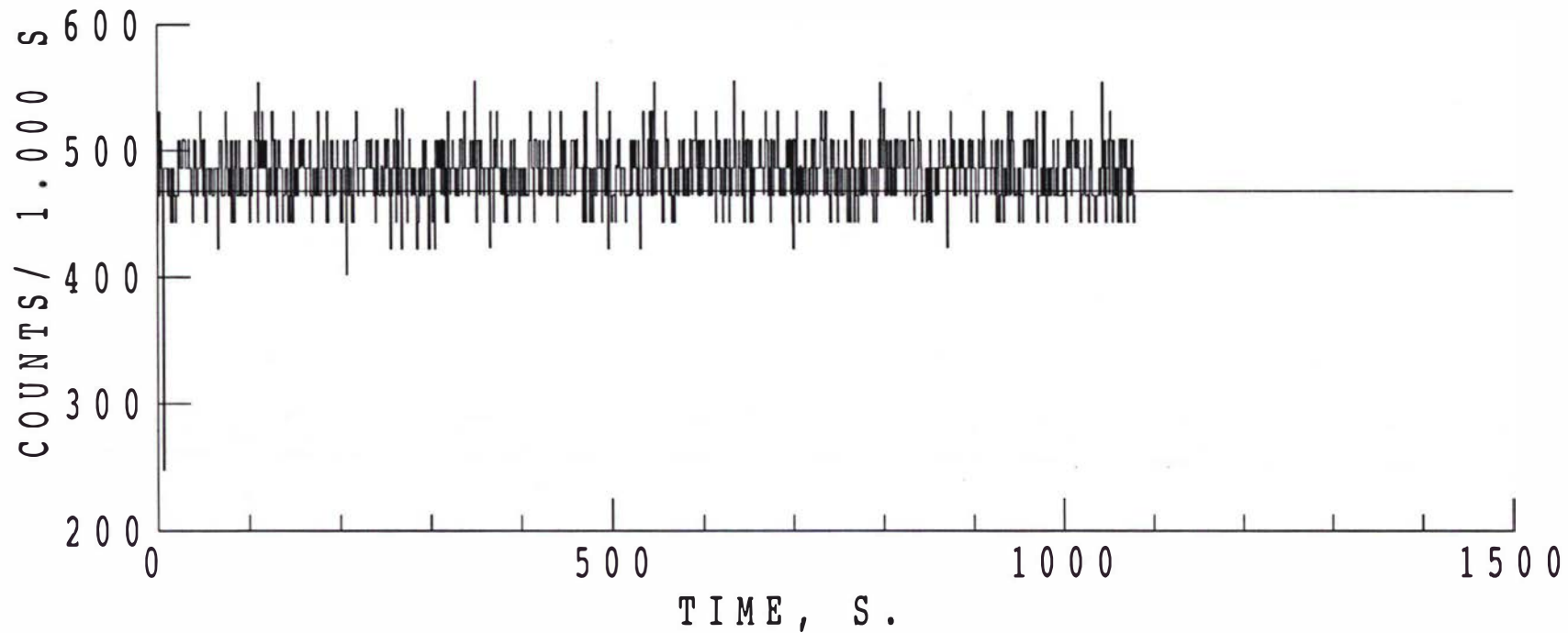
11/11/98 49788.273 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Nov 12 13:14:15 1998
Date: Thu, 12 Nov 1998 15:13:54 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7210

TIME: TJD=1128 SECONDS=77101

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

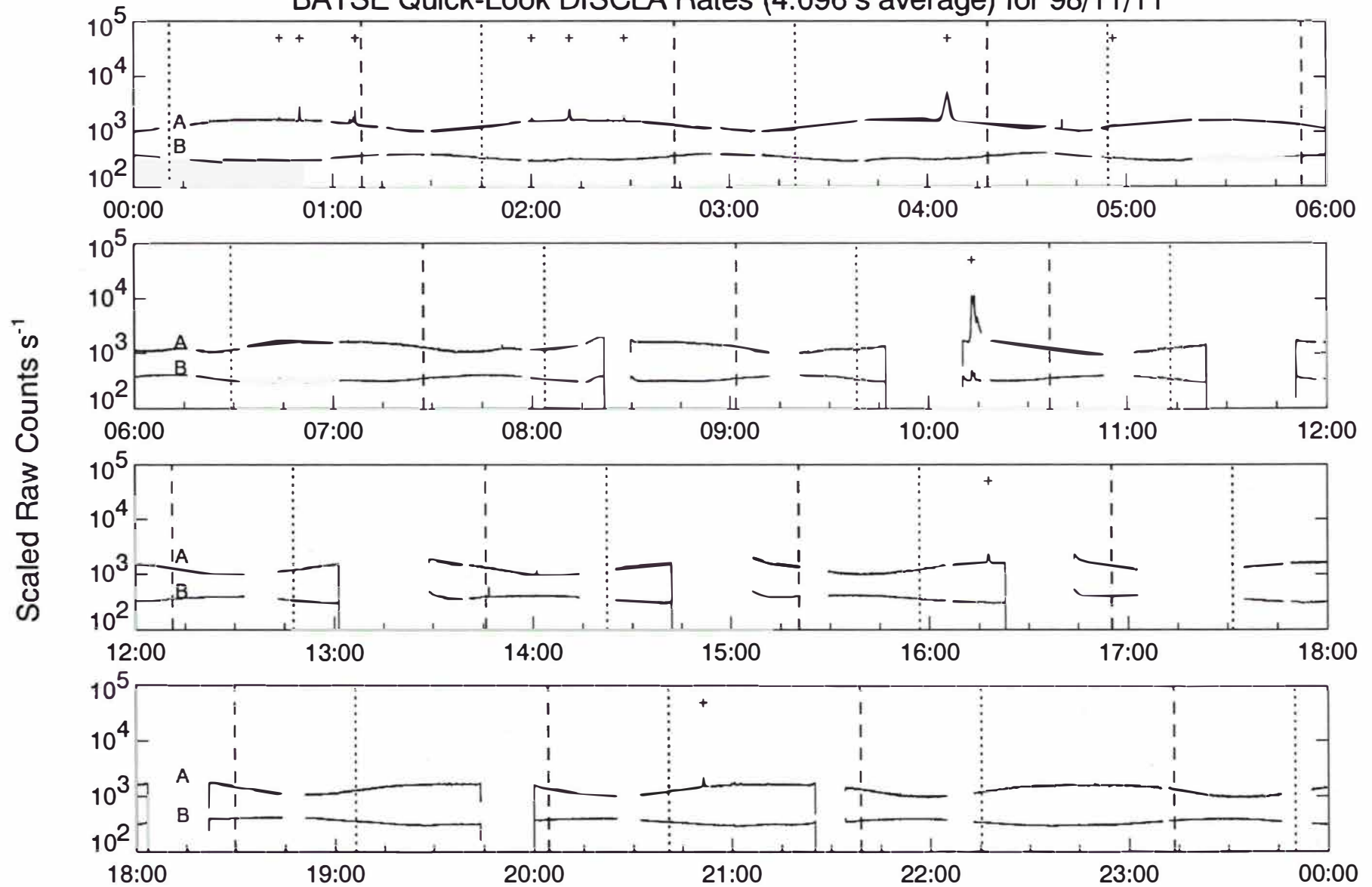
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

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

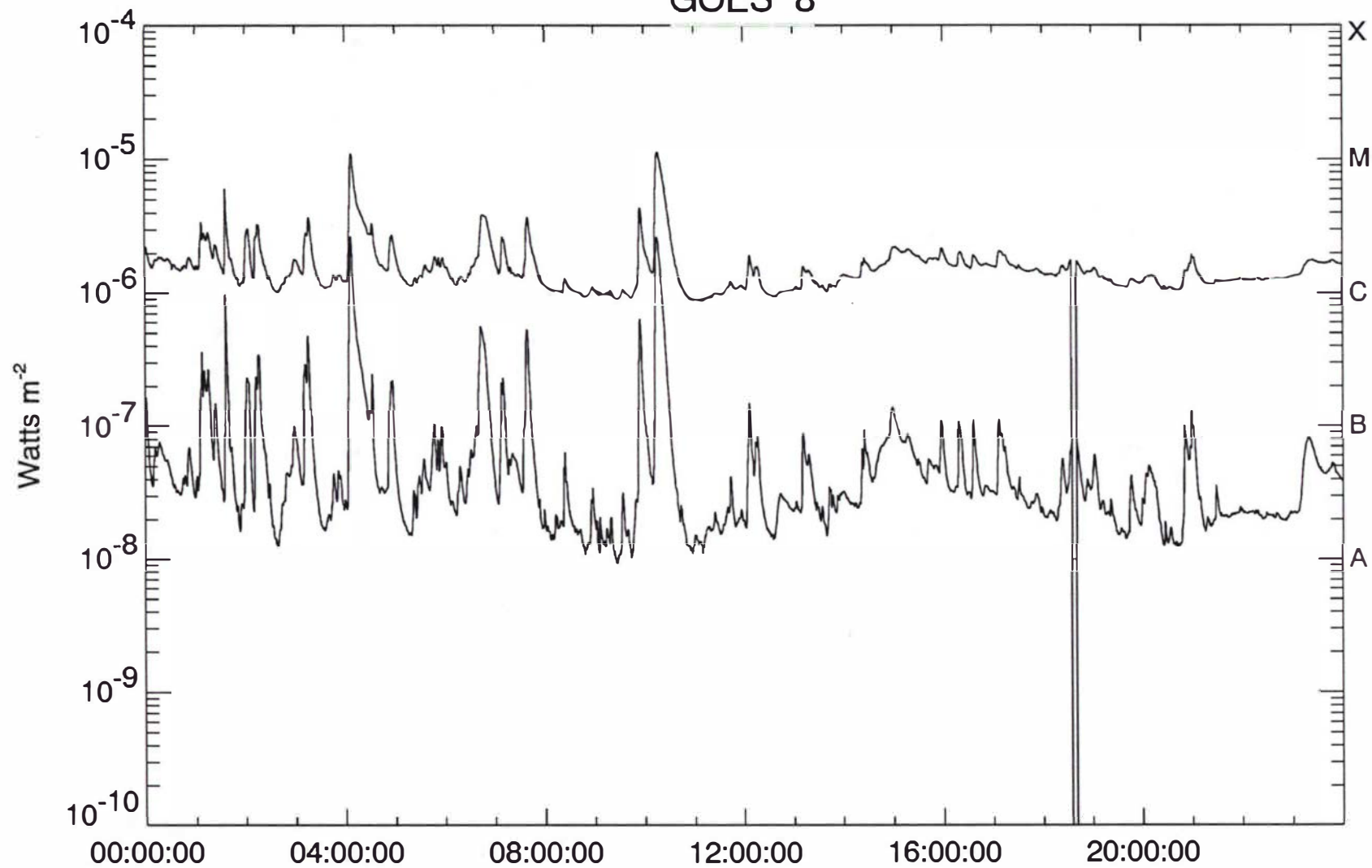


Current Time: 98/11/15, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



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

Plot created: 98/11/15, 1007

Channel

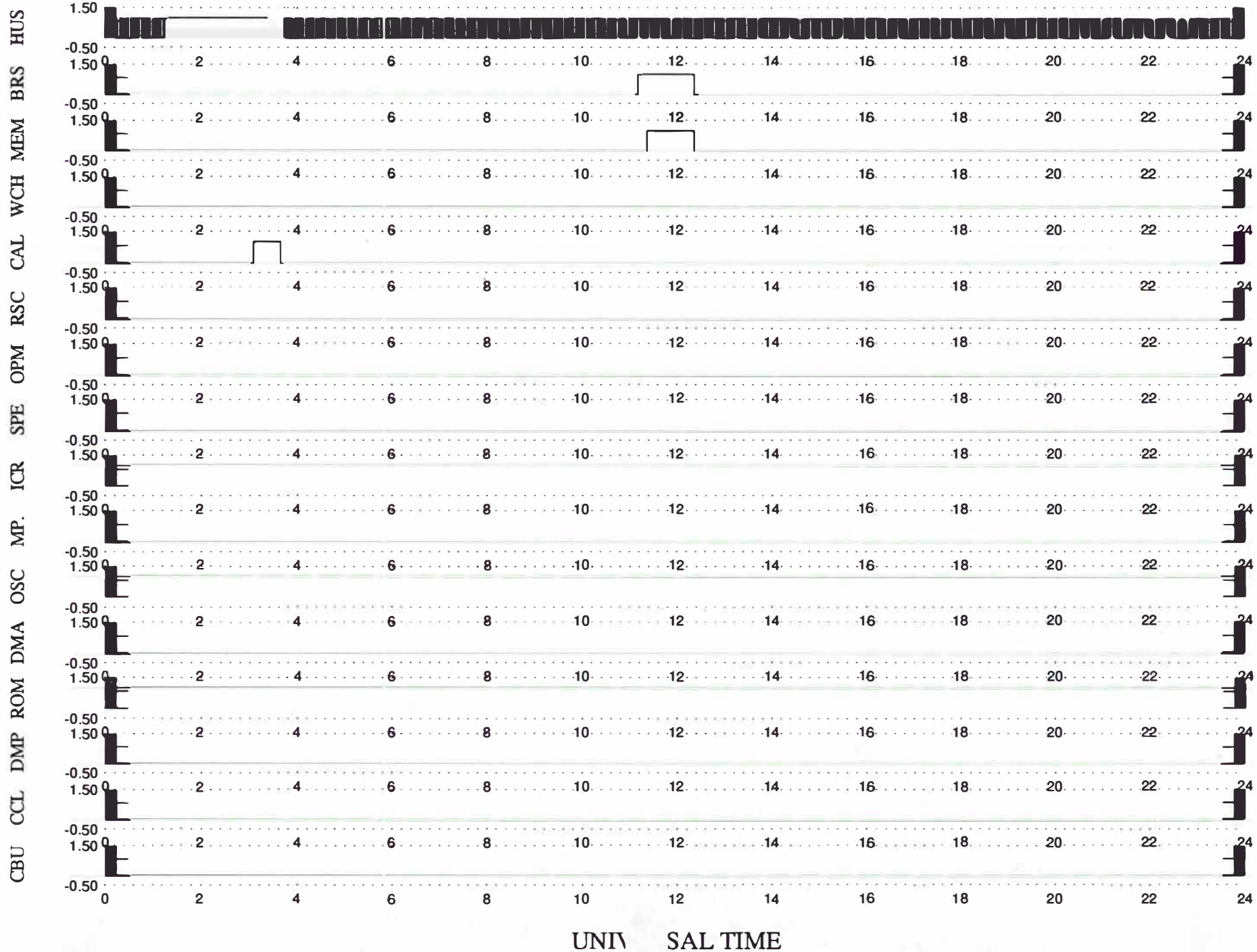
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

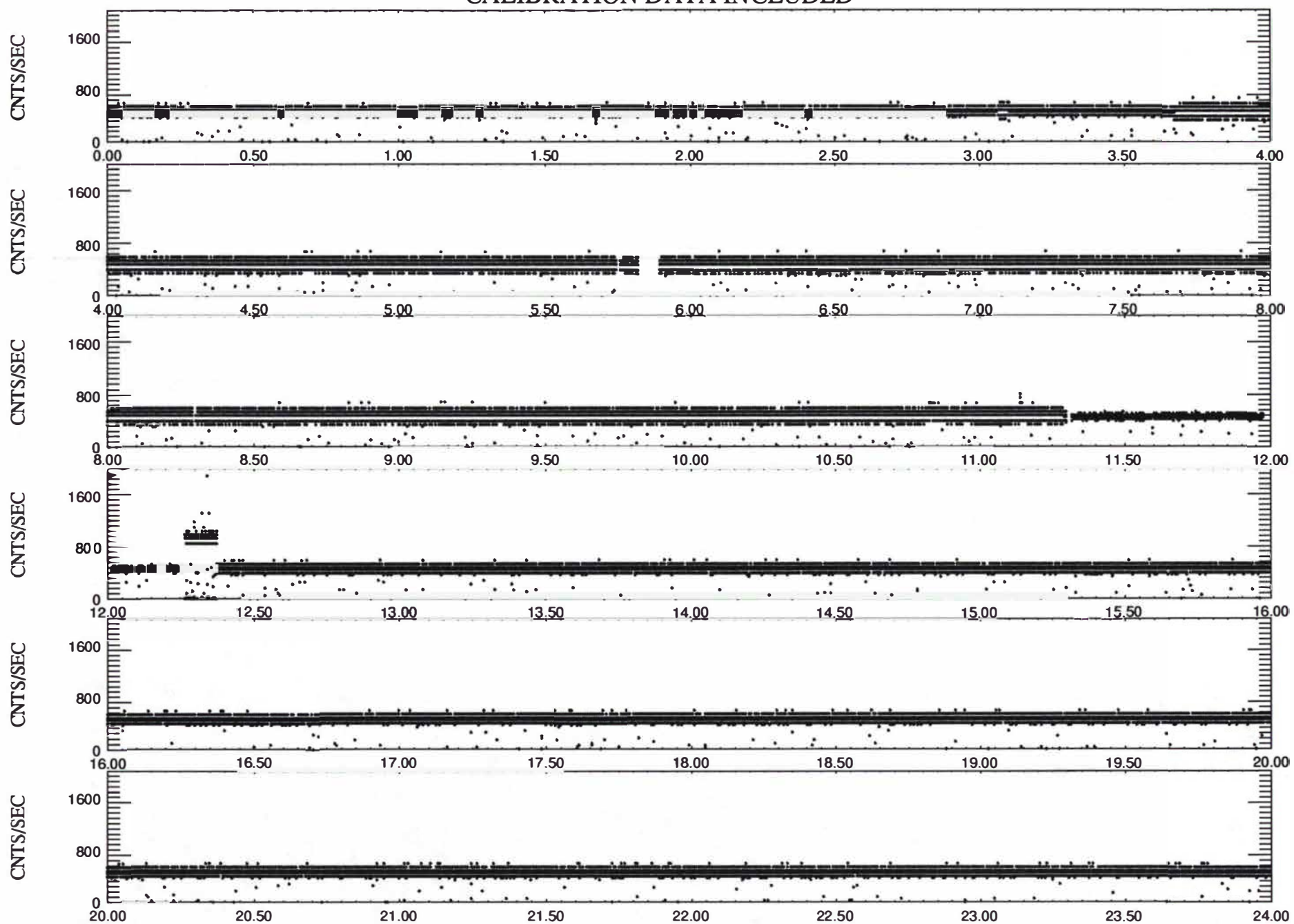
Background not subtracted

Sample average = 10

BURST NUMBER 13

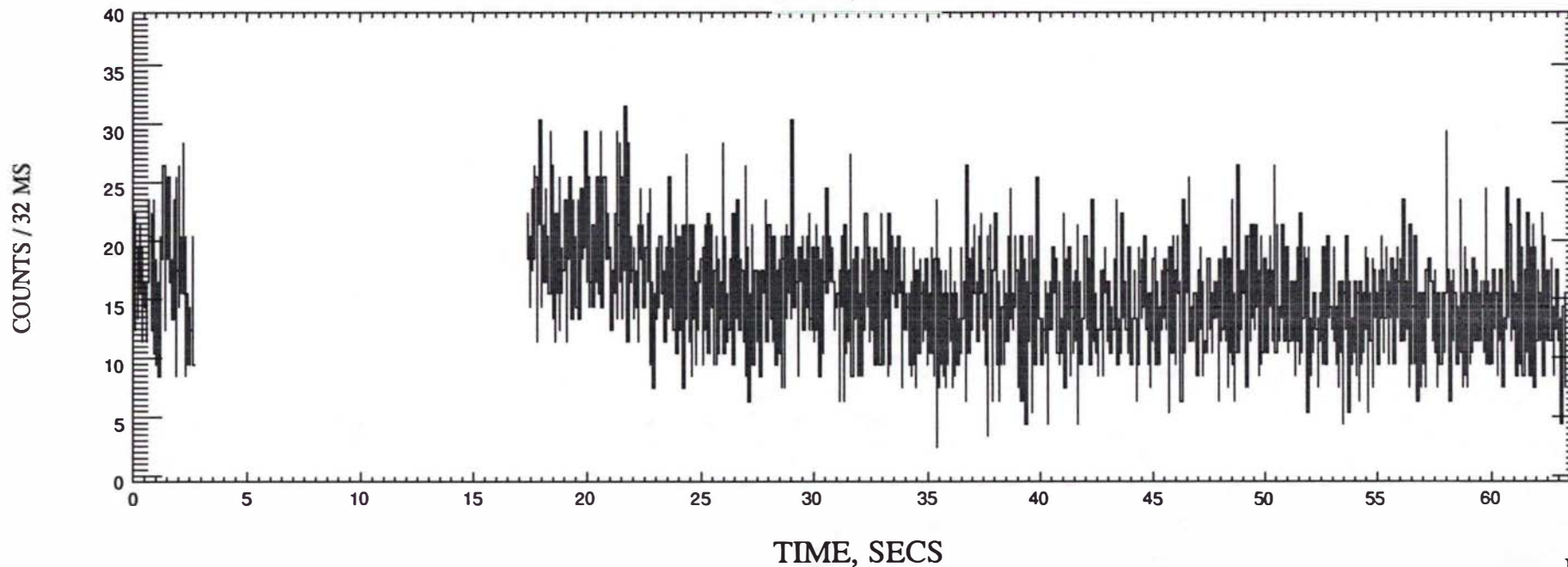
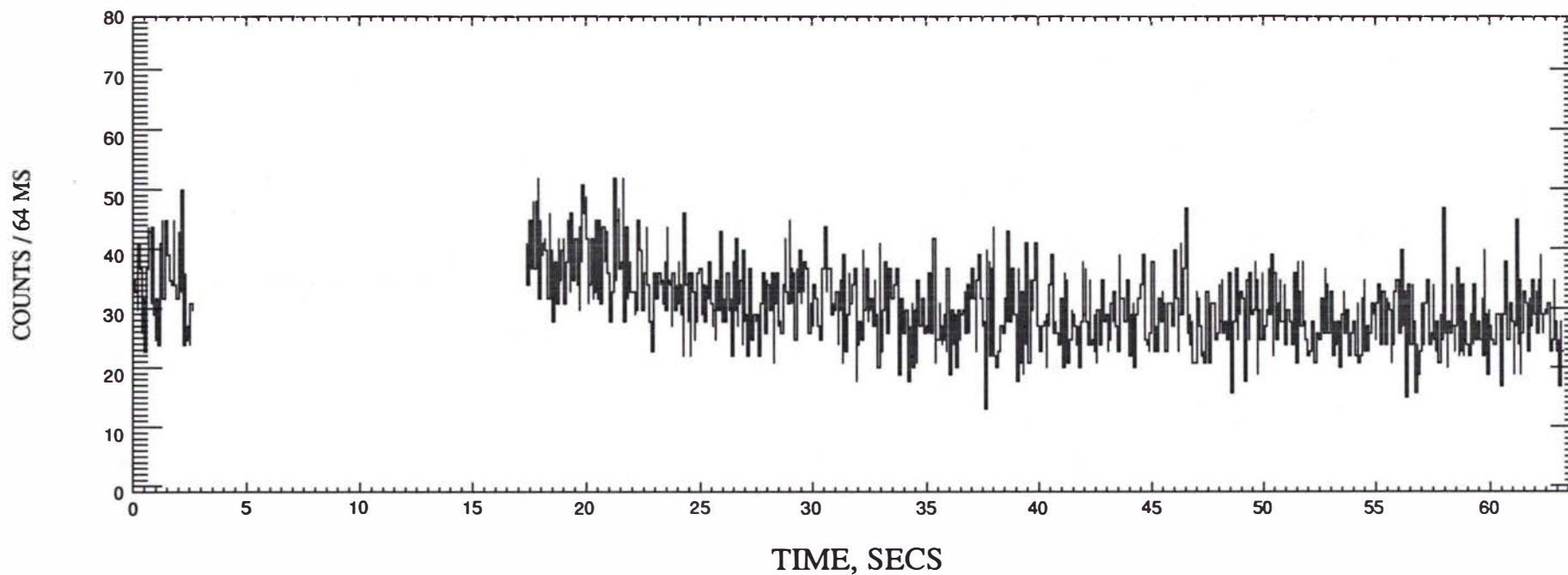


CALIBRATION DATA INCLUDED

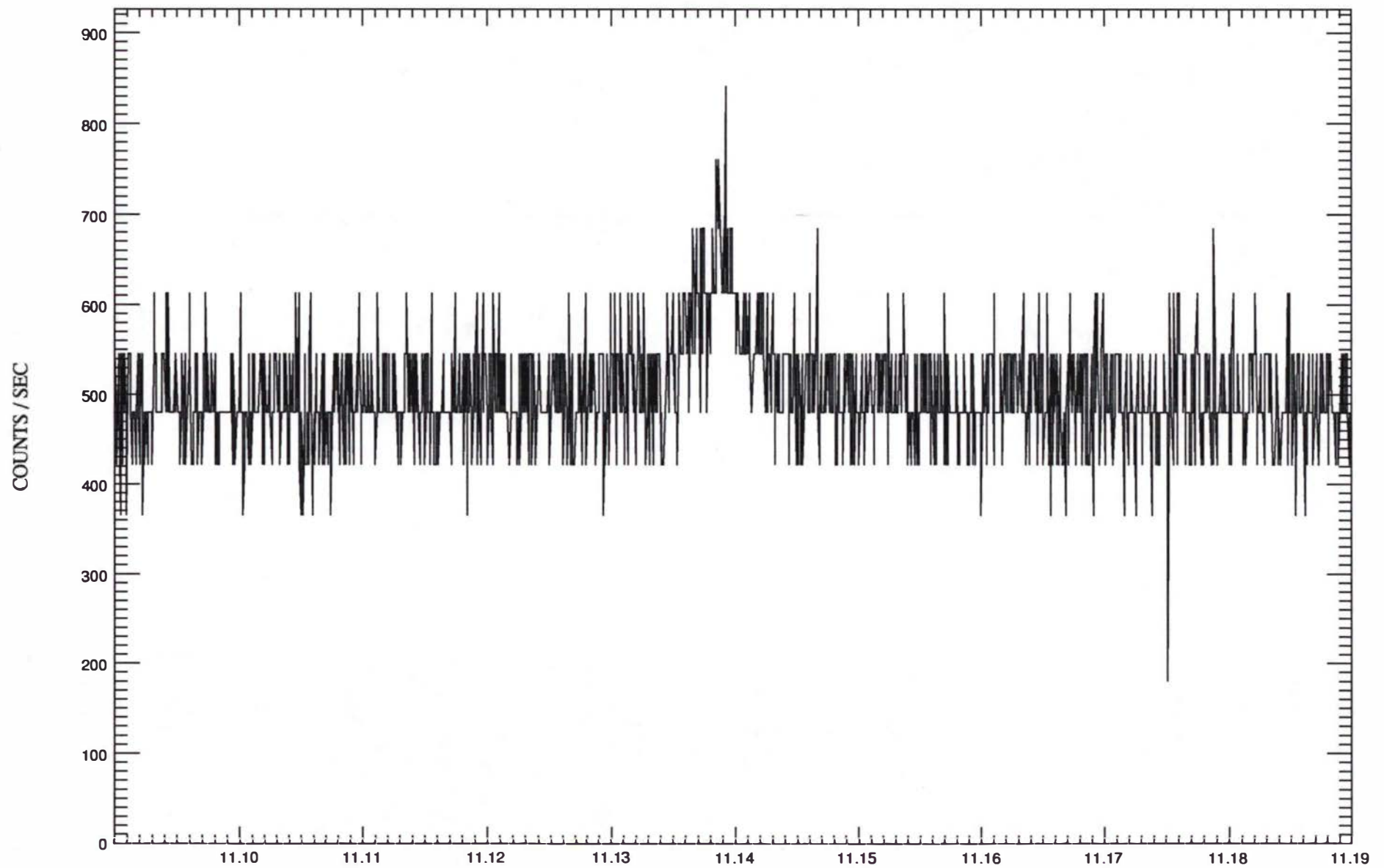


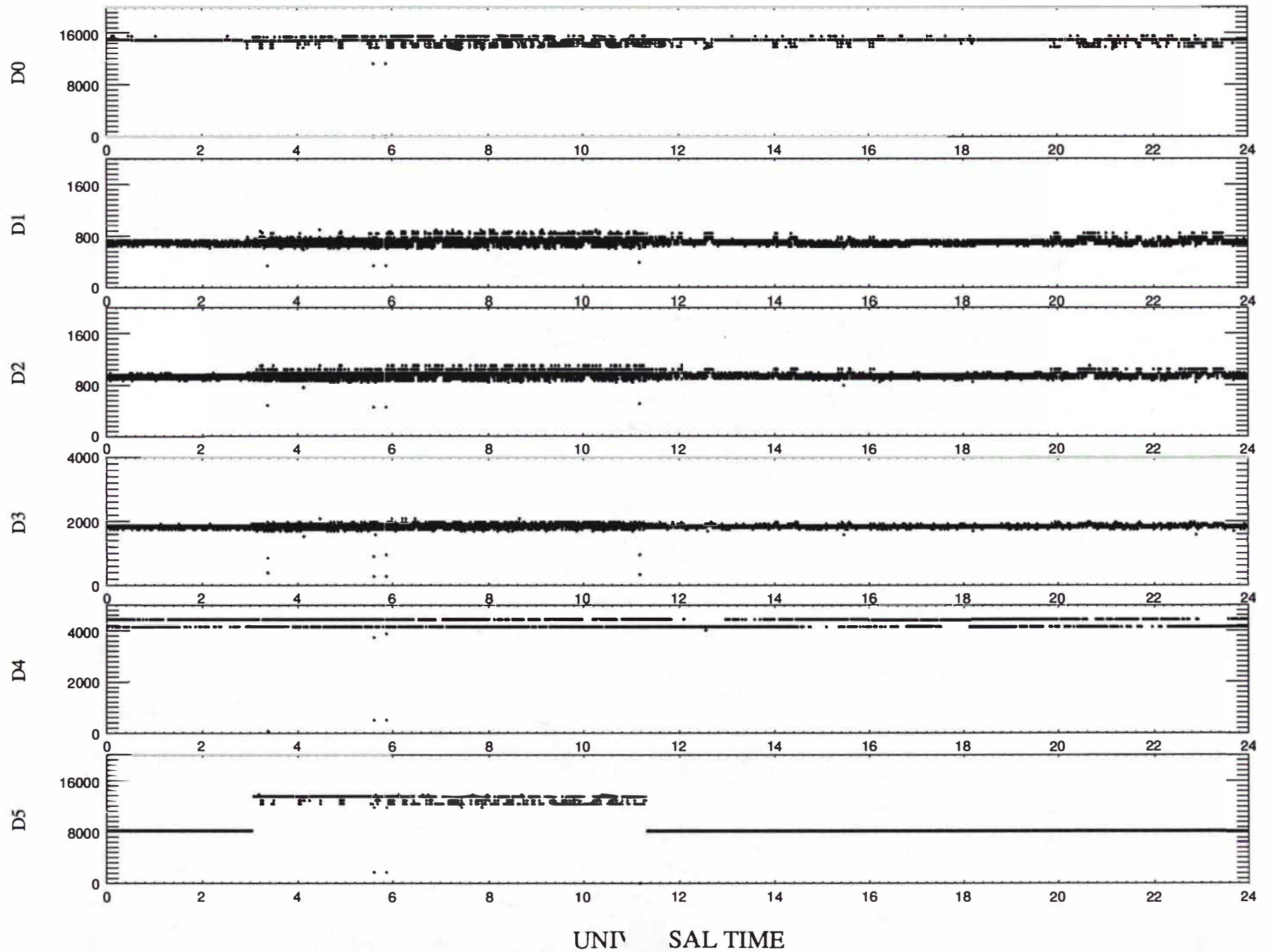
UNIV SAL TIME

Burst Counter 13 at UT=11.139199837579 h=40101.119 s 11:08:21.119



CALIBRATION DATA INCLUDED





Date: Nov 30 2004

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data *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 *N/A*

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

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

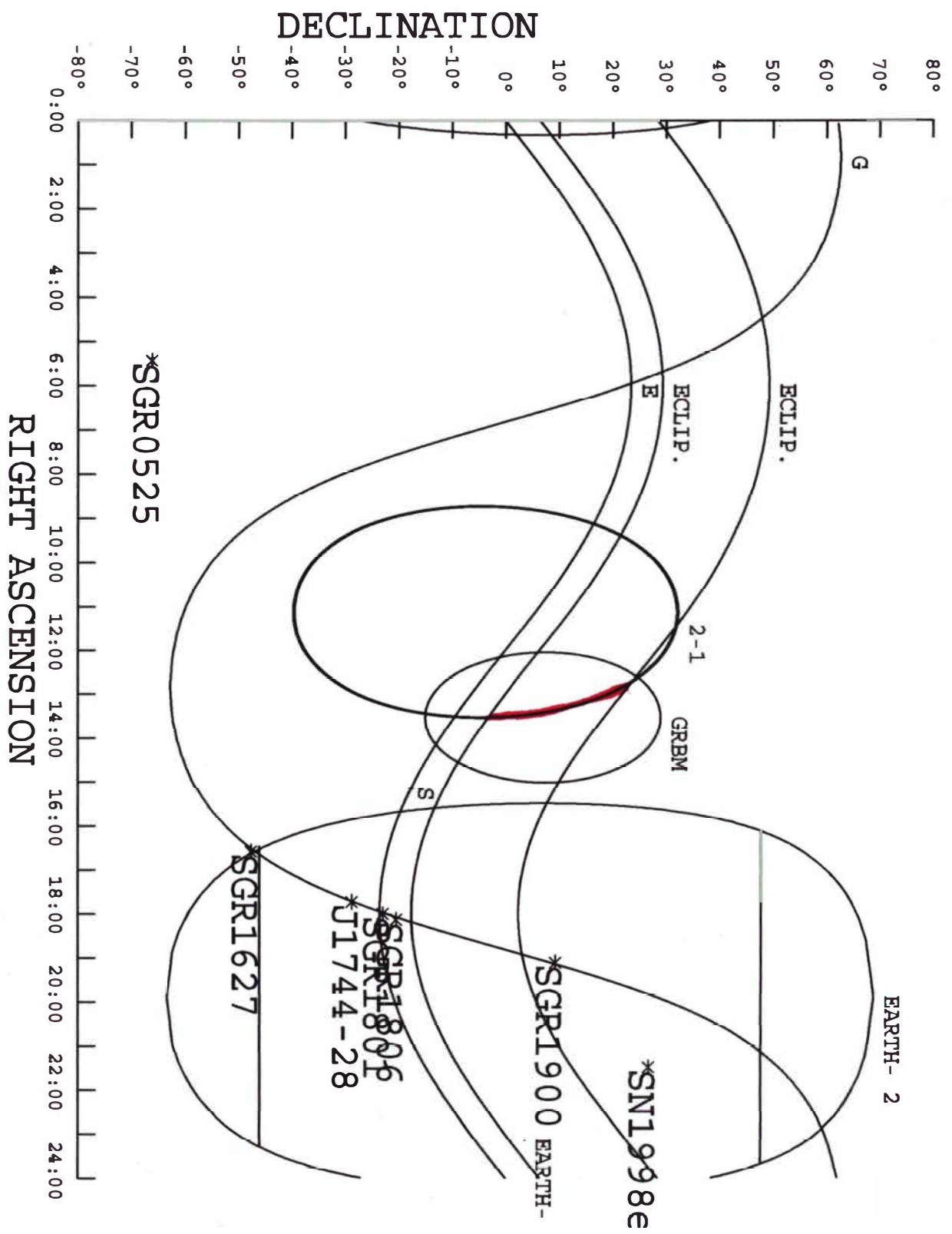
- ☐ $\Sigma 3\Delta t$'s calculated?

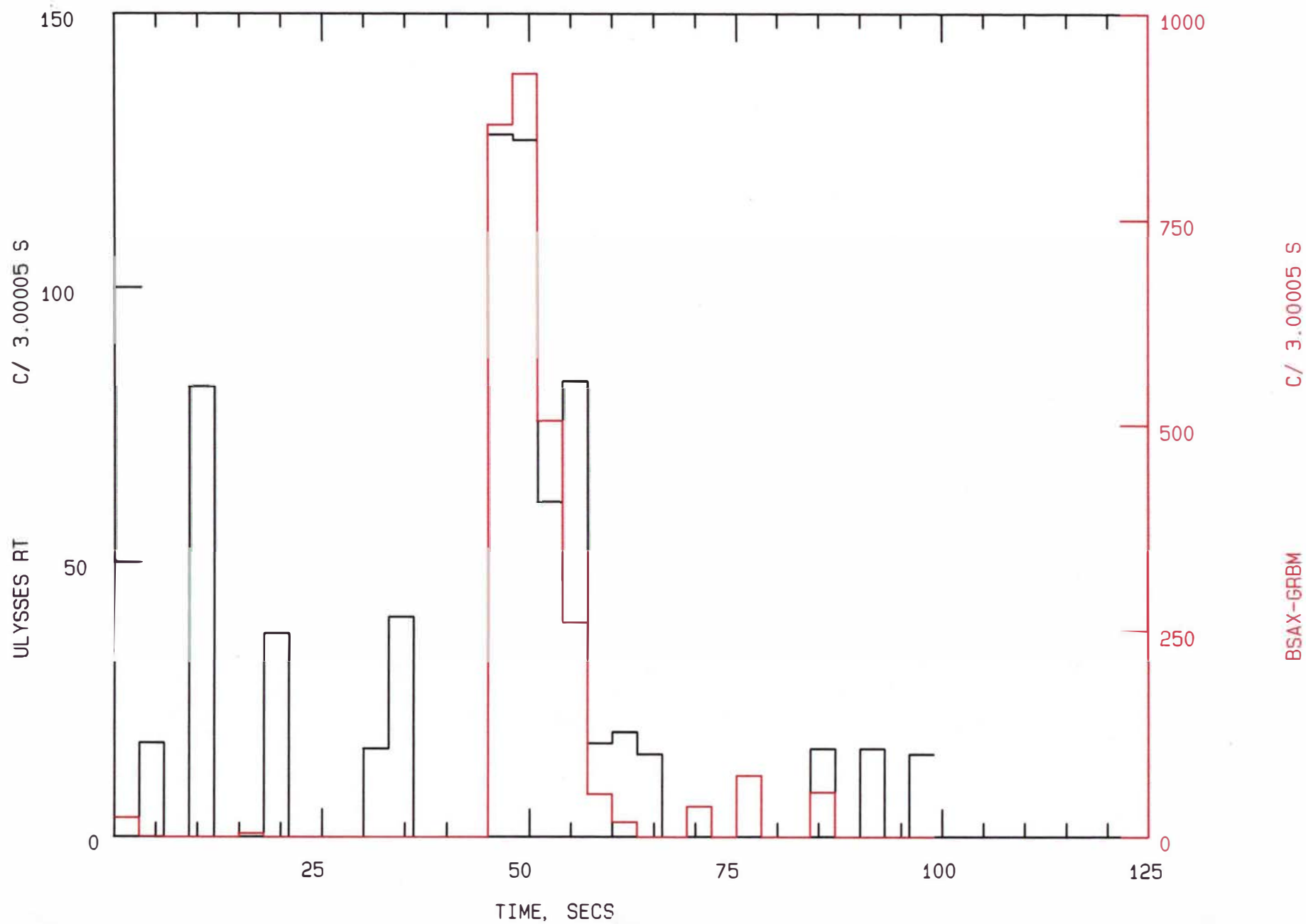
- ☒ ACCESS database updated?

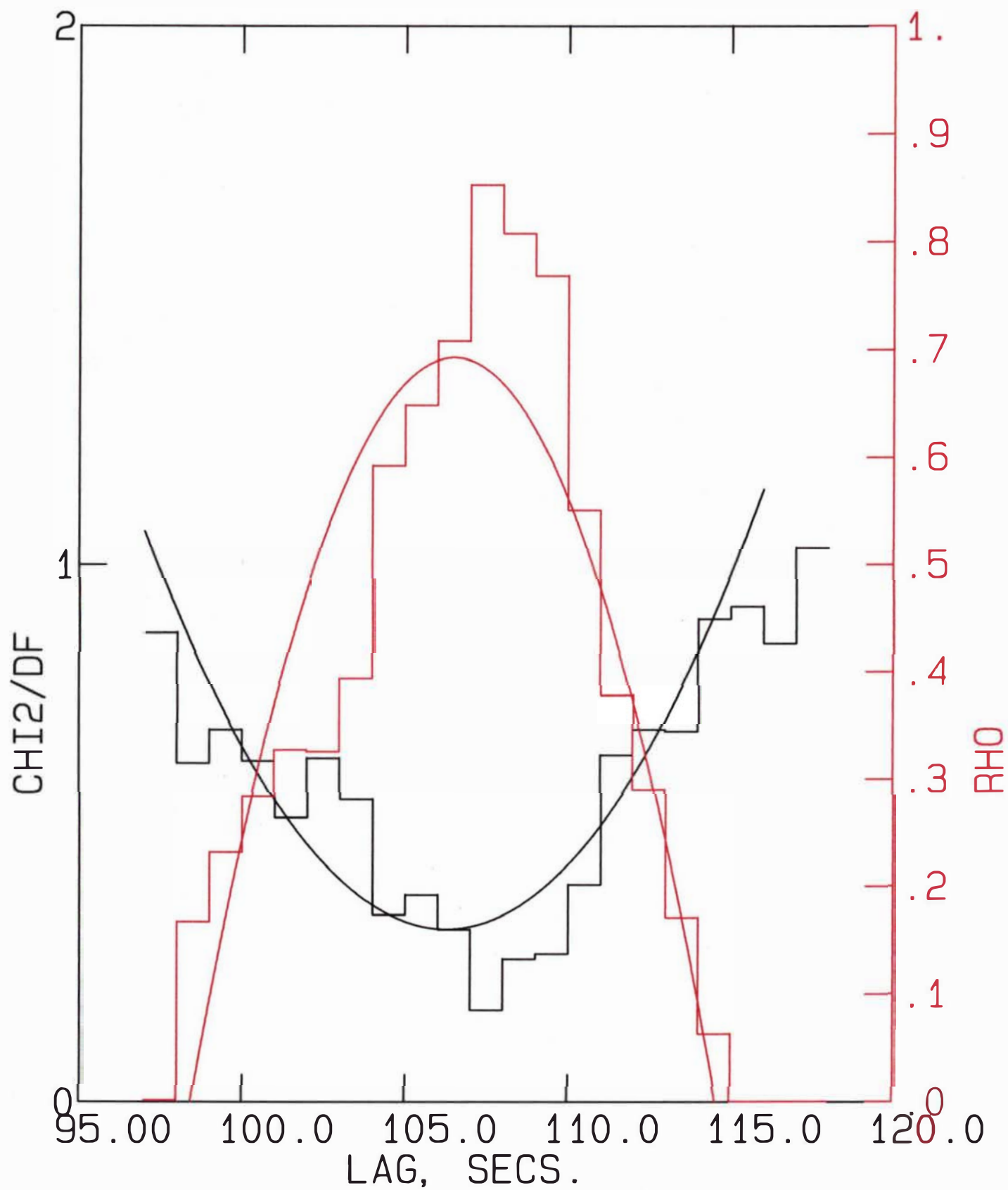
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
 1 ULYSSES 2 SAX

EVENT OF NOV 12, 1998 3:16

30/11/ 4







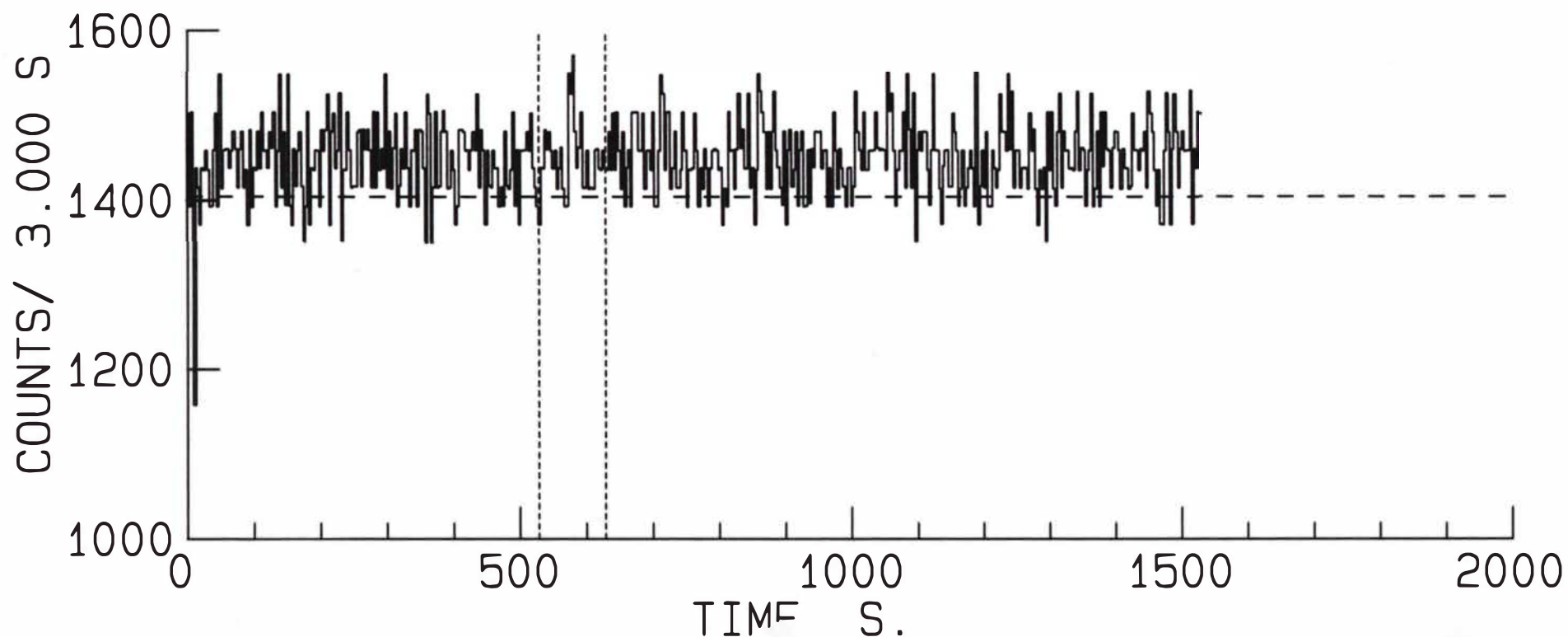
ULYSSES RT

30 / 11 / 4

12/11/98 11268.263 s

0.500 S INTERVALS REGROUPED BY 6

22- 150 keV

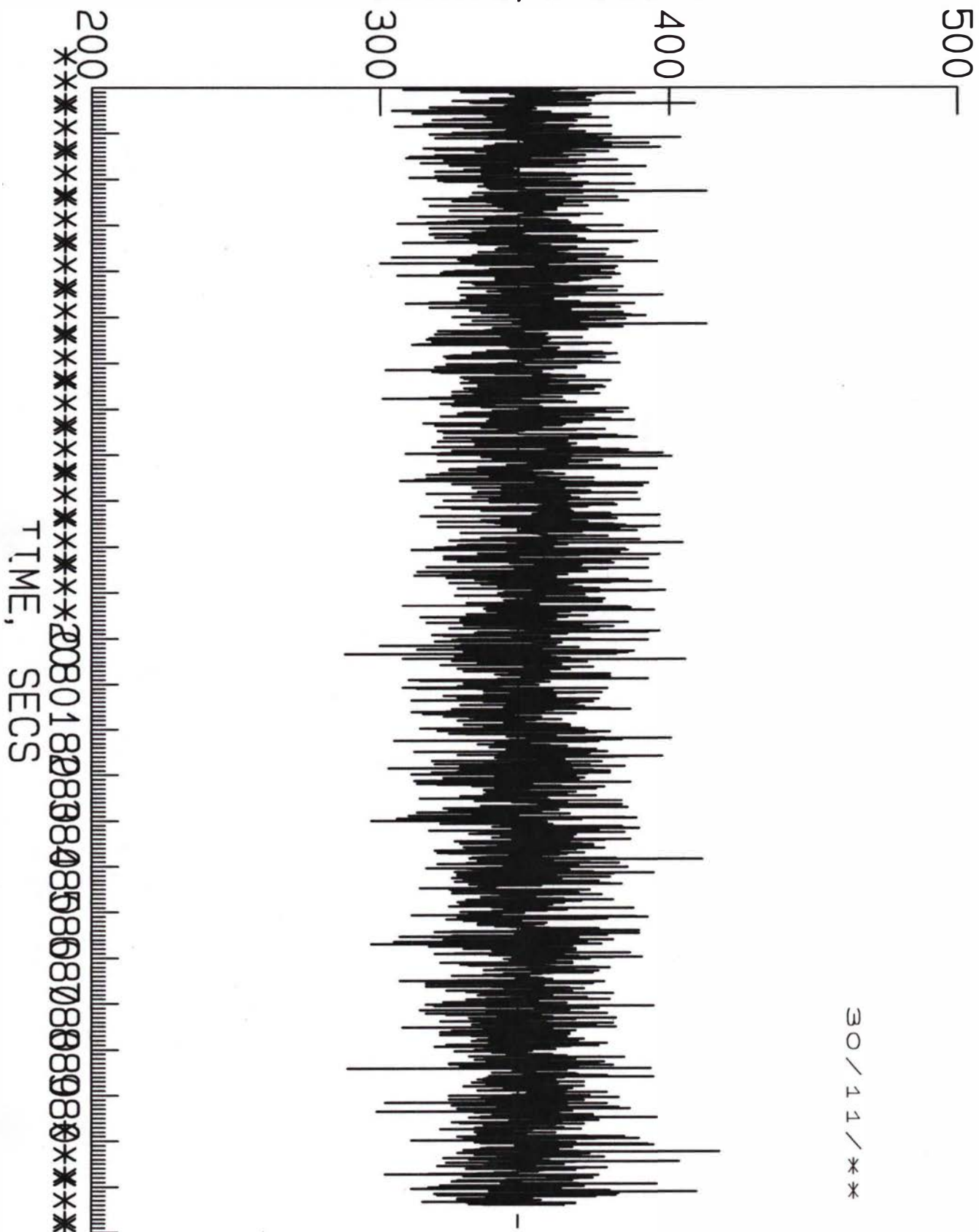


NEAR

12/11/98 14144.389

100-1000 keV

COUNTS/1.000 S



KONUS

12/11/98 14145.300

50- 200 keV

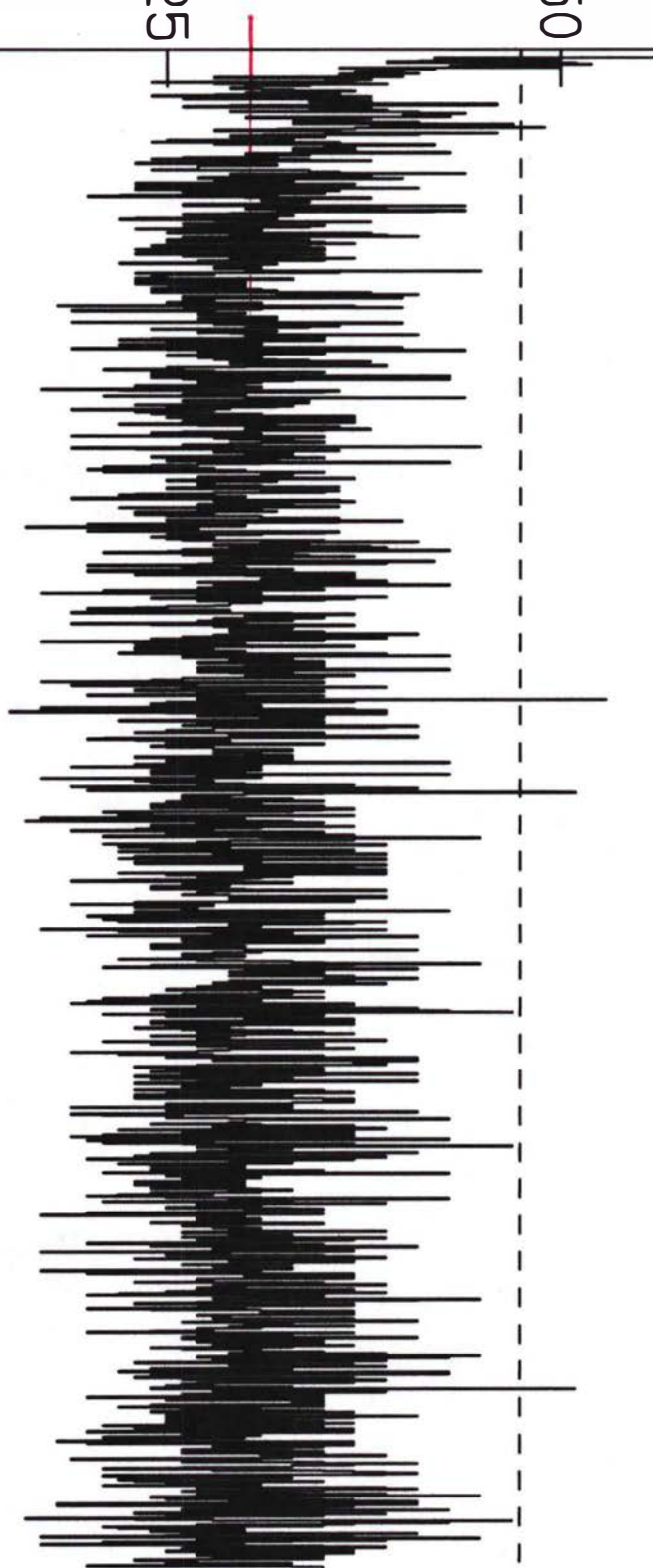
COUNTS/0.064 S

25

50

75

0
9
19
29
39
49
59
69
79
89
99
TIME, SECS

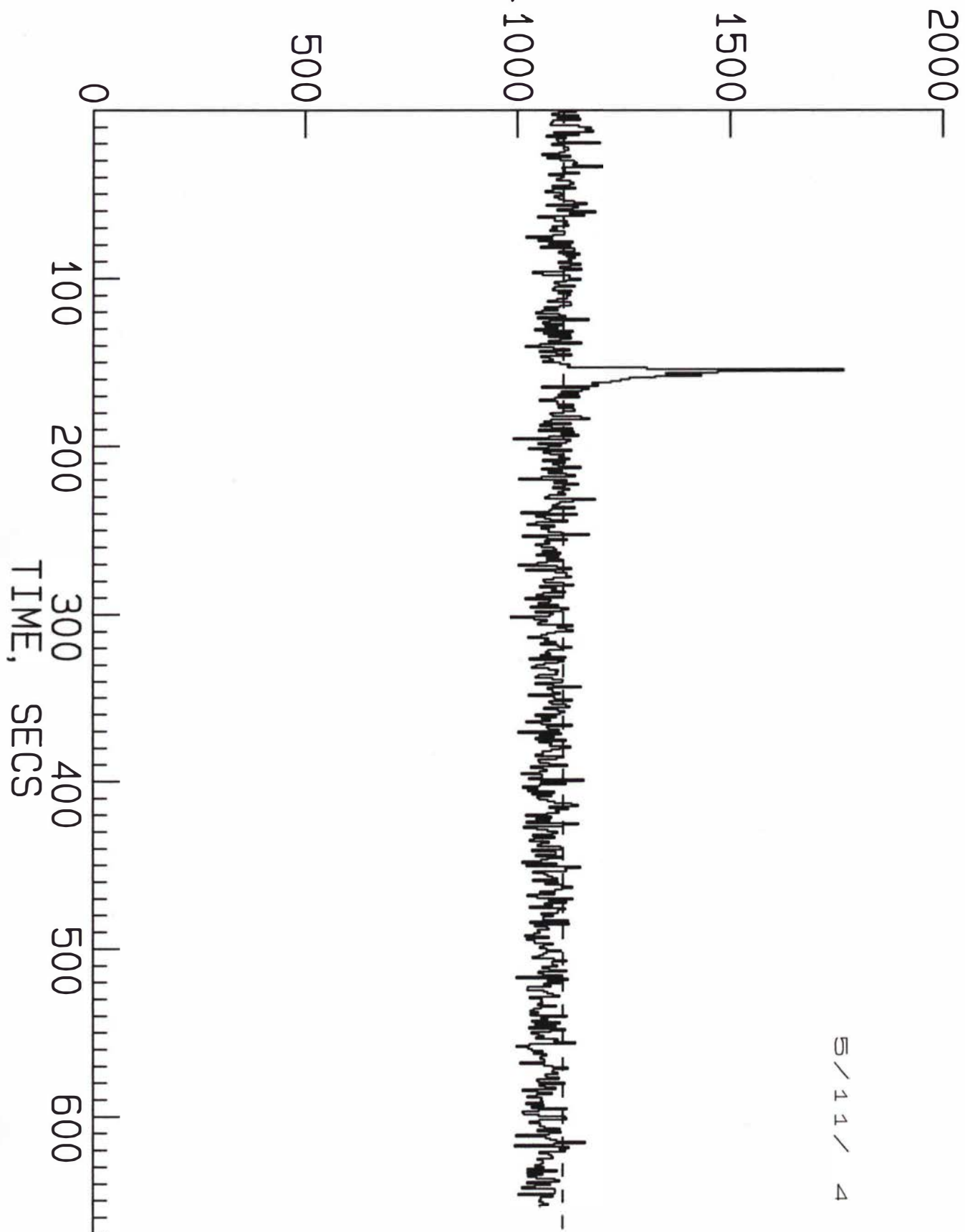


SAX GRBM

12/11/98 13990.800

40- 700 keV

COUNTS/1.000 S



From SURASAK@fender.msfc.nasa.gov Mon Nov 16 10:44:02 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 16 Nov 1998 12:43:27 -0600 (CST)

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,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7211

TIME: TJD=1129 SECONDS=19614

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

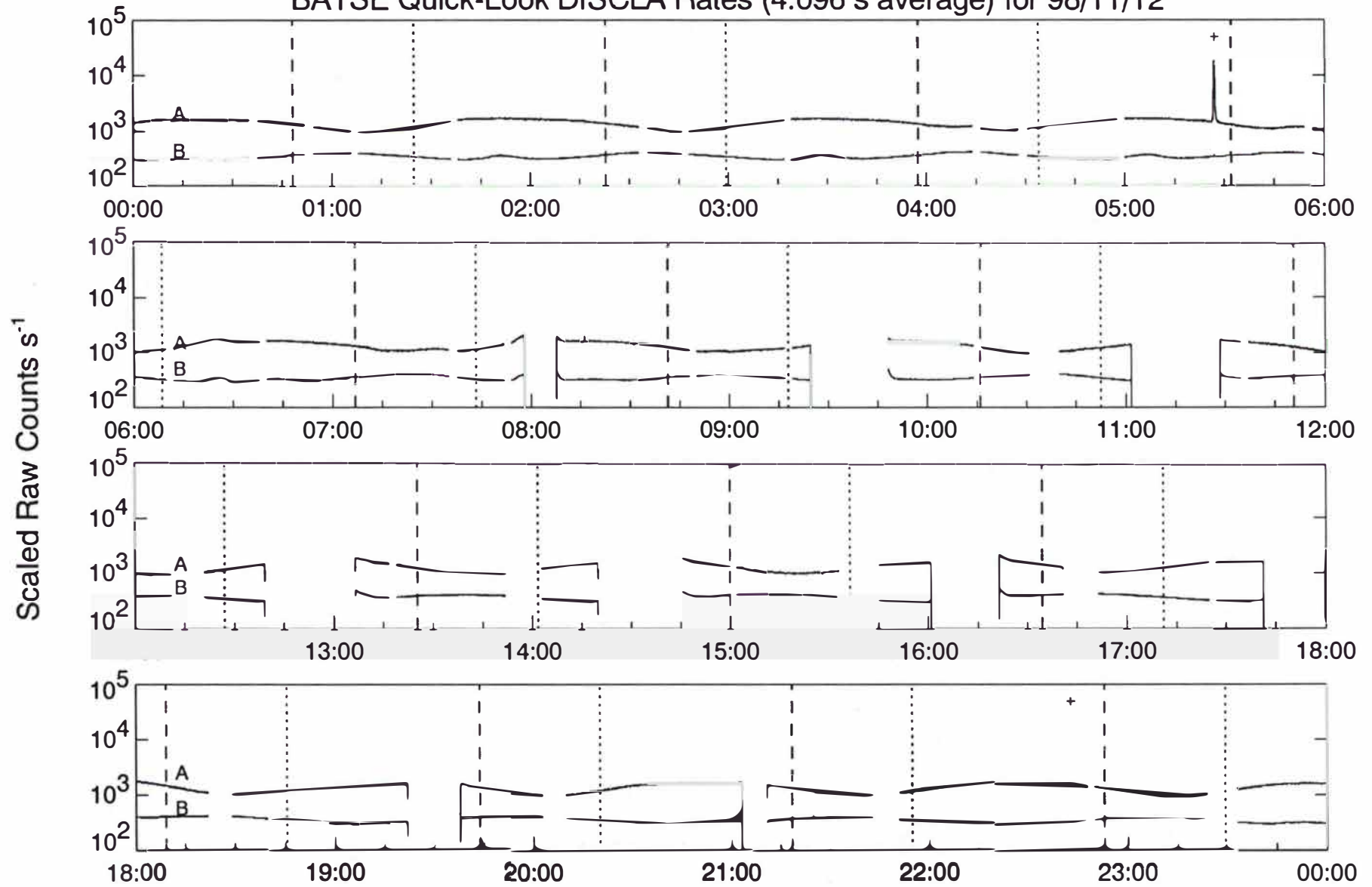
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=111.0 AZIMUTH=18.2 ERROR=0.447 DEGREES

COMMENTS:

SOLAR FLARE. GOES M1.0, OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE.
DURATION ABOUT 50 S. VISIBLE ABOVE 300 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/12

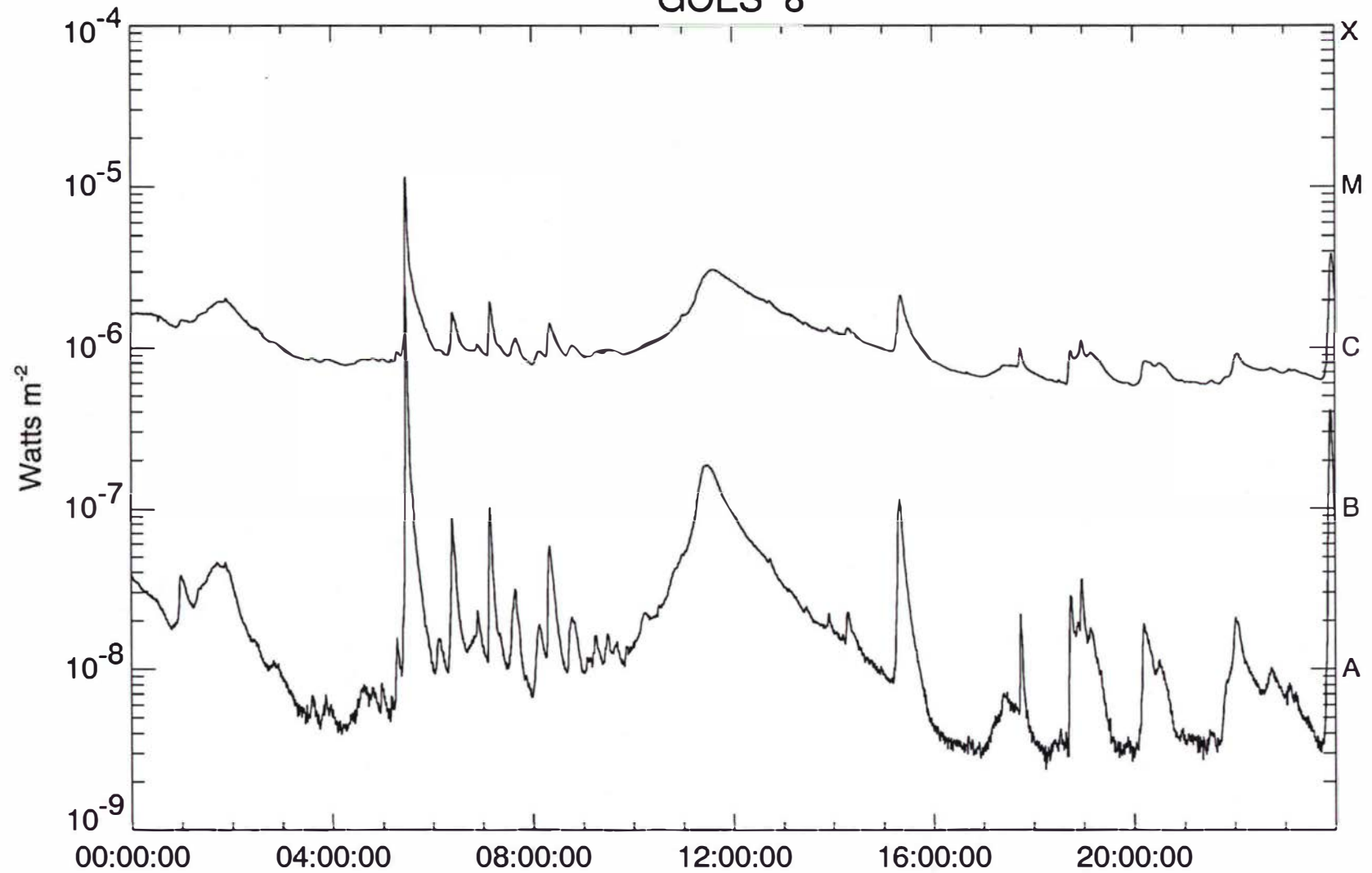


Current Time: 98/11/16, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/12, 0000:00

Plot created: 98/11/16, 1007

Channel

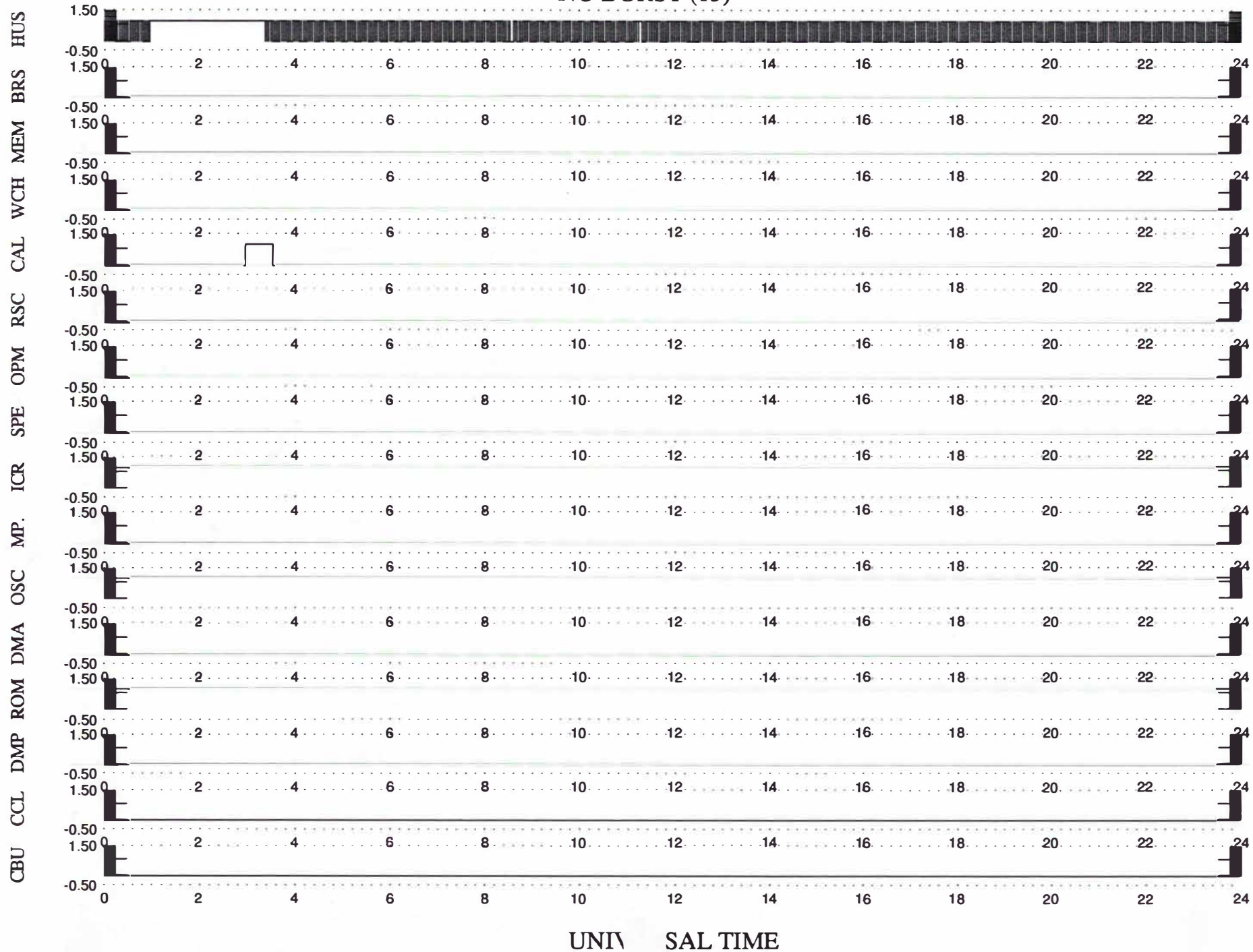
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

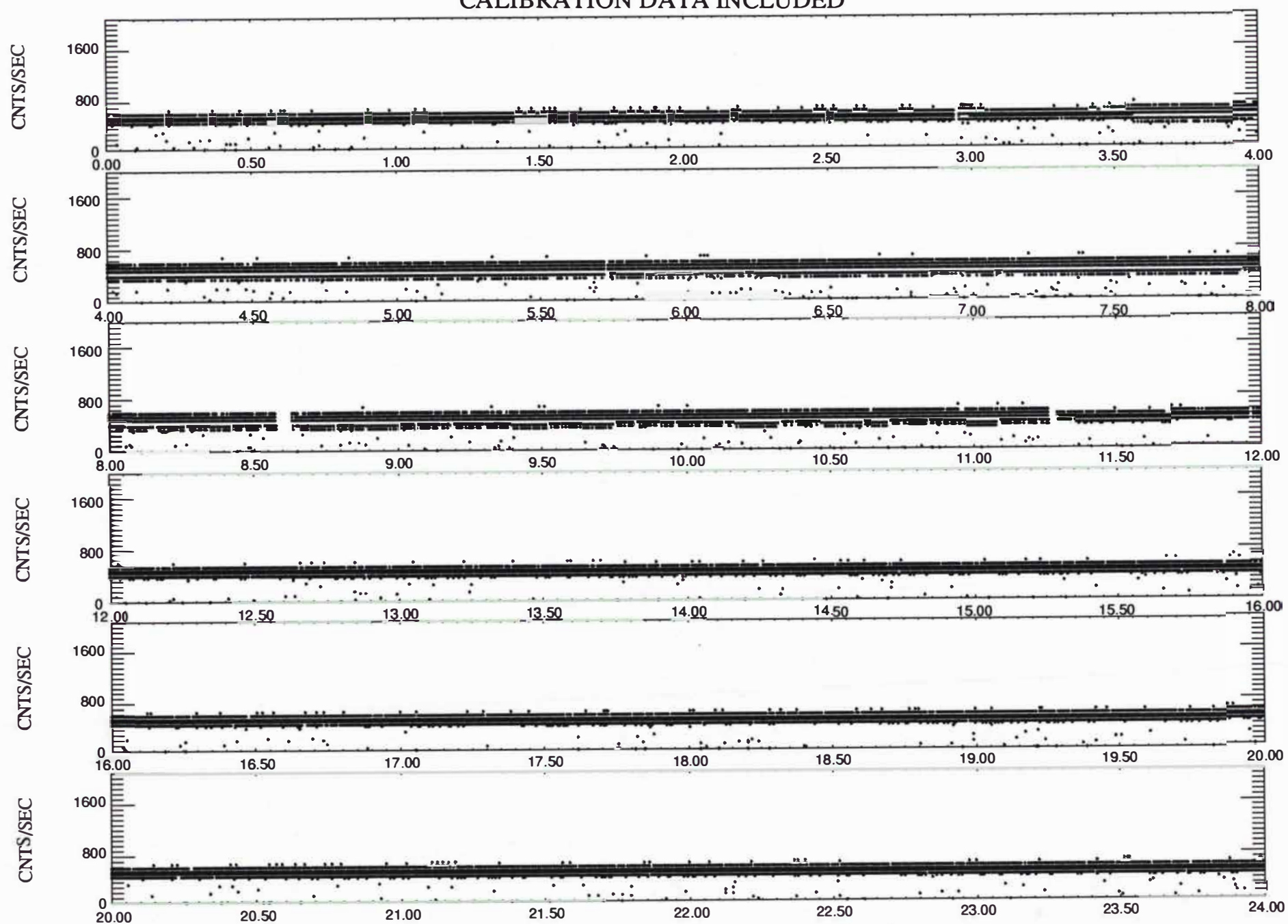
Background not subtracted

Sample average = 10

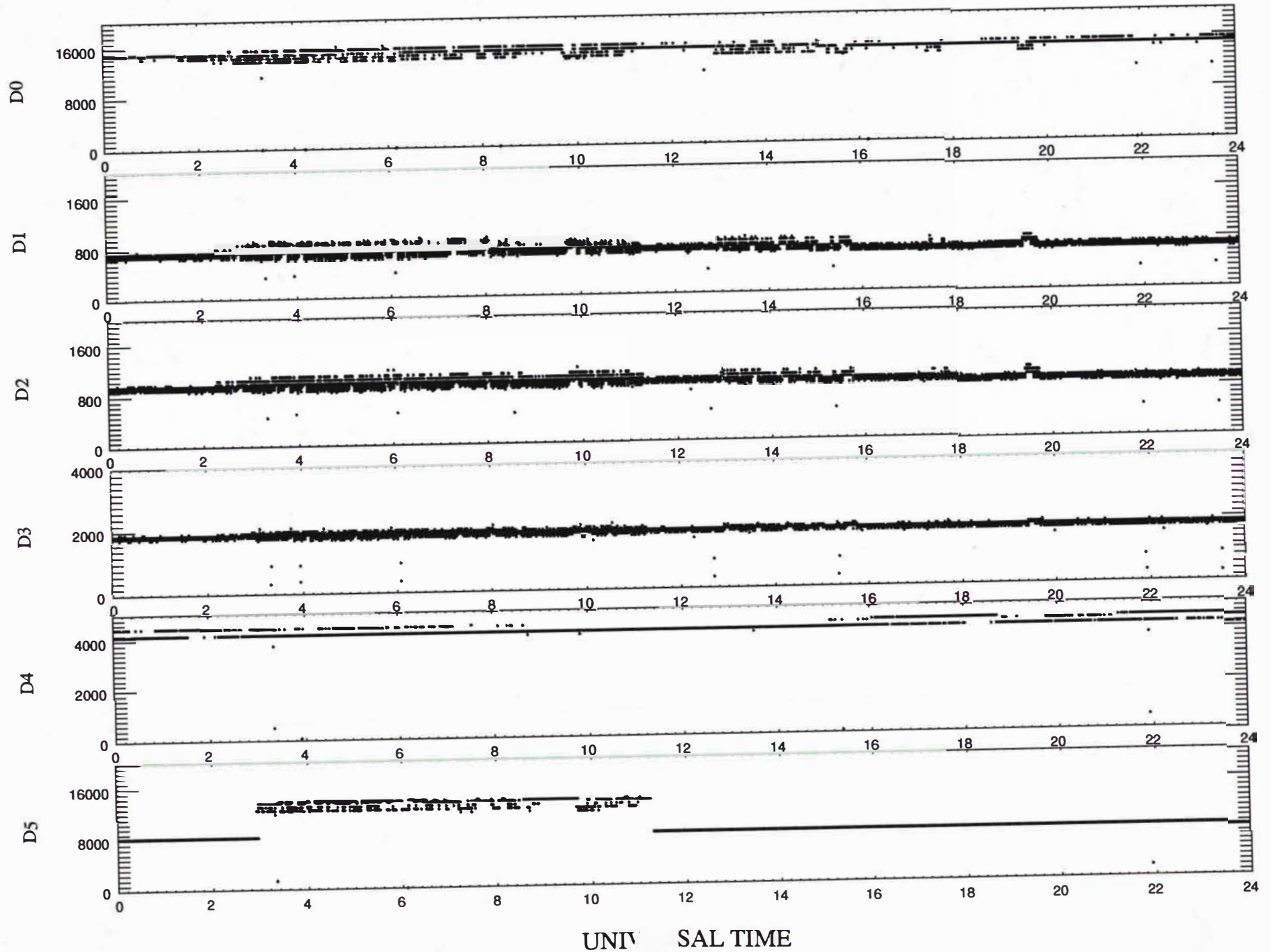
NO BURST (13)



CALIBRATION DATA INCLUDED



UNT SAL TIME



Date: Nov 30 2004

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 - bad starts*

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 vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *N/A*

4. For Konus events *N/A*

- ☐ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

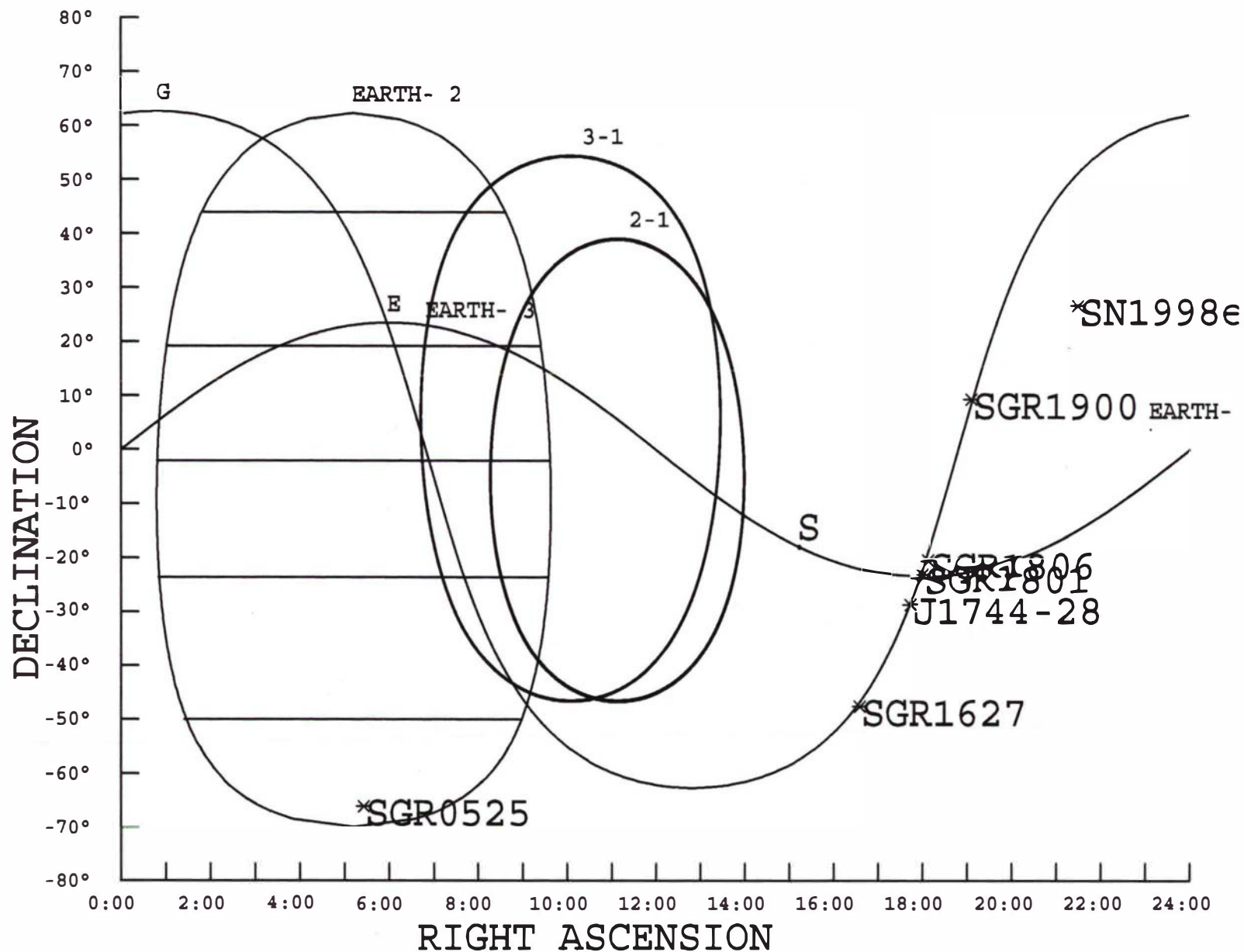
- ☐ $\Sigma 3\Delta t$'s calculated?

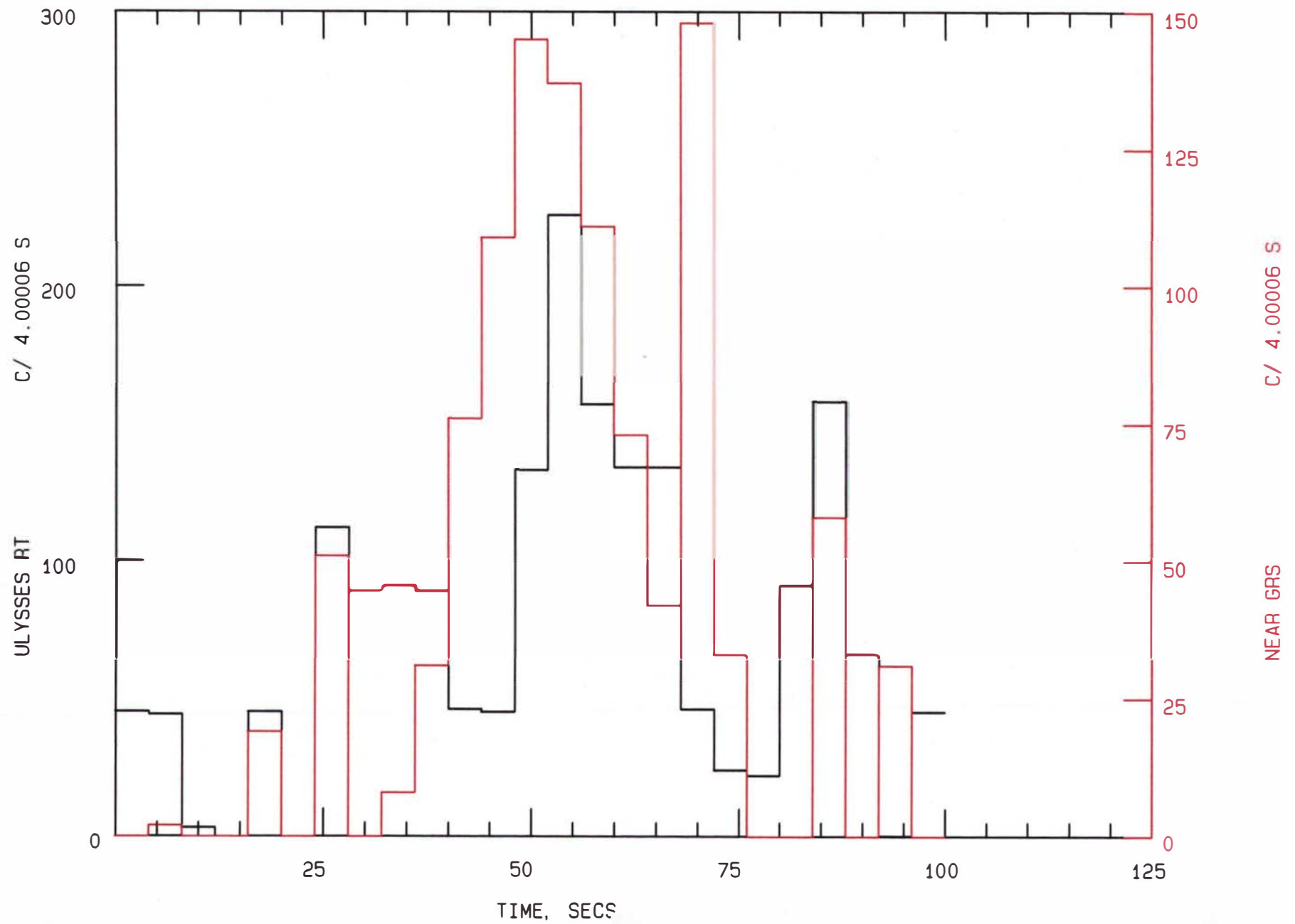
- ☒ ACCESS database updated?

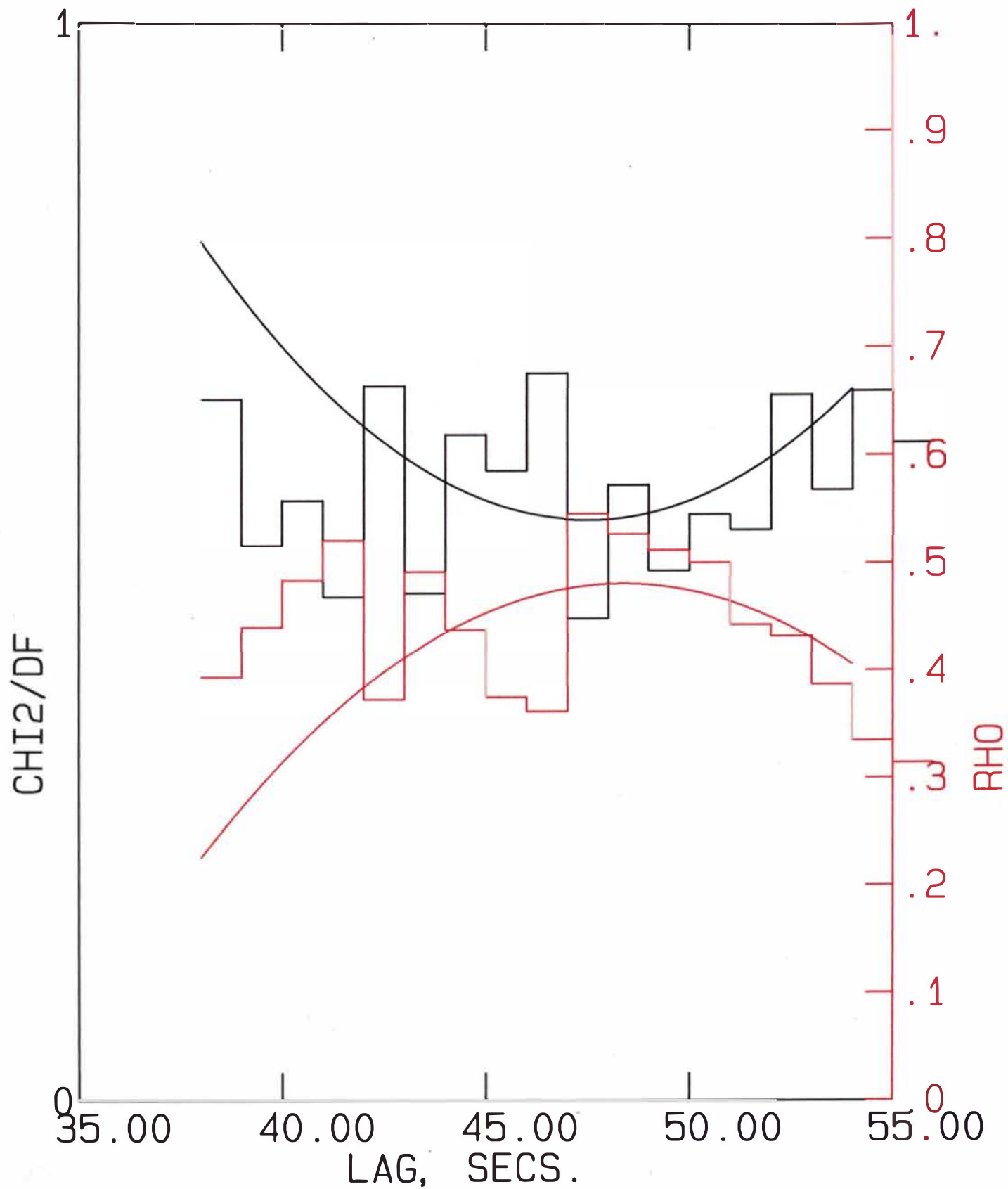
EVENT OF NOV 13, 1998 12:03

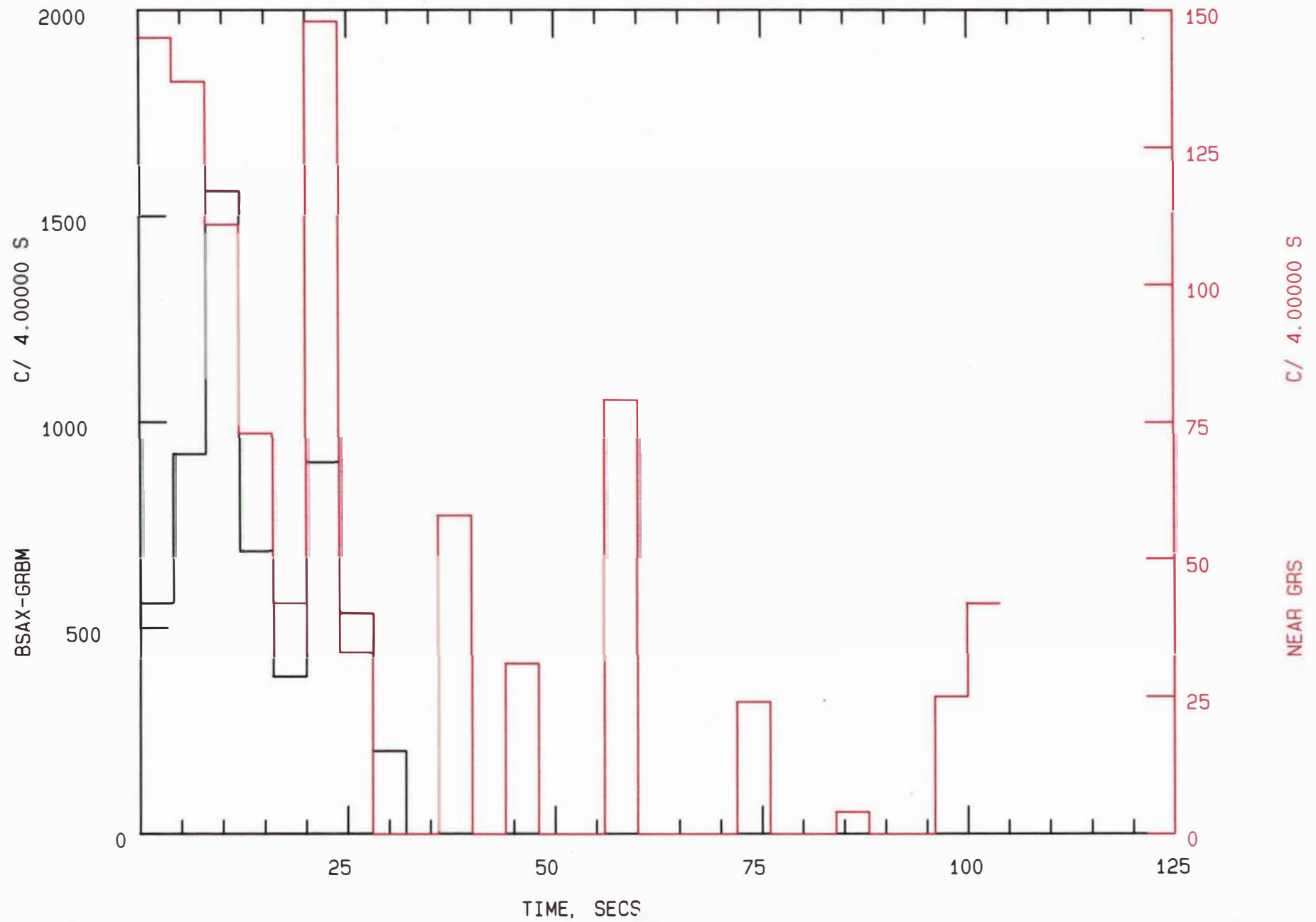
30/11/ 4

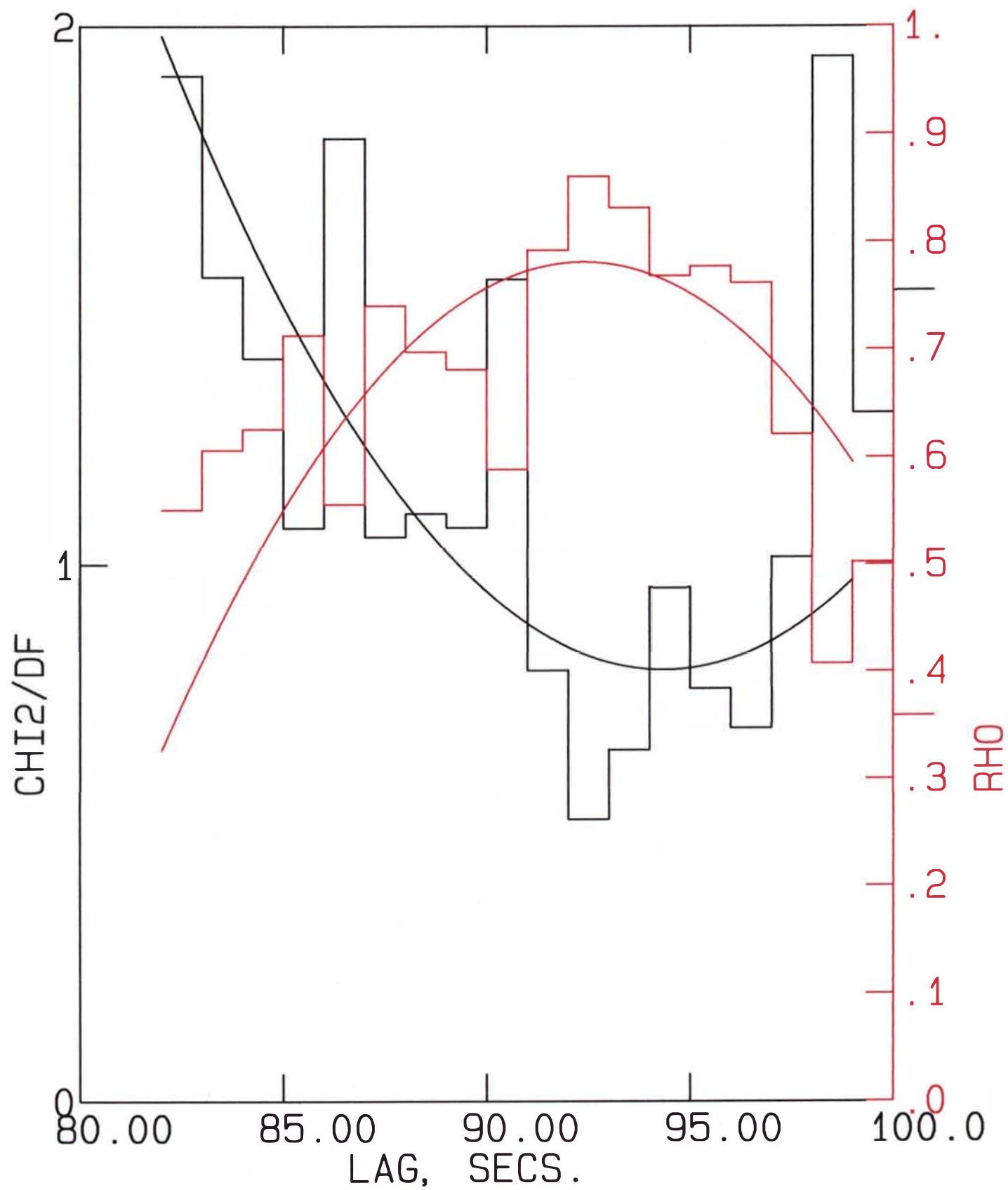
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN
 1 ULYSSES
 2 SAX
 3 NEAR
 E=ECLIPTIC
 G=GALACTIC EQUATOR

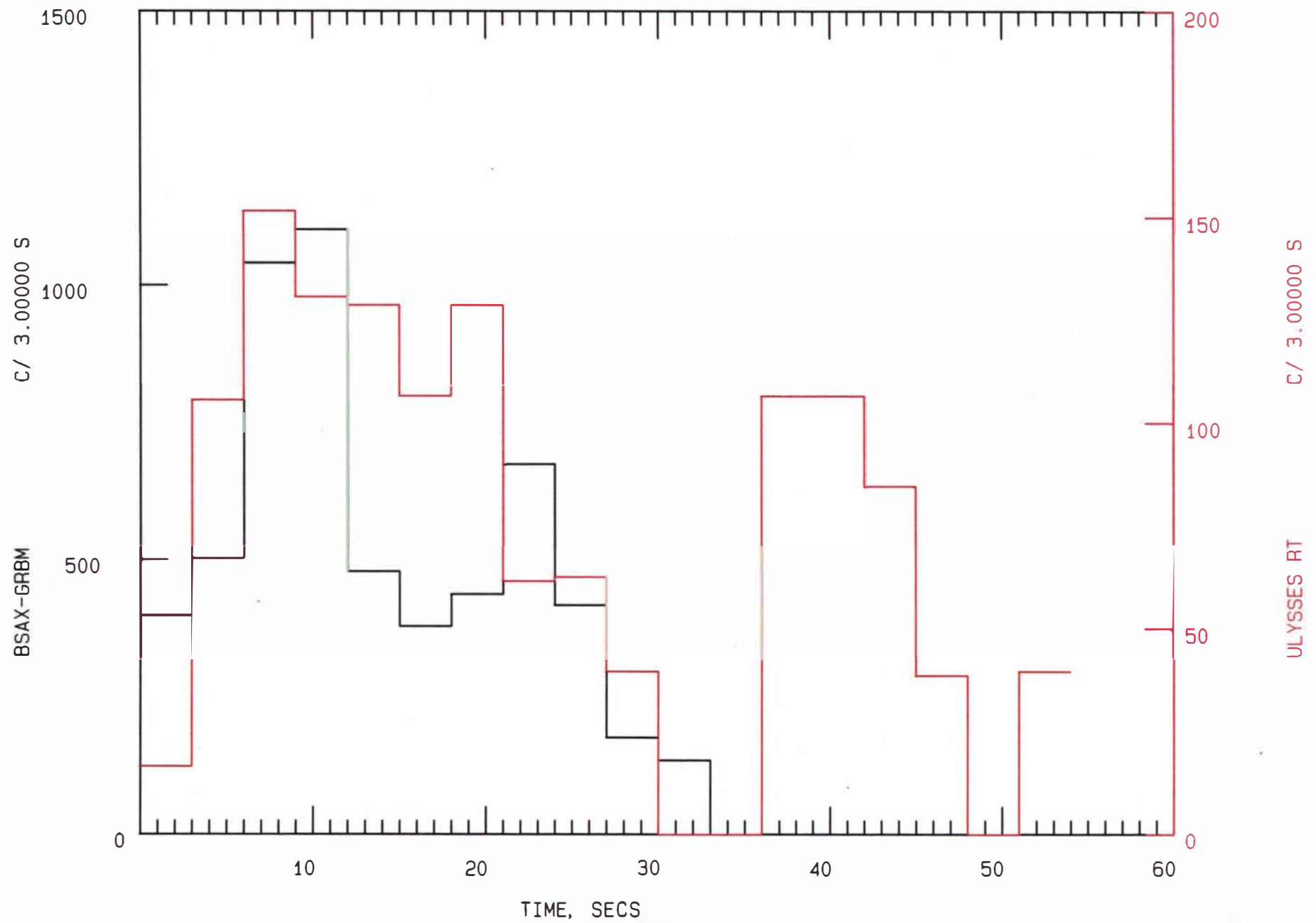


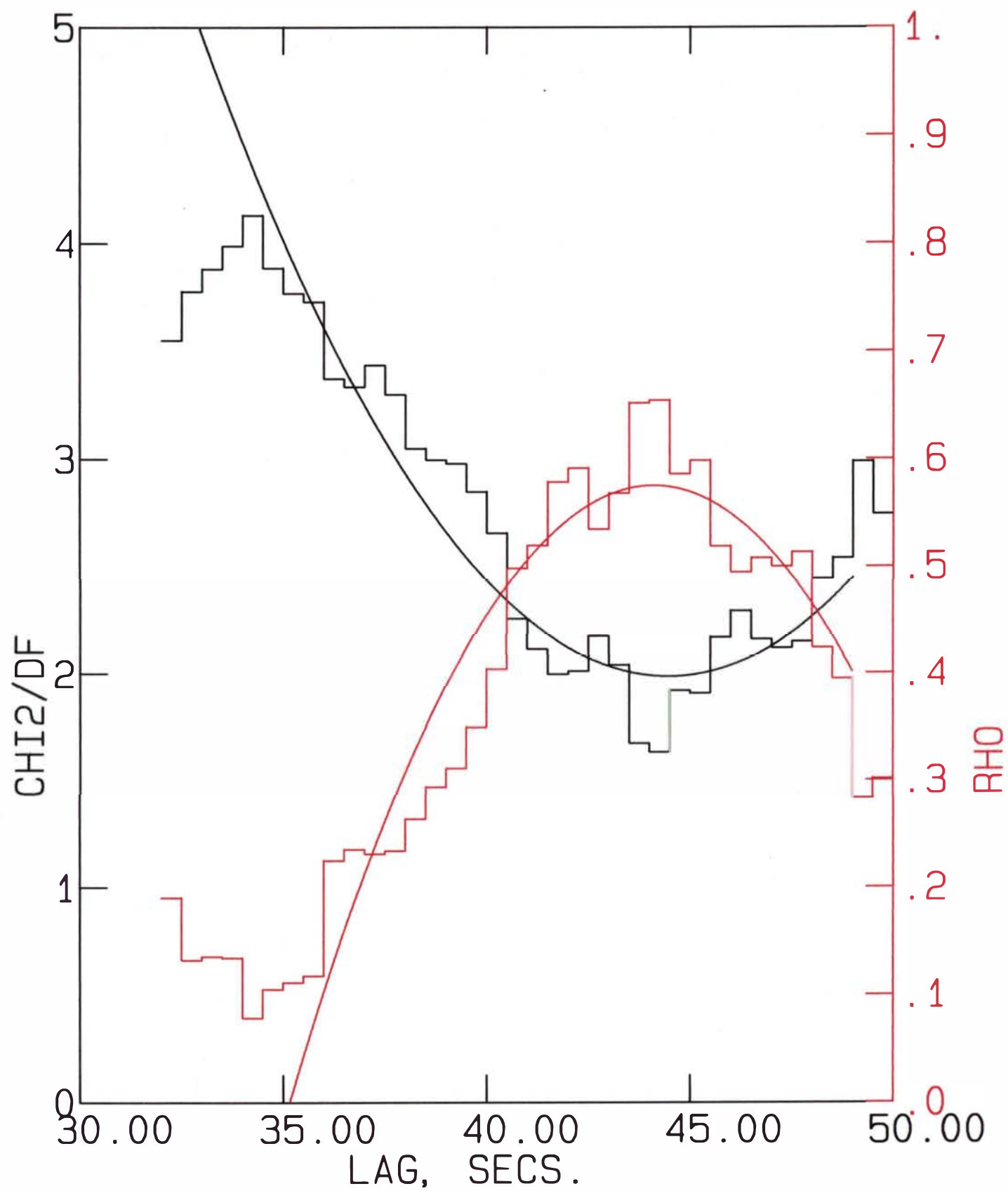












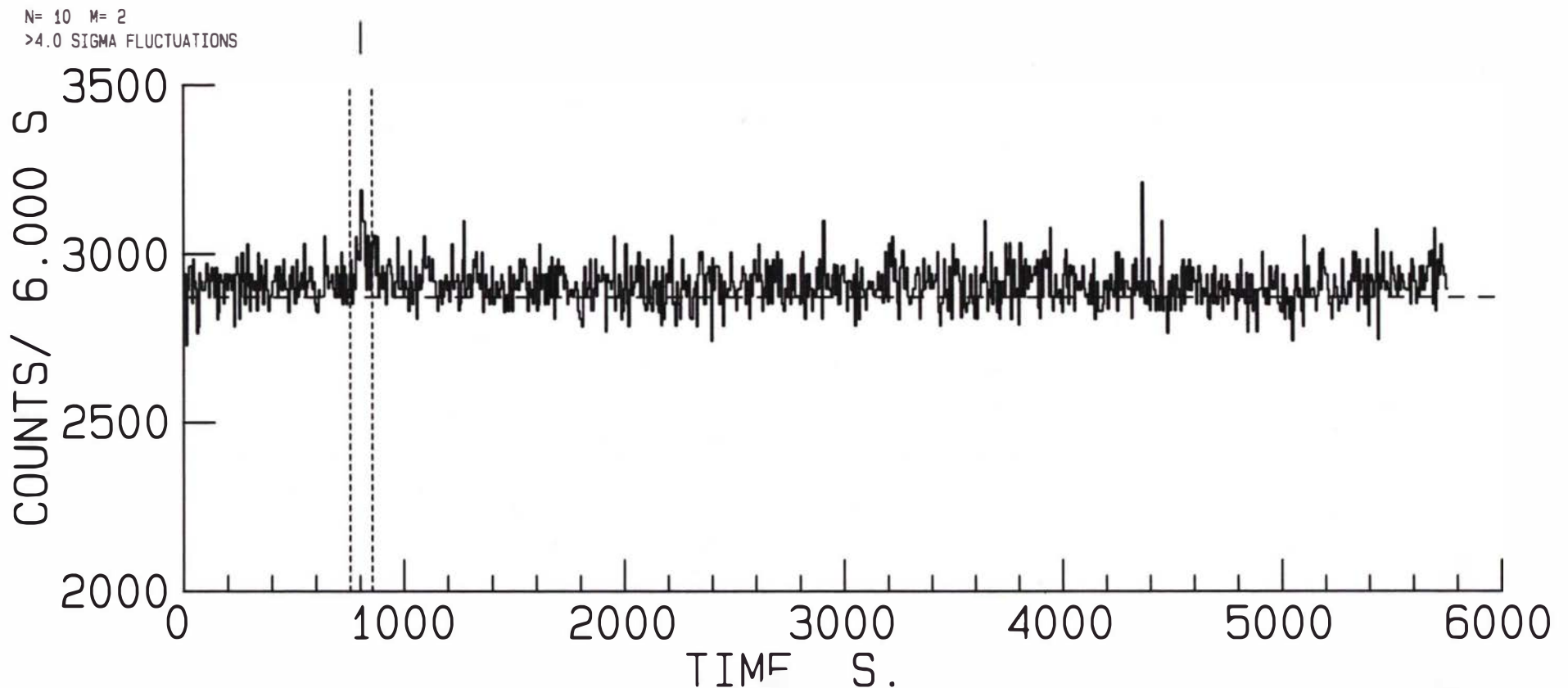
ULYSSES RT

30 / 11 / 4

13/11/98 42660.465 s

0.500 S INTERVALS REGROUPED BY 12

22- 150 keV

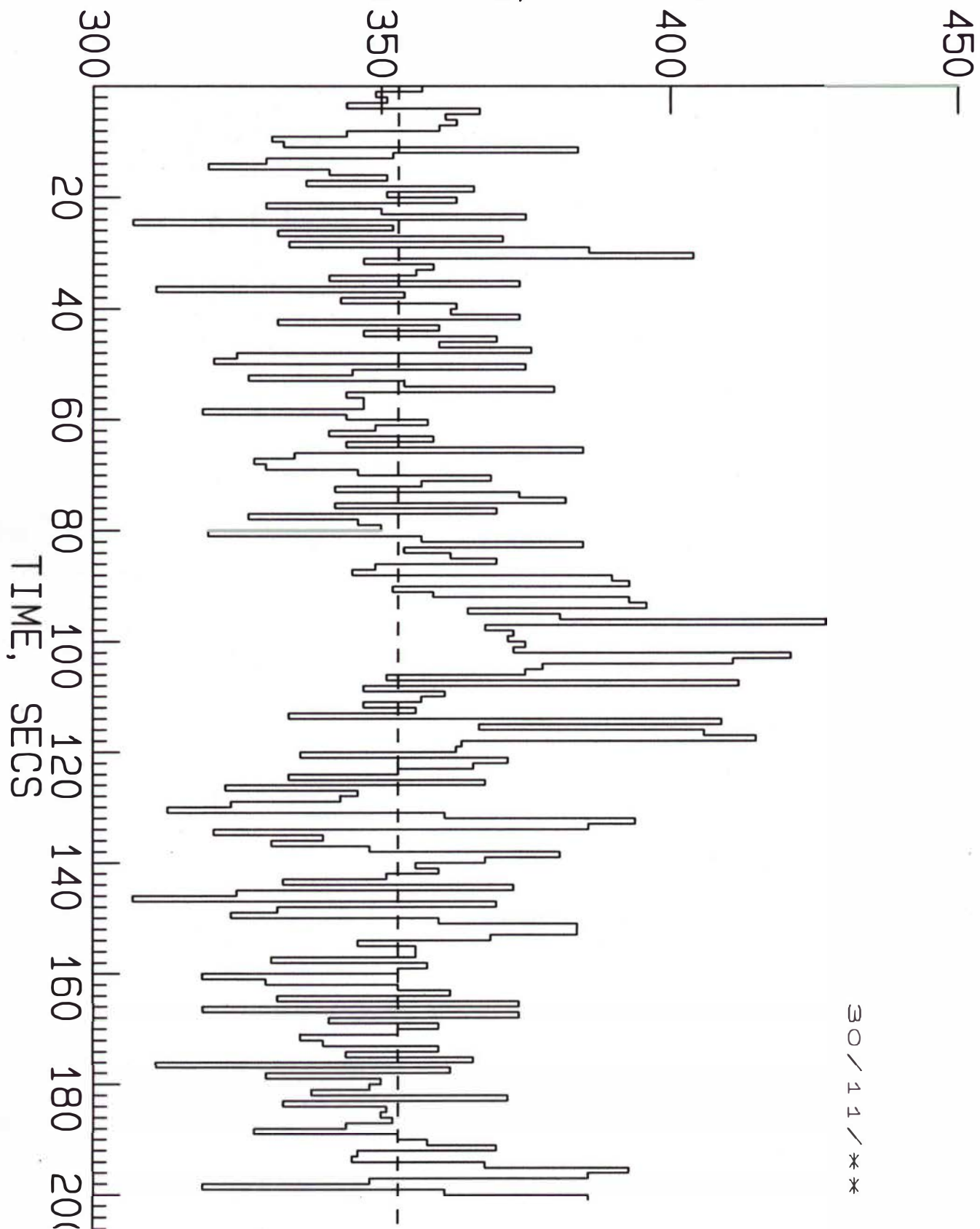


NEAR

13/11/98 45534.360

100-1000 keV

COUNTS/1.000 S

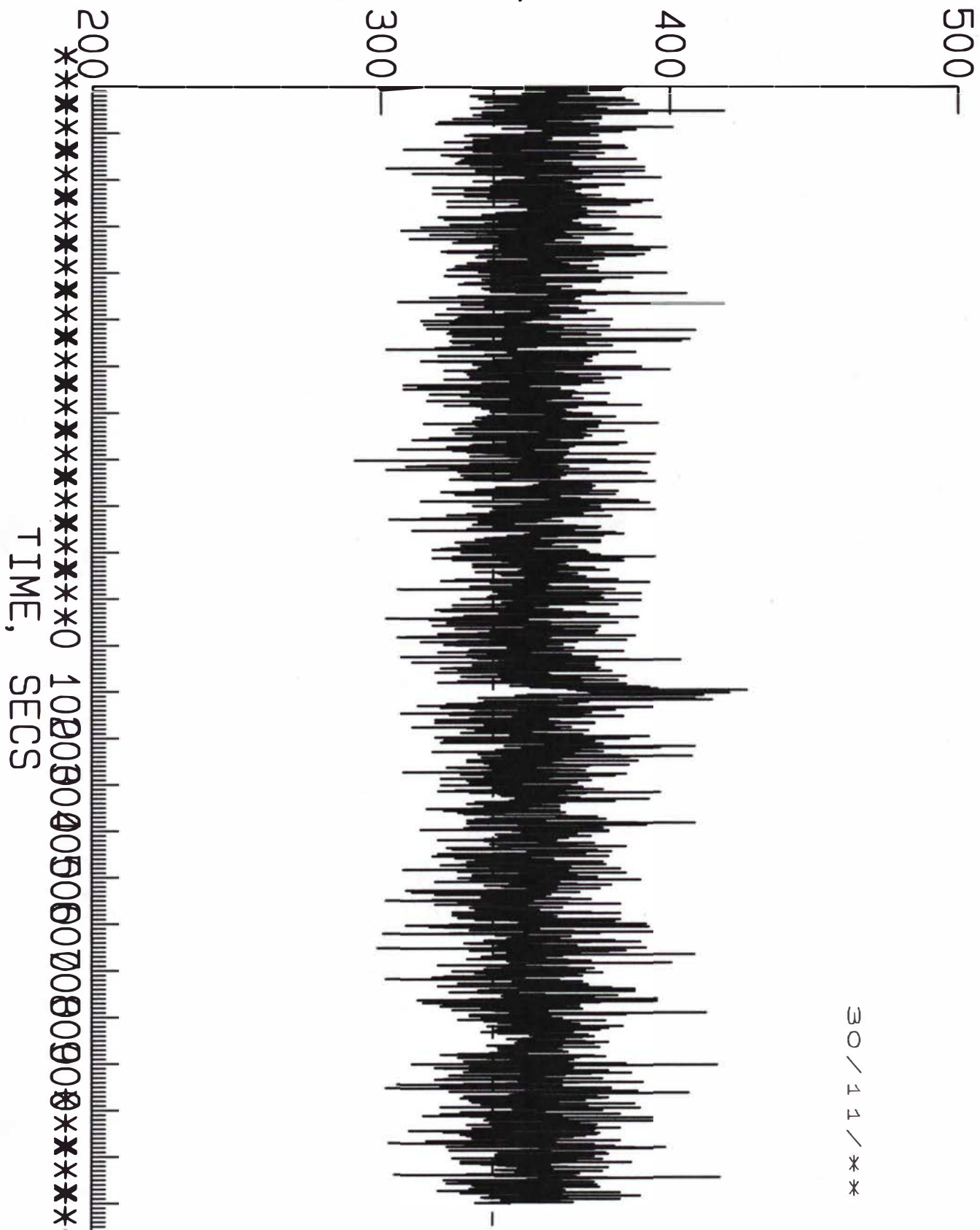


NEAR

13/11/98 45534.360

100-1000 keV

COUNTS/1.000 S

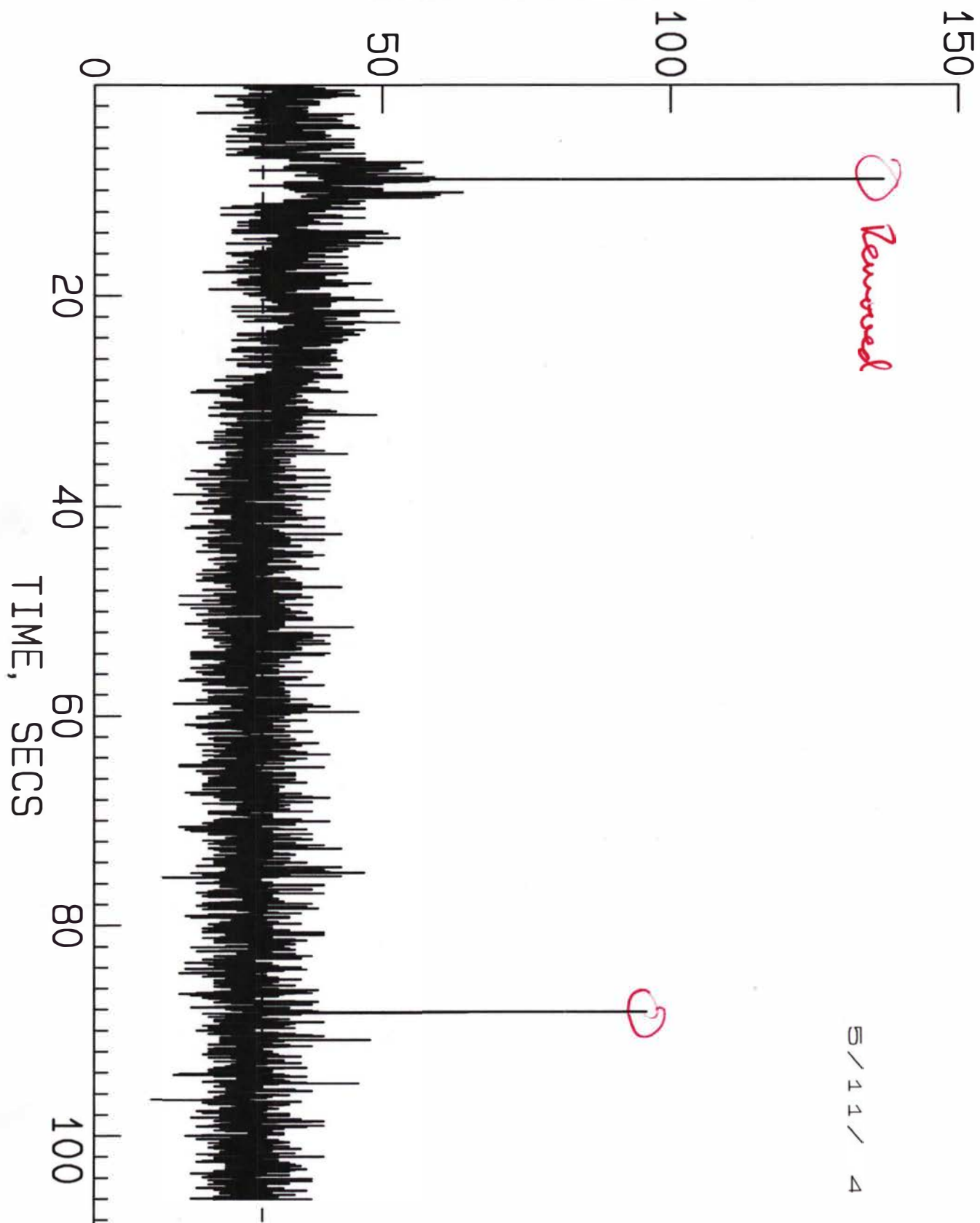


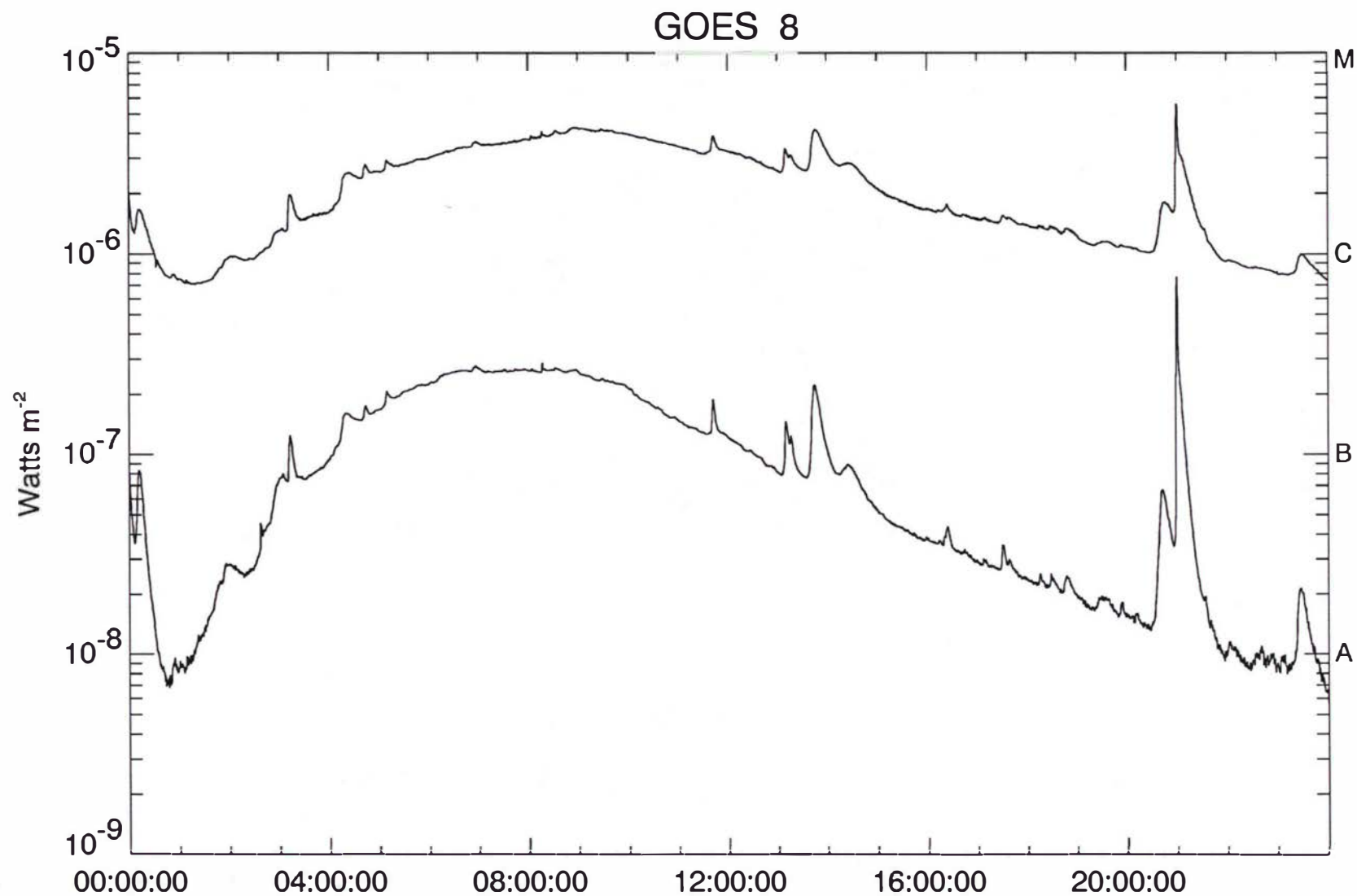
SAX GRBM

13/11/98 45535.000

40- 700 keV

COUNTS/0.031 S





Data Start: 98/11/13, 0000:00

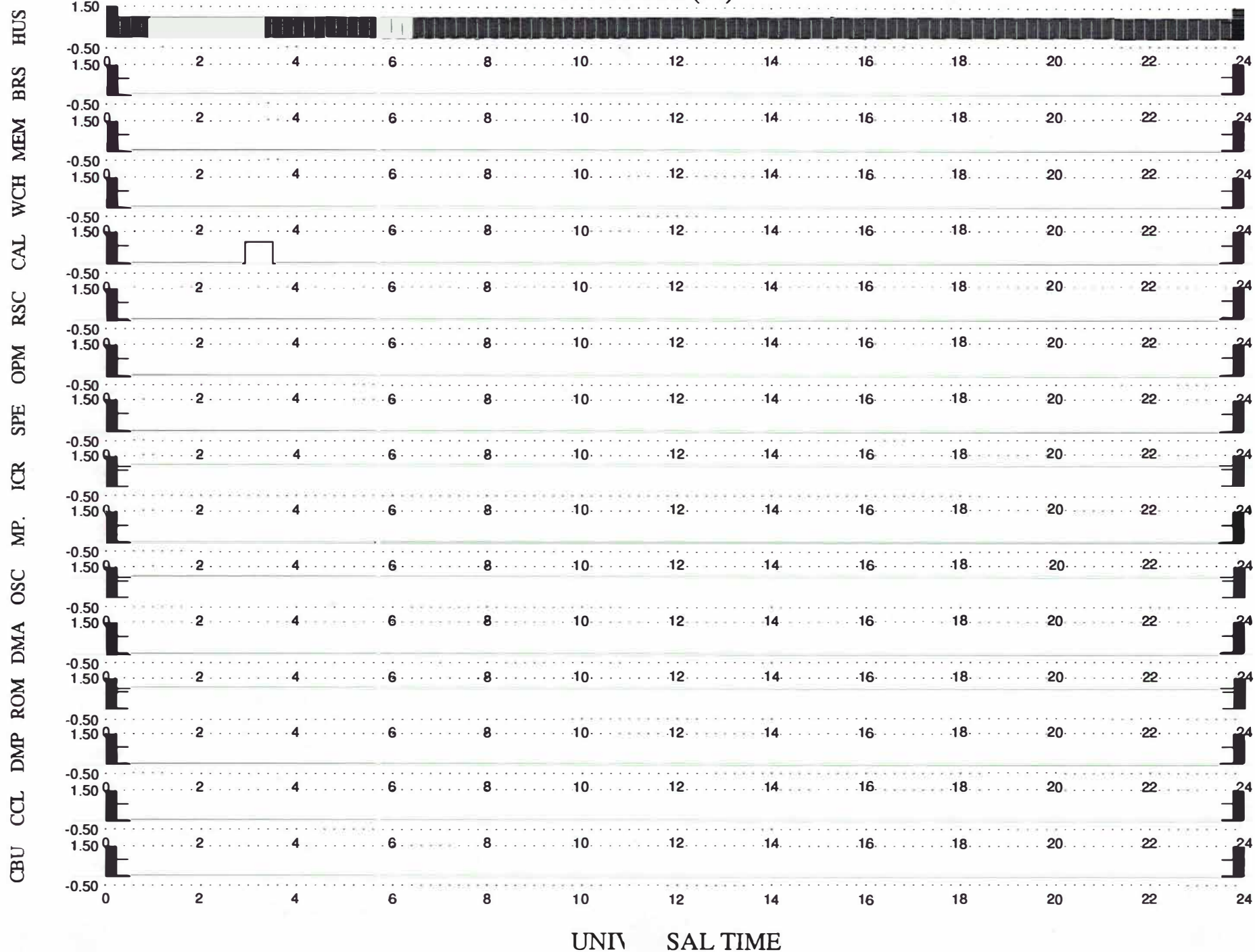
Plot created: 98/11/17, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

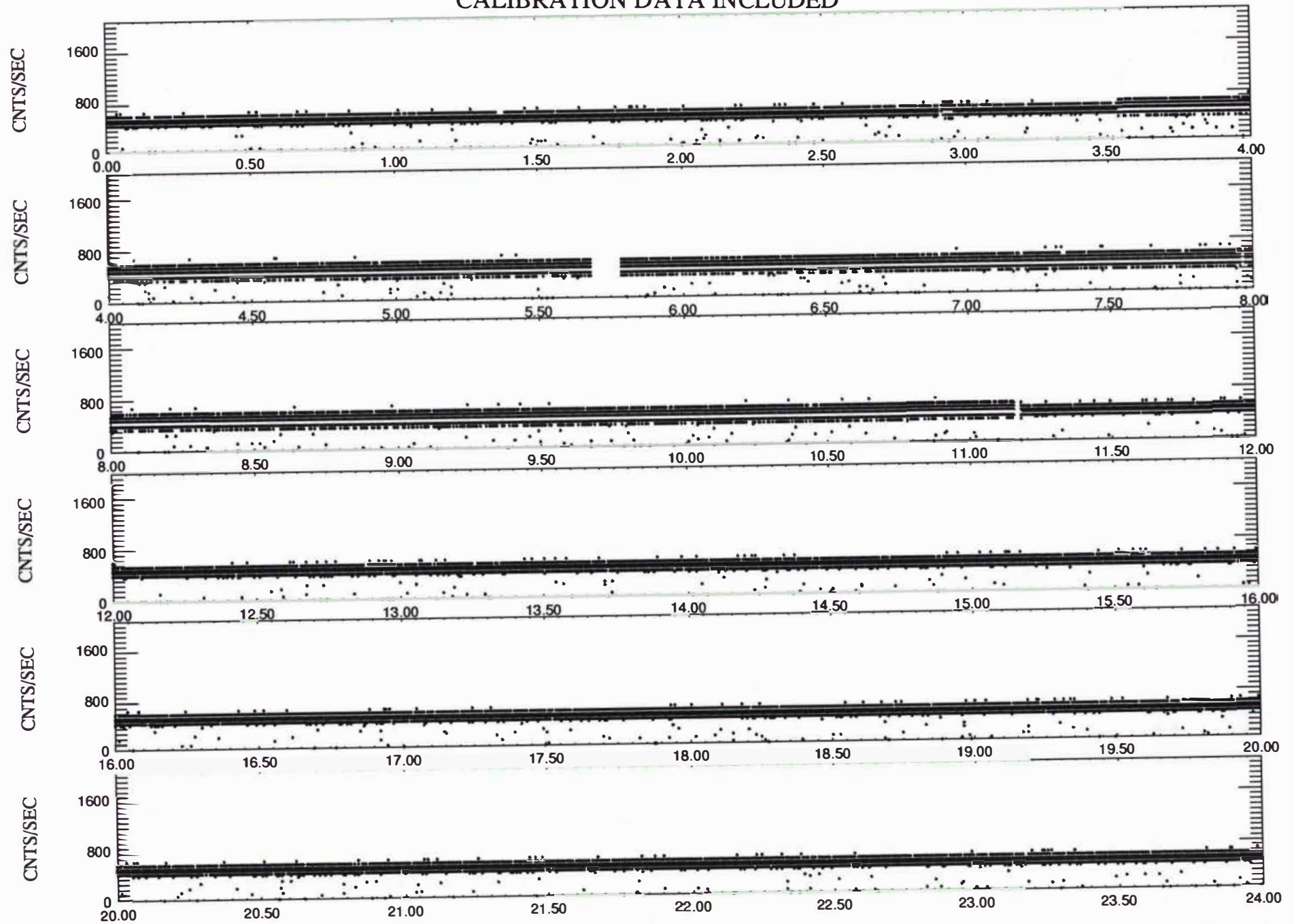
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

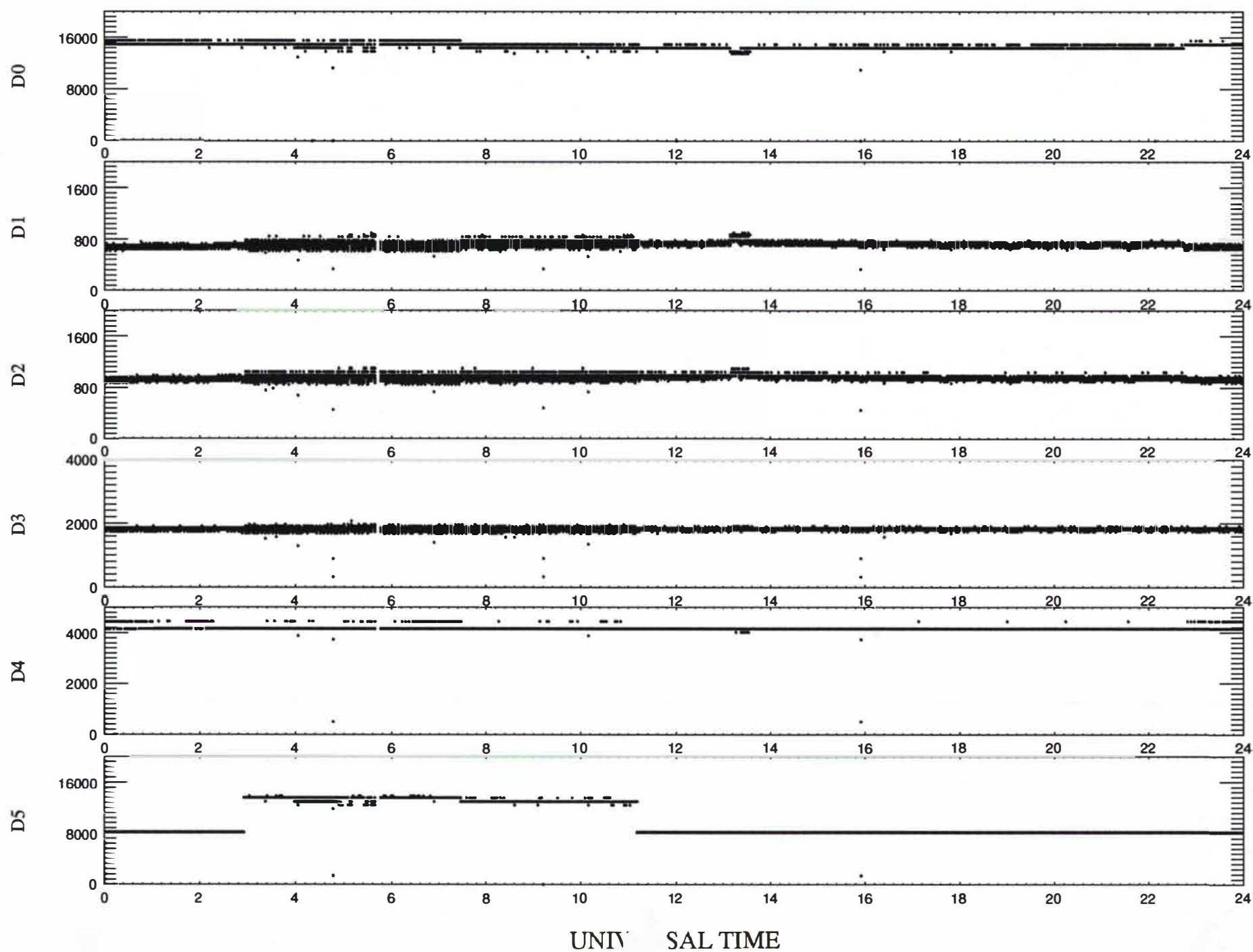
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

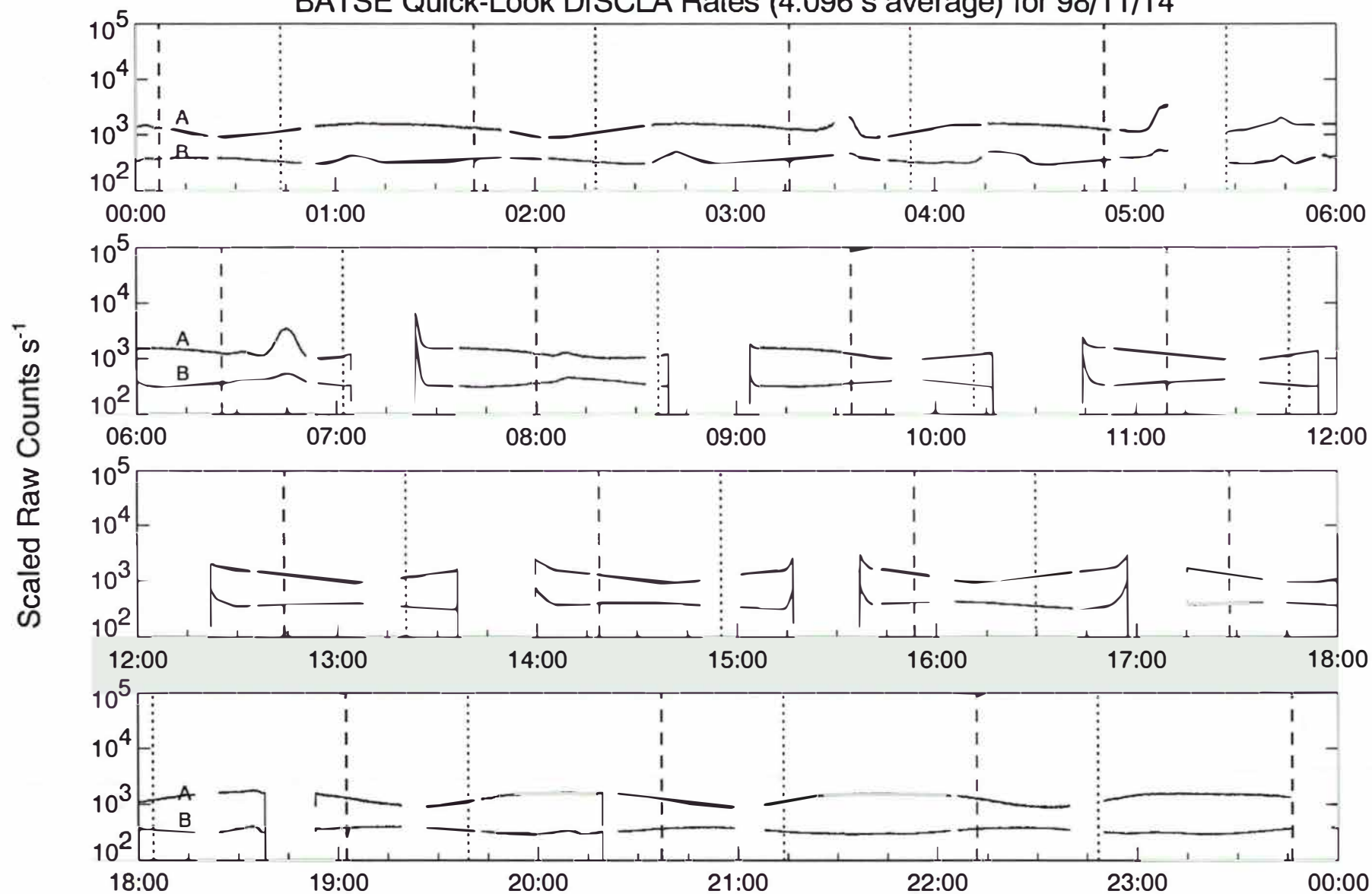
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

TGRS:NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/14

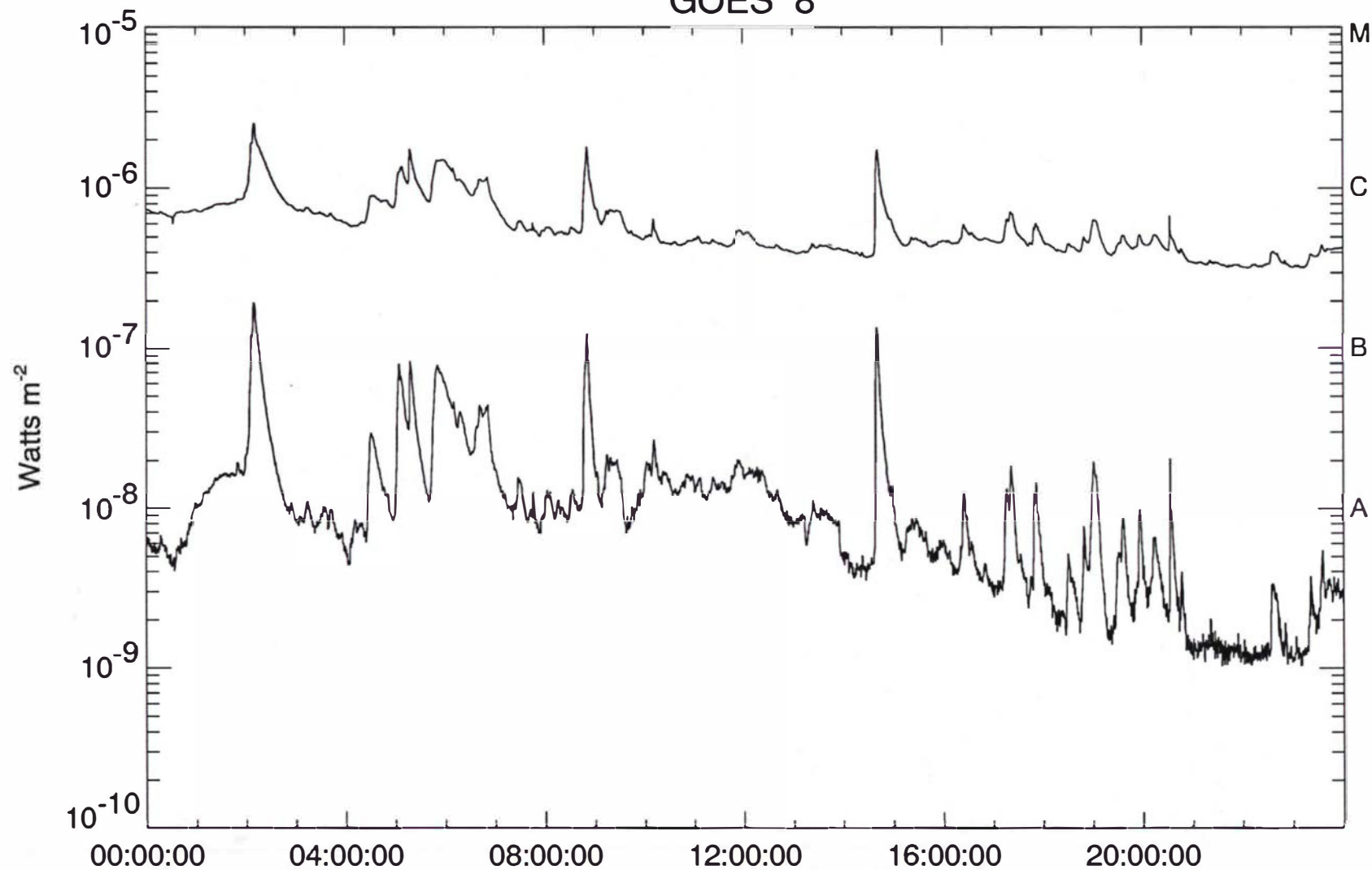


Current Time: 98/11/18, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

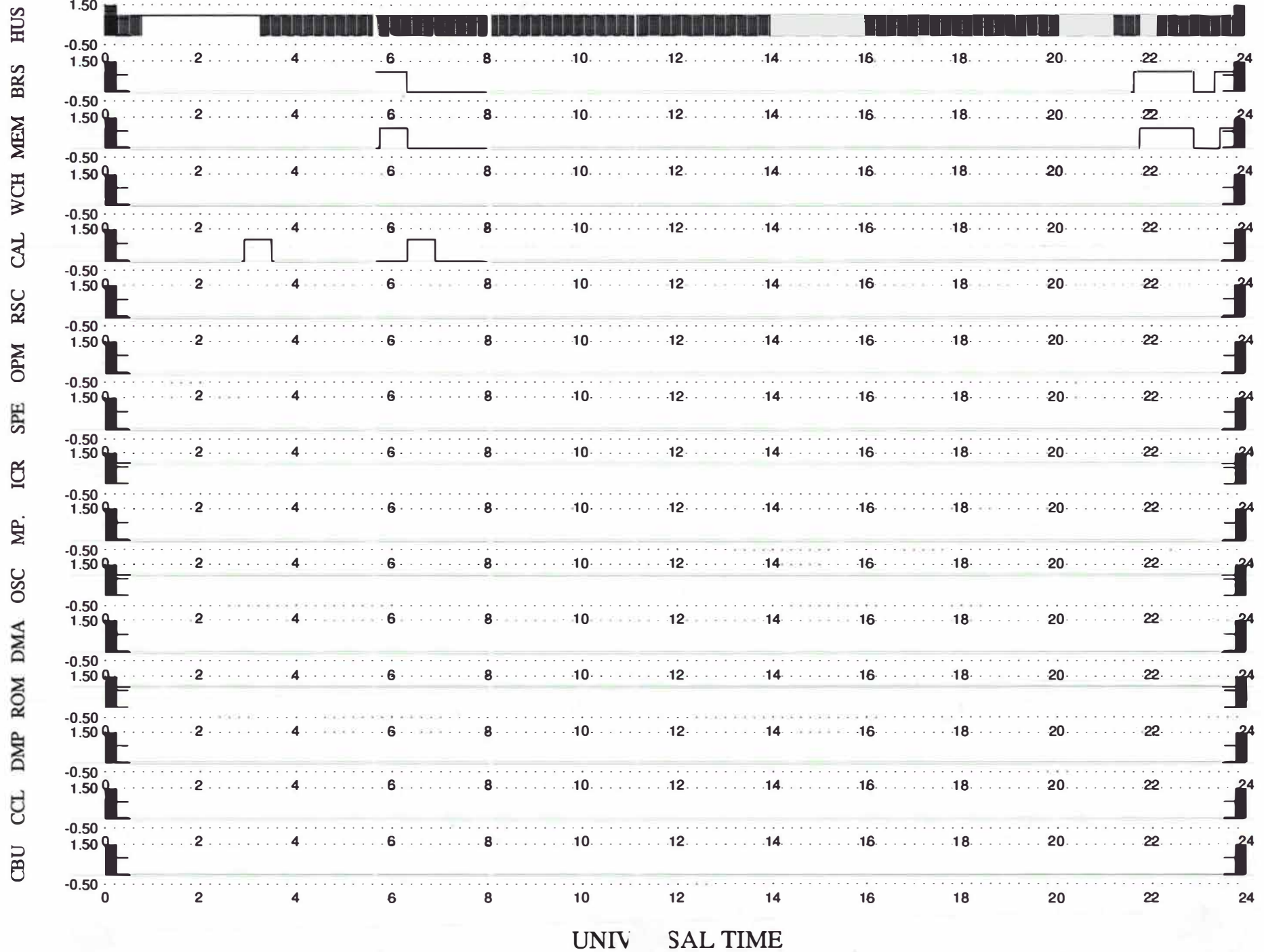


Data Start: 98/11/14, 0000:00

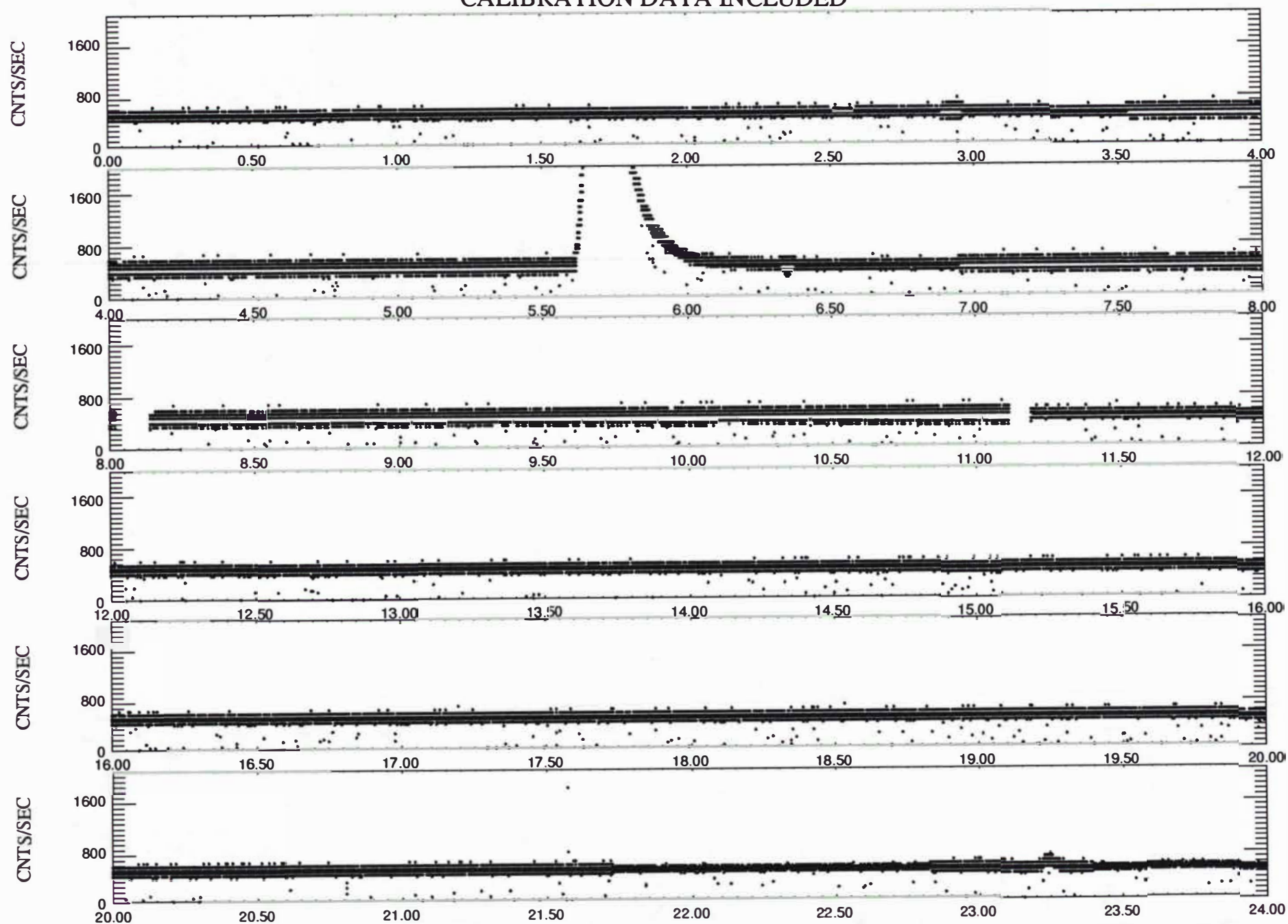
Plot created: 98/11/18, 1007

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

BURST NUMBER 14 - 15,0

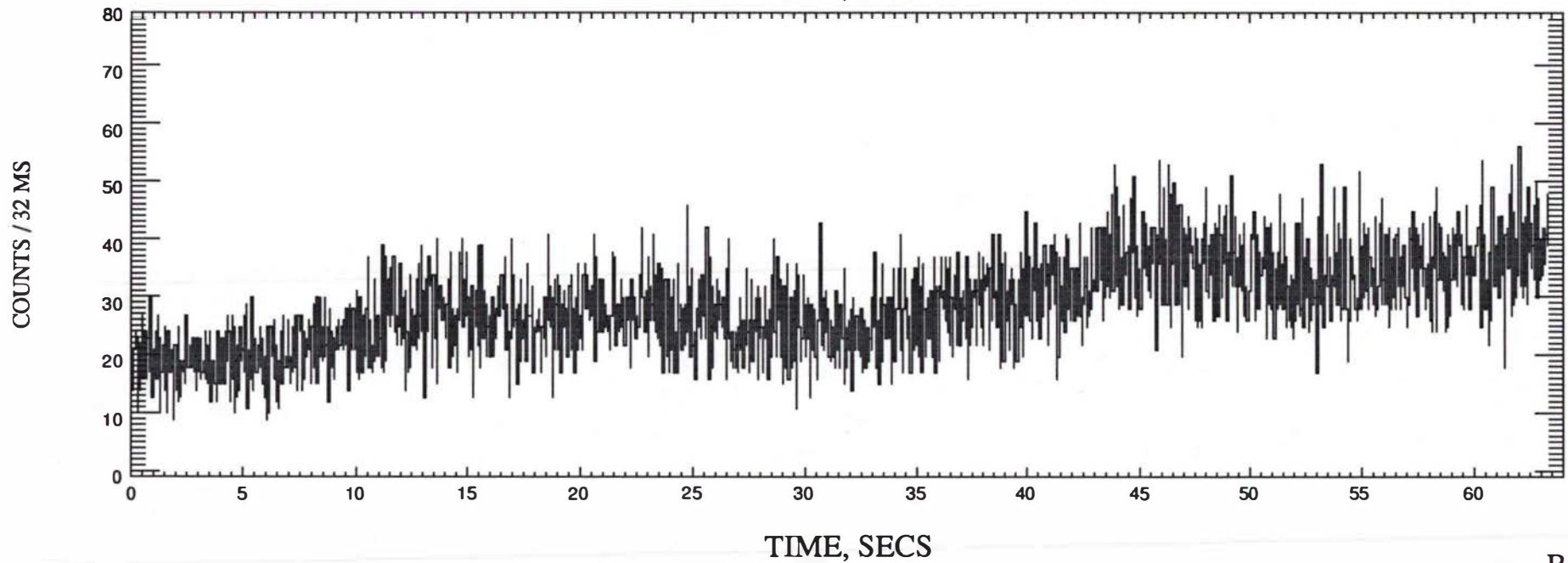
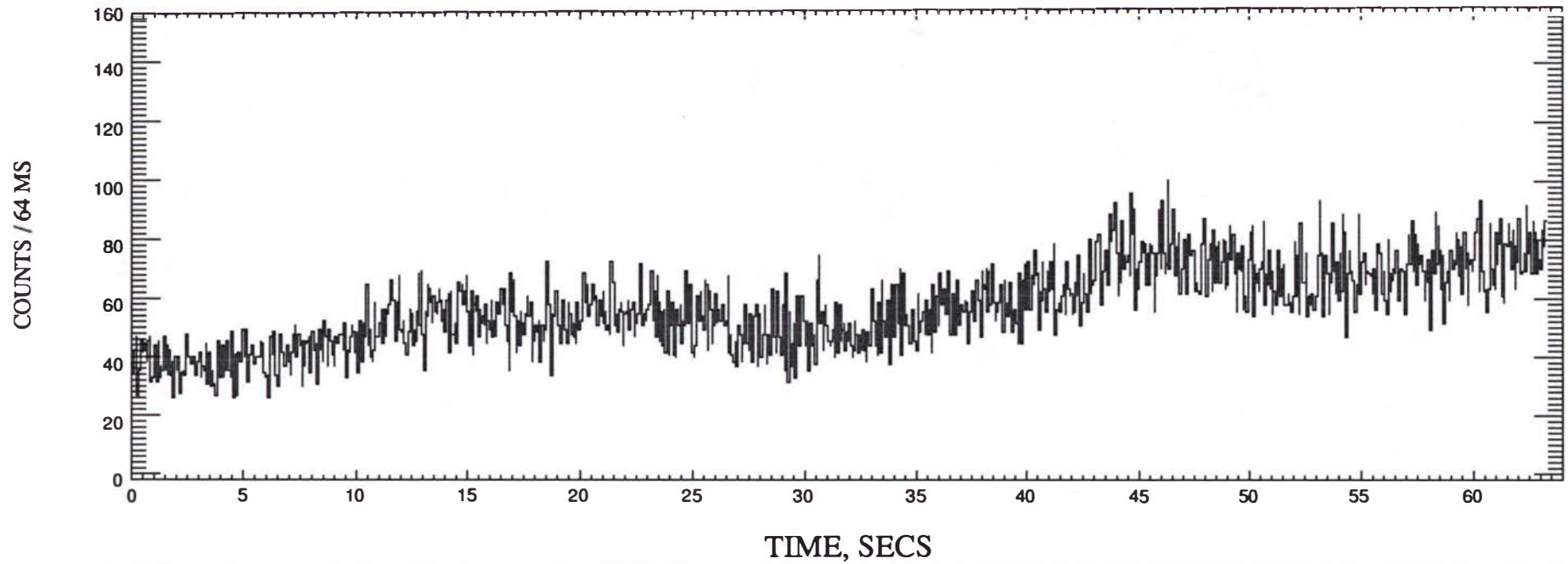


CALIBRATION DATA INCLUDED

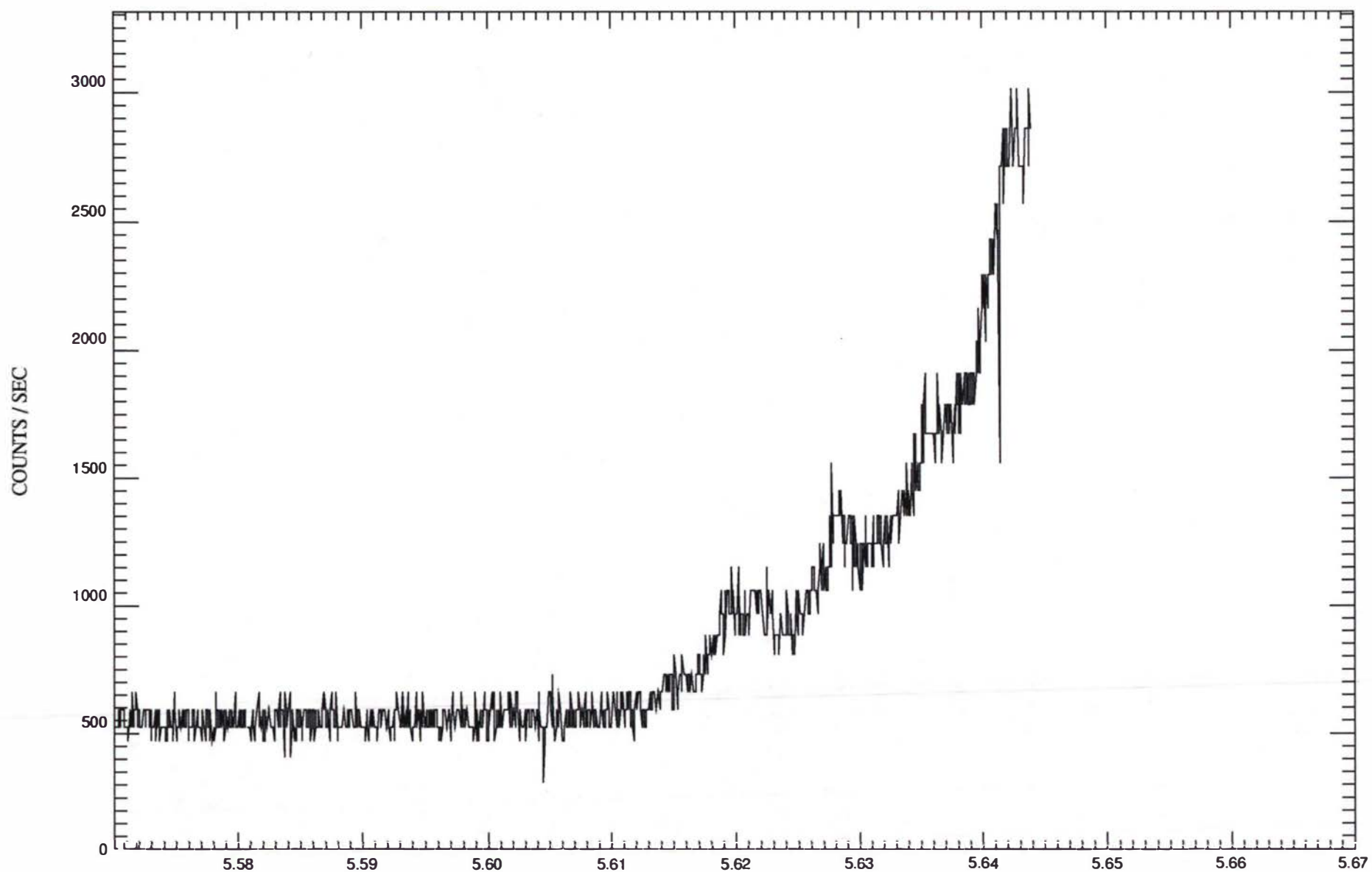


UNIV SAL TIME

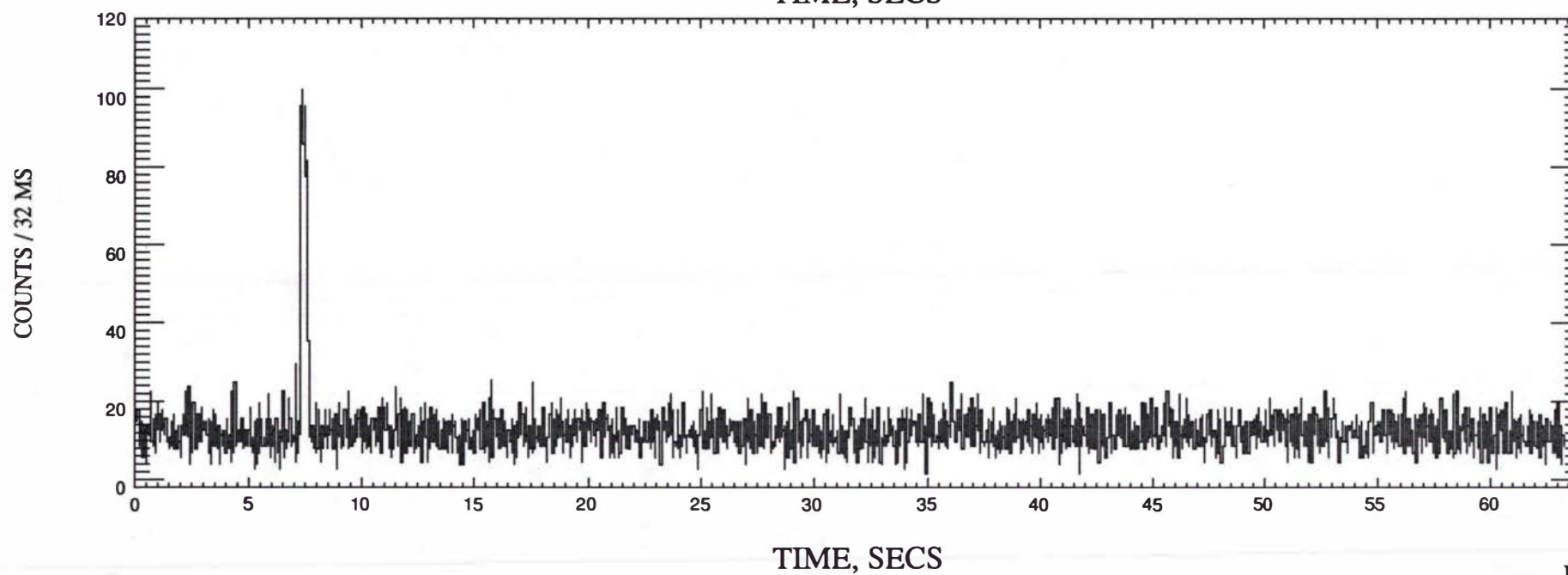
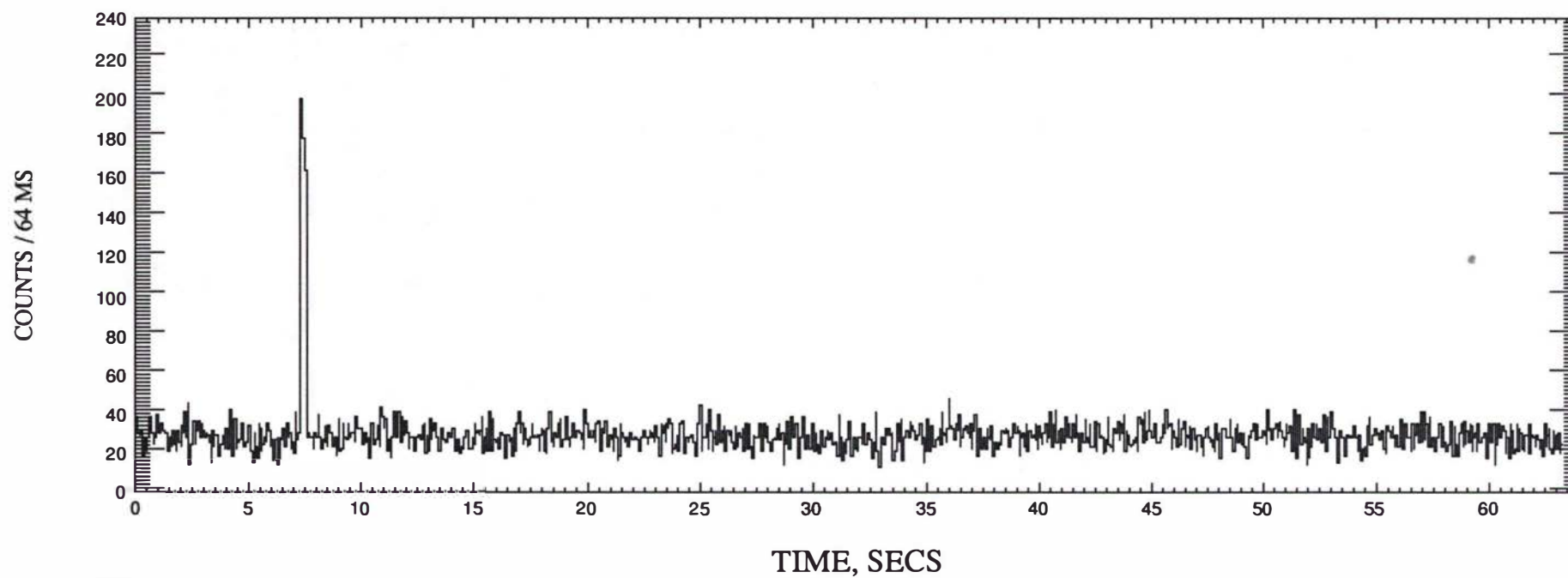
Burst Counter 14 at UT= 5.617705387539 h=20223.739 s 05:37:03.739



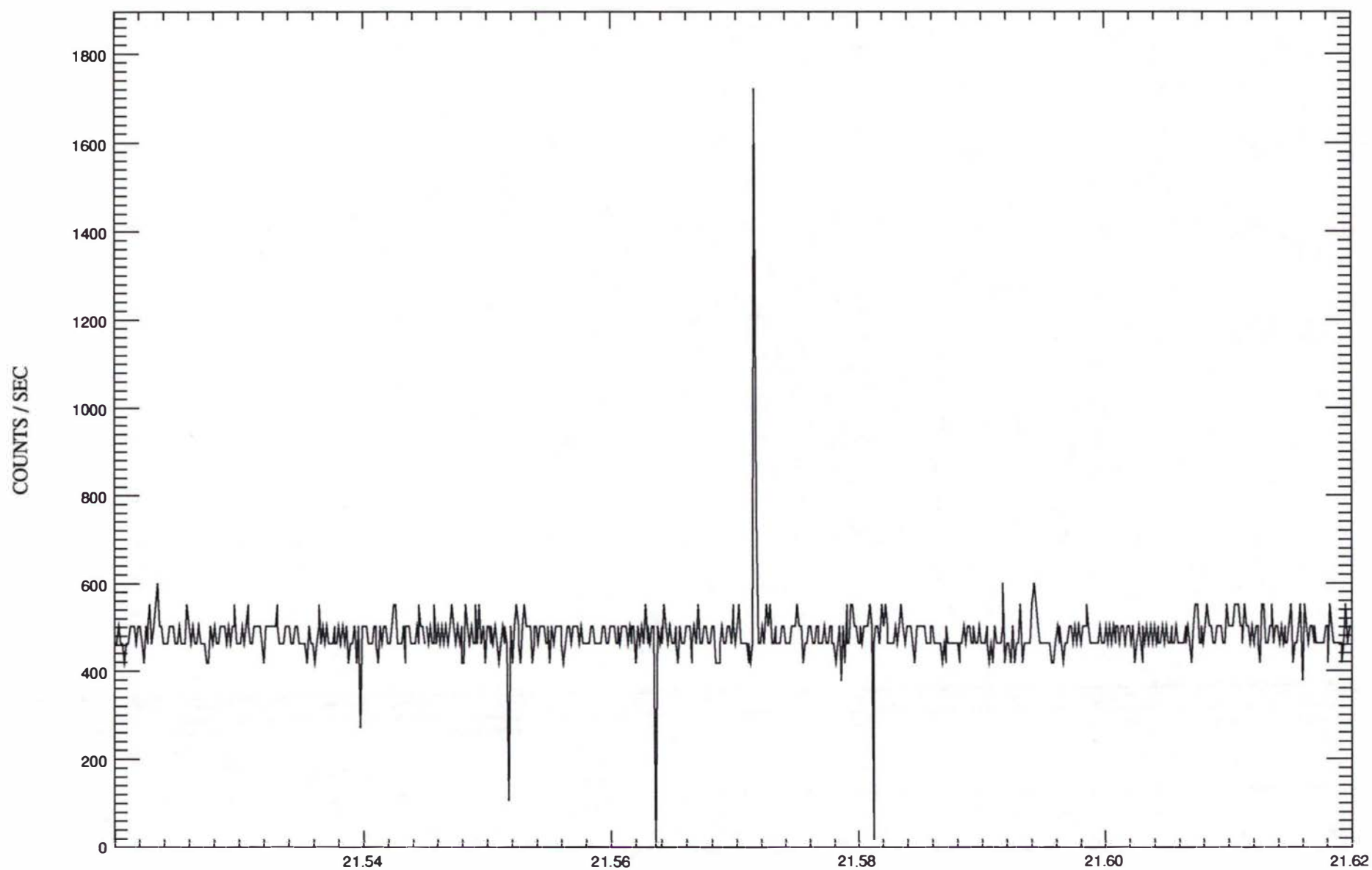
CALIBRATION DATA INCLUDED



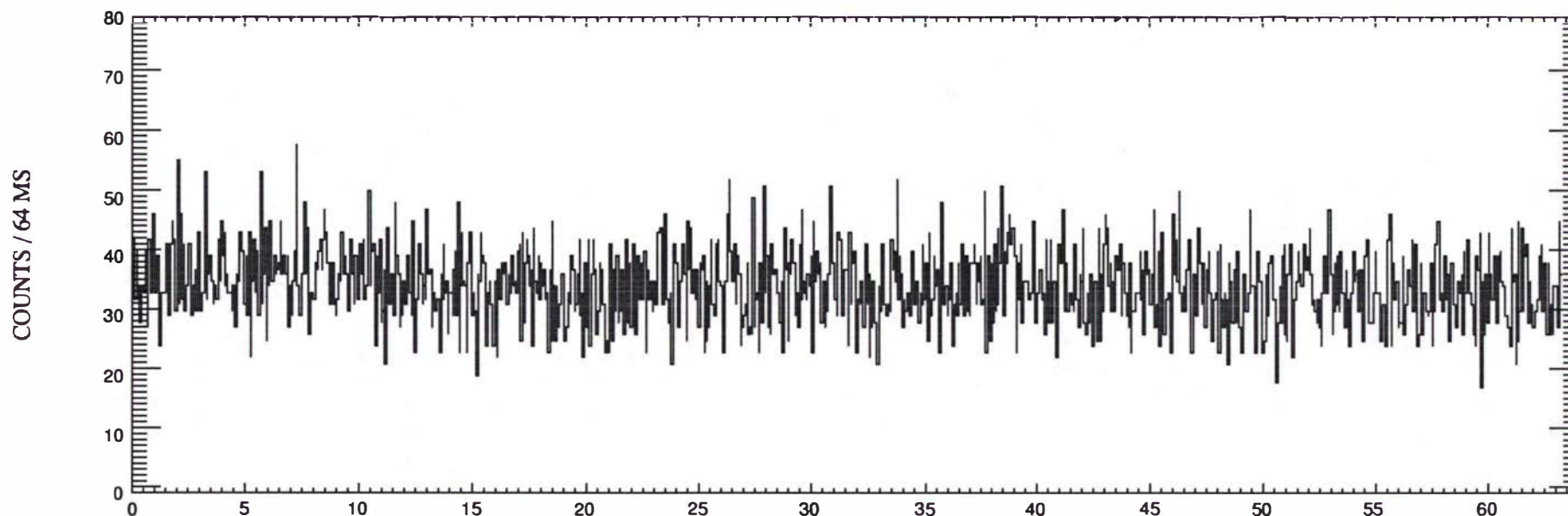
Burst Counter 15 at UT=21.571664911906 h=77657.994 s 21:34:17.994



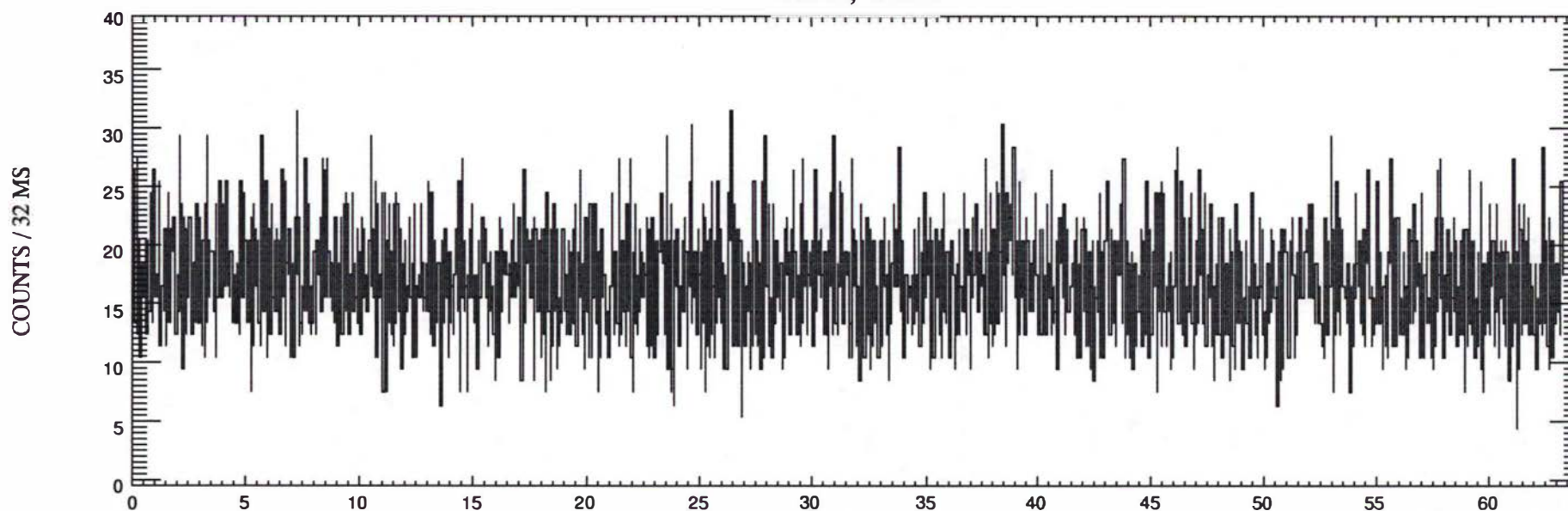
CALIBRATION DATA INCLUDED



Burst Counter 0 at UT=23.234204063416 h=83643.135 s 23:14:03.135

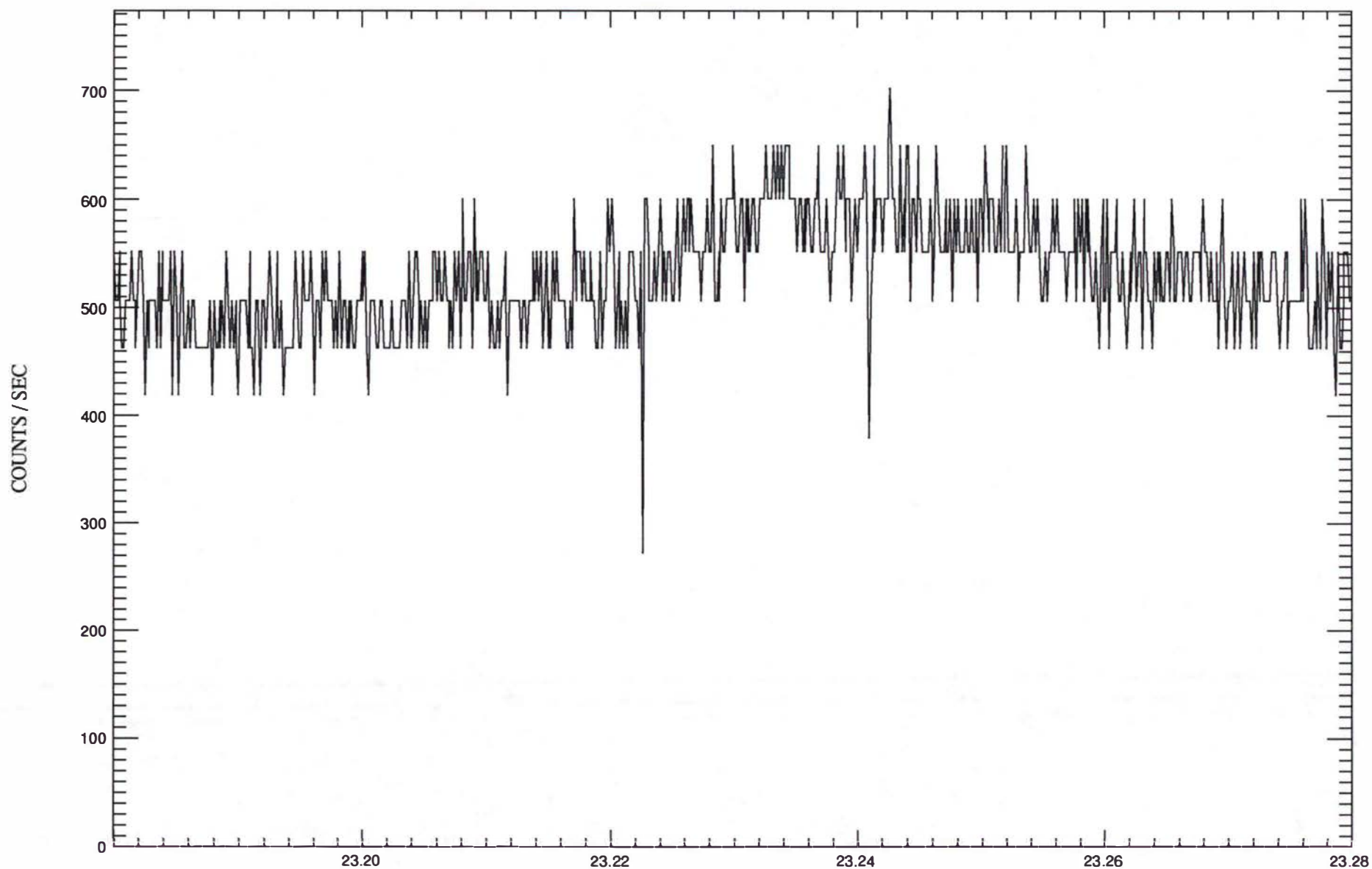


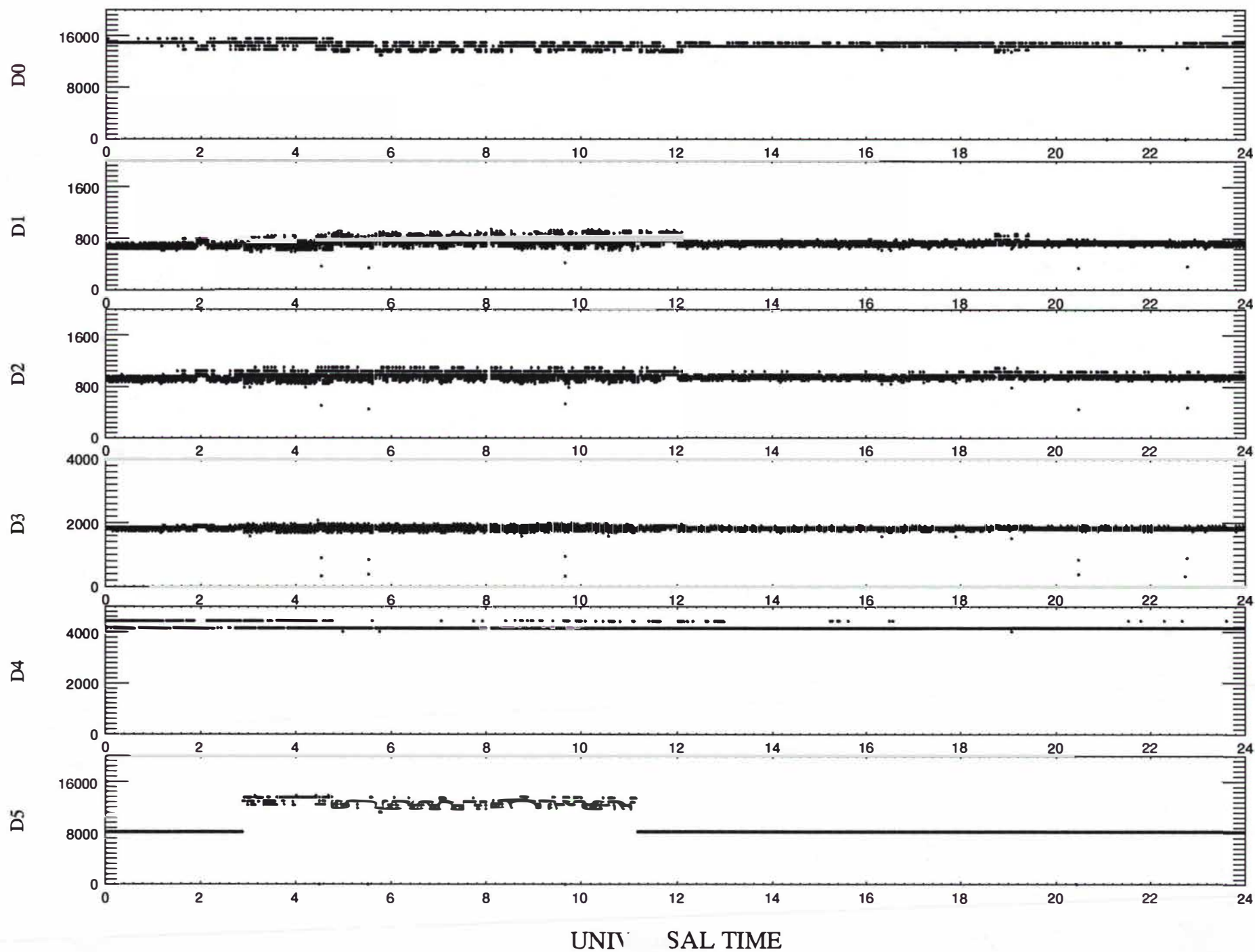
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, .64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TG125: NO

JANA TAB2 19981115 22747

ULYSSES RT

05/08/05

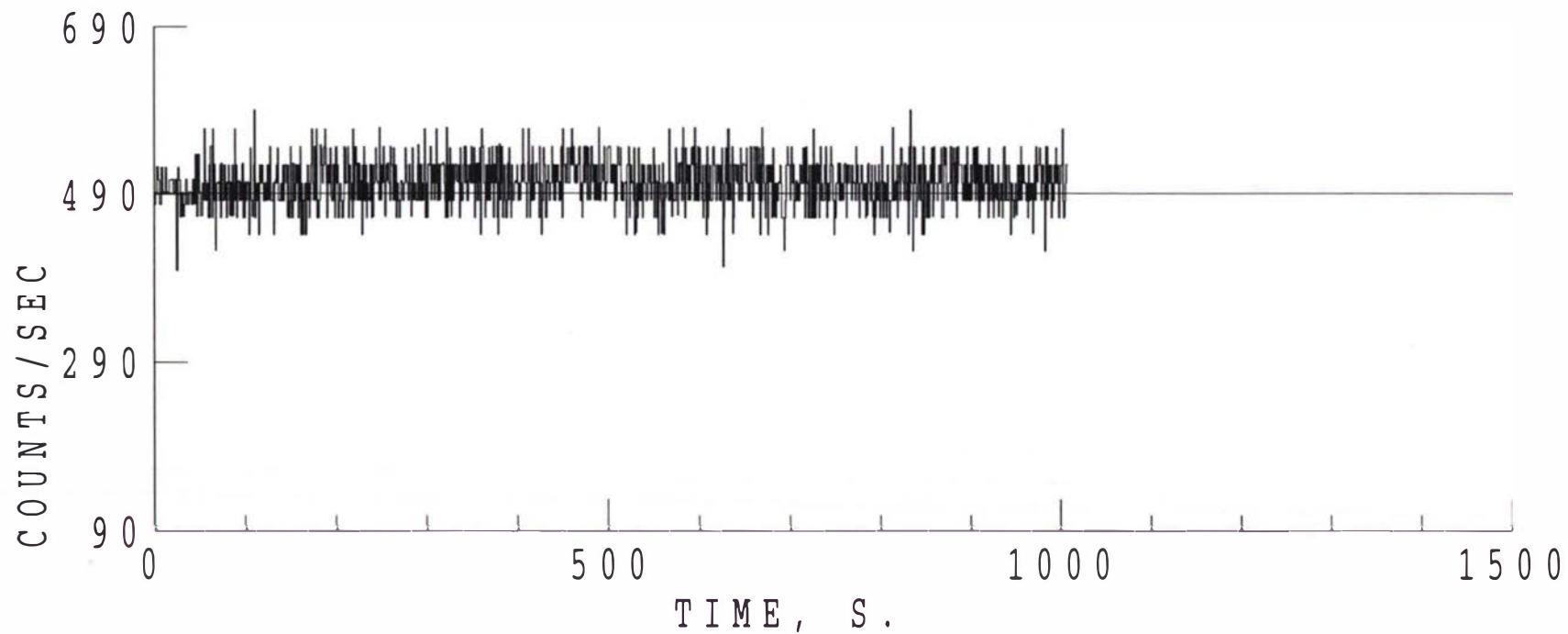
15/11/98 22248.023 s

INTERVALS REGROUPED BY 3

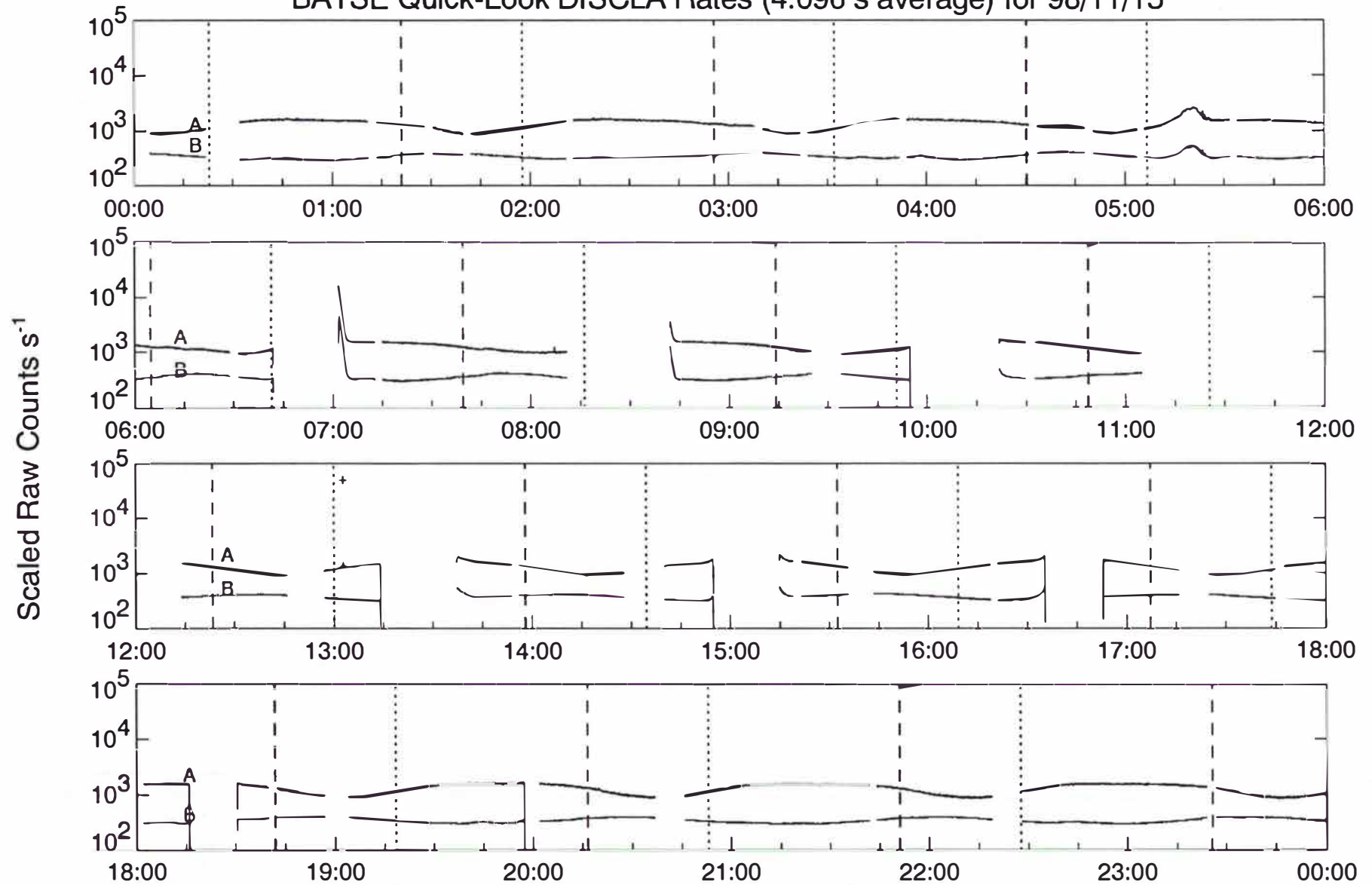
0 - 0 keV

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

| |



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/15

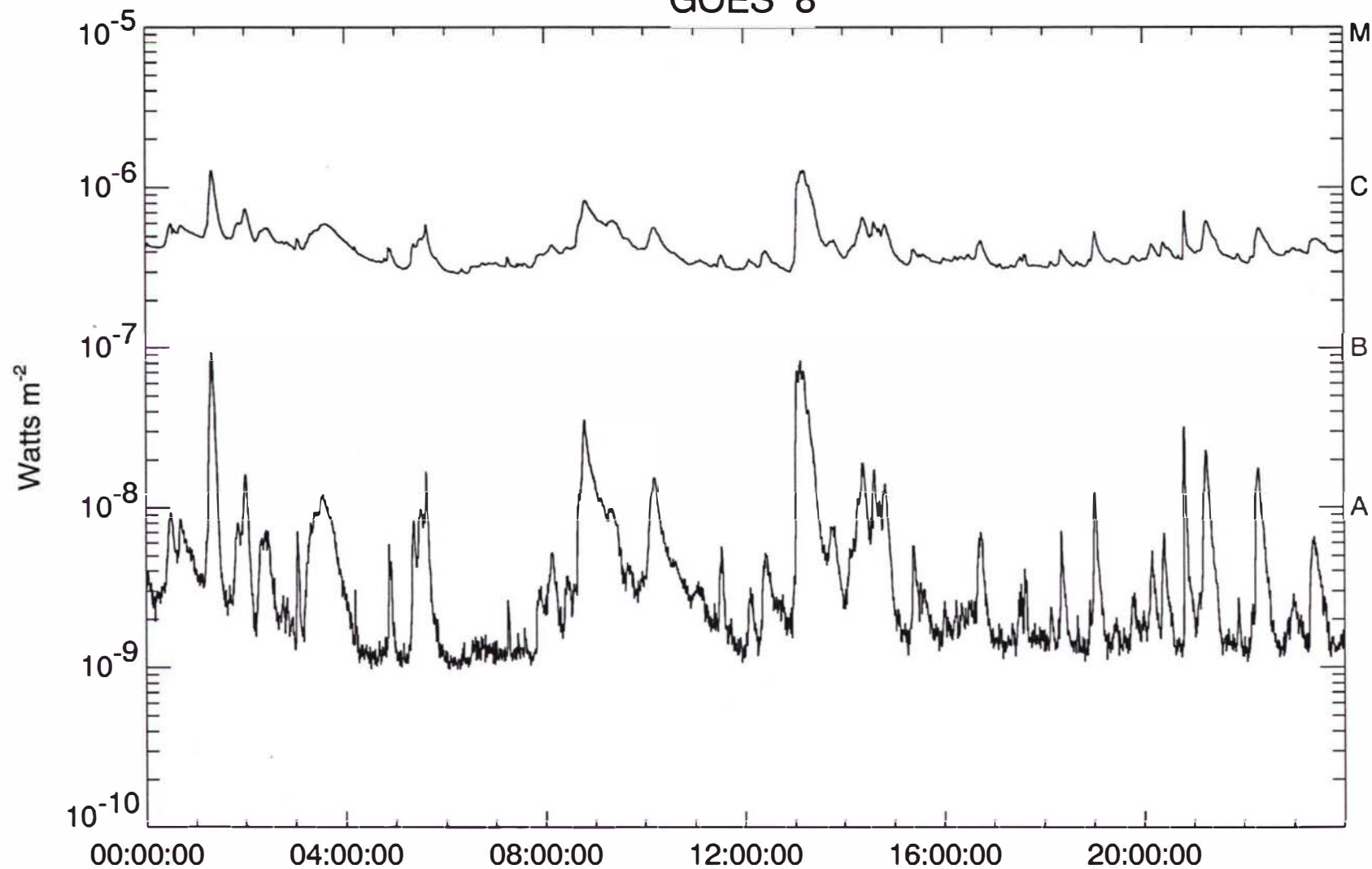


Current Time: 98/11/19, 1009 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/15, 0000:00

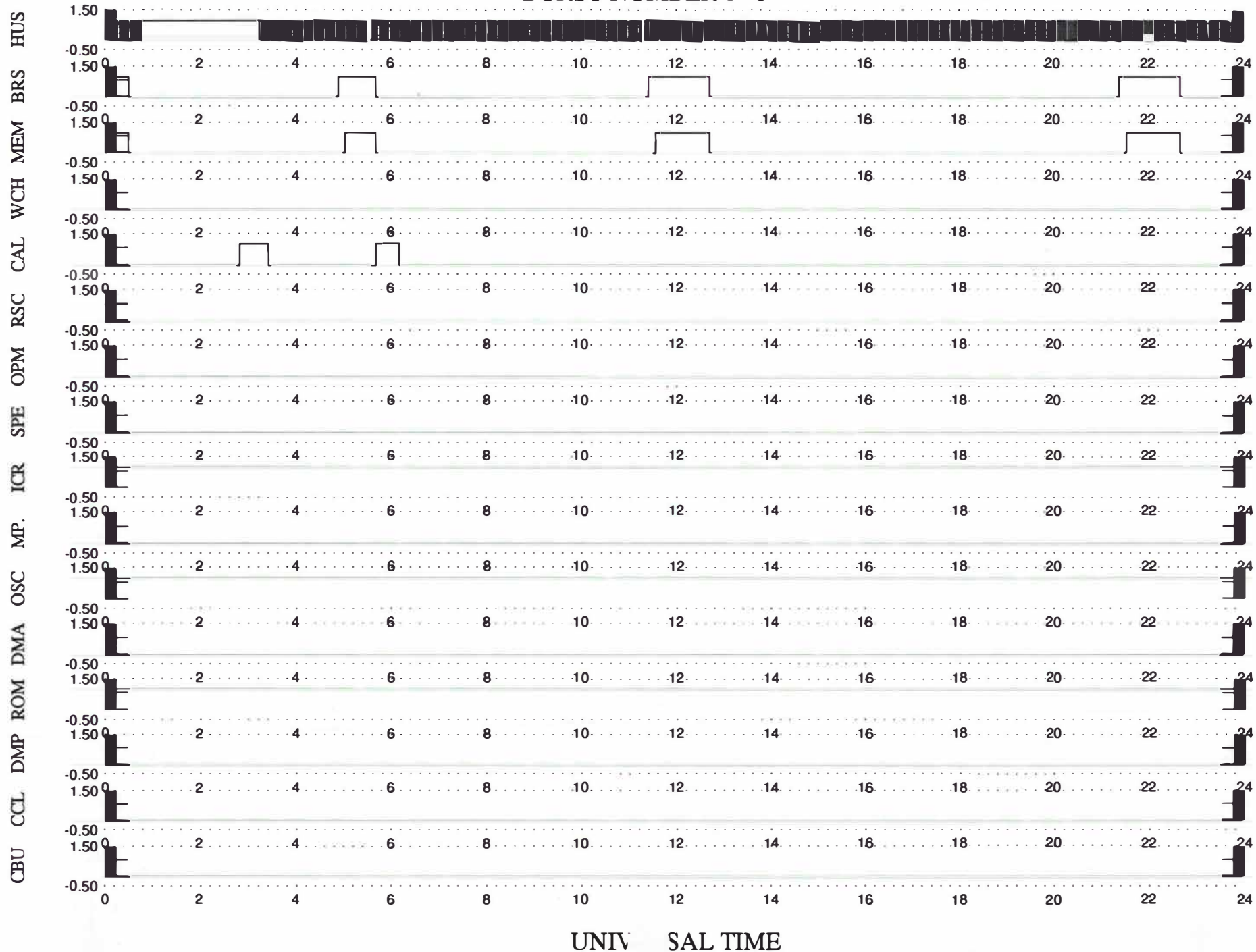
Plot created: 98/11/19, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

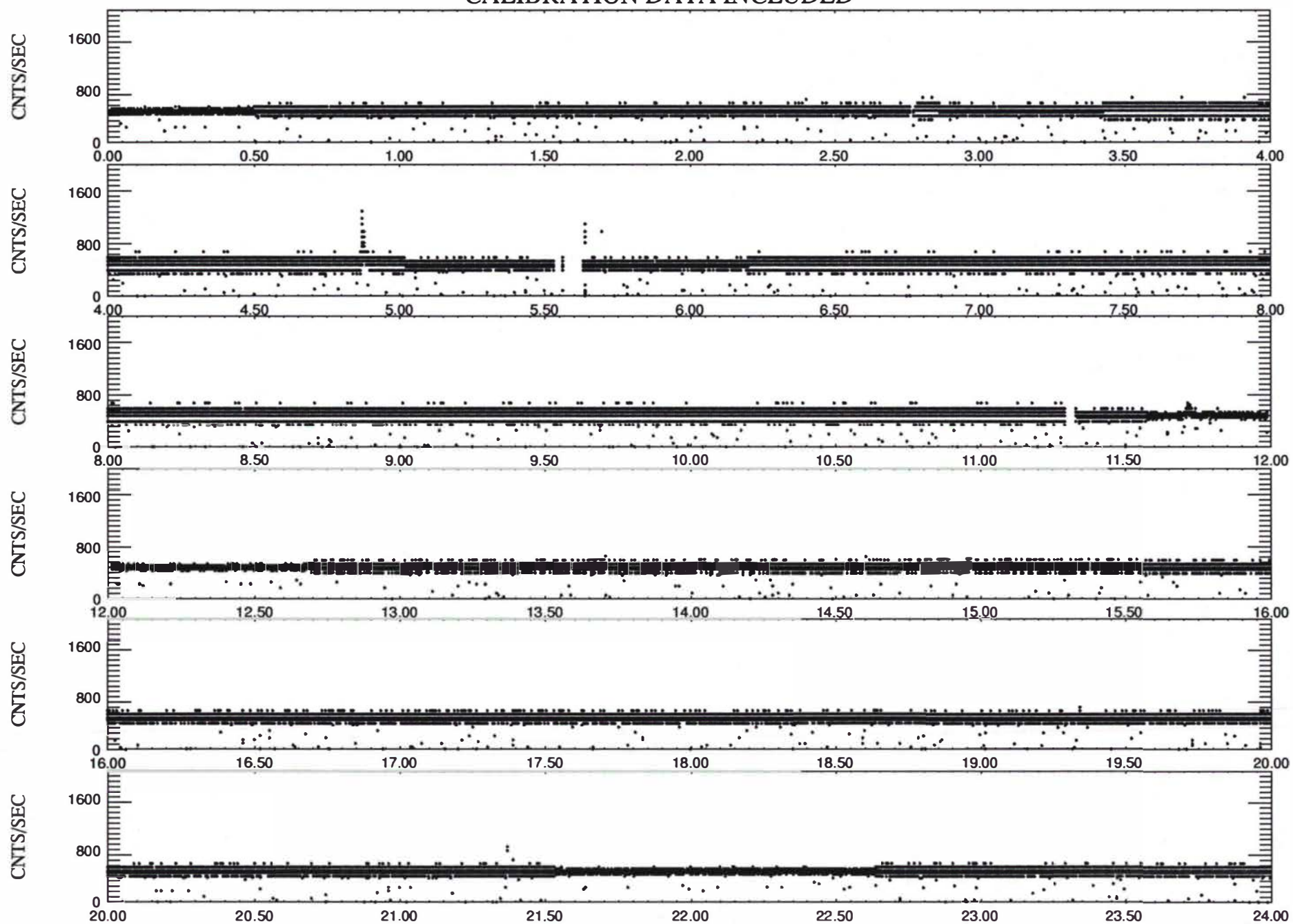
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 1 - 3

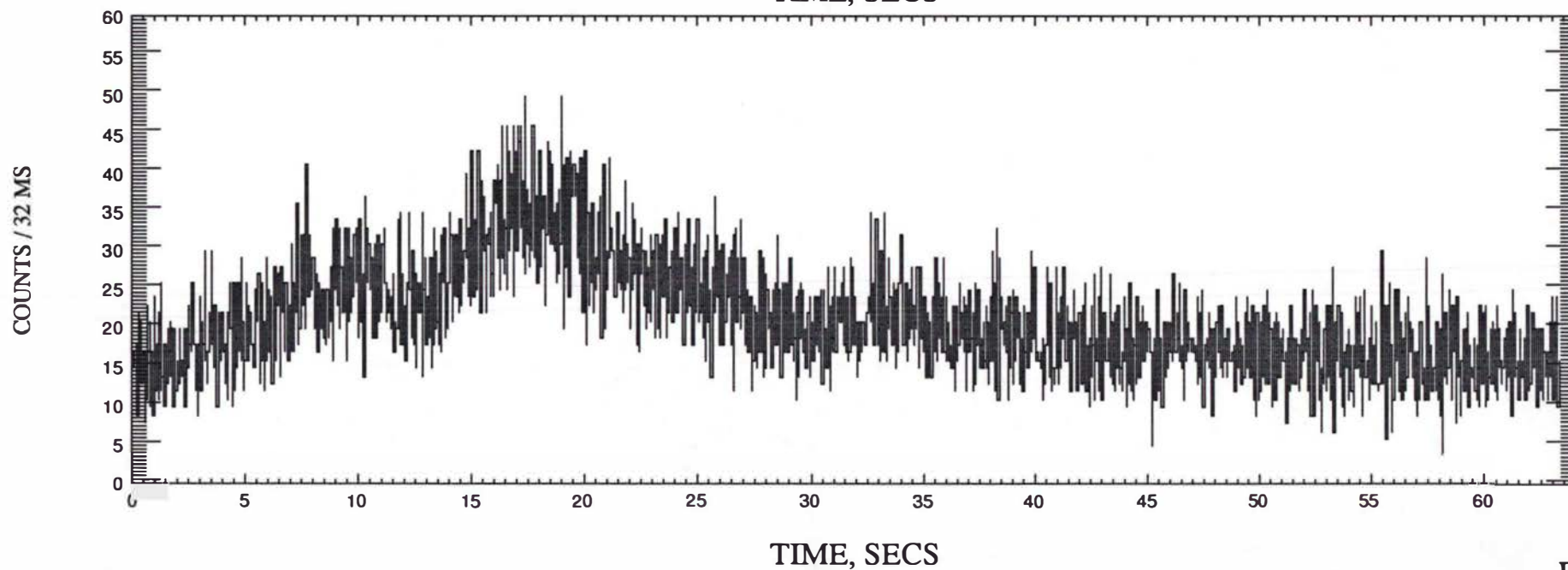
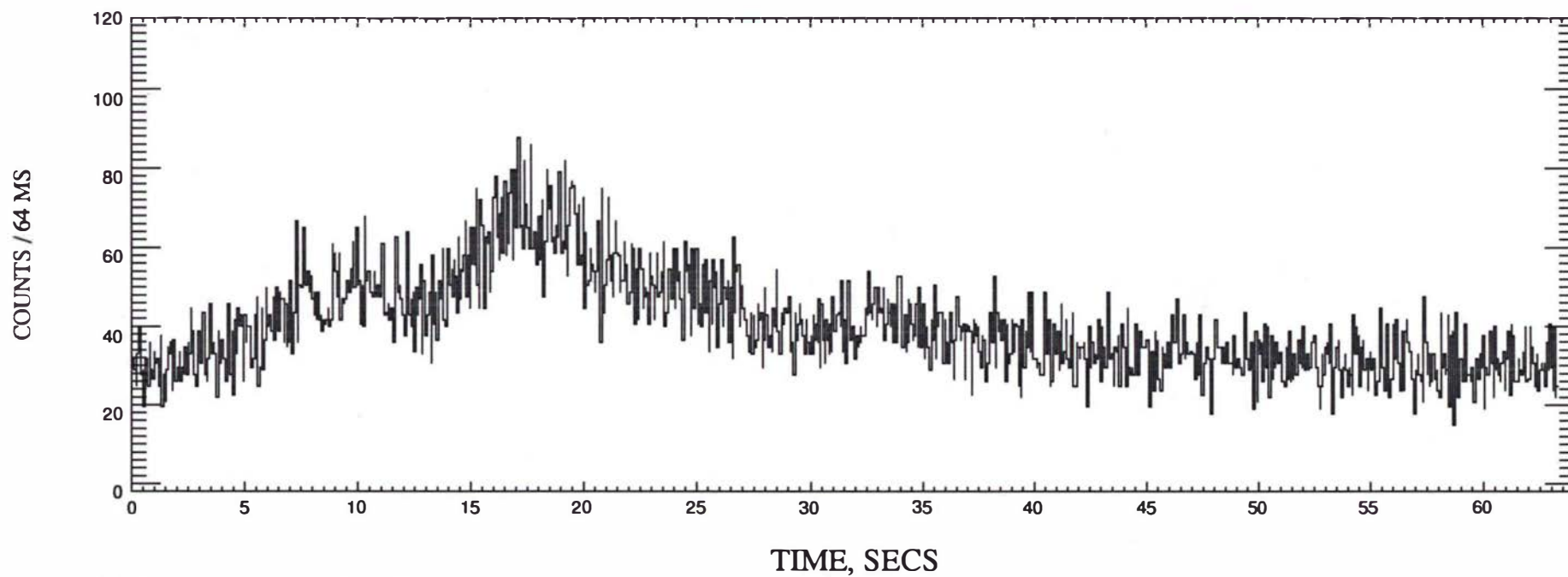


CALIBRATION DATA INCLUDED

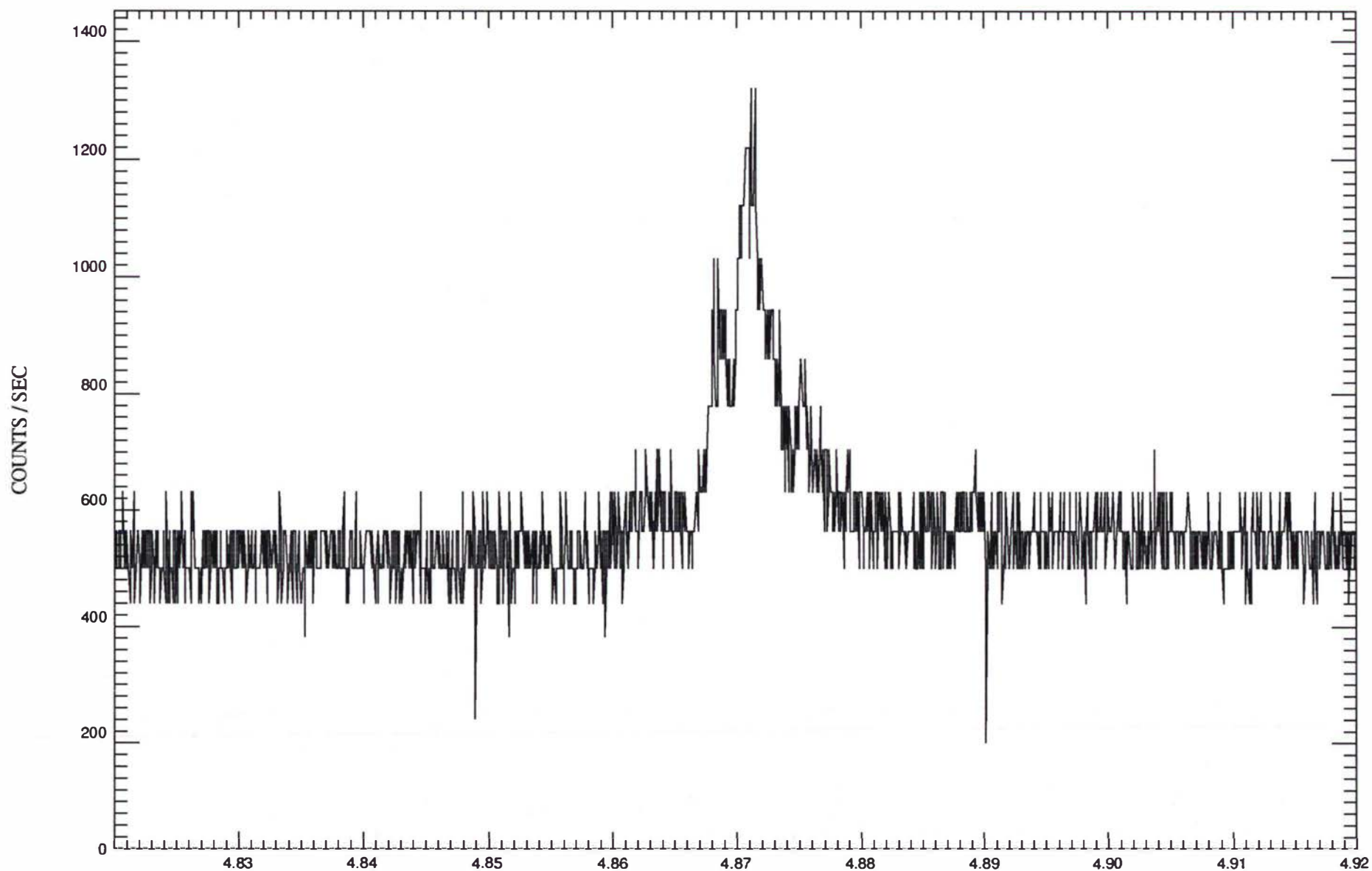


UNIV SAL TIME

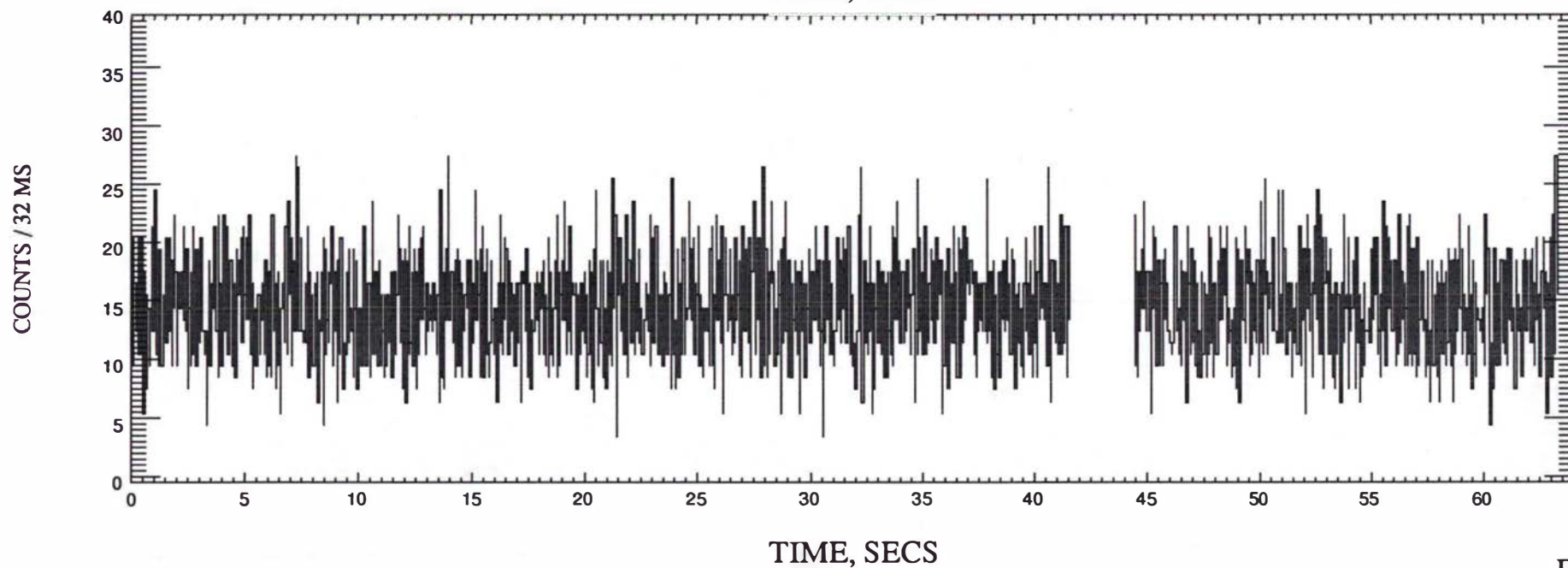
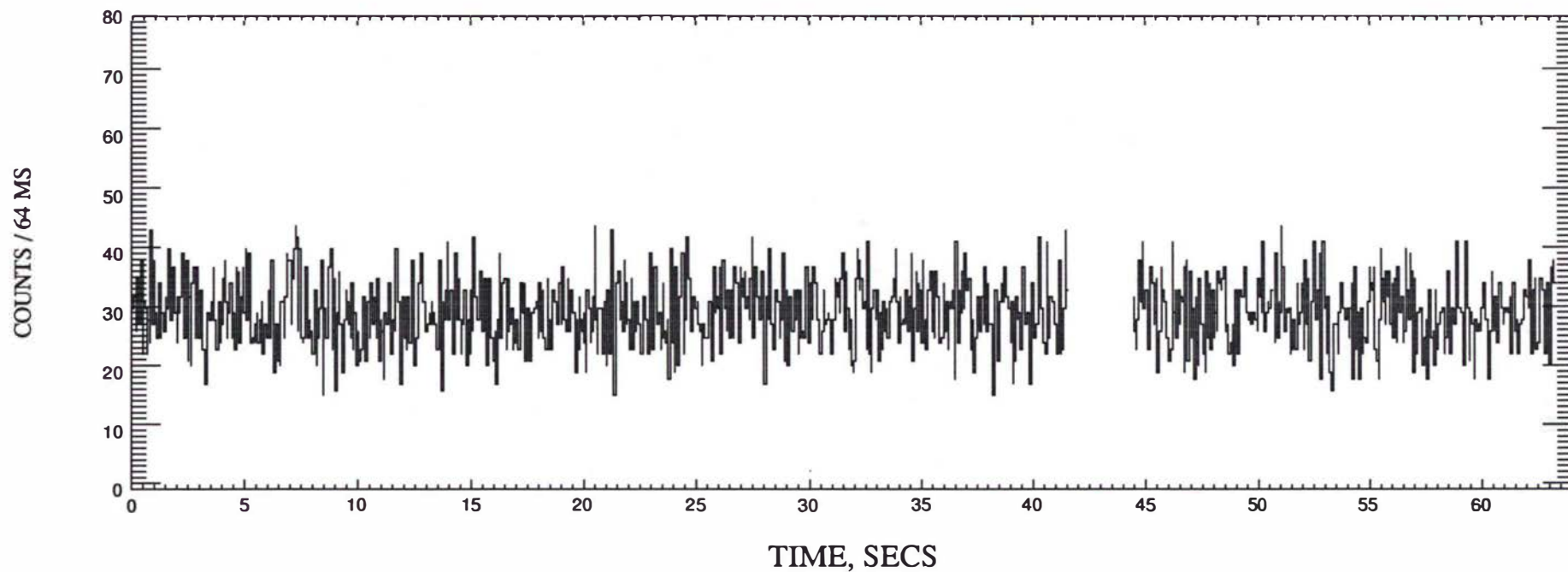
Burst Counter 1 at UT= 4.868177528381 h=17525.439 s 04:52:05.439



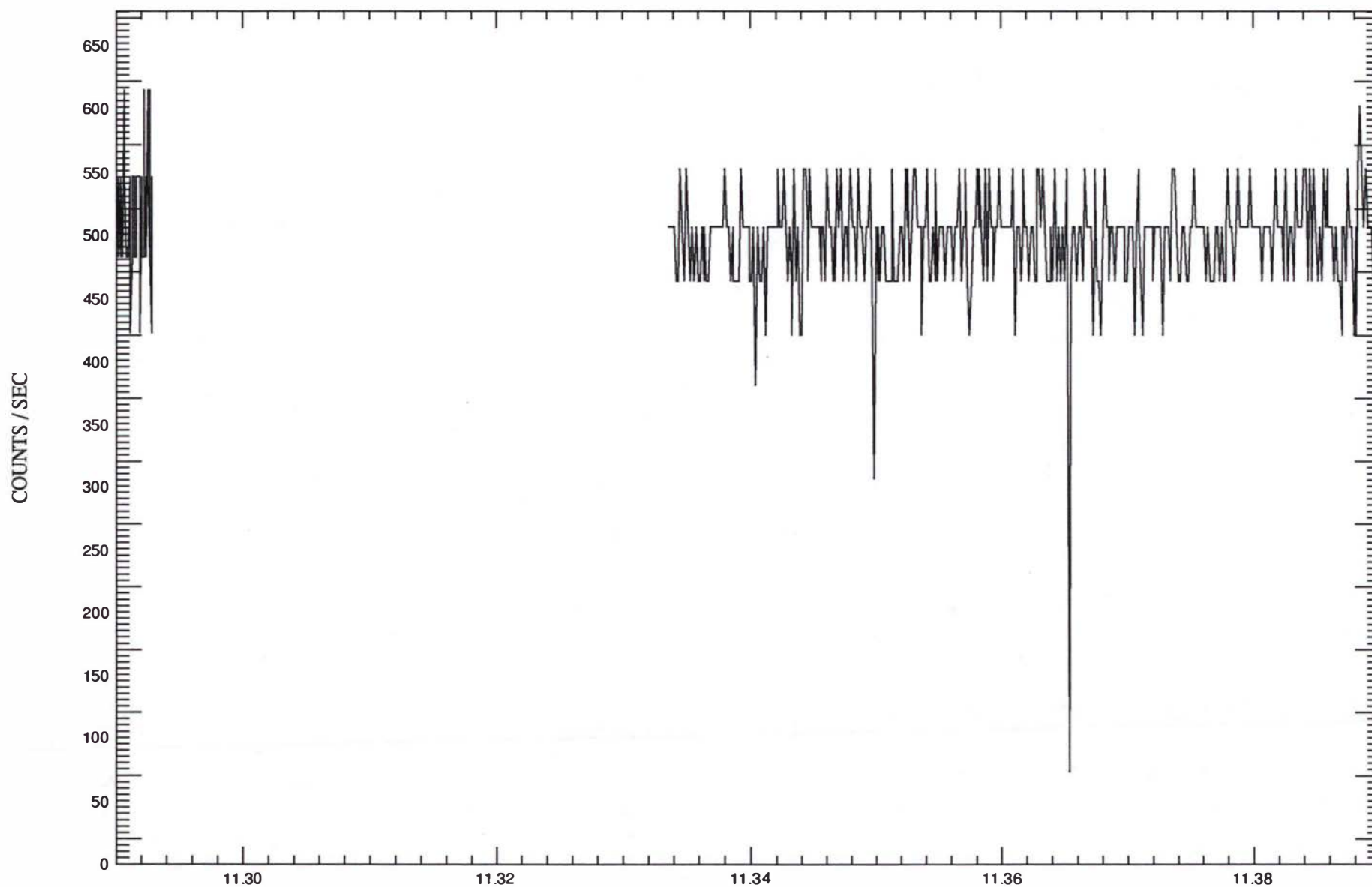
CALIBRATION DATA INCLUDED



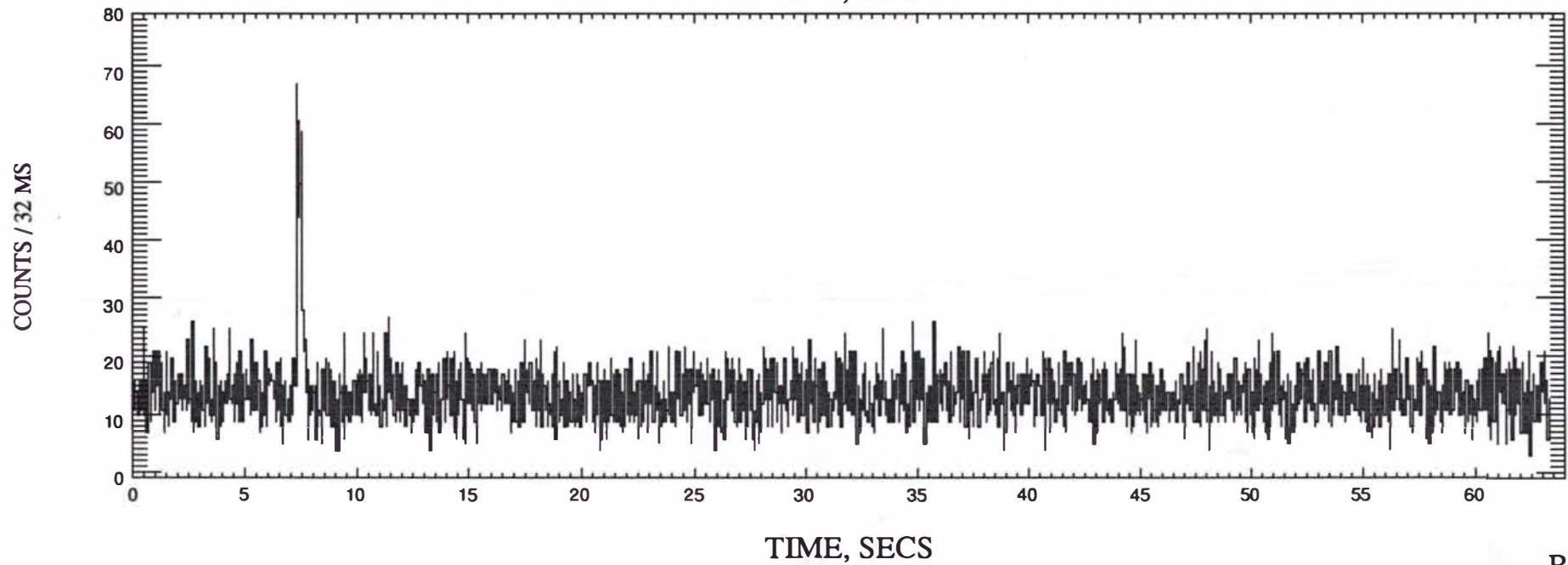
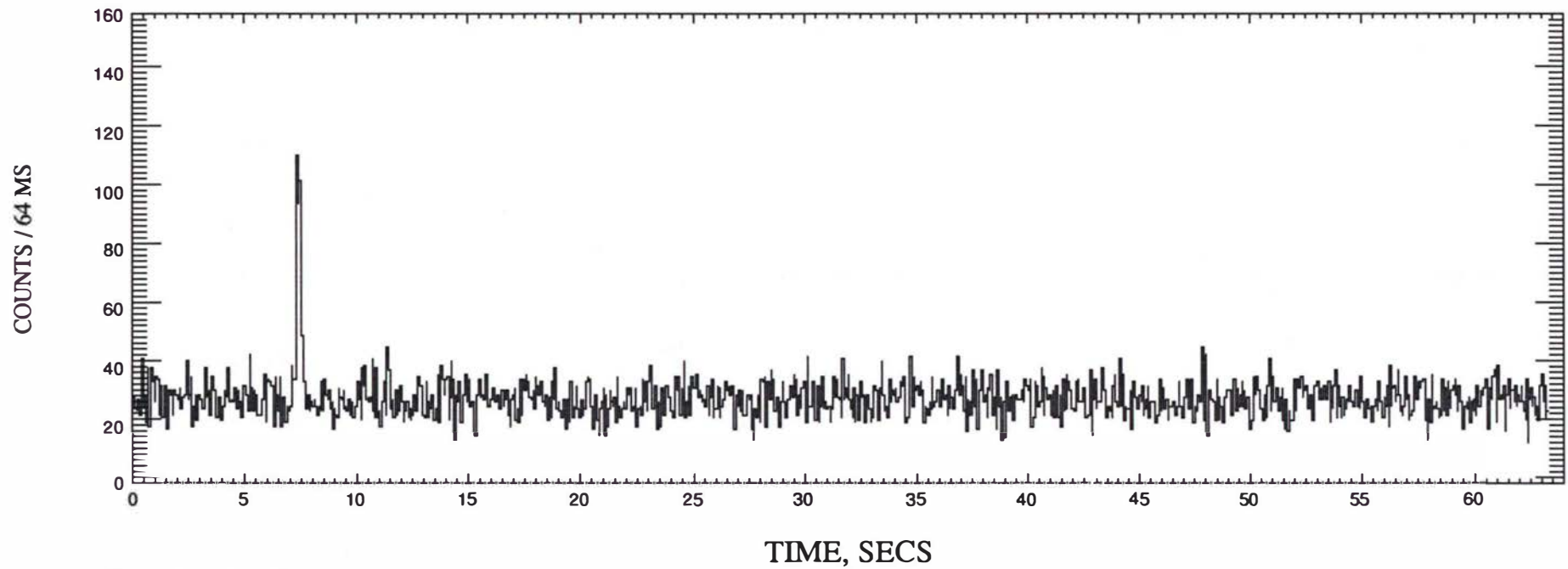
Burst Counter 2 at UT=11.344434373644 h=40839.964 s 11:20:39.964



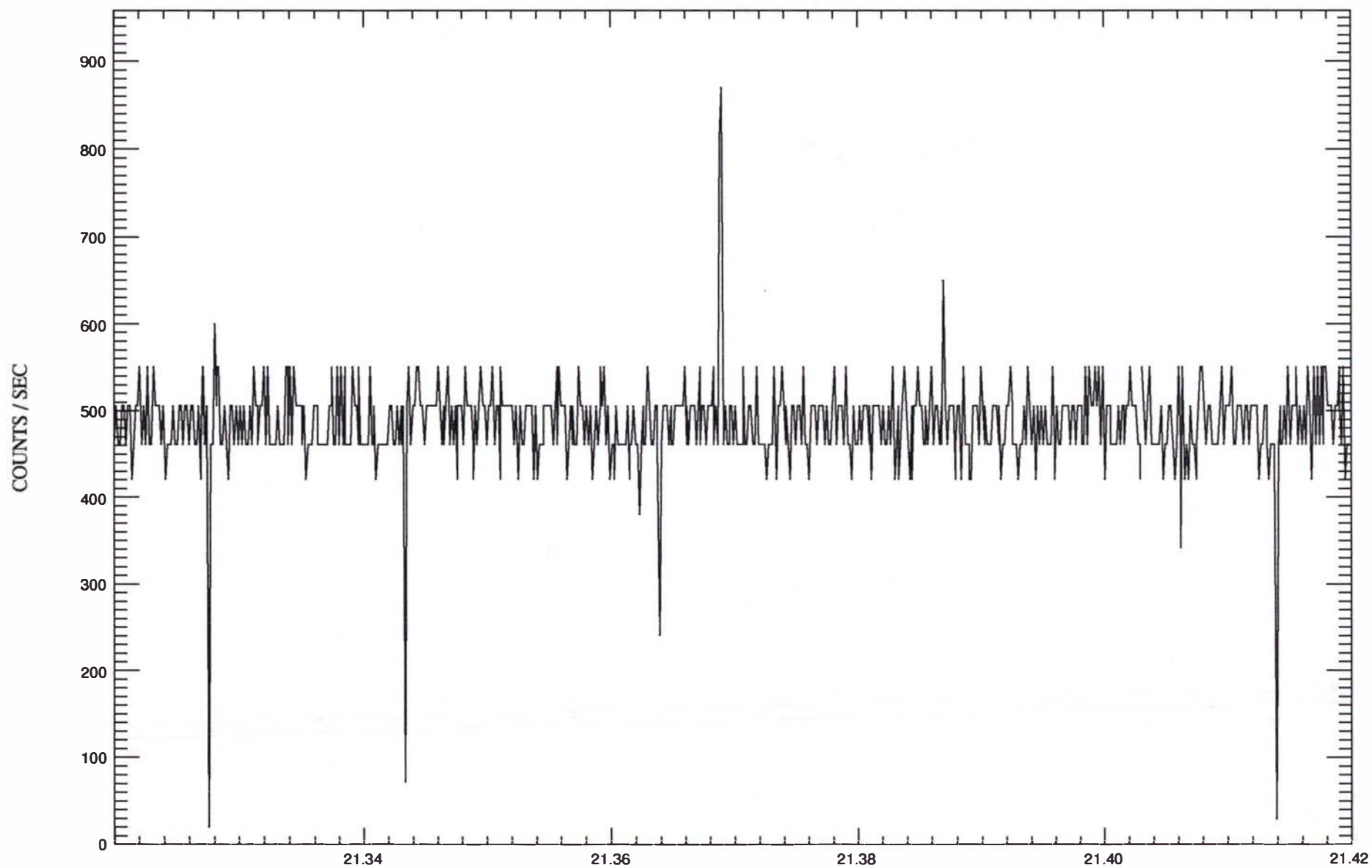
CALIBRATION DATA INCLUDED

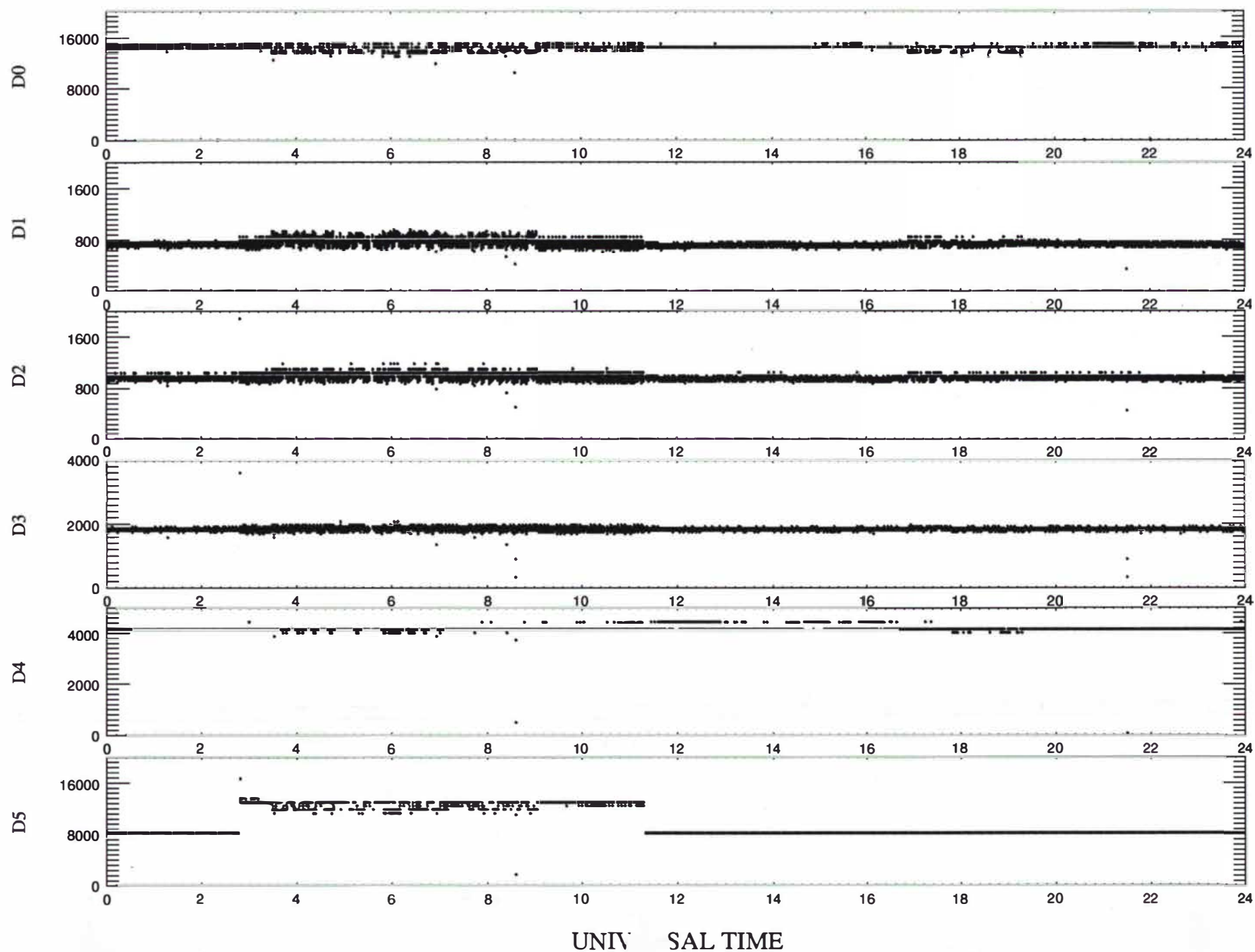


Burst Counter 3 at UT=21.369033423530 h=76928.520 s 21:22:08.520



CALIBRATION DATA INCLUDED





From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

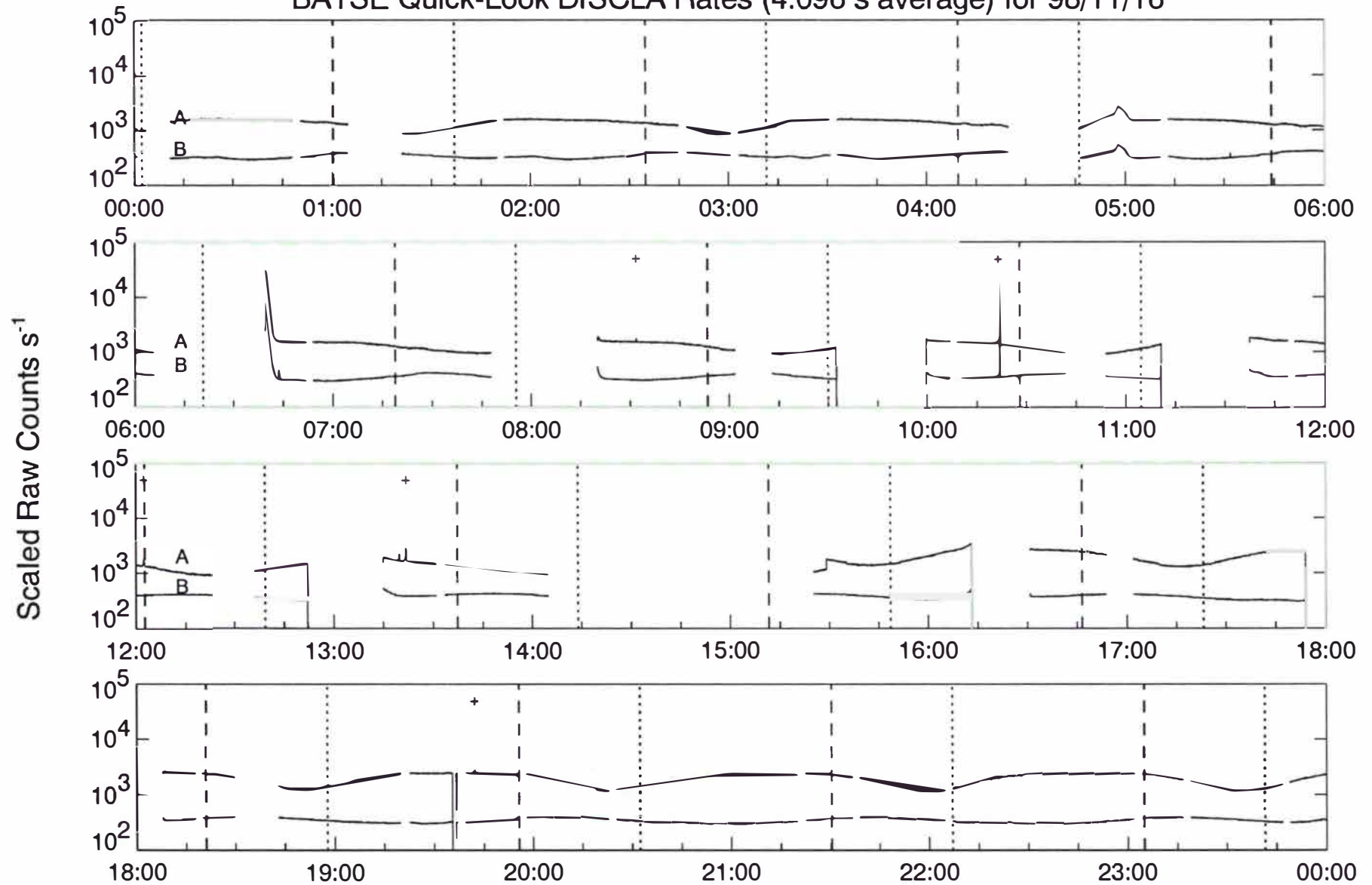
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS: NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/16

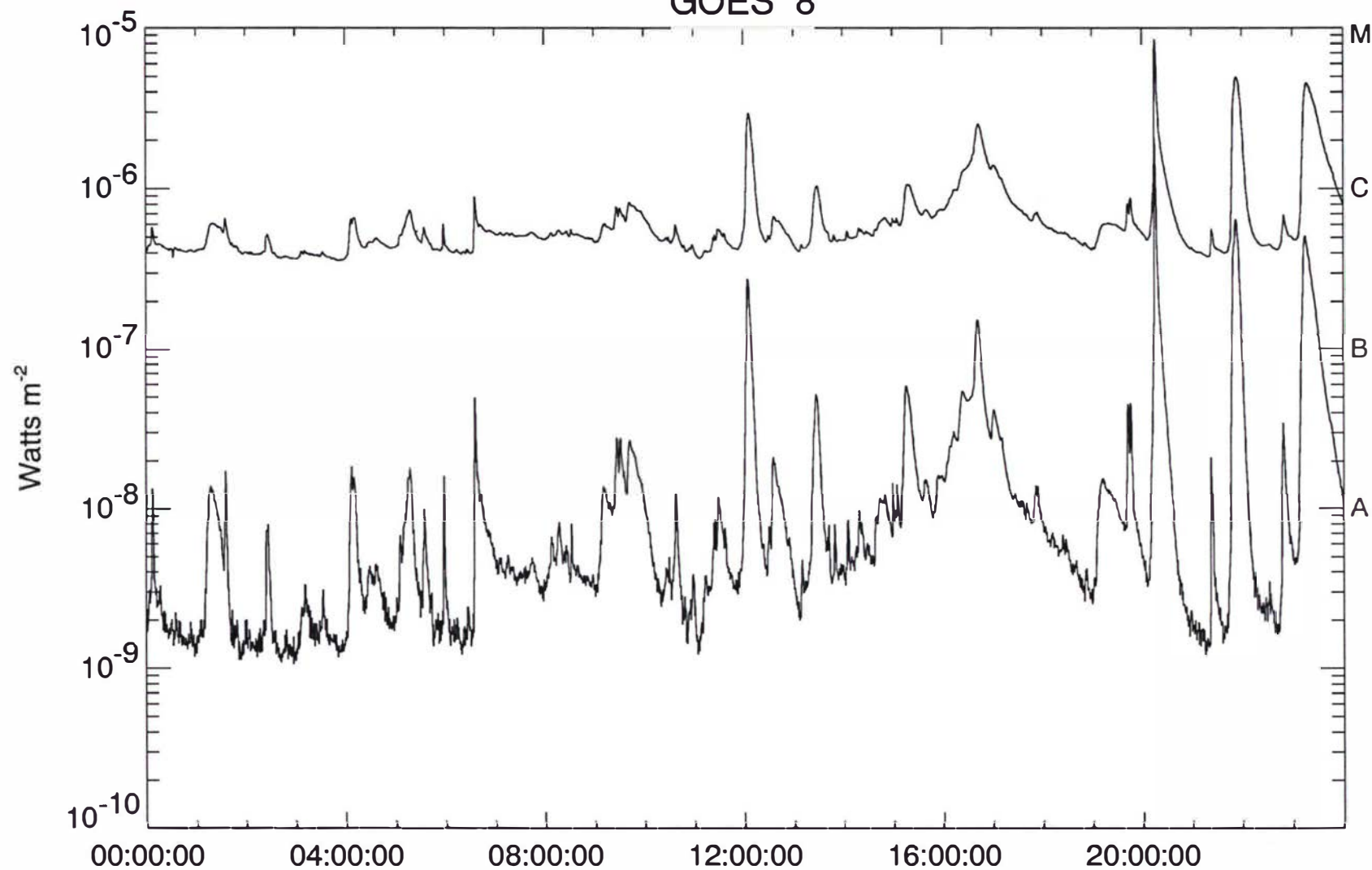


Current Time: 98/11/20, 1013 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/16, 0000:00

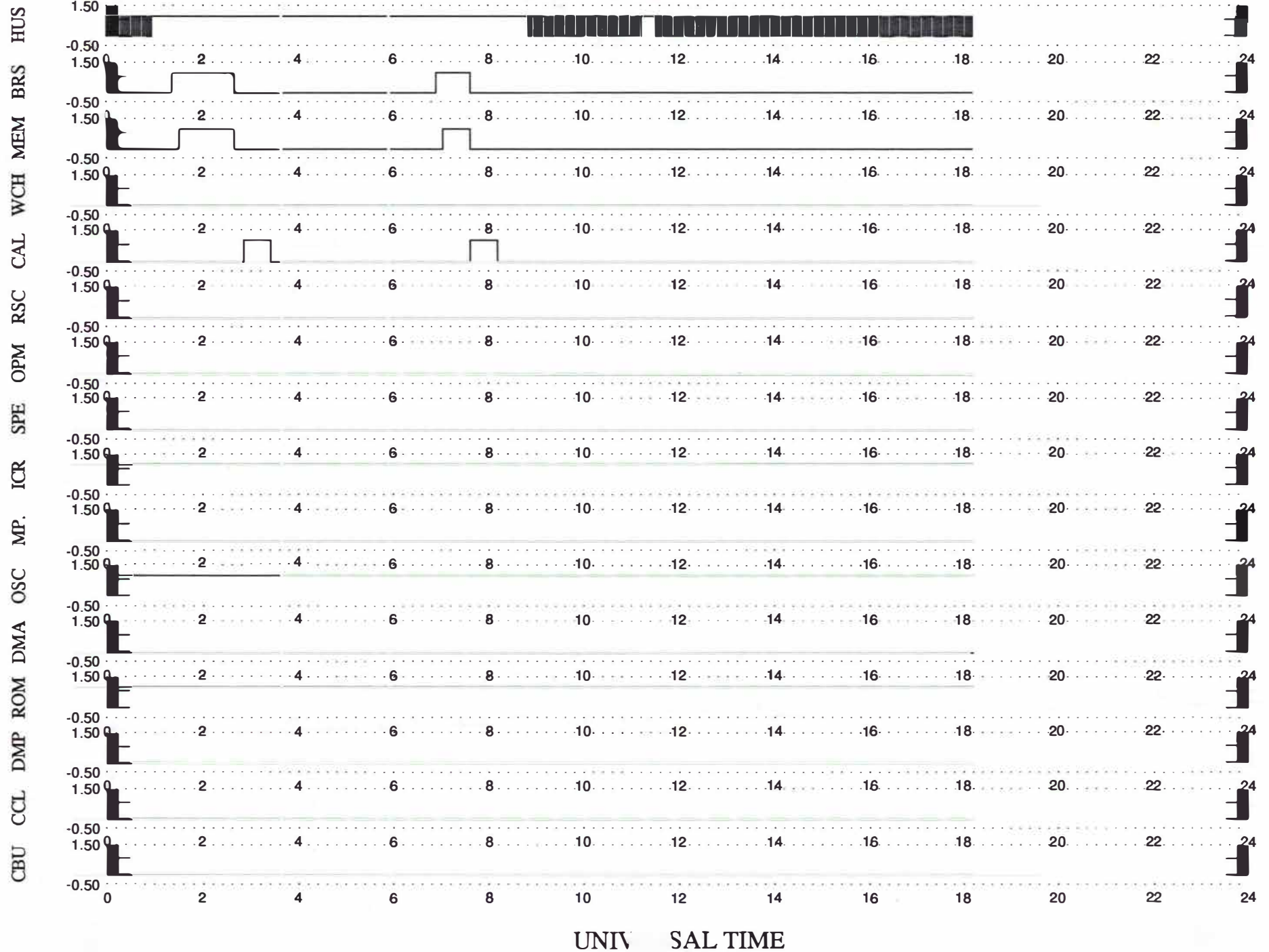
Plot created: 98/11/20, 1012

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

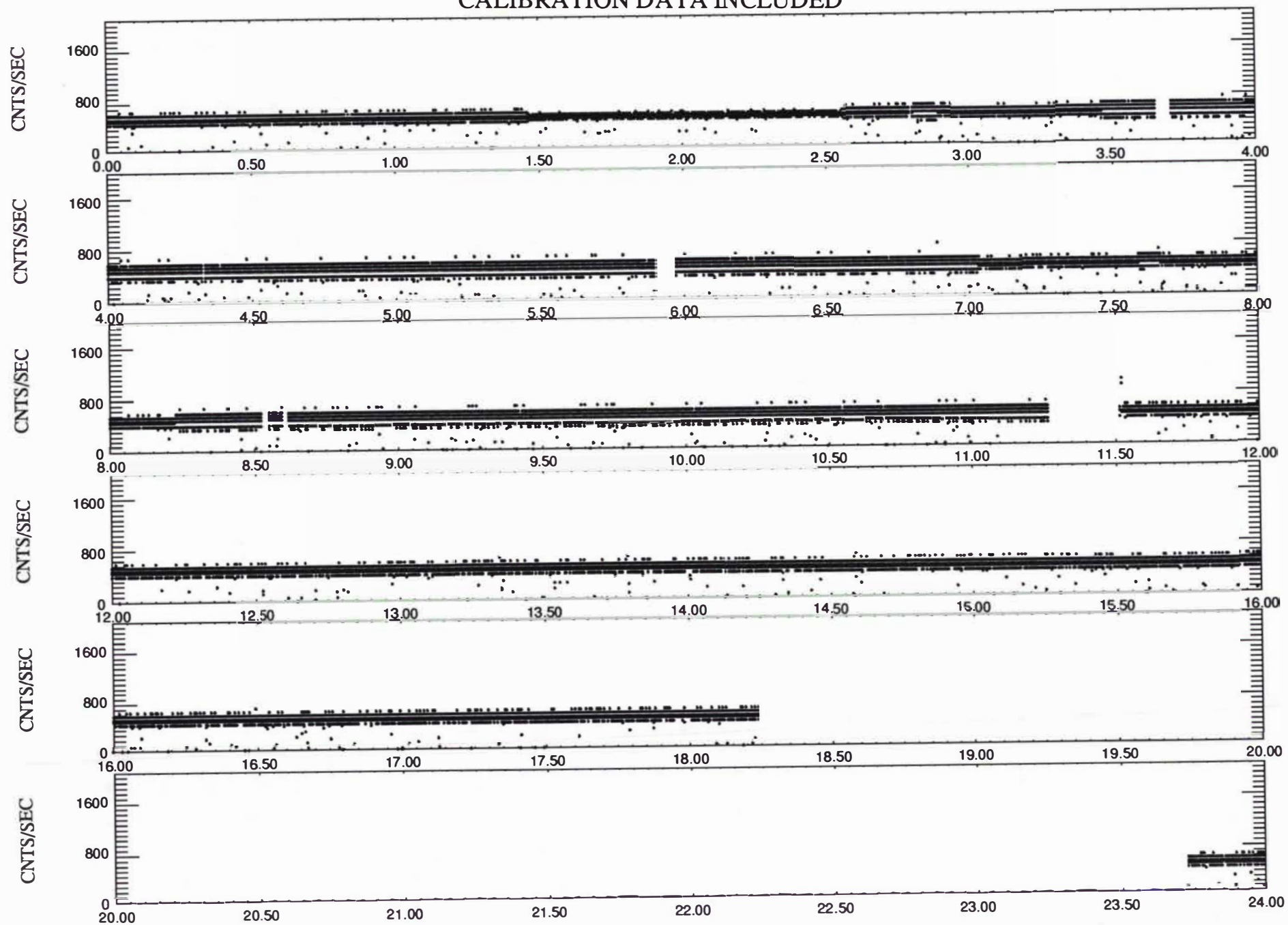
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 4 - 6

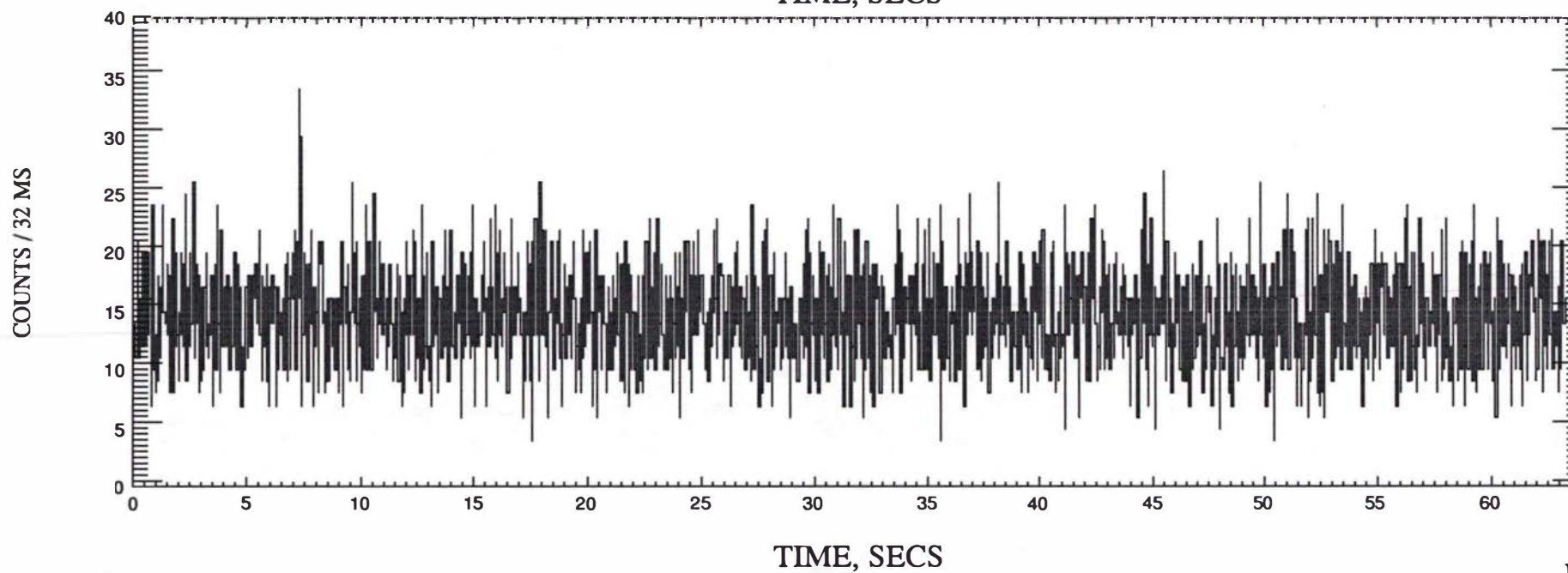
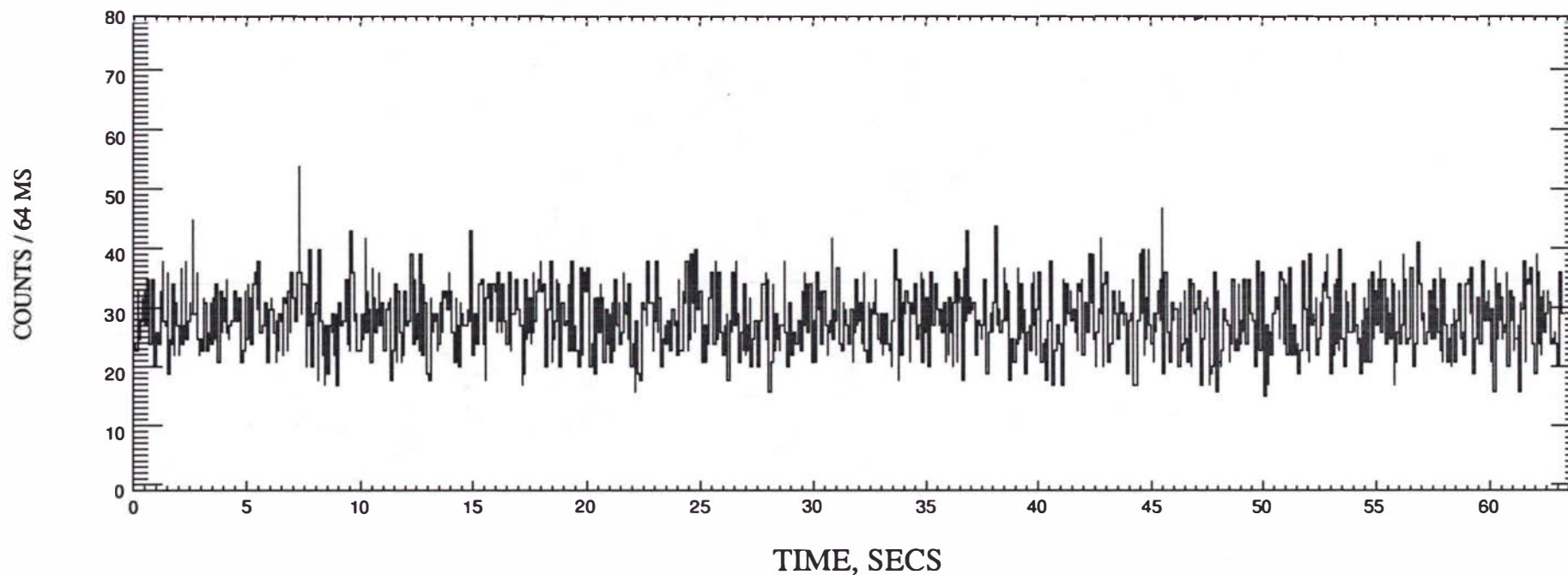


CALIBRATION DATA INCLUDED

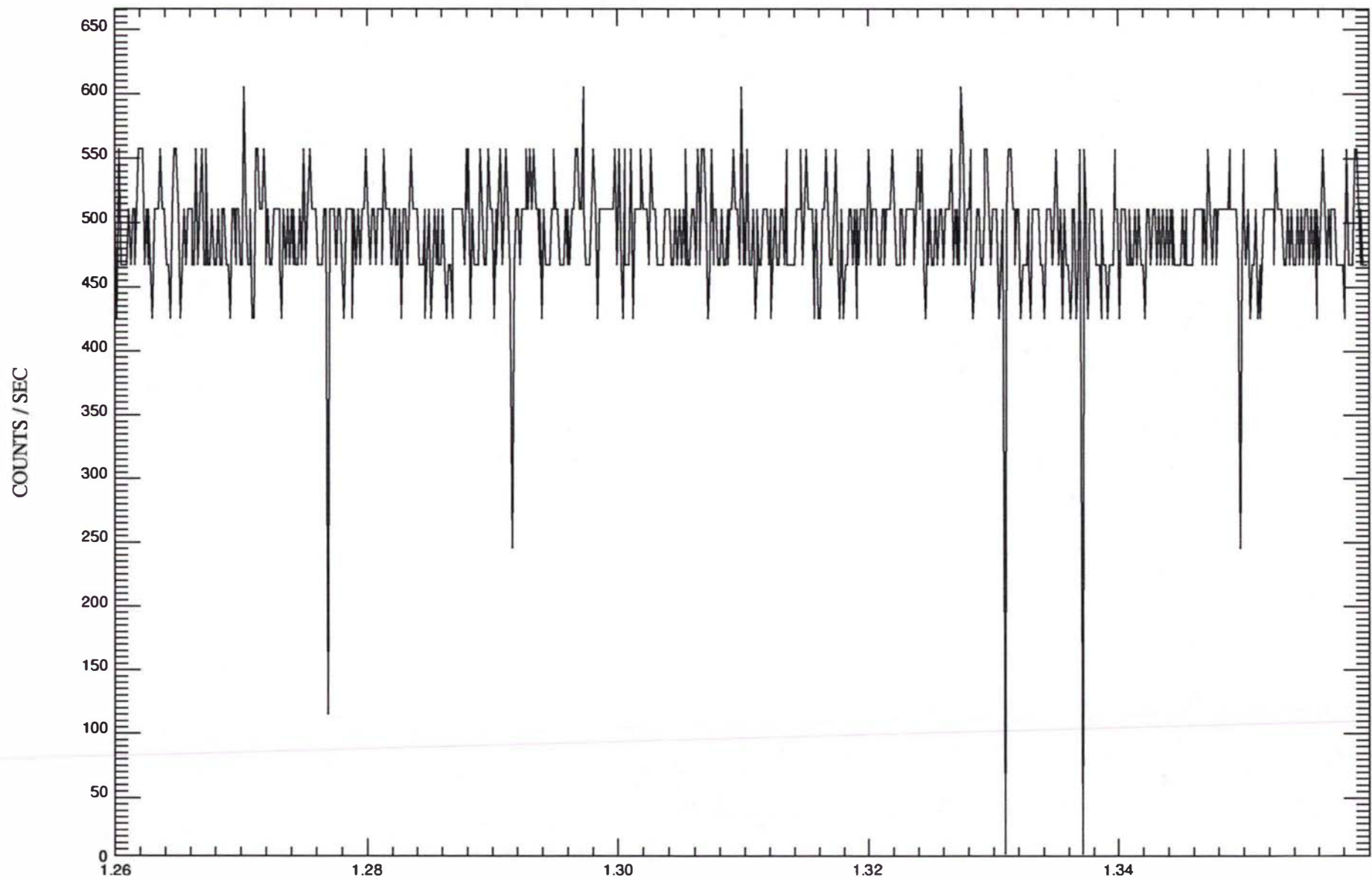


UNIV SAL TIME

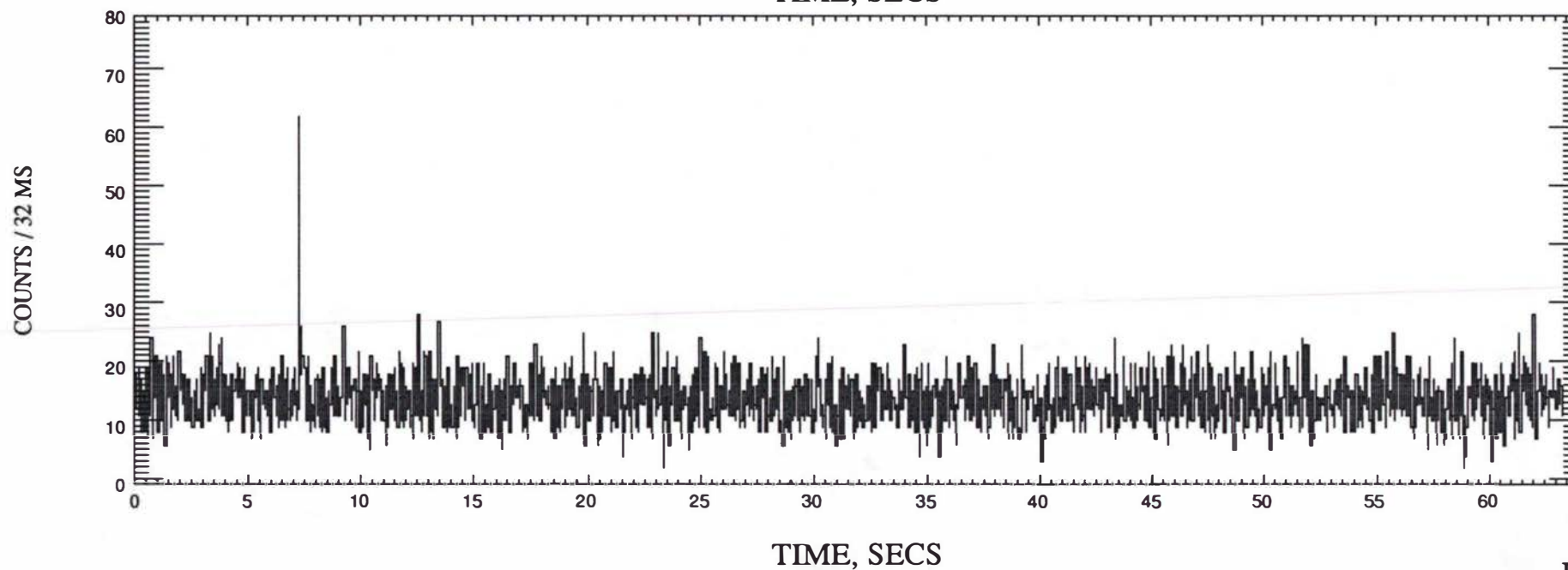
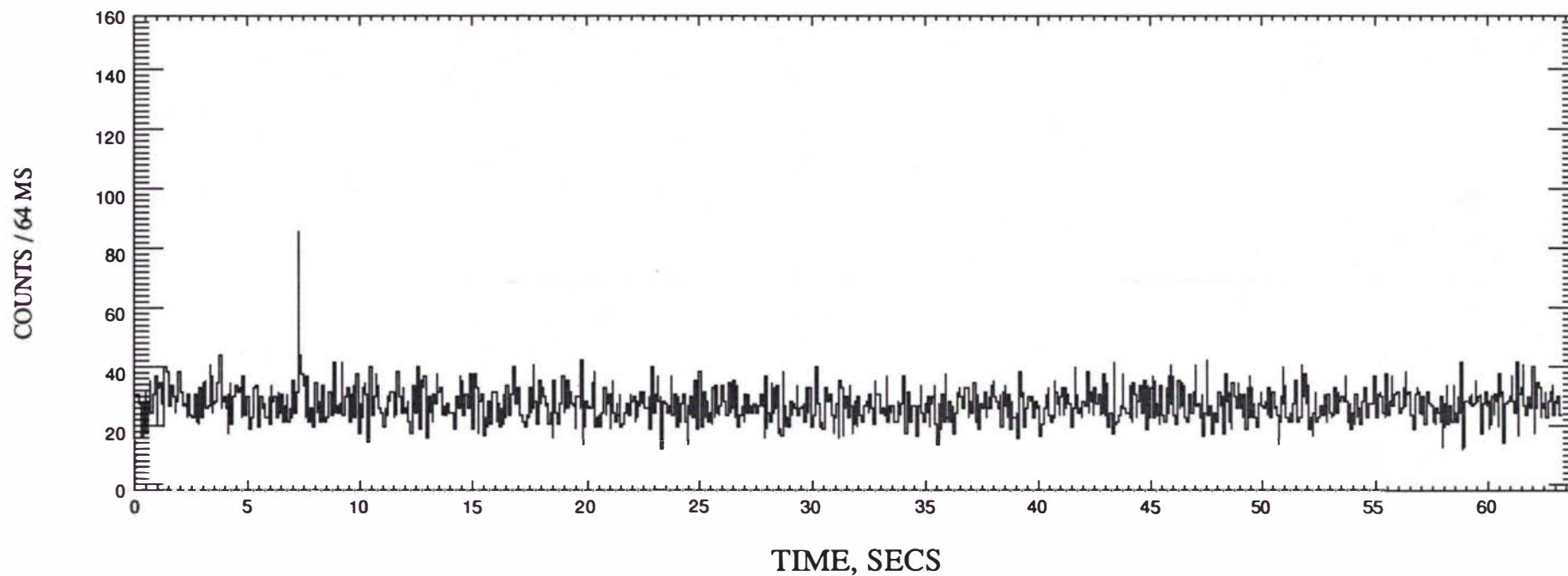
Burst Counter 4 at UT= 1.306901834276 h= 4704.847 s 01:18:24.847



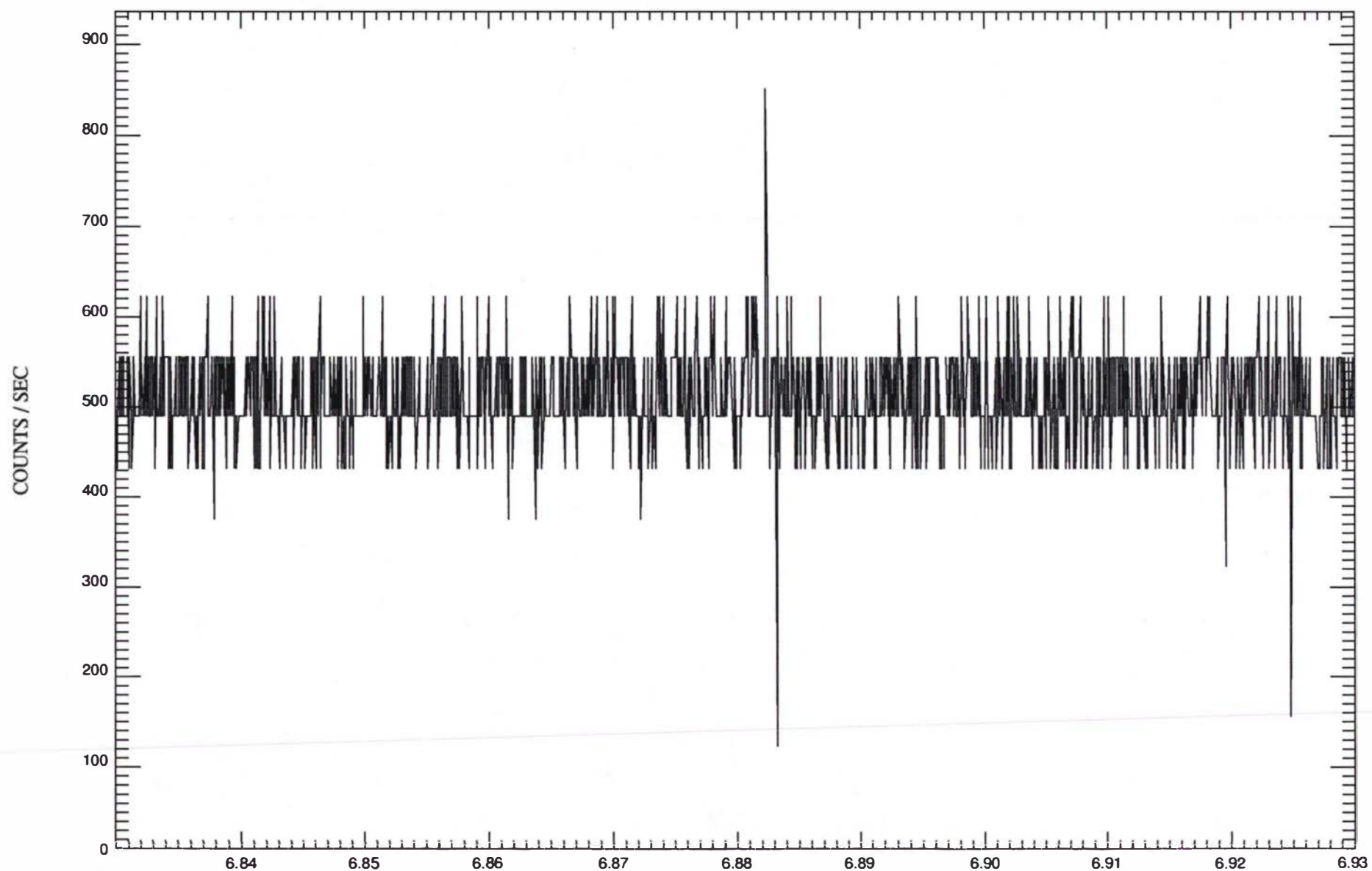
CALIBRATION DATA INCLUDED

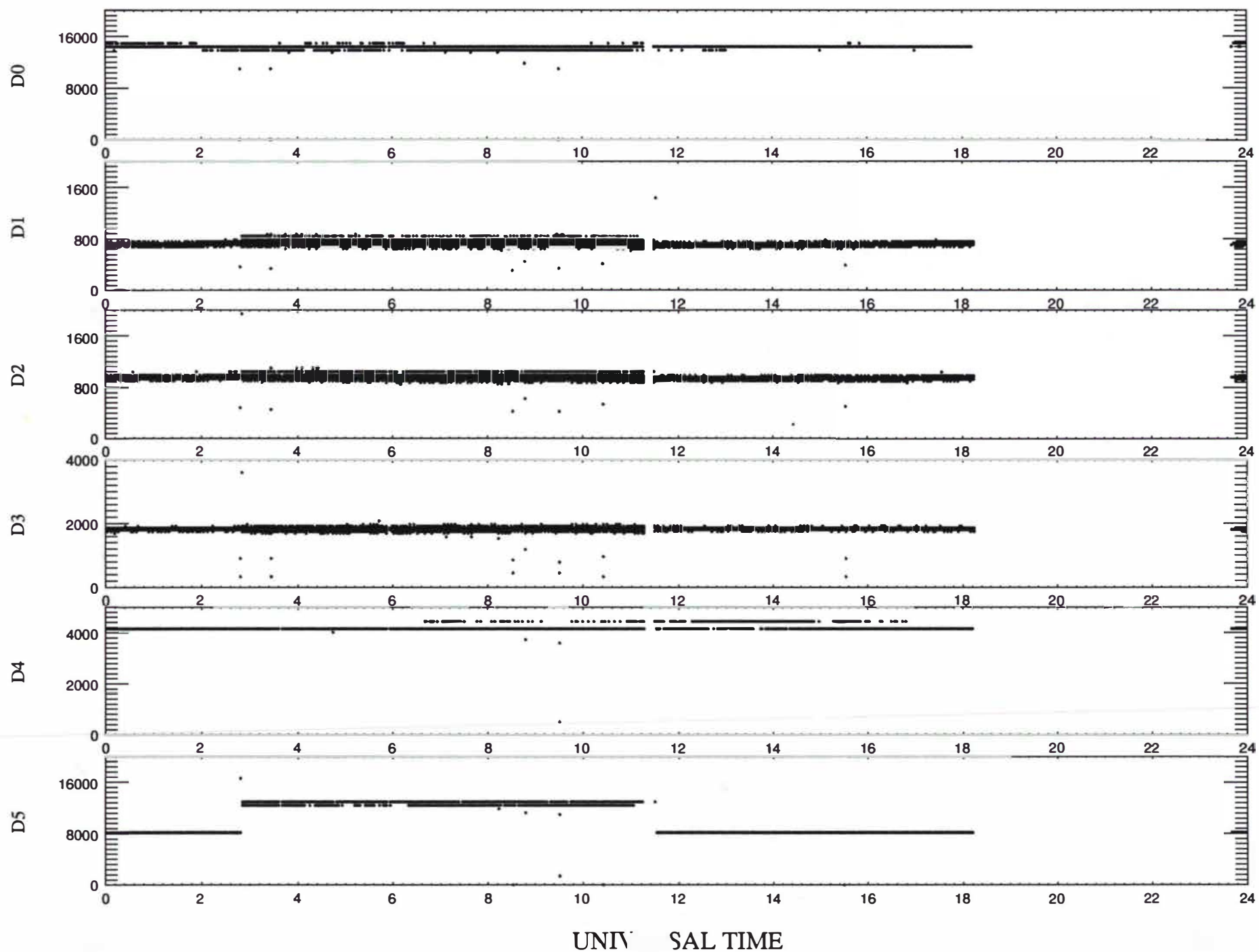


Burst Counter 5 at UT= 6.882468893263 h=24776.888 s 06:52:56.888



CALIBRATION DATA INCLUDED





JANA TAB2 19981117 10731

ULYSSES RT

05/08/05

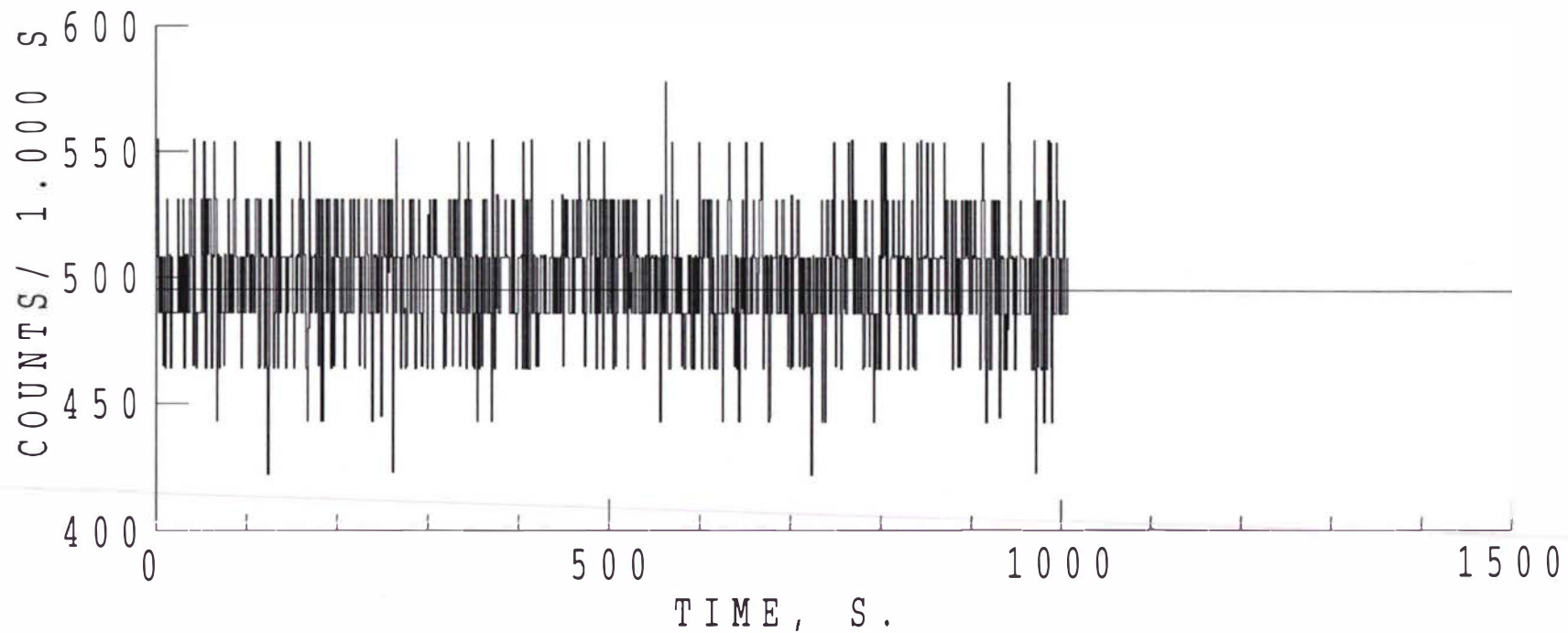
17/11/98 10224.212 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Wed Nov 18 08:04:13 1998
Date: Wed, 18 Nov 1998 10:03:43 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7212

TIME: TJD=1134 SECONDS=21380

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From WOODSP@fender.msfc.nasa.gov Wed Nov 18 12:48:31 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 MAA12916; Wed, 18 Nov 1998 12:48:30 -0800
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA22904; Wed, 18 Nov 1998 12:48:26 -0800
Date: Wed, 18 Nov 1998 14:42:43 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981118144243.2022f551@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7213
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7213
EVENT OF 1998 NOV 17 DAY OF YEAR=321
EVENT CROSSING TIME AT BATSE : 24523. S. OR 06:48:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 295.000 -1.000
BATSE PEAK COUNTING RATE: 3300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/11/ 98 IS:
RA= 166.646 DEC= -4.042 DIST= 5.590 AU
BATSE-ULYSSES DISTANCE = 836217798. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 51.85 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1722.84 SECS.
CROSSING TIME AT ULYSSES IS 26246. S. OR 07:17:25 +/- 457.02 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/11/ 98 IS:
RA= 175.204 DEC= 3.825 DIST= 1.911 AU
MARS-BATSE DISTANCE = 285885312. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 60.21 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 473.84 SECS.
CROSSING TIME AT MARS IS 24997. S. OR 06:56:36 +/- 150.87 SECONDS

BATSE BURST TRIGGER

NO.: 7213

TIME: TJD=1134 SECONDS=24523

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=31.7 AZIMUTH=292.6 ERROR=3.2 DEGREES

COMMENTS:

GRB LASTING ABOUT 65 SEC. TWO PULSES SEPARATED BY 45 SECONDS.
NOT VISIBLE ABOVE 300 KEV.

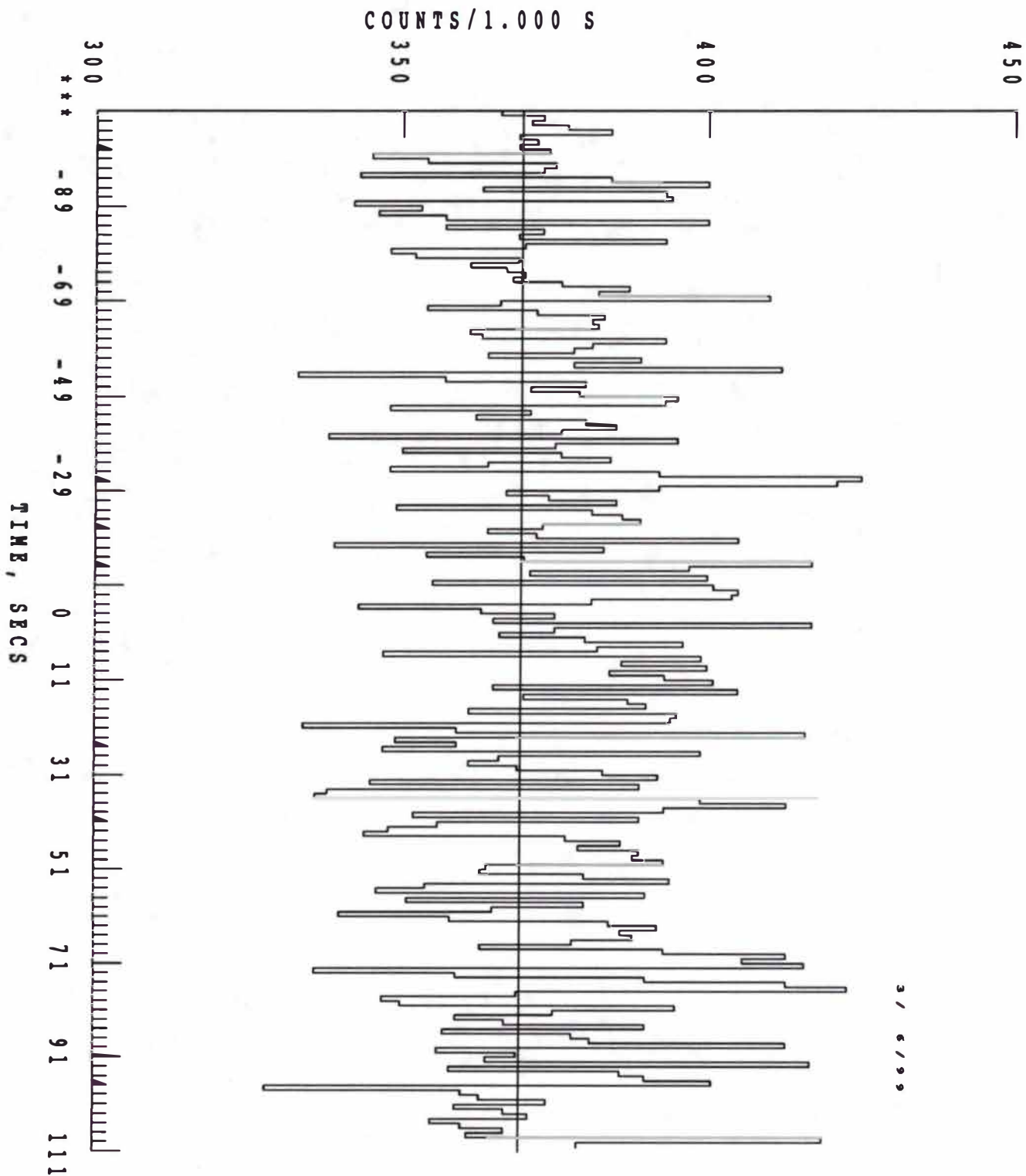
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7213	981117	11134	24523	3300	295	-01	65

NEAR

17/11/98

23485.280

100-1000 keV



BATSE BURST# 7213

ULYSSES RT

18 / 11 / 98

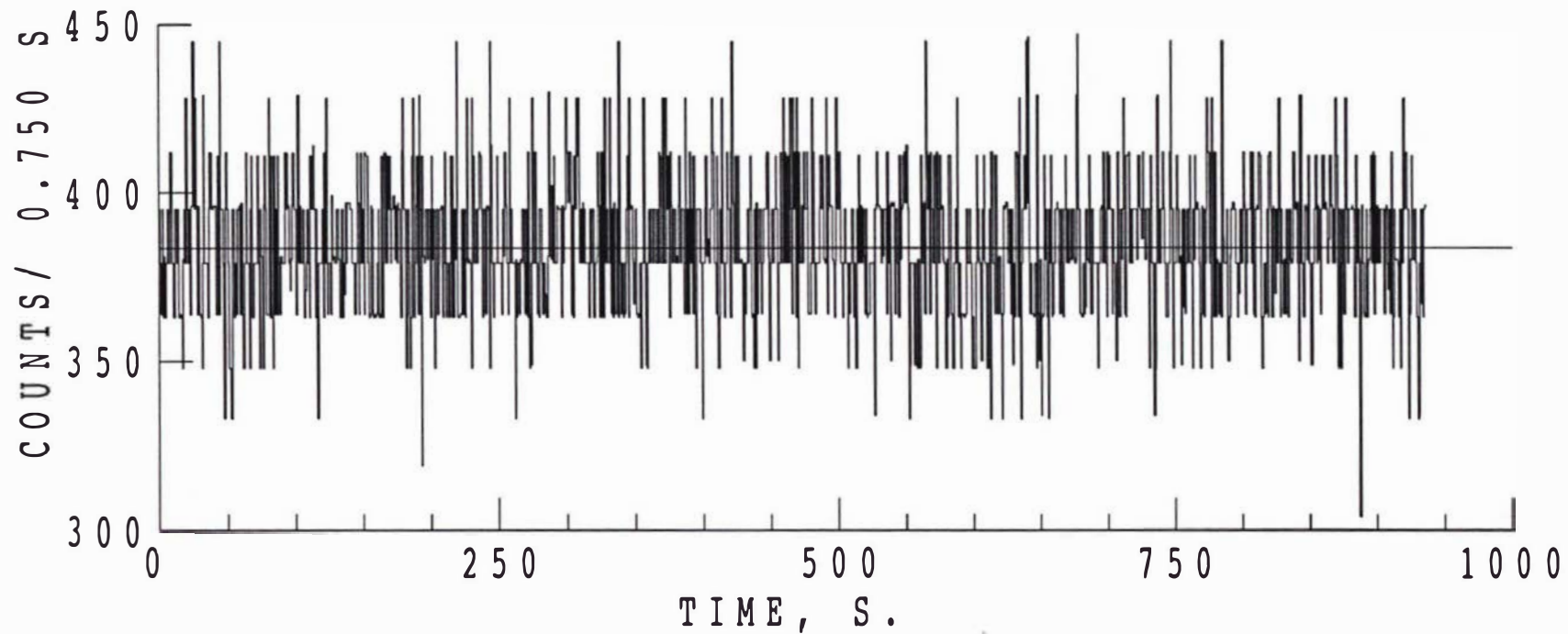
17/11/98 25776.121 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Wed Nov 18 08:05:31 1998
Date: Wed, 18 Nov 1998 10:04:55 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7214

TIME: TJD=1134 SECONDS=33013

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From WOODSP@fender.msfc.nasa.gov Wed Nov 18 12:41:50 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 18 Nov 1998 14:41:22 -0600 (CST)

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,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7215

TIME: TJD=1134 SECONDS=63107

TYPE: SAA SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

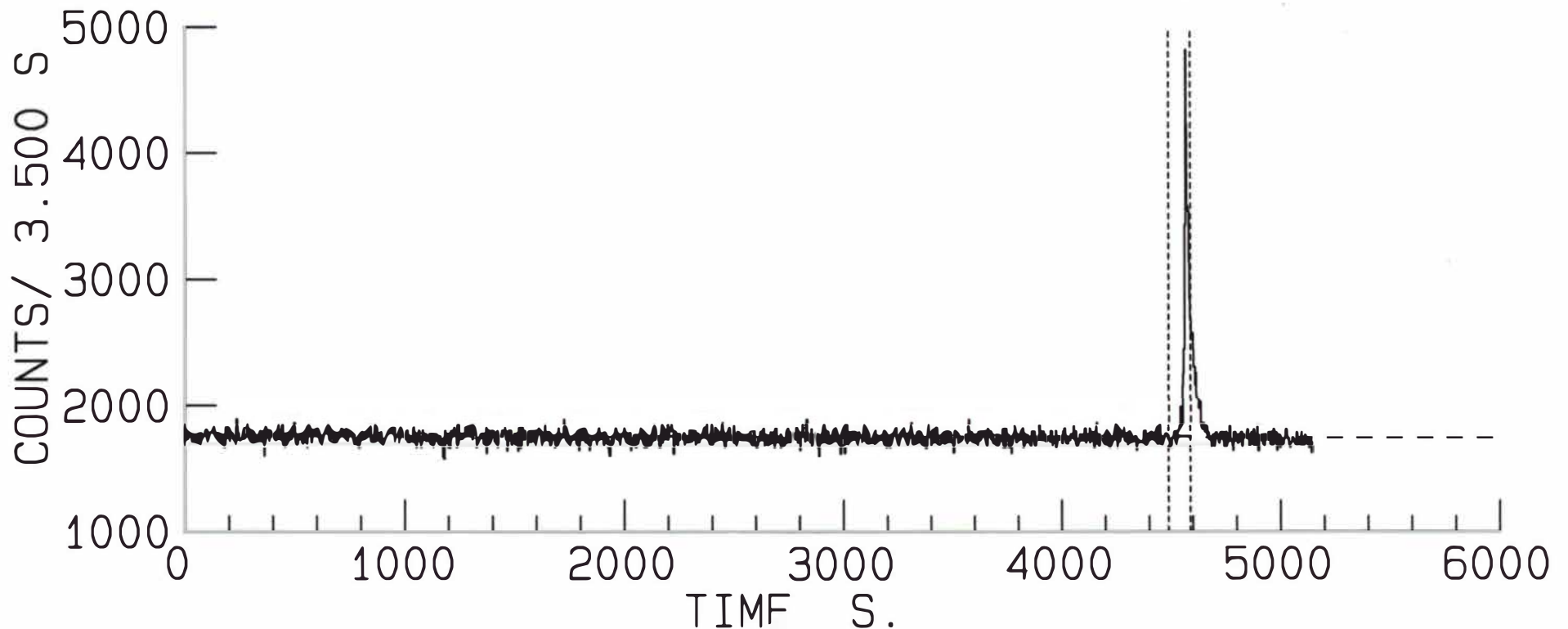
ULYSSES RT

23/11/98

17/11/98 81504.443 s

0.500 S INTERVALS REGROUPED BY 7
22- 150 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



NEAR GRB98321-1

ULYSSES RT

20 / 11 / 98

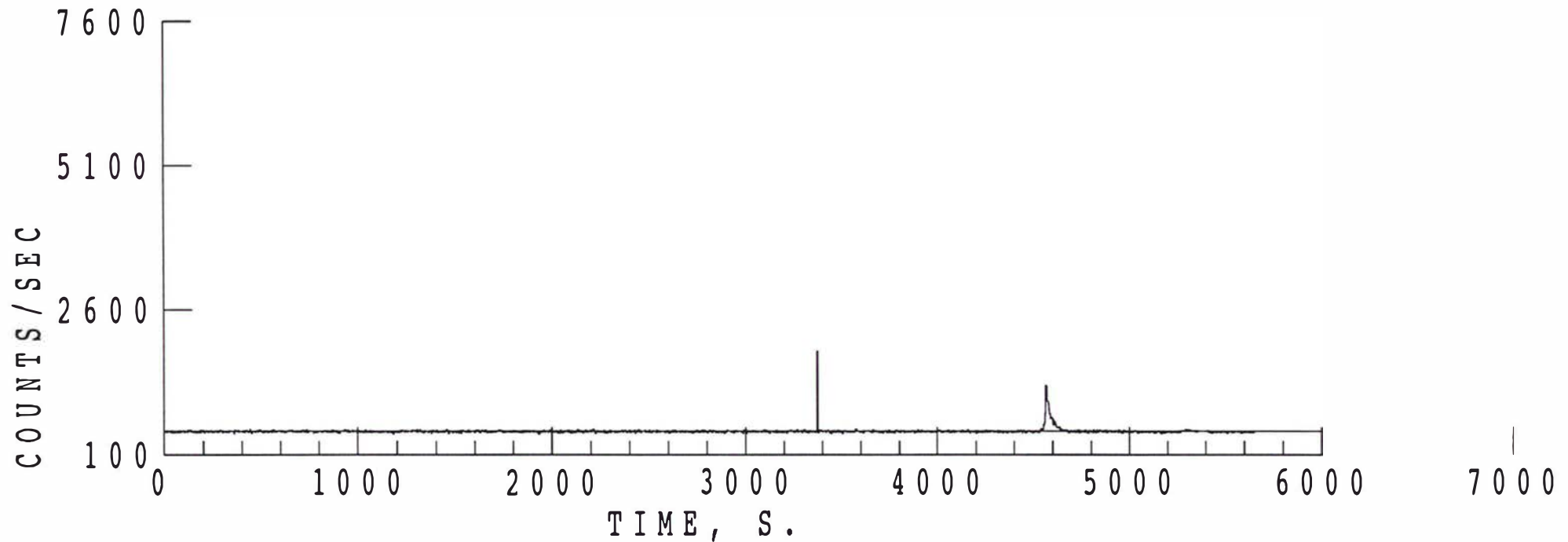
17/11/98 81504.438 s

INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

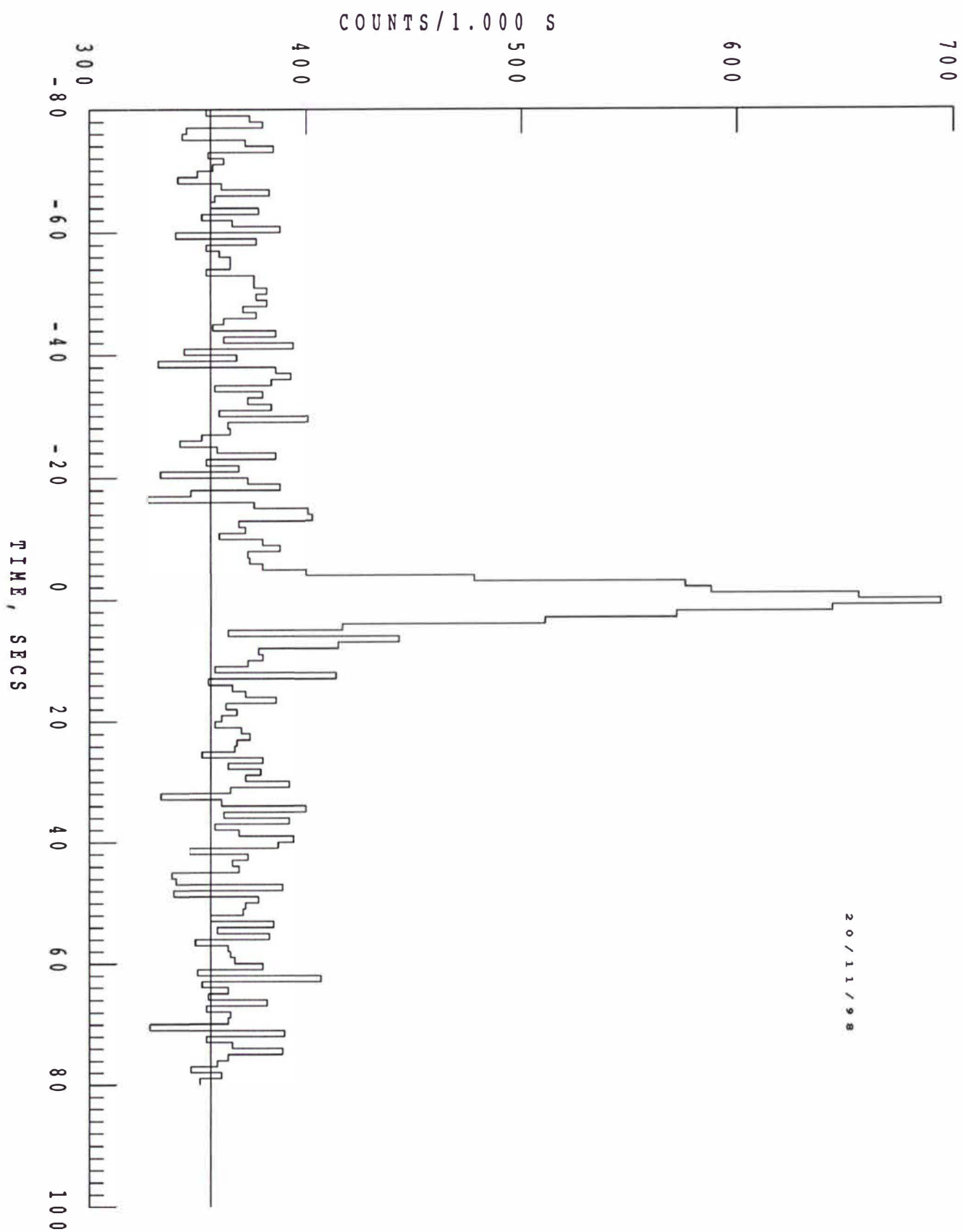


NEAR

17/11/98

84328.817

100-1000 keV



From BUTTERWORTH@tgrs2.gsfc.nasa.gov Fri Nov 20 14:01 PST 1998
Date: Fri, 20 Nov 1998 16:59:42 -0500
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: cline@apache.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
scott@milkyway.gsfc.nasa.gov
Cc: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Konus didn't see anything corresponding to the NEAR 981117 event

Tom, Kevin, Scott,

Konus didn't trigger on 981117 and there's nothing in the waiting-mode data within 20 minutes of the NEAR event.

Paul.

PS There are no BATSE triggers close to the NEAR event either.

in response to:

Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Fri, 20 Nov 1998 16:27:02 -0500
To: KHURLEY@sunspot.ssl.berkeley.edu, Butterworth@lheavx.gsfc.nasa.gov,
scott@rosserv.gsfc.nasa.gov
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: new GRB on Nov 17 nearly midnight

Dear Kevin, Paul, Scott

There is a NEAR event on Nov 17 at 84328 seconds UT (uncorrected)
for which I get the following NEAR ephemerides:

1998 11 17	84328. UT:	RA(deg)	Dec(deg)	Dist(1t-s),..(kkm)
1998 11 17	84328.	285.32557	-21.85377	1127.395 337984.7

Is this seen by Ulysses ? Is it seen either by Konus or BATSE?

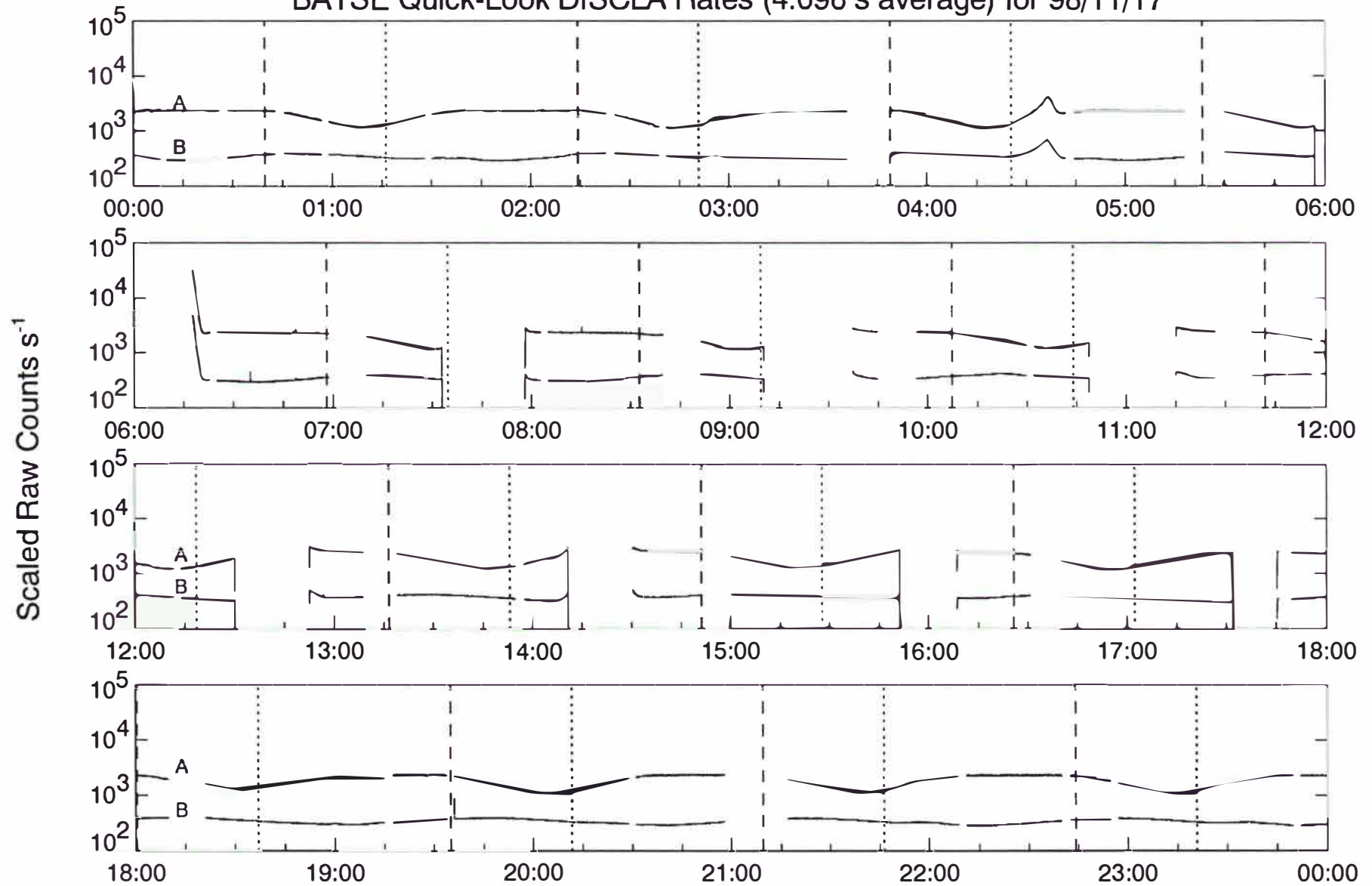
It's a fat, snooth, 10-second-wide event that should be localizable
for Dale Frail and whoever, if we get Ulysses and something else.

WHY DO THESE DANG THINGS ALWAYS HAPPEN FRIDAY AFTERNOON AT 5 PM ???
(The famous 1998 August 27 event did too - I remember it well.
I guess that's when NEAR put the data out, once a week or what.)

TLC

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

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/17

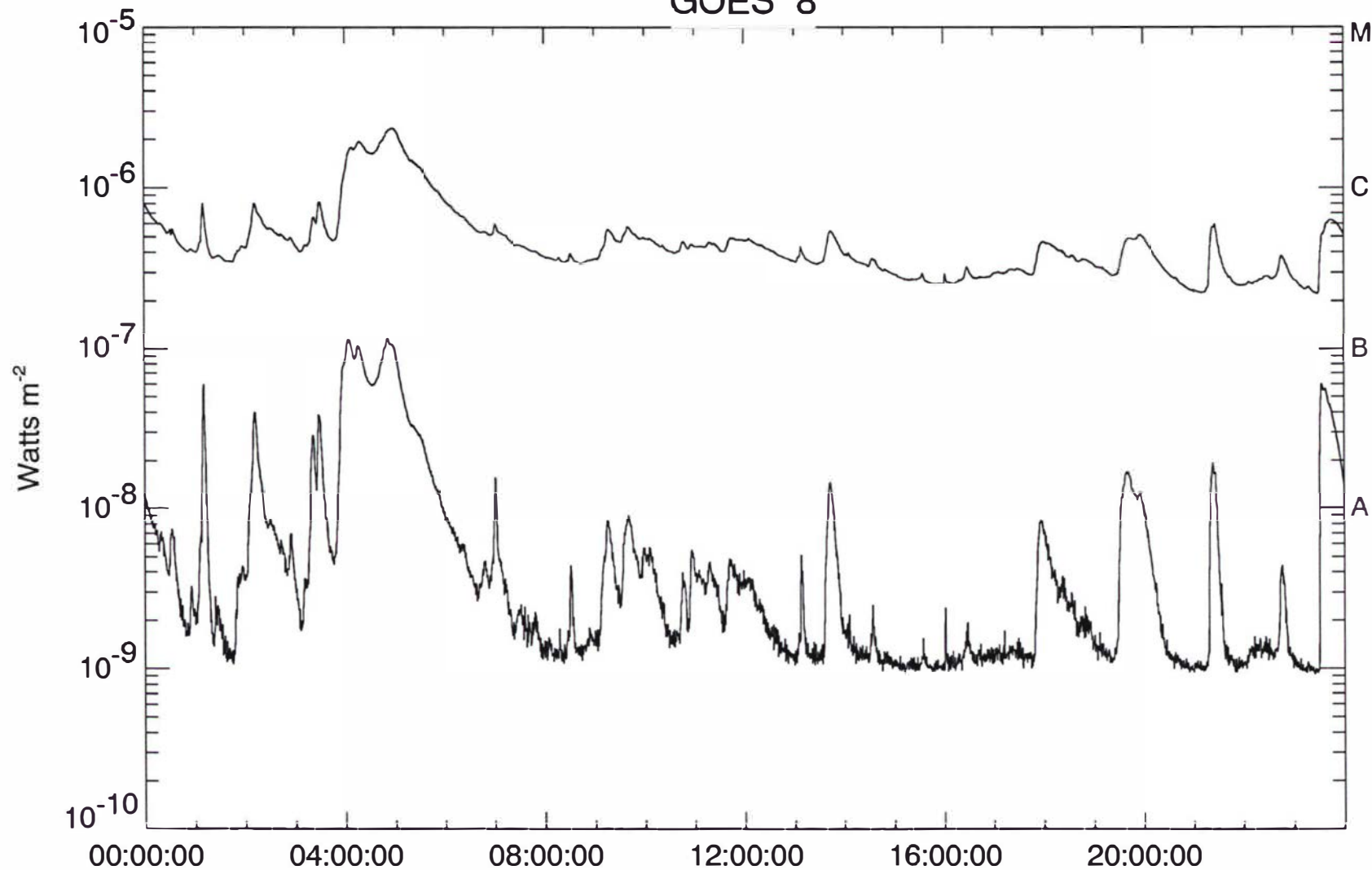


Current Time: 98/11/21, 1013 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/17, 0000:00

Plot created: 98/11/21, 1012

Channel 1 (1.0 - 8.0 Angstroms)

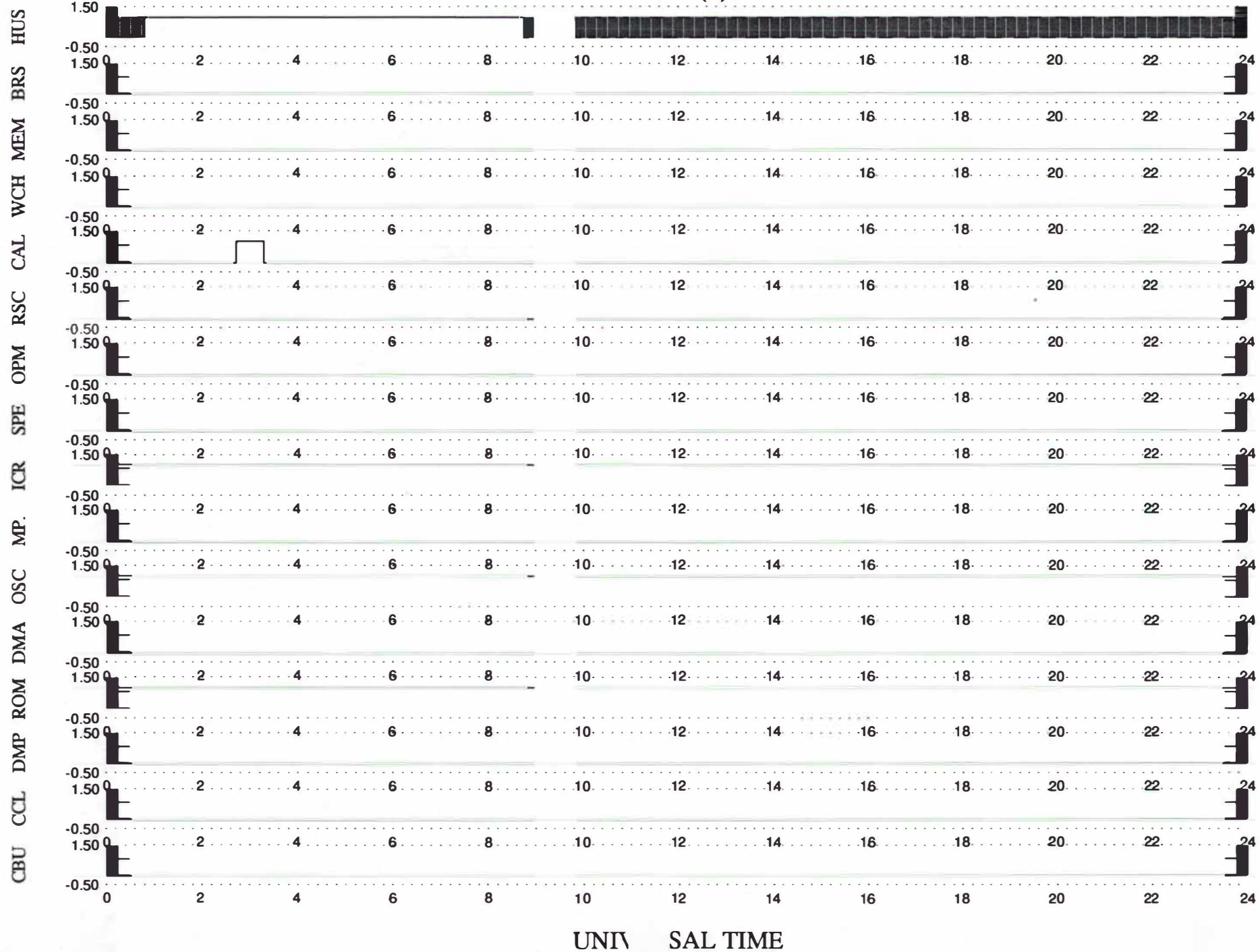
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

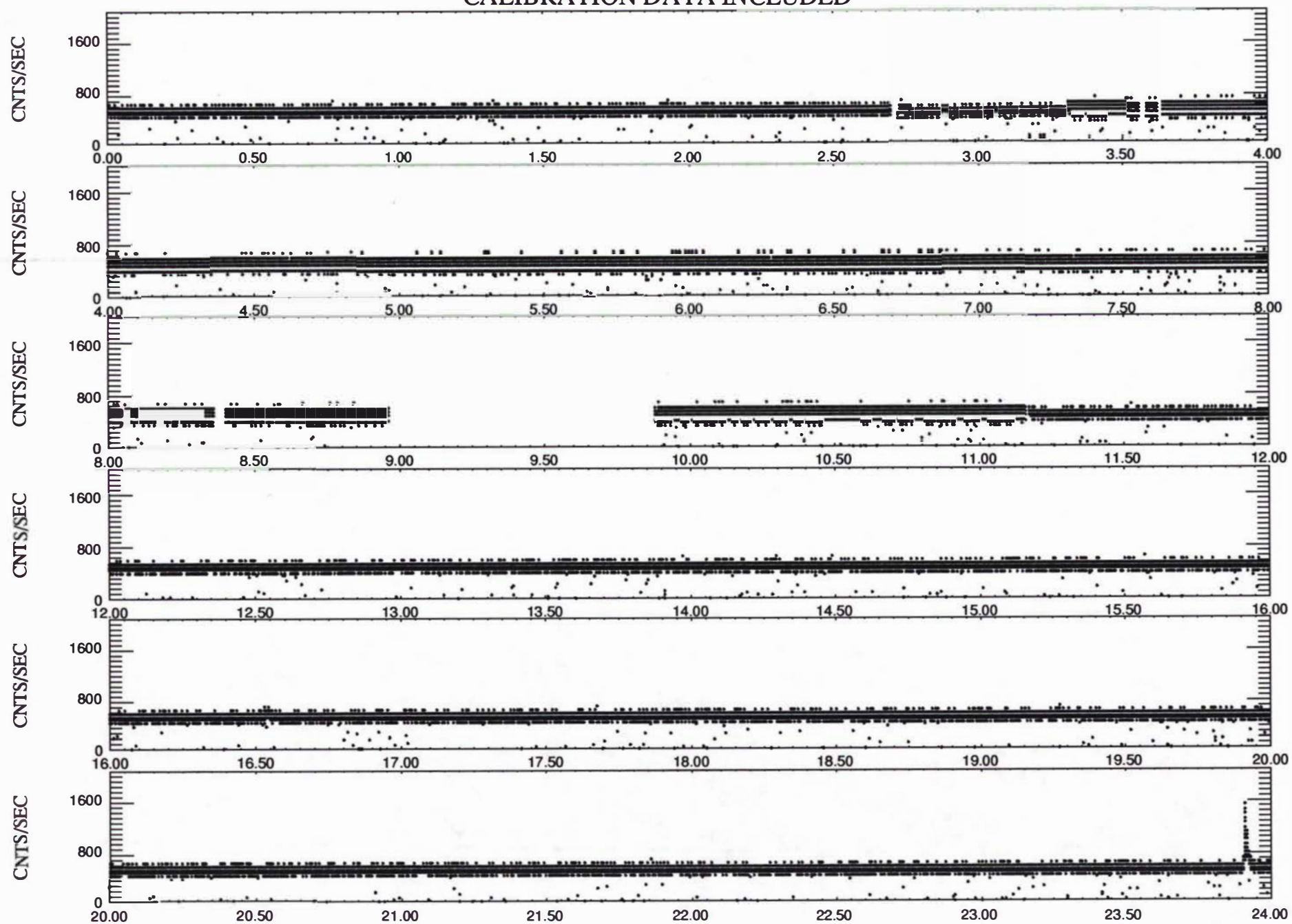
Background not subtracted

Sample average = 10

NO BURST (6)

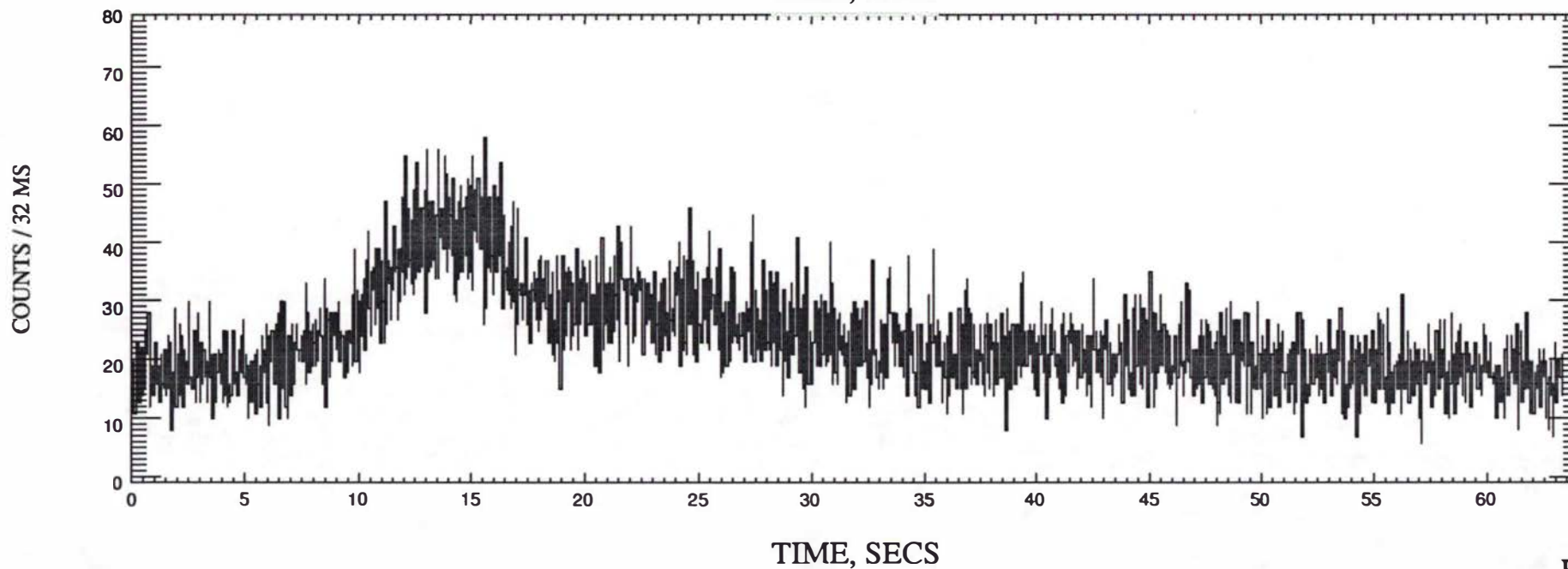
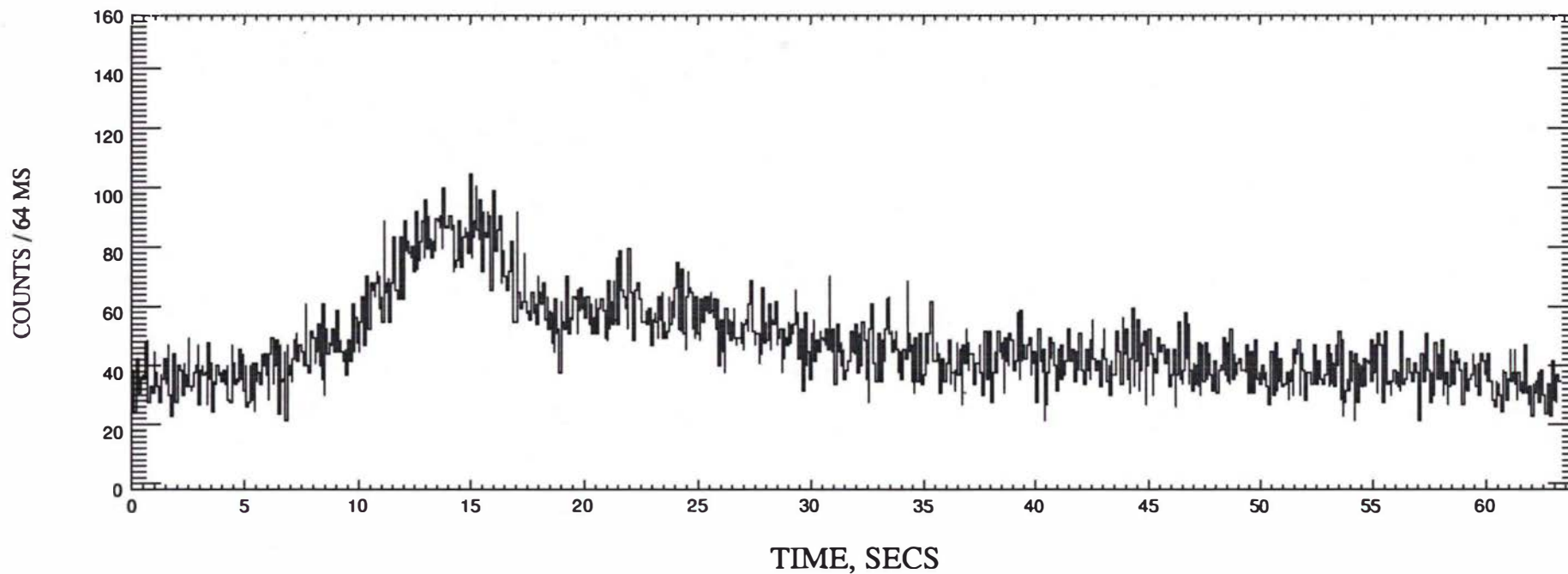


CALIBRATION DATA INCLUDED

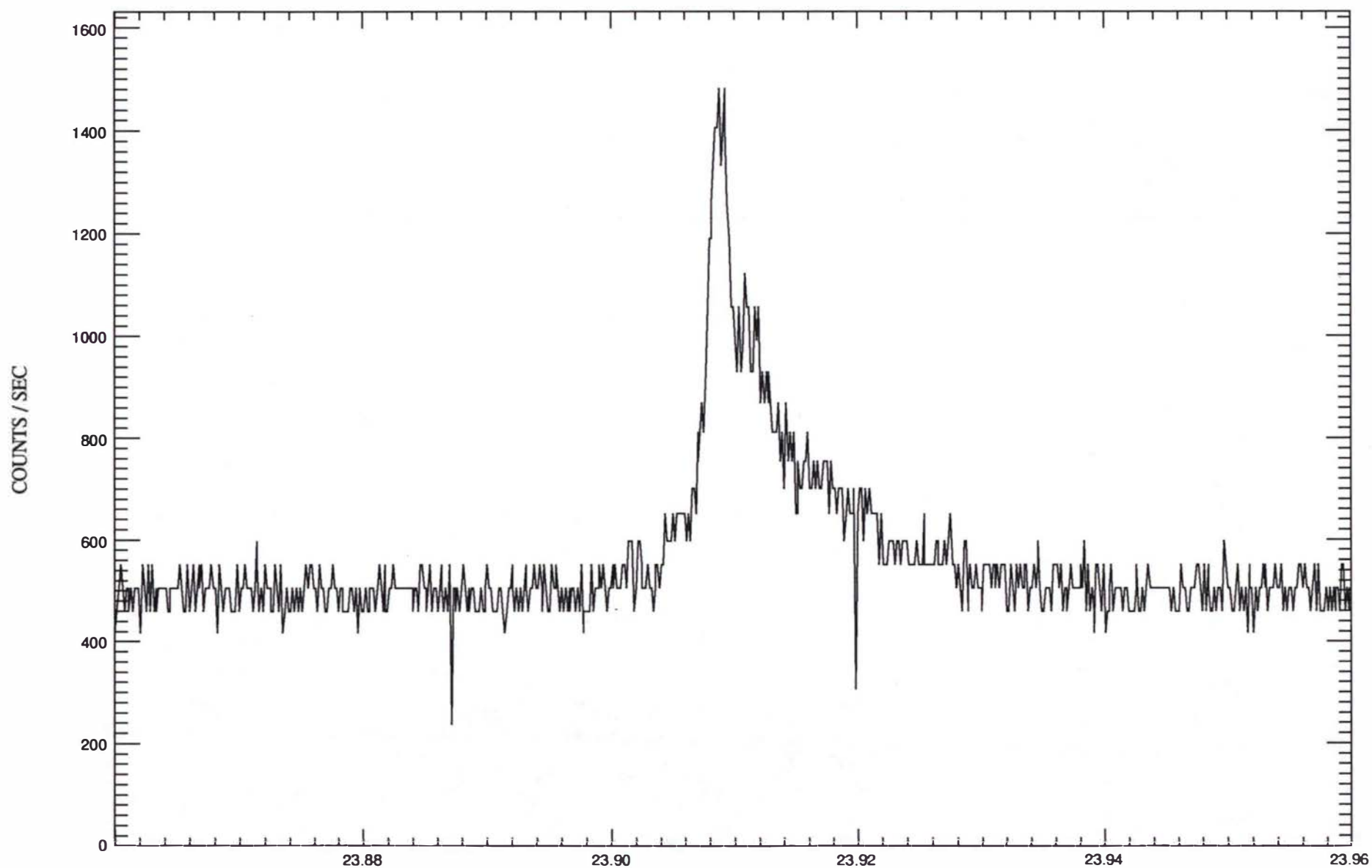


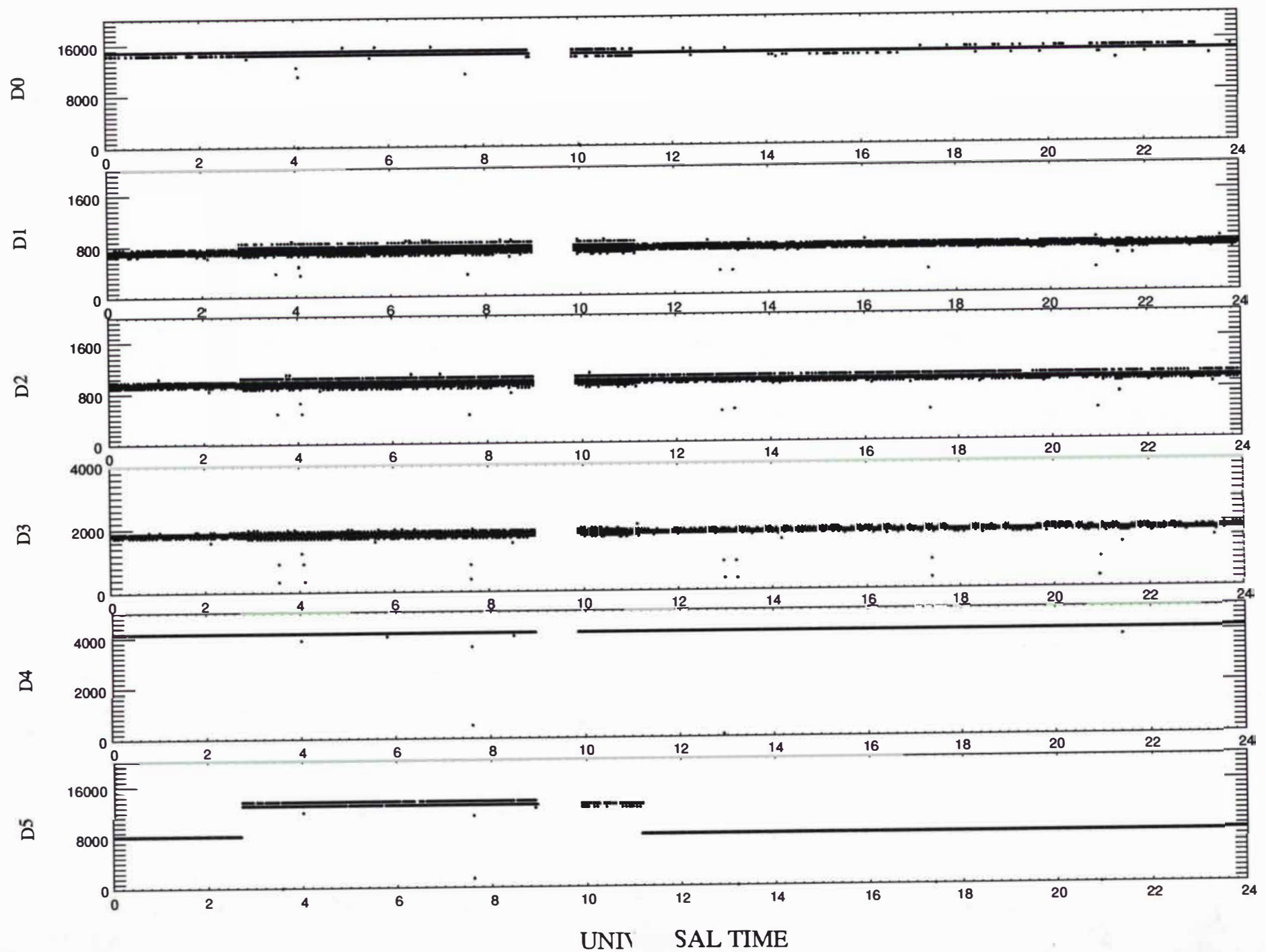
UNIV 3AL TIME

Burst Counter 7 at UT=23.907112613254 h=86065.605 s 23:54:25.605



CALIBRATION DATA INCLUDED





JANA TAB2 19981118 01420

ULYSSES RT

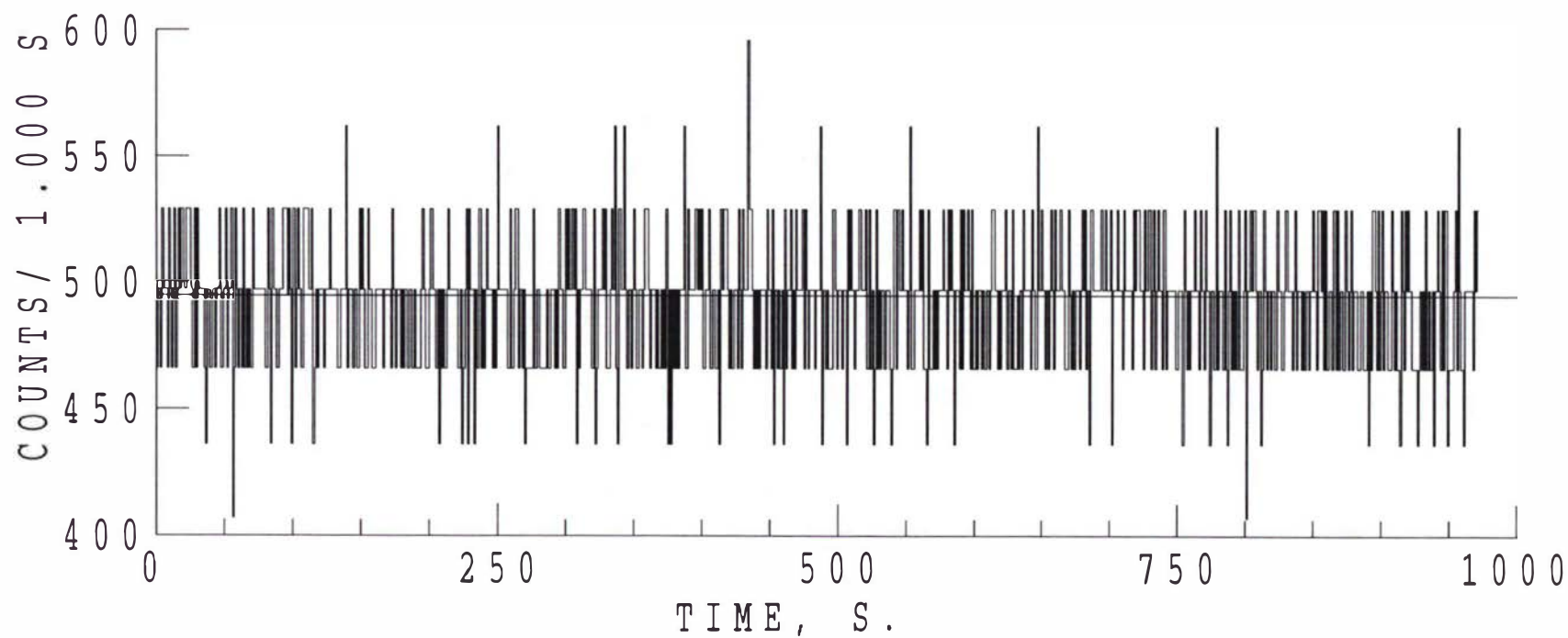
05/08/05

18/11/98 936.003 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Nov 19 10:04:28 1998
Date: Thu, 19 Nov 1998 12:00:49 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7216

TIME: TJD=1135 SECONDS=20043

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From khurley@sunspot Sat Nov 21 11:17 PST 1998
Date: Sat, 21 Nov 1998 11:16:17 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981109, 981110, 981111, 981114, 981115, 981116, 981118

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts; those marked with a * are suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1556 s earlier.

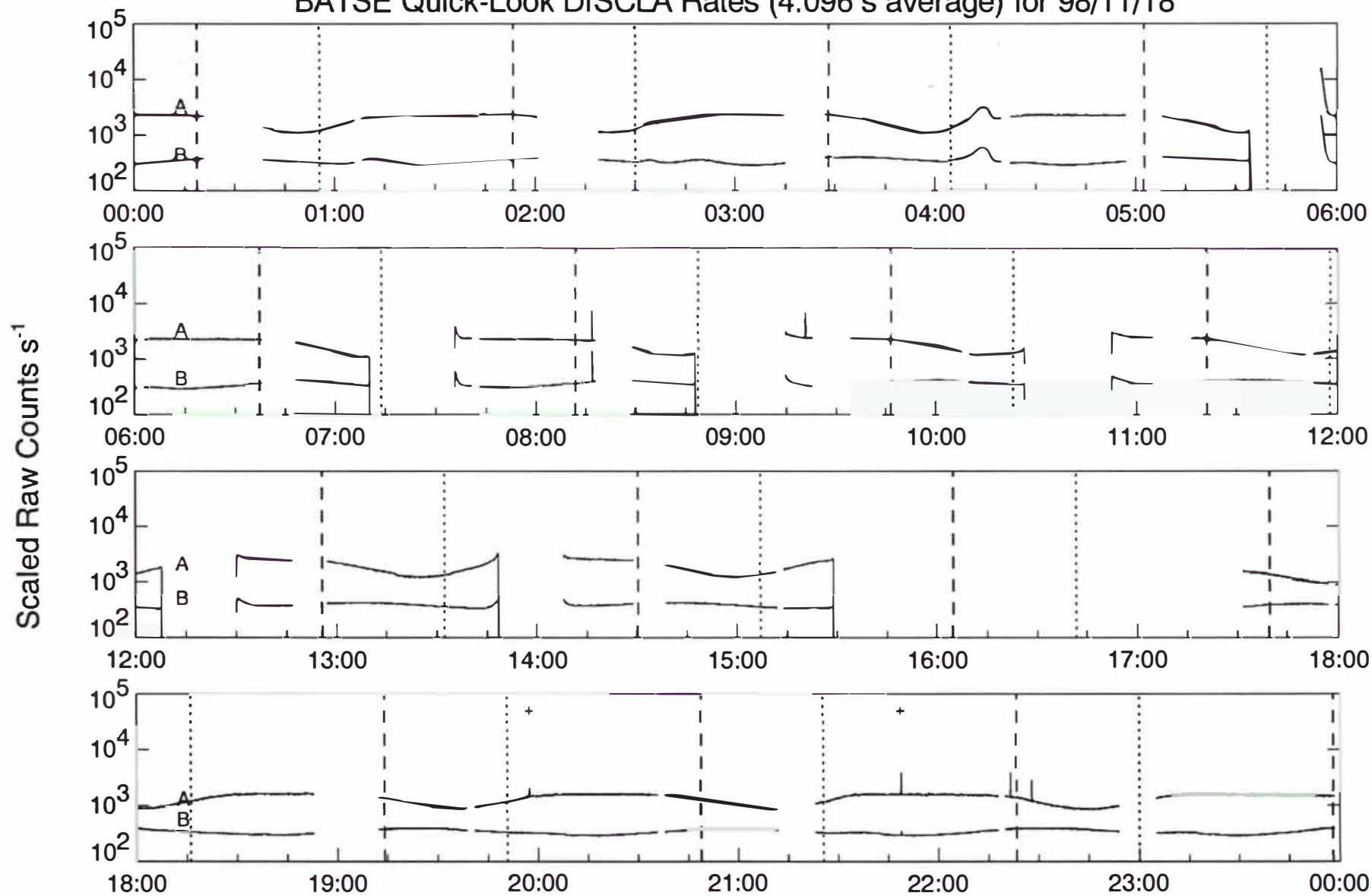
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
09 NOV 98* 21:43	moderate, 64 ms long	2850
10 NOV 98* 08:18	weak, 32 ms long	2850
11 NOV 98 11:08	moderate, 7 s long	2850
14 NOV 98* 21:34	moderate, 100 ms long	2850
15 NOV 98* 21:22	moderate, 100 ms long	2850
16 NOV 98* 01:18	weak, 32 ms long	2850
16 NOV 98* 06:52	weak, 32 ms long	2850
18 NOV 98* 03:19	weak, 32 ms long	2850
18 NOV 98* 11:47	weak, 32 ms long	2850

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS:NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/18

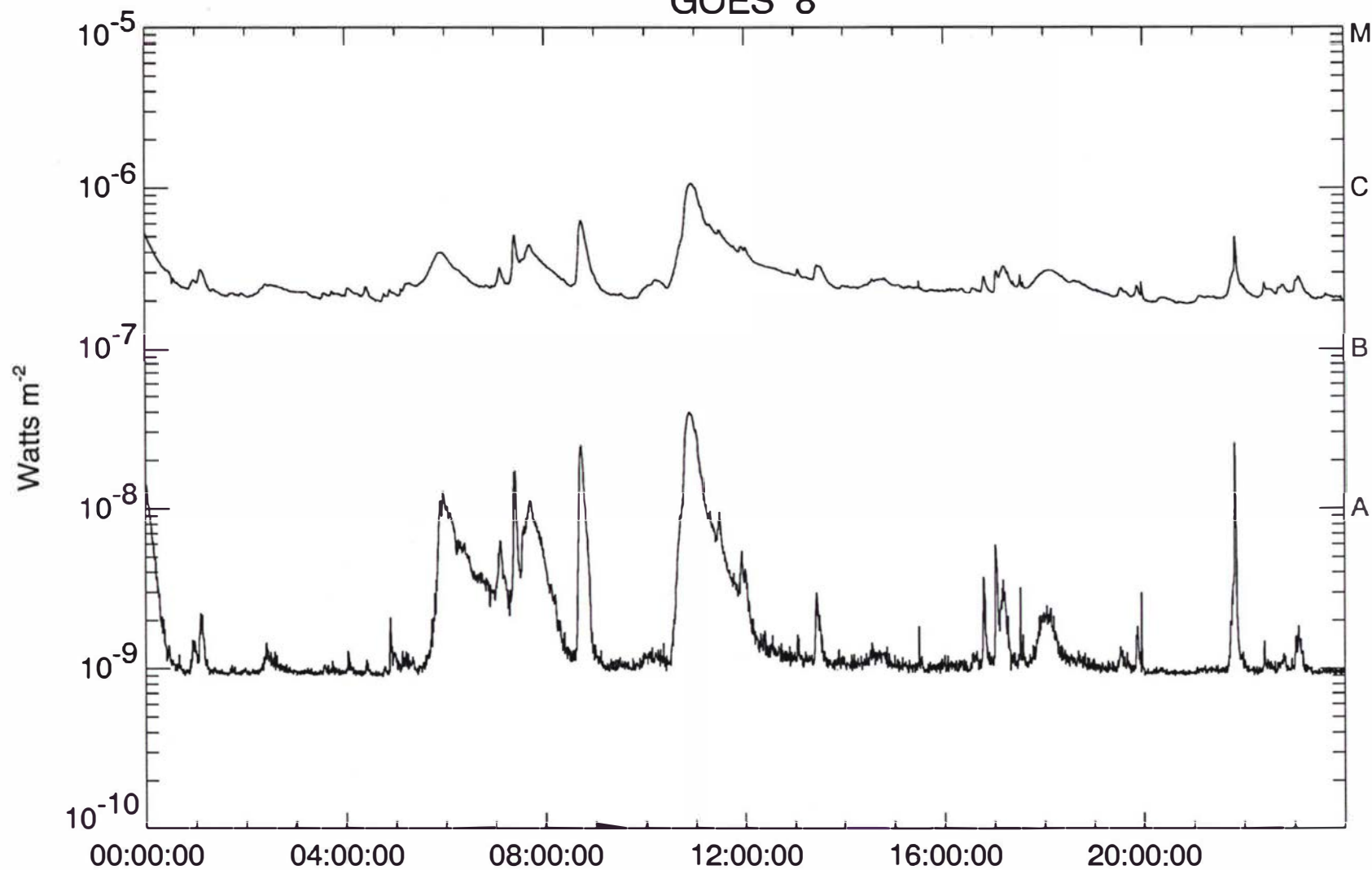


Current Time: 98/11/22, 1013 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/18, 0000:00

Plot created: 98/11/22, 1012

Channel 1 (1.0 - 8.0 Angstroms)

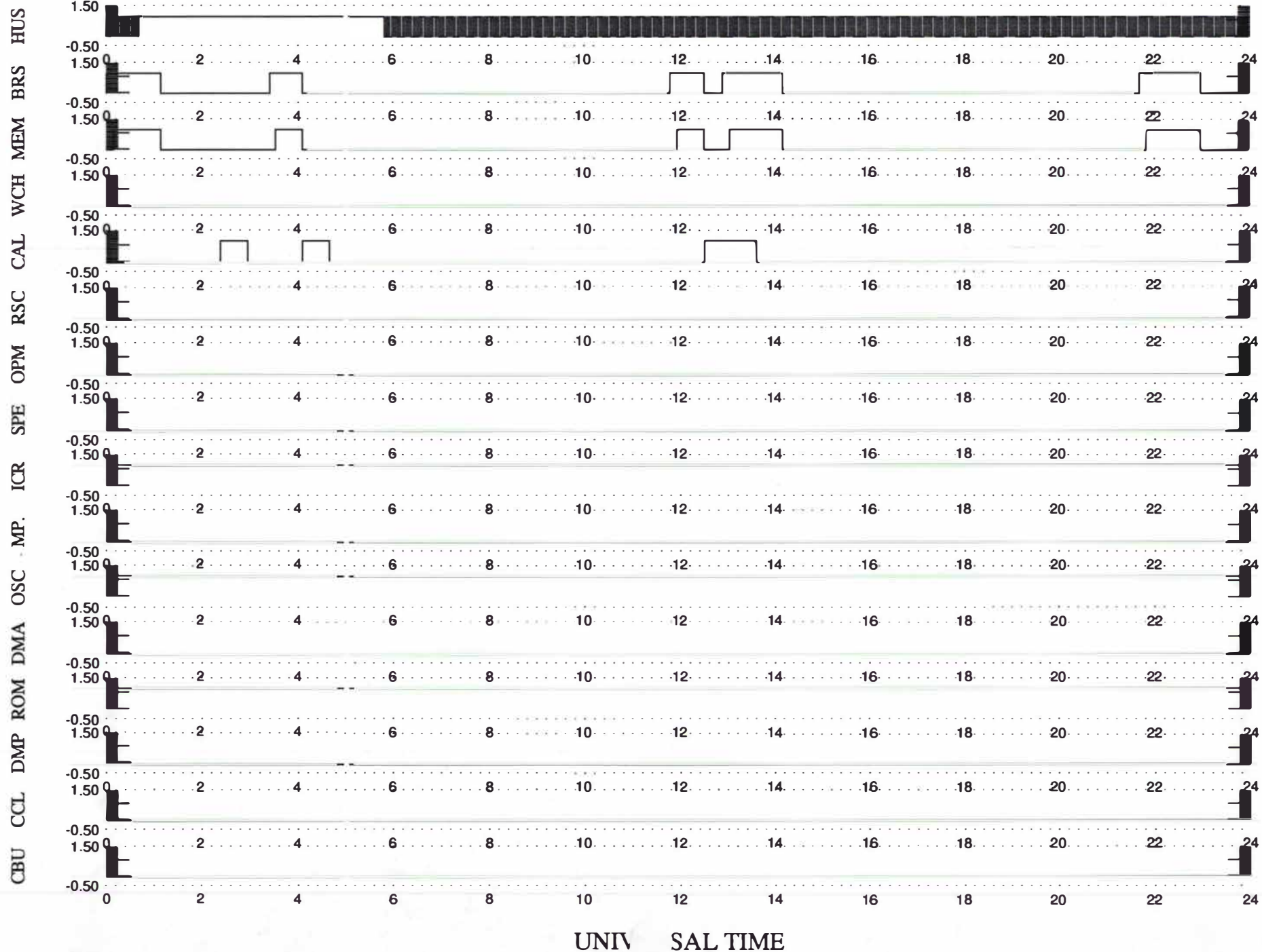
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

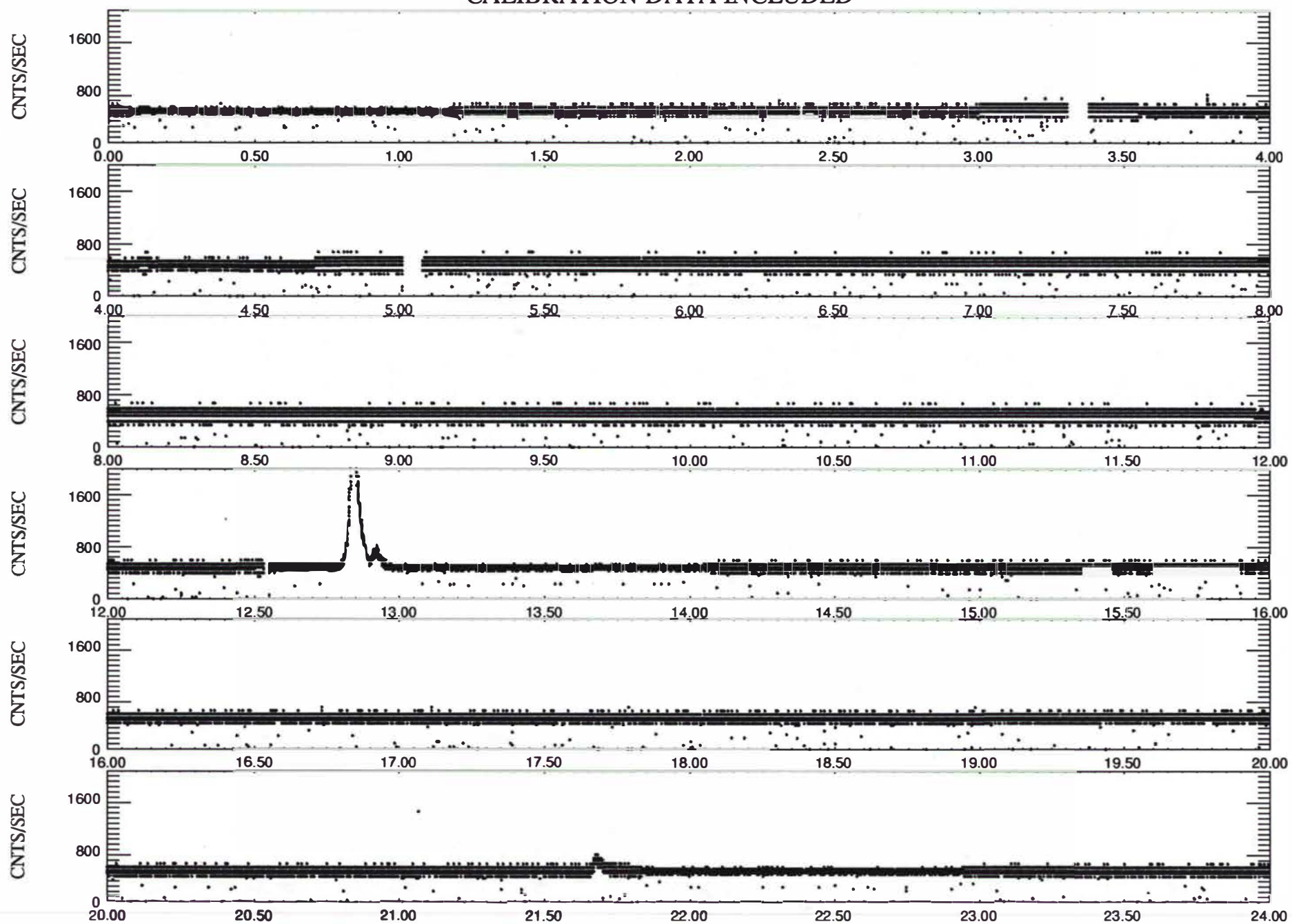
Background not subtracted

Sample average = 10

BURST NUMBER 8 - 11

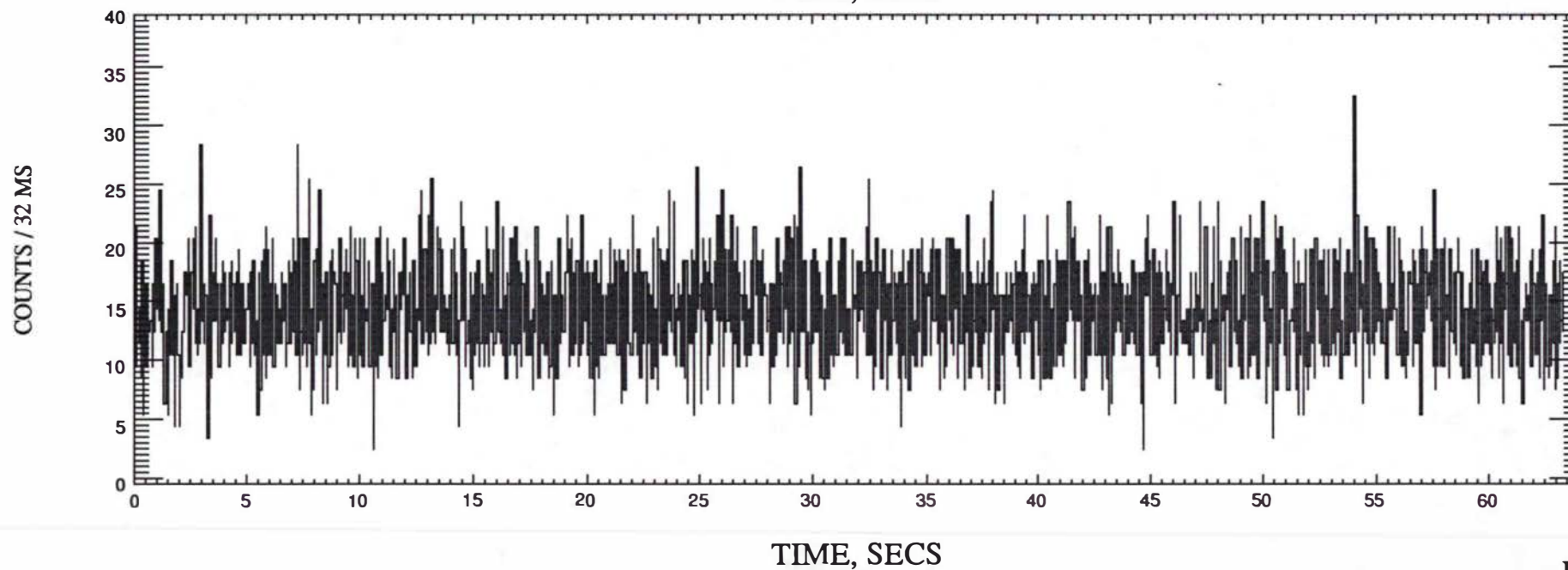
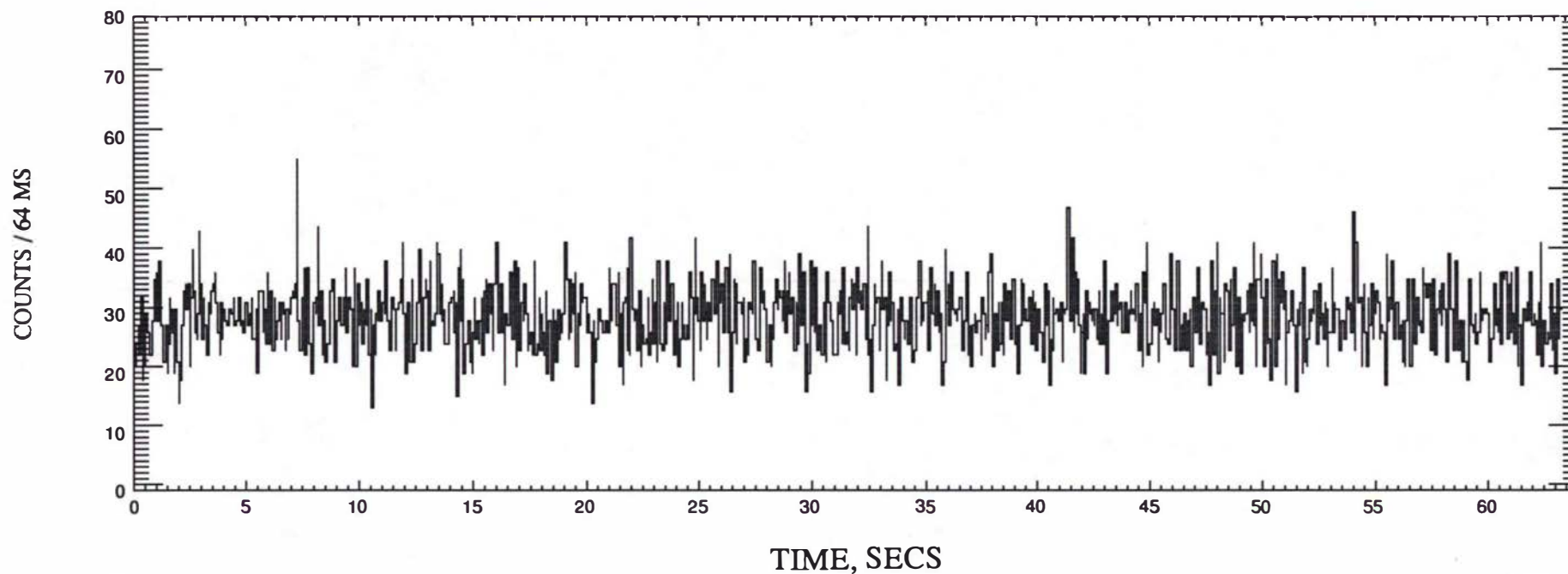


CALIBRATION DATA INCLUDED

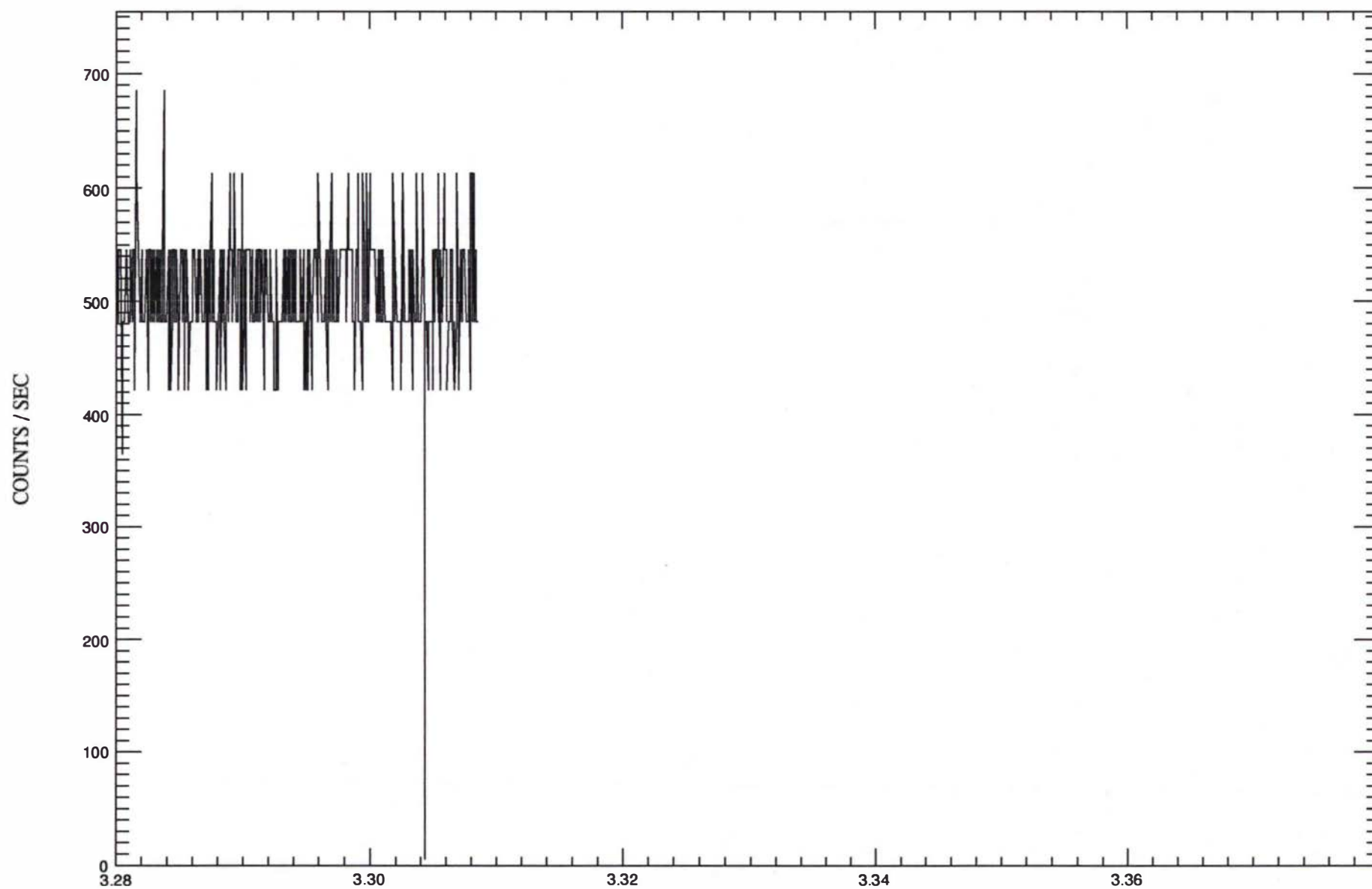


UNIV SAL TIME

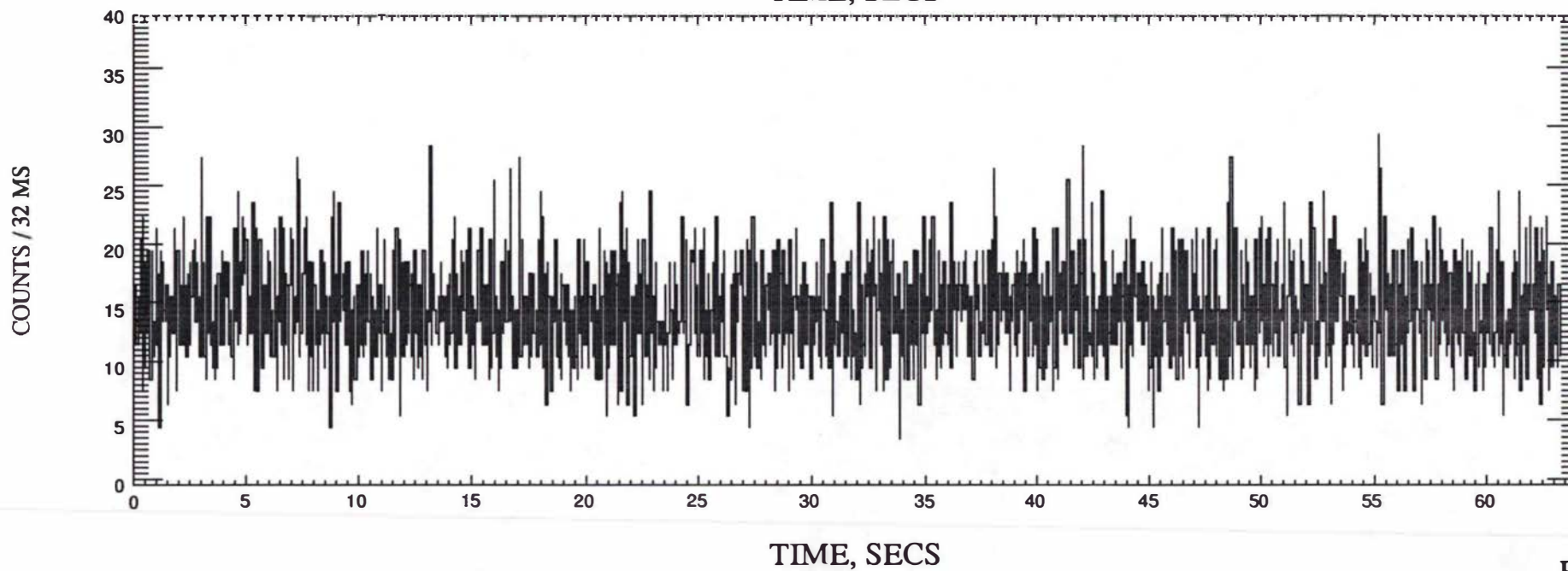
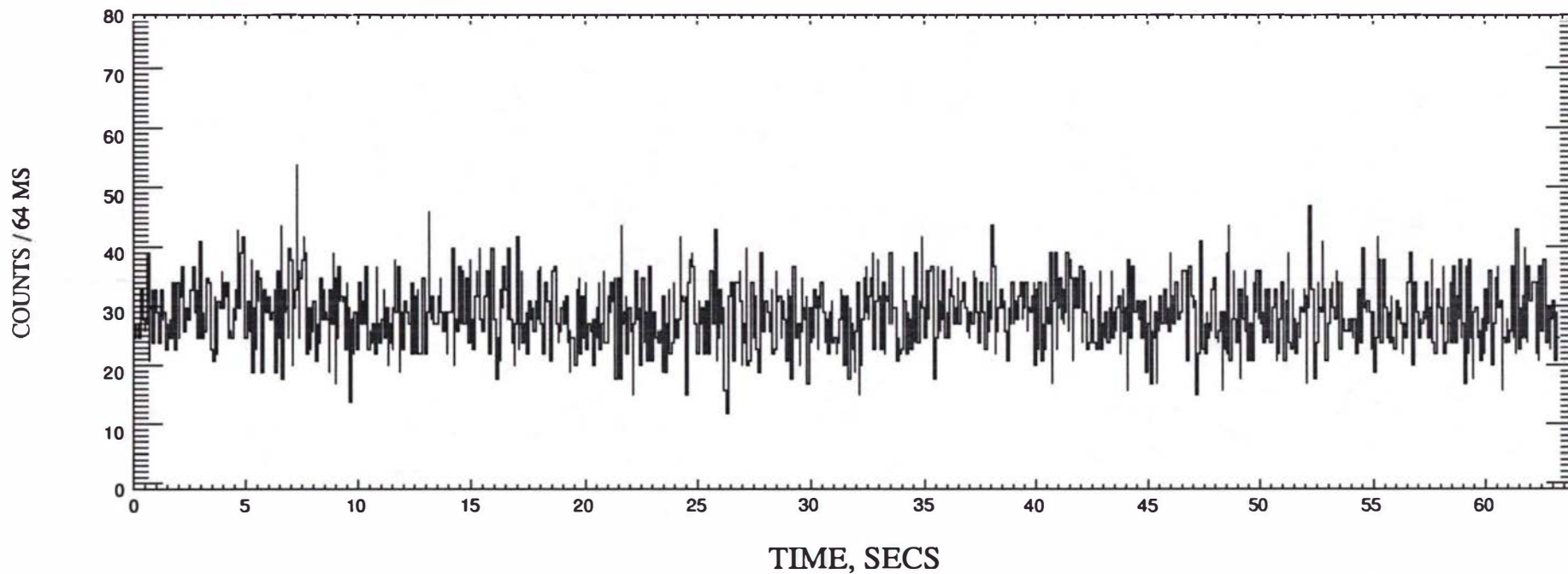
Burst Counter 8 at UT= 3.326036478678 h=11973.731 s 03:19:33.731



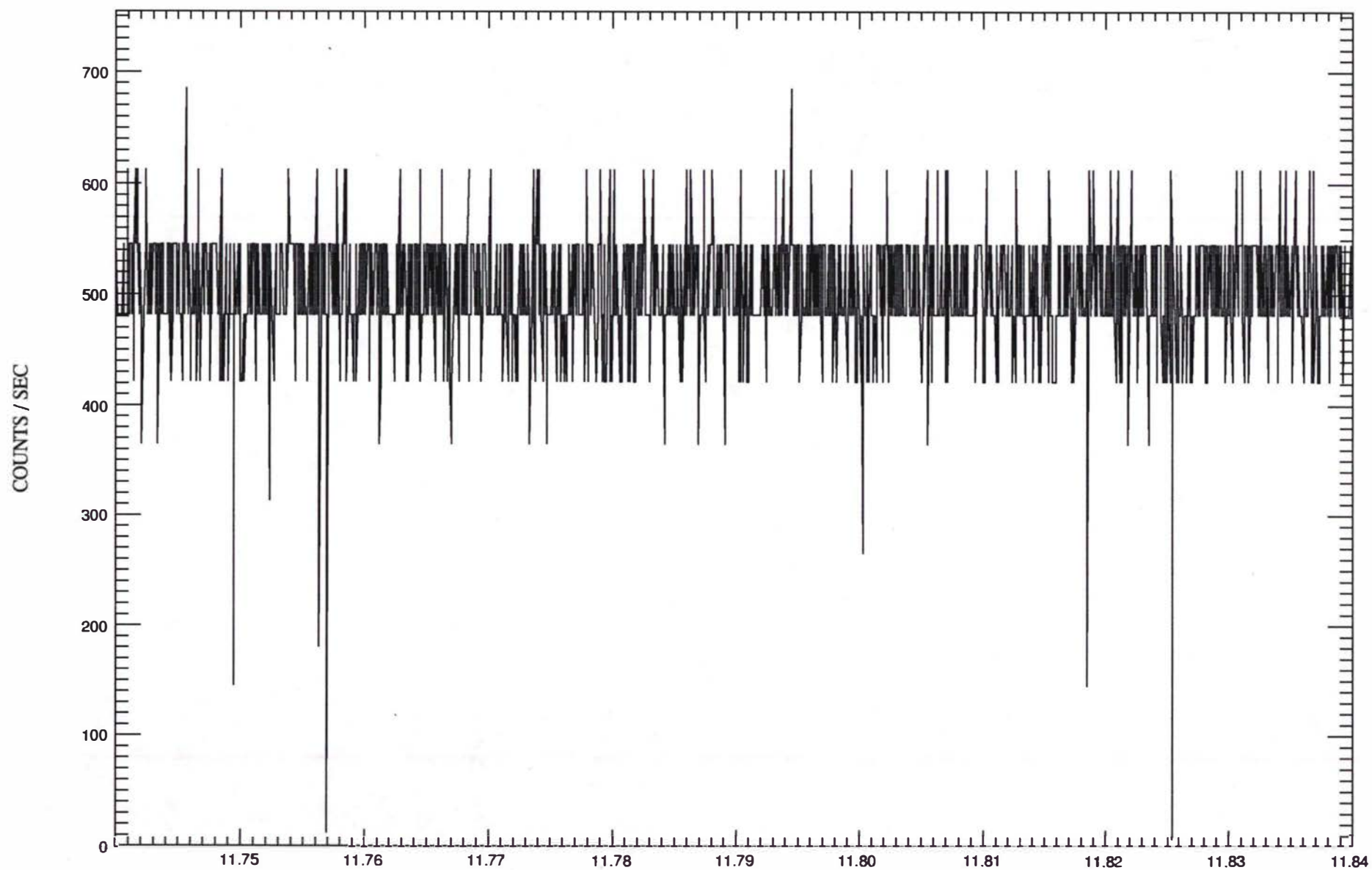
CALIBRATION DATA INCLUDED



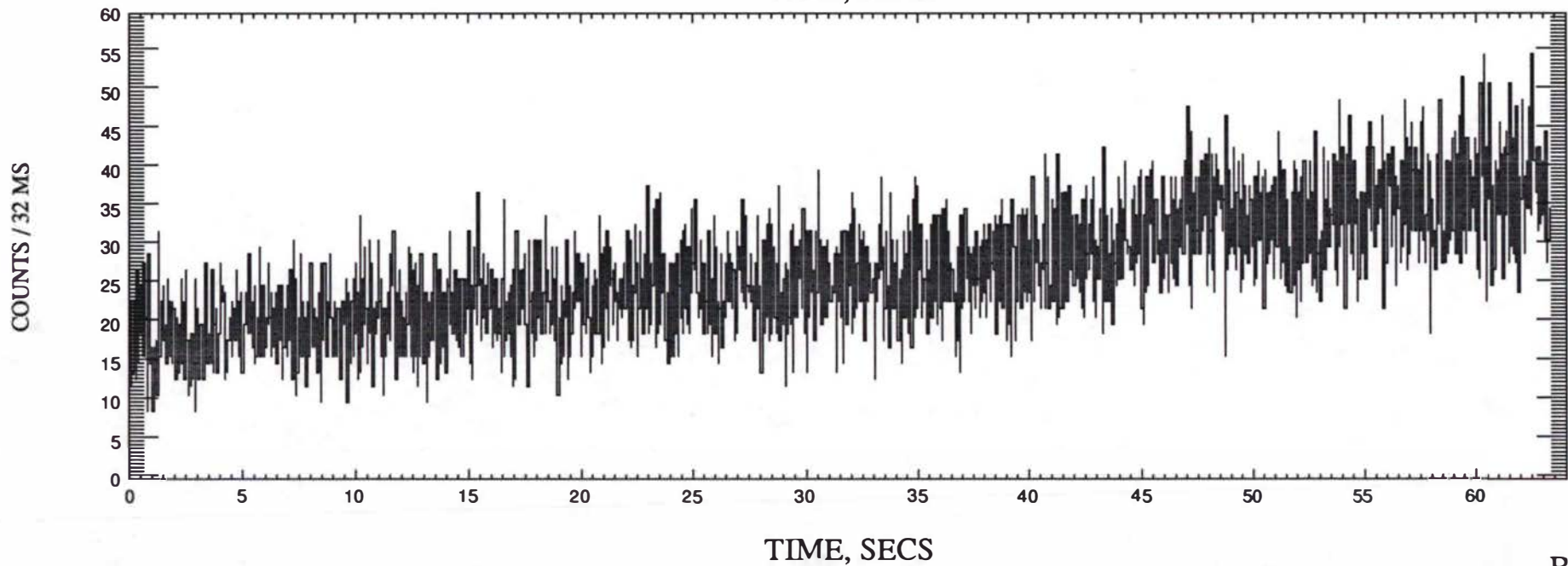
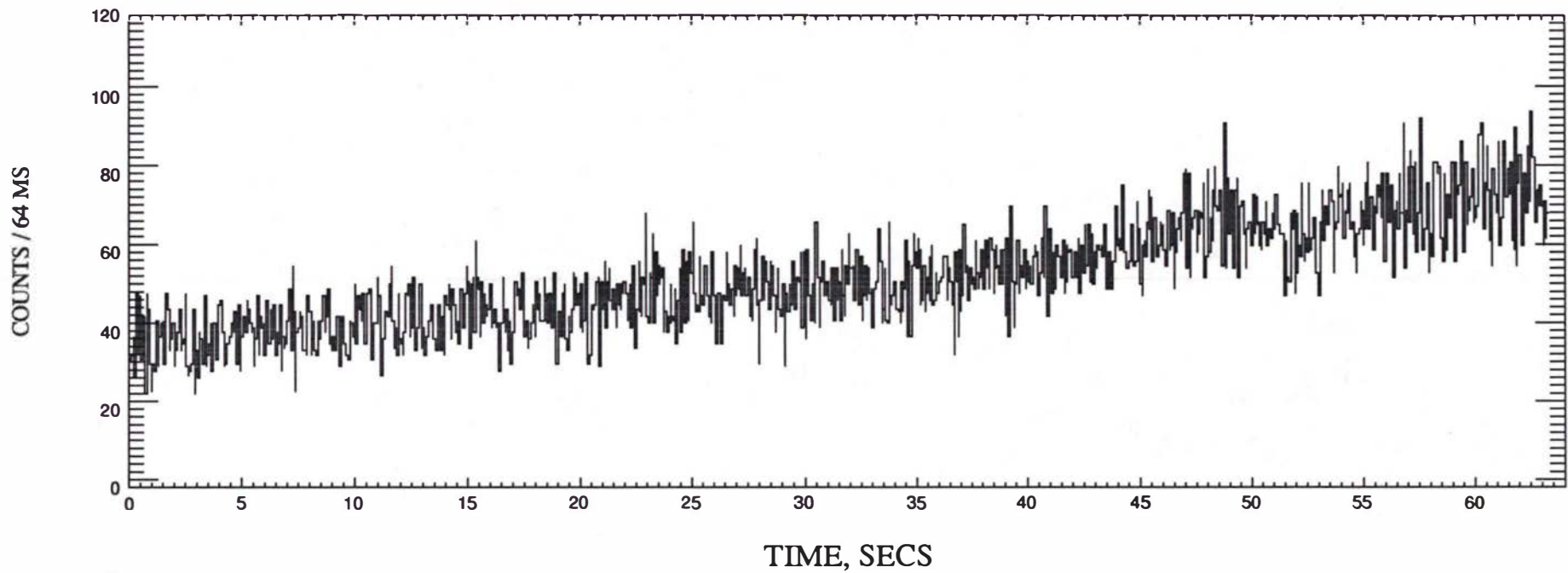
Burst Counter 9 at UT=11.794630135430 h=42460.668 s 11:47:40.668



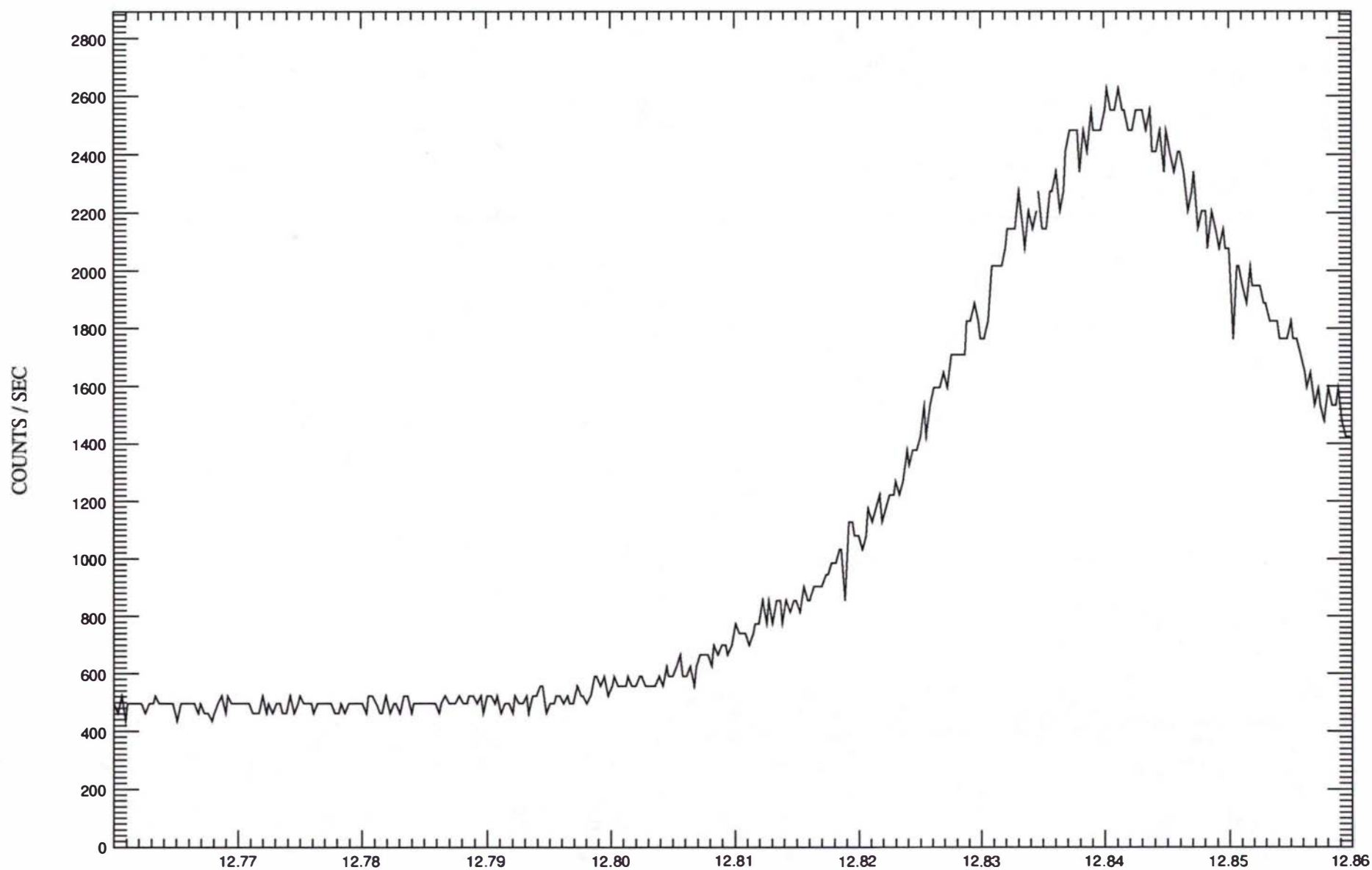
CALIBRATION DATA INCLUDED



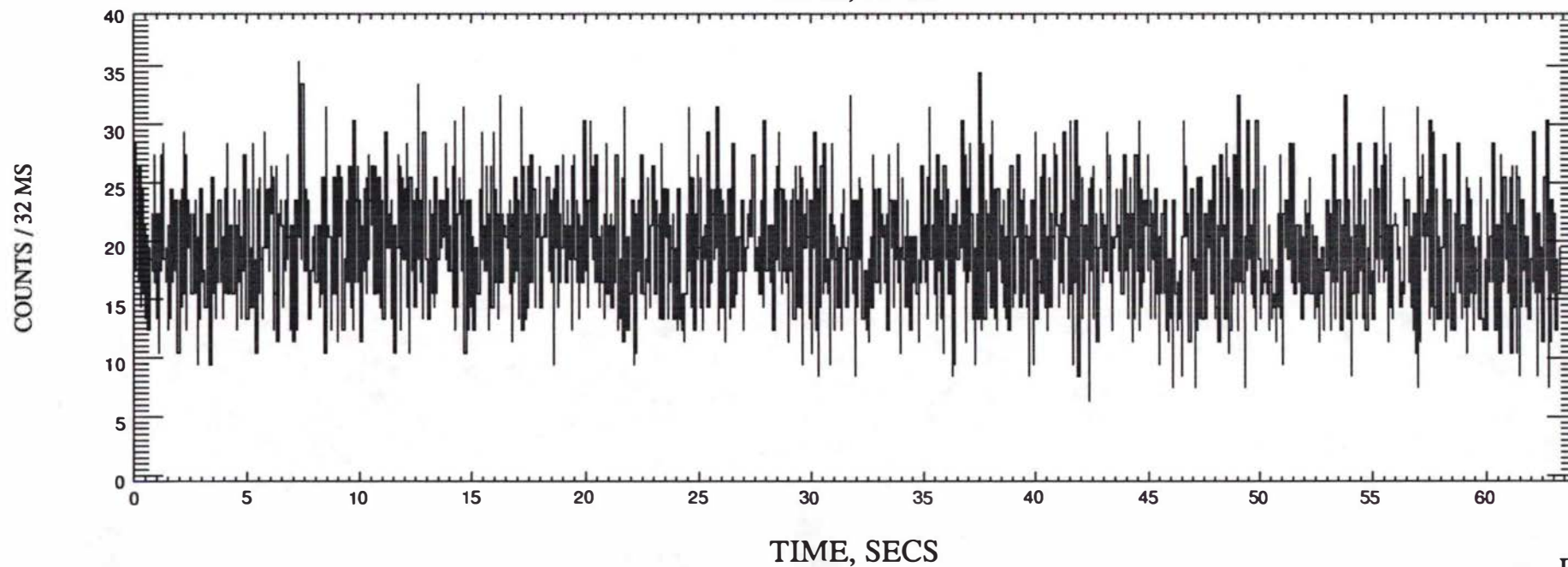
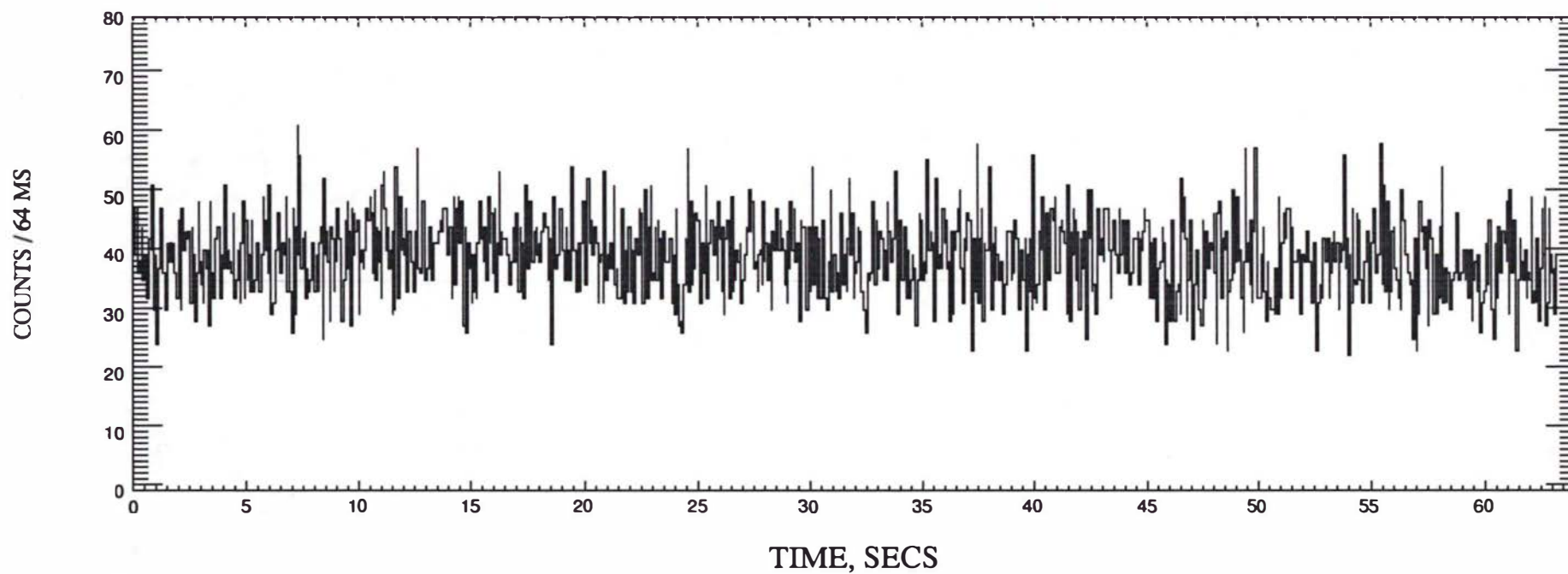
Burst Counter 10 at UT=12.808110389709 h=46109.197 s 12:48:29.197



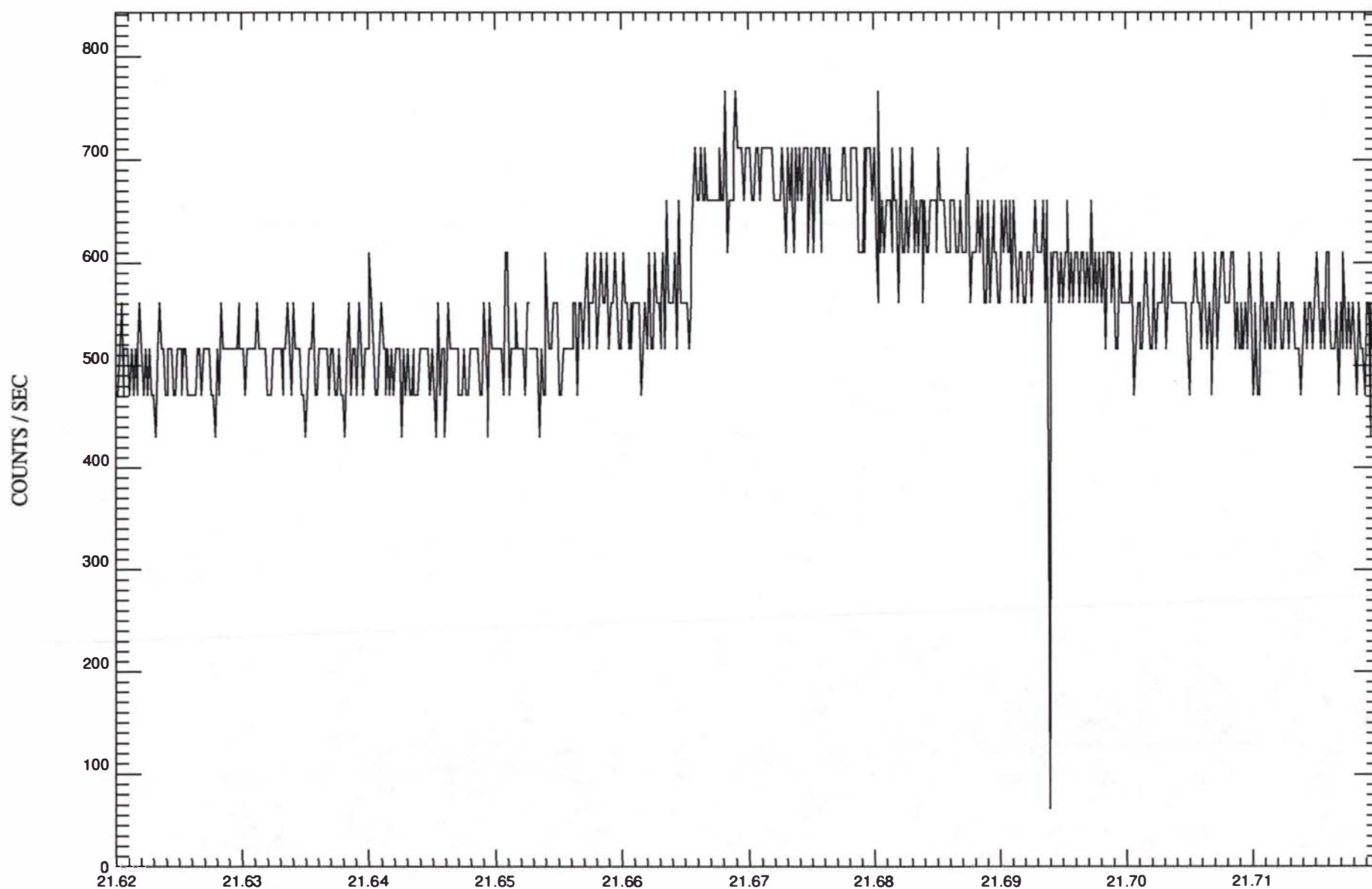
CALIBRATION DATA INCLUDED

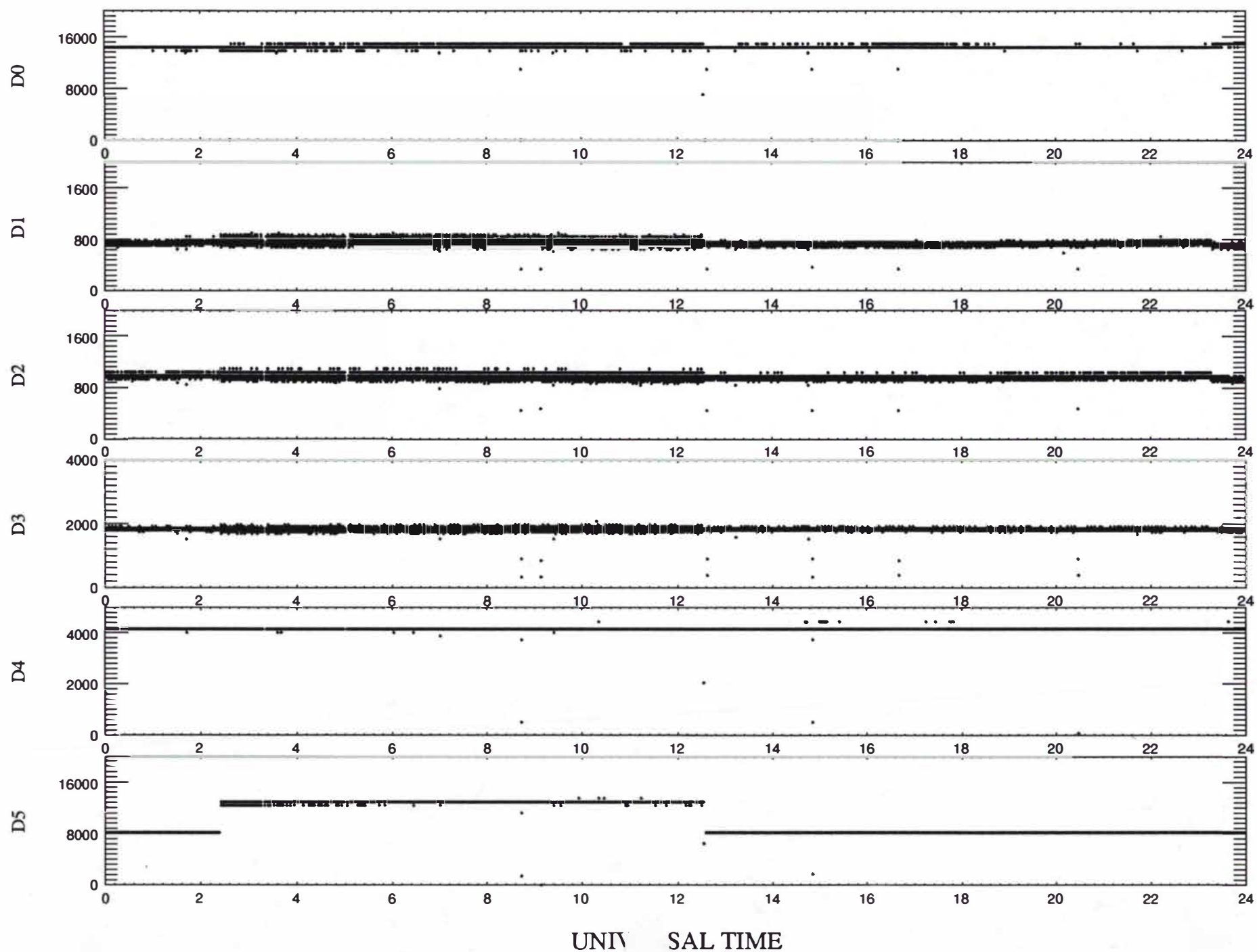


Burst Counter 11 at UT=21.668339631822 h=78006.023 s 21:40:06.023



CALIBRATION DATA INCLUDED





From khurley@sunspot Tue Nov 24 08:19 PST 1998
Date: Tue, 24 Nov 1998 08:19:19 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB 981119, 981121

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, suspected to come from
SGR1900+14. If so, the Earth-crossing time would have been ~1380 s
earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
NOV 19 1998 21:35	weak, 32 ms long	2750
NOV 21 1998 08:26	weak, 64 ms long	2750
NOV 21 1998 13:10	weak, 64 ms long	2750

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS: NO

From HENZE@fender.msfc.nasa.gov Fri Nov 20 09:17:20 1998
Date: Fri, 20 Nov 1998 11:16:57 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
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.: 7217

TIME: TJD=1136 SECONDS=14087

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

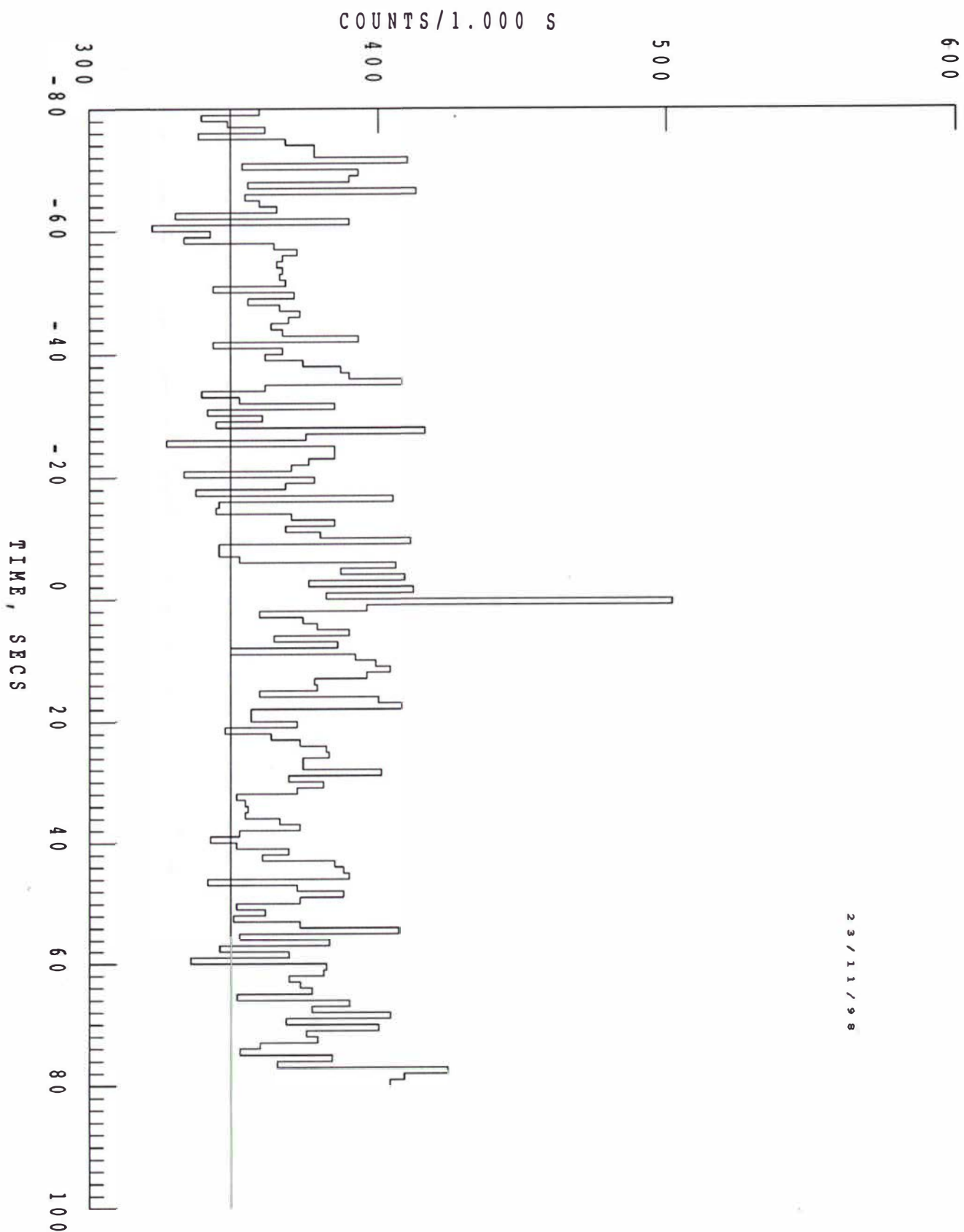
PARTICLE EVENT, EAST OF SAA.

NEAR

19/11/98

49955.817

100-1000 keV



23/11/98

NEAR GRB98323-1

ULYSSES RT

23 / 11 / 98

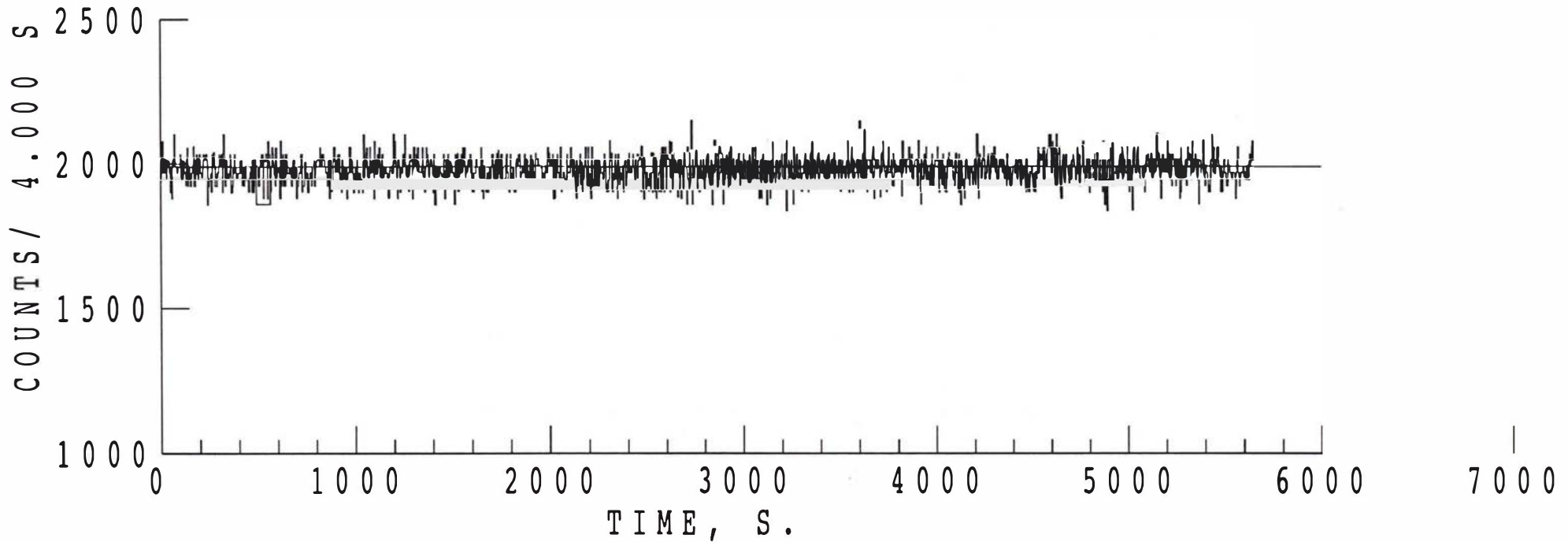
19 / 11 / 98 47124.359 s

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

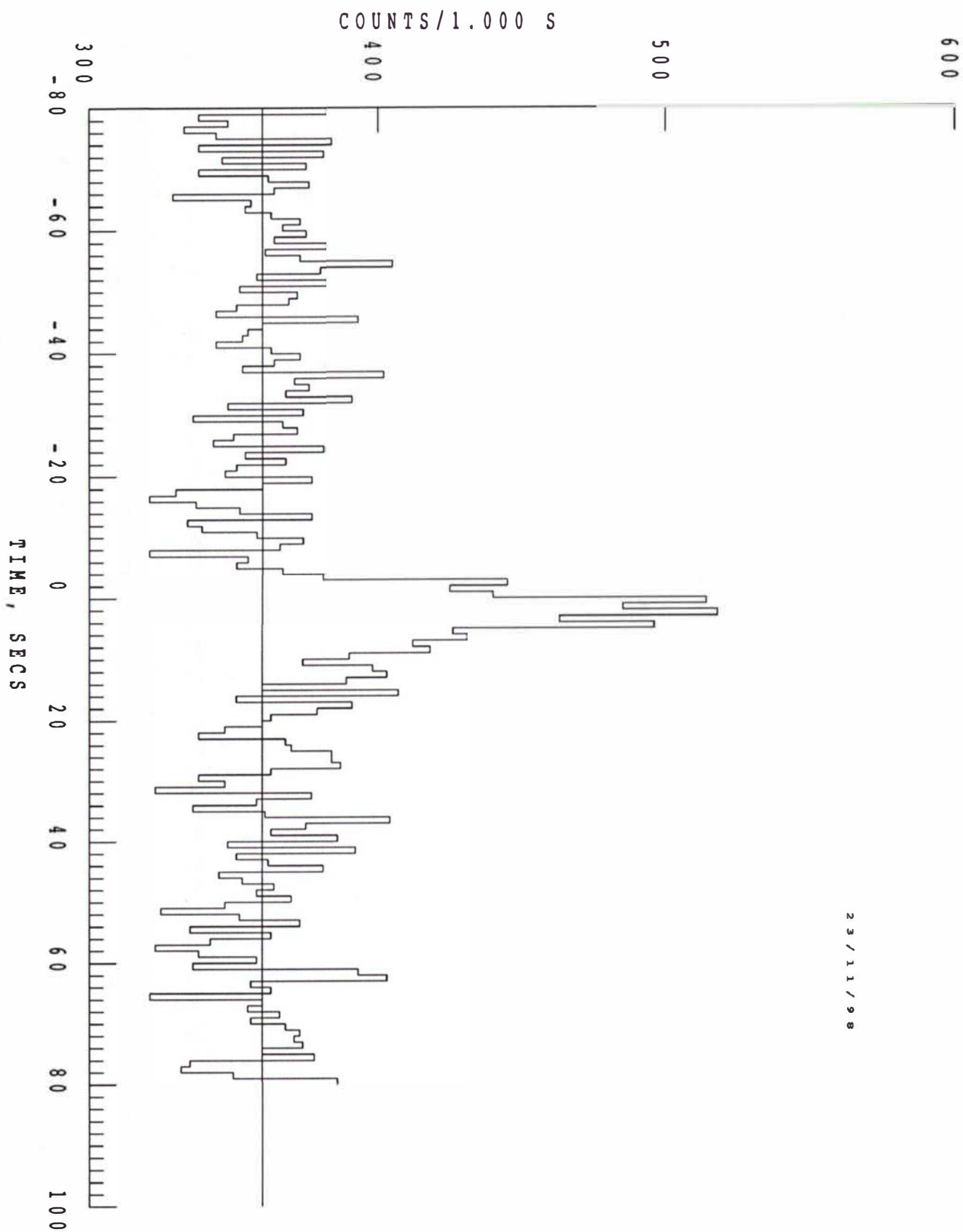


NEAR

19/11/98

55204.817

100-1000 keV



NEAR GRB98323-2

ULYSSES RT

23 / 11 / 98

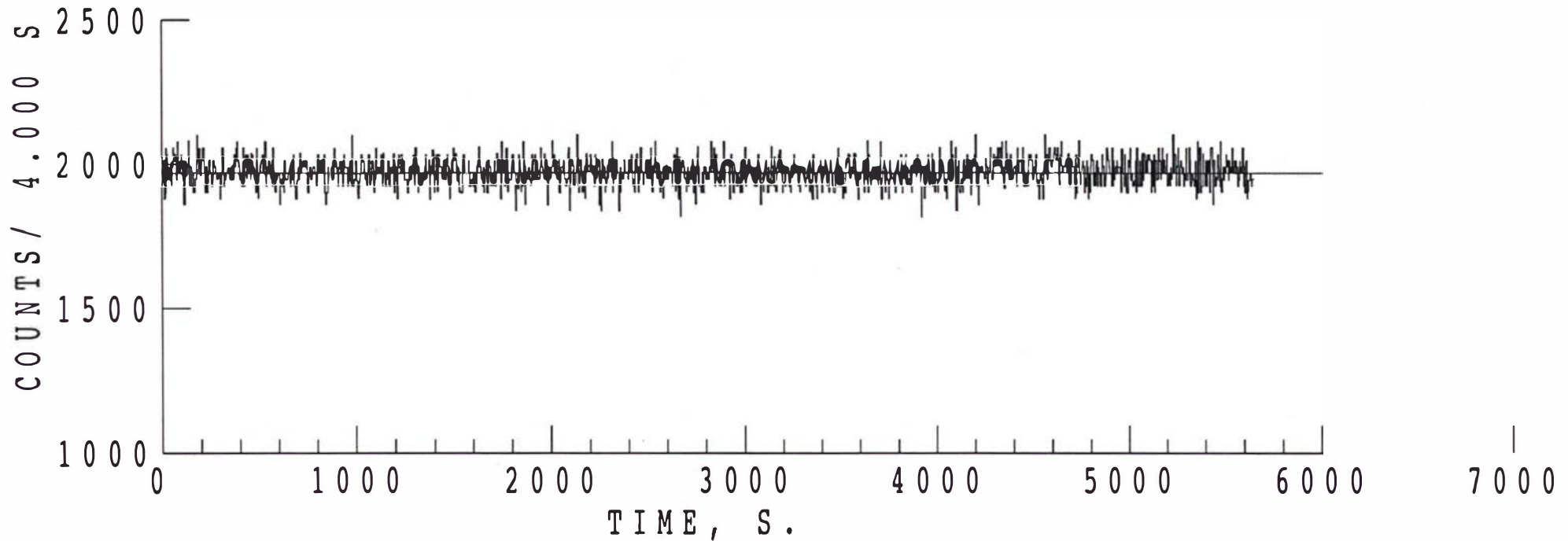
19 / 11 / 98 52380.414 s

0.500 S INTERVALS REGROUPED BY 8

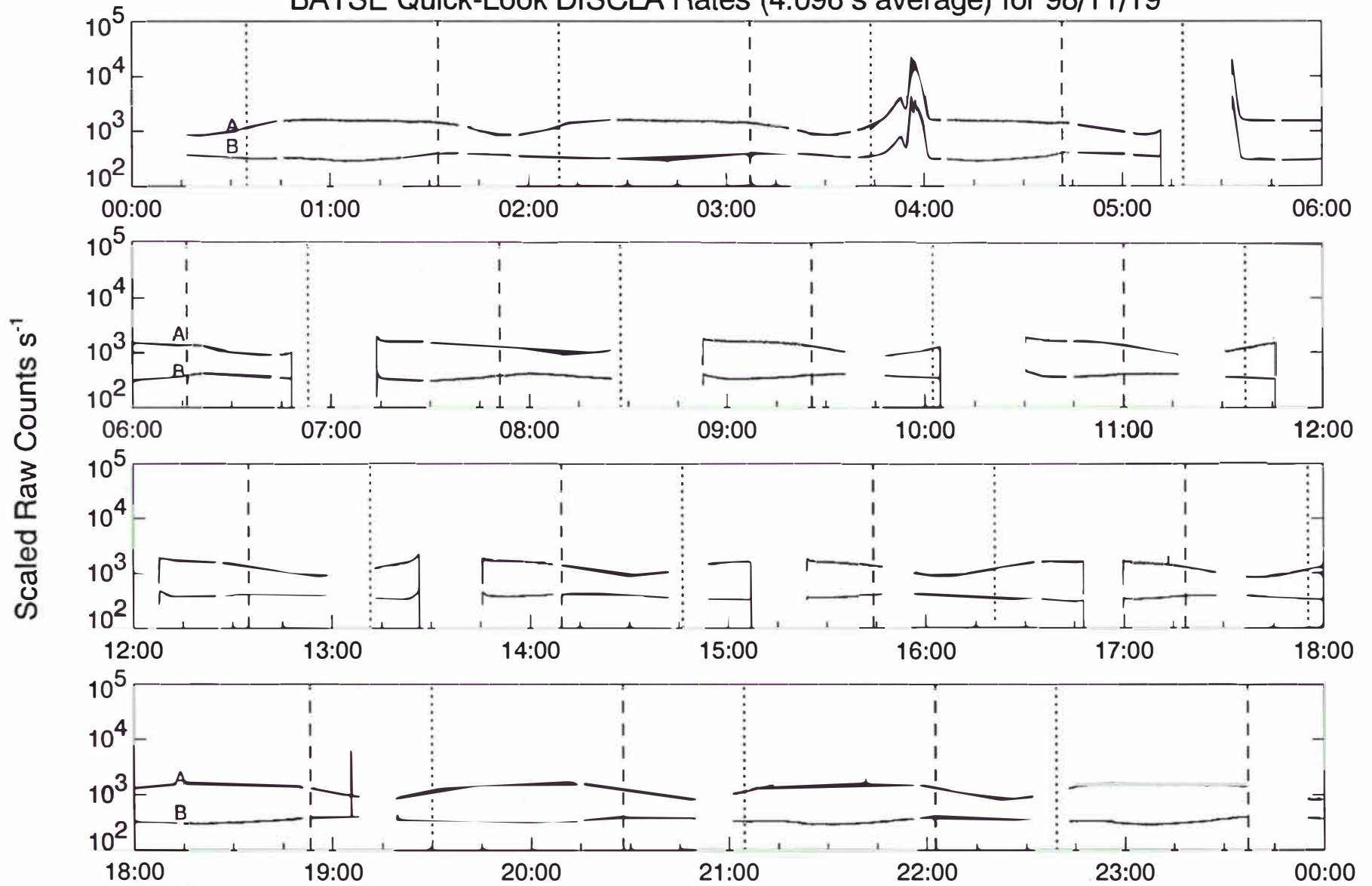
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



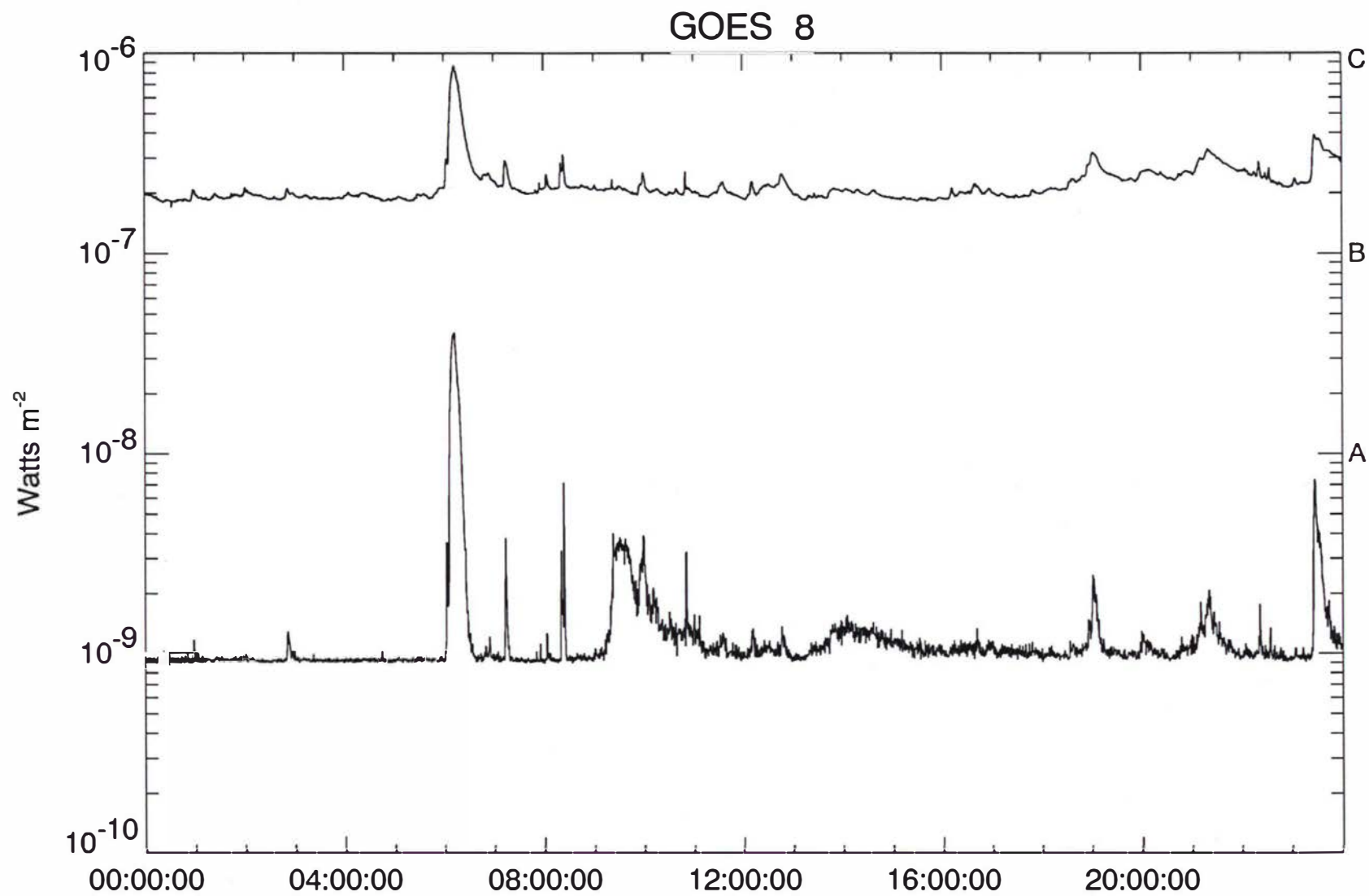
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/19



Current Time: 98/11/23, 1013 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: 98/11/19, 0000:00

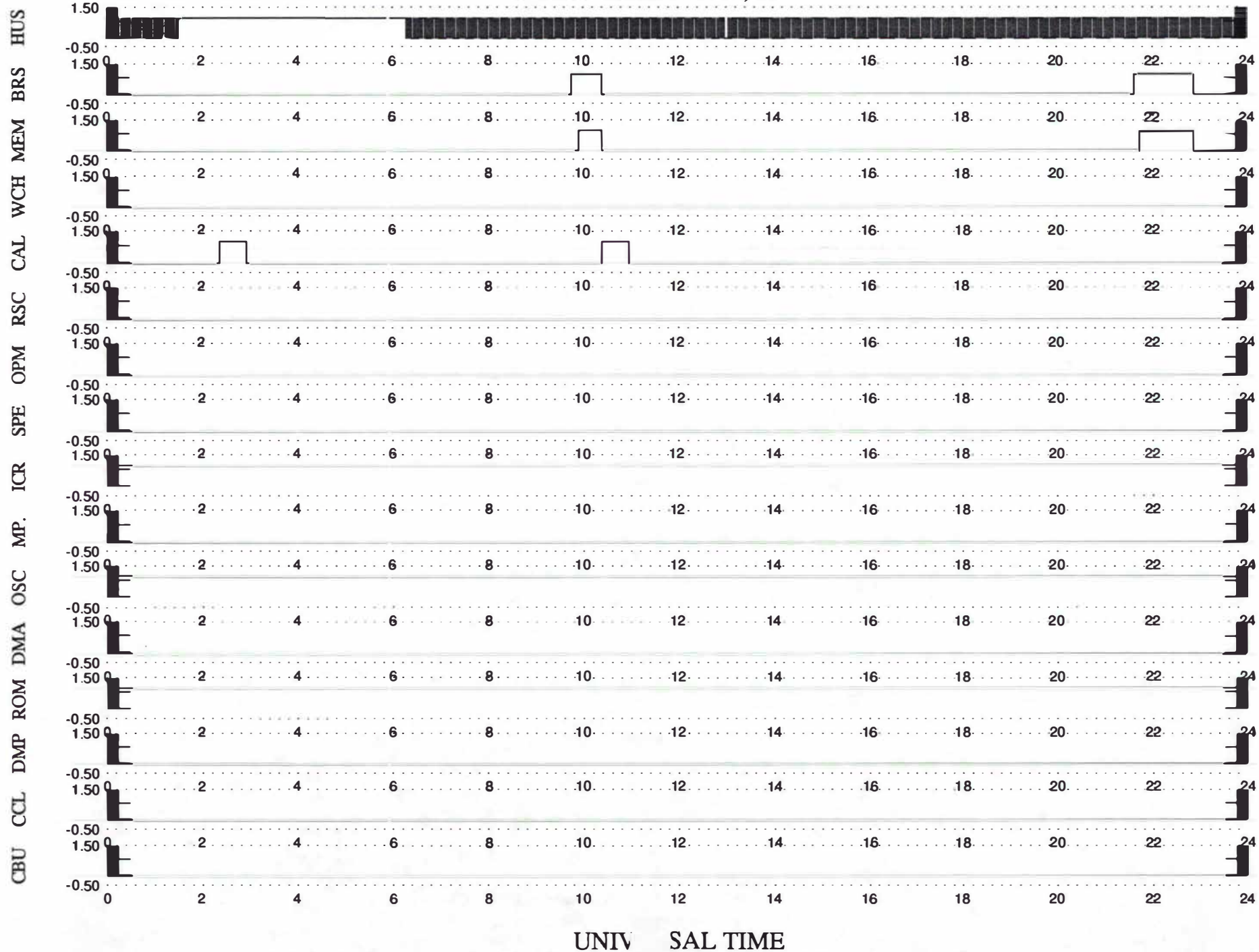
Plot created: 98/11/23, 1012

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

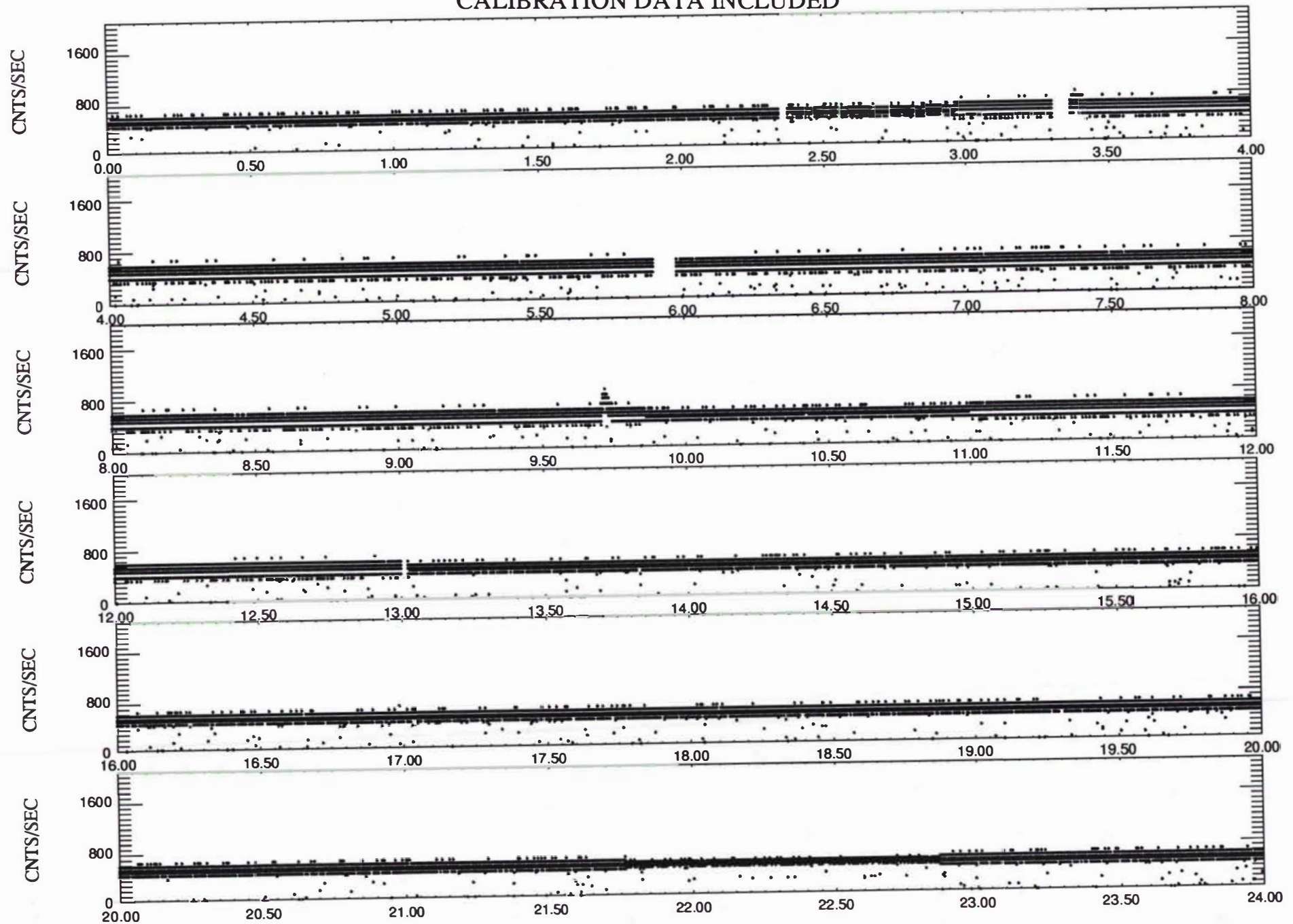
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 12, 13

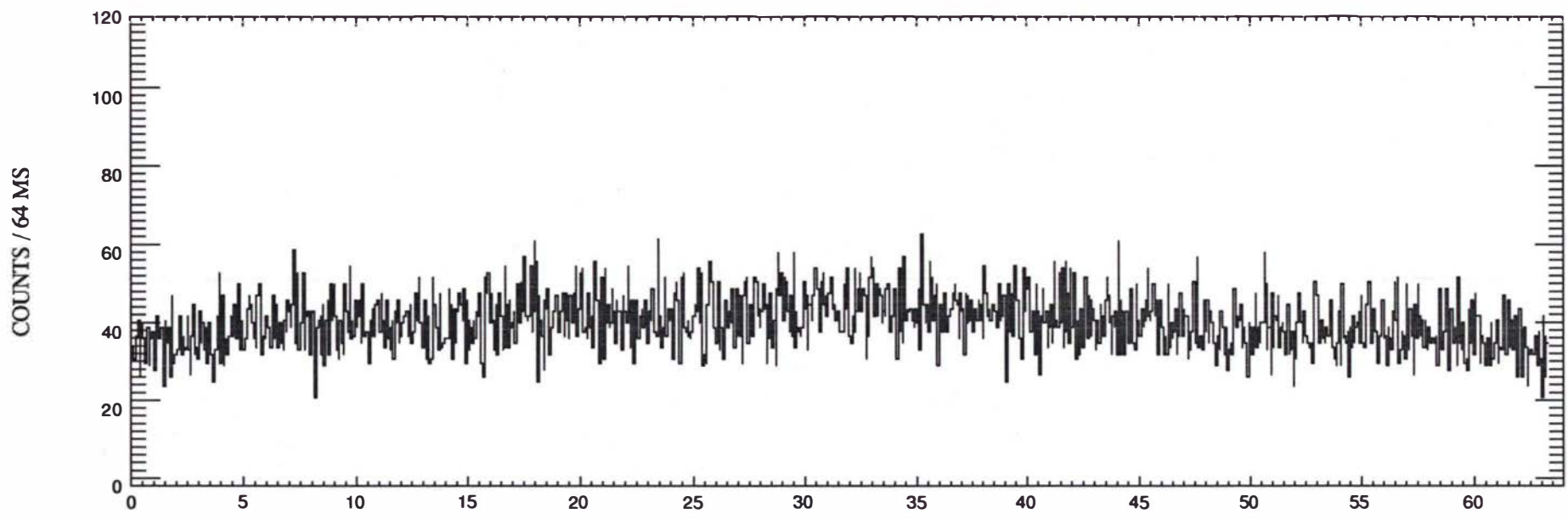


CALIBRATION DATA INCLUDED

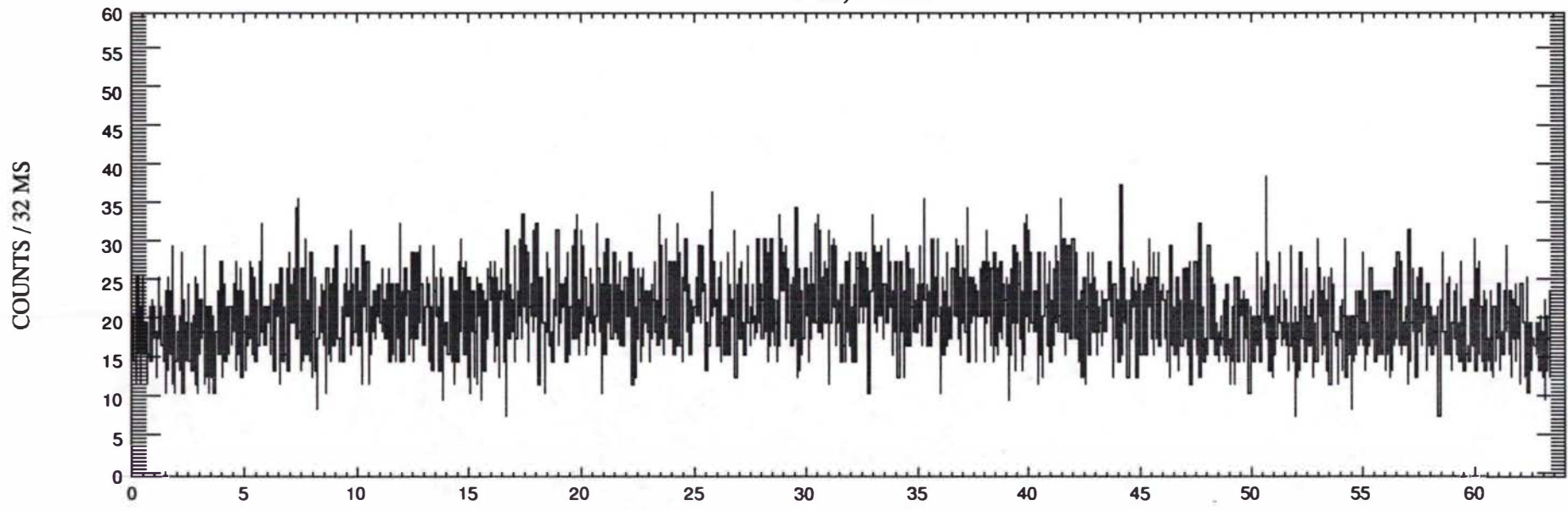


UNIV CAL TIME

Burst Counter 12 at UT= 9.708533681234 h=34950.721 s 09:42:30.721

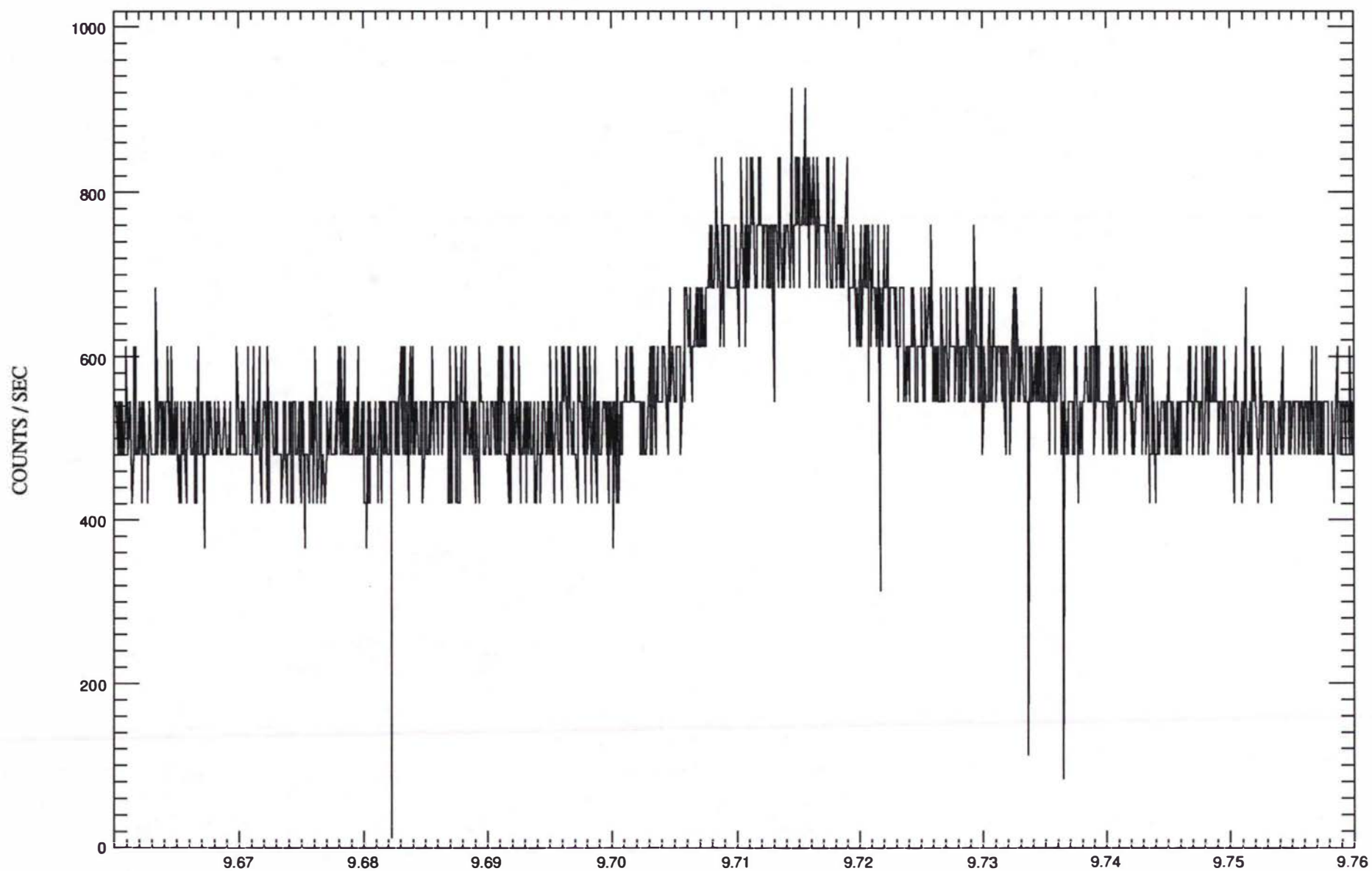


TIME, SECS

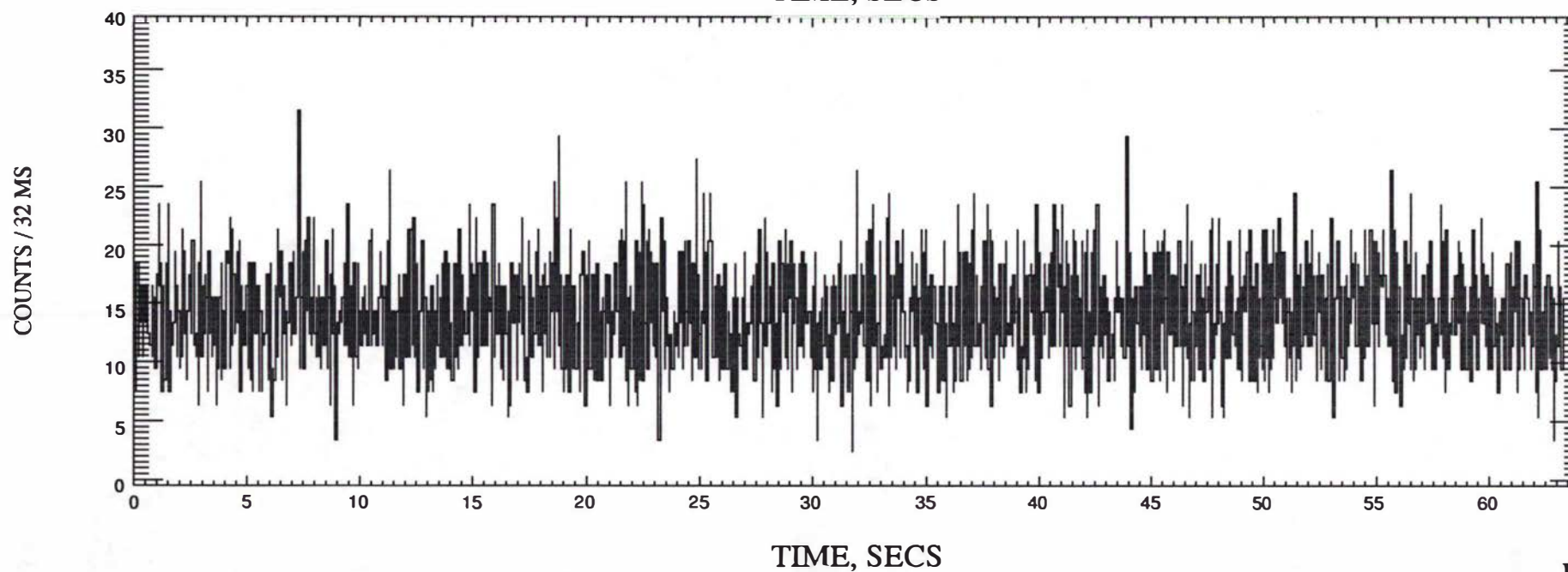
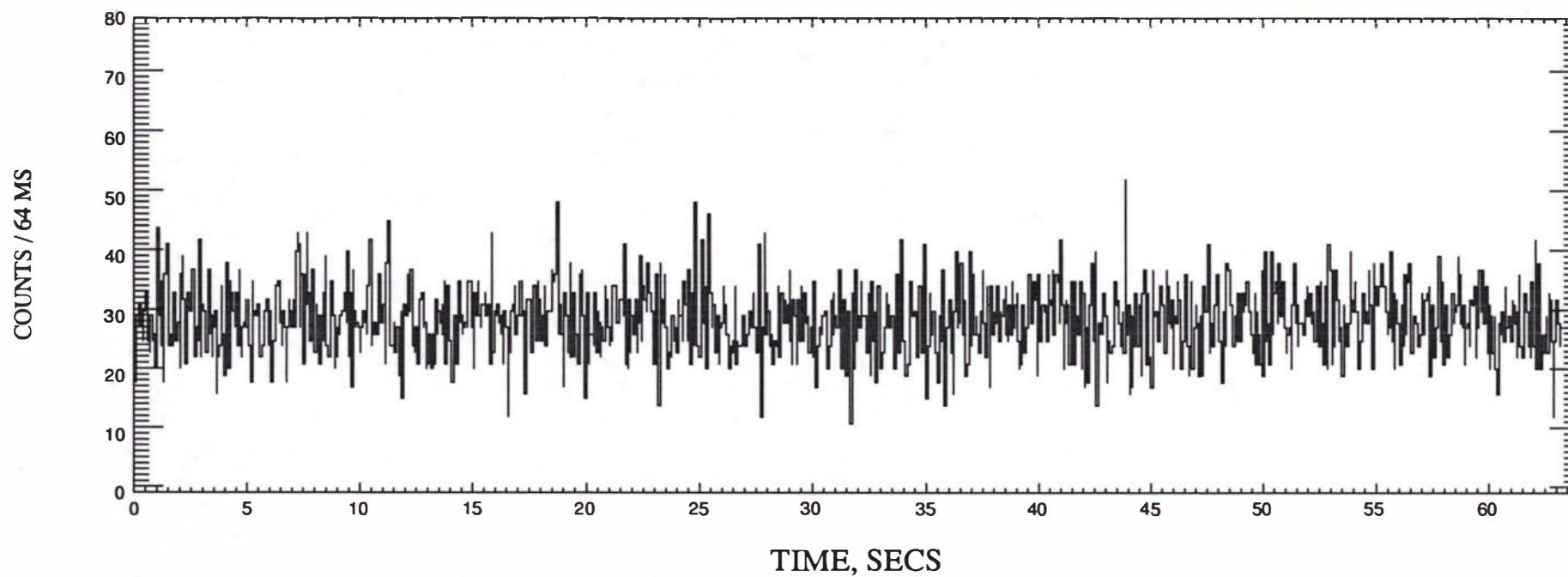


TIME, SECS

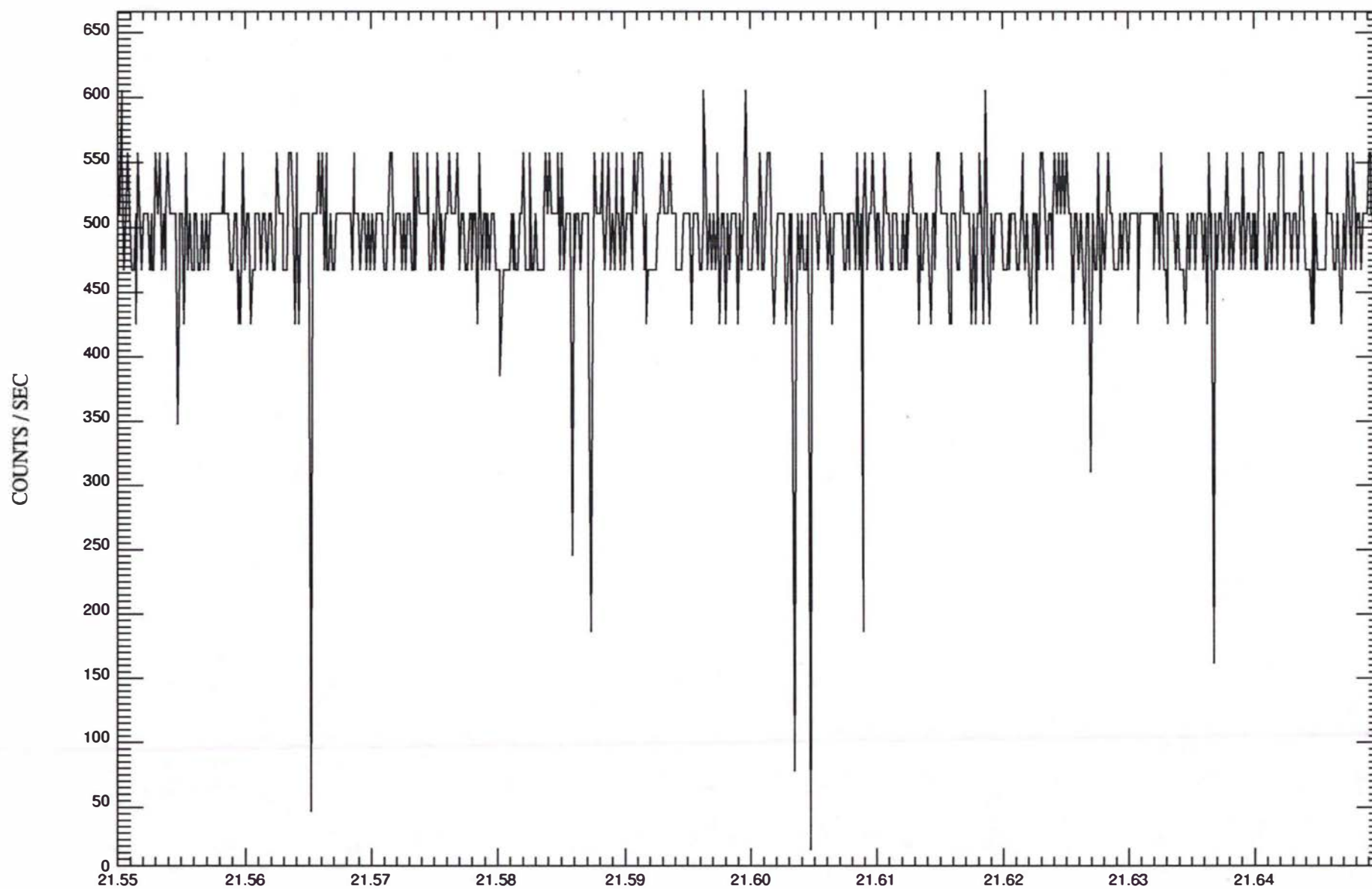
CALIBRATION DATA INCLUDED

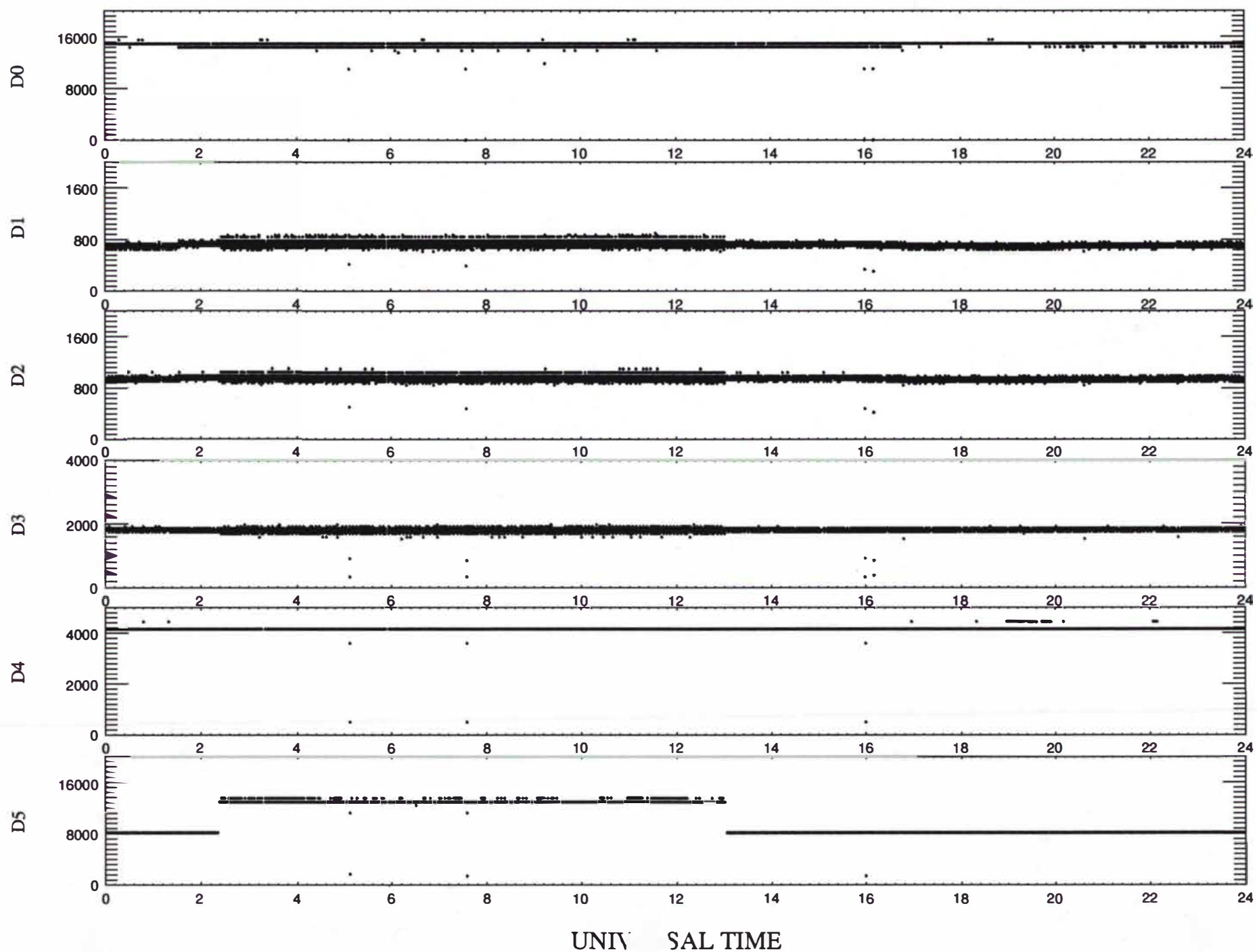


Burst Counter 13 at UT=21.596572748820 h=77747.662 s 21:35:47.662



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Mon Nov 23 09:50:56 1998
Date: Mon, 23 Nov 1998 11:50:20 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7218

TIME: TJD=1137 SECONDS=17359

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

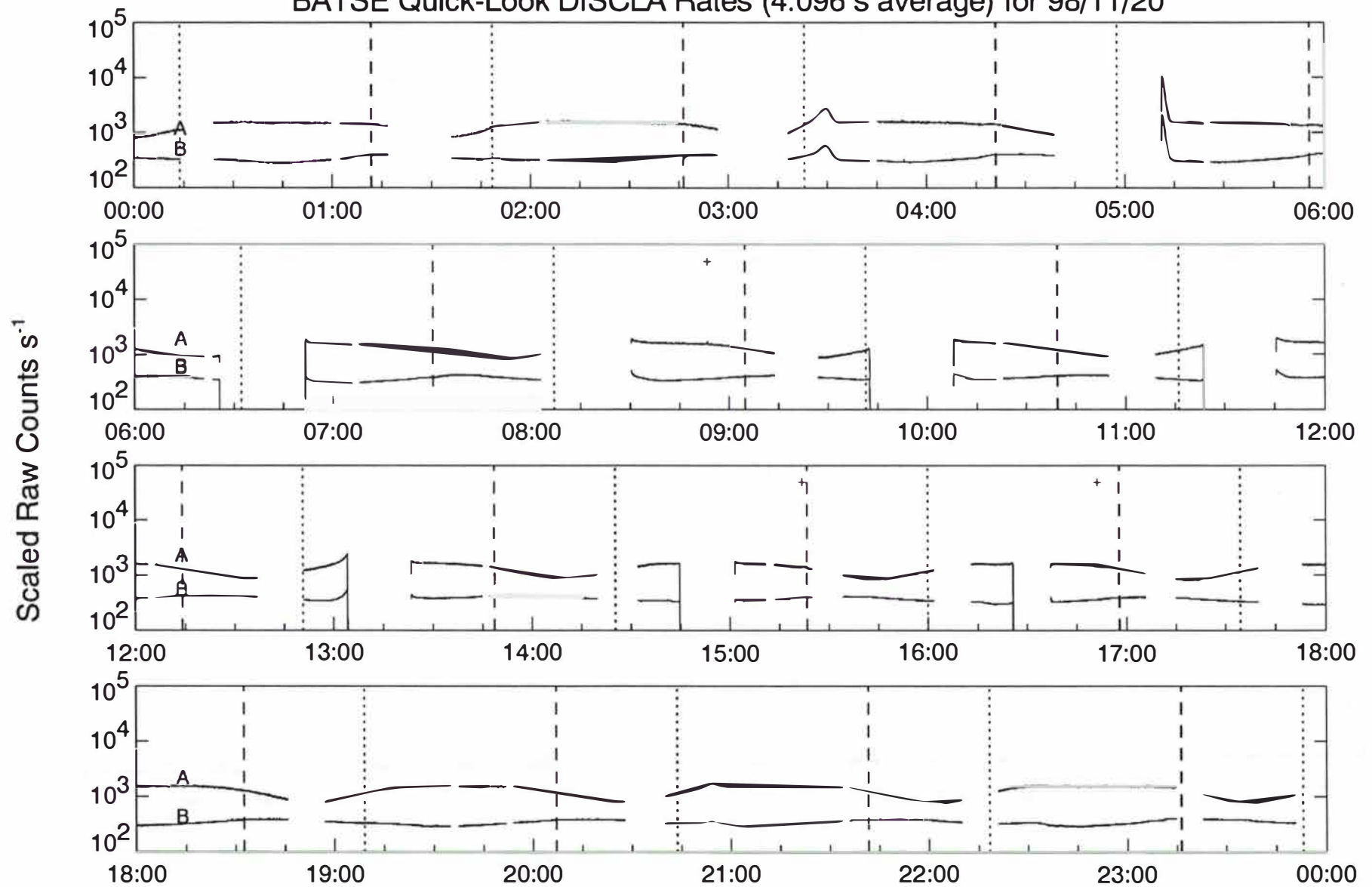
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/20

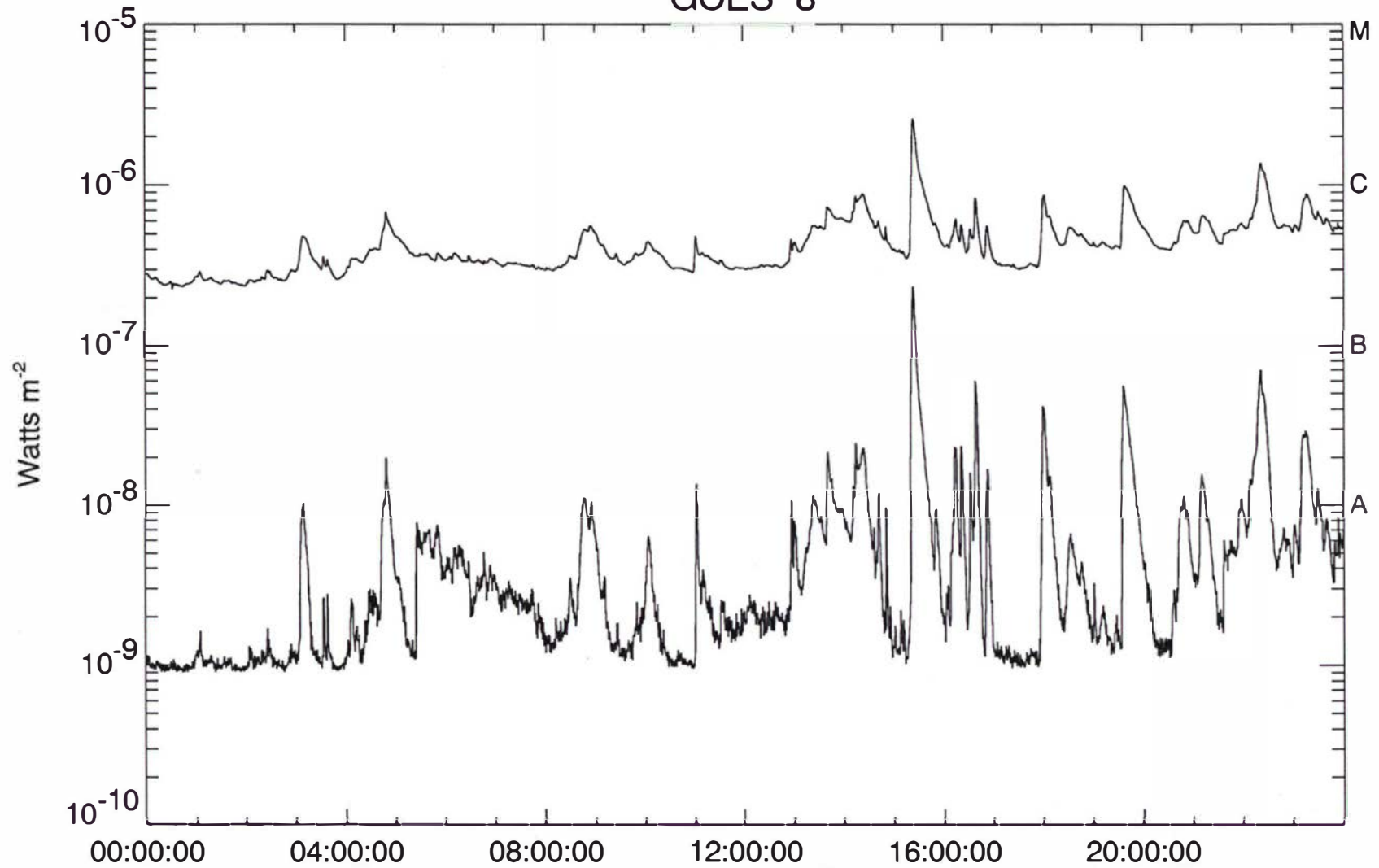


Current Time: 98/11/24, 1013 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/20, 0000:00

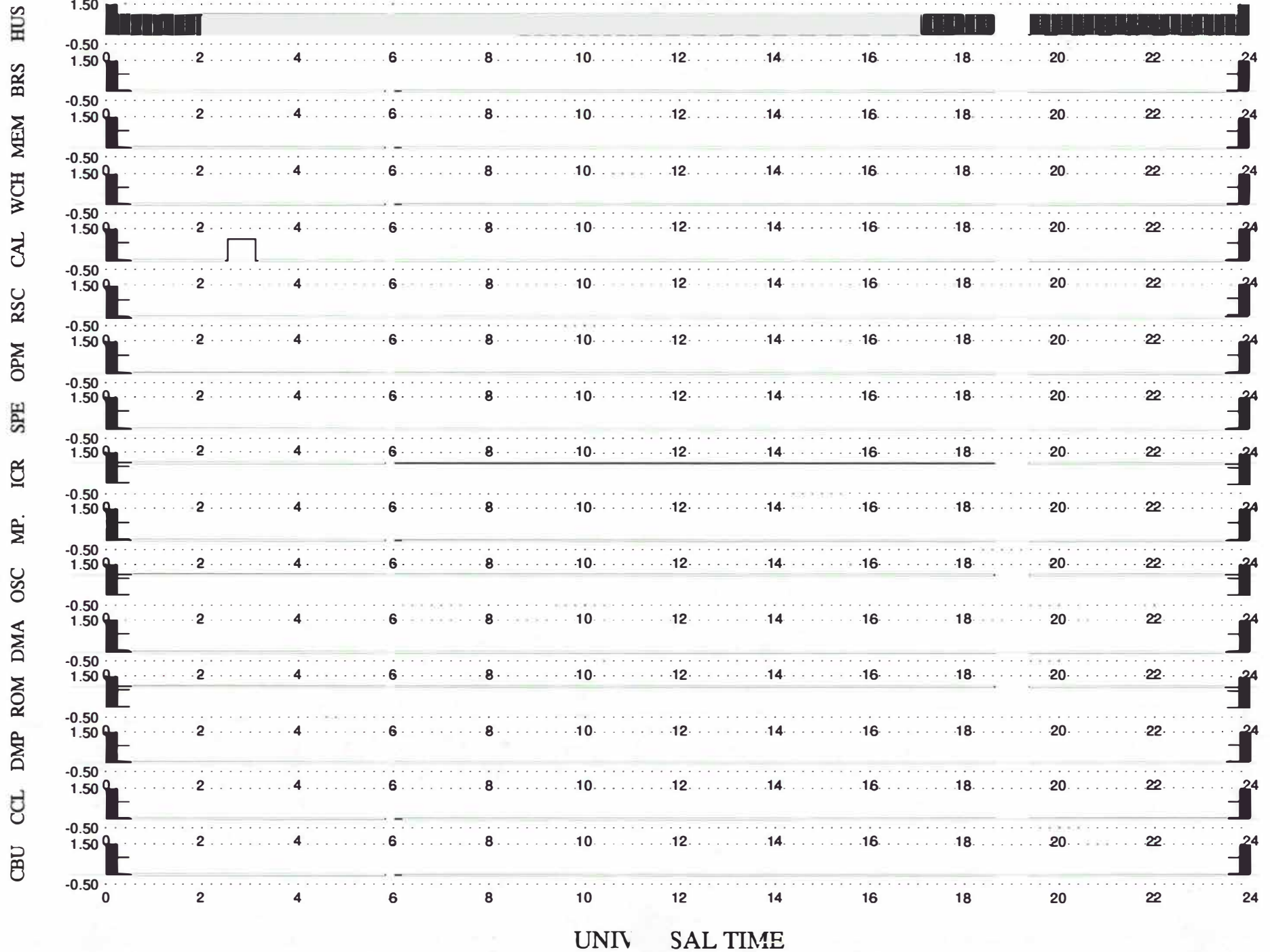
Plot created: 98/11/24, 1012

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

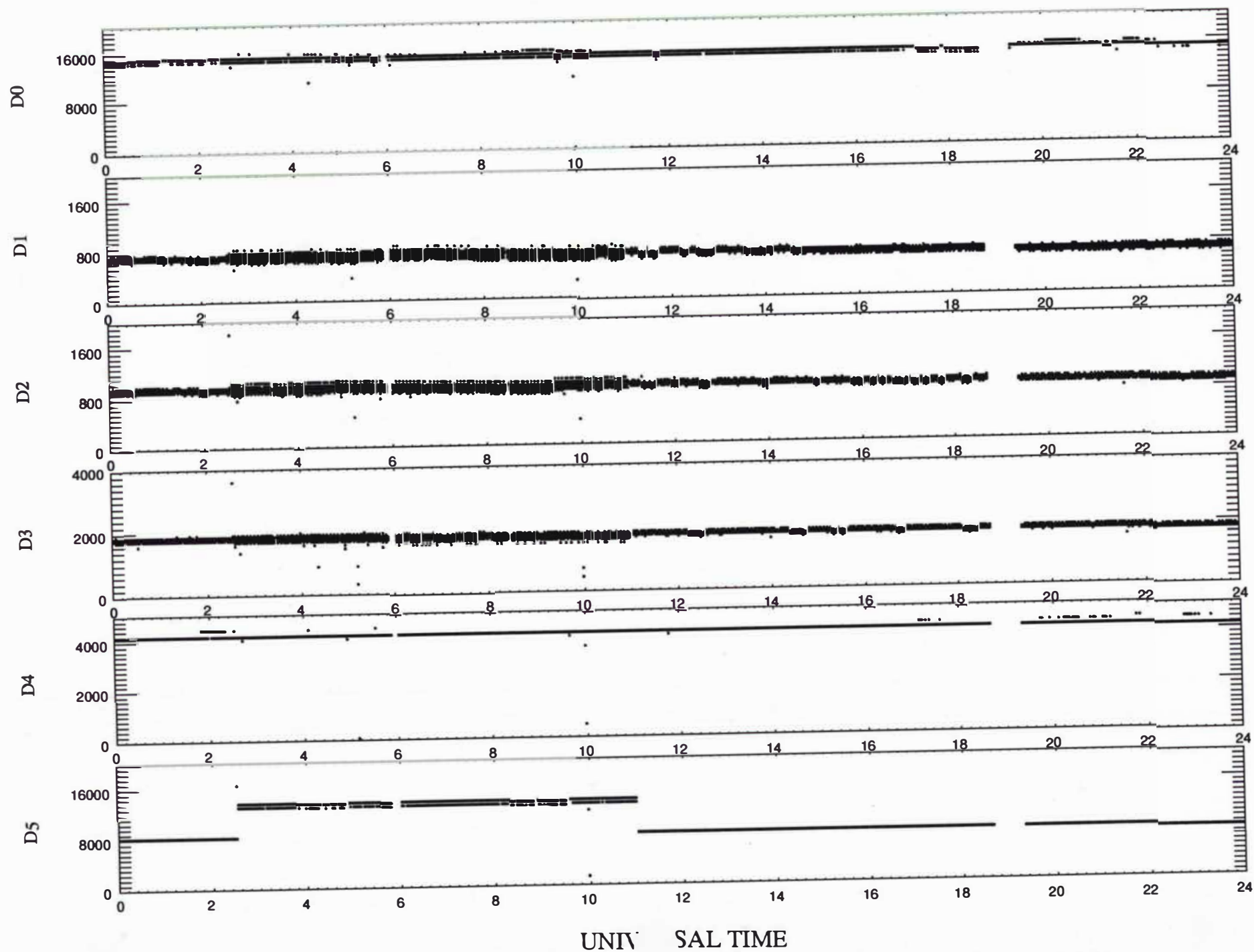
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From khurley@sunspot Tue Nov 24 08:19 PST 1998
Date: Tue, 24 Nov 1998 08:19:19 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB 981119, 981121

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, suspected to come from
SGR1900+14. If so, the Earth-crossing time would have been ~1380 s
earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
NOV 19 1998 21:35	weak, 32 ms long	2750
NOV 21 1998 08:26	weak, 64 ms long	2750
NOV 21 1998 13:10	weak, 64 ms long	2750

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

TGRS: NO

From SURASAK@fender.msfc.nasa.gov Mon Nov 23 11:32:09 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 LAA16807; Mon, 23 Nov 1998 11:32:08 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA02021; Mon, 23 Nov 1998 11:32:04 -0800
Date: Mon, 23 Nov 1998 13:32:07 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981123133207.20237744@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7219
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7219
EVENT OF 1998 NOV 21 DAY OF YEAR=325
EVENT CROSSING TIME AT BATSE : 5177. S. OR 01:26:17.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 15.000 42.000
BATSE PEAK COUNTING RATE: 5300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 21/11/ 98 IS:
RA= 166.813 DEC= -4.419 DIST= 5.525 AU
BATSE-ULYSSES DISTANCE = 826532239. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 45.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1942.67 SECS.
CROSSING TIME AT ULYSSES IS 7120. S. OR 01:58:39 +/- 419.15 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 21/11/ 98 IS:
RA= 177.319 DEC= 2.940 DIST= 1.877 AU
MARS-BATSE DISTANCE = 280808000. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 47.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 630.18 SECS.
CROSSING TIME AT MARS IS 5807. S. OR 01:36:47 +/- 129.88 SECONDS

BATSE BURST TRIGGER

NO.: 7219

TIME: TJD=1138 SECONDS=5177

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=100.5 AZIMUTH=187.2 ERROR=1.09 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE. DURATION ABOUT 60 S. VISIBLE
ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7219	981121	11138	05177	5300	015	+42	60

Date: Feb 16 '00

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 - bad stats*

2. BATSE Data

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

3. NEAR Data

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

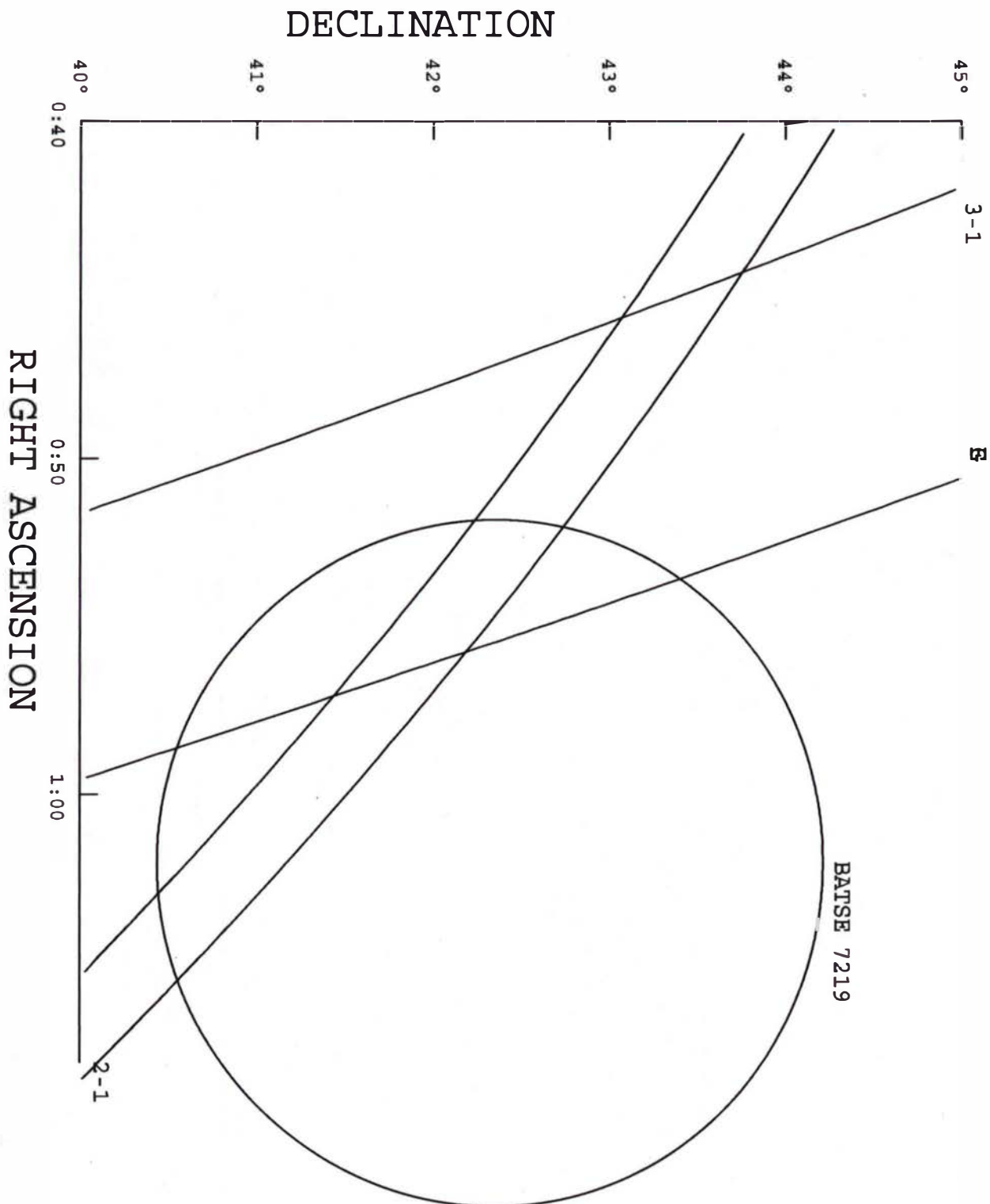
1 BATSE

2 ULYSSES

3 NRAR

EVENT OF NOV 21, 1998 1:26

16 / 2 / 0



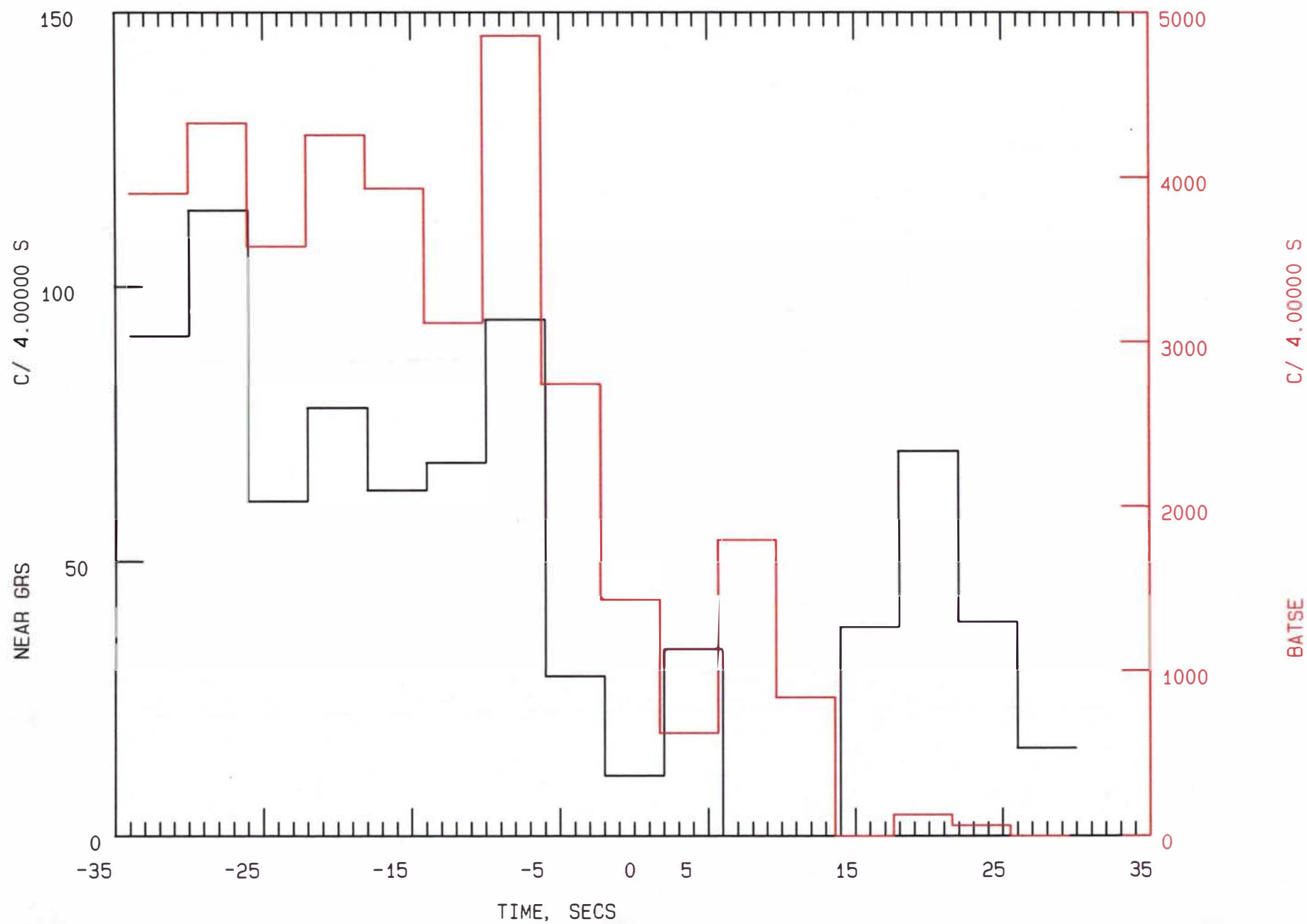
NEAR GRS -BATSE

CORRELATION

21/11/98

5436.187

16/ 2/ 0

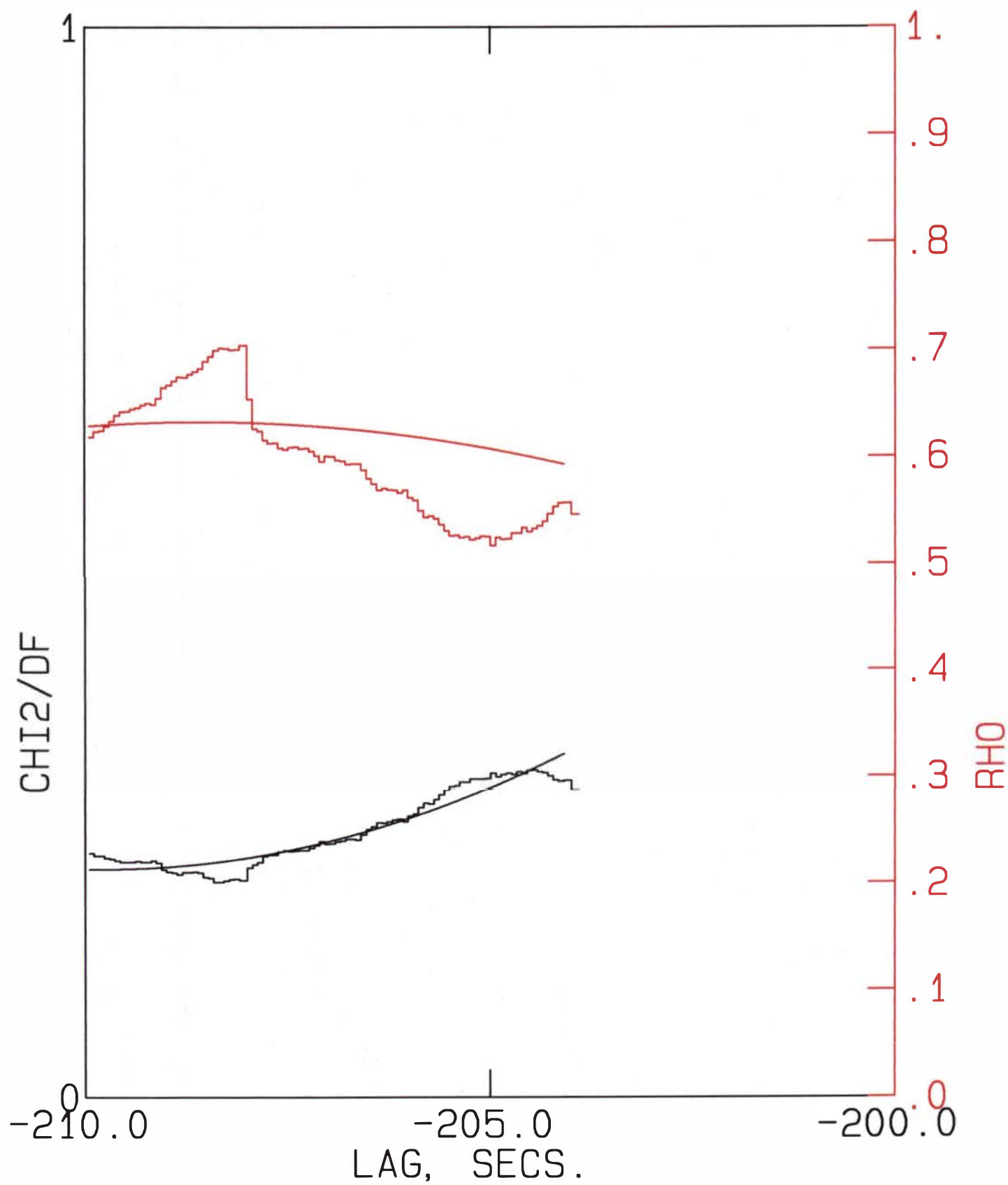


NEAR GRS -BATSE

CORRELATION

21/11/98

5436.187



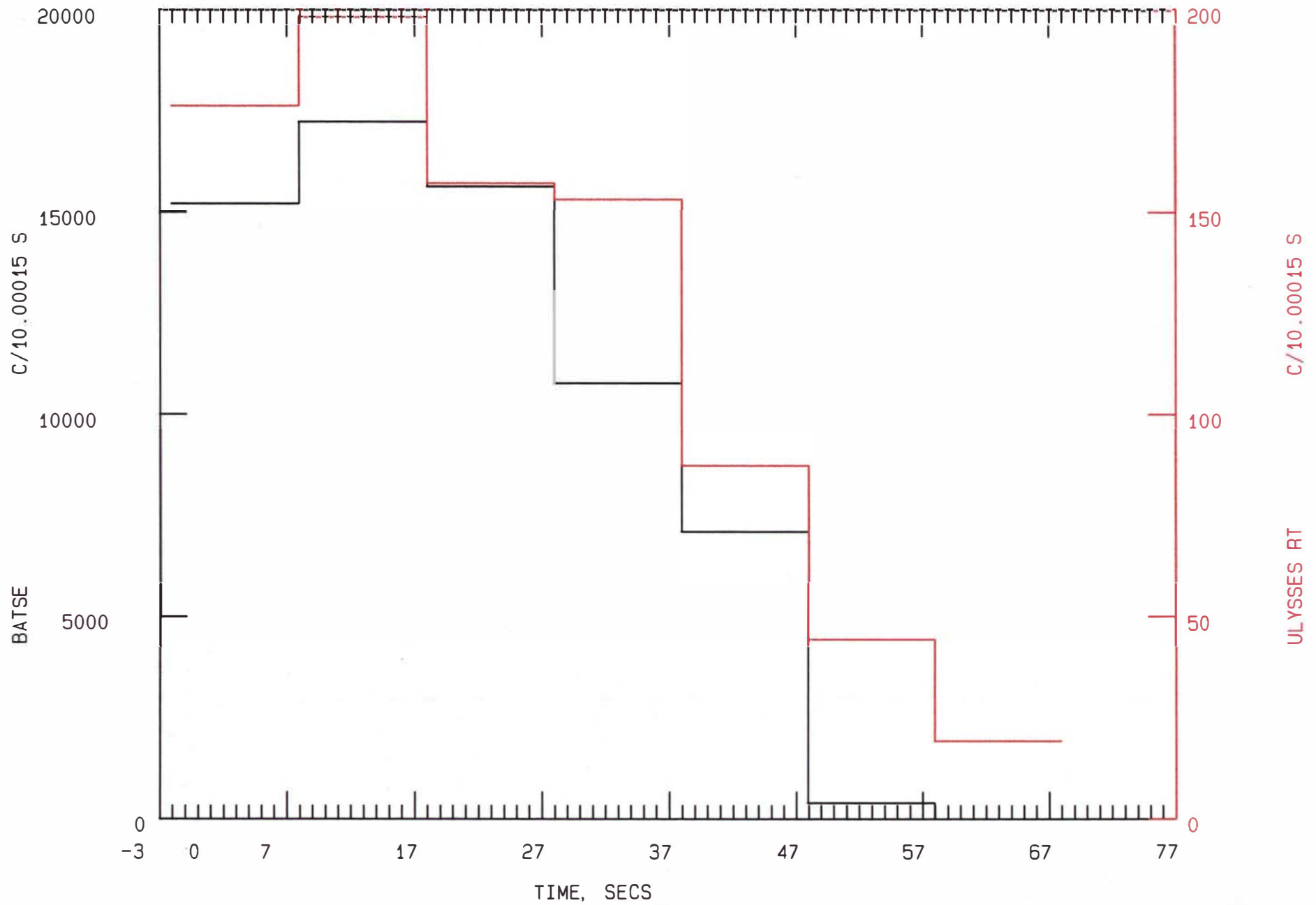
BATSE

-ULYSSES RT CORRELATION

21/11/98

5177.057

5/11/99



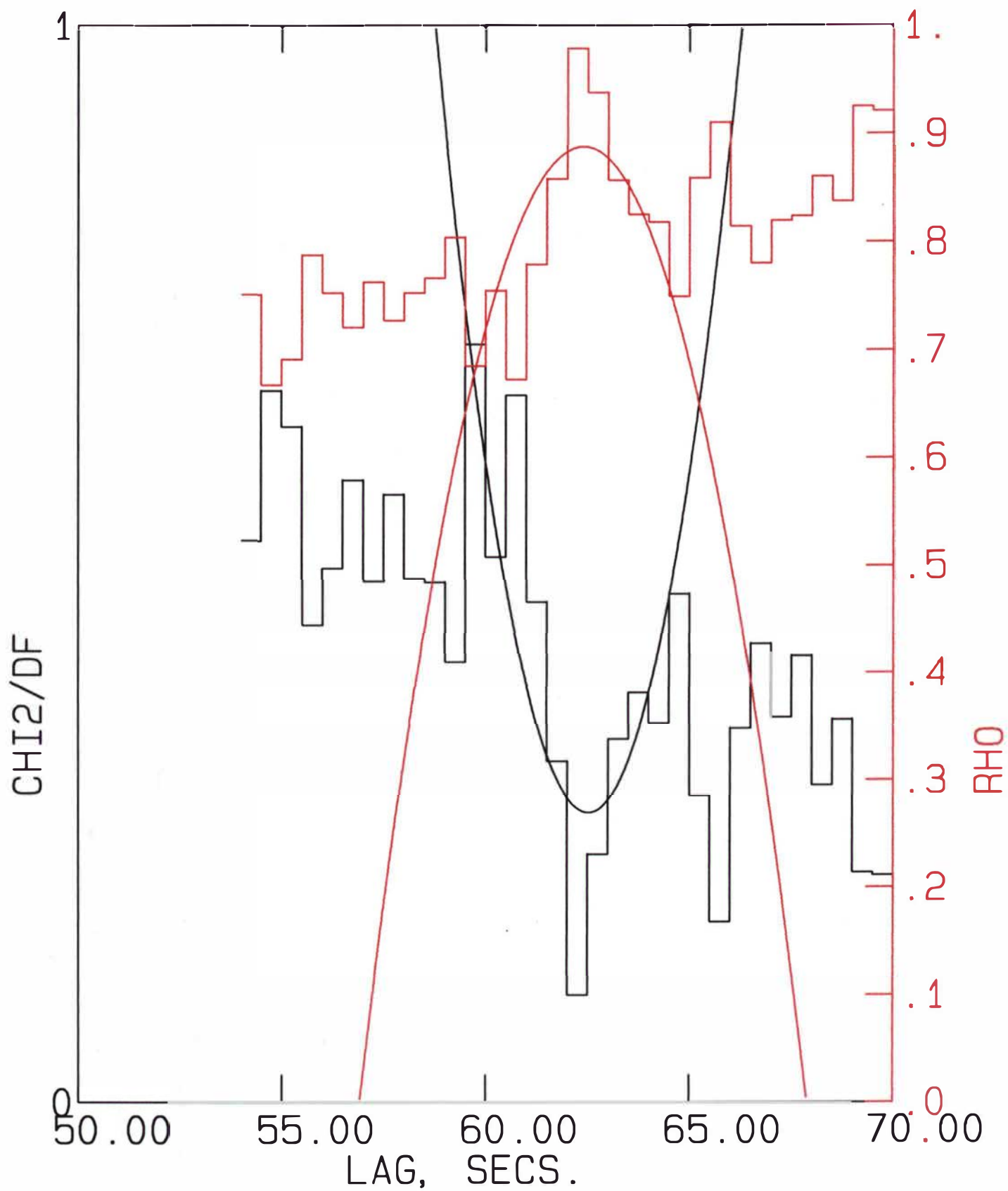
5/11/99

BATSE

-ULYSSES RT CORRELATION

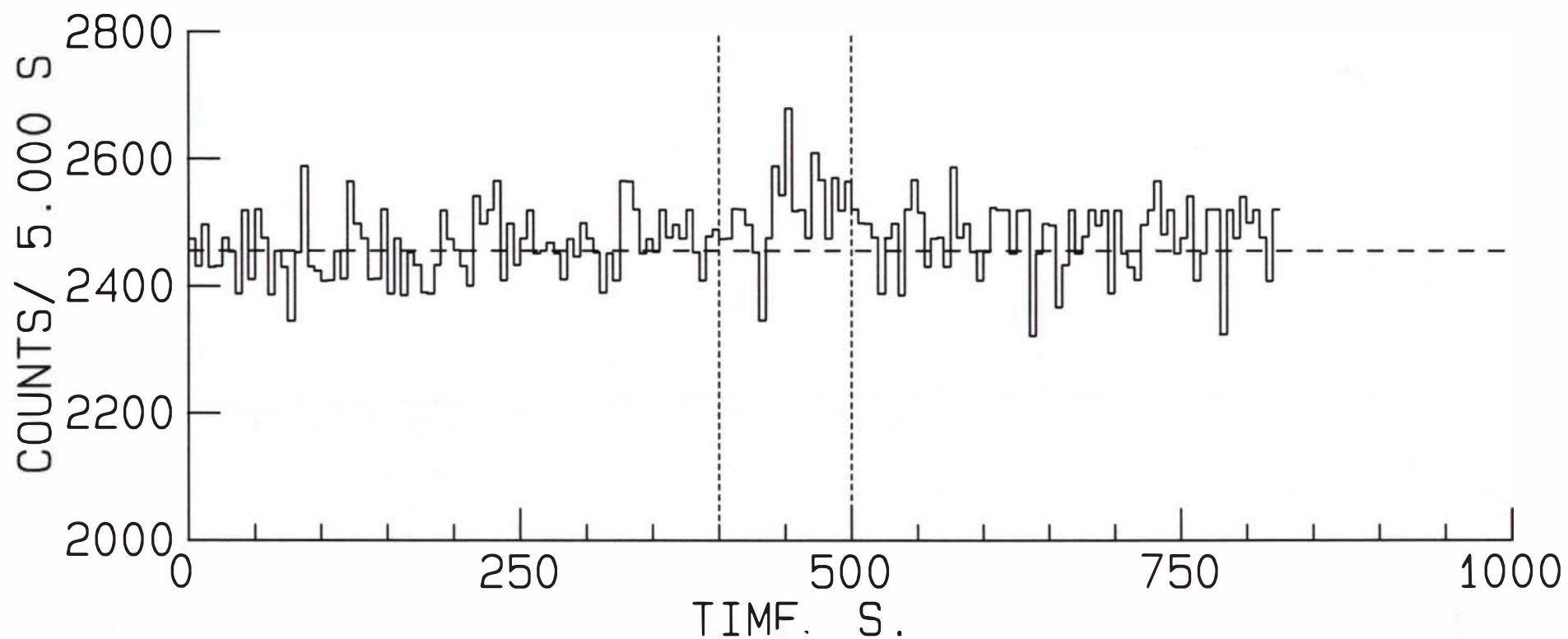
21/11/98

5177.057



ULYSSES RT
21/11/98 6696.216 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

5/11/99



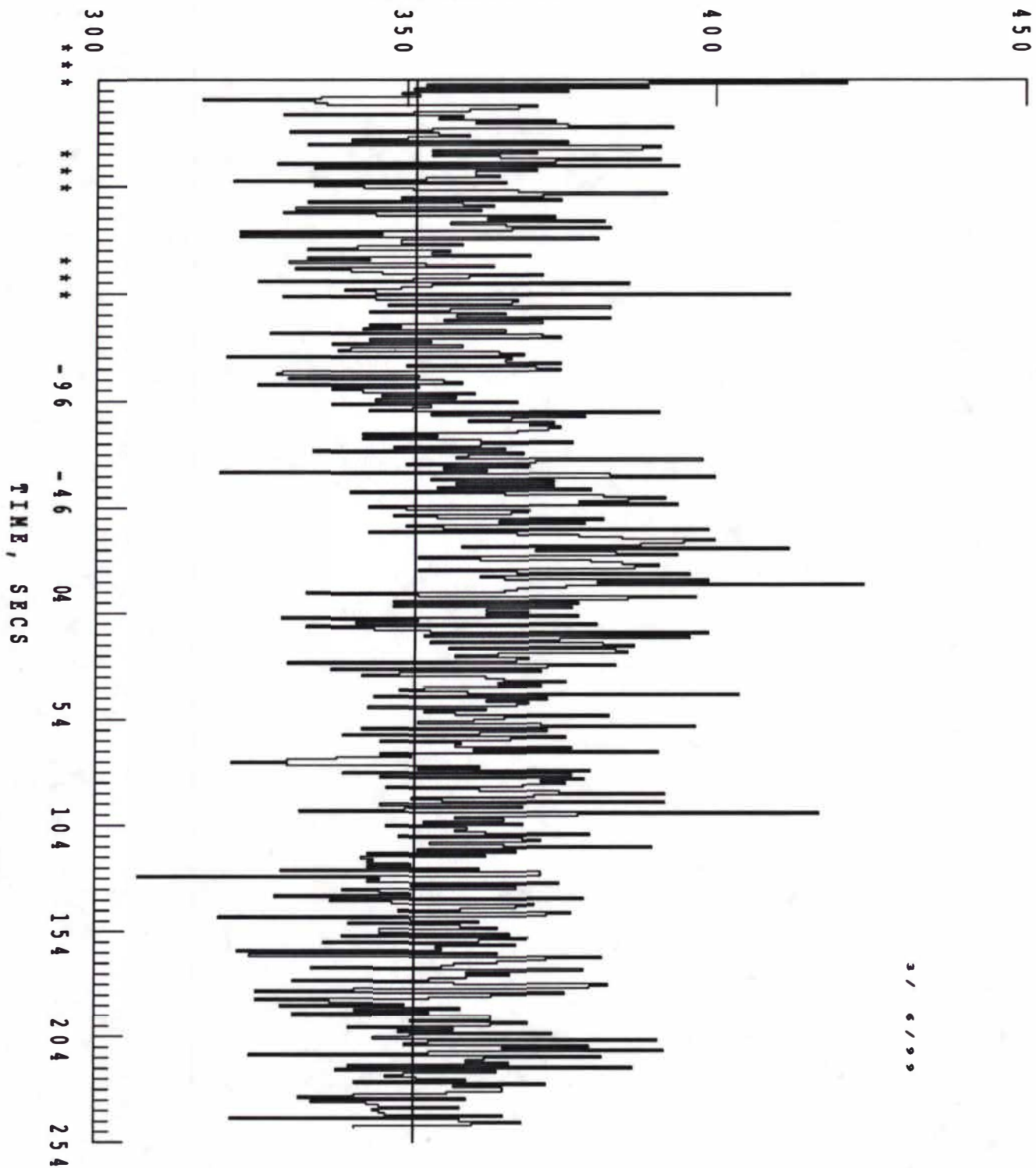
NEAR

21/11/98

5436.187

100-1000 keV

COUNTS/1.000 S



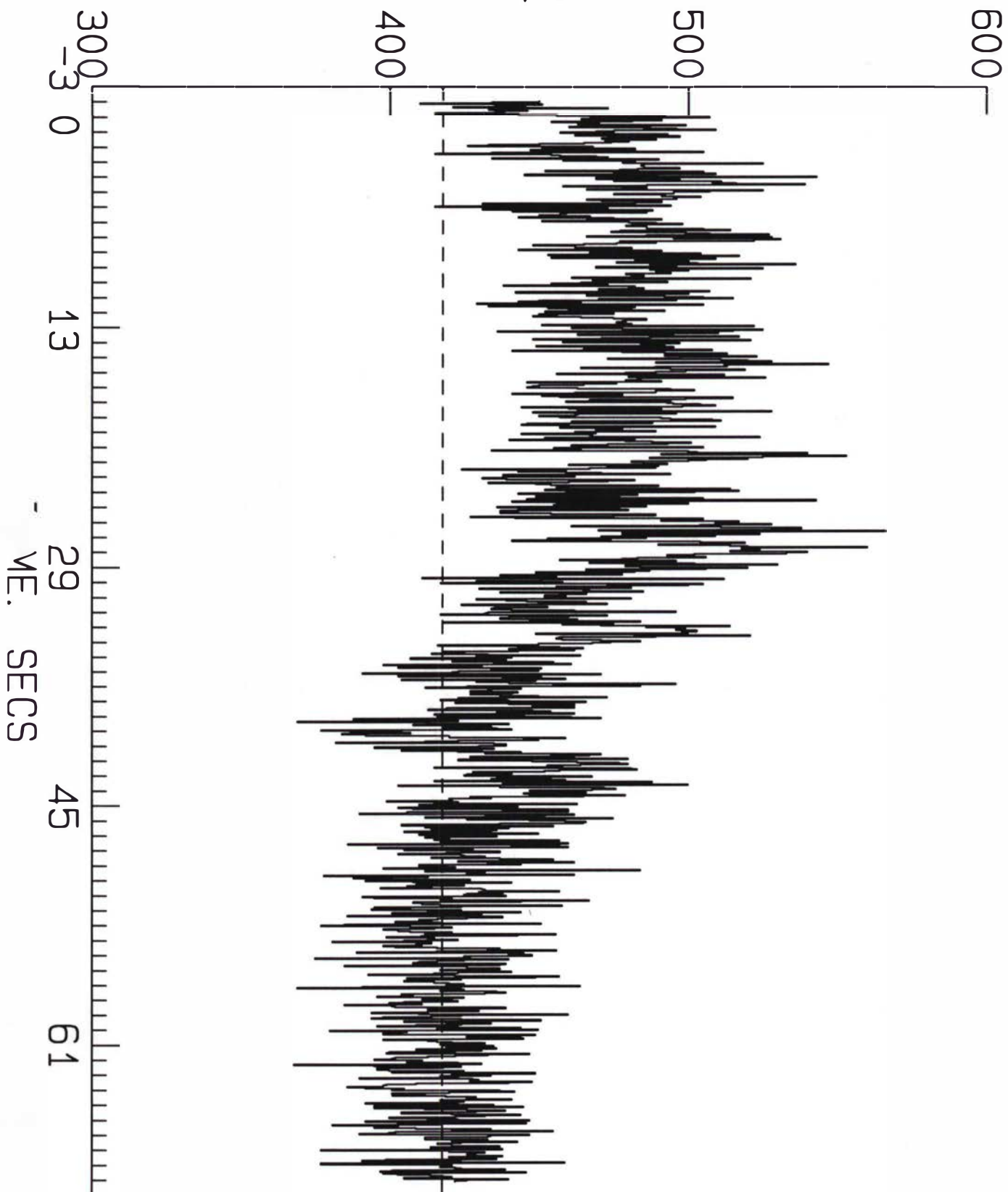
BATSE

21/11/98

5177.057

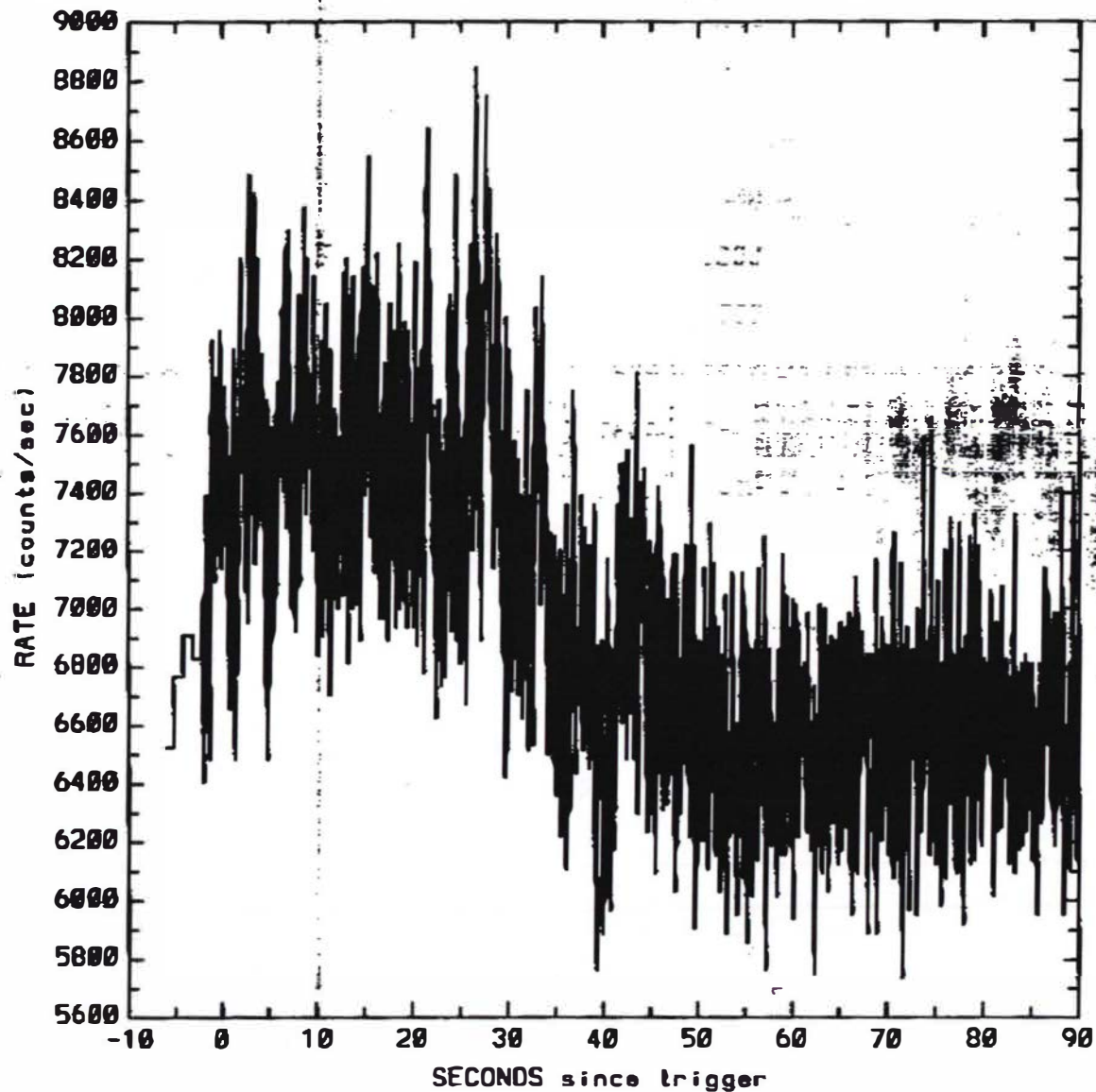
100-1000 keV

COUNTS/0.064 S



18/11/99

DISCSC Data for K. Hurley, No. 7219



17-NOV-1999 11:59:58

Created by MDPS 80
(Burst Display)
Version 12.26

Trigger # : 7219

Trigger Time:
11138 / 5177.057

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

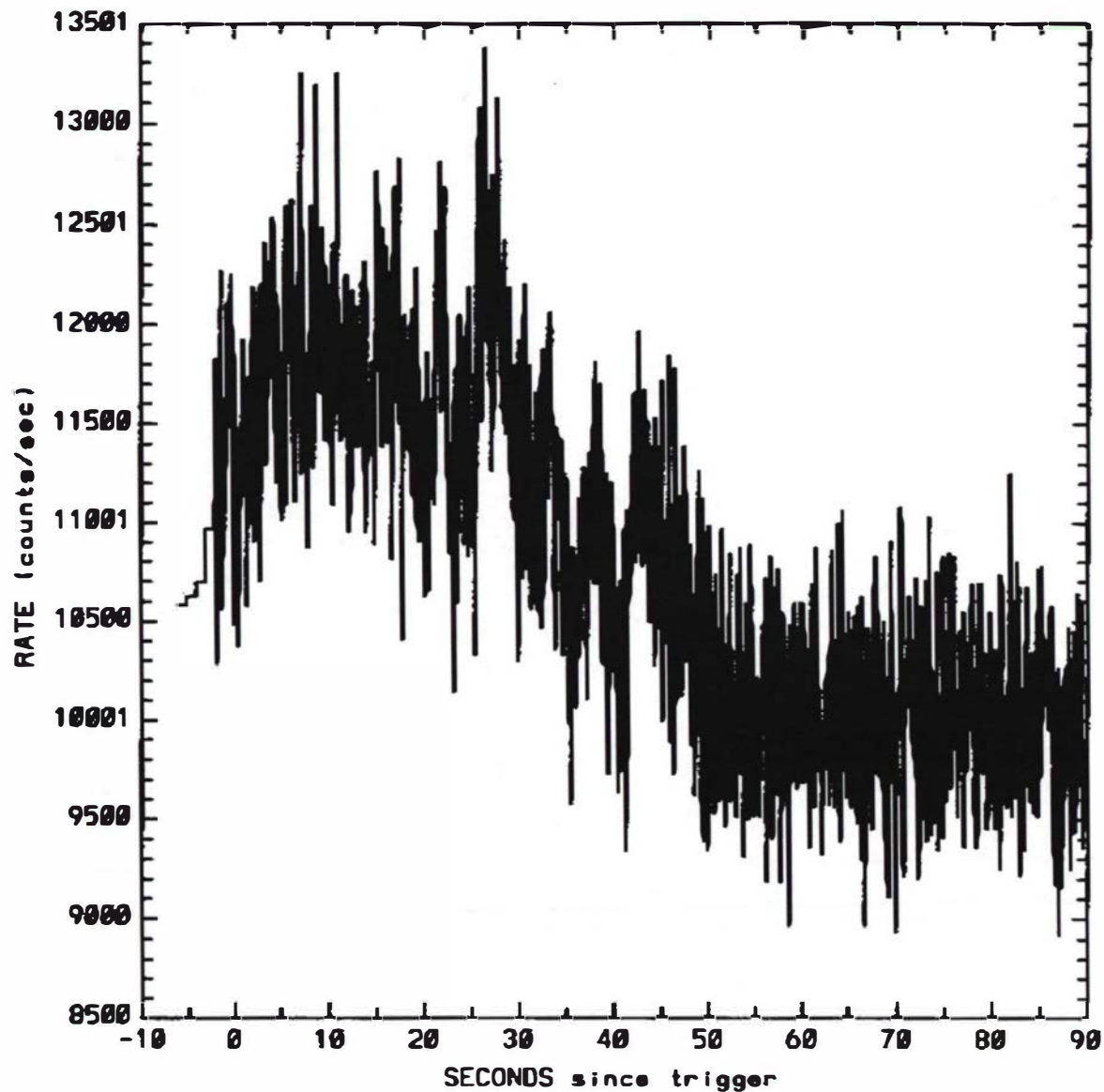
Minimum Integ. Time:
0.064 seconds

Detectors [7..8]:
705-----

Discriminators:
(3 , 4)

Quality Mask:
BDISP1

DISCSC Data for K. Hurley. No. 7219



25-NOV-1998 08:25:20

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7219

Trigger Time:
11138 / 5177.057

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..0].
765----

Discriminators:
(1 . 2)

Quality Mask:
8DISP1

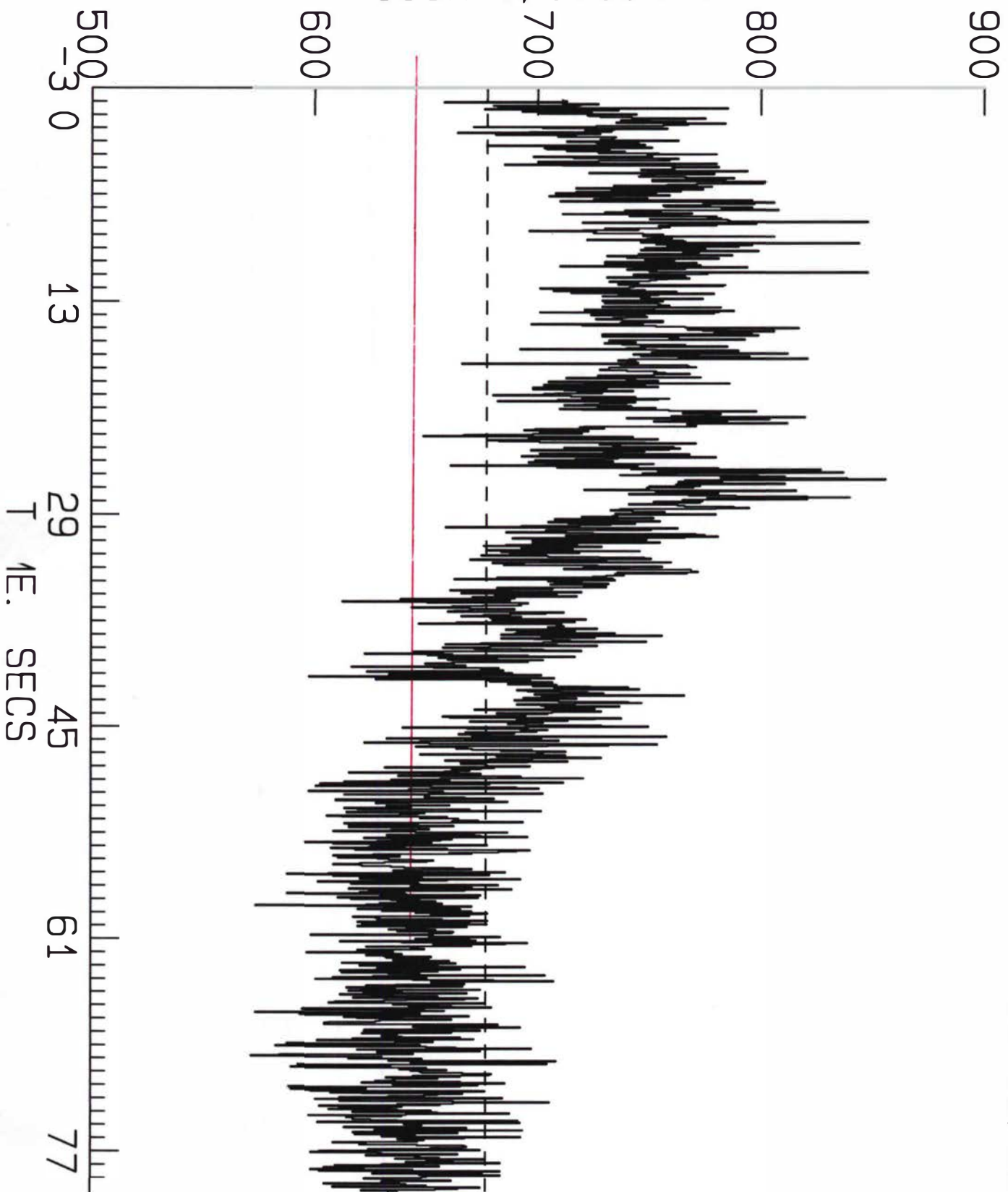
BATSE

21/11/98

5177.057

25- 100 keV

COUNTS/0.064 S



10/12/98

From SURASAK@fender.msfc.nasa.gov Mon Nov 23 11:24:57 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 23 Nov 1998 13:24:01 -0600 (CST)

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.: 7220

TIME: TJD=1138 SECONDS=16003

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

From SURASAK@fender.msfc.nasa.gov Mon Nov 23 11:25:25 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 23 Nov 1998 13:25:12 -0600 (CST)

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.: 7221

TIME: TJD=1138 SECONDS=57818

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

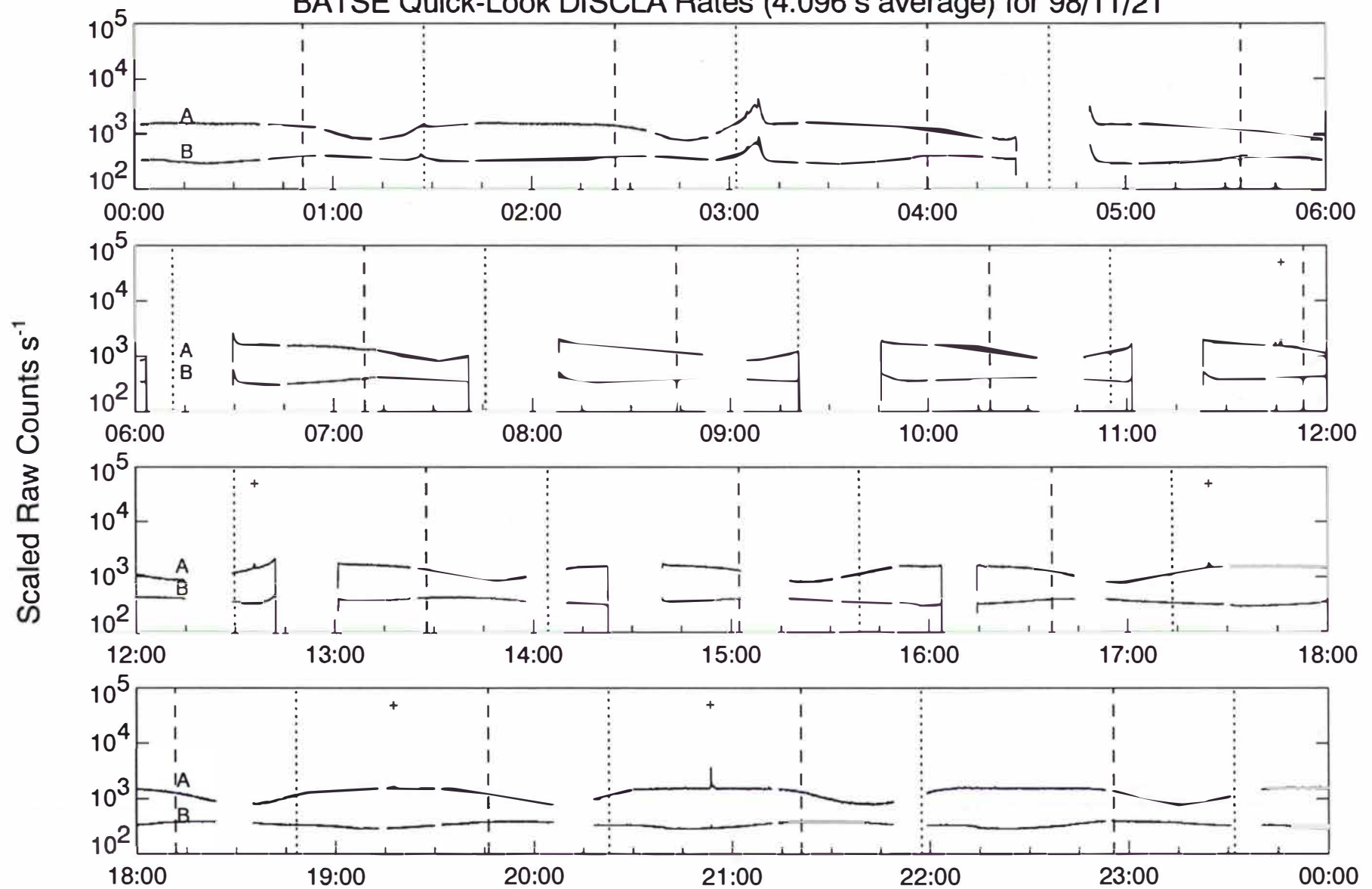
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/21

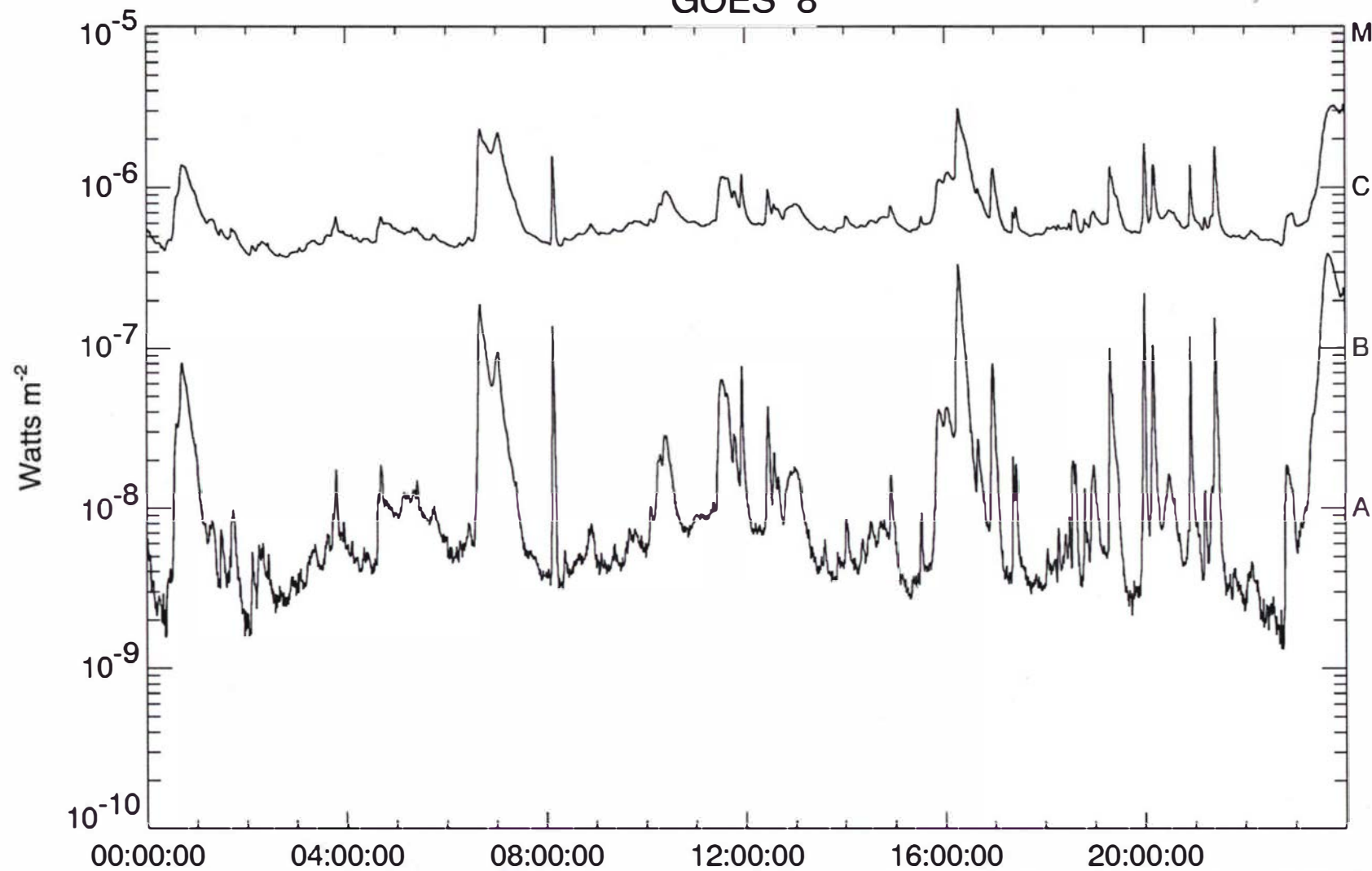


Current Time: 98/11/25, 1013 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/21, 0000:00

Plot created: 98/11/25, 1012

Channel

1 (1.0 - 8.0 Angstroms)

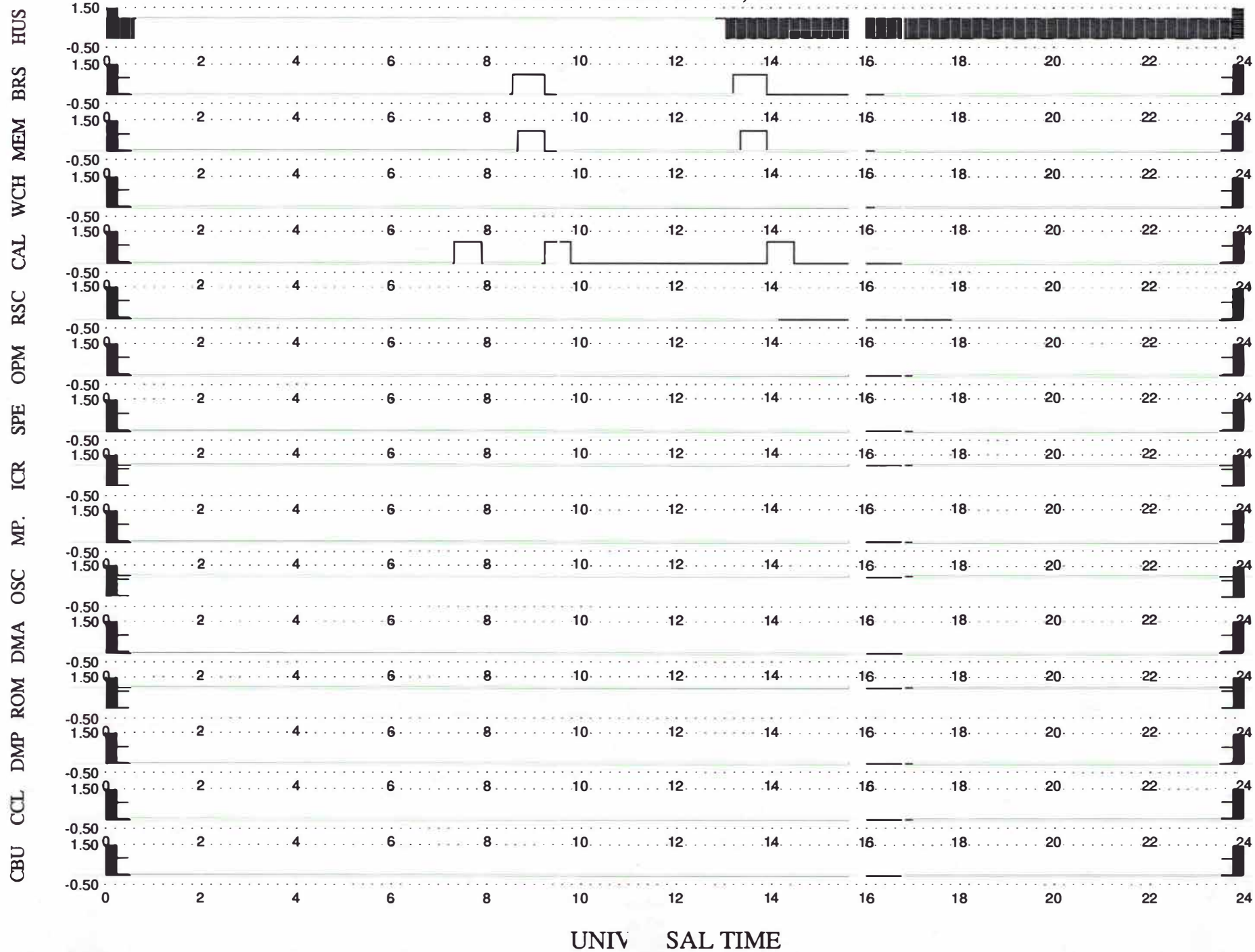
Background not subtracted

2 (0.5 - 4.0 Angstroms)

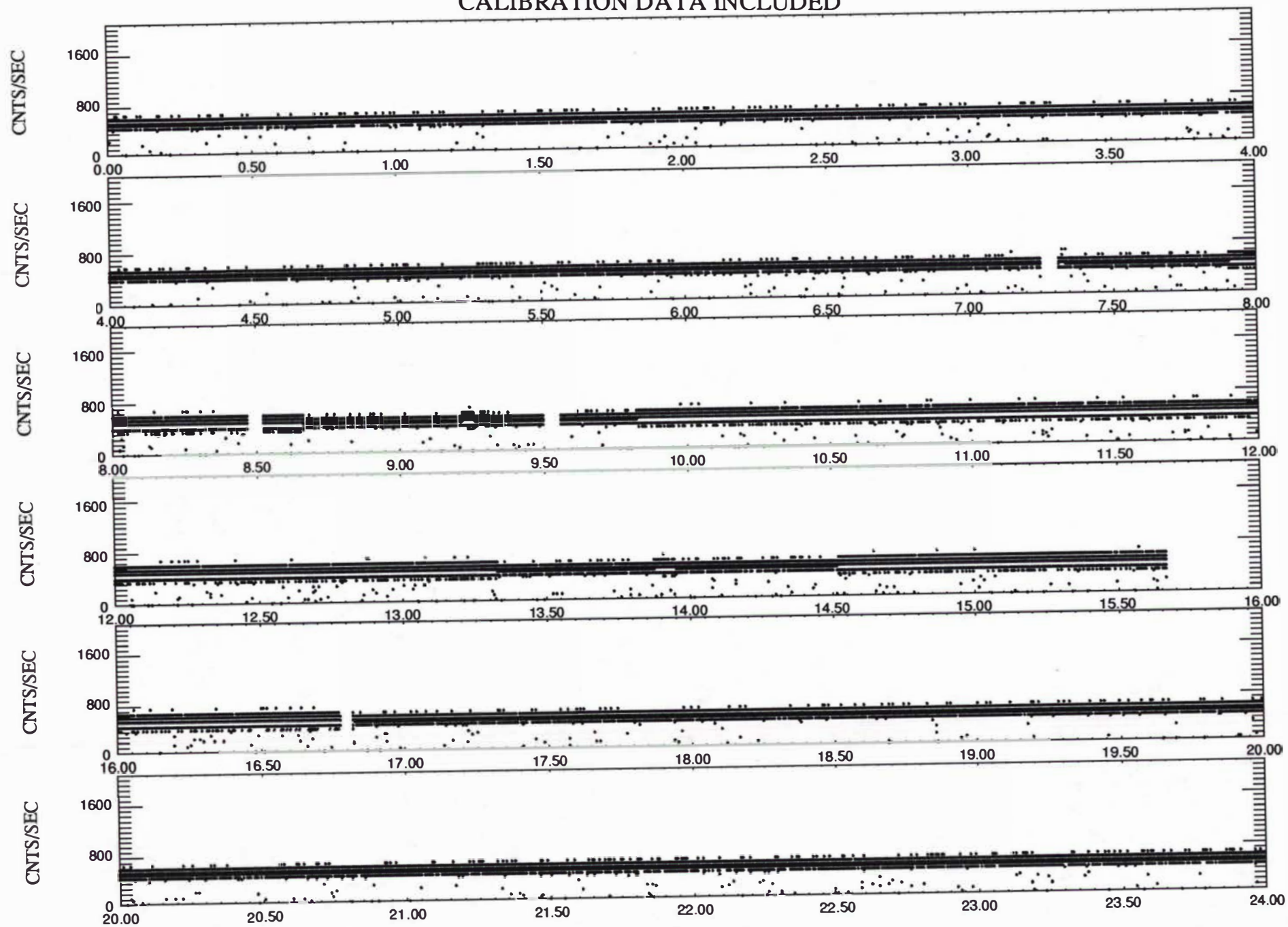
Background not subtracted

Sample average = 10

BURST NUMBER 14, 15

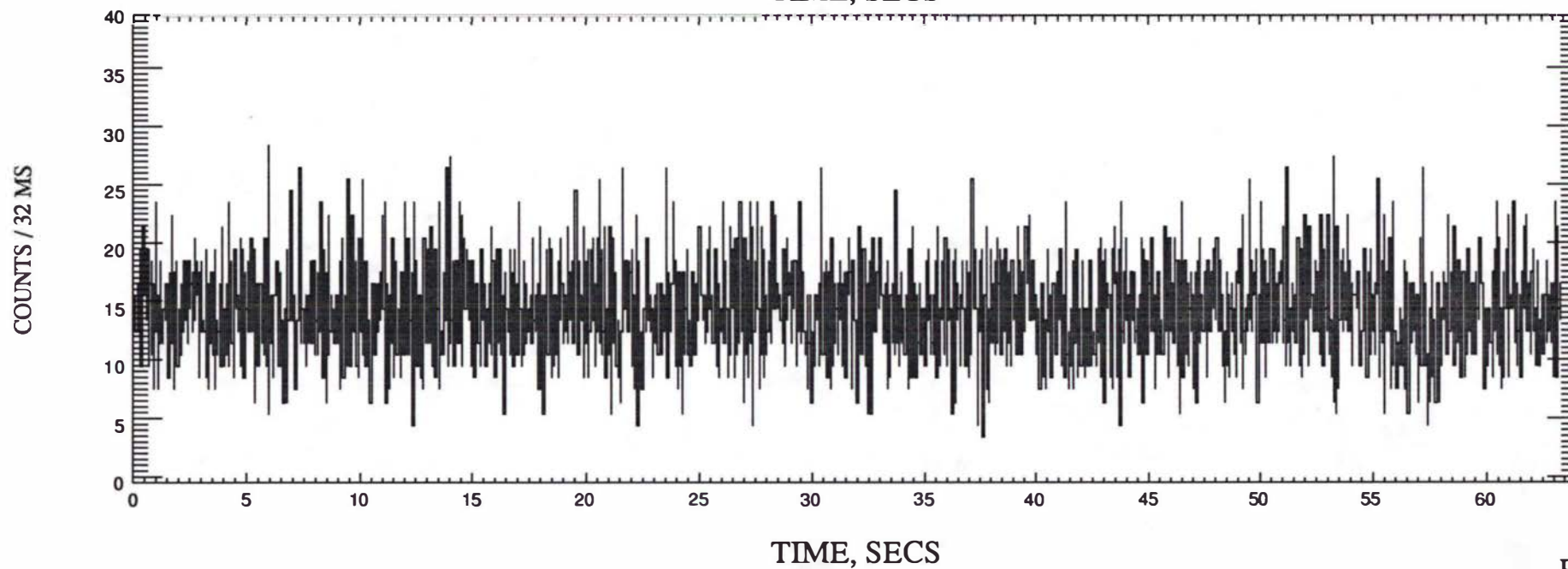
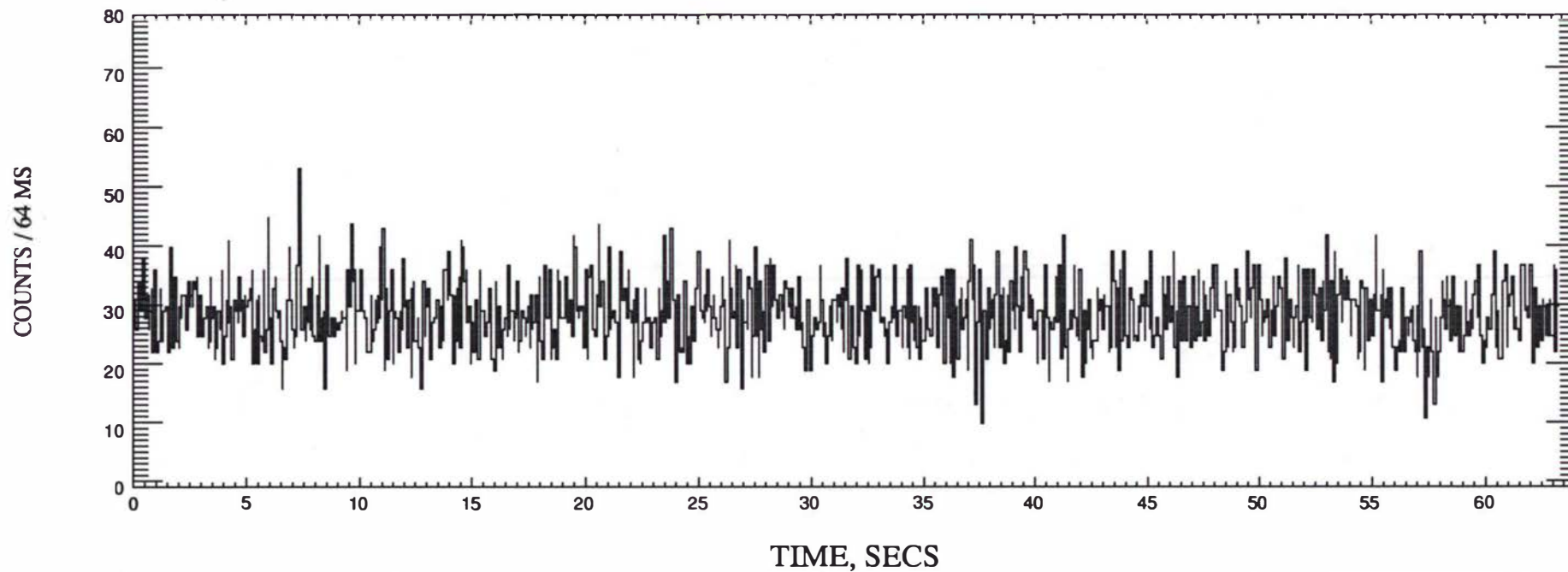


CALIBRATION DATA INCLUDED

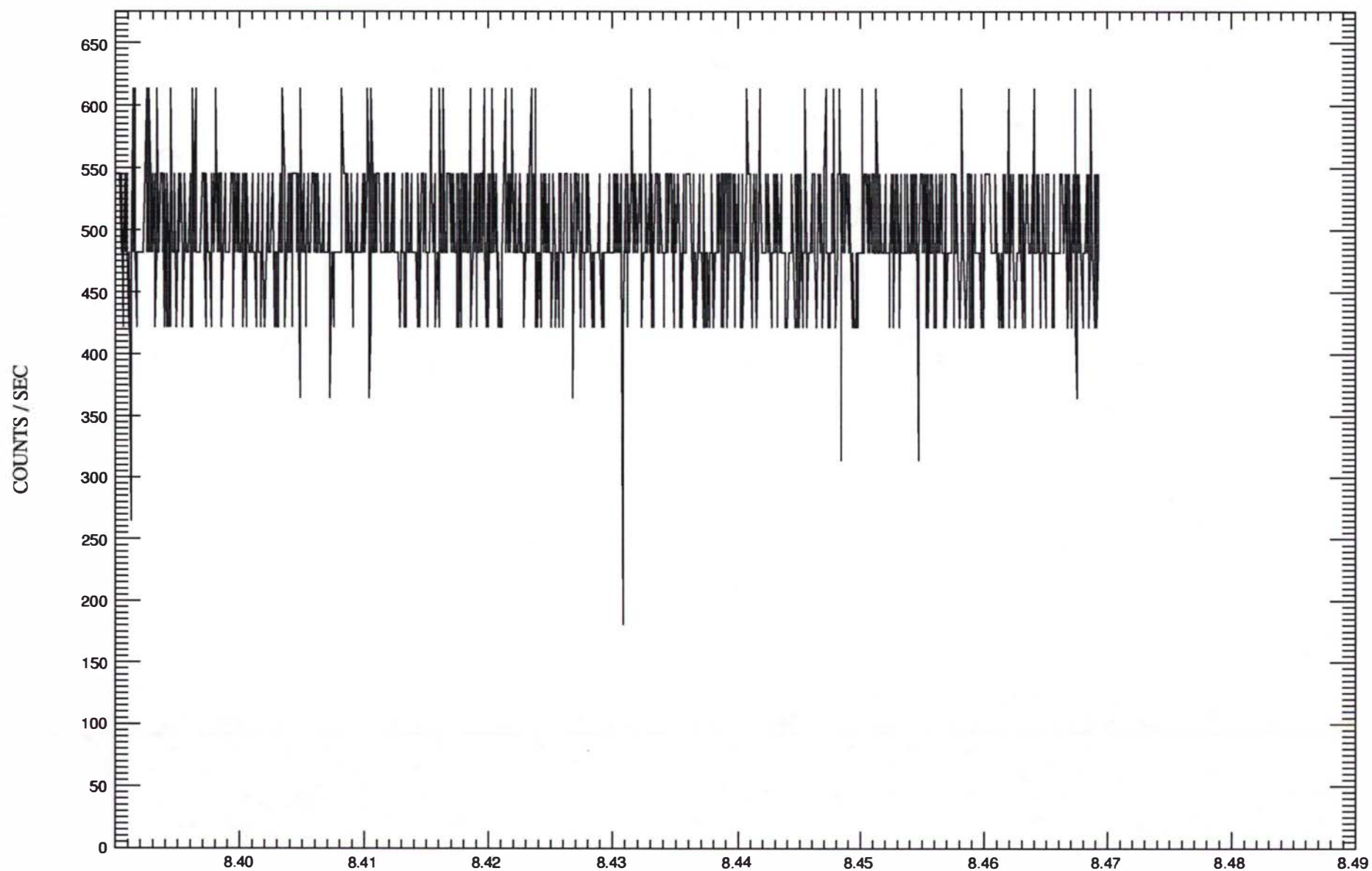


UNIV SAL TIME

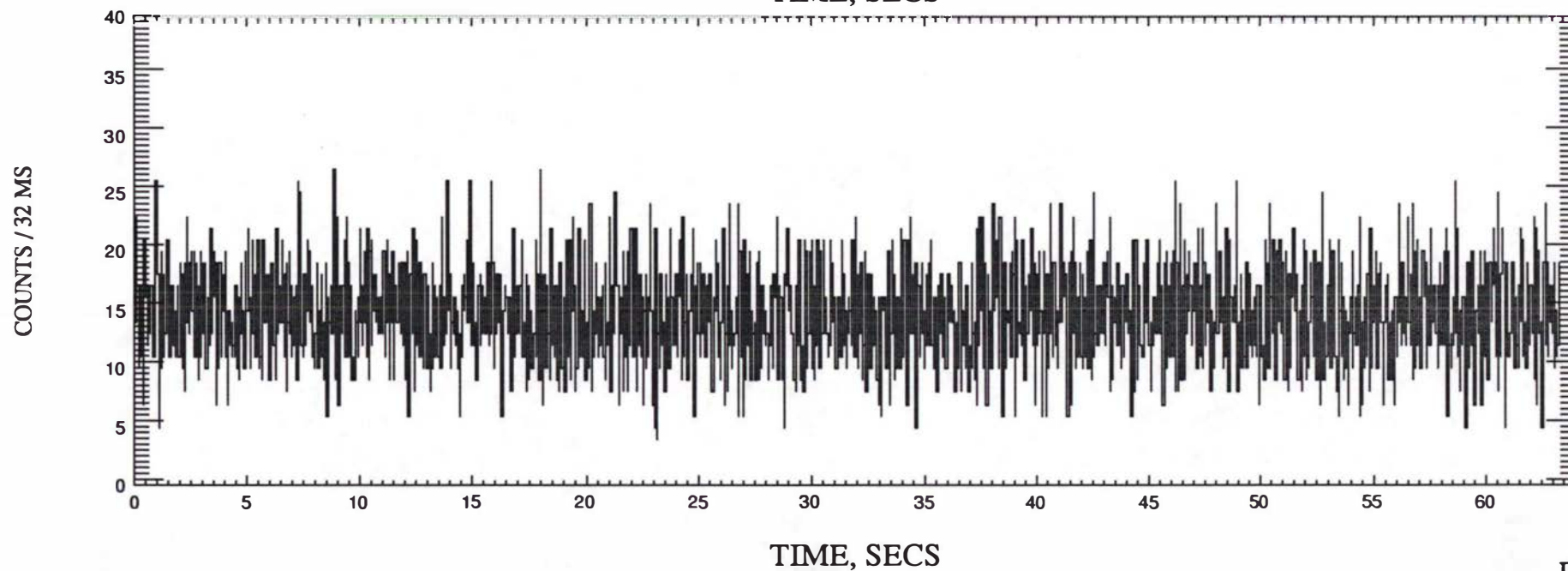
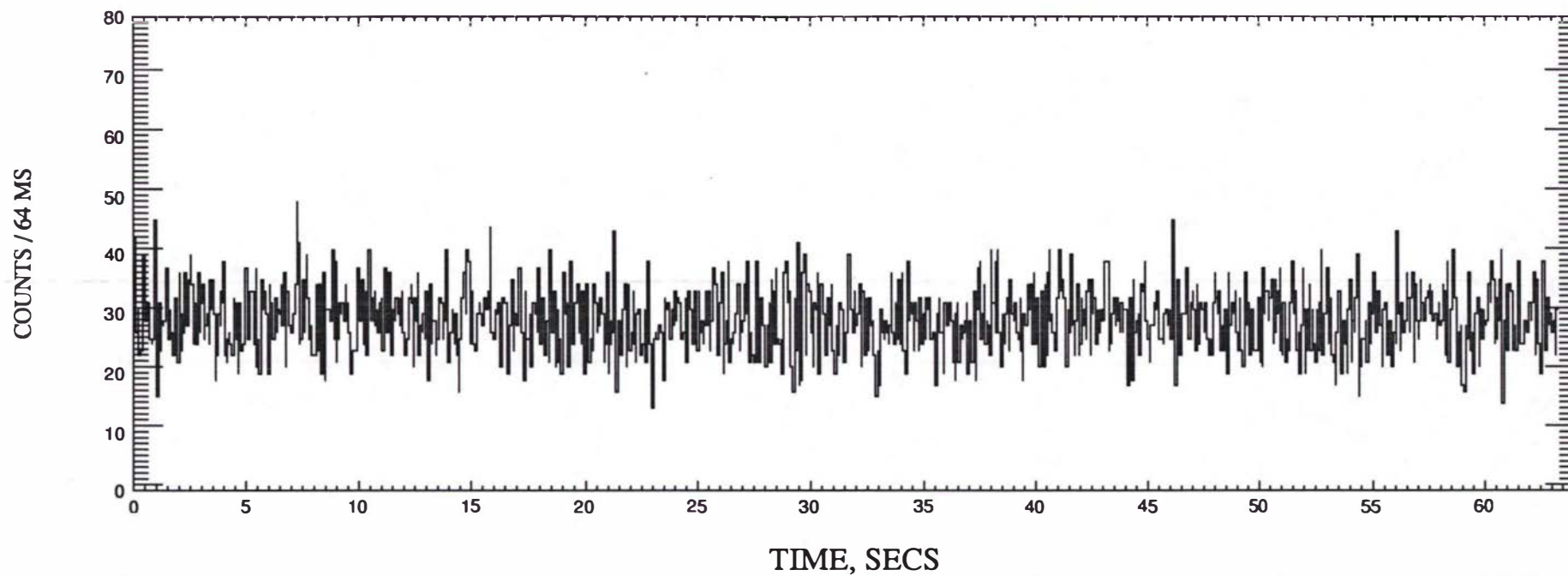
Burst Counter 14 at UT= 8.435542187161 h=30367.952 s 08:26:07.952



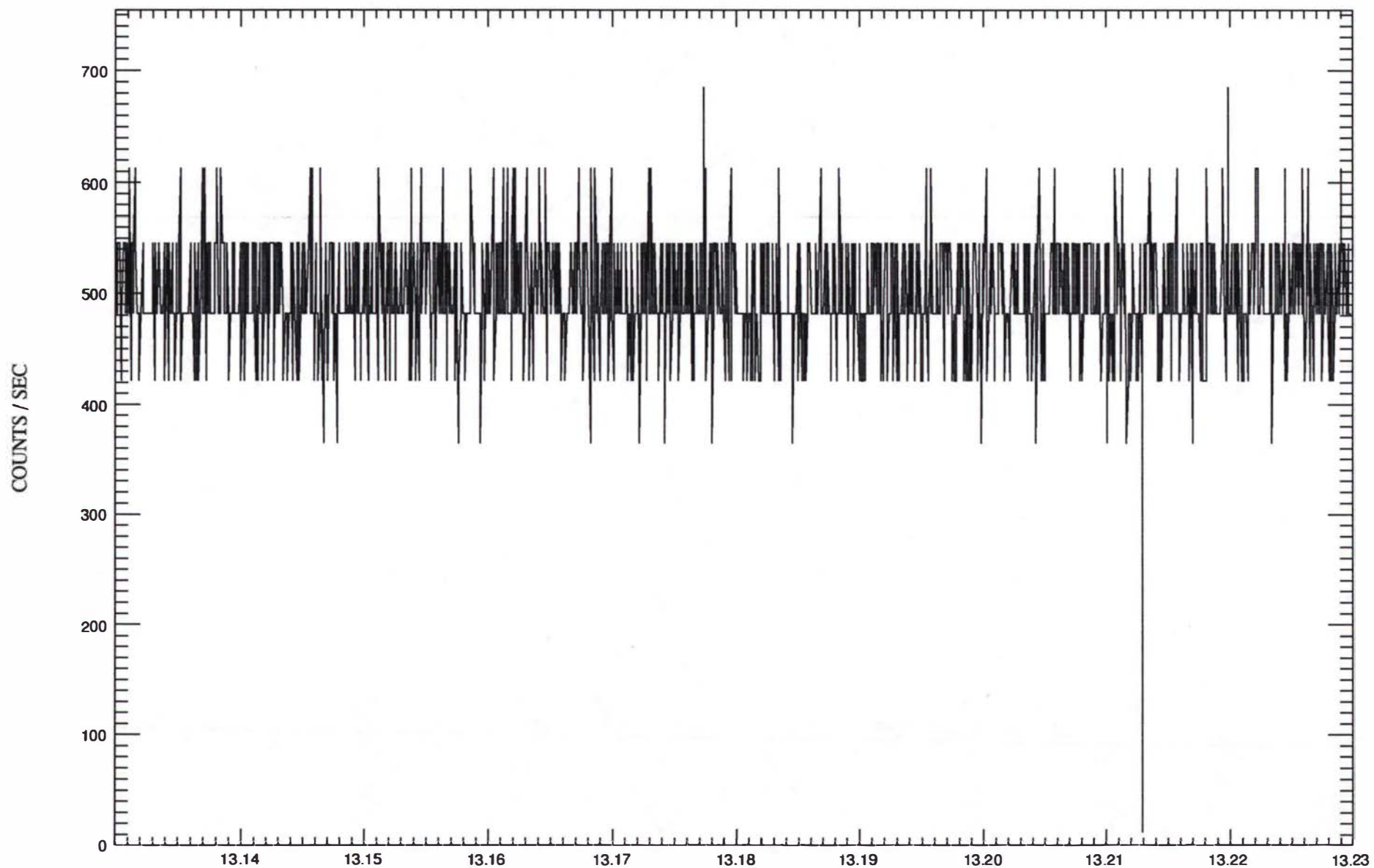
CALIBRATION DATA INCLUDED

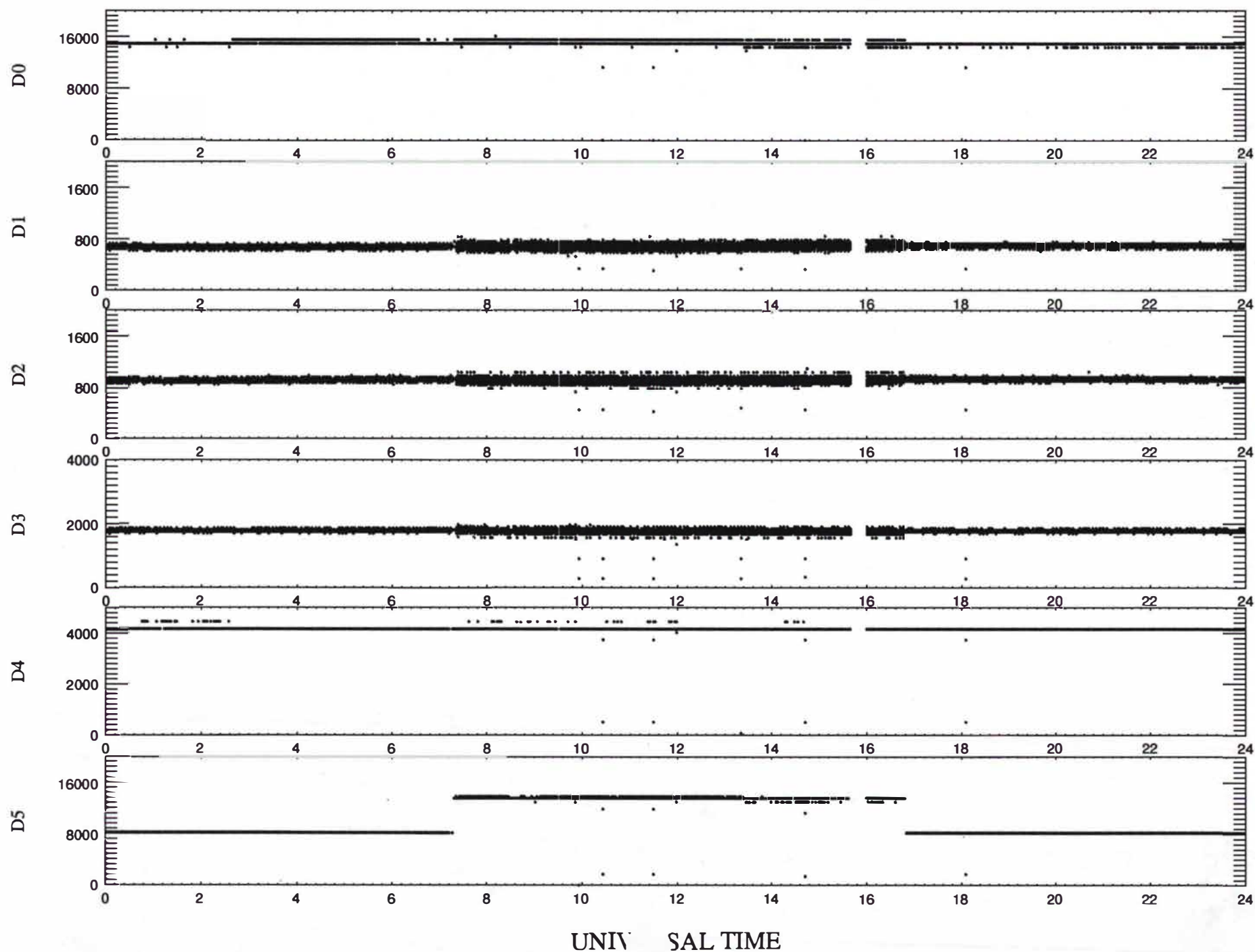


Burst Counter 15 at UT=13.177535086738 h=47439.126 s 13:10:39.126



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Tue Nov 24 11:19:15 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 24 Nov 1998 13:18:39 -0600 (CST)

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,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7222

Nov 22

TIME: TJD=1139 SECONDS=14653

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

From SAHI@fender.msfc.nasa.gov Tue Nov 24 11:21:50 1998
From: SAHI@fender.msfc.nasa.gov
Date: Tue, 24 Nov 1998 13:21:21 -0600 (CST)
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,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7223

TIME: TJD=1139 SECONDS=23794

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=243.7 AZIMUTH=-20.8 ERROR=0.01 DEGREES

COMMENTS:

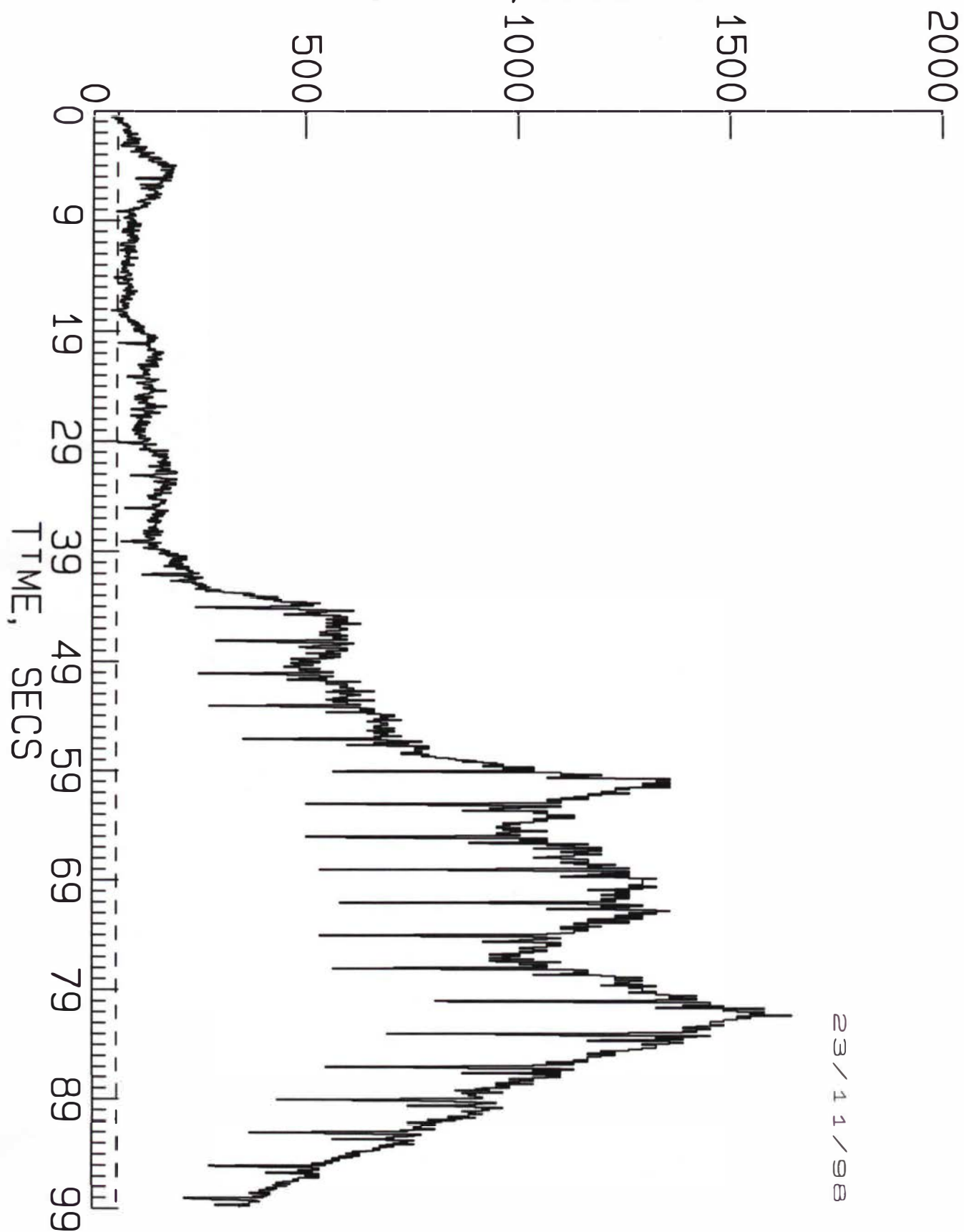
SOLAR FLARE. GOES X3.7, OPTICAL 1N. COMPLEX, DUR. ABOUT 900 SECS. VISIBLE ABOVE
300 KEV.

NEAR *Konus*

22/11/98 23793.669

50- 200 keV

COUNTS/0.064 S



grbm 19981122 54531

ULYSSES RT

04 / 11 / 04

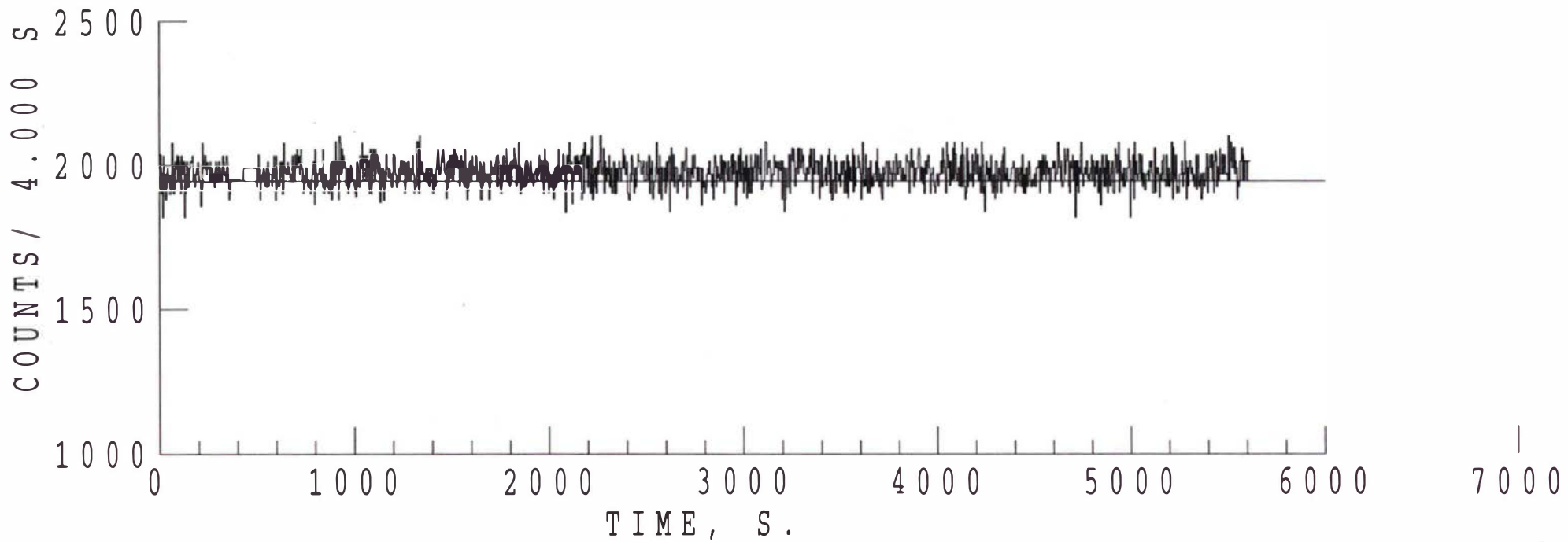
22/11/98 51732.062 s

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 Nov 24 11:23:09 1998

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 24 Nov 1998 13:22:34 -0600 (CST)

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.: 7224

TIME: TJD=1139 SECONDS=56498

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

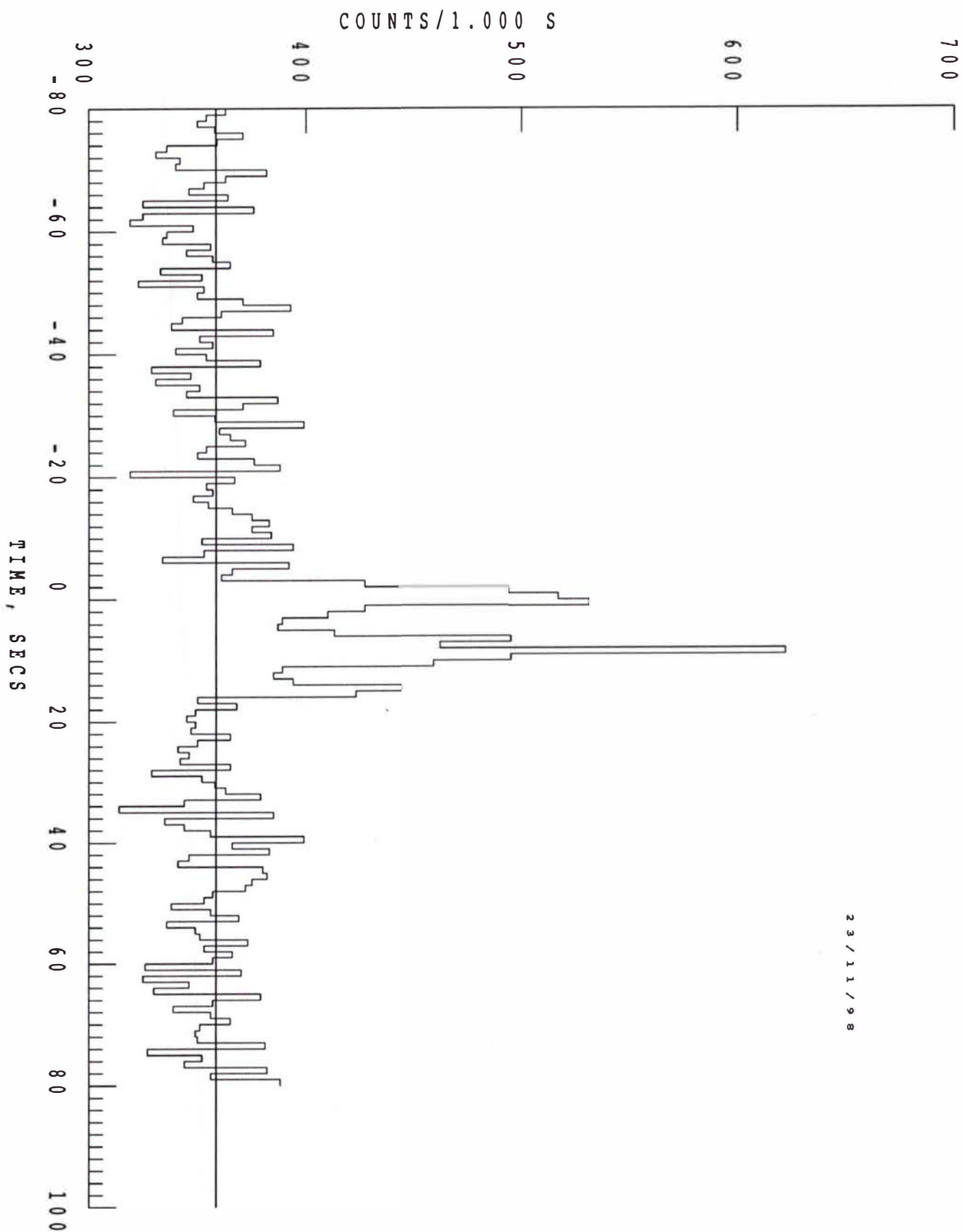
COMMENTS:
SAA ENTRY.

NEAR

22/11/98

59890.817

100-1000 keV

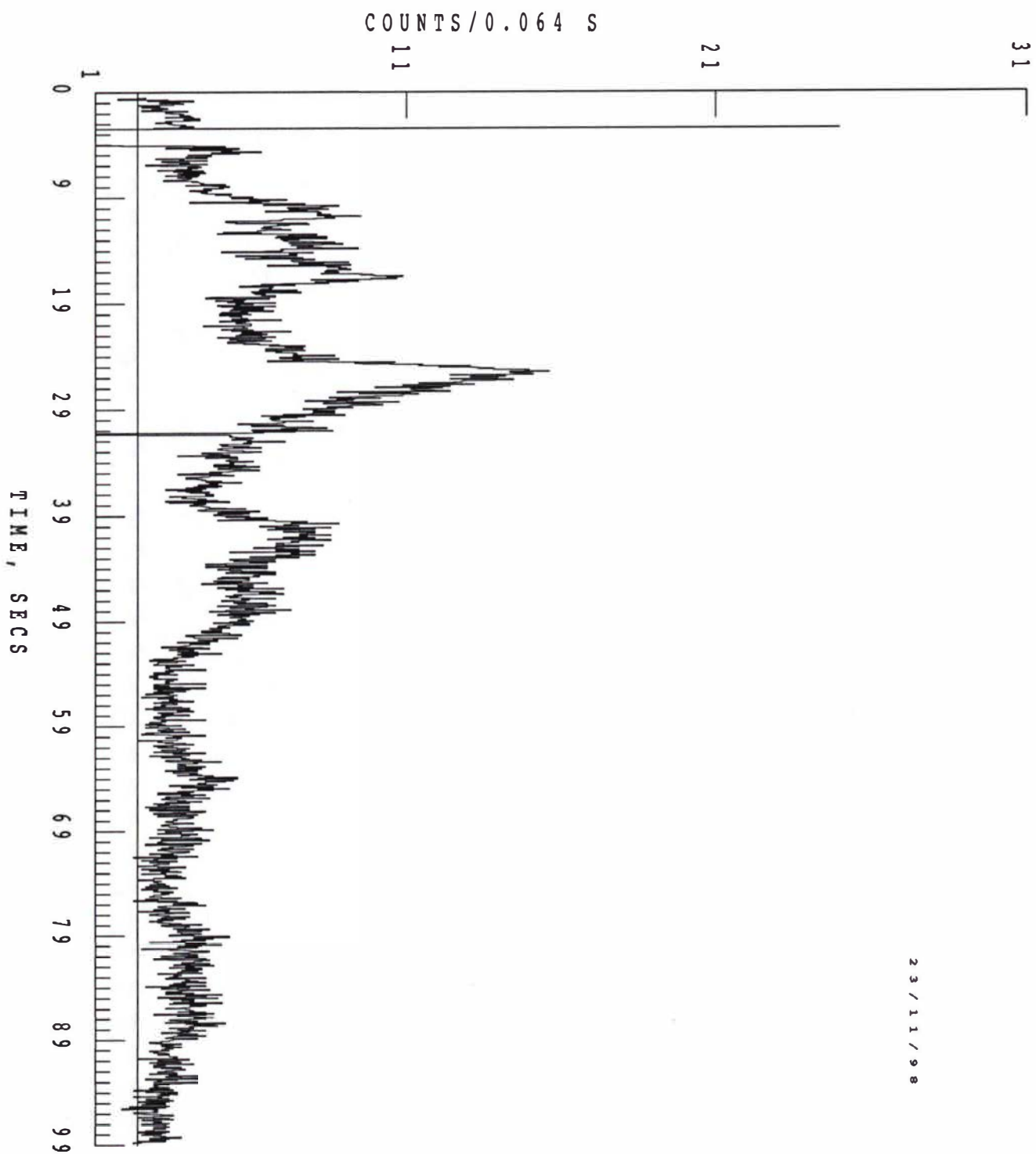


KONUS

22/11/98

58619.364

50 - 200 keV



NEAR GRB98326-1

ULYSSES RT

23 / 11 / 98

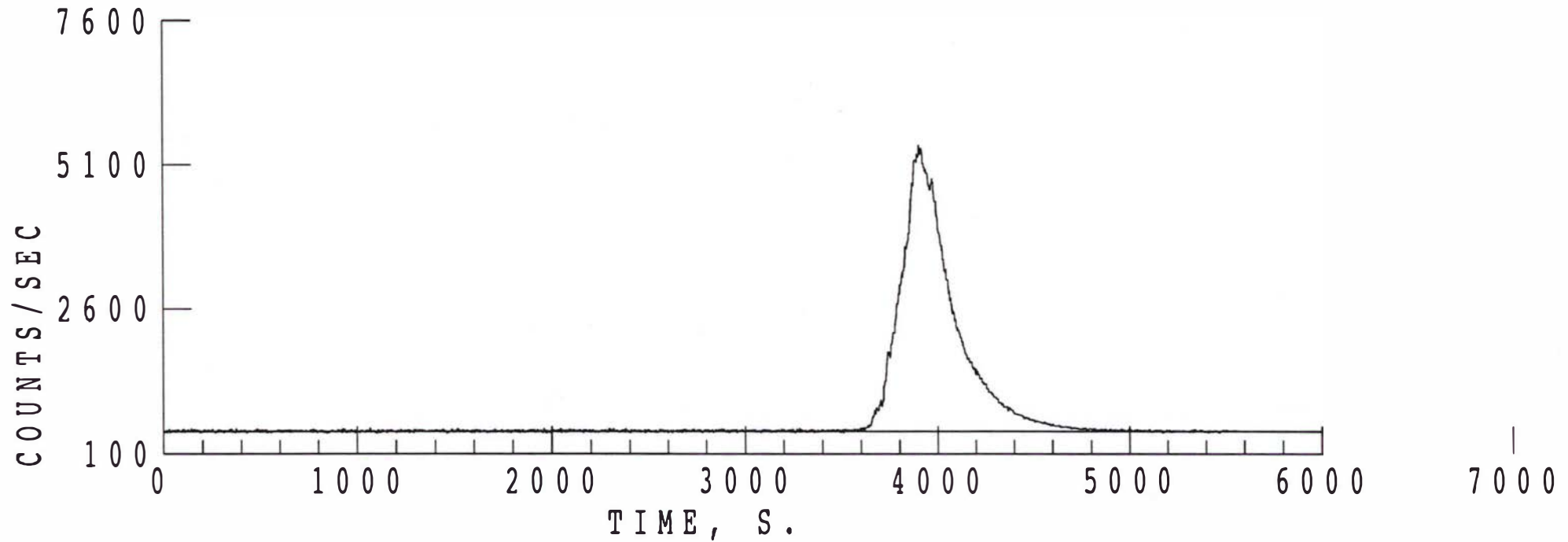
22/11/98 57096.117 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS GRB19981122

ULYSSES RT

23 / 11 / 98

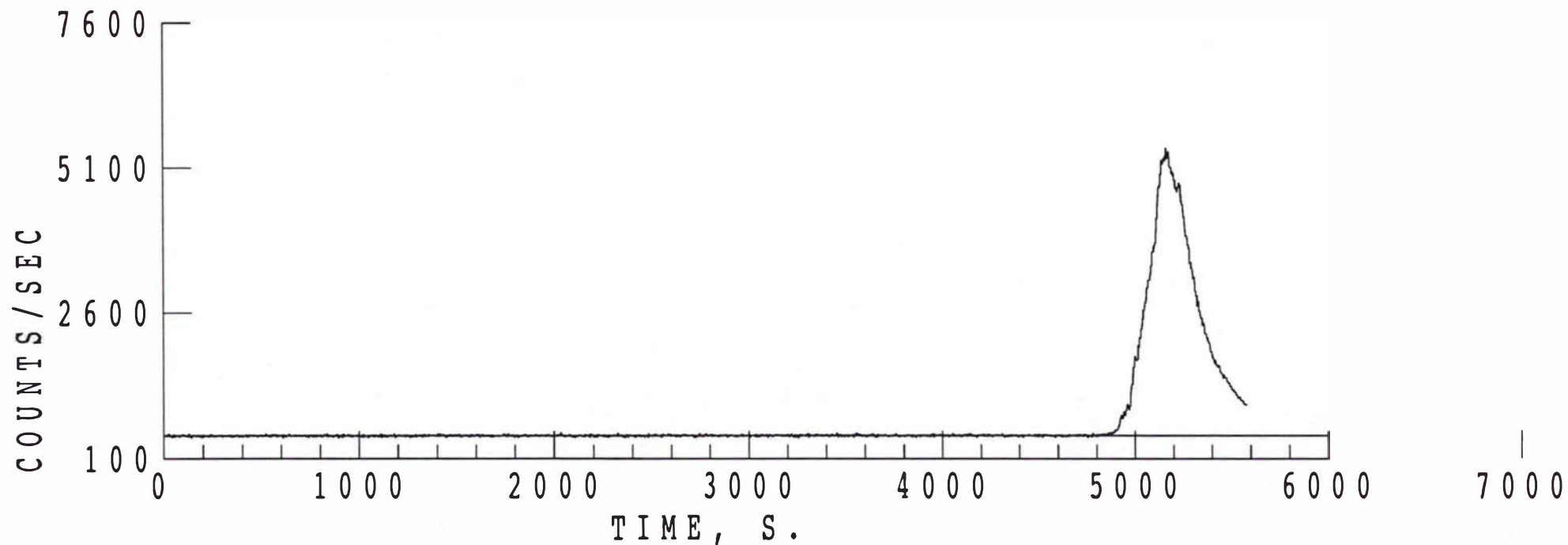
22/11/98 55836.105 s

INTERVALS REGROUPED BY 8

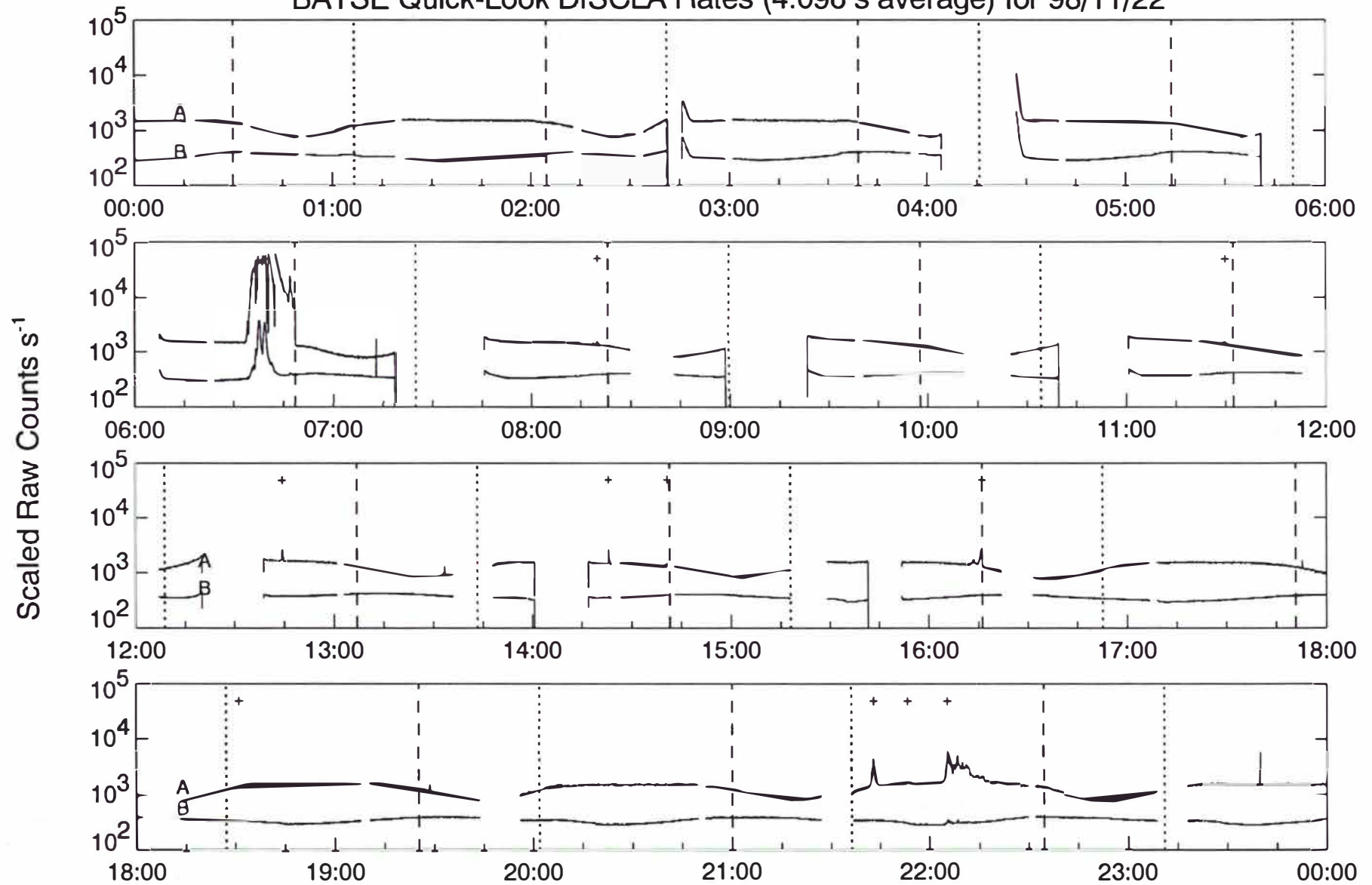
0 - 0 keV

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 98/11/22

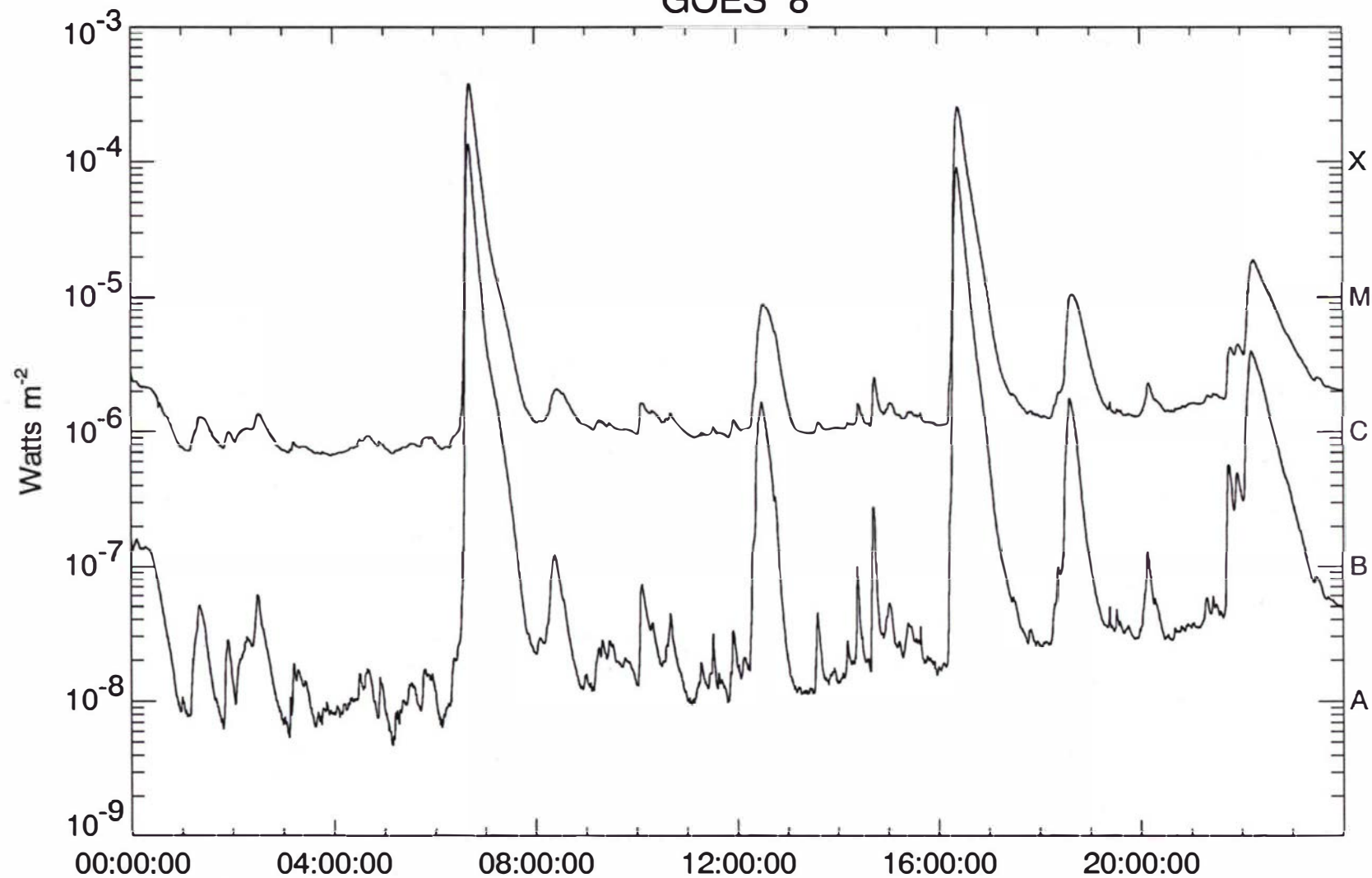


Current Time: 98/11/26, 1013 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

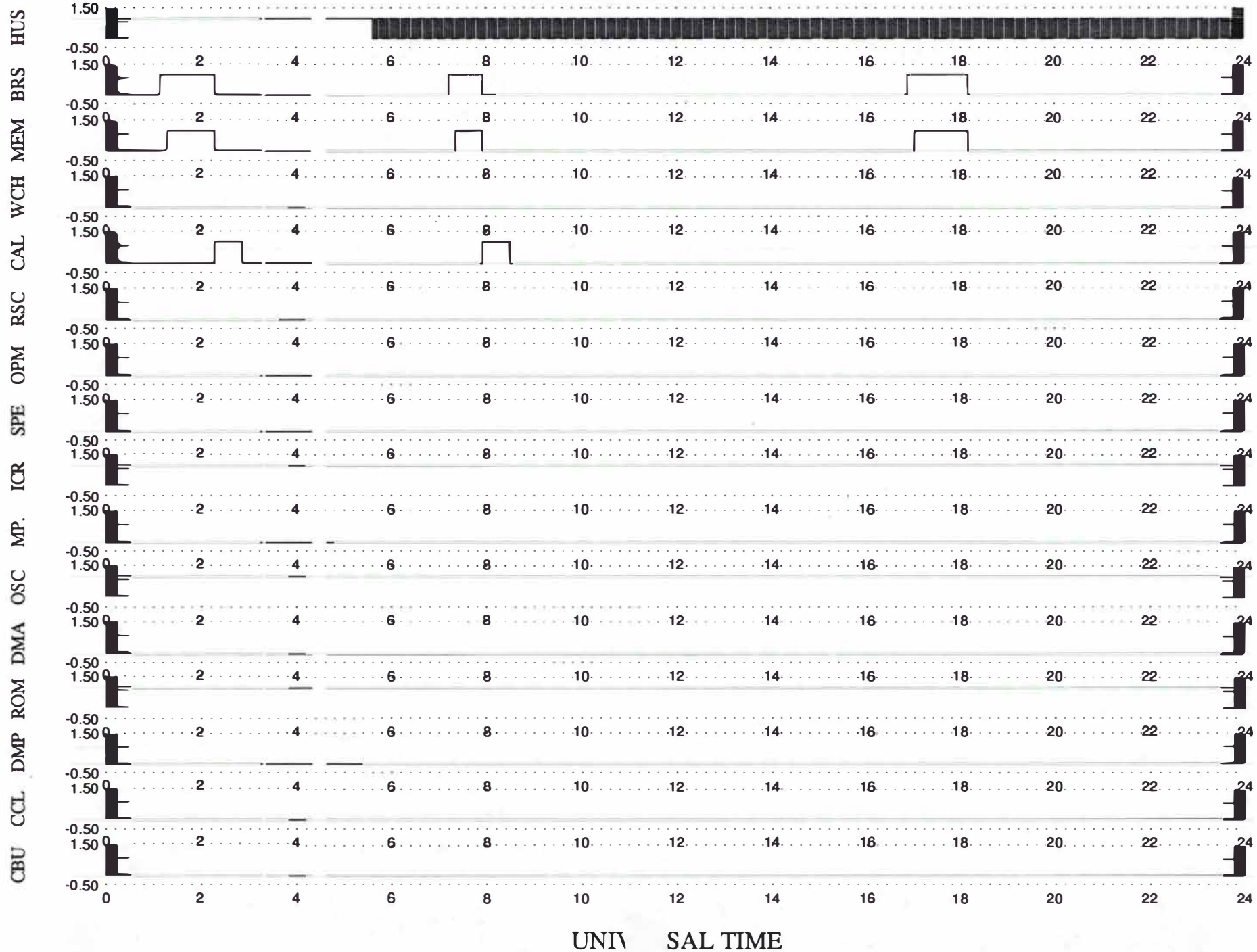


Data Start: 98/11/22, 0000:00

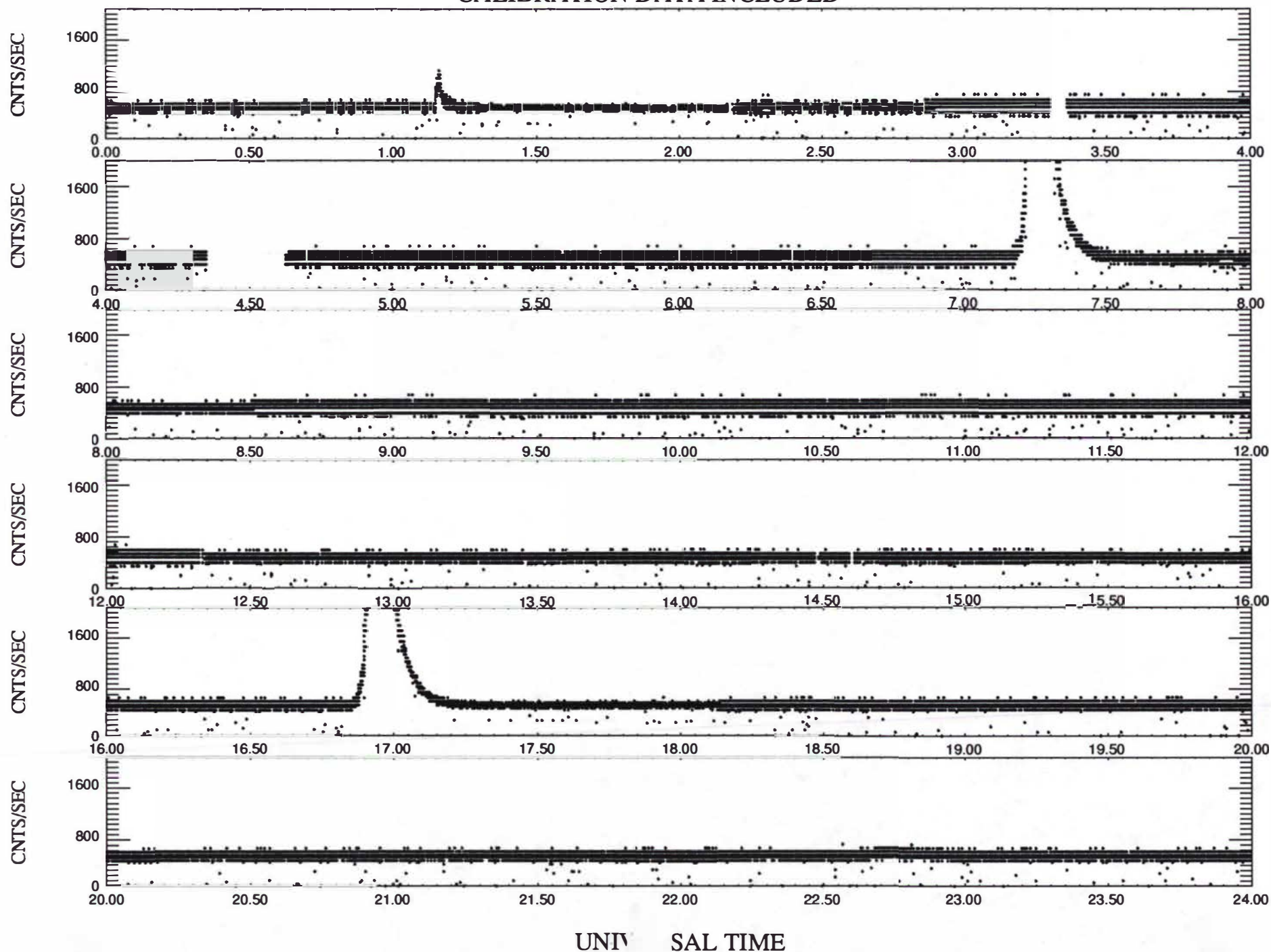
Plot created: 98/11/26, 1012

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

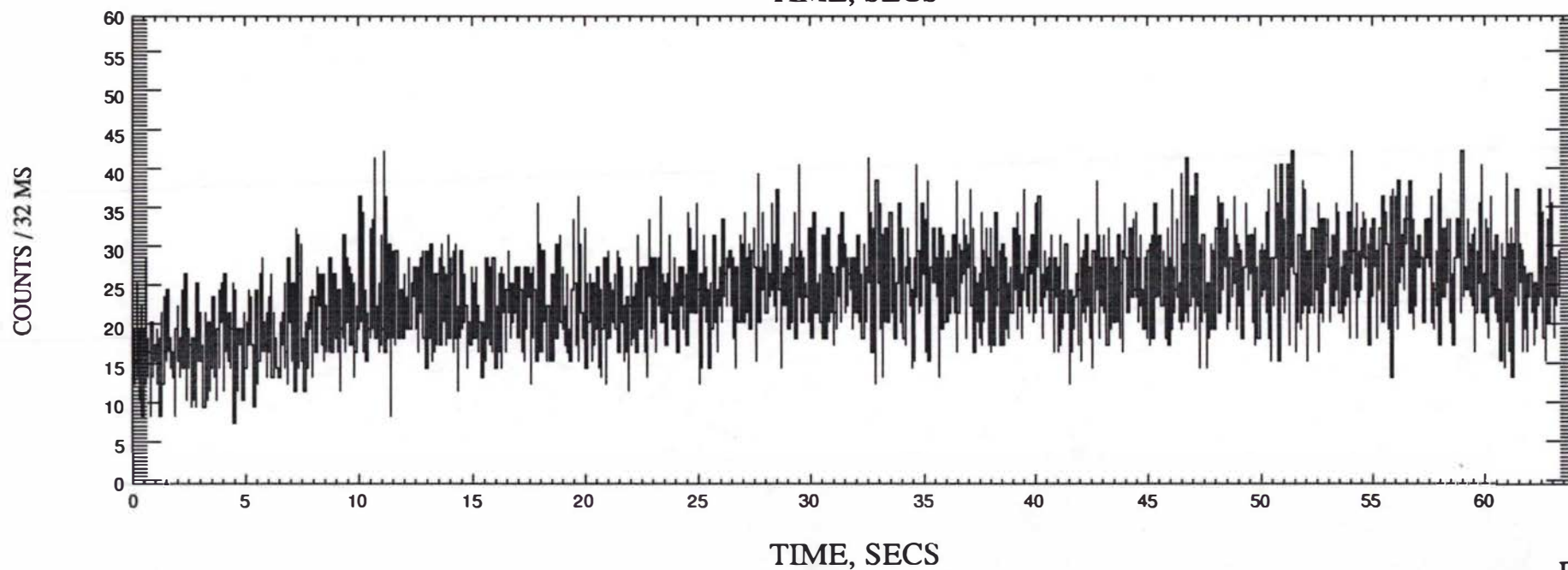
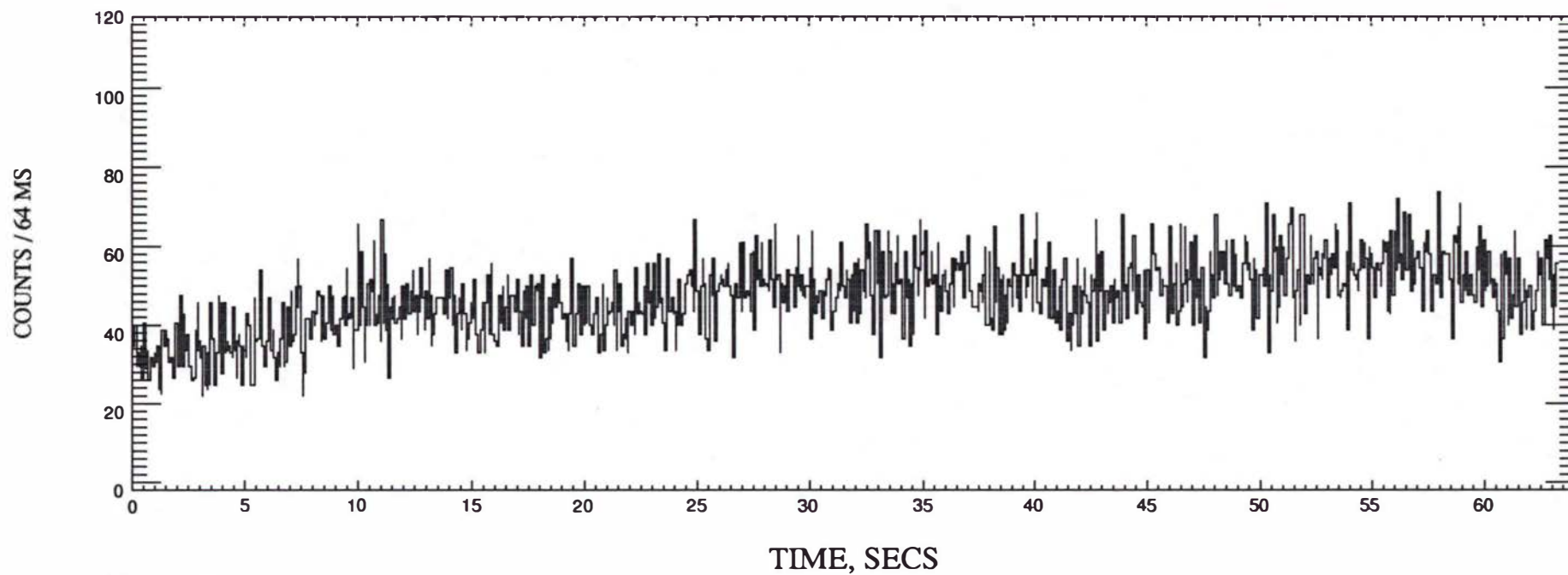
BURST NUMBER 0 - 2



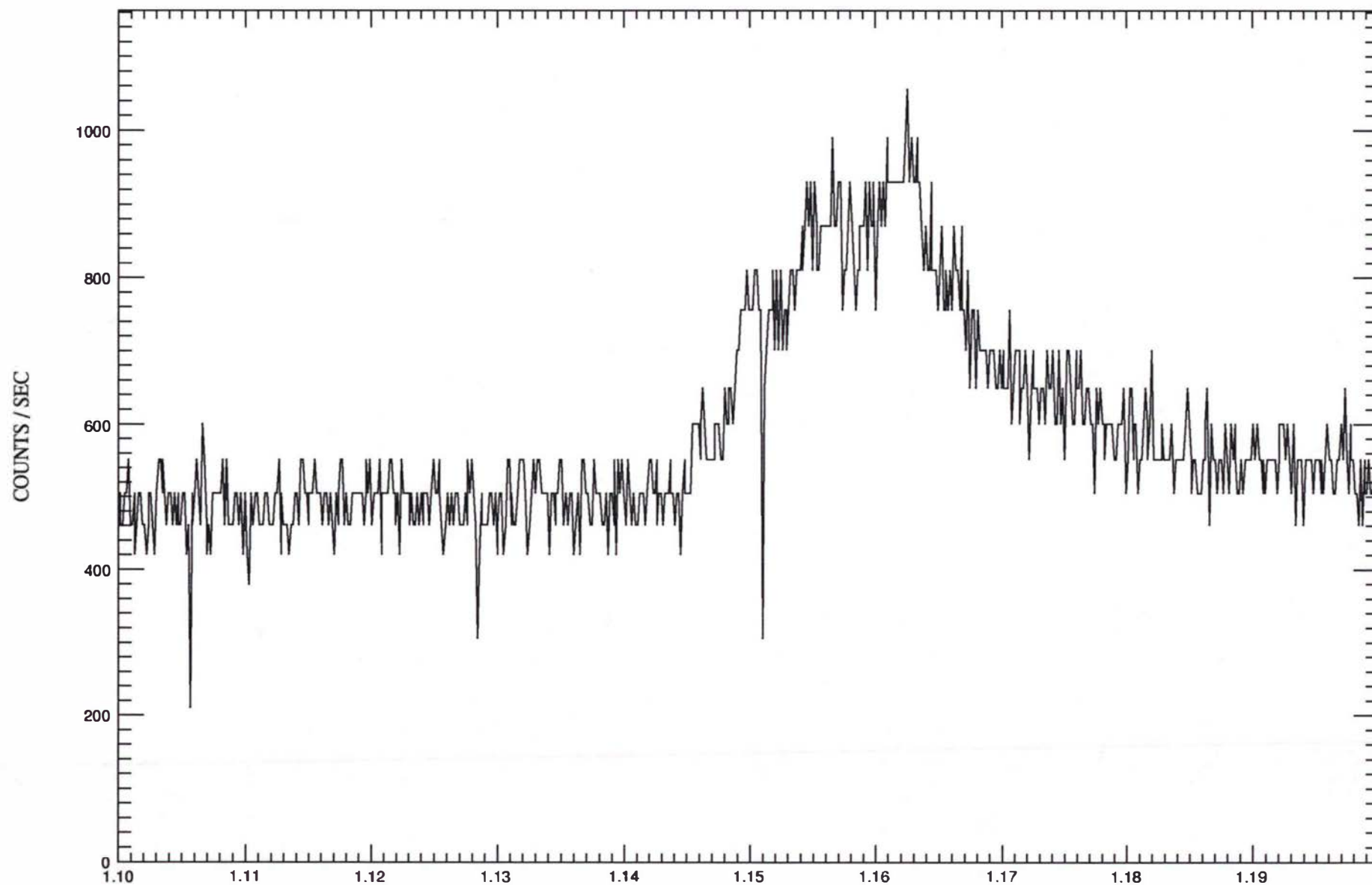
CALIBRATION DATA INCLUDED



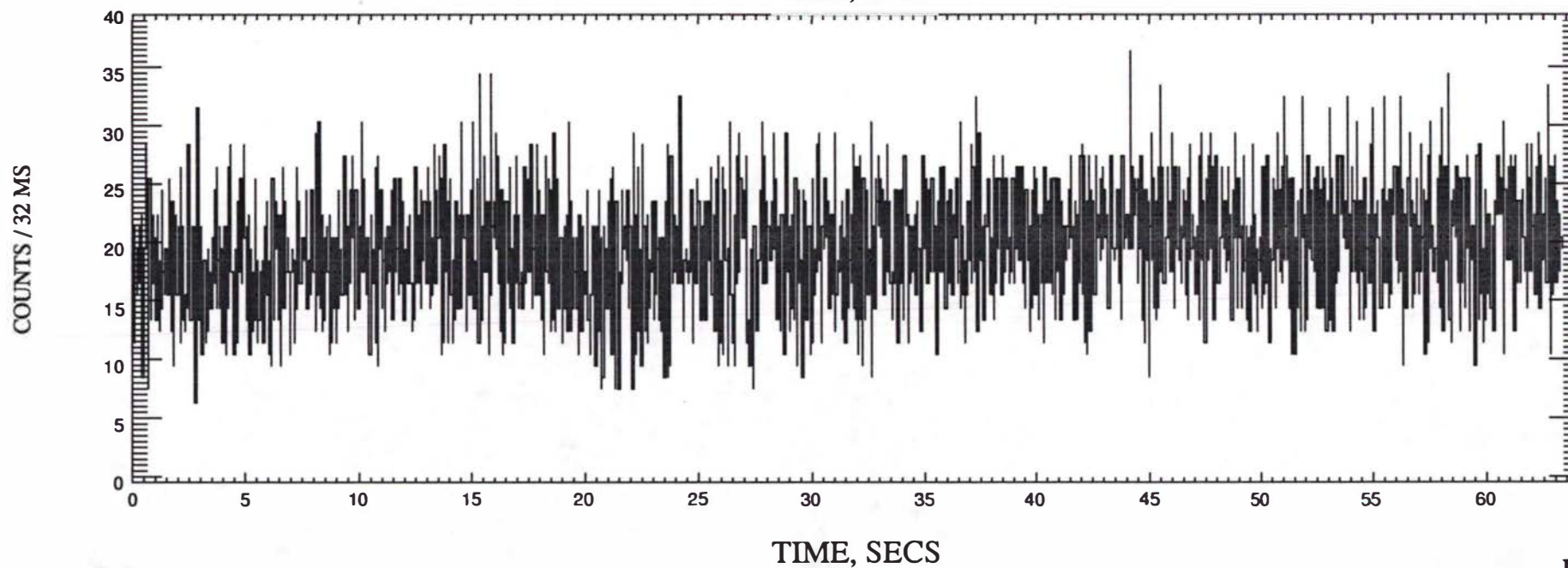
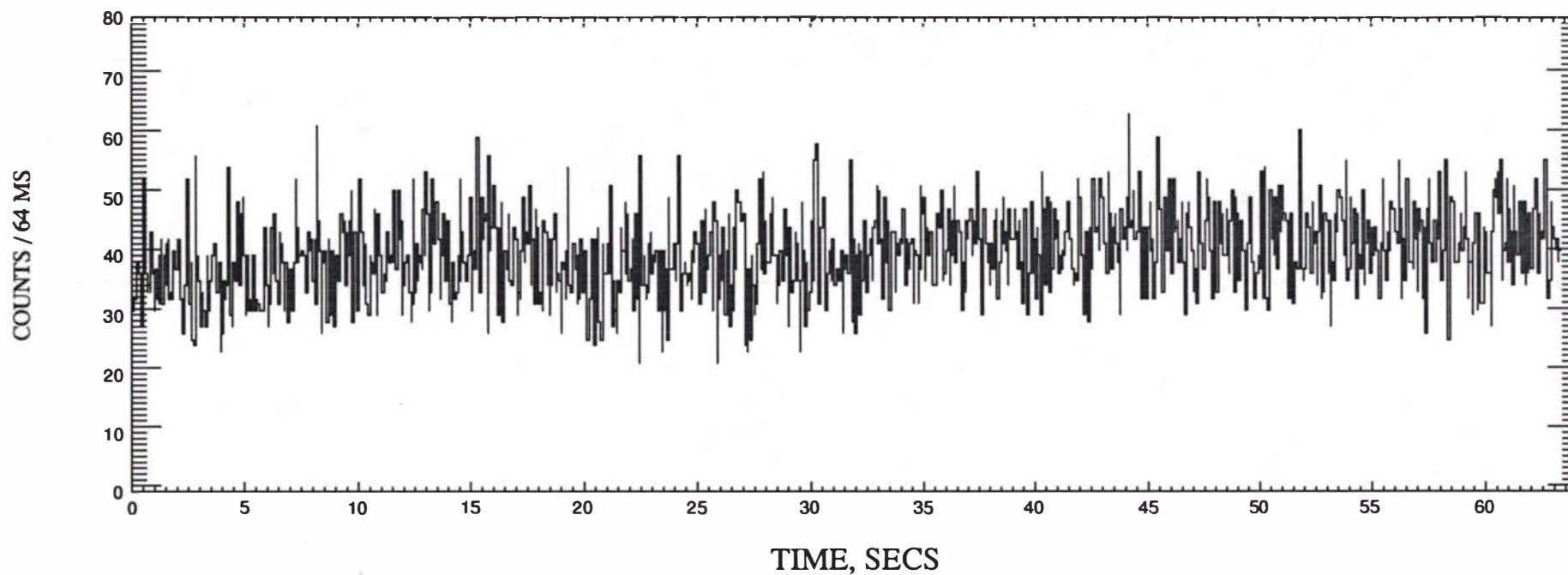
Burst Counter 0 at UT= 1.149077674018 h= 4136.680 s 01:08:56.680



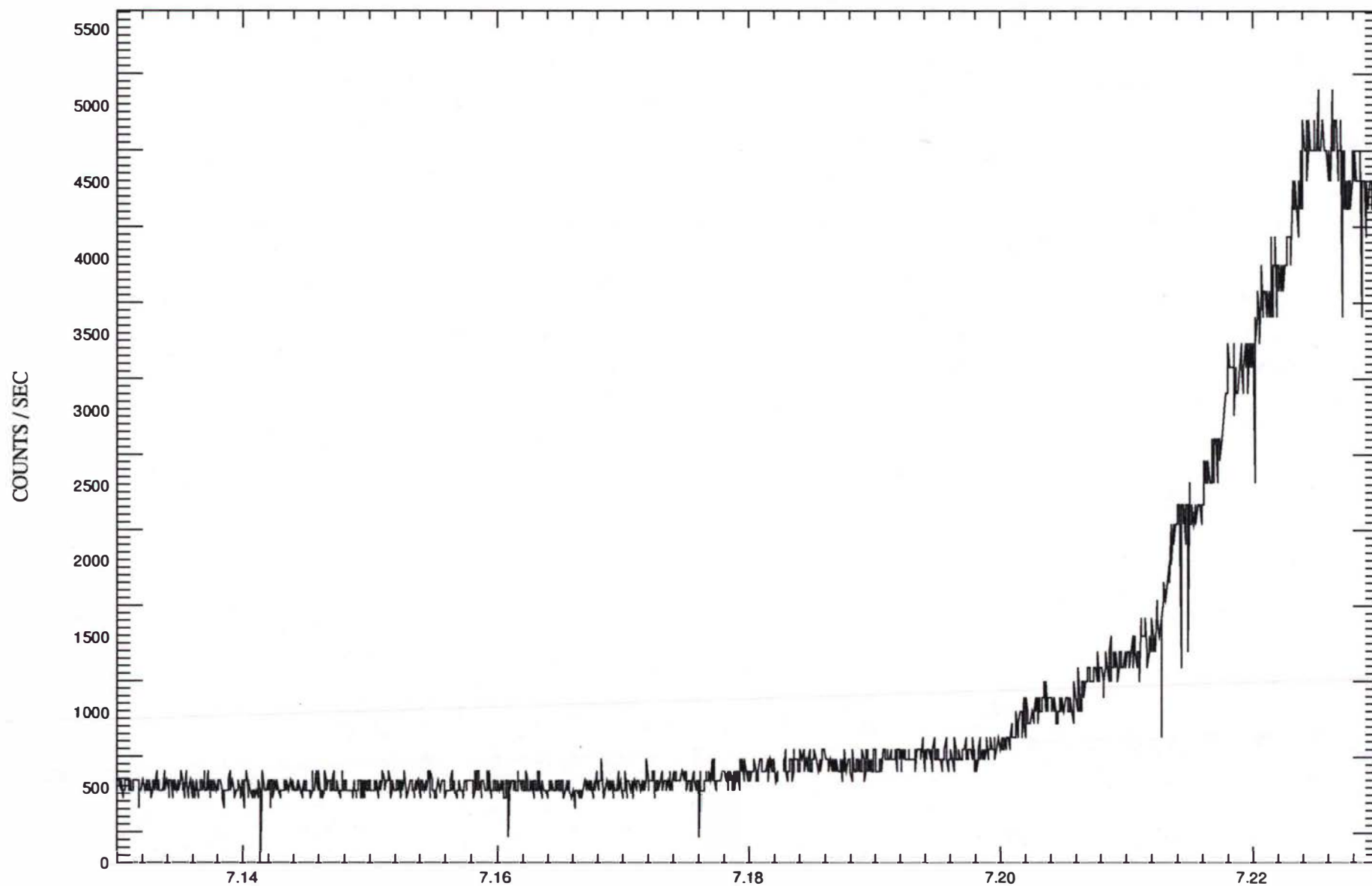
CALIBRATION DATA INCLUDED



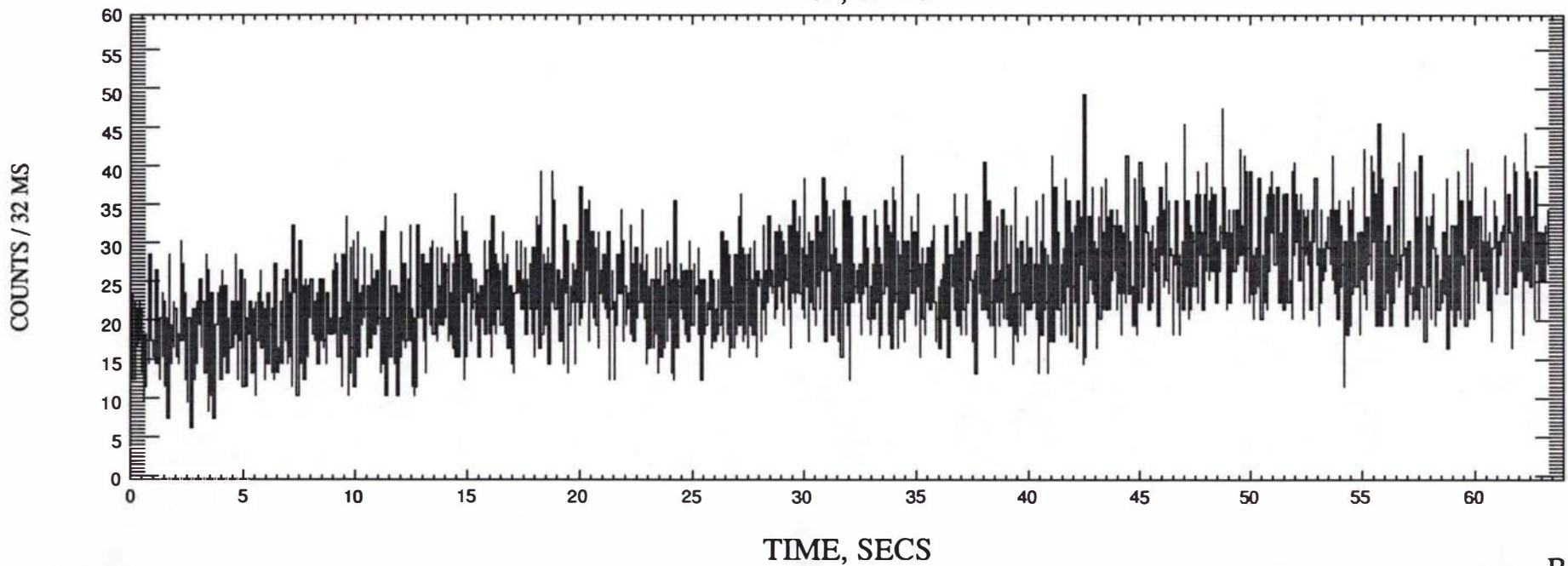
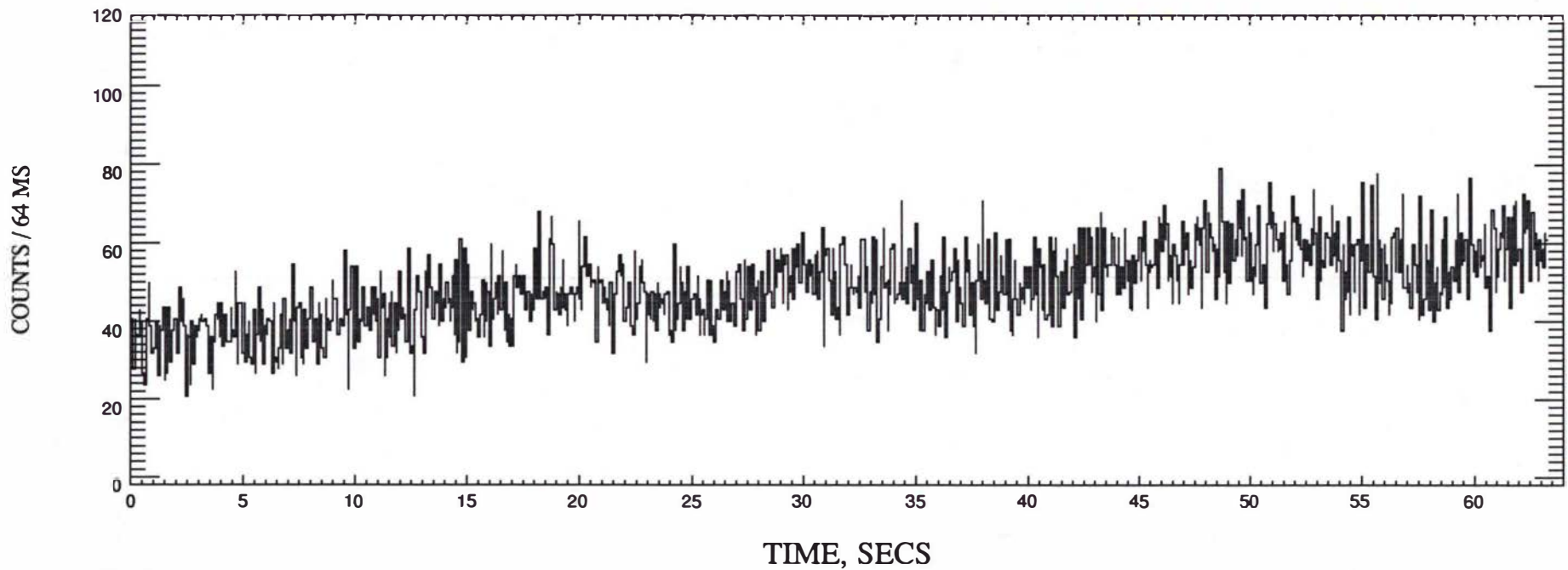
Burst Counter 1 at UT= 7.183379347059 h=25860.166 s 07:11:00.166



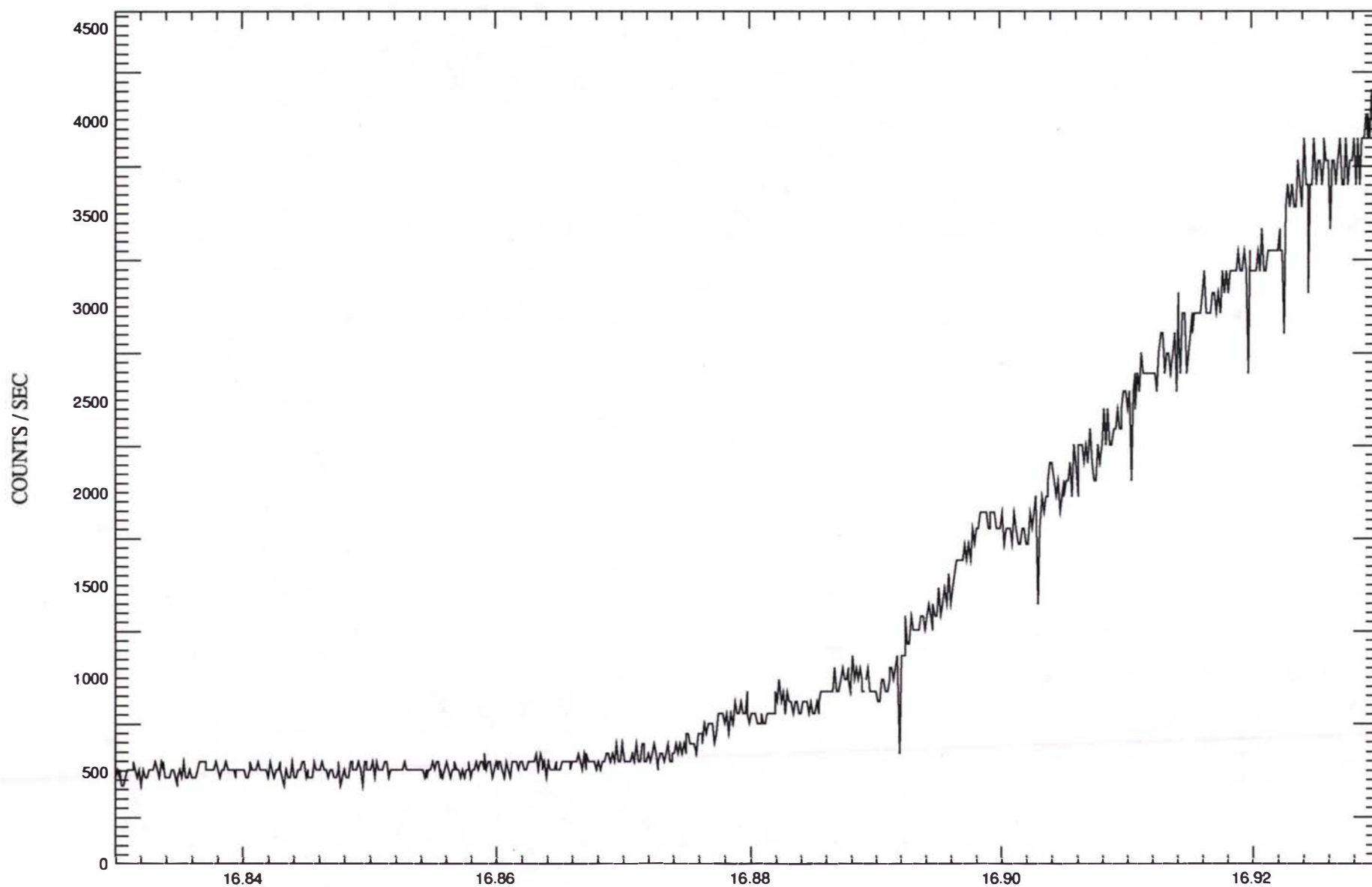
CALIBRATION DATA INCLUDED

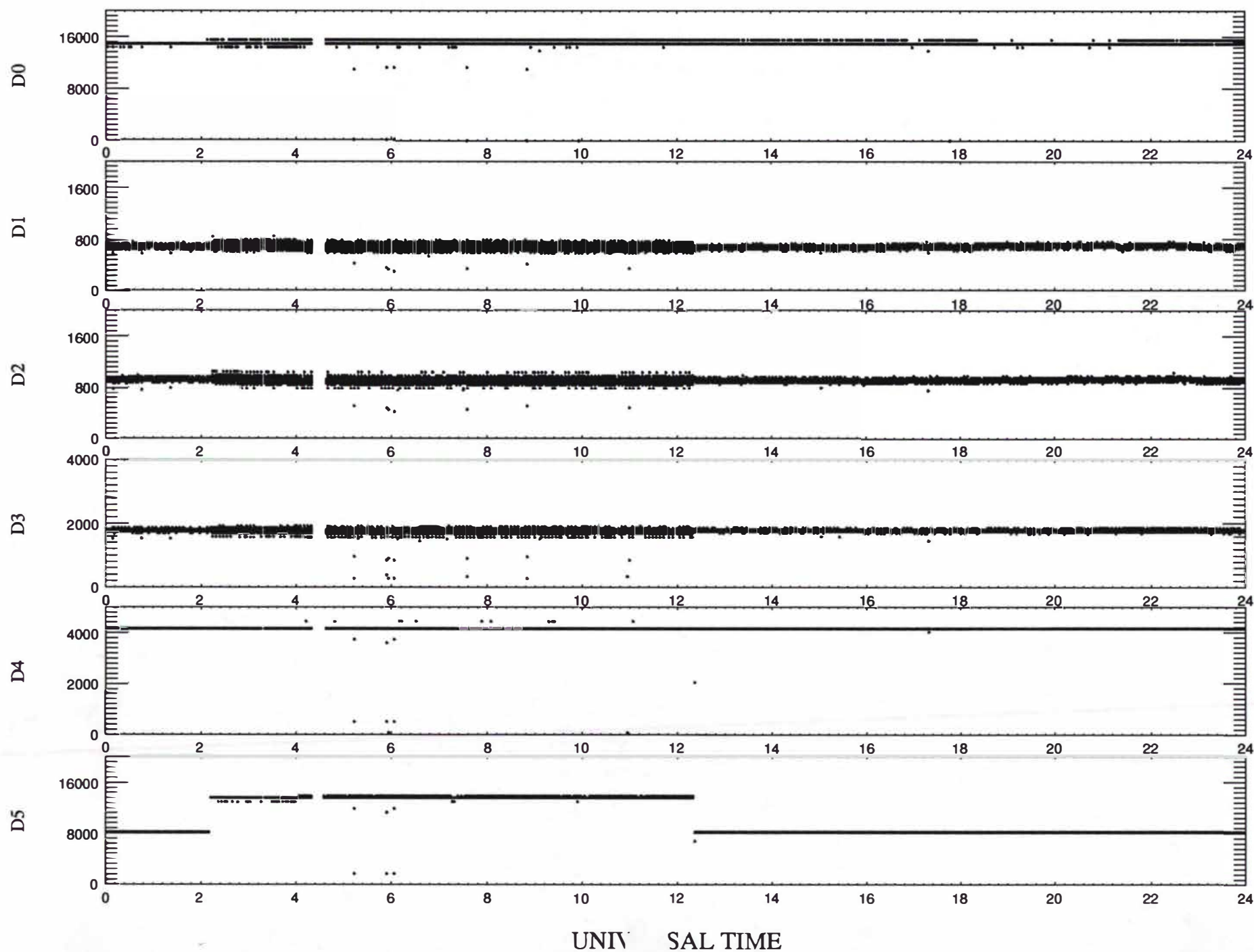


Burst Counter 2 at UT=16.876186417474 h=60754.271 s 16:52:34.271



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Tue Nov 24 08:46:13 1998
Date: Tue, 24 Nov 1998 10:45:44 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7225

TIME: TJD=1140 SECONDS=13307

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

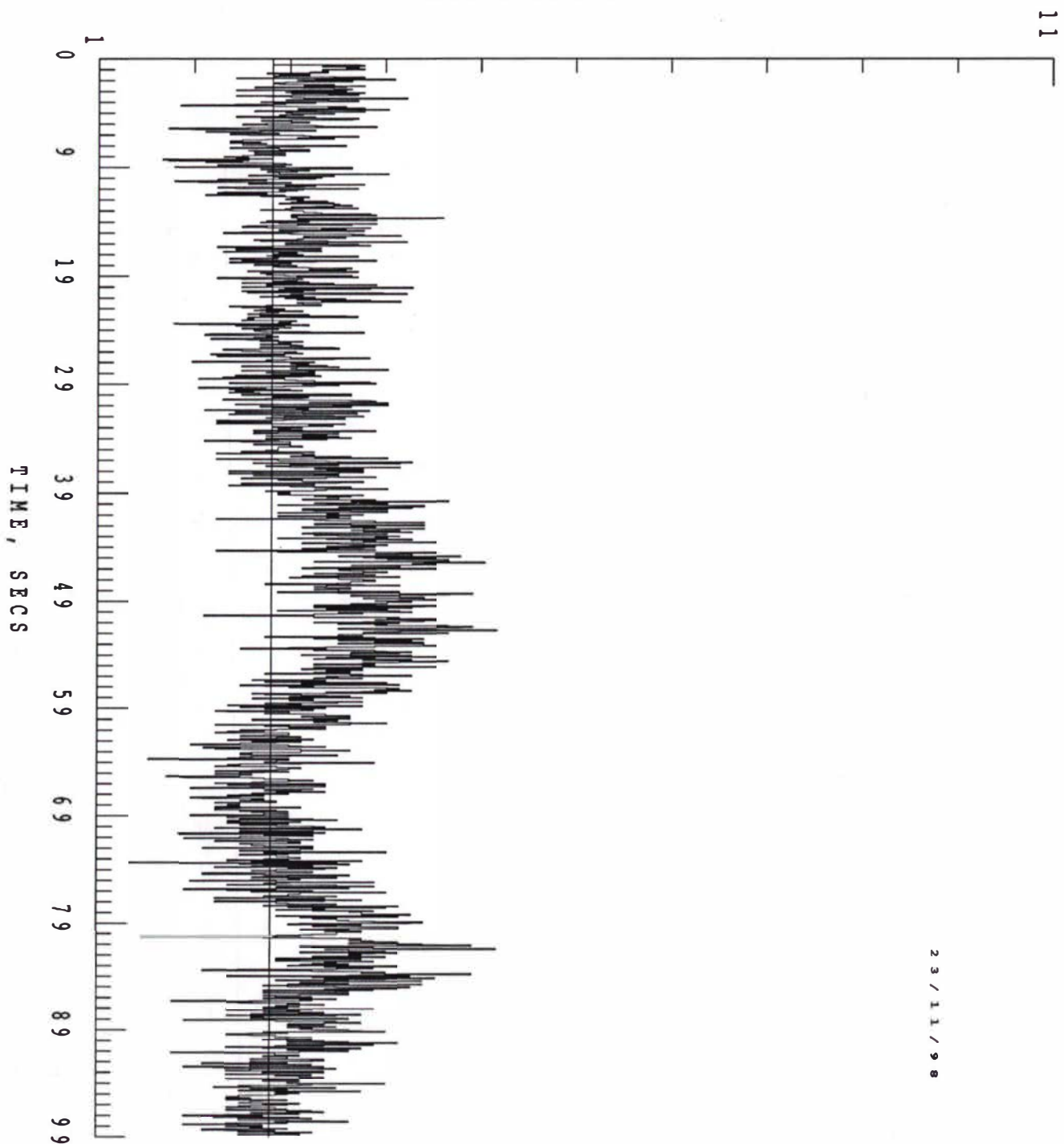
KONUS

23/11/98

23672.275

50 - 200 keV

COUNTS/0.064 S



KONUS GRB19981123

ULYSSES RT

23 / 11 / 98

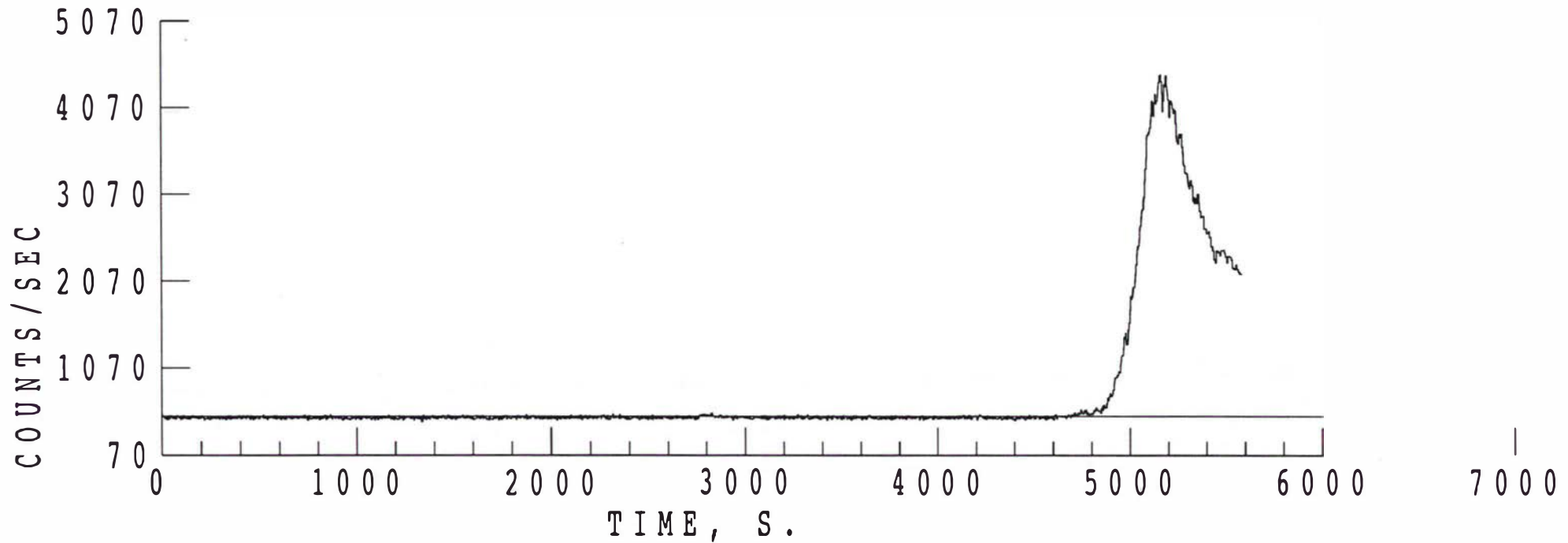
23 / 11 / 98 20880.133 s

INTERVALS REGROUPED BY 15

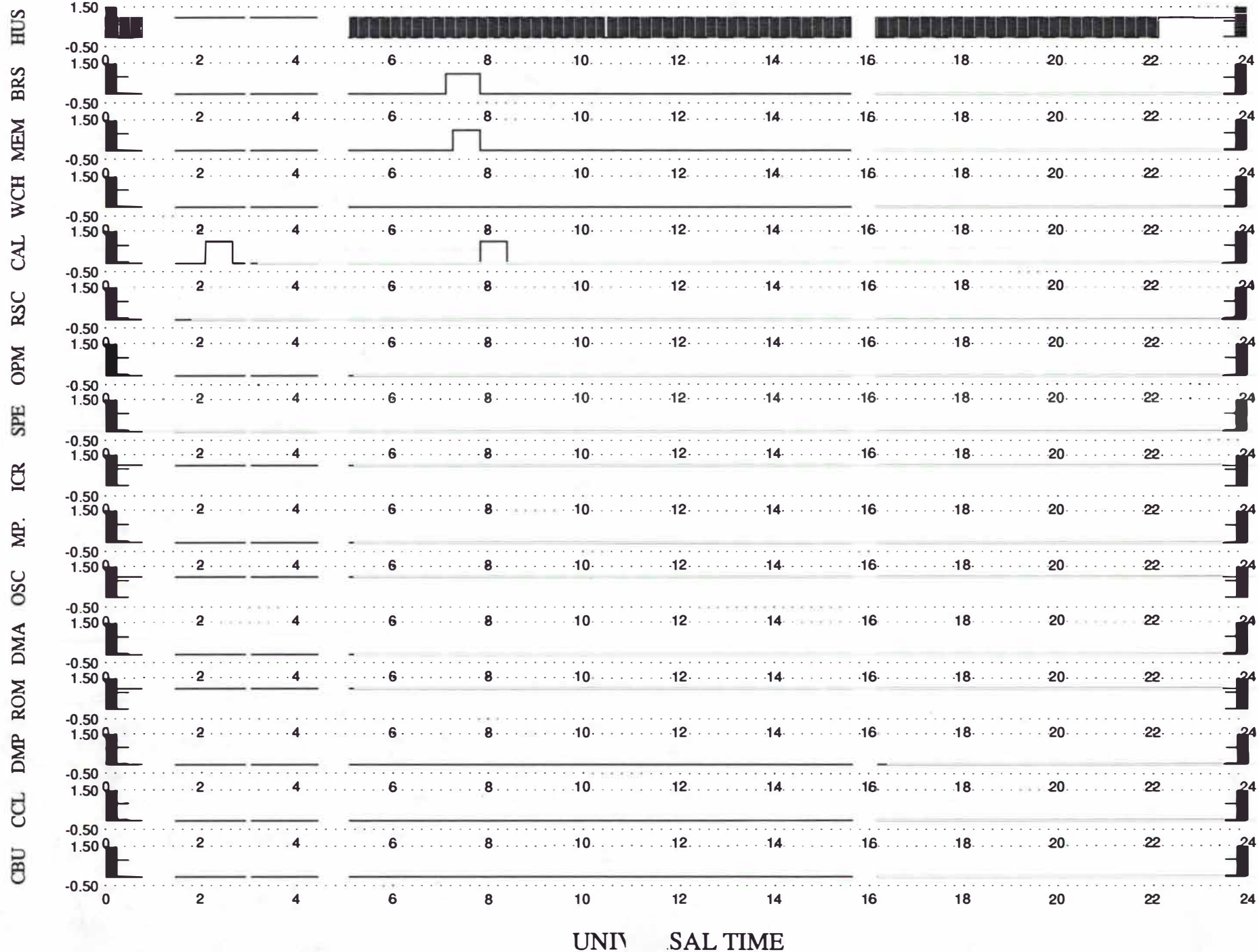
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

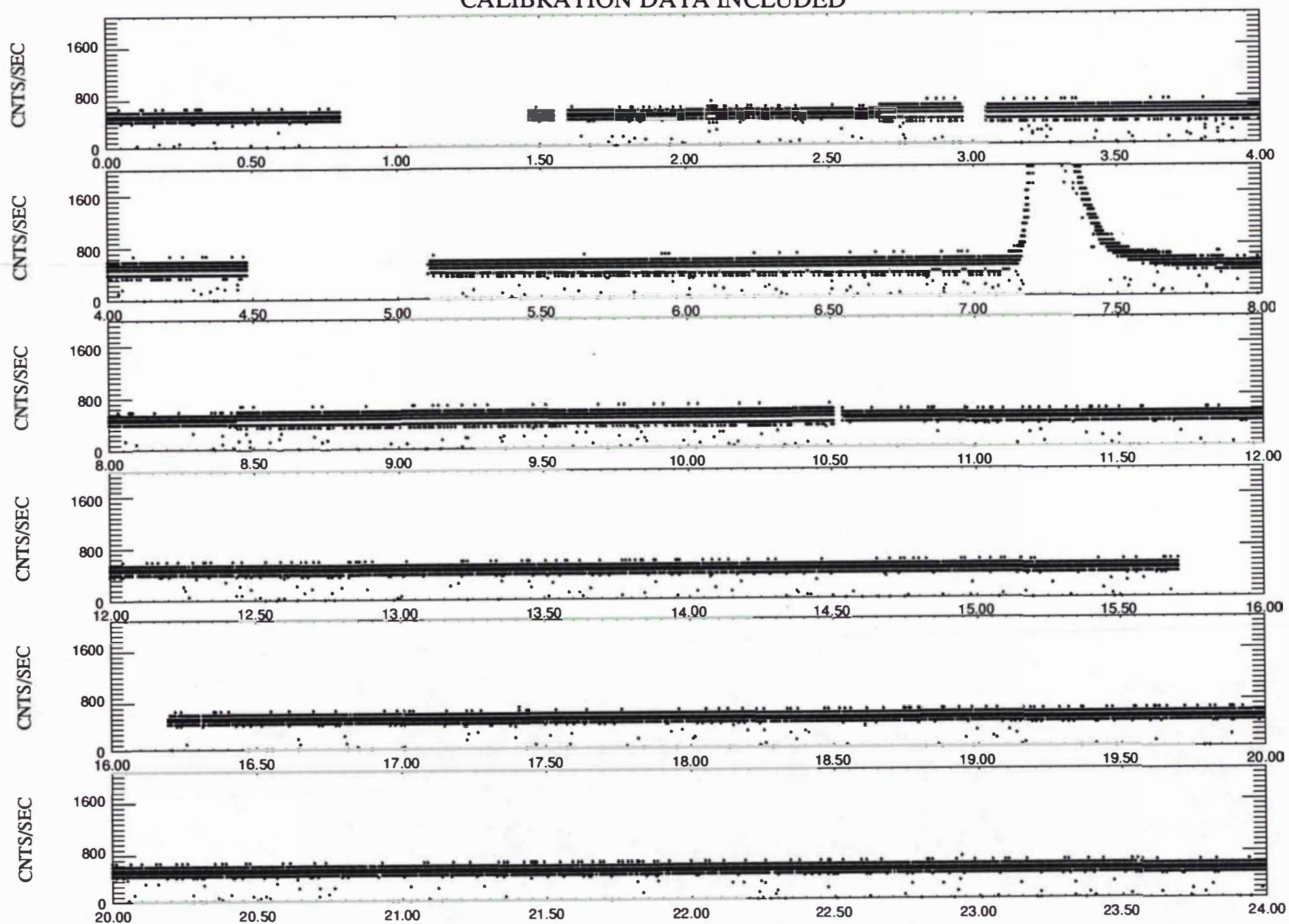
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 3

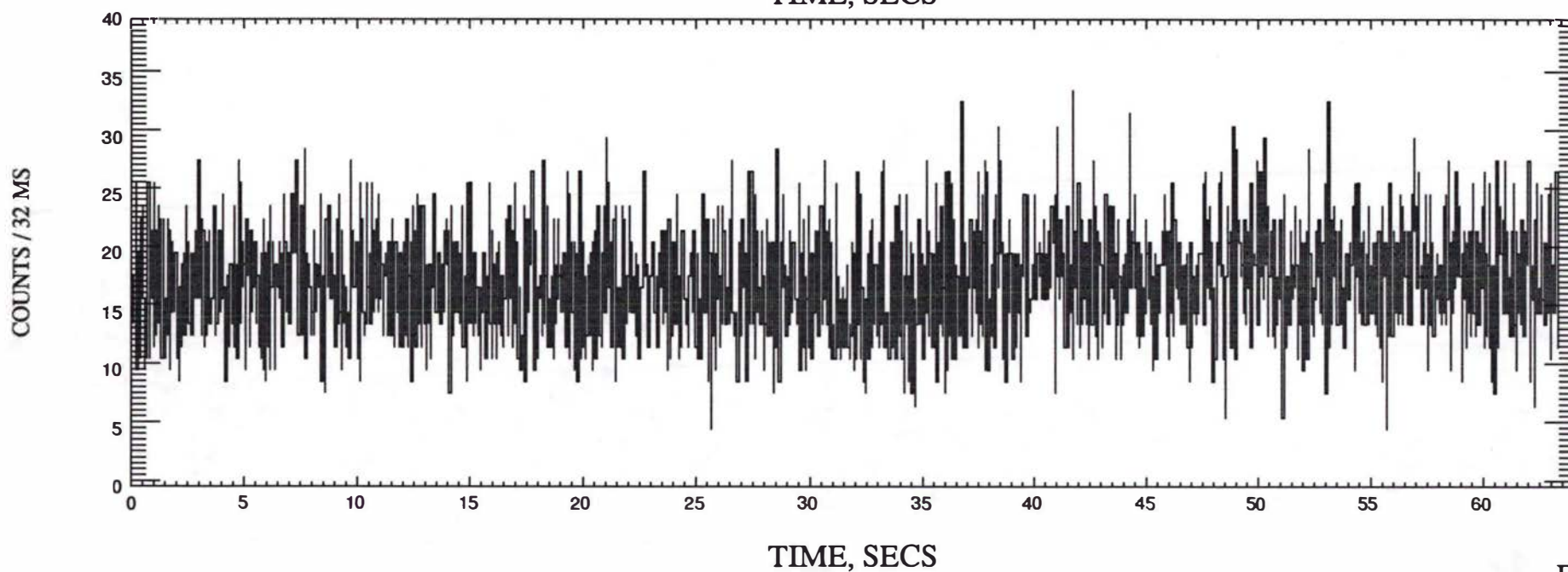
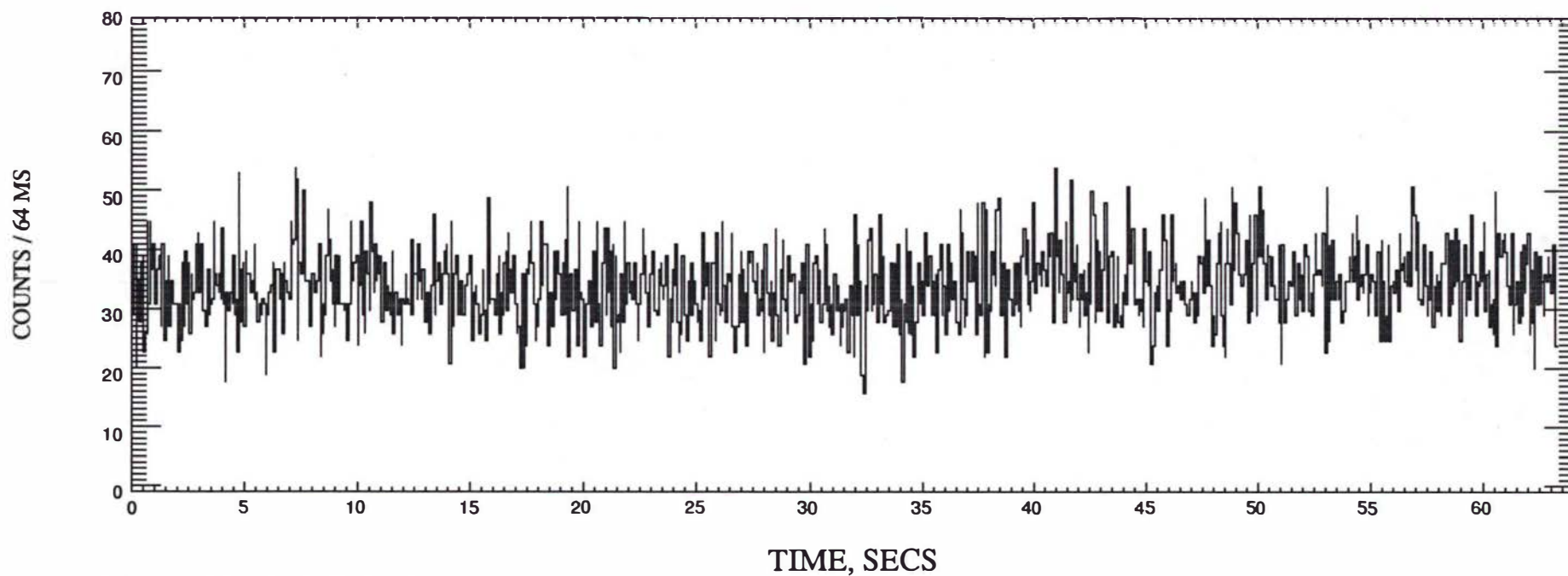


CALIBRATION DATA INCLUDED

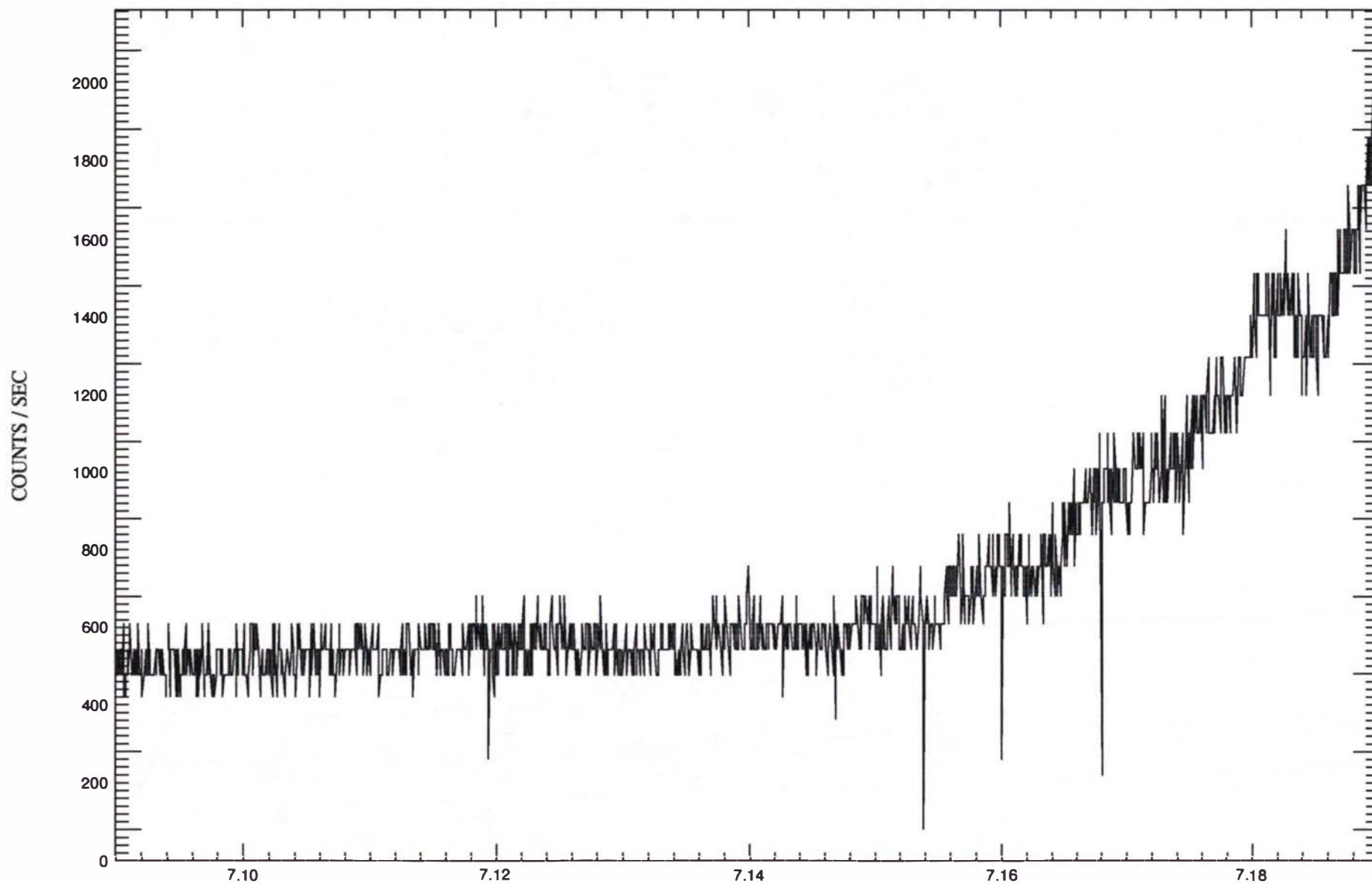


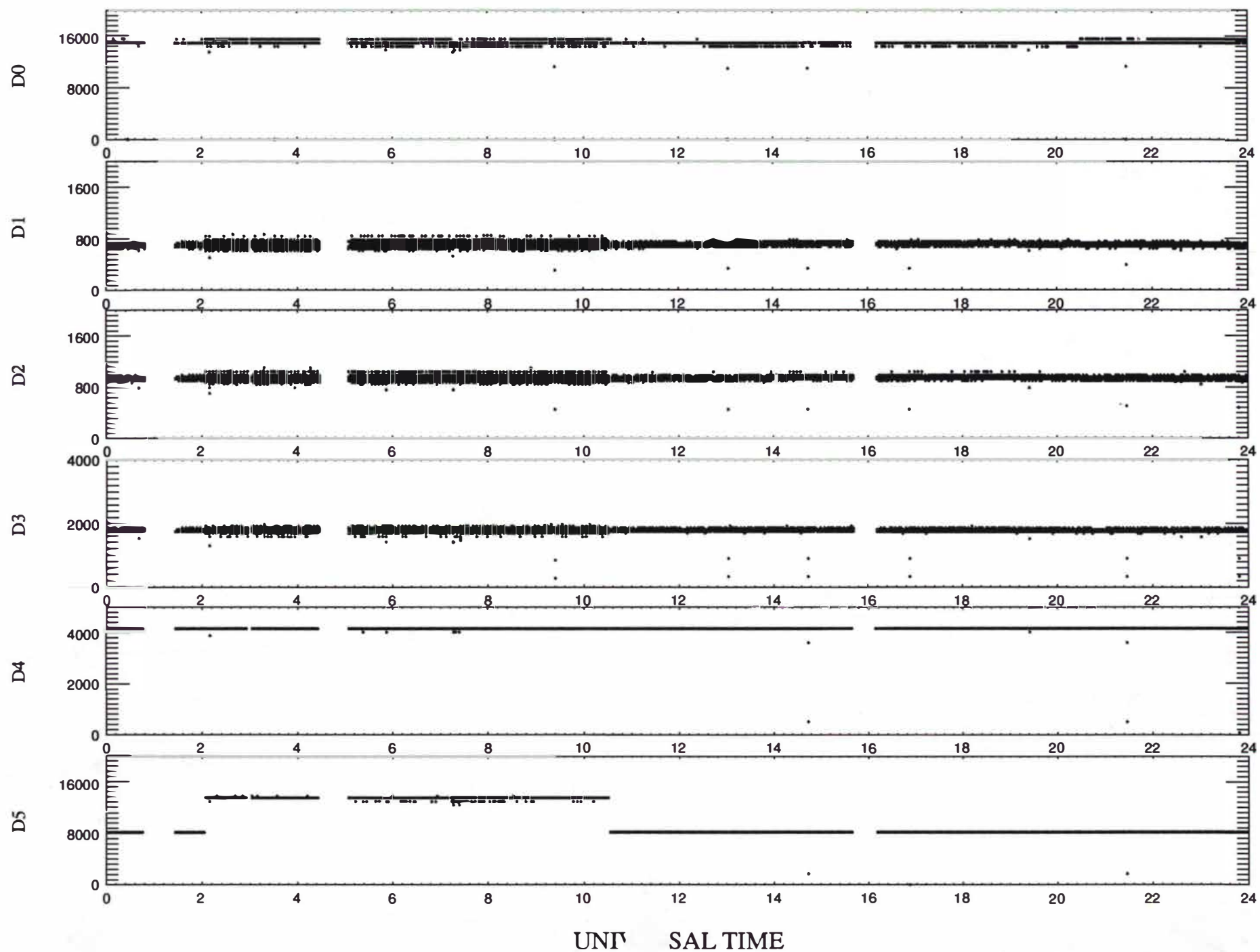
UNIV SAL TIME

Burst Counter 3 at UT= 7.140015424093 h=25704.056 s 07:08:24.056



CALIBRATION DATA INCLUDED





From khurley@sunspot Mon Nov 30 08:13 PST 1998
Date: Mon, 30 Nov 1998 08:13:05 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981124A,B

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
NOV 24 1998 02:40*	moderate, 100 ms long	2700
NOV 24 1998 11:10	moderate, 10 s long	2700

*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1310 s earlier.

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

TGRS: NO

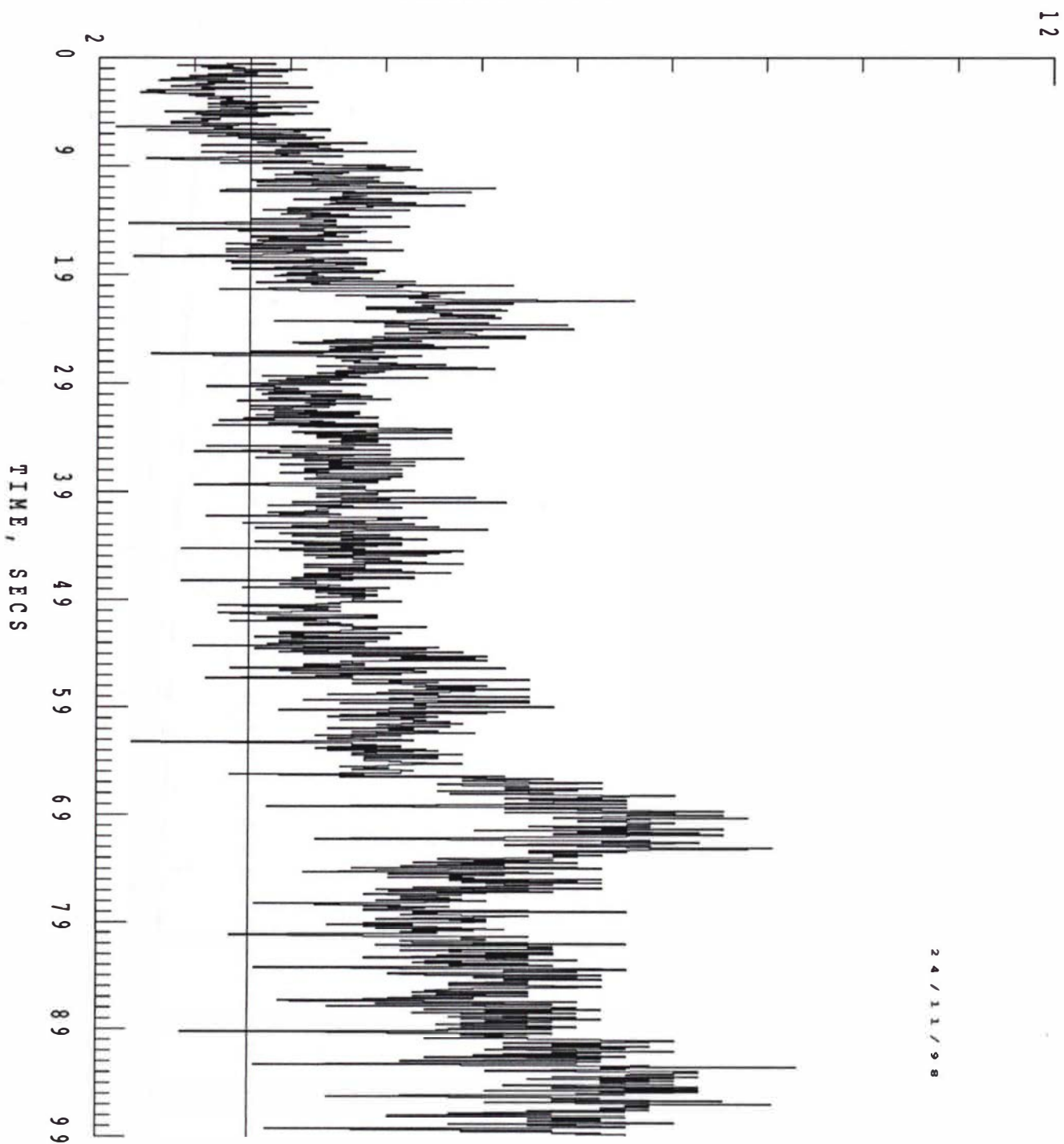
KONUS

24/11/98

7891.959

50 - 200 keV

COUNTS/0.064 S



KONUS GRB19981124

ULYSSES RT

24 / 11 / 98

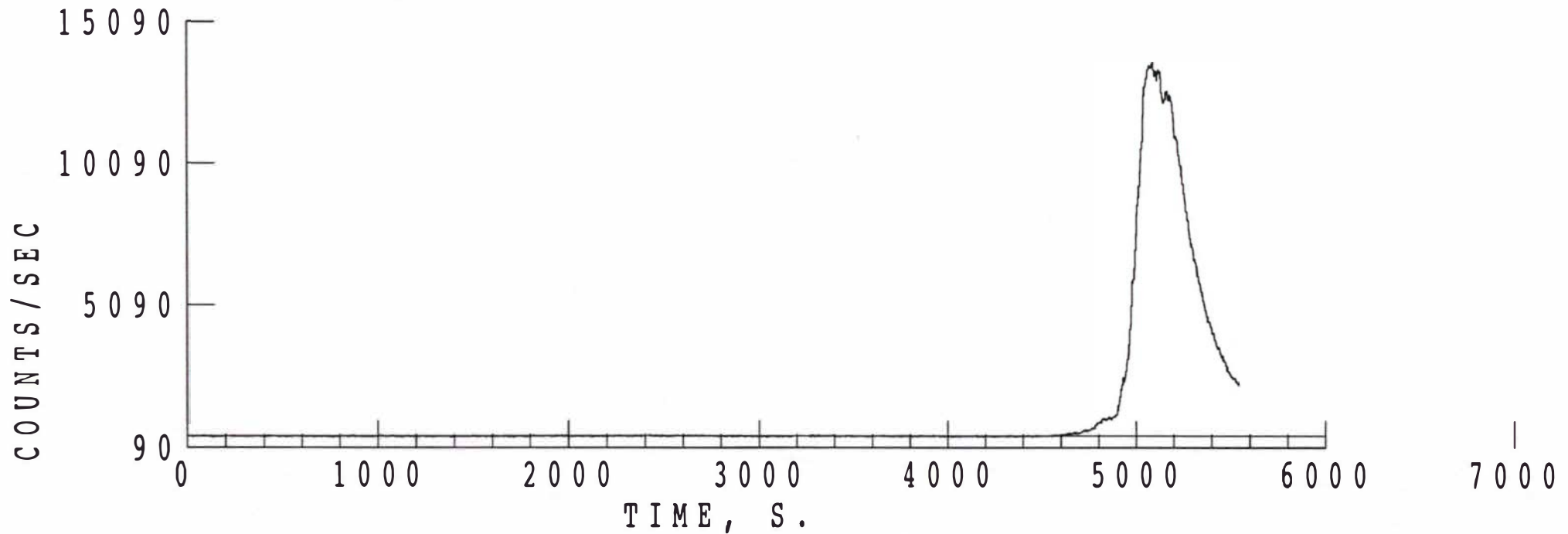
24 / 11 / 98 5112.354 s

INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri Nov 27 12:03:34 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 MAA18101; Fri, 27 Nov 1998 12:03:34 -0800
 From: HENZE@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id MAA22775; Fri, 27 Nov 1998 12:03:30 -0800
 Date: Fri, 27 Nov 1998 14:03:32 -0600 (CST)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <981127140332.20235957@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7227
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7227
 EVENT OF 1998 NOV 24 DAY OF YEAR=328
 EVENT CROSSING TIME AT BATSE : 72028. S. OR 20:00:28.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 343.000 -53.000
 BATSE PEAK COUNTING RATE: 9400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 24/11/ 98 IS:
 RA= 166.945 DEC= -4.790 DIST= 5.459 AU
 BATSE-ULYSSES DISTANCE = 816651151. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 57.89 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1448.13 SECS.
 CROSSING TIME AT ULYSSES IS 73476. S. OR 20:24:36 +/- 472.57 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 24/11/ 98 IS:
 RA= 178.890 DEC= 2.281 DIST= 1.851 AU
 MARS-BATSE DISTANCE = 276924736. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 52.40 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 563.61 SECS.
 CROSSING TIME AT MARS IS 72592. S. OR 20:09:51 +/- 135.62 SECONDS

BATSE BURST TRIGGER

NO.: 7227

TIME: TJD=1141 SECONDS=72028

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 70.4 AZIMUTH=100.9 ERROR= 3.3 DEGREES

COMMENTS:

SINGLE SPIKE WITH SUBSTRUCTURE, DUR. APPROX. 0.25 S.
 VISIBLE ABOVE 300 KEV; ONLY marginally VISIBLE BELOW 50 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7227	981124	11141	72028	9400	343	-53	.25

KNEAR GRS 19981124 71368

ULYSSES RT

3 / 6 / 99

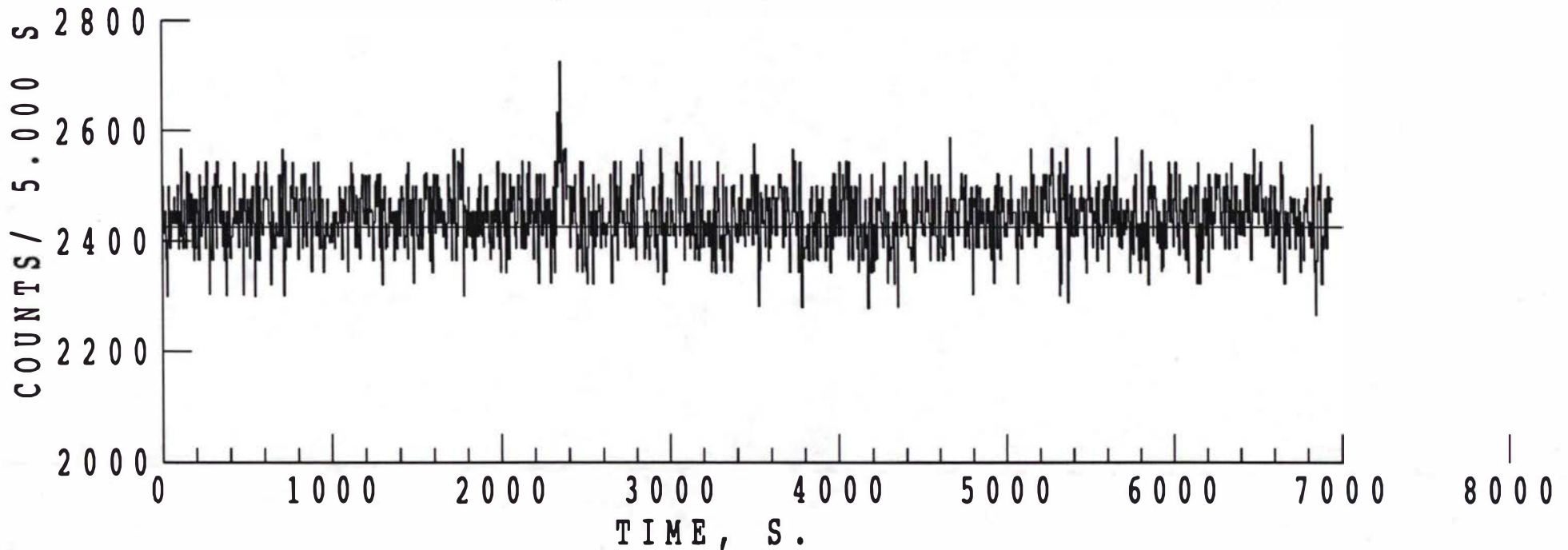
24/11/98 67896.000 s

0.500 S INTERVALS REGROUPED BY 10

0 - 0 keV

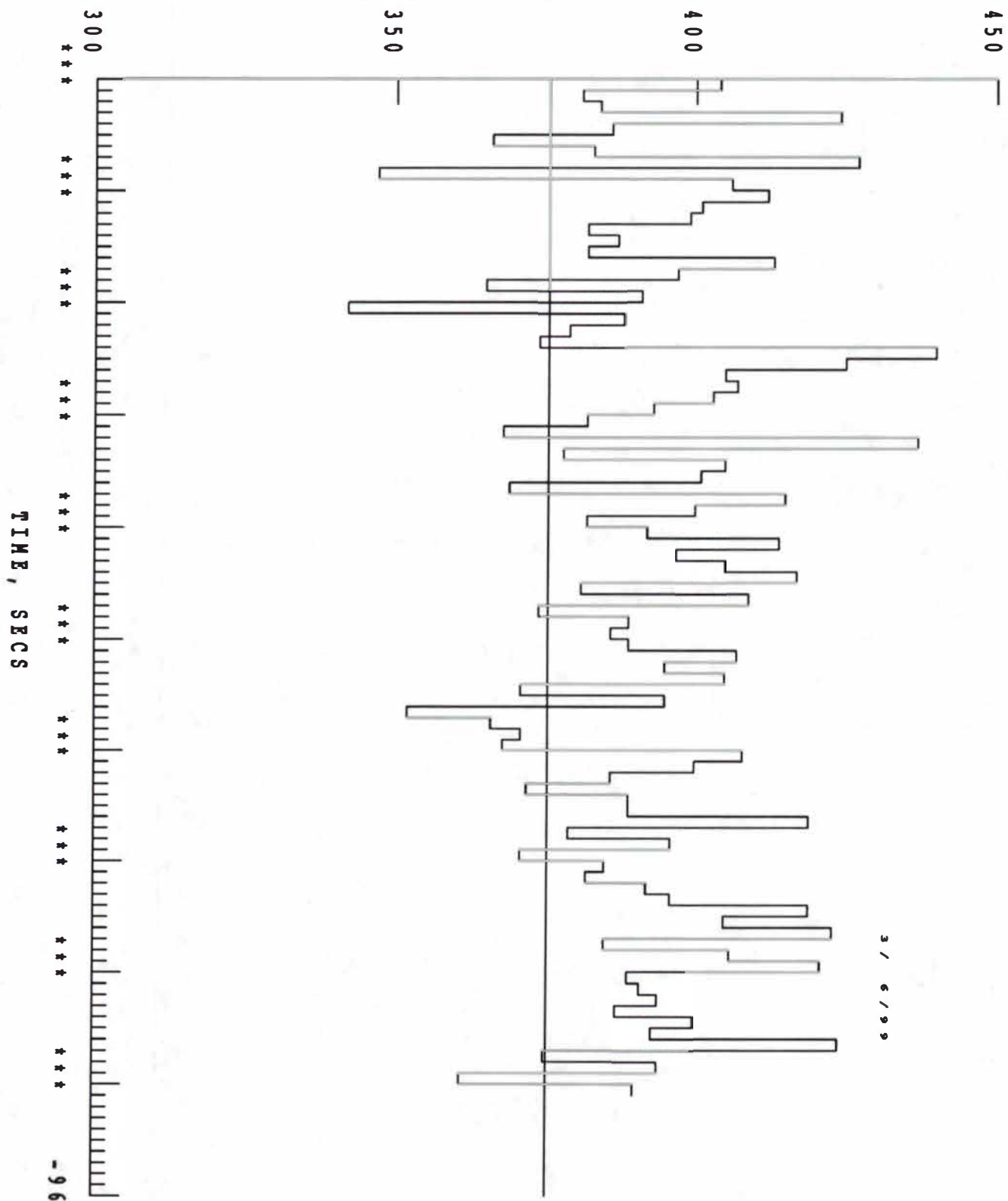
N= 10 N= 2
>4.0 SIGMA FLUCTUATIONS

Must be a different event



7 1 3 6 8 . 1 0 2

COUNTS / 1.000 S



BATSE BURST# 7227

ULYSSES RT

27 / 11 / 98

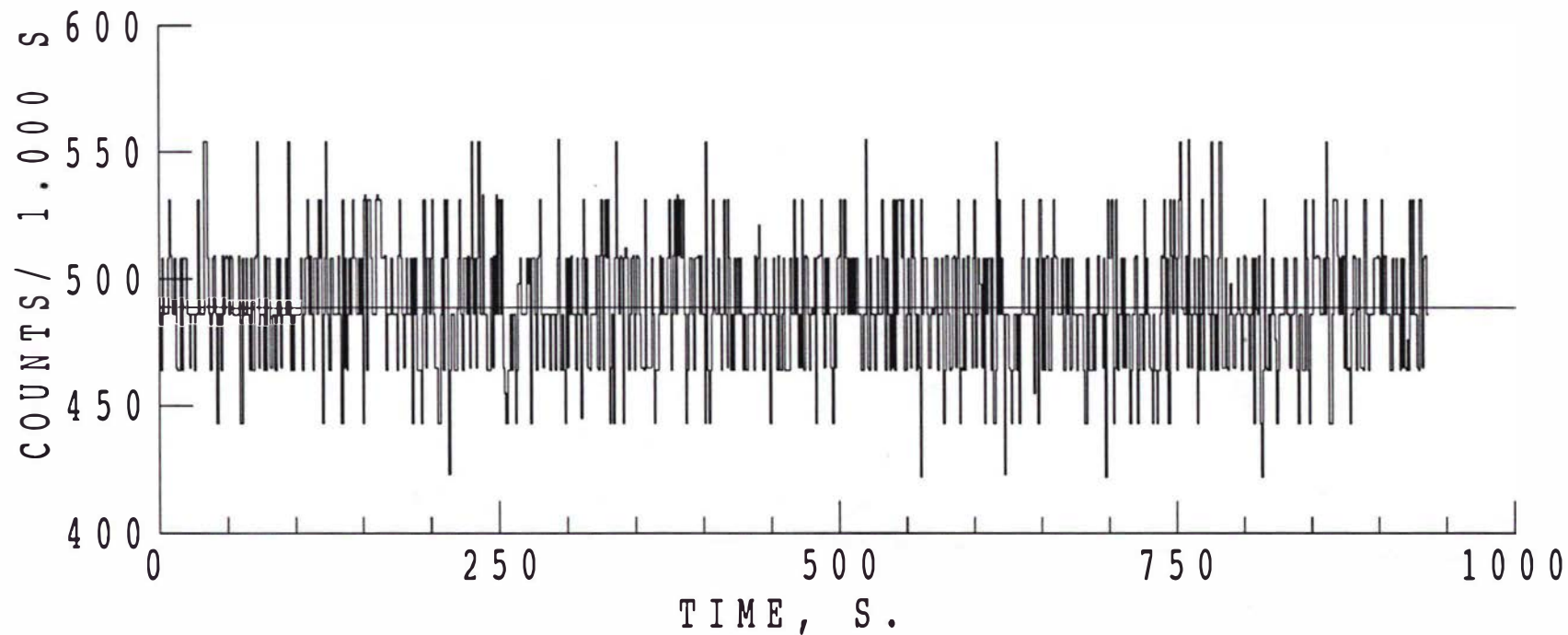
24 / 11 / 98 73008.055 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

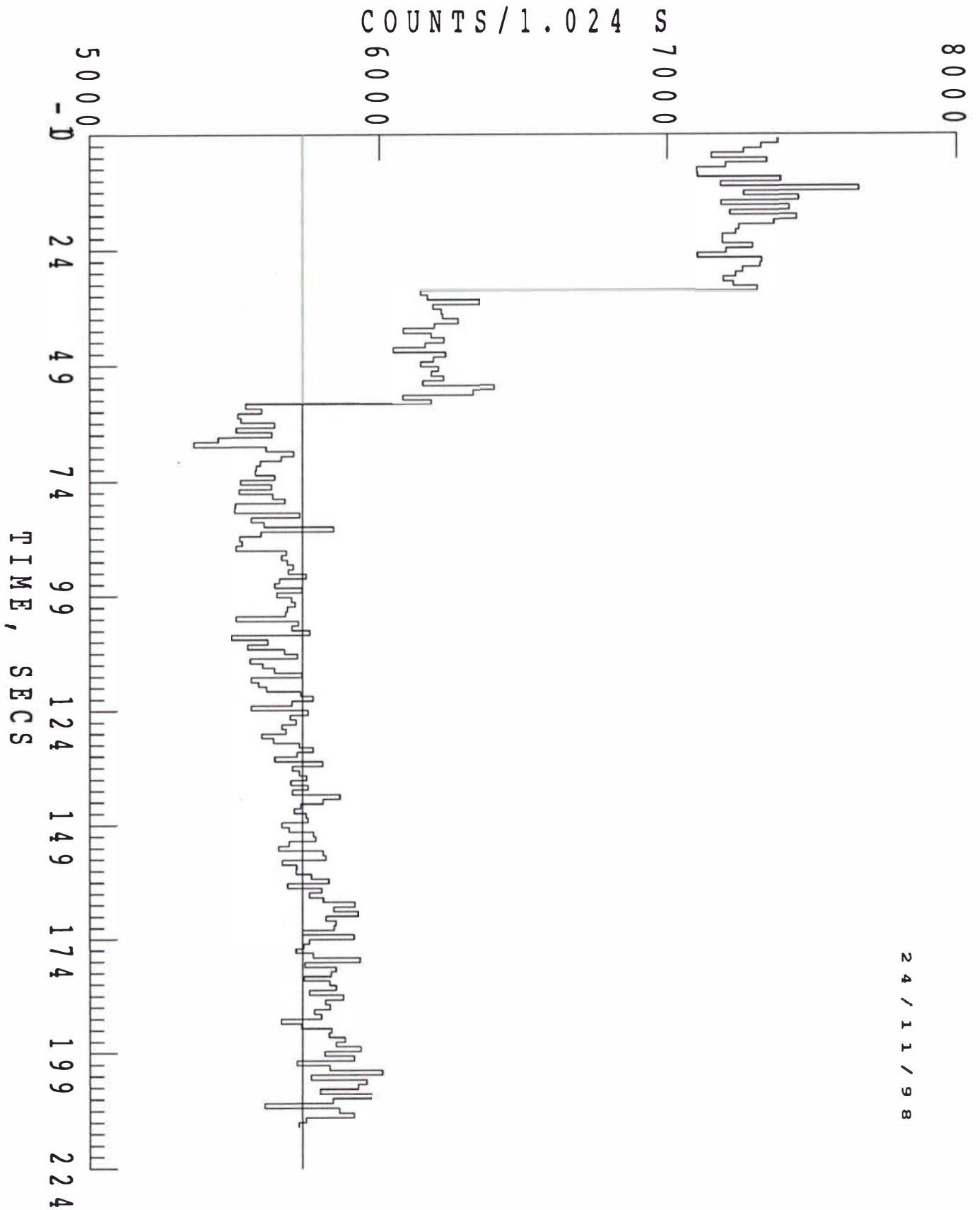
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



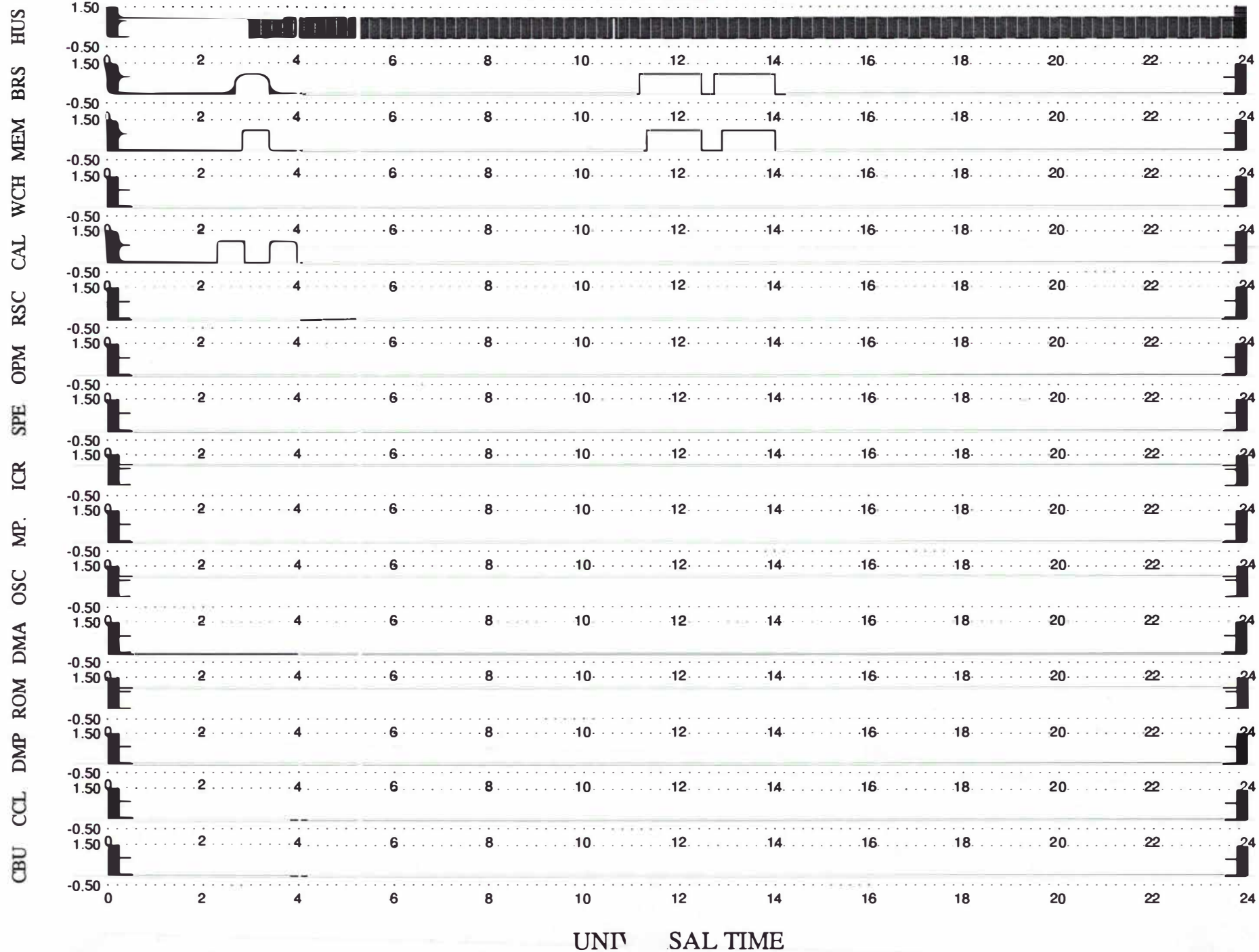
BACODINE 7227 24/11/98 72017.633

25- 100 keV

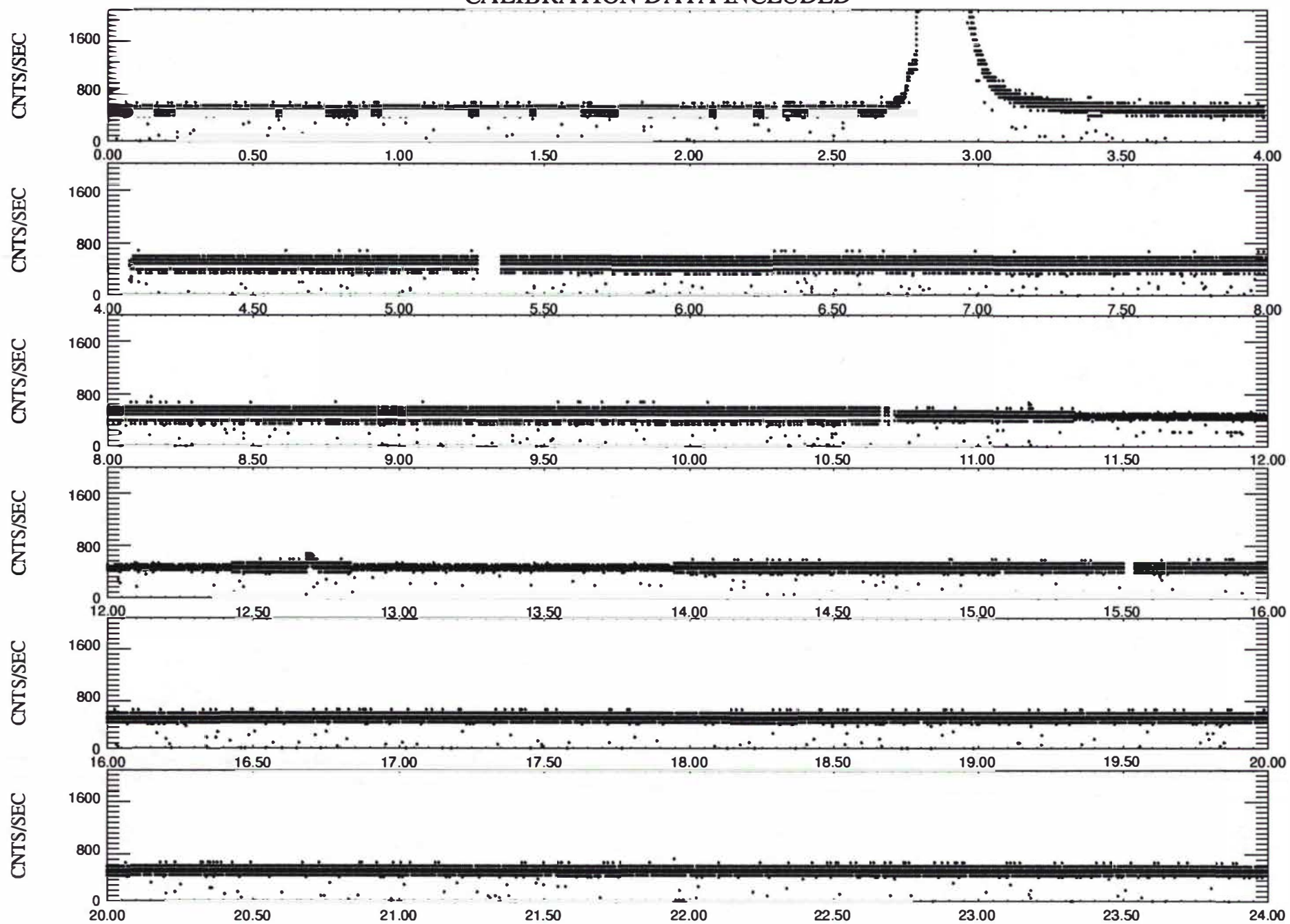
24 / 11 / 98



BURST NUMBER 4 - 6

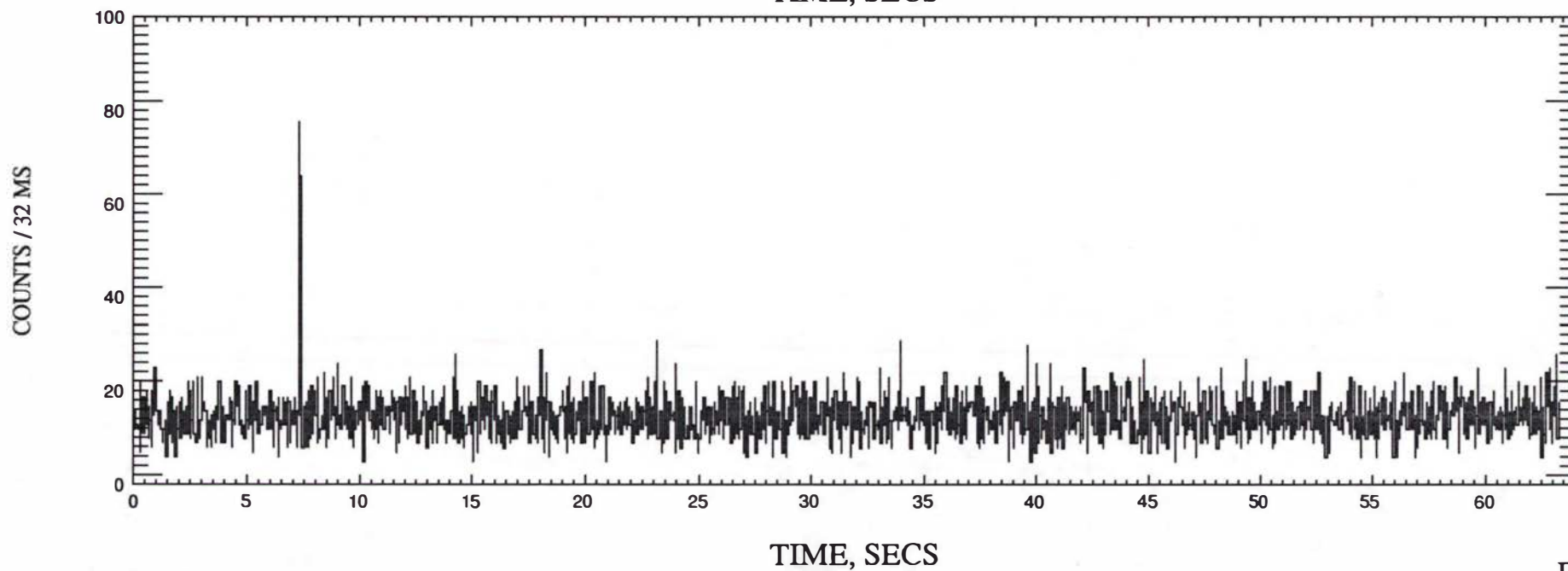
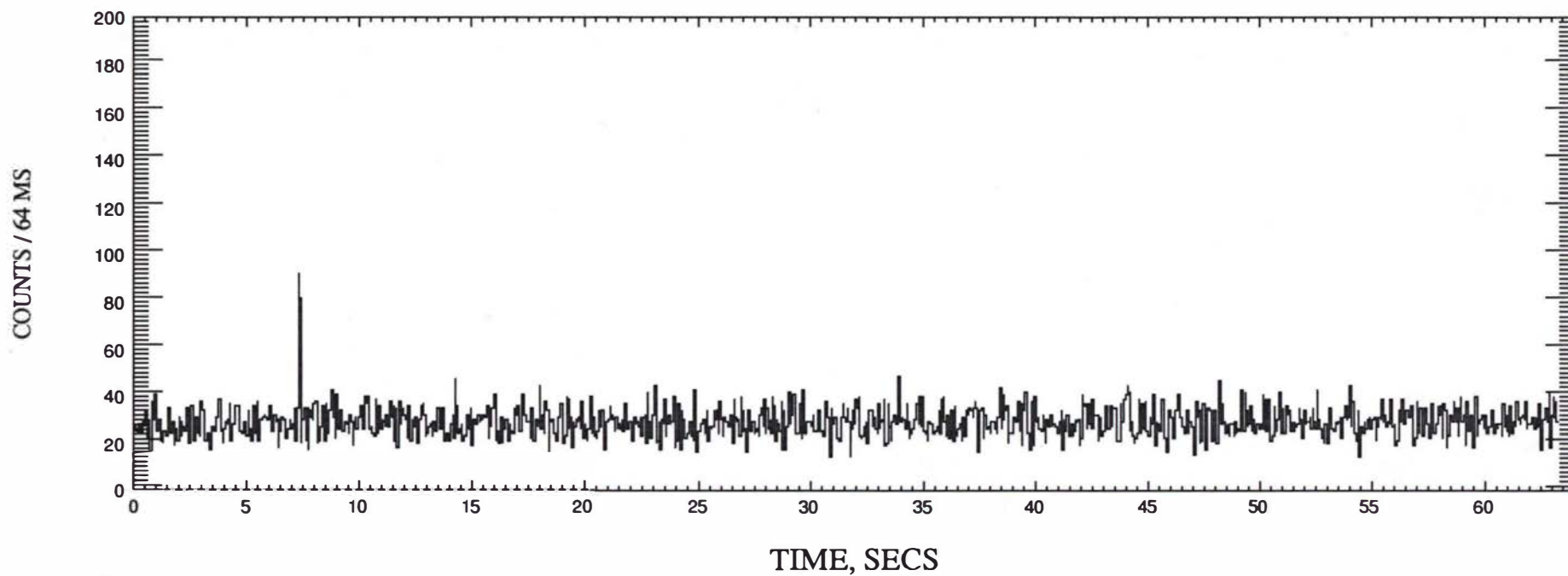


CALIBRATION DATA INCLUDED

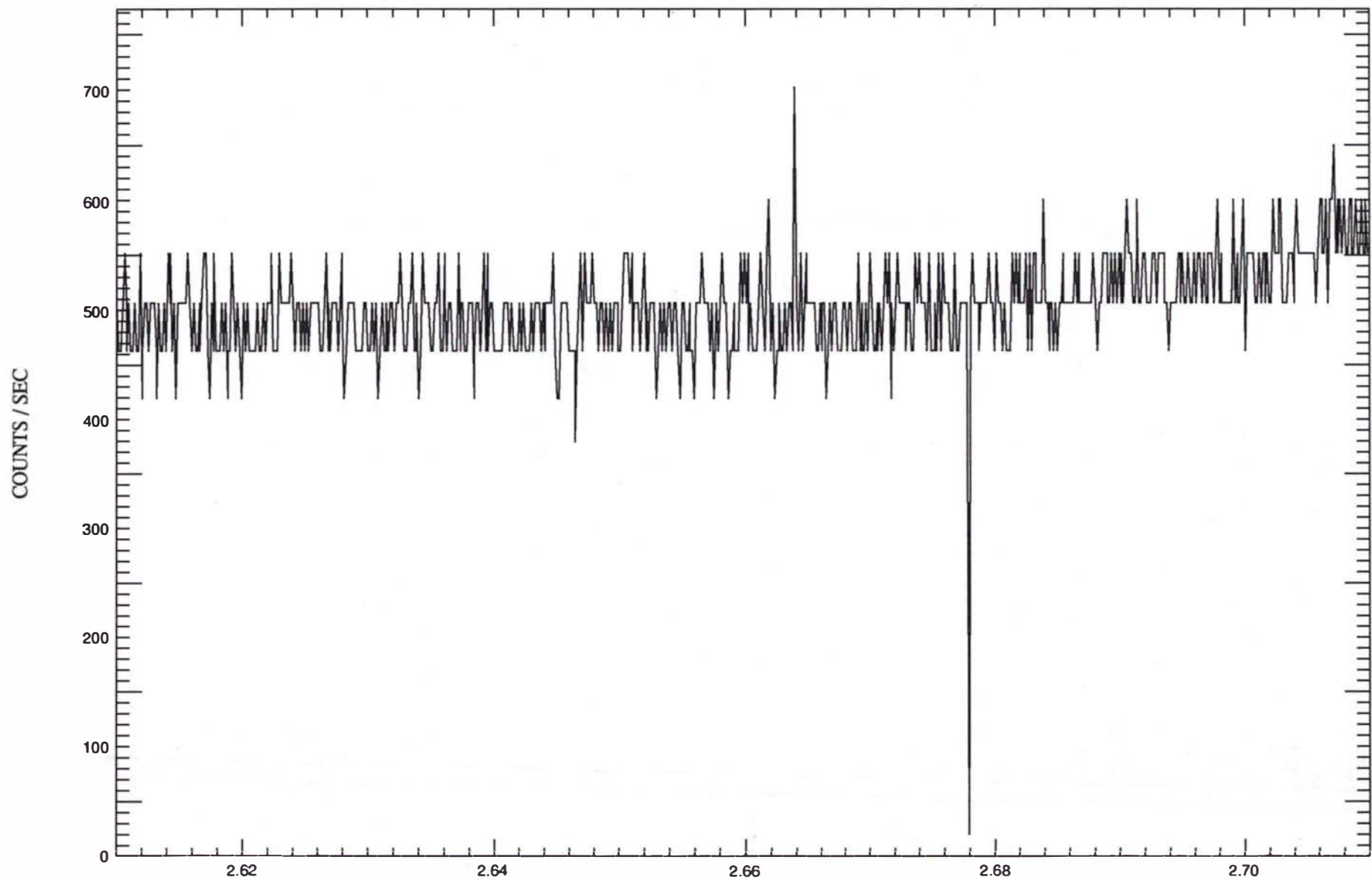


UNIT SAL TIME

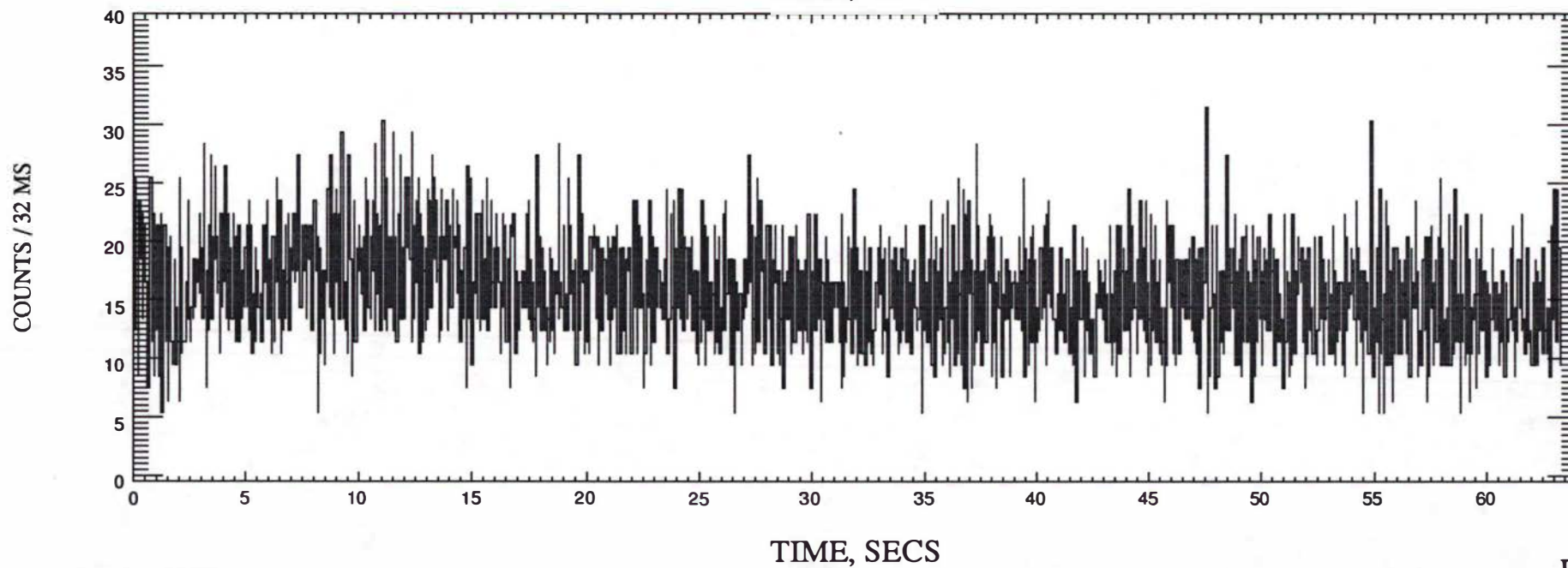
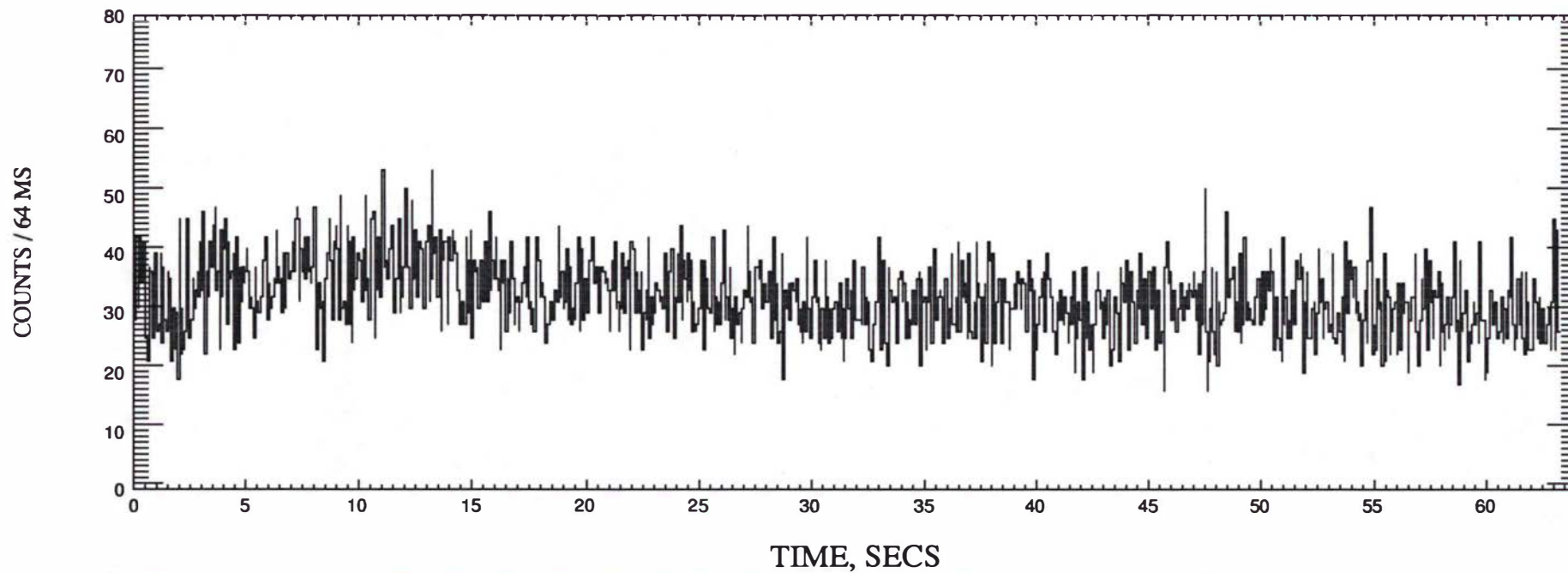
Burst Counter 4 at UT= 2.664078839620 h= 9590.684 s 02:39:50.684



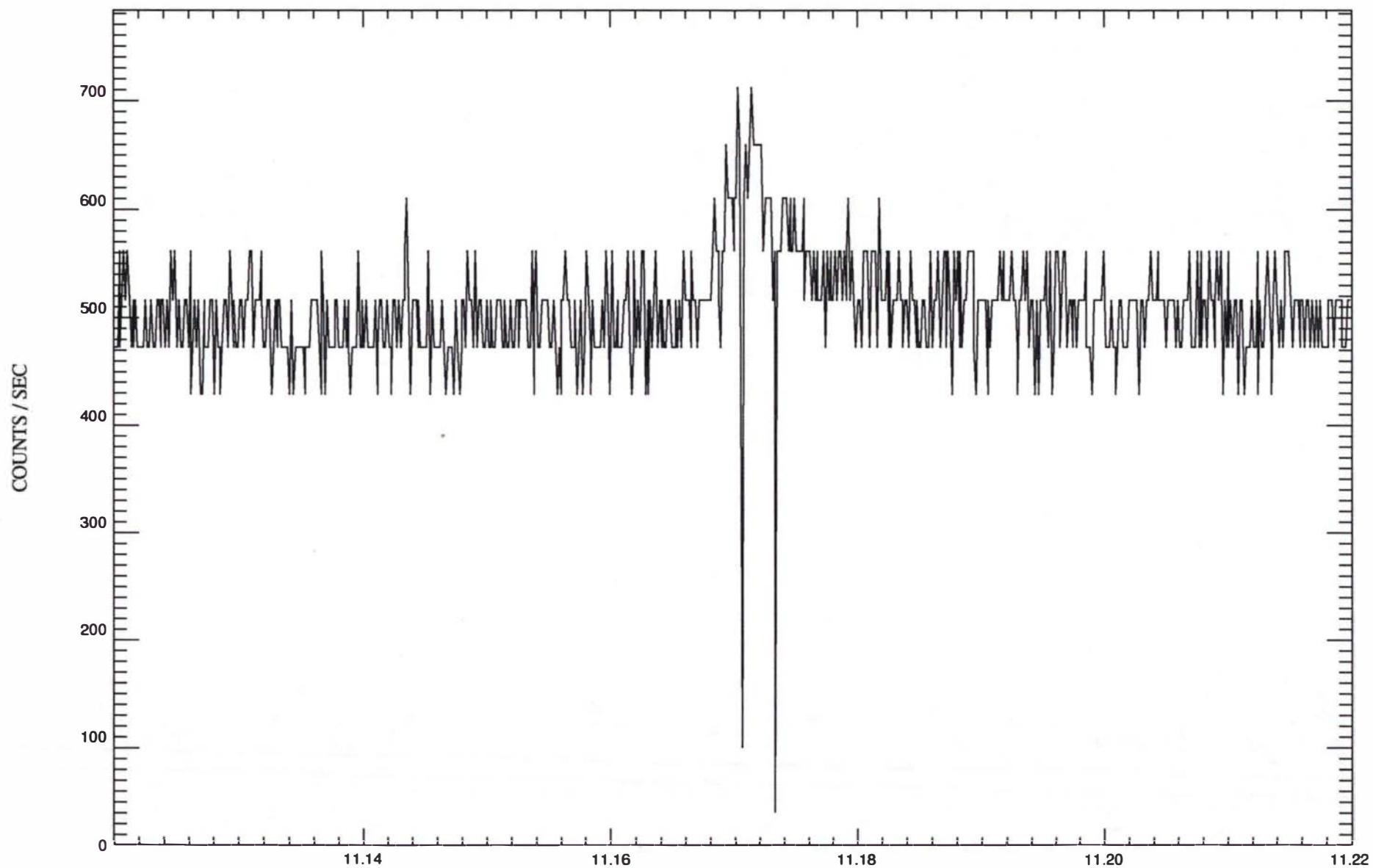
CALIBRATION DATA INCLUDED



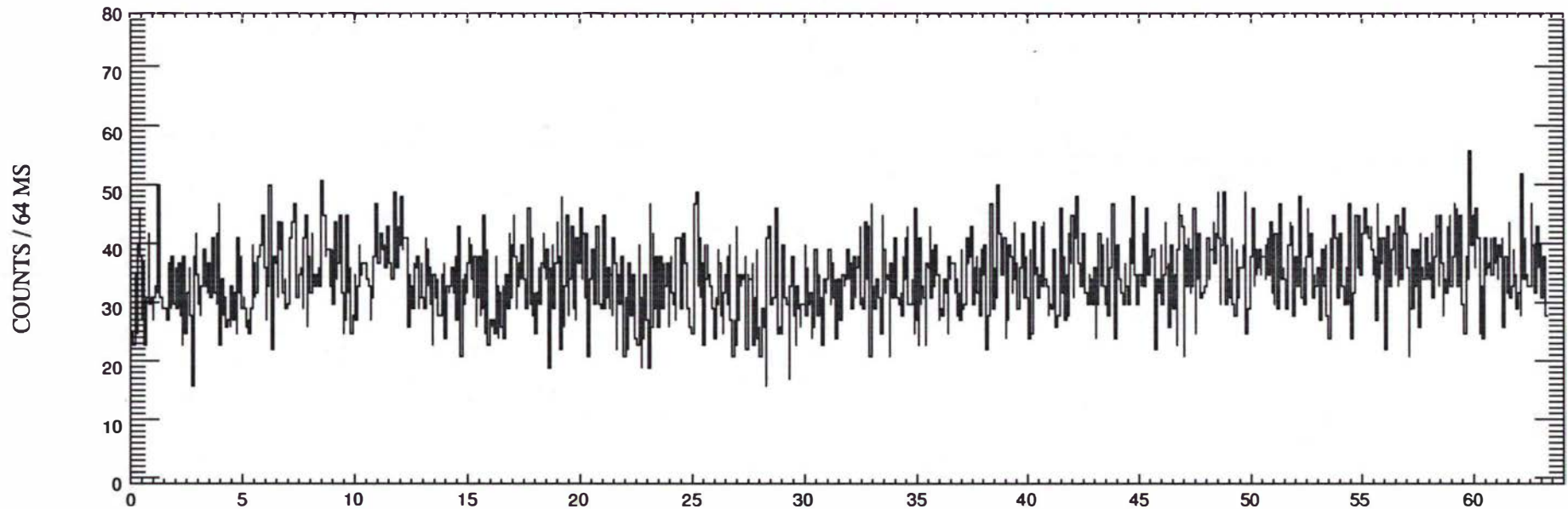
Burst Counter 5 at UT=11.170473416646 h=40213.704 s 11:10:13.704



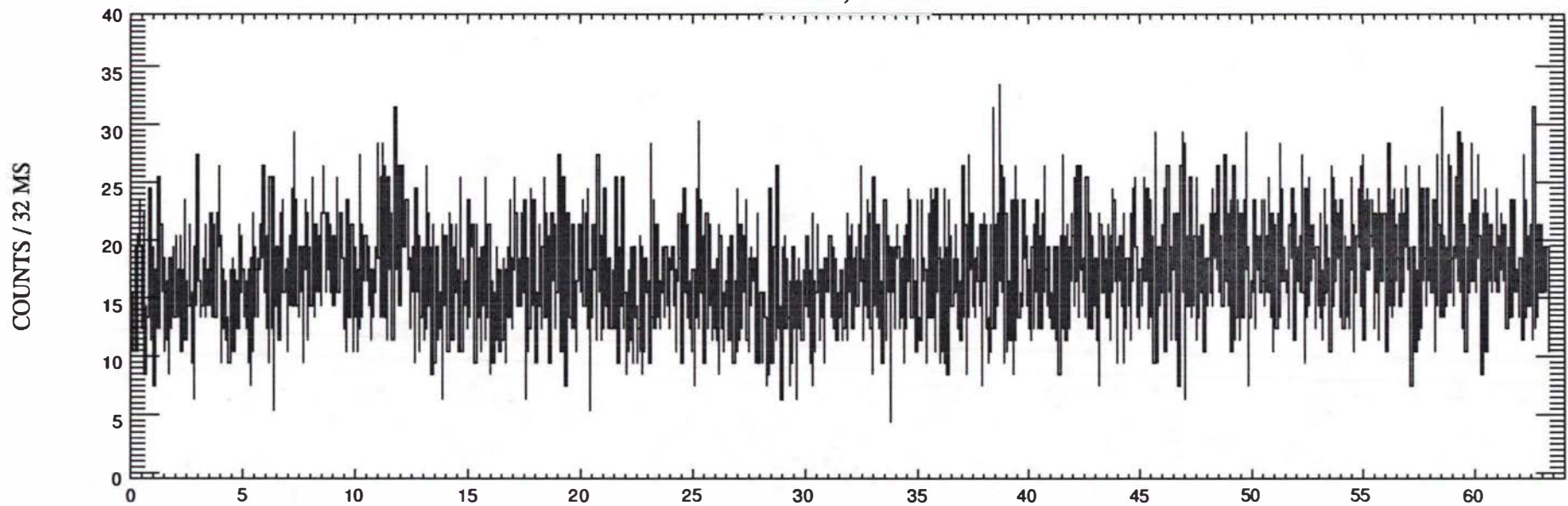
CALIBRATION DATA INCLUDED



Burst Counter 6 at UT=12.681843613519 h=45654.637 s 12:40:54.637

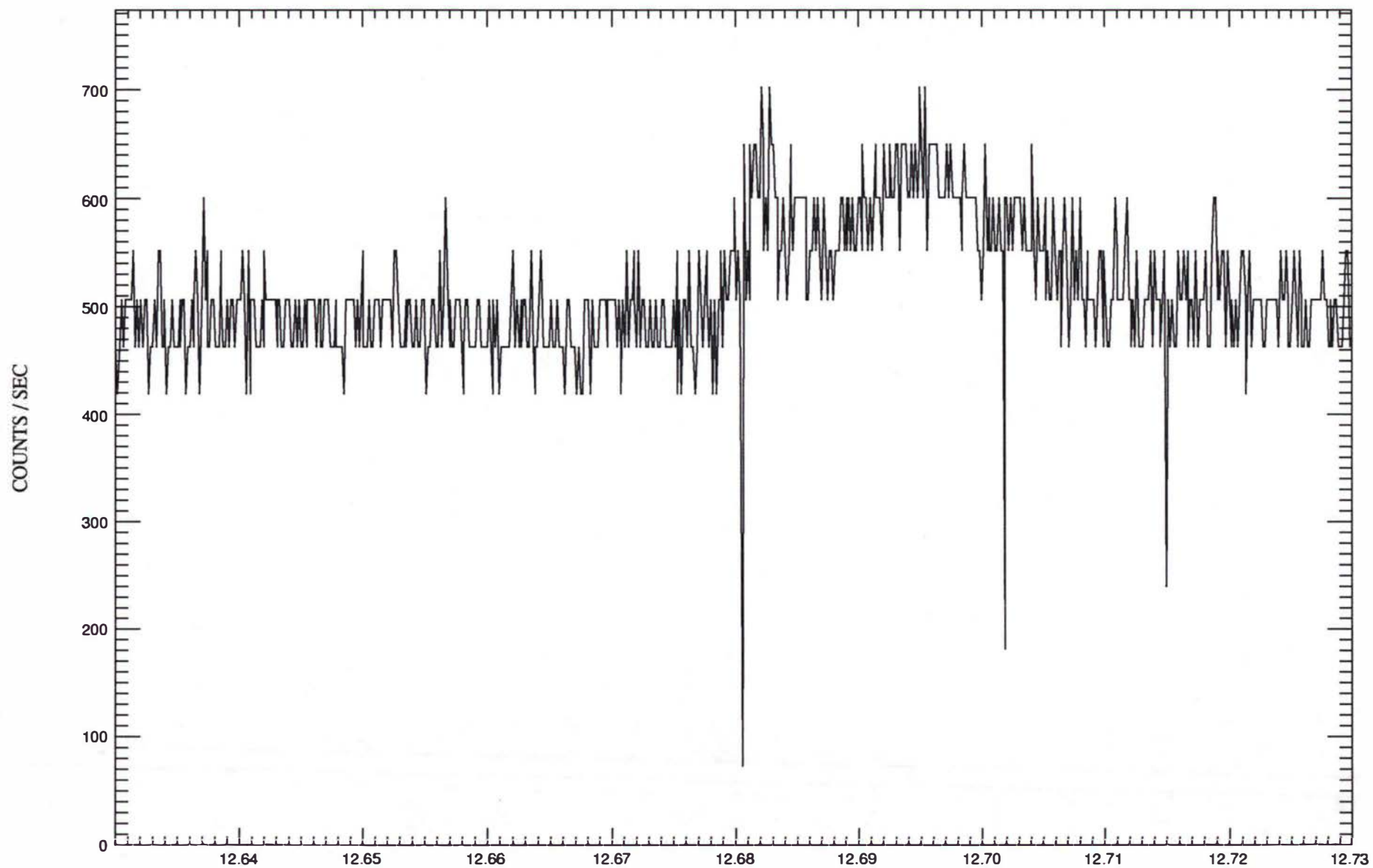


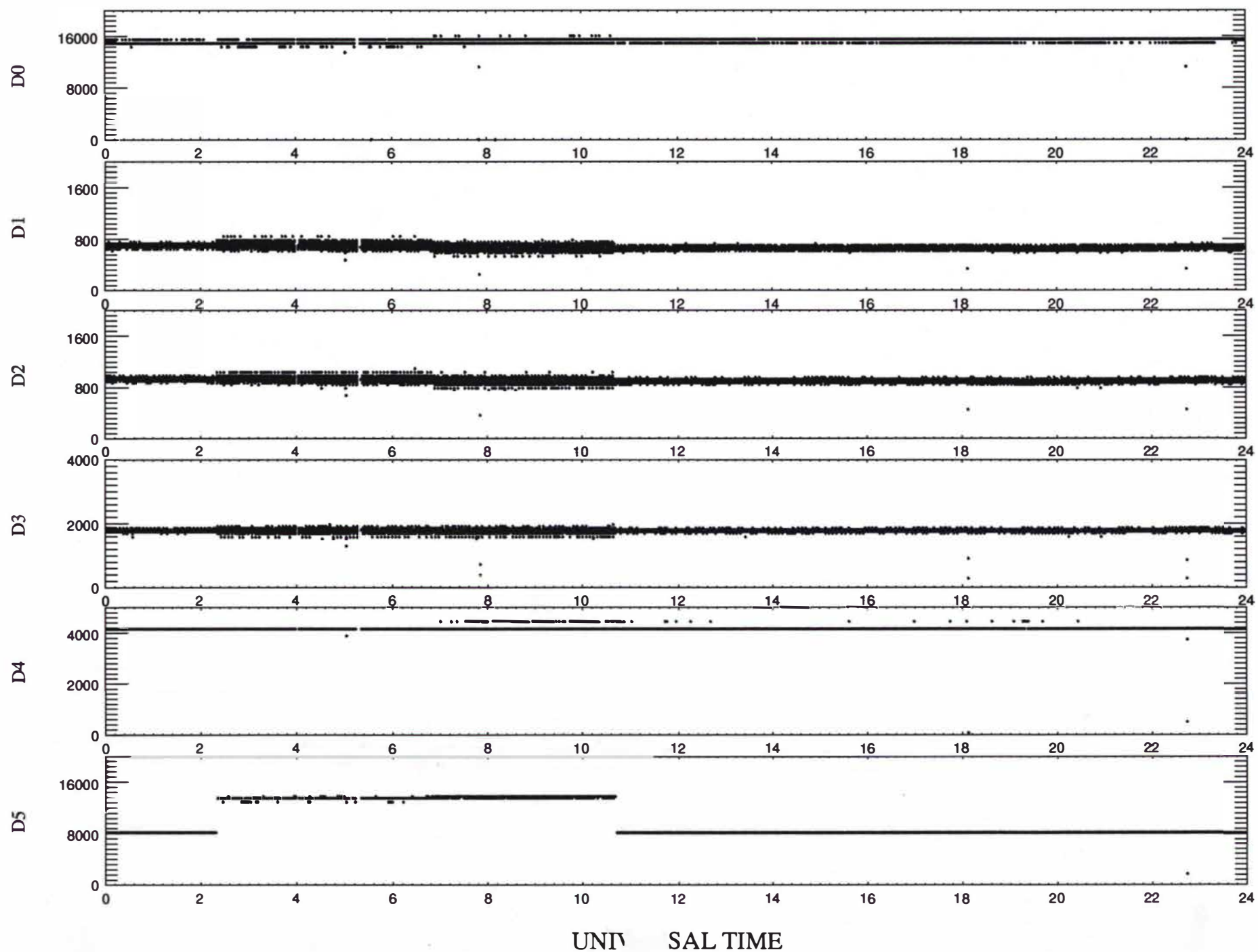
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Fri Nov 27 10:56:57 1998

Date: Fri, 27 Nov 1998 12:56:39 -0600 (CST)

From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7226

TIME: TJD=1141 SECONDS= 7900

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.2 AZIMUTH= 10.2 ERROR= 1.3 DEGREES

COMMENTS:

GOES X1.0 FLARE, NO OPTICAL CLASSIFICATION (BEHIND WEST LIMB).
COMPLEX, DUR. APPROX. 1100 S, STARTS AT APPROX. T-175 S, MAX AT APPROX T+150 S.
MARGINALLY VISIBLE ABOVE 300 KEV.

From SAHI@fender.msfc.nasa.gov Fri Nov 27 11:33:18 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 LAA17936; Fri, 27 Nov 1998 11:33:17 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA22323; Fri, 27 Nov 1998 11:33:14 -0800
Date: Fri, 27 Nov 1998 13:27:28 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981127132728.2023cc7b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7228
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7228
EVENT OF 1998 NOV 25 DAY OF YEAR=329
EVENT CROSSING TIME AT BATSE : 30385. S. OR 08:26:25.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 255.000 30.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/11/ 98 IS:
RA= 166.960 DEC= -4.840 DIST= 5.450 AU
BATSE-ULYSSES DISTANCE = 815279168. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 34.48 SECS.
CROSSING TIME AT ULYSSES IS 30419. S. OR 08:26:59 +/- 522.63 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/11/ 98 IS:
RA= 179.411 DEC= 2.063 DIST= 1.842 AU
MARS-BATSE DISTANCE = 275616640. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -214.57 SECS.
CROSSING TIME AT MARS IS 30170. S. OR 08:22:50 +/- 151.95 SECONDS

BATSE BURST TRIGGER

NO.: 7228

TIME: TJD=1142 SECONDS=30385

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=45.9 AZIMUTH=306.1 ERROR=0.9 DEGREES

COMMENTS:

GRB. DOUBLE PULSE, DUR. APPROX. 95 S, MAX. AT T+35 S. POSSIBLE SUCCESSOR AT
T+100 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7228	981125	11142	30385	4500	255	+30	95

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ ~~Jim~~ Jim Schmidling's stat file correction applied?
- ☒ ~~Final~~ Final ephemeris used?
- ☒ ~~Final~~ 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 - bad stats*

2. BATSE Data

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

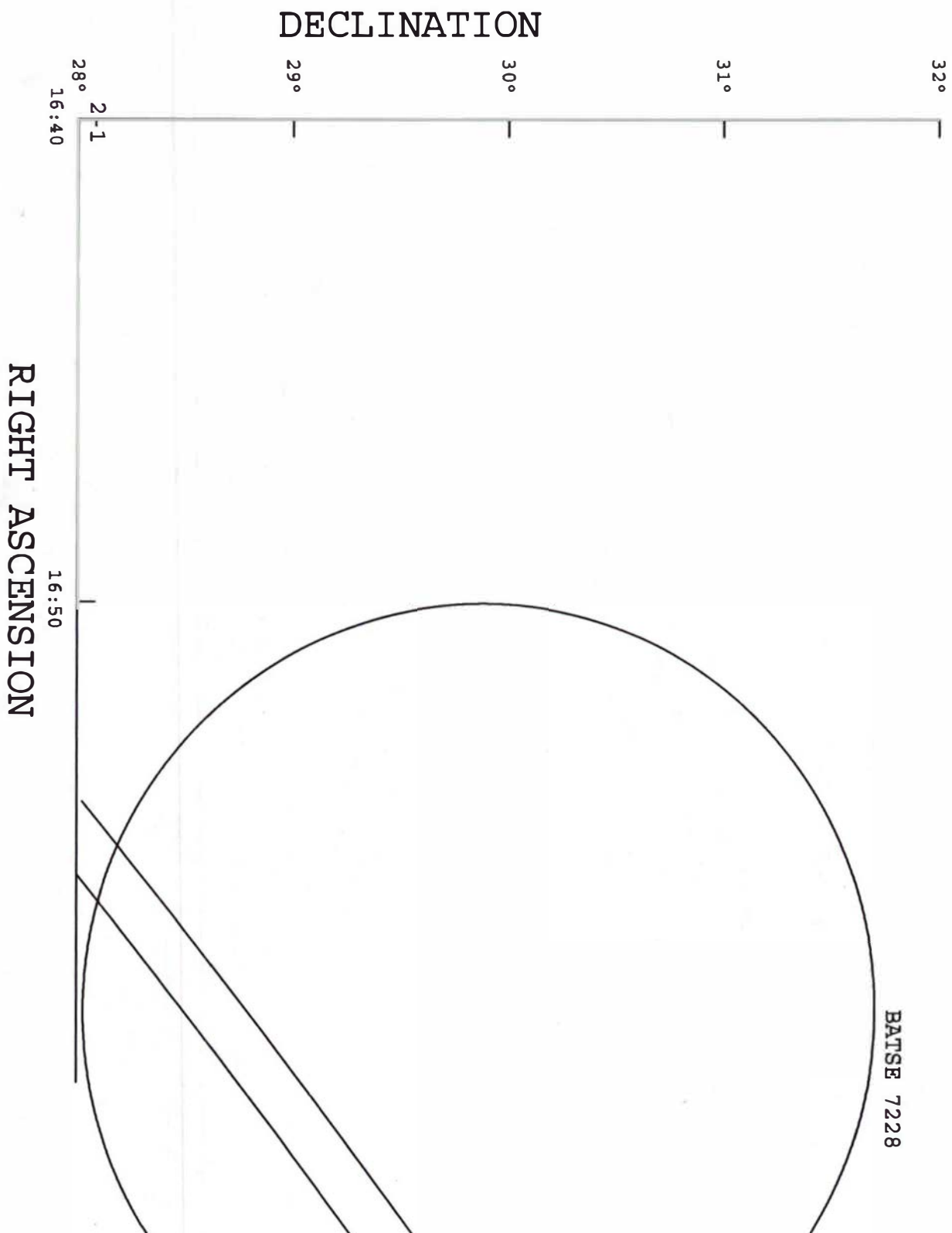
3. NEAR Data

- ☒ ~~Final~~ Final, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ ~~BATSE~~ BATSE >100 keV data used for NEAR correlation?
- ☒ ~~ACCESS~~ 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 3 NRAR

EVENT OF NOV 25, 1998 8:26

25 / 2 / 0



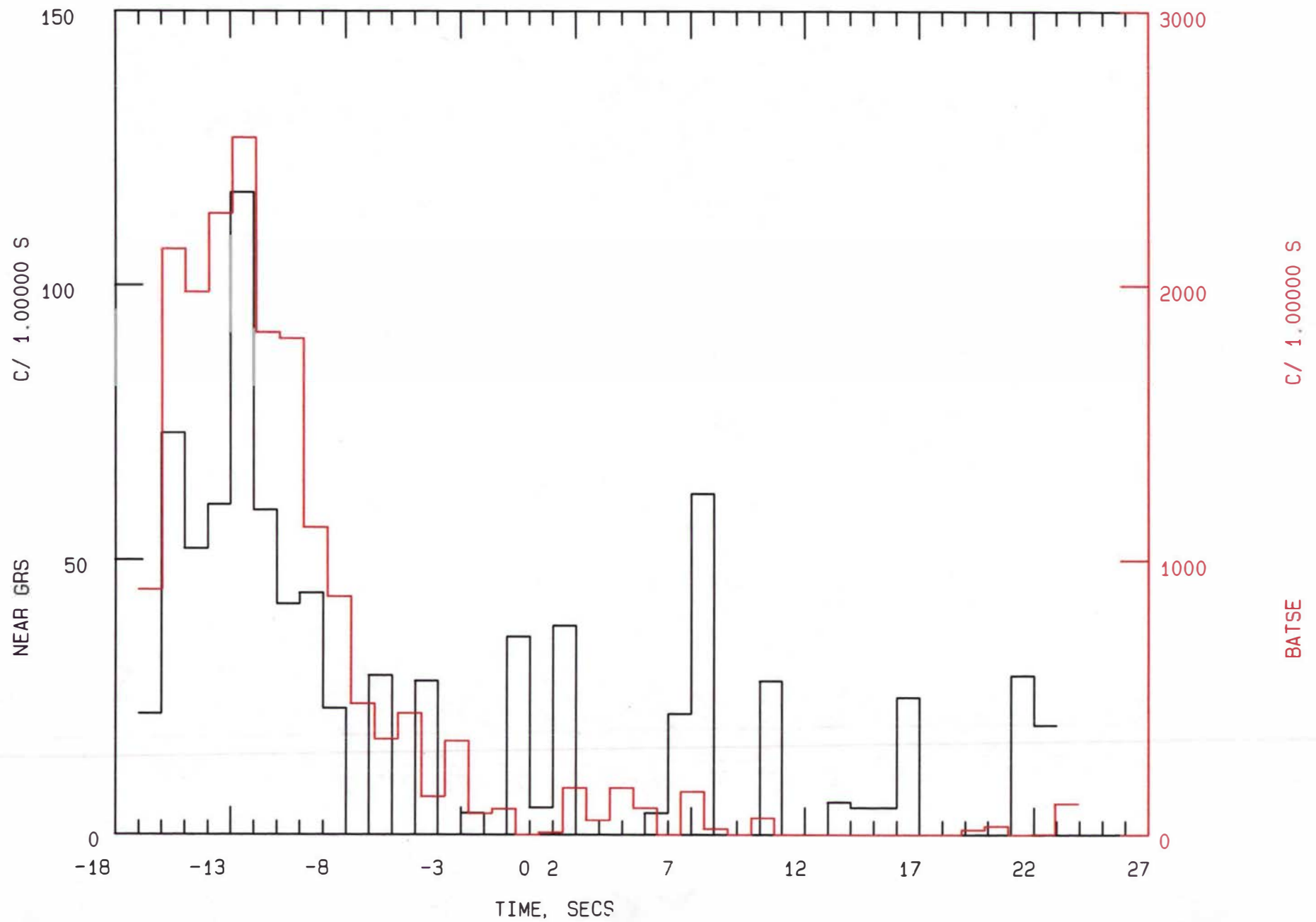
NEAR GRS -BATSE

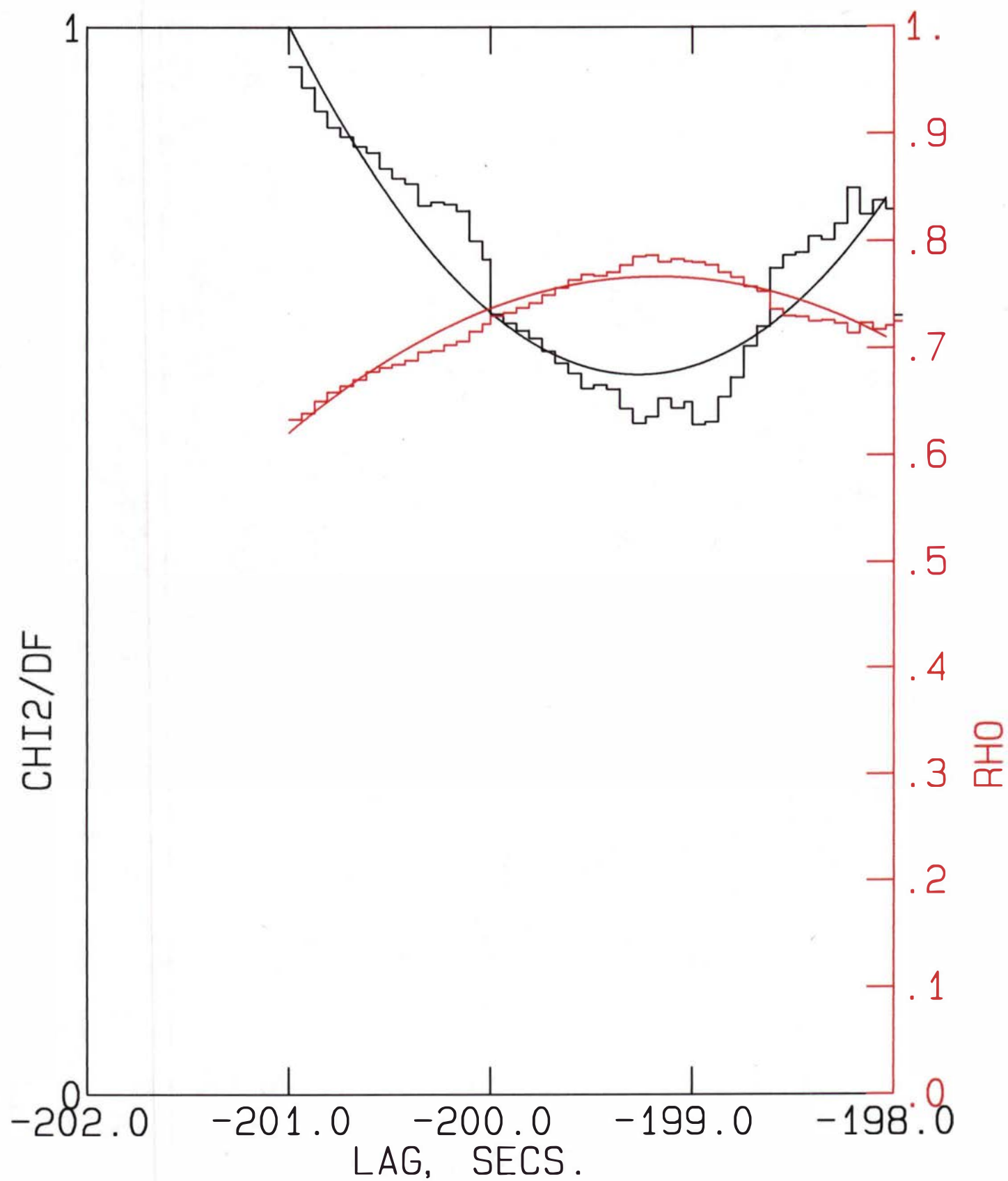
CORRELATION

25/11/98

29824.090

25/ 2/ 0





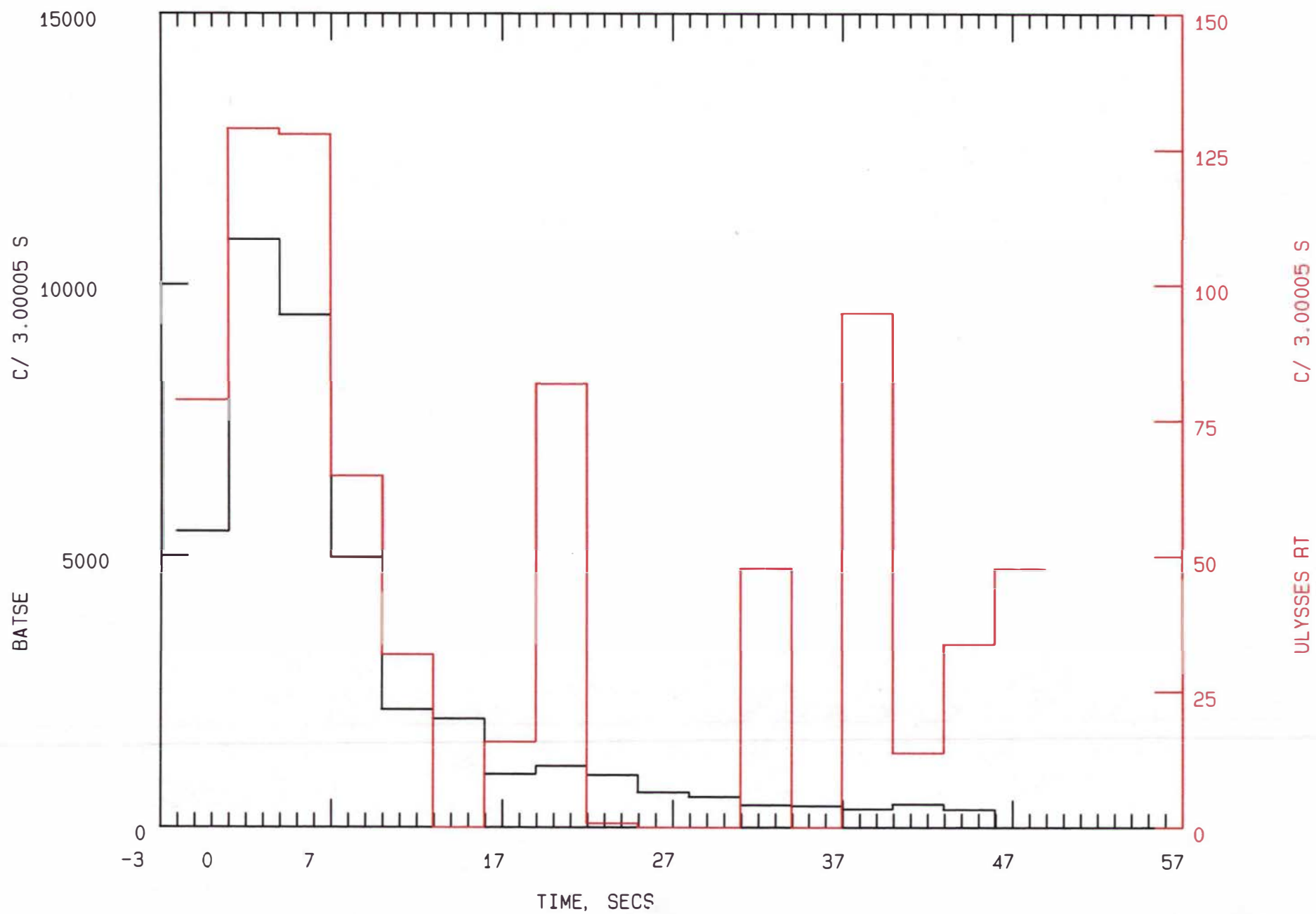
BATSE

-ULYSSES RT CORRELATION

25/11/98

30385.889

25/ 2/ 0



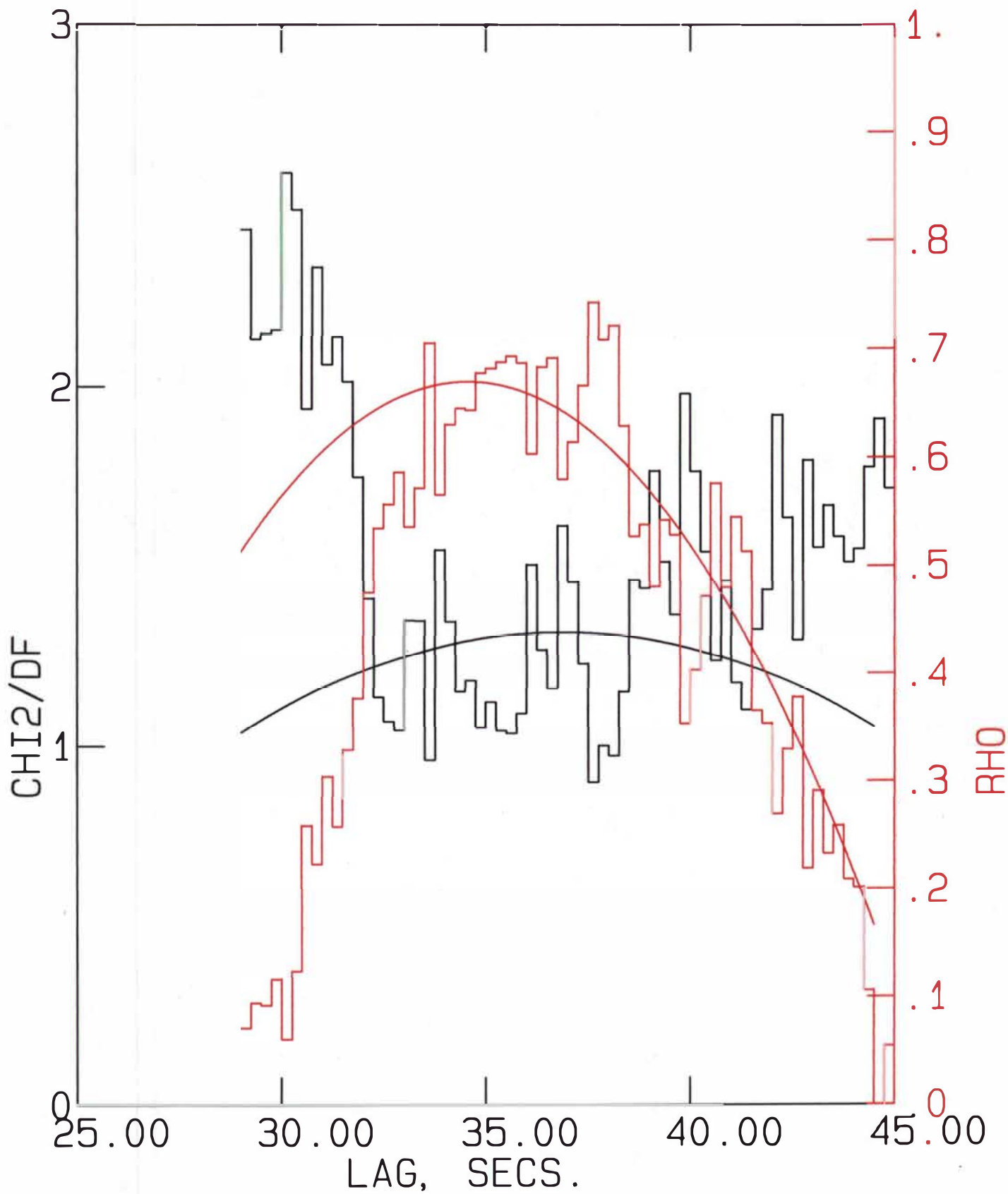
BATSE

-ULYSSES RT CORRELATION

25/11/98

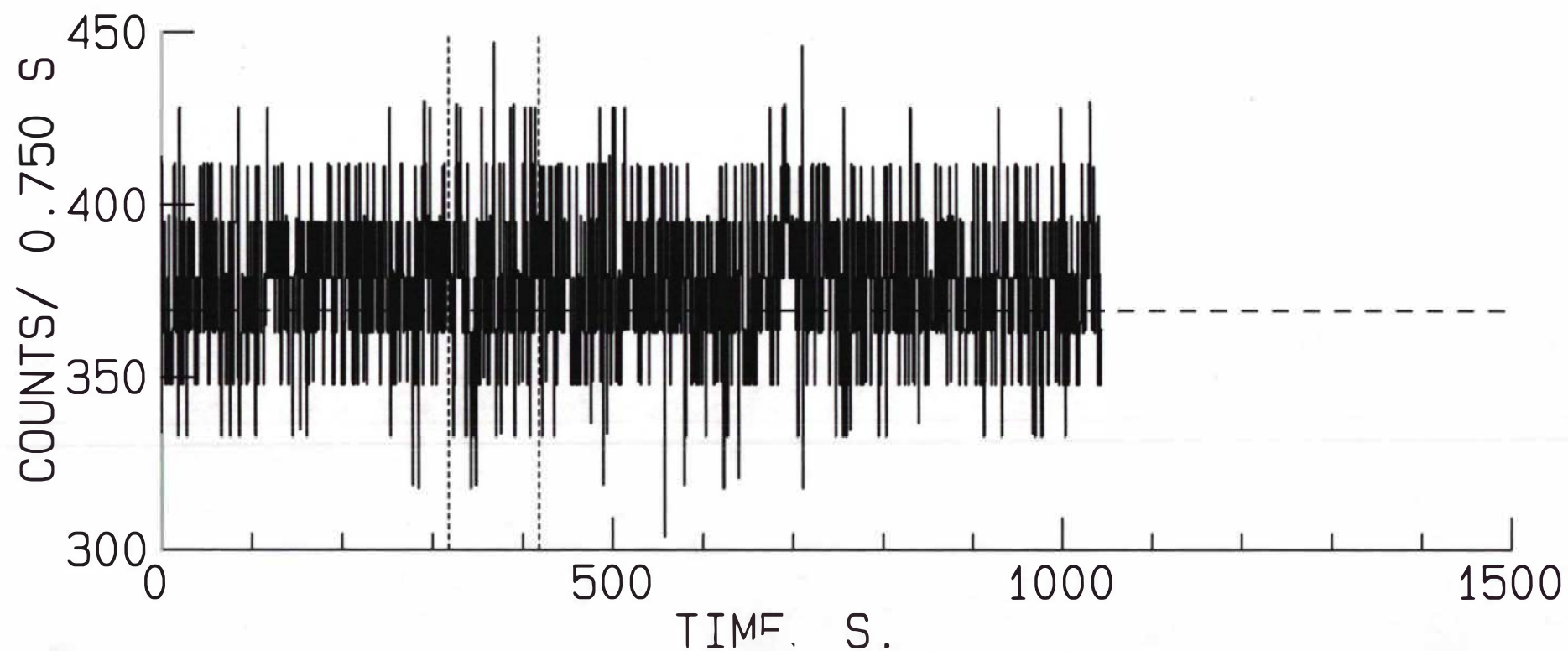
30385.889

25/ 2/ 0



ULYSSES RT
25/11/98 29880.245 s
0.250 S INTERVALS REGROUPED BY 3
22- 149 keV

25 / 2 / 0



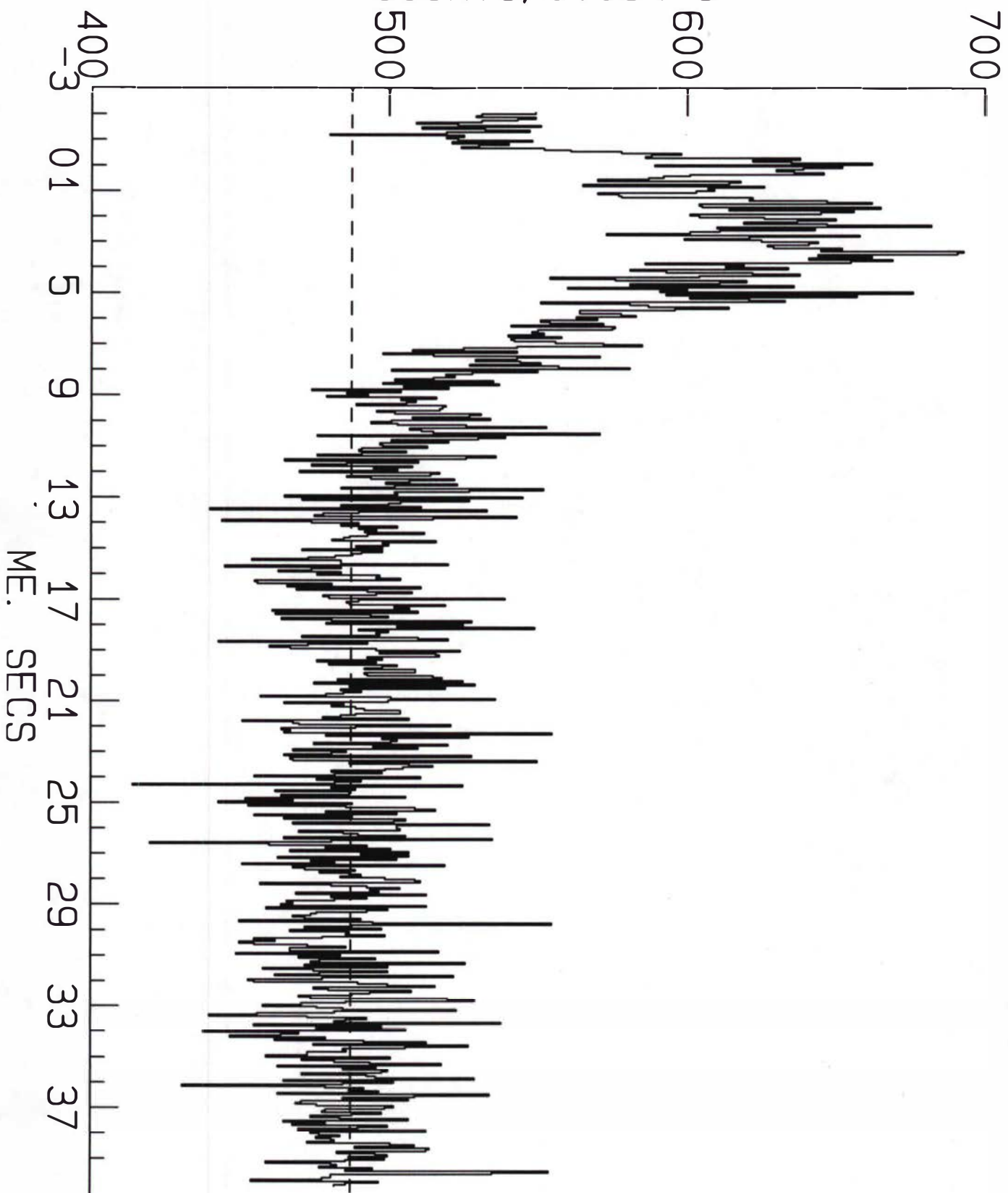
BATSE

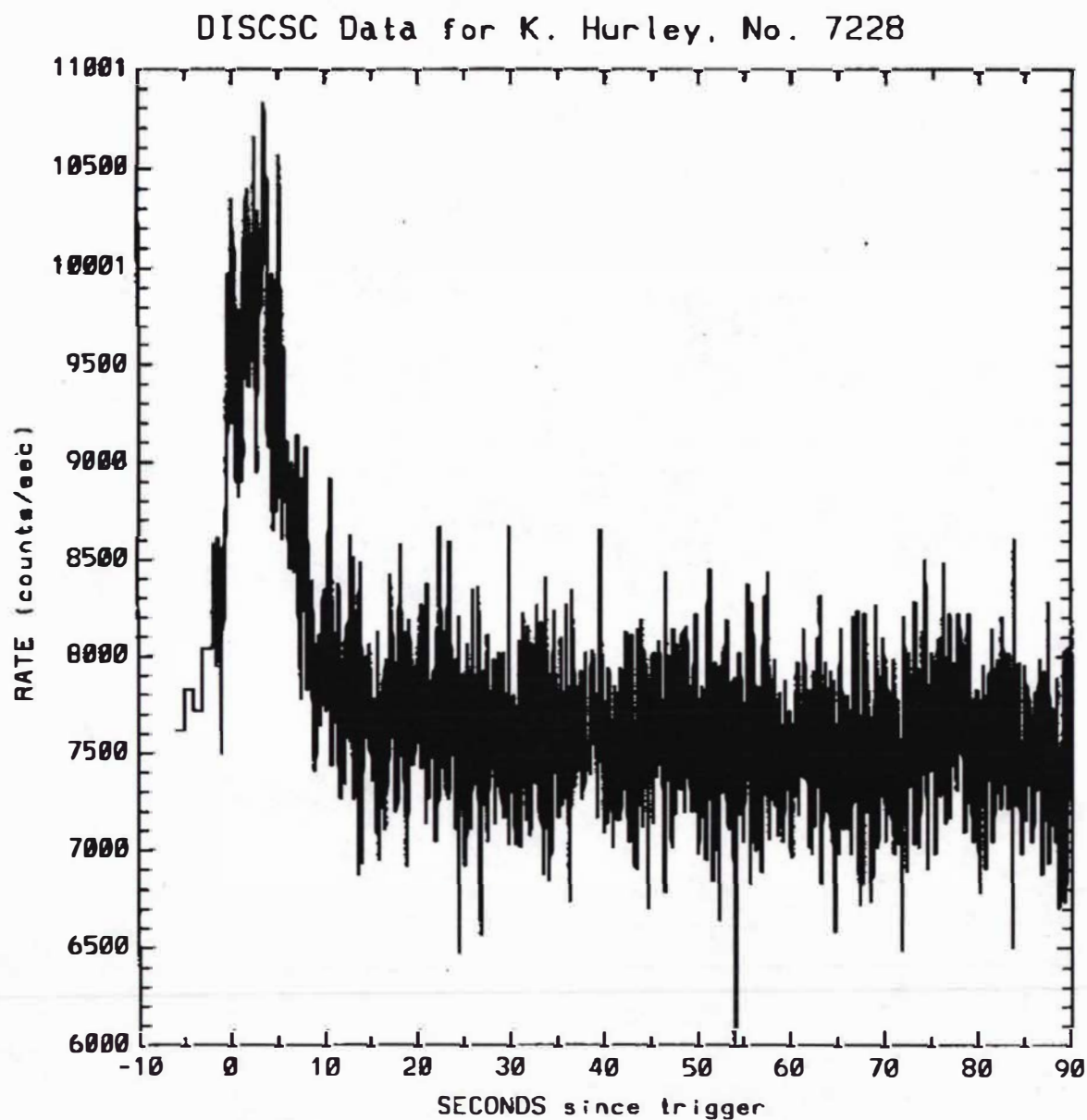
25/11/98

30385.889

100-1000 keV

COUNTS/0.064 S





24-FEB-2000 10:44:18

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7228

Trigger Time:
11142 / 30305.089

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..0),
-6---2--

Discriminators:
[3 : 4]

Quality Mask:
BDISP1

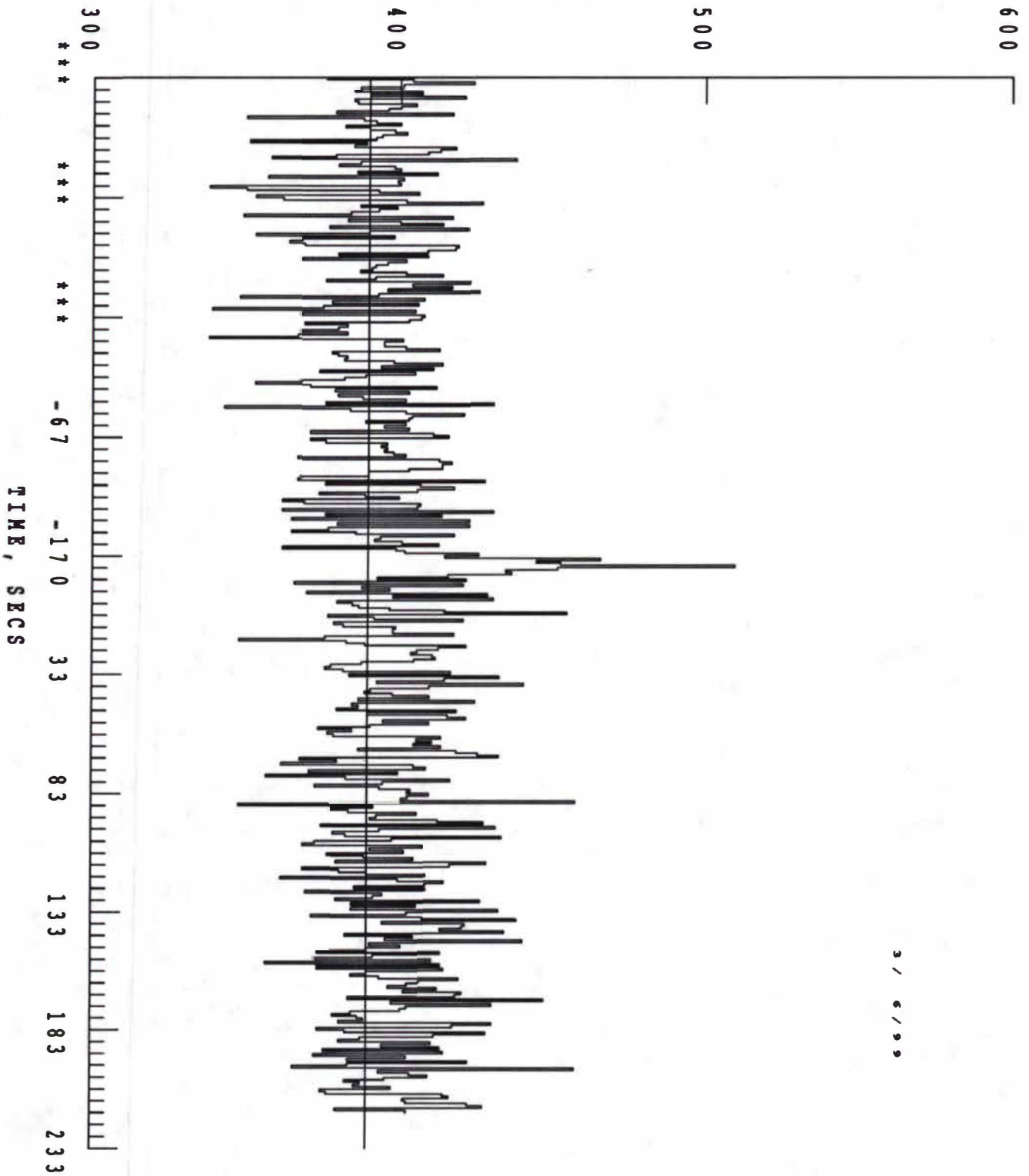
NEAR

25/11/98

29824.090

100-1000 keV

COUNTS/1.000 S



3 / 6 / 9 9

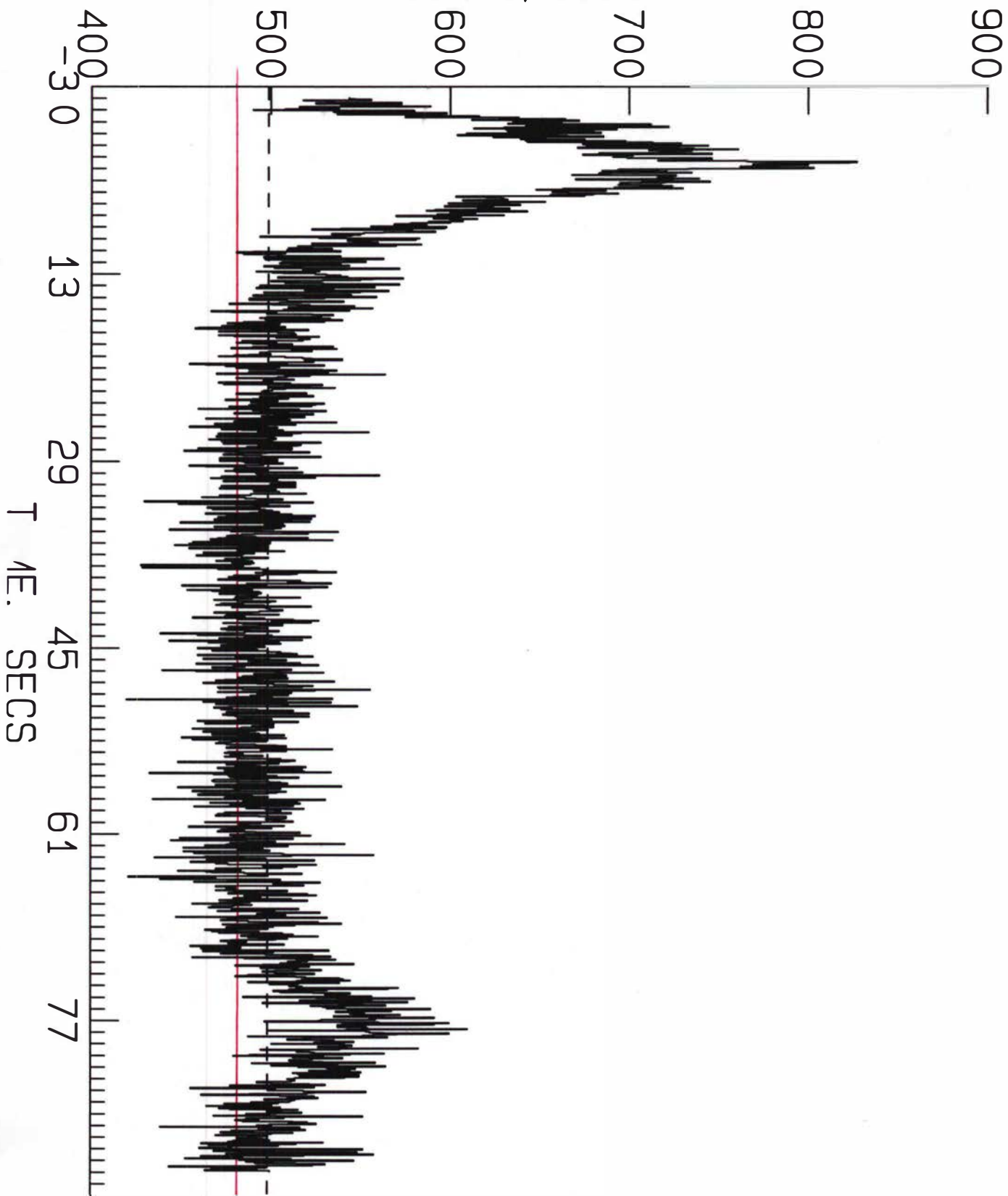
BATSE

25/11/98

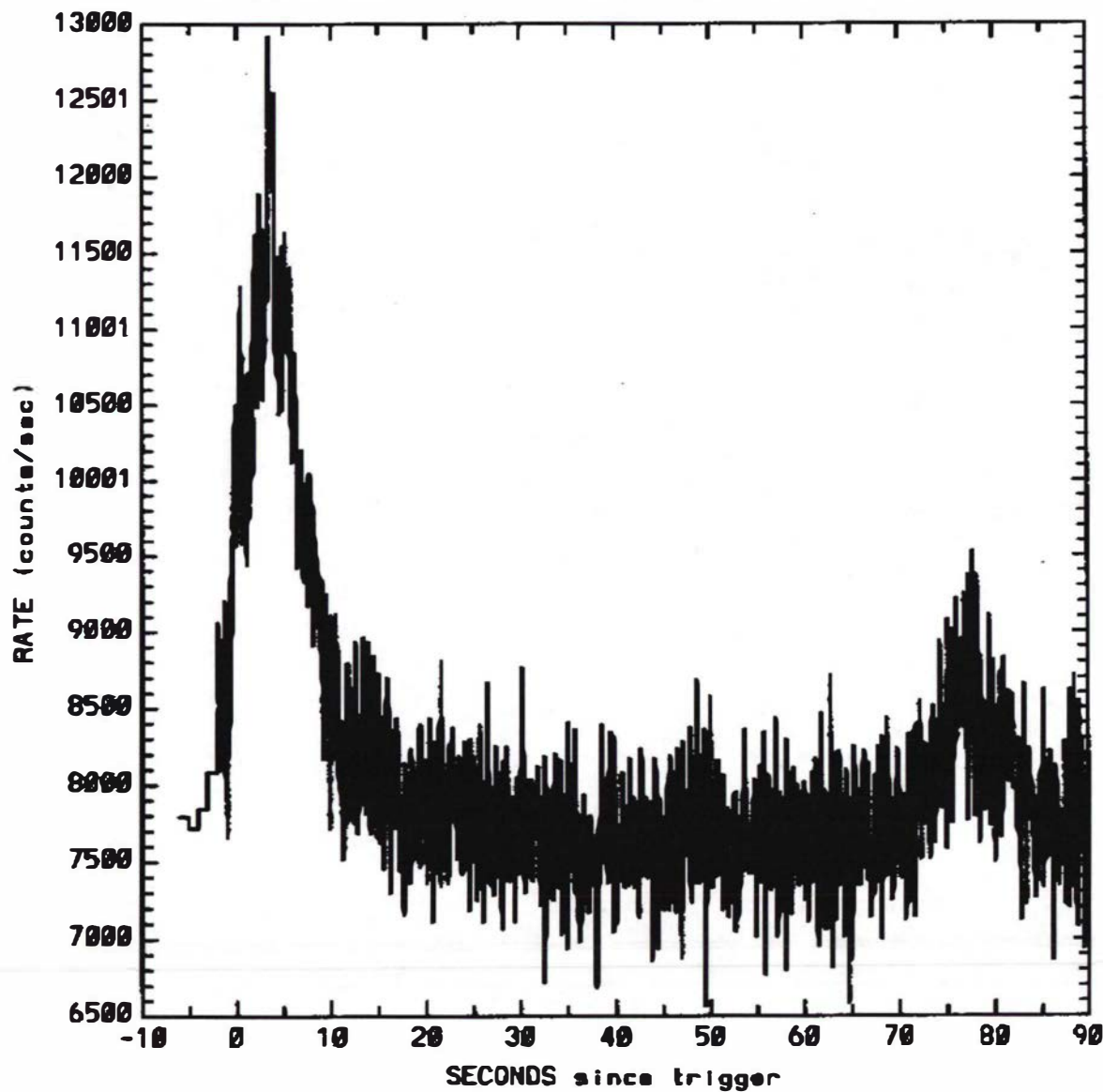
30385.889

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7228



2-DEC-1998 11:27:54

Created by MOPS 80
(Burst Display)
Version 62.26

Trigger # : 7228

Trigger Time:
11142 / 38385.889Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PRED + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8),
-6---2-Discriminators:
(1..2)Quality Mask:
80ISP1

From SAHI@fender.msfc.nasa.gov Fri Nov 27 11:17:05 1998

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 27 Nov 1998 13:16:48 -0600 (CST)

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.: 7229

TIME: TJD=1142 SECONDS=44884

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=303.2 AZIMUTH=4.9 ERROR=2.2 DEGREES

COMMENTS:

TGF. SINGLE SPIKE, DUR. 0.002 S. NOT VISIBLE BELOW 50 KEV.

From SAHI@fender.msfc.nasa.gov Fri Nov 27 11:33:28 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 LAA17941; Fri, 27 Nov 1998 11:33:27 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA22335; Fri, 27 Nov 1998 11:33:24 -0800
Date: Fri, 27 Nov 1998 13:29:16 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981127132916.2023cc7b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7230
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7230
EVENT OF 1998 NOV 25 DAY OF YEAR=329
EVENT CROSSING TIME AT BATSE : 75981. S. OR 21:06:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 202.000 62.000
BATSE PEAK COUNTING RATE: 9000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/11/ 98 IS:
RA= 166.975 DEC= -4.892 DIST= 5.440 AU
BATSE-ULYSSES DISTANCE = 813875441. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -835.47 SECS.
CROSSING TIME AT ULYSSES IS 75146. S. OR 20:52:25 +/- 485.77 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/11/ 98 IS:
RA= 179.411 DEC= 2.063 DIST= 1.842 AU
MARS-BATSE DISTANCE = 275616640. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=117.71 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -427.46 SECS.
CROSSING TIME AT MARS IS 75554. S. OR 20:59:13 +/- 134.82 SECONDS

BATSE BURST TRIGGER

NO.: 7230

TIME: TJD=1142 SECONDS=75981

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=86.8 AZIMUTH=281.0 ERROR=0.8 DEGREES

COMMENTS:

GRB. SINGLE PULSE, WITH SPIKEY SUBSTRUCTURE, DUR. APPROX. 55 S.
WEAKLY VISIBLE ABOVE 300 KEV.

BATSE#	DATE	TJD/SoD	X (km)	Y (km)	Z (km)
Update as of 05 Jan 1999					
7230	981125	11142/75981	-3304.50	-5984.25	786.00

Date: Feb 16 '00

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 - bad stats*

2. BATSE Data

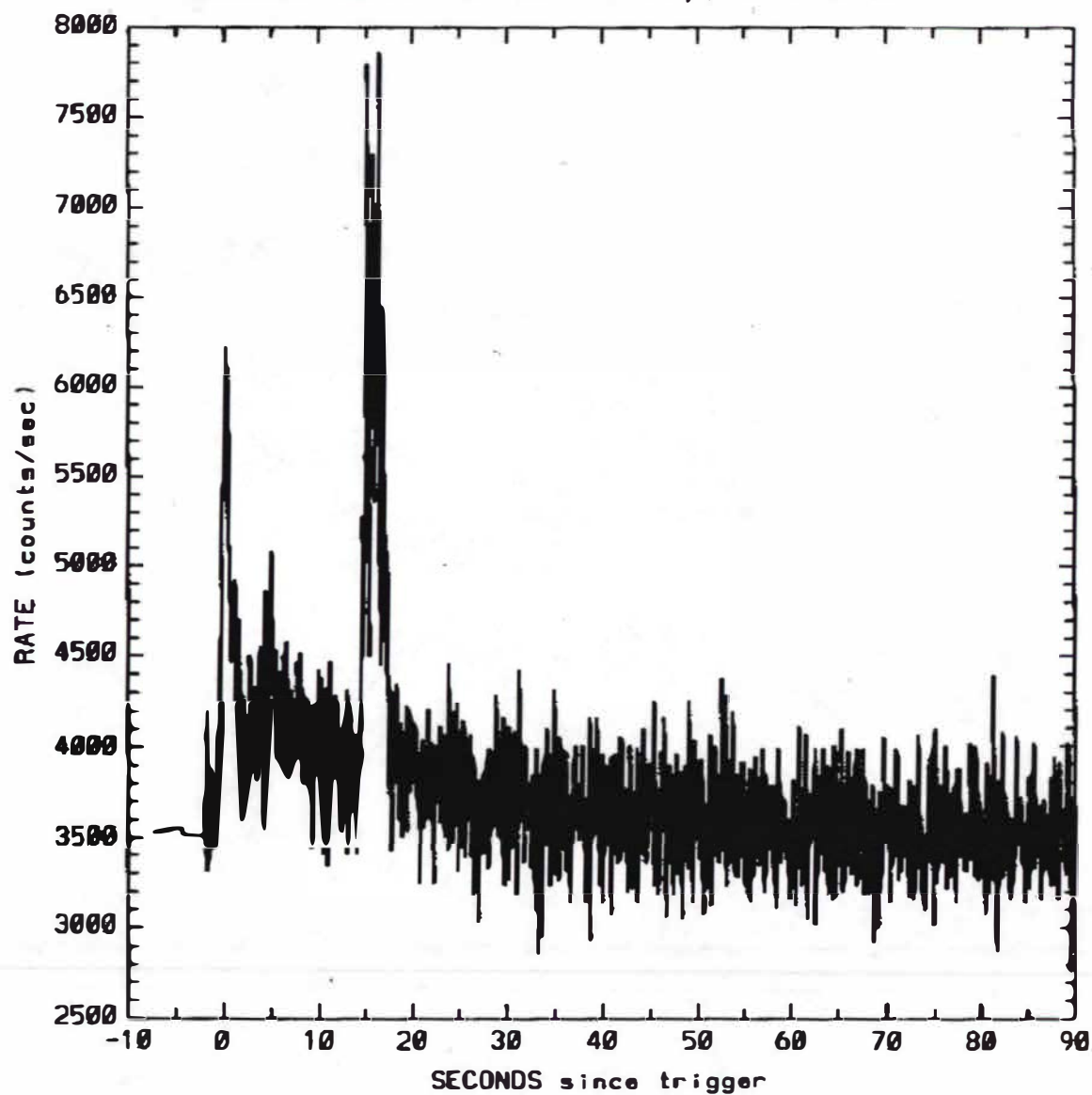
- ☒ BATSE ephemeris for T_0 ?
- ☒ Error circle position and radius from public catalog used?
- ☐ If MER data were used, is a 30 ms systematic error included?

3. NEAR Data *N/A*

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

- ☒ ACCESS database updated?

DISCSC Data for K. Hurley, No. 7230



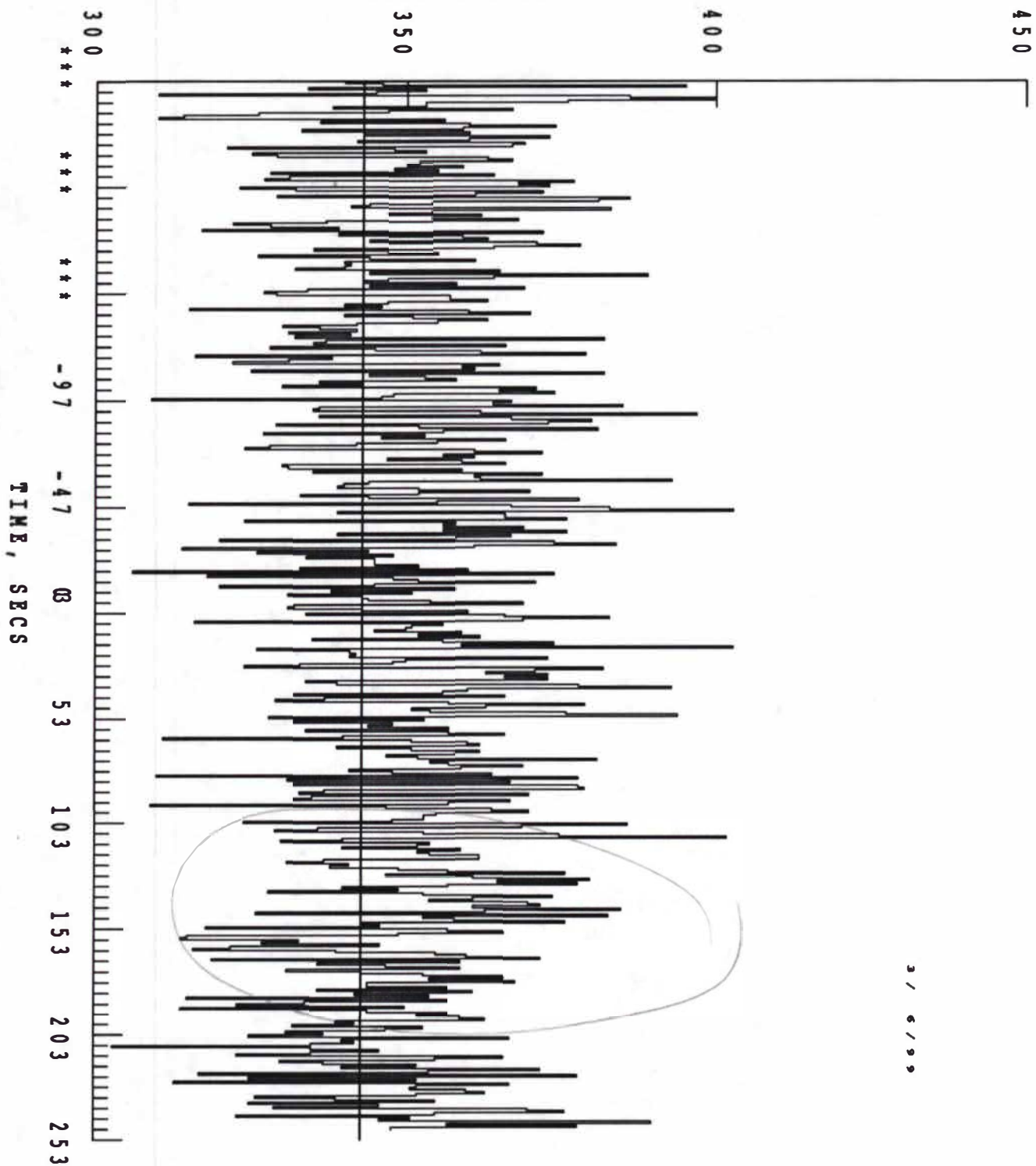
NEAR

25/11/98

76325.078

100-1000 keV

COUNTS/1.000 S



3 / 6 / 9 9

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

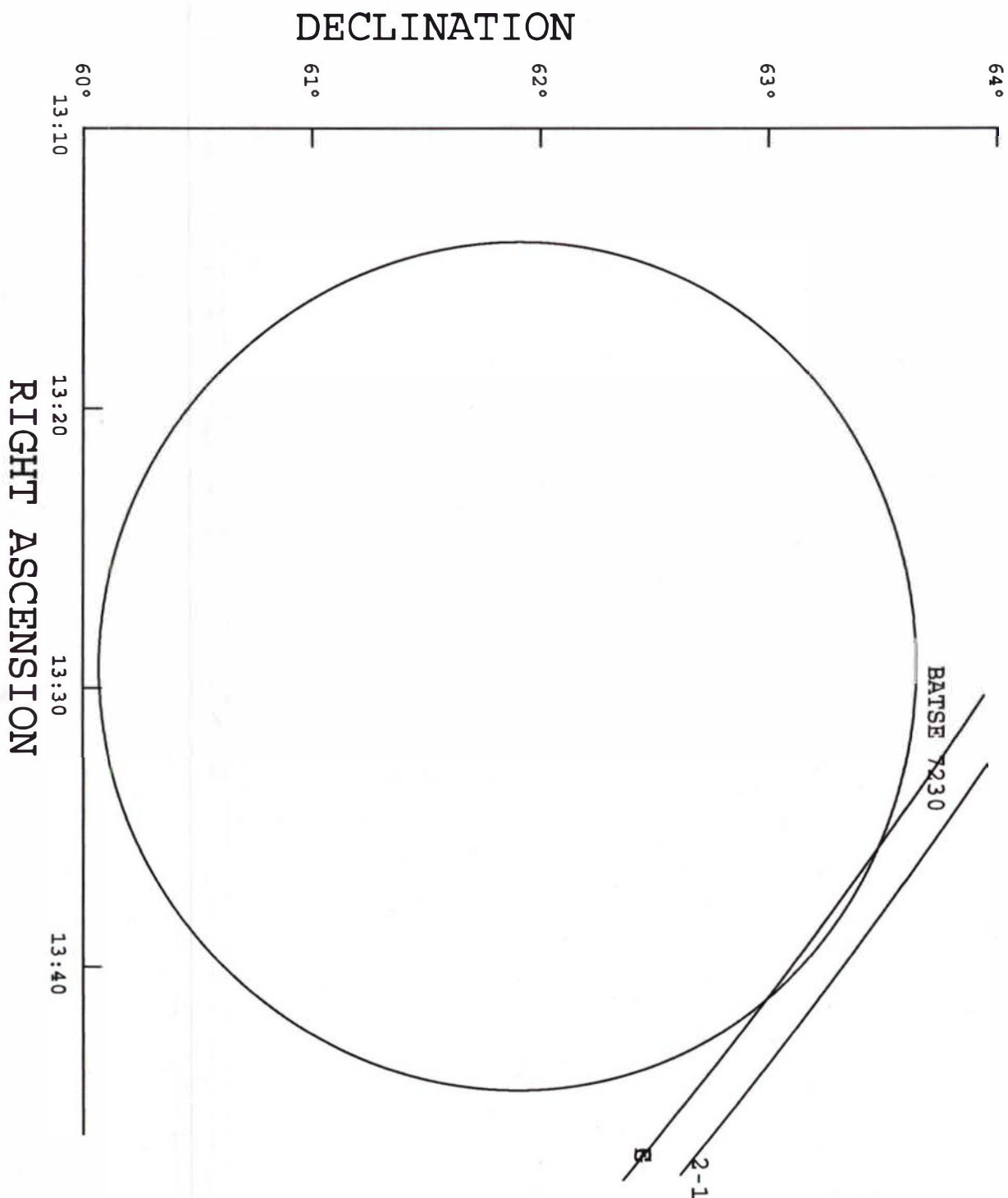
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF NOV 25, 1998 21:06

16/ 2/ 0



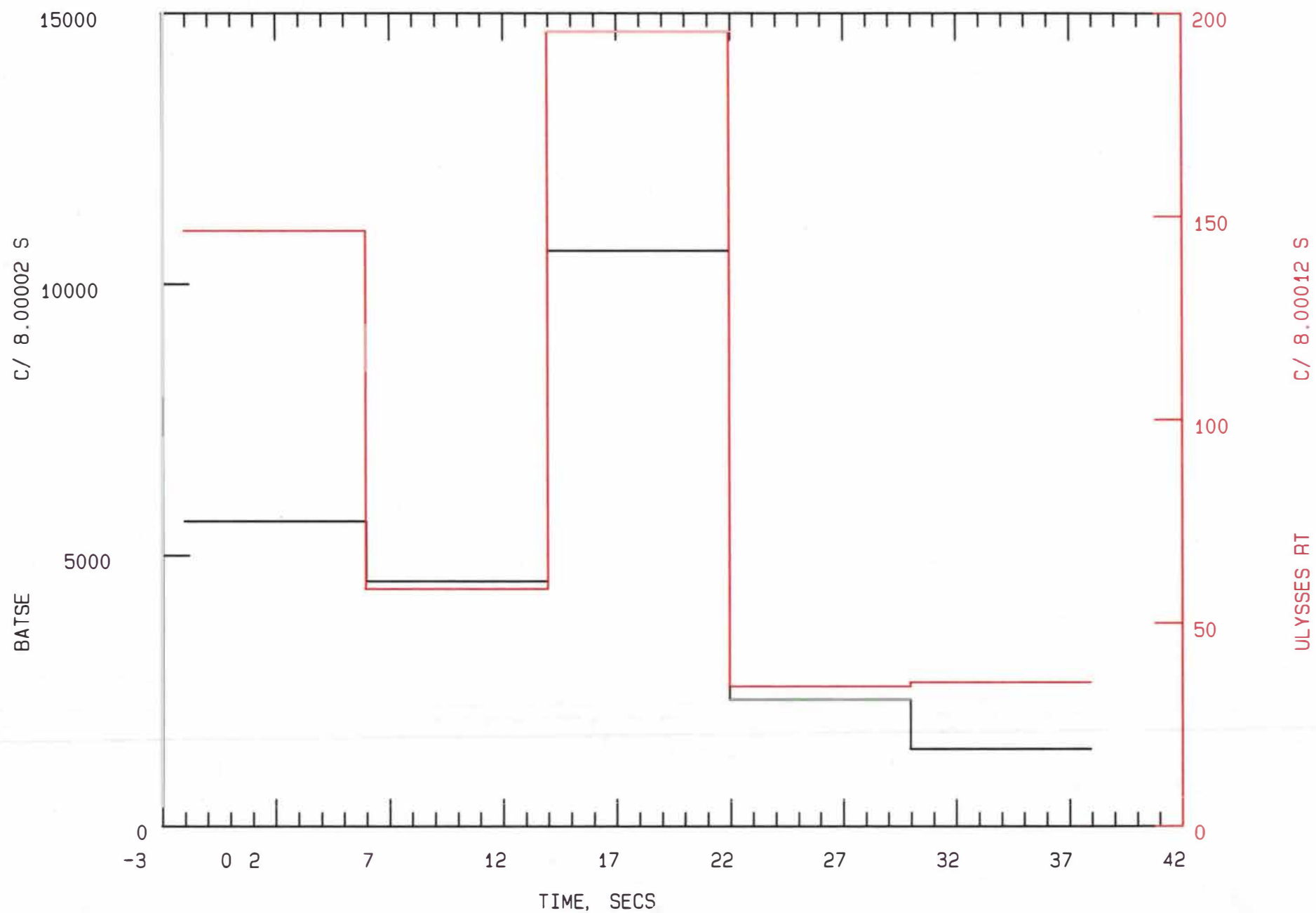
BATSE

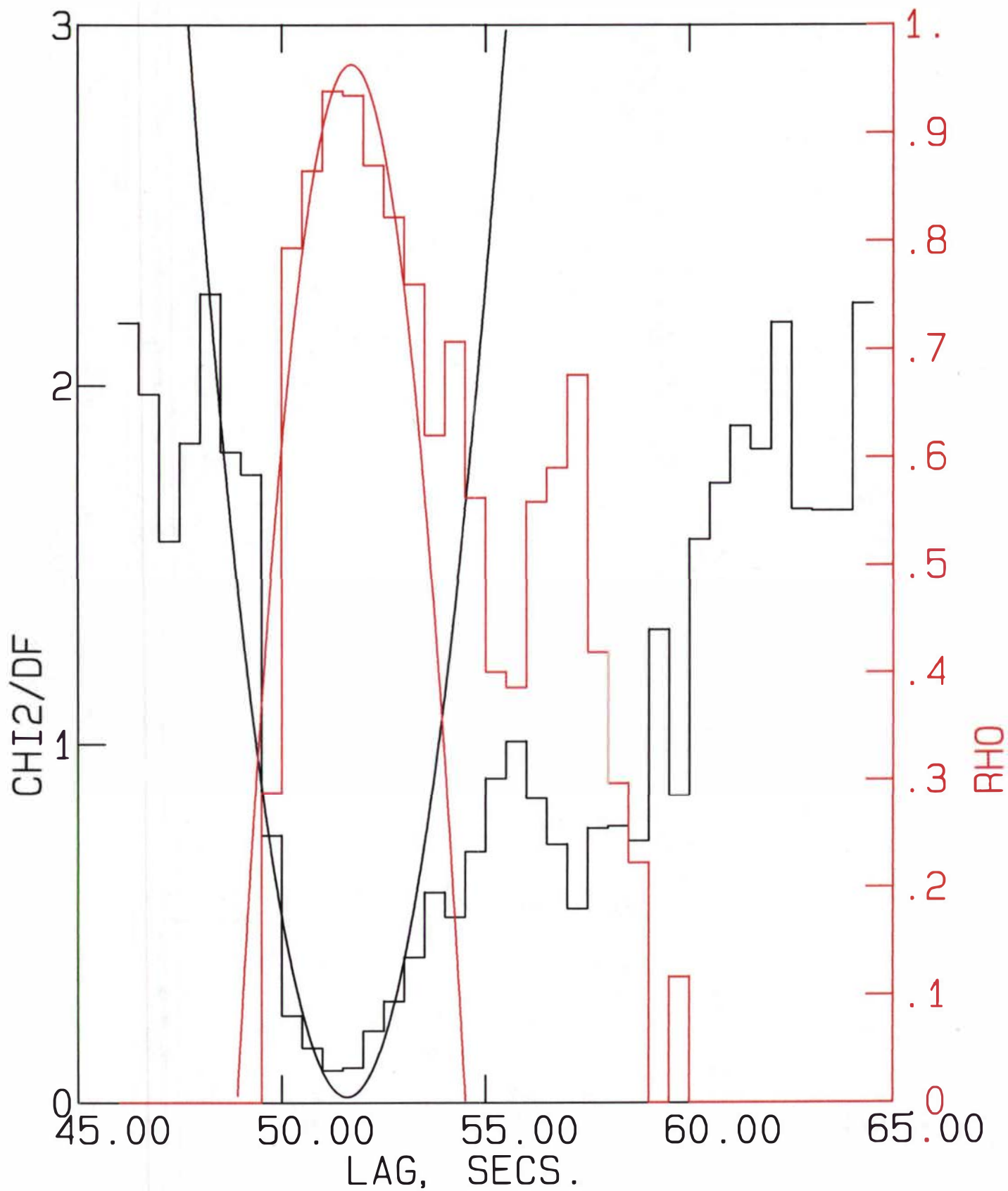
-ULYSSES RT CORRELATION

25/11/98

75981.729

16/ 2/ 0





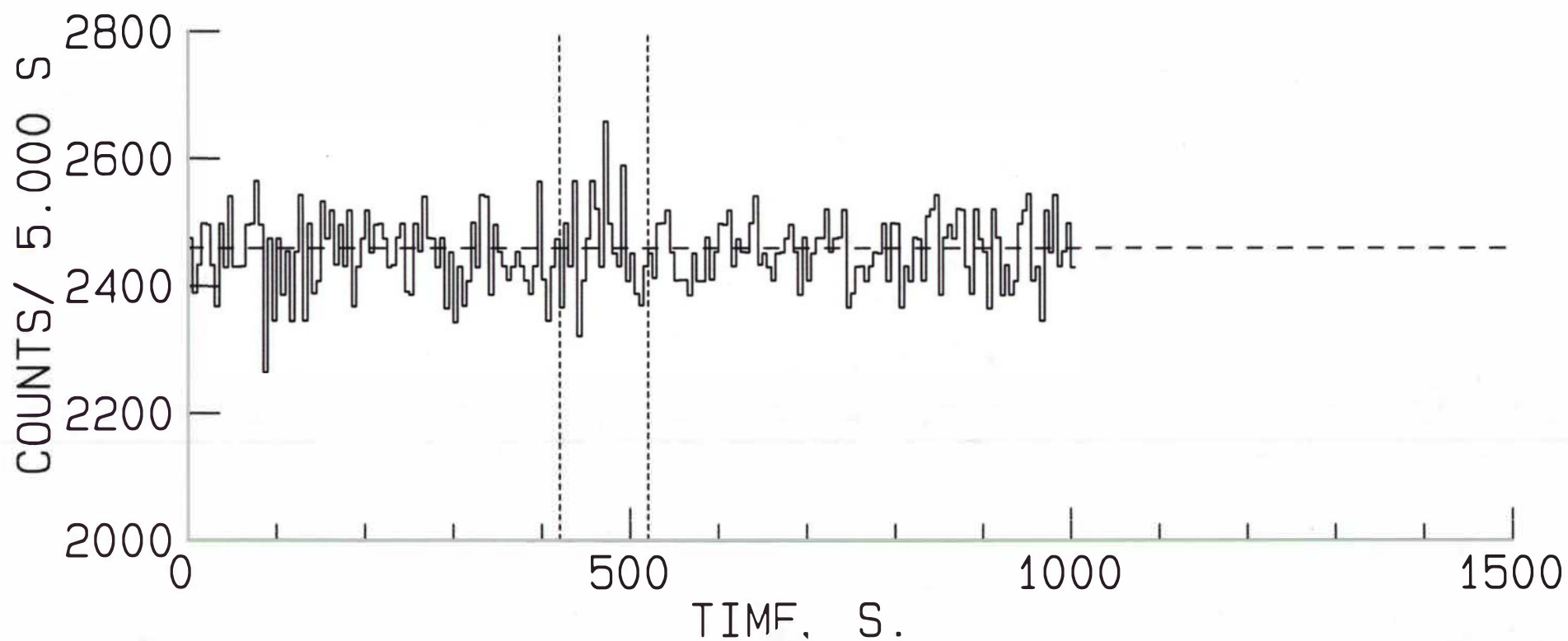
From khurley@sunspot.ssl.berkeley.edu Wed Feb 16 14:09 PST 2000
Date: Wed, 16 Feb 2000 14:10:29 -0800
From: khurley@ssl.berkeley.edu (Kevin Hurley)
To: peterson@fender.msfc.nasa.gov, henze@fender.msfc.nasa.gov,
khurley@sunspot.ssl.berkeley.edu

BATSE DATA REQUEST

DATE YYMMDD	BATSE#	25-100 KEV DATA	>100 KEV DATA
971118	6487		X
971207	6522	X	
981125	7228		X
000131	7975	X	X
000205	7984	X	
000212	7987	X	

ULYSSES RT
25/11/98 74772.455 s
0.500 S INTERVALS REGROUPED BY 10
22- 149 keV

28/ 4/99



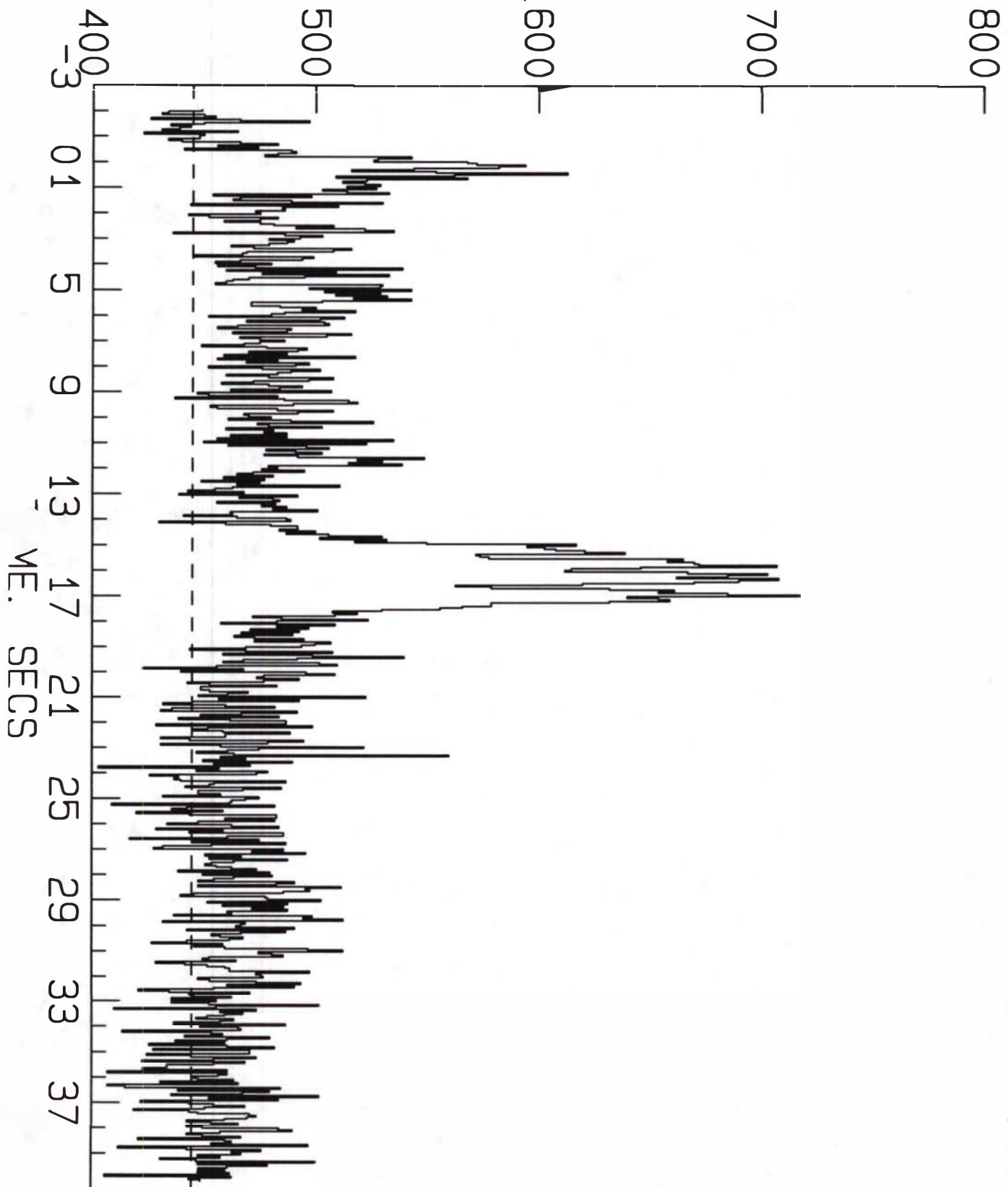
BATSE

25/11/98

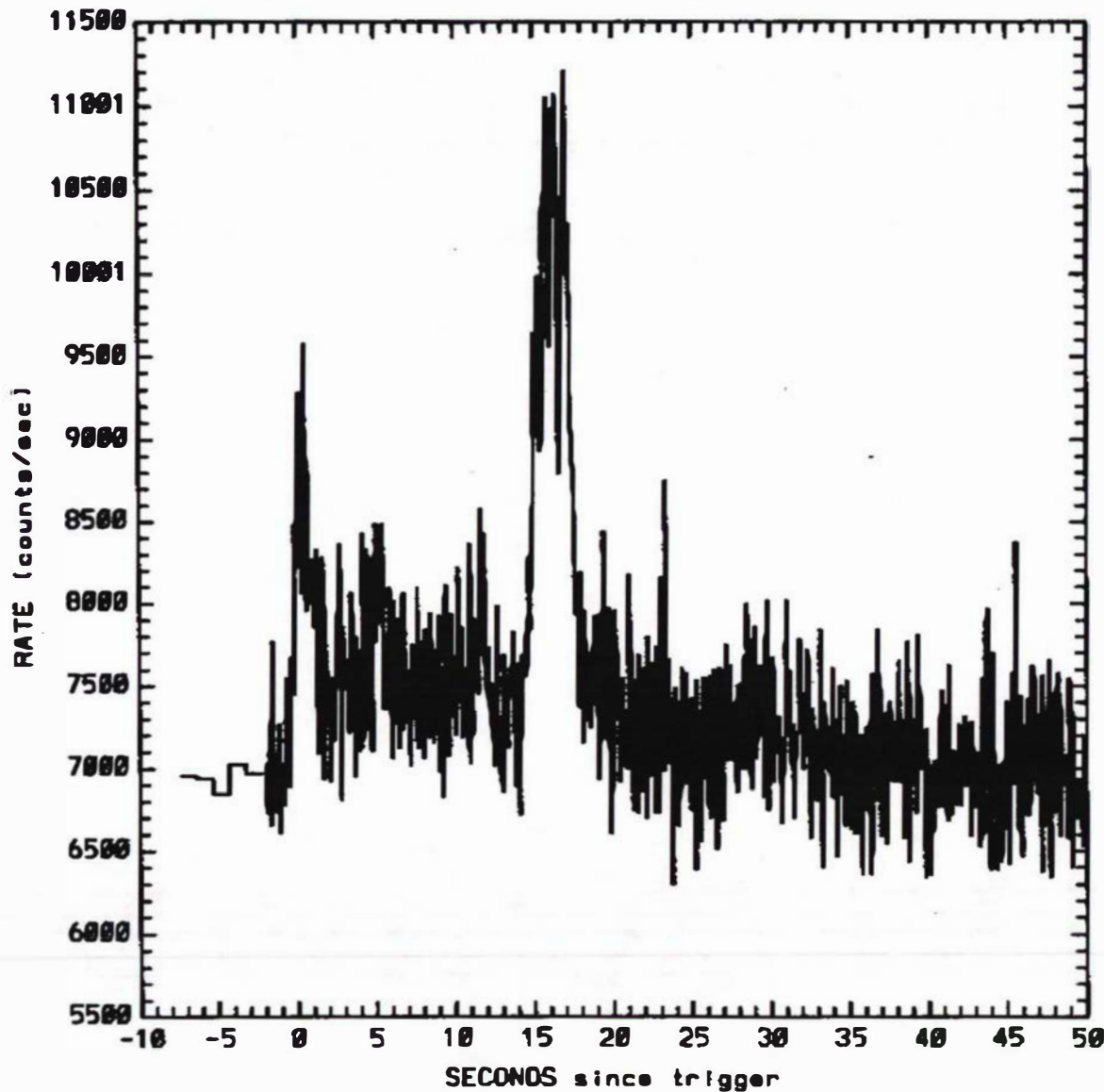
75981.729

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7230



13-APR-1999 16.17.22

Created by NPS 80
(Burst Display)
Version 12.26

Trigger = 7230

Trigger Time:
11142 / 79981.729

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PRED + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors (7..01.
---32--

Discriminators:
(1 . 2)

Quality Mask:
BDISP1

BATSE BURST# 7230

ULYSSES RT

5 / 4 / 99

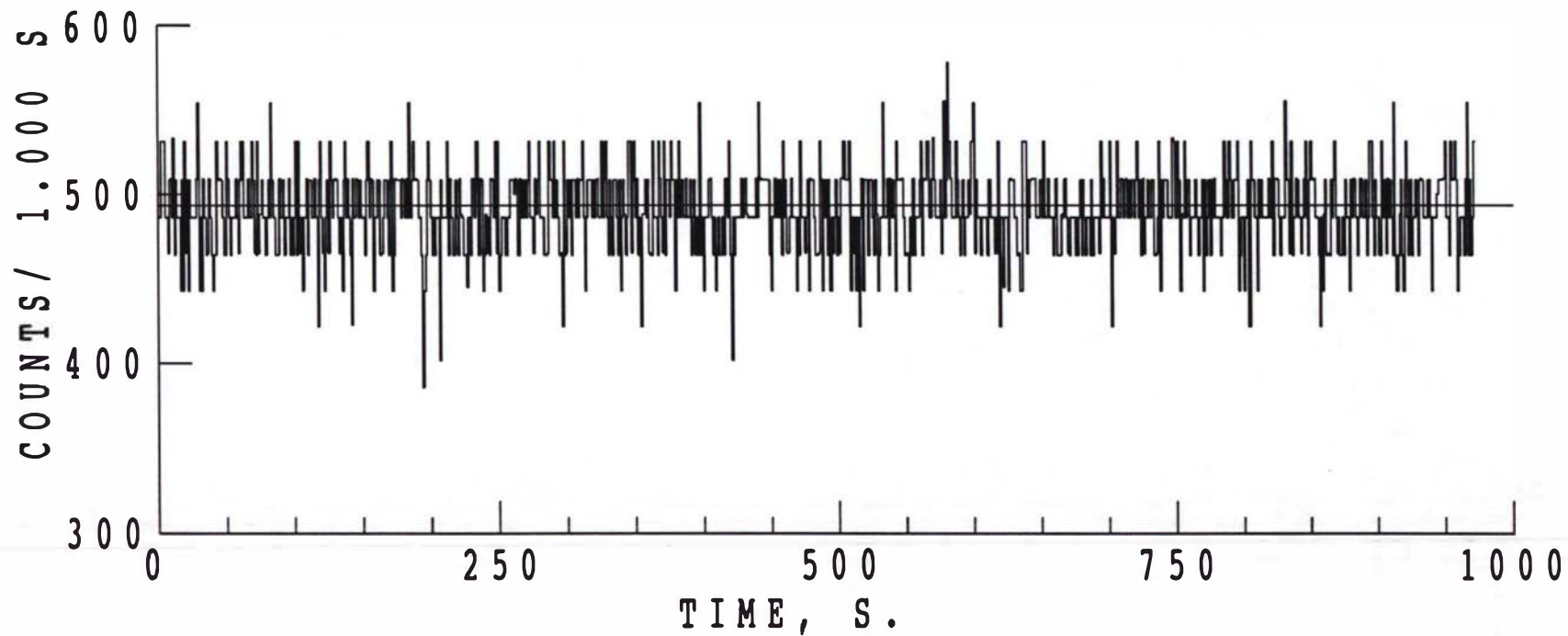
25/11/98 74664.453 s

0.500 S INTERVALS REGROUPED BY 2

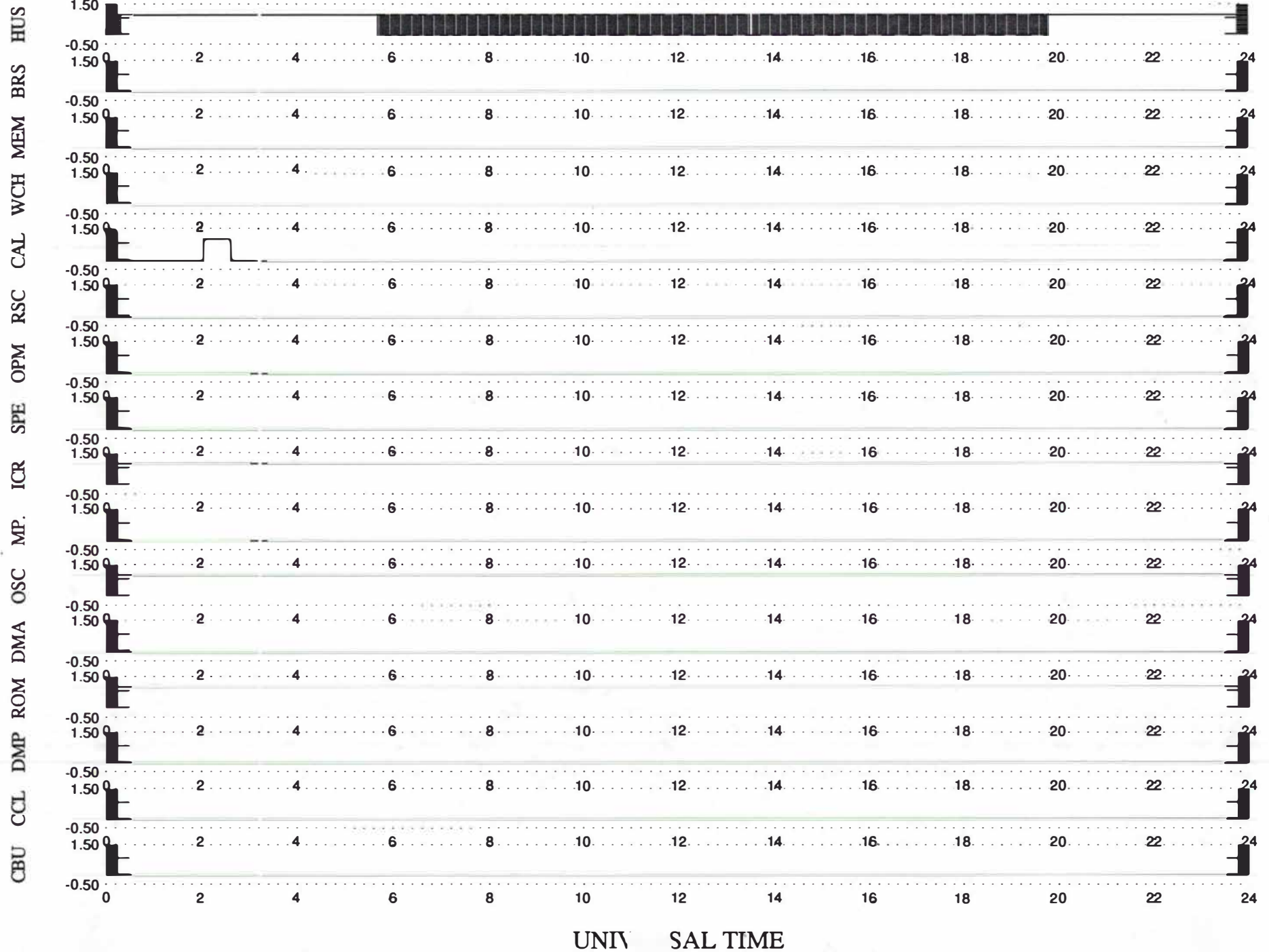
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

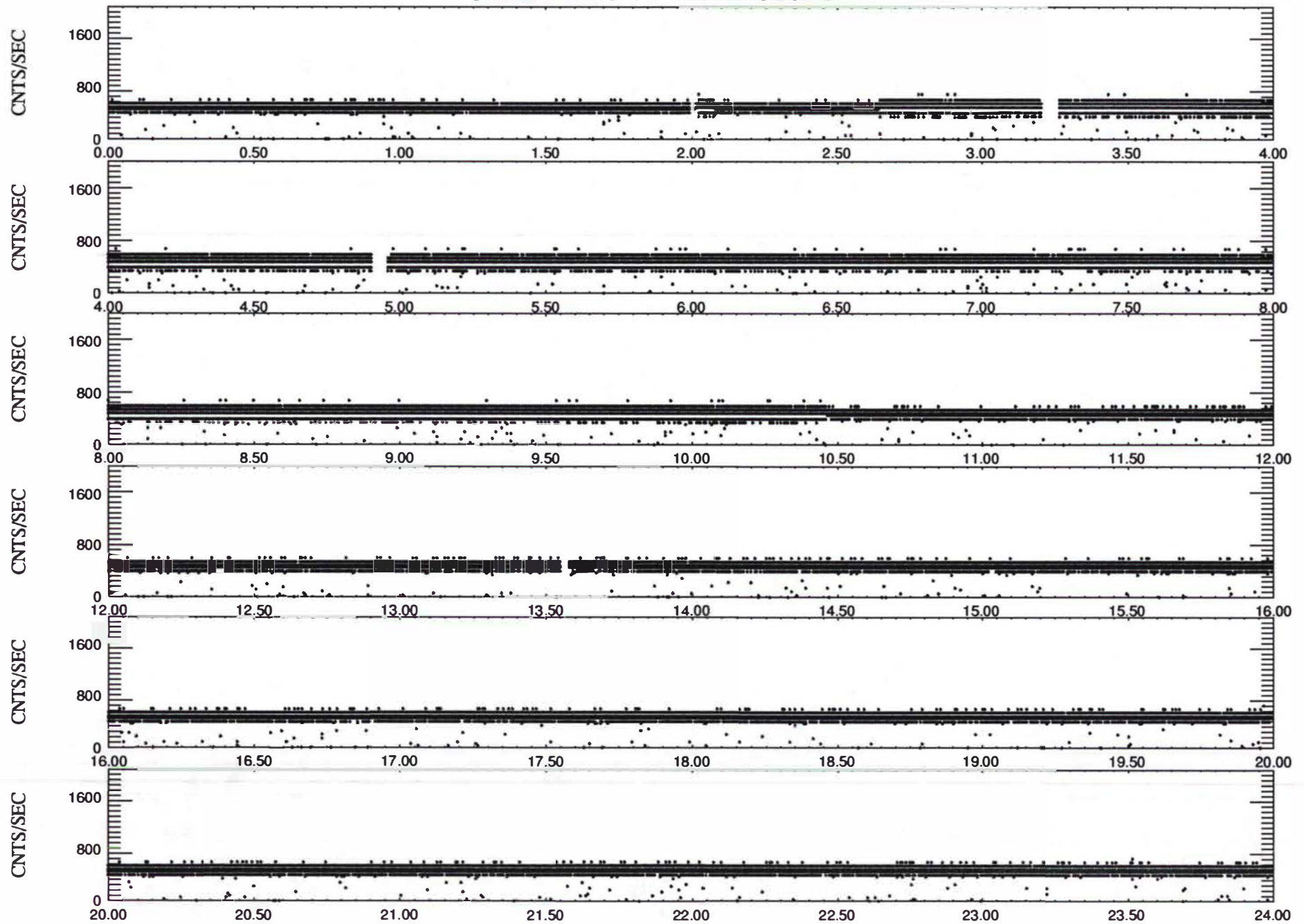
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



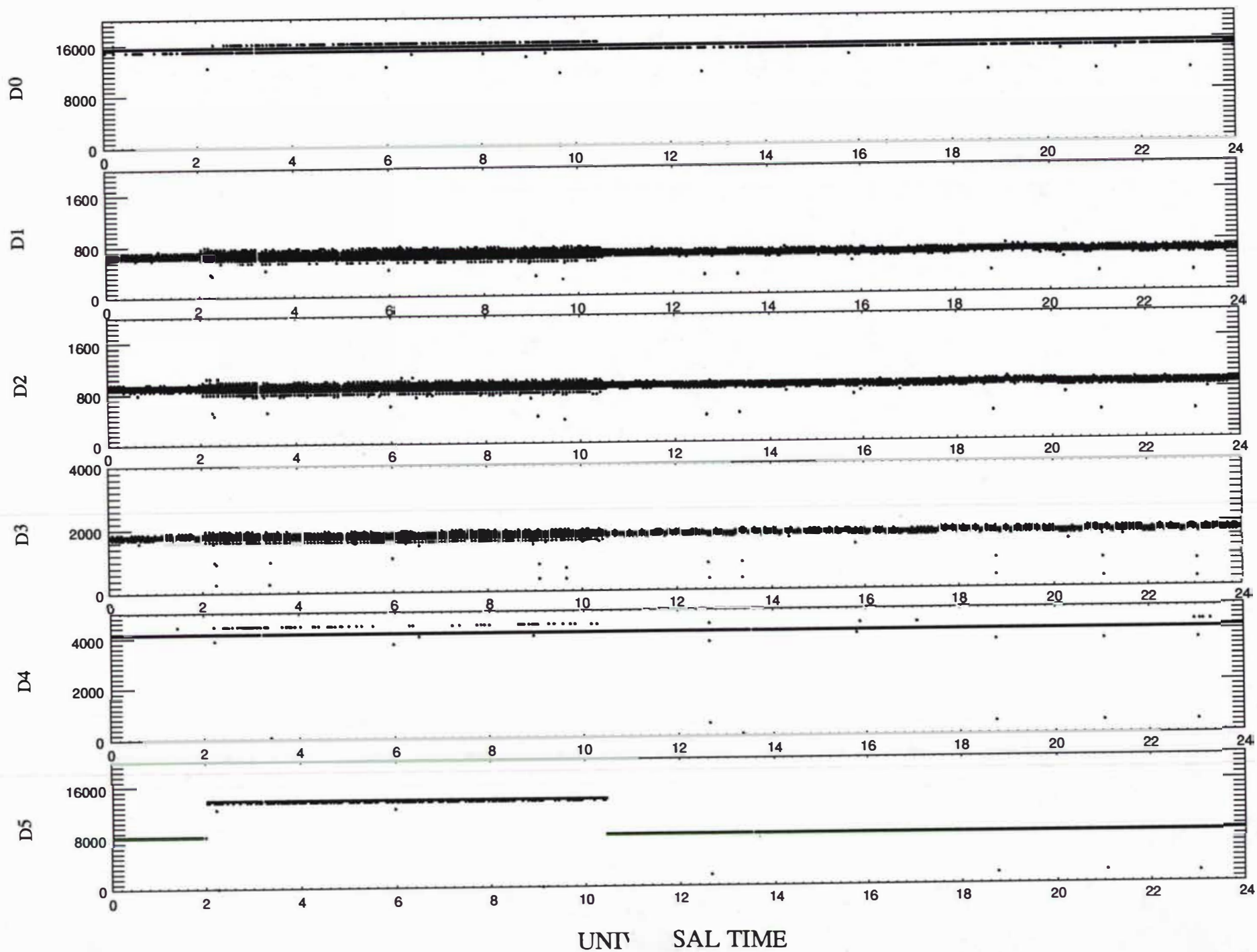
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From khurley@sunspot Tue Dec 1 08:52 PST 1998
Date: Tue, 1 Dec 1998 08:54:49 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981126

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

November 26 1998 02:05 Ulysses time; moderate, 10 s long

The spacecraft was about 2700 light-seconds from Earth.

Was this event detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, henze, kouveliotou, kurczyski, mar

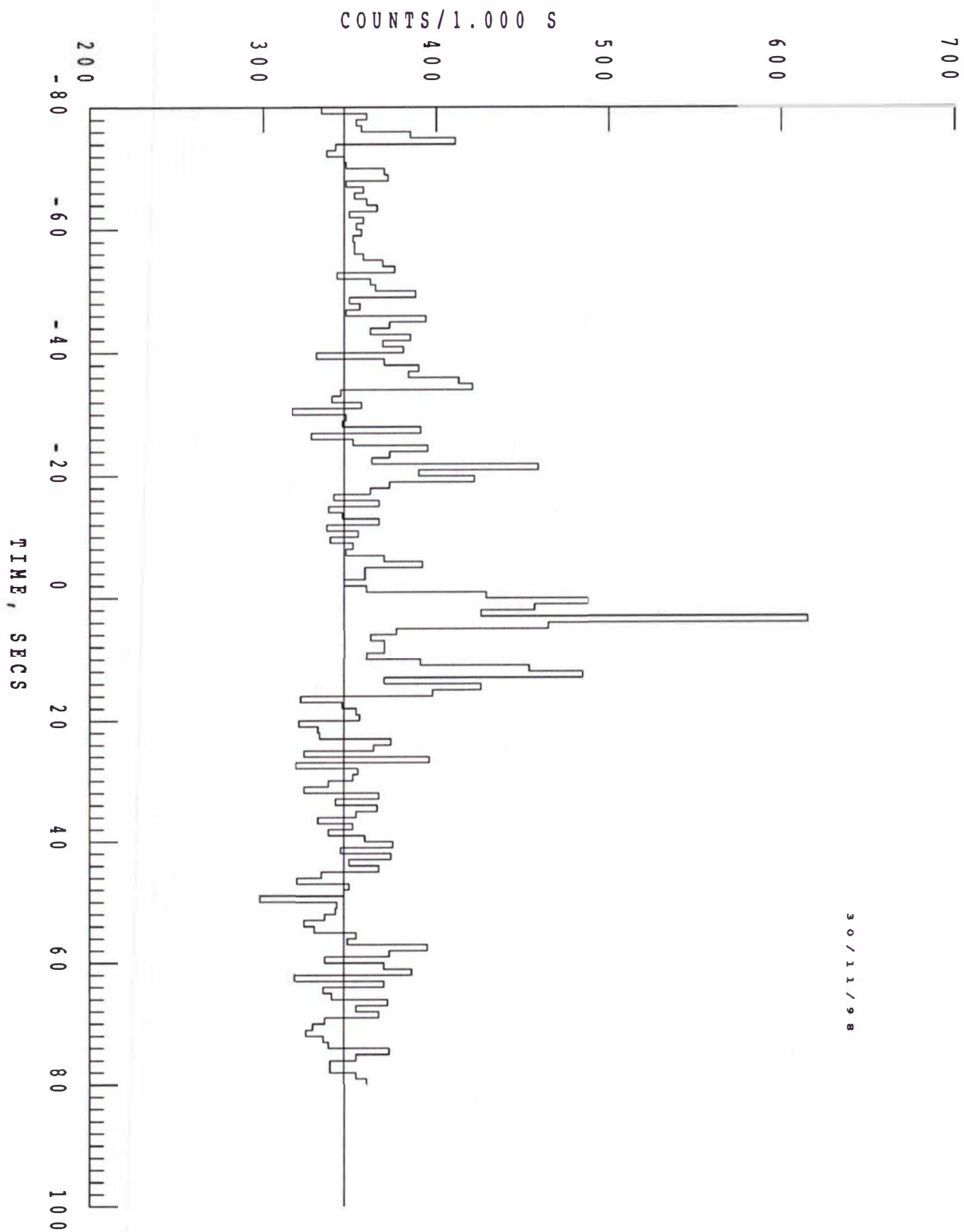
TGRS: NO

NEAR

26/11/98

4273.817

100-1000 keV



30/11/98

NEAR GRB98330-1

ULYSSES RT

30 / 11 / 98

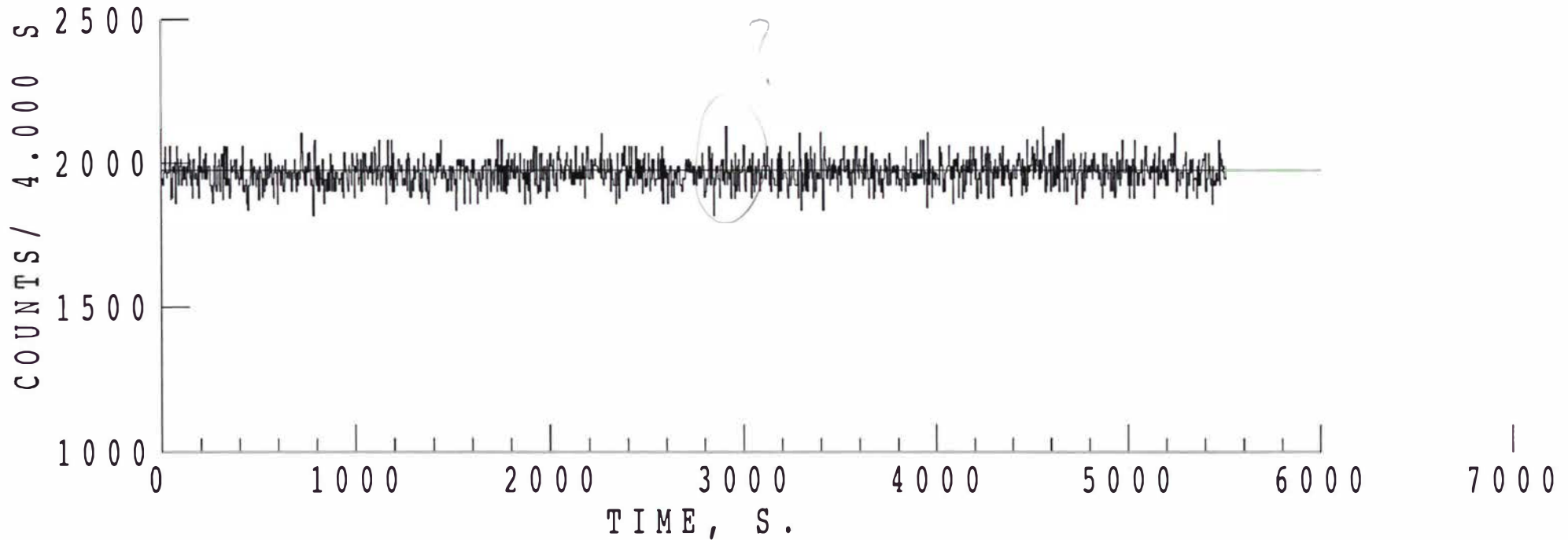
26 / 11 / 98 1512.089 s

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 BRAINERD@fender.msfc.nasa.gov Fri Nov 27 13:23:33 1998
Return-Path: <BRAINERD@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA18441; Fri, 27 Nov 1998 13:23:33 -0800
From: BRAINERD@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA23769; Fri, 27 Nov 1998 13:23:29 -0800
Date: Fri, 27 Nov 1998 15:23:31 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981127152331.2023c353@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7231
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7231
EVENT OF 1998 NOV 26 DAY OF YEAR=330
EVENT CROSSING TIME AT BATSE : 32094. S. OR 08:54:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 85.000 -10.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/11/ 98 IS:
RA= 166.987 DEC= -4.940 DIST= 5.432 AU
BATSE-ULYSSES DISTANCE = 812571226. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 98.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -411.22 SECS.
CROSSING TIME AT ULYSSES IS 31683. S. OR 08:48:02 +/- 508.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/11/ 98 IS:
RA= 179.931 DEC= 1.844 DIST= 1.834 AU
MARS-BATSE DISTANCE = 274301888. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.83 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 82.53 SECS.
CROSSING TIME AT MARS IS 32177. S. OR 08:56:16 +/- 159.46 SECONDS

BATSE BURST TRIGGER

NO.: 07231

TIME: TJD=1143 SECONDS=32094

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=148.4 AZIMUTH=152.6 ERROR=002.9 DEGREES

COMMENTS:

BURST OF 15 SECONDS DURATION. NOT VISIBLE ABOVE 300 KEV.

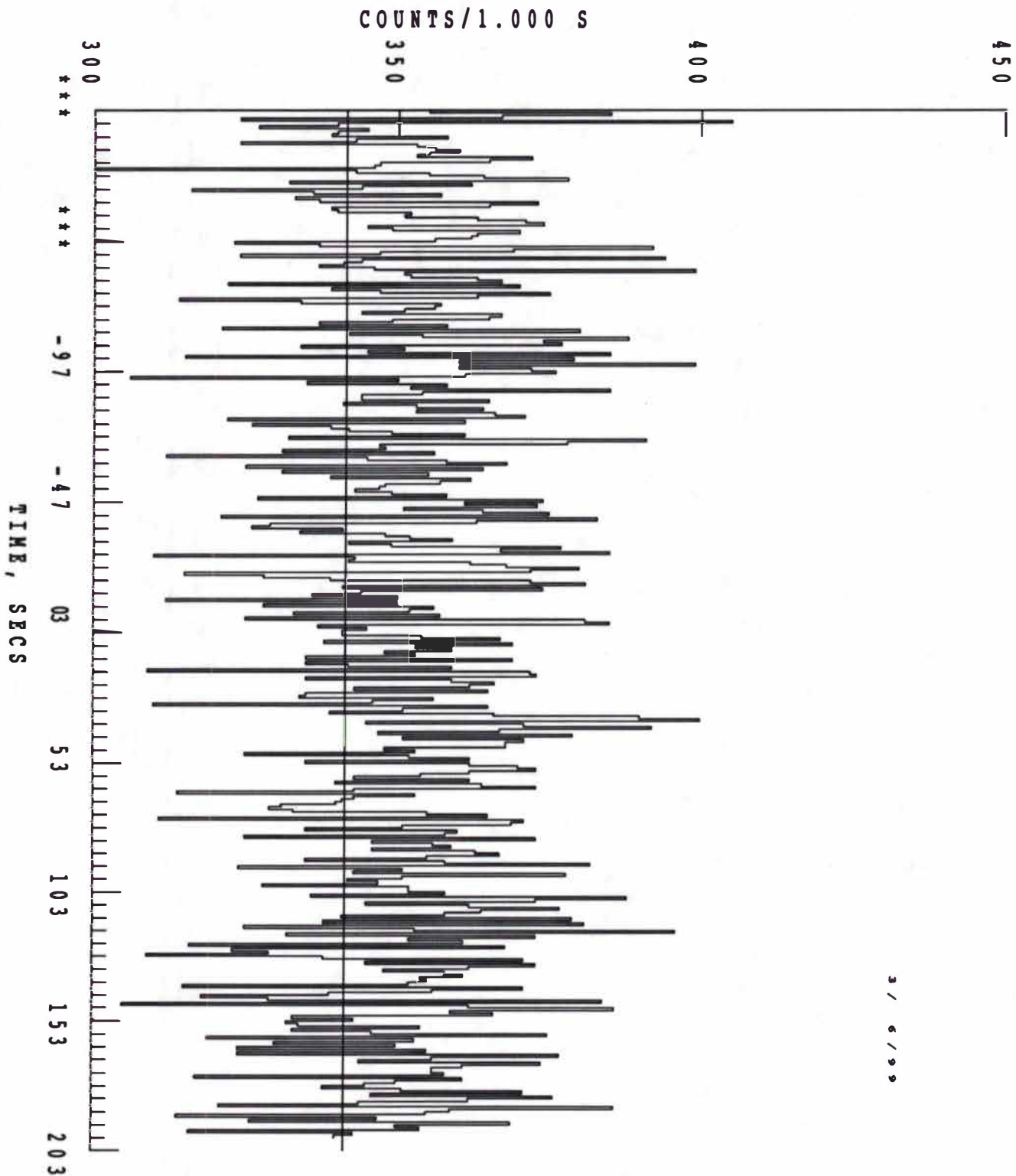
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7231	981126	11143	32094	2500	085	-10	15

NEAR

26/11/98

32960.067

100-1000 keV



3 / 6 / 99

BATSE BURST# 7231

ULYSSES RT

30 / 11 / 98

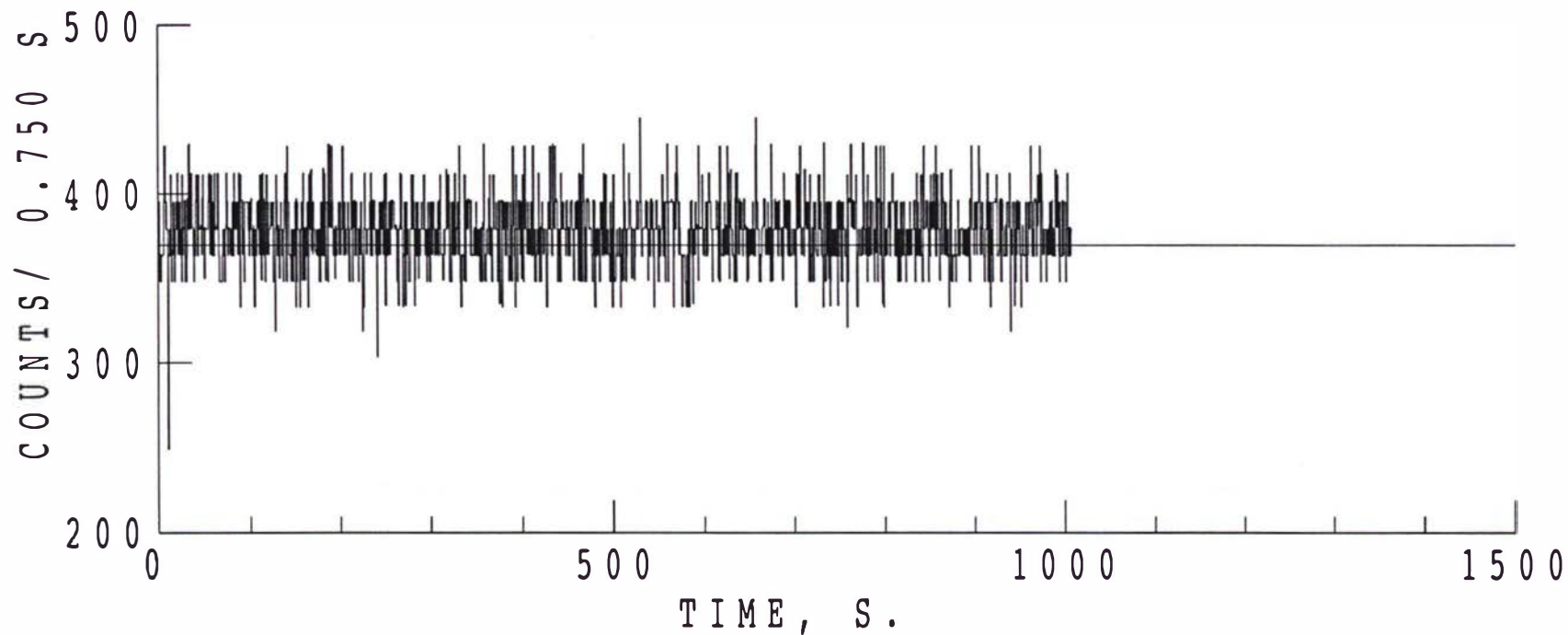
26 / 11 / 98 31176.146 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Dec 1 2004

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data N/A

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

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? N/A

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☒ $3\Delta t$'s calculated?

- ☒ 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

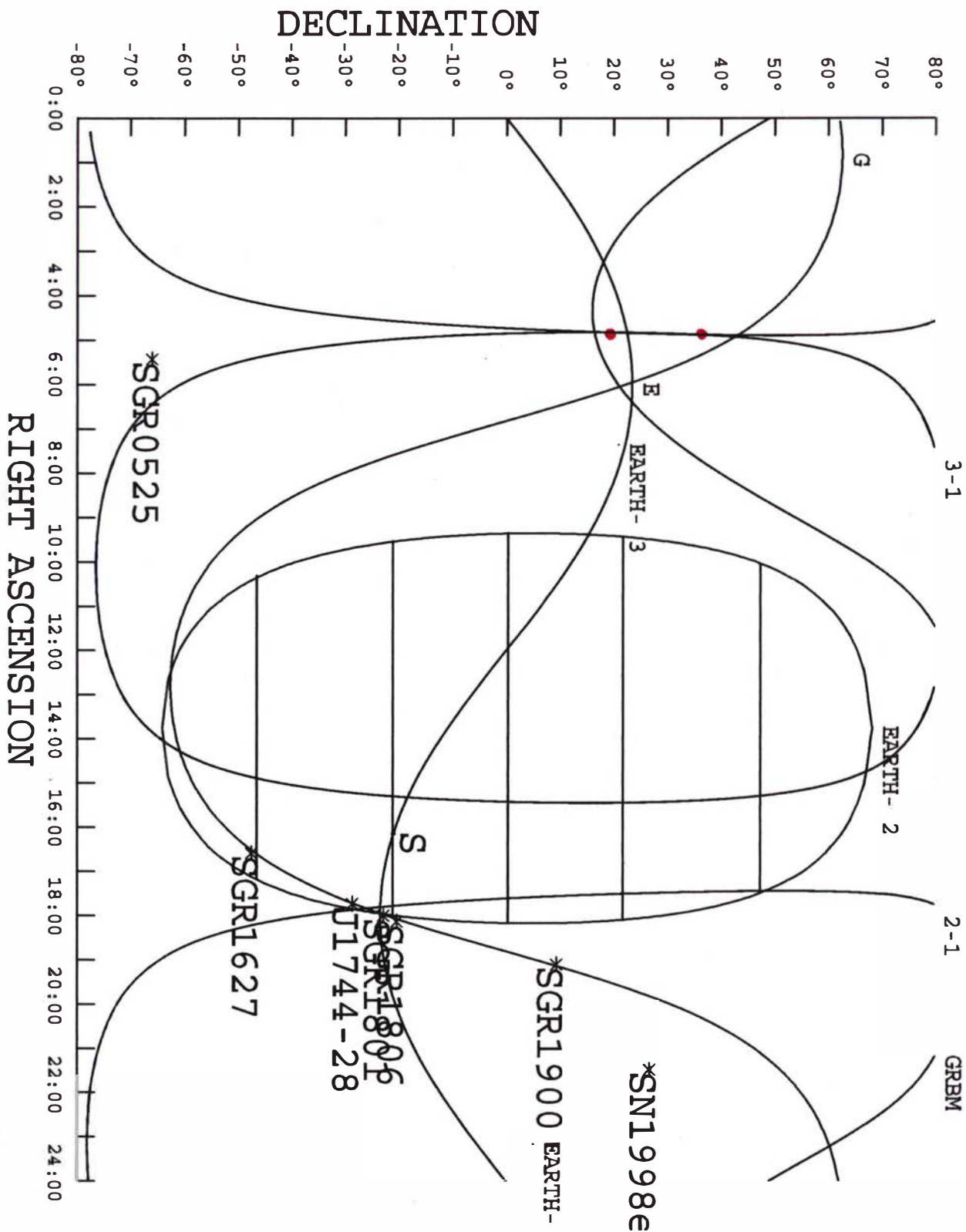
1 ULYSSES

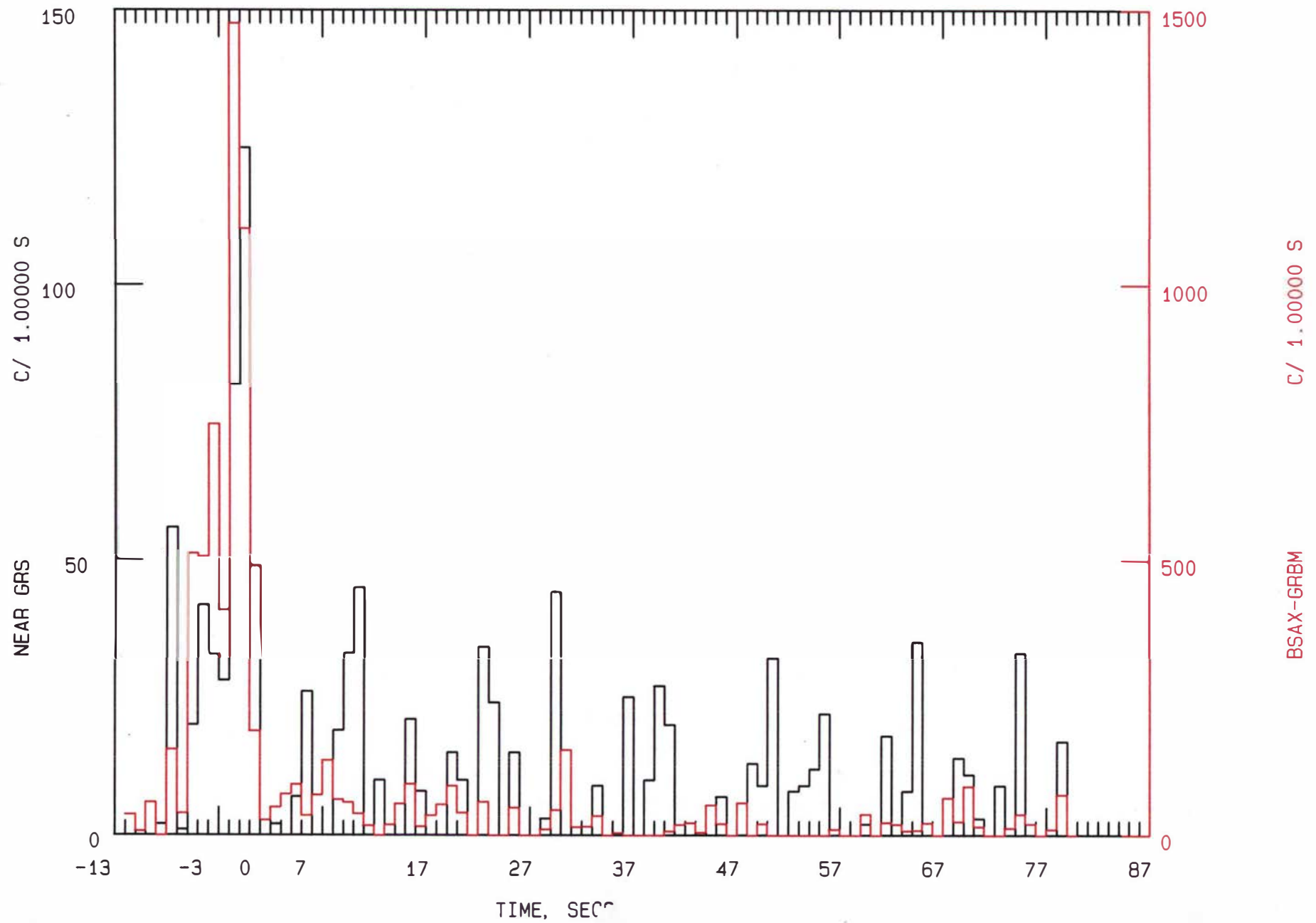
2 SAX

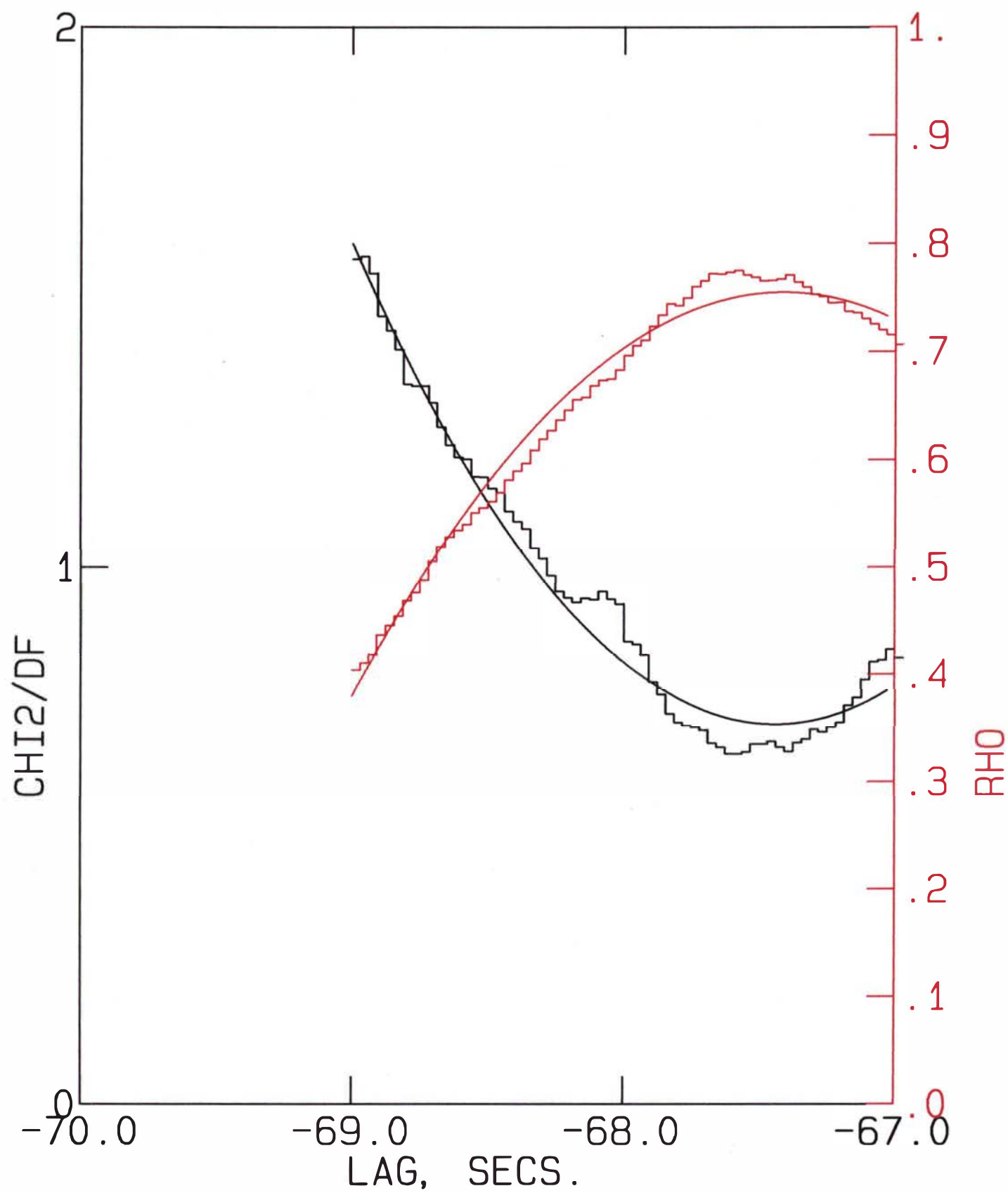
3 NEAR

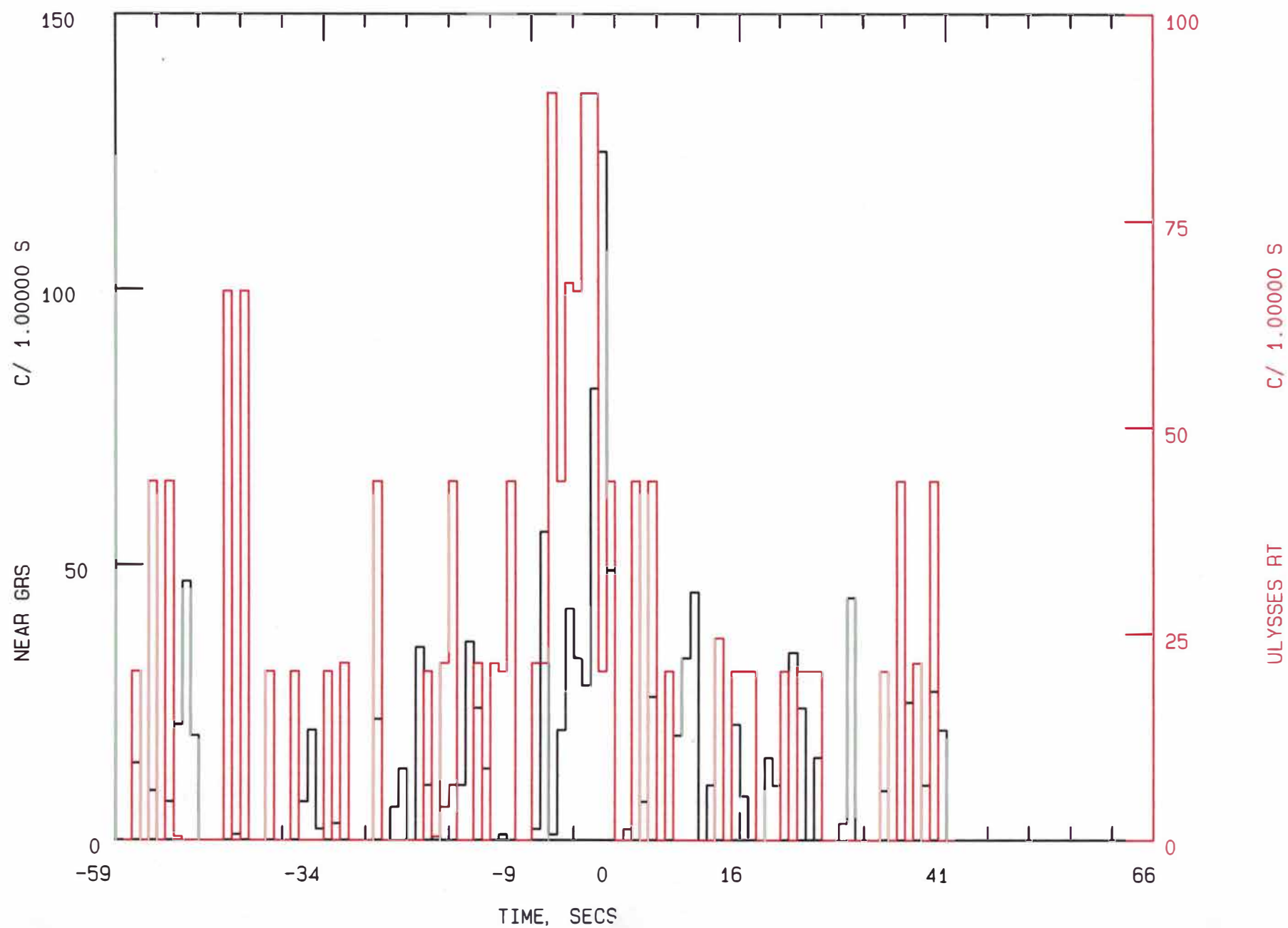
EVENT OF NOV 26, 1998 17:25

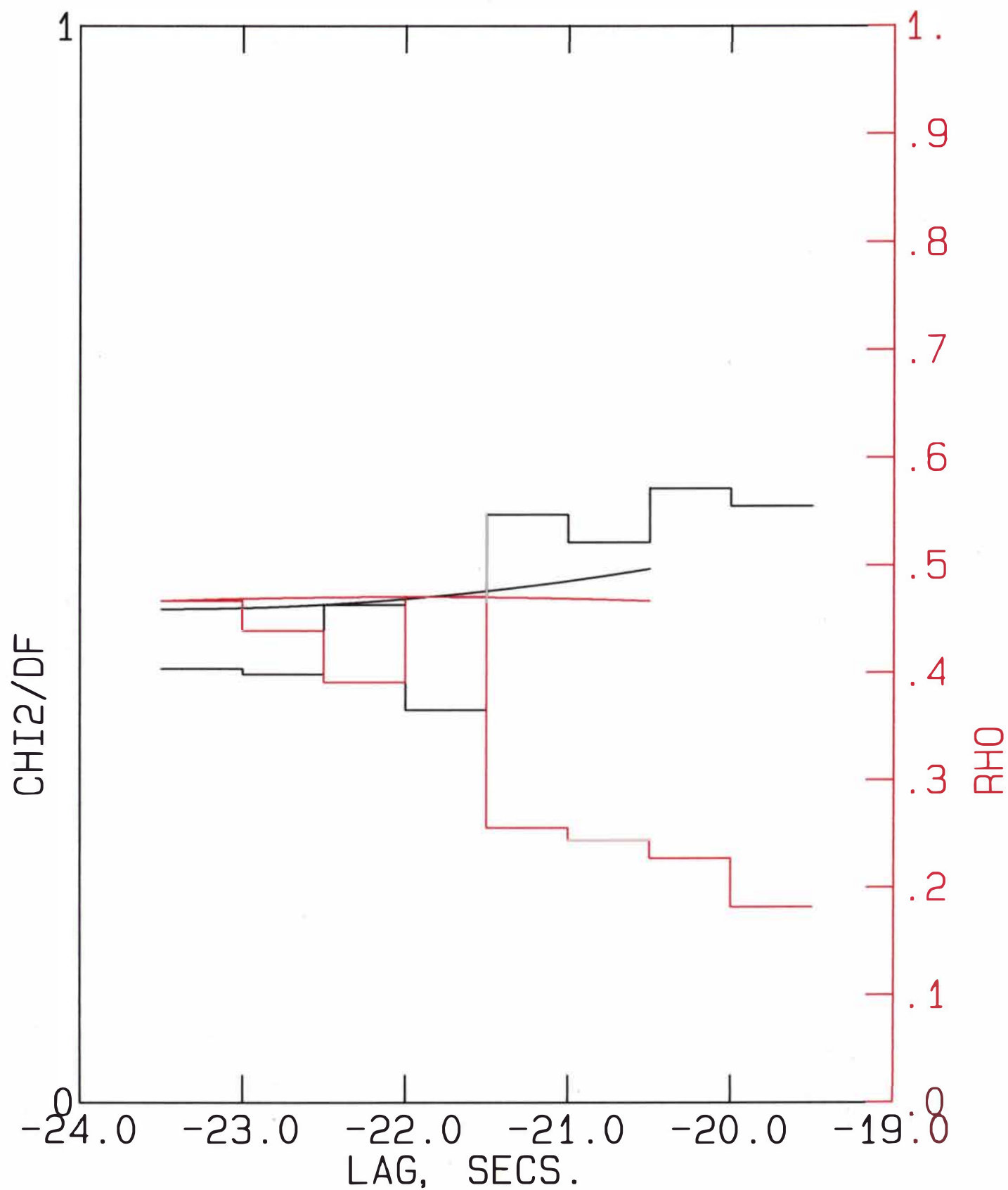
1/12/ 4

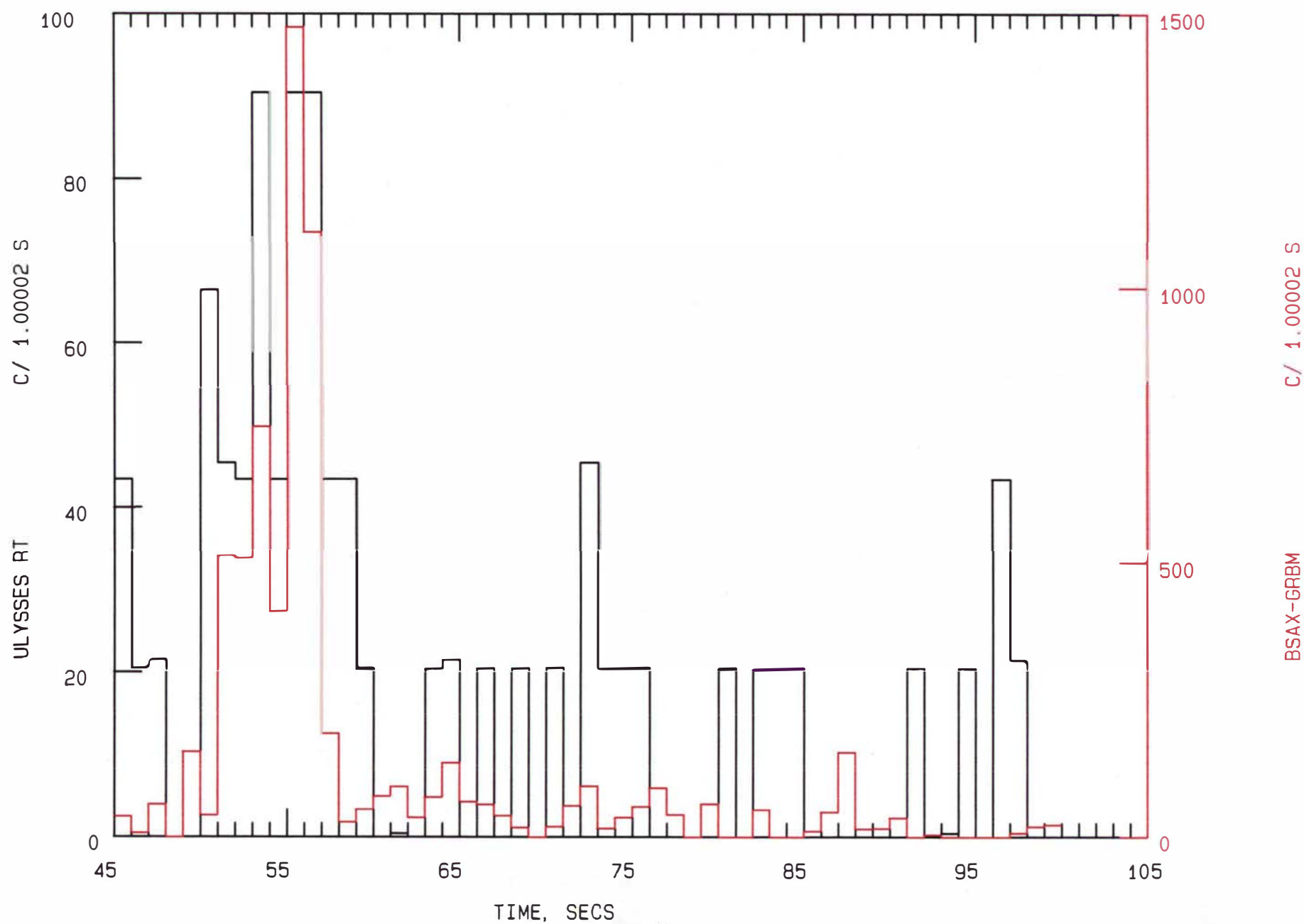


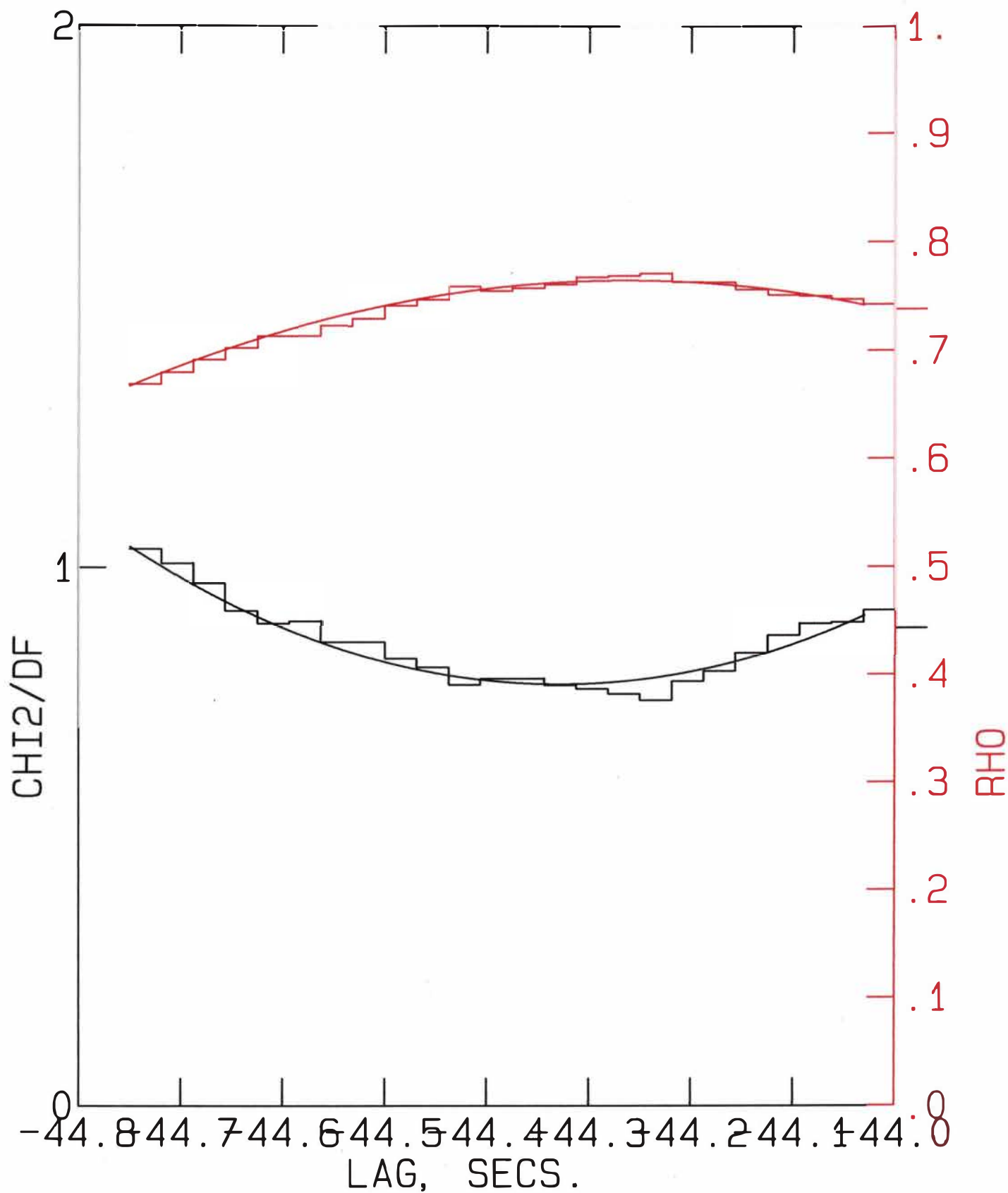






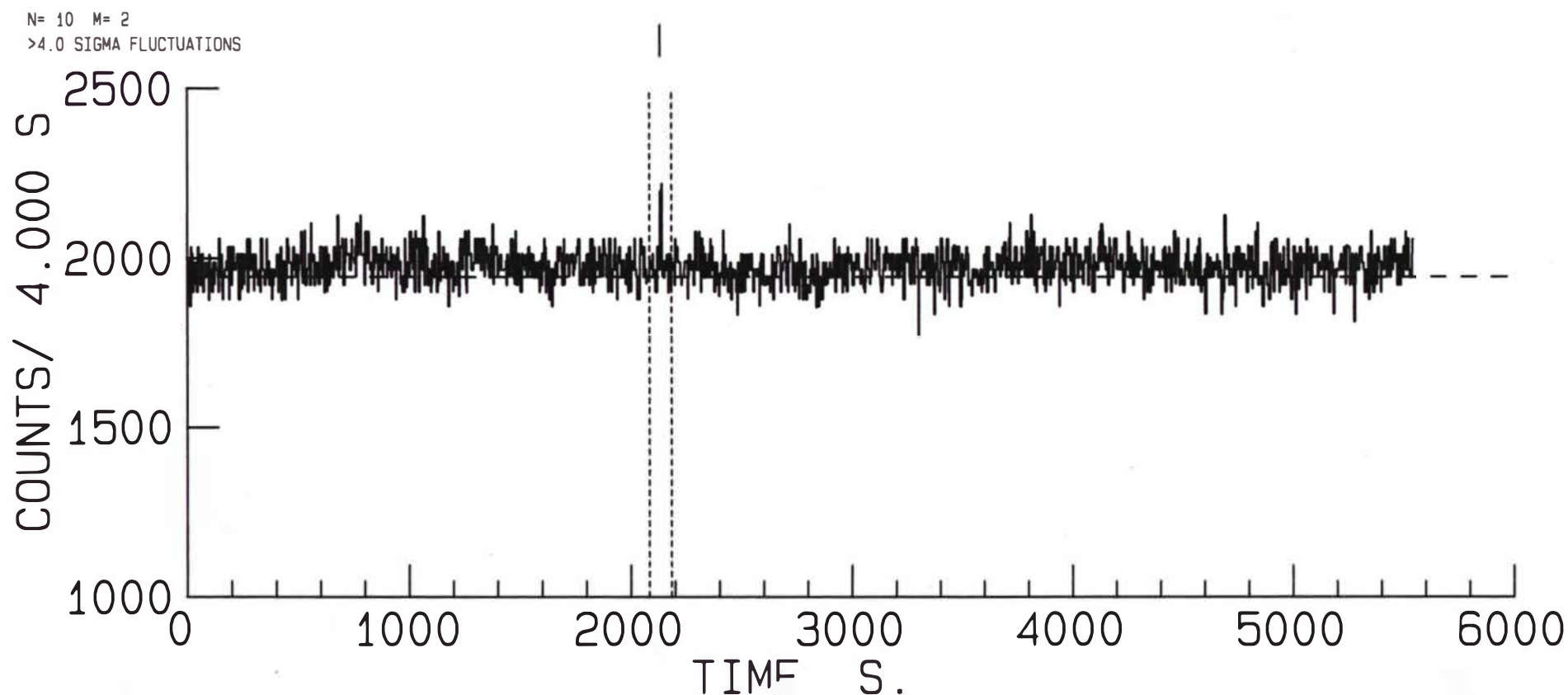






ULYSSES RT
26/11/98 60660.191 s
0.500 S INTERVALS REGROUPED BY 8
22- 149 keV

30 / 11 / 4

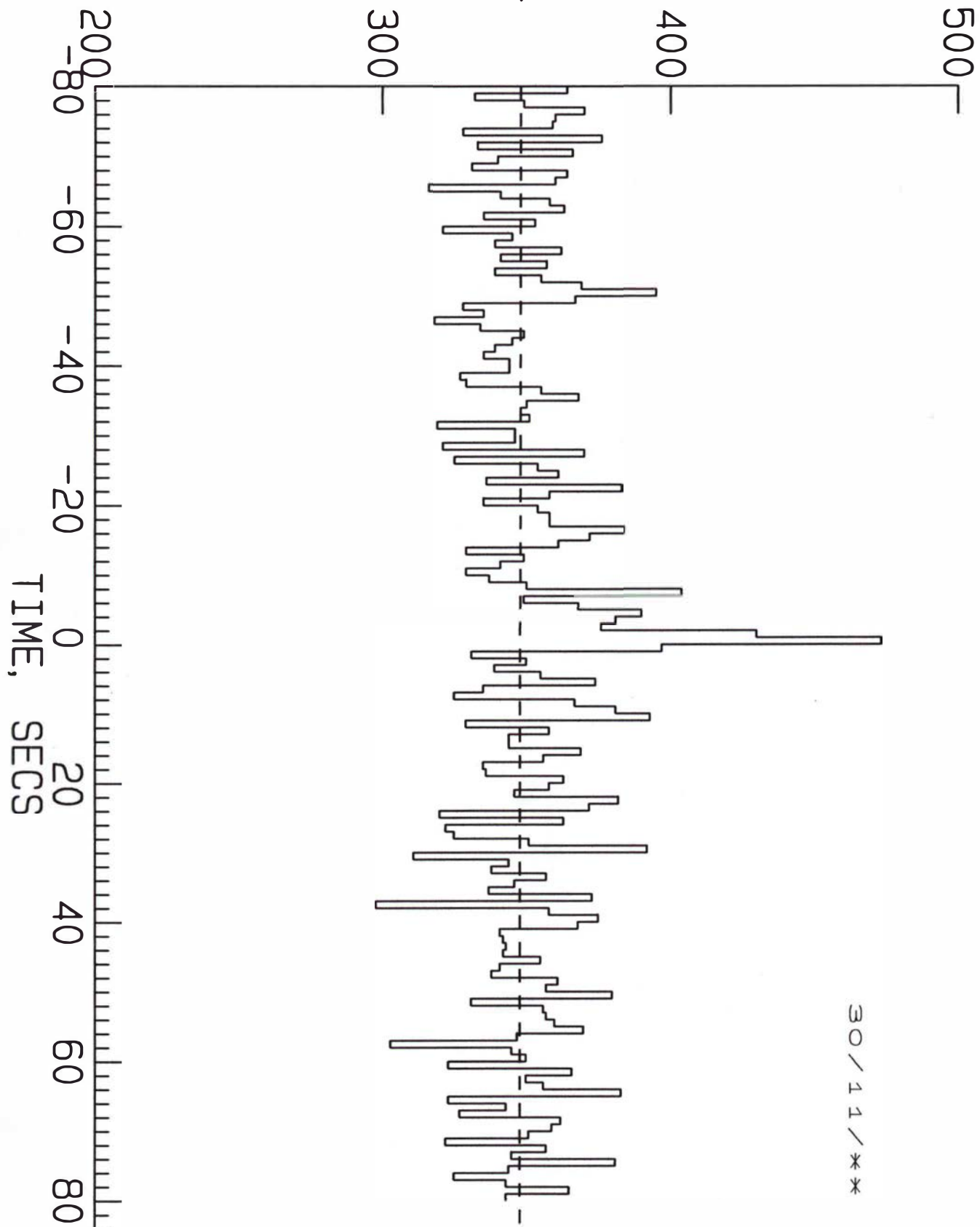


NEAR

26/11/98 63429.059

100-1000 keV

COUNTS/1.000 S



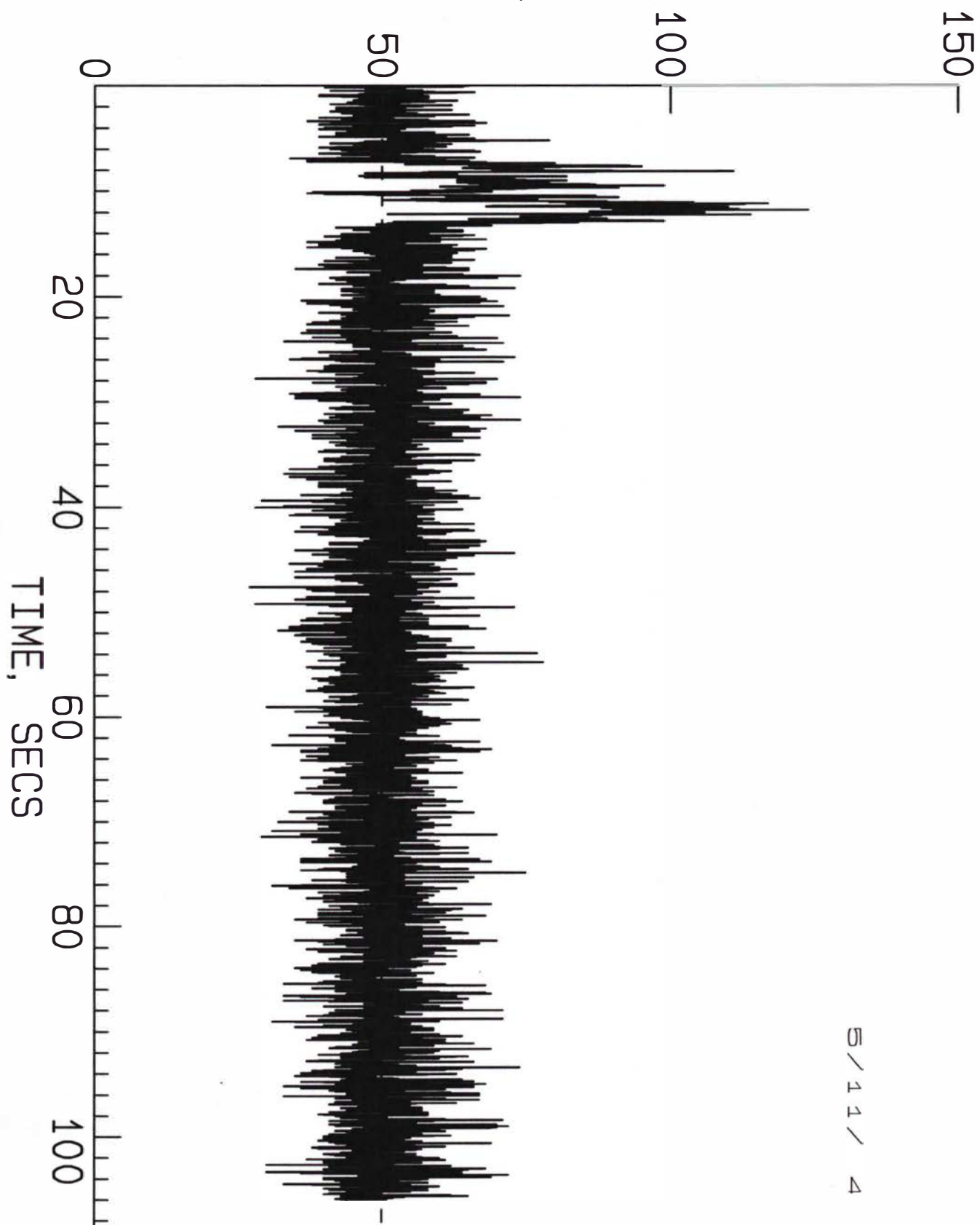
30 / 11 / **

SAX GRBM

26/11/98 62472.000

40- 700 keV

COUNTS/0.031 S



KONUS

26/11/98 62283.207

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

4400

DETECTOR 2 - N. ECLIPHTIC

05/11/04

3400

2400

1400

400

50

100

150

200

250

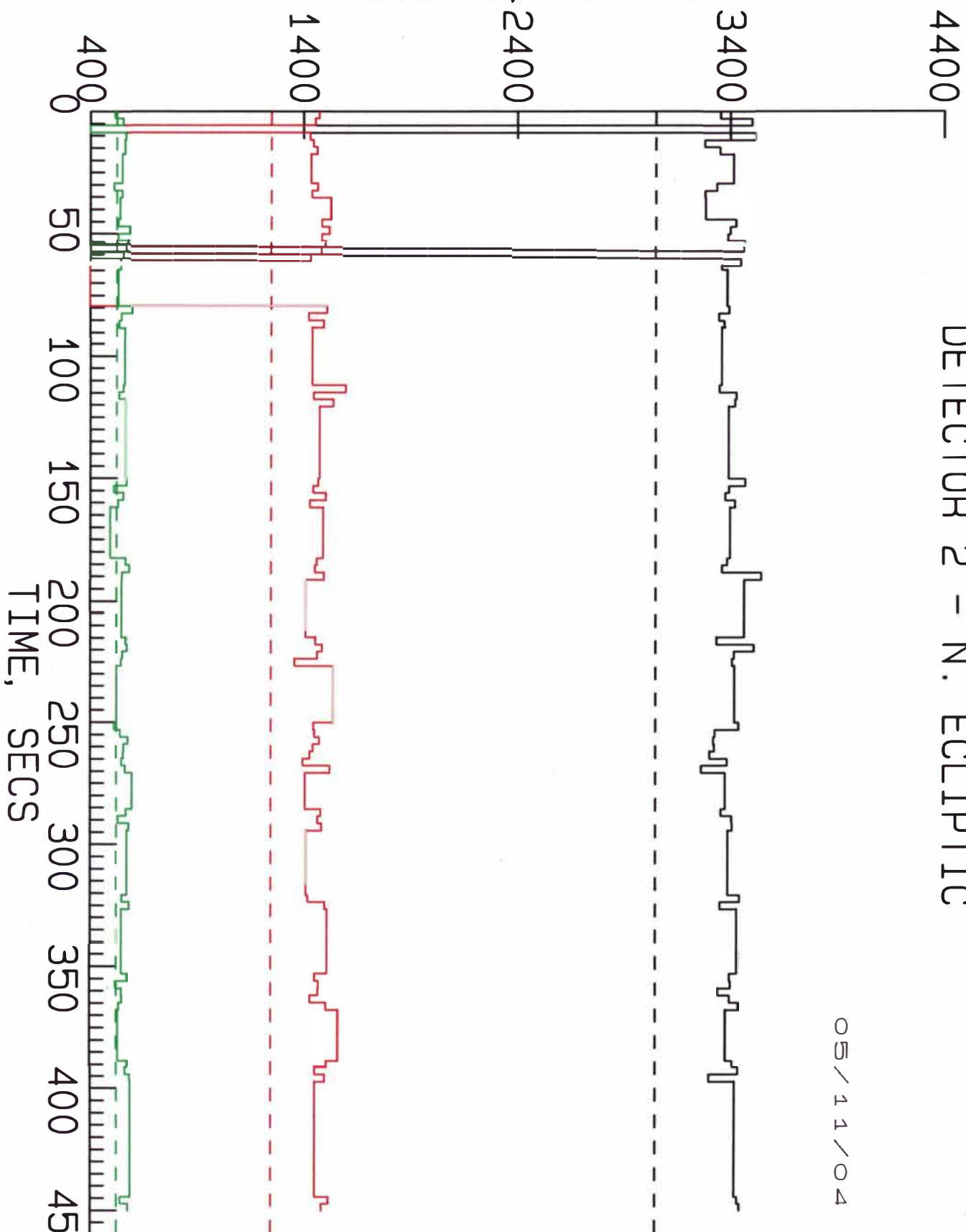
300

350

400

45

TIME, SECS



KONUS

26/11/98 62283.207

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S

3600

DETECTOR 1 - S. ECLIPTEIC

2600

1600

600

50

100

150

200

250

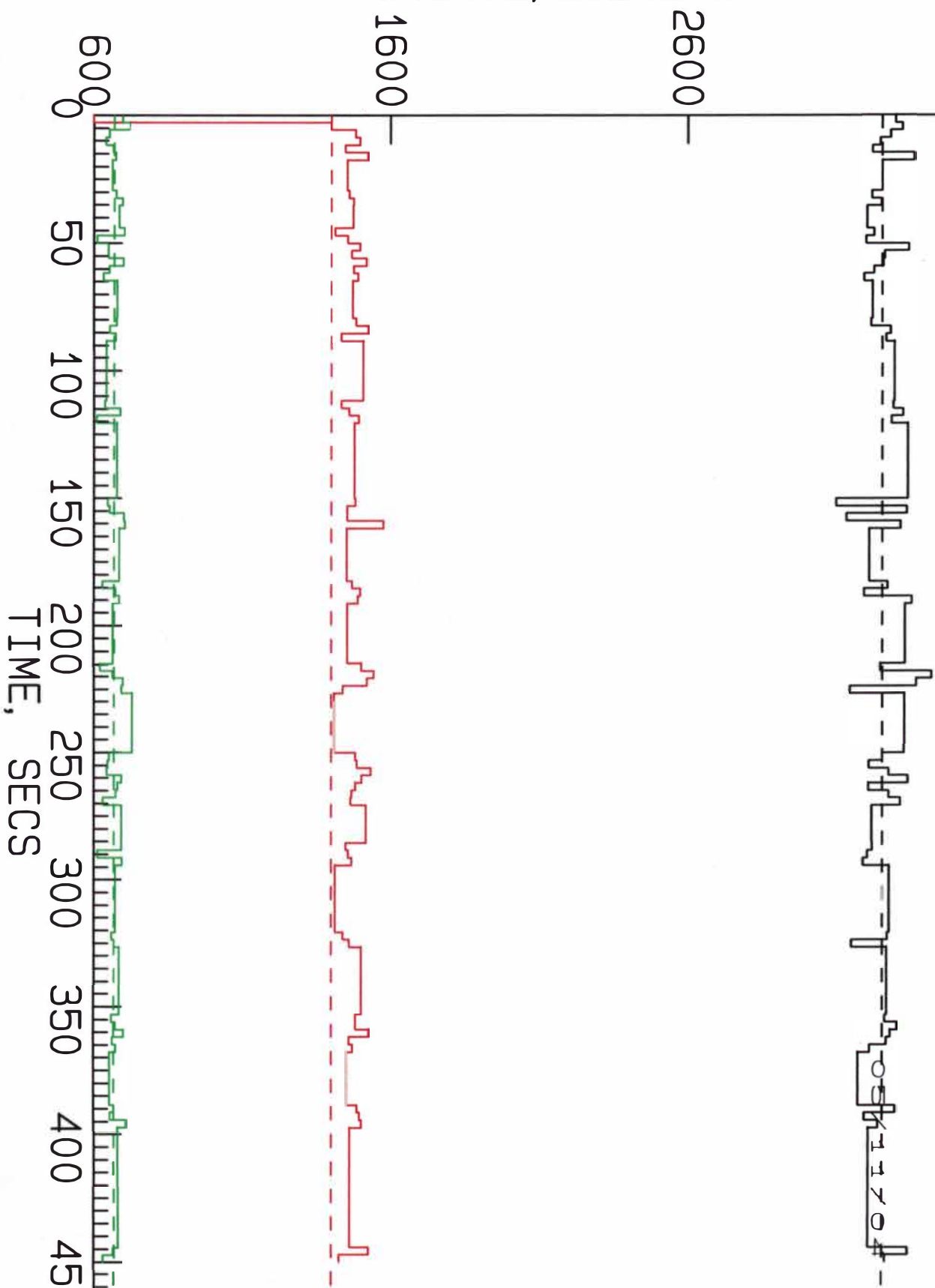
300

350

400

45

TIME, SECS

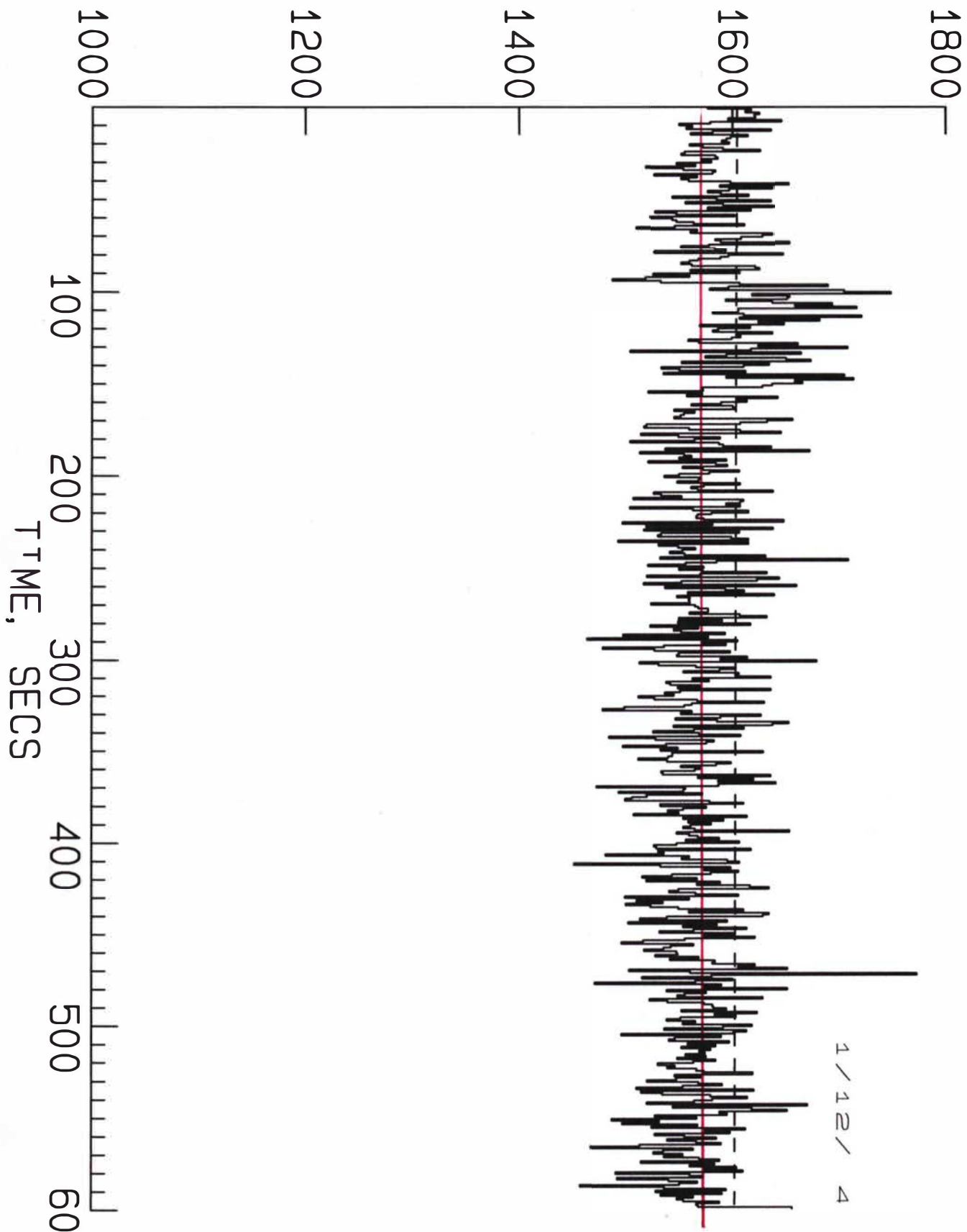


SAX GRBM

26/11/98 69100.400

40- 700 keV

COUNTS/1.000 S



GRBM 19981126 69969

ULYSSES RT

09/05/07

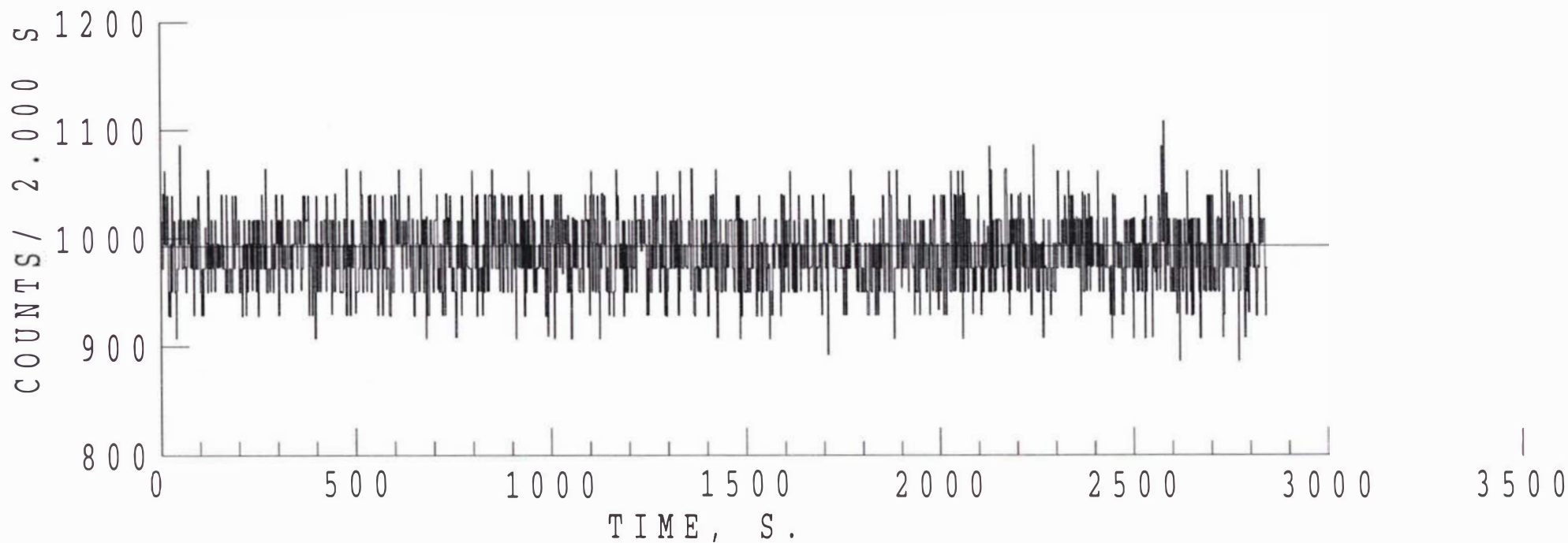
26/11/98 68544.281 s

0.500 S INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

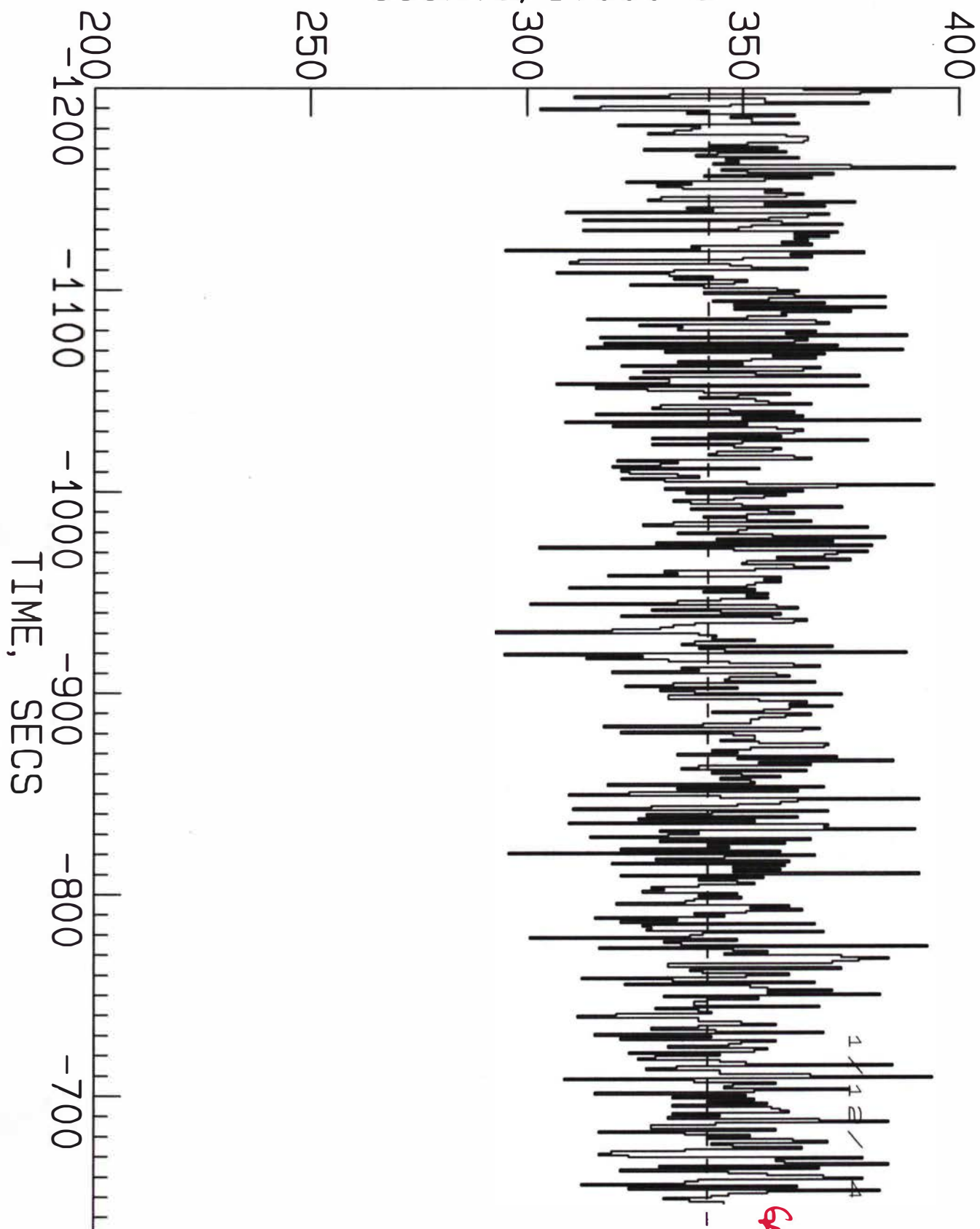


NEAR

26/11/98 69199.057

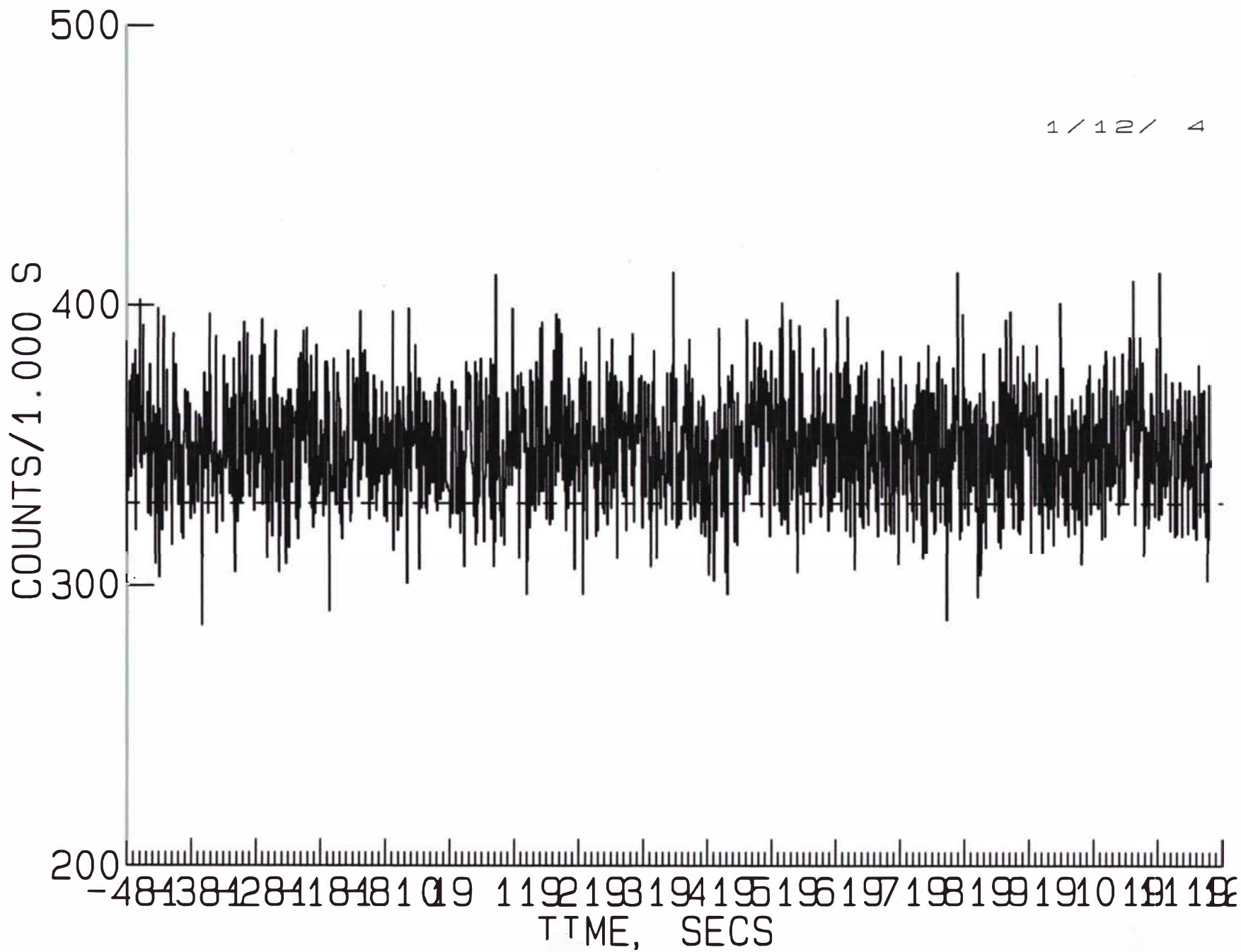
100-1000 keV

COUNTS/1.000 S

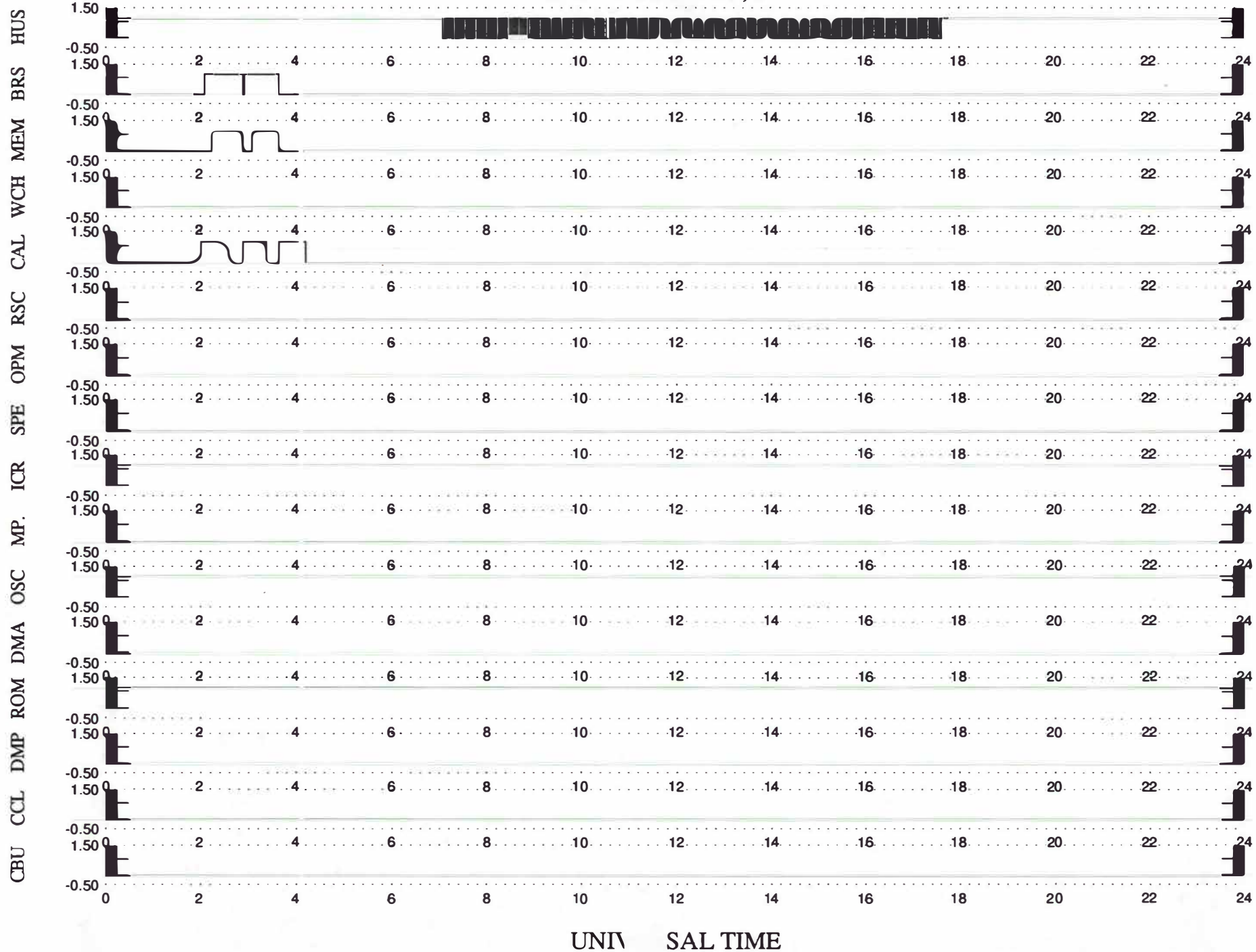


NEAR

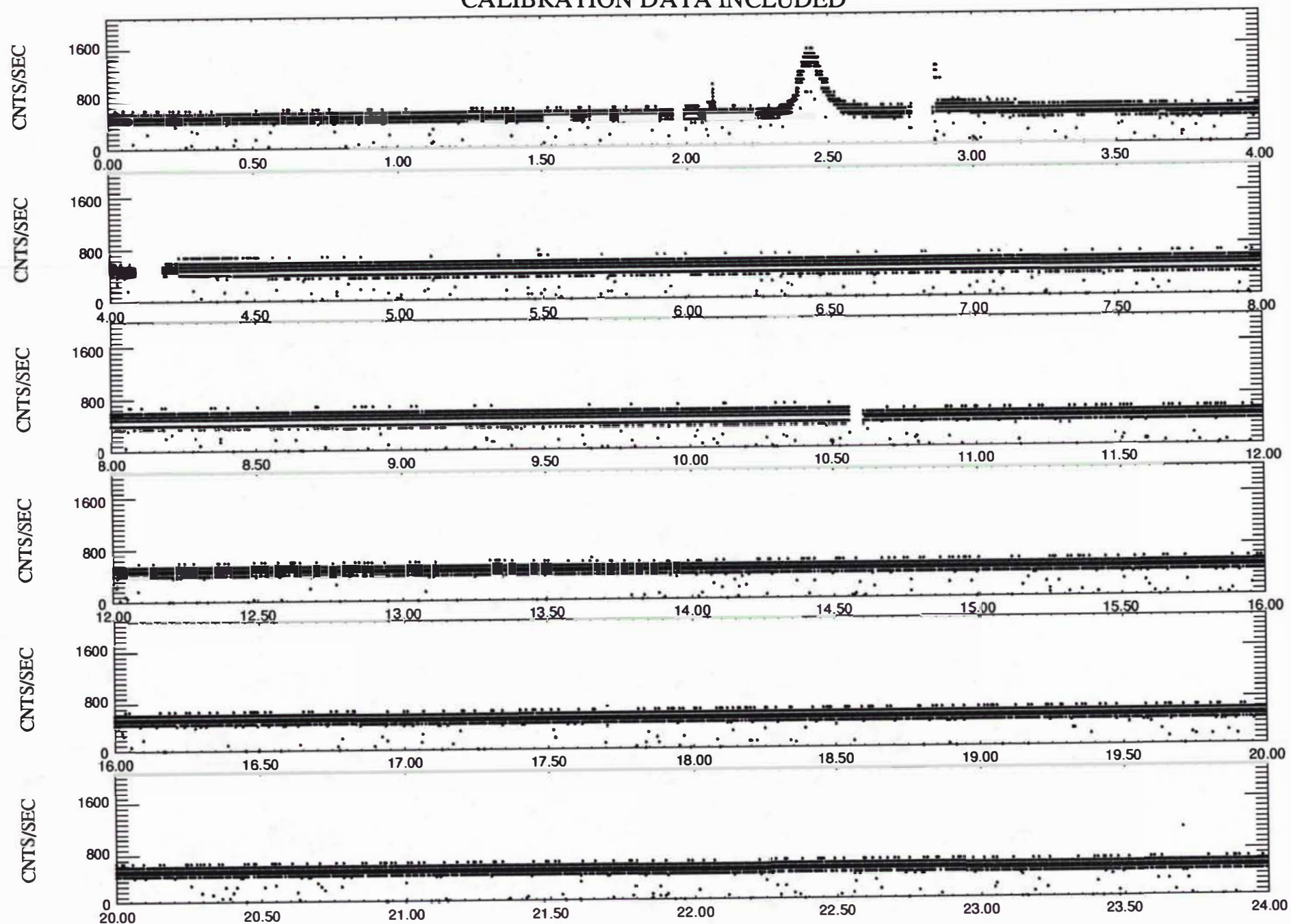
26/11/98 69199.057
100-1000 keV



BURST NUMBER 7, 8

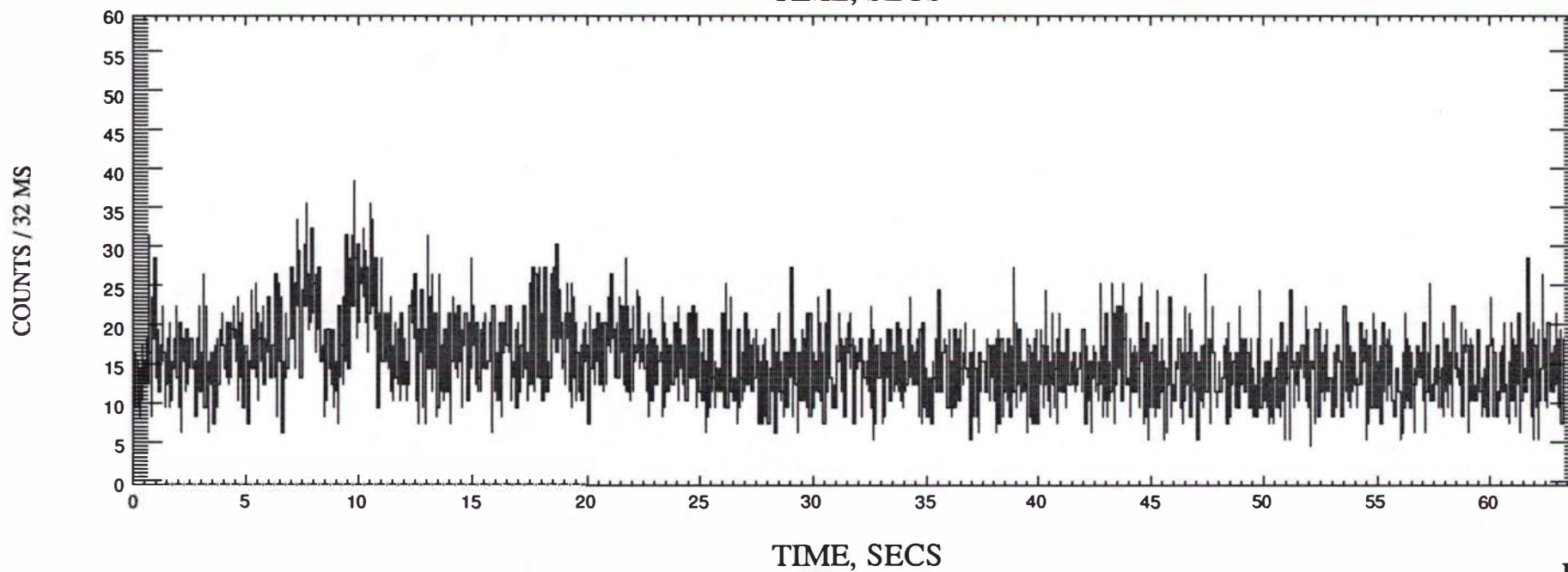
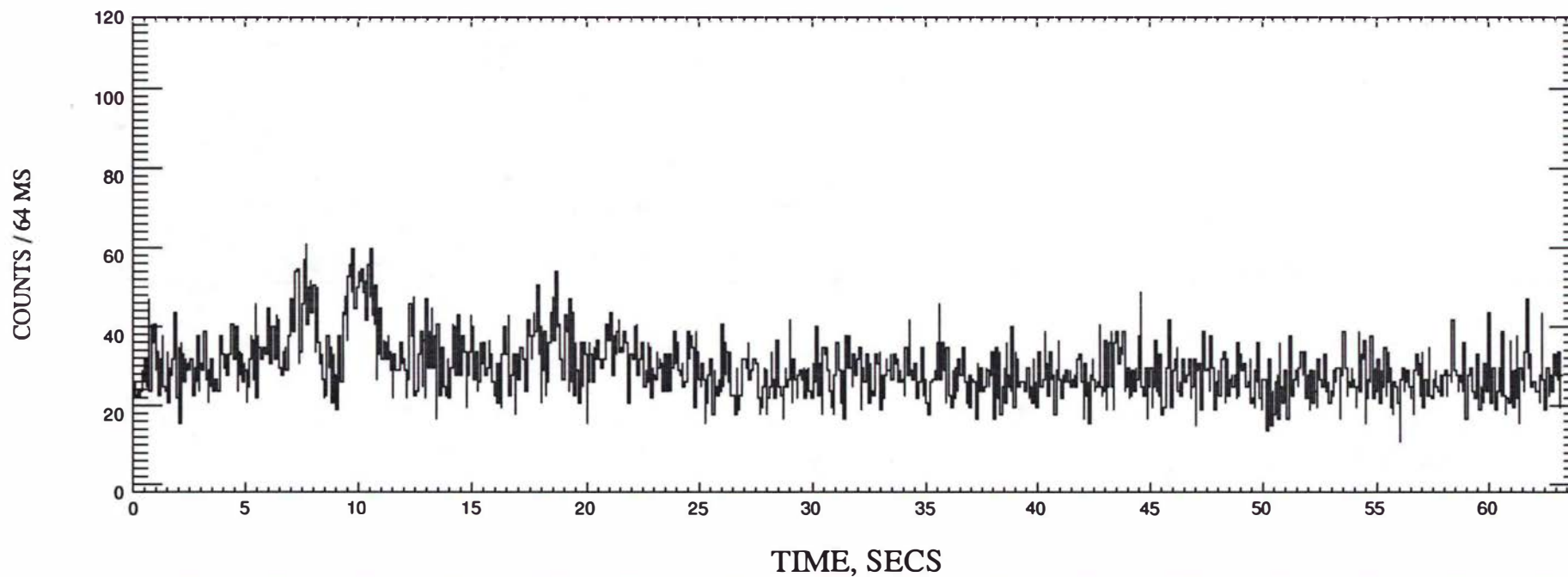


CALIBRATION DATA INCLUDED

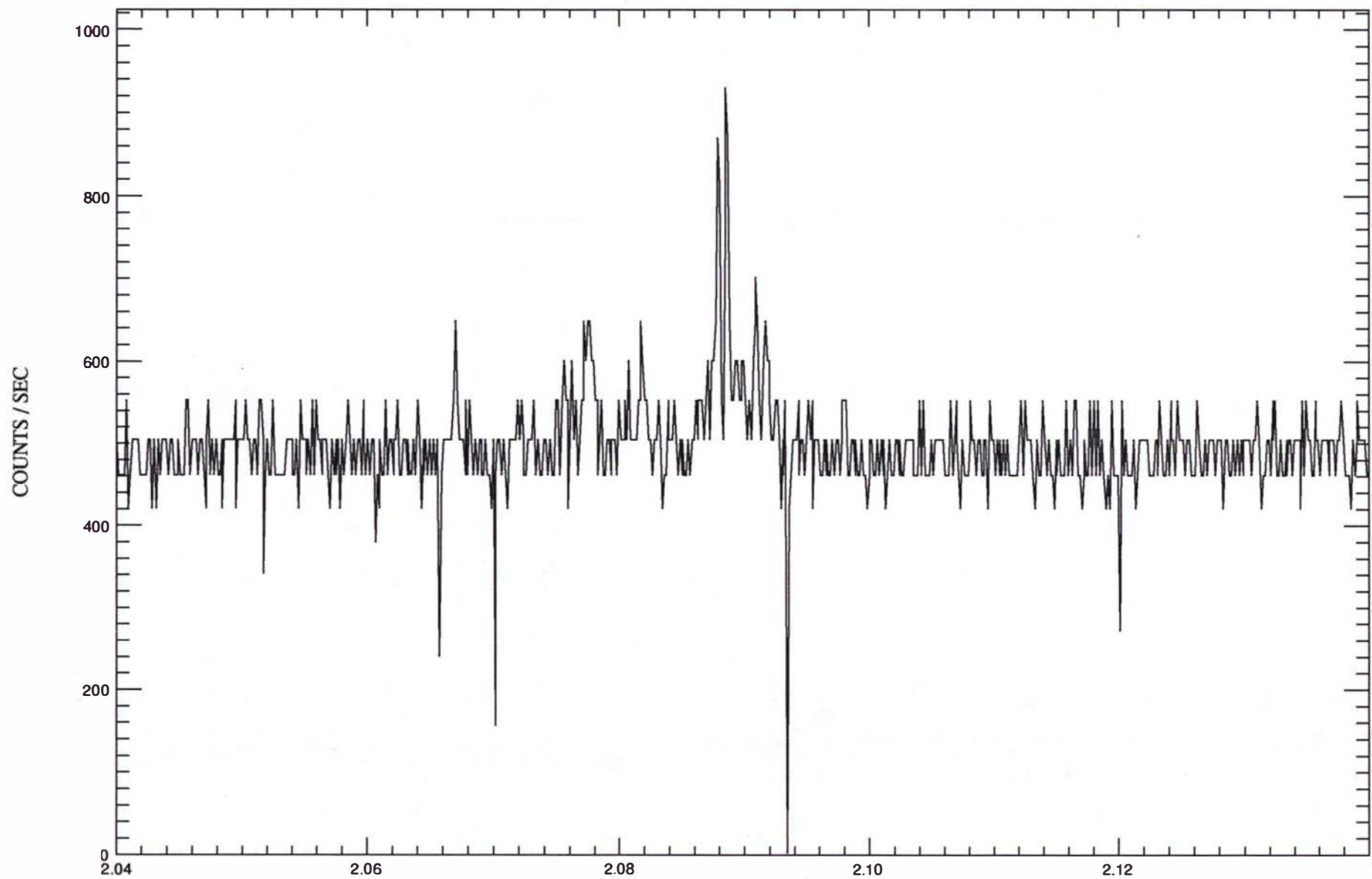


UNIV SAL TIME

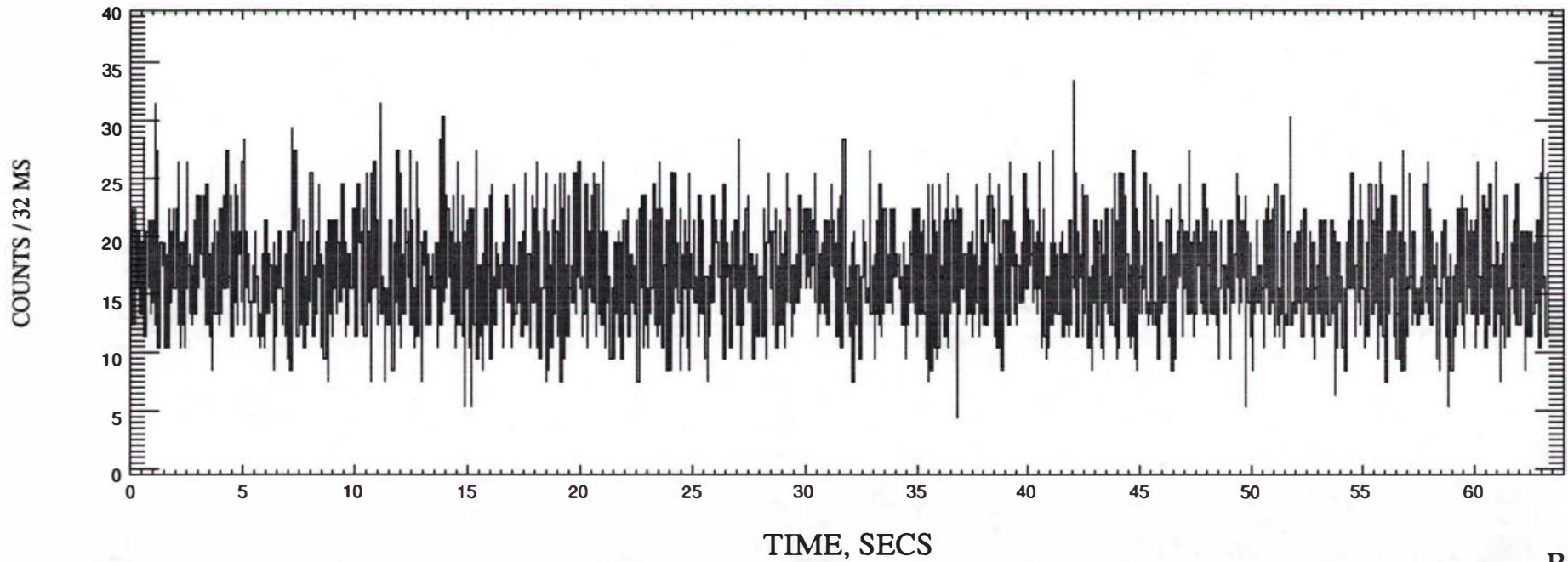
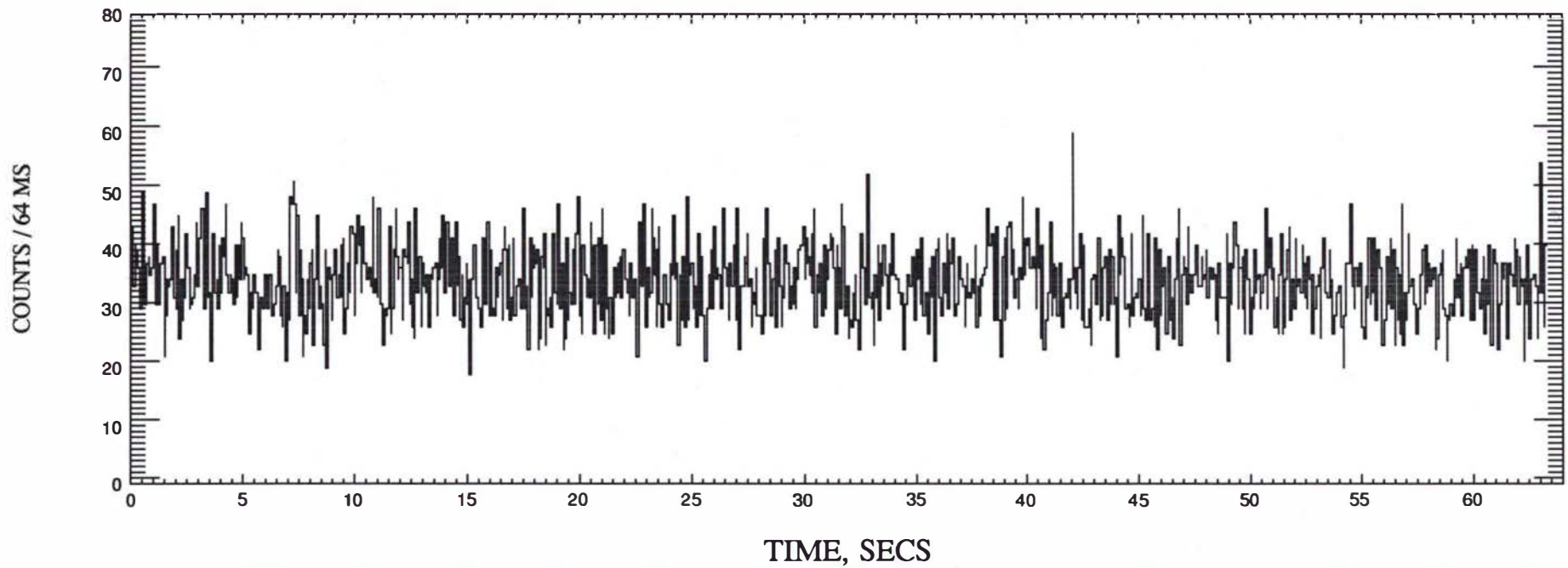
Burst Counter 7 at UT= 2.087986814711 h= 7516.753 s 02:05:16.753



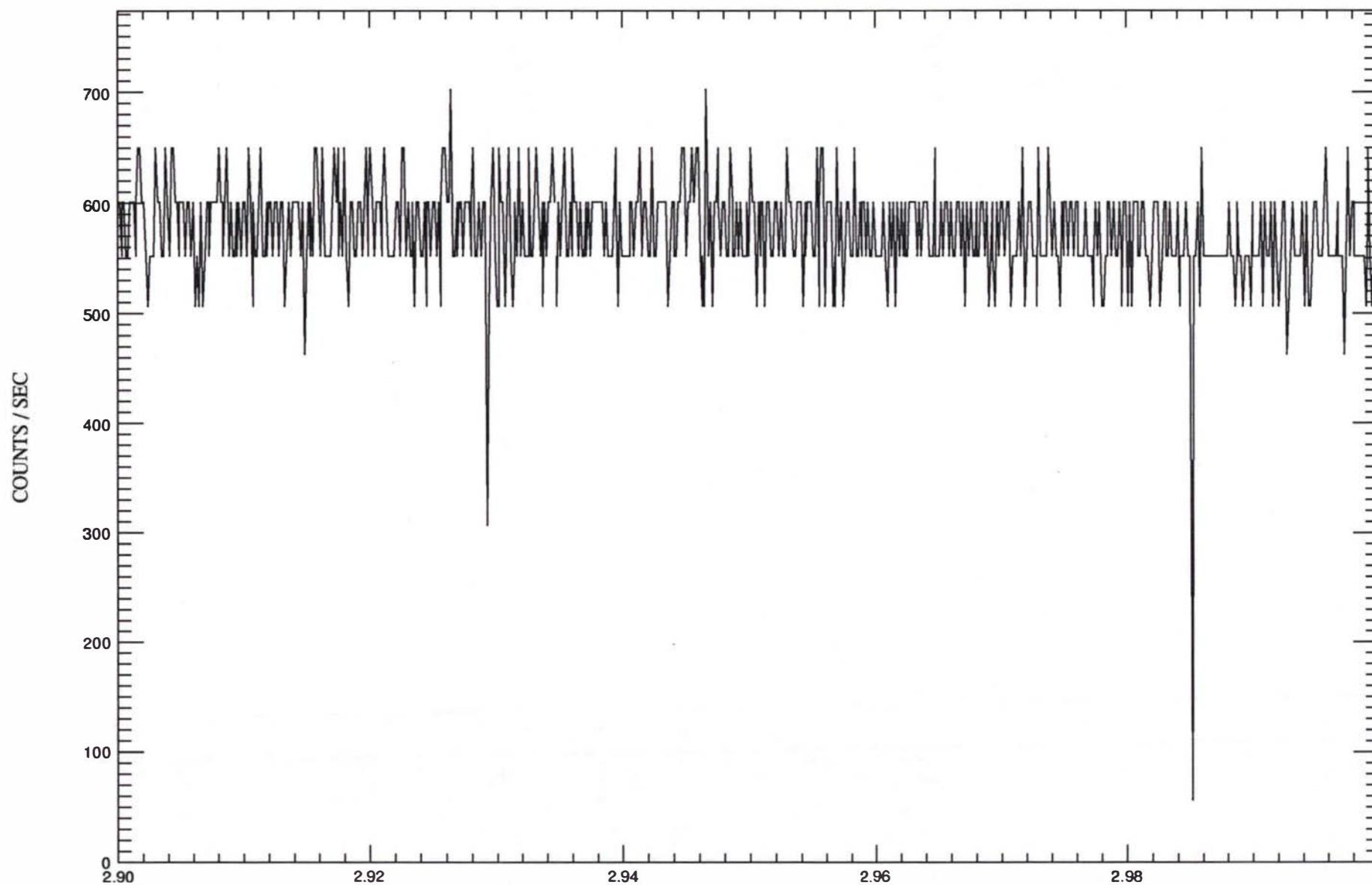
CALIBRATION DATA INCLUDED

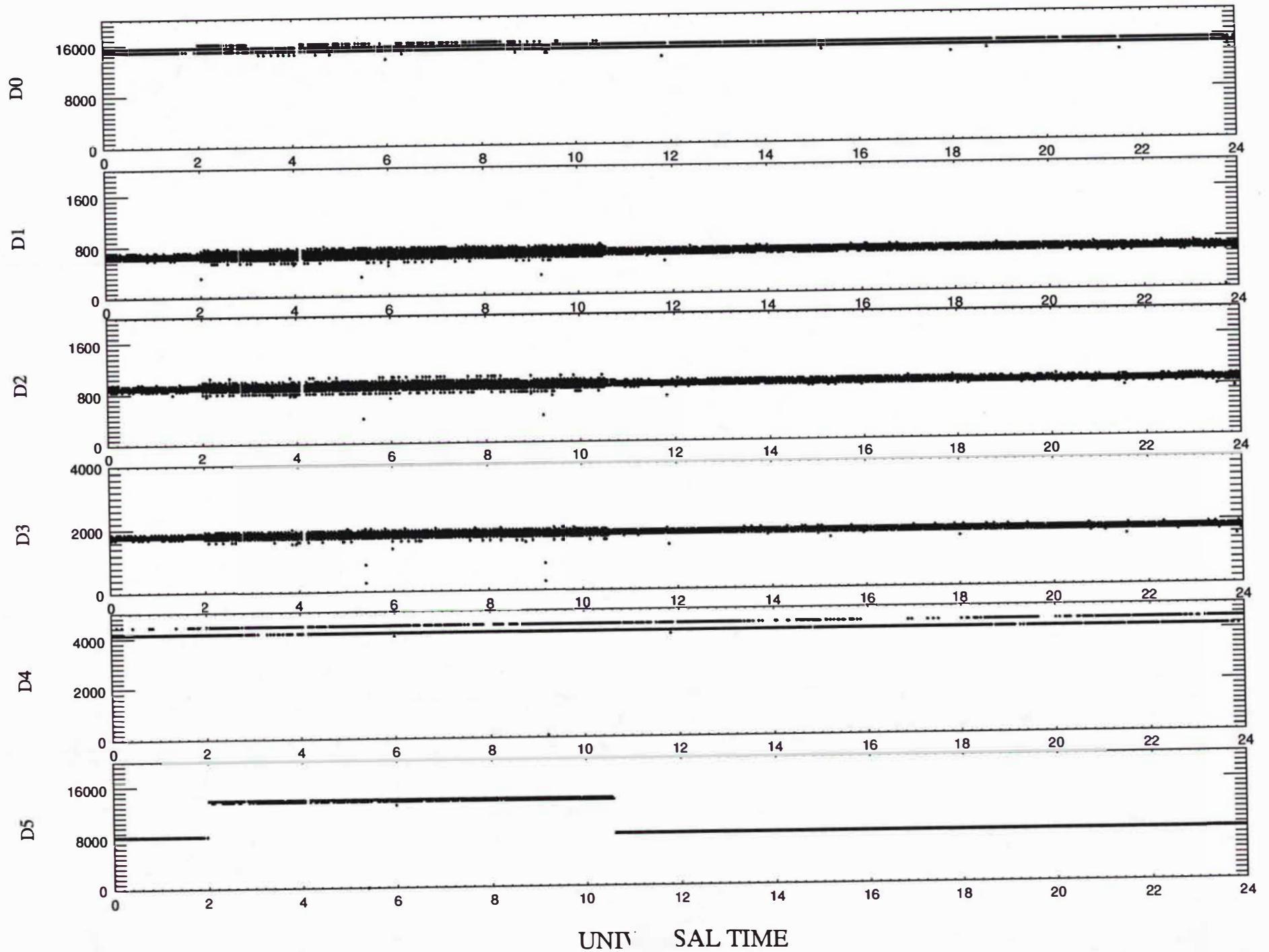


Burst Counter 8 at UT= 2.946784799364 h=10608.425 s 02:56:48.425



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Nov 30 11:14:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 30 Nov 1998 13:14:08 -0600 (CST)

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

KONUS went

BATSE BURST TRIGGER

NO.: 7232

TIME: TJD=1144 SECONDS=27382

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE, GOES M1.6, OPTICAL 2N.

VERY STRONG WITH MANY PULSES. DURATION APPROX. = 450 SEC.

NOT VISIBLE ABOVE 300KEV.

KONUS

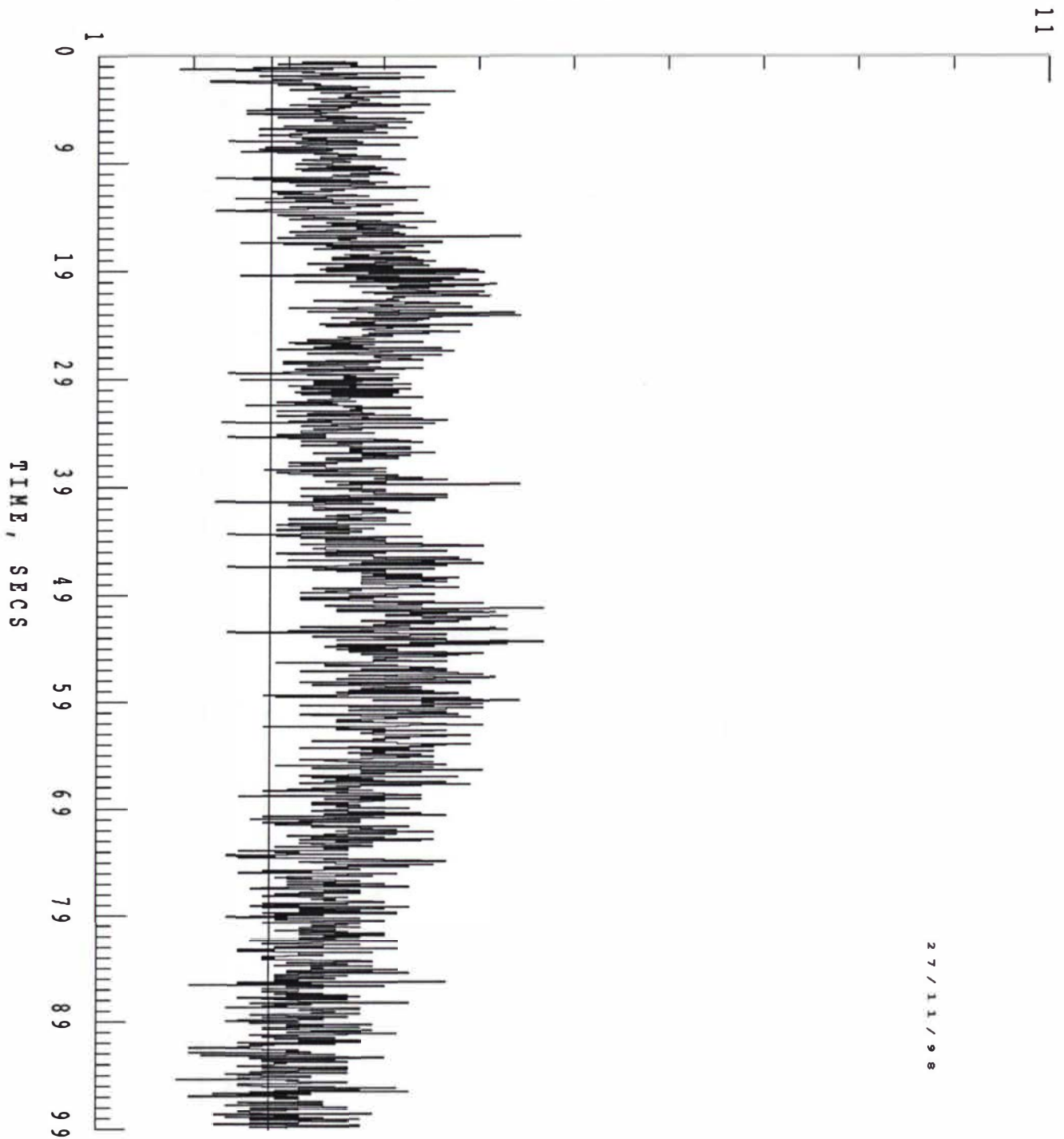
27/11/98

27382.530

50 - 200 keV

BATSE 7232

COUNTS/0.064 S



27/11/98

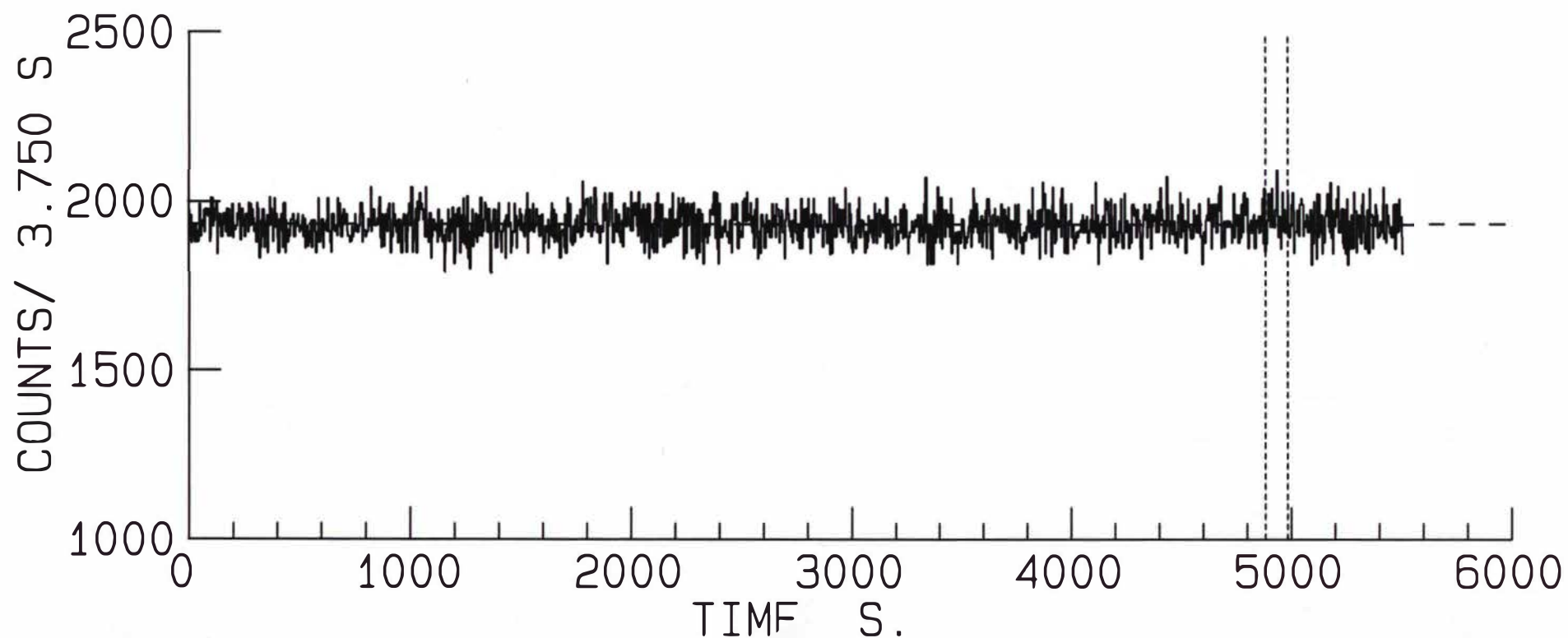
ULYSSES RT

1 / 12 / 98

27/11/98 24624.214 s

0.250 S INTERVALS REGROUPED BY 15

22- 150 keV



From RICHARDSON@fender.msfc.nasa.gov Mon Nov 30 11:38 PST 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR
id LAA15433; Mon, 30 Nov 1998 11:37:59 -0800
om: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 30 Nov 1998 13:26:00 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981130132600.2023db29@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7233
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7233
EVENT OF 1998 NOV 27 DAY OF YEAR=331
EVENT CROSSING TIME AT BATSE : 54642. S. OR 15:10:42.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 156.000 -41.000
BATSE PEAK COUNTING RATE: 3400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/11/ 98 IS:
RA= 167.018 DEC= -5.062 DIST= 5.409 AU
BATSE-ULYSSES DISTANCE = 809204436. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=142.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2148.01 SECS.
CROSSING TIME AT ULYSSES IS 52494. S. OR 14:34:53 +/- 301.17 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/11/ 98 IS:
RA= 180.450 DEC= 1.627 DIST= 1.825 AU
MARS-BATSE DISTANCE = 272980576. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=131.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -608.37 SECS.
CROSSING TIME AT MARS IS 54034. S. OR 15:00:33 +/- 108.39 SECONDS

BATSE BURST TRIGGER

NO.: 7233

TIME: TJD=1144 SECONDS=54642

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

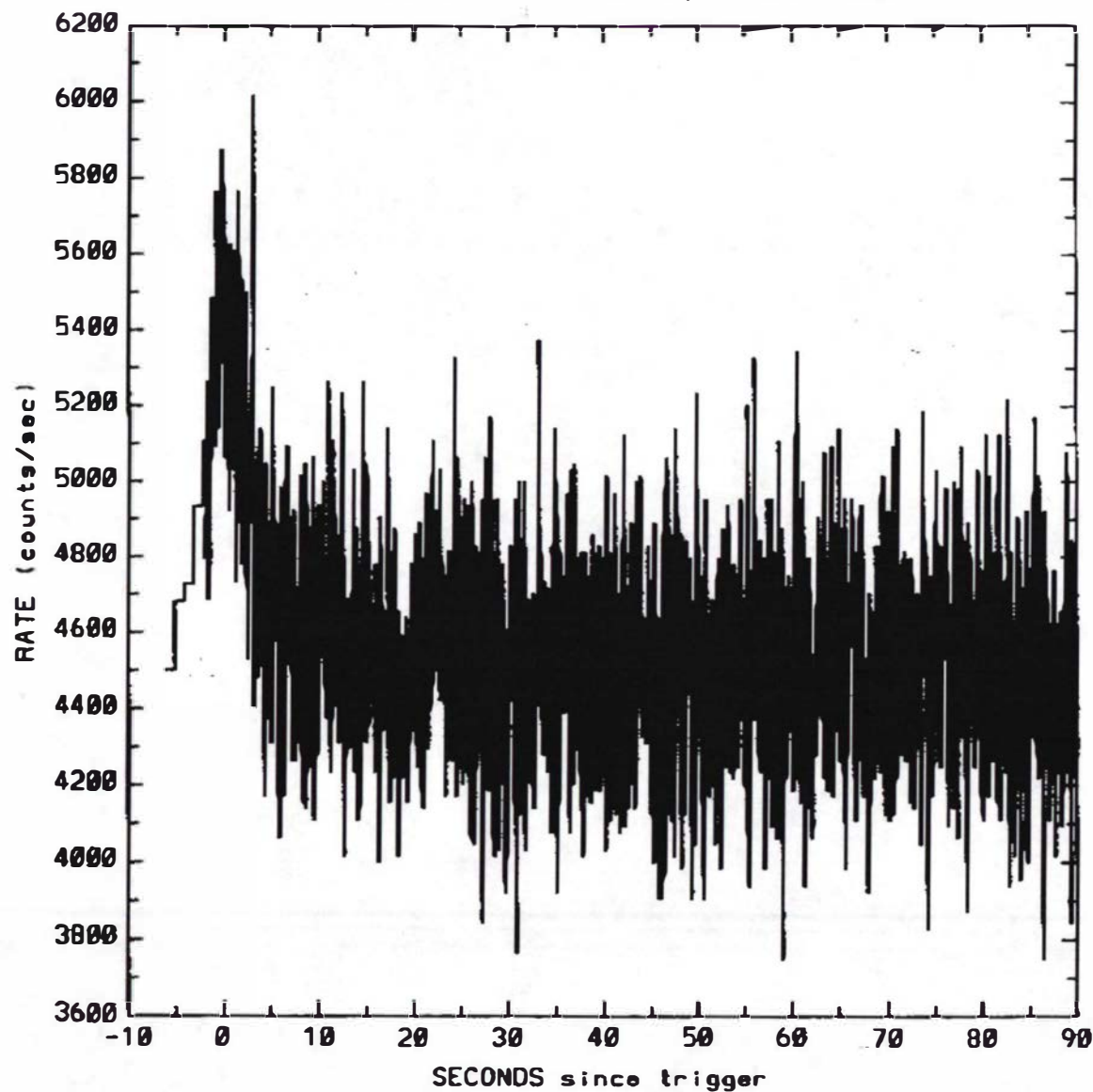
LOCATION: ZENITH=130.1 AZIMUTH=34.4 ERROR=2.6 DEGREES

COMMENTS:

1. TWO PULSES. DURATION APPROX. = 110 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7233	981127	11144	54642	3400	156	-41	110

DISCSC Data for K. Hurley. No. 7233



9-FEB-2000 09:47:12

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

Trigger # : 7233

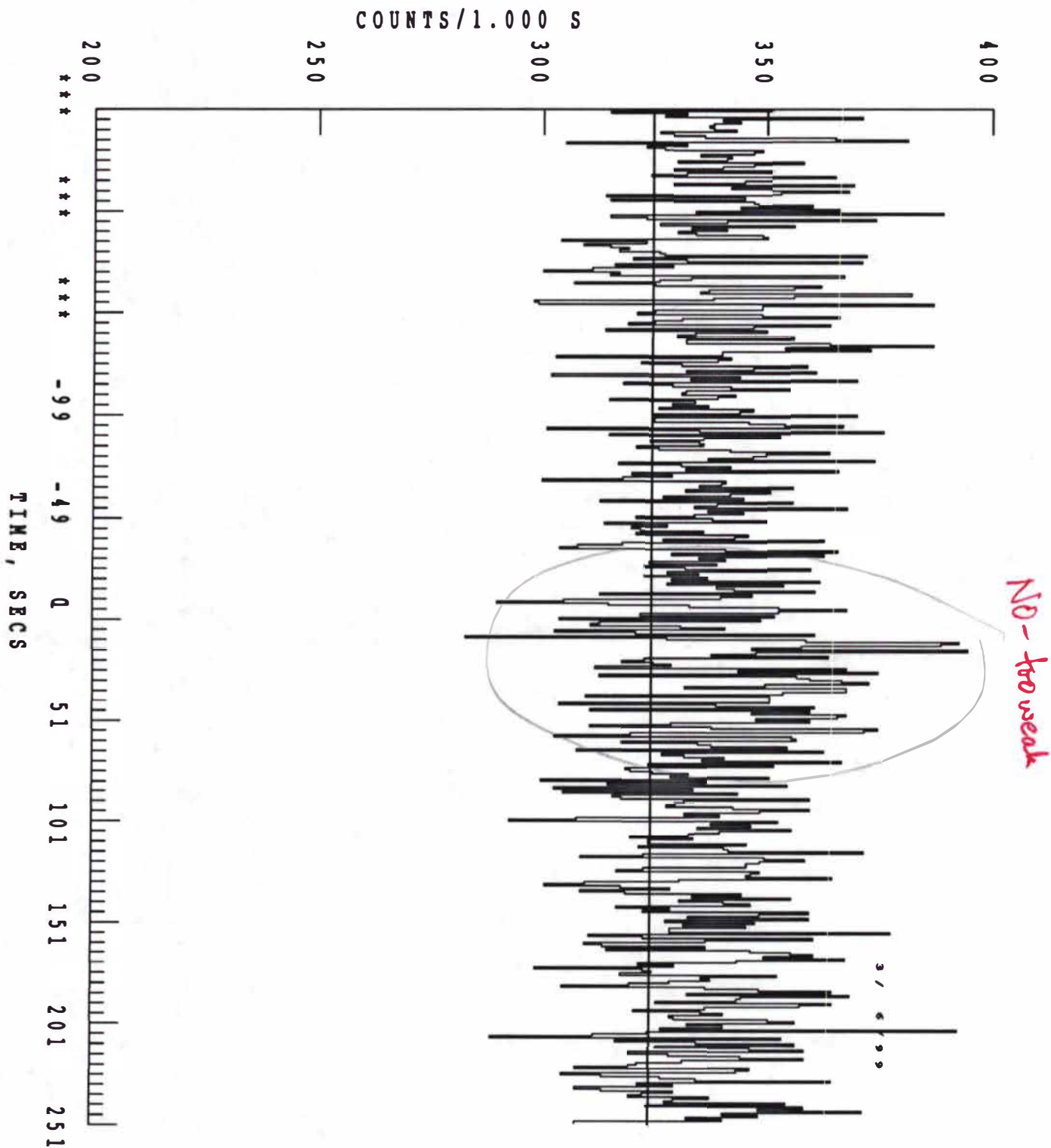
Trigger Time:
11144 / 54642.401Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..0):
----3-1-Discriminators:
(3 . 4)Quality Mask:
BDISP1

NEAR

27/11/98

54949.038

100-1000 keV



BATSE BURST# 7233

ULYSSES RT

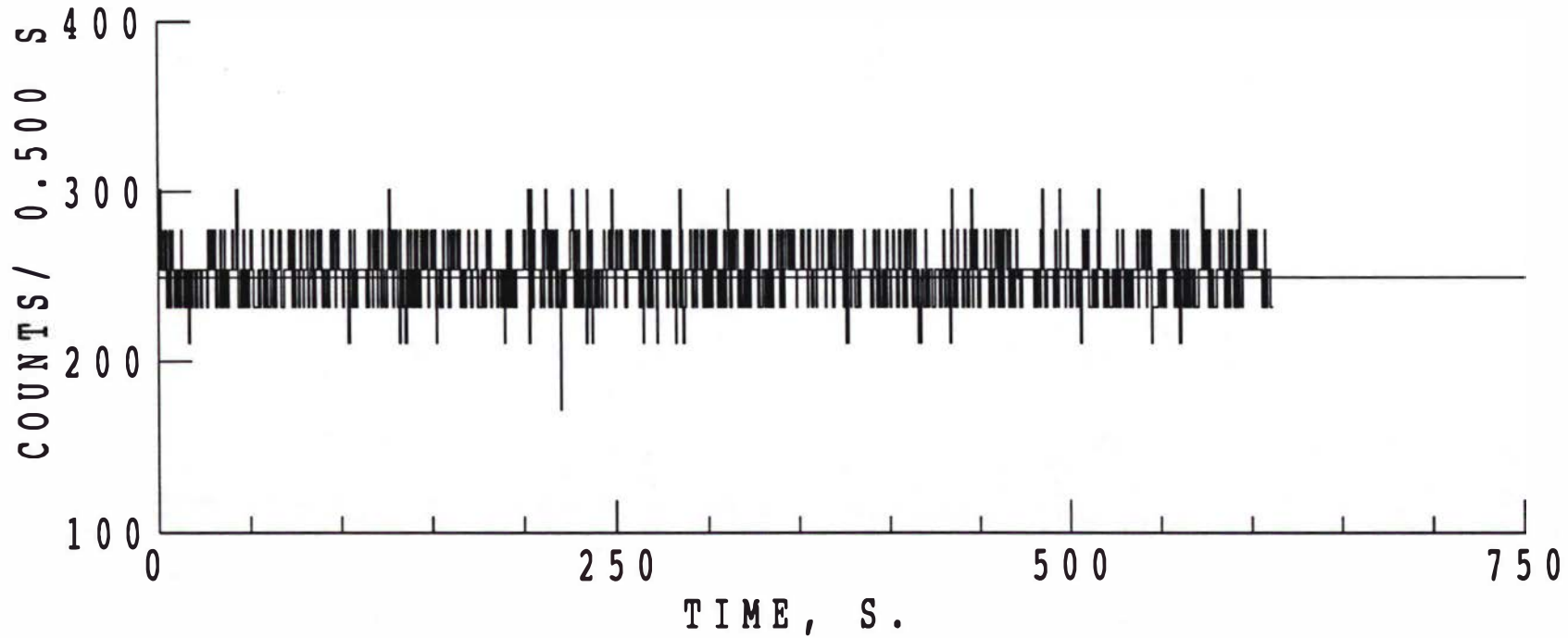
5 / 4 / 99

27/11/98 52200.492 s

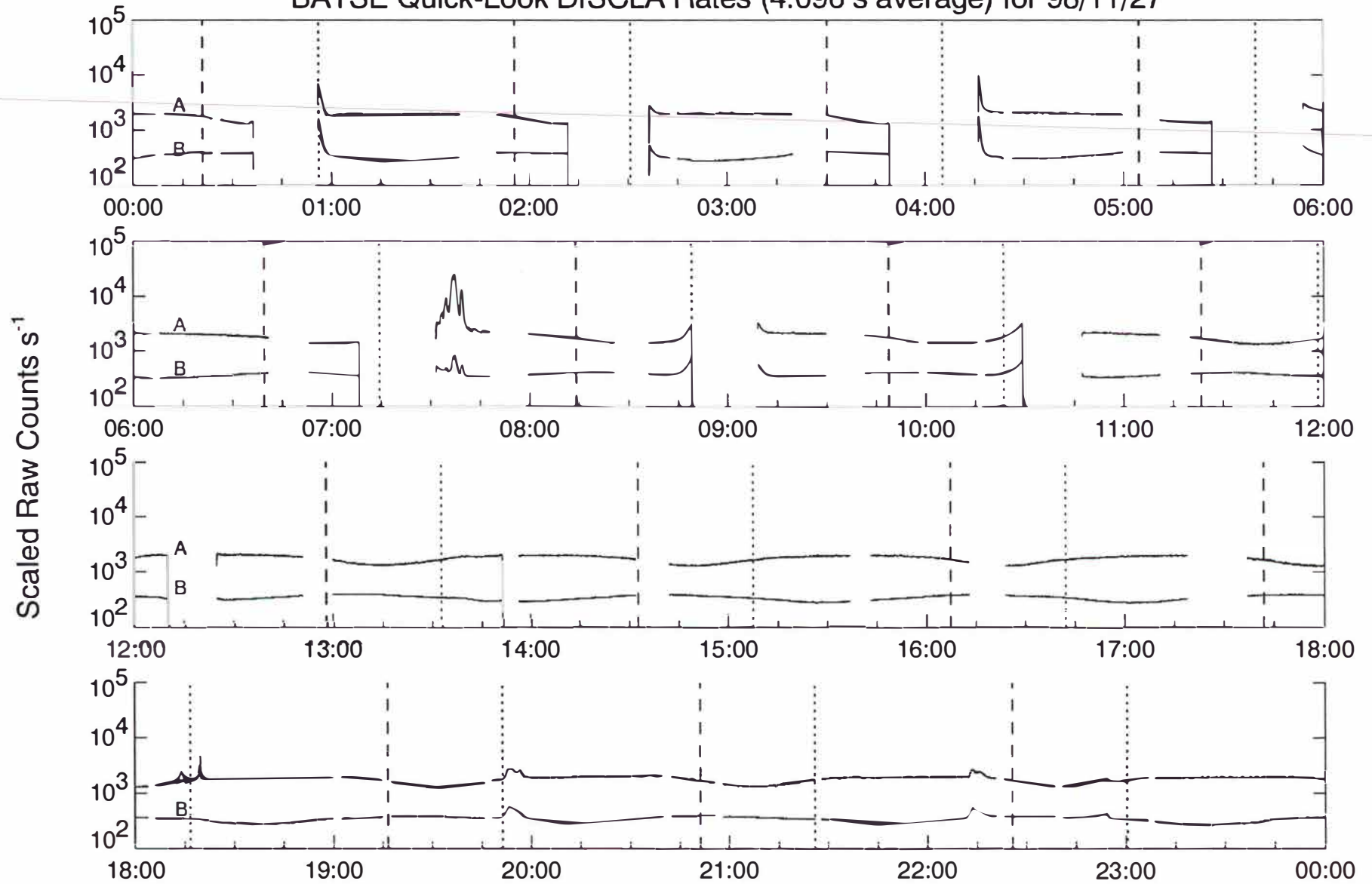
0 - 0 keV

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 98/11/27

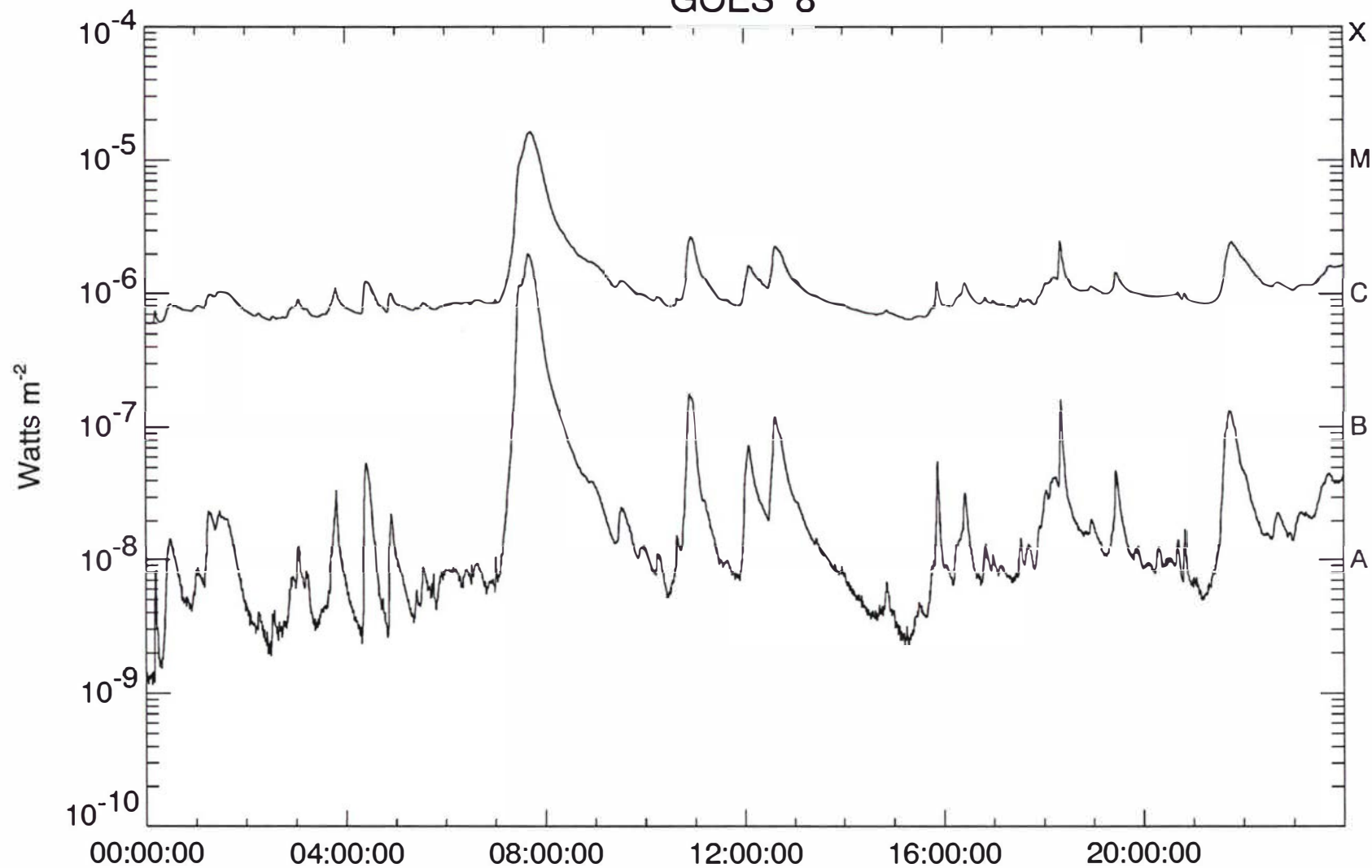


Current Time: 98/12/01, 1011 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/11/27, 0000:00

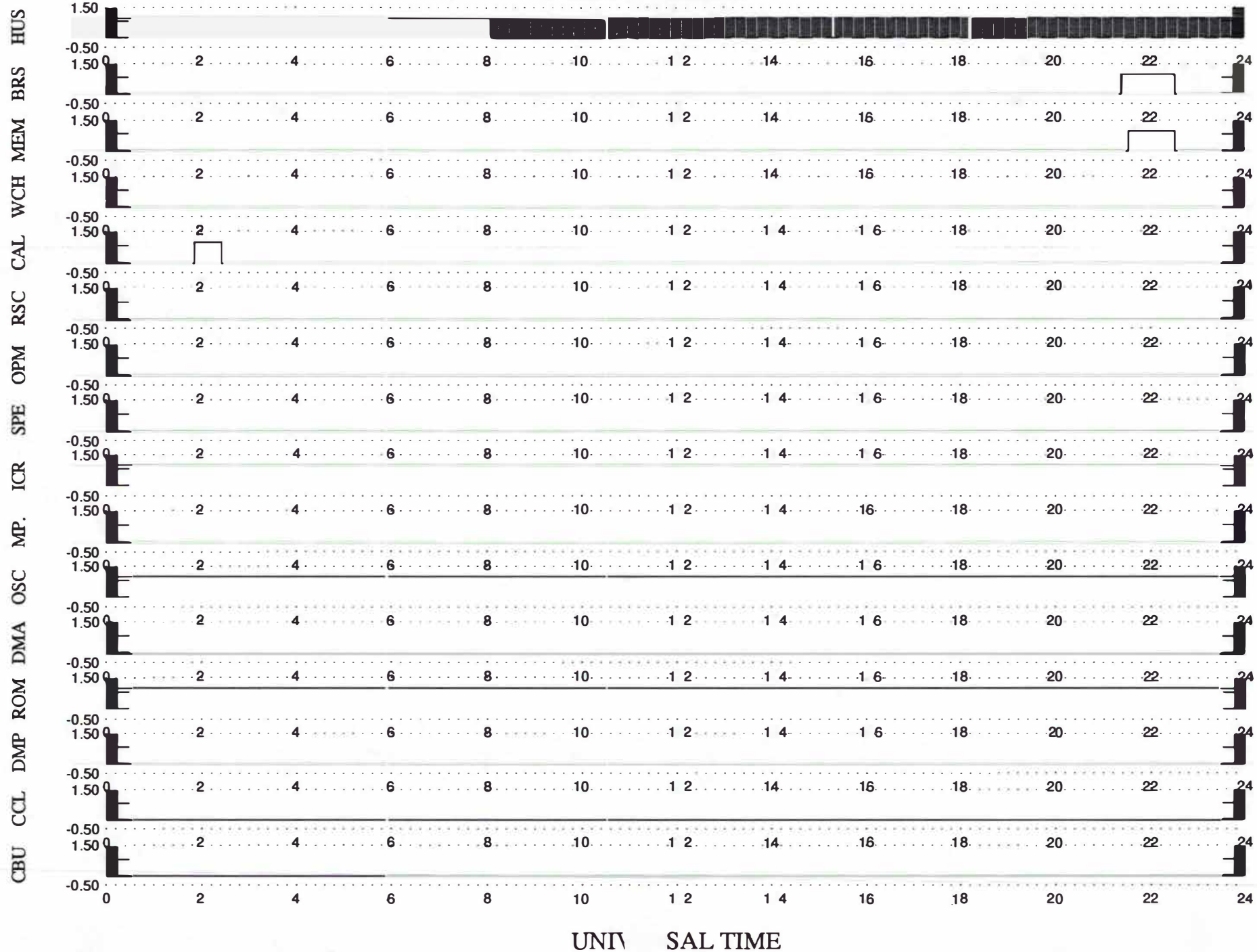
Plot created: 98/12/01, 1010

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

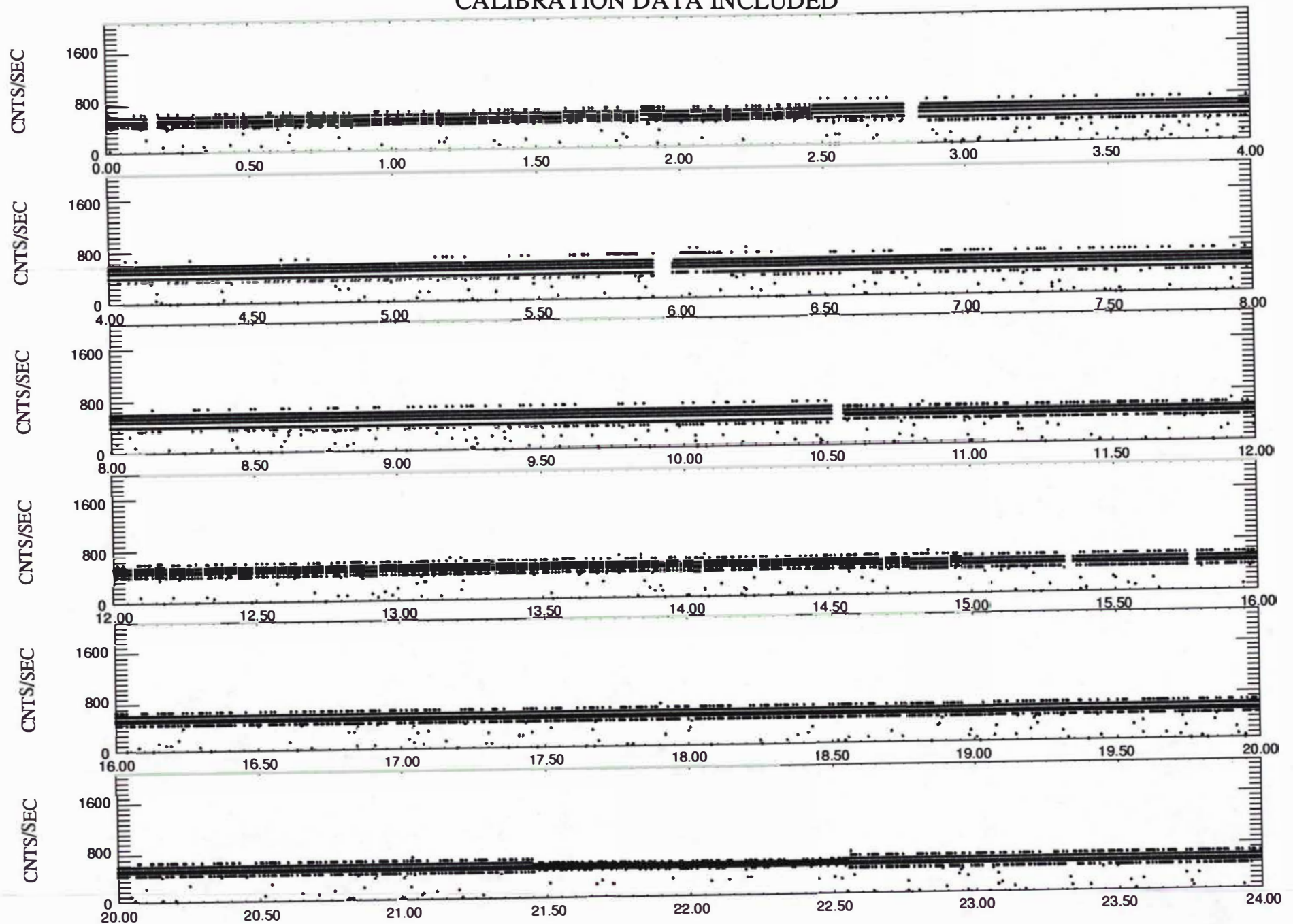
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 9

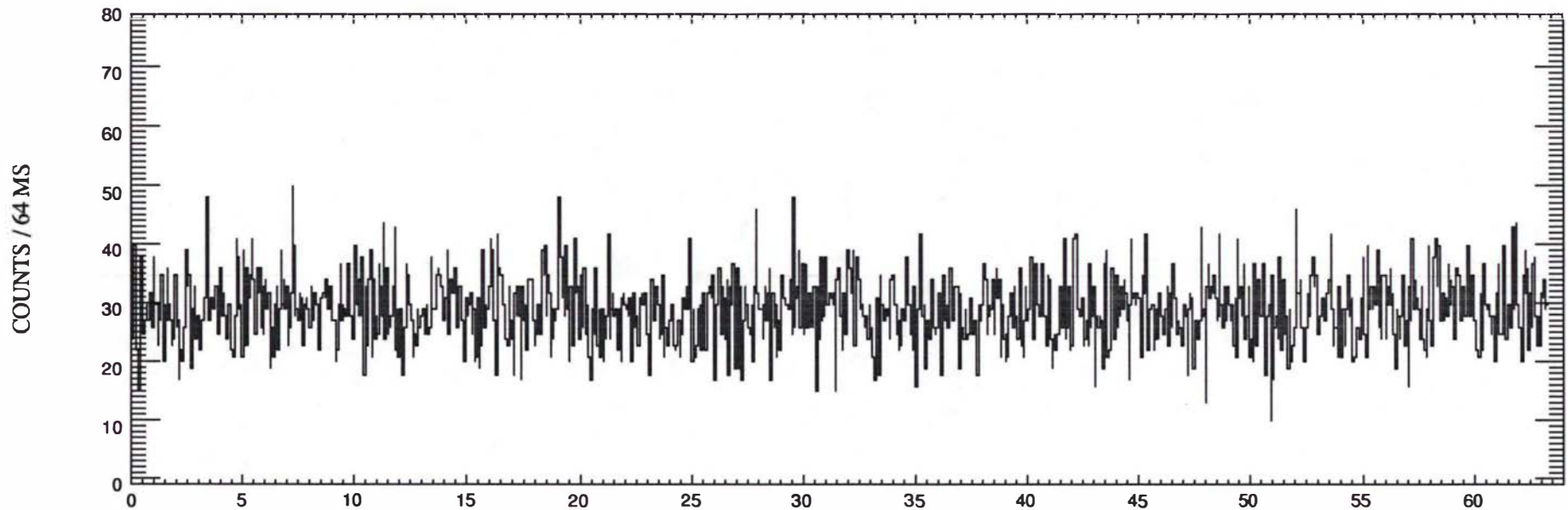


CALIBRATION DATA INCLUDED

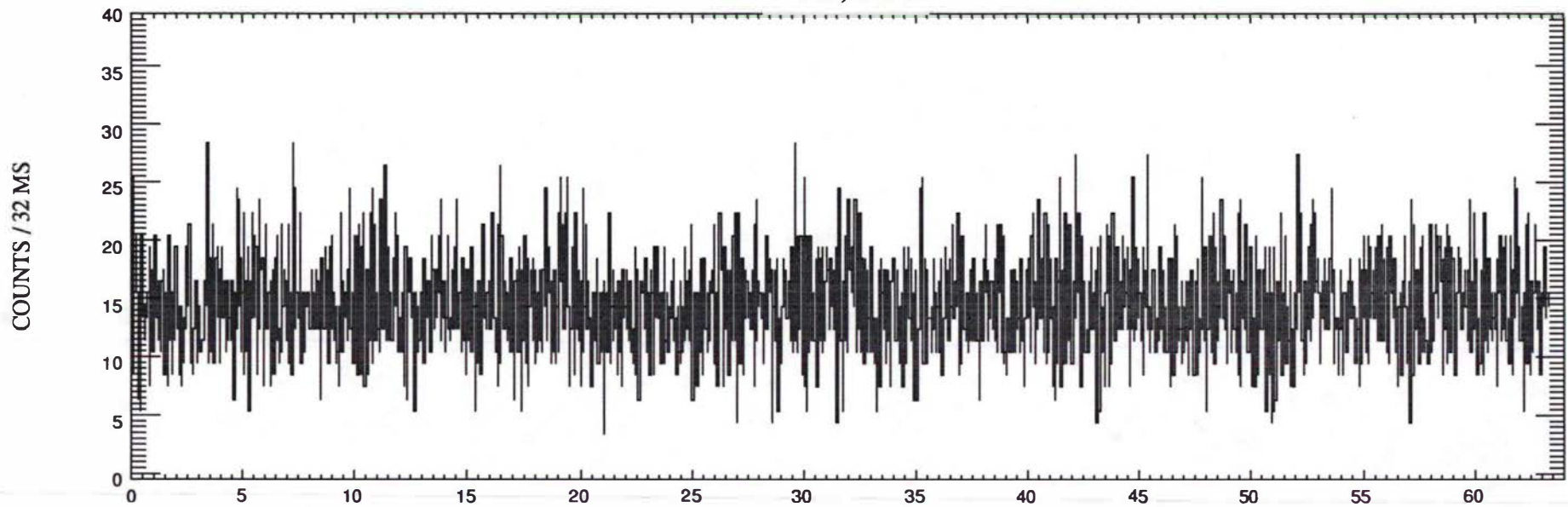


UNIV SAL TIME

Burst Counter 9 at UT=21.288260209825 h=76637.737 s 21:17:17.737

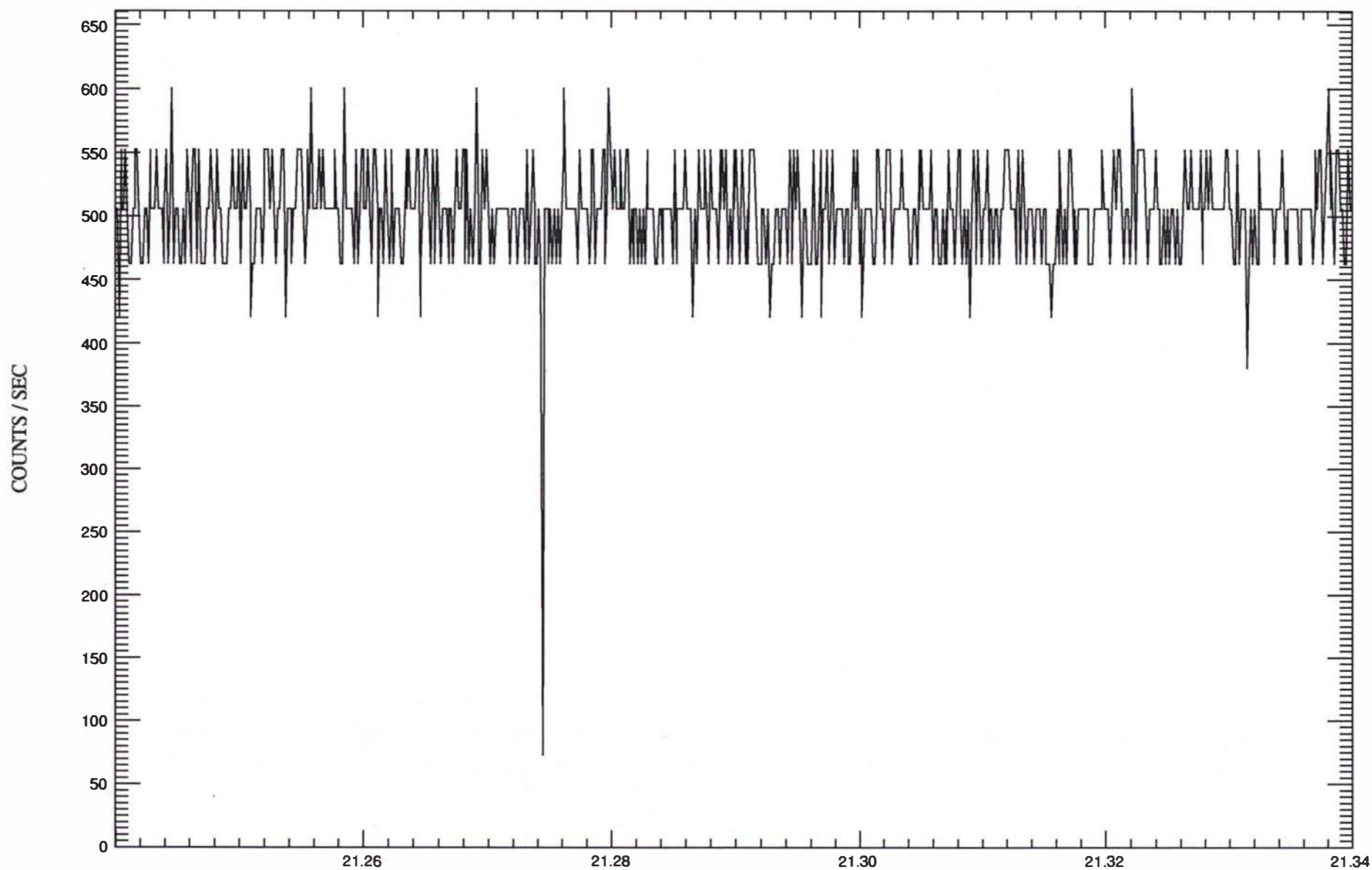


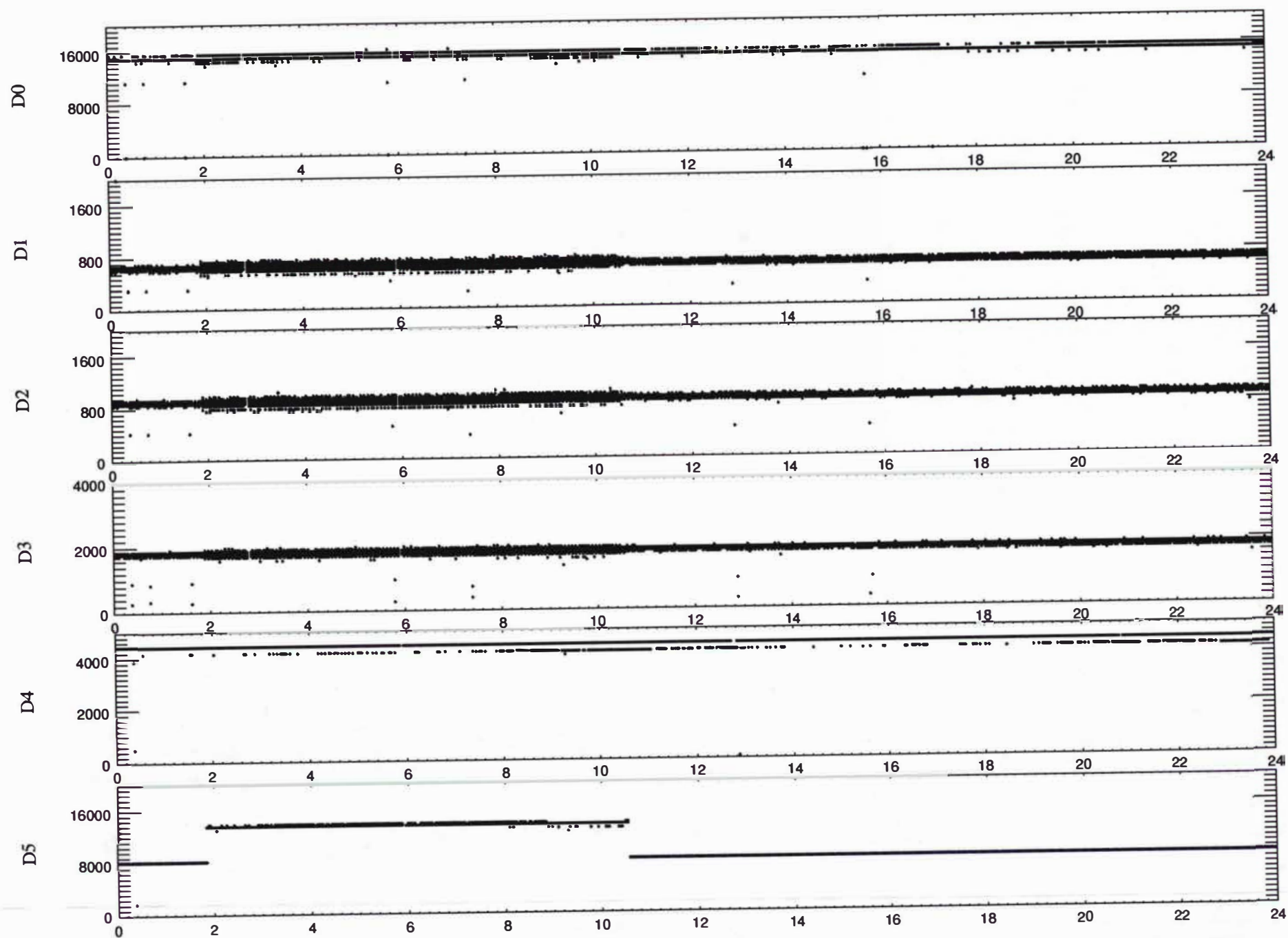
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





UNIV SAL TIME

JANA TAB2 19981128 75113

ULYSSES RT

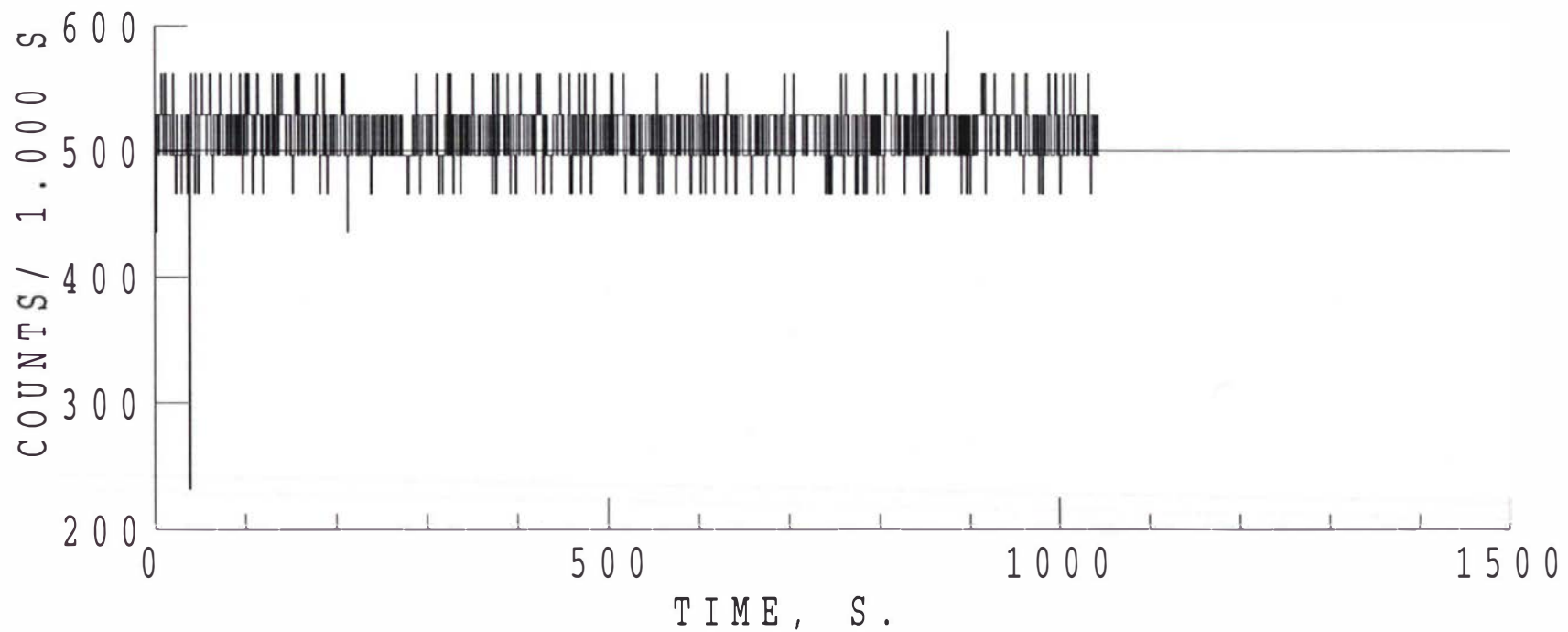
05/08/05

28/11/98 74592.609 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot Wed Dec 2 08:13 PST 1998
Date: Wed, 2 Dec 1998 08:16:40 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981128

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

November 28 1998 22:33 Ulysses time; moderate, 32 ms long

The spacecraft was about 2700 light-seconds from Earth. This event may have come from SGR1900+14; if so, the Earth-crossing time would have been ~1300 s earlier.

Was this event detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, henze, kouveliotou, kurczyski, mar

TGRS: NO

From WOODS@bowie.msfc.nasa.gov Wed Dec 2 08:55 PST 1998
From: WOODS@bowie.msfc.nasa.gov
Date: Wed, 2 Dec 1998 10:56:03 -0600
To: khurley@sunspot.ssl.berkeley.edu
Subject: RE: GRB981128

Kevin,

Yes, BATSE detected this event as well and we locate it to
RA = 288 DEC = 10. Must be 1900.

Pete

From khurley@sunspot Wed Dec 2 09:00 PST 1998
Date: Wed, 2 Dec 1998 09:06:51 -0800
From: khurley@sunspot (Kevin Hurley)
To: WOODS@bowie.msfc.nasa.gov
Subject: RE: GRB981128
Cc: khurley@sunspot

Dear Pete,

That's interesting. We have 6 triggers on the 28th, and another 7 on the 29th, that are so weak I'm not sure what they are due to. I had assumed they might be particle-induced, but now I wonder whether you see any other activity from 1900 on these days.

Ulysses times on the 28th are: 04:48, 07:49, 15:01, 17:41, 19:57, 22:33 (which you confirmed), and 23:54.

Ulysses times on the 29th are: 03:39, 05:22, 06:37, 08:13, 09:46, 12:35 and 18:00.

Any BATSE bursts at the right times?

Kevin

From WOODS@bowie.msfc.nasa.gov Wed Dec 2 09:27 PST 1998
From: WOODS@bowie.msfc.nasa.gov
Date: Wed, 2 Dec 1998 11:28:03 -0600
To: khurley@sunspot.ssl.berkeley.edu
Subject: RE: GRB981128

Kevin,

Nothing obvious in the raw data at the other times, although there are a few which fall during data gaps.

Pete

From RICHARDSON@fender.msfc.nasa.gov Mon Nov 30 11:17:02 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 30 Nov 1998 13:16:43 -0600 (CST)

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.: 7234

TIME: TJD=1145 SECONDS=811

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Mon Nov 30 11:18:47 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 30 Nov 1998 13:18:30 -0600 (CST)

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

NEAR burst?

NO.: 7235

TIME: TJD=1145 SECONDS=20357

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE, GOES X3.3, OPTICAL 3N.

VERY STRONG. DURATION APPROX = 1000 SEC. NOT VISIBLE ABOVE 300KEV.

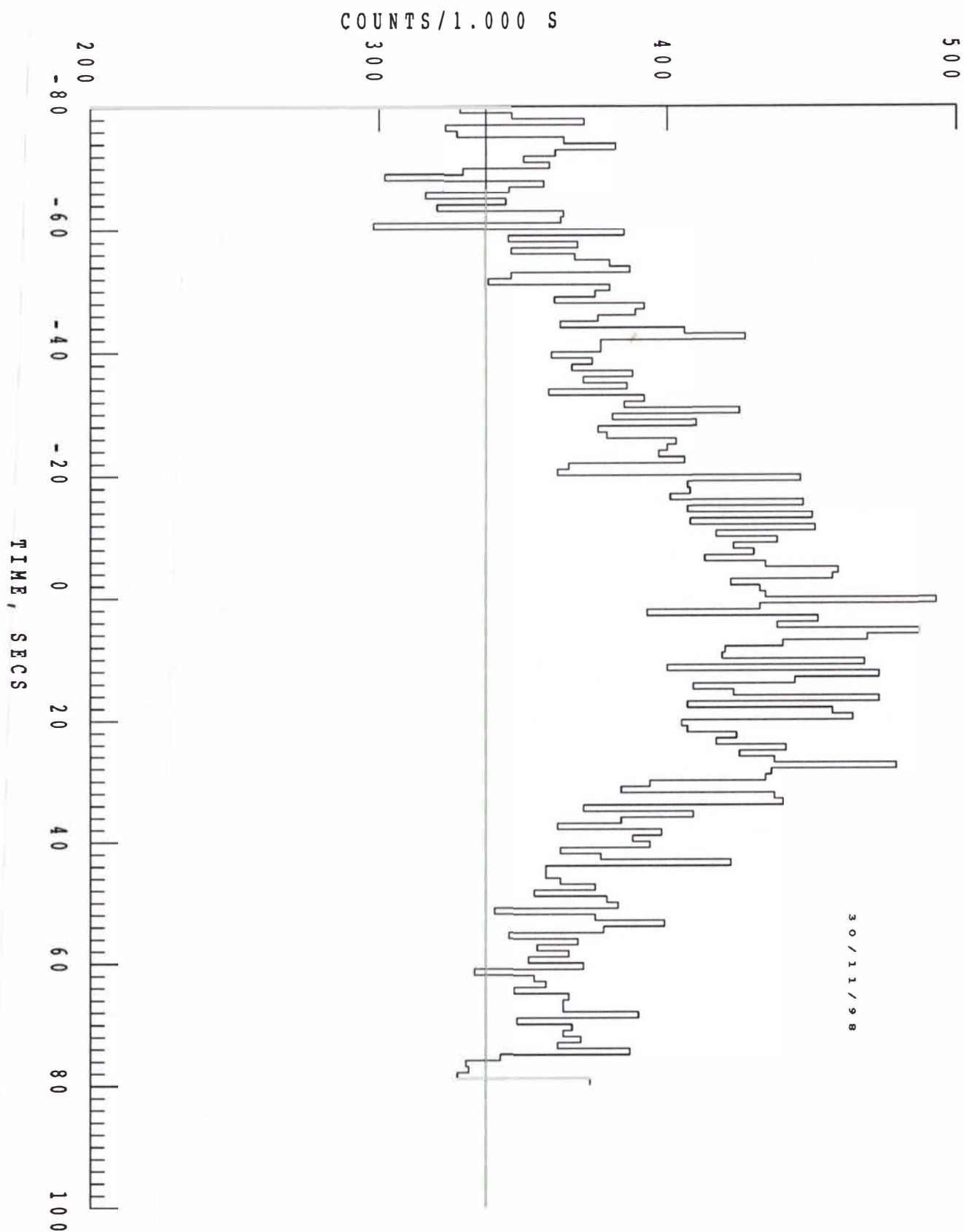
NEAR

28/11/98

20835.817

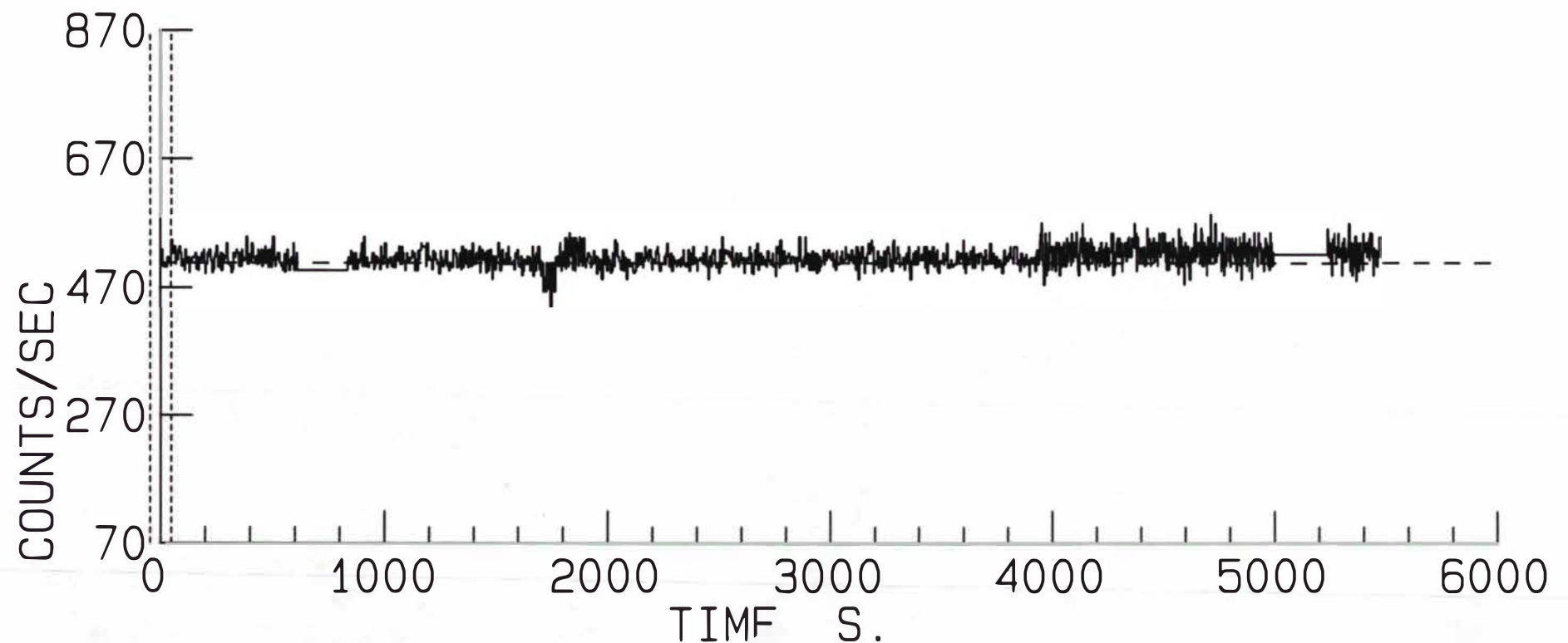
100-1000 keV

BATSE 7235?



ULYSSES RT
28/11/98 18108.033 s
INTERVALS REGROUPED BY 9
22- 150 keV

1 / 12 / 98



From RICHARDSON@fender.msfc.nasa.gov Mon Nov 30 11:38:20 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 LAA21202; Mon, 30 Nov 1998 11:38:19 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA15454; Mon, 30 Nov 1998 11:38:15 -0800
Date: Mon, 30 Nov 1998 13:27:21 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981130132721.2023db29@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7236
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7236
EVENT OF 1998 NOV 28 DAY OF YEAR=332
EVENT CROSSING TIME AT BATSE : 69366. S. OR 19:16:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 132.000 39.000
BATSE PEAK COUNTING RATE: 7500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/11/ 98 IS:
RA= 167.042 DEC= -5.174 DIST= 5.388 AU
BATSE-ULYSSES DISTANCE = 806068485. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=125.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1551.21 SECS.
CROSSING TIME AT ULYSSES IS 67815. S. OR 18:50:14 +/- 407.73 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/11/ 98 IS:
RA= 180.967 DEC= 1.410 DIST= 1.816 AU
MARS-BATSE DISTANCE = 271652864. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=121.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -476.19 SECS.
CROSSING TIME AT MARS IS 68890. S. OR 19:08:09 +/- 126.61 SECONDS

BATSE BURST TRIGGER

NO.: 7236

TIME: TJD=1145 SECONDS=69366

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=132.7 AZIMUTH=269.1 ERROR=3.0 DEGREES

COMMENTS:

GRB. LOTS OF STRUCTURE WITH EXTENDED EMISSION. DURATION APPROX. = 230 SEC.
VISIBLE ABOVE 300KEV. MAX AT APPROX. T+80 SEC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7236	981128	11145	69366	7500	132	+39	230

Date: 21/01/00

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 starts*

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

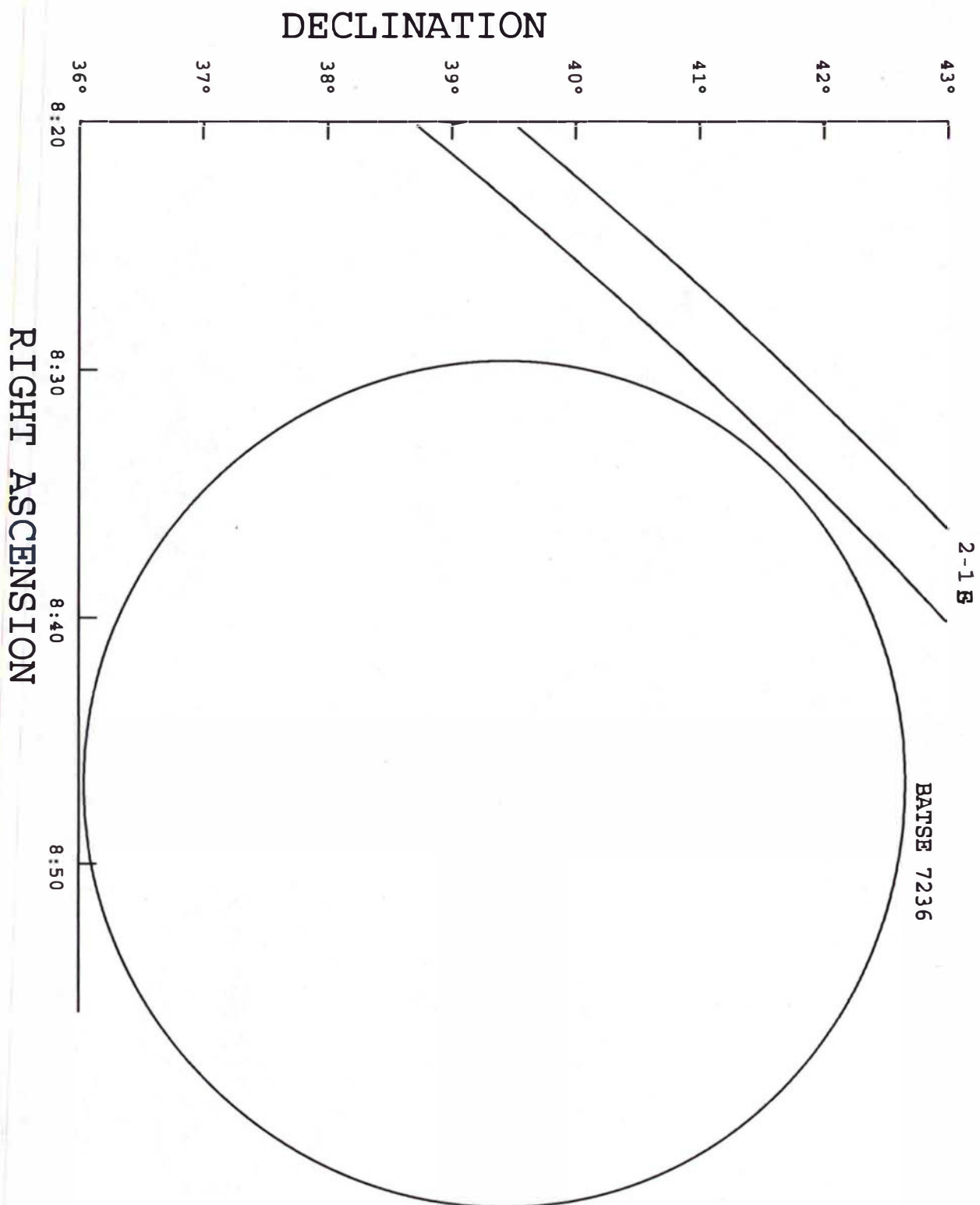
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF NOV 28, 1998 19:16

21/ 1/ 0



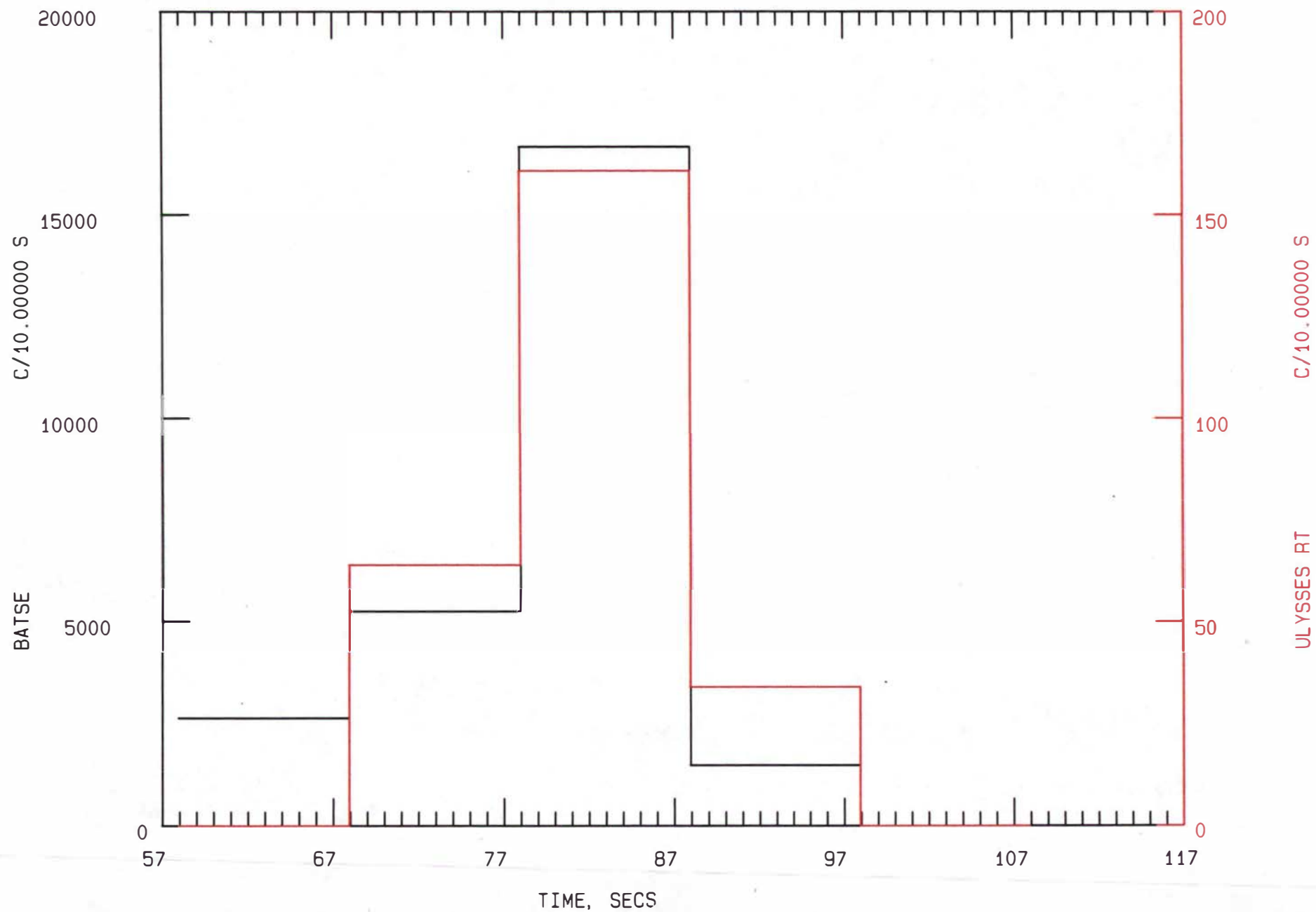
BATSE

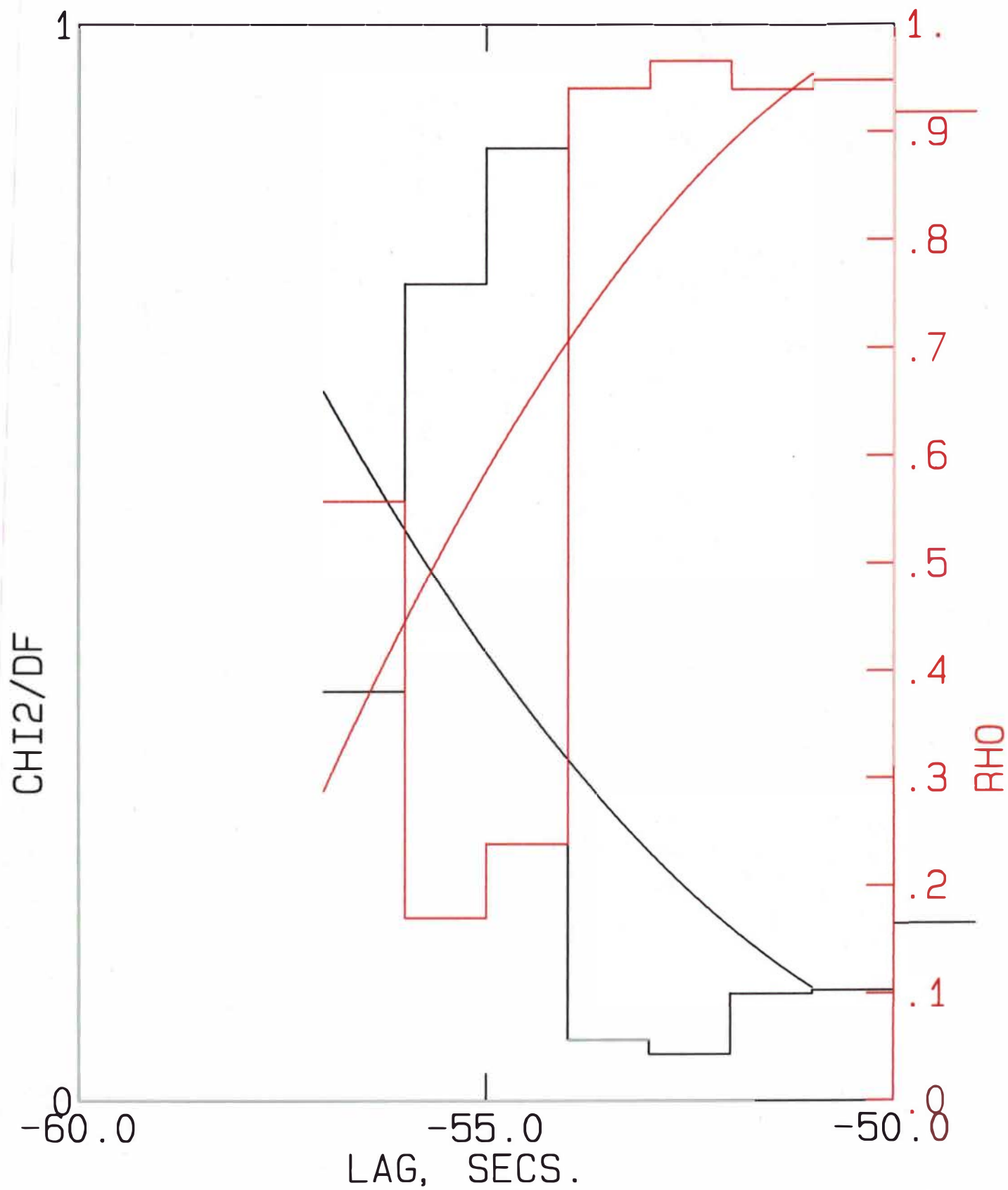
-ULYSSES RT CORRELATION

28/11/98

69366.497

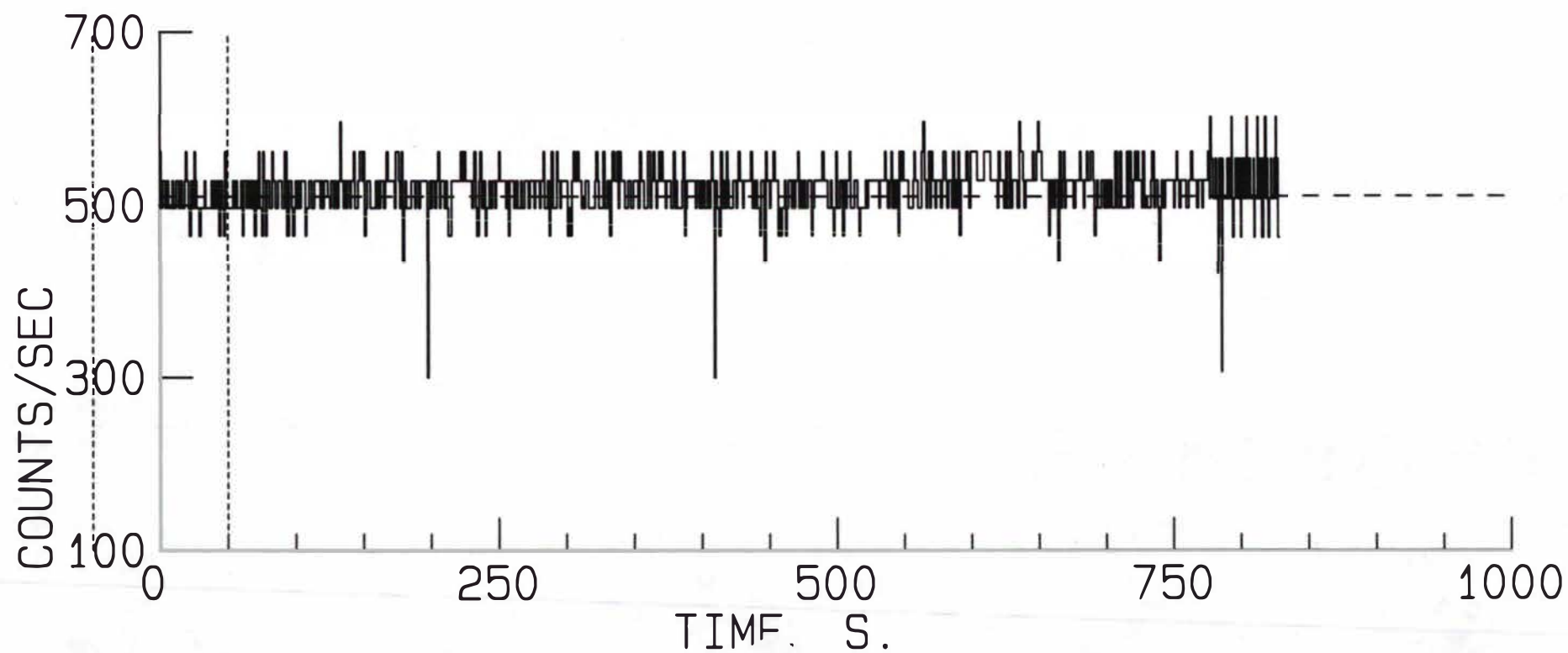
21/ 1/ 0





ULYSSES RT
28/11/98 67392.534 s
22- 149 keV

21 / 1 / 0

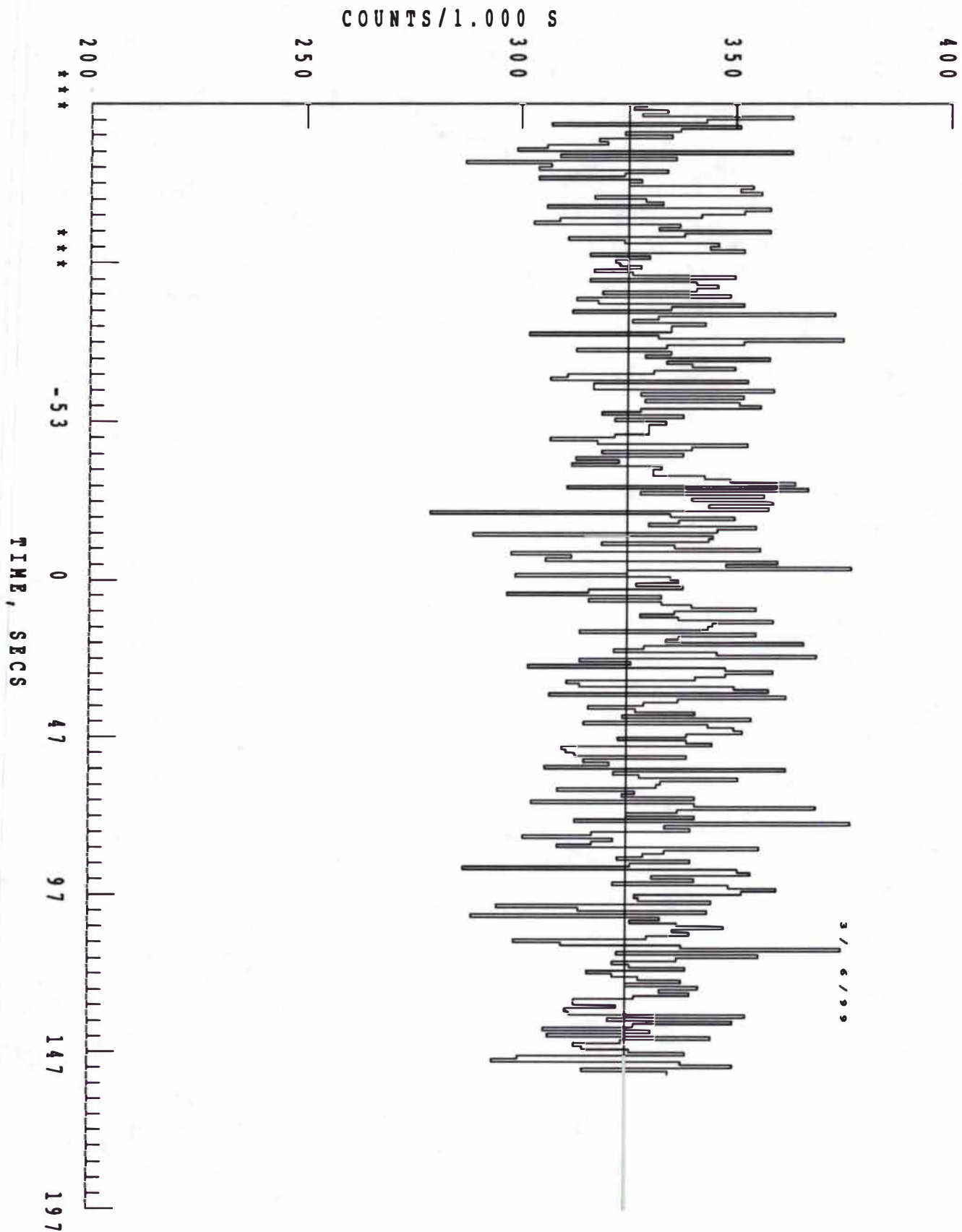


NEAR

28/11/98

70422.012

100-1000 keV



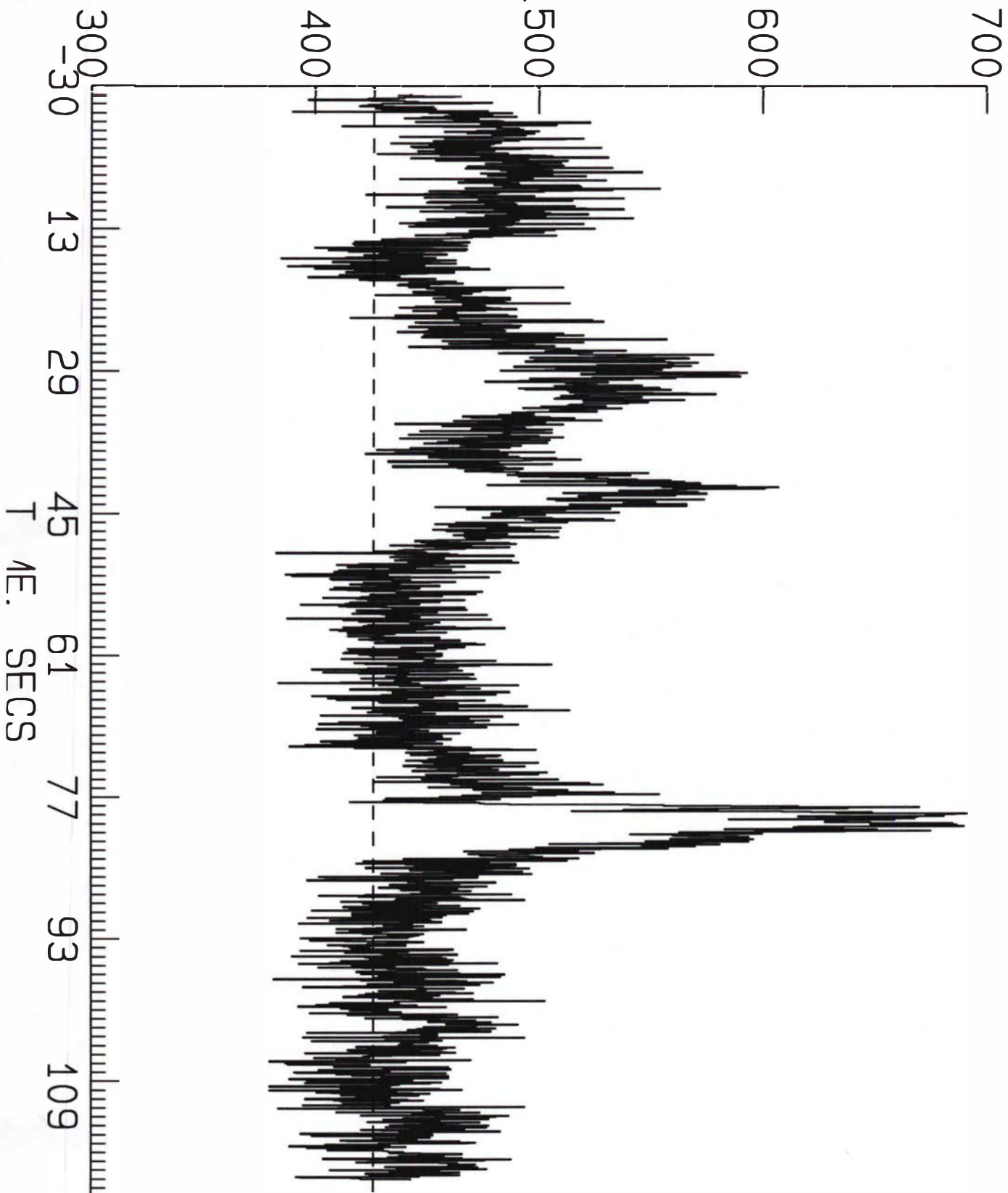
BATSE

28/11/98

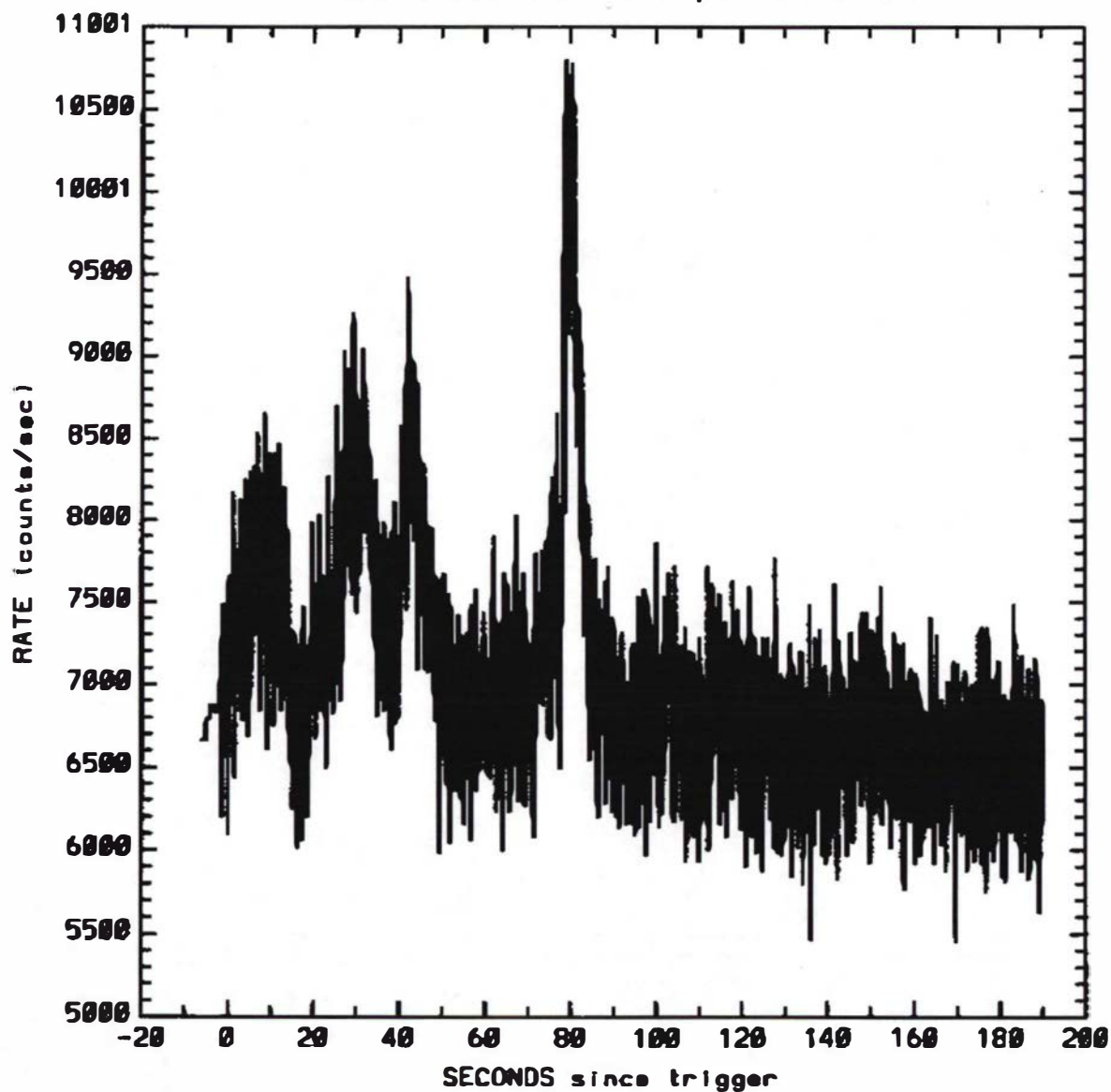
69366.497

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7236



2-DEC-1998 11:38.28

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

Trigger # : 7236

Trigger Time:
11145 / 69366.497Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
7---3---Discriminators:
(1 , 2)Quality Mask:
BDISP1

From RICHARDSON@fender.msfc.nasa.gov Tue Dec 1 07:56:23 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 1 Dec 1998 9:55:40 -0600 (CST)

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.: 7237

Nov 2K

TIME: TJD=1145 SECONDS=85867

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

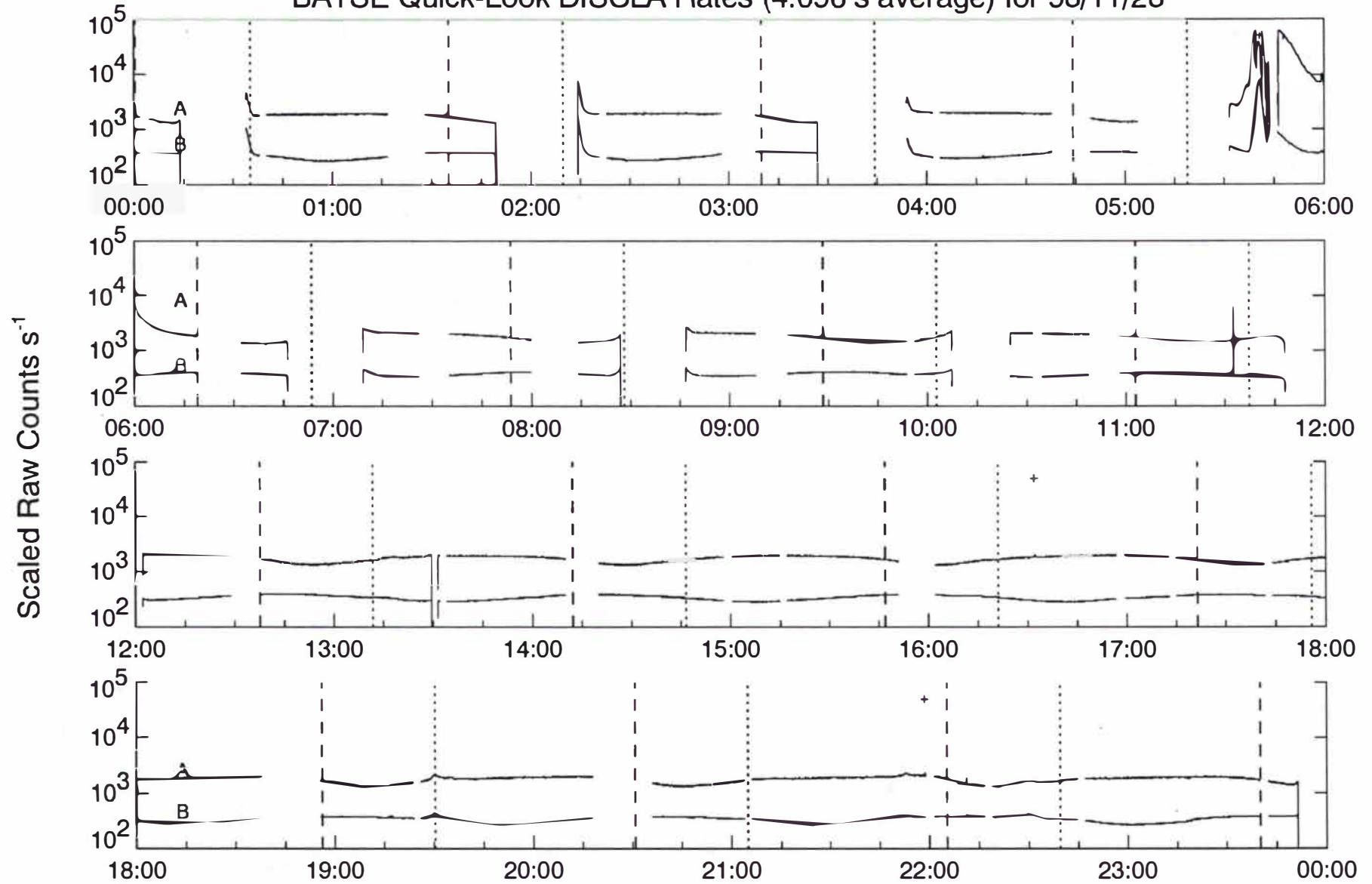
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

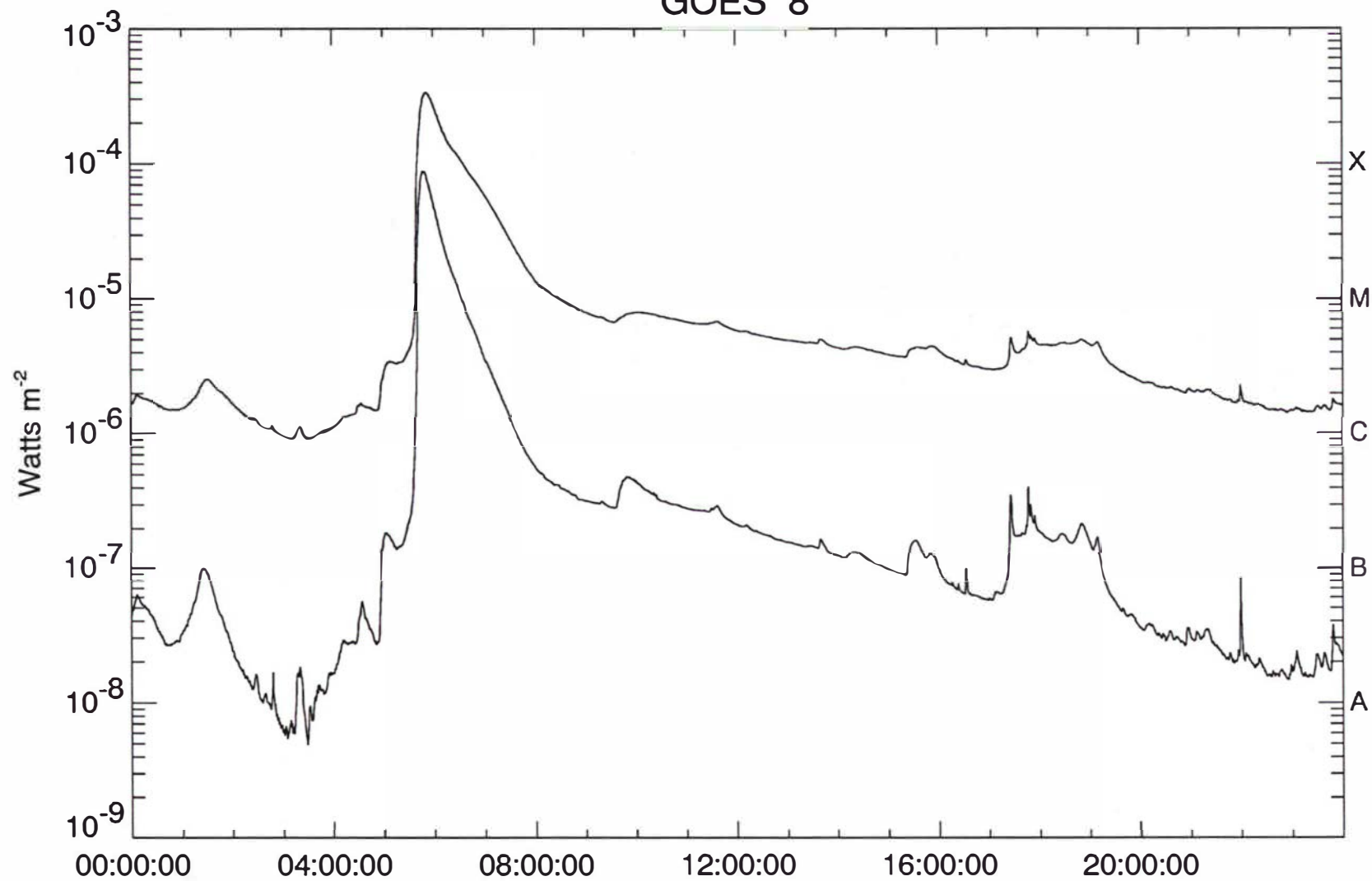
COMMENTS:

SAA ENTRY

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/28



GOES 8



Data Start: 98/11/28, 0000:00

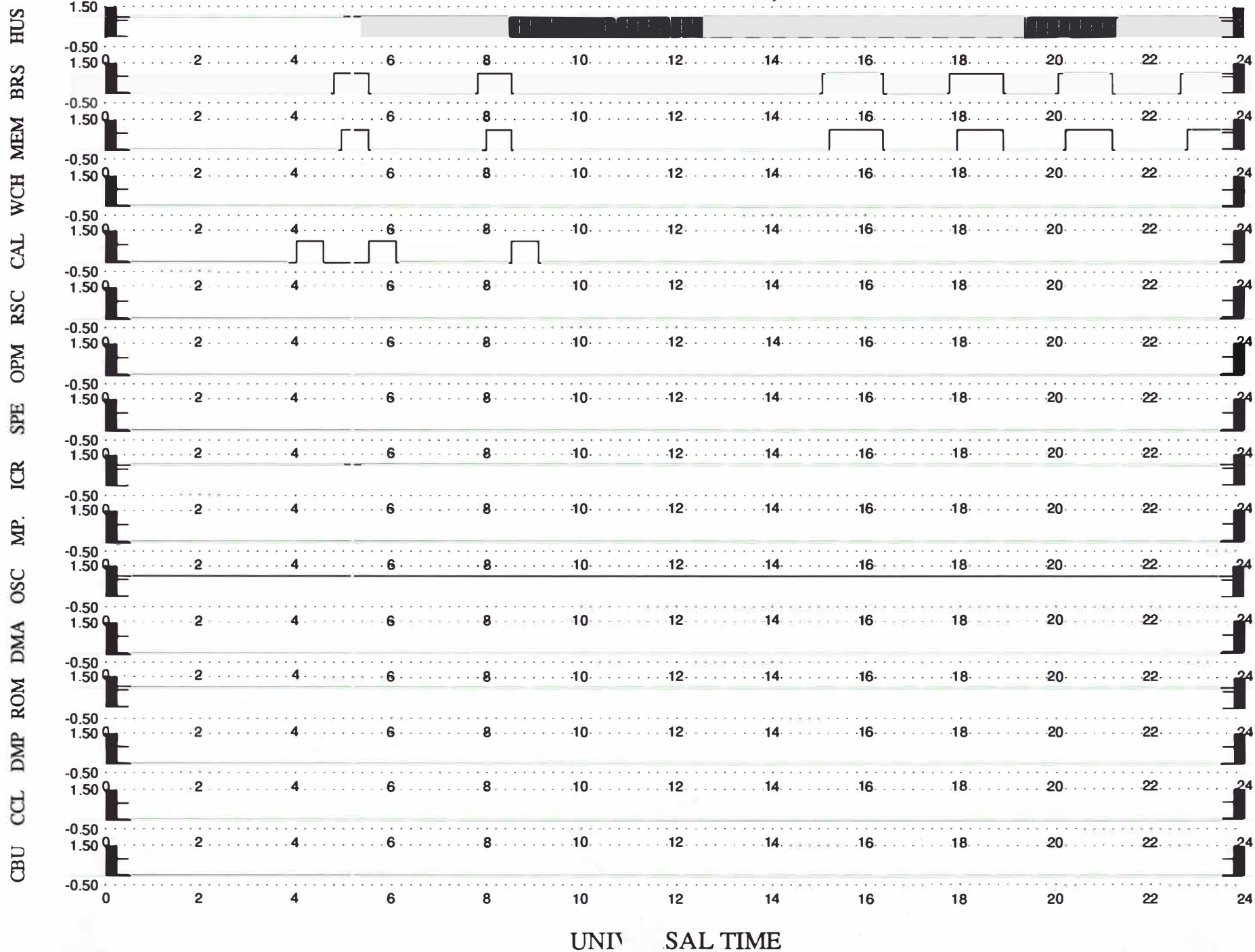
Plot created: 98/12/02, 1010

Channel

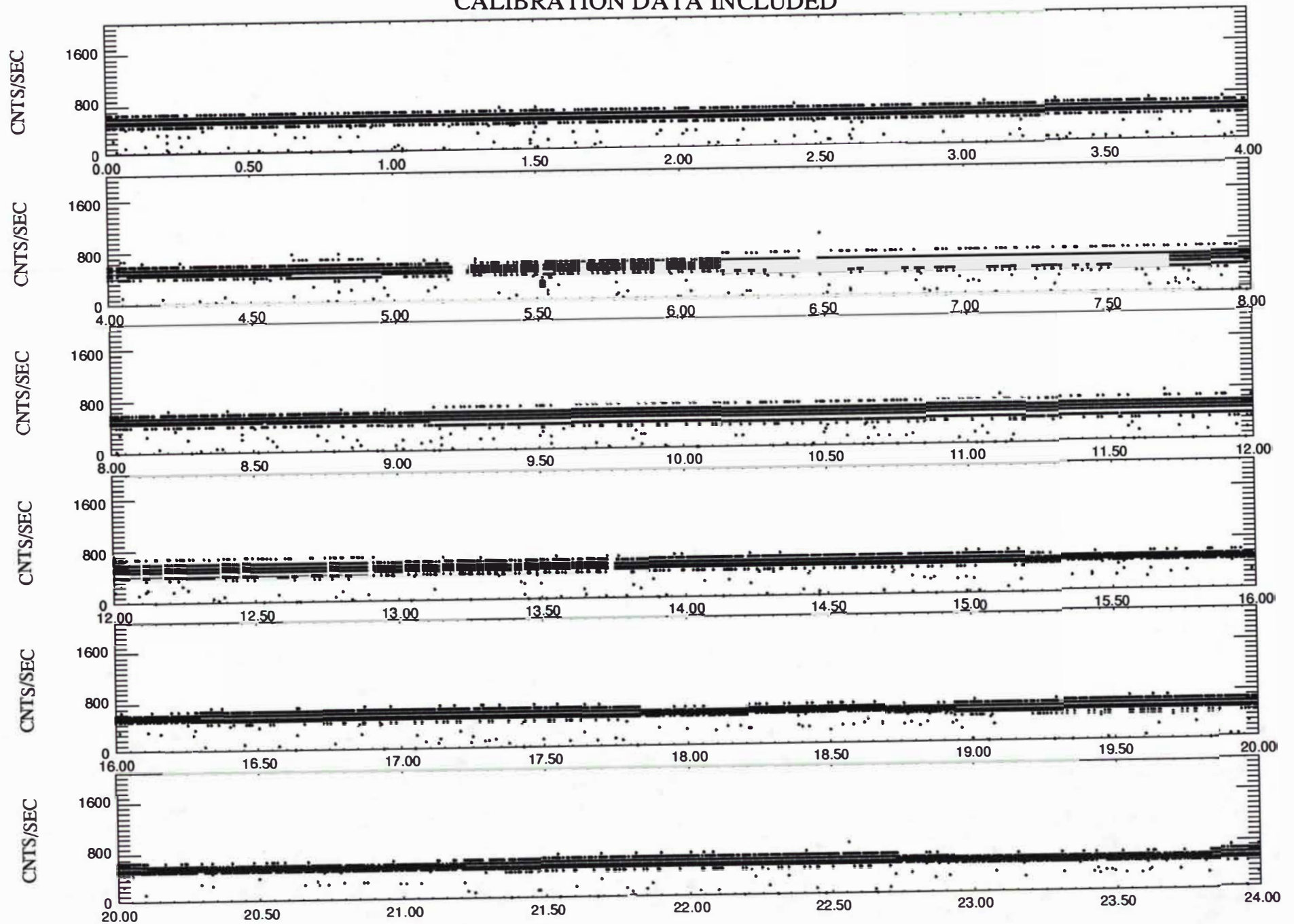
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 10 - 15,0

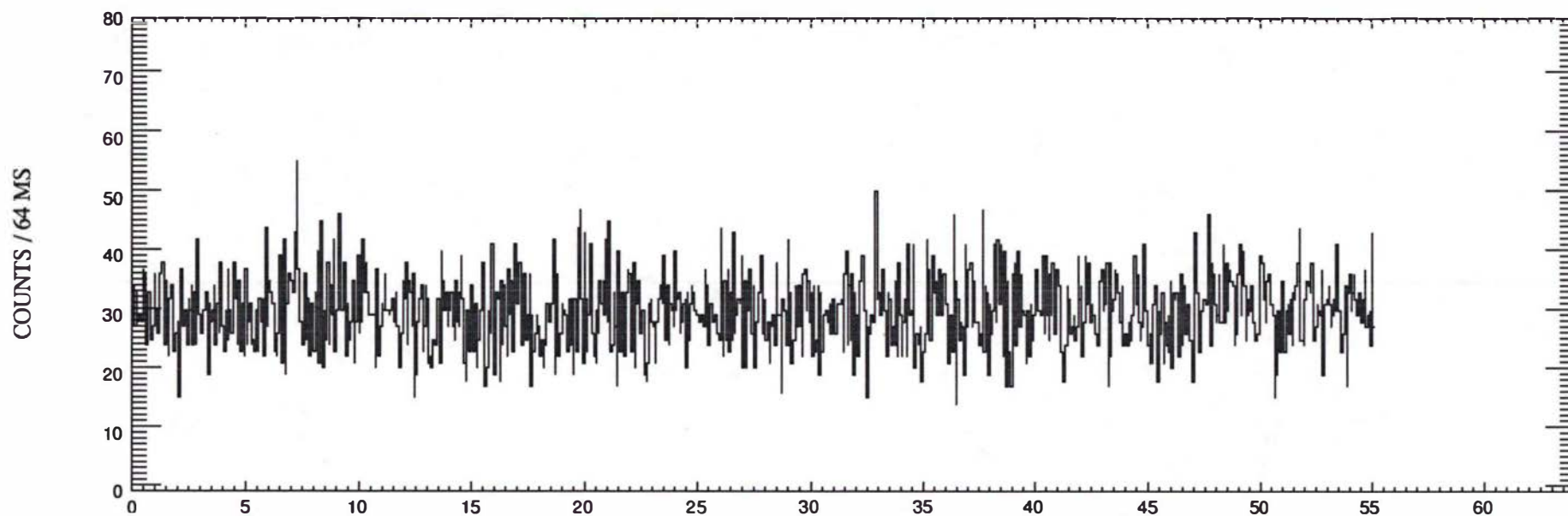


CALIBRATION DATA INCLUDED

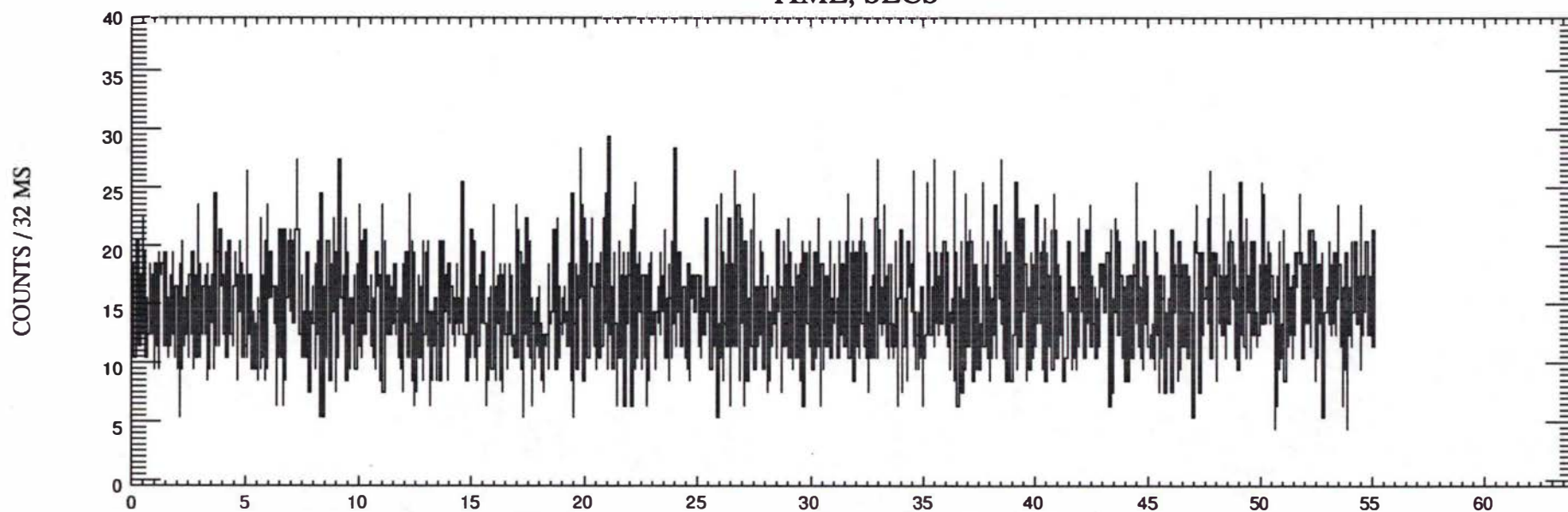


UNIT SAL TIME

Burst Counter 10 at UT= 4.804448560079 h=17296.015 s 04:48:16.015

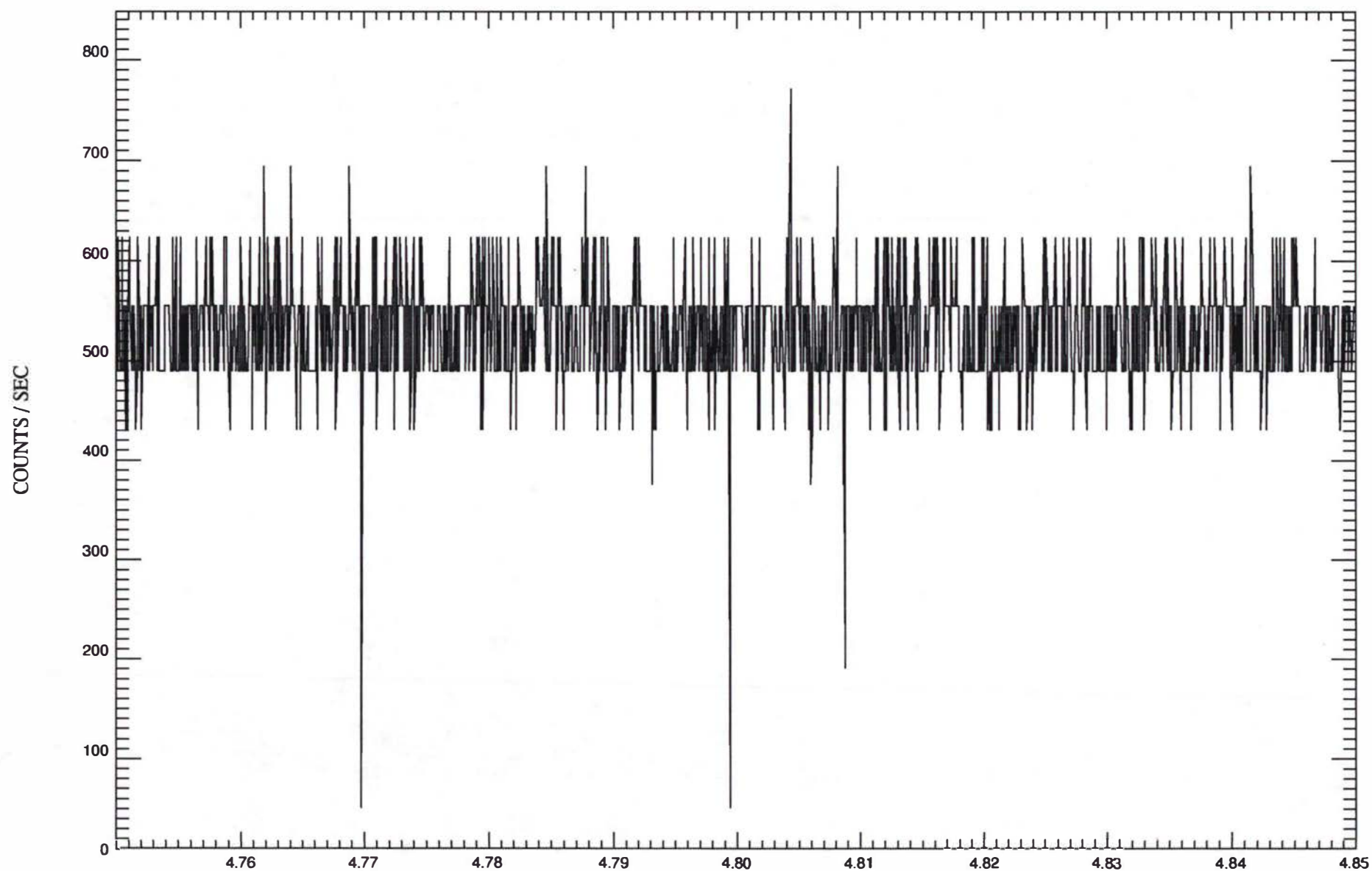


TIME, SECS

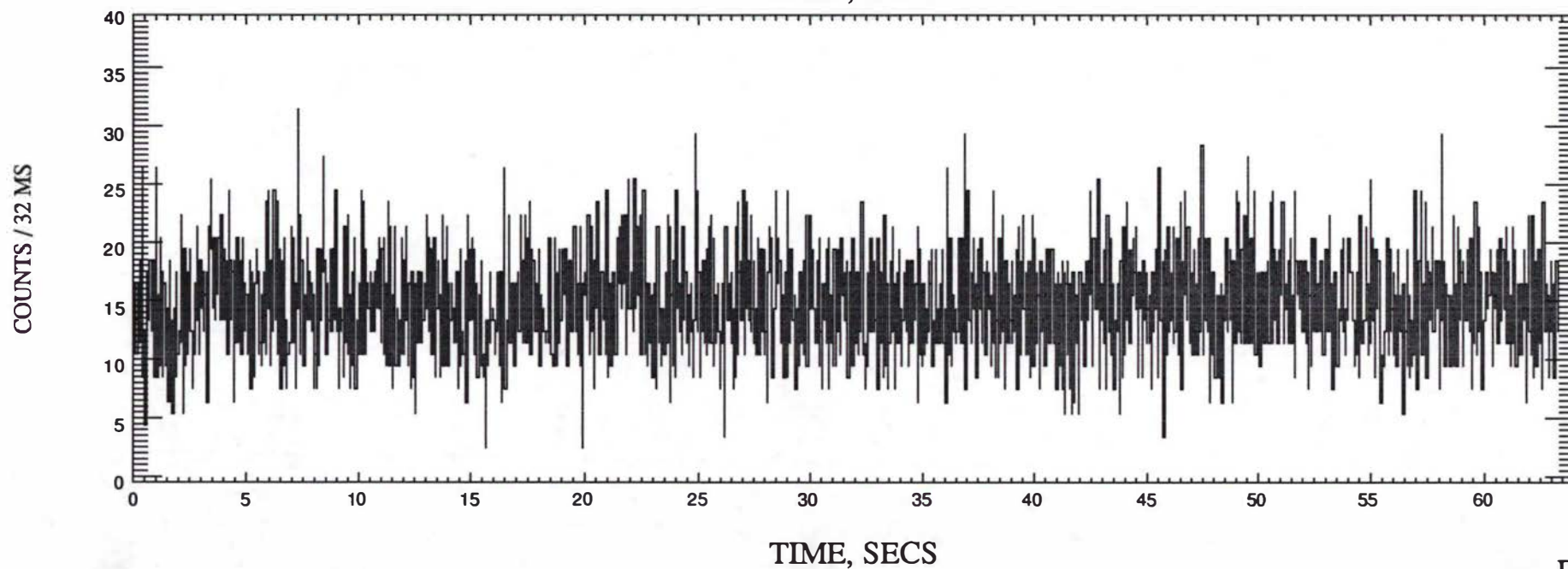
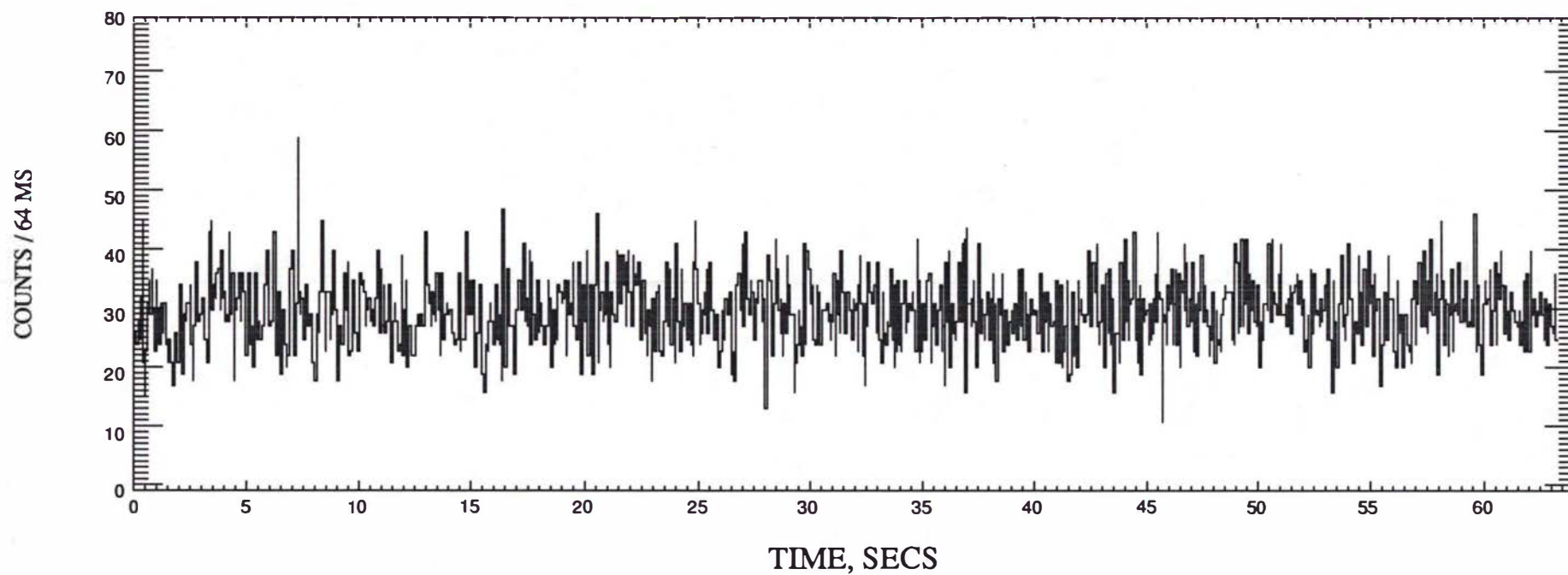


TIME, SECS

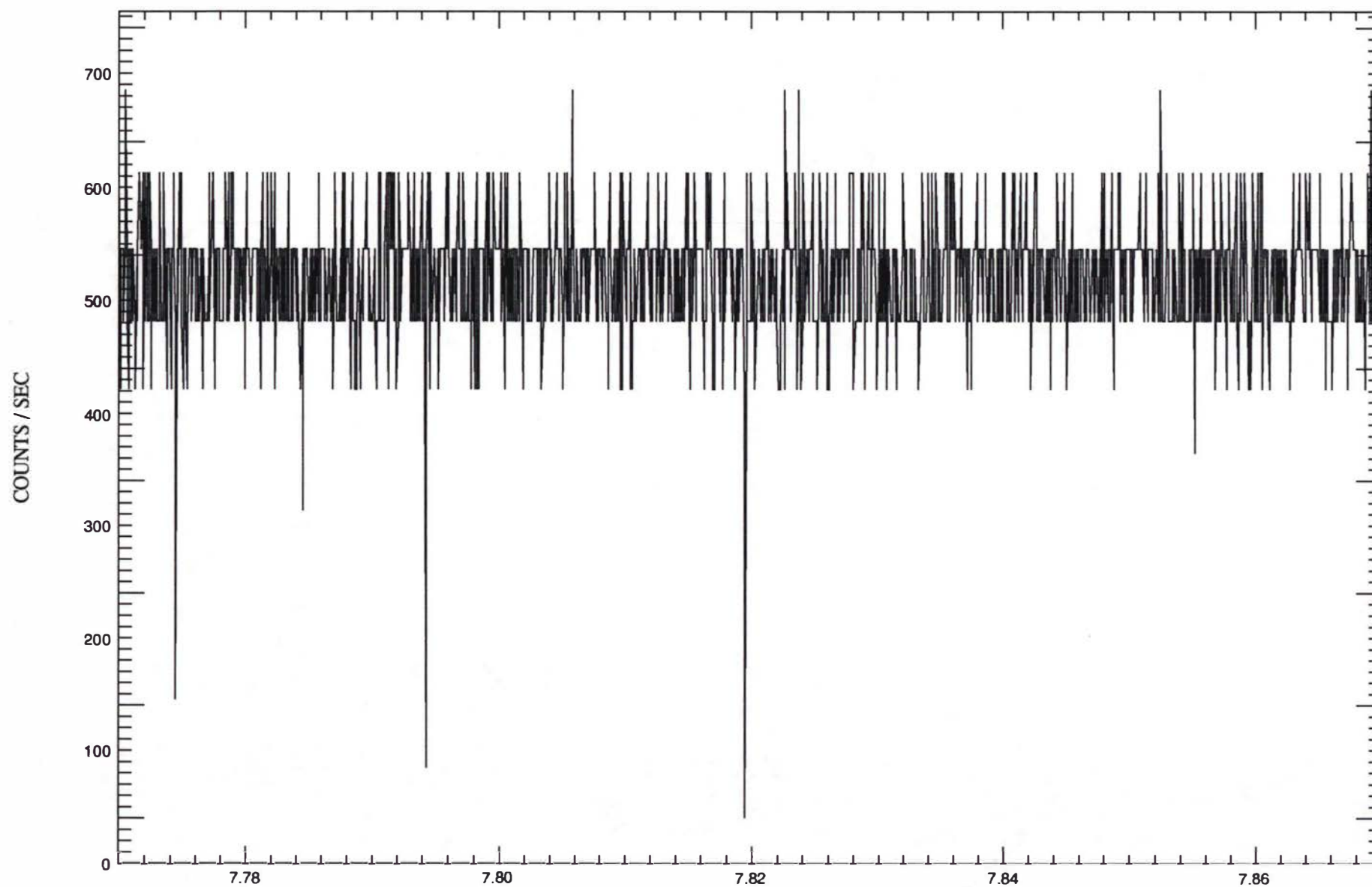
CALIBRATION DATA INCLUDED



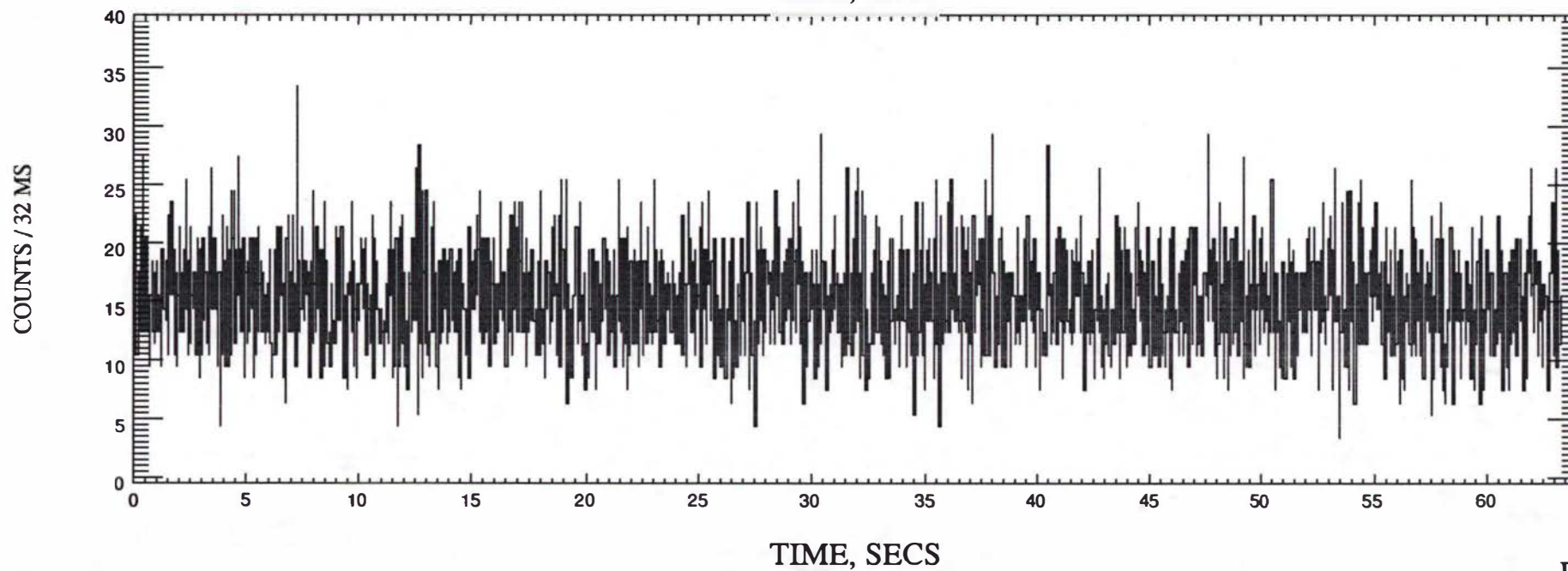
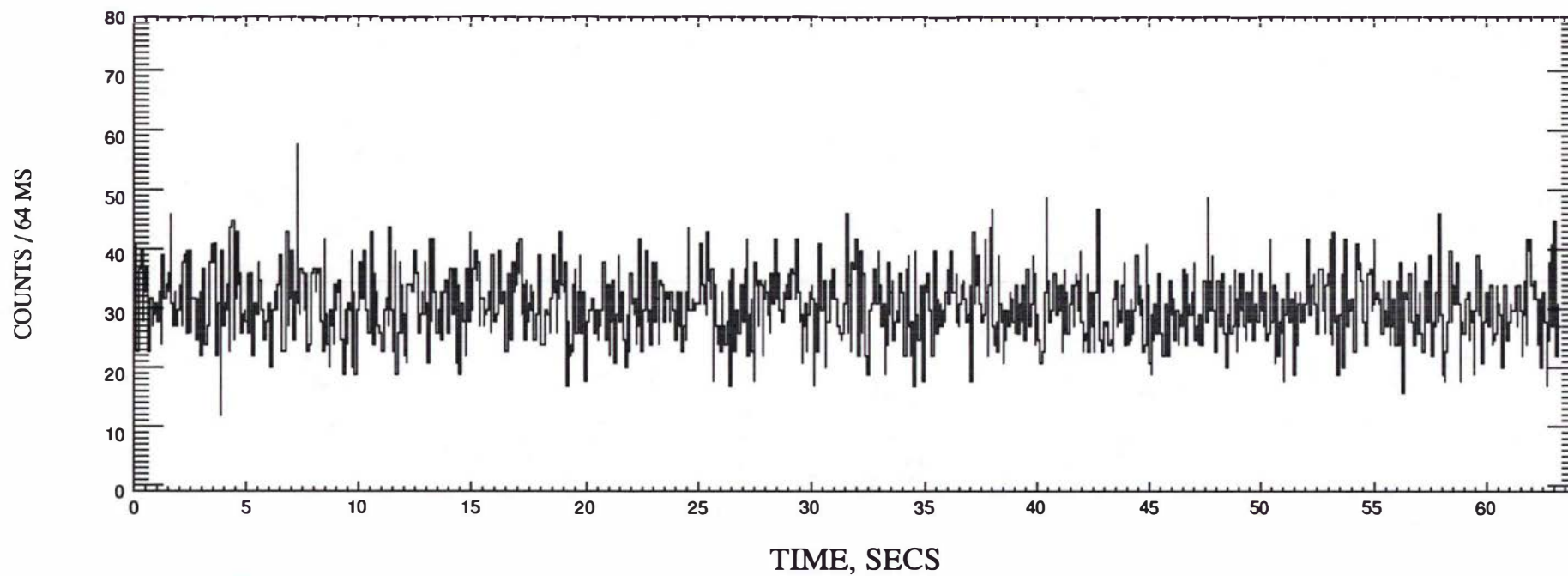
Burst Counter 11 at UT= 7.823854531182 h=28165.876 s 07:49:25.876



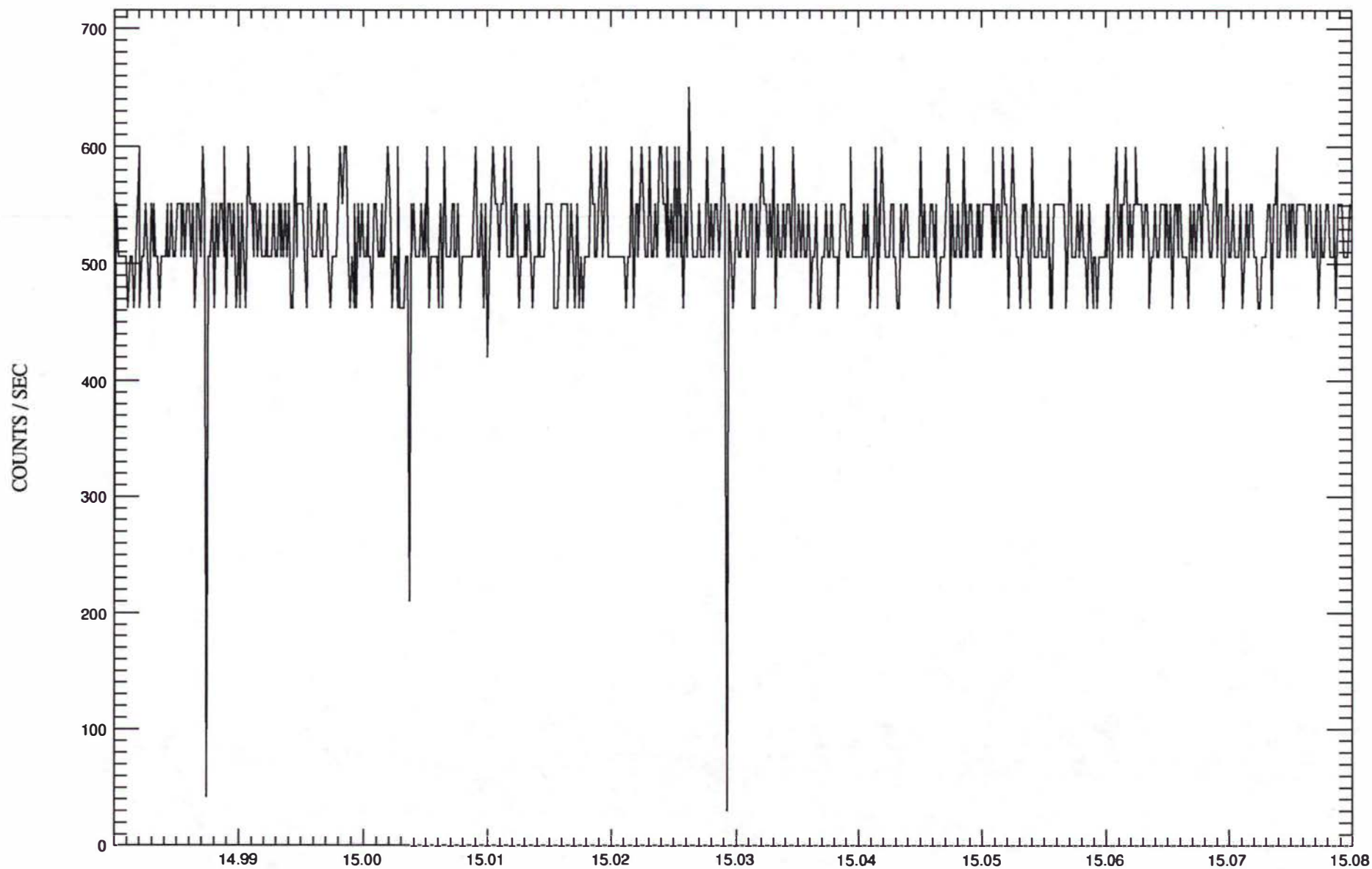
CALIBRATION DATA INCLUDED



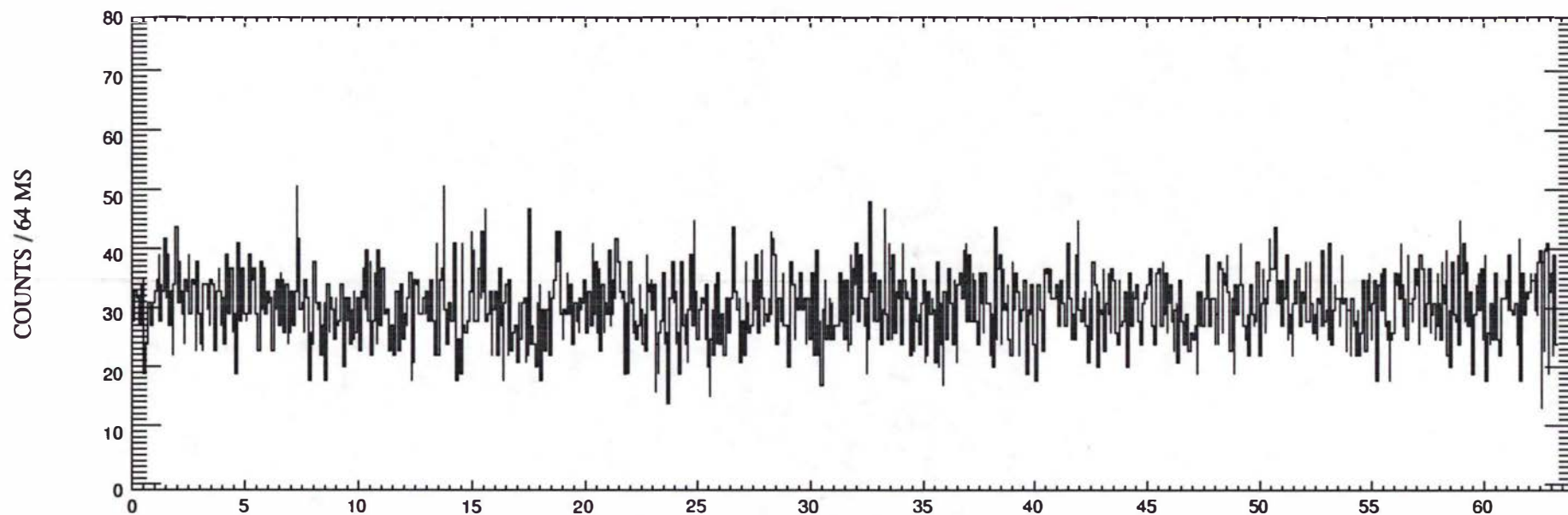
Burst Counter 12 at UT=15.026393038432 h=54095.015 s 15:01:35.015



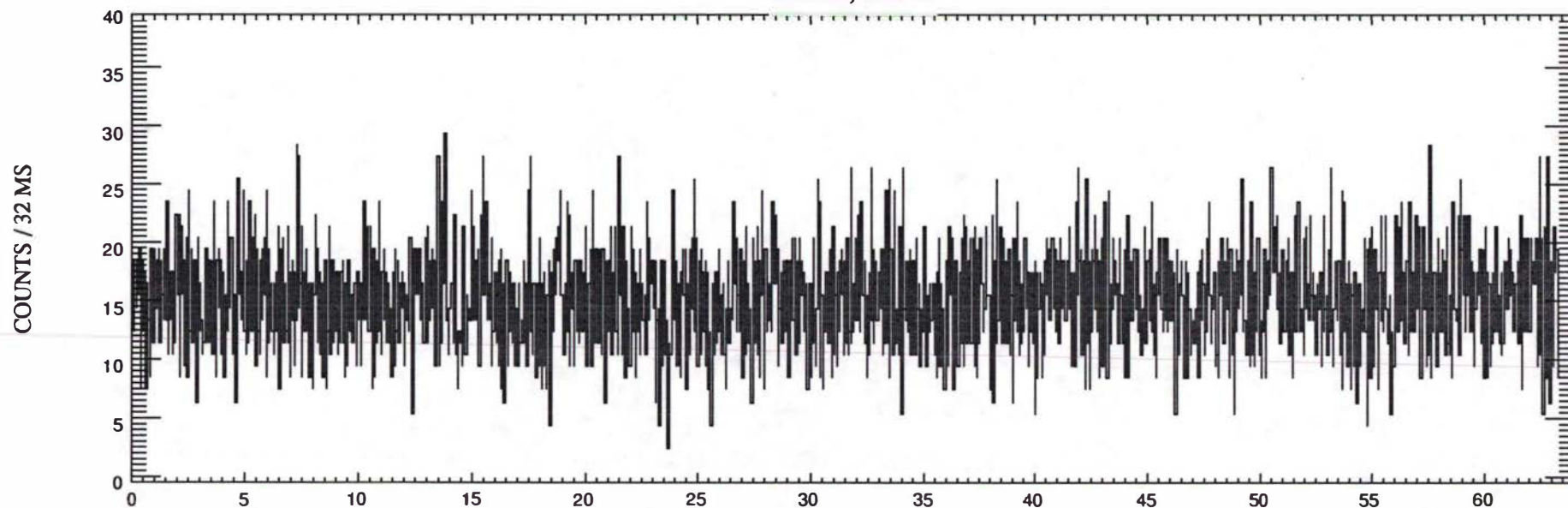
CALIBRATION DATA INCLUDED



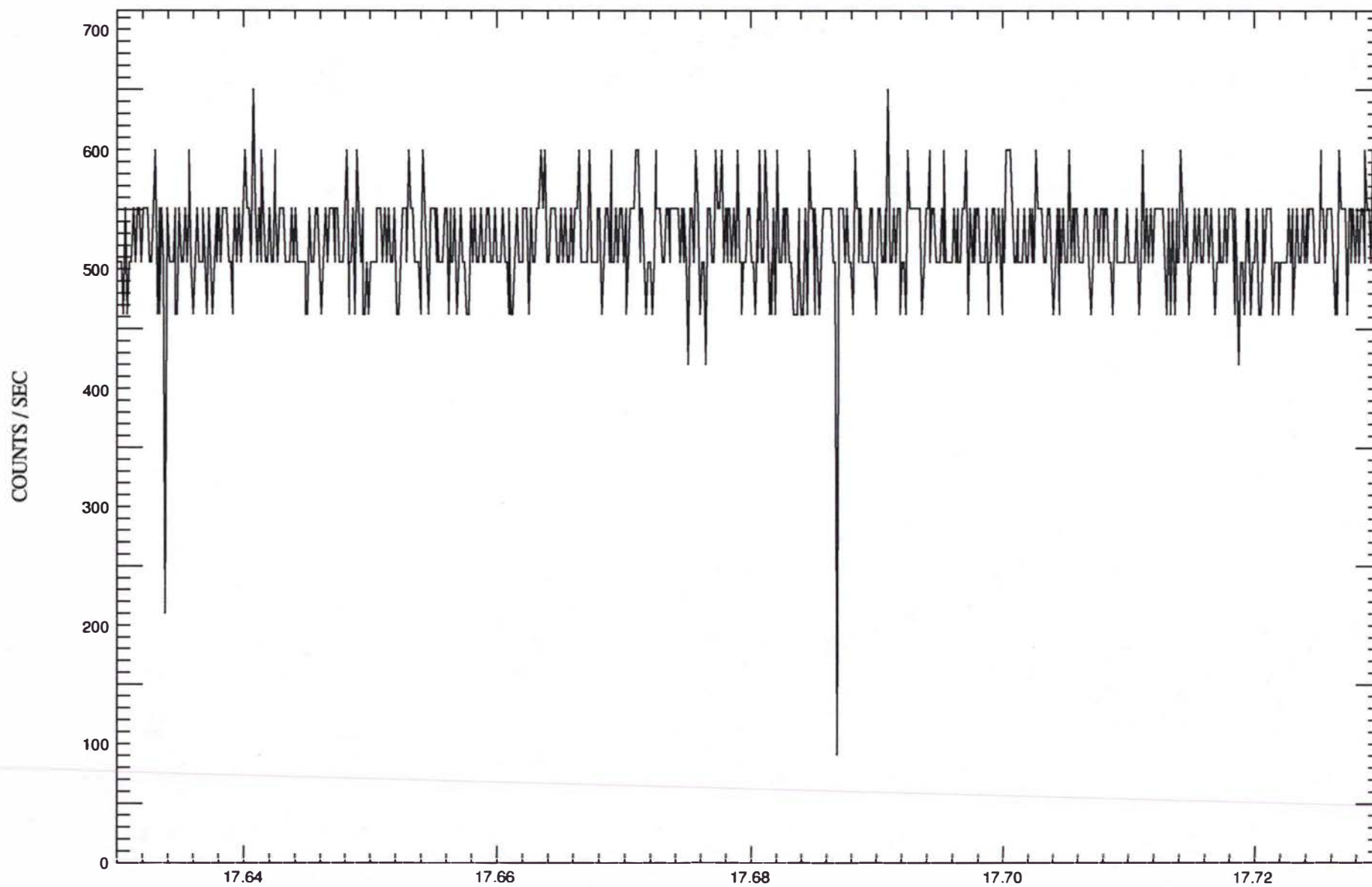
Burst Counter 13 at UT=17.679129062229 h=63644.865 s 17:40:44.865



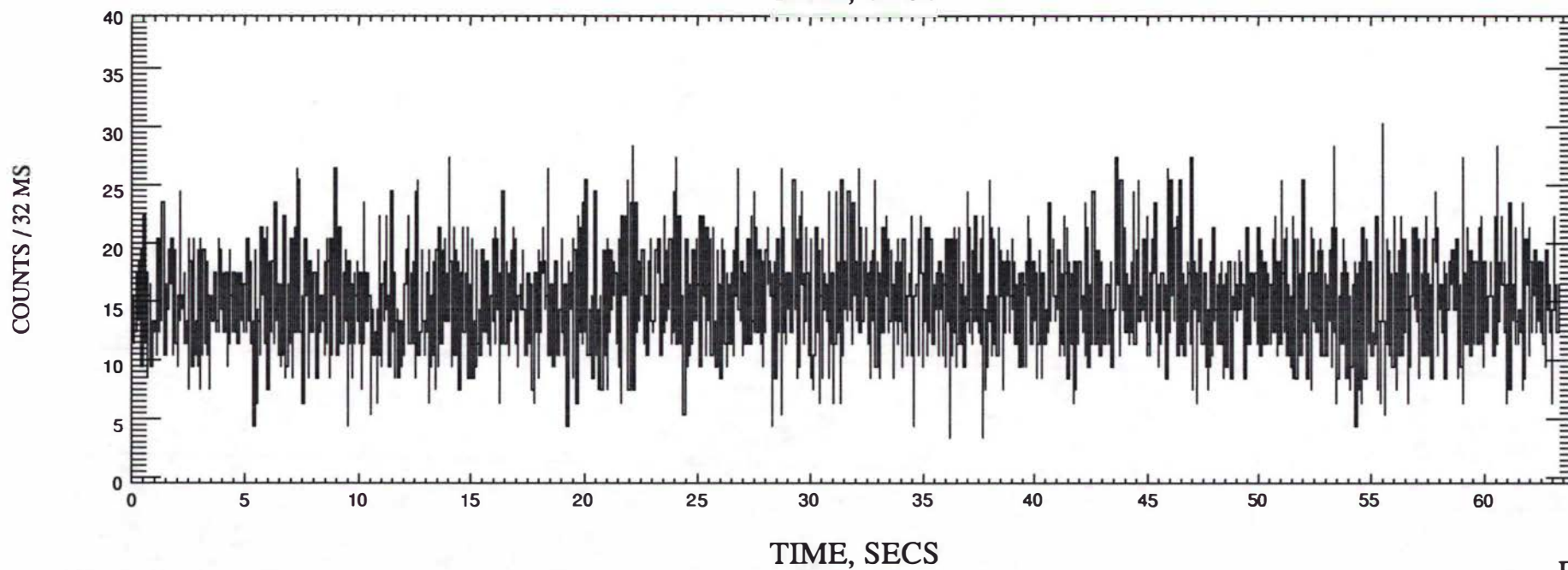
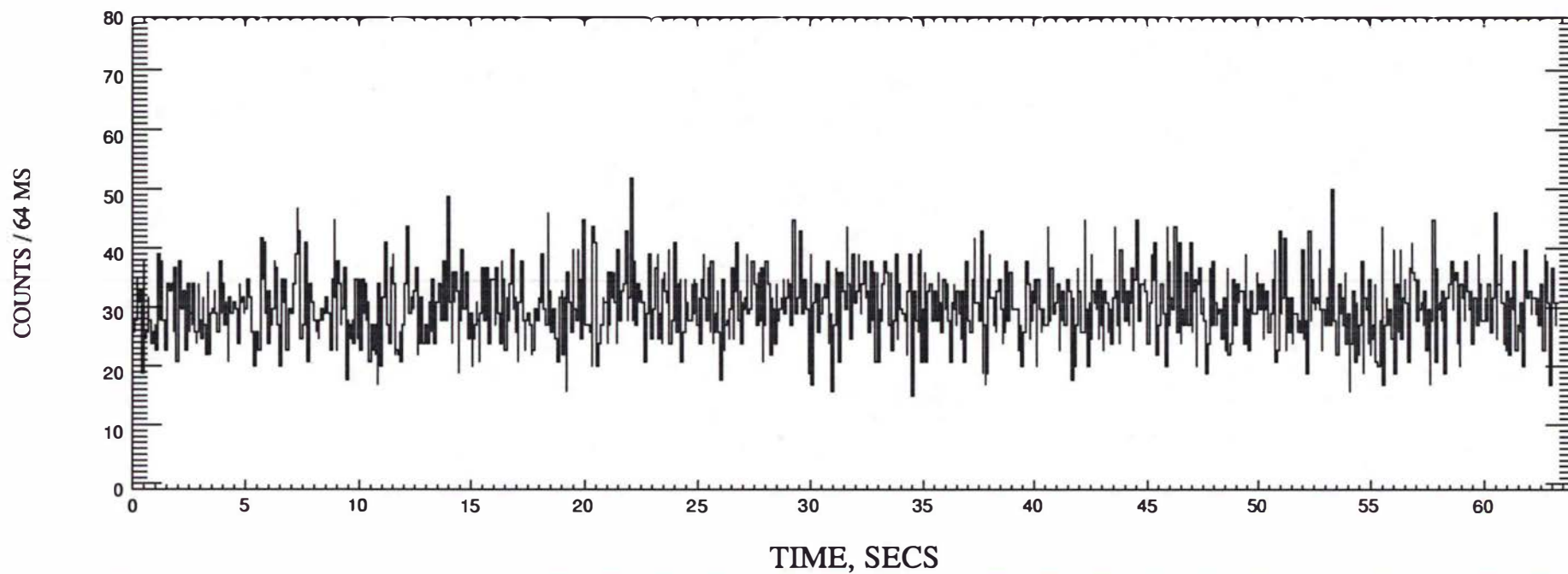
TIME, SECS



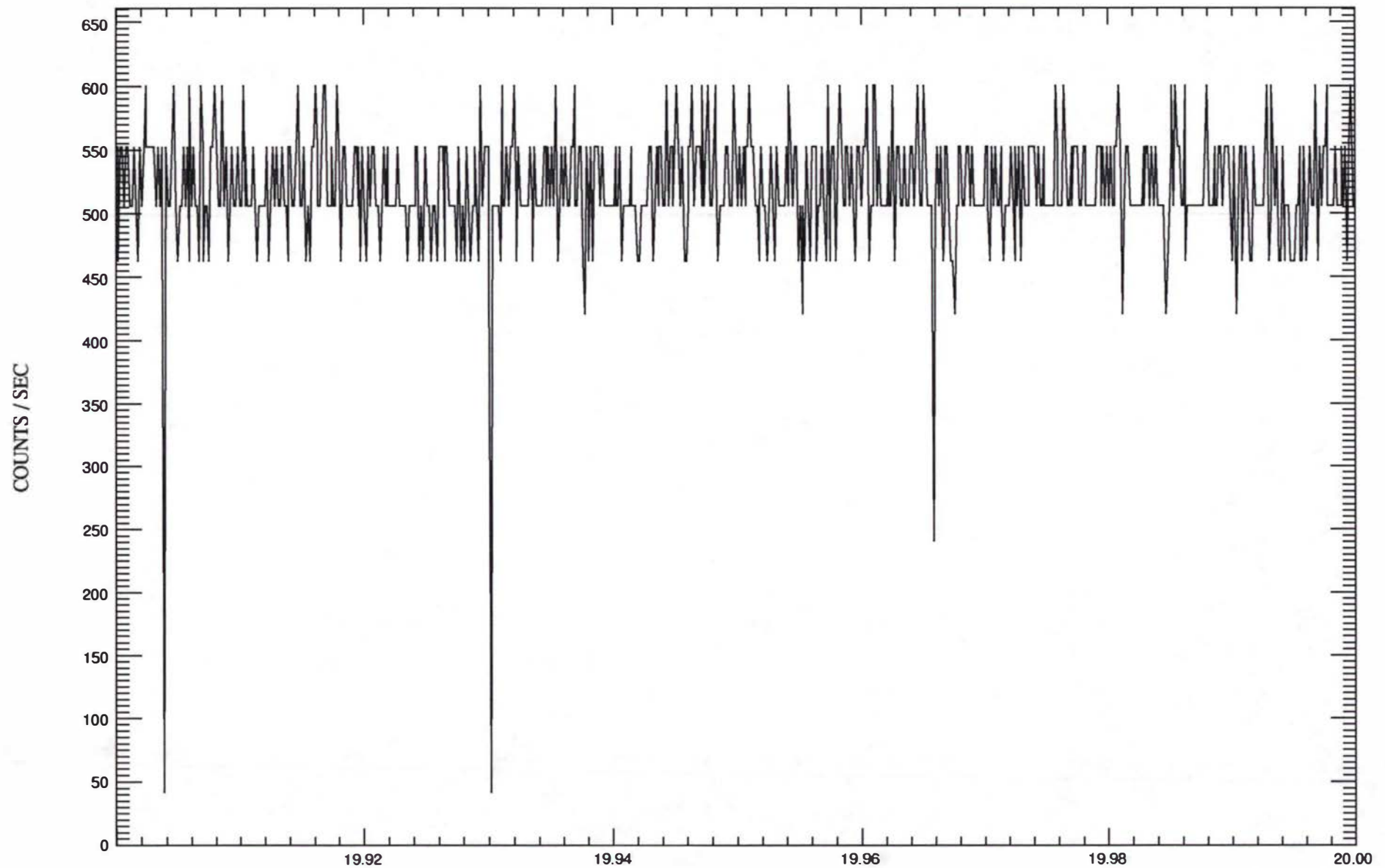
CALIBRATION DATA INCLUDED



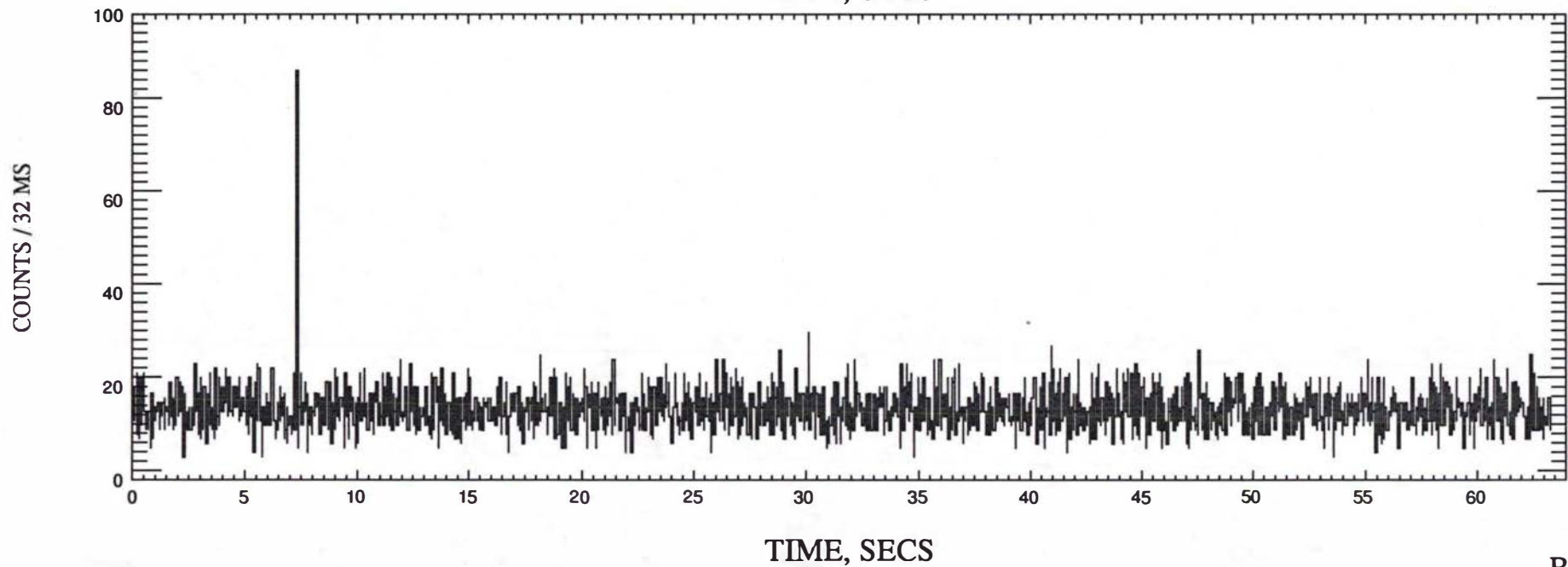
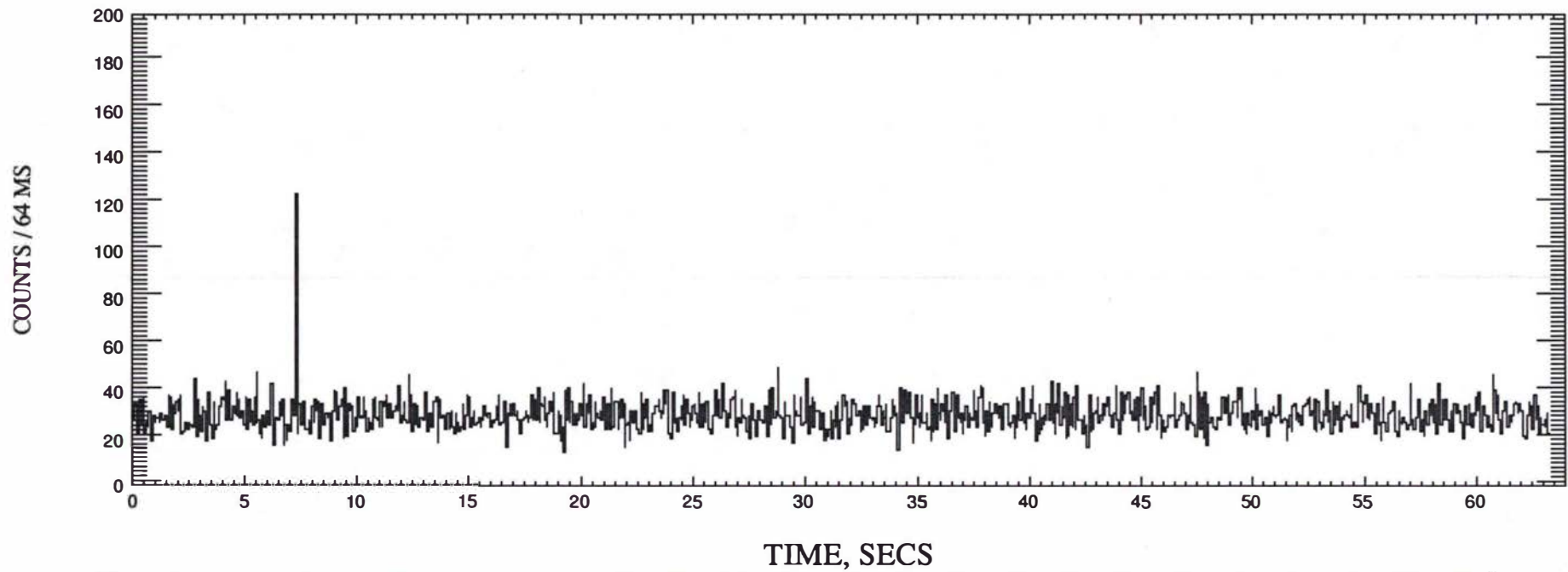
Burst Counter 14 at UT=19.954430156284 h=71835.949 s 19:57:15.949



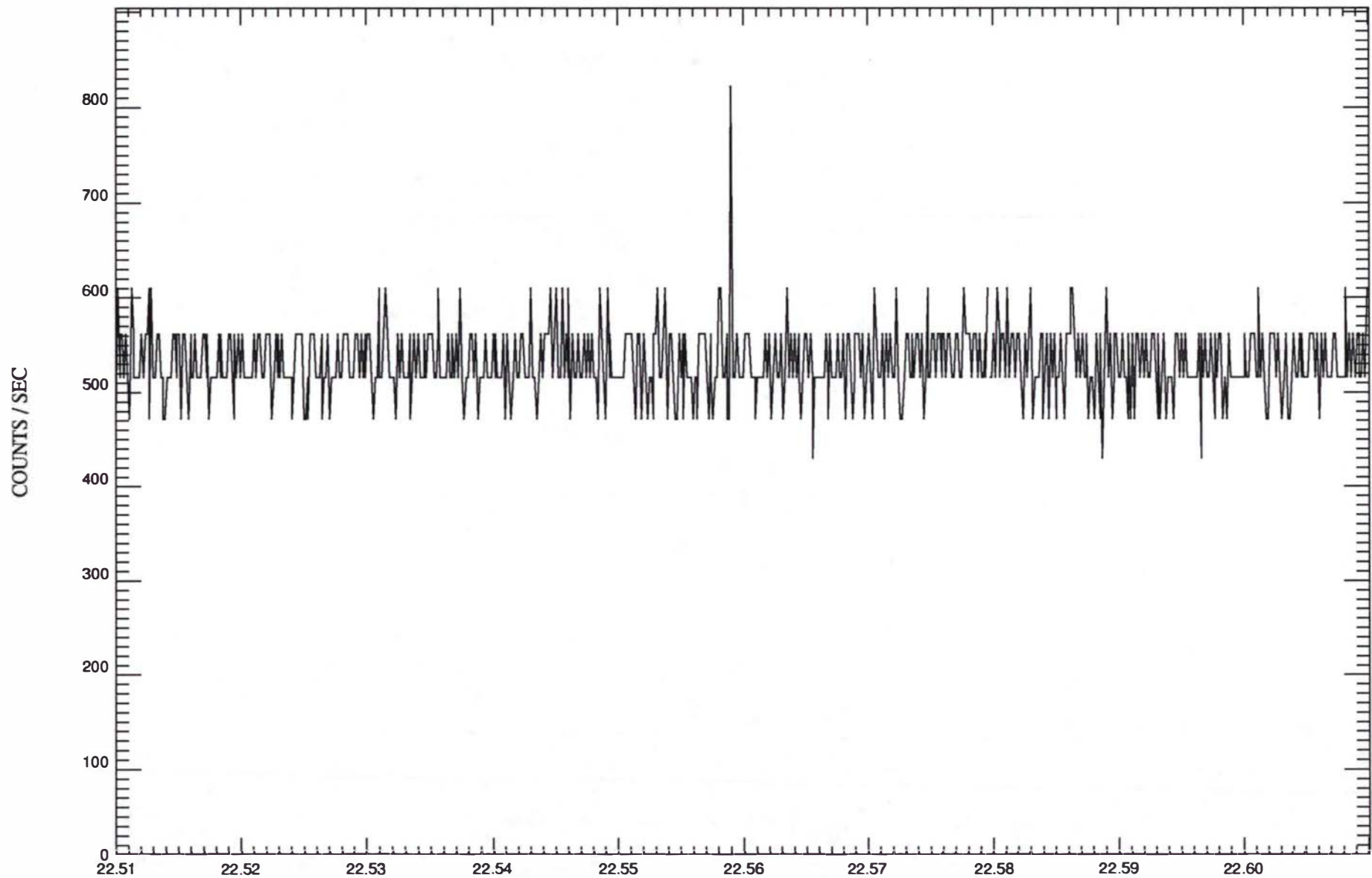
CALIBRATION DATA INCLUDED



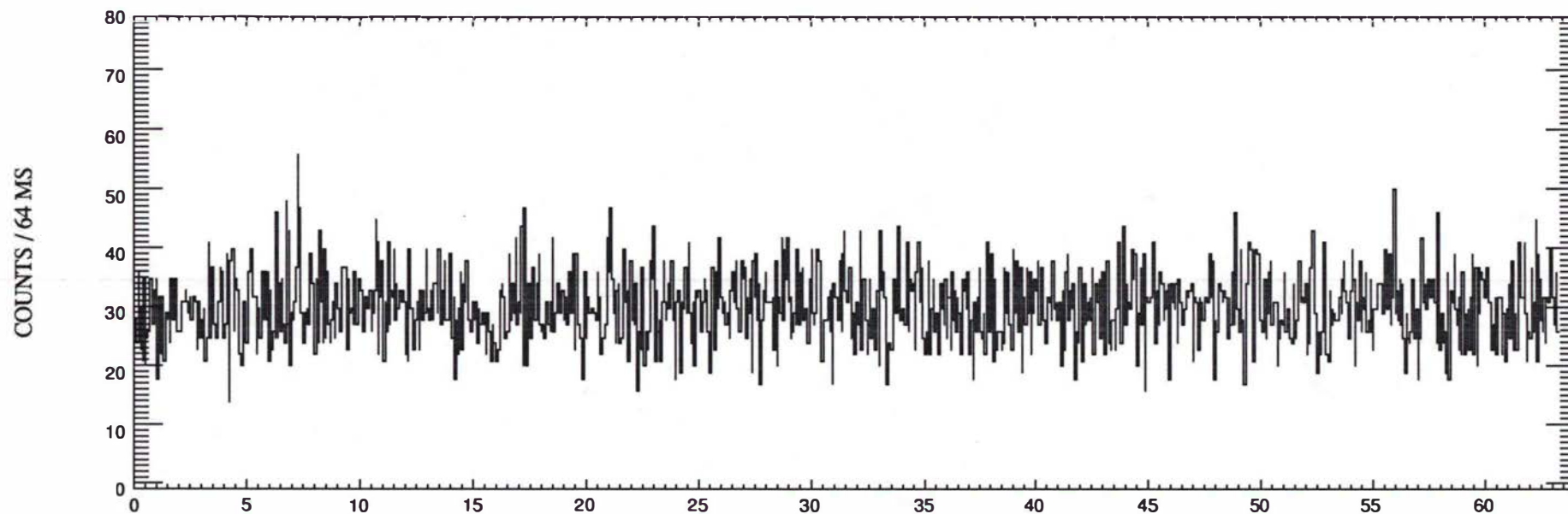
Burst Counter 15 at UT=22.559085294935 h=81212.707 s 22:33:32.707



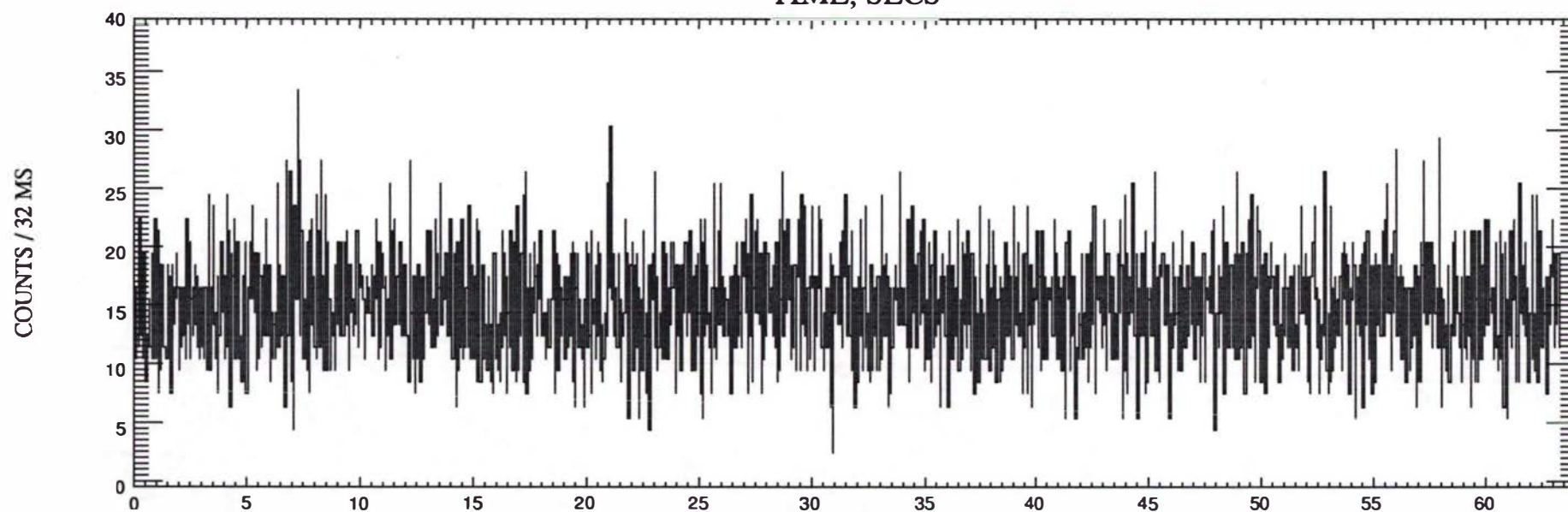
CALIBRATION DATA INCLUDED



Burst Counter 0 at UT=23.907731225755 h=86067.832 s 23:54:27.832

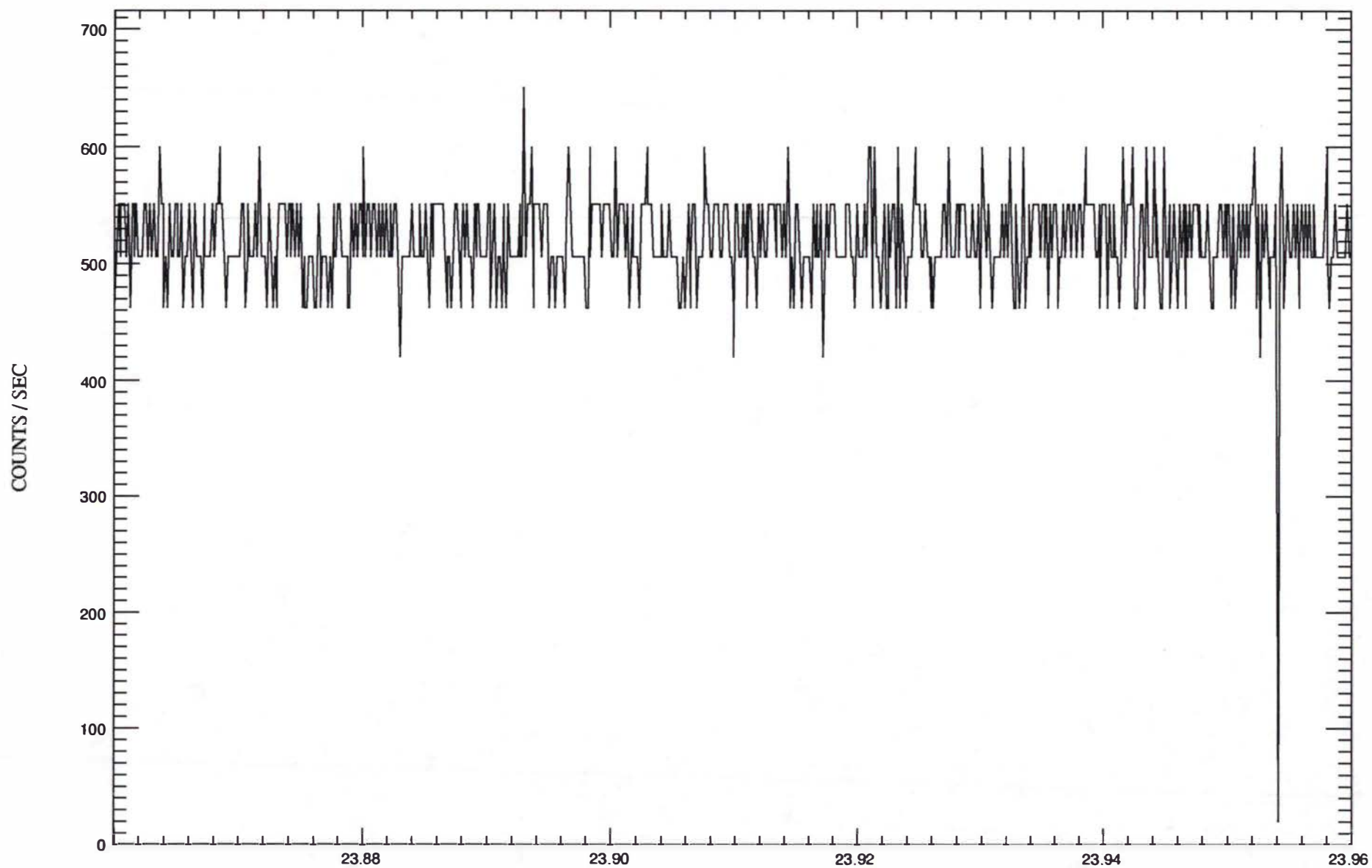


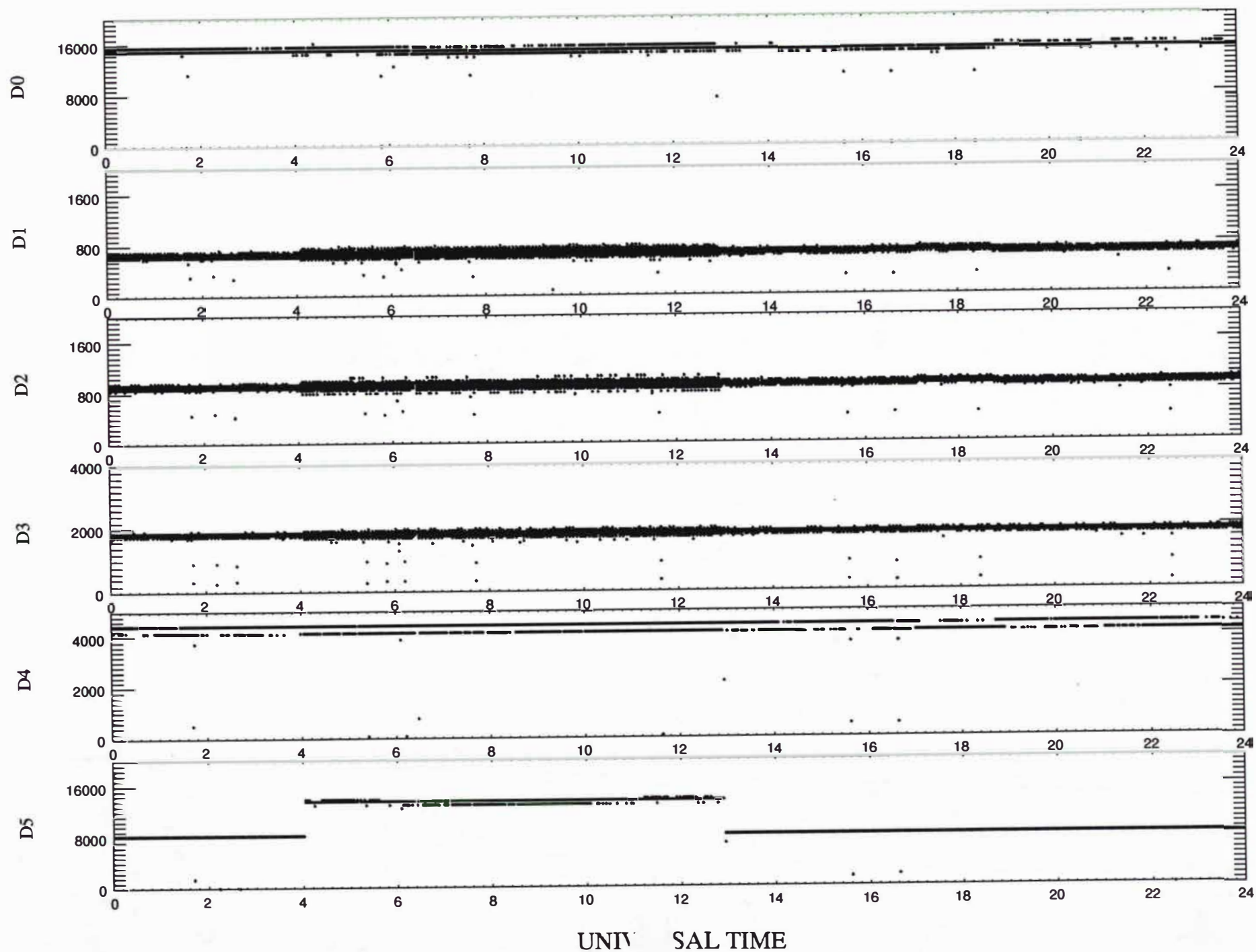
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot Wed Dec 2 09:00 PST 1998
Date: Wed, 2 Dec 1998 09:06:51 -0800
From: khurley@sunspot (Kevin Hurley)
To: WOODS@bowie.msfc.nasa.gov
Subject: RE: GRB981128
Cc: khurley@sunspot

Dear Pete,

That's interesting. We have 6 triggers on the 28th, and another 7 on the 29th, that are so weak I'm not sure what they are due to. I had assumed they might be particle-induced, but now I wonder whether you see any other activity from 1900 on these days.

Ulysses times on the 28th are: 04:48, 07:49, 15:01, 17:41, 19:57, 22:33 (which you confirmed), and 23:54.

Ulysses times on the 29th are: 03:39, 05:22, 06:37, 08:13, 09:46, 12:35 and 18:00.

Any BATSE bursts at the right times?

Kevin

From WOODS@bowie.msfc.nasa.gov Wed Dec 2 09:27 PST 1998
From: WOODS@bowie.msfc.nasa.gov
Date: Wed, 2 Dec 1998 11:28:03 -0600
To: khurley@sunspot.ssl.berkeley.edu
Subject: RE: GRB981128

Kevin,

Nothing obvious in the raw data at the other times, although there are a few which fall during data gaps.

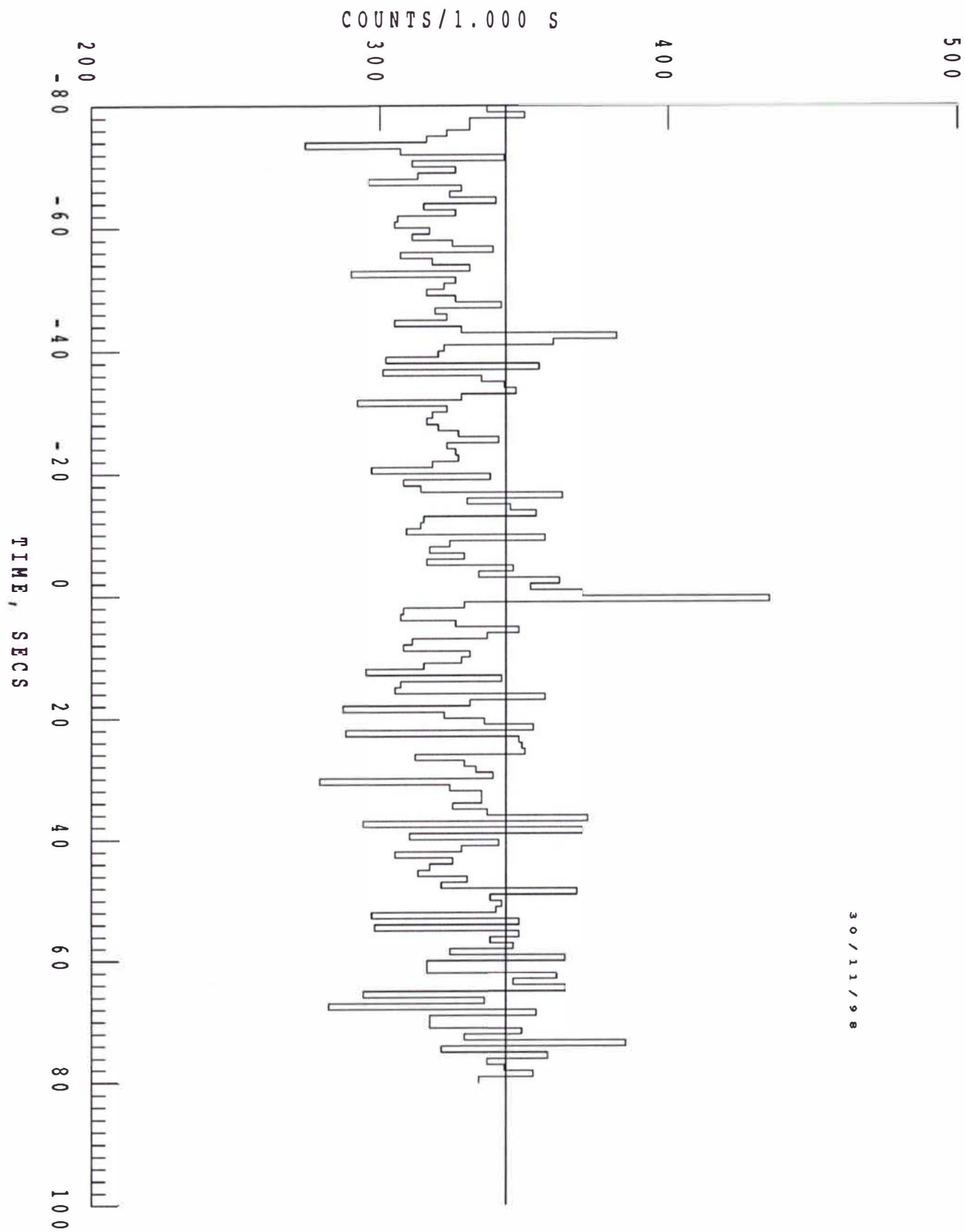
Pete

NEAR

29/11/98

64537.817

100-1000 keV



NEAR GRB98333-1

ULYSSES RT

1 / 12 / 98

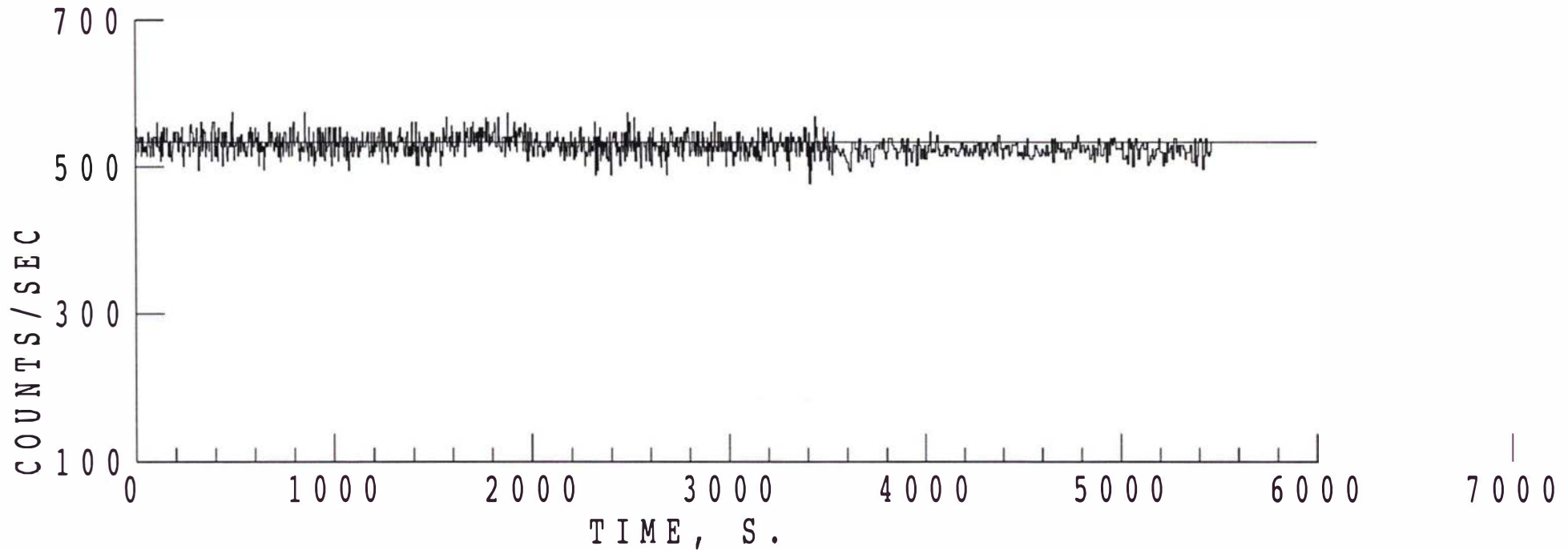
29 / 11 / 98 61812.363 s

INTERVALS REGROUPED BY 7

0 - 0 keV

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Dec 1 09:31:28 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 JAA10978; Tue, 1 Dec 1998 09:31:27 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA07185; Tue, 1 Dec 1998 09:31:25 -0800
Date: Tue, 1 Dec 1998 11:31:25 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981201113125.2023d178@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7238
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7238
EVENT OF 1998 NOV 29 DAY OF YEAR=333
EVENT CROSSING TIME AT BATSE : 56660. S. OR 15:44:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 101.000 -15.000
BATSE PEAK COUNTING RATE: 9500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/11/ 98 IS:
RA= 167.057 DEC= -5.256 DIST= 5.373 AU
BATSE-ULYSSES DISTANCE = 803768436. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.46 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1110.12 SECS.
CROSSING TIME AT ULYSSES IS 55550. S. OR 15:25:49 +/- 456.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/11/ 98 IS:
RA= 181.483 DEC= 1.193 DIST= 1.807 AU
MARS-BATSE DISTANCE = 270318784. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 98.88 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -139.12 SECS.
CROSSING TIME AT MARS IS 56521. S. OR 15:42:00 +/- 152.56 SECONDS

BATSE BURST TRIGGER

NO.: 7238

TIME: TJD=1146 SECONDS=56660

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=162.6 AZIMUTH=131.5 ERROR=4.5 DEGREES

COMMENTS:

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

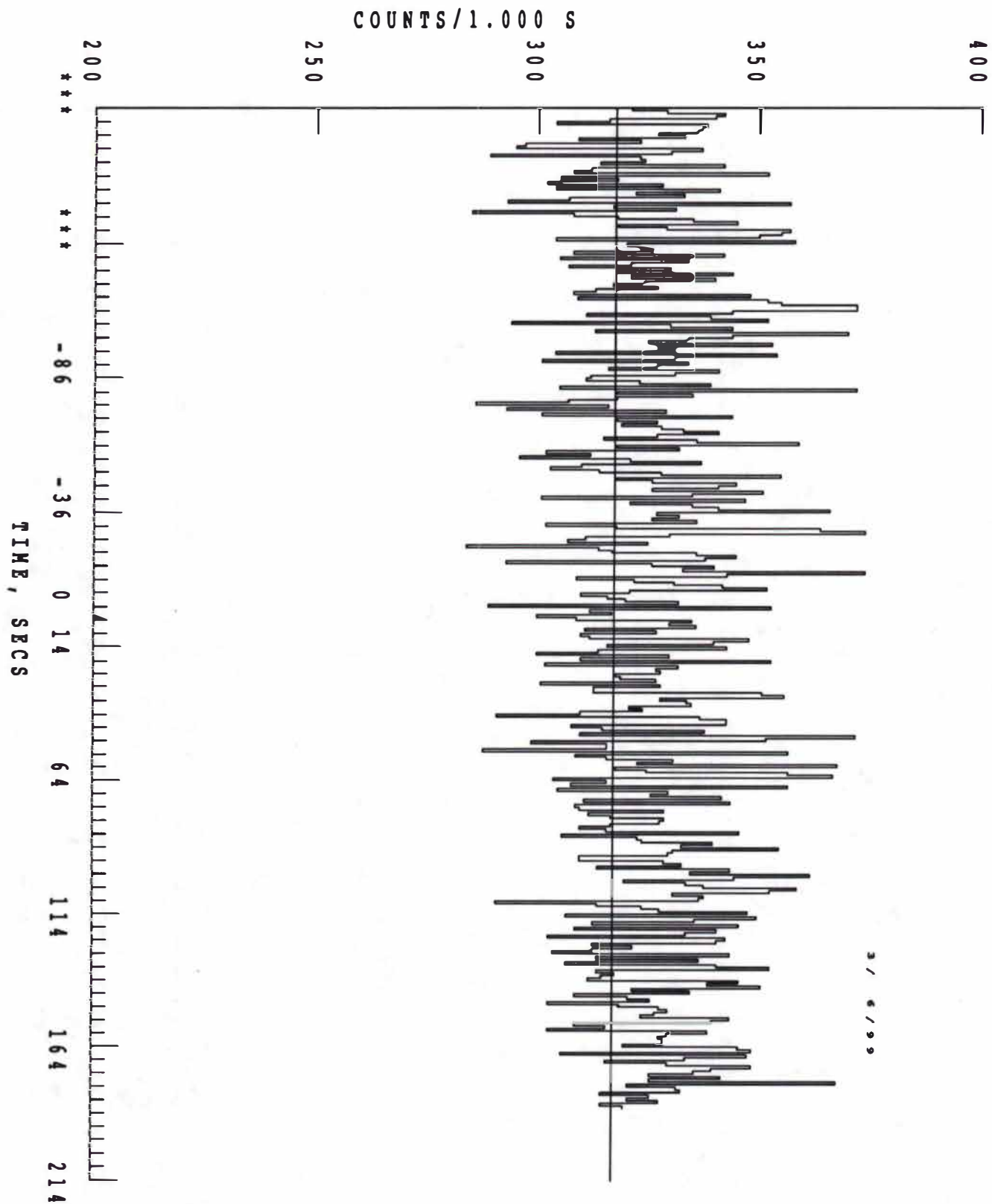
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7238	981129	11146	56660	9500	101	-15	.5

NEAR

29/11/98

57601.992

100-1000 keV



BATSE BURST# 7238

ULYSSES RT

1 / 12 / 98

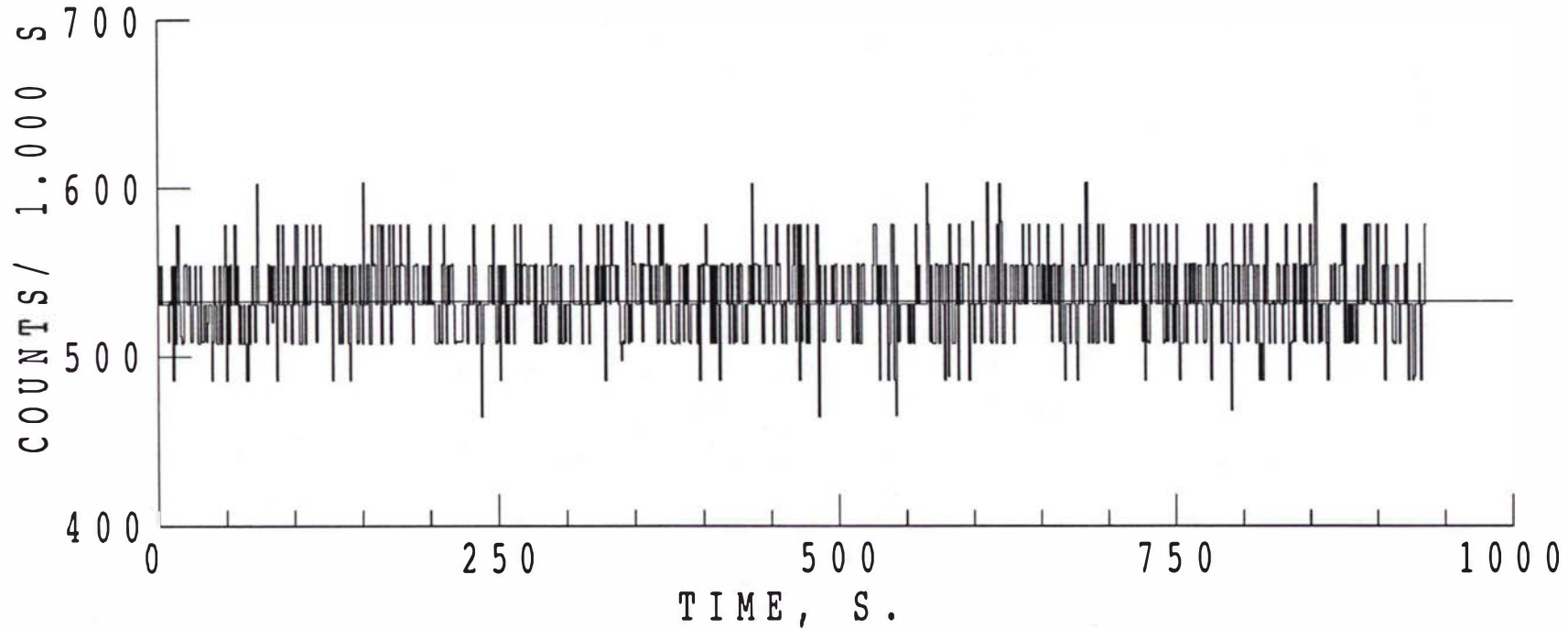
29/11/98 55080.297 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

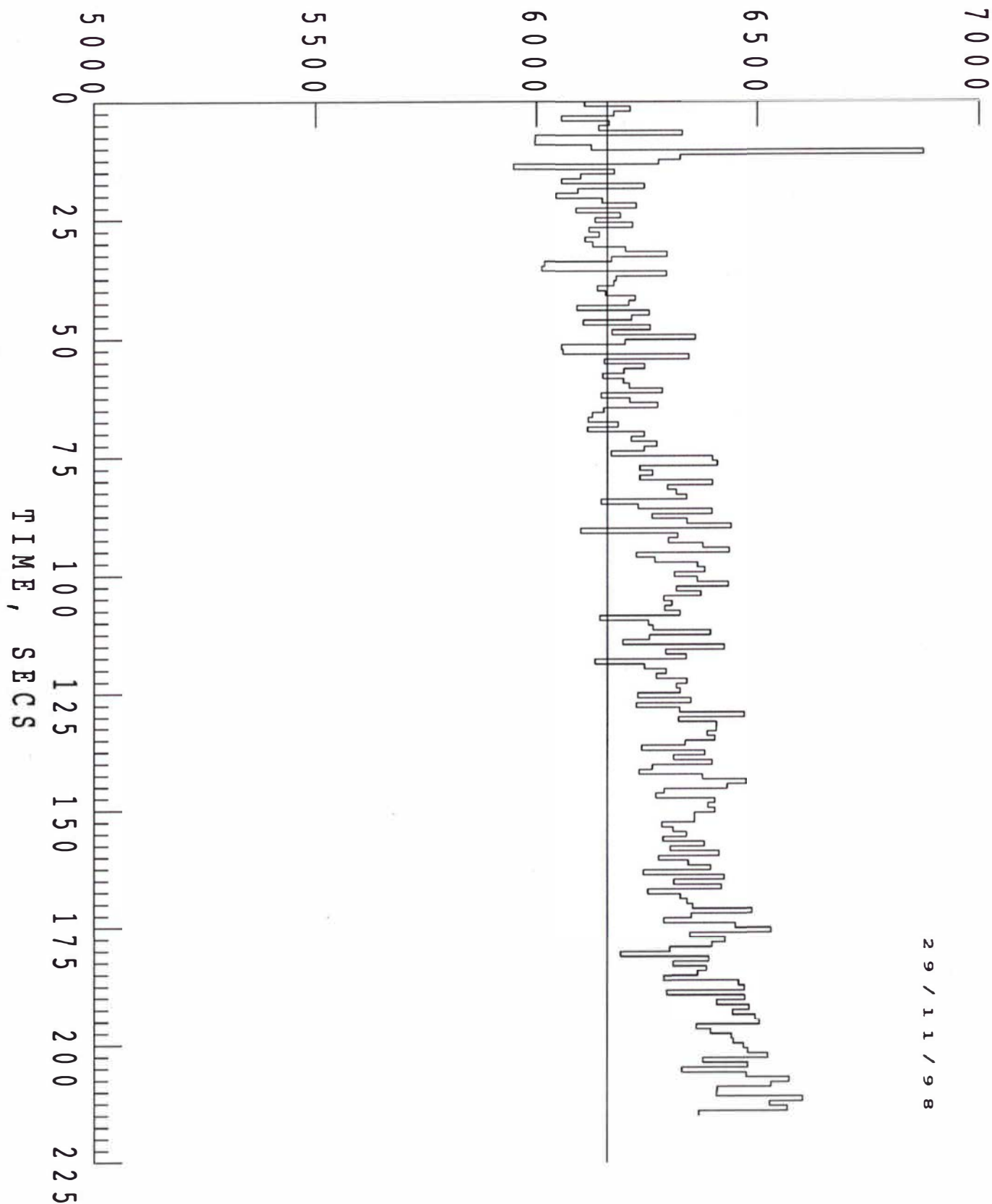
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7238 29/11/98 56650.465

25 - 100 keV

COUNTS/1.024 S



29 / 11 / 98

From RICHARDSON@fender.msfc.nasa.gov Tue Dec 1 07:57:20 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 1 Dec 1998 9:56:55 -0600 (CST)

To: burst@compel.sr.unh.edu, grobad@estsa2.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.: 7239

TIME: TJD=1146 SECONDS=84508

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

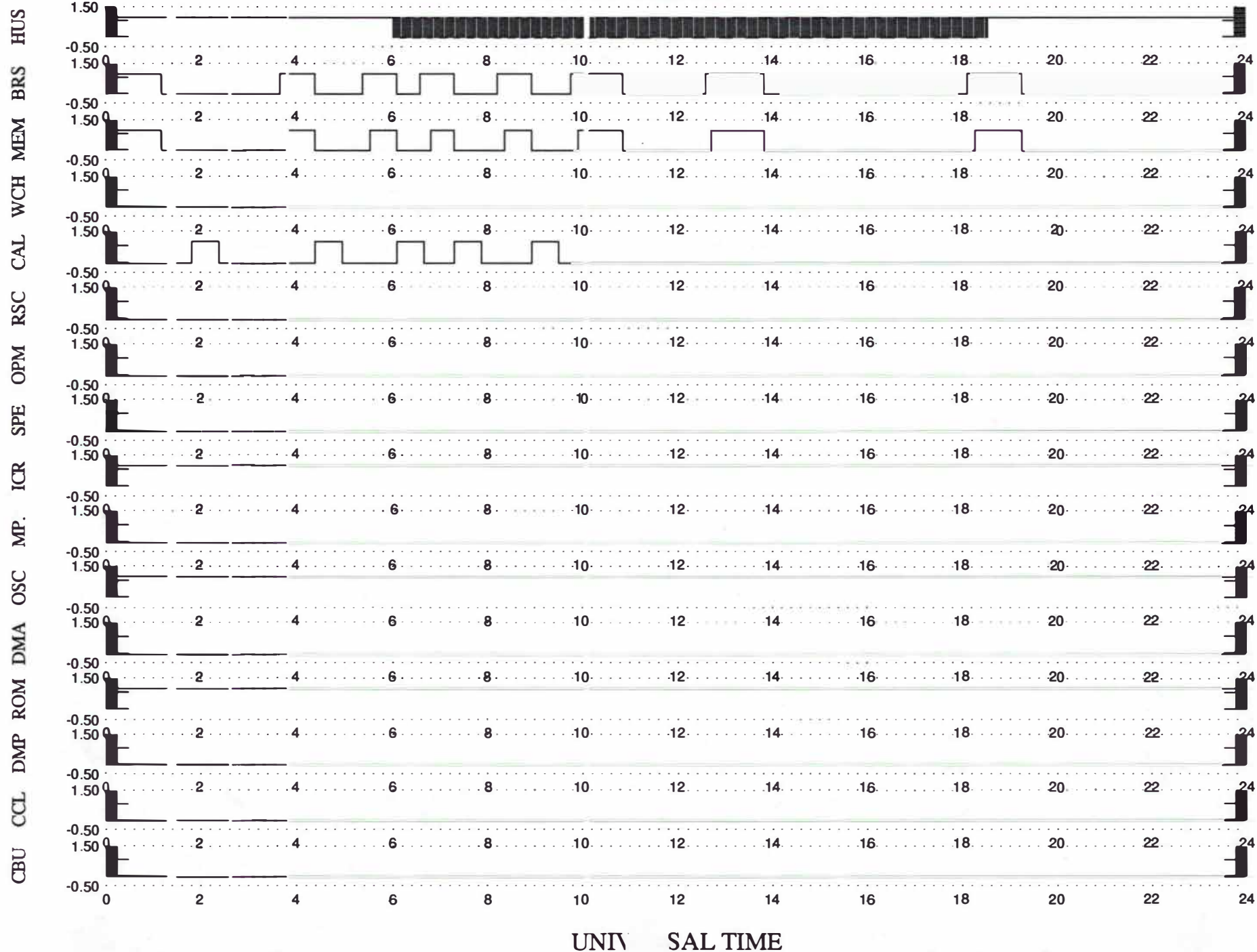
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

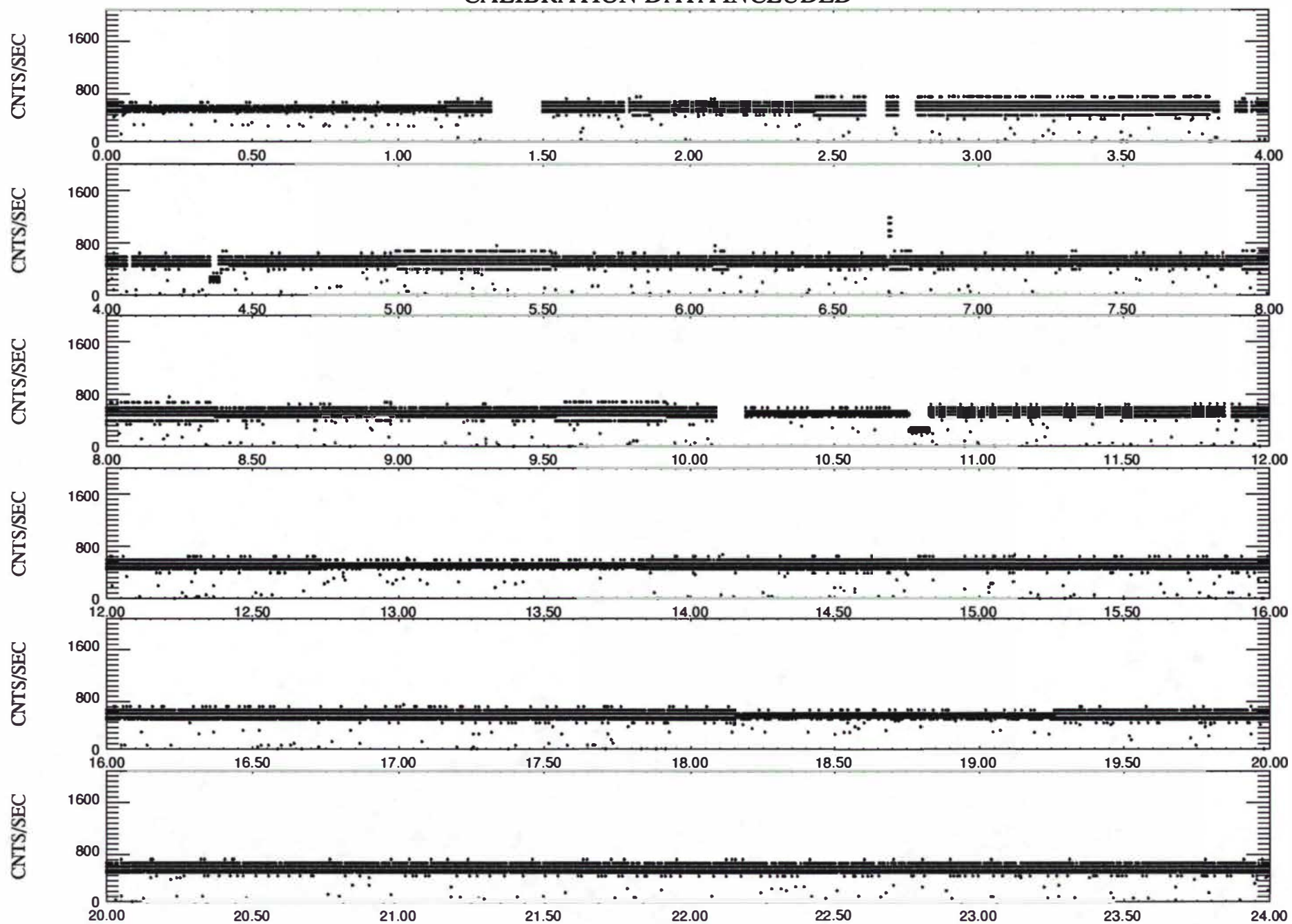
COMMENTS:

SAA ENTRY

BURST NUMBER 1 - 7

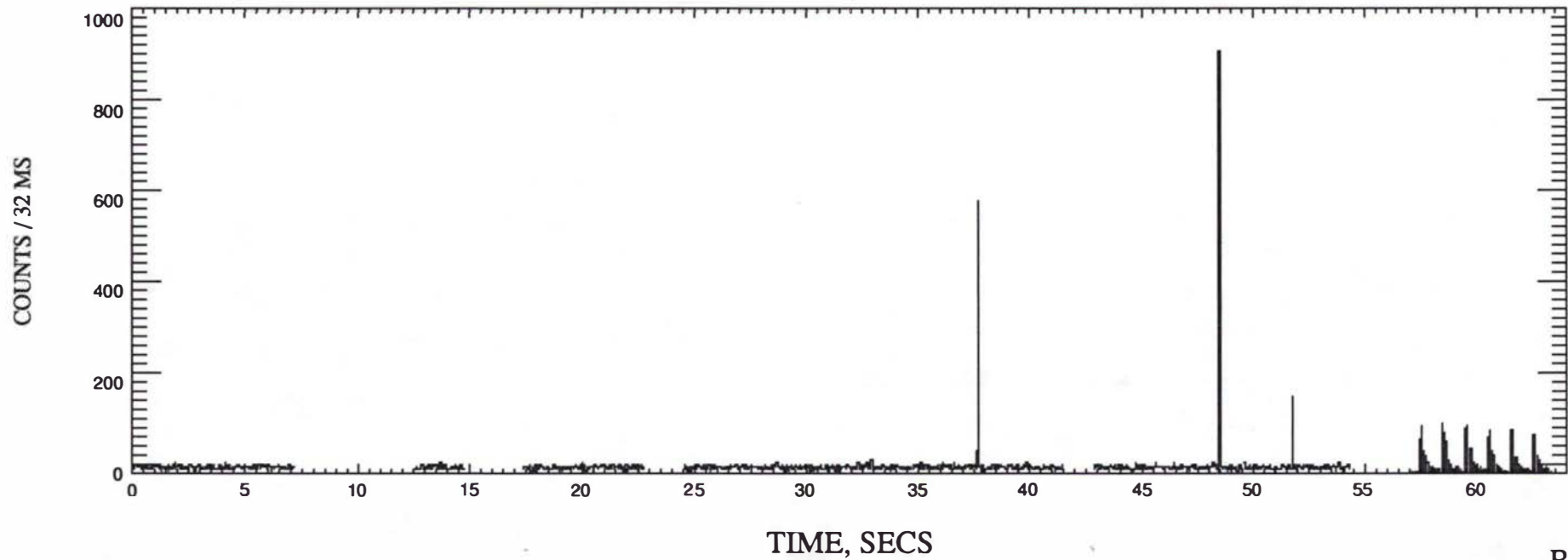
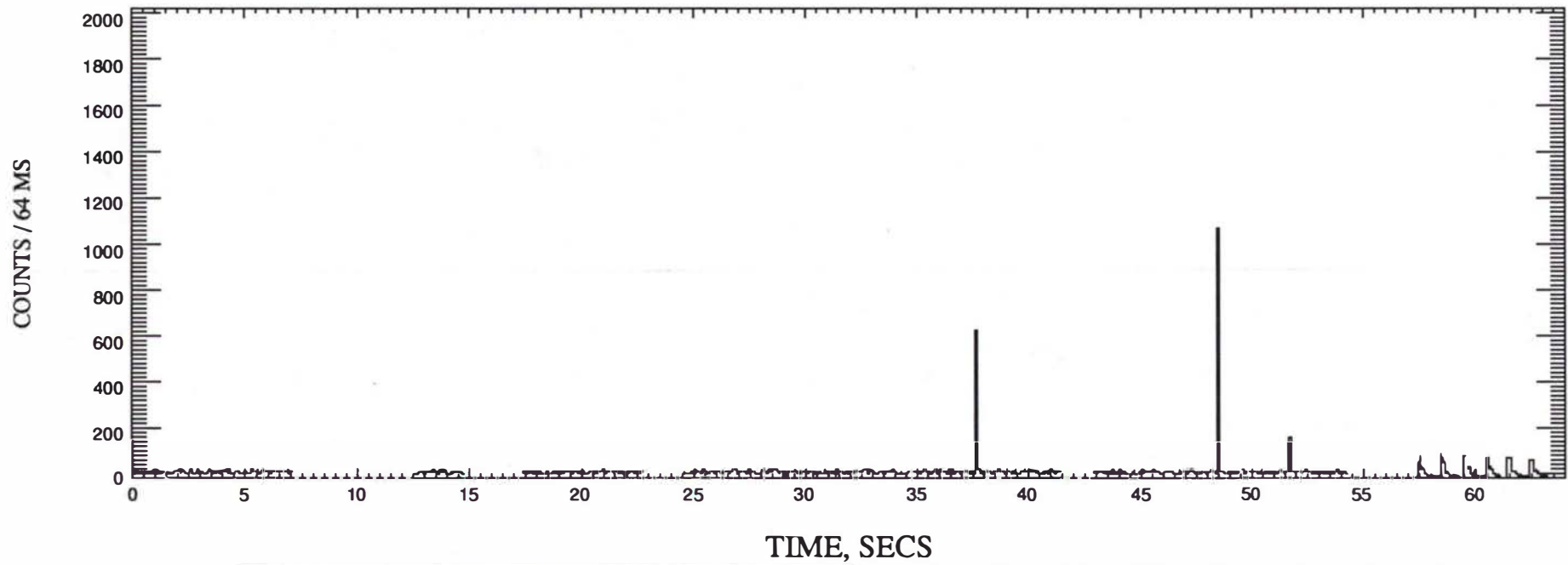


CALIBRATION DATA INCLUDED

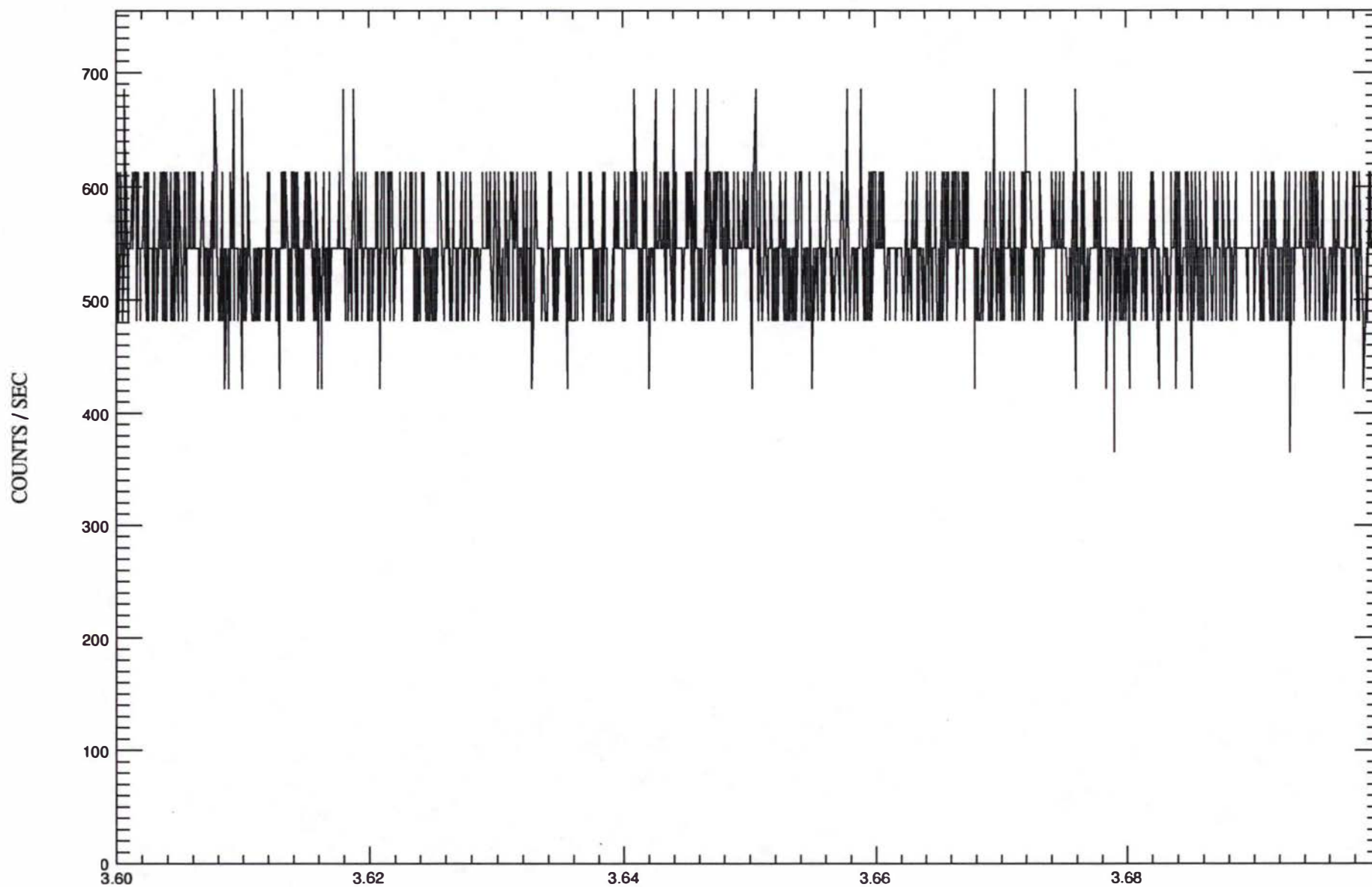


UNIV SAL TIME

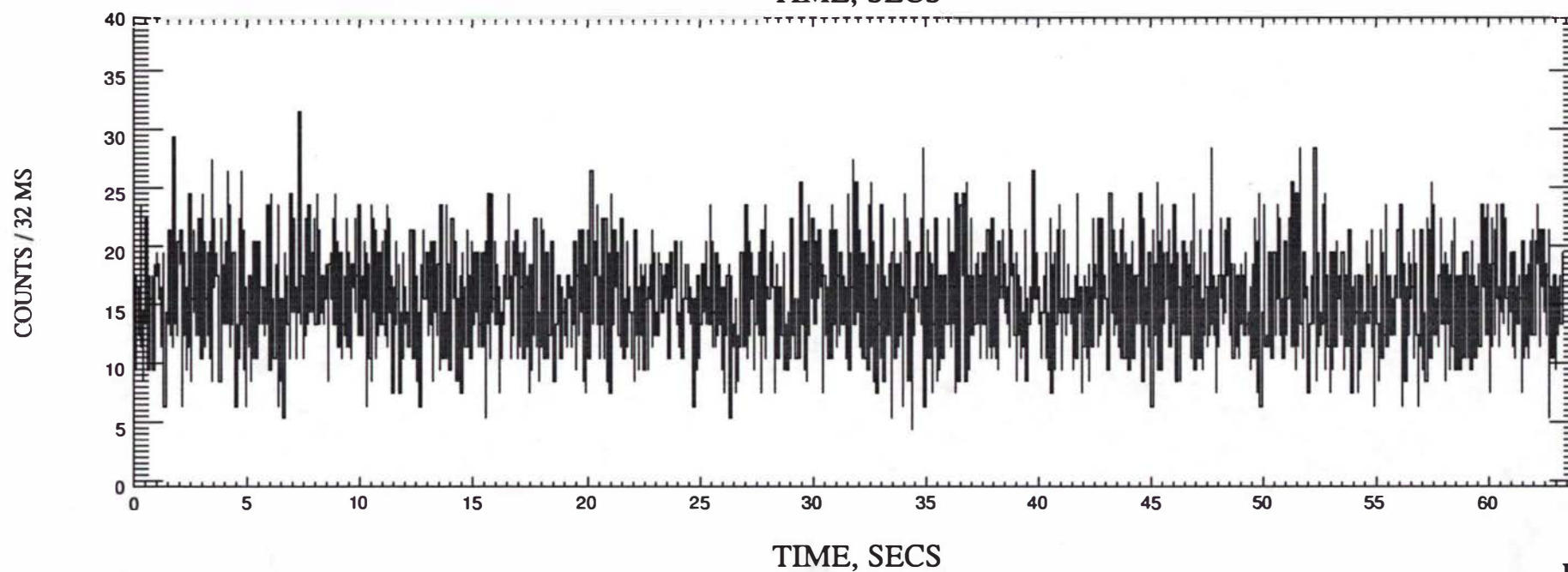
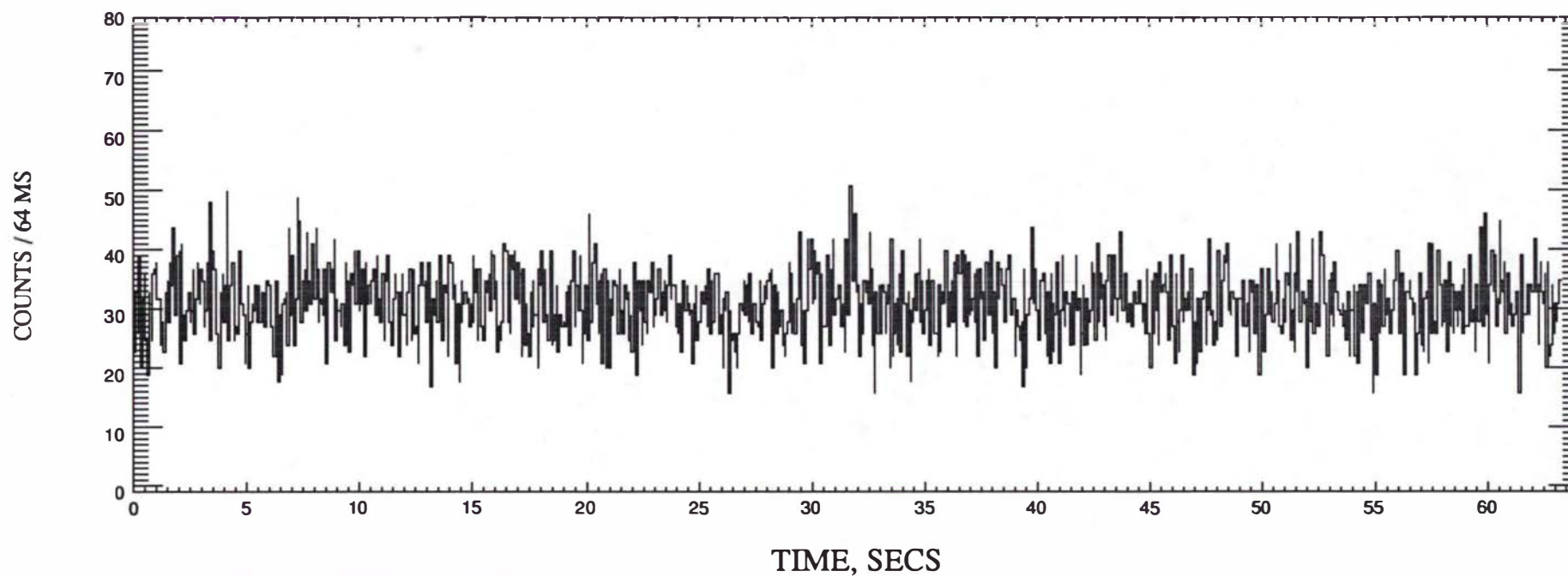
Burst Counter 1 at UT= 3.649787360297 h=13139.234 s 03:38:59.234



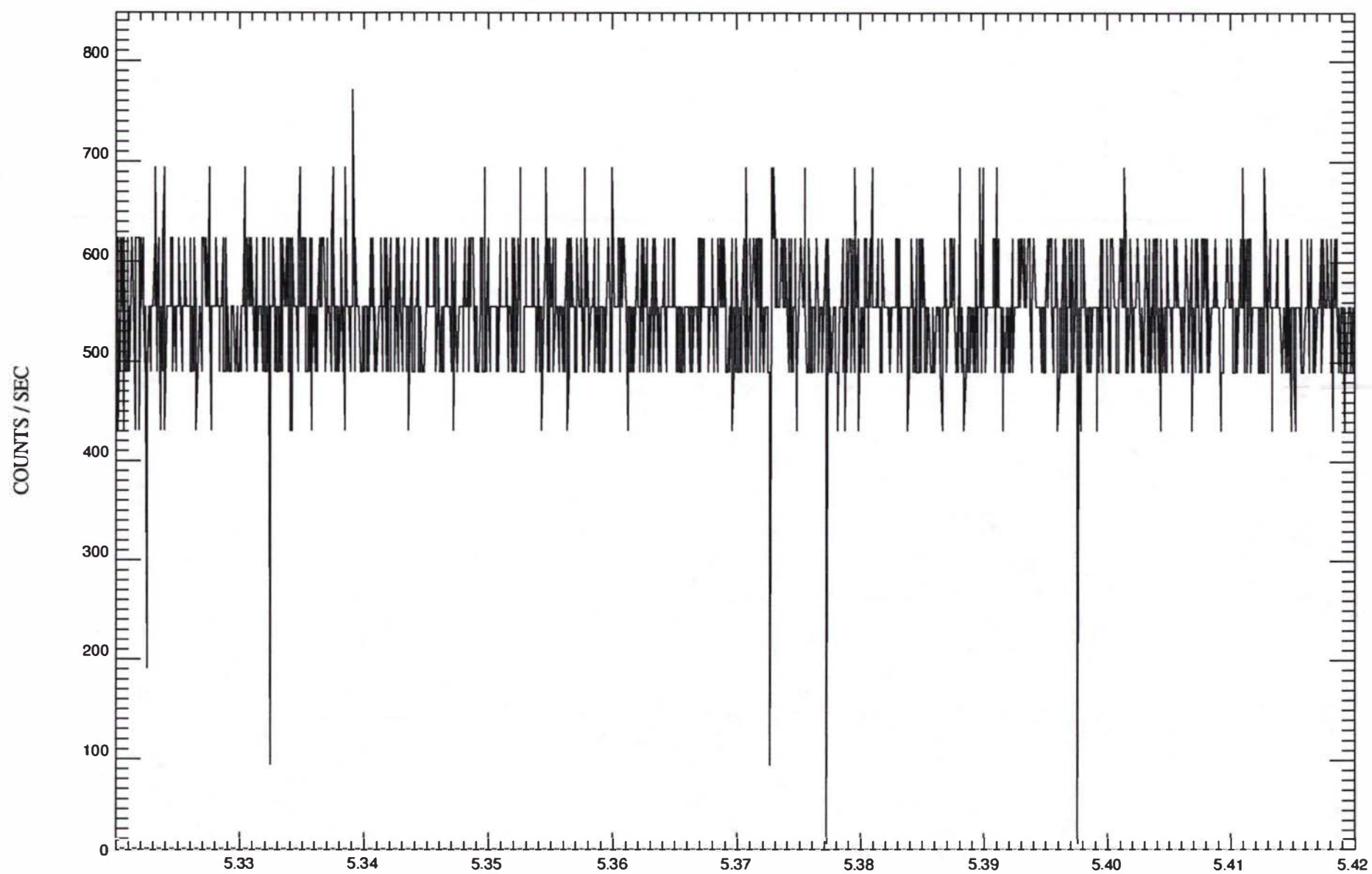
CALIBRATION DATA INCLUDED



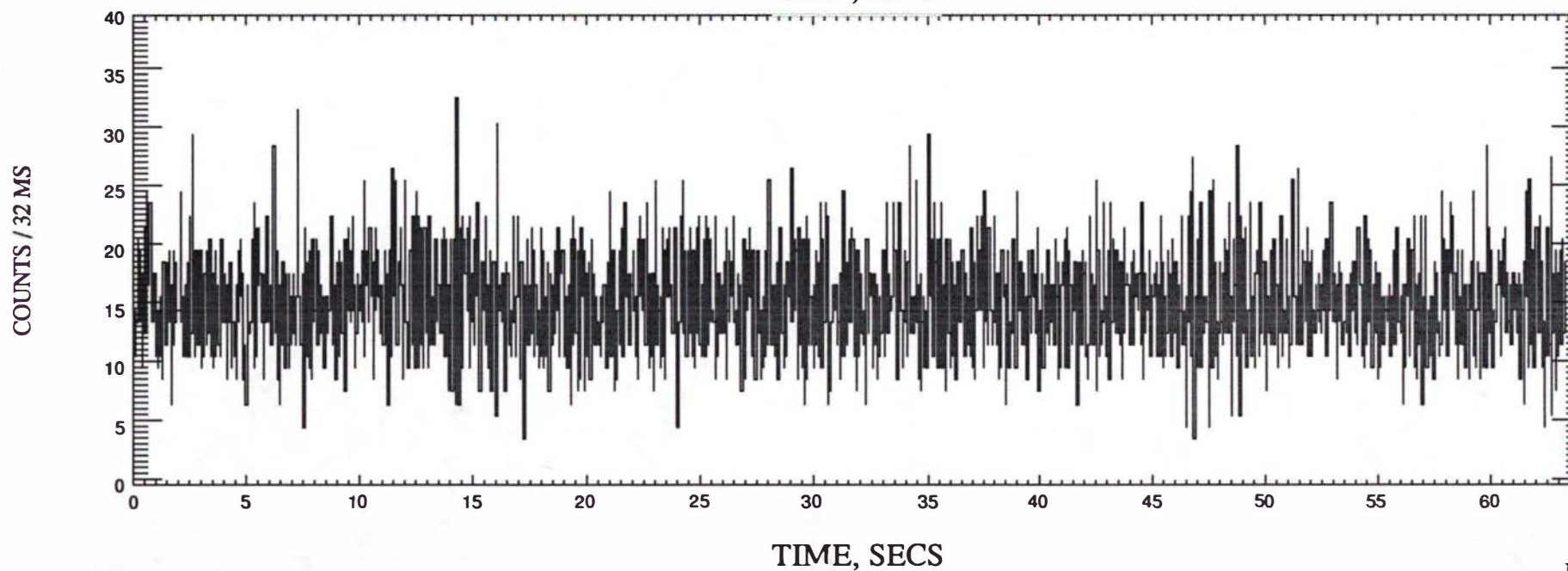
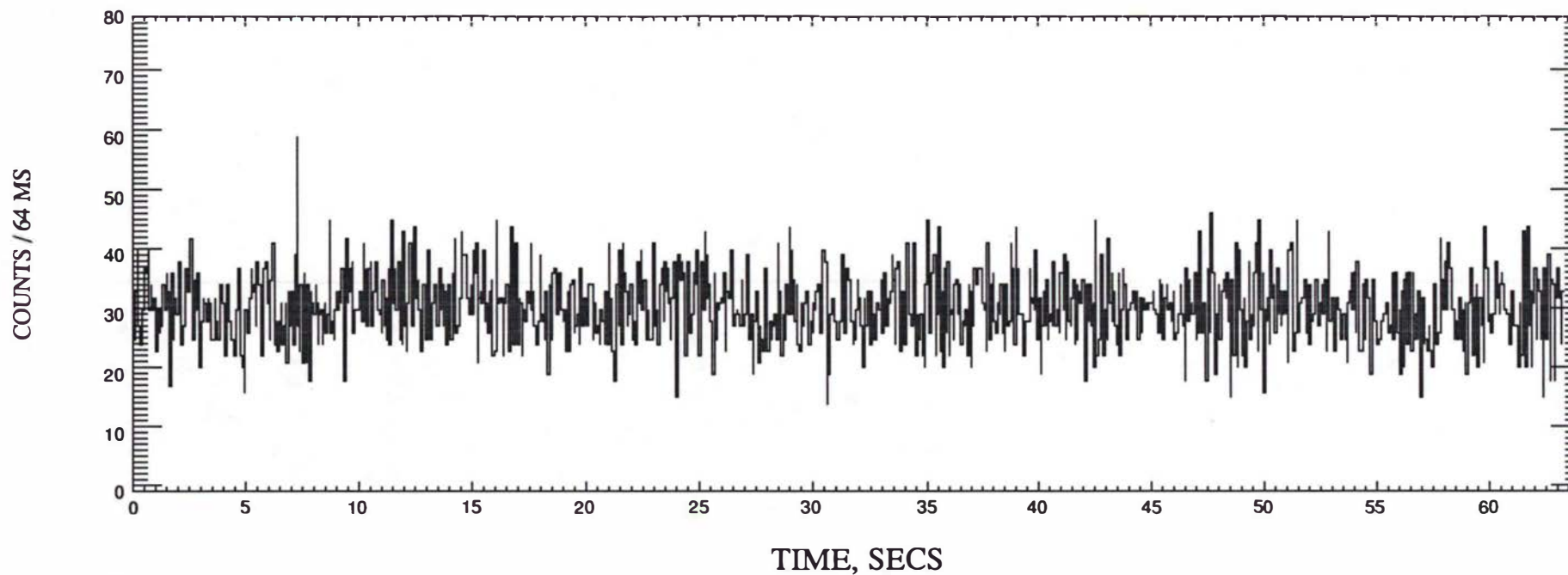
Burst Counter 2 at UT= 5.372931654188 h=19342.554 s 05:22:22.554



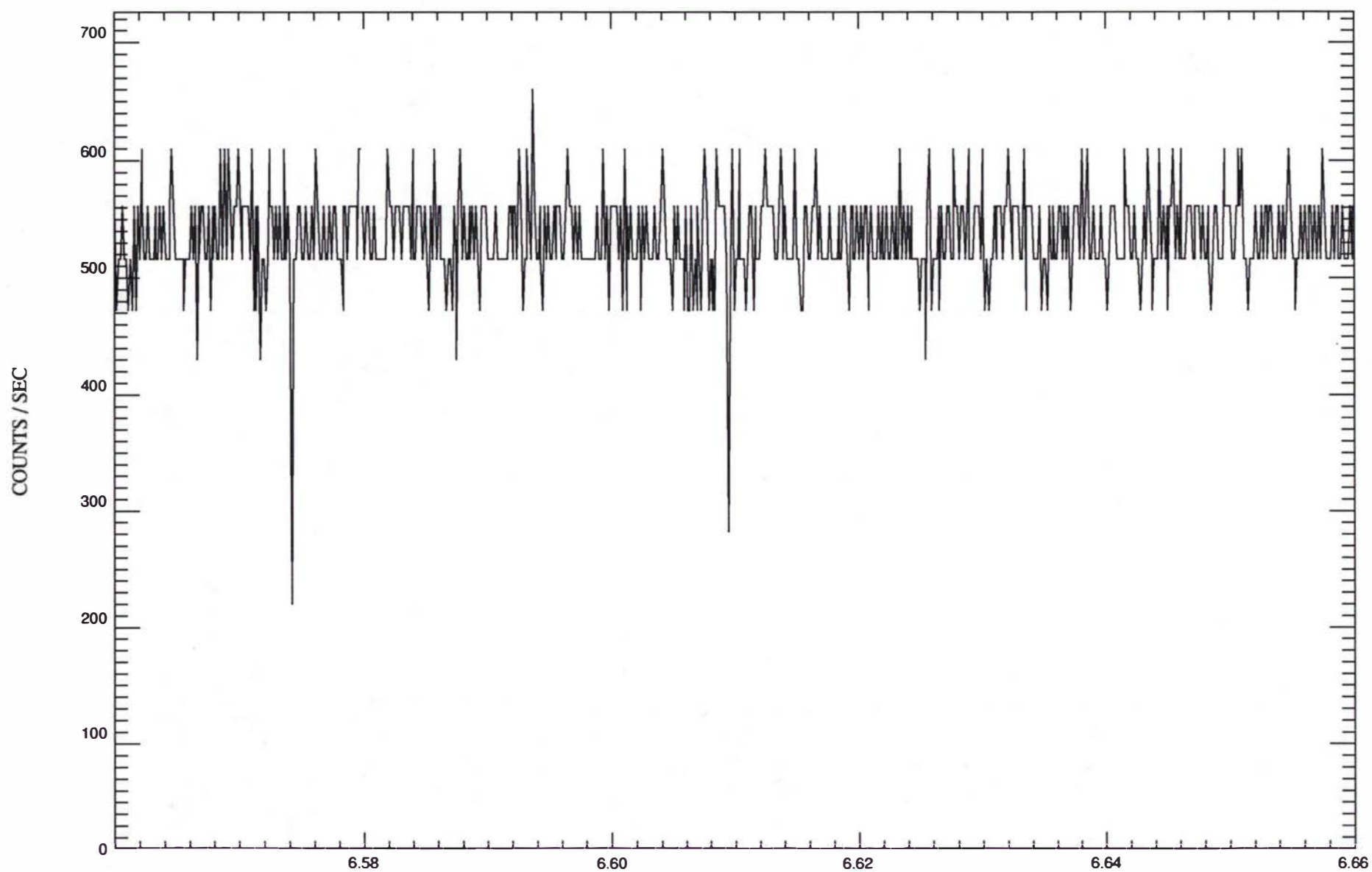
CALIBRATION DATA INCLUDED



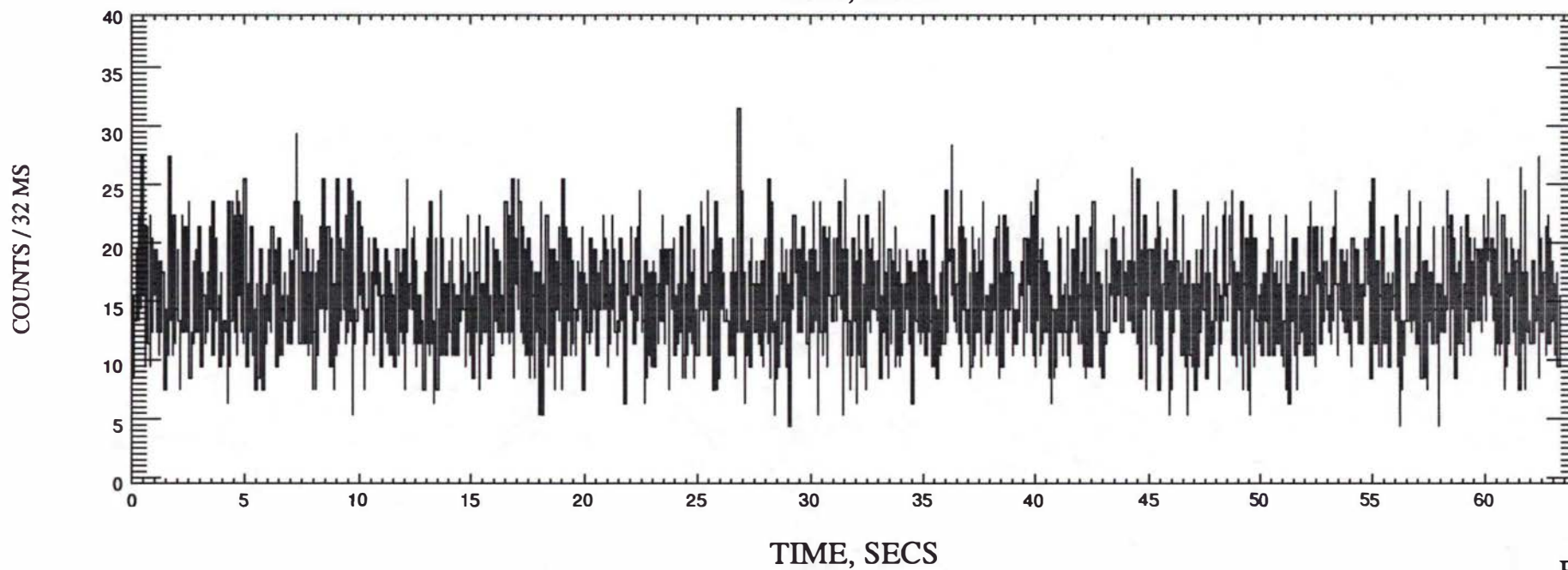
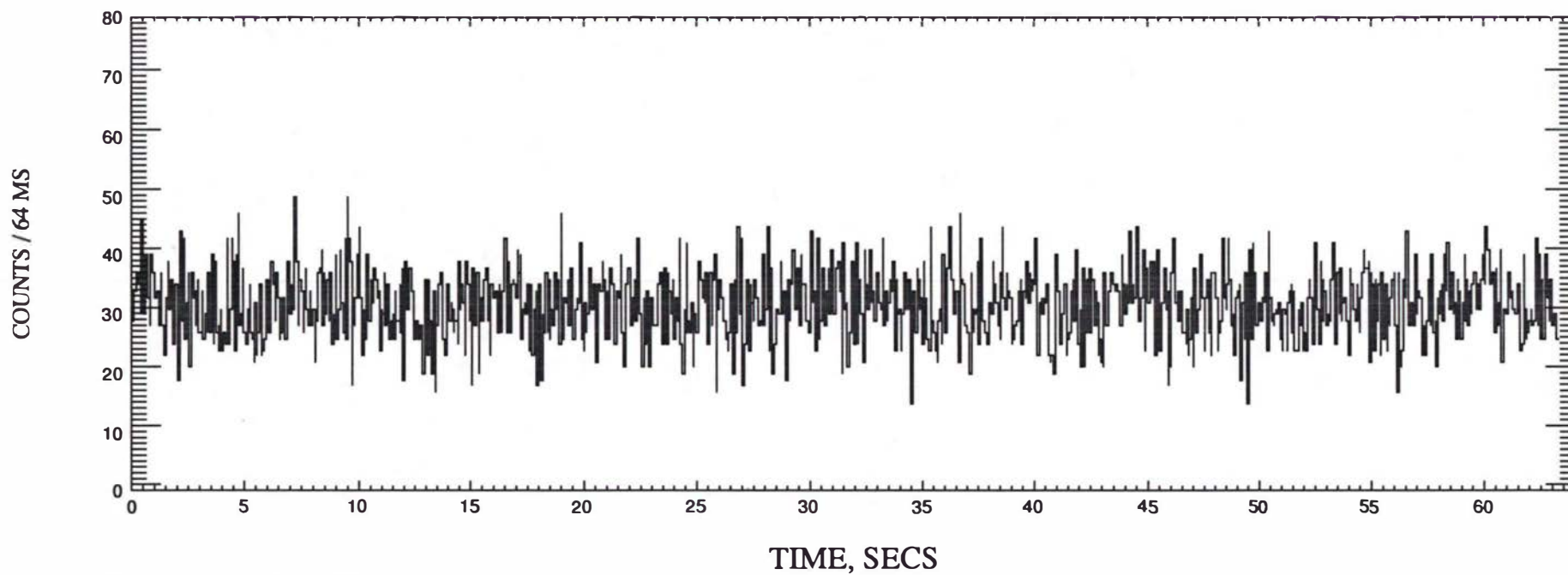
Burst Counter 3 at UT= 6.611761317783 h=23802.341 s 06:36:42.341



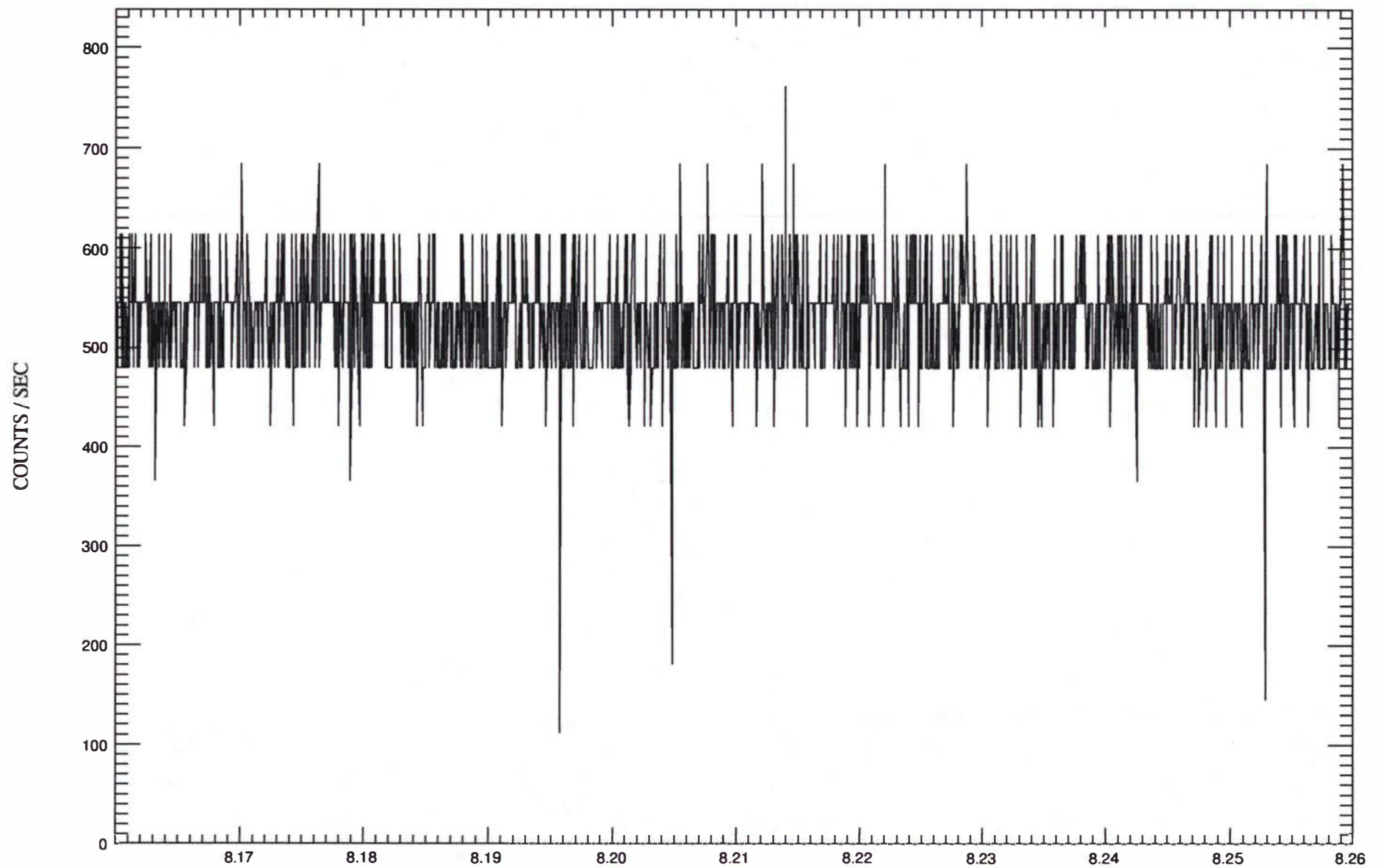
CALIBRATION DATA INCLUDED



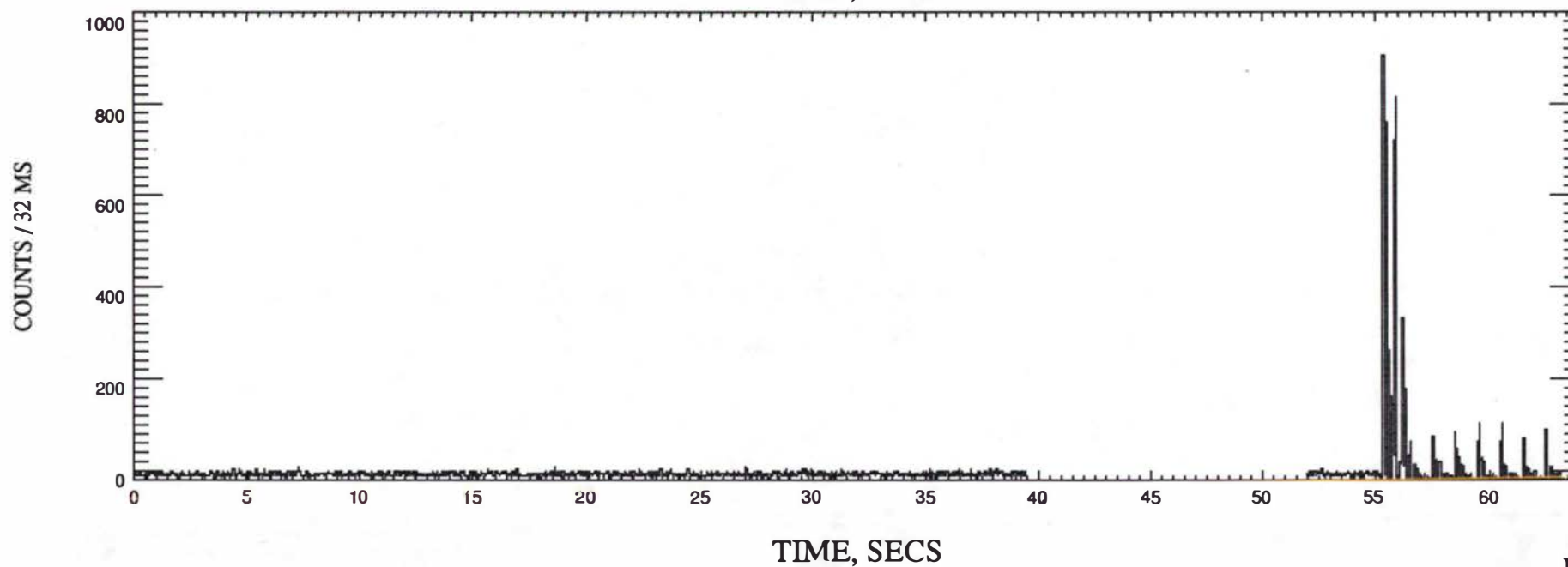
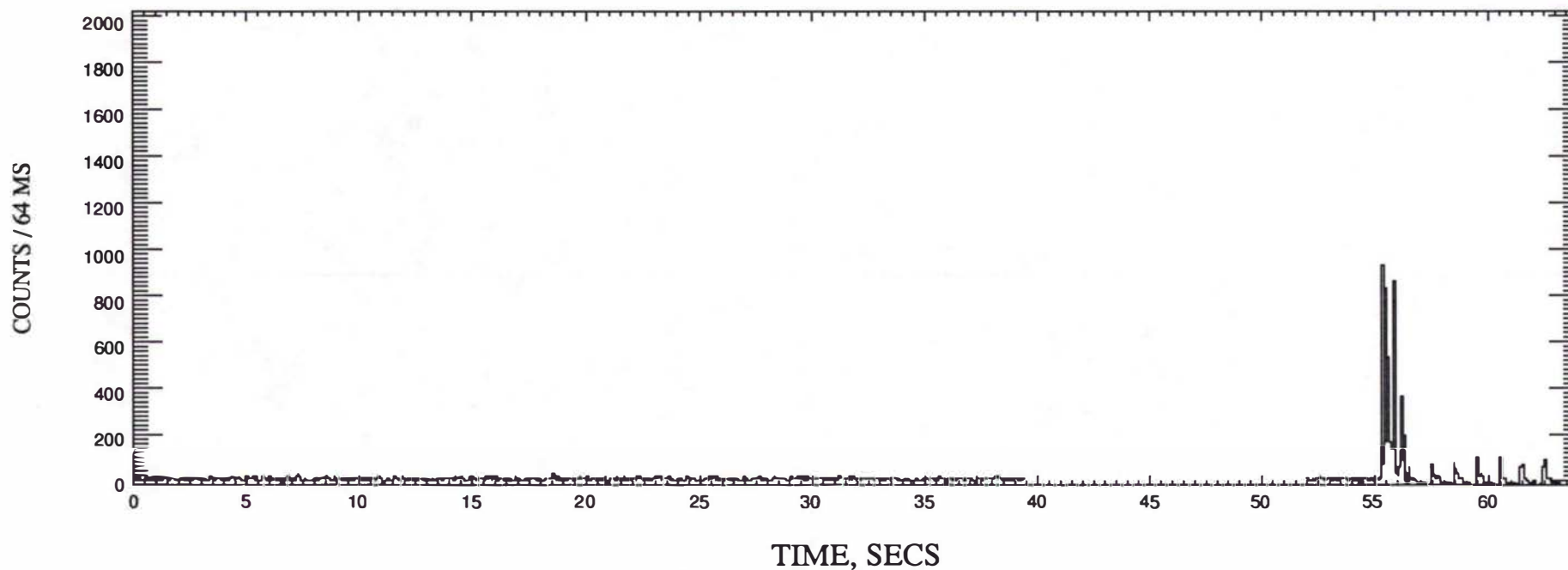
Burst Counter 4 at UT= 8.214173910353 h=29571.026 s 08:12:51.026



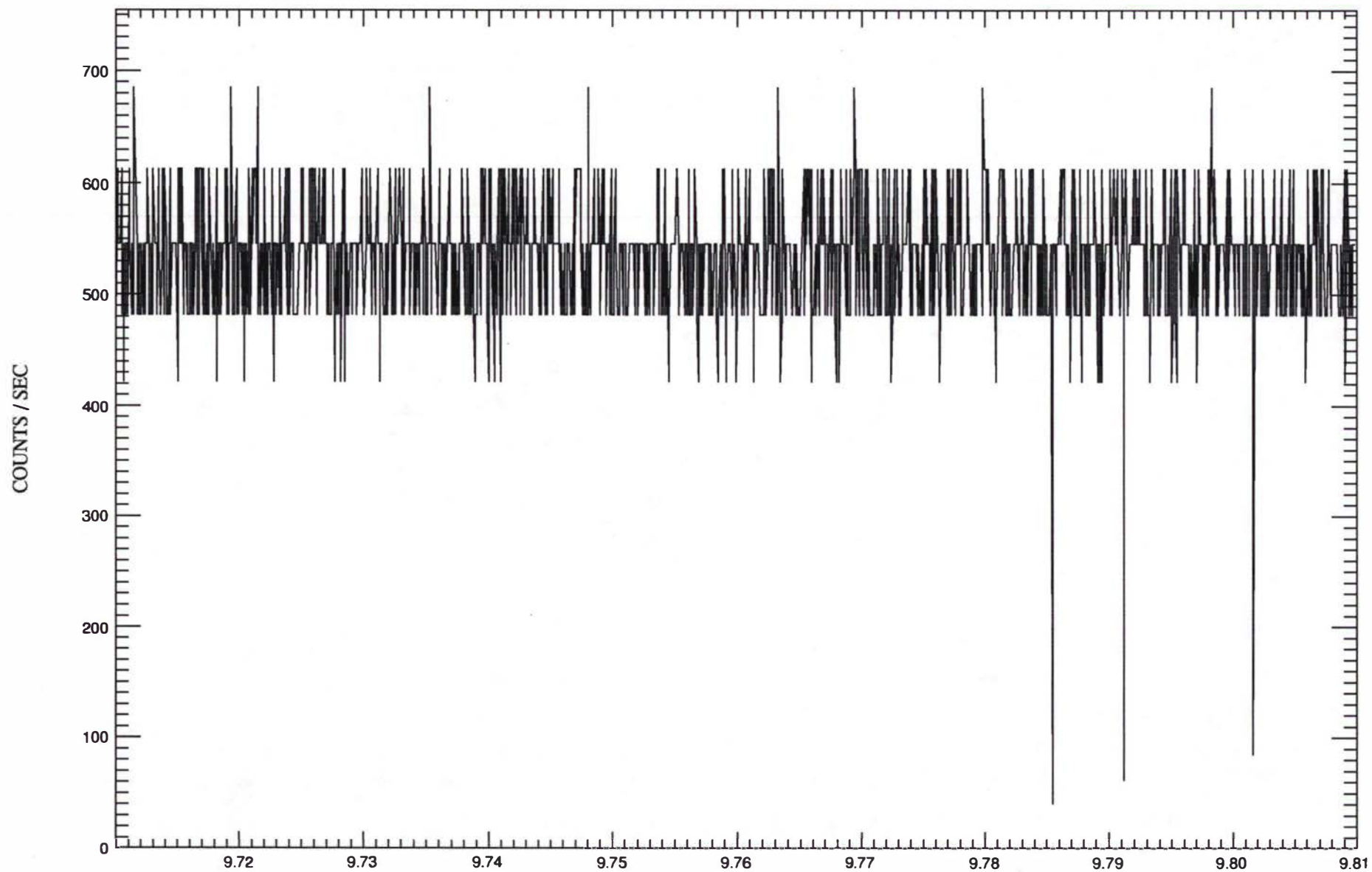
CALIBRATION DATA INCLUDED



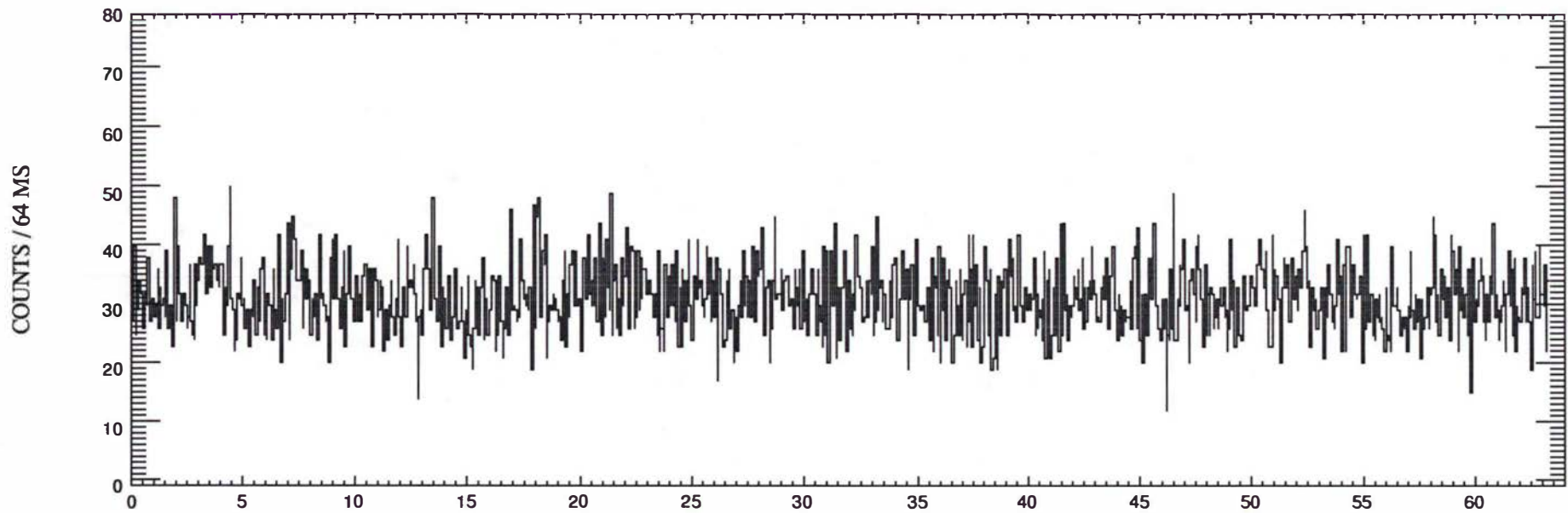
Burst Counter 5 at UT= 9.763393499586 h=35148.217 s 09:45:48.217



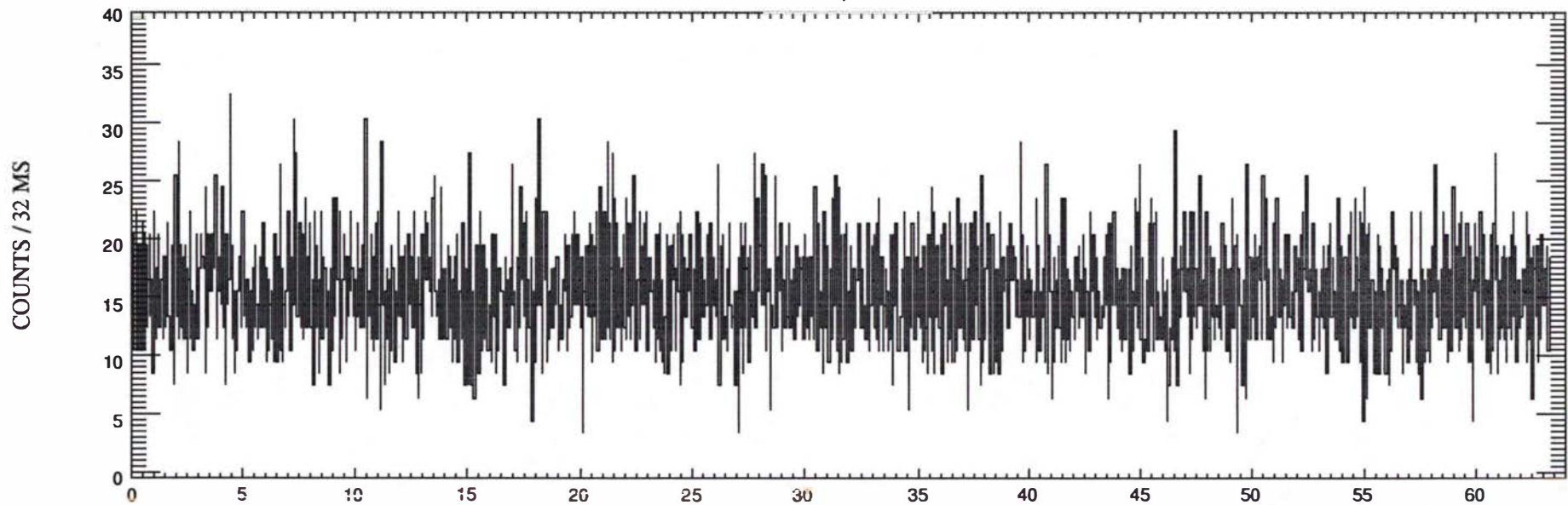
CALIBRATION DATA INCLUDED



Burst Counter 6 at UT=12.582134662204 h=45295.685 s 12:34:55.685

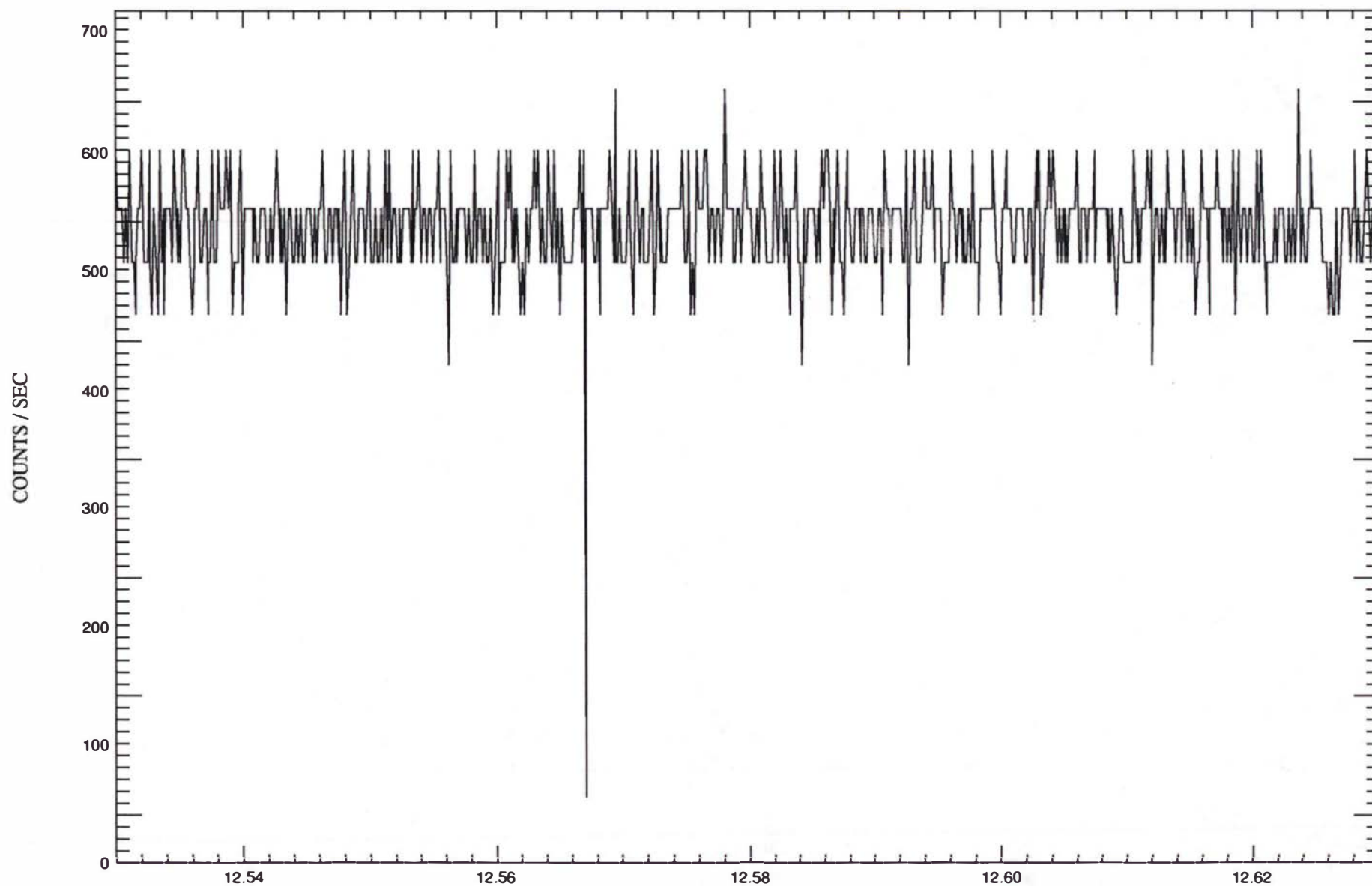


TIME, SECS

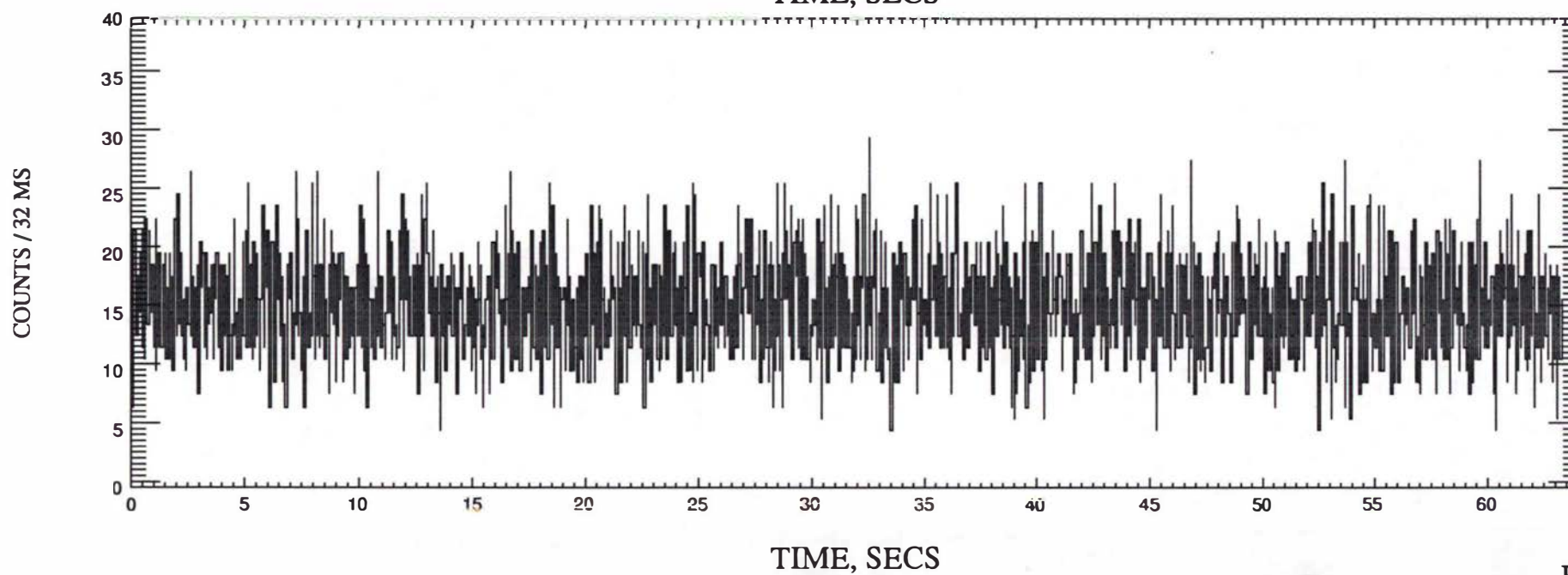
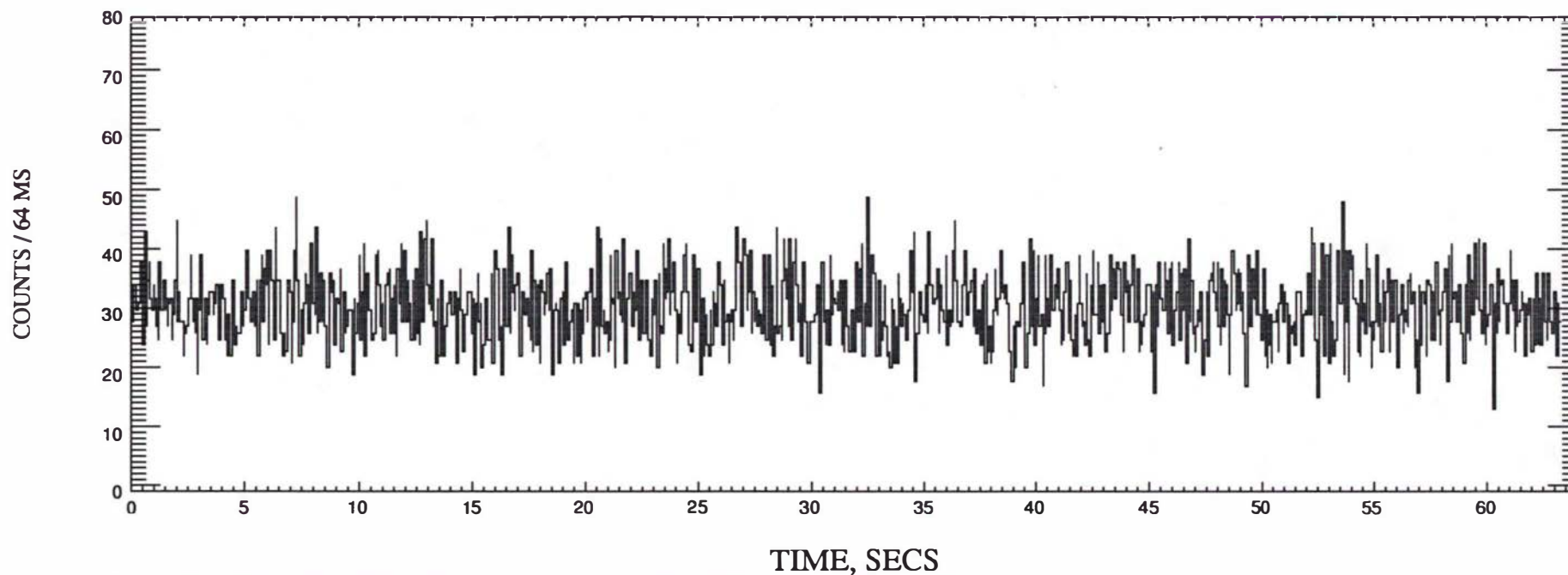


TIME, SECS

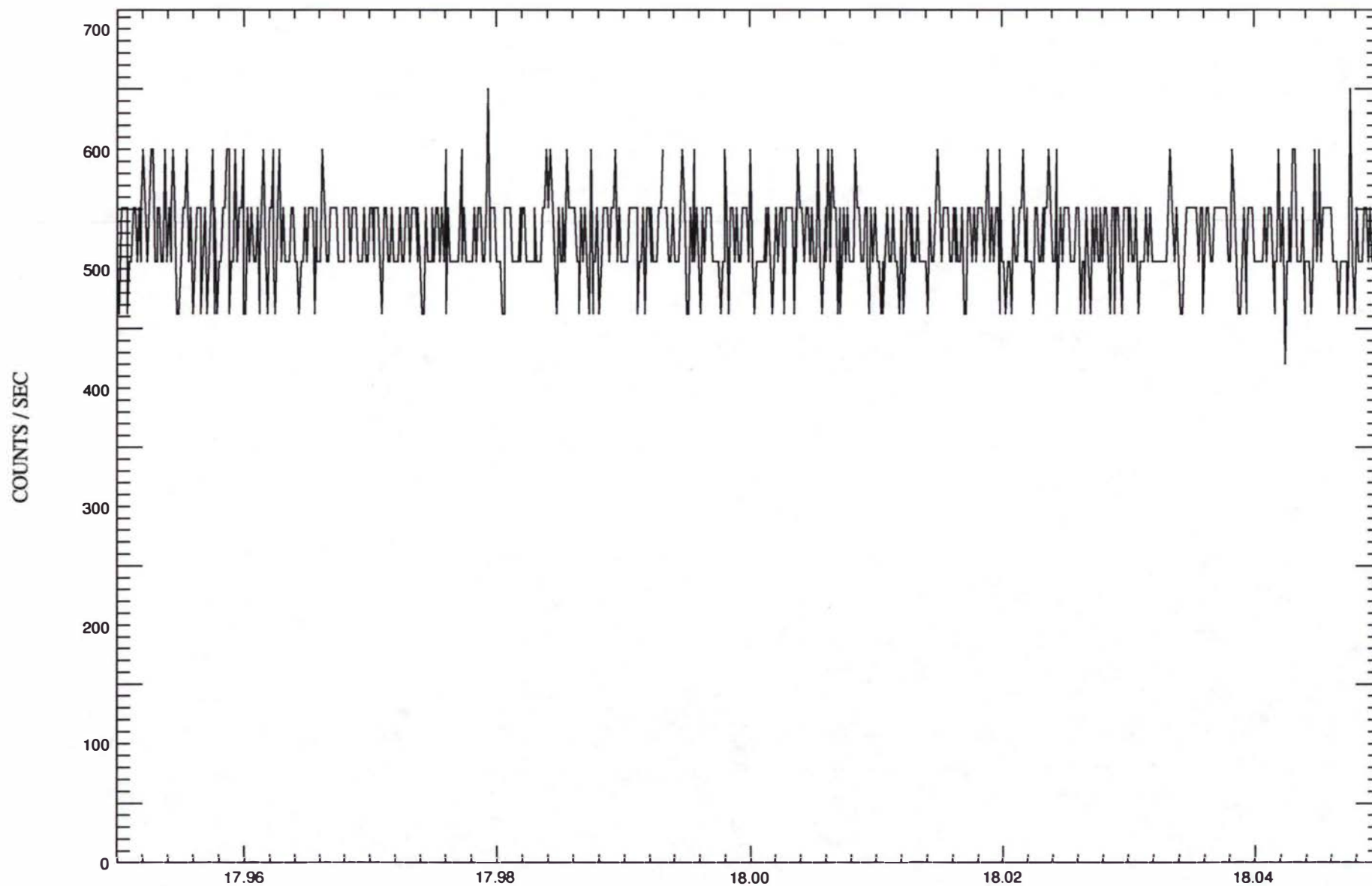
CALIBRATION DATA INCLUDED

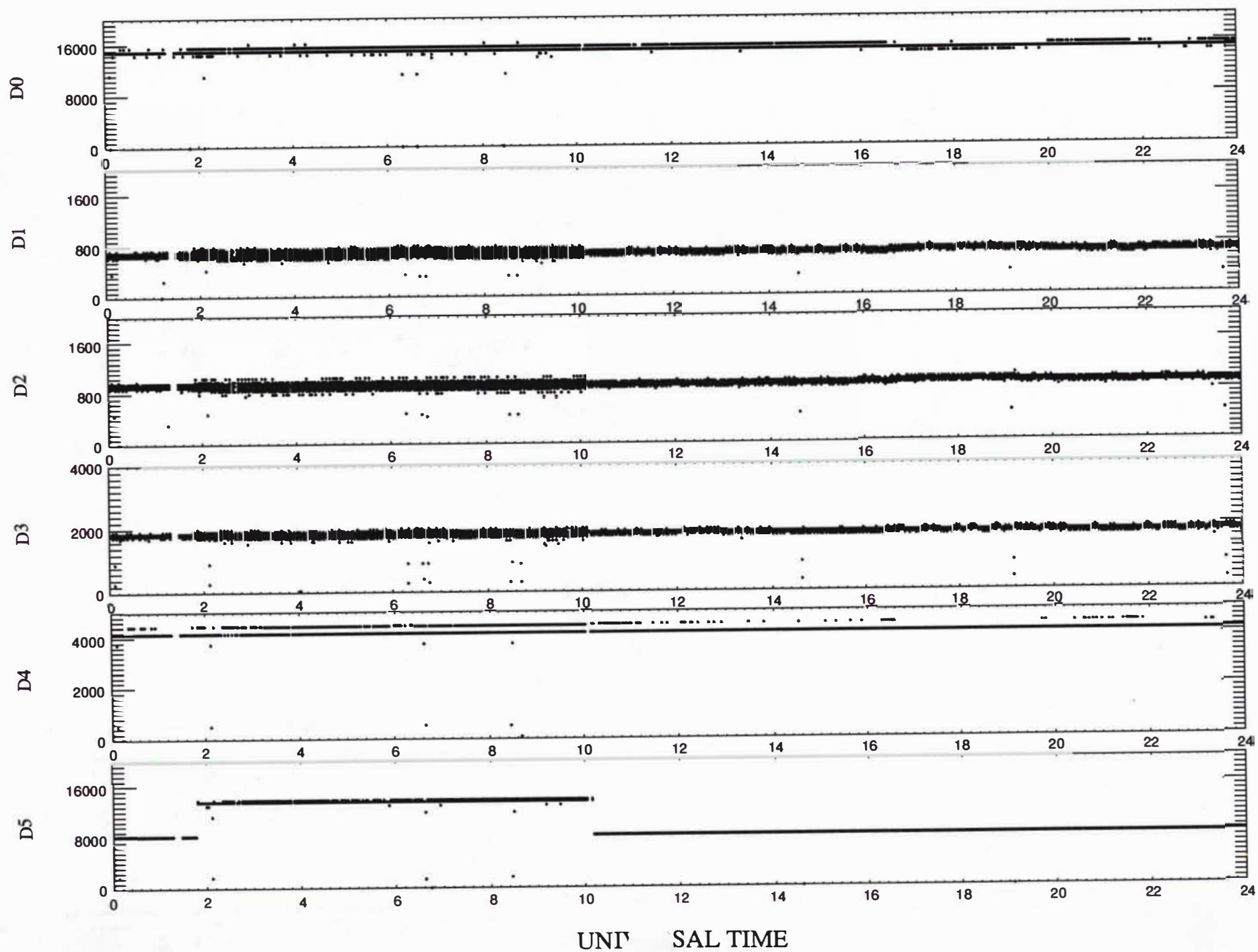


Burst Counter 7 at UT=17.998615108066 h=64795.014 s 17:59:55.014



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Fri Dec 4 09:34:04 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 JAA21796; Fri, 4 Dec 1998 09:34:04 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA16503; Fri, 4 Dec 1998 09:34:02 -0800
Date: Fri, 4 Dec 1998 11:34:02 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <981204113402.20242753@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7240
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7240
EVENT OF 1998 NOV 30 DAY OF YEAR=334
EVENT CROSSING TIME AT BATSE : 3184. S. OR 00:53:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 349.000 -13.000
BATSE PEAK COUNTING RATE: 40600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/11/ 98 IS:
RA= 167.063 DEC= -5.292 DIST= 5.366 AU
BATSE-ULYSSES DISTANCE = 802772031. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 18.39 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2540.97 SECS.
CROSSING TIME AT ULYSSES IS 5725. S. OR 01:35:24 +/- 235.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/11/ 98 IS:
RA= 181.997 DEC= 0.977 DIST= 1.798 AU
MARS-BATSE DISTANCE = 268978464. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 17.62 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 855.14 SECS.
CROSSING TIME AT MARS IS 4039. S. OR 01:07:19 +/- 60.13 SECONDS

BATSE BURST TRIGGER

NO.: 7240

TIME: TJD=1147 SECONDS=3184

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=55.5 AZIMUTH=143.0 ERROR=0.87 DEGREES

COMMENTS:

GRB. TRIPLE PULSE. DURATION ABOUT 4 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7240	981130	11147	03184	40600	349	-13	4

Date: Feb 16 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ BATSE >100 keV data used for NEAR correlation?
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

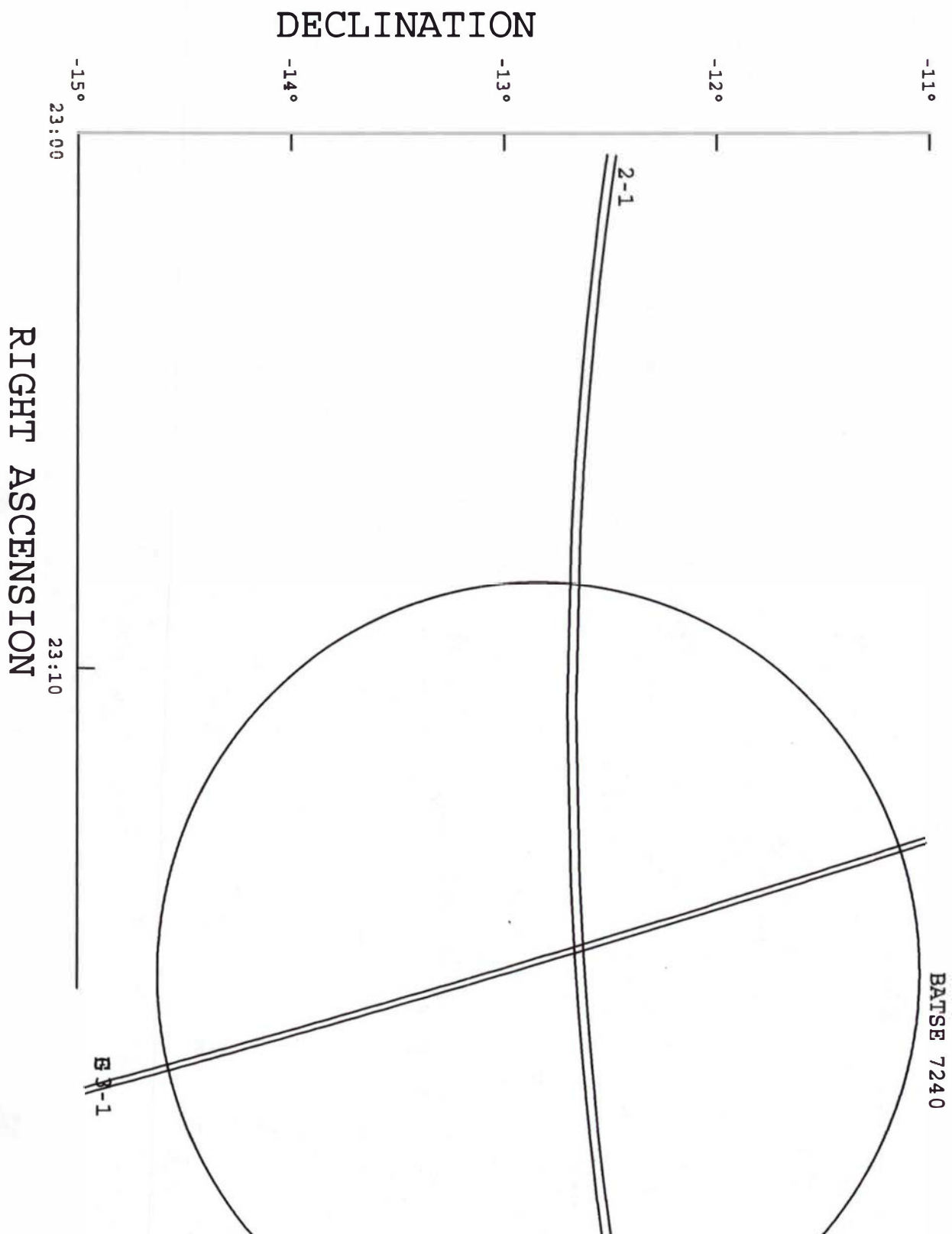
1 BATSE

2 ULYSSES

3 NRAR

EVENT OF NOV 30, 1998 0:53

16 / 2 / 0



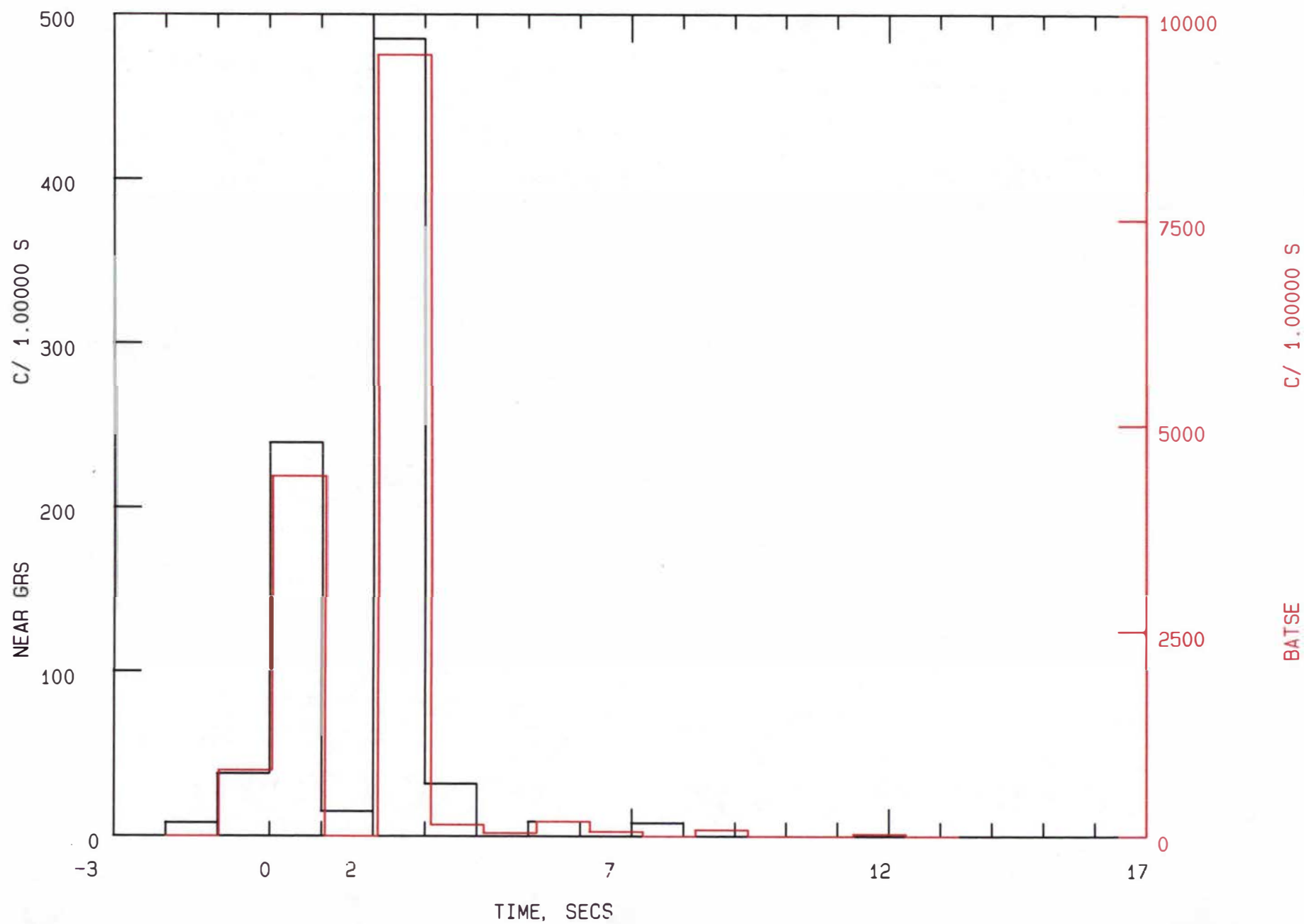
NEAR GRS -BATSE

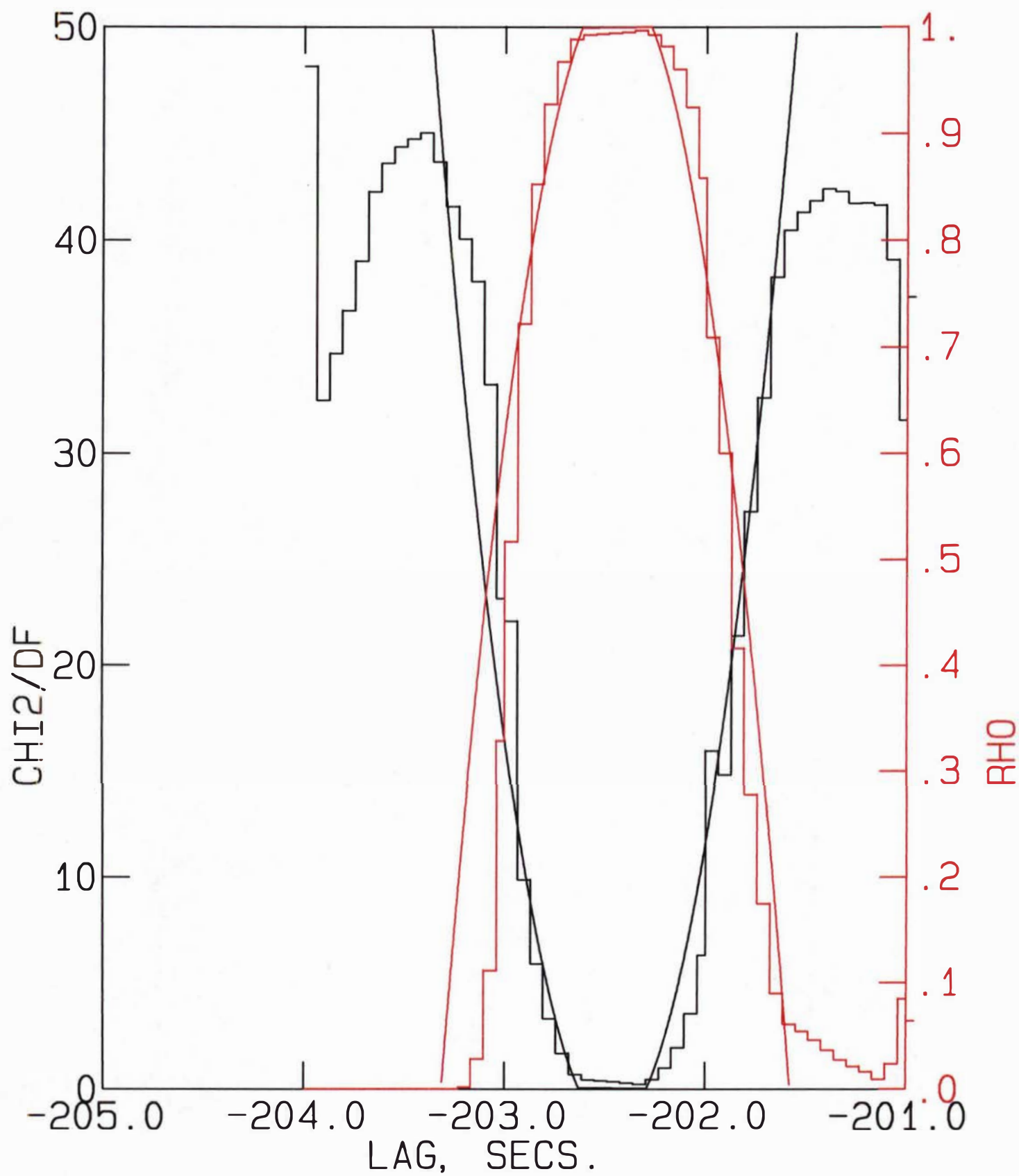
CORRELATION

30/11/98

2502.984

16/ 2/ 0





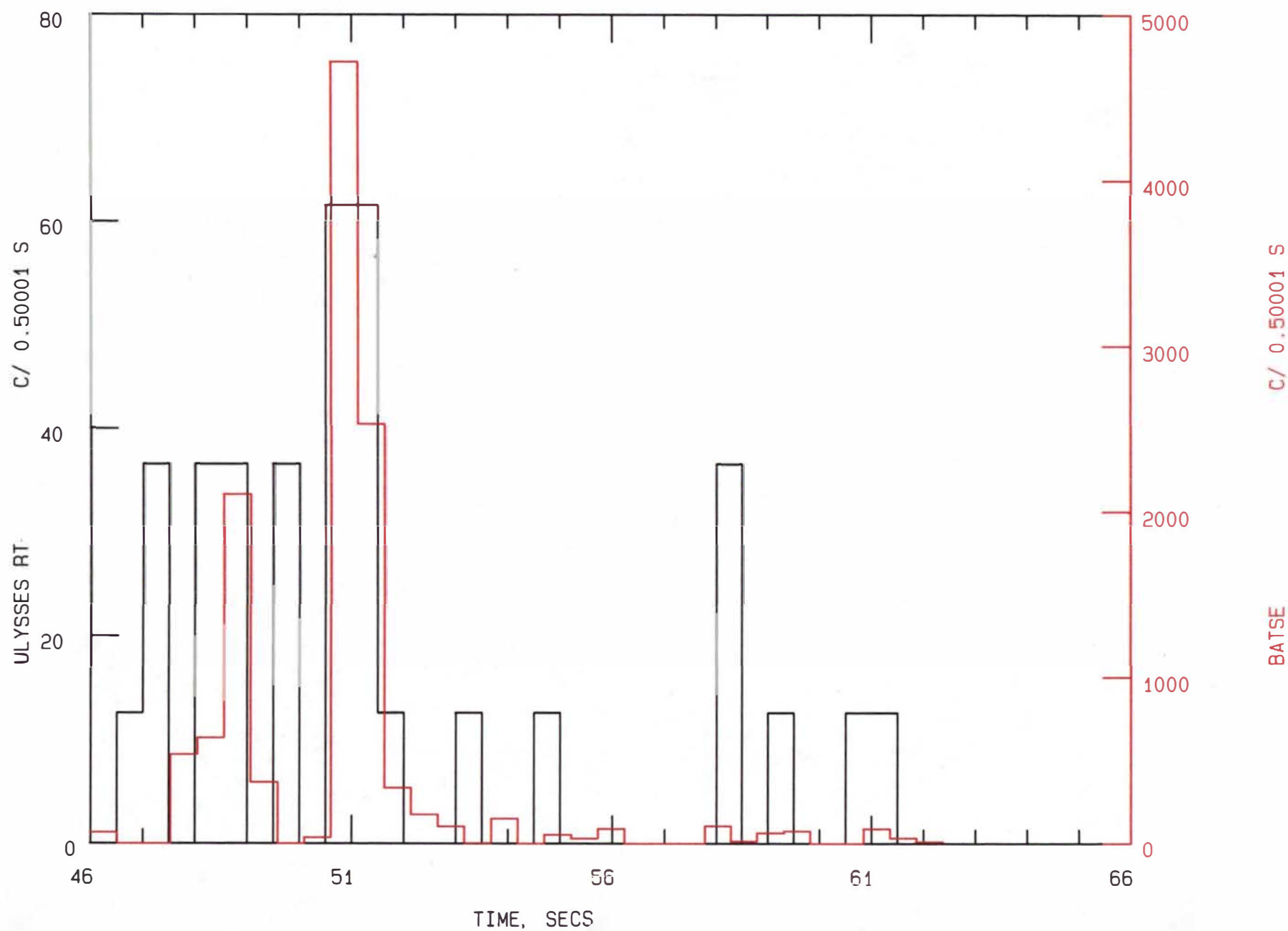
ULYSSES RT-BATSE

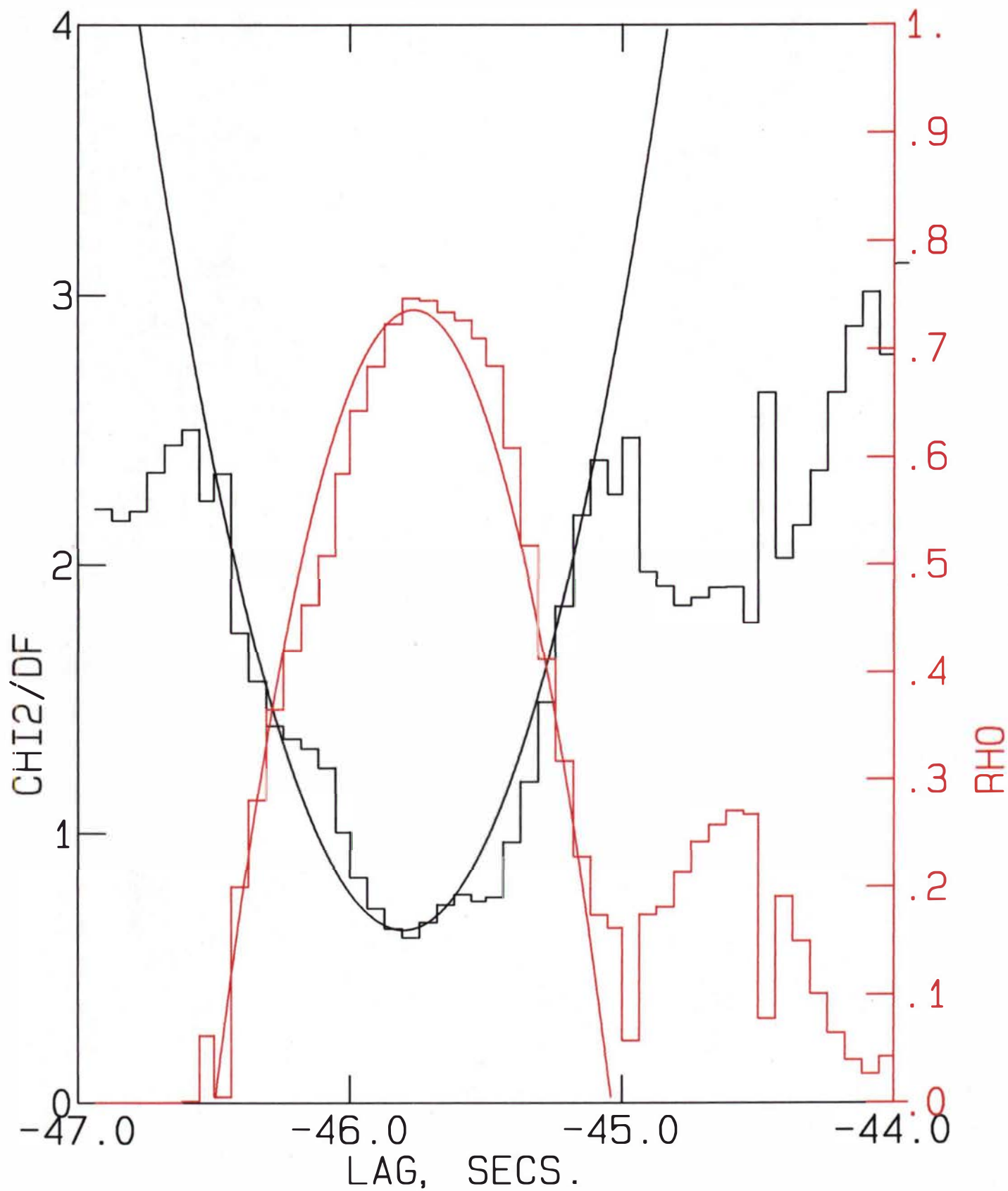
CORRELATION

30/11/98

5690.149

16/ 2/ 0

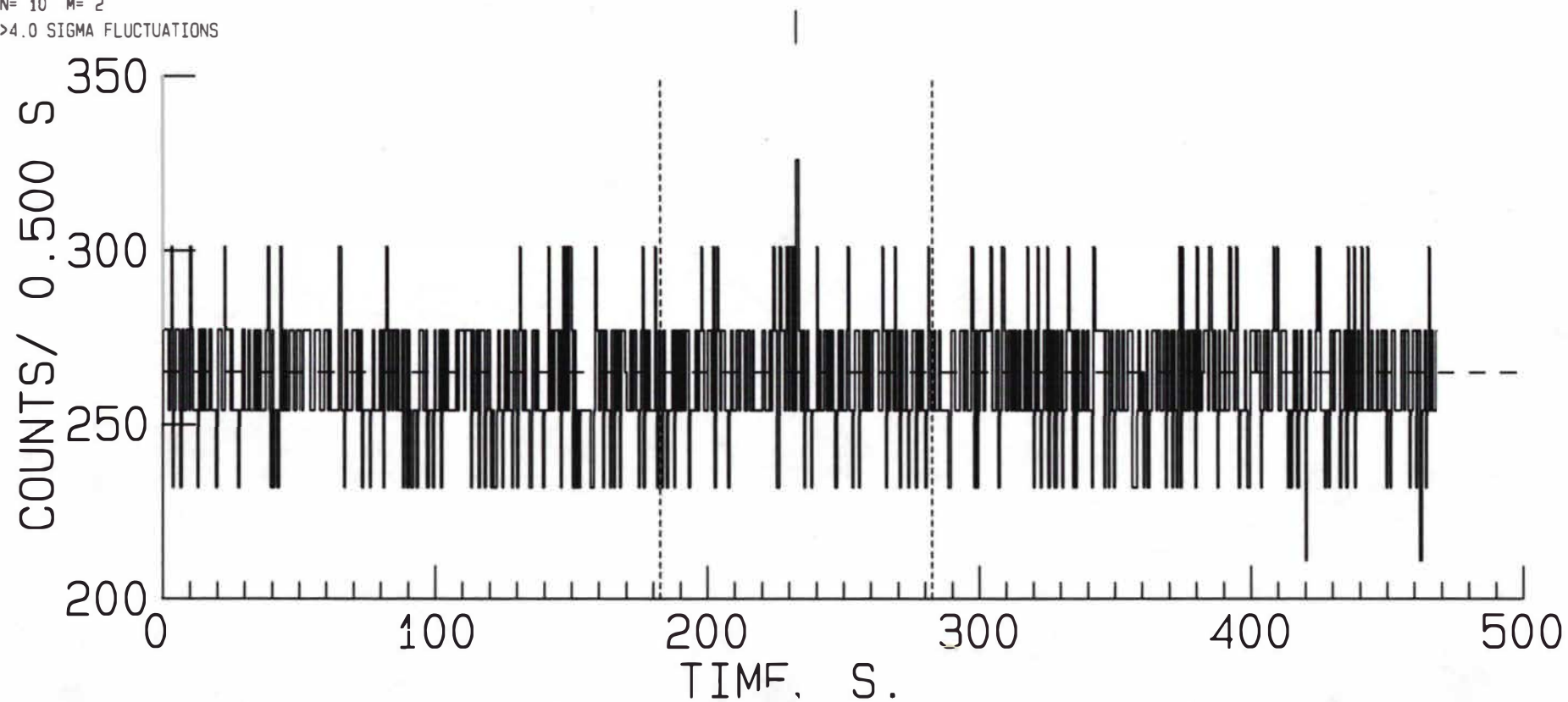




ULYSSES RT
30/11/98 5508.170 s
22- 150 keV

16 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



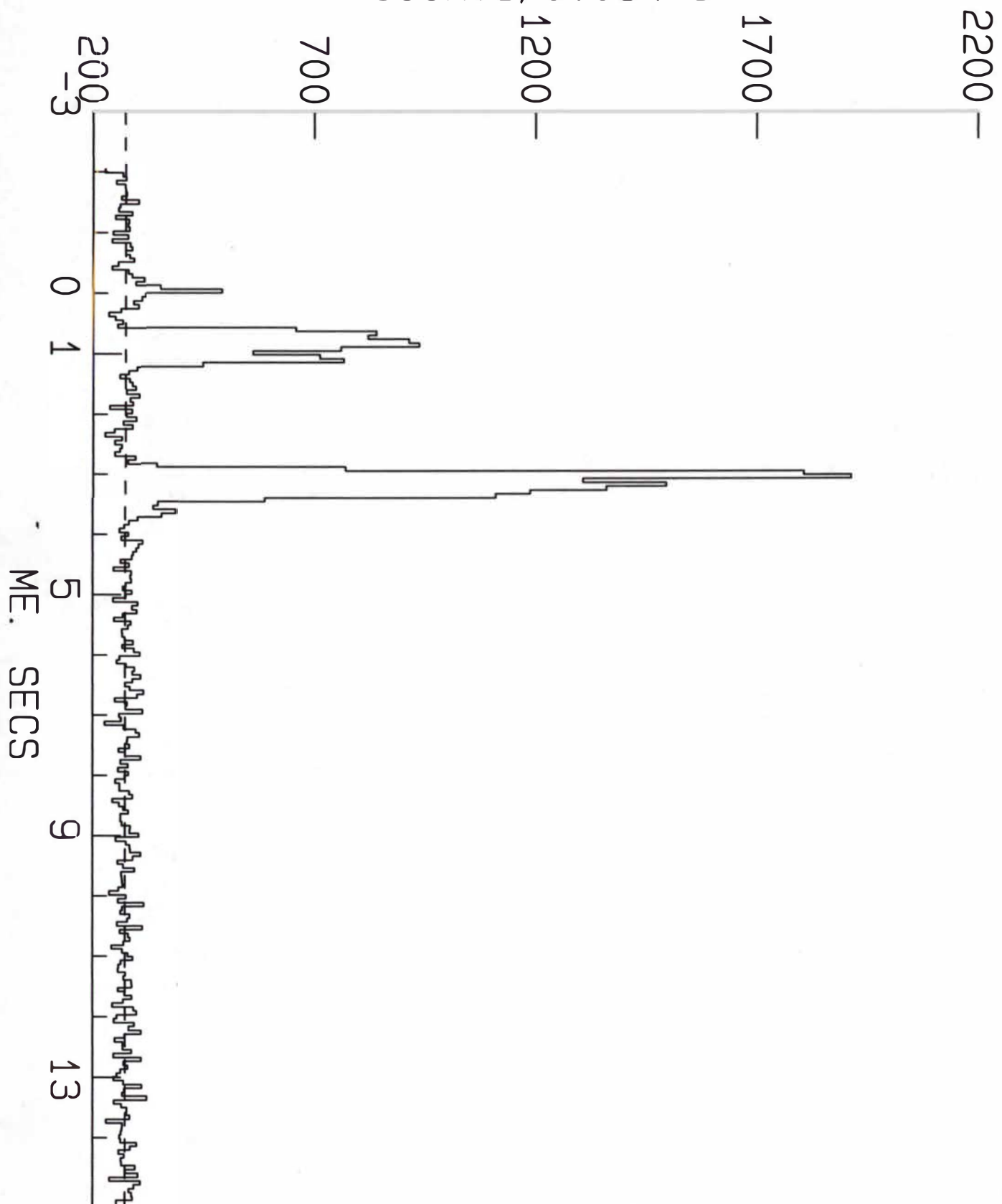
BATSE

30/11/98

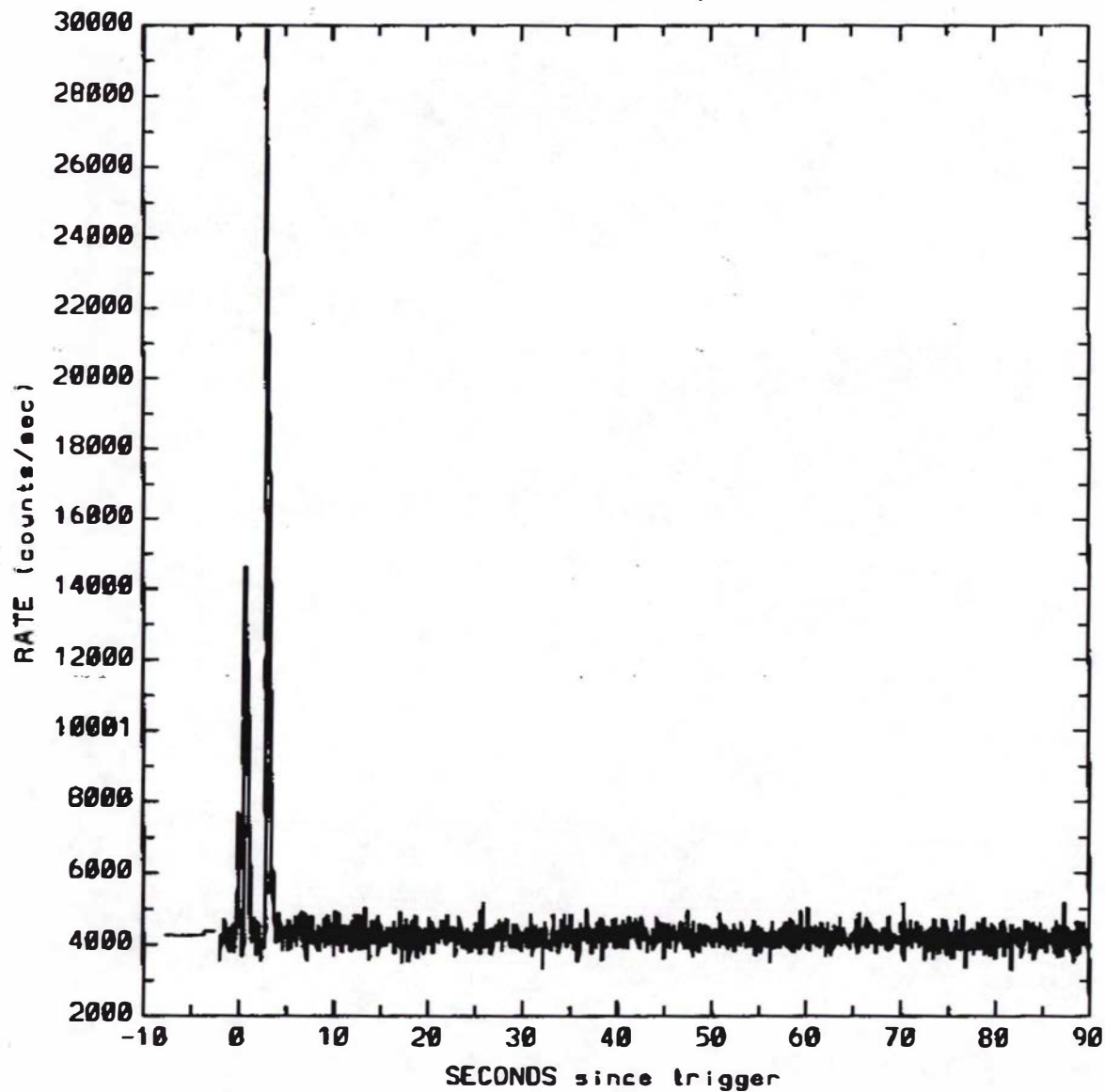
3184.865

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7240



9-FEB-2000 09:48:22

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

Trigger # : 7240

Trigger Time:
11147 / 3184.865Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
-6-4----Discriminators:
(3 . 4)Quality Mask:
BDISP1

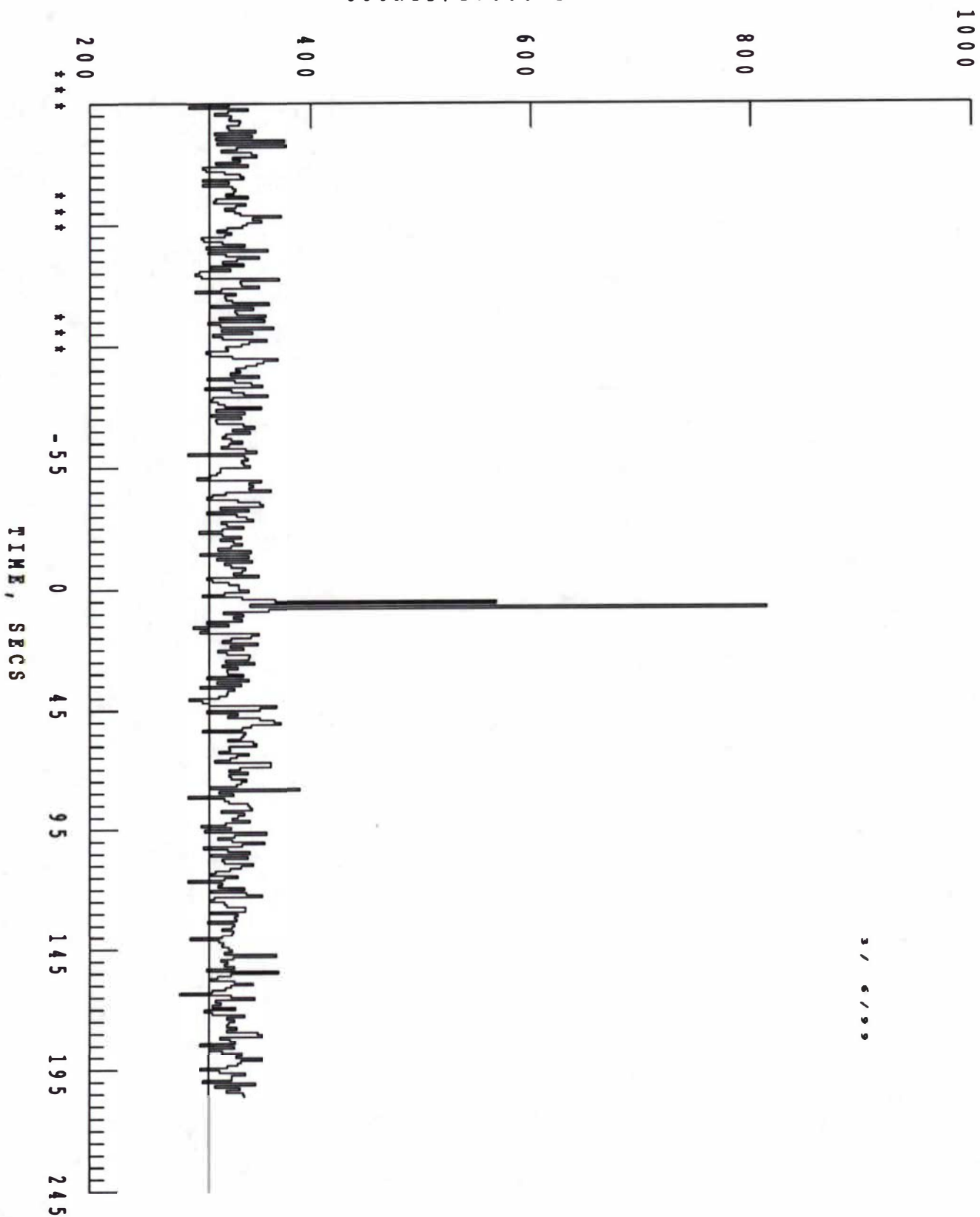
NEAR

30/11/98

2502.984

100-1000 keV

COUNTS/1.000 S



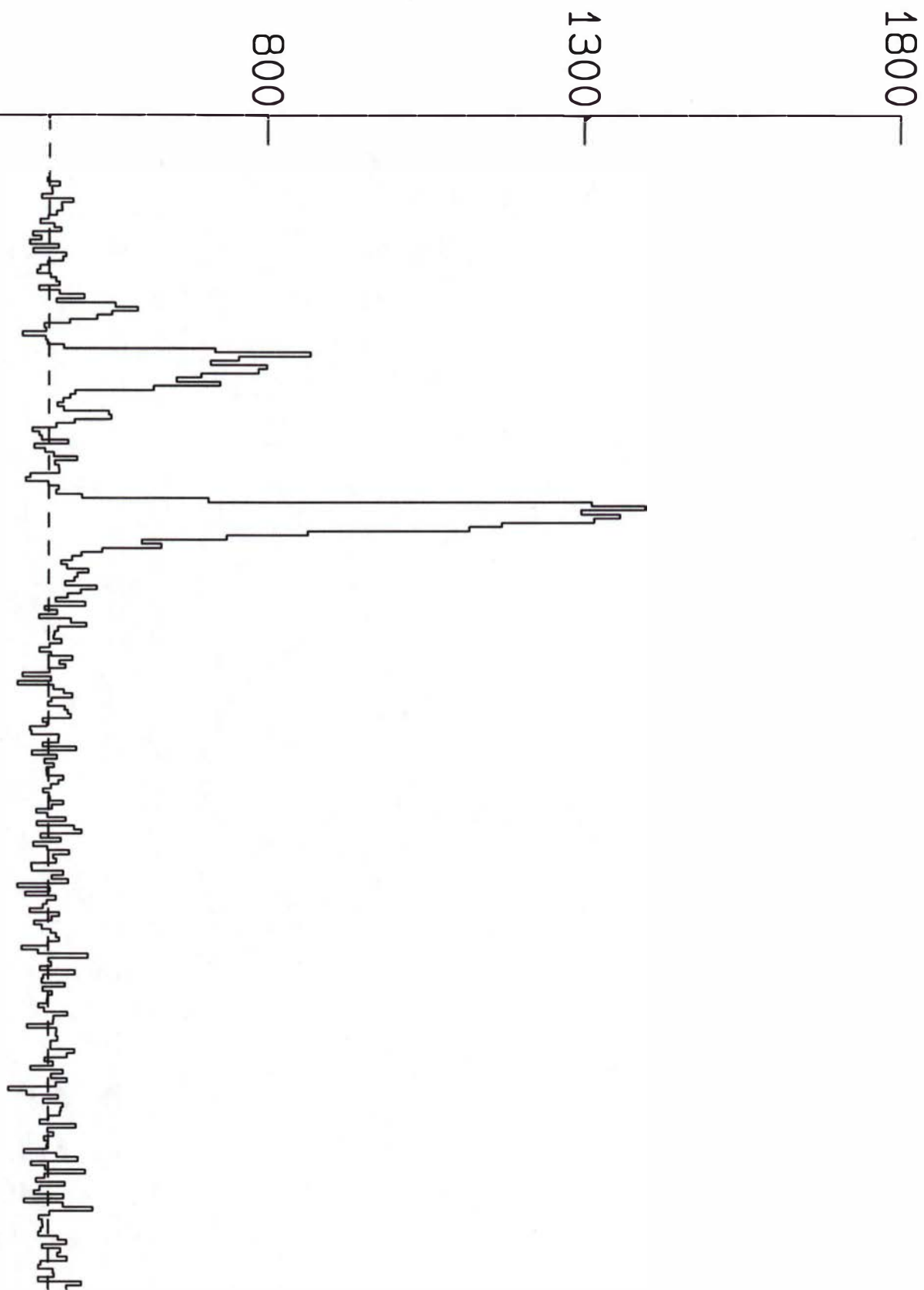
BATSE

30/11/98

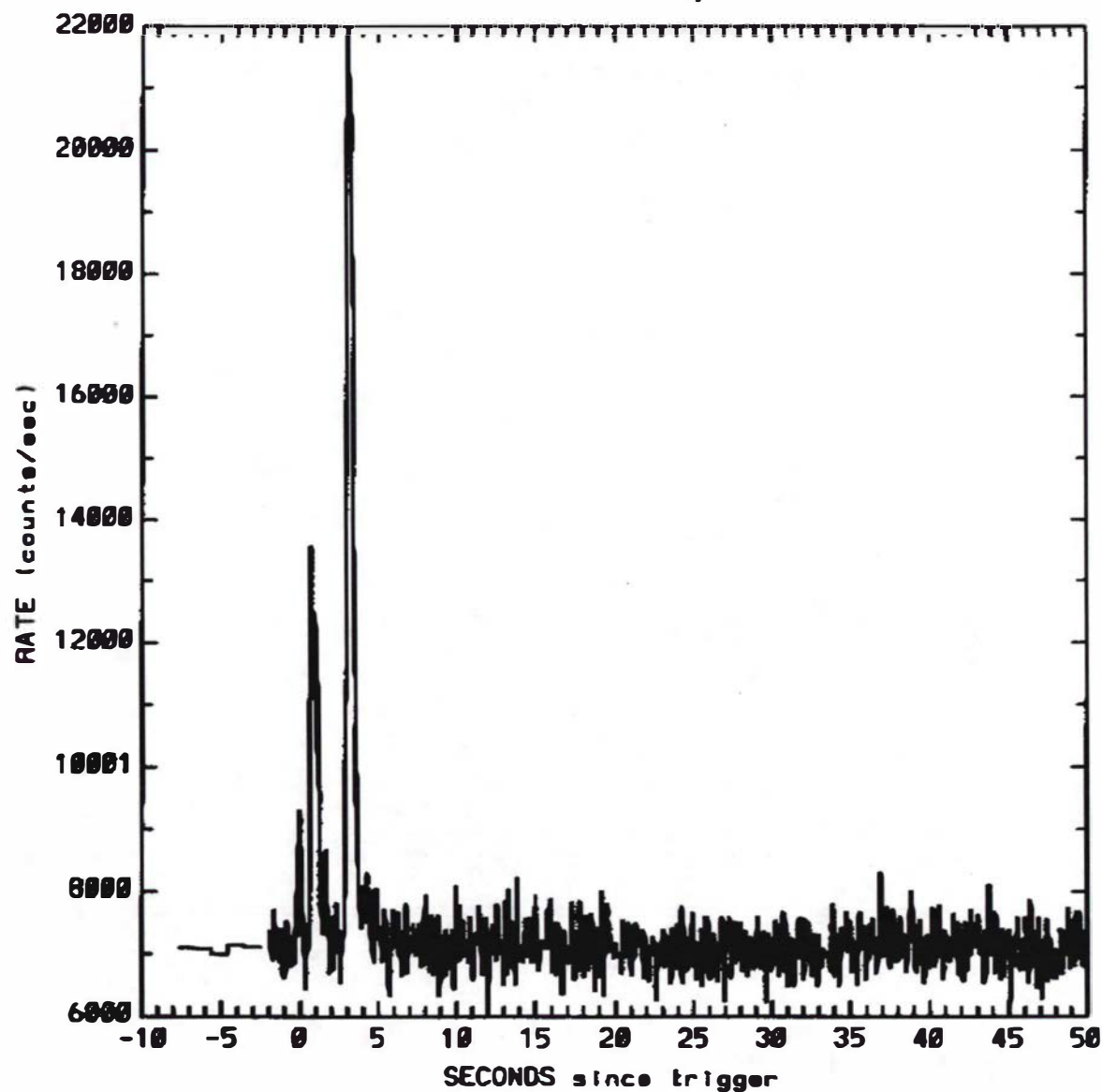
3184.865

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7240



2-DEC-1998 11:32.05

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # . 7240

Trigger Time:
11147 / 3184.865Burst Data Type:
DISCSCDeadtime
Corrected. NBackground Data
Type. PREB + DISCLAMinimum Integ. Time.
0.064 secondsDetectors [7..8].
-6-4----Discriminators.
[1 : 2]Quality Mask.
BOISP1

From SURASAK@fender.msfc.nasa.gov Wed Dec 2 14:39:53 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 2 Dec 1998 16:39:35 -0600 (CST)

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.: 7241

TIME: TJD=1147 SECONDS=36949

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=52.6 AZIMUTH=12.1 ERROR=0.499 DEGREES

COMMENTS:

SOLAR FLARE. GOES C 3.7, NO OPTICAL. SINGLE PULSE. DURATION ABOUT 20 S.
NOT VISIBLE ABOVE 300 KEV.

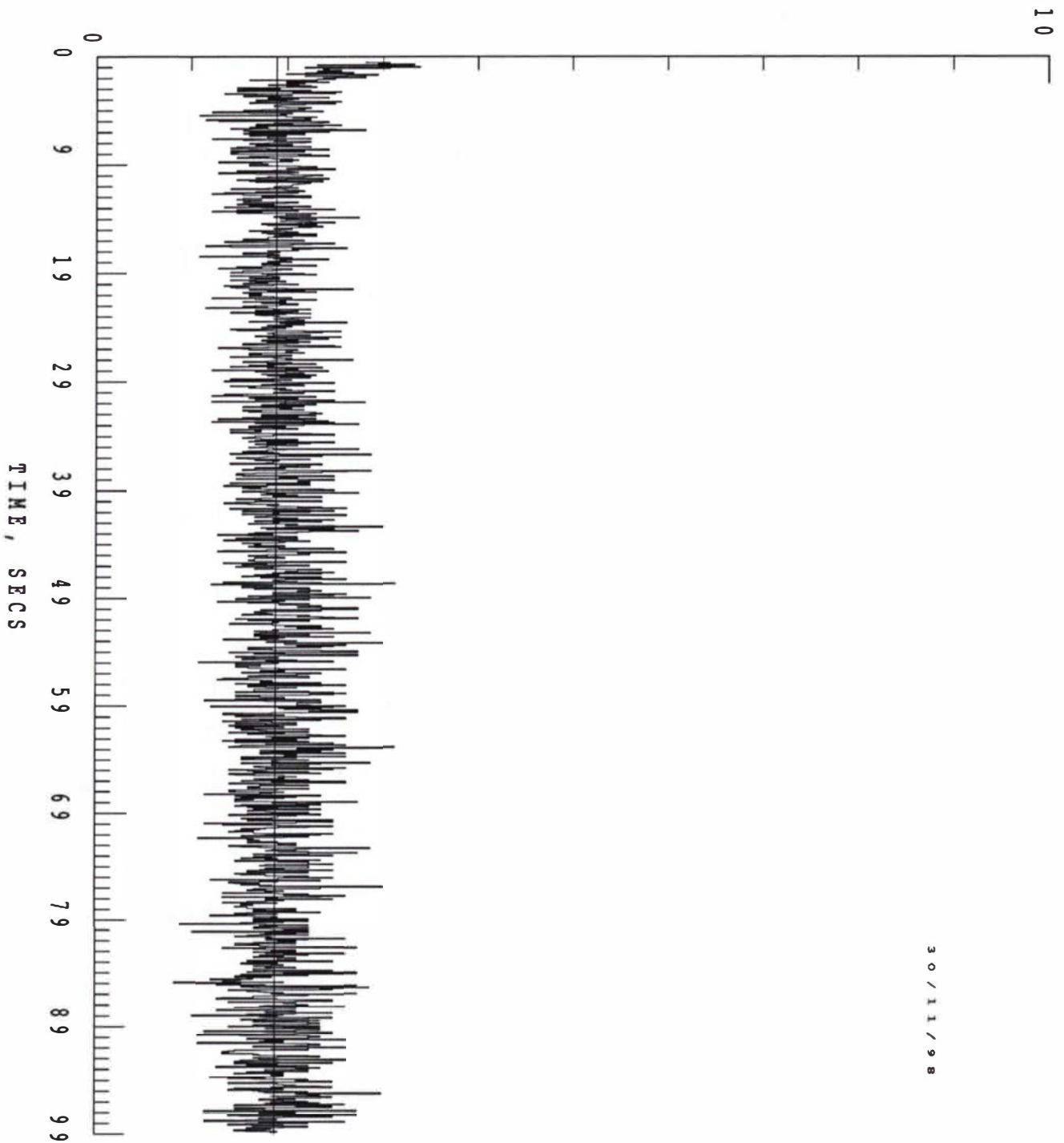
KONUS

30/11/98

36949.357

50 - 200 keV

COUNTS/0.064 S



30/11/98

From SURASAK@fender.msfc.nasa.gov Wed Dec 2 14:42:20 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Wed, 2 Dec 1998 16:42:03 -0600 (CST)

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.: 7242

TIME: TJD=1147 SECONDS=83152

TYPE: ELECTRO SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

From khurley@sunspot Thu Dec 3 08:03 PST 1998
Date: Thu, 3 Dec 1998 08:05:23 -0800
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, woods@eagles.msfc.nasa.gov,
kraken@rosserv.gsfc.nasa.gov
Subject: GRB981130A,B

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
NOV 30 1998 03:51*	moderate, 100 ms long	2650
NOV 30 1998 07:06*	moderate, 64 ms long	2650

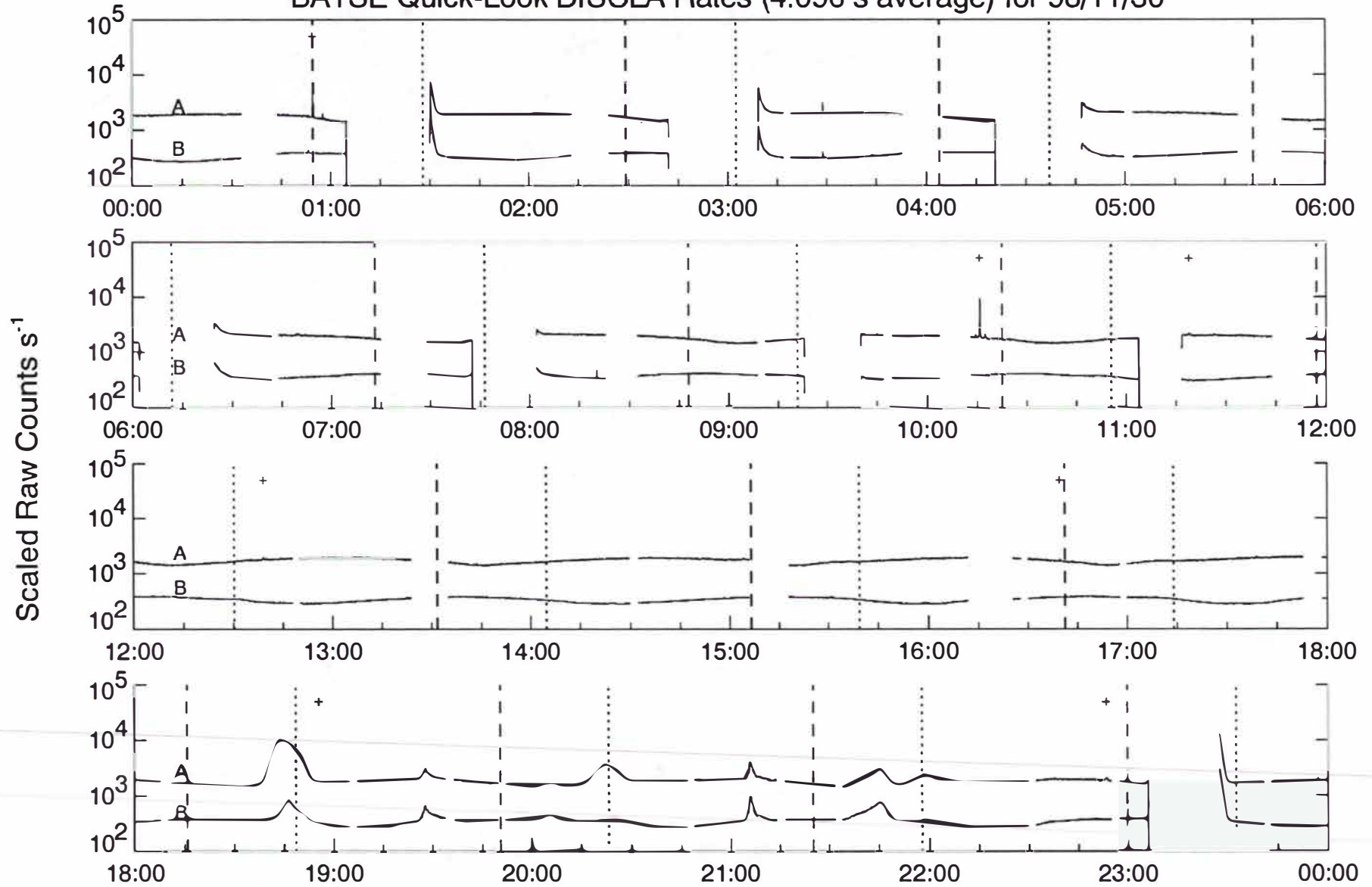
*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1350 s earlier.

Were these events detected by anyone else?

CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

TGRS: NO

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/11/30

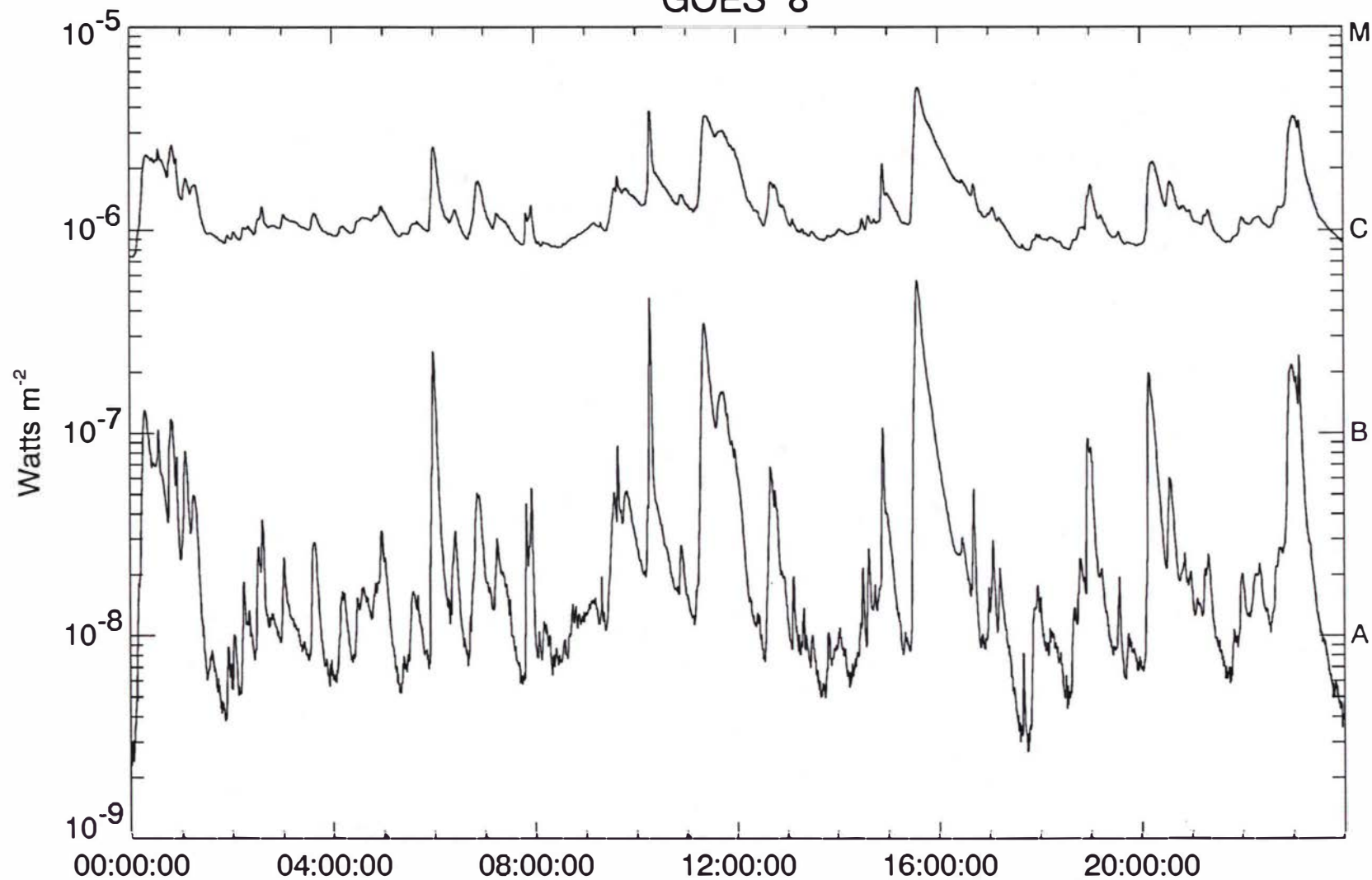


Current Time: 98/12/04, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/11/30, 0000:00

Plot created: 98/12/04, 1010

Channel

1 (1.0 - 8.0 Angstroms)

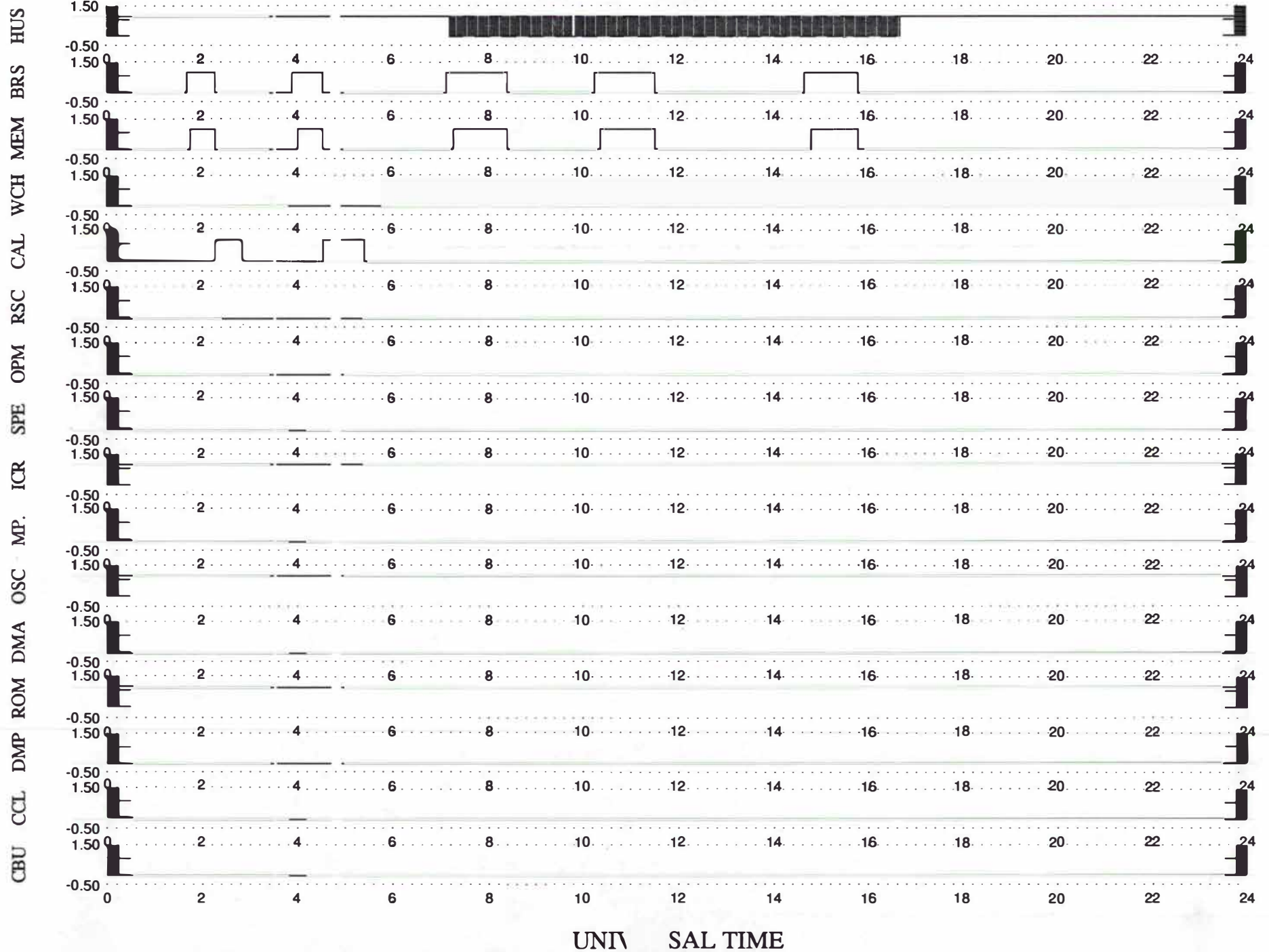
Background not subtracted

2 (0.5 - 4.0 Angstroms)

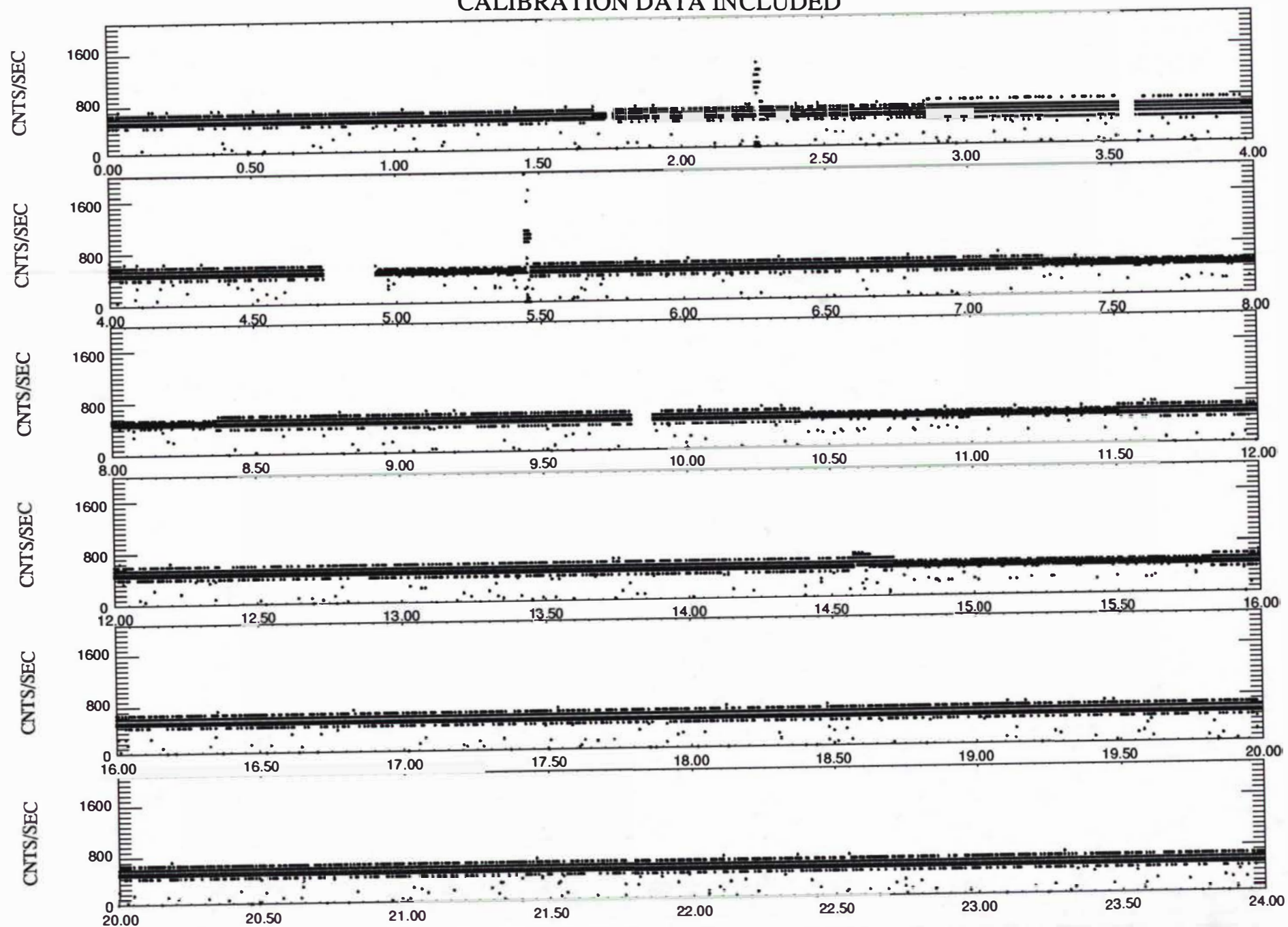
Background not subtracted

Sample average = 10

BURST NUMBER 8 - 12

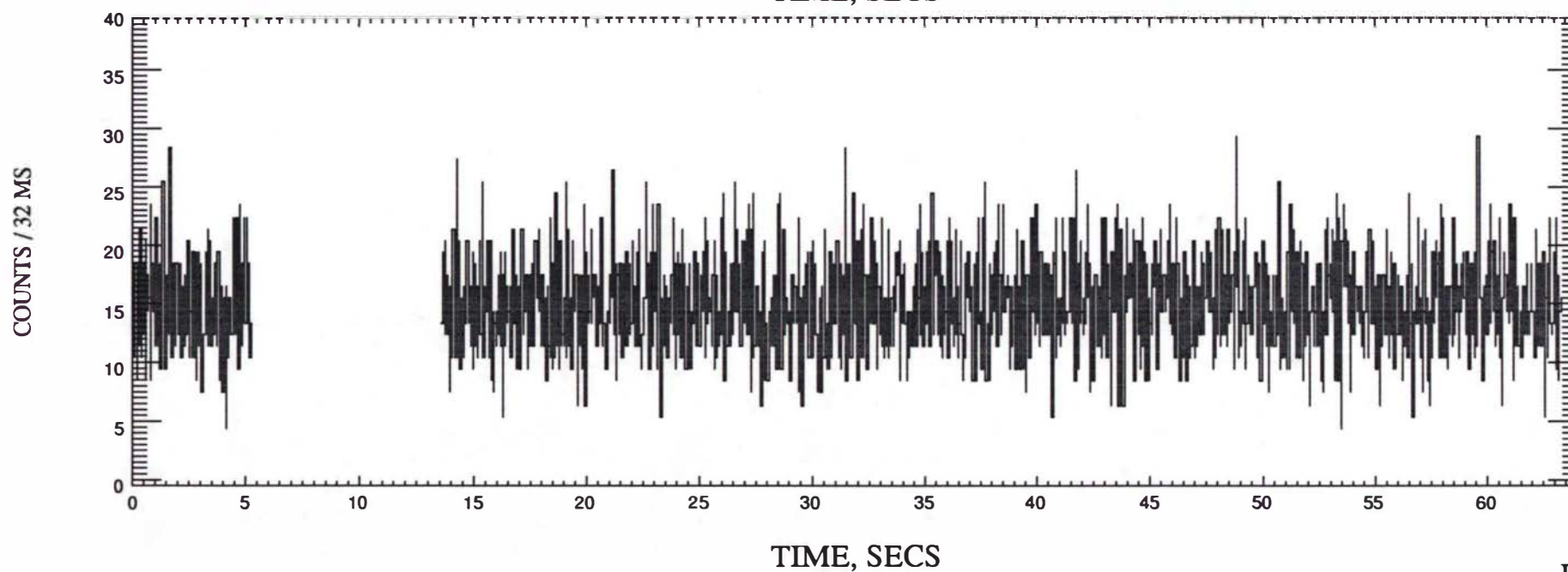
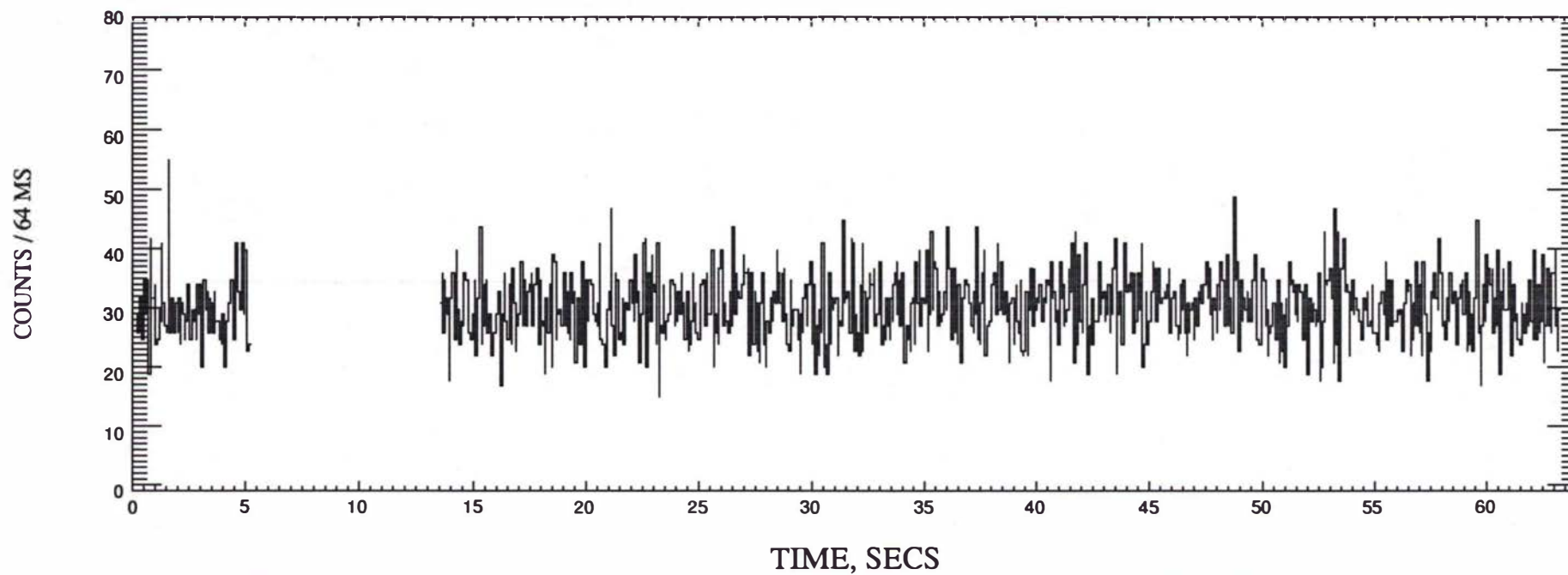


CALIBRATION DATA INCLUDED

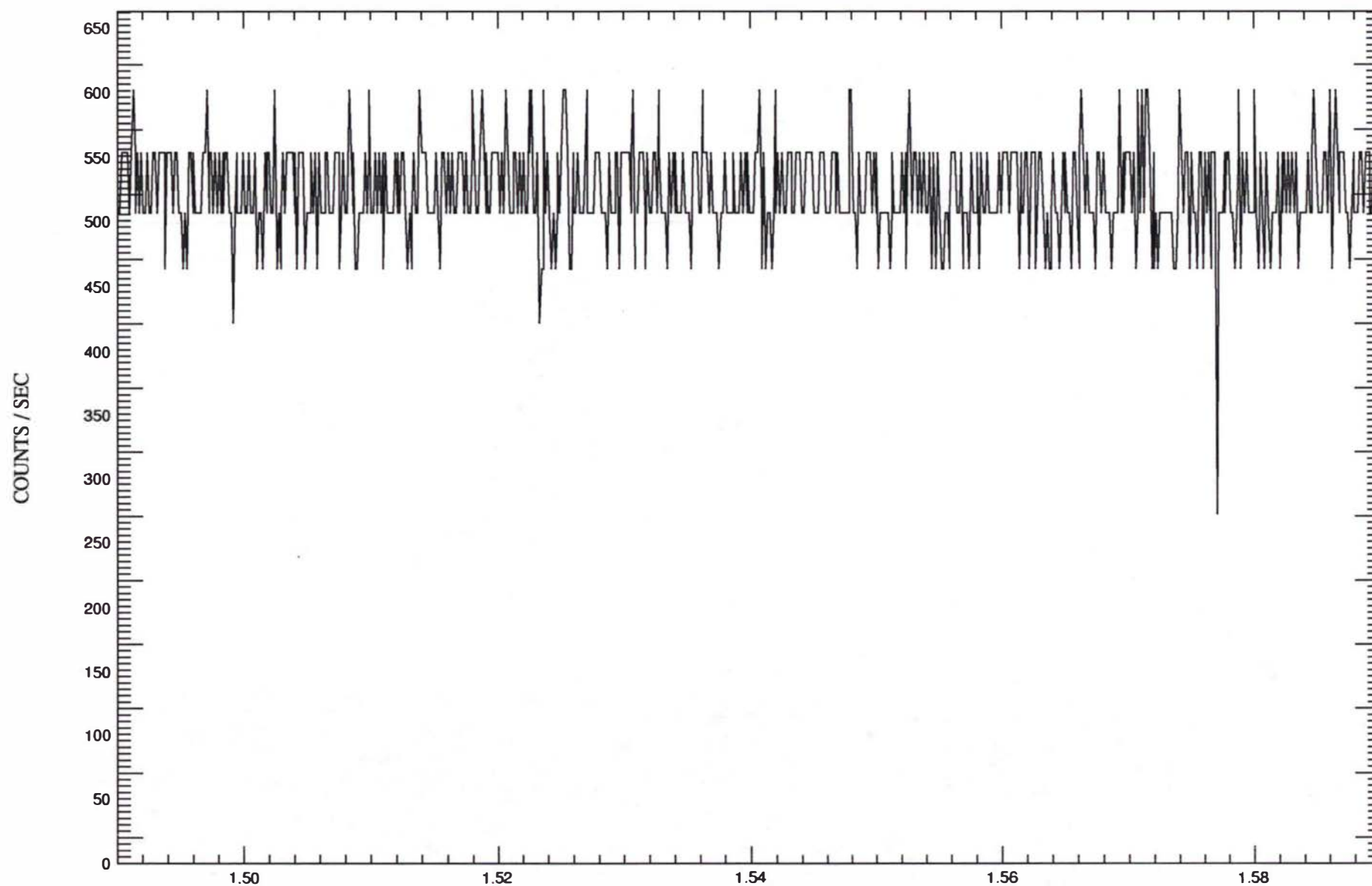


UNIV SAL TIME

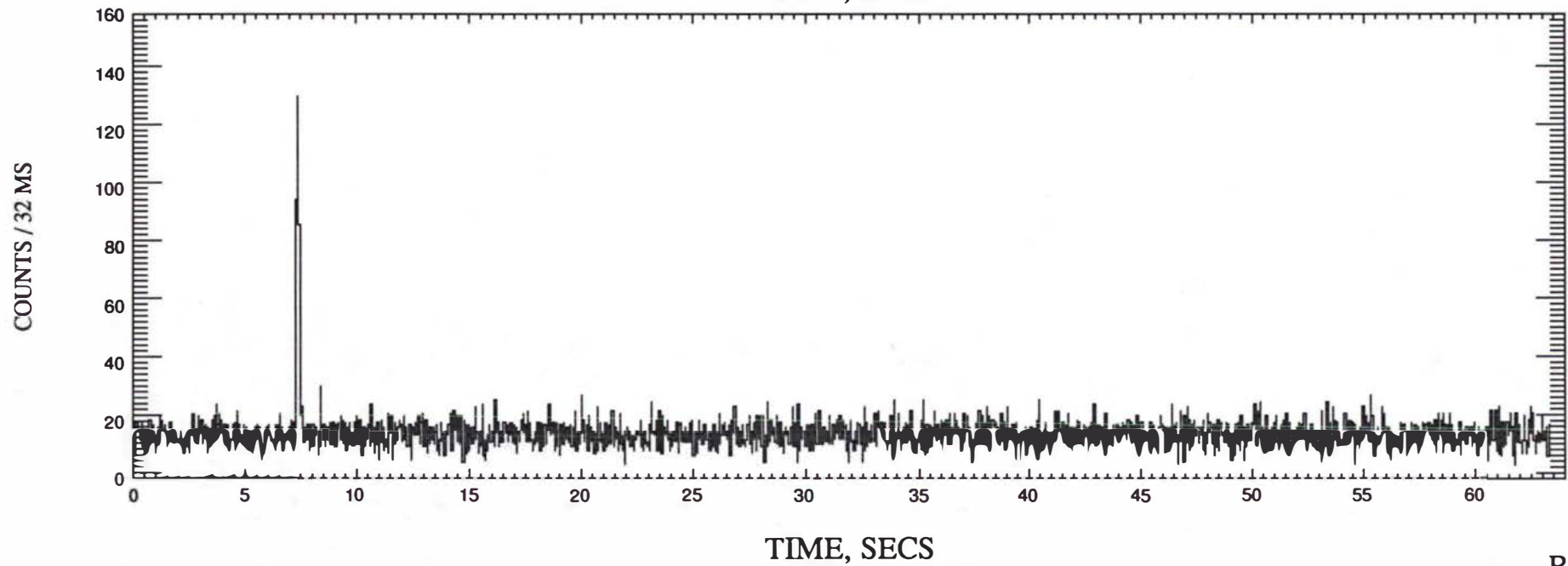
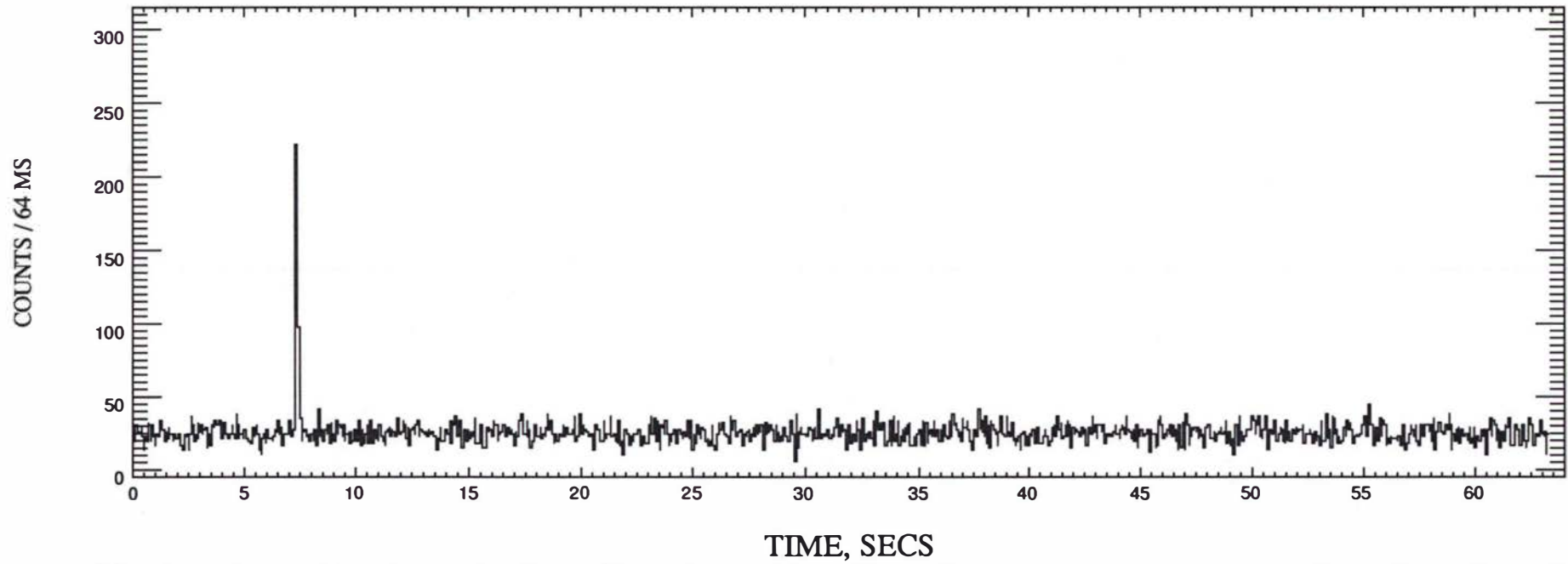
Burst Counter 8 at UT= 1.536435402764 h= 5531.167 s 01:32:11.167



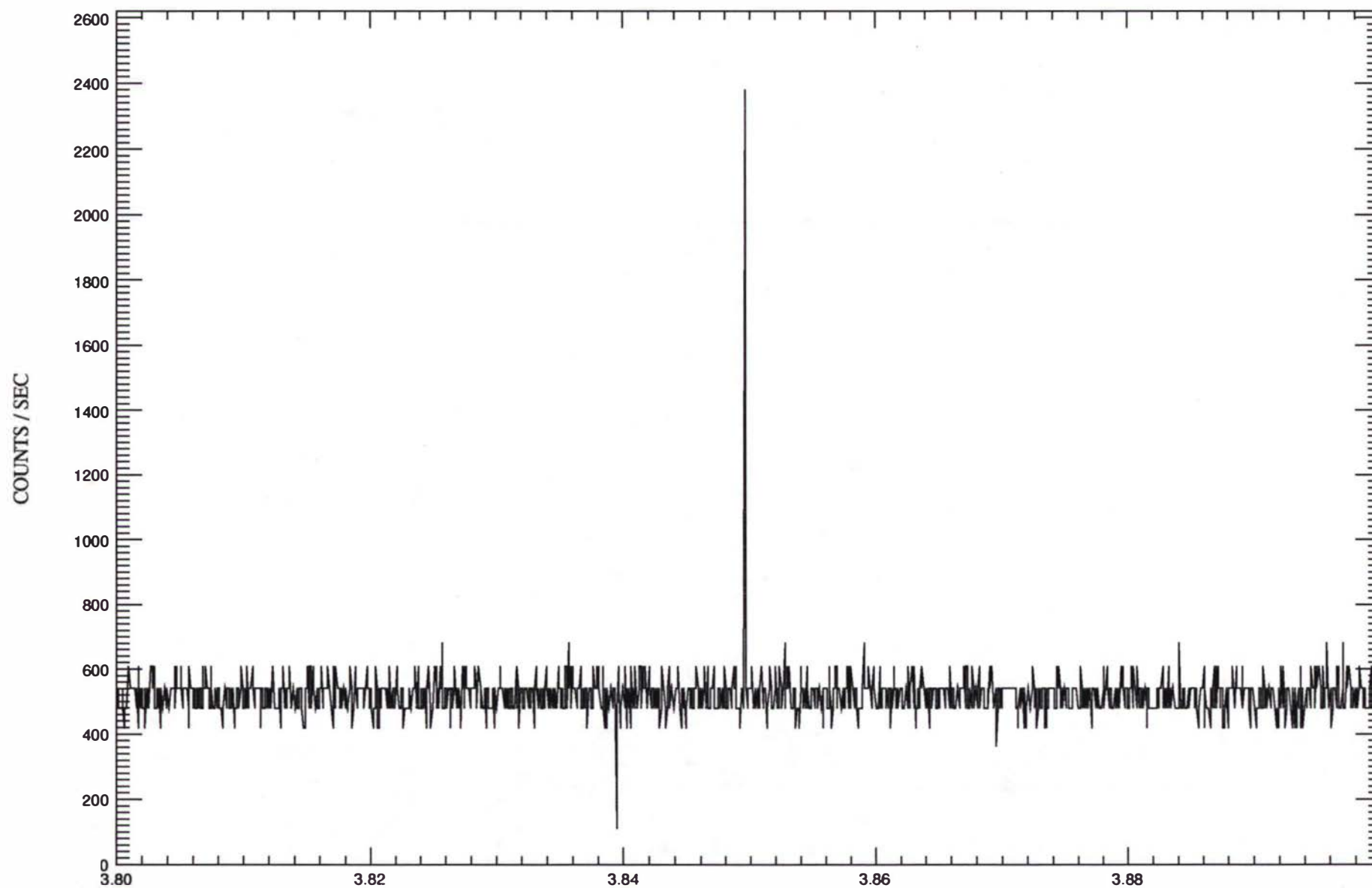
CALIBRATION DATA INCLUDED



Burst Counter 9 at UT= 3.849677039252 h=13858.837 s 03:50:58.837



CALIBRATION DATA INCLUDED

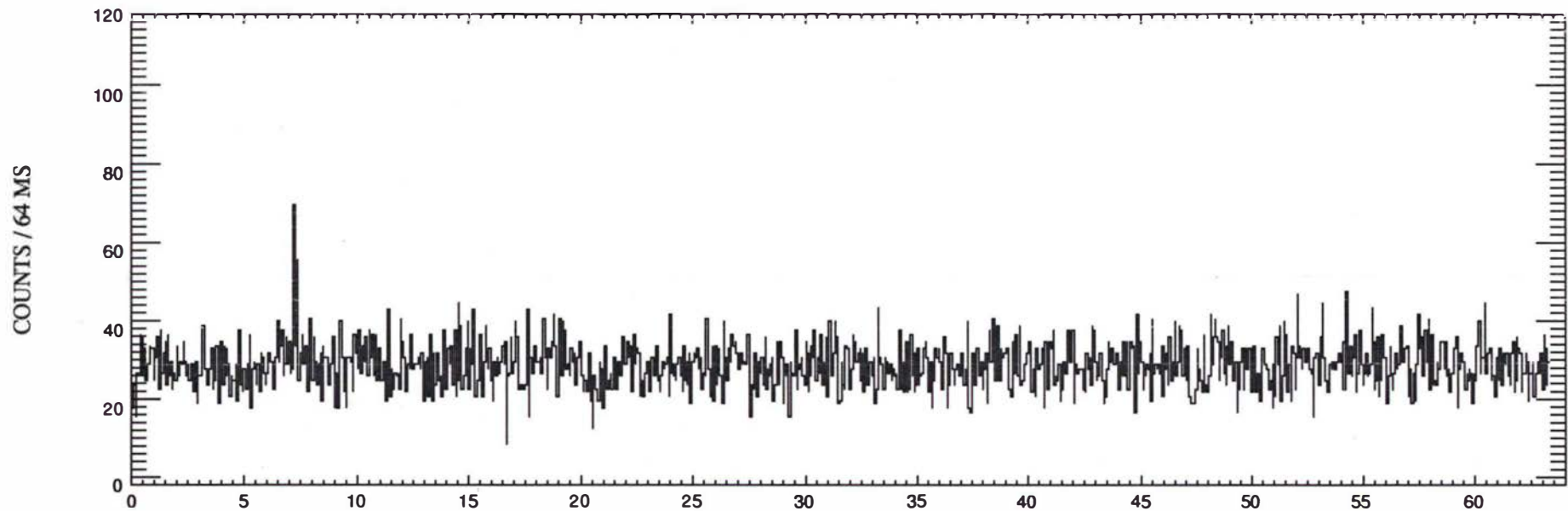


19730044

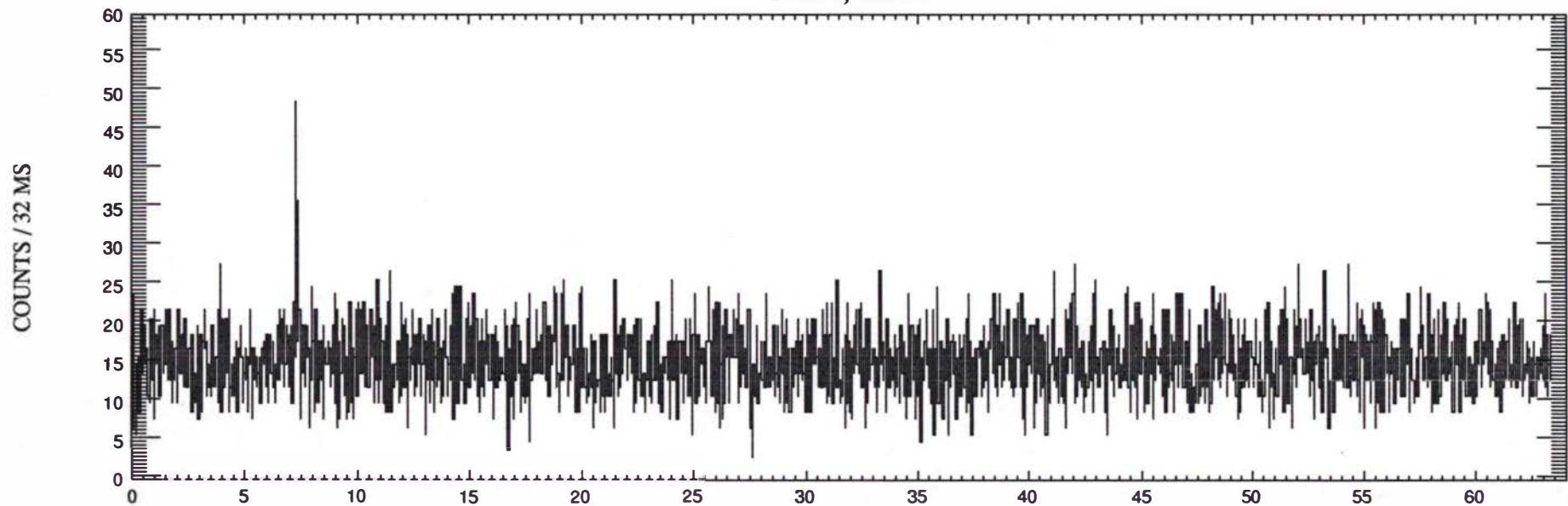
[illegible]

4/10/22

Burst Counter 10 at UT= 7.098502137926 h=25554.608 s 07:05:54.608



TIME, SECS



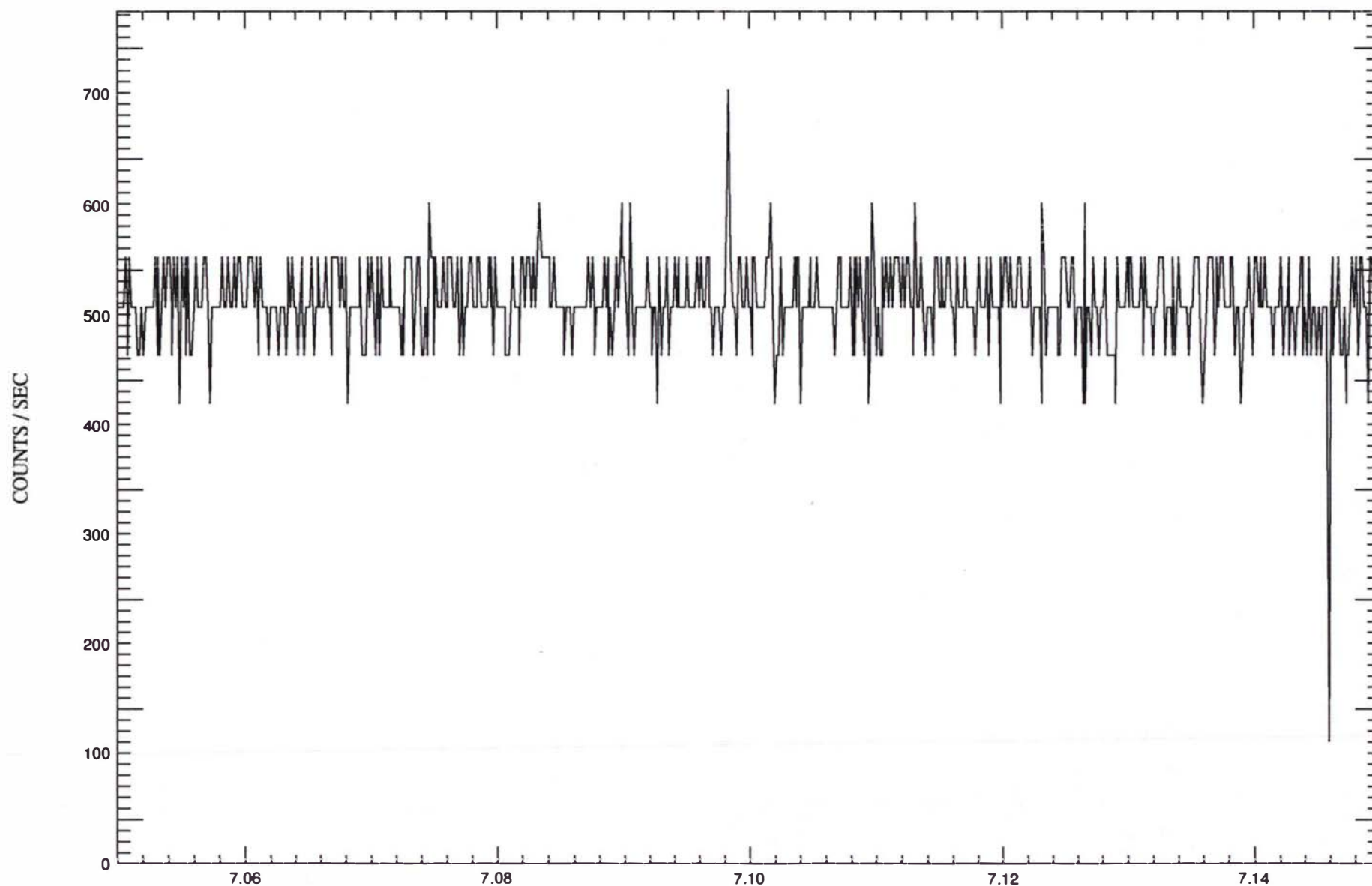
TIME, SECS

THE UNIVERSITY OF CHICAGO PRESS

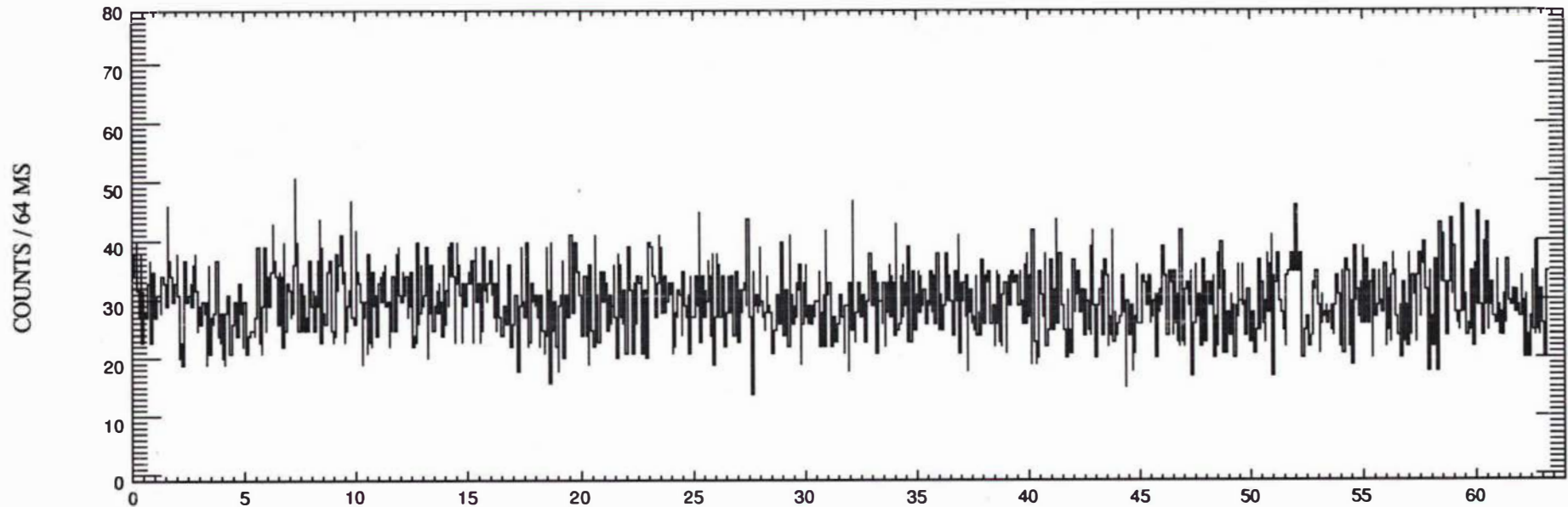
7/6/06

THE DAILY RECORD

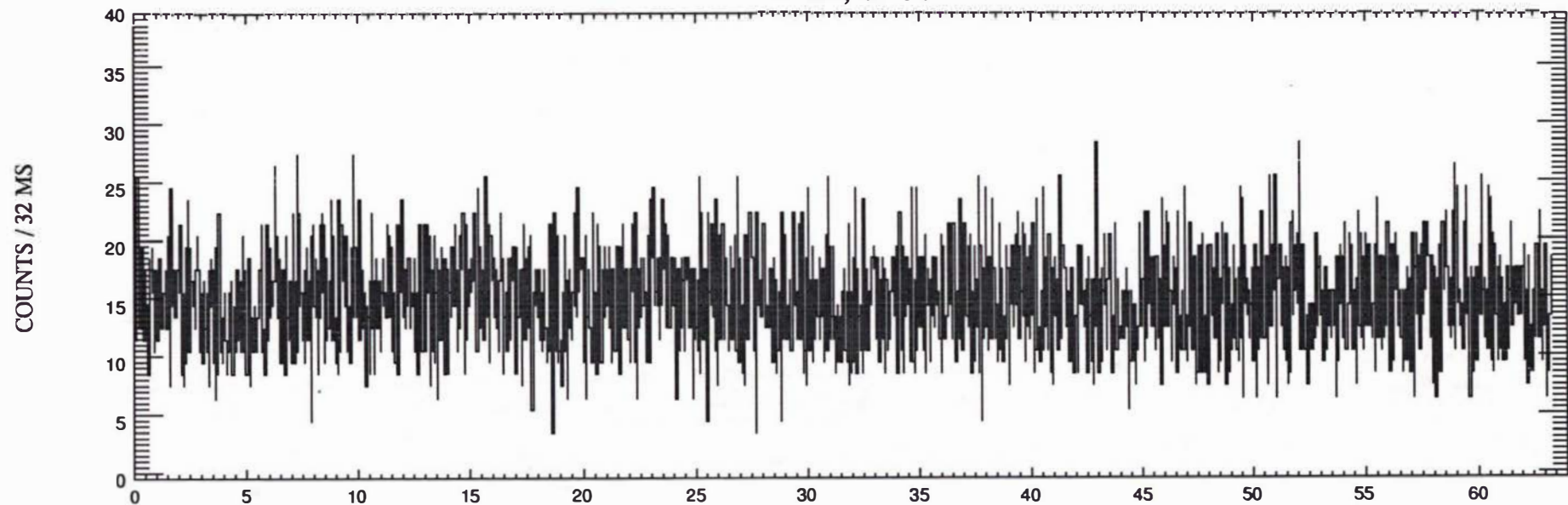
CALIBRATION DATA INCLUDED



Burst Counter 11 at UT=10.248397479587 h=36894.231 s 10:14:54.231



TIME, SECS



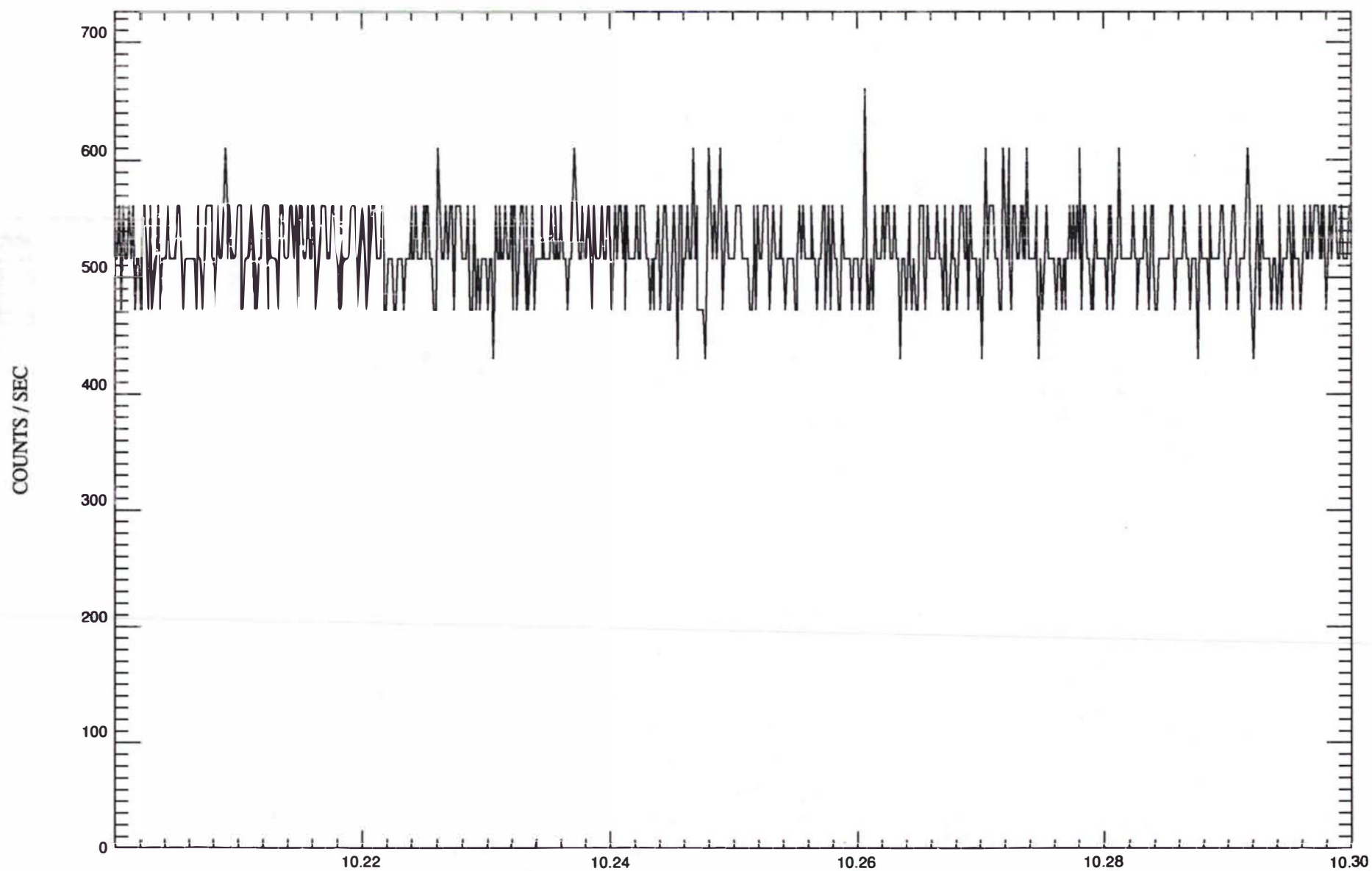
TIME, SECS

JOINT NATIONAL DATA INCLUDED

1983 MODEL ANAL. VALIDATED FIVE 1983 331 APR 1988 TO 1983 331 APR 1988

4/8/88

CALIBRATION DATA INCLUDED



10/17/11



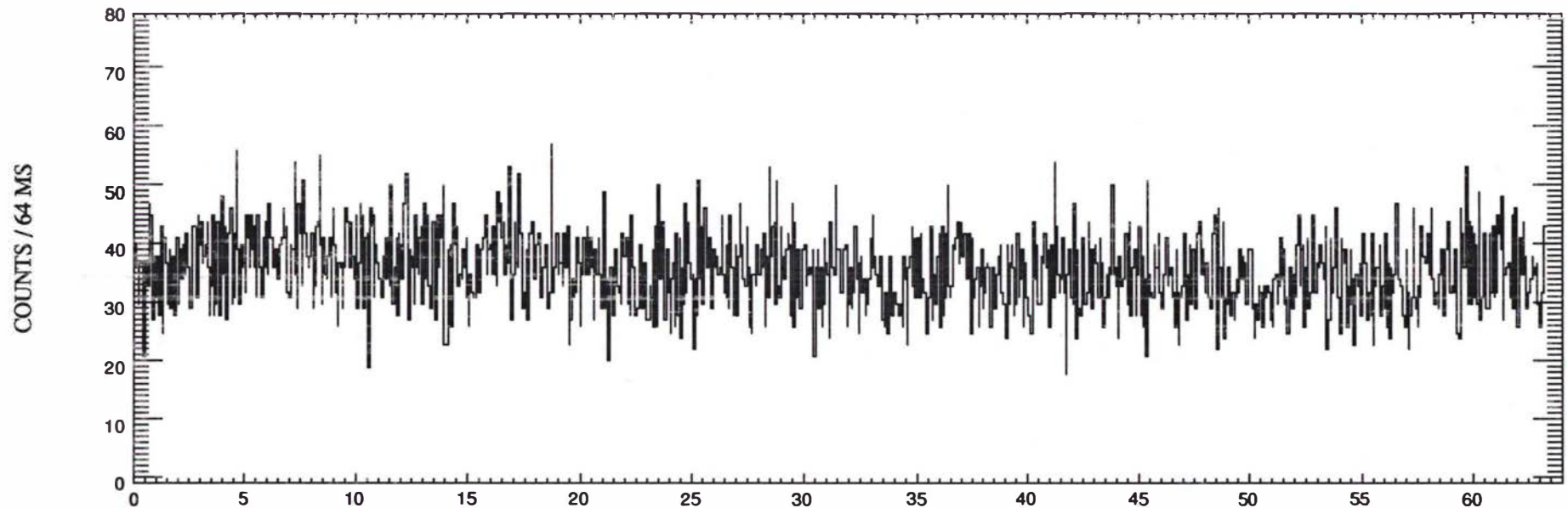
EC

Base Control 10 M AL=147310046854022 P=254177002 1 104037002

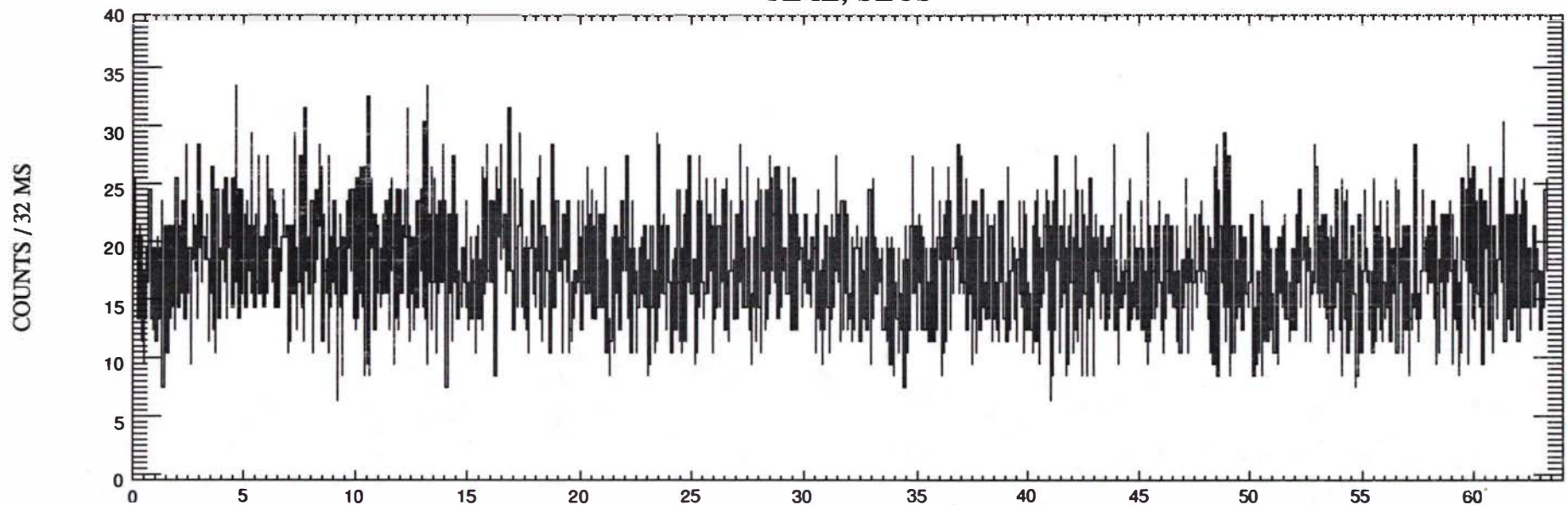
H125VALR10046854022 PDE 4737476511002

4/0/00

Burst Counter 12 at UT=14.576046824985 h=52473.769 s 14:34:33.769



TIME, SECS



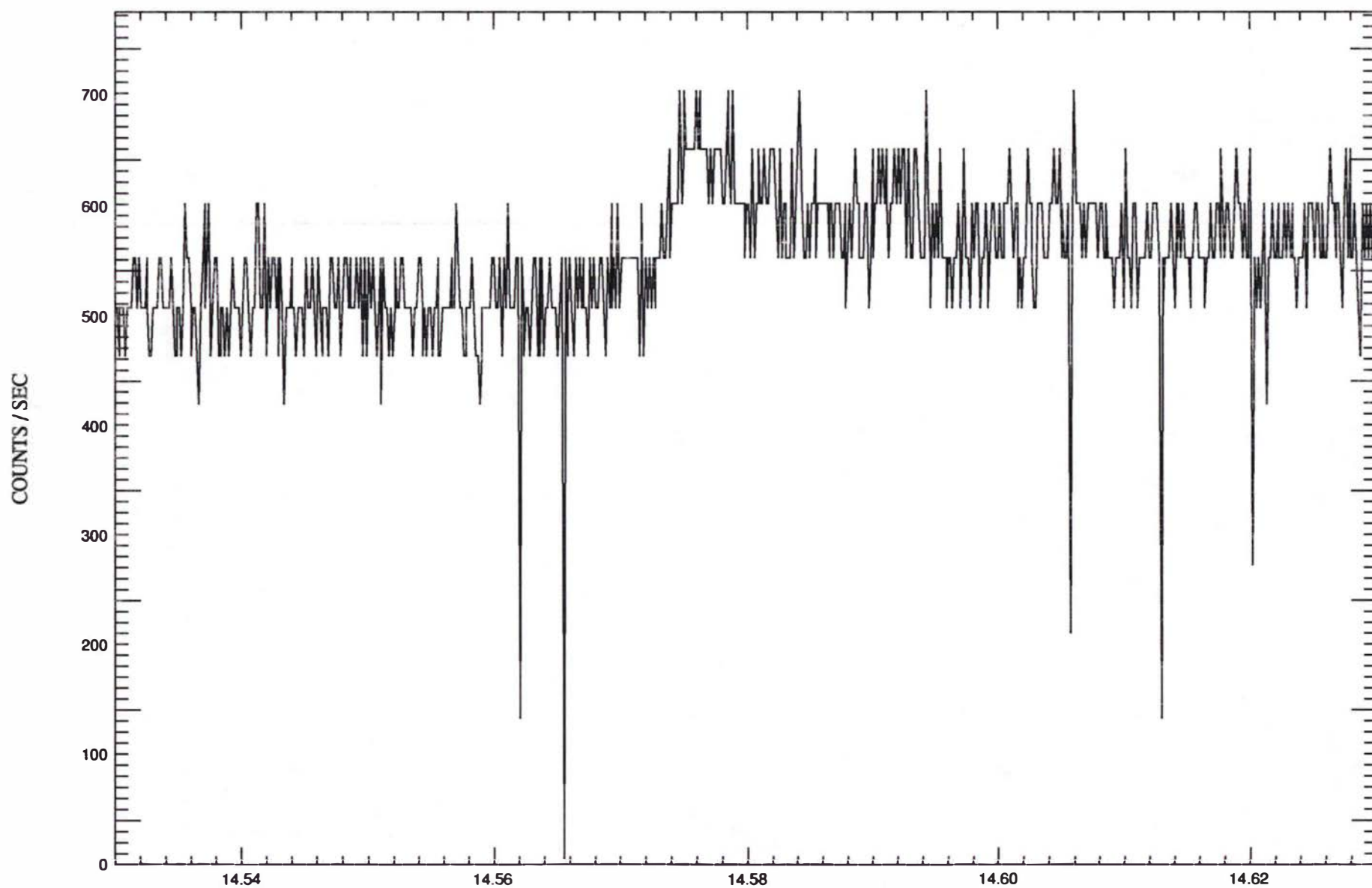
TIME, SECS

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ALON ALON

CALIBRATION DATA INCLUDED



5

18 50 55

10 14

18 50 55

4

16 20 25

200

16 20 25

200

16 20 25

200

16 20 25

200

200

16 20 25

D1

5 8 10

5

D0

H025B CORNELL SEC EDE q5A 334' Agat 100' to q5A 334' Agat 100'

41200

