

From springer@mail1.jpl.nasa.gov Wed Feb 17 07:22 PST 1999
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"BAM Dave McComas" <dmccomas@lanl.gov>,
"Edward J Smith" <edward.j.smith@jpl.nasa.gov>,
"GLG George Gloeckler" <gloeckler@umdsp.umd.edu>,
"GLG Johannes Geiss" <geiss@phim.unibe.ch>,
"GRU E Gruen" <gruen@dusty.mpi-hd.mpg.de>,
"GRU Gudrun Linkert" <glinkert@dirty.mpi-hd.mpg.de>,
"HED Andre Balogh" <a.balogh@ic.ac.uk>,
"HED Bob Forsyth" <r.forsyth@ic.ac.uk>,
"HUS Kevin Hurley" <khurley@sunspot.ssl.berkeley.edu>,
"KEP E Keppler" <keppler@linmpi.mpg.de>,
"LAN L Lanzerotti" <ljl@bell-labs.com>,
"SIM Bruce McKibben" <mckibben@odysseus.uchicago.edu>,
"STO Bob Macdowall" <macd@leprjm.gsfc.nasa.gov>
Cc: "STO Roger Hess" <hess@urap.gsfc.nasa.gov>,
"GLG Toni Galvin" <galvin@umdsp.umd.edu>,
"HED Vena Pontiac" <vpontiac@jplsp.jpl.nasa.gov>,
"HUS Roger Williams" <williams@sunspot.ssl.berkeley.edu>,
"LAN Gene Holland" <ULYSSES@kuplas.phsx.ukans.edu>,
"SIM Gene Murphy" <murphy@odysseus.uchicago.edu>
Subject: December/January SEDRs
Date: Wed, 17 Feb 1999 07:20:24 -0800
MIME-Version: 1.0
Content-Transfer-Encoding: 7bit
X-Priority: 3 (Normal)
X-MSMail-Priority: Normal
Importance: Normal
MimeOLE: Produced By Microsoft MimeOLE V5.00.0810.800

For the last several days, final SEDRs for December 1998 and January 1999 were posted on JPLSP. They had passed our usual validation, but had serious flaws which were not obvious to us.

If you downloaded the files, you should discard them. They are essentially useless. Replacements will be created when we get valid replacement ephemeris files from Navigation.

Production of the December CDROM will be delayed until these files have been replaced.

Thanks to Ingrid Schrader for notifying us of the problem.

Regards,

Joe

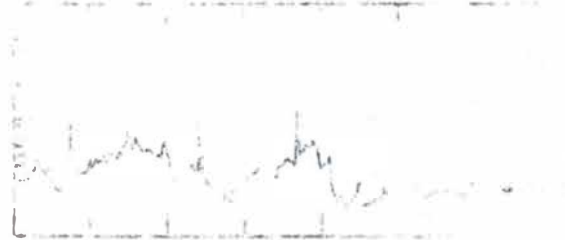
AND MAGNETIC FIELD

002.00-00.00

PLASMA IONIZATION



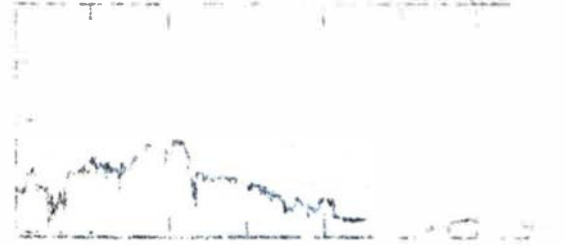
PLASMA IONIZATION



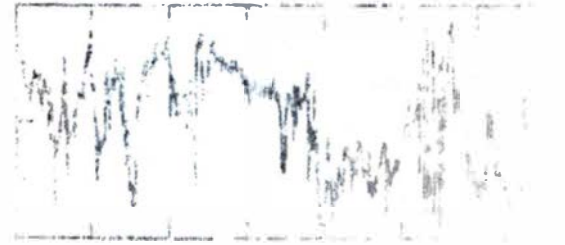
PLASMA IONIZATION



PLASMA IONIZATION



PLASMA IONIZATION

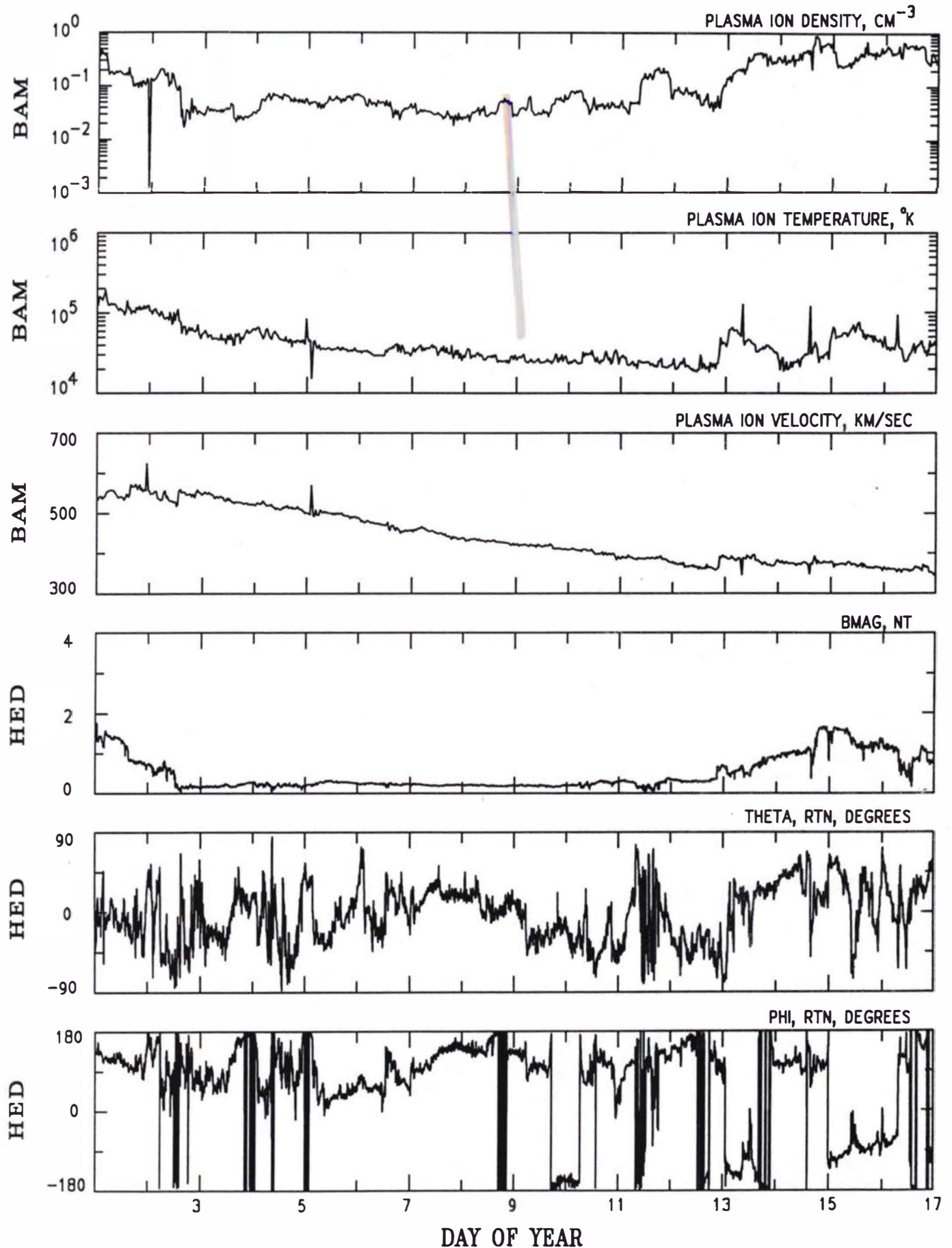


PLASMA IONIZATION



ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

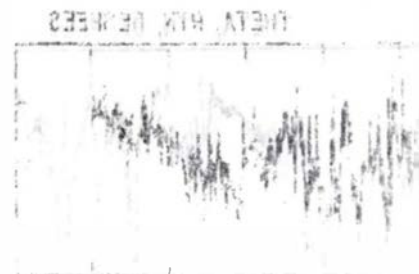
99 001 JAN 1 00:00:00.000 - 99 017 JAN 17 00:00:00.000



DEPT. OF AGRICULTURE

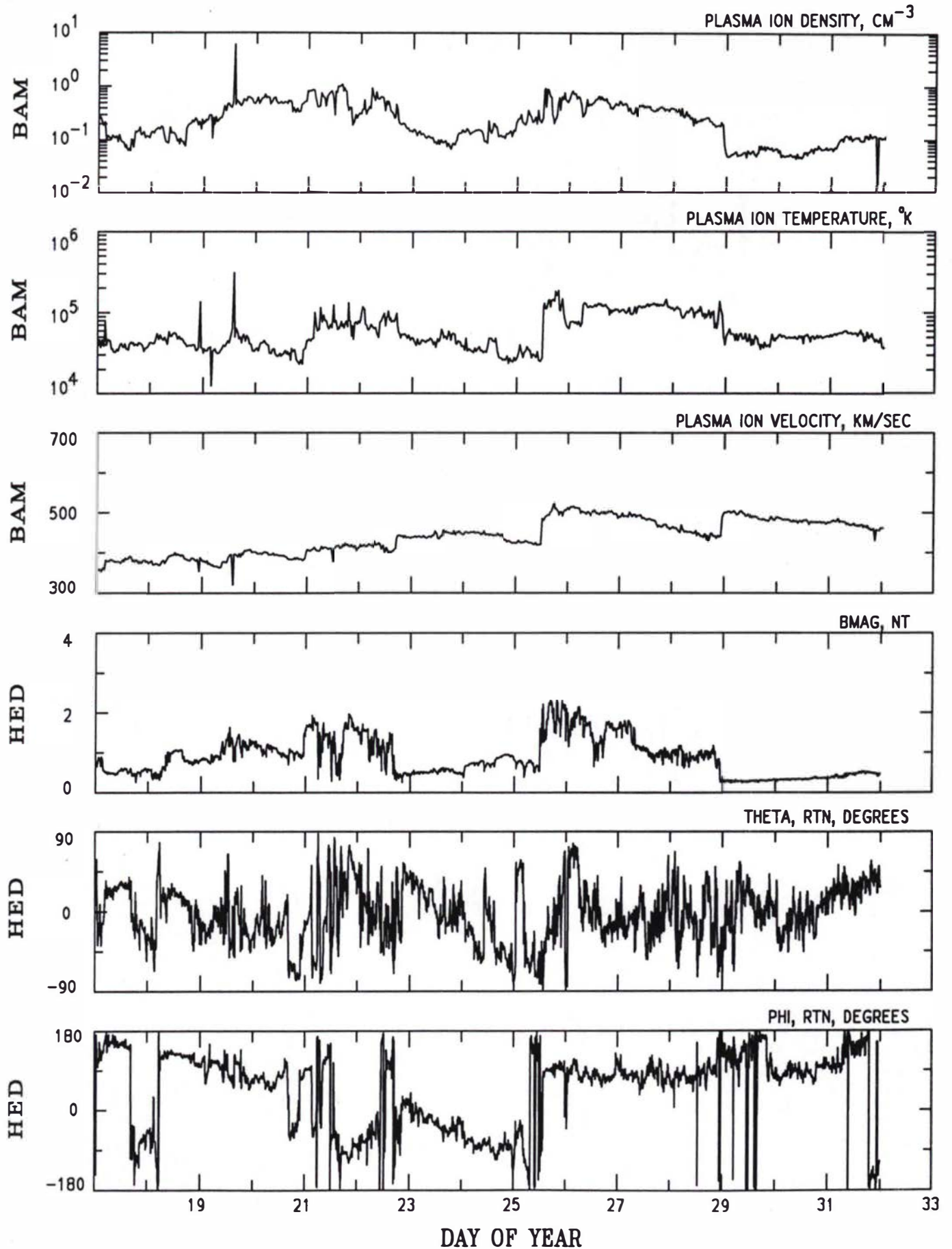
WASHINGTON, D.C.

PLANT GROWTH RECORD



ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 017 JAN 17 00:00:00.000 - 99 033 FEB 2 00:00:00.000



WATER RESOURCES DIVISION

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WASHINGTON, D.C. 20250

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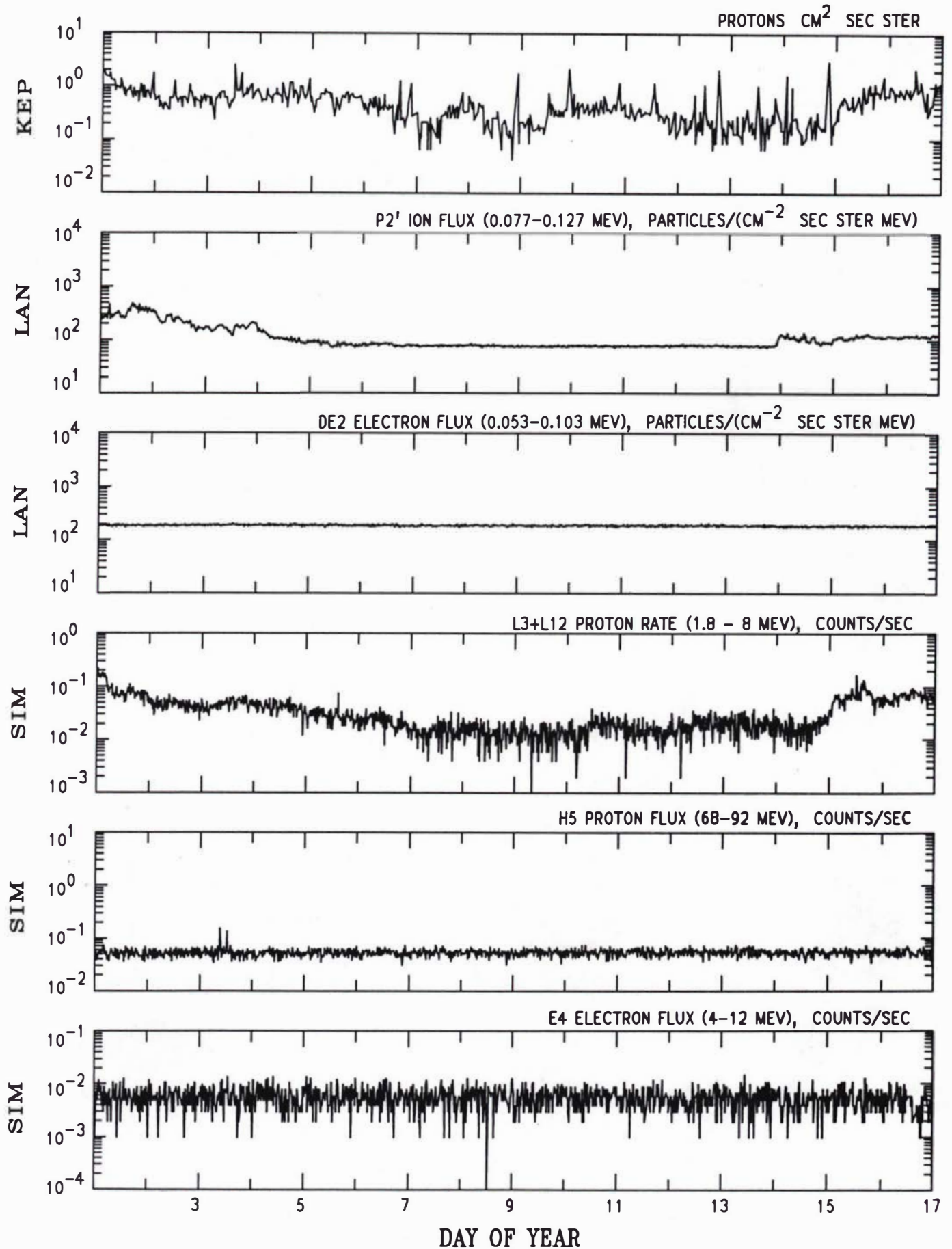
WATER RESOURCES DIVISION
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
WASHINGTON, D.C. 20250

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

99 001 JAN 1 00:00:00.000 - 99 017 JAN 17 00:00:00.000



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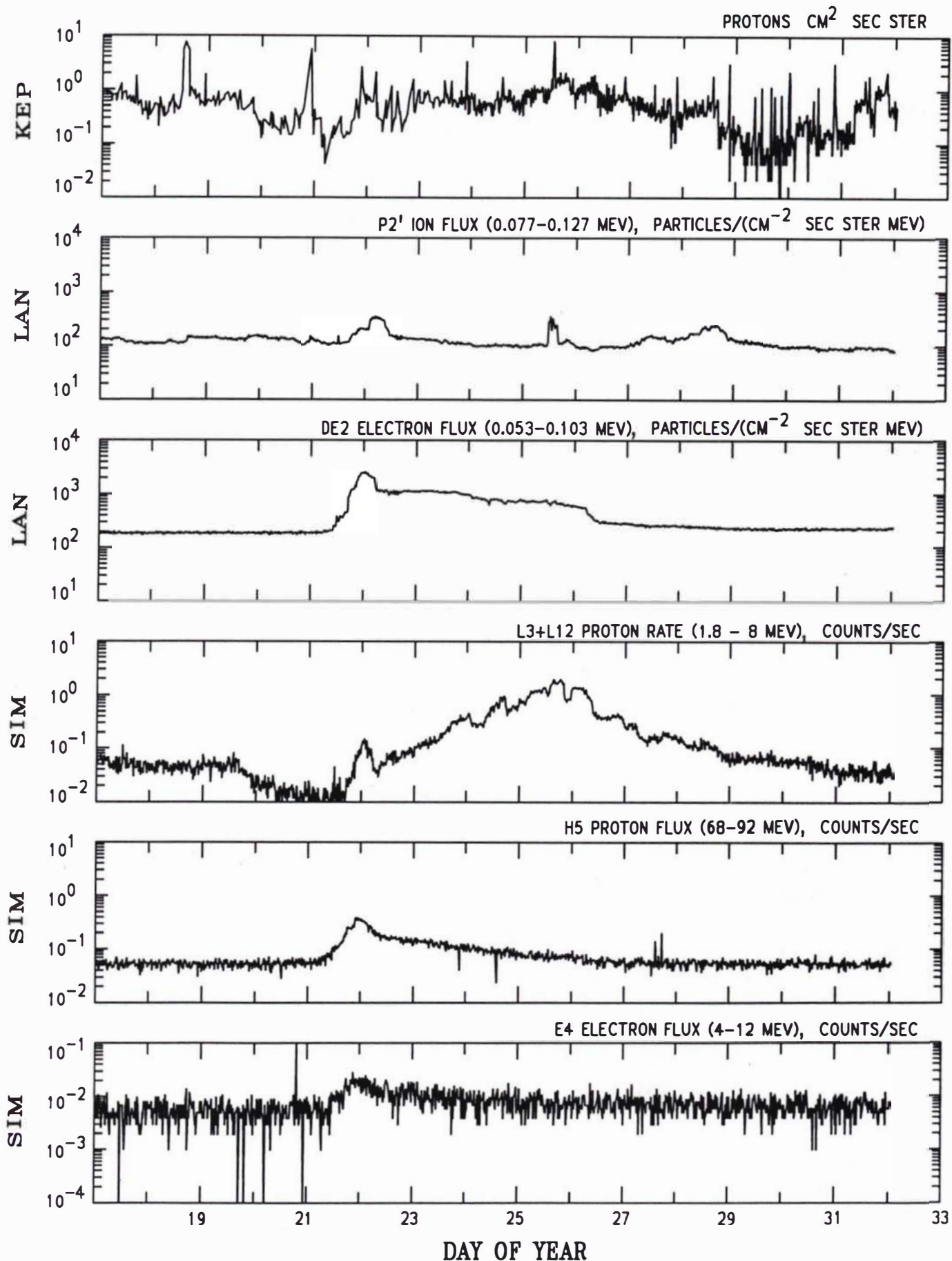


OF THE



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

99 017 JAN 17 00:00:00.000 - 99 033 FEB 2 00:00:00.000



100,000

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100,000

100,000

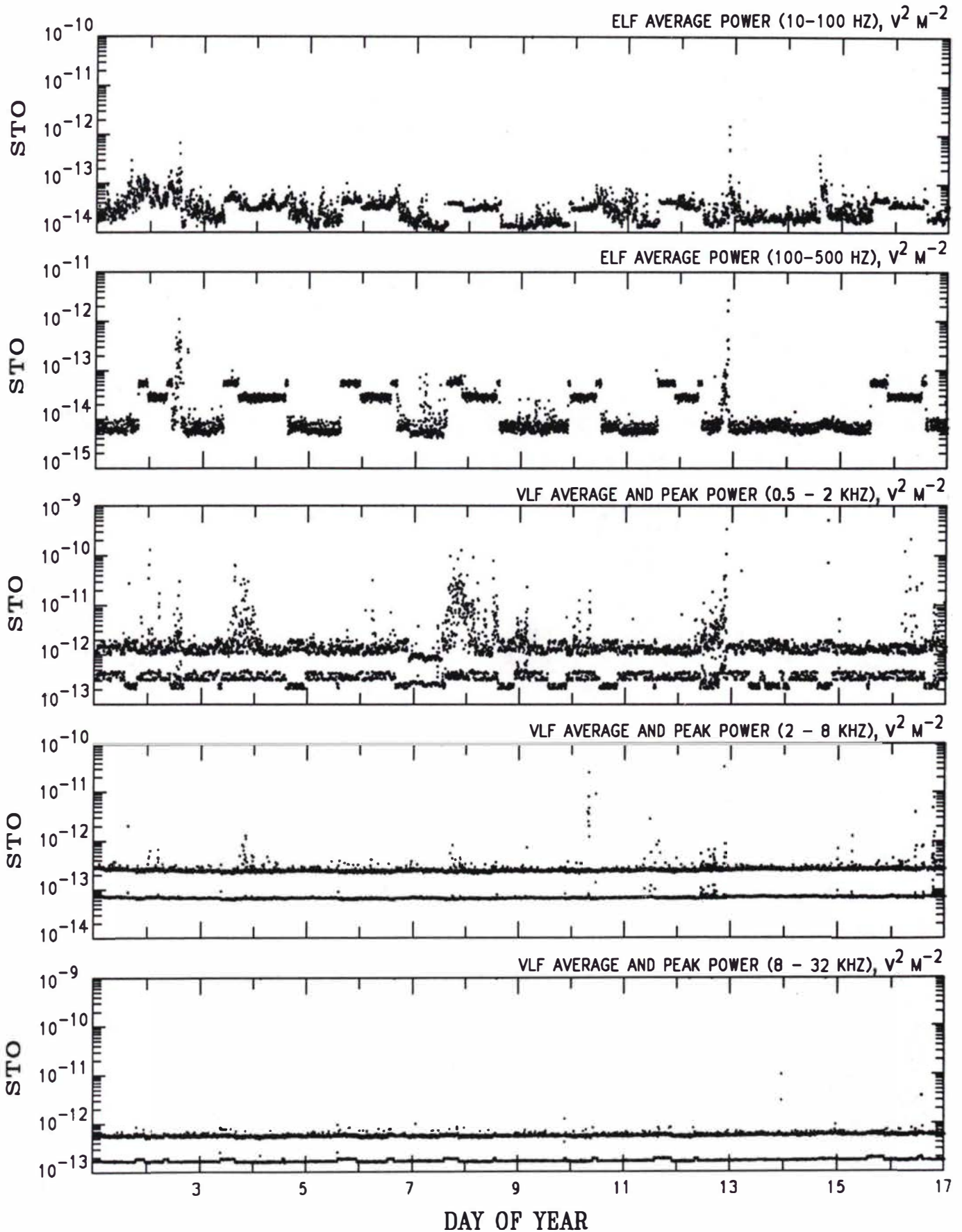
100,000

100,000

100,000

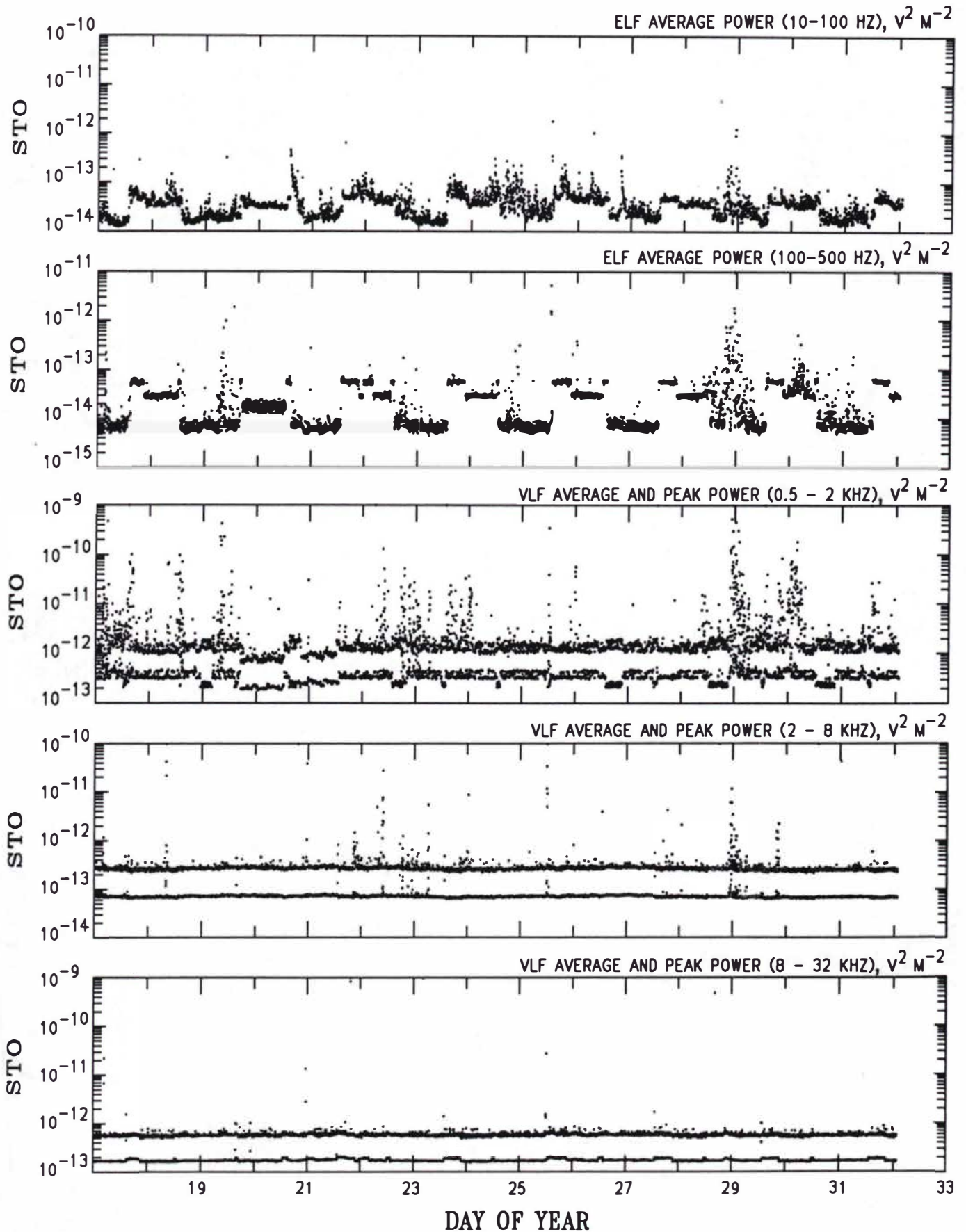
ULYSSES CDR - PLASMA WAVE

99 001 JAN 1 00:00:00.000 - 99 017 JAN 17 00:00:00.000



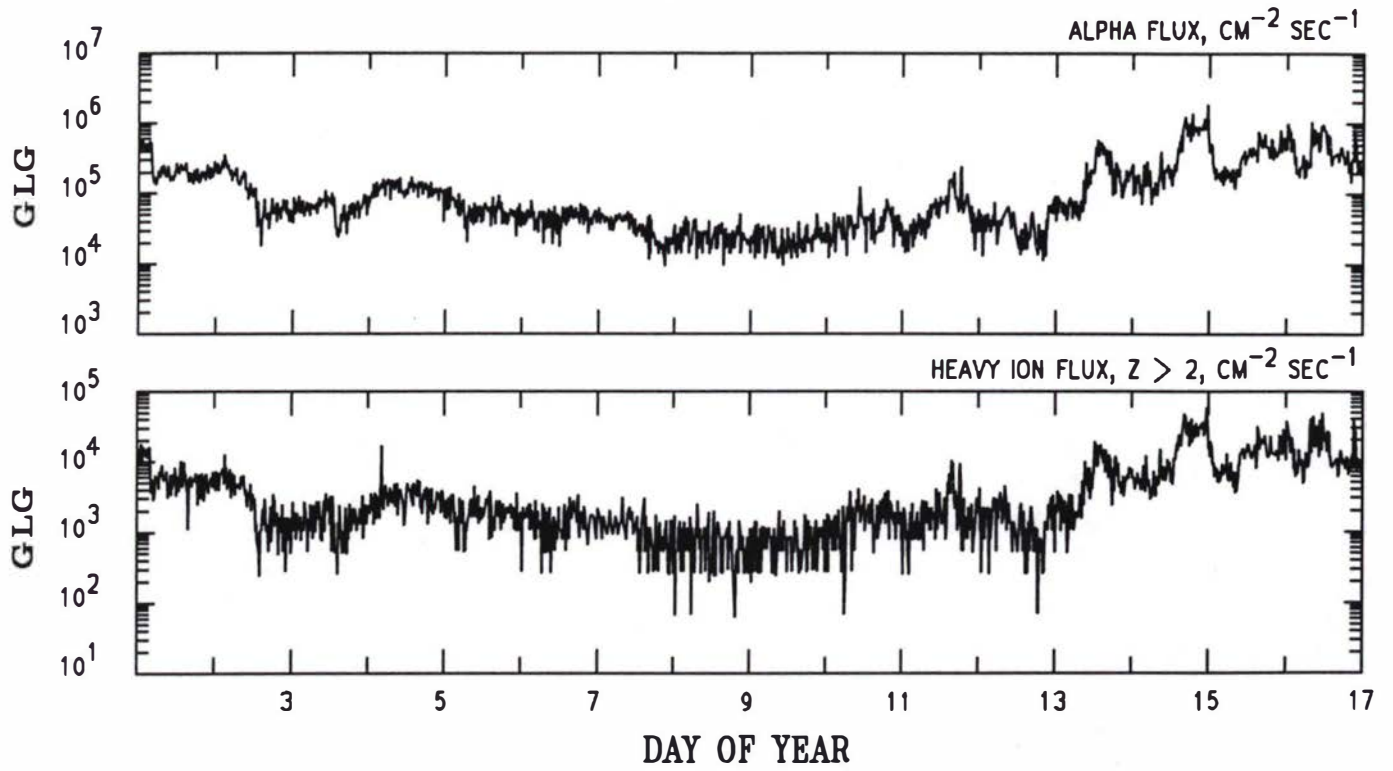
ULYSSES CDR - PLASMA WAVE

99 017 JAN 17 00:00:00.000 - 99 033 FEB 2 00:00:00.000



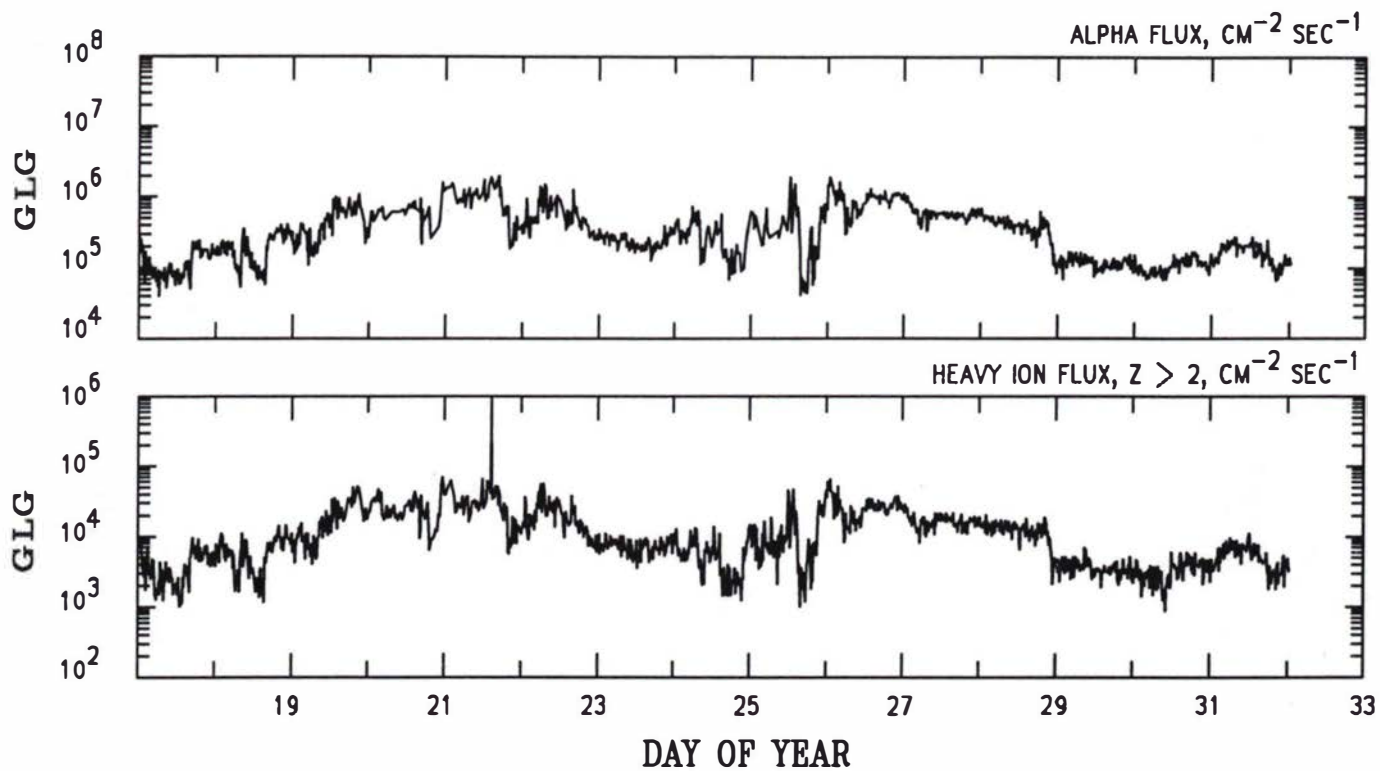
ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 001 JAN 1 00:00:00.000 - 99 017 JAN 17 00:00:00.000

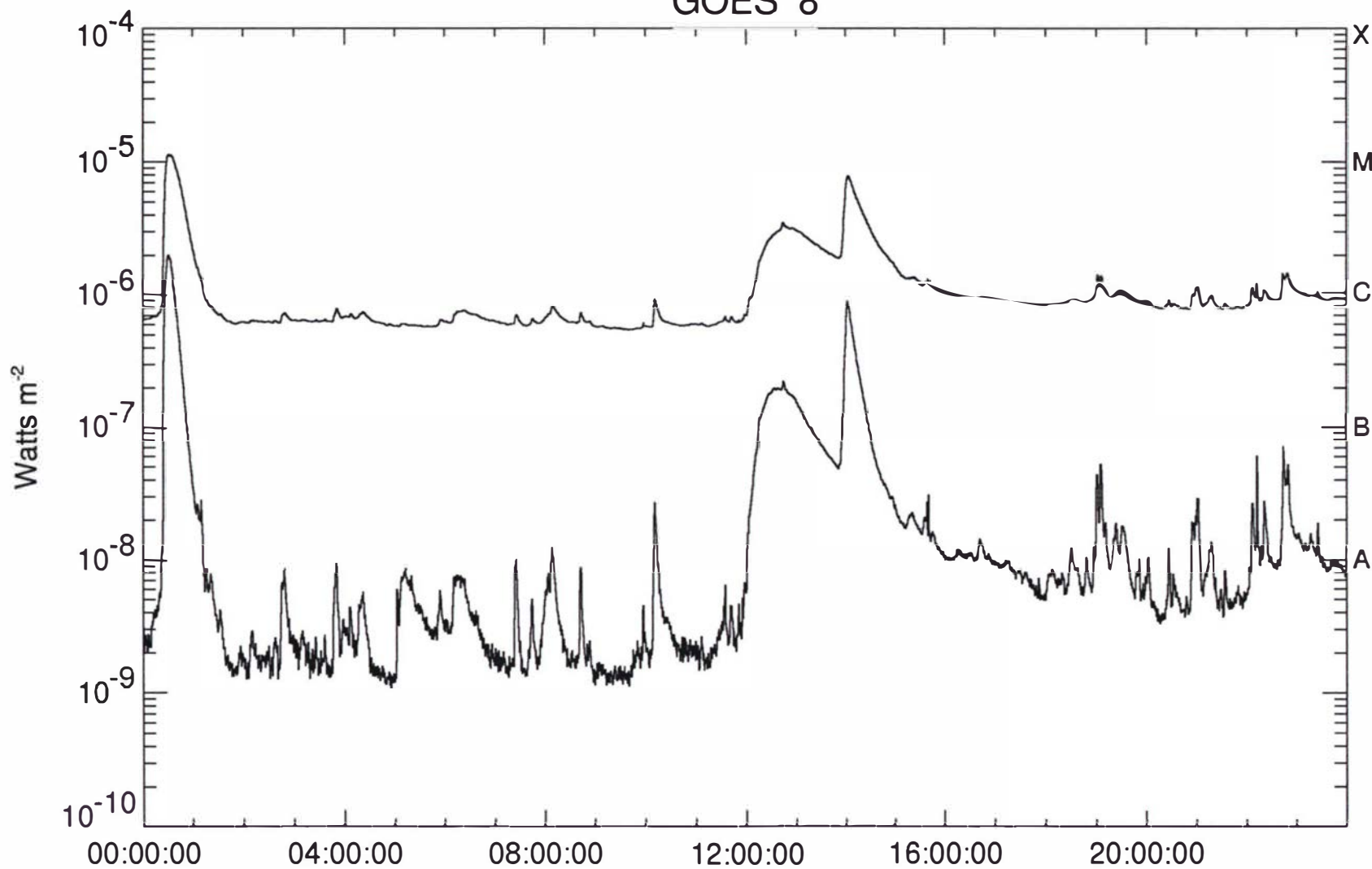


ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 017 JAN 17 00:00:00.000 - 99 033 FEB 2 00:00:00.000



GOES 8



Data Start: 99/01/01, 0000:00

Plot created: 99/01/05, 1009

Channel

1 (1.0 - 8.0 Angstroms)

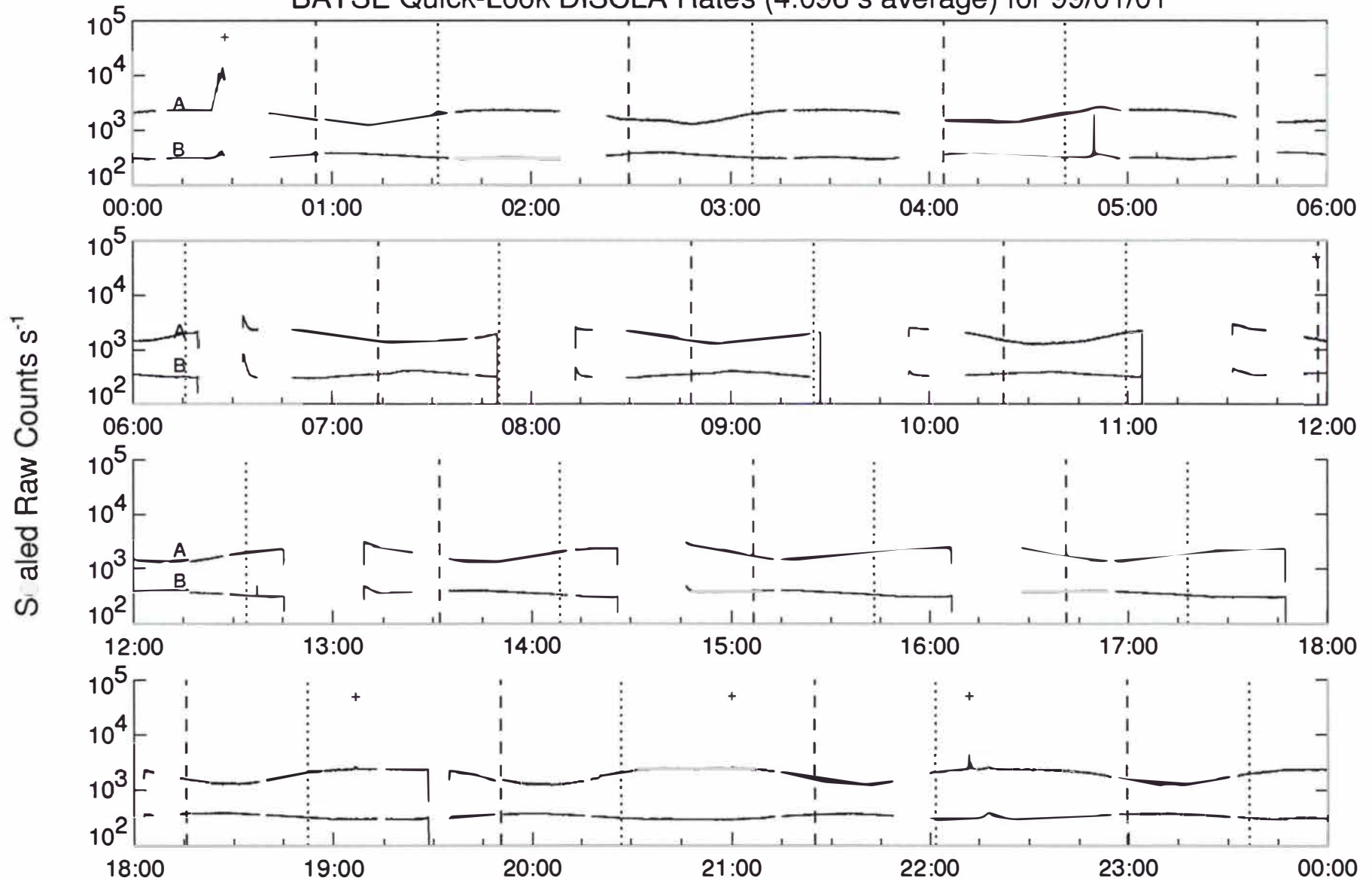
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/01

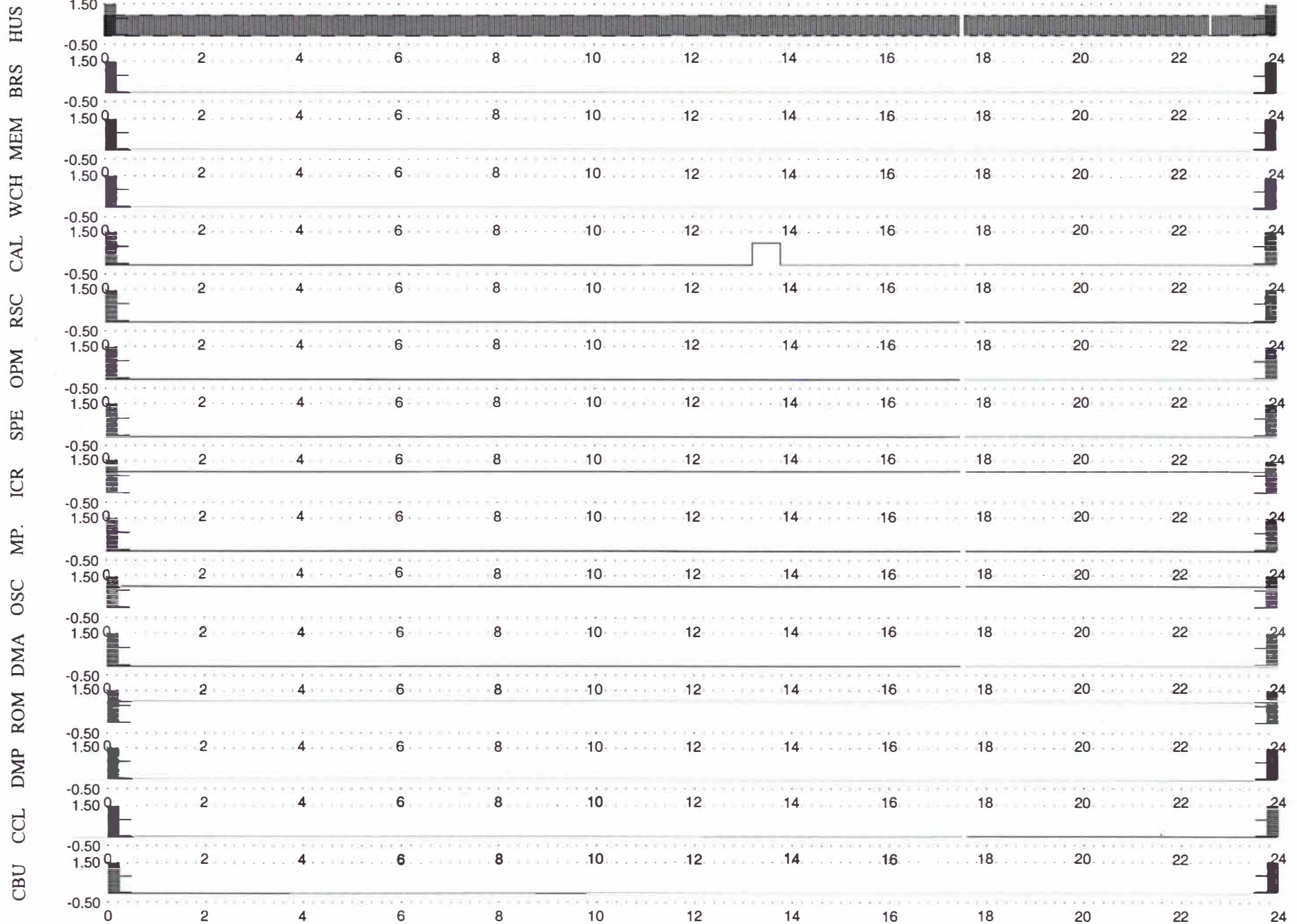


Current Time: 99/01/05, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

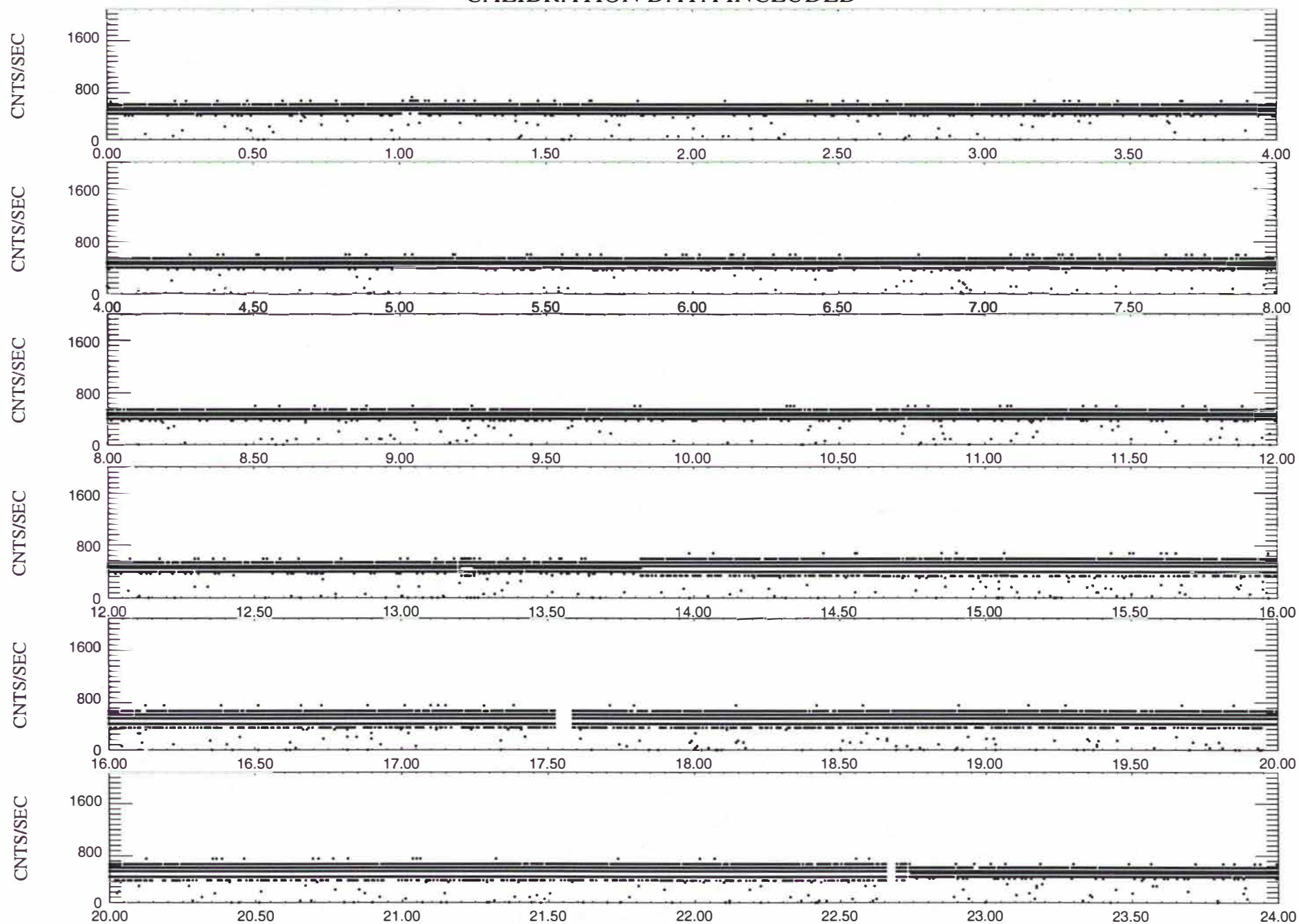
* Solar Burst Trigger
 + Solar Flare

NO BURST (0)

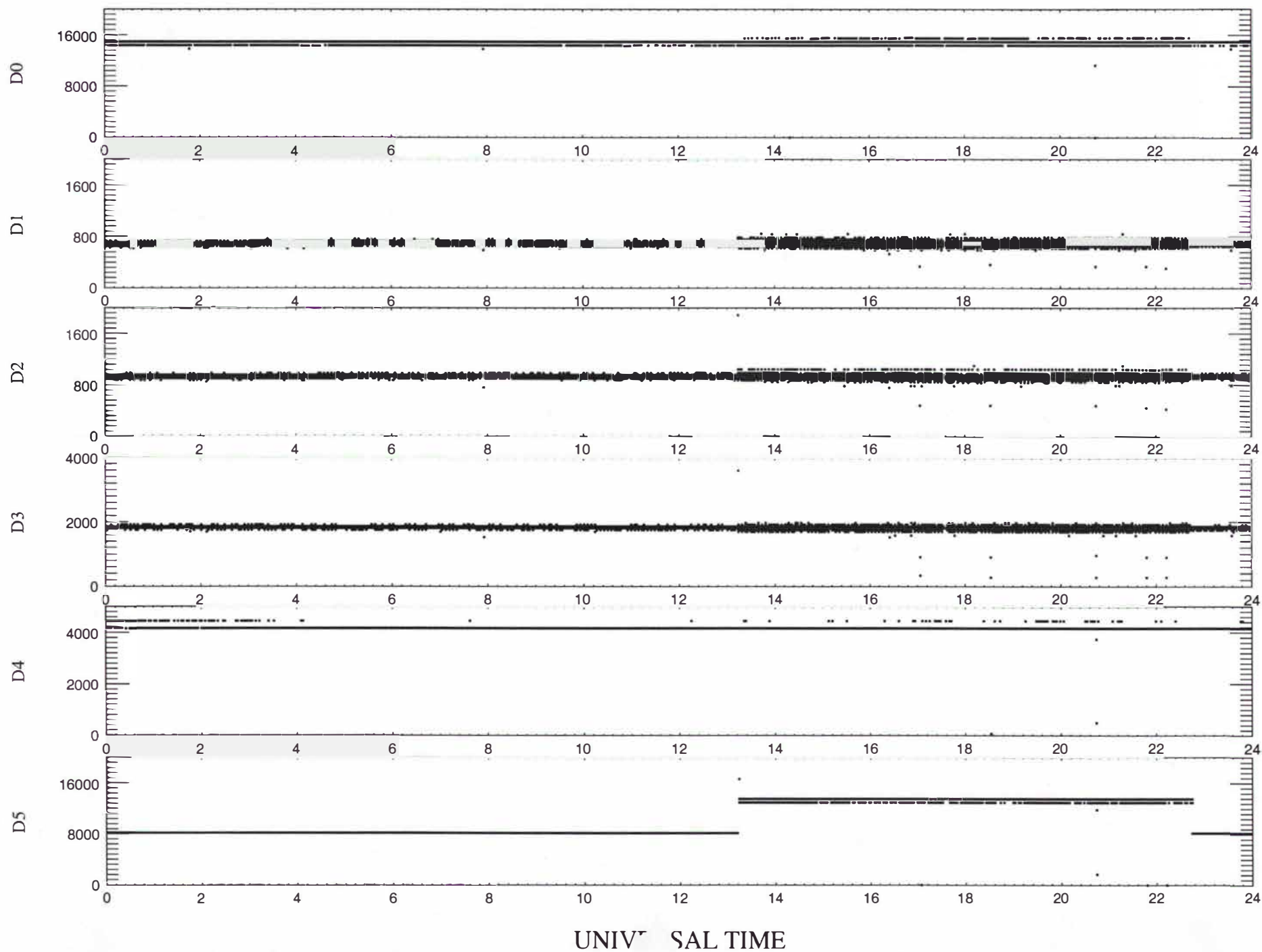


UNIV 3AL TIME

CALIBRATION DATA INCLUDED



UNIV SAL TIME



From WOODSP@fender.msfc.nasa.gov Tue Jan 5 11:44:02 1999
 Return-Path: <WOODSP@fender.msfc.nasa.gov>
 Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id LAA20175; Tue, 5 Jan 1999 11:44:01 -0800
 From: WOODSP@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id LAA22507; Tue, 5 Jan 1999 11:43:50 -0800
 Date: Tue, 5 Jan 1999 13:38:17 -0600 (CST)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990105133817.2026223c@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7293
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7293
 EVENT OF 1999 JAN 2 DAY OF YEAR= 2
 EVENT CROSSING TIME AT BATSE : 18396. S. OR 05:06:36.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 277.000 39.000
 BATSE PEAK COUNTING RATE: 11000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 2/ 1/ 99 IS:
 RA= 165.806 DEC= -8.075 DIST= 4.766 AU
 BATSE-ULYSSES DISTANCE = 712941780. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 68.50 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 871.76 SECS.
 CROSSING TIME AT ULYSSES IS 19268. S. OR 05:21:07 +/- 447.38 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 2/ 1/ 99 IS:
 RA= 198.145 DEC= -5.631 DIST= 1.482 AU
 MARS-BATSE DISTANCE = 221743088. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 95.03 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -64.89 SECS.
 CROSSING TIME AT MARS IS 18331. S. OR 05:05:31 +/- 126.94 SECONDS

BATSE BURST TRIGGER

NO.: 7293

TIME: TJD=1180 SECONDS=18396

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=26.8 AZIMUTH=249.9 ERROR=0.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 100 SEC. SINGLE FRED PULSE WITH HARD-TO-SOFT
 SPECTRAL EVOLUTION. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7293	990102	11180	18396	11000	277	+39	100

Date: Jan 24 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

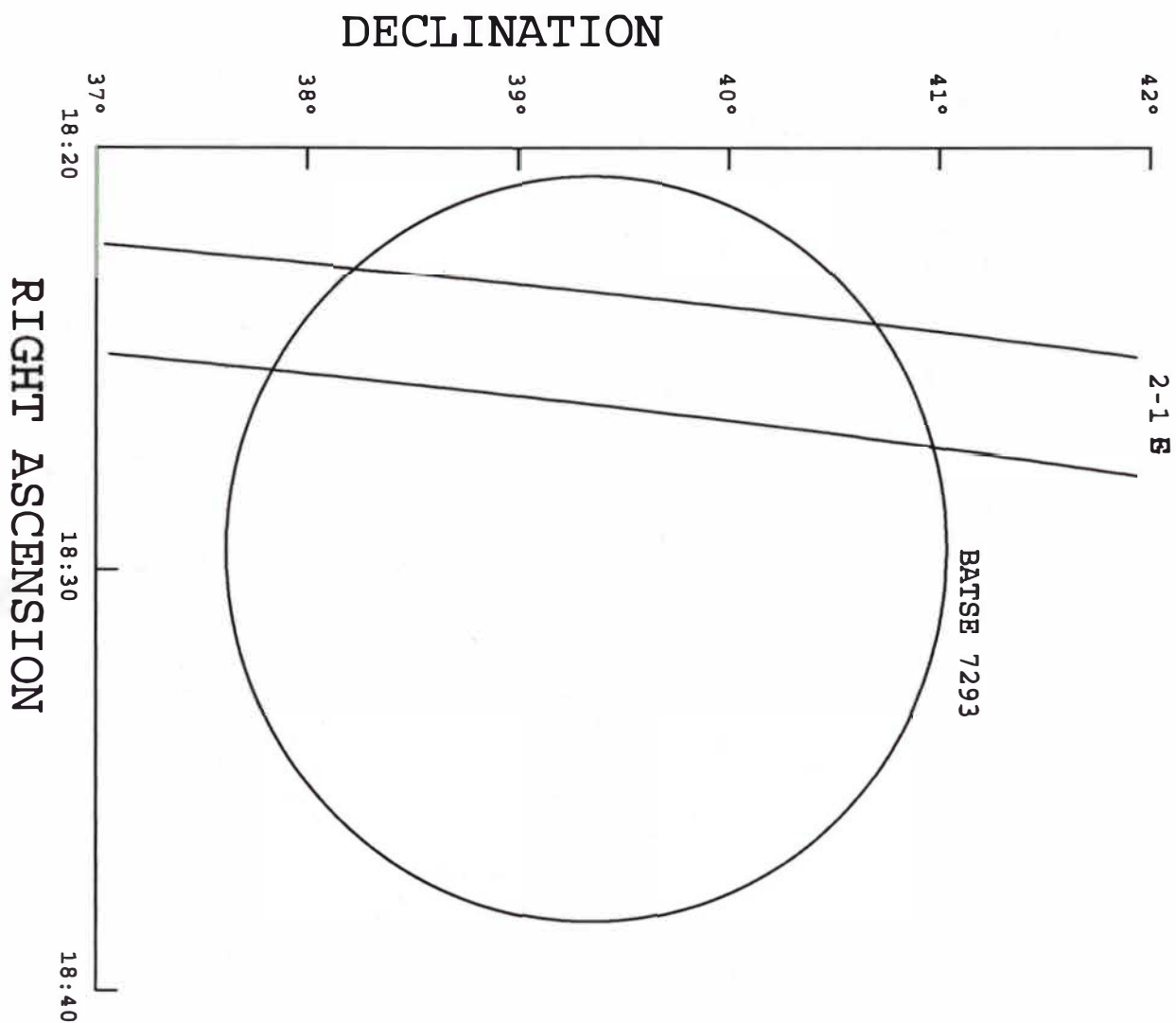
G=GALACTIC EQUATOR

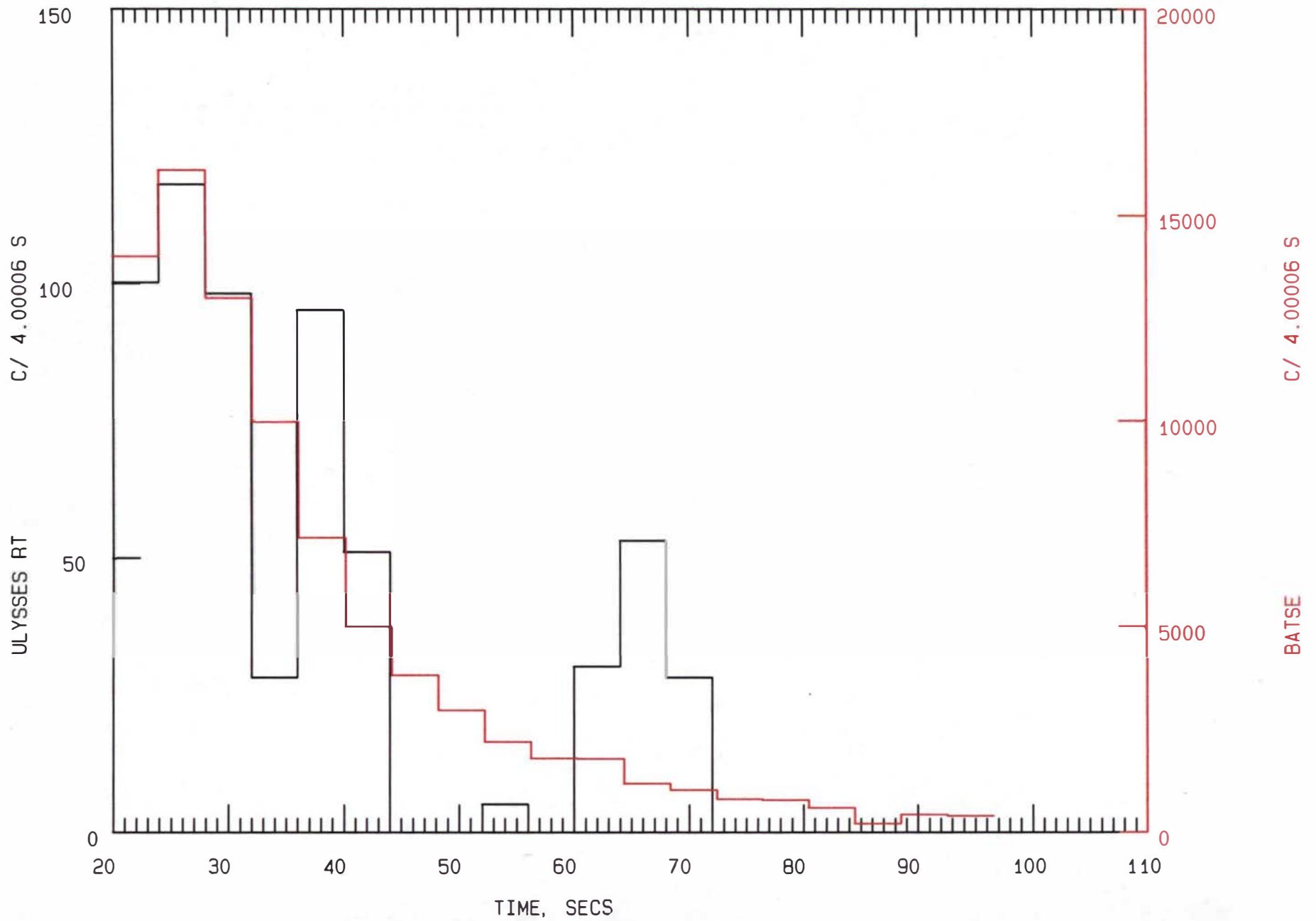
1 BATSE

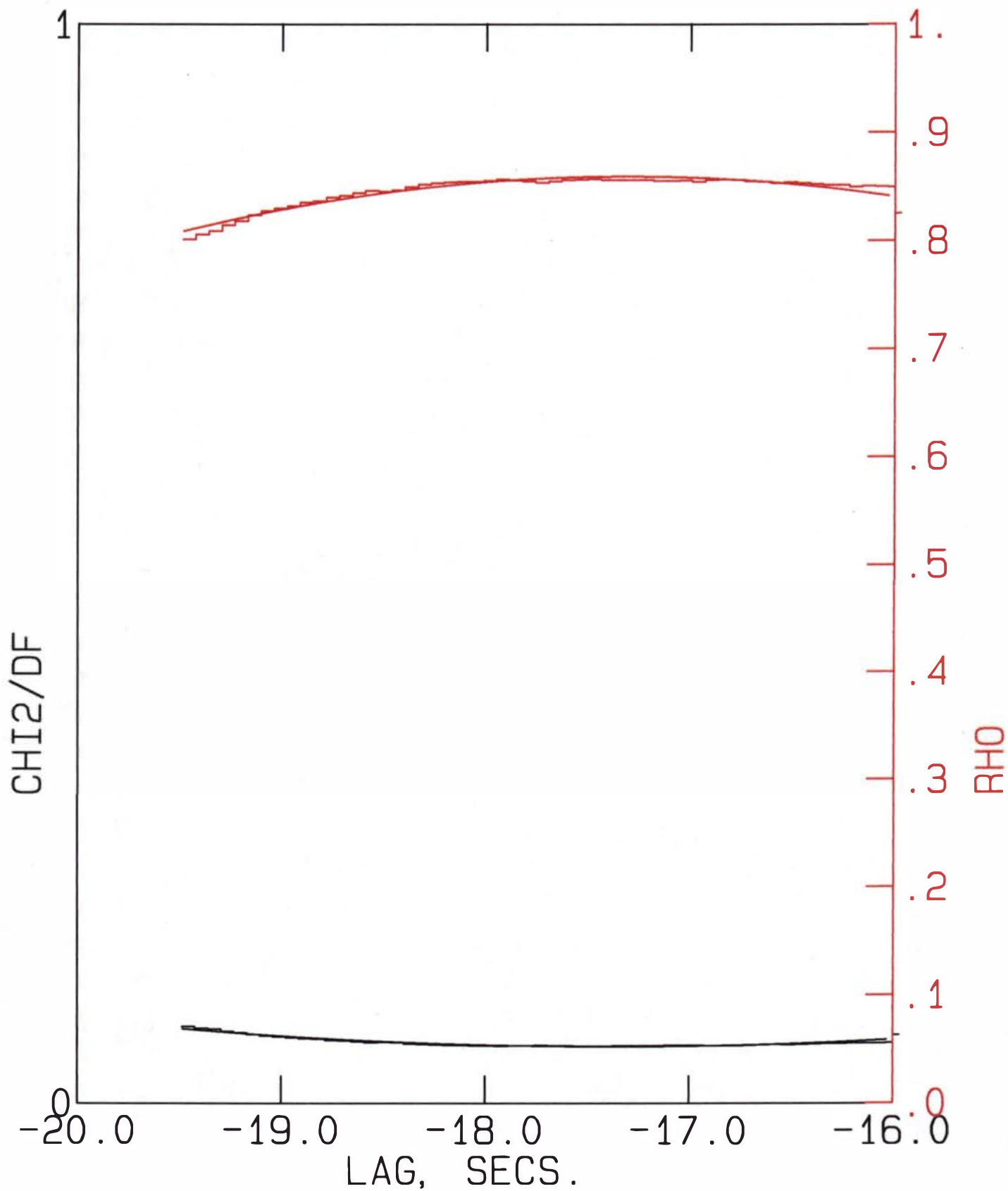
2 ULYSSES

EVENT OF JAN 2, 1999 5:06

24 / 1 / 0



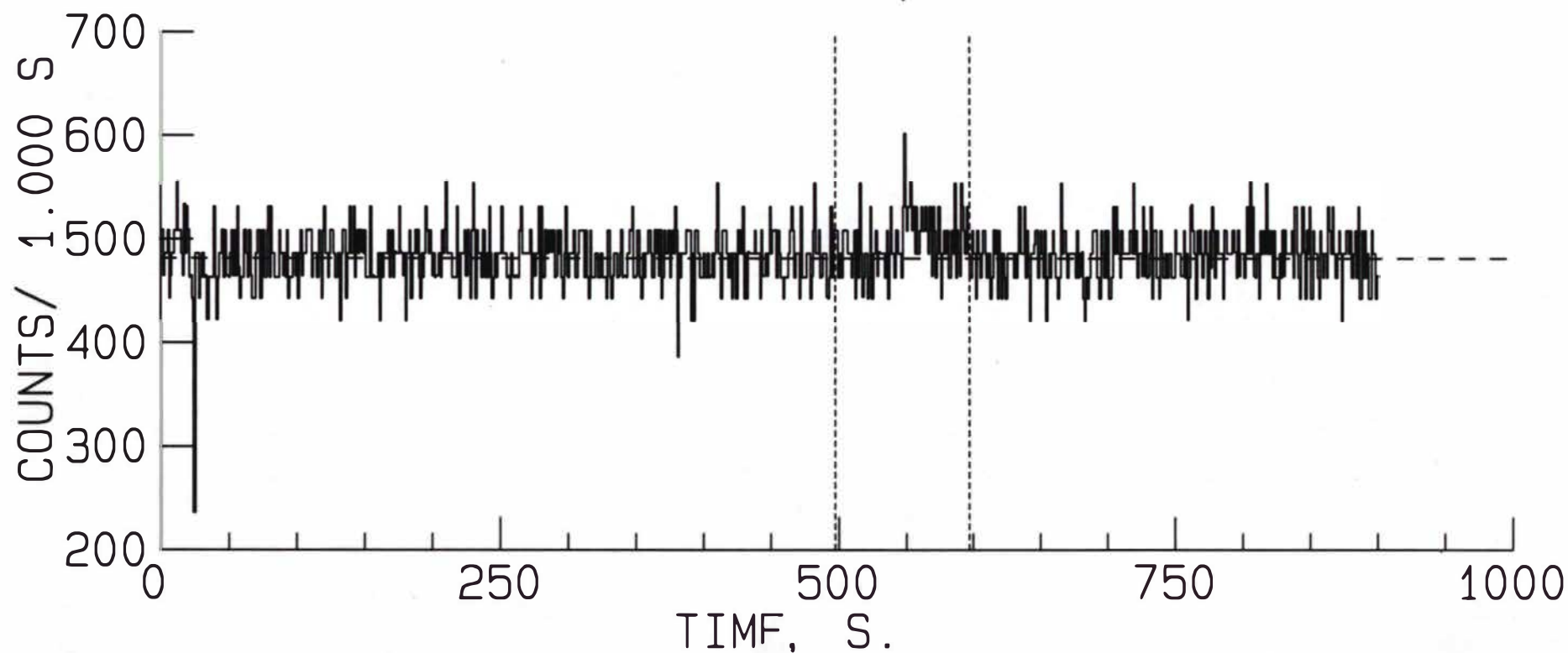




ULYSSES RT
2/ 1/99 18684.022 s
0.500 S INTERVALS REGROUPED BY 2
22- 150 keV

24 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

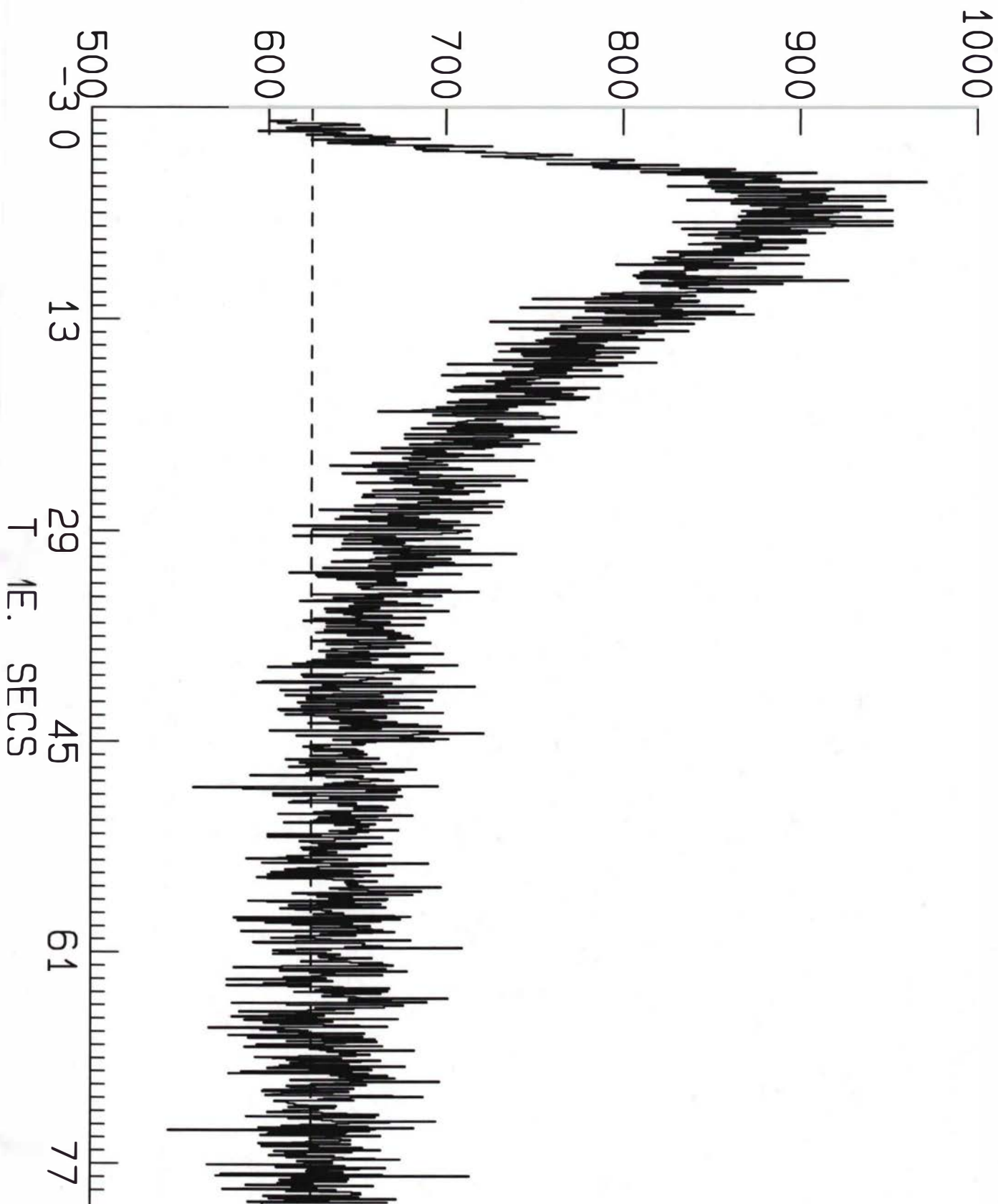
02/01/99

18396.921

25- 100 keV

COUNTS/0.064 S

3 / 2 / 99



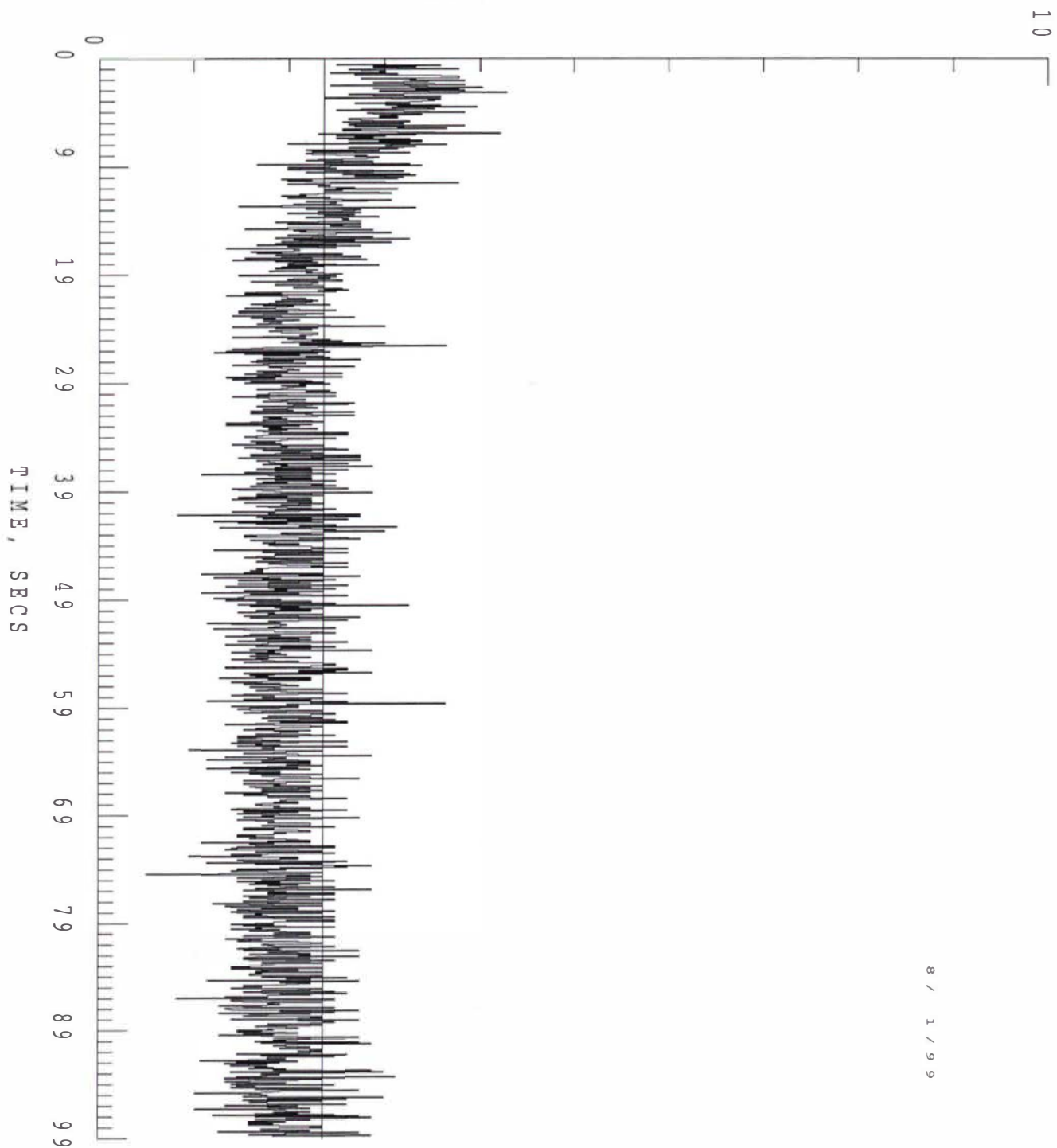
KONUS

02/01/99

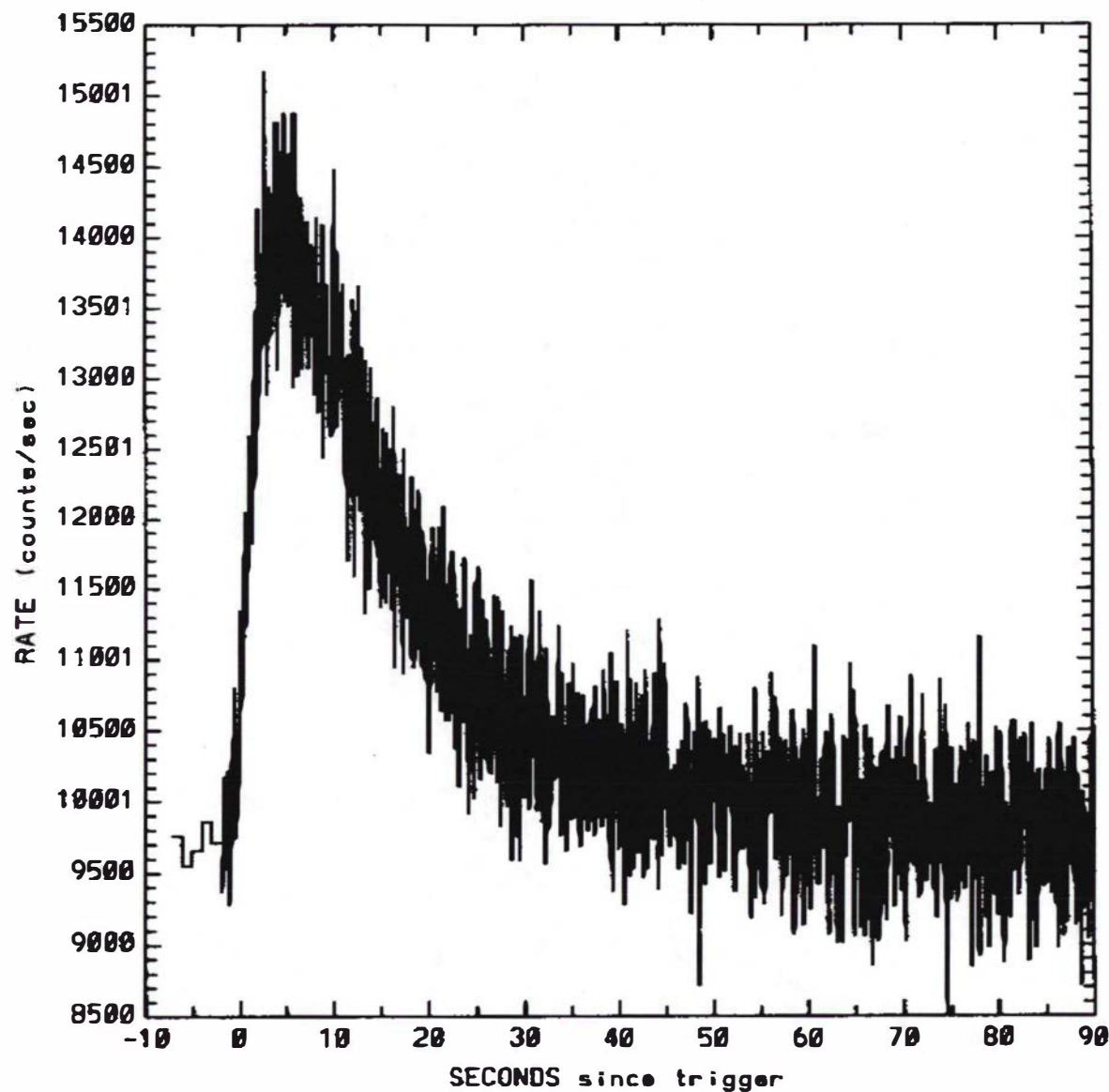
18398.569

50 - 200 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7293



From WOODSP@fender.msfc.nasa.gov Tue Jan 5 11:44:16 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA20181; Tue, 5 Jan 1999 11:44:15 -0800
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA22531; Tue, 5 Jan 1999 11:44:04 -0800
Date: Tue, 5 Jan 1999 13:39:14 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990105133914.2026223c@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7294
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7294
EVENT OF 1999 JAN 2 DAY OF YEAR= 2
EVENT CROSSING TIME AT BATSE : 34425. S. OR 09:33:45.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 218.000 -24.000
BATSE PEAK COUNTING RATE: 13500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 1/ 99 IS:
RA= 165.788 DEC= -8.088 DIST= 4.762 AU
BATSE-ULYSSES DISTANCE = 712463480. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=127.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1453.06 SECS.
CROSSING TIME AT ULYSSES IS 32972. S. OR 09:09:31 +/- 354.43 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 1/ 99 IS:
RA= 198.145 DEC= -5.631 DIST= 1.482 AU
MARS-BATSE DISTANCE = 221743088. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=153.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -661.99 SECS.
CROSSING TIME AT MARS IS 33763. S. OR 09:22:43 +/- 47.23 SECONDS

BATSE BURST TRIGGER

NO.: 7294

TIME: TJD=1180 SECONDS=34425

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=93.7 AZIMUTH=318.5 ERROR=7 DEGREES

COMMENTS:

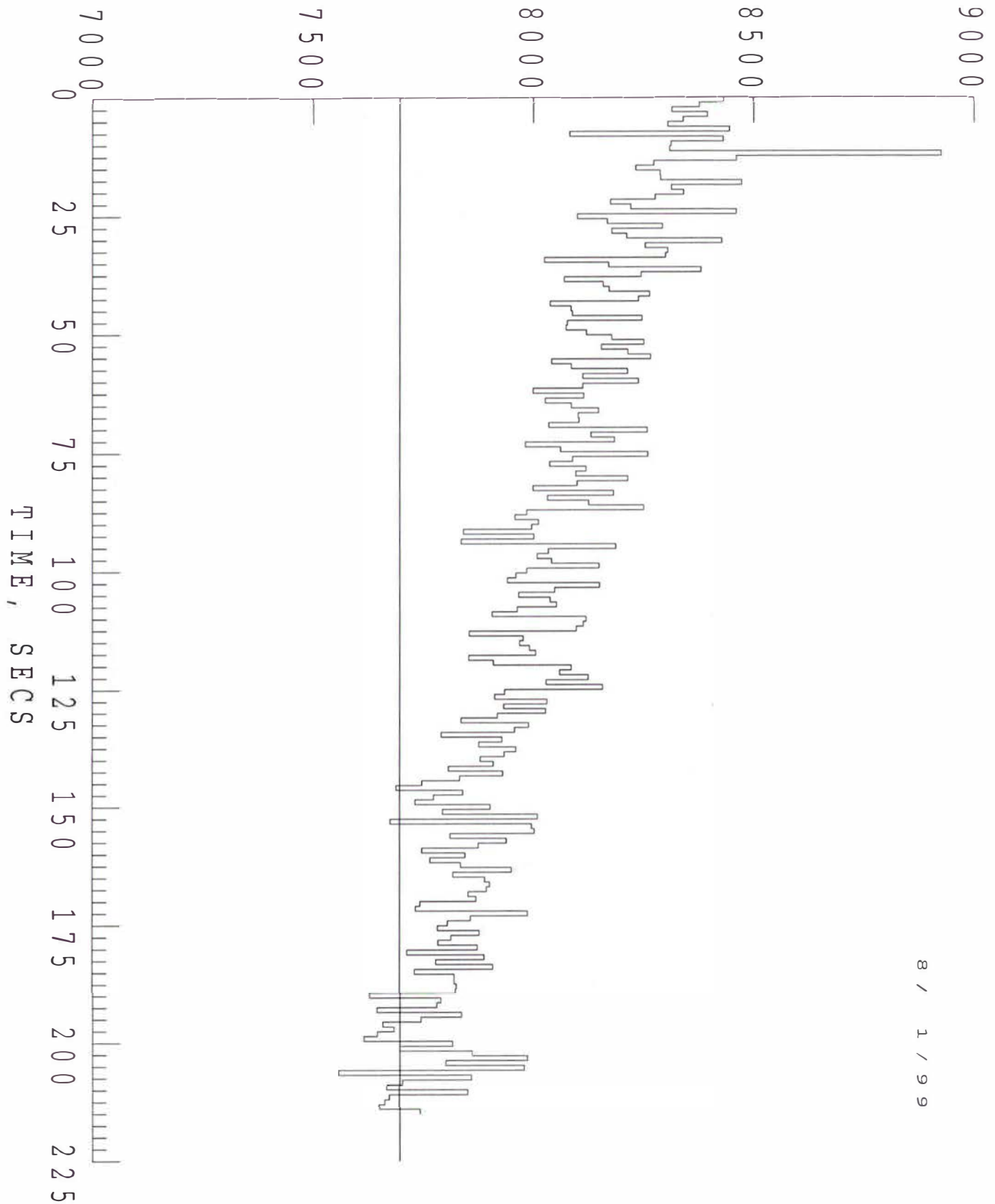
GRB LASTING ABOUT 0.2 SEC. SINGLE FLAT-TOPPED PULSE. VISIBLE
ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7294	990102	11180	34425	13500	218	-24	.2

BACODINE 7294 02/01/99 34414.329

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7294

ULYSSES RT

8 / 1 / 99

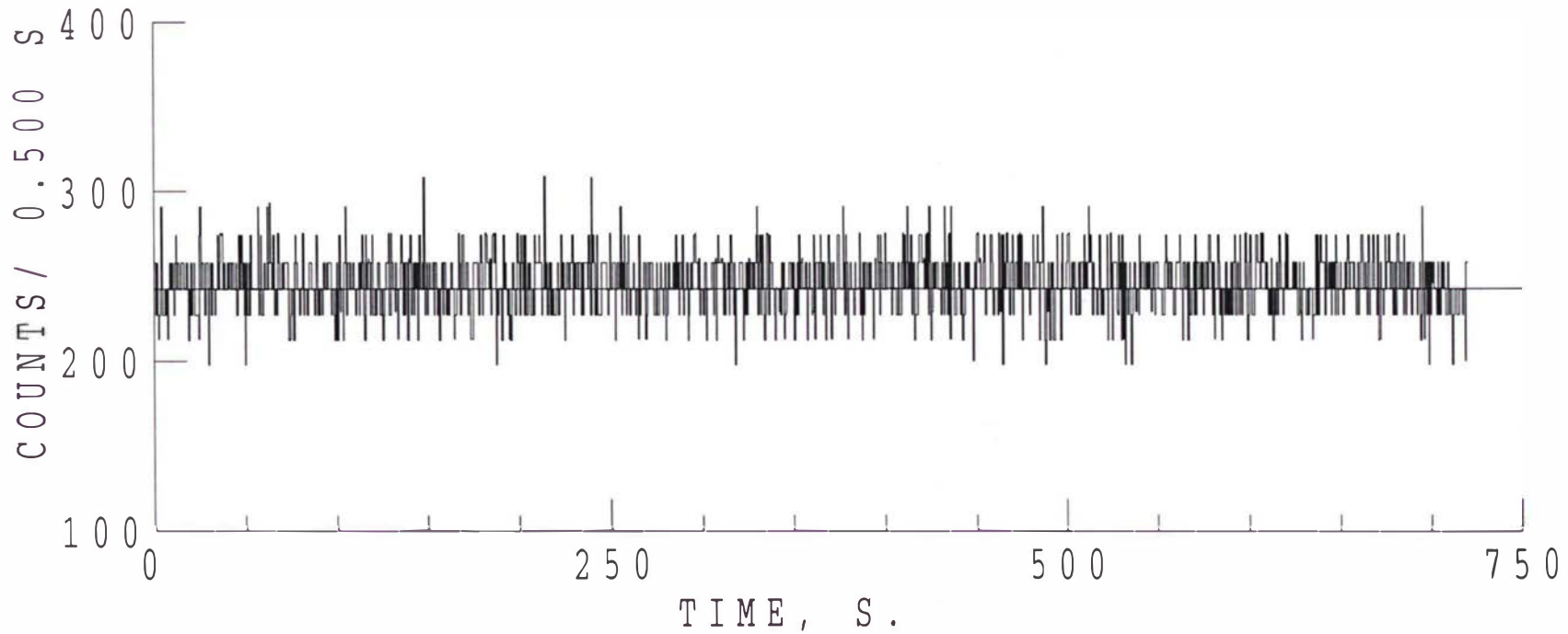
2 / 1 / 99 32616.164 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



 BATSEARCH PROGRAM

BATSE BURST # 7295
 EVENT OF 1999 JAN 2 DAY OF YEAR= 2
 EVENT CROSSING TIME AT BATSE : 49918. S. OR 13:51:58.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 204.000 3.000
 BATSE PEAK COUNTING RATE: 7800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 2/ 1/ 99 IS:
 RA= 165.770 DEC= -8.100 DIST= 4.759 AU
 BATSE-ULYSSES DISTANCE = 712006652. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=140.29 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1826.99 SECS.
 CROSSING TIME AT ULYSSES IS 48091. S. OR 13:21:31 +/- 285.71 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 2/ 1/ 99 IS:
 RA= 198.145 DEC= -5.631 DIST= 1.482 AU
 MARS-BATSE DISTANCE = 221743088. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=169.57 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -727.44 SECS.
 CROSSING TIME AT MARS IS 49191. S. OR 13:39:50 +/- 12.19 SECONDS

ATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7295	990102	11180	49918	7800	204	+03	80

BATSE BURST TRIGGER

NO.: 7295

TIME: TJD=1180 SECONDS=49918

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=96.9 AZIMUTH=288.1 ERROR=0.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 80 SEC. SINGLE PULSE WITH SUBSTRUCTURE.
 VISIBLE ABOVE 300 KEV.

Date: Jan 24, 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data **N/A**

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

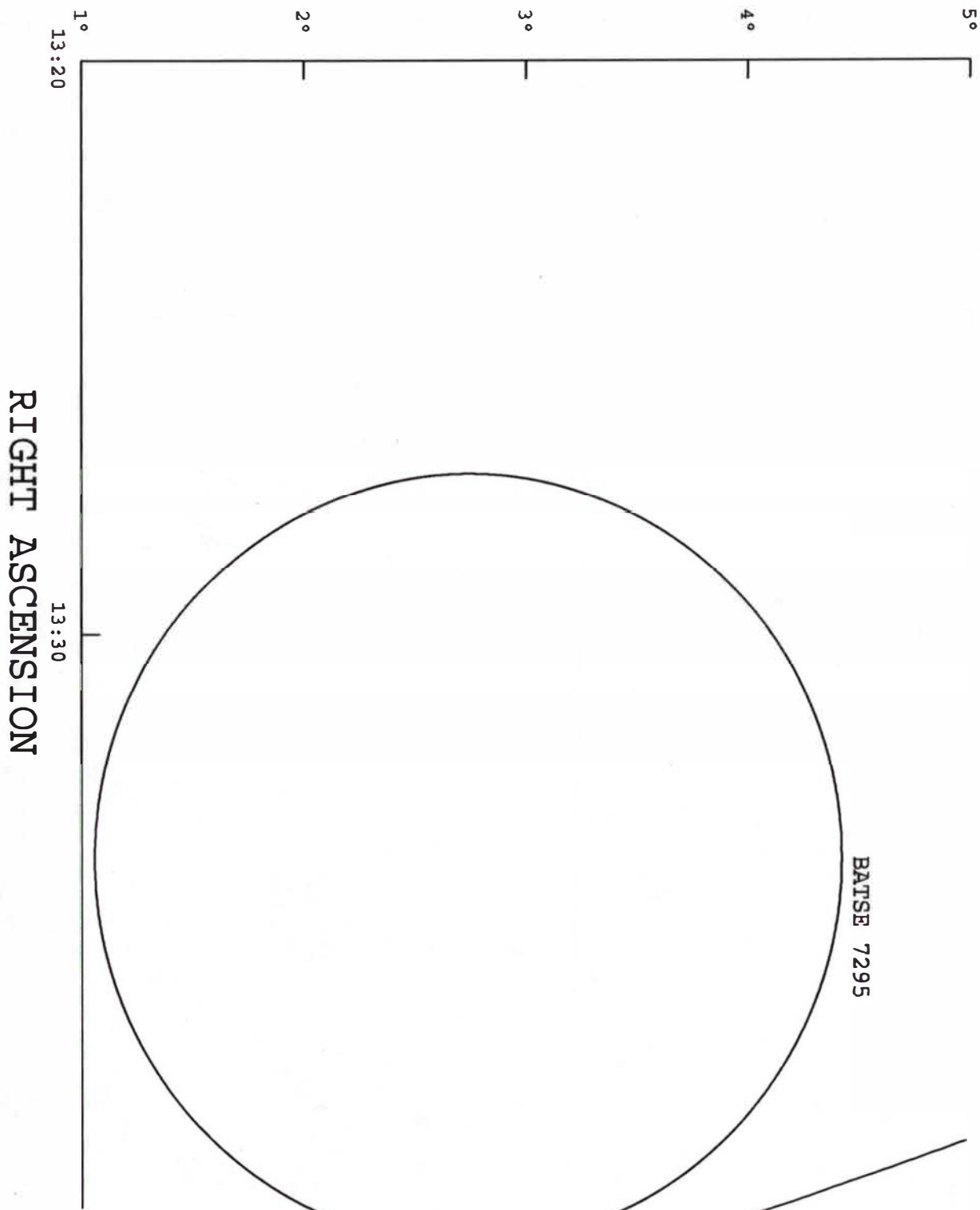
1 BATSE

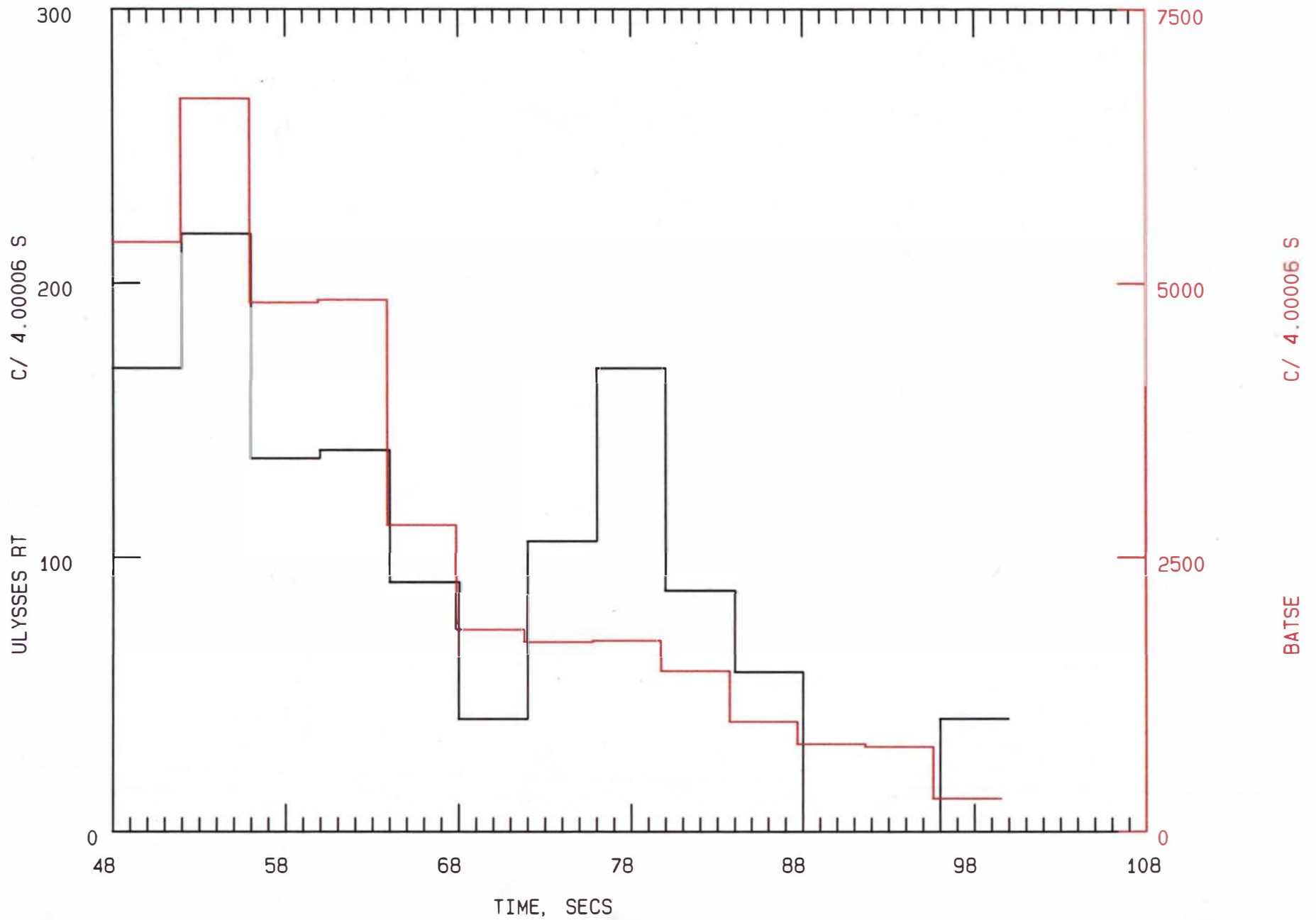
2 ULYSSES

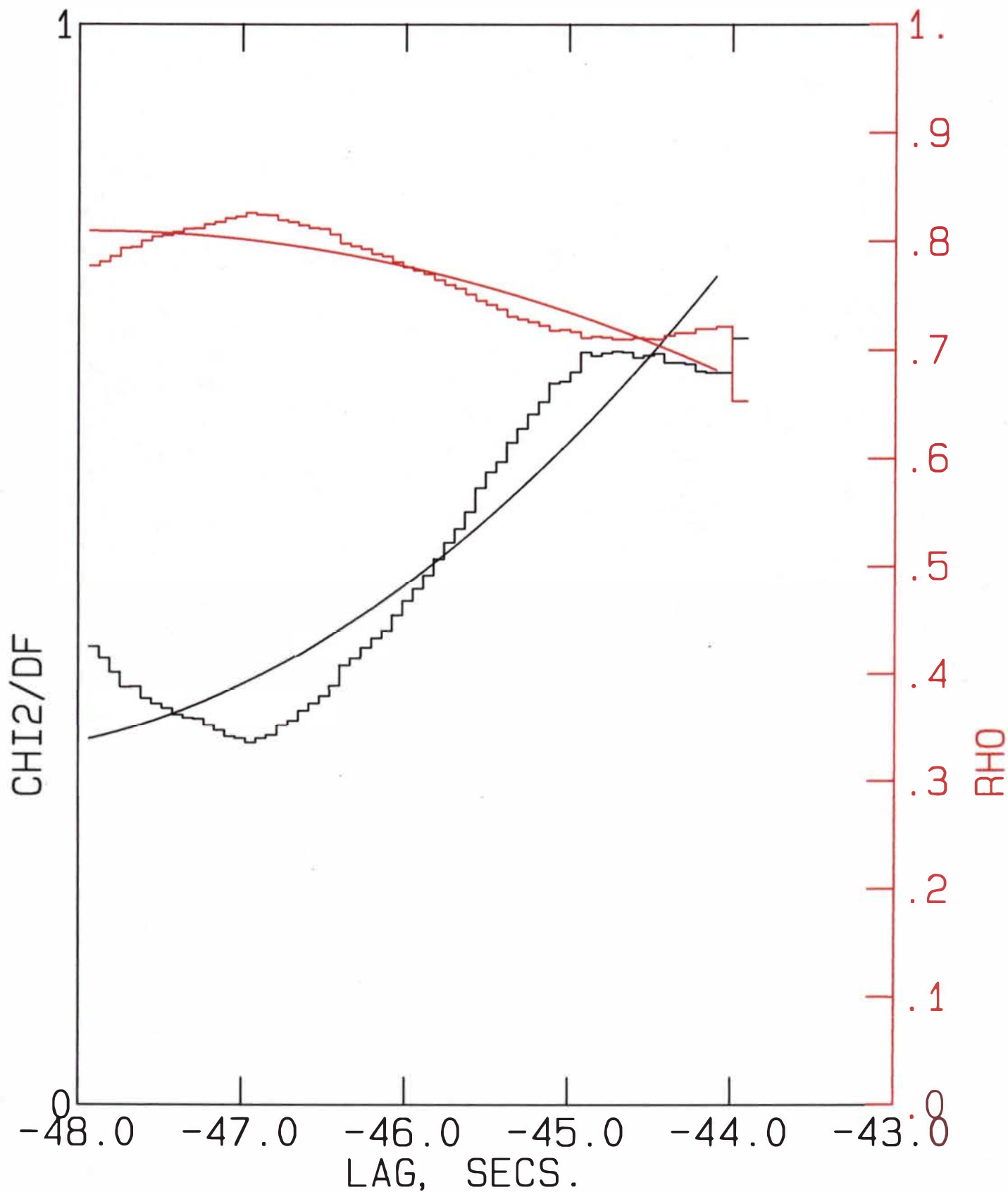
DECLINATION

EVENT OF JAN 2, 1999 13:51

24 / 1 / 0

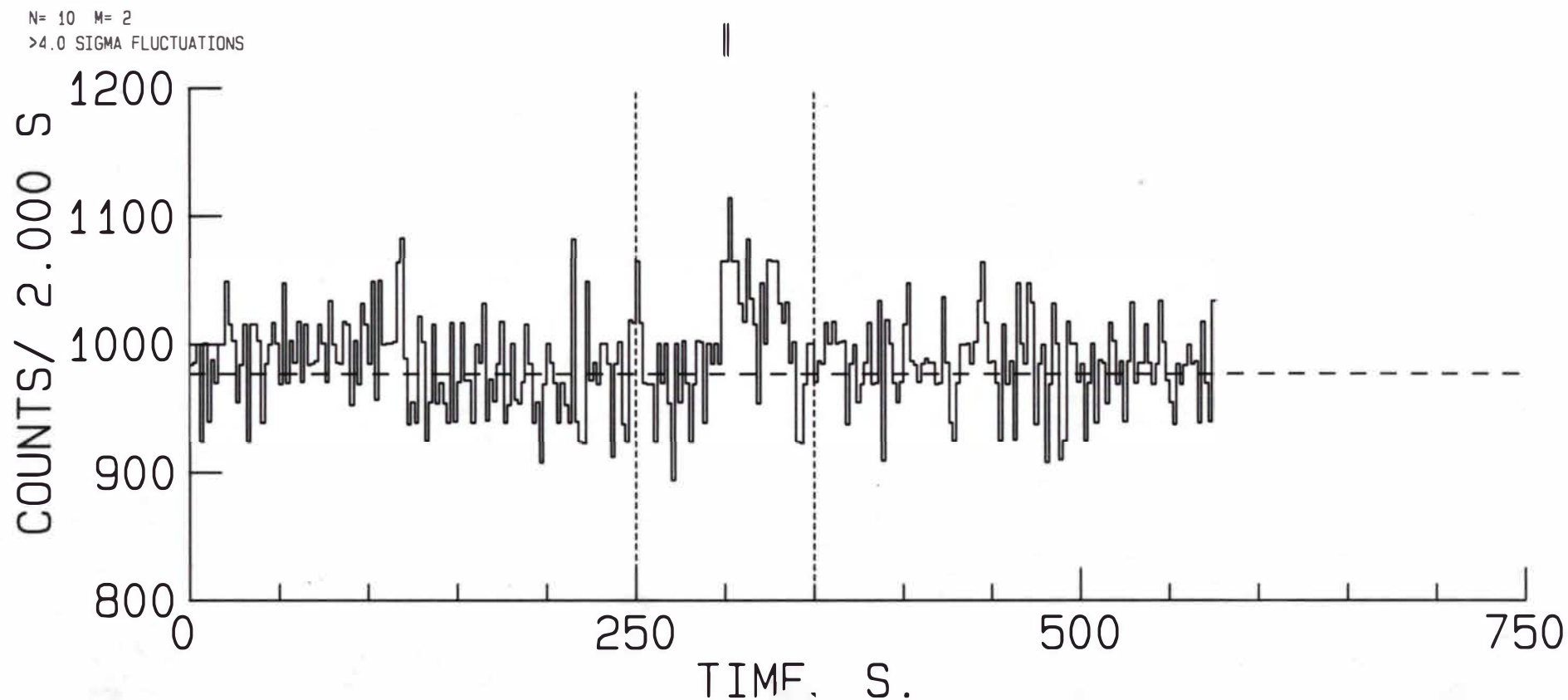






ULYSSES RT
2/ 1/99 47808.073 s
0.250 S INTERVALS REGROUPED BY 8
22- 150 keV

24 / 1 / 0



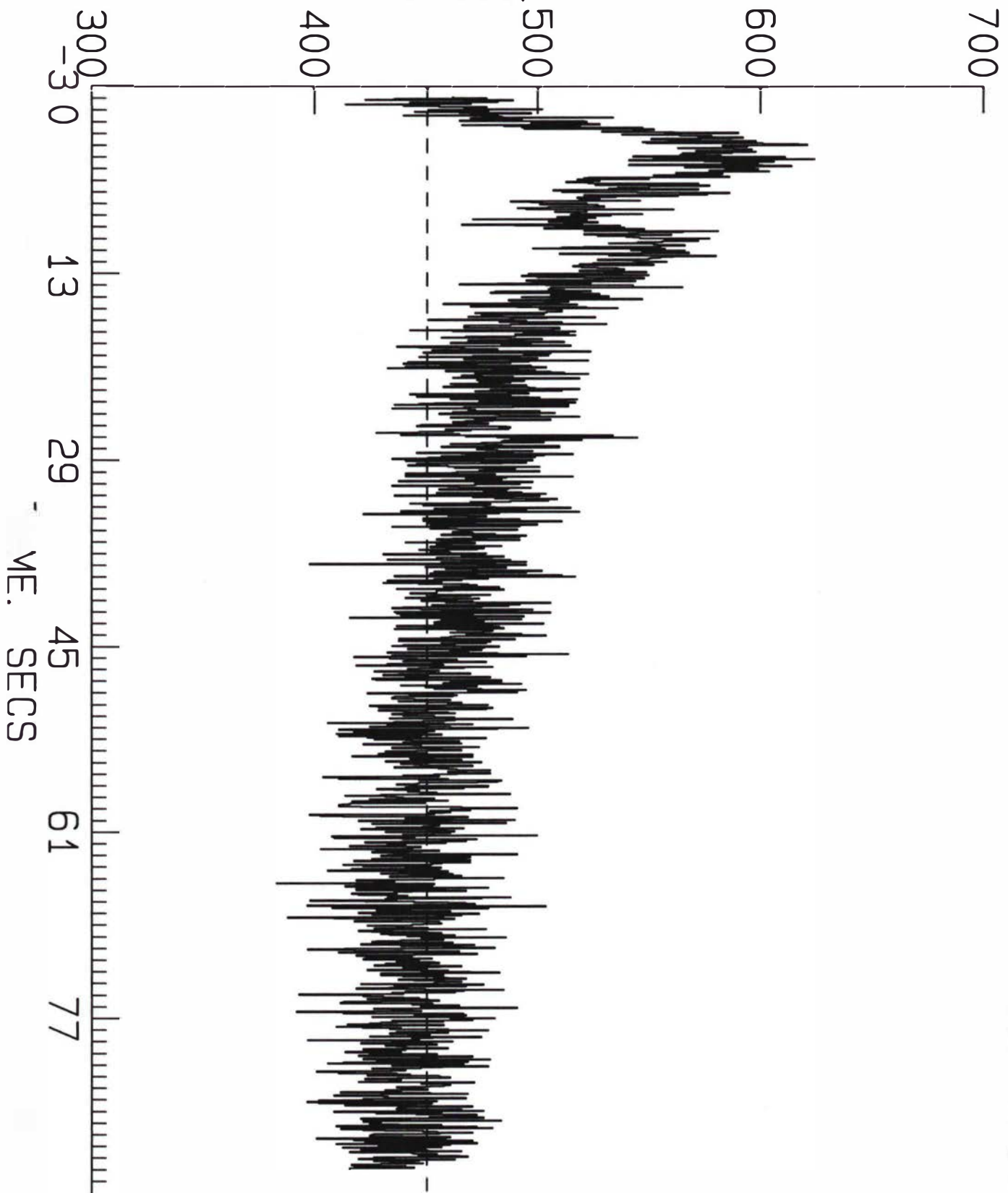
BATSE

02/01/99

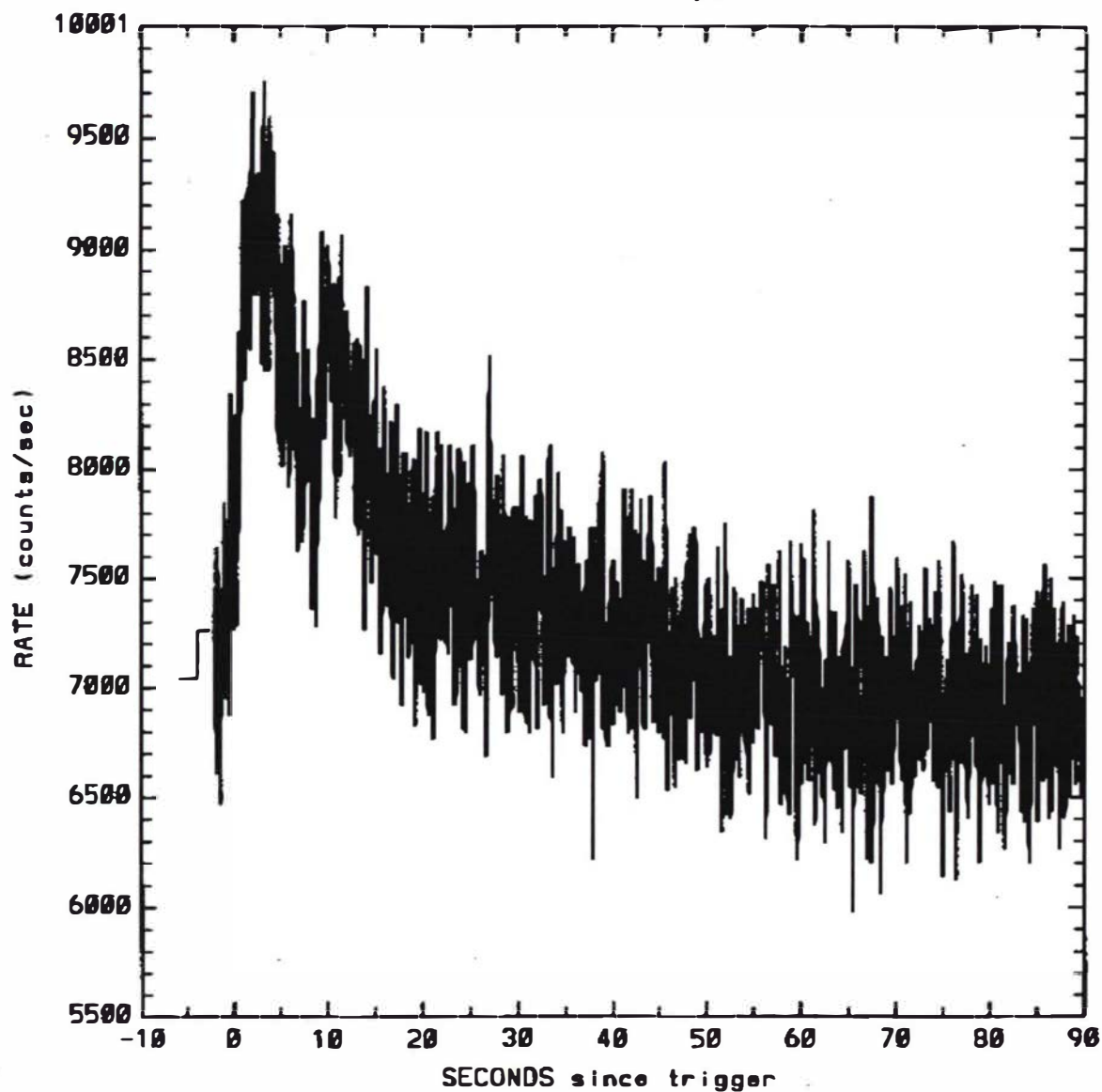
49918.457

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7295



15-JUL-1999 14:01:51

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger #: 7295

Trigger Time:
11180 / 49918.457

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

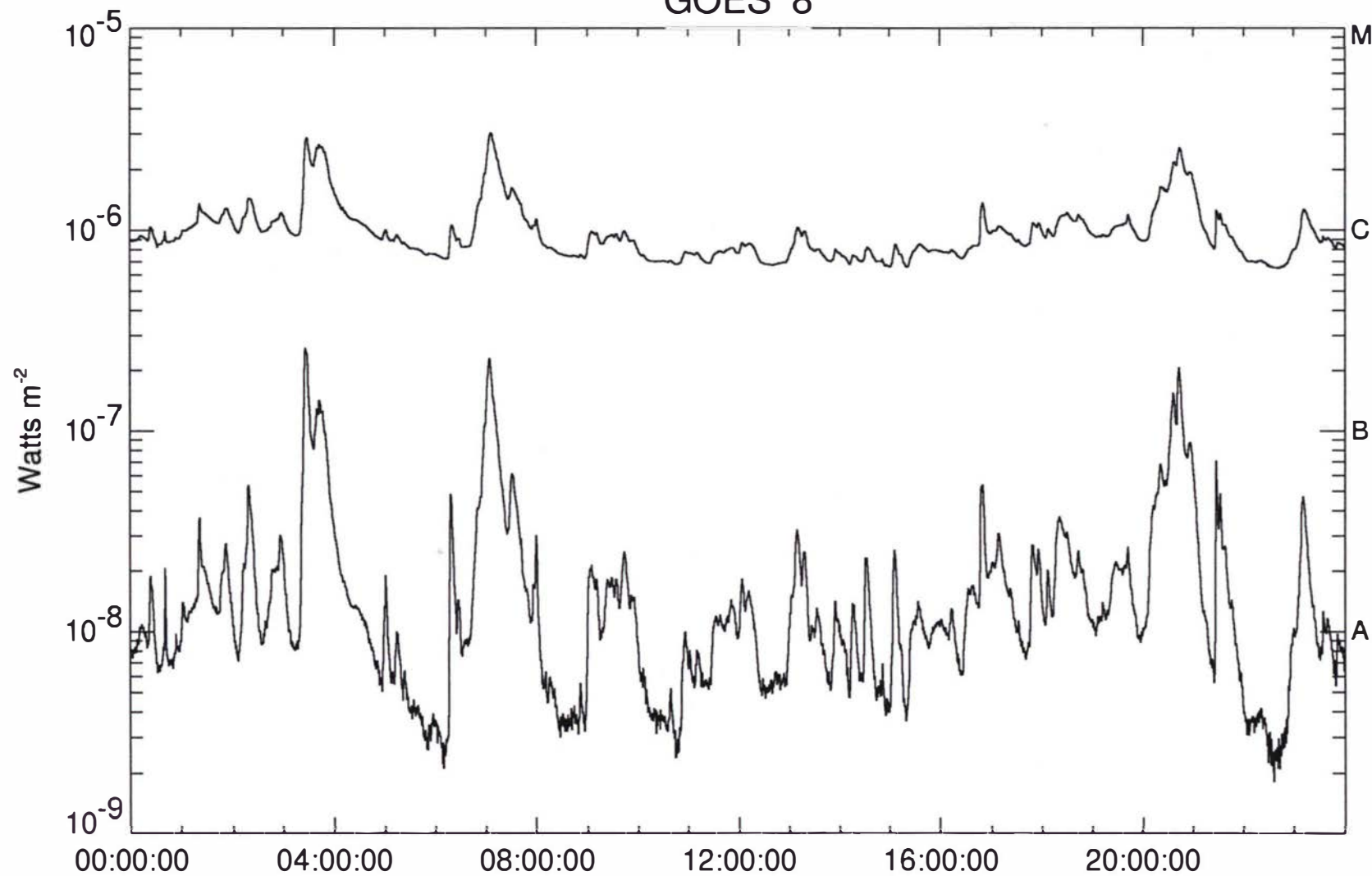
Minimum Integ. Time:
0.064 seconds

Detectors (7..8):
-6--3---

Discriminators:
[1 . 2]

Quality Mask:
BDISP1

GOES 8



Data Start: 99/01/02, 0000:00

Plot created: 99/01/06, 1009

Channel 1 (1.0 - 8.0 Angstroms)

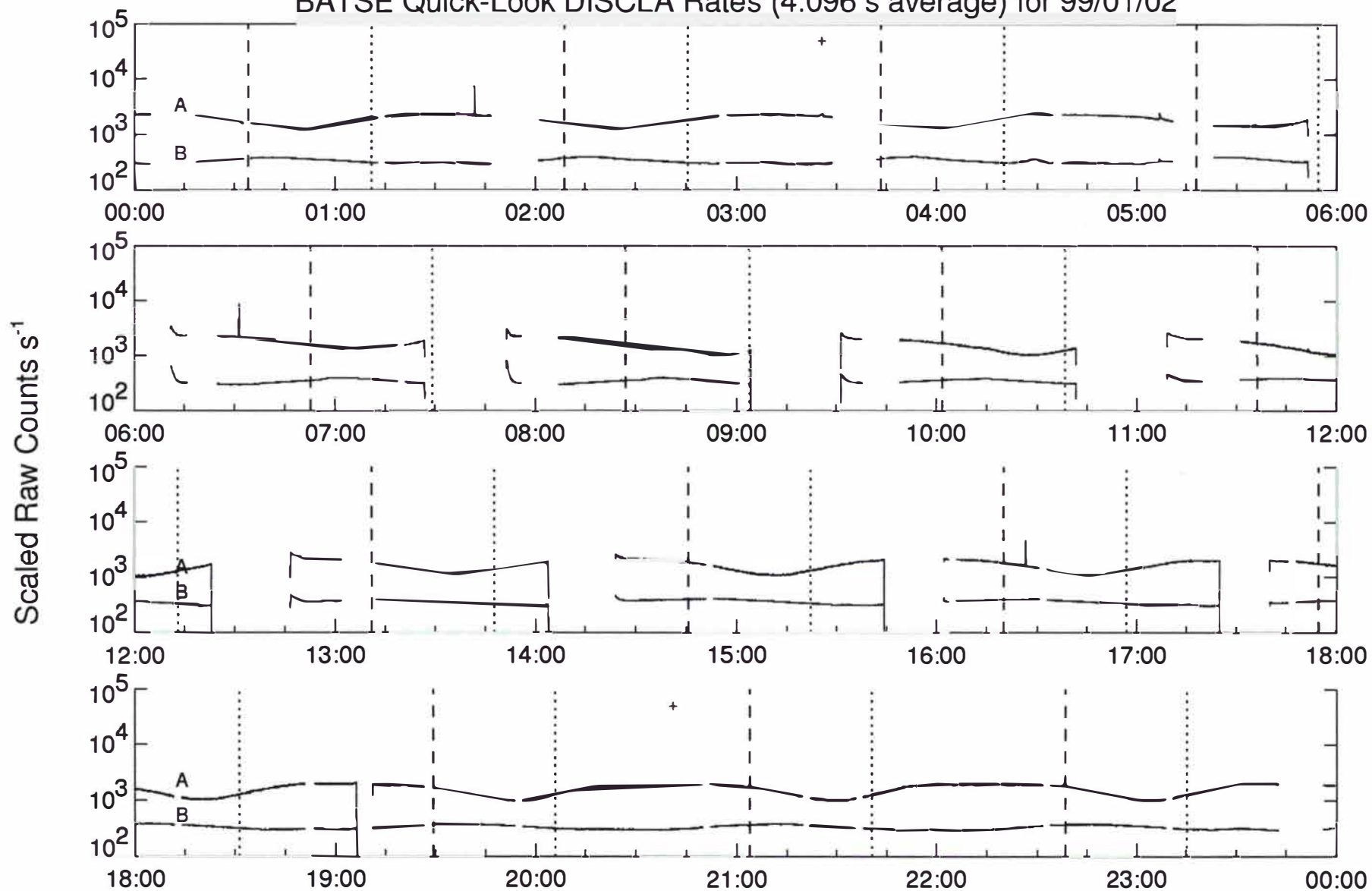
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/02



Current Time: 99/01/06, 1010 EDT

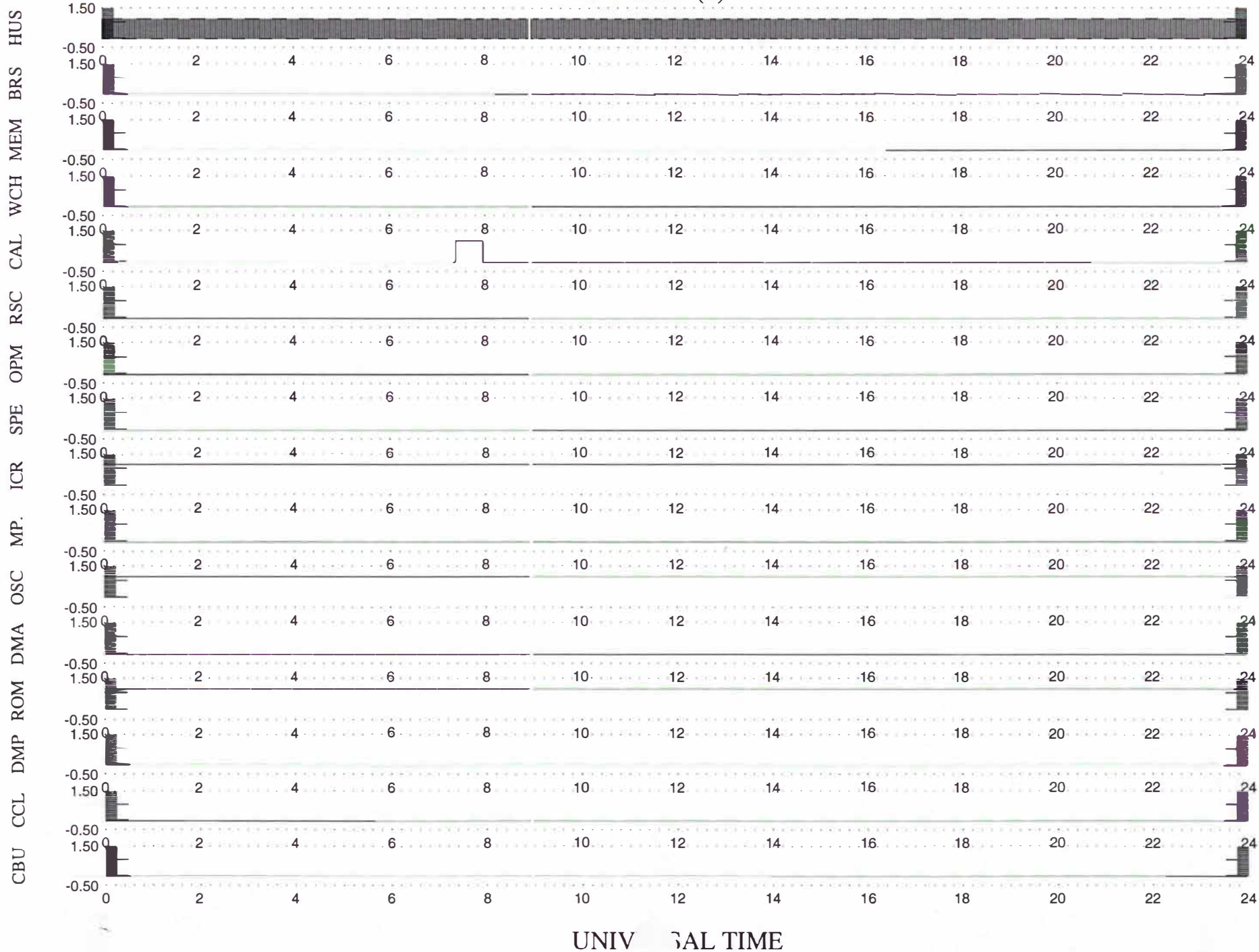
A: Channel 0 Most Sunward LAD

B: Sum Channel 0 Anti-Sunward LADs X .05

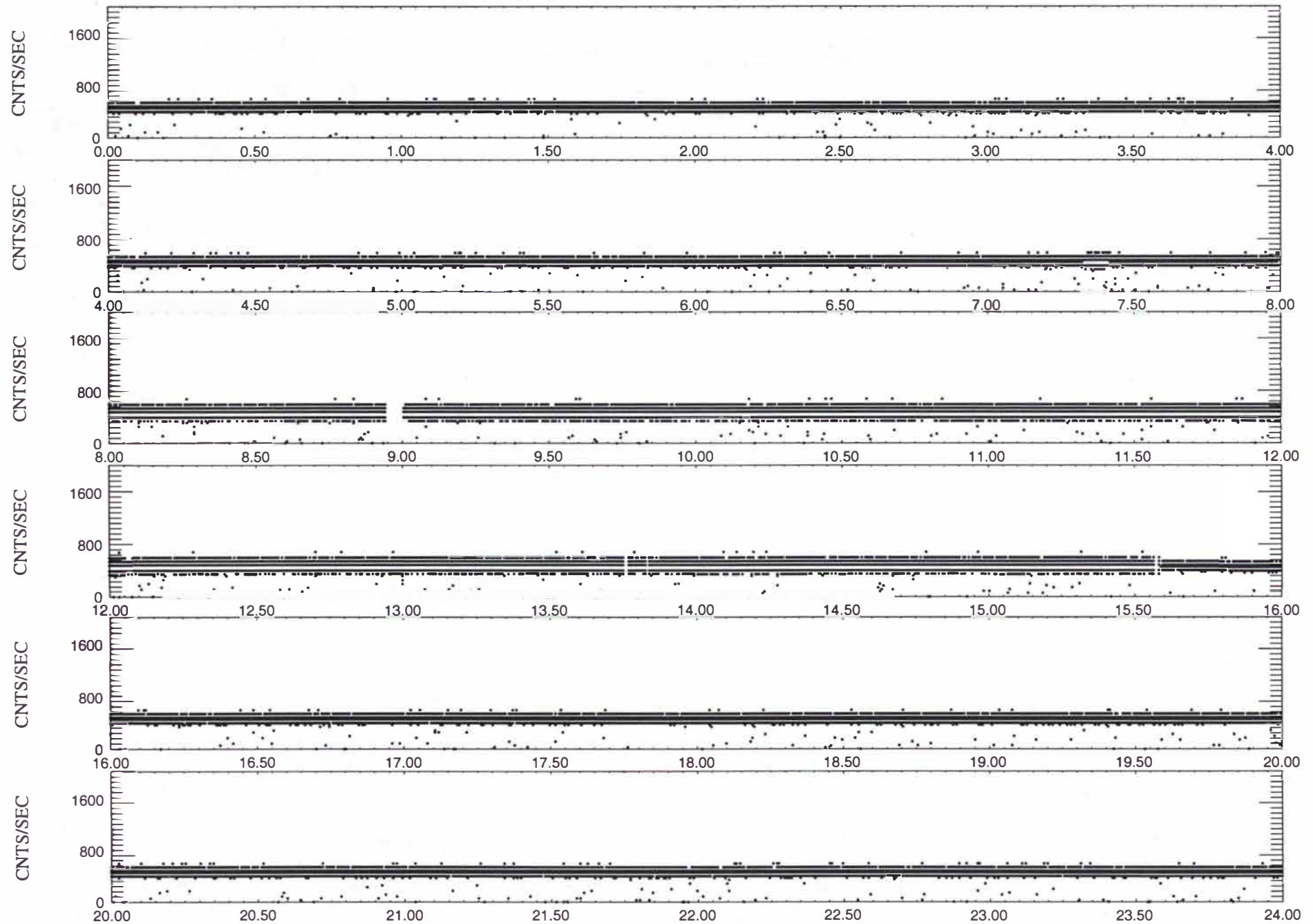
Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

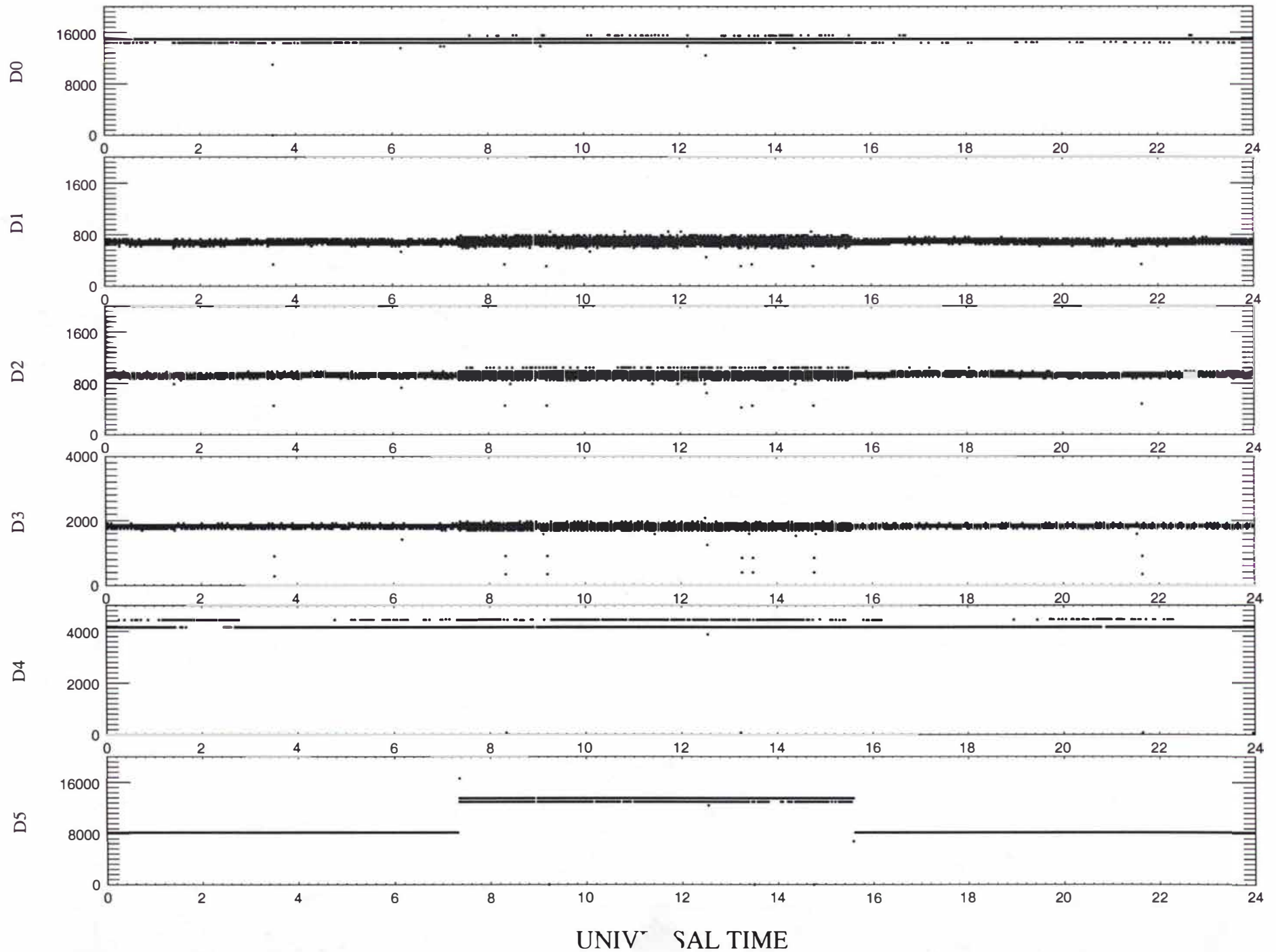
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



SAX GRBM
HUS DATA

ULYSSES RT

19 / 07 / 05

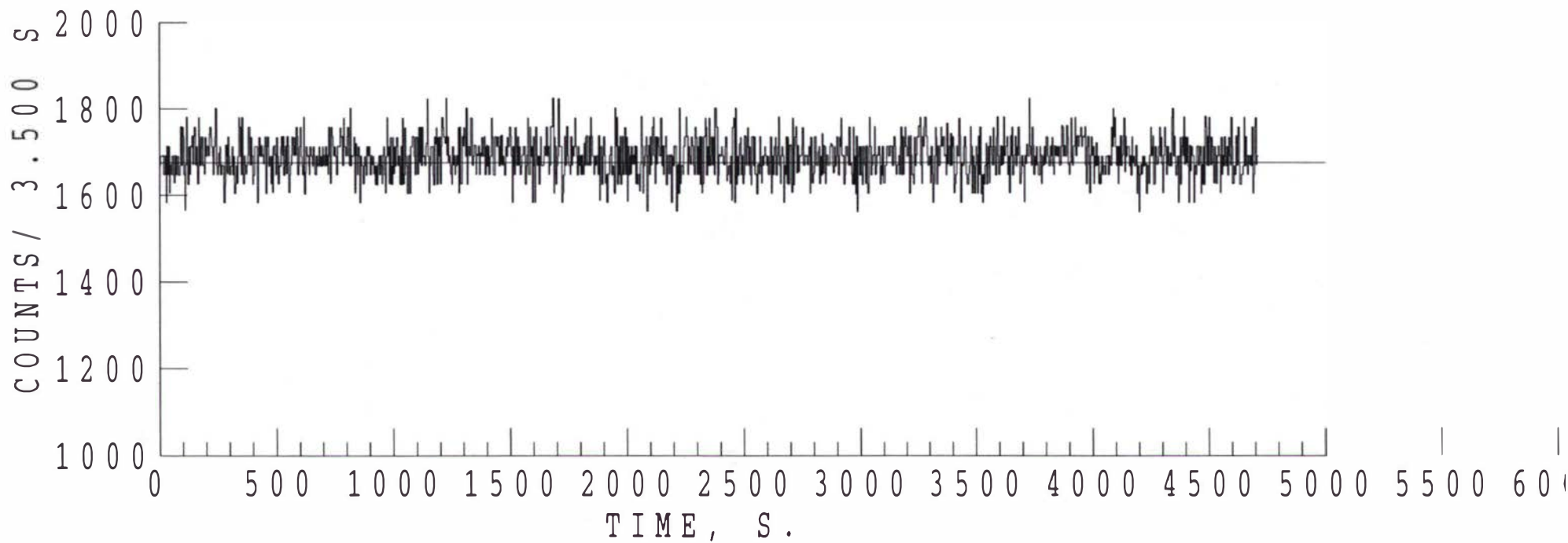
03 / 01 / 99 15588.377 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Mon Jan 4 16:14:22 1999
Date: Mon, 4 Jan 1999 18:09:21 -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@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7296

TIME: TJD=1181 SECONDS=19690

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 Jan 5 11:45:37 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA20227; Tue, 5 Jan 1999 11:45:37 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA22598; Tue, 5 Jan 1999 11:45:25 -0800
Date: Tue, 5 Jan 1999 13:45:15 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990105134515.20261780@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7297
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7297
EVENT OF 1999 JAN 3 DAY OF YEAR= 3
EVENT CROSSING TIME AT BATSE : 35377. S. OR 09:49:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 140.000 76.000
BATSE PEAK COUNTING RATE: 3300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 1/ 99 IS:
RA= 165.687 DEC= -8.157 DIST= 4.745 AU
BATSE-ULYSSES DISTANCE = 709879661. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 94.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -185.02 SECS.
CROSSING TIME AT ULYSSES IS 35192. S. OR 09:46:31 +/- 457.04 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 1/ 99 IS:
RA= 198.604 DEC= -5.810 DIST= 1.472 AU
MARS-BATSE DISTANCE = 220243520. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 91.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -19.95 SECS.
CROSSING TIME AT MARS IS 35357. S. OR 09:49:17 +/- 127.20 SECONDS

BATSE BURST TRIGGER

NO.: 7297

TIME: TJD=1181 SECONDS=35377

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 80.2 AZIMUTH=208.2 ERROR= 9.5 DEGREES

COMMENTS:

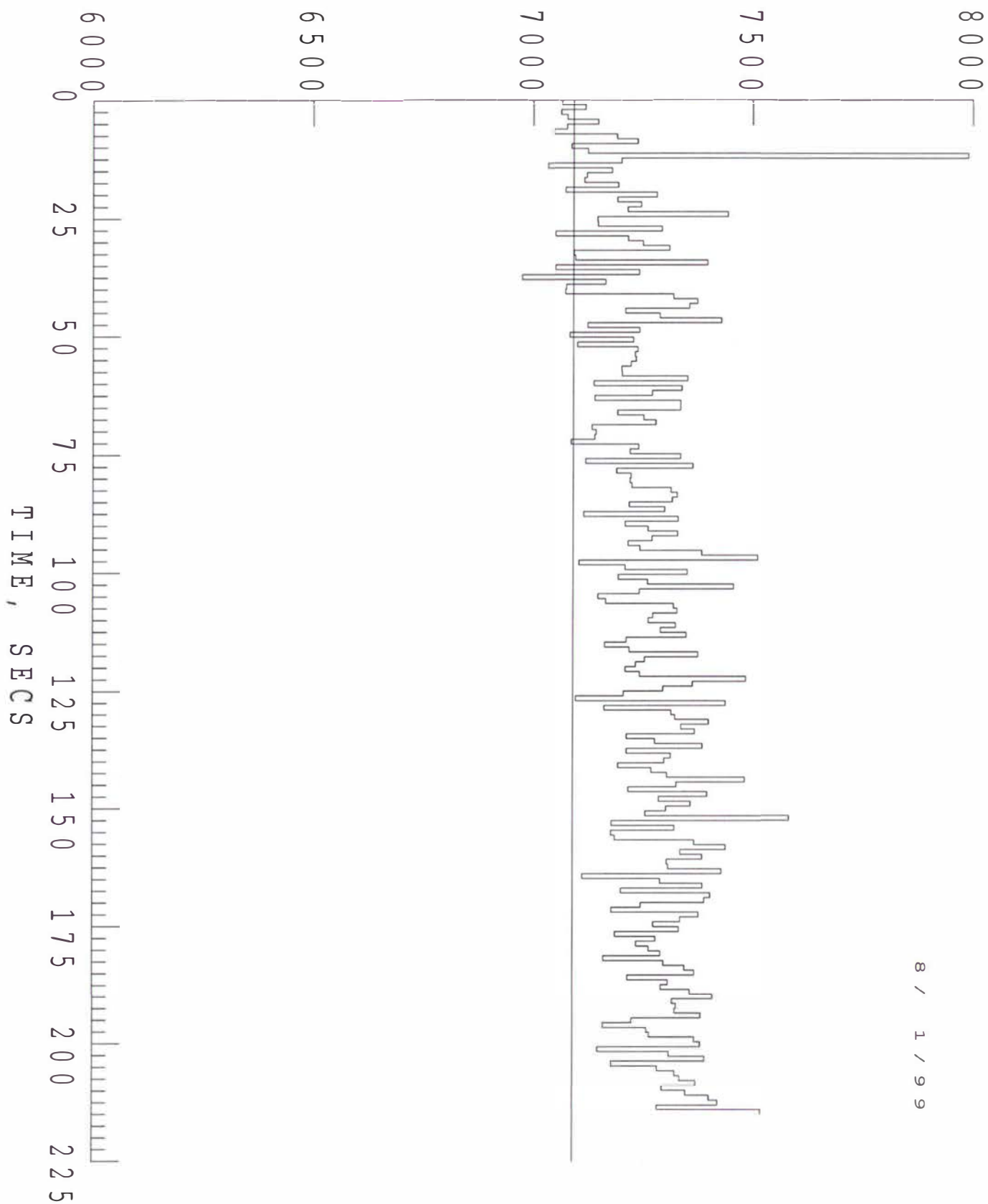
SINGLE PULSE, DUR. APPROX. 1.4 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7297	990103	11181	35377	3300	140	+76	1.4

BACODINE 7297 03/01/99 35365.625

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7297

ULYSSES RT

8 / 1 / 99

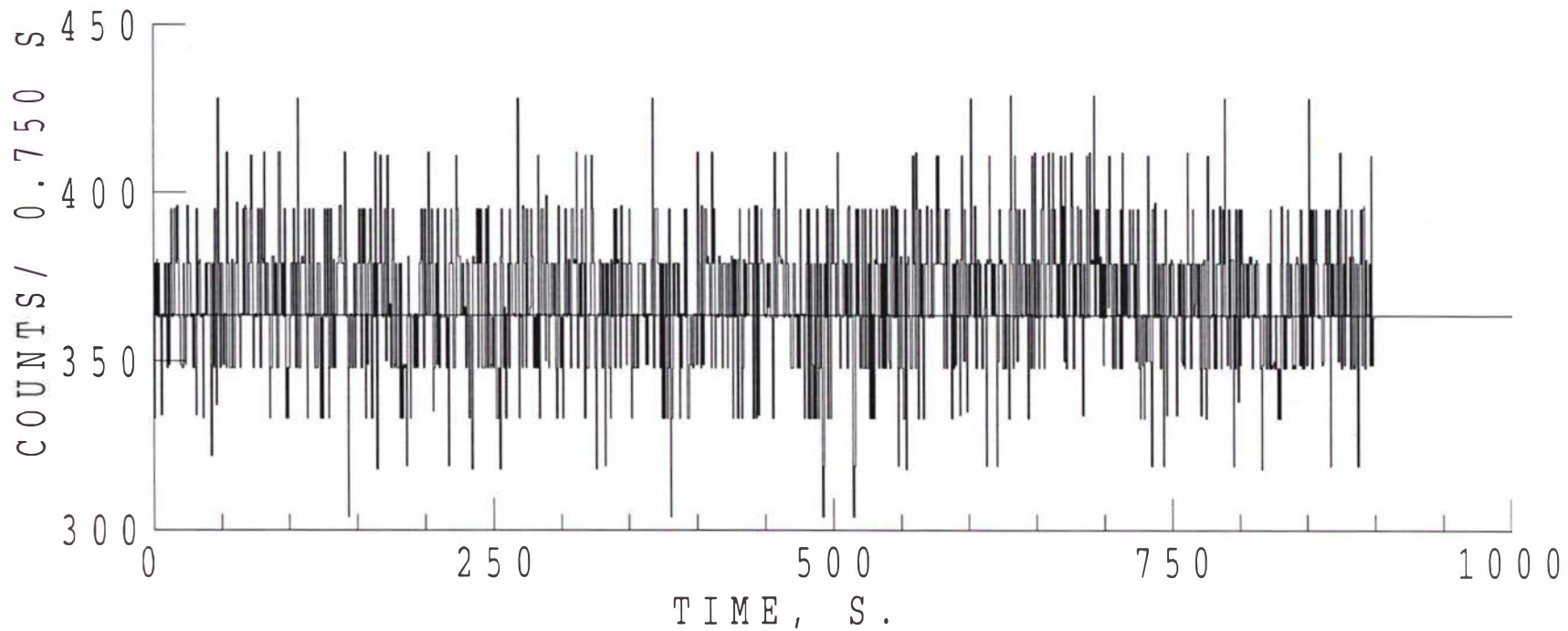
3 / 1 / 99 34740.074 s

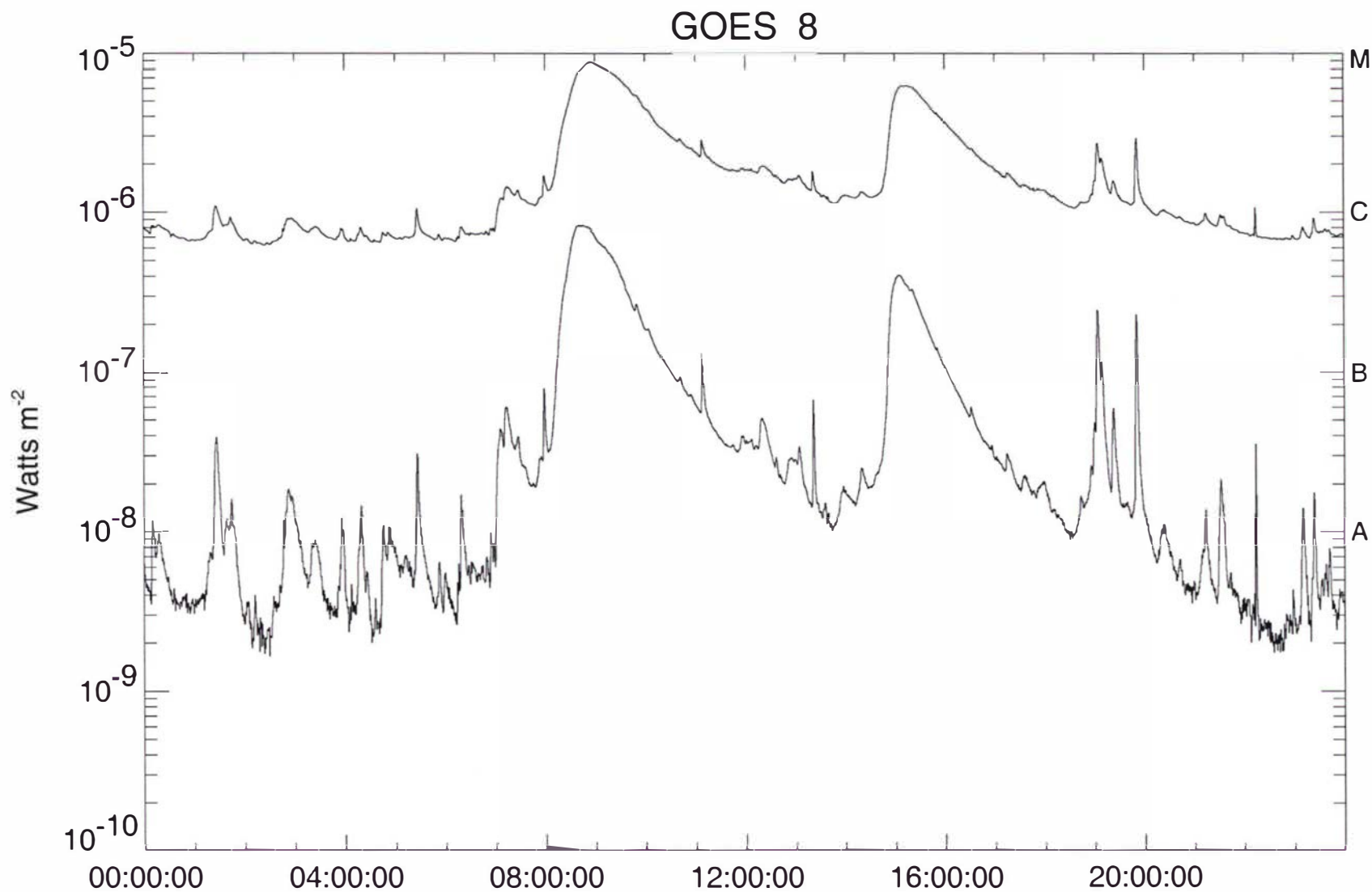
0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS





Data Start: 99/01/03, 0000:00

Plot created: 99/01/07, 1009

Channel 1 (1.0 - 8.0 Angstroms)

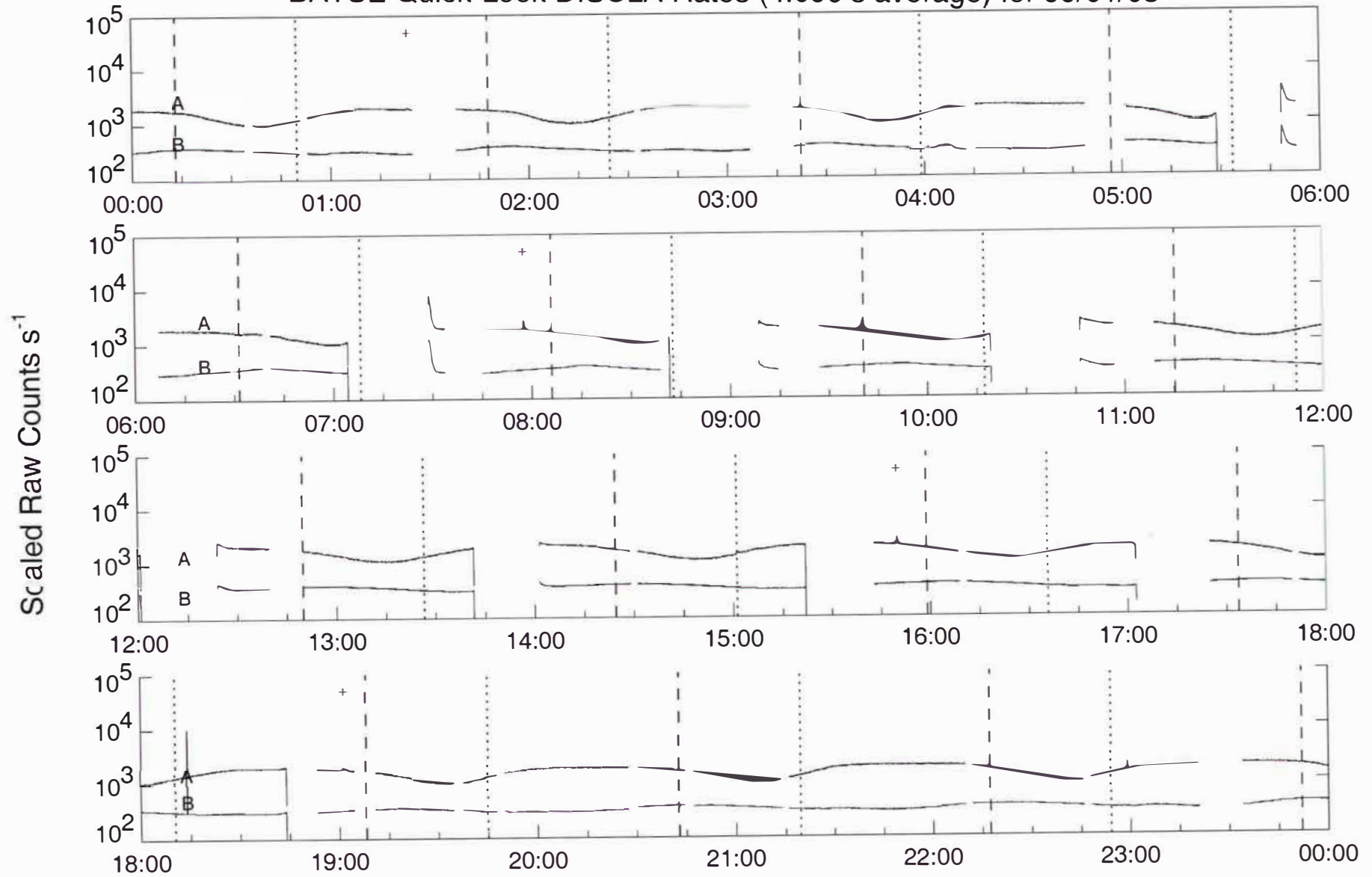
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/03

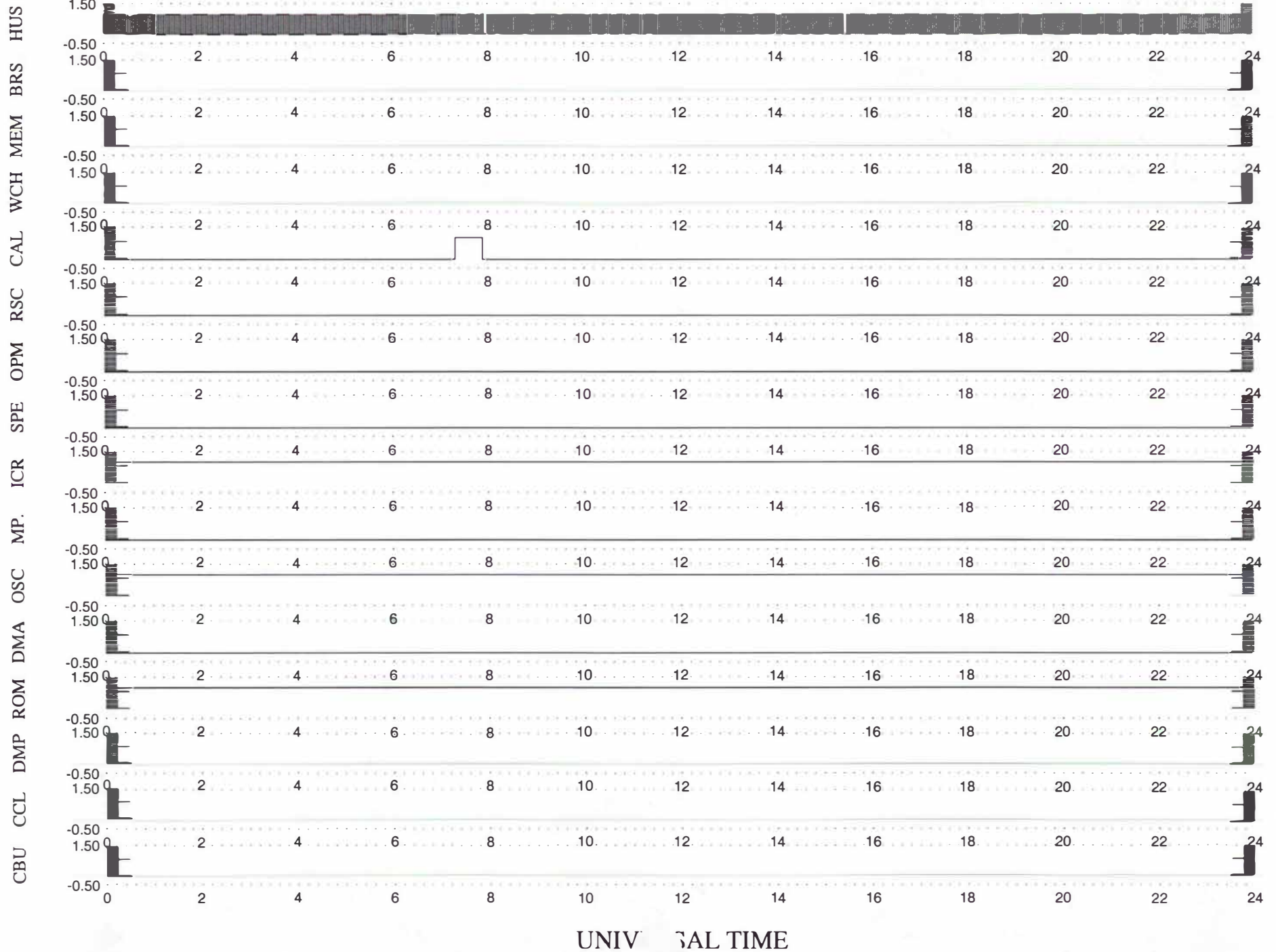


Current Time: 99/01/07, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

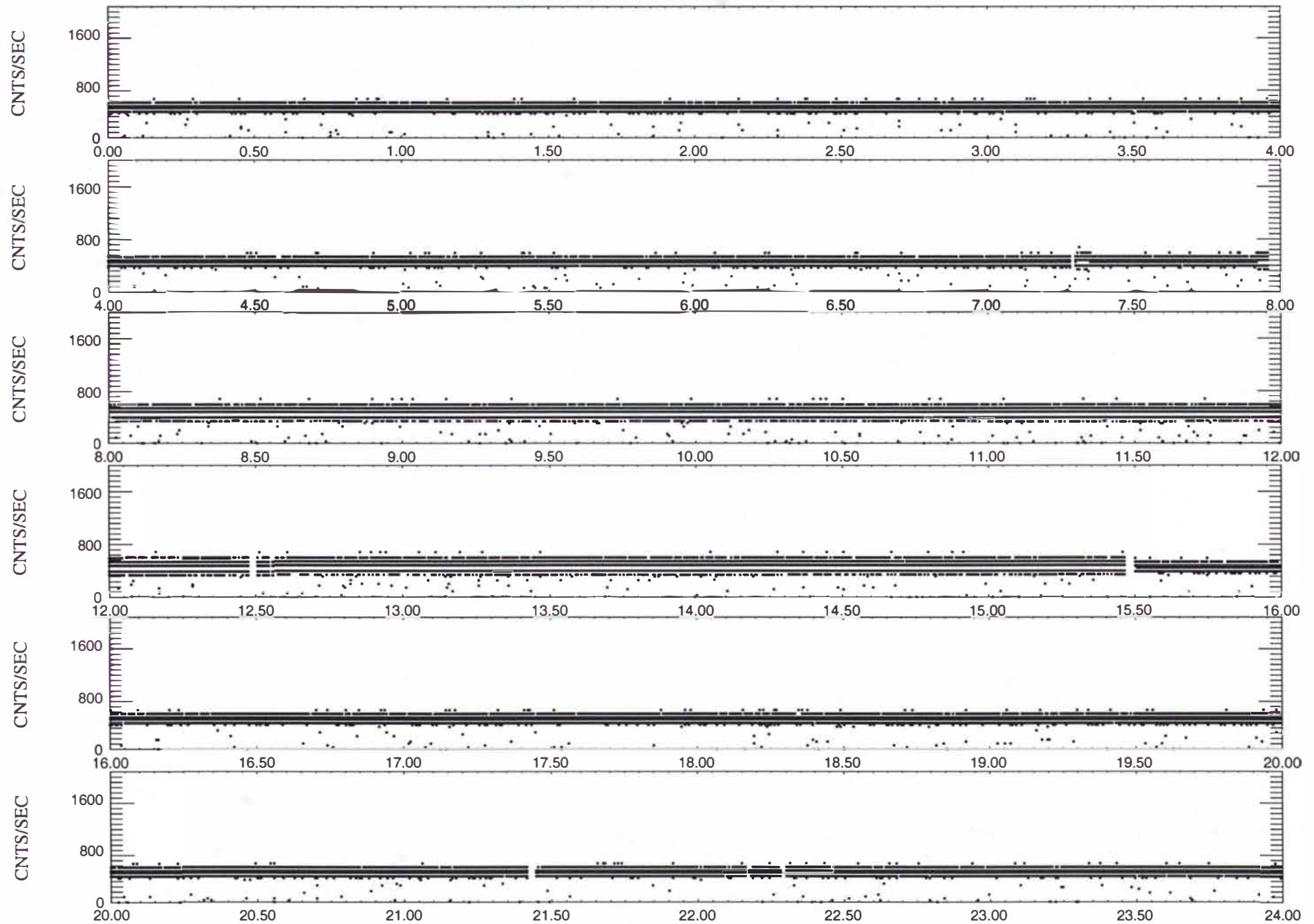
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

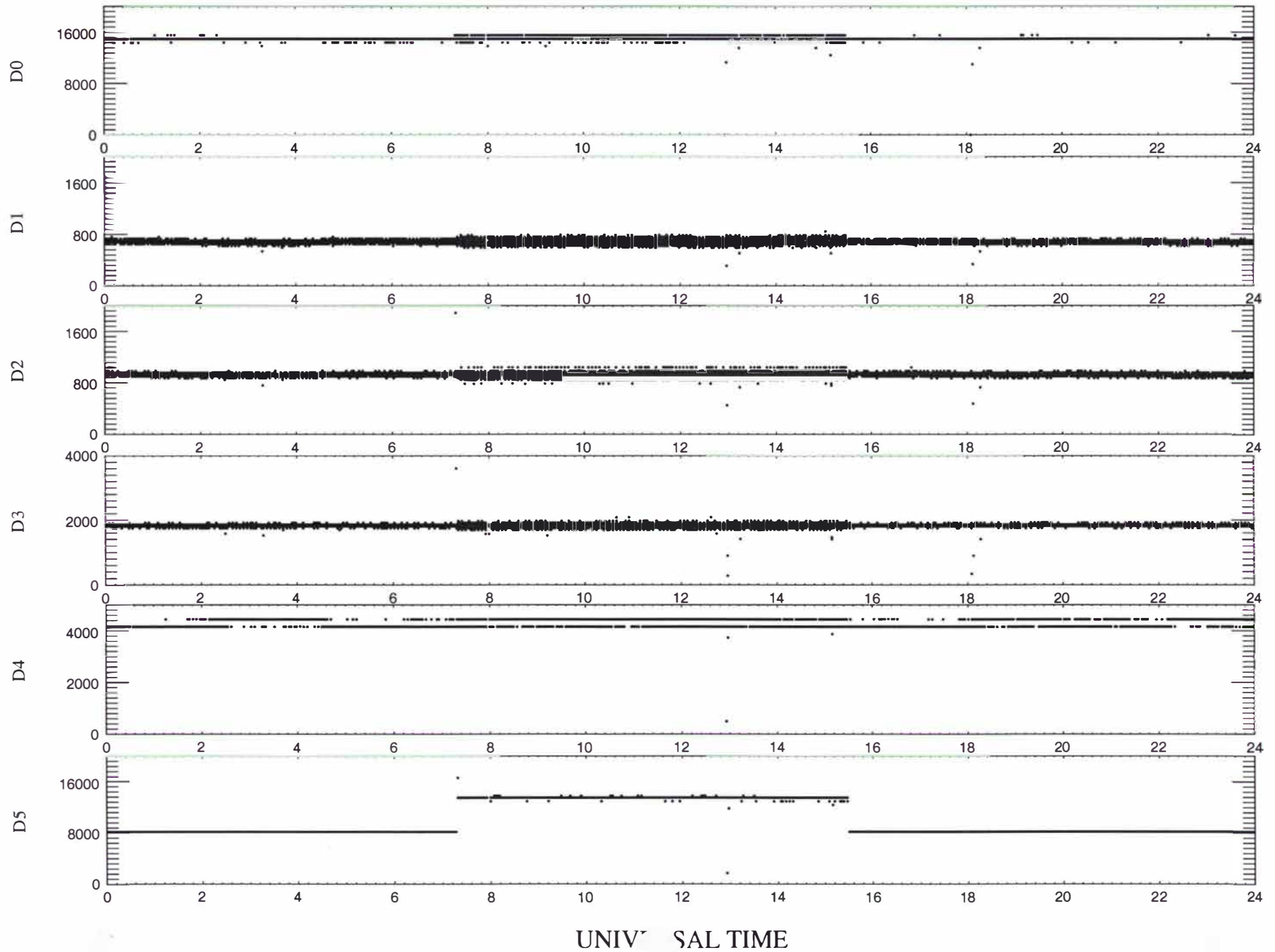
NO BURST (0)



CALIBRATION DATA INCLUDED

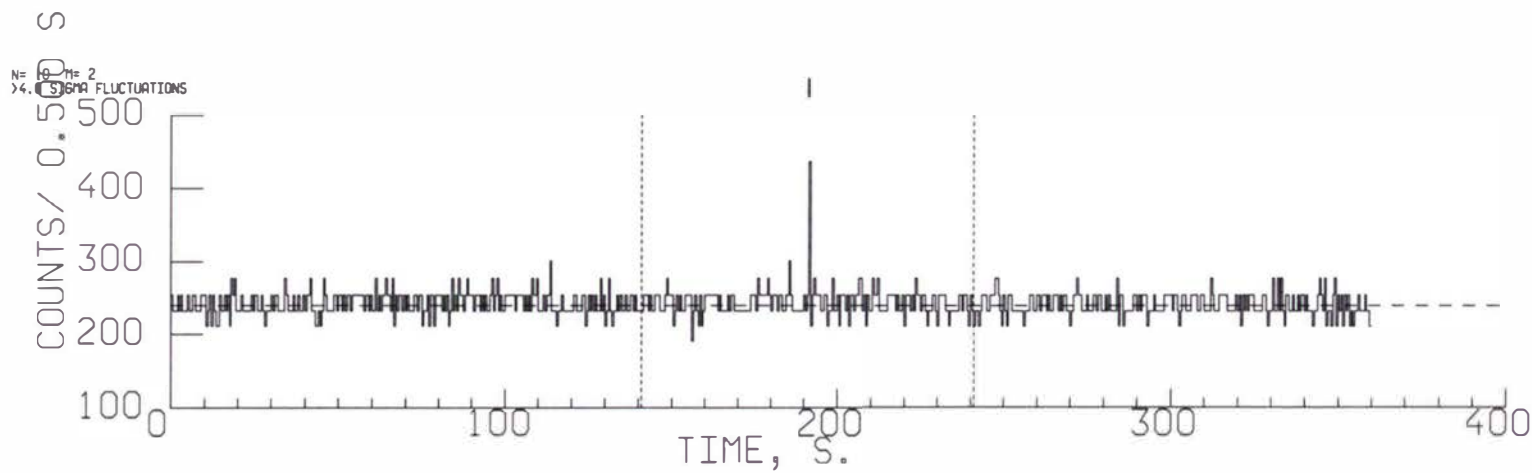


UNIV SAL TIME



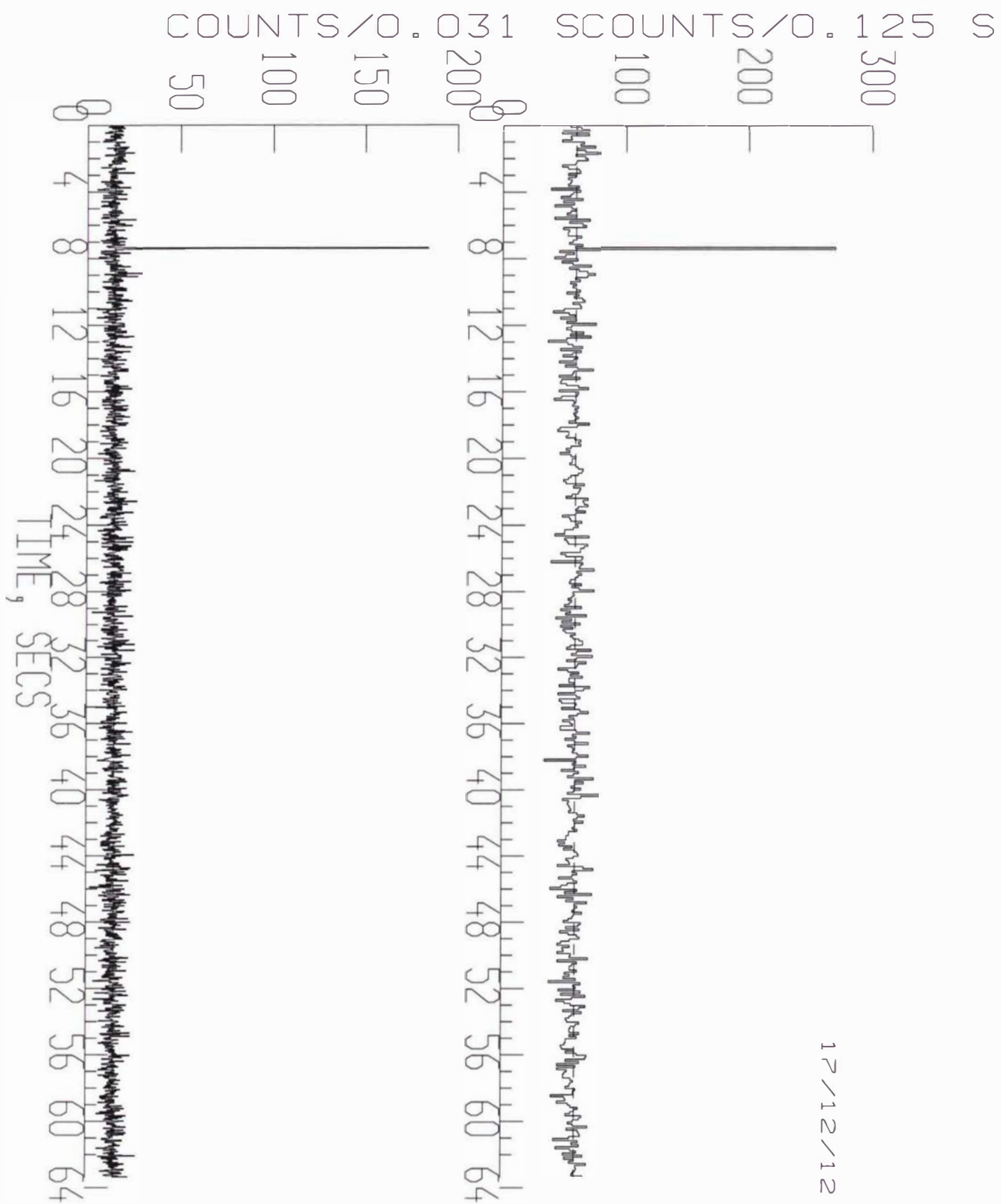
ULYSSES RT
4/ 1/99 6912.177 s
22- 150 keV

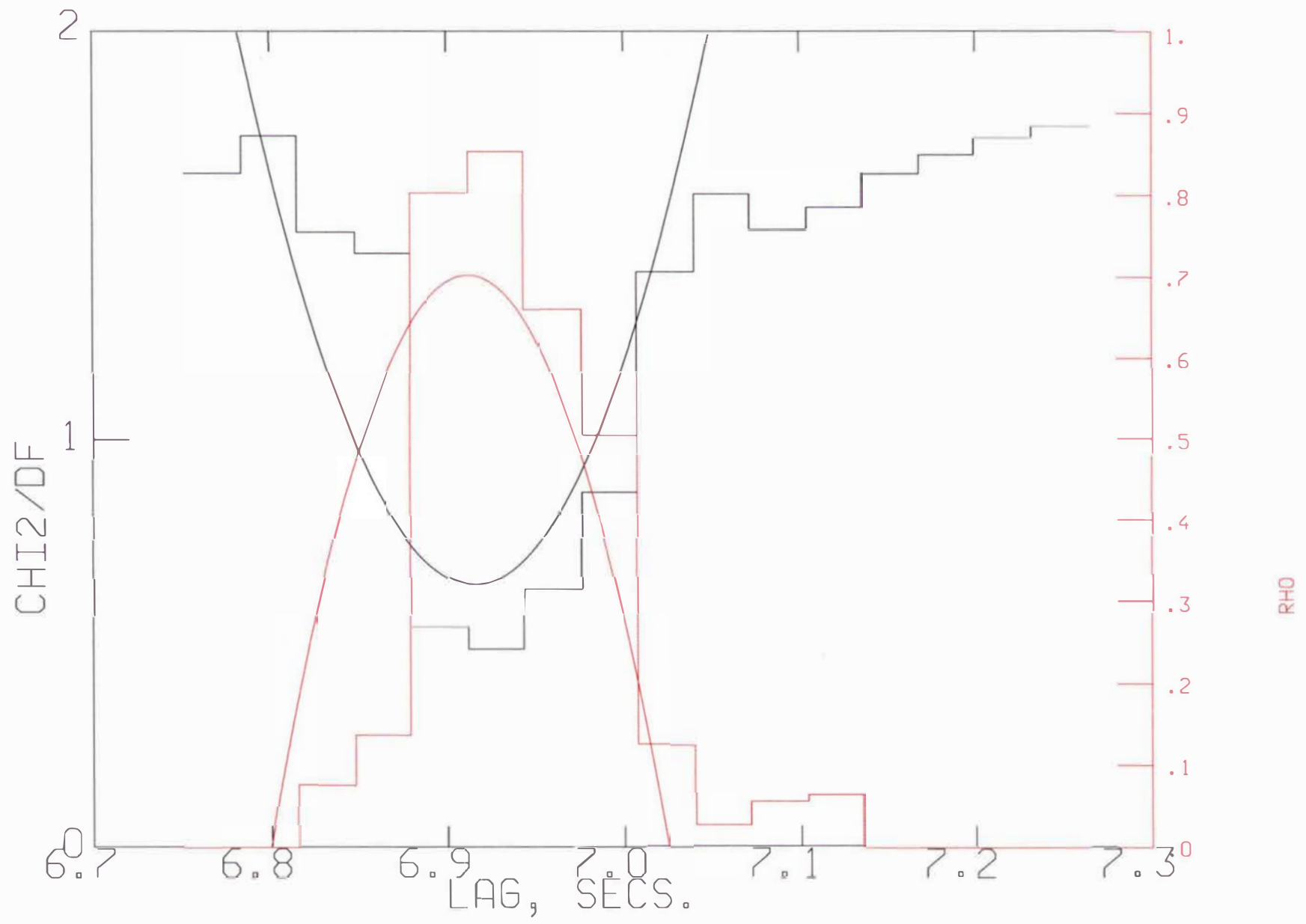
17/12/12



ULYSSES 04/01/99 Ttrig= 7103.770

22- 150 keV





KONUS1

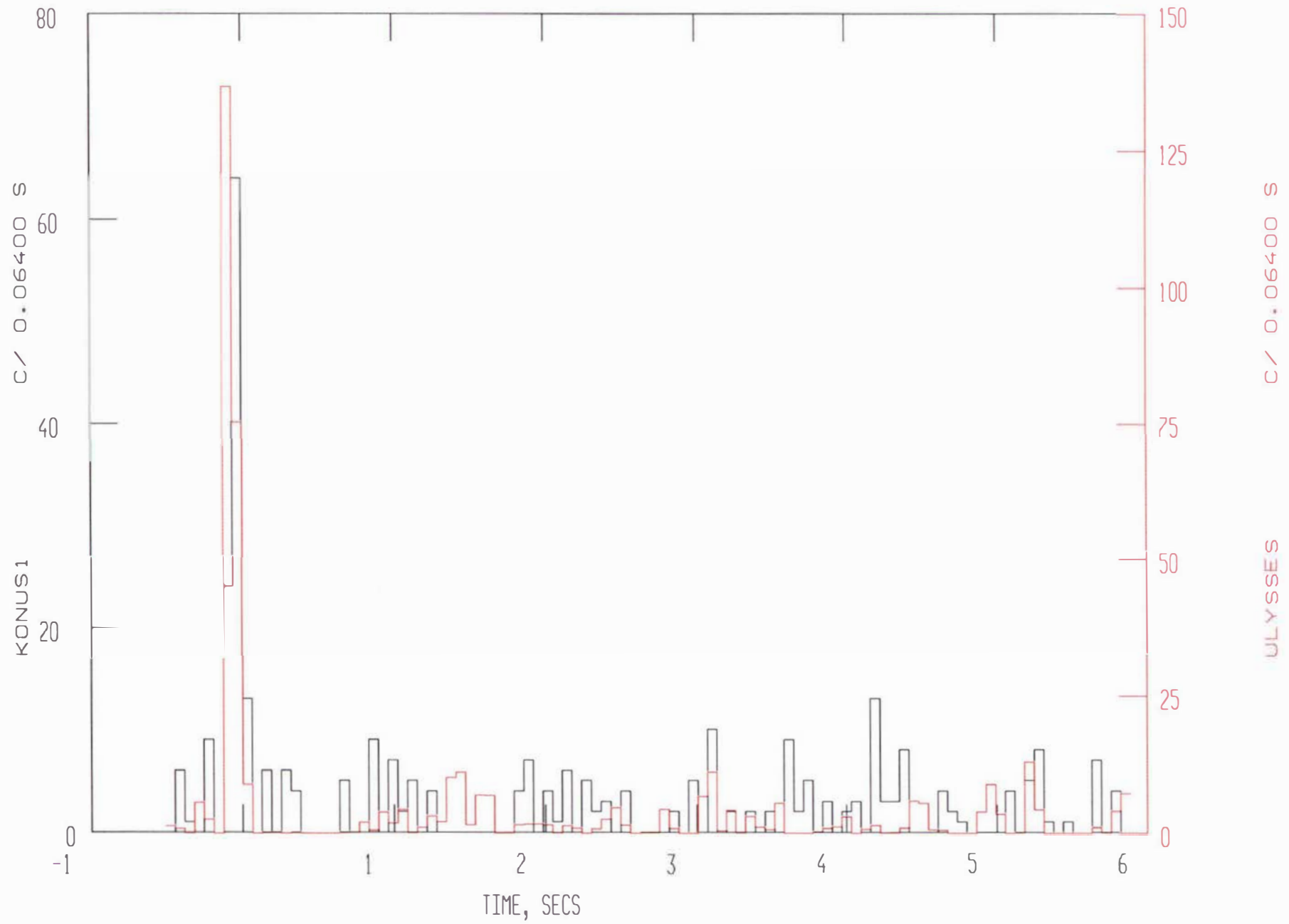
-ULYSSES

CORRELATION

04/01/99

6625.592

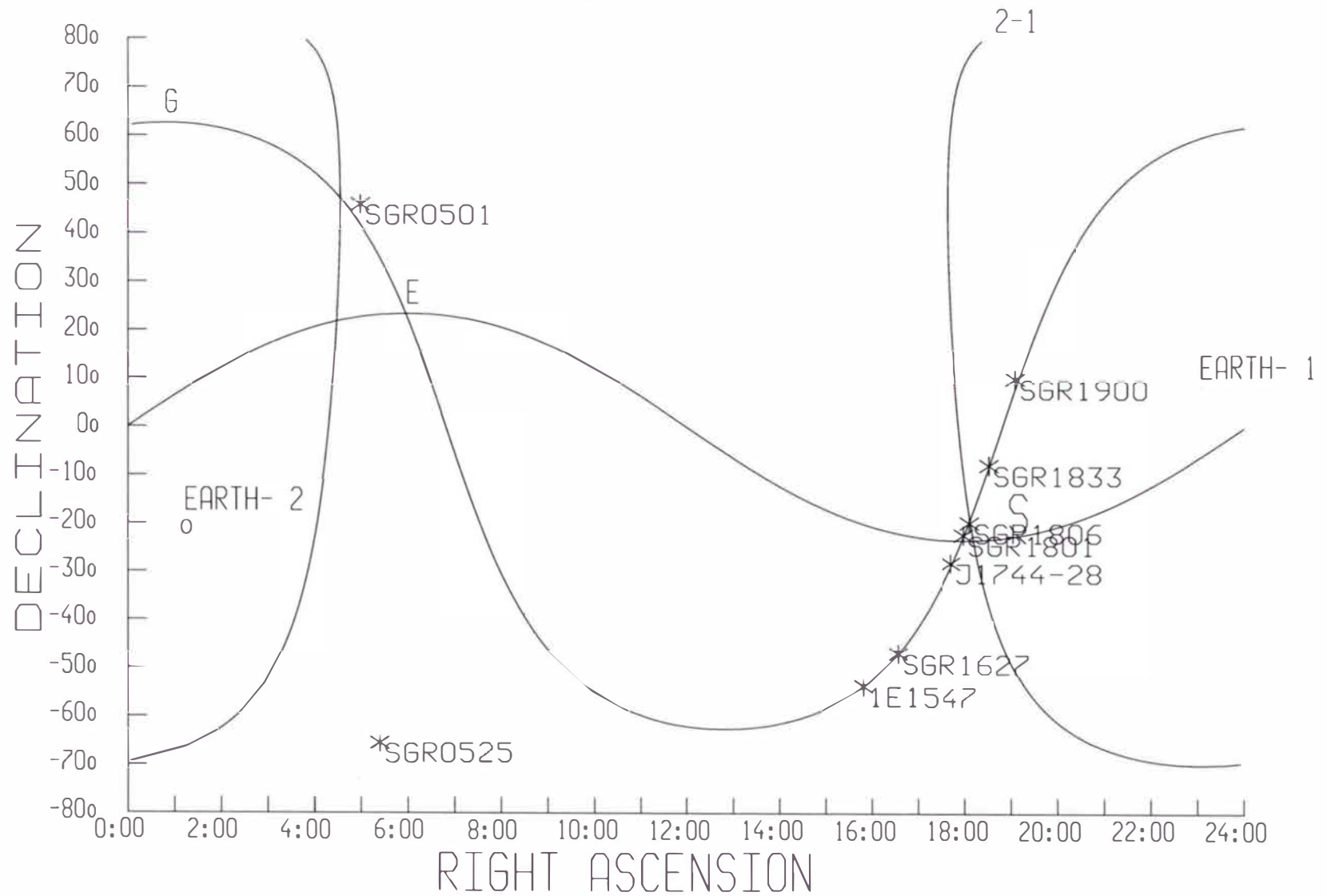
17/12/12



EVENT OF JAN 4, 1999 1:58

17/12/2012

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



KONUS1

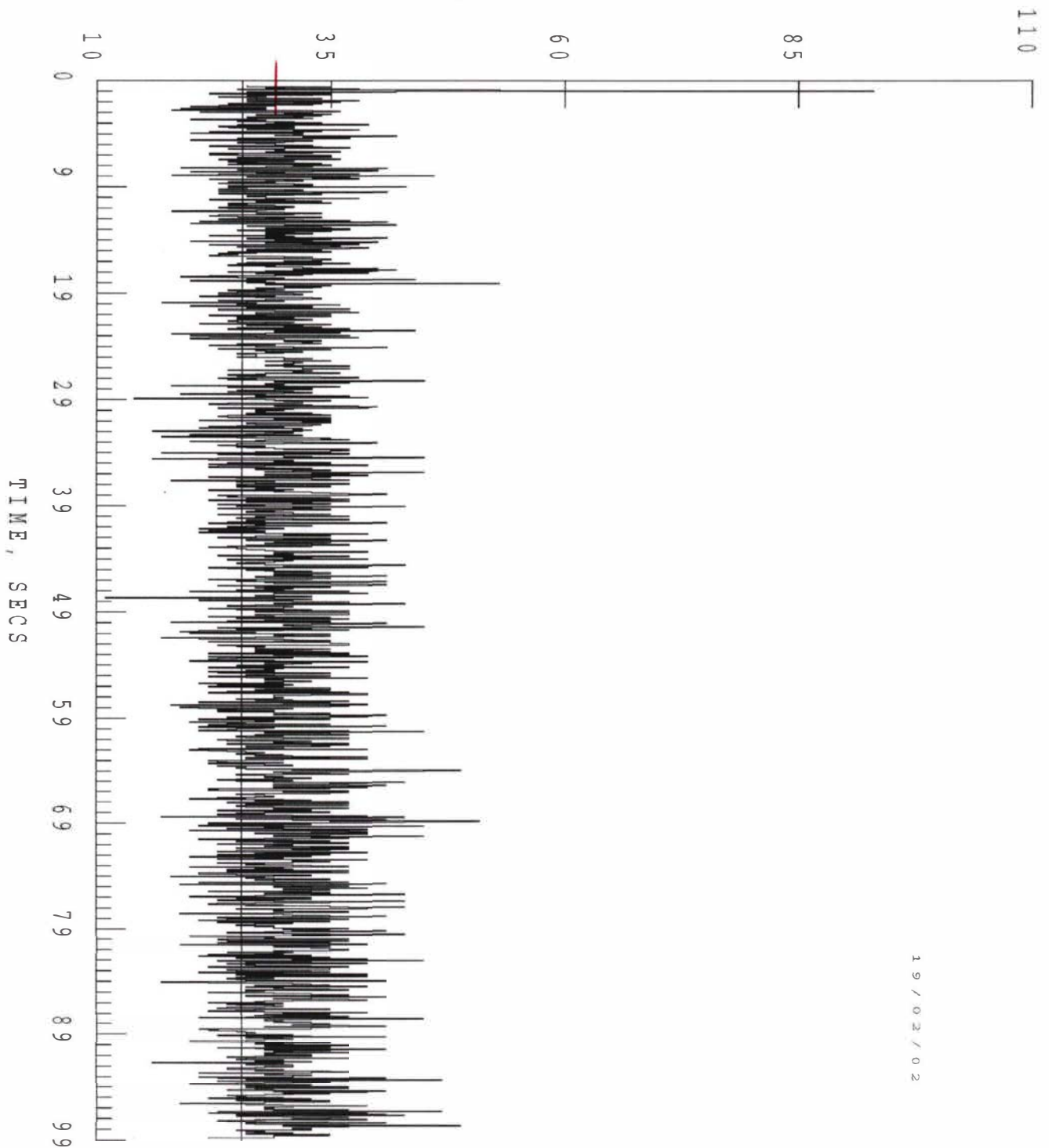
04/01/99

6625.592

SGR1806

50 - 200 keV

COUNTS/0.064 S



KONUS1 19990104 06625

ULYSSES RT

19 / 02 / 02

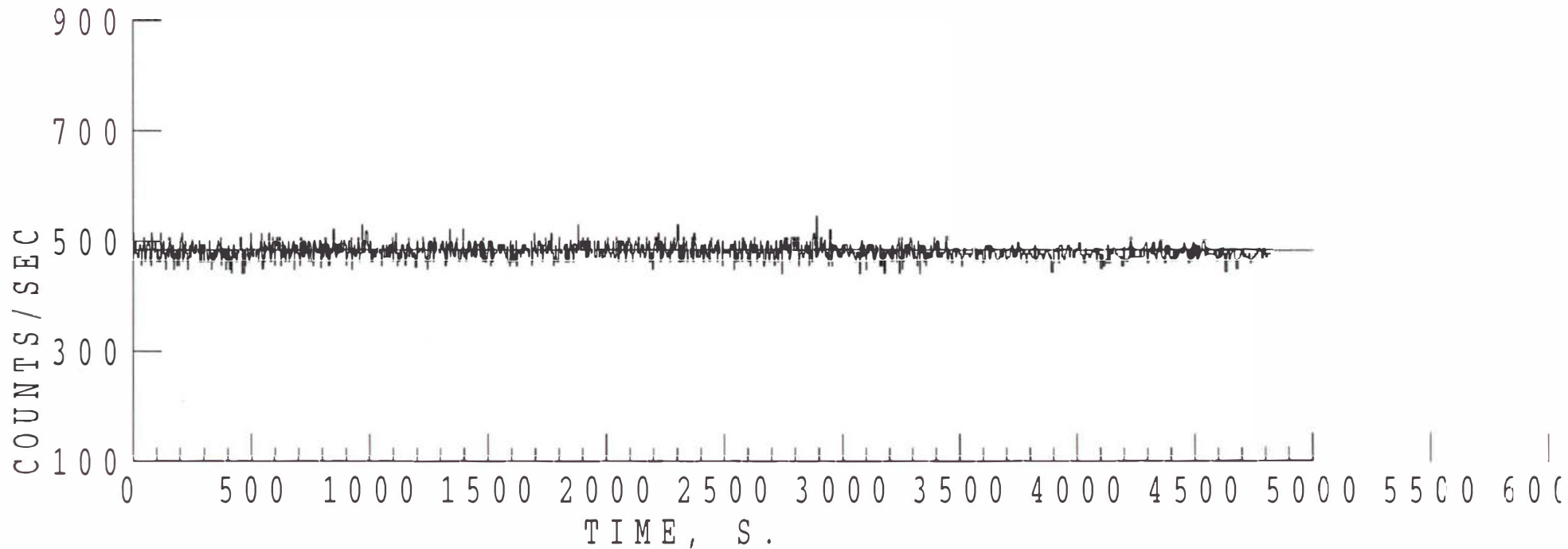
04 / 01 / 99 4212.151 s

INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Wed Jan 6 06:31 PST 1999
Return-Path: <cline@apache.gsfc.nasa.gov>
Received: from apache.gsfc.nasa.gov by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id GAA08305; Wed, 6 Jan 1999 06:31:47 -0800
Received: from [128.183.18.223] by apache.gsfc.nasa.gov with SMTP
for KHURLEY@sunspot.ssl.berkeley.edu; Wed, 6 Jan 1999 10:25:58 -0500
Message-Id: <199901061431.GAA08305@sunspot.ssl.berkeley.edu>
Mime-Version: 1.0
Date: Wed, 6 Jan 1999 09:33:48 -0500
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: new GRBs
X-Lines: 18
Status: RO

Dear Kevin

Did Sergei ask you about these?

T

--

>Dear Tom, Paul

>

>An interesting bright event occurred on 4th January at 16h02m33.685s UT.

>Apparently BATSE didn't see the burst. Do you know any data from other

>S/C ? Also Konus triggered the SGR-like event at 1h50m25.592s.

>

>Best wishes

>Sergei

1806(?)

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

From HENZE@fender.msfc.nasa.gov Wed Jan 6 12:33:17 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA18495; Wed, 6 Jan 1999 12:33:16 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA14018; Wed, 6 Jan 1999 12:32:59 -0800
Date: Wed, 6 Jan 1999 14:15:12 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990106141512.2025773e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7298
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7298
EVENT OF 1999 JAN 4 DAY OF YEAR= 4
EVENT CROSSING TIME AT BATSE : 8029. S. OR 02:13:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 192.000 -33.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 1/ 99 IS:
RA= 165.617 DEC= -8.203 DIST= 4.734 AU
BATSE-ULYSSES DISTANCE = 708144798. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=145.22 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1940.10 SECS.
CROSSING TIME AT ULYSSES IS 6089. S. OR 01:41:28 +/- 254.47 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 1/ 99 IS:
RA= 199.061 DEC= -5.989 DIST= 1.462 AU
MARS-BATSE DISTANCE = 218741344. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=152.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -645.43 SECS.
CROSSING TIME AT MARS IS 7384. S. OR 02:03:03 +/- 49.28 SECONDS

BATSE BURST TRIGGER

NO.: 7289

TIME: TJD=1177 SECONDS=80996

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=97.0 AZIMUTH=127.1 ERROR=18 DEGREES

COMMENTS:

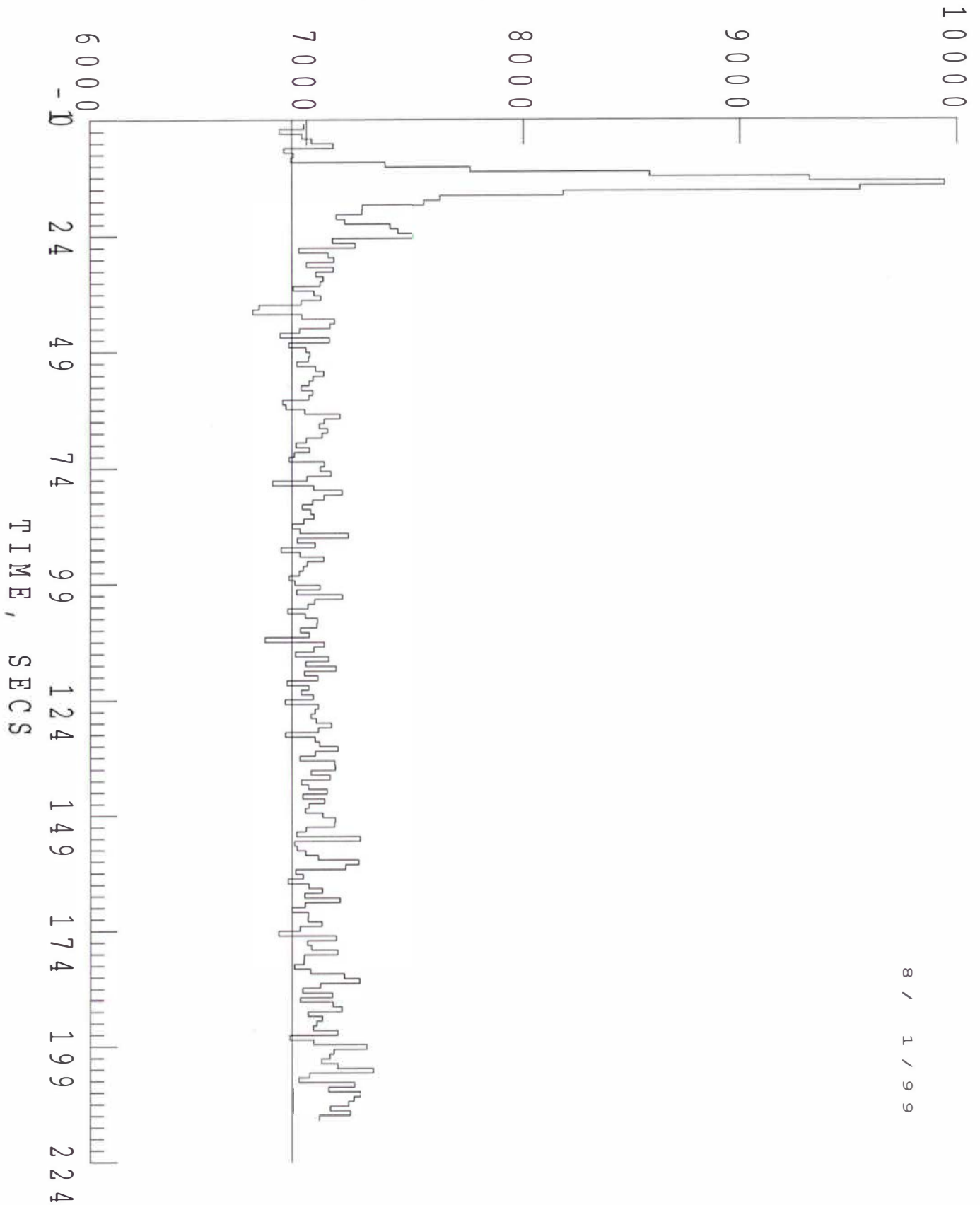
GRB LASTING ABOUT 0.3 SEC. SINGLE, HARD PULSE VISIBLE ABOVE
300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7298	990104	11182	08029	6000	192	-33	25

BACODINE 7298 04/01/99 8017.657

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7298

ULYSSES RT

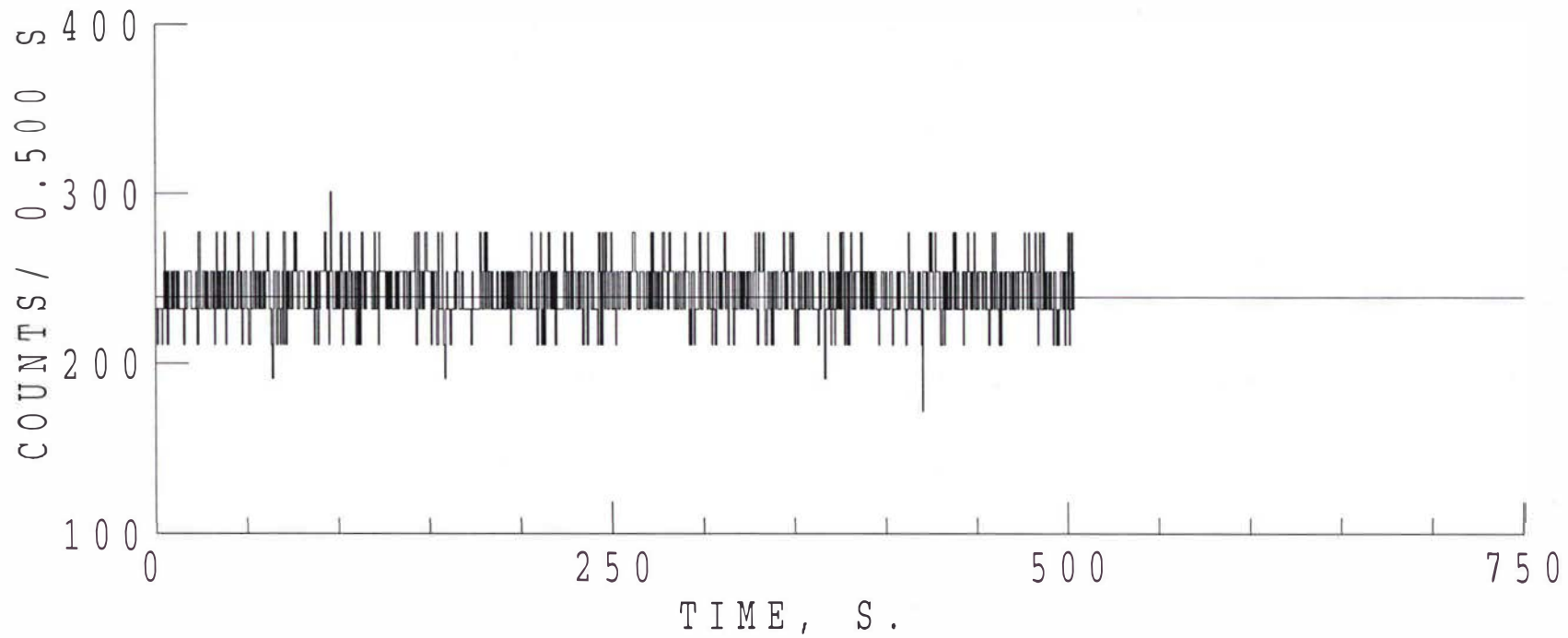
8 / 1 / 99

4 / 1 / 99 5832.166 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 Wed Jan 6 11:47:33 1999

Date: Wed, 6 Jan 1999 13:47:12 -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.: 7299

TIME: TJD=1182 SECONDS=18349

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 Wed Jan 6 11:49:11 1999
Date: Wed, 6 Jan 1999 13:48:57 -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@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.: 7300

TIME: TJD=1182 SECONDS=29940

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 Wed Jan 6 12:33:25 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA18501; Wed, 6 Jan 1999 12:33:25 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA14039; Wed, 6 Jan 1999 12:33:08 -0800
Date: Wed, 6 Jan 1999 14:16:52 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990106141652.2025773e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7301
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7301
EVENT OF 1999 JAN 4 DAY OF YEAR= 4
EVENT CROSSING TIME AT BATSE : 57753. S. OR 16:02:33.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 130.000 1.000
BATSE PEAK COUNTING RATE: 350000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 1/ 99 IS:
RA= 165.557 DEC= -8.241 DIST= 4.724 AU
BATSE-ULYSSES DISTANCE = 706688711. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=143.37 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1891.73 SECS.
CROSSING TIME AT ULYSSES IS 55861. S. OR 15:31:01 +/- 265.45 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 1/ 99 IS:
RA= 199.061 DEC= -5.989 DIST= 1.462 AU
MARS-BATSE DISTANCE = 218741344. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -257.96 SECS.
CROSSING TIME AT MARS IS 57495. S. OR 15:58:15 +/- 114.58 SECONDS

BATSE BURST TRIGGER

NO.: 7301

TIME: TJD=1182 SECONDS=57753

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=154.9 AZIMUTH=222.8 ERROR= 0.9 DEGREES

COMMENTS:

VERY STRONG, MULTIPLE PULSES, TOTAL DUR. APPROX. 250 S. MAX AT APPROX. T+167 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7301	990104	11182	57753	350000	130	+01	250

Date: Jan 24 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data **N/A**

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

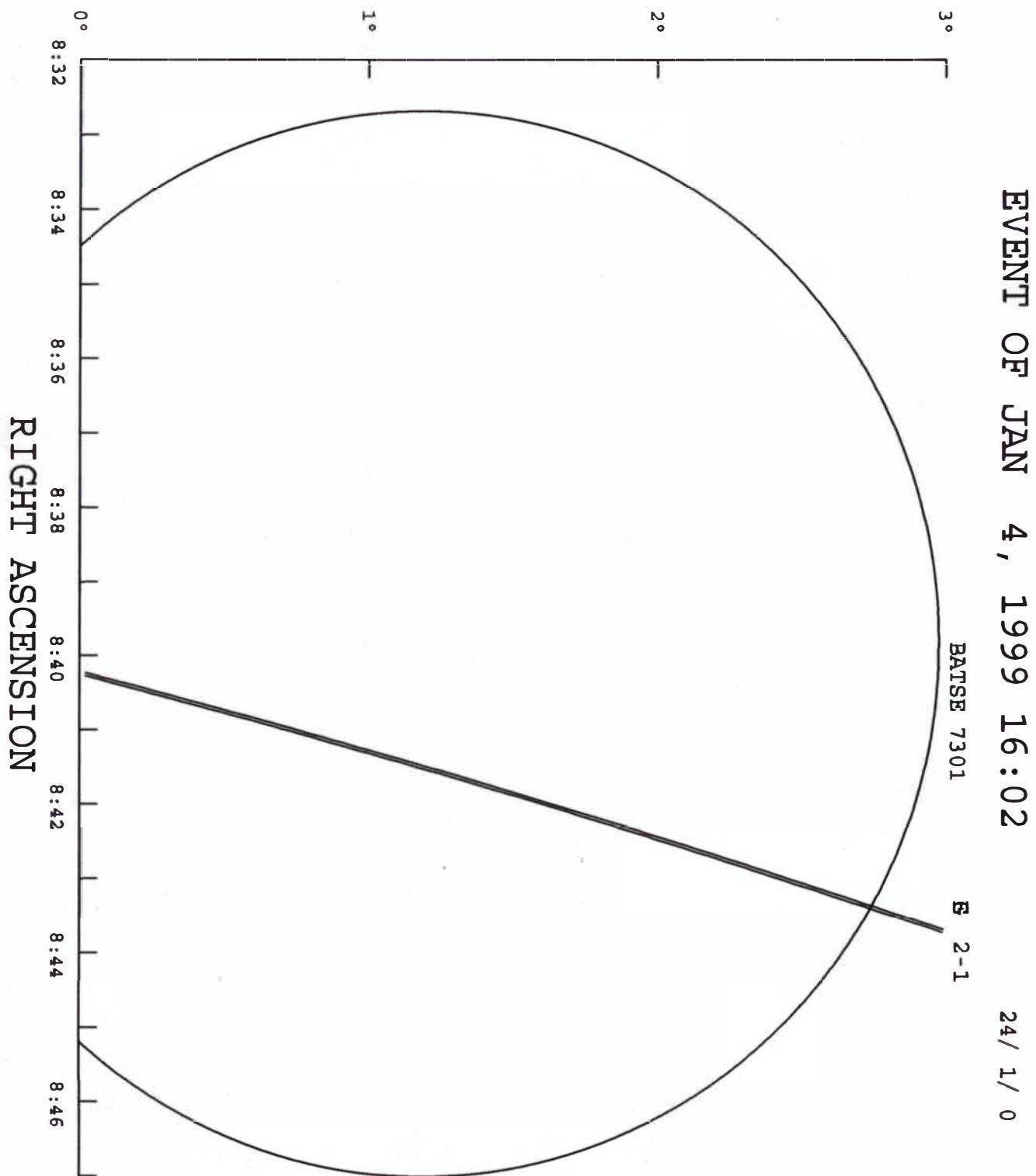
E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

DECLINATION



BATSE

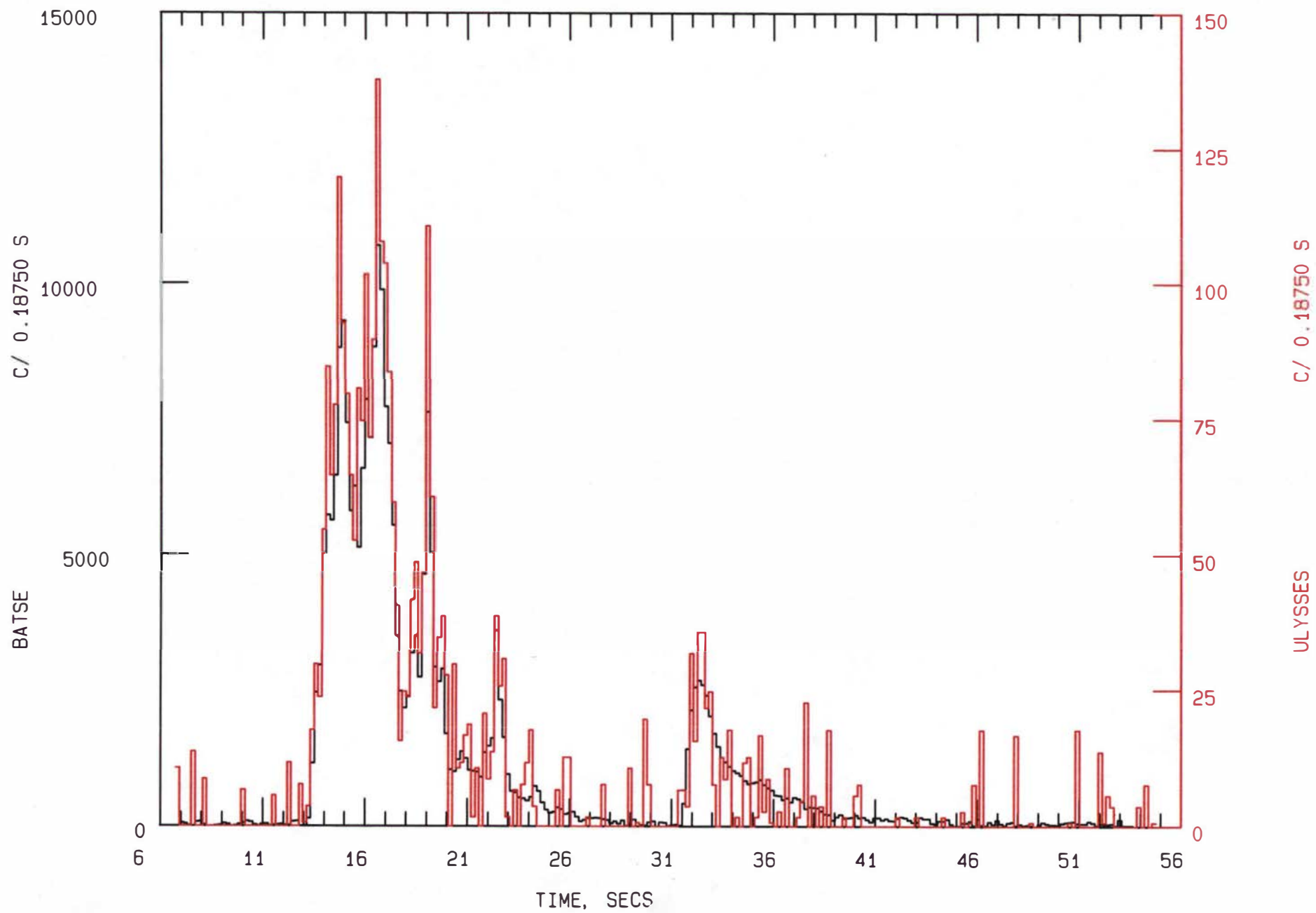
-ULYSSES

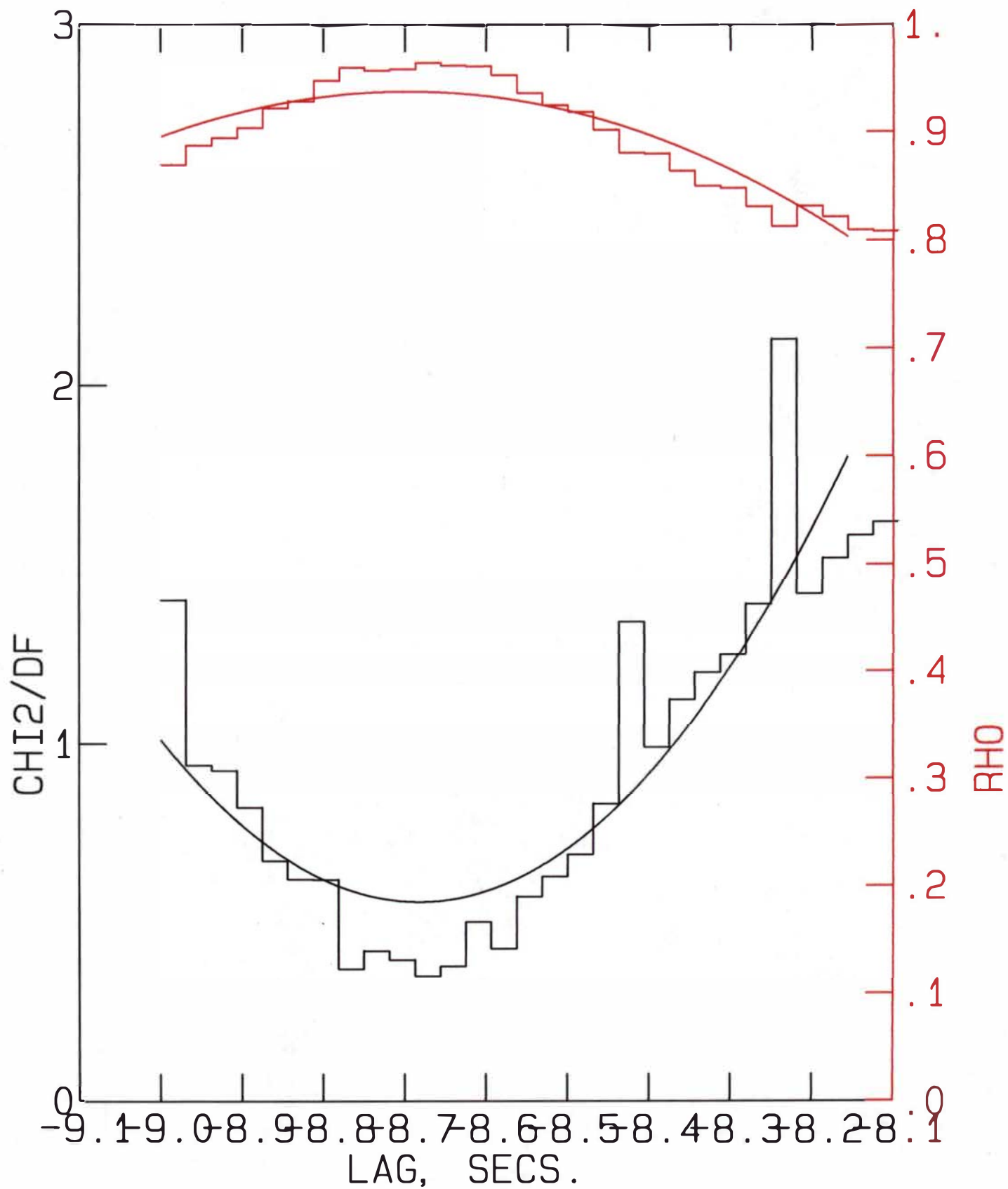
CORRELATION

4/ 1/99

57753.721

24/ 1/ 0





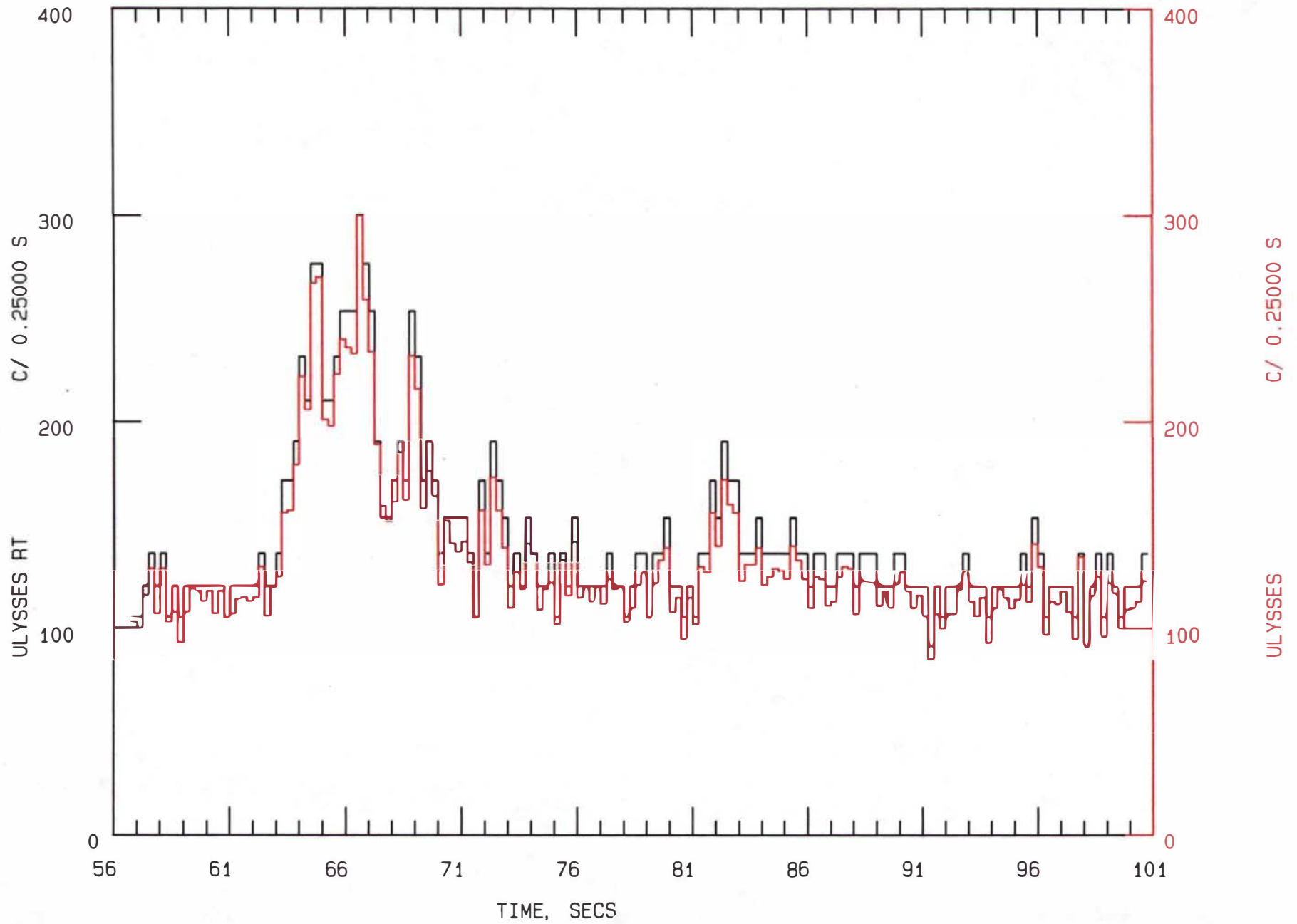
ULYSSES RT-ULYSSES

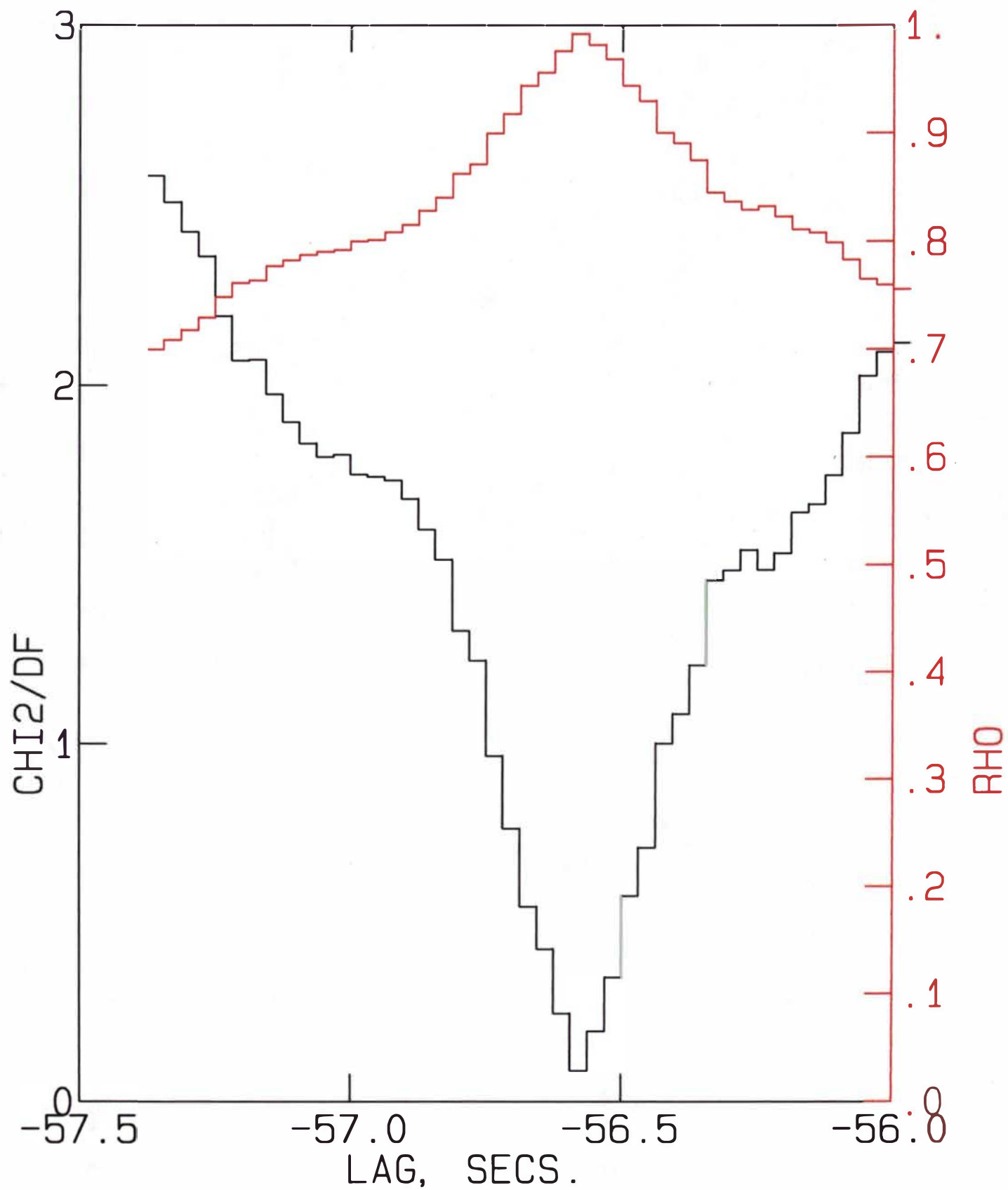
CORRELATION

4/ 1/99

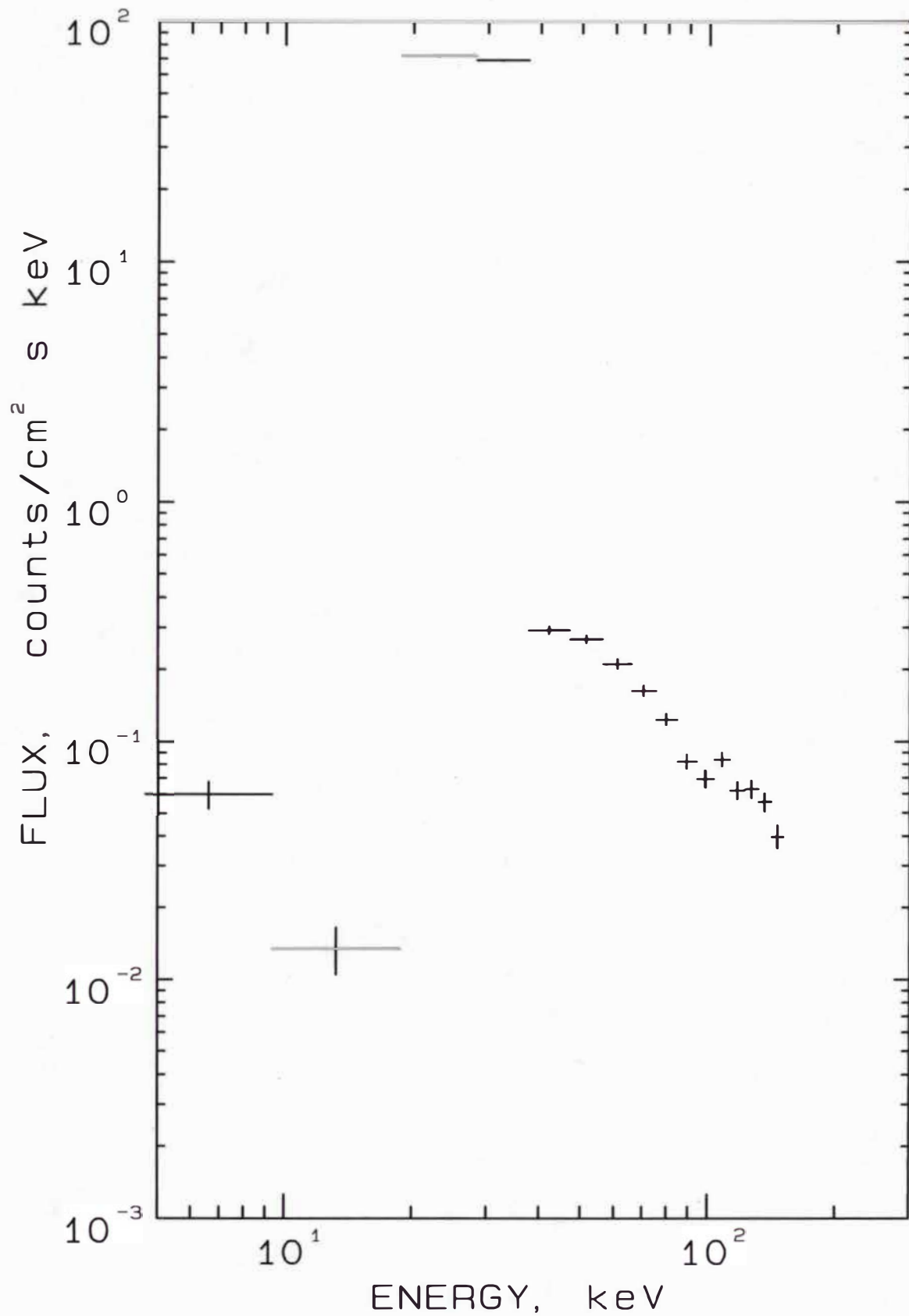
55816.165

24/ 1/ 0





SPECTRUM INTEGRATED OVER 335.0 SECONDS, INTERVALS 2 TO 50



ULYSSES 04/01/99 55880.172 BURST SPECTRAL COUNT RATES

4- 18 keV

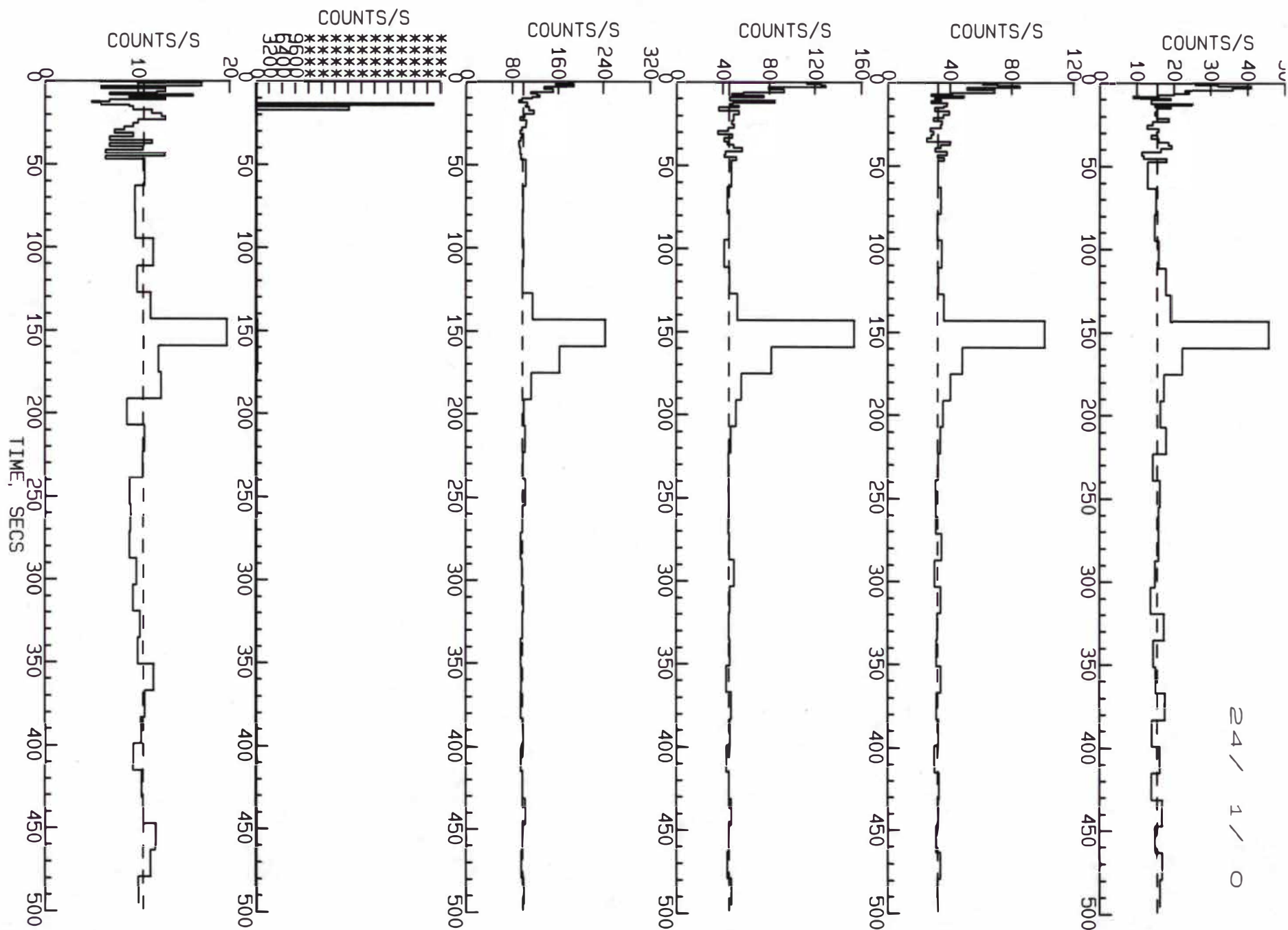
18- 46 keV

46- 74 keV

74-102 keV

102-131 keV

131-149 keV

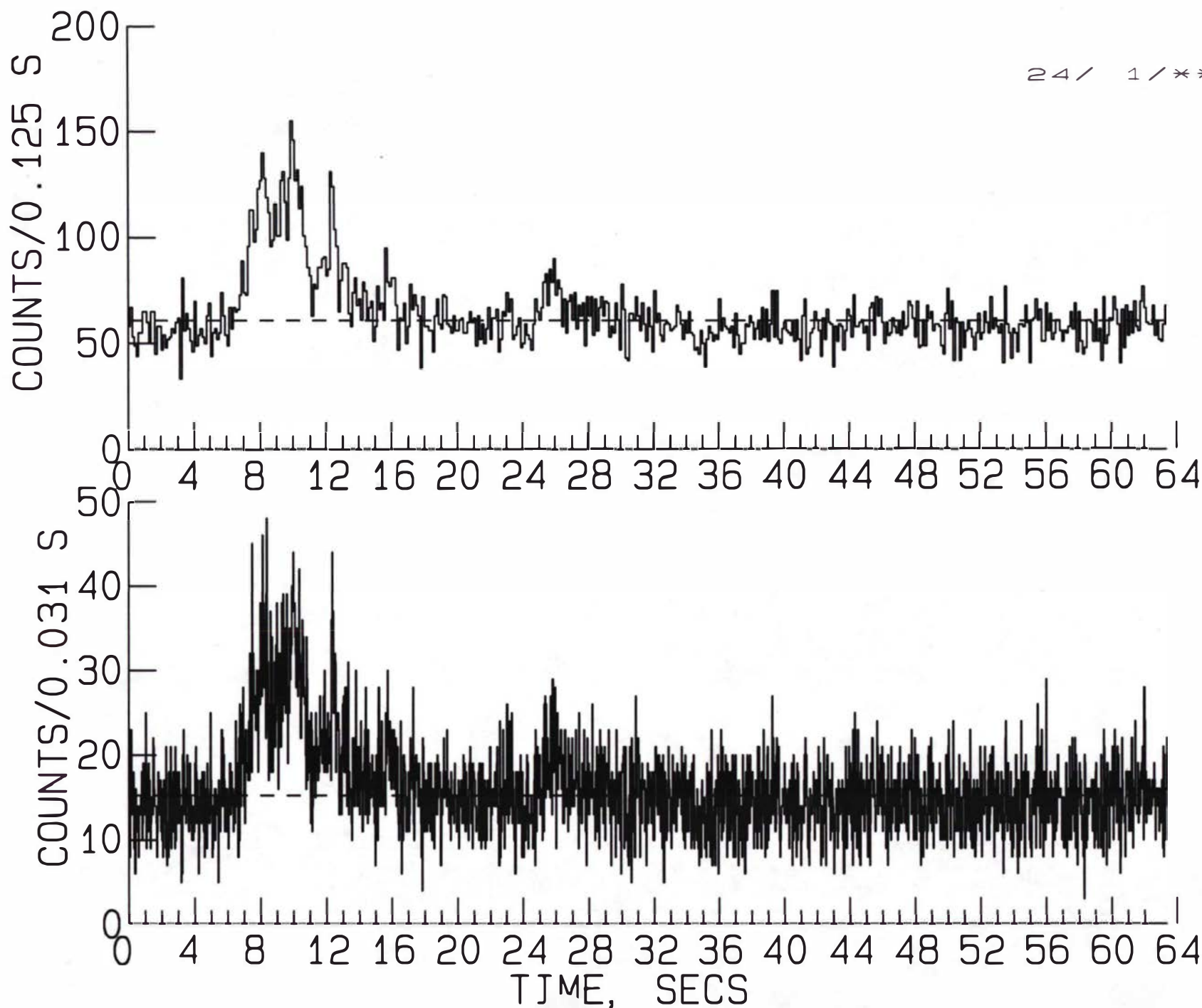


ULYSSES

04/01/99

Ttrig=55880.167

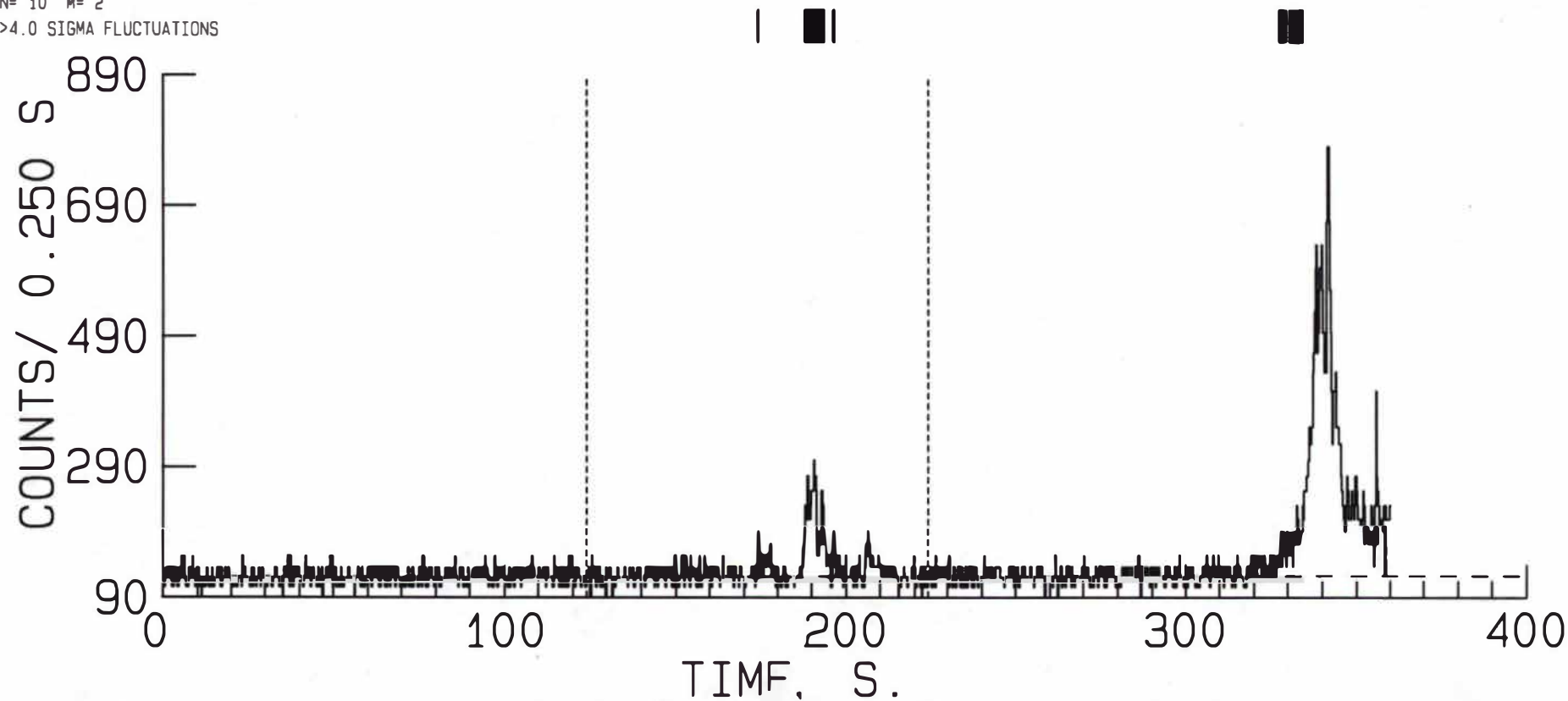
22- 150 keV



ULYSSES RT
4/ 1/99 55692.180 s
22- 150 keV

24 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



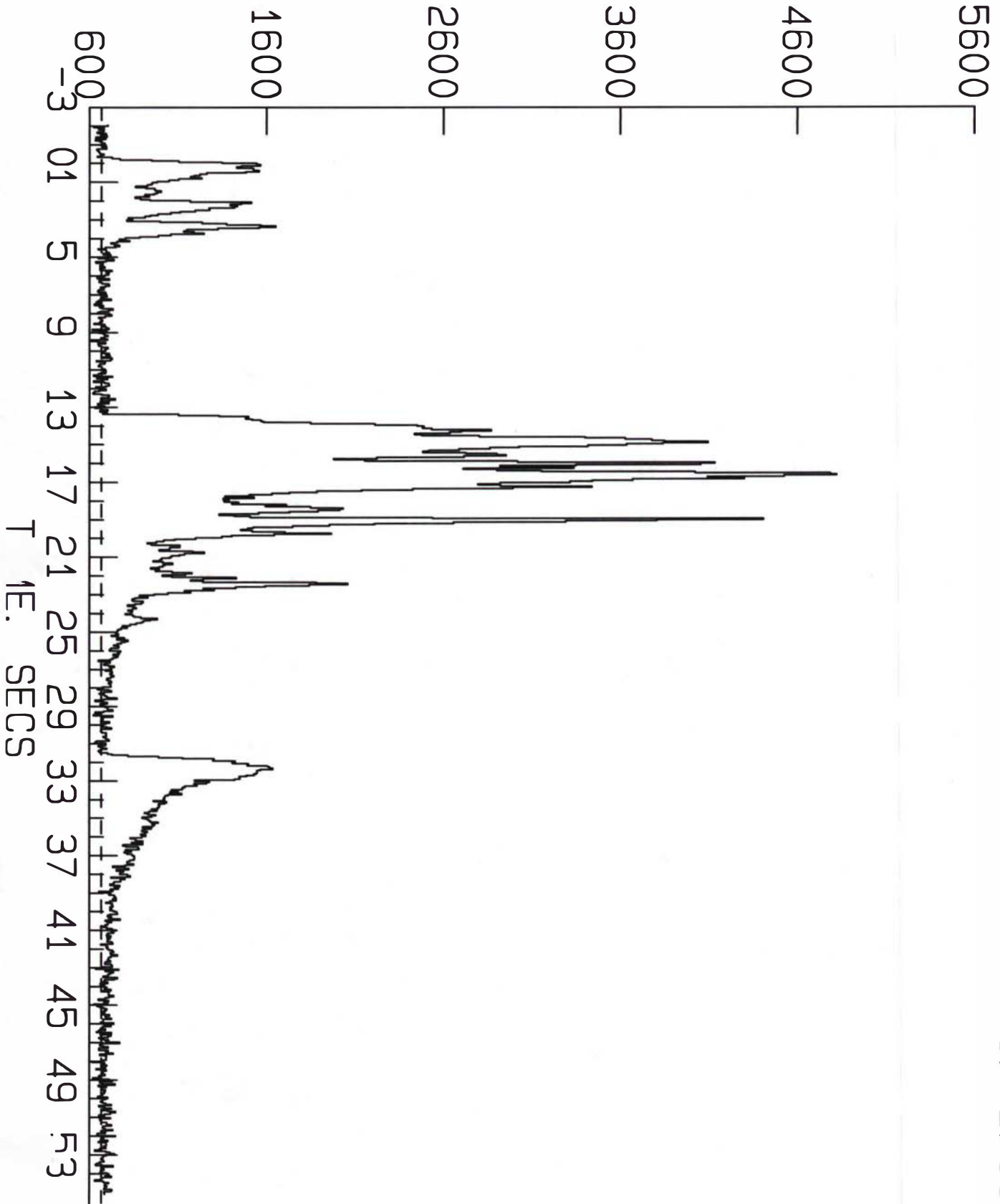
BATSE

04/01/99

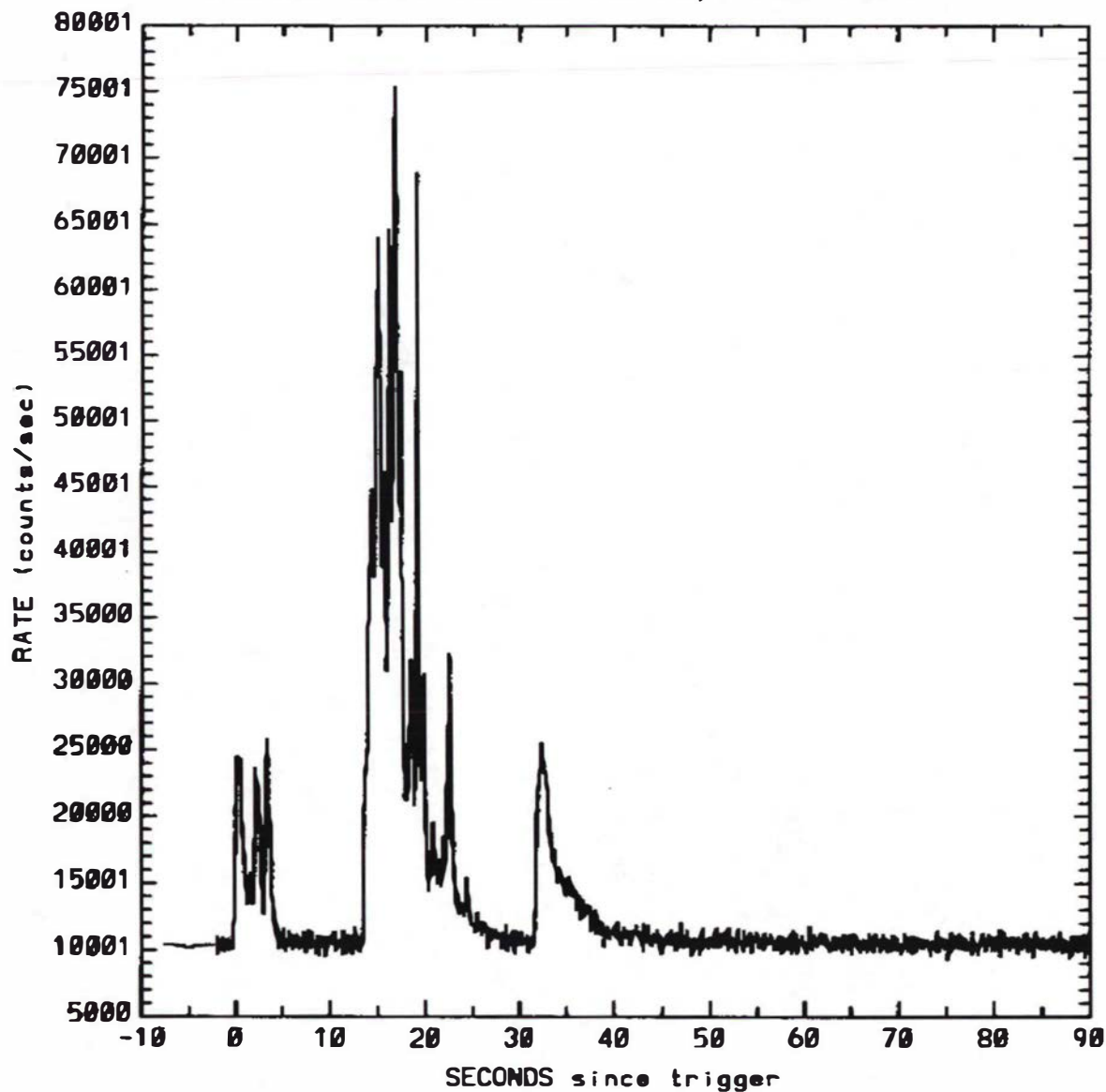
57753.721

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7301



12-JAN-1999 10:09.37

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

Trigger = 7301

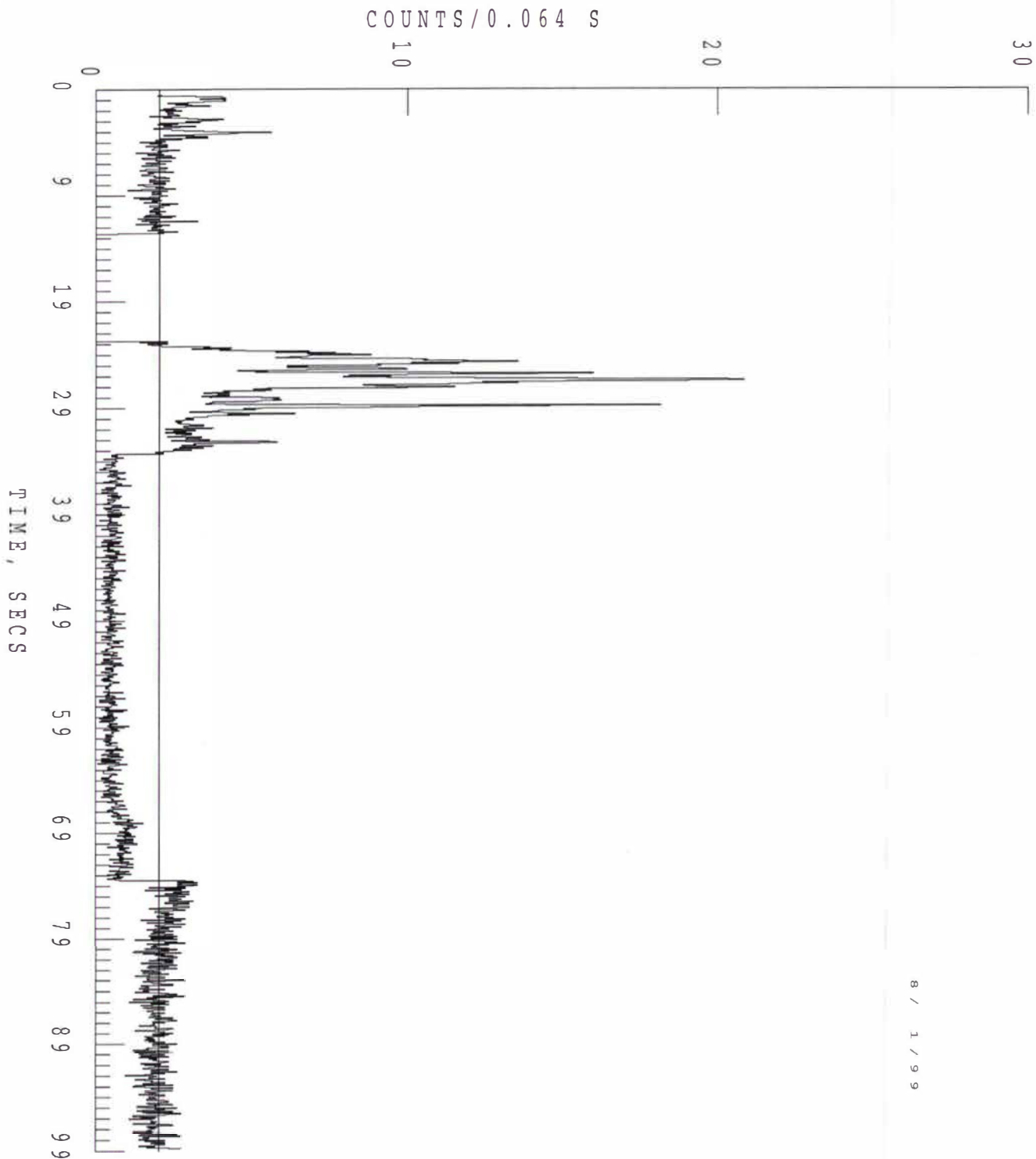
Trigger Time:
11182 / 57753.721Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors [7..0]:
7-5-3---Discriminators:
(1..2)Quality Mask:
BDISP1

KONUS

04/01/99

57753.685

50 - 200 keV





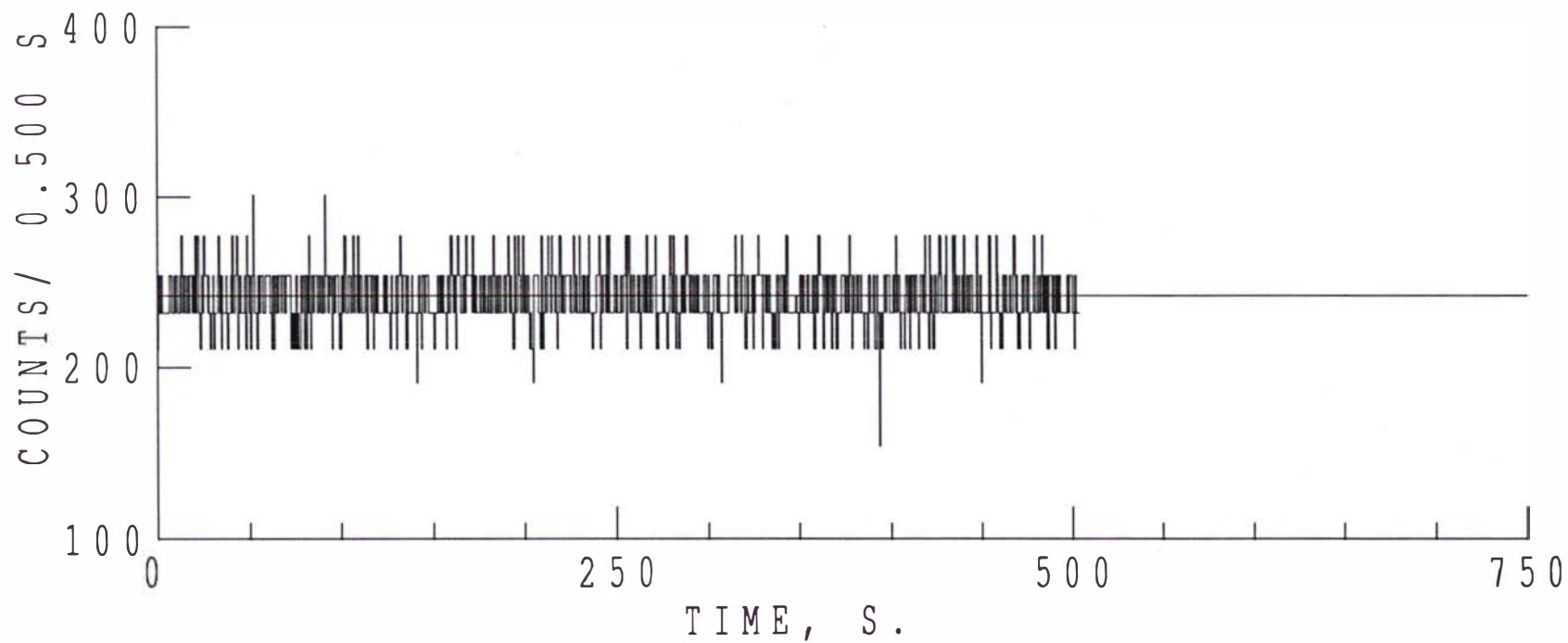
stern unt

19/01/01

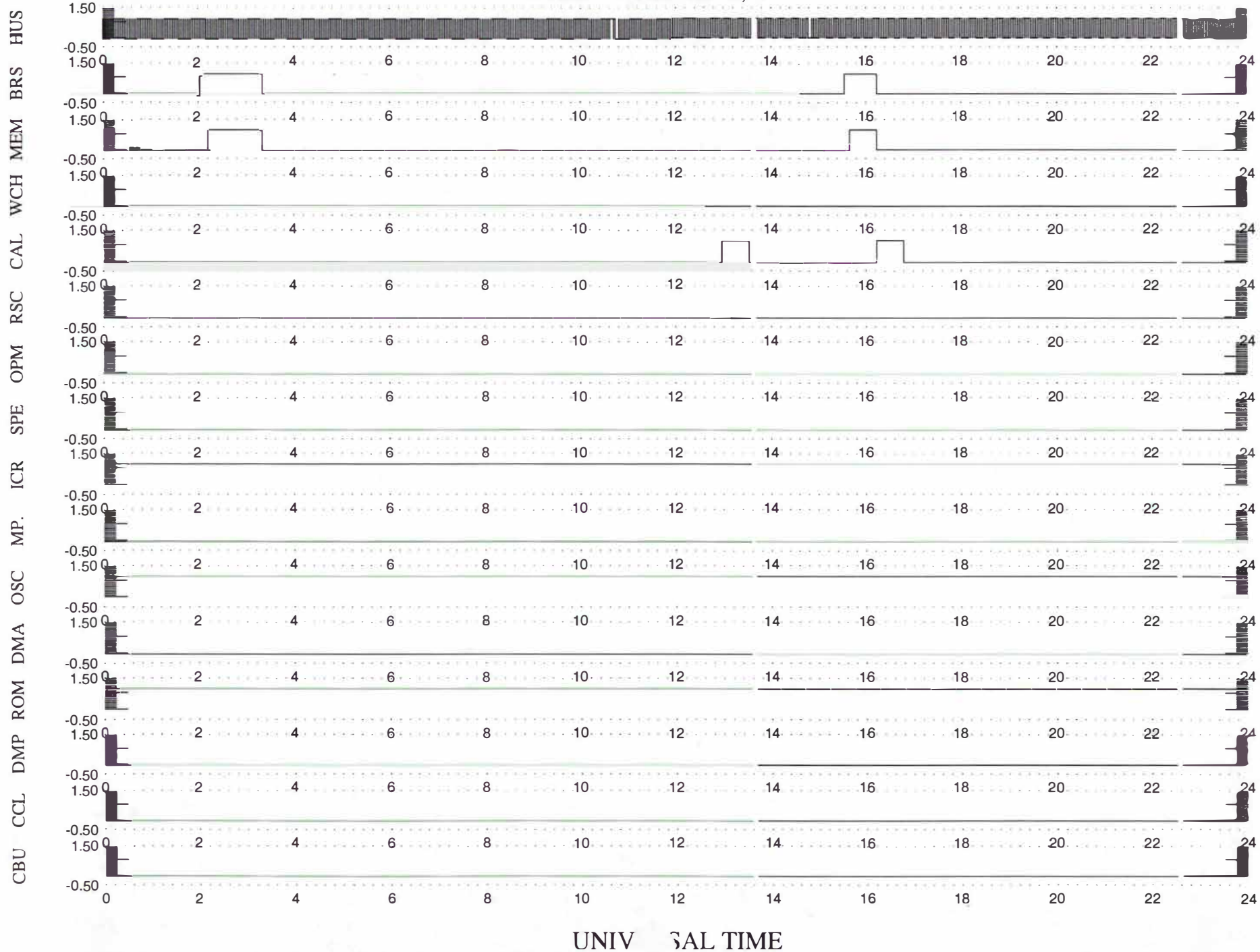
ULYSSES RT
04/01/99 83376.461 s
0 - 0 keV

H= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

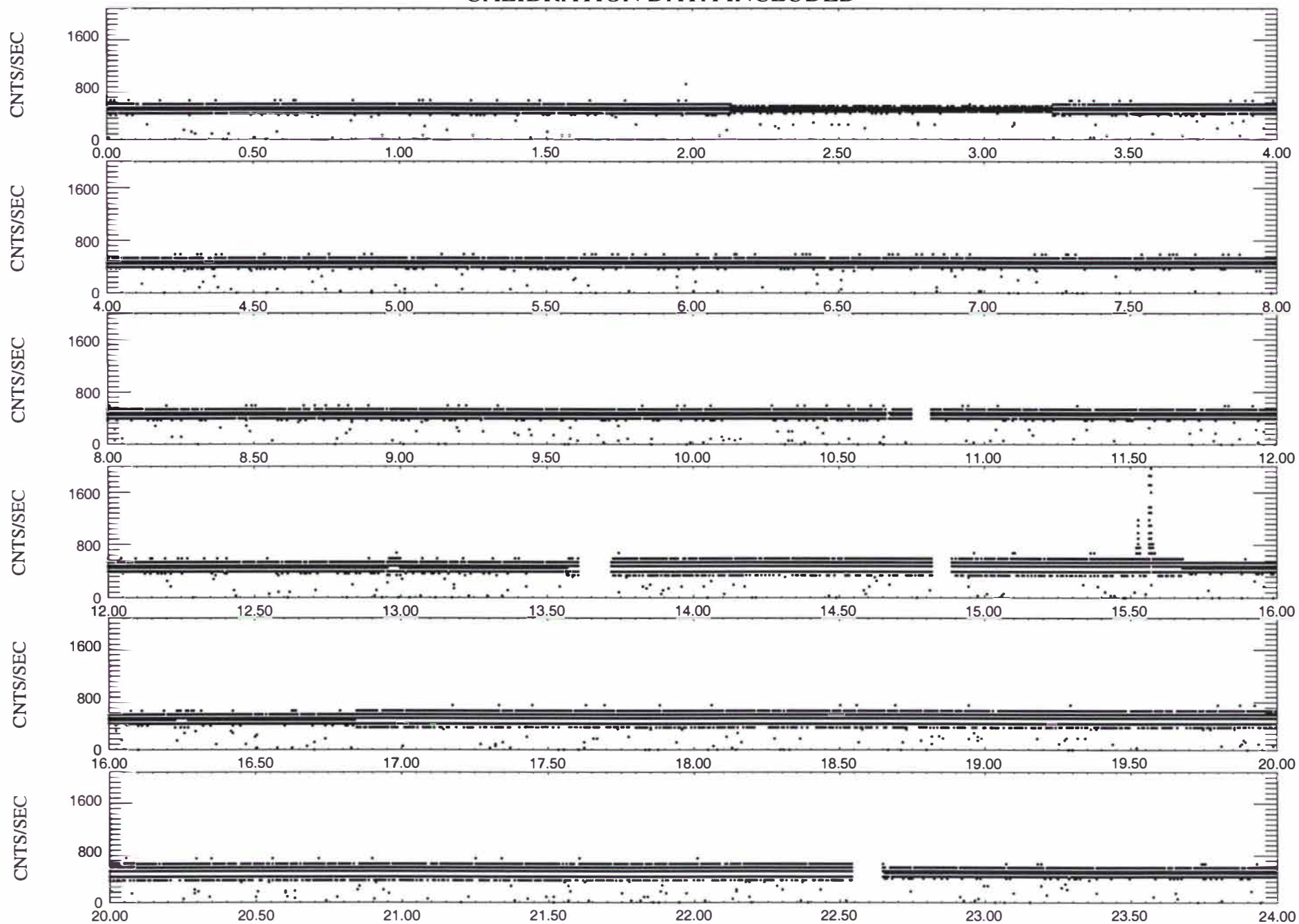
H= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 1, 2

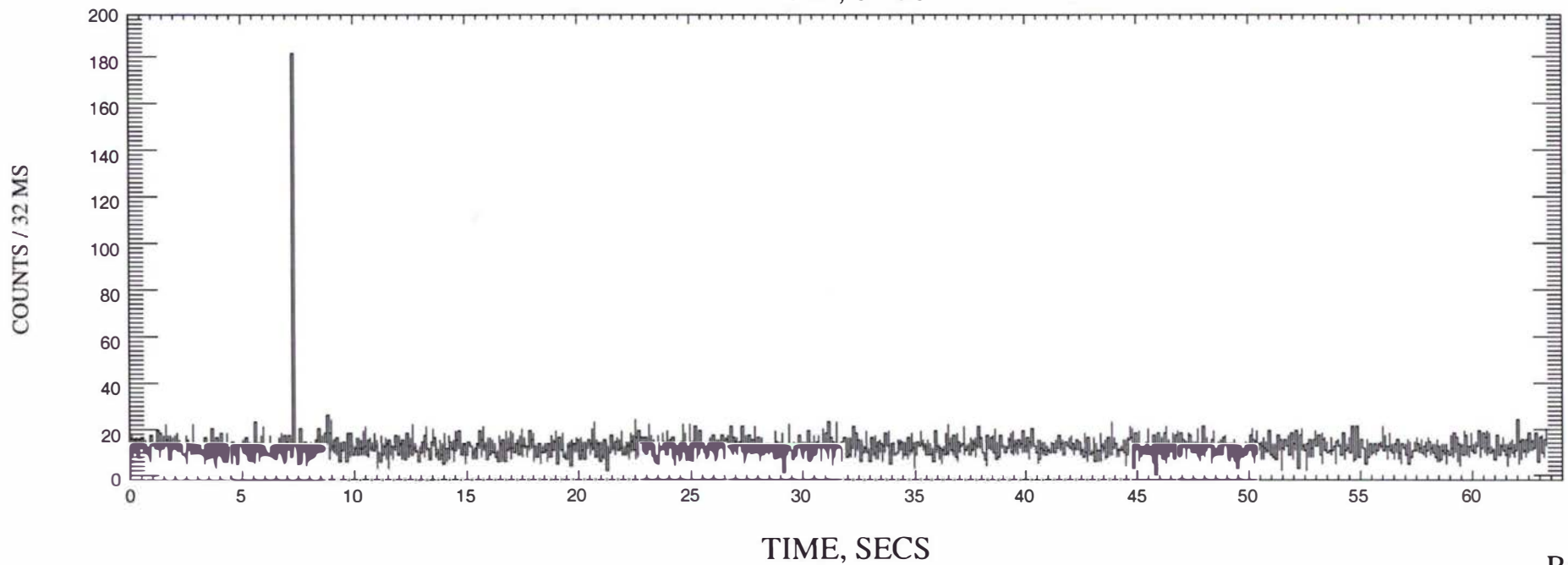
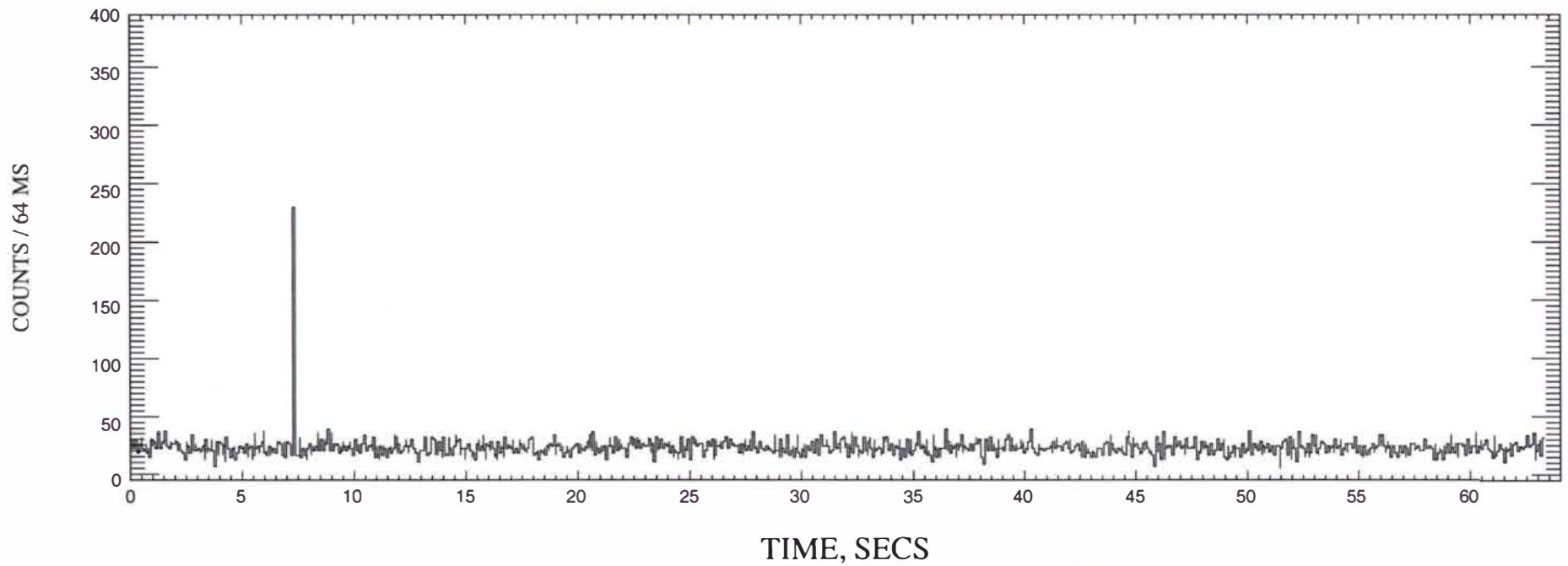


CALIBRATION DATA INCLUDED

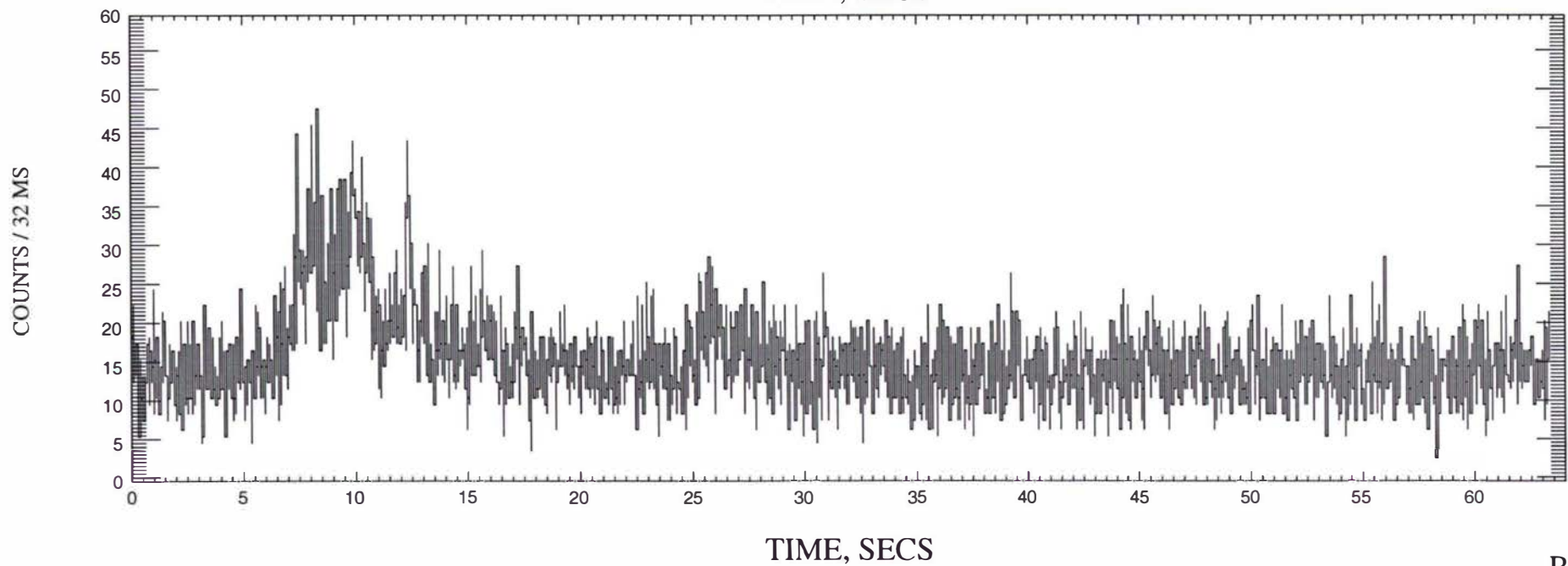
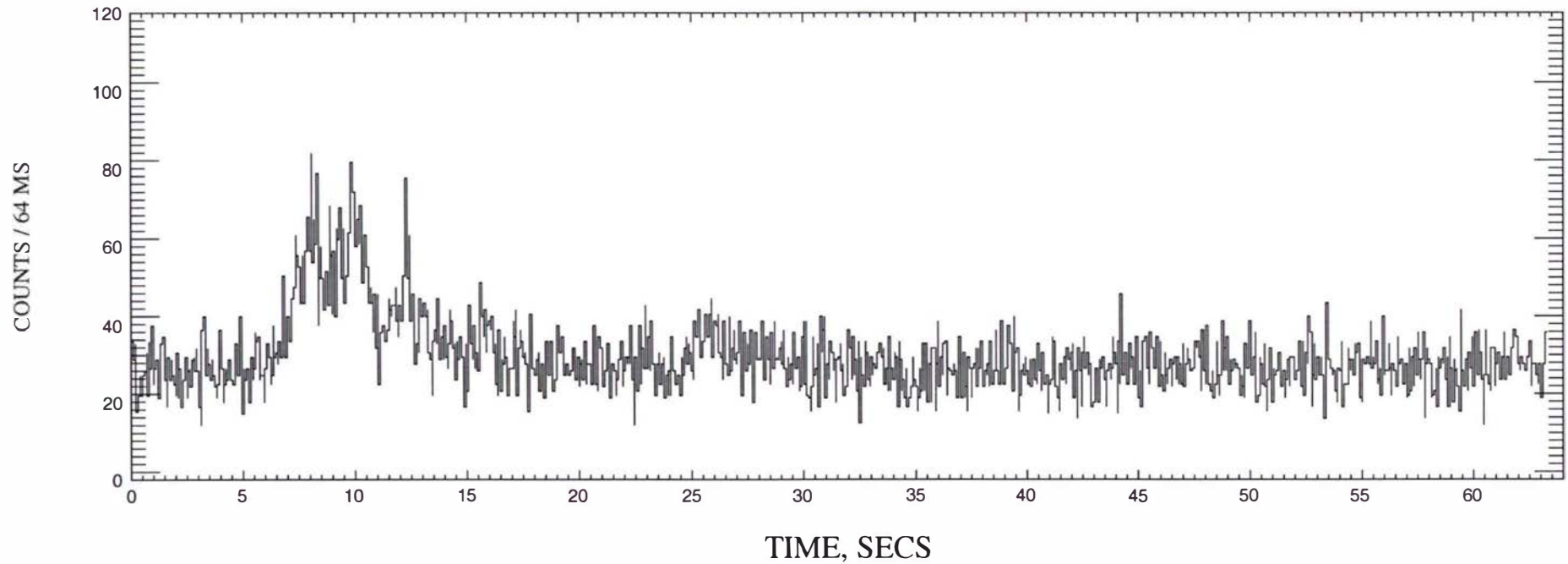


UNIVSAL TIME

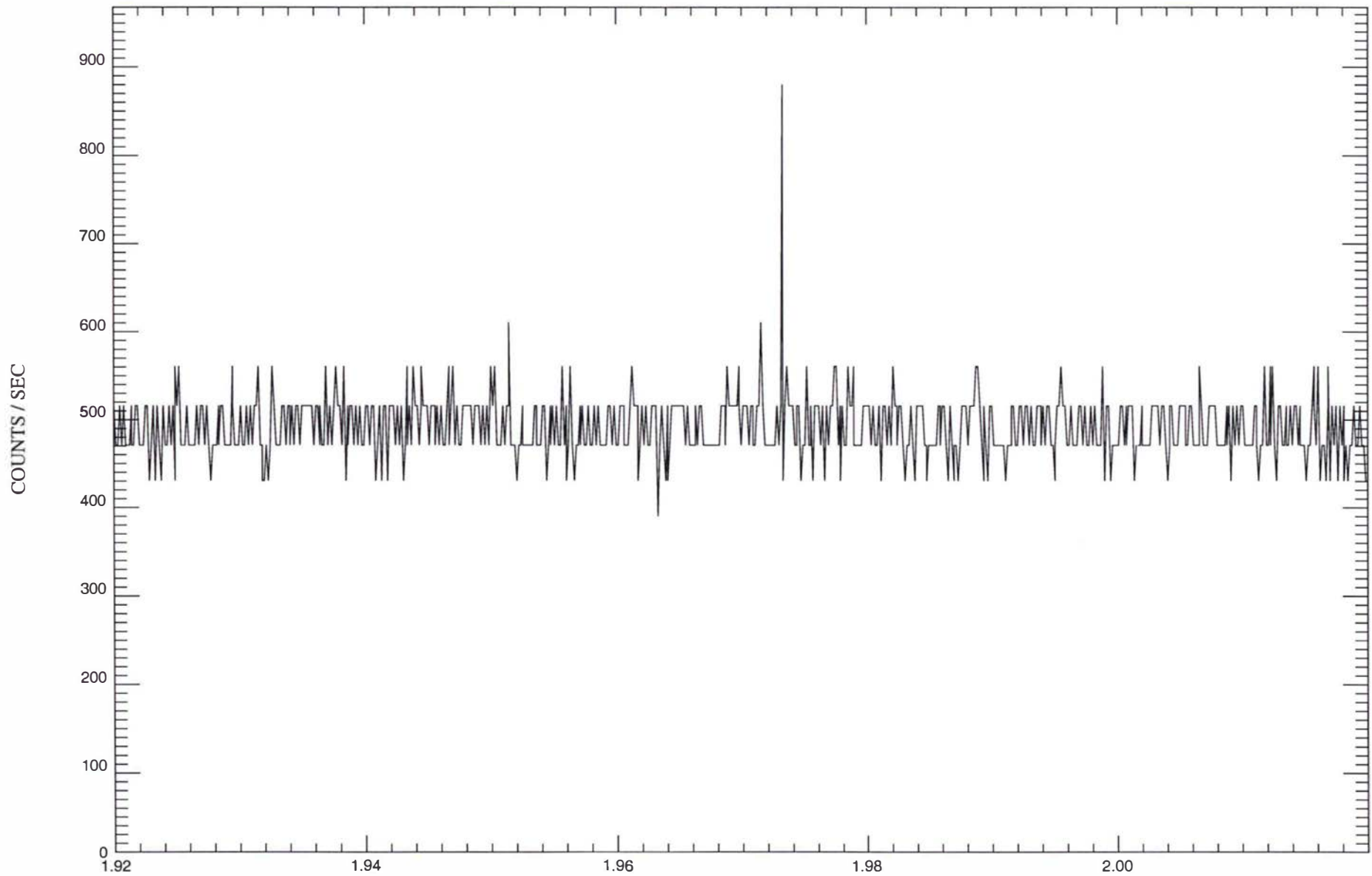
Burst Counter 1 at UT= 1.973271929423 h= 7103.779 s 01:58:23.779



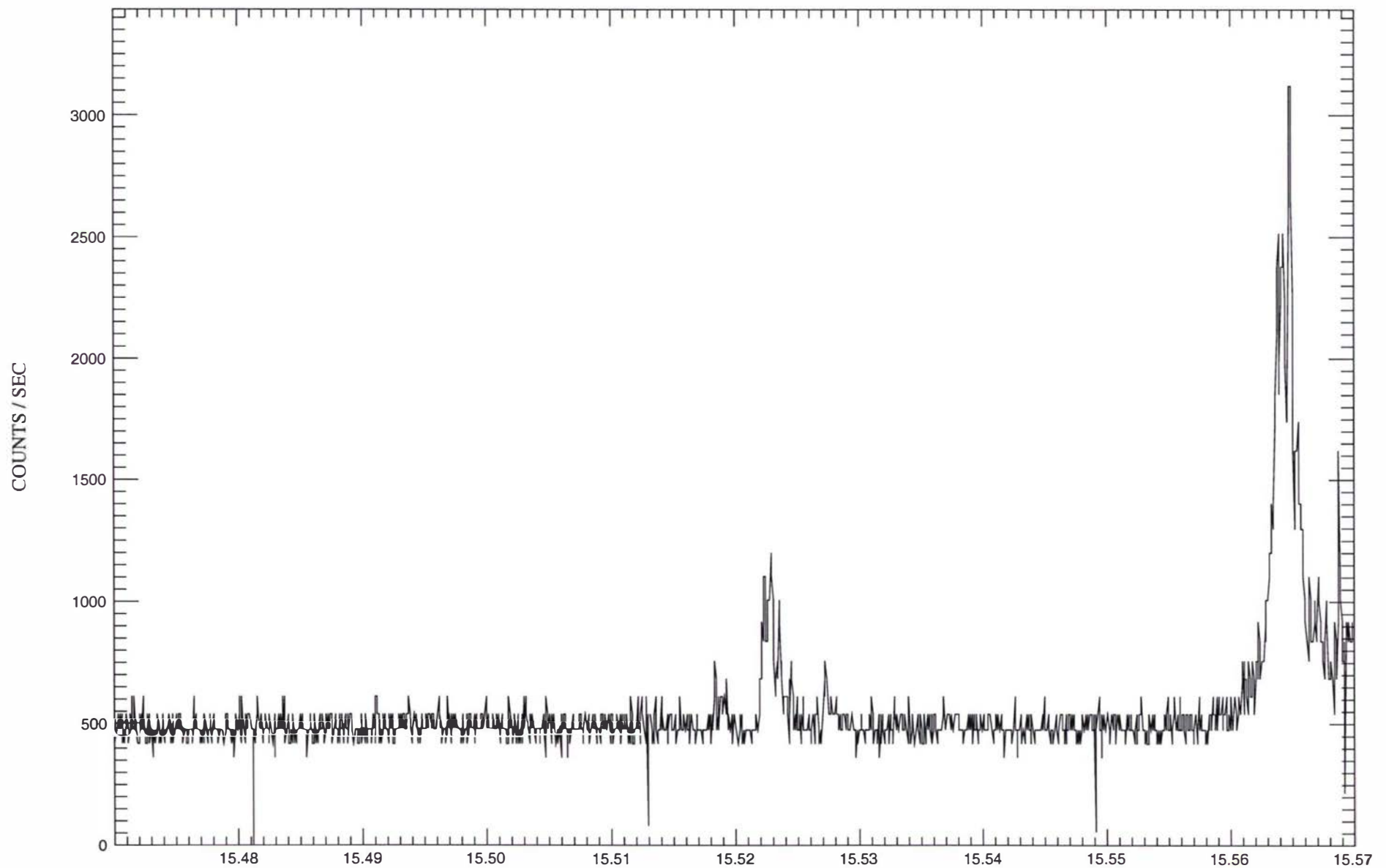
Burst Counter 2 at UT=15.522270058526 h=55880.172 s 15:31:20.172

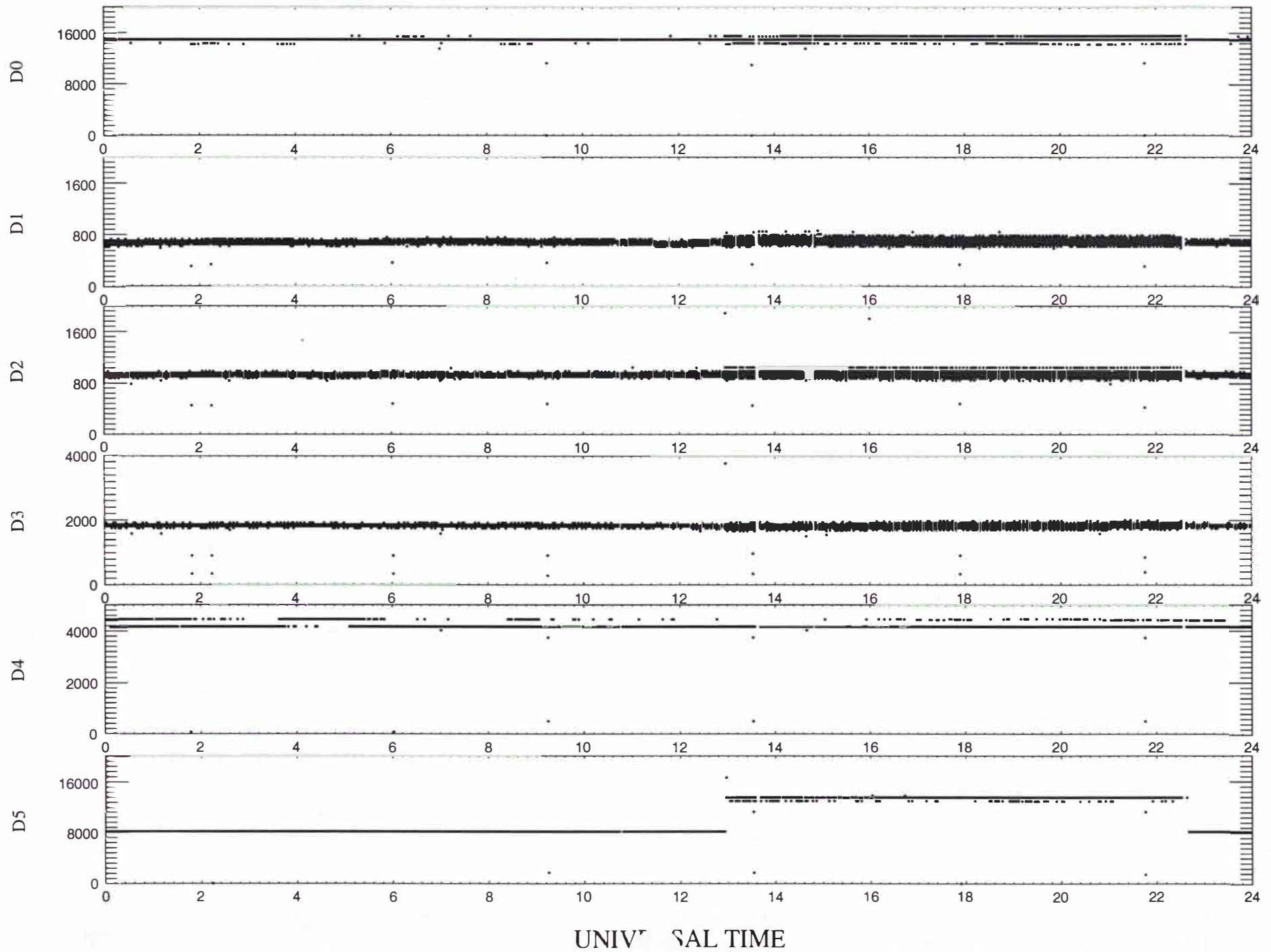


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Wed Jan 6 16:09:33 1999
Date: Wed, 6 Jan 1999 18:05:31 -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.: 7302

TIME: TJD=1183 SECONDS=16982

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 Wed Jan 6 16:09:49 1999

Date: Wed, 6 Jan 1999 18:07:05 -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@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7303

TIME: TJD=1183 SECONDS=18282

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT AFTER SAA EXIT.

From HENZE@fender.msfc.nasa.gov Wed Jan 6 16:10:04 1999
Date: Wed, 6 Jan 1999 18:08:31 -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@lhevax.gsfc.nasa.gov, barthelmy@lhevax.gsfc.nasa.gov,
bacodine@lhevaww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevax.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7304

TIME: TJD=1183 SECONDS=28587

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 Fri Jan 8 14:49:33 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA16511; Fri, 8 Jan 1999 14:49:33 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA26439; Fri, 8 Jan 1999 14:49:29 -0800
Date: Fri, 8 Jan 1999 16:43:38 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990108164338.2025693d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7305
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7305
EVENT OF 1999 JAN 5 DAY OF YEAR= 5
EVENT CROSSING TIME AT BATSE : 31789. S. OR 08:49:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 307.000 4.000
BATSE PEAK COUNTING RATE: 80000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/ 1/ 99 IS:
RA= 165.482 DEC= -8.287 DIST= 4.712 AU
BATSE-ULYSSES DISTANCE = 704930878. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1840.67 SECS.
CROSSING TIME AT ULYSSES IS 33630. S. OR 09:20:29 +/- 331.99 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/ 1/ 99 IS:
RA= 199.516 DEC= -6.165 DIST= 1.452 AU
MARS-BATSE DISTANCE = 217236640. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.21 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 221.35 SECS.
CROSSING TIME AT MARS IS 32010. S. OR 08:53:30 +/- 123.15 SECONDS

BATSE BURST TRIGGER
NO.: 7305

TIME: TJD=1183 SECONDS=31789

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=18.9 AZIMUTH=37.9 ERROR=2.2 DEGREES

COMMENTS:

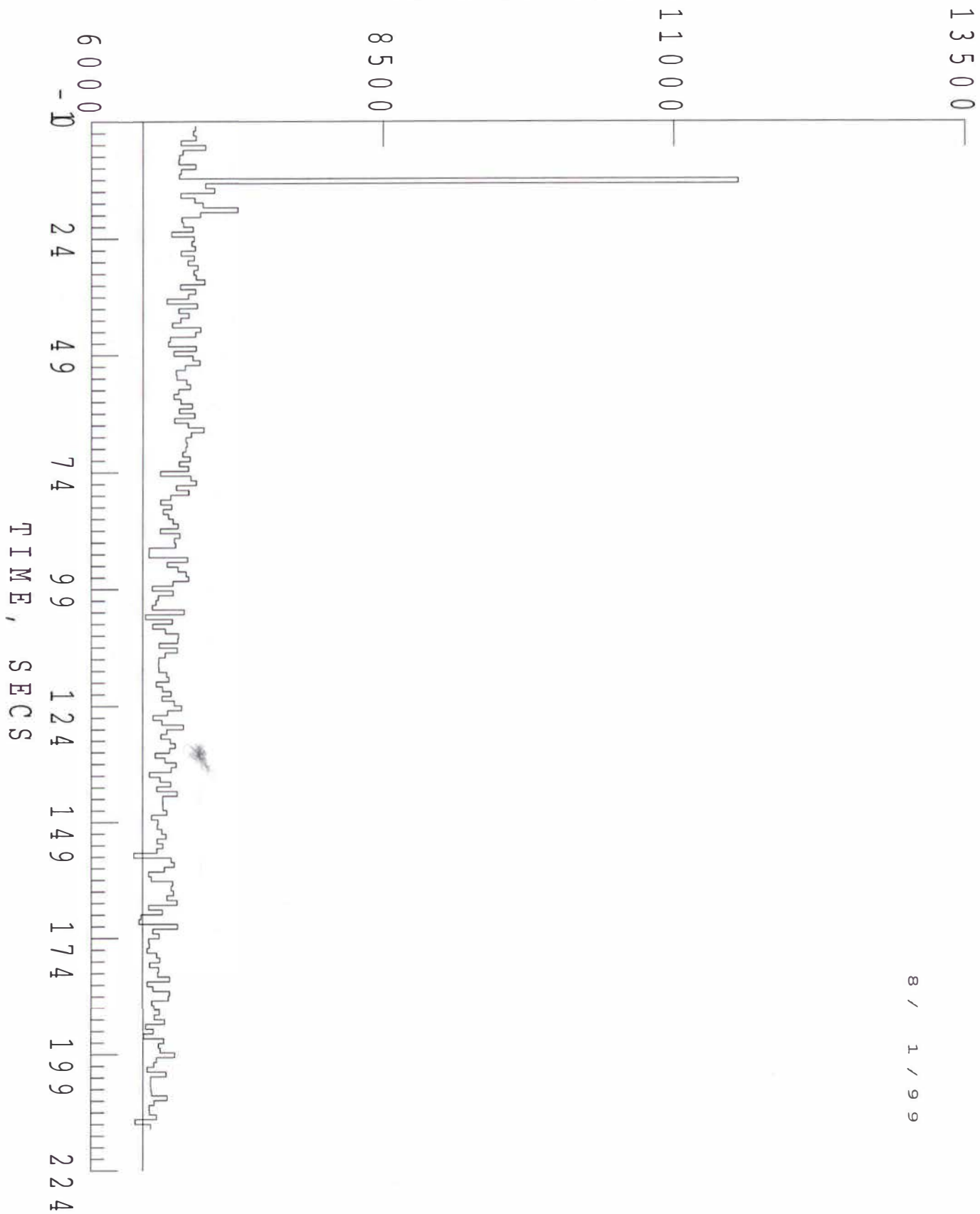
GRB. STRONG SPIKE CONSISTING OF TWO PULSES, TOTAL DUR. APPROX. 0.6 S. WEAK PULSE
AT APPROX. T+6 S, MAYBE PART OF BURST. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7305	990105	11183	31789	80000	307	+04	.6

BACODINE 7305 05/01/99 31777.529

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7305

ULYSSES RT

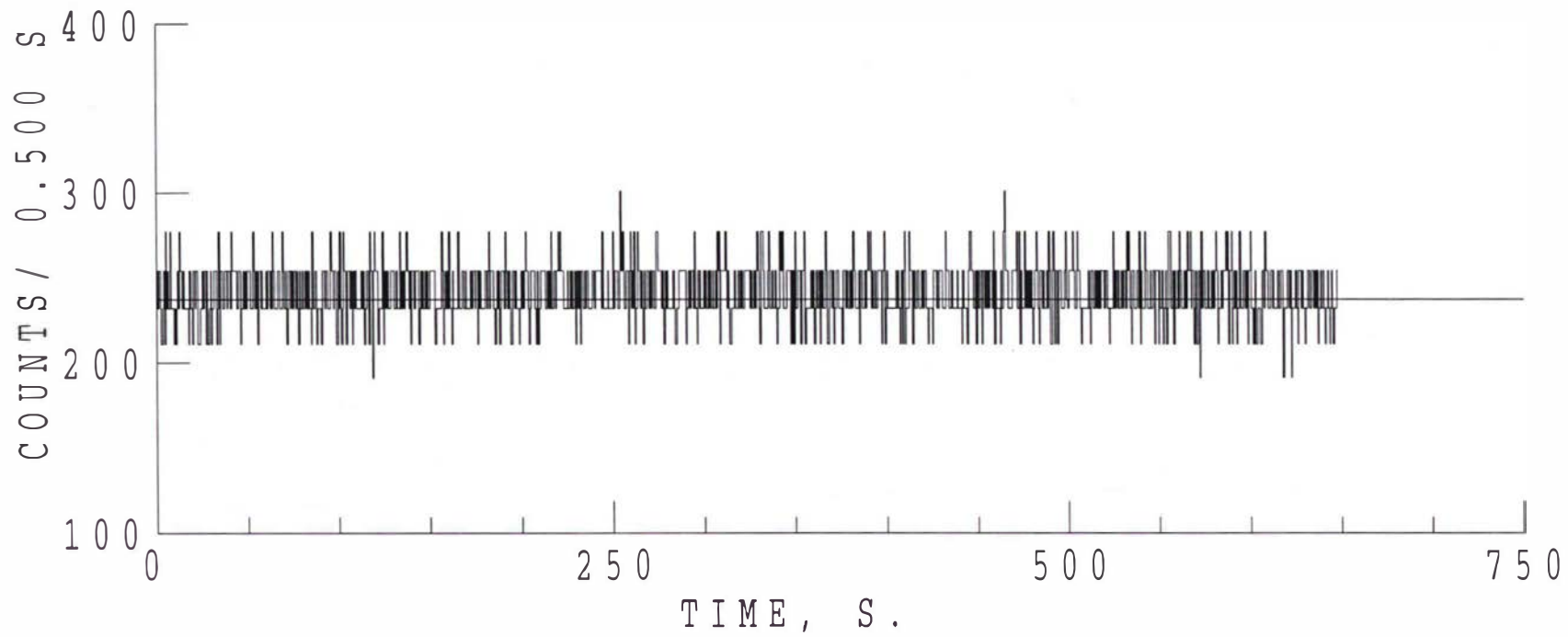
8 / 1 / 99

5 / 1 / 99 33300.336 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



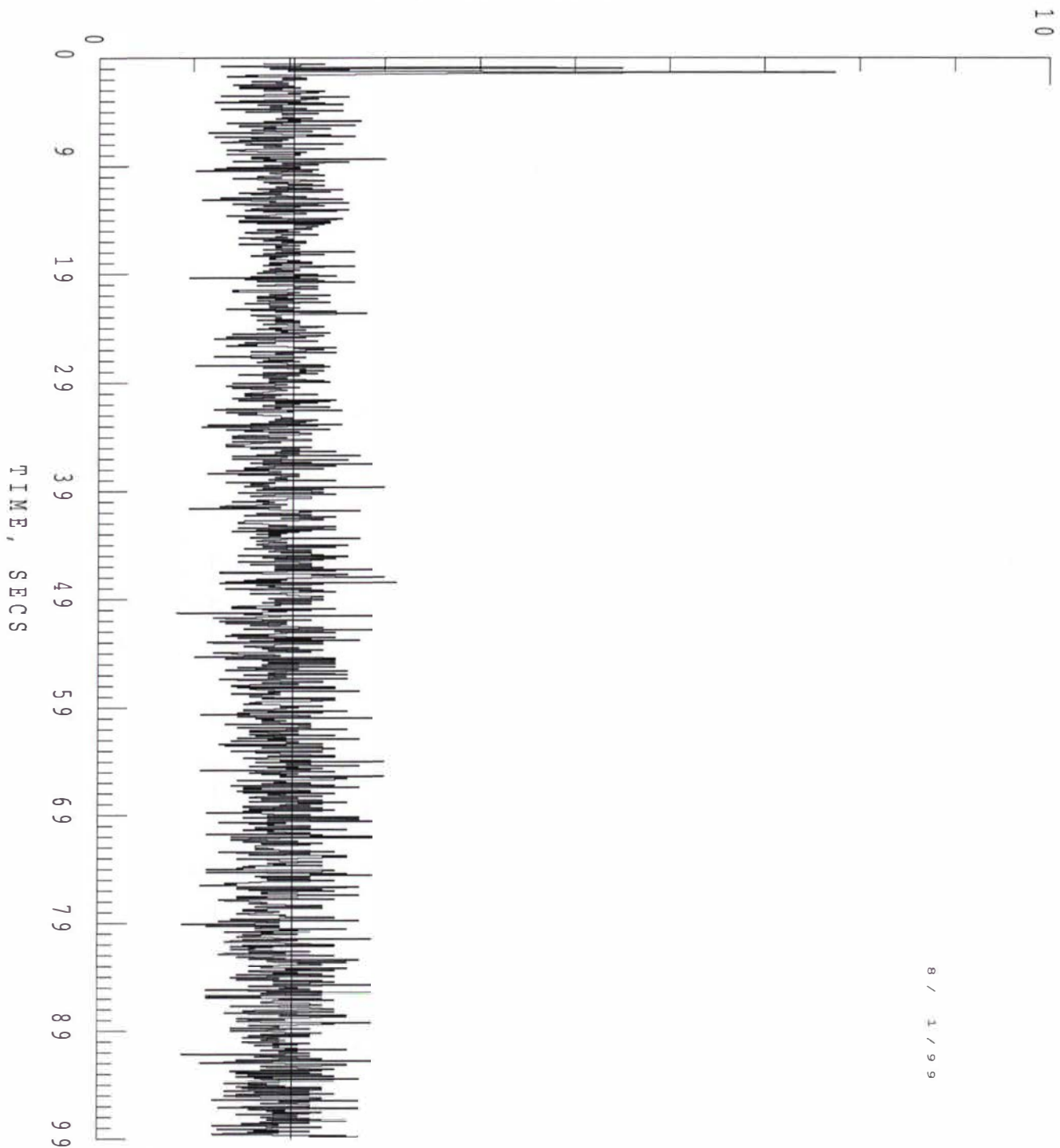
KONUS

05/01/99

31789.507

50 - 200 keV

COUNTS/0.064 S



KONUS 19990105 31789

ULYSSES RT

8 / 1 / 99

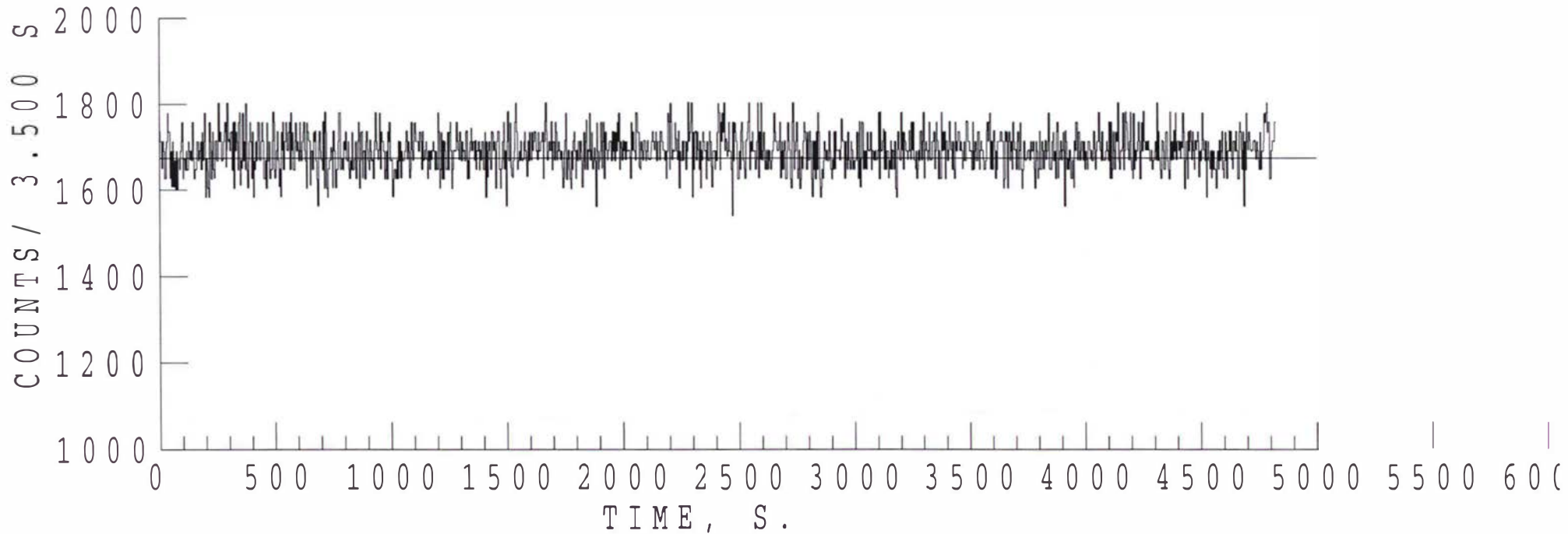
5 / 1 / 99 29376.297 s

0.500 S INTERVALS REGROUPED BY 7

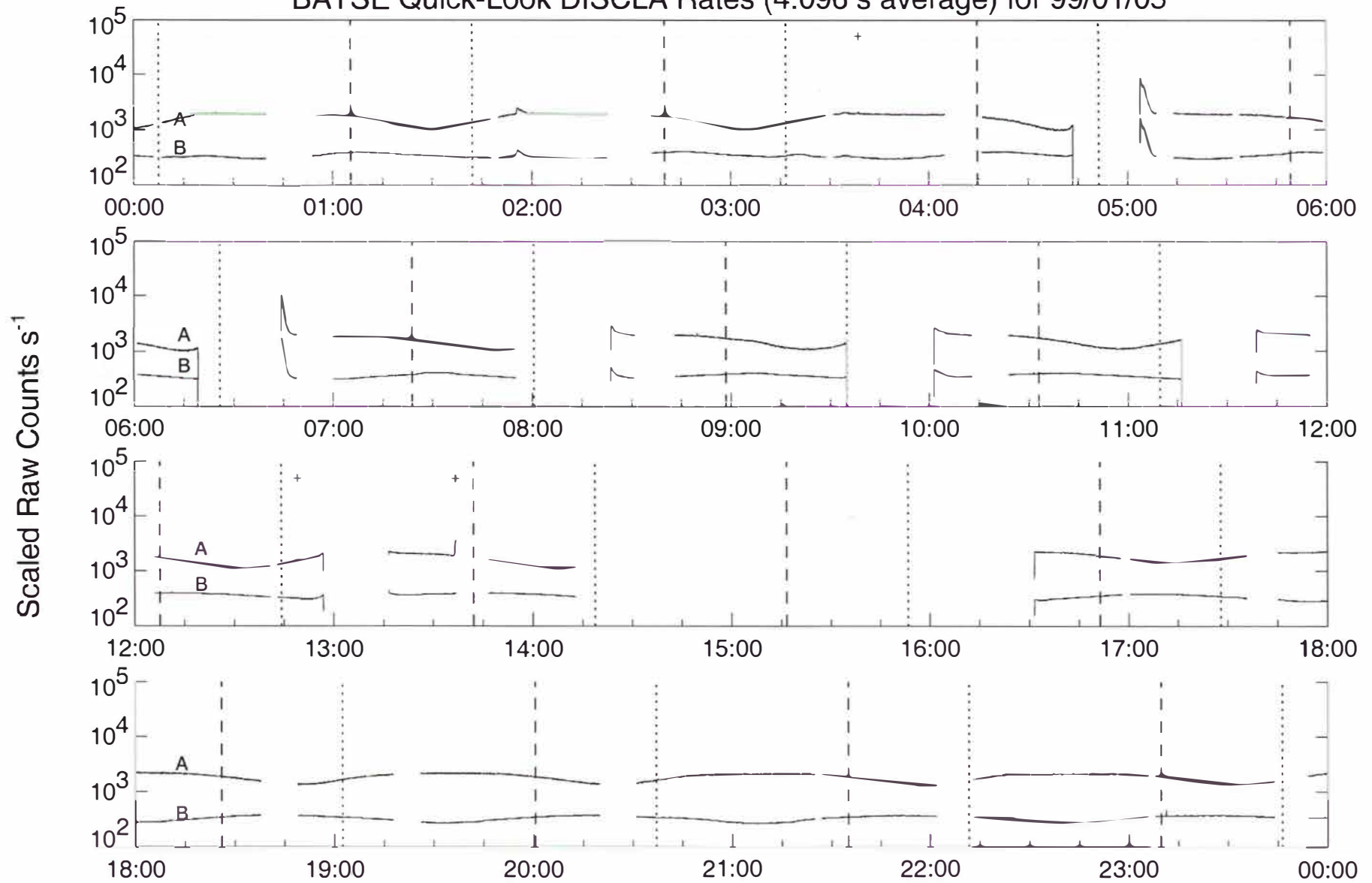
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/05

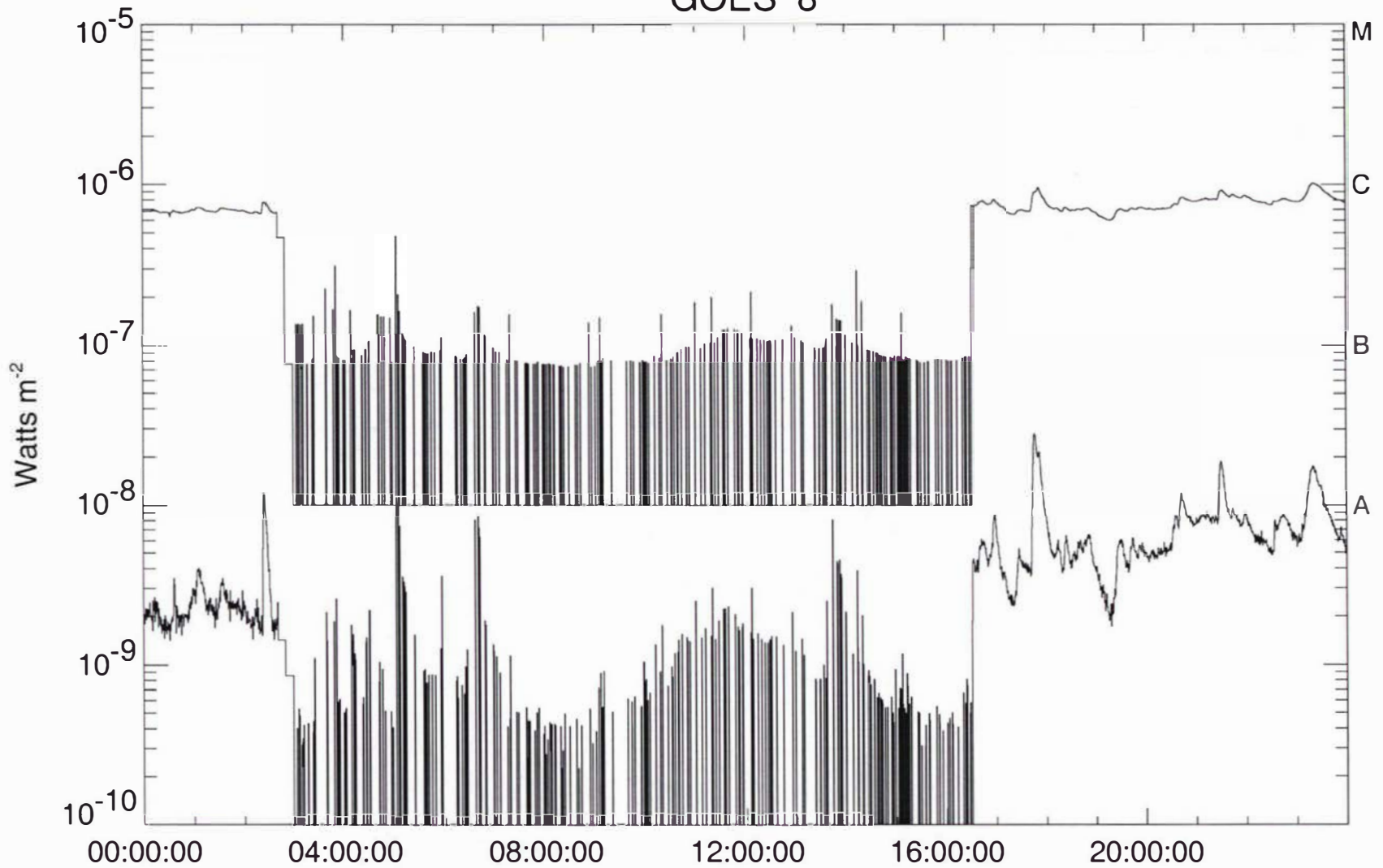


Current Time: 99/01/09, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/05, 0000:00

Plot created: 99/01/09, 1009

Channel

1 (1.0 - 8.0 Angstroms)

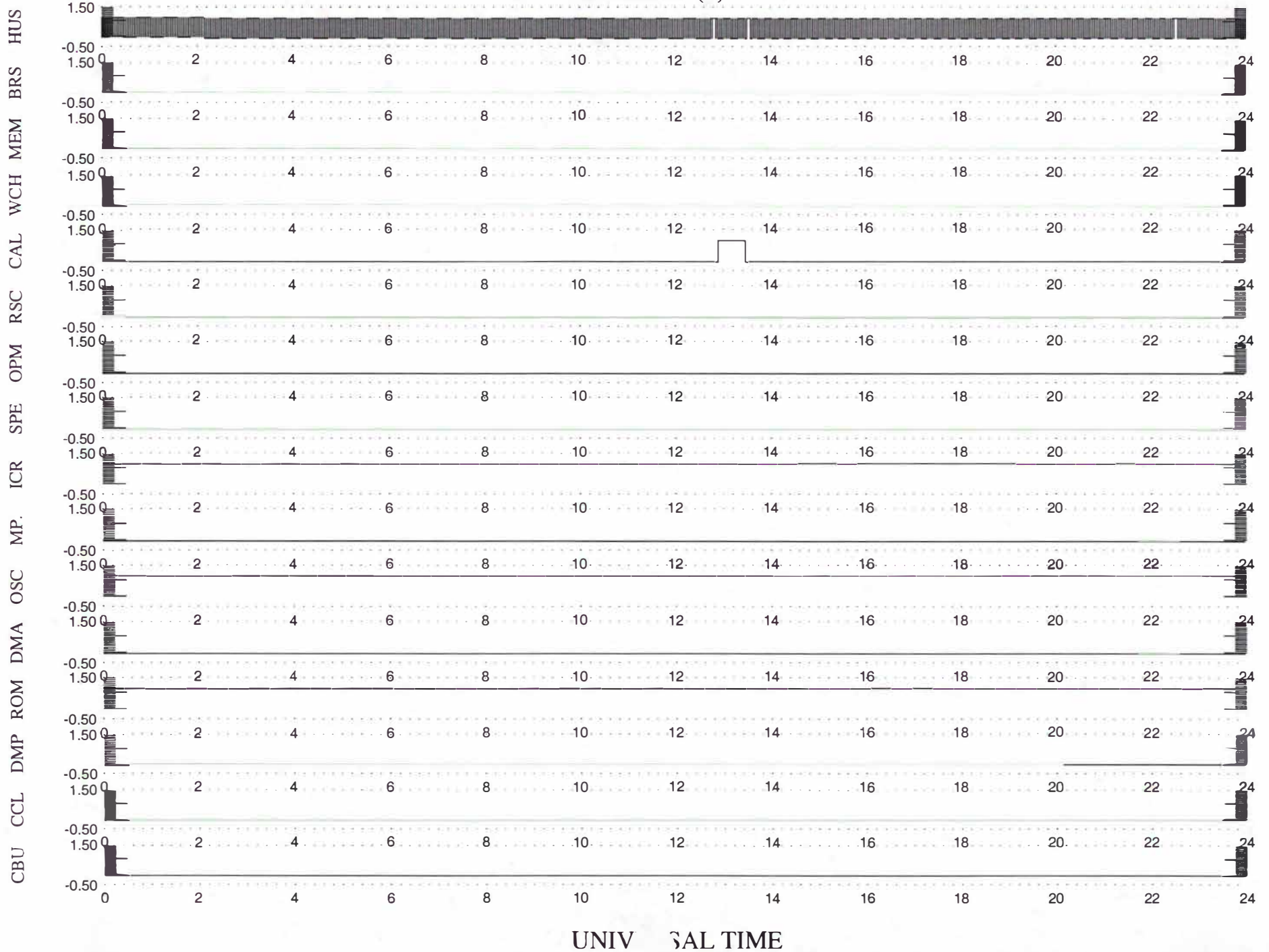
Background not subtracted

2 (0.5 - 4.0 Angstroms)

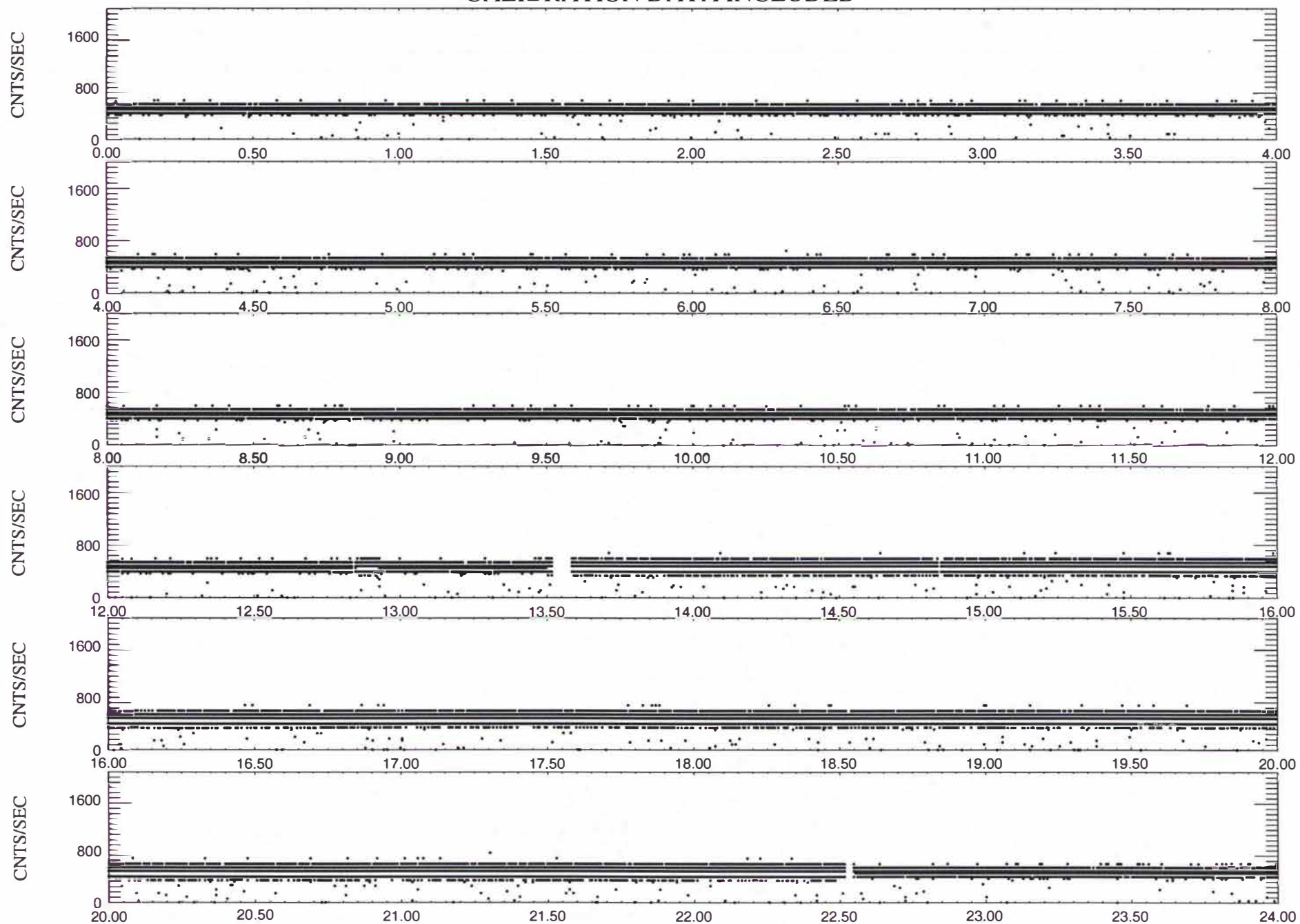
Background not subtracted

Sample average = 10

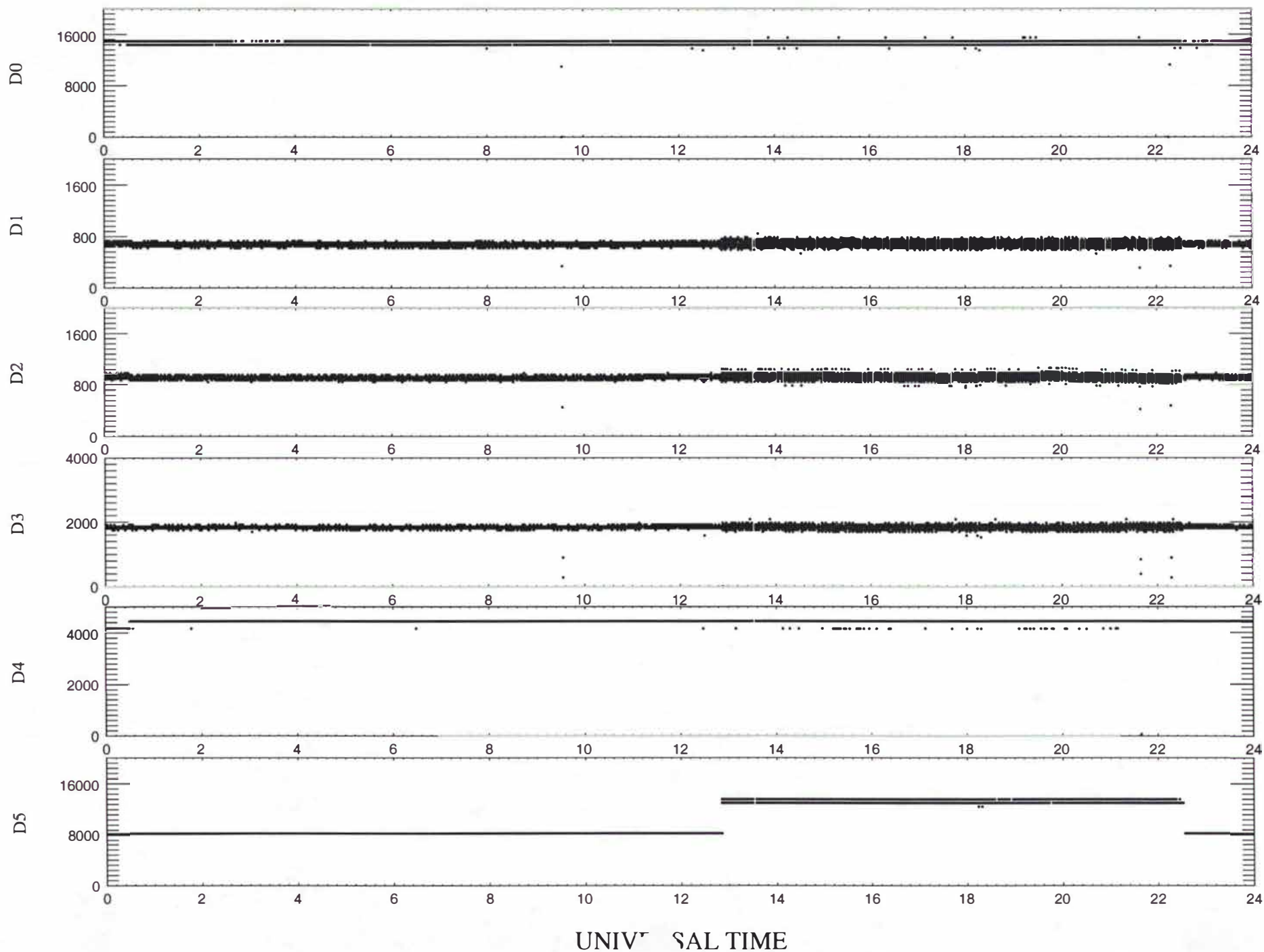
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV* SAL TIME



From SAHI@fender.msfc.nasa.gov Fri Jan 8 08:29:46 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 8 Jan 1999 10:29:23 -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.: 7306

TIME: TJD=1184 SECONDS=15582

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 Fri Jan 8 08:31:19 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 8 Jan 1999 10:31:04 -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.: 7307

TIME: TJD=1184 SECONDS=27212

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

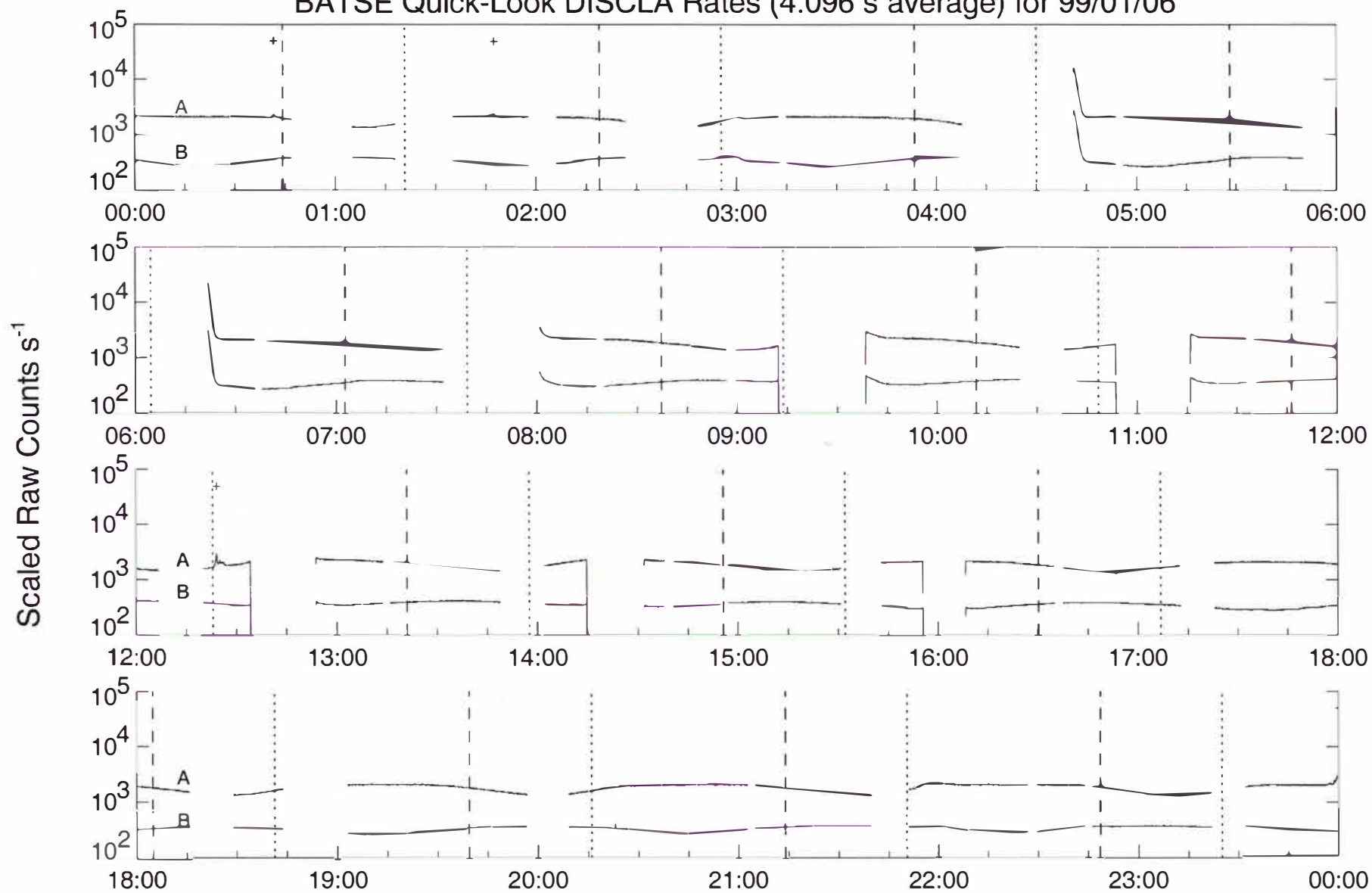
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/06

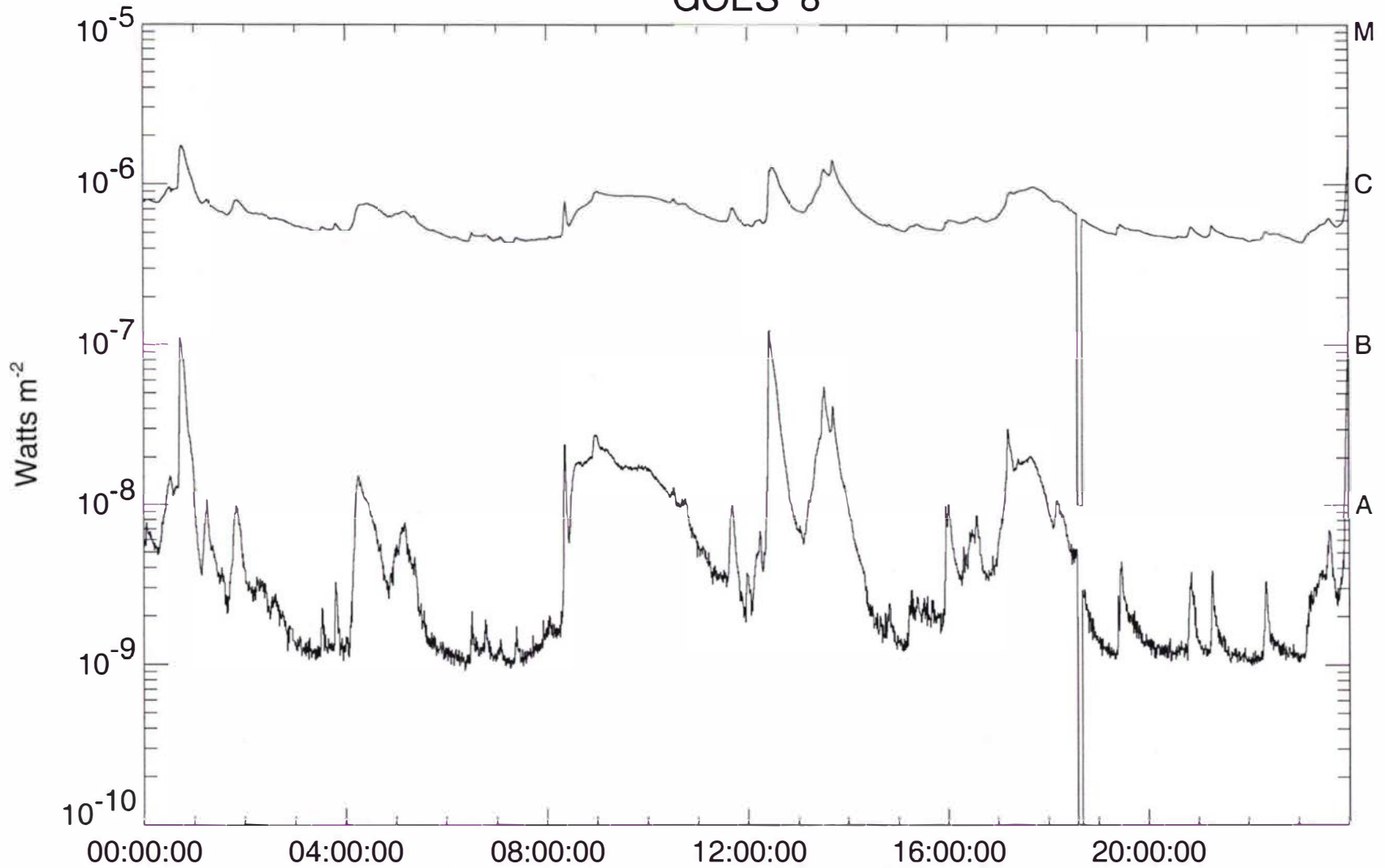


Current Time: 99/01/10, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/01/06, 0000:00

Plot created: 99/01/10, 1009

Channel

1 (1.0 - 8.0 Angstroms)

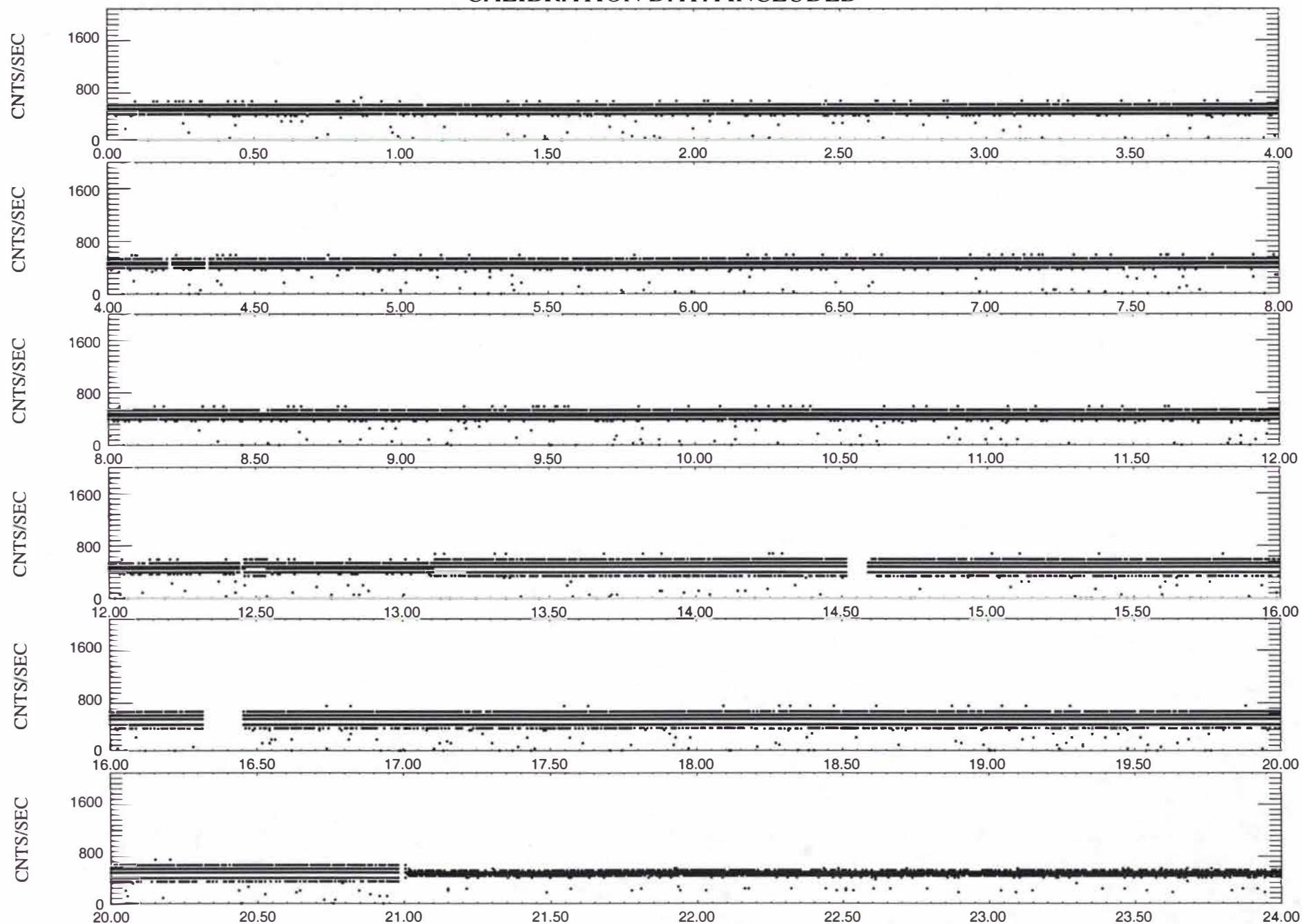
Background not subtracted

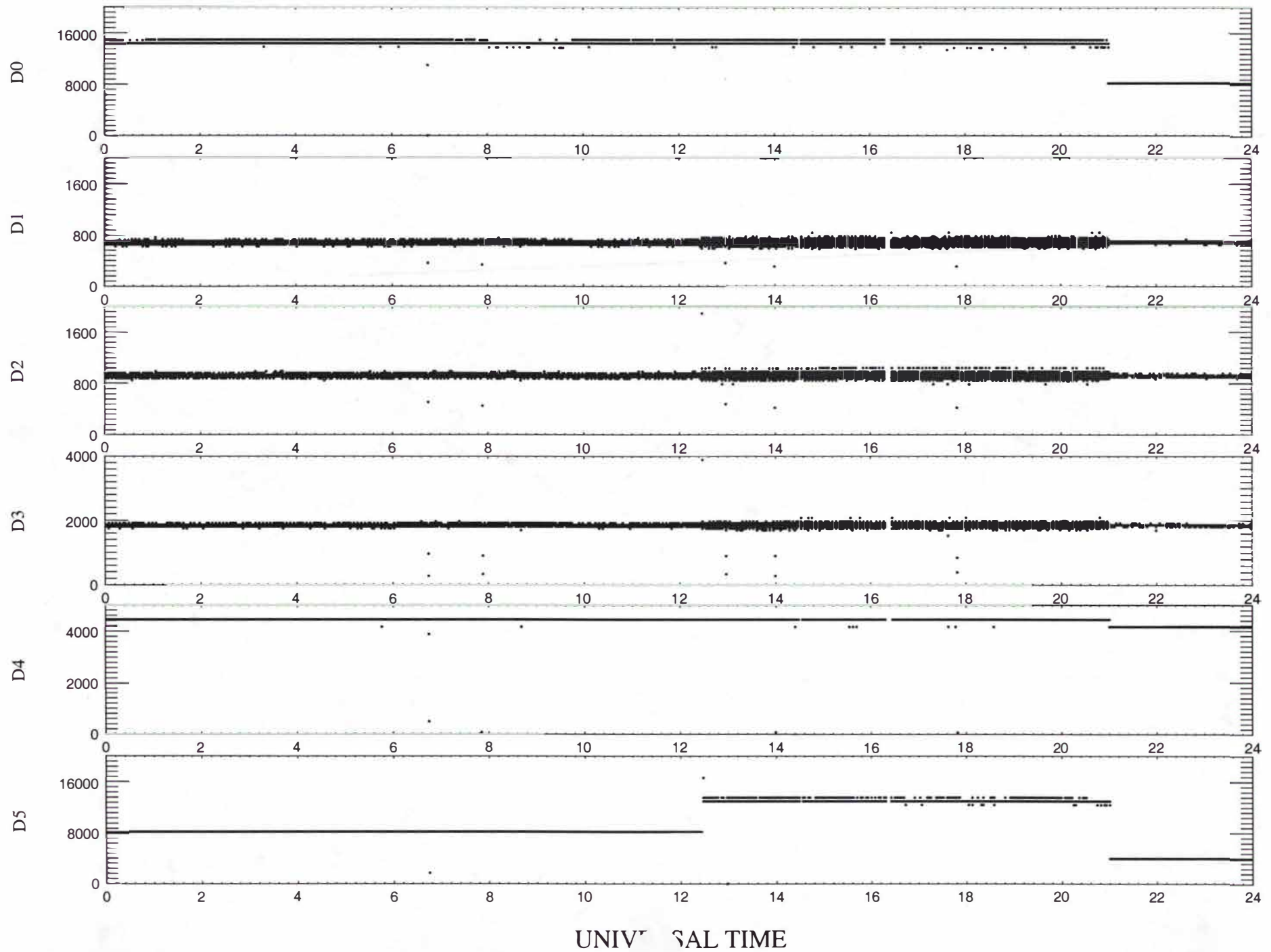
2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

CALIBRATION DATA INCLUDED

UNIV⁺ SAL TIME



From SAHI@fender.msfc.nasa.gov Sun Jan 10 08:47:56 1999

From: SAHI@fender.msfc.nasa.gov

Date: Sun, 10 Jan 1999 10:47:44 -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.: 7308

TIME: TJD=1185 SECONDS=14226

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

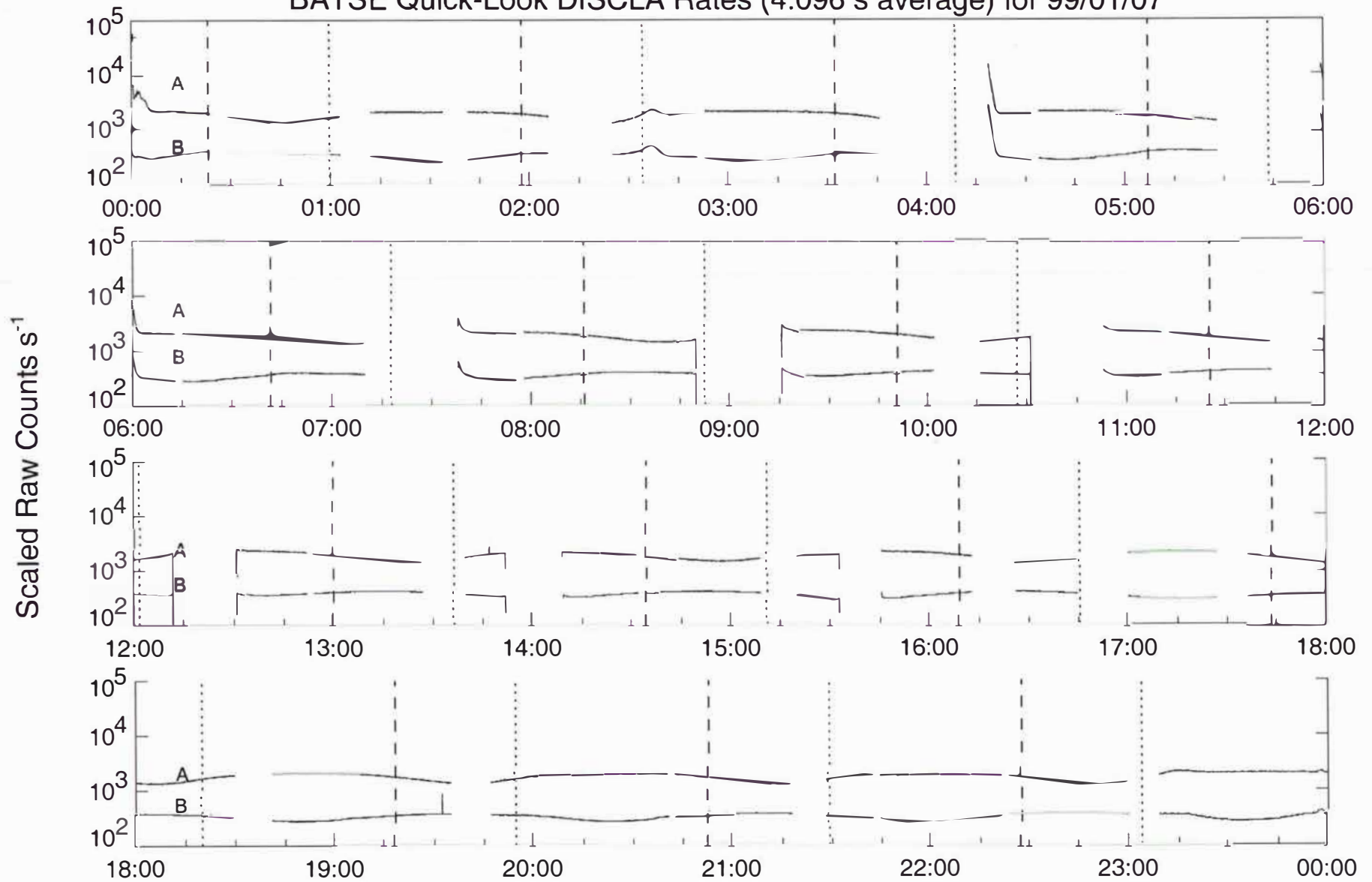
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/07

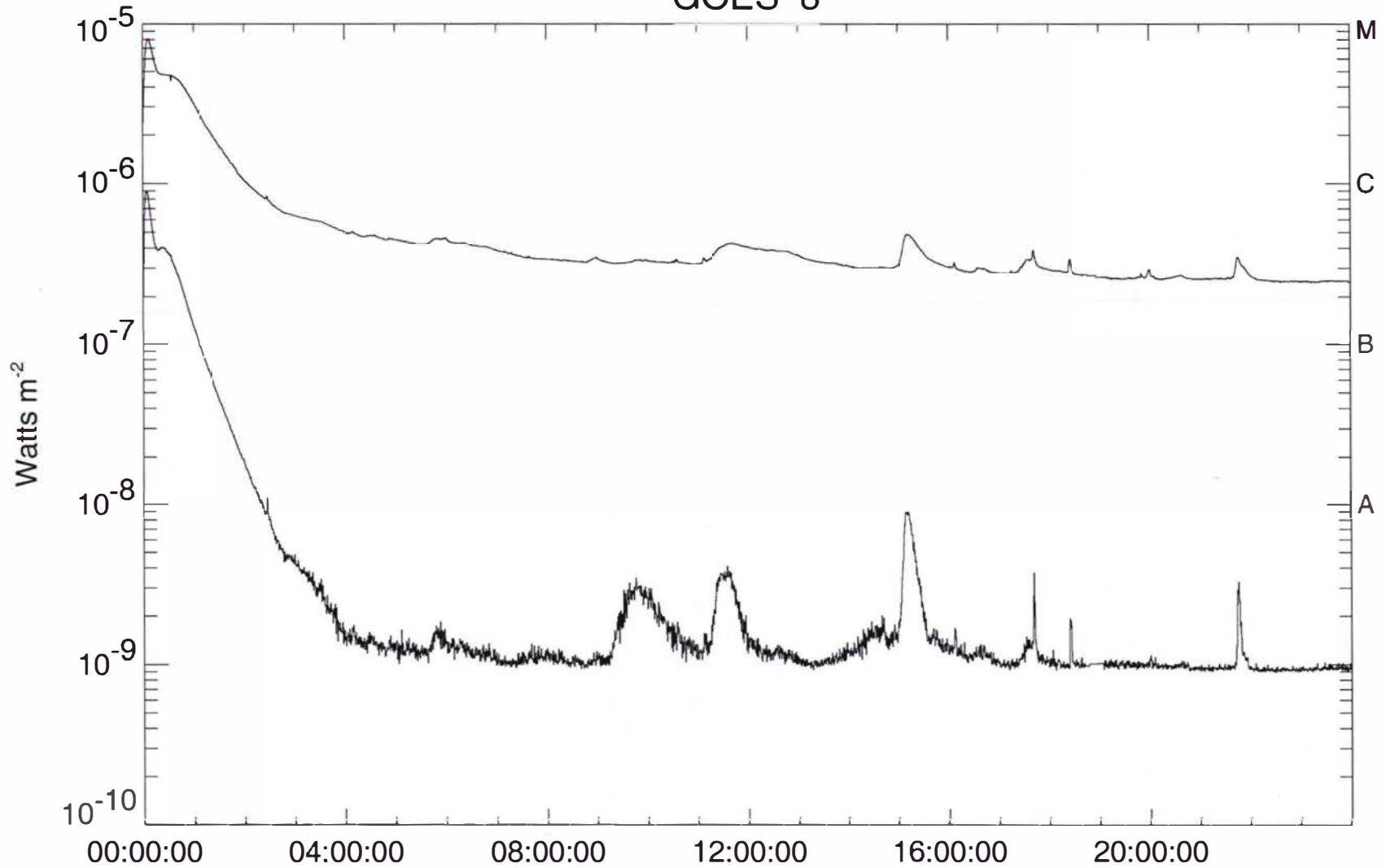


Current Time: 99/01/11, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/07, 0000:00

Plot created: 99/01/11, 1009

Channel

1 (1.0 - 8.0 Angstroms)

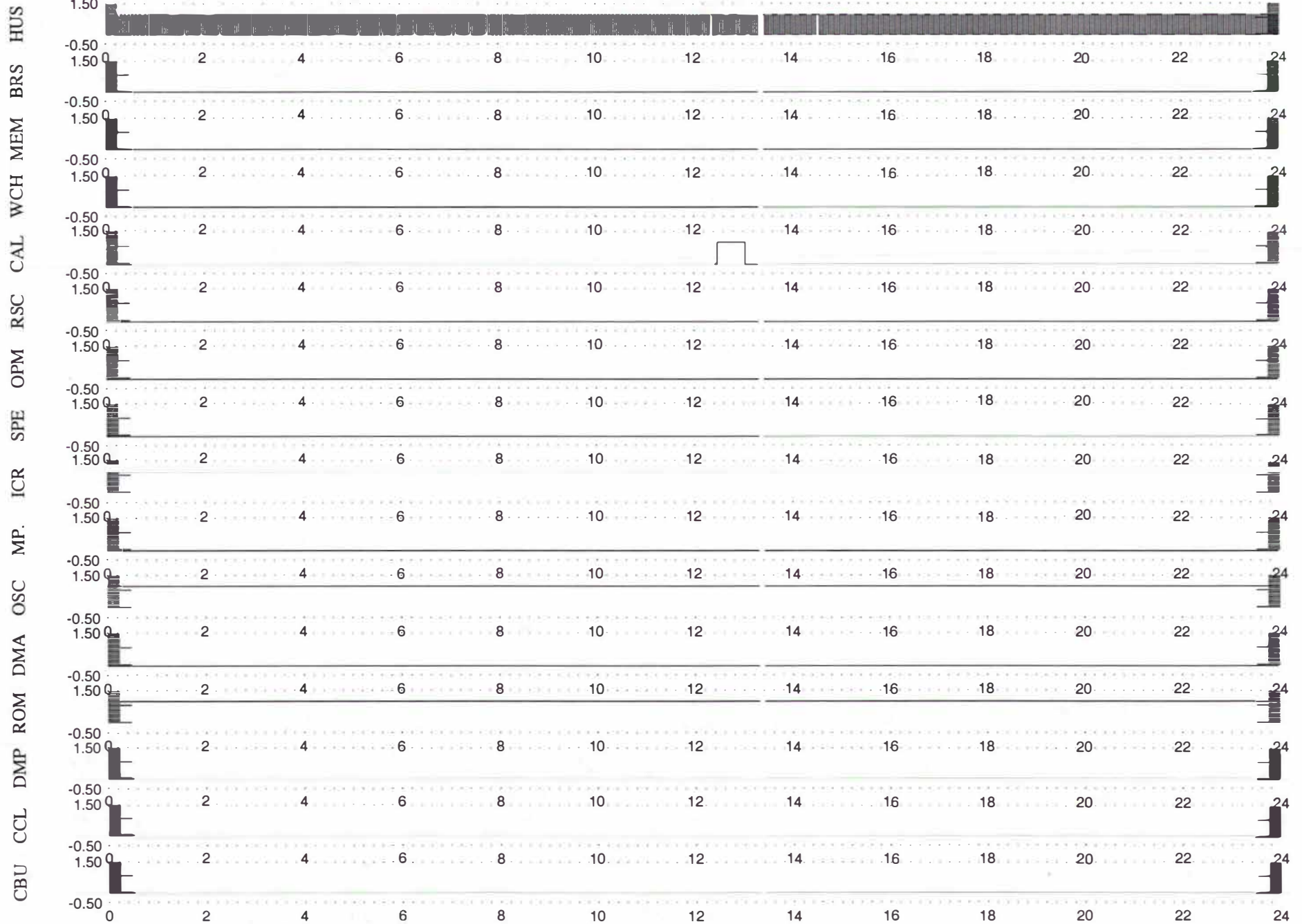
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

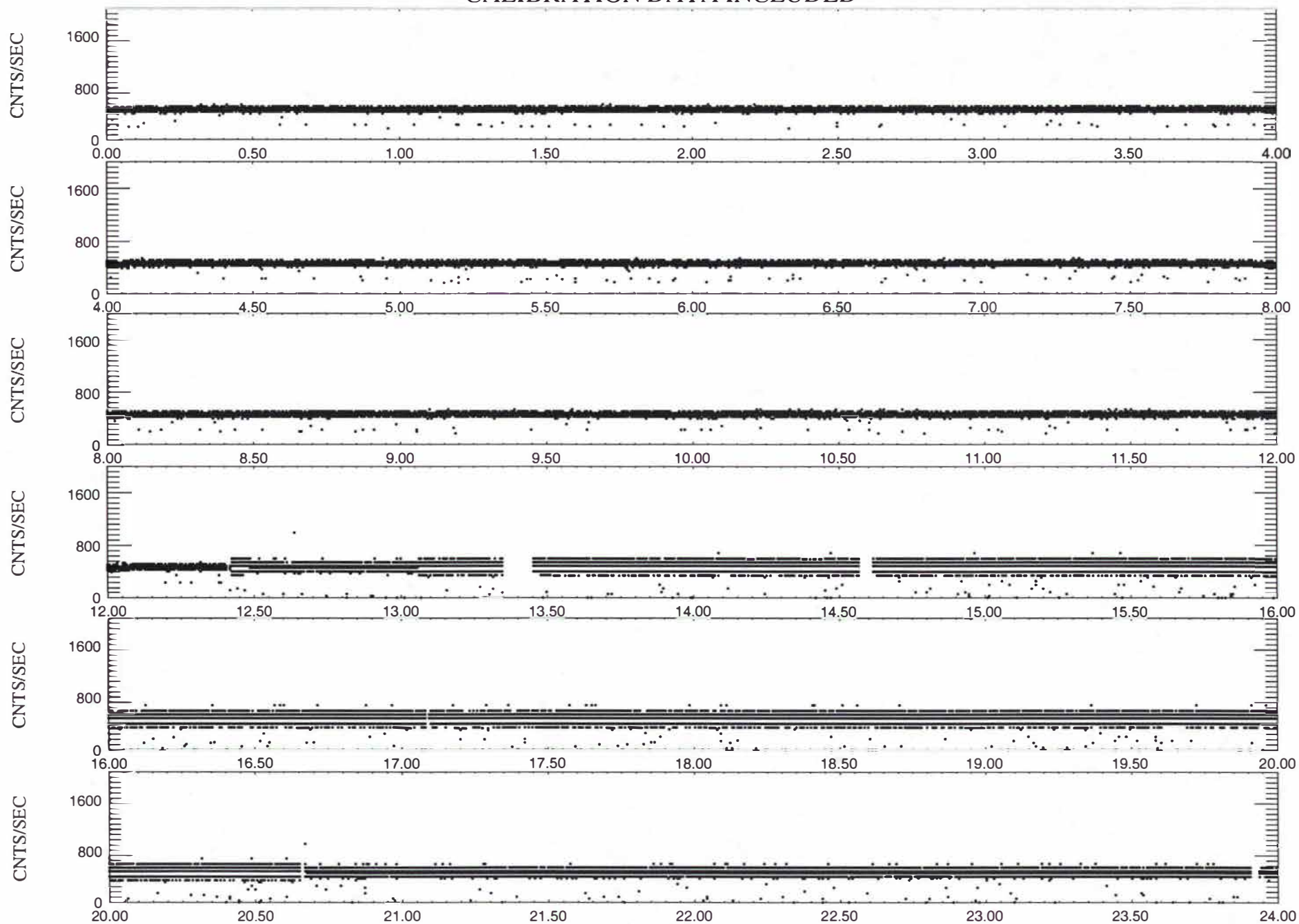
Sample average = 10

NO BURST (2)

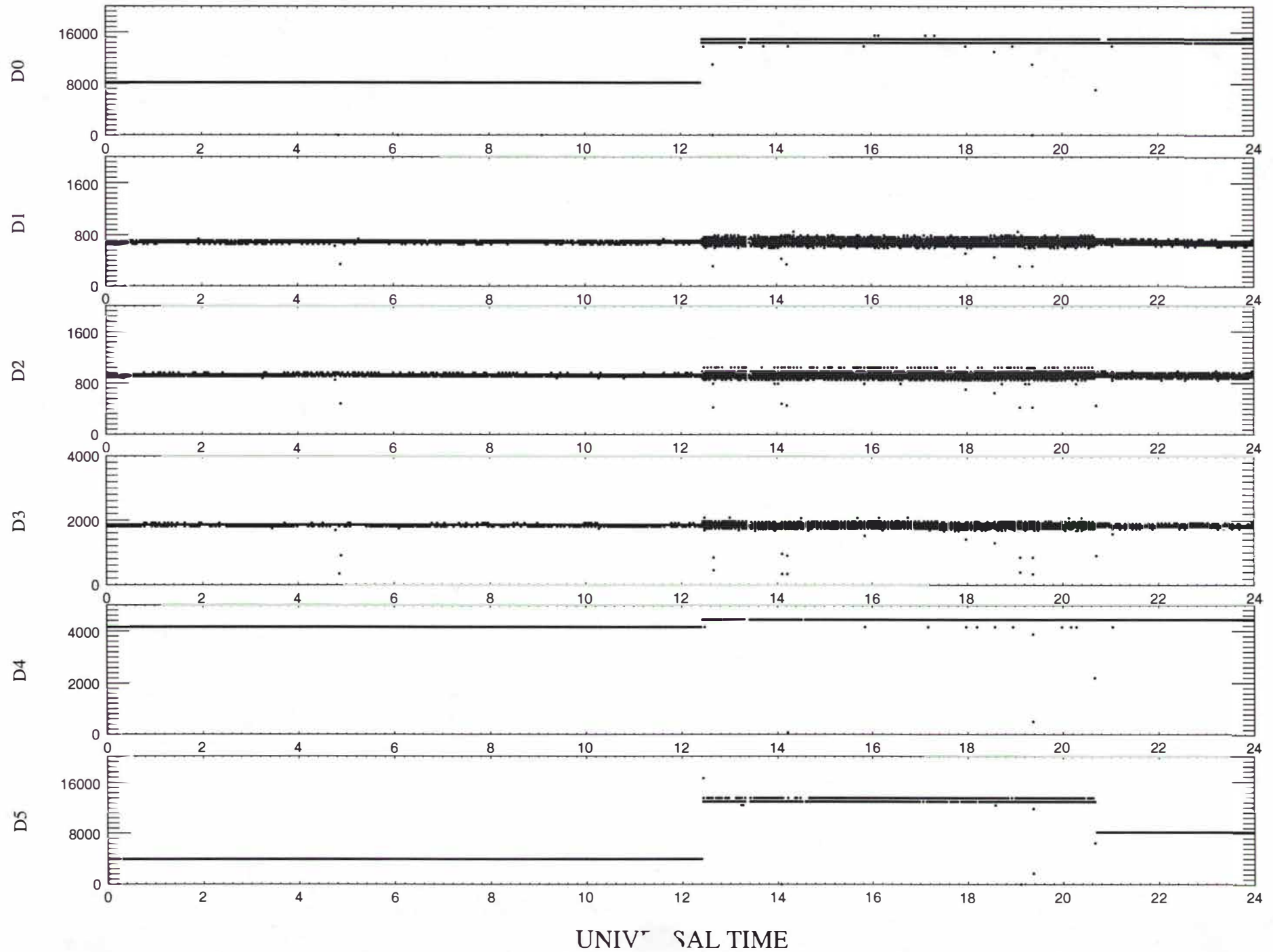


UNIV CAL TIME

CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Mon Jan 11 11:36:25 1999

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 11 Jan 1999 13:36:01 -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.: 7309

TIME: TJD=1186 SECONDS=12863

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 Mon Jan 11 11:47:24 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA03436; Mon, 11 Jan 1999 11:47:23 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA16621; Mon, 11 Jan 1999 11:47:20 -0800
Date: Mon, 11 Jan 1999 13:41:37 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990111134137.2025693d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7310
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7310
EVENT OF 1999 JAN 8 DAY OF YEAR= 8
EVENT CROSSING TIME AT BATSE : 30066. S. OR 08:21:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 62.000 -12.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 1/ 99 IS:
RA= 165.142 DEC= -8.475 DIST= 4.663 AU
BATSE-ULYSSES DISTANCE = 697553429. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.09 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 440.52 SECS.
CROSSING TIME AT ULYSSES IS 30507. S. OR 08:28:26 +/- 453.35 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 1/ 99 IS:
RA= 200.867 DEC= -6.685 DIST= 1.422 AU
MARS-BATSE DISTANCE = 212708368. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 44.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 502.00 SECS.
CROSSING TIME AT MARS IS 30568. S. OR 08:29:27 +/- 94.68 SECONDS

BATSE BURST TRIGGER

NO.: 7310

TIME: TJD=1186 SECONDS=30066

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.1 AZIMUTH=212.4 ERROR=0.6 DEGREES

COMMENTS:

GRB. COMPLEX, DUR. APPROX. 170 S, STARTS AT APPROX. T-40 S. VISIBLE ABOVE
300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7310	990108	11186	30066	4000	062	-12	170

Date: Jan 24 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ Were data checked by Joe Springer for 0.5 s errors? *N/A*
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☐ Is the order of the data in CORREL such that a vernier is done on the data with the best time resolution? *No - bad stats*

2. BATSE Data

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

3. NEAR Data *N/A*

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

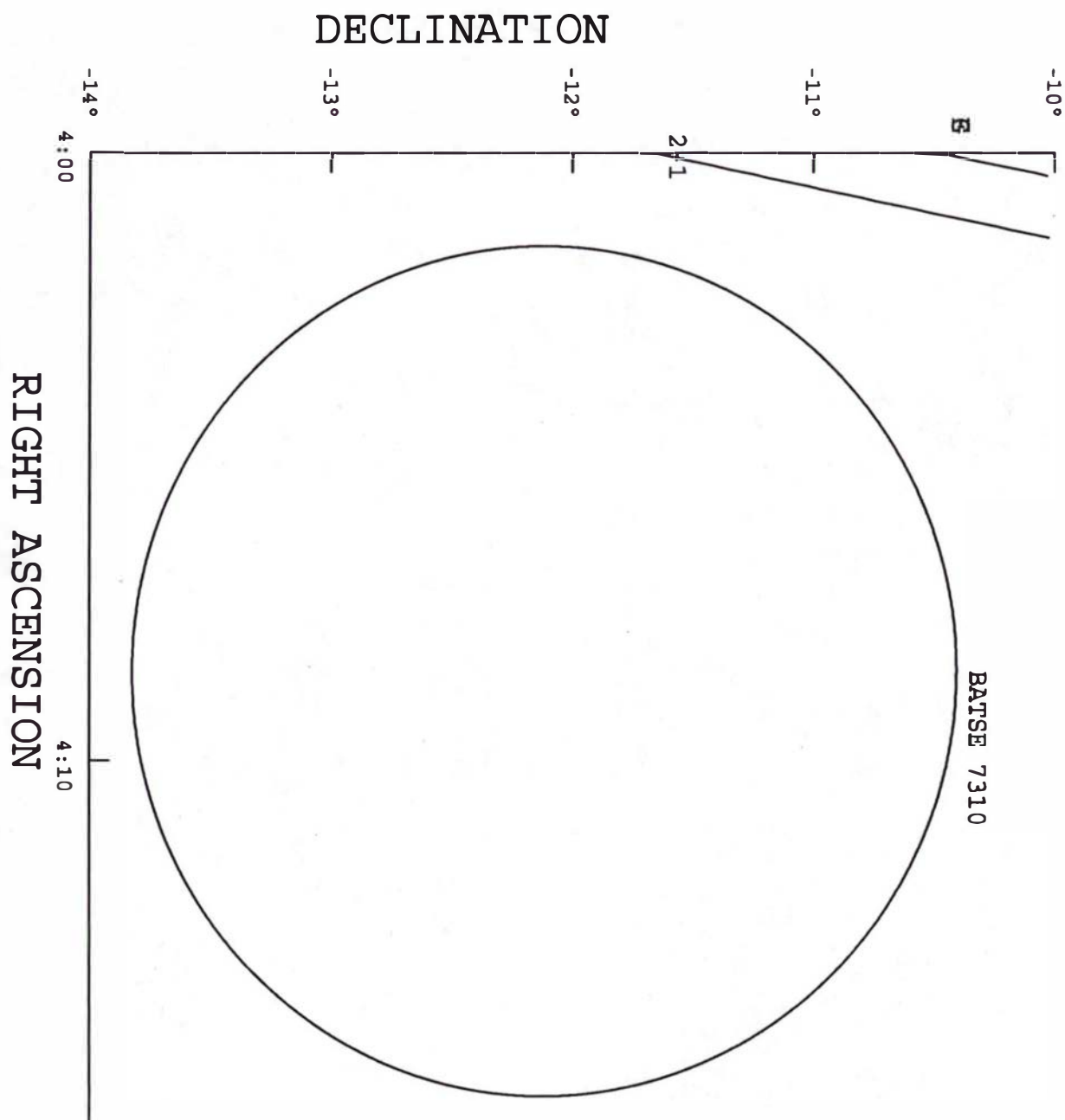
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JAN 8, 1999 8:21

24 / 1 / 0



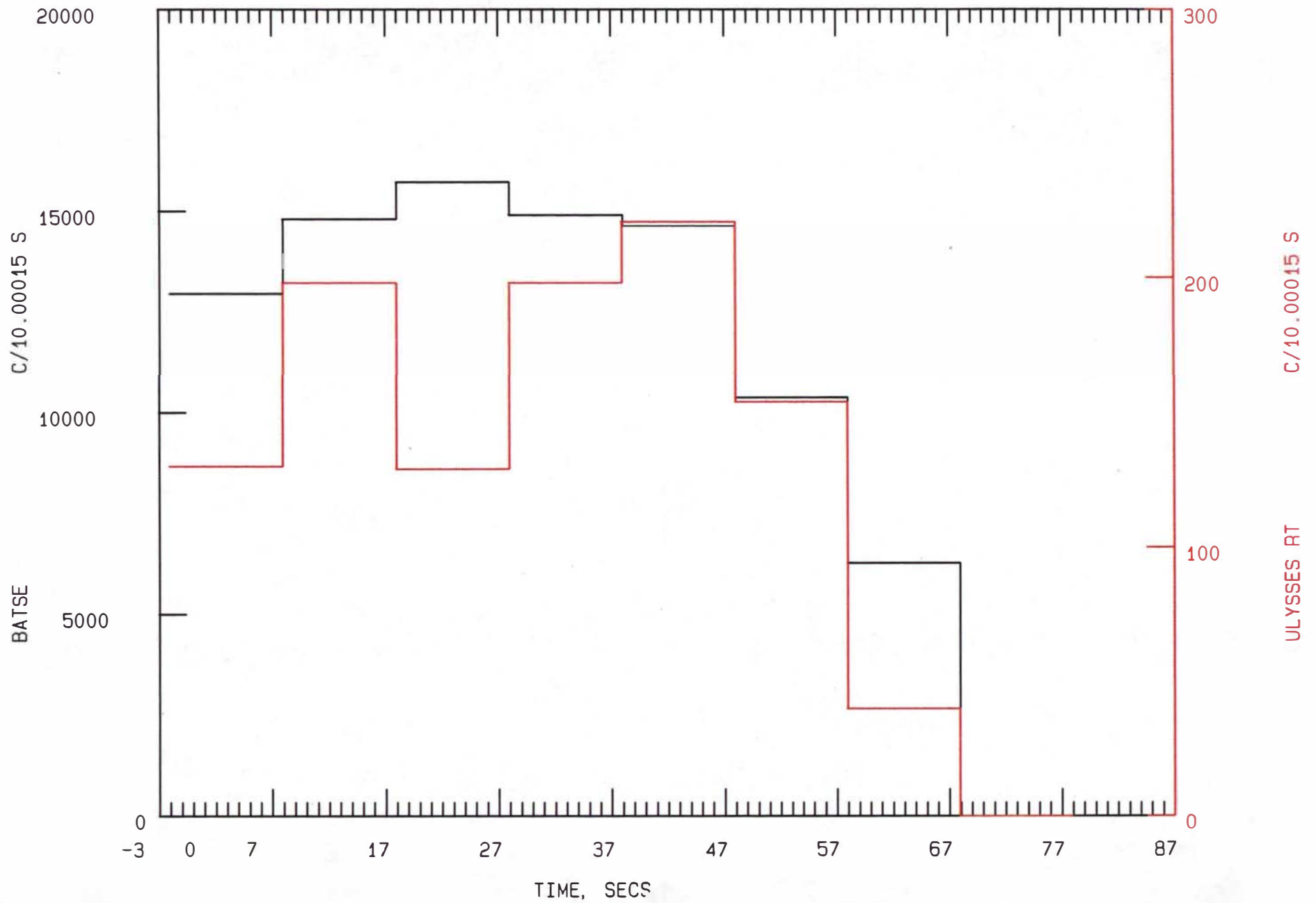
BATSE

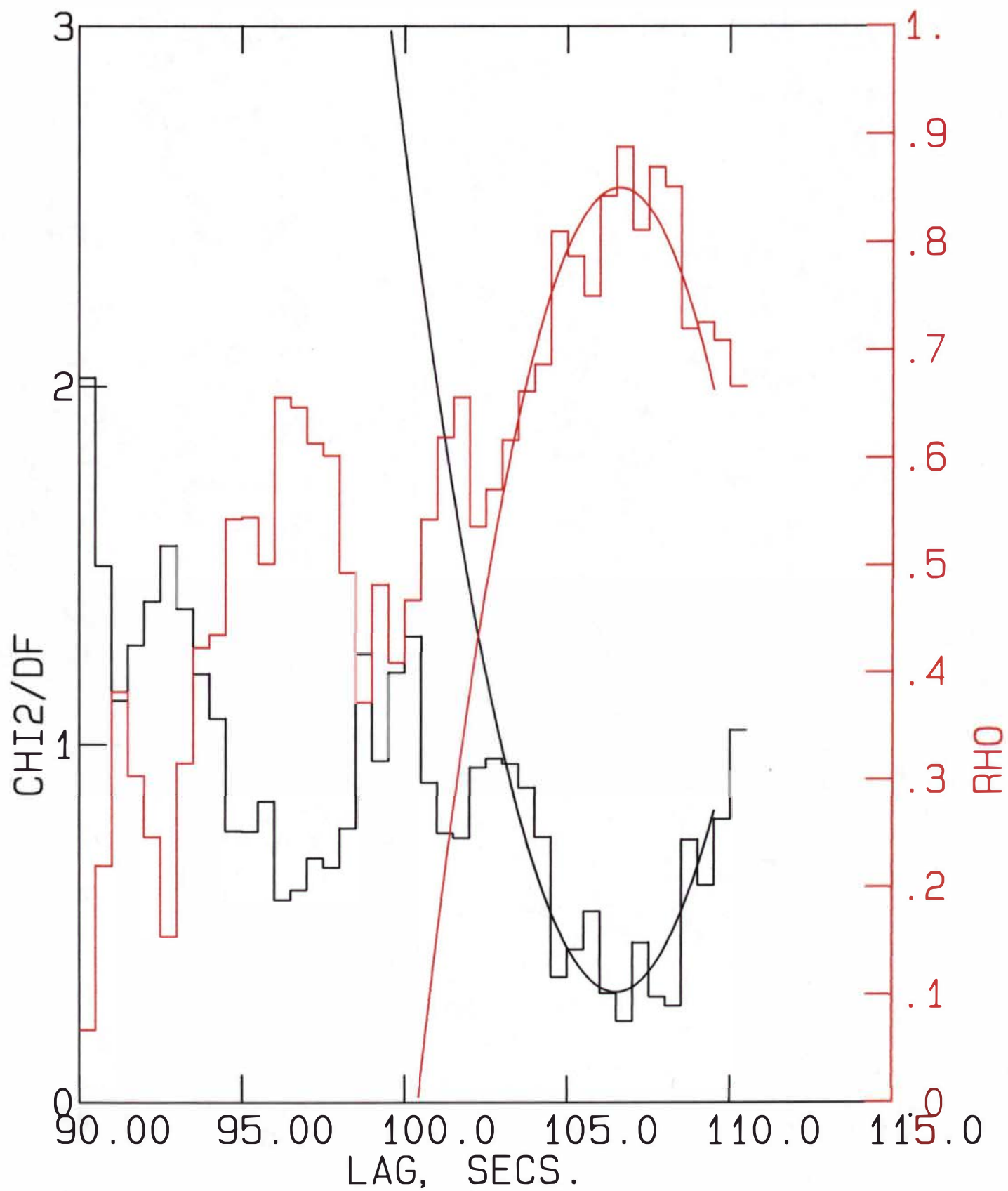
-ULYSSES RT CORRELATION

8/ 1/99

30066.425

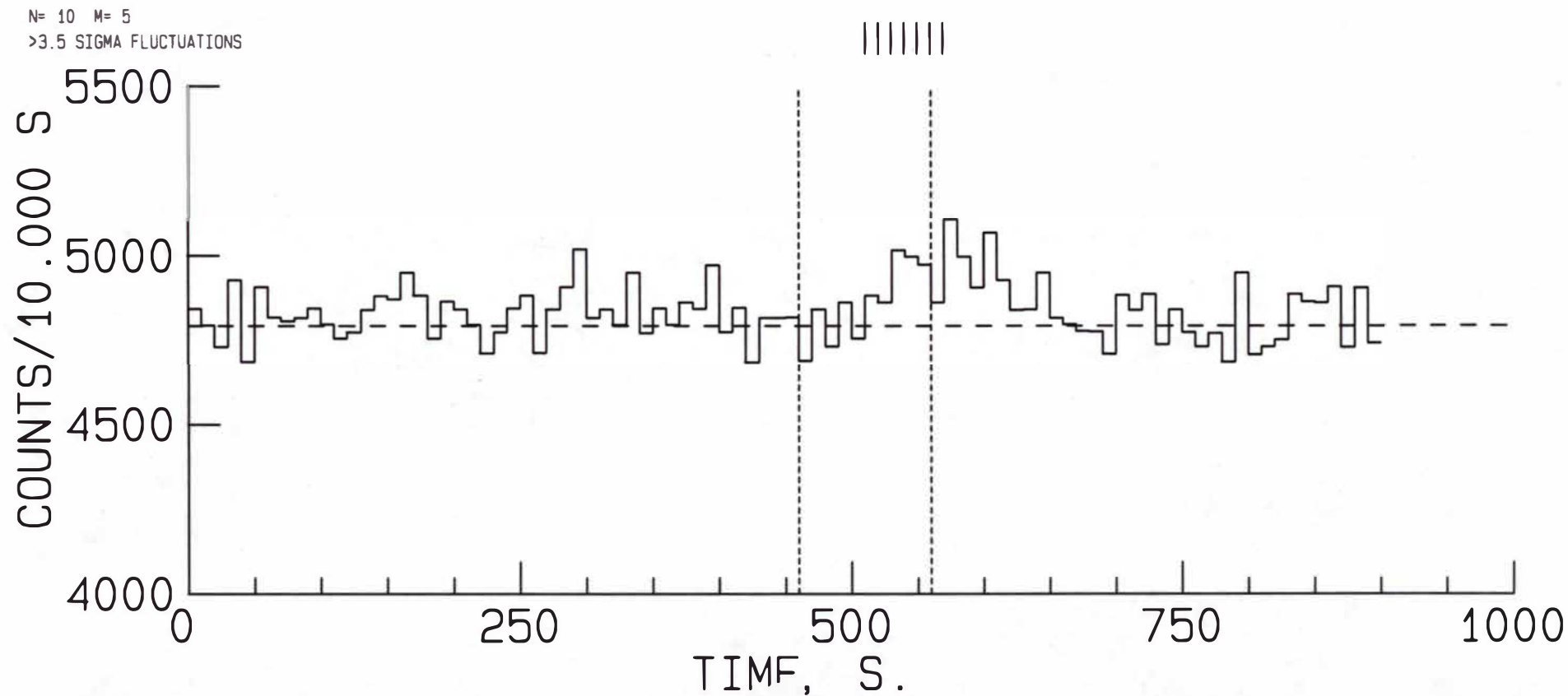
24/ 1/ 0





ULYSSES RT
8/ 1/99 30060.469 s
0.500 S INTERVALS REGROUPED BY 20
22- 150 keV

24 / 1 / 0



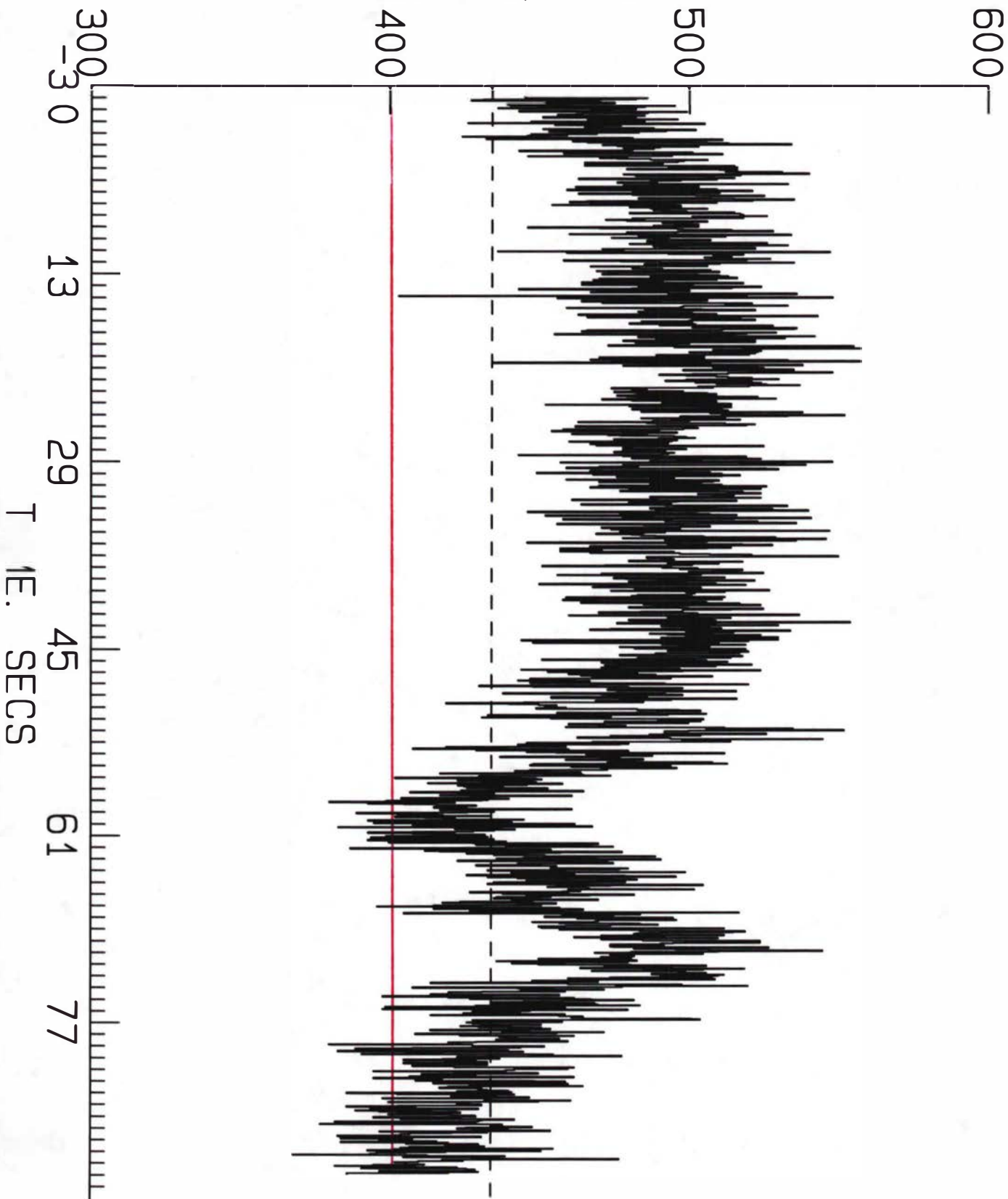
BATSE

08/01/99

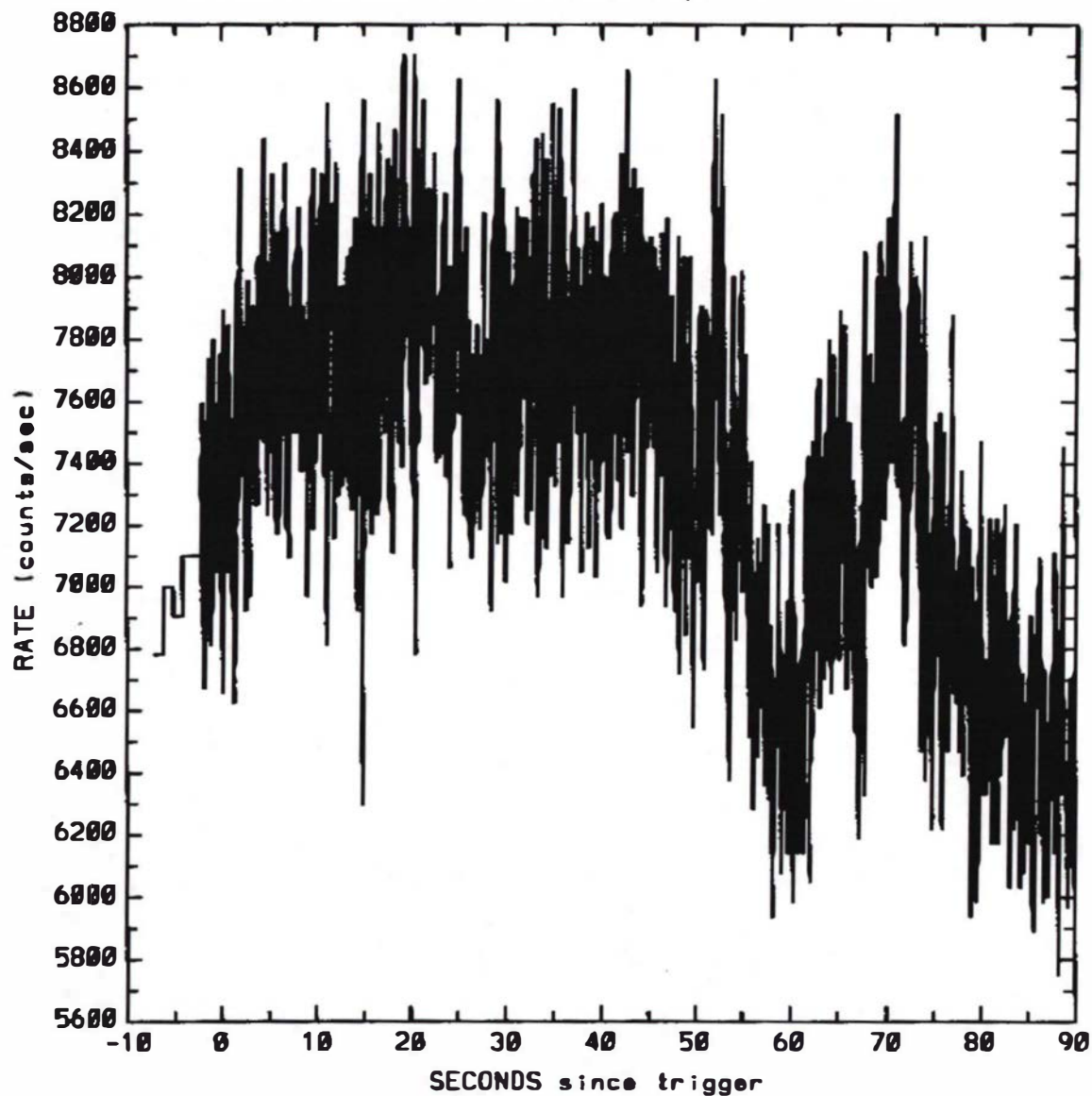
30066.425

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7310



19-JAN-1999 13:18:20

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

Trigger # : 7310

Trigger Time:
11186 / 30066.425

Burst Data Type:
DISCSC

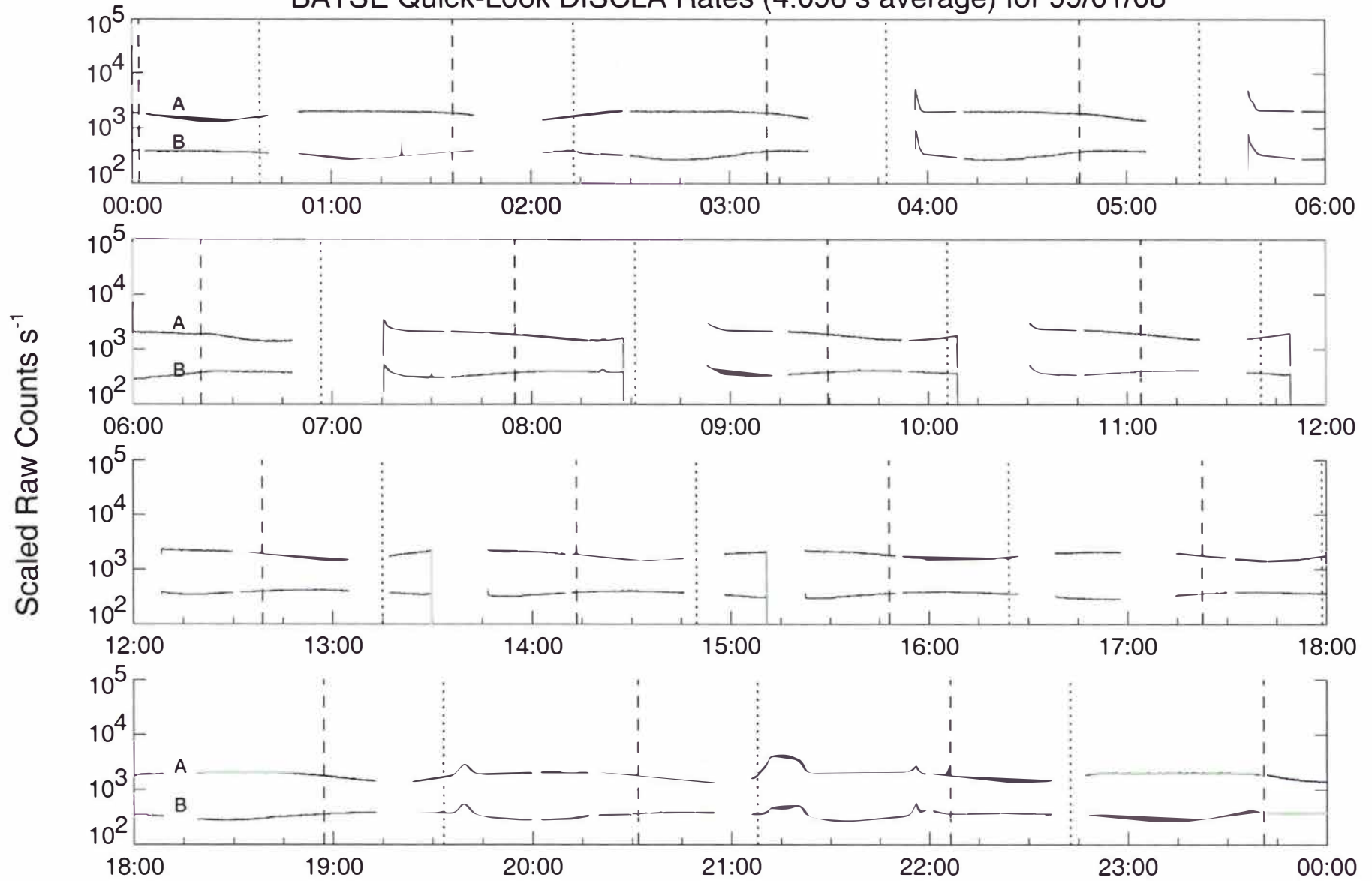
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum [integ. Time:
0.064 seconds]

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

Discriminators:
(1 . 2)

Quality Mask:
BDISP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/08

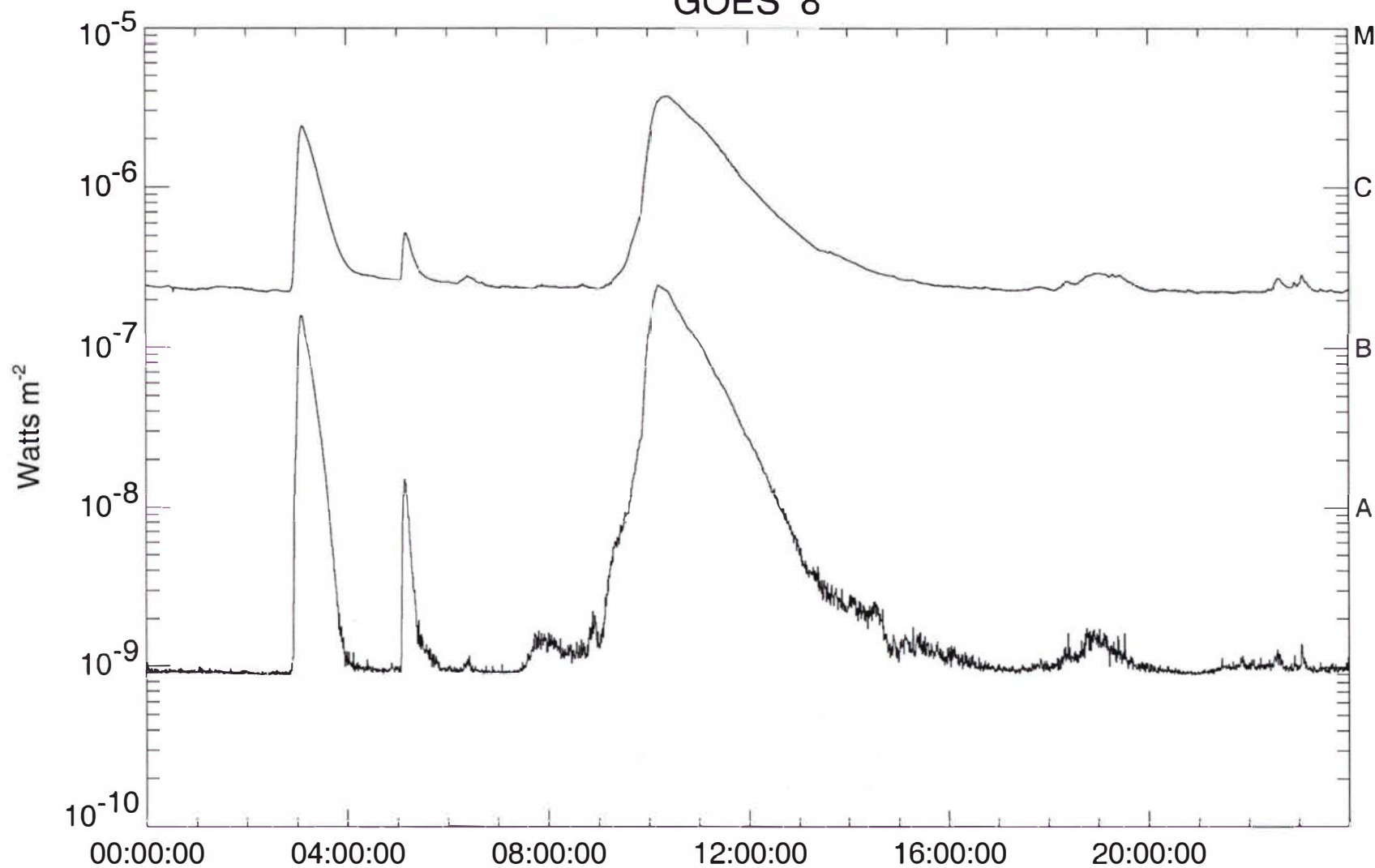


Current Time: 99/01/12, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/08, 0000:00

Plot created: 99/01/12, 1009

Channel

1 (1.0 - 8.0 Angstroms)

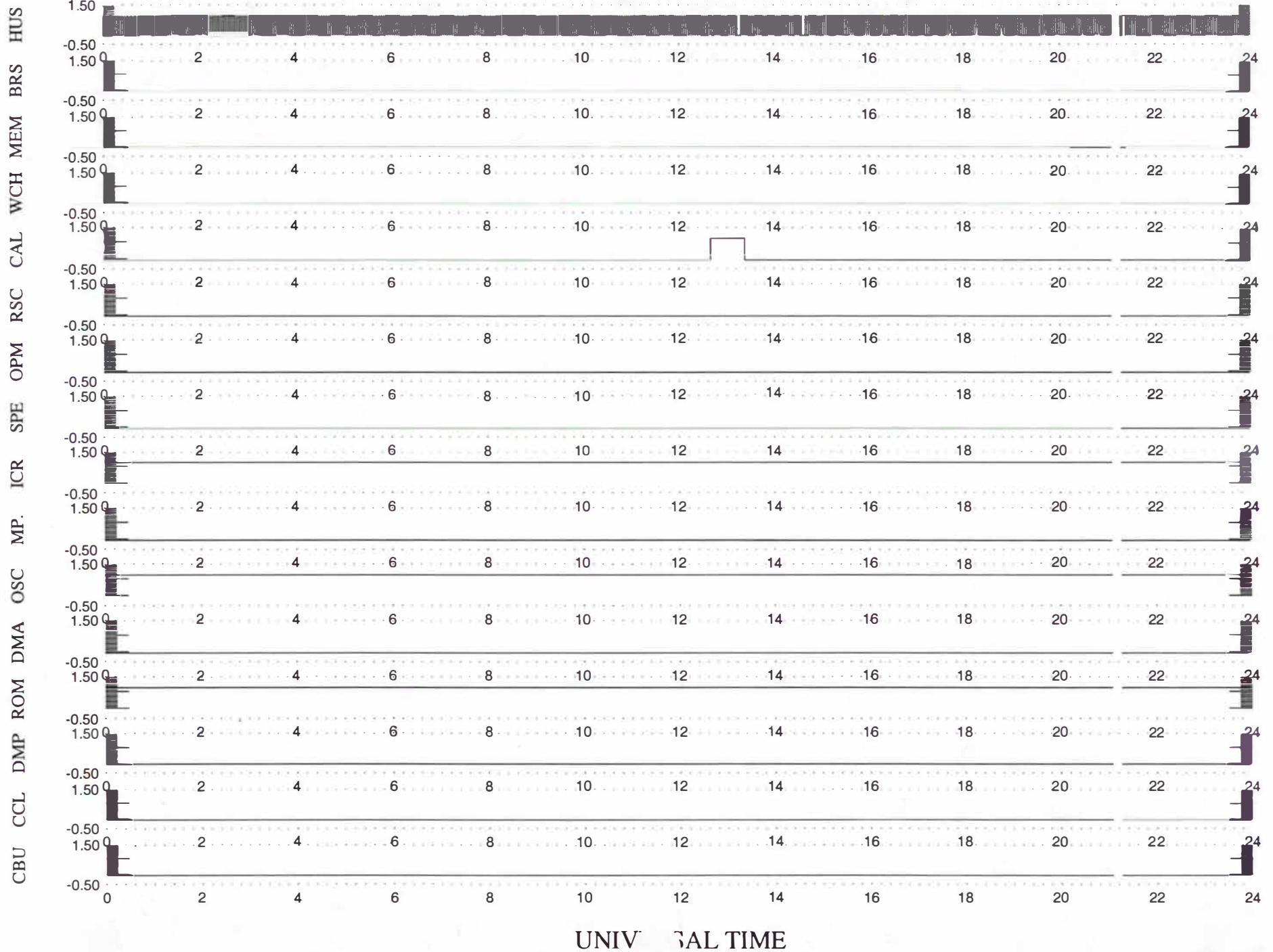
Background not subtracted

2 (0.5 - 4.0 Angstroms)

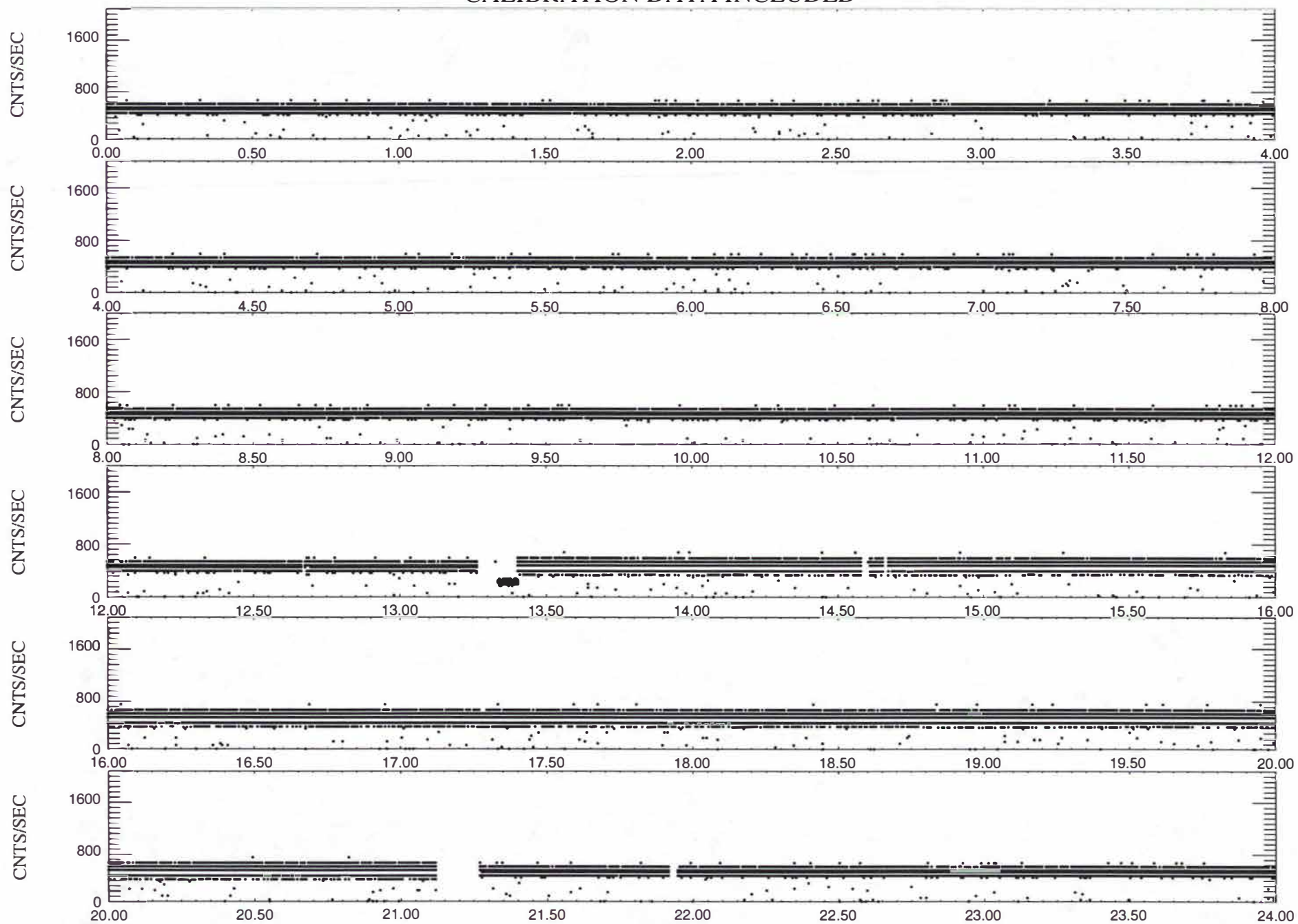
Background not subtracted

Sample average = 10

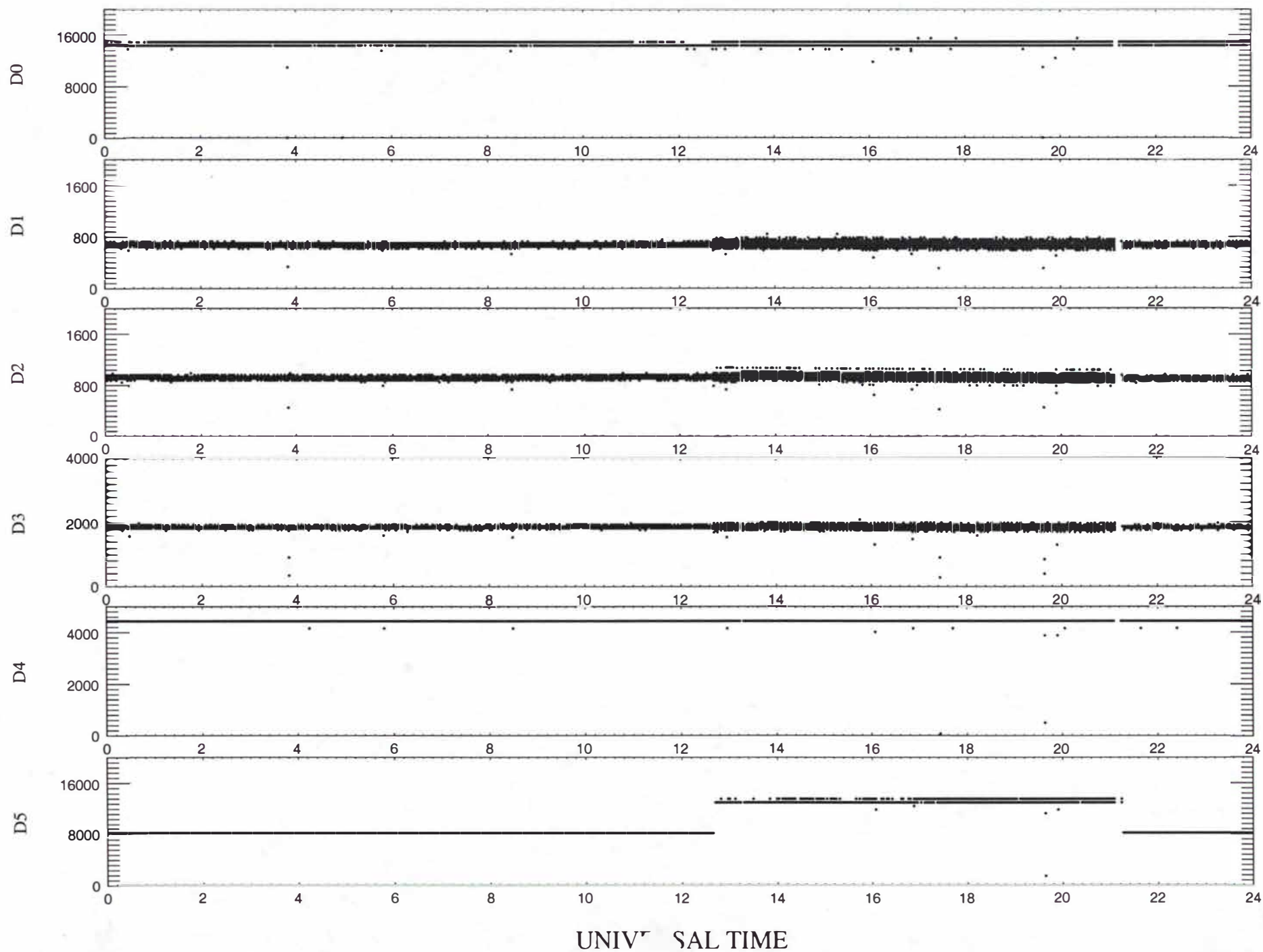
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV* SAL TIME



From HENZE@fender.msfc.nasa.gov Tue Jan 12 16:17:24 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id QAA27890; Tue, 12 Jan 1999 16:17:23 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id QAA12991; Tue, 12 Jan 1999 16:17:20 -0800
Date: Tue, 12 Jan 1999 18:17:23 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990112181723.2026a019@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7311
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7311
EVENT OF 1999 JAN 9 DAY OF YEAR= 9
EVENT CROSSING TIME AT BATSE : 5783. S. OR 01:36:23.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 161.000 -72.000
BATSE PEAK COUNTING RATE: 2800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 9/ 1/ 99 IS:
RA= 165.055 DEC= -8.519 DIST= 4.651 AU
BATSE-ULYSSES DISTANCE = 695800161. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1034.51 SECS.
CROSSING TIME AT ULYSSES IS 4748. S. OR 01:19:08 +/- 395.00 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 9/ 1/ 99 IS:
RA= 201.313 DEC= -6.856 DIST= 1.412 AU
MARS-BATSE DISTANCE = 211194576. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.33 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -244.78 SECS.
CROSSING TIME AT MARS IS 5538. S. OR 01:32:18 +/- 110.97 SECONDS

BATSE BURST TRIGGER

NO.: 7311

TIME: TJD=1187 SECONDS= 5783

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 70.8 AZIMUTH=278.7 ERROR= 6.1 DEGREES

COMMENTS:

SINGLE PULSE, DUR. APPROX. 1 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7311	990109	11187	05783	2800	161	-72	1

BATSE BURST# 7311

ULYSSES RT

12 / 1 / 99

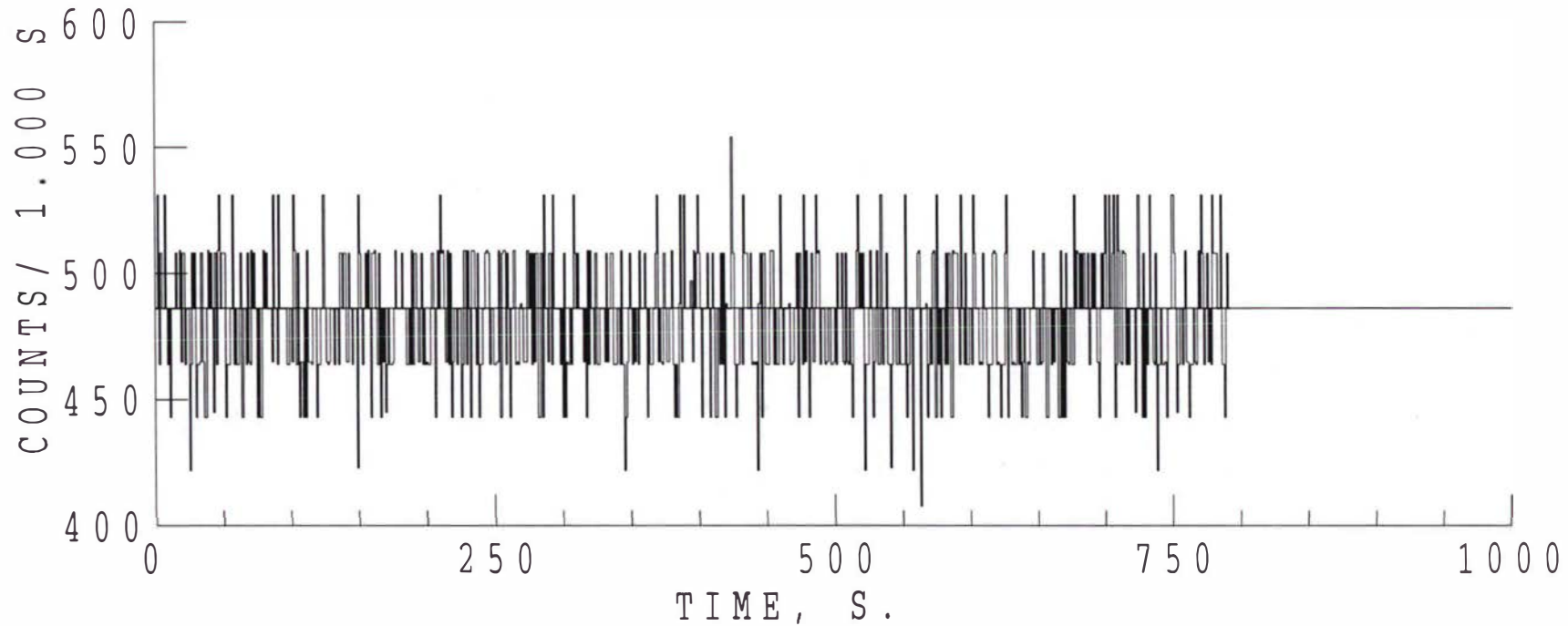
9 / 1 / 99 4356.089 s

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 Mon Jan 11 11:37:47 1999
Date: Mon, 11 Jan 1999 13:37:28 -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@lheavwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7312

TIME: TJD=1187 SECONDS=11501

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE time corrected 9/26

Date: June 17 2002

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?
- ☒ ACCESS database updated?

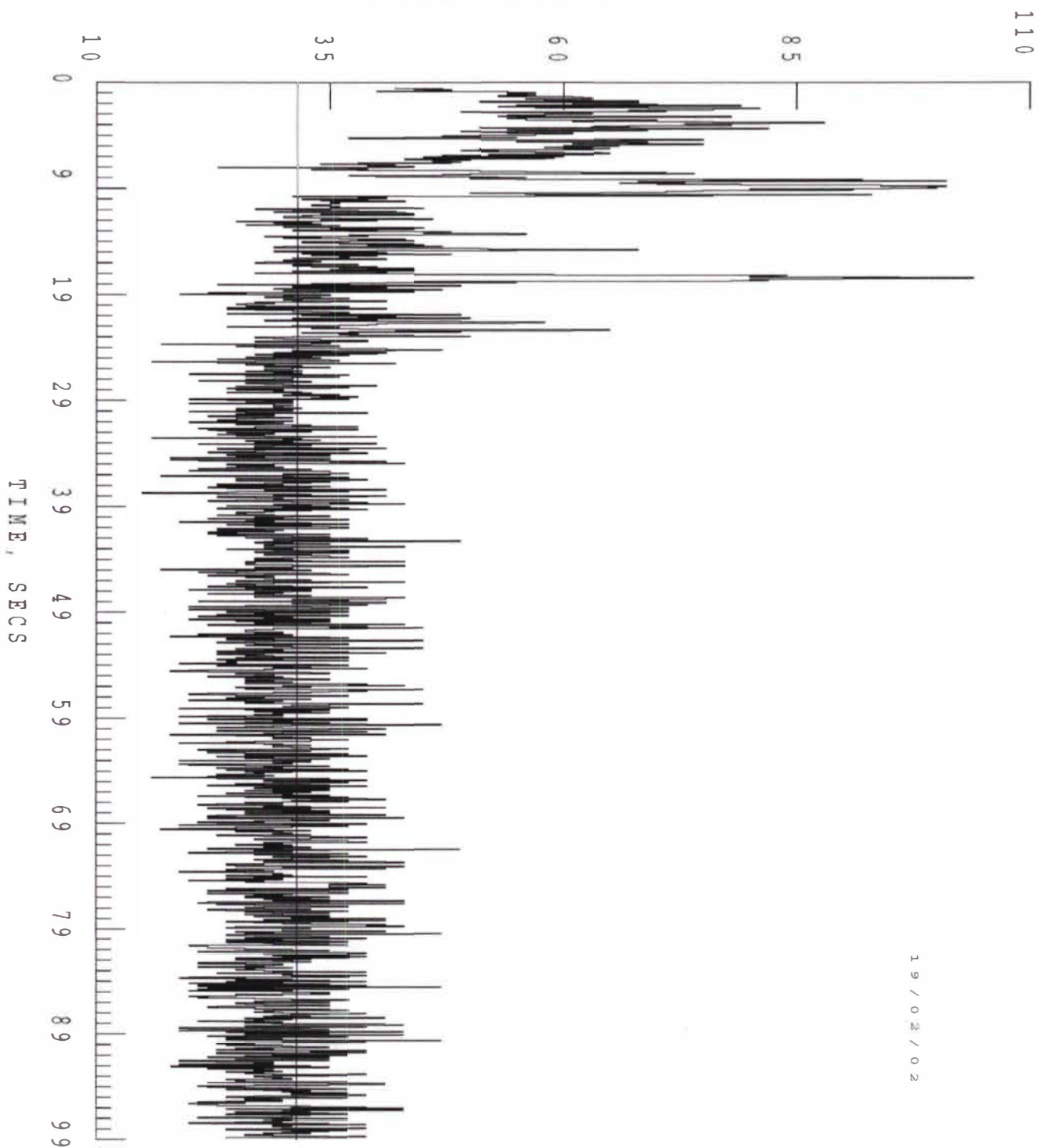
KONUS1

09/01/99

41056.473

50 - 200 keV

COUNTS/0.064 S

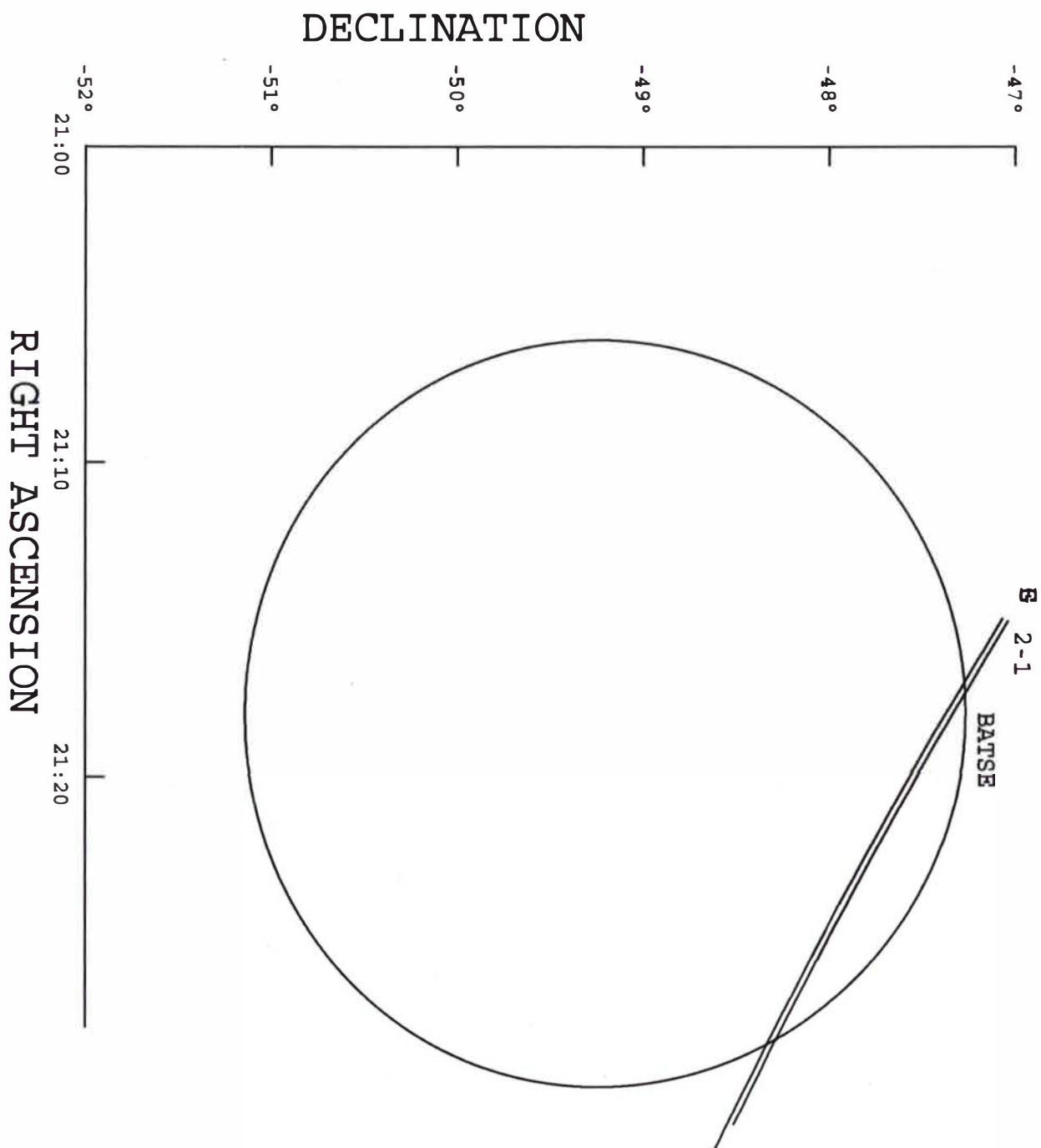


19 / 02 / 02

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

EVENT OF JAN 9, 1999 11:42

17 / 6 / 2



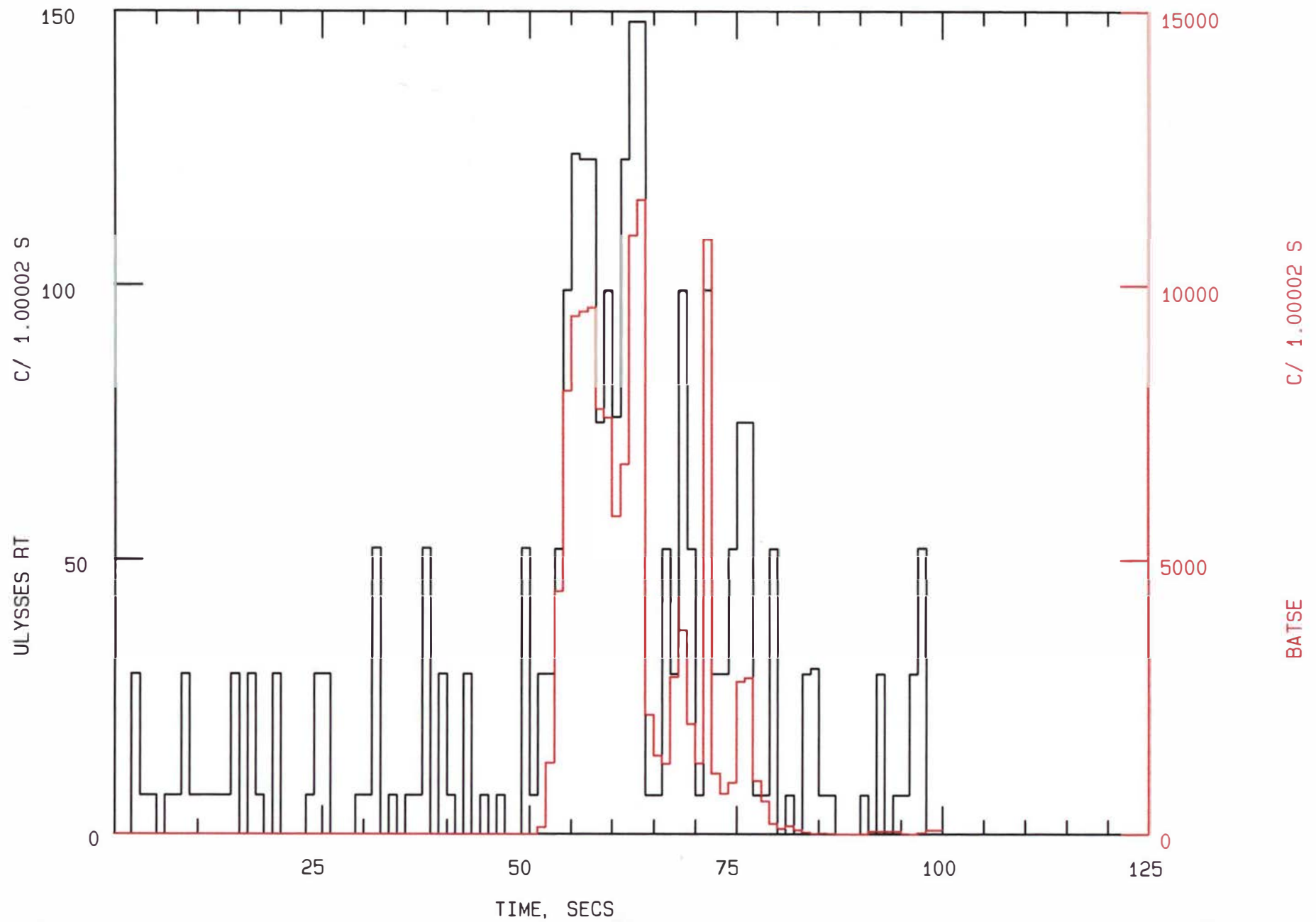
ULYSSES RT-BATSE

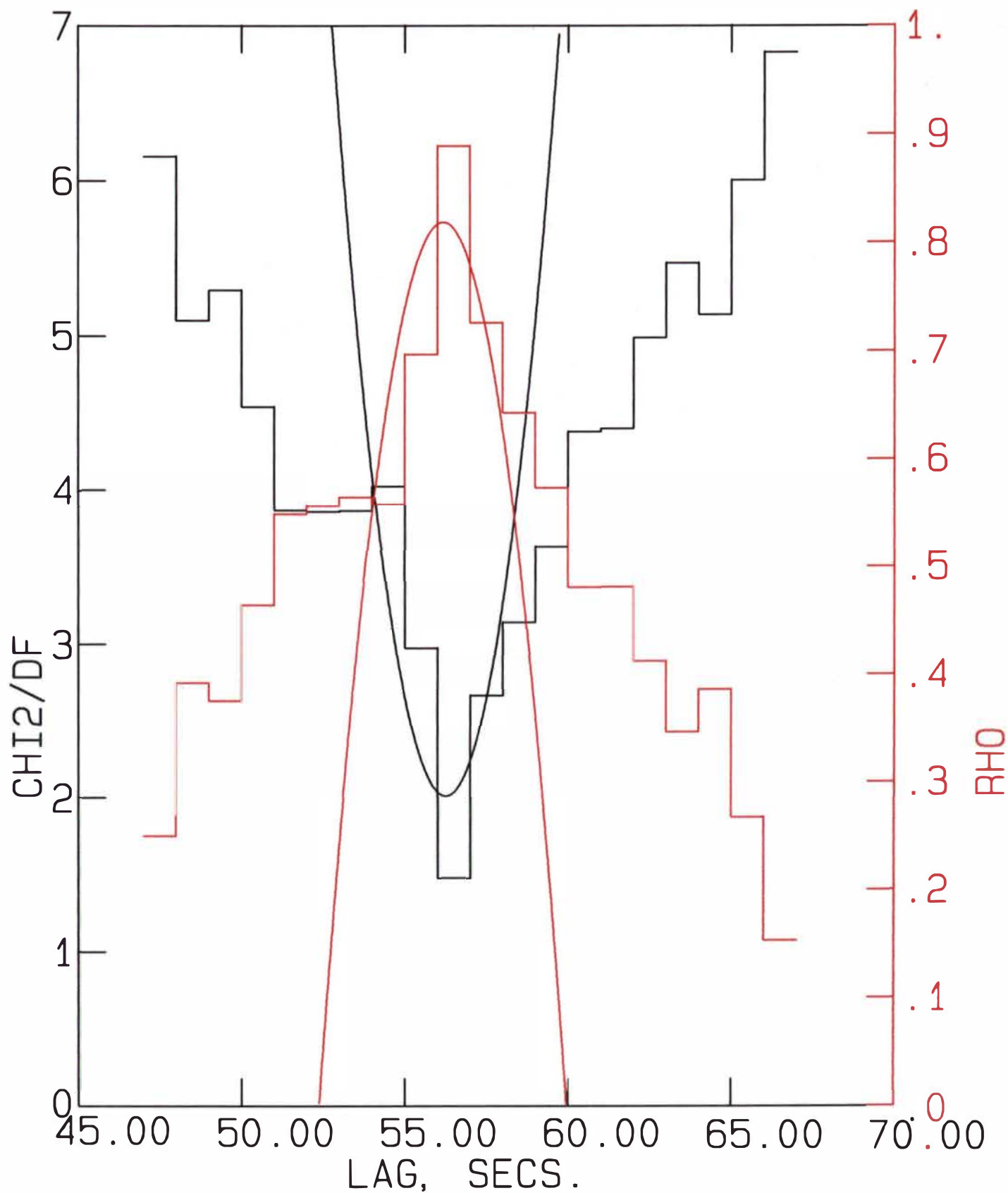
CORRELATION

9/ 1/99

42139.443

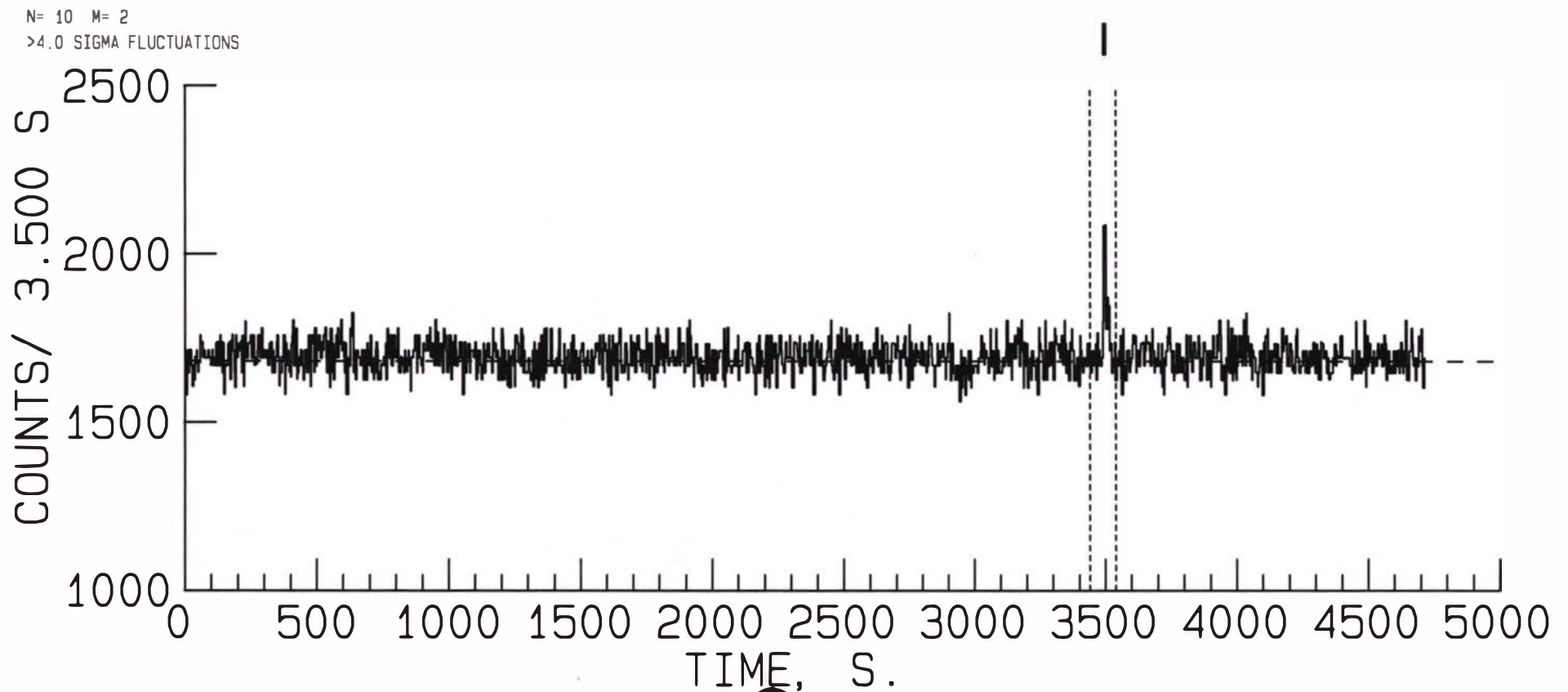
17/ 6/ 2



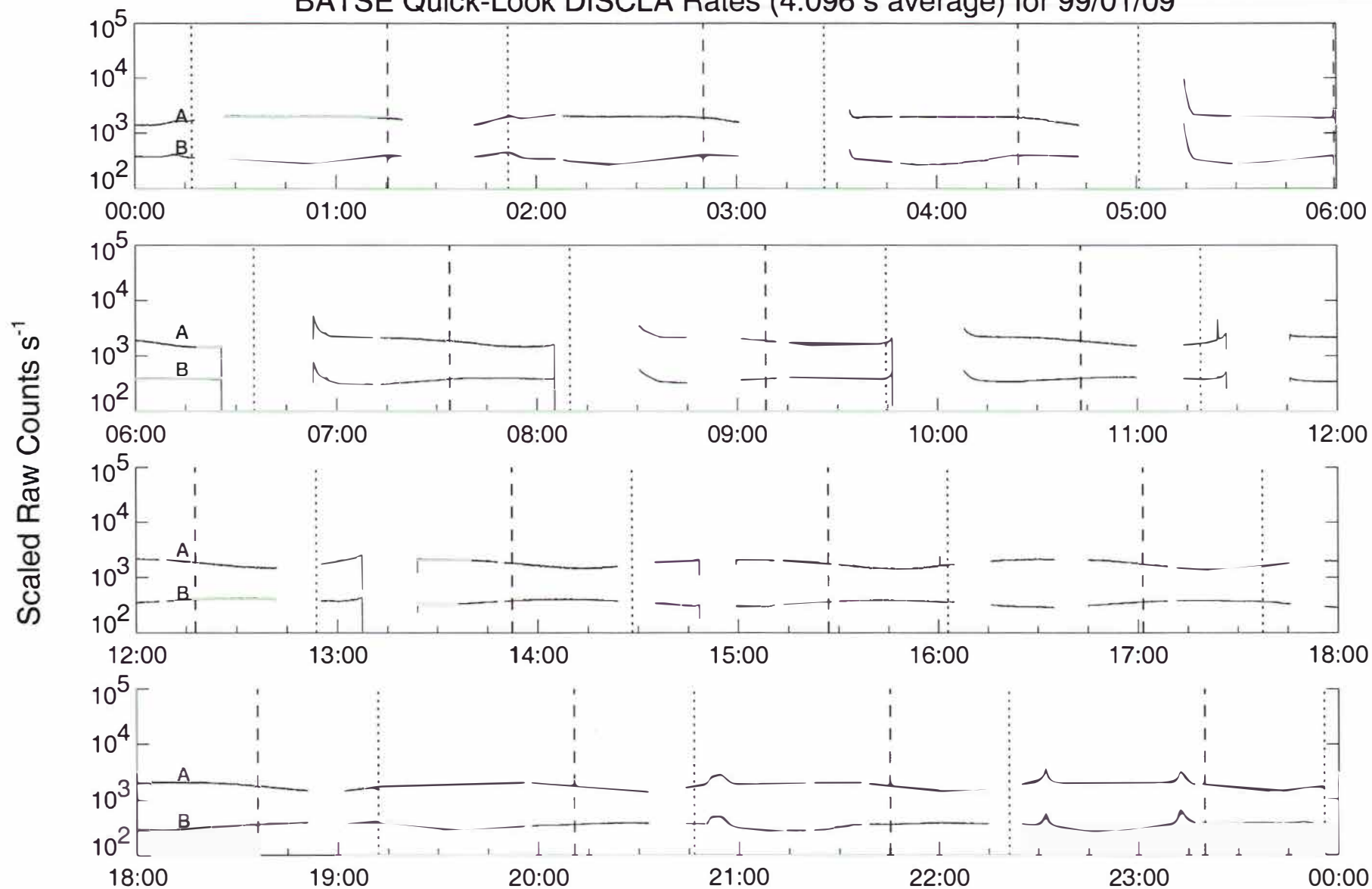


ULYSSES RT
9/ 1/99 38700.449 s
0.500 S INTERVALS REGROUPED BY 7
22- 150 keV

17 / 6 / 2



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/09

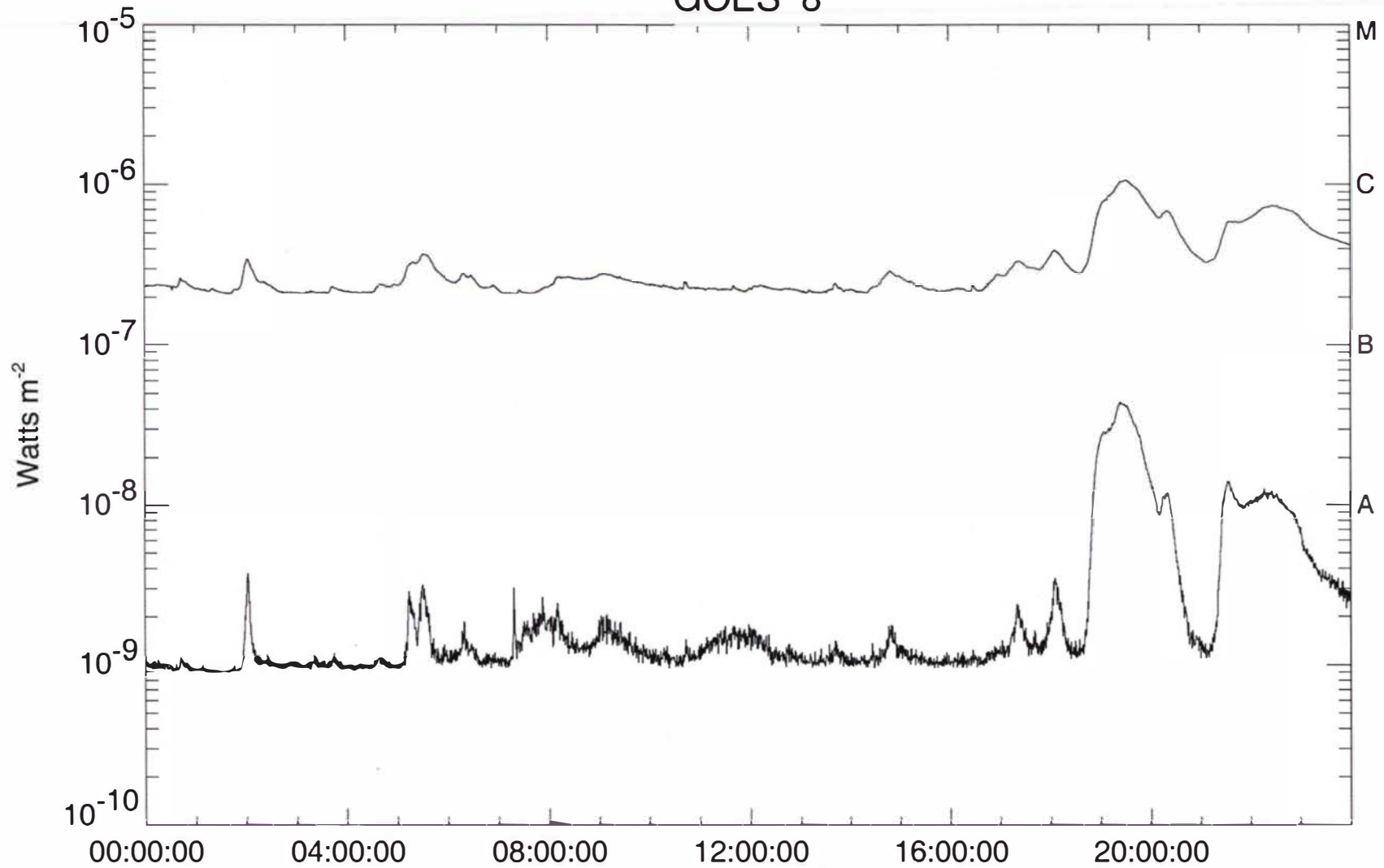


Current Time: 99/01/13, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/01/09, 0000:00

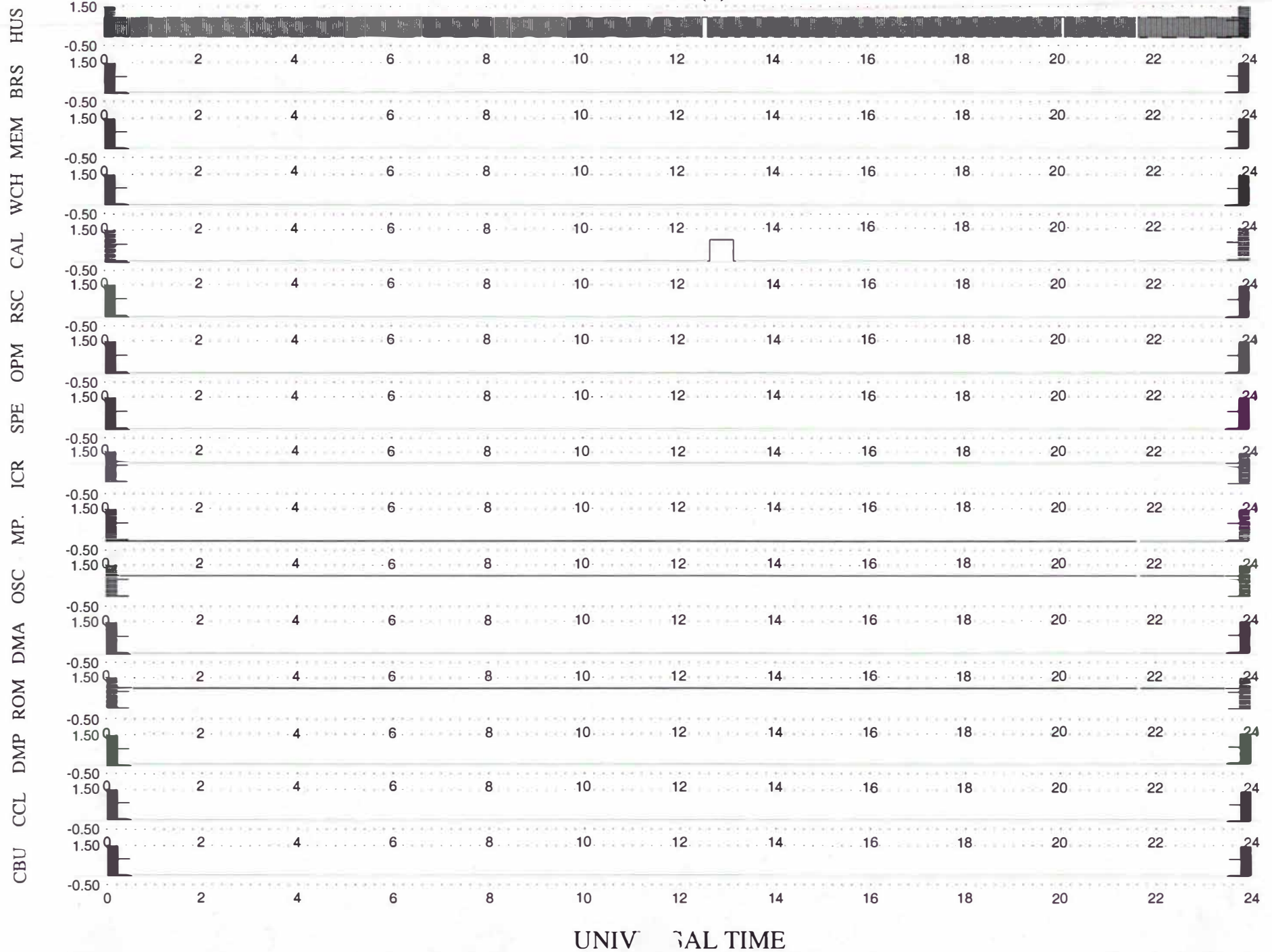
Plot created: 99/01/13, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

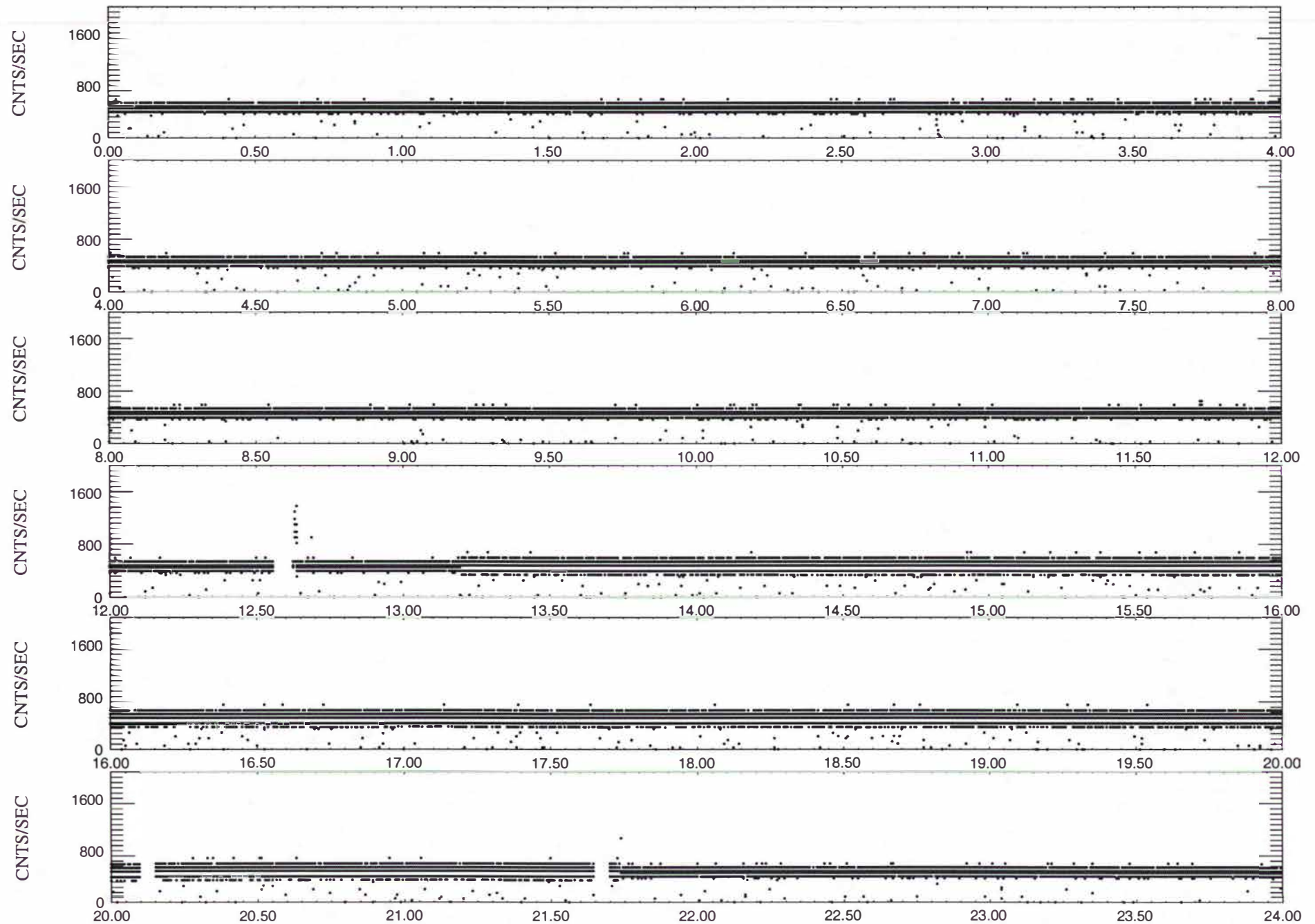
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

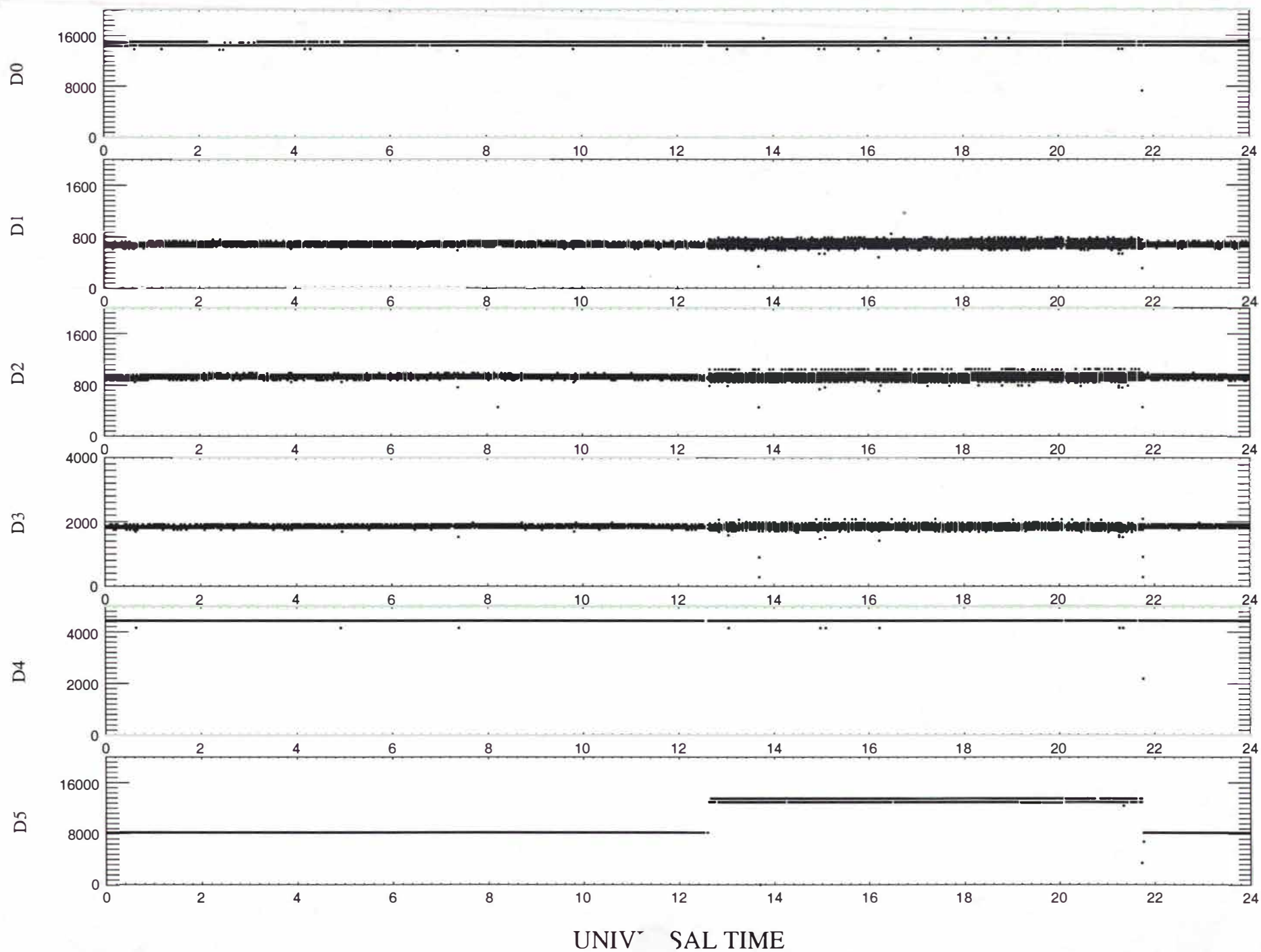
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From WOODSP@fender.msfc.nasa.gov Mon Jan 11 16:09:11 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 11 Jan 1999 18:08:54 -0600 (CST)

To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lheaWWW.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.: 7313

TIME: TJD=1188 SECONDS=10135

TYPE: SAA SOLAR FLARE TRIGGER SIGNAL:

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From WOODSP@fender.msfc.nasa.gov Mon Jan 11 16:09:50 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 11 Jan 1999 18:09:35 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7314

TIME: TJD=1188 SECONDS=21776

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 Thu Jan 21 12:50:32 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 21 Jan 1999 14:50:06 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7315

TIME: TJD=1188 SECONDS=31141

Jan 10

08:39:01

Trigger

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=102.4 AZIMUTH=21.6 ERROR=4 DEGREES

COMMENTS:

PROBABLY SGR 1900+14. SINGLE FRED-LIKE PULSE WEAKLY VISIBLE
ABOVE 300 KEV. DURATION ABOUT 1.1 SEC.

From WOODSP@fender.msfc.nasa.gov Mon Jan 11 16:17:30 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 11 Jan 1999 18:10:09 -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.: 7316

TIME: TJD=1188 SECONDS=51947

TYPE: SAA

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

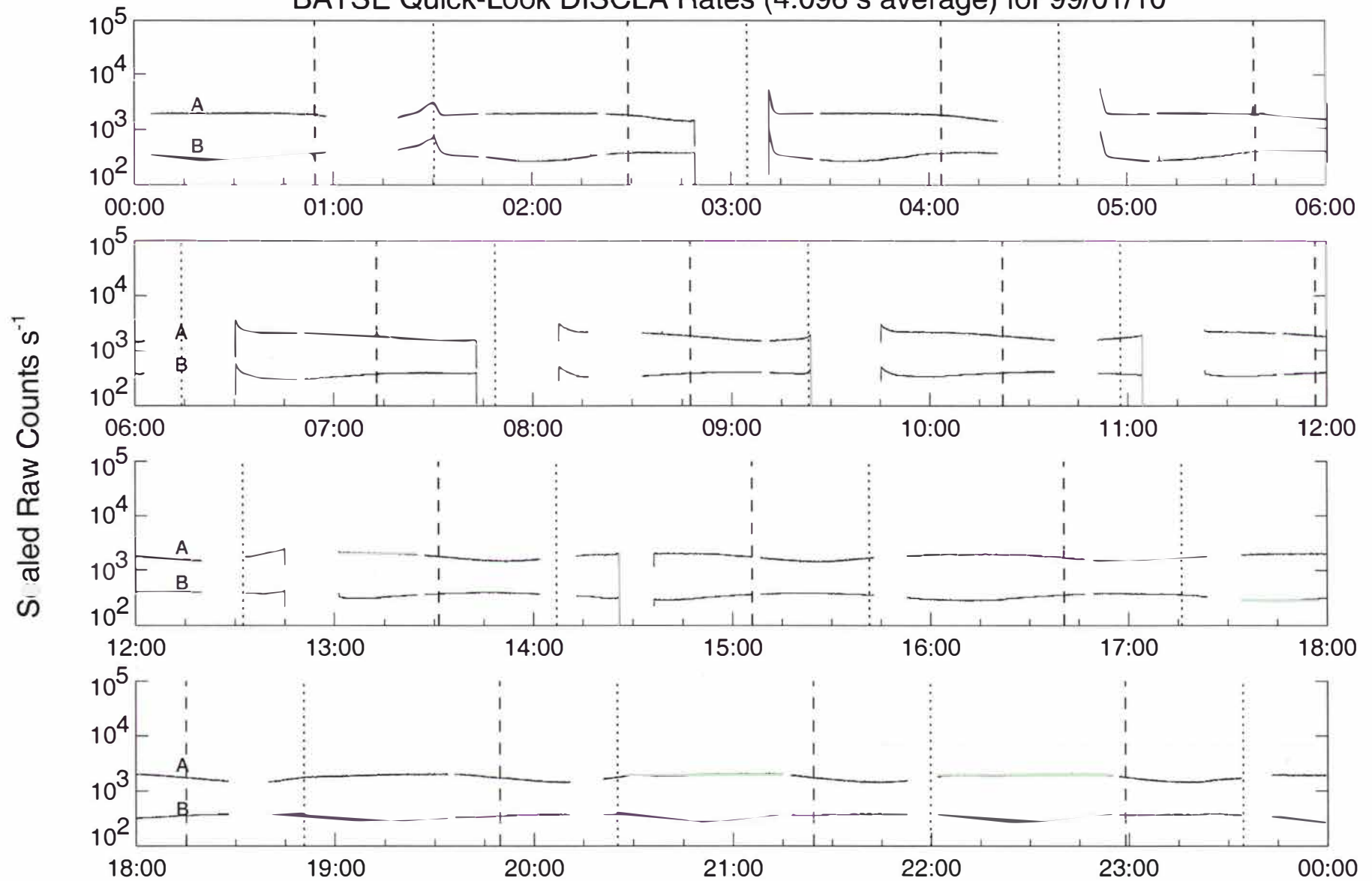
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/10

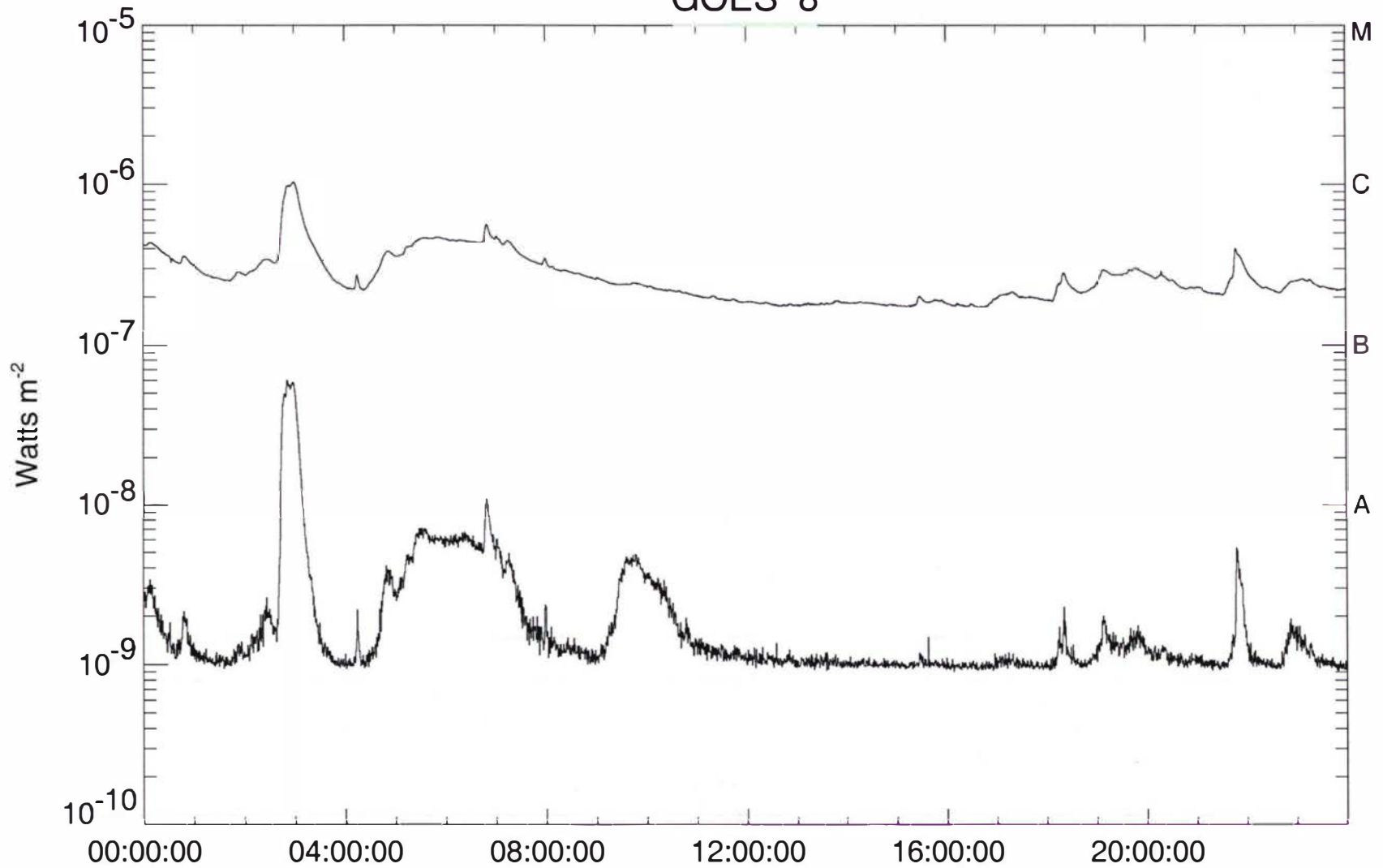


Current Time: 99/01/14, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/01/10, 0000:00

Plot created: 99/01/14, 1009

Channel

1 (1.0 - 8.0 Angstroms)

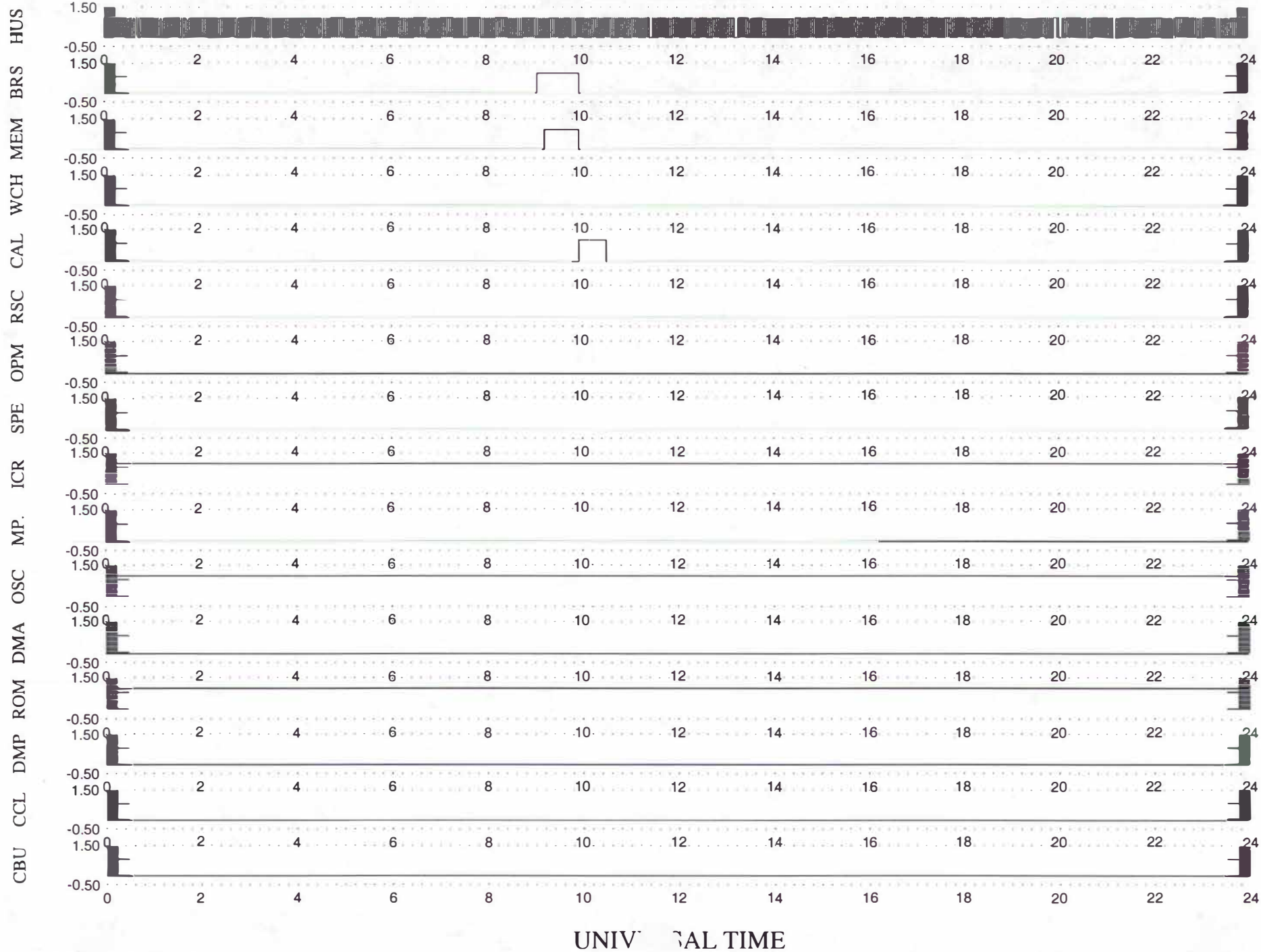
Background not subtracted

2 (0.5 - 4.0 Angstroms)

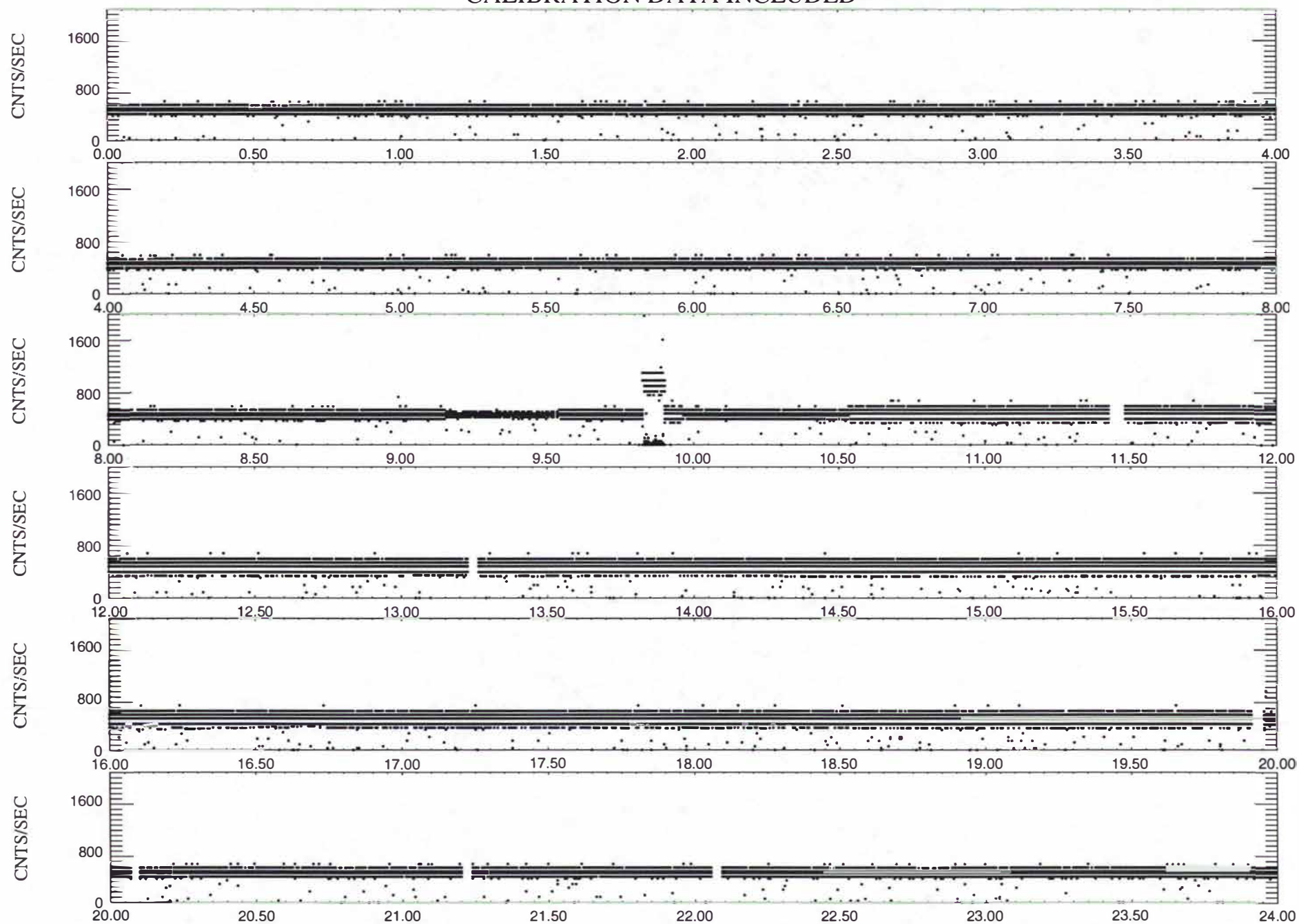
Background not subtracted

Sample average = 10

BURST NUMBER 3

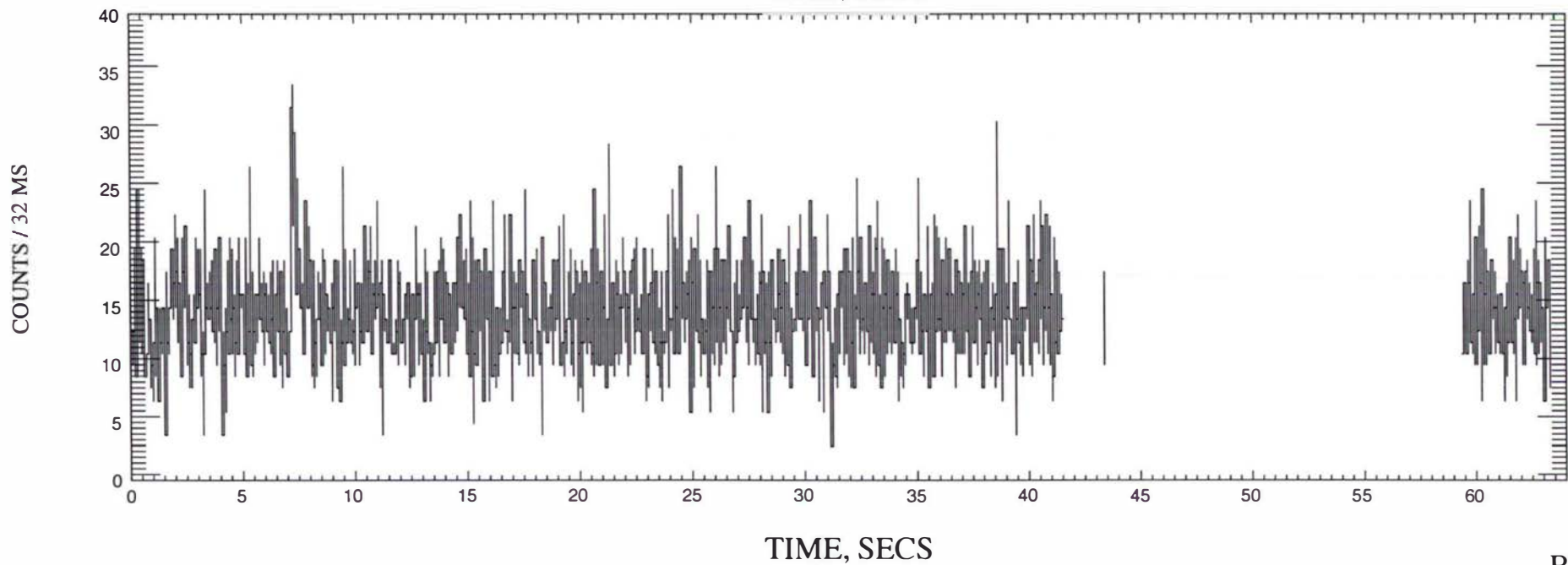
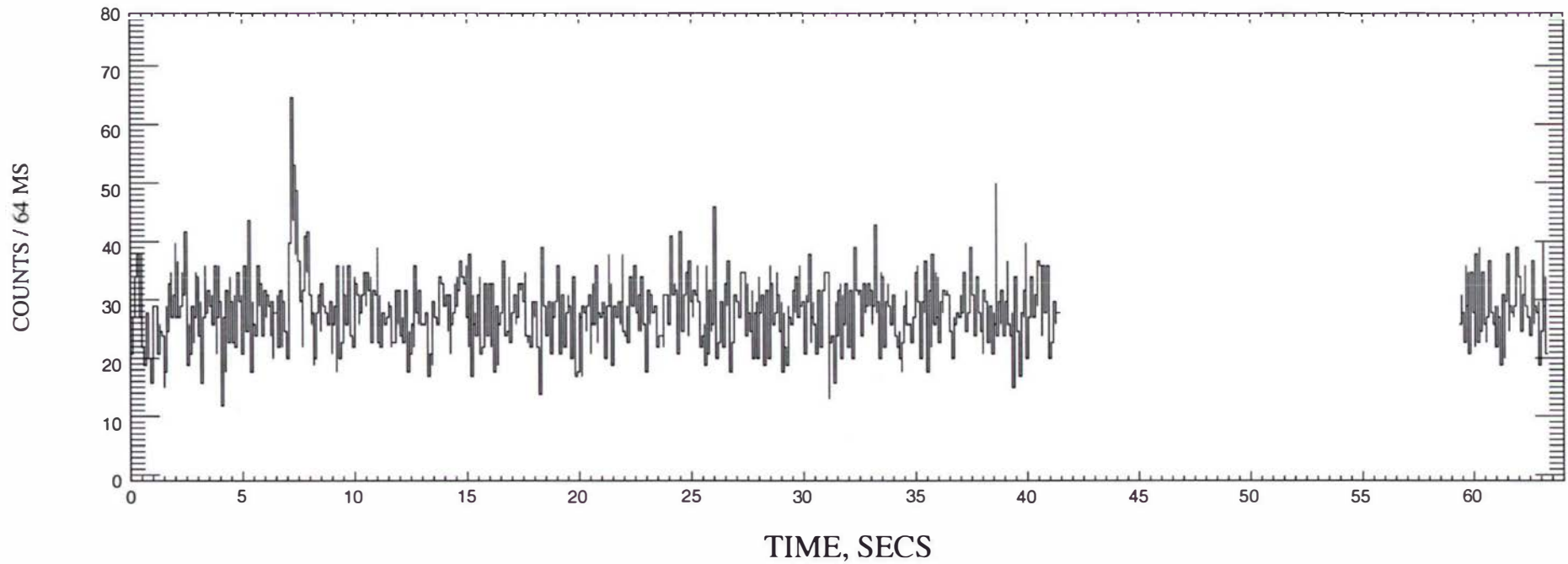


CALIBRATION DATA INCLUDED

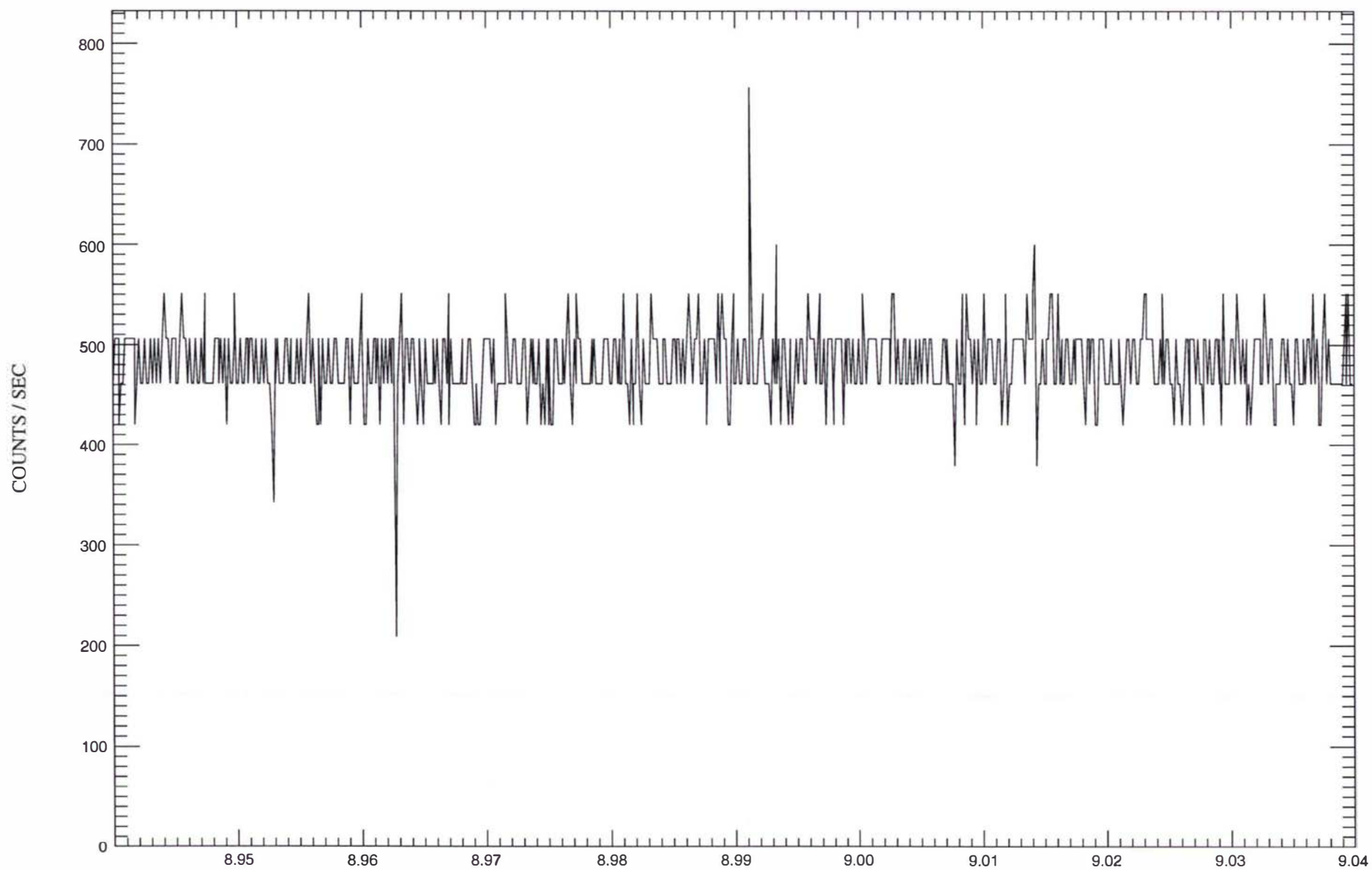


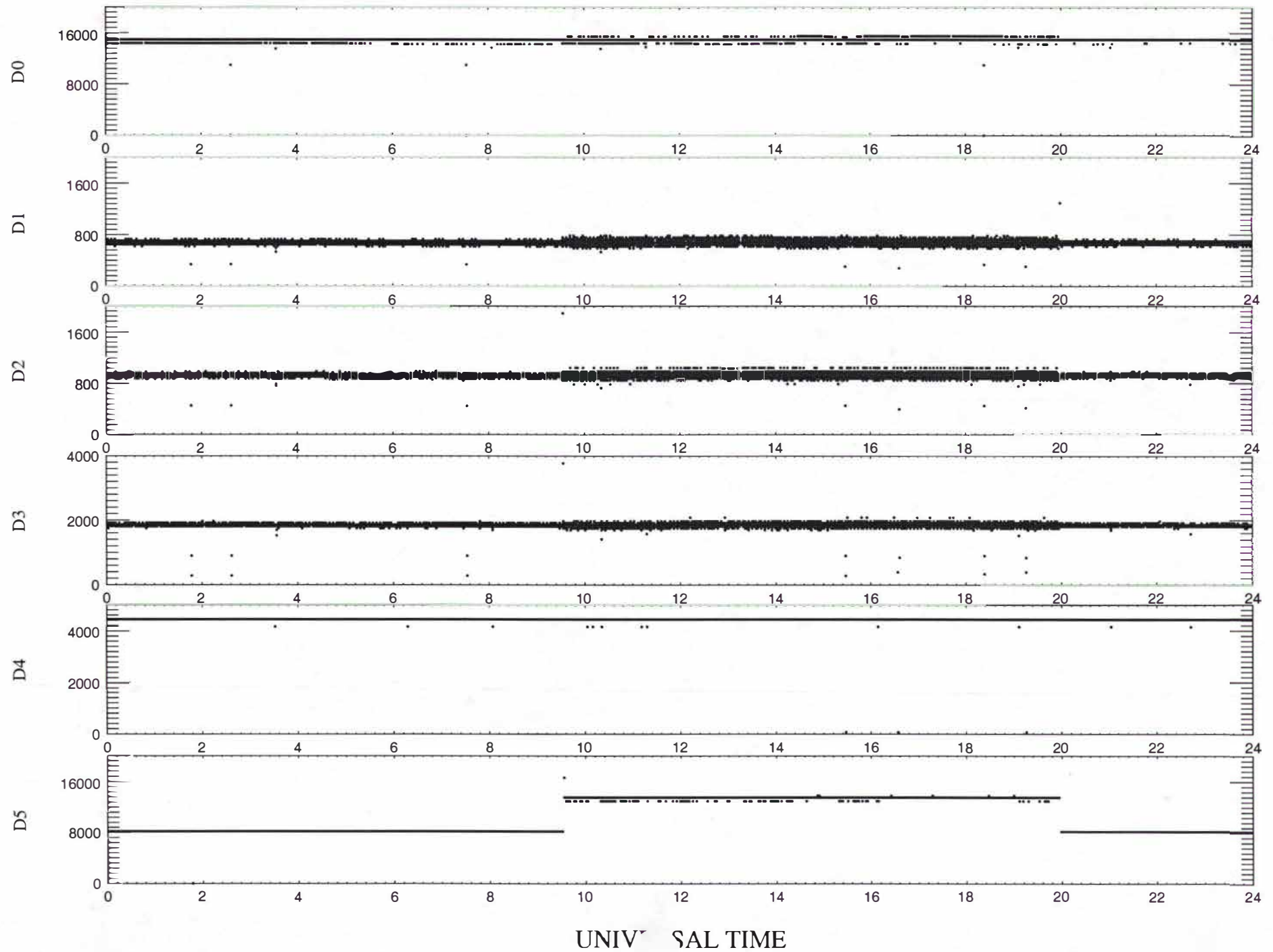
UNIV SAL TIME

Burst Counter 3 at UT= 8.991388558282 h=32368.999 s 08:59:28.999



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Tue Jan 12 16:48:34 1999
Date: Tue, 12 Jan 1999 18:48:17 -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@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.: 7317

TIME: TJD=1189 SECONDS= 8763

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

GRBM 19990111 33274

ULYSSES RT

10/05/07

11/01/99 32400.111 s

0.500 S INTERVALS REGROUPED BY 3

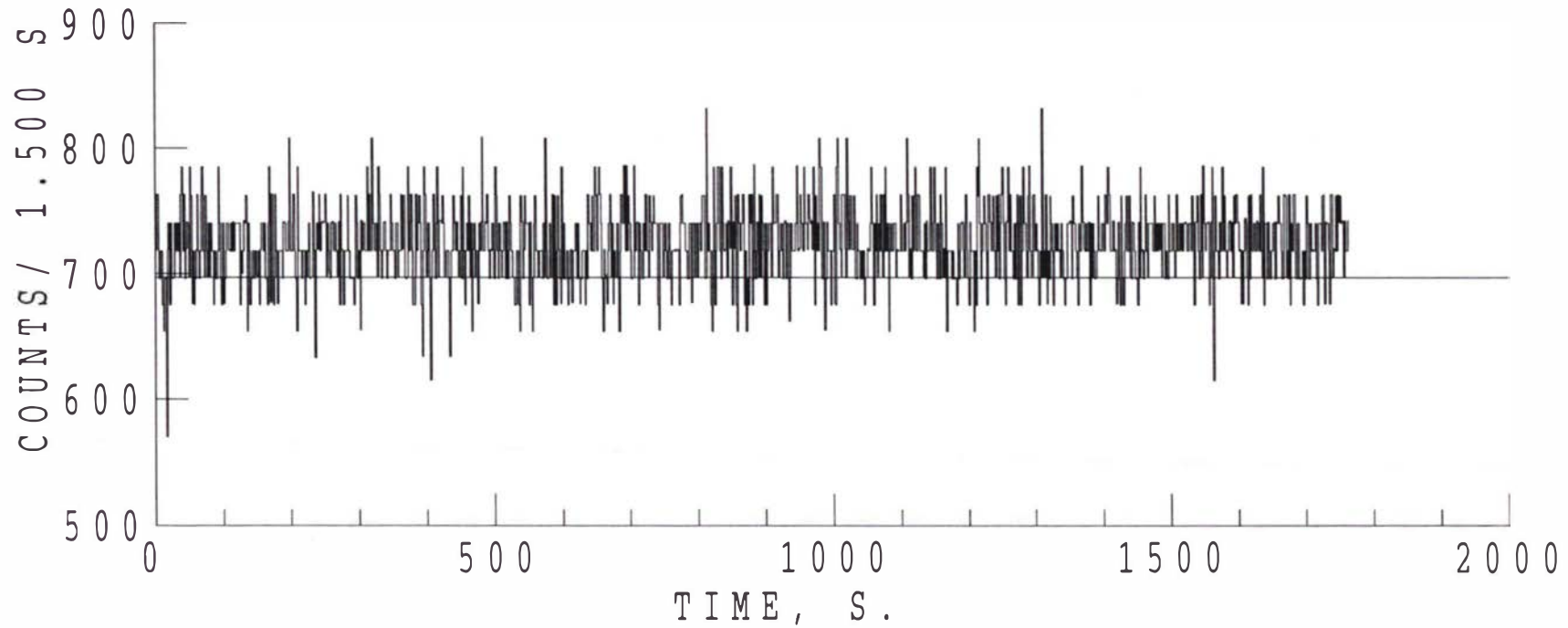
0 - 0 keV

M= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Wed Jan 13 13:44:03 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA00914; Wed, 13 Jan 1999 13:44:02 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01477; Wed, 13 Jan 1999 13:43:55 -0800
Date: Wed, 13 Jan 1999 15:25:19 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990113152519.2025693d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7318
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7318
EVENT OF 1999 JAN 11 DAY OF YEAR= 11
EVENT CROSSING TIME AT BATSE : 43041. S. OR 11:57:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 44.000 38.000
BATSE PEAK COUNTING RATE: 7000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 1/ 99 IS:
RA= 164.746 DEC= -8.662 DIST= 4.612 AU
BATSE-ULYSSES DISTANCE = 689974173. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 60.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1129.99 SECS.
CROSSING TIME AT ULYSSES IS 44171. S. OR 12:16:10 +/- 415.26 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 1/ 99 IS:
RA= 202.197 DEC= -7.191 DIST= 1.391 AU
MARS-BATSE DISTANCE = 208161232. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 36.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 557.53 SECS.
CROSSING TIME AT MARS IS 43599. S. OR 12:06:38 +/- 80.32 SECONDS

BATSE BURST TRIGGER

NO.: 7318

TIME: TJD=1189 SECONDS=43041

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=130.1 AZIMUTH=146.4 ERROR=0.8 DEGREES

COMMENTS:

GRB. SINGLE PULSE DUR. APPROX. 25 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7318	990111	11189	43041	7000	044	+38	25

Date: Jan 24 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

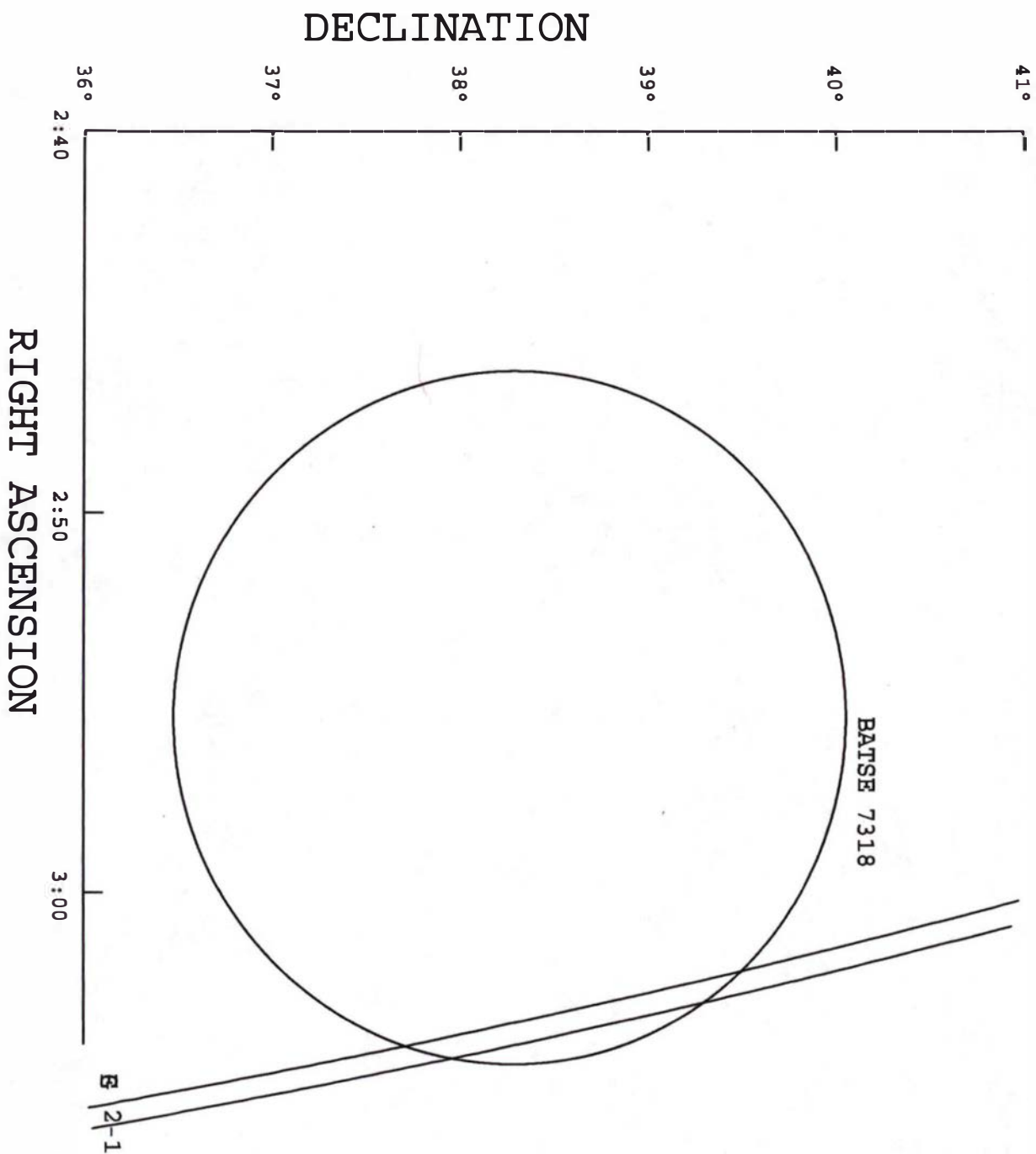
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JAN 11, 1999 11:57

24 / 1 / 0

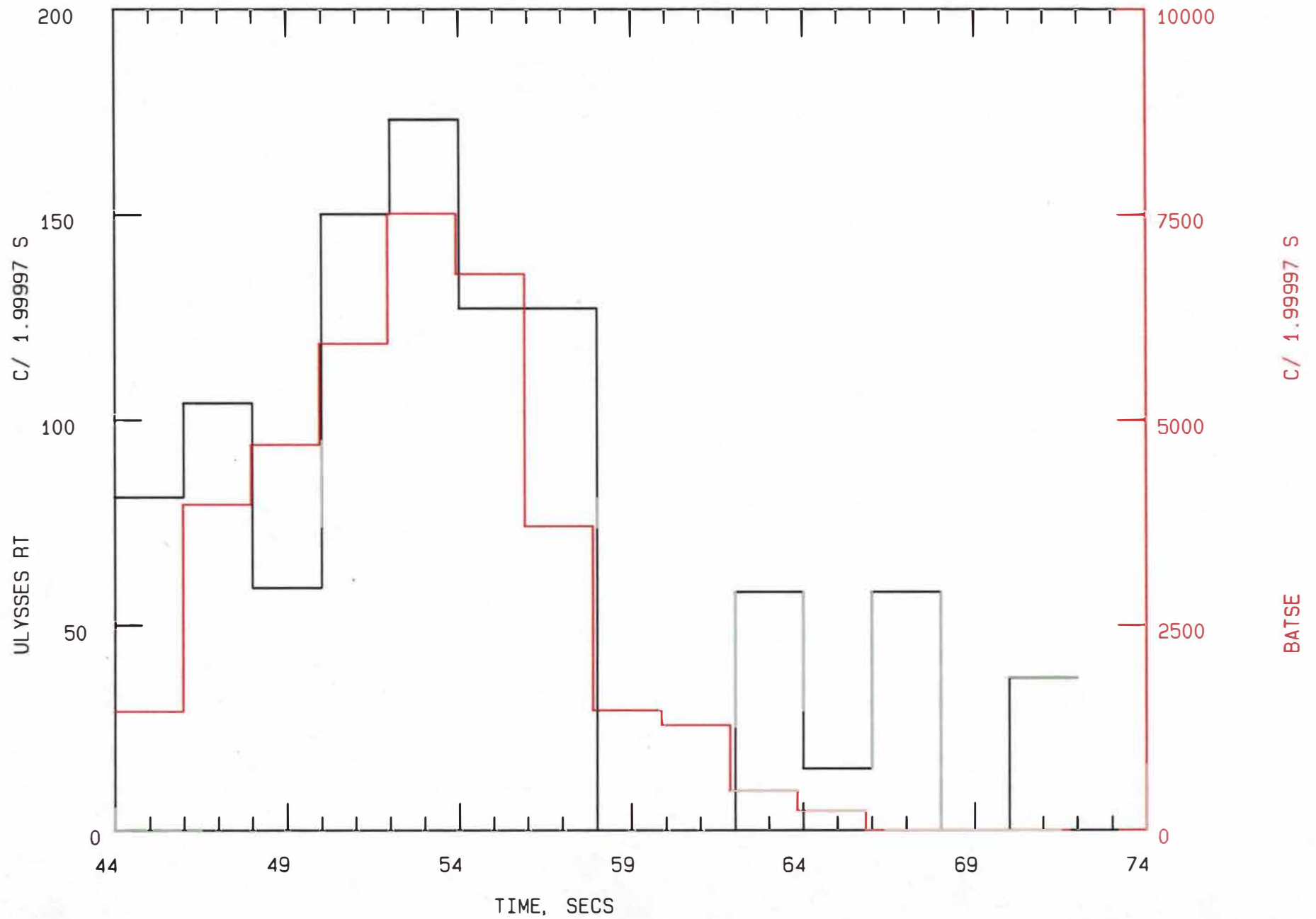


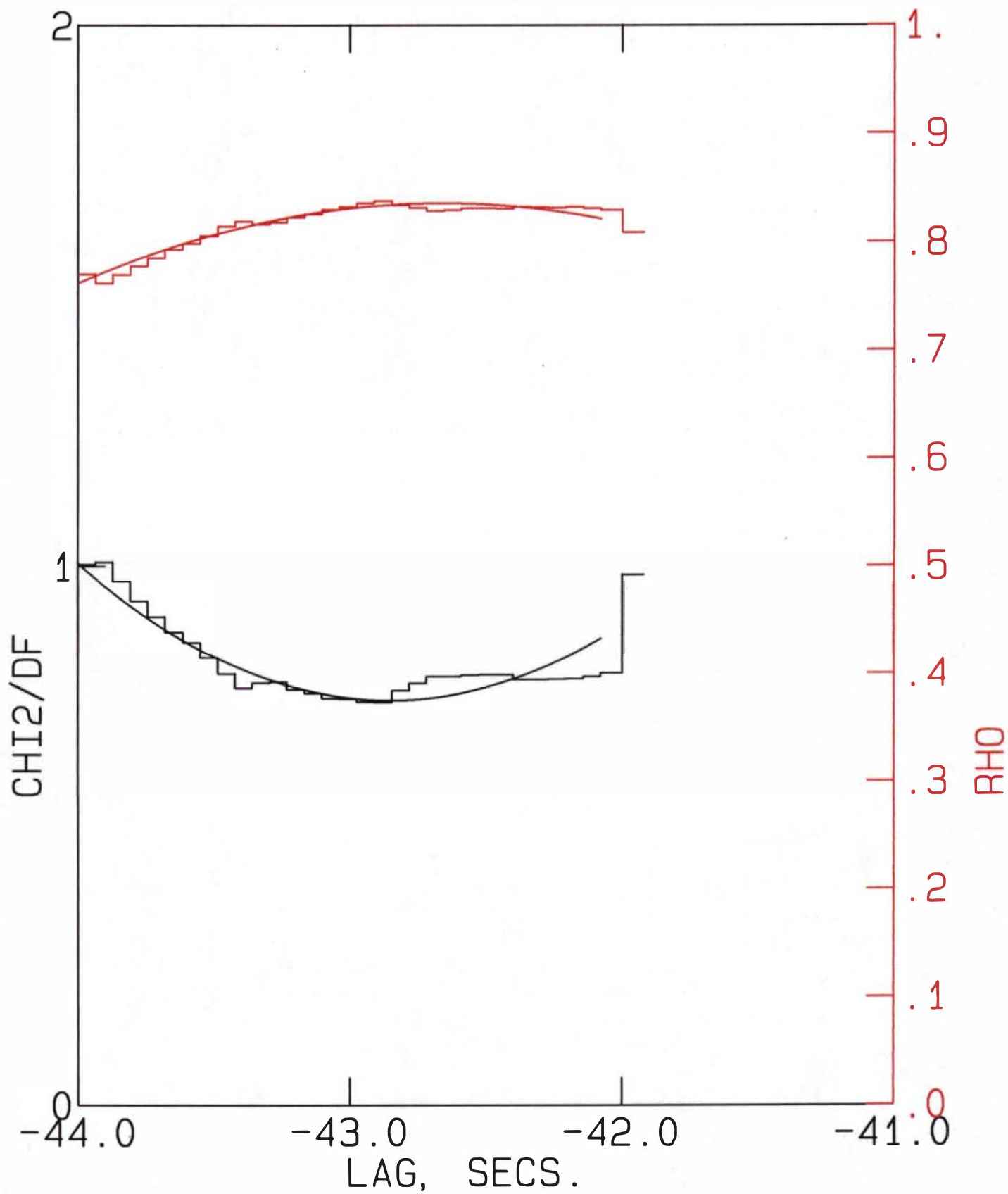
ULYSSES RT-BATSE

CORRELATION

11/ 1/99 44100.732

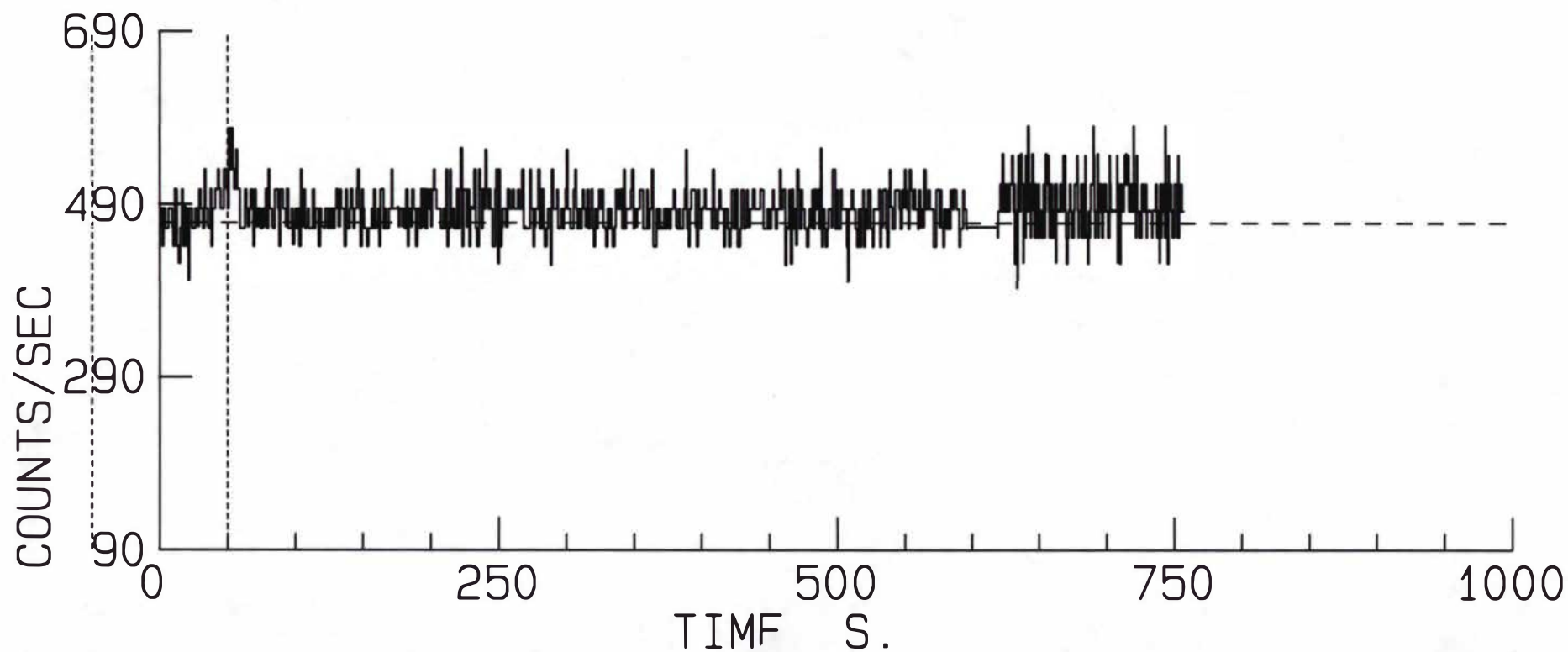
24/ 1/ 0





ULYSSES RT
11/ 1/99 44100.232 s
INTERVALS REGROUPED BY 2
22- 149 keV

24 / 1 / 0



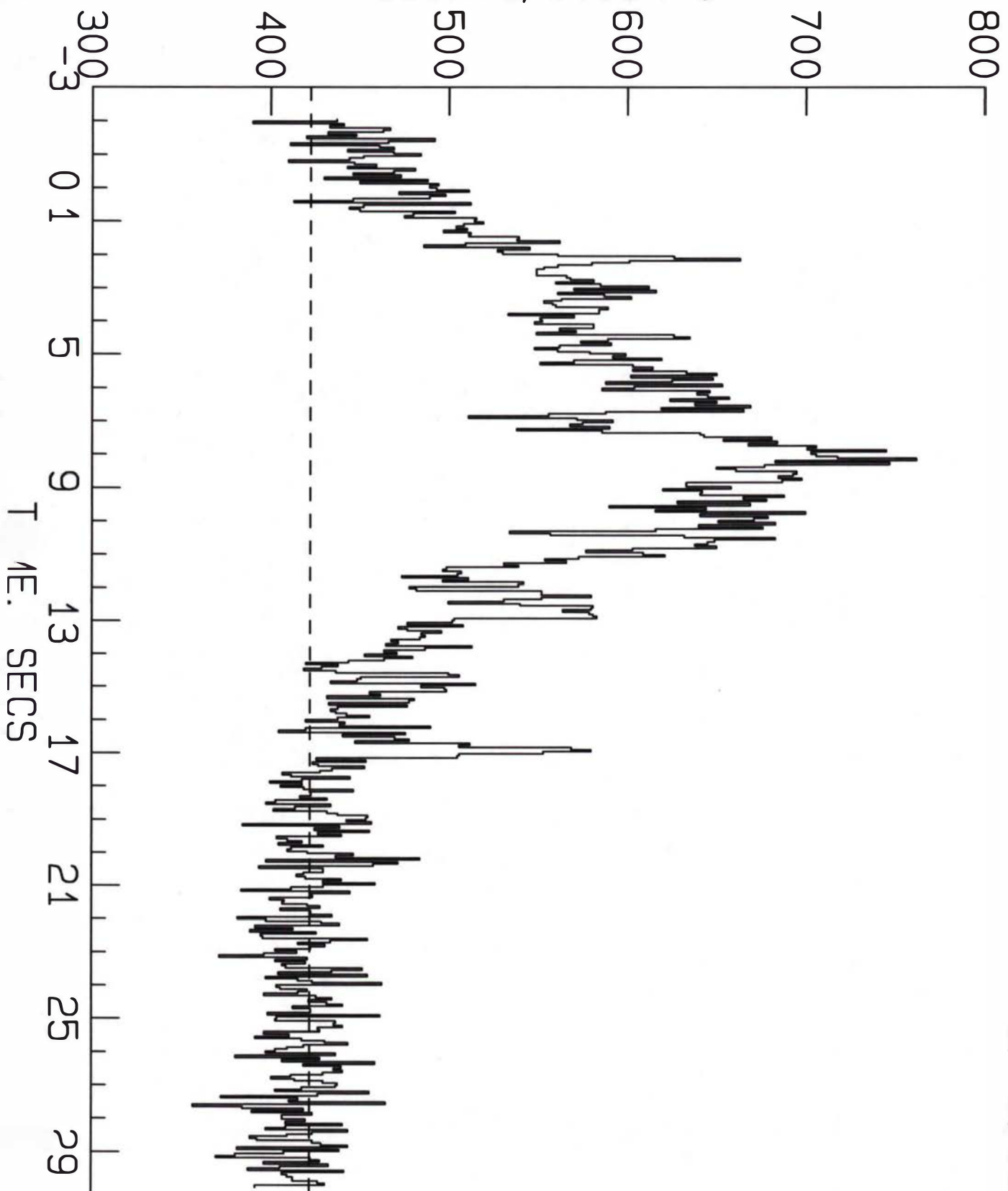
BATSE

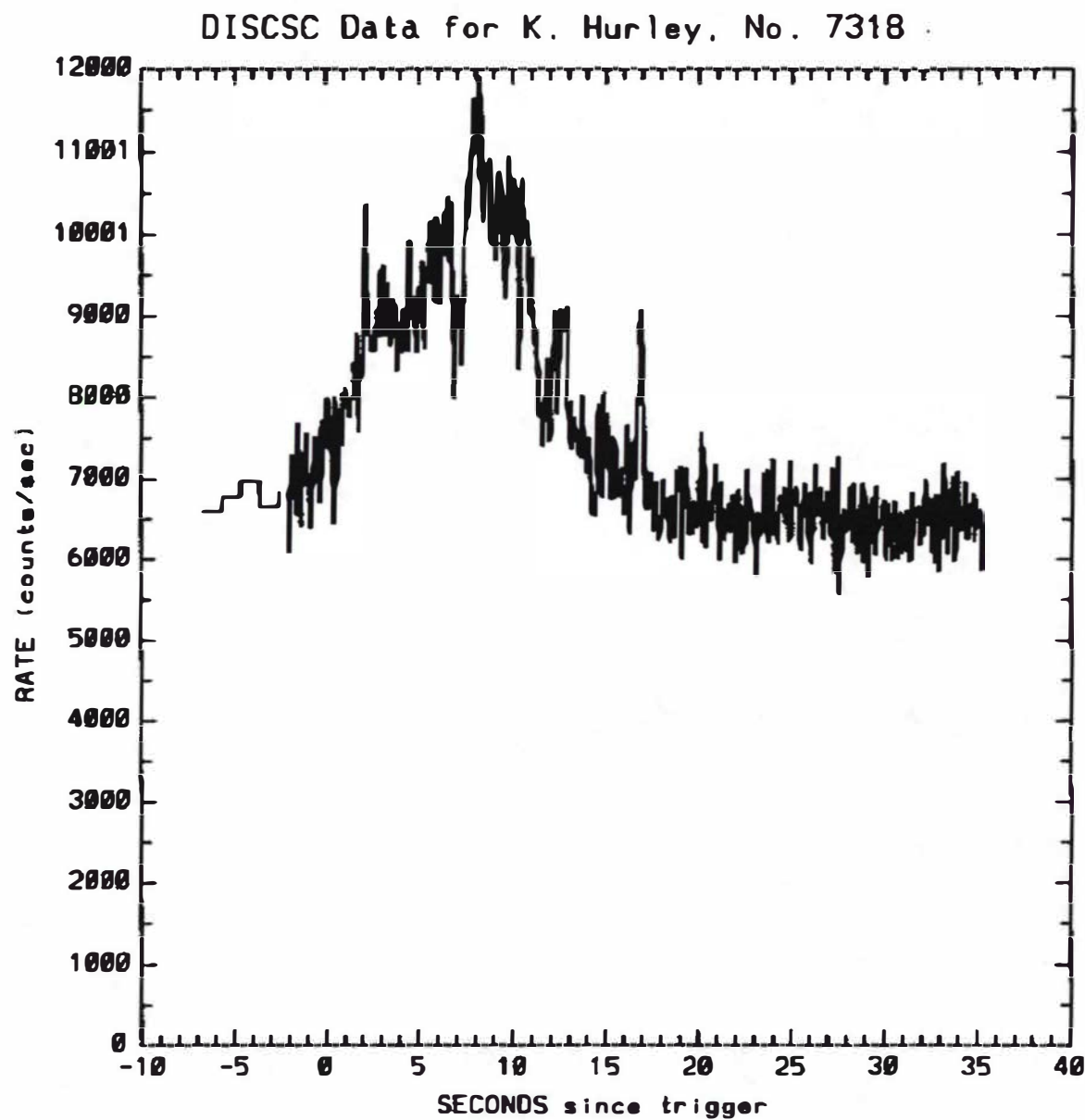
11/01/99

43041.017

25- 100 keV

COUNTS/0.064 S





19-JAN-1999 13:21:27

Created by MOPS BD
(Buret Display)
Version 12.26

Trigger # : 7318

Trigger Time:
11189 / 43041.017

Buret Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(1, 2)

Quality Mask:
BDISP1

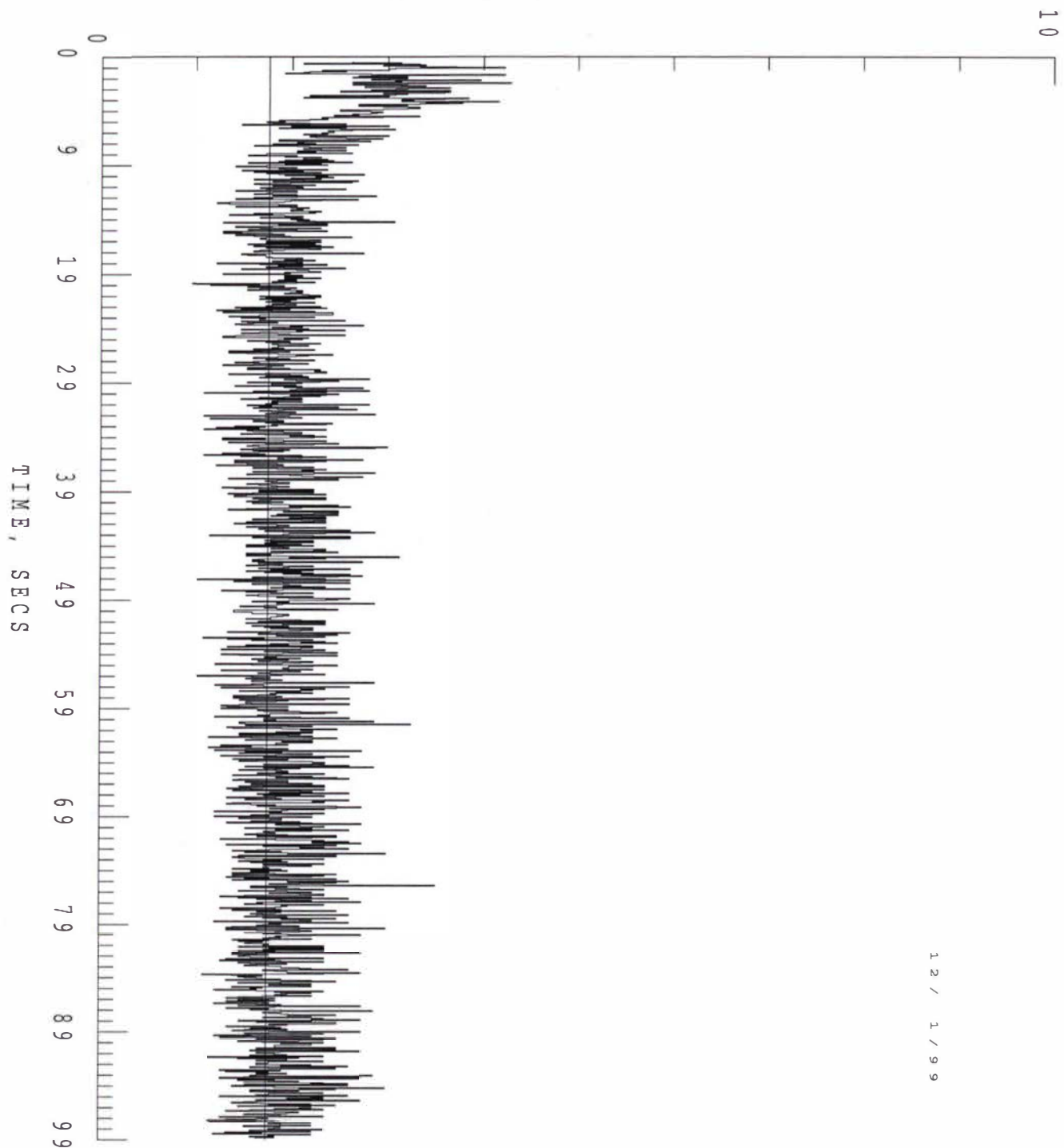
KONUS

11/01/99

43048.968

50 - 200 keV

COUNTS/0.064 S



12 / 1 / 99

From SAHI@fender.msfc.nasa.gov Wed Jan 13 13:44:07 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA00920; Wed, 13 Jan 1999 13:44:06 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01501; Wed, 13 Jan 1999 13:44:04 -0800
Date: Wed, 13 Jan 1999 15:26:42 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990113152642.2025693d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7319
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7319
EVENT OF 1999 JAN 11 DAY OF YEAR= 11
EVENT CROSSING TIME AT BATSE : 64700. S. OR 17:58:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 174.000 28.000
BATSE PEAK COUNTING RATE: 9000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 1/ 99 IS:
RA= 164.713 DEC= -8.676 DIST= 4.608 AU
BATSE-ULYSSES DISTANCE = 689381238. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=142.24 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1817.96 SECS.
CROSSING TIME AT ULYSSES IS 62882. S. OR 17:28:02 +/- 266.87 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 1/ 99 IS:
RA= 202.197 DEC= -7.191 DIST= 1.391 AU
MARS-BATSE DISTANCE = 208161232. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=135.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -495.26 SECS.
CROSSING TIME AT MARS IS 64205. S. OR 17:50:04 +/- 76.97 SECONDS

BATSE BURST TRIGGER

NO.: 7319

TIME: TJD=1189 SECONDS=64700

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=32.8 AZIMUTH=124.7 ERROR=1.72 DEGREES

COMMENTS:

GRB. COMPLEX, MULTI-PEAKED, TOTAL DUR. APPROX. 65 S, MAX. AT T+7 S.
MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7319	990111	11189	64700	9000	174	+28	65

Date: Jan 24 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

- ☐ 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

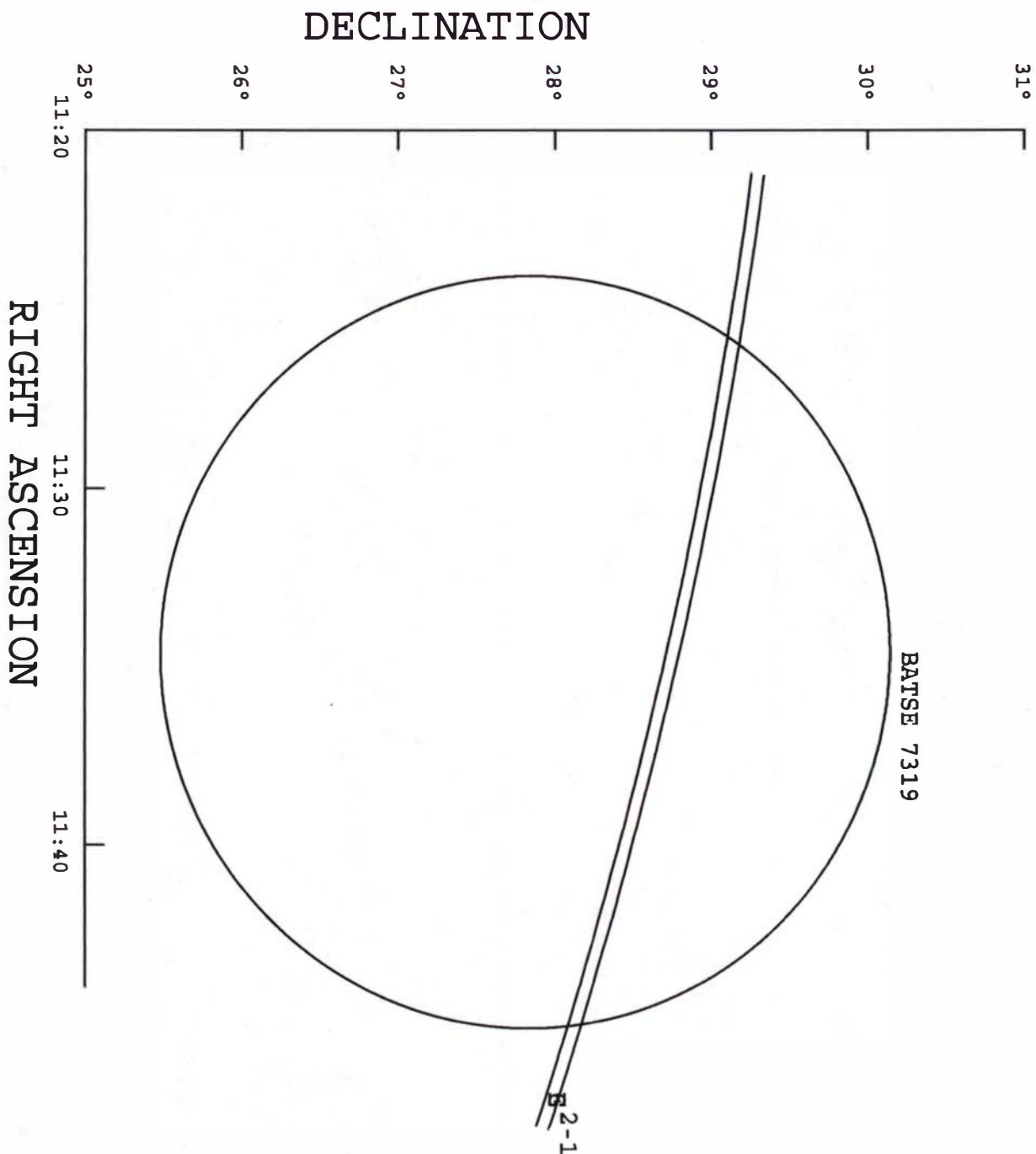
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JAN 11, 1999 17:58

24 / 1 / 0



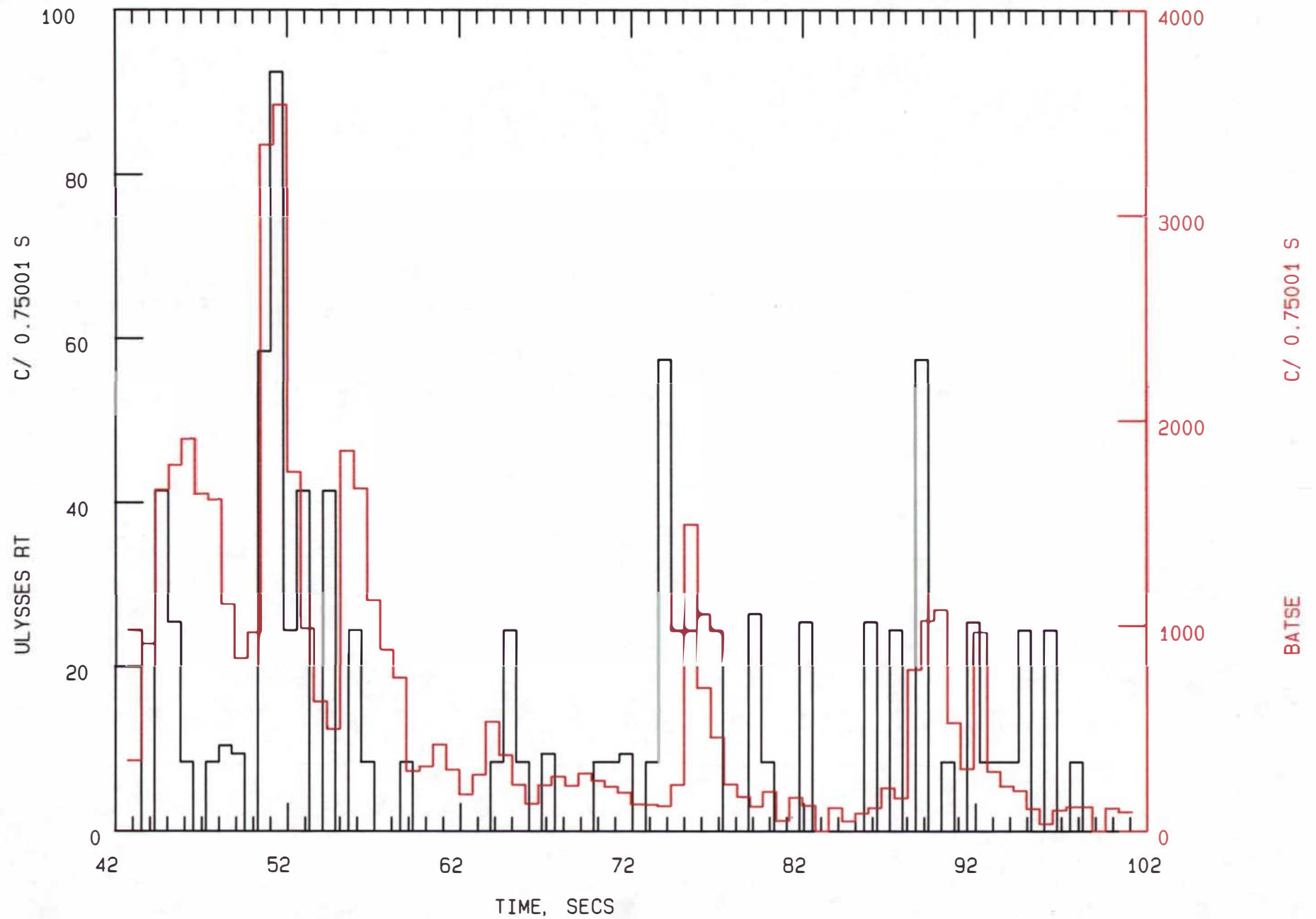
ULYSSES RT-BATSE

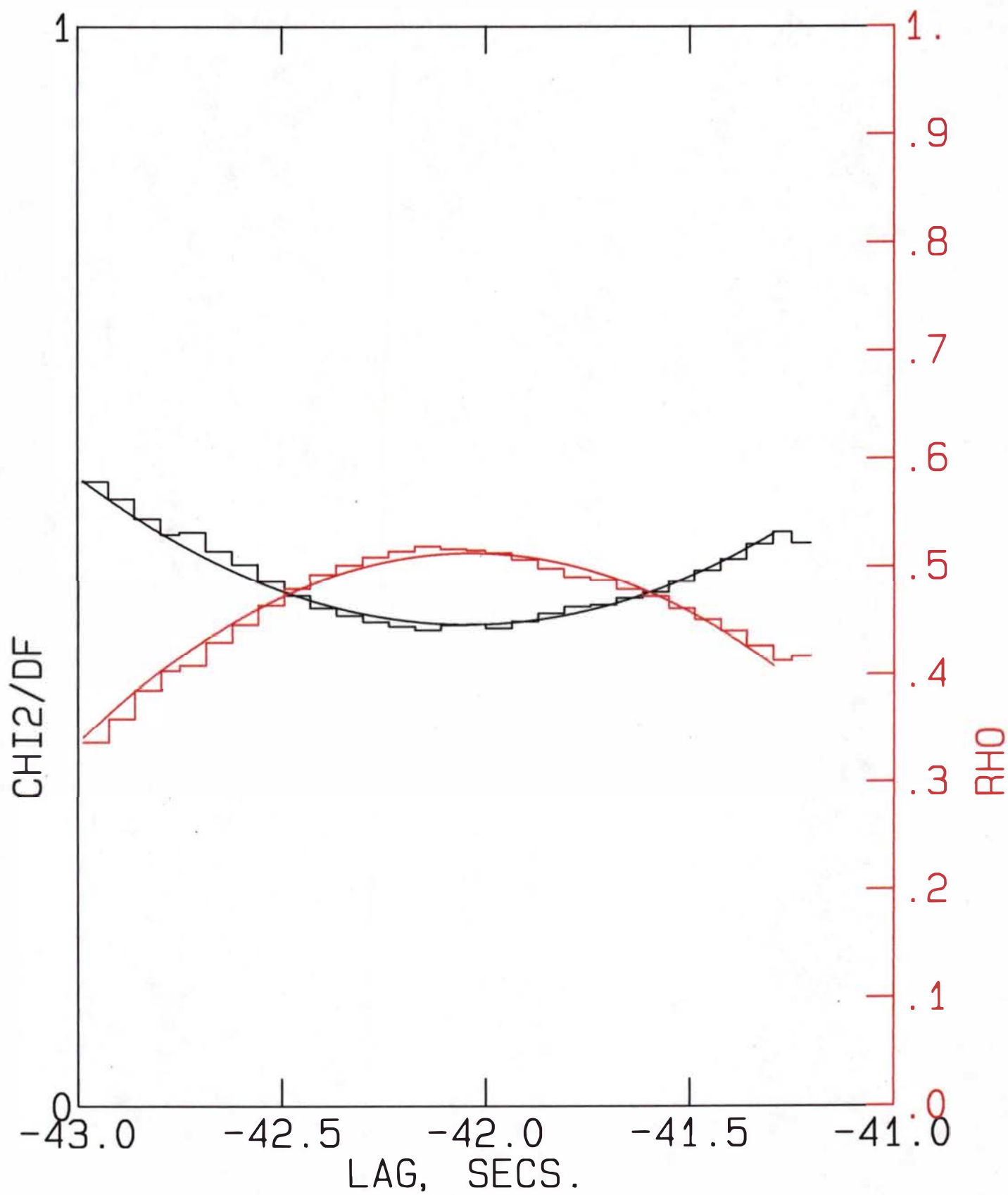
CORRELATION

11/ 1/99

62849.177

24/ 1/ 0

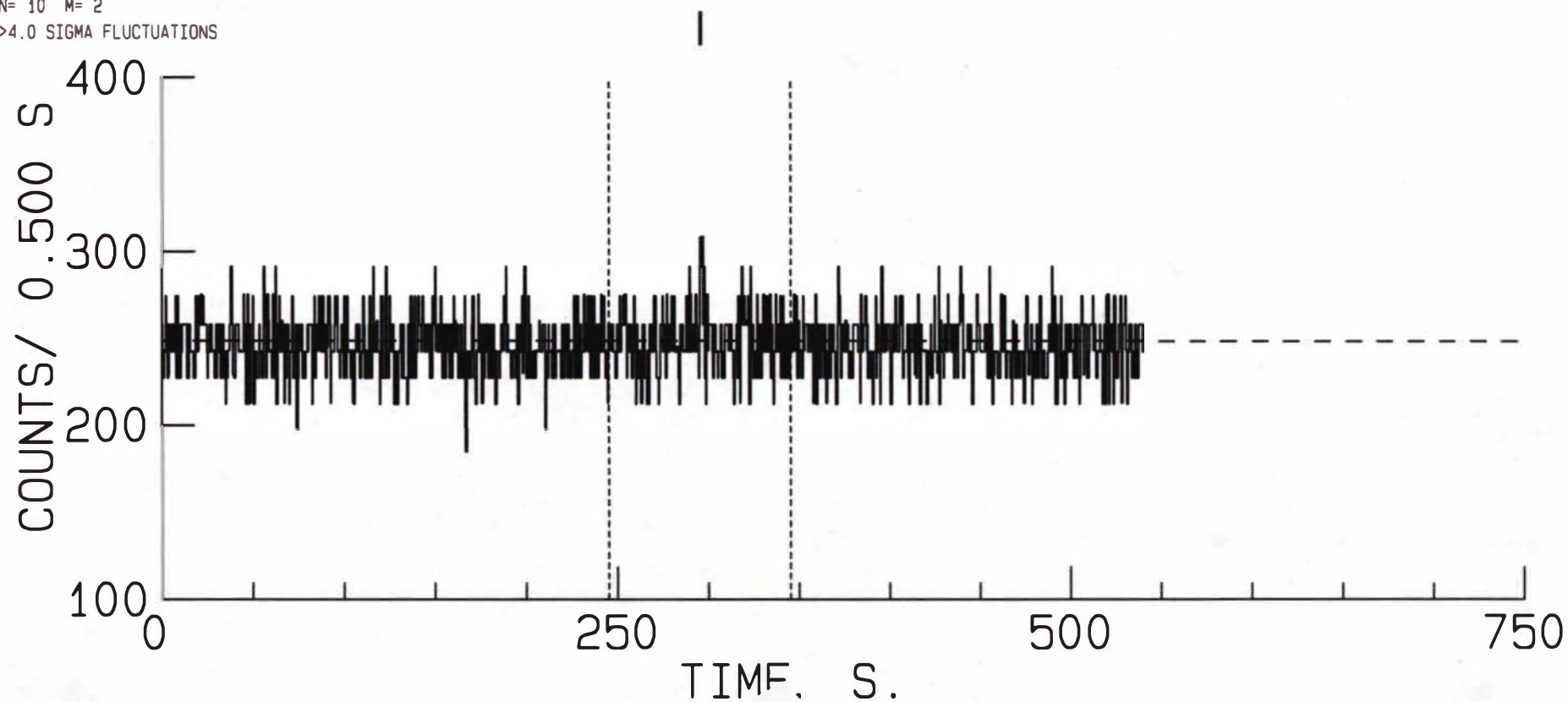




ULYSSES RT
11/ 1/99 62604.174 s
0.250 S INTERVALS REGROUPED BY 2
22- 149 keV

24 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



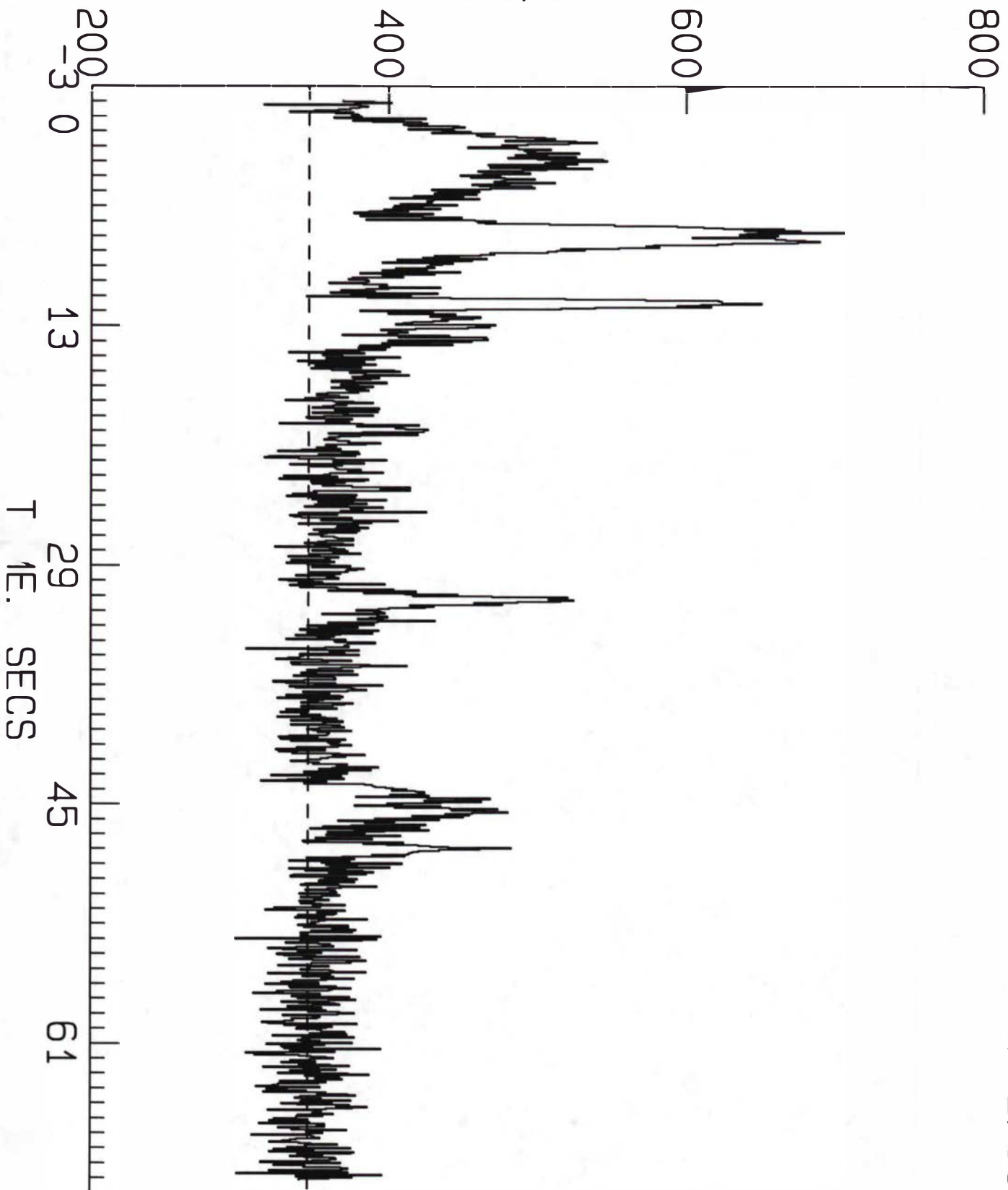
BATSE

11/01/99

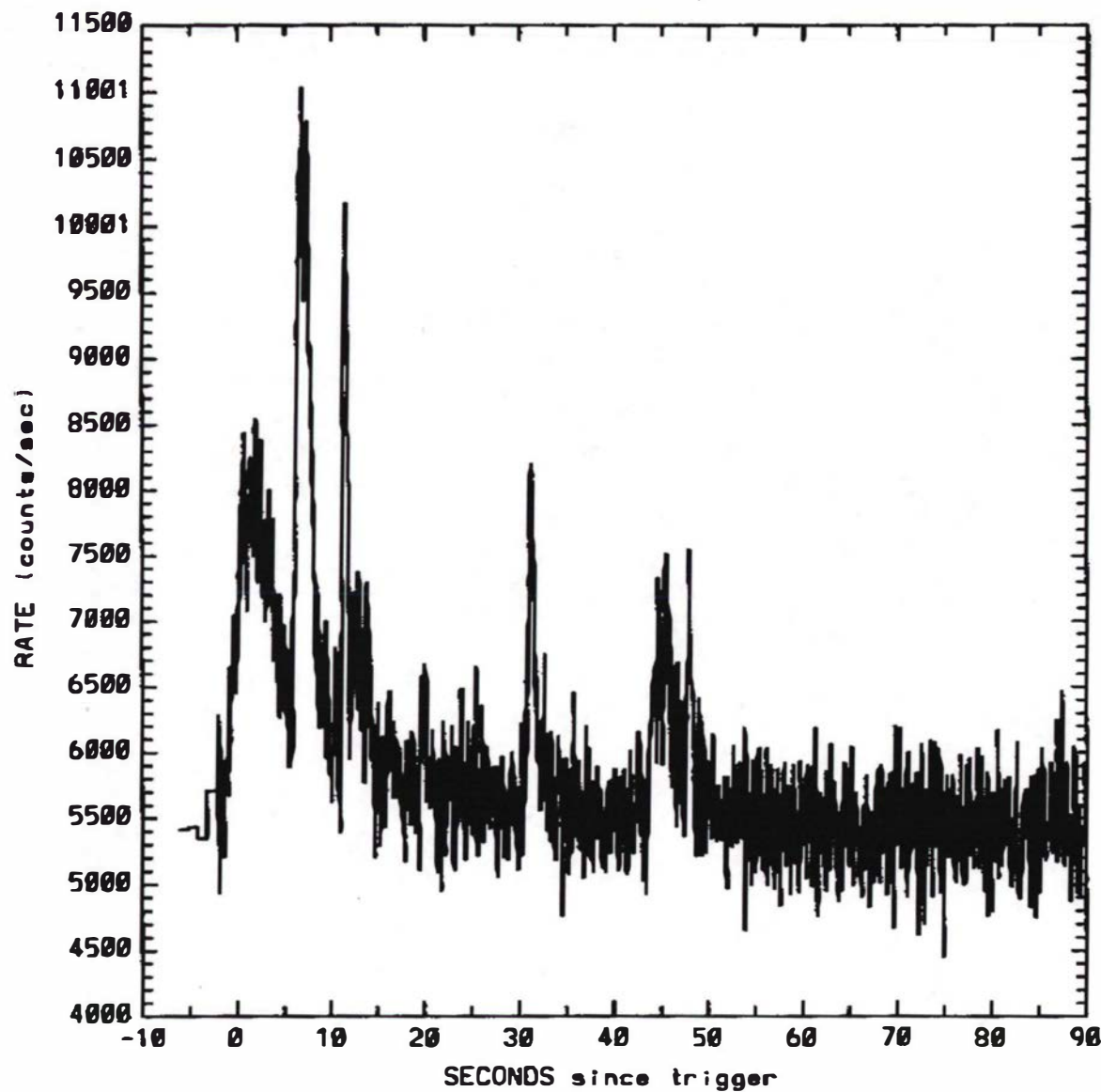
64700.153

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7319



19-JAN-1999 13:22:16

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7319

Trigger Time:
11189 / 64700.153

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
1 1 . 2 1

Quality Mask:
BDISP1

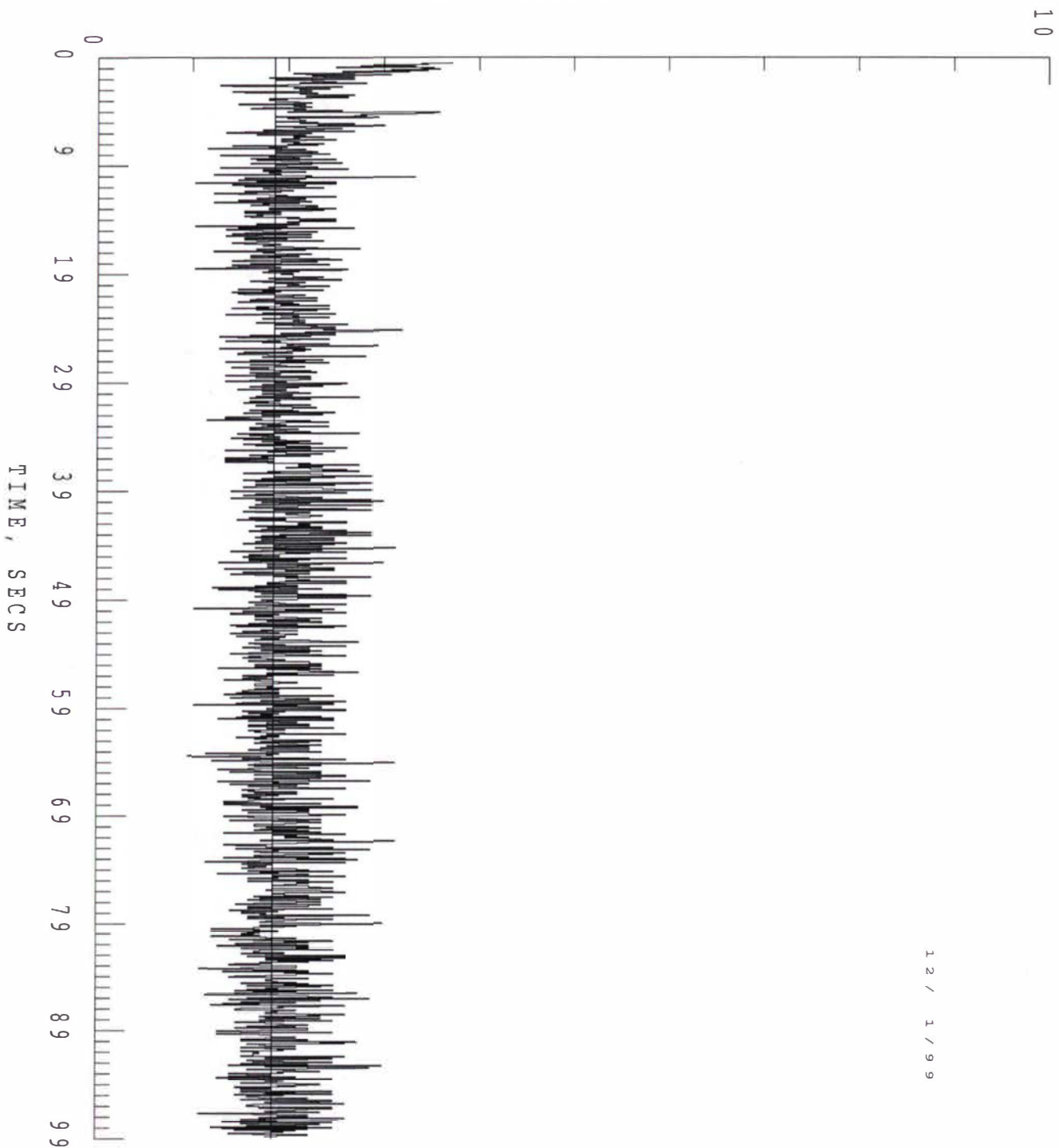
KONUS

11/01/99

64706.791

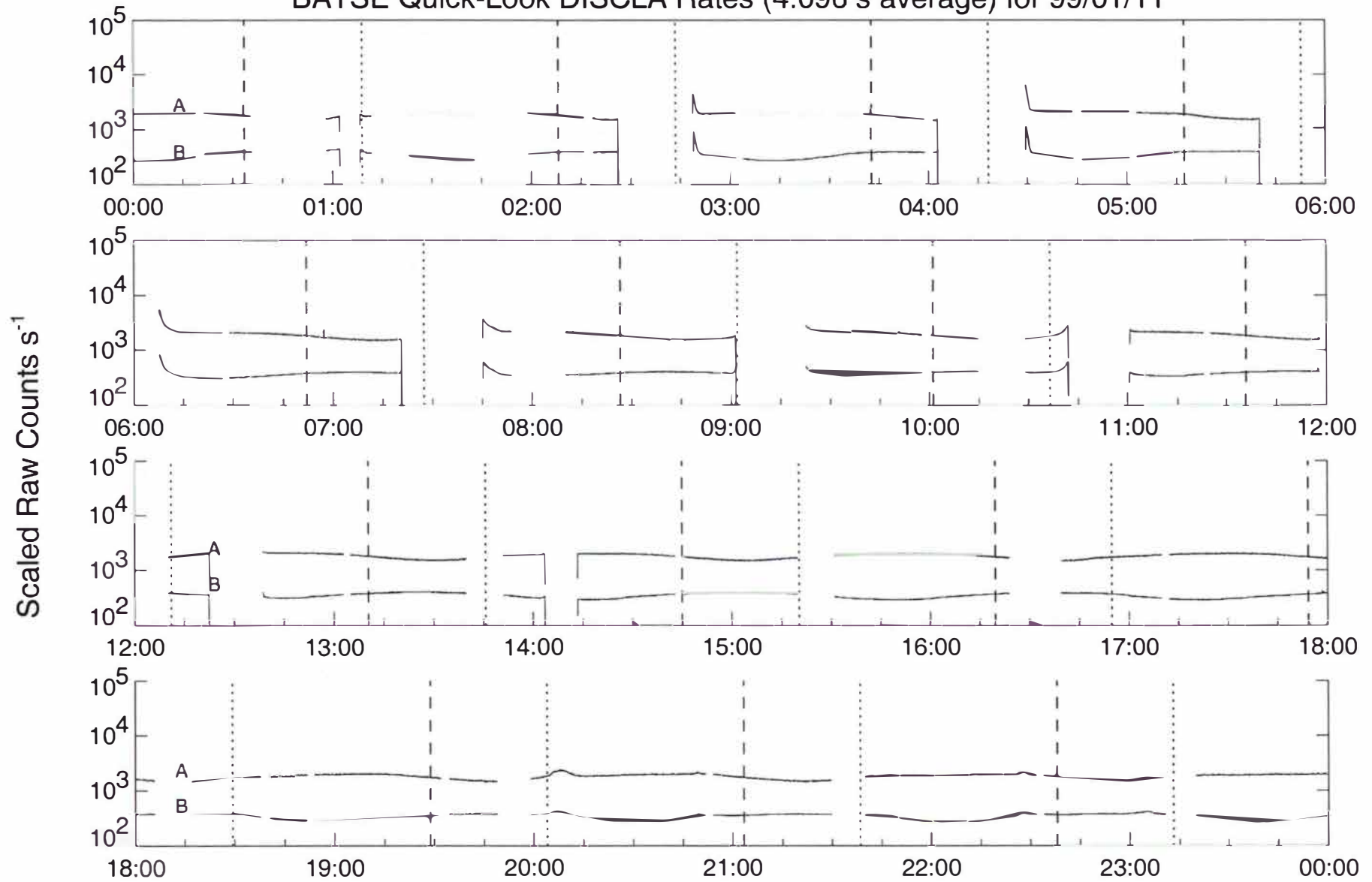
50 - 200 keV

COUNTS/0.064 .S



12 / 1 / 99

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/11

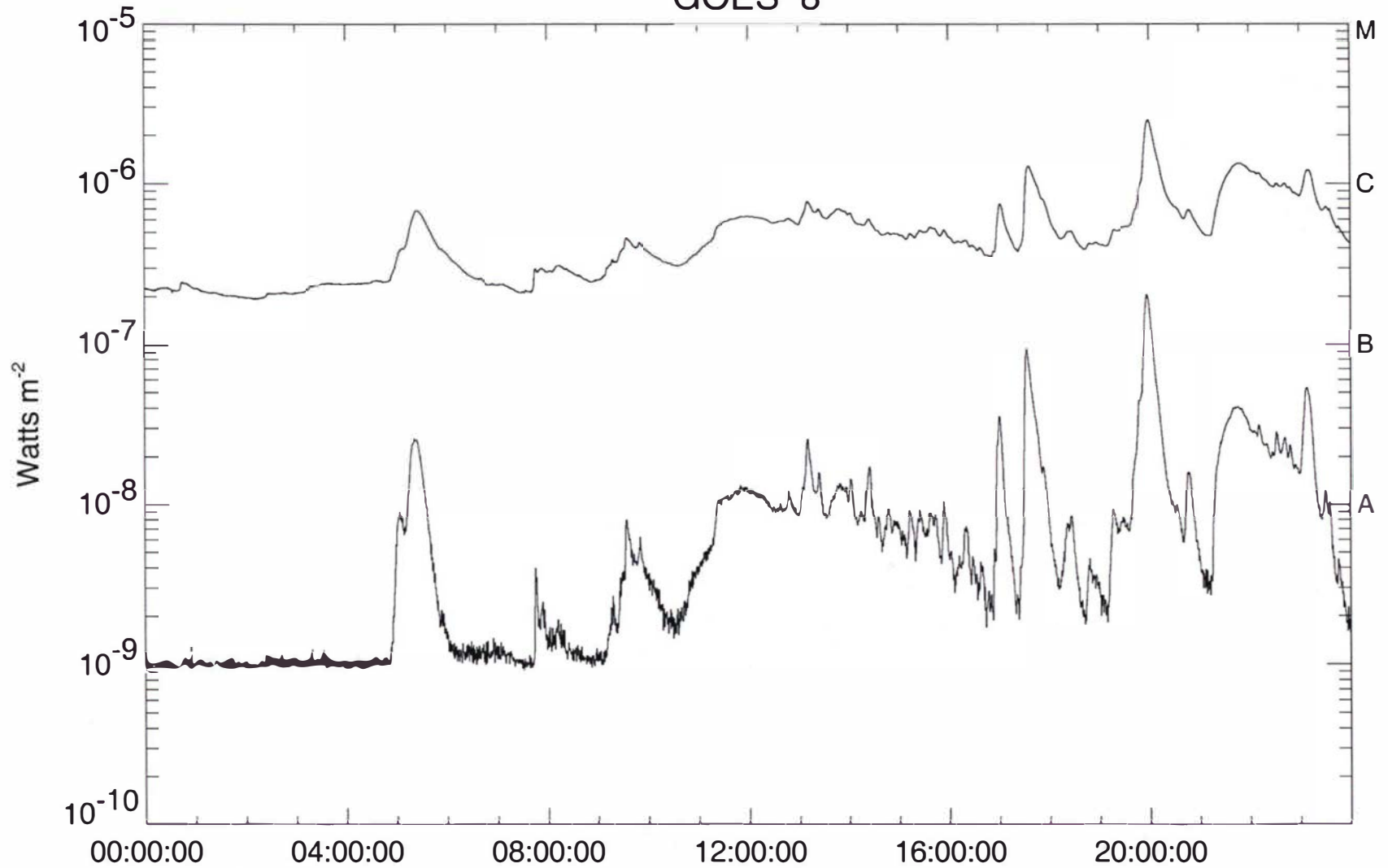


Current Time: 99/01/15, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/11, 0000:00

Plot created: 99/01/15, 1009

Channel

1 (1.0 - 8.0 Angstroms)

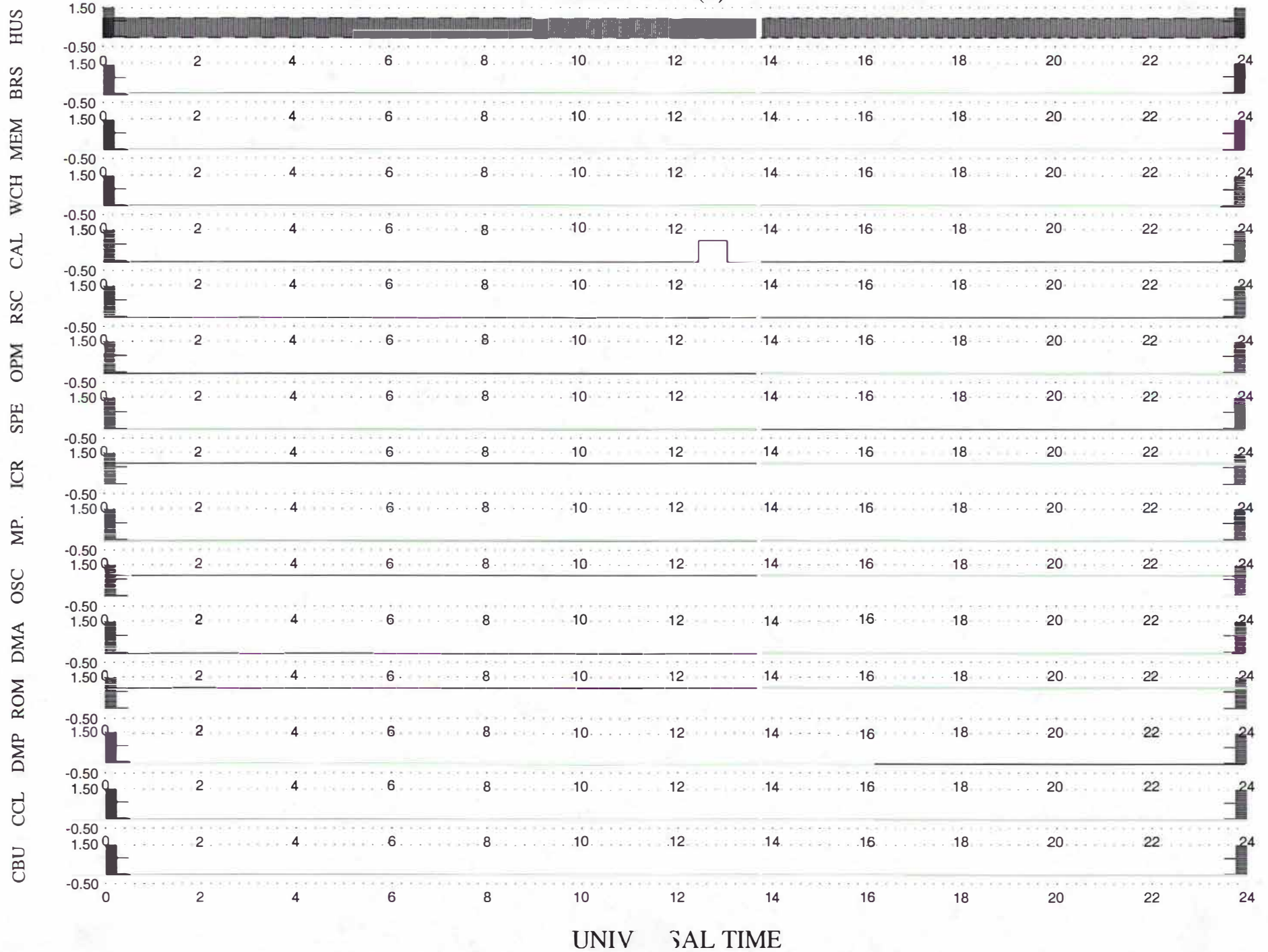
Background not subtracted

2 (0.5 - 4.0 Angstroms)

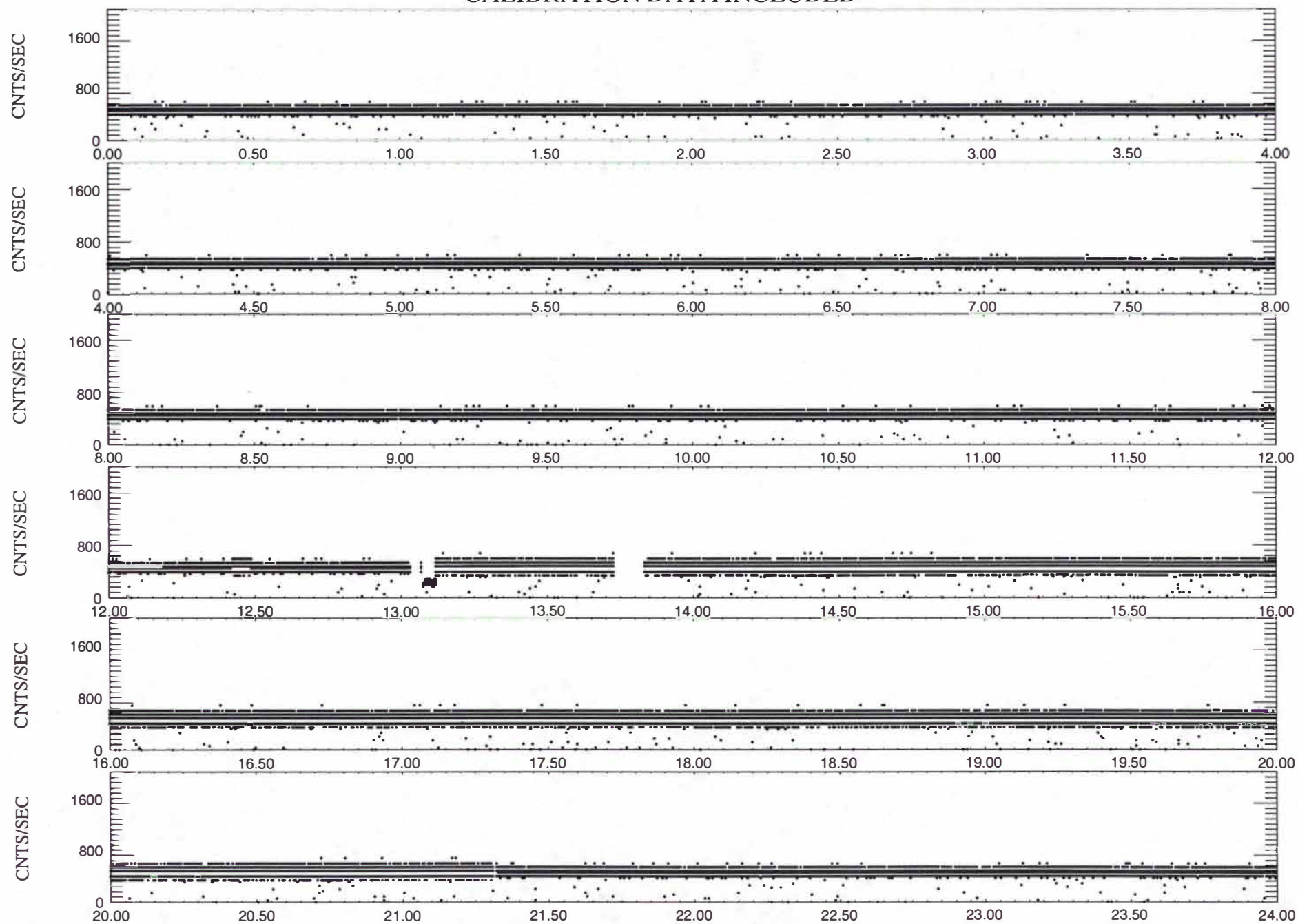
Background not subtracted

Sample average = 10

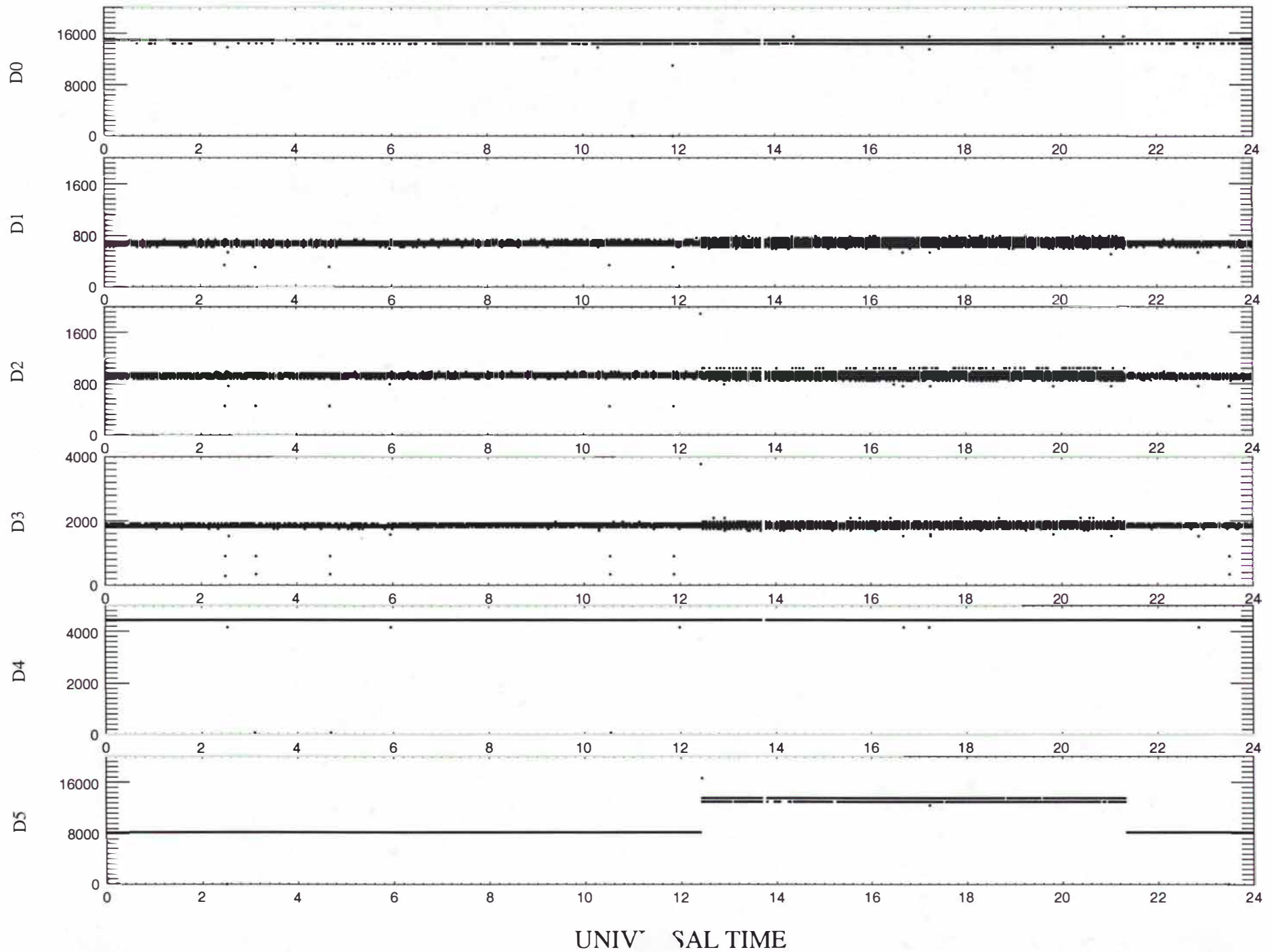
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



JANA TAB2 19990112 05715

ULYSSES RT

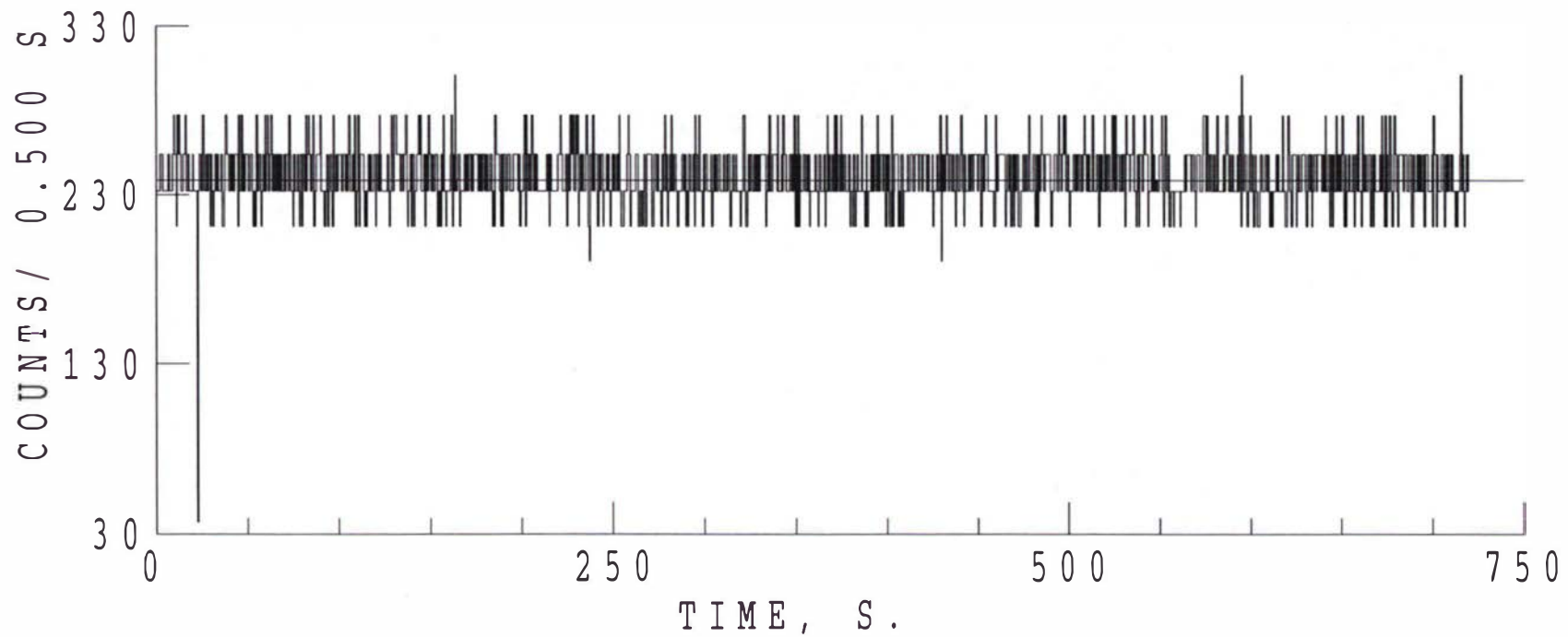
05/08/05

12/01/99 5364.220 s

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 Fri Jan 15 11:58:08 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 15 Jan 1999 13:57:45 -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.: 7320

TIME: TJD=1190 SECONDS=7389

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 Fri Jan 15 12:00:00 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 15 Jan 1999 13:59:38 -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.: 7321

TIME: TJD=1190 SECONDS=19049

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 Fri Jan 15 12:07:14 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA10475; Fri, 15 Jan 1999 12:07:13 -0800
From: SAHI@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA16702; Fri, 15 Jan 1999 12:07:09 -0800
Date: Fri, 15 Jan 1999 14:07:11 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990115140711.2026bf4a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7322
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7322
EVENT OF 1999 JAN 12 DAY OF YEAR= 12
EVENT CROSSING TIME AT BATSE : 51441. S. OR 14:17:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 277.000 -18.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 12/ 1/ 99 IS:
RA= 164.599 DEC= -8.724 DIST= 4.595 AU
BATSE-ULYSSES DISTANCE = 687393636. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 71.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 713.95 SECS.
CROSSING TIME AT ULYSSES IS 52155. S. OR 14:29:14 +/- 439.14 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 12/ 1/ 99 IS:
RA= 202.635 DEC= -7.356 DIST= 1.381 AU
MARS-BATSE DISTANCE = 206641968. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.08 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -202.49 SECS.
CROSSING TIME AT MARS IS 51239. S. OR 14:13:58 +/- 111.31 SECONDS

BATSE BURST TRIGGER

NO.: 7322

TIME: TJD=1190 SECONDS=51441

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=91.3 AZIMUTH=357.9 ERROR=1.6 DEGREES

COMMENTS:

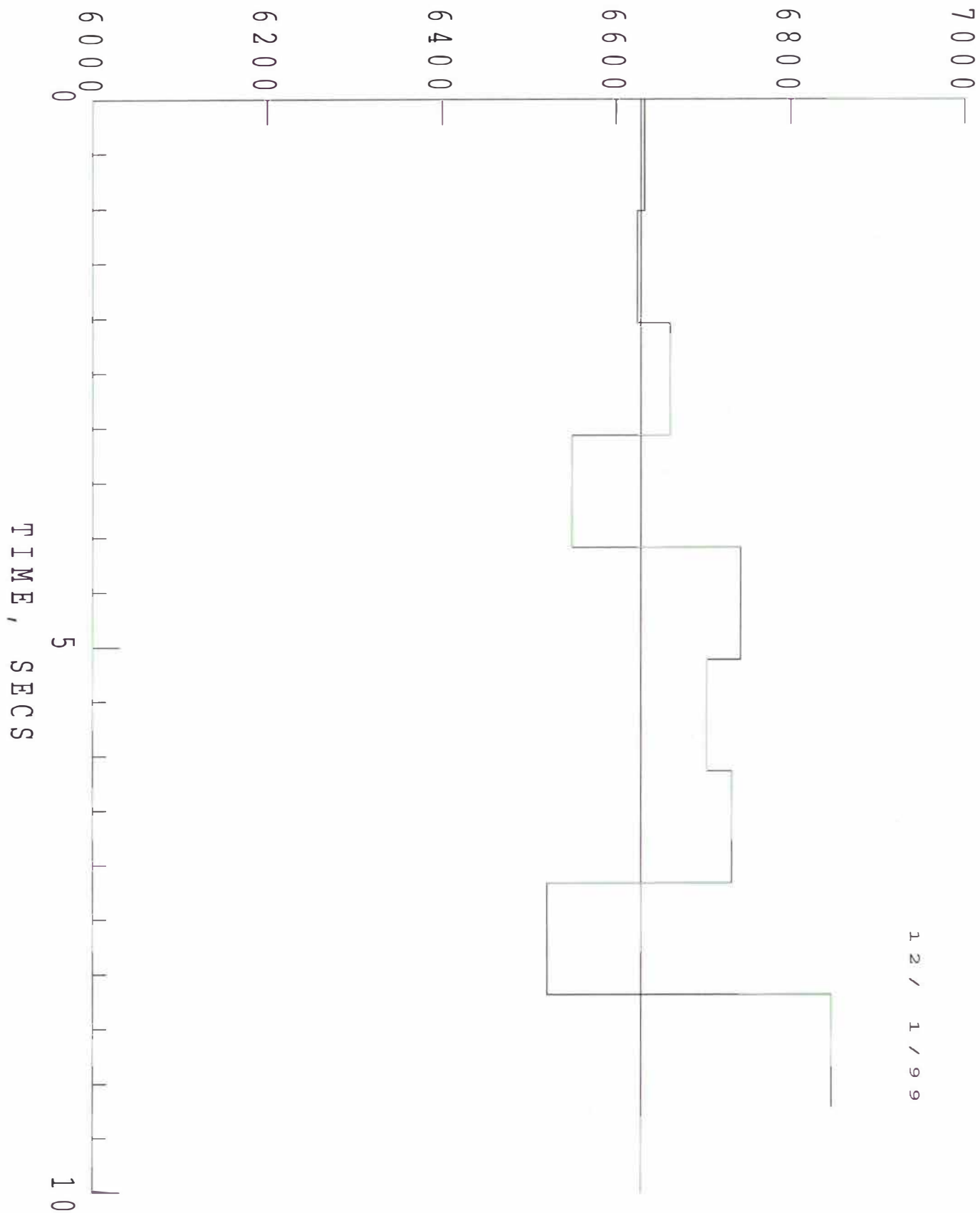
GRB. DOUBLE PULSE, DUR. 80 S, MAX. AT APPROX. T+10 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7322	990112	11190	51441	4500	277	-18	80

BACODINE 7322 12/01/99 51429.113

25 - 100 keV

COUNTS/1.024 S



12 / 1 / 99

BATSE BURST# 7322

ULYSSES RT

15 / 1 / 99

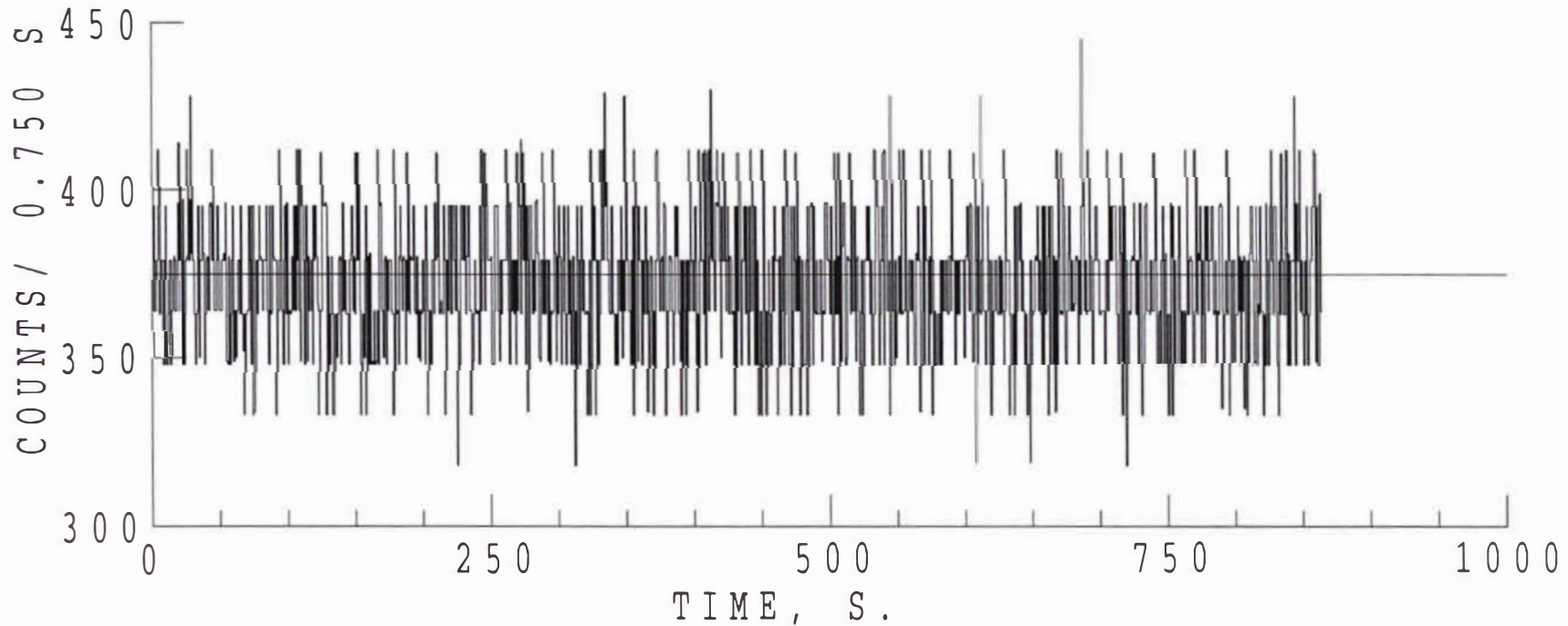
12 / 1 / 99 51732.195 s

0.250 S INTERVALS REGROUPED BY 3

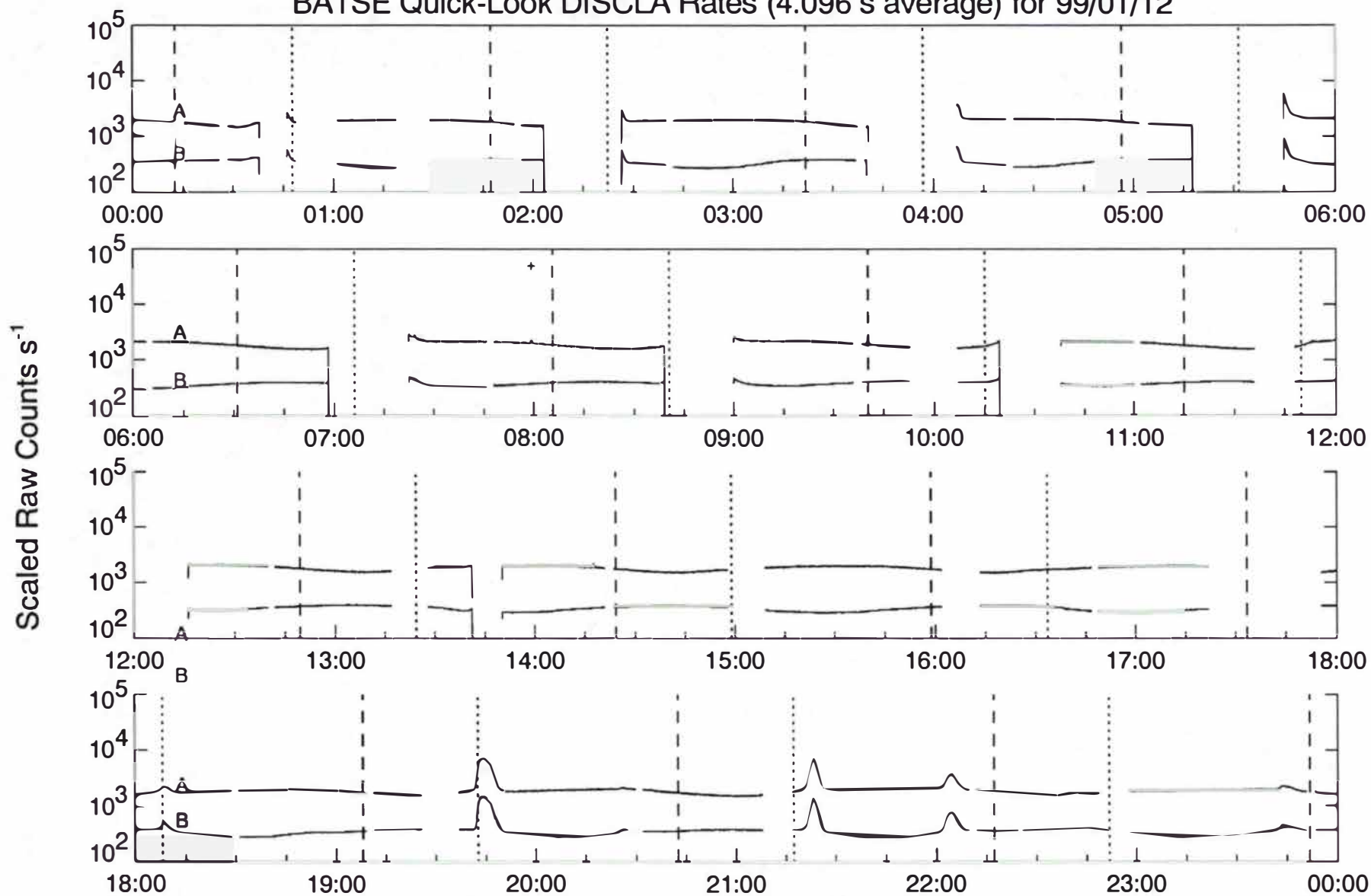
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



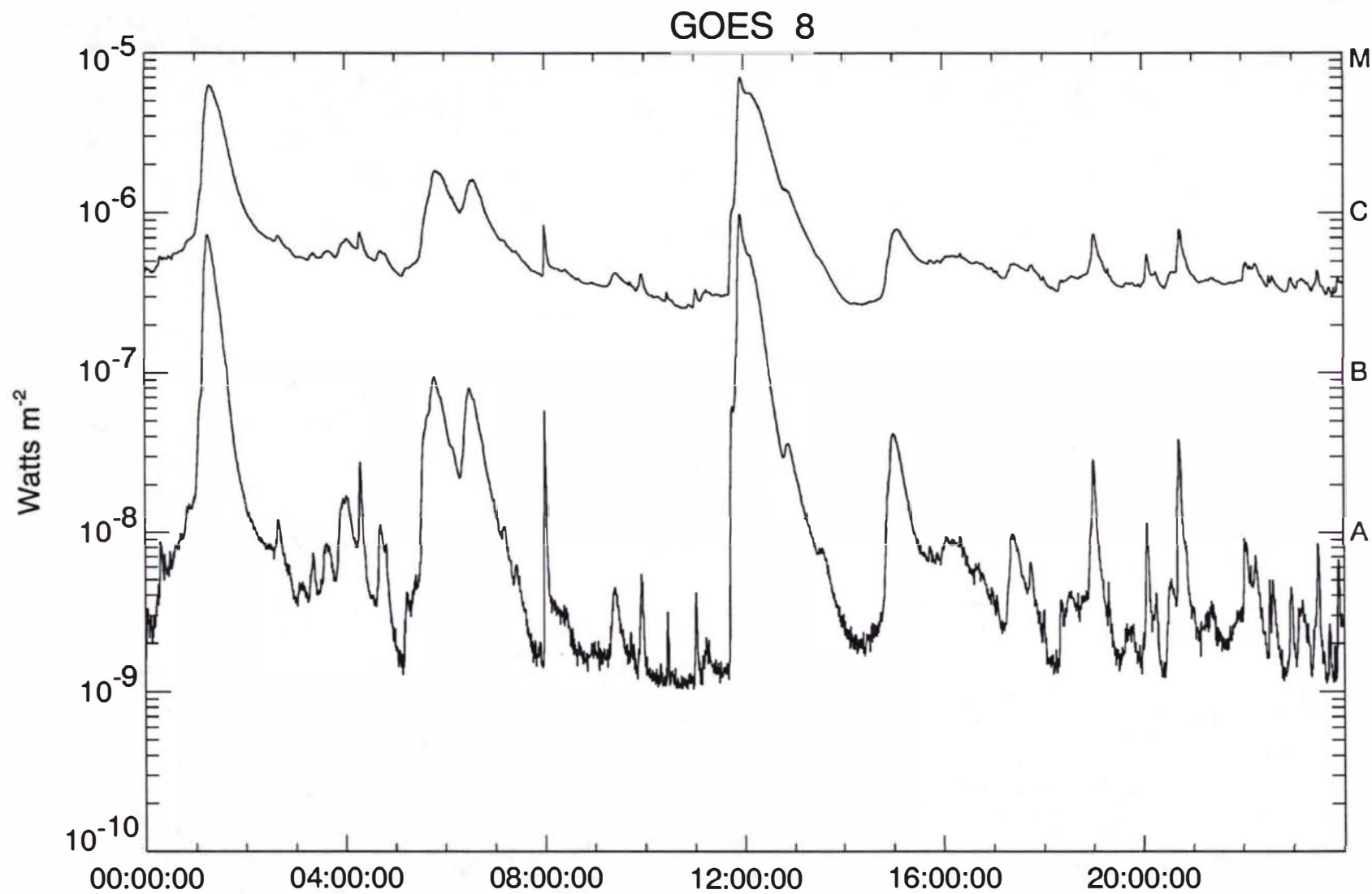
BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/12



Current Time: 99/01/16, 1010 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: 99/01/12, 0000:00

Plot created: 99/01/16, 1009

Channel 1 (1.0 - 8.0 Angstroms)

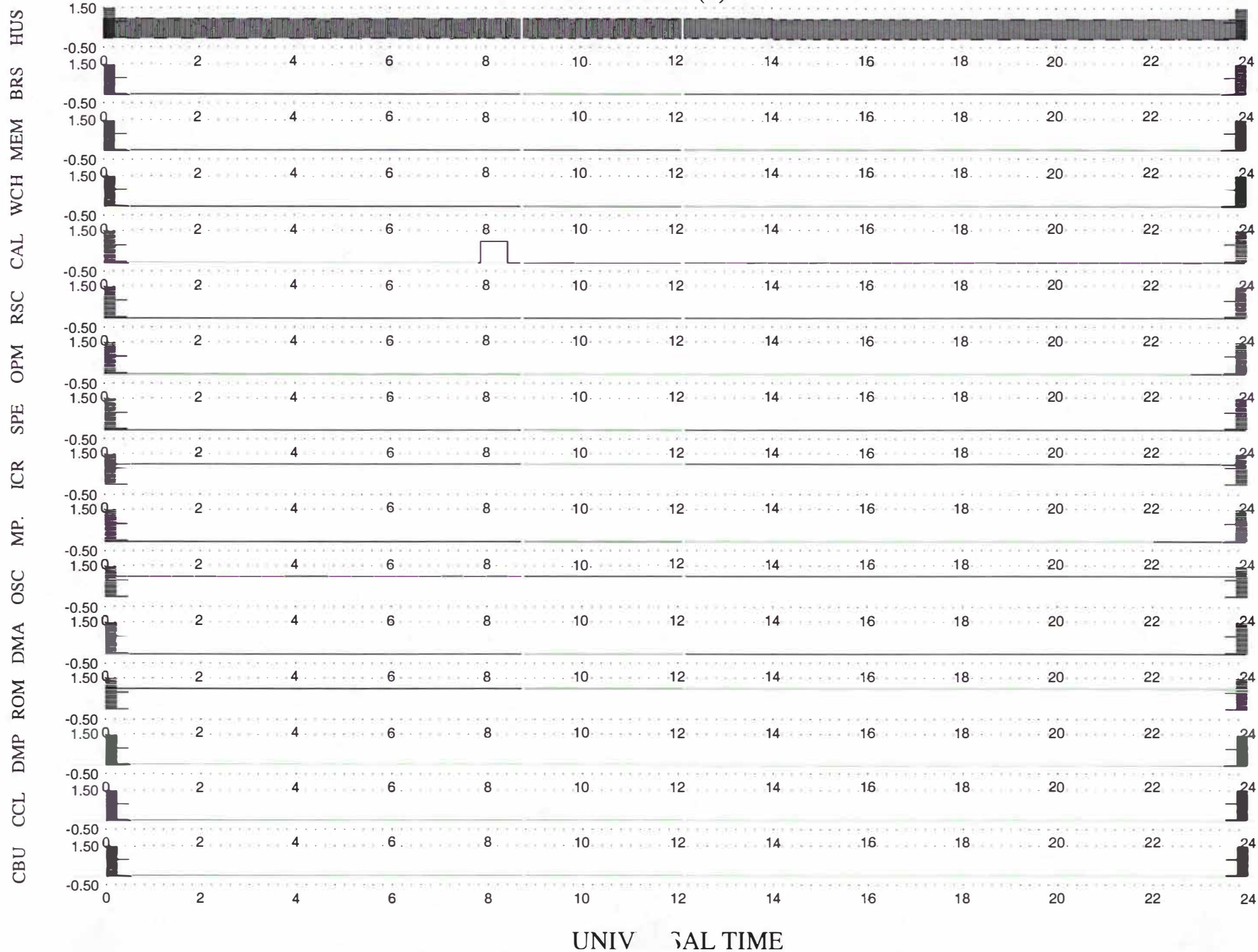
Background not subtracted

2 (0.5 - 4.0 Angstroms)

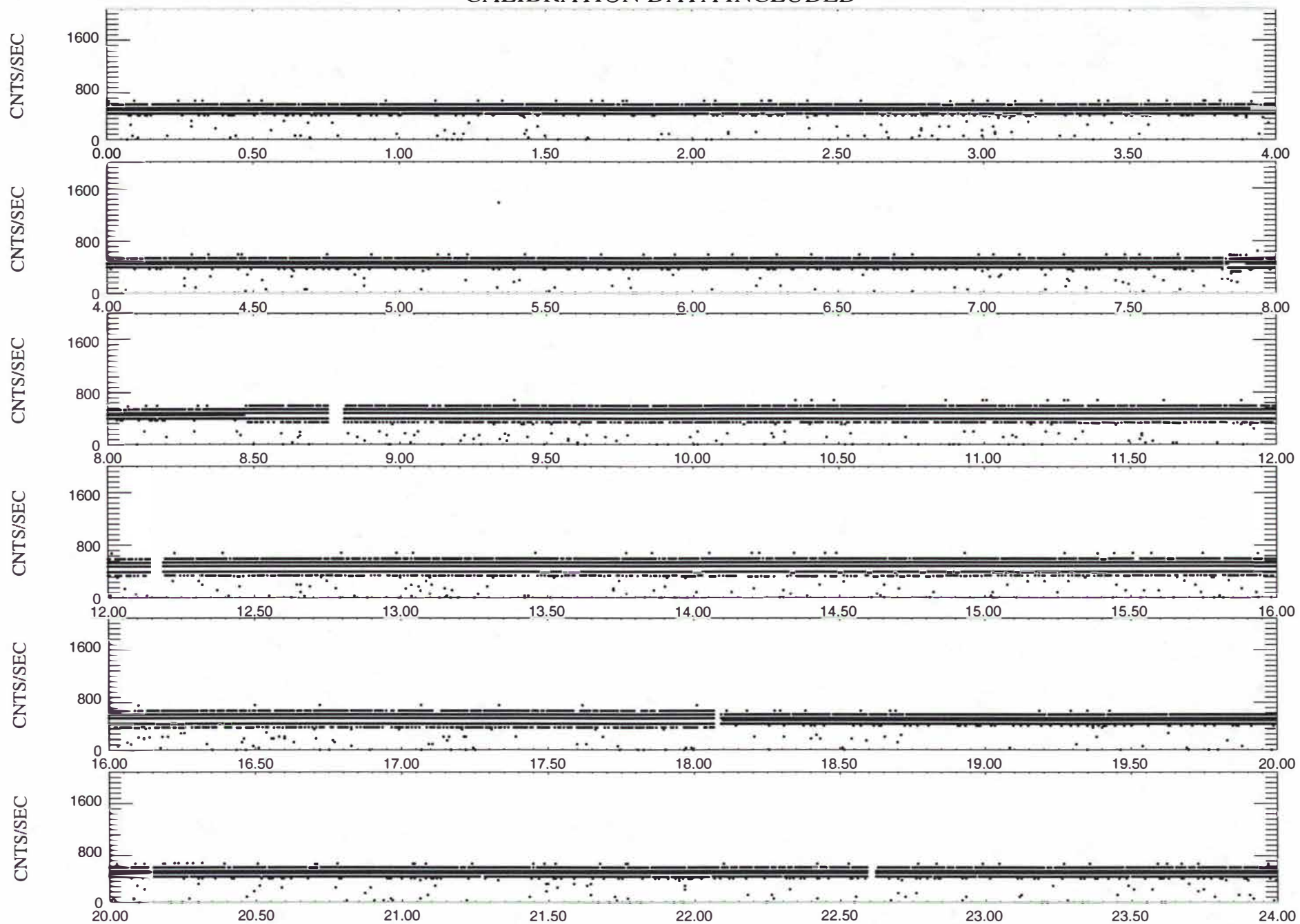
Background not subtracted

Sample average = 10

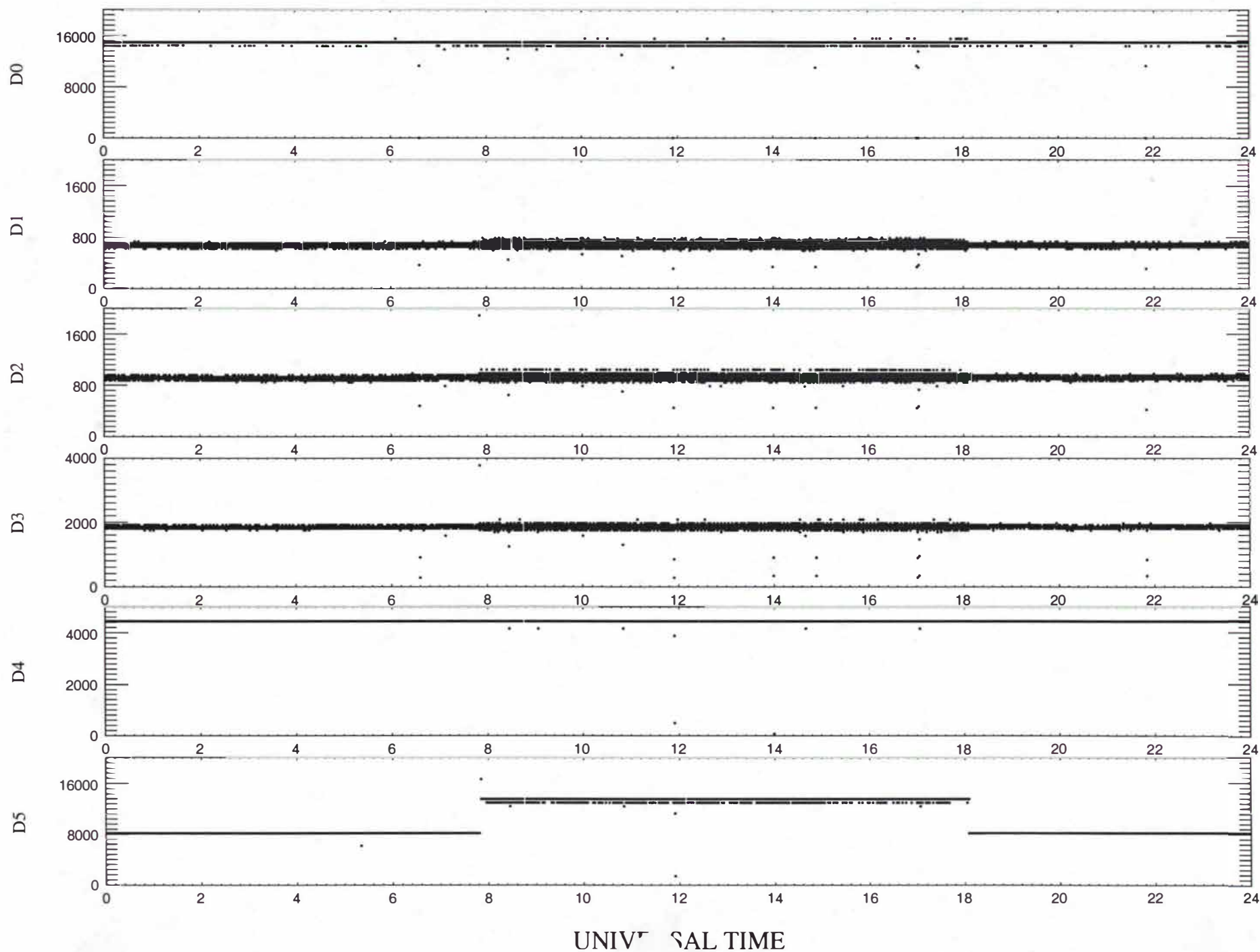
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SURASAK@fender.msfc.nasa.gov Fri Jan 15 13:15:27 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA12494; Fri, 15 Jan 1999 13:15:26 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA20602; Fri, 15 Jan 1999 13:15:23 -0800
Date: Fri, 15 Jan 1999 15:15:25 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990115151525.20237b14@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7323
Content-Length: 1122
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7323
EVENT OF 1999 JAN 13 DAY OF YEAR= 13
EVENT CROSSING TIME AT BATSE : 103. S. OR 00:01:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 67.000 32.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
POSITION OF ULYSSES ON 13/ 1/ 99 IS:
RA= 164.544 DEC= -8.746 DIST= 4.589 AU
BATSE-ULYSSES DISTANCE = 686448576. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 436.47 SECS.
CROSSING TIME AT ULYSSES IS 539. S. OR 00:08:59 +/- 446.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 1/ 99 IS:
RA= 203.070 DEC= -7.520 DIST= 1.371 AU
MARS-BATSE DISTANCE = 205121216. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 47.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 461.74 SECS.
CROSSING TIME AT MARS IS 565. S. OR 00:09:24 +/- 94.67 SECONDS

BATSE BURST TRIGGER

NO.: 7323

TIME: TJD=1191 SECONDS=103

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=115.3 AZIMUTH=162.4 ERROR=3.43 DEGREES

COMMENTS:

GRB. DOUBLE PULSE. START AT ABOUT T-70 S. WITH SMALL PULSEE. AT TRIGGER TIME SHOWS A BIGGER PULSE. TOTAL DURATION ABOUT 100 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7323	990113	11191	00103	2500	067	+32	100

BATSE BURST# 7323

ULYSSES RT

15 / 1 / 99

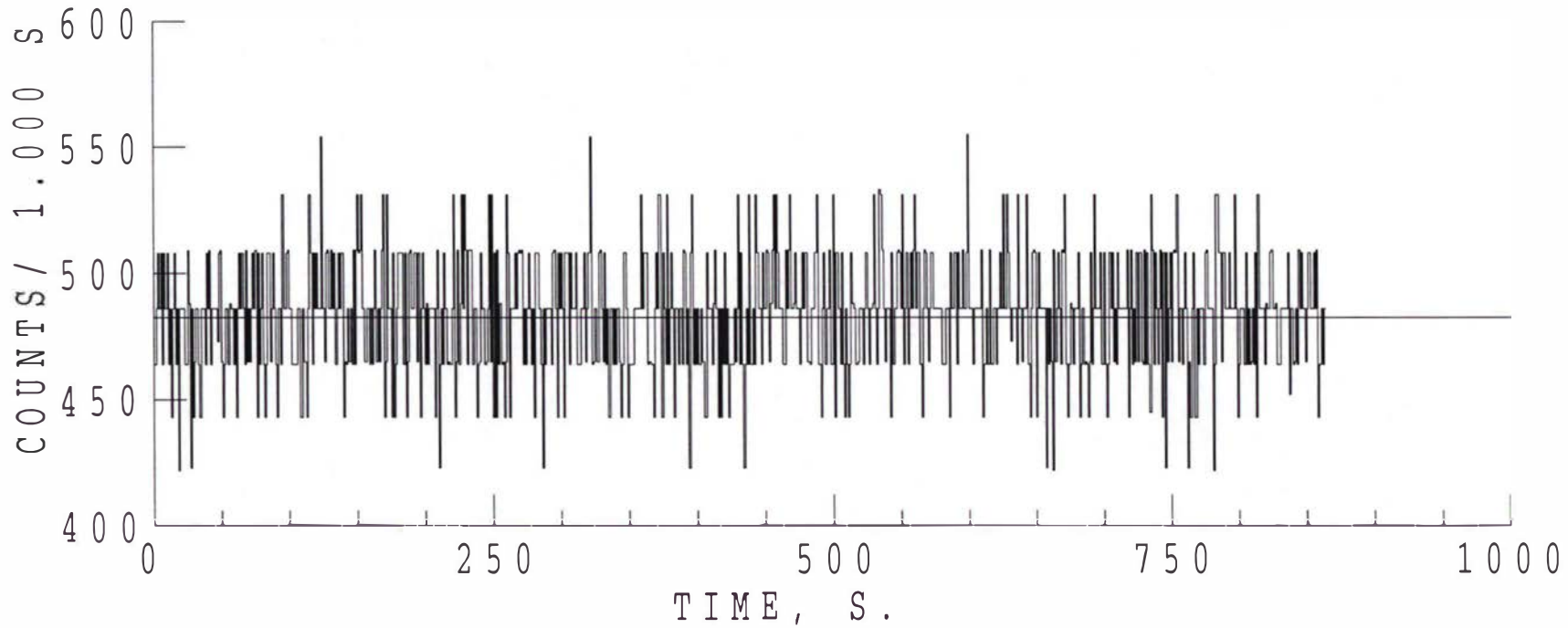
13 / 1 / 99 108.052 s

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



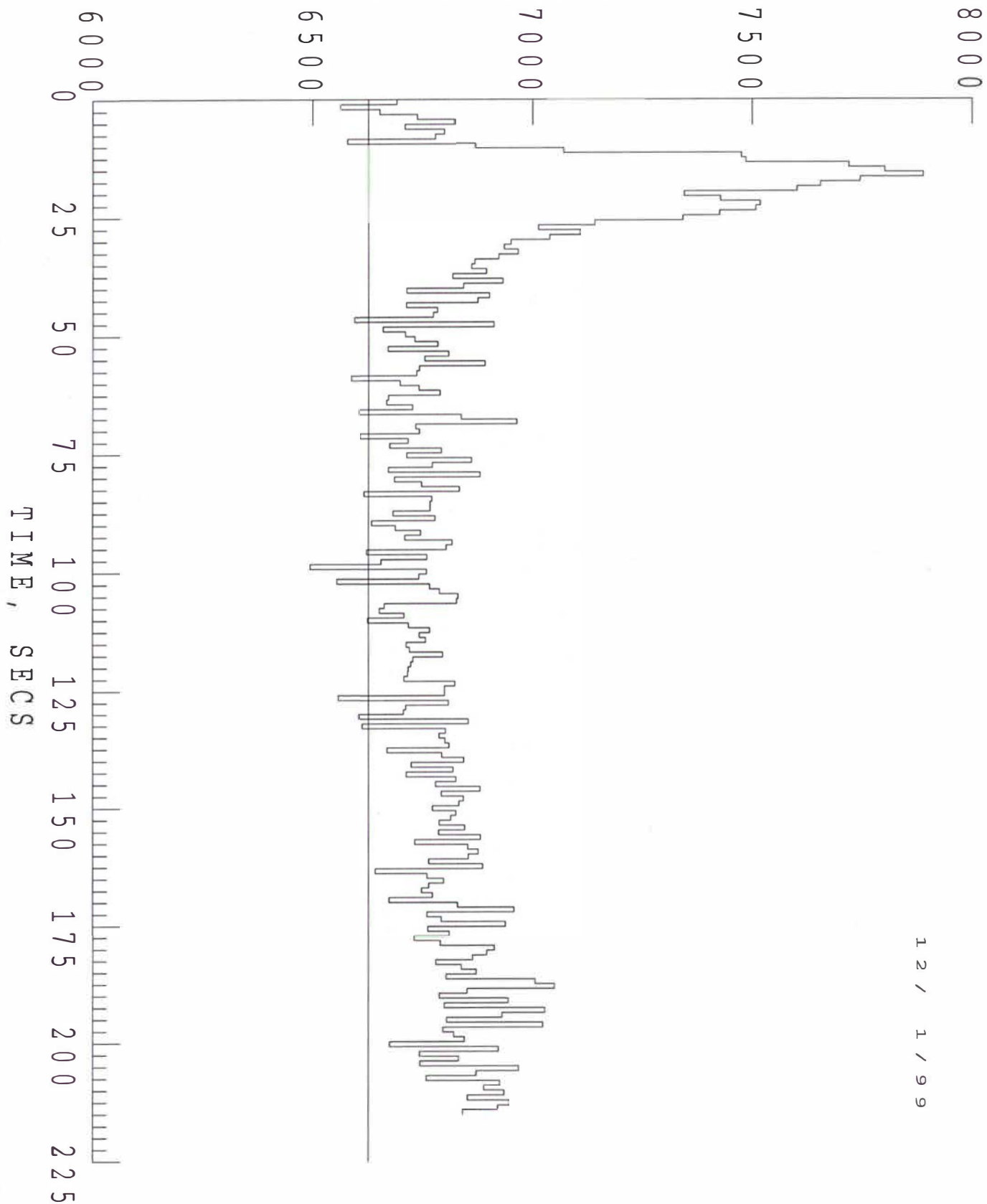
BACODINE 7323

13/01/99

90.873

25 - 100 keV

COUNTS/1.024 S



From SURASAK@fender.msfc.nasa.gov Fri Jan 15 13:00:32 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Fri, 15 Jan 1999 15:00:13 -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.: 7324

TIME: TJD=1191 SECONDS=11841

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

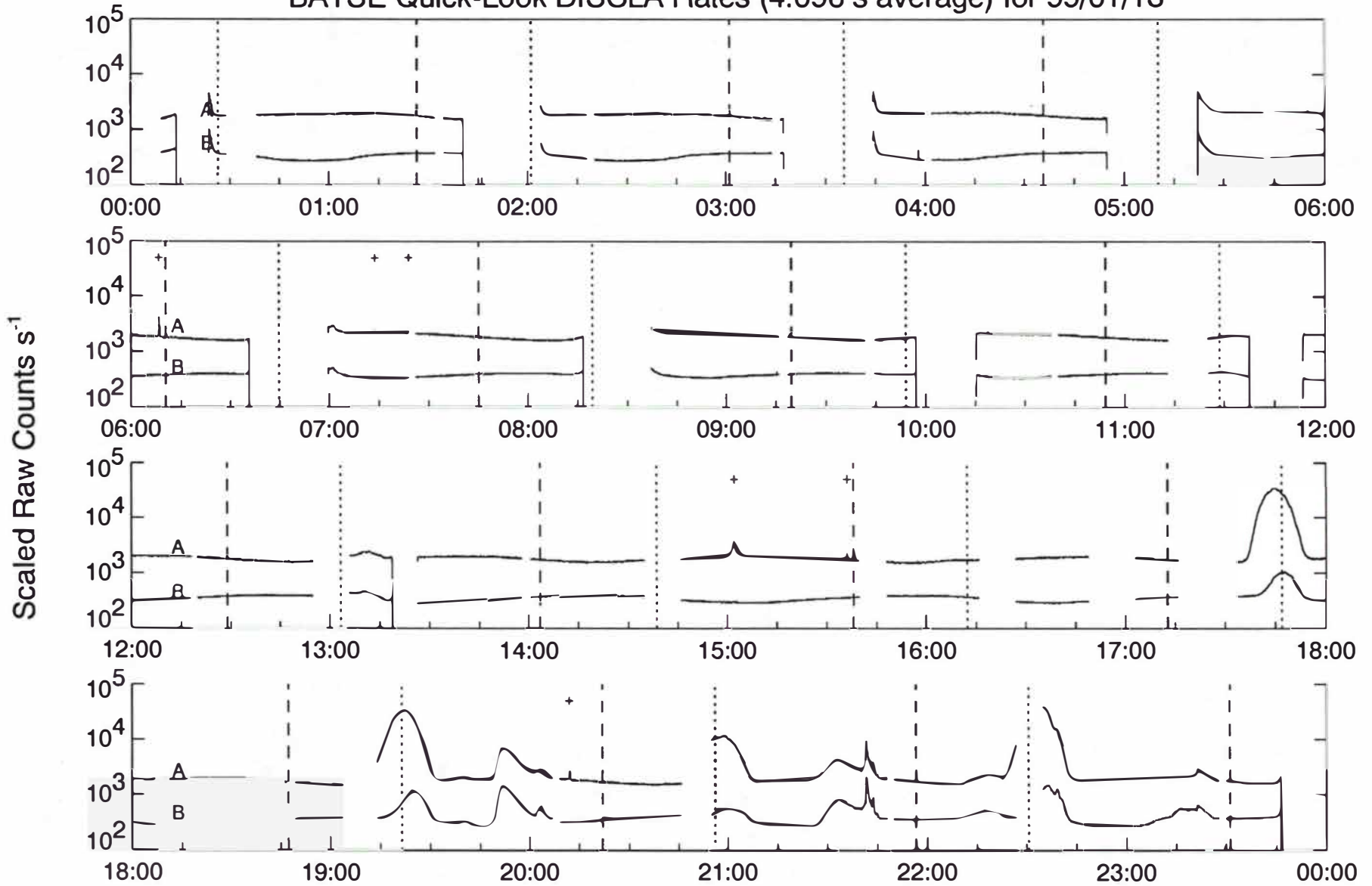
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/13

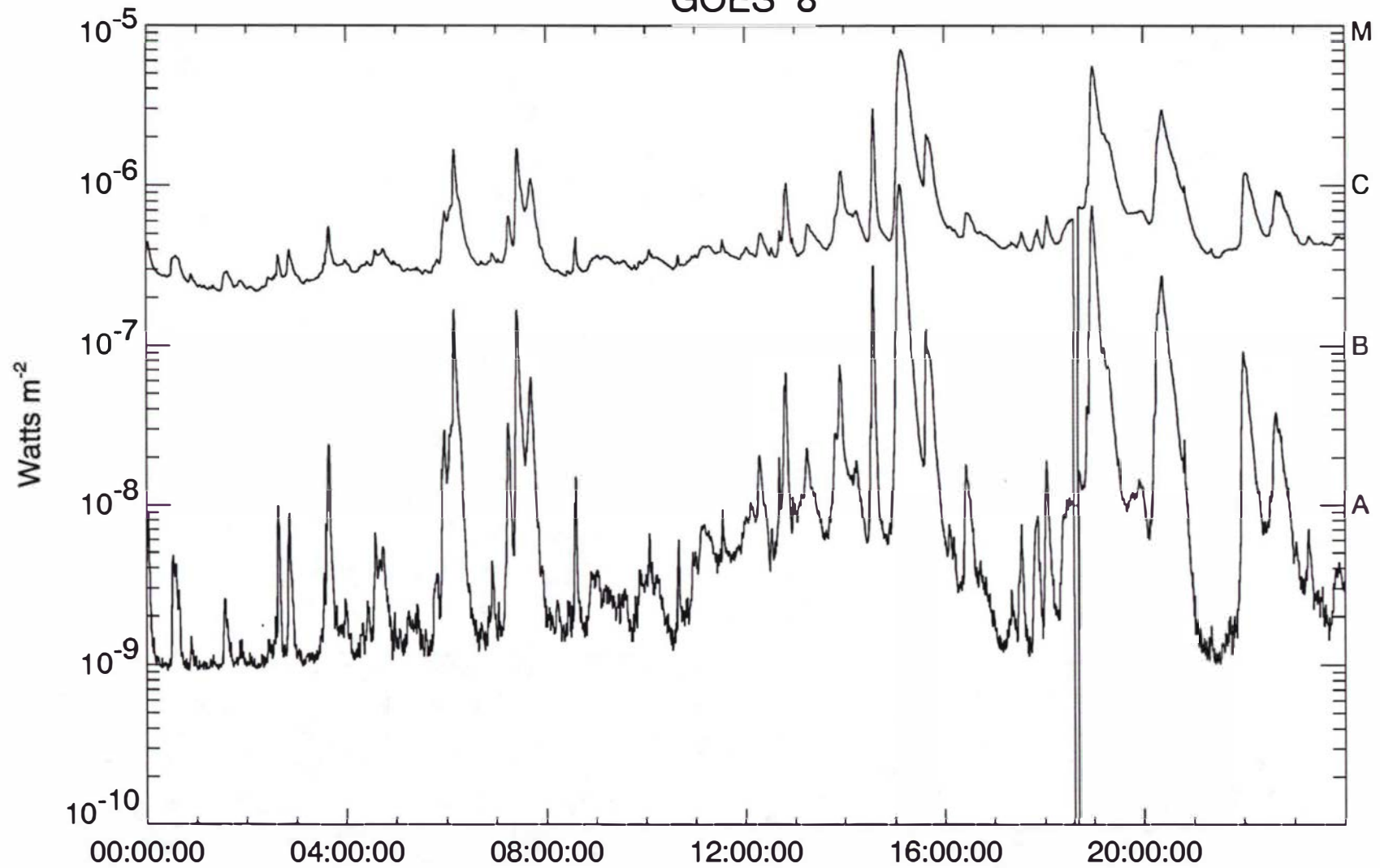


Current Time: 99/01/17, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/13, 0000:00

Plot created: 99/01/17, 1009

Channel 1 (1.0 - 8.0 Angstroms)

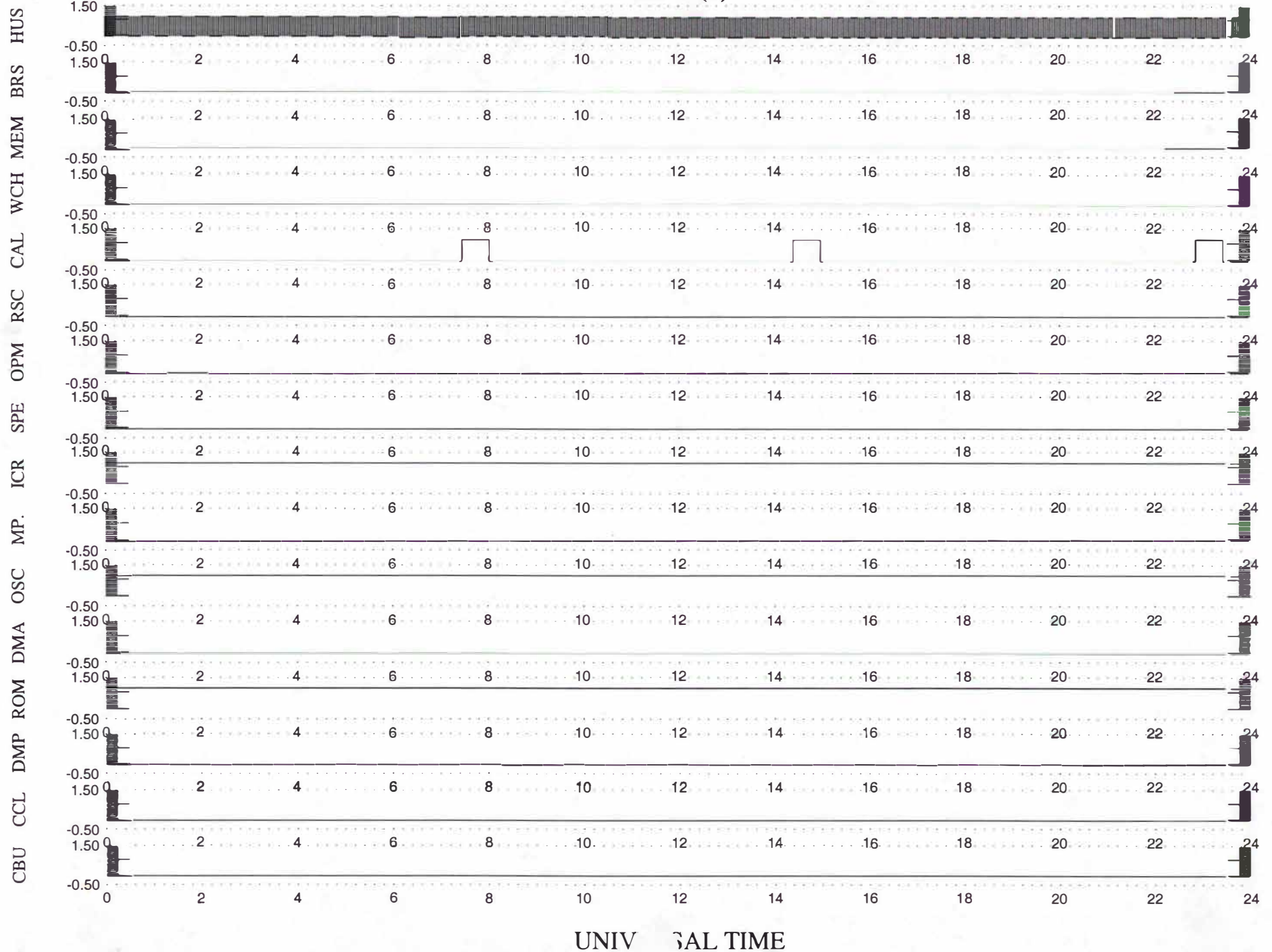
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

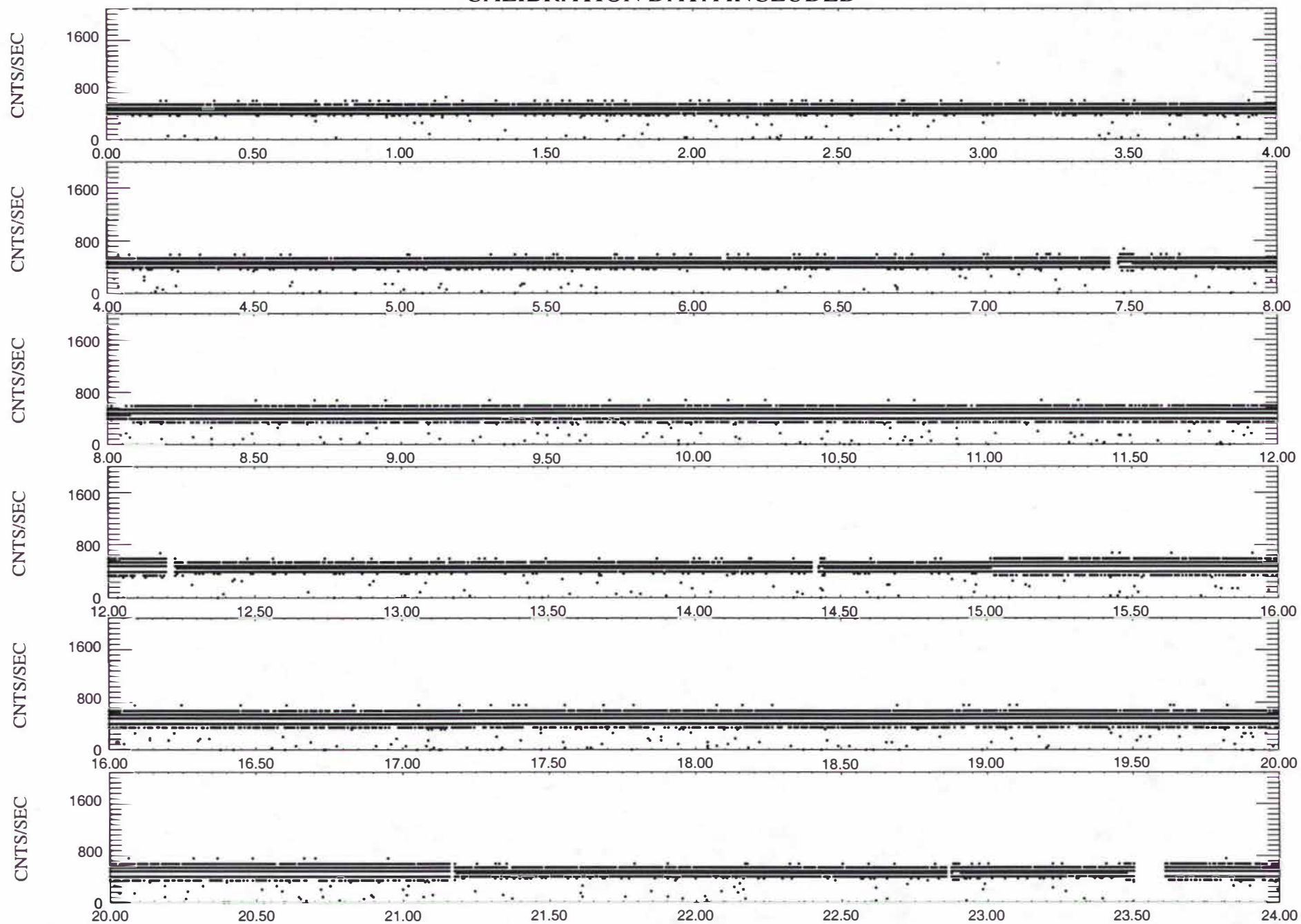
Background not subtracted

Sample average = 10

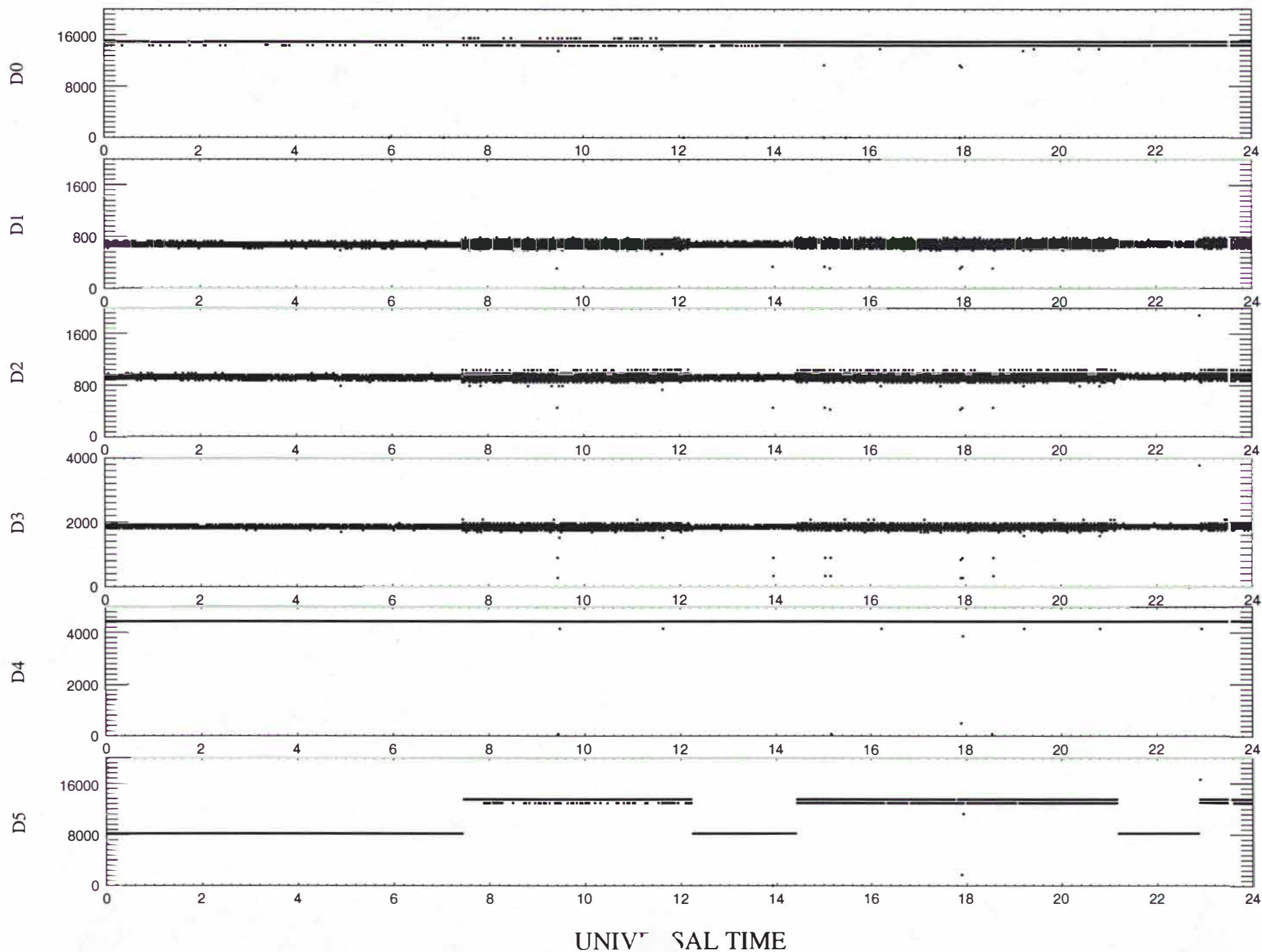
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From RICHARDSON@fender.msfc.nasa.gov Tue Jan 19 13:32:57 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 19 Jan 1999 15:31:55 -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,
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.: 7325

TIME: TJD=1192 SECONDS=53731

TYPE: TGF SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

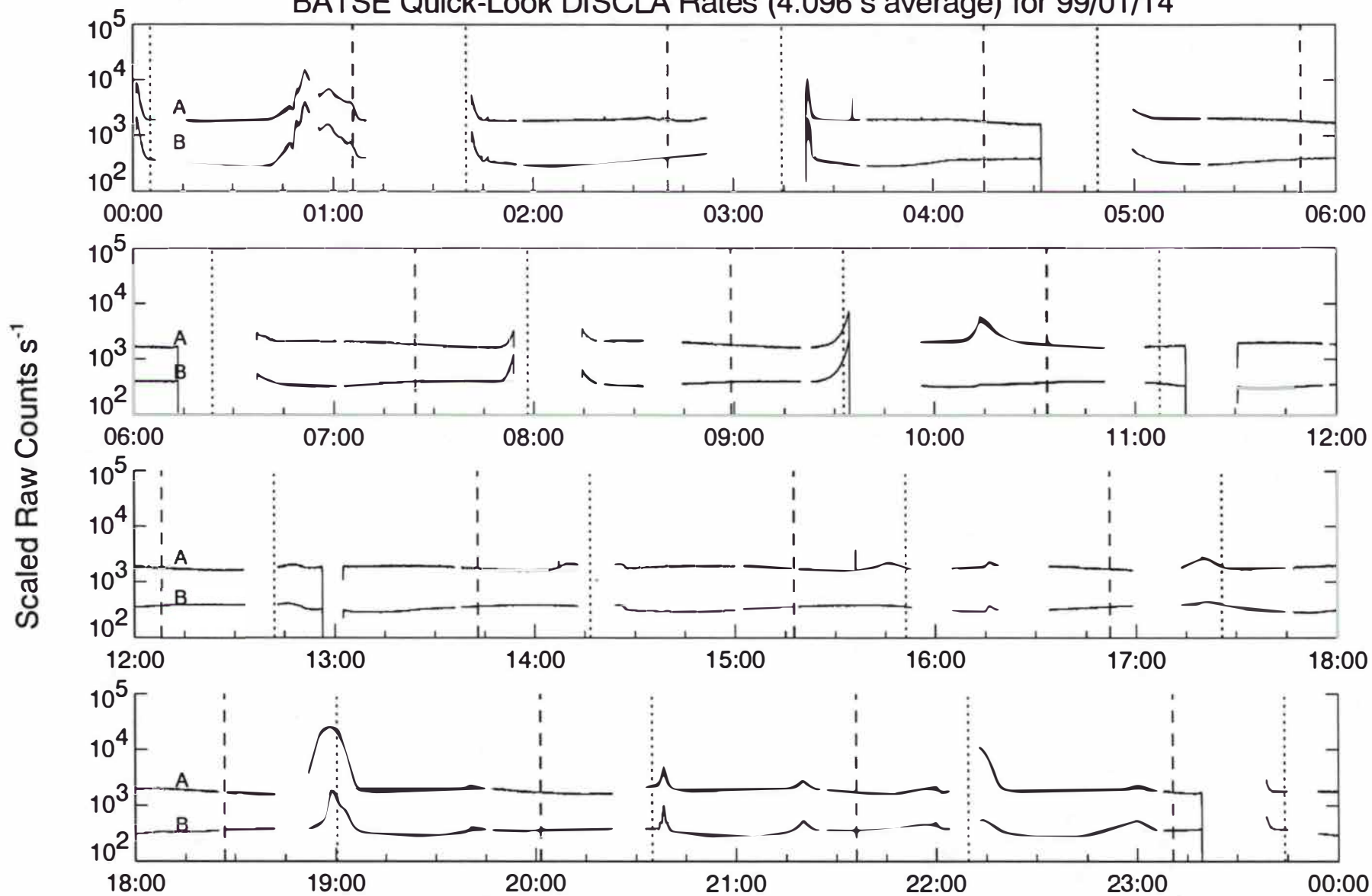
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=64.8 AZIMUTH=212.6 ERROR=12.8 DEGREES

COMMENTS:

TGF. SINGLE SPIKE. DURATION APPROX. = 0.0025 SEC. VISIBLE ABOVE 300KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/14

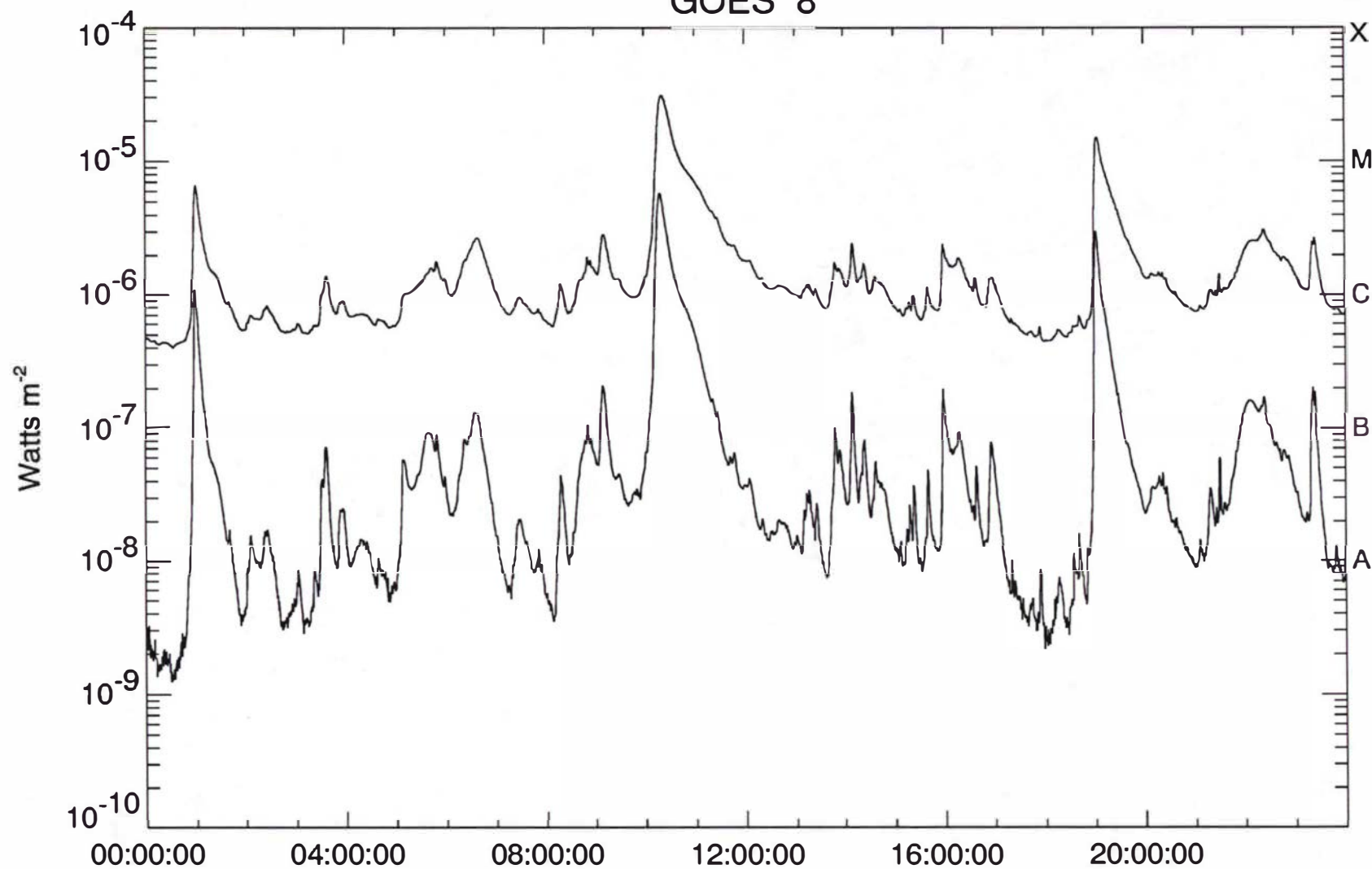


Current Time: 99/01/18, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/01/14, 0000:00

Plot created: 99/01/18, 1009

Channel 1 (1.0 - 8.0 Angstroms)

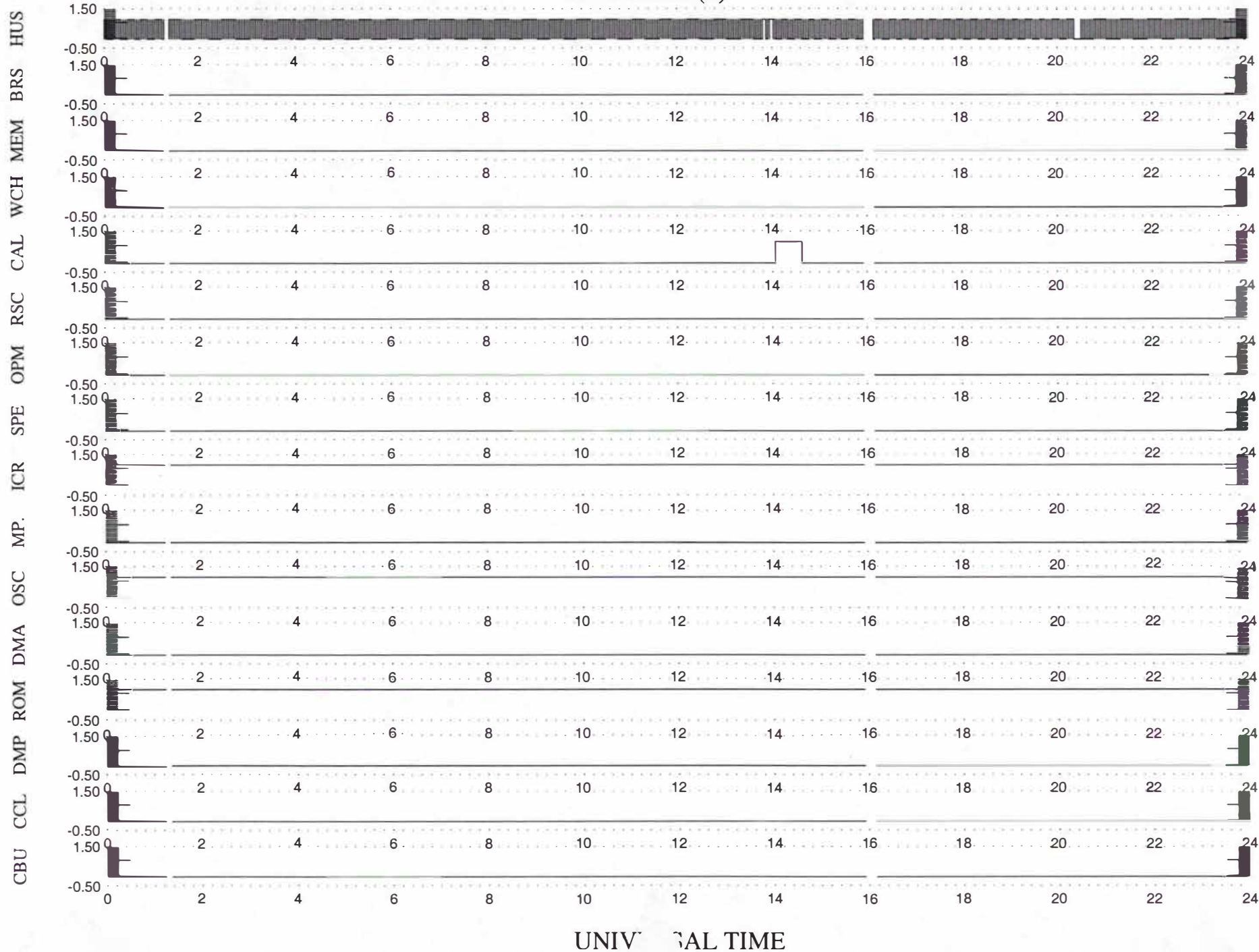
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

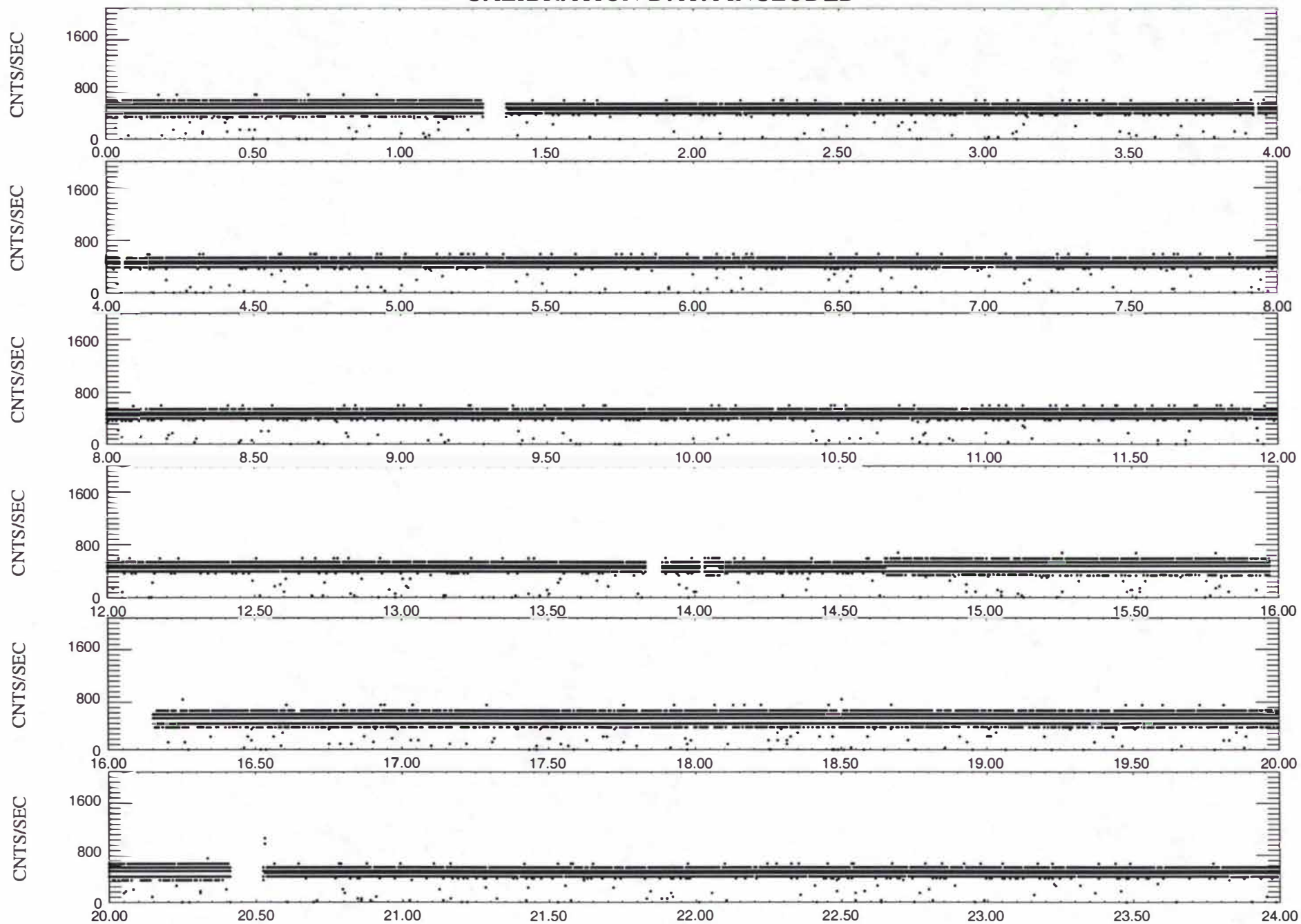
Background not subtracted

Sample average = 10

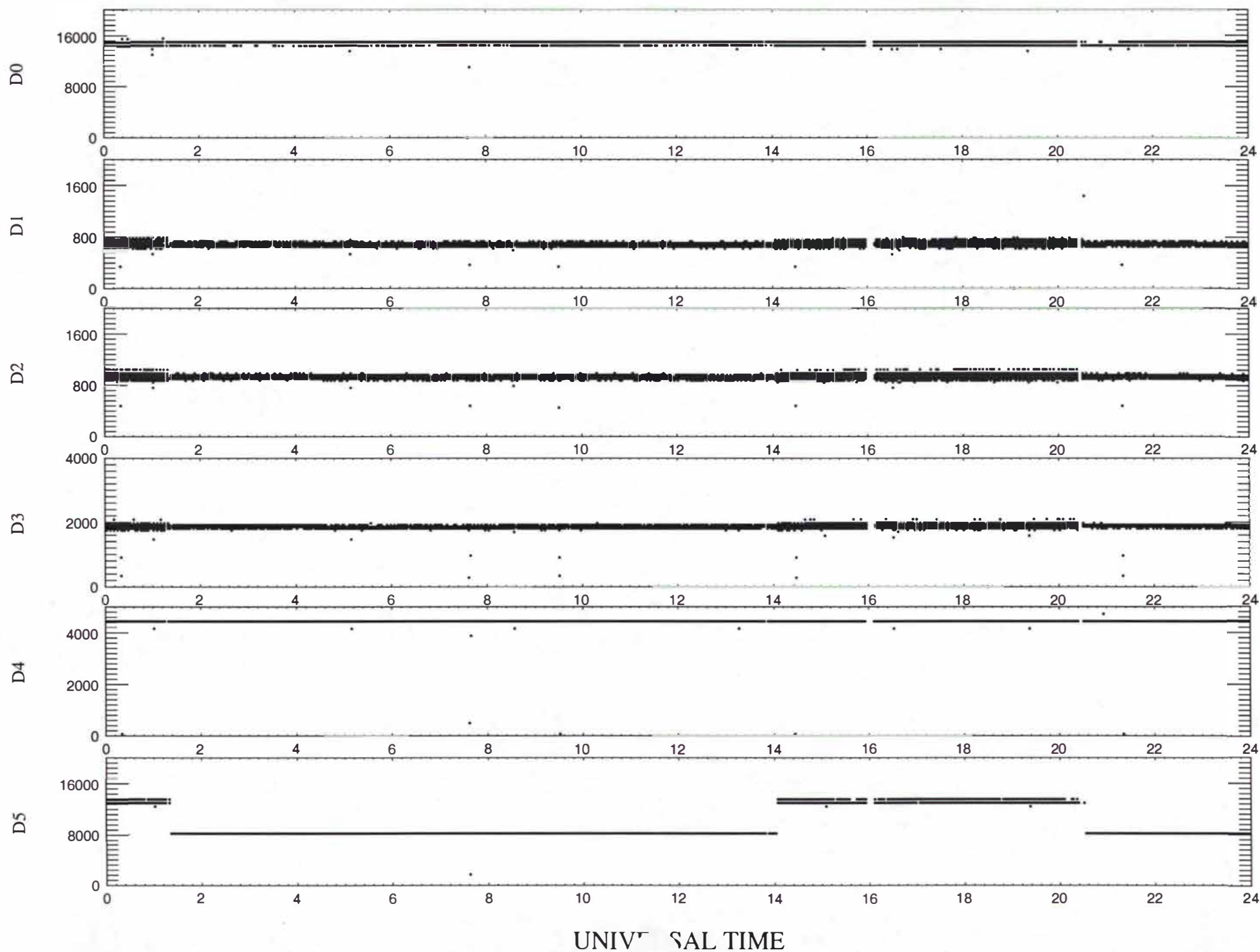
NO BURST (3)



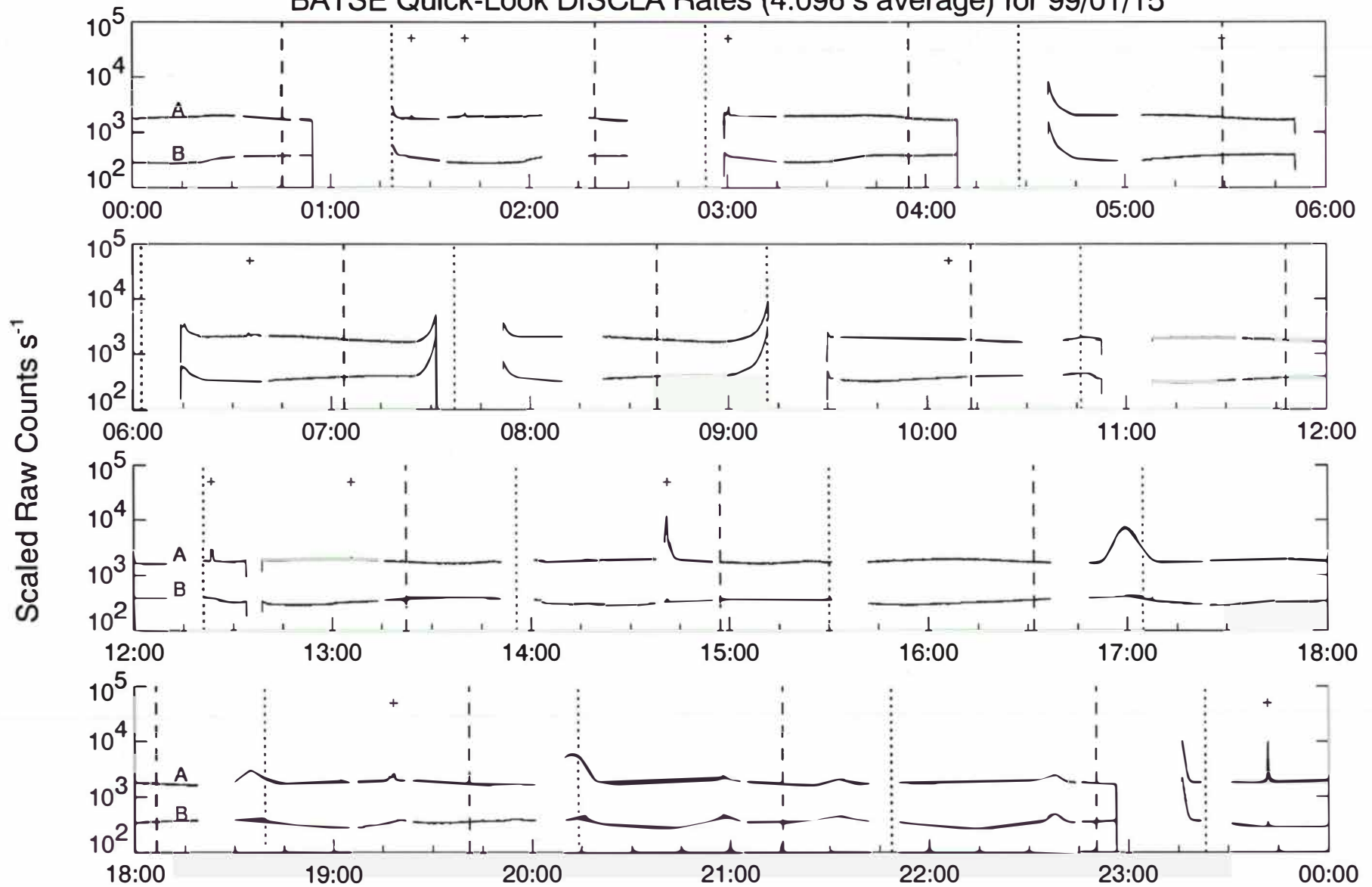
CALIBRATION DATA INCLUDED



UNIV SAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/15

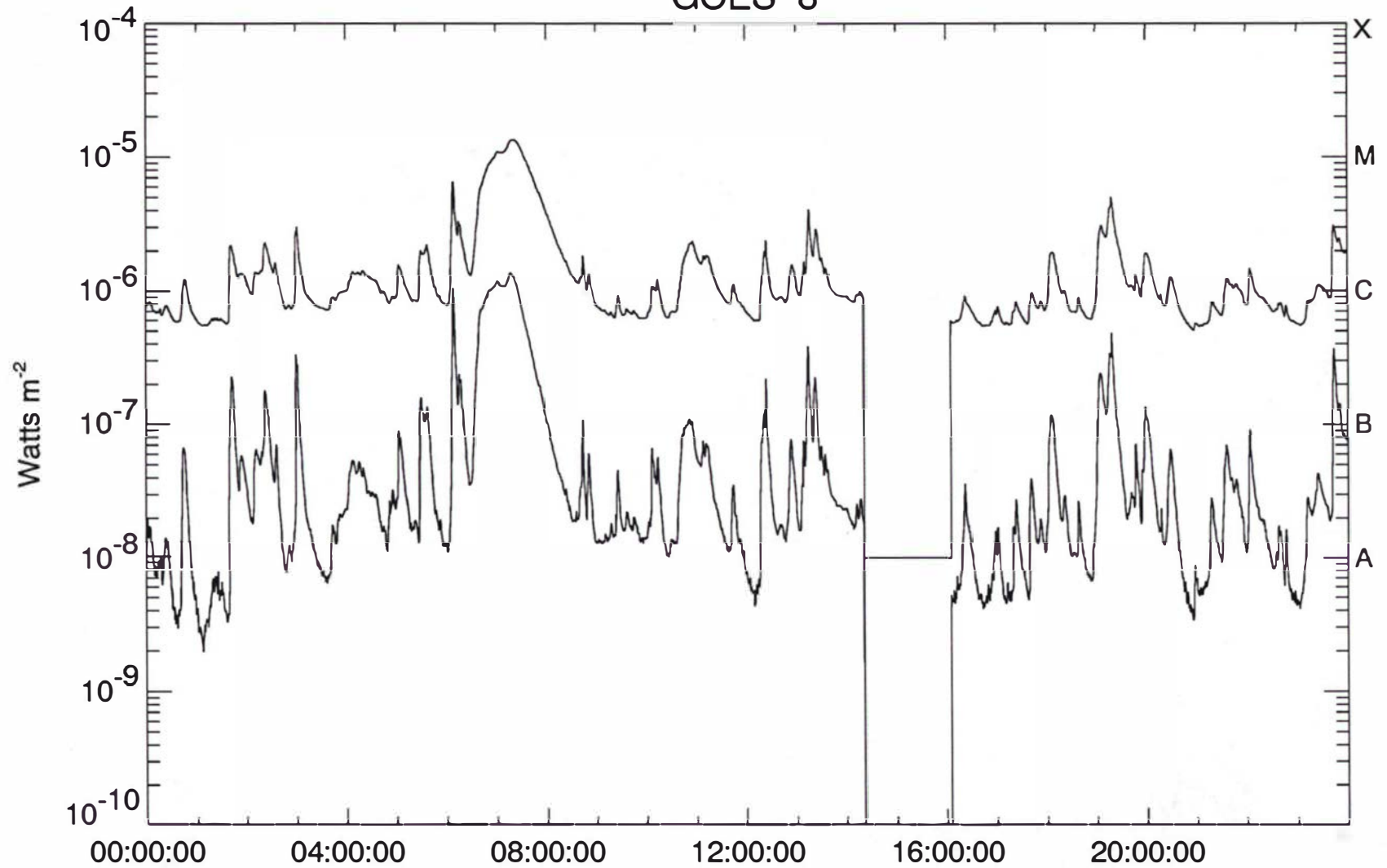


Current Time: 99/01/19, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/15, 0000:00

Plot created: 99/01/19, 1010

Channel 1 (1.0 - 8.0 Angstroms)

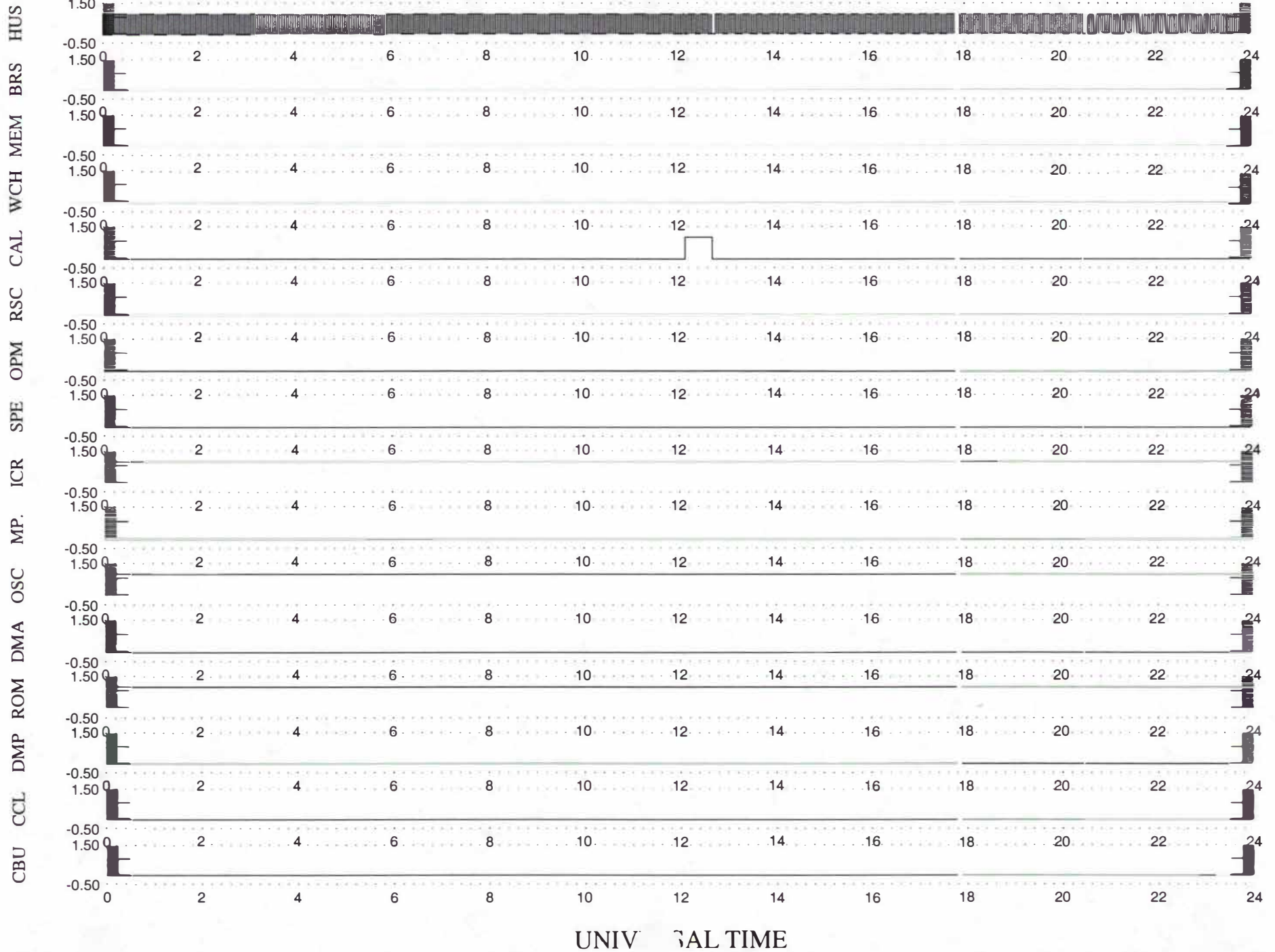
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

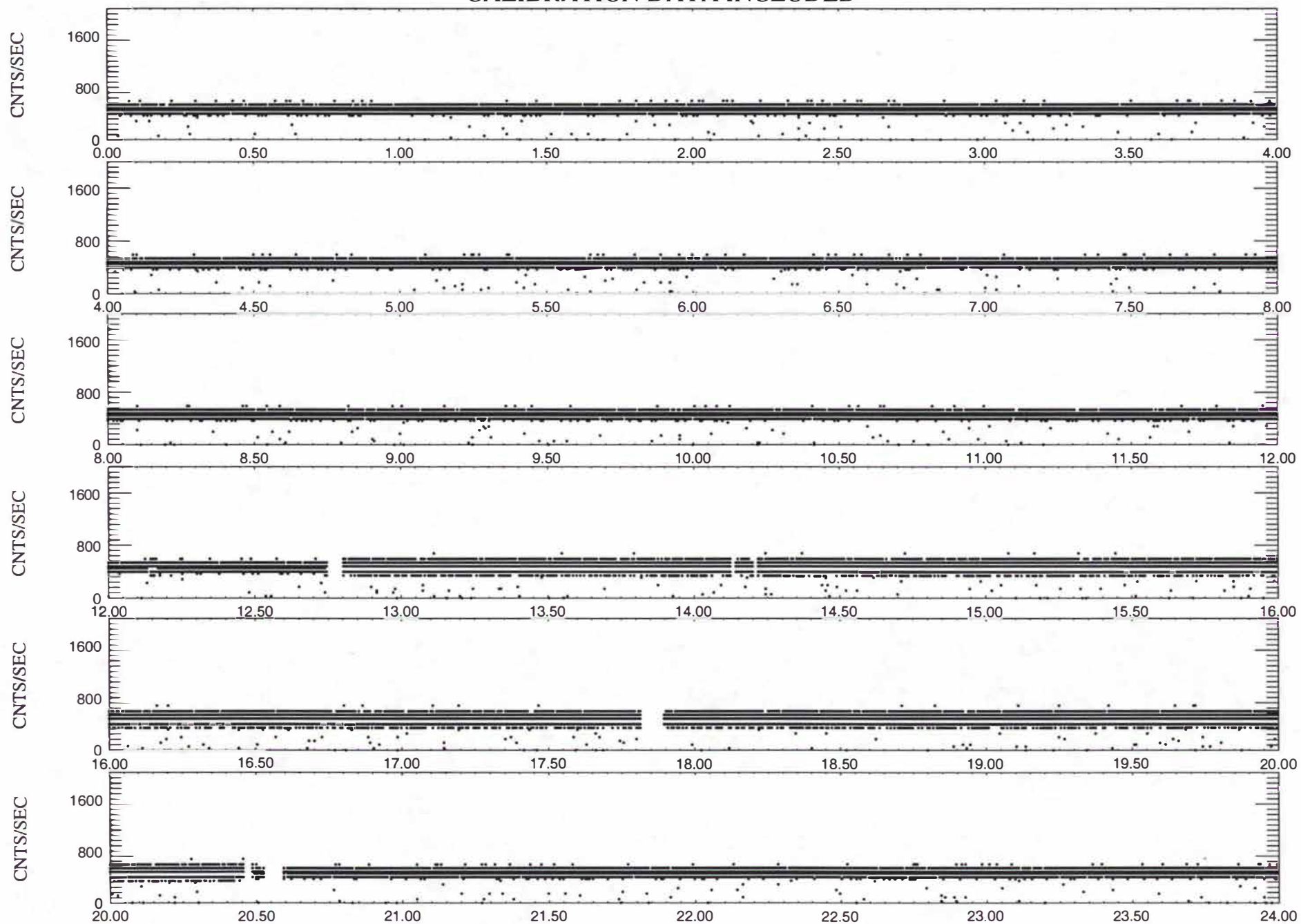
Background not subtracted

Sample average = 10

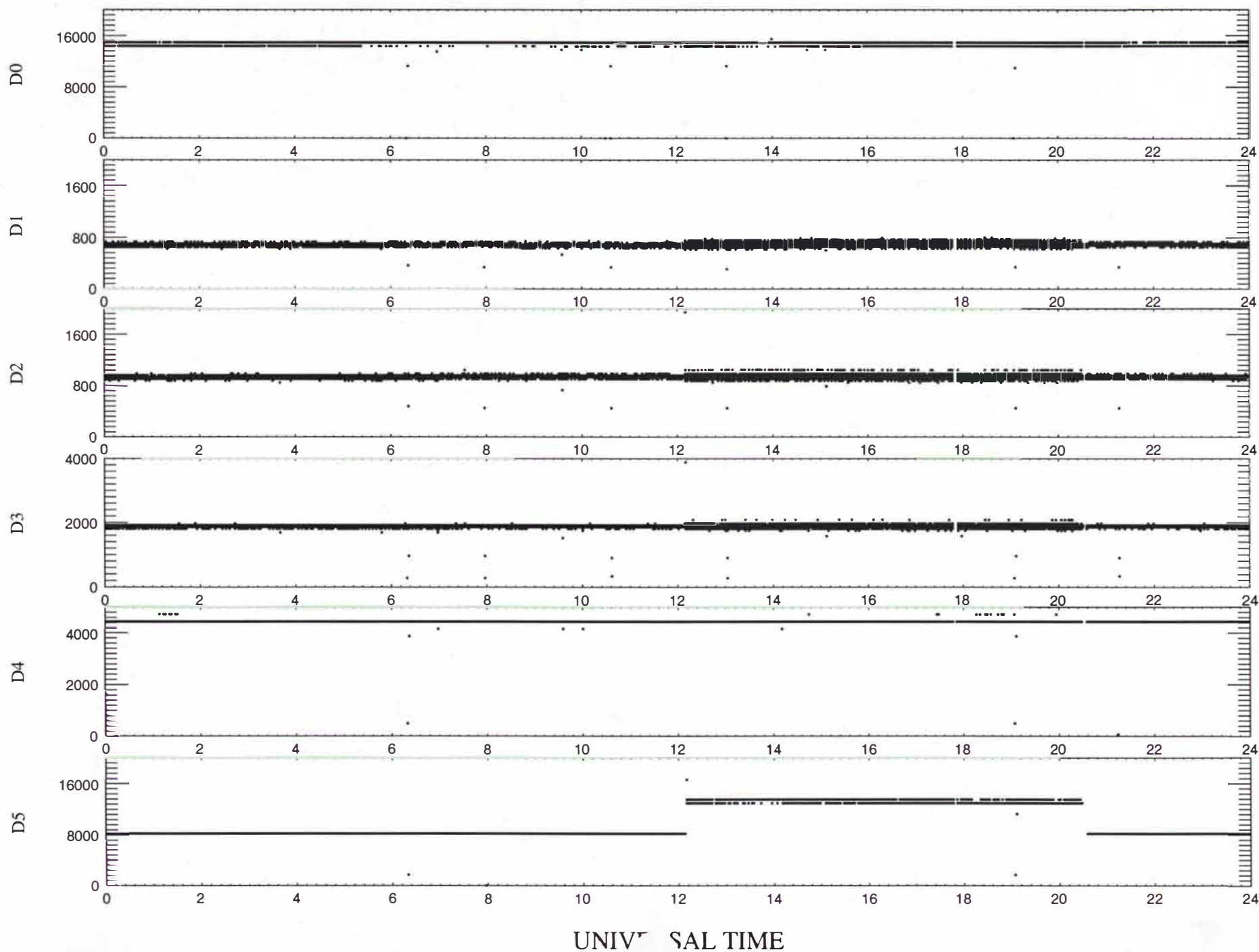
NO BURST (3)



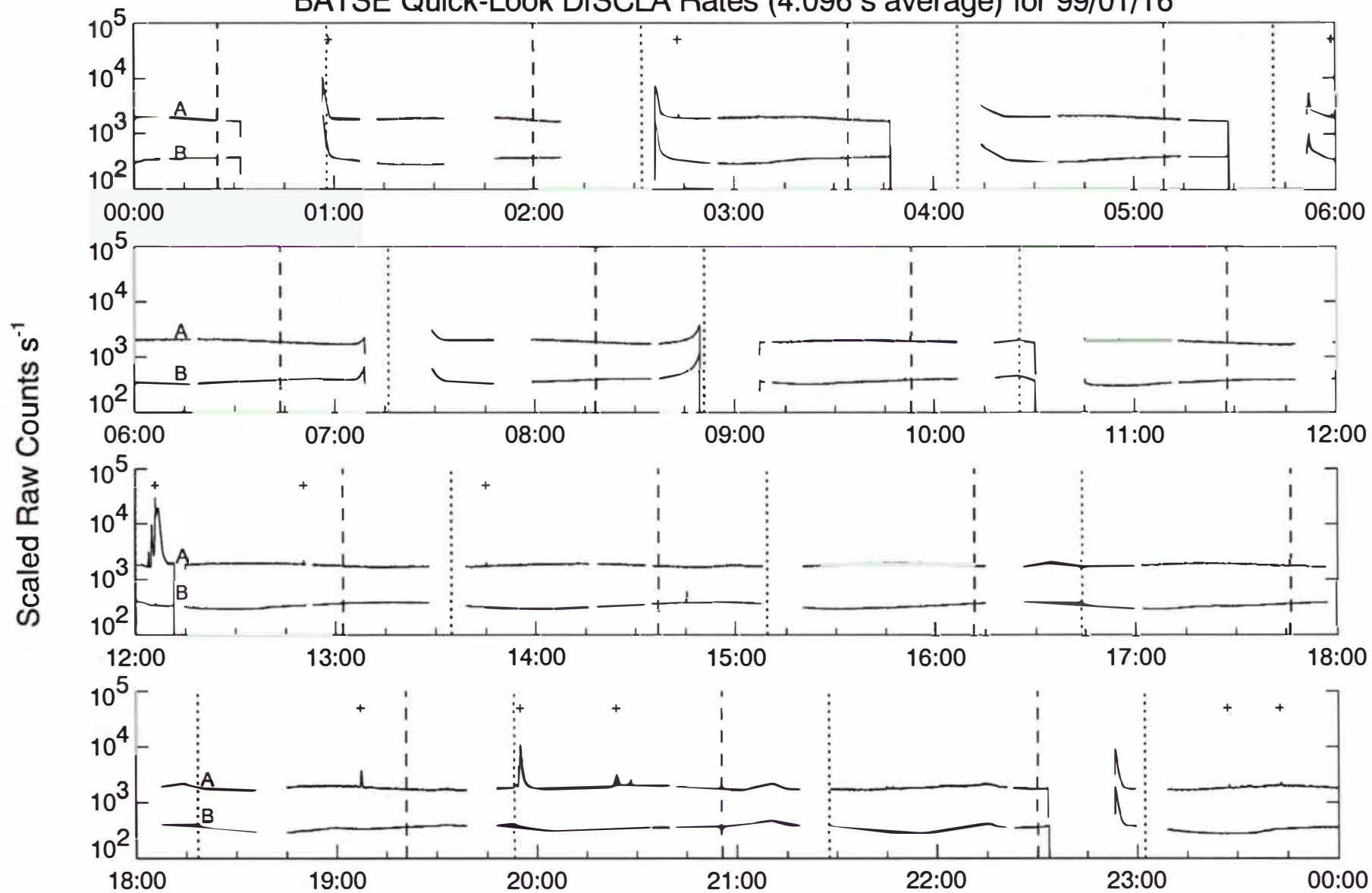
CALIBRATION DATA INCLUDED



UNIV SAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/16

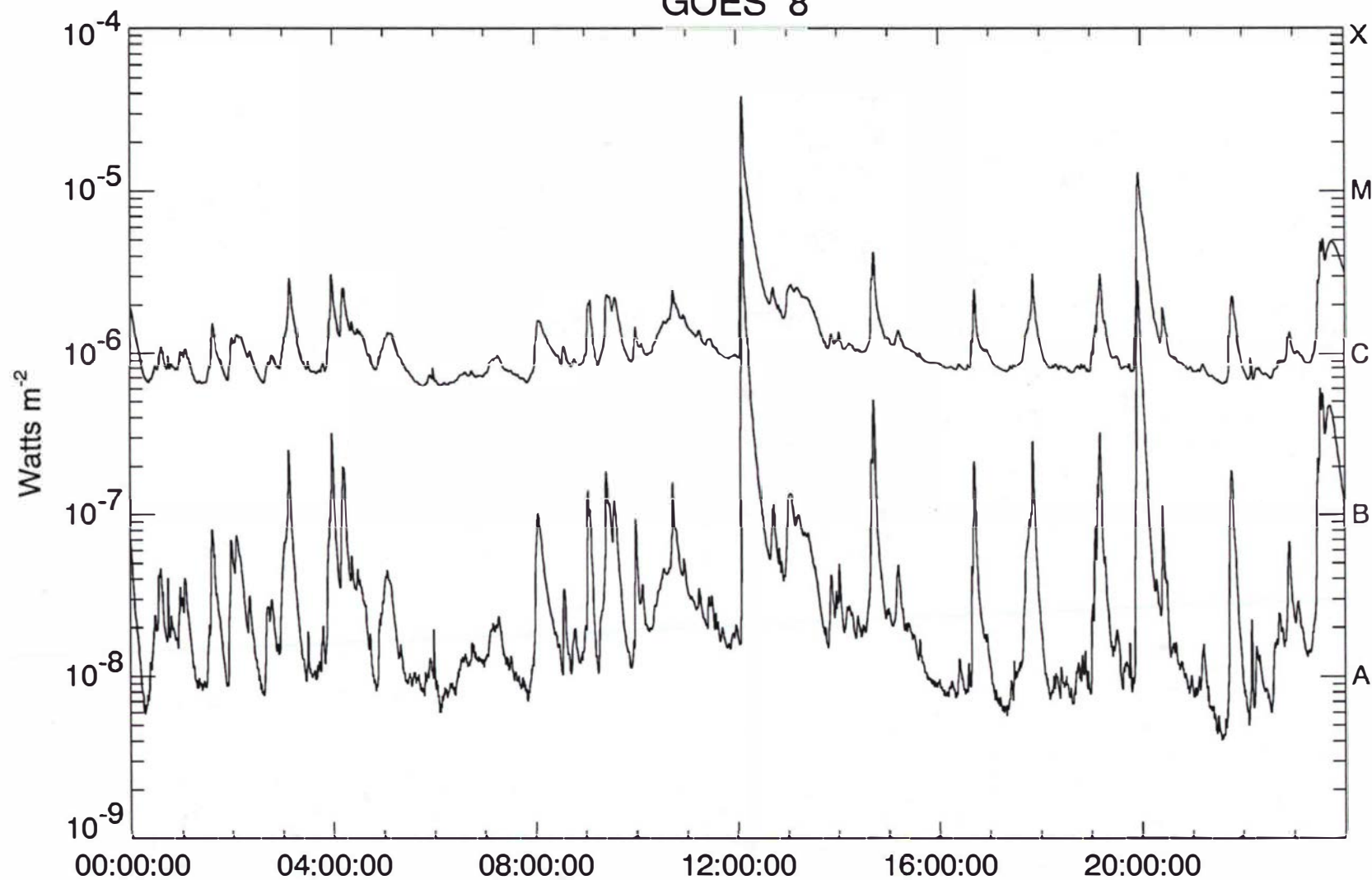


Current Time: 99/01/20, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

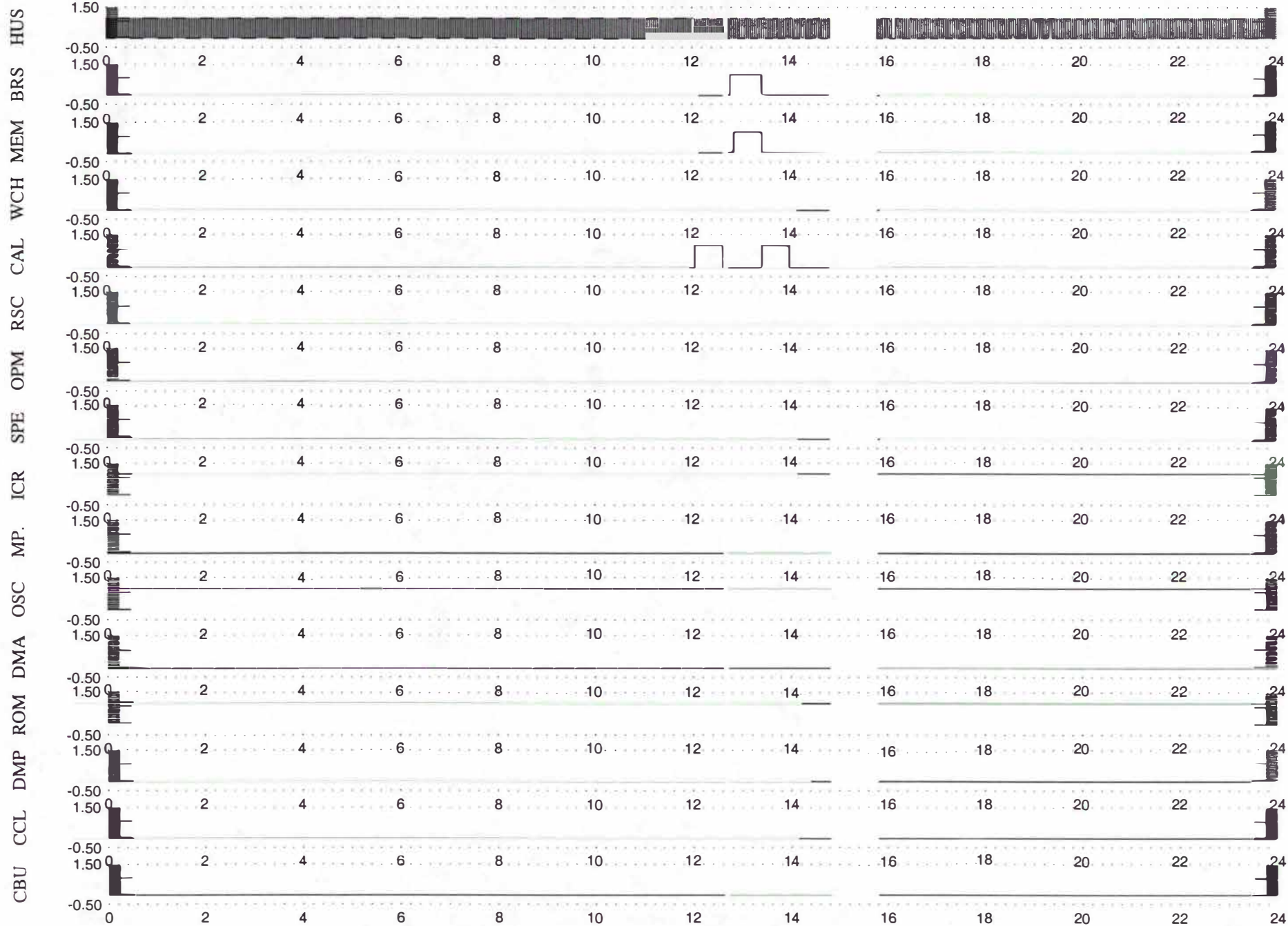


Data Start: 99/01/16, 0000:00

Plot created: 99/01/20, 1009

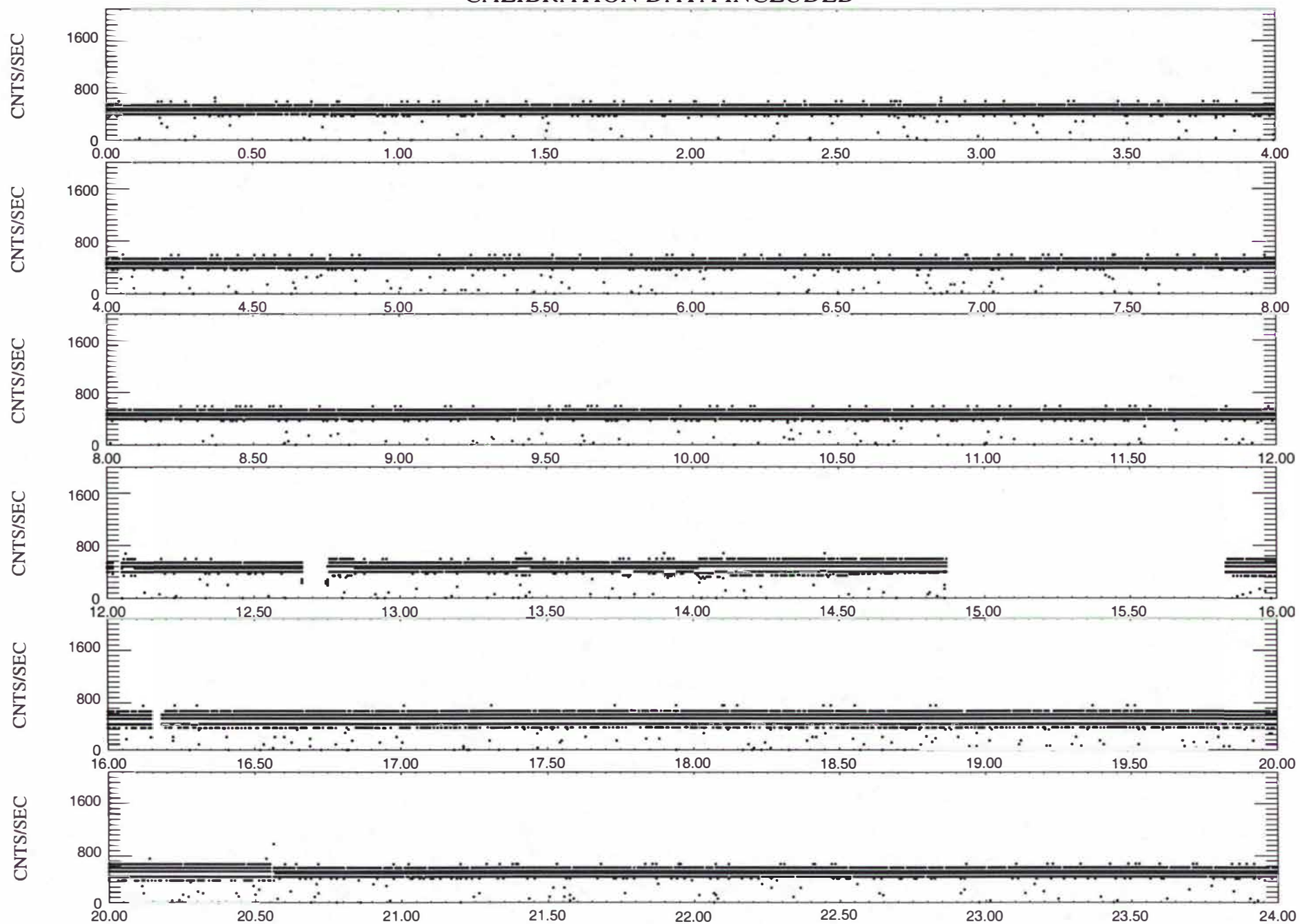
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
 Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
 Sample average = 10

BURST NUMBER 4



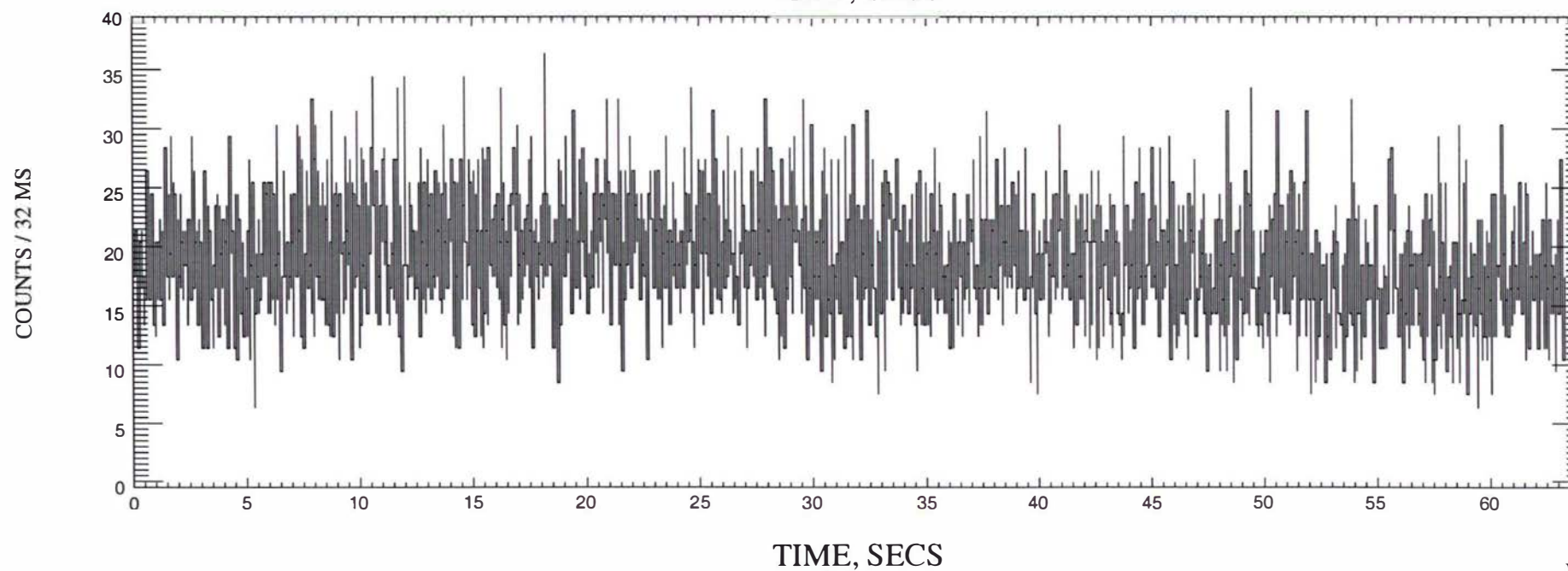
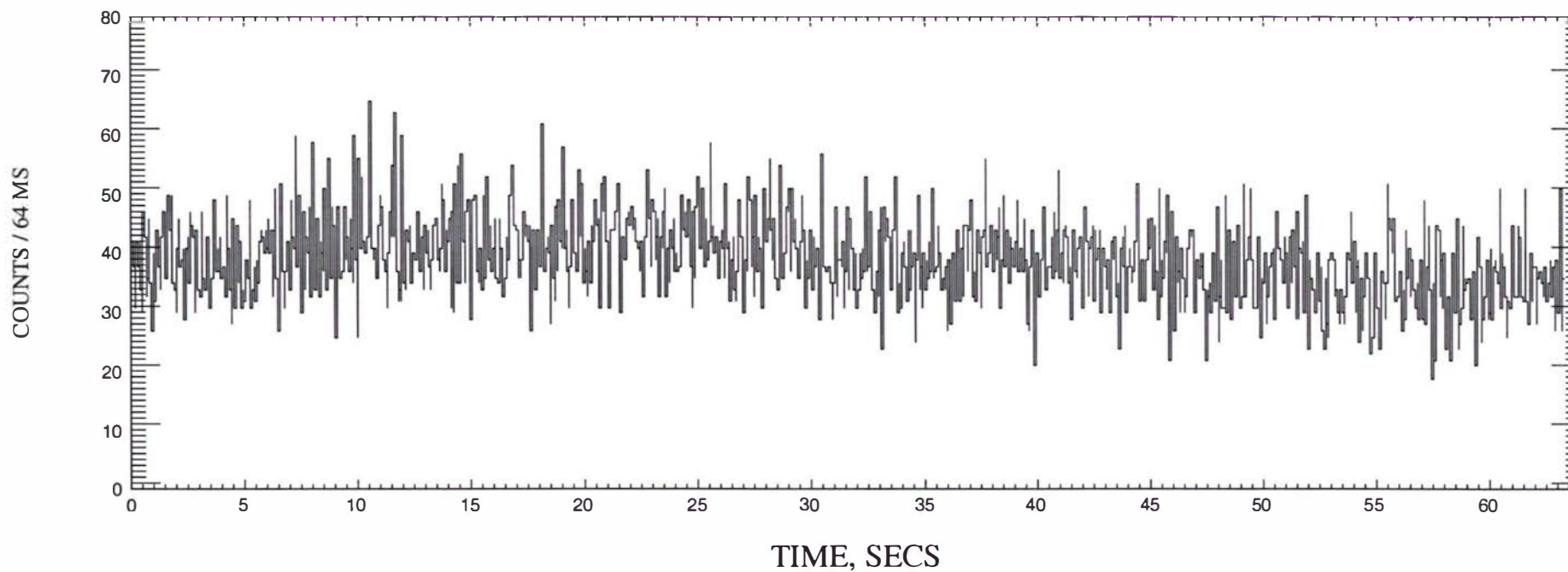
UNIV CAL TIME

CALIBRATION DATA INCLUDED

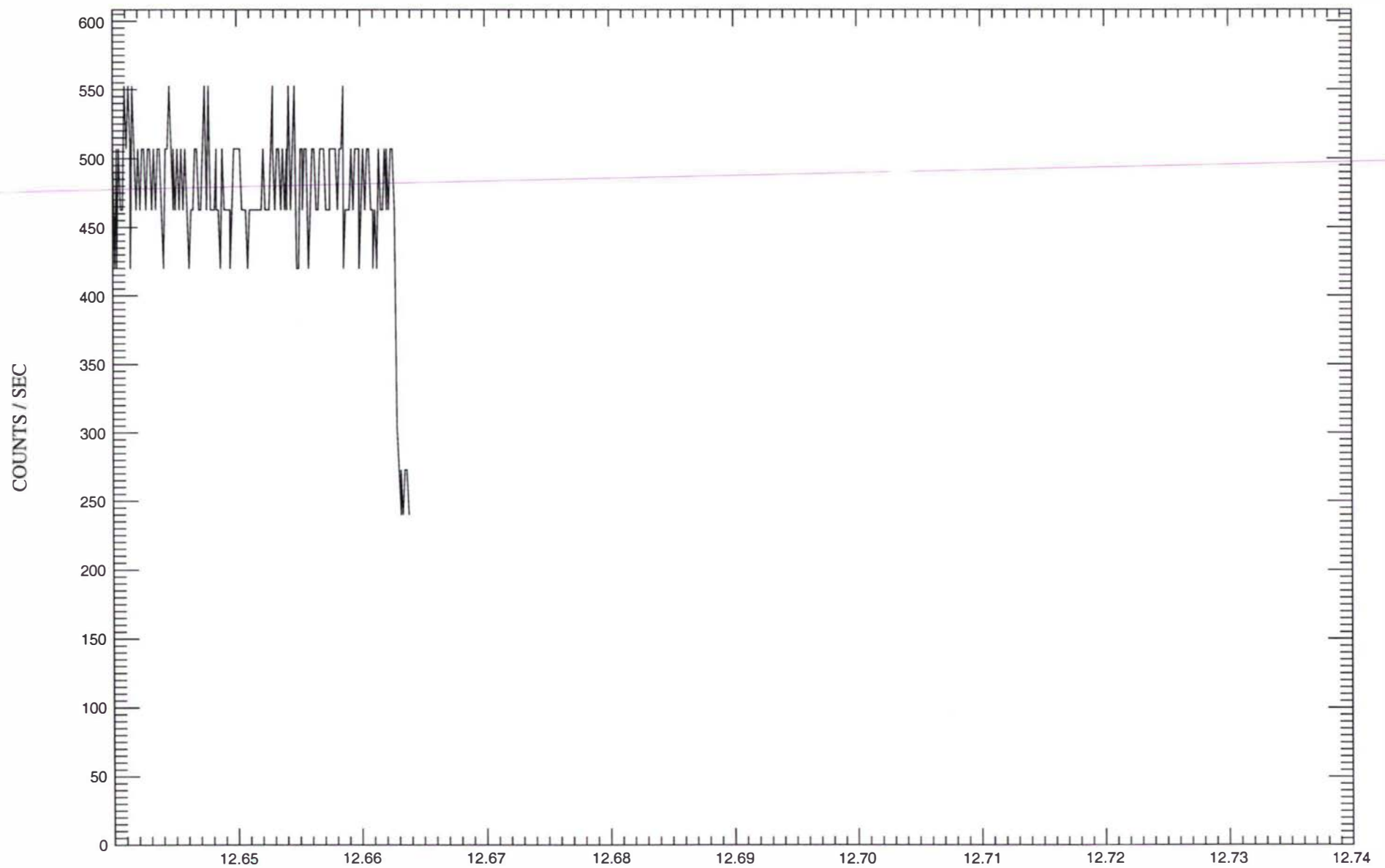


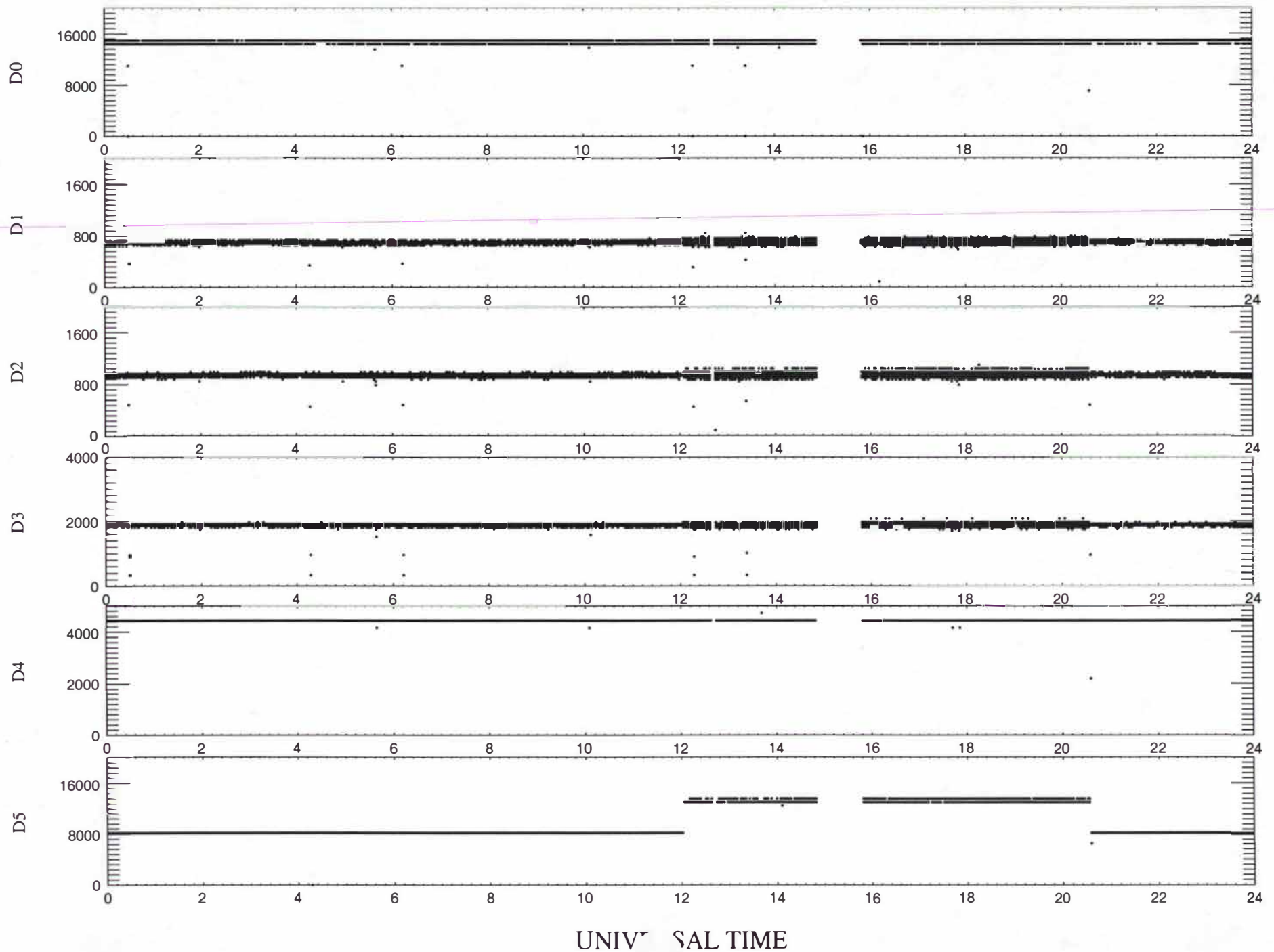
UNIV SAL TIME

Burst Counter 4 at UT=12.694280382792 h=45699.409 s 12:41:39.409



CALIBRATION DATA INCLUDED





From kraken@milkyway.gsfc.nasa.gov Tue Jan 26 11:34 PST 1999
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Tue, 26 Jan 1999 14:36:39 -0500
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@milkyway.gsfc.nasa.gov>
Subject: Ulysses bursts not seen by TGRS

Hi Kevin,

The bursts listed below were not seen by TGRS.

Pete

>ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

>

>

>January 20 1999 00:26 Ulysses time; weak, 32 ms long

>January 17 1999 15:26 Ulysses time; weak, 32 ms long

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Thu Jan 21 09:04 PST 1999
Date: Thu, 21 Jan 1999 12:03:22 -0500
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
cline@apache.gsfc.nasa.gov, scott@milkyway.gsfc.nasa.gov,
TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses event of 990117 was not detected by Konus

Hi Everyone,

This event is not visible in Konus data.

Paul.

in response to:

Date: Tue, 19 Jan 1999 15:58:20 -0800
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199901192358.PAA19489@scylla.>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
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: GRB990117
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

January 17 1999 15:26 Ulysses time; weak, 32 ms long

The spacecraft was about 2250 light-seconds from Earth. This event may have come from SGR1900+14; if so, the Earth-crossing time would have been ~1250 s earlier.

Was this event detected by anyone else?

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

From SURASAK@fender.msfc.nasa.gov Tue Jan 19 13:50:32 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA14361; Tue, 19 Jan 1999 13:50:31 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA10735; Tue, 19 Jan 1999 13:50:28 -0800
Date: Tue, 19 Jan 1999 15:38:44 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990119153844.20271f70@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7328
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7328
EVENT OF 1999 JAN 17 DAY OF YEAR= 17
EVENT CROSSING TIME AT BATSE : 27021. S. OR 07:30:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 20.000 -1.000
BATSE PEAK COUNTING RATE: 5600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 1/ 99 IS:
RA= 163.918 DEC= -8.970 DIST= 4.523 AU
BATSE-ULYSSES DISTANCE = 676681568. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 37.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1795.45 SECS.
CROSSING TIME AT ULYSSES IS 28816. S. OR 08:00:16 +/- 314.76 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 1/ 99 IS:
RA= 204.783 DEC= -8.156 DIST= 1.330 AU
MARS-BATSE DISTANCE = 199026896. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 10.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 653.14 SECS.
CROSSING TIME AT MARS IS 27674. S. OR 07:41:14 +/- 30.57 SECONDS

BATSE BURST TRIGGER

NO.: 7328

TIME: TJD=1195 SECONDS=27021

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=164.6 AZIMUTH=212.7 ERROR=0.95 DEGREES

COMMENTS:

GRB. SINGLE PULSE. FRED. DURATION ABOUT 60 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7328	990117	11195	27021	5600	020	-01	60

Date: 24/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data **N/A**

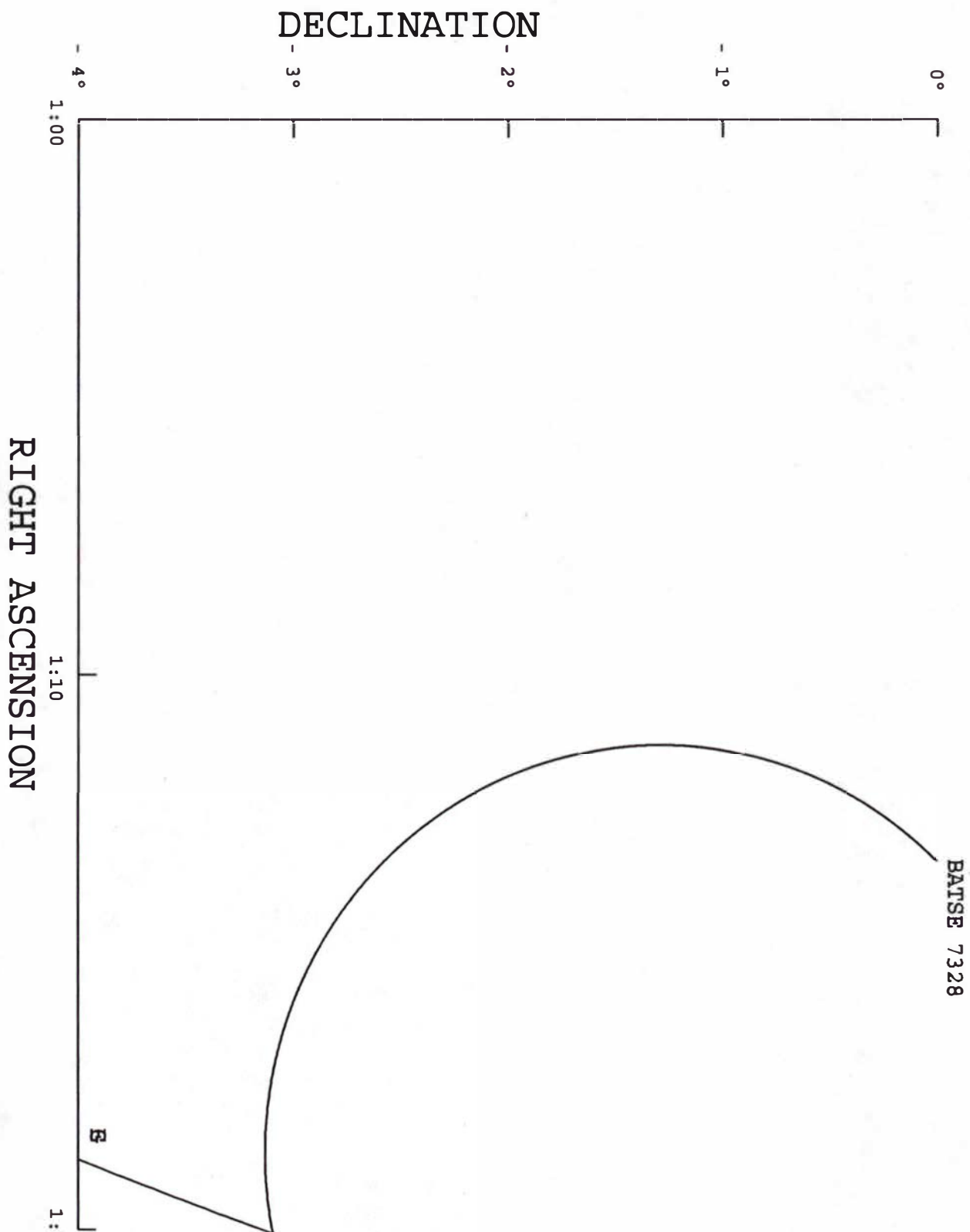
- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

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

EVENT OF JAN 17, 1999 7:30

24 / 1 / 0



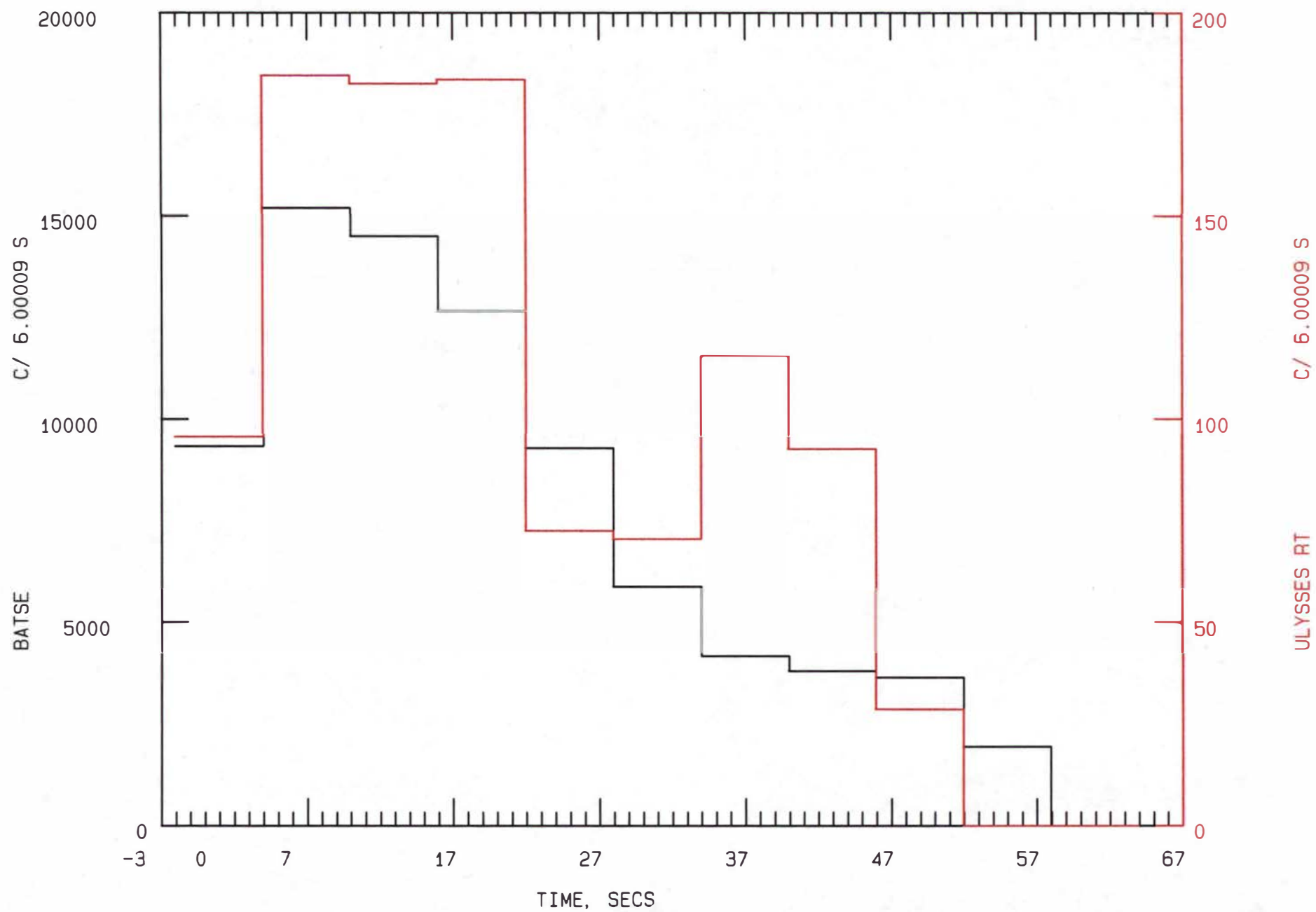
BATSE

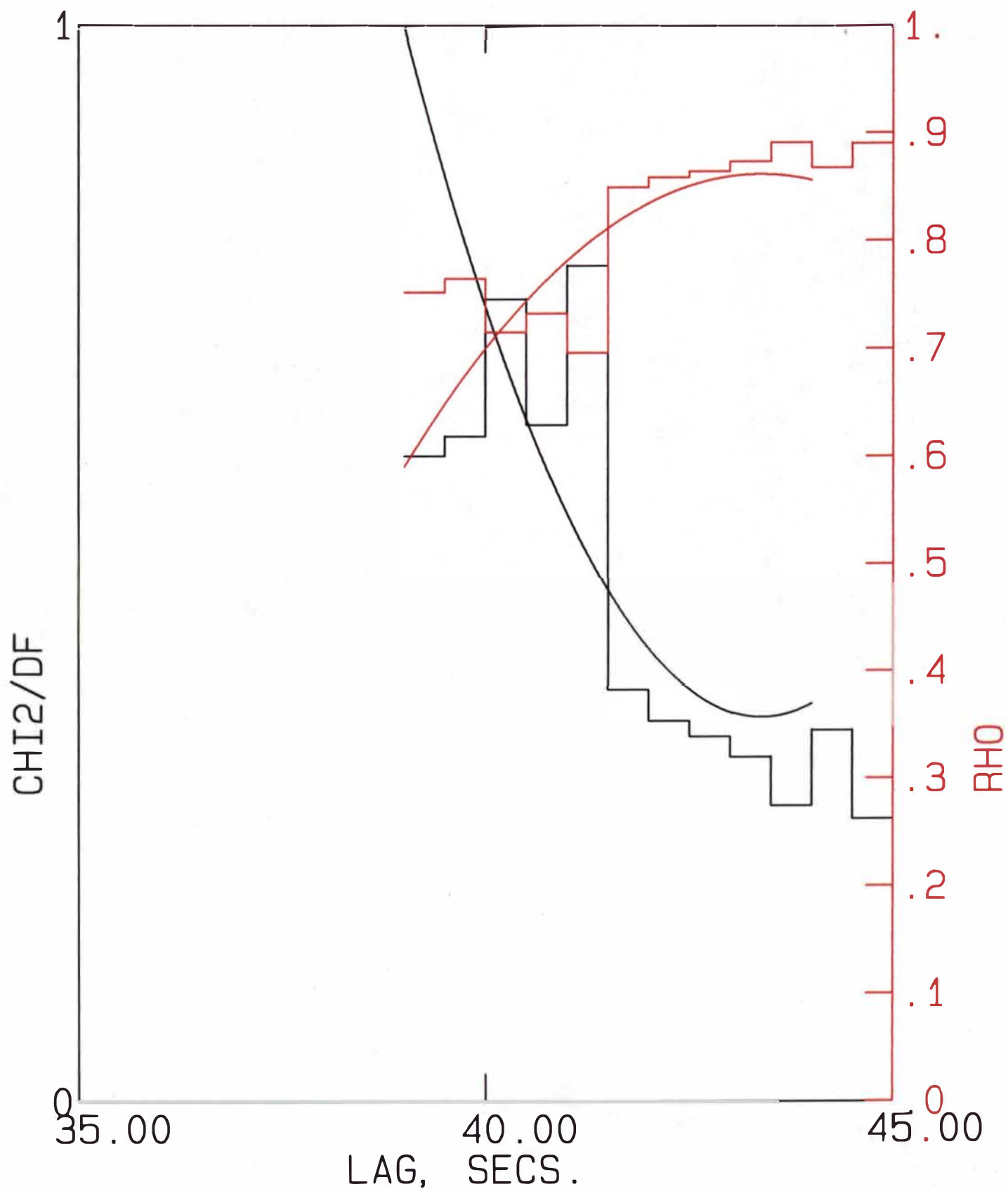
-ULYSSES RT CORRELATION

17/ 1/99

27021.049

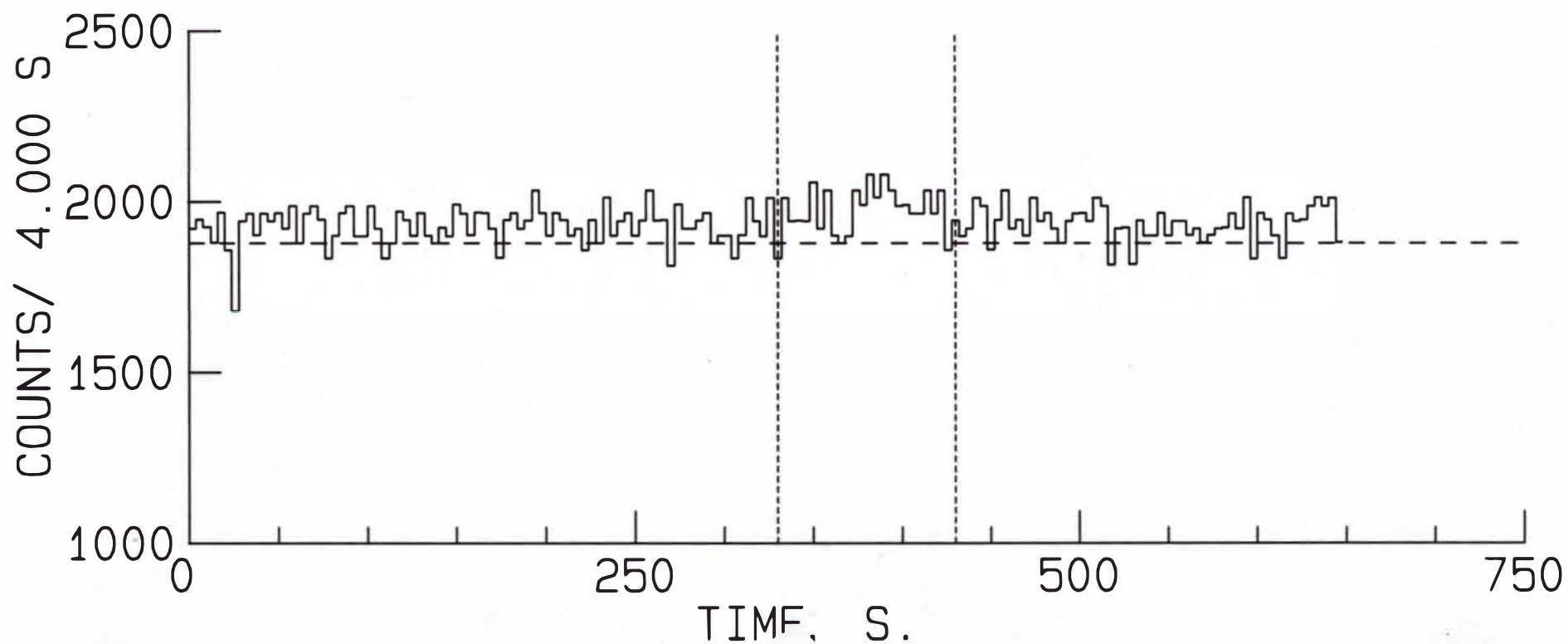
24/ 1/ 0





ULYSSES RT
17/ 1/99 28440.373 s
0.500 S INTERVALS REGROUPED BY 8
22- 150 keV

24 / 1 / 0



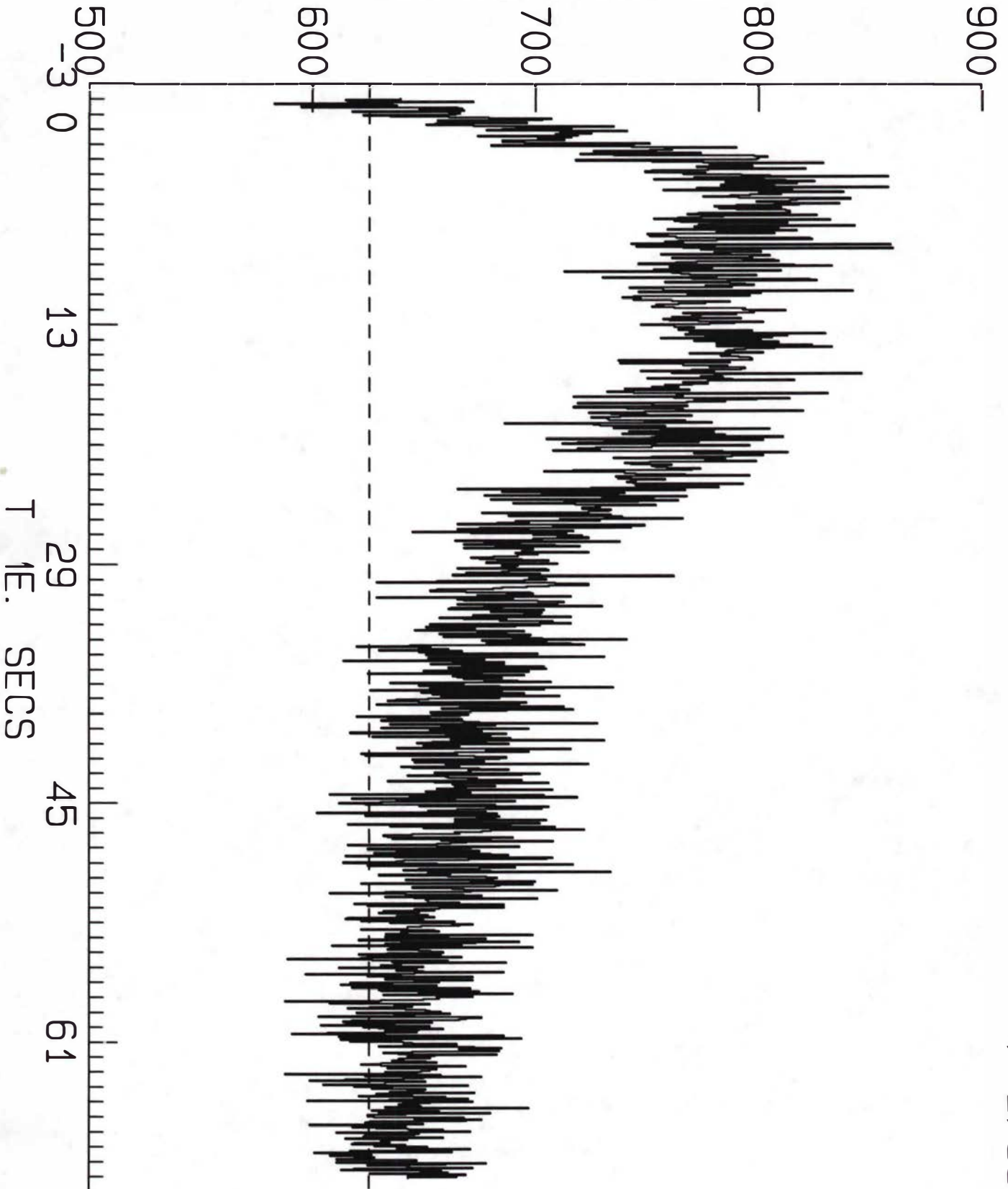
BATSE

17/01/99

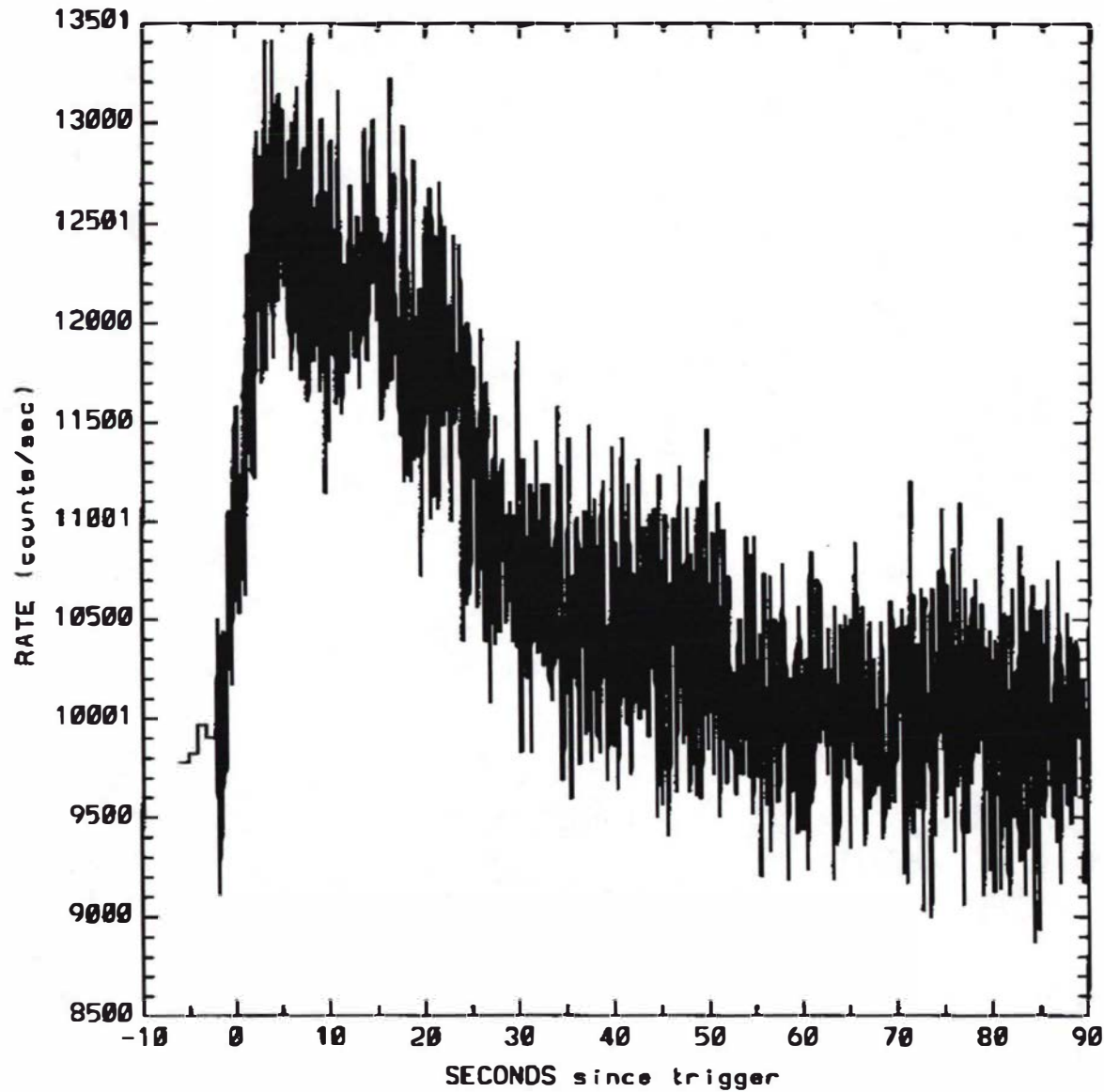
27021.049

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7328



28-JAN-1999 08:25:53

Created by MOPS 80
[Burst Display]
Version 12.26

Trigger # : 7328

Trigger Time:
11195 / 27021.049

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..0]:
7-5-3---

Discriminators:
(1 . 2)

Quality Mask:
B0ISP1

From SURASAK@fender.msfc.nasa.gov Tue Jan 19 13:50:39 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA14365; Tue, 19 Jan 1999 13:50:39 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA10747; Tue, 19 Jan 1999 13:50:36 -0800
Date: Tue, 19 Jan 1999 15:39:49 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990119153949.20271f70@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7329
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7329
EVENT OF 1999 JAN 17 DAY OF YEAR= 17
EVENT CROSSING TIME AT BATSE : 76335. S. OR 21:12:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 316.000 -22.000
BATSE PEAK COUNTING RATE: 13800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 17/ 1/ 99 IS:
RA= 163.830 DEC= -8.998 DIST= 4.515 AU
BATSE-ULYSSES DISTANCE = 675428358. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 41.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1692.59 SECS.
CROSSING TIME AT ULYSSES IS 78028. S. OR 21:40:27 +/- 333.87 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 17/ 1/ 99 IS:
RA= 204.783 DEC= -8.156 DIST= 1.330 AU
MARS-BATSE DISTANCE = 199026896. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 185.23 SECS.
CROSSING TIME AT MARS IS 76520. S. OR 21:15:20 +/- 113.50 SECONDS

BATSE BURST TRIGGER

NO.: 7329

TIME: TJD=1195 SECONDS=76335

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=126.3 AZIMUTH=345.7 ERROR=1.02 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION ABOUT 3 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7329	990117	11195	76335	13800	316	-22	3

BATSE BURST# 7329

ULYSSES RT

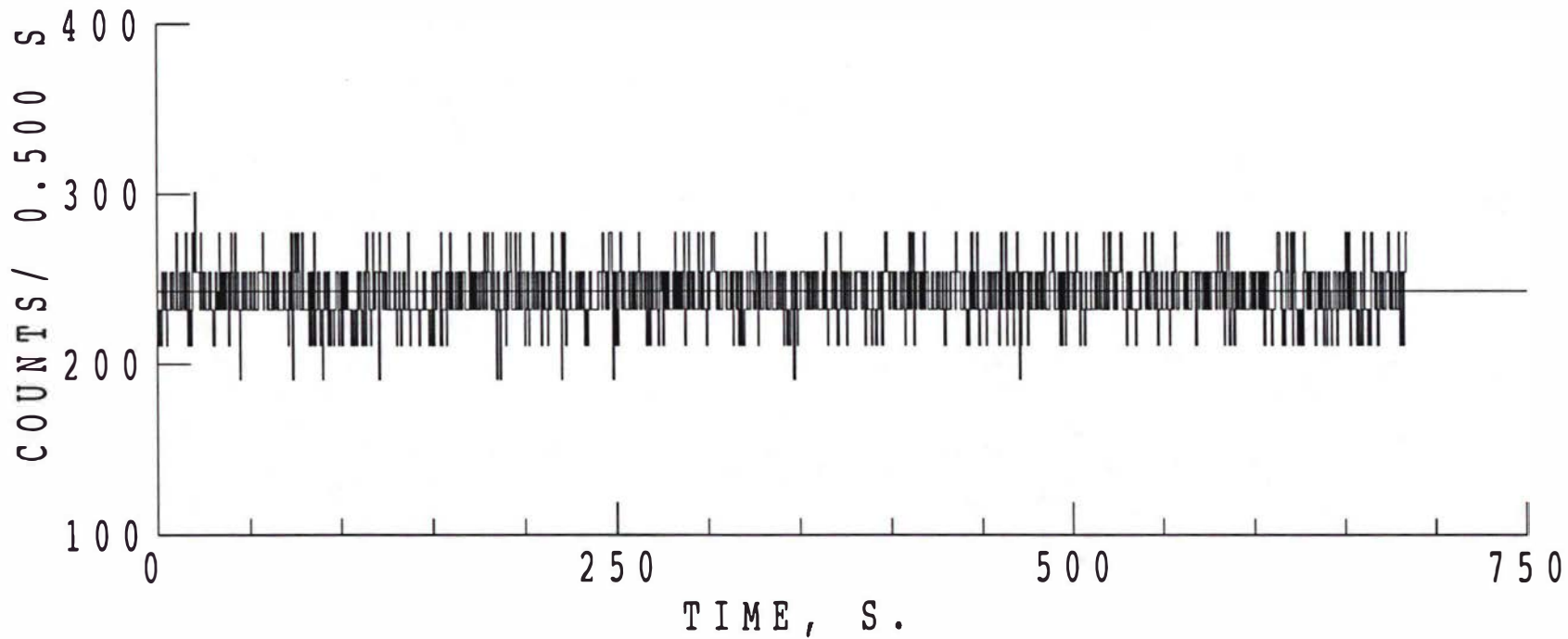
19 / 1 / 99

17 / 1 / 99 77688.375 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

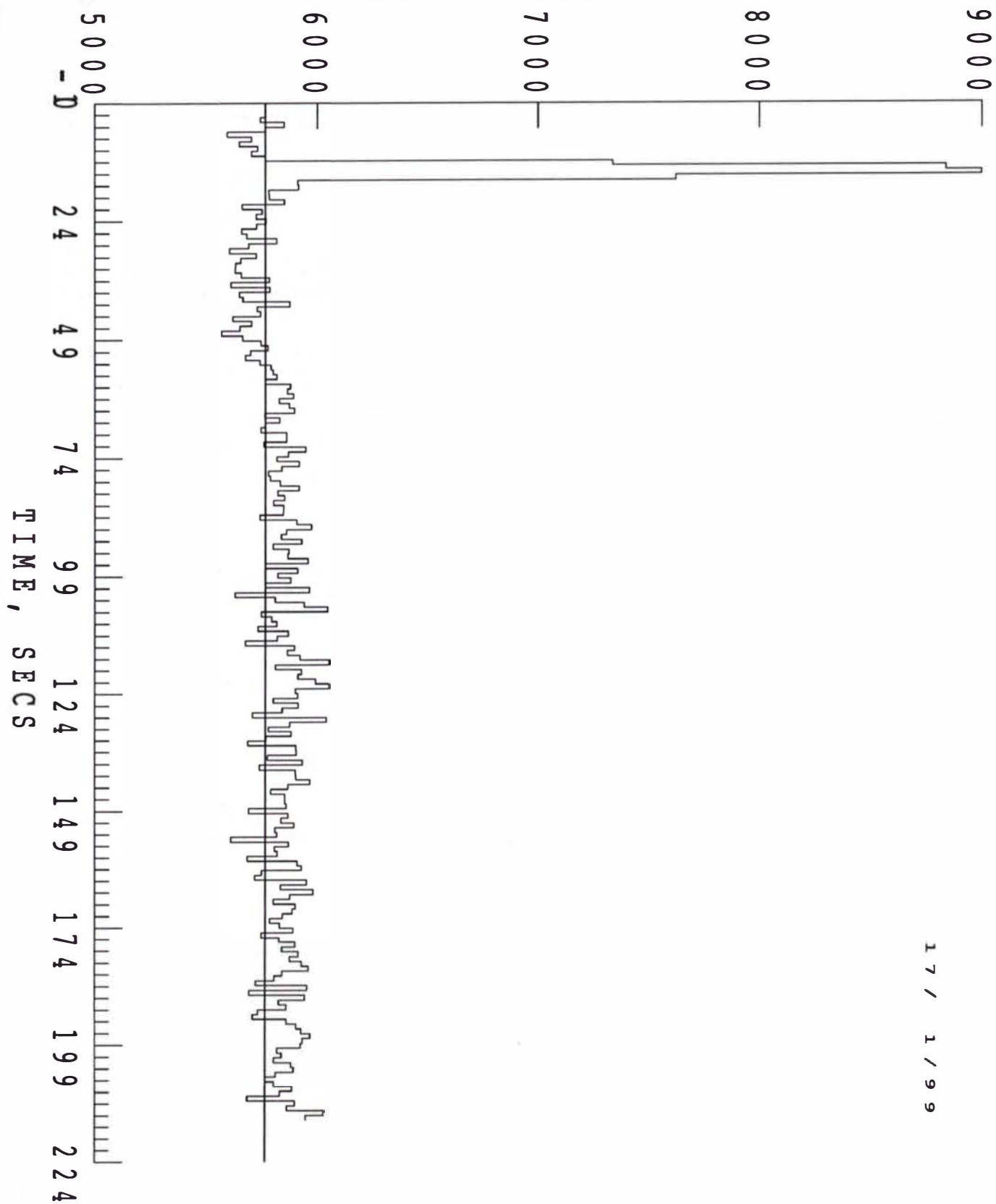
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7329 17/01/99 76323.577

25- 100 keV

COUNTS/1.024 S



17 / 1 / 99

SAX GRBM
HUS DATA

ULYSSES RT

19 / 07 / 05

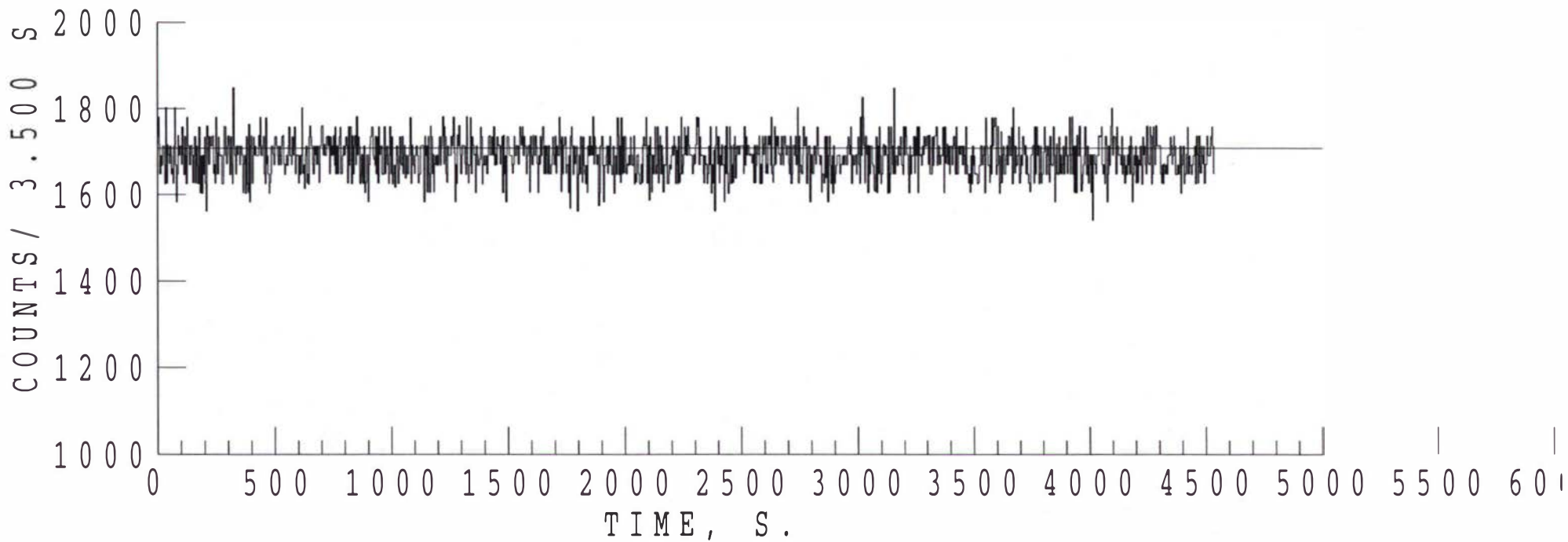
17/01/99 78264.383 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Updated May 11 2007

Date: Feb 6 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? *No - bad stats*

2. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?
- ☒ ACCESS database updated?

11/5/7

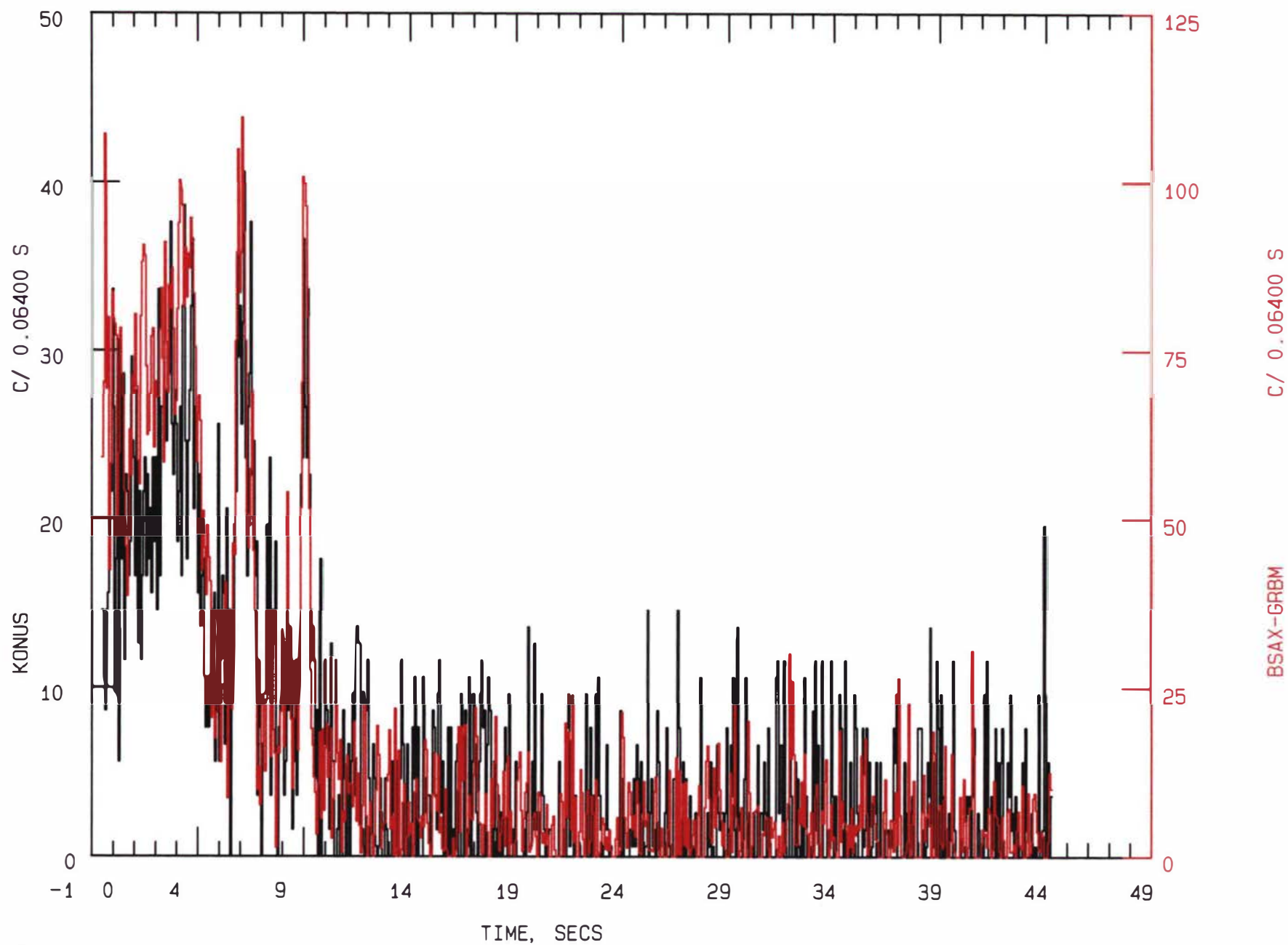
KONUS

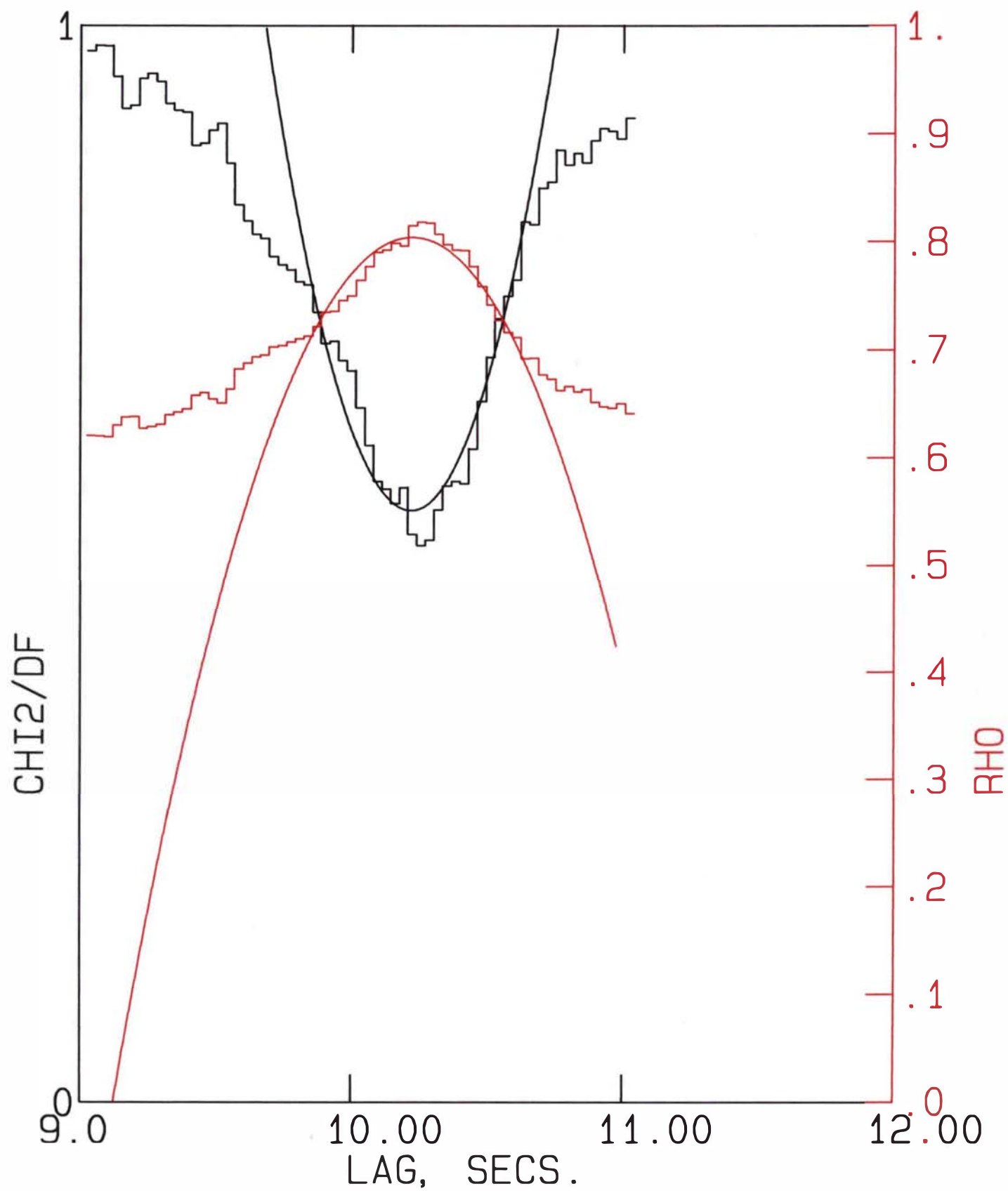
-BSAX-GRBM CORRELATION

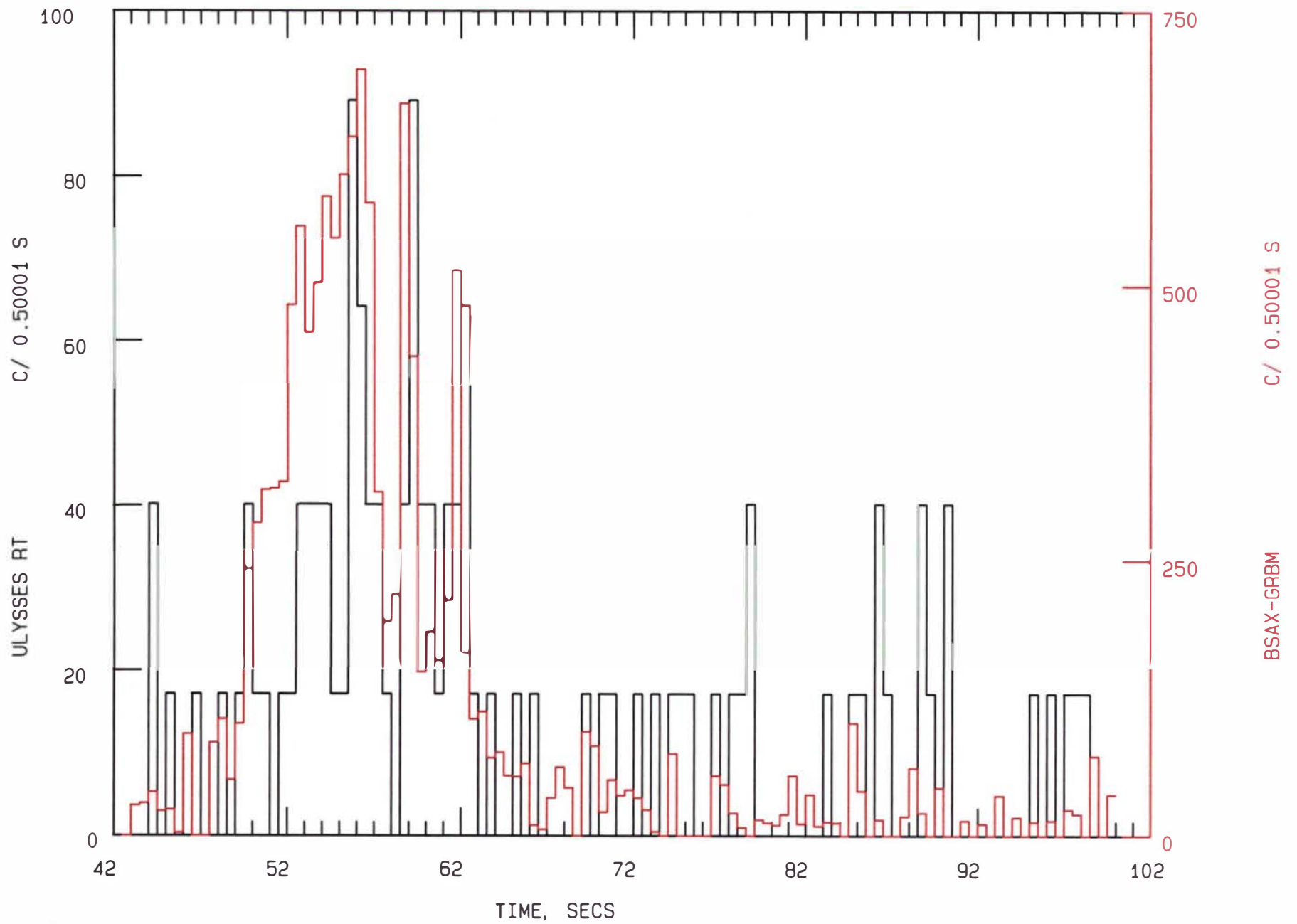
17/01/99

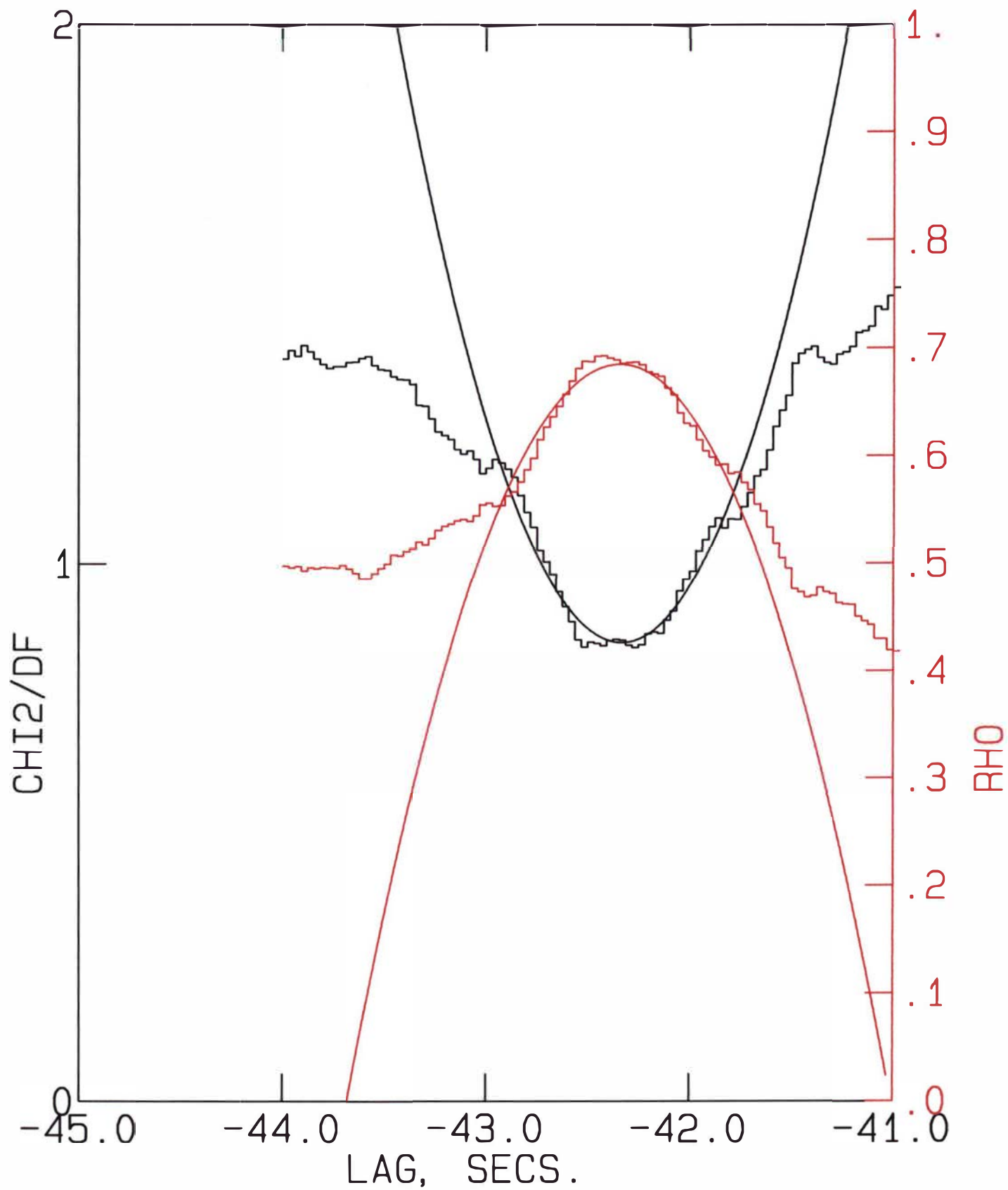
84979.655

11/ 5/ 7





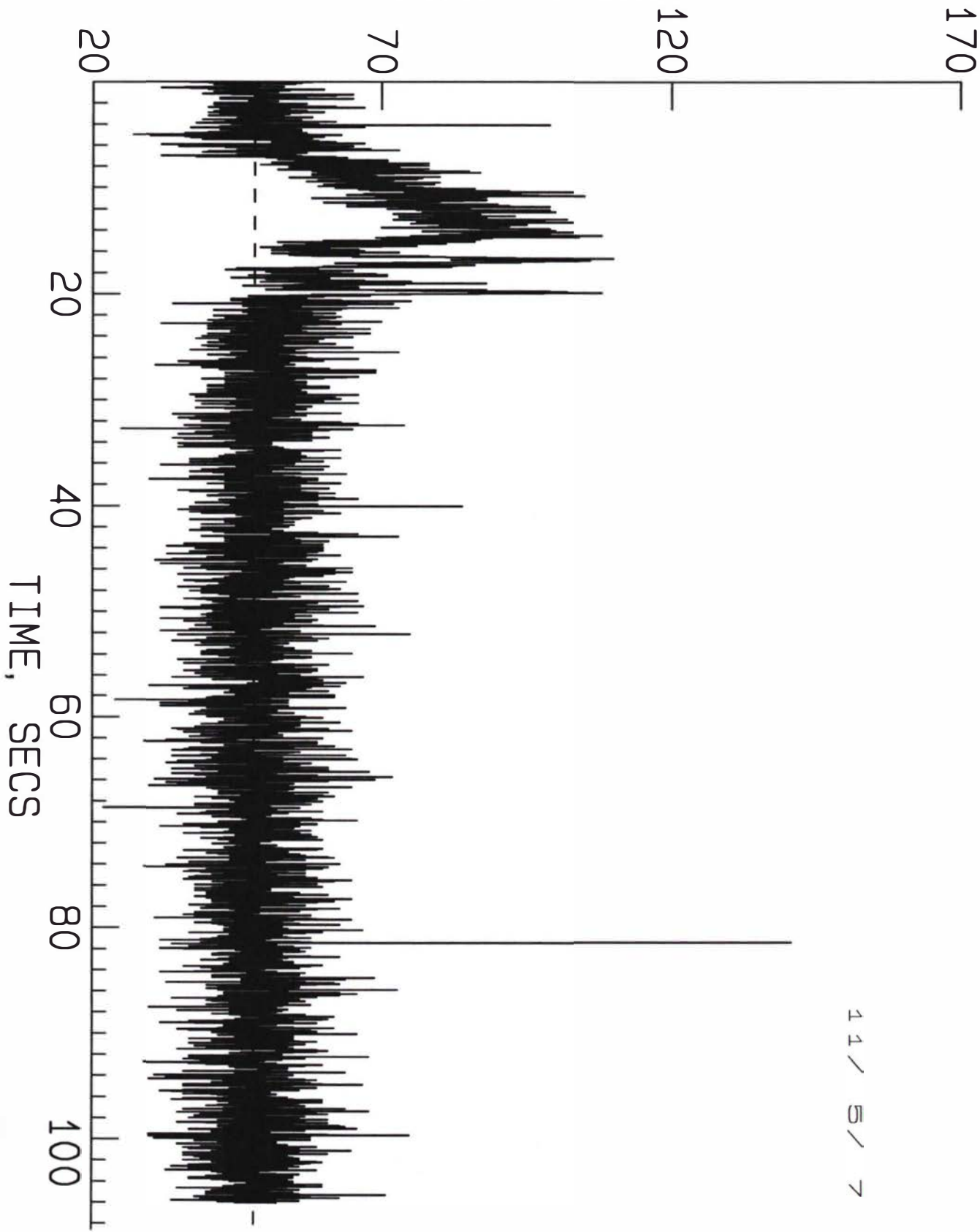




SAX GRBM

17/01/99 84968.694
40- 700 keV

COUNTS/0.031 S



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

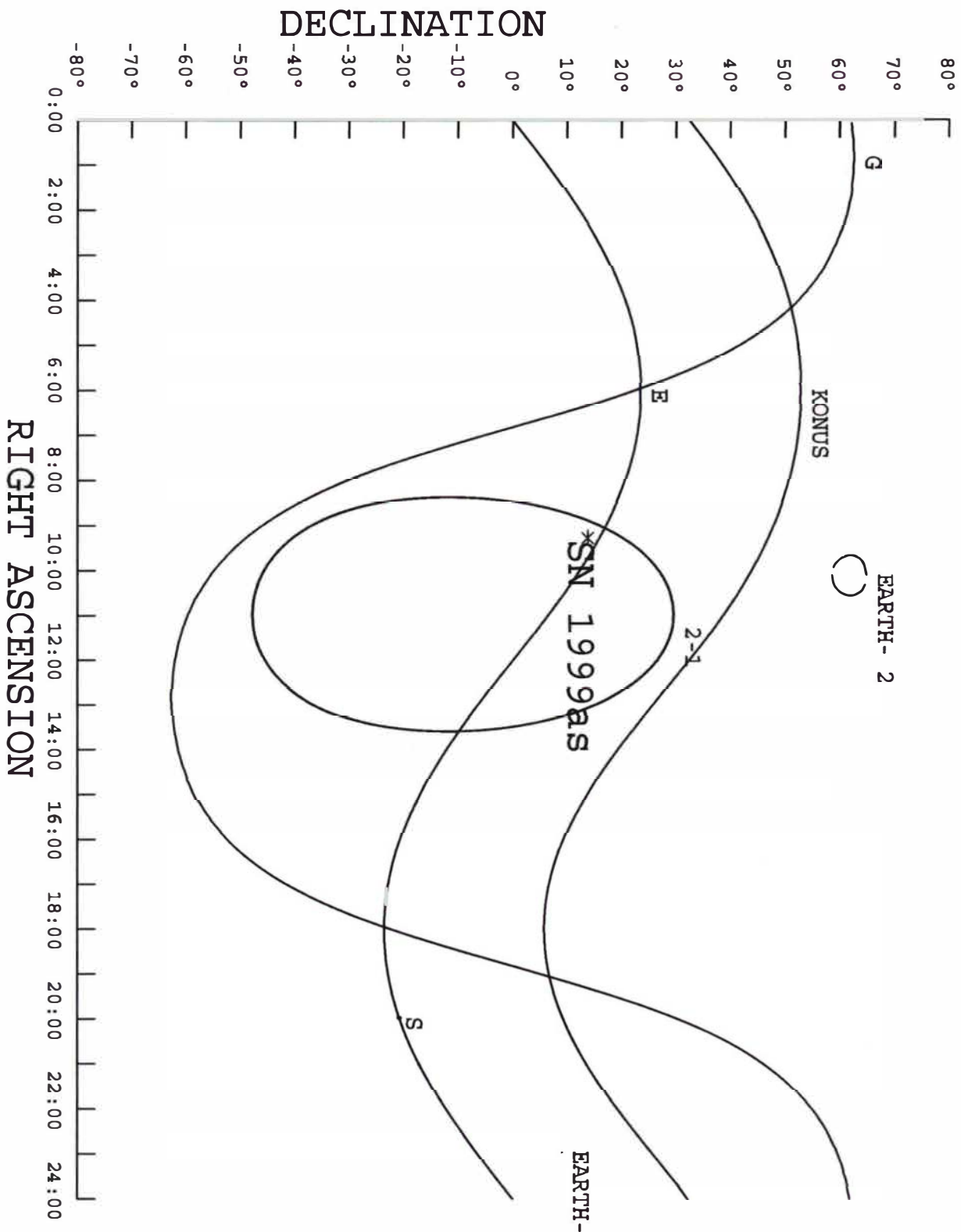
G=GALACTIC EQUATOR

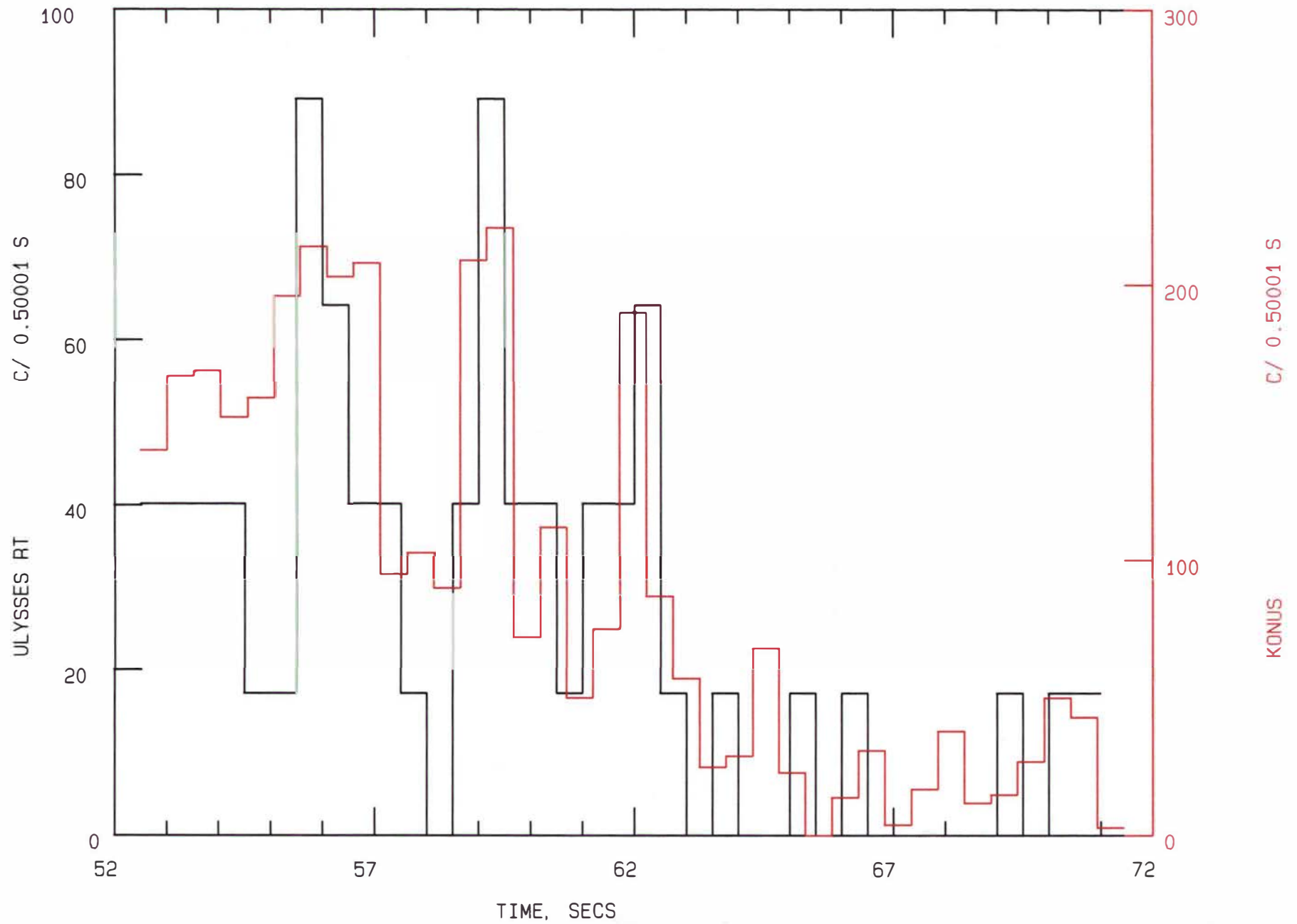
1 ULYSSES

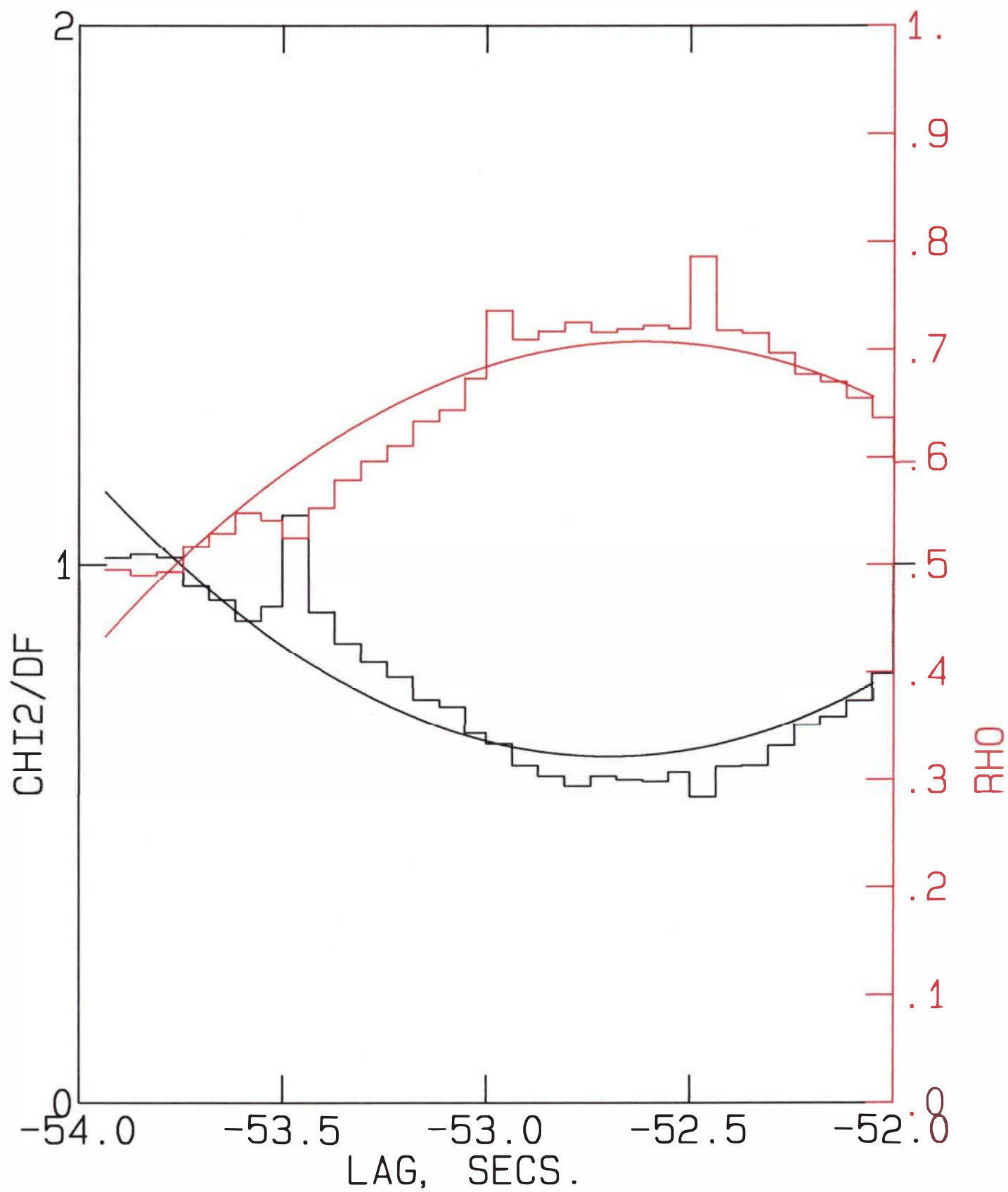
2 KONUS

EVENT OF JAN 17, 1999 23:06

6 / 2 / 1

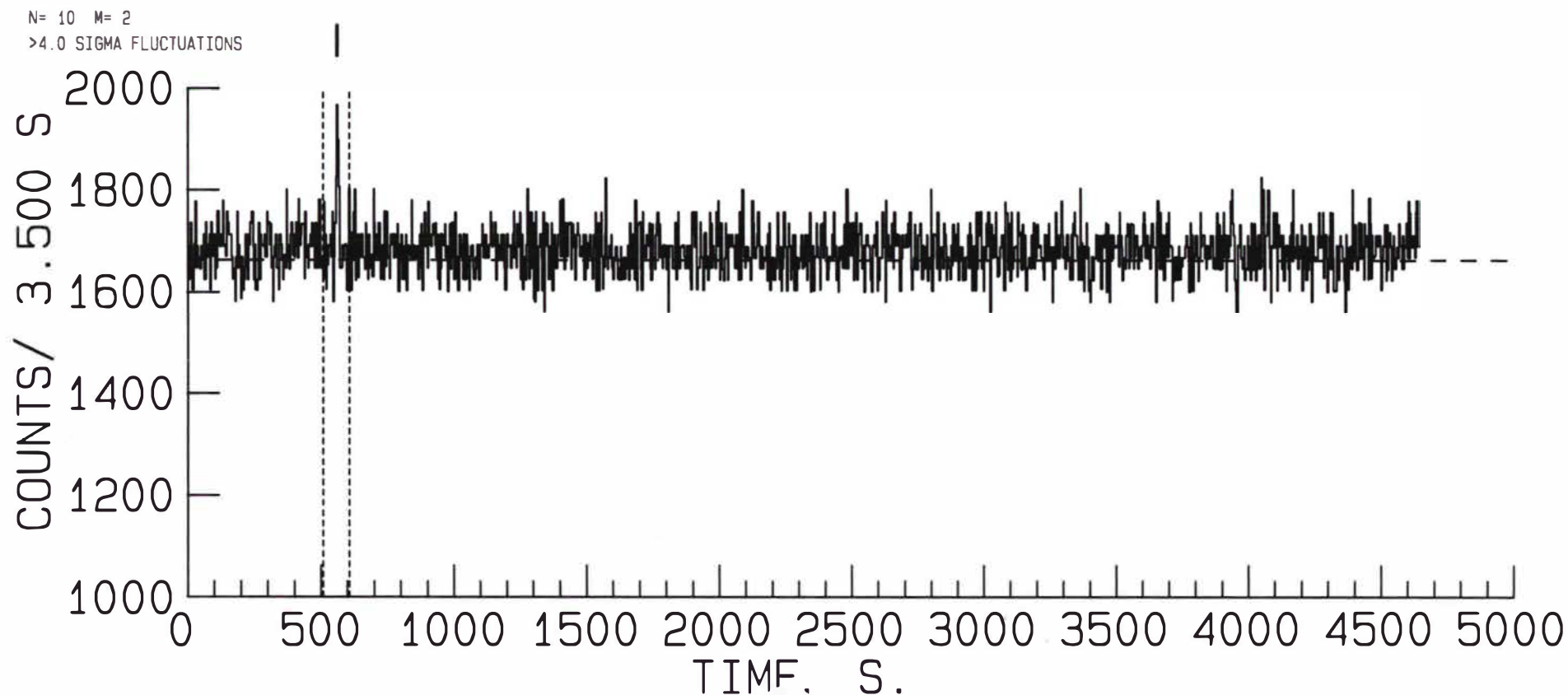






ULYSSES RT
17/ 1/99 82656.429 s
0.500 S INTERVALS REGROUPED BY 7
22- 150 keV

6 / 2 / 1



KONUS

17/01/99 84979.655
50- 200 keV

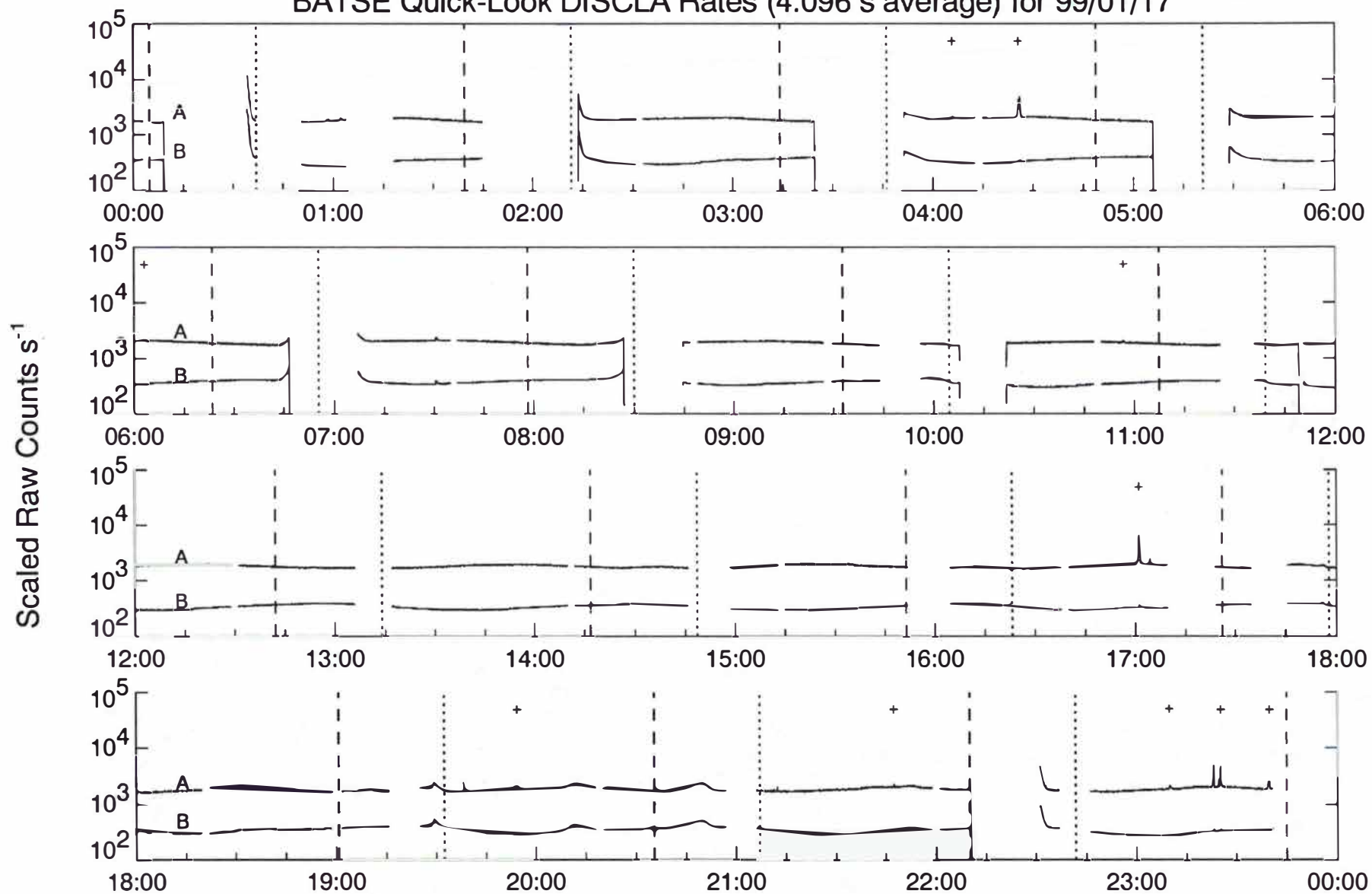
COUNTS/0.064 S

75
50
25
0

0 9 19 29 39 49
TIME, SECS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/17

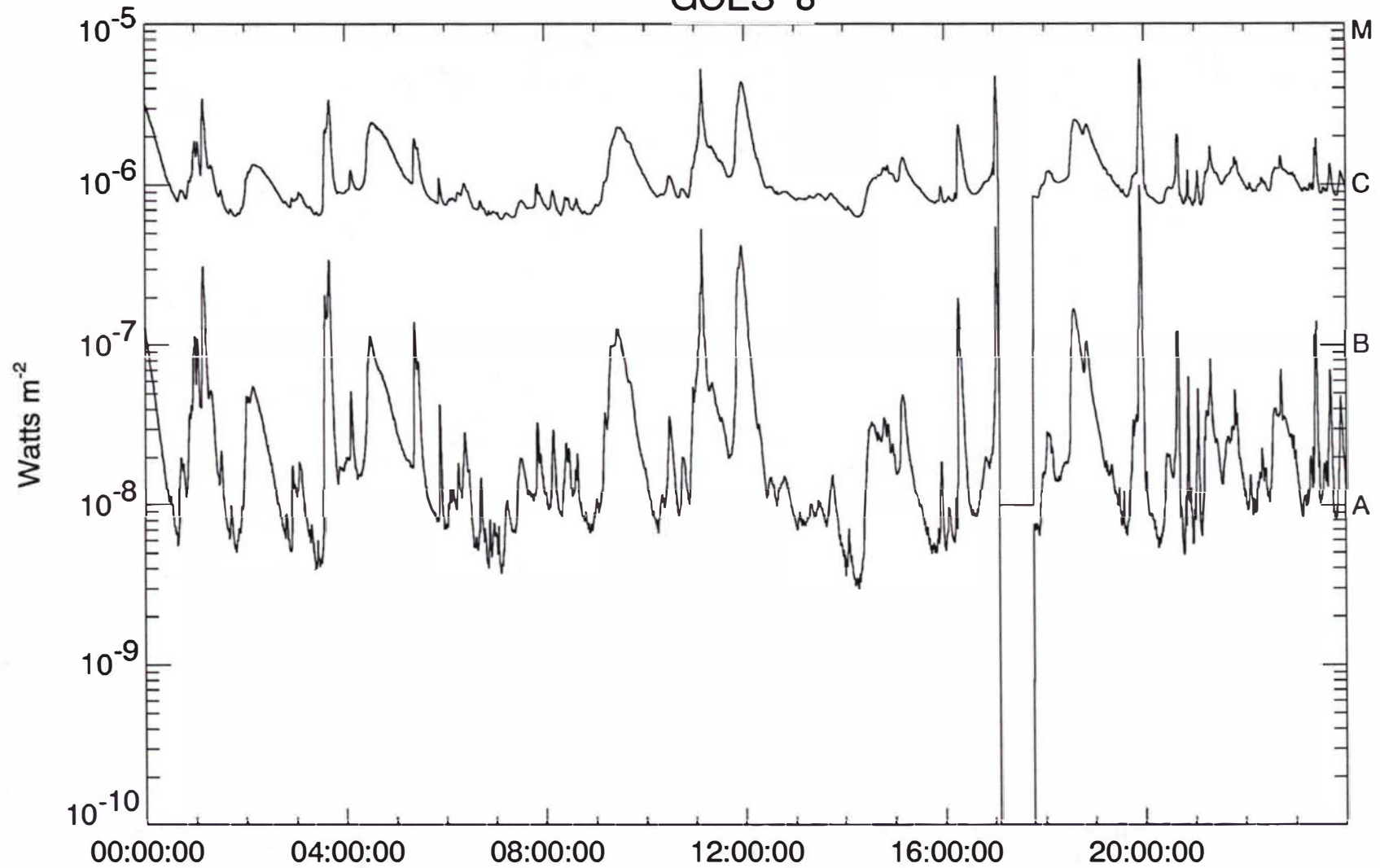


Current Time: 99/01/21, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

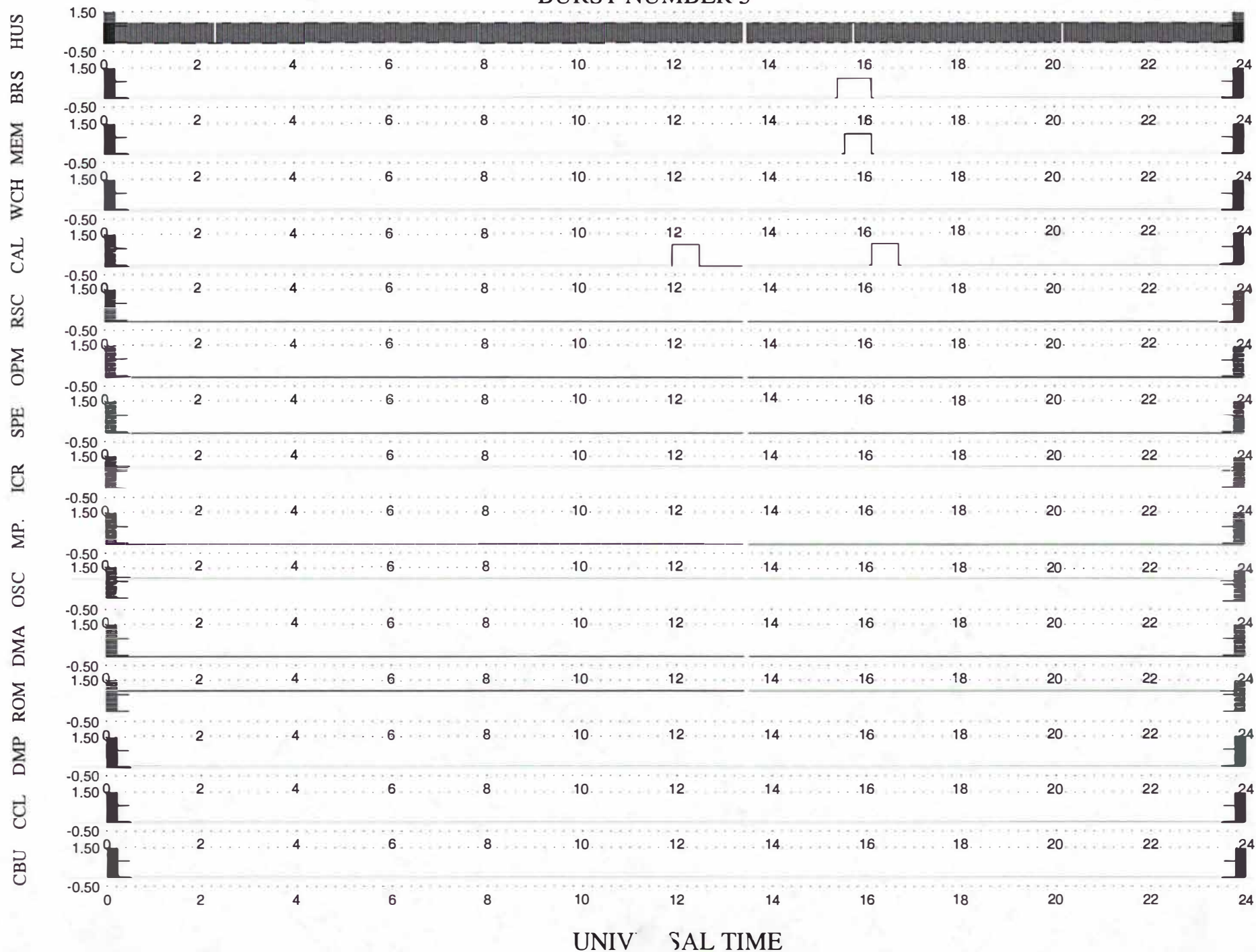


Data Start: 99/01/17, 0000:00

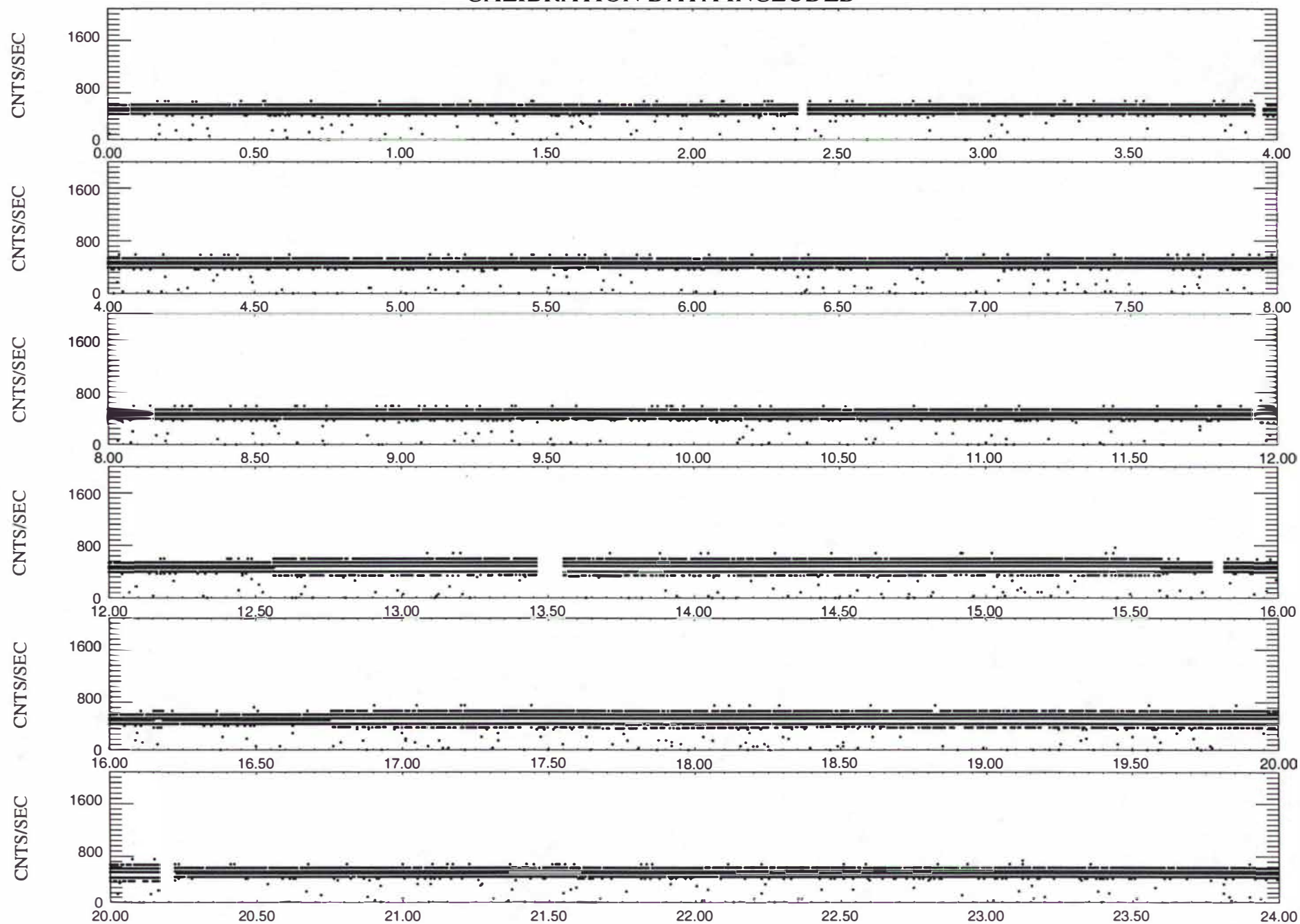
Plot created: 99/01/21, 1009

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

BURST NUMBER 5

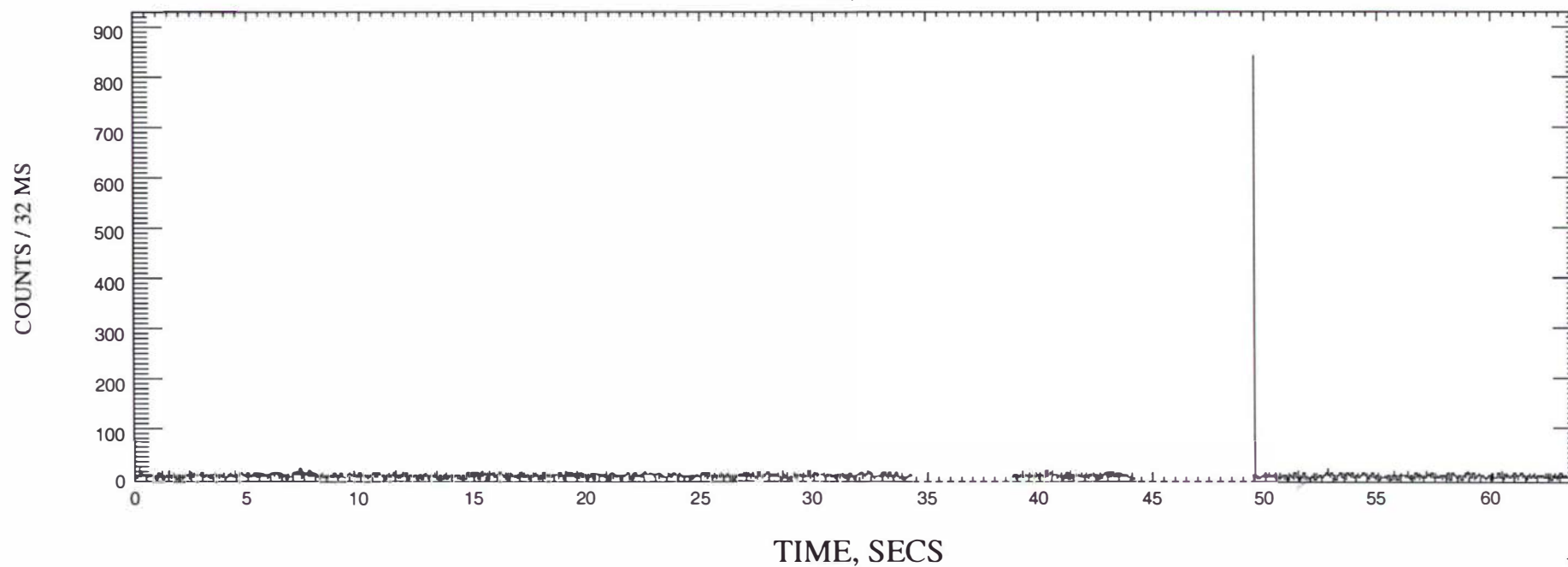
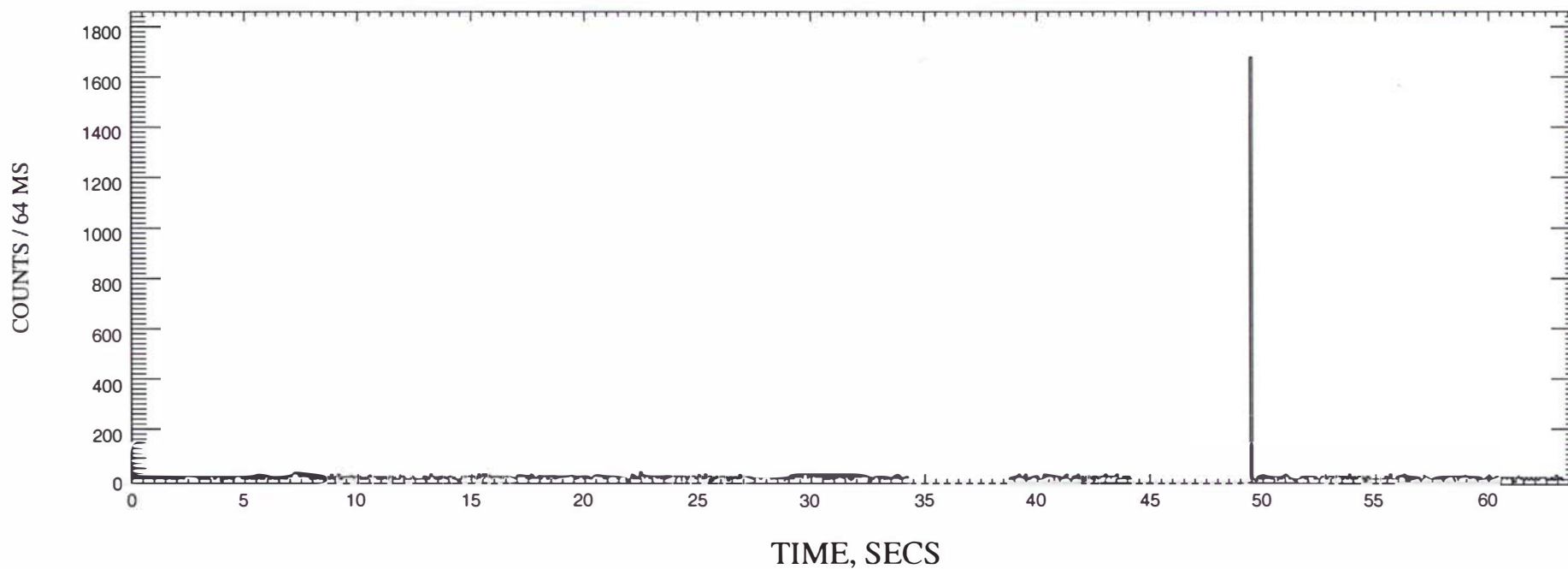


CALIBRATION DATA INCLUDED

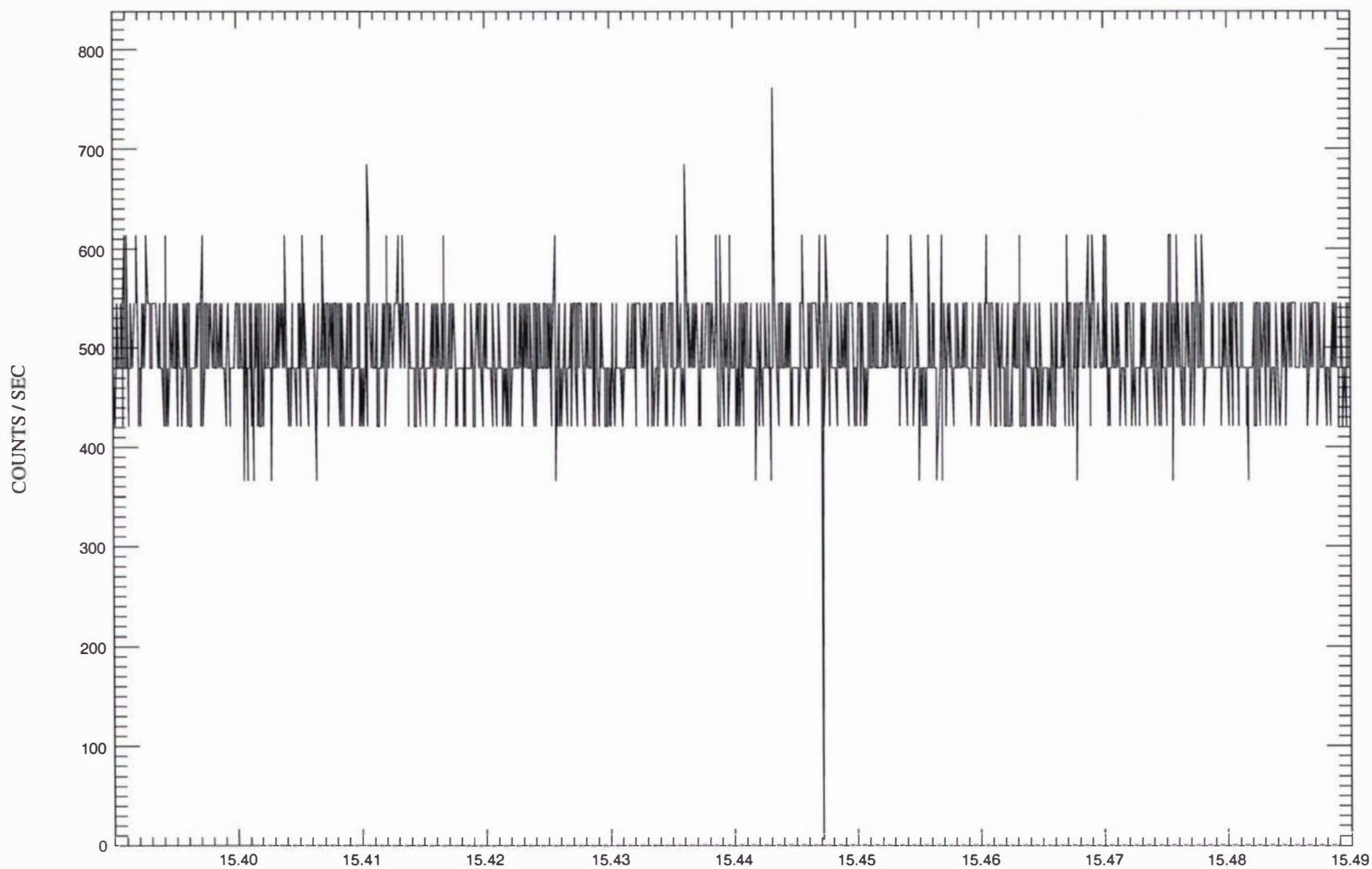


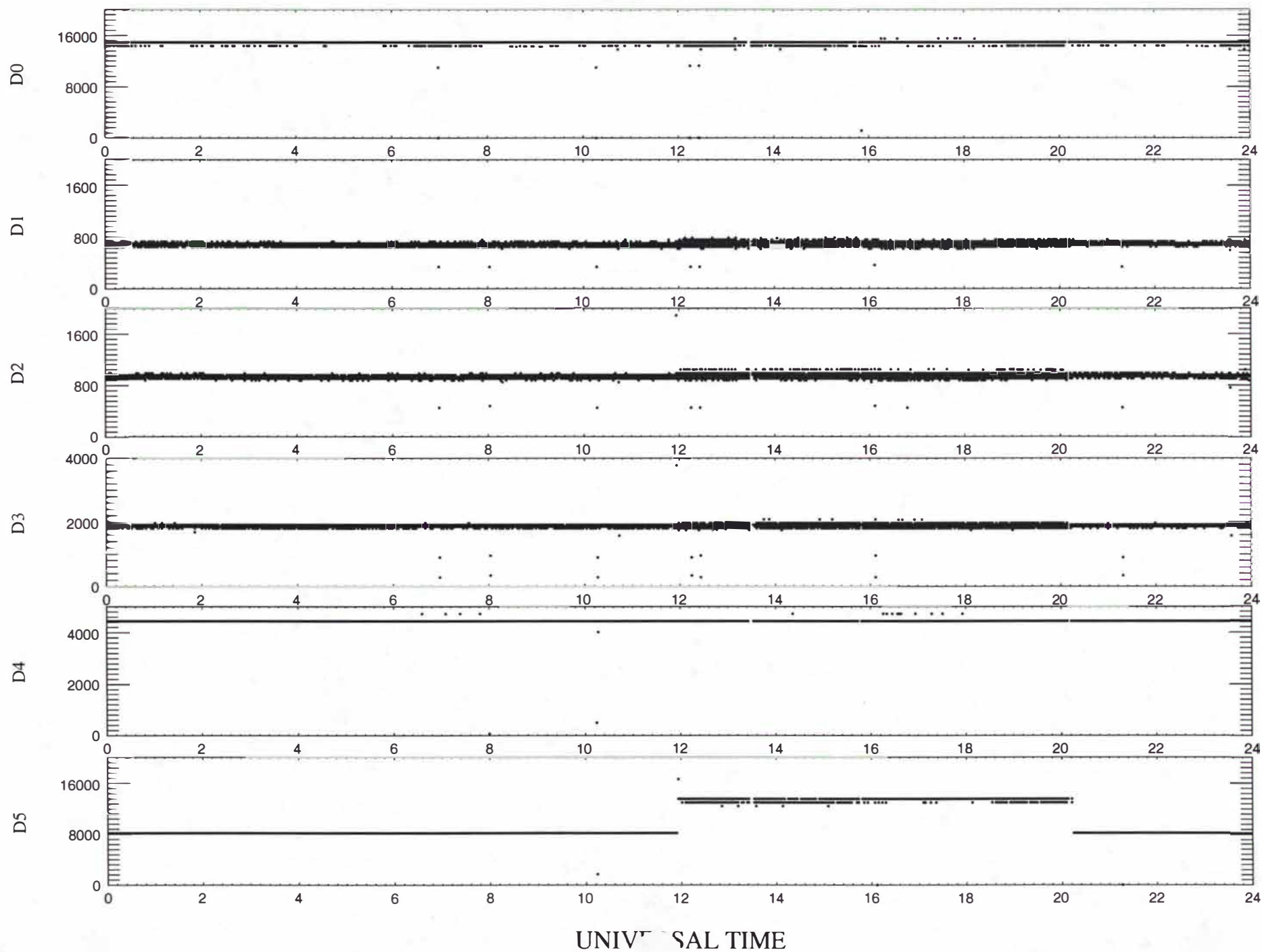
UNIV SAL TIME

Burst Counter 5 at UT=15.443443094889 h=55596.395 s 15:26:36.395



CALIBRATION DATA INCLUDED





Date: Feb 5 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. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

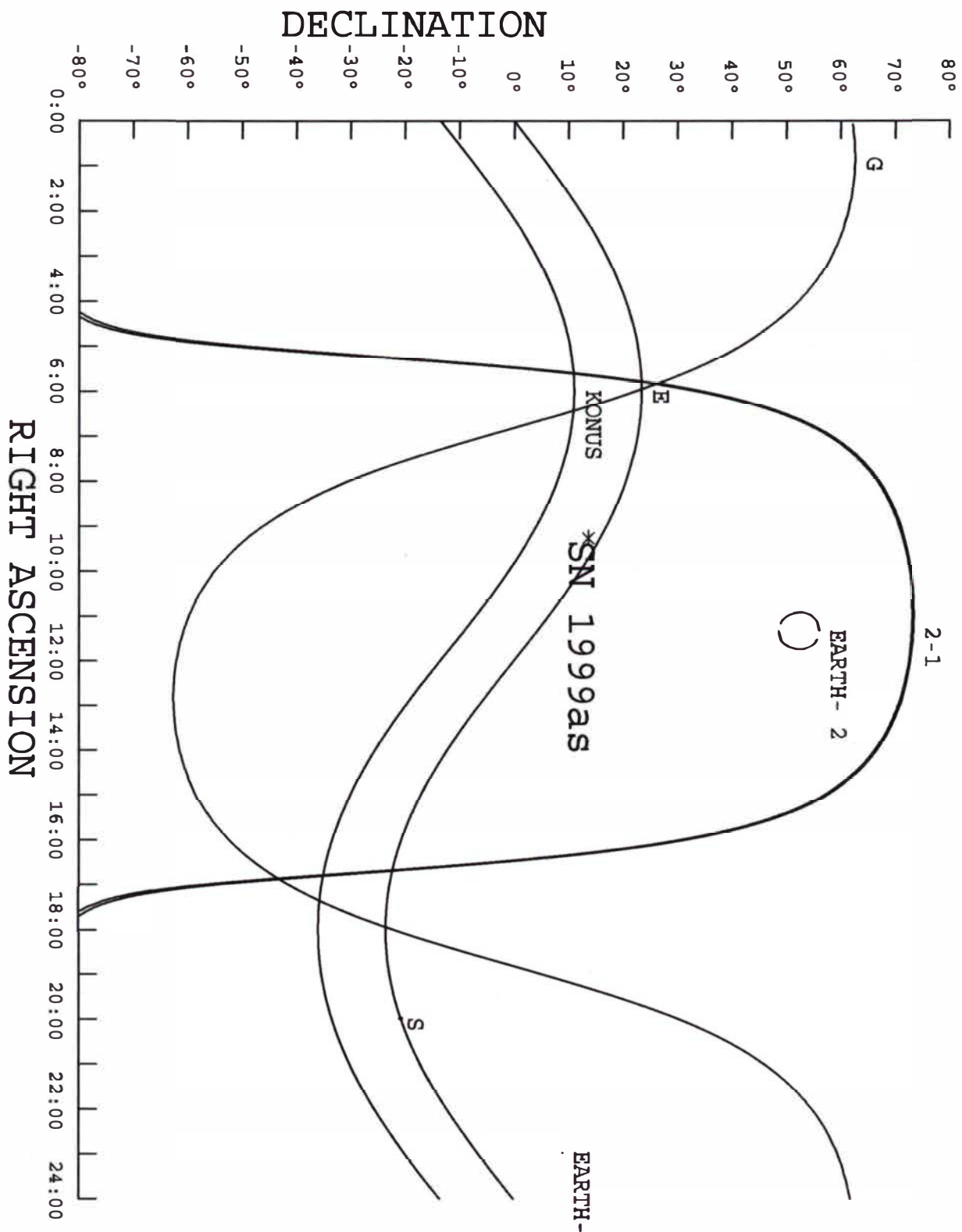
G=GALACTIC EQUATOR

1 ULYSSES

2 KONUS

EVENT OF JAN 18, 1999 3:05

5 / 2 / 1



KONUS

18/01/99 11301.301

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.944 S

4300

DETECTOR 2 - N. ECLIPTEIC

05/02/01

3300

2300

1300

300

100

200

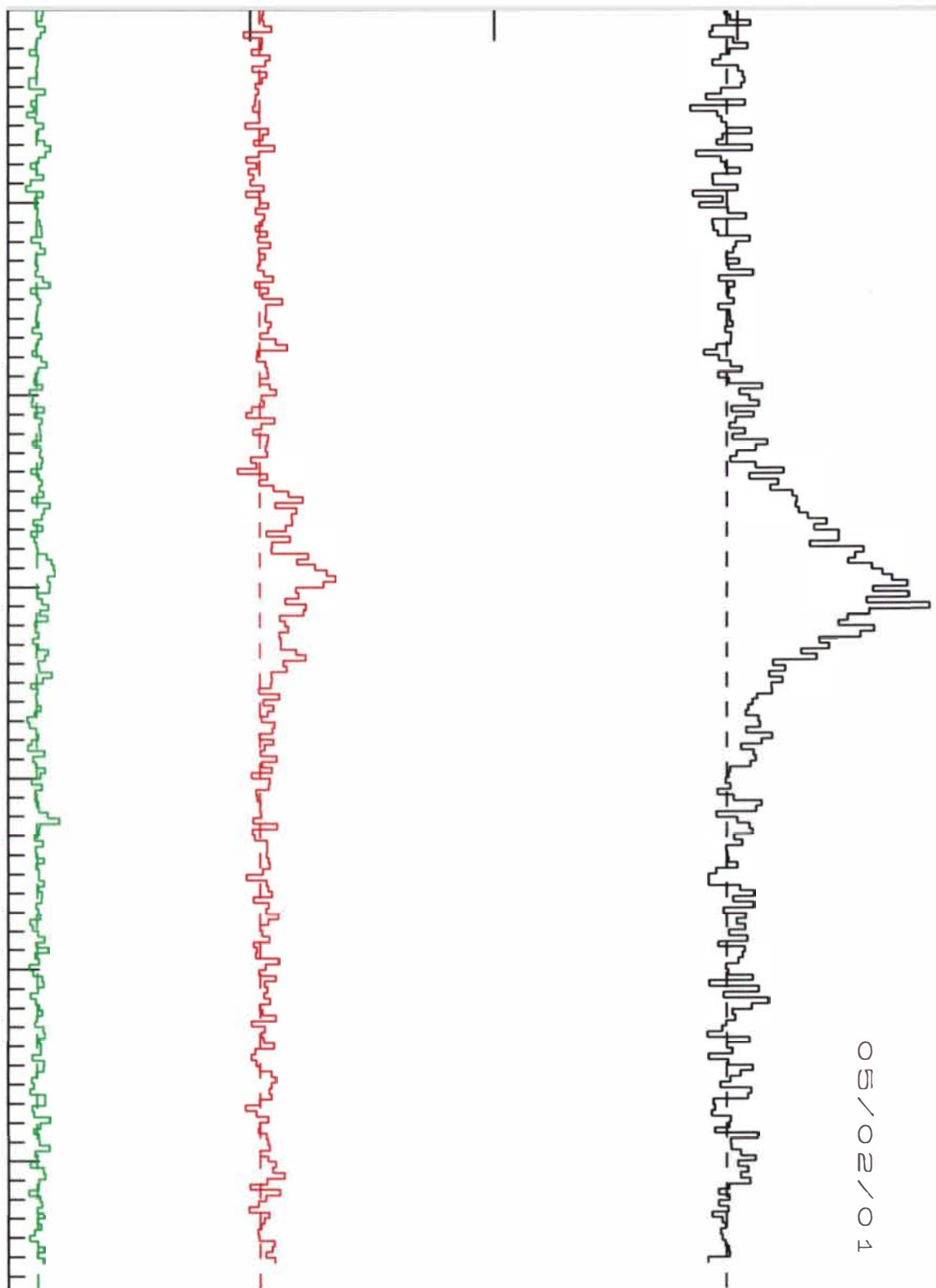
300

400

500

600

TIME, SECS



KONUS

18/01/99 11301.301

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.944 S

4400

3400

2400

1400

400

100

200

300

400

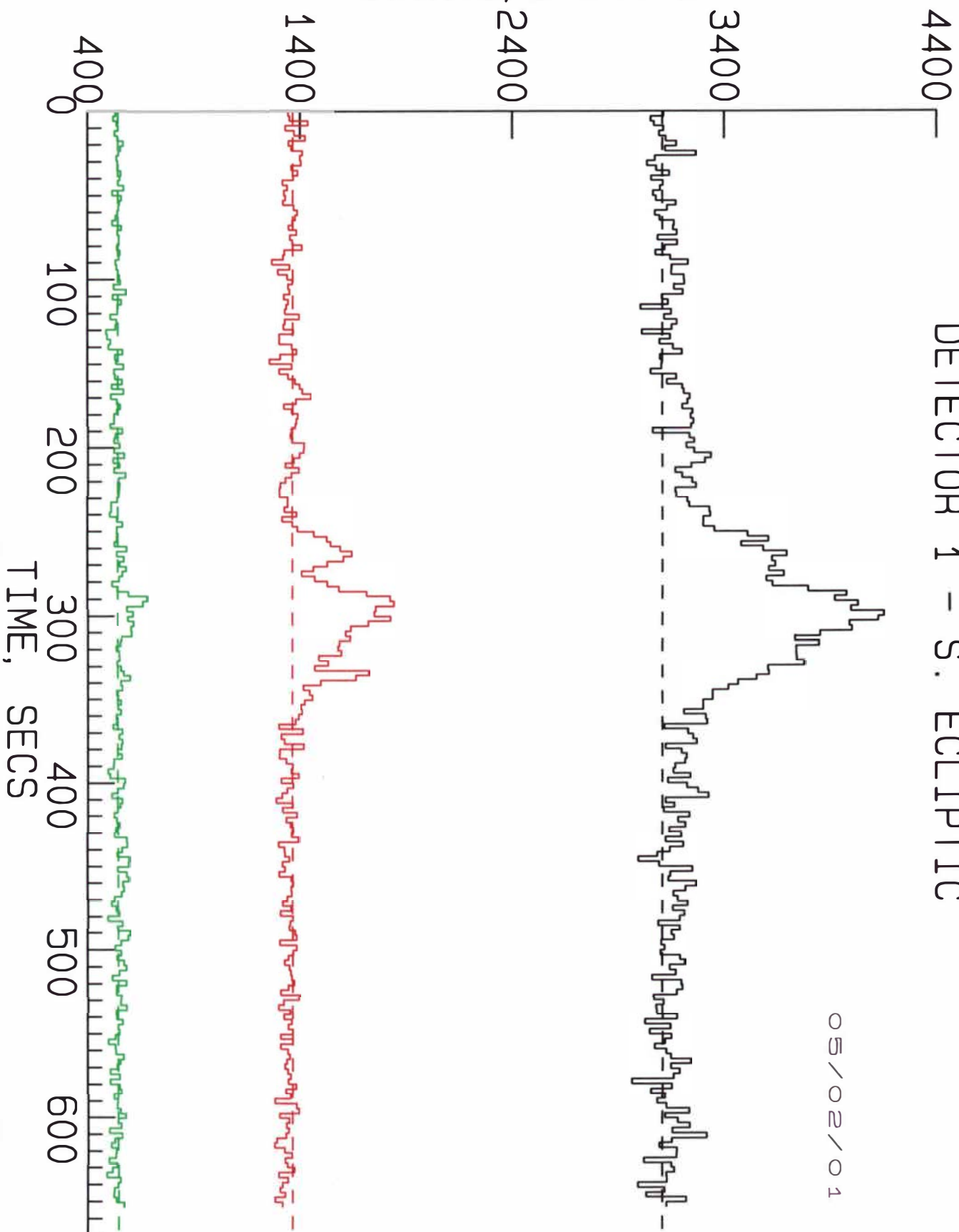
500

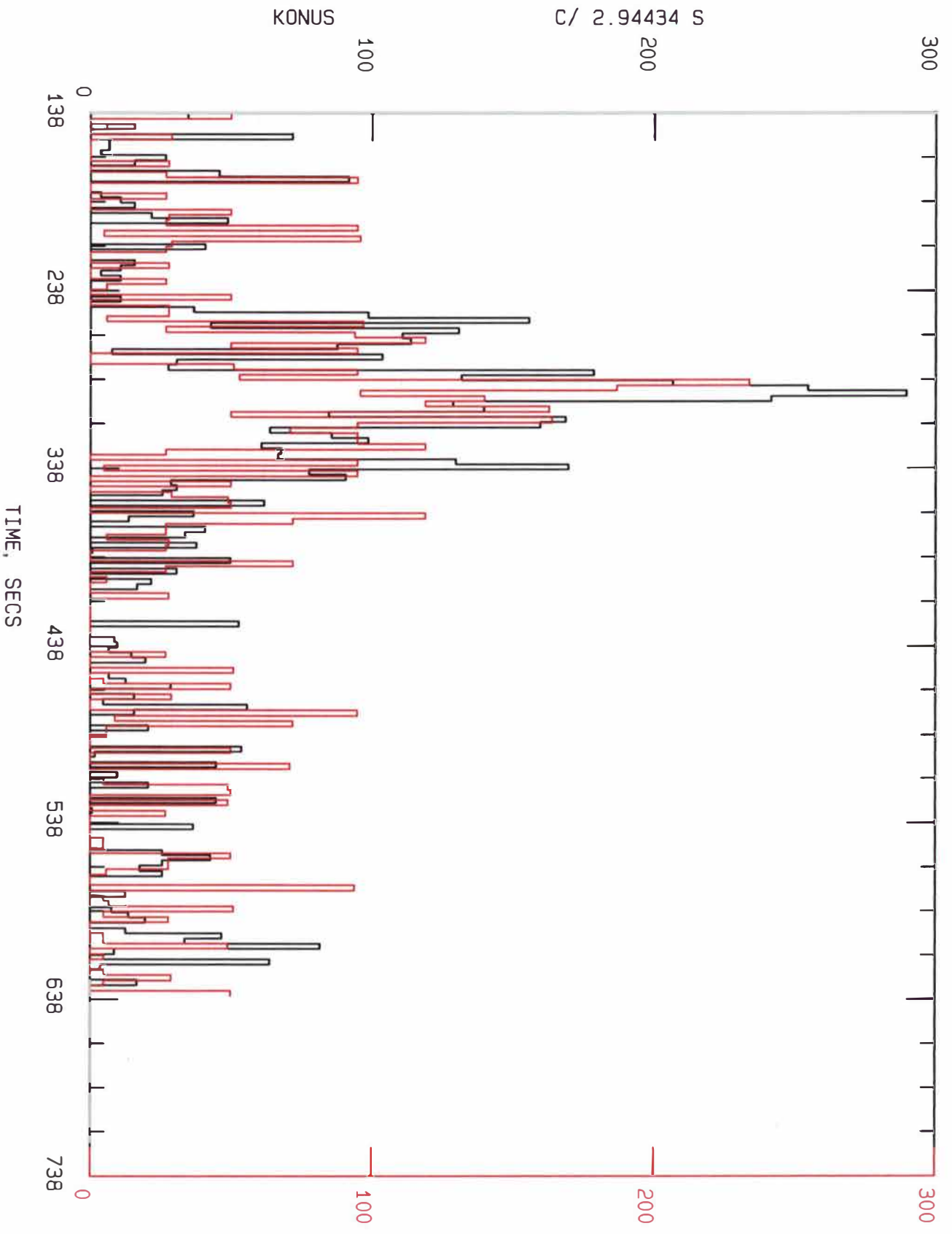
600

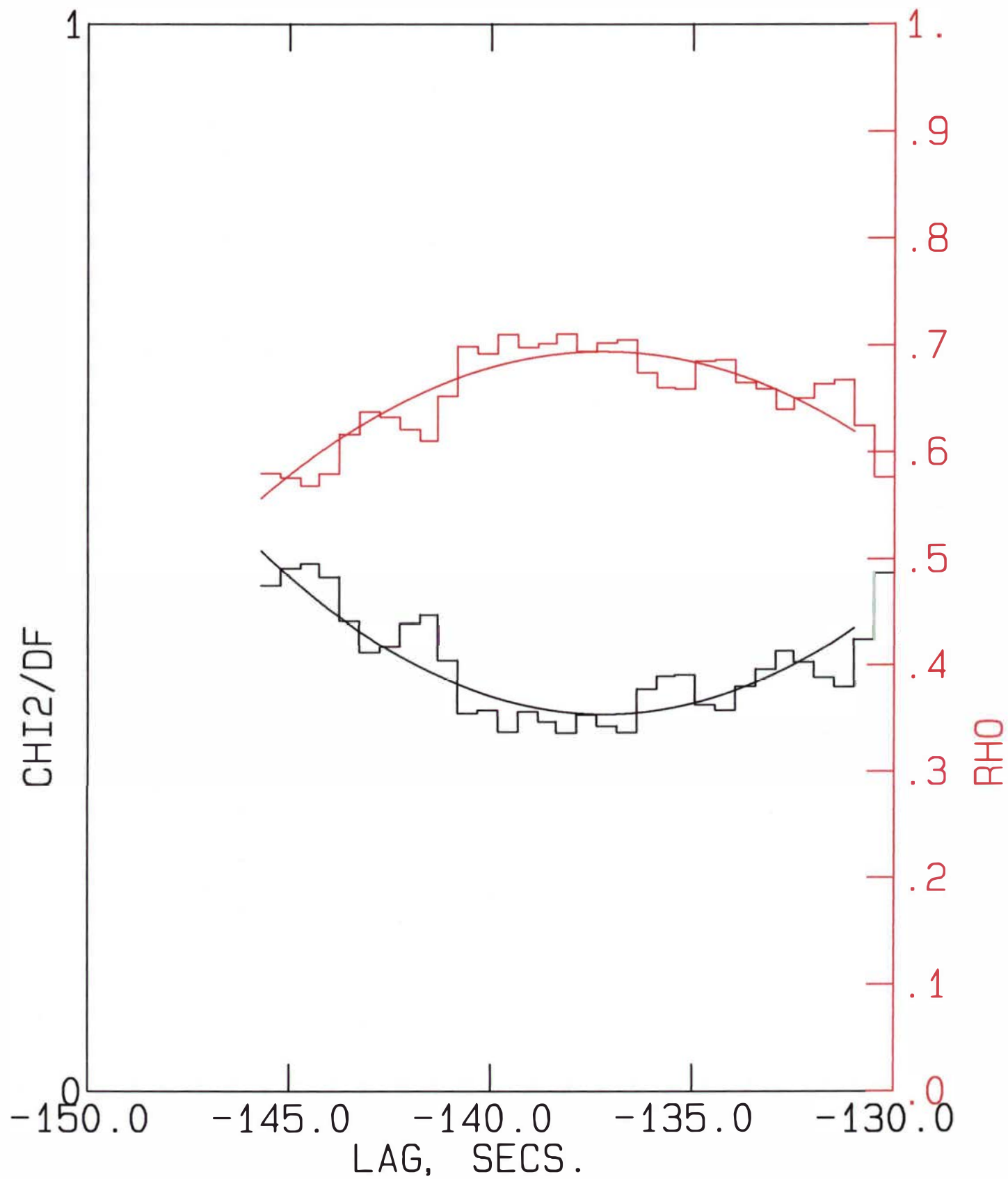
DETECTOR 1 - S. ECLIPTEIC

05/02/01

TIME, SECS

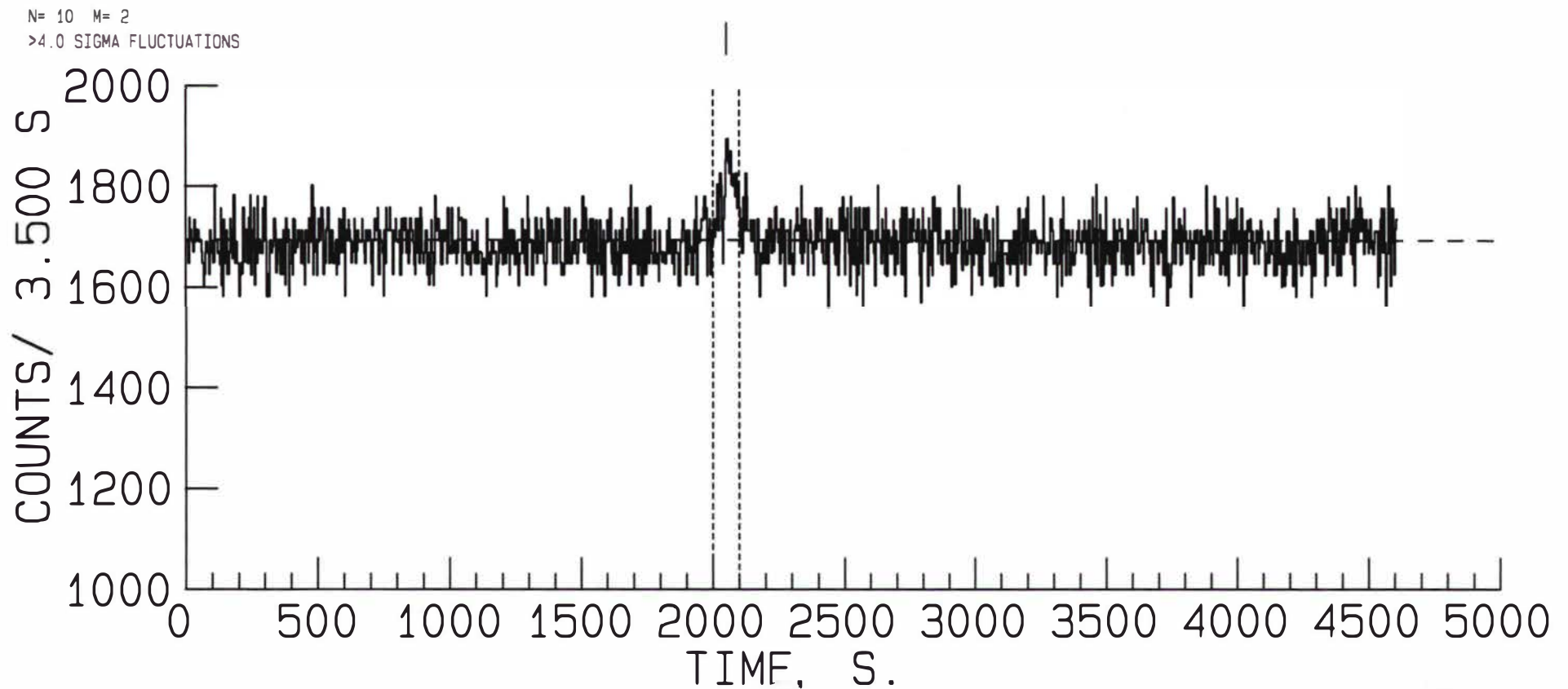






ULYSSES RT
18/ 1/99 9252.060 s
0.500 S INTERVALS REGROUPED BY 7
22- 150 keV

5 / 2 / 1

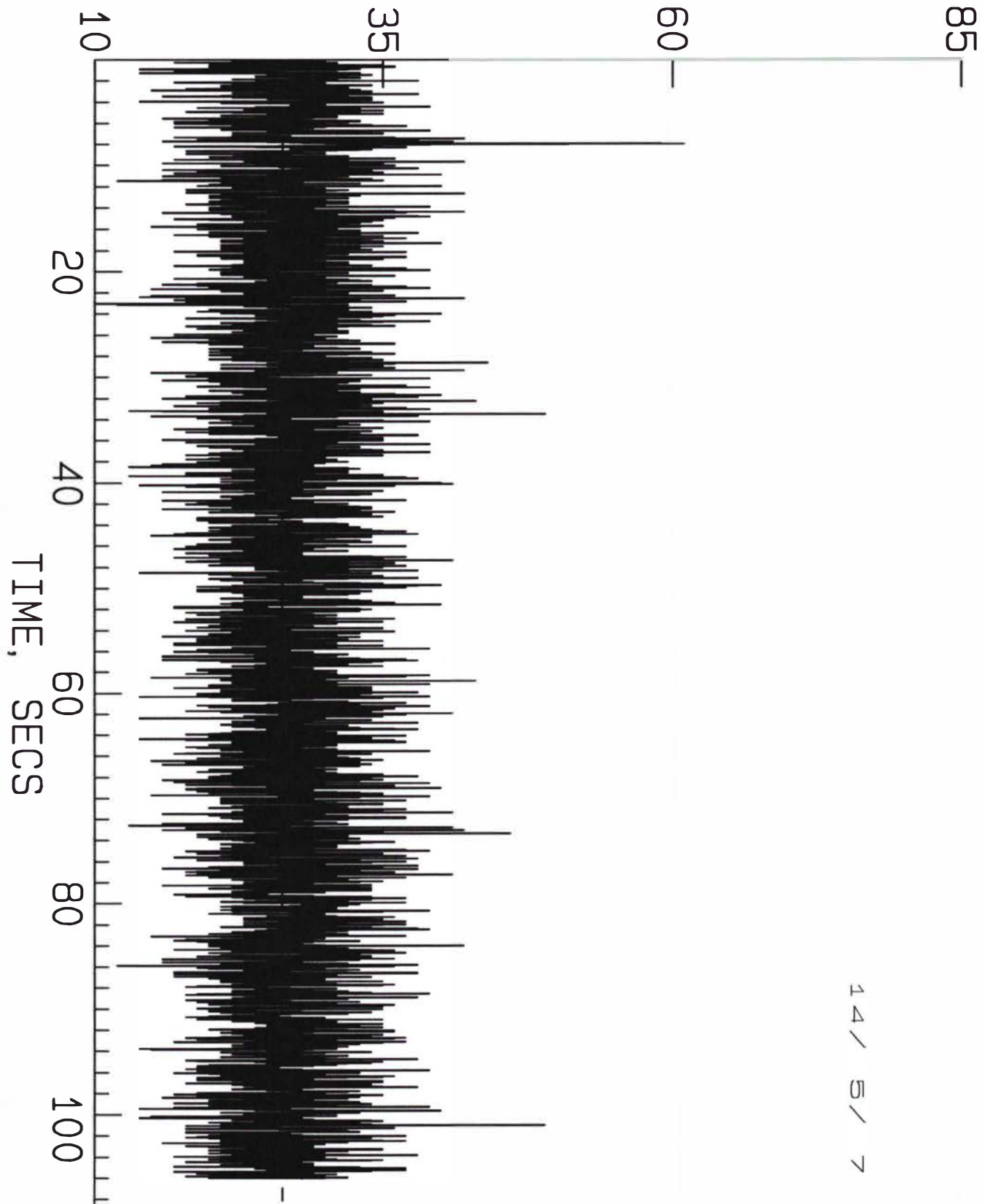


SAX GRBM

18/01/99 45387.984

40- 700 keV

COUNTS/0.031 S



GRBM 19990118 46815

ULYSSES RT

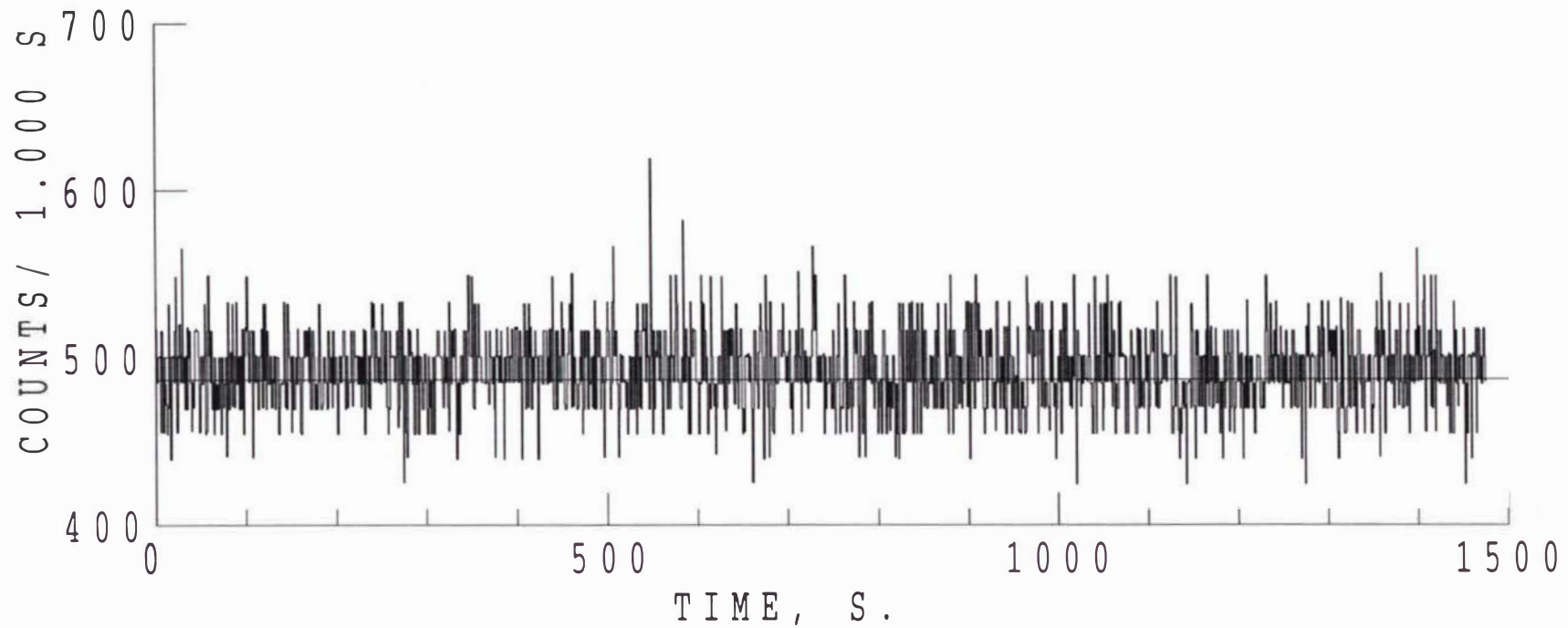
10/05/07

18/01/99 46080.191 s

0.250 S INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



KONUS 914

6 / 7 / 99

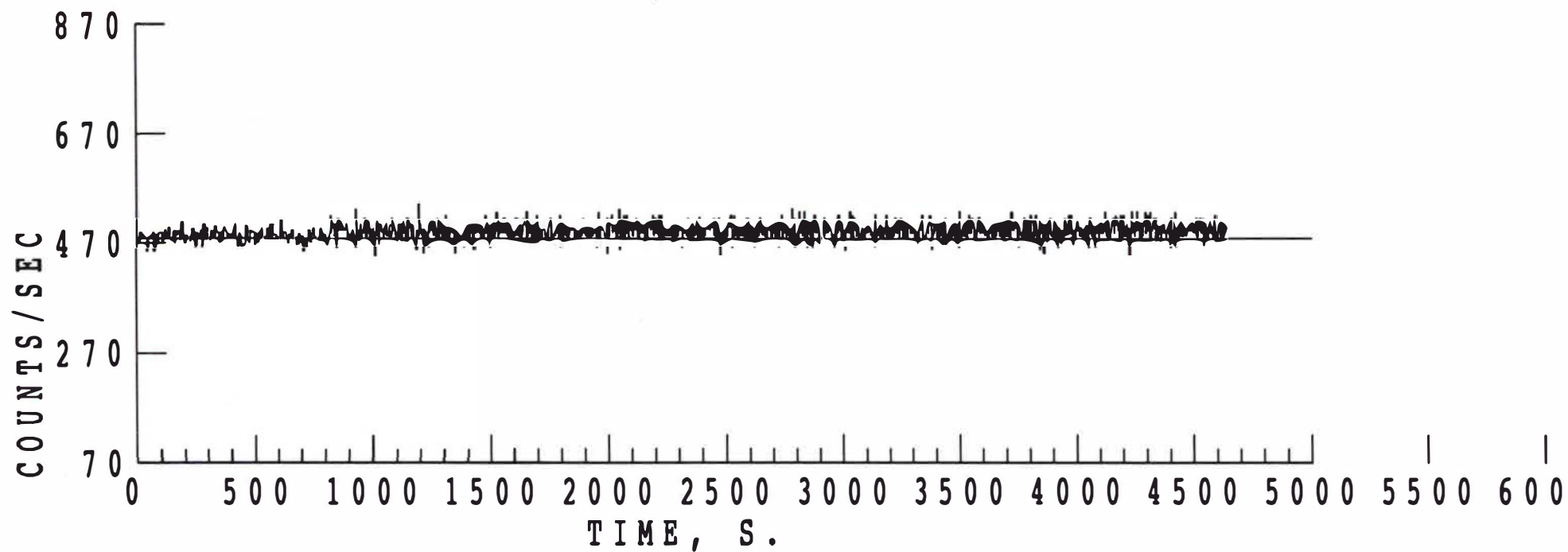
ULYSSES RT

18 / 1 / 99 82656.312 s

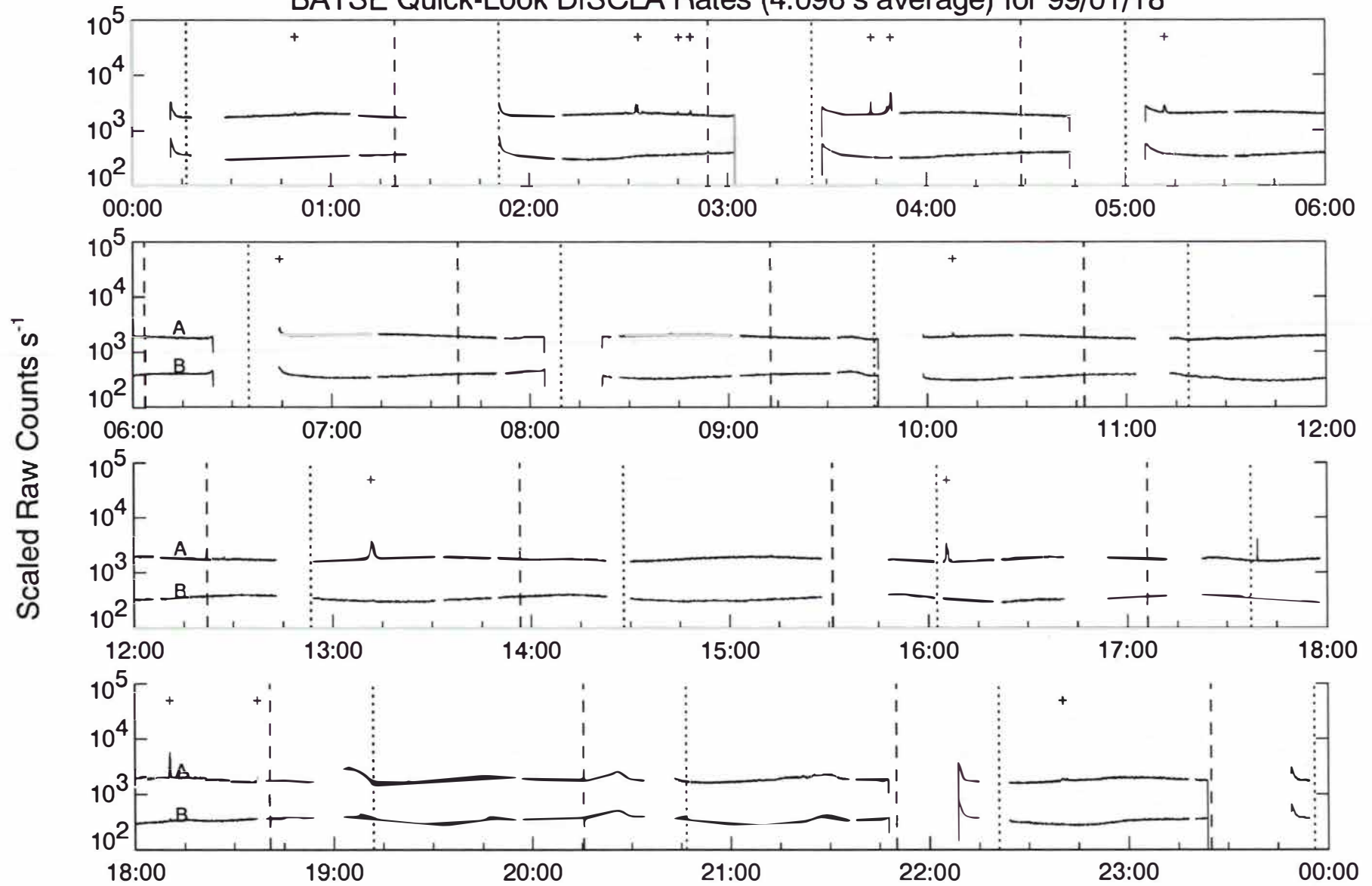
INTERVALS REGROUPED BY 12

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/18

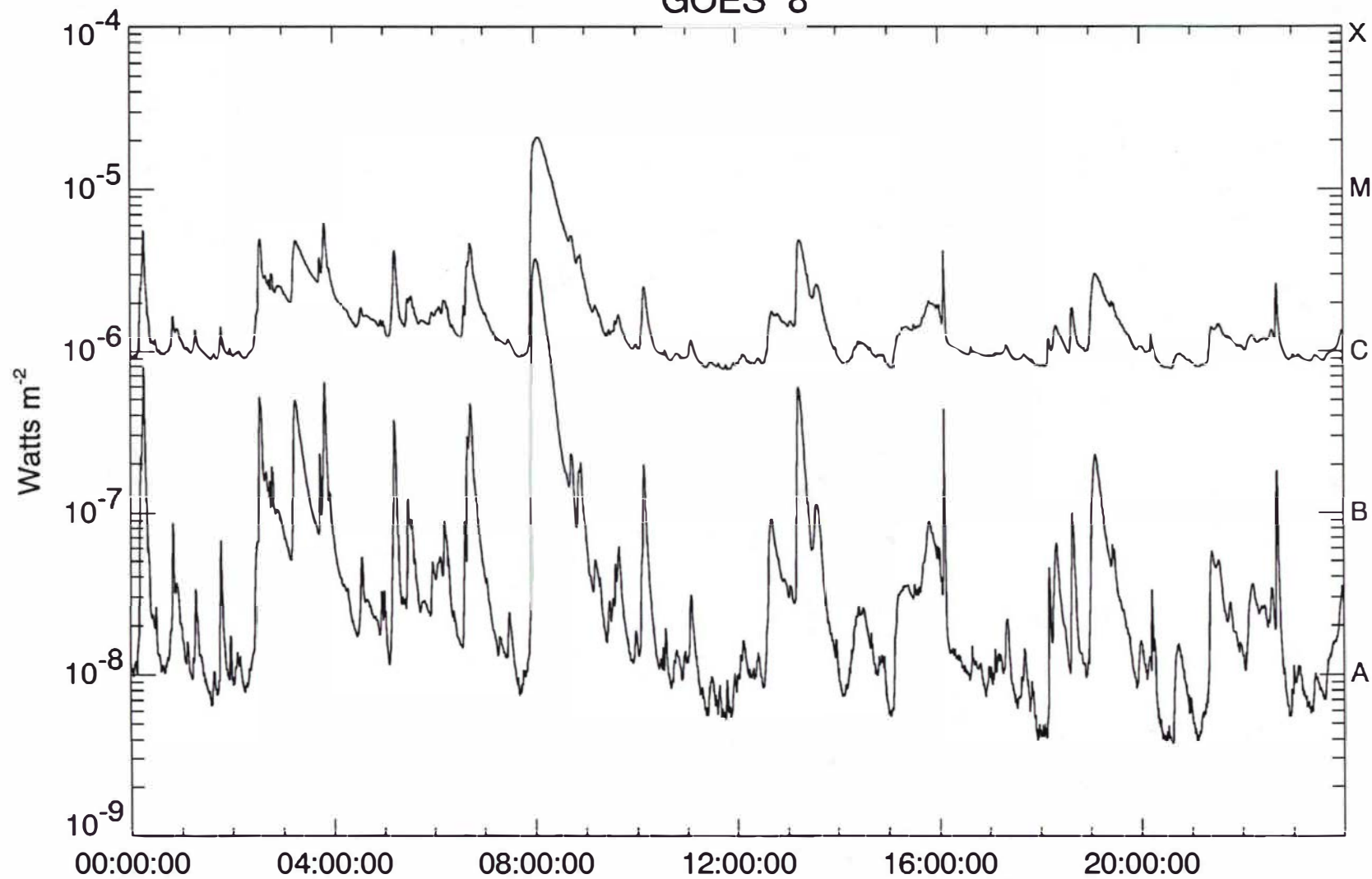


Current Time: 99/01/22, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/18, 0000:00

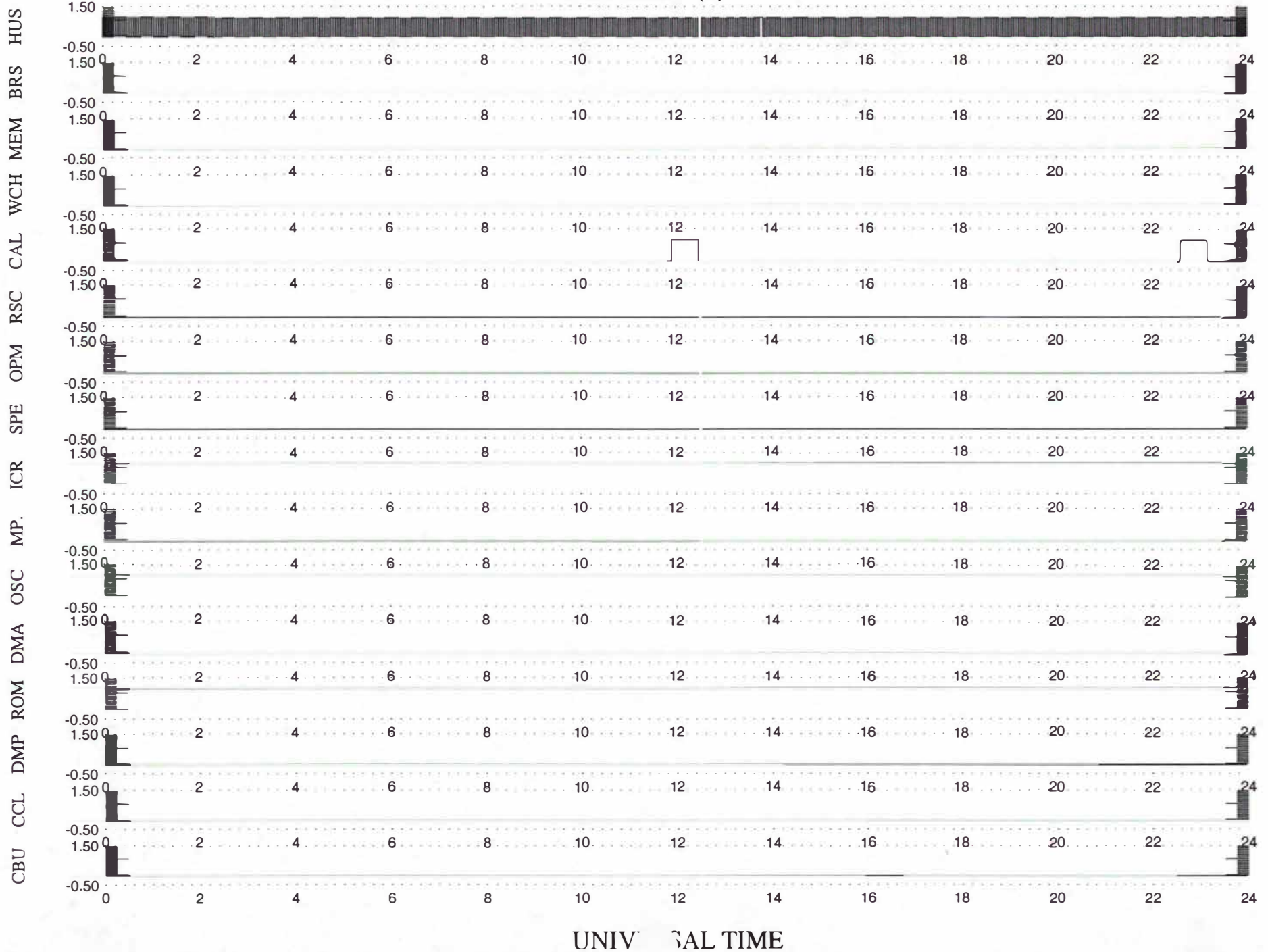
Plot created: 99/01/22, 1009

Channel

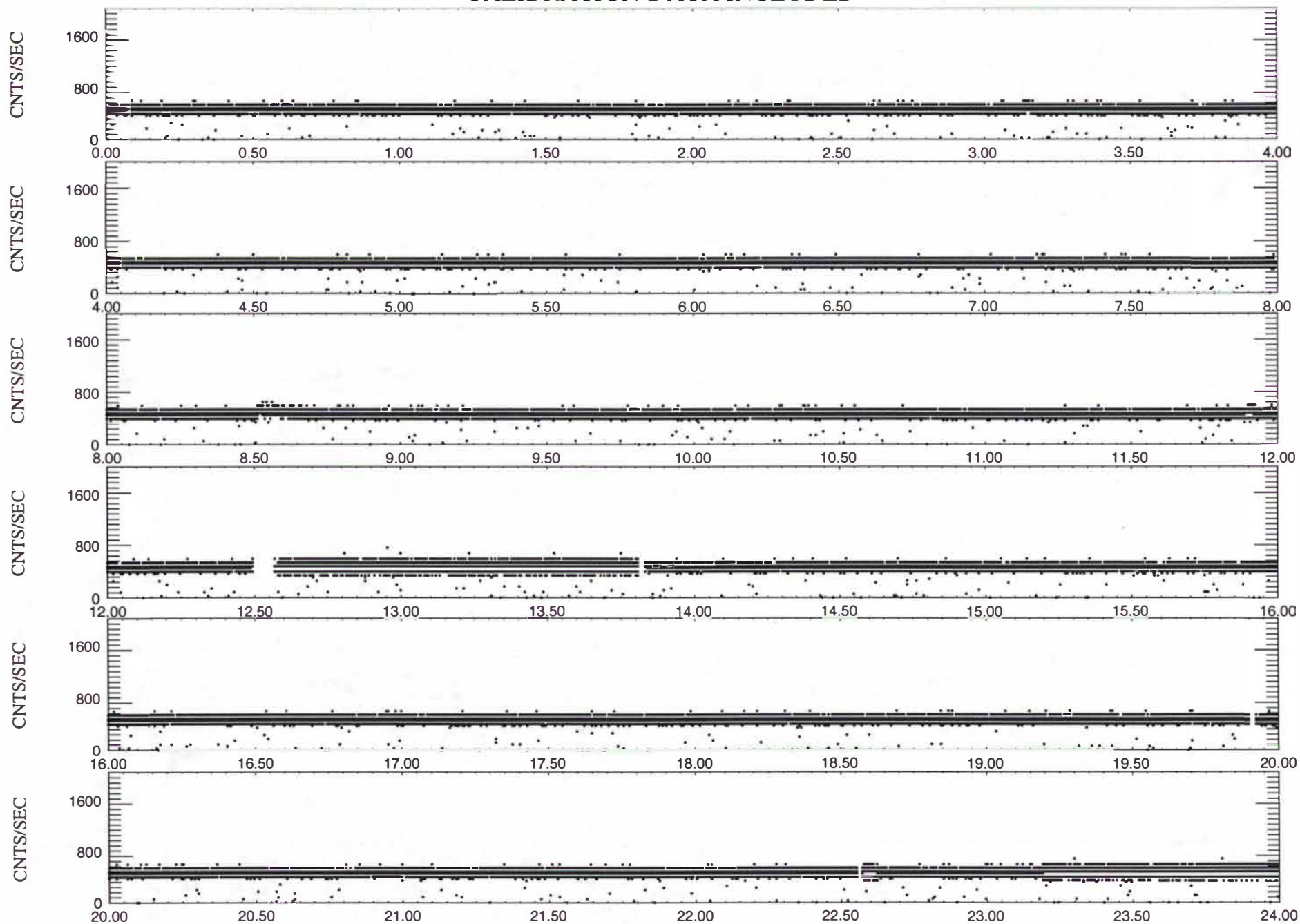
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

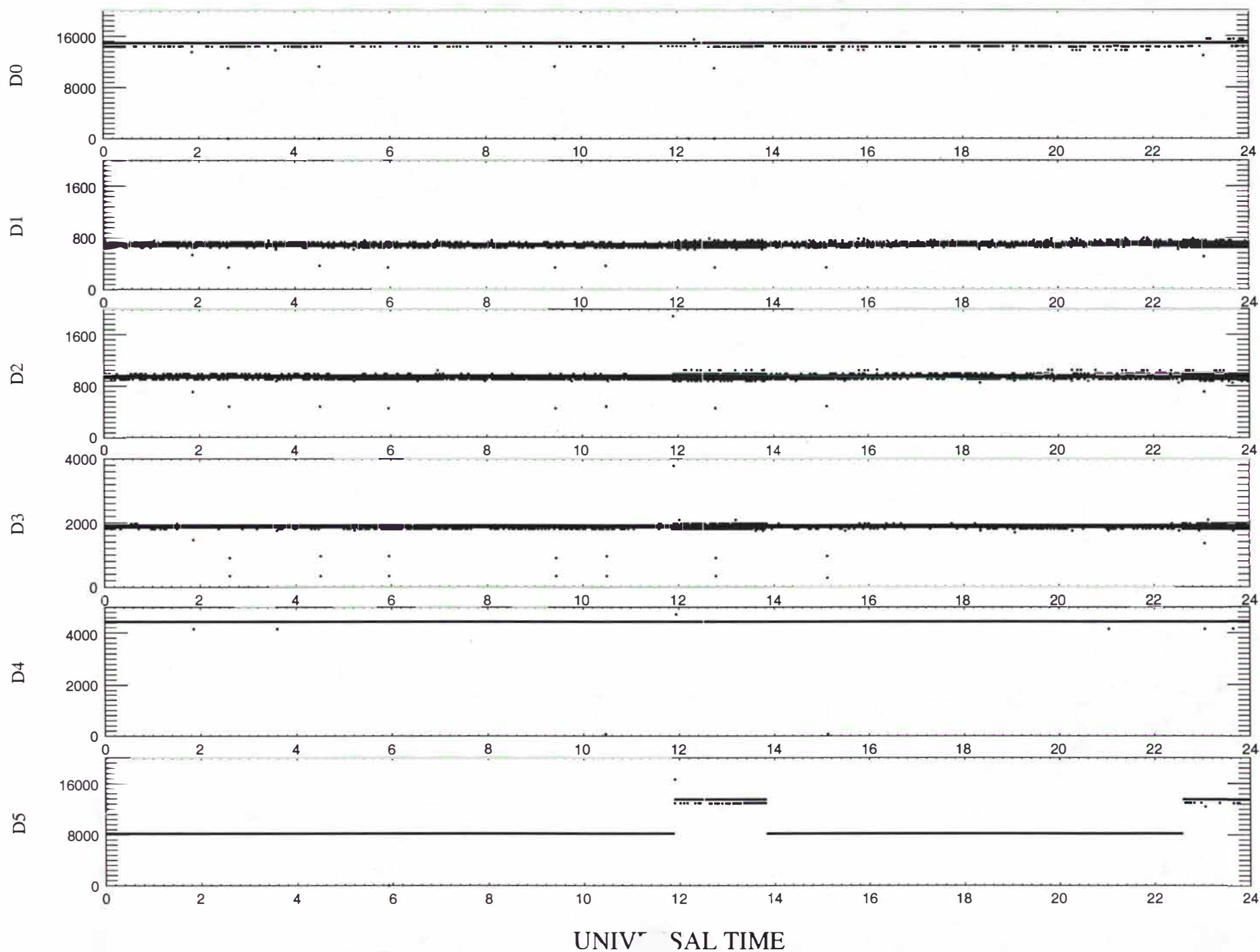
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



SROSS 19990119 00255

ULYSSES RT

04 / 09 / 01

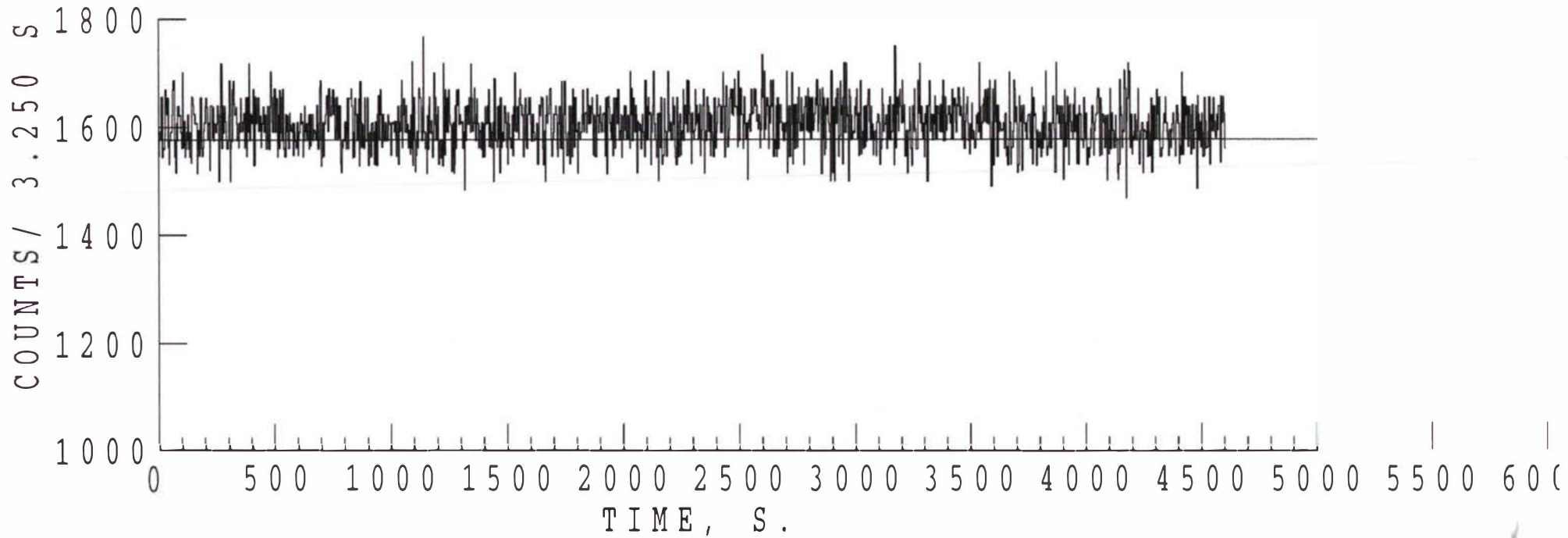
18 / 01 / 99 84348.078 s

0.250 S INTERVALS REGROUPED BY 13

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 Jan 21 09:41:01 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA23953; Thu, 21 Jan 1999 09:41:01 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA18439; Thu, 21 Jan 1999 09:41:00 -0800
Date: Thu, 21 Jan 1999 11:35:19 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990121113519.20273c2d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7332
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7332
EVENT OF 1999 JAN 19 DAY OF YEAR= 19
EVENT CROSSING TIME AT BATSE : 51620. S. OR 14:20:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 236.000 -1.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 1/ 99 IS:
RA= 163.559 DEC= -9.078 DIST= 4.490 AU
BATSE-ULYSSES DISTANCE = 671746125. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.49 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -673.59 SECS.
CROSSING TIME AT ULYSSES IS 50946. S. OR 14:09:06 +/- 410.80 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 1/ 99 IS:
RA= 205.621 DEC= -8.463 DIST= 1.310 AU
MARS-BATSE DISTANCE = 195975872. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.84 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -559.40 SECS.
CROSSING TIME AT MARS IS 51061. S. OR 14:11:00 +/- 50.23 SECONDS

BATSE BURST TRIGGER

NO.: 7332

TIME: TJD=1197 SECONDS=51620

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 50.8 AZIMUTH= 17.0 ERROR= 11.7 DEGREES

COMMENTS:

SINGLE SPIKE, DUR. APPROX. 0.17 S. NOT VISIBLE ABOVE 300 KEV.
SPARSE DATA.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7332	990119	11197	51620	5000	236	-01	.17

BATSE BURST# 7332

ULYSSES RT

21 / 1 / 99

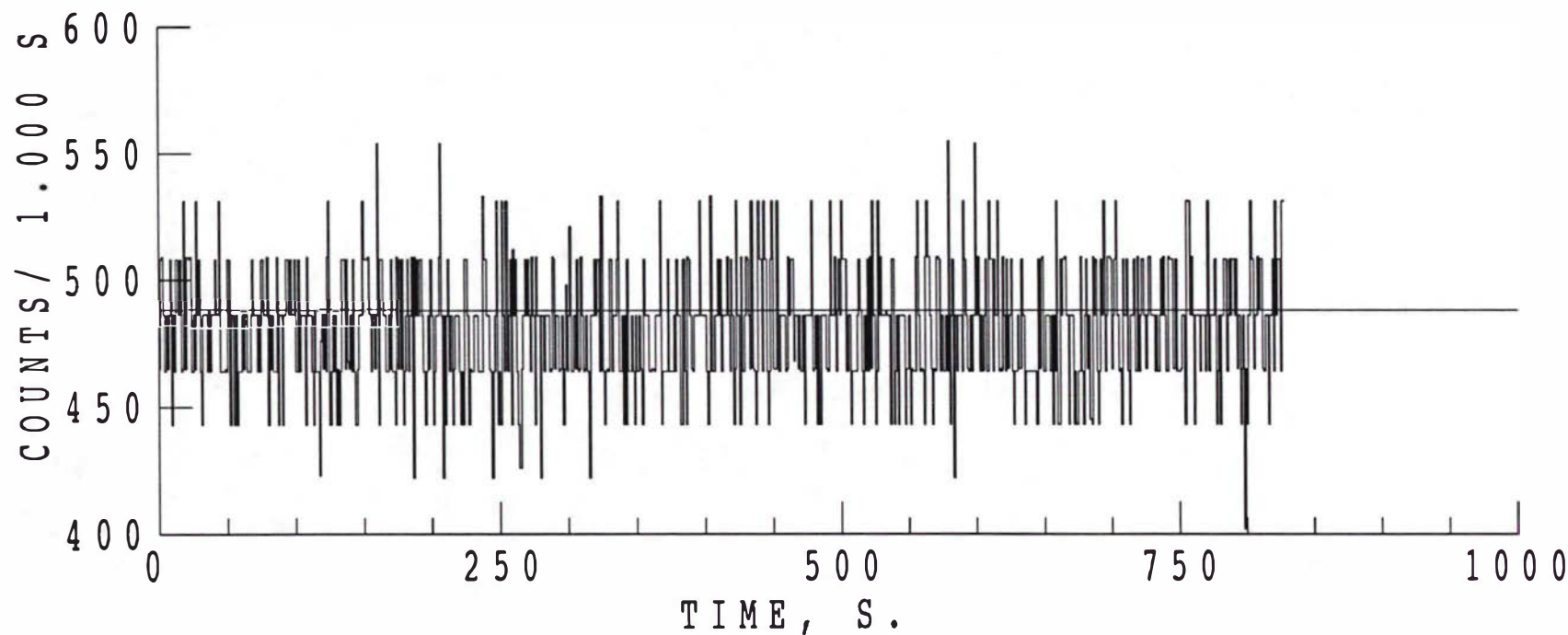
19 / 1 / 99 50544.367 s

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 PETERSON@fender.msfc.nasa.gov Thu Jan 21 08:10:00 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Thu, 21 Jan 1999 10:09:19 -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.: 7333

Jan 19

TIME: TJD=1197 SECONDS=77052

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

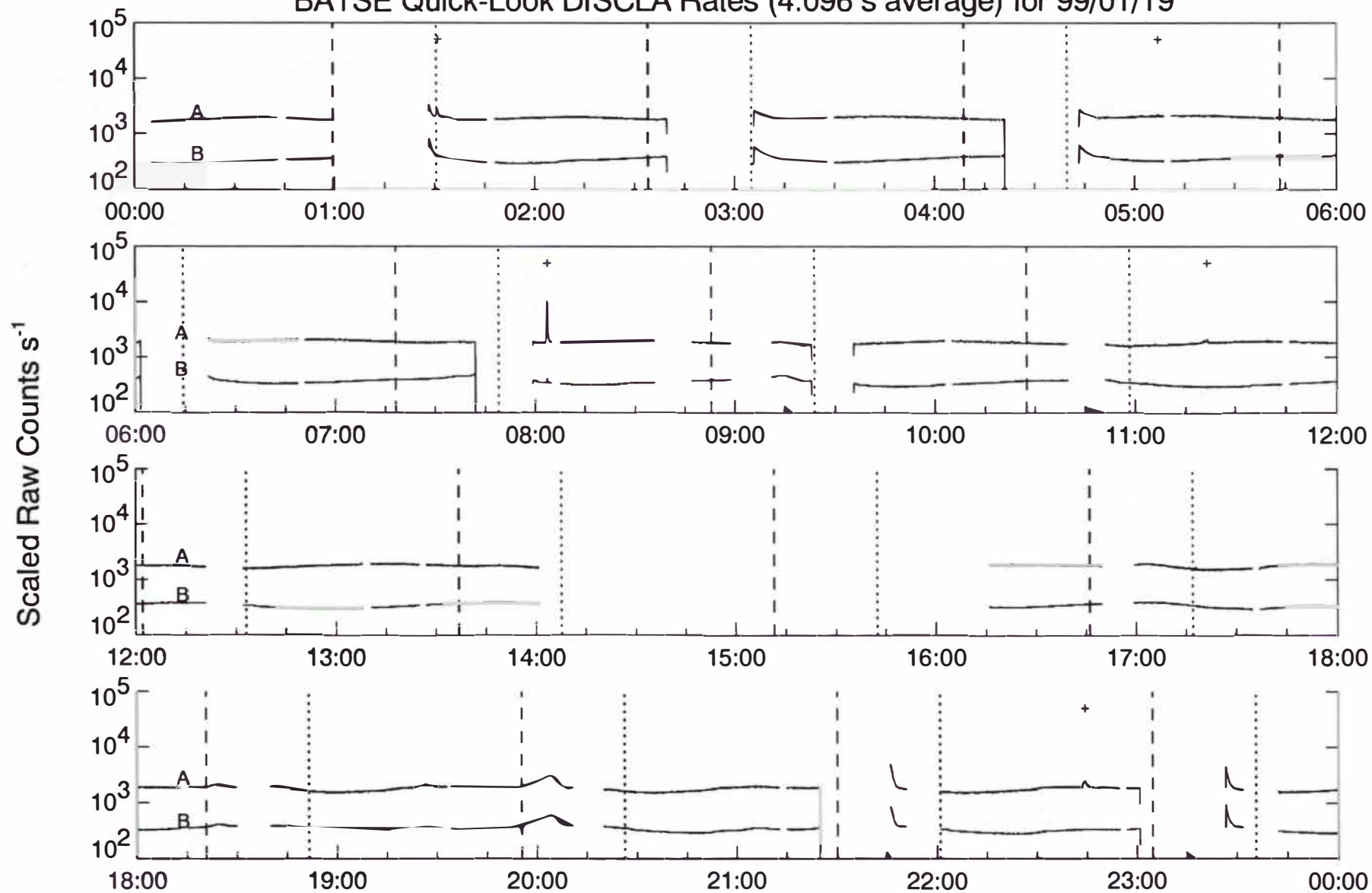
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/19

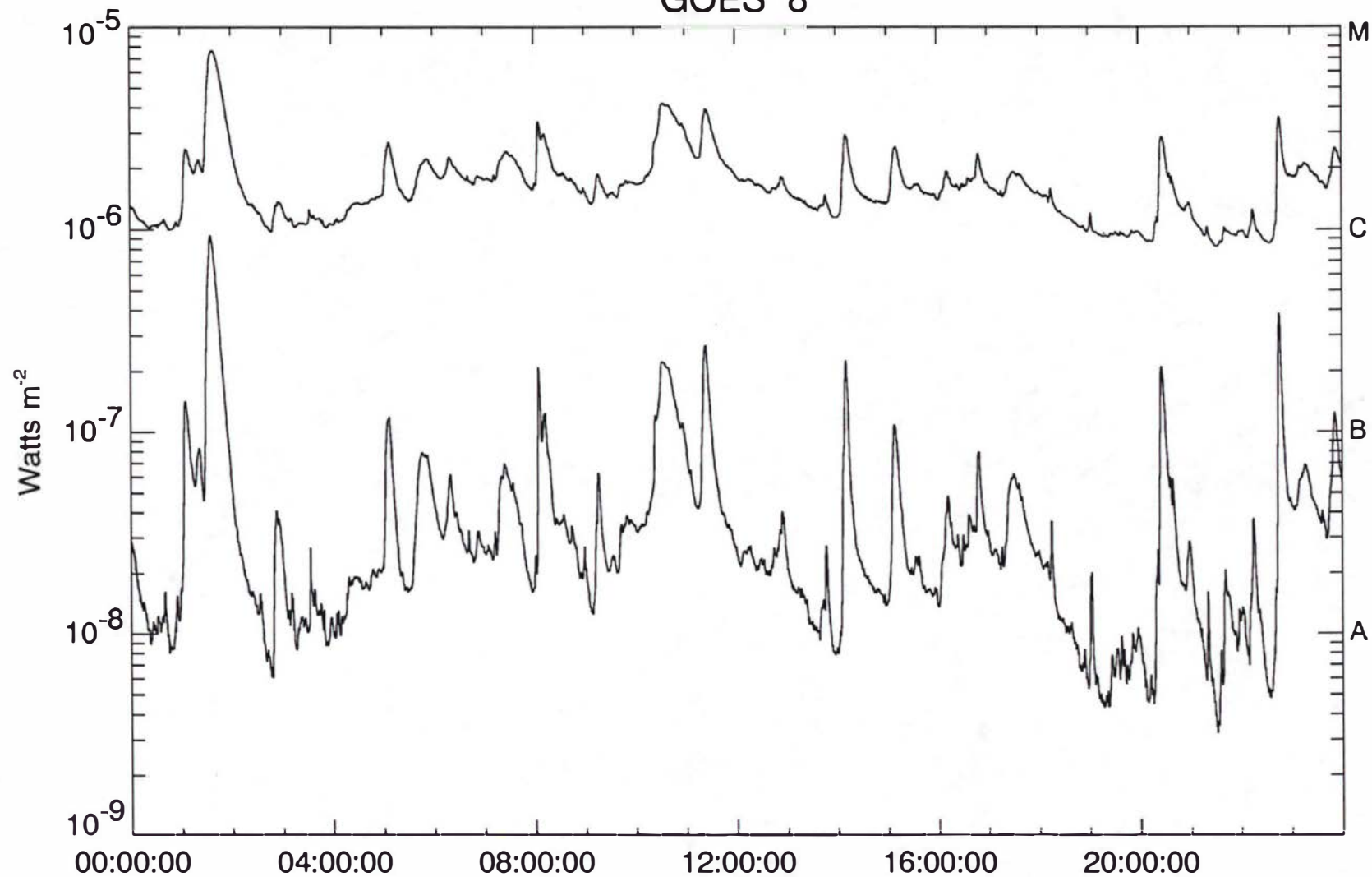


Current Time: 99/01/23, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/19, 0000:00

Plot created: 99/01/23, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

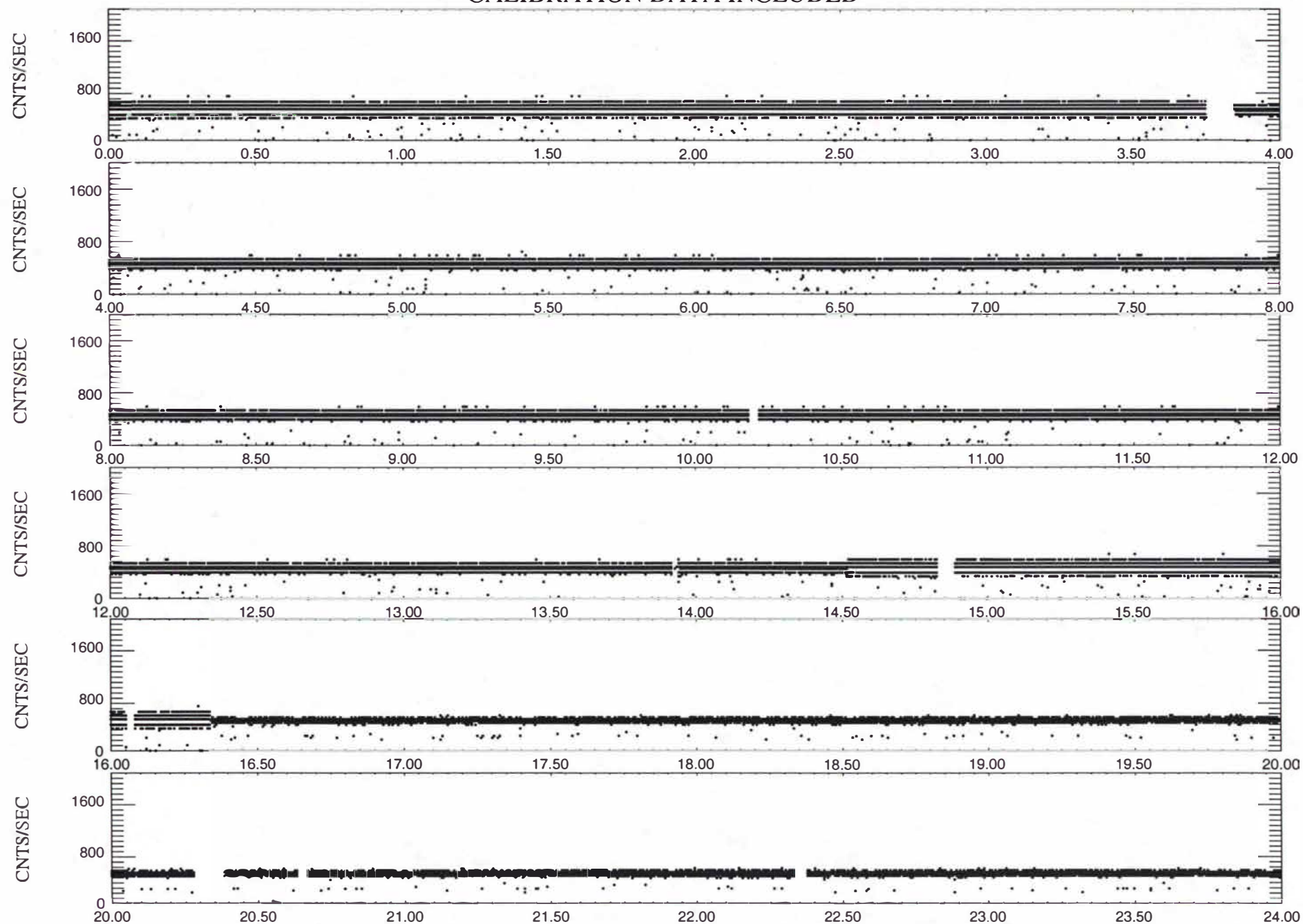
Sample average = 10

NO BURST (5)

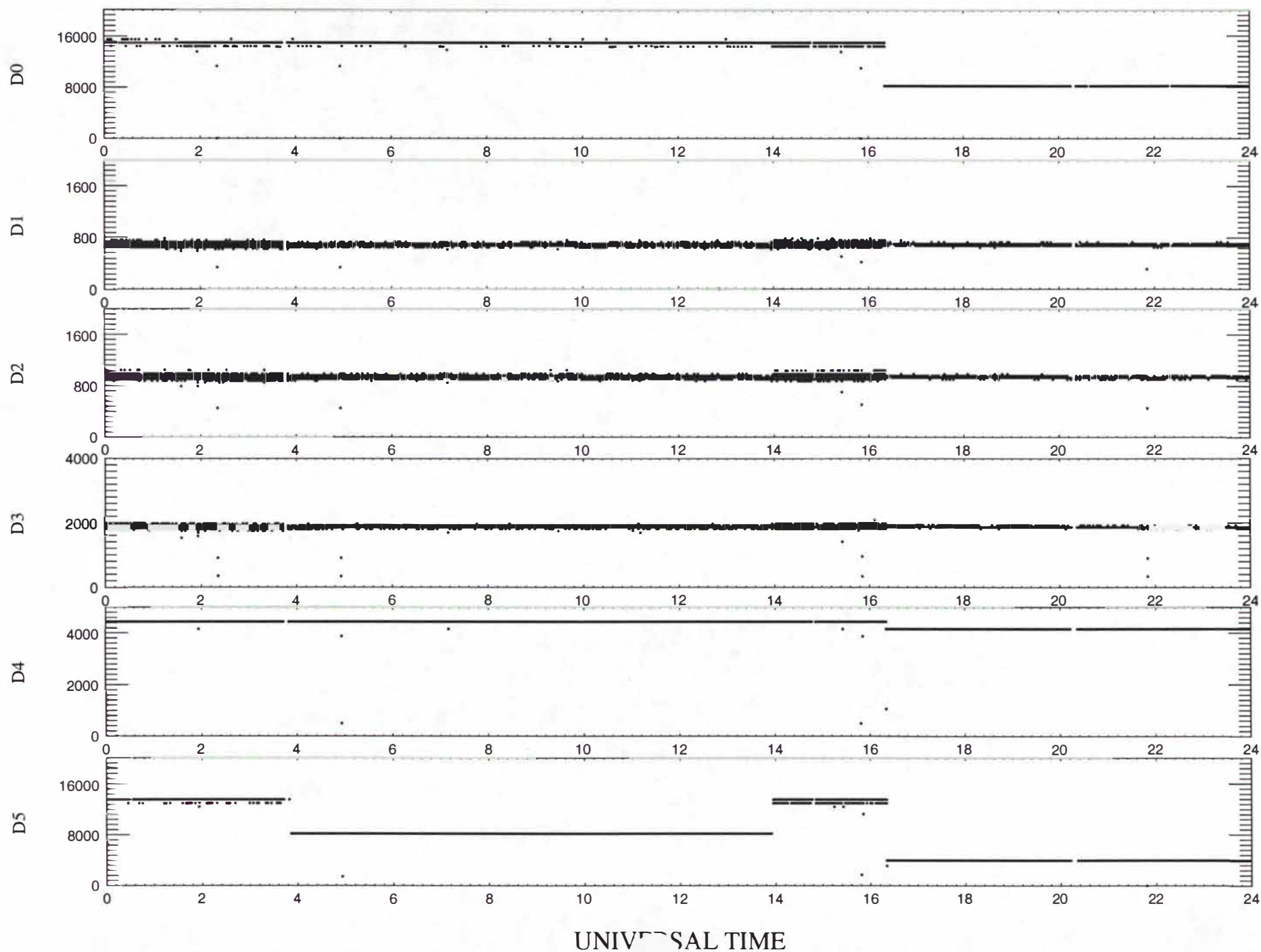


UNIV SAL TIME

CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From BUTTERWORTH@tgrs2.gsfc.nasa.gov Thu Jan 28 12:48 PST 1999
Date: Thu, 28 Jan 1999 15:48:17 -0500
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
cline@apache.gsfc.nasa.gov, scott@milkyway.gsfc.nasa.gov,
TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses event of 990120 was not detected by Konus

Hi Everyone,

This event is not visible in Konus data.

Paul.

in response to:

Date: Sat, 23 Jan 1999 09:04:34 -0800
From: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199901231704.JAA22689@scylla.>
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, 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: GRB990120
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

January 20 1999 00:26 Ulysses time; weak, 32 ms long

The spacecraft was about 2250 light-seconds from Earth. This event may have come from SGR1900+14; if so, the Earth-crossing time would have been ~1250 s earlier.

Was this event detected by anyone else?

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

From kraken@milkyway.gsfc.nasa.gov Tue Jan 26 11:34 PST 1999
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Tue, 26 Jan 1999 14:36:39 -0500
 : khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@milkyway.gsfc.nasa.gov>
Subject: Ulysses bursts not seen by TGRS

Hi Kevin,

The bursts listed below were not seen by TGRS.

Pete

>ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

>

>

>January 20 1999 00:26 Ulysses time; weak, 32 ms long

>January 17 1999 15:26 Ulysses time; weak, 32 ms long

From RICHARDSON@fender.msfc.nasa.gov Fri Jan 22 12:00:16 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 22 Jan 1999 13:59:58 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7334

TIME: TJD=1198 SECONDS=32422

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 Fri Jan 22 12:13:52 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA15287; Fri, 22 Jan 1999 12:13:51 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA19765; Fri, 22 Jan 1999 12:13:48 -0800
Date: Fri, 22 Jan 1999 14:08:01 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990122140801.20275063@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7335
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7335
EVENT OF 1999 JAN 20 DAY OF YEAR= 20
EVENT CROSSING TIME AT BATSE : 34420. S. OR 09:33:40.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 10.000 -8.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 1/ 99 IS:
RA= 163.428 DEC= -9.114 DIST= 4.479 AU
BATSE-ULYSSES DISTANCE = 670050852. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 31.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1905.26 SECS.
CROSSING TIME AT ULYSSES IS 36325. S. OR 10:05:25 +/- 281.81 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 1/ 99 IS:
RA= 206.036 DEC= -8.614 DIST= 1.300 AU
MARS-BATSE DISTANCE = 194450144. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 23.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 596.83 SECS.
CROSSING TIME AT MARS IS 35017. S. OR 09:43:36 +/- 53.16 SECONDS

BATSE BURST TRIGGER

NO.: 7335

TIME: TJD=1198 SECONDS=34420

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=172.4 AZIMUTH=307.2 ERROR=3.3 DEGREES

COMMENTS:

GRB. SHORT SPIKE FOLLOWED BY WEAK PULSE. DURATION APPROX. = 60 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7335	990120	11198	34420	5000	010	-08	60

BATSE BURST# 7335

ULYSSES RT

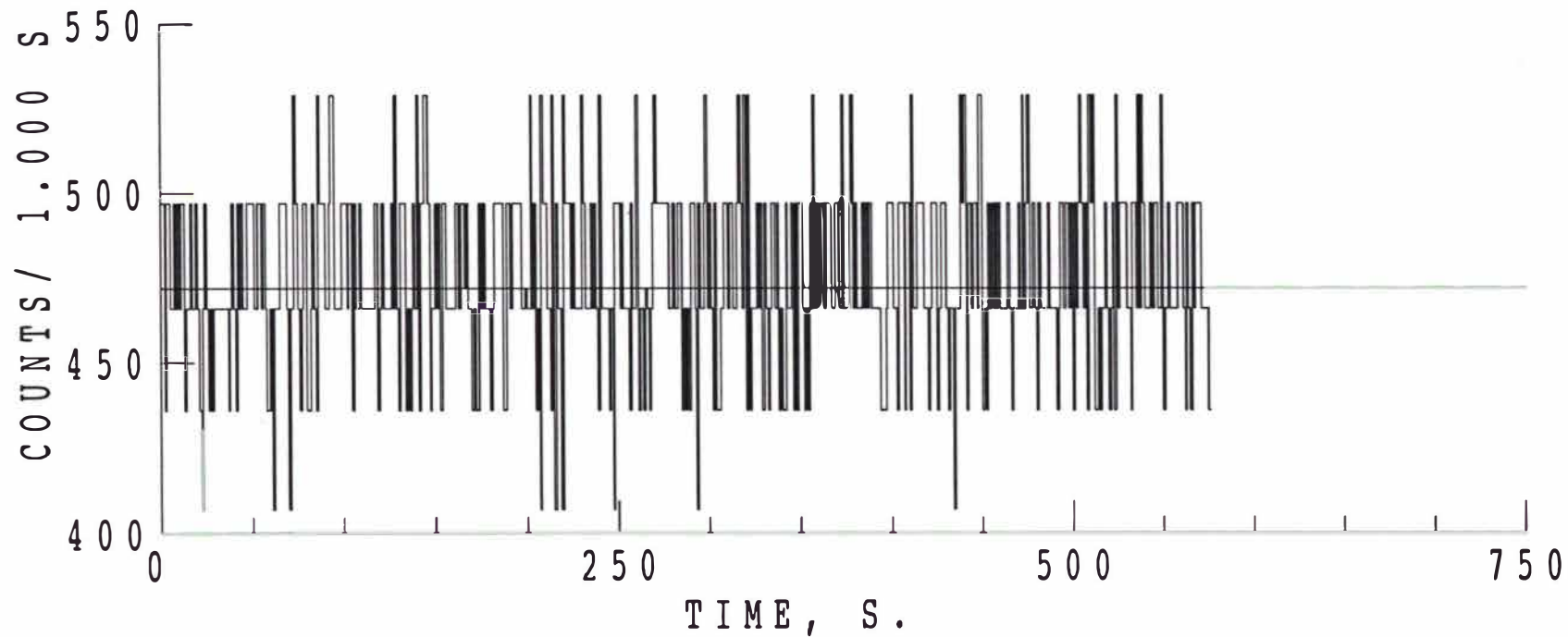
22 / 1 / 99

20 / 1 / 99 36036.098 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

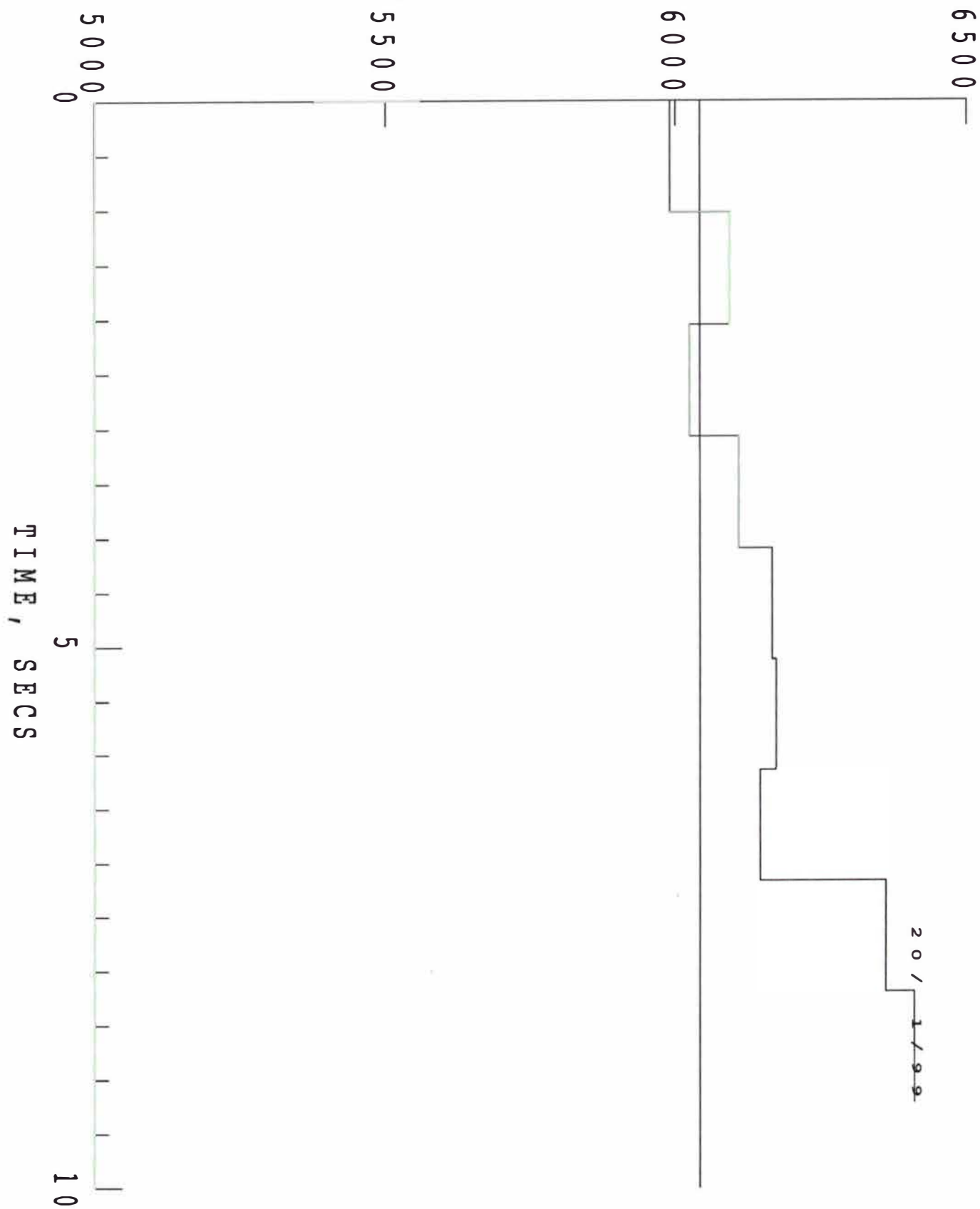
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7335 20/01/99 34410.233

25 - 100 keV

COUNTS/1.024 S



From RICHARDSON@fender.msfc.nasa.gov Fri Jan 22 12:04:08 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 22 Jan 1999 14:03:39 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7336

TIME: TJD=1198 SECONDS=75693

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 Fri Jan 22 12:05:17 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 22 Jan 1999 14:04:53 -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,
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.: 7337

TIME: TJD=1198 SECONDS=77034

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

GRBM 19990820 83290

ULYSSES RT

26 / 08 / 09

20/08/99 80460.141 s

INTERVALS REGROUPED BY 14

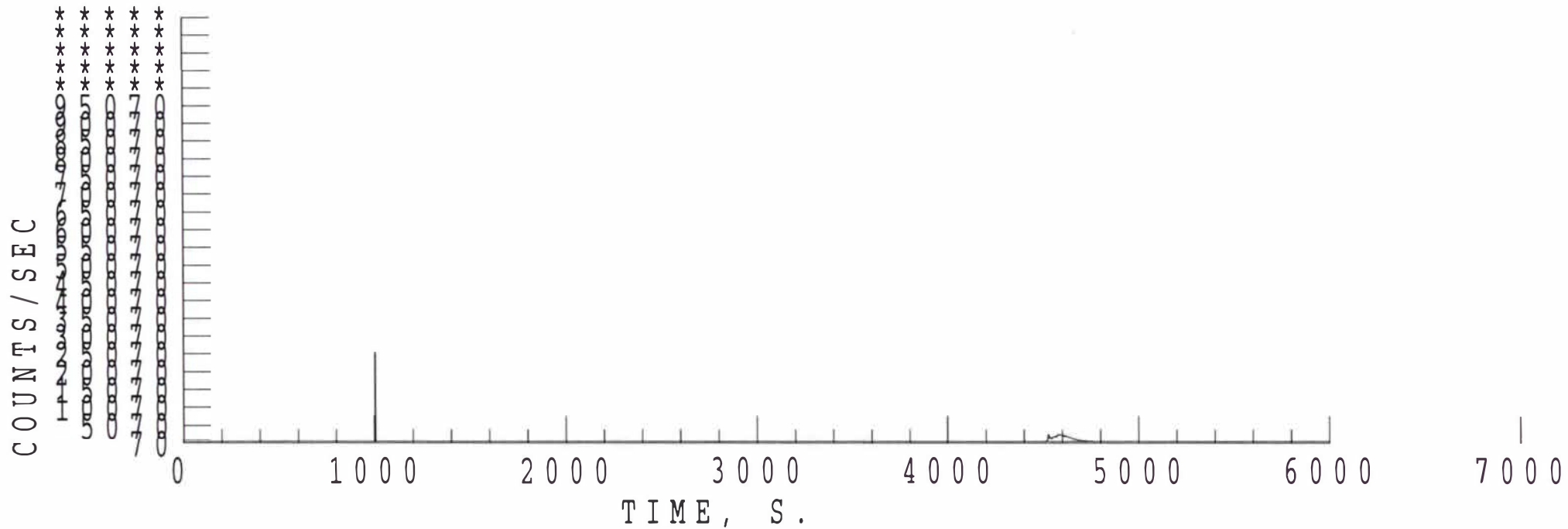
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

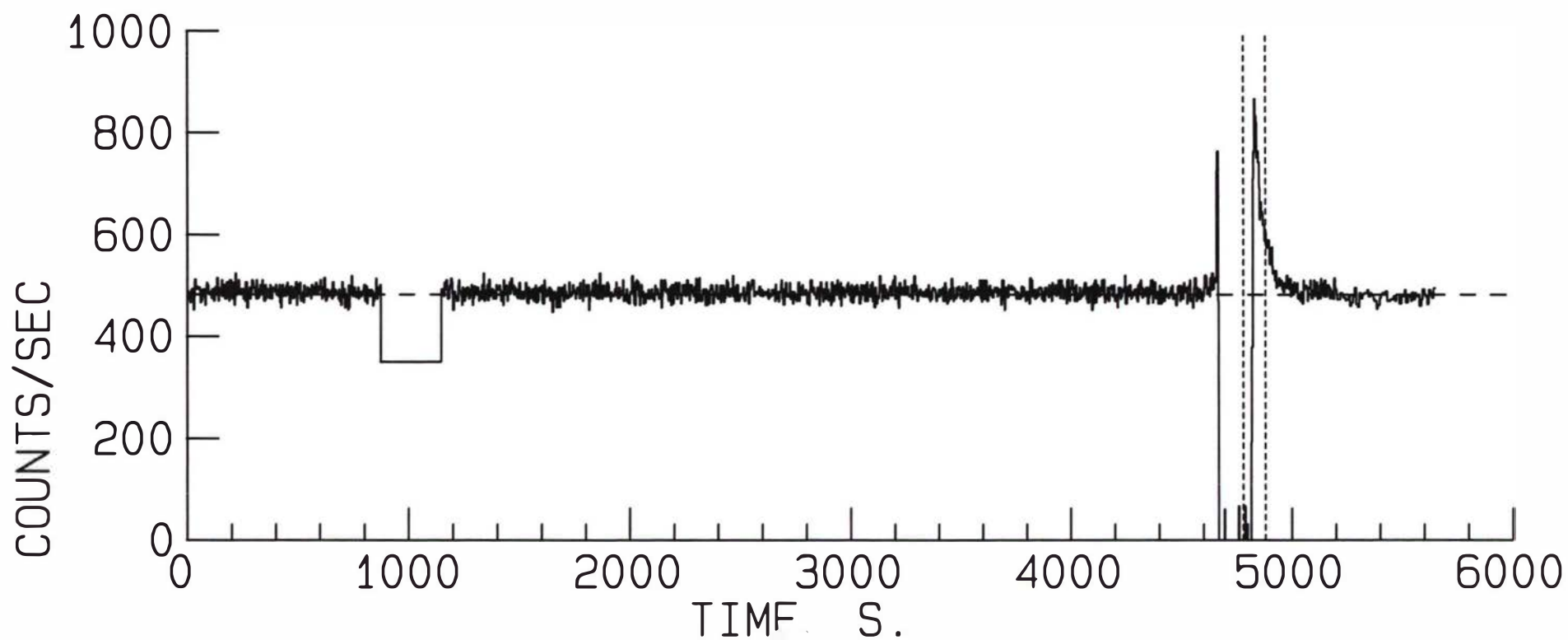
N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS

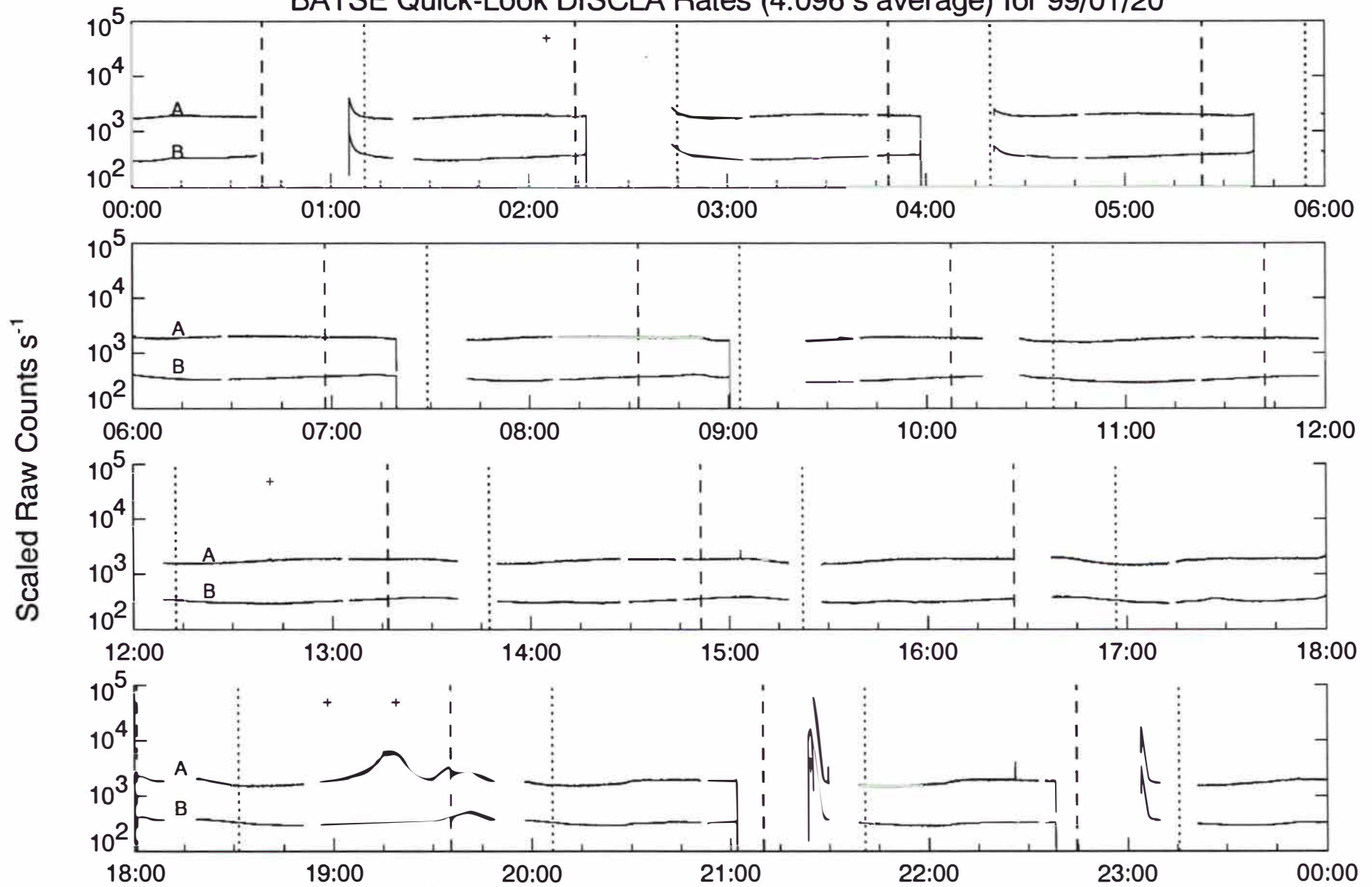


ULYSSES RT
20/ 8/99 80316.141 s
INTERVALS REGROUPED BY 14
22- 151 keV

2 / 9 / 9



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/20

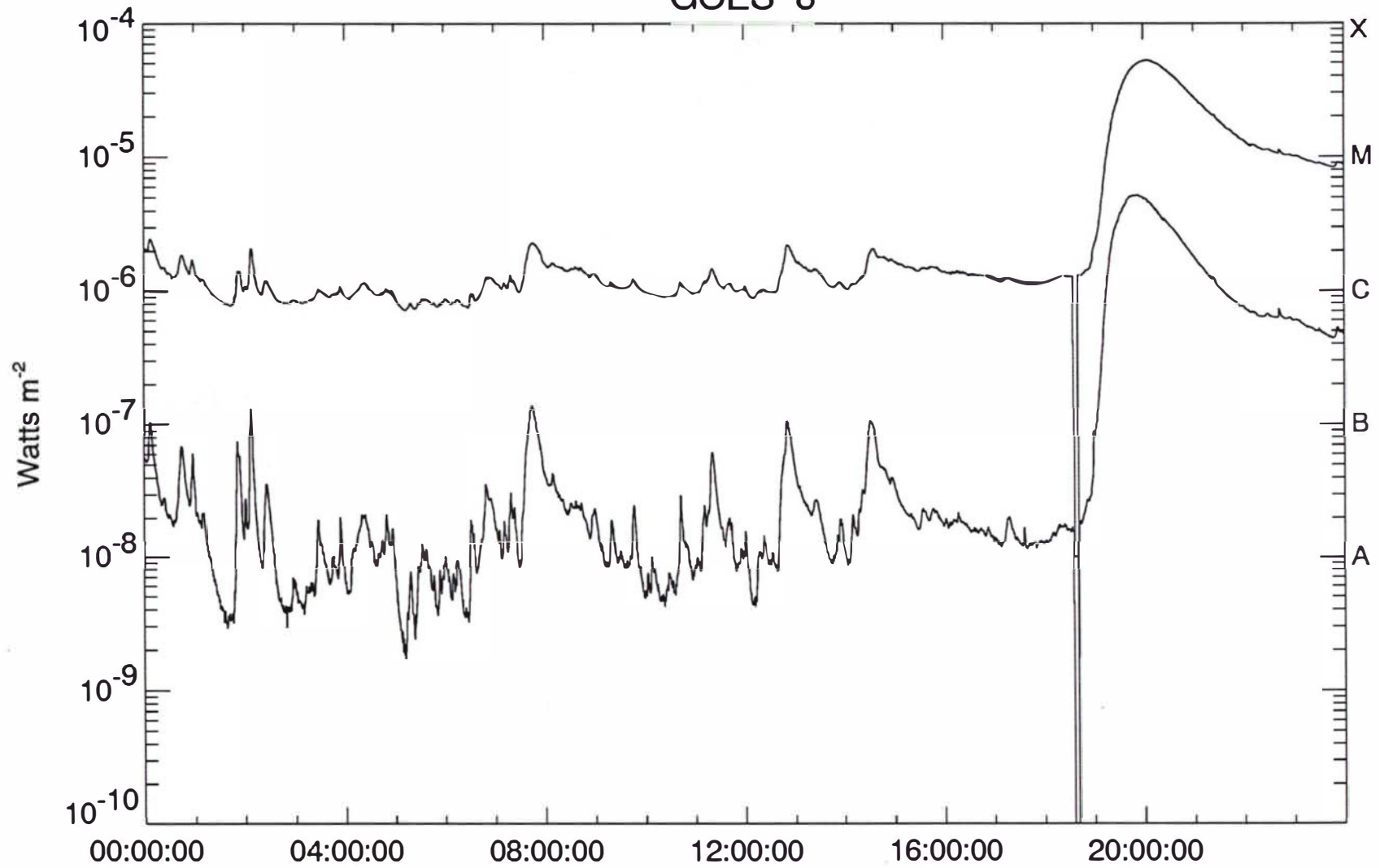


Current Time: 99/01/24, 1010 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/01/20, 0000:00

Plot created: 99/01/24, 1009

Channel

1 (1.0 - 8.0 Angstroms)

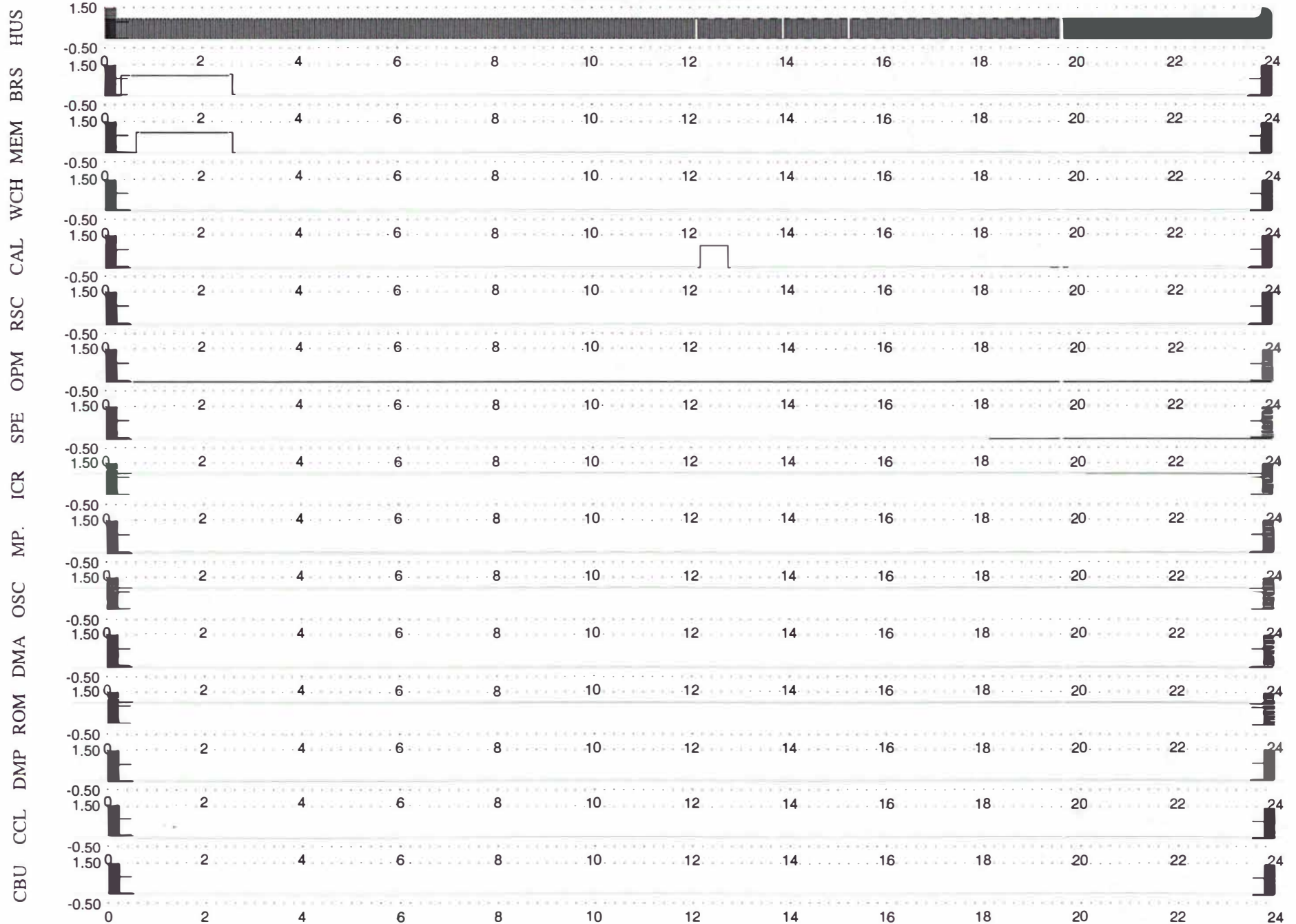
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

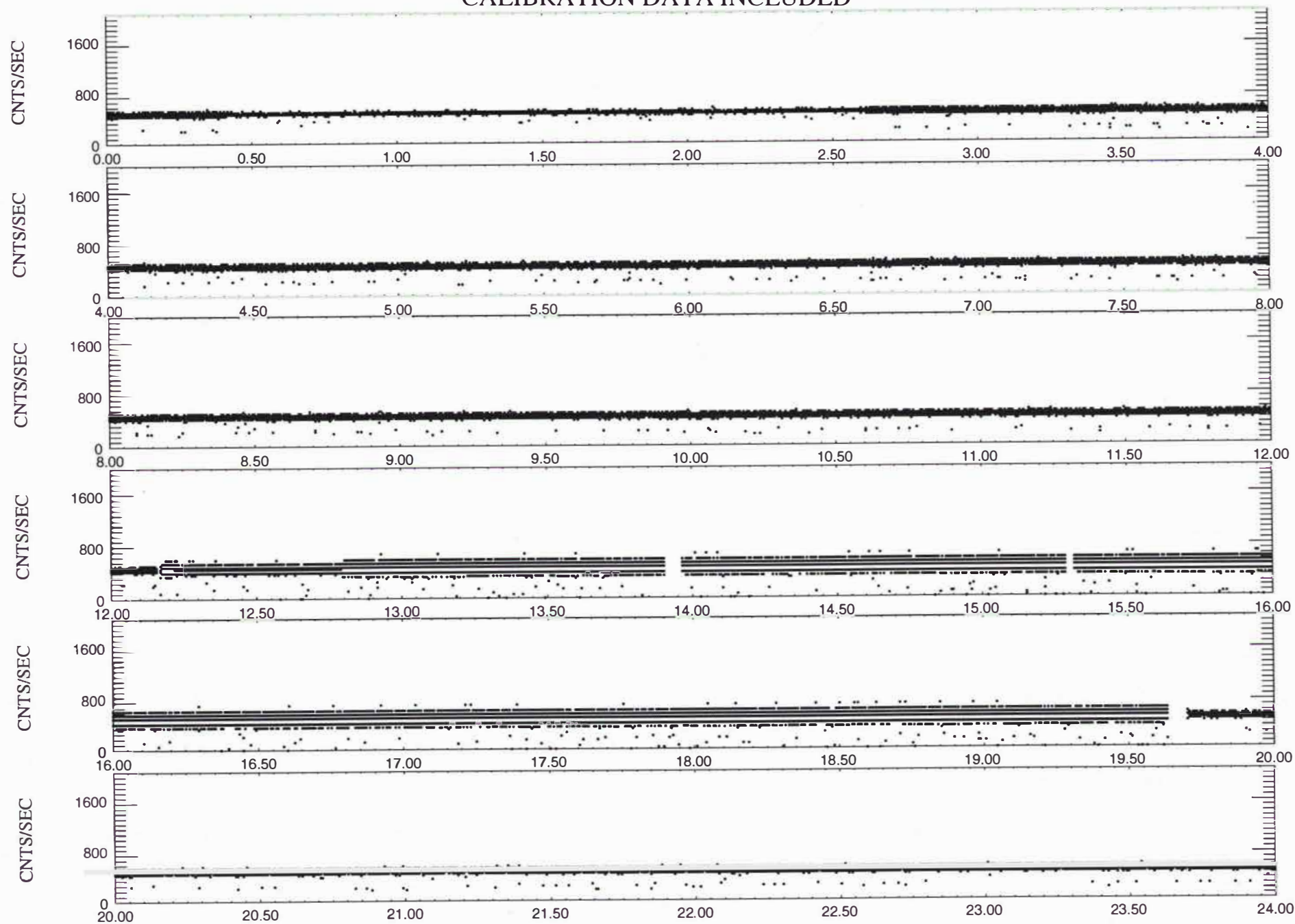
Sample average = 10

BURST NUMBER 6



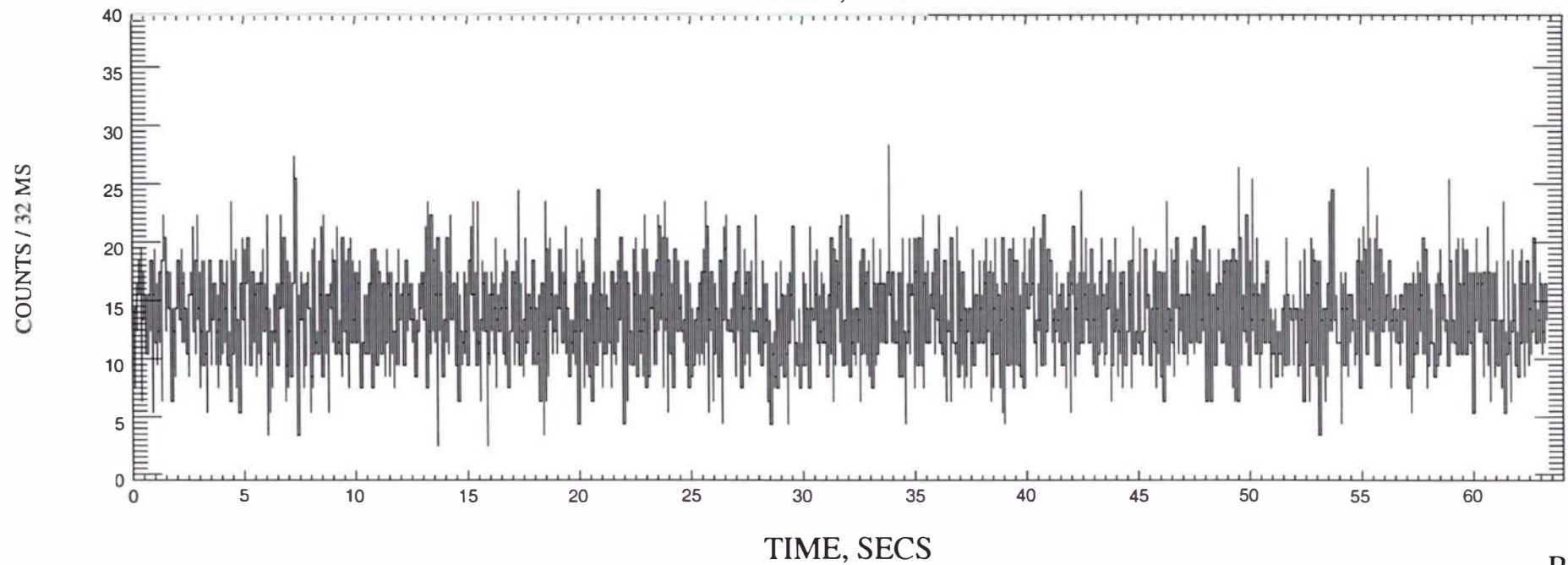
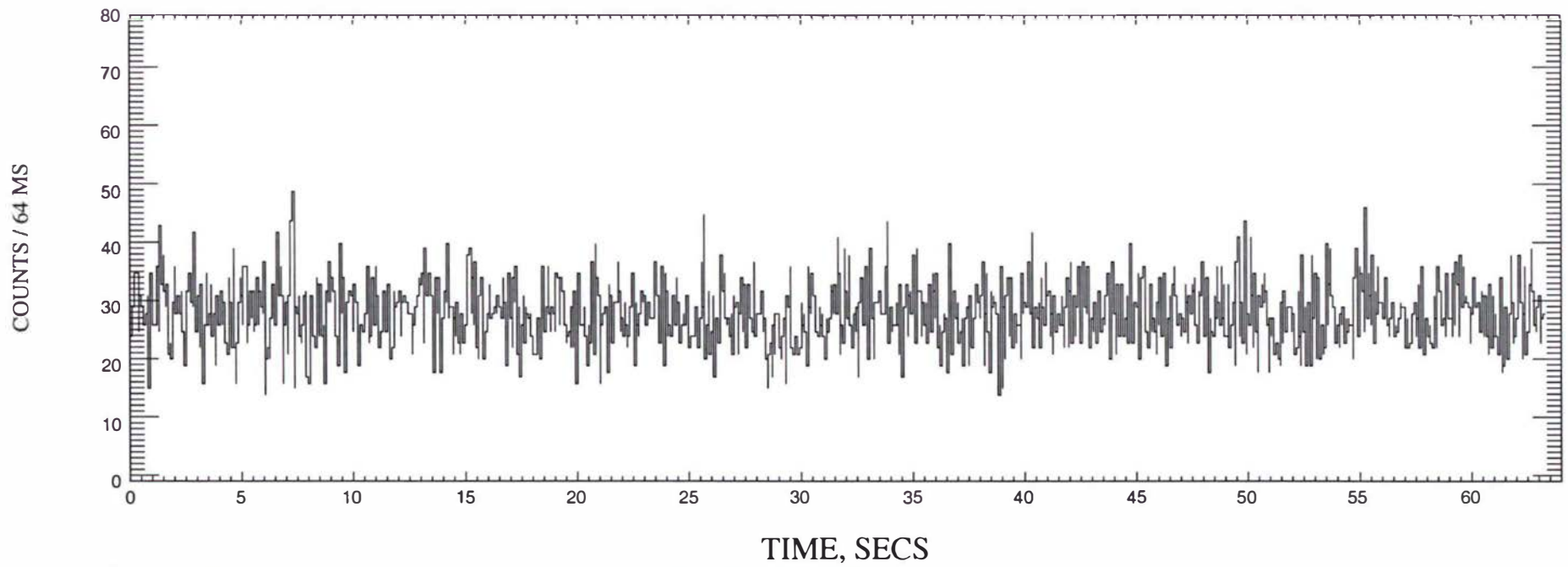
UNIV CAL TIME

CALIBRATION DATA INCLUDED

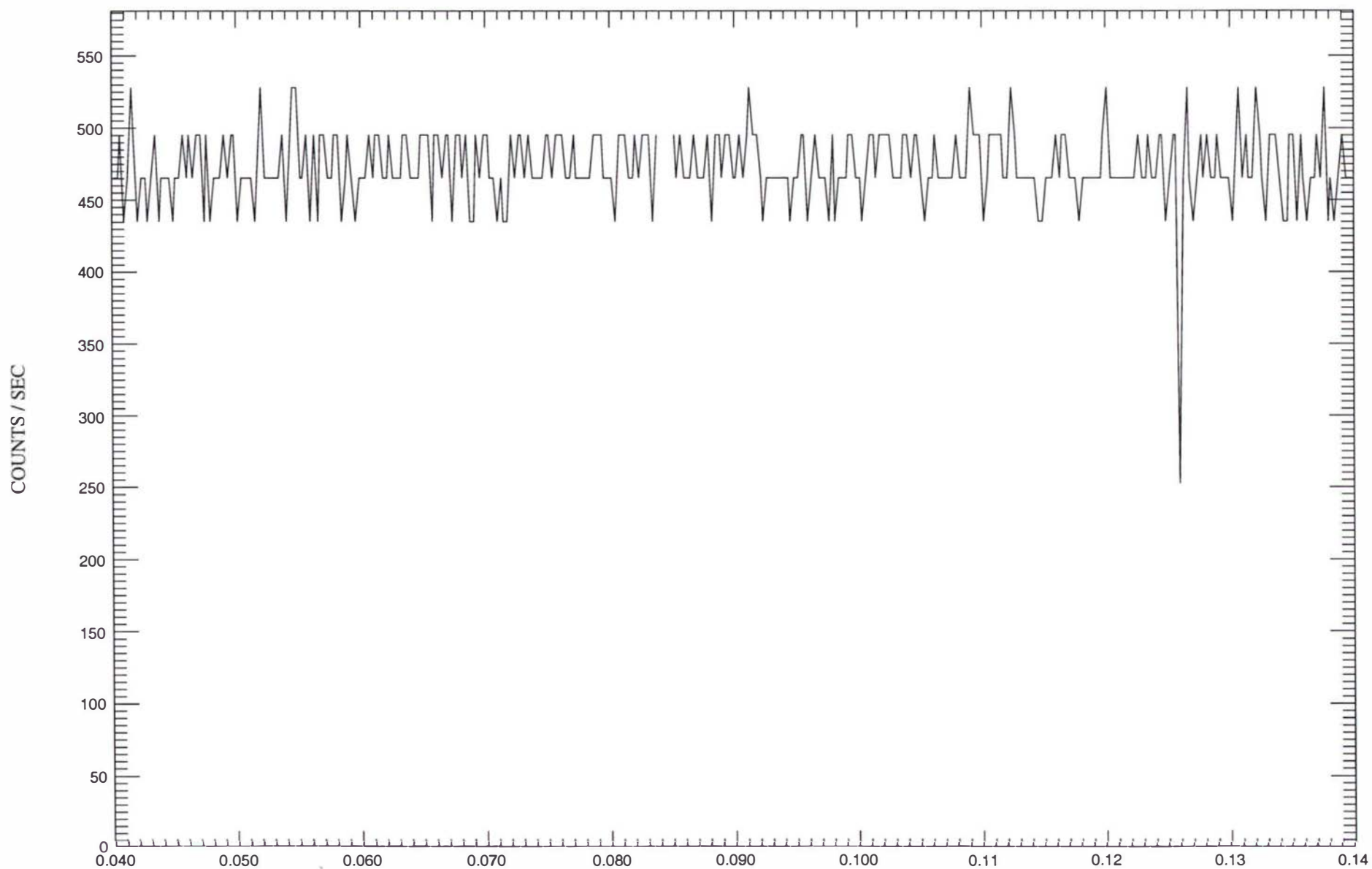


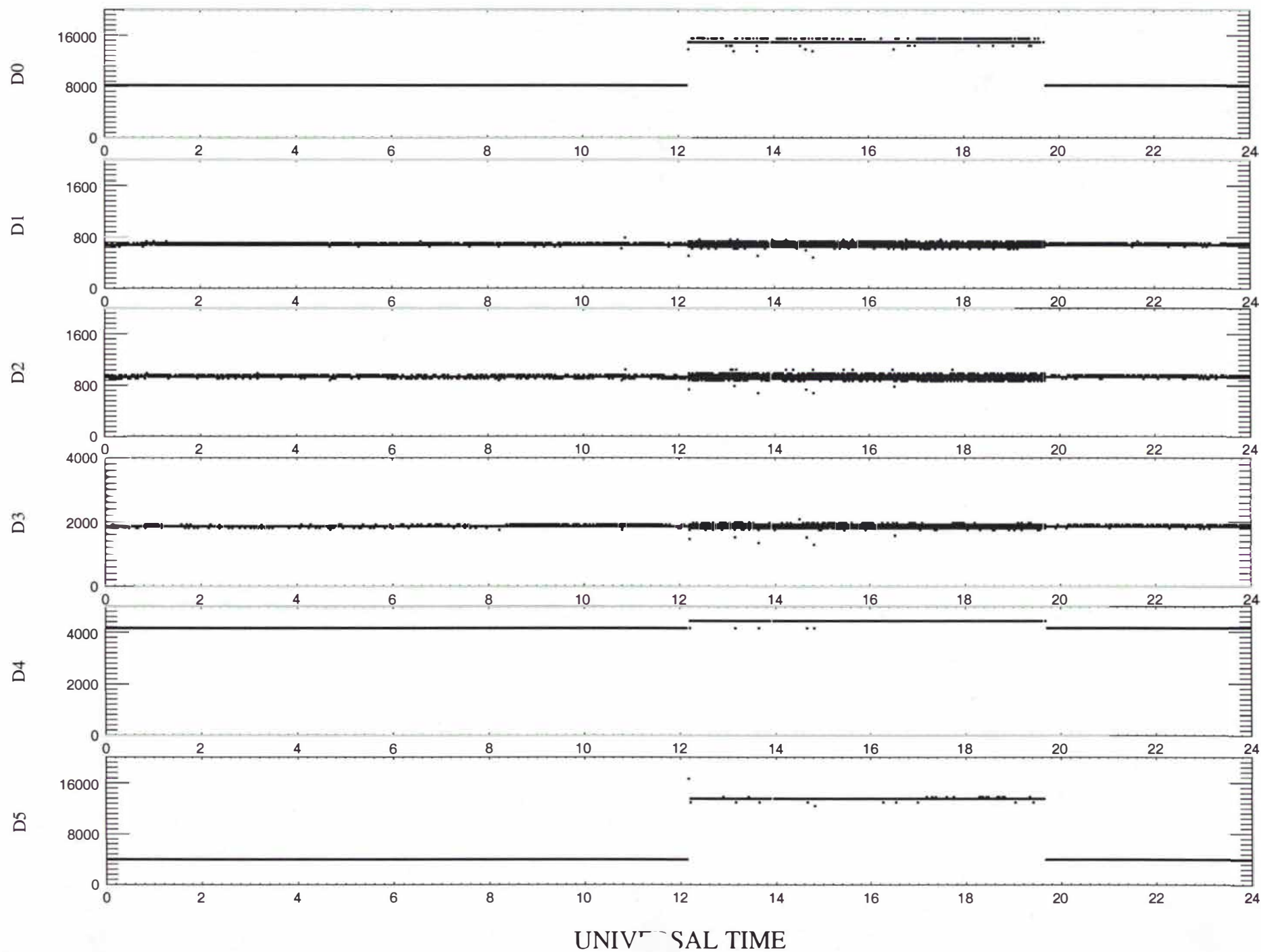
UNIV SAL TIME

Burst Counter 6 at UT= 0.094057646857 h= 338.608 s 00:05:38.608



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Mon Jan 25 06:39:15 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Mon, 25 Jan 1999 8:38:51 -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.: 7338

TIME: TJD=1199 SECONDS=31072

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT ~T+1 S.

From PETERSON@fender.msfc.nasa.gov Mon Jan 25 06:42:58 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Mon, 25 Jan 1999 8:42:39 -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.: 7339

TIME: TJD=1199 SECONDS=74315

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

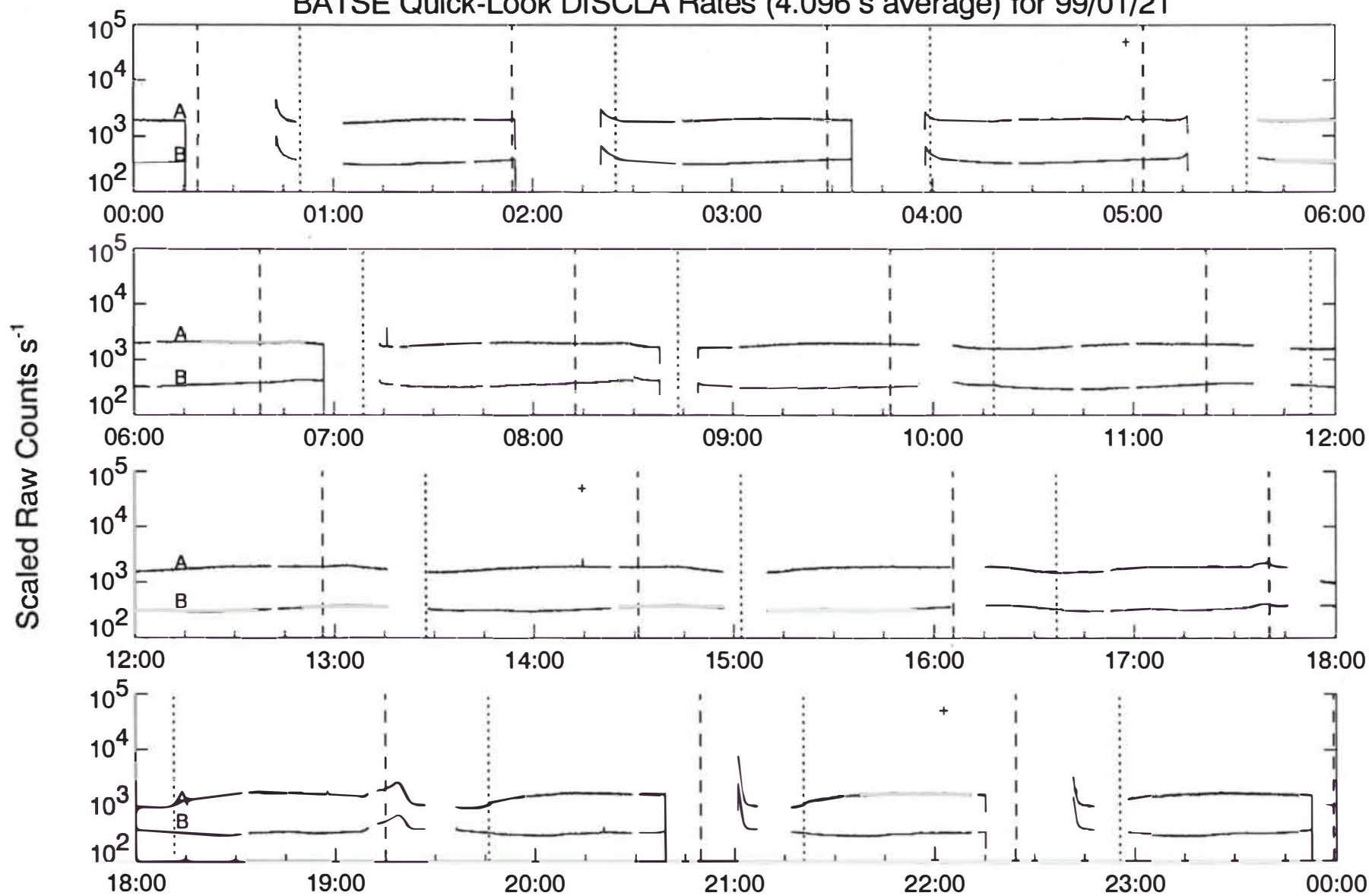
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

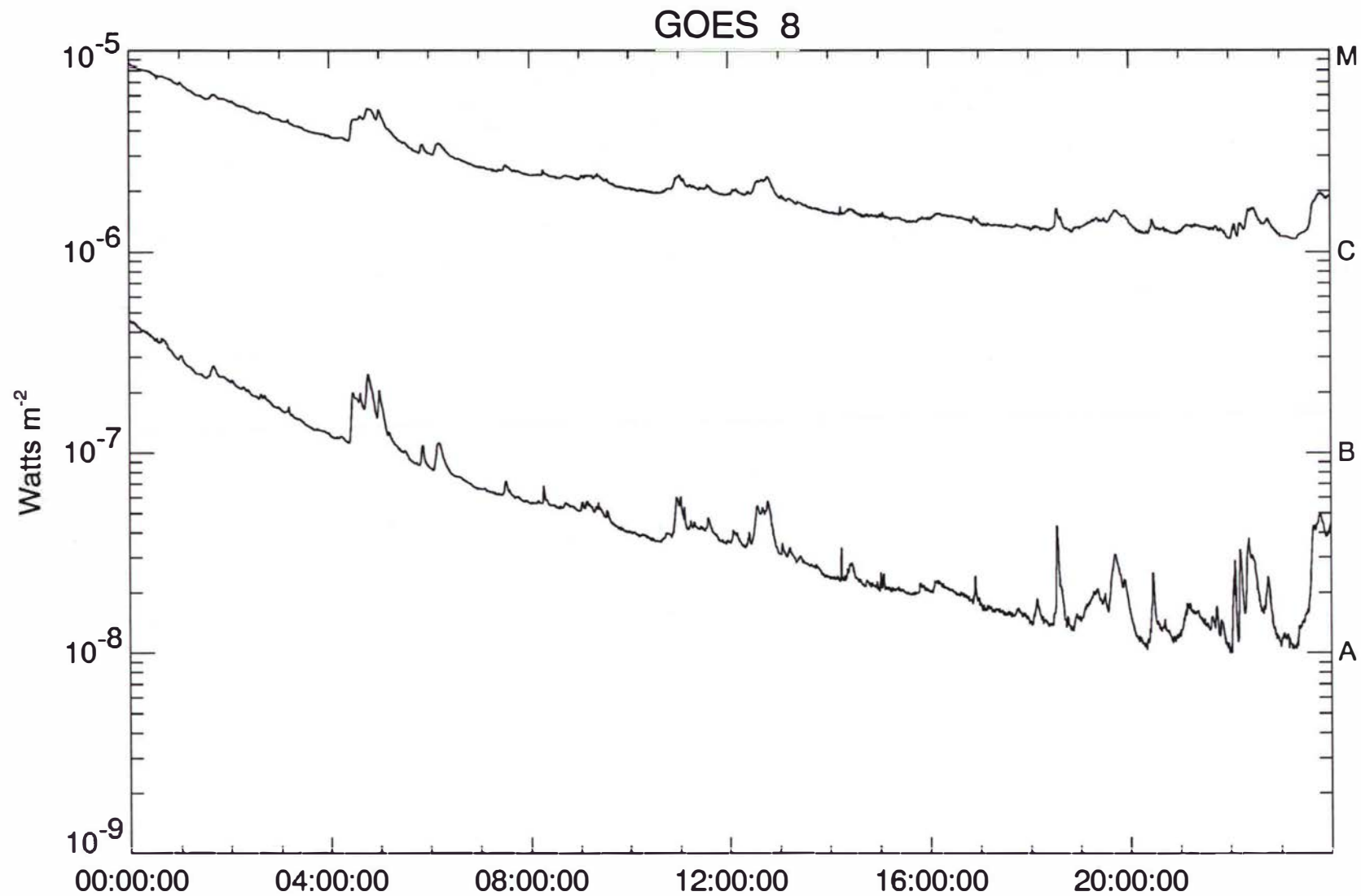
BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/21



Current Time: 99/01/25, 1012 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare



Data Start: 99/01/21, 0000:00

Plot created: 99/01/25, 1009

Channel

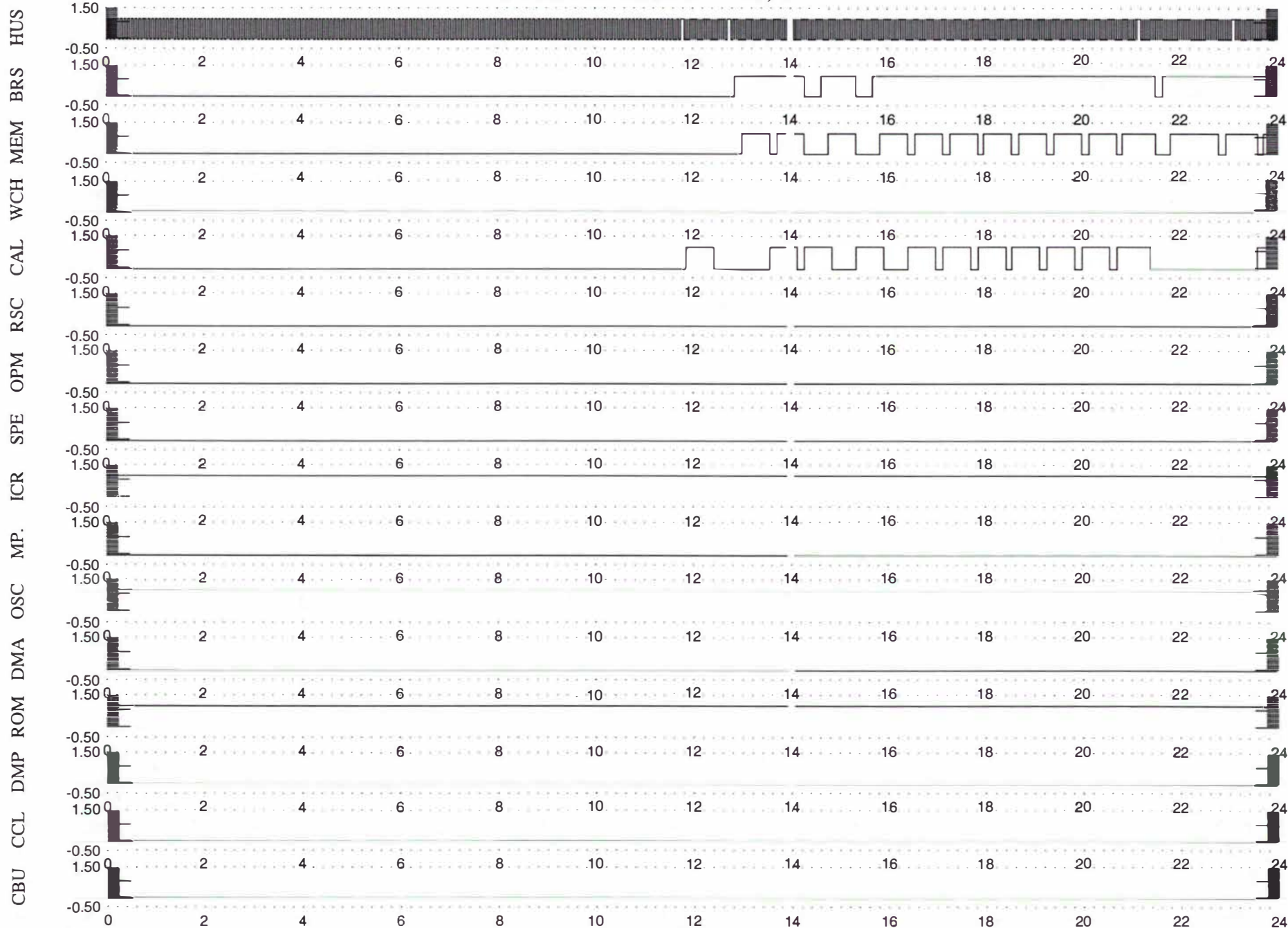
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

Background not subtracted

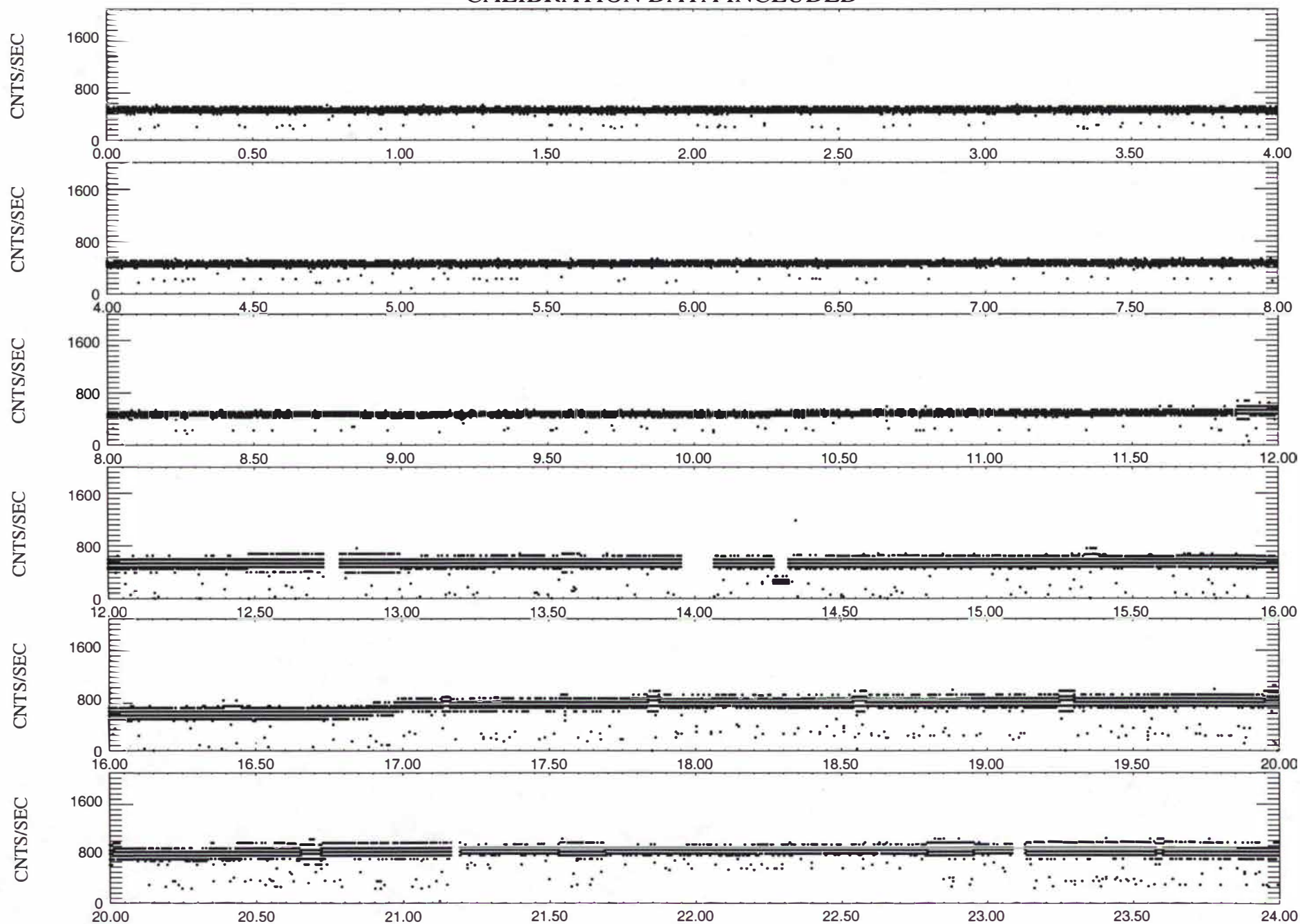
Sample average = 10

BURST NUMBER 7 - 15, 0 - 4

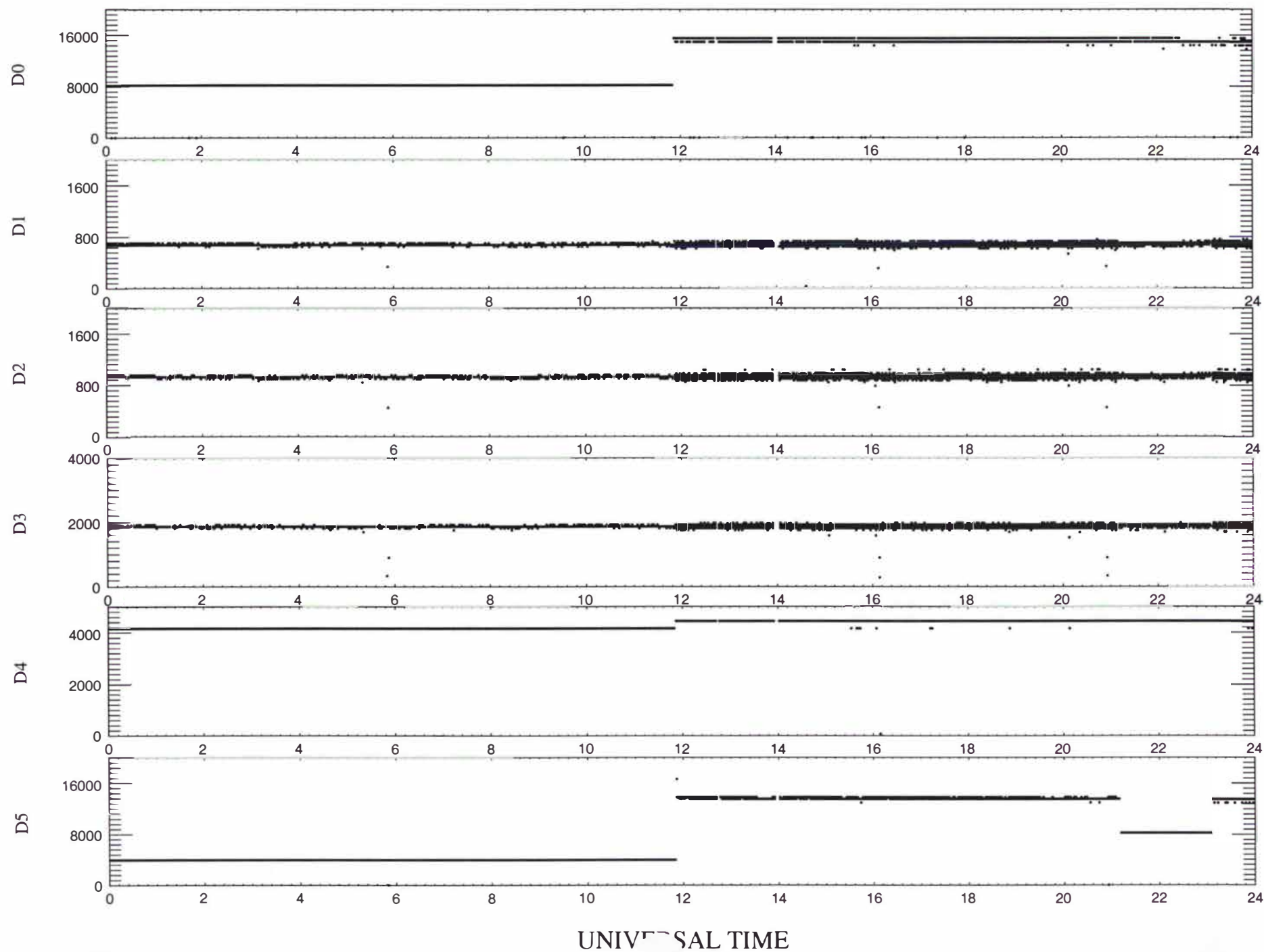


UNIV CAL TIME

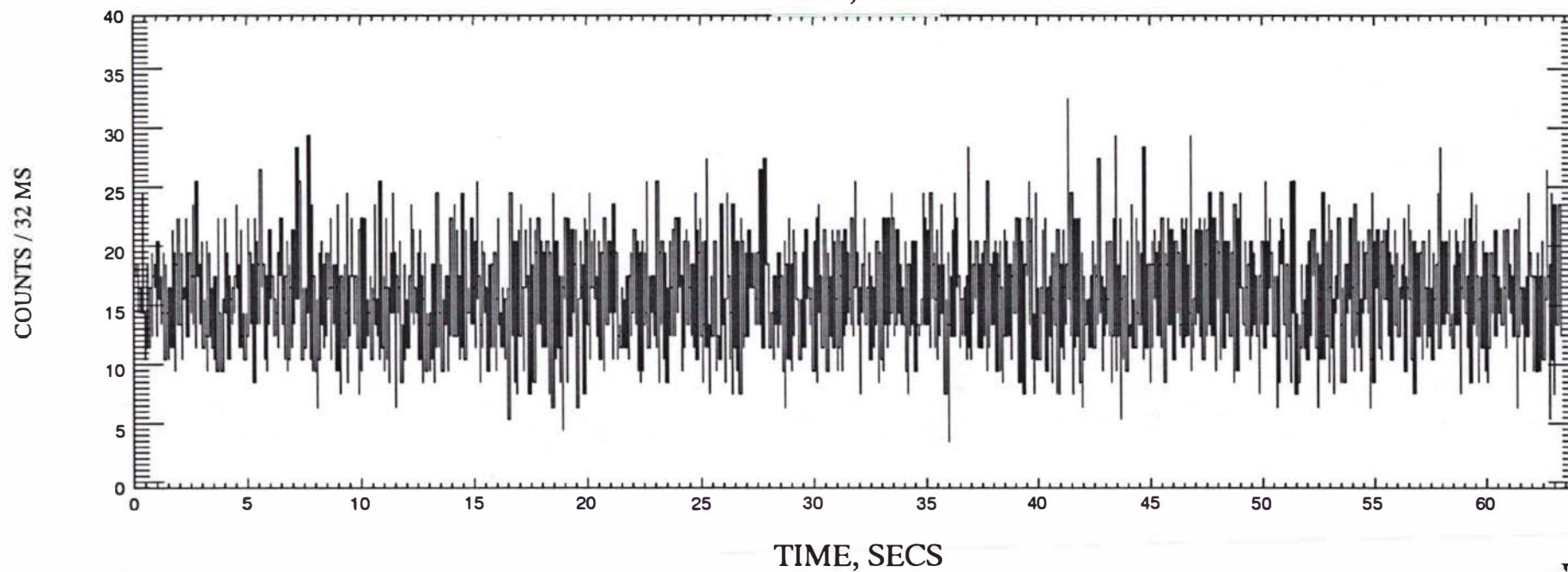
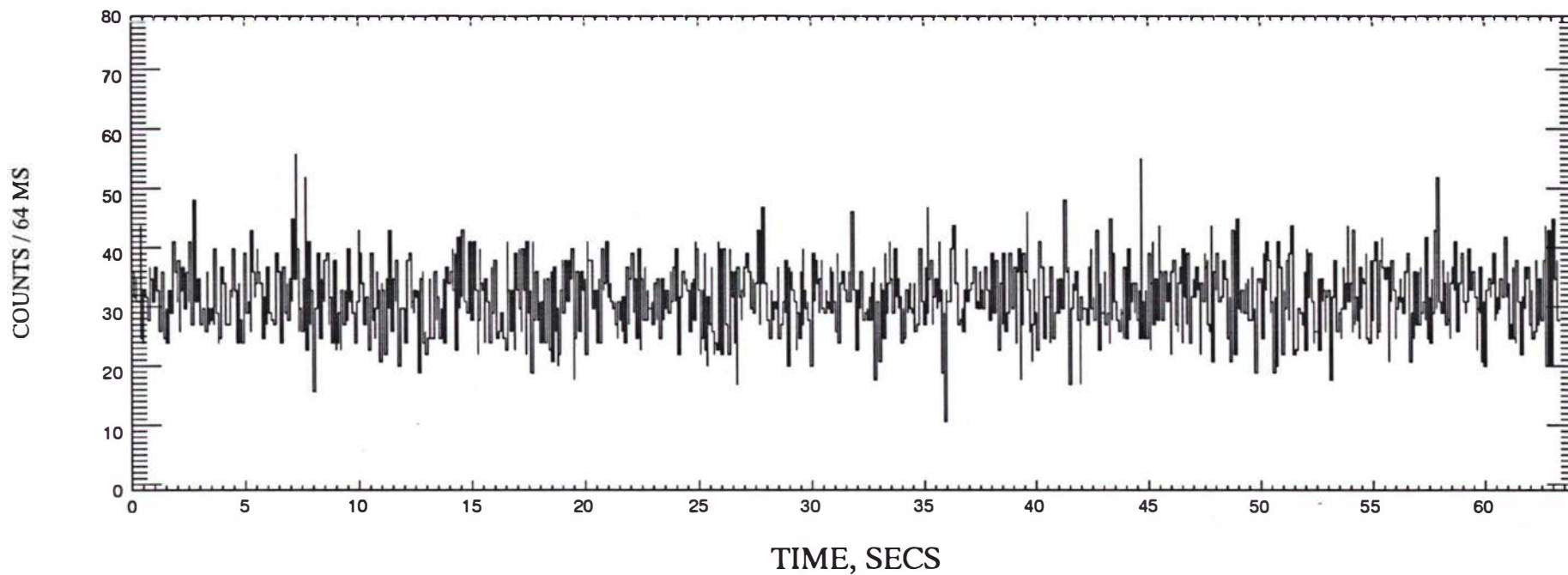
CALIBRATION DATA INCLUDED



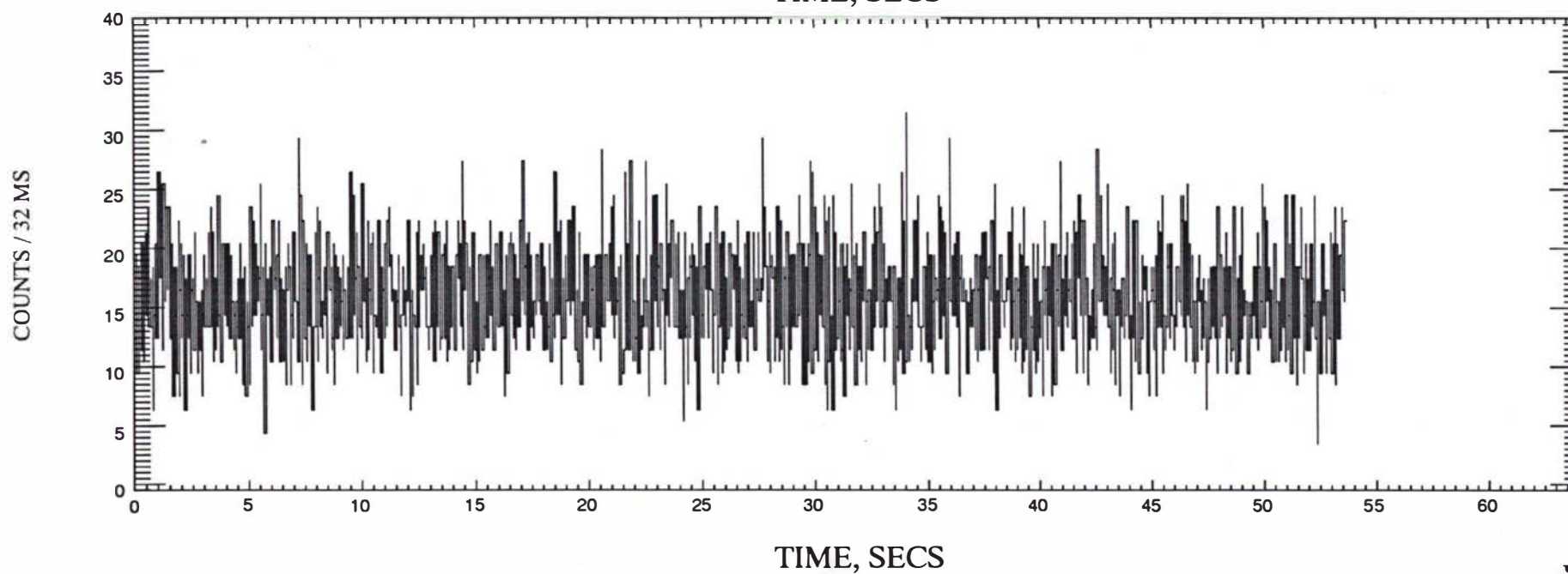
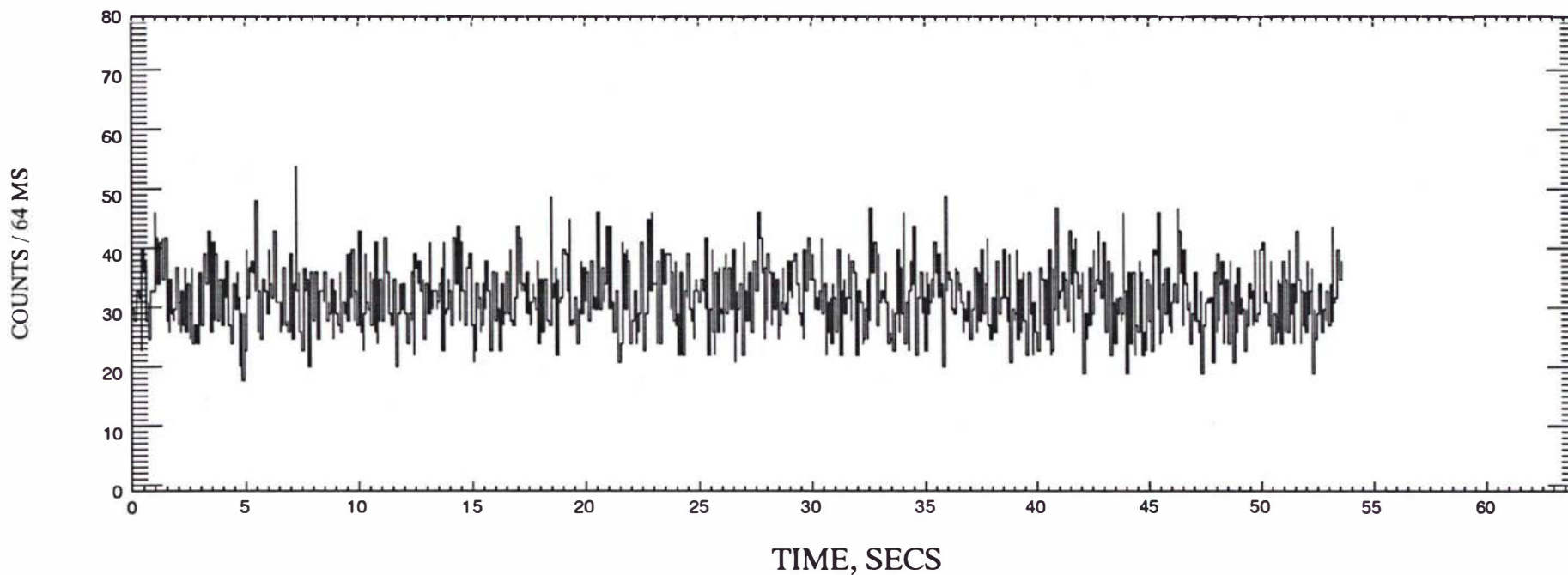
UNIV SAL TIME



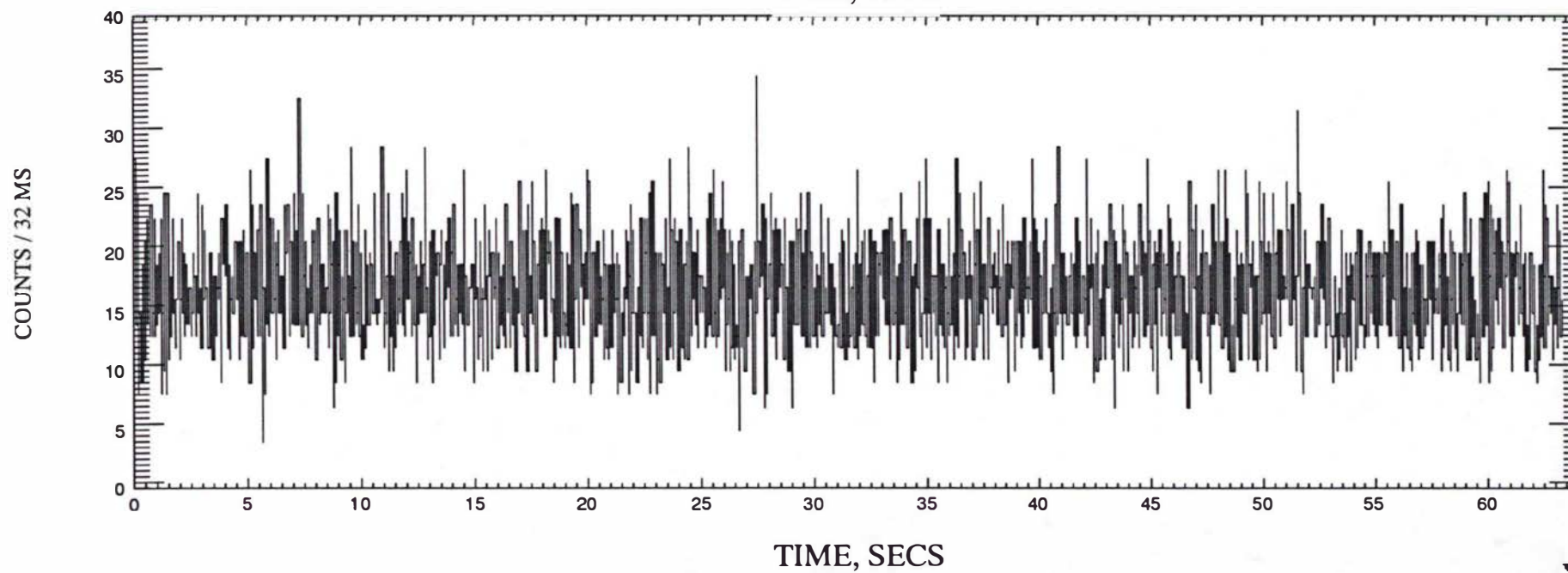
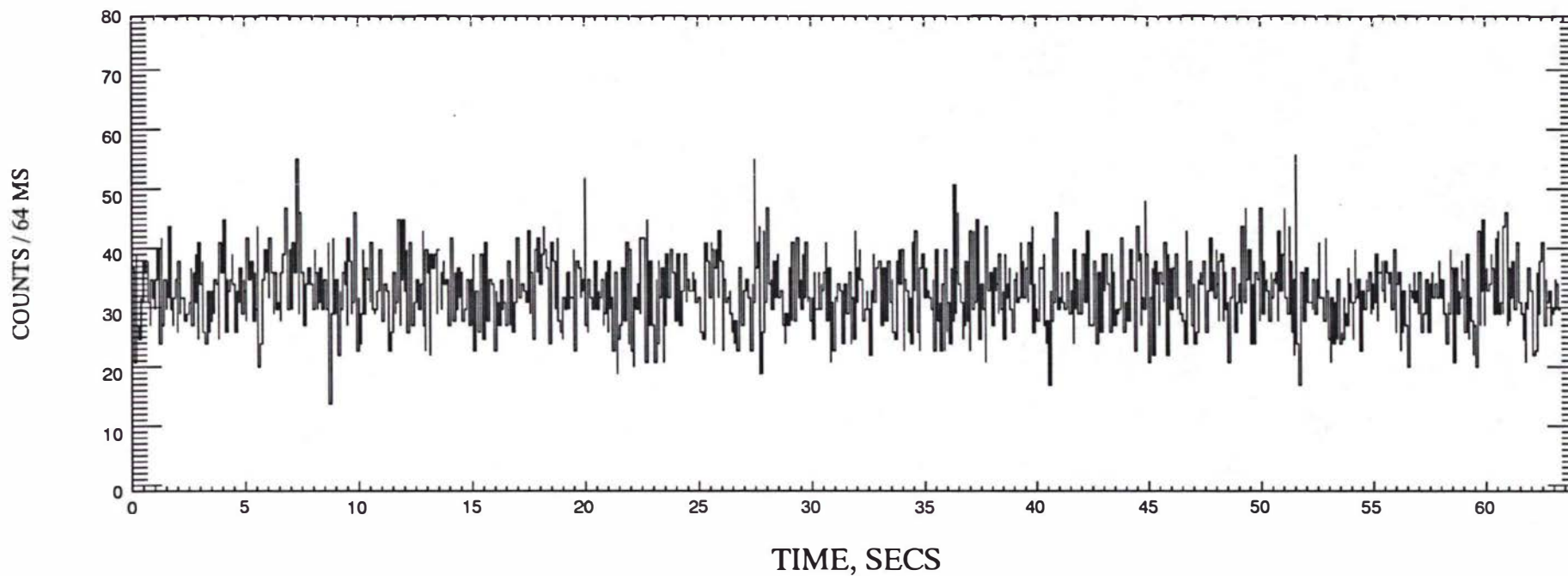
Burst Counter 7 at UT=12.843217807346 h=46235.584 s 12:50:35.584



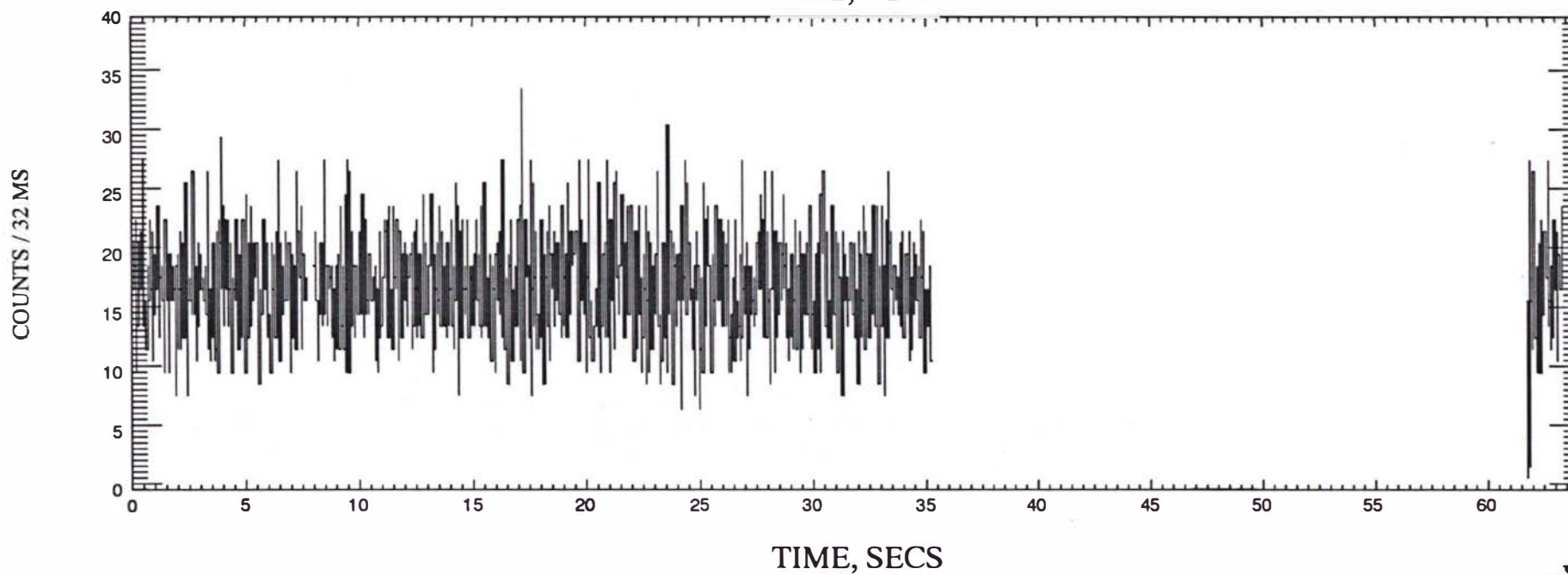
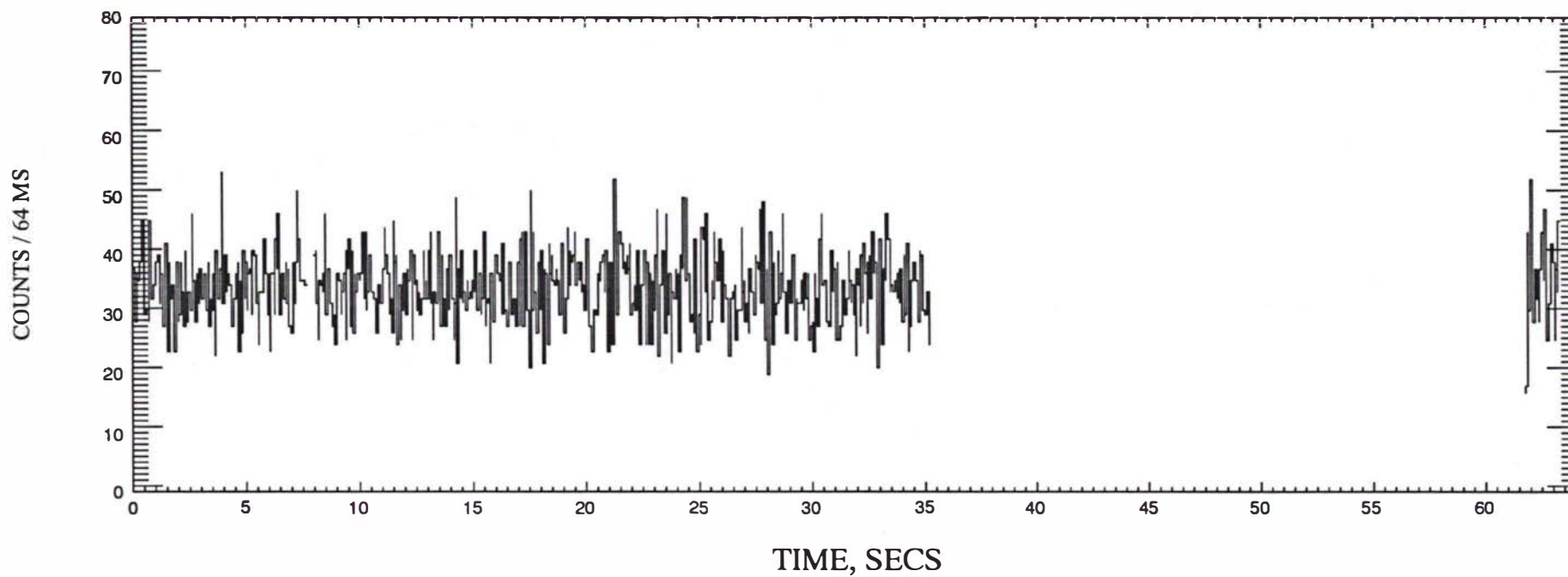
Burst Counter 8 at UT=13.560829090542 h=48818.985 s 13:33:38.985



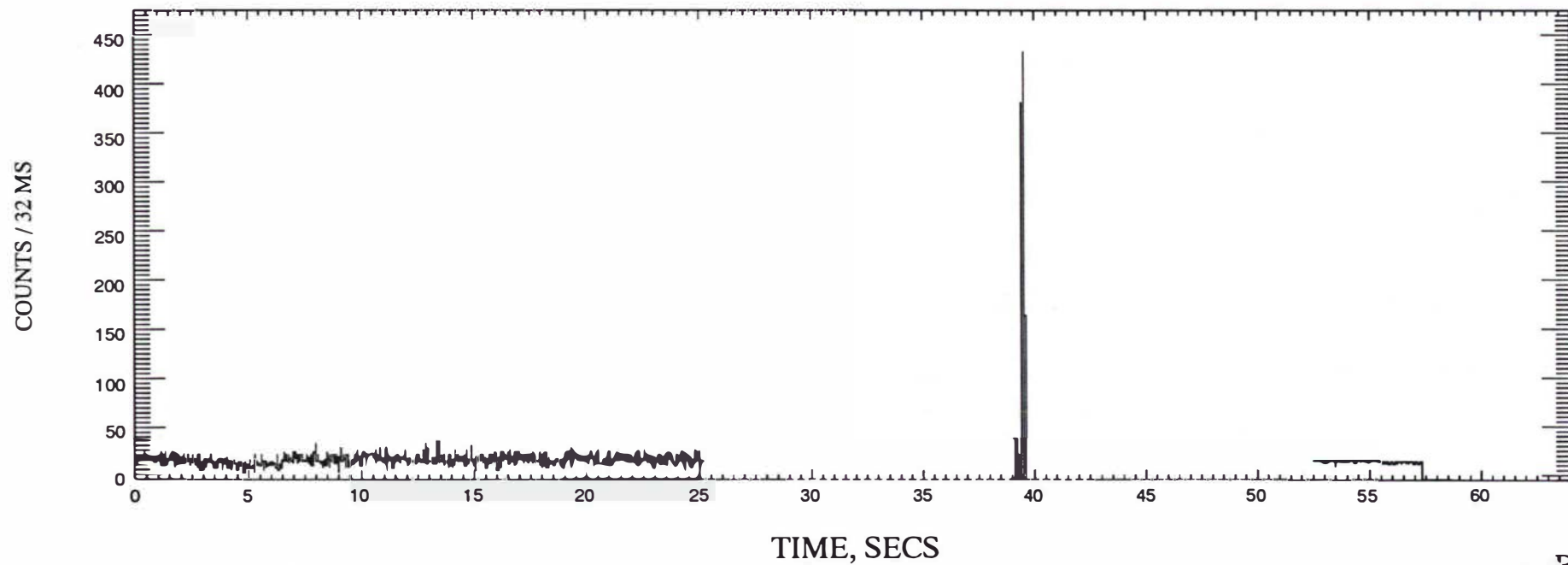
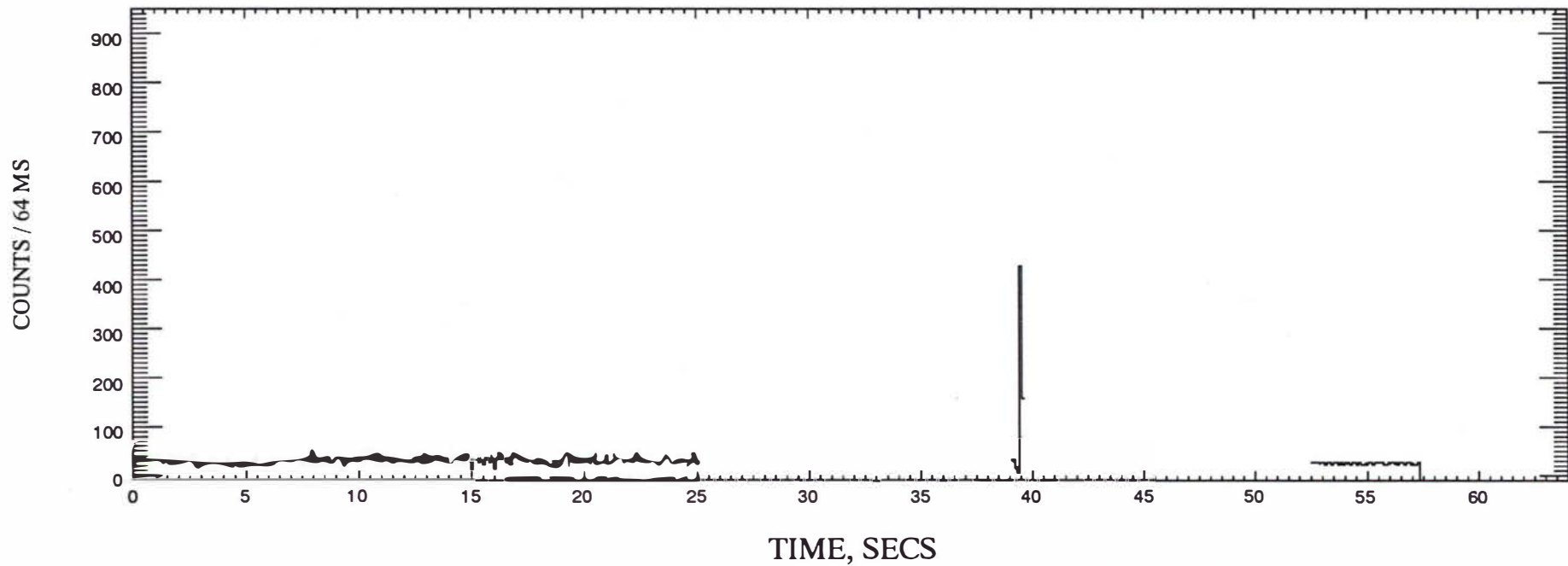
Burst Counter 9 at UT=14.630147726271 h=52668.532 s 14:37:48.532



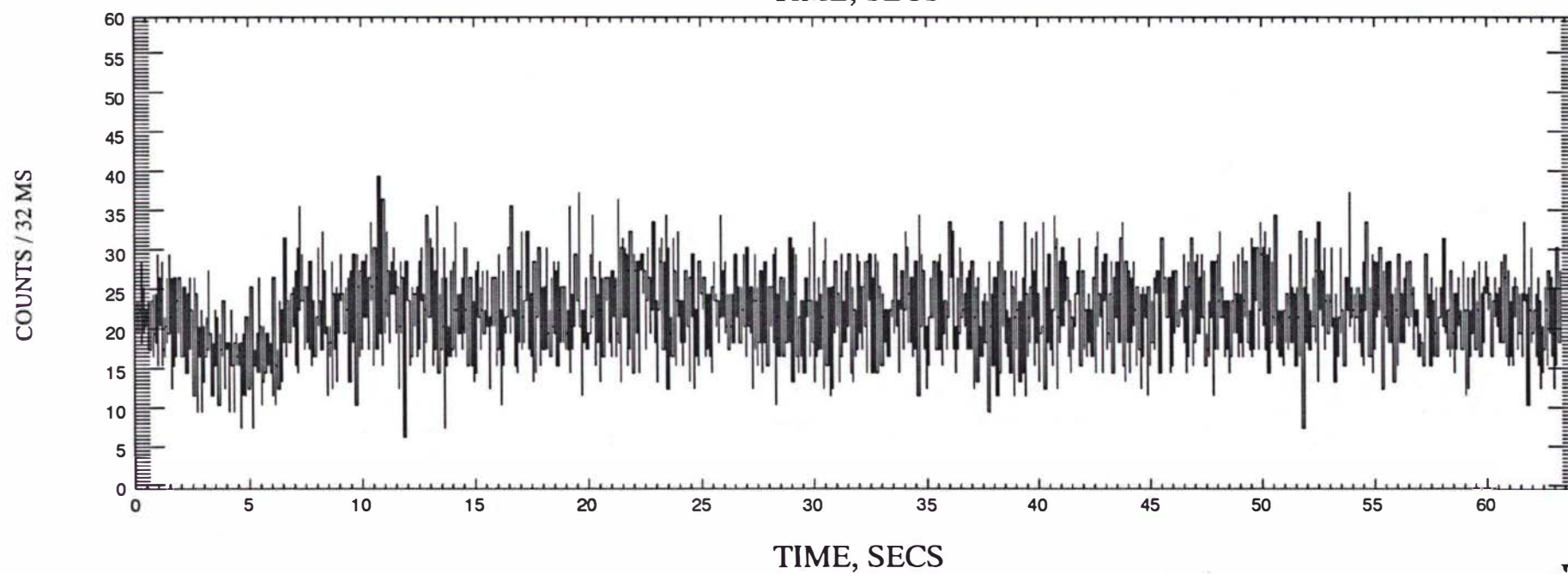
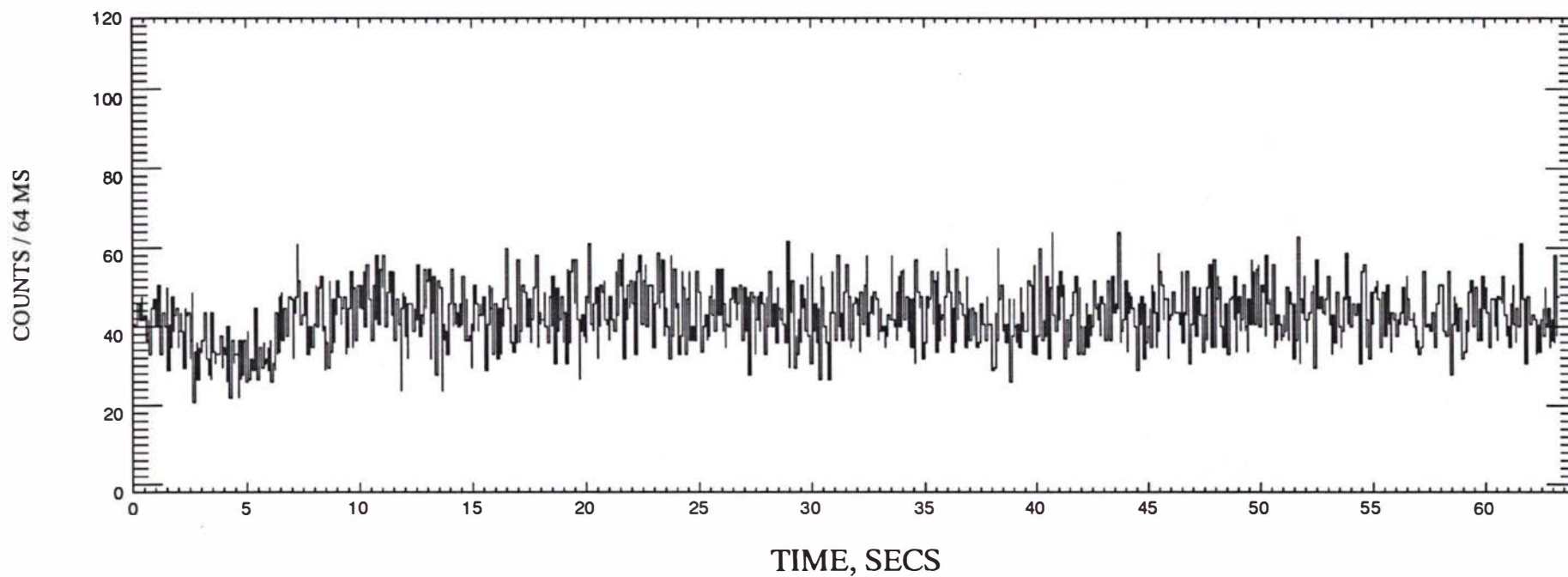
Burst Counter 11 at UT=15.721614799500 h=56597.813 s 15:43:17.813



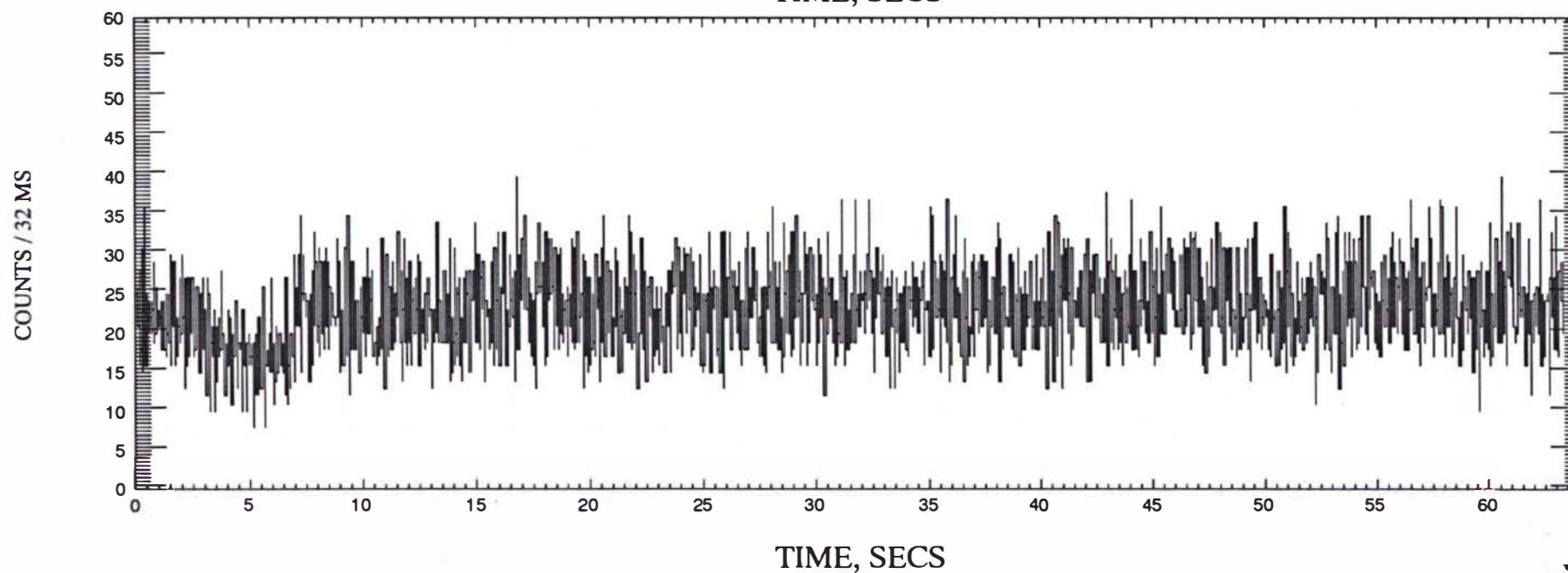
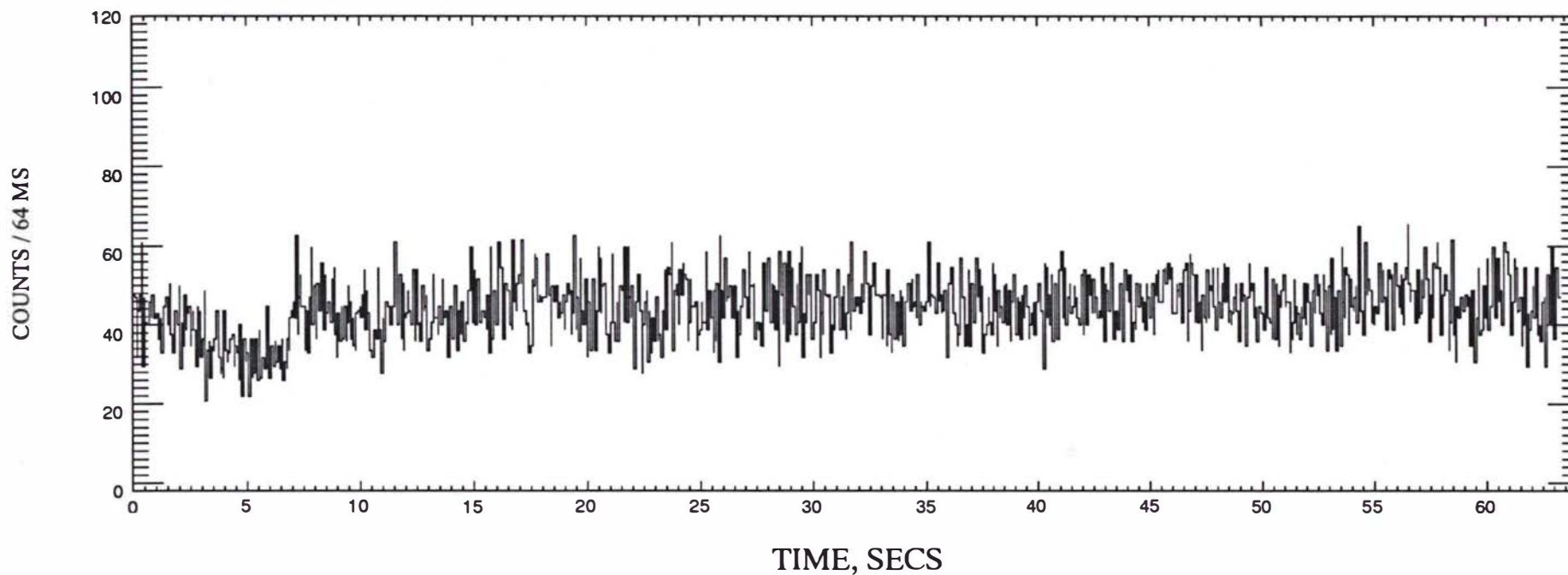
Burst Counter 13 at UT=17.837817459106 h=64216.143 s 17:50:16.143



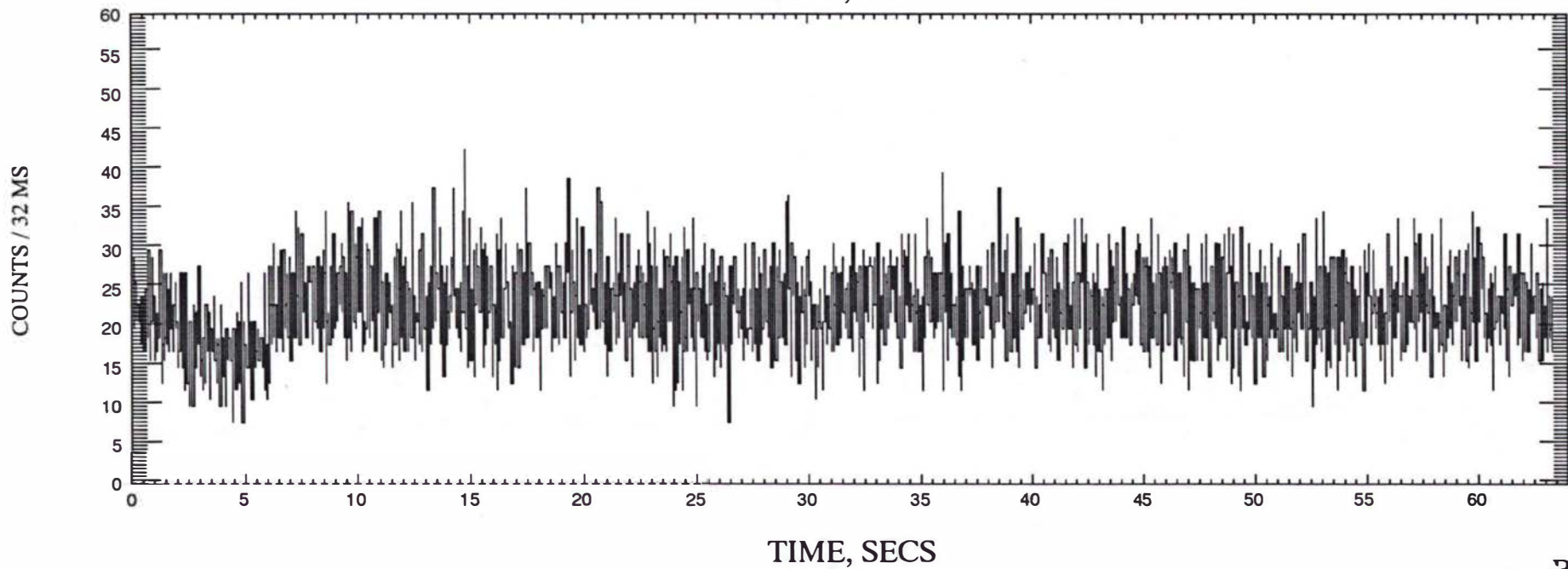
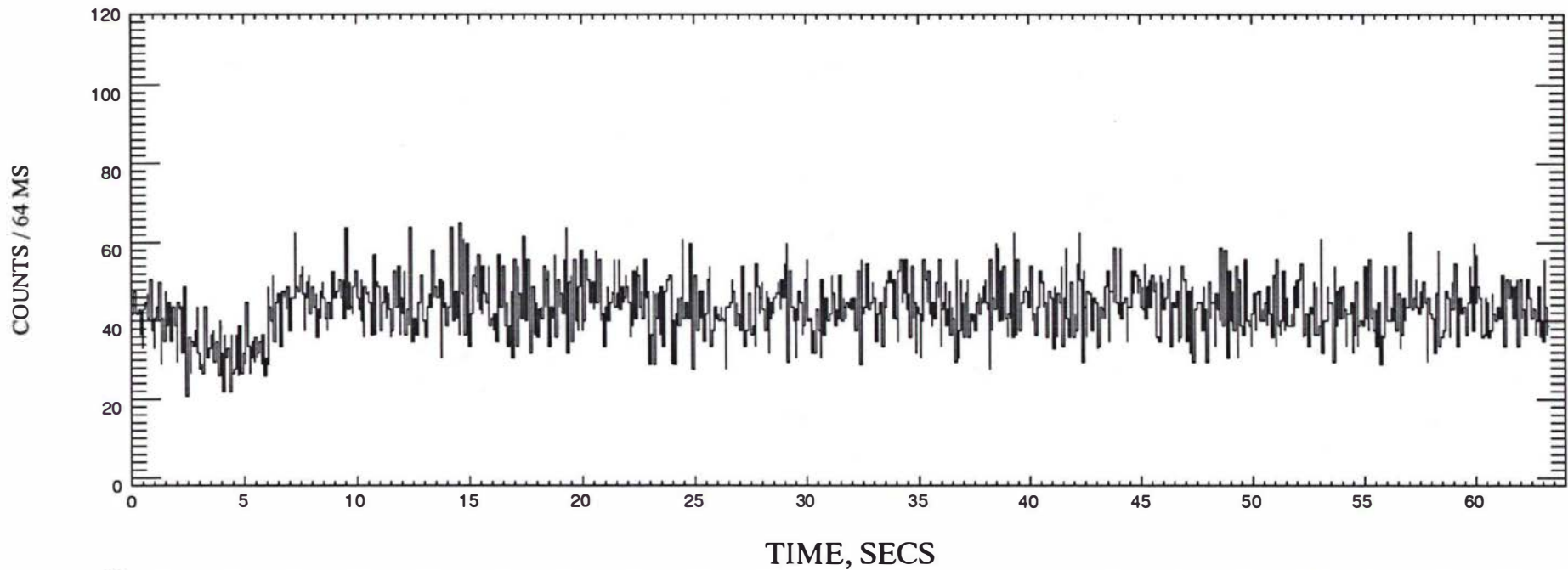
Burst Counter 15 at UT=19.242306361728 h=69272.303 s 19:14:32.303



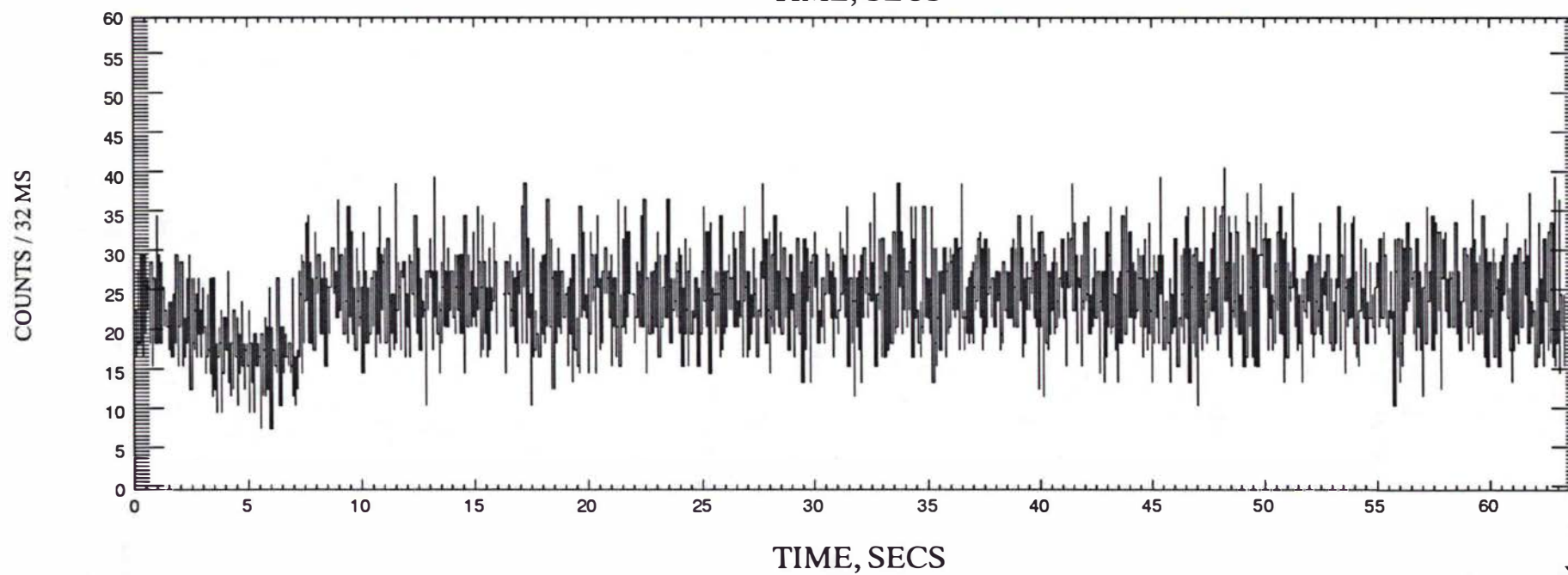
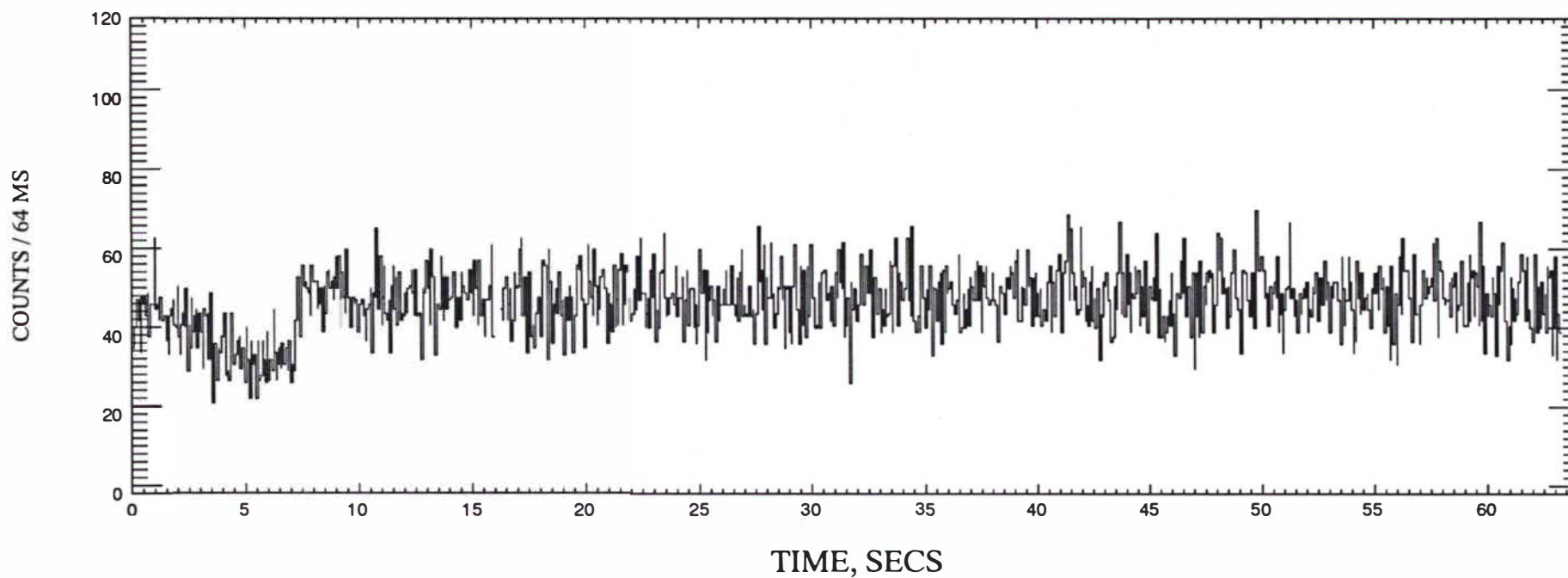
Burst Counter 0 at UT=19.944401308695 h=71799.845 s 19:56:39.845



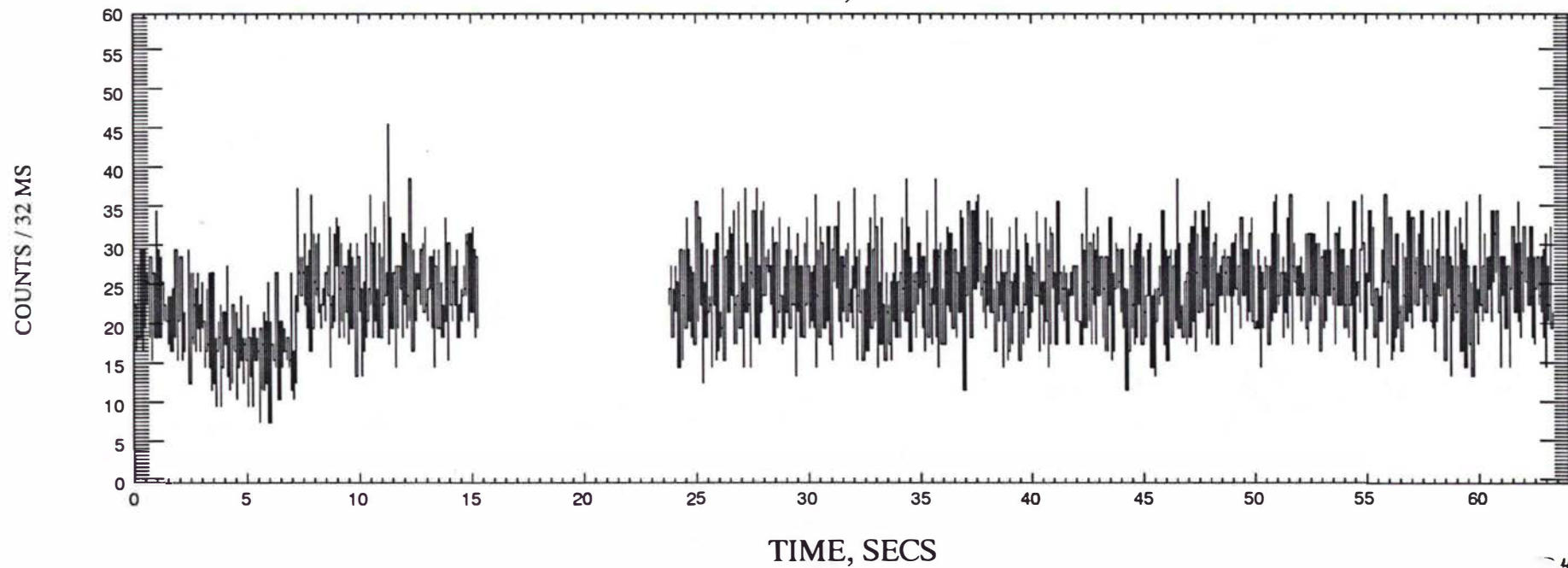
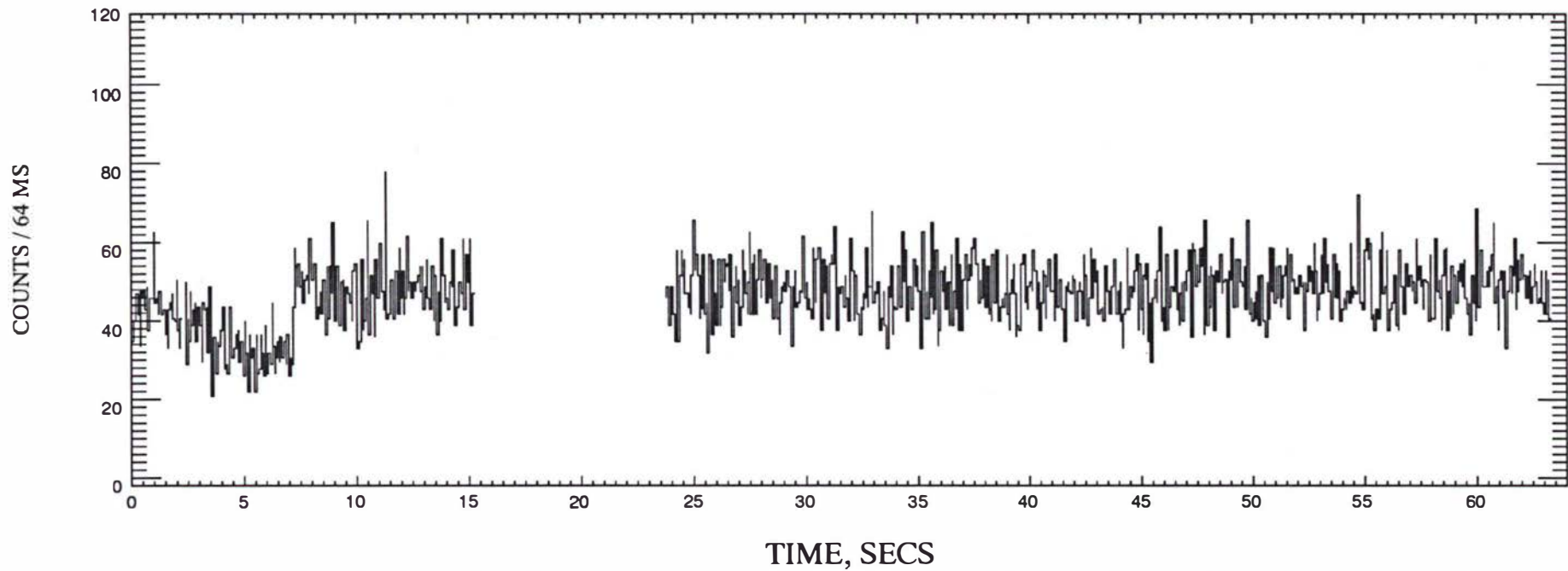
Burst Counter 1 at UT=20.646832627190 h=74328.597 s 20:38:48.597



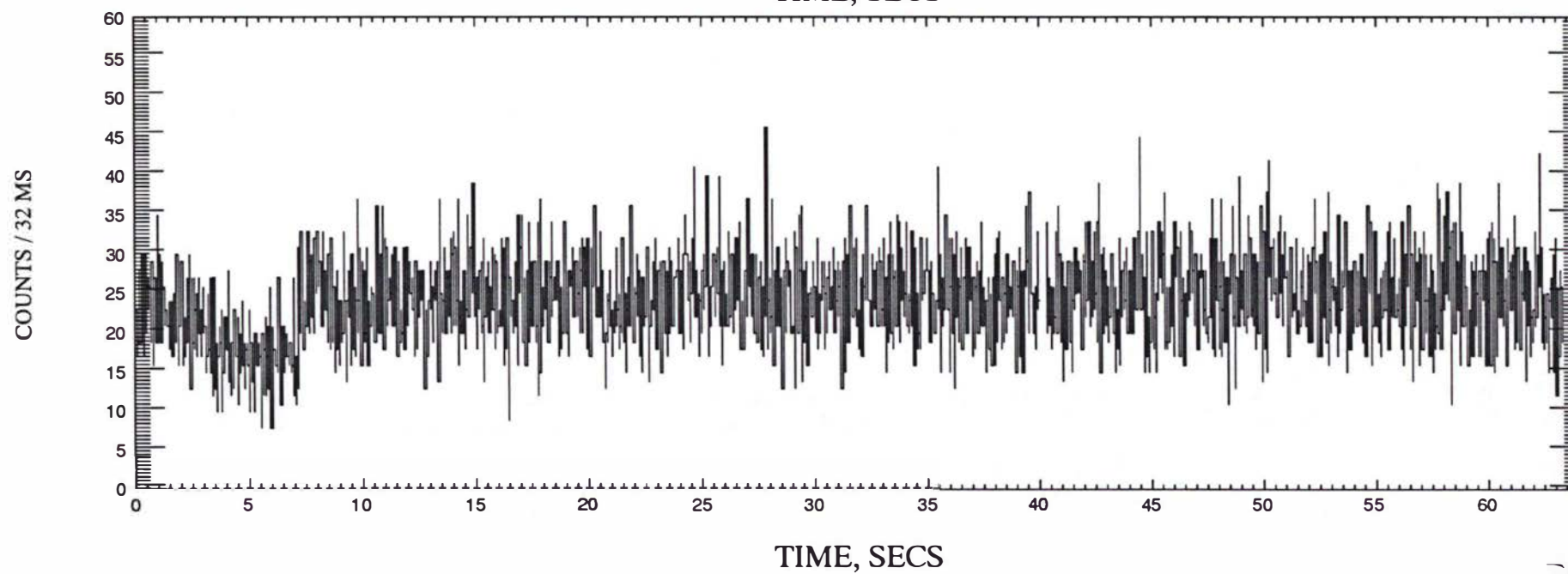
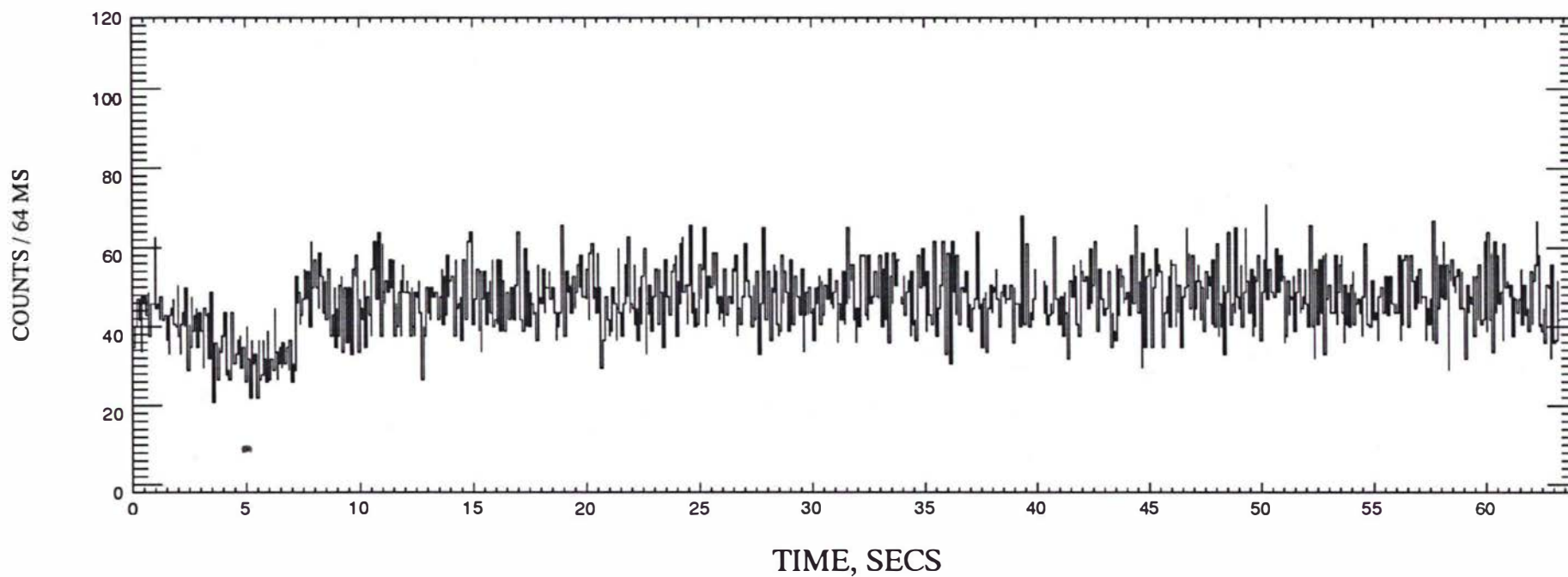
Burst Counter 2 at UT=21.526533376906 h=77495.520 s 21:31:35.520



Burst Counter 3 at UT=22.788767233955 h=82039.562 s 22:47:19.562



Burst Counter 4 at UT=23.571000718011 h=84855.603 s 23:34:15.603



GRBM 19990122 29812

ULYSSES RT

26 / 08 / 09

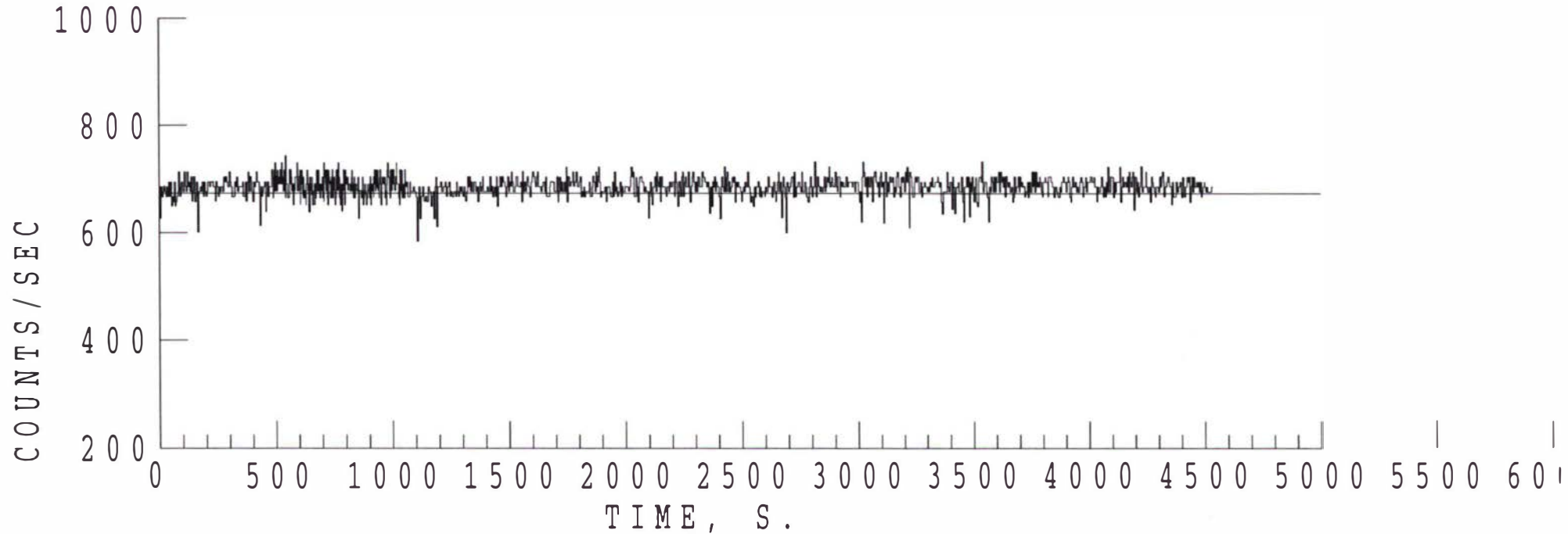
22/01/99 27540.783 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

| | | | |



From HENZE@fender.msfc.nasa.gov Tue Jan 26 09:51:44 1999
Date: Tue, 26 Jan 1999 11:51:27 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@ests2.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.: 7340

TIME: TJD=1200 SECONDS=62258

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=107.9 AZIMUTH=358.5 ERROR= 0.2 DEGREES

COMMENTS:

GOES M1.4, OPTICAL SF FLARE. COMPLEX. MAIN PORTION OF EVENT STARTS AT APPROX.
T-140 S, MAX AT APPROX. T, ENDS AT ORBITAL SUNSET AT APPROX. T+145 S.
NOT VISIBLE ABOVE 300 KEV.

From PETERSON@fender.msfc.nasa.gov Mon Jan 25 11:30:29 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Mon, 25 Jan 1999 13:29:19 -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.: 7342

TIME: TJD=1200 SECONDS=72595

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

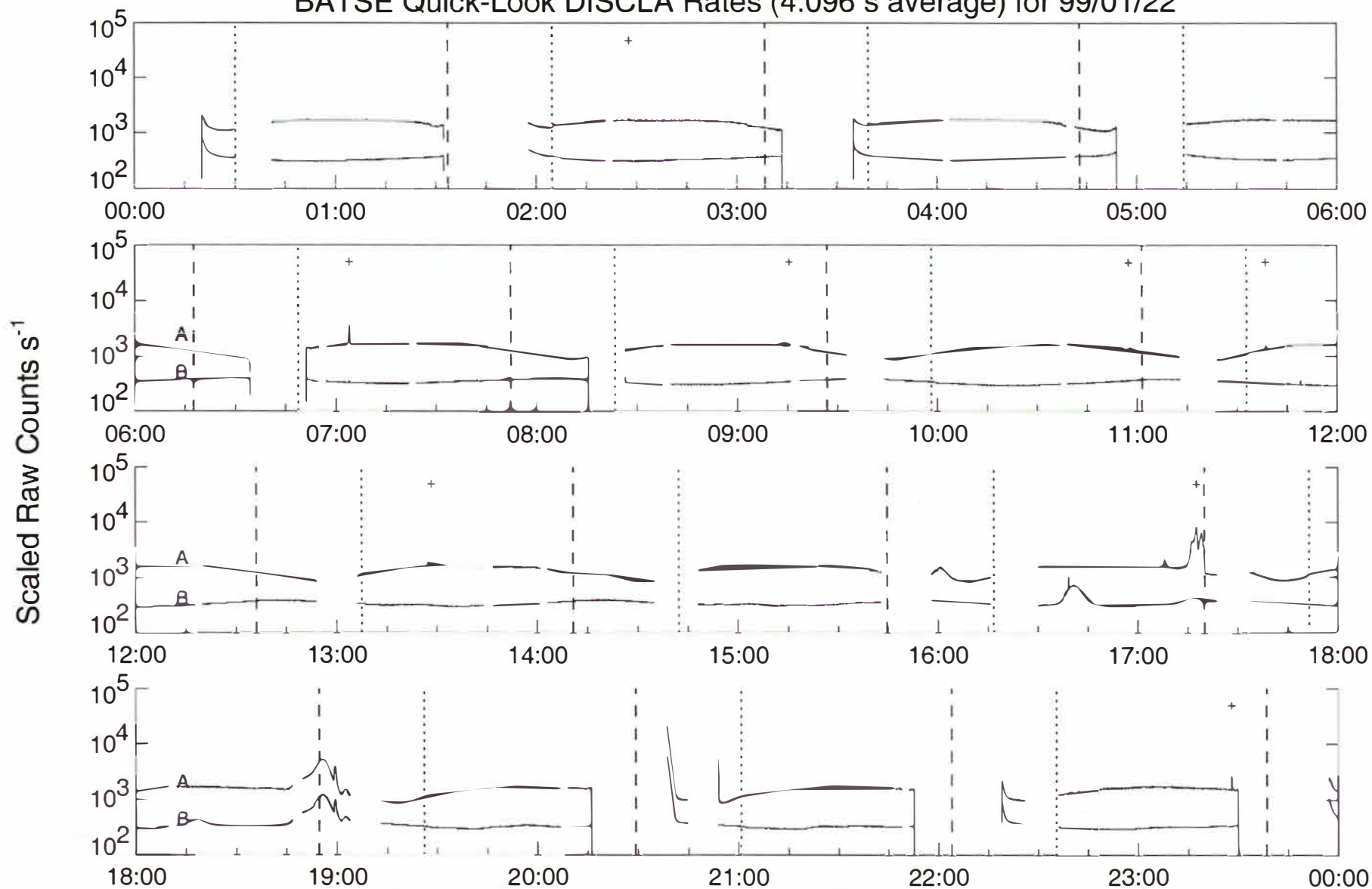
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/22

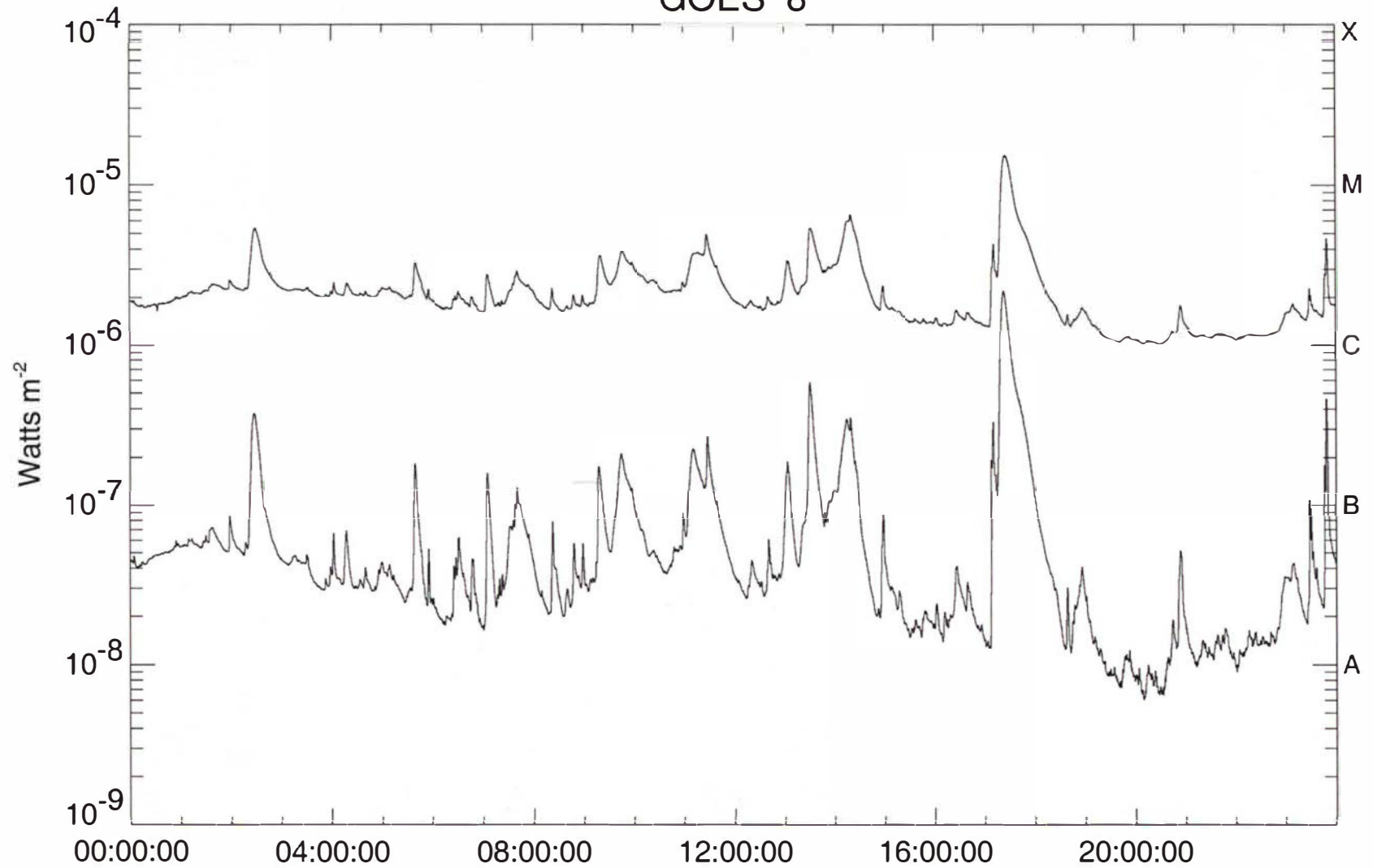


Current Time: 99/01/26, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/22, 0000:00

Plot created: 99/01/26, 1009

Channel

1 (1.0 - 8.0 Angstroms)

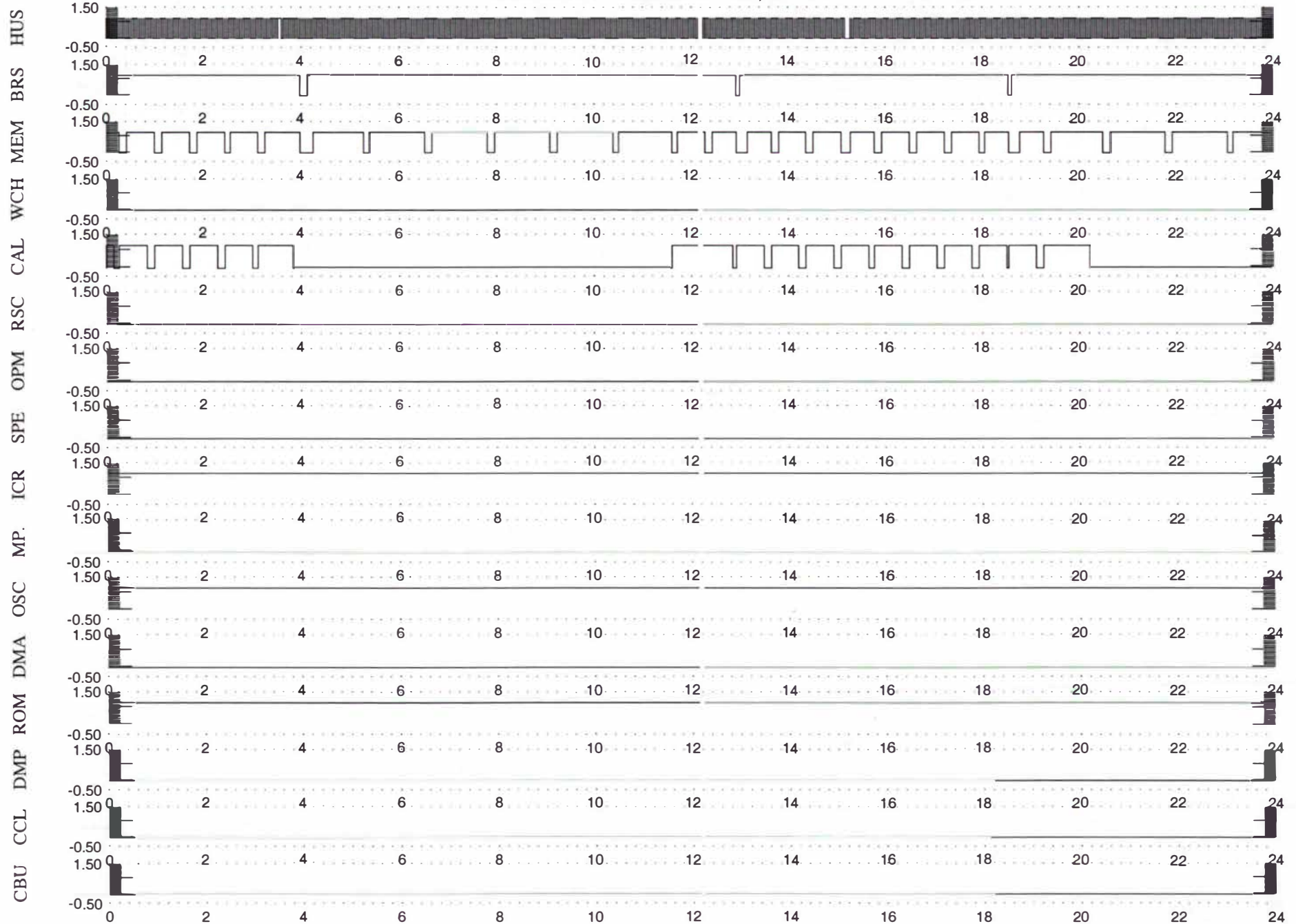
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

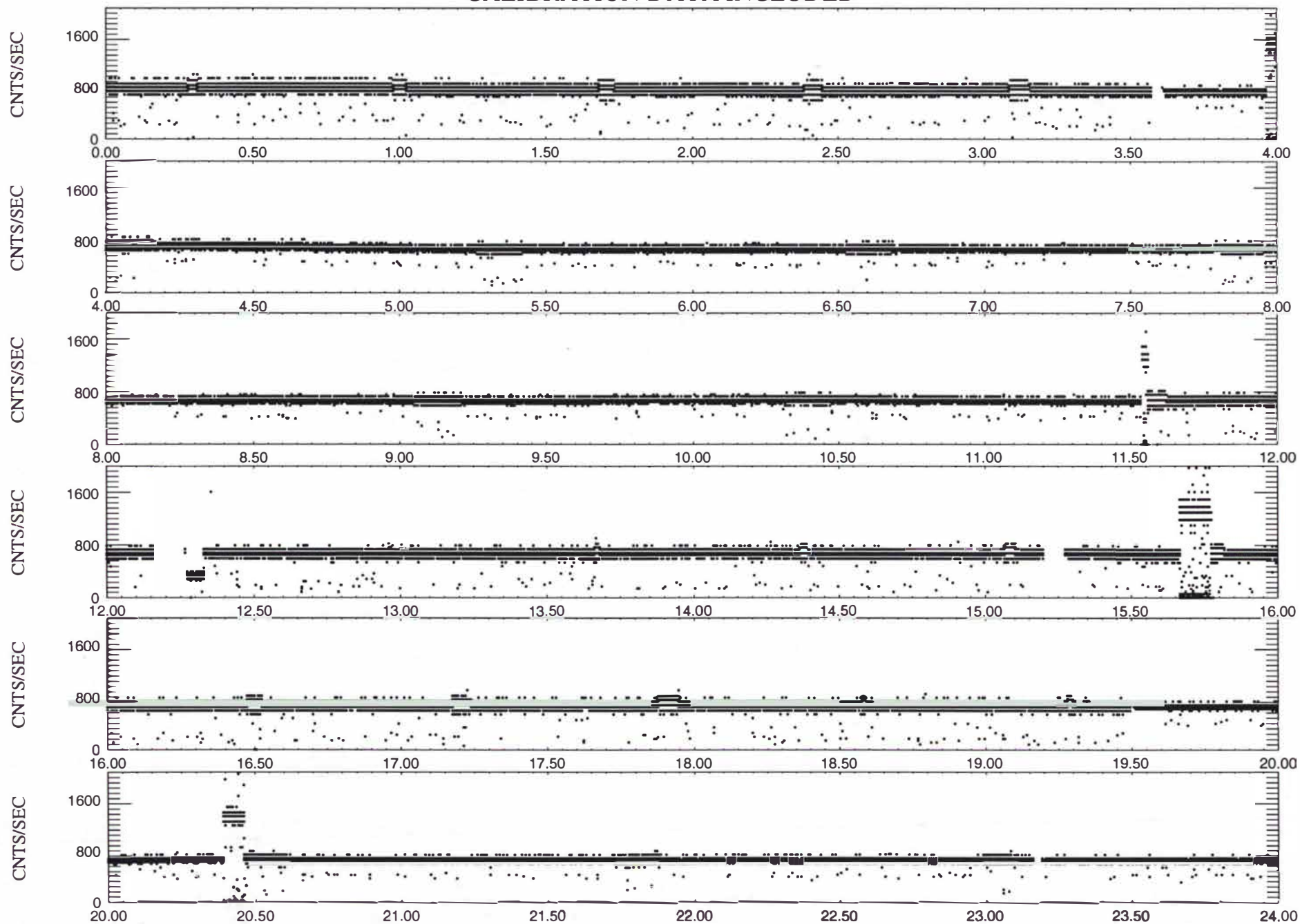
Sample average = 10

BURST NUMBER 5 - 15, 0 - 14

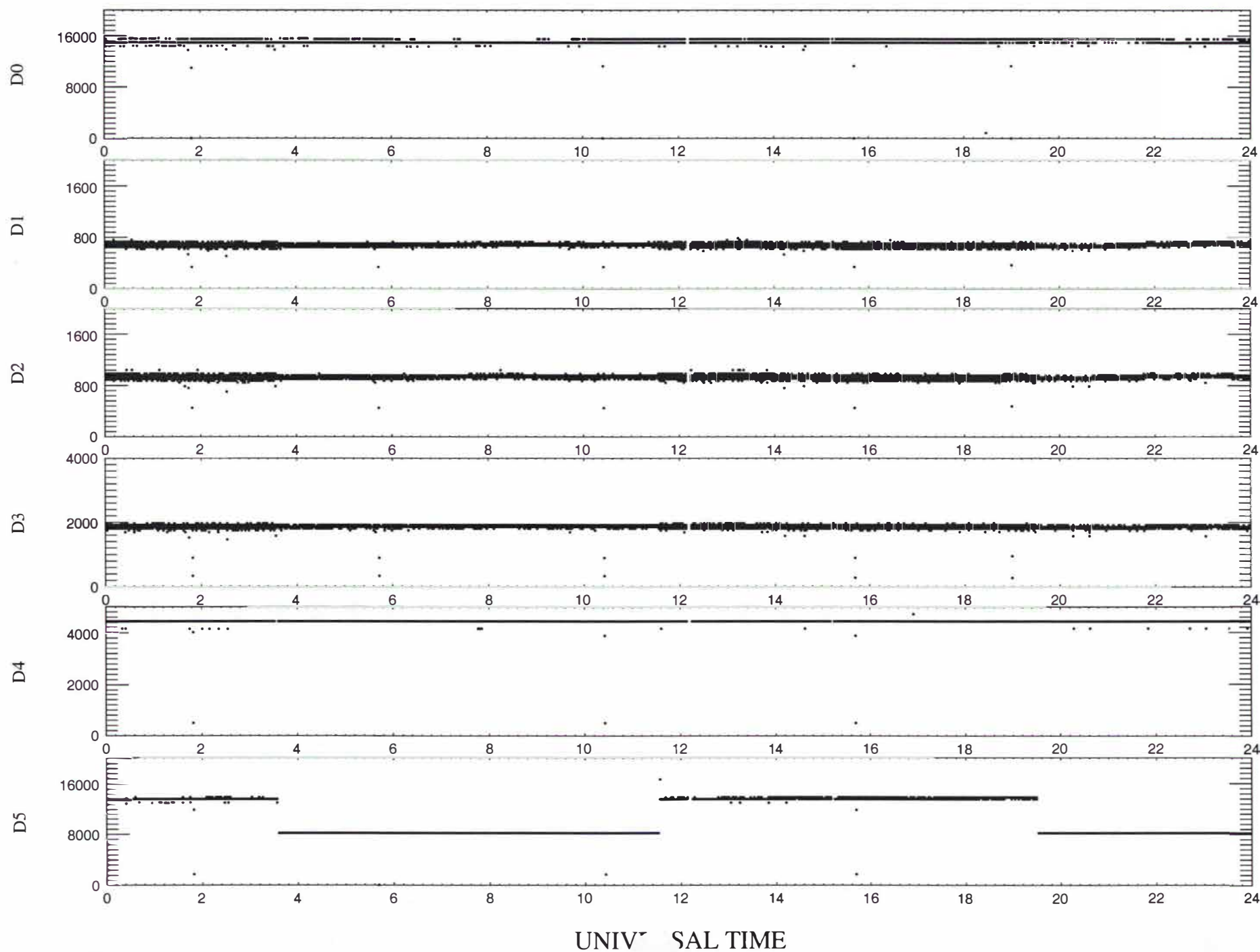


UNIV SAL TIME

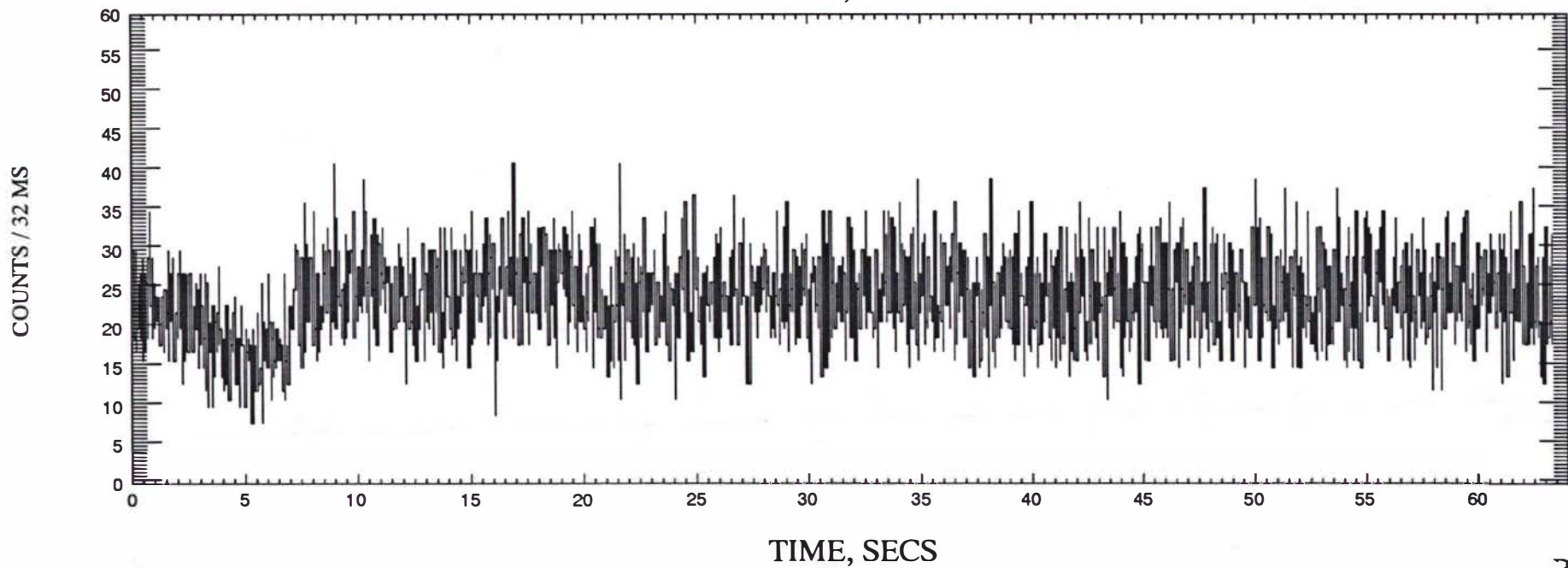
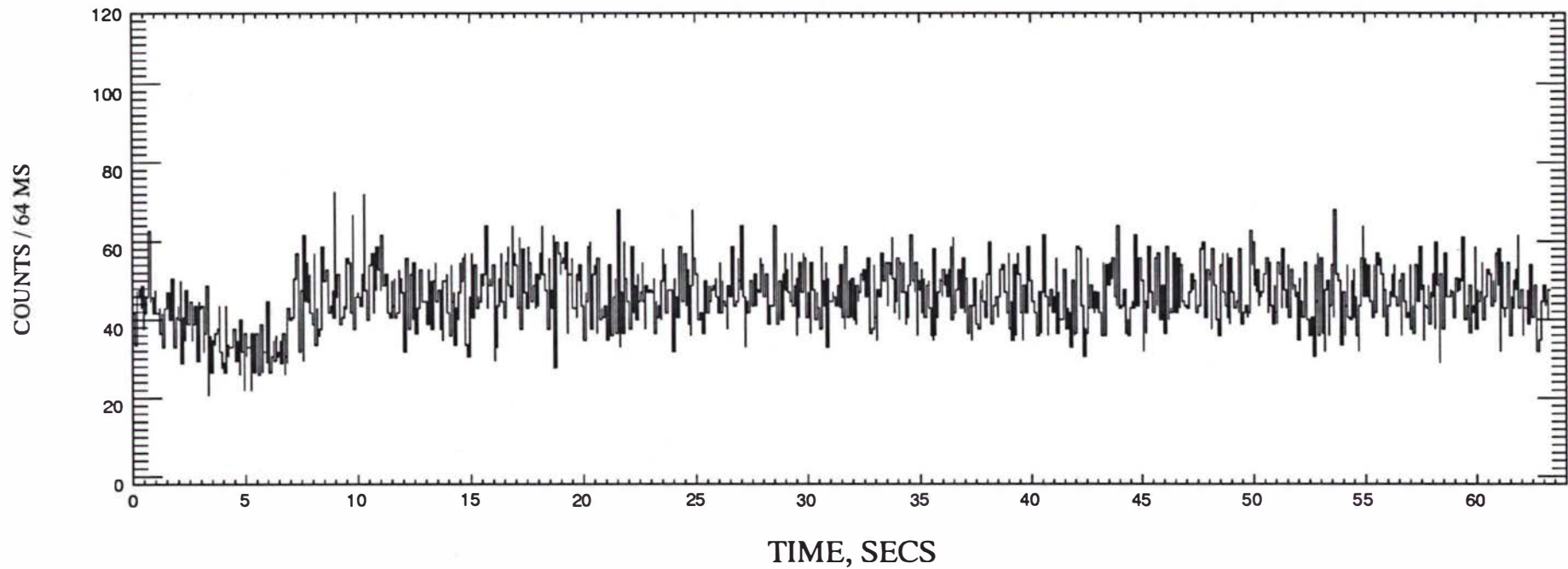
CALIBRATION DATA INCLUDED



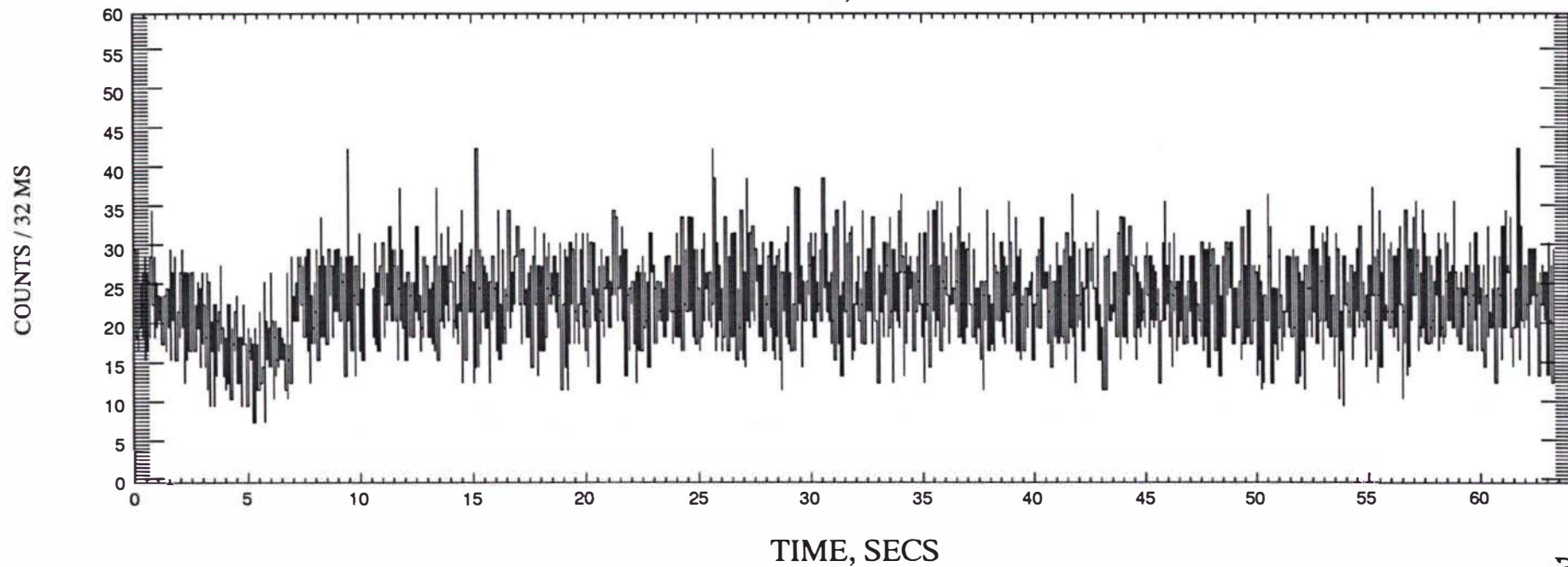
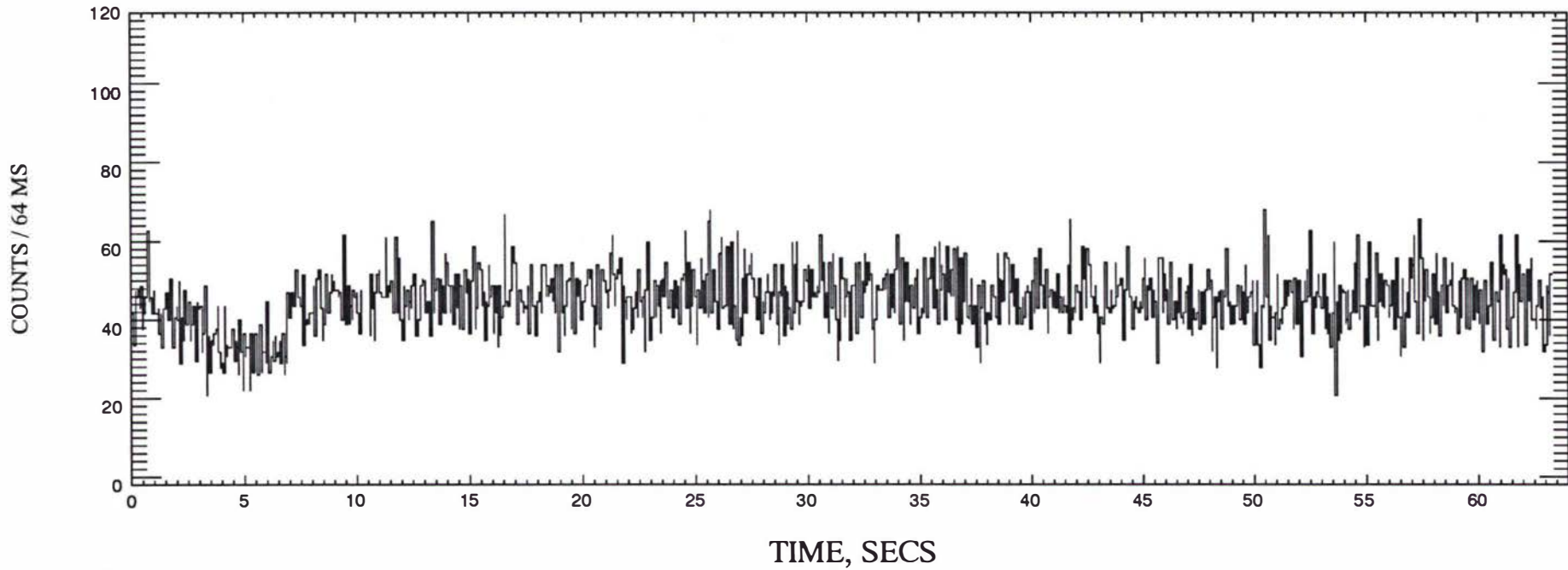
UNIV SAL TIME



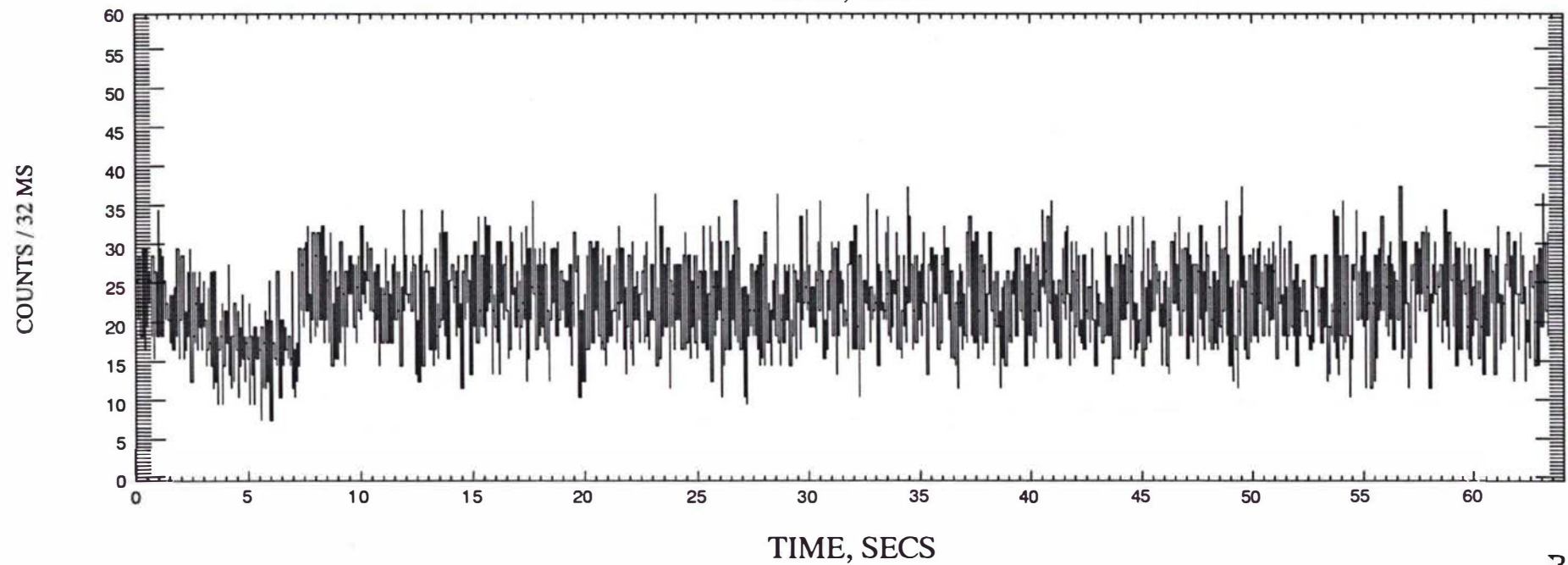
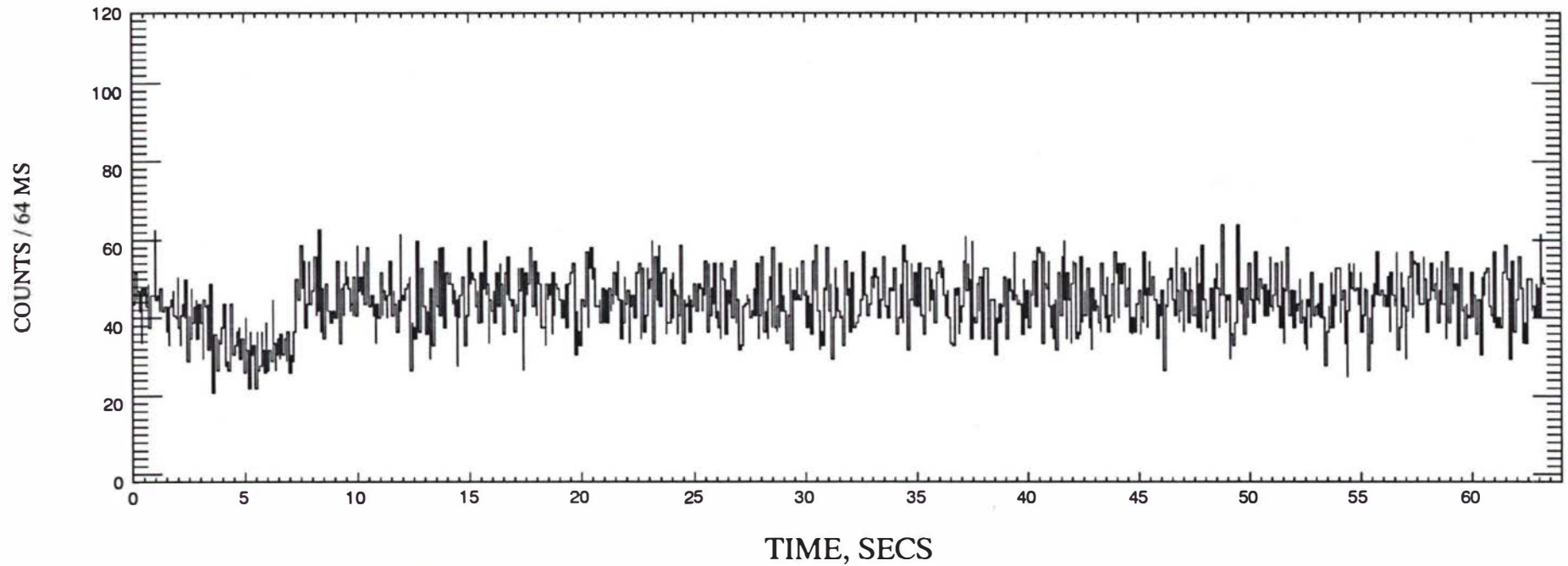
Burst Counter 5 at UT= 0.273295317756 h= 983.863 s 00:16:23.863



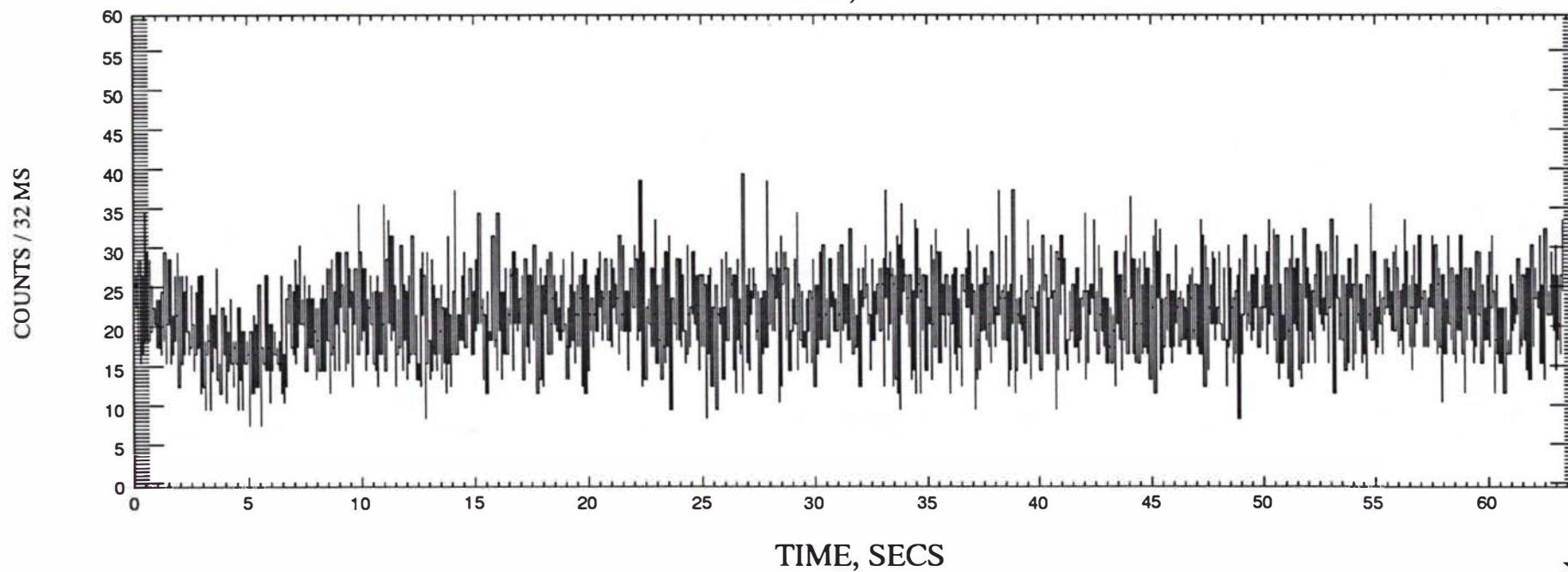
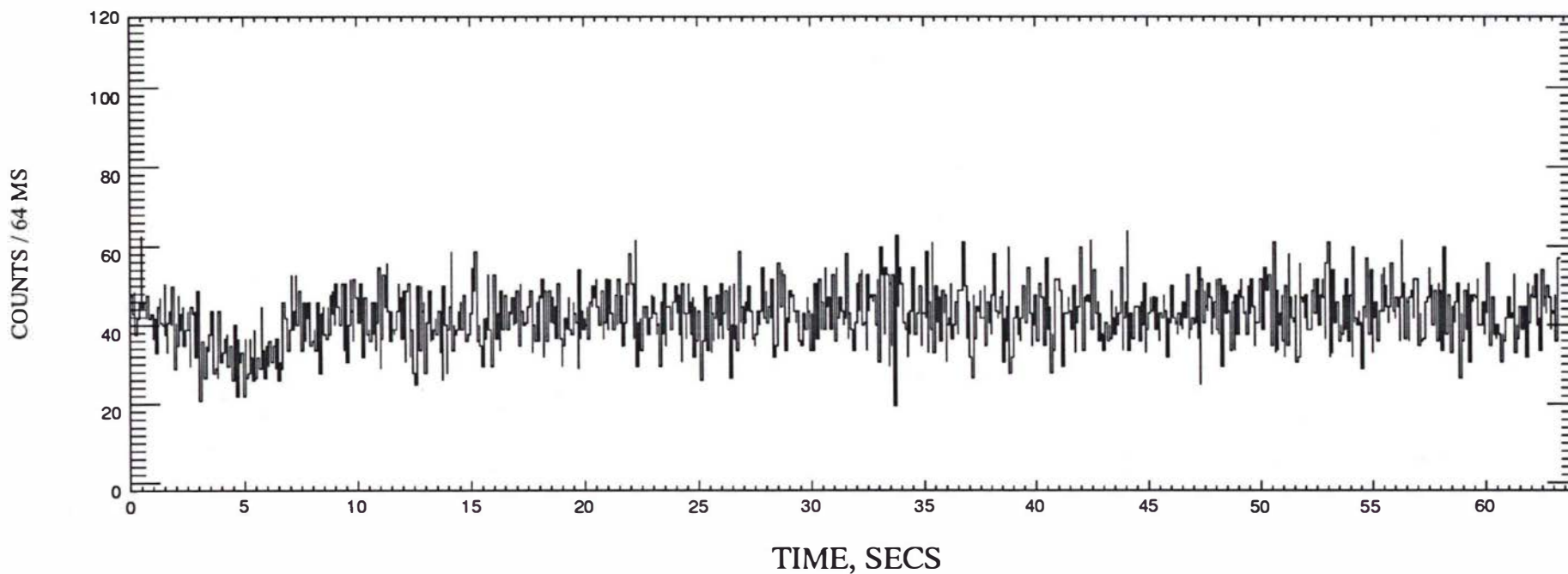
Burst Counter 6 at UT= 0.975526983473 h= 3511.897 s 00:58:31.897



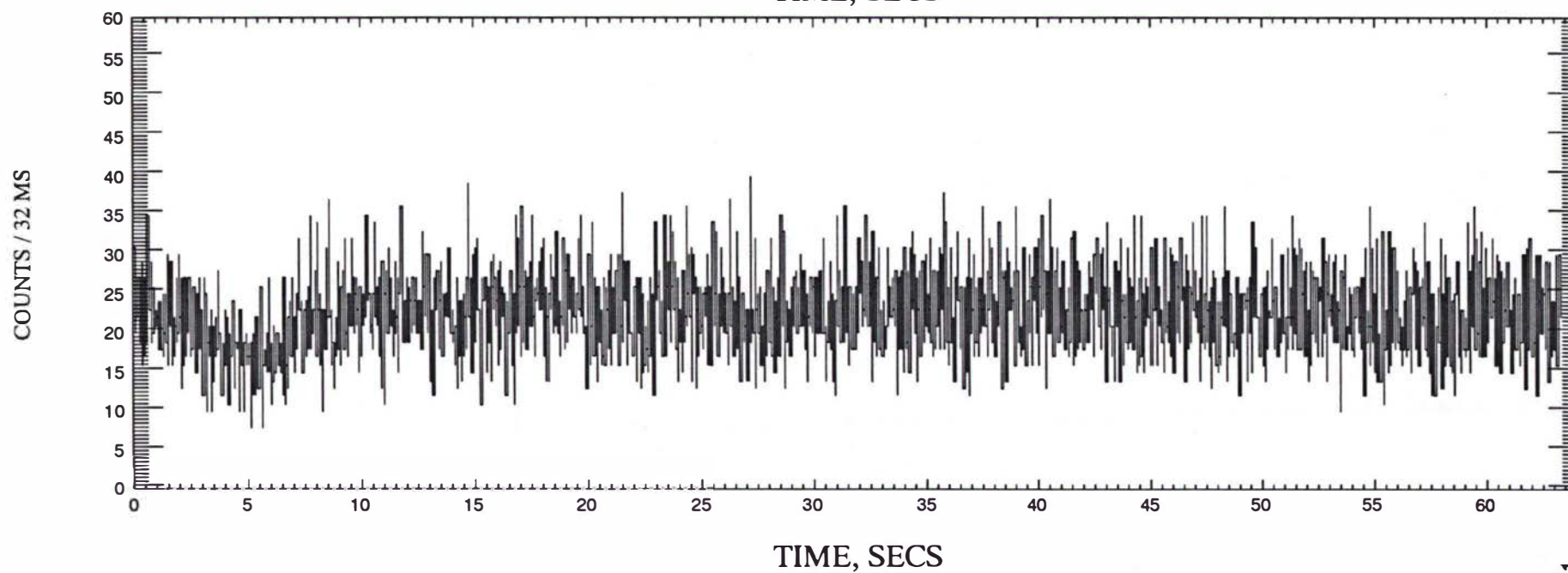
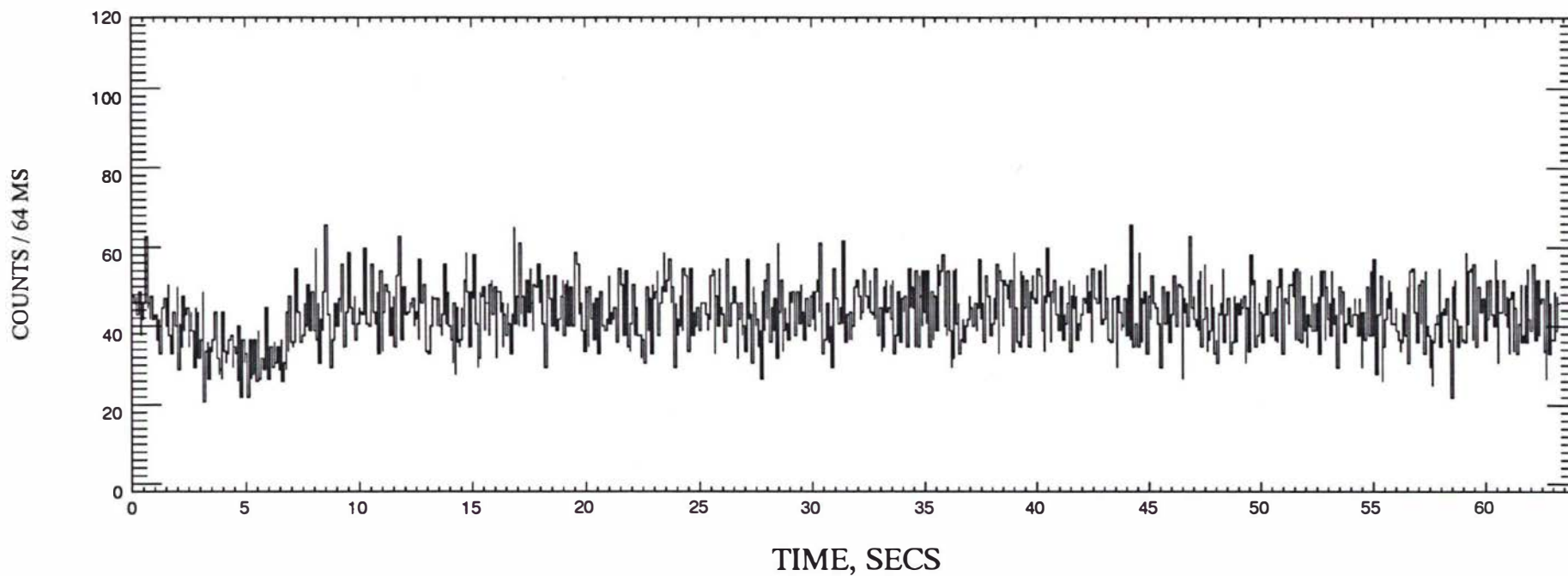
Burst Counter 7 at UT= 1.677689204746 h= 6039.681 s 01:40:39.681



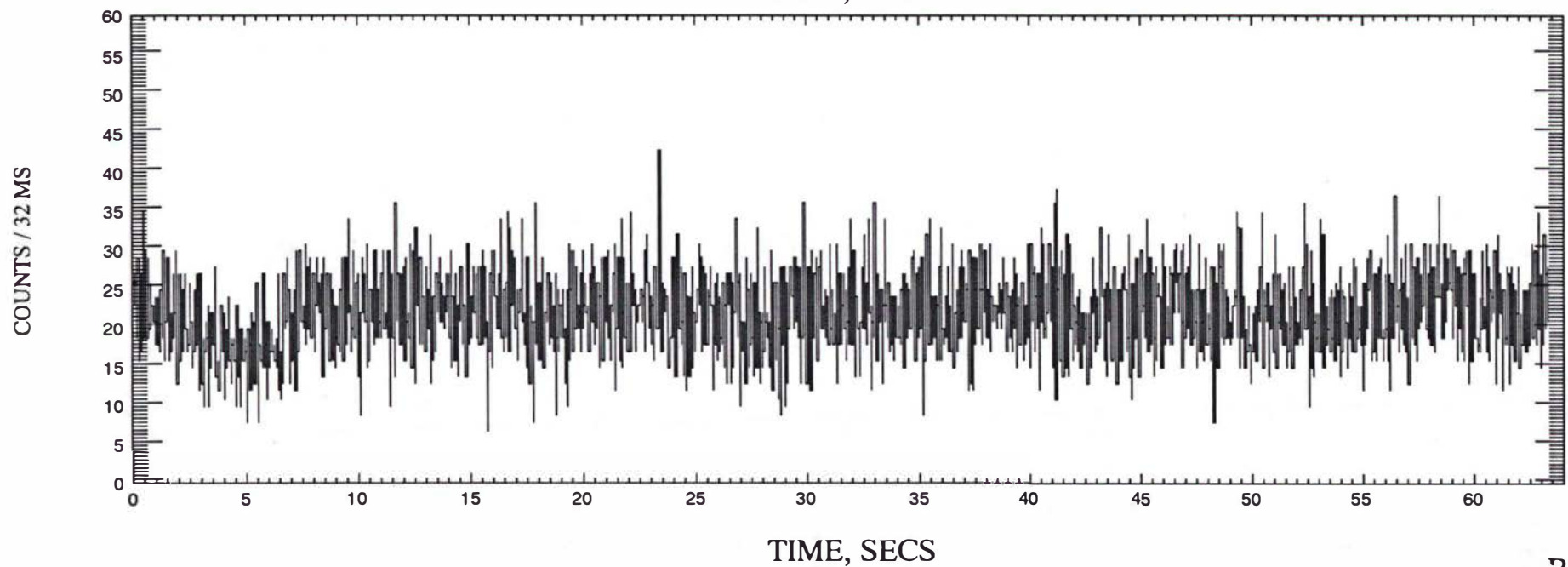
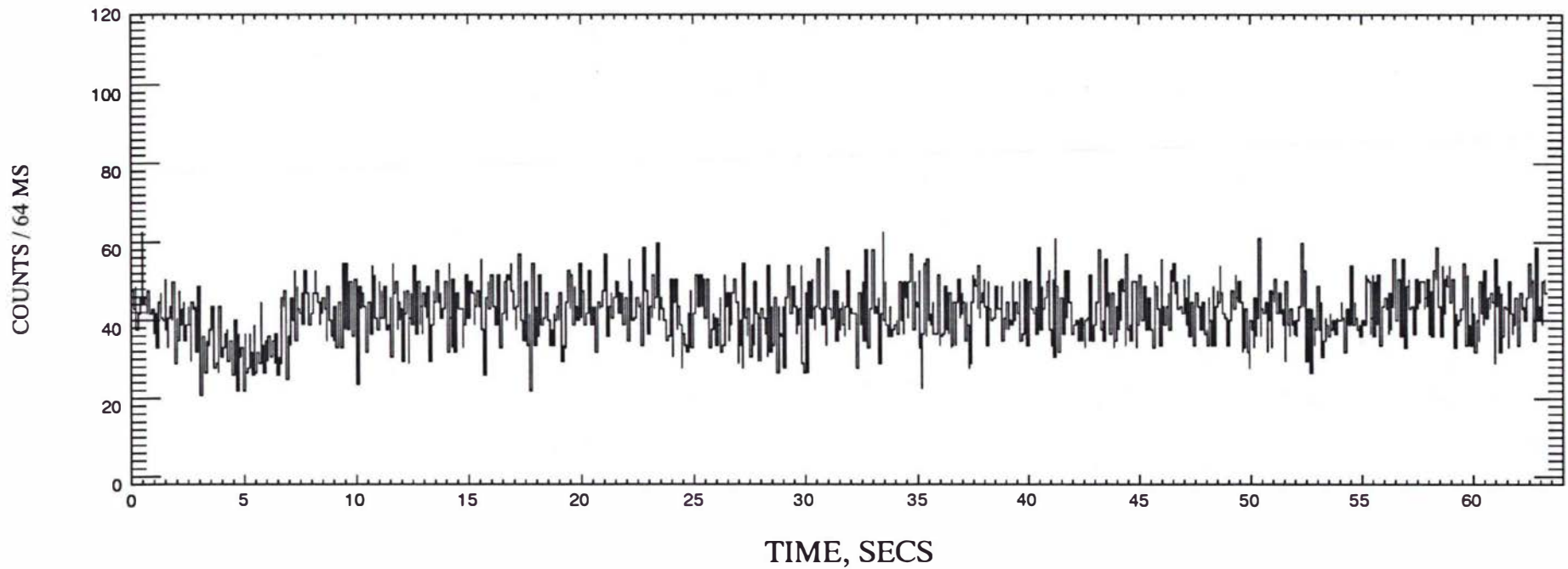
Burst Counter 8 at UT= 2.380059759352 h= 8568.215 s 02:22:48.215



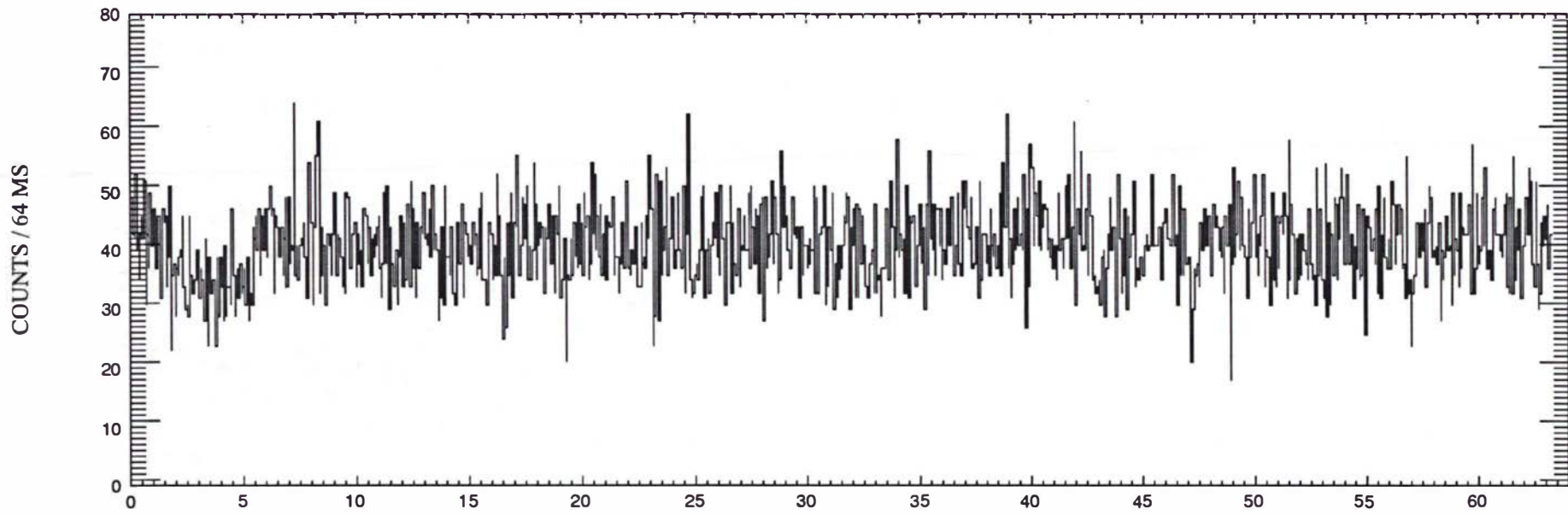
Burst Counter 9 at UT= 3.082252362569 h=11096.109 s 03:04:56.109



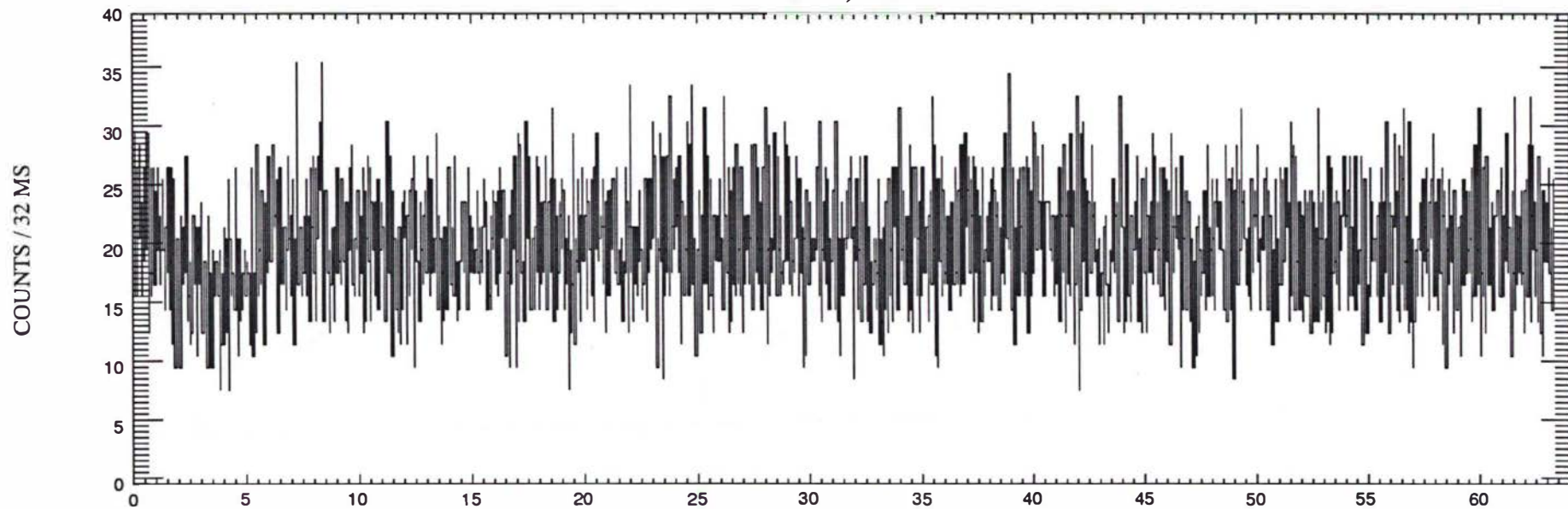
Burst Counter 10 at UT= 3.995073589749 h=14382.265 s 03:59:42.265



Burst Counter 11 at UT= 5.260432446798 h=18937.557 s 05:15:37.557

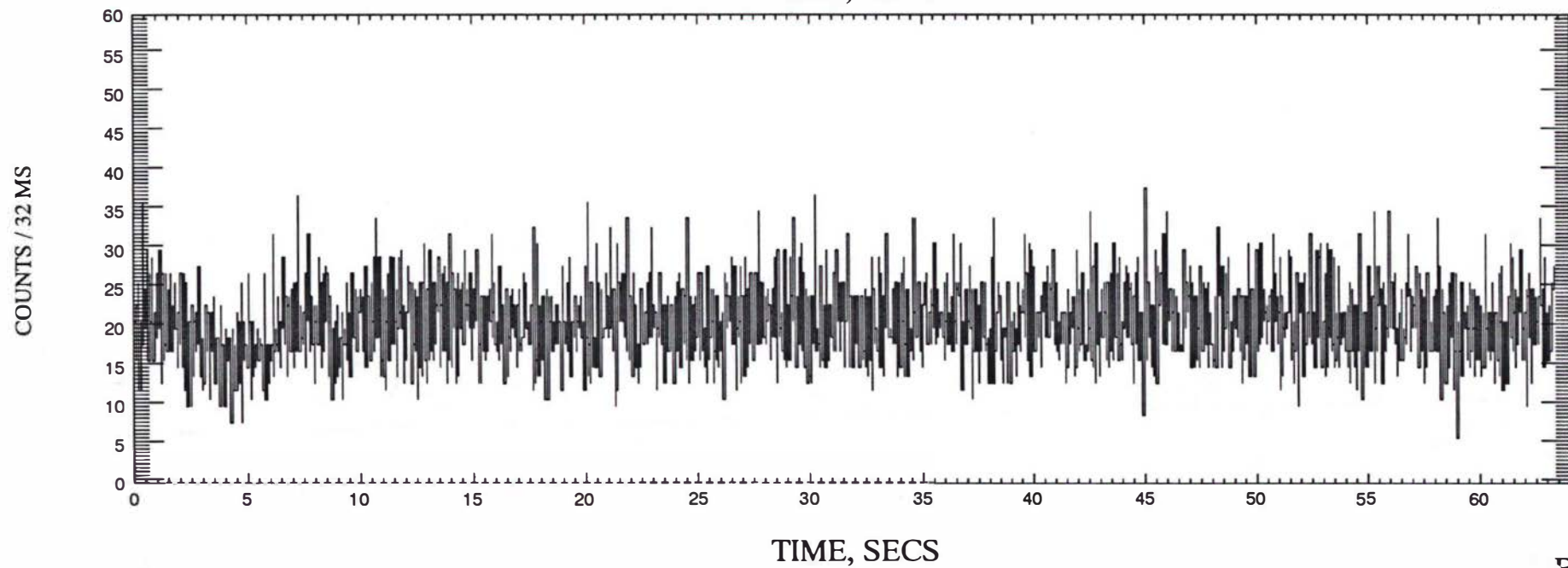
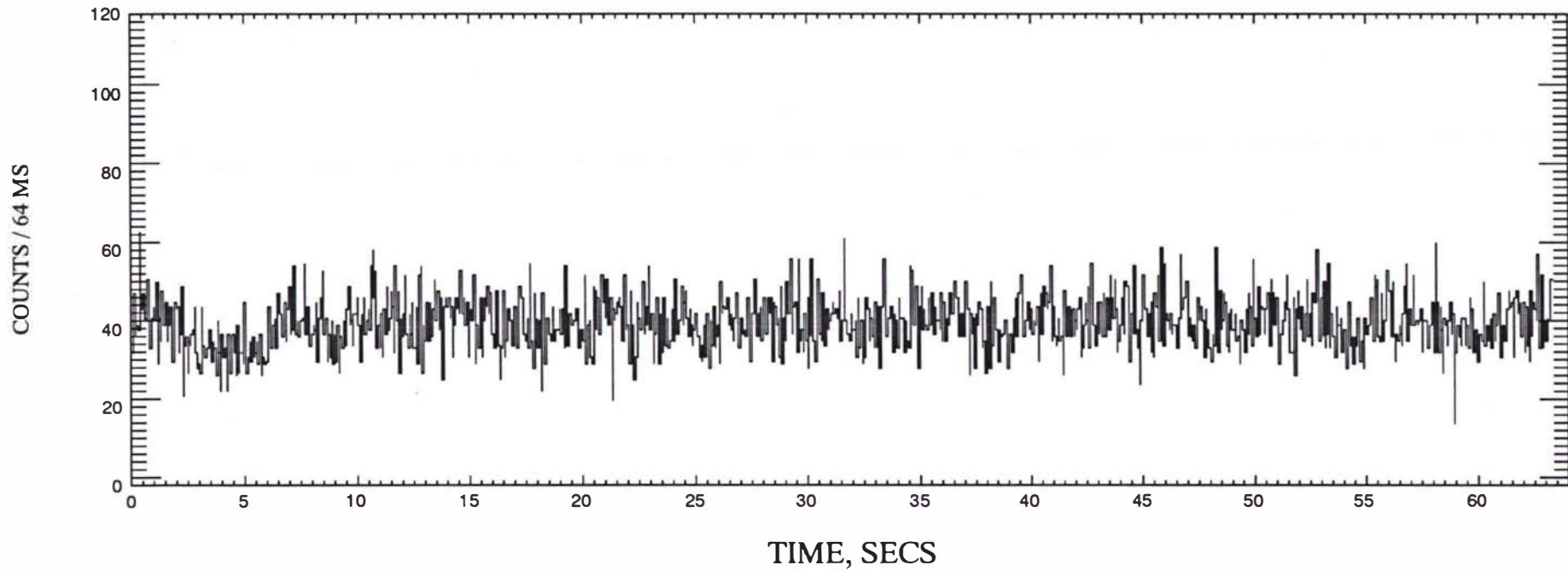


TIME, SECS

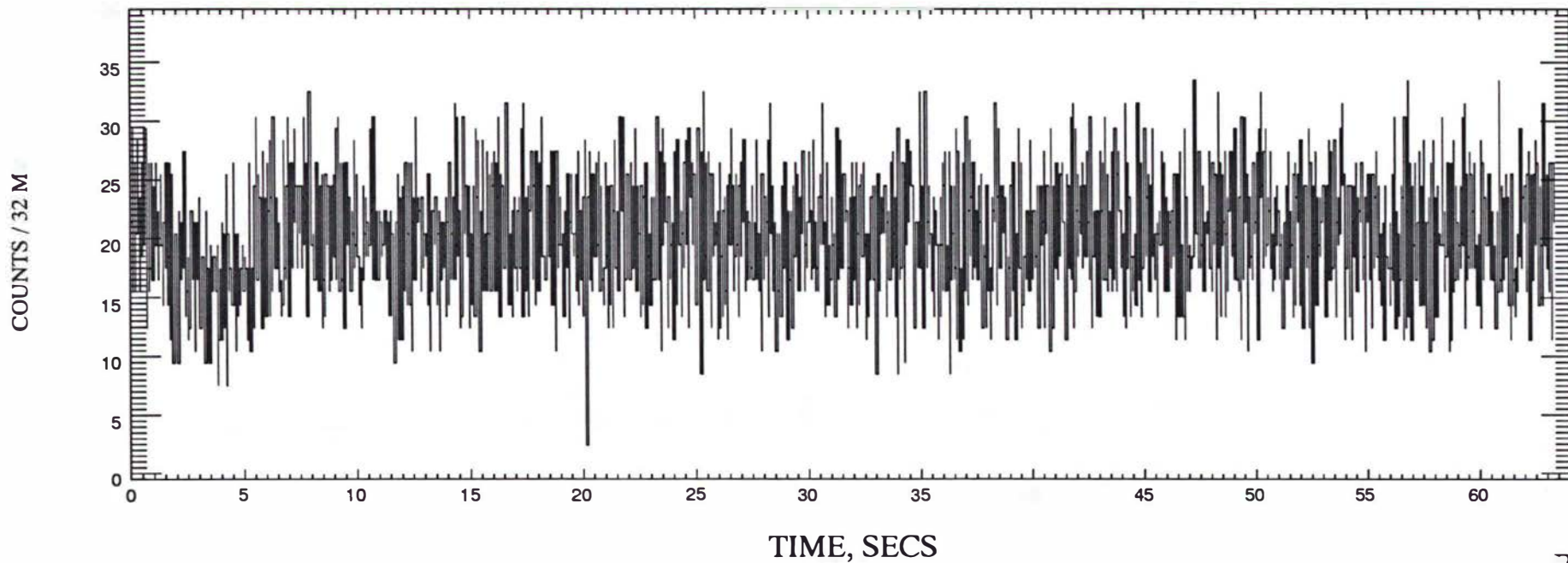
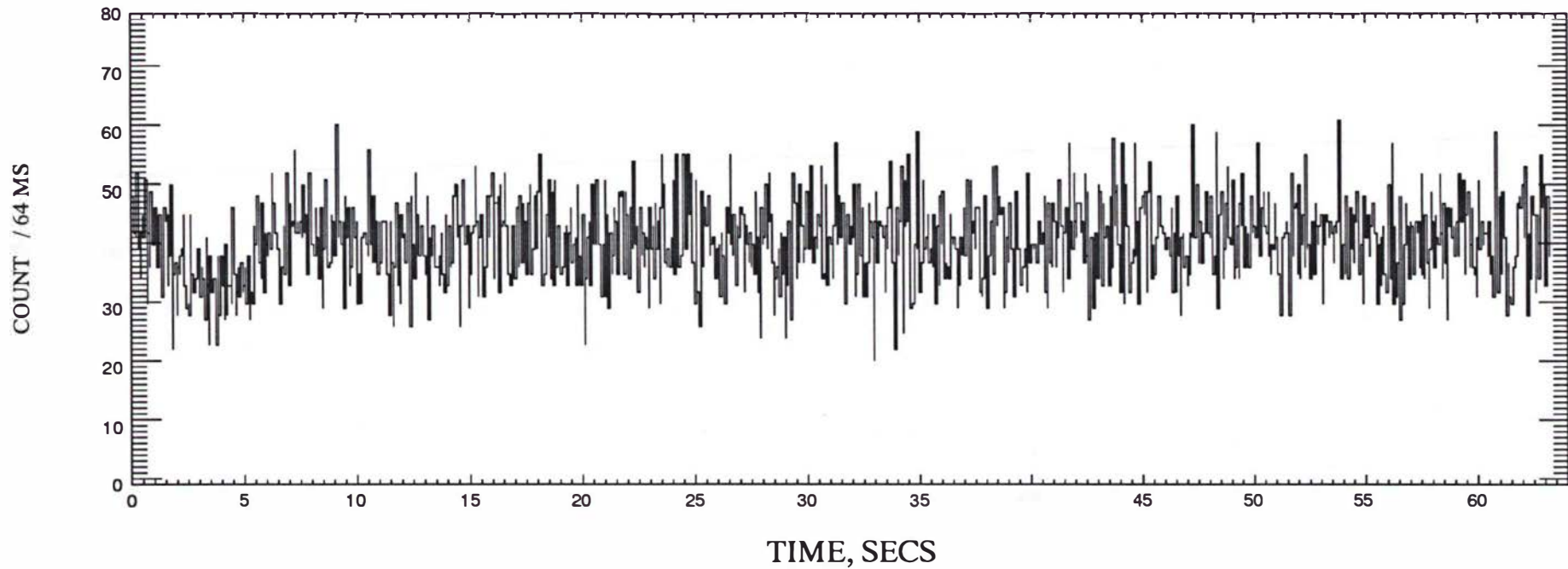


TIME, SECS

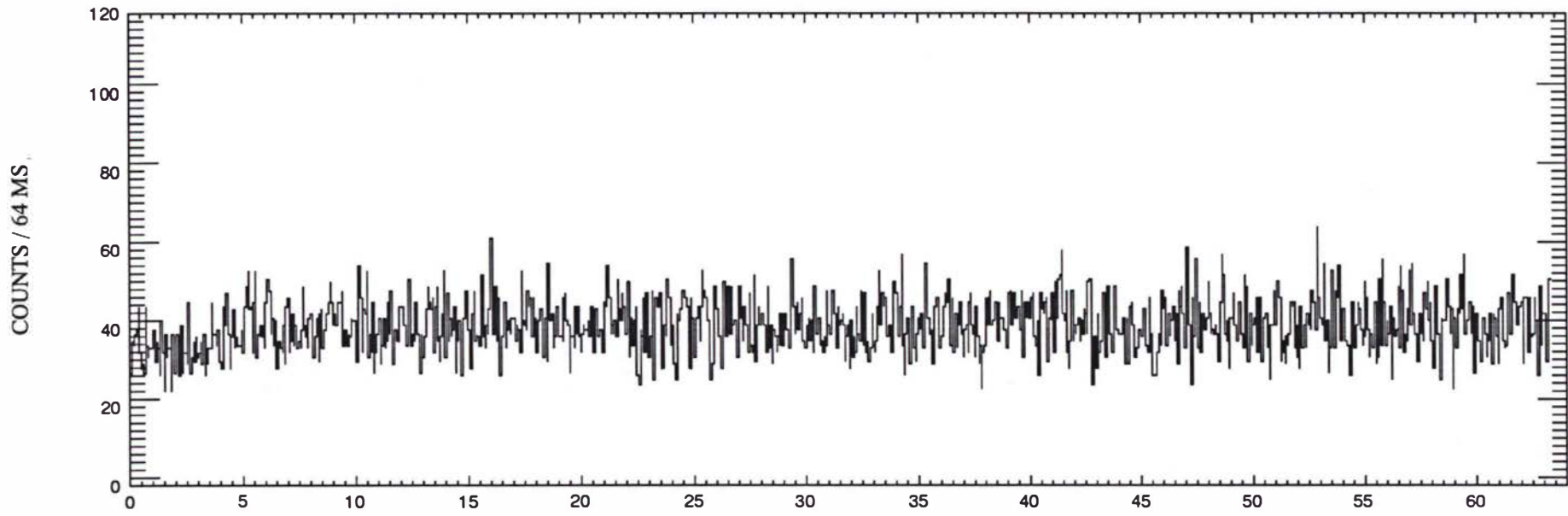
Burst Counter 12 at UT= 6.522526702881 h=23481.096 s 06:31:21.096



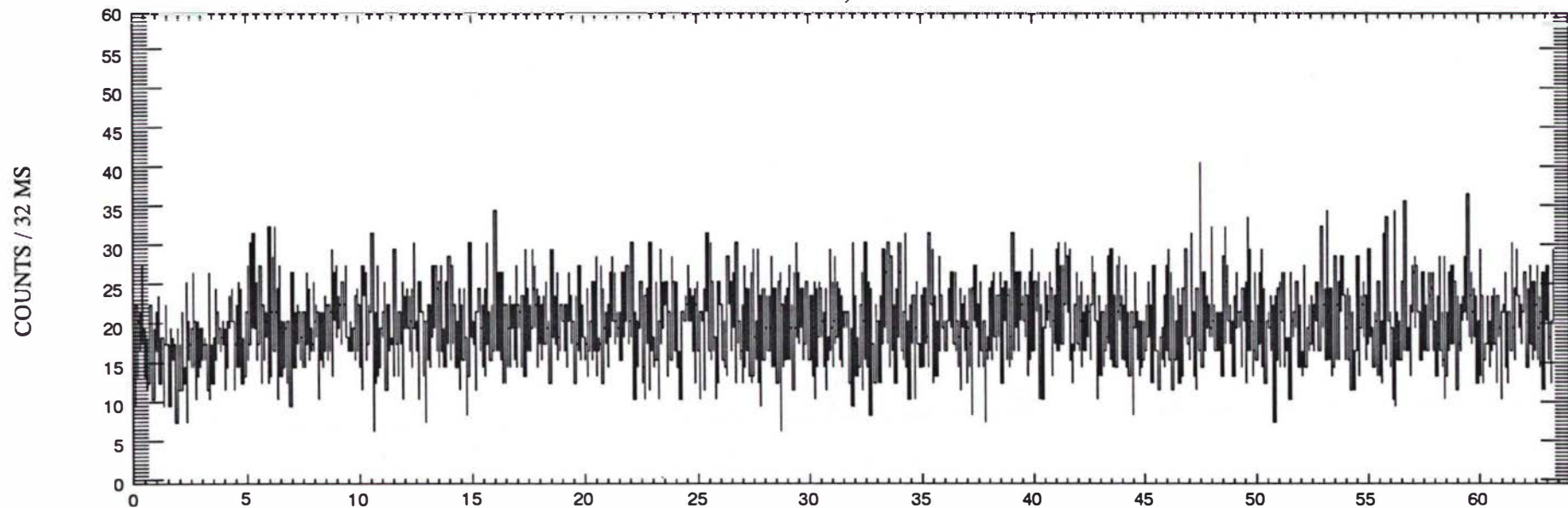
Burst Counter 13 at UT= 7.784903072781 h=28025.651 s 07:47:05.651



Burst Counter 14 at UT= 9.047676582336 h=32571.636 s 09:02:51.636

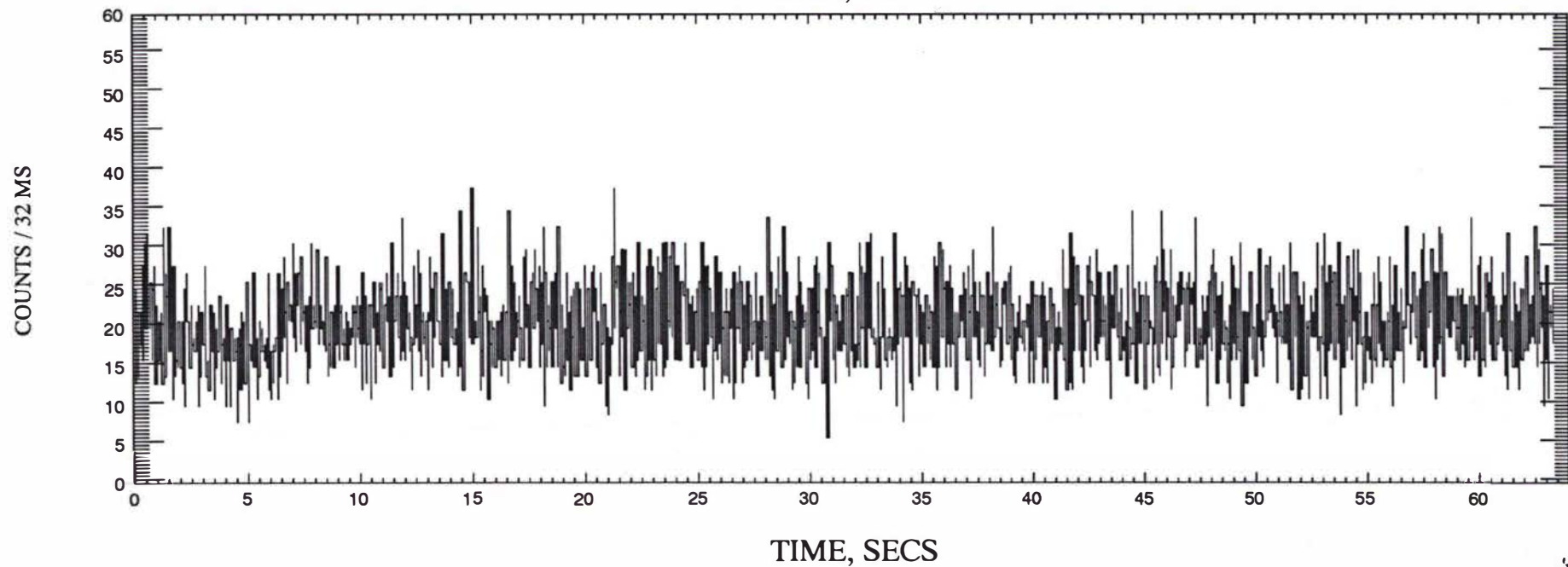
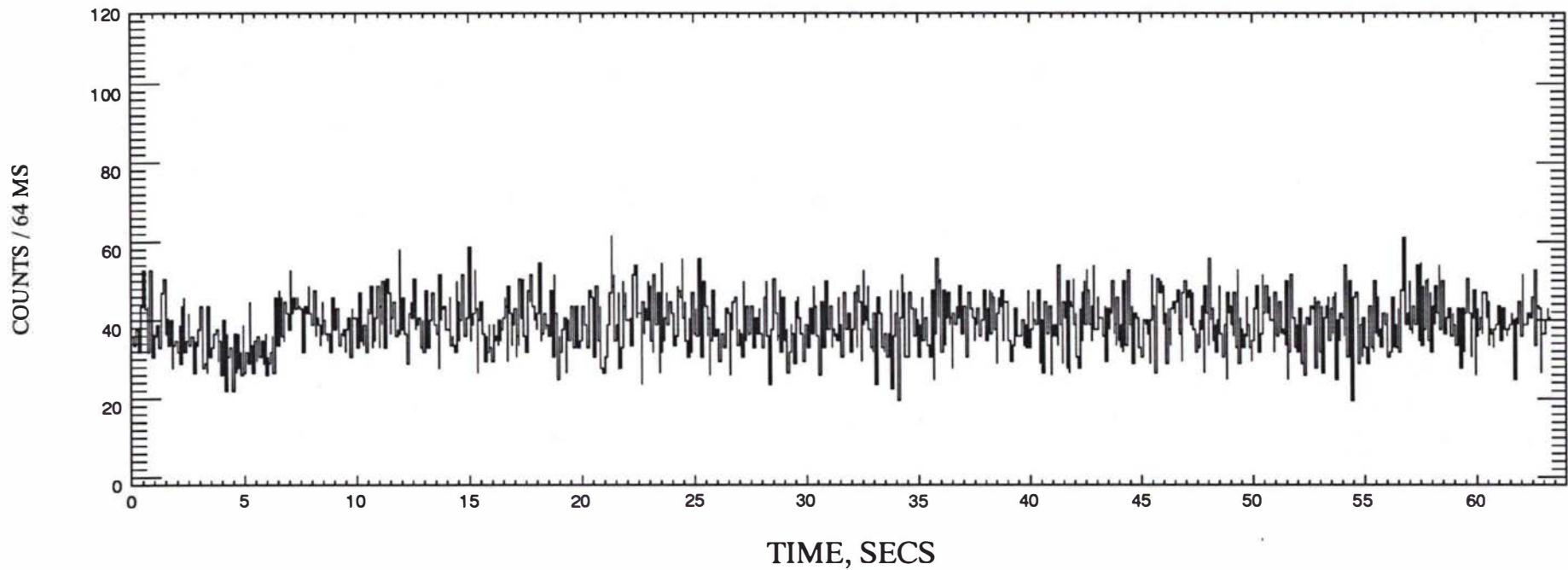


TIME, SECS

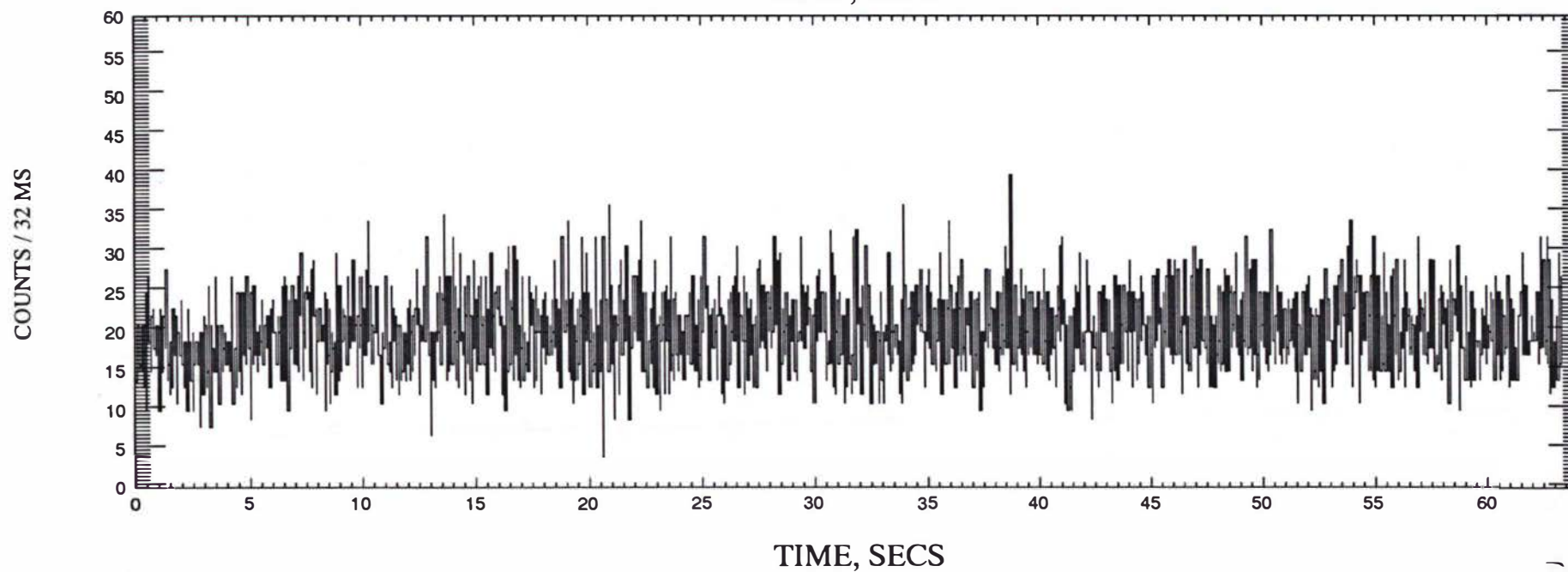
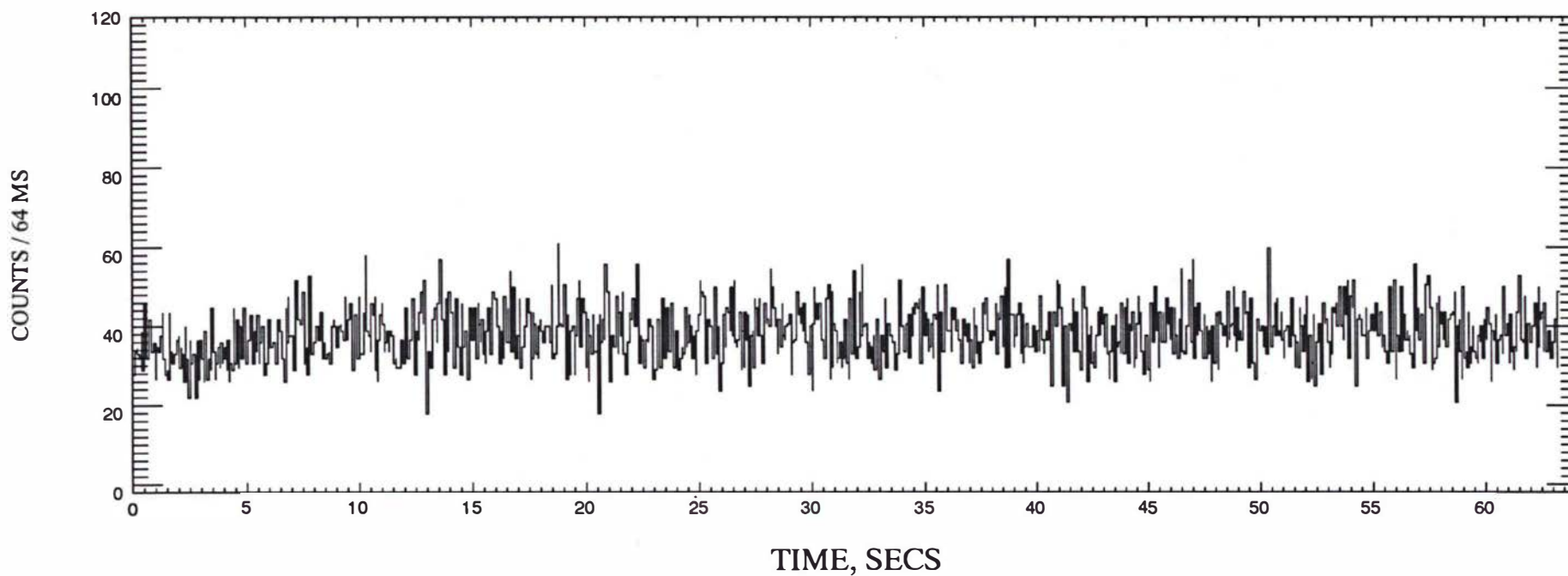


TIME, SECS

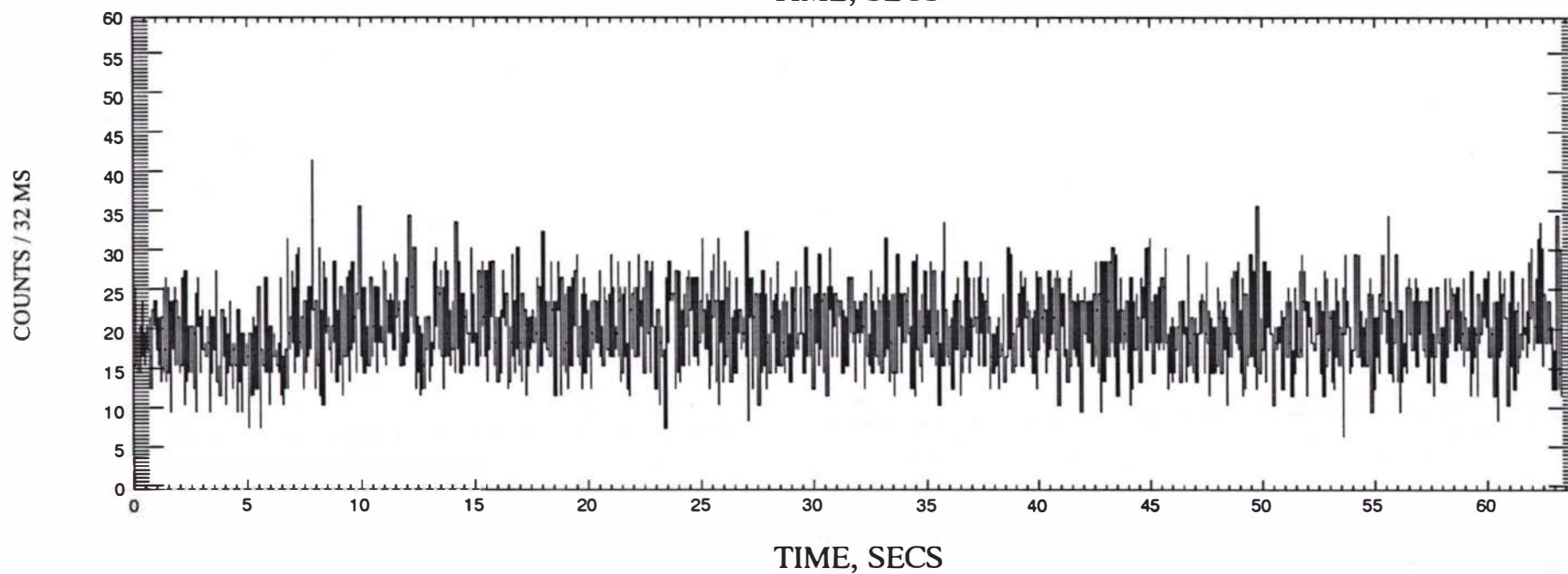
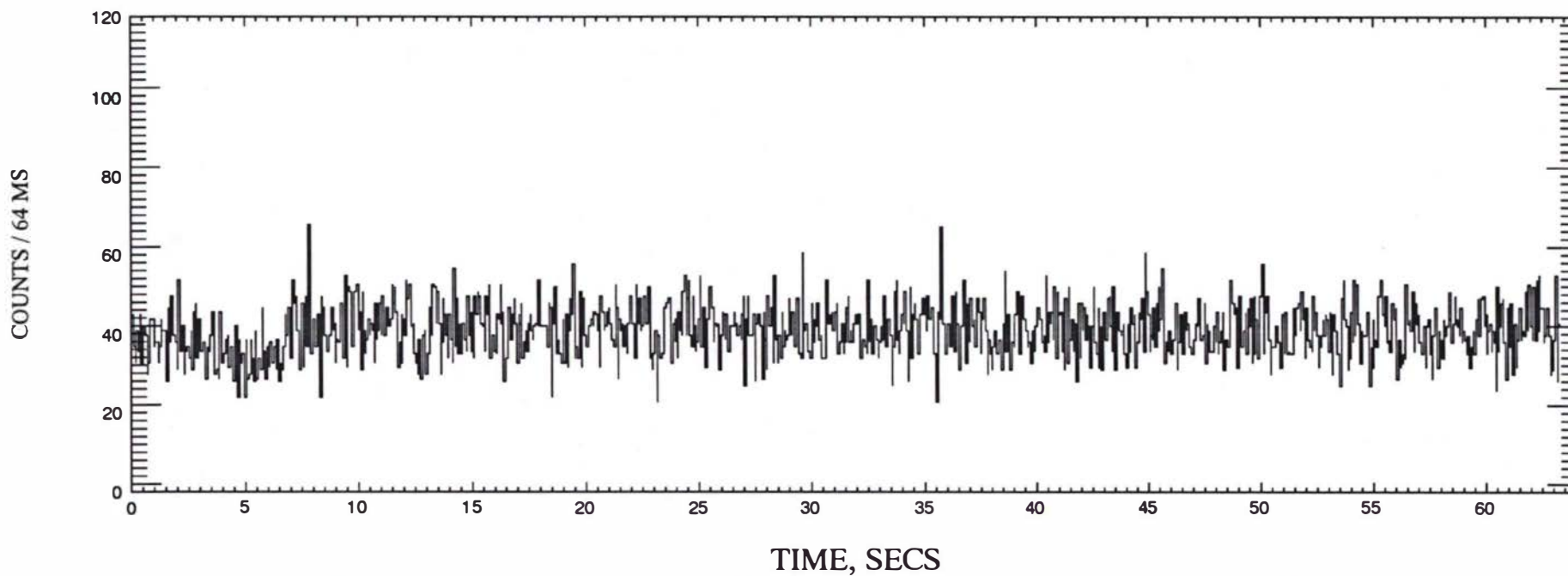
Burst Counter 15 at UT=10.309167539808 h=37113.003 s 10:18:33.003



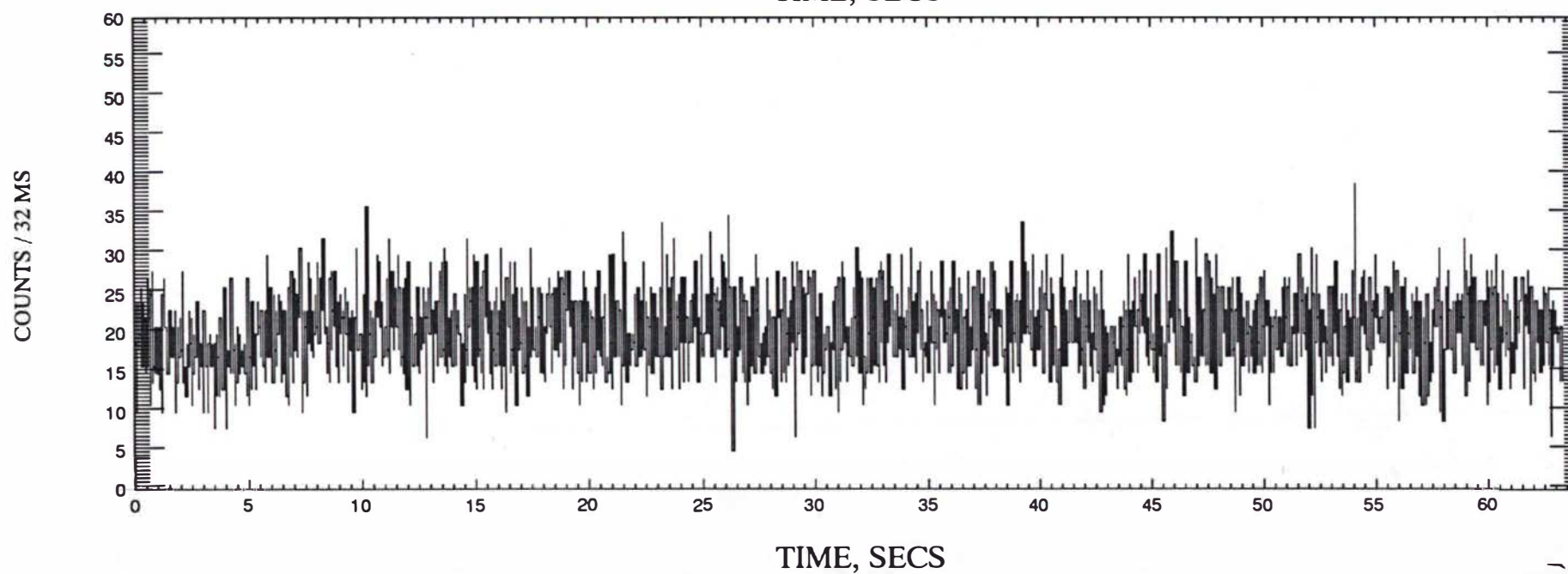
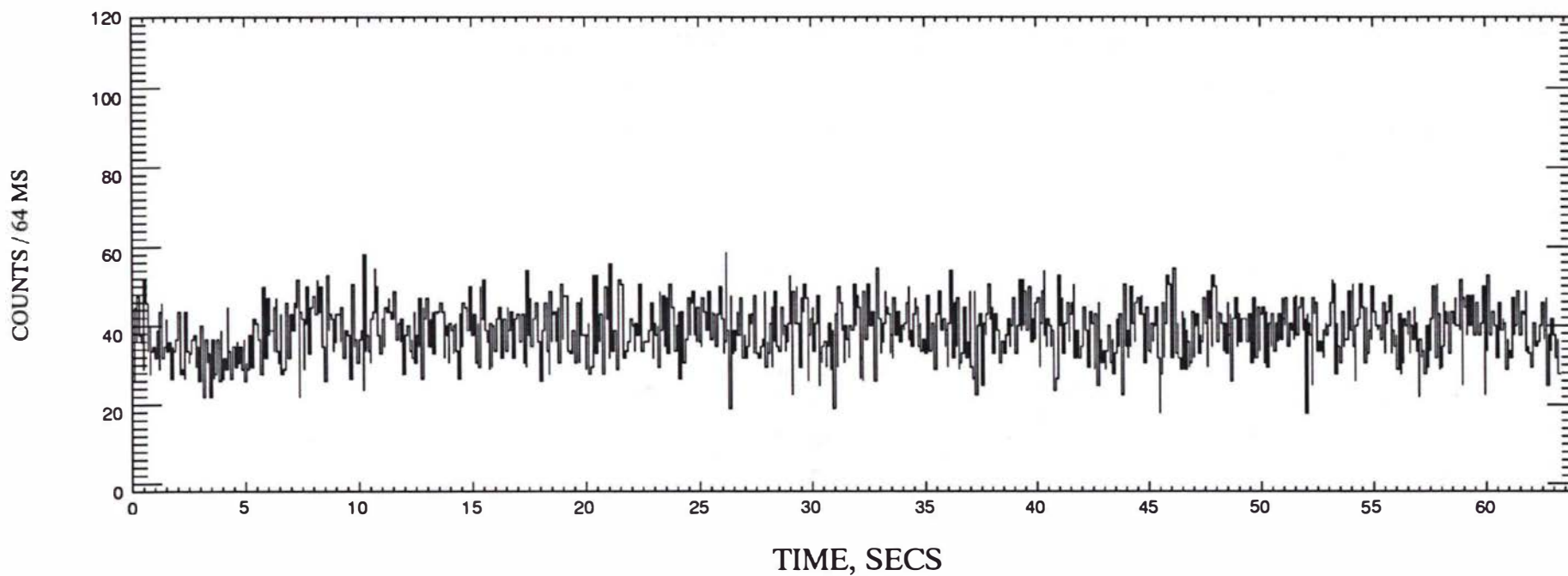
Burst Counter 0 at UT=11.555776791043 h=41600.796 s 11:33:20.796



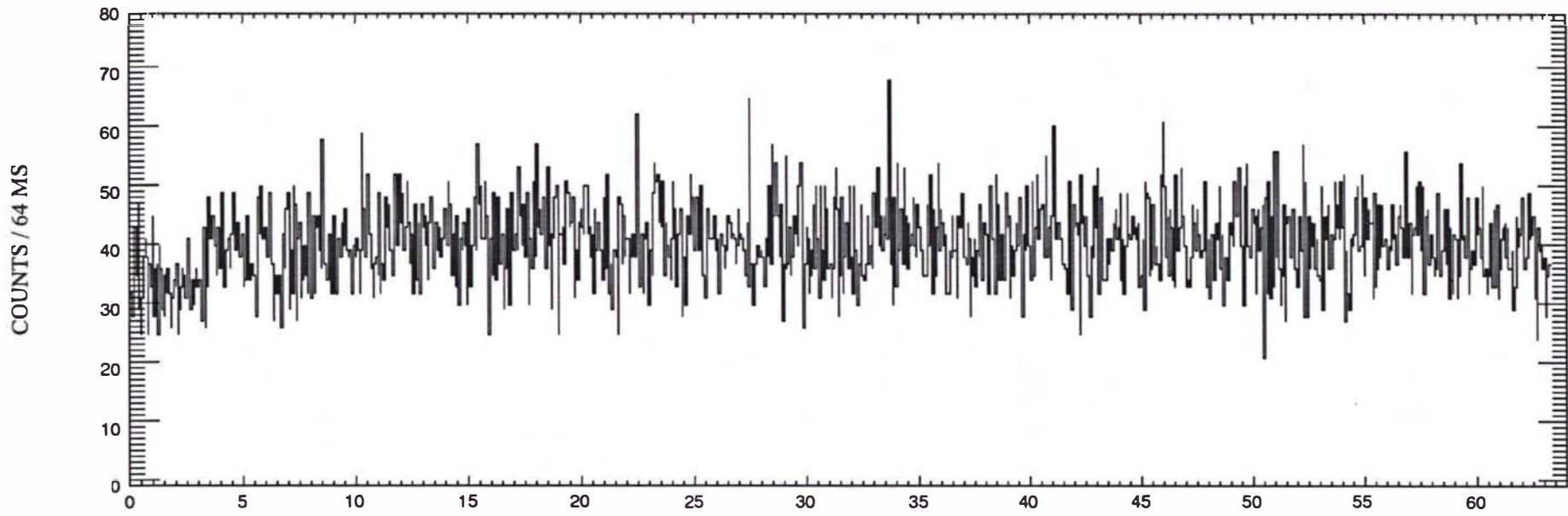
Burst Counter 1 at UT=12.113490922716 h=43608.567 s 12:06:48.567



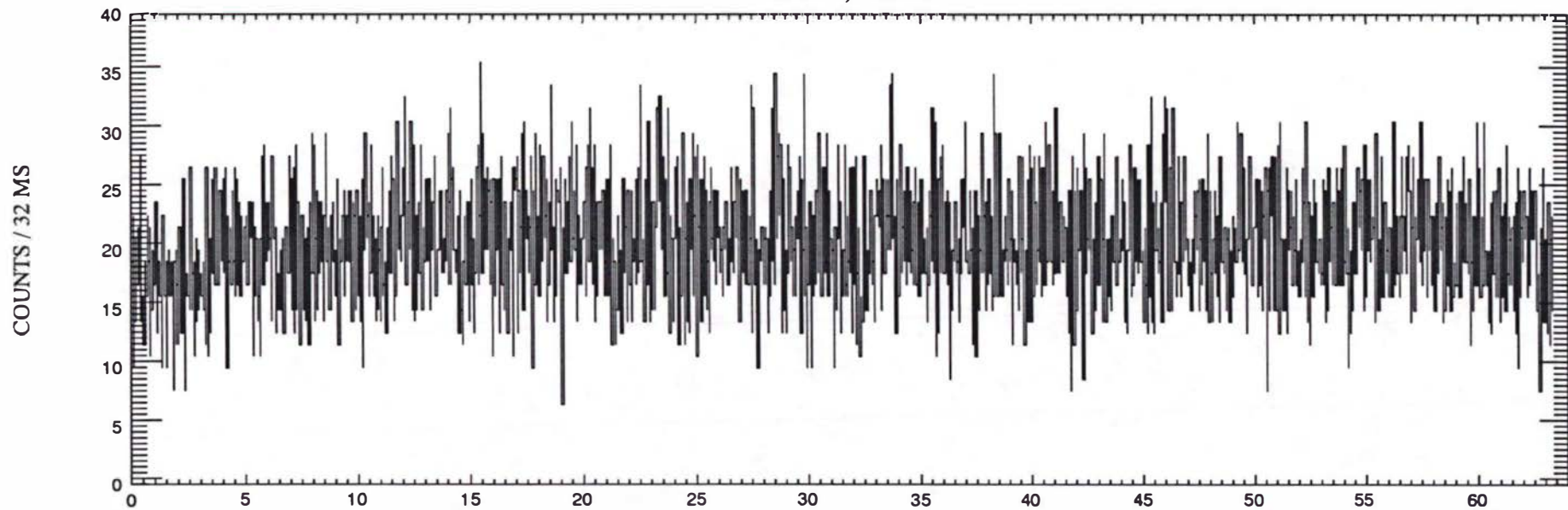
Burst Counter 2 at UT=12.958360218472 h=46650.097 s 12:57:30.097



Burst Counter 3 at UT=13.661066415575 h=49179.839 s 13:39:39.839

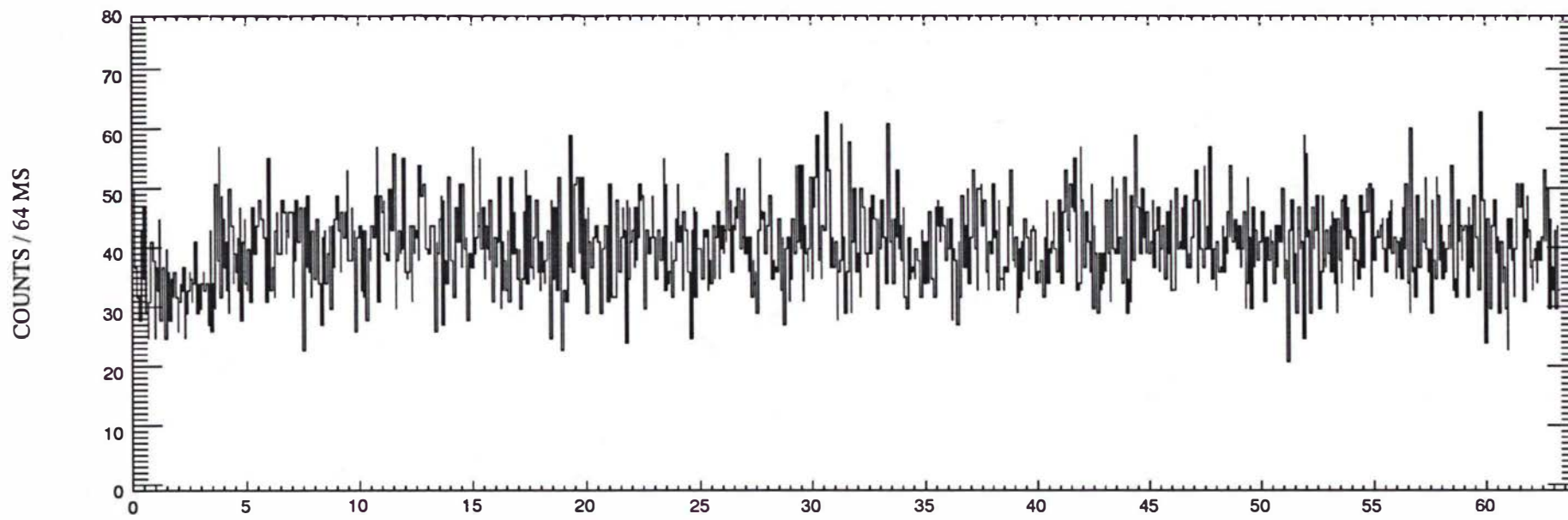


TIME, SECS

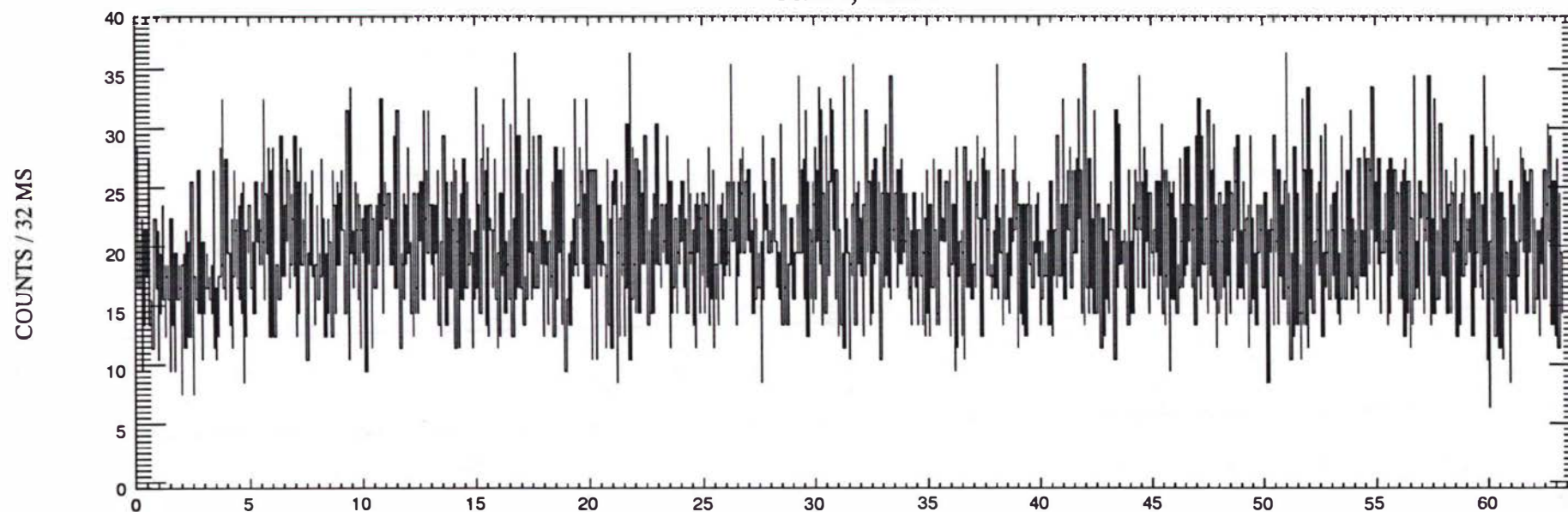


TIME, SECS

Burst Counter 4 at UT=14.363243827820 h=51707.678 s 14:21:47.678

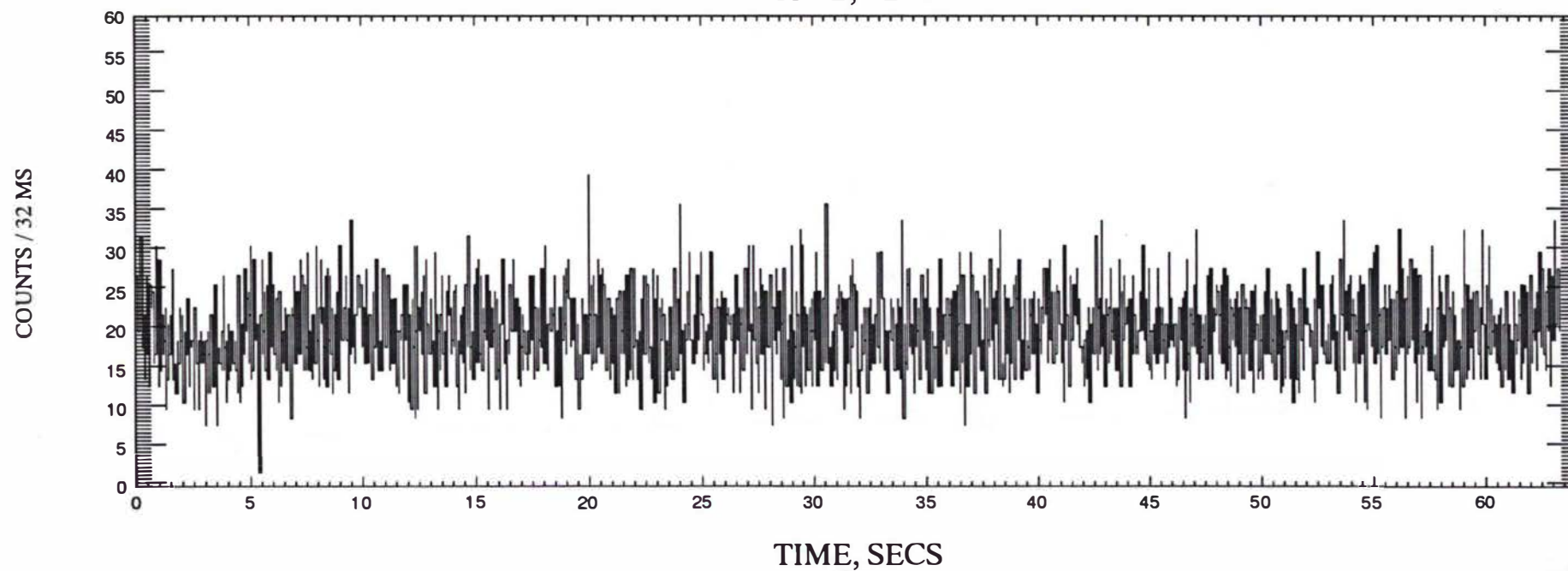
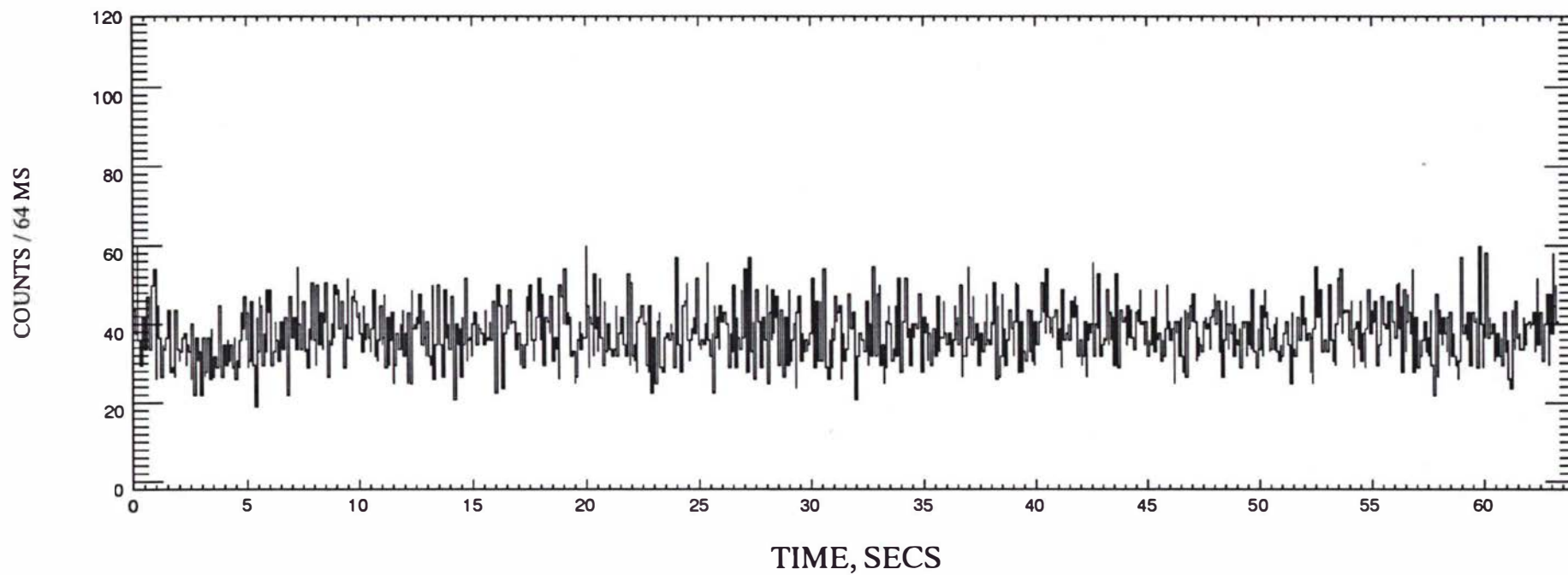


TIME, SECS

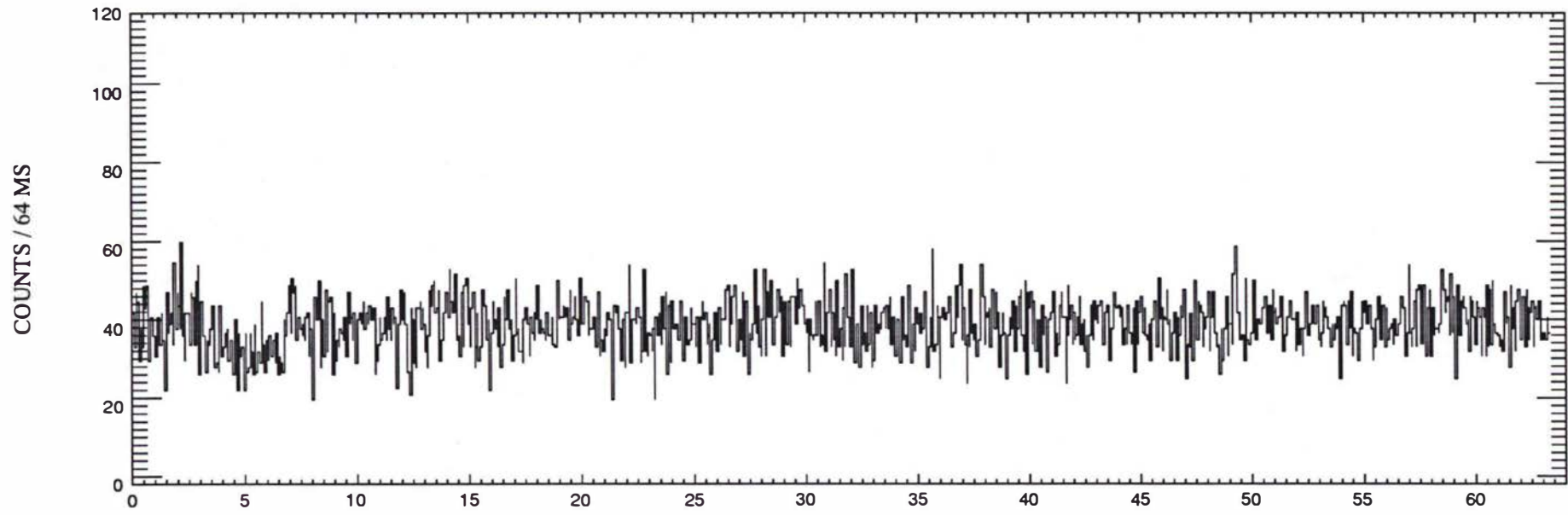


TIME, SECS

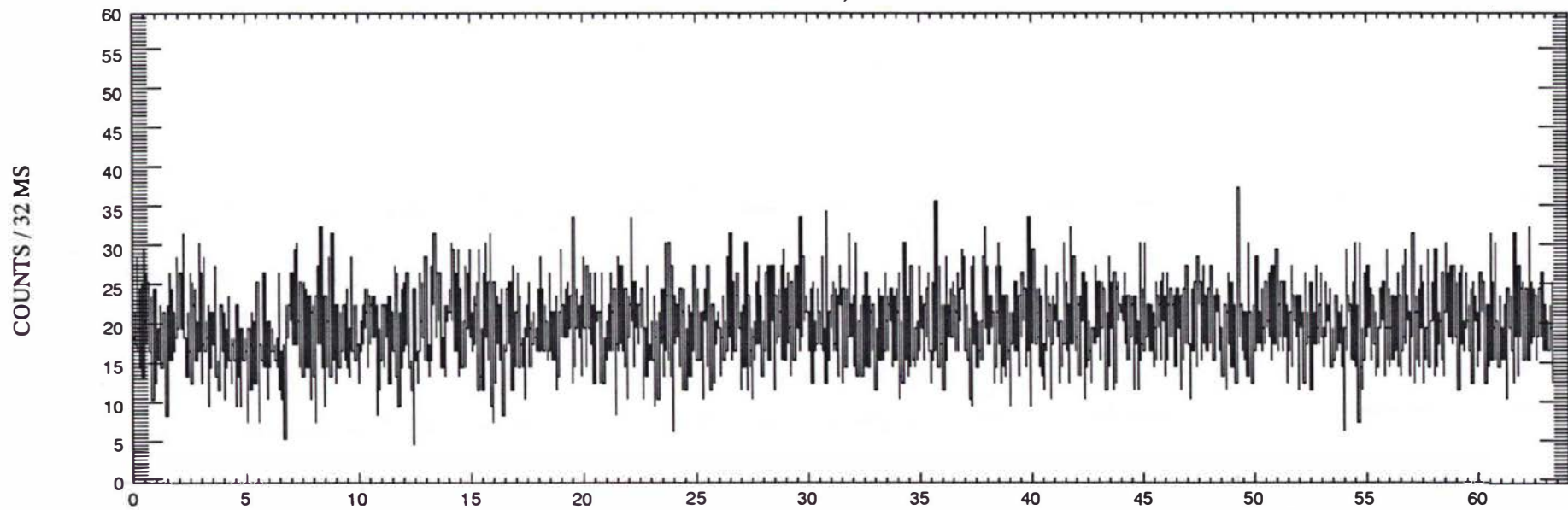
Burst Counter 6 at UT=15.767416538662 h=56762.700 s 15:46:02.700



Burst Counter 7 at UT=16.469090478685 h=59288.726 s 16:28:08.726

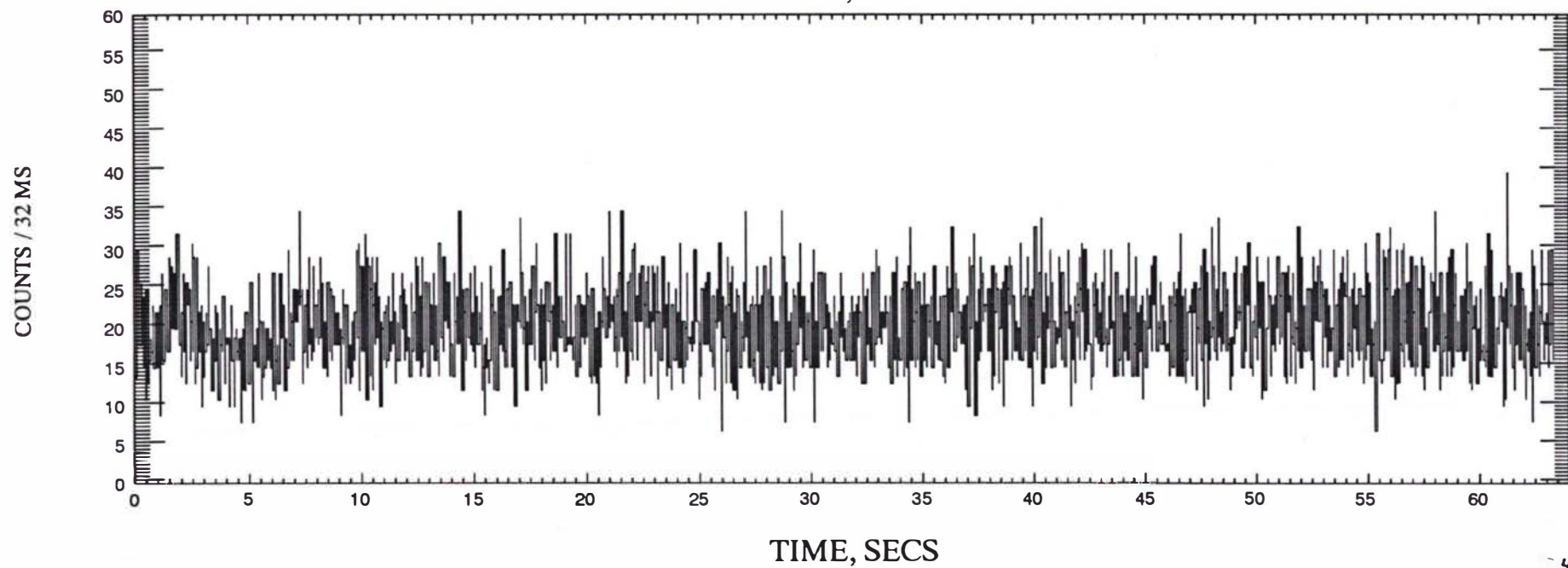
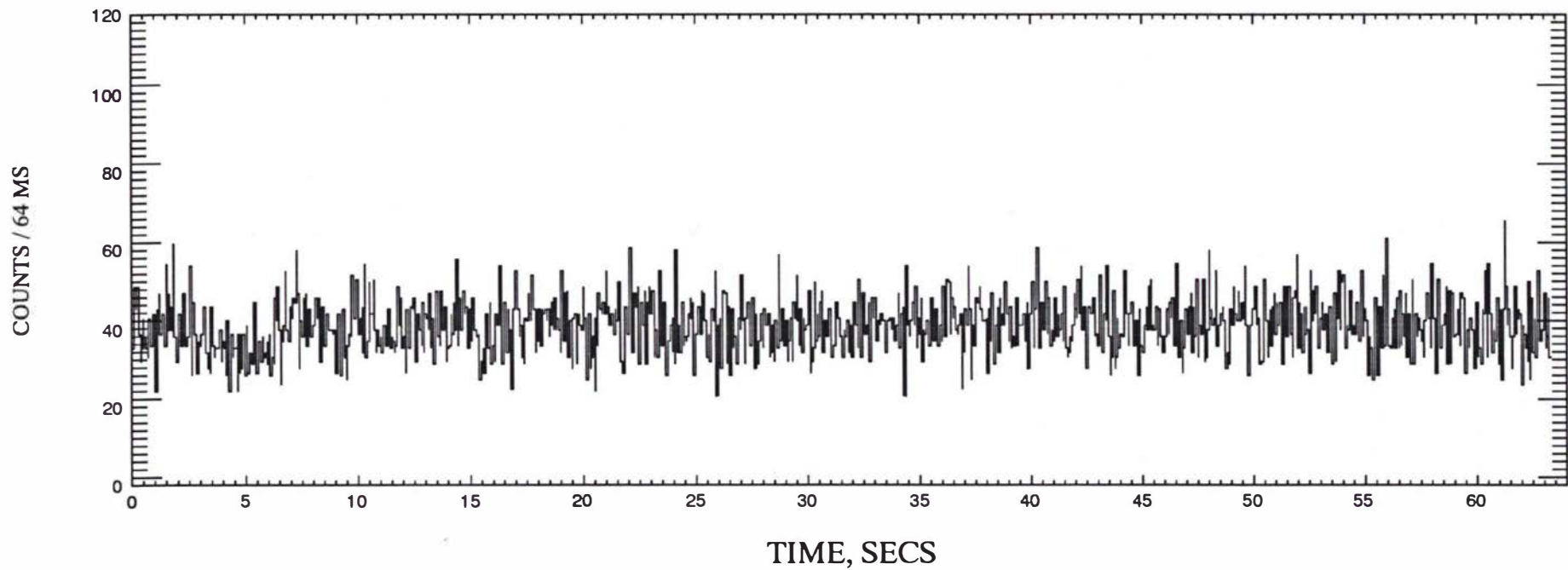


TIME, SECS

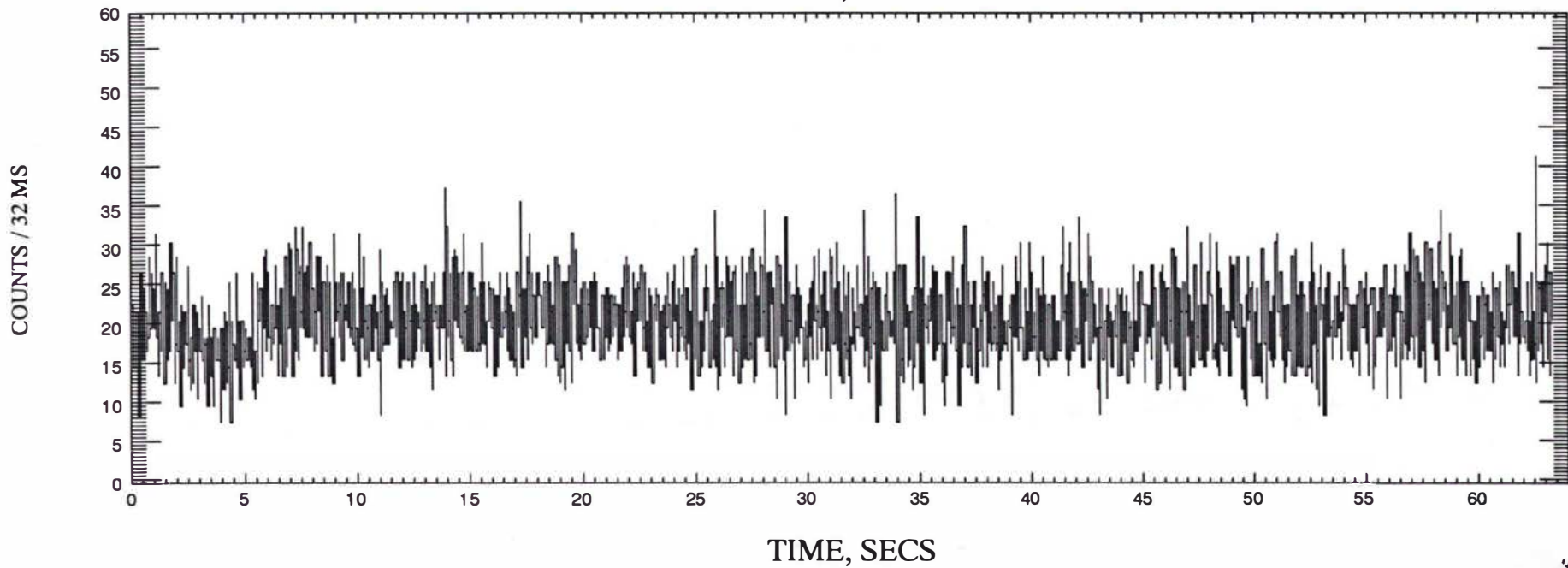
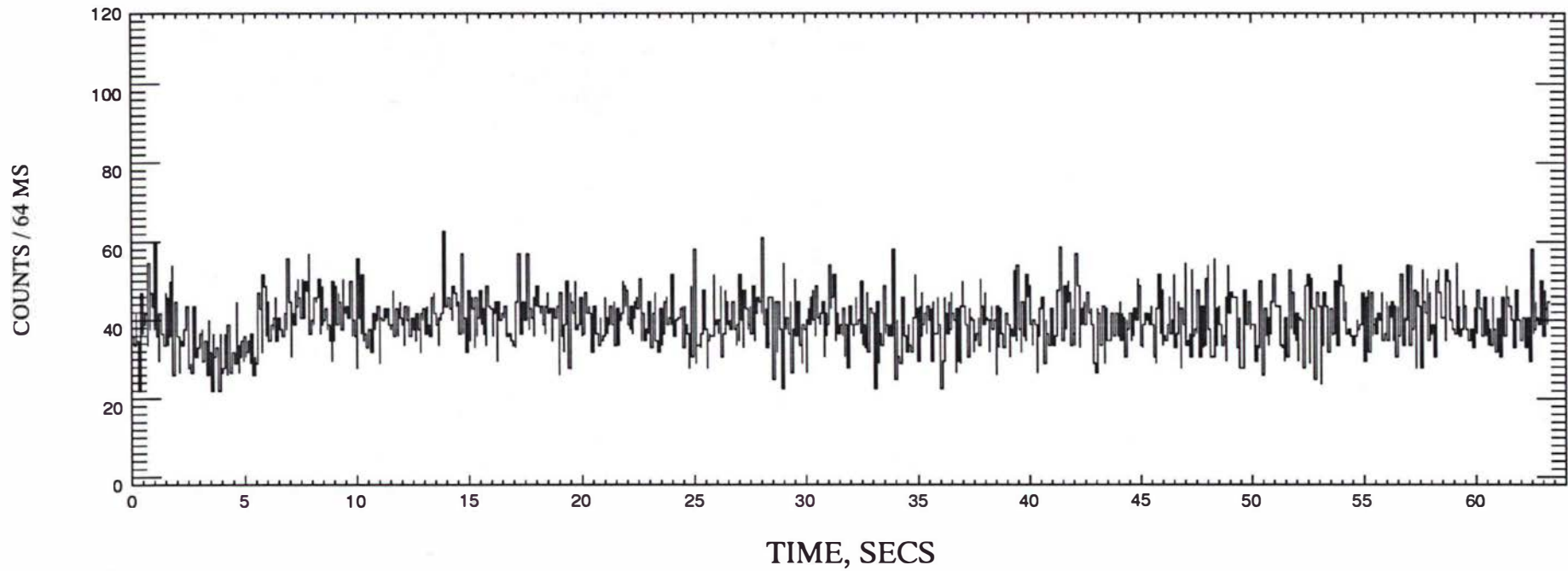


TIME, SECS

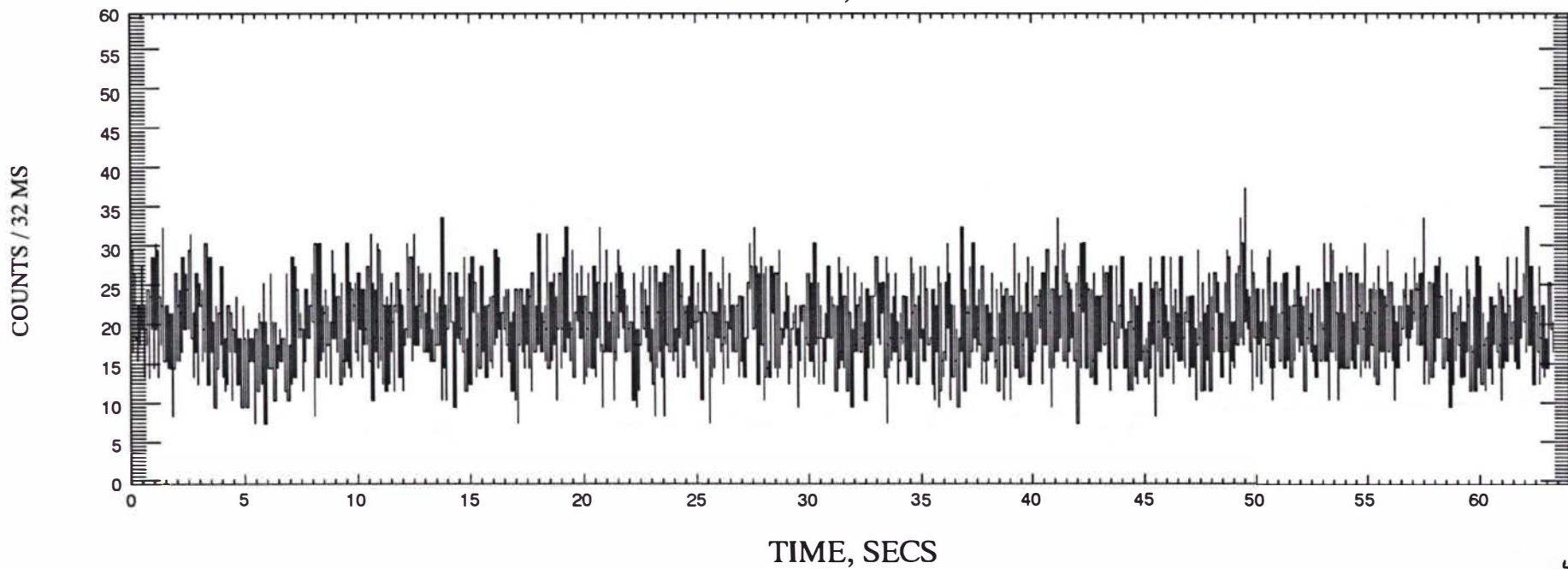
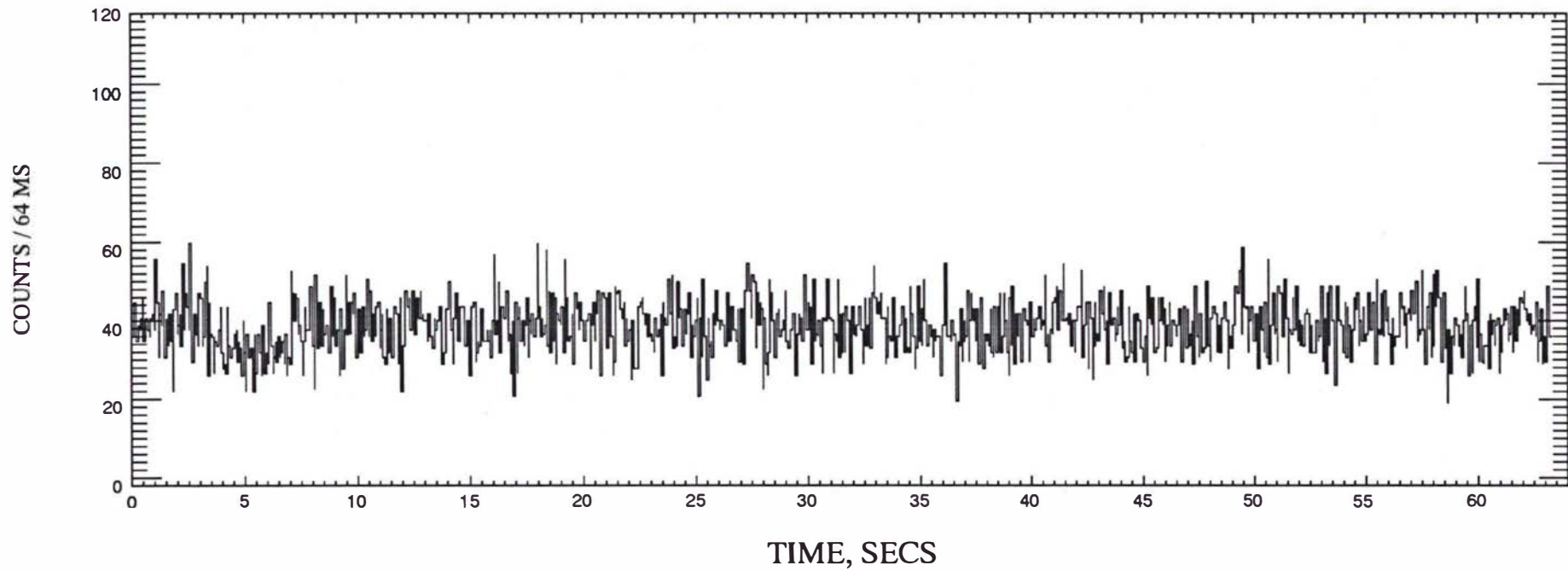
Burst Counter 8 at UT=17.171421970791 h=61817.119 s 17:10:17.119



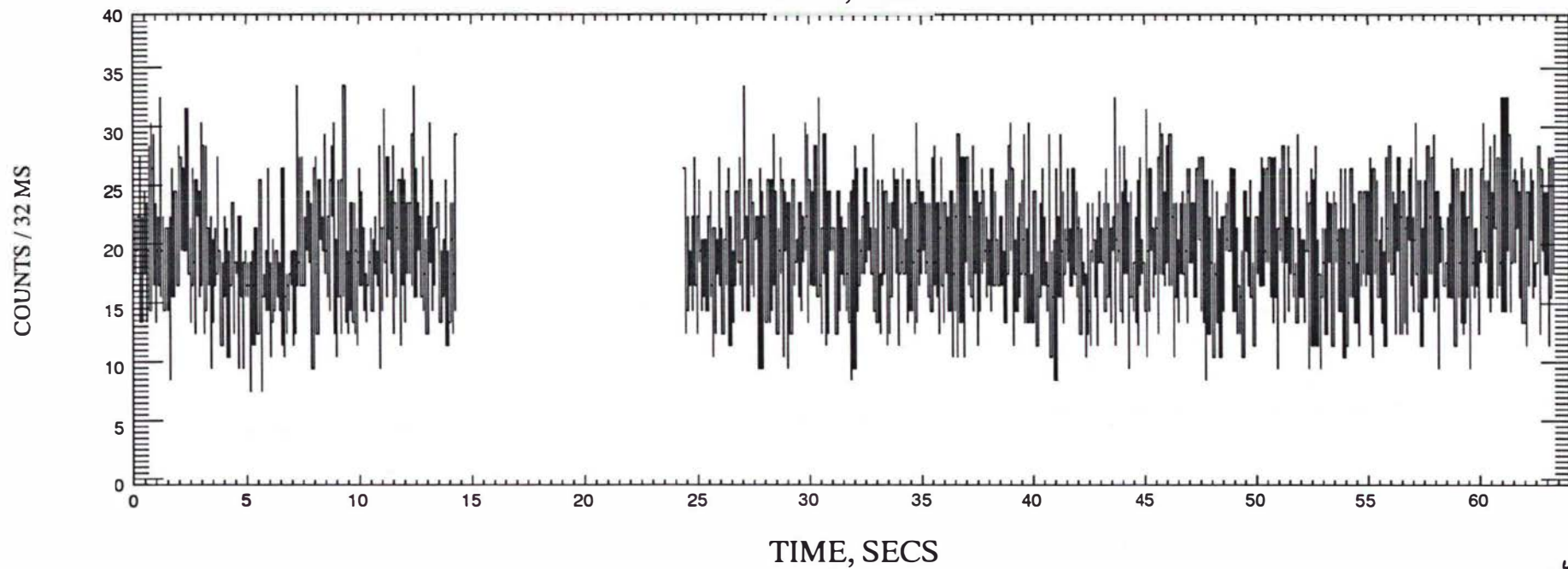
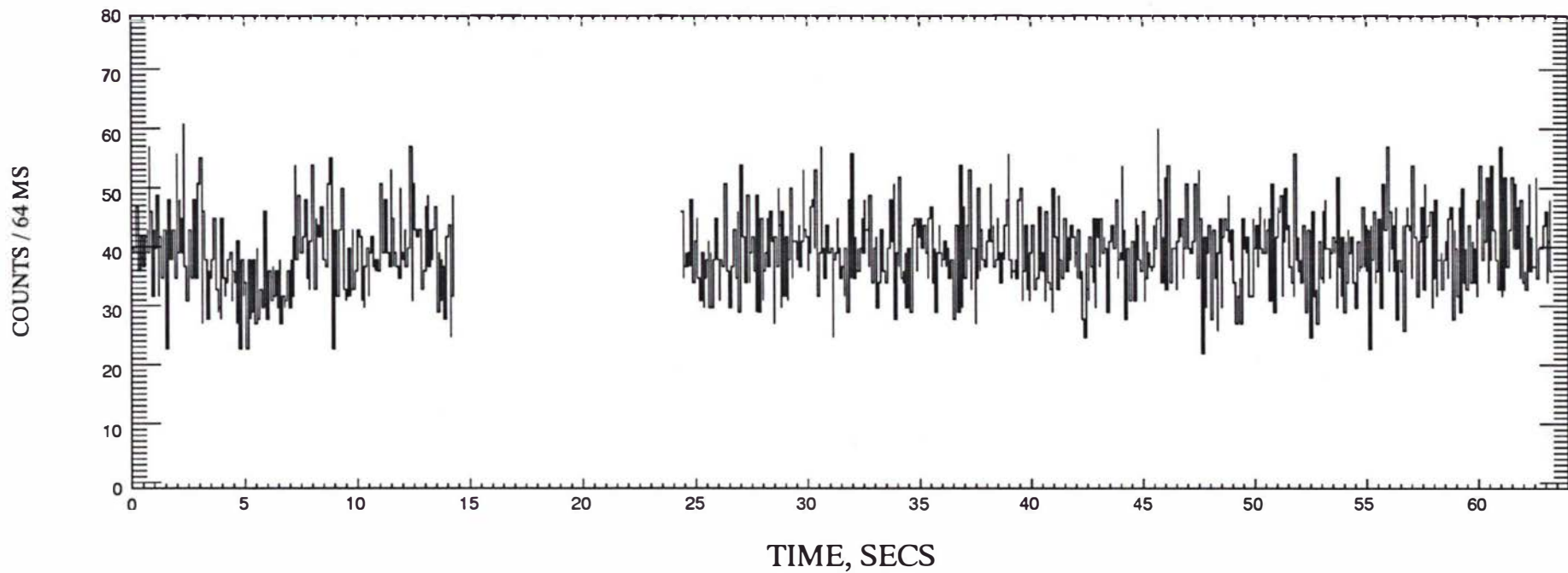
Burst Counter 9 at UT=17.873861969842 h=64345.903 s 17:52:25.903



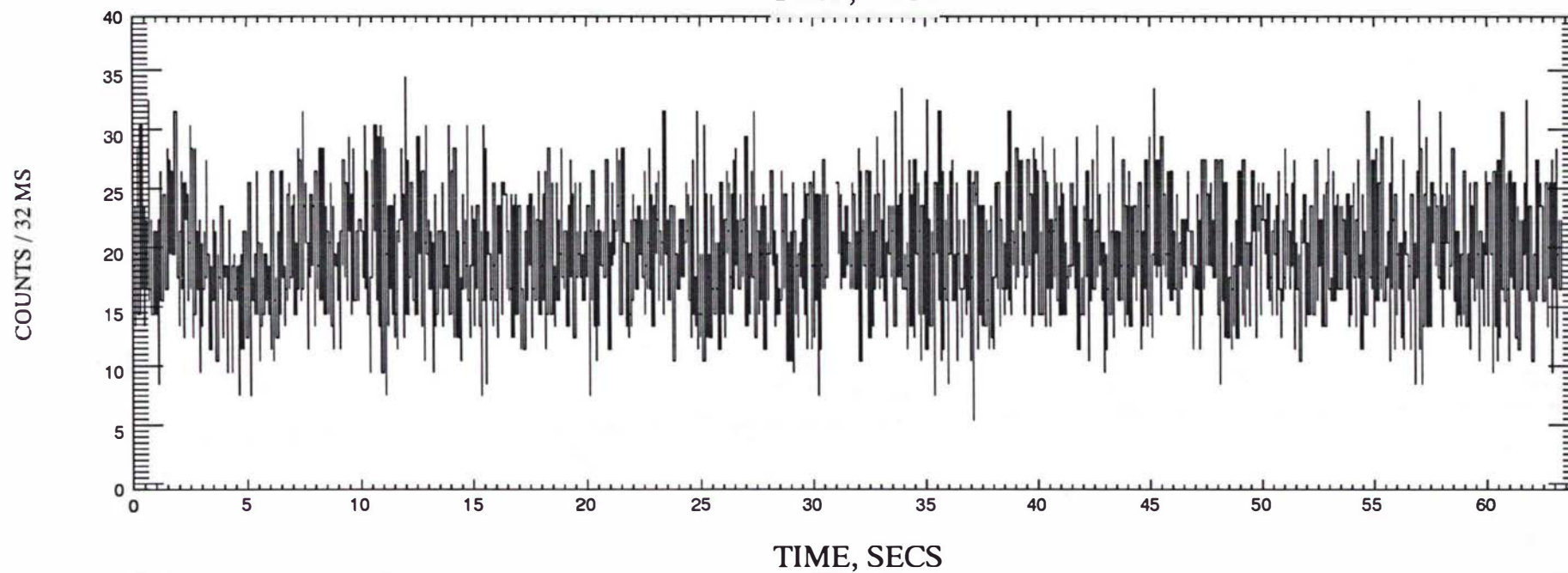
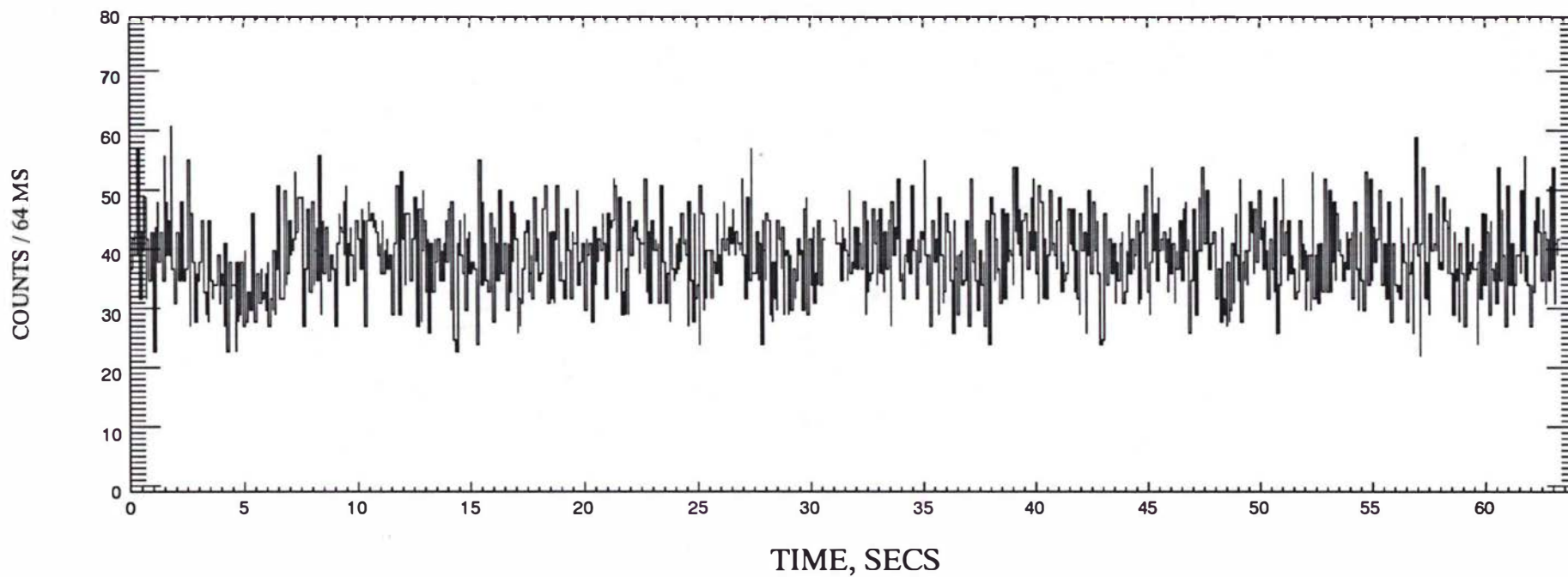
Burst Counter 10 at UT=18.575674798754 h=66872.429 s 18:34:32.429



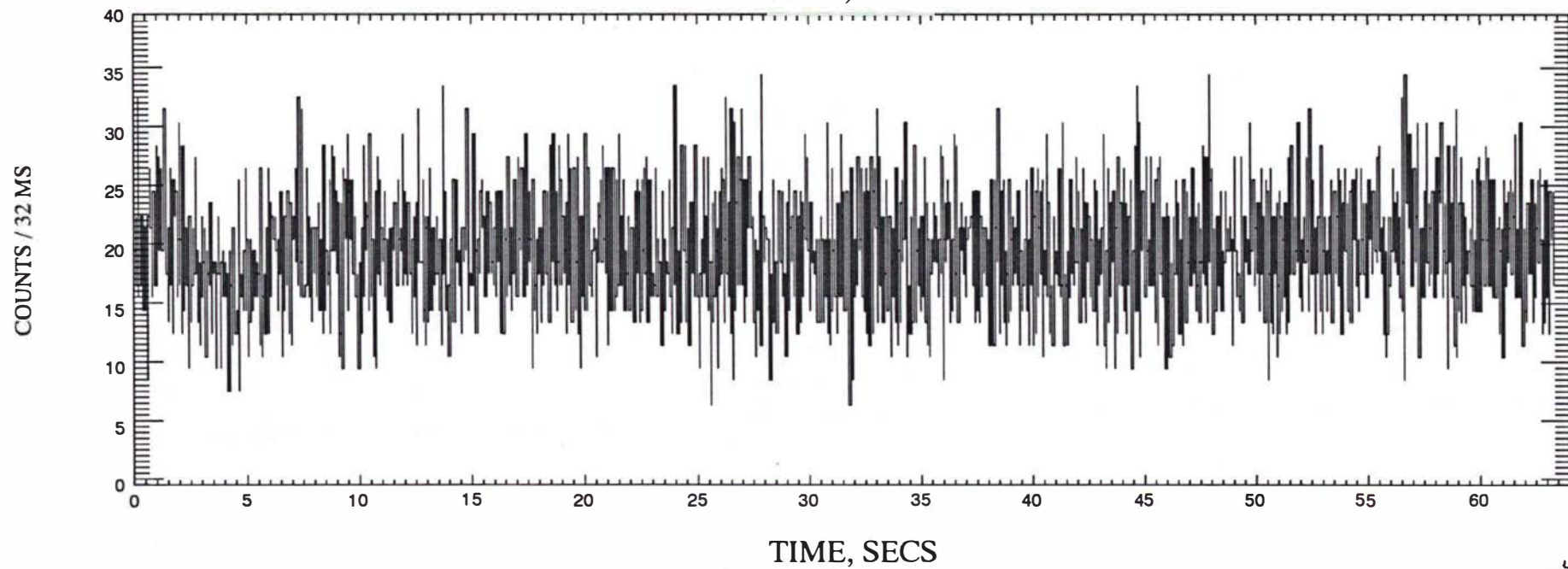
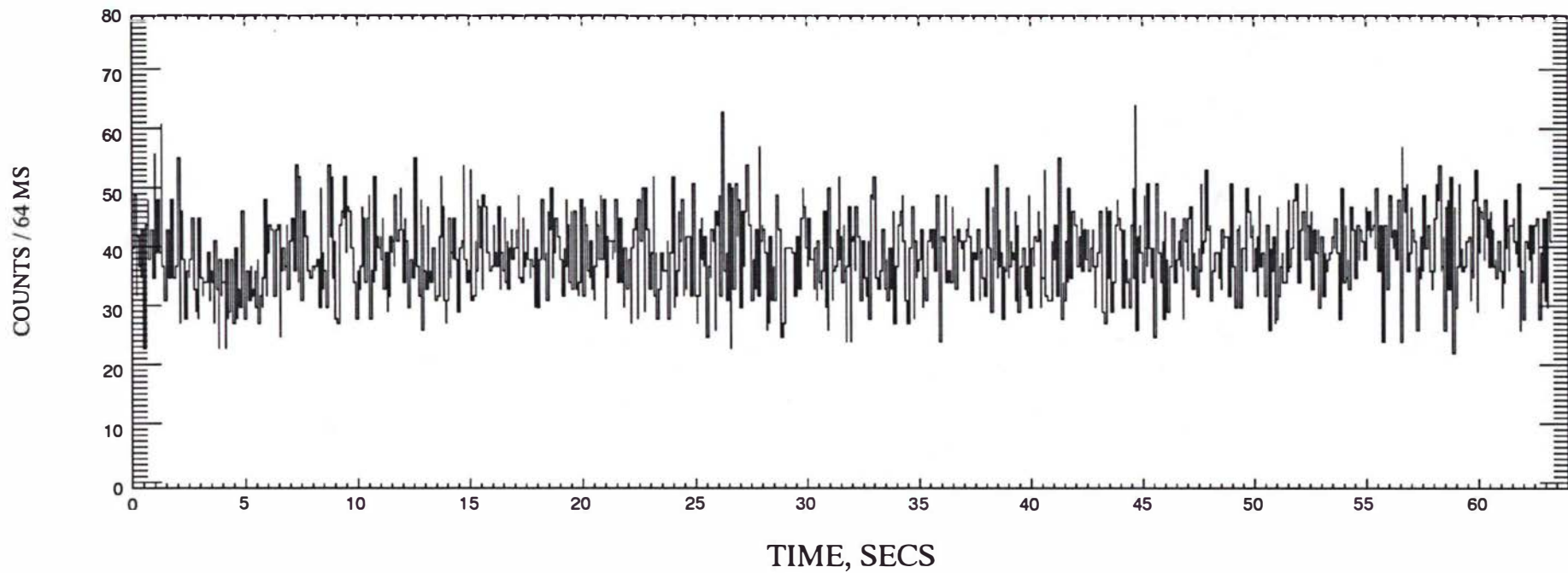
Burst Counter 11 at UT=19.277973009745 h=69400.703 s 19:16:40.703



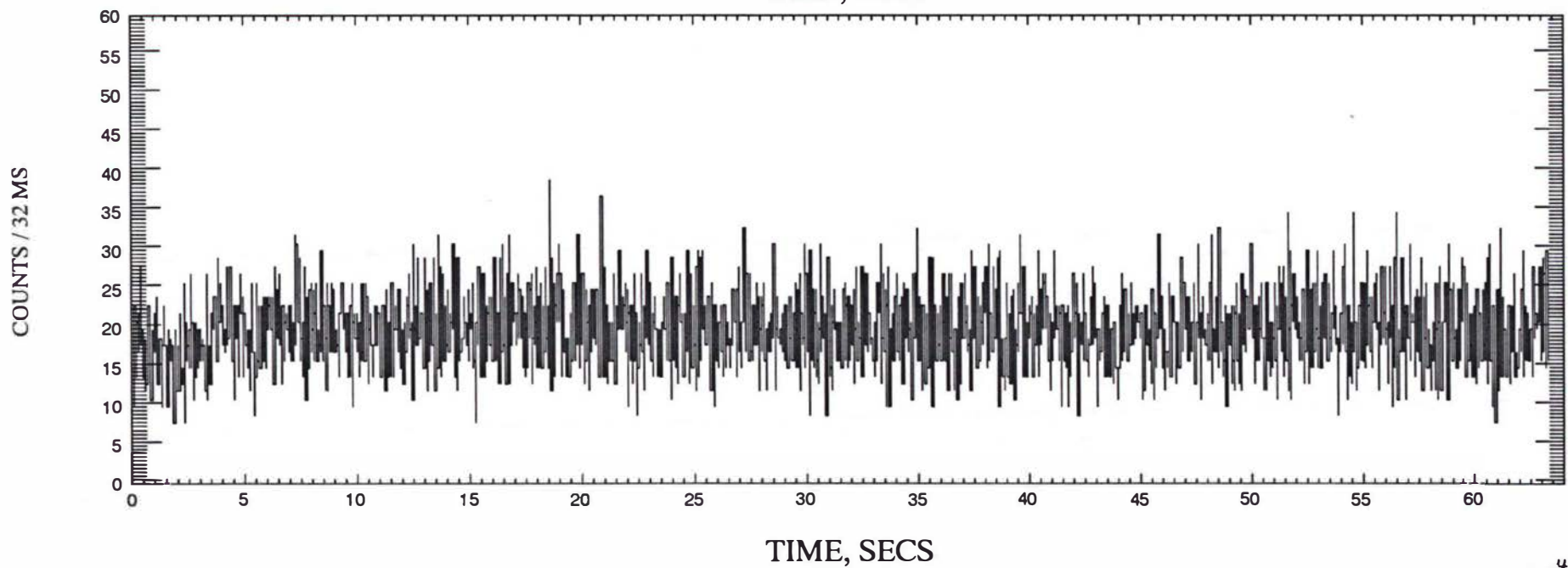
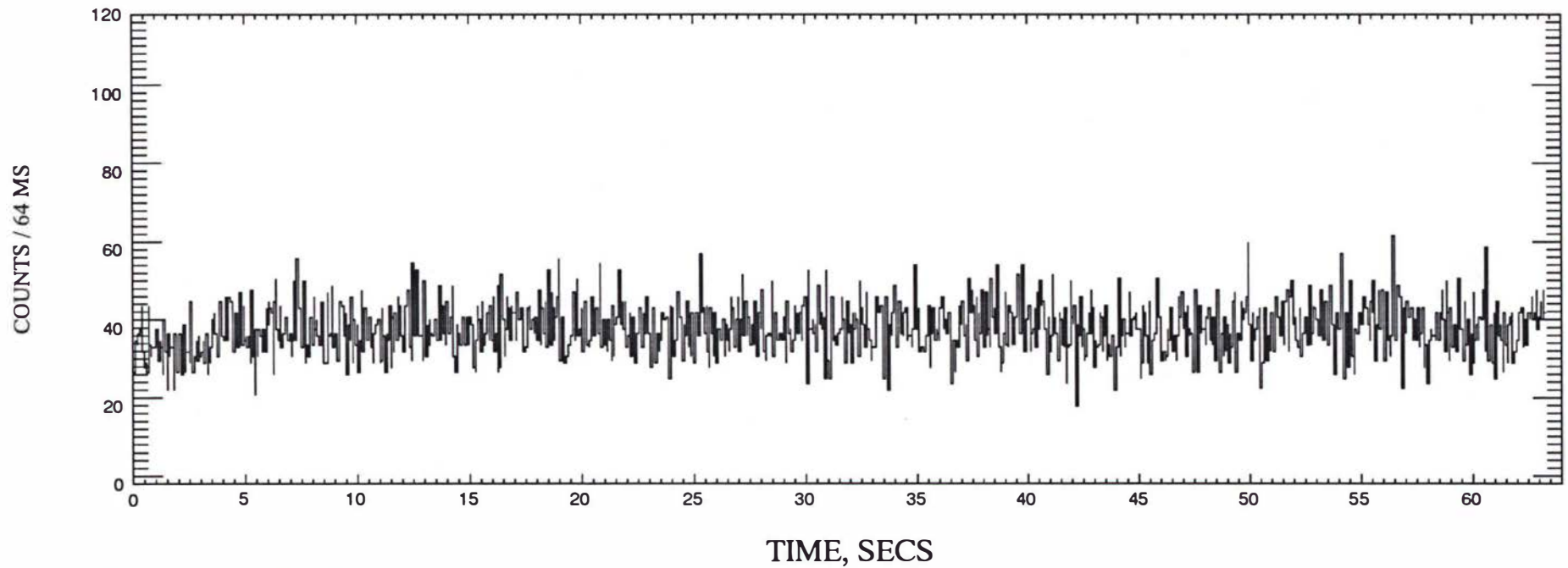
Burst Counter 12 at UT=20.460343954298 h=73657.238 s 20:27:37.238



Burst Counter 13 at UT=21.722720324198 h=78201.793 s 21:43:21.793



Burst Counter 14 at UT=22.985591490004 h=82748.129 s 22:59:08.129



From SURASAK@fender.msfc.nasa.gov Mon Jan 25 09:48:54 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA18238; Mon, 25 Jan 1999 09:48:54 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA14562; Mon, 25 Jan 1999 09:48:52 -0800
Date: Mon, 25 Jan 1999 11:48:52 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990125114852.2027933f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7343
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7343
EVENT OF 1999 JAN 23 DAY OF YEAR= 23
EVENT CROSSING TIME AT BATSE : 35216. S. OR 09:46:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 229.000 42.000
BATSE PEAK COUNTING RATE: 67500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 1/ 99 IS:
RA= 162.919 DEC= -9.240 DIST= 4.438 AU
BATSE-ULYSSES DISTANCE = 663891446. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=100.95 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -420.66 SECS.
CROSSING TIME AT ULYSSES IS 34795. S. OR 09:39:55 +/- 421.08 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 1/ 99 IS:
RA= 207.258 DEC= -9.055 DIST= 1.269 AU
MARS-BATSE DISTANCE = 189874672. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=125.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -365.04 SECS.
CROSSING TIME AT MARS IS 34851. S. OR 09:40:50 +/- 84.31 SECONDS

BATSE BURST TRIGGER

NO.: 7343

TIME: TJD=1201 SECONDS=35216

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=53.5 AZIMUTH=77.6 ERROR=0.442 DEGREES

COMMENTS:

GRB. STRONG MULTYPEAK. DURATION ABOUT 120S. STRONGLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7343	990123	11201	35216	67500	229	+42	120

15^h 16^m

Date: Jan 24 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

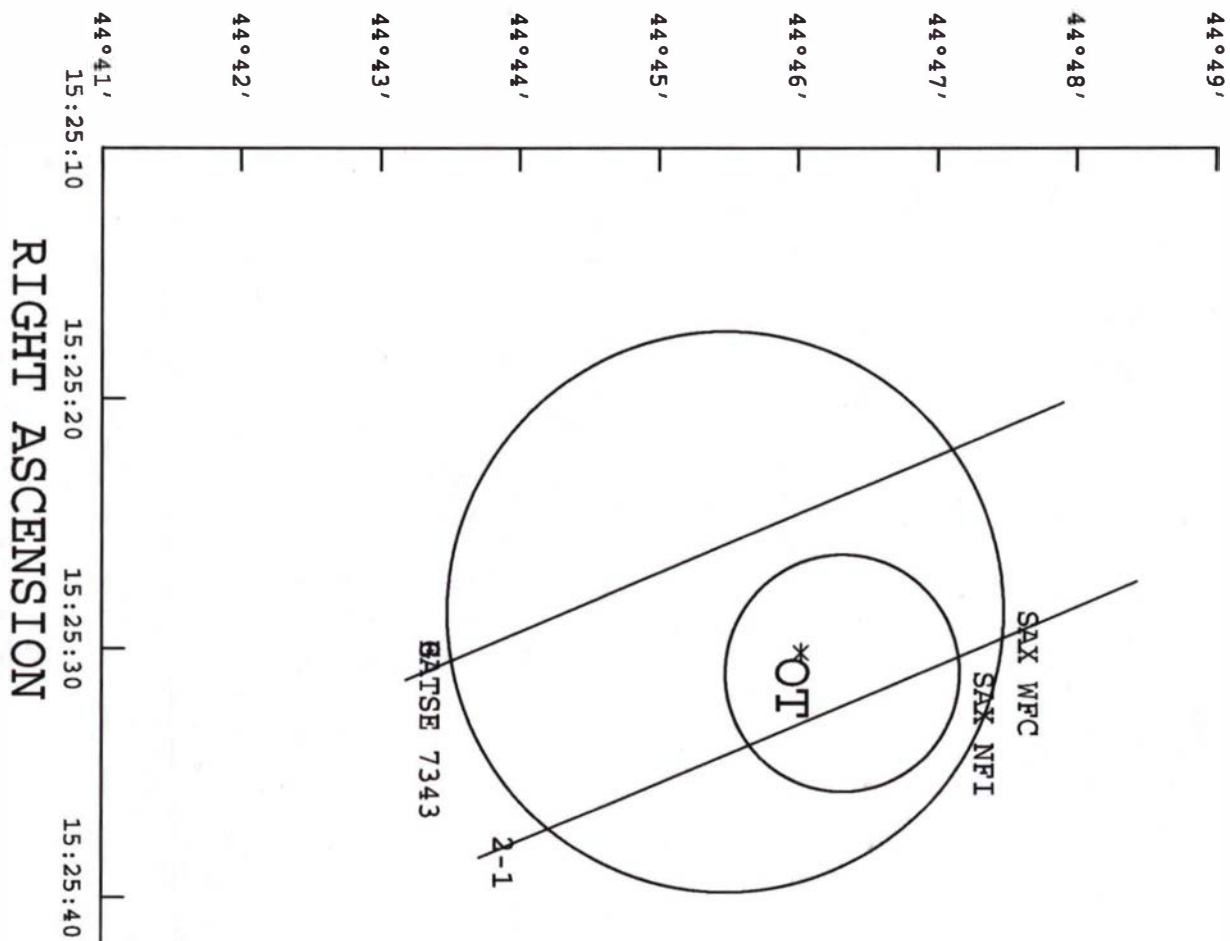
1 BATSE

2 ULYSSES

EVENT OF JAN 23, 1999 9:46

24 / 1 / 0

DECLINATION



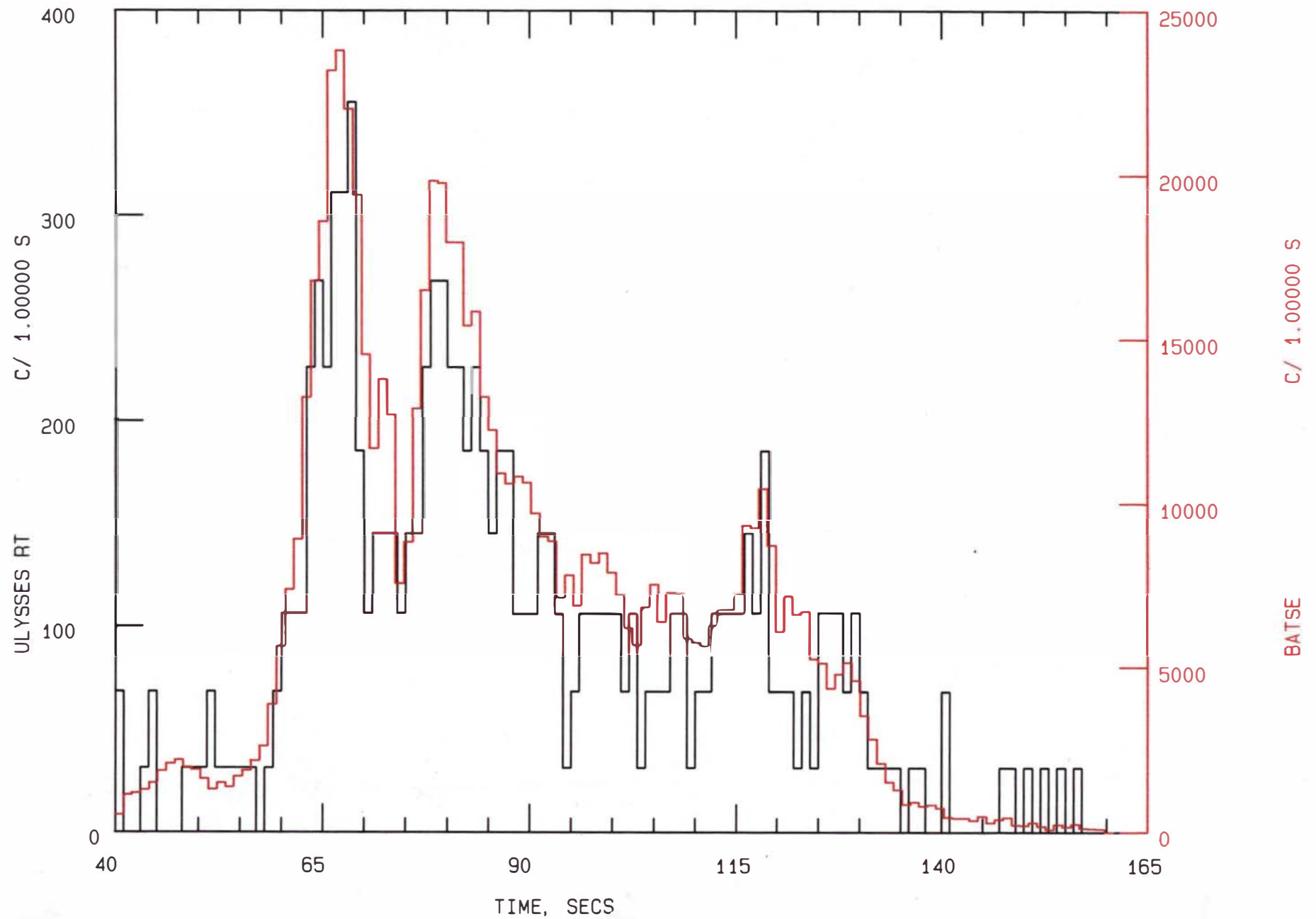
ULYSSES RT-BATSE

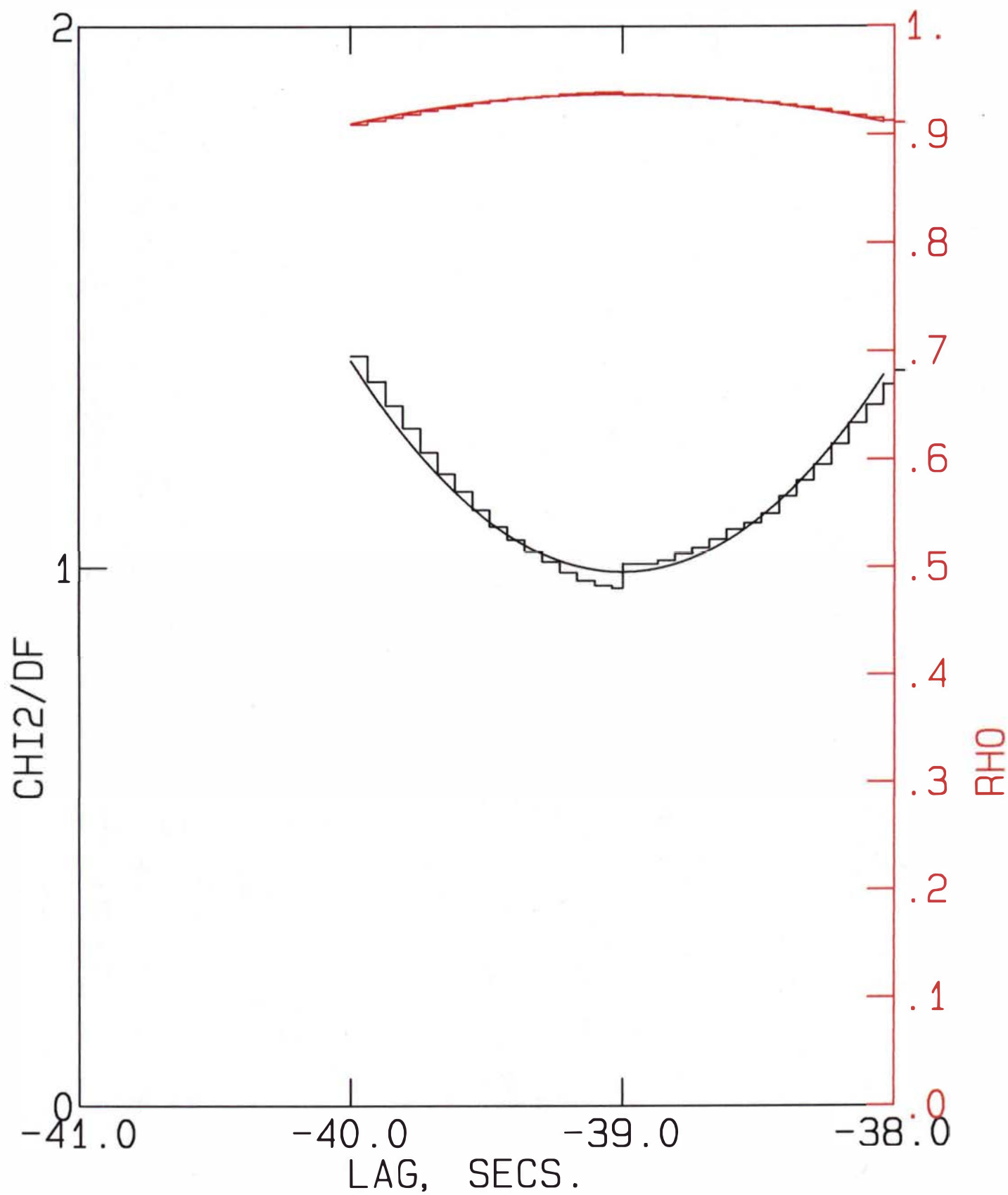
CORRELATION

23/ 1/99

34840.739

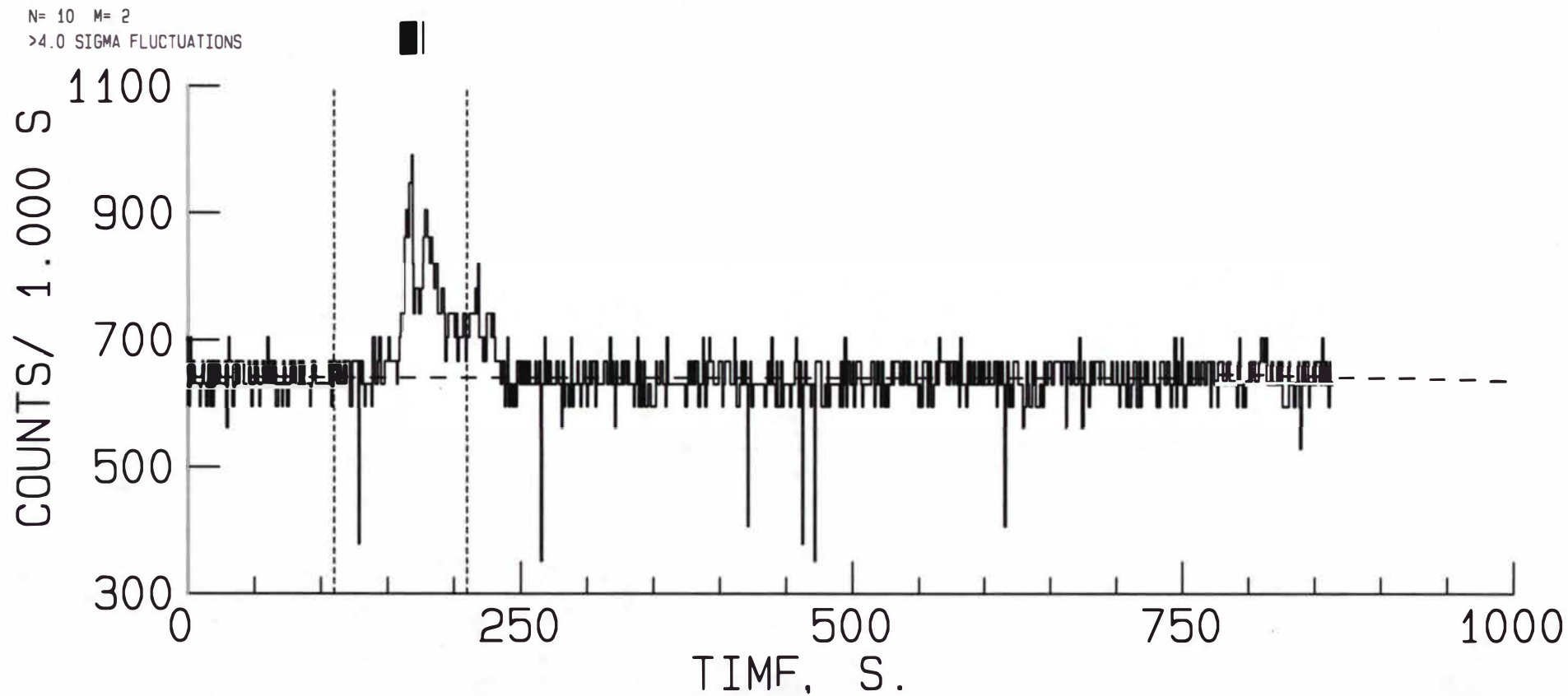
24/ 1/ 0



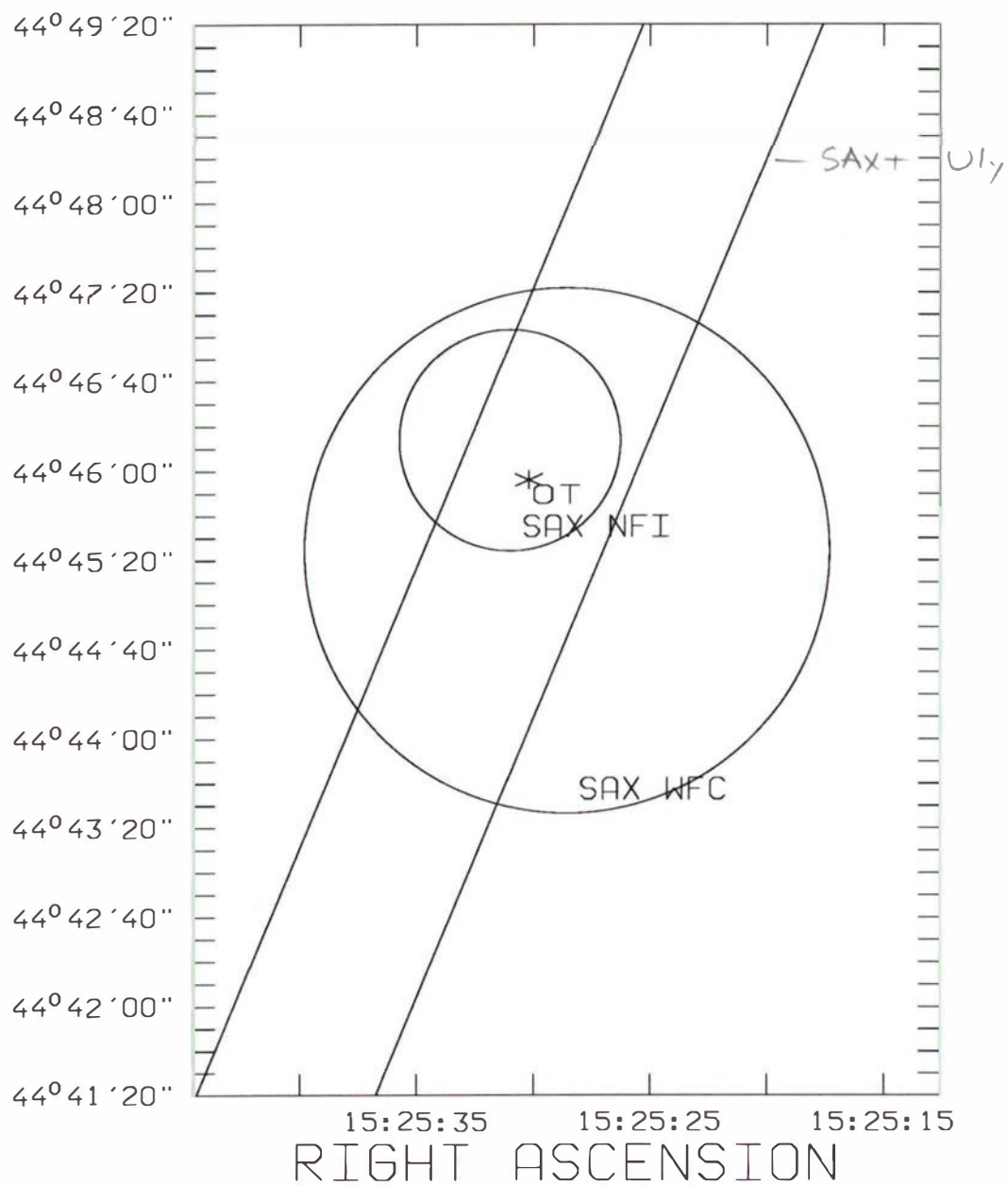


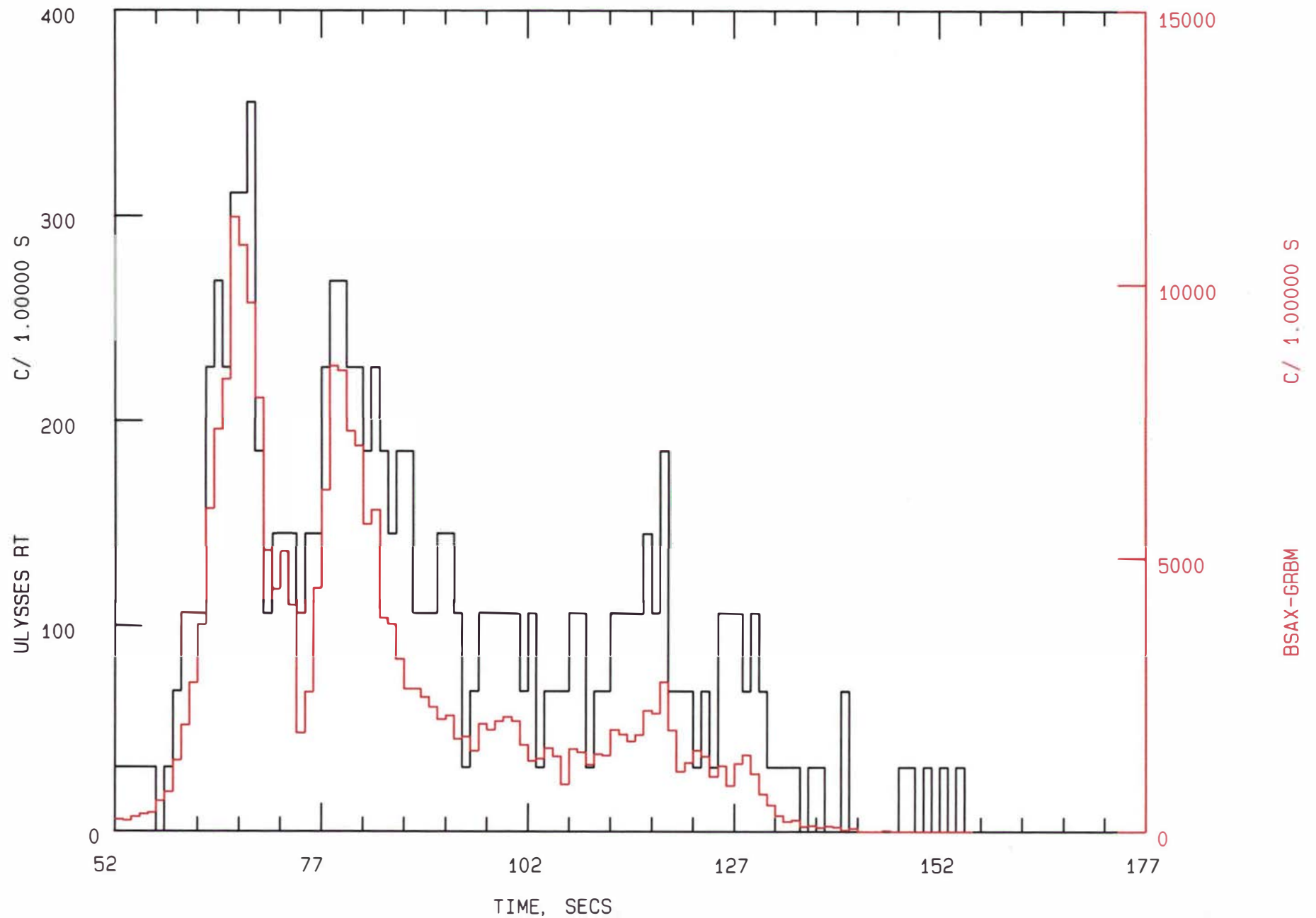
ULYSSES RT
23/ 1/99 34740.740 s
22- 149 keV

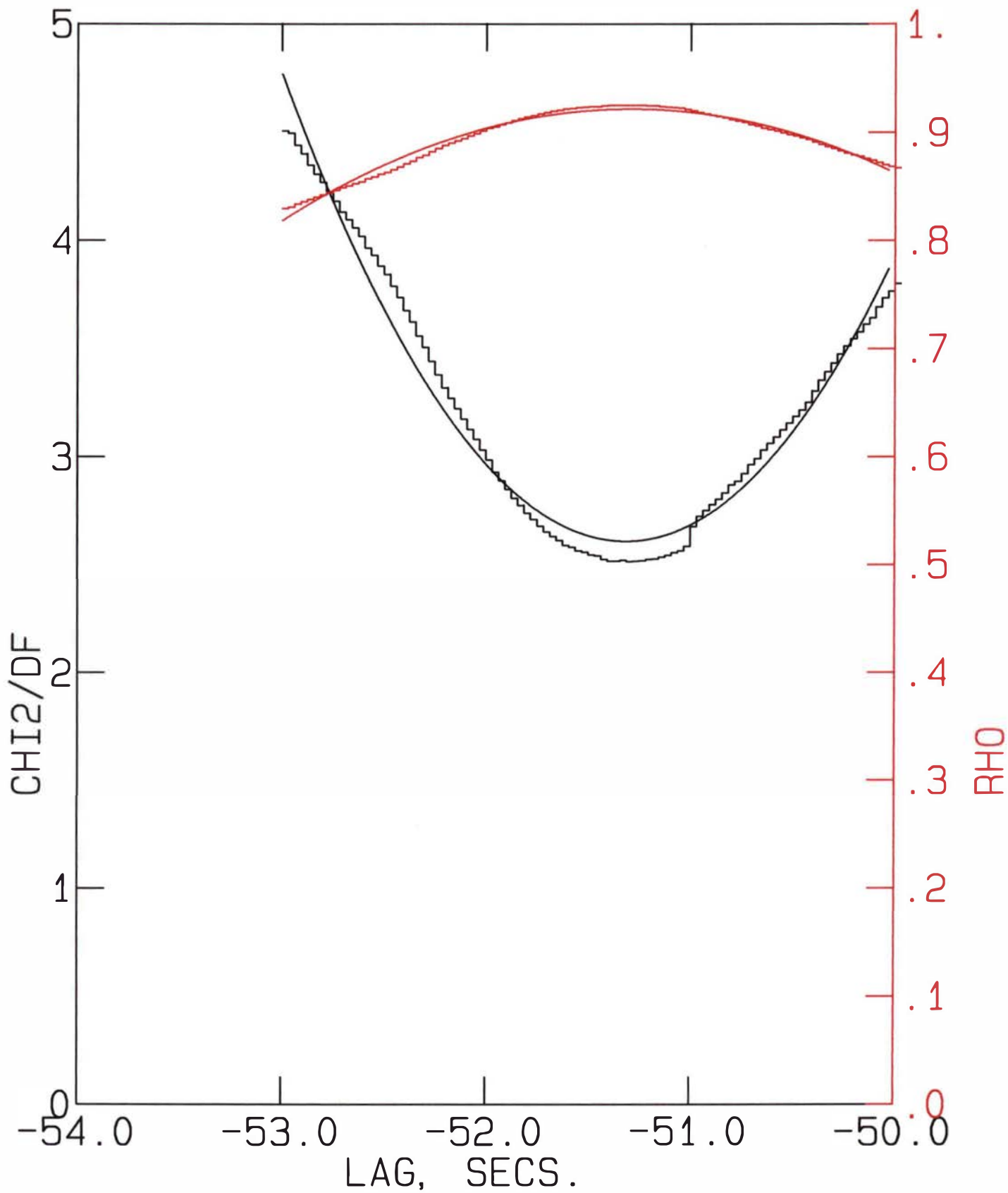
24 / 1 / 0



DECLINATION





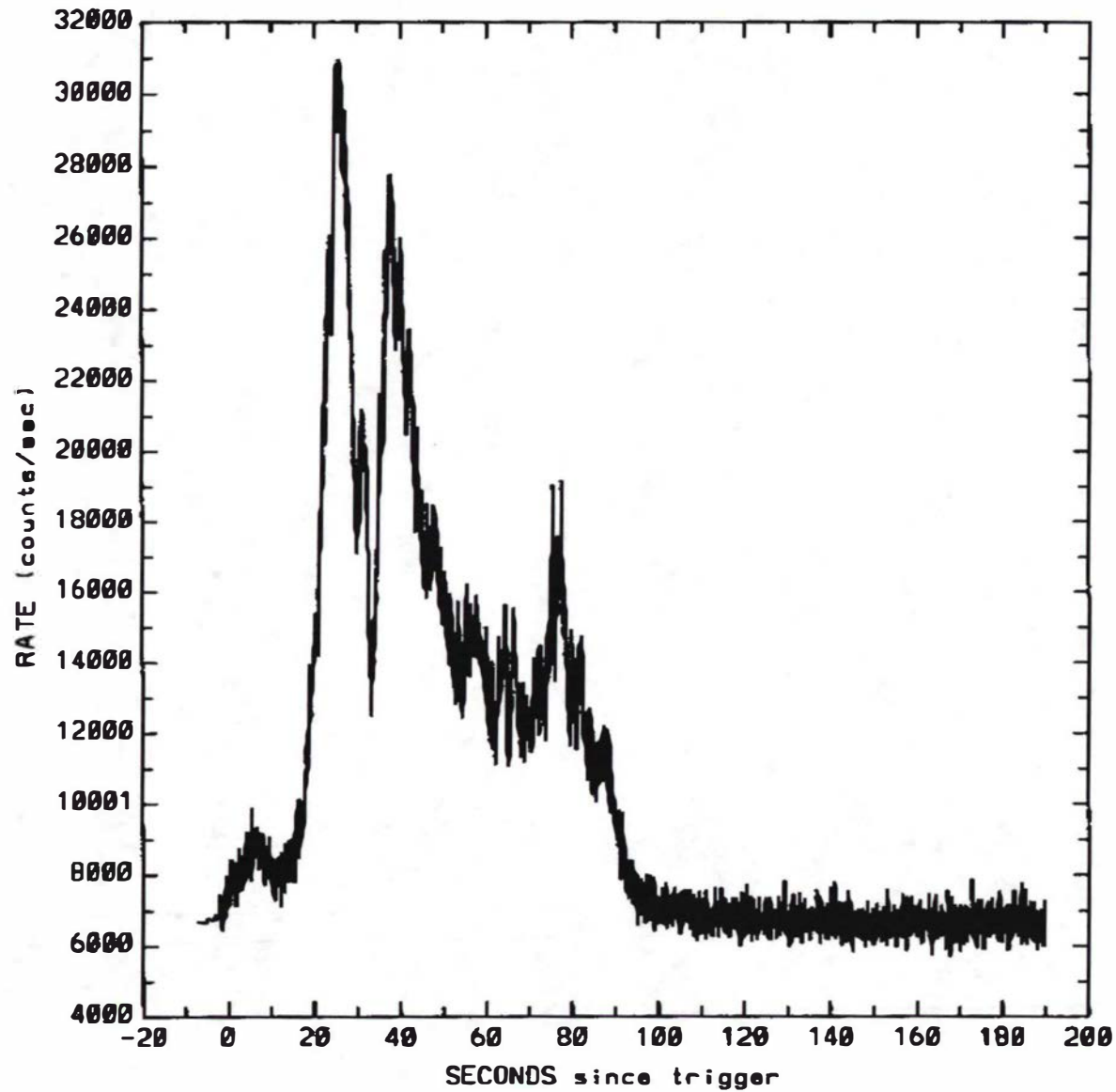


	<u>Jan 23 - 334.3, m_v</u>	<u>Δt (s)</u>	<u>f erg/cm²s</u>	<u>Time on Baco plot</u>
✓	35238.3 34904 11.82	5	5.97×10^{-11}	164 - 169
EF	35263.5 34929.2 8.95	5	8.39×10^{-10}	189.2 - 194.2
GH	35288.8 34954.5 10.08	5	2.96×10^{-10}	214.5 - 219.5
IJ	35497.5 35163.2 13.22	75	1.6×10^{-11}	423 - 498
KL	35662.8 35328.5 14.0	75	8.0×10^{-12}	588.5 - 663.5
MN	35828.1 35493.8 14.53	75	4.9×10^{-12}	753.8 - 828.8

$$m_v = -2.5 \log f - 13.74 \quad f = 10^{-\frac{m_v + 13.74}{2.5}}$$

On Baco time plot, Ulysses 0 is 34740s

DISCSC Data for K. Hurley, No. 7343



28-JAN-1999 13:53:31

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7343

Trigger Time:
11201 / 35216.121

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

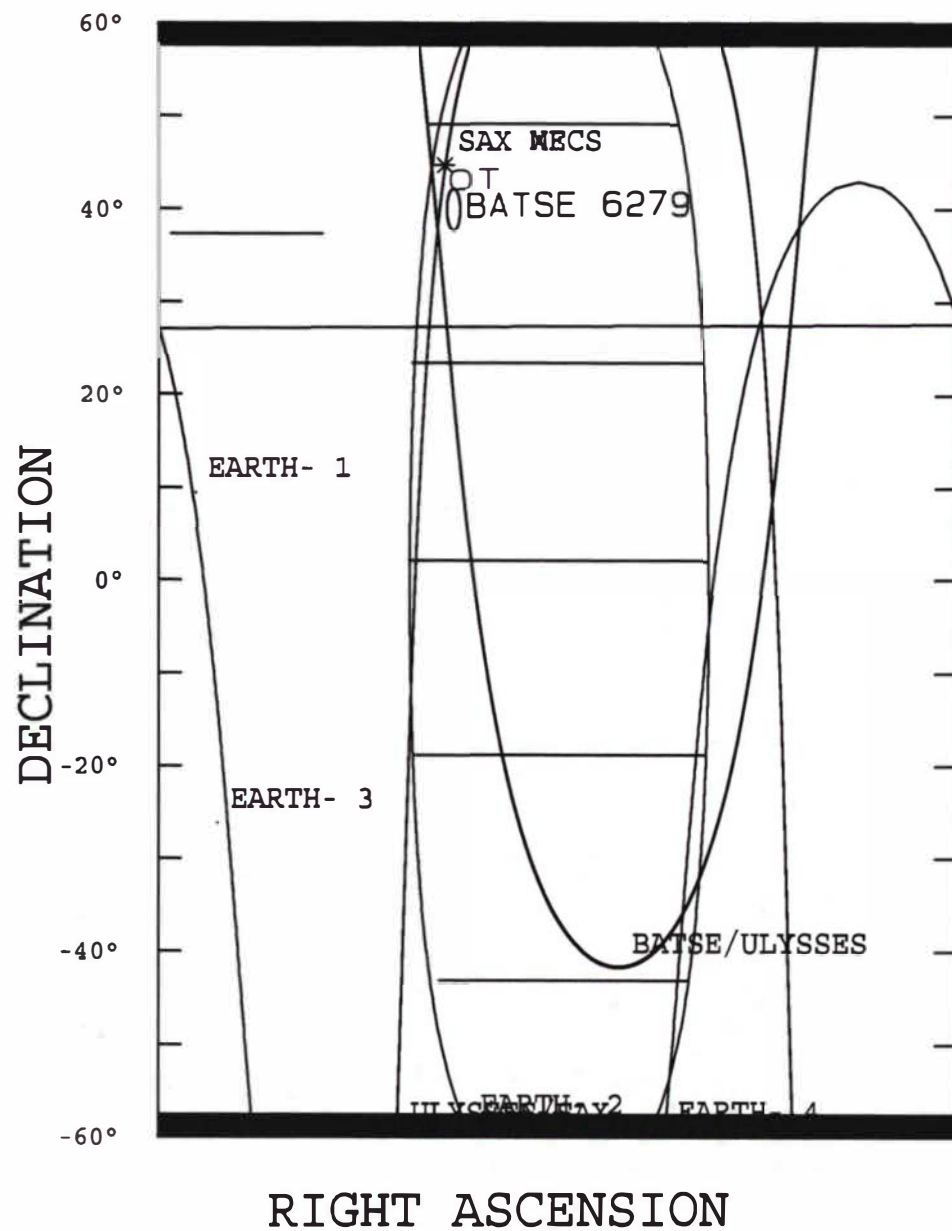
Minimum (Integ. Time:
0.064 seconds)

Detectors (7..8):
---4---8

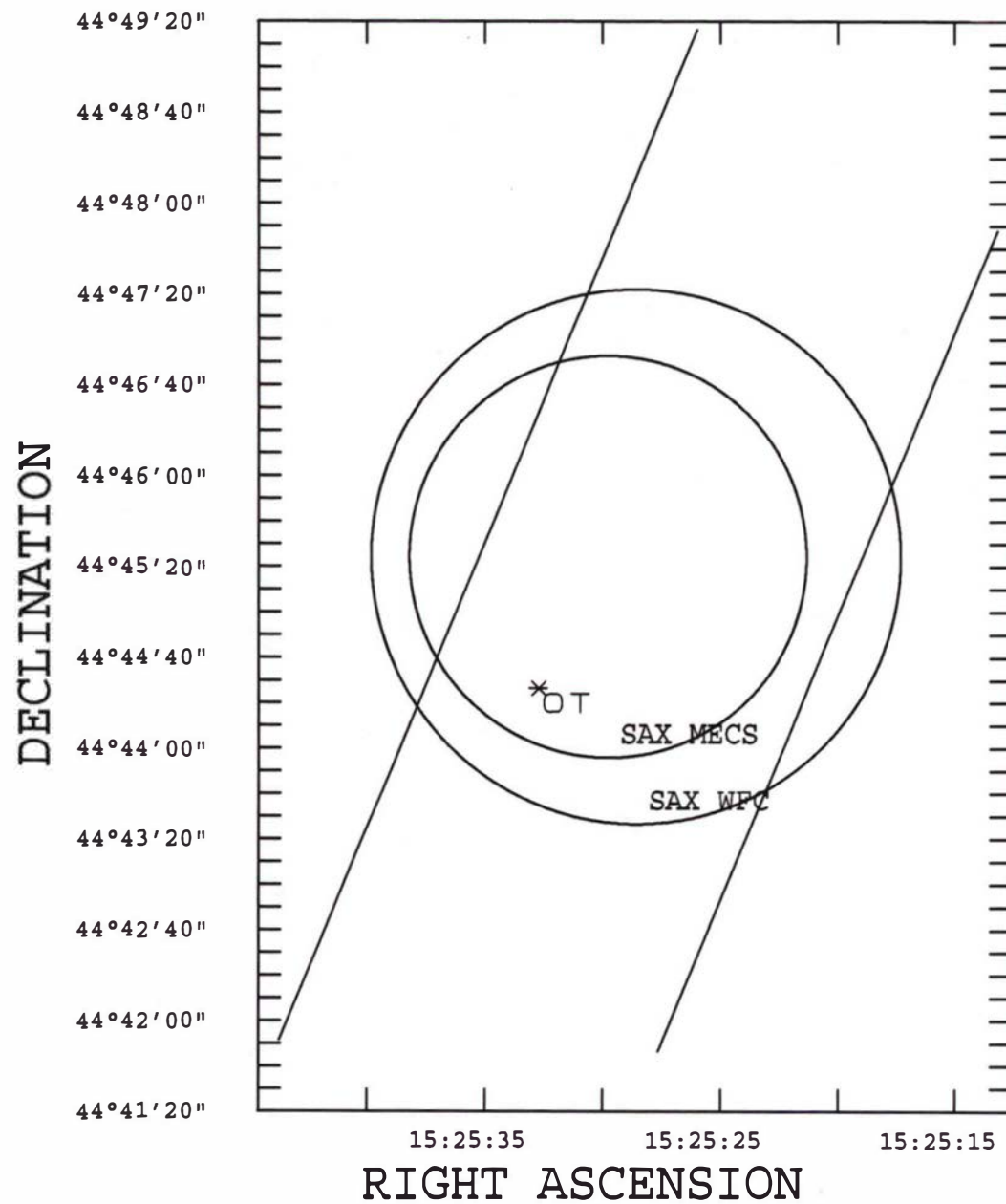
Discriminators:
(1 , 2)

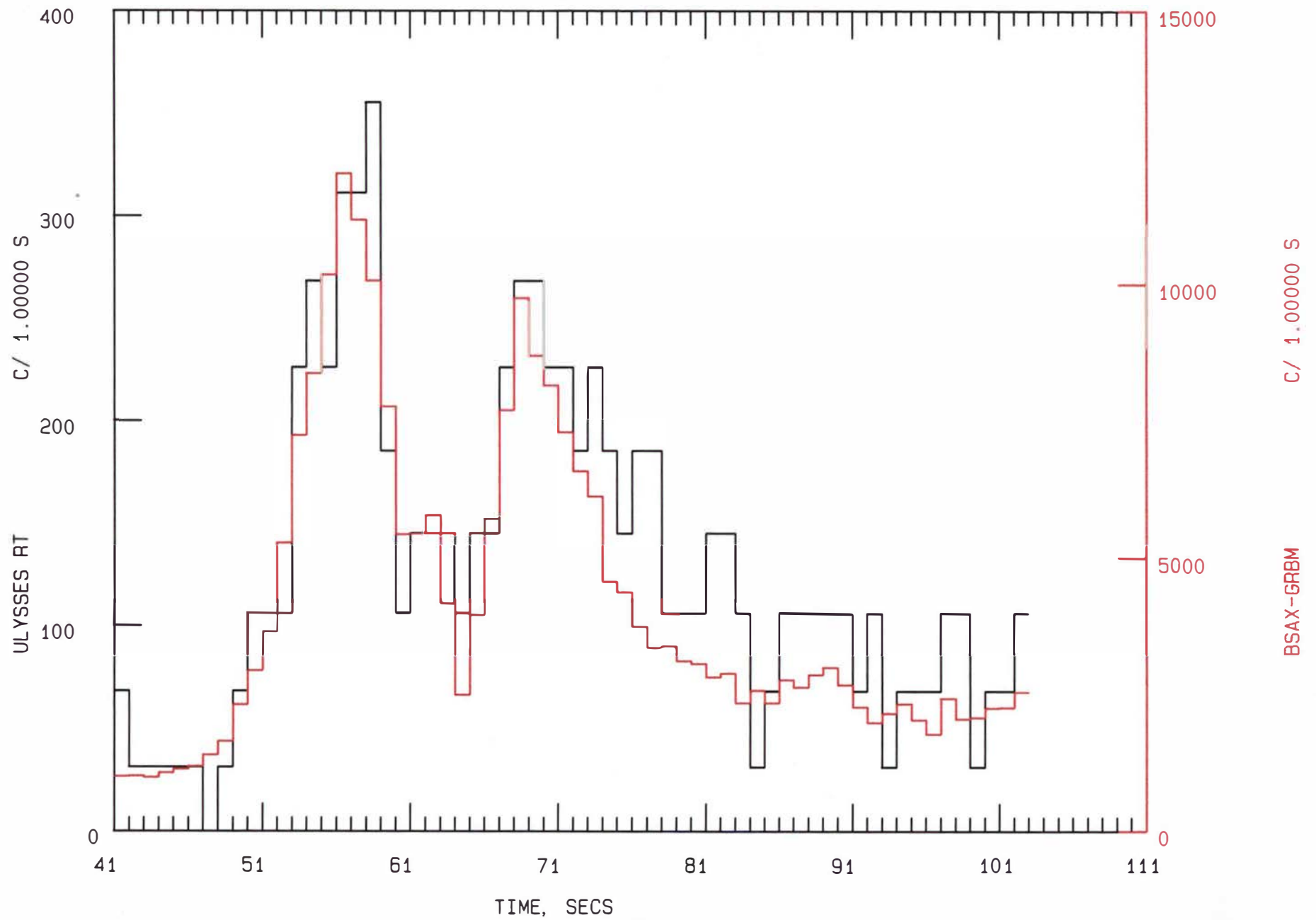
Quality Mask:
80ISP1

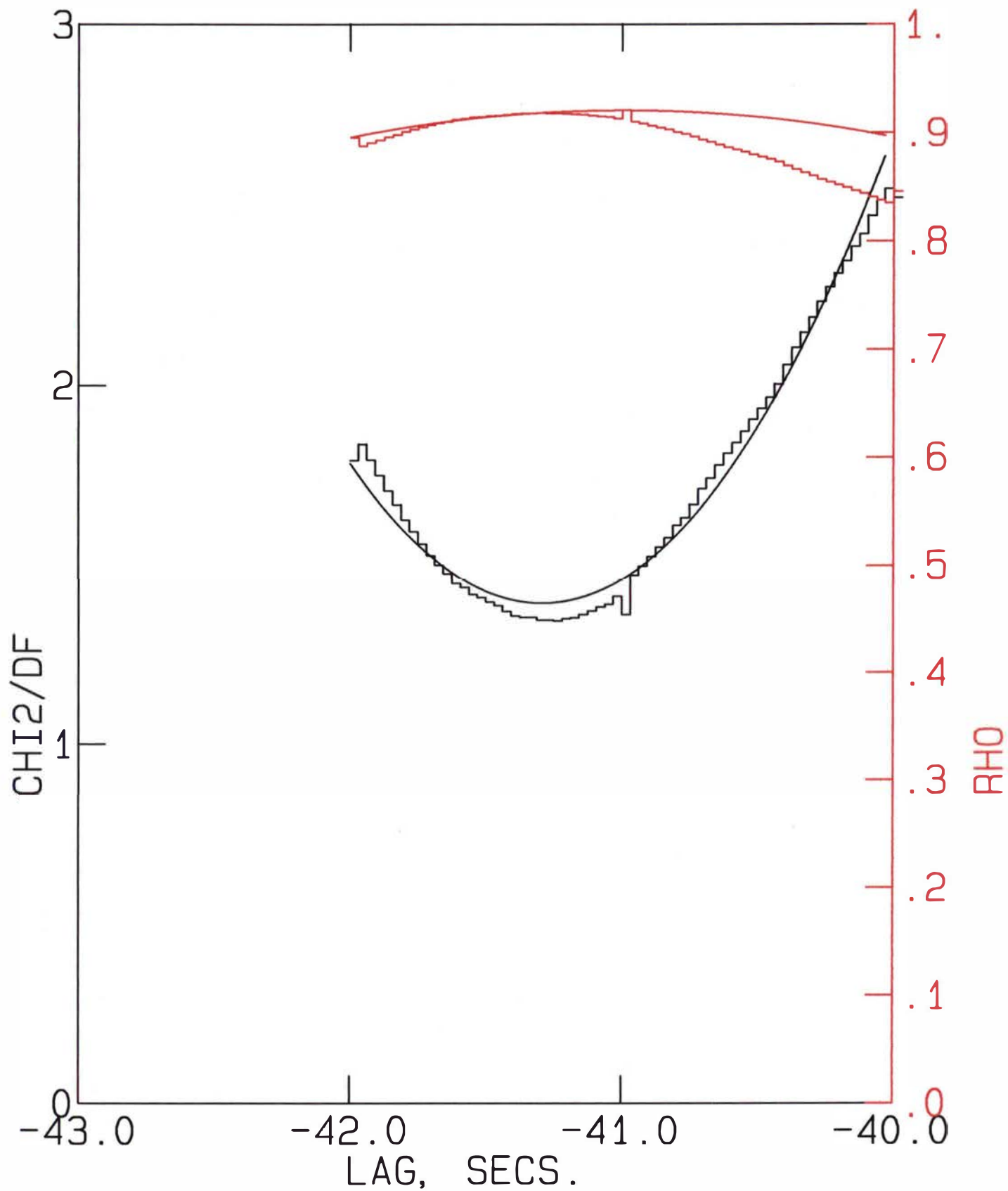
Grav. Lens



SAX/ULIS23





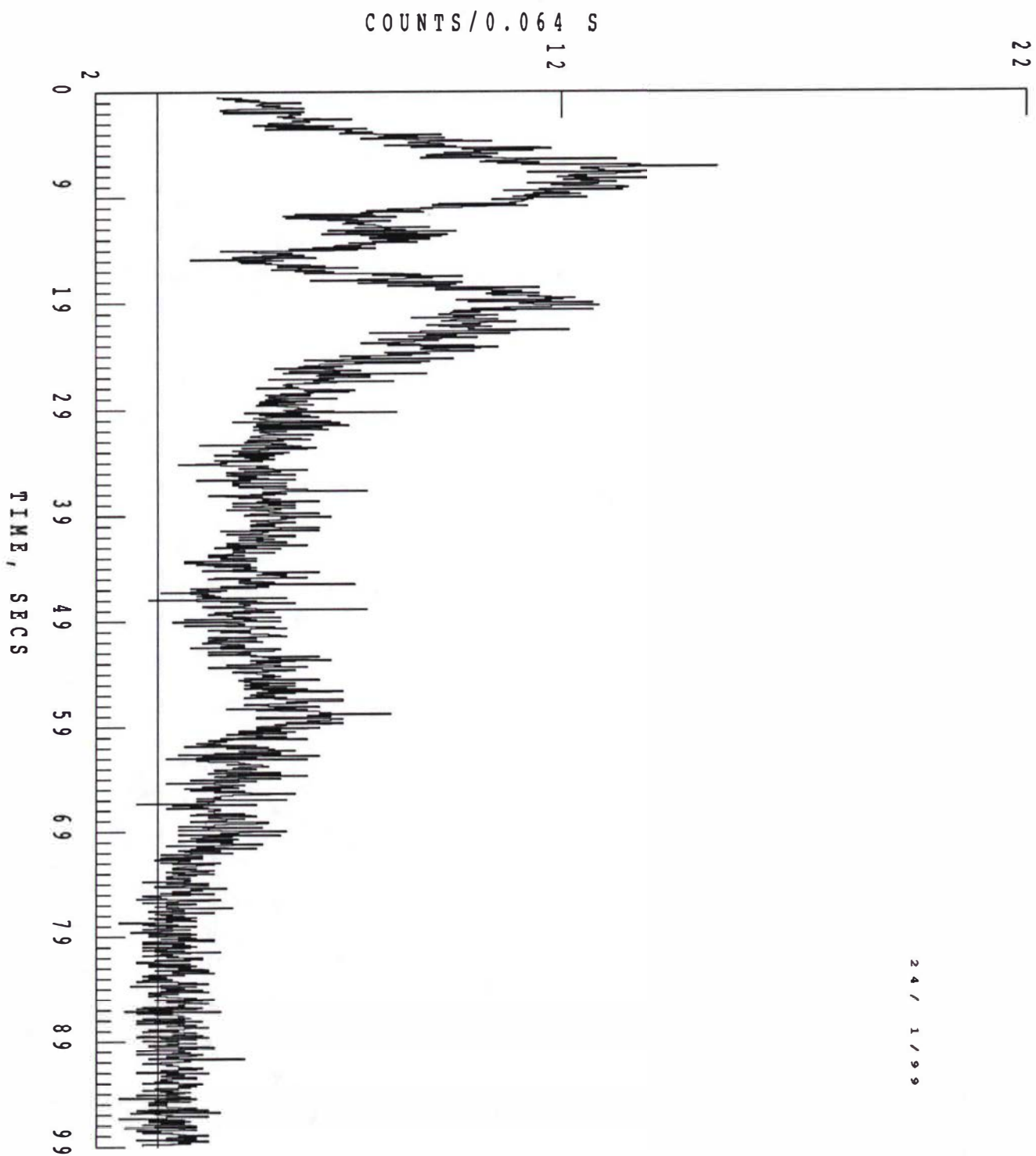


KONUS

23/01/99

35234.151

50 - 200 keV



From SURASAK@fender.msfc.nasa.gov Tue Jan 26 07:55:30 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA10132; Tue, 26 Jan 1999 07:55:29 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA04528; Tue, 26 Jan 1999 07:55:27 -0800
Date: Tue, 26 Jan 1999 9:55:27 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990126095527.2027be5c@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7344
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7344
EVENT OF 1999 JAN 23 DAY OF YEAR= 23
EVENT CROSSING TIME AT BATSE : 47982. S. OR 13:19:42.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 320.000 -61.000
BATSE PEAK COUNTING RATE: 12800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 1/ 99 IS:
RA= 162.894 DEC= -9.246 DIST= 4.436 AU
BATSE-ULYSSES DISTANCE = 663597475. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 664.72 SECS.
CROSSING TIME AT ULYSSES IS 48647. S. OR 13:30:46 +/- 426.66 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 1/ 99 IS:
RA= 207.258 DEC= -9.055 DIST= 1.269 AU
MARS-BATSE DISTANCE = 189874672. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.28 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 30.04 SECS.
CROSSING TIME AT MARS IS 48012. S. OR 13:20:12 +/- 110.29 SECONDS

BATSE BURST TRIGGER

NO.: 7344

TIME: TJD=1201 SECONDS=47982

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=107.9 AZIMUTH=34.8 ERROR=7.67 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.3 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7344	990123	11201	47982	12800	320	-61	.3

BATSE BURST# 7344

ULYSSES RT

26 / 1 / 99

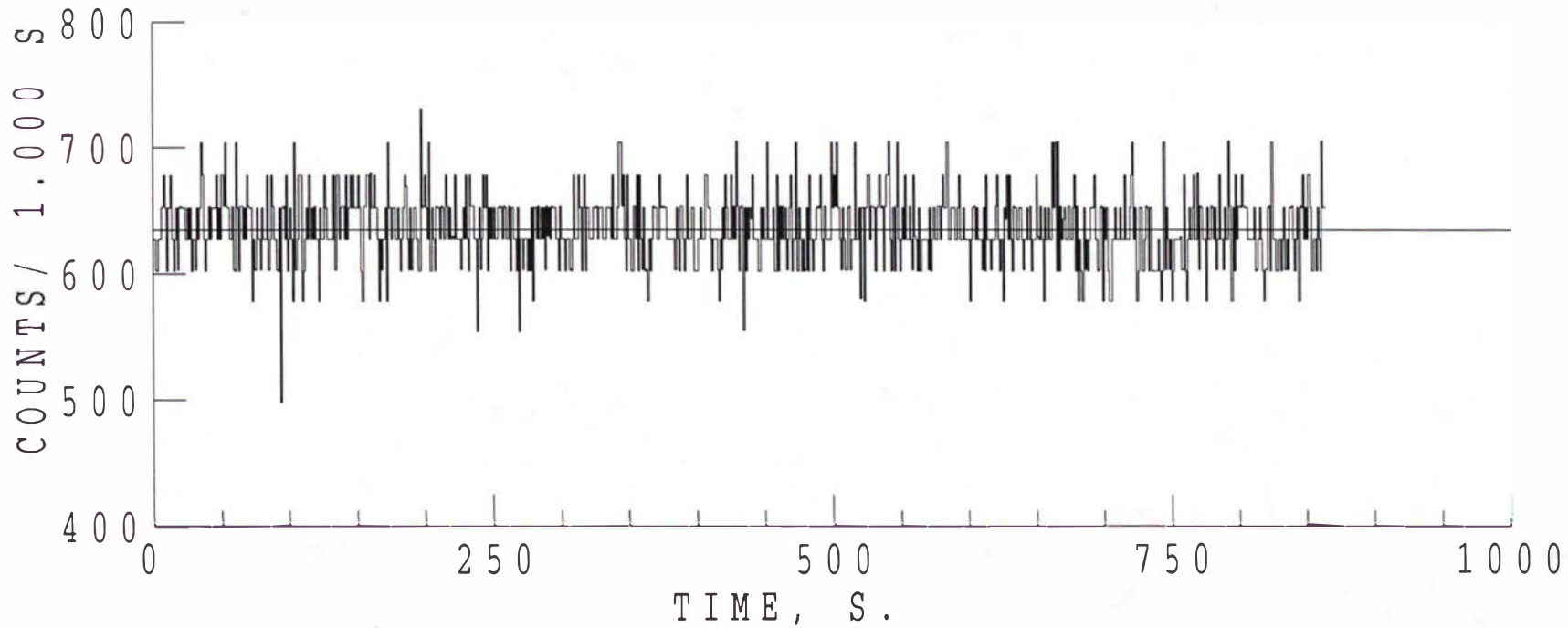
23 / 1 / 99 48204.379 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

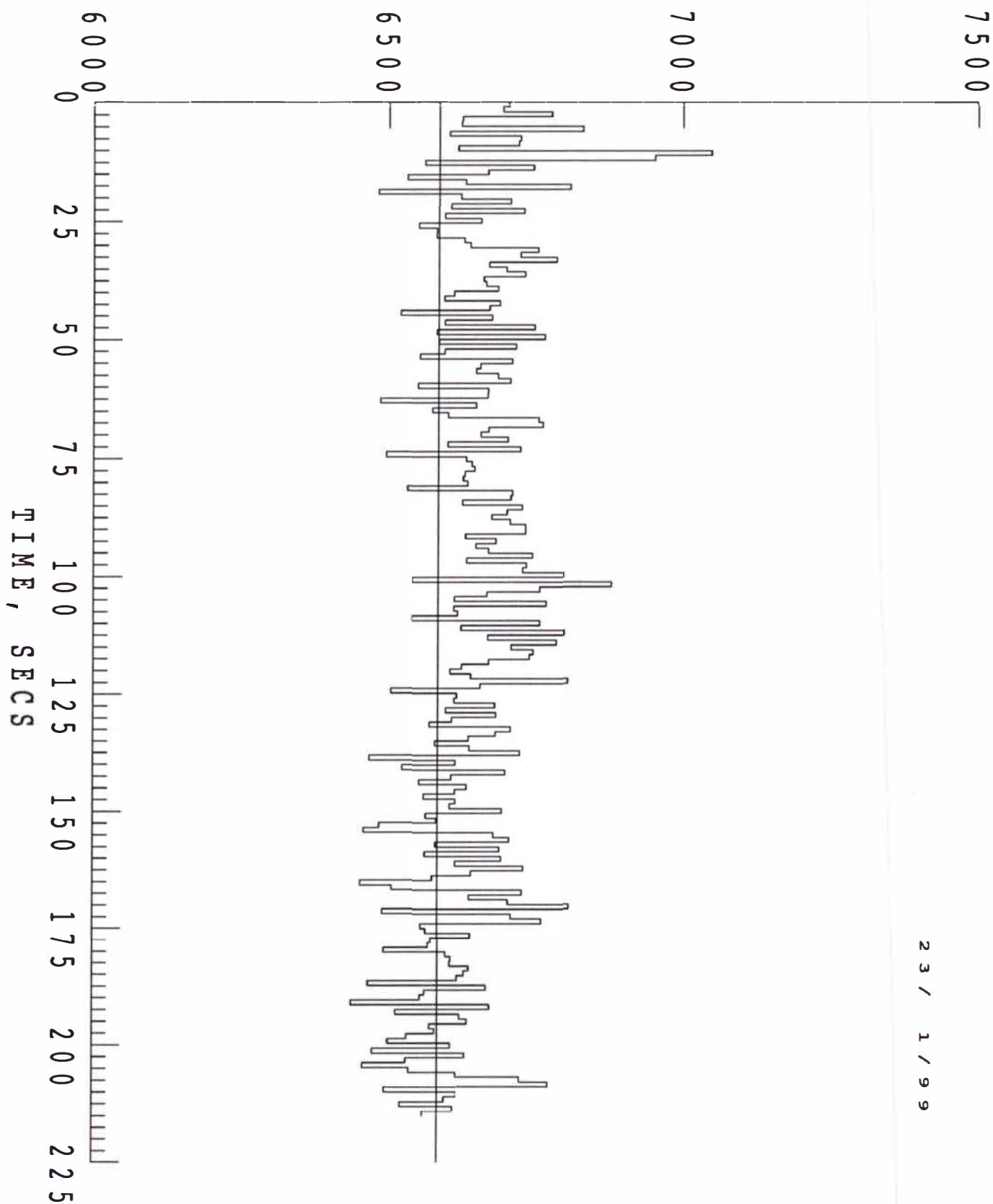
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7344 23/01/99 47971.065

25- 100 keV

COUNTS/1.024 S



From SURASAK@fender.msfc.nasa.gov Tue Jan 26 07:46:36 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 26 Jan 1999 9:46:17 -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.: 7345

TIME: TJD=1201 SECONDS=64304

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

From SURASAK@fender.msfc.nasa.gov Tue Jan 26 07:48:05 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 26 Jan 1999 9:47:50 -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.: 7346

TIME: TJD=1201 SECONDS=71584

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 Tue Jan 26 07:49:13 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 26 Jan 1999 9:49:01 -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.: 7347

TIME: TJD=1201 SECONDS=83232

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 Jan 26 09:56:20 1999
Date: Tue, 26 Jan 1999 11:55:56 -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.: 7348

TIME: TJD=1201 SECONDS=85855

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=109.2 AZIMUTH=357.0 ERROR= 0.6 DEGREES

COMMENTS:

GOES C3.6, OPTICAL SF FLARE. SINGLE PULSE WITH STRUCTURE, DUR. APPROX. 15 S.
NOT VISIBLE ABOVE 300 KEV.

KONUS

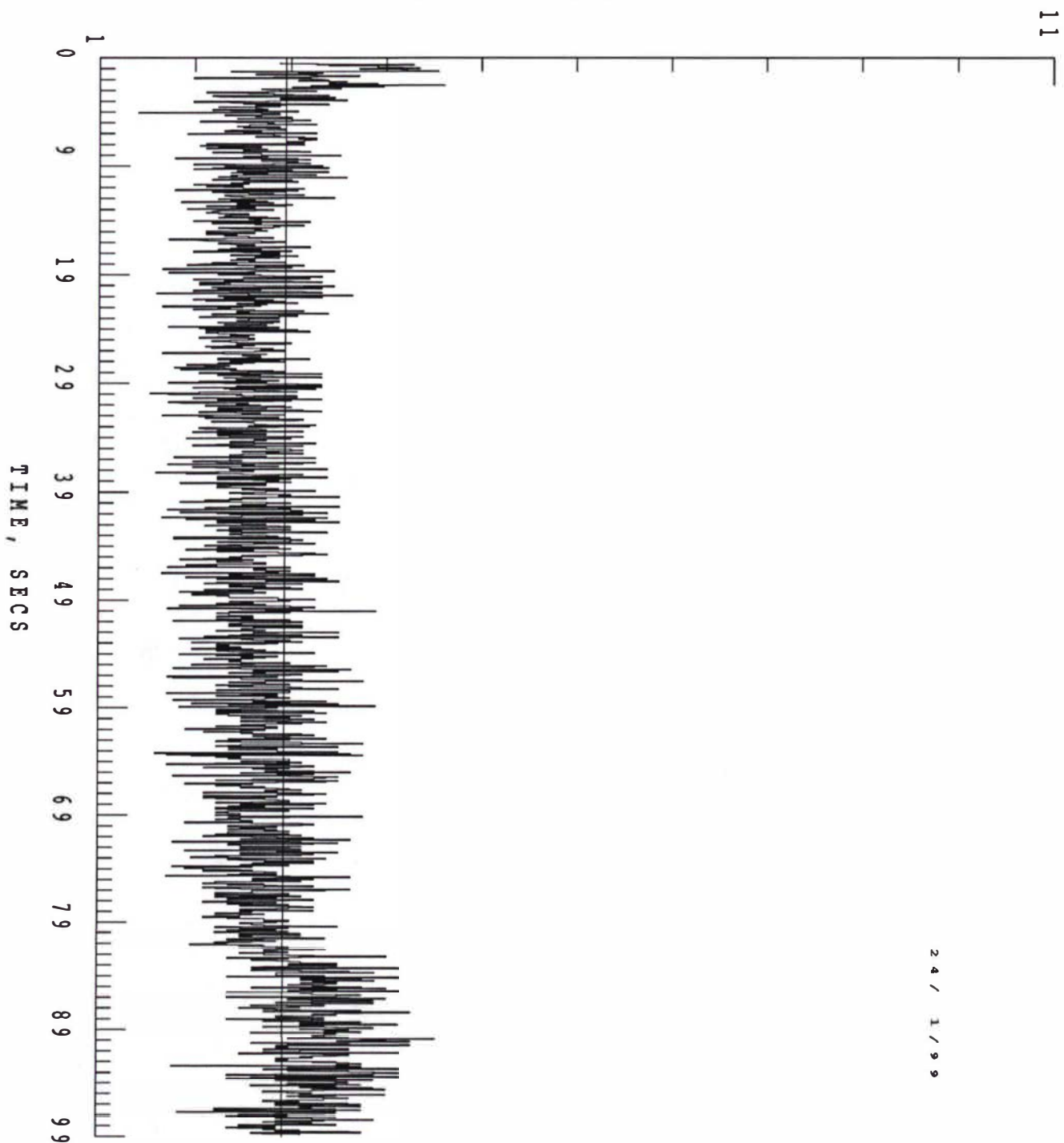
23/01/99

85718.846

50 - 200 keV

SOLAR

COUNTS/0.064 S



24 / 1 / 99

KONUS 19990123 85718

ULYSSES RT

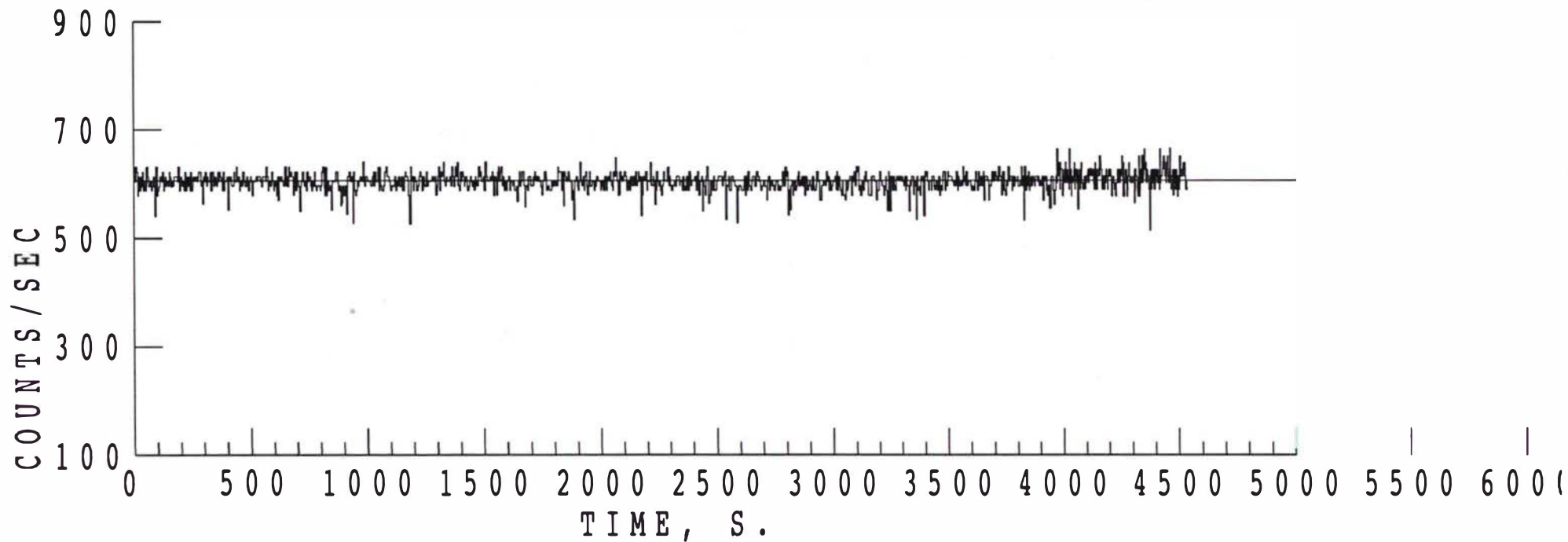
25 / 1 / 99

23 / 1 / 99 83448.734 s

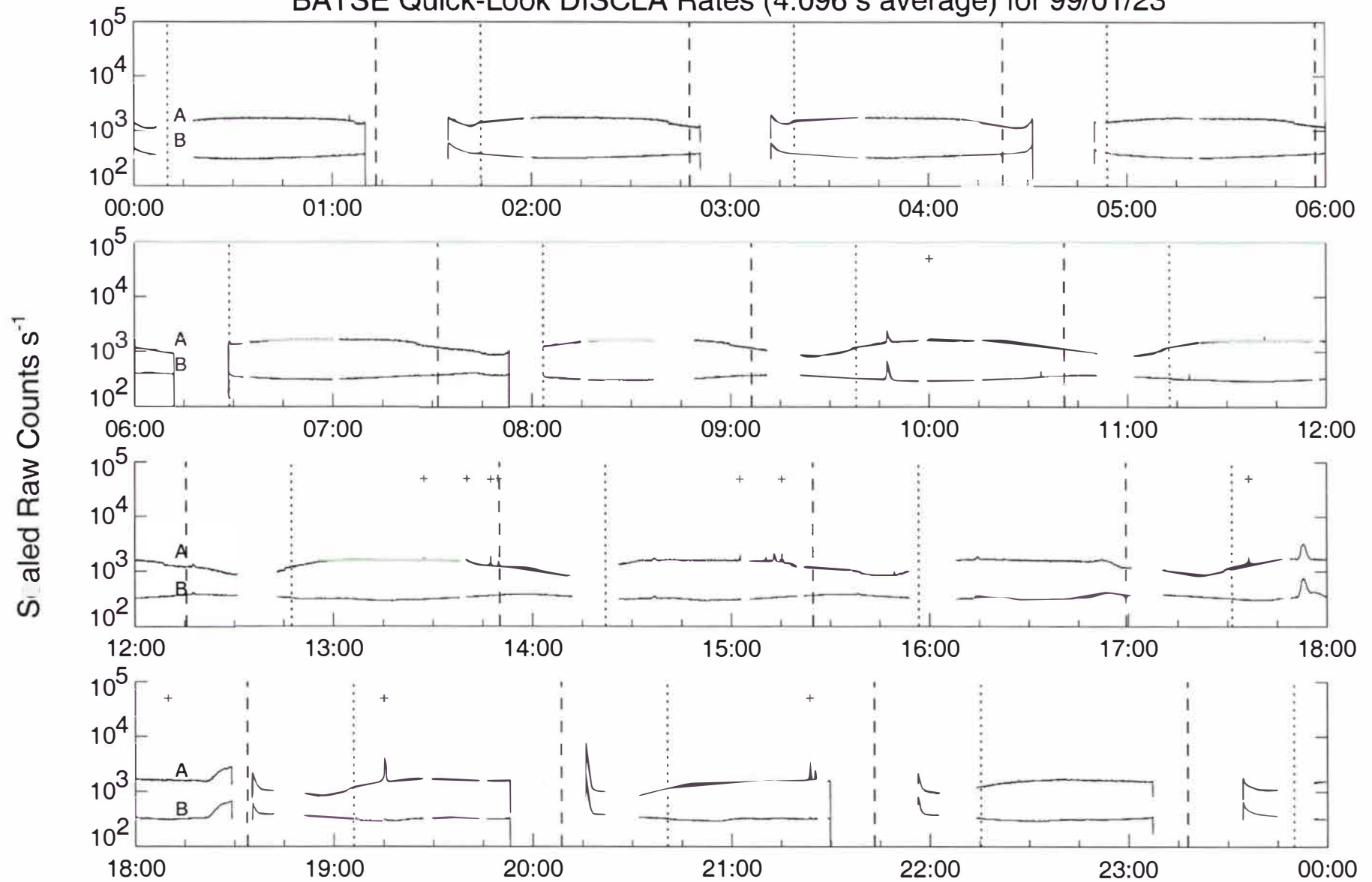
INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/23

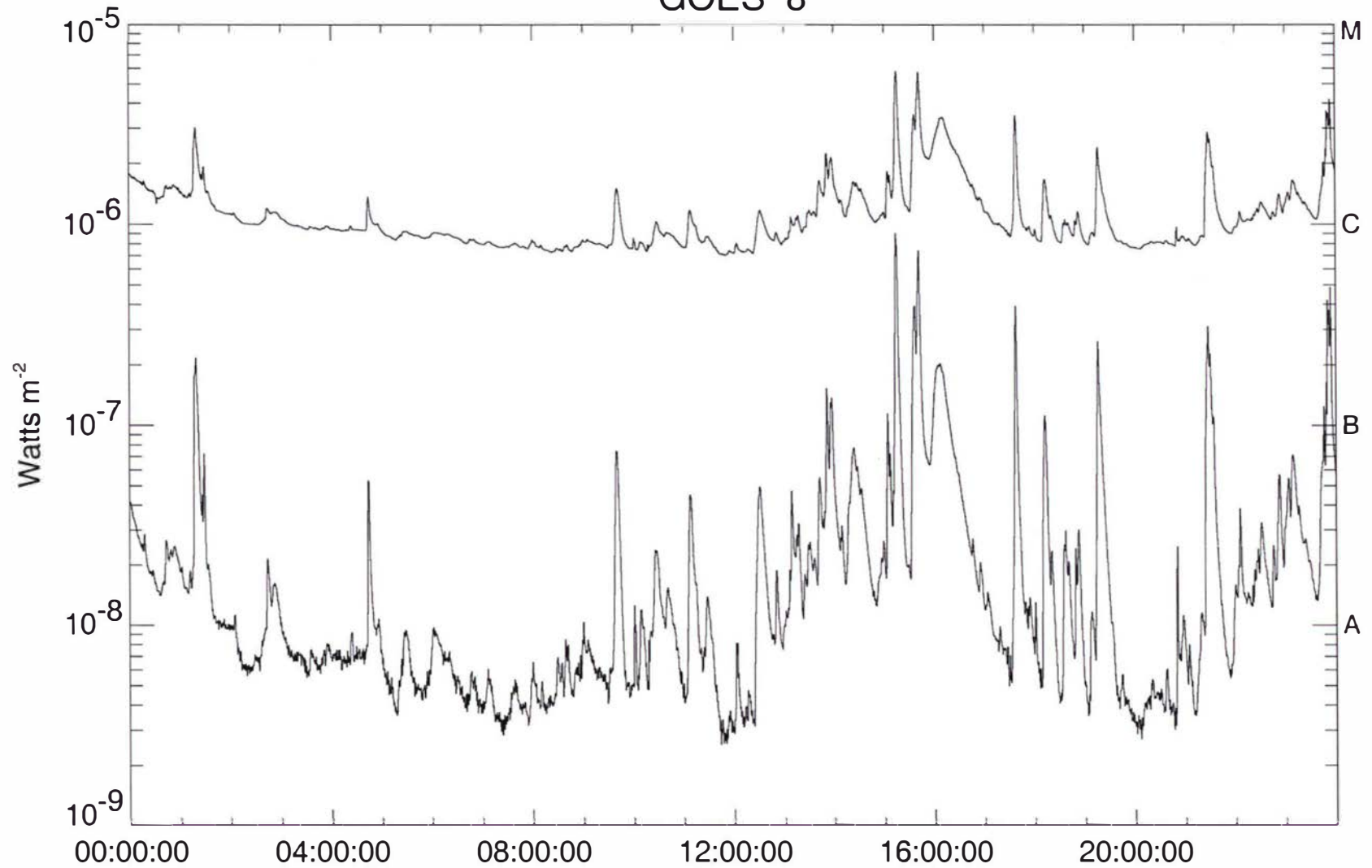


Current Time: 99/01/27, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/23, 0000:00

Plot created: 99/01/27, 1009

Channel

1 (1.0 - 8.0 Angstroms)

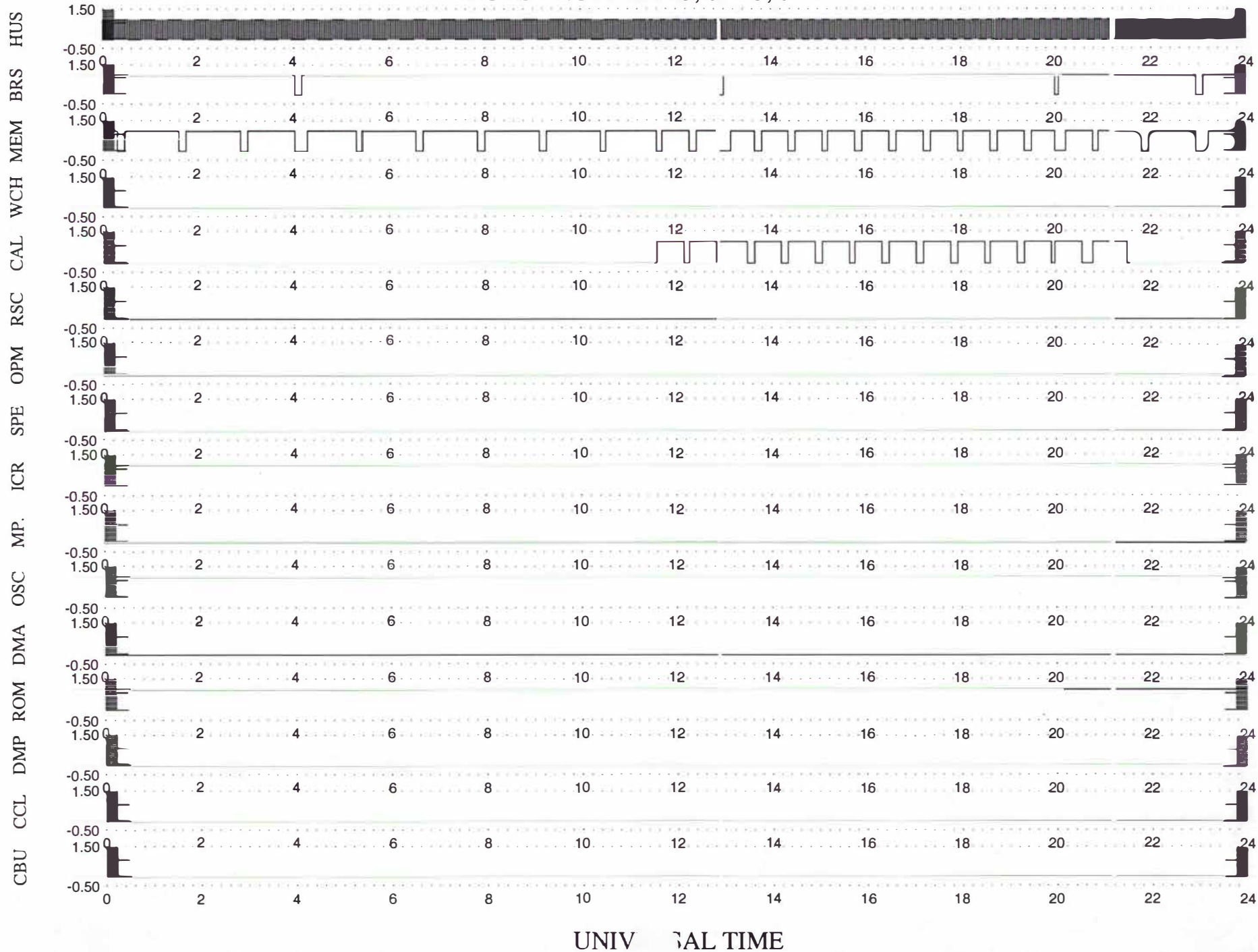
Background not subtracted

2 (0.5 - 4.0 Angstroms)

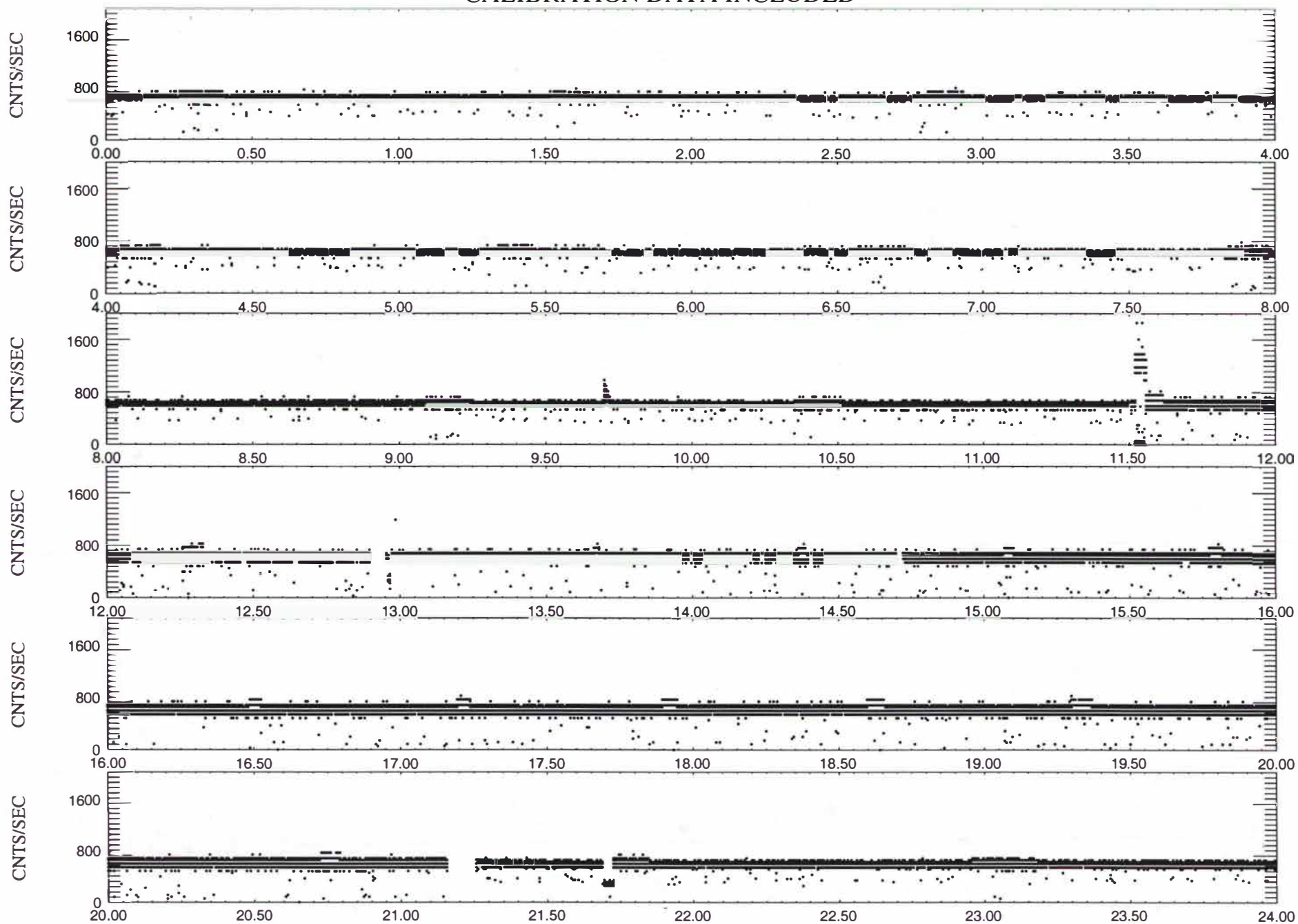
Background not subtracted

Sample average = 10

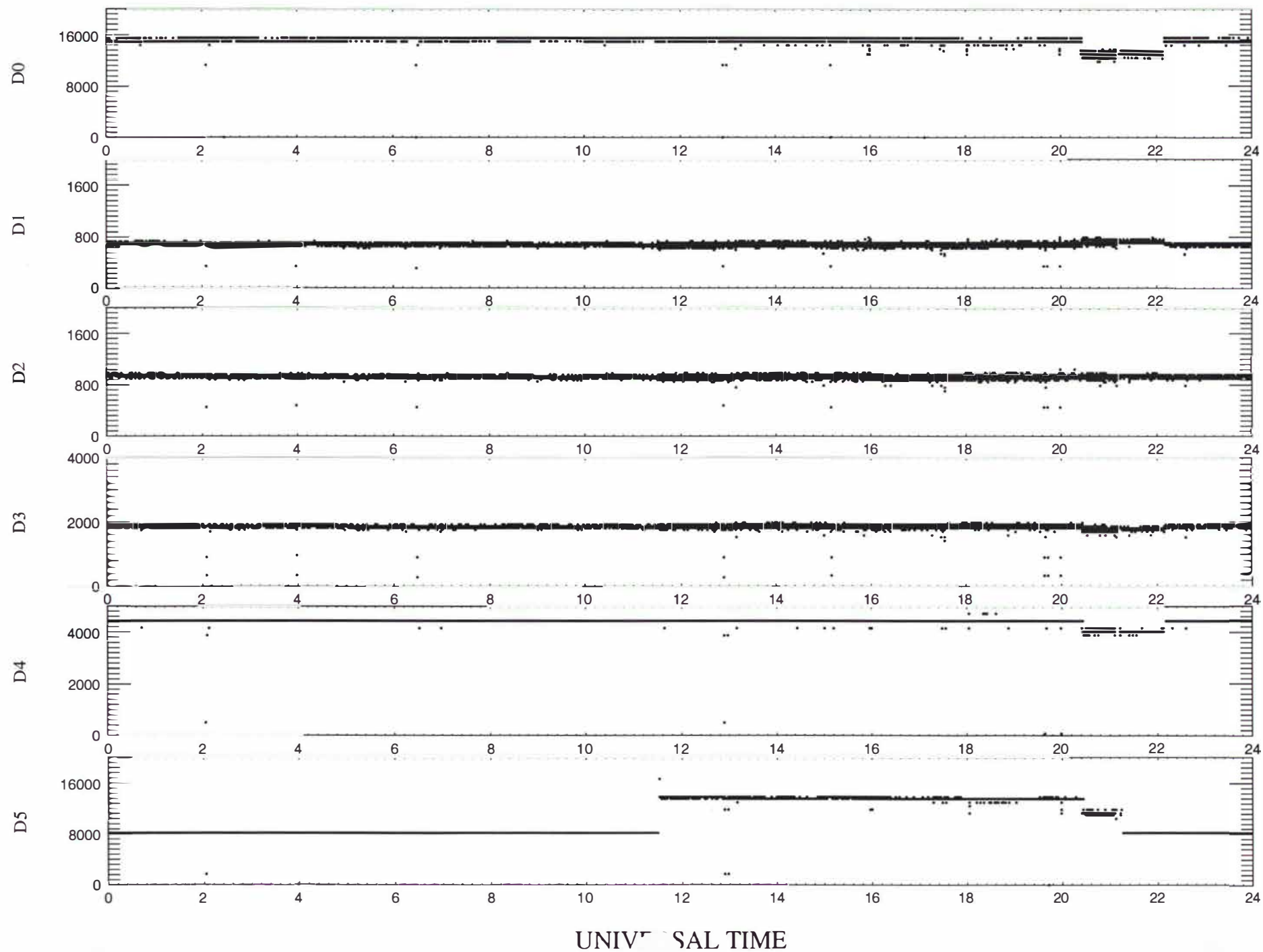
BURST NUMBER 15, 0 - 15, 0 - 7



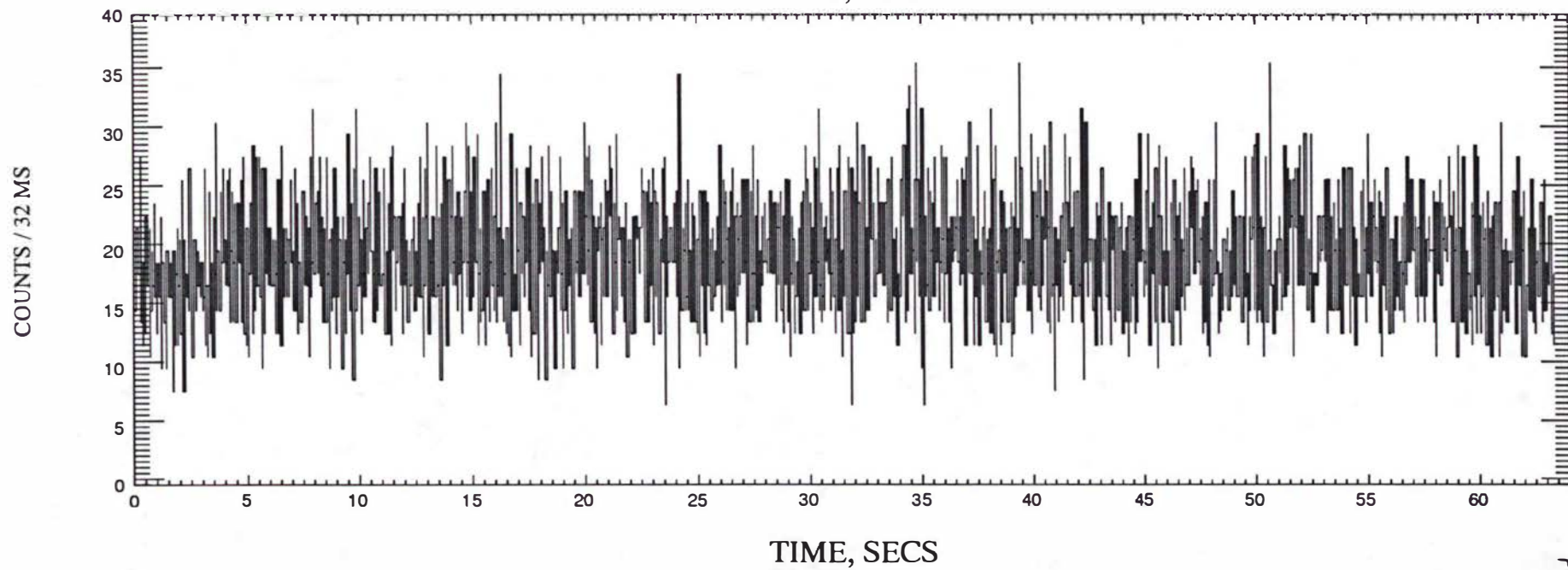
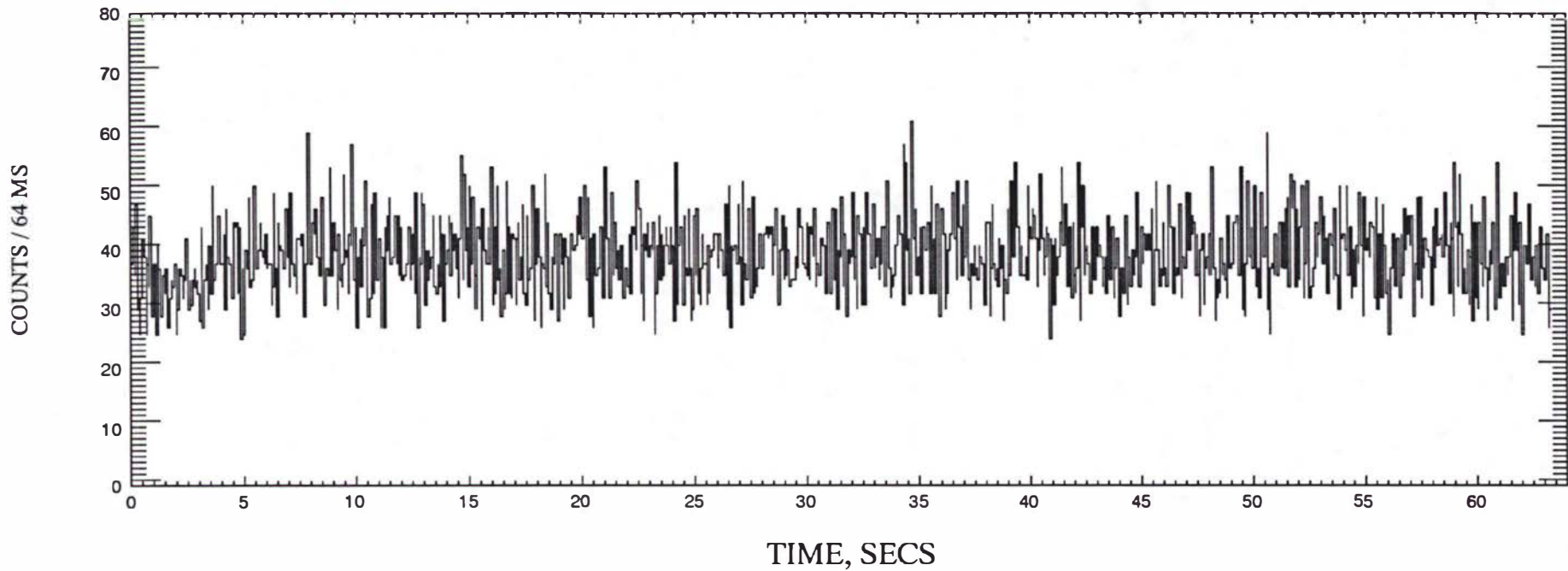
CALIBRATION DATA INCLUDED



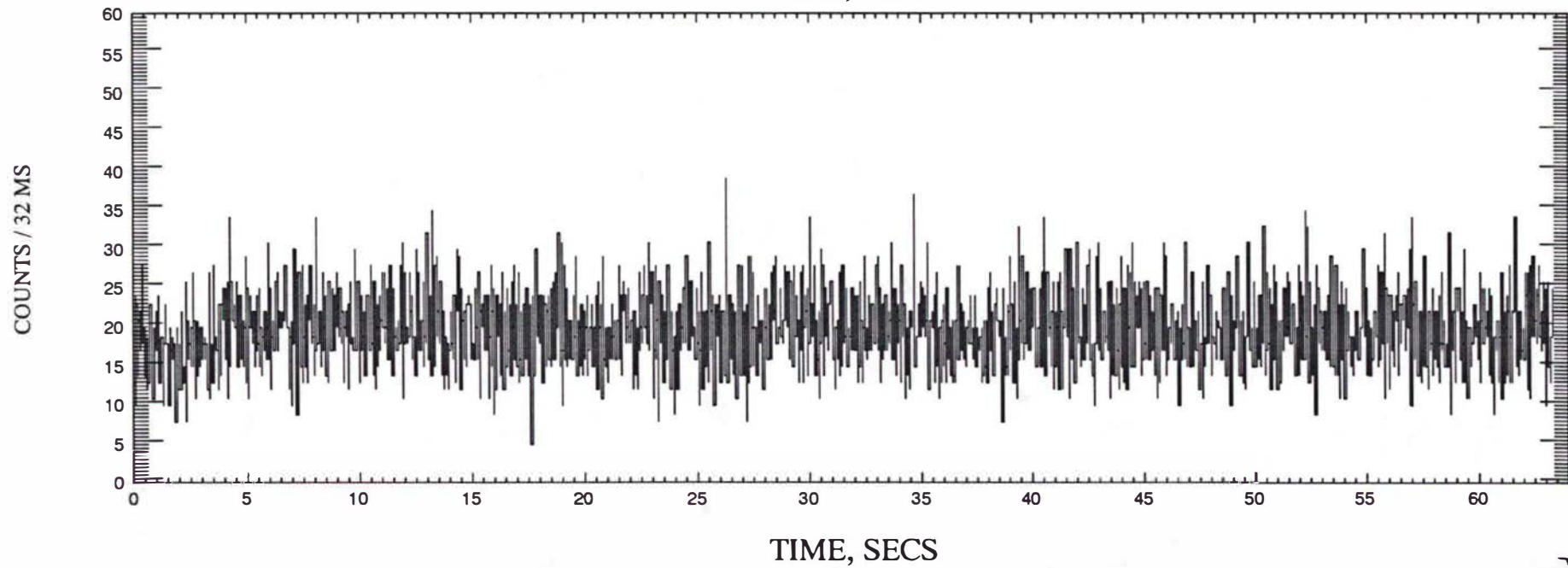
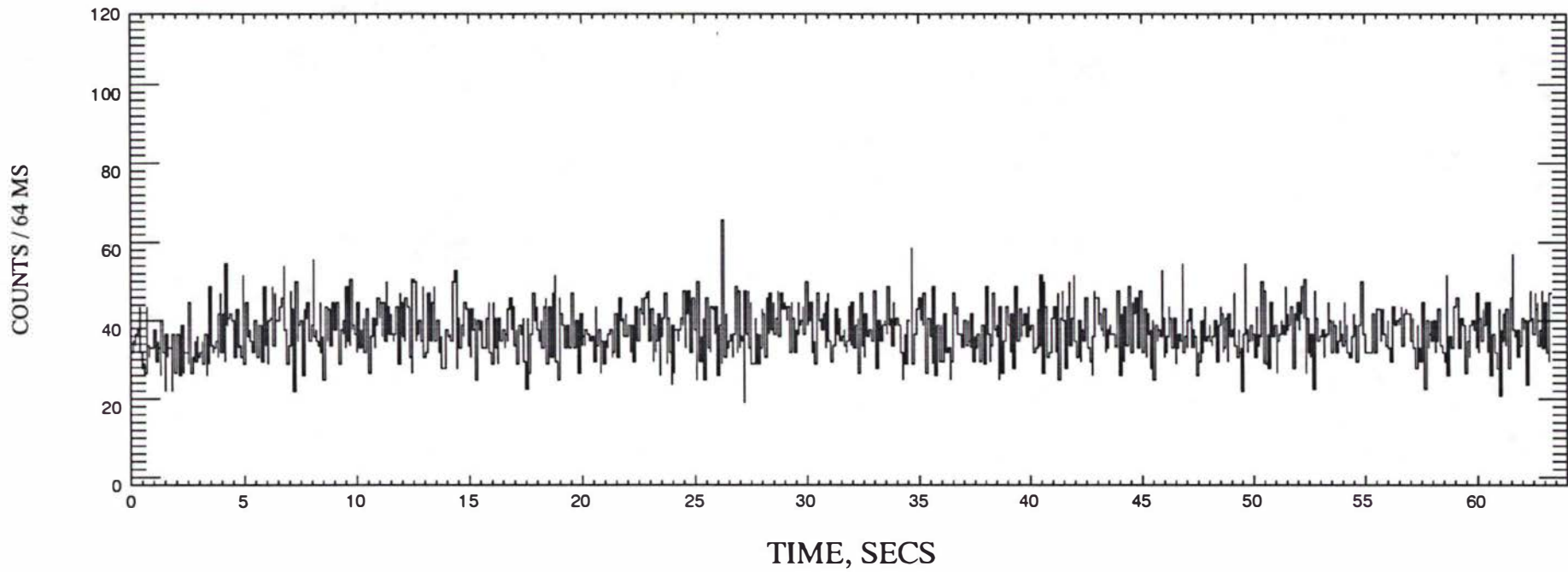
UNIV* SAL TIME



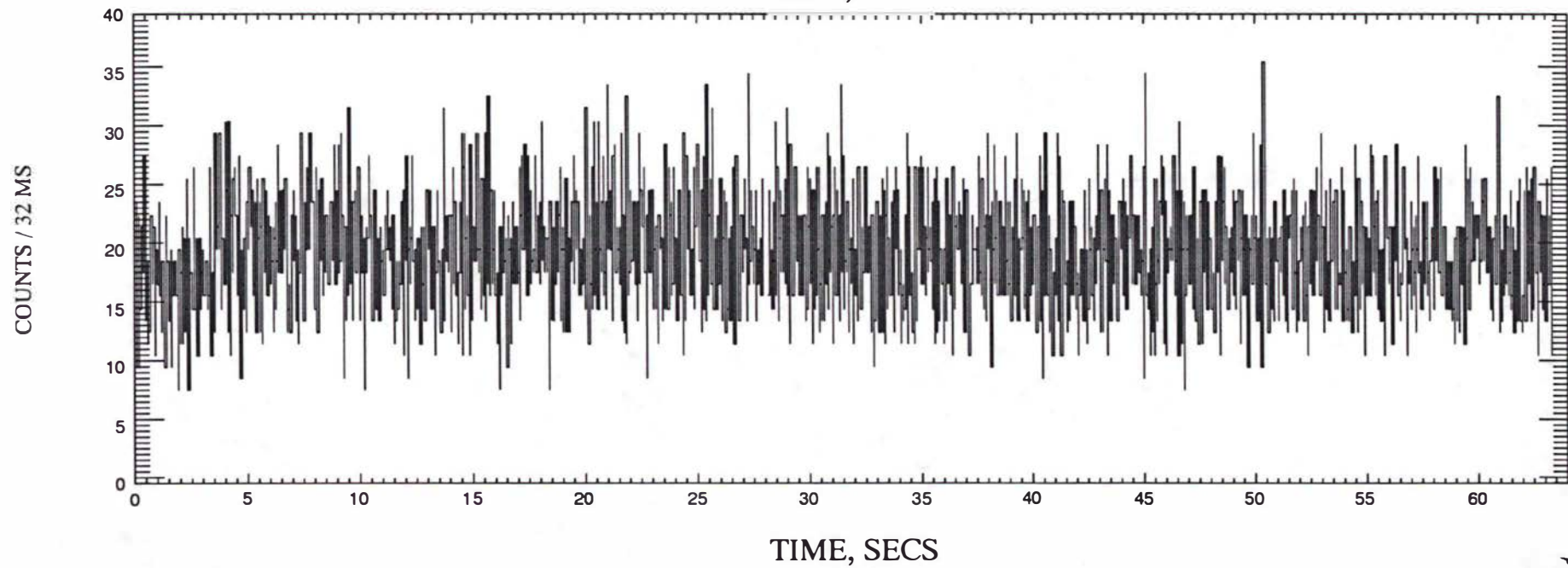
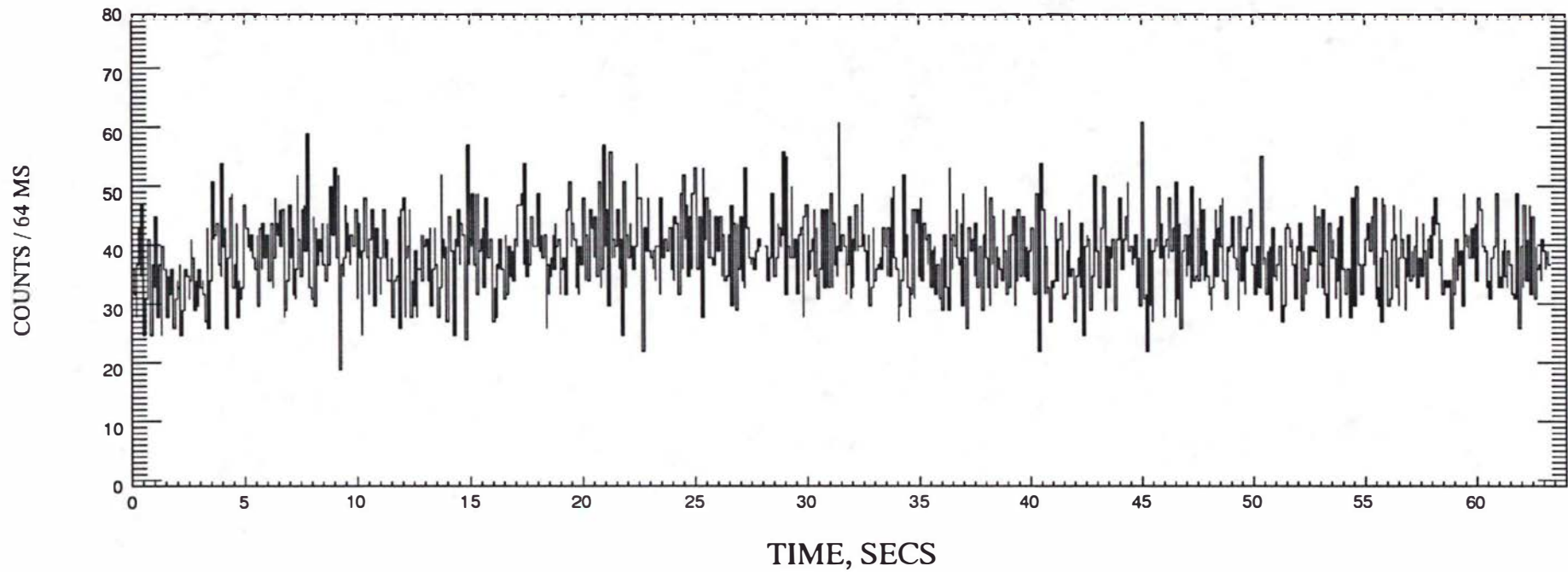
Burst Counter 15 at UT= 0.247870203654 h= 892.333 s 00:14:52.333



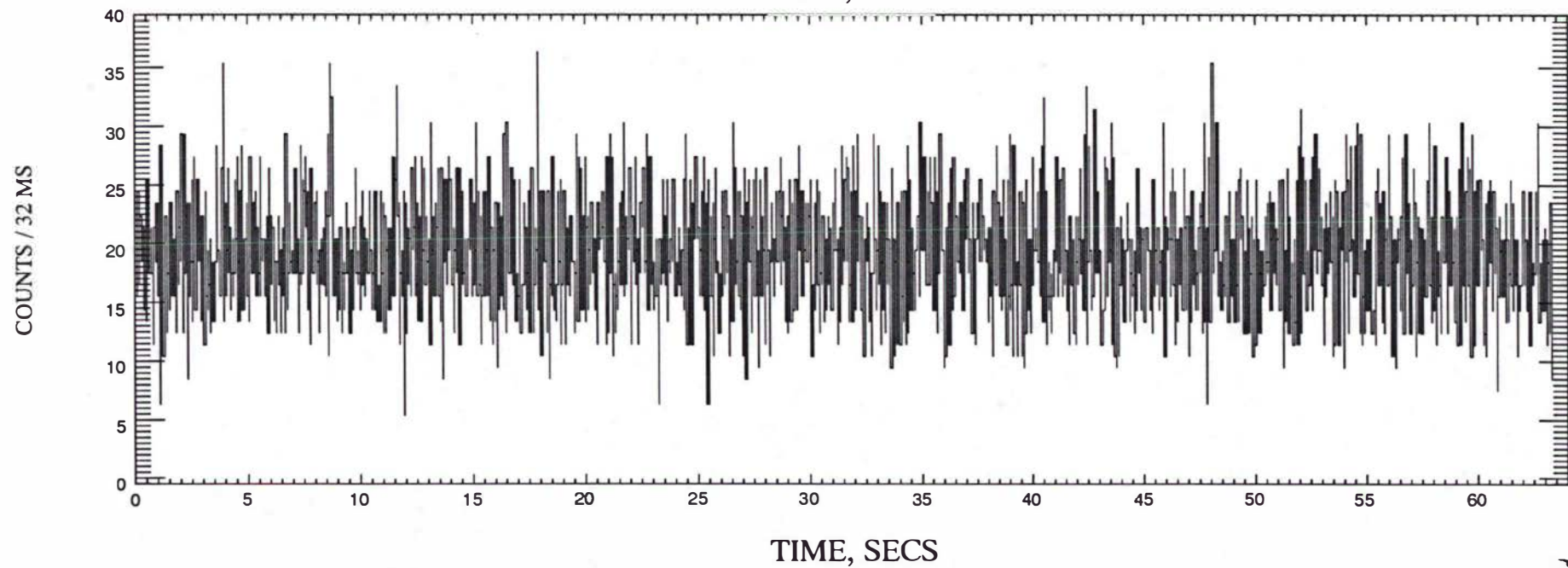
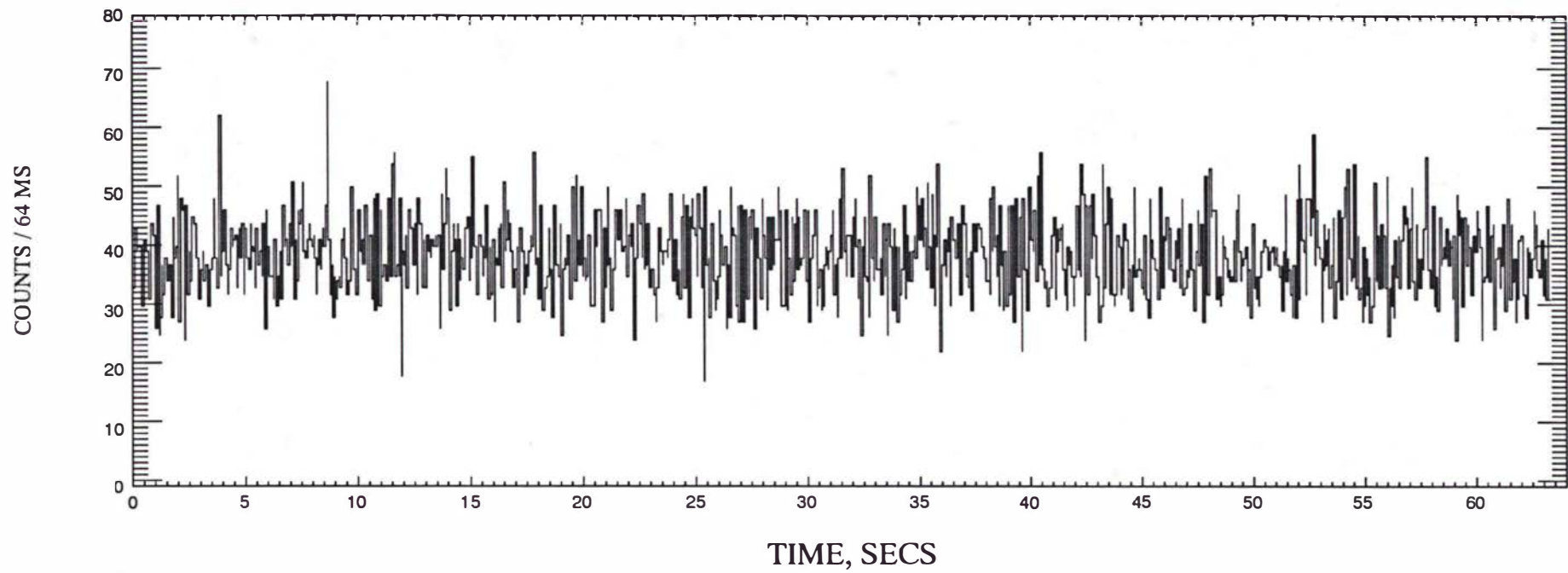
Burst Counter 0 at UT= 1.510064286126 h= 5436.231 s 01:30:36.231



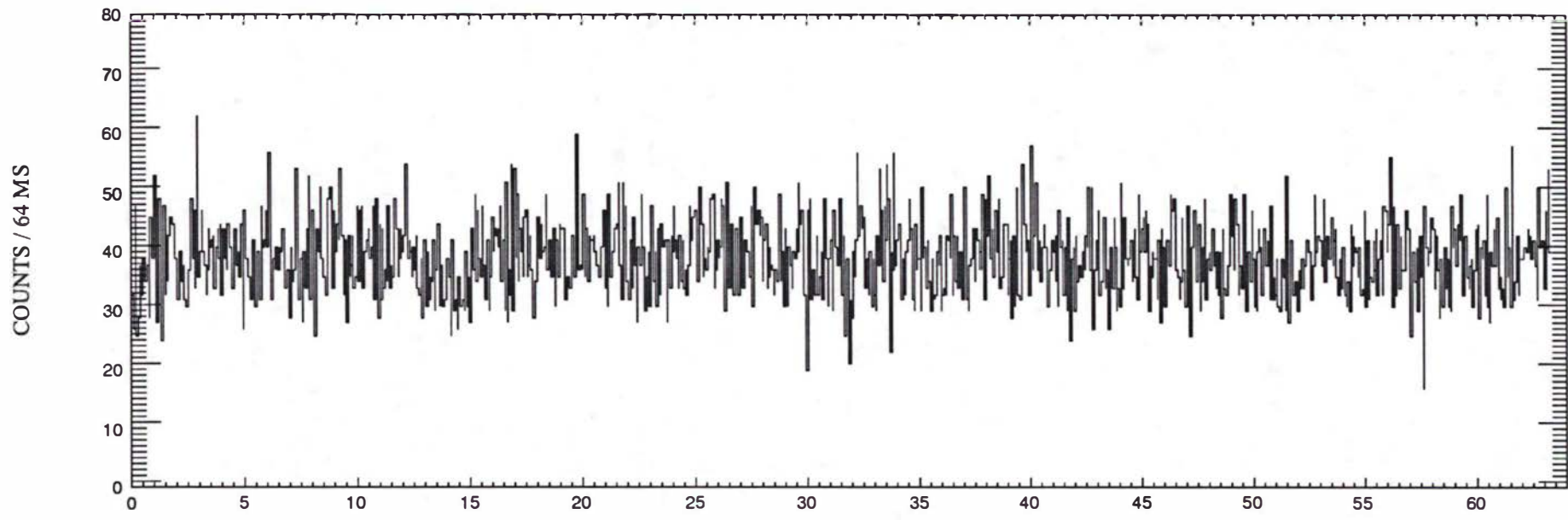
Burst Counter 1 at UT= 2.772290920681 h= 9980.247 s 02:46:20.247



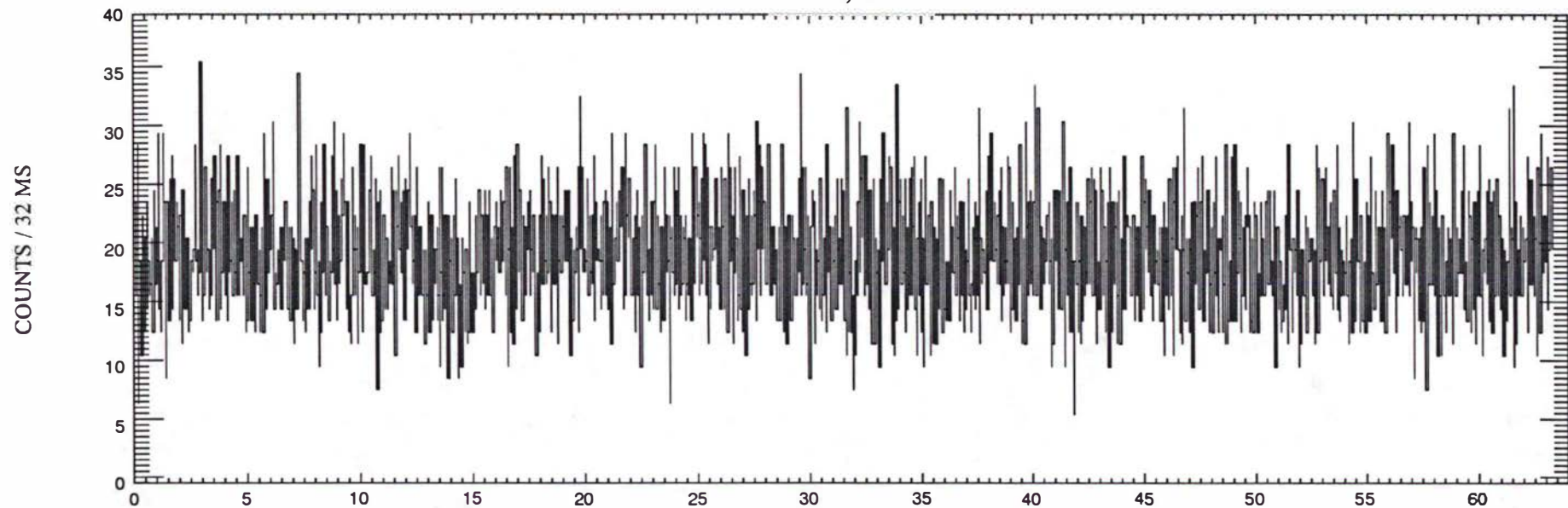
Burst Counter 2 at UT= 4.035650363498 h=14528.341 s 04:02:08.341



Burst Counter 3 at UT= 5.296093860202 h=19065.938 s 05:17:45.938

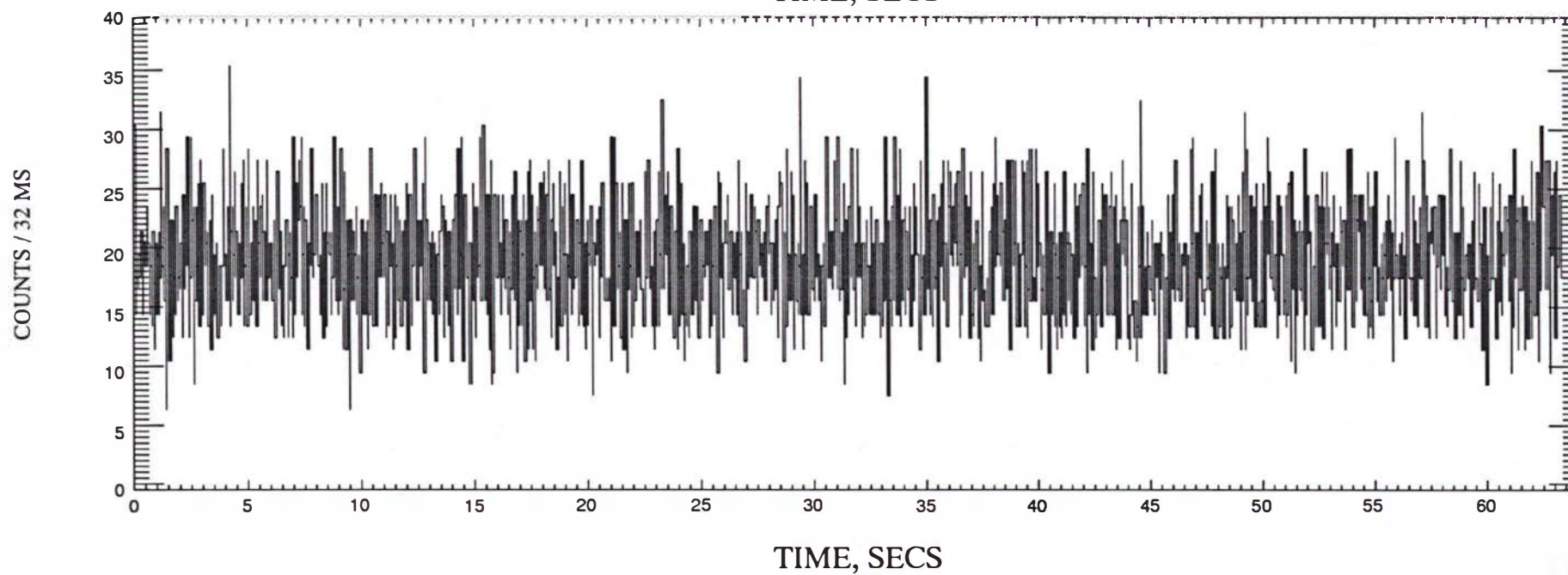
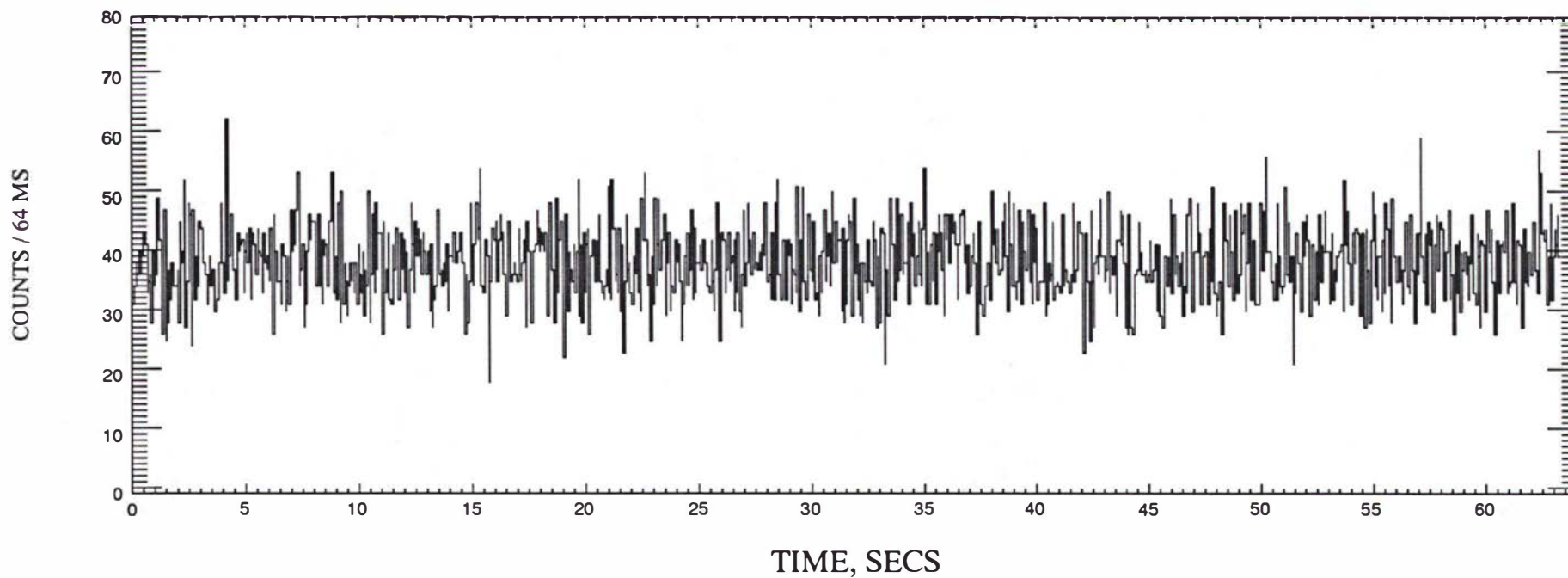


TIME, SECS

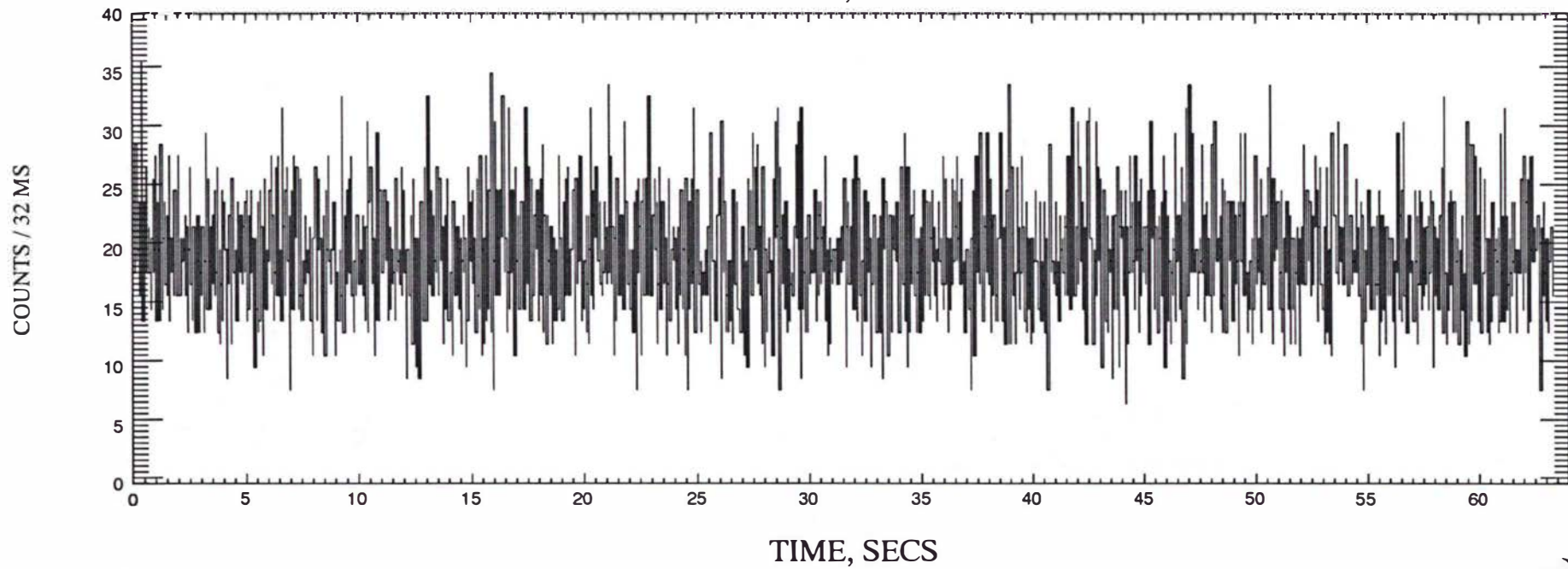
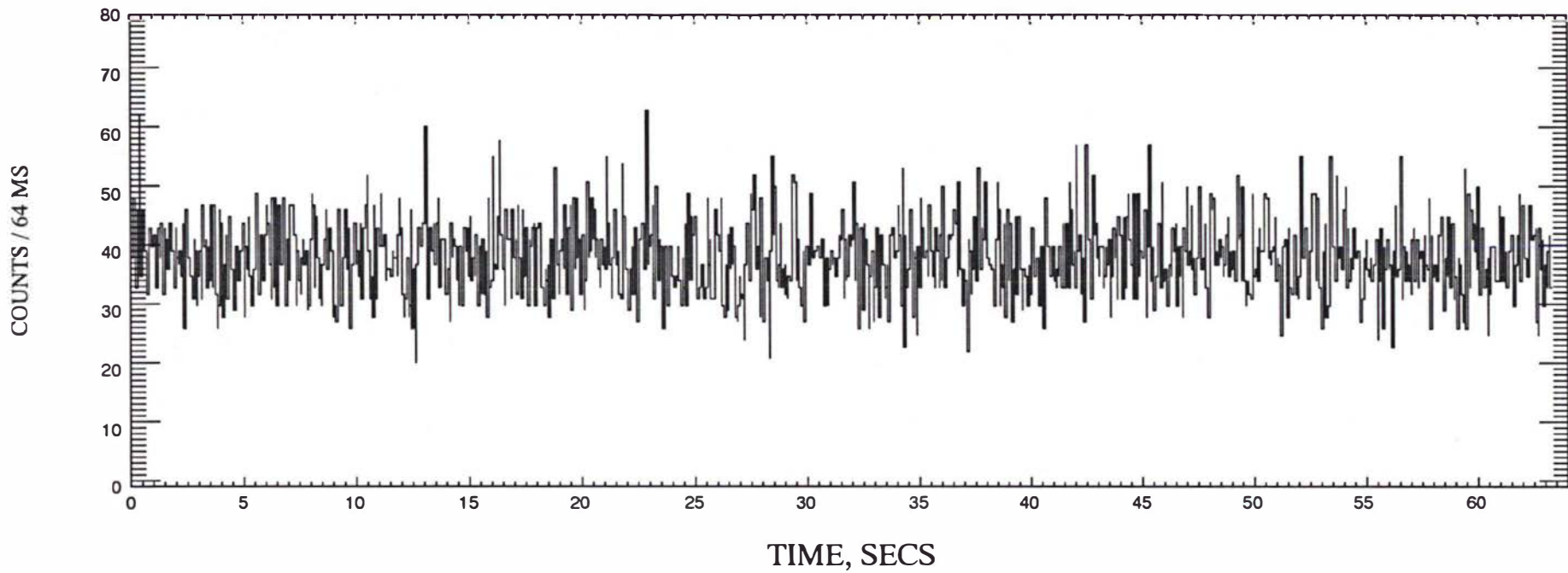


TIME, SECS

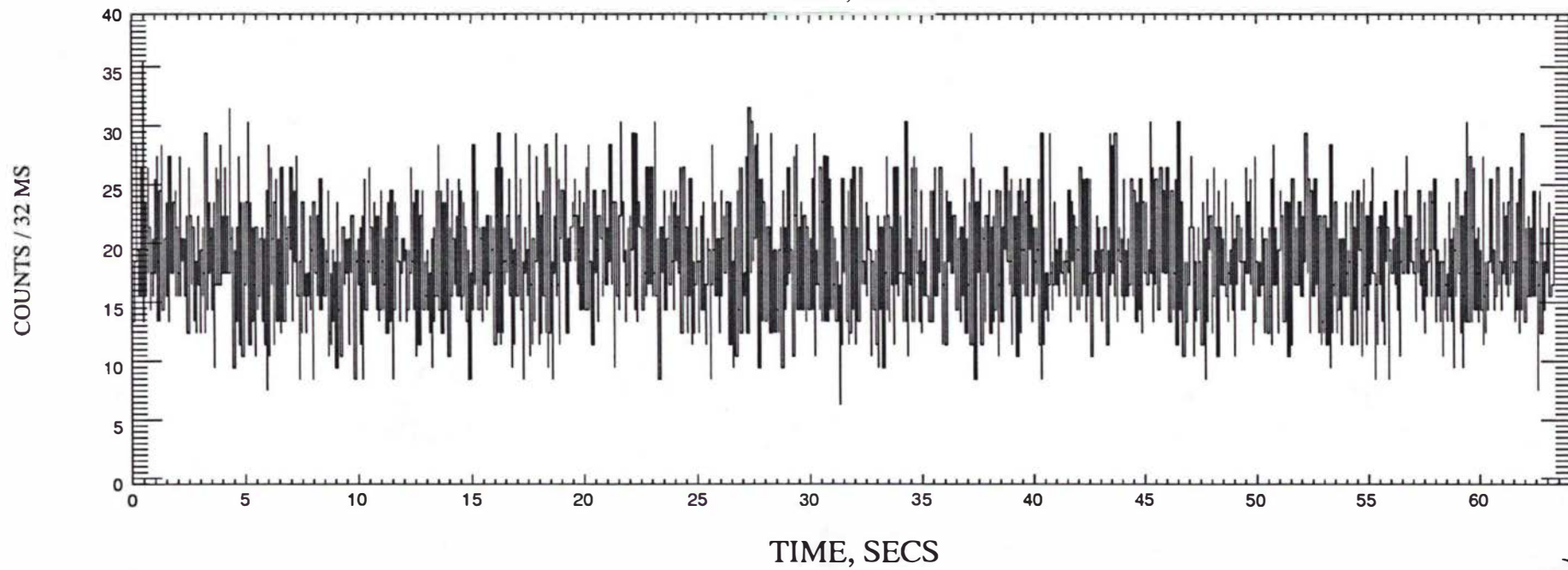
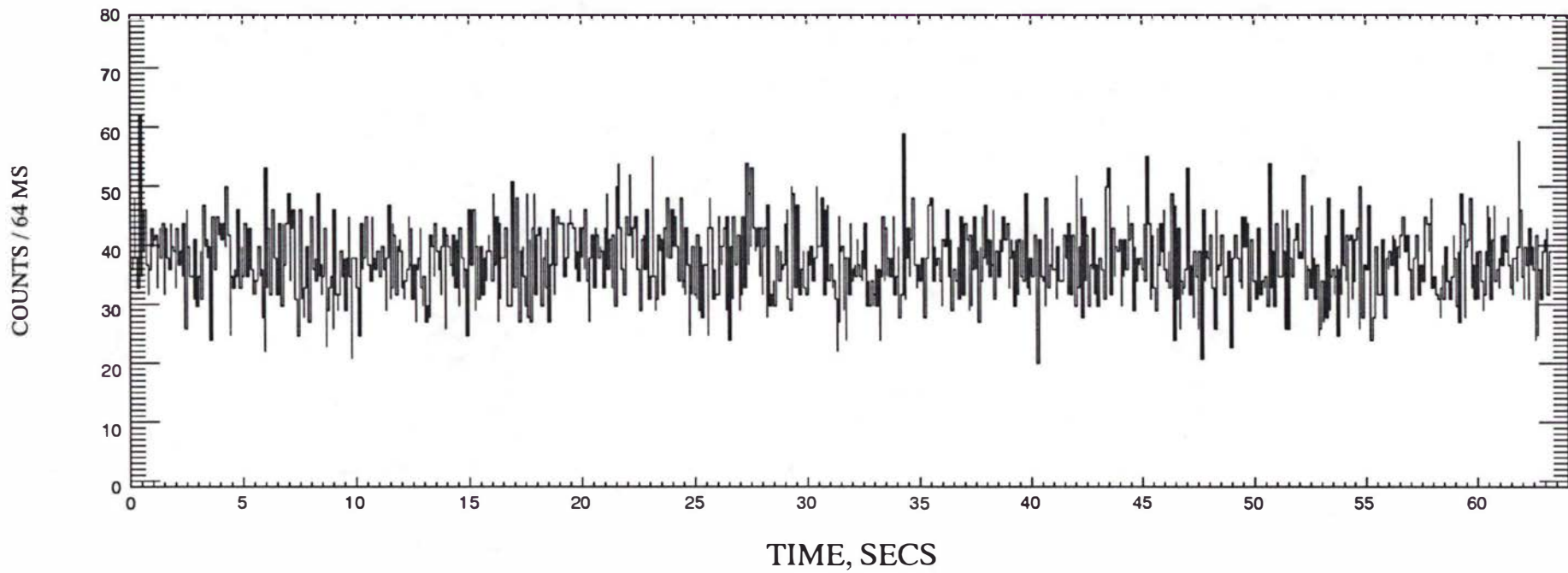
Burst Counter 4 at UT= 6.557984118991 h=23608.743 s 06:33:28.743



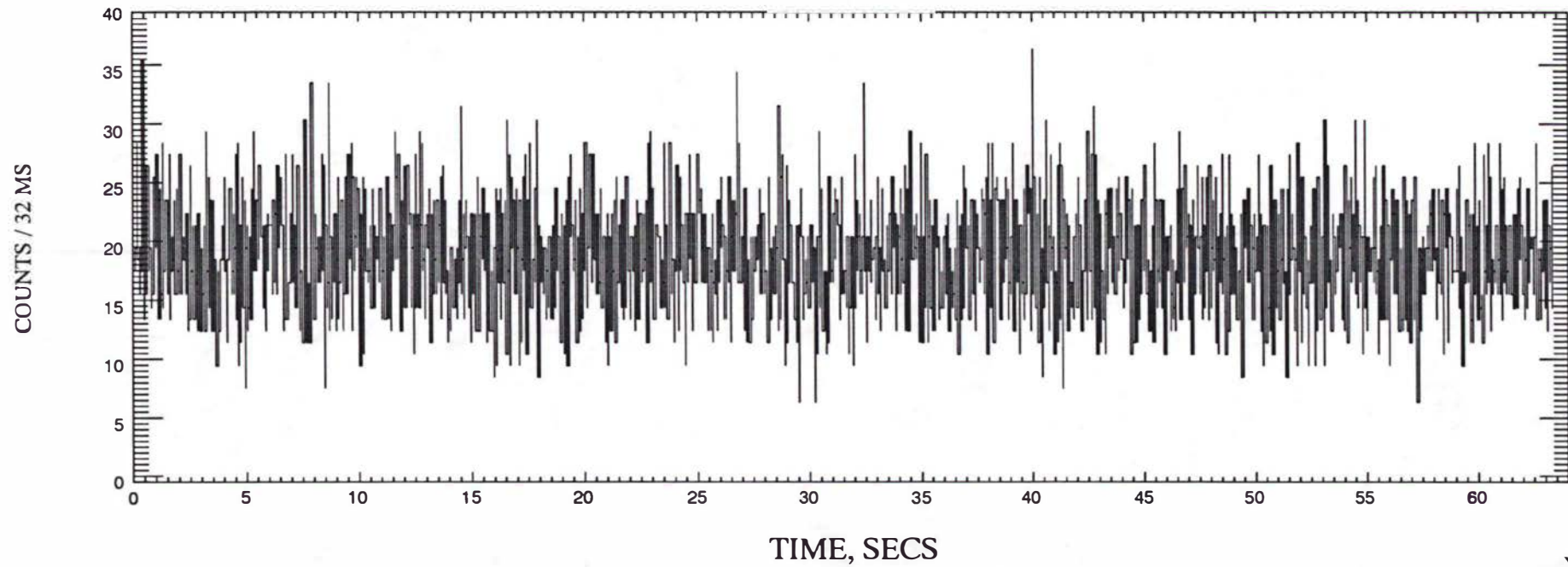
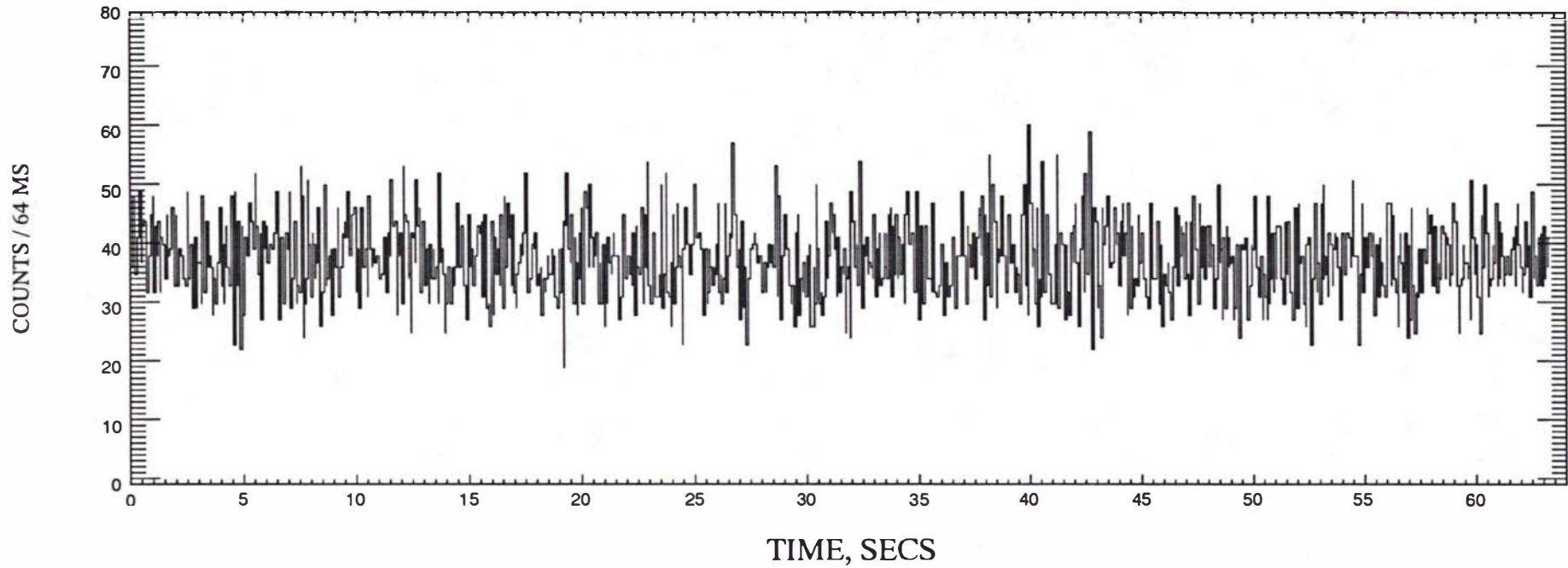
Burst Counter 5 at UT= 7.821274121602 h=28156.587 s 07:49:16.587



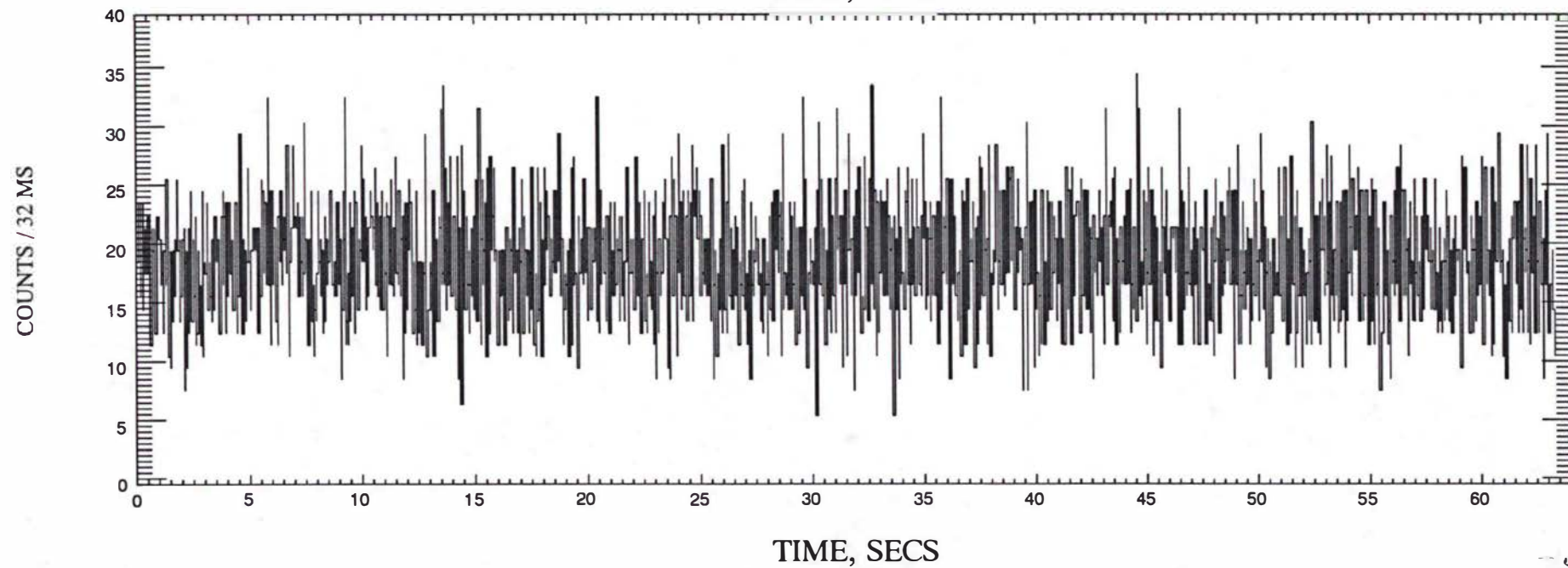
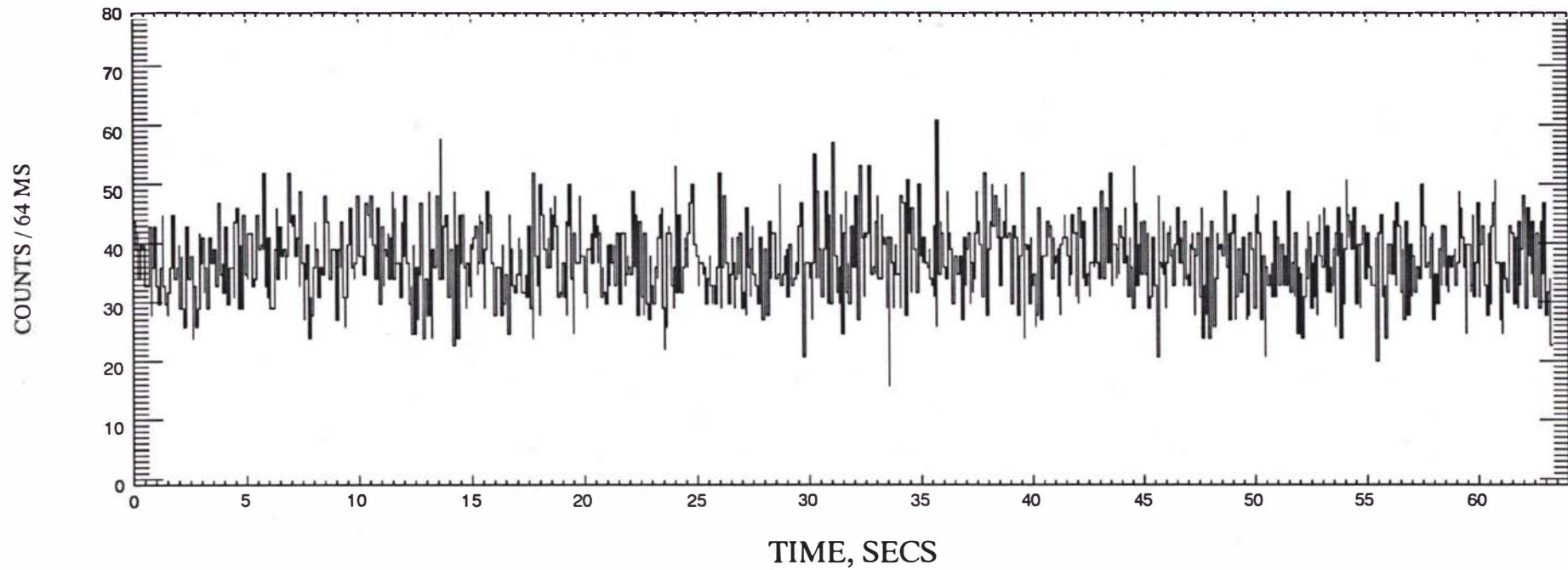
Burst Counter 6 at UT= 9.083489901225 h=32700.564 s 09:05:00.564



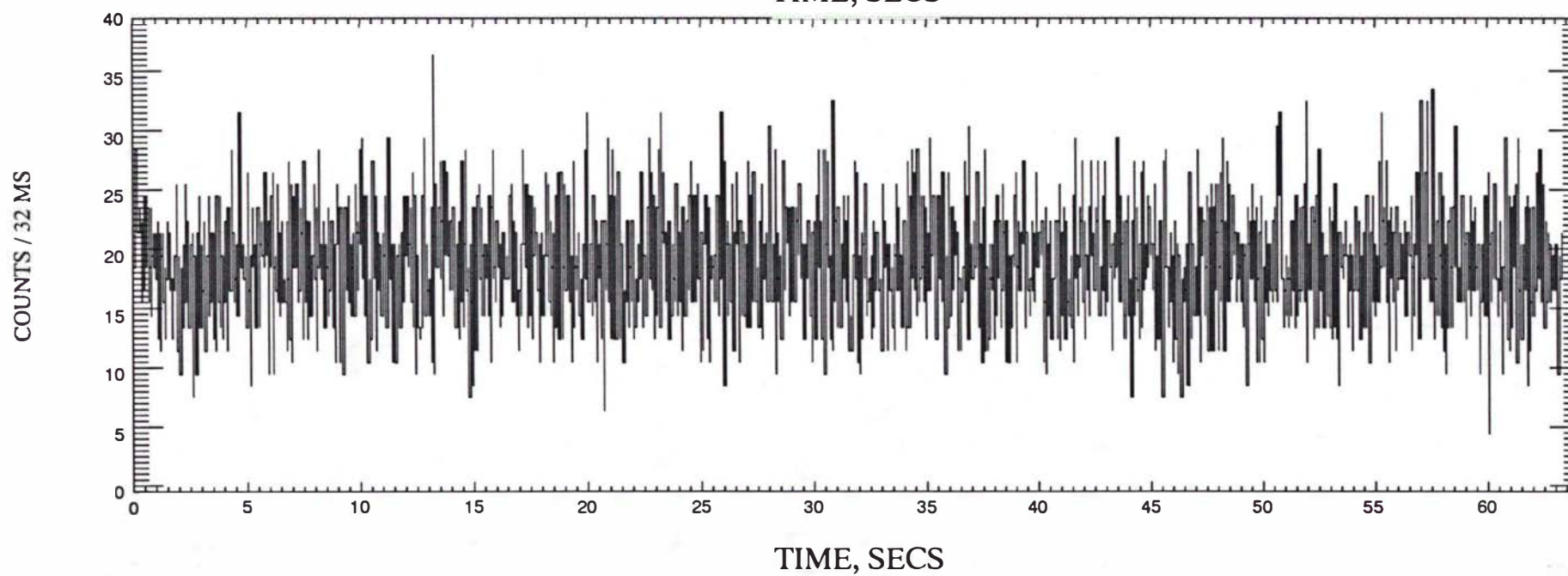
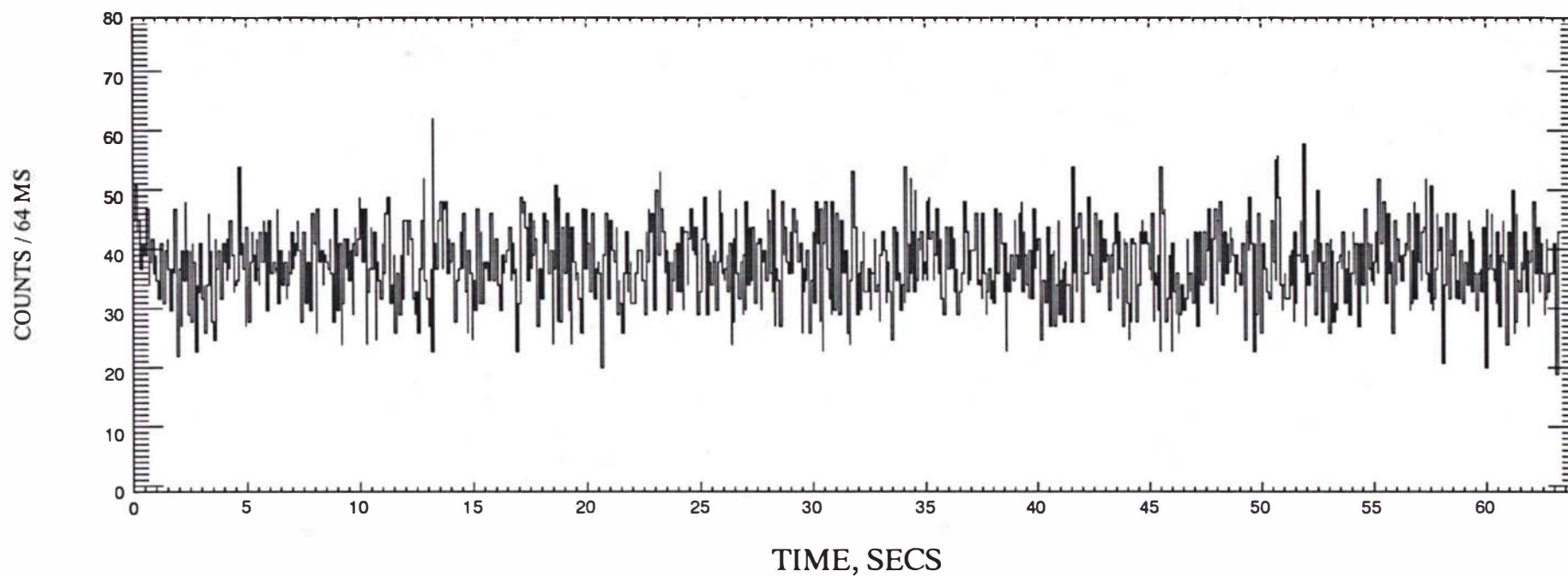
Burst Counter 7 at UT=10.345733896891 h=37244.642 s 10:20:44.642



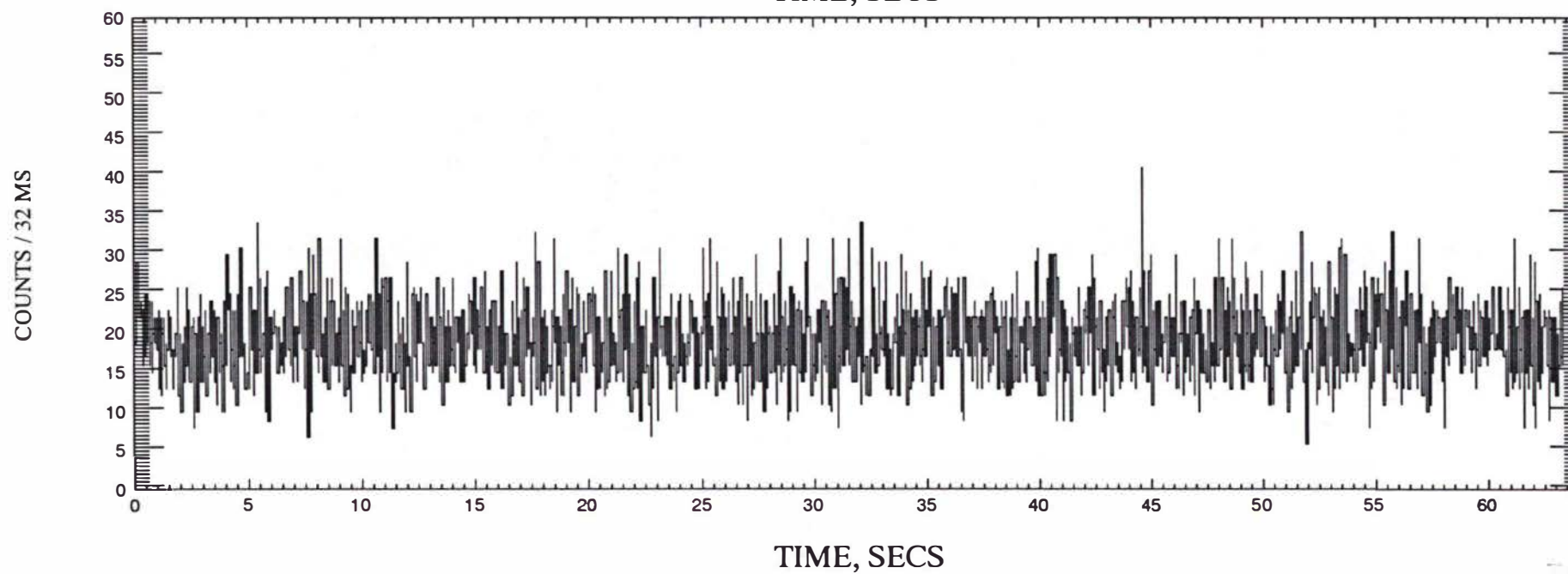
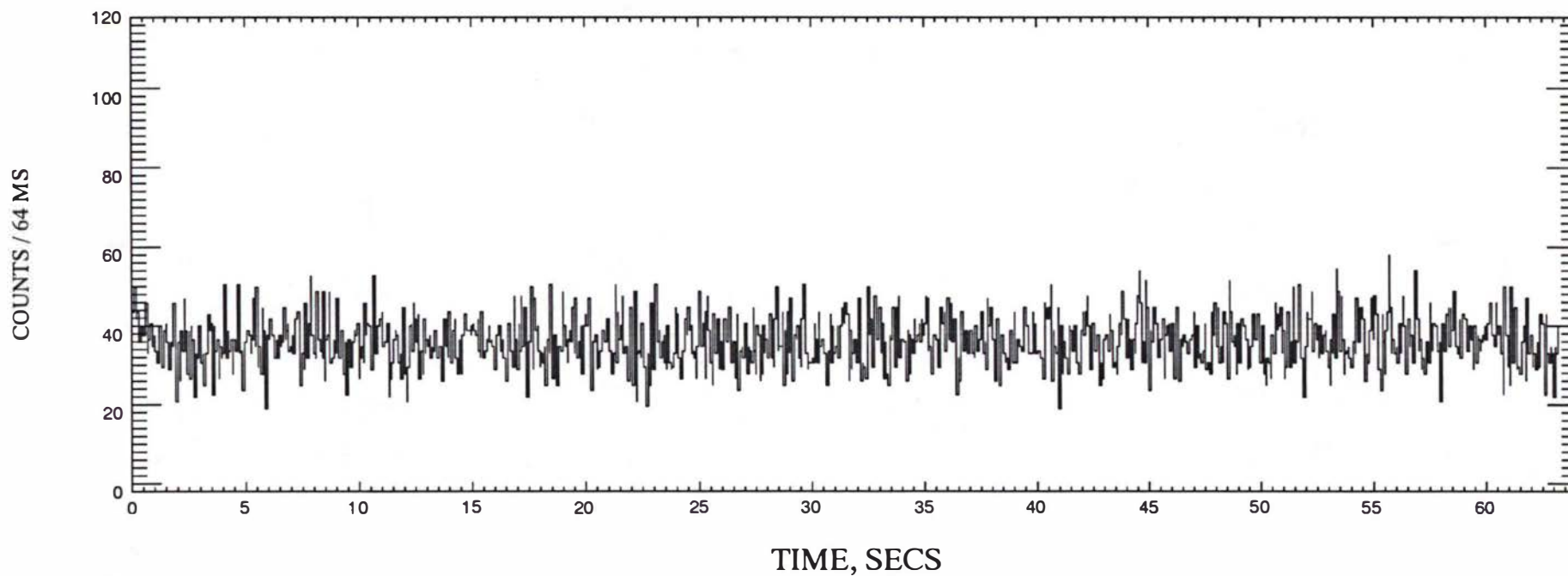
Burst Counter 8 at UT=11.556861720615 h=41604.702 s 11:33:24.702



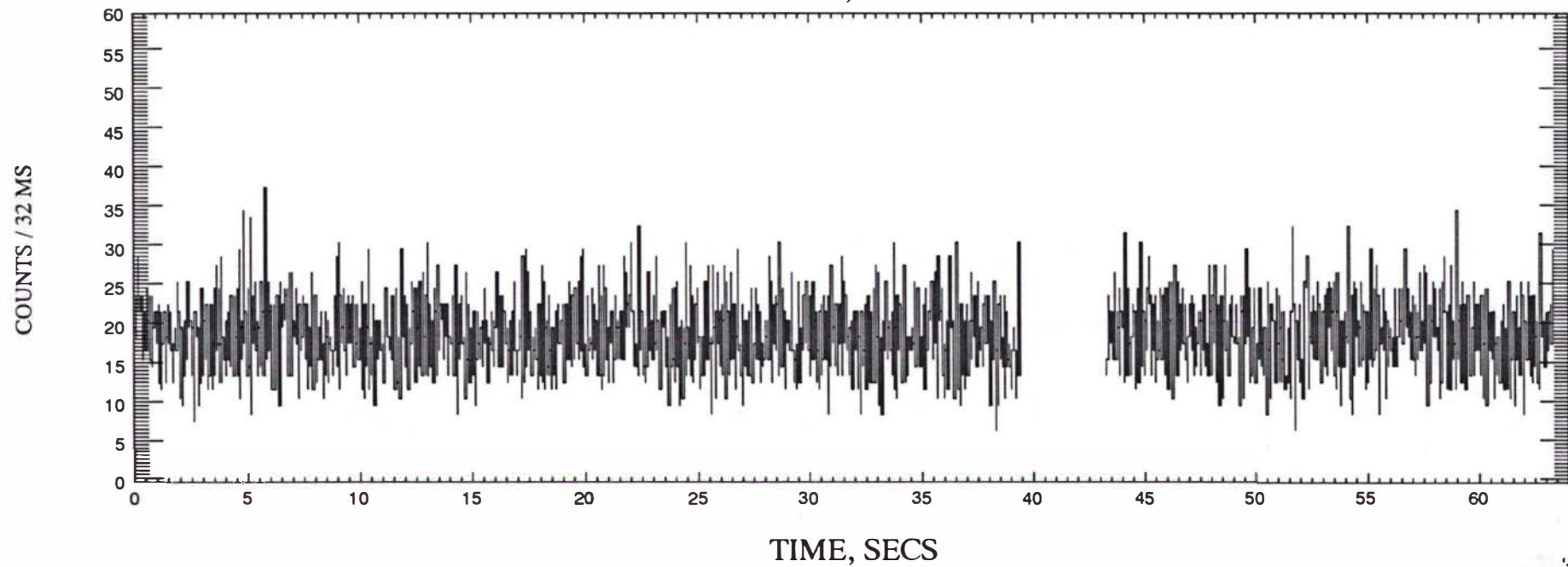
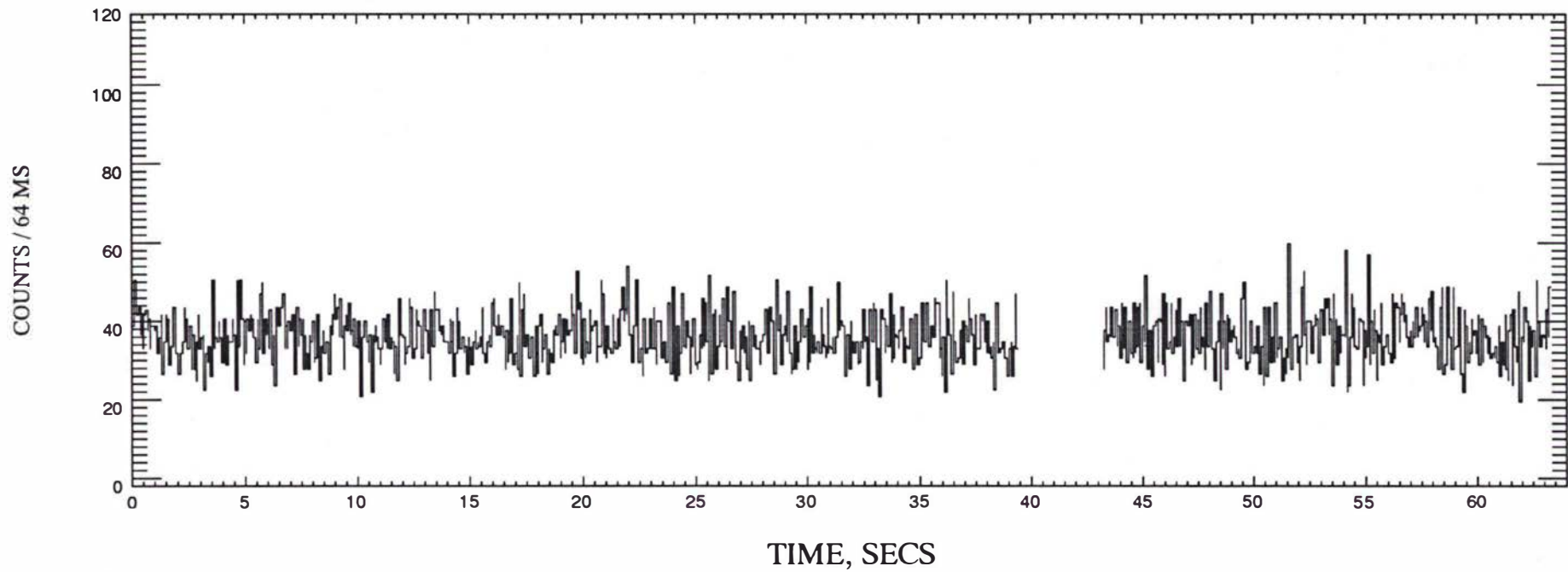
Burst Counter 9 at UT=12.256897197300 h=44124.830 s 12:15:24.830



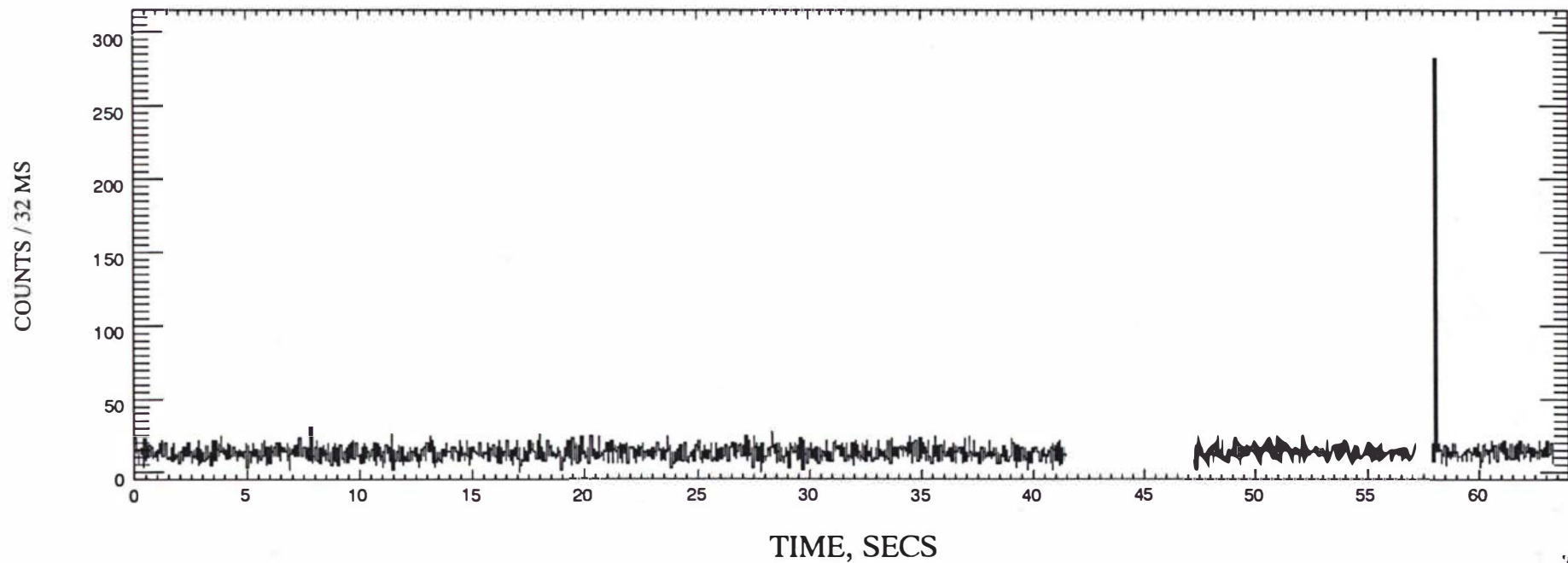
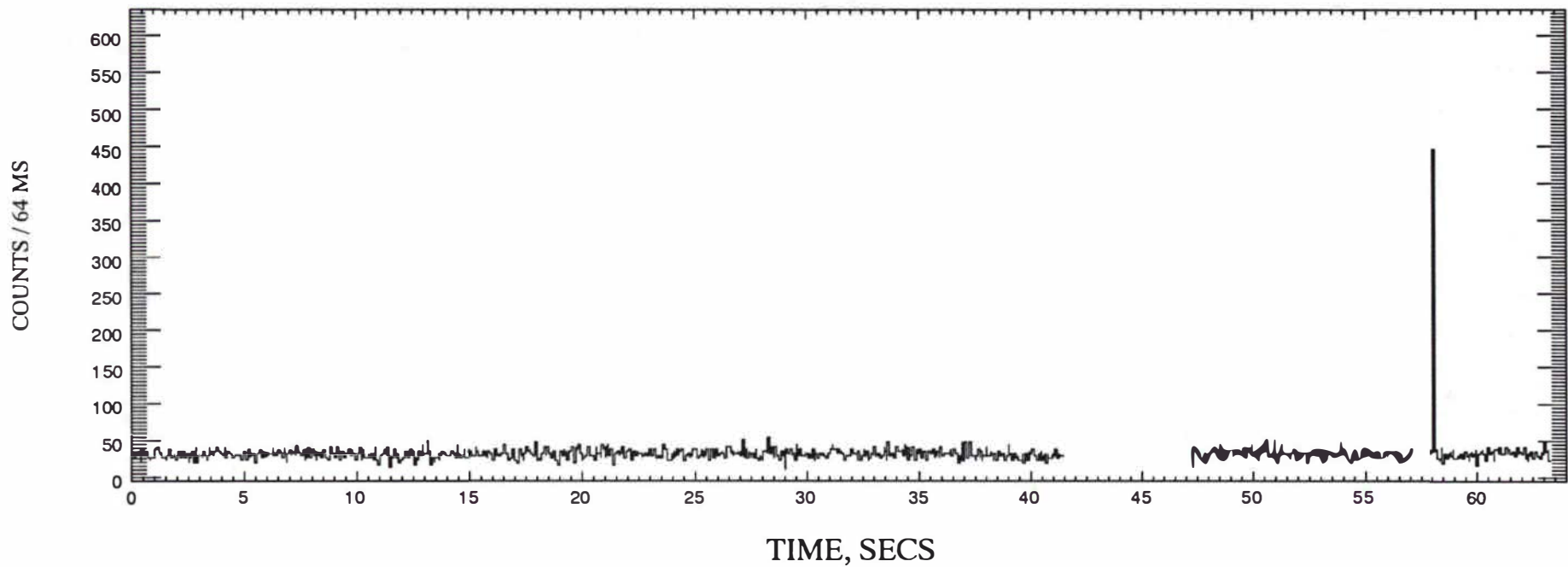
Burst Counter 10 at UT=12.959122700161 h=46652.842 s 12:57:32.842



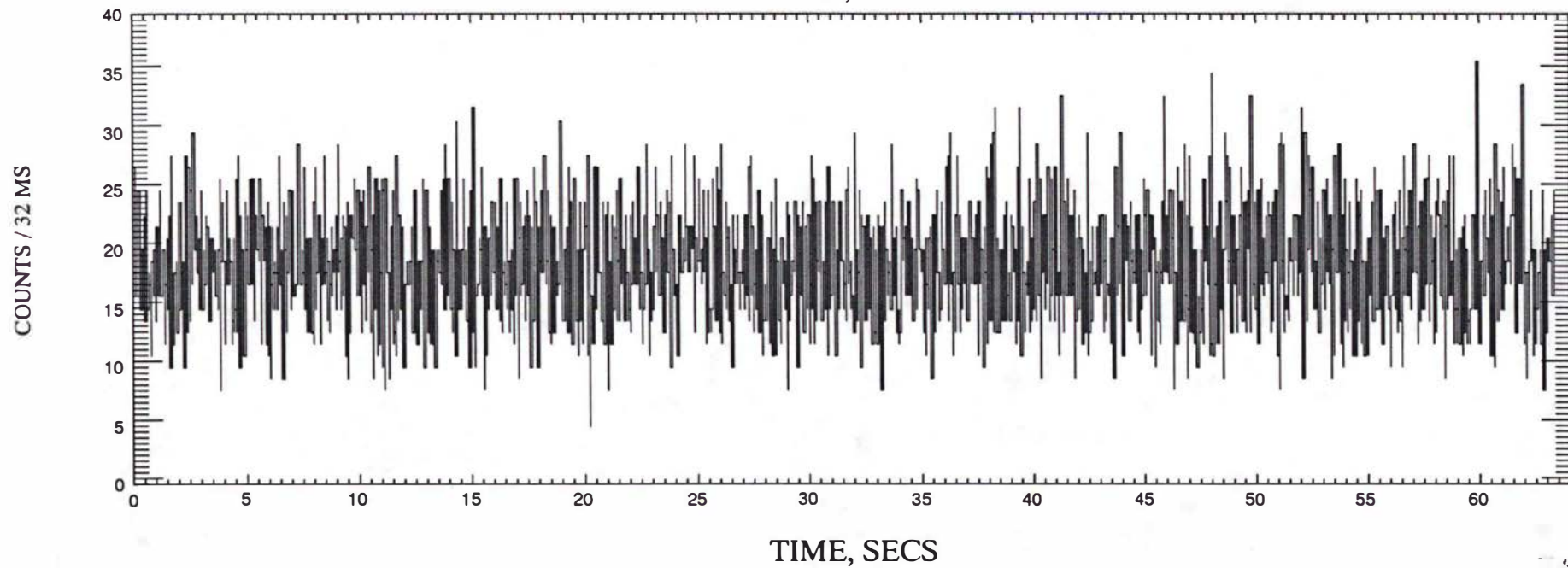
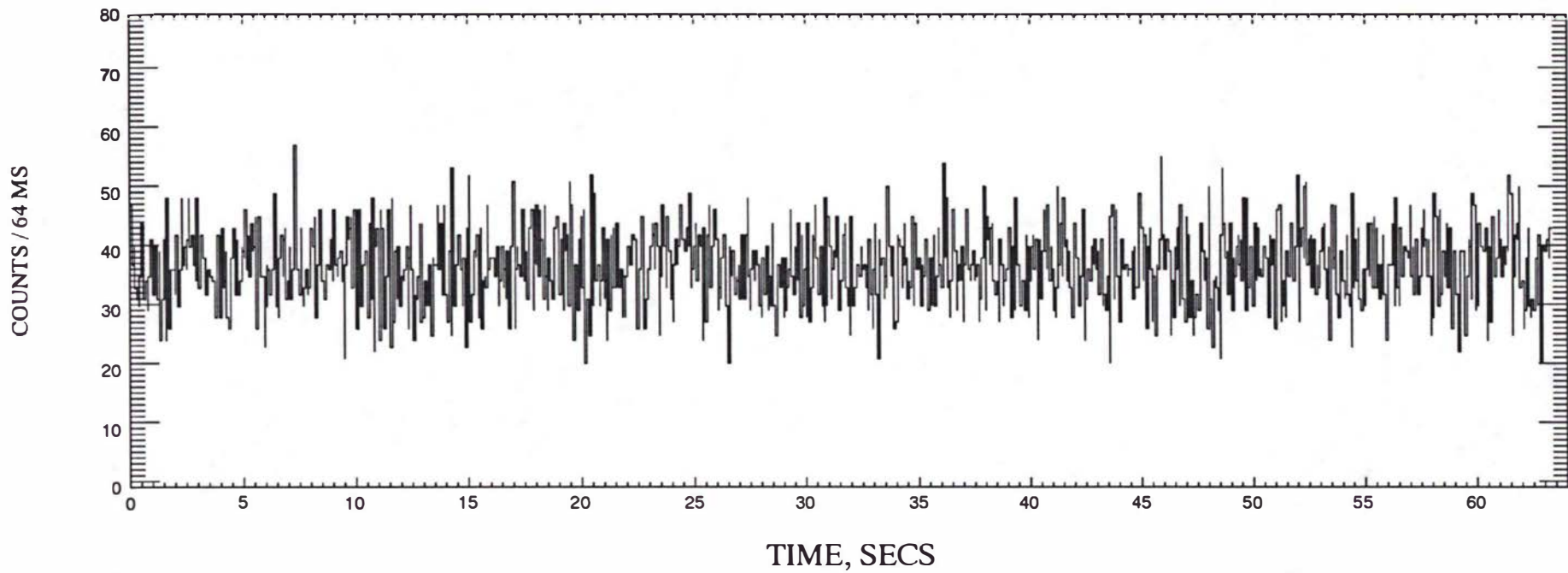
Burst Counter 11 at UT=13.661340450711 h=49180.826 s 13:39:40.826



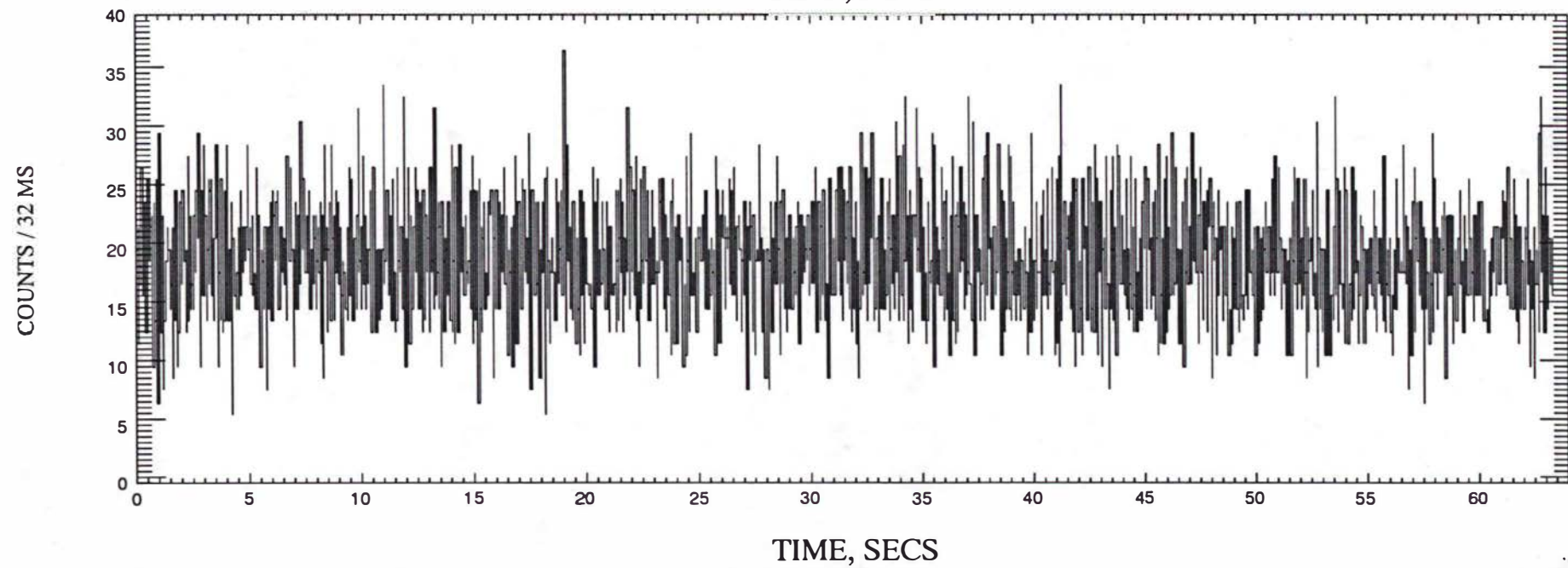
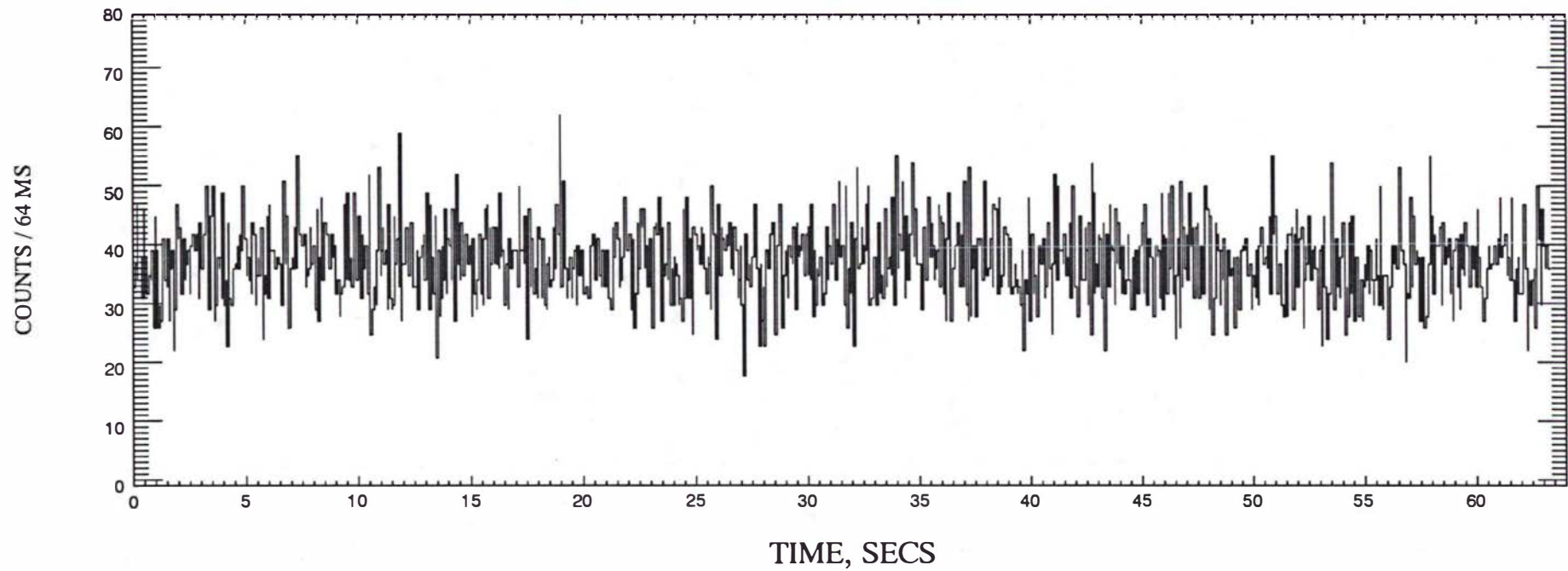
Burst Counter 12 at UT=14.364691908095 h=51712.891 s 14:21:52.891



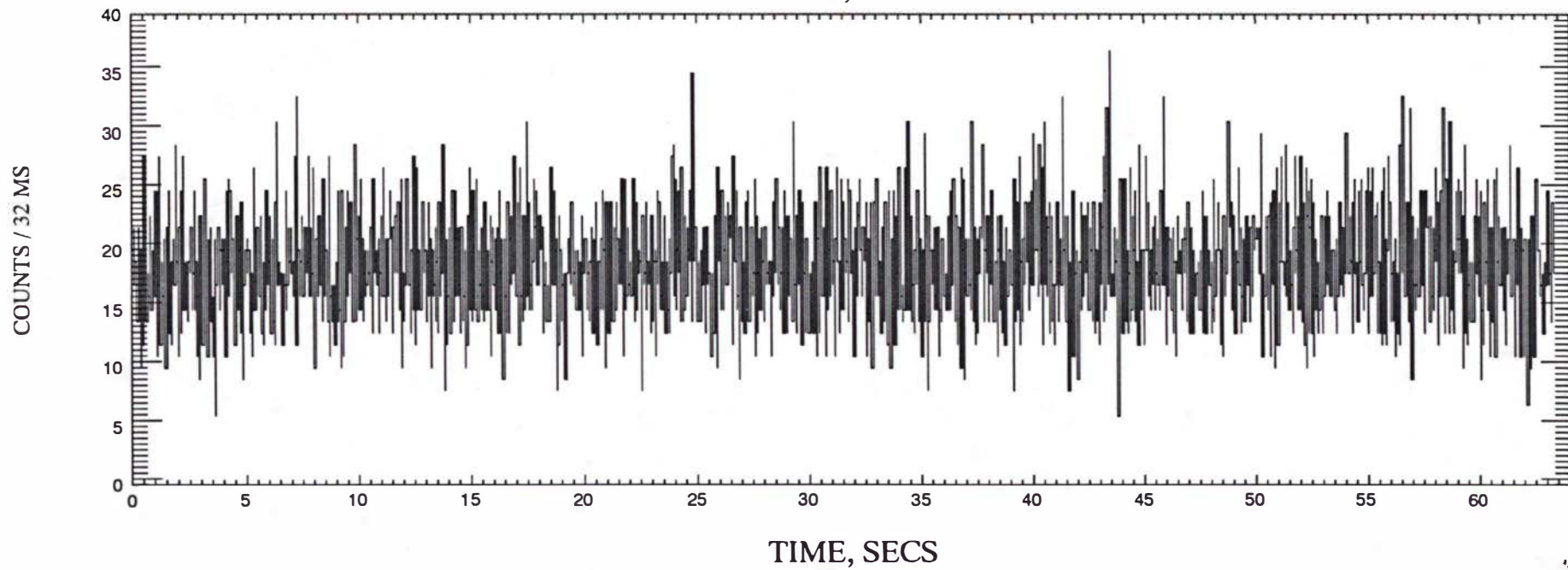
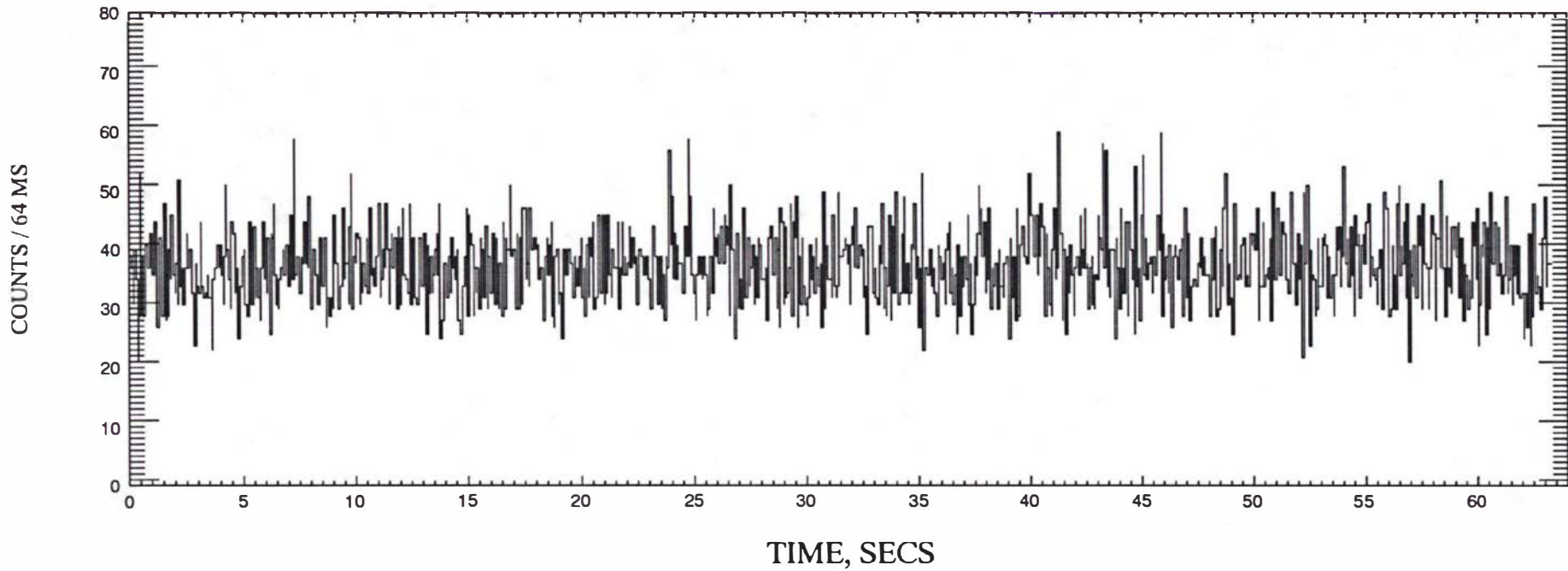
Burst Counter 13 at UT=15.065189632840 h=54234.683 s 15:03:54.683



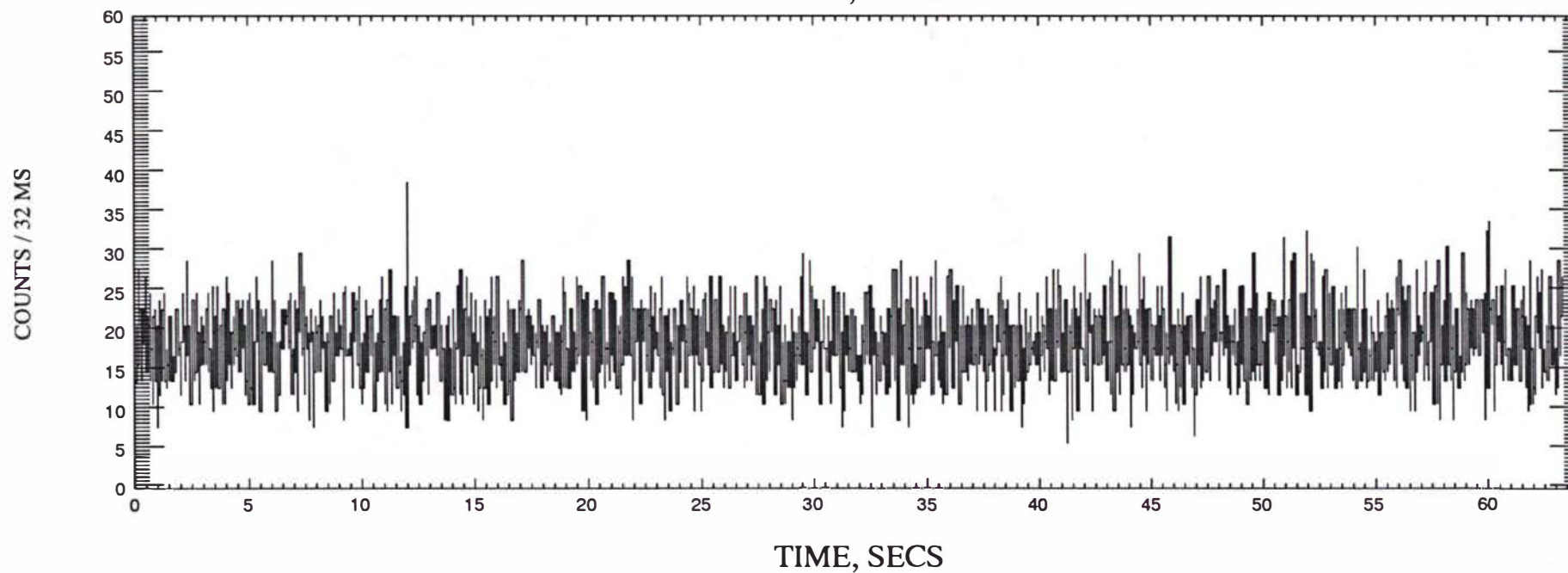
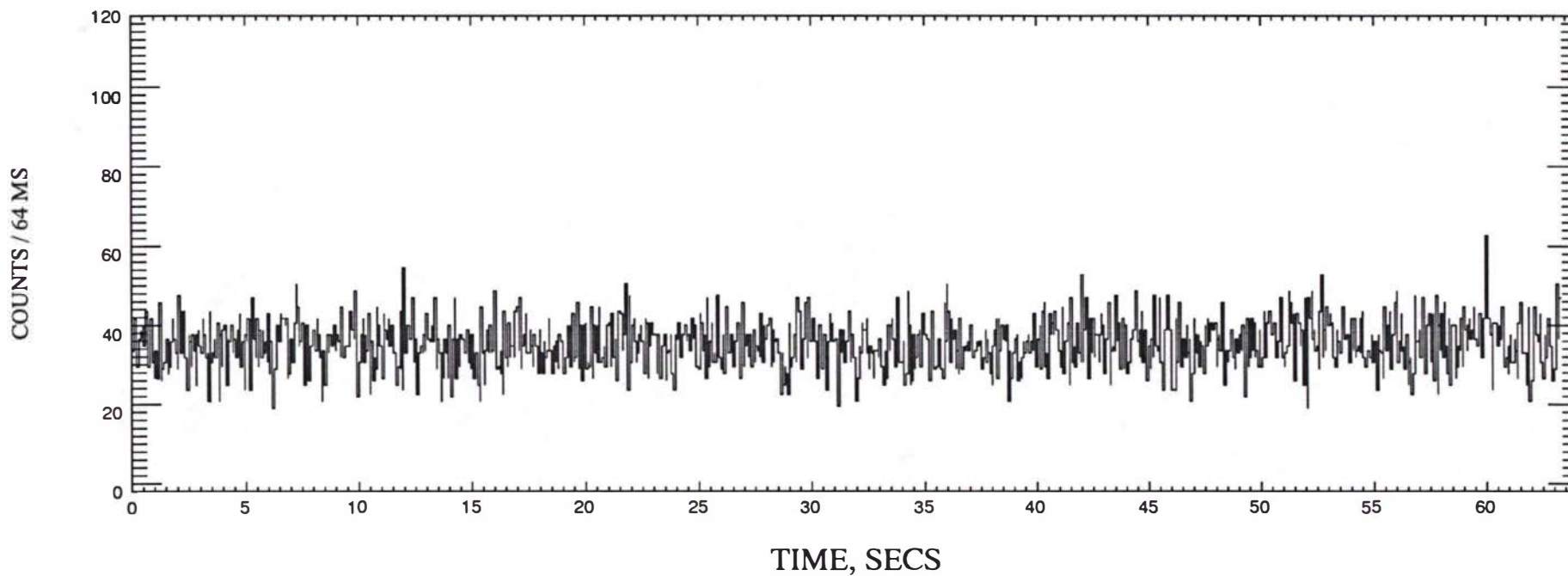
Burst Counter 14 at UT=15.772486402724 h=56780.951 s 15:46:20.951



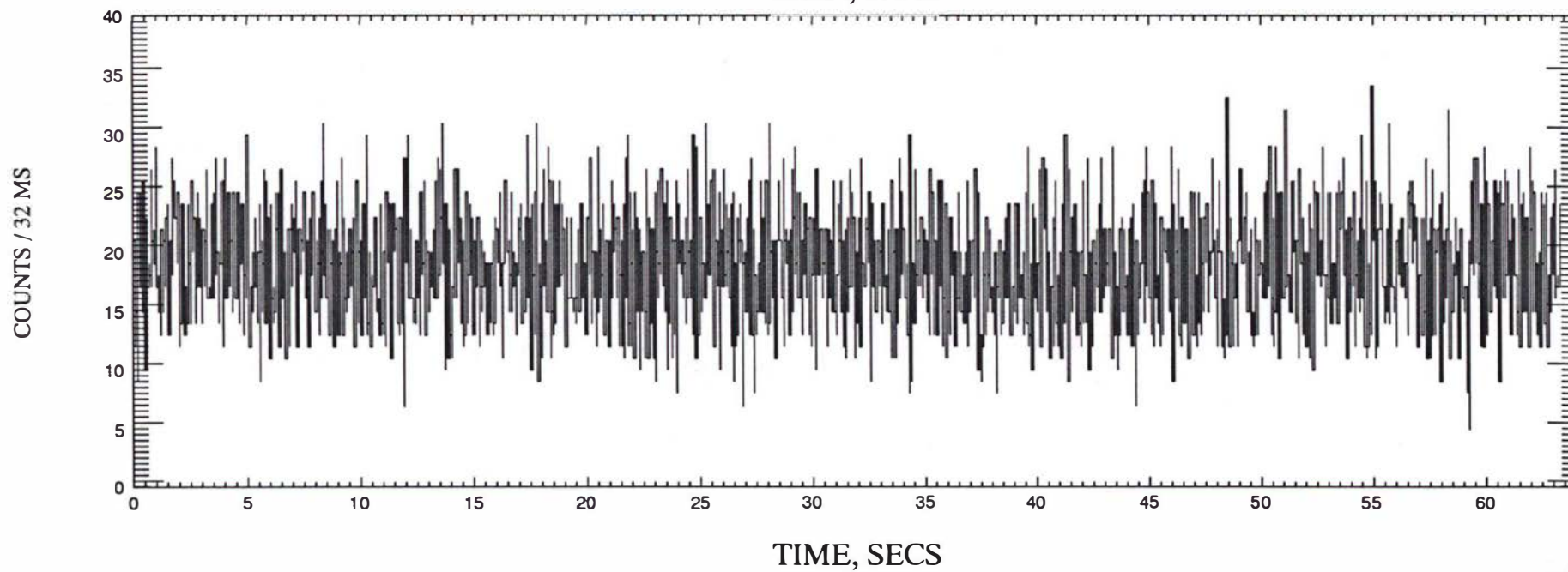
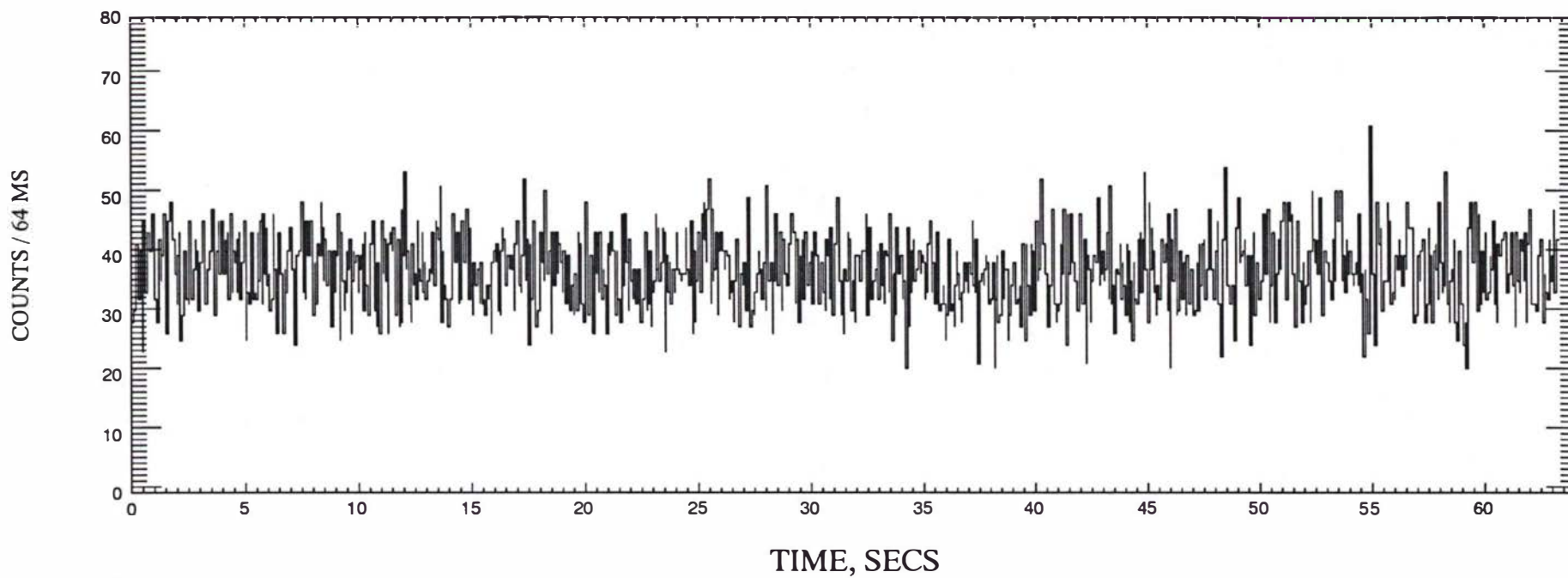
Burst Counter 15 at UT=16.484301401774 h=59343.485 s 16:29:03.485



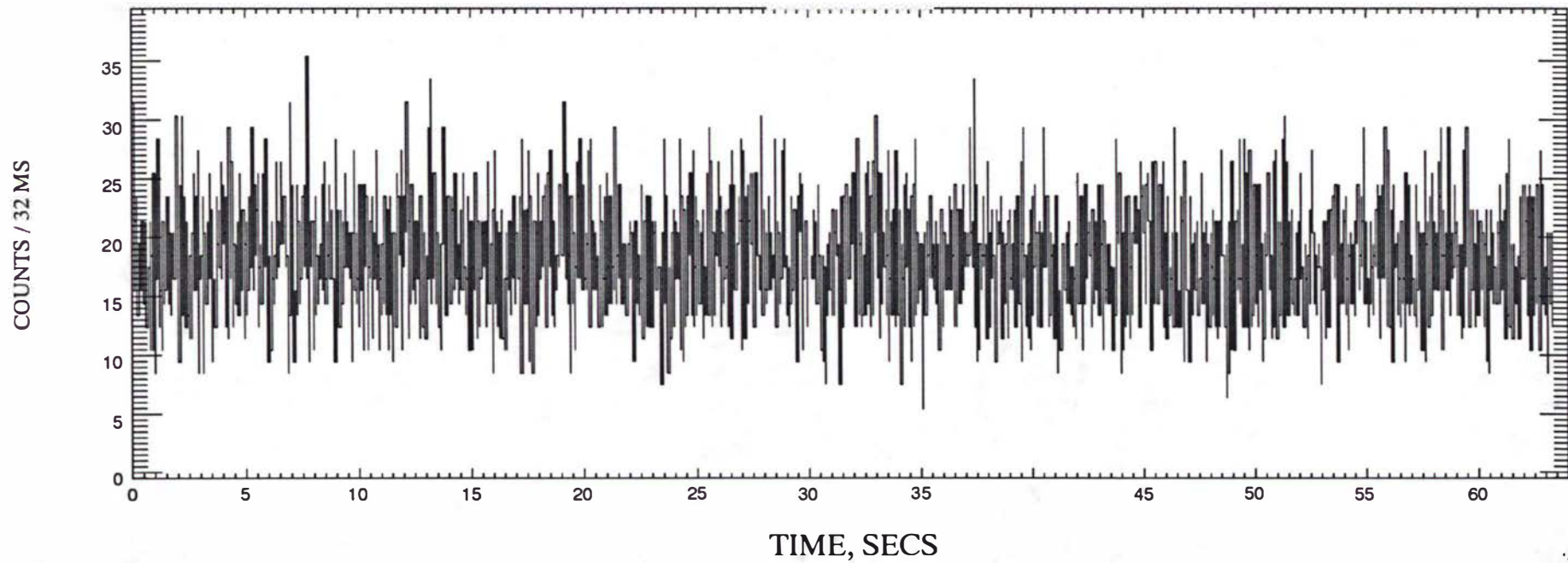
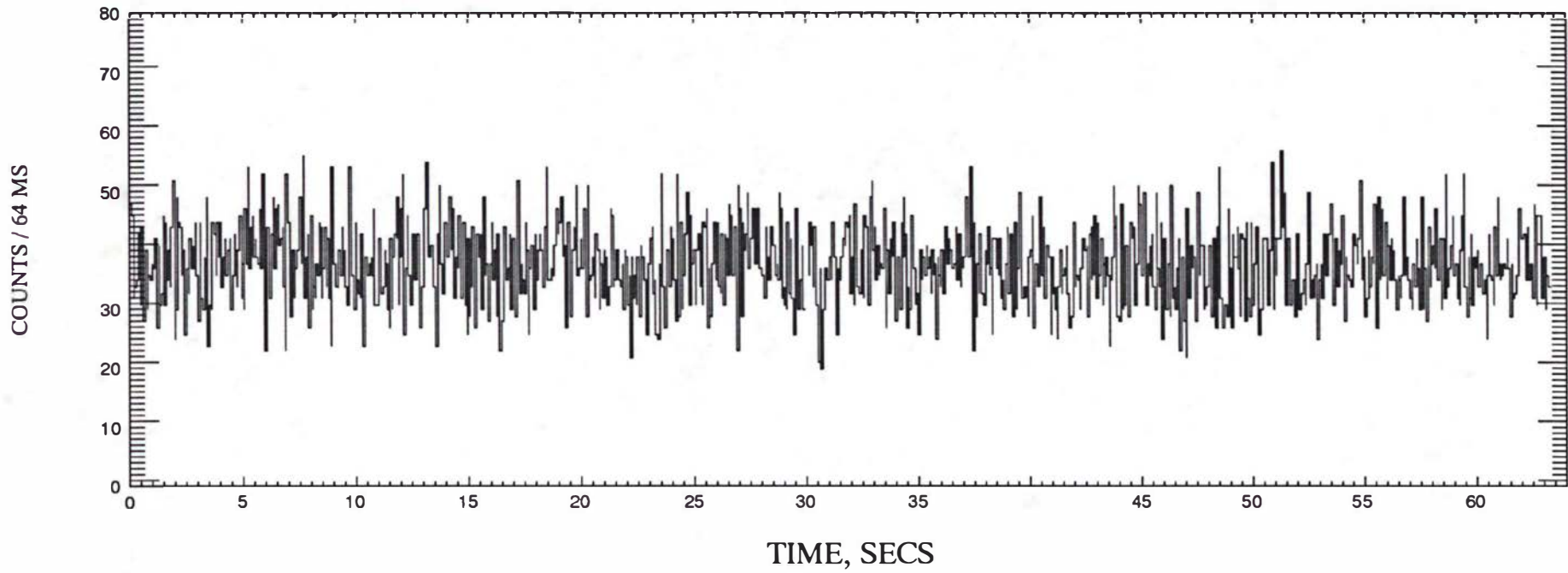
Burst Counter 0 at UT=17.191496170892 h=61889.386 s 17:11:29.386



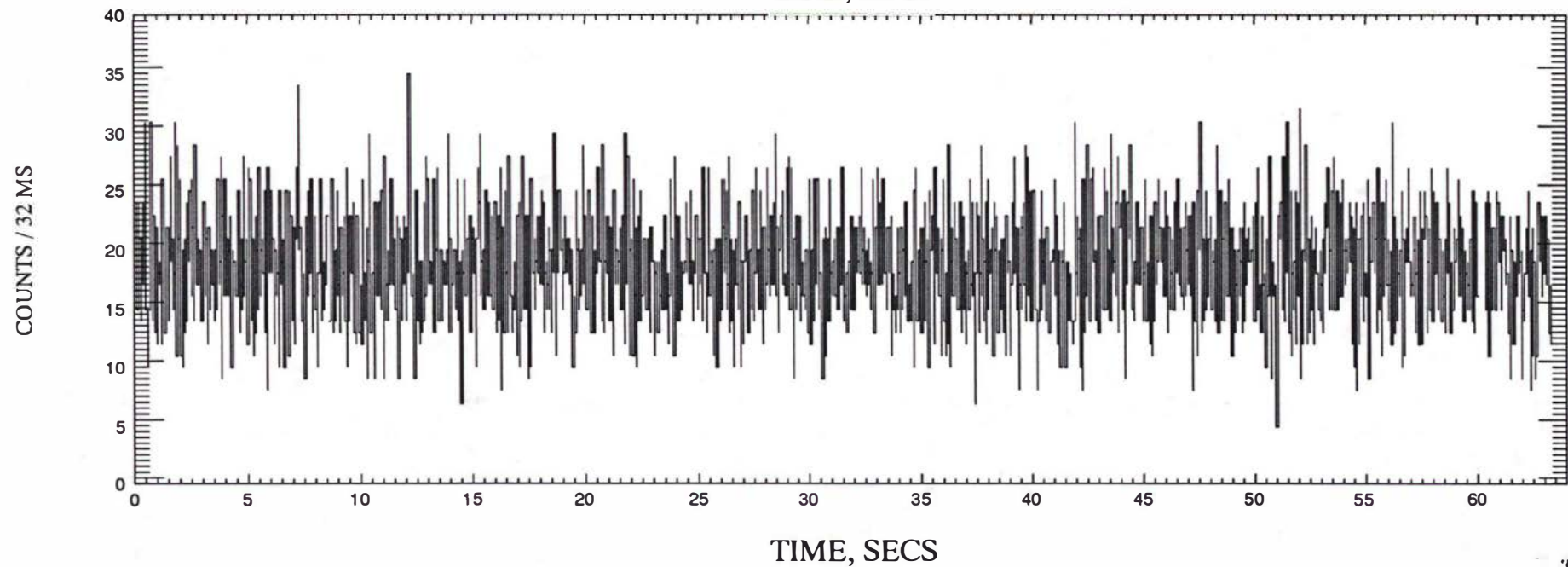
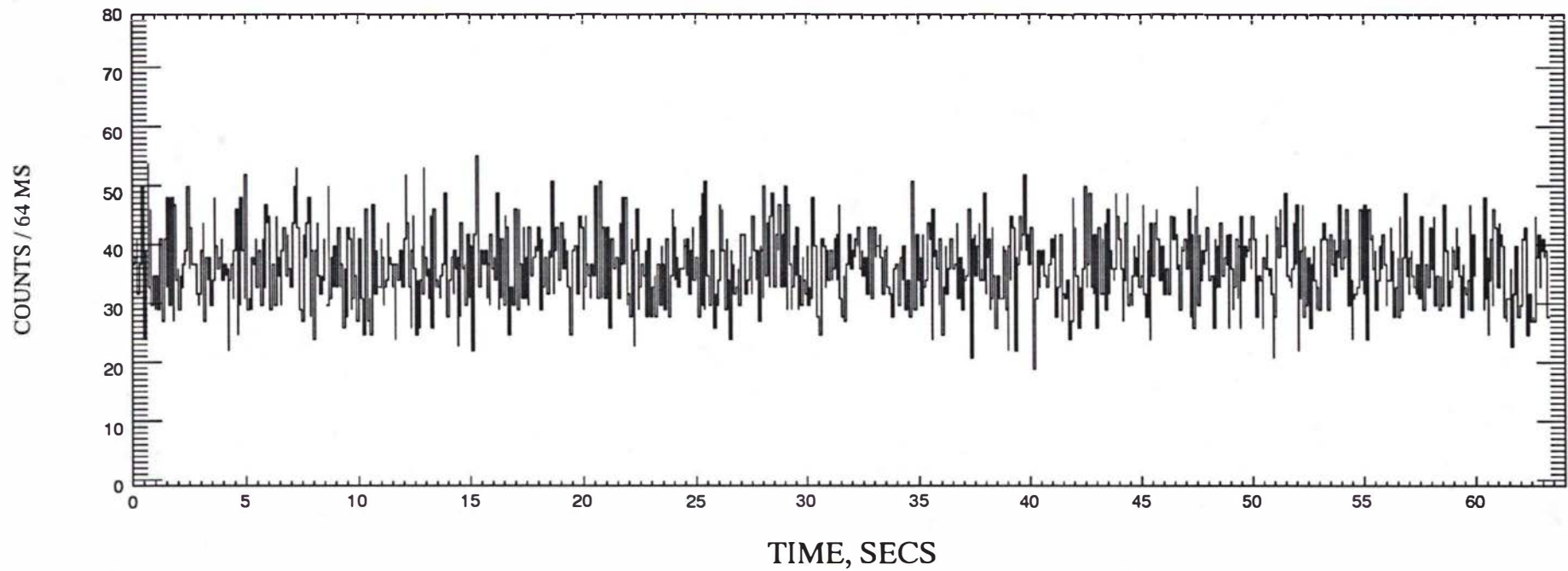
Burst Counter 1 at UT=17.895832871331 h=64424.998 s 17:53:44.998



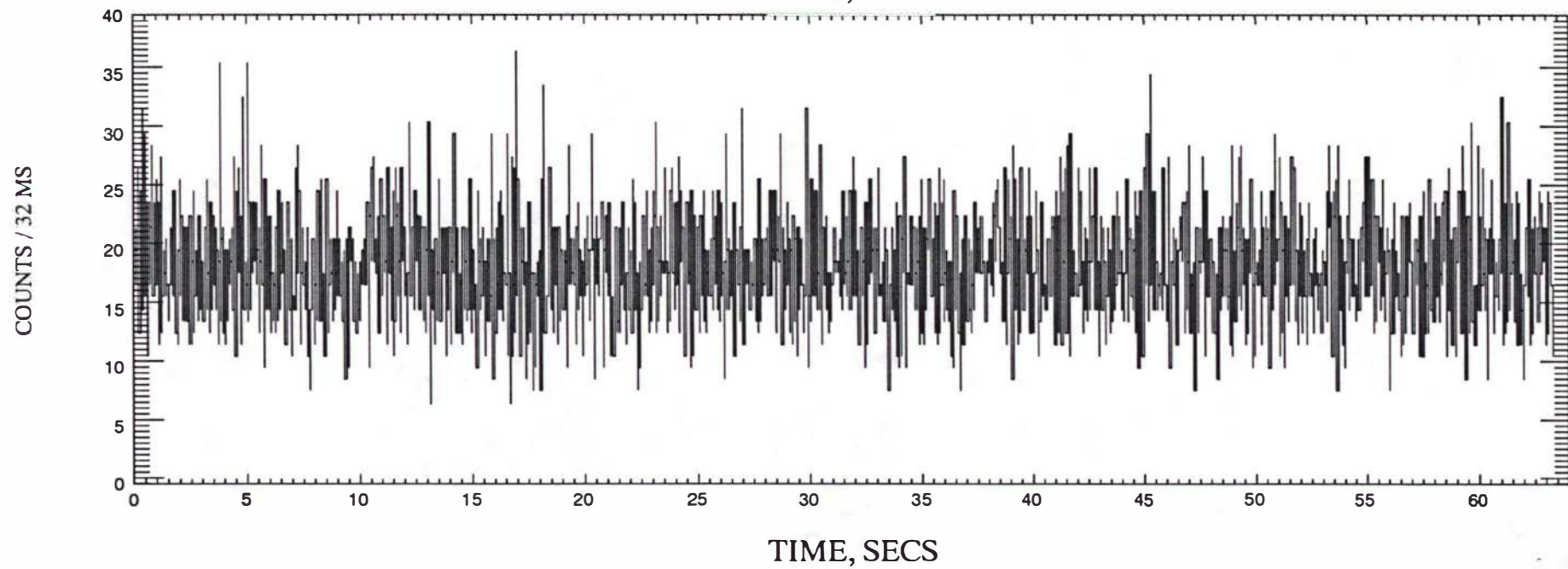
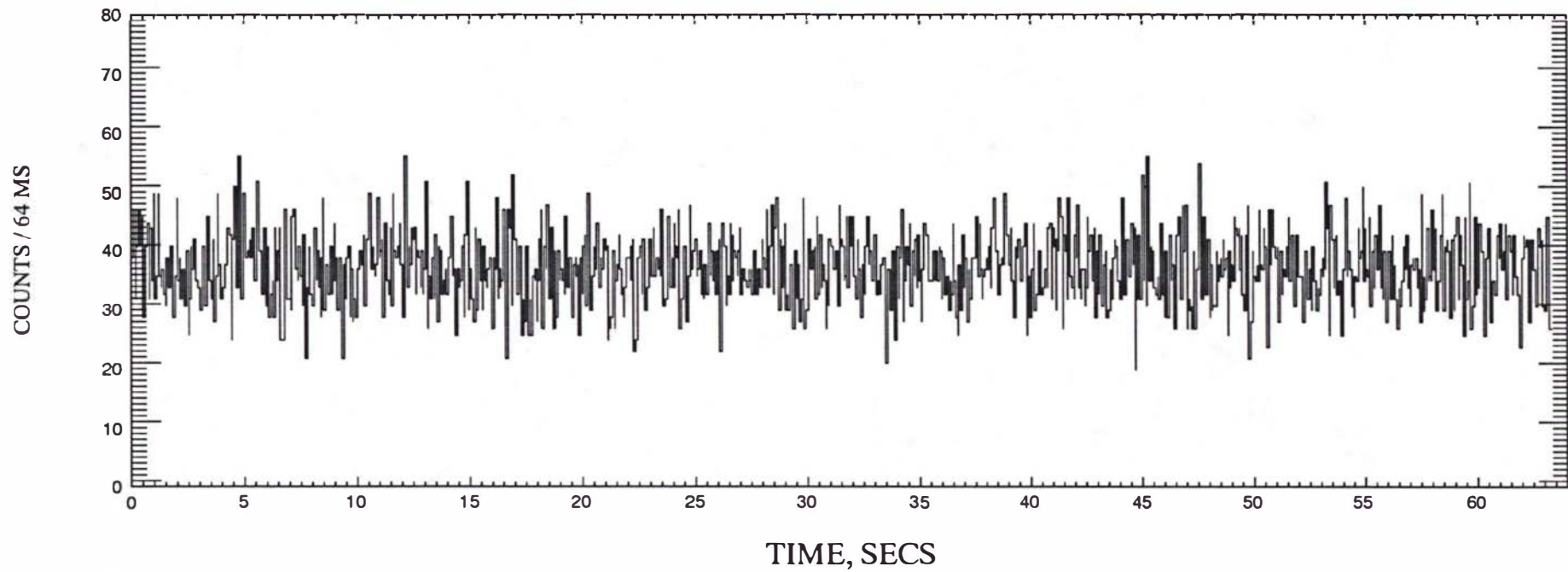
Burst Counter 2 at UT=18.596660457187 h=66947.978 s 18:35:47.978



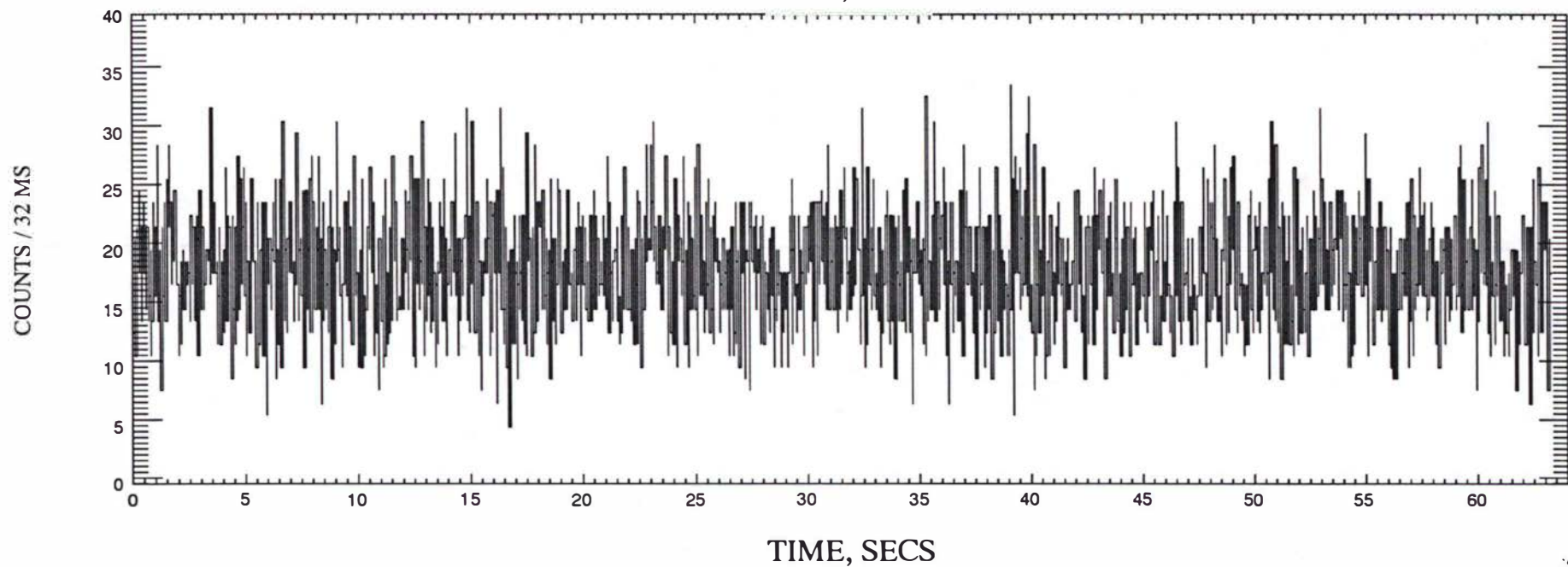
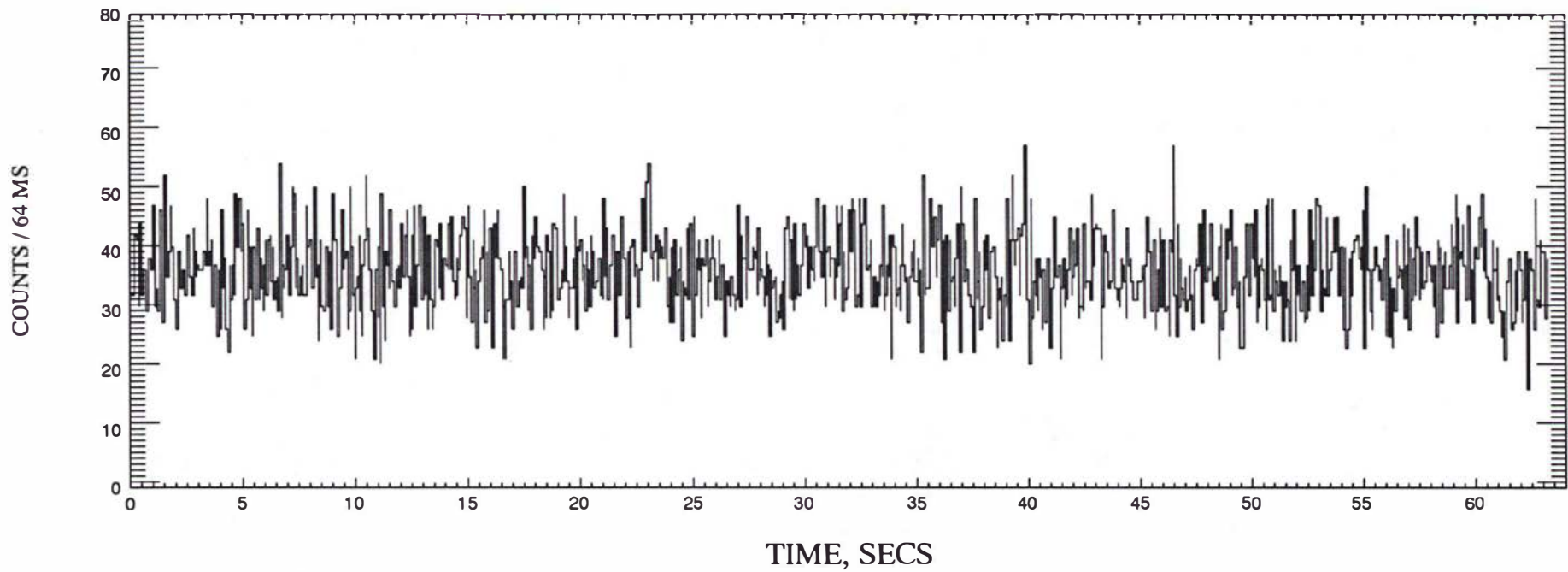
Burst Counter 3 at UT=19.297524935404 h=69471.090 s 19:17:51.090



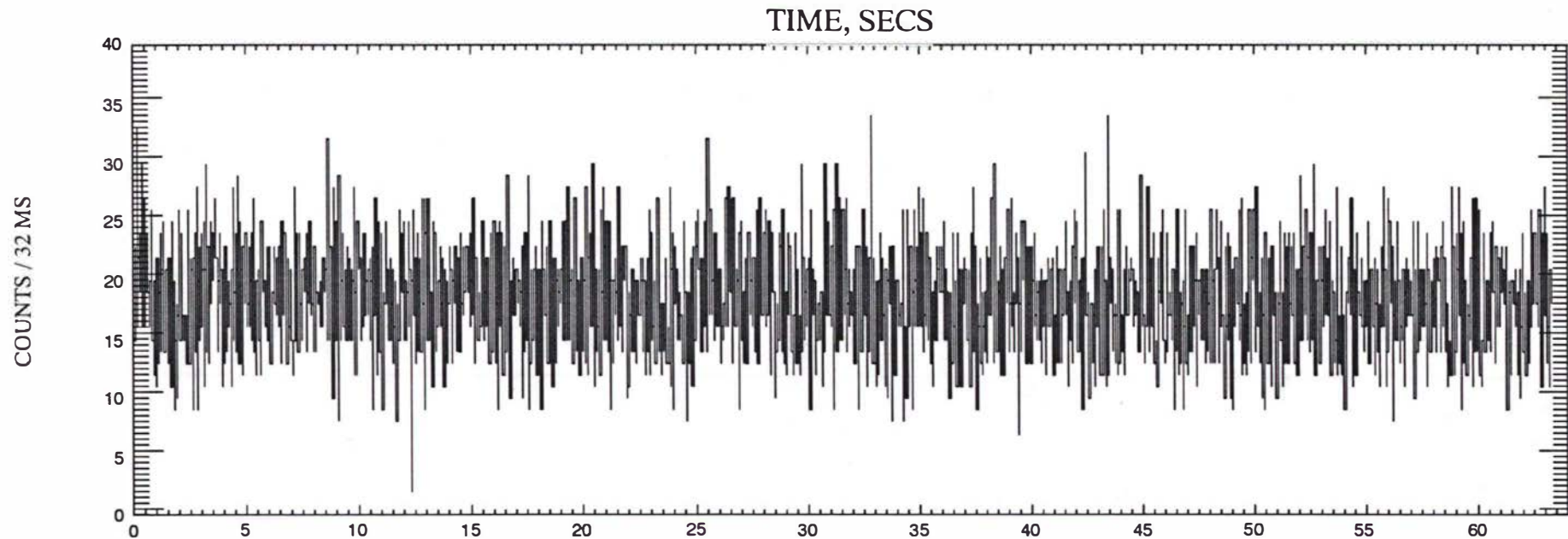
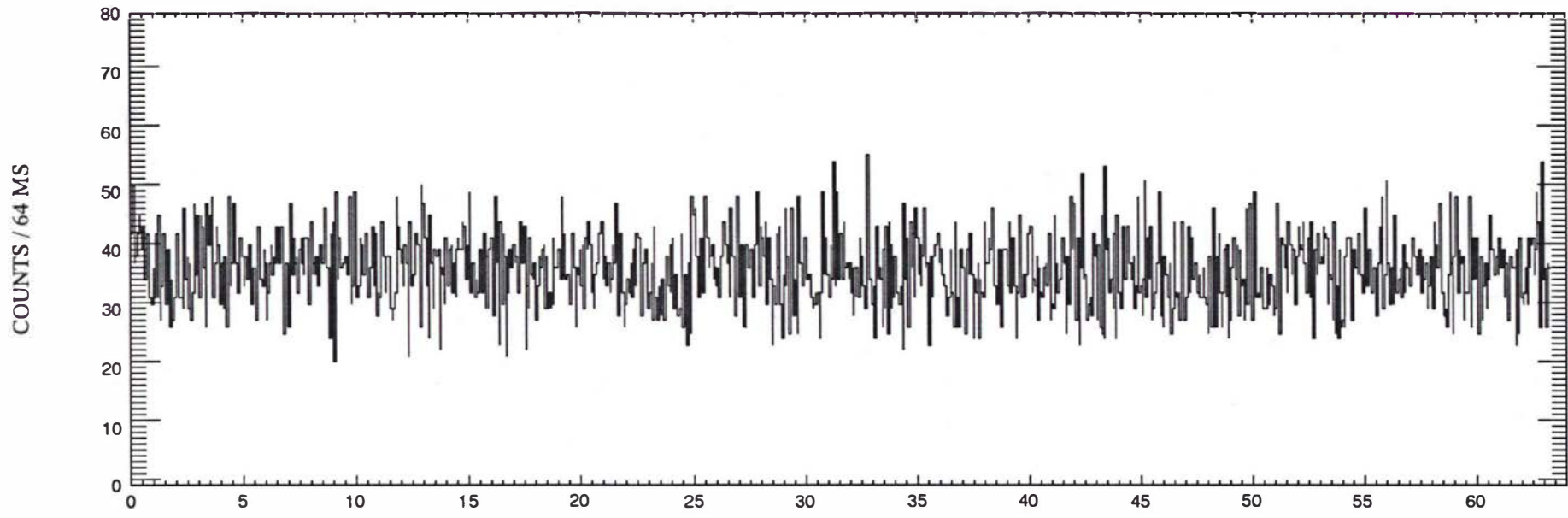
Burst Counter 4 at UT=20.013018319872 h=72046.866 s 20:00:46.866



Burst Counter 5 at UT=20.728997815450 h=74624.392 s 20:43:44.392

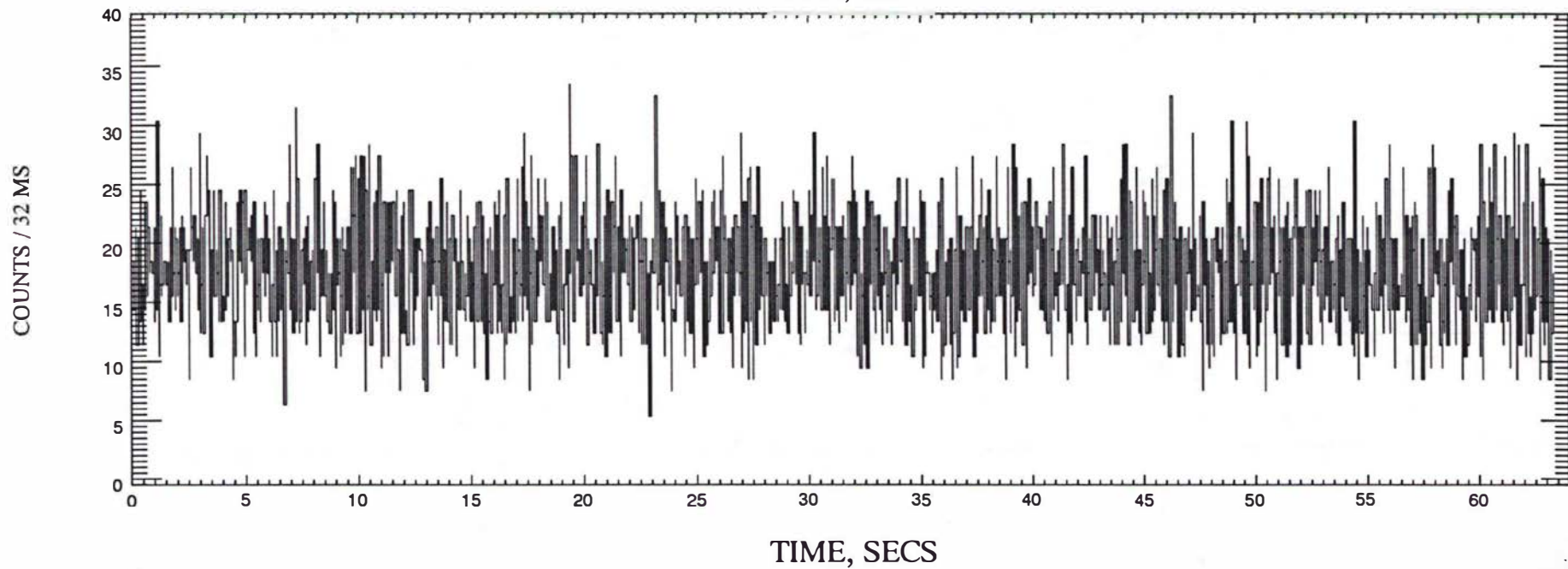
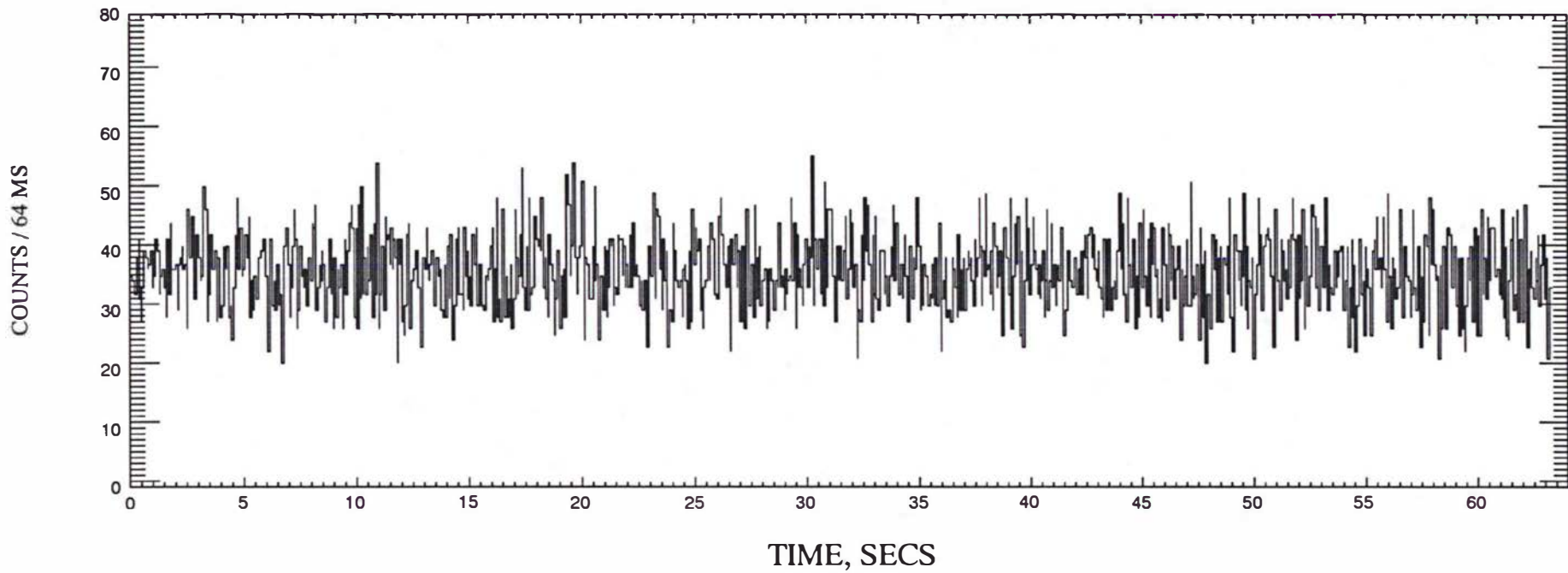


Burst Counter 6 at UT=21.694769532945 h=78101.170 s 21:41:41.170



TIME, SECS

Burst Counter 7 at UT=23.017284795973 h=82862.225 s 23:01:02.225



GRBM 19990824 47630

ULYSSES RT

26 / 08 / 09

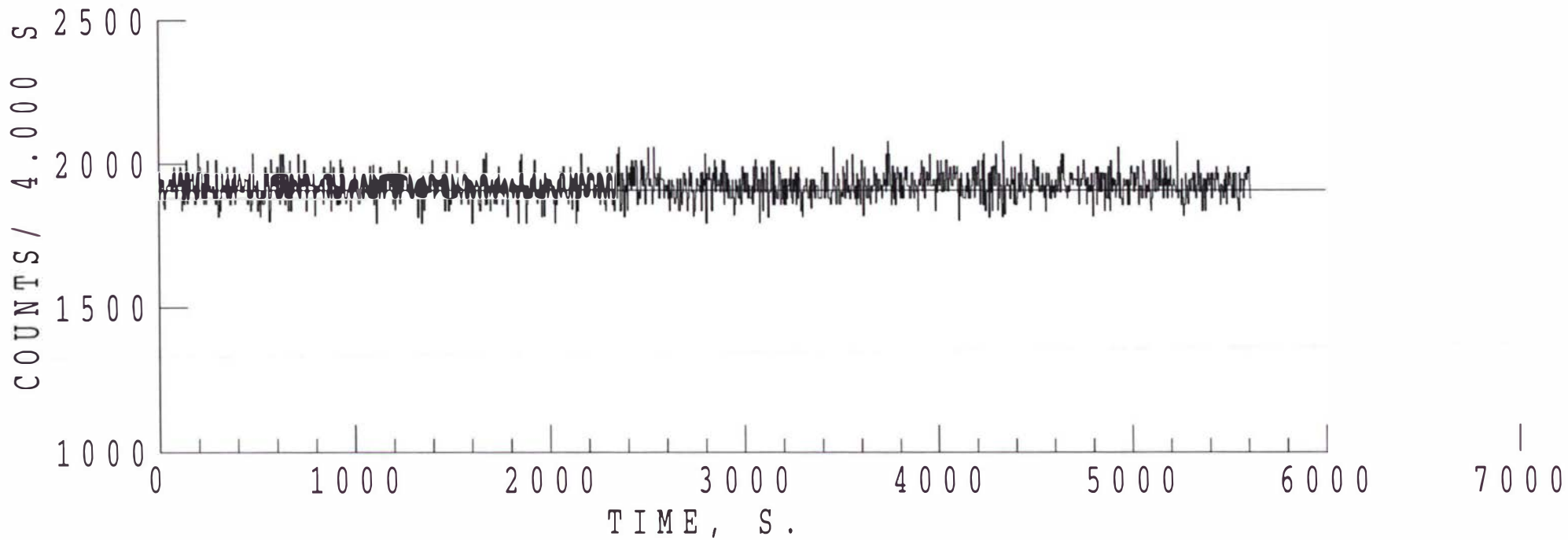
24 / 08 / 99 44820.035 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

24/01/99 70780.859

10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S

4500

DETECTOR 2 - N. ECLIPTIC

Lat. Lat = +30

05/02/01

3500

2500

1500

500

100

200

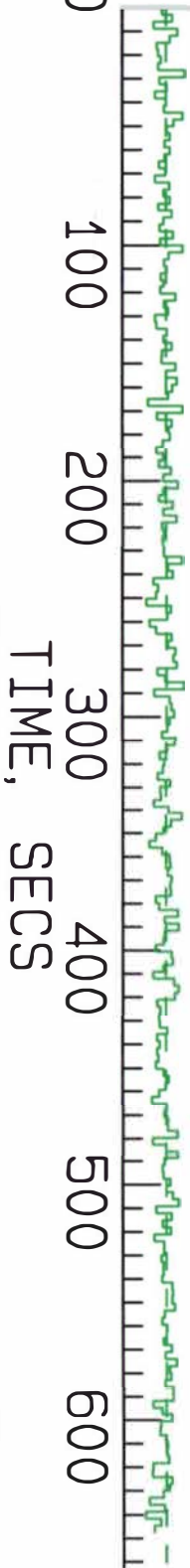
300

400

500

600

TIME, SECS



KONUS

24/01/99 70780.859

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

4600

DETECTOR 1 - S. ECLIPHTIC

3600

2600

1600

600

100

200

300

400

500

600

TIME, SECS

05/02/01

KONUS RI

6 / 7 / 99

ULYSSES RT

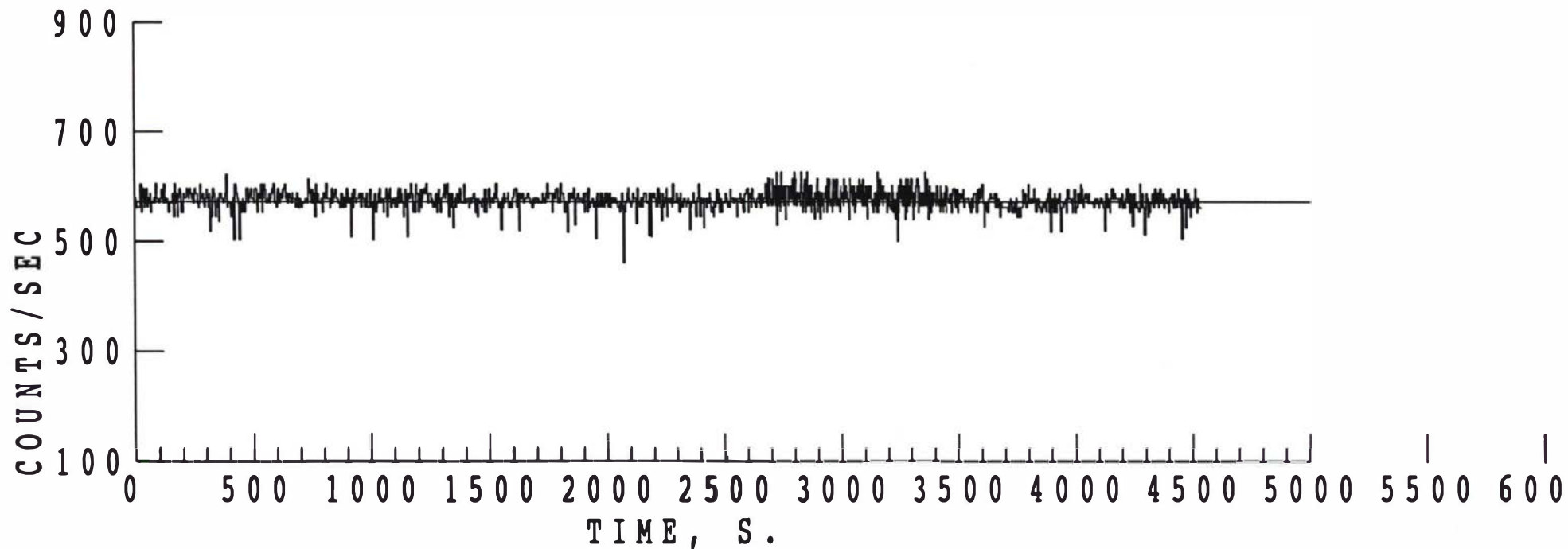
24 / 1 / 99 68796.977 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Jan 26 09:22:25 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 Jan 1999 11:15:09 -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.: 7349

TIME: TJD=1202 SECONDS=68766

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL: N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Tue Jan 26 09:30:02 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 26 Jan 1999 11:16:24 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@heavx.gsfc.nasa.gov, barthelmy@heavx.gsfc.nasa.gov,
bacodine@heawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@heavx.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.: 7350

TIME: TJD=1202 SECONDS=76023

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

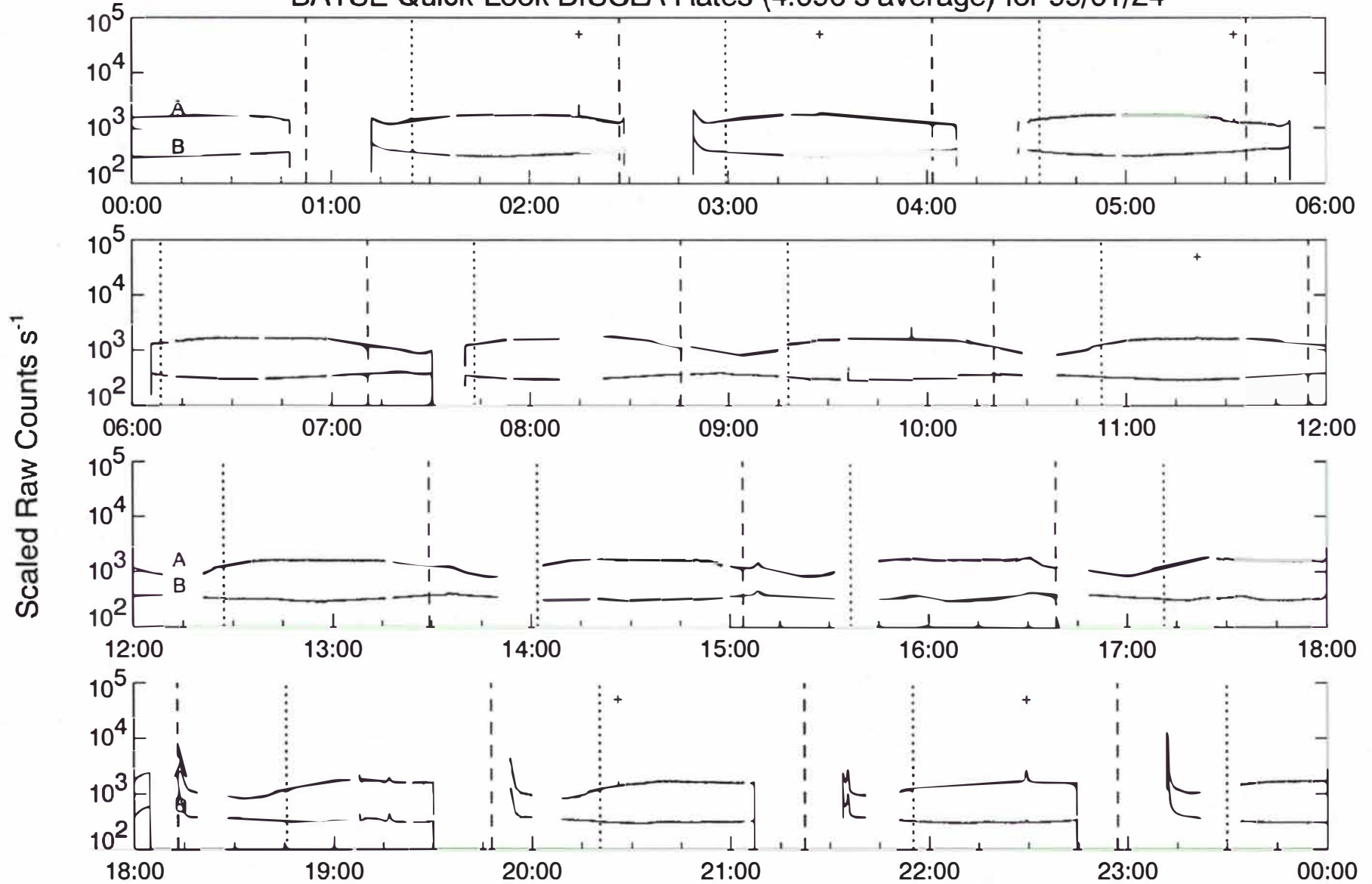
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/24

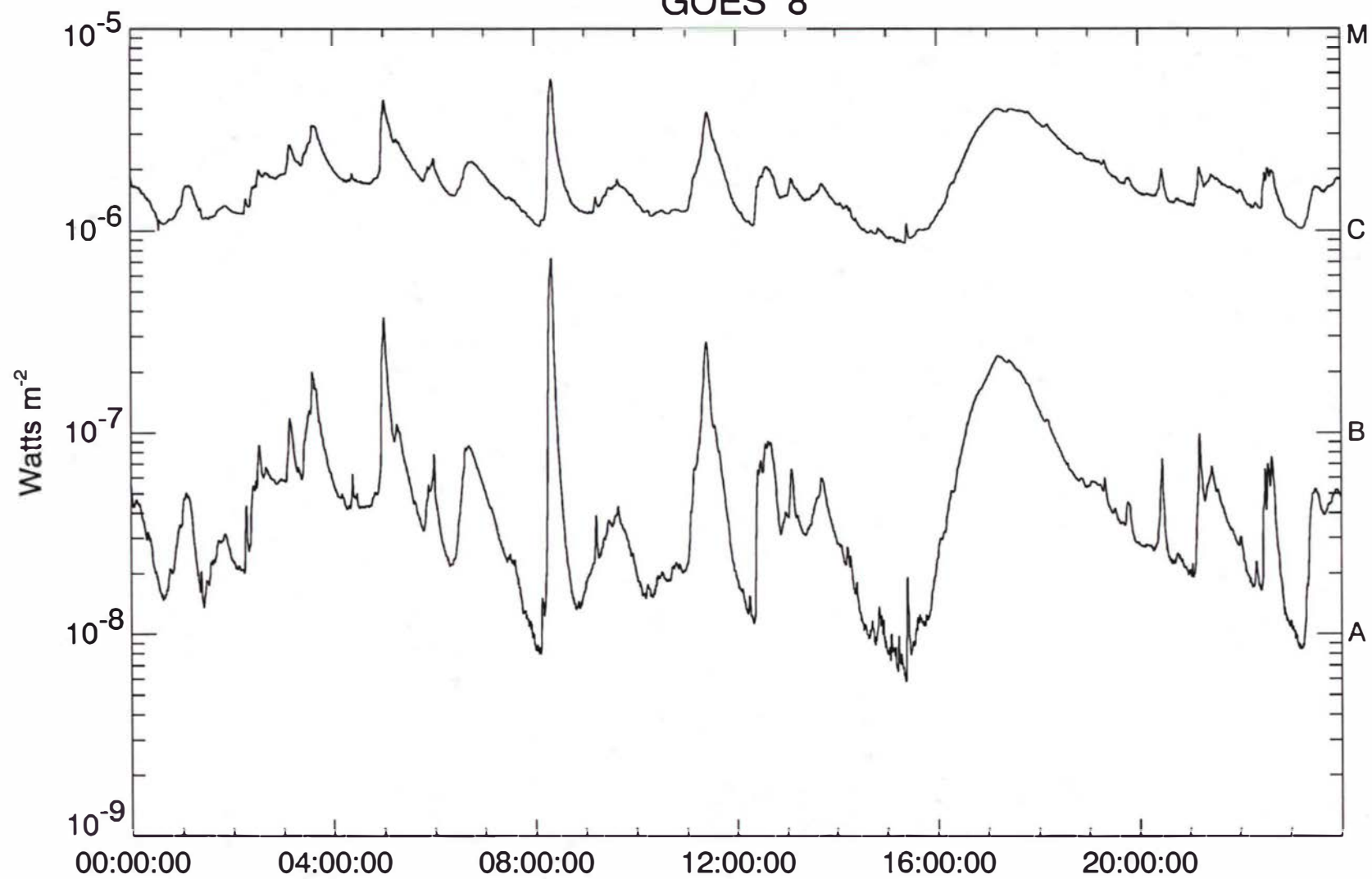


Current Time: 99/01/28, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/24, 0000:00

Plot created: 99/01/28, 1009

Channel 1 (1.0 - 8.0 Angstroms)

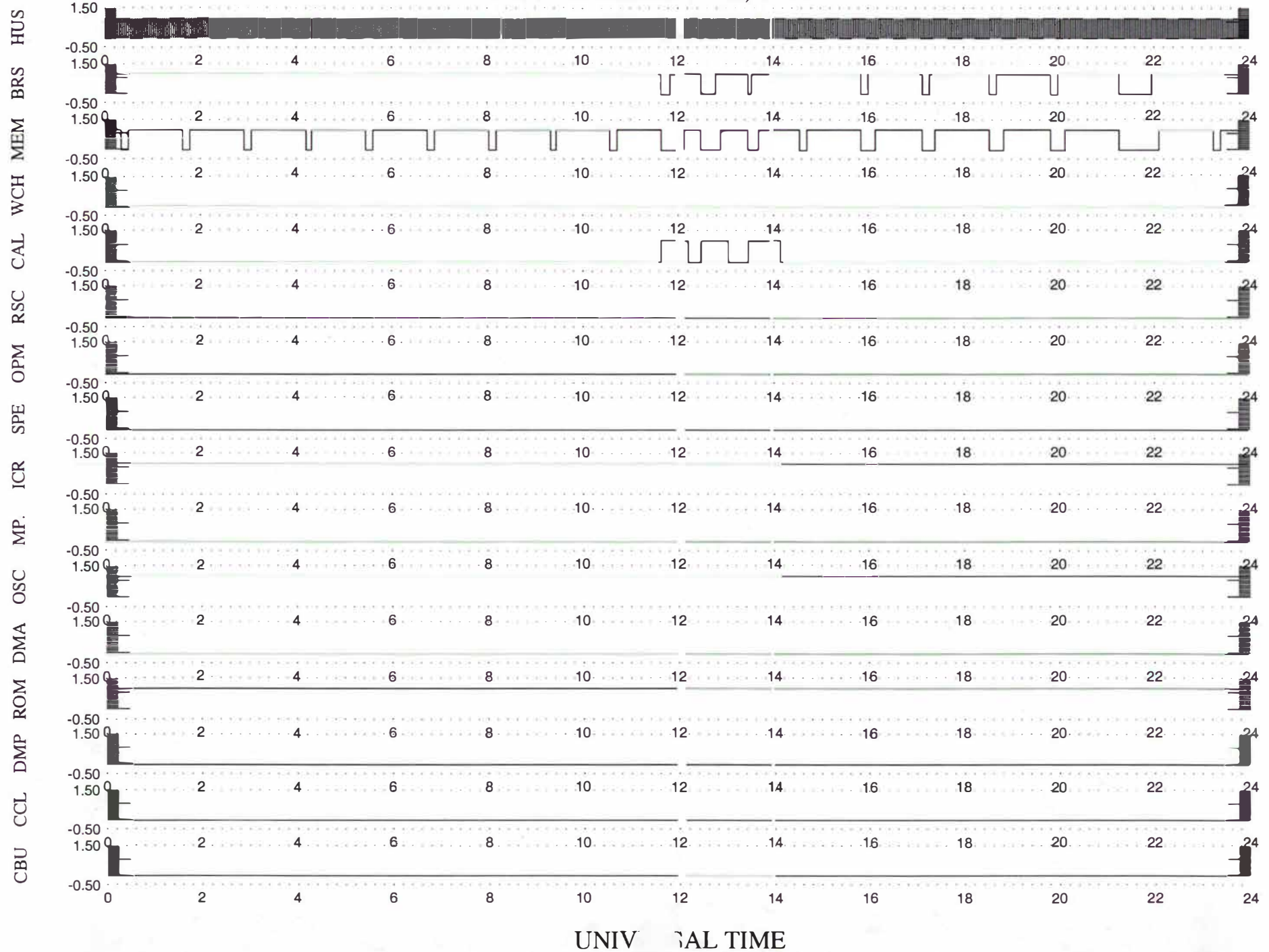
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

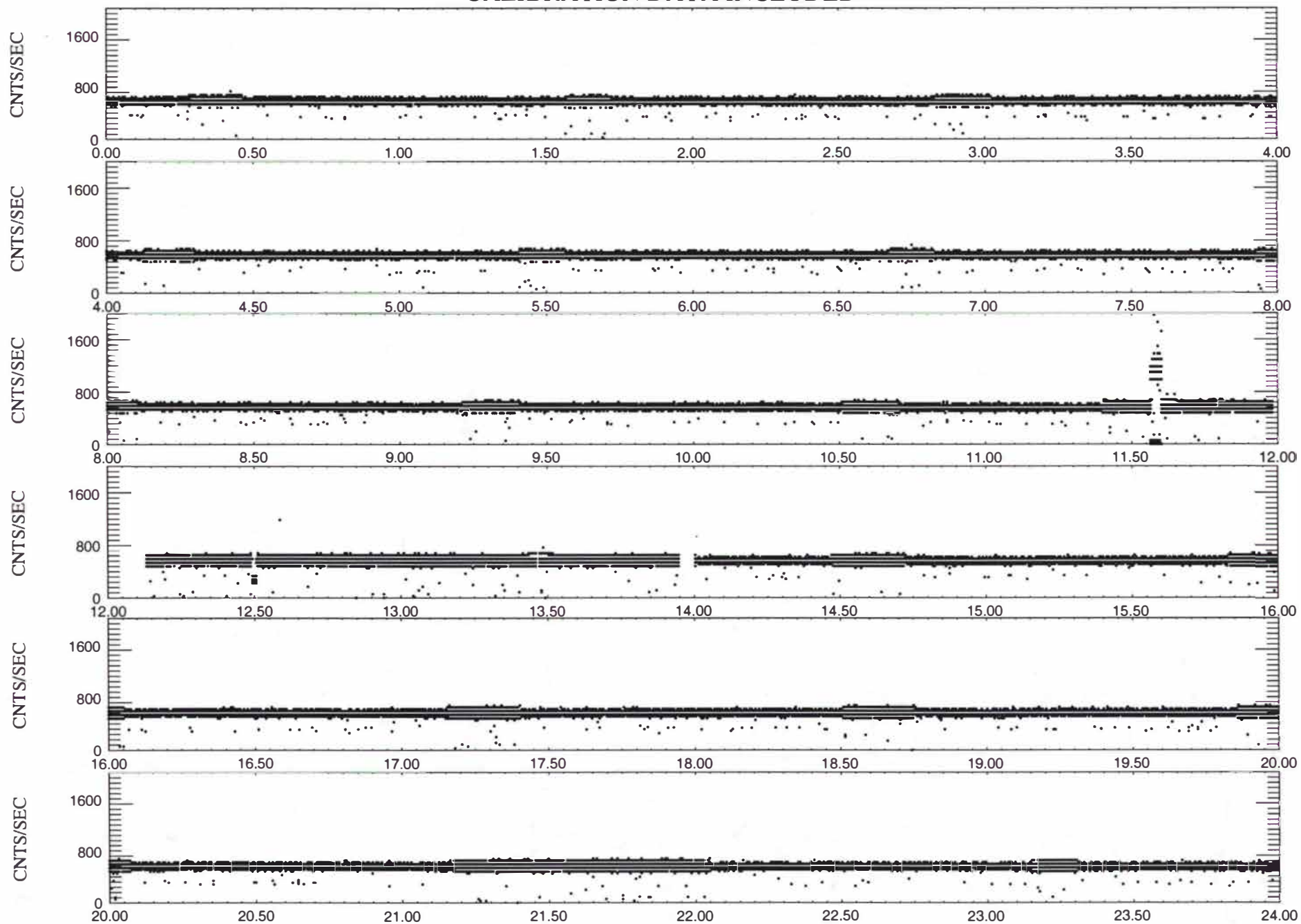
Background not subtracted

Sample average = 10

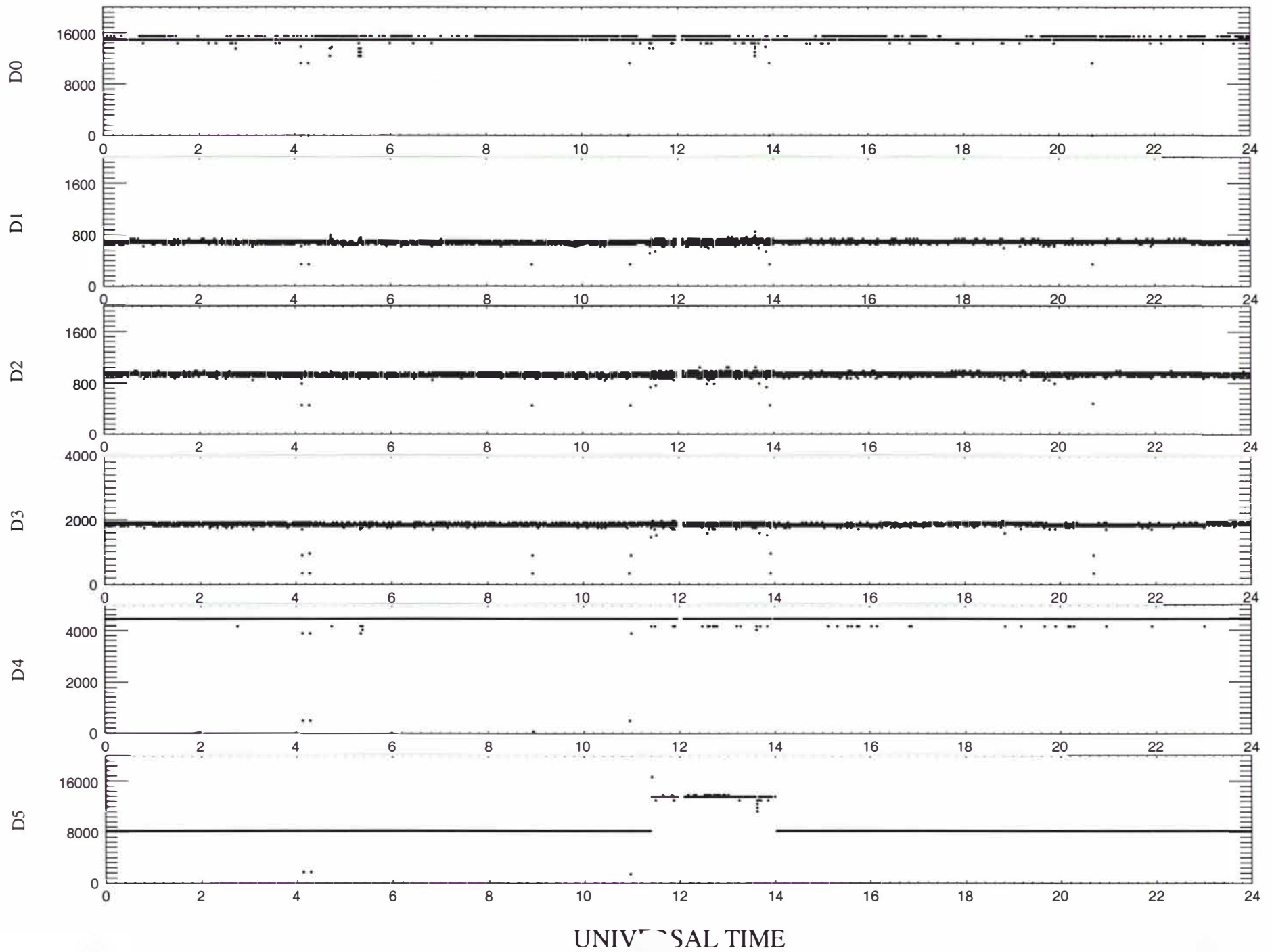
BURST NUMBER 8 - 15, 0 - 10



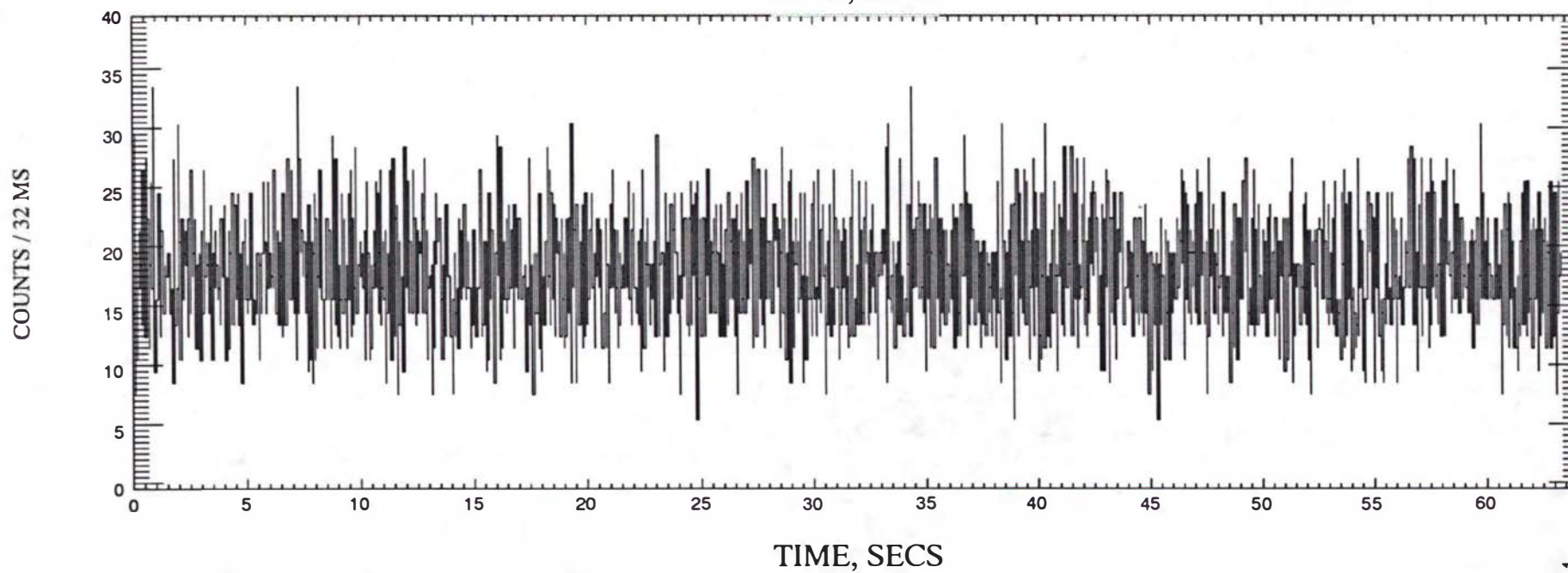
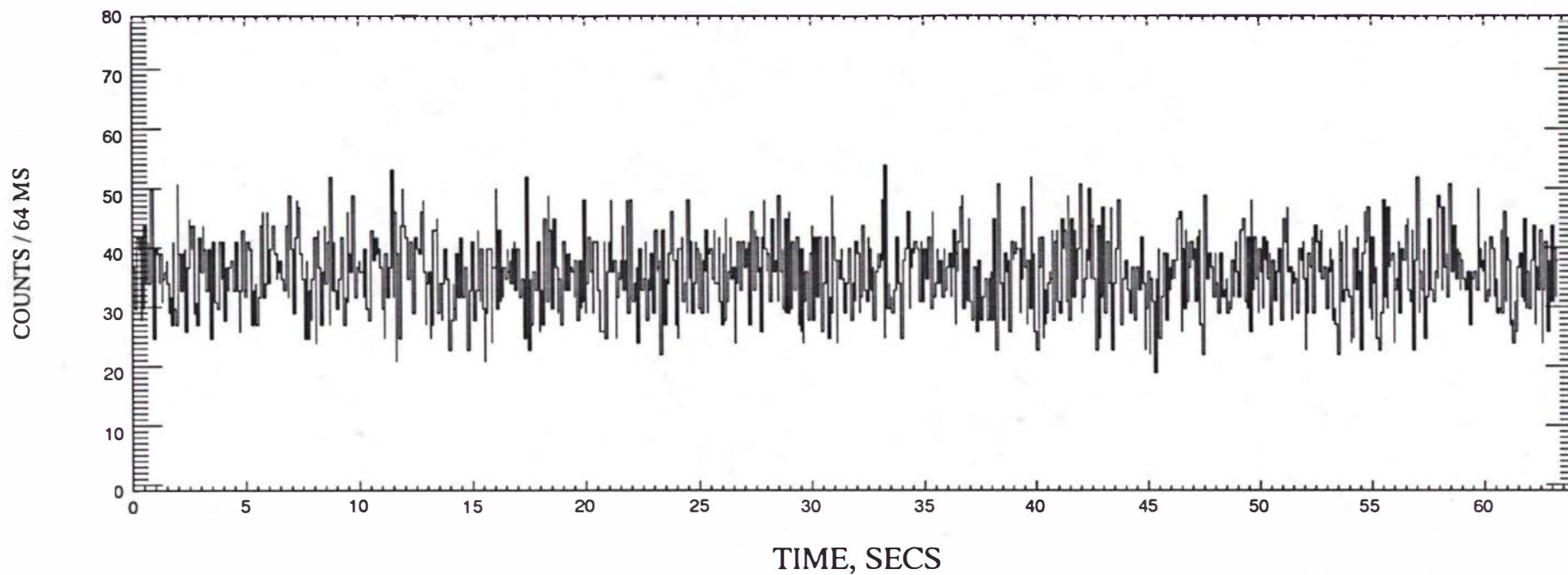
CALIBRATION DATA INCLUDED



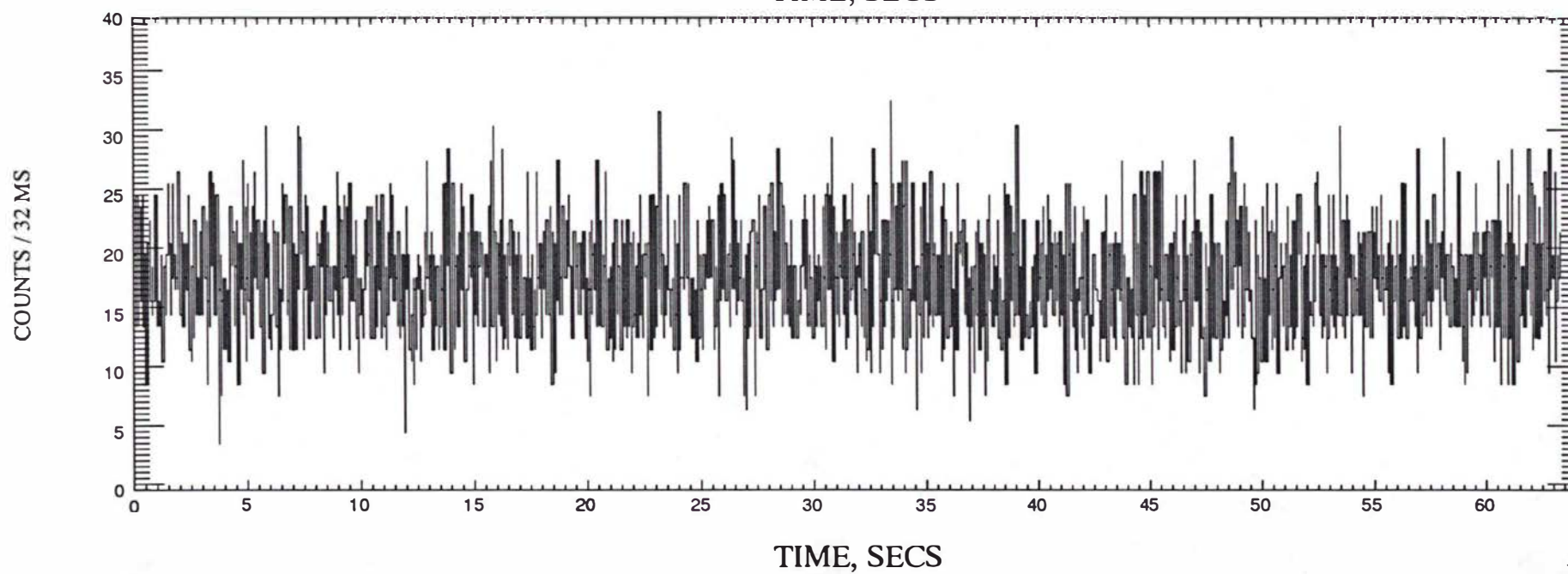
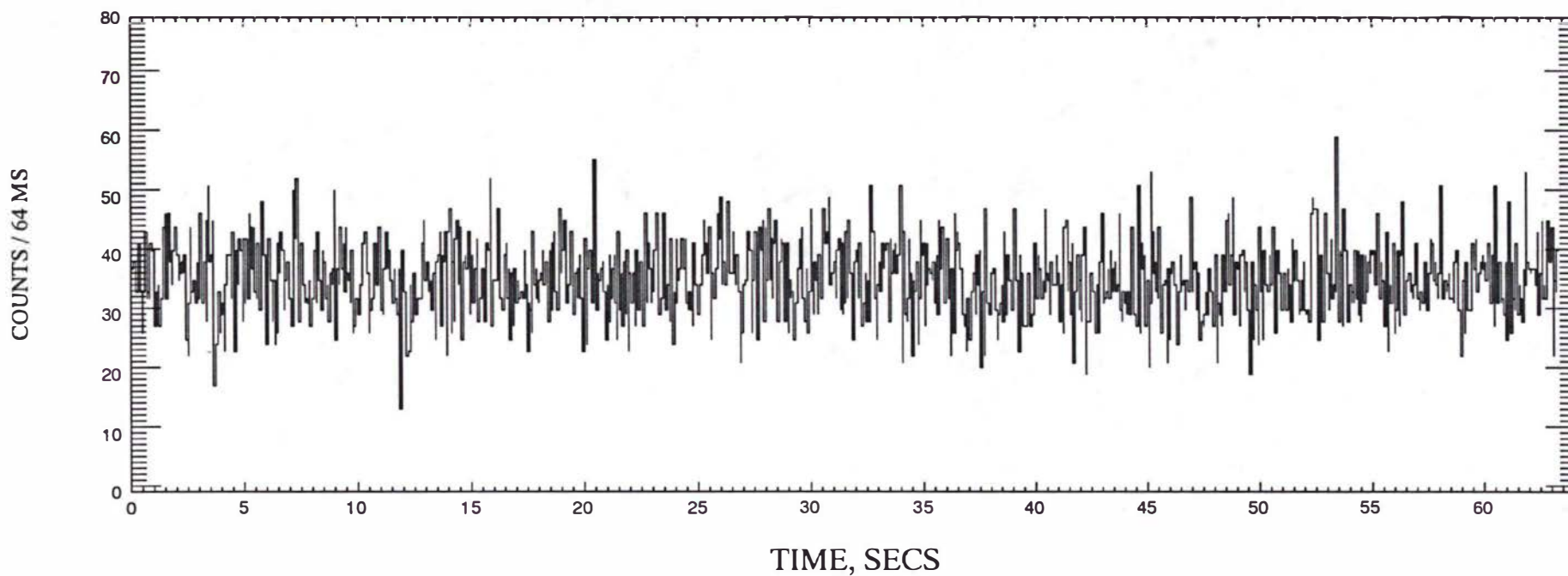
UNIV SAL TIME



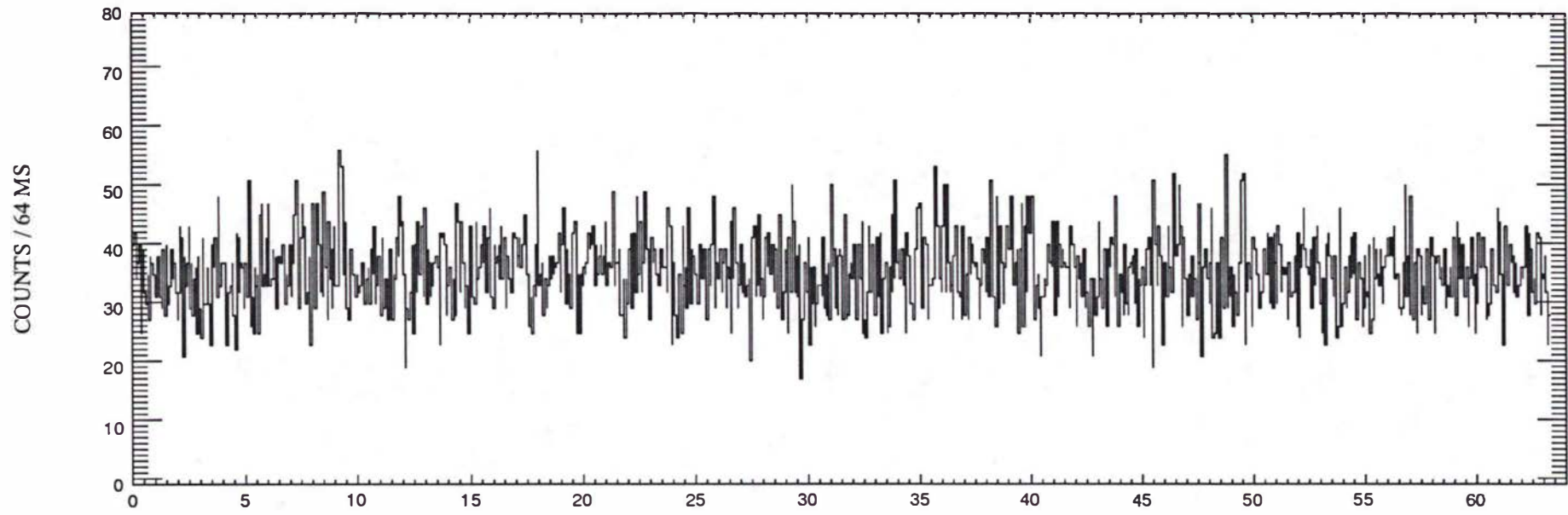
Burst Counter 8 at UT= 0.299175054762 h= 1077.030 s 00:17:57.030



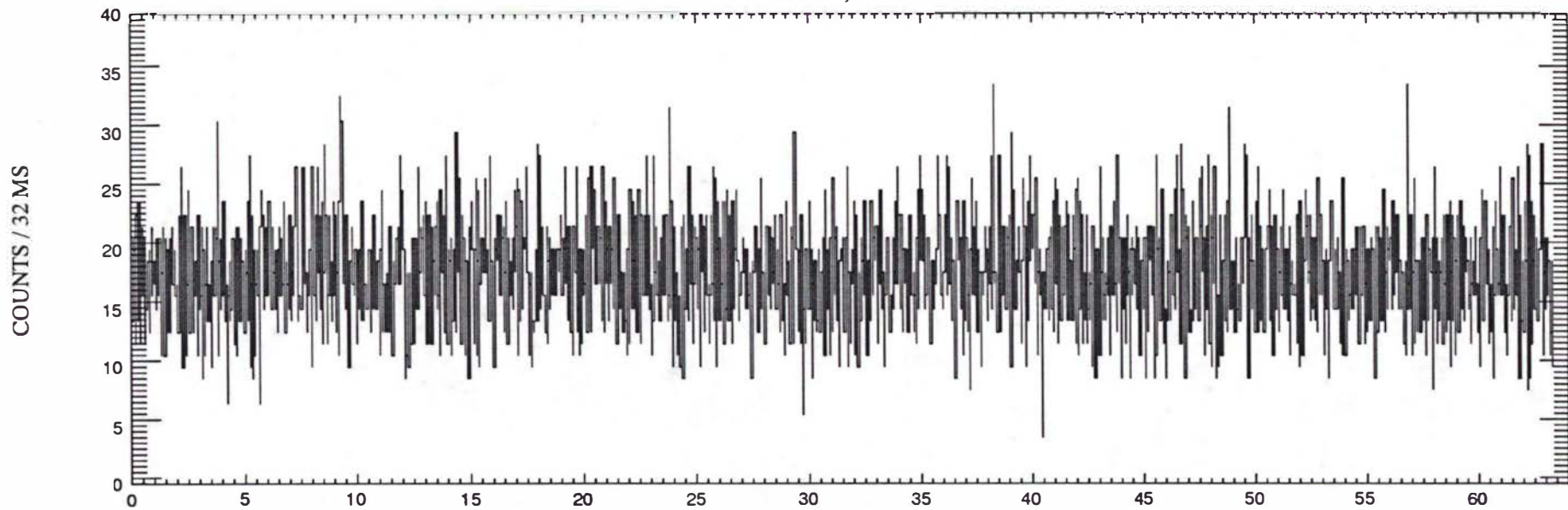
Burst Counter 9 at UT= 1.563977644179 h= 5630.320 s 01:33:50.320



Burst Counter 10 at UT= 2.871942125956 h=10338.992 s 02:52:18.992

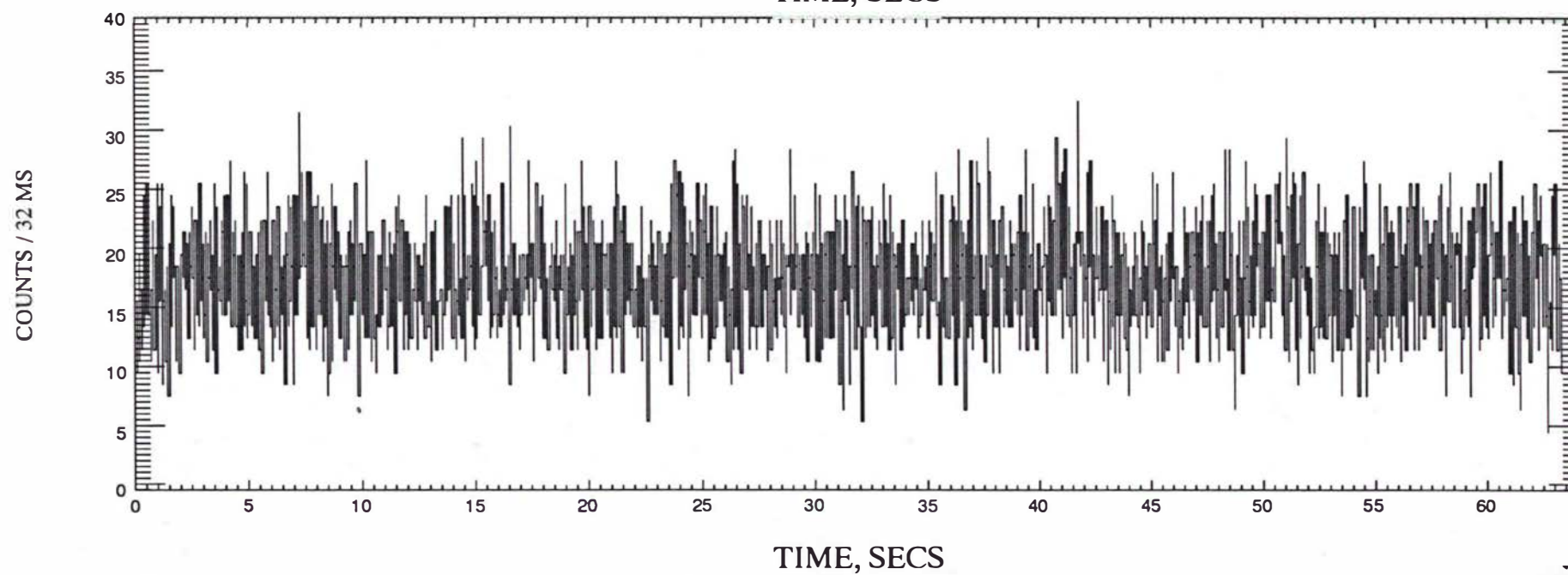
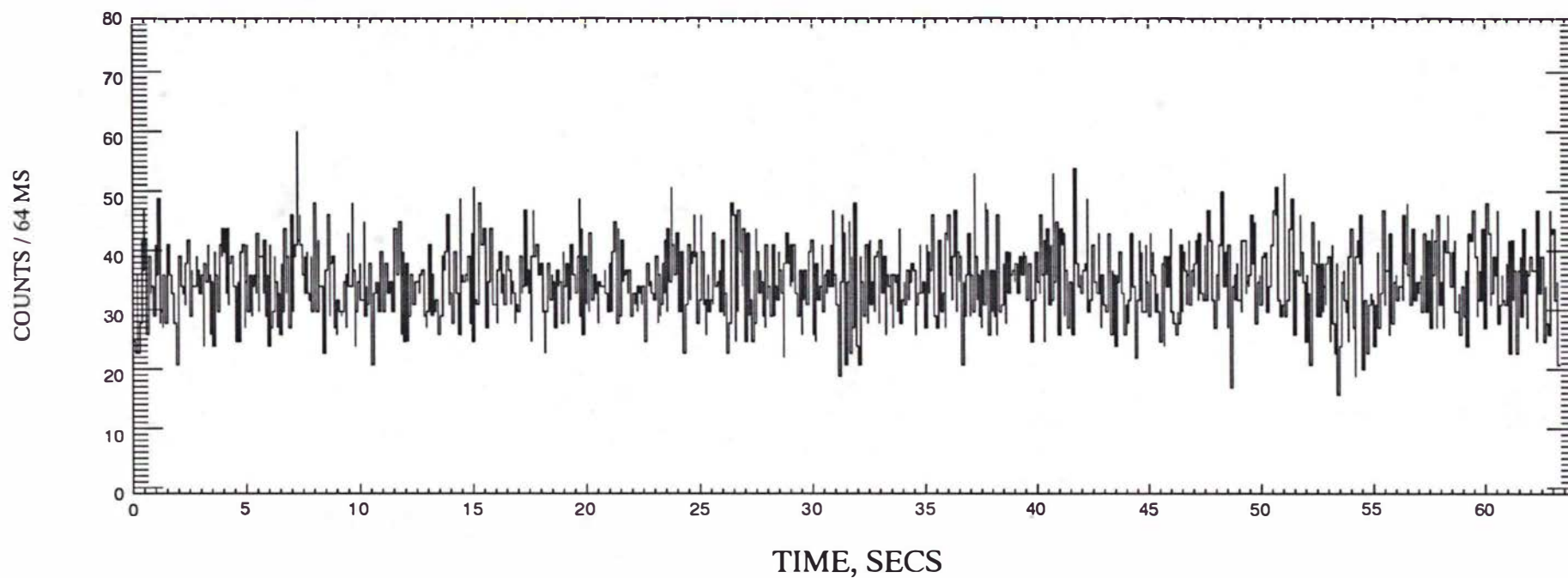


TIME, SECS

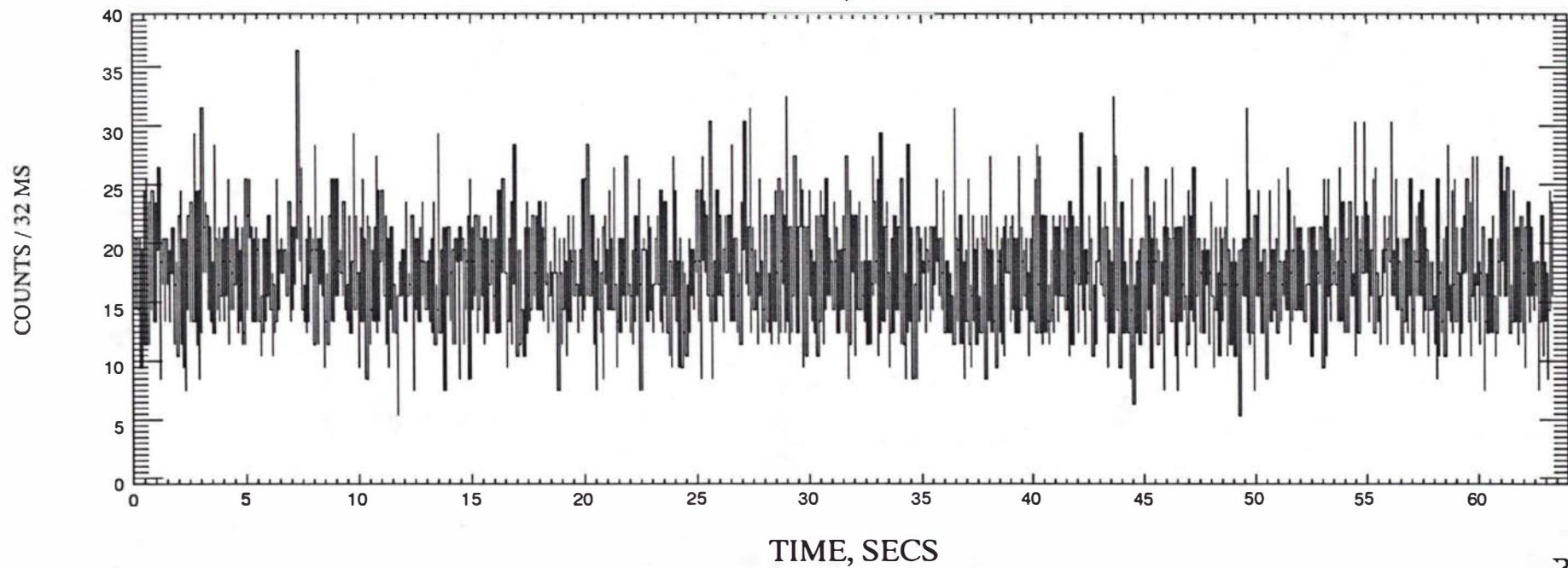
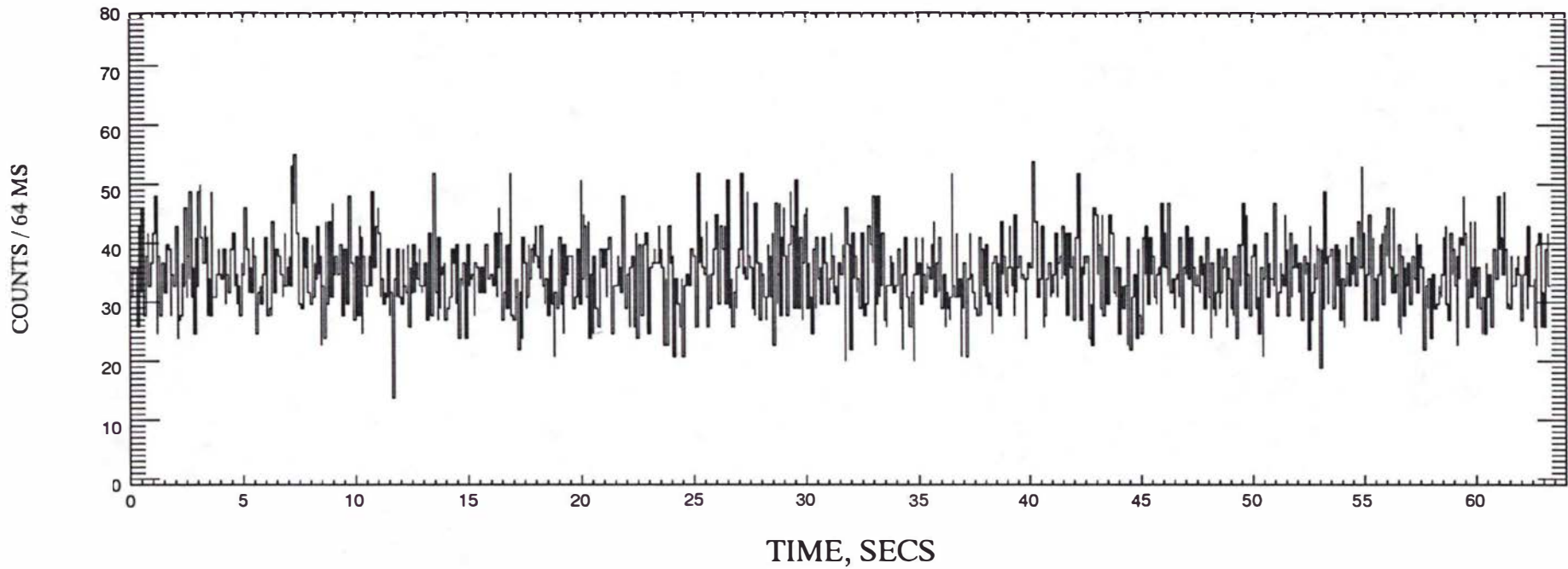


TIME, SECS

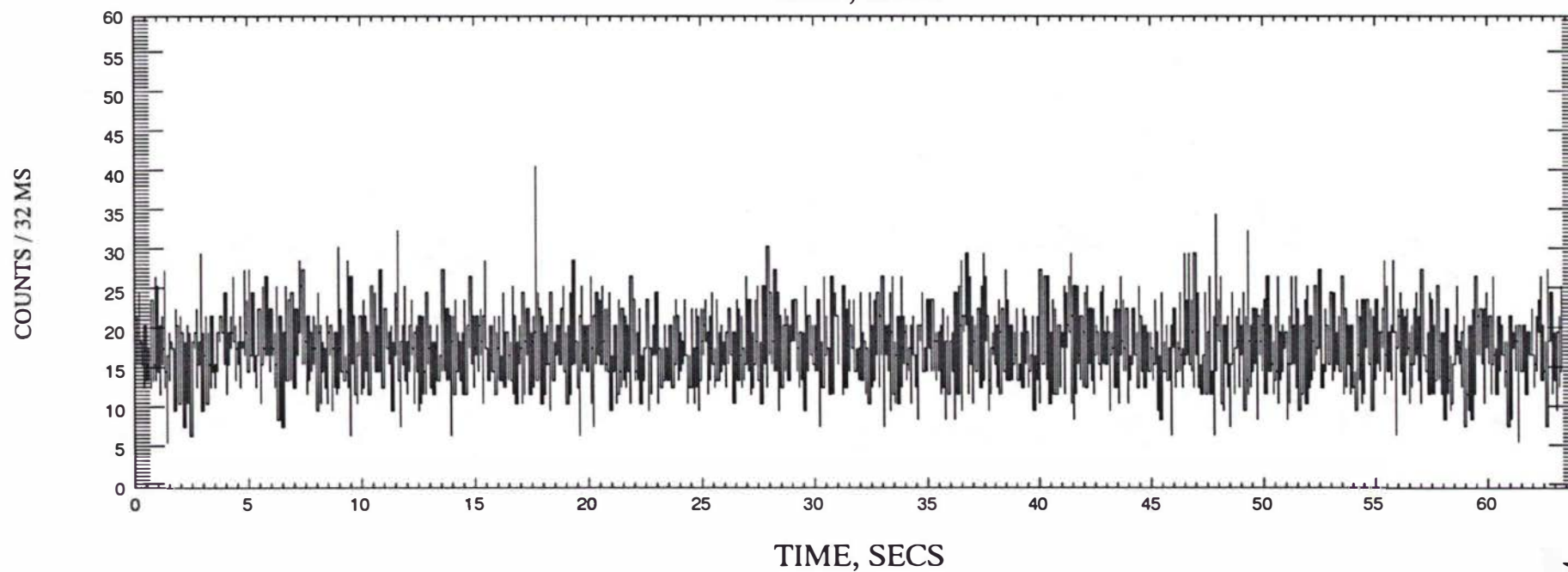
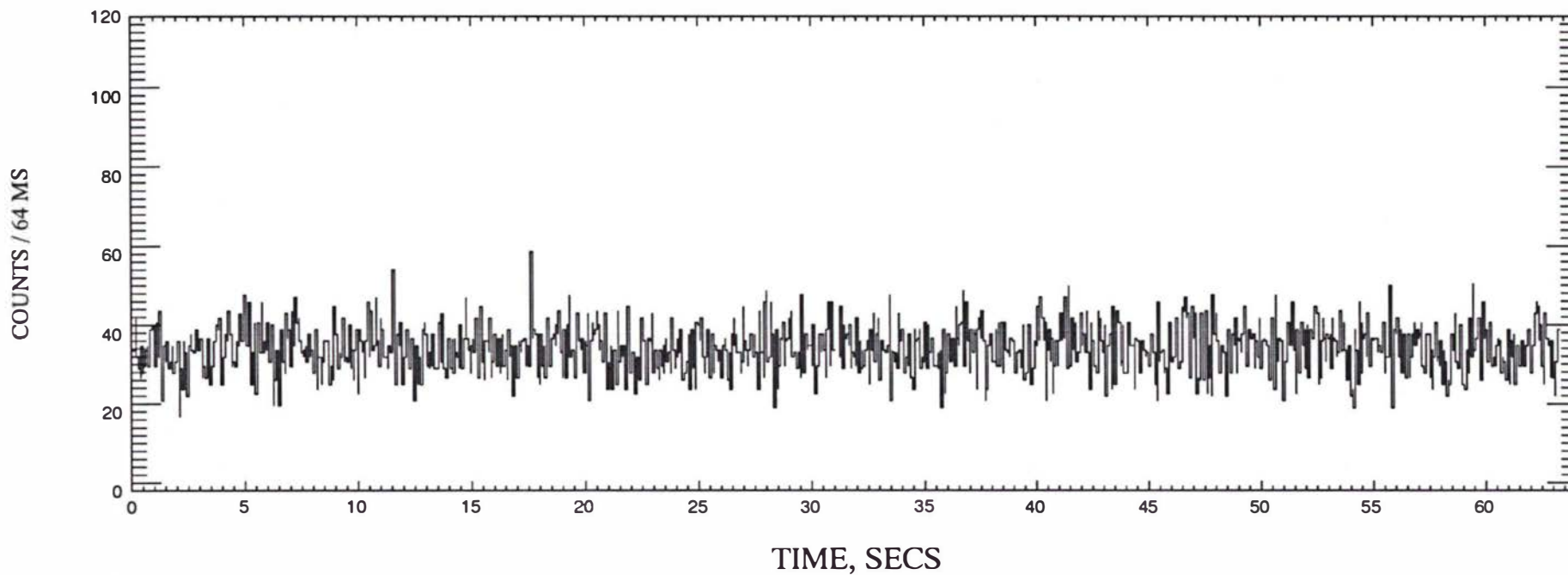
Burst Counter 11 at UT= 4.137578044468 h=14895.281 s 04:08:15.281



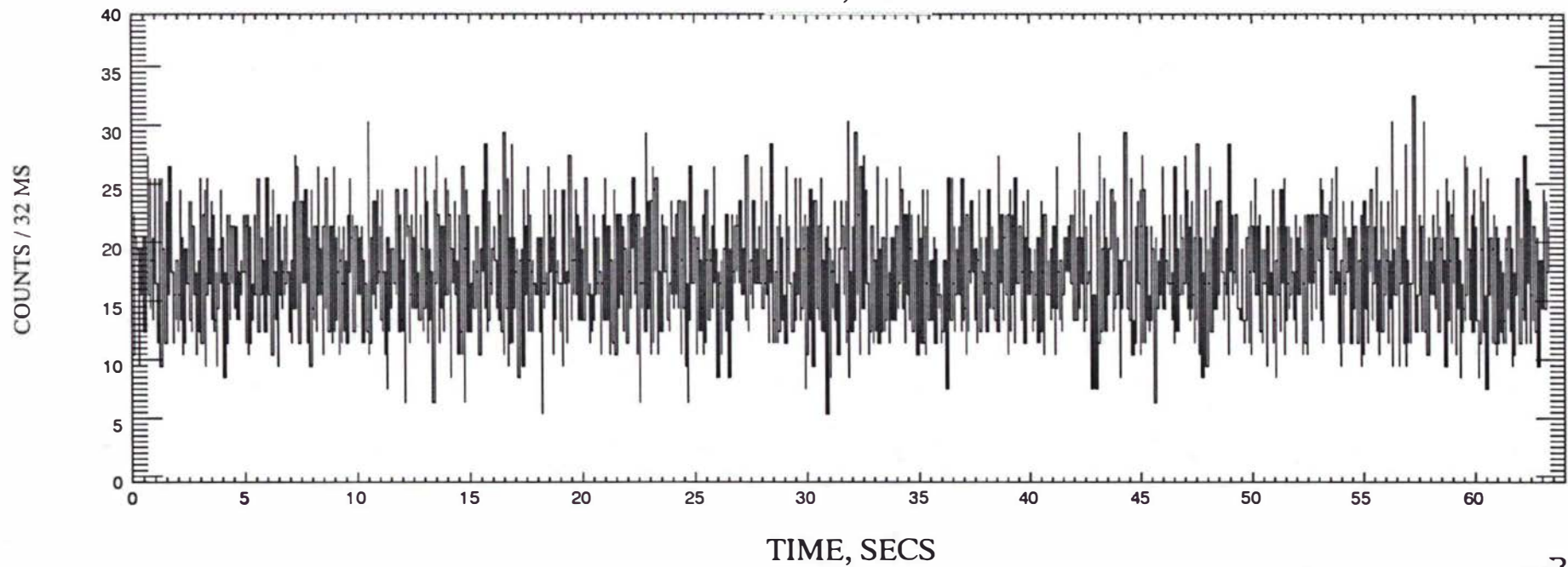
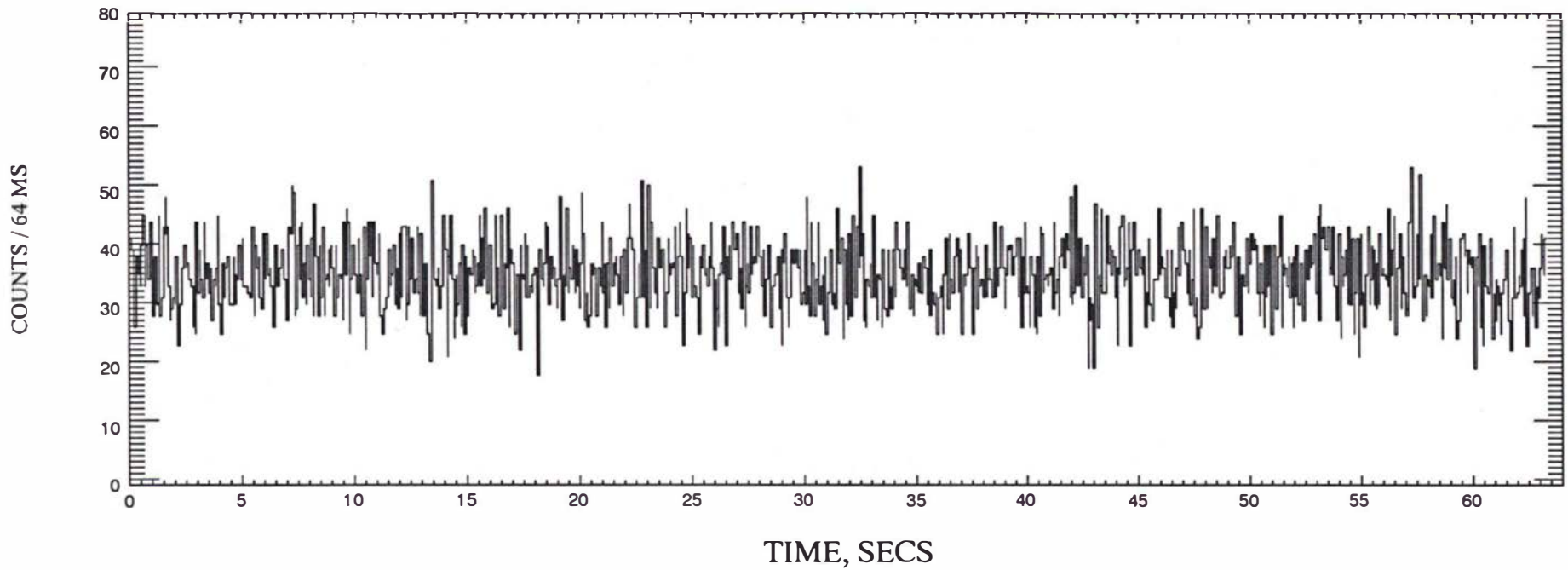
Burst Counter 12 at UT= 5.407068133884 h=19465.445 s 05:24:25.445



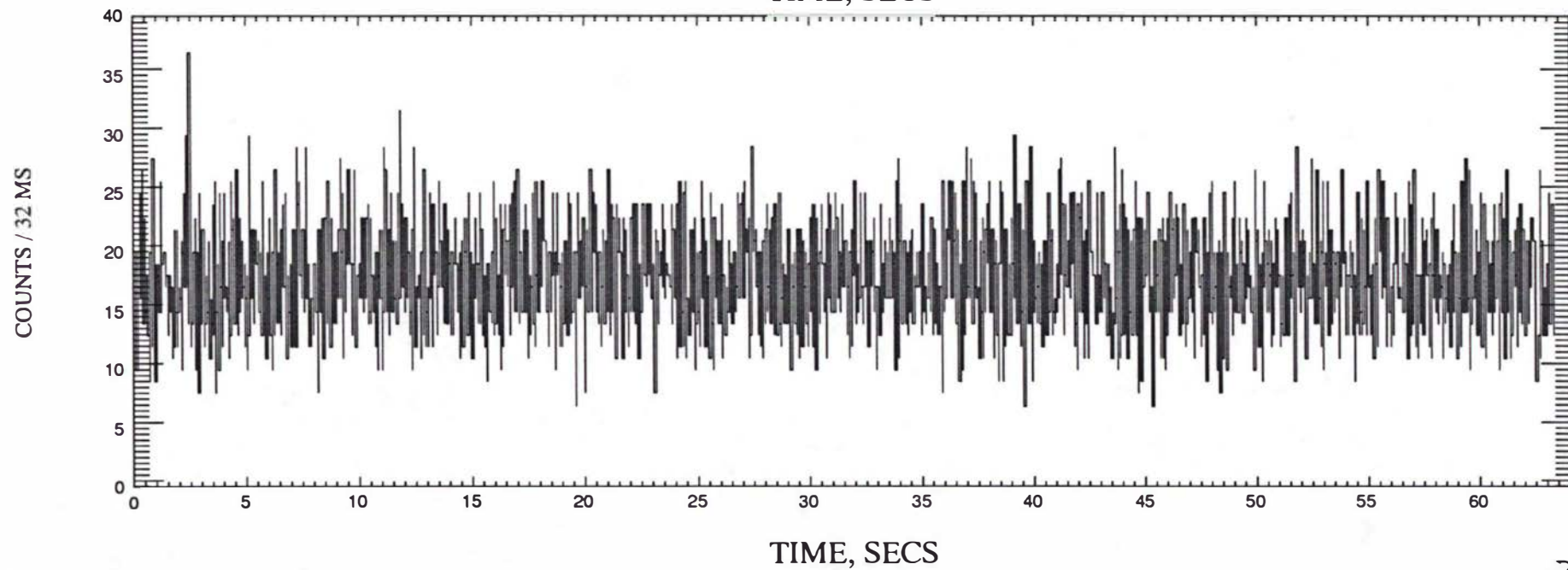
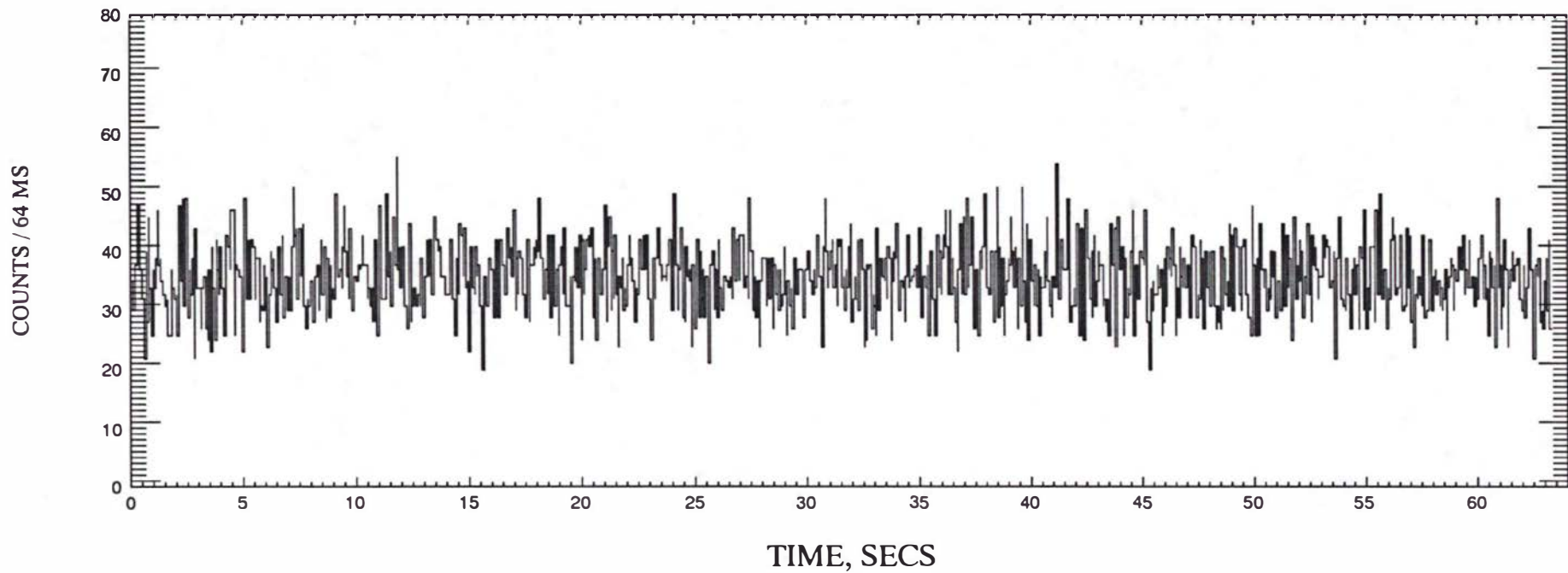
Burst Counter 13 at UT= 6.677155007256 h=24037.758 s 06:40:37.758



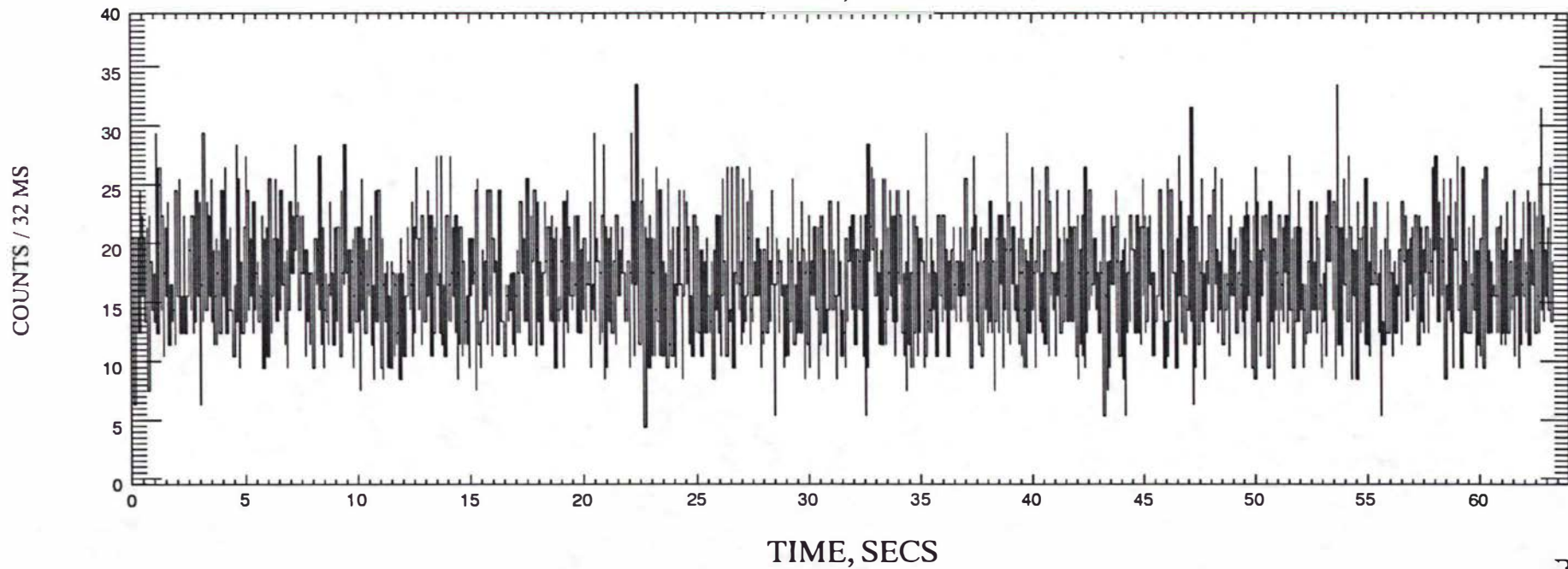
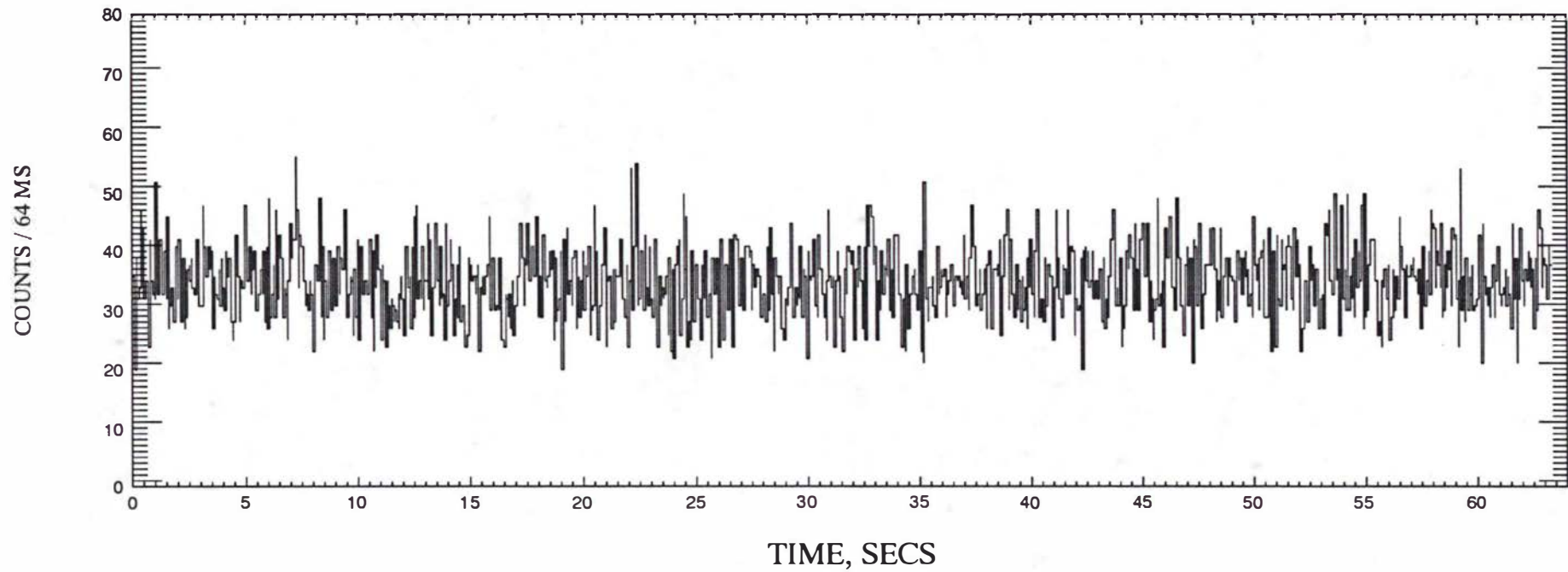
Burst Counter 14 at UT= 7.942929818895 h=28594.547 s 07:56:34.547



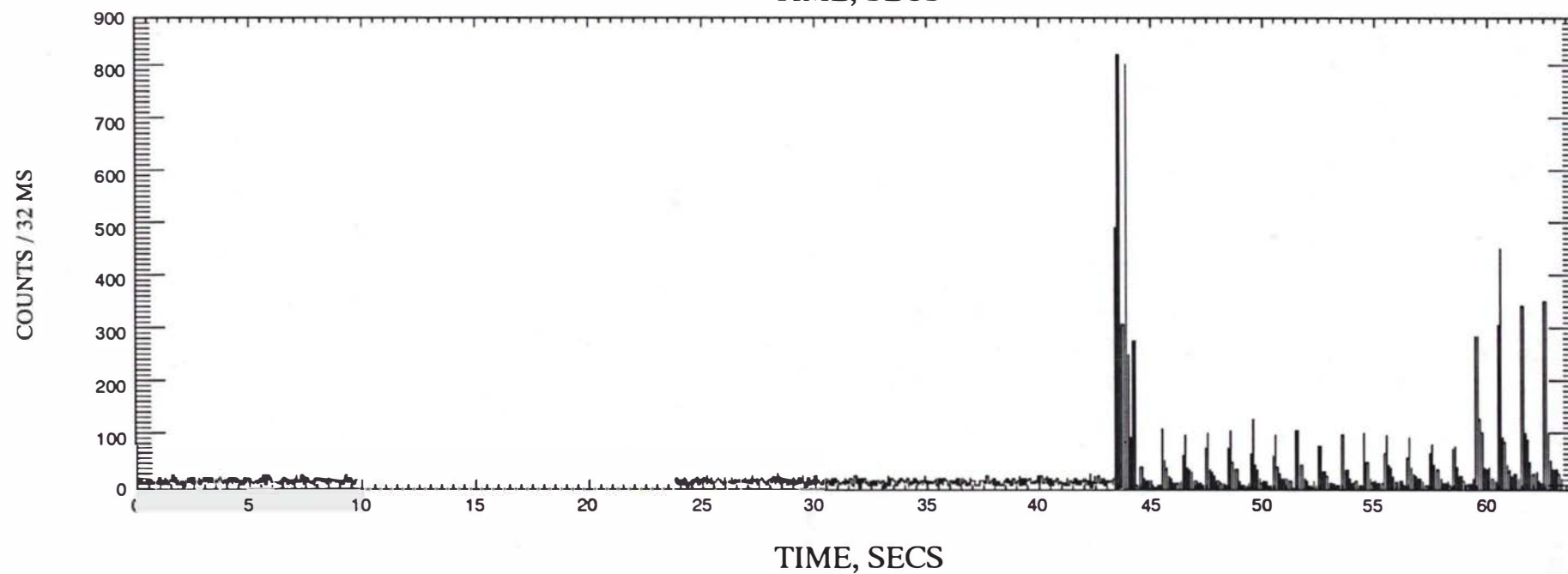
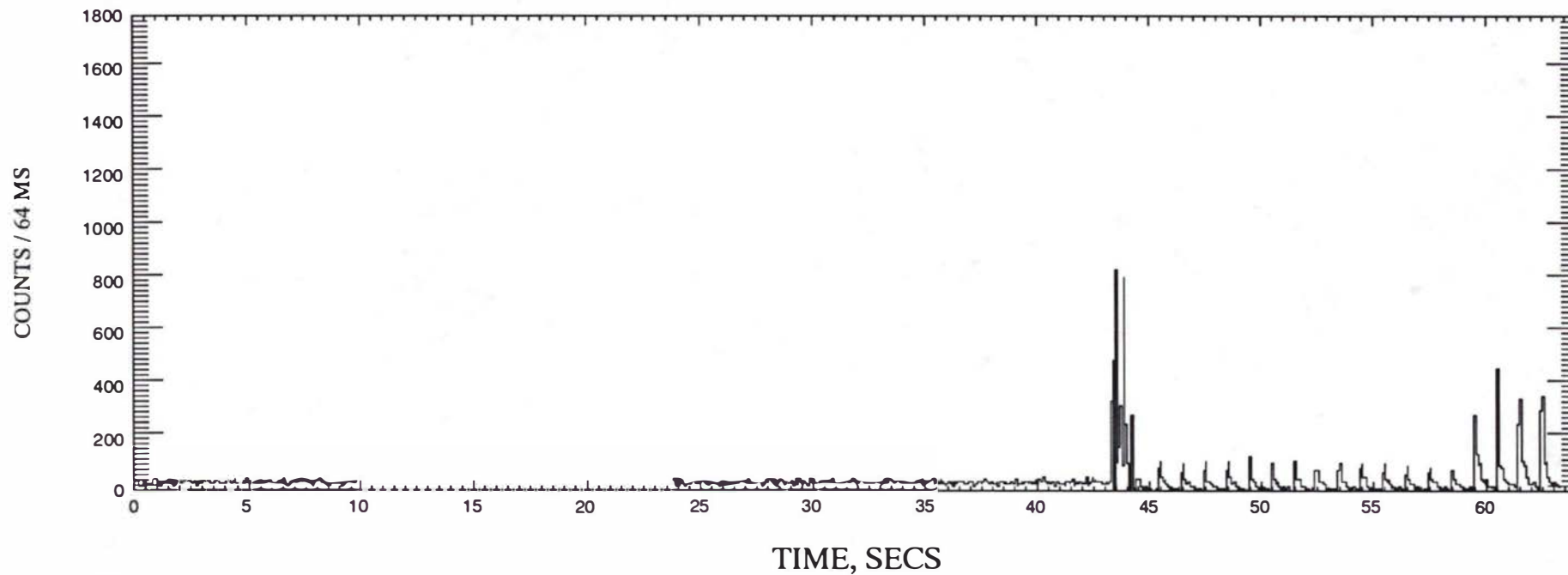
Burst Counter 15 at UT= 9.251660359701 h=33305.977 s 09:15:05.977



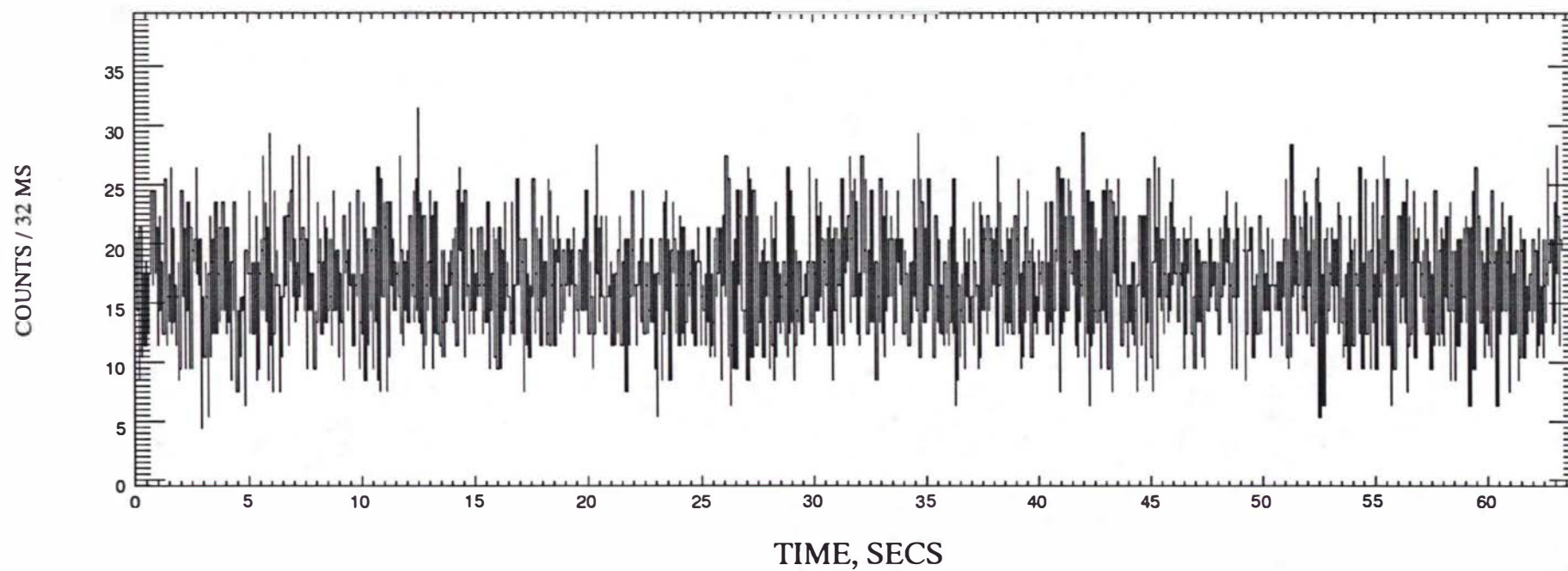
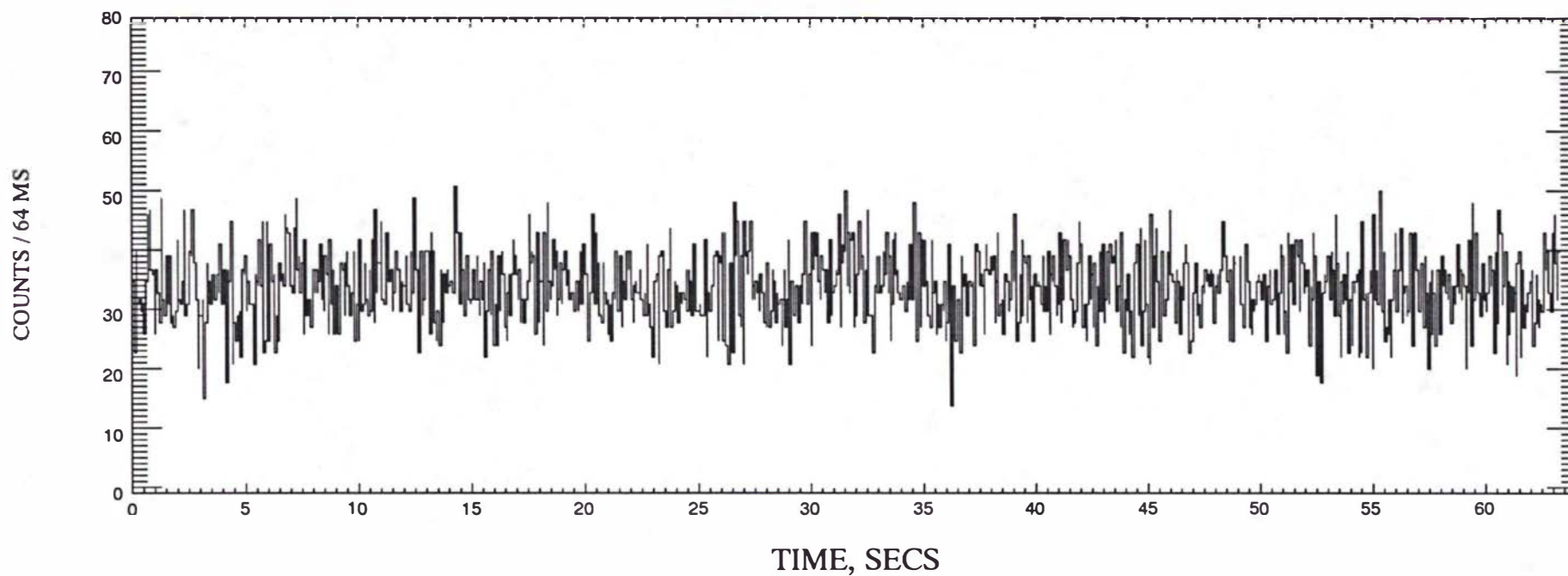
Burst Counter 0 at UT=10.548409559462 h=37974.274 s 10:32:54.274



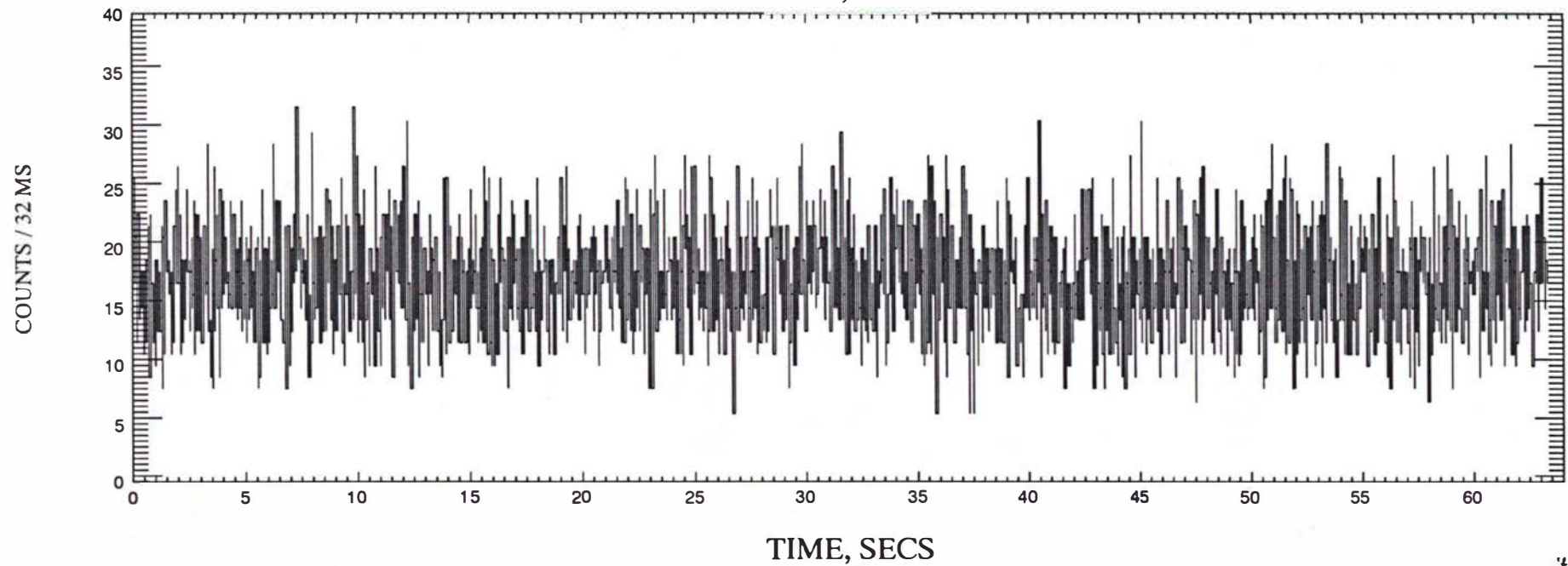
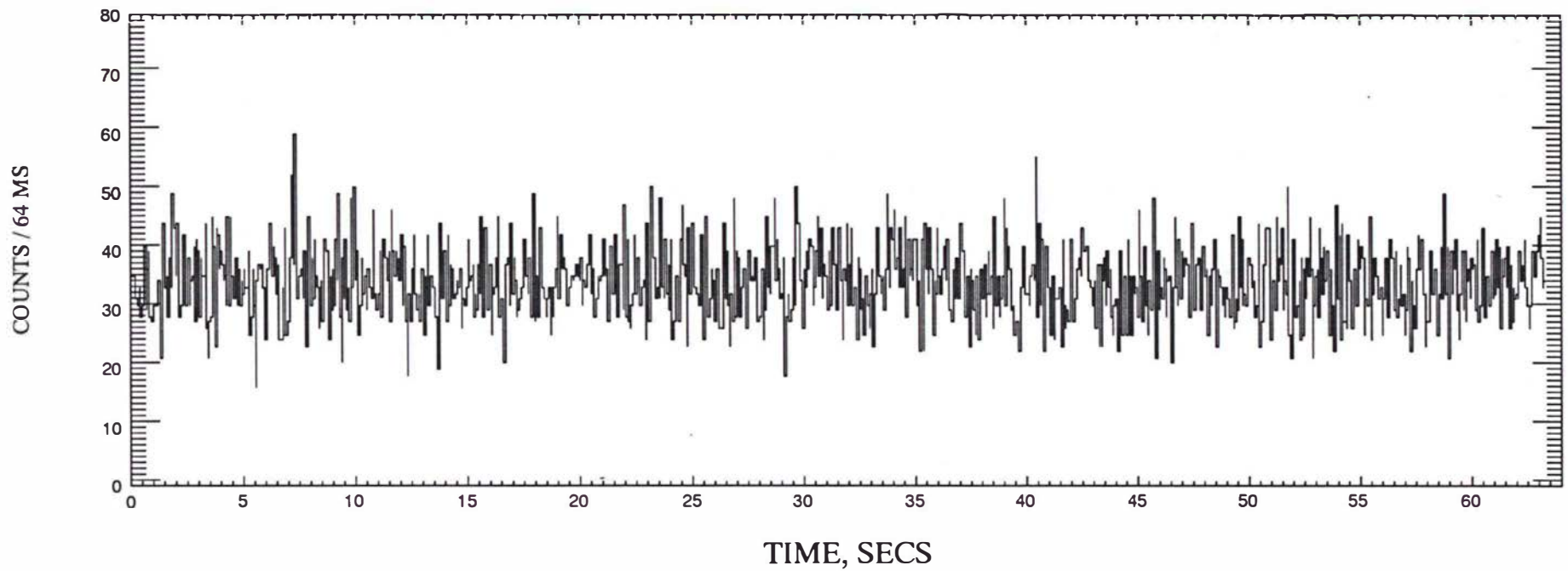
Burst Counter 1 at UT=11.788075430128 h=42437.072 s 11:47:17.072



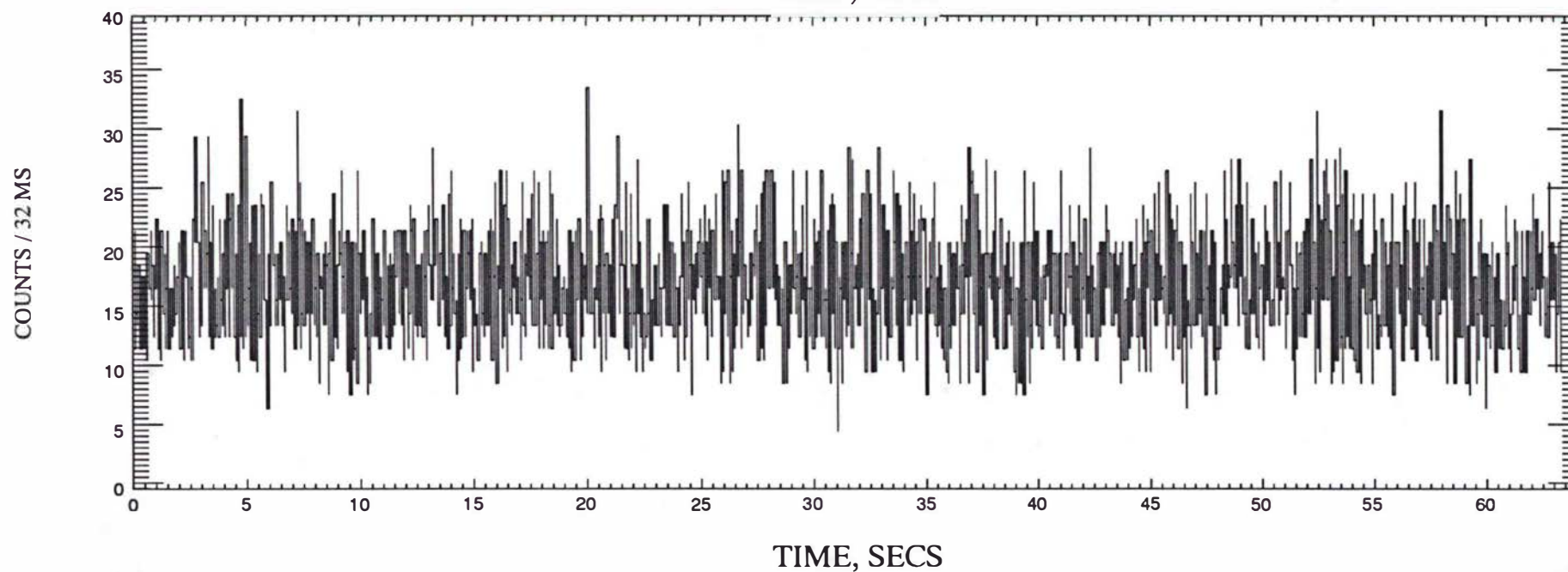
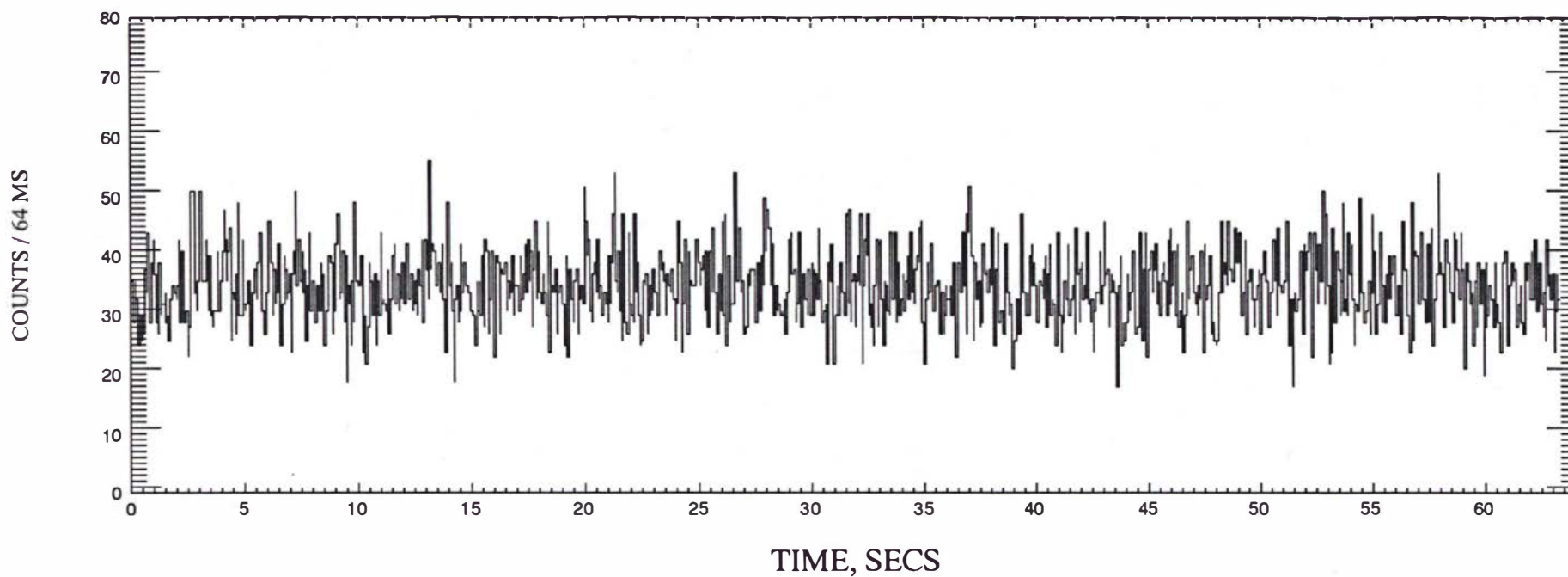
Burst Counter 2 at UT=12.724092008803 h=45806.731 s 12:43:26.731



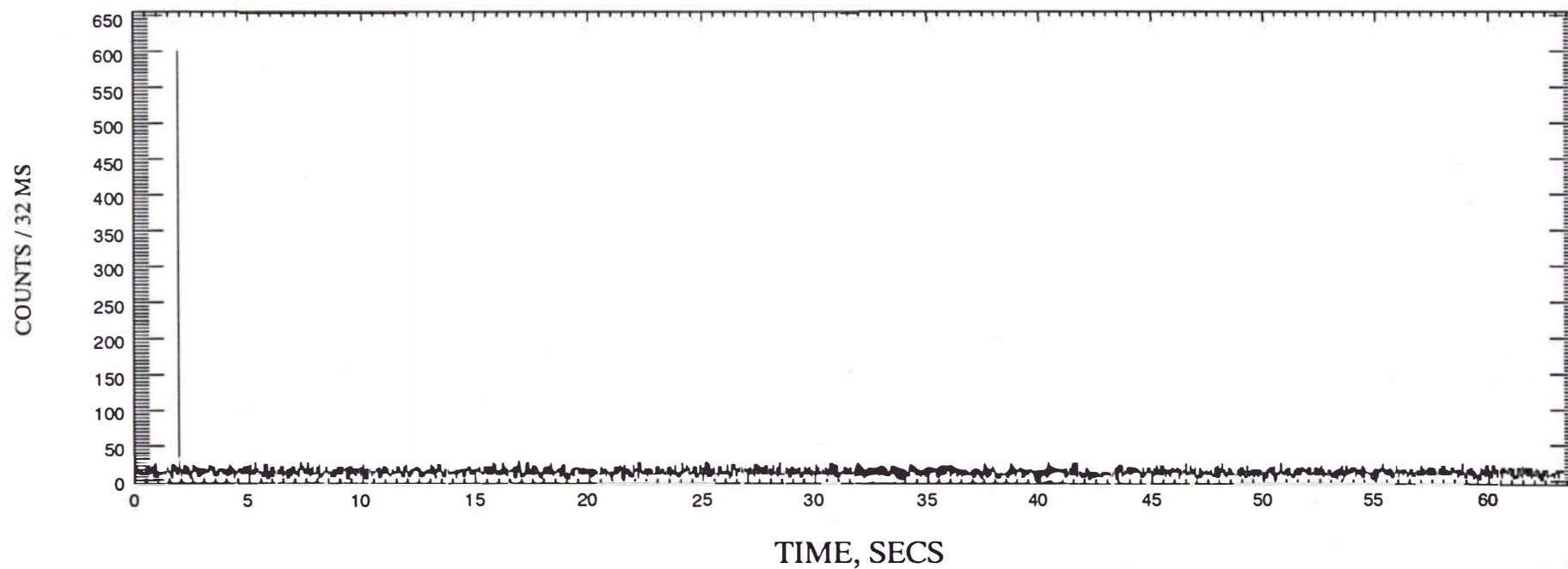
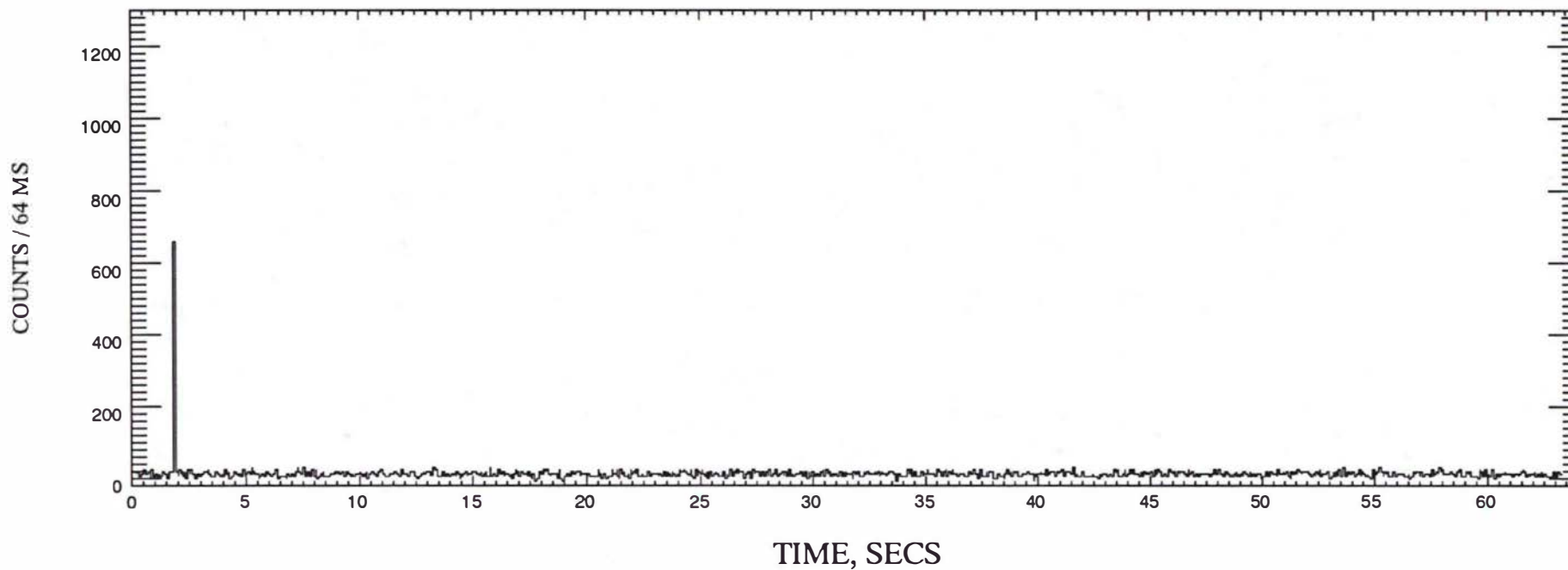
Burst Counter 3 at UT=13.505384733412 h=48619.385 s 13:30:19.385



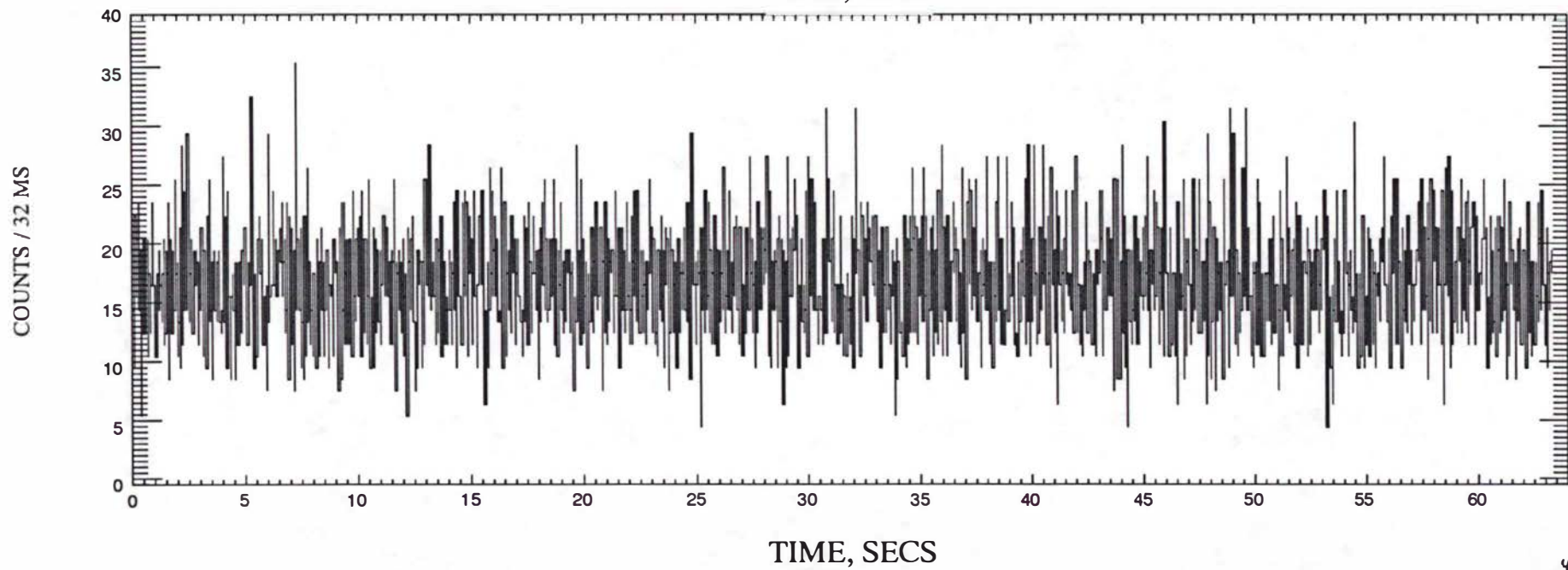
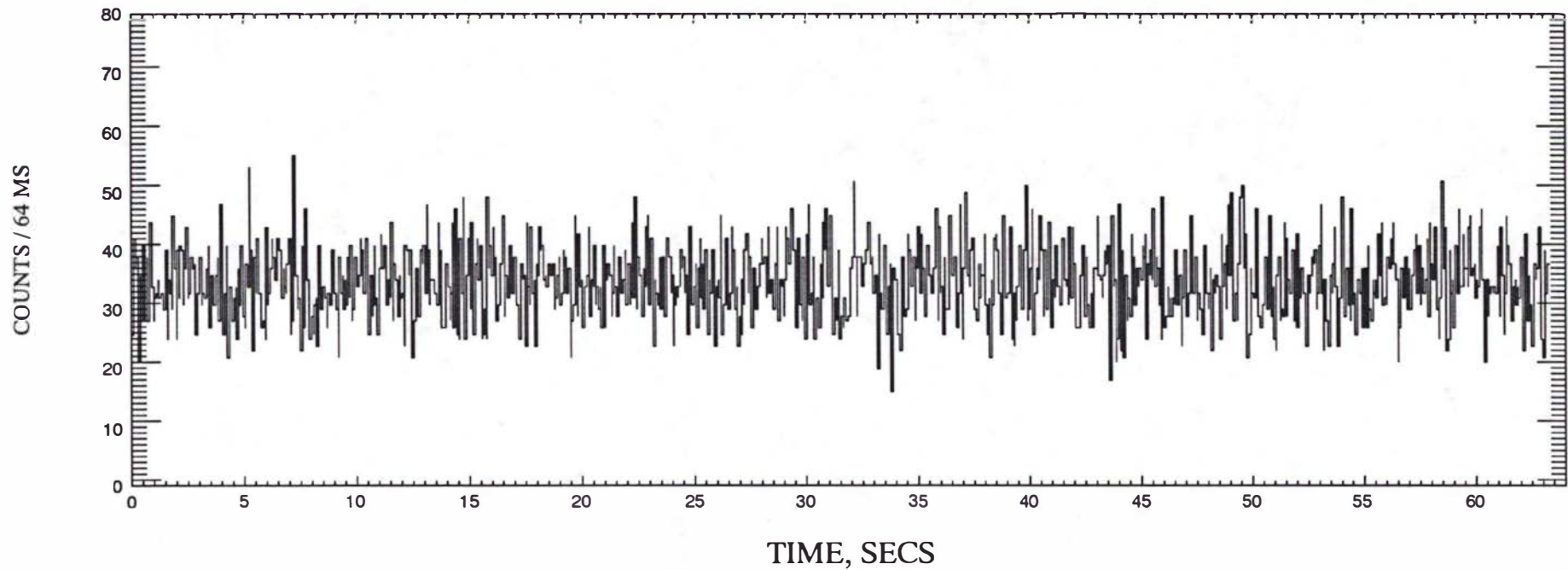
Burst Counter 4 at UT=14.558276312086 h=52409.795 s 14:33:29.795



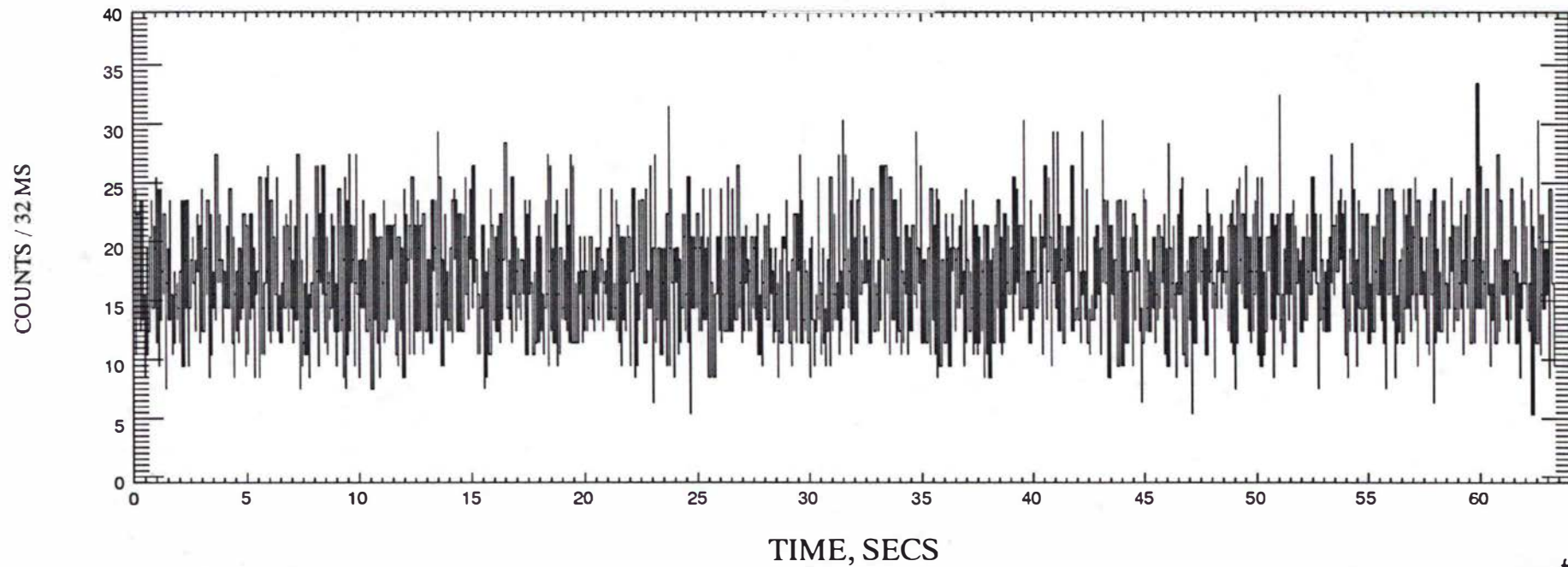
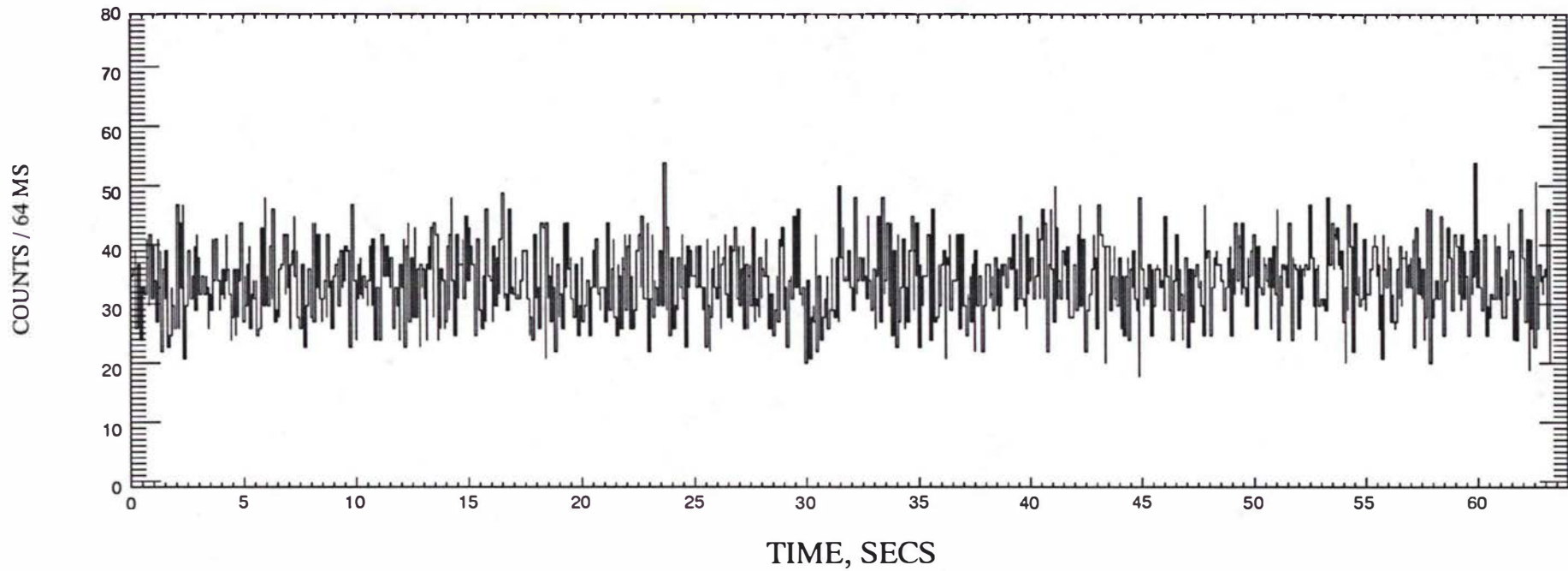
Burst Counter 5 at UT=15.892943636576 h=57214.597 s 15:53:34.597



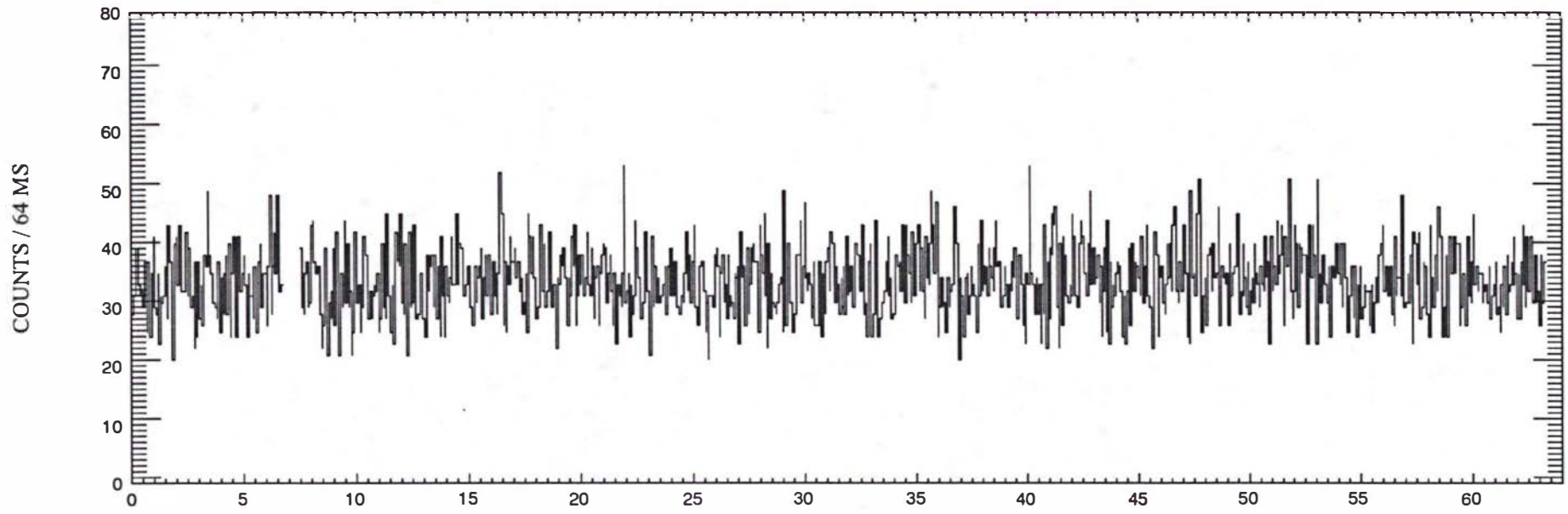
Burst Counter 6 at UT=17.252748396132 h=62109.894 s 17:15:09.894



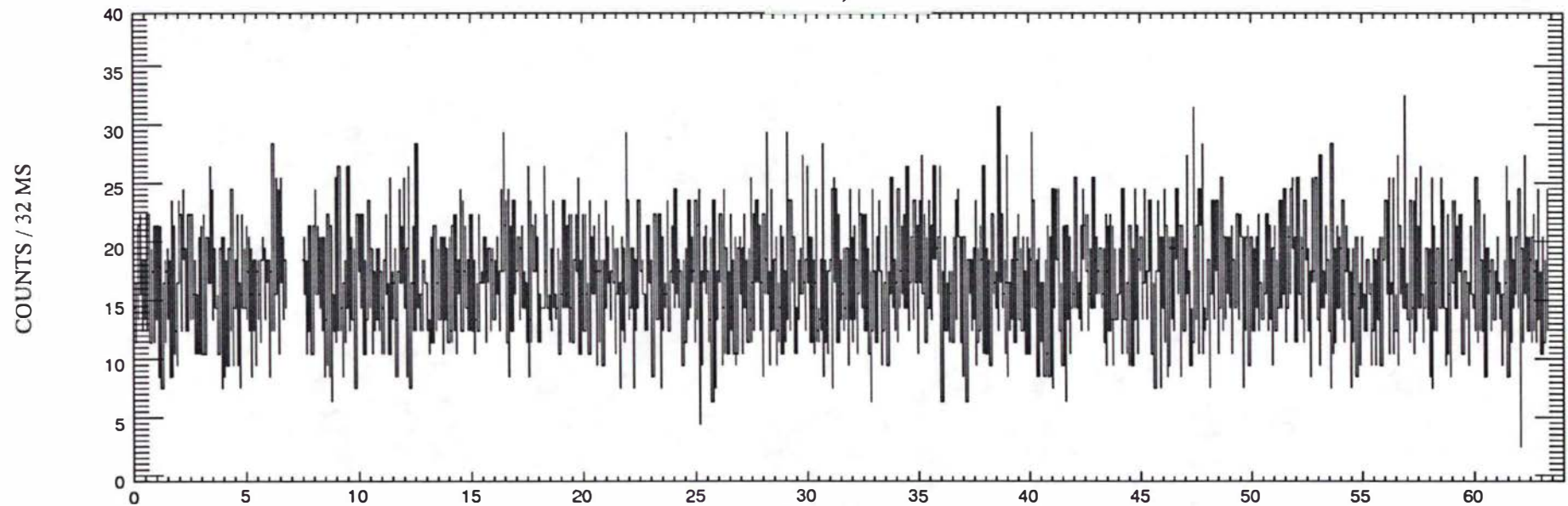
Burst Counter 7 at UT=18.593804609511 h=66937.697 s 18:35:37.697



Burst Counter 8 at UT=19.917914920383 h=71704.494 s 19:55:04.494

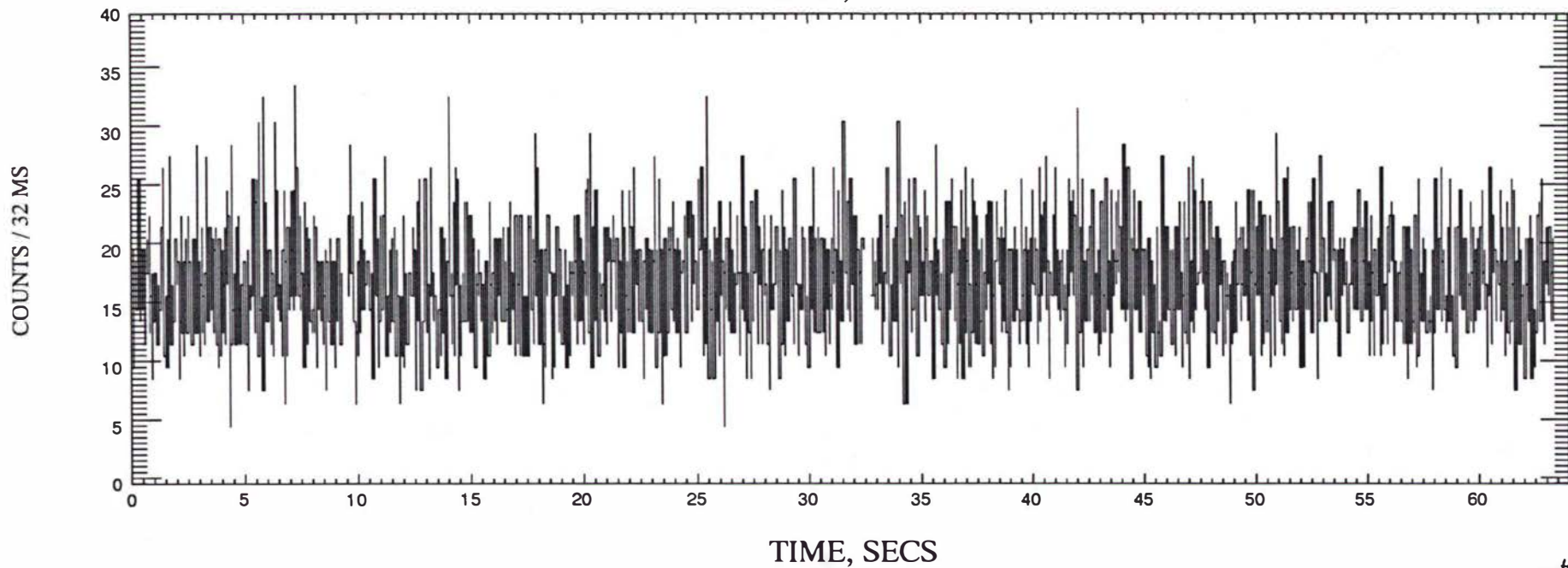
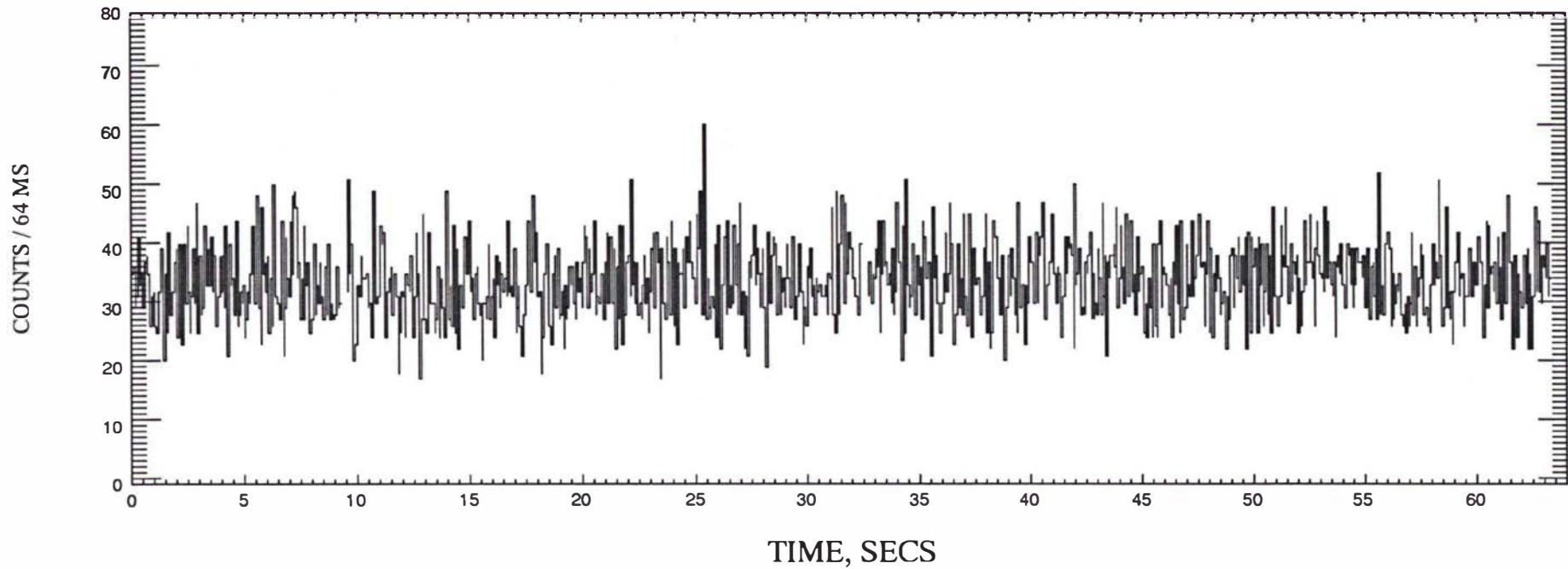


TIME, SECS

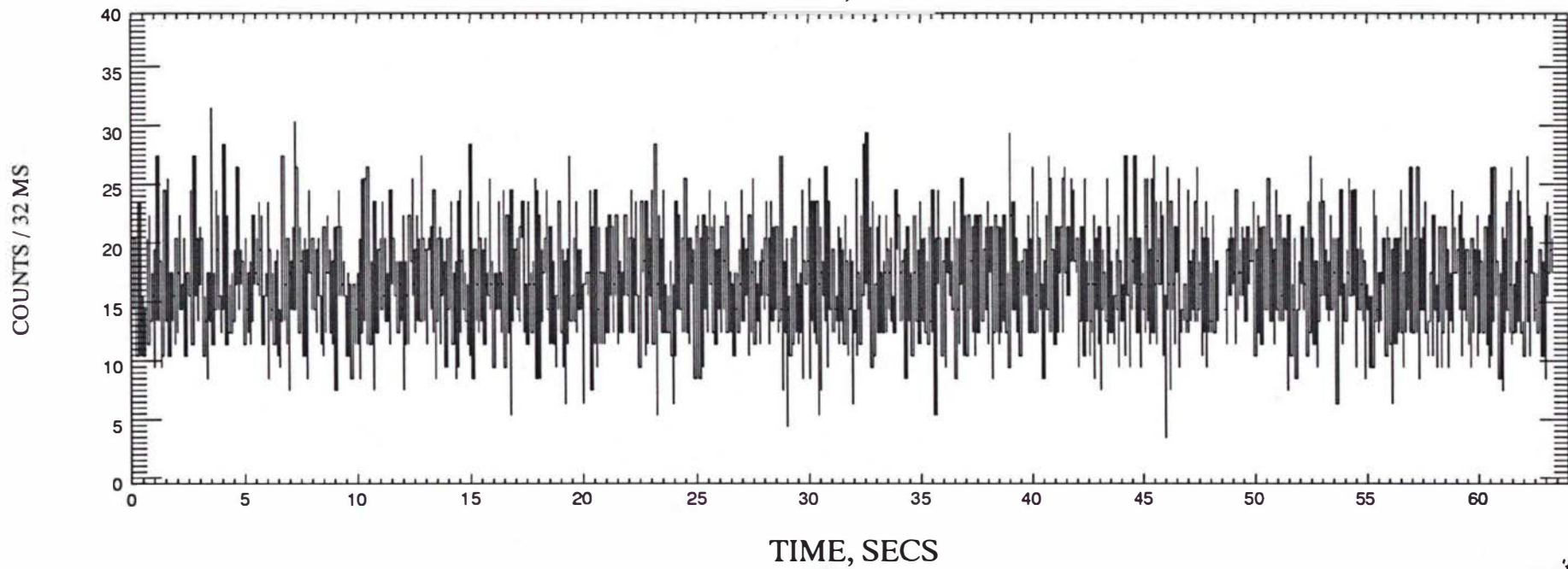
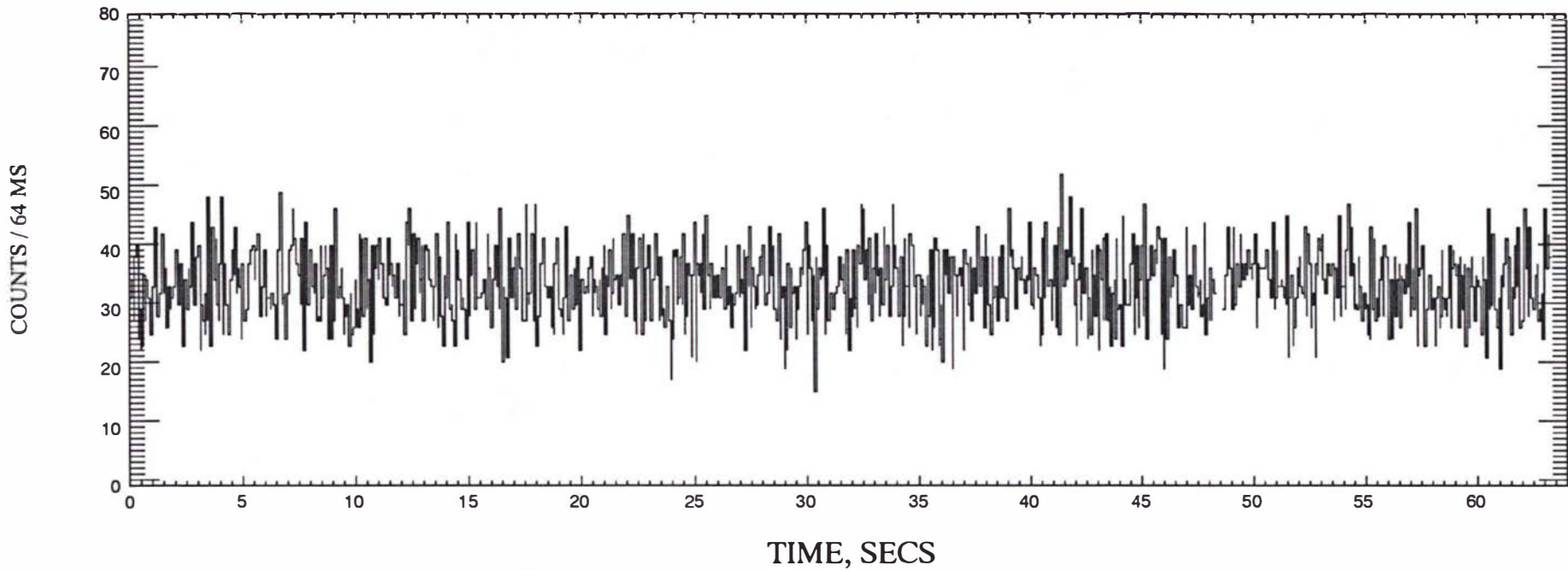


TIME, SECS

Burst Counter 9 at UT=21.896268619961 h=78826.567 s 21:53:46.567



Burst Counter 10 at UT=23.148401934306 h=83334.247 s 23:08:54.247



From SAHI@fender.msfc.nasa.gov Wed Jan 27 09:58:29 1999

From: SAHI@fender.msfc.nasa.gov

Date: Wed, 27 Jan 1999 11:57:20 -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

BATSE BURST TRIGGER

NO.: 7351

TIME: TJD=1203 SECONDS=50847

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.8 AZIMUTH=360.0 ERROR=0.4 DEGREES

COMMENTS:

SOLAR FLARE. GOES C8.0, OPTICAL SF. TRIPLE PULSE, TOTAL DUR. 250 S, STARTS AT
T-200 S, MAX. AT T+8 S. VISIBLE ABOVE 100 KEV.

Date: Feb 6 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. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?

- ☒ ACCESS database updated?

EVENT OF JAN 25, 1999 1:26

6 / 2 / 1

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

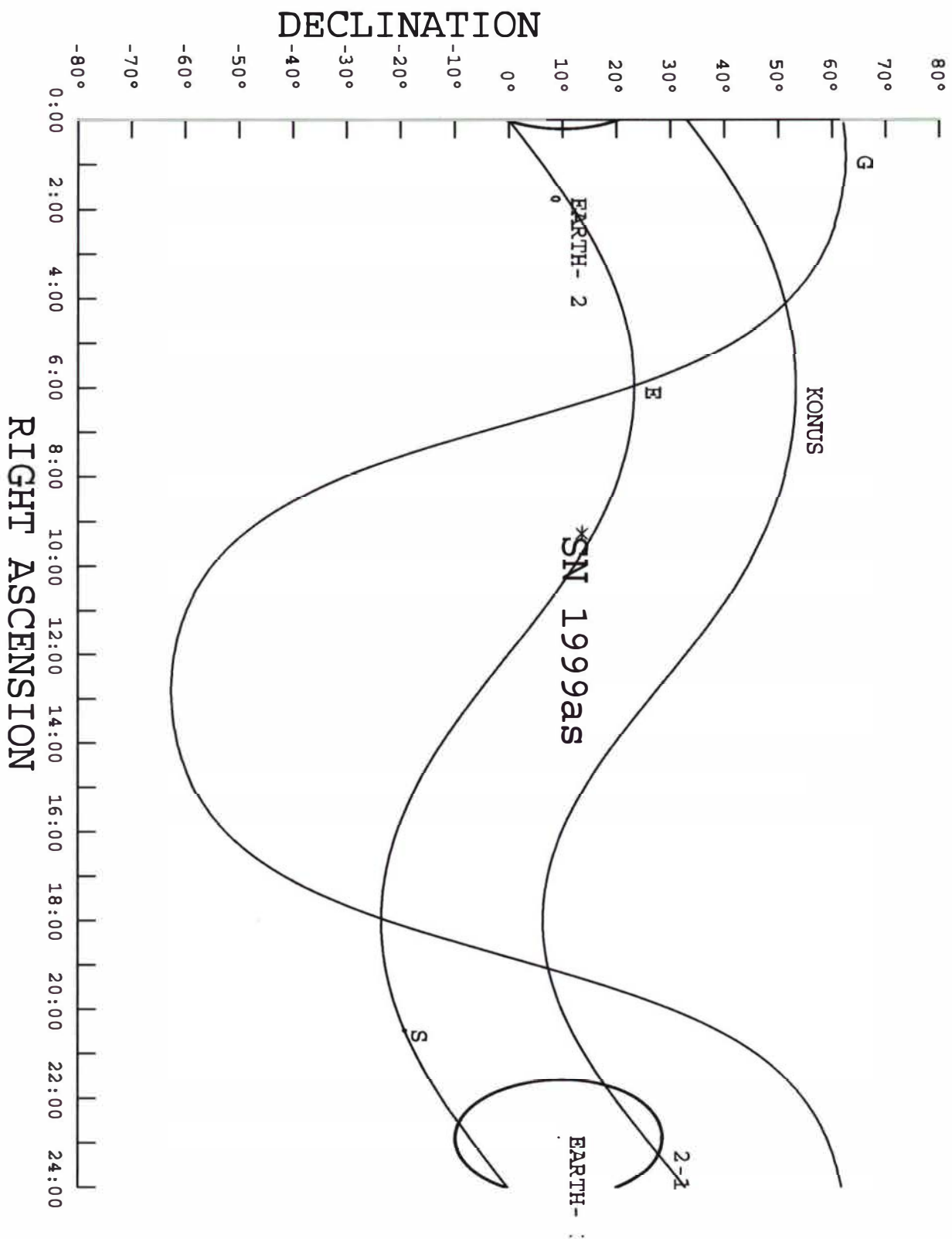
S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 ULYSSES

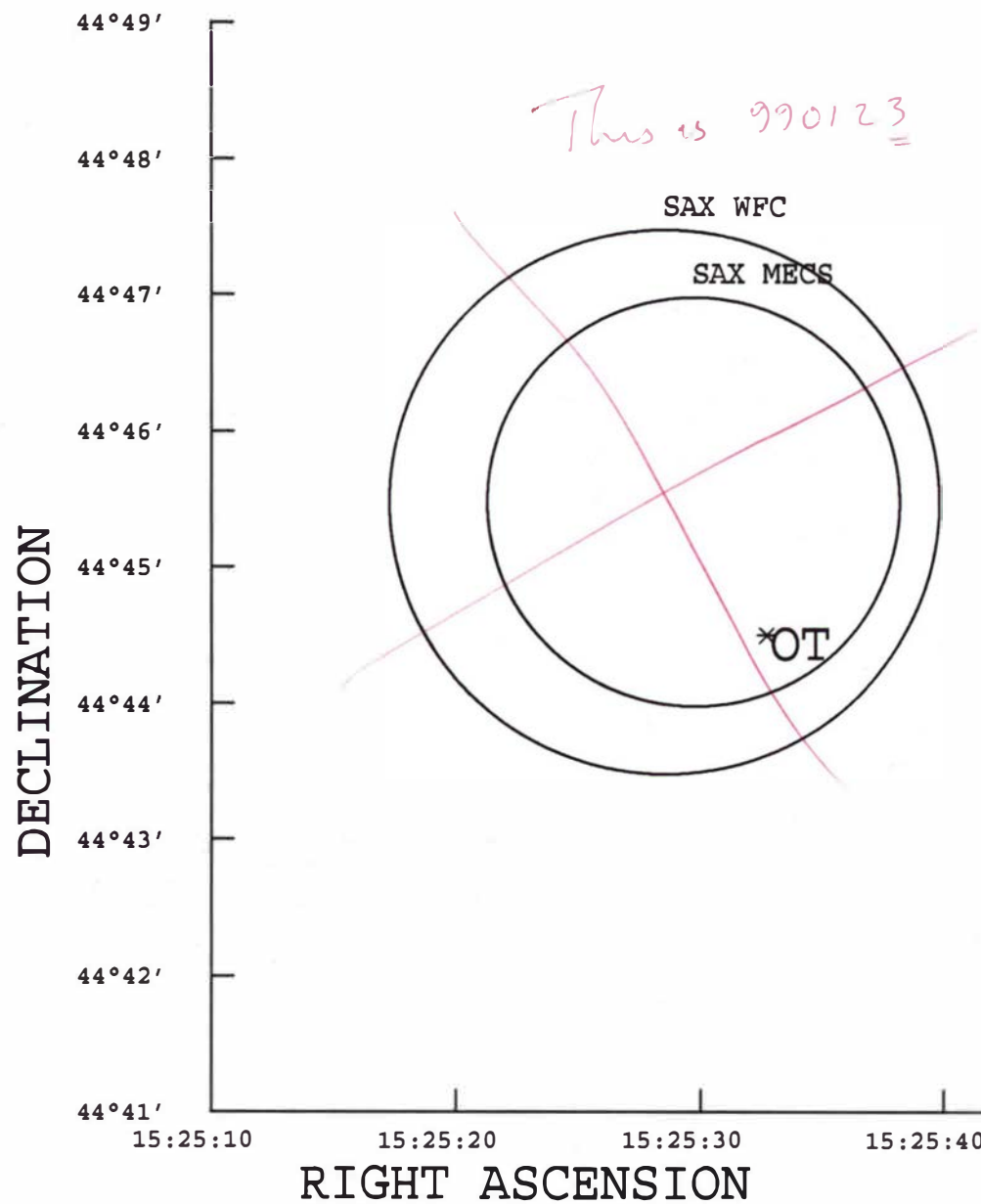
2 KONUS



EVENT OF JAN 25, 1999 1:26

4/ 2/99

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



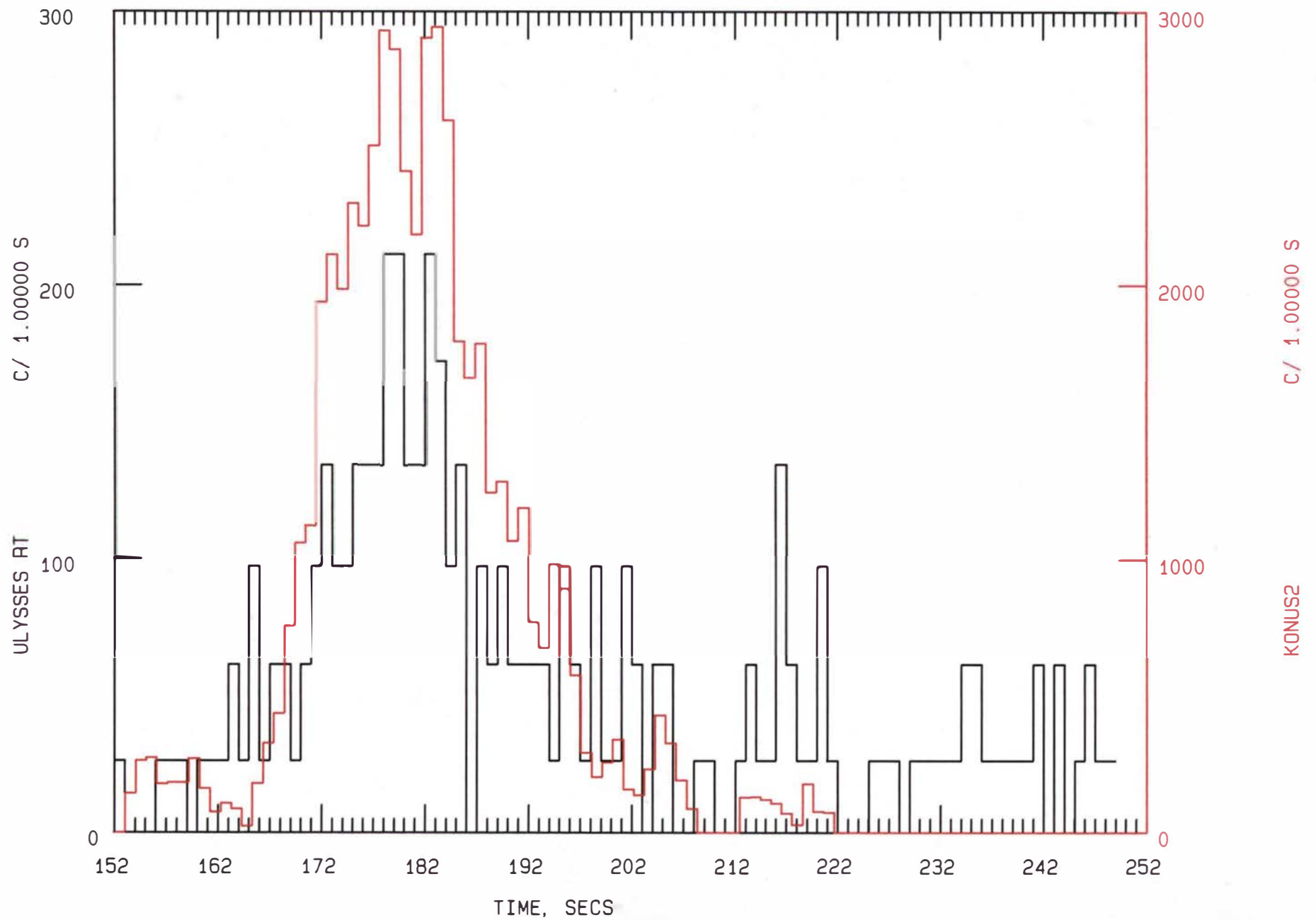
ULYSSES RT-KONUS2

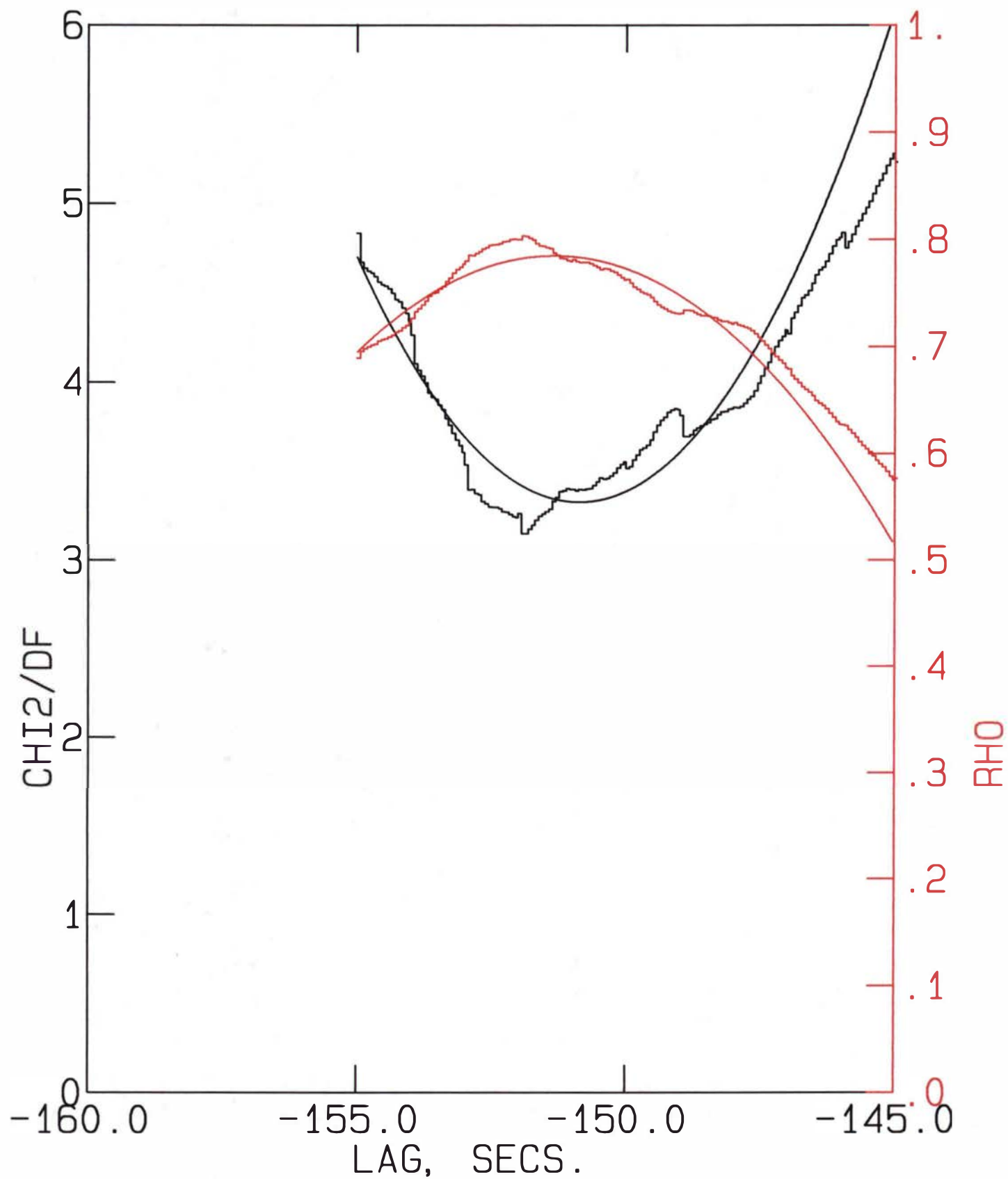
CORRELATION

25/ 1/99

5208.206

4/ 2/99

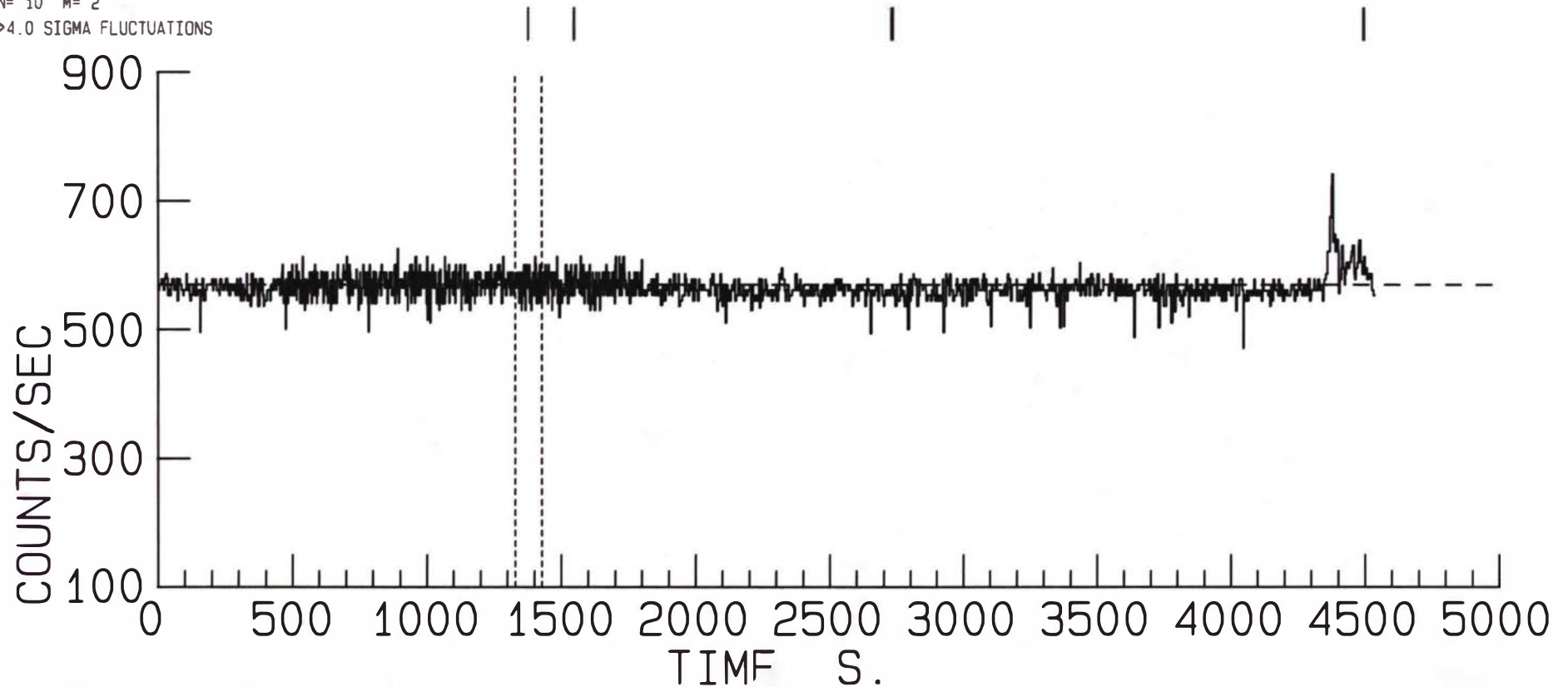




ULYSSES RT
25/ 1/99 1008.163 s
INTERVALS REGROUPED BY 4
22- 150 keV

4 / 2 / 99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



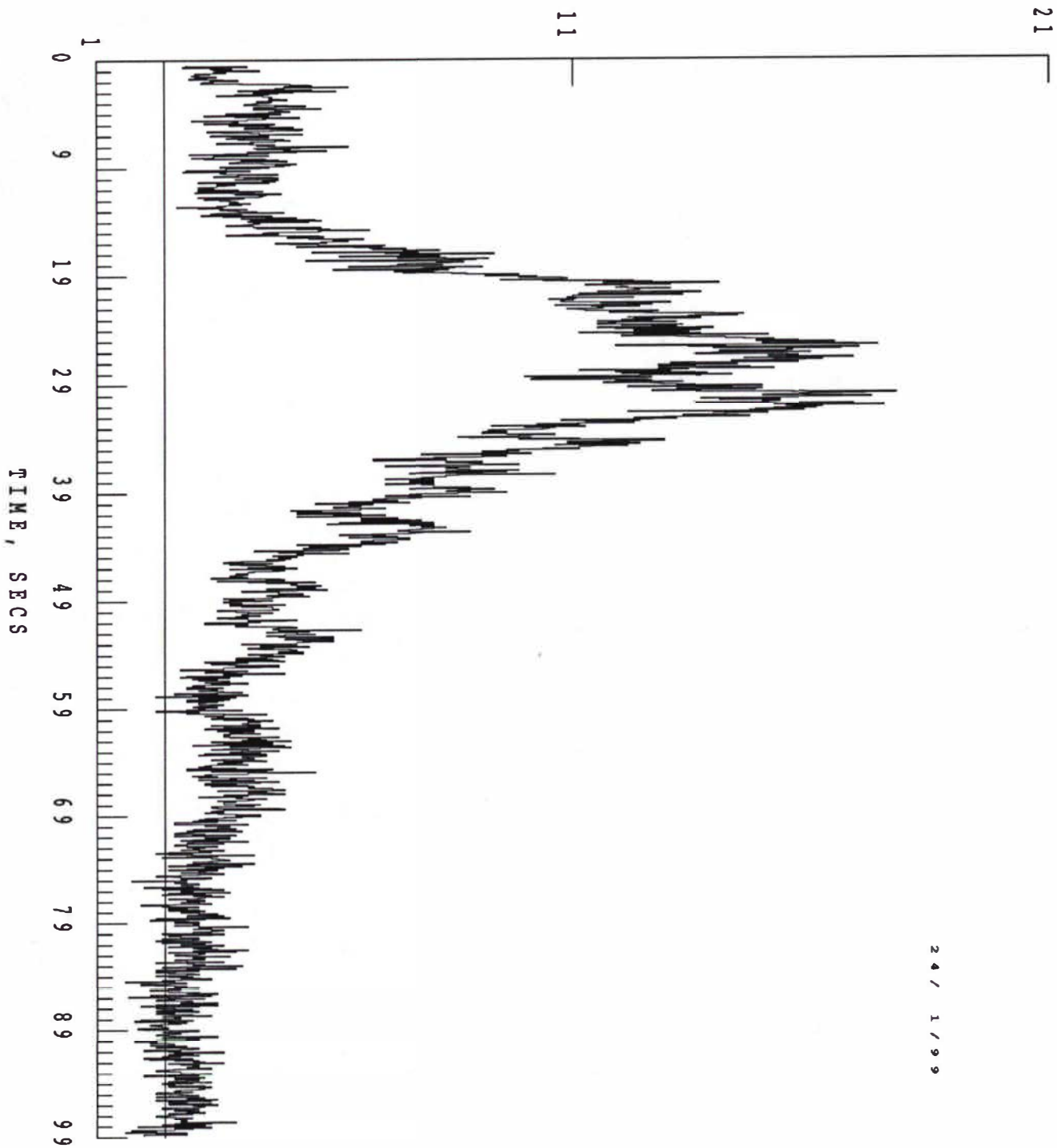
KONUS

25/01/99

3275.723

50- 200 keV

COUNTS/0.064 S



Date: Feb 15 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. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

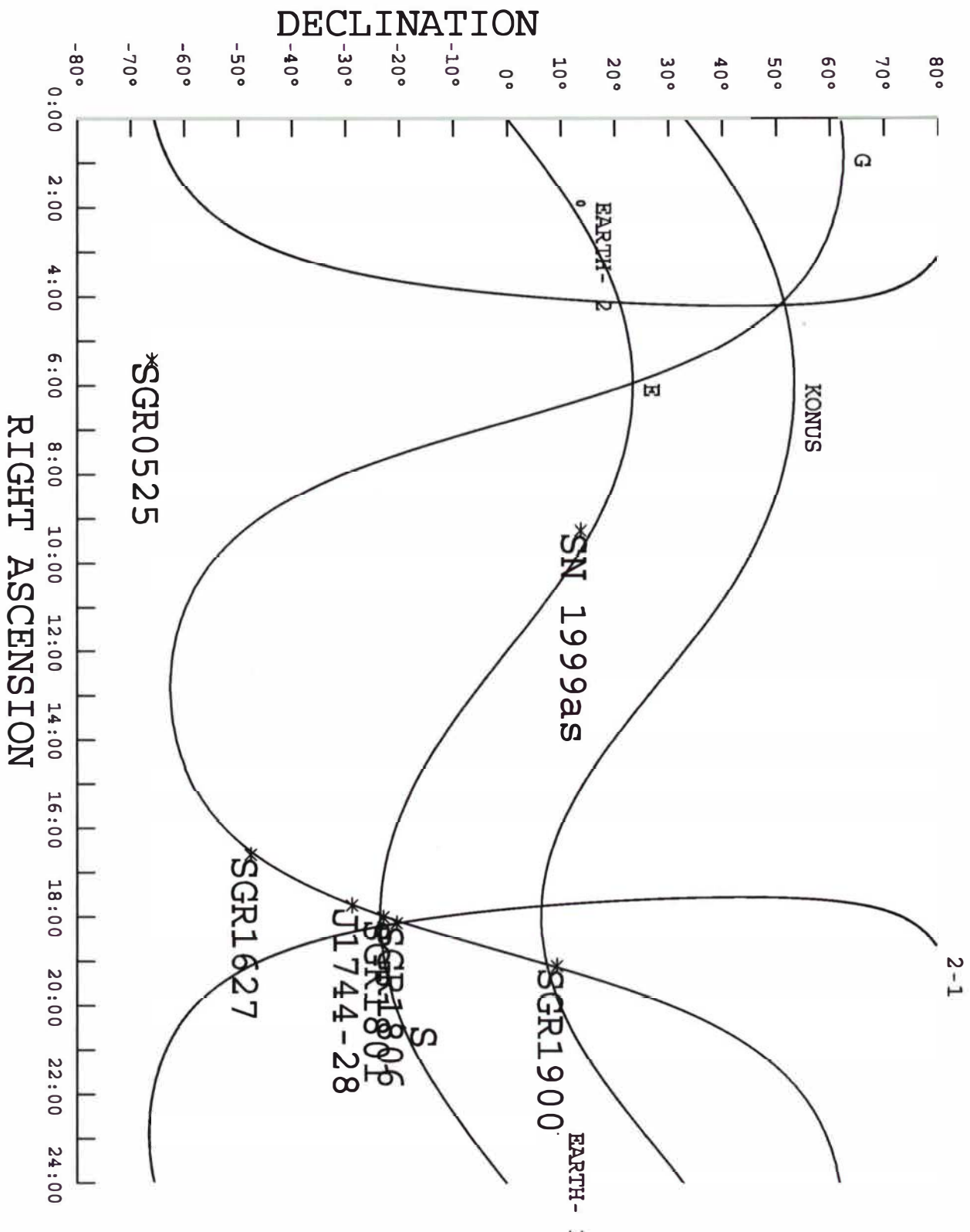
G=GALACTIC EQUATOR

1 ULYSSES

2 KONUS

EVENT OF JAN 25, 1999 8:42

15 / 2 / 1



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

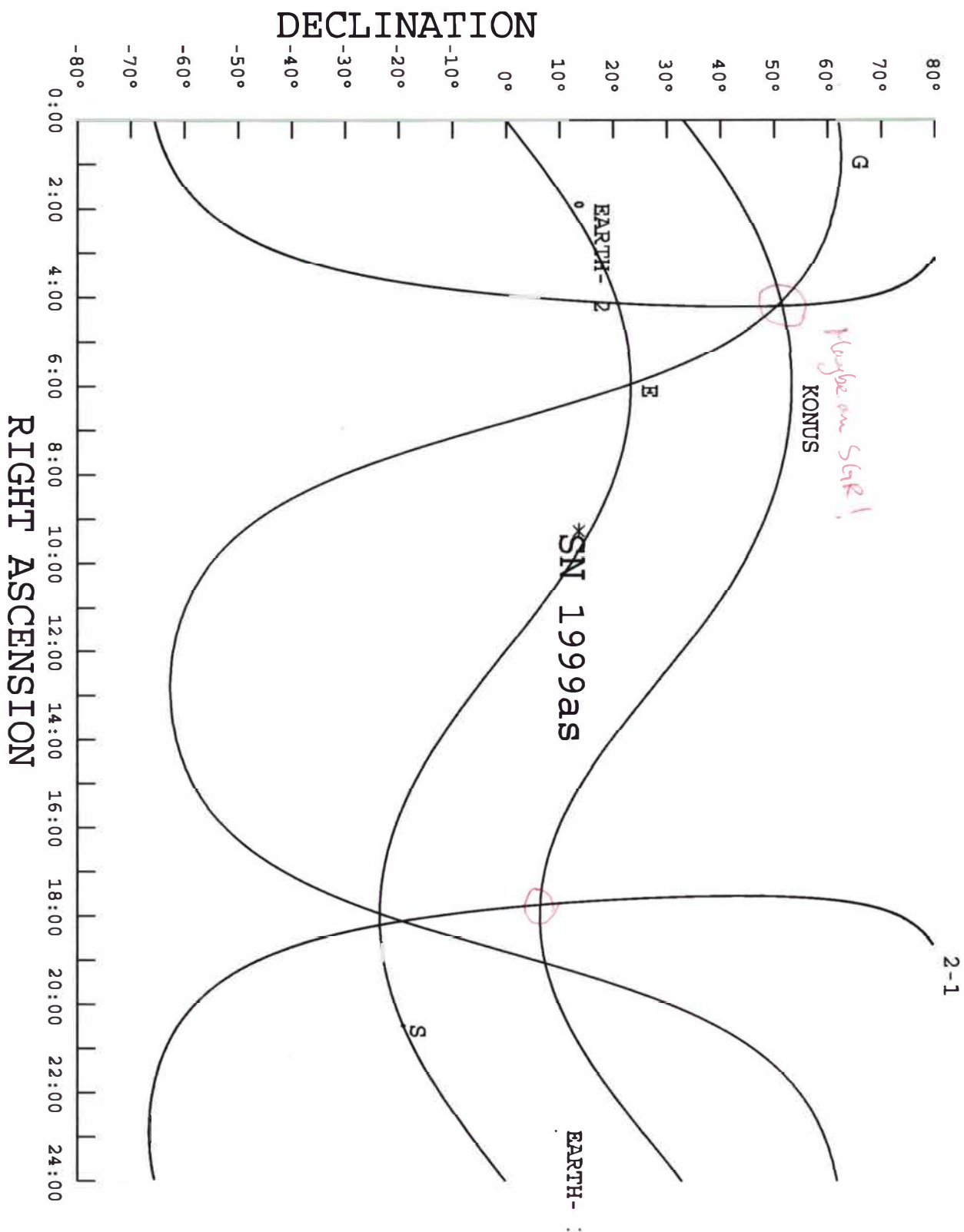
G=GALACTIC EQUATOR

1 ULYSSES

2 KONUS

EVENT OF JAN 25, 1999 8:42

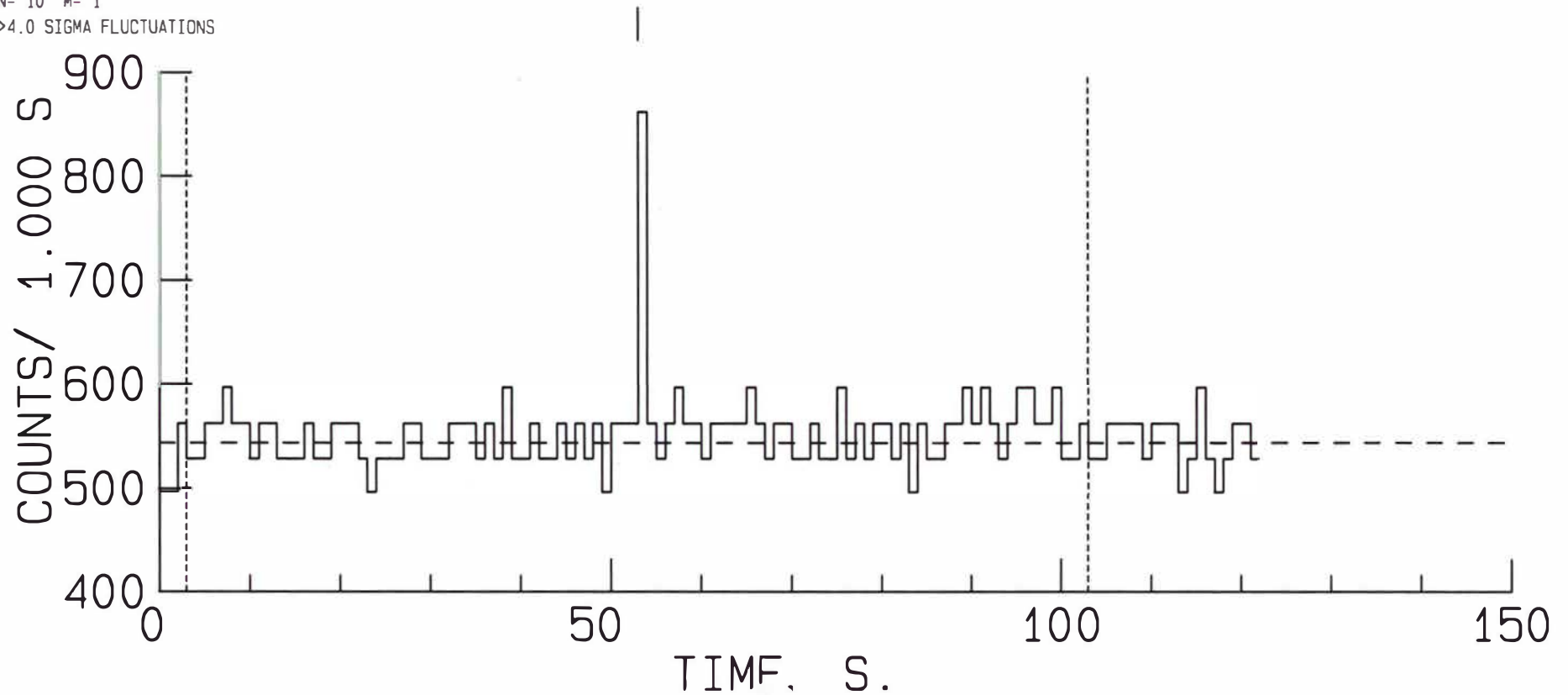
6 / 2 / 1



ULYSSES RT
25/ 1/99 31313.472 s
22- 149 keV

6 / 2 / 1

N= 10 M= 1
>4.0 SIGMA FLUCTUATIONS



KONUS

00/00/00

0.000

0- 768 keV

COUNTS/0.002 S

10

20

30

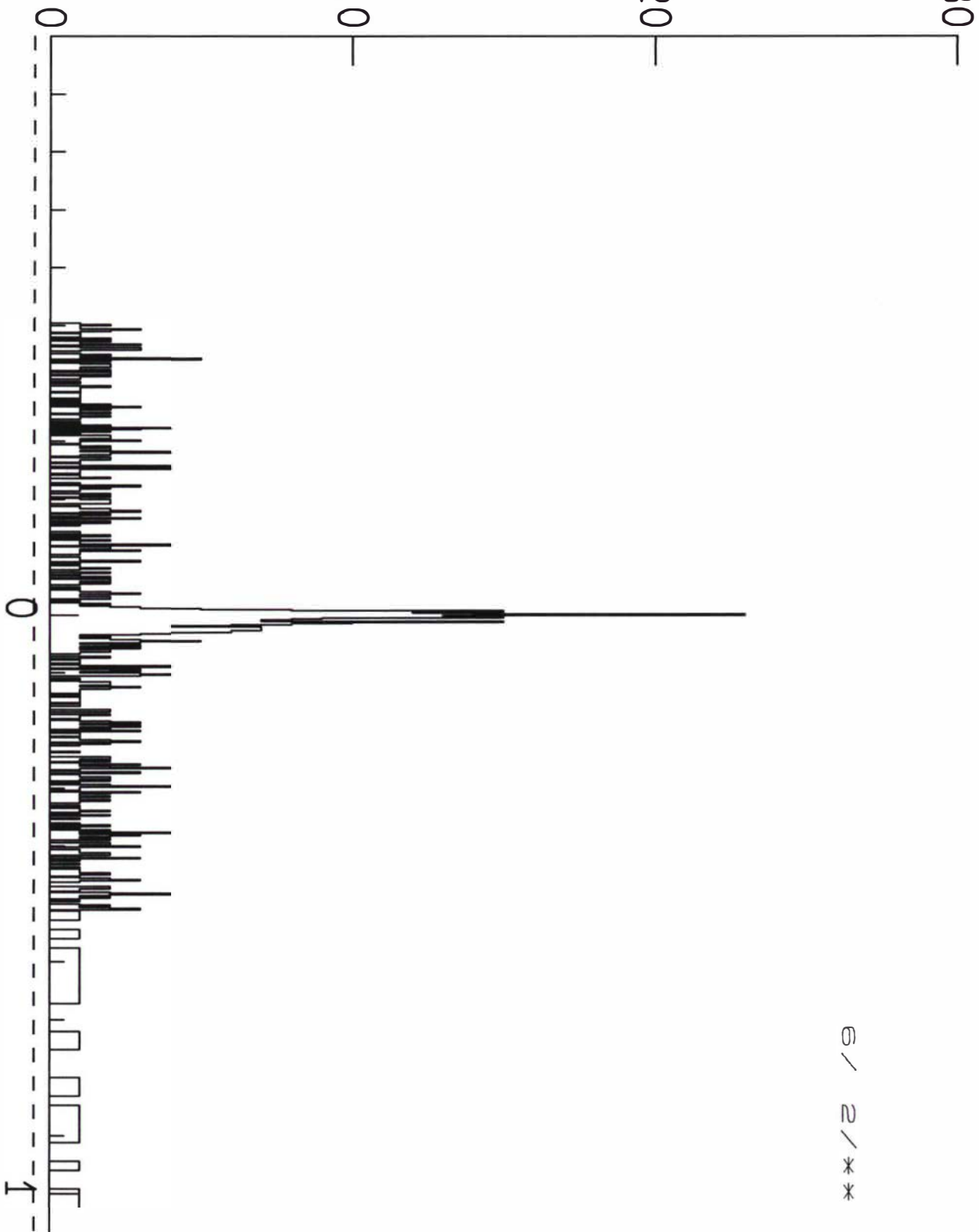
0

0

TIME, SECS

1

5 / 2 / *

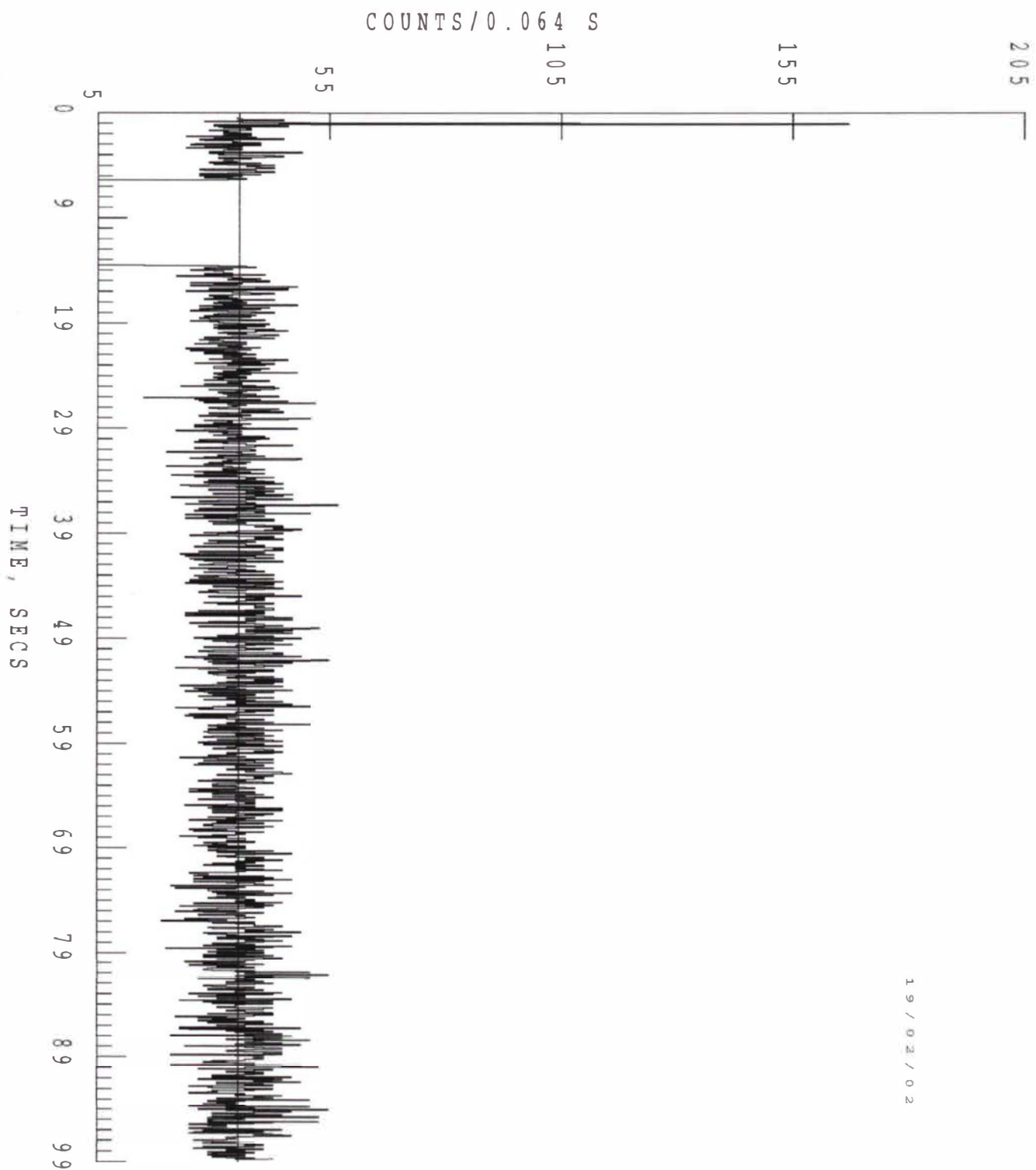


KONUS2

25/01/99

30836.811

50 - 200 keV



KONUS2 19990125 30836

ULYSSES RT

19 / 02 / 02

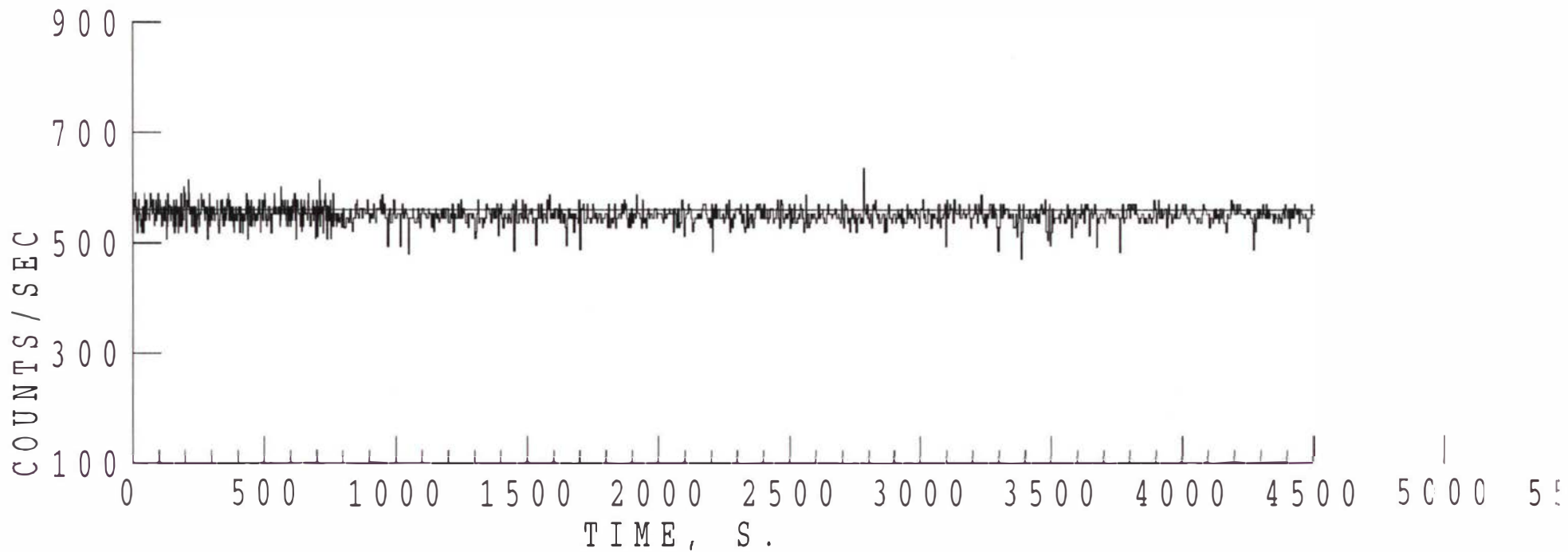
25 / 01 / 99 28584.445 s

INTERVALS REGROUPED BY 4

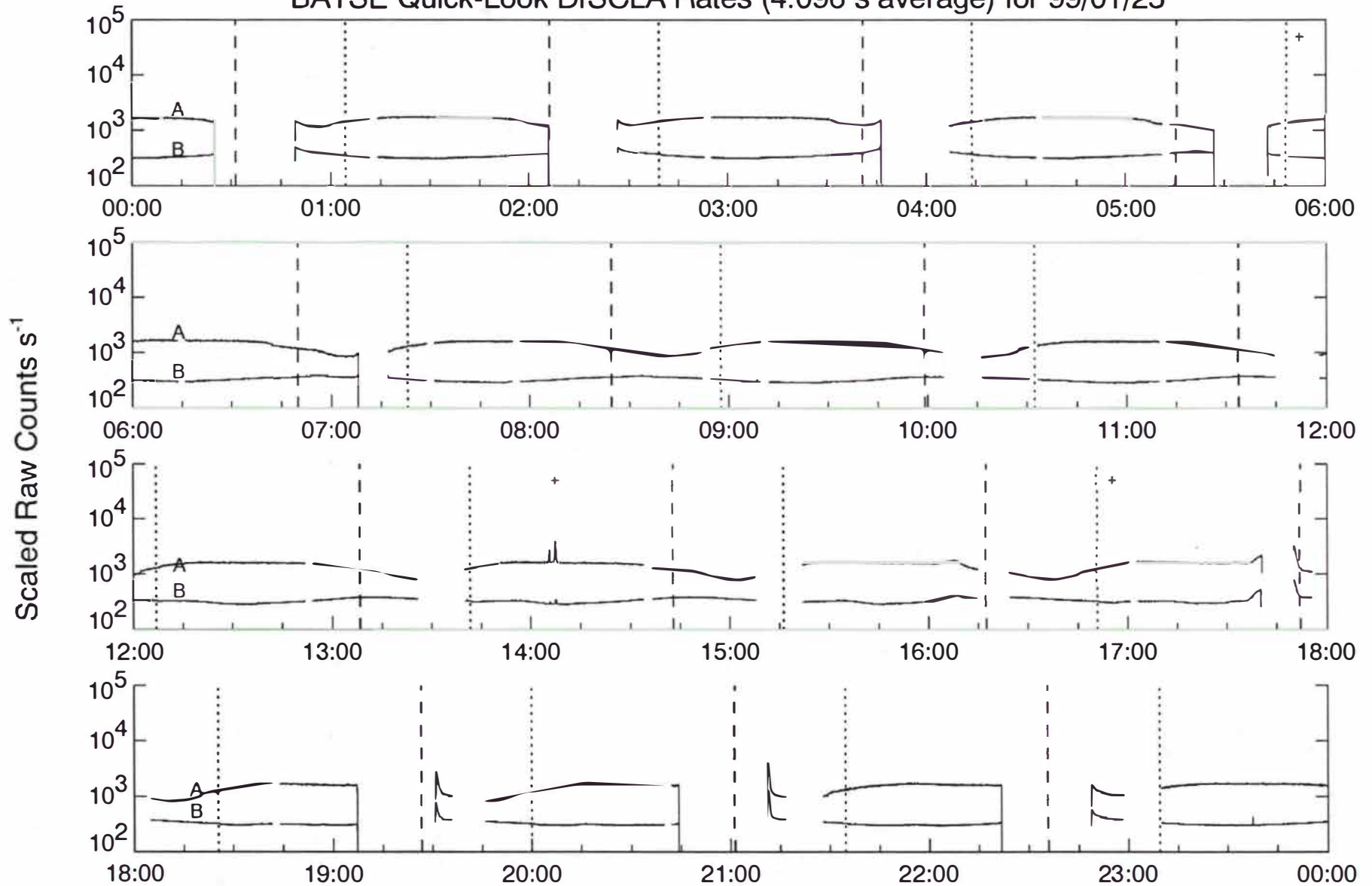
0 - 0 keV

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 99/01/25

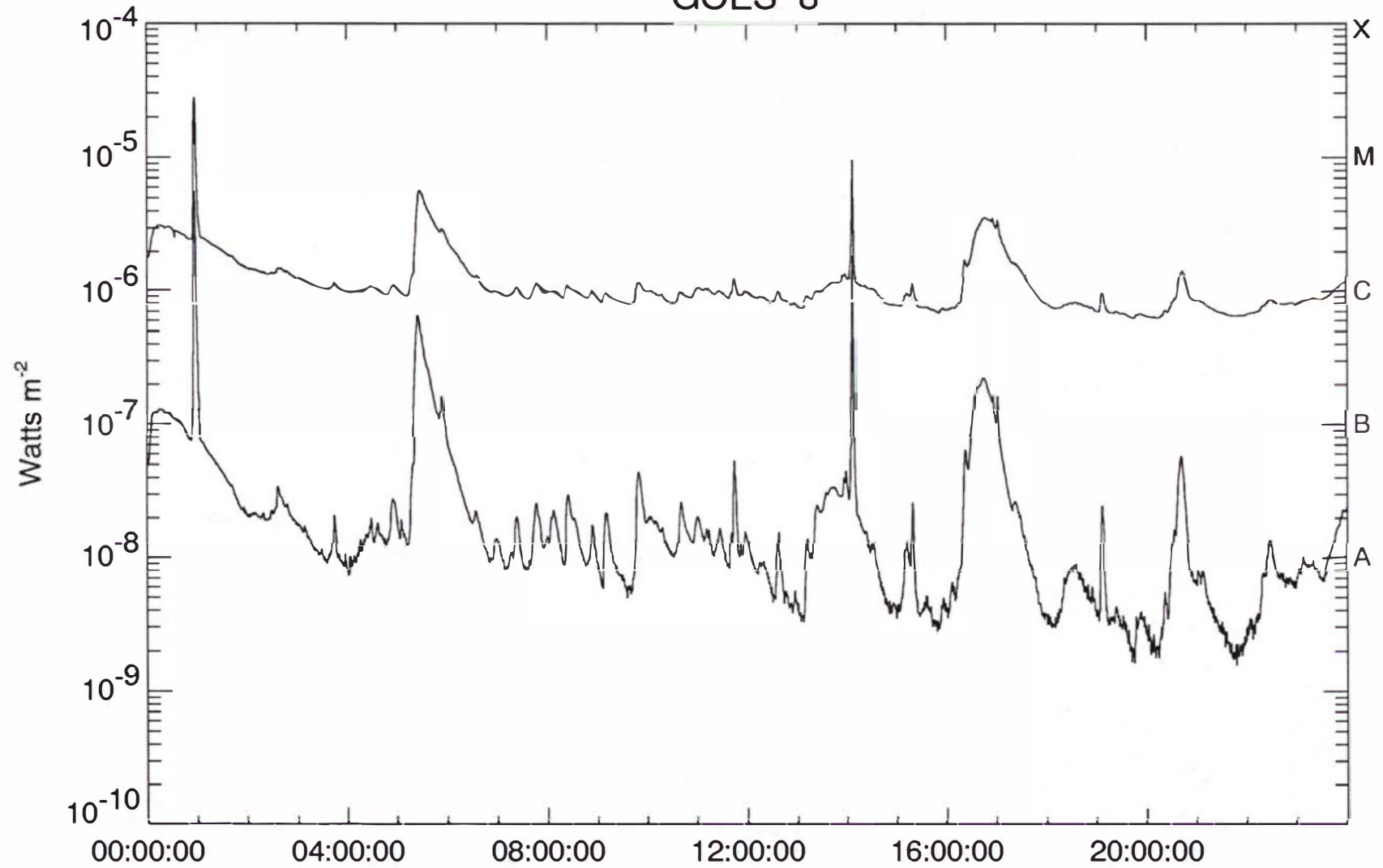


Current Time: 99/01/29, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/25, 0000:00

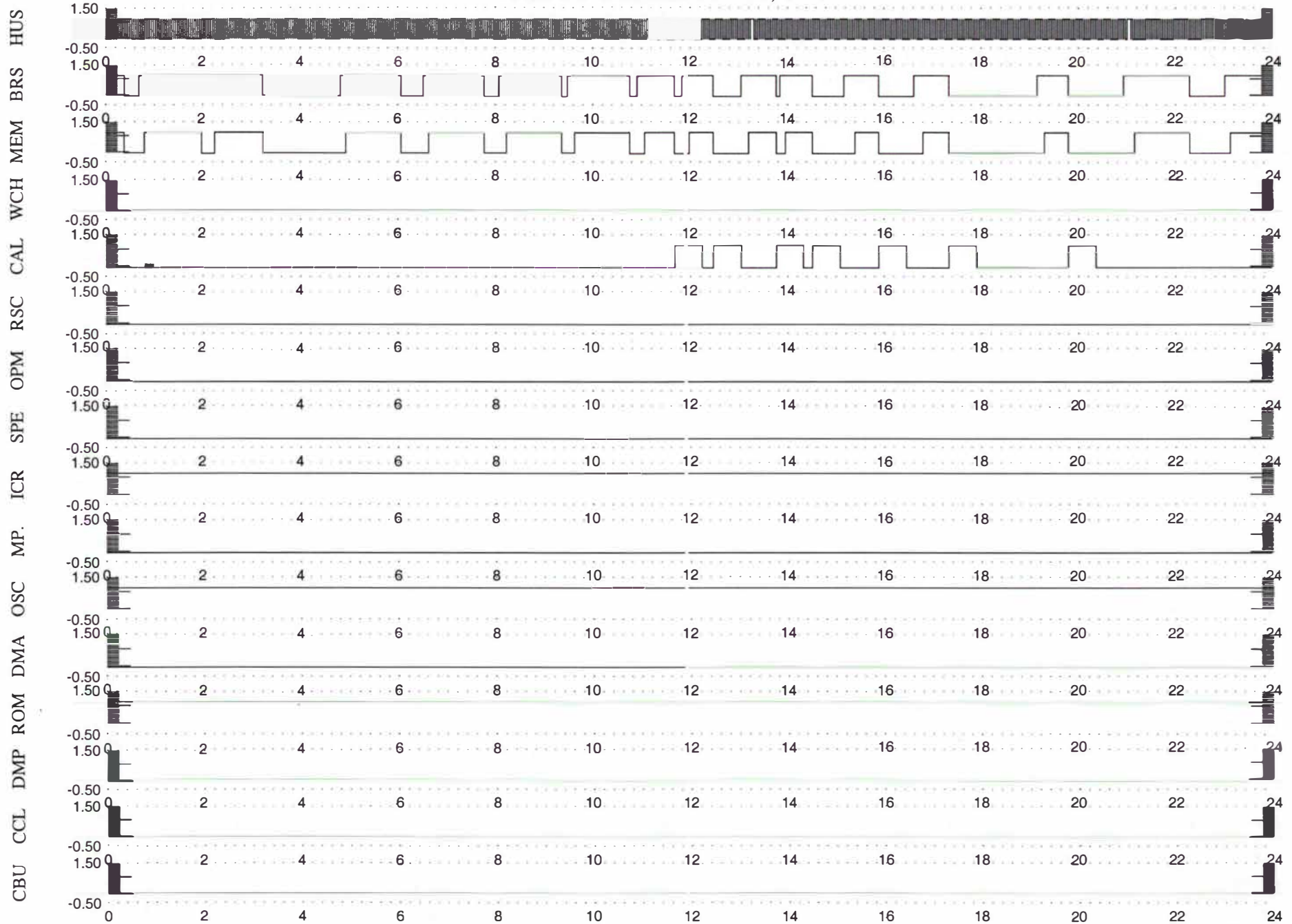
Plot created: 99/01/29, 1009

Channel

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

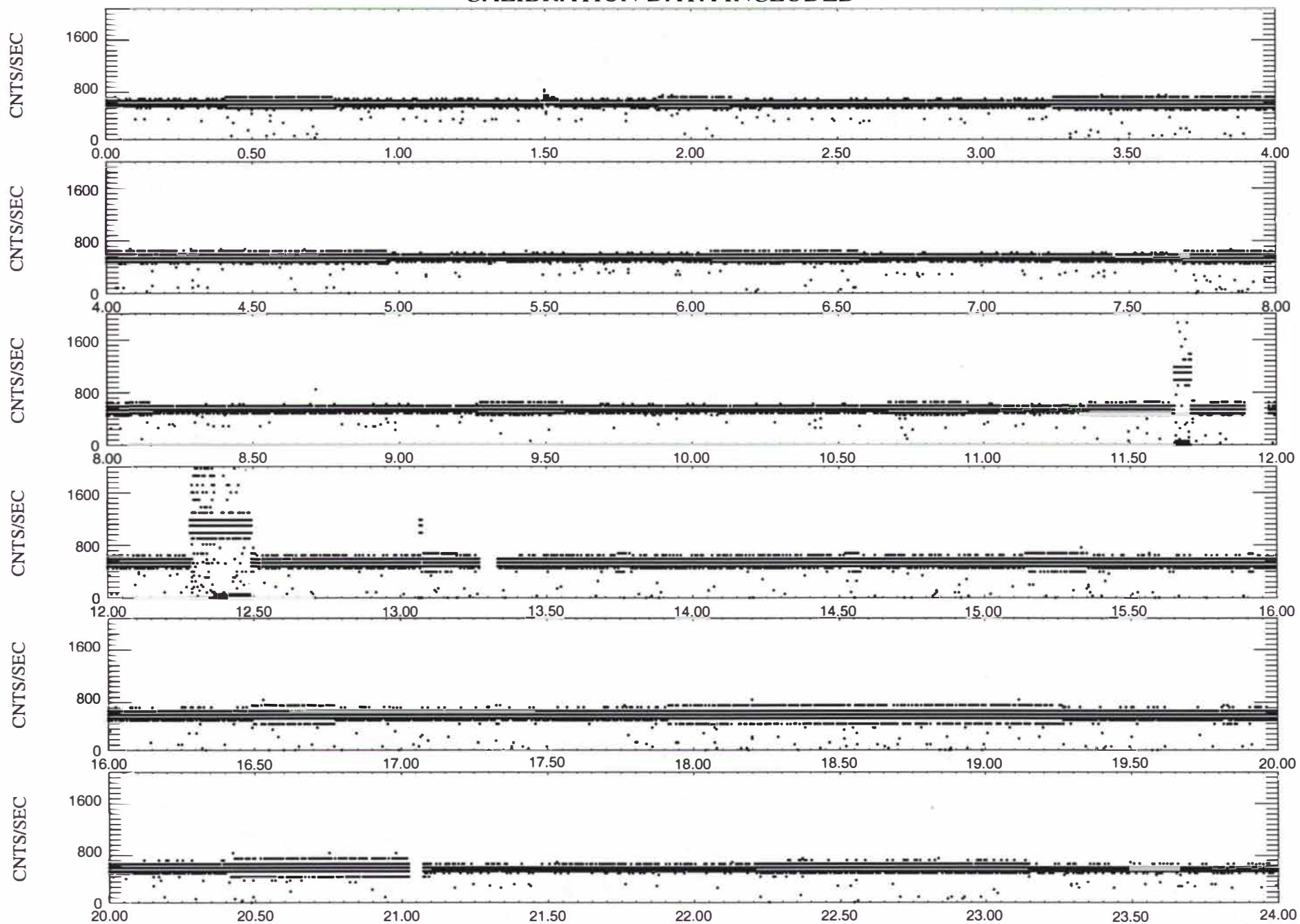
Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 11 - 15, 0 - 9

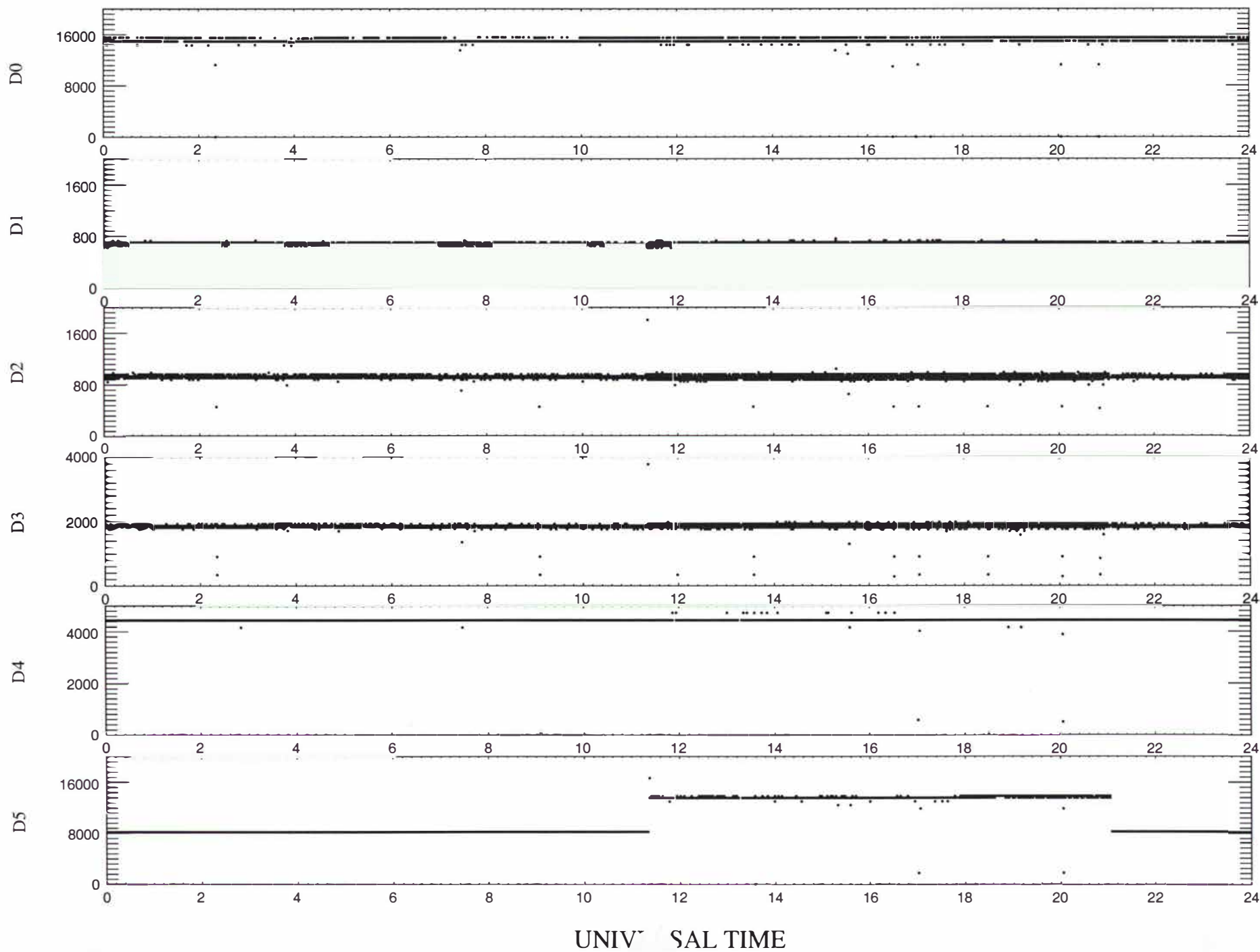


UNIV 3AL TIME

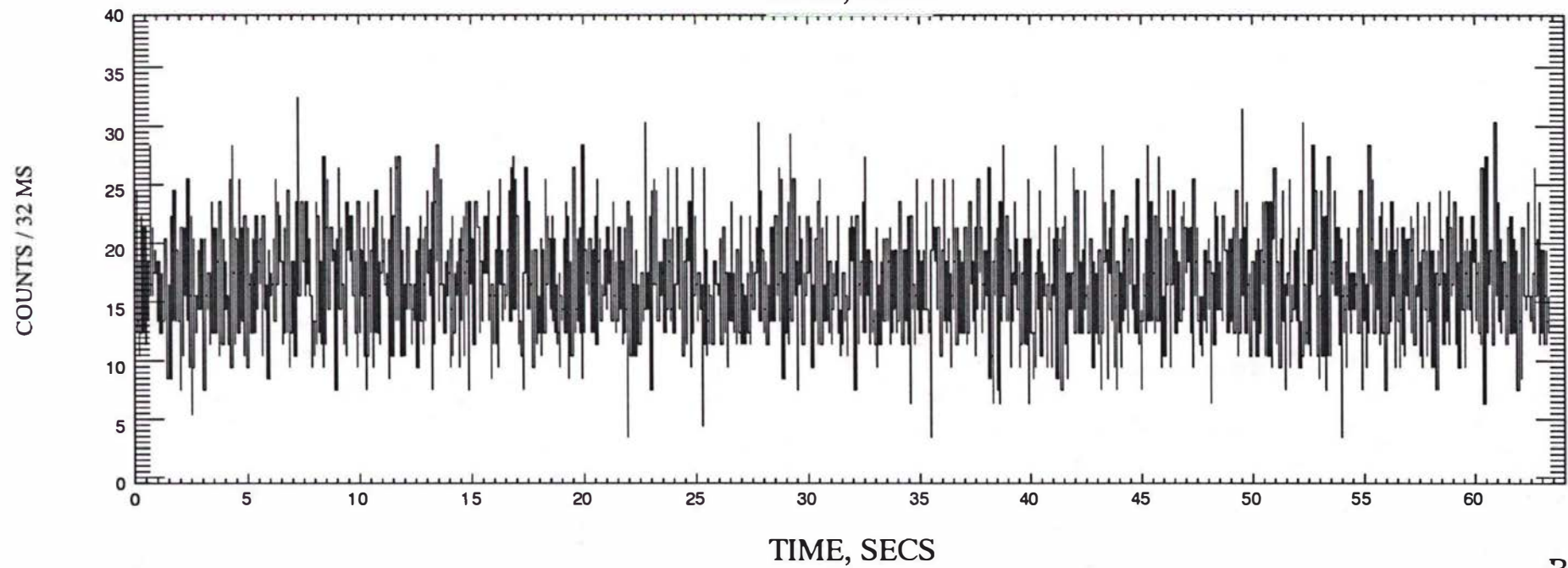
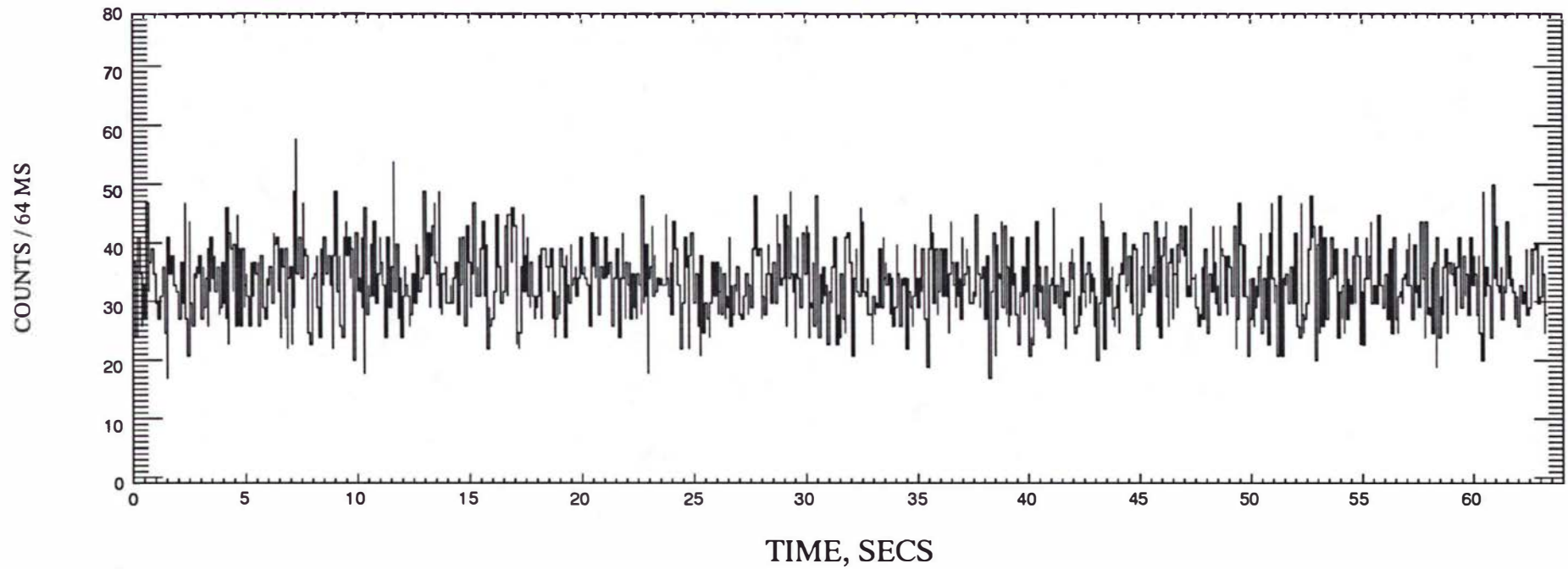
CALIBRATION DATA INCLUDED



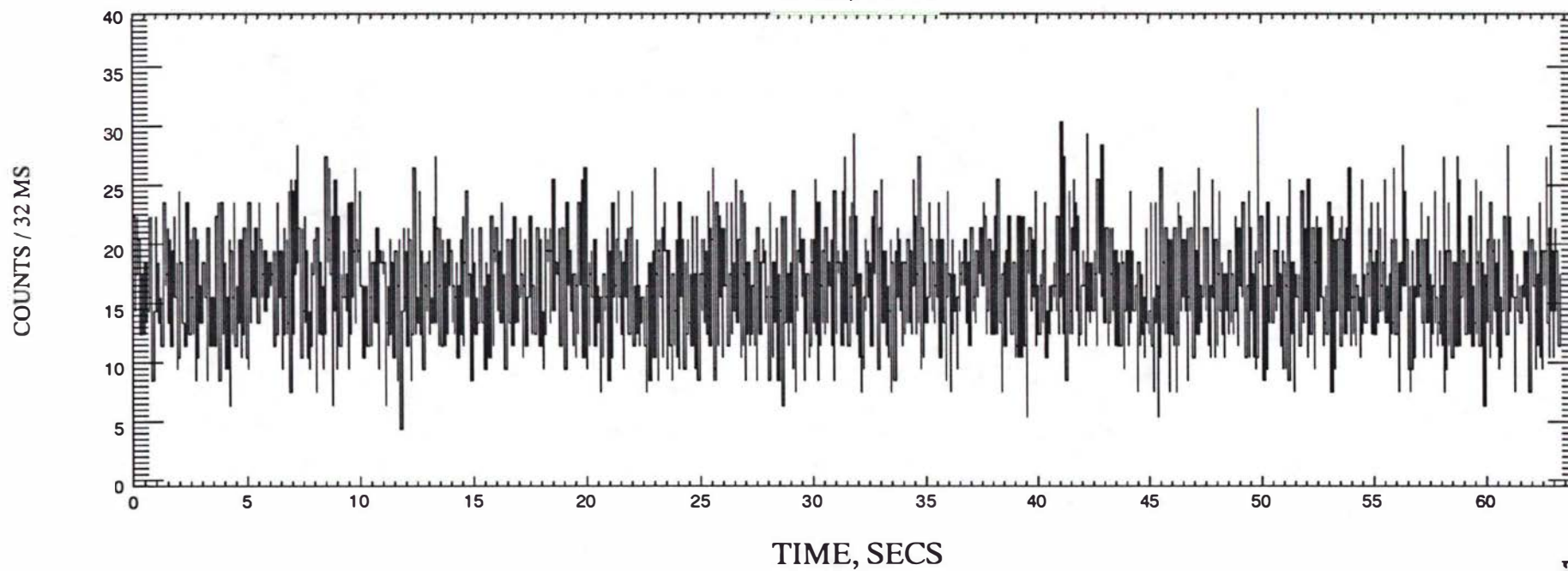
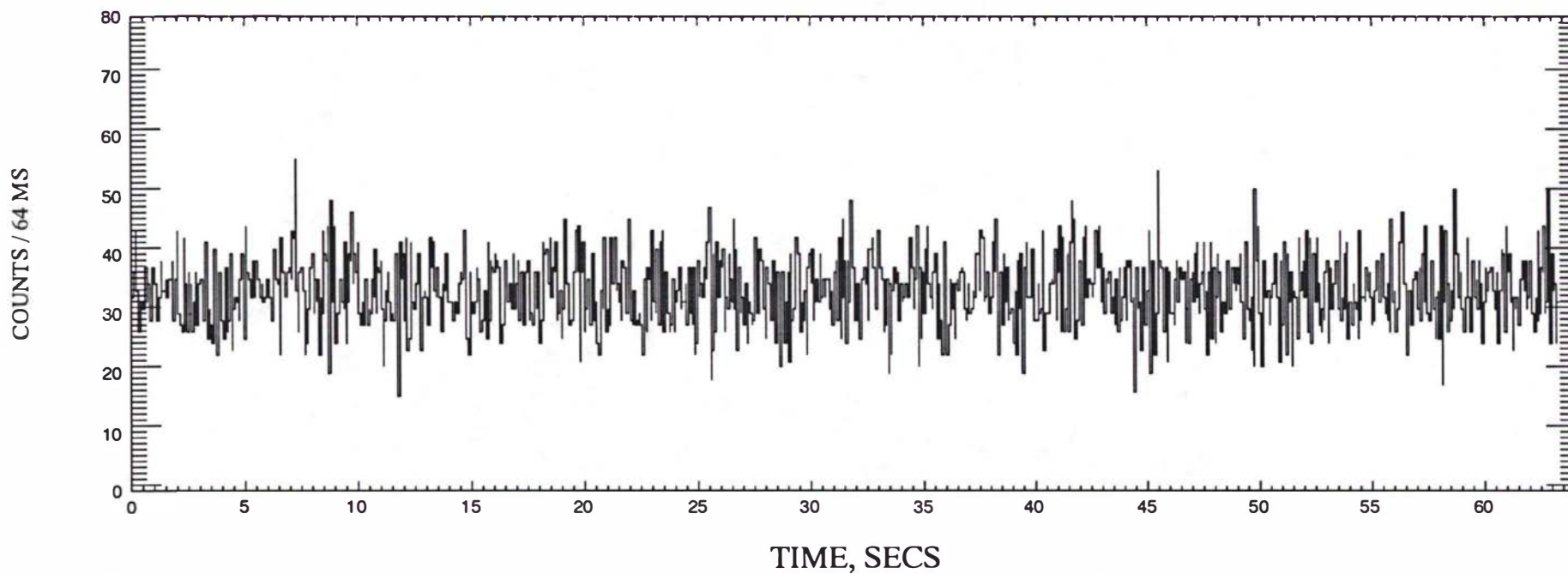
UNIV SAL TIME



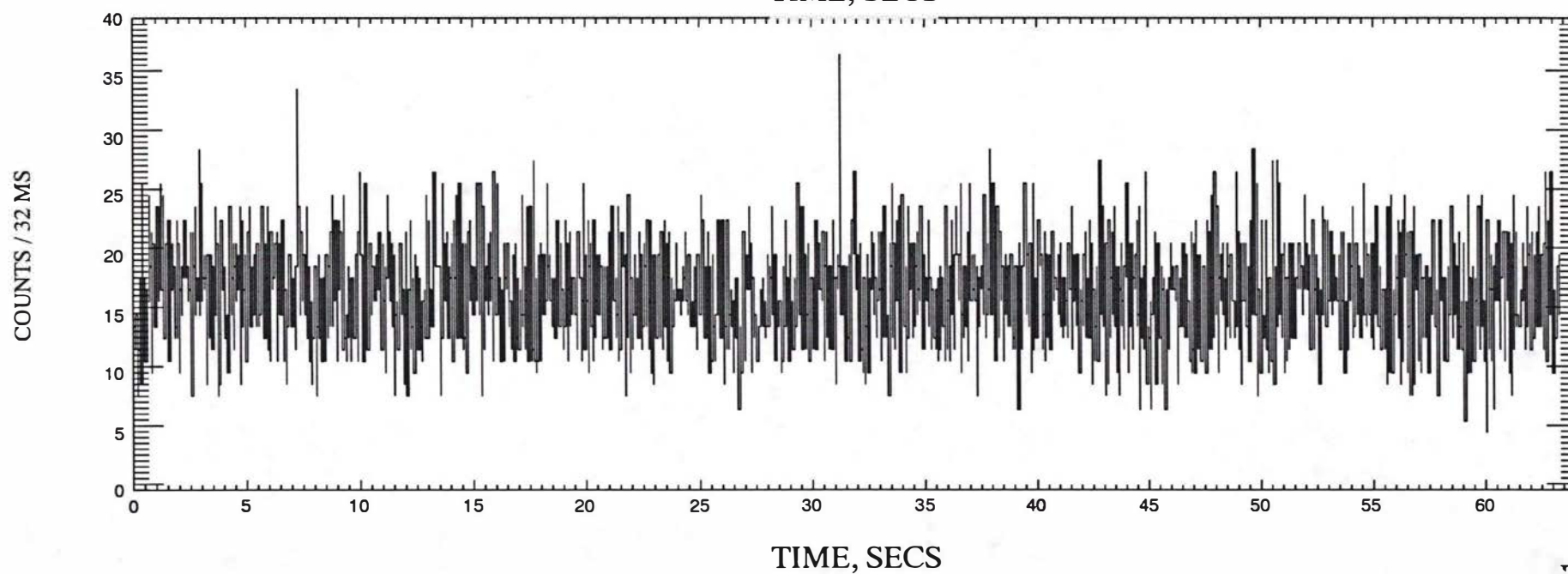
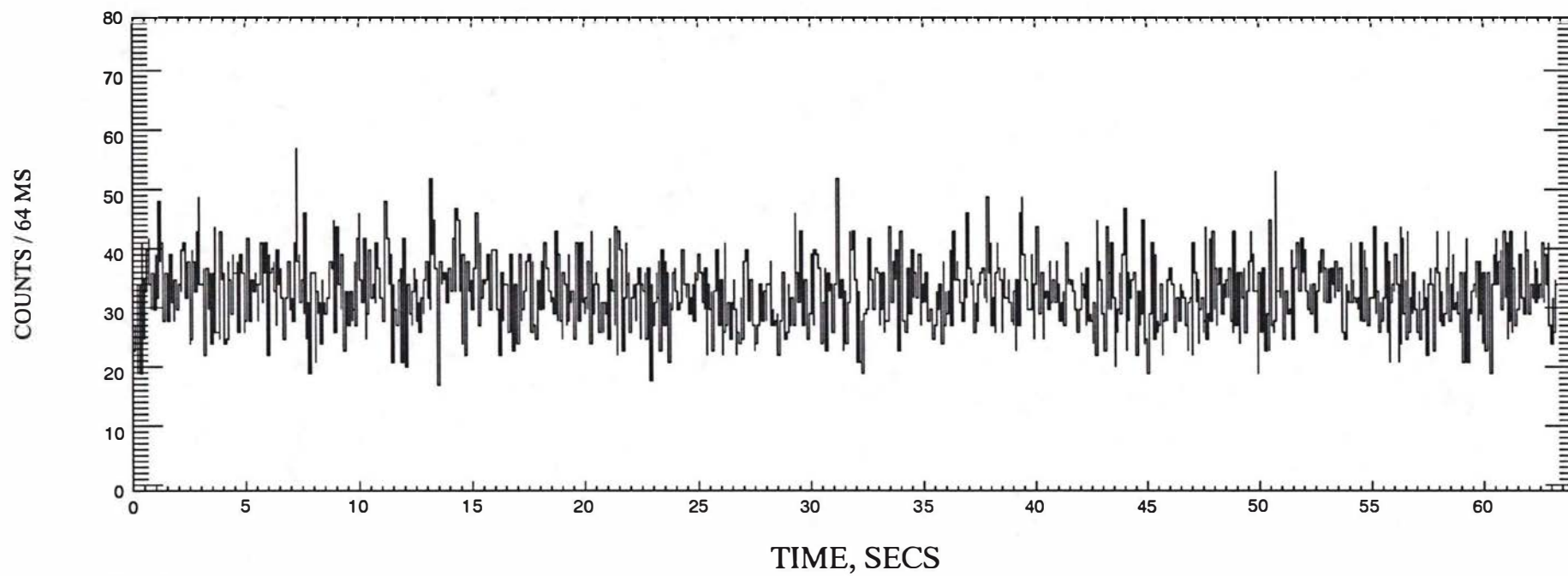
Burst Counter 11 at UT= 0.630740699768 h= 2270.667 s 00:37:50.667



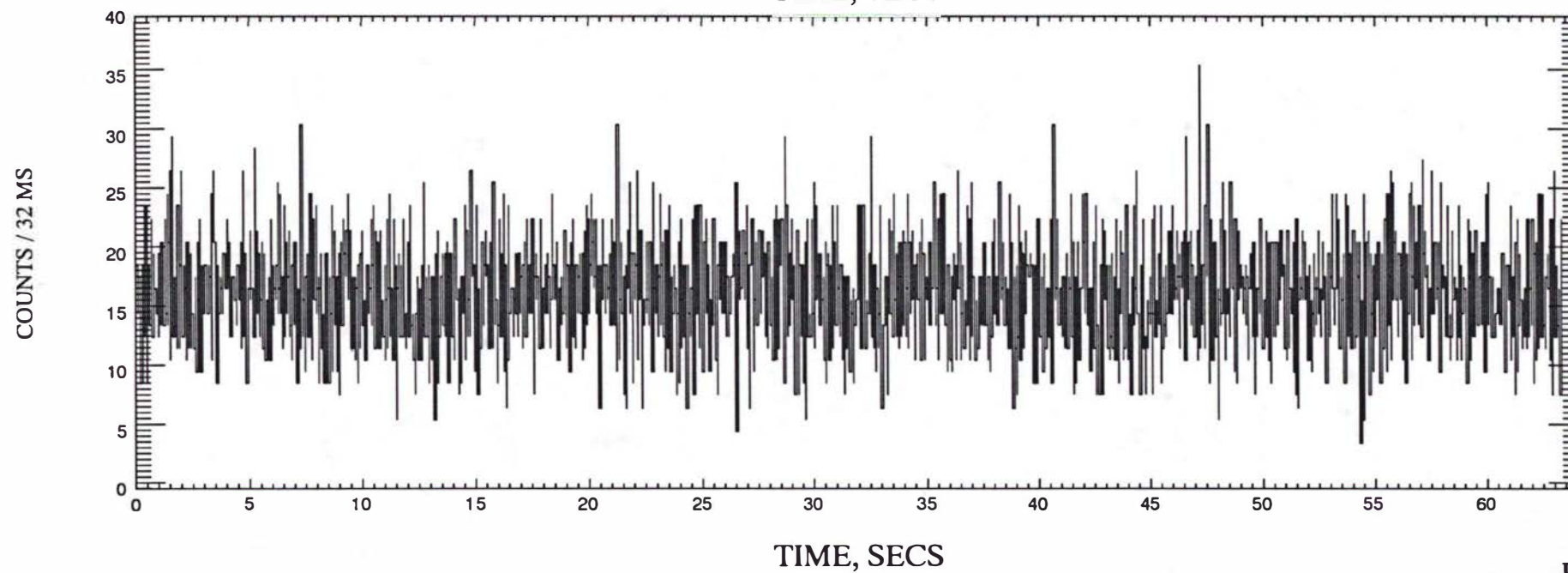
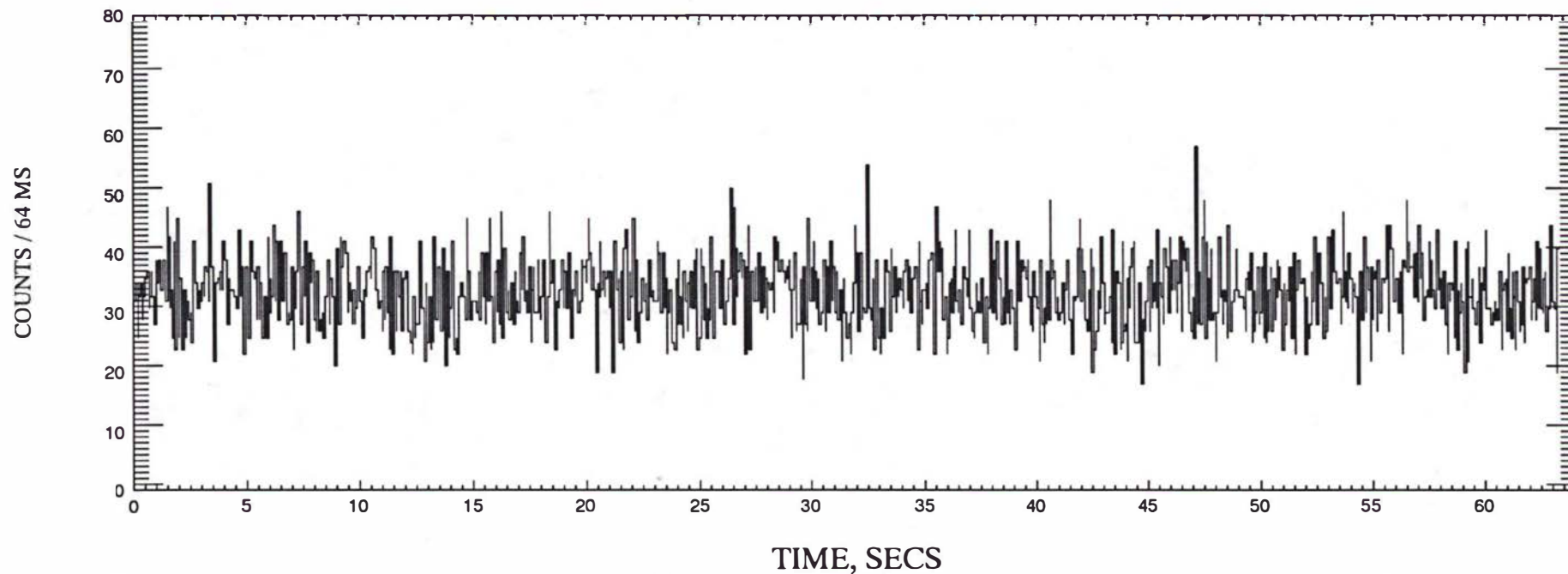
Burst Counter 12 at UT= 1.968080181546 h= 7085.089 s 01:58:05.089



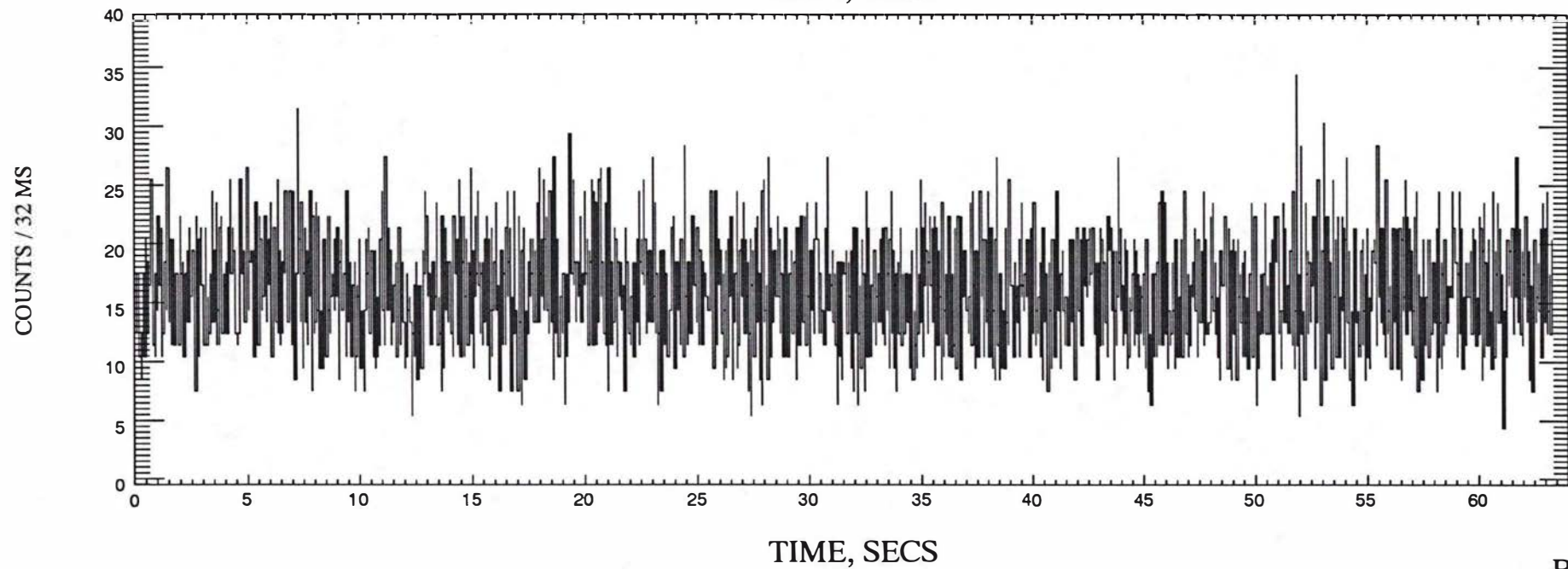
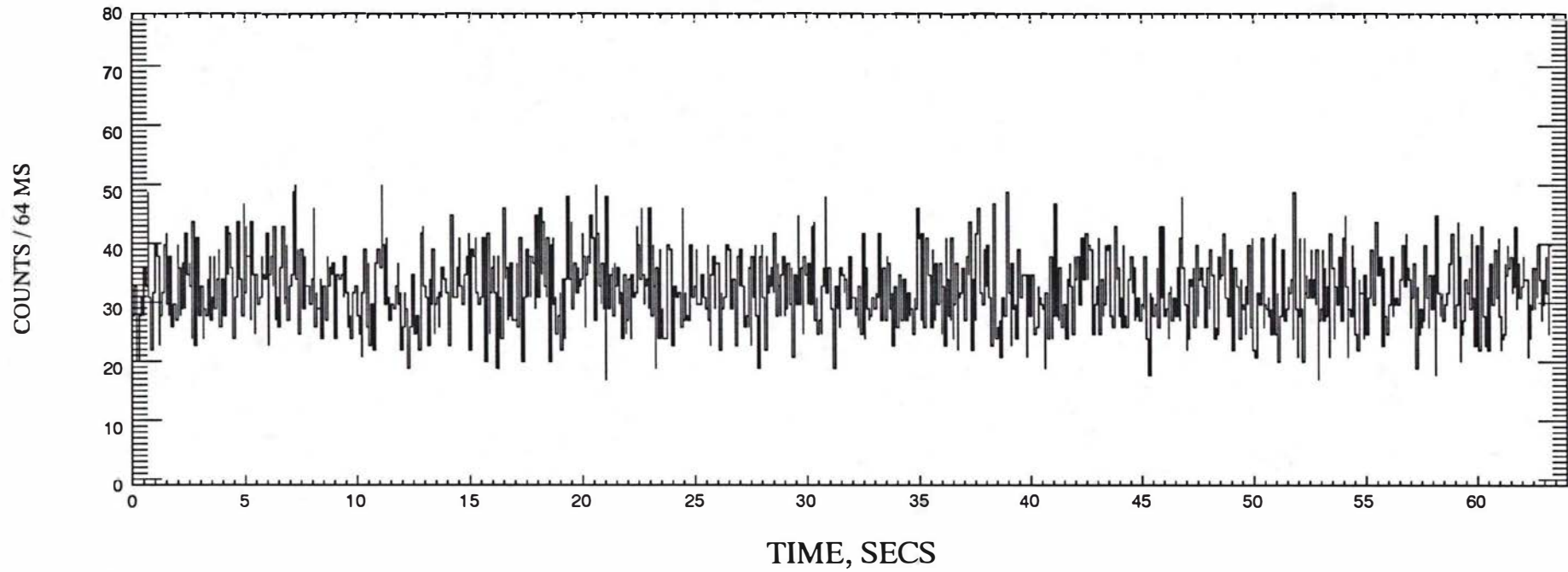
Burst Counter 13 at UT= 4.796685659620 h=17268.068 s 04:47:48.068



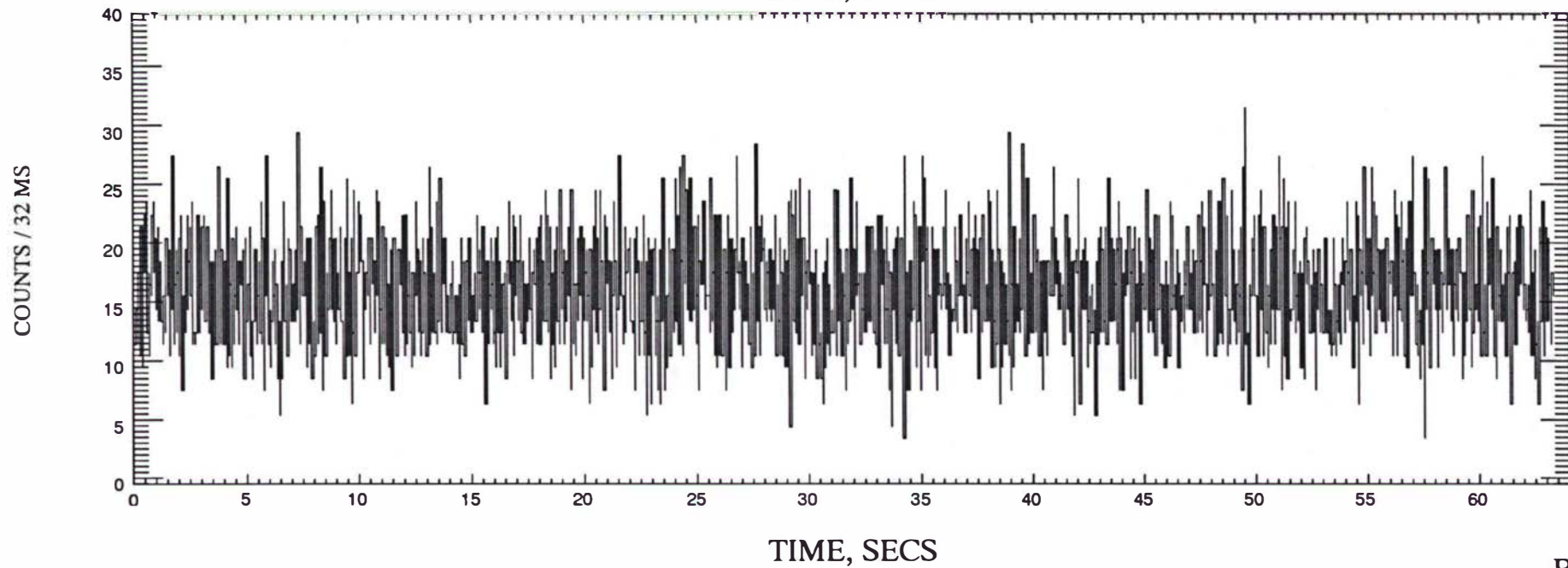
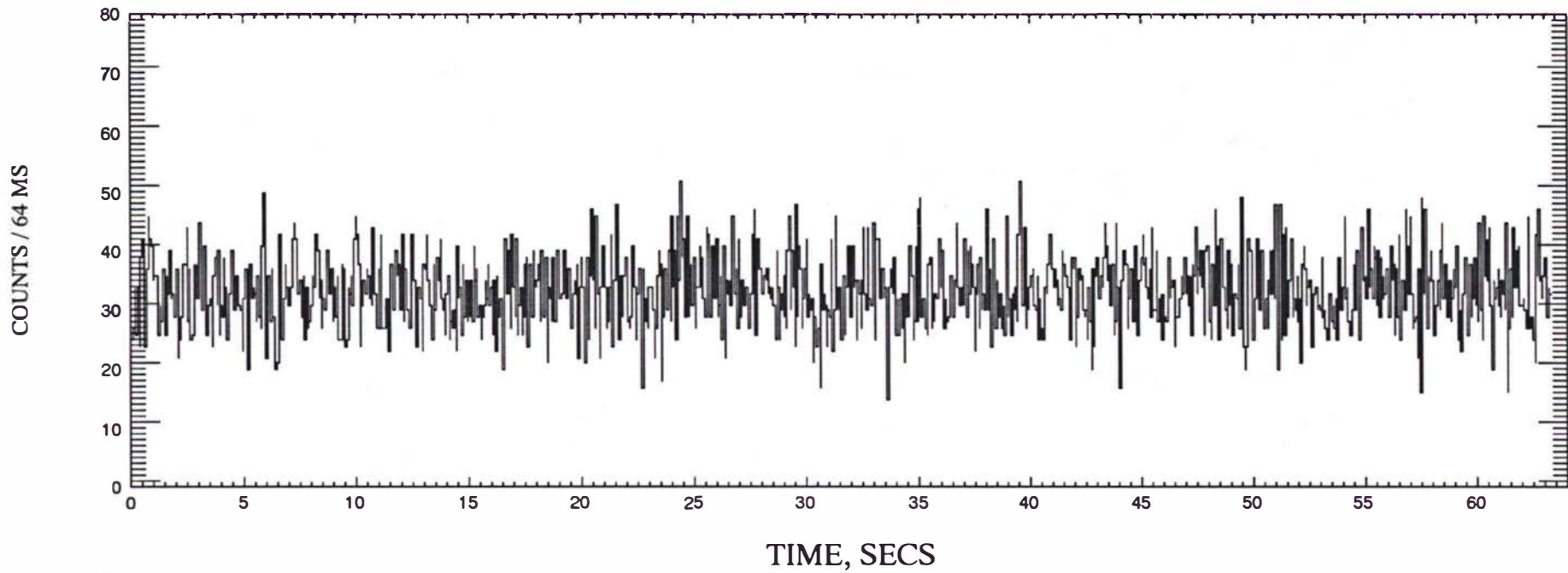
Burst Counter 14 at UT= 6.427432280646 h=23138.756 s 06:25:38.756



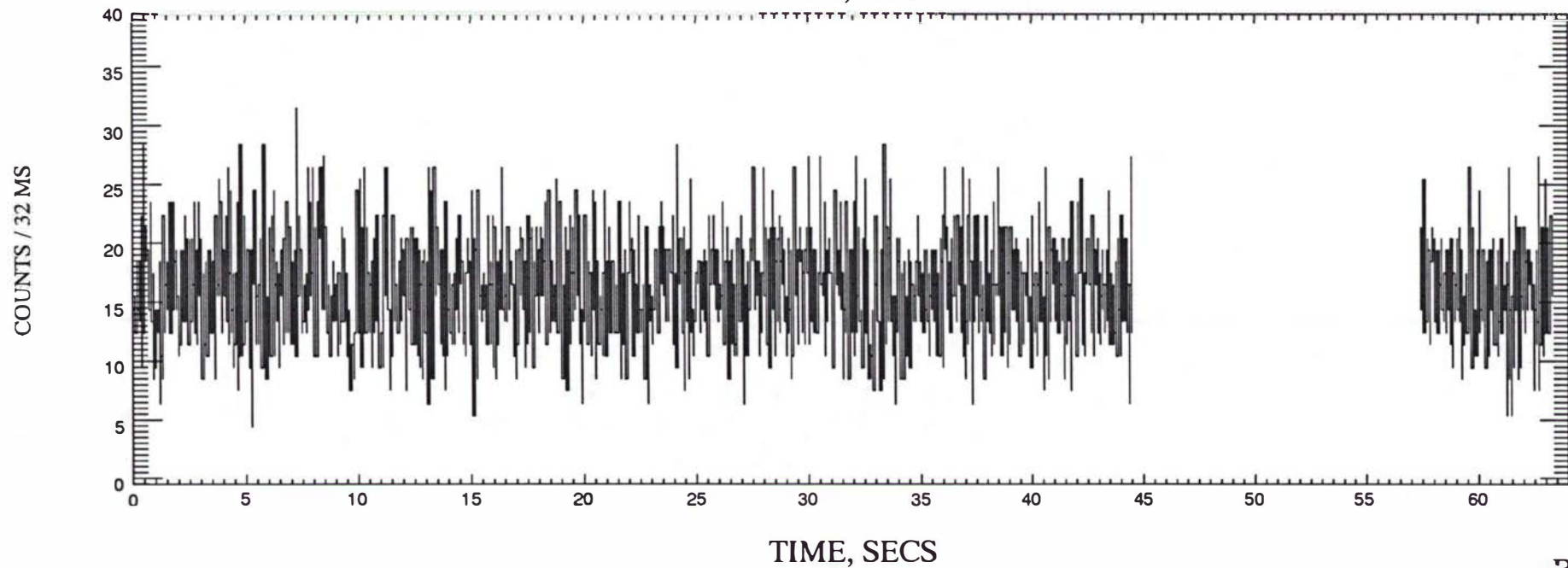
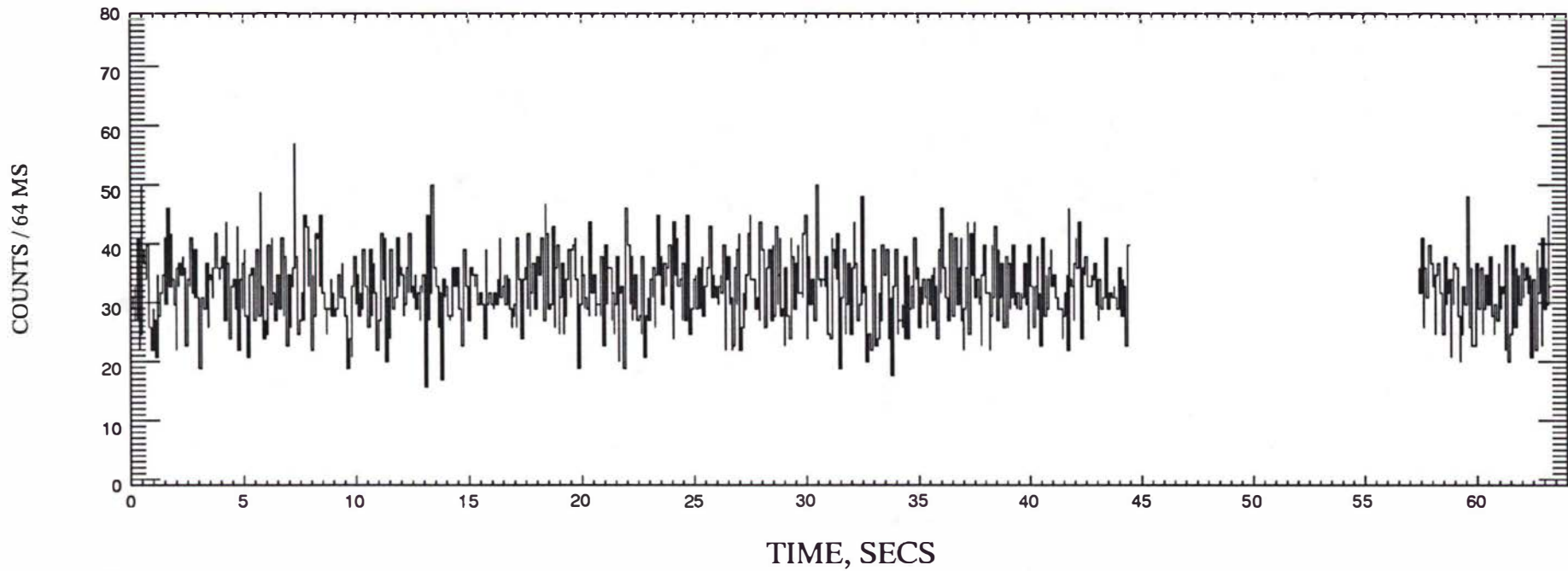
Burst Counter 15 at UT= 7.995709999932 h=28784.556 s 07:59:44.556



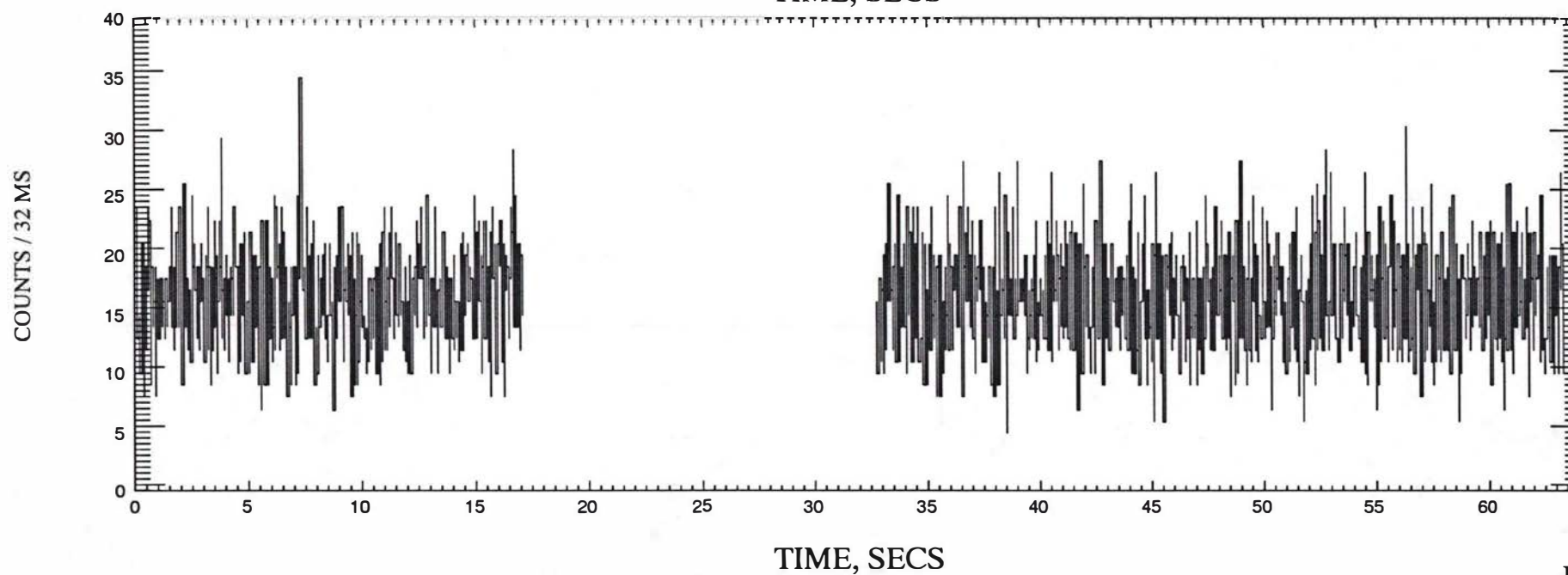
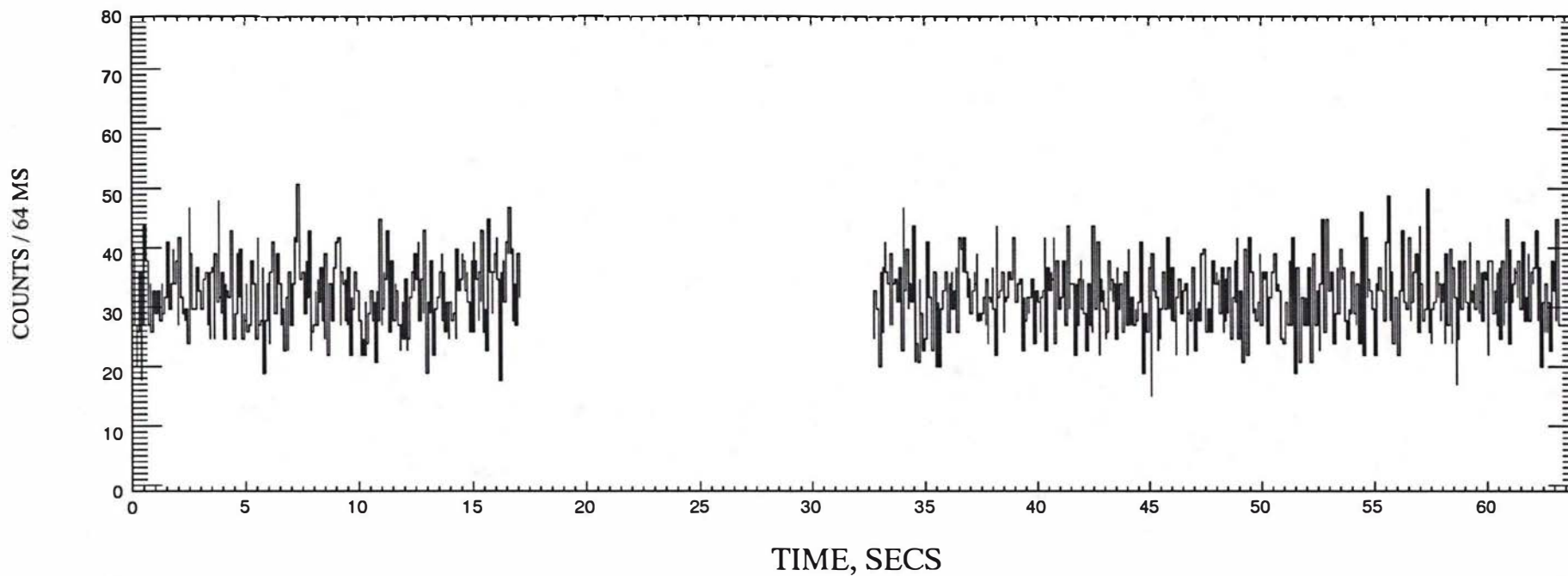
Burst Counter 0 at UT= 9.410032272339 h=33876.116 s 09:24:36.116



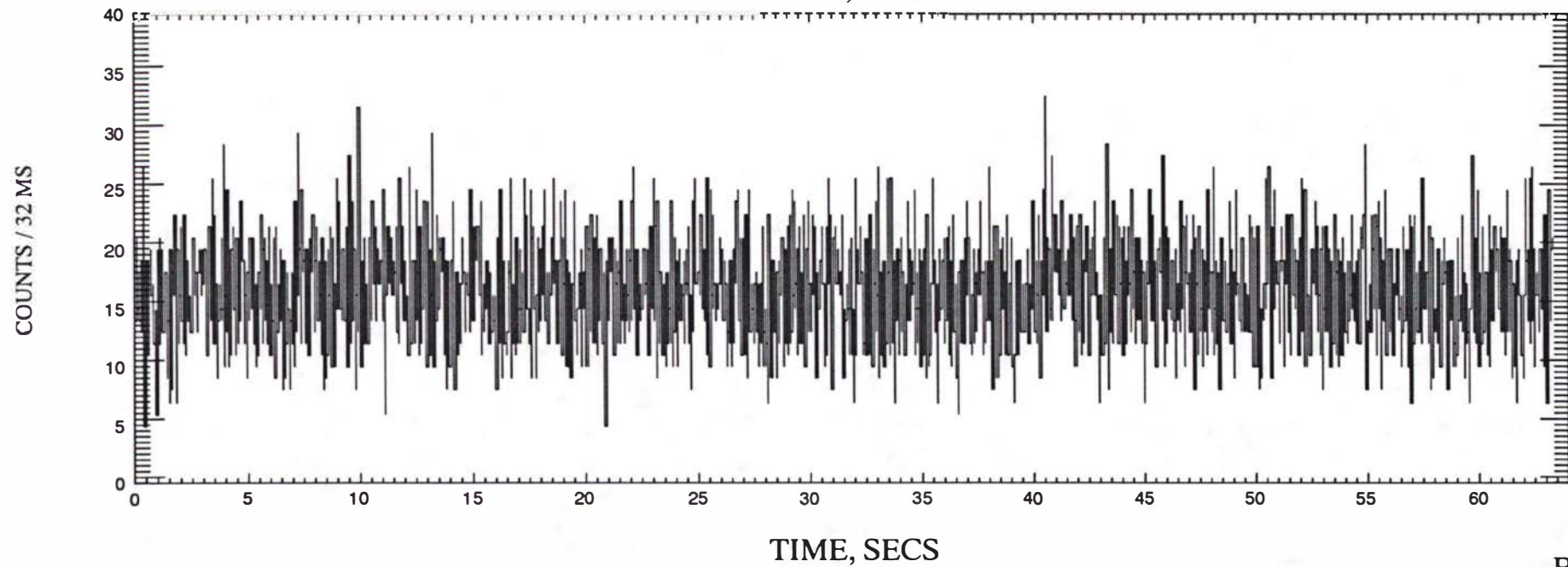
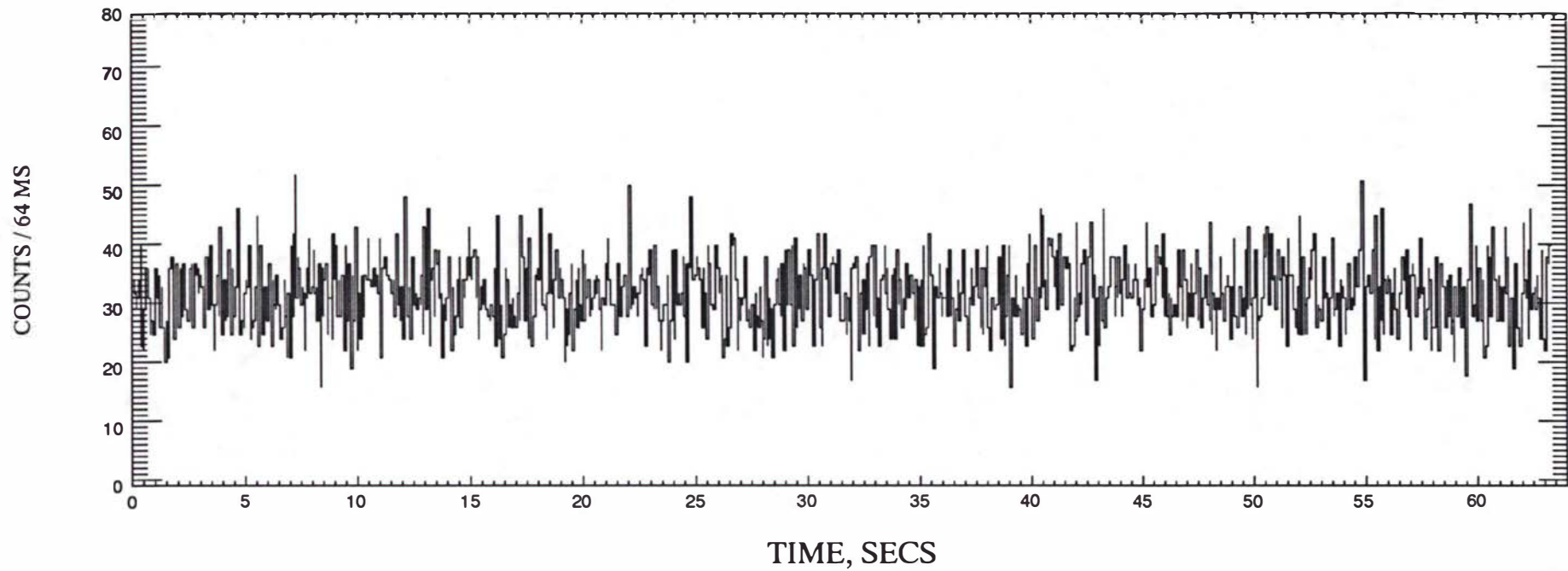
Burst Counter 1 at UT=10.795602374607 h=38864.169 s 10:47:44.169



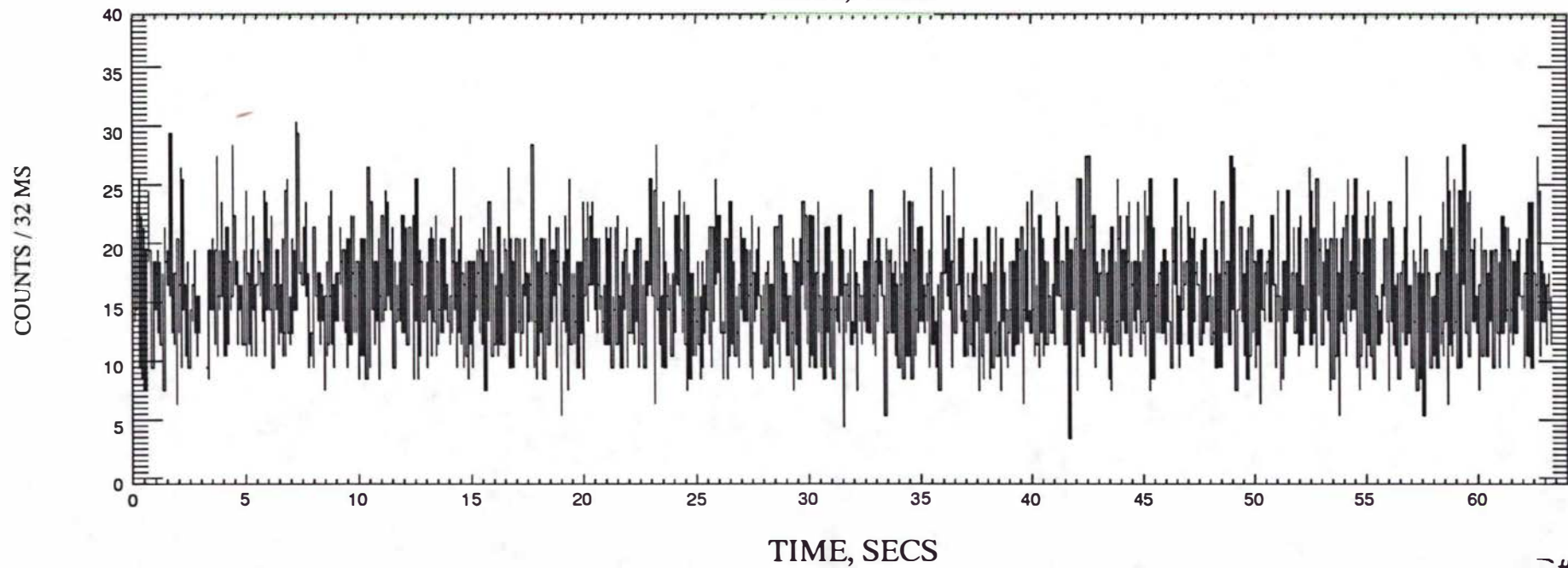
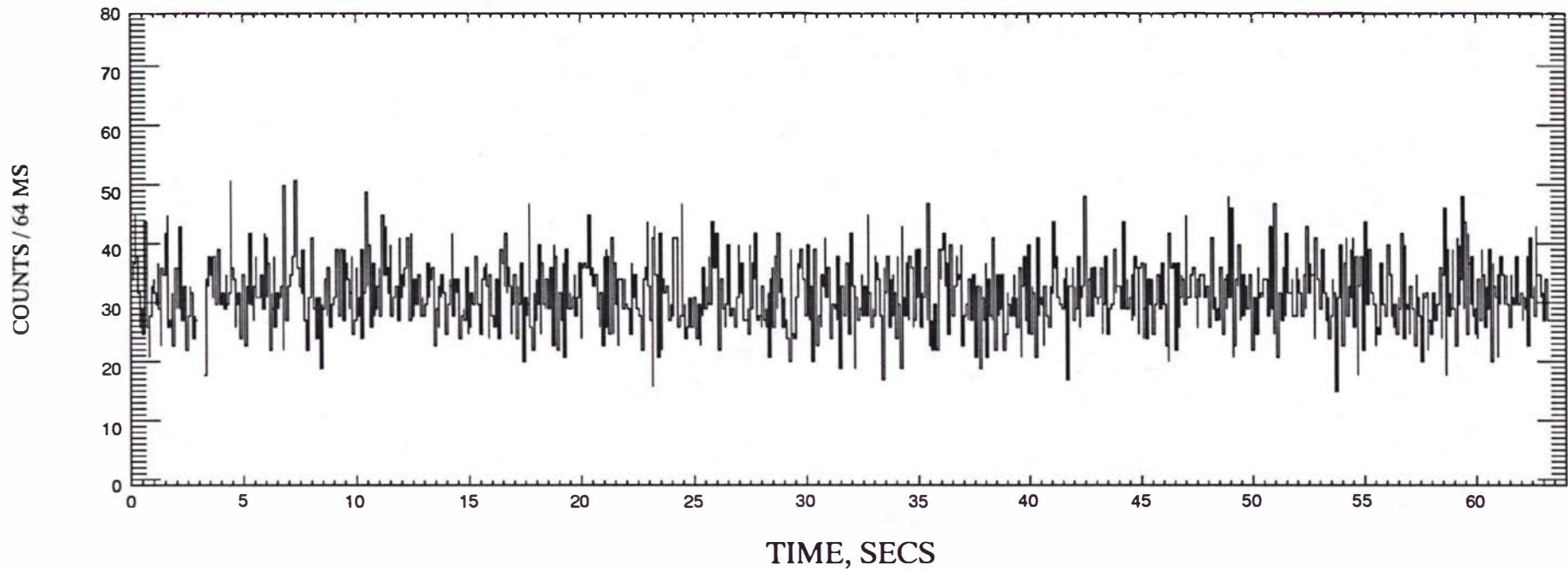
Burst Counter 3 at UT=13.040382046170 h=46945.375 s 13:02:25.375



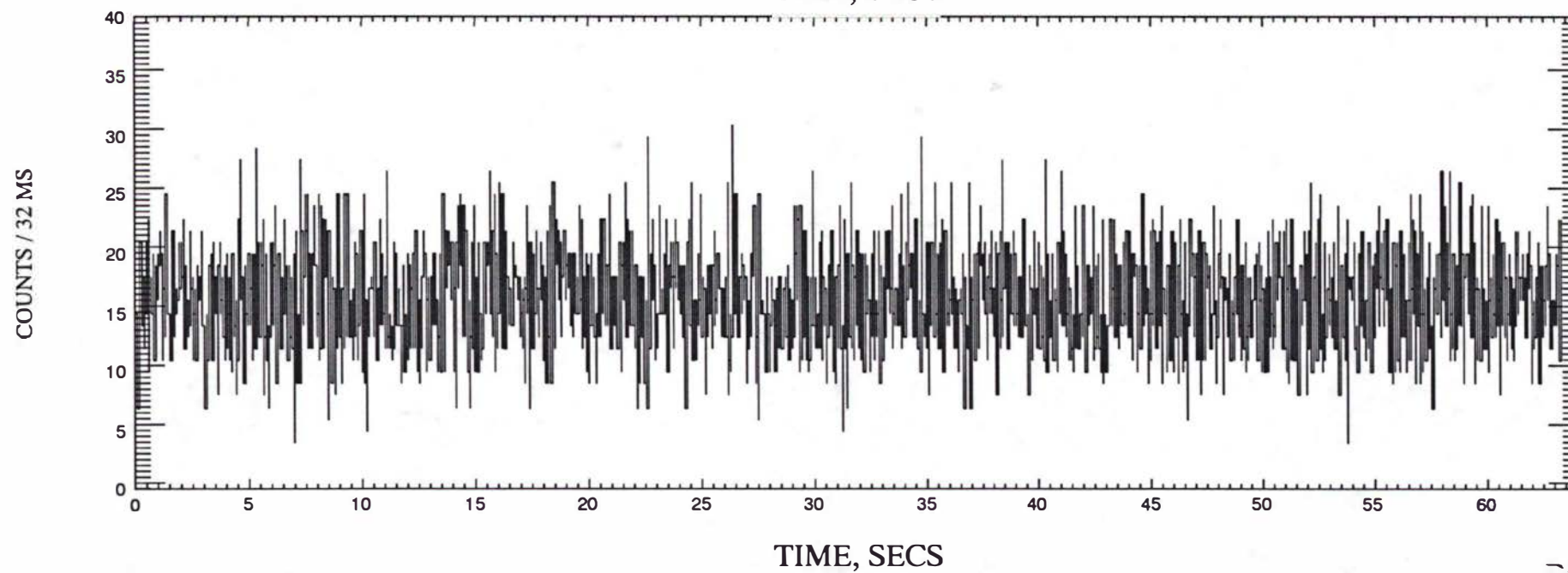
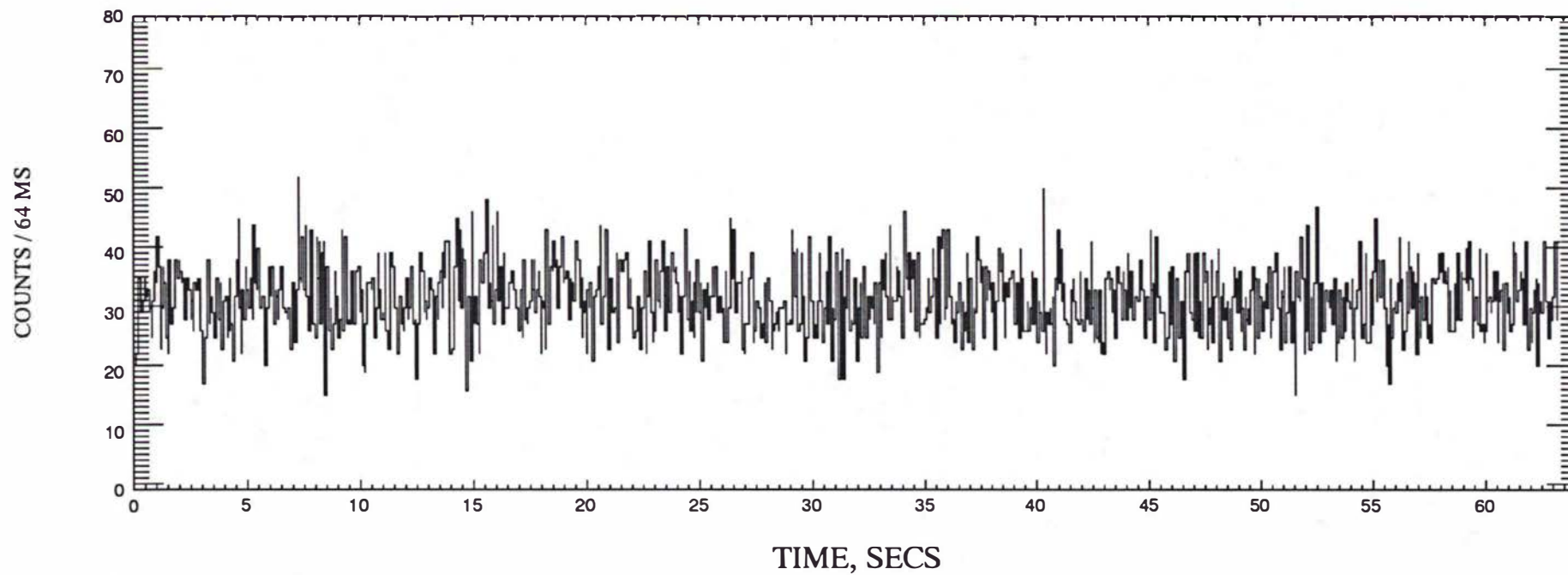
Burst Counter 4 at UT=13.808341437446 h=49710.029 s 13:48:30.029



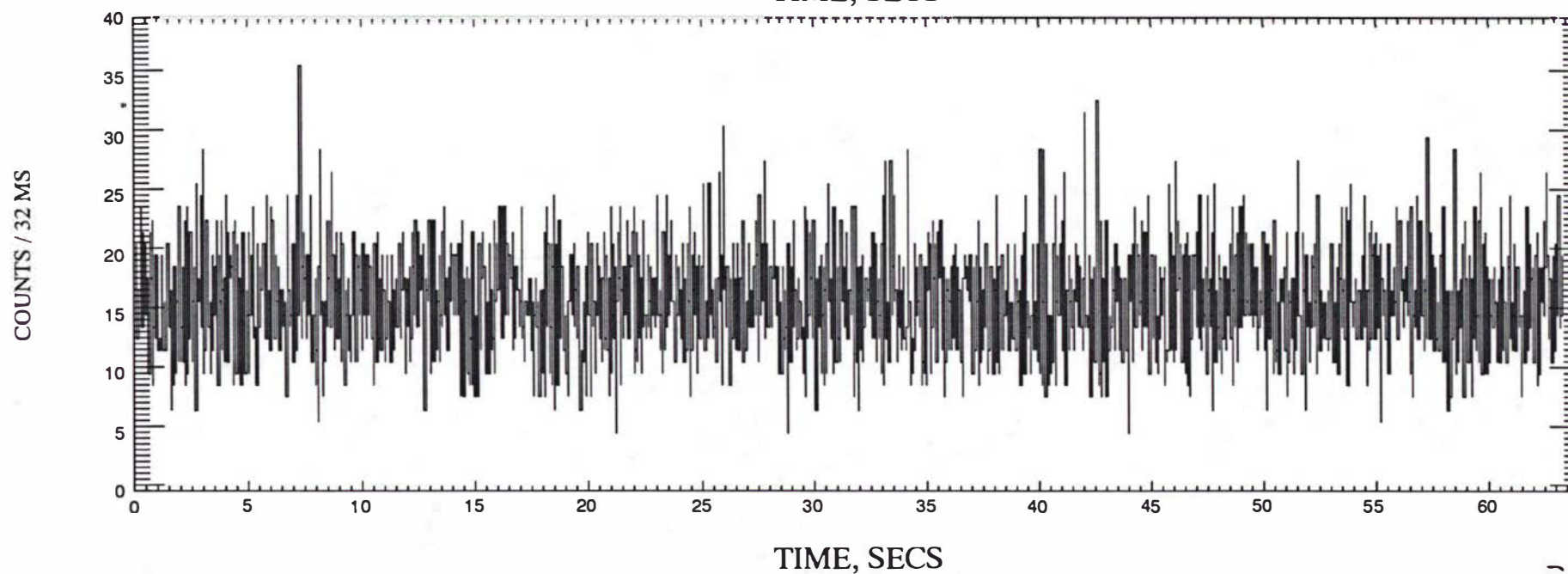
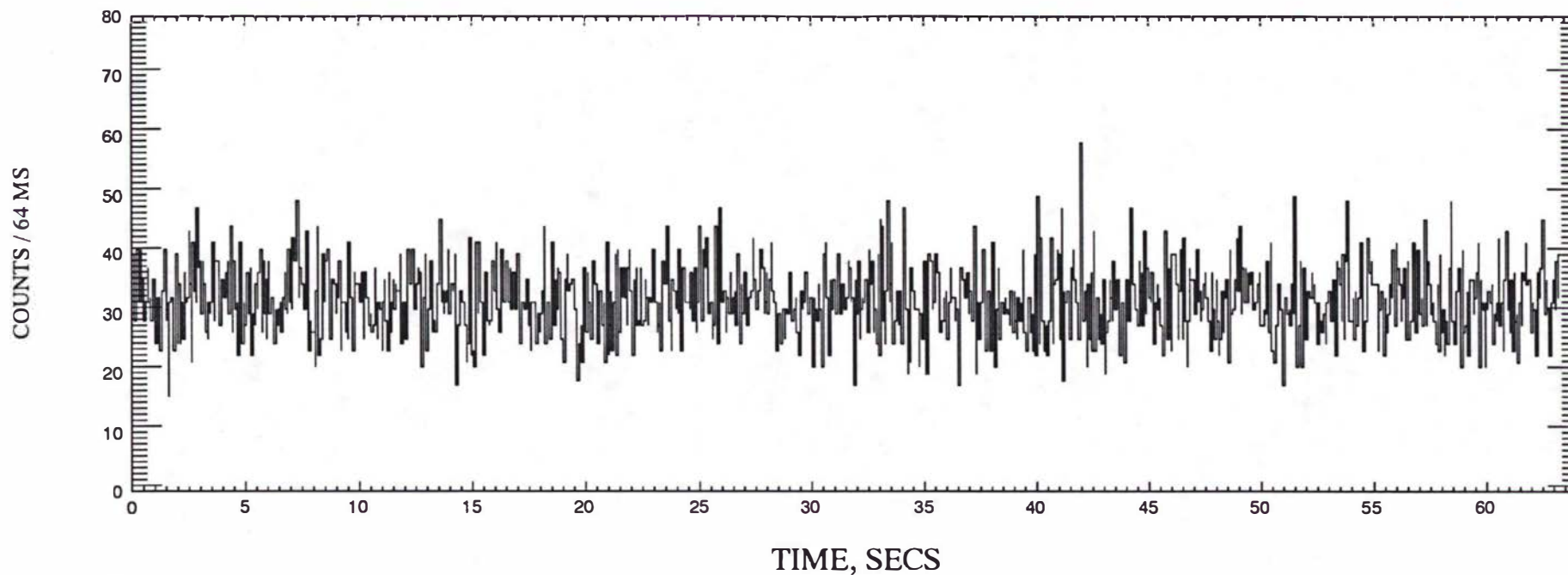
Burst Counter 5 at UT=15.194987199571 h=54701.954 s 15:11:41.954



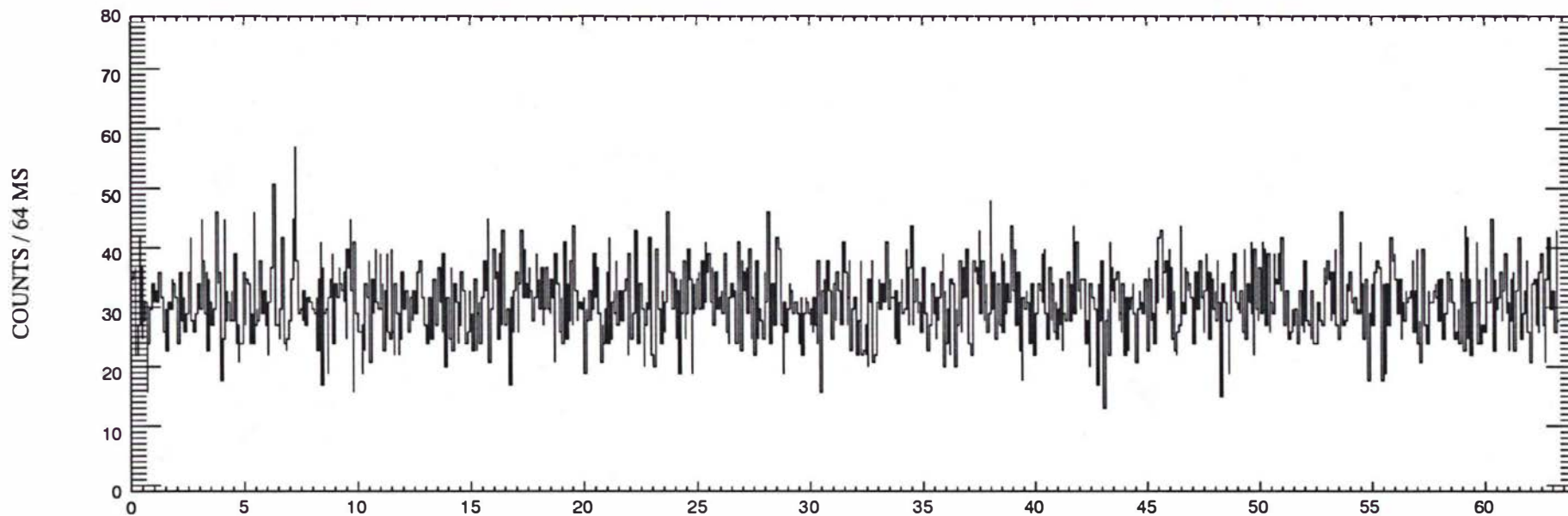
Burst Counter 6 at UT=16.618682297601 h=59827.256 s 16:37:07.256



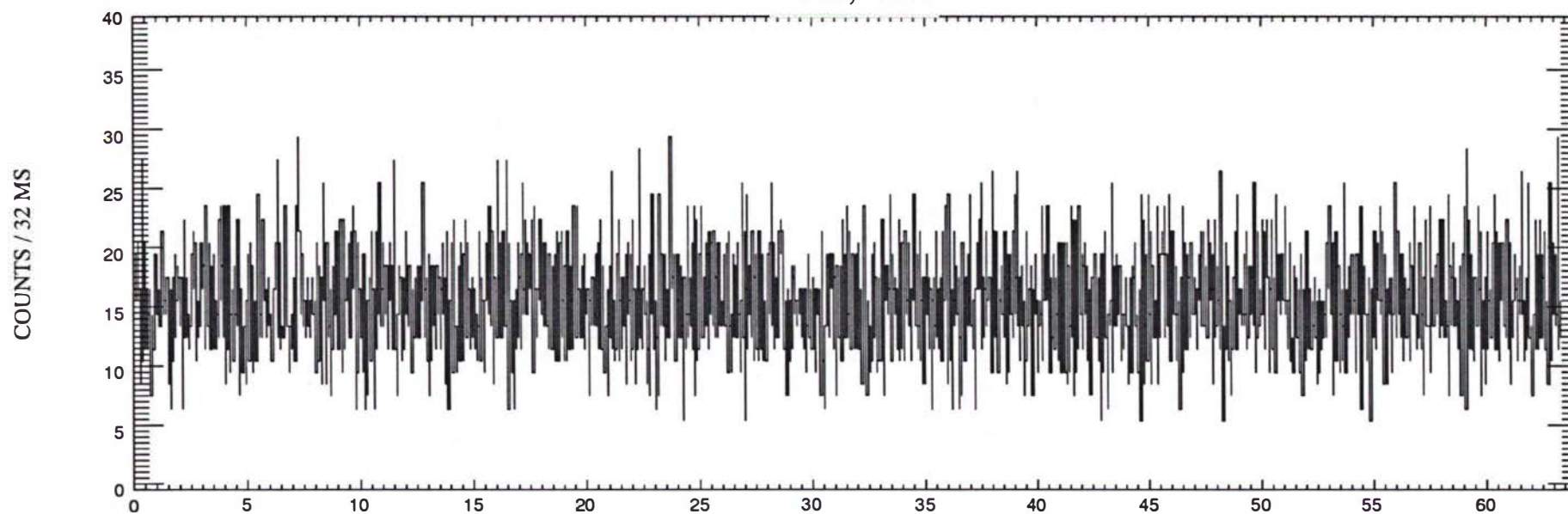
Burst Counter 7 at UT=19.110826538934 h=68798.976 s 19:06:38.976



Burst Counter 8 at UT=20.939872495863 h=75383.541 s 20:56:23.541

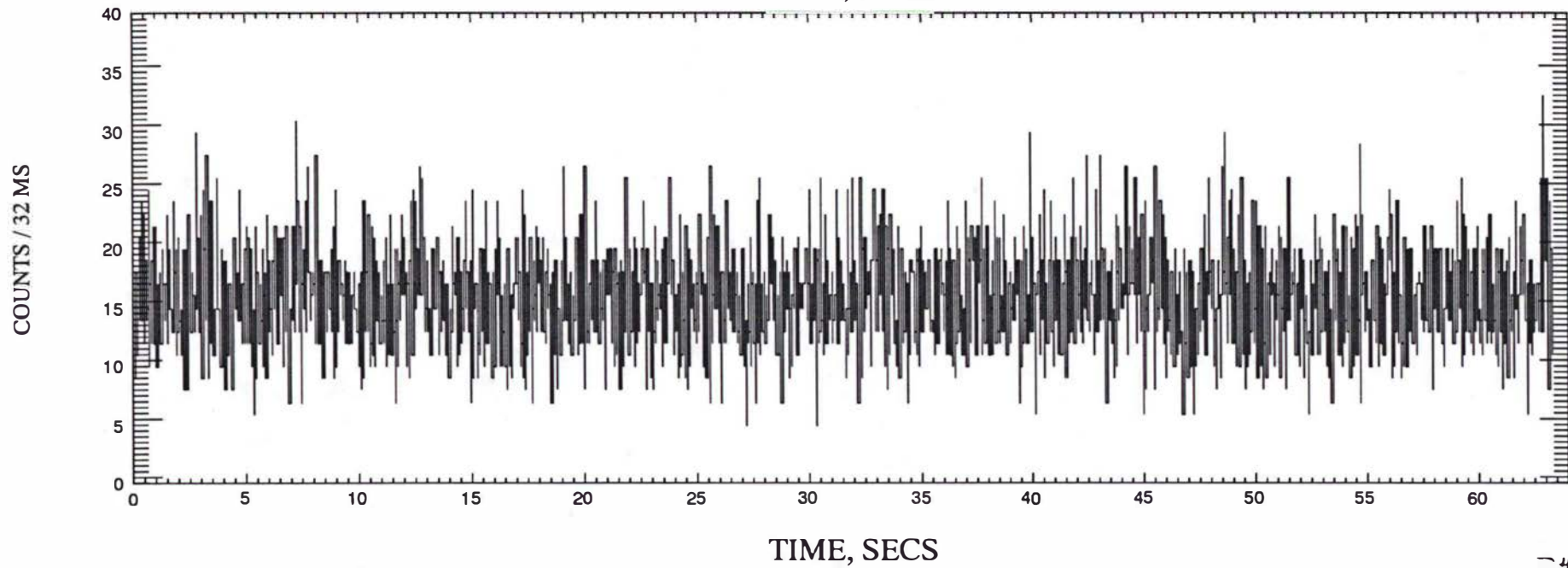
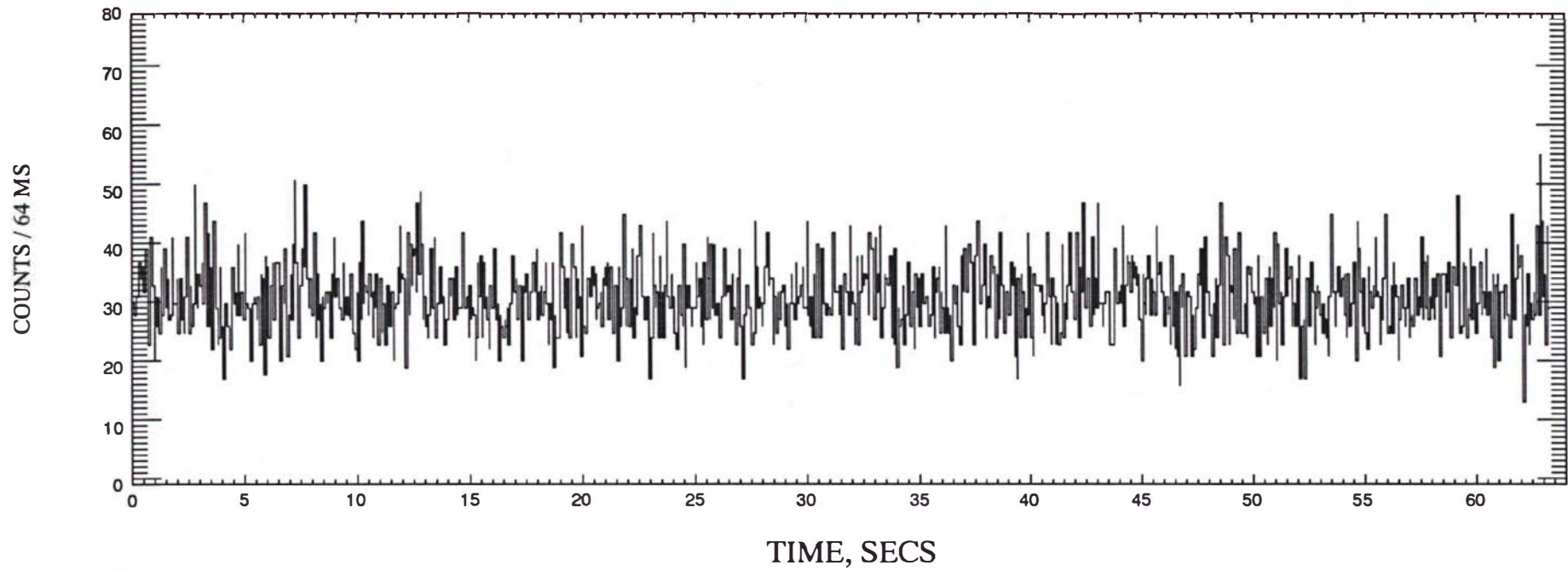


TIME, SECS



TIME, SECS

Burst Counter 9 at UT=22.993989173041 h=82778.361 s 22:59:38.361



From HENZE@fender.msfc.nasa.gov Thu Jan 28 14:17:29 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA28922; Thu, 28 Jan 1999 14:17:28 -0800
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA26386; Thu, 28 Jan 1999 14:17:25 -0800
Date: Thu, 28 Jan 1999 16:17:27 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990128161727.20279c5d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7352
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7352
EVENT OF 1999 JAN 26 DAY OF YEAR= 26
EVENT CROSSING TIME AT BATSE : 24303. S. OR 06:45:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 63.000 -44.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 1/ 99 IS:
RA= 162.404 DEC= -9.346 DIST= 4.400 AU
BATSE-ULYSSES DISTANCE = 658311278. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.82 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 6.97 SECS.
CROSSING TIME AT ULYSSES IS 24310. S. OR 06:45:09 +/- 431.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 1/ 99 IS:
RA= 208.449 DEC= -9.478 DIST= 1.239 AU
MARS-BATSE DISTANCE = 185306016. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 290.50 SECS.
CROSSING TIME AT MARS IS 24594. S. OR 06:49:53 +/- 99.14 SECONDS

BATSE BURST TRIGGER

NO.: 7352

TIME: TJD=1204 SECONDS=24303

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=117.5 AZIMUTH=252.3 ERROR= 5.5 DEGREES

COMMENTS:

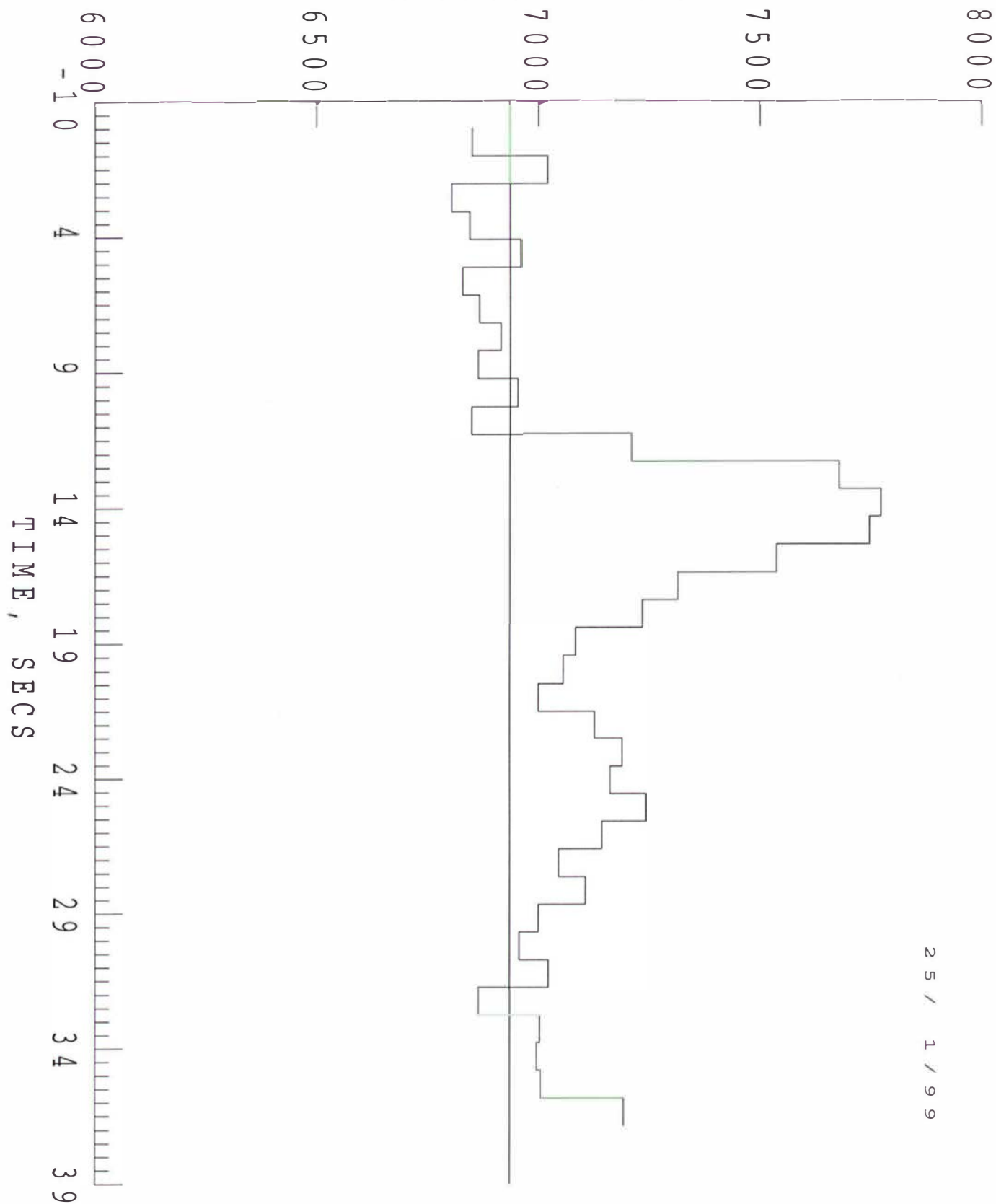
SINGLE PULSE, DUR. ~6 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7352	990126	11204	24303	2000	063	-44	6

BACODINE 7352 26/01/99 24291.065

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7352

ULYSSES RT

28 / 1 / 99

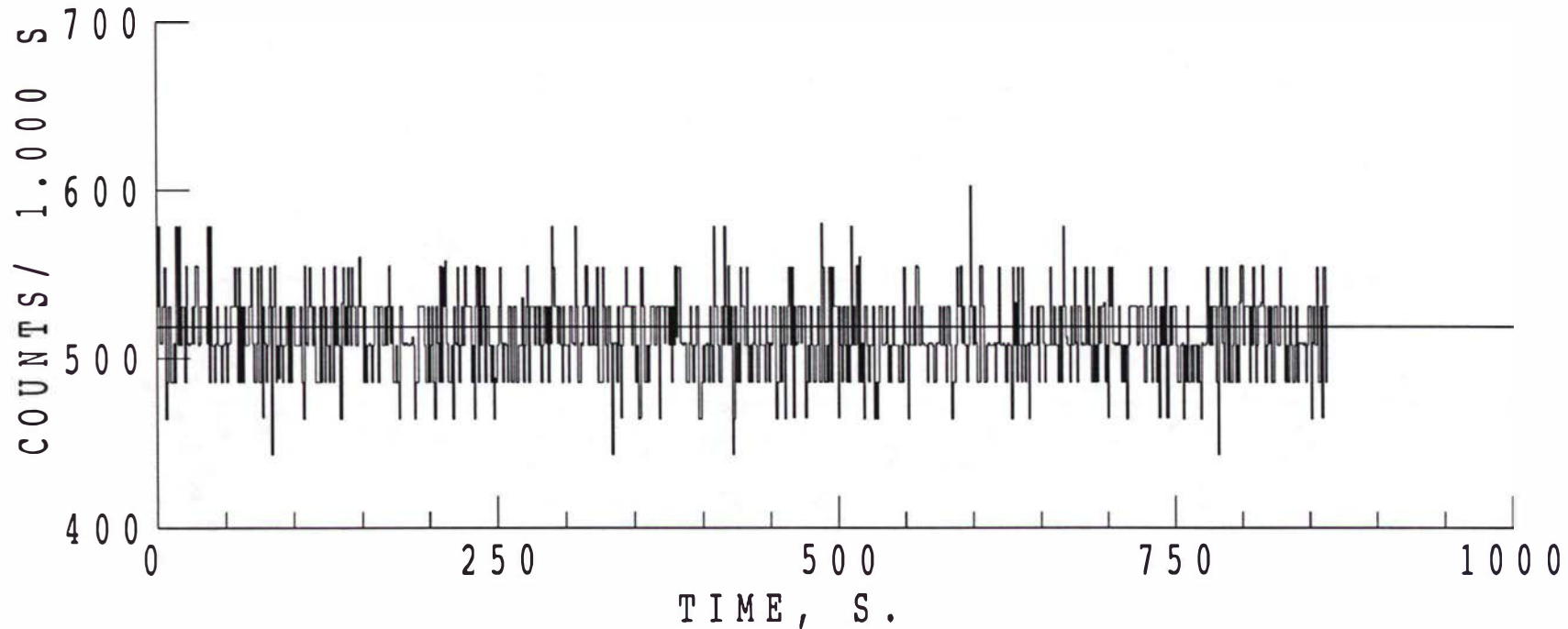
26 / 1 / 99 23868.279 s

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



Date: Feb 8 2010

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

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

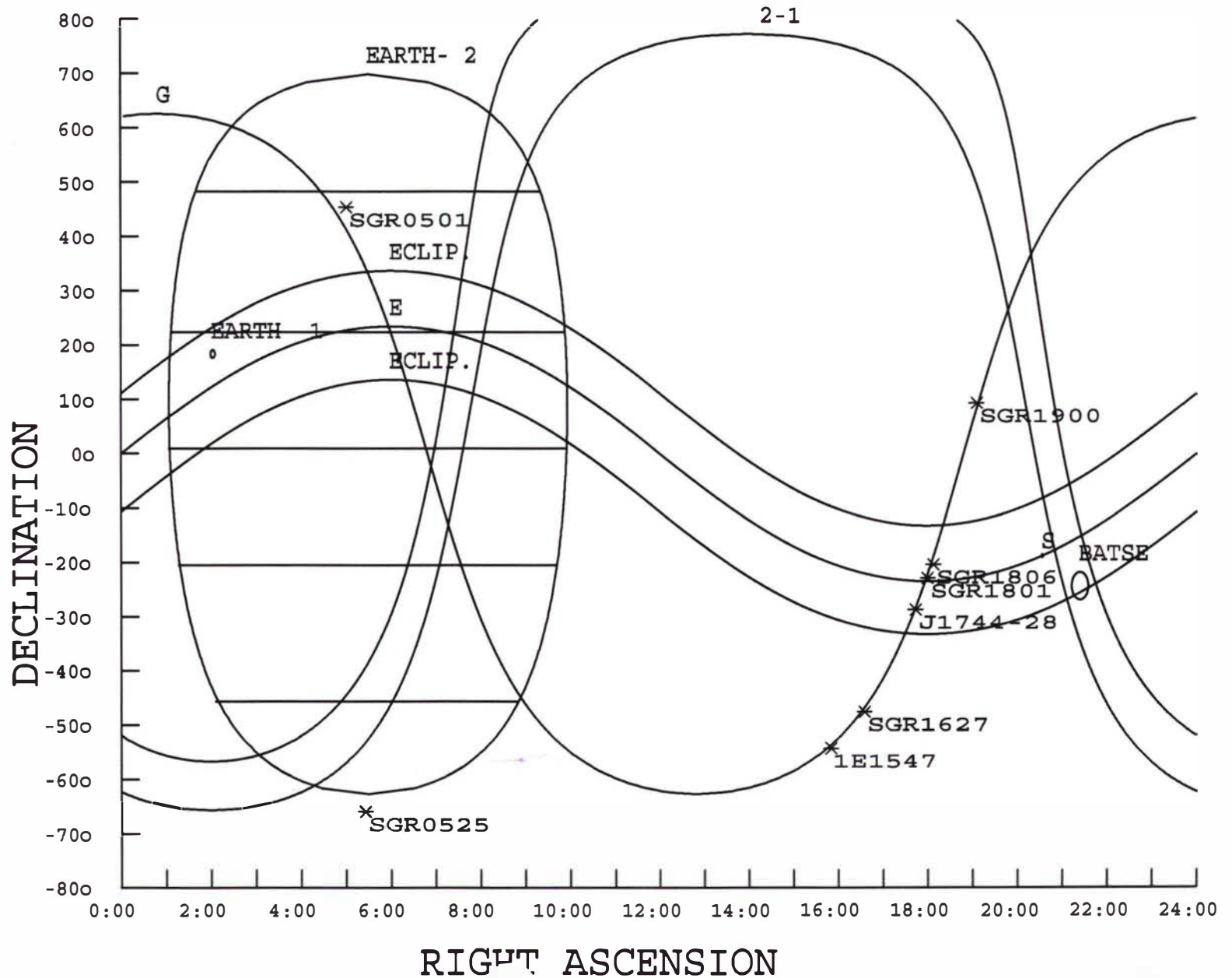
- ☐ $\Sigma 3\Delta t$'s calculated?

- ☒ ACCESS database updated?

EVENT OF JAN 26, 1999 14:24

08/02/2010

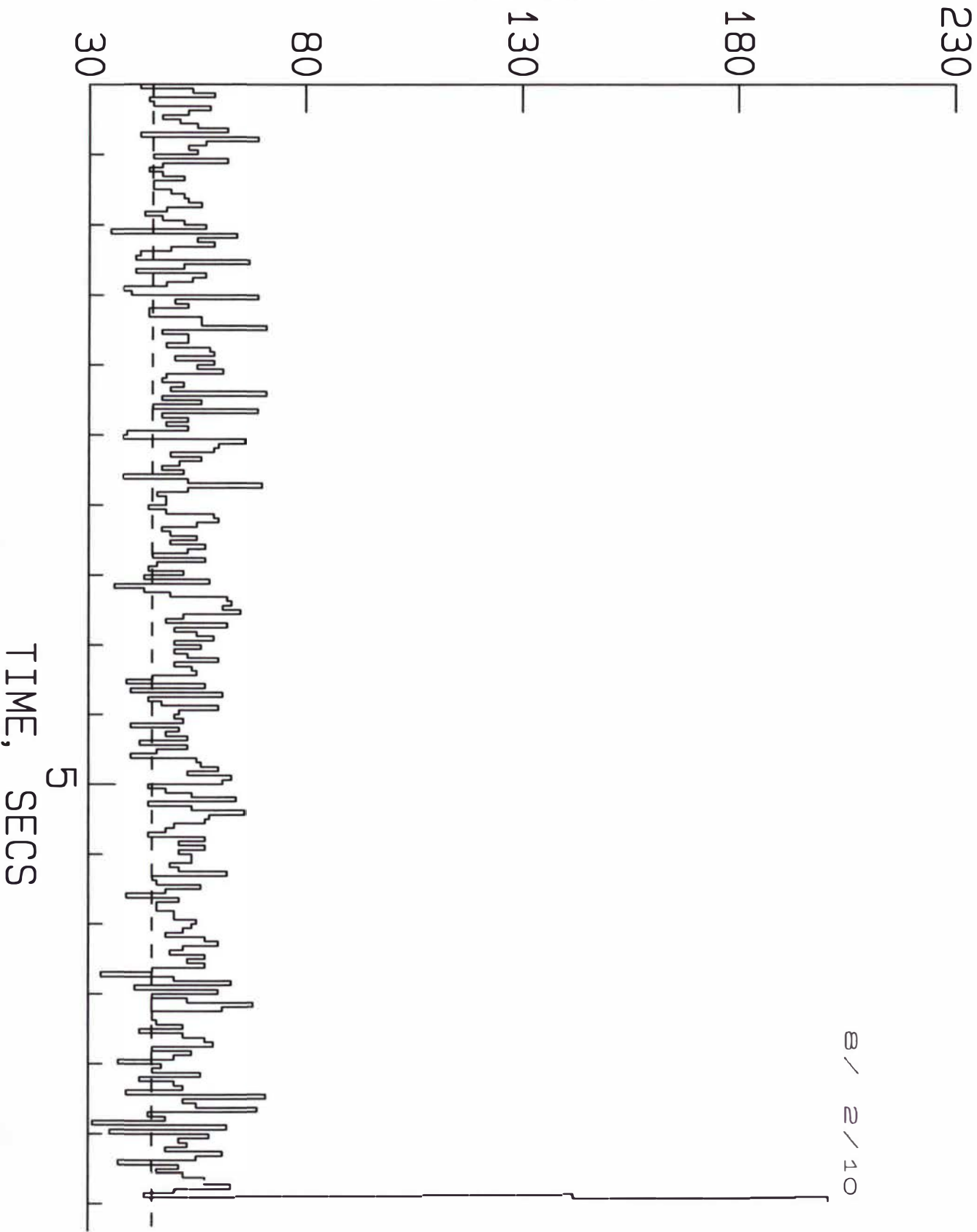
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S-SUN
 1 KONUS1
 2 SAX
 E=ECLIPTIC
 G=GALACTIC EQUATOR



SAX GRBM

26/01/99 51835.968
40- 700 keV

COUNTS/0.031 S

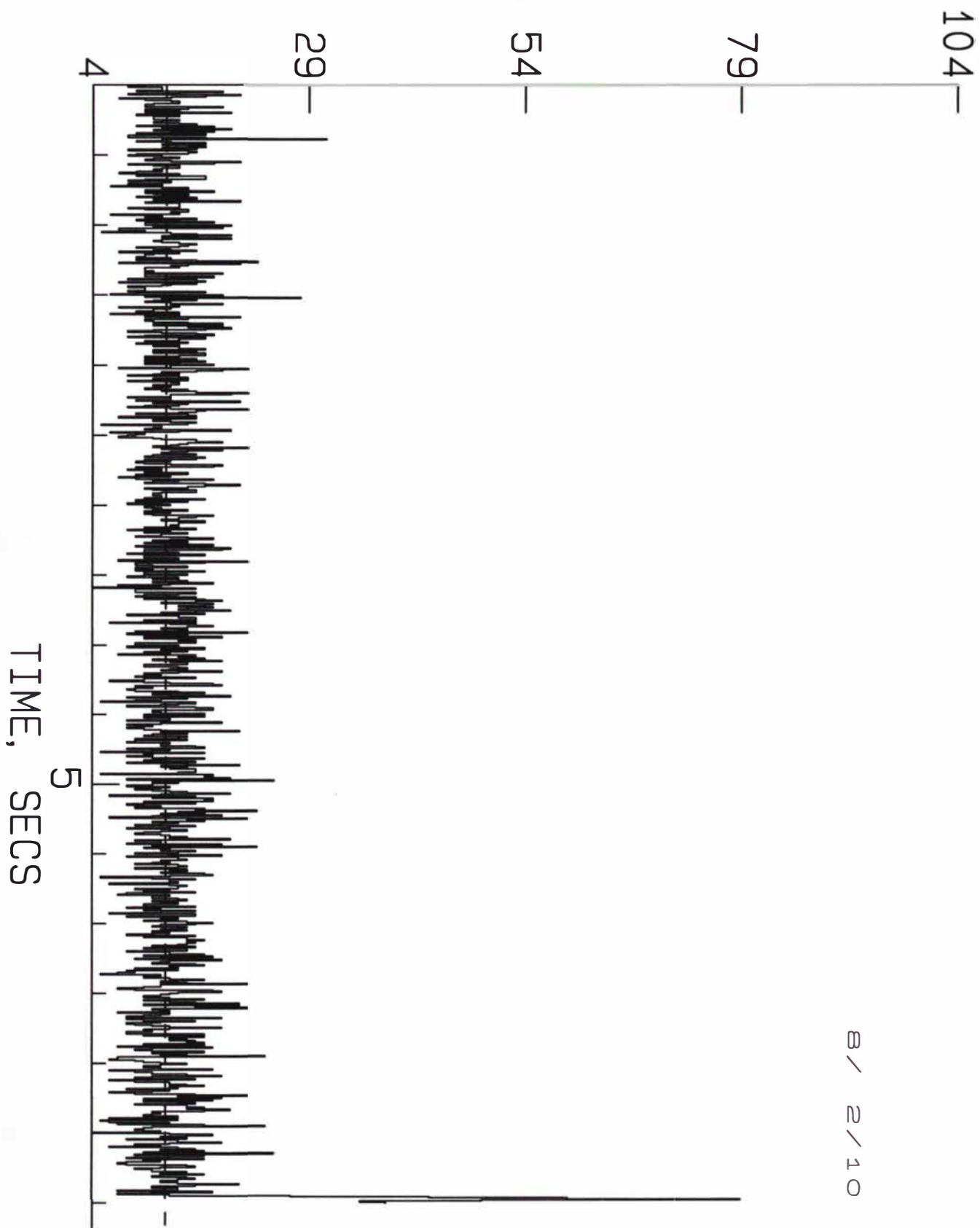


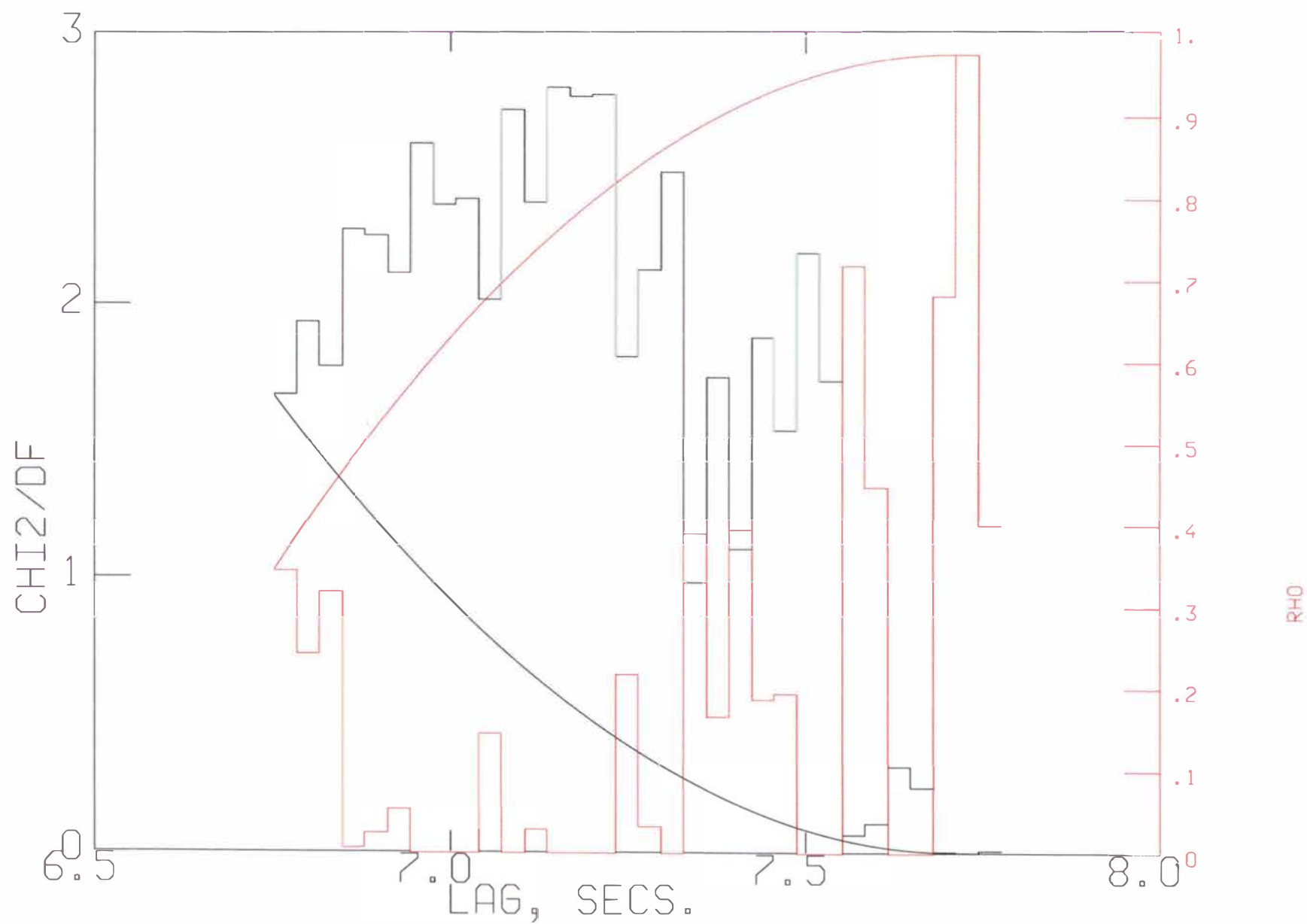
SAX GRBM

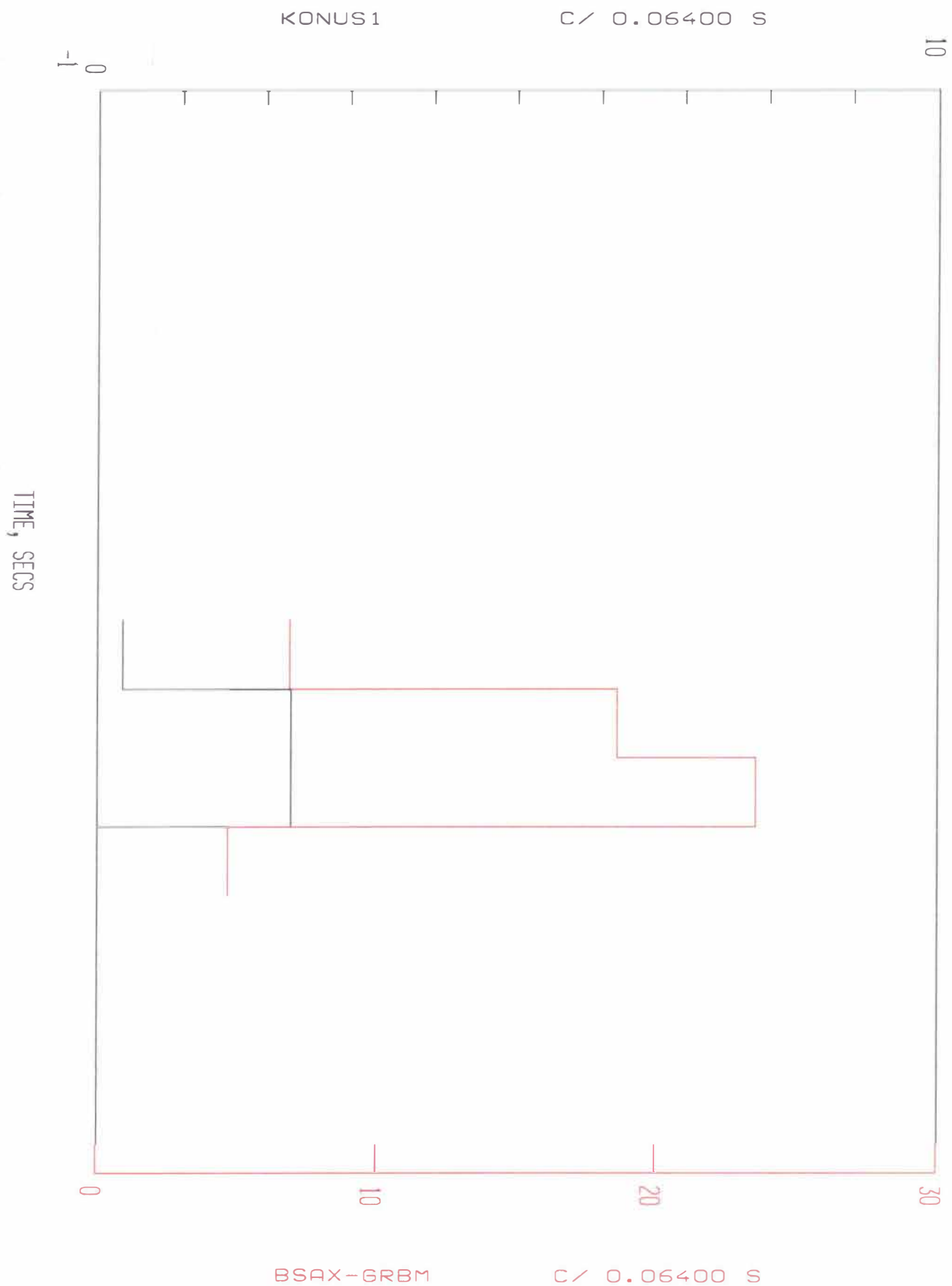
26/01/99 51835.969

40- 700 keV

COUNTS/0.008 S







From RICHARDSON@fender.msfc.nasa.gov Thu Jan 28 11:04:56 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA23419; Thu, 28 Jan 1999 11:04:45 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA22248; Thu, 28 Jan 1999 11:04:35 -0800
Date: Thu, 28 Jan 1999 13:04:27 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990128130427.2027bc69@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7353
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7353
EVENT OF 1999 JAN 26 DAY OF YEAR= 26
EVENT CROSSING TIME AT BATSE : 51843. S. OR 14:24:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 321.000 -24.000
BATSE PEAK COUNTING RATE: 40000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 1/ 99 IS:
RA= 162.345 DEC= -9.357 DIST= 4.396 AU
BATSE-ULYSSES DISTANCE = 657709354. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 39.34 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1696.81 SECS.
CROSSING TIME AT ULYSSES IS 53540. S. OR 14:52:19 +/- 317.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 1/ 99 IS:
RA= 208.449 DEC= -9.478 DIST= 1.239 AU
MARS-BATSE DISTANCE = 185306016. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.82 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 172.21 SECS.
CROSSING TIME AT MARS IS 52015. S. OR 14:26:55 +/- 105.68 SECONDS

BATSE BURST TRIGGER

NO.: 7353

TIME: TJD=1204 SECONDS=51843

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=125.0 AZIMUTH=351.1 ERROR=2.0 DEGREES

COMMENTS:

GRB. STRONG SHORT, WITH LOTS OF STRUCTURE. DURATION APPROX. = 0.35 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7353	990126	11204	51843	40000	321	-24	.35

BATSE BURST# 7353

ULYSSES RT

28 / 1 / 99

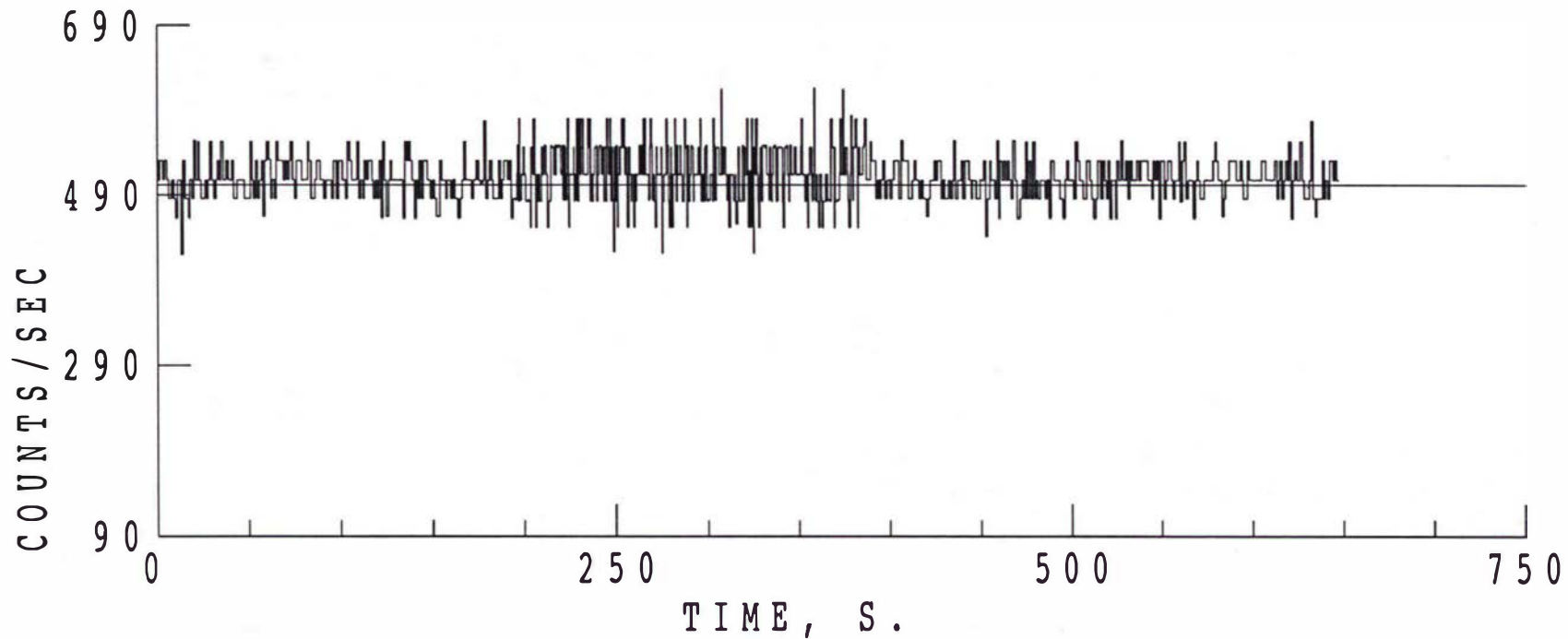
26 / 1 / 99 53208.078 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

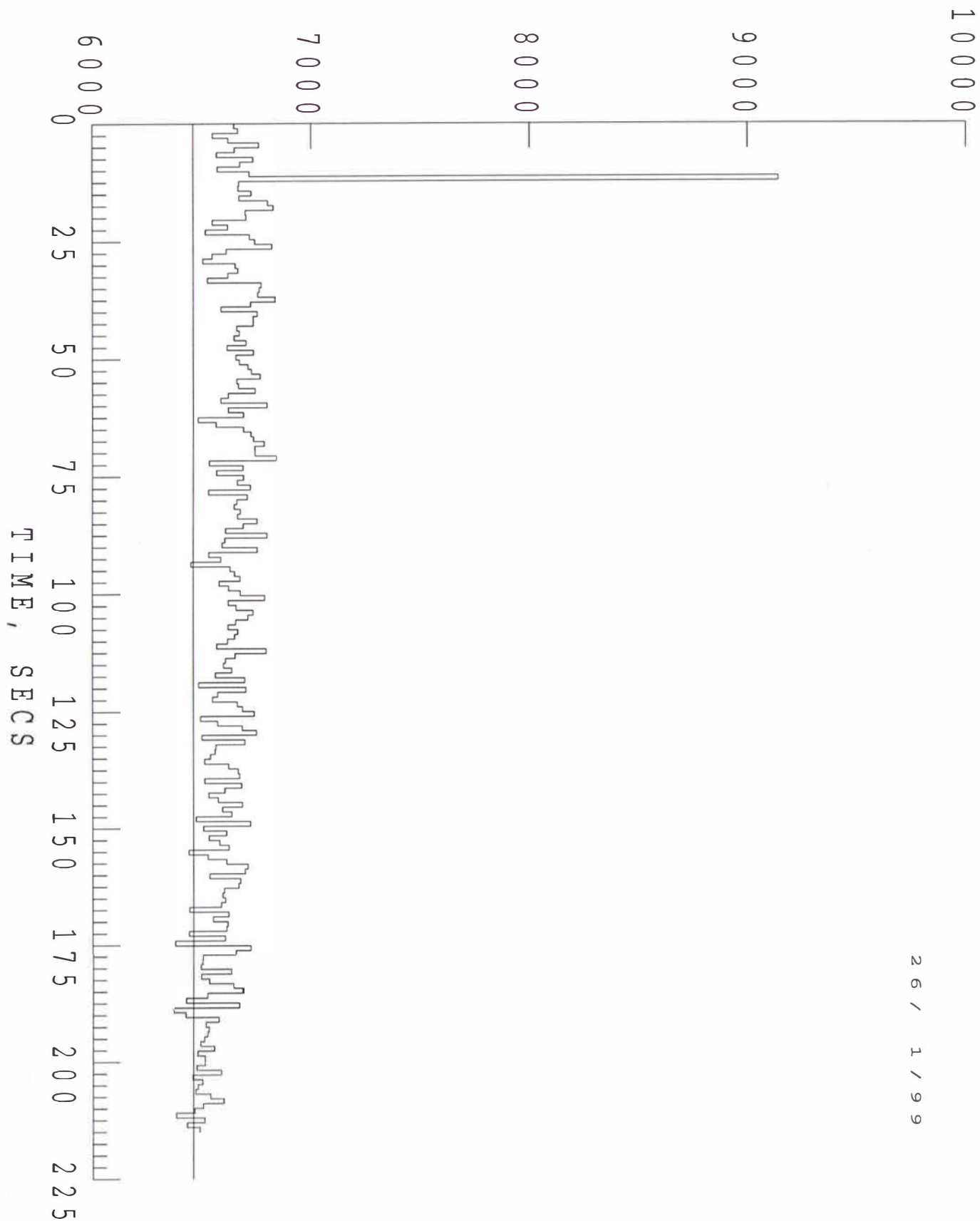
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7353 26/01/99 51832.569

25 - 100 keV

COUNTS/1.024 S



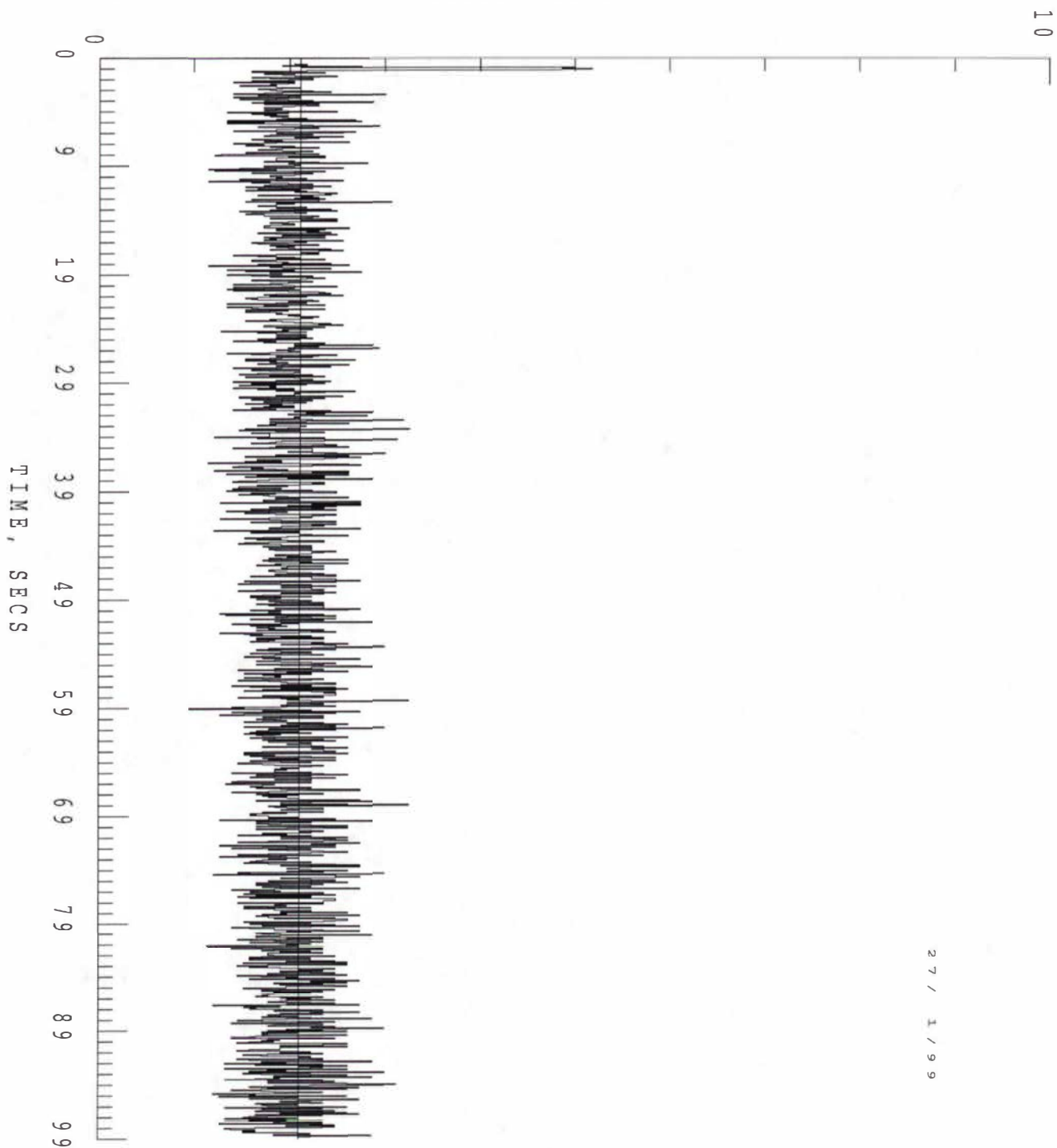
KONUS

26/01/99

51844.333

50 - 200 keV

COUNTS/0.064 S



27 / 1 / 99

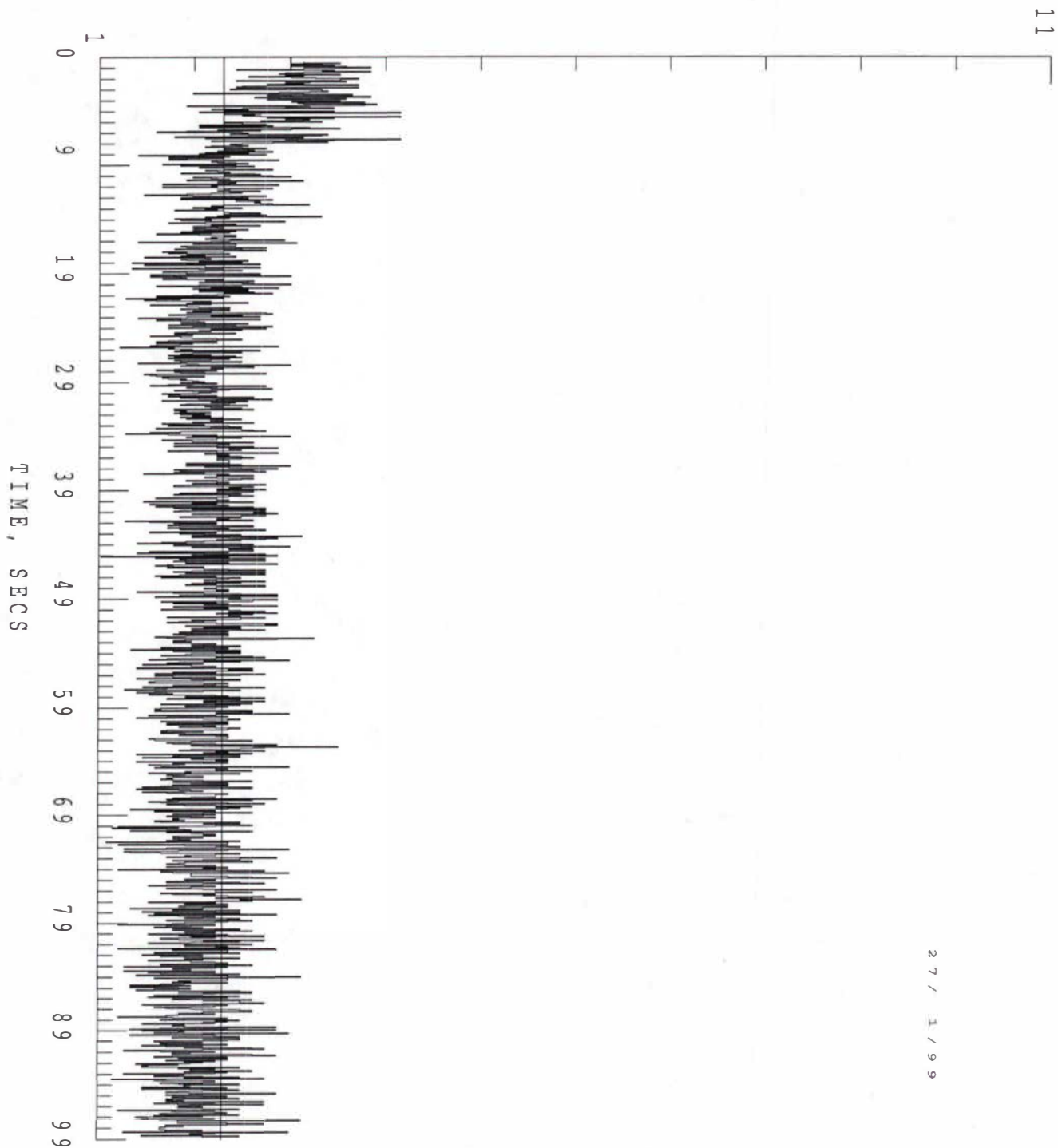
KONUS

26/01/99

67270.478

50 - 200 keV

COUNTS/0.064 S



KONUS 19990126 67270

ULYSSES RT

27 / 1 / 99

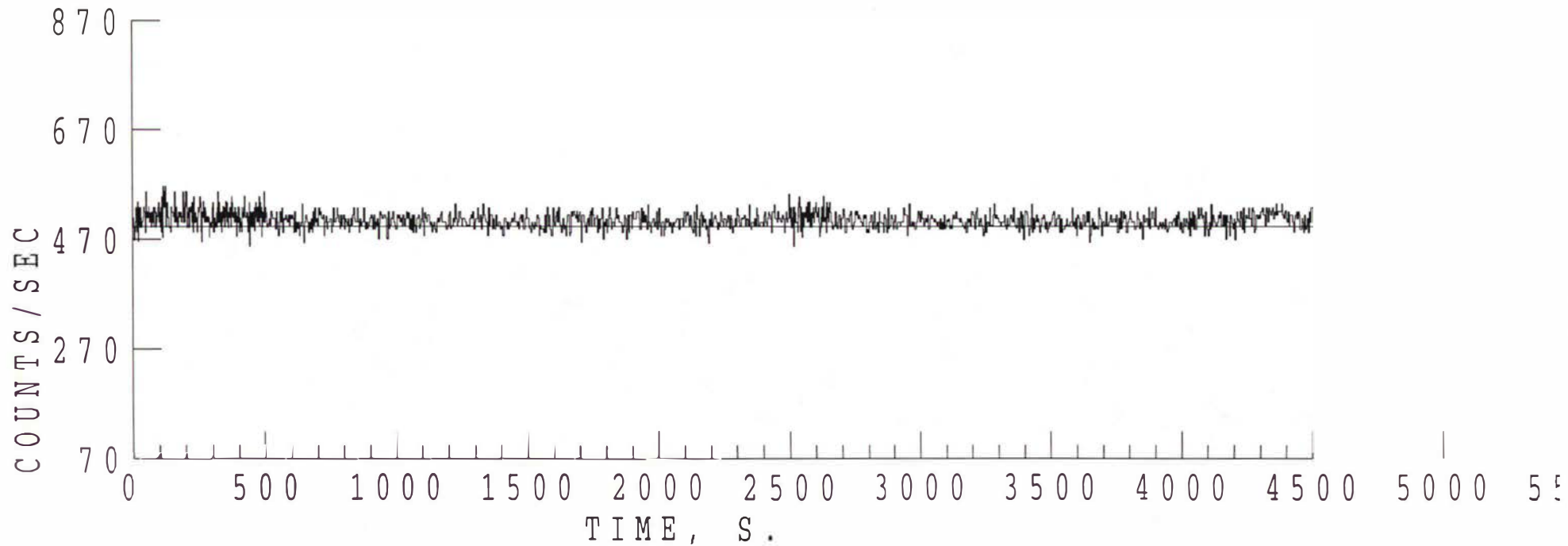
26 / 1 / 99 65016.199 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Jan 28 13:55:46 1999
Date: Thu, 28 Jan 1999 15:55:22 -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.: 7354

TIME: TJD=1204 SECONDS=67263

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=111.6 AZIMUTH=356.3 ERROR= 0.4 DEGREES

COMMENTS:

GOES C7.9, OPTICAL 1N FLARE. COMPLEX, MAIN EVENT DUR. APPROX. 180 S, STARTS
AT APPROX. T-100 S, MAX AT APPROX.T+9 S. MARGINALLY VISIBLE ABOVE 300 KEV.

From PETERSON@fender.msfc.nasa.gov Wed Jan 27 13:57:56 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 27 Jan 1999 15:57:22 -0600 (CST)

To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 7355

TIME: TJD=1204 SECONDS=73280

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

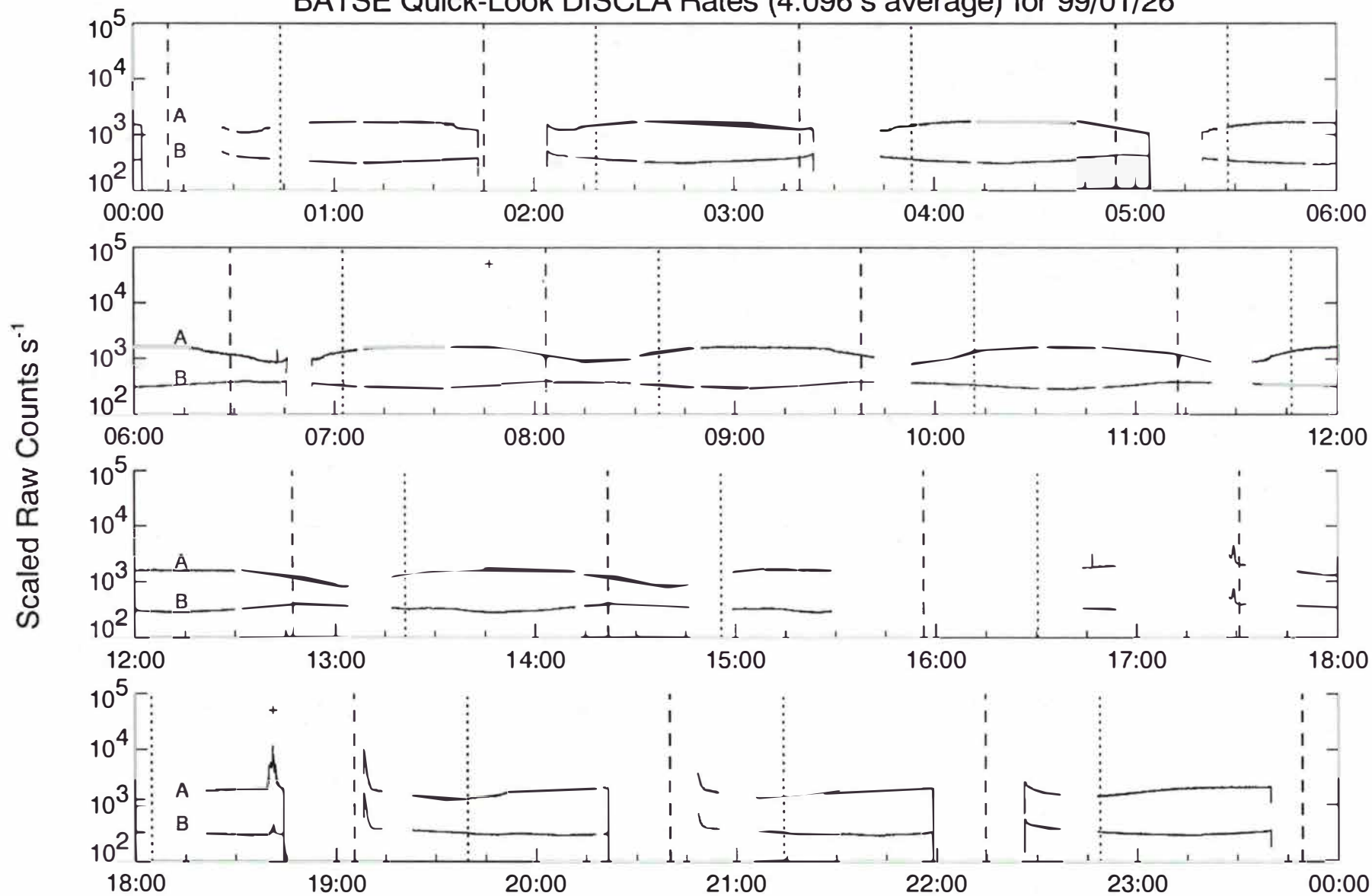
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY.

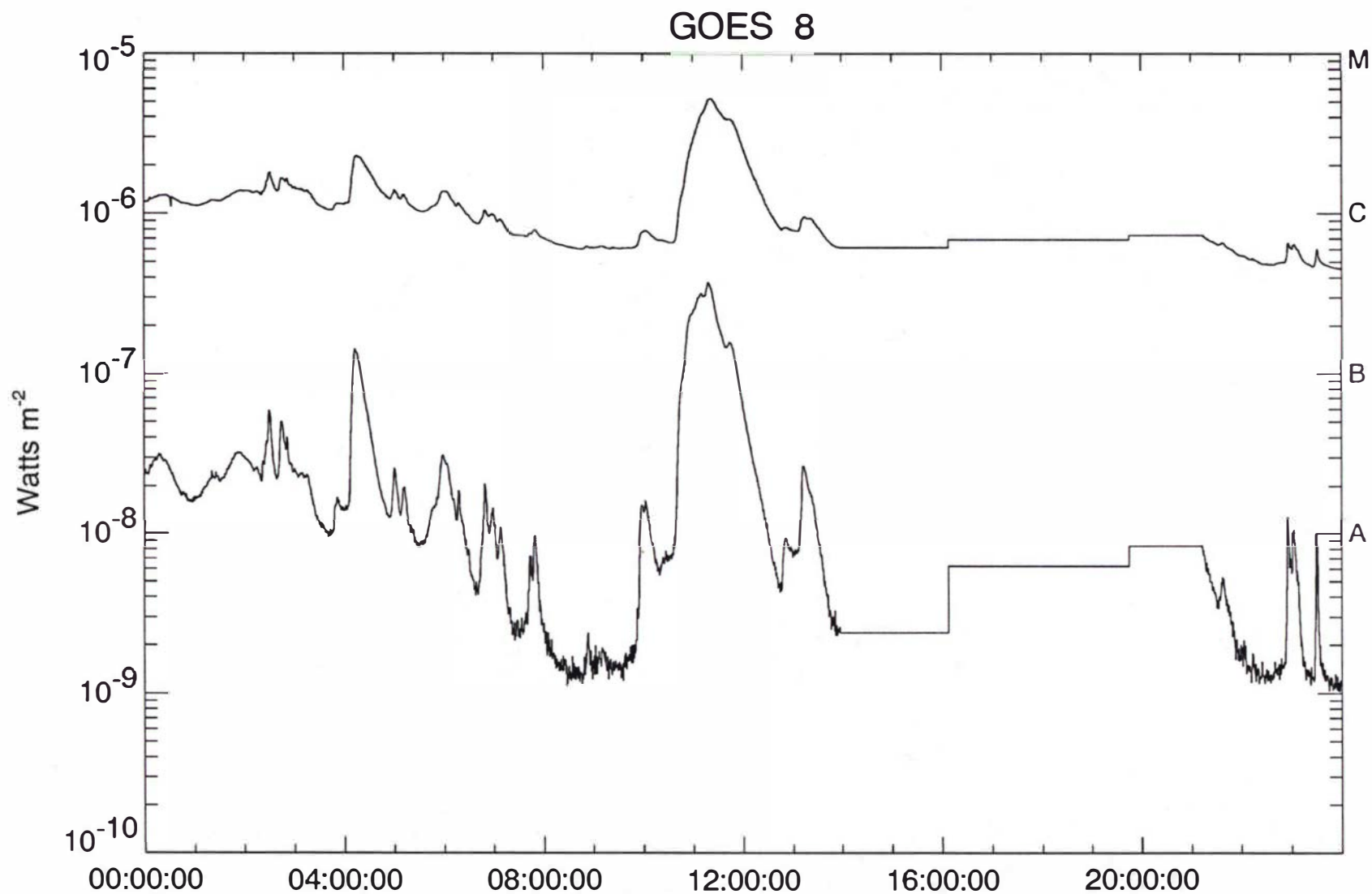
BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/26



Current Time: 99/01/30, 1009 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare



Data Start: 99/01/26, 0000:00

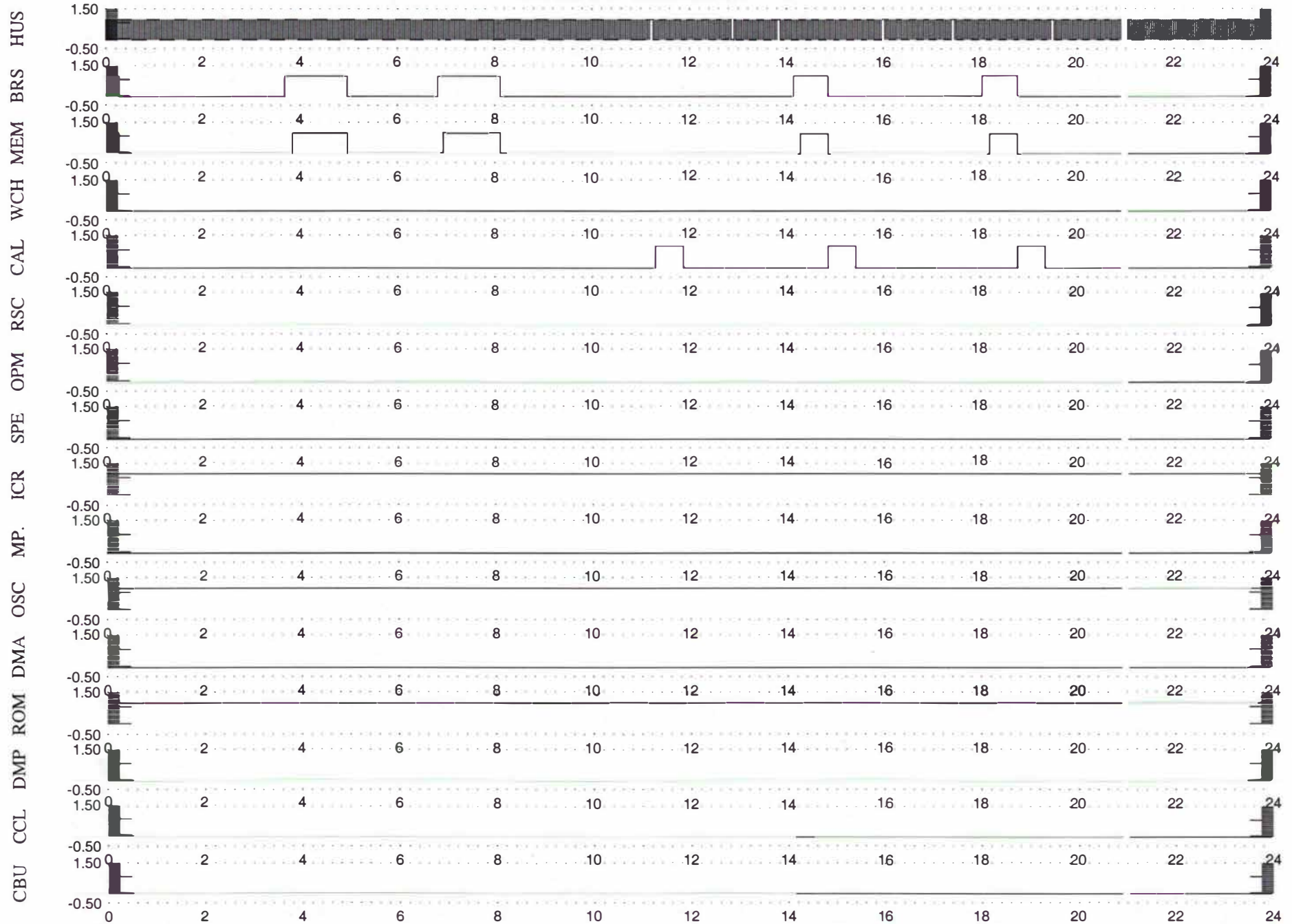
Plot created: 99/01/30, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

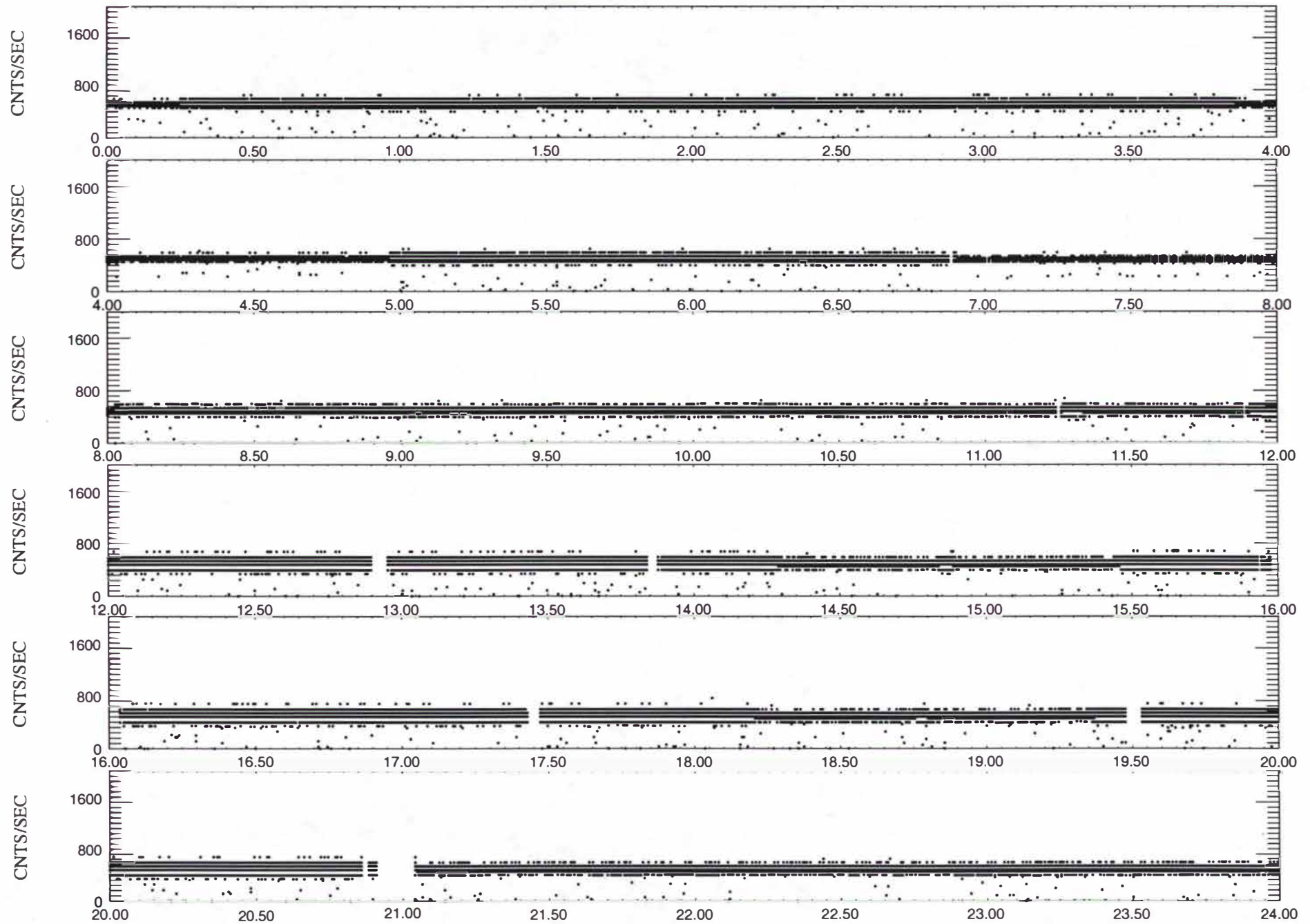
Sample average = 10

BURST NUMBER 10 - 13



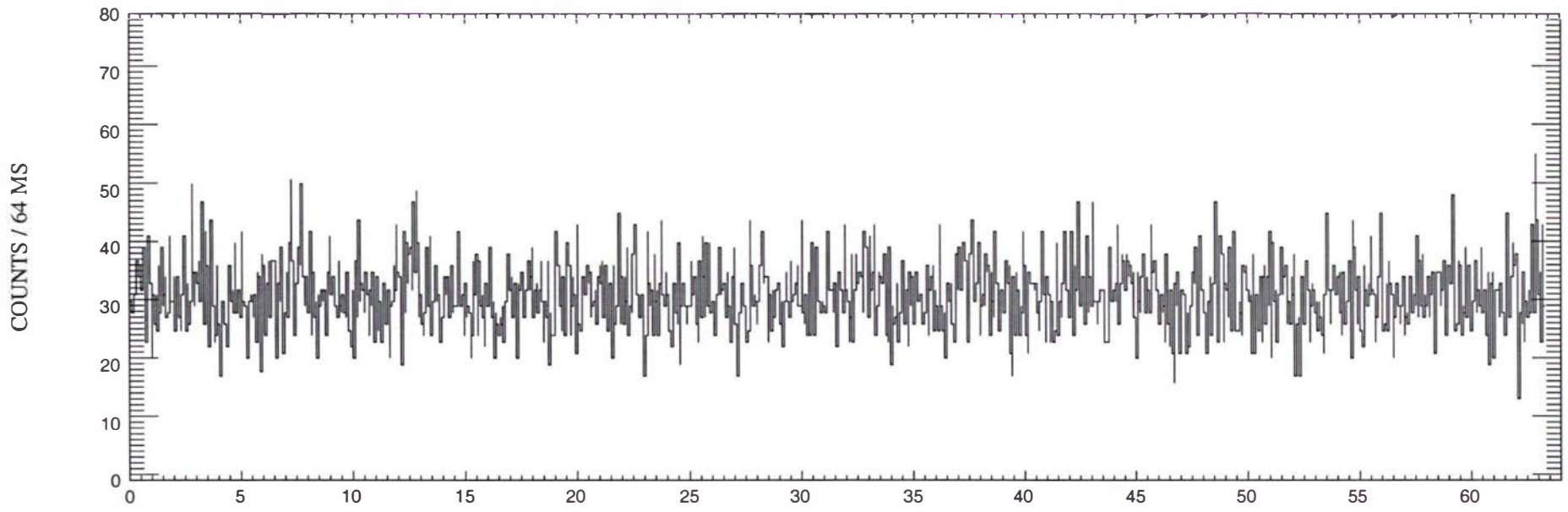
UNIV CAL TIME

CALIBRATION DATA INCLUDED

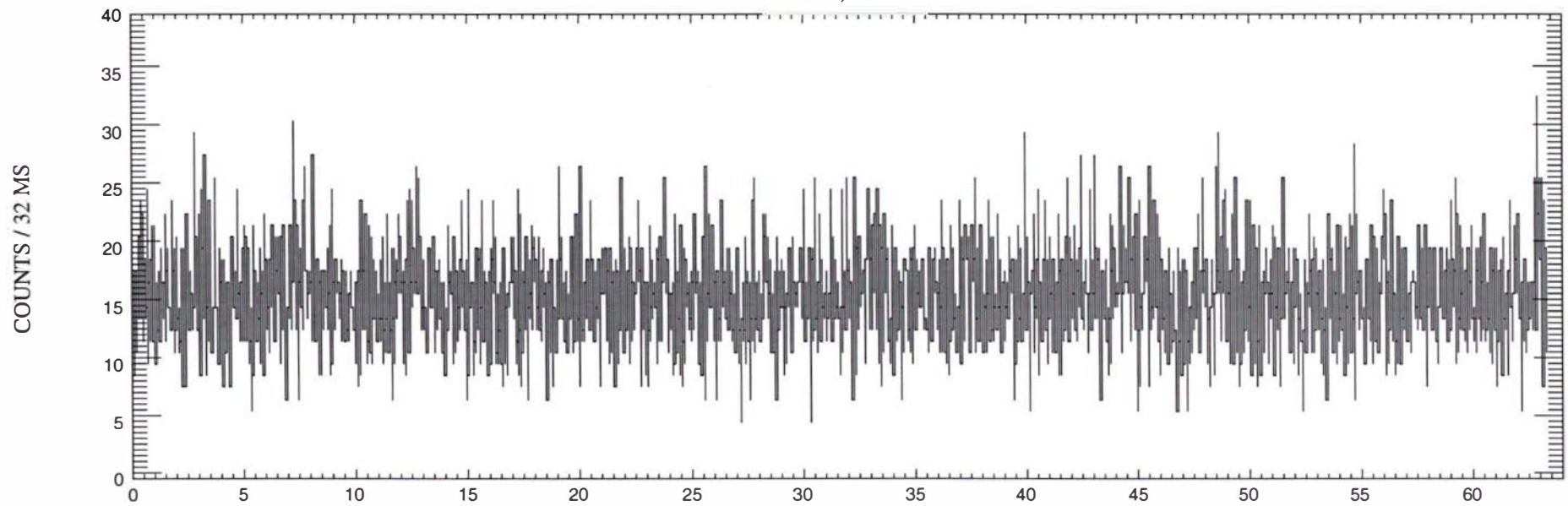


UNIV SAL TIME

Burst Counter 9 at UT=18.834192632039 h=67803.093 s 18:50:03.093

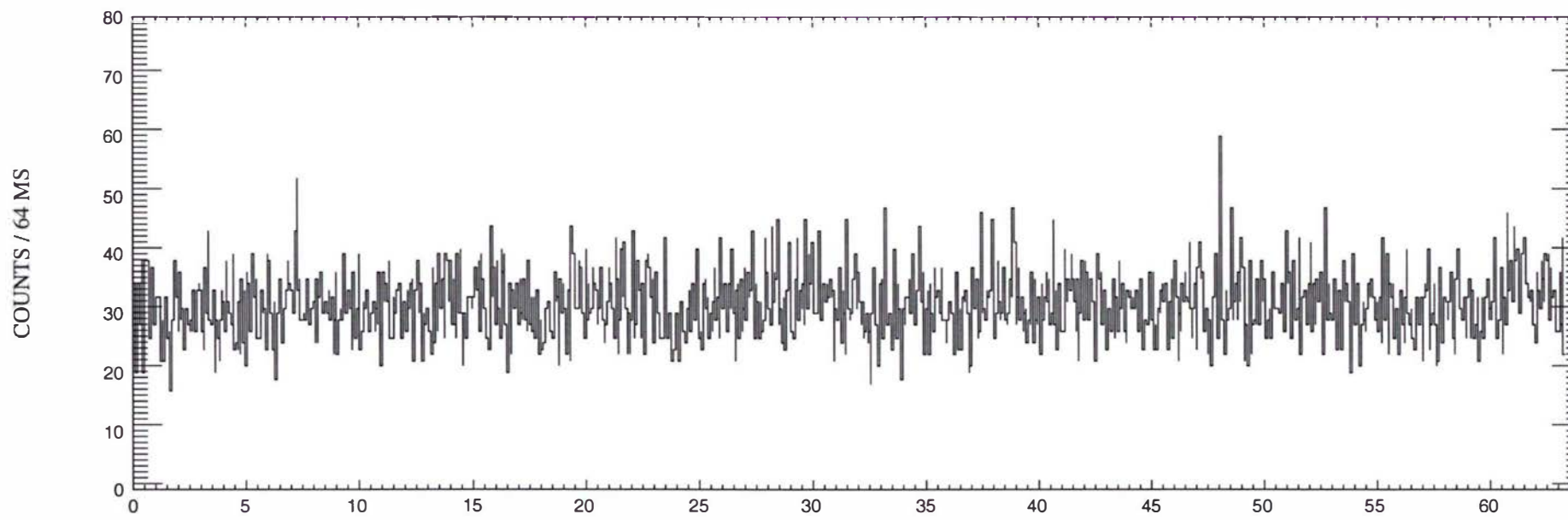


TIME, SECS

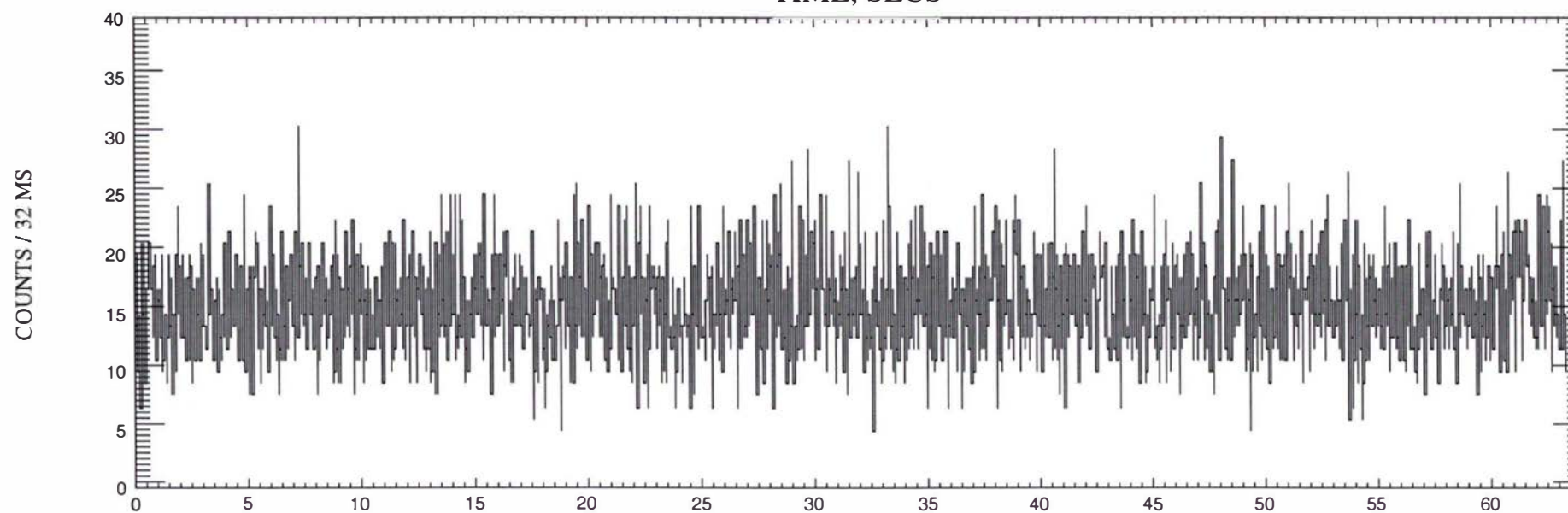


TIME, SECS

Burst Counter 10 at UT= 3.705632226732 h=13340.276 s 03:42:20.276

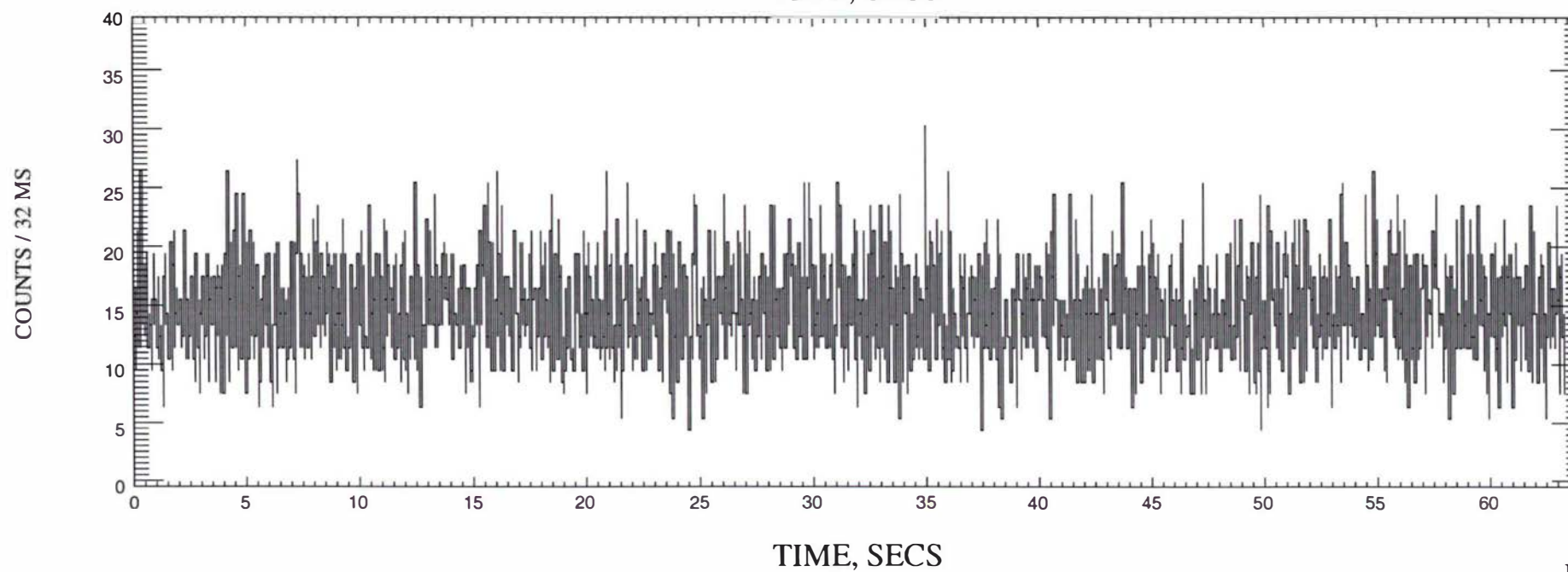
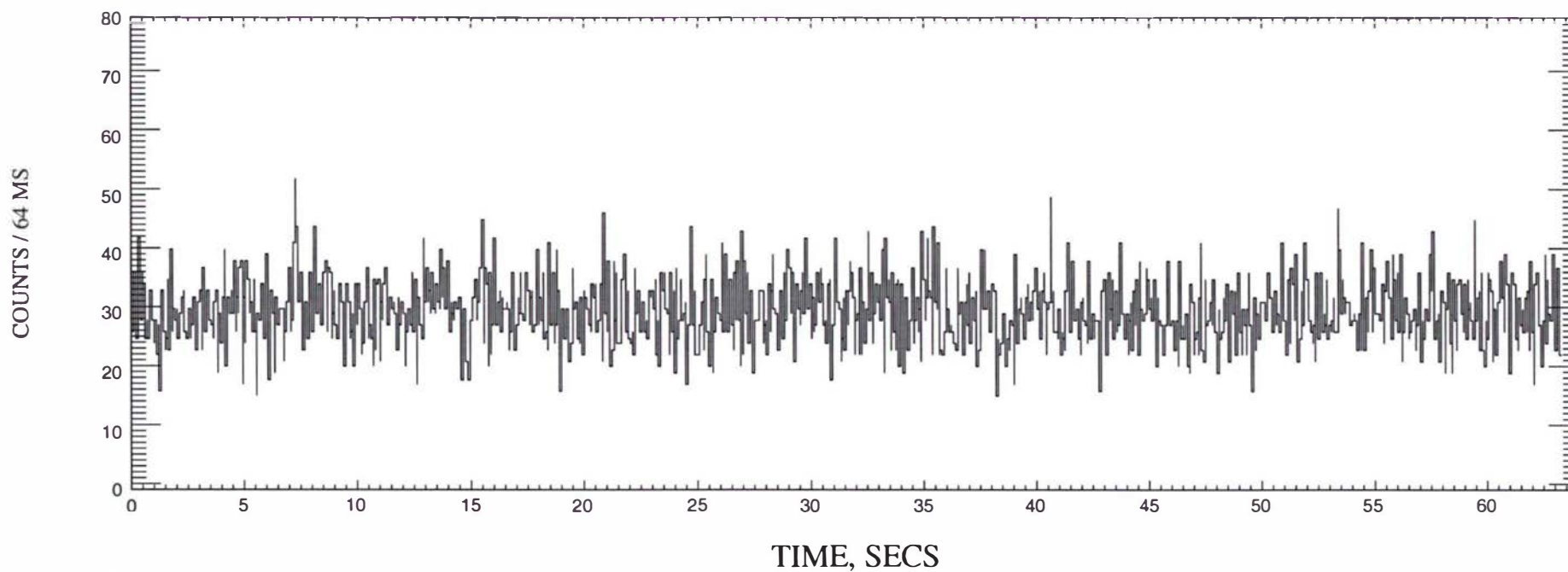


TIME, SECS

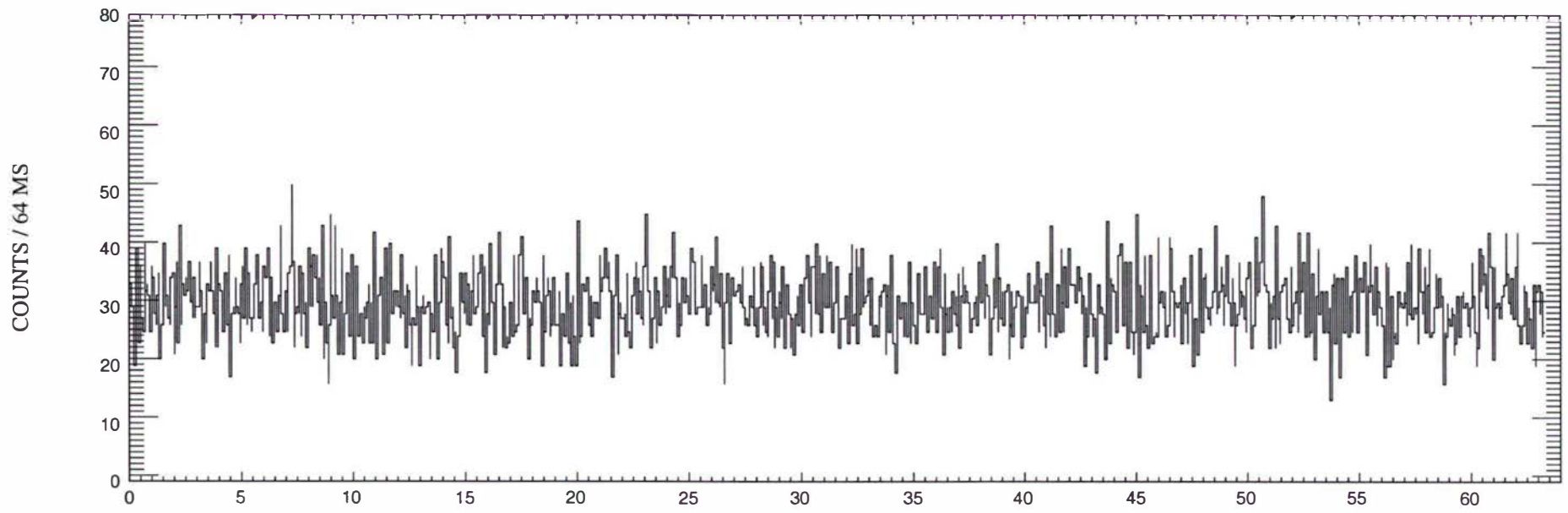


TIME, SECS

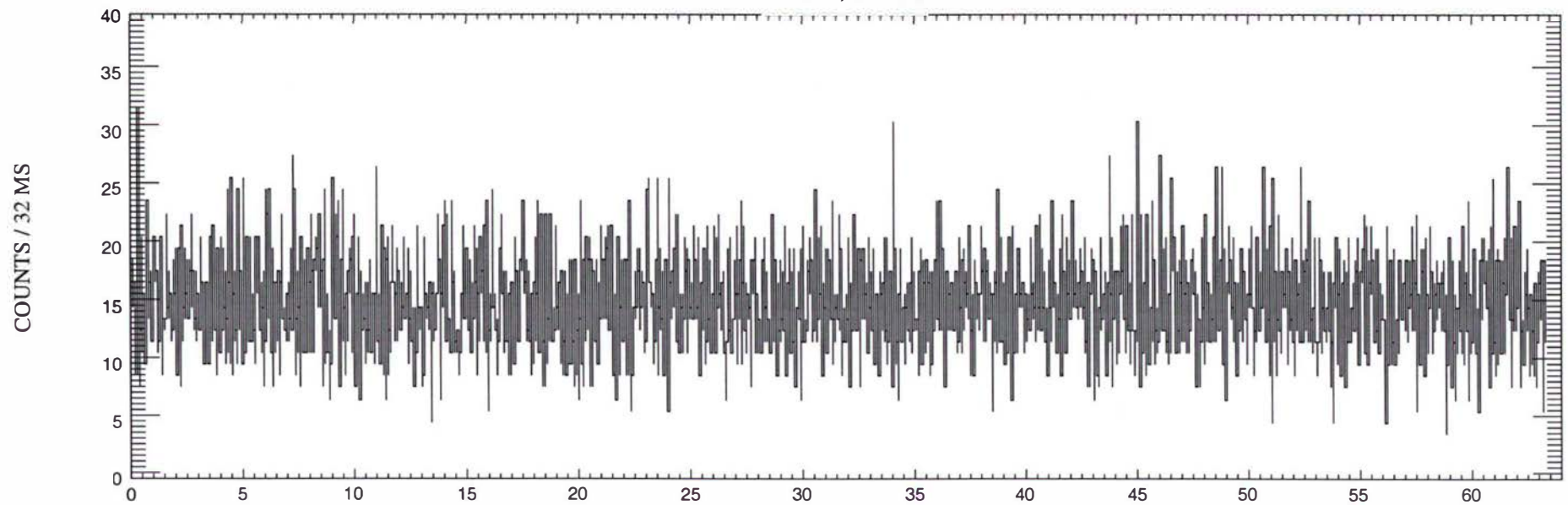
Burst Counter 11 at UT= 6.765735842387 h=24356.649 s 06:45:56.649



Burst Counter 12 at UT=14.131402850681 h=50873.050 s 14:07:53.050

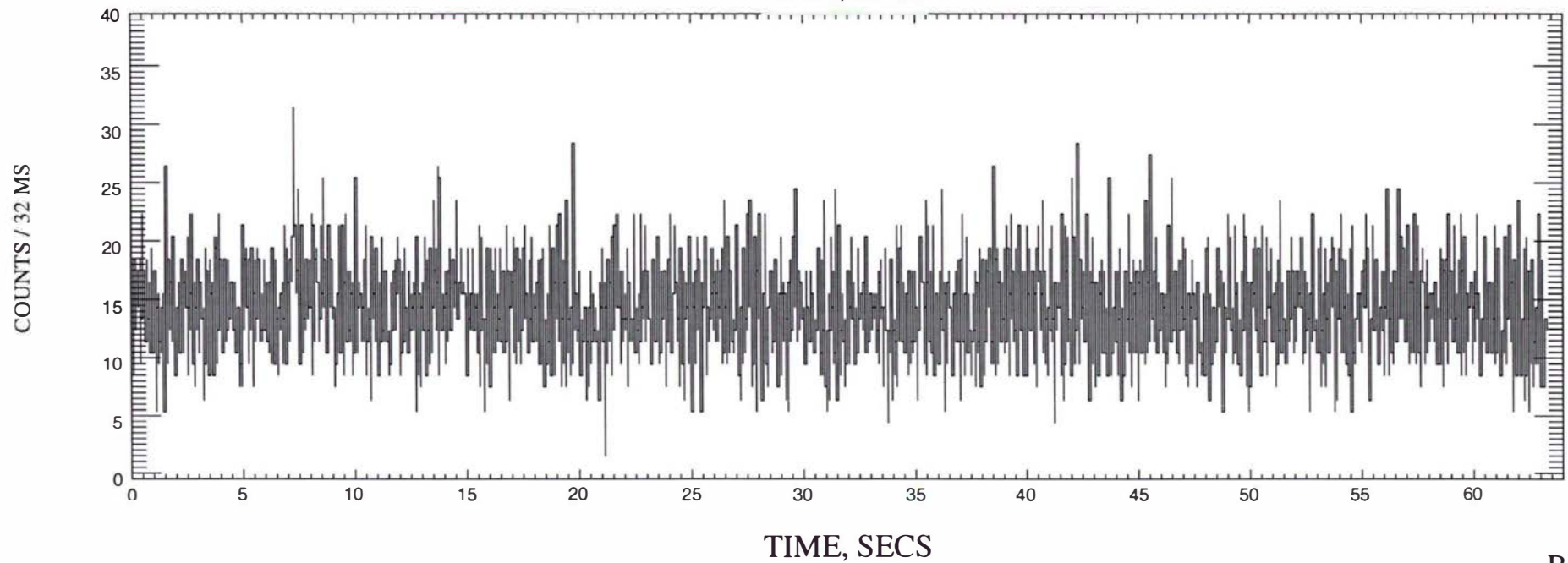
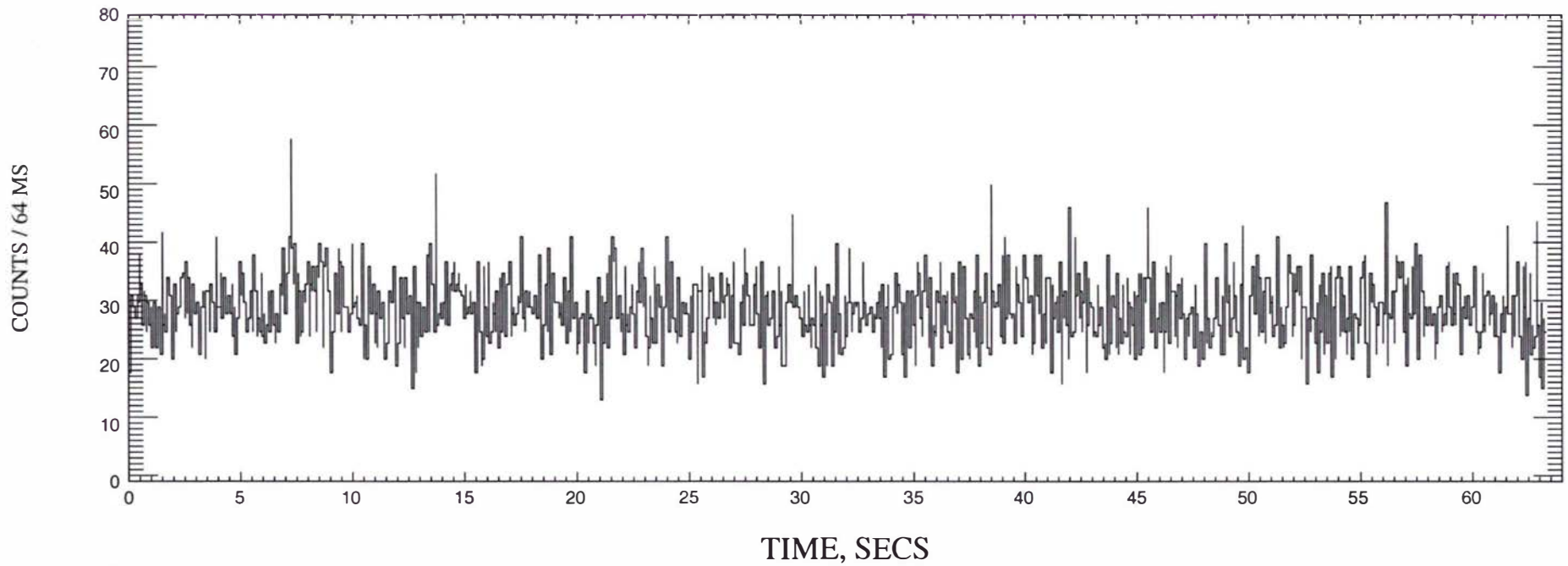


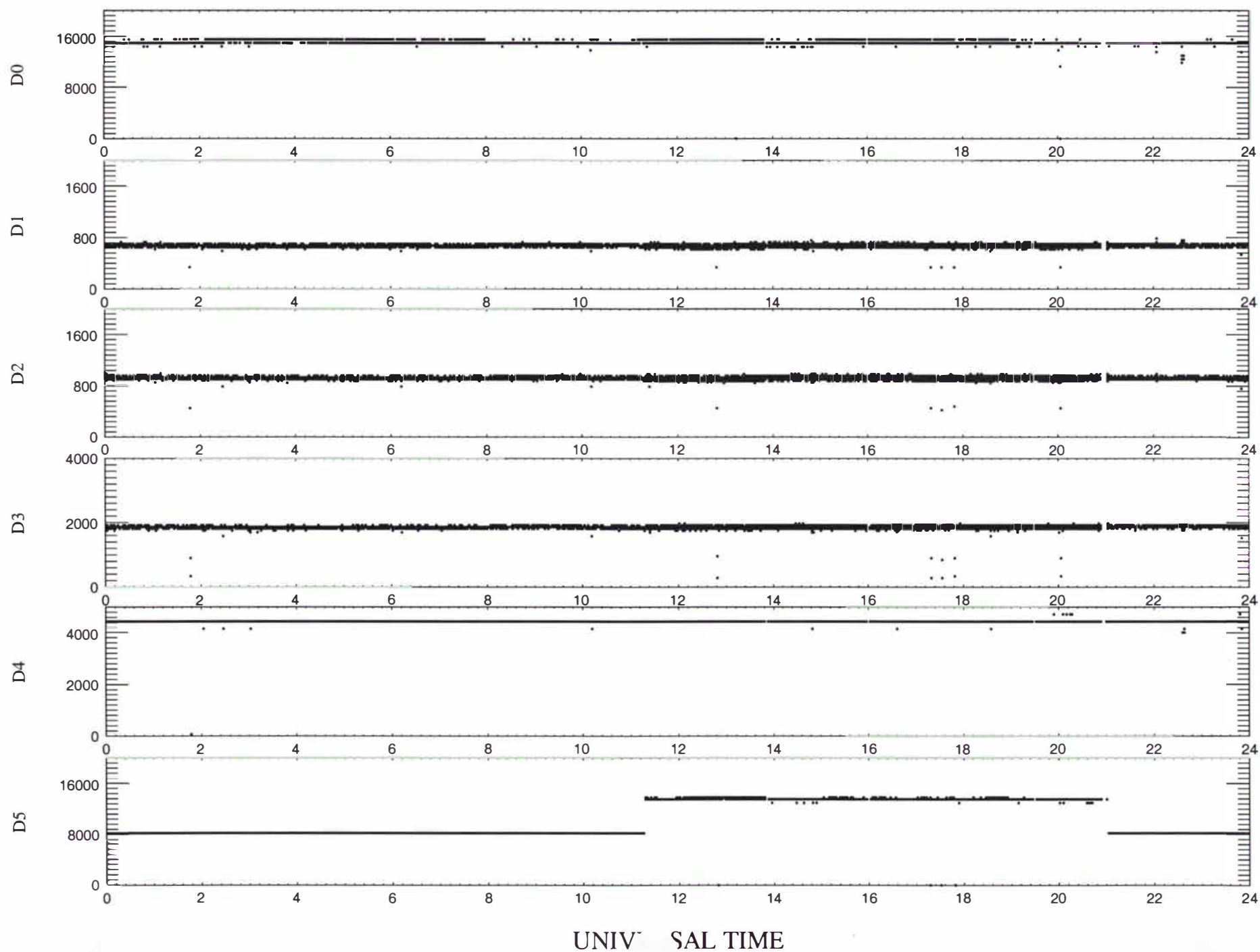
TIME, SECS



TIME, SECS

Burst Counter 13 at UT=18.054983974033 h=64997.942 s 18:03:17.942





From SAHI@fender.msfc.nasa.gov Thu Jan 28 12:29:24 1999

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 28 Jan 1999 14:28:40 -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.: 7356

TIME: TJD=1205 SECONDS=75733

TYPE: ACCIDEN SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

ACCIDENTAL TRIGGER, CAUSED BY CHANGE IN FLIGHT SOFTWARE TO CHANNELS 2+3.

U L Y S S E S

6 / 7 / 99

U L Y S S E S R T

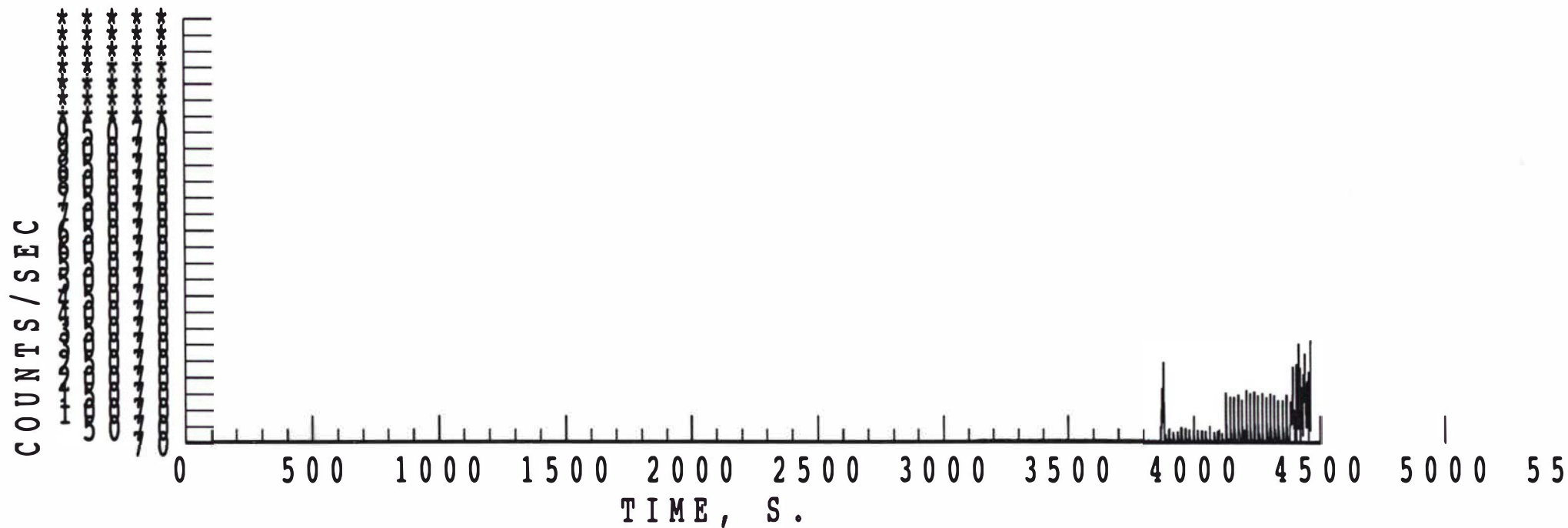
27 / 1 / 99 39168.320 s

INTERVALS REGROUPED BY 8

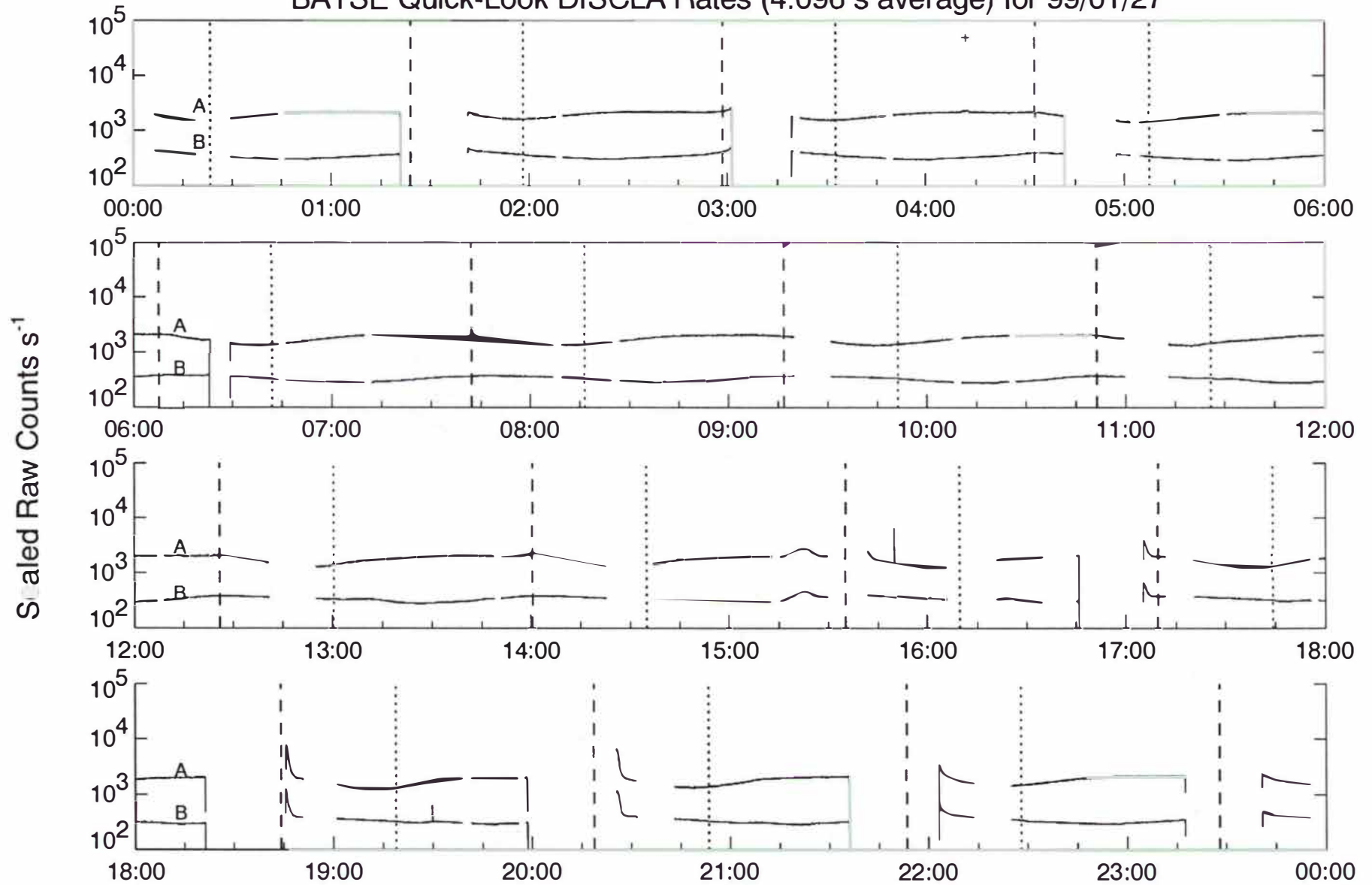
0 - 0 keV

*Attempt to get data for
triggered event*

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/27

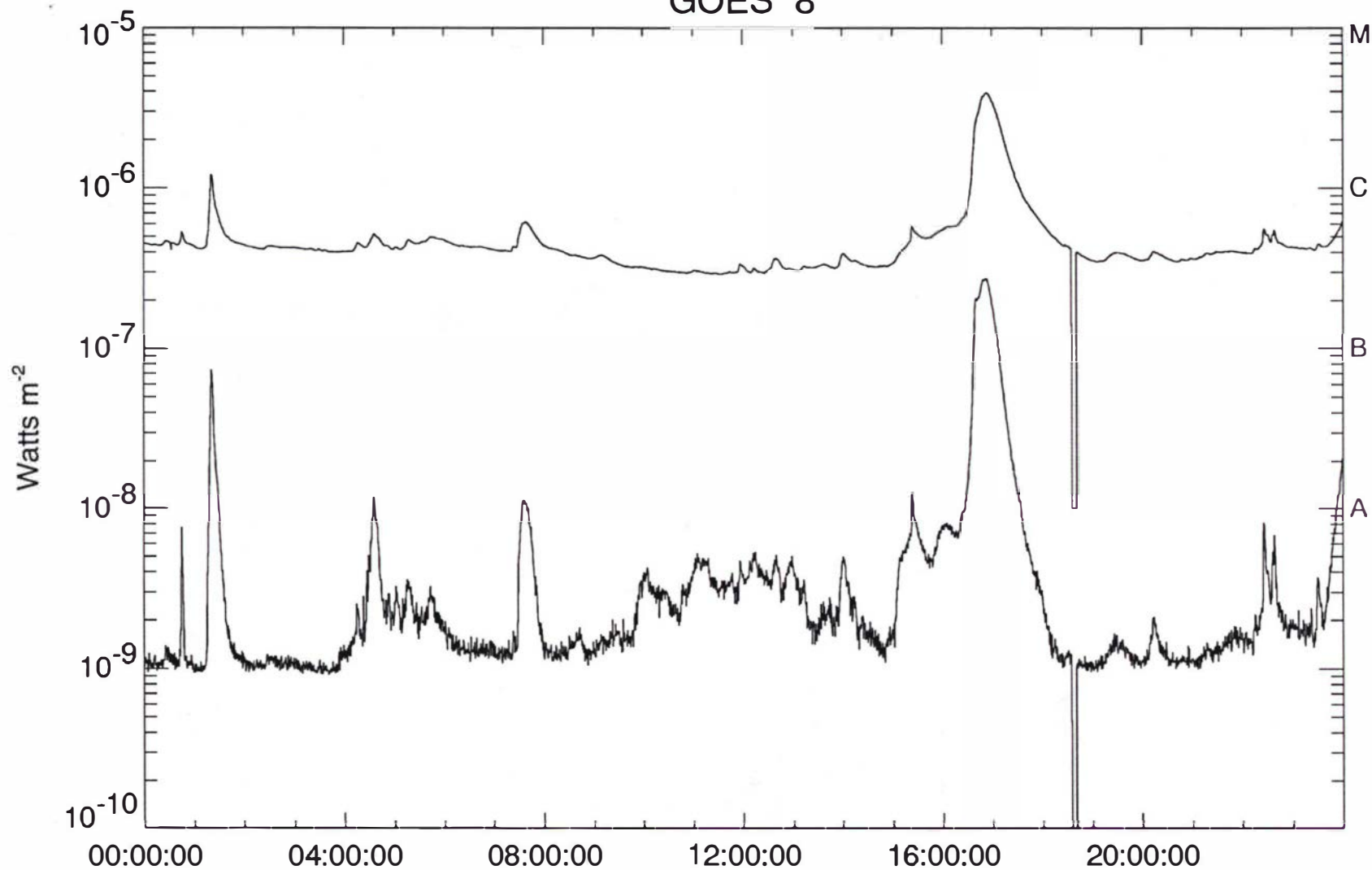


Current Time: 99/01/31, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

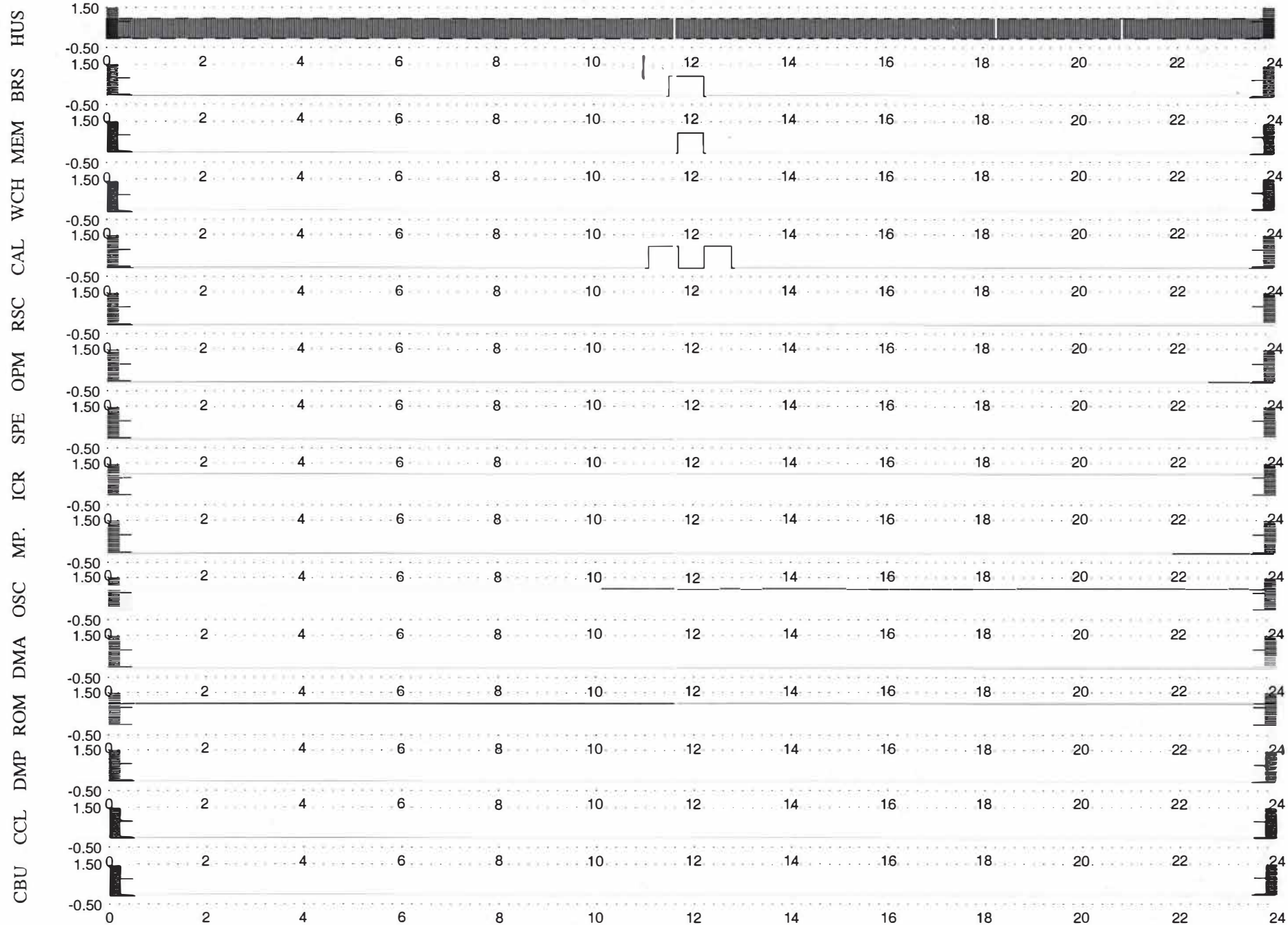


Data Start: 99/01/27, 0000:00

Plot created: 99/01/31, 1009

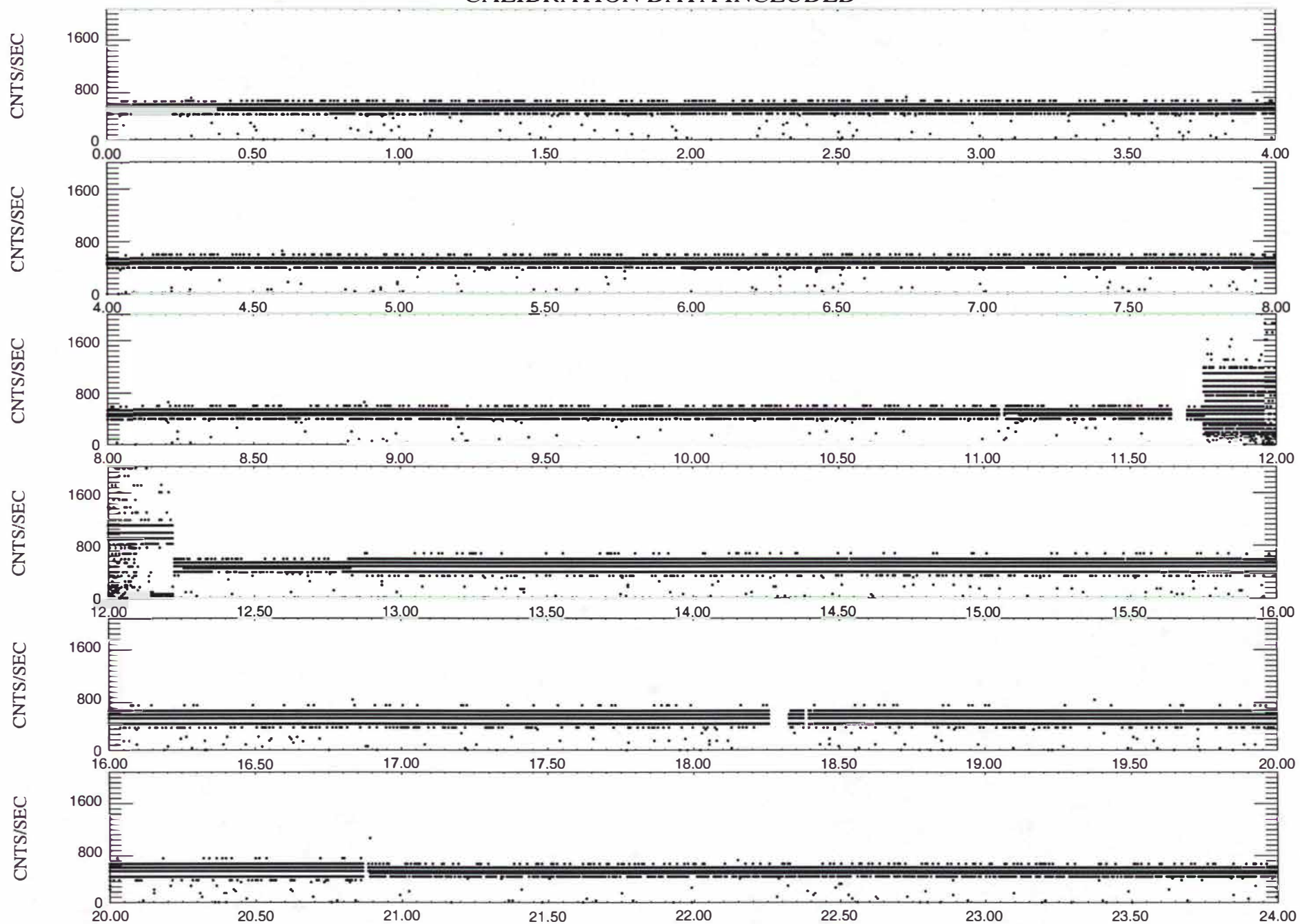
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
 Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted
 Sample average = 10

BURST NUMBER 14

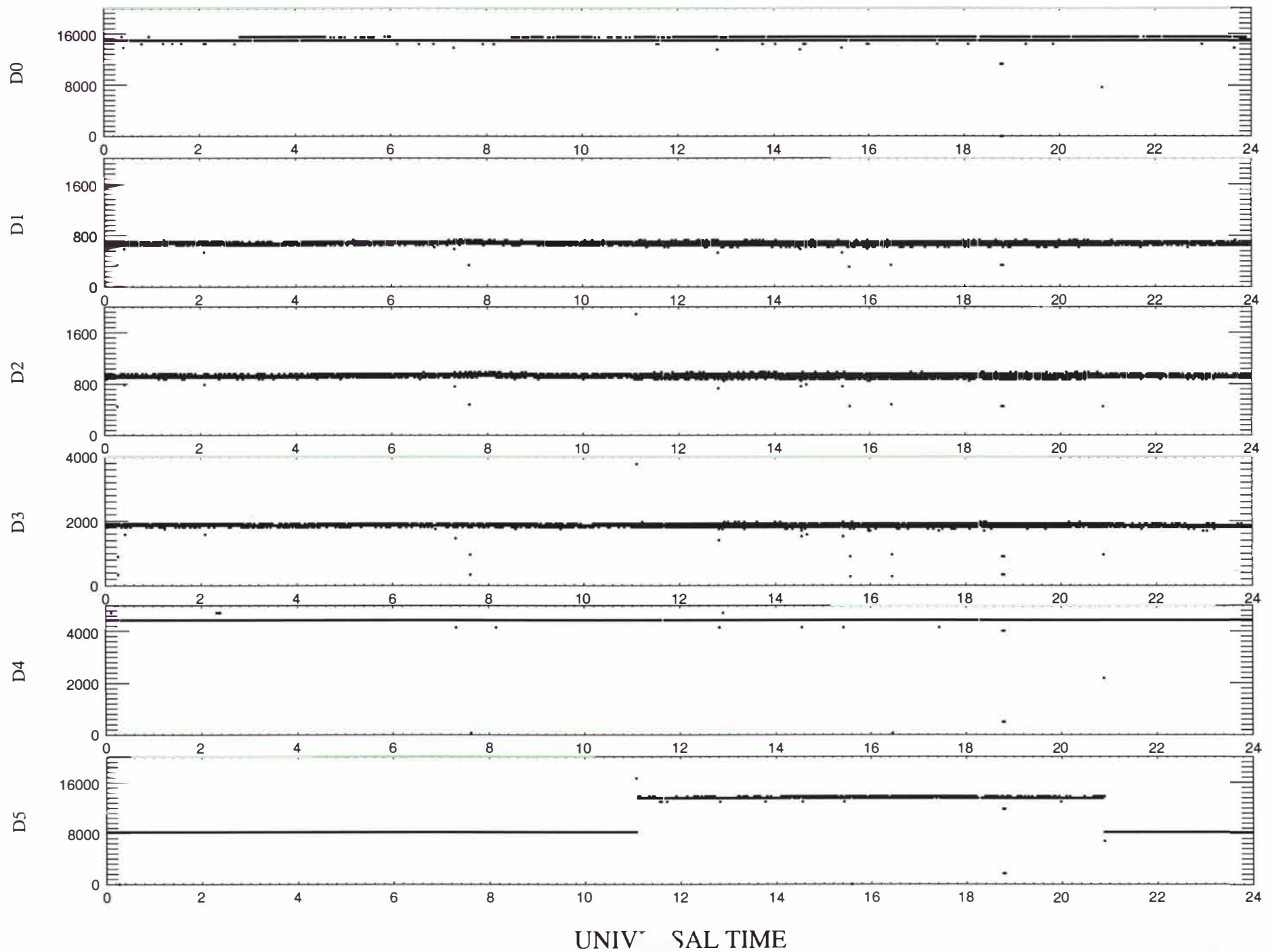


UNIV CAL TIME

CALIBRATION DATA INCLUDED



UNIV SAL TIME



From WOODSP@fender.msfc.nasa.gov Mon Feb 1 07:00:24 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA24289; Mon, 1 Feb 1999 07:00:24 -0800
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA12059; Mon, 1 Feb 1999 07:00:22 -0800
Date: Mon, 1 Feb 1999 8:54:57 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201085457.2027c963@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7357
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7357
EVENT OF 1999 JAN 28 DAY OF YEAR= 28
EVENT CROSSING TIME AT BATSE : 34058. S. OR 09:27:38.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 270.000 -37.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 1/ 99 IS:
RA= 162.009 DEC= -9.415 DIST= 4.374 AU
BATSE-ULYSSES DISTANCE = 654413970. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.67 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 316.30 SECS.
CROSSING TIME AT ULYSSES IS 34374. S. OR 09:32:54 +/- 429.79 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 1/ 99 IS:
RA= 209.223 DEC= -9.750 DIST= 1.218 AU
MARS-BATSE DISTANCE = 182266464. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=119.09 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -295.59 SECS.
CROSSING TIME AT MARS IS 33762. S. OR 09:22:42 +/- 87.75 SECONDS

BATSE BURST TRIGGER

NO.: 7357

TIME: TJD=1206 SECONDS=34058

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=76.9 AZIMUTH=340.9 ERROR=4.2 DEGREES

COMMENTS:

GRB LASTING ABOUT 30 SEC. TWO PULSES. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7357	990128	11206	34058	3000	270	-37	30

Date: Jan 24 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

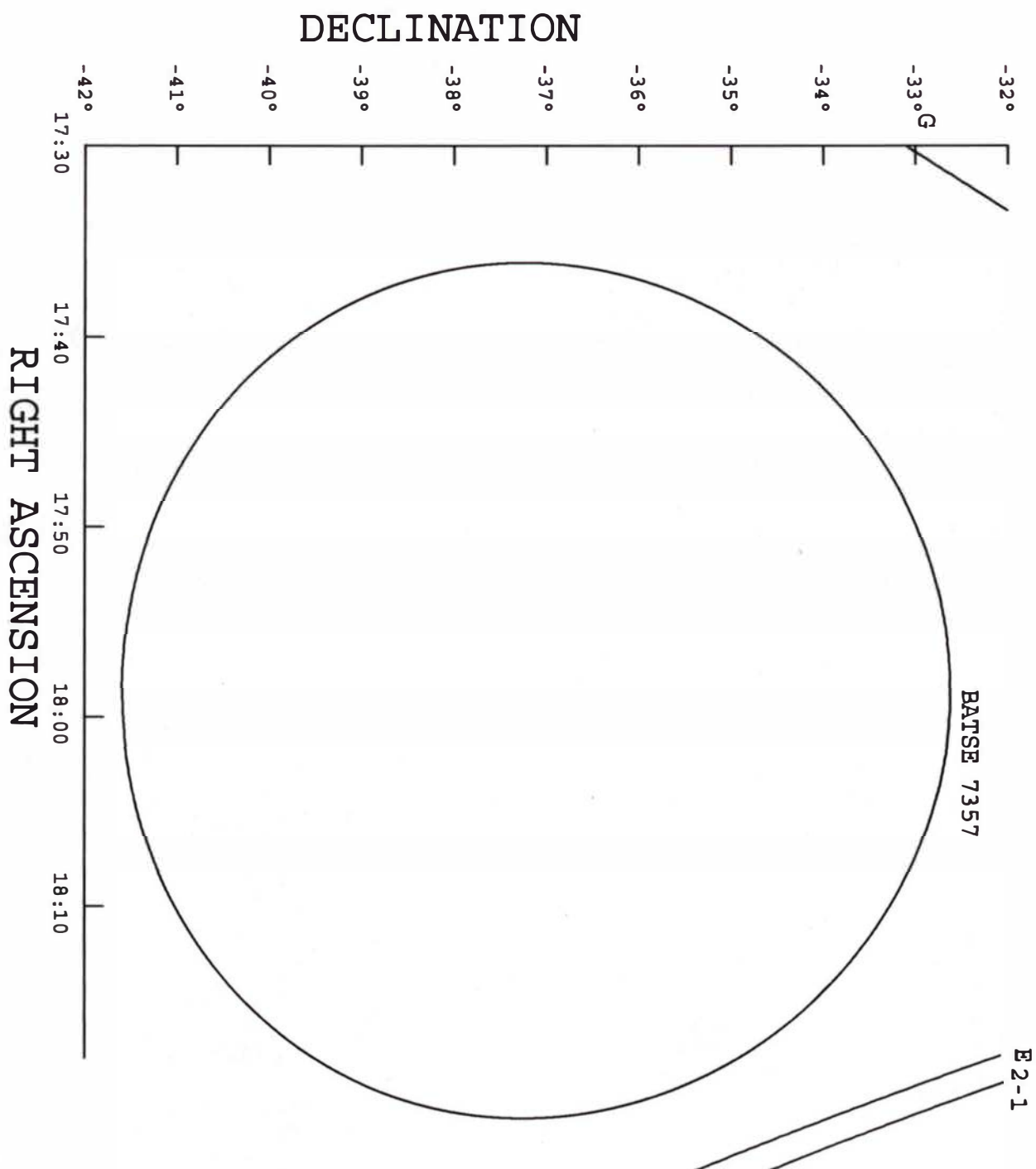
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JAN 28, 1999 9:27

24 / 1 / 0



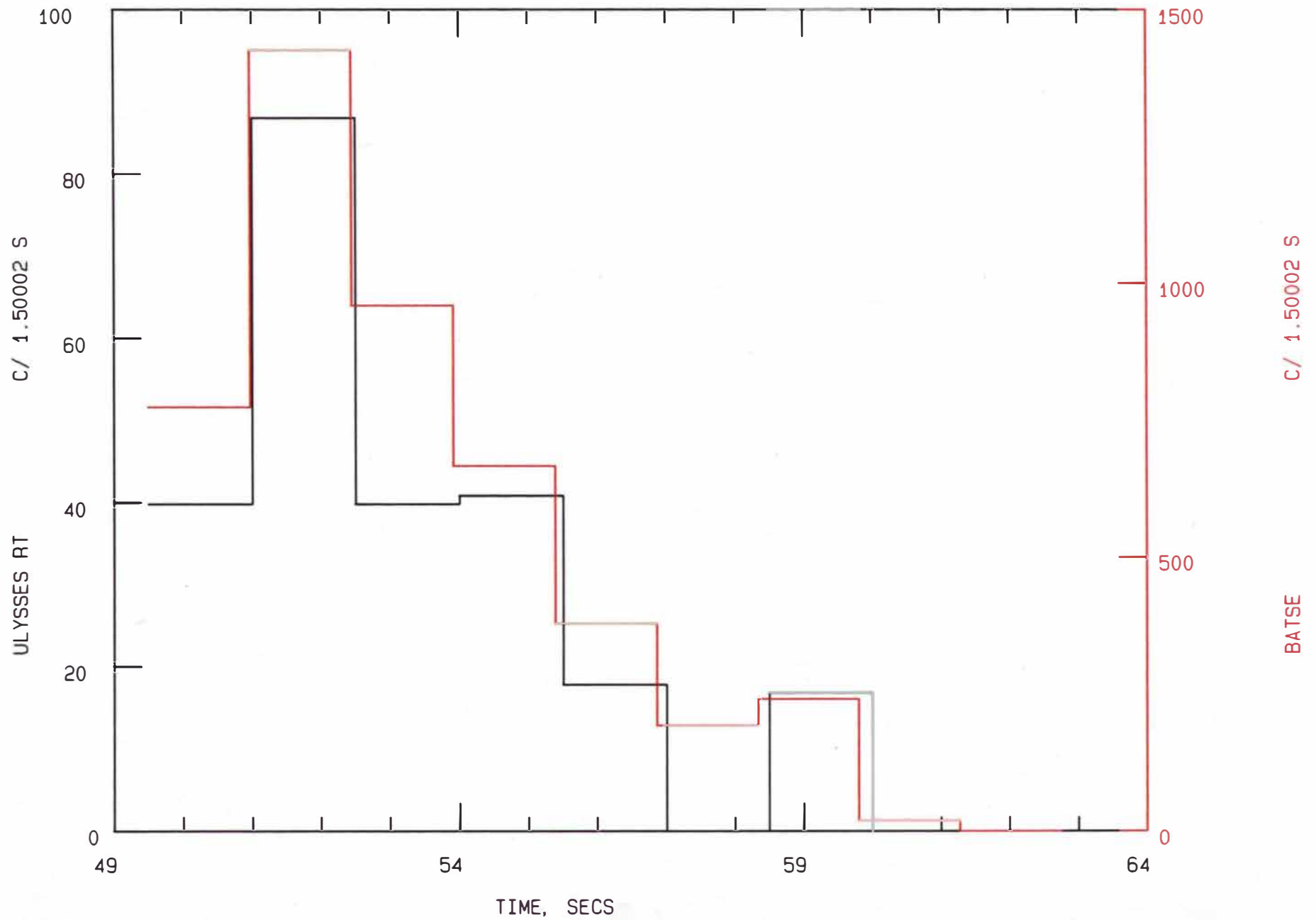
ULYSSES RT-BATSE

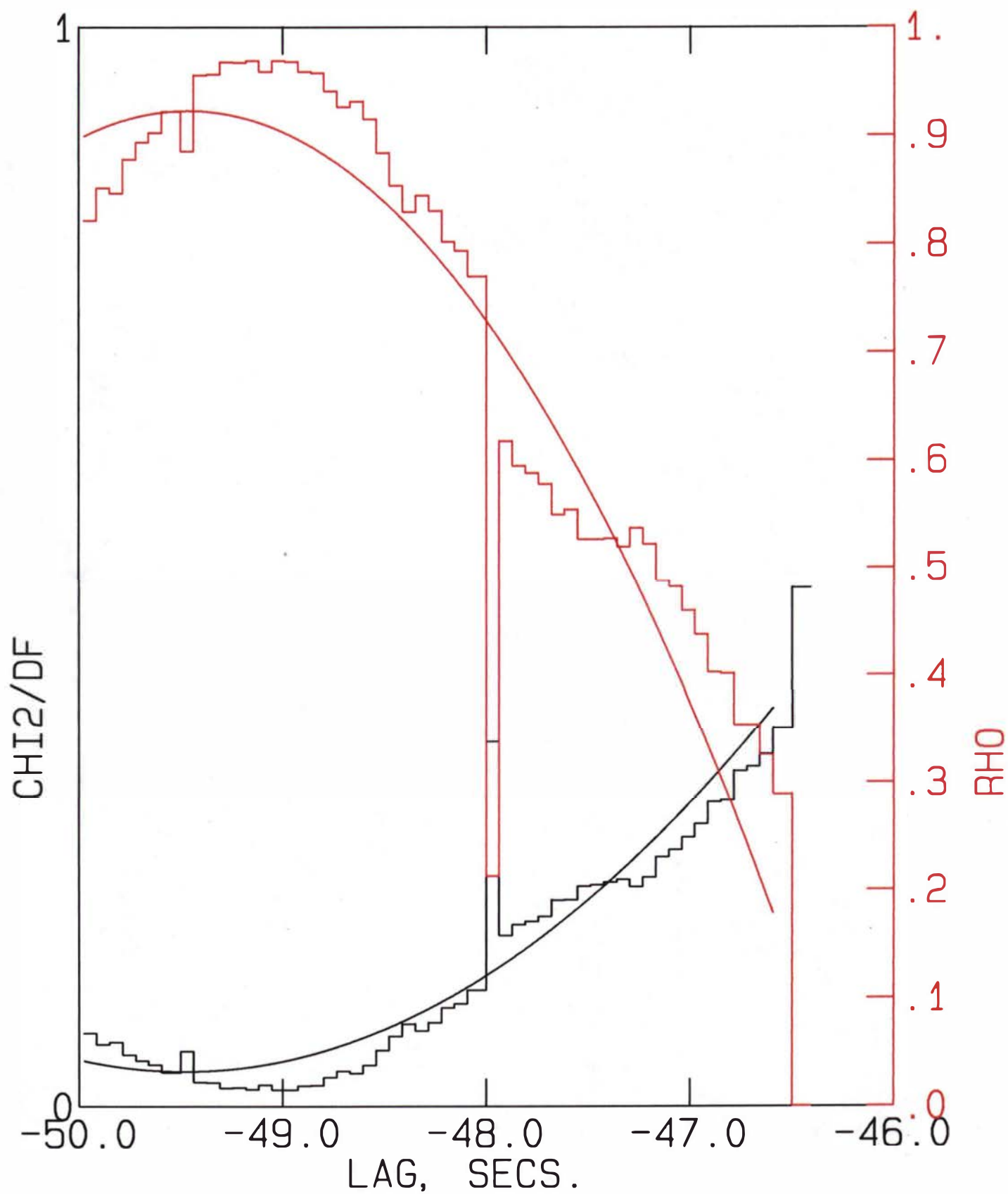
CORRELATION

28/ 1/99

34492.159

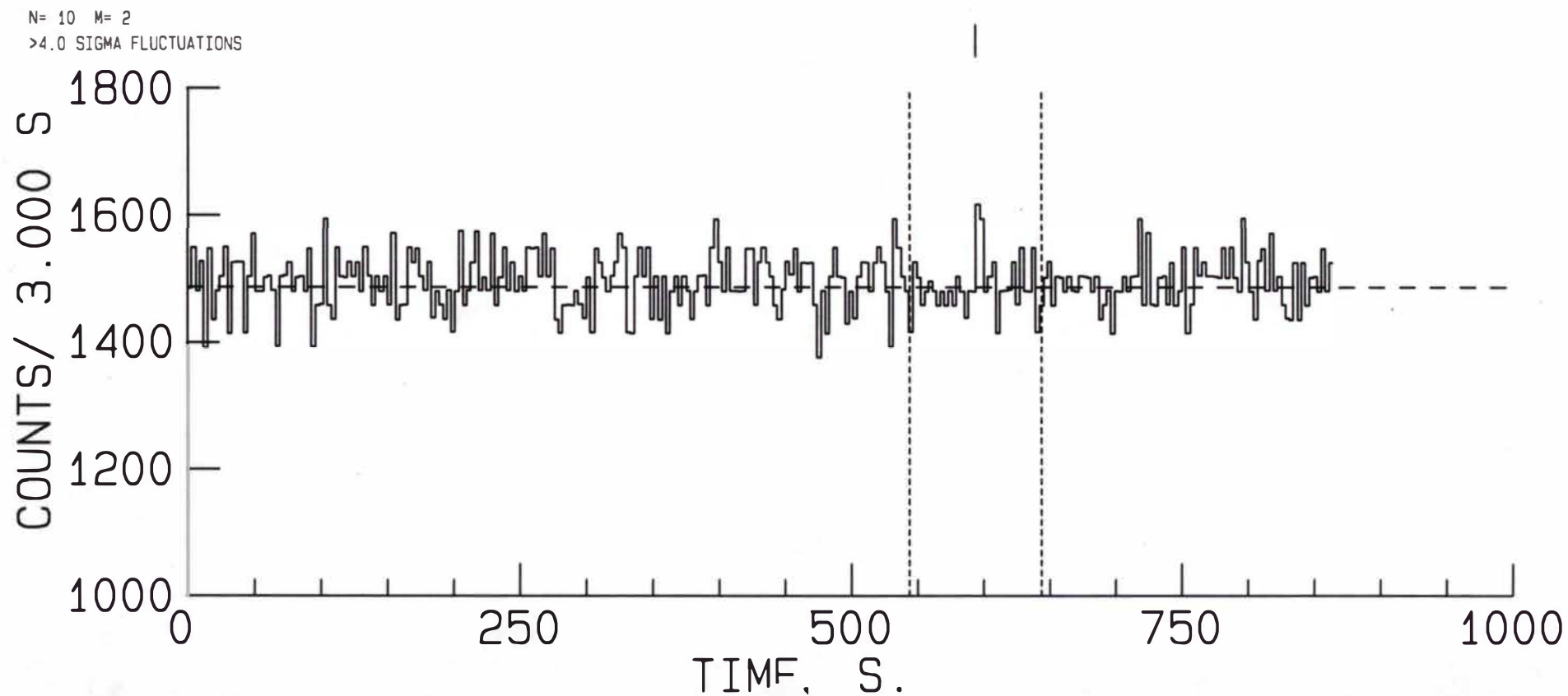
24/ 1/ 0





ULYSSES RT
28/ 1/99 33948.152 s
0.500 S INTERVALS REGROUPED BY 6
22- 153 keV

24 / 1 / 0



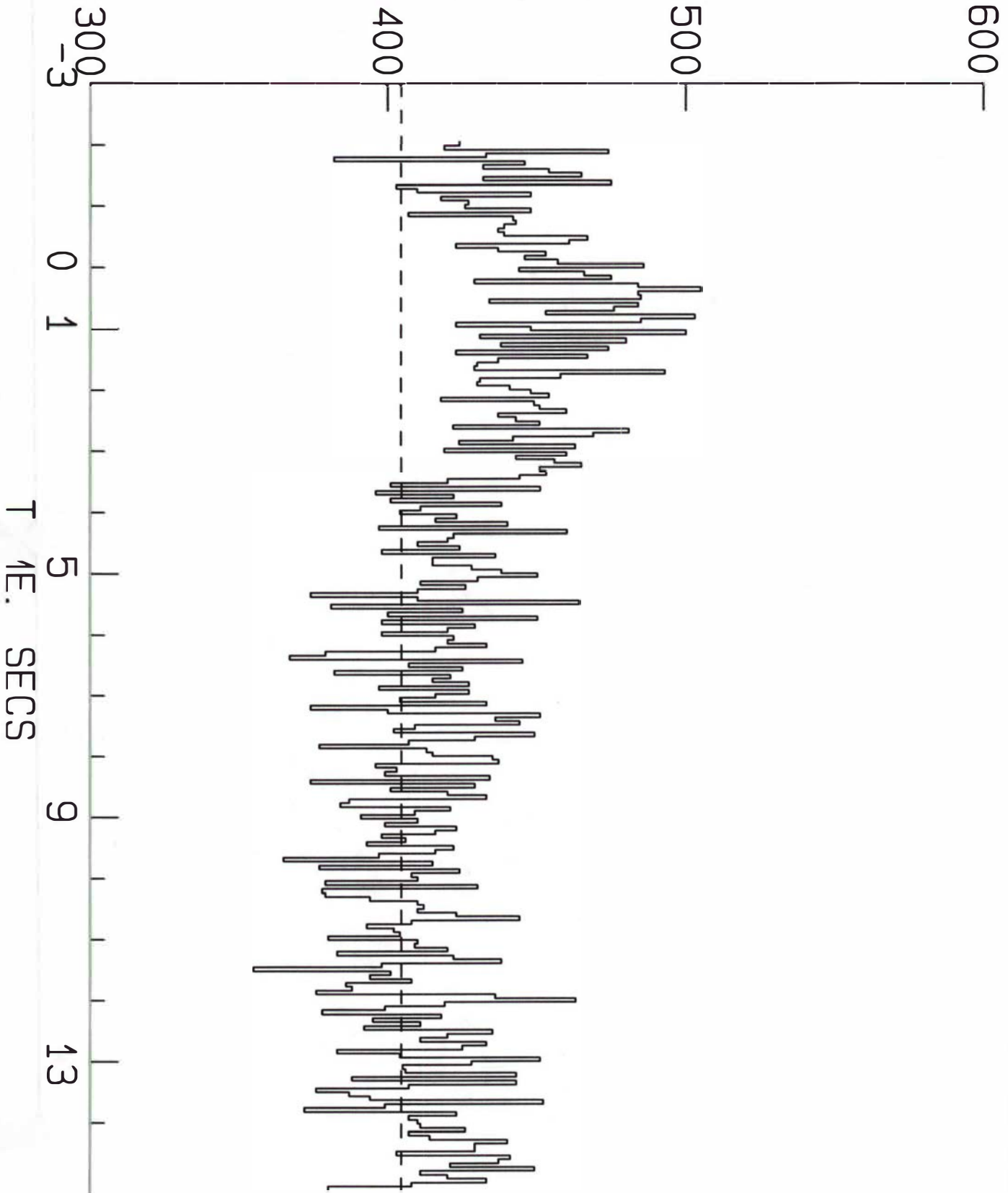
BATSE

28/01/99

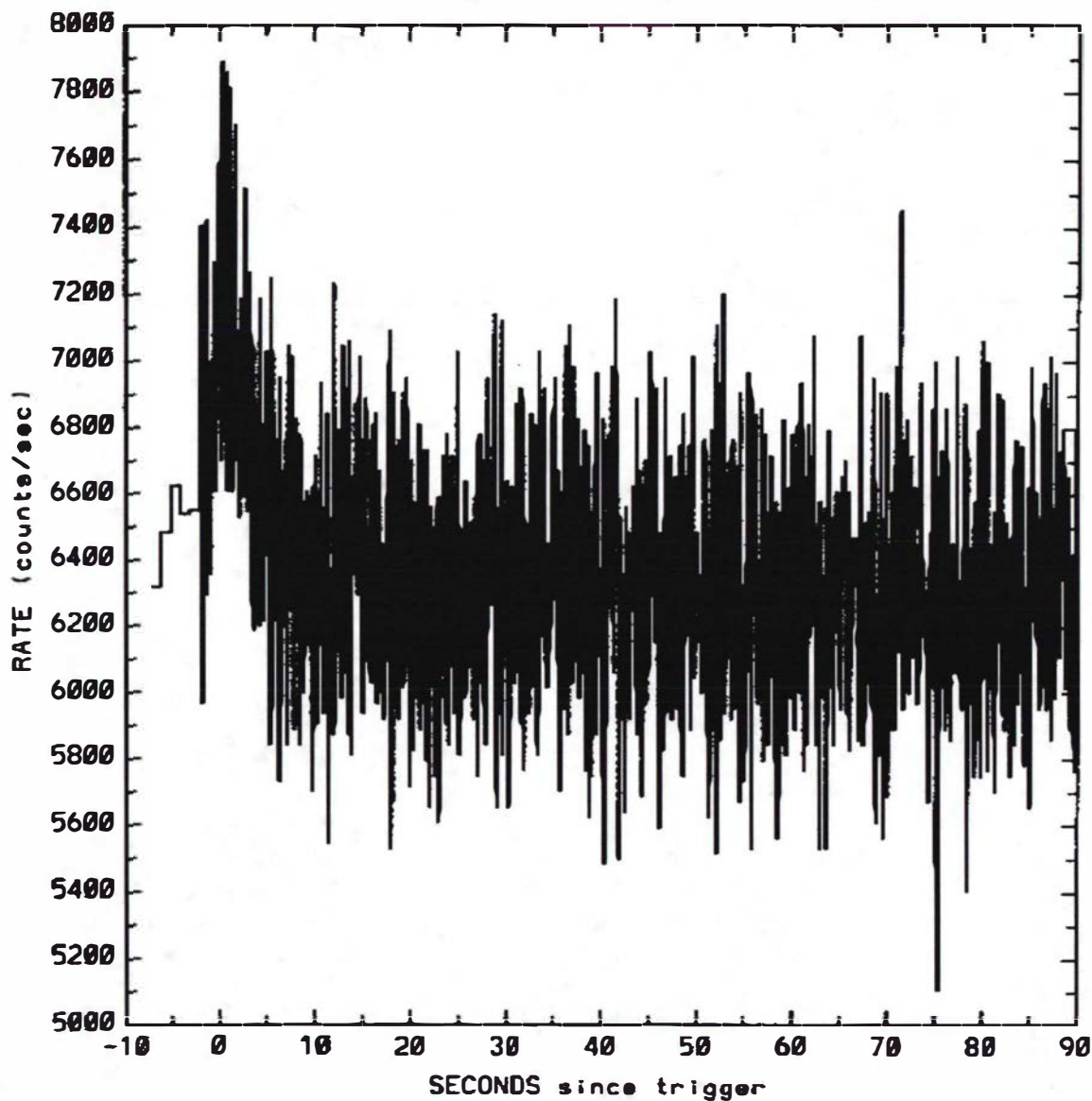
34057.977

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7357



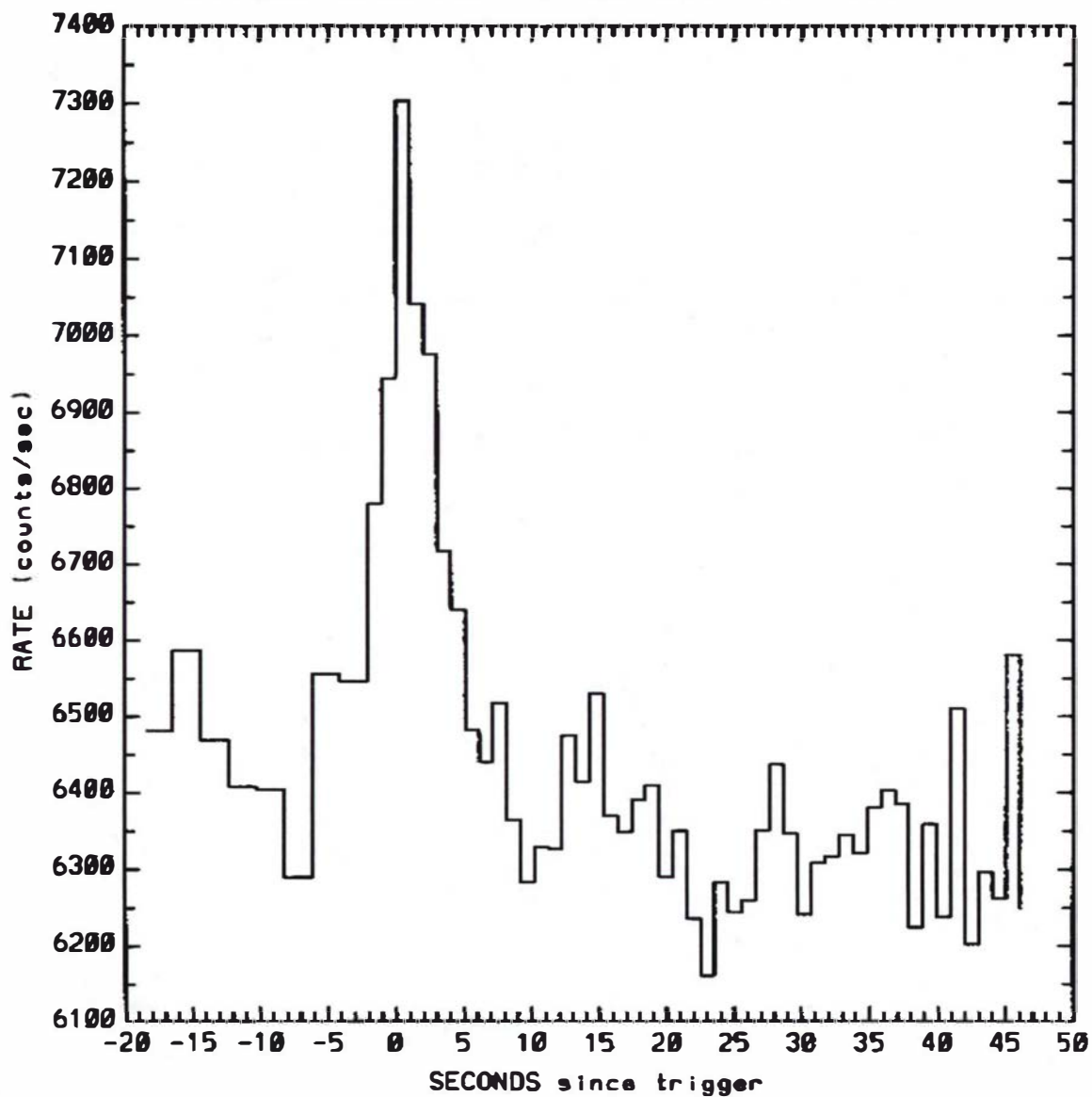
2-FEB-1999 13.49.32

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # . 7357

Trigger Time:
11286 / 34057.977Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.864 second(s)Detectors [7..8]:
----32--Discriminators:
(1 . 2)Quality Mask:
BDISP1

DISCLB Data for K. Hurley. No. 7357



2-FEB-1999 13:58.48

Created by NOPS 8D
(Burst Display)
Version t2.26

Trigger # . 7357

Trigger Time:
11286 / 34857.977Burst Data Type:
DISCLBDeadtime
Corrected: NBackground Data
Type: NoneMinimum Integ. Time:
1.824 second(s)Detectors [7..8]:
----32--Discriminators:
(1 . 2)Quality Mask:
BDSP1

BATSE time corrected 9/26

Date: June 13 2002

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For 3 Spacecraft events

- ☐ Konus N/S anisotropy used to distinguish between positions?
- ☐ SAX anisotropy used to distinguish between positions?
- ☐ SAX Earth-blocking used to distinguish between positions?
- ☐ $\Sigma 3\Delta t$'s calculated?

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?

- ☒ ACCESS database updated?

From stern@ask.astro.su.se Mon Nov 22 04:13 PST 1999
Date: Mon, 22 Nov 1999 13:21:02 +0100 (MET)
From: "Boris Stern (guest RS)" <stern@astro.su.se>
Subject: huge untriggered GRB
: khurley@ssl.berkeley.edu
Cc: svensson@astro.su.se
MIME-Version: 1.0
Content-MD5: 8P7Svf10oSKwnDZZaX2reg==

Dear Kevin,

Hope that you have recieved the file with untriggered bursts.
Now one more: a huge one, the brightest among untriggered, of a classic
FRED shape, visible in chan. #4. This is a myystery why it has not been
triggered.

TJD 11206
time 37284 sec.
estimated peak flux 24.5 photons /cm² /s
RA 305
DEC -42

Please let me know whether you have it in the Ulysses data.

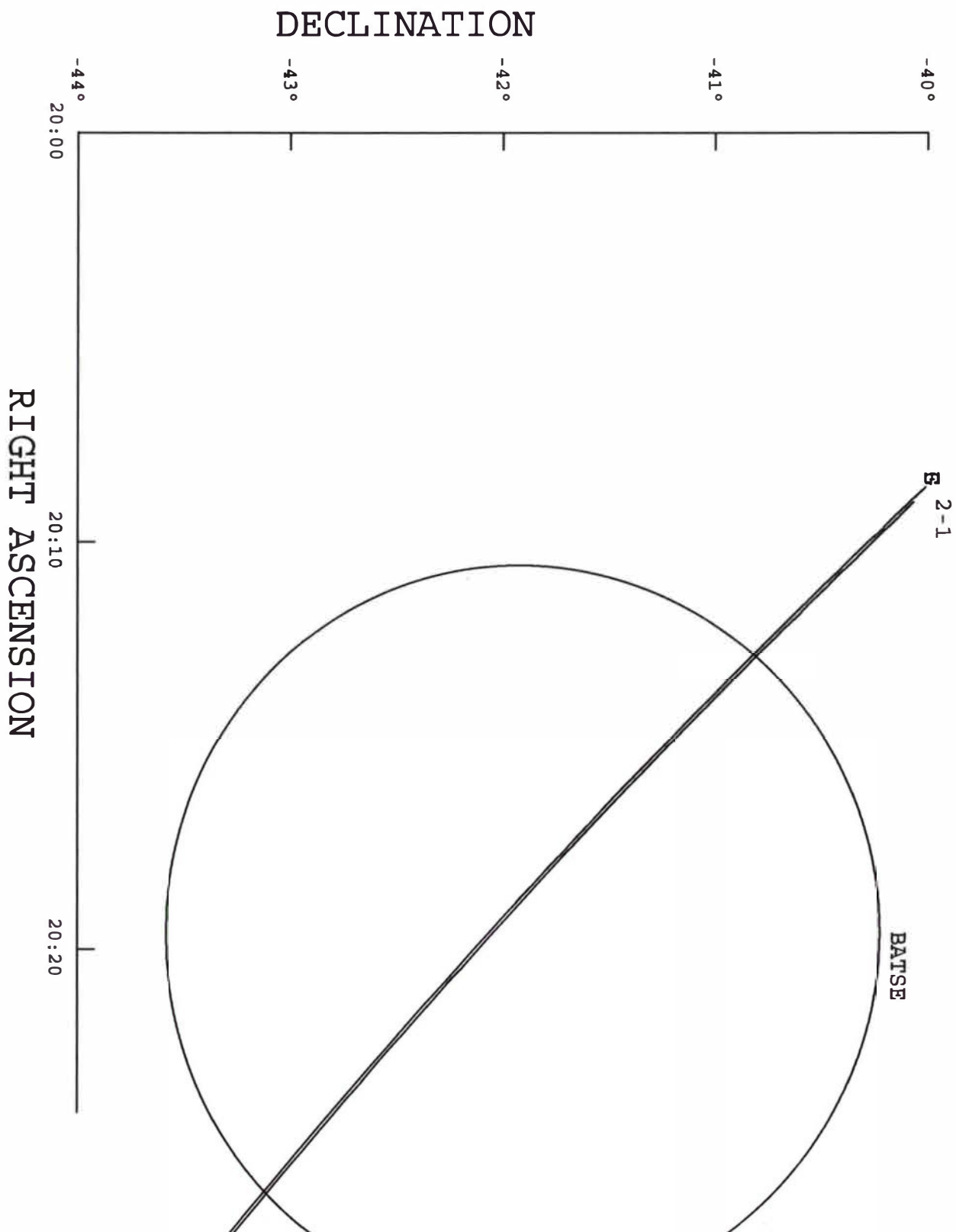
In 2 weeks I will send you an extention of the catalog for TJD 11200 - 11500

Regards,
Boris

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 JAN 28, 1999 10:20

13 / 6 / 2



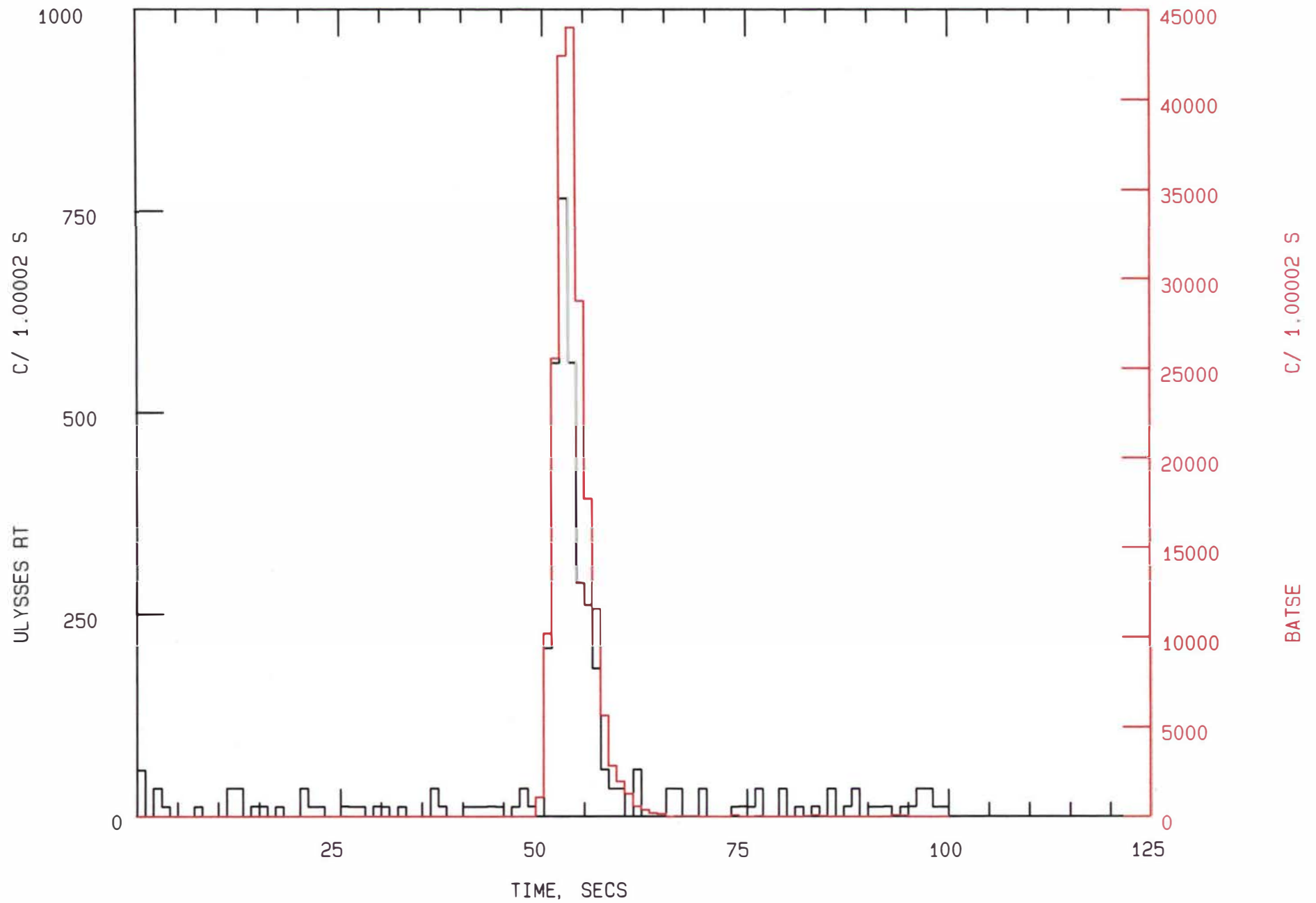
ULYSSES RT-BATSE

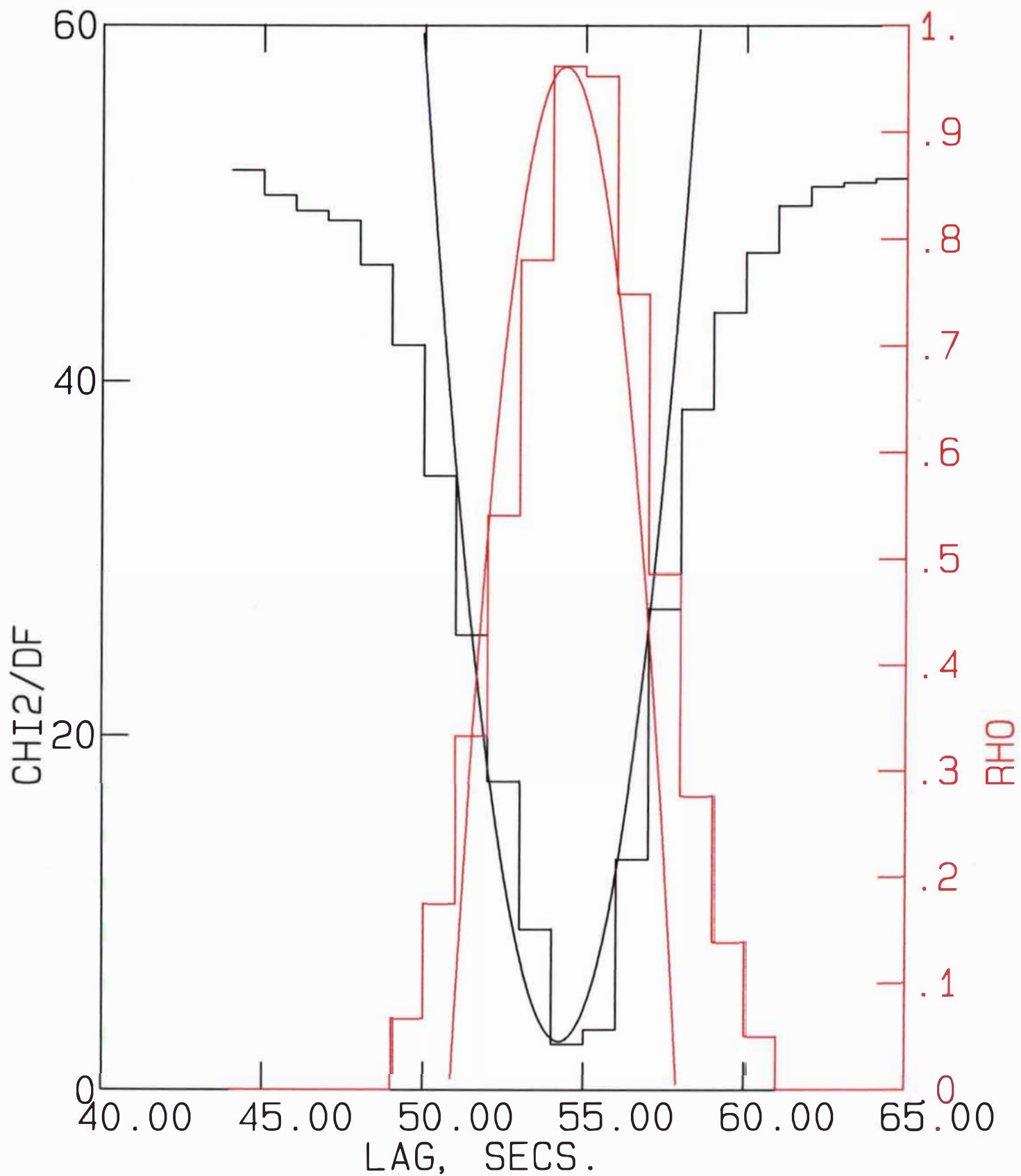
CORRELATION

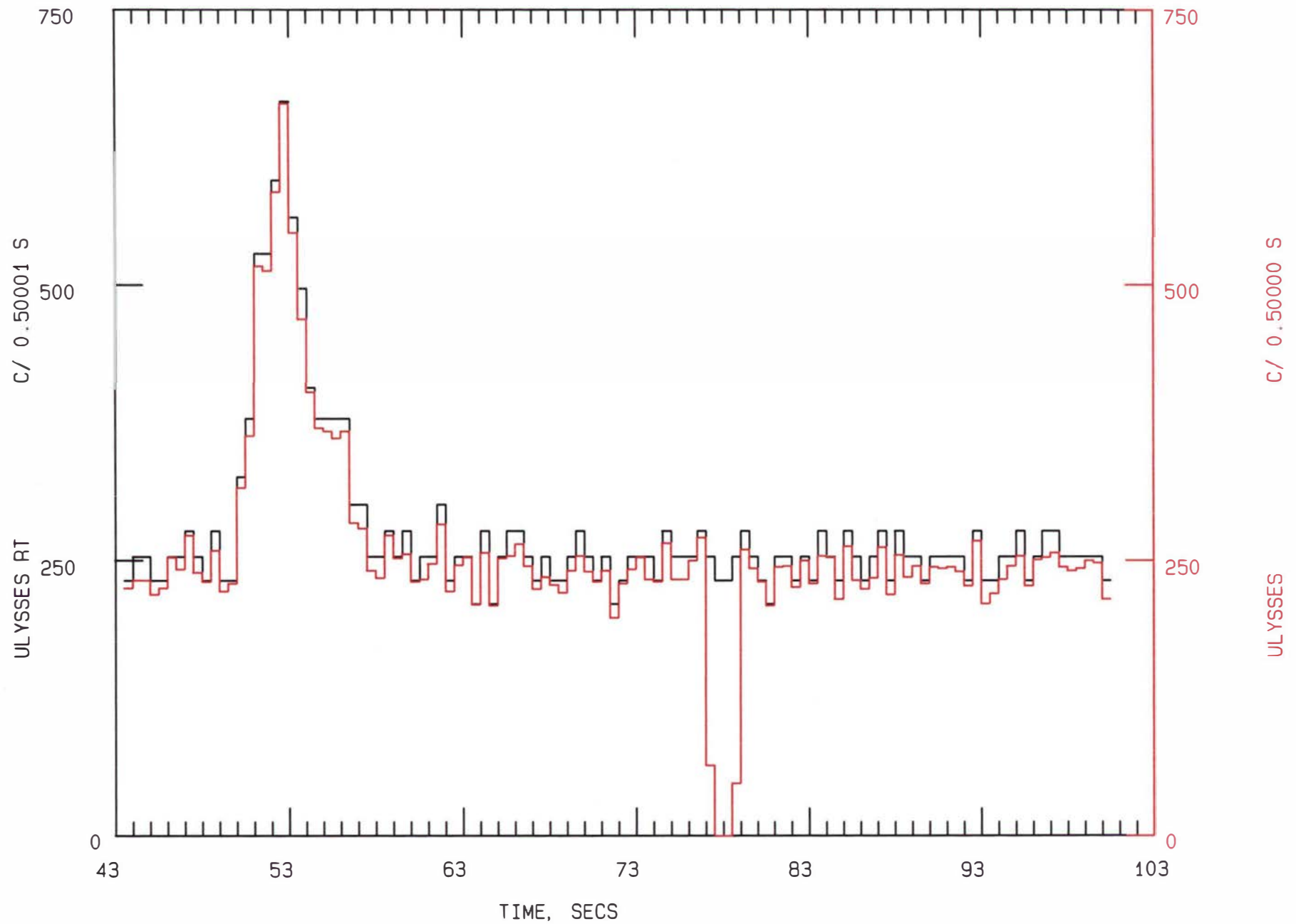
28/ 1/99

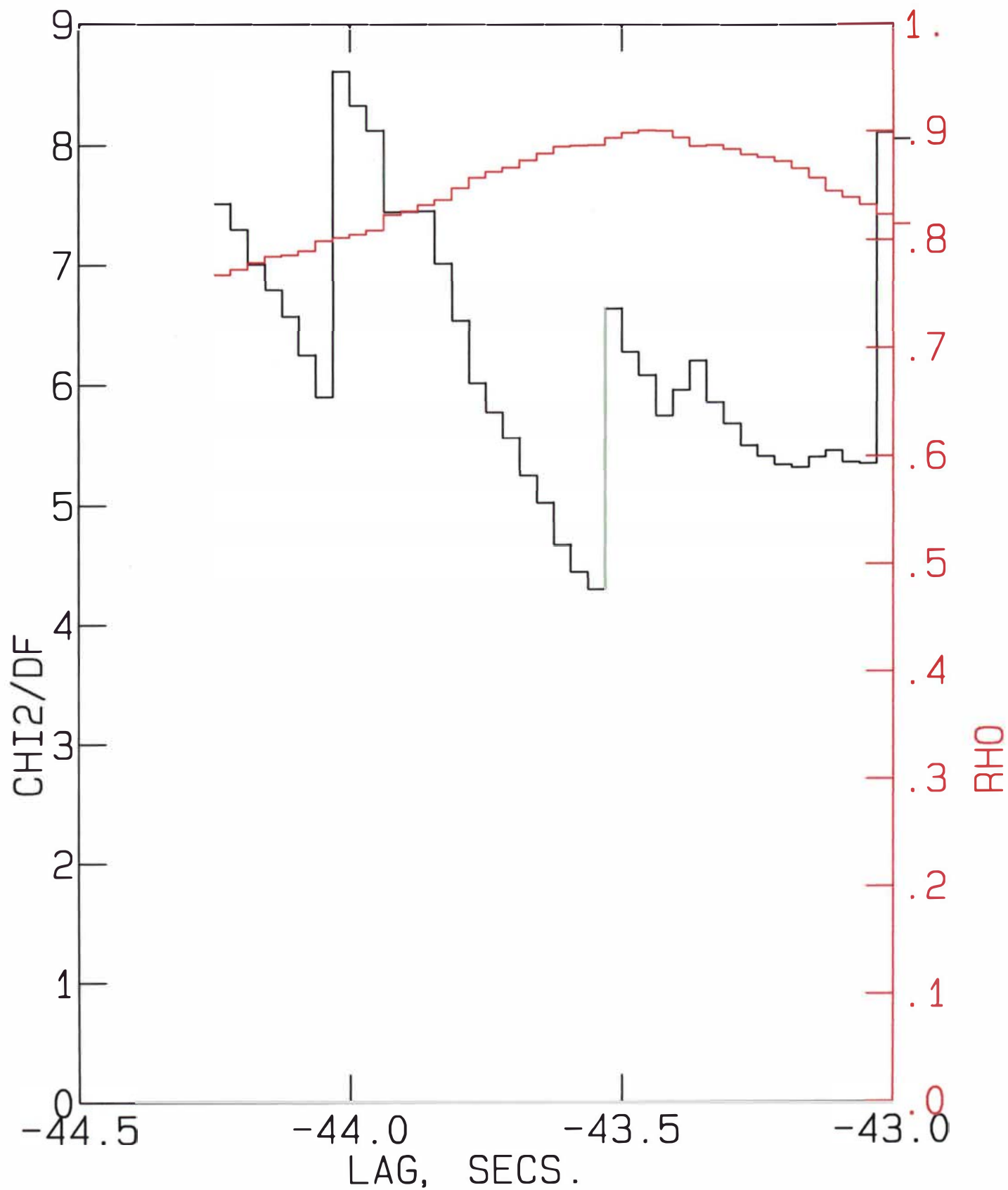
38221.196

13/ 6/ 2





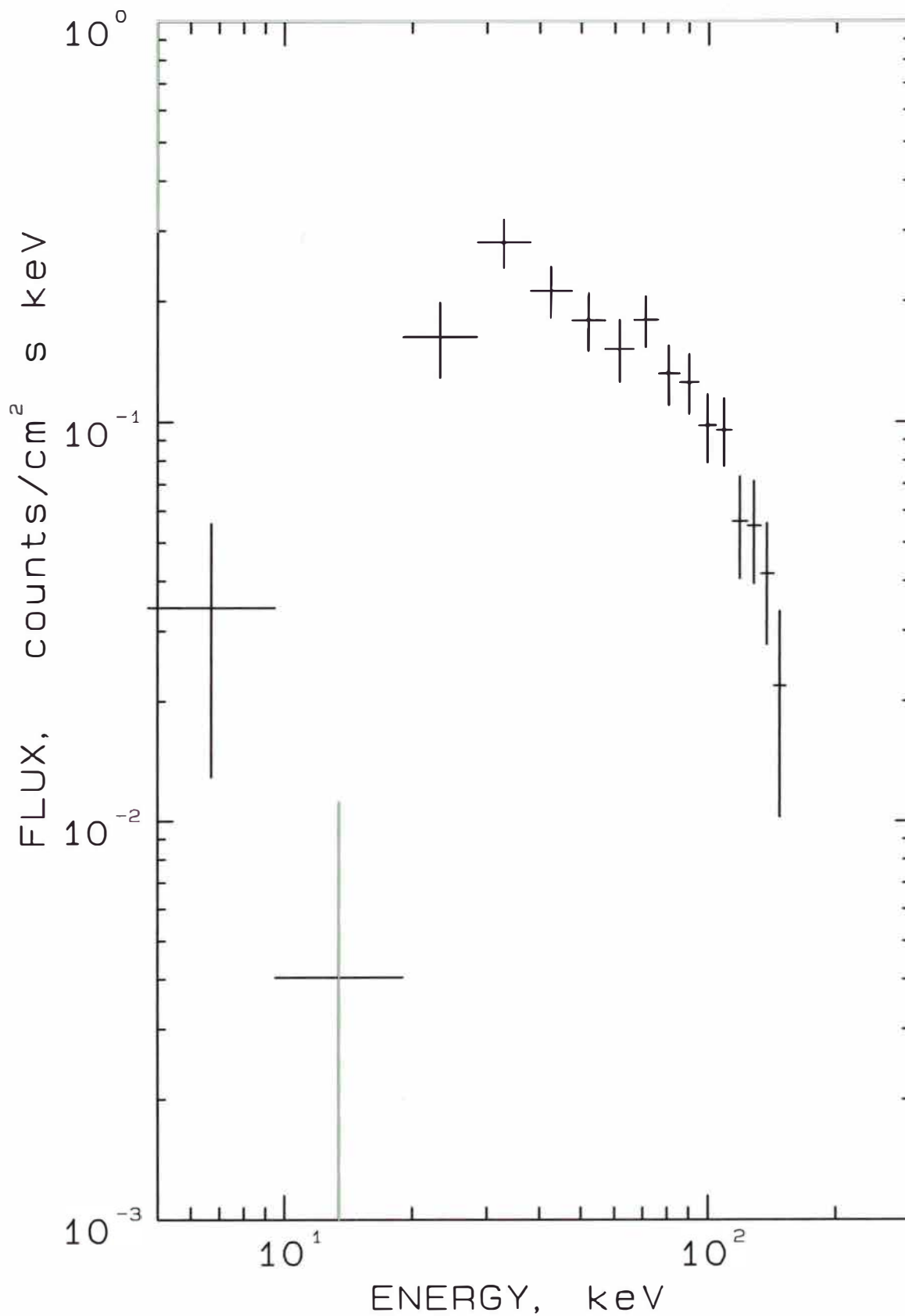




ULYSSES 28/01/99 38272.194

13/ 6/ 2

SPECTRUM INTEGRATED OVER 9.0 SECONDS, INTERVALS 2 TO 10



ULYSSES 28/01/99 38272.194 BURST SPECTRAL COUNT RATES

4- 18 keV

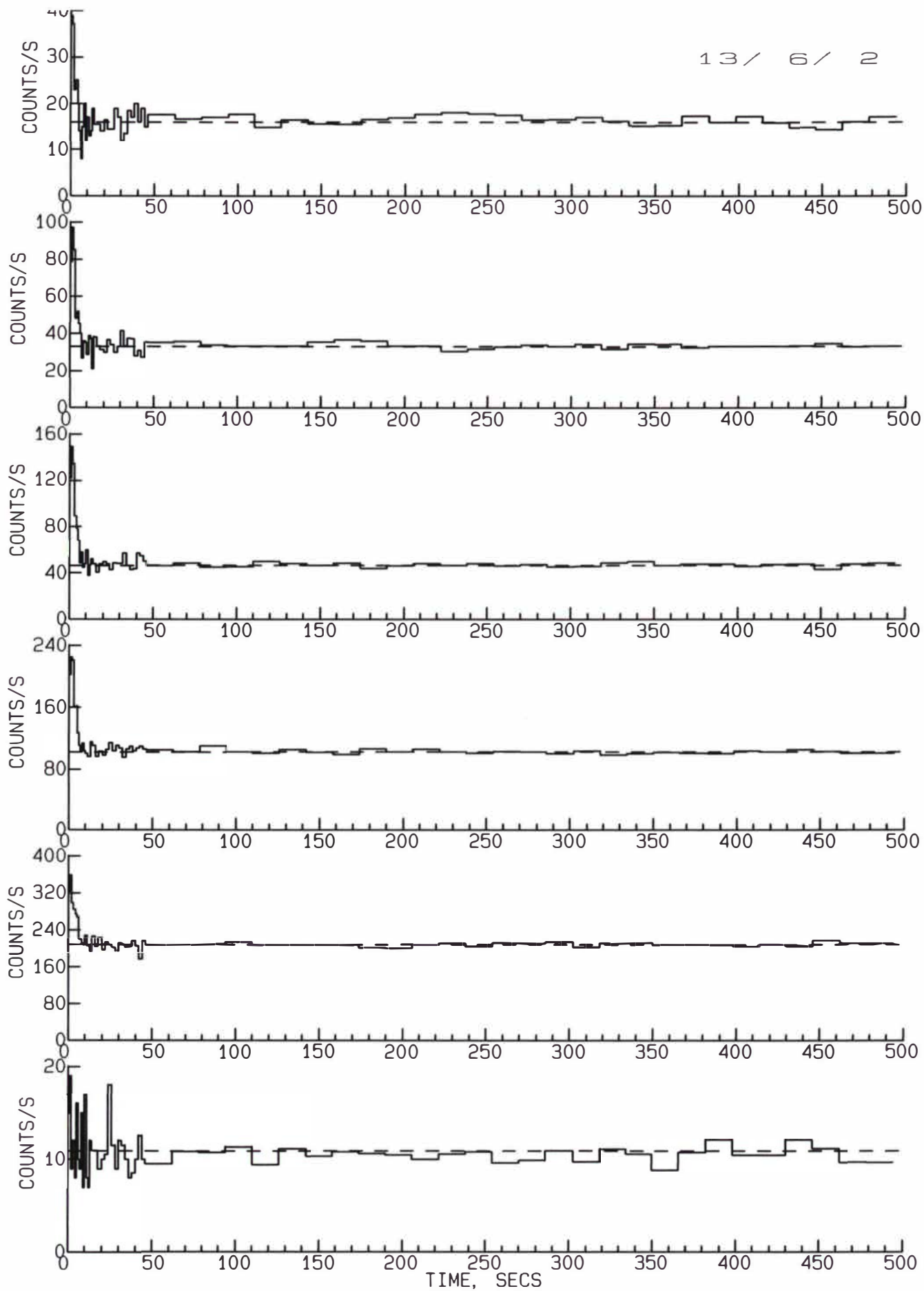
18- 47 keV

47- 75 keV

75-104 keV

104-132 keV

132-151 keV

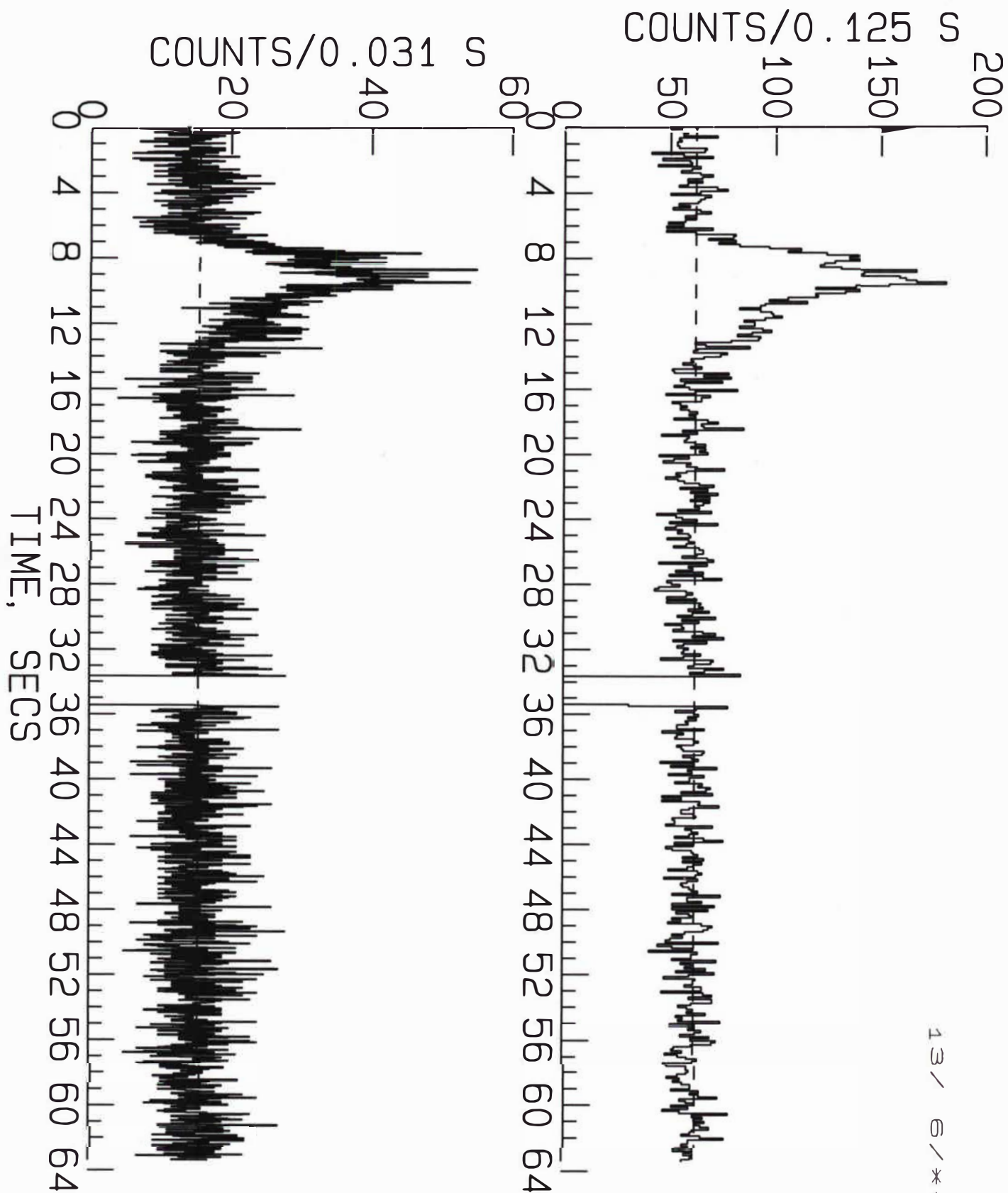


ULYSSES

28/01/99

Ttrig=38272.071

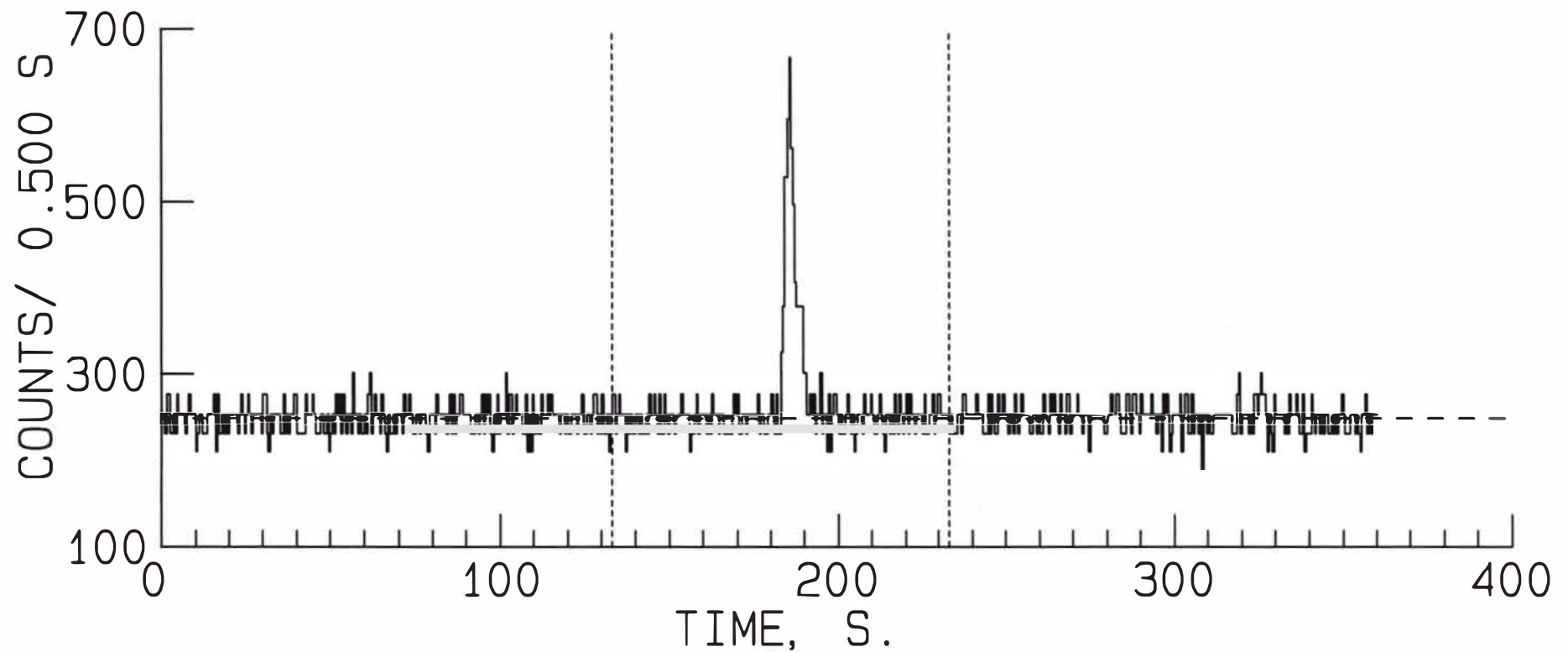
22- 153 keV



ULYSSES RT
28/ 1/99 38088.191 s
22- 153 keV

13/ 6/ 2

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From stern@ask.astro.su.se Tue Nov 23 03:56 PST 1999
Date: Tue, 23 Nov 1999 13:04:03 +0100 (MET)
From: "Boris Stern (guest RS)" <stern@astro.su.se>
Subject: Re: wait a minute...
: khurley@ssl.berkeley.edu
MIME-Version: 1.0
Content-MD5: fysO5aKqxbU4QWgPndjWlA==

Dear Kevin,

there was a typo in my message, my trigger time for 11206 is 37248 and really the trigger is slightly earlier than the burst. I see real beginning of the burst at 37252 but it could be still below KONUS-Wind threshold, really big signal comes at 3753 which probably should be compared to 37252 of KONUS time.

Unfortunately BATSE daily records have only 1.024 s resolution, but I will send you the count rate profile and then you can align it with your one with a better accuracy. Note, that I still did not take much care of accurate arrival time data, therefore it would be better if you will compare count rate profiles. Just send me a list which profiles you need.

One misunderstanding: I wrote "visible in chan. 4" meaning "extending to chan. 4", i.e, it is a hard event. The maximum count rate was in chan 3.

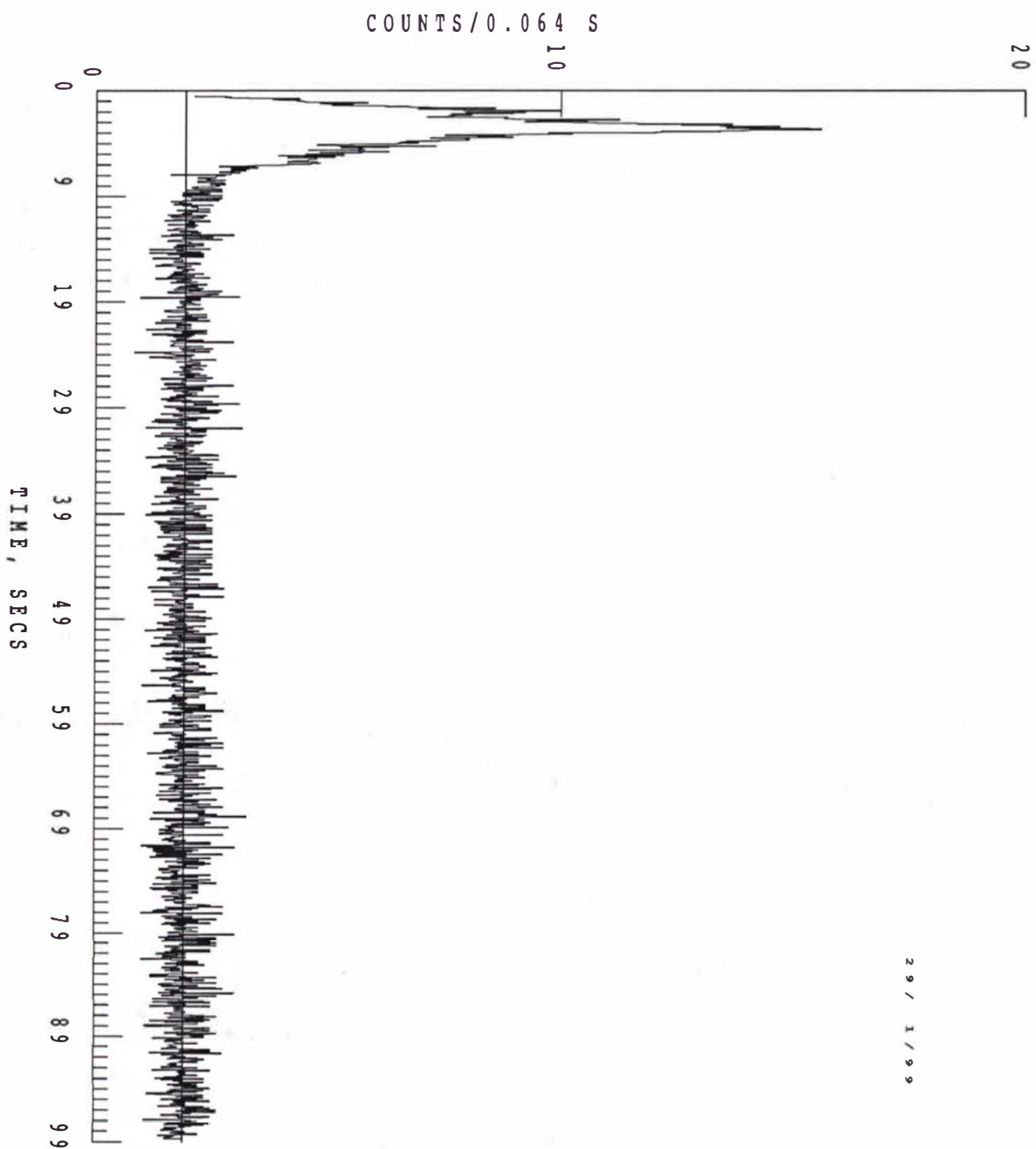
Boris

KONUS

28/01/99

37252.651

50 - 200 keV



From WOODSP@fender.msfc.nasa.gov Mon Feb 1 07:00:46 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA24296; Mon, 1 Feb 1999 07:00:46 -0800
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA12072; Mon, 1 Feb 1999 07:00:44 -0800
Date: Mon, 1 Feb 1999 8:57:57 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201085757.2027c963@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7358
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7358
EVENT OF 1999 JAN 28 DAY OF YEAR= 28
EVENT CROSSING TIME AT BATSE : 40667. S. OR 11:17:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 319.000 -43.000
BATSE PEAK COUNTING RATE: 2700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 1/ 99 IS:
RA= 161.995 DEC= -9.418 DIST= 4.373 AU
BATSE-ULYSSES DISTANCE = 654273583. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.46 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1205.95 SECS.
CROSSING TIME AT ULYSSES IS 41873. S. OR 11:37:52 +/- 384.12 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 1/ 99 IS:
RA= 209.223 DEC= -9.750 DIST= 1.218 AU
MARS-BATSE DISTANCE = 182266464. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.62 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 78.06 SECS.
CROSSING TIME AT MARS IS 40745. S. OR 11:19:05 +/- 105.87 SECONDS

BATSE BURST TRIGGER

NO.: 7358

TIME: TJD=1206 SECONDS=40667

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=112.6 AZIMUTH=328.6 ERROR=4 DEGREES

COMMENTS:

GRB LASTING ABOUT 16 SEC. SINGLE PULSE WITH TWO PEAKS. NOT
VISIBLE ABOVE 300 KEV. UNTRIGGERED BURST IN SAME DETECTORS AT
T-3415 SEC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7358	990128	11206	40667	2700	319	-43	16

BATSE BURST# 7358

ULYSSES RT

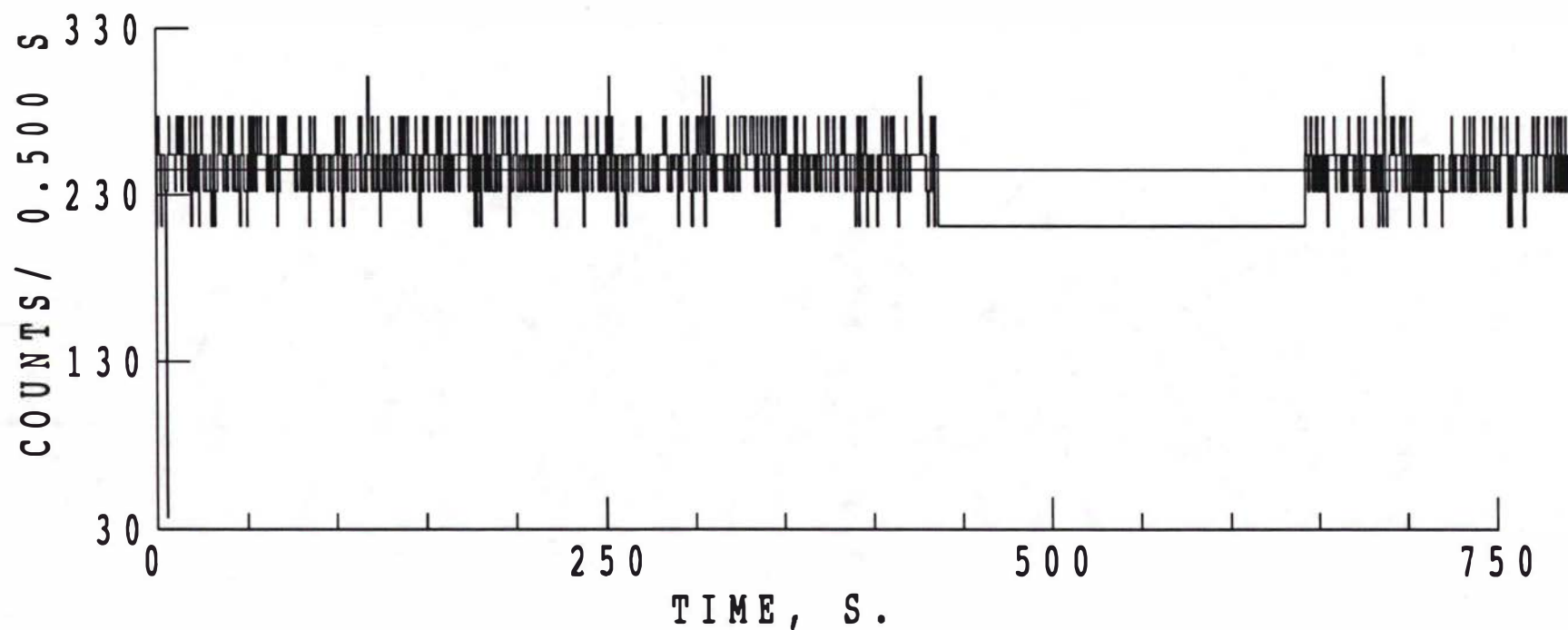
1 / 6 / 99

28 / 1 / 99 41472.227 s

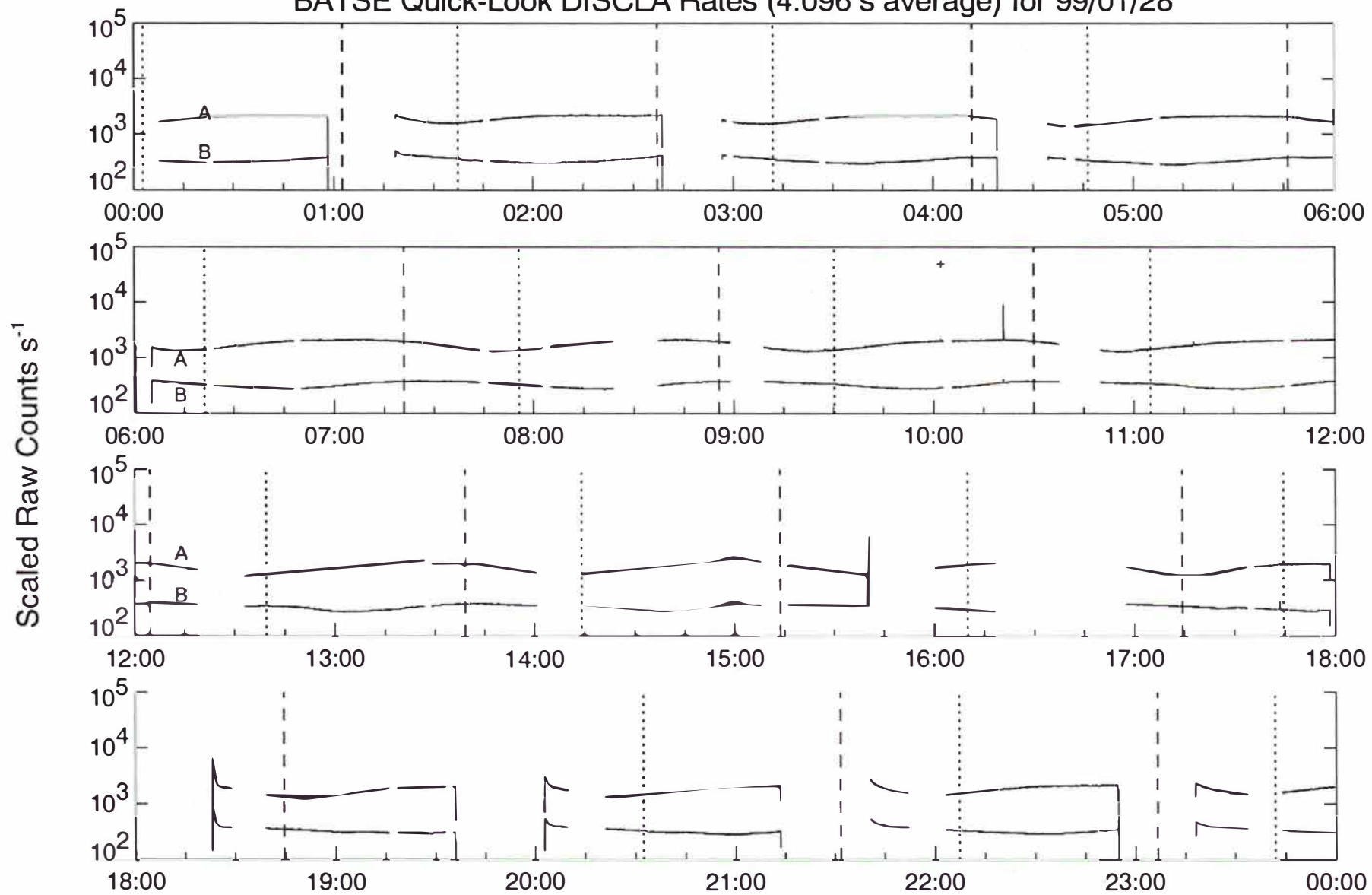
0 - 0 keV

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/28

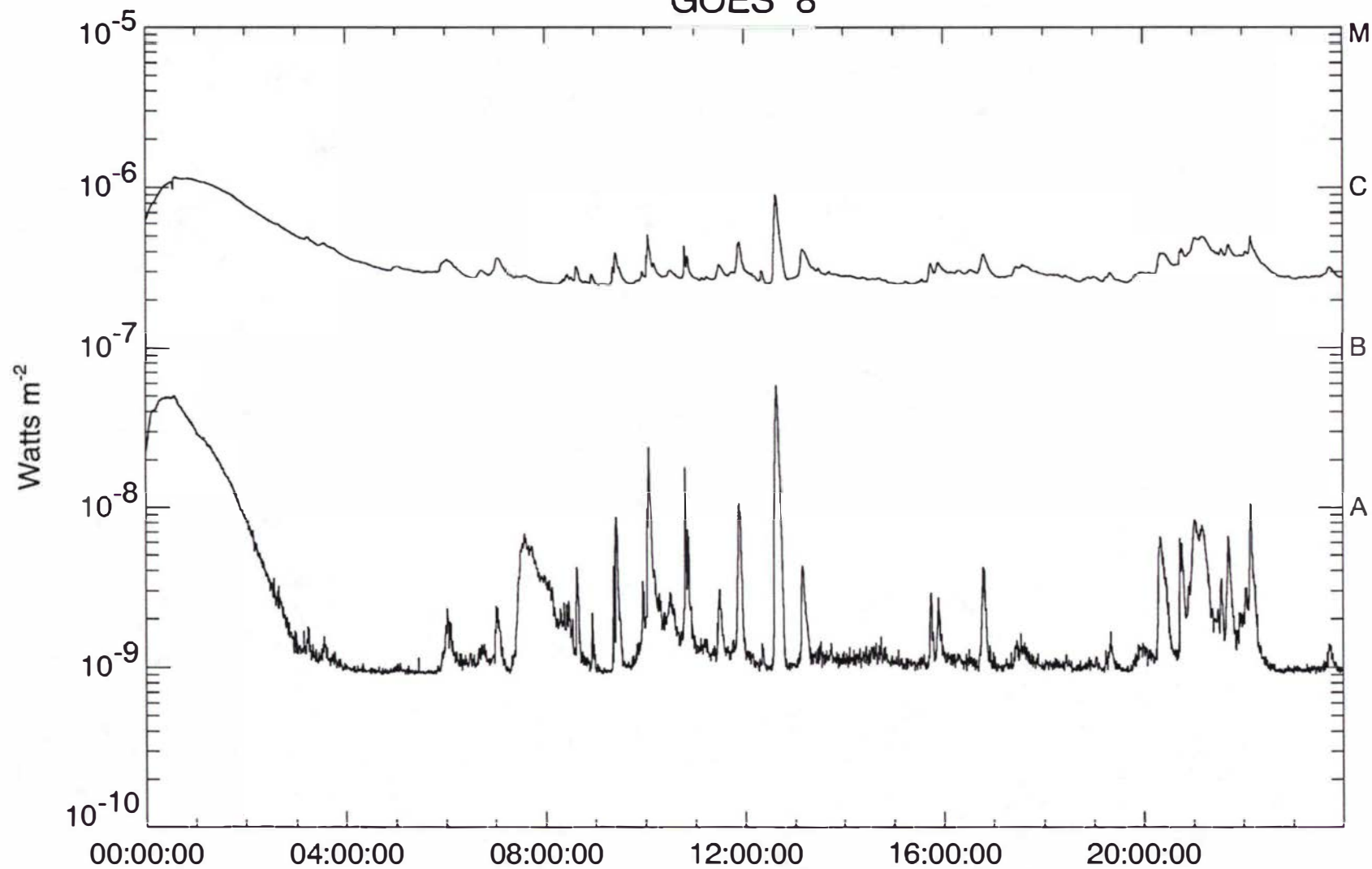


Current Time: 99/02/01, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/28, 0000:00

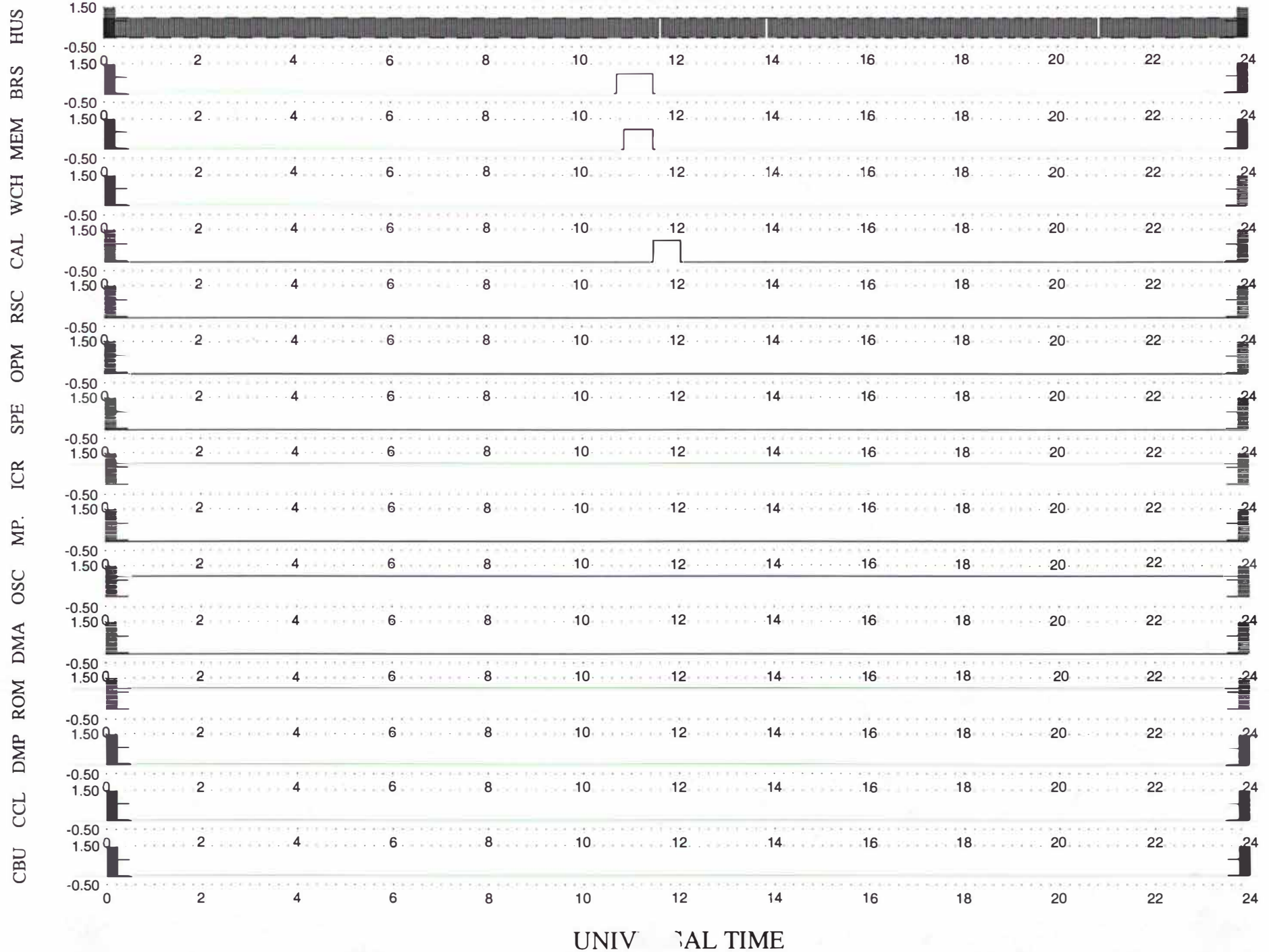
Plot created: 99/02/01, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

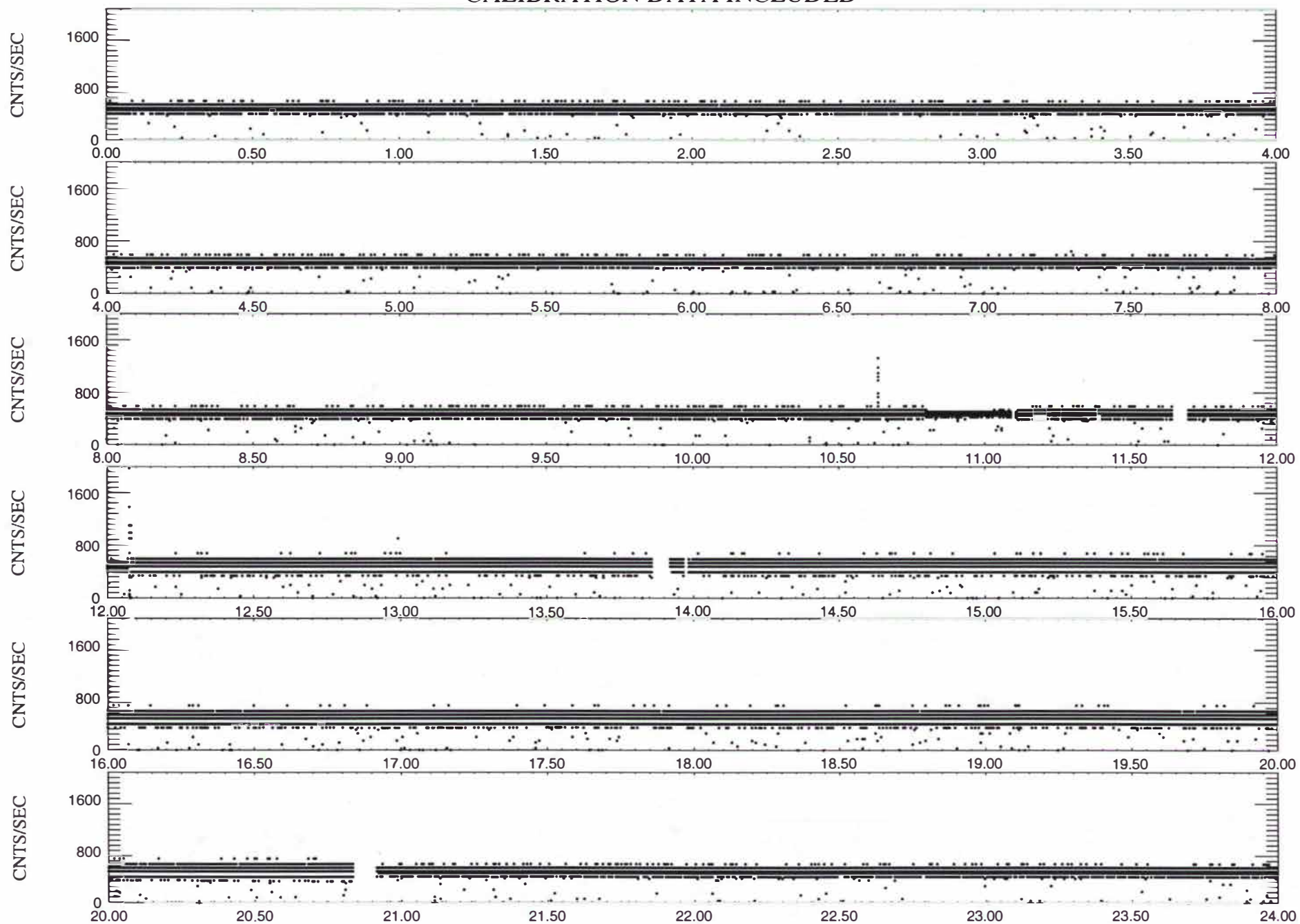
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 15

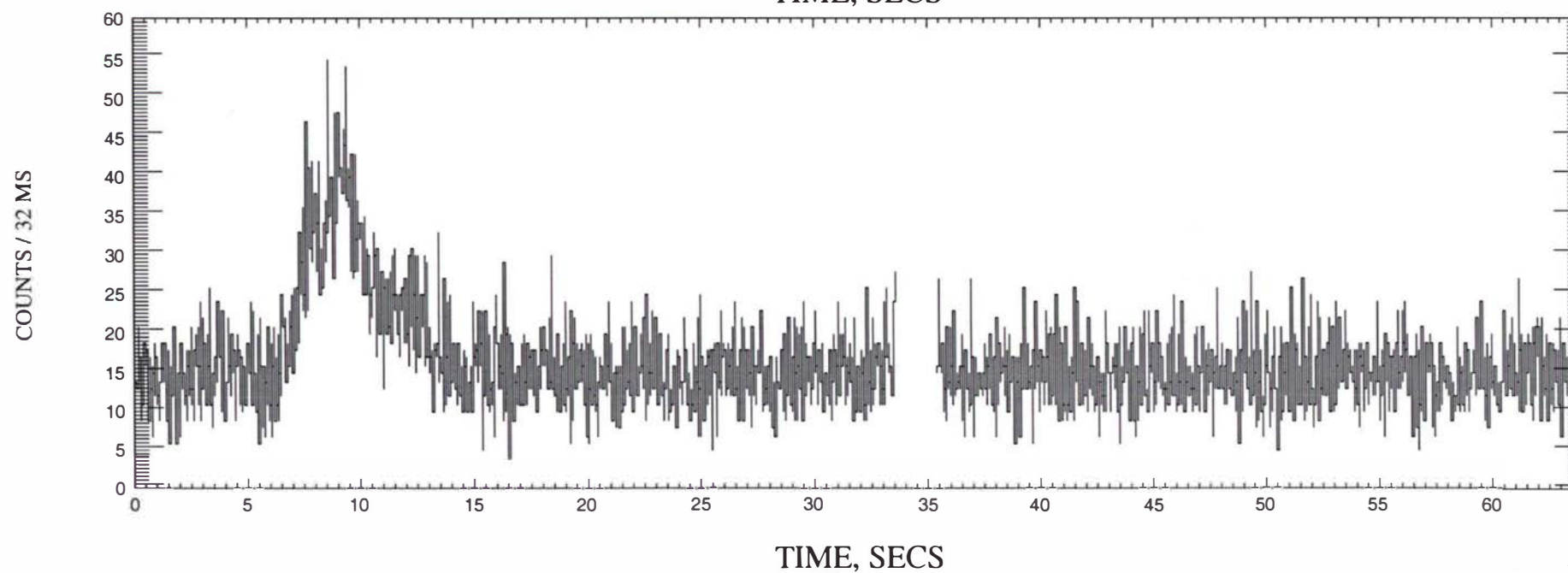
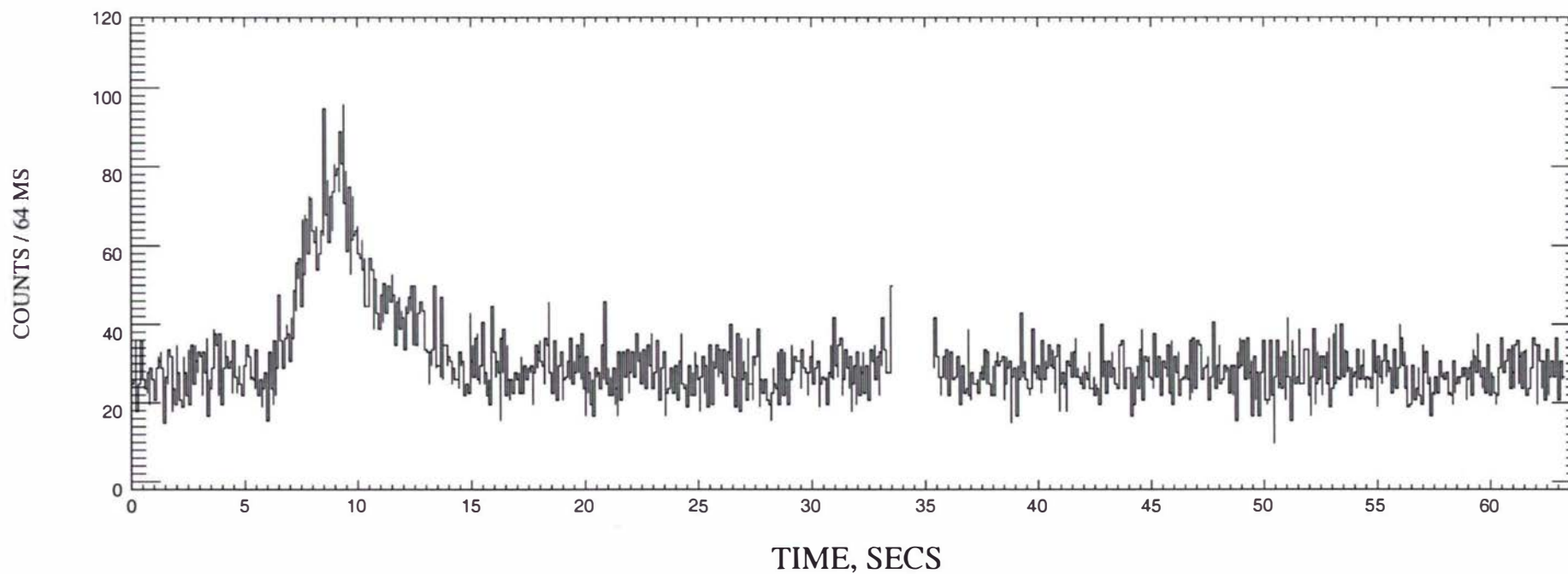


CALIBRATION DATA INCLUDED

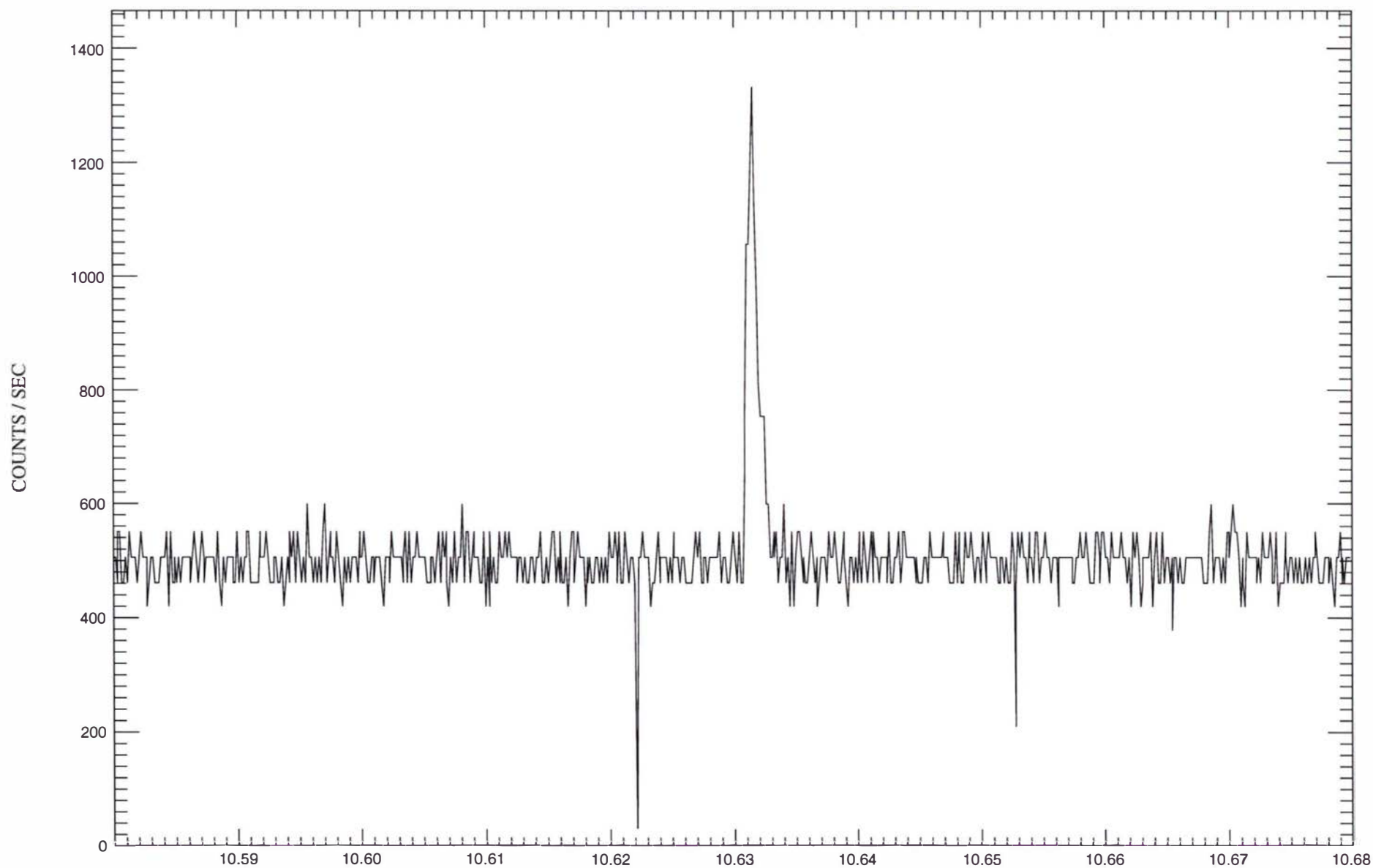


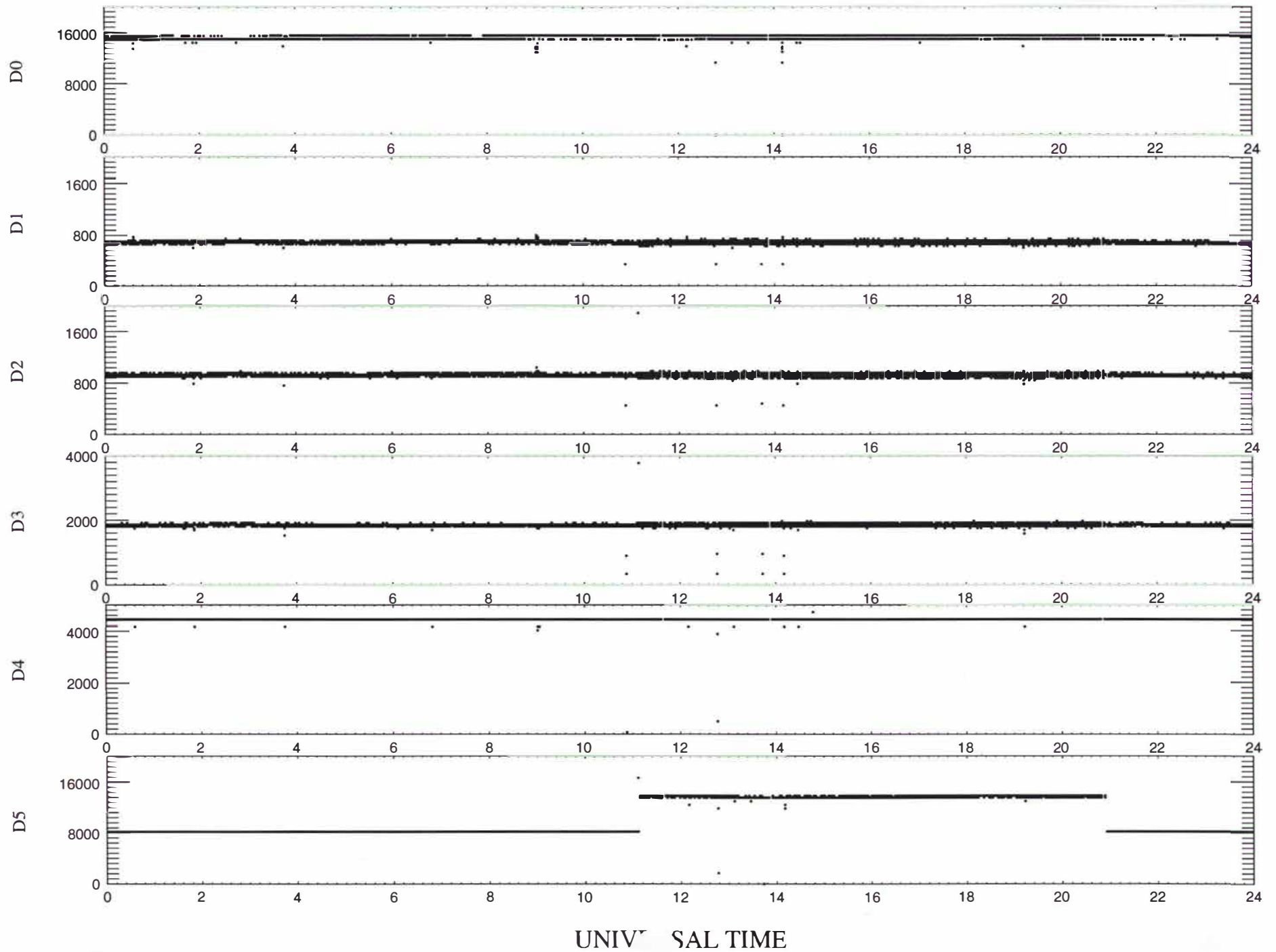
UNIV SAL TIME

Burst Counter 15 at UT=10.631128239102 h=38272.062 s 10:37:52.062



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Mon Feb 1 12:23:10 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01160; Mon, 1 Feb 1999 12:23:10 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA17799; Mon, 1 Feb 1999 12:23:06 -0800
Date: Mon, 1 Feb 1999 14:23:08 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201142308.2028201a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7359
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7359
EVENT OF 1999 JAN 29 DAY OF YEAR= 29
EVENT CROSSING TIME AT BATSE : 13298. S. OR 03:41:38.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 101.000 -19.000
BATSE PEAK COUNTING RATE: 3800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 1/ 99 IS:
RA= 161.864 DEC= -9.439 DIST= 4.365 AU
BATSE-ULYSSES DISTANCE = 653051332. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=120.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1105.53 SECS.
CROSSING TIME AT ULYSSES IS 12192. S. OR 03:23:12 +/- 359.08 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 1/ 99 IS:
RA= 209.605 DEC= -9.883 DIST= 1.208 AU
MARS-BATSE DISTANCE = 180749056. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 76.04 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 145.48 SECS.
CROSSING TIME AT MARS IS 13443. S. OR 03:44:03 +/- 103.79 SECONDS

BATSE BURST TRIGGER

NO.: 7359

TIME: TJD=1207 SECONDS=13298

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=91.9 AZIMUTH=217.6 ERROR=12.21 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.1 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7359	990129	11207	13298	3800	101	-19	.1

BATSE BURST# 7359

ULYSSES RT

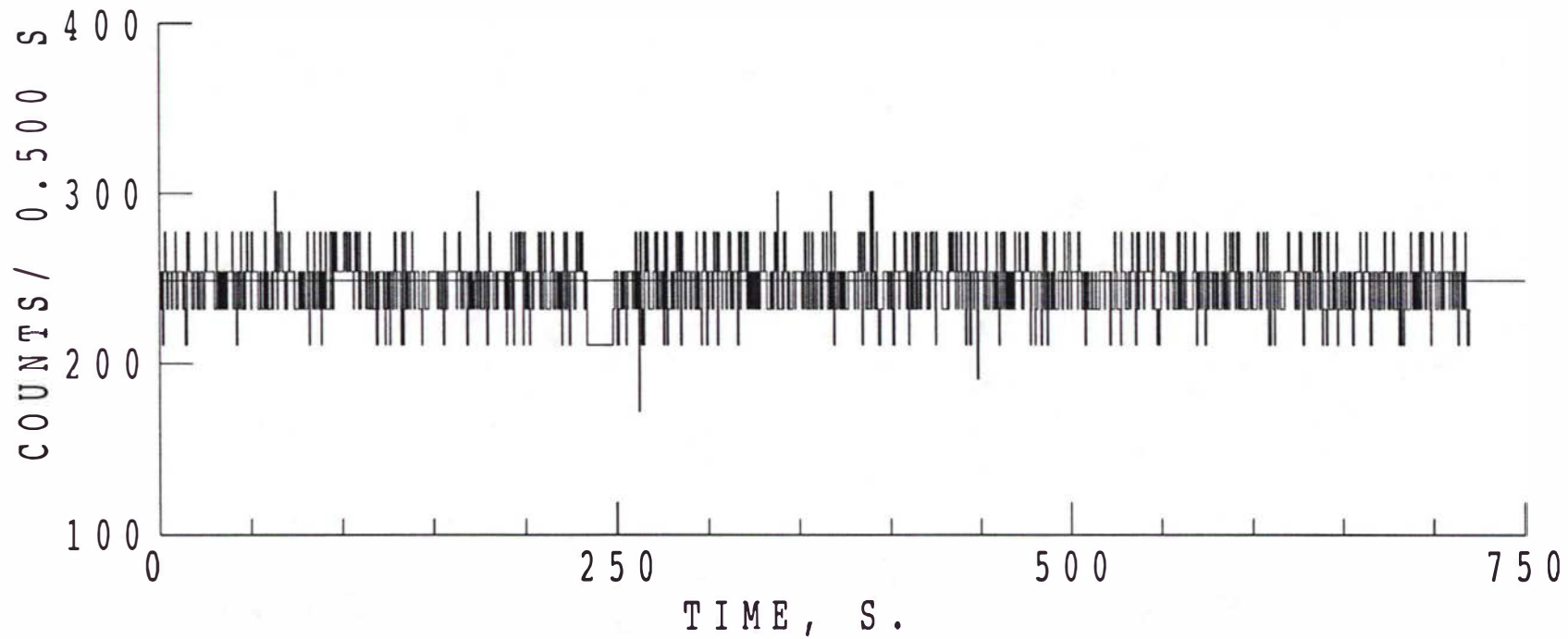
1 / 2 / 99

29 / 1 / 99 11844.308 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Feb 1 12:25:11 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01397; Mon, 1 Feb 1999 12:25:08 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA17847; Mon, 1 Feb 1999 12:25:05 -0800
Date: Mon, 1 Feb 1999 14:25:05 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201142505.2028201a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7360
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7360
EVENT OF 1999 JAN 29 DAY OF YEAR= 29
EVENT CROSSING TIME AT BATSE : 18950. S. OR 05:15:50.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 95.000 -12.000
BATSE PEAK COUNTING RATE: 19600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 1/ 99 IS:
RA= 161.852 DEC= -9.441 DIST= 4.365 AU
BATSE-ULYSSES DISTANCE = 652938552. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -900.40 SECS.
CROSSING TIME AT ULYSSES IS 18050. S. OR 05:00:49 +/- 380.63 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 1/ 99 IS:
RA= 209.605 DEC= -9.883 DIST= 1.208 AU
MARS-BATSE DISTANCE = 180749056. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 68.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 220.38 SECS.
CROSSING TIME AT MARS IS 19170. S. OR 05:19:30 +/- 100.78 SECONDS

BATSE BURST TRIGGER

NO.: 7360

TIME: TJD=1207 SECONDS=18950

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

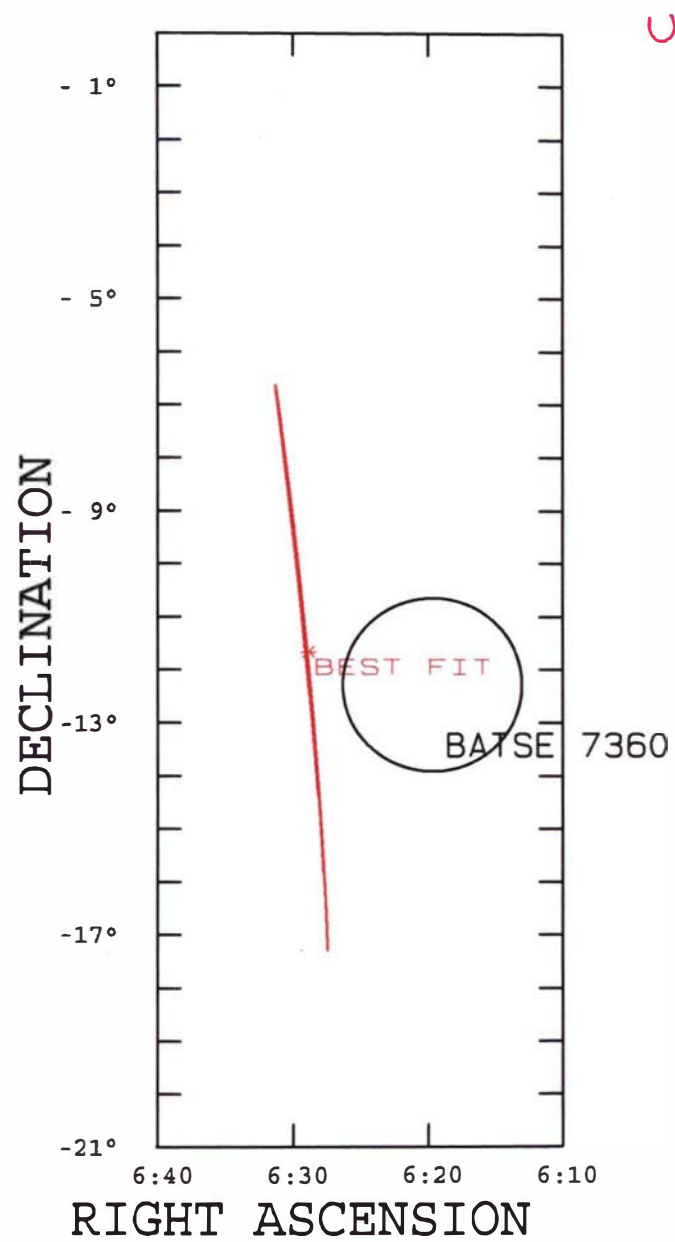
INTENSITY: COUNTS/CM2

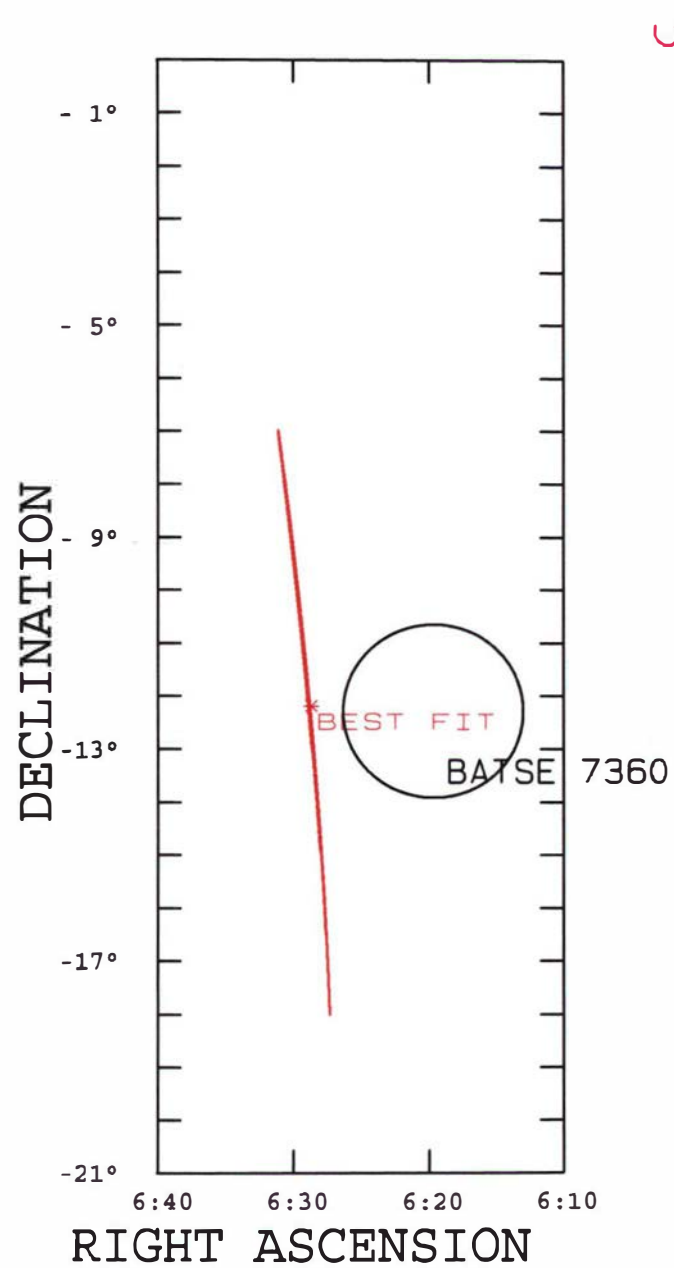
LOCATION: ZENITH=98.2 AZIMUTH=211.2 ERROR=0.354 DEGREES

COMMENTS:

GRB. COMPLEX. DURATION ABOUT 220 S. MAX AT ABOUT T+47 S. START AT
ABOUT T-15 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7360	990129	11207	18950	19600	095	-12	220





Date: Jan 24 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?

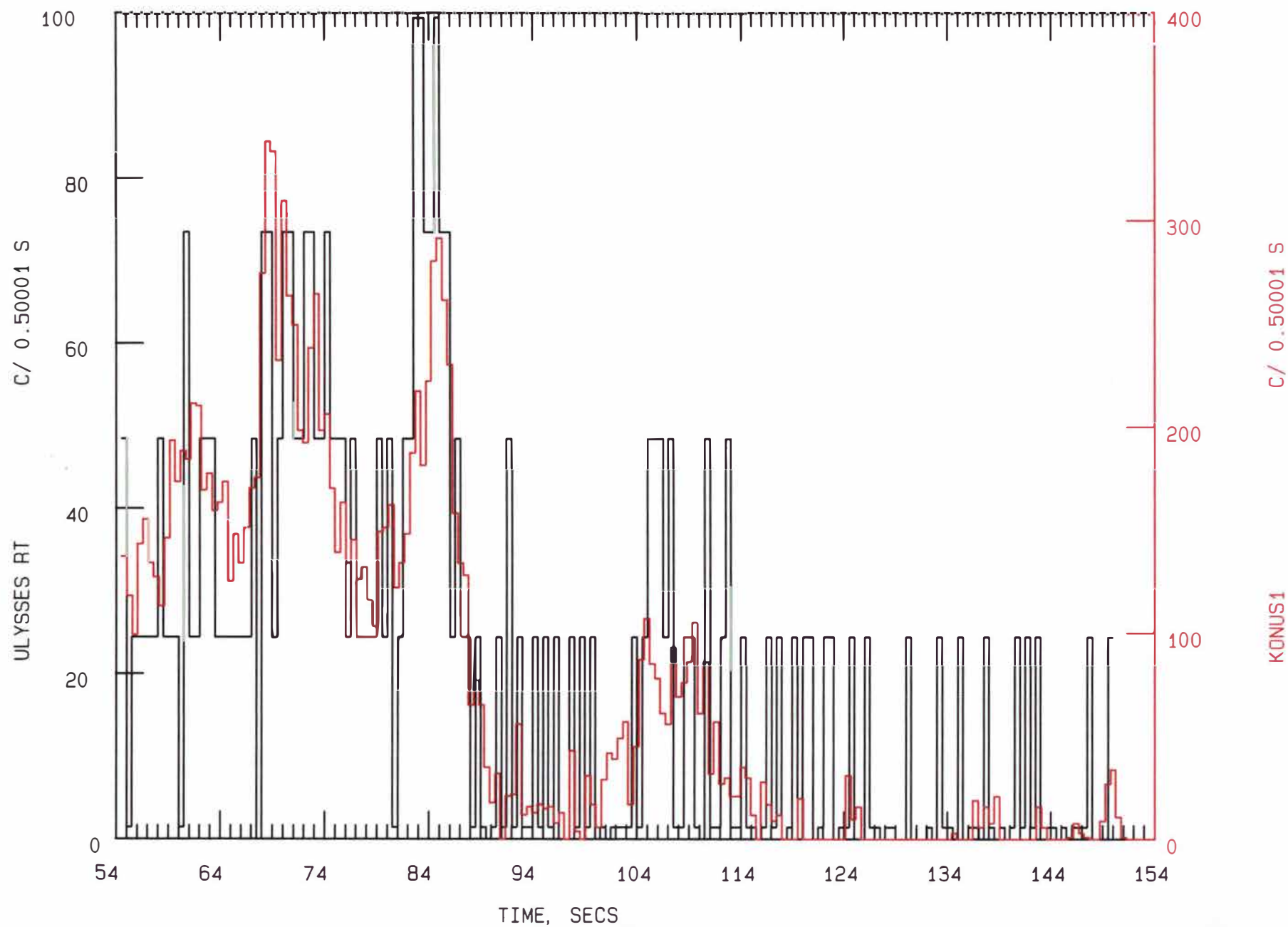
ULYSSES RT-KONUS1

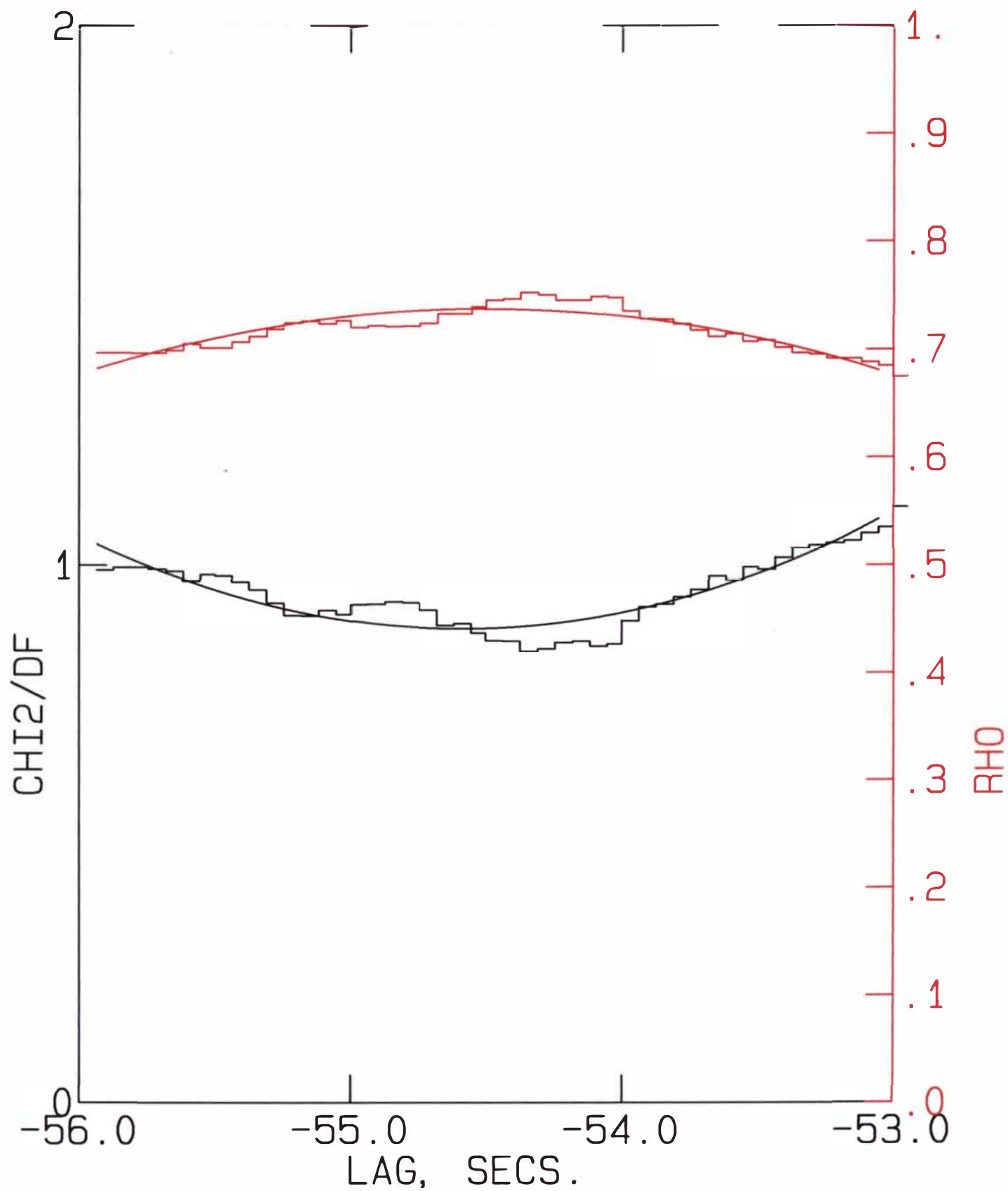
CORRELATION

29/ 1/99

17976.370

26/ 4/ 0





BATSE

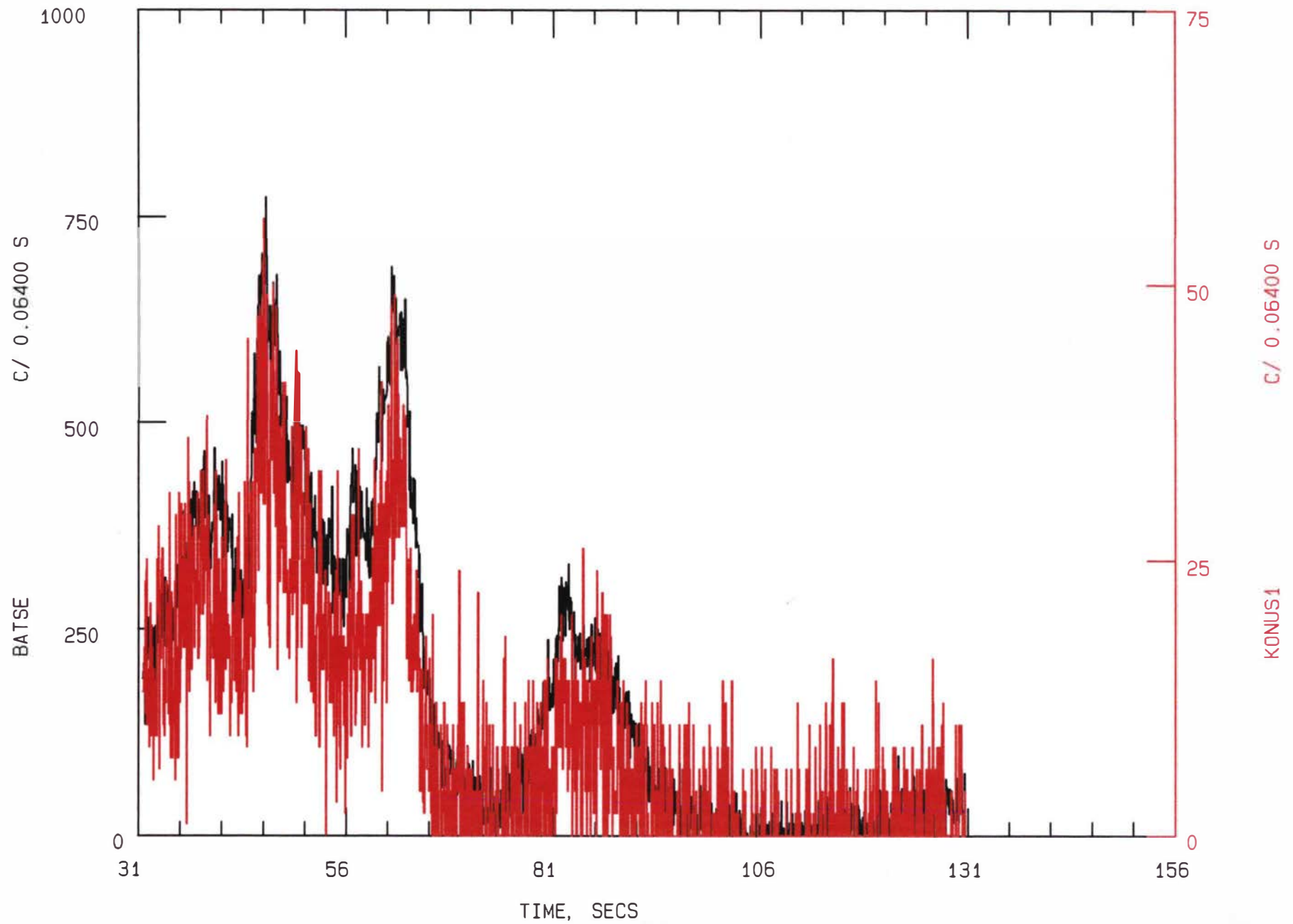
-KONUS1

CORRELATION

29/ 1/99

18950.905

26/ 4/ 0



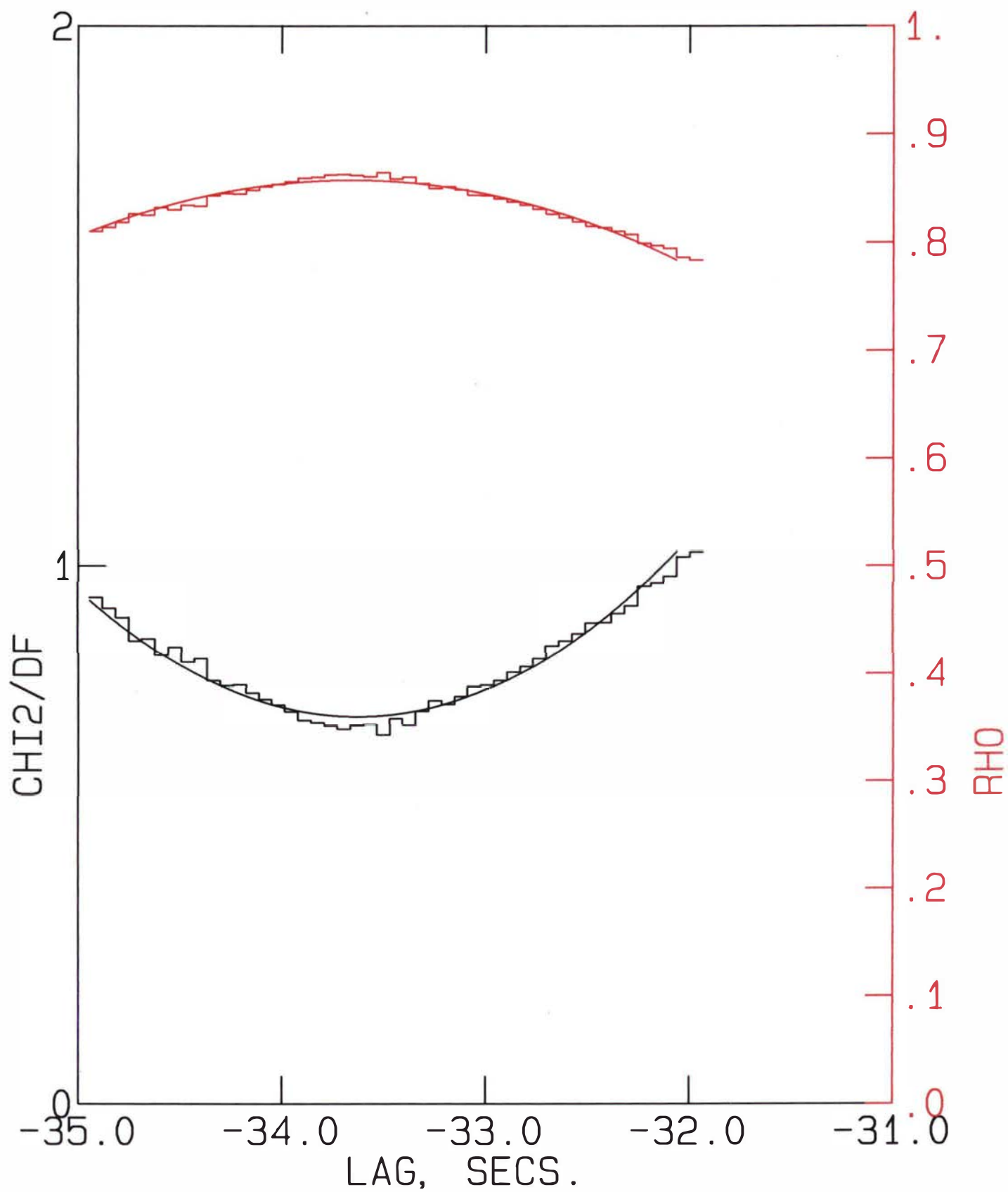
BATSE

-KONUS1

CORRELATION

29/ 1/99

18950.905



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

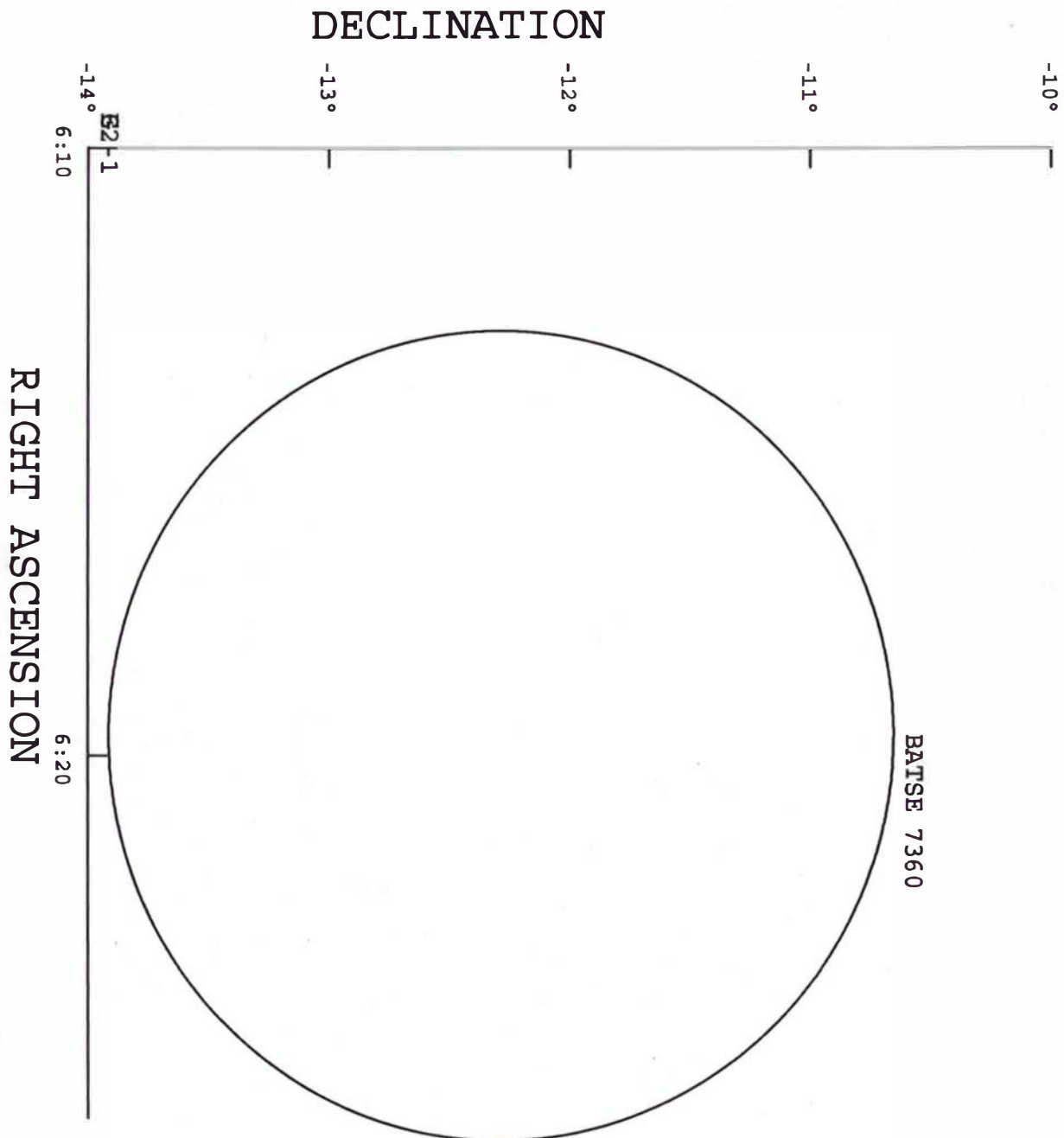
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF JAN 29, 1999 5:15

24 / 1 / 0



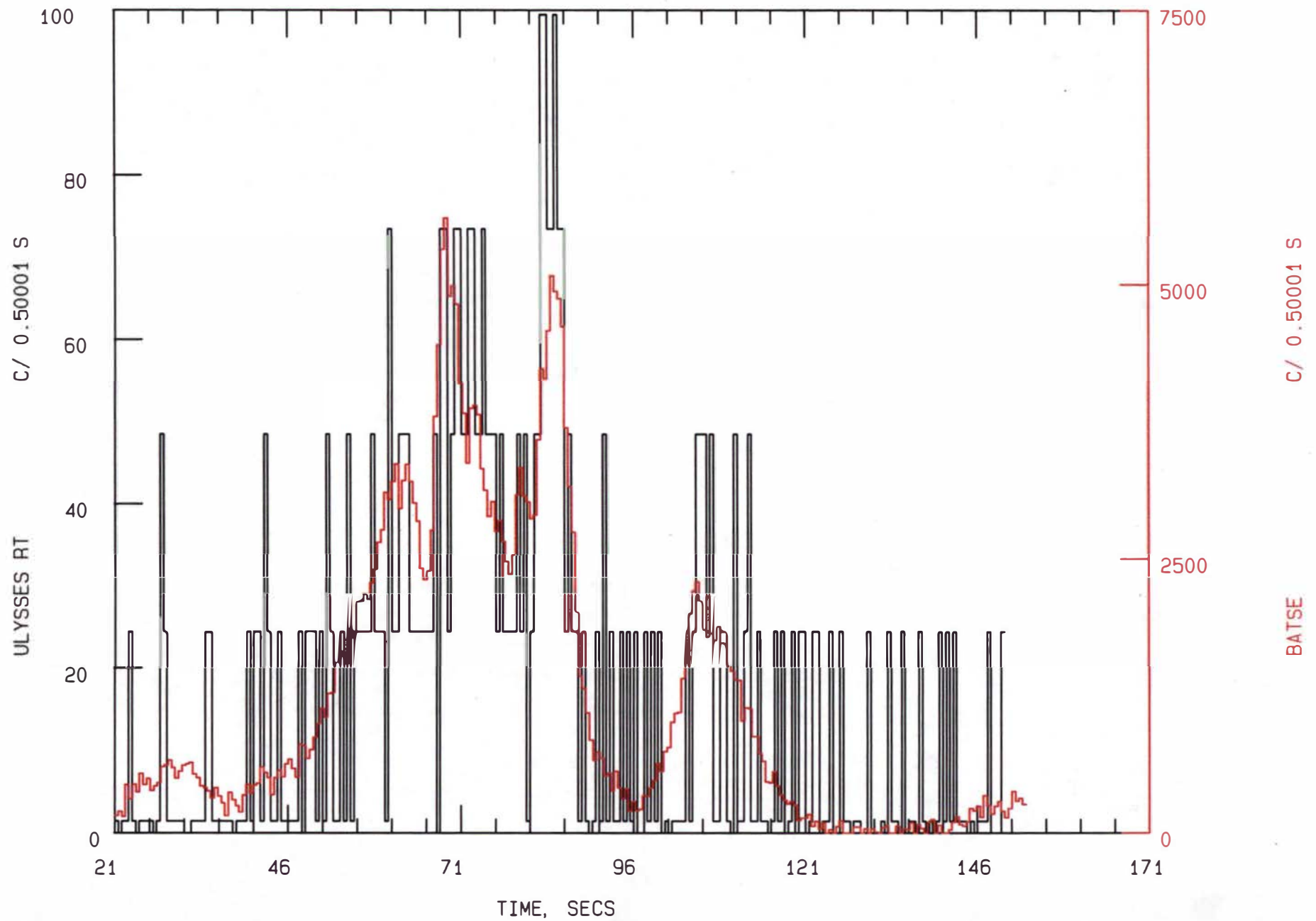
ULYSSES RT-BATSE

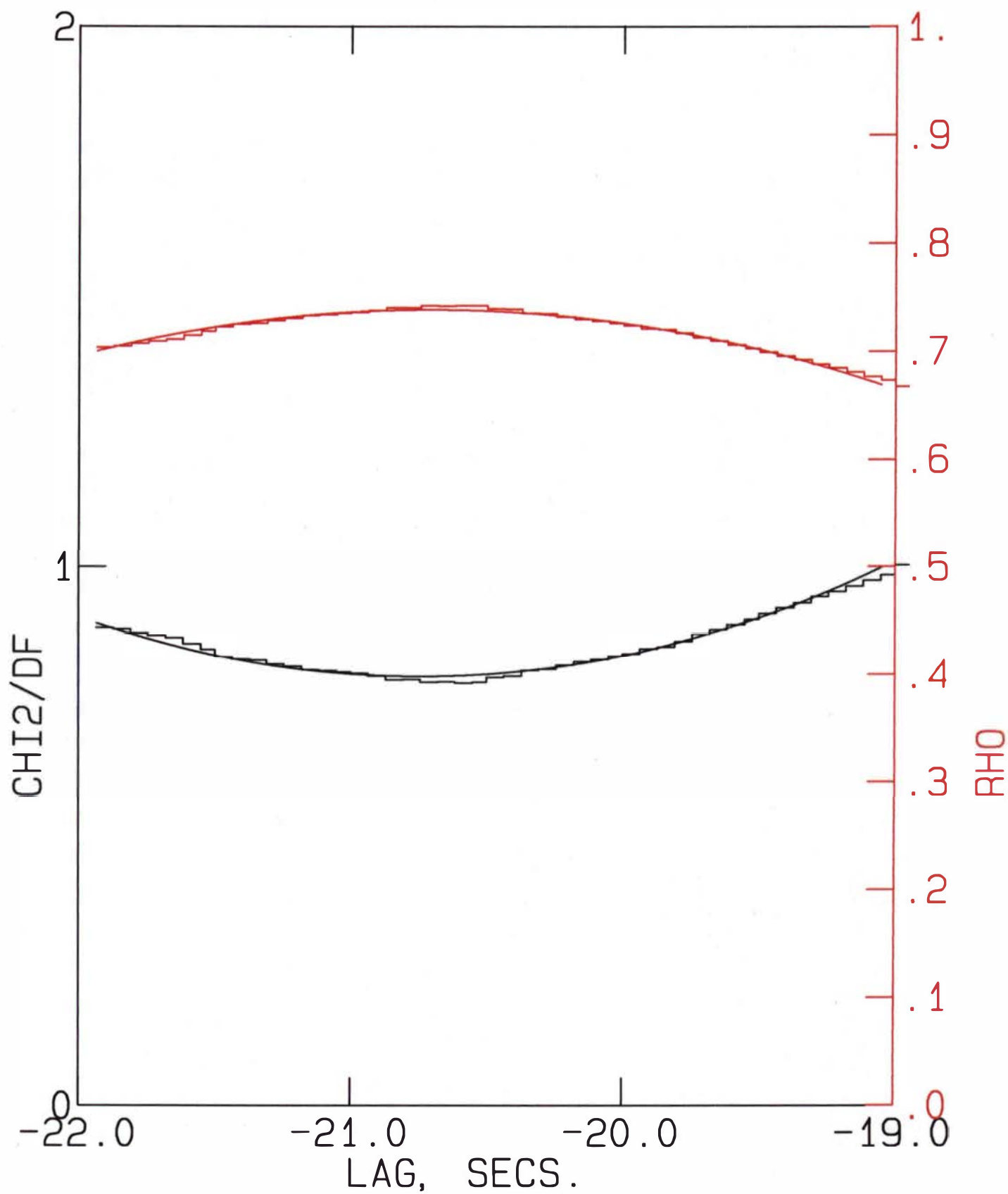
CORRELATION

29/ 1/99

17976.370

24/ 1/ 0

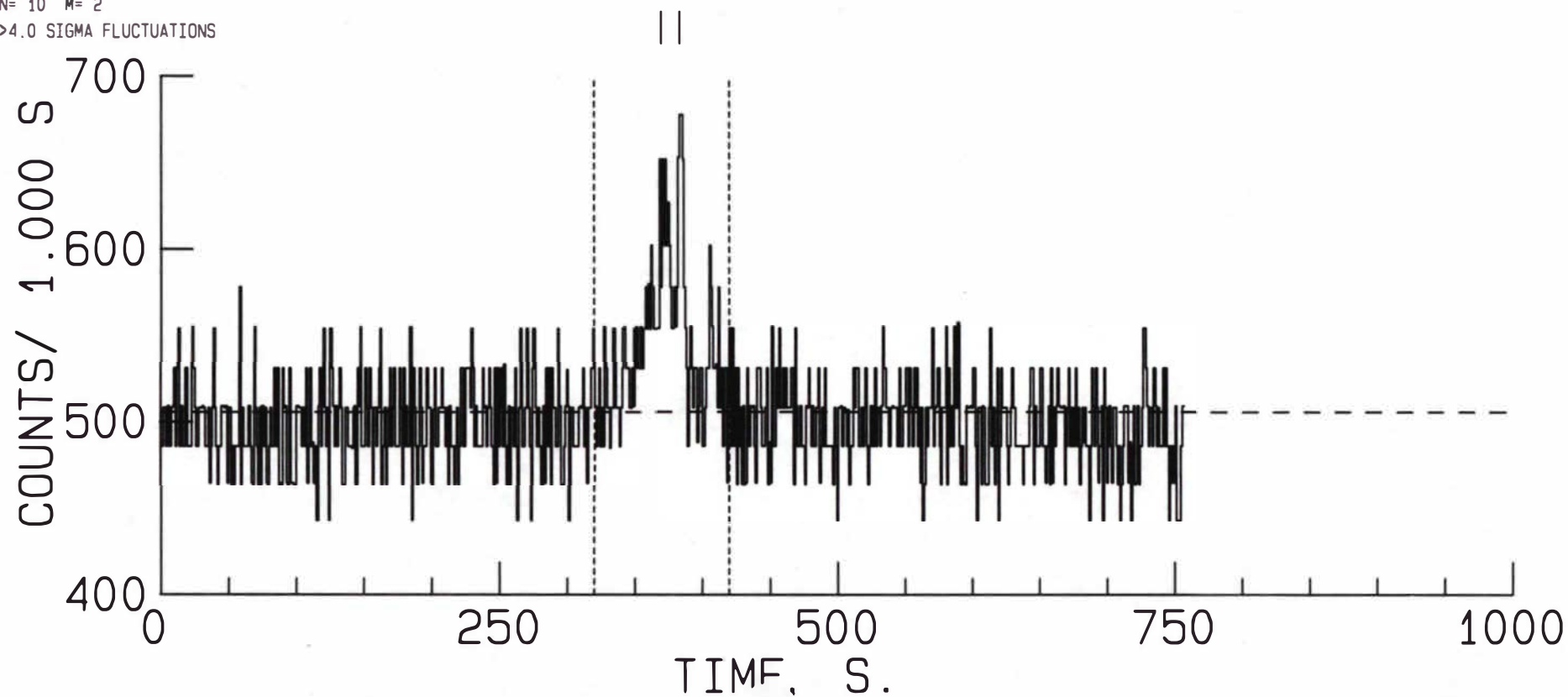




ULYSSES RT
29/ 1/99 17676.368 s
0.500 S INTERVALS REGROUPED BY 2
22- 151 keV

24 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



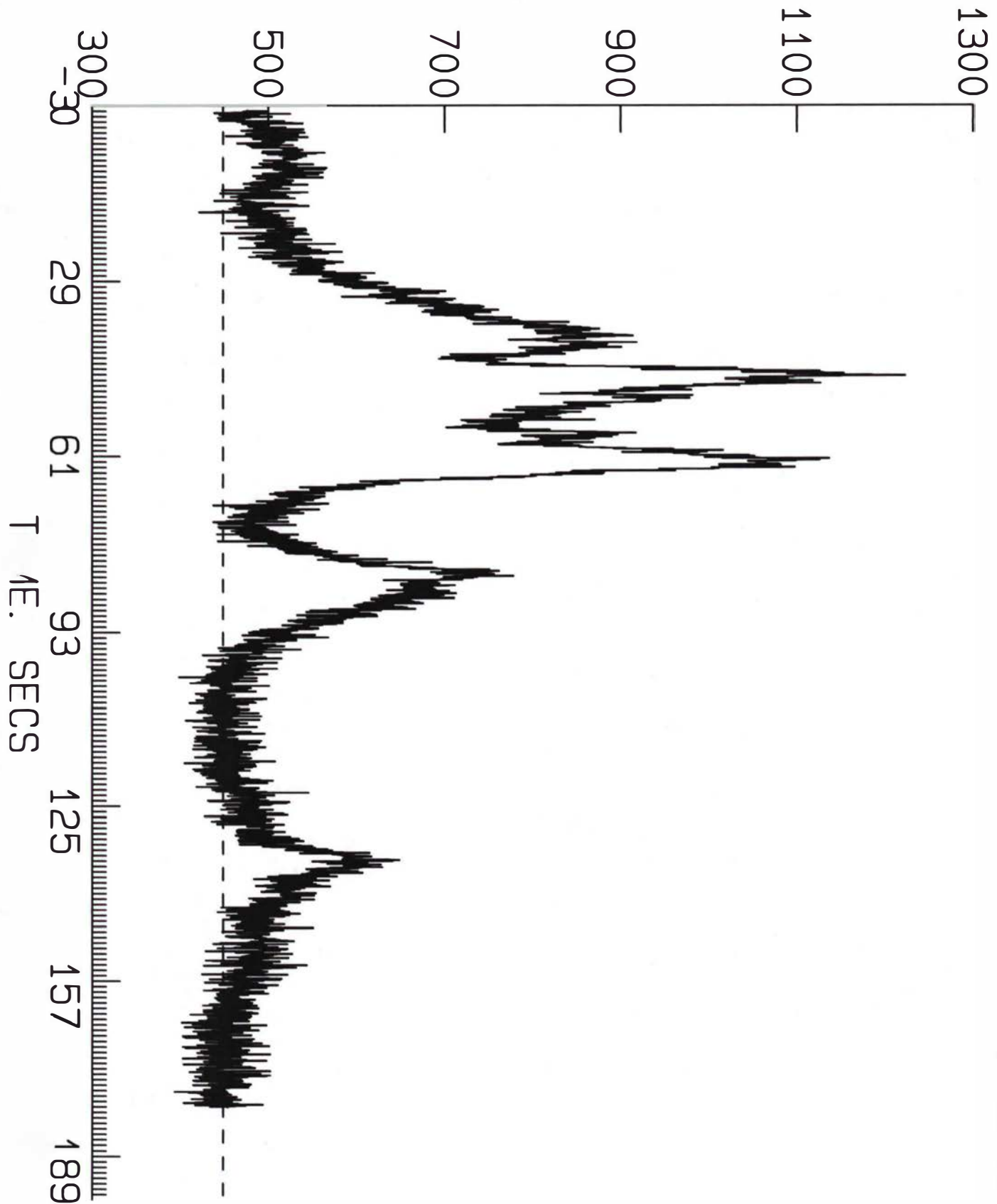
BATSE

29/01/99

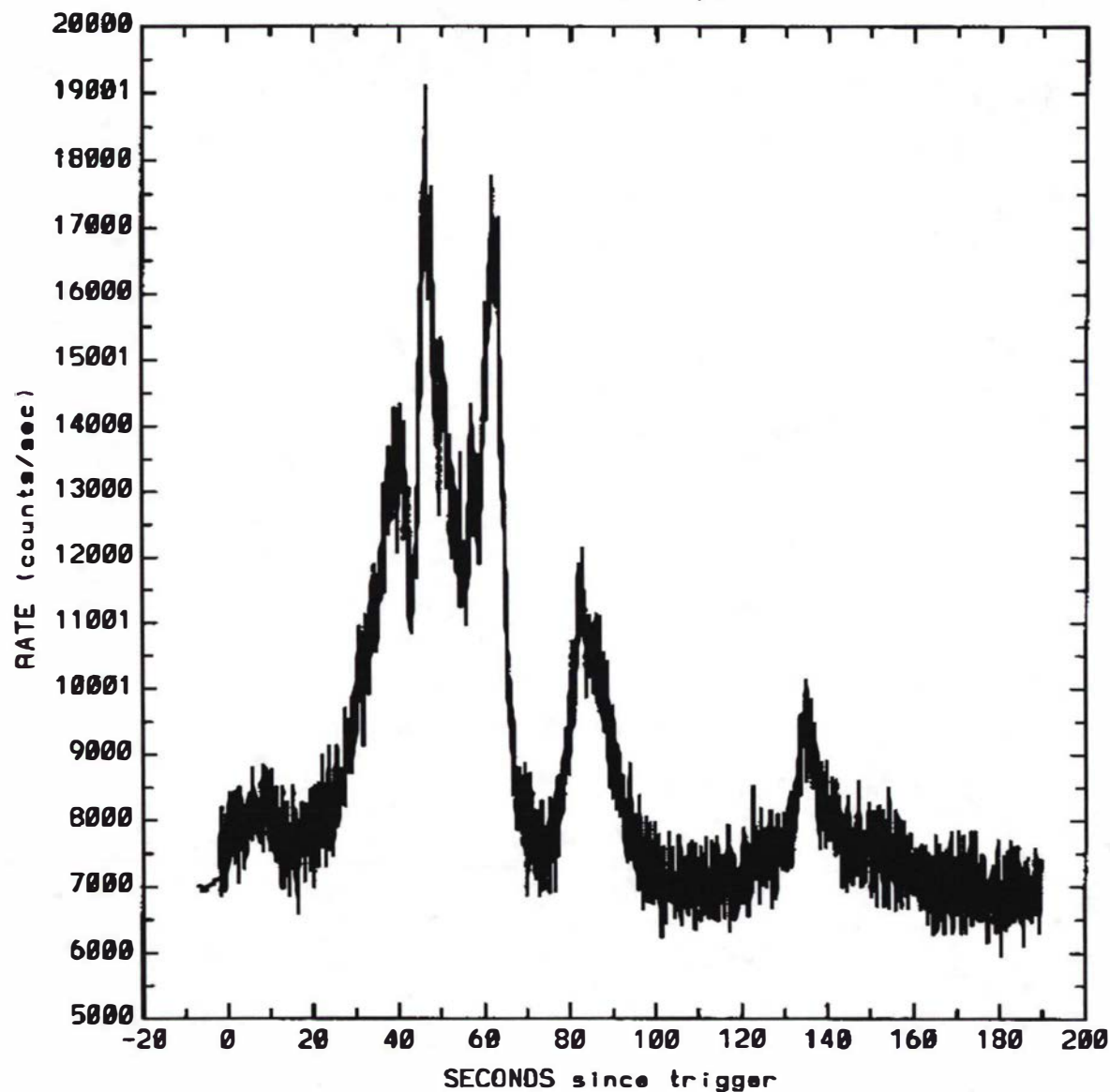
18950.905

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7360



2-FEB-1999 13:52:57

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

Trigger # : 7360

Trigger Time:
11287 / 18950.985Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..0):
76-----Discriminators:
(1..2)Quality Mask:
80ISP1

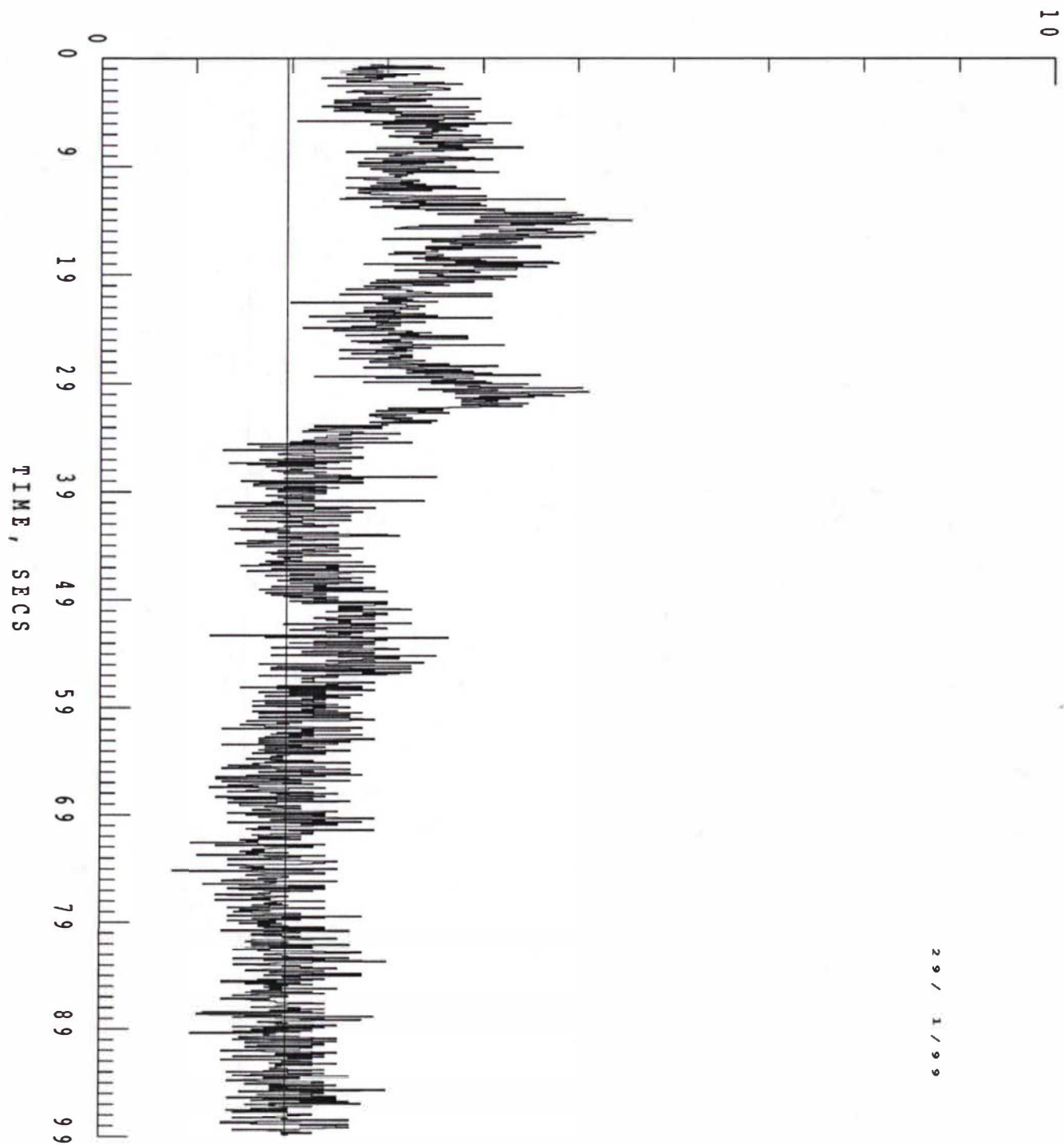
KONUS

29/01/99

18983.541

50 - 200 keV

COUNTS/0.064 S



From SURASAK@fender.msfc.nasa.gov Mon Feb 1 12:28:10 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA01685; Mon, 1 Feb 1999 12:28:09 -0800
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA17917; Mon, 1 Feb 1999 12:28:01 -0800
Date: Mon, 1 Feb 1999 14:28:00 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201142800.2028201a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7361
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7361
EVENT OF 1999 JAN 29 DAY OF YEAR= 29
EVENT CROSSING TIME AT BATSE : 62651. S. OR 17:24:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 204.000 -28.000
BATSE PEAK COUNTING RATE: 5850 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 1/ 99 IS:
RA= 161.753 DEC= -9.456 DIST= 4.359 AU
BATSE-ULYSSES DISTANCE = 652045939. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=136.21 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1570.03 SECS.
CROSSING TIME AT ULYSSES IS 61081. S. OR 16:58:00 +/- 287.48 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 1/ 99 IS:
RA= 209.605 DEC= -9.883 DIST= 1.208 AU
MARS-BATSE DISTANCE = 180749056. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=161.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -570.52 SECS.
CROSSING TIME AT MARS IS 62080. S. OR 17:14:40 +/- 25.19 SECONDS

BATSE BURST TRIGGER

NO.: 7361

TIME: TJD=1207 SECONDS=62651

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=27.2 AZIMUTH=308.3 ERROR=7.281 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.35 S. START AT ABOUT -0.25 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7361	990129	11207	62651	5850	204	-28	.35

BATSE BURST# 7361

ULYSSES RT

1 / 2 / 99

29 / 1 / 99 60804.059 s

0.250 S INTERVALS REGROUPED BY 2

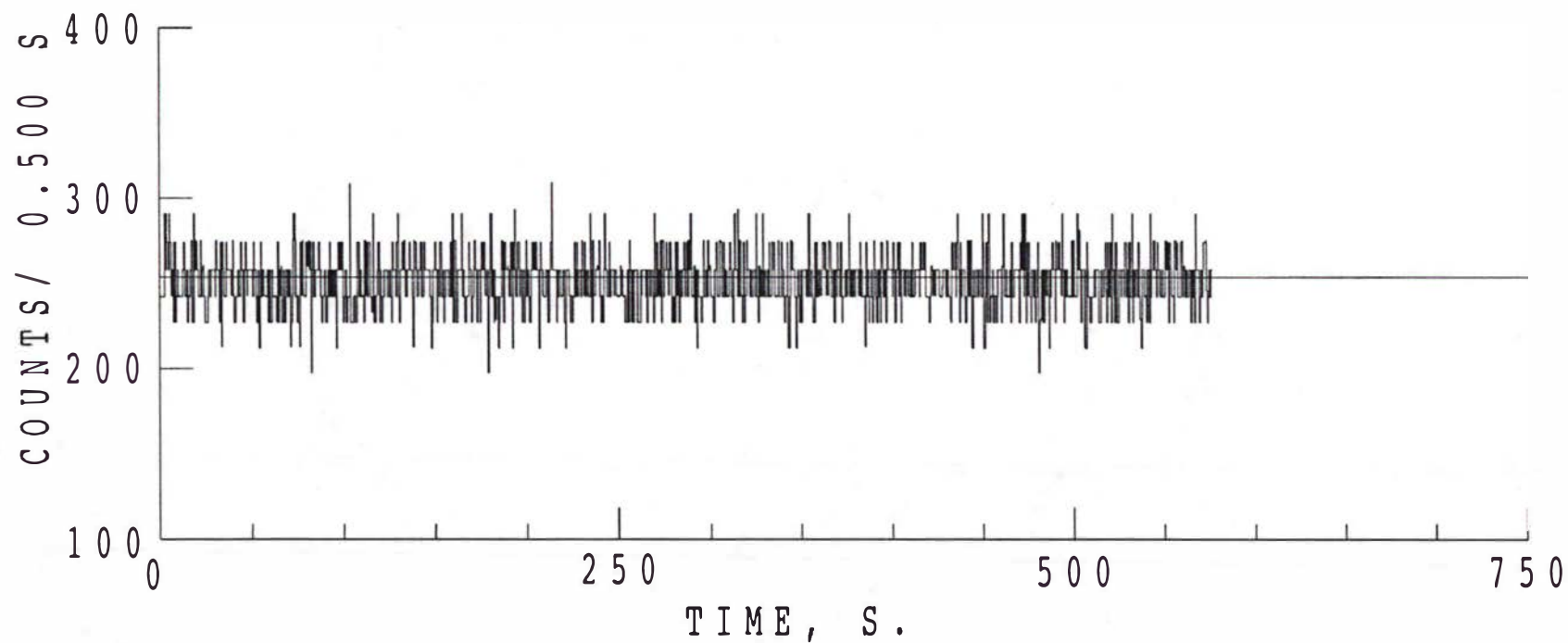
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

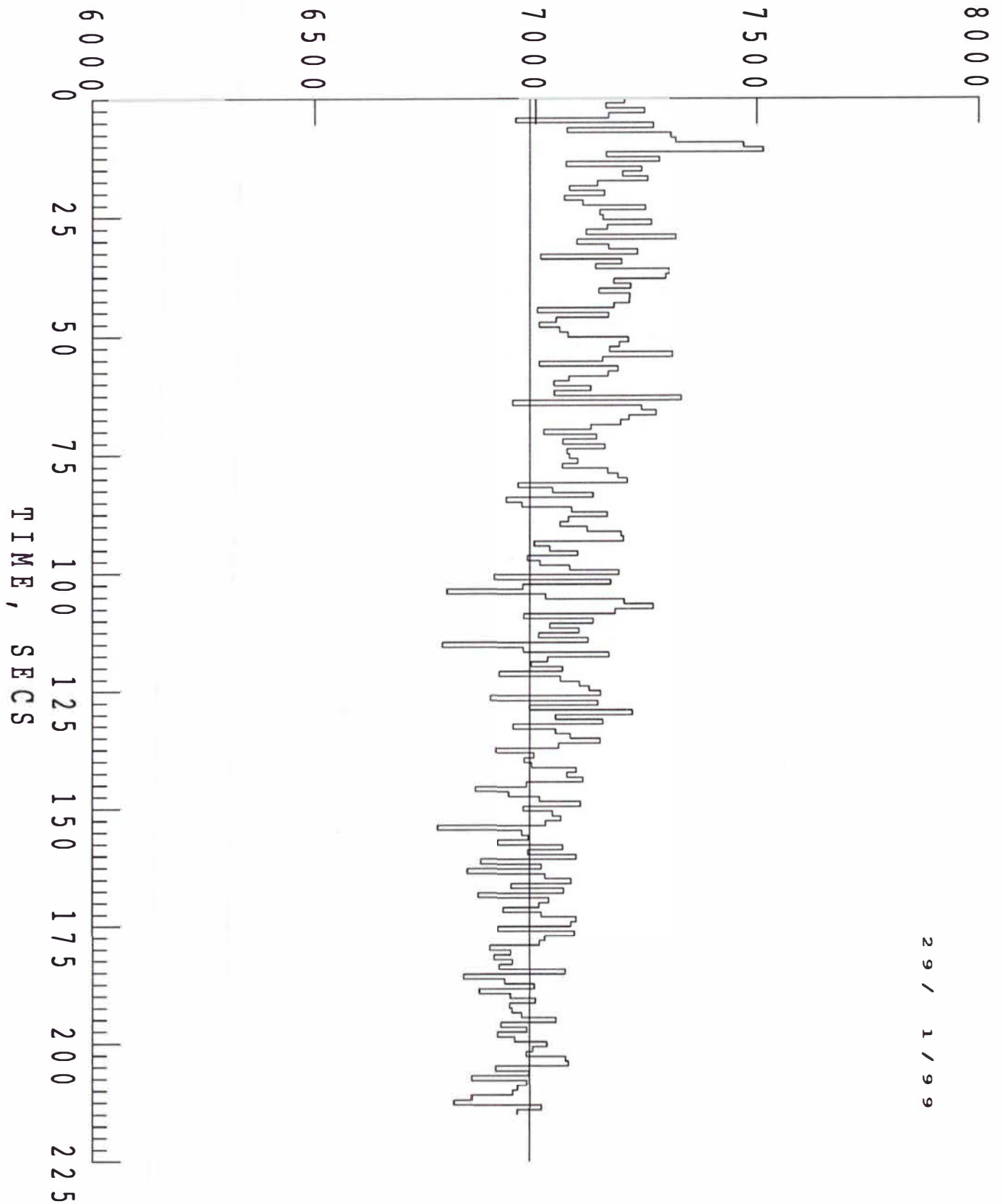
>4.0 SIGMA FLUCTUATIONS



BACODINE 7361 29/01/99 62640.889

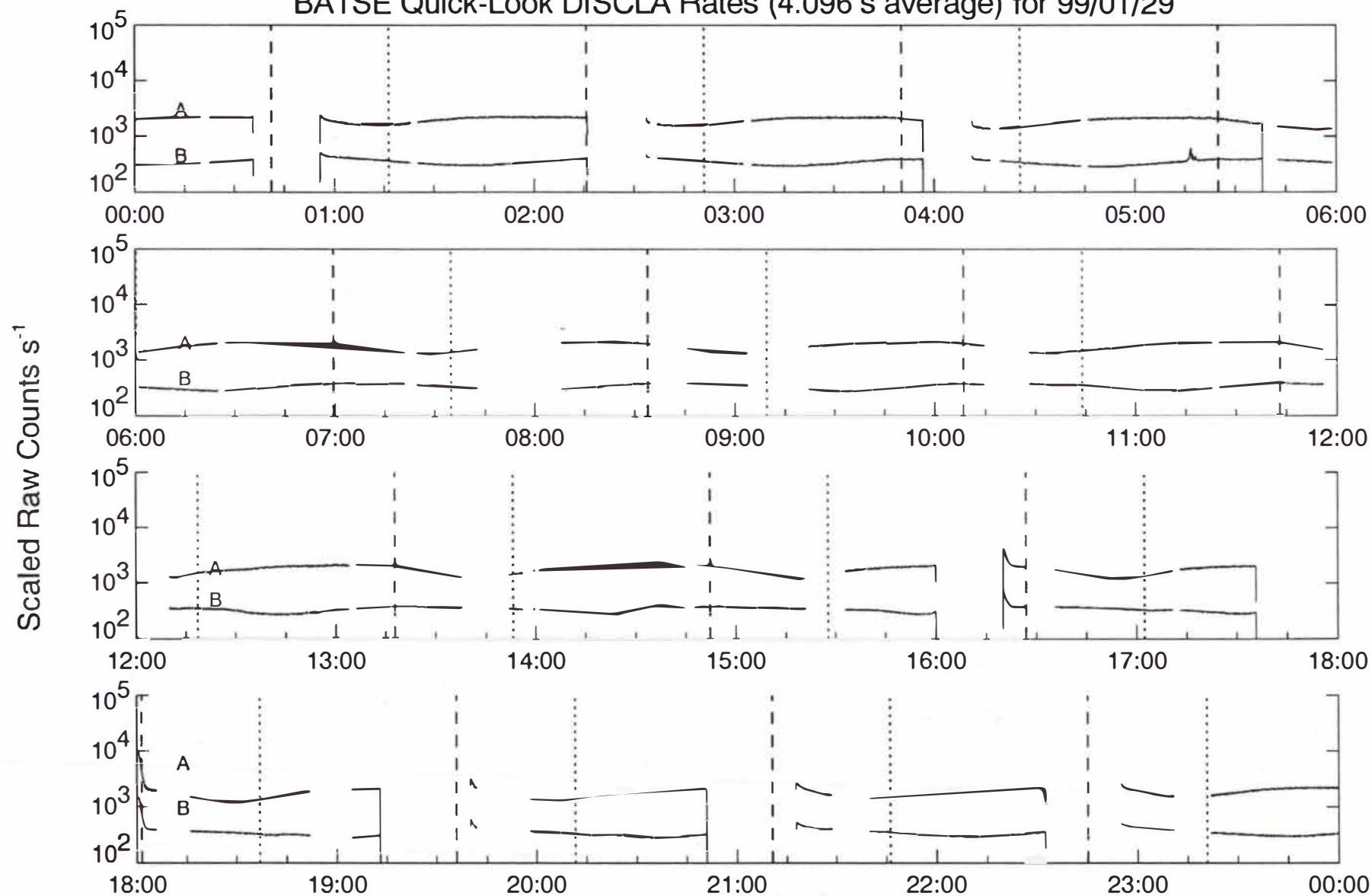
25 - 100 keV

COUNTS/1.024 S



29 / 1 / 99

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/29

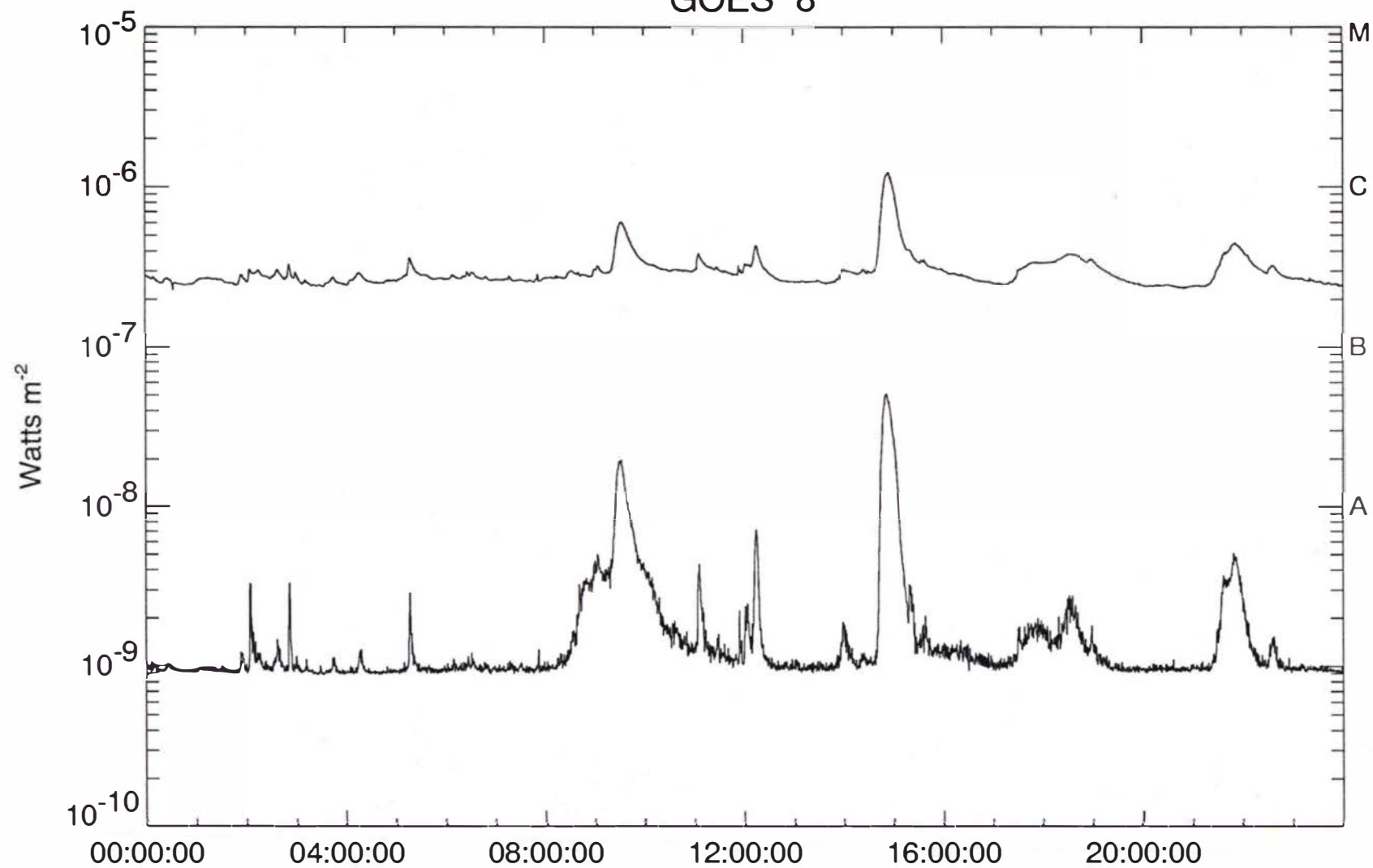


Current Time: 99/02/02, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/29, 0000:00

Plot created: 99/02/02, 1009

Channel

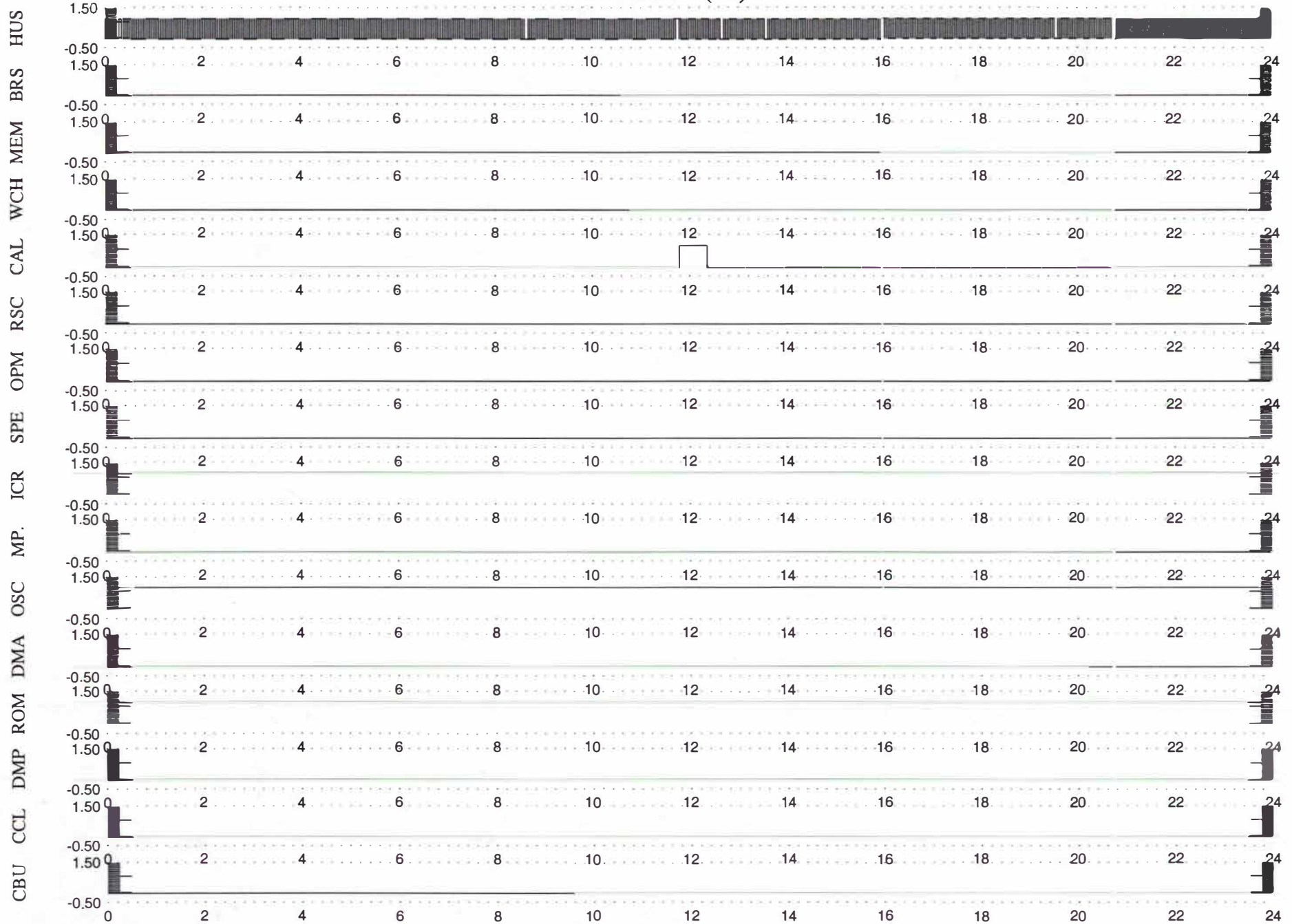
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

Background not subtracted

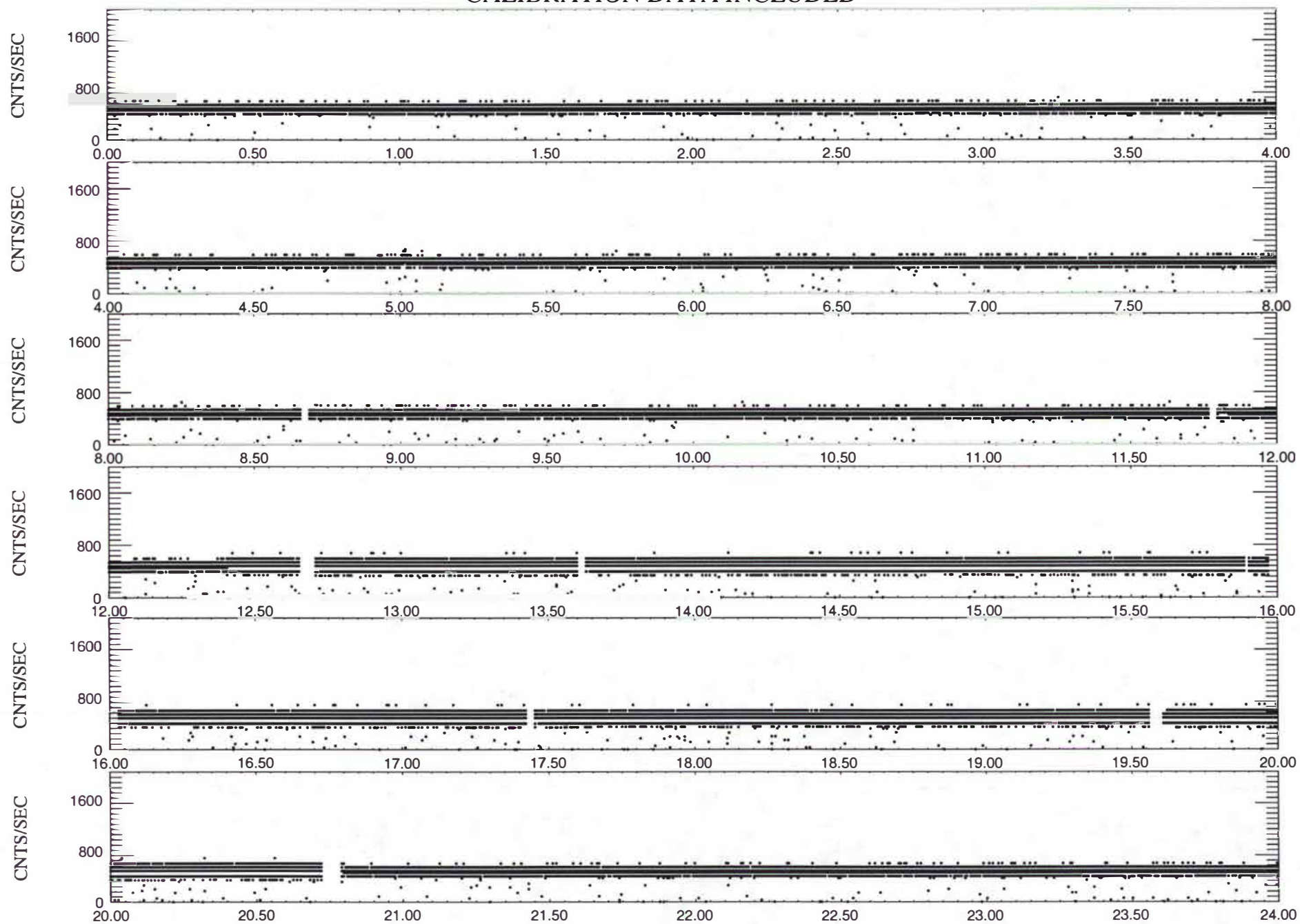
Sample average = 10

NO BURST (15)

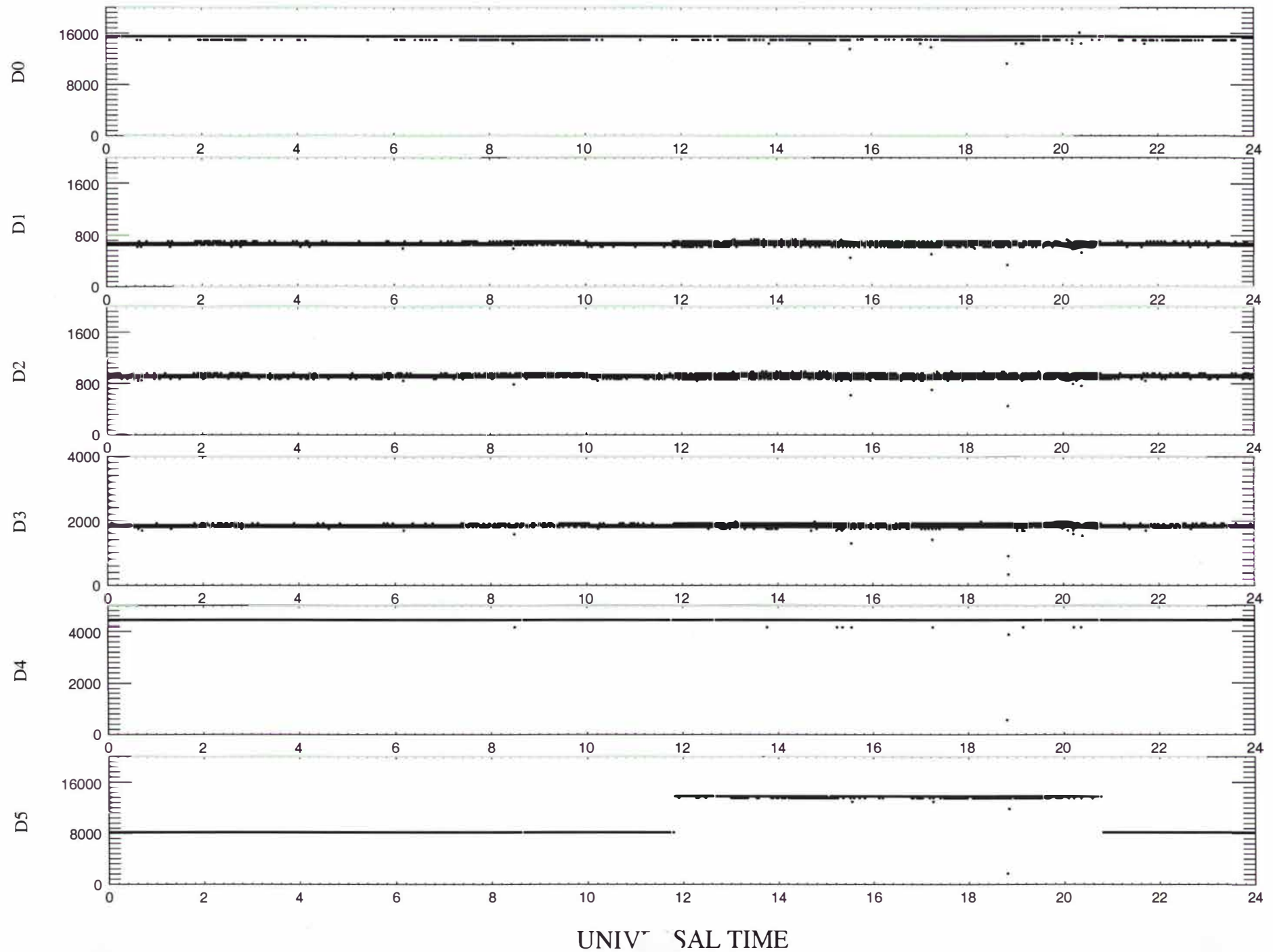


UNIV CAL TIME

CALIBRATION DATA INCLUDED



UNIV SAL TIME



KONUS

30/01/99 48215.203

10- 50 keV

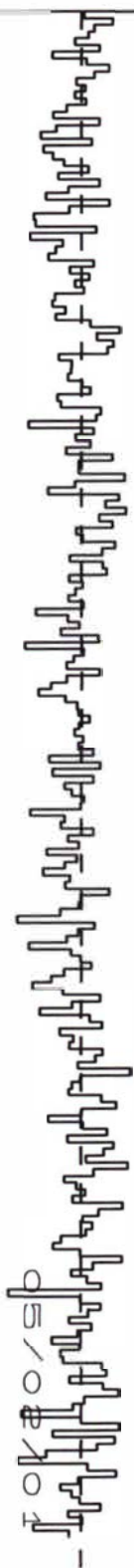
50- 200 keV 200- 750 keV

COUNTS/2.941 S

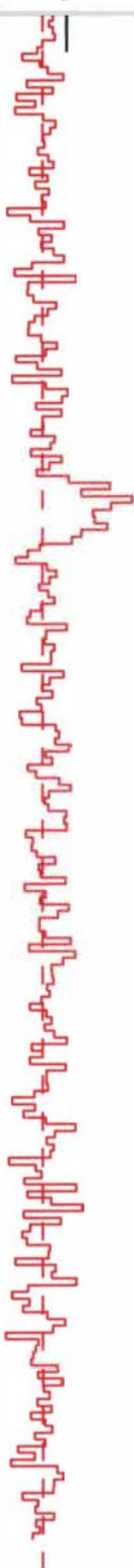
3400

DETECTOR 1 - S. ECLIPSE

$\phi = -30$



1400



400

100

200

300

400

500

600

TIME, SECS

KONUS

30/01/99 48215.203

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.941 S

4300

DETECTOR 2 - N. ECLIPTEIC

3300

2300

1300

300

100

200

300

400

500

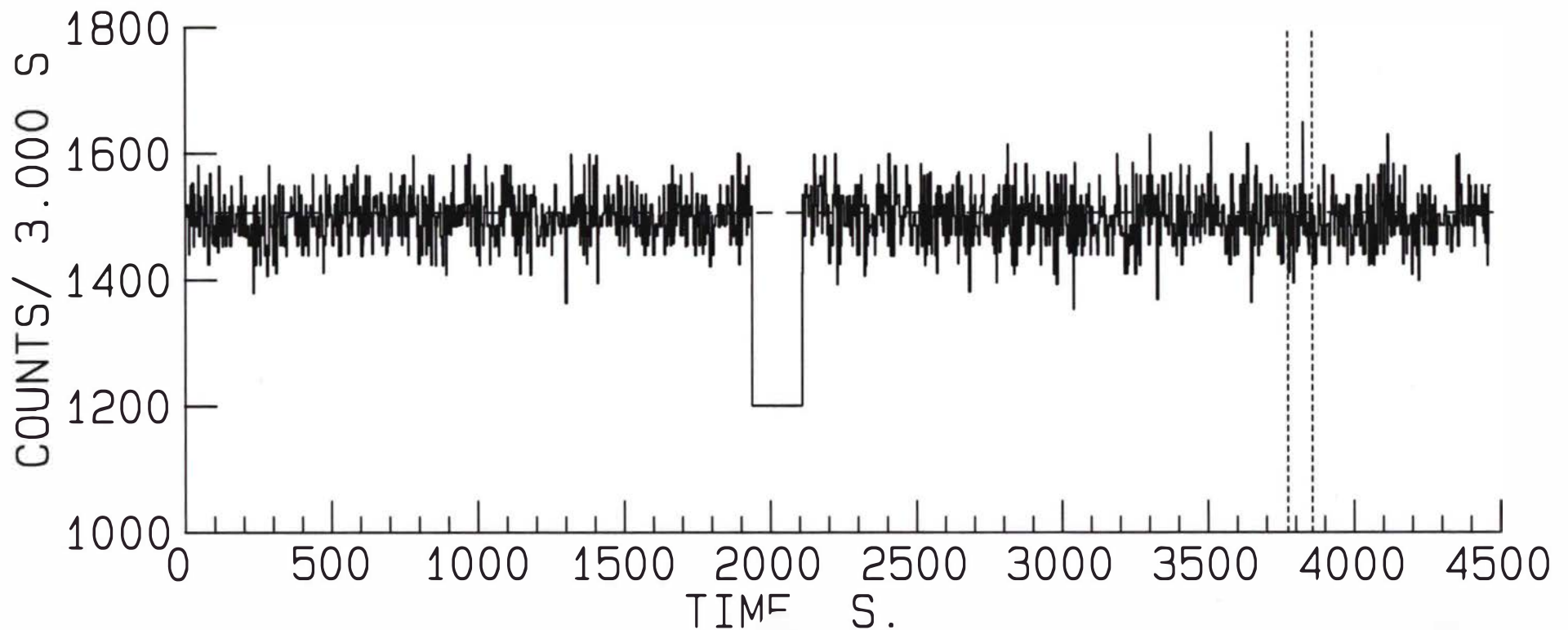
600

TIME, SECS

05/02/01

ULYSSES RT
30/ 1/99 46188.045 s
0.250 S INTERVALS REGROUPED BY 12
22- 152 keV

5 / 2 / 1



KONUS RI

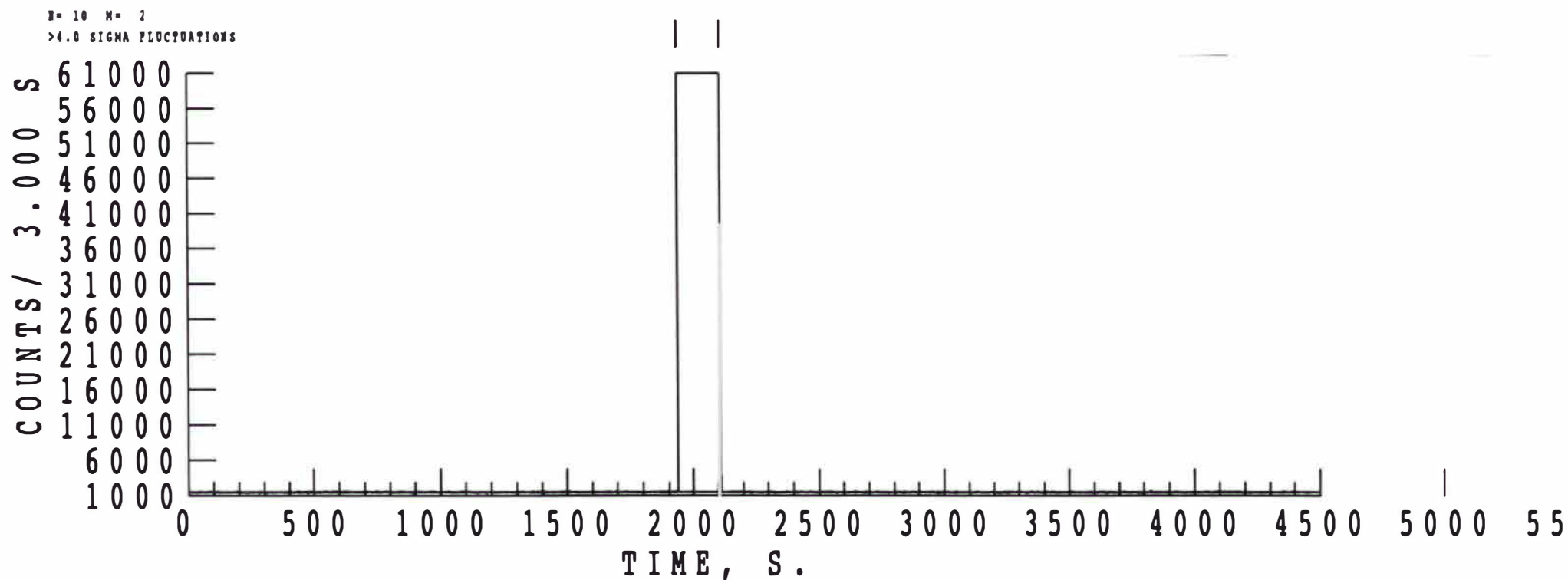
ULYSSES RT

6 / 7 / 99

30 / 1 / 99 46188.043 s

0.250 S INTERVALS REGROUPED BY 12

0 - 0 keV



From RICHARDSON@fender.msfc.nasa.gov Mon Feb 1 10:48:51 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA28546; Mon, 1 Feb 1999 10:48:48 -0800
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA15944; Mon, 1 Feb 1999 10:48:46 -0800
Date: Mon, 1 Feb 1999 12:48:46 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990201124846.2028107e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7362
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7362
EVENT OF 1999 JAN 30 DAY OF YEAR= 30
EVENT CROSSING TIME AT BATSE : 59714. S. OR 16:35:14.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 176.000 57.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 1/ 99 IS:
RA= 161.565 DEC= -9.483 DIST= 4.347 AU
BATSE-ULYSSES DISTANCE = 650372923. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.46 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -828.86 SECS.
CROSSING TIME AT ULYSSES IS 58885. S. OR 16:21:25 +/- 385.48 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 1/ 99 IS:
RA= 209.982 DEC= -10.014 DIST= 1.198 AU
MARS-BATSE DISTANCE = 179233424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.39 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -178.70 SECS.
CROSSING TIME AT MARS IS 59535. S. OR 16:32:15 +/- 96.34 SECONDS

BATSE BURST TRIGGER

NO.: 7362

TIME: TJD=1208 SECONDS=59714

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=61.7 AZIMUTH=119.7 ERROR=3.8 DEGREES

COMMENTS:

GRB. WEAK, TWO PULSES, THE FIRST PULSE HAVING TWO PEAKS.
DURATION APPROX. = 40 SEC. MARGINALLY VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7362	990130	11208	59714	4500	176	+57	40

BATSE BURST# 7362

ULYSSES RT

1 / 2 / 99

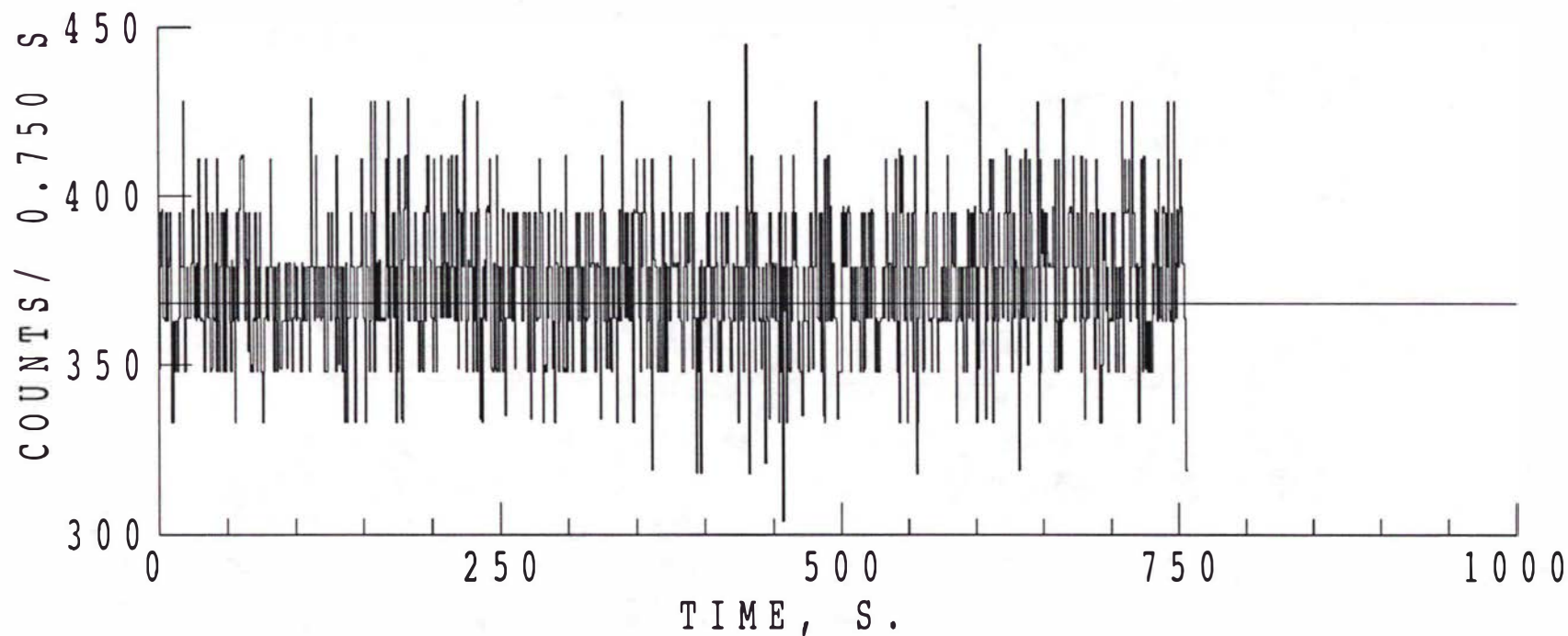
30 / 1 / 99 58500.172 s

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 SAHI@fender.msfc.nasa.gov Tue Feb 2 09:44:47 1999

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 2 Feb 1999 11:44:31 -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.: 7364

TIME: TJD=1209 SECONDS=56242

TYPE: ELECTRO SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

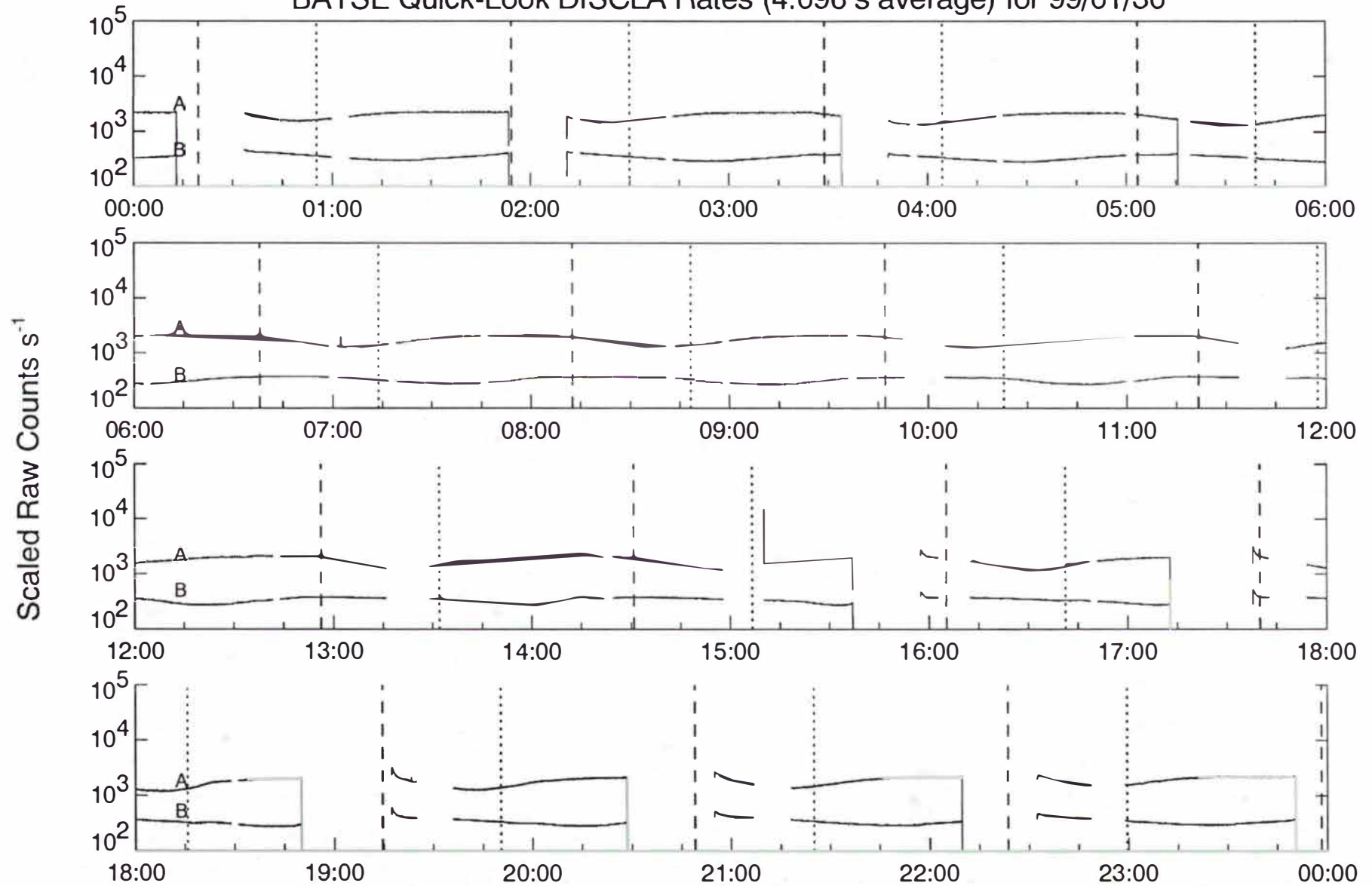
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT AFTER EXIT FROM SAA.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/30

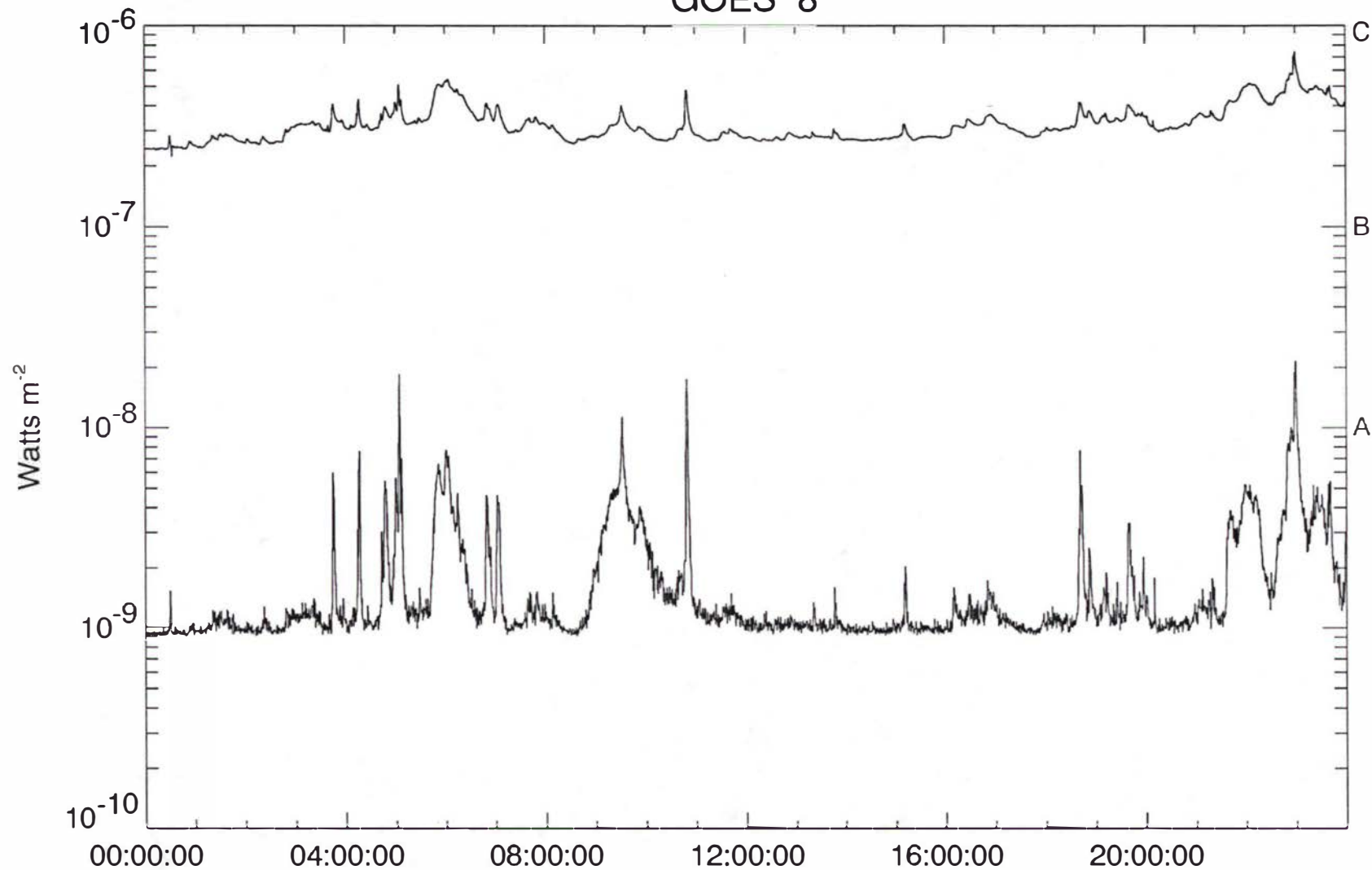


Current Time: 99/02/03, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/01/30, 0000:00

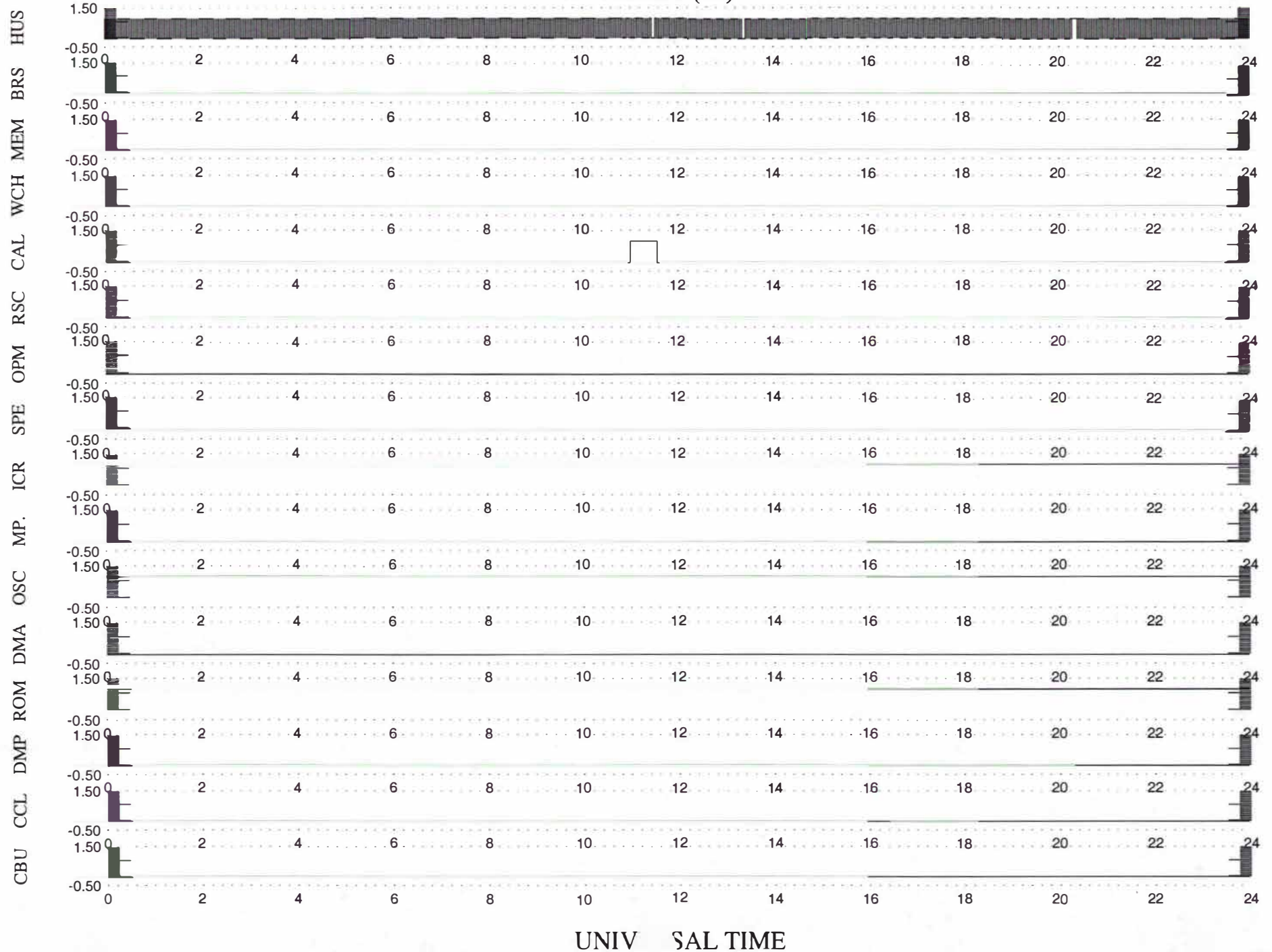
Plot created: 99/02/03, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

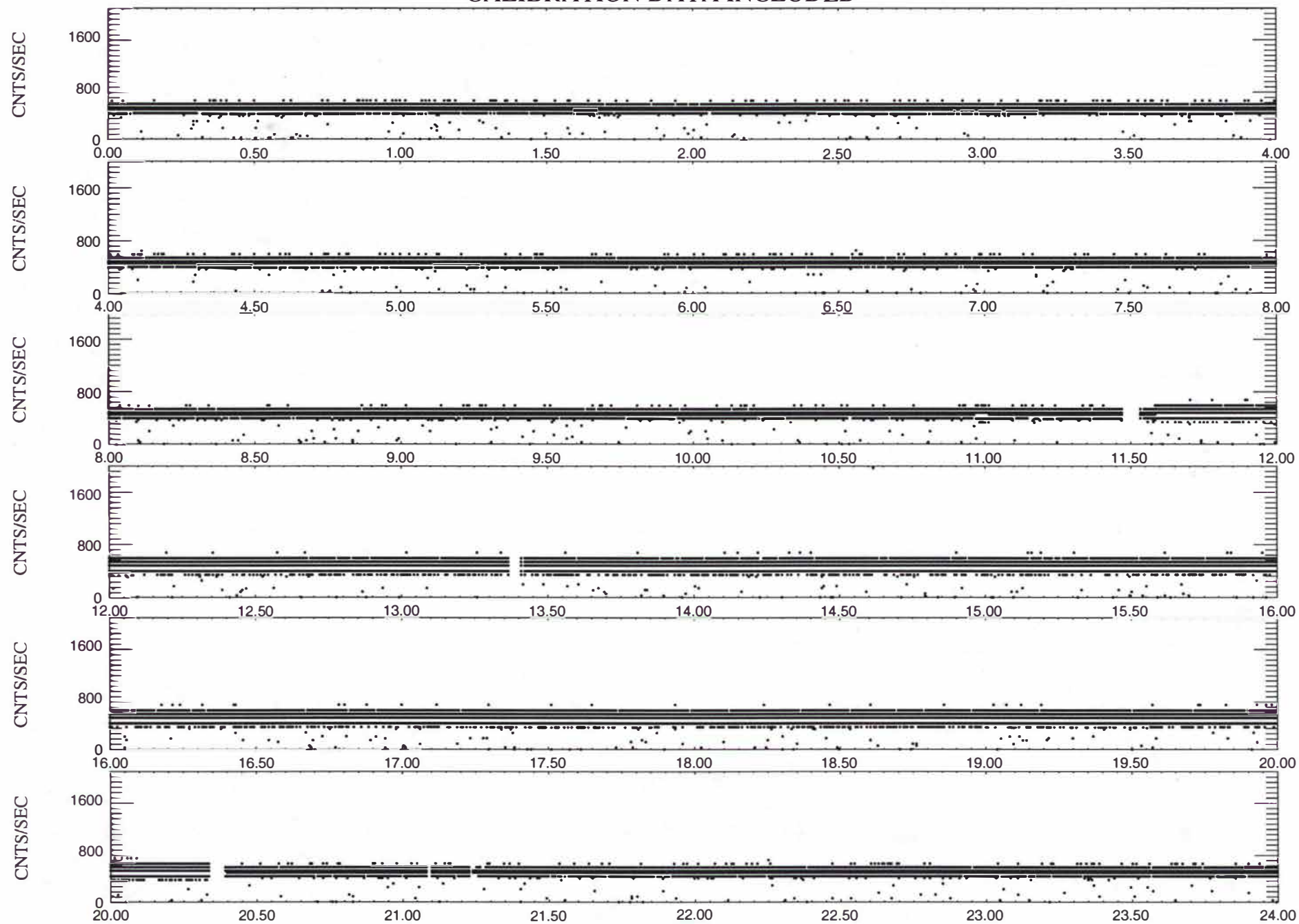
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

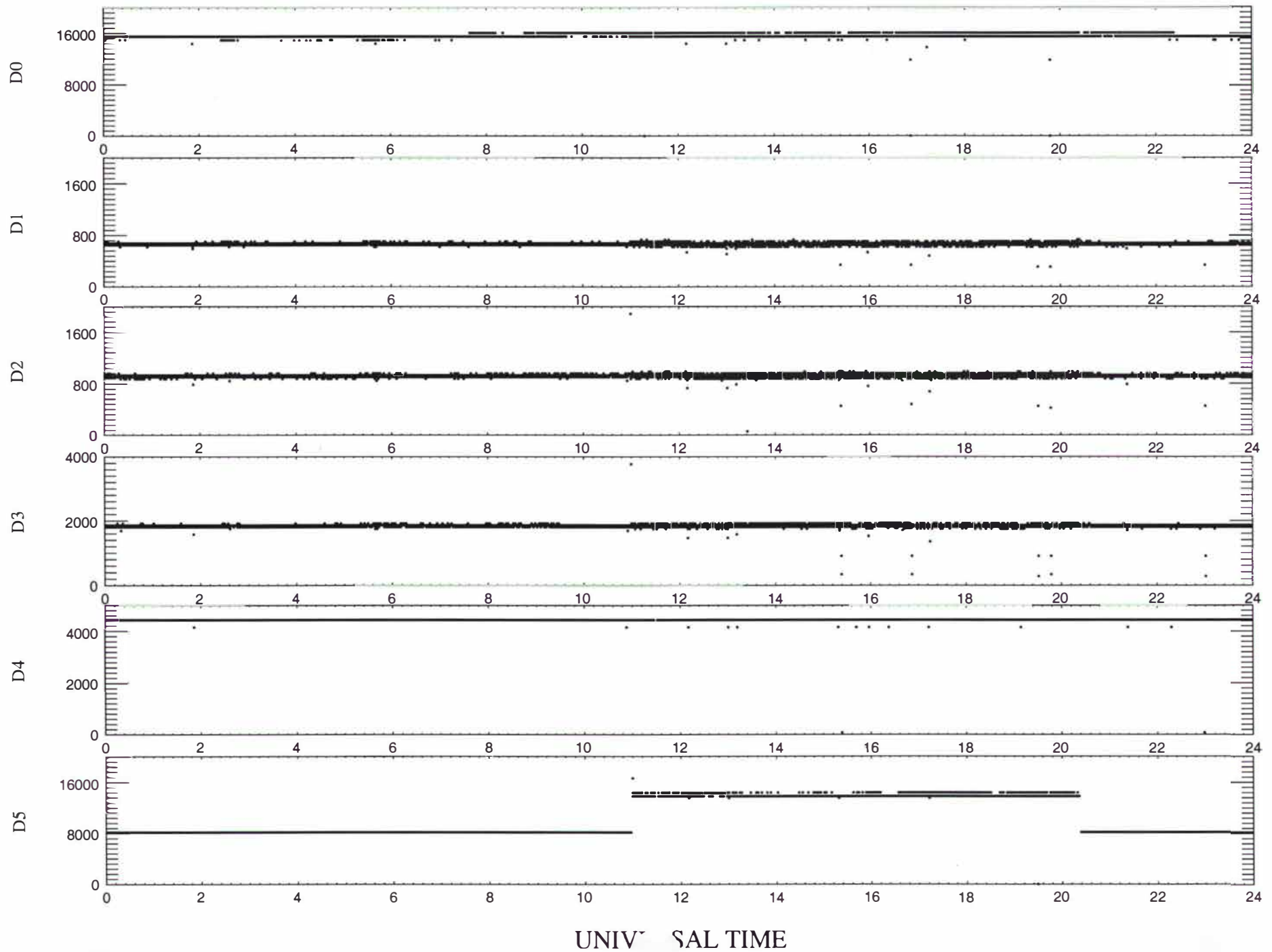
NO BURST (15)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Tue Feb 2 09:43:35 1999

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 2 Feb 1999 11:41:46 -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.: 7363

Jan 31
TIME: TJD=1209 SECONDS=38875

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=79.4 AZIMUTH=357.2 ERROR=1.1 DEGREES

COMMENTS:

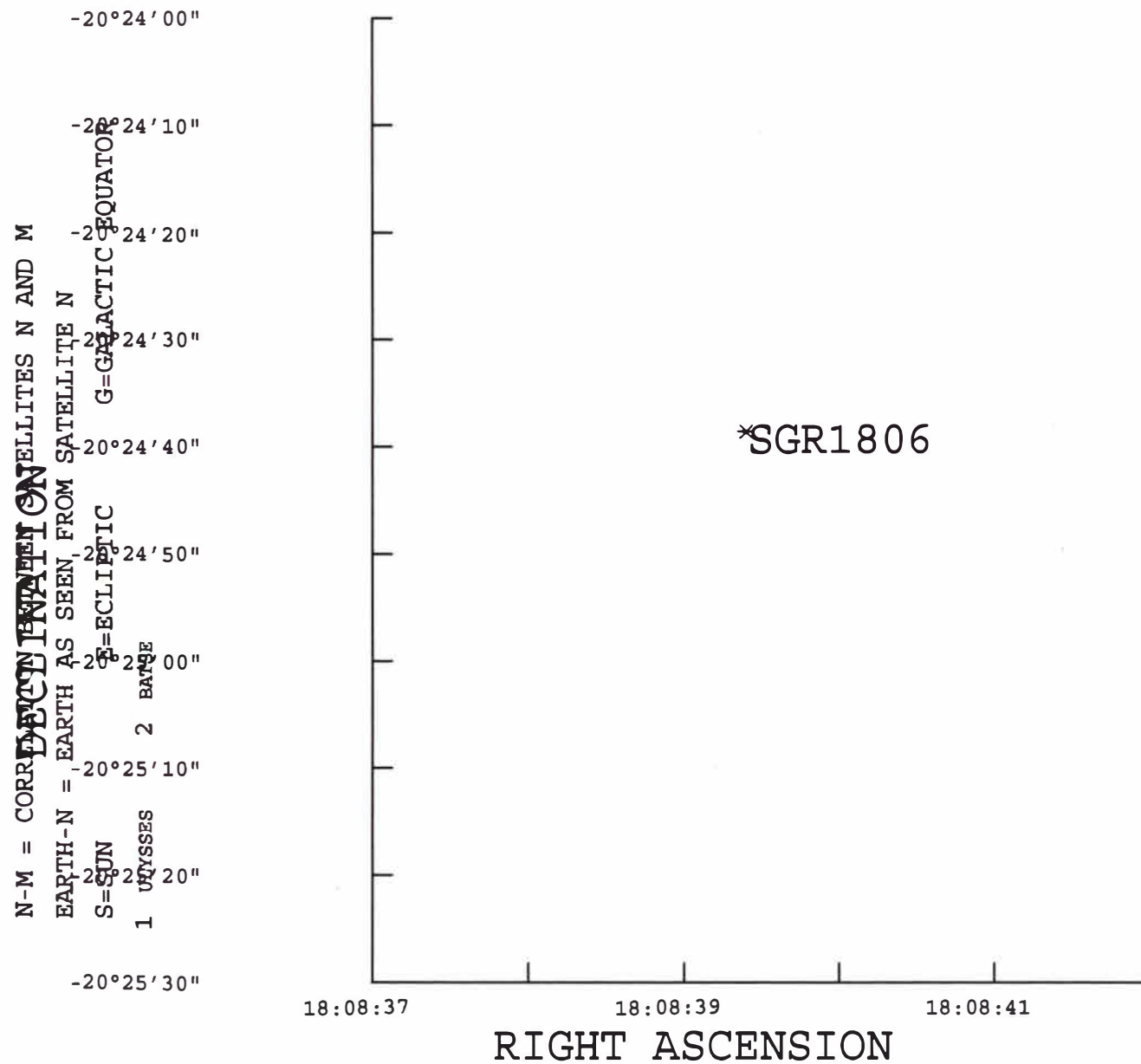
SGR. 1806-20. SINGLE SPIKE, DUR. APPROX 0.035 S, STARTS AT T-0.03 S. NOT
VISIBLE ABOVE 100 KEV. CYGX-1 SET AT T+165 S.

*Reply to Pete when we get data for this one
Ulysses is 757.7 s later*

*No! Ulysses trigger doesn't work. must be
another event*

EVENT OF JAN 31, 1999 10:24

16/ 7/99



BATSE

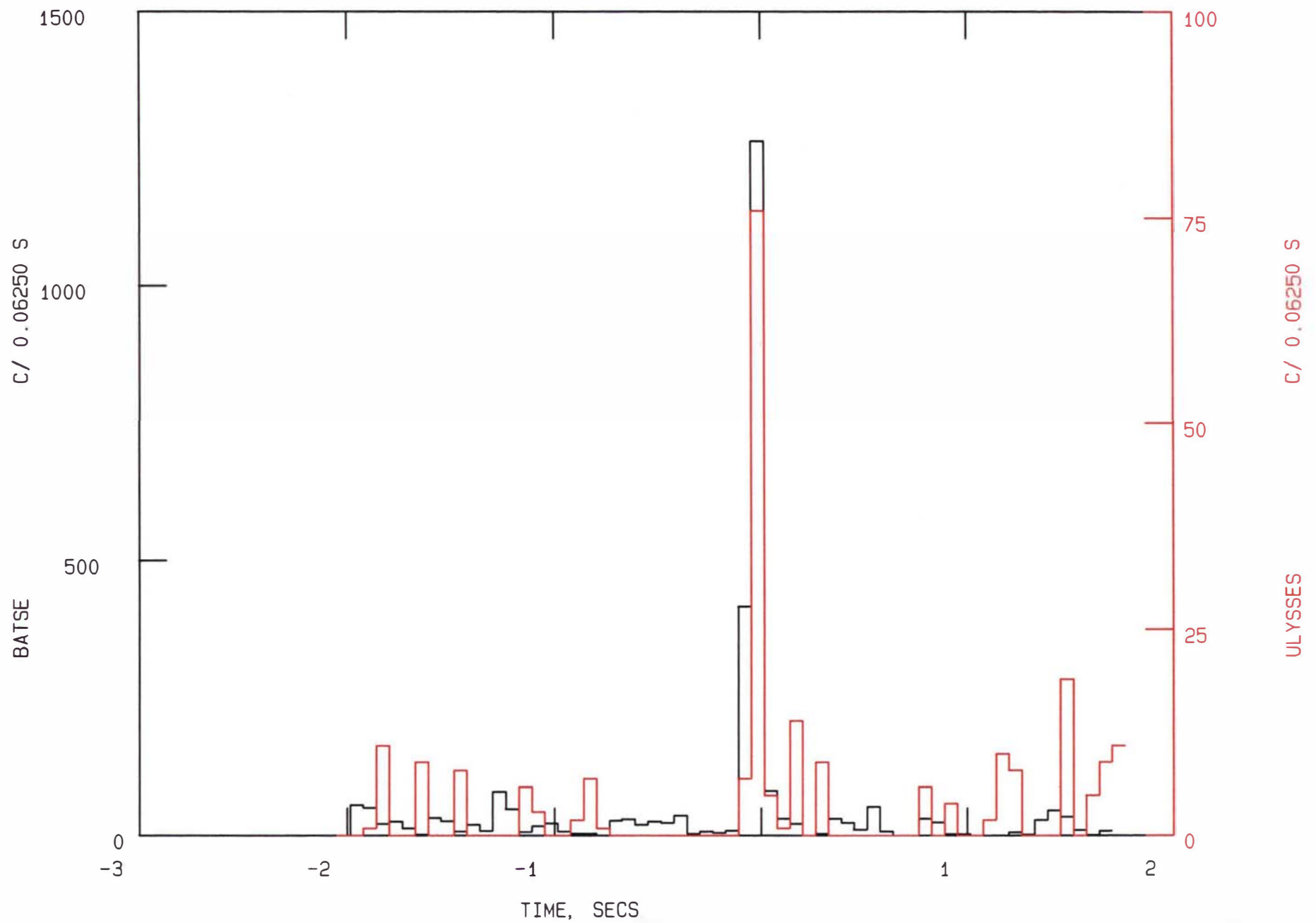
-ULYSSES

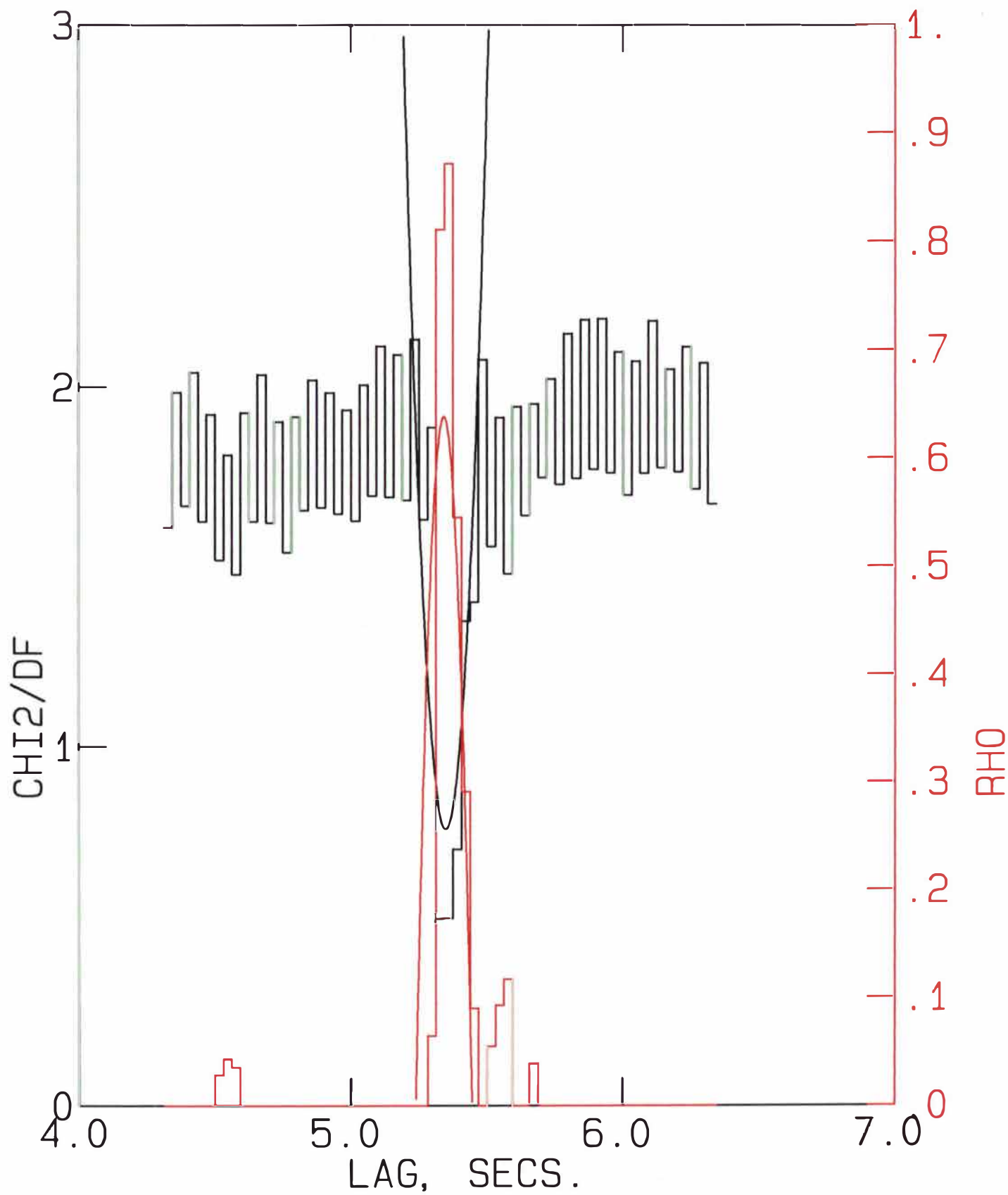
CORRELATION

31/ 1/99

38875.065

16/ 7/99





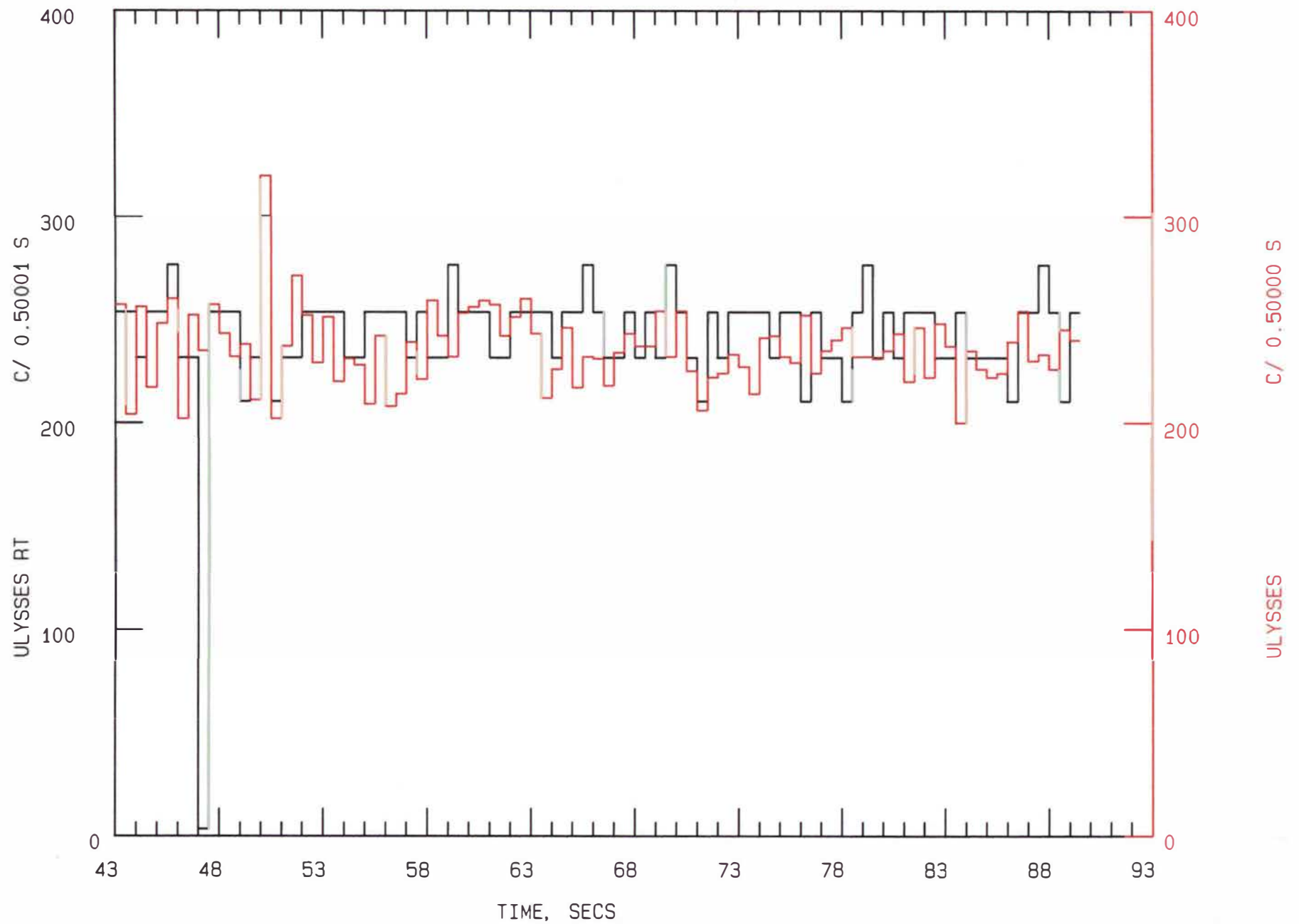
ULYSSES RT-ULYSSES

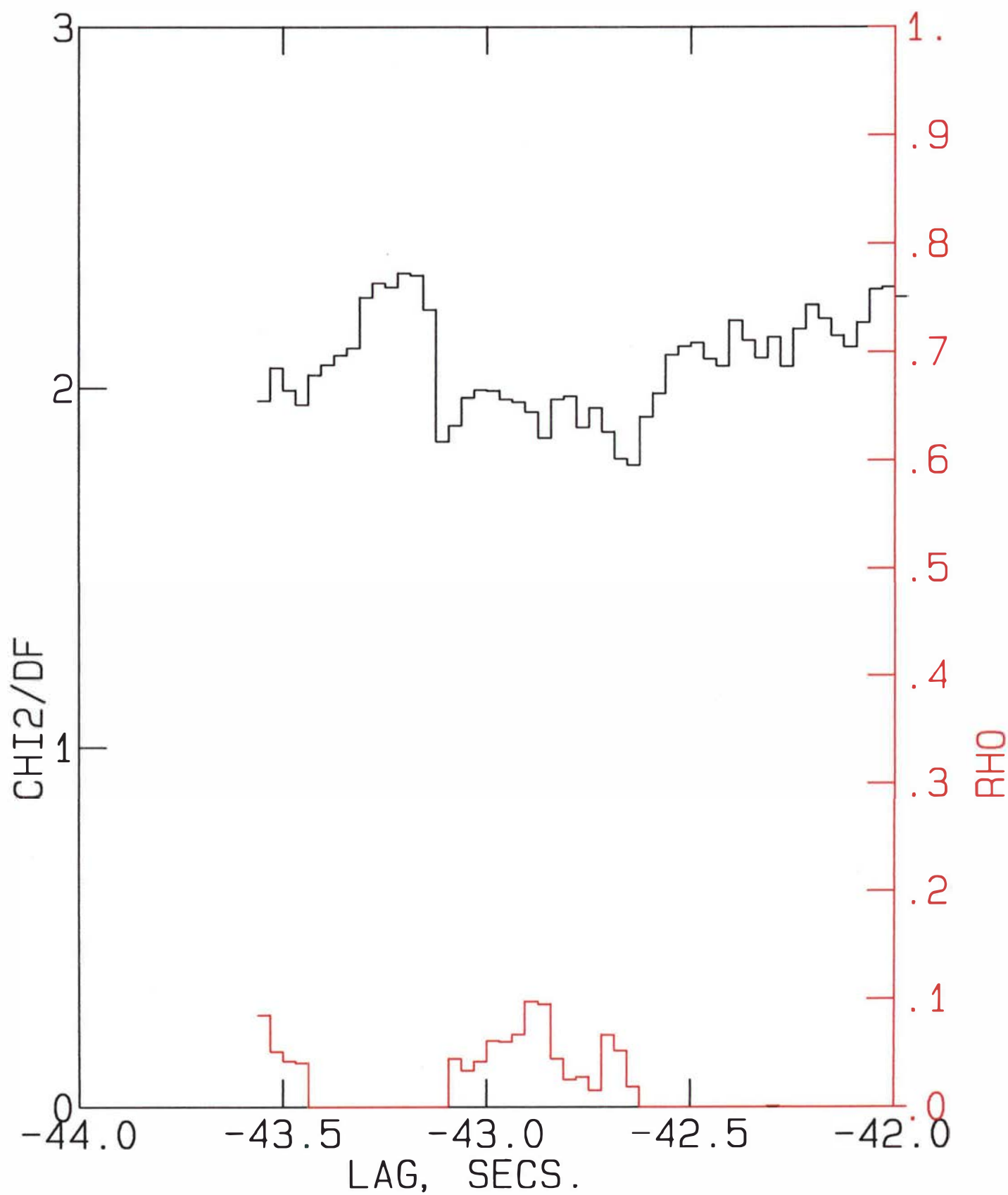
CORRELATION

31/ 1/99

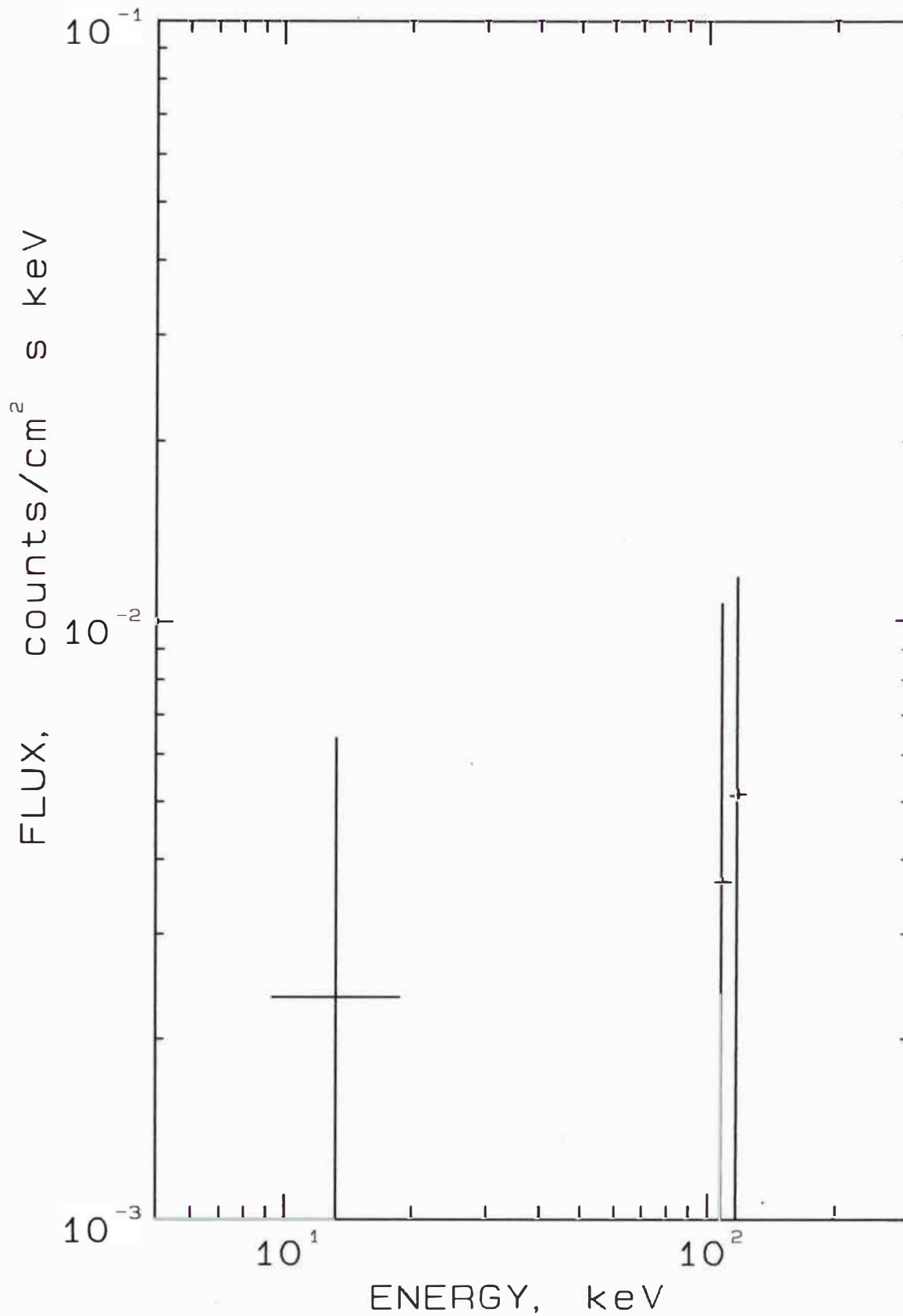
37410.337

16/ 7/99



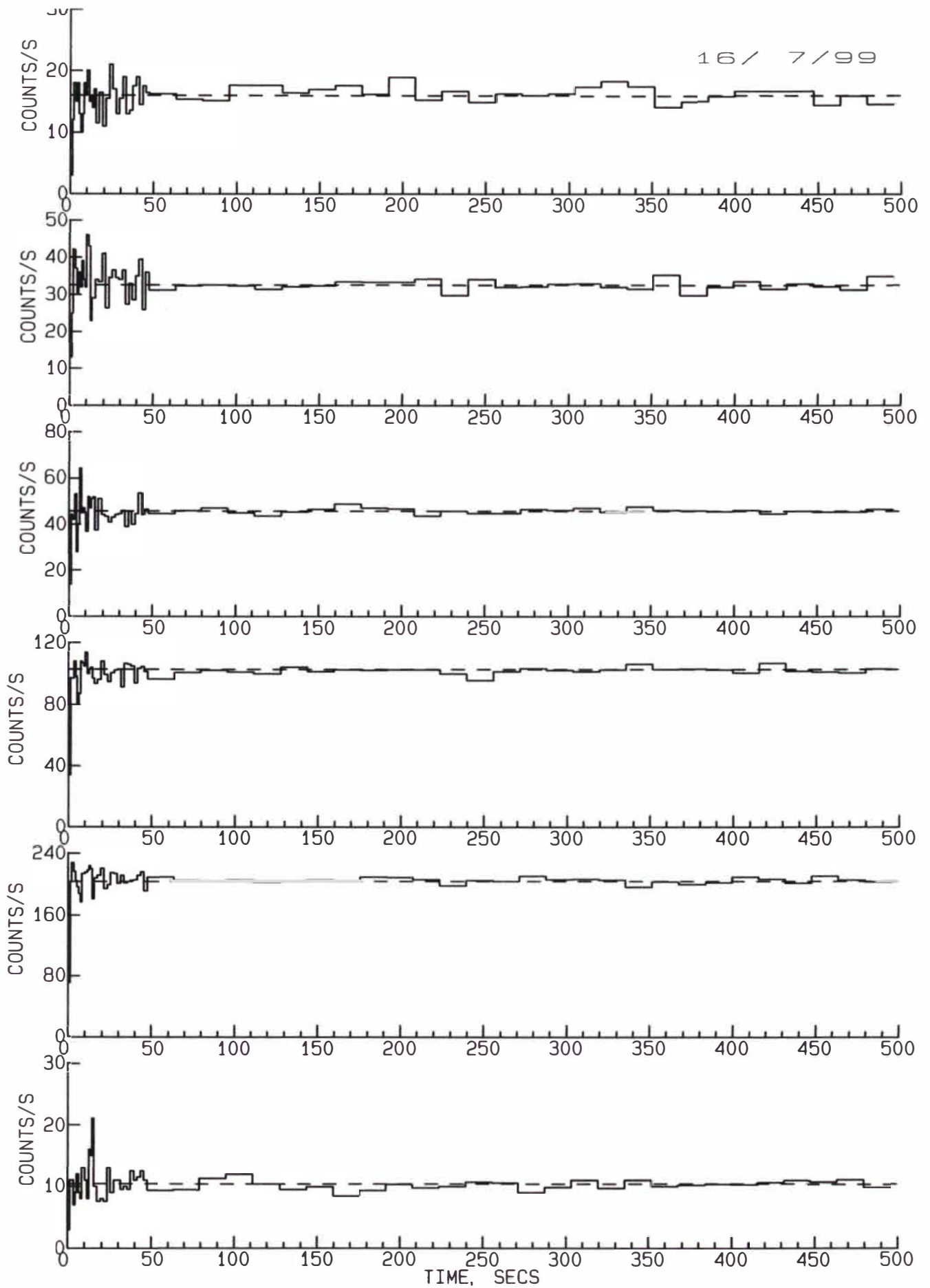


SPECTRUM INTEGRATED OVER 10.4 SECONDS, INTERVALS 2 TO 12



ULYSSES 31/01/99 37460.517 BURST SPECTRAL COUNT RATES

4- 18 keV

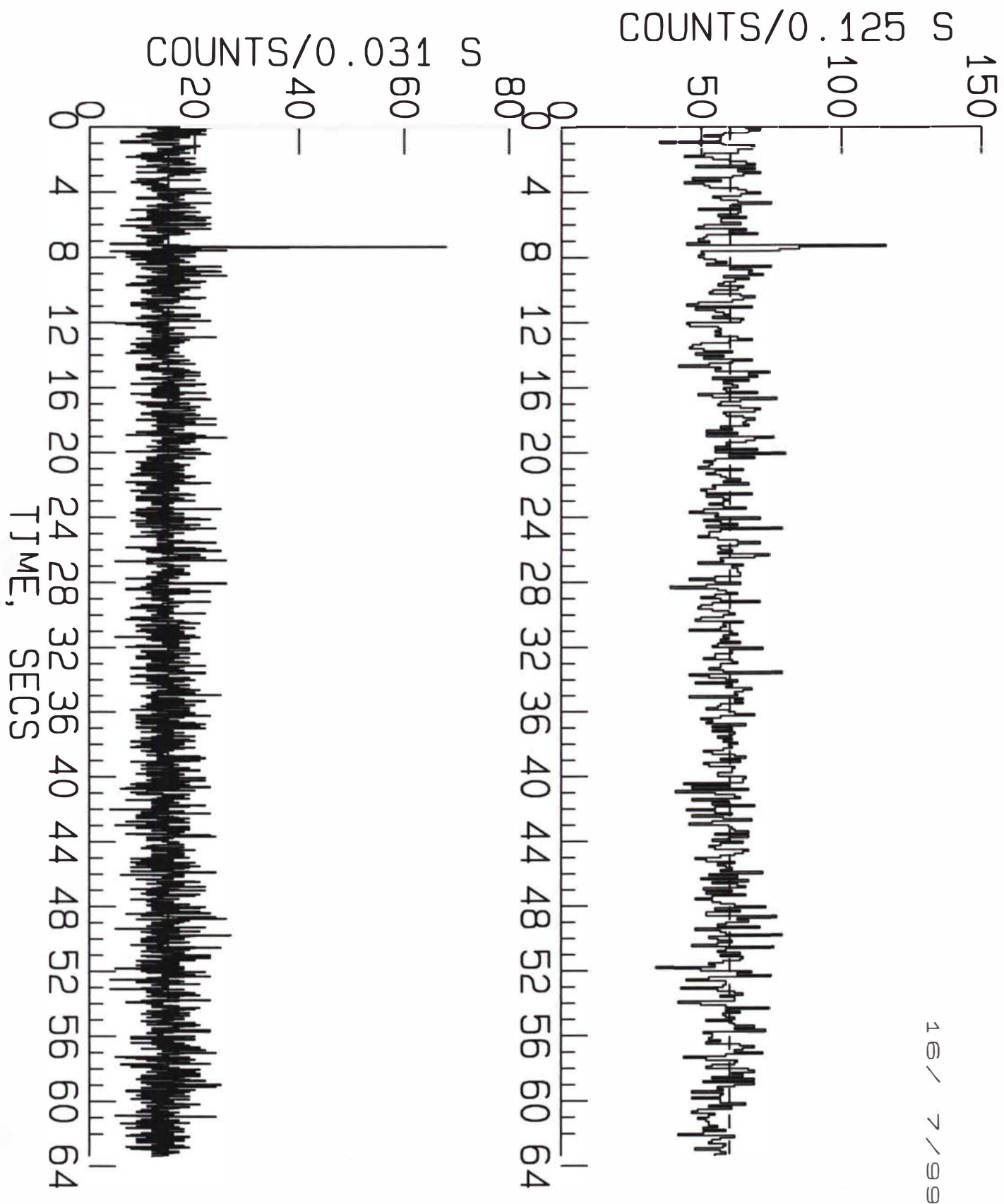


ULYSSES

31/01/99

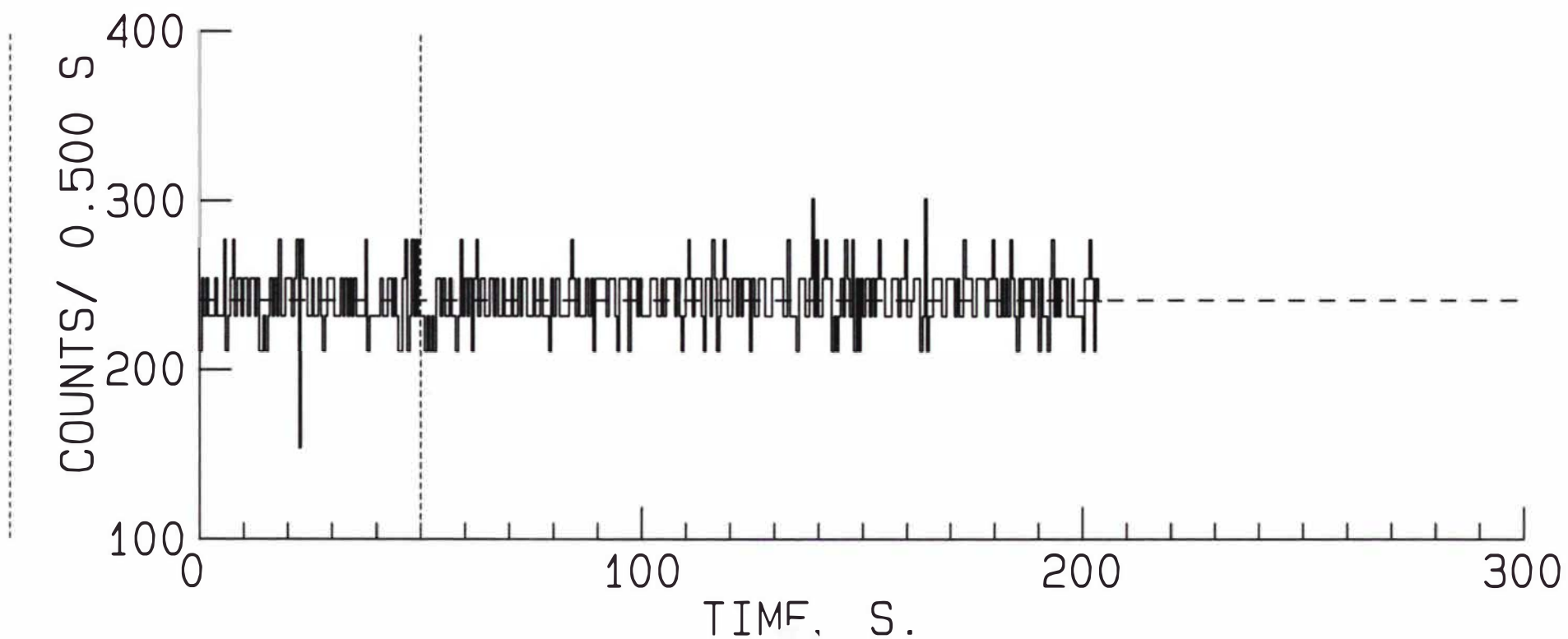
Ttrig=37460.516

22- 150 keV



ULYSSES RT
31/ 1/99 37296.337 s
22- 150 keV

16/ 7/99



From kraken@milkyway.gsfc.nasa.gov Mon Feb 22 09:14 PST 1999
X-Sender: kraken@kangaroo.gsfc.nasa.gov
Mime-Version: 1.0
Date: Mon, 22 Feb 1999 12:17:54 -0500
To: khurley@ssl.berkeley.edu (Kevin Hurley)
From: Peter Kurczynski <kraken@milkyway.gsfc.nasa.gov>
Subject: Re: GRB990213A,B
Cc: kraken@milkyway.gsfc.nasa.gov

Hi Kevin,

Sorry, TGRS didn't see any of these Ulysses events, from January and February (see below)

Pete

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

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

>

>January 31 1999 10:22 Ulysses time; moderate, 64 ms long

FEB 02 1999 00:08*	weak, 32 ms long	2150
FEB 02 1999 16:35*	moderate, 32 ms long	2150
FEB 06 1999 02:20*	strong, 32 ms long	2150
FEB 06 1999 09:53*	weak, 32 ms long	2150

FEB 13 1999 01:52*	moderate, 32 ms long	2110
FEB 13 1999 15:34*	weak, 32 ms long	2110

>

>*suspected to come from SGR1806-20. If so, the Earth-crossing time
>would have been ~647 s earlier.

>

>Were these events detected by anyone else?

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Fri Feb 5 13:52 PST 1999
Date: Fri, 5 Feb 1999 16:52:32 -0500
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
cline@apache.gsfc.nasa.gov, scott@milkyway.gsfc.nasa.gov,
TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses event of 990131 was not detected by Konus

Hi Everyone,

This event is not visible in Konus data.

Paul.

in response to:

Date: Fri, 5 Feb 1999 07:25:26 -0800
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199902051525.HAA11307@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.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@origin.gsfc.nasa.gov
subject: GRB990131
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

January 31 1999 10:22 Ulysses time; moderate, 64 ms long

The spacecraft was about 2150 light-seconds from Earth. This event may have come from SGR1806-20; if so, the Earth-crossing time would have been ~757 s earlier.

Was this event detected by anyone else?

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

Date: May 11 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events *N/A*

- ☐ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

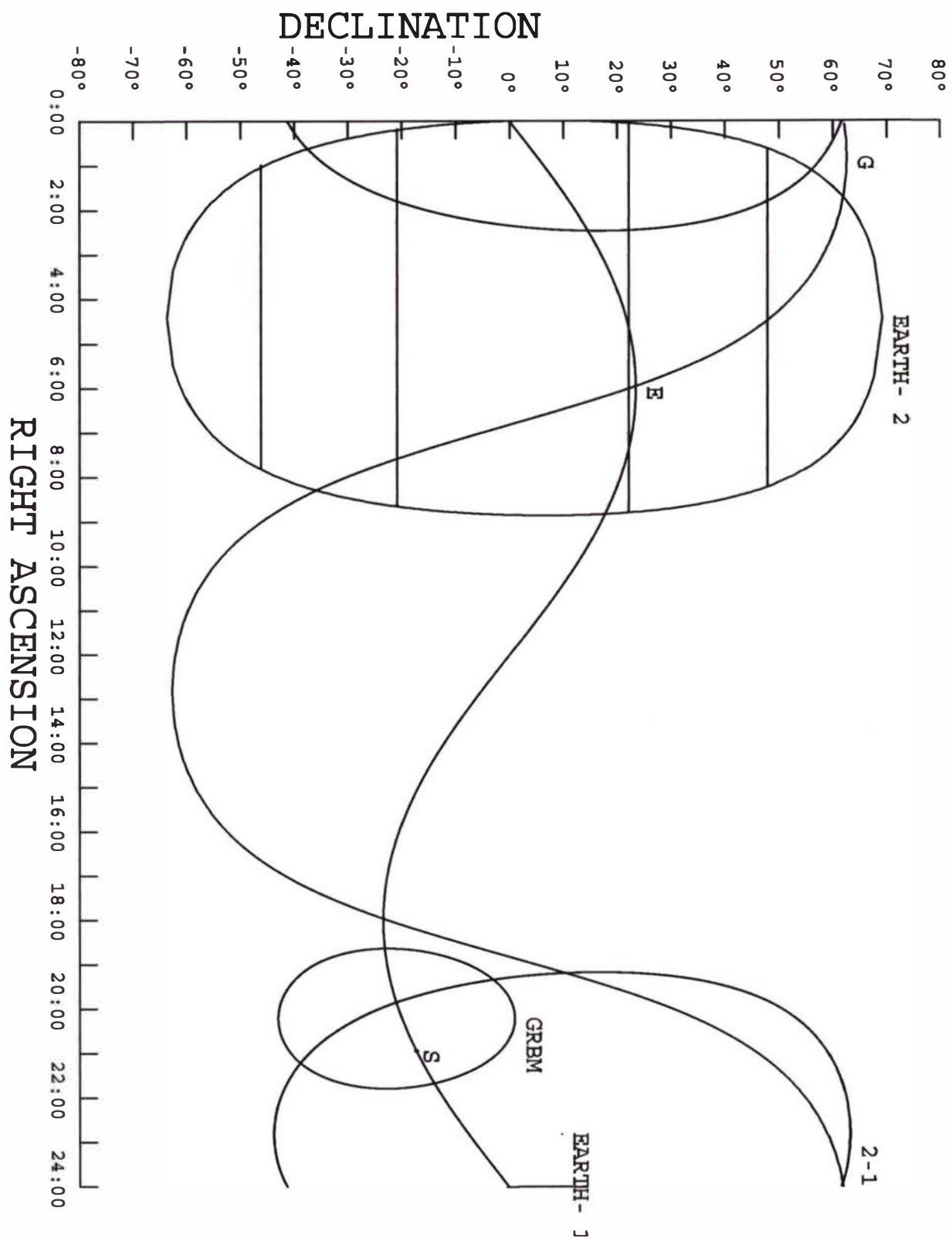
G=GALACTIC EQUATOR

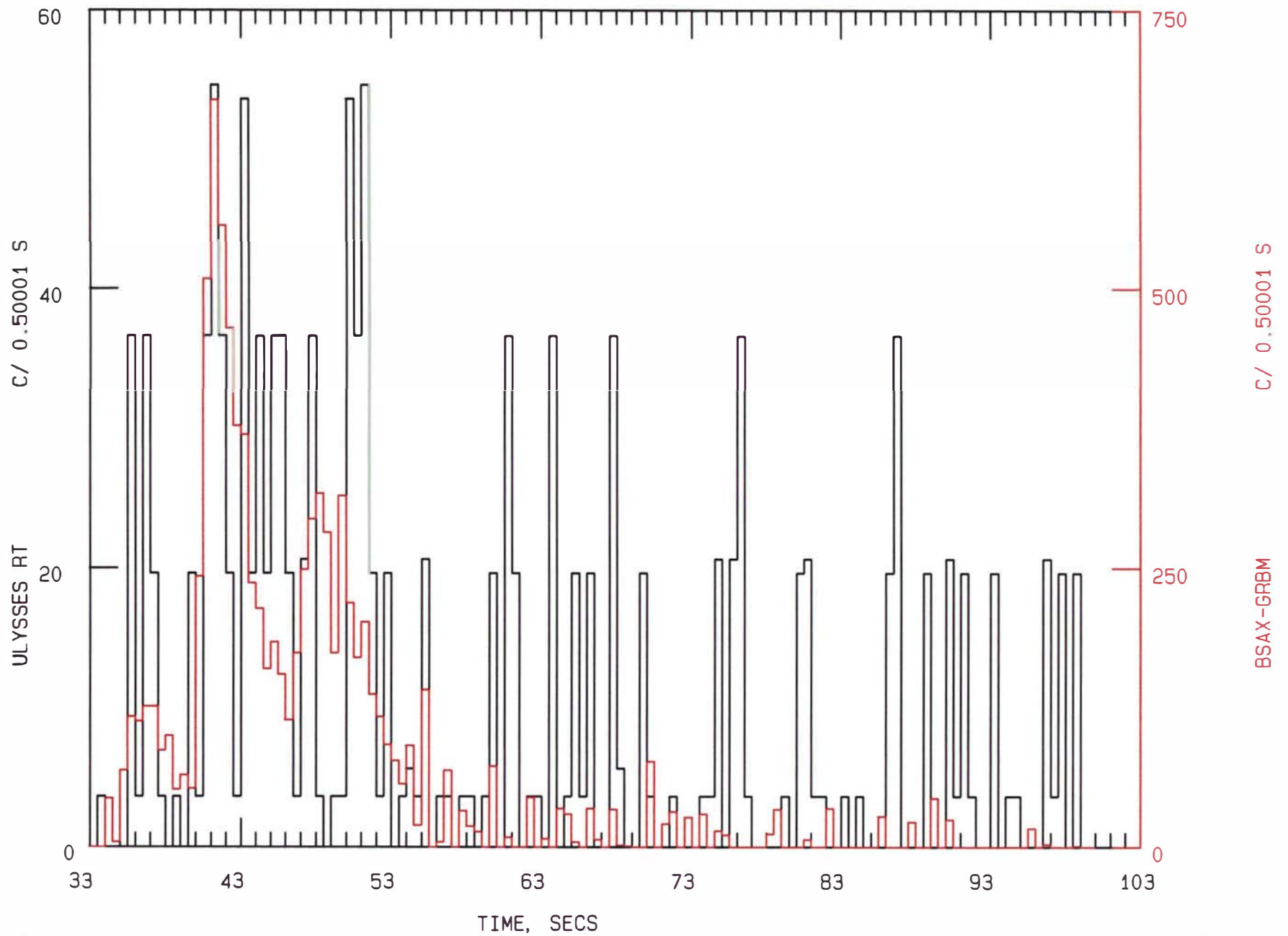
1 ULYSSES

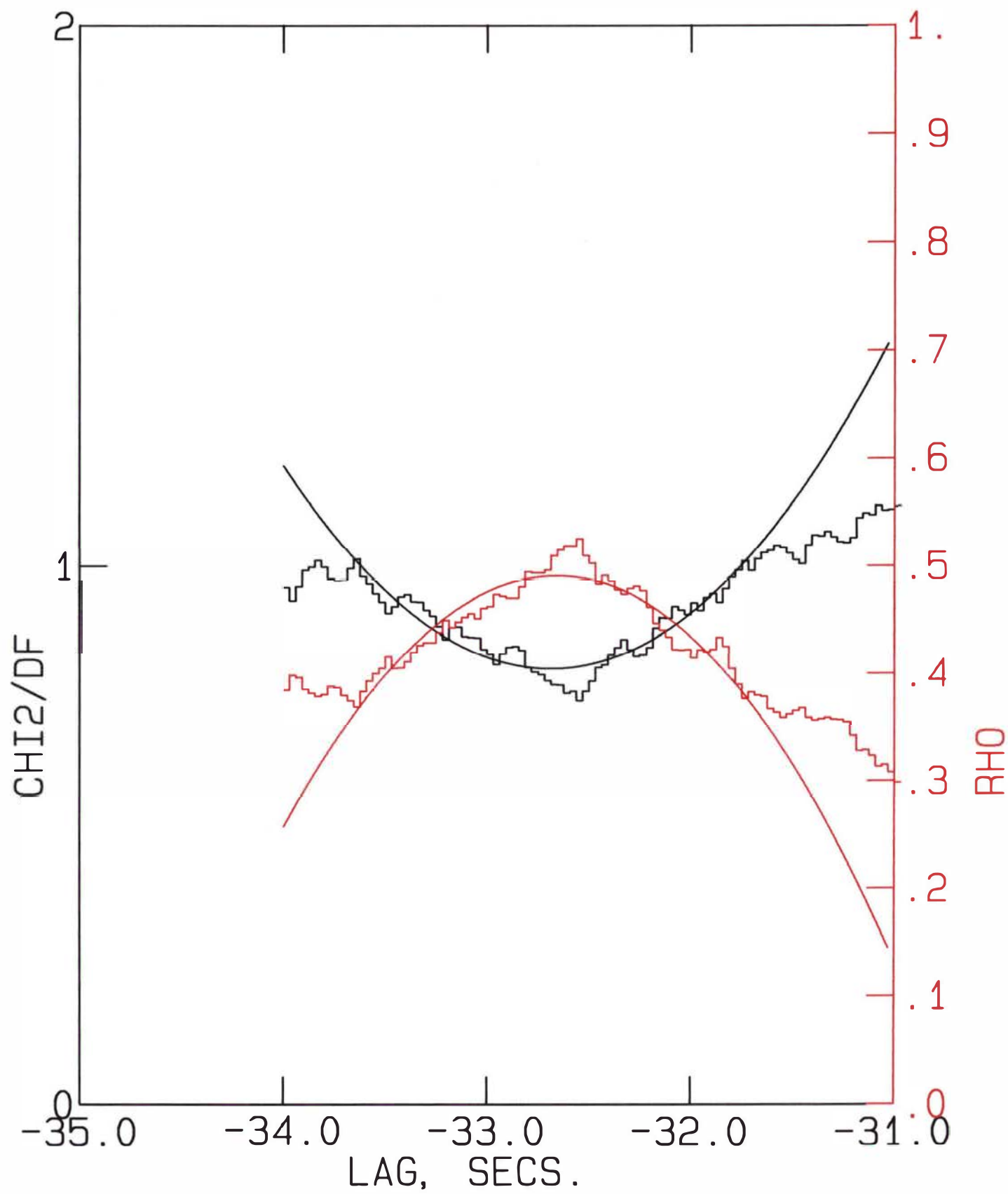
2 SAX

EVENT OF JAN 31, 1999 19:47

11 / 5 / 7

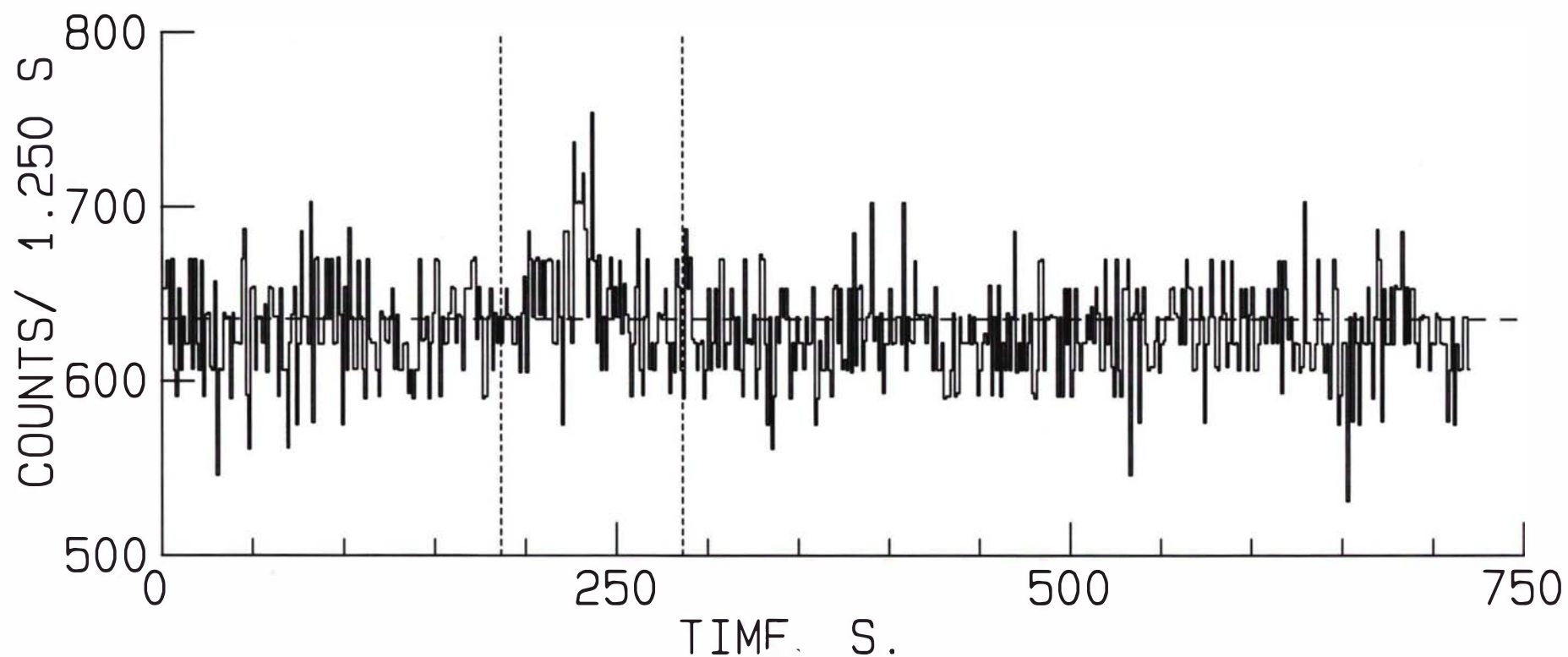






ULYSSES RT
31/ 1/99 71064.188 s
0.250 S INTERVALS REGROUPED BY 5
22- 150 keV

1 1 / 5 / 7

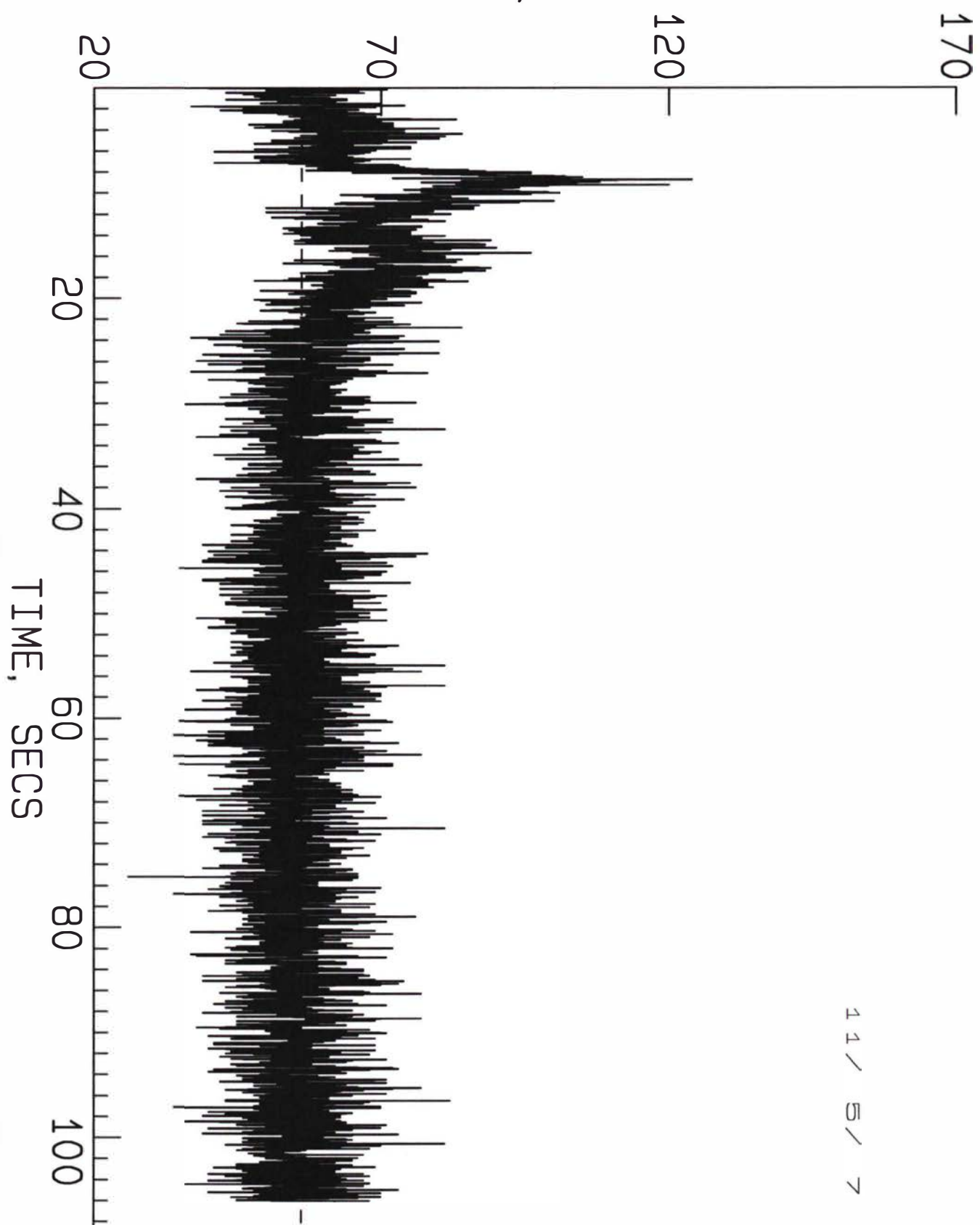


SAX GRBM

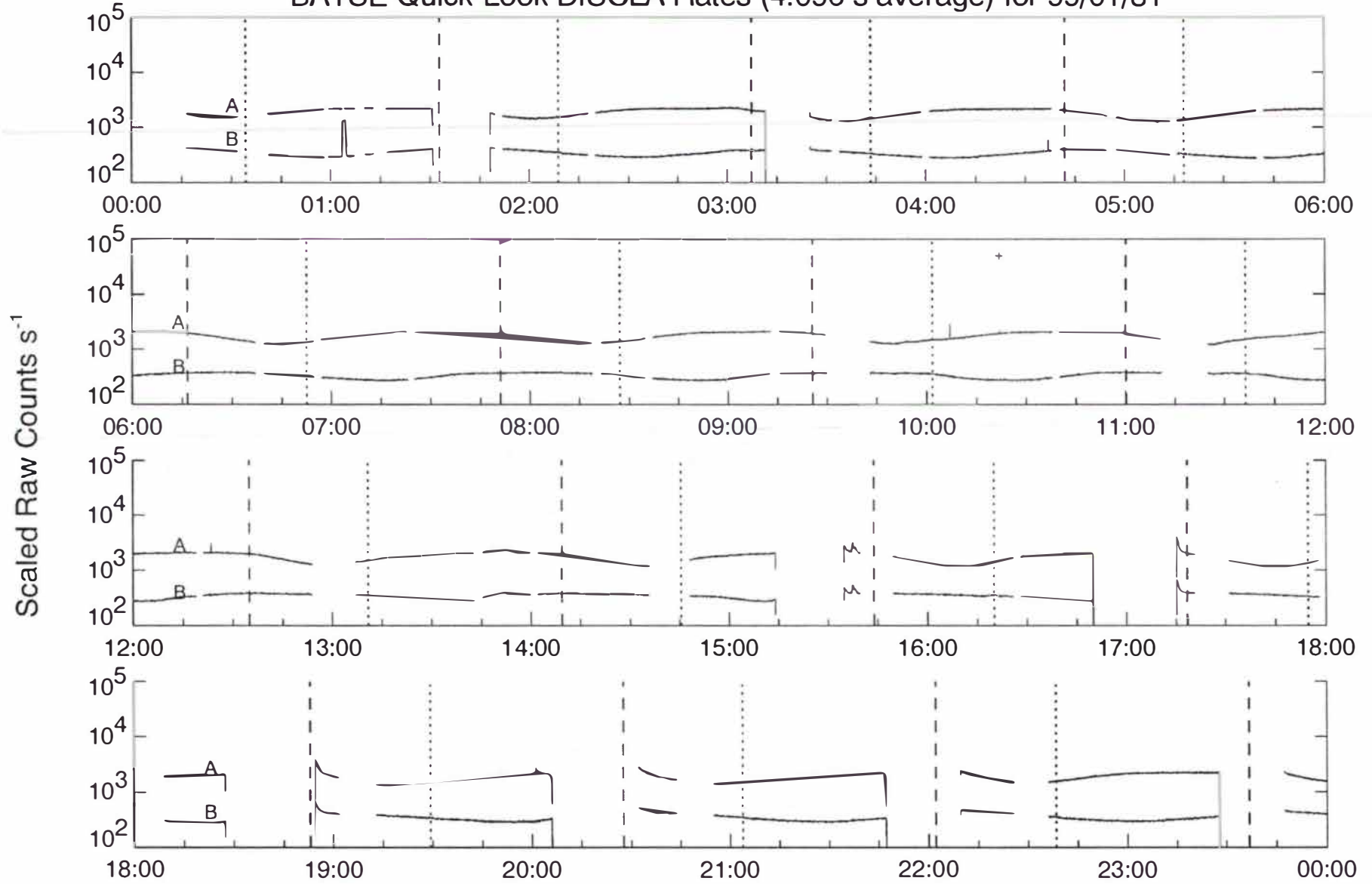
31/01/99 69994.600

40- 700 keV

COUNTS/0.031 S



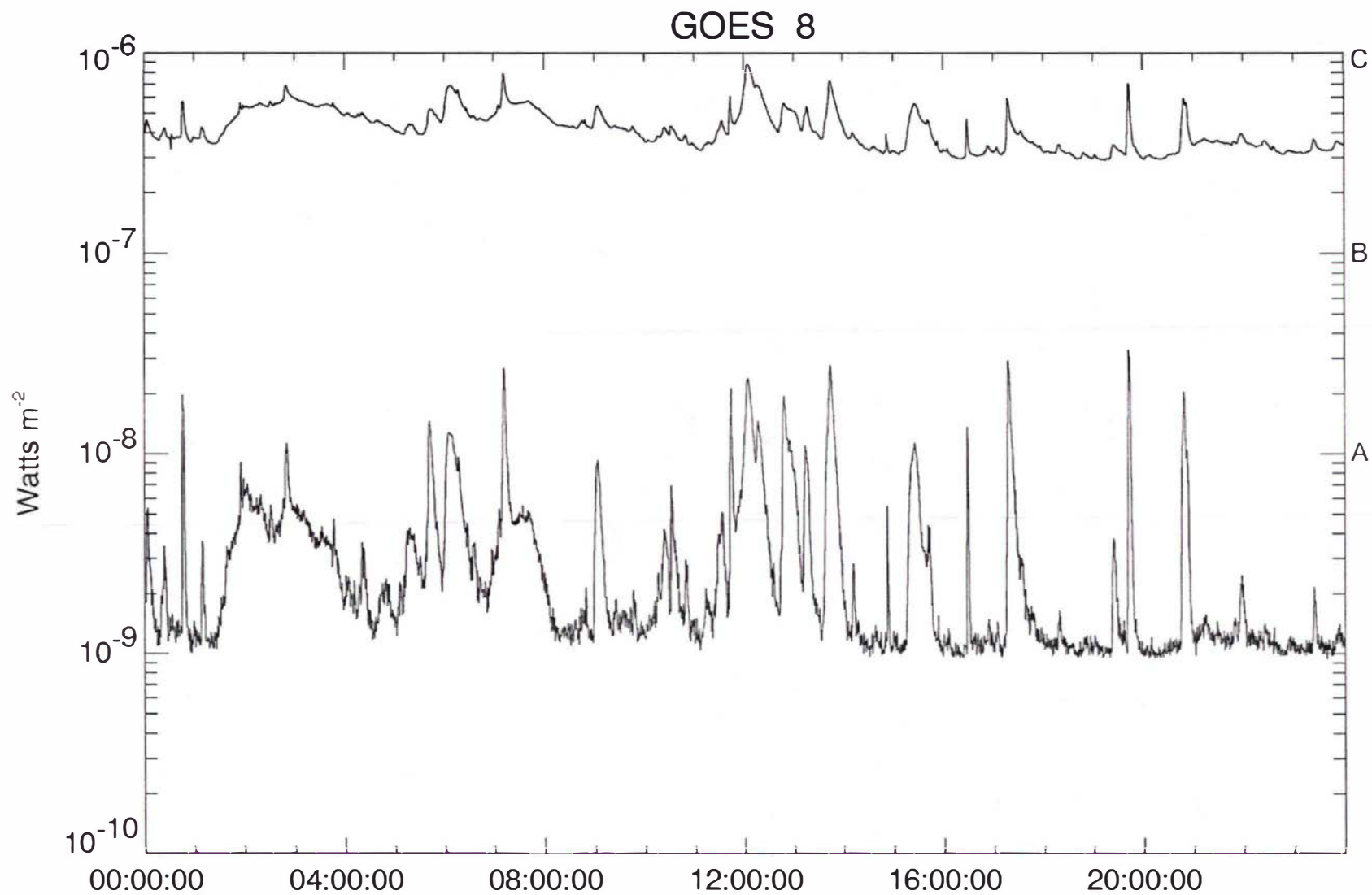
BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/01/31



Current Time: 99/02/04, 1009 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 99/01/31, 0000:00

Plot created: 99/02/04, 1009

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

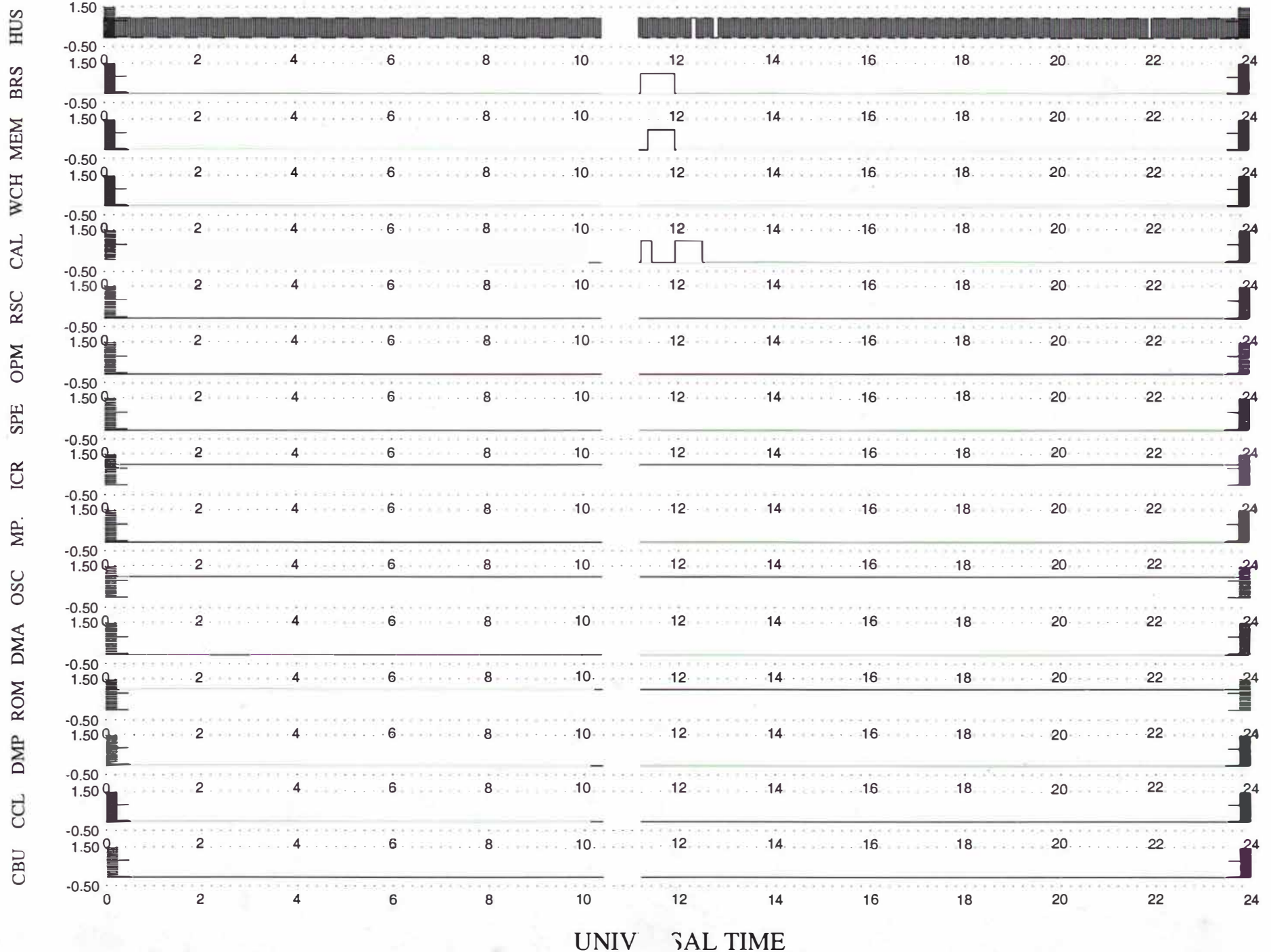
 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

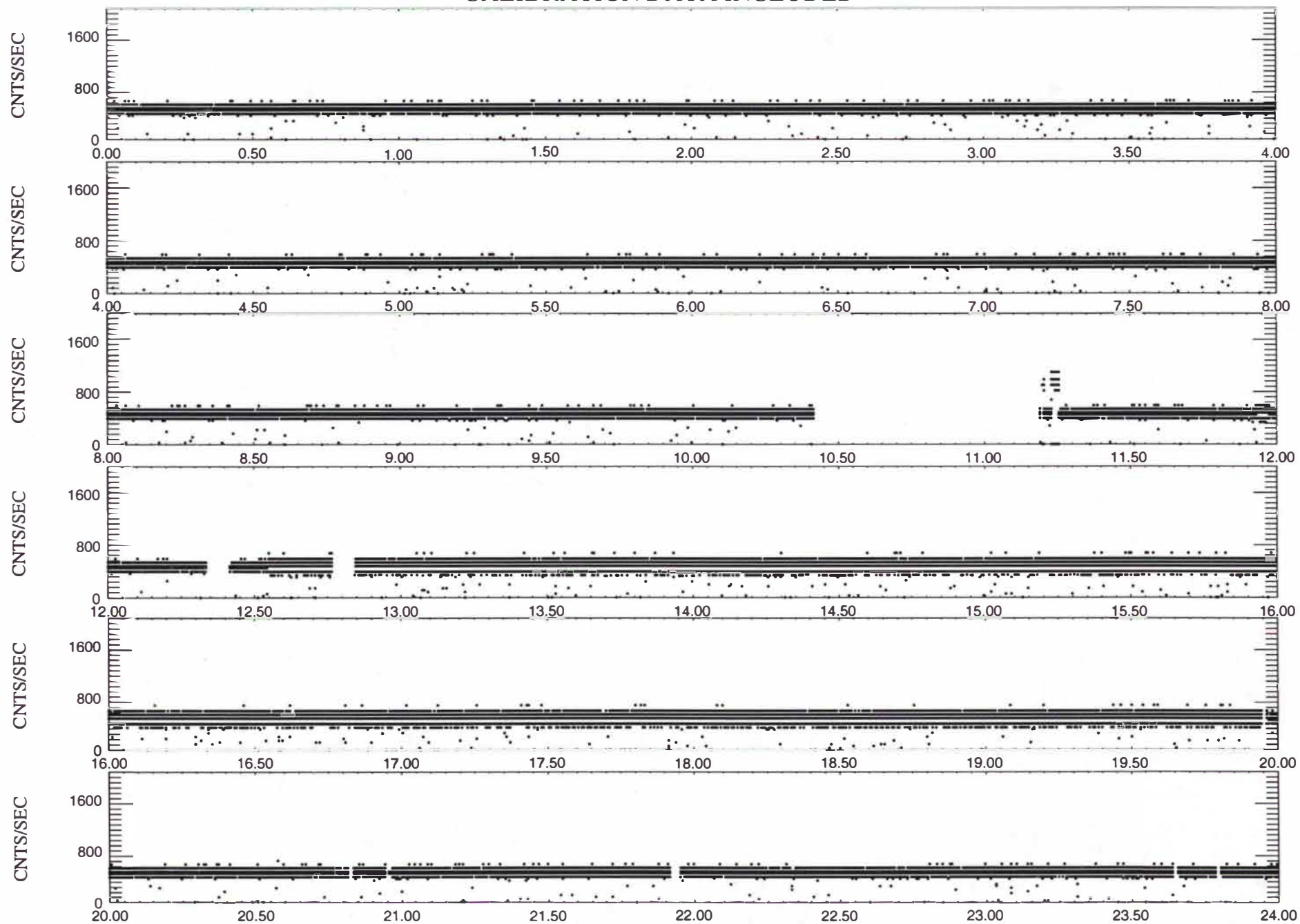
Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																
Age	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000

Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																
Age	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410	415	420	425	430	435	440	445	450	455	460	465	470	475	480	485	490	495	500	505	510	515	520	525	530	535	540	545	550	555	560	565	570	575	580	585	590	595	600	605	610	615	620	625	630	635	640	645	650	655	660	665	670	675	680	685	690	695	700	705	710	715	720	725	730	735	740	745	750	755	760	765	770	775	780	785	790	795	800	805	810	815	820	825	830	835	840	845	850	855	860	865	870	875	880	885	890	895	900	905	910	915	920	925	930	935	940	945	950	955	960	965	970	975	980	985	990	995	1000

BURST NUMBER 0

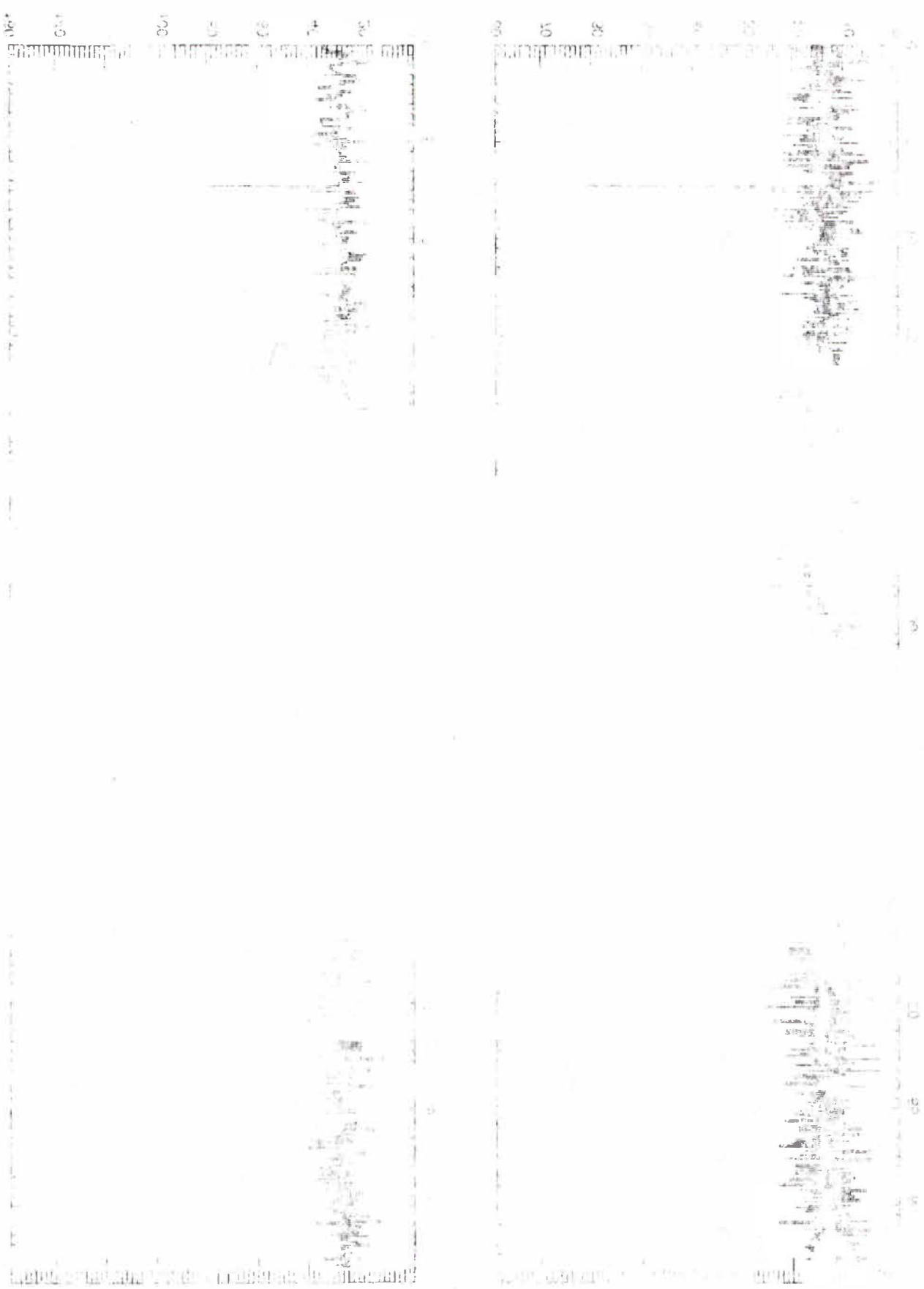


CALIBRATION DATA INCLUDED



UNIV SAL TIME

AP



COMMITTEE

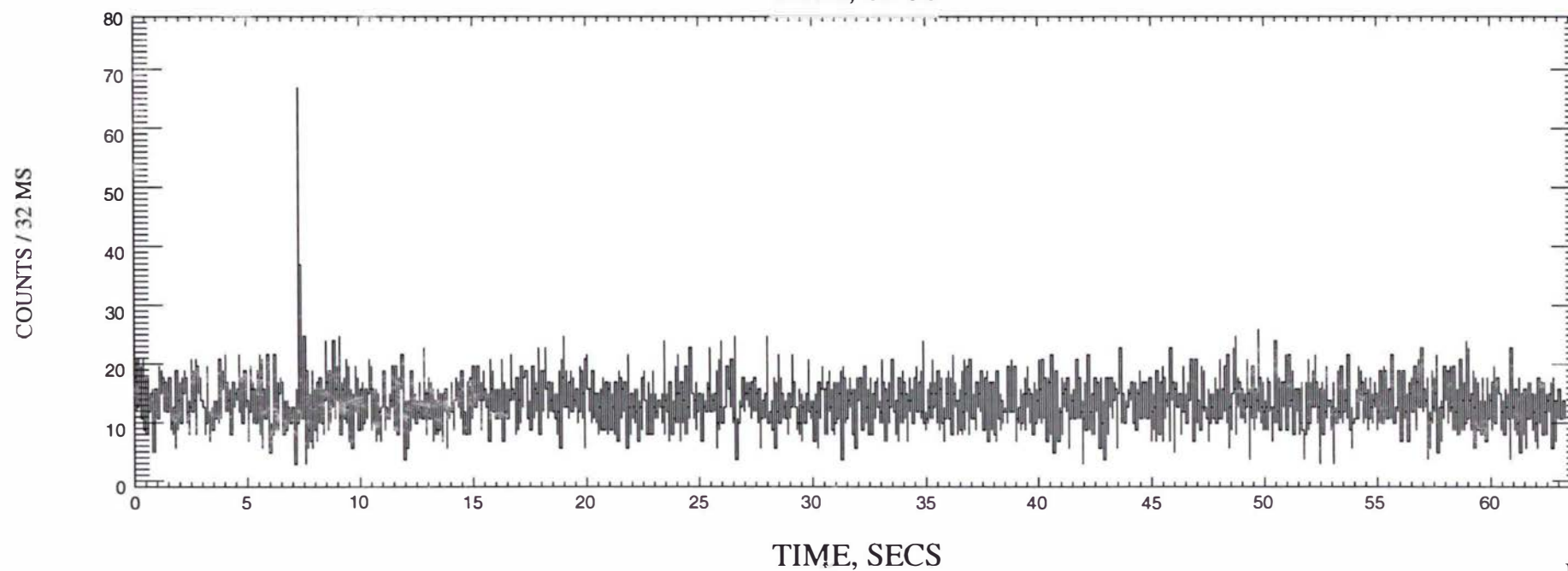
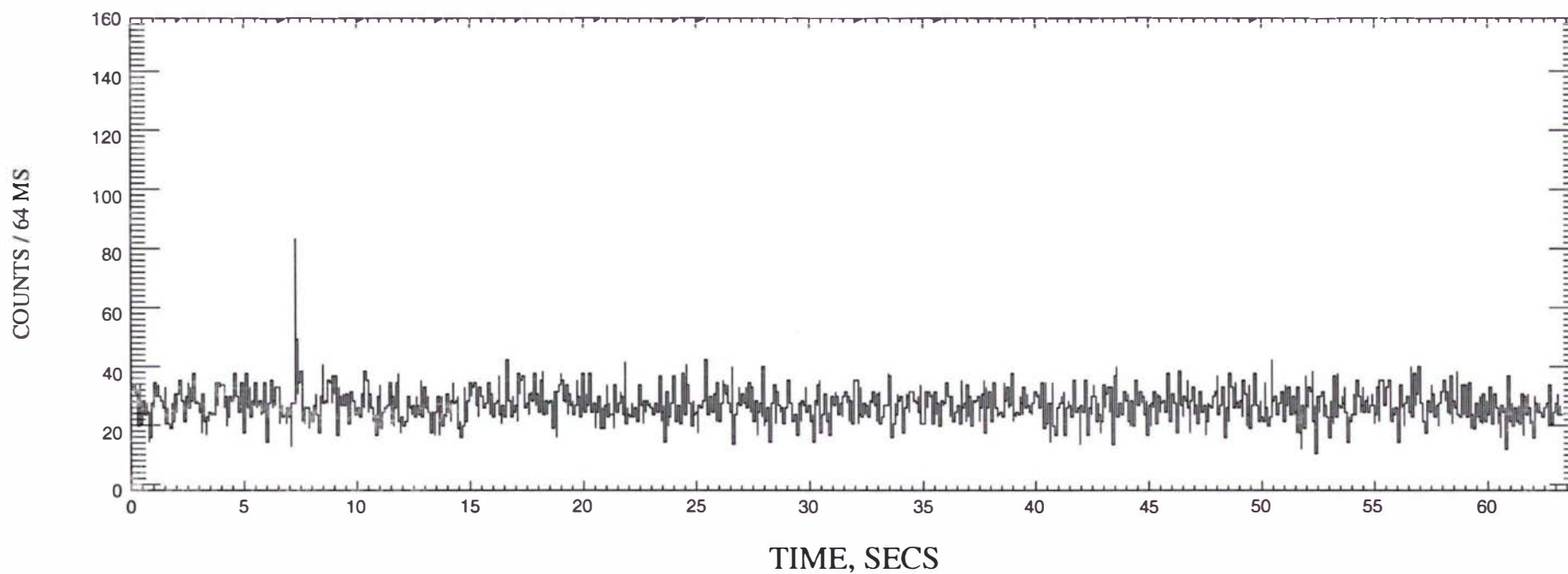
1971

First Committee (1971-1972) - 1971-1972

THE NATIONAL ARCHIVES

1970

Burst Counter 0 at UT=10.405699242486 h=37460.517 s 10:24:20.517



CALIBRATION DATA INCLUDED

