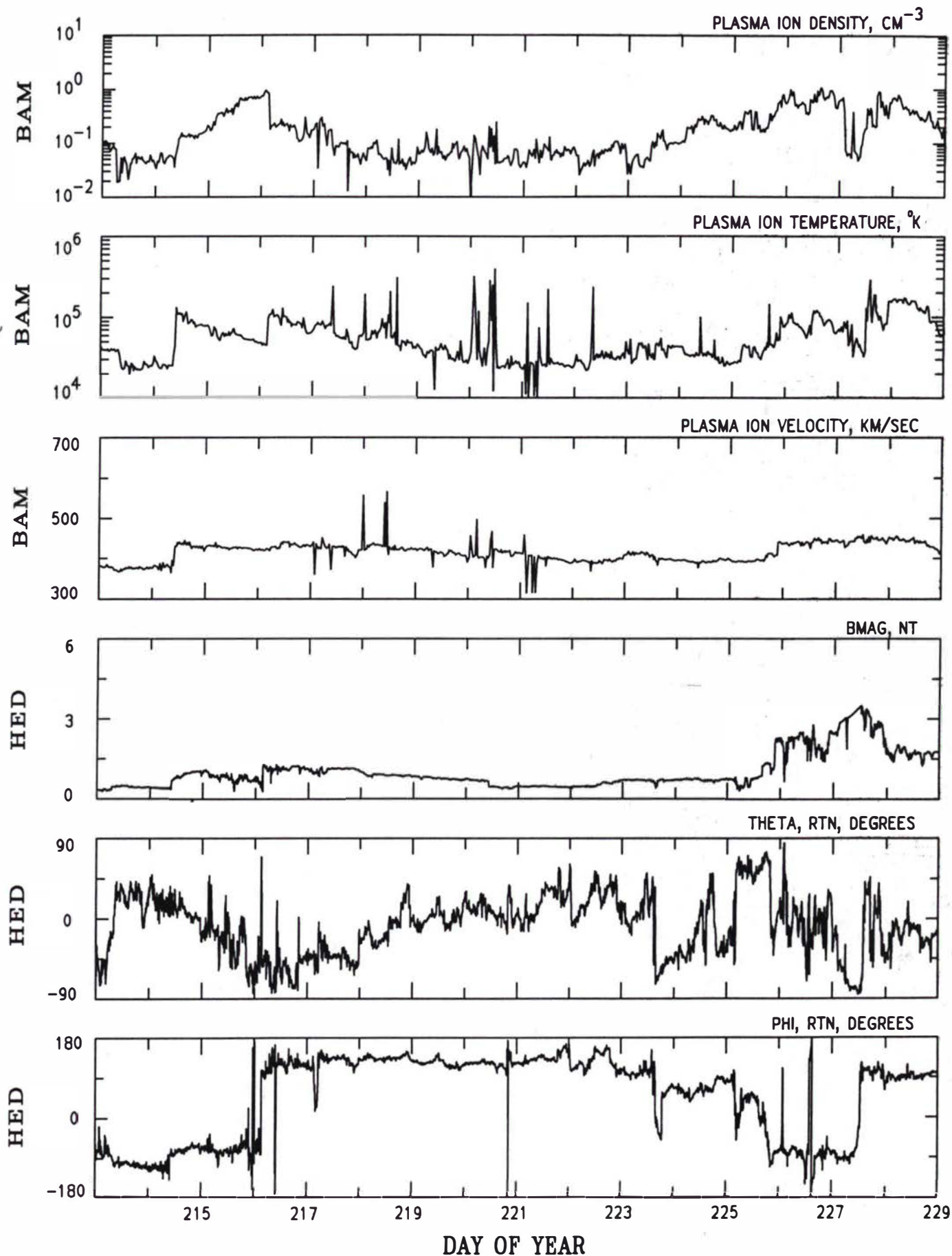


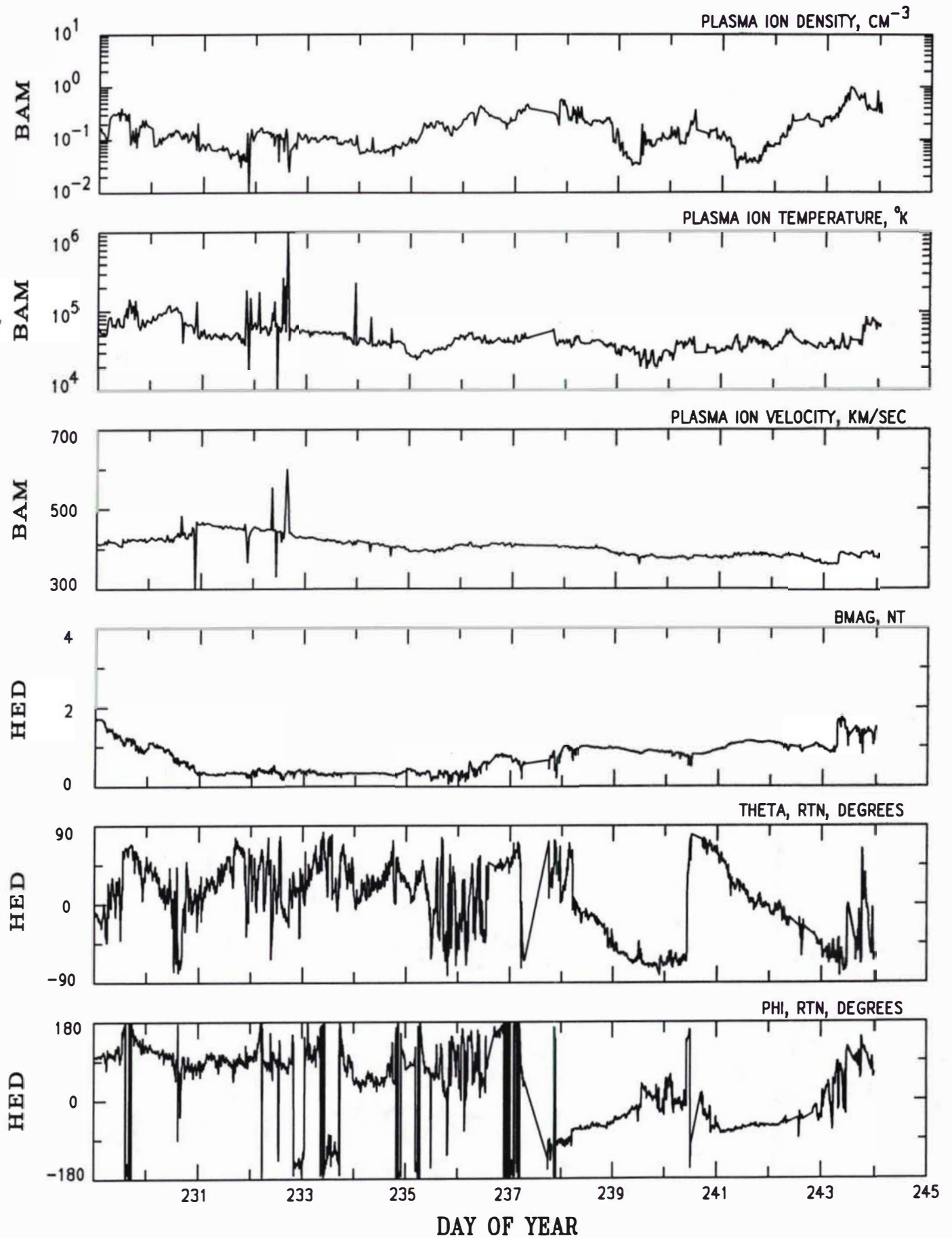
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 213 AUG 1 00:00:00.000 - 98 229 AUG 17 00:00:00.000



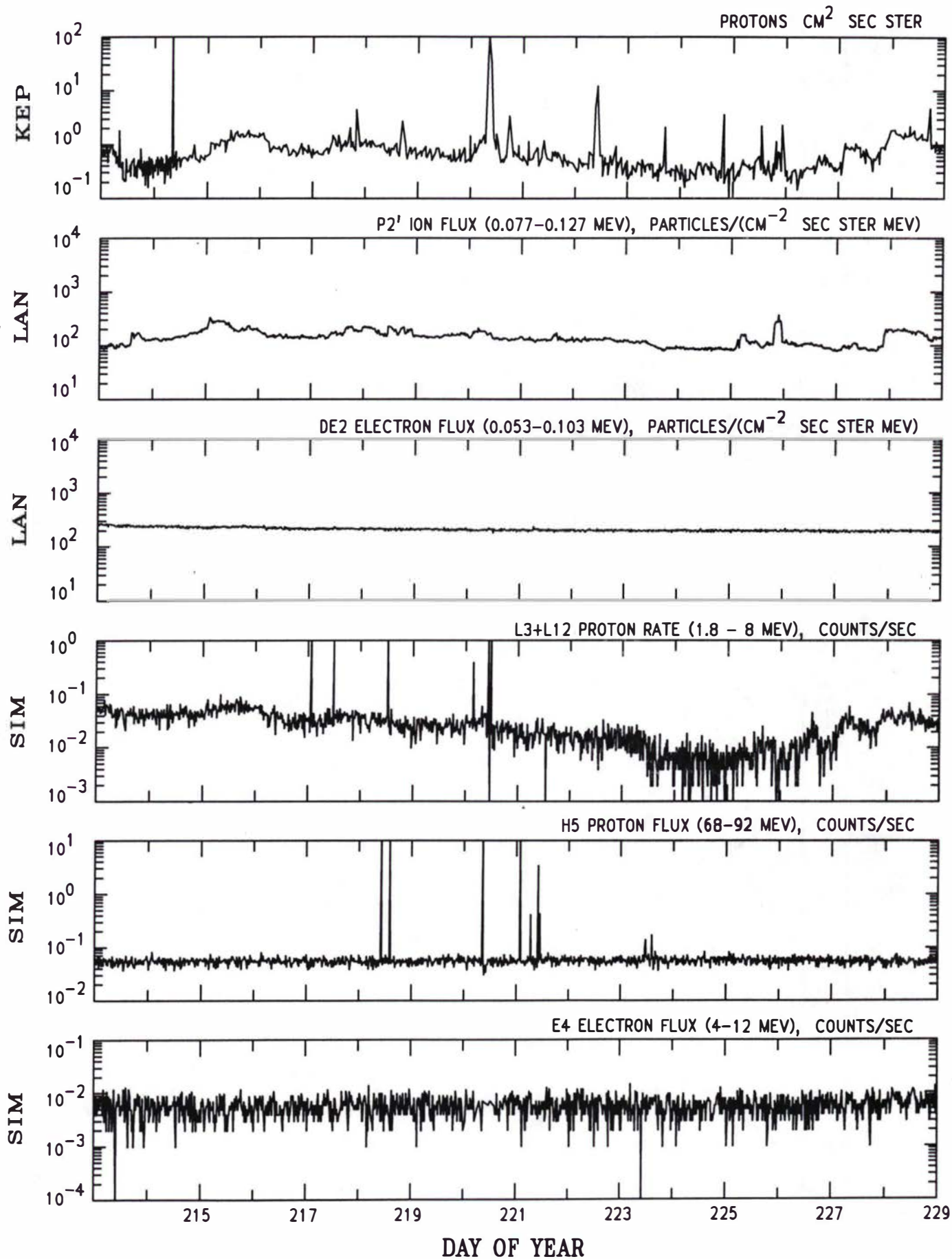
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

98 229 AUG 17 00:00:00.000 - 98 245 SEP 2 00:00:00.000



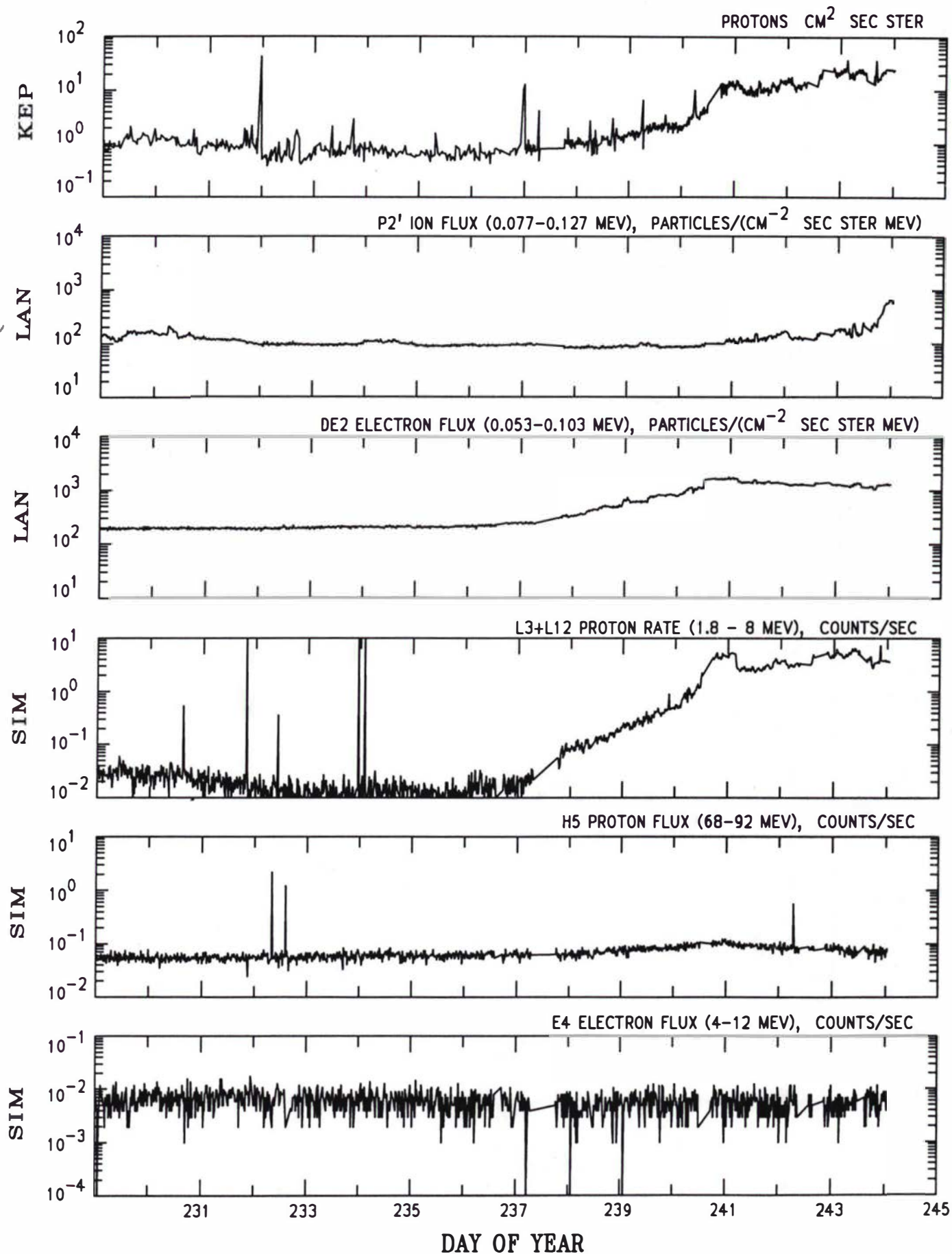
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 213 AUG 1 00:00:00.000 - 98 229 AUG 17 00:00:00.000



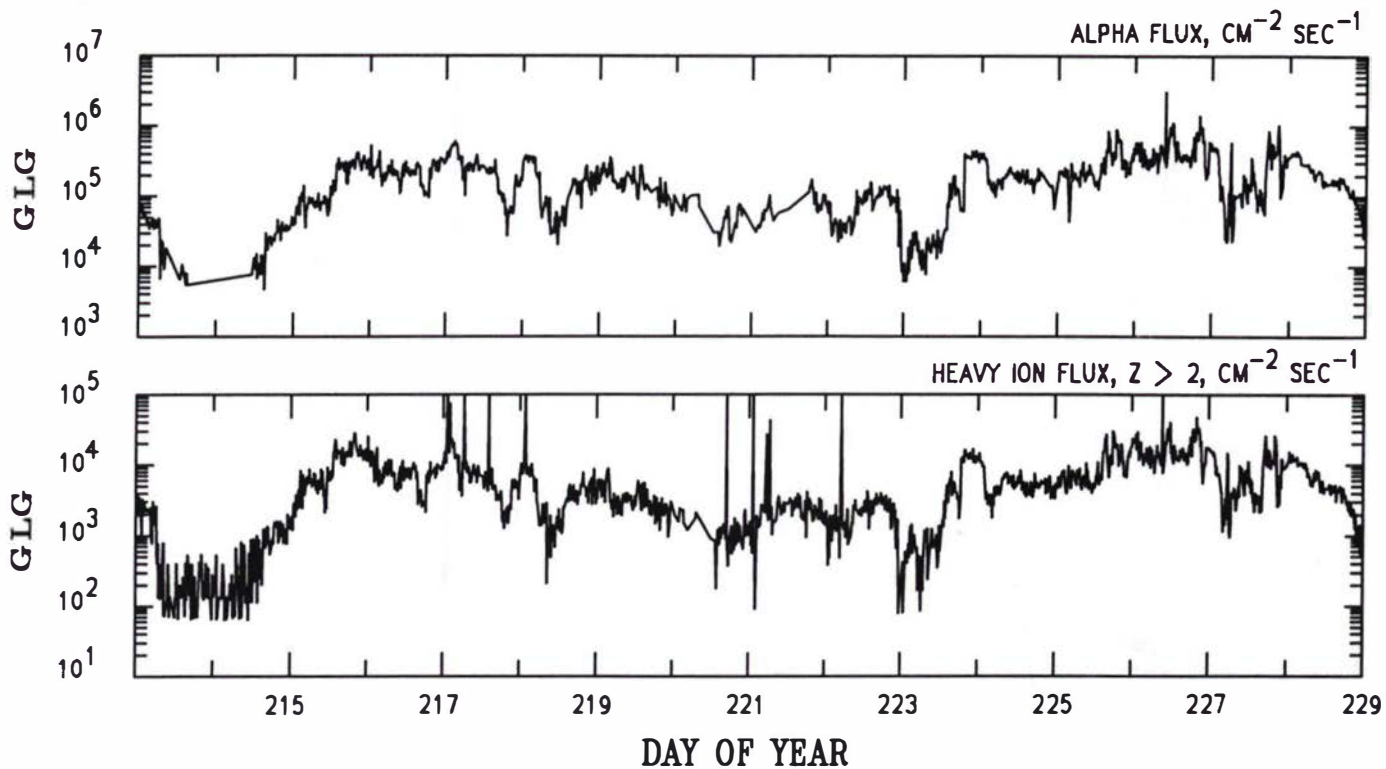
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

98 229 AUG 17 00:00:00.000 - 98 245 SEP 2 00:00:00.000



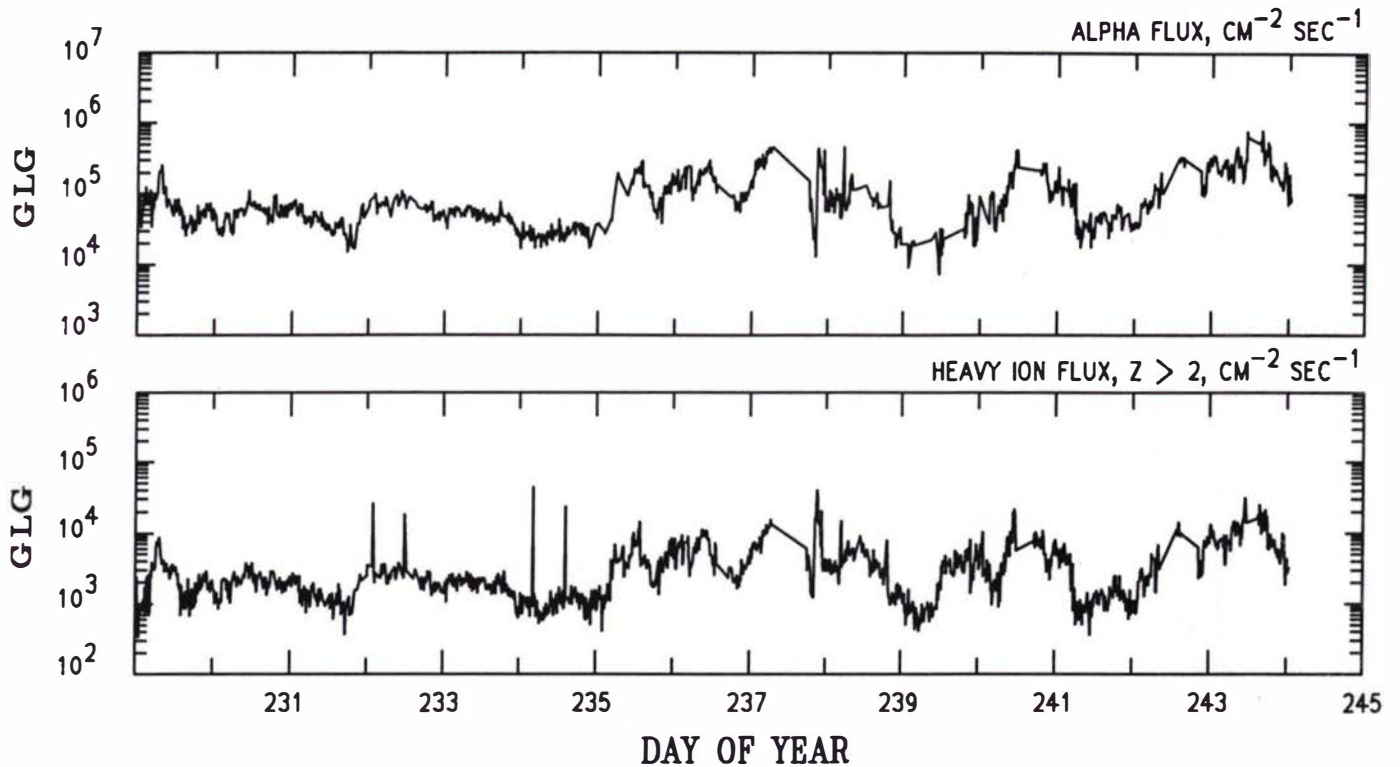
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 213 AUG 1 00:00:00.000 - 98 229 AUG 17 00:00:00.000



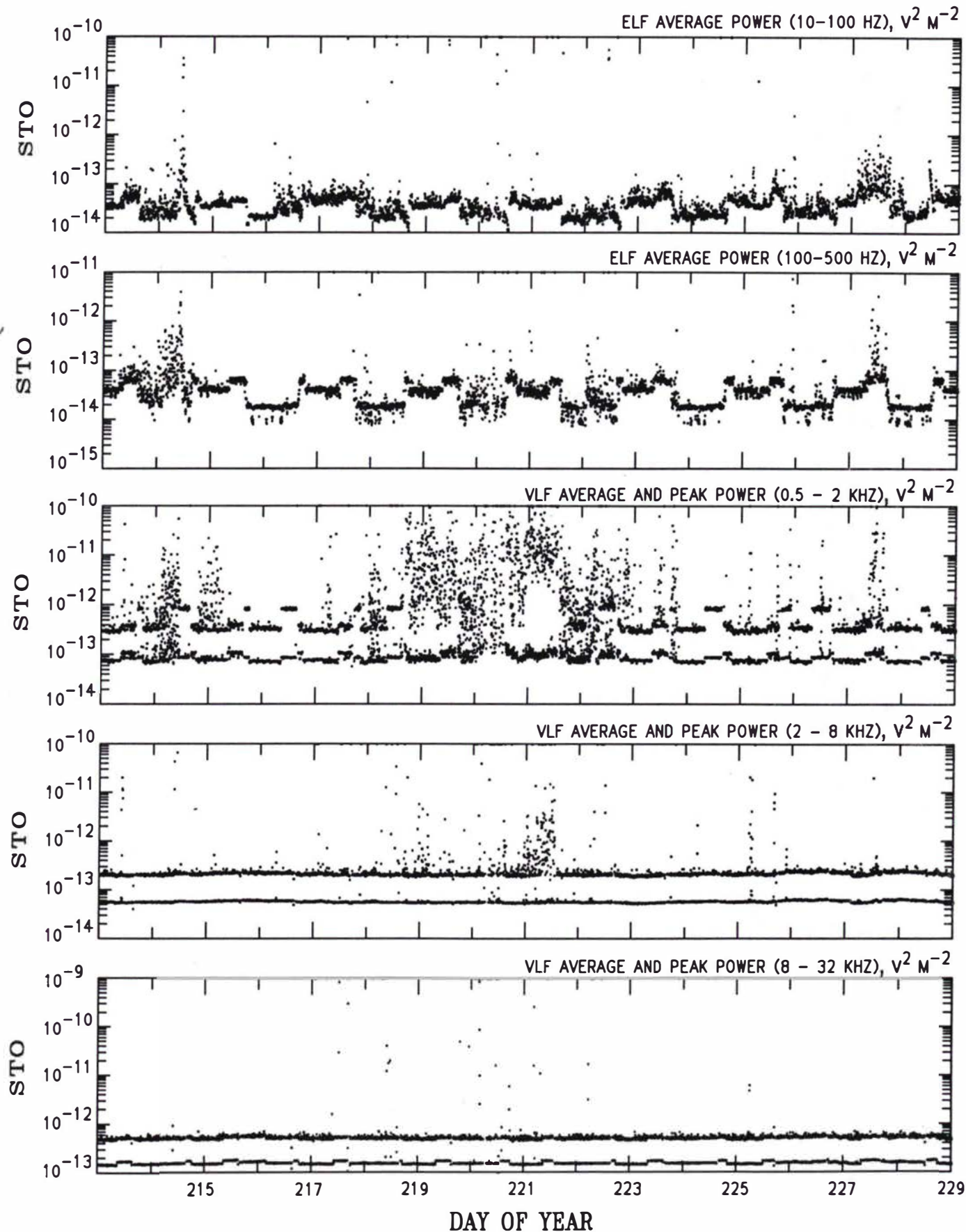
ULYSSES CDR - SOLAR WIND ION COMPOSITION

98 229 AUG 17 00:00:00.000 - 98 245 SEP 2 00:00:00.000



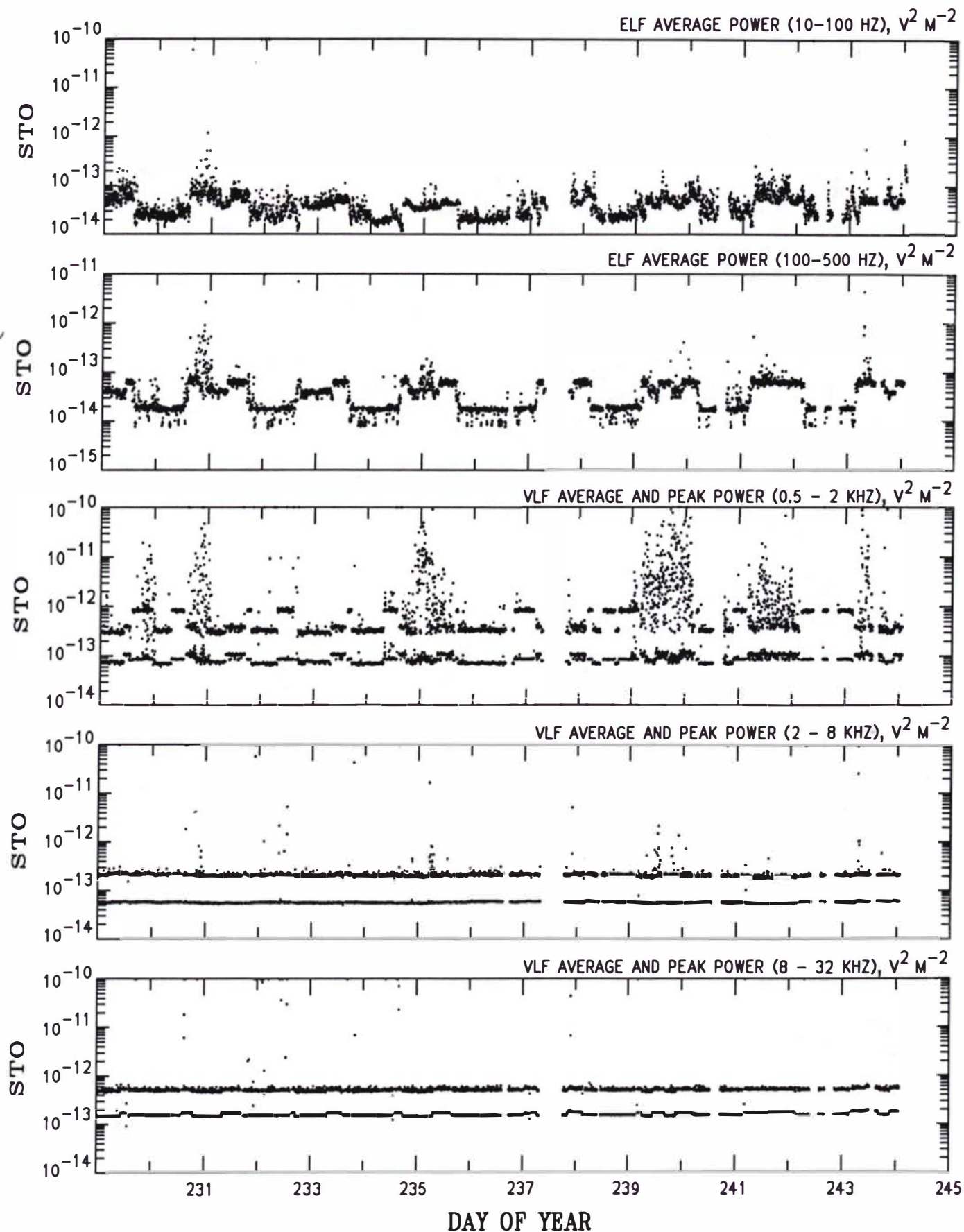
ULYSSES CDR - PLASMA WAVE

98 213 AUG 1 00:00:00.000 - 98 229 AUG 17 00:00:00.000



ULYSSES CDR - PLASMA WAVE

98 229 AUG 17 00:00:00.000 - 98 245 SEP 2 00:00:00.000



From RICHARDSON@fender.msfc.nasa.gov Mon Aug 3 11:26:15 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 3 Aug 1998 13:25:47 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

249, -47.6

NO.: 6959

TIME: TJD=1026 SECONDS ^{Aug 1} 2919

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=93.9 AZIMUTH=157.5 ERROR=5.8 DEGREES

COMMENTS:

SGR 1627-41. SINGLE SPIKE. DURATION APPROX. = 0.3 SEC. NOT VISIBLE ABOVE 300KEV

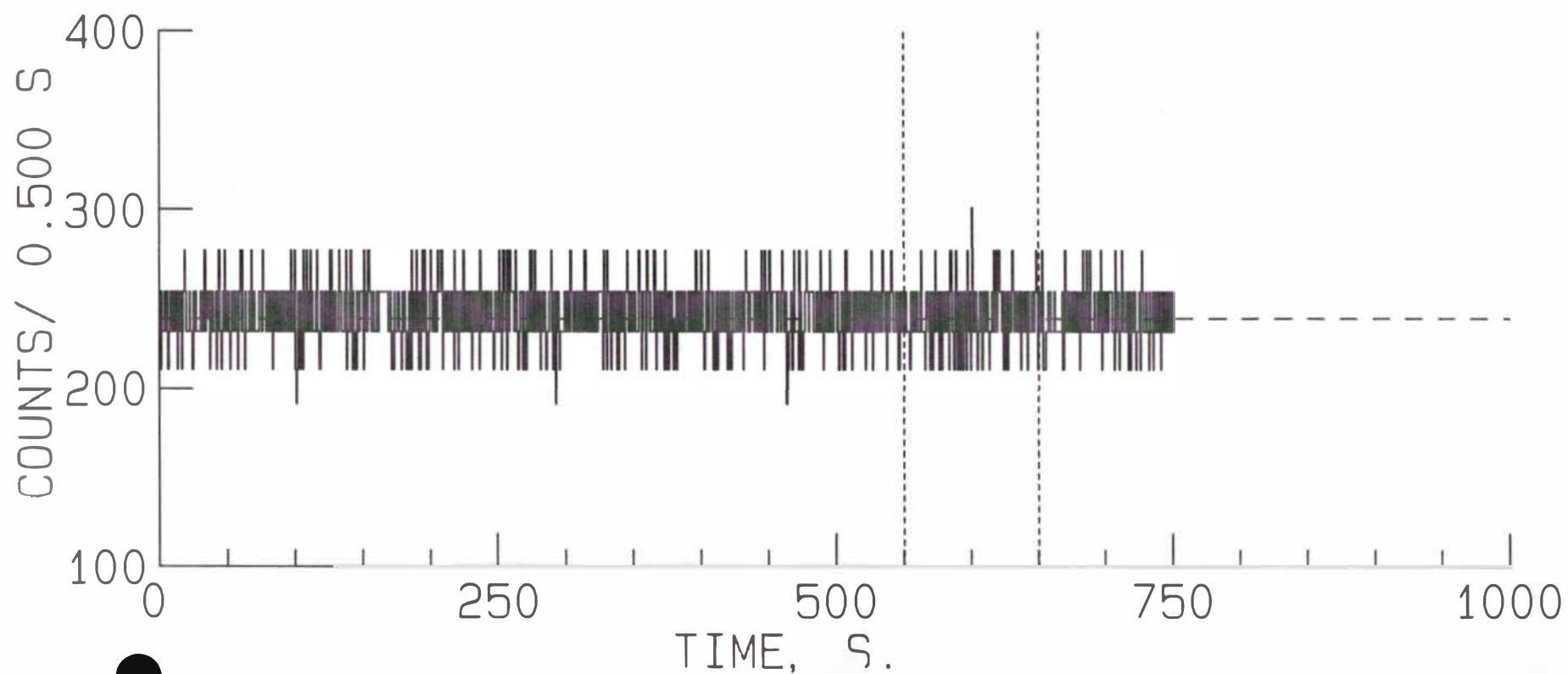
ULYSSES RT

5 / 8 / 98

1 / 8 / 98 12780.317 s

22- 149 keV

10 M= 1
1.5 SIGMA FLUCTUATIONS

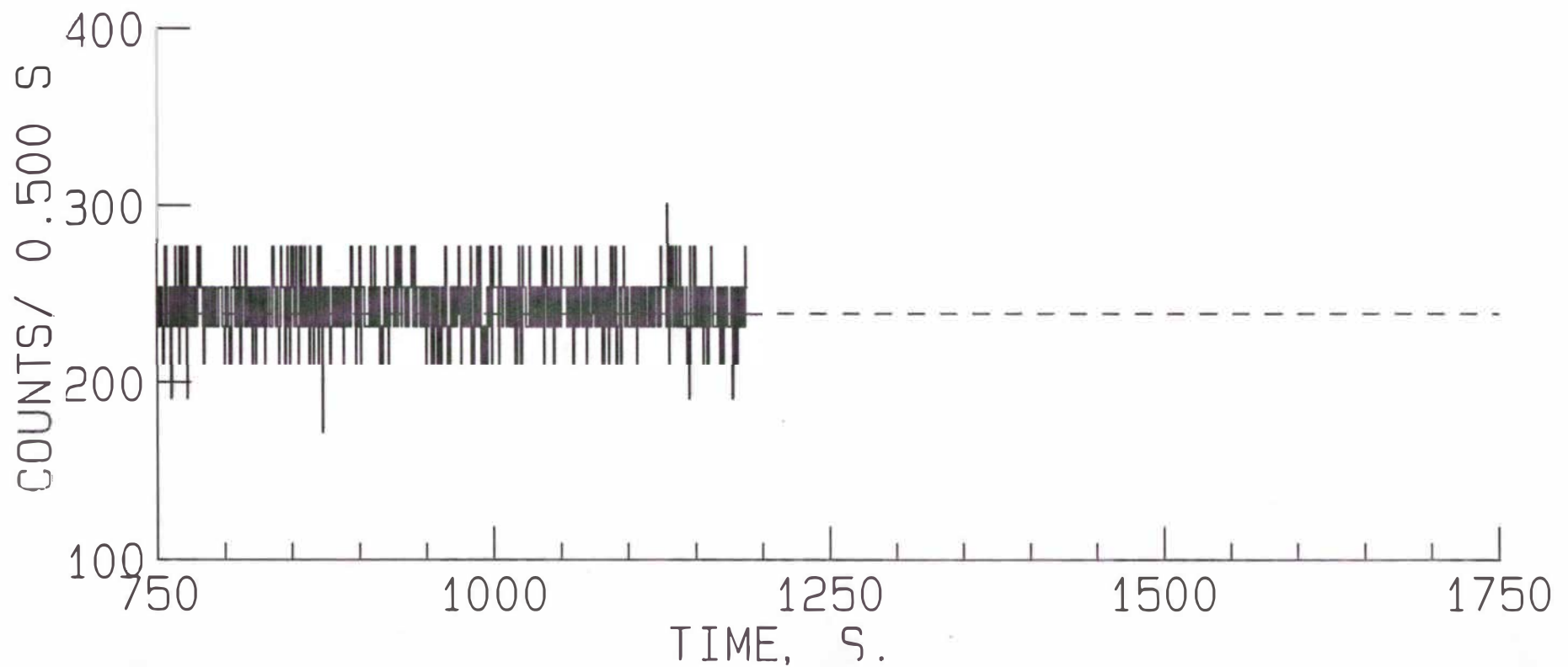


ULYSSES RT

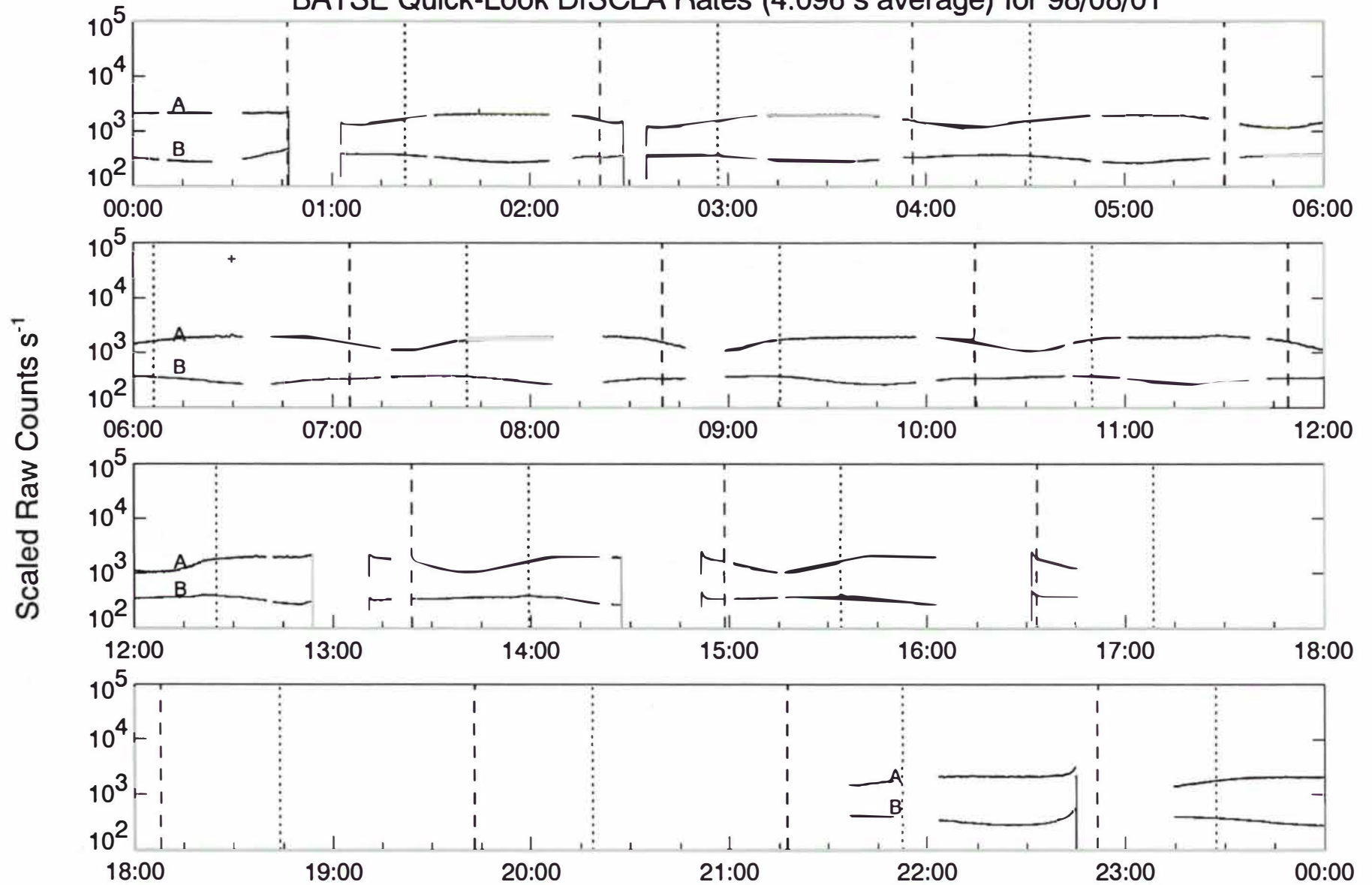
5 / 8 / 98

1 / 8 / 98 12780.317 s

22- 149 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/01

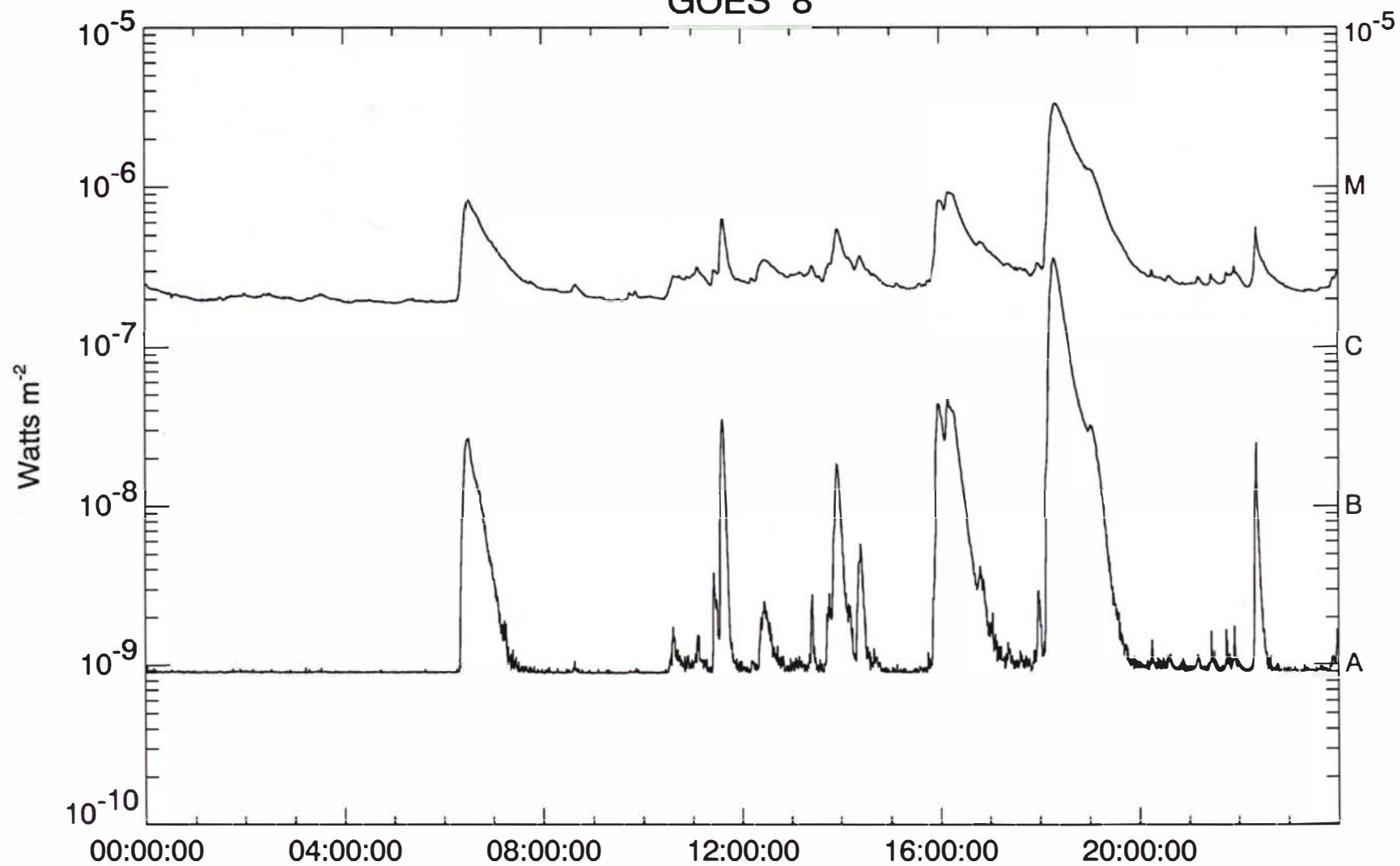


Current Time: 98/08/05, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/01, 0000:00

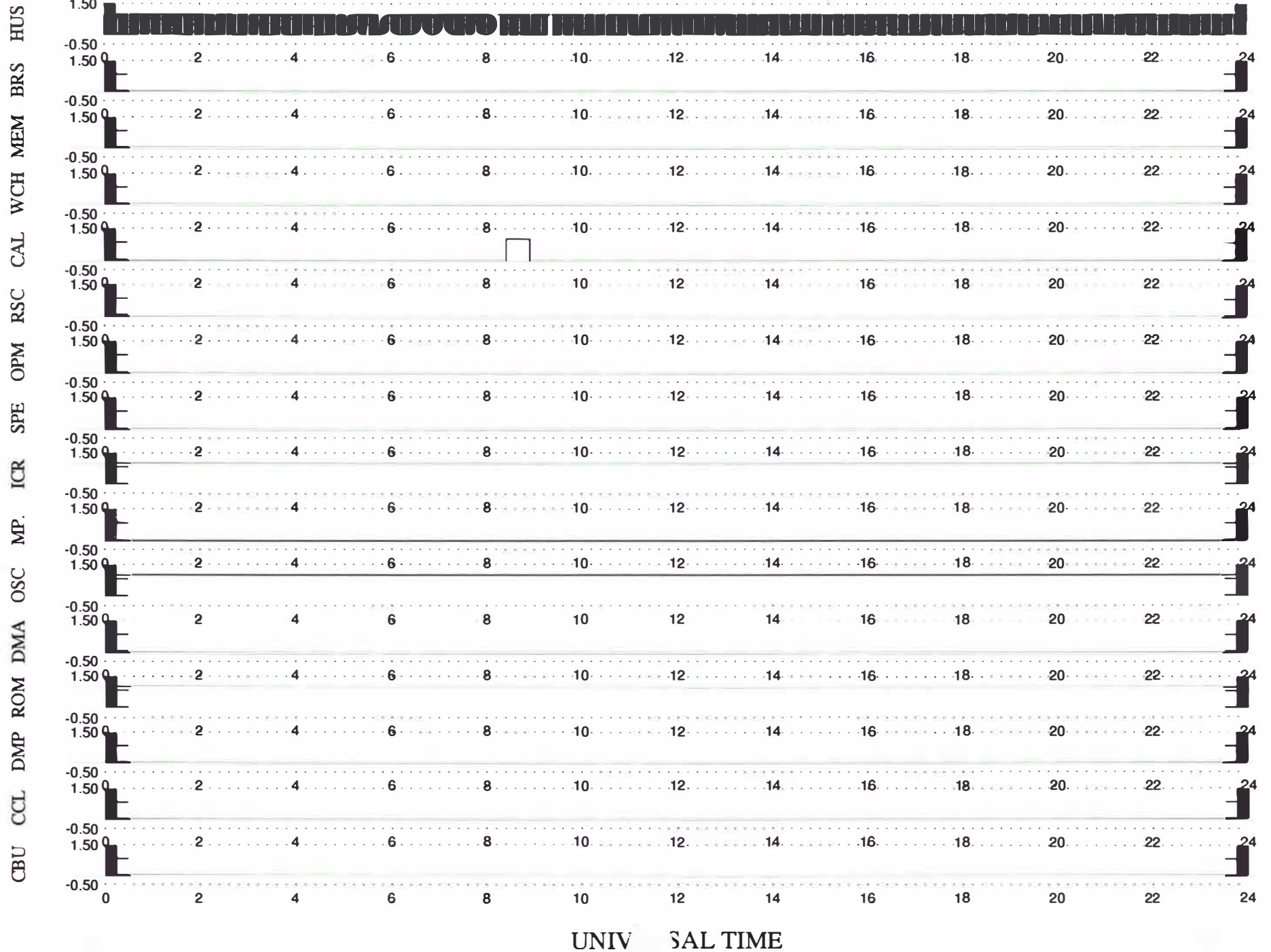
Plot created: 98/08/05, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

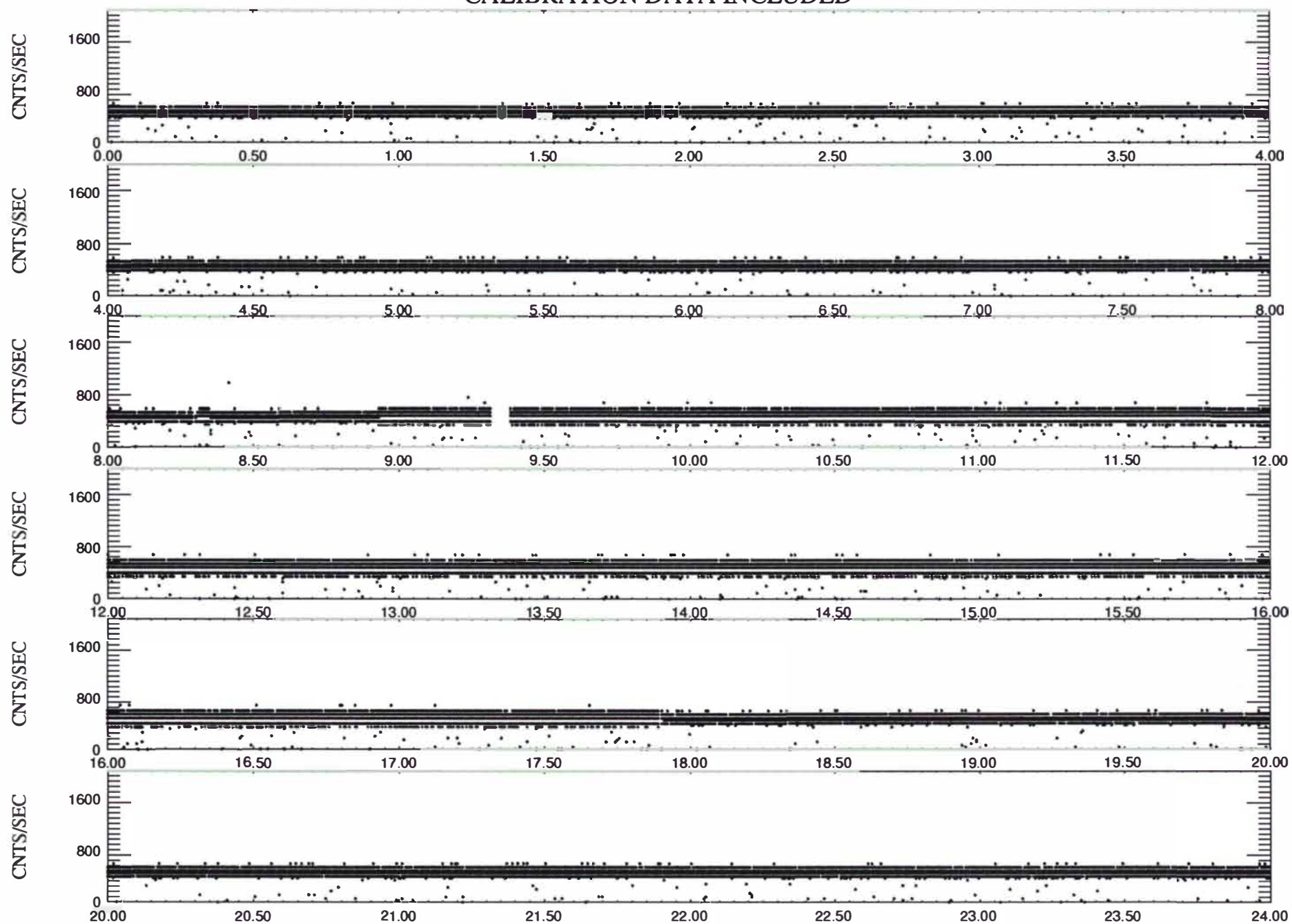
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

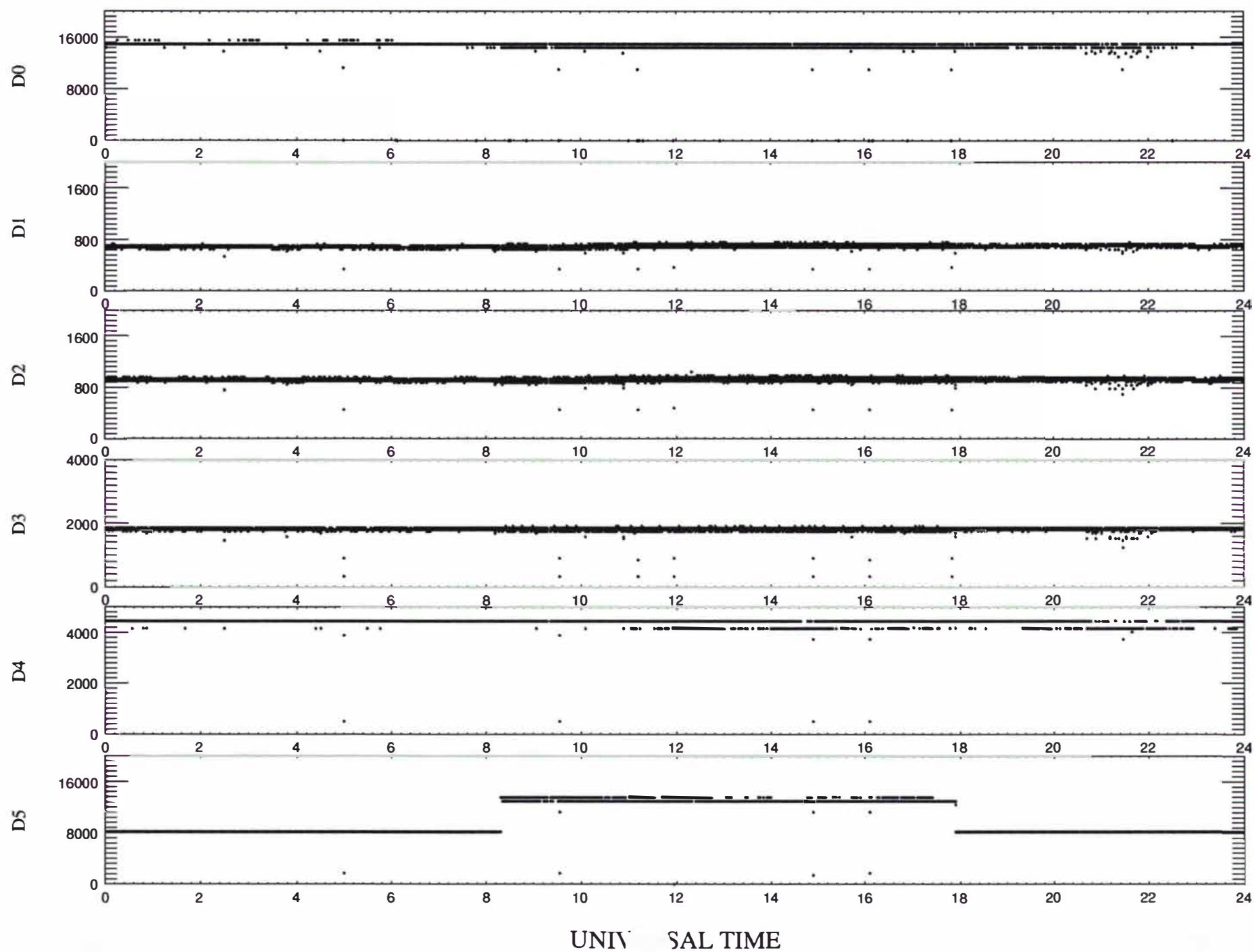
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From JONESSD@fender.msfc.nasa.gov Wed Aug 5 10:30:43 1998
Return-Path: <JONESSD@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA10846; Wed, 5 Aug 1998 10:30:42 -0700
From: JONESSD@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA22231; Wed, 5 Aug 1998 10:30:37 -0700
Date: Wed, 5 Aug 1998 12:30:28 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980805123028.202227f8@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6960
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6960
EVENT OF 1998 AUG 2 DAY OF YEAR=214
EVENT CROSSING TIME AT BATSE : 16254. S. OR 04:30:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 178.000 -46.000
BATSE PEAK COUNTING RATE: 7000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 8/ 98 IS:
RA= 154.460 DEC= 6.745 DIST= 6.283 AU
BATSE-ULYSSES DISTANCE = 939868817. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=123.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1717.85 SECS.
CROSSING TIME AT ULYSSES IS 14536. S. OR 04:02:16 +/- 479.22 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 8/ 98 IS:
RA= 109.369 DEC= 23.079 DIST= 2.477 AU
MARS-BATSE DISTANCE = 370494432. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 60.71 SECS.
CROSSING TIME AT MARS IS 16315. S. OR 04:31:54 +/- 215.22 SECONDS

BATSE BURST TRIGGER

NO.: 6960

TIME: TJD=1027 SECONDS=16254

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=60.5 AZIMUTH=124.5 ERROR=5.7 DEGREES

COMMENTS:

GBR. STONG SINGLE PULSE WITH DURATION OF ABOUT 2 SECS.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6960	980802	11027	16254	7000	178	-46	2

BATSE BURST# 6960

ULYSSES RT

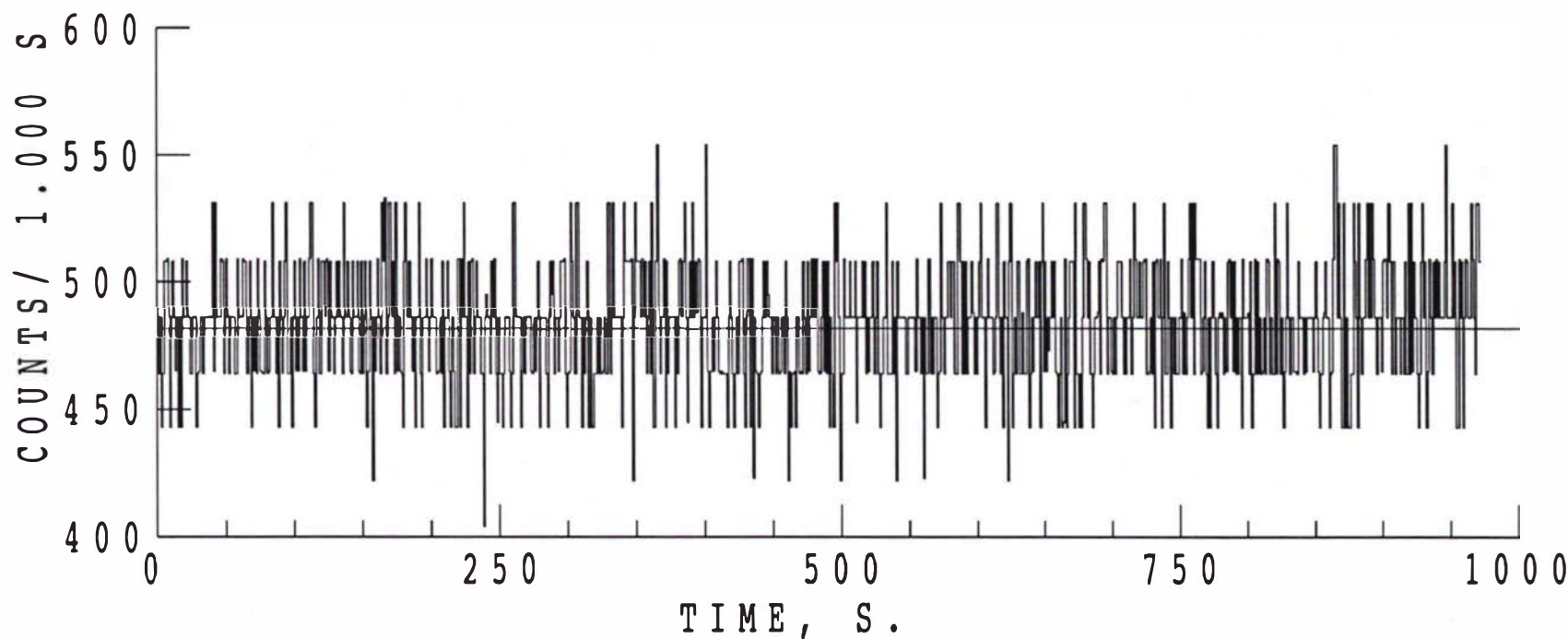
5 / 8 / 98

2 / 8 / 98 14040.243 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

M=10 M=2
>4.0 SIGMA FLUCTUATIONS



BATSE BURST# 6960

ULYSSES RT

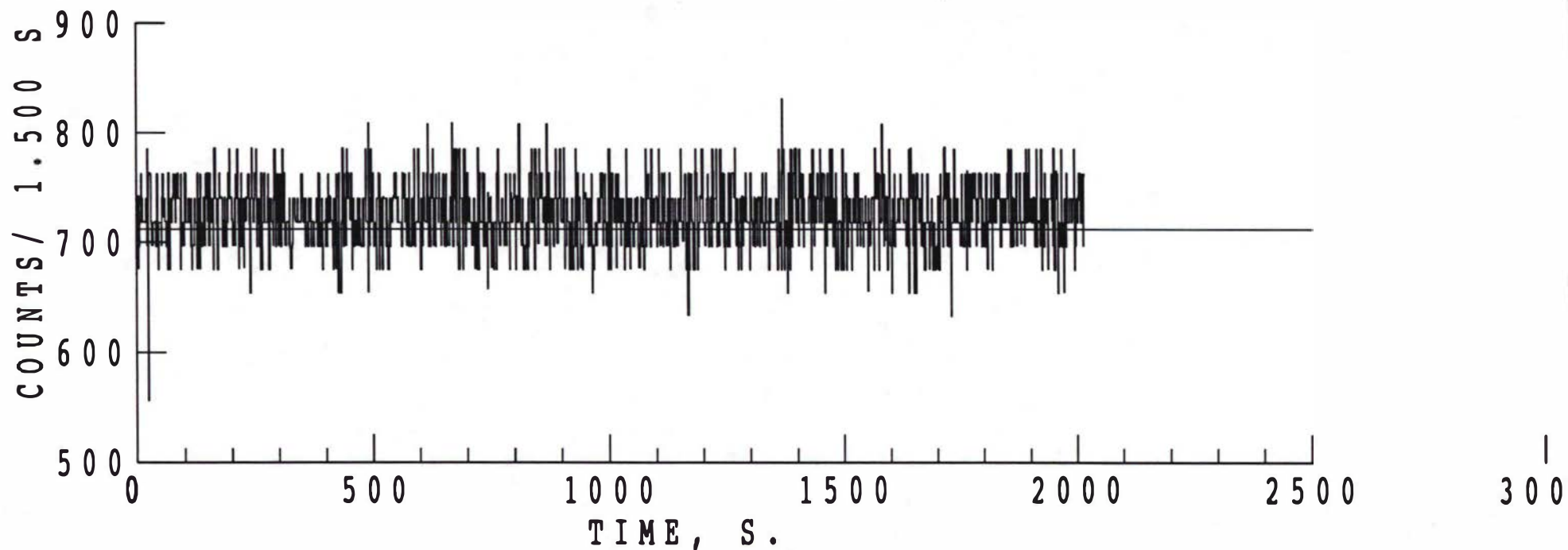
29 / 3 / 99

2 / 8 / 98 13536.238 s

0.500 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From JONESSD@fender.msfc.nasa.gov Wed Aug 5 10:32:21 1998
Return-Path: <JONESSD@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA11099; Wed, 5 Aug 1998 10:32:20 -0700
From: JONESSD@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA22282; Wed, 5 Aug 1998 10:32:15 -0700
Date: Wed, 5 Aug 1998 12:32:16 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980805123216.202227f8@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6961
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6961
EVENT OF 1998 AUG 2 DAY OF YEAR=214
EVENT CROSSING TIME AT BATSE : 28875. S. OR 08:01:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 253.000 -32.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 8/ 98 IS:
RA= 154.478 DEC= 6.732 DIST= 6.283 AU
BATSE-ULYSSES DISTANCE = 939998432. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 586.09 SECS.
CROSSING TIME AT ULYSSES IS 29461. S. OR 08:11:01 +/- 593.68 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 8/ 98 IS:
RA= 109.369 DEC= 23.079 DIST= 2.477 AU
MARS-BATSE DISTANCE = 370494432. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 33.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1033.08 SECS.
CROSSING TIME AT MARS IS 29908. S. OR 08:18:28 +/- 133.44 SECONDS

BATSE BURST TRIGGER

NO.: 6961

TIME: TJD=1027 SECONDS=28875

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=99 AZIMUTH=168.3 ERROR=1.38 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DURATION ABOUT 18 SECS, RISE IS FASTER THAN FALL.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6961	980802	11027	28875	5000	253	-32	18

Date: 20/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data *N/A*

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

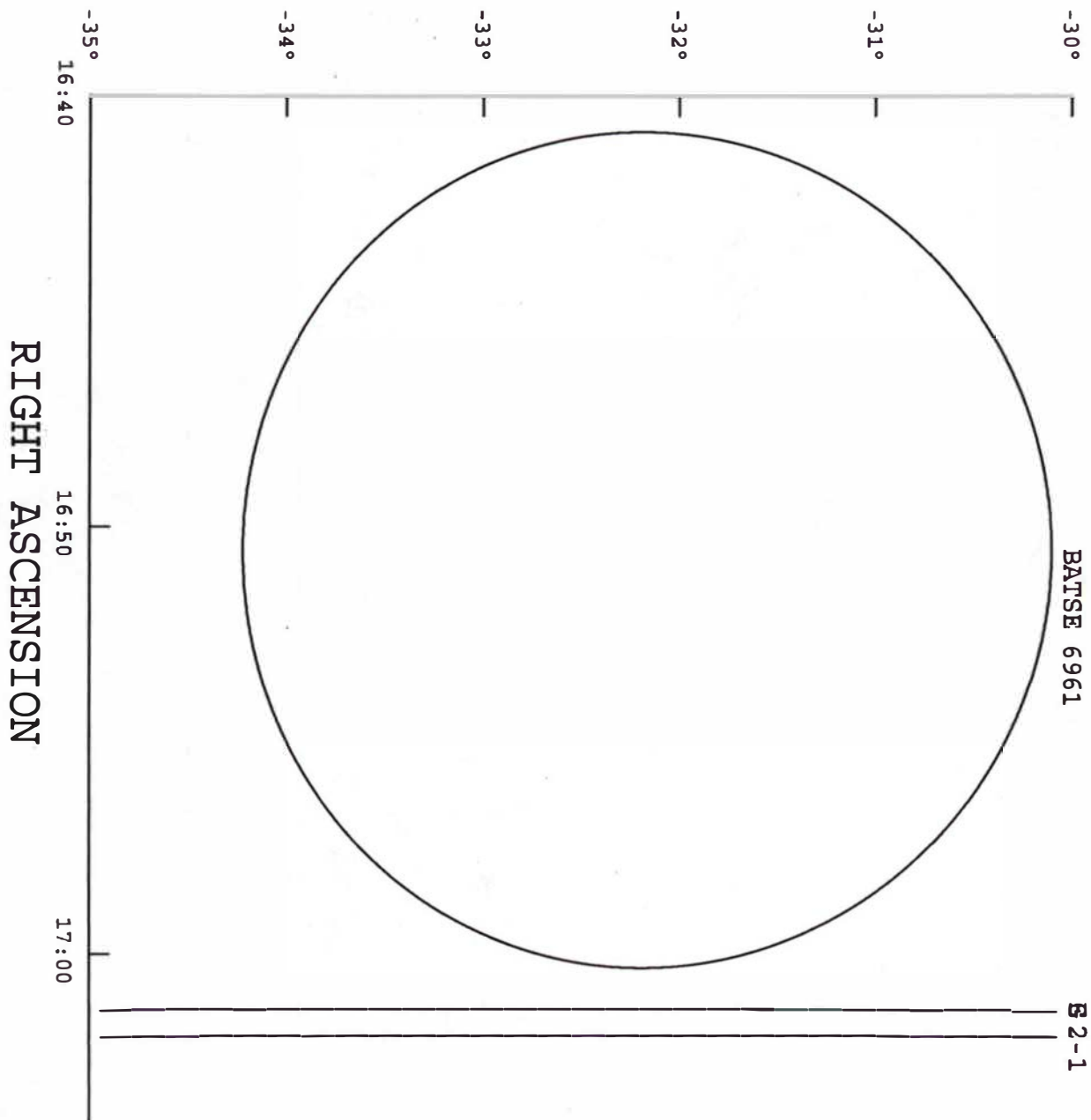
1 BATSE

2 ULYSSES

DECLINATION

EVENT OF AUG 2, 1998 8:01

20 / 1 / 0



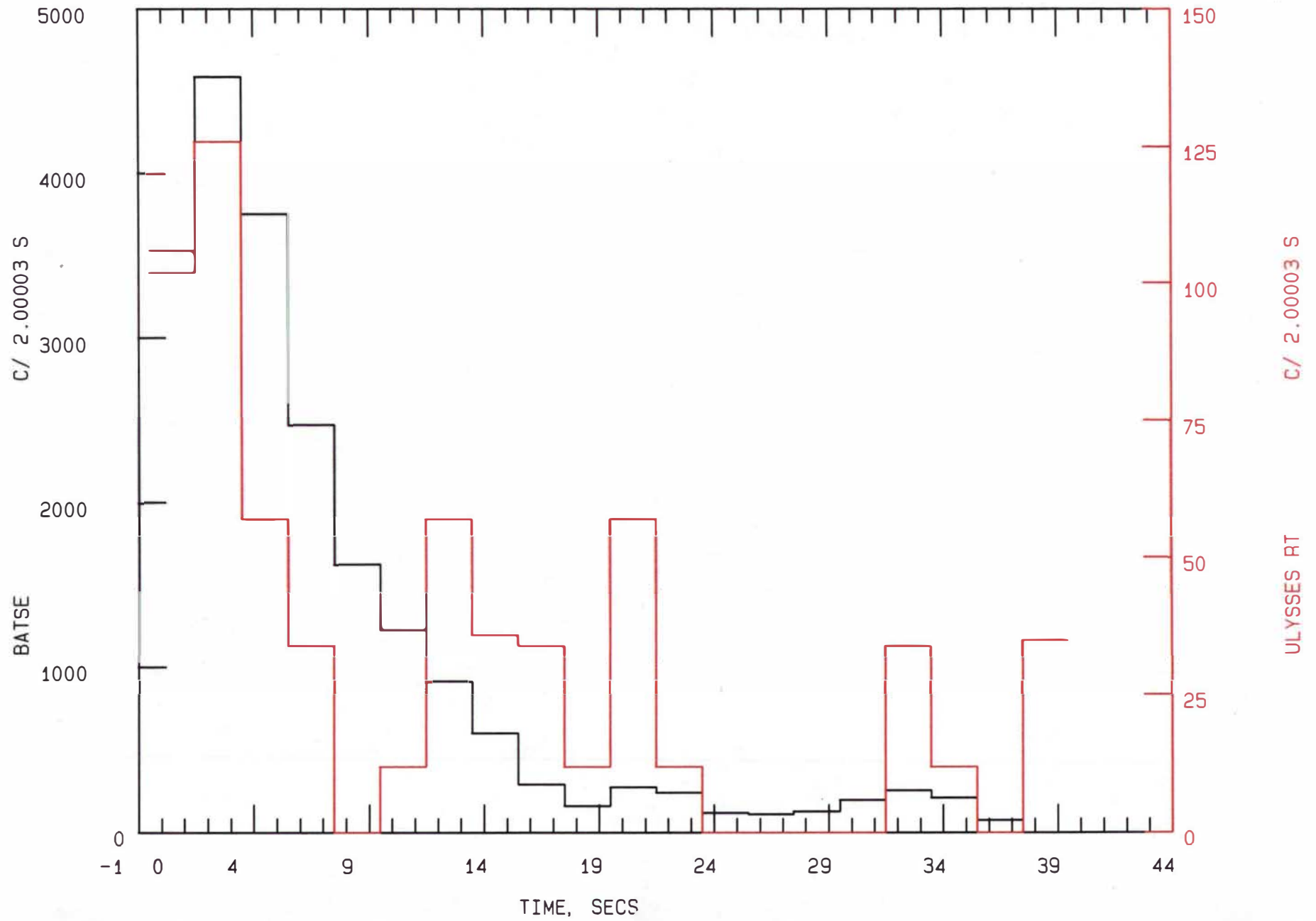
BATSE

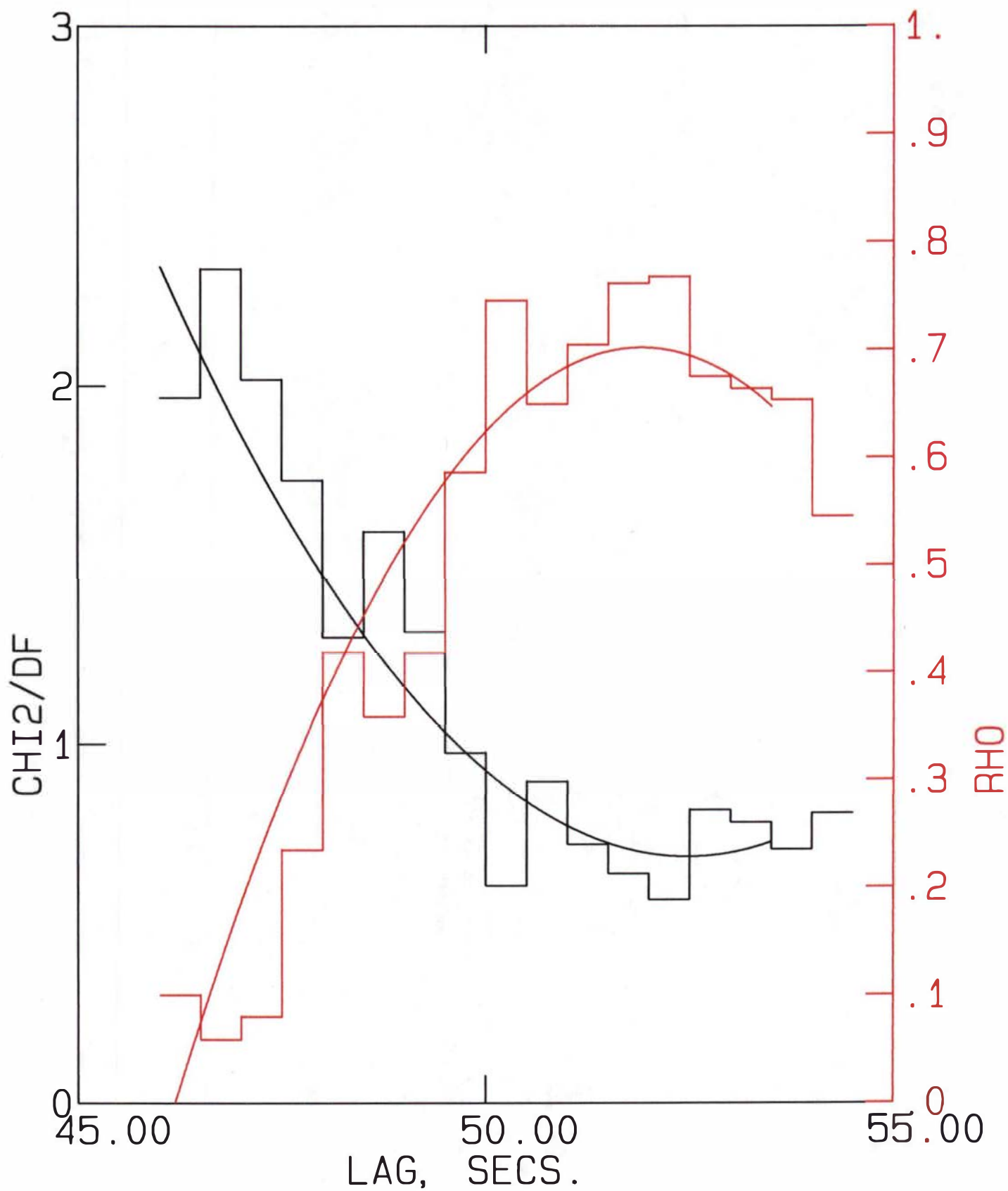
-ULYSSES RT CORRELATION

2/ 8/98

28874.977

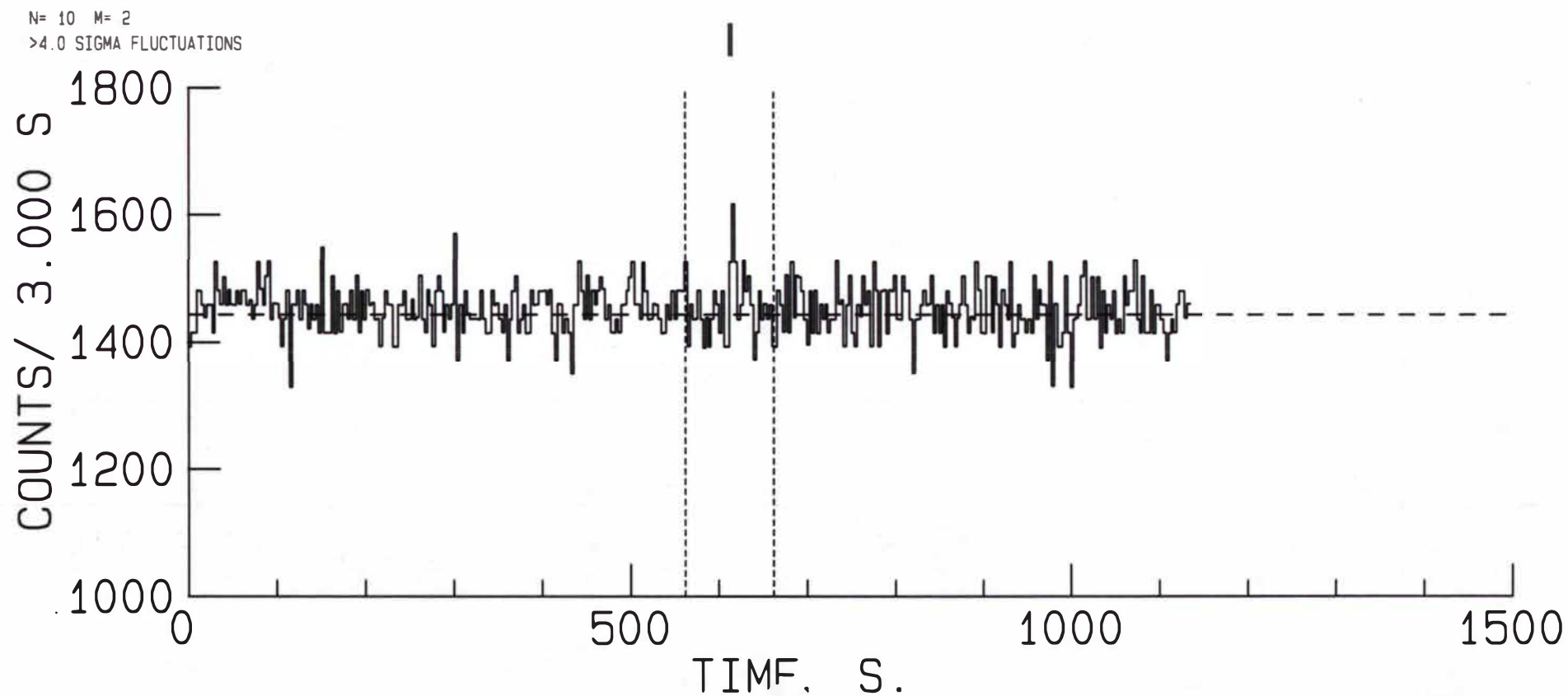
20/ 1/ 0





ULYSSES RT
2/ 8/98 28926.400 s
0.500 S INTERVALS REGROUPED BY 6
22- 150 keV

20 / 1 / 0



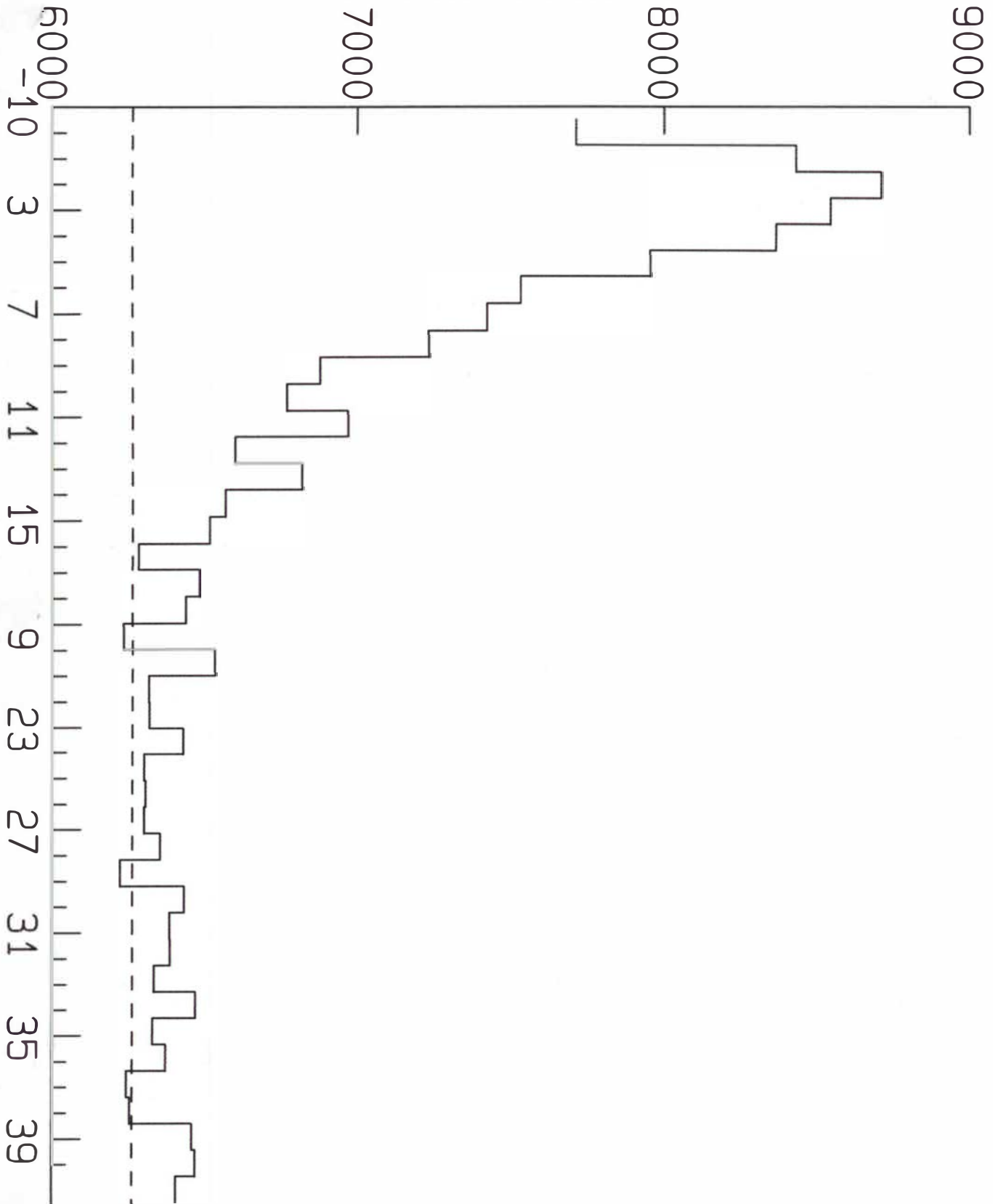
BATSE

02/08/98

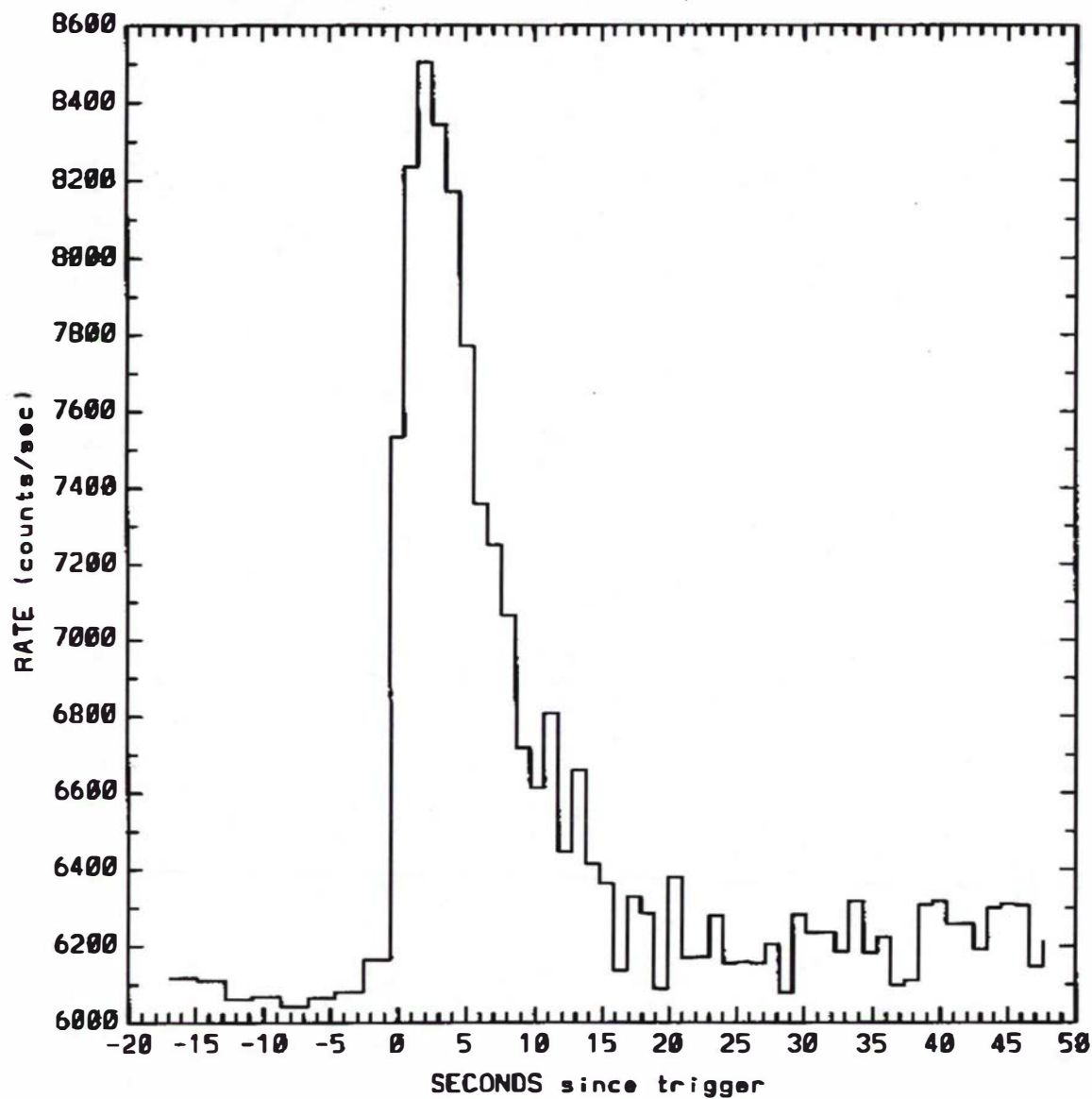
28874.977

25- 100 keV

COUNTS/1.024 S



DISCLB Data for K. Hurley, No. 6961



13-AUG-1998 09:41:39

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

Trigger # : 6961

Trigger Time:
11827 / 28874.977Burst Data Type:
DISCLBDeadtime
Corrected: NBackground Data
Type: NoneMinimum Integ. Time:
1.024 second(s)Detectors [7..8].
7-5-----Discriminators:
{ 1 , 2 }Quality Mask:
BDISP1

From HENZE@fender.msfc.nasa.gov Tue Aug 4 11:21:48 1998
Date: Tue, 4 Aug 1998 13:18:31 -0500 (CDT)
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,
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.: 6962

TIME: TJD=1027 SECONDS=43511

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

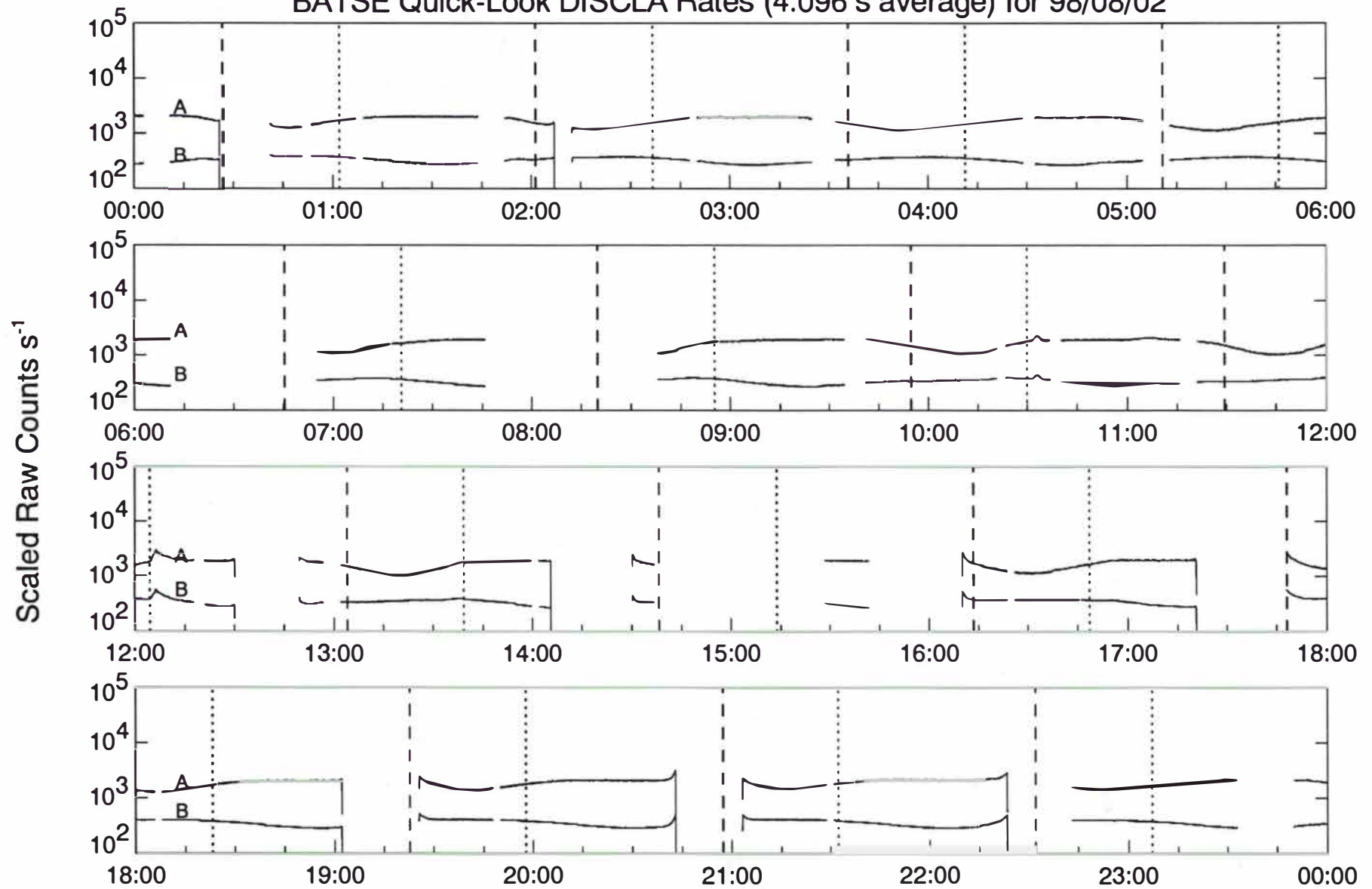
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT, WEST OF NORTH AMERICA

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/02

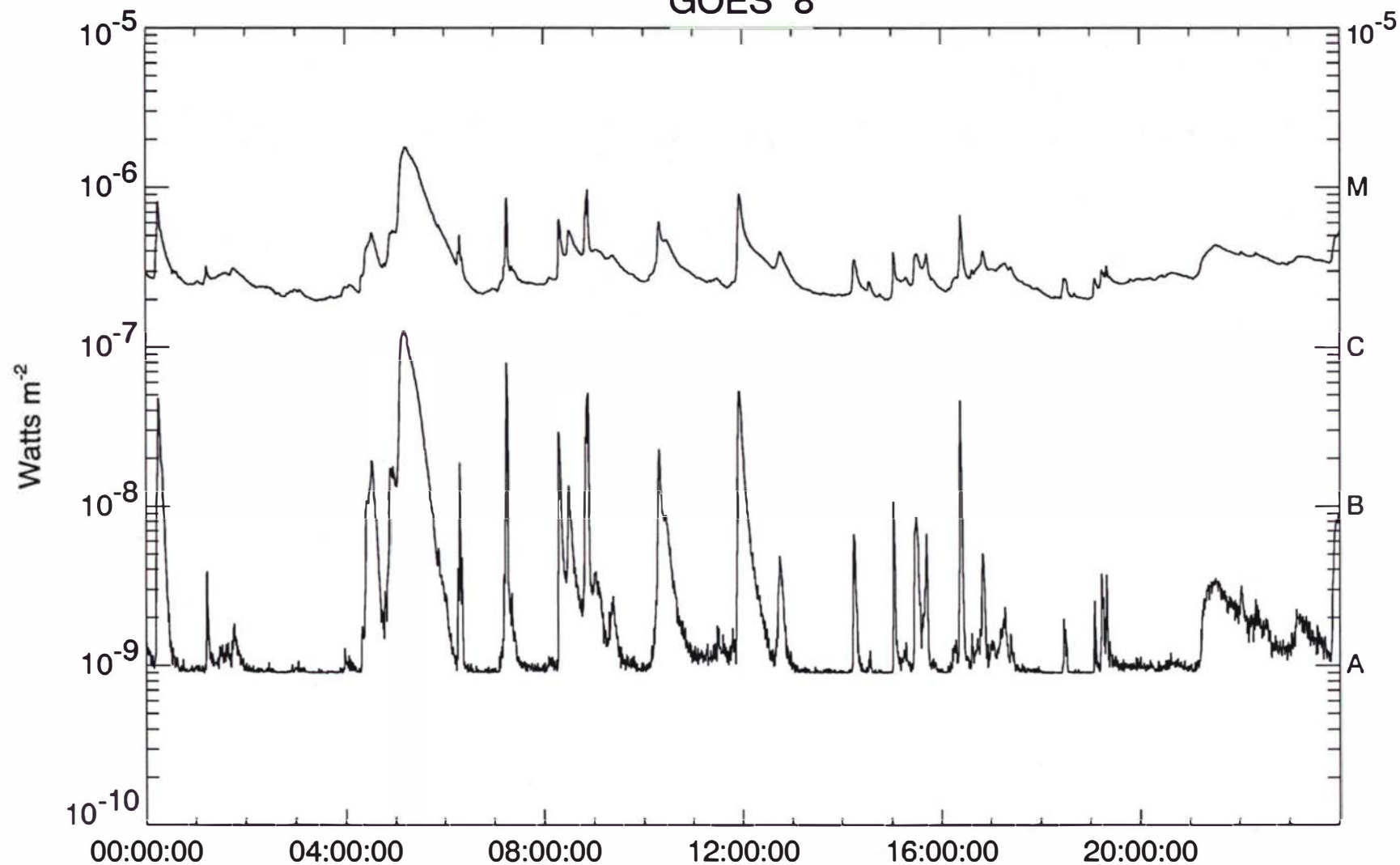


Current Time: 98/08/06, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/08/02, 0000:00

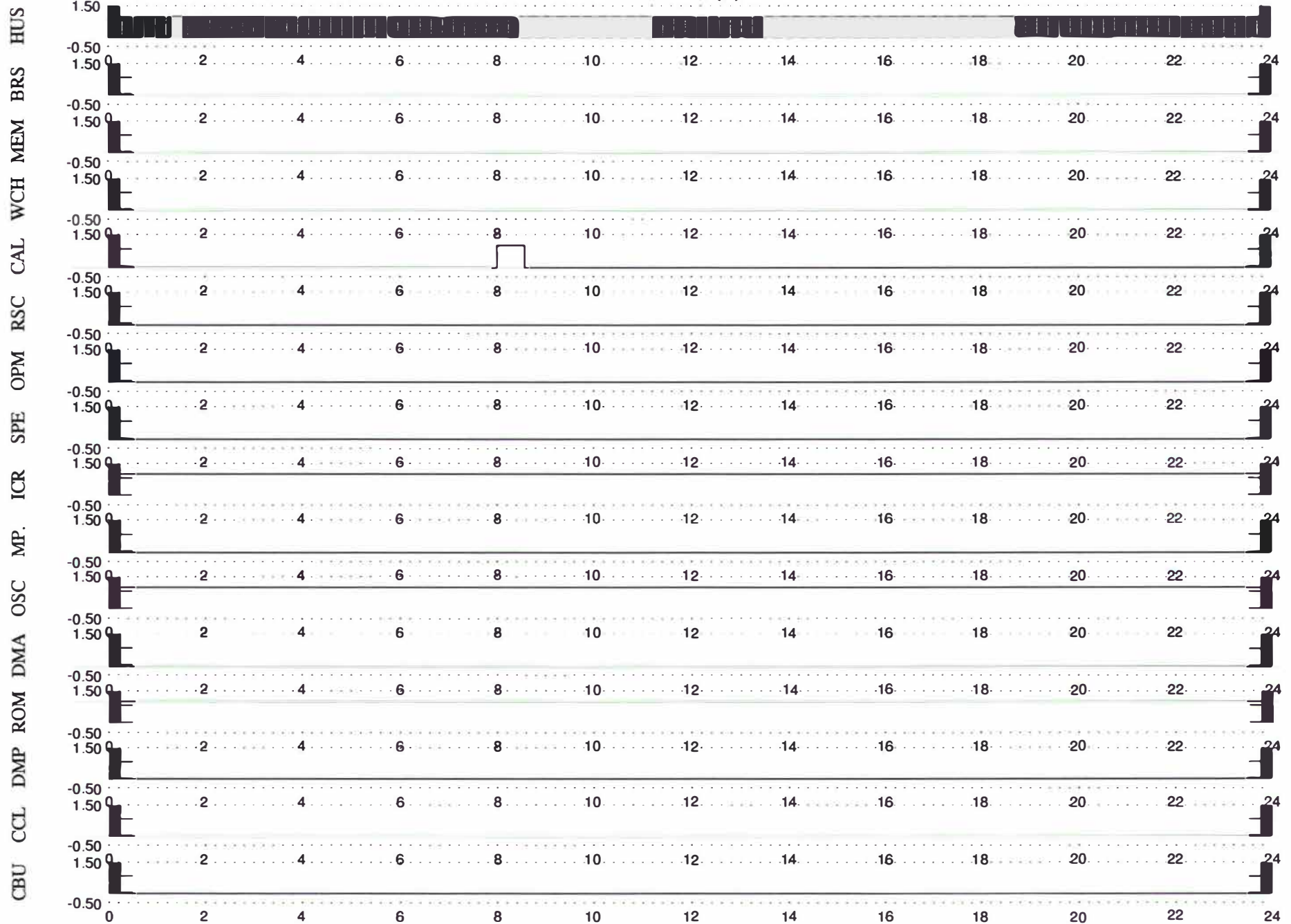
Plot created: 98/08/06, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

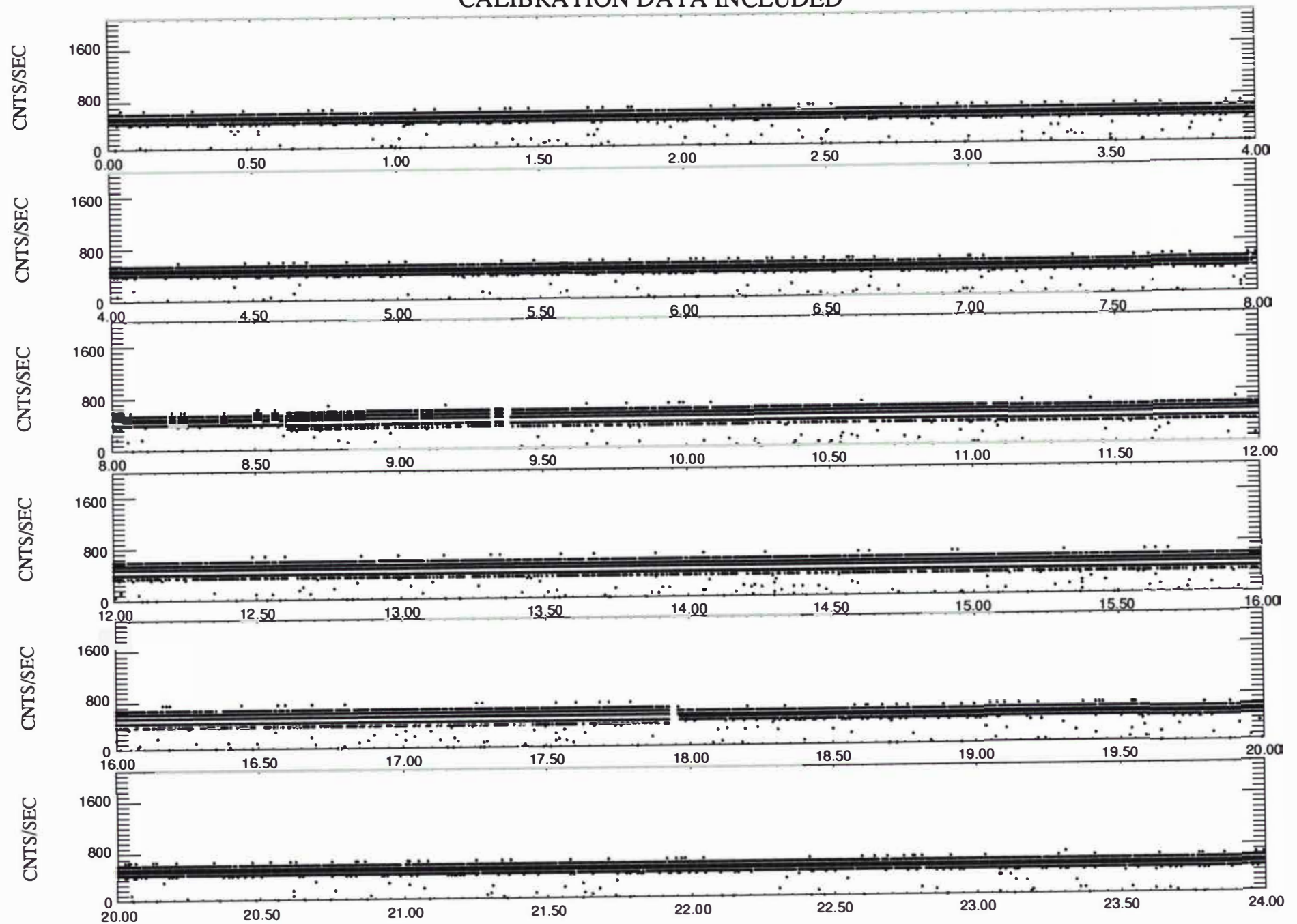
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

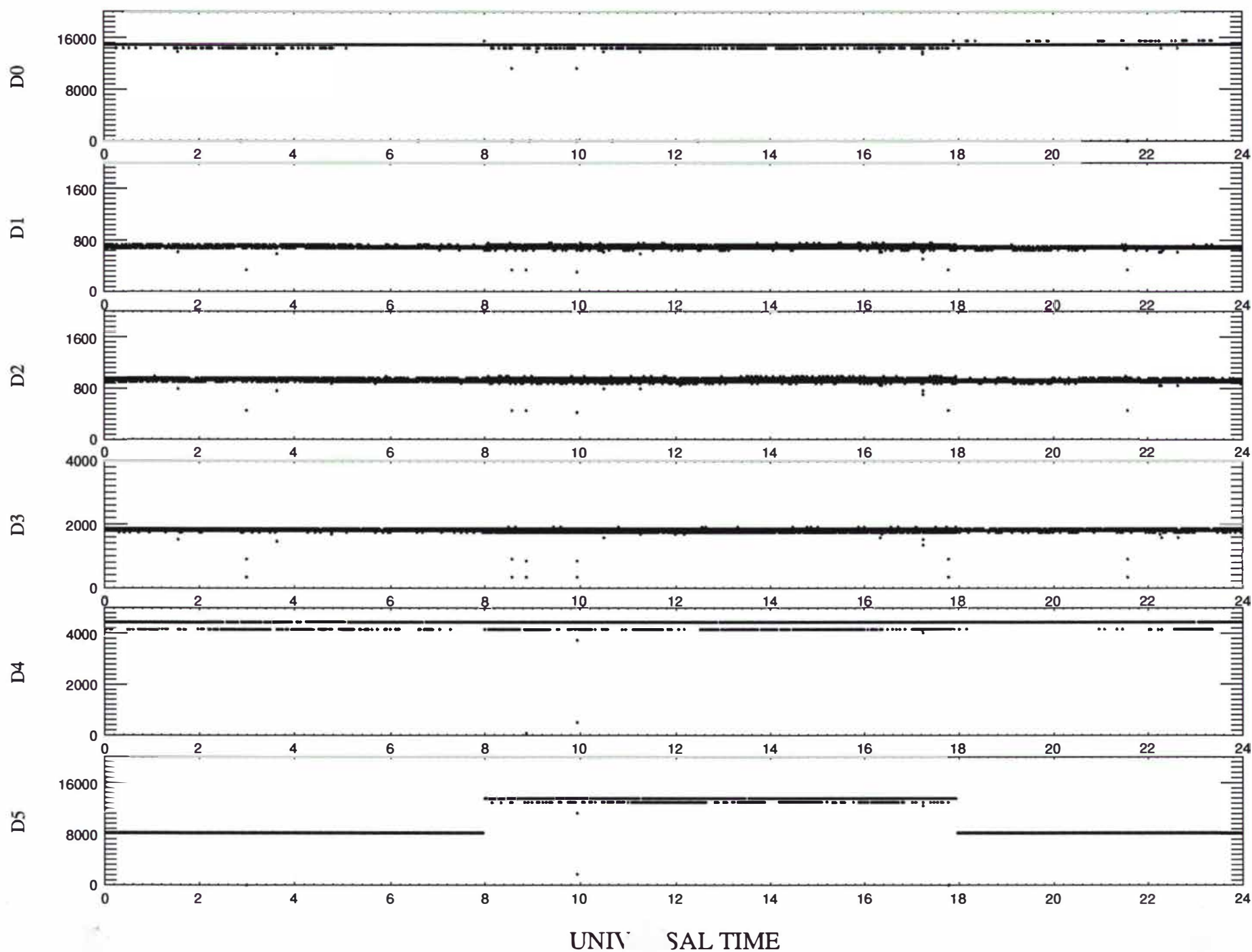
UNIV SAL TIME



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From TERRELL@nisdpo.lanl.gov Fri Aug 14 15:01 PDT 1998

From: TERRELL@nisdpo.lanl.gov

Date: Fri, 14 Aug 1998 16:01:42 -0600

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

X-Vmsmail-To: @MAILOUTUL.DIS

Subject: dmsp grb detections: 980706,980721,980803,980810

From: jterrell@lanl.gov (James Terrell) 980814

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

Subj: DMSP GRB detections: 980706,980721,980803,980810

The following GRB were detected by DMSP13 or DMSP14 (or NOT detected, if indicated).
No detection can occur for bursts more than ~118 degrees from spacecraft zenith,
or in the presence of very high counting rates (SAA,SR,NR).

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

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

NOTE that DMSP14 trigger peak times reported previously (980228 and earlier) need to be
increased by 0.10 seconds, due to a re-examination of the data-processing program.

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

980706 187 58587.0 BATSE#6904 (32476/S) (164.7,50.6)C (INTENSE SPIKE,~1S)
13 187 57587.3 PEAK (220/S,<2S) HARD! @25DEG
14 187 57588.3 PEAK (650/S,<2S) HARD! @105DEG
14 187 57588.0 TRIG PK(.1024S,10K/S);.0128S:587.58(2K/S),587.94,588.02
14 187 57588.0 (CONT) MAIN PEAK 0.31S LONG (57587.86-588.17)
980706 14 187 NOTE: INCREASE ALL PREVIOUS TRIGGER PEAK TIMES BY 0.10 SEC!!
980708 189U60360 UL MOD GRB, 10S @3000LS (13NA,14NA)
980717 198U 7680 UL MOD GRB, 32MS @3000LS,POSSIBLE SGR (13NA,14NA)
980717 198 10706.6 BATSE#6930(10048/S) (333.3,-53.7)C,PEAK@32.8S,DOUBLE PULSE
198 10706.6 (CONT) (13NA@74DEG,~SR)(14NA@58DEG,~SR) SAME AS ULYSSES?
980721 202U13920 UL INTENSE GRB (SGR?), 32MS @3100LS (13NA,14NA)
980721 202U23460 UL MOD GRB, 10S @3100LS
13 202 20629.5 PEAK (ONE-SIDED,50/S,<6S) (WEAK) (14SR,NA ELSEWHERE)
980803 215 48980.7 BATSE#6963 (24619/S) (152.0,60.1)C PK AT +23.6S,~33S LONG
13 215 49016.1 PEAKS,49034.1 (WEAK,ON TAIL OF NR,@20DEG) (14NO,@117DEG)
980804 216U18420 UL MOD GRB (SGR?), 32MS @3700LS (!) (13NA,14NA)
980810 222 66929.4 BATSE #6985 (353.1,22.2)C (30141/S,PEAK@+10.2S)
14 222 66937.3 PKS(900/S),949.3(620),955.3(600),967.3(650);<36S,HARD,
14 222 66937.2 (CONT) ONE-SIDED, NO TRIGGER, @103DEG (13SAA)

From RICHARDSON@fender.msfc.nasa.gov Tue Aug 4 11:45:40 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA19207; Tue, 4 Aug 1998 11:45:39 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA03455; Tue, 4 Aug 1998 11:45:35 -0700
Date: Tue, 4 Aug 1998 13:45:27 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980804134527.2021a218@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6963
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6963
EVENT OF 1998 AUG 3 DAY OF YEAR=215
EVENT CROSSING TIME AT BATSE : 48980. S. OR 13:36:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 141.000 58.000
BATSE PEAK COUNTING RATE: 65000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 8/ 98 IS:
RA= 154.635 DEC= 6.622 DIST= 6.291 AU
BATSE-ULYSSES DISTANCE = 941061036. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=127.54 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1912.76 SECS.
CROSSING TIME AT ULYSSES IS 47067. S. OR 13:04:27 +/- 453.07 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 8/ 98 IS:
RA= 110.077 DEC= 22.999 DIST= 2.474 AU
MARS-BATSE DISTANCE = 370176064. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -925.84 SECS.
CROSSING TIME AT MARS IS 48054. S. OR 13:20:54 +/- 127.78 SECONDS

BATSE BURST TRIGGER

NO.: 6963

TIME: TJD=1028 SECONDS=48980

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=47.6 AZIMUTH=302.6 ERROR=0.4 DEGREES

COMMENTS:

GRB. STRONG WITH LOTS OF STRUCTURE. DURATION APPROX. = 33 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6963	980803	11028	48980	65000	141	+58	33

Date: 20/1/00

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

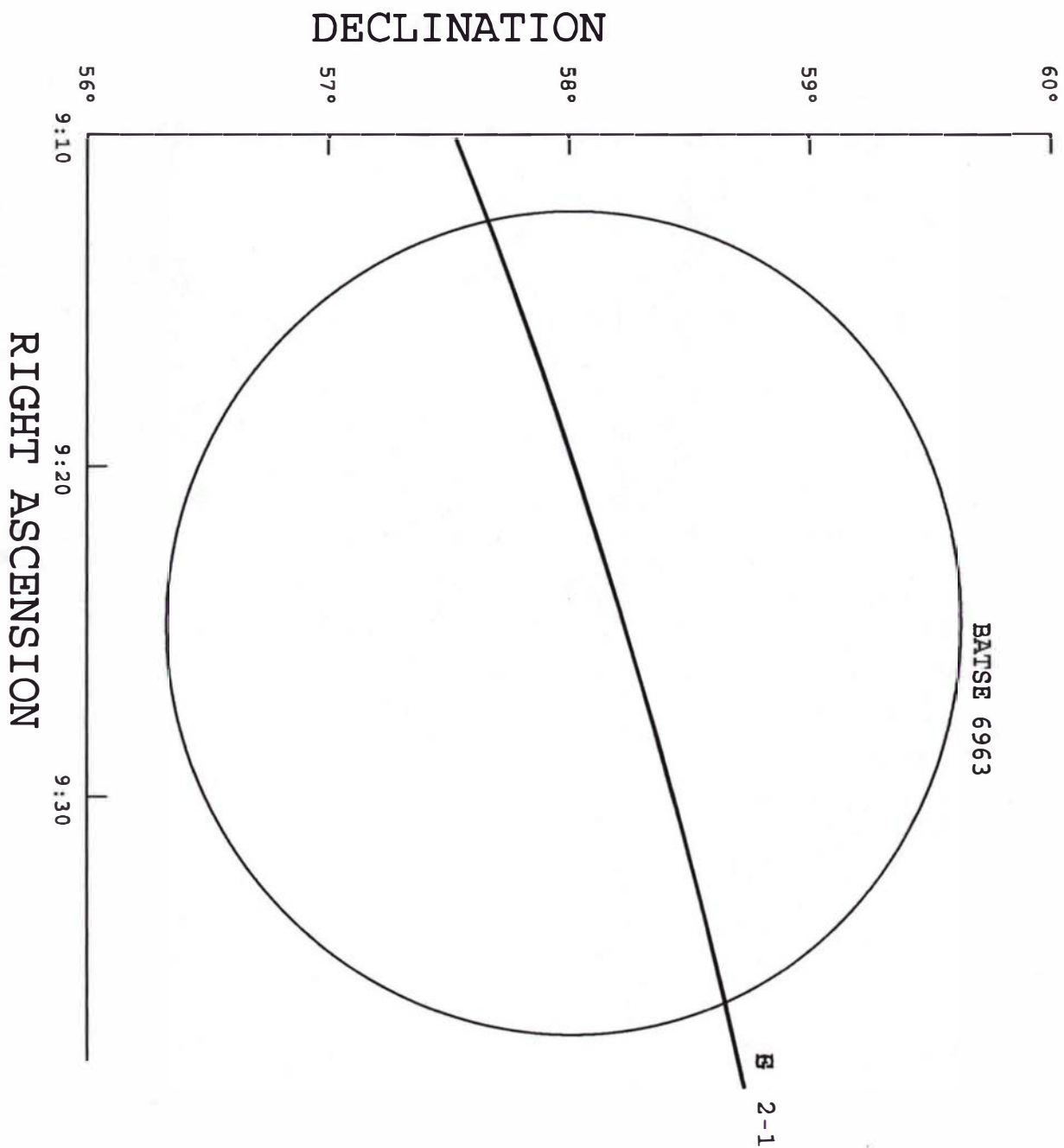
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF AUG 3, 1998 13:36

20 / 1 / 0



BATSE

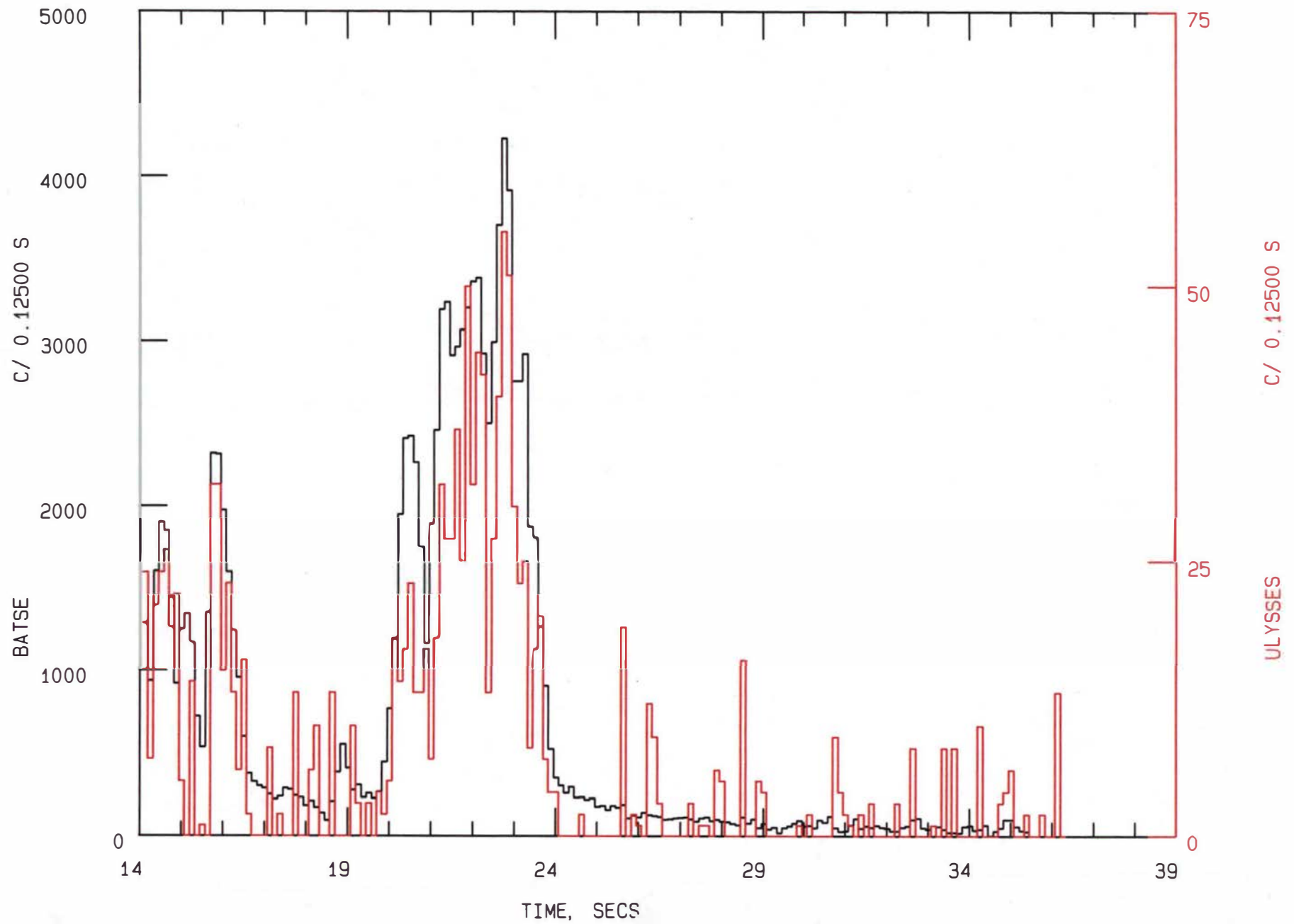
-ULYSSES

CORRELATION

3/ 8/98

48980.705

20/ 1/ 0



BATSE

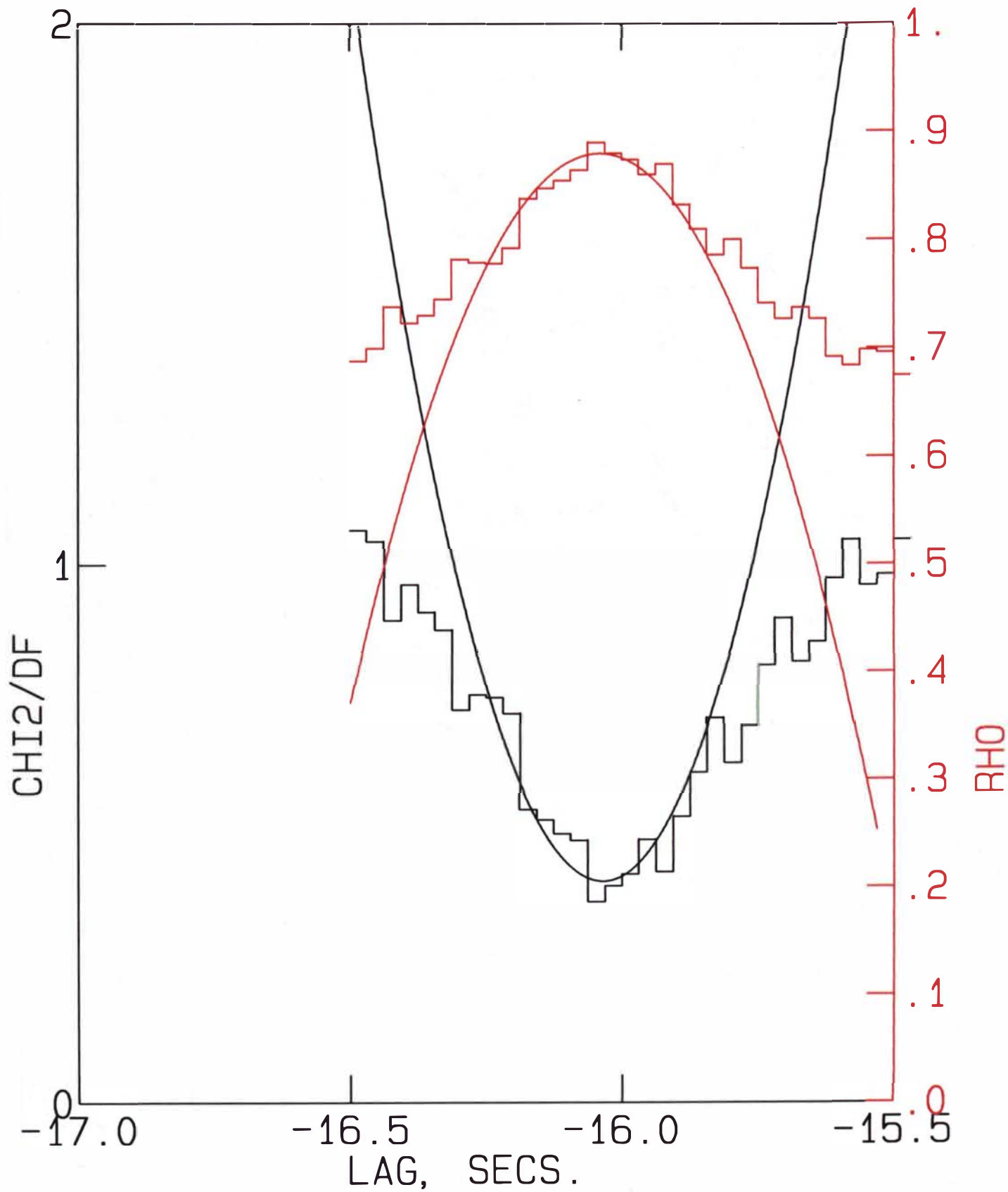
-ULYSSES

CORRELATION

3/ 8/98

48980.705

20/ 1/ 0



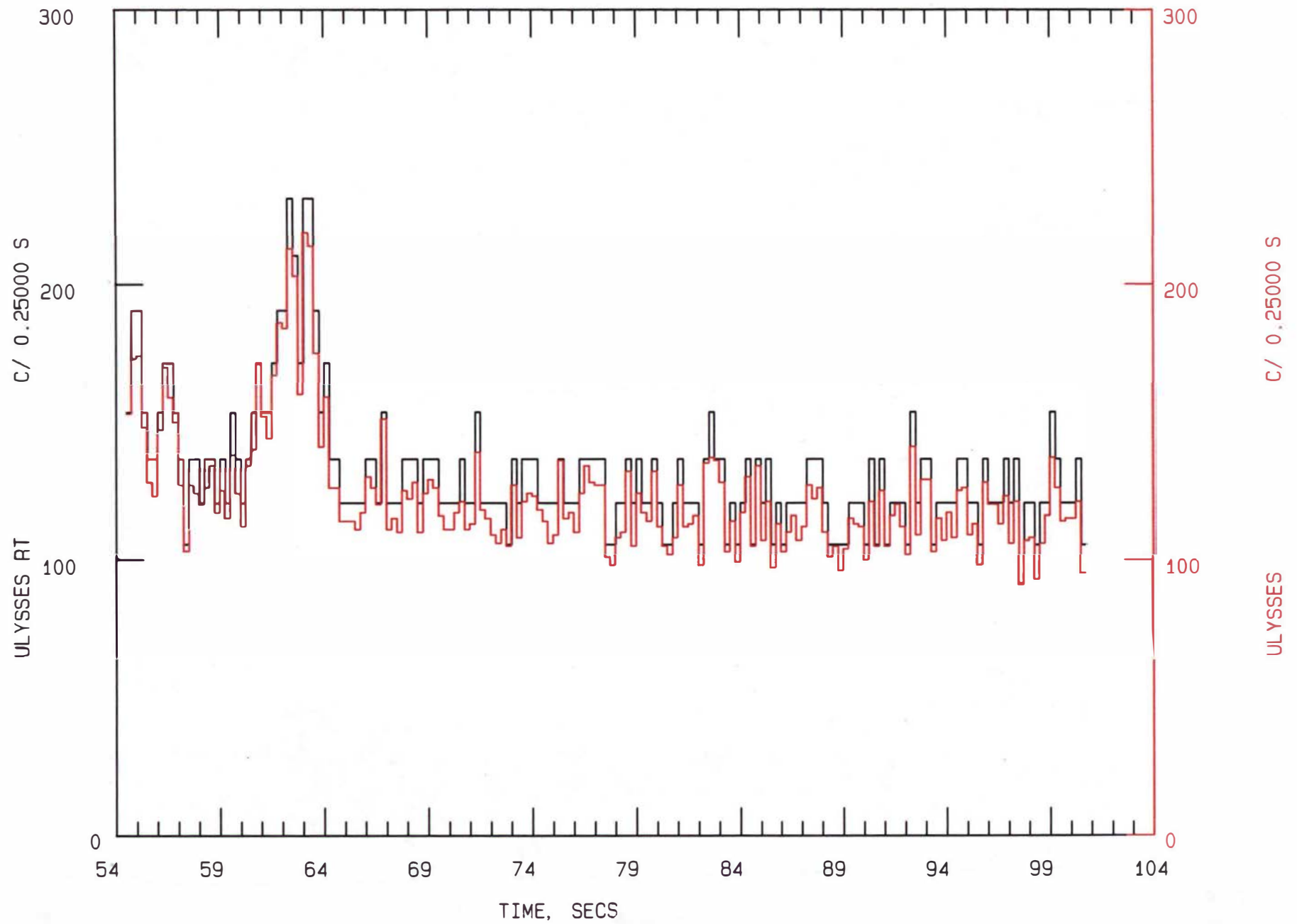
ULYSSES RT-ULYSSES

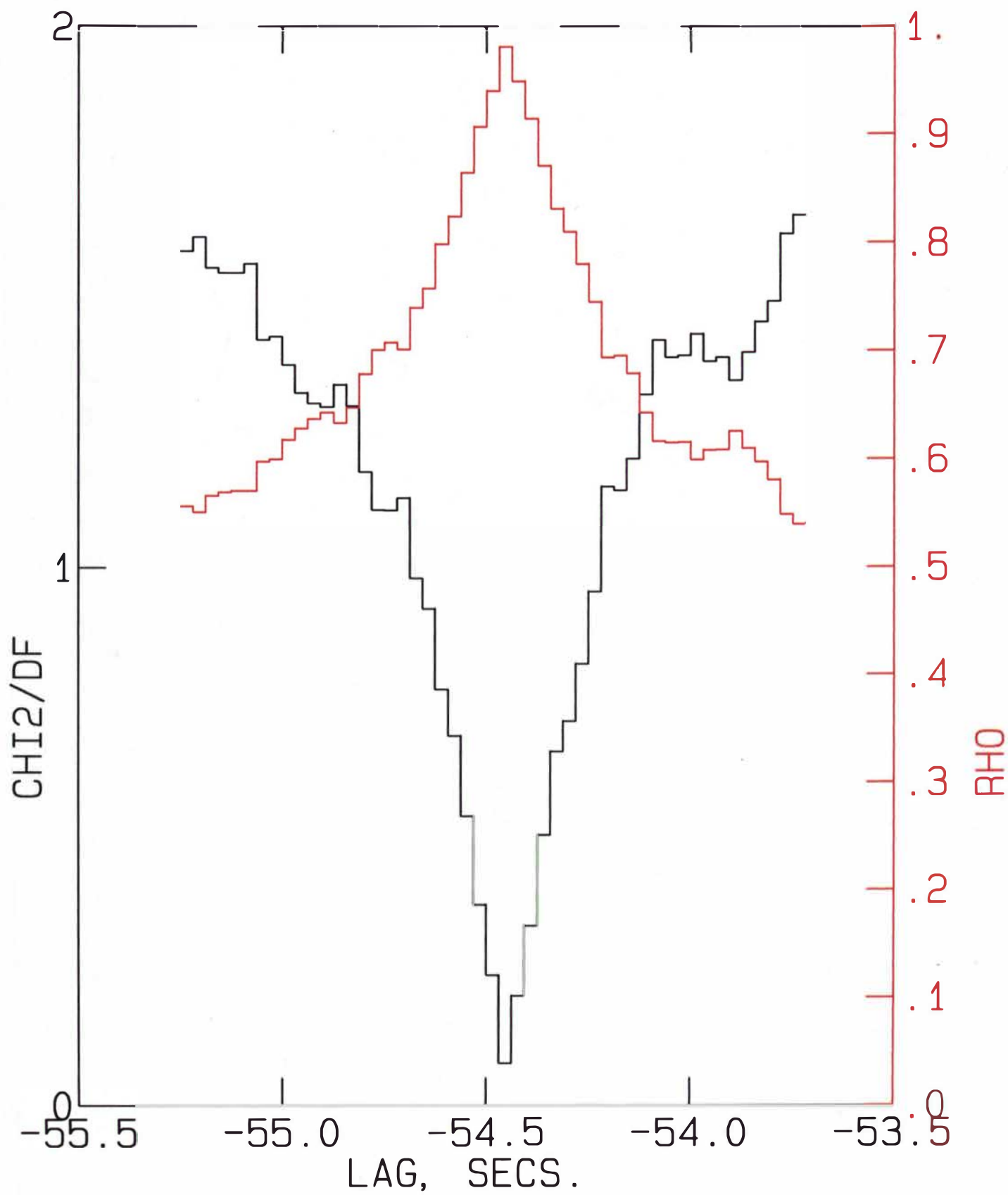
CORRELATION

3/ 8/98

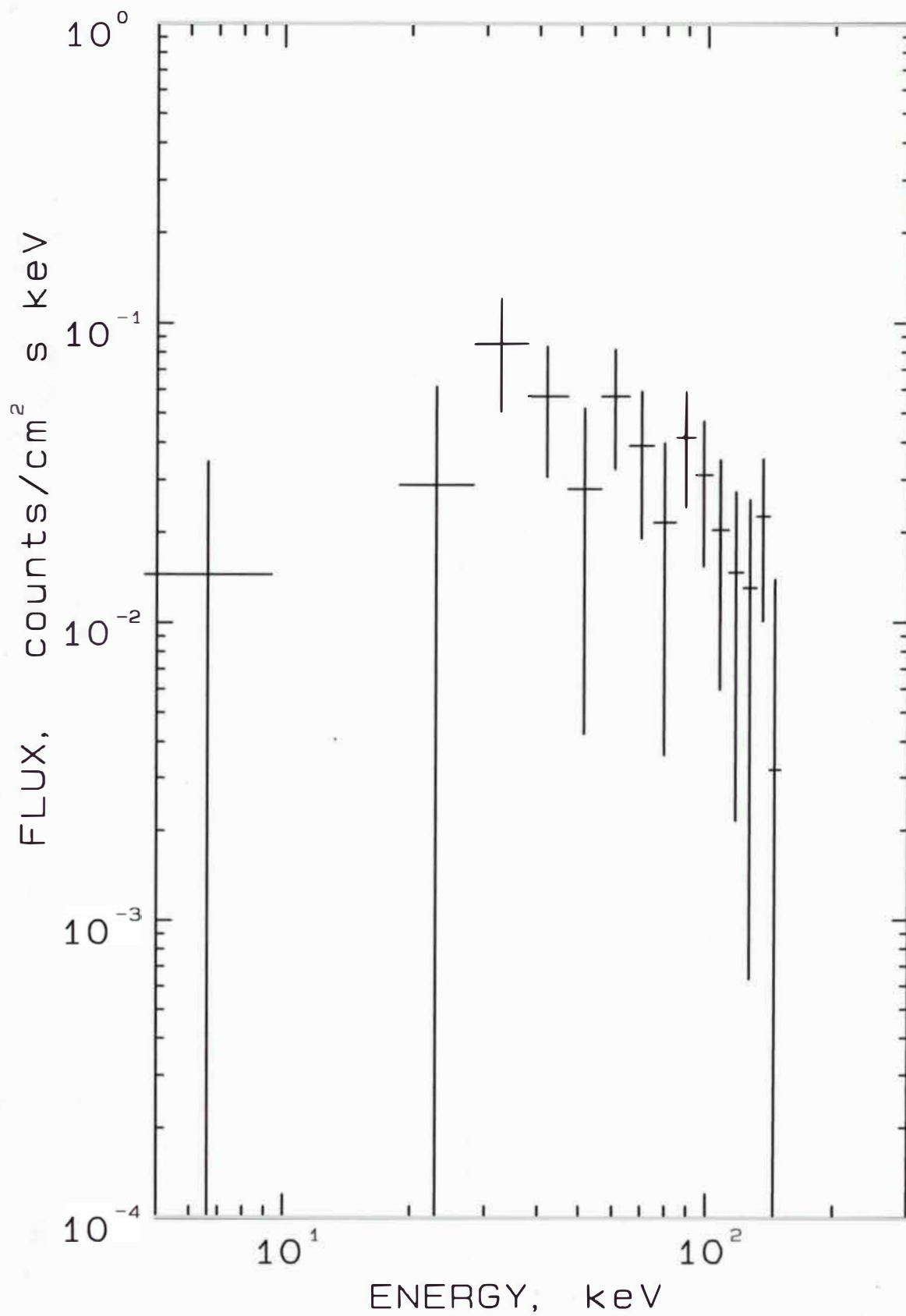
47048.014

20/ 1/**



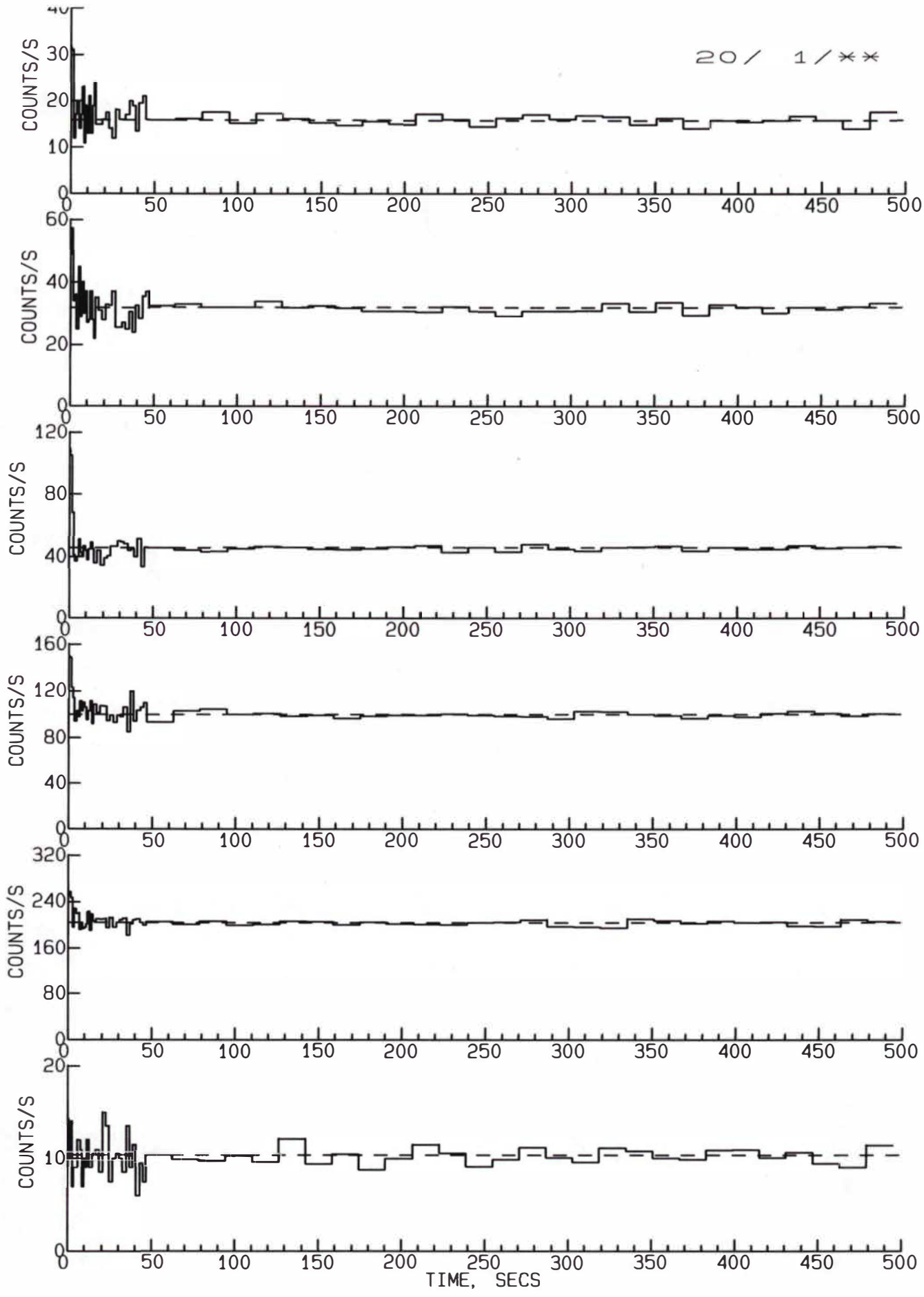


SPECTRUM INTEGRATED OVER 8.6 SECONDS, INTERVALS 2 TO 10



ULYSSES 03/08/98 47109.868 BURST SPECTRAL COUNT RATES

4- 18 keV 18- 46 keV 46- 74 keV 74-102 keV 102-130 keV 130-149 keV

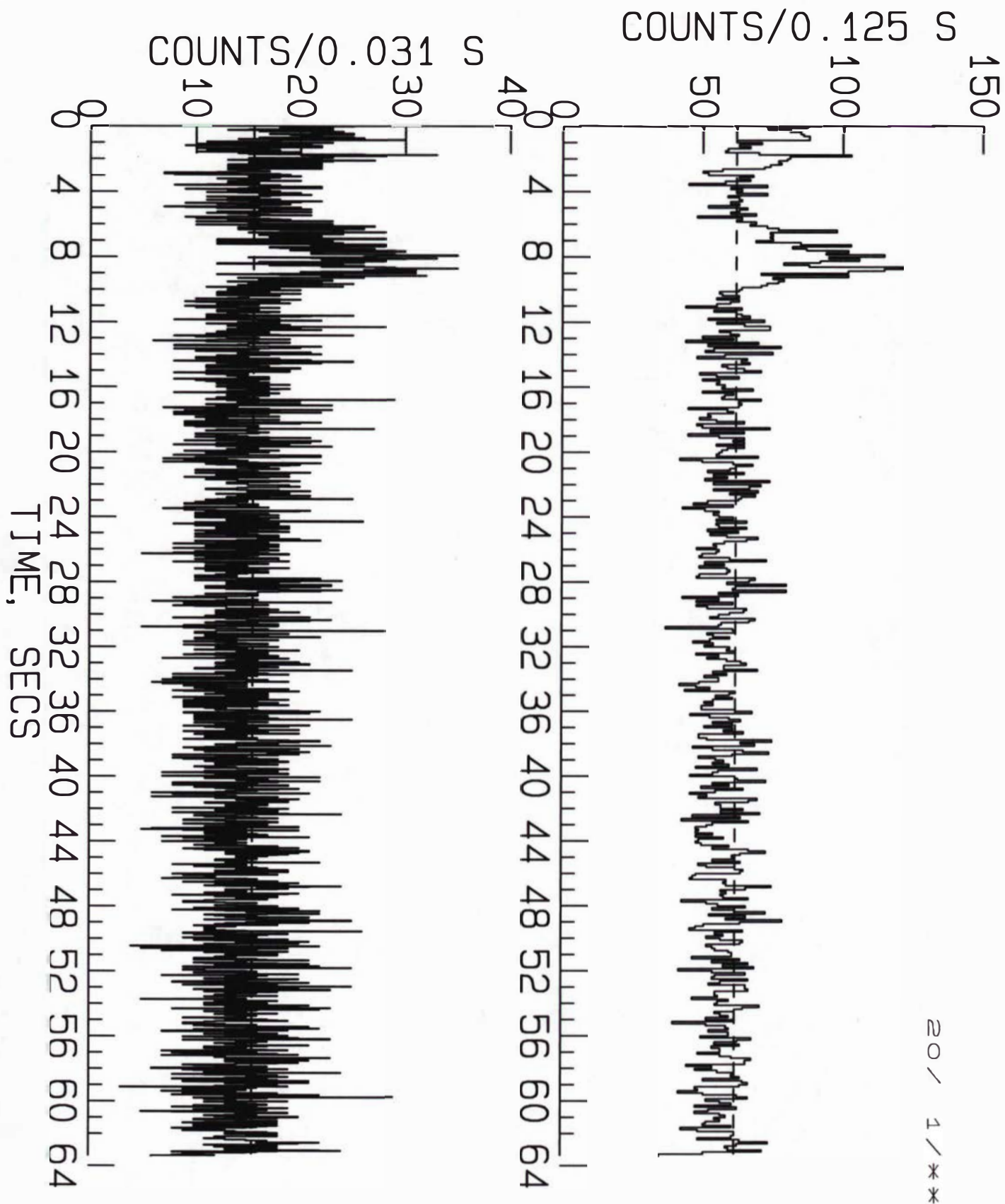


ULYSSES

03/08/98

Ttrig=47109.891

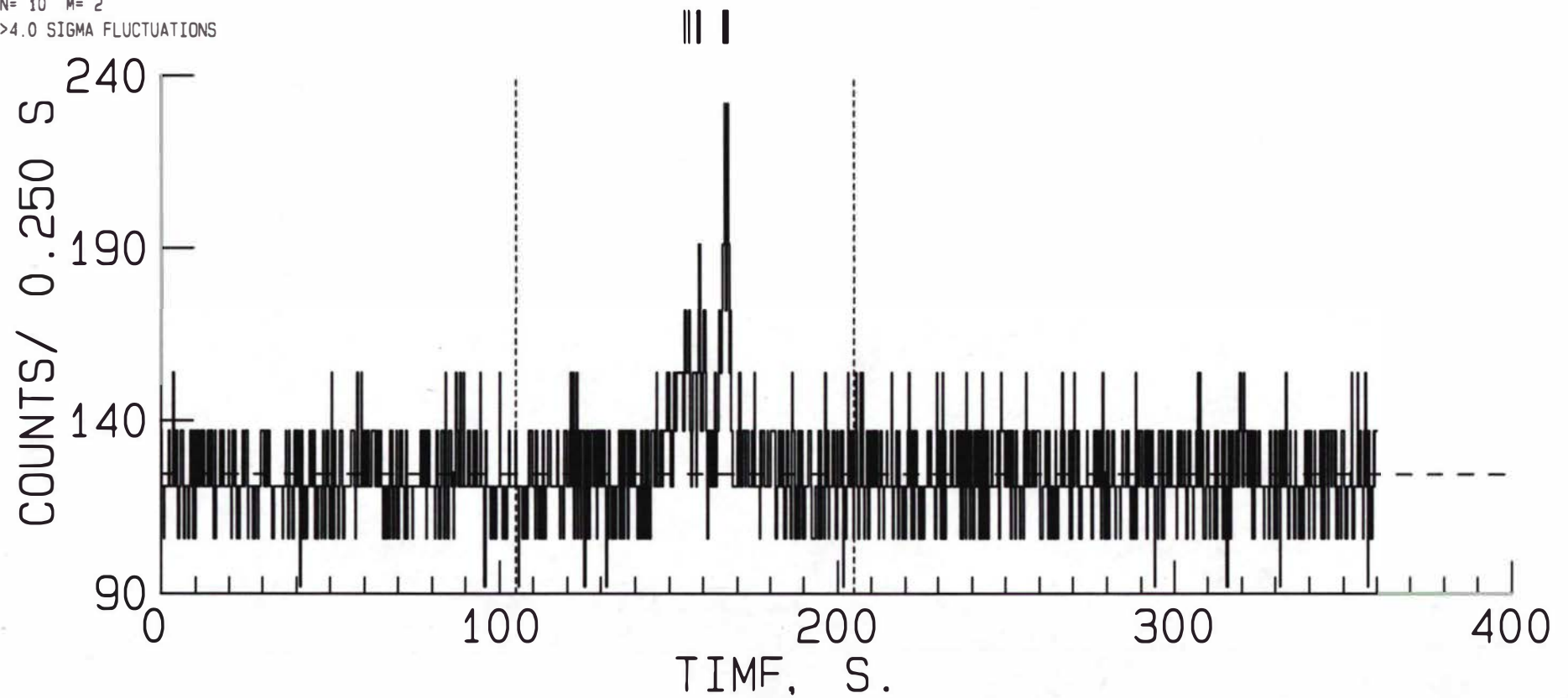
22- 149 keV



ULYSSES RT
3/ 8/98 46944.000 s
22- 149 keV

20 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



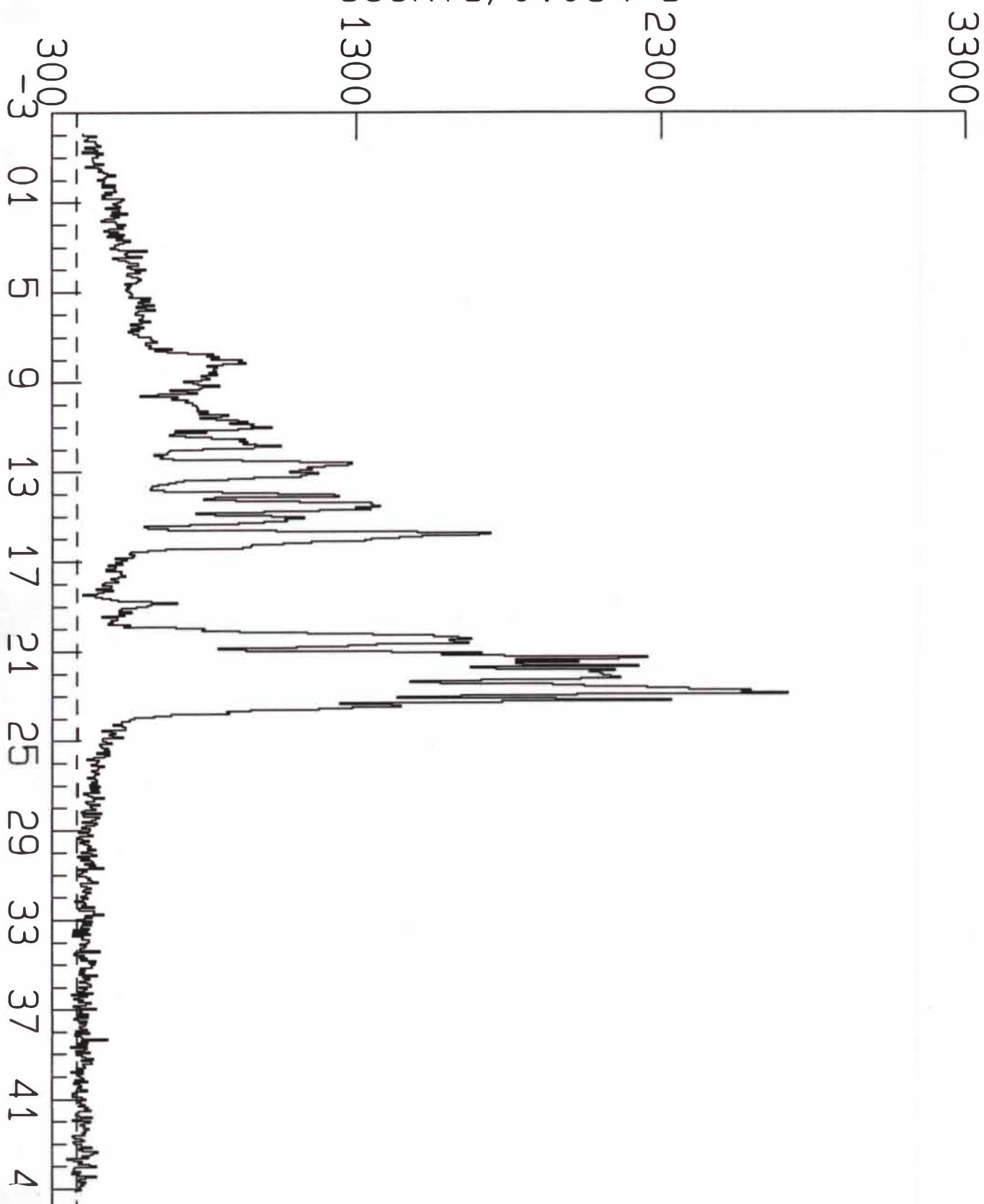
BATSE

03/08/98

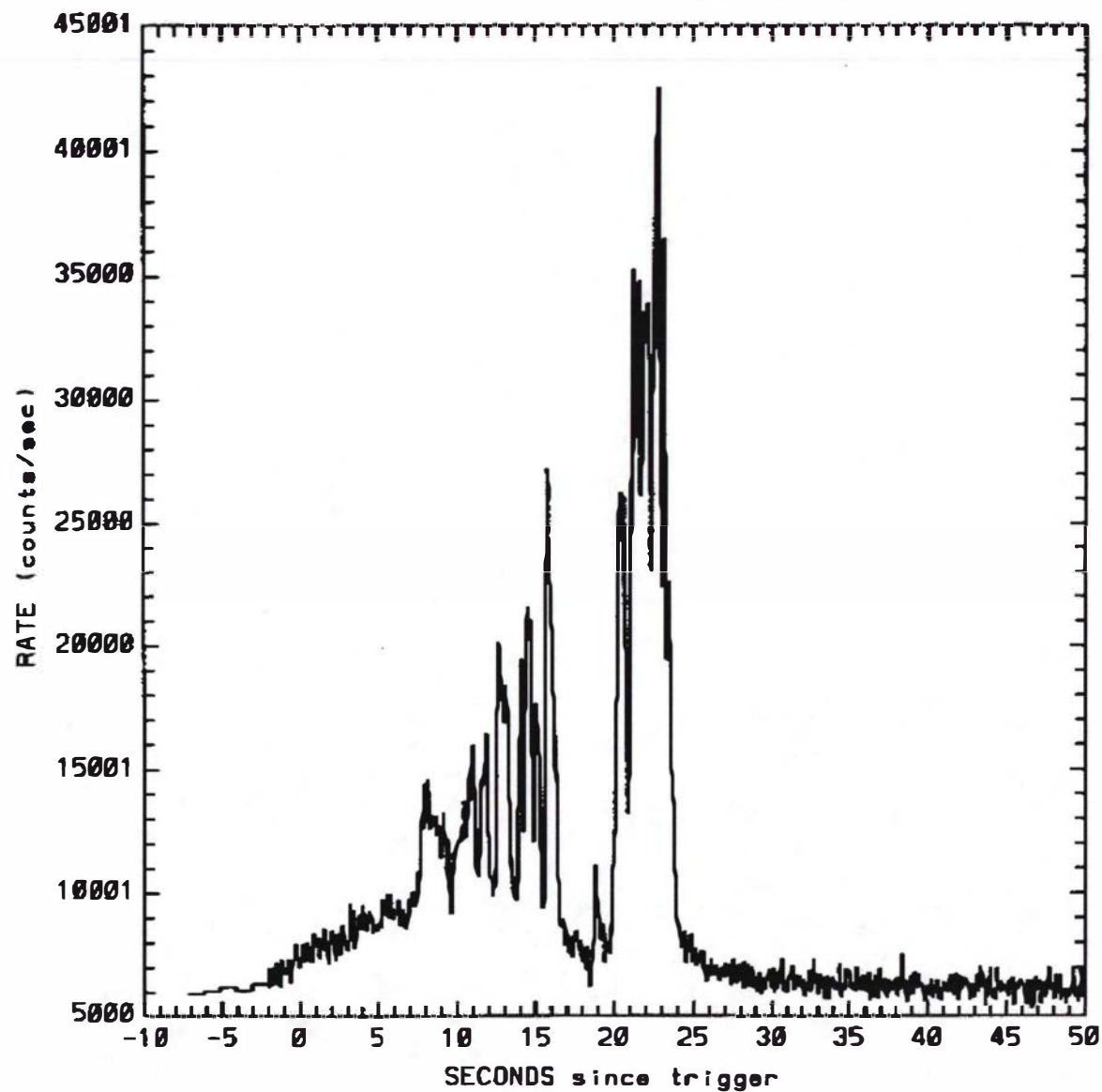
48980.705

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 6963



13-AUG-1998 09:45.08

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

Trigger # : 6963

Trigger Time:
11028 / 48980.705

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

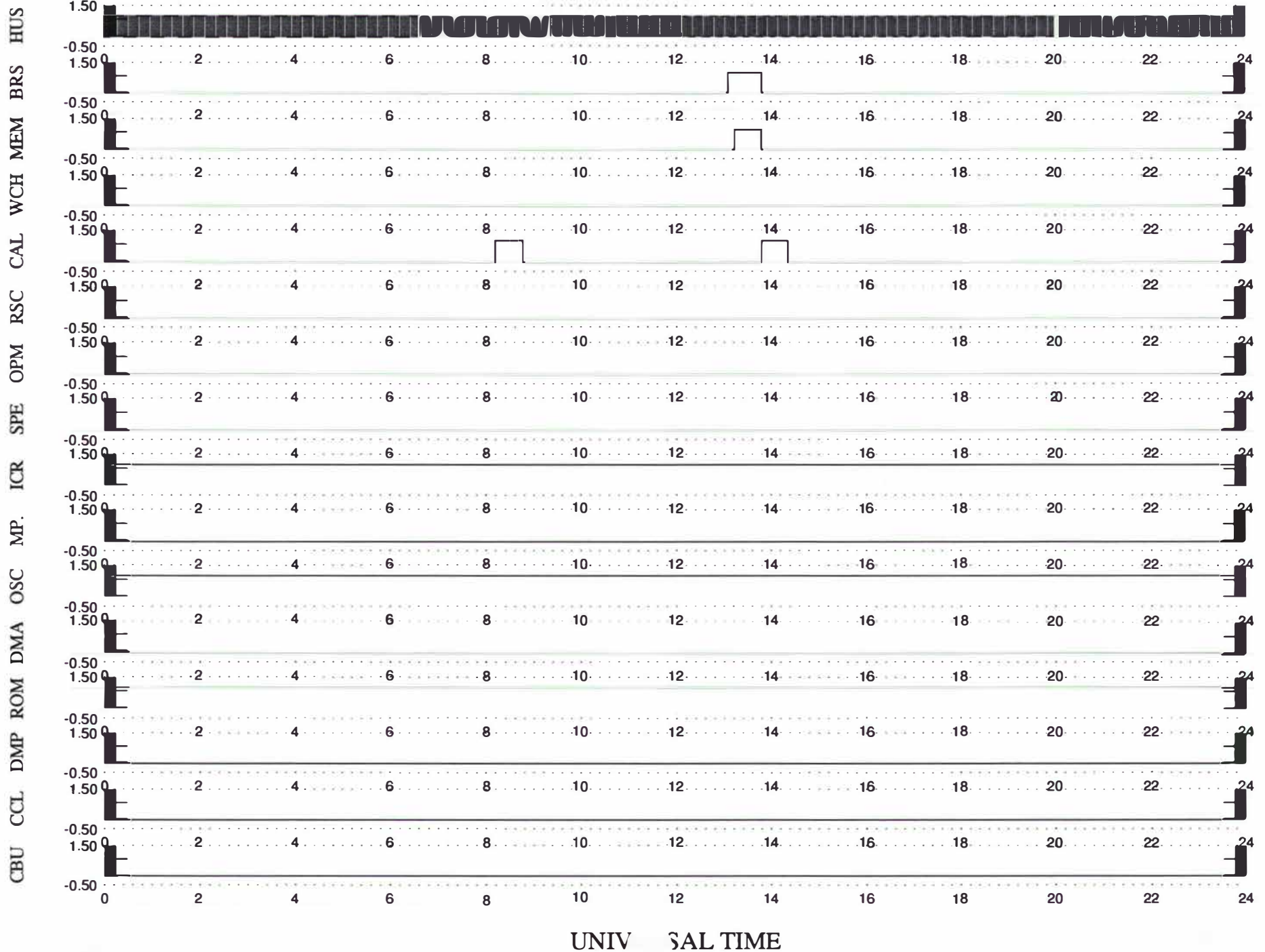
Minimum [Integ. Time:
0.064 second(s)]

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

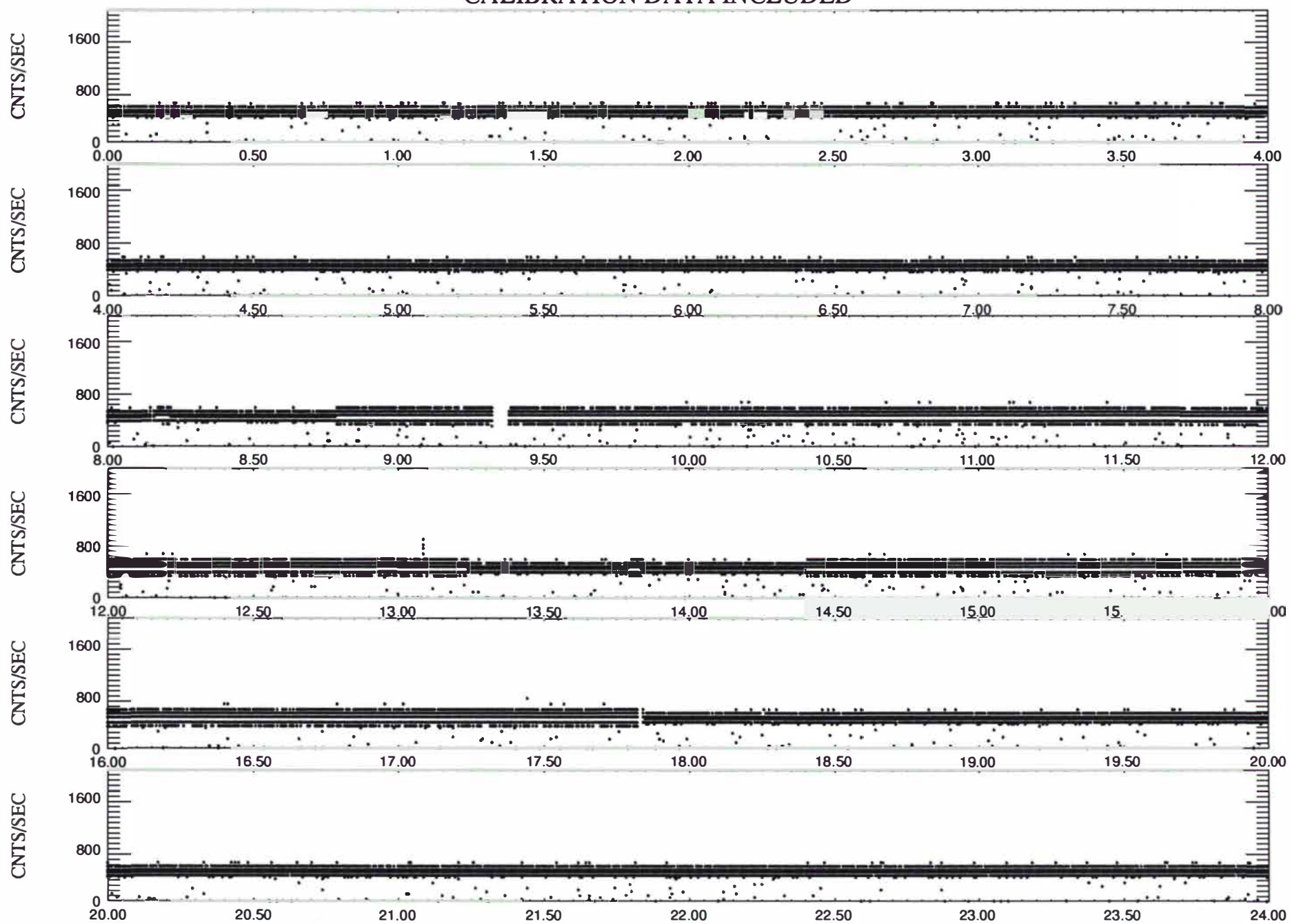
Discriminators:
1 1 . 2)

Quality Mask:
B01SP1

BURST NUMBER 4

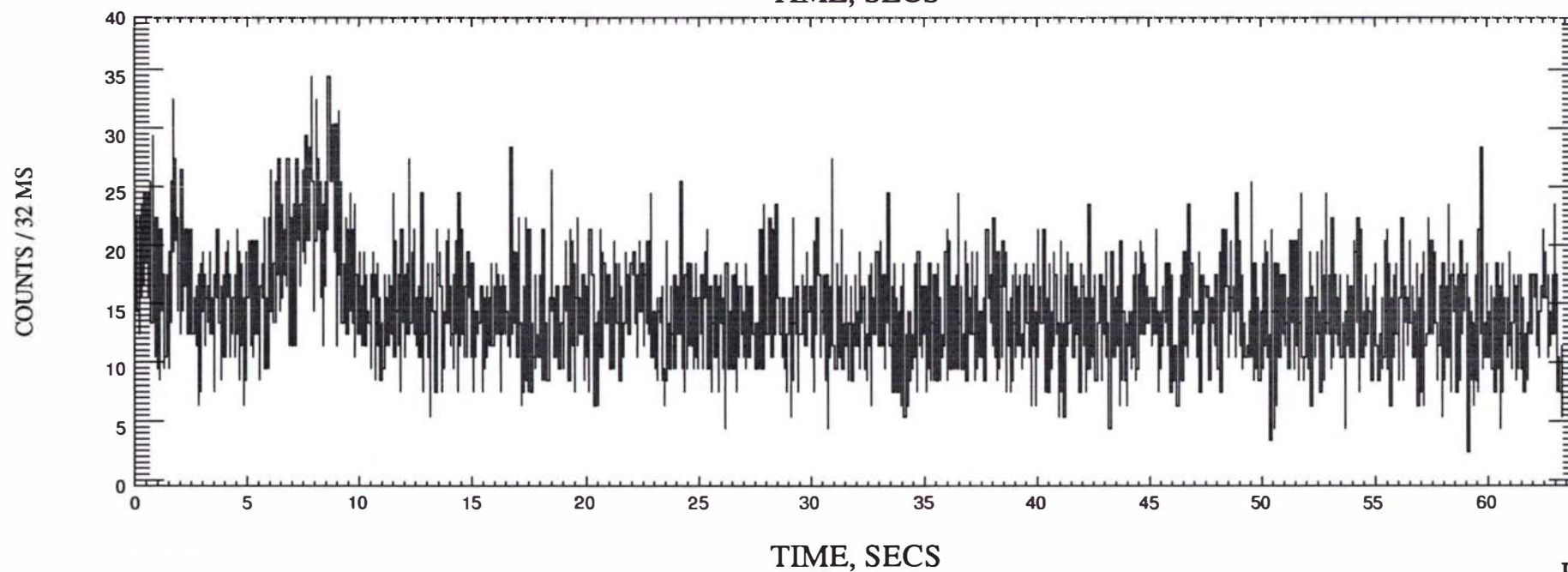
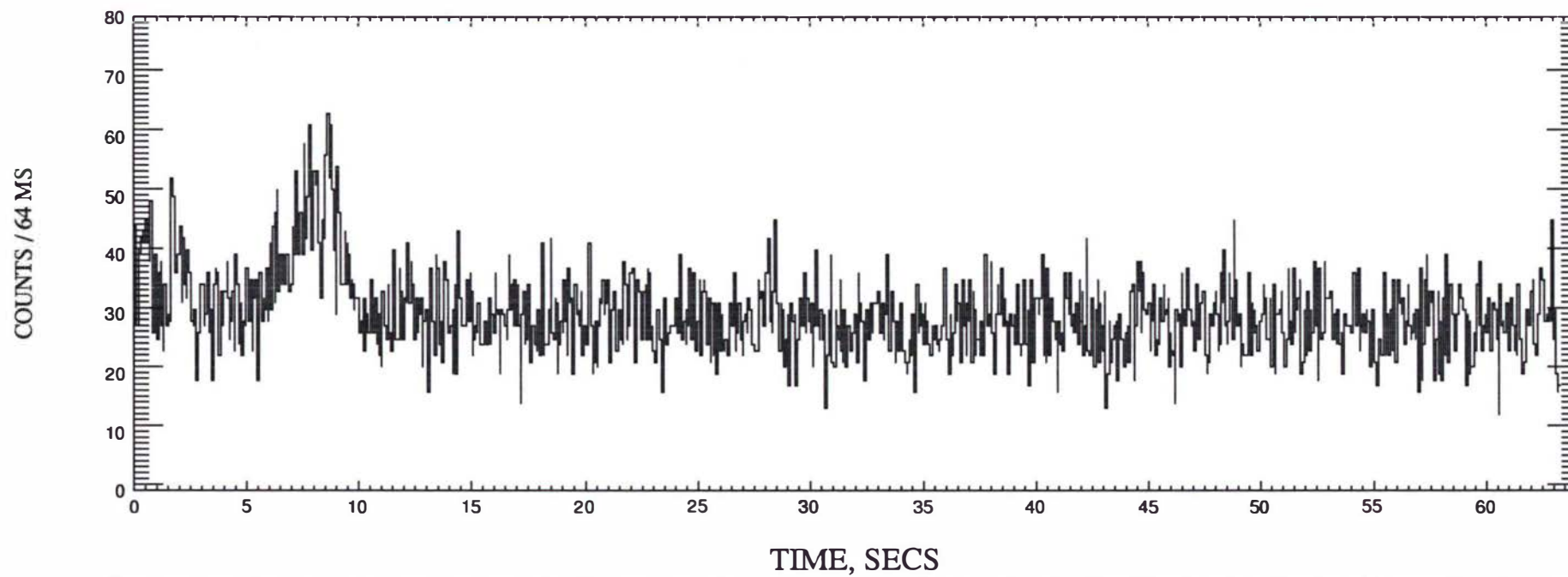


CALIBRATION DATA INCLUDED

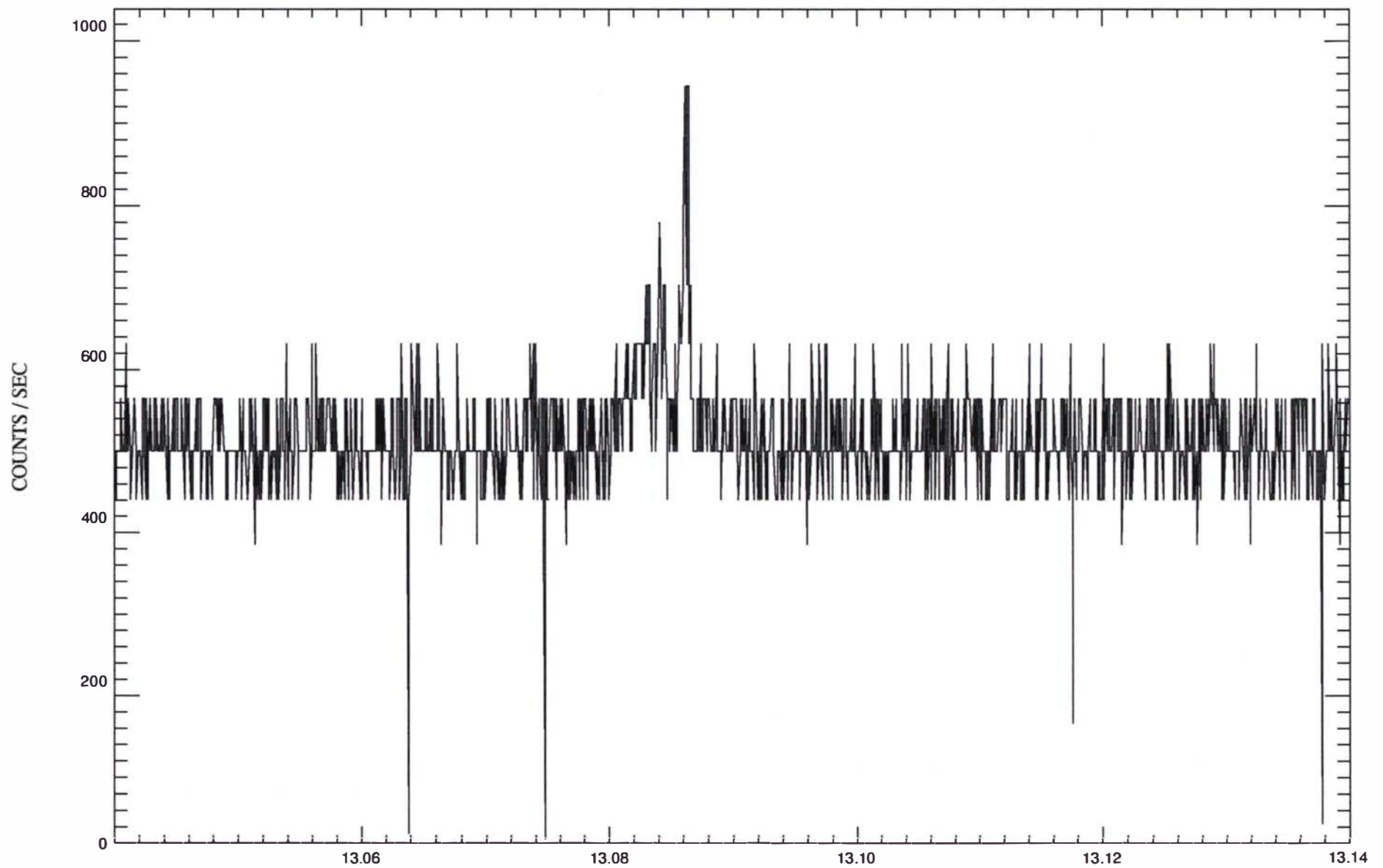


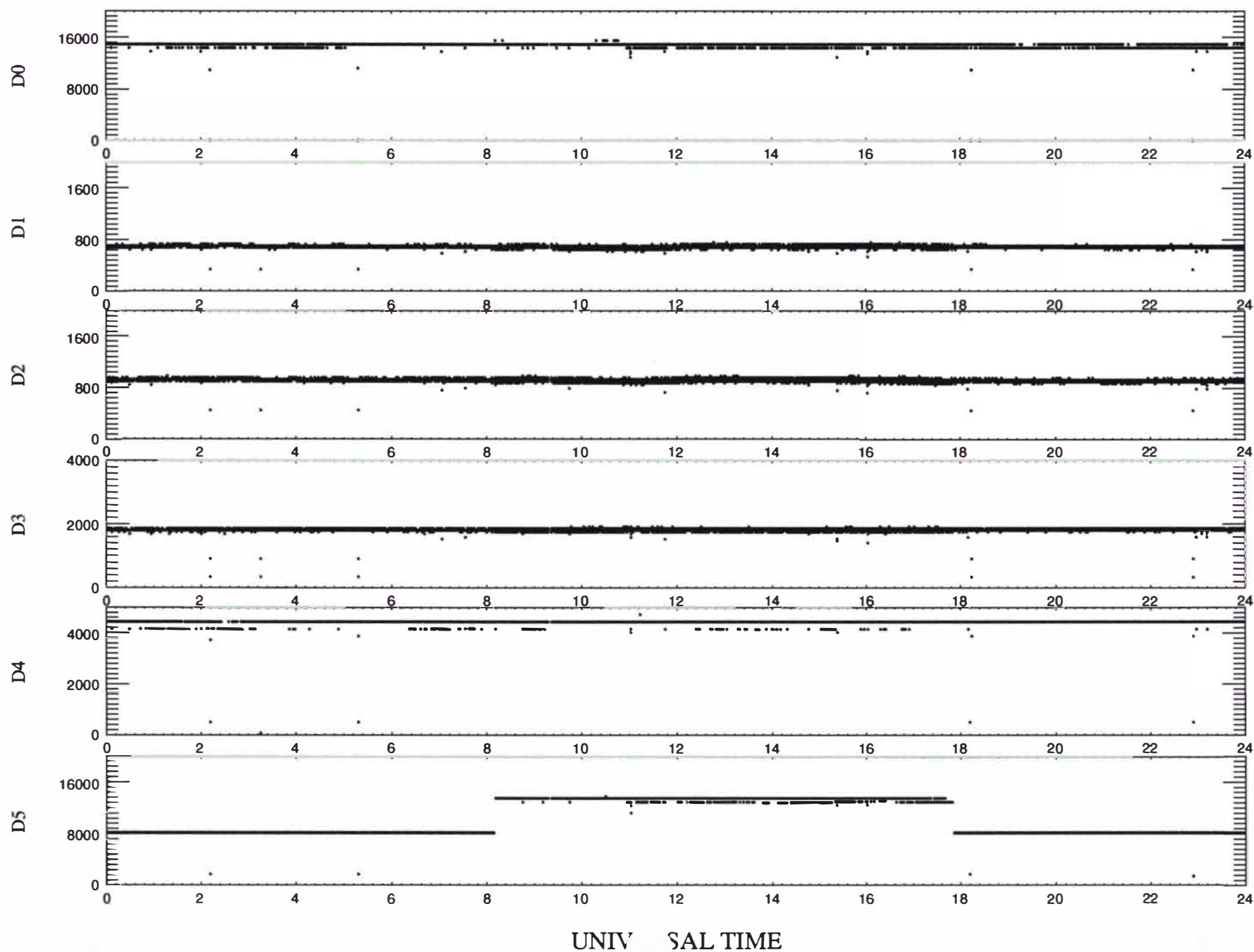
UNIV SAL TIME

Burst Counter 4 at UT=13.086074396769 h=47109.868 s 13:05:09.868



CALIBRATION DATA INCLUDED





From TERRELL@nisdp0.lanl.gov Fri Aug 14 15:01 PDT 1998

From: TERRELL@nisdp0.lanl.gov

Date: Fri, 14 Aug 1998 16:01:42 -0600

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

X-Vmsmail-To: @MAILOUTUL.DIS

Subject: dmsp grb detections: 980706,980721,980803,980810

From: jterrell@lanl.gov (James Terrell) 980814

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

Subj: DMSP GRB detections: 980706,980721,980803,980810

The following GRB were detected by DMSP13 or DMSP14 (or NOT detected, if indicated).
No detection can occur for bursts more than ~118 degrees from spacecraft zenith,
or in the presence of very high counting rates (SAA,SR,NR).

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

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

NOTE that DMSP14 trigger peak times reported previously (980228 and earlier) need to be
increased by 0.10 seconds, due to a re-examination of the data-processing program.

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

980706 187 58587.0 BATSE#6904 (32476/S) (164.7,50.6)C (INTENSE SPIKE,~1S)
13 187 57587.3 PEAK (220/S,<2S) HARD! @25DEG
14 187 57588.3 PEAK (650/S,<2S) HARD! @105DEG
14 187 57588.0 TRIG PK(.1024S,10K/S);.0128S:587.58(2K/S),587.94,588.02
14 187 57588.0 (CONT) MAIN PEAK 0.31S LONG (57587.86-588.17)
980706 14 187 NOTE: INCREASE ALL PREVIOUS TRIGGER PEAK TIMES BY 0.10 SEC!!
980708 189U60360 UL MOD GRB, 10S @3000LS (13NA,14NA)
980717 198U 7680 UL MOD GRB, 32MS @3000LS,POSSIBLE SGR (13NA,14NA)
980717 198 10706.6 BATSE#6930(10048/S) (333.3,-53.7)C,PEAK@32.8S,DOUBLE PULSE
198 10706.6 (CONT) (13NA@74DEG,~SR)(14NA@58DEG,~SR) SAME AS ULYSSES?
980721 202U13920 UL INTENSE GRB (SGR?), 32MS @3100LS (13NA,14NA)
980721 202U23460 UL MOD GRB, 10S @3100LS
13 202 20629.5 PEAK (ONE-SIDED,50/S,<6S) (WEAK) (14SR,NA ELSEWHERE)
980803 215 48980.7 BATSE#6963 (24619/S) (152.0,60.1)C PK AT +23.6S,~33S LONG
13 215 49016.1 PEAKS,49034.1 (WEAK,ON TAIL OF NR,@20DEG) (14NO,@117DEG)
980804 216U18420 UL MOD GRB (SGR?), 32MS @3700LS (!) (13NA,14NA)
980810 222 66929.4 BATSE #6985 (353.1,22.2)C (30141/S,PEAK@+10.2S)
14 222 66937.3 PKS(900/S),949.3(620),955.3(600),967.3(650);<36S,HARD,
14 222 66937.2 (CONT) ONE-SIDED, NO TRIGGER, @103DEG (13SAA)

JANA TAB.1 19980804 49411

ULYSSES RT

05/08/05

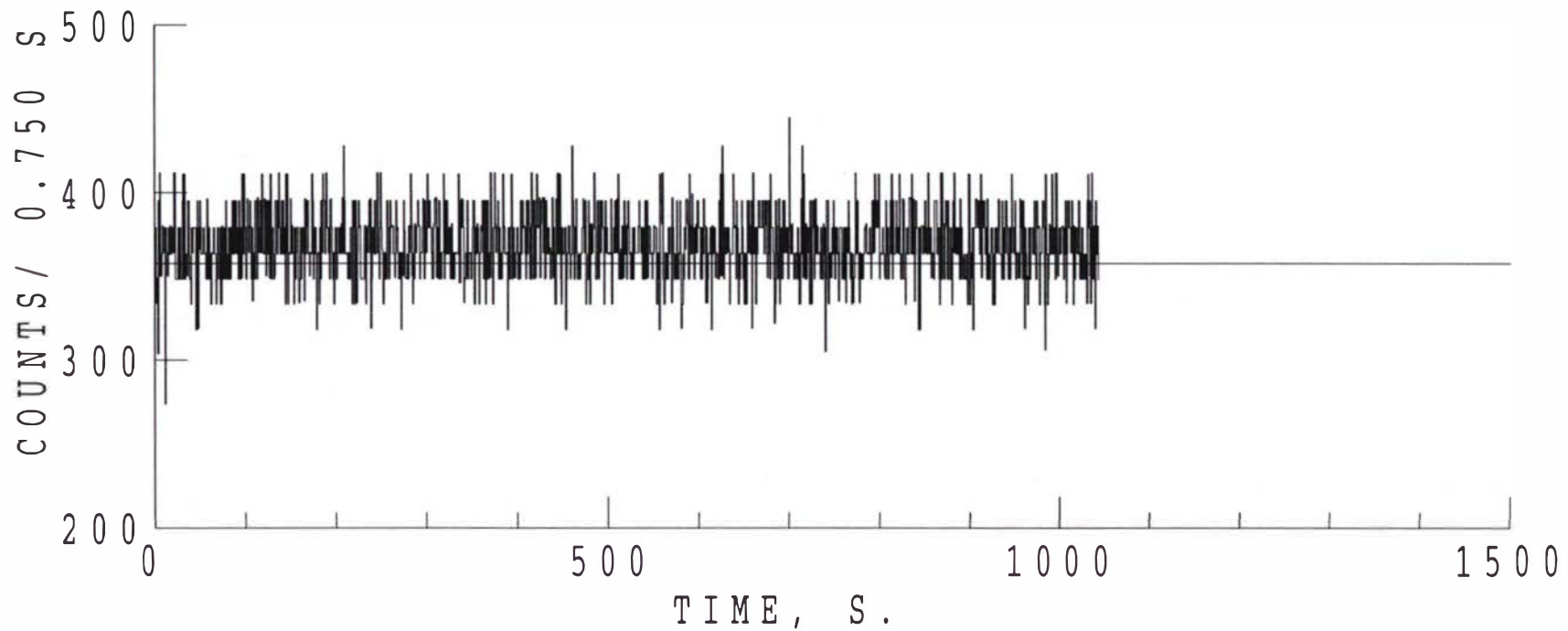
04/08/98 48888.180 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Aug 6 13:43:17 1998
Date: Thu, 6 Aug 1998 15:42:57 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 6964
TIME: TJD=1029 SECONDS=77619
TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N
SIGNIFICANCE: SIGMA
INTENSITY: COUNTS/CM2
LOCATION: ZENITH= 96.9 AZIMUTH=159.5 ERROR= 6.2 DEGREES
COMMENTS:
PROBABLY SGR 1627-41. SINGLE SPIKE, DUR. APPROX. 0.15 S.
WEAKLY VISIBLE ABOVE 100 KEV

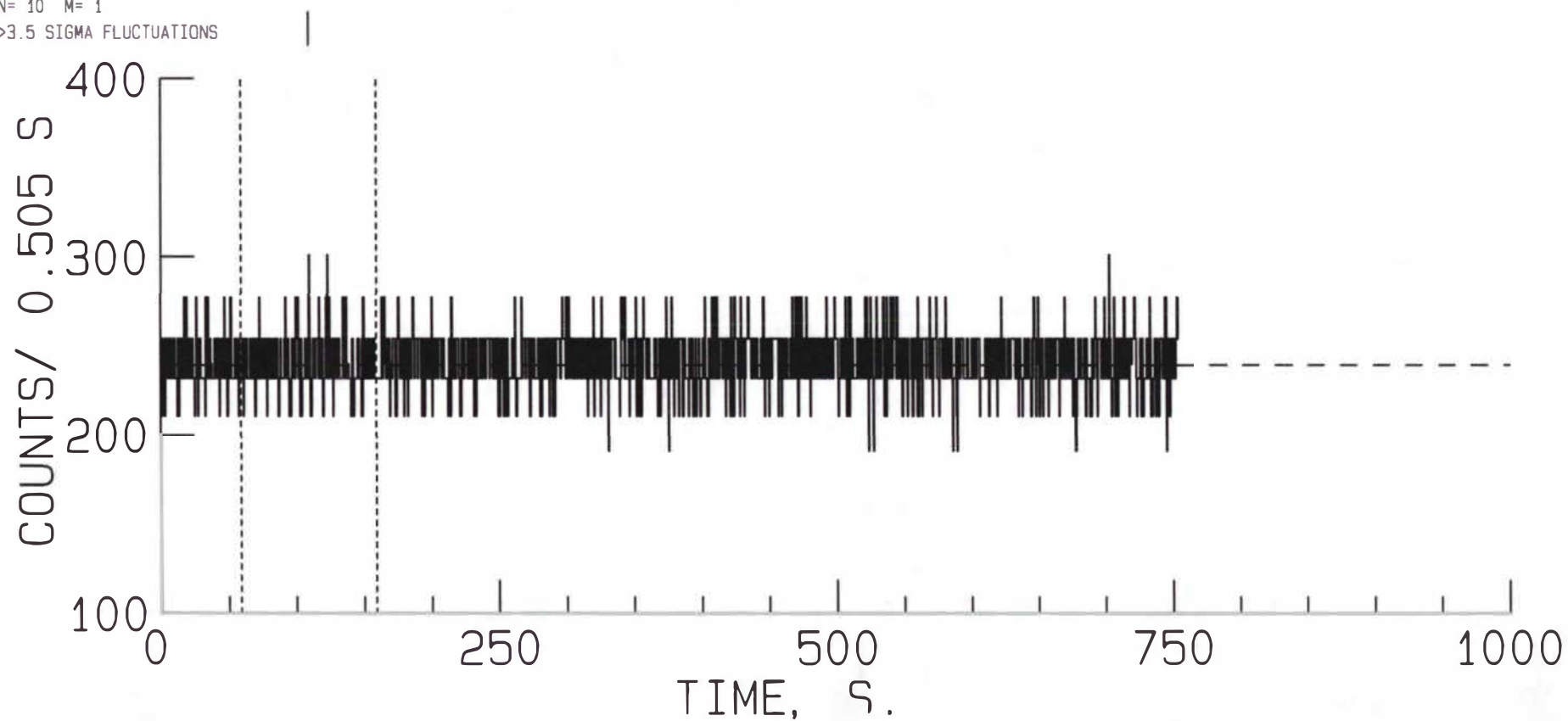
248. - 47.6

Aug 4

ULYSSES RT
4/ 8/98 77436.229 s
22- 149 keV

12/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS

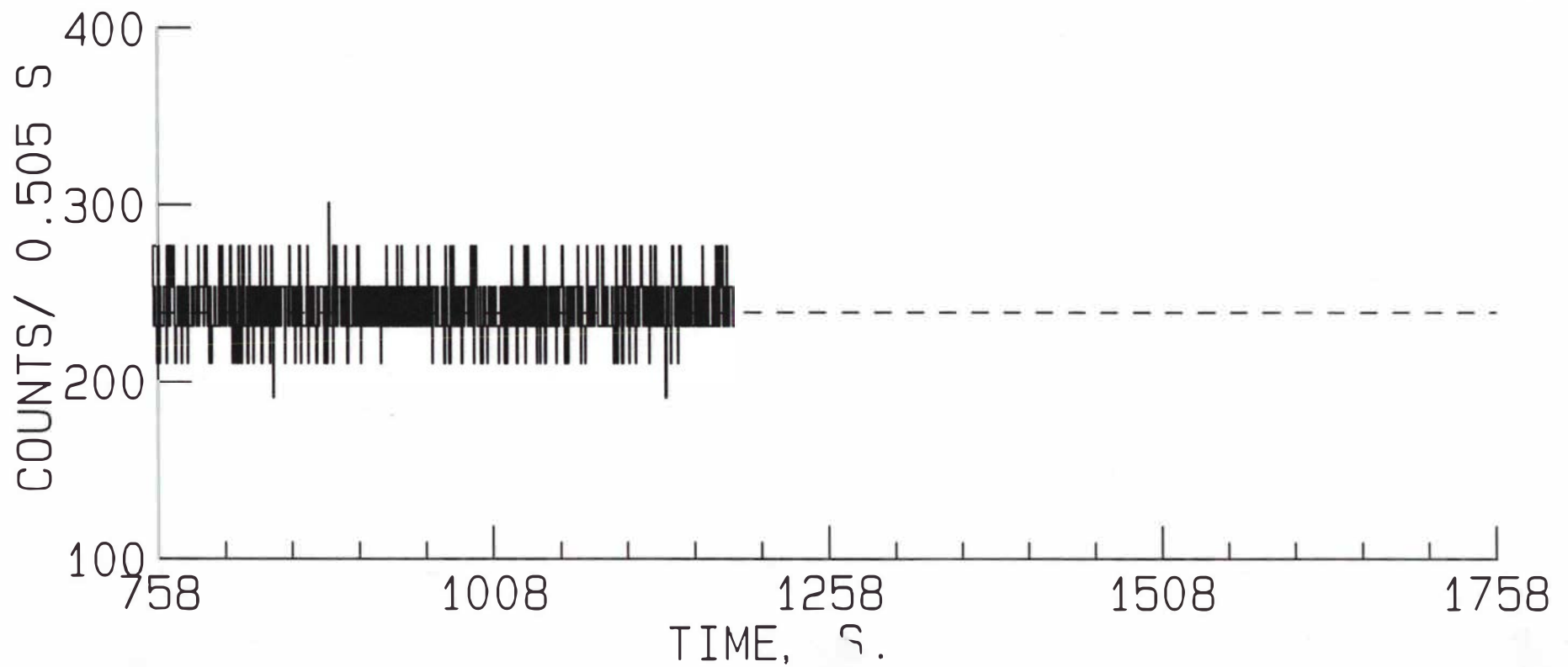


ULYSSES RT

12 / 8 / 98

4 / 8 / 98 77436.229 s

22- 149 keV



From HENZE@fender.msfc.nasa.gov Thu Aug 6 13:46:01 1998
Date: Thu, 6 Aug 1998 15:45:48 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6965

Aug 4

272.2 - 20.4

TIME: TJD=1029 SECONDS=80094

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=105.6 AZIMUTH=180.3 ERROR= 5.8 DEGREES

COMMENTS:

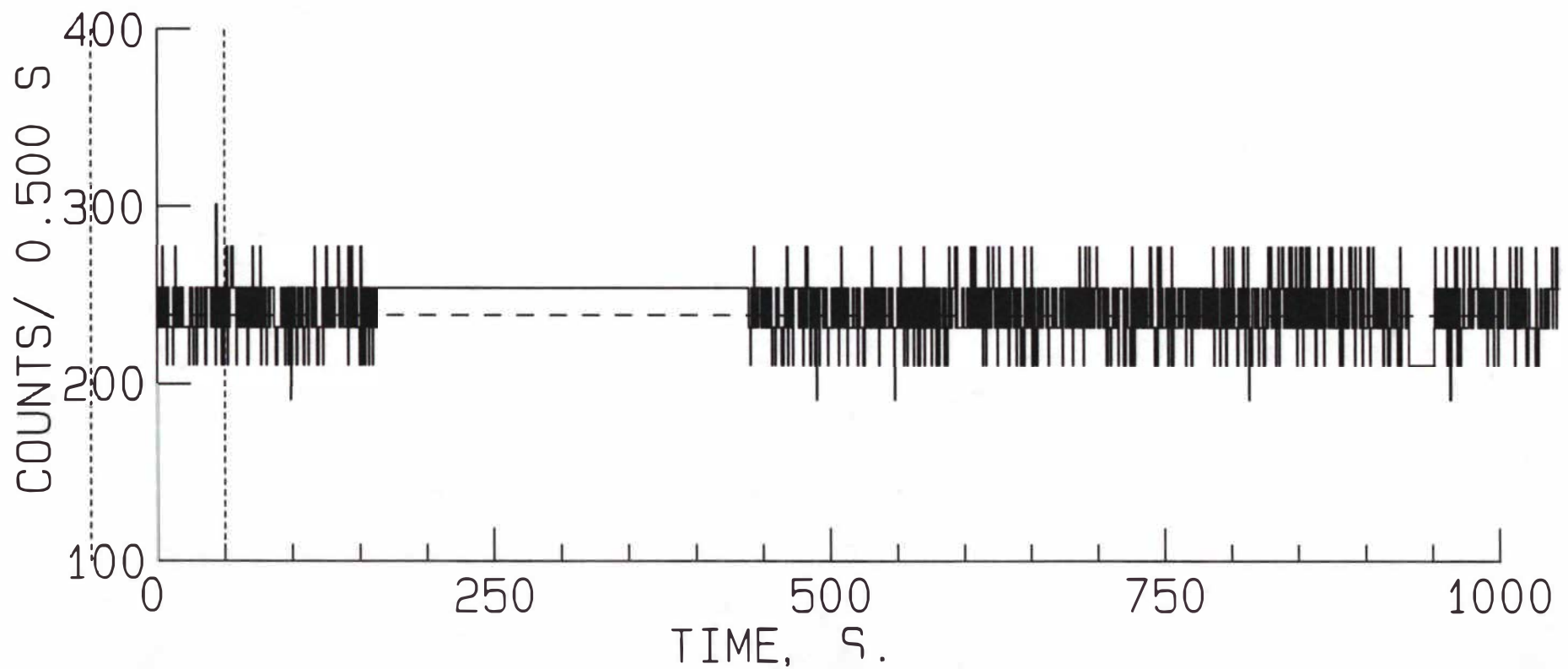
PROBABLY SGR 1806-20. SINGLE SPIKE, DUR. APPROX. 0.15 S.
NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

12 / 8 / 98

4 / 8 / 98 81000.267 s

22- 149 keV

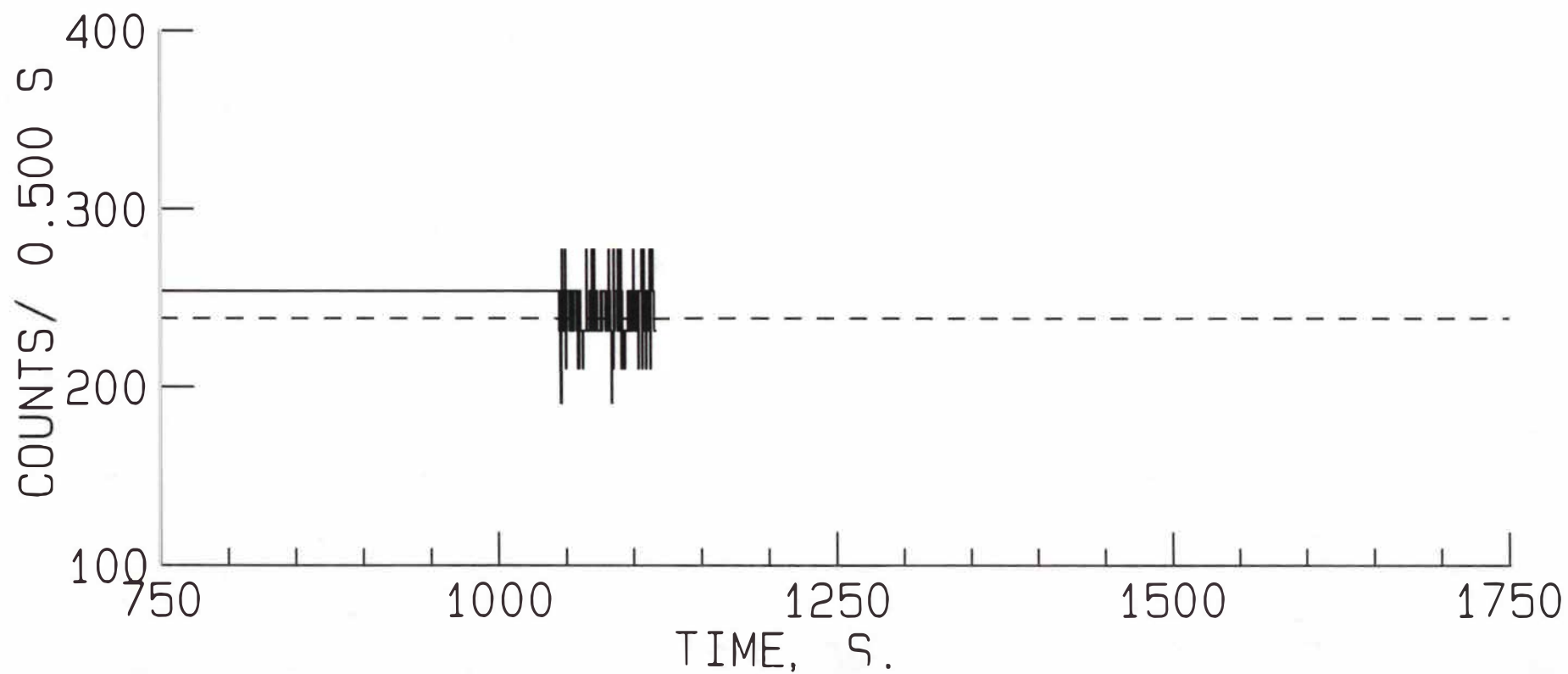


ULYSSES RT

12 / 8 / 98

4 / 8 / 98 81000.267 s

22- 149 keV



From khurley@sunspot Mon Aug 10 09:46 PDT 1998

Date: Mon, 10 Aug 1998 09:50:01 -0700

From: khurley@sunspot (Kevin Hurley)

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

Subject: GRB 980804

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed the following burst:

August 4 1998 05:07 Ulysses time; moderate burst, 32 ms long, possible SGR

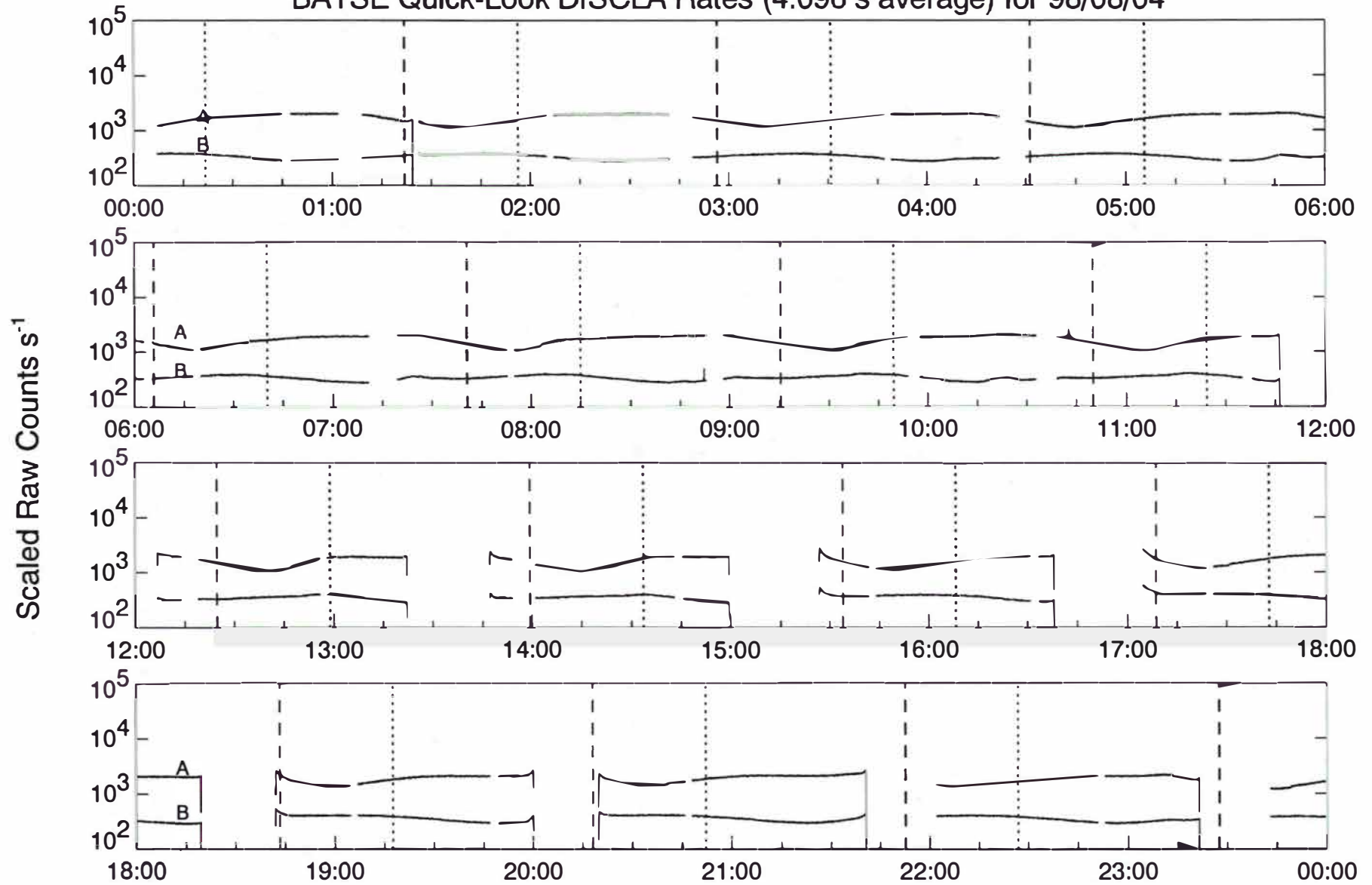
The spacecraft was about 3700 light-seconds from Earth.

Was this event detected by anyone else?

CC: ulyssesbursts alias list

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

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/04

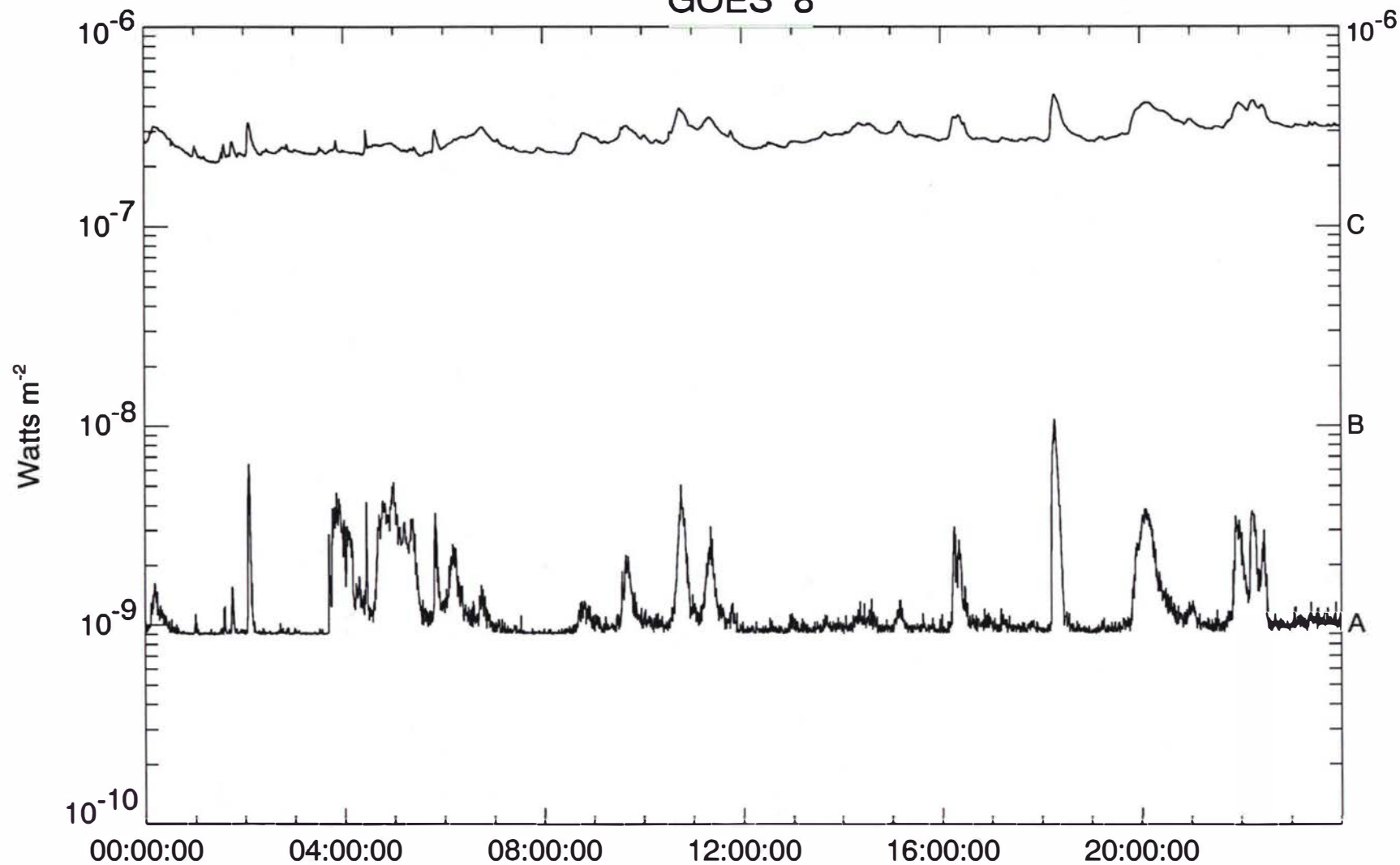


Current Time: 98/08/08, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/04, 0000:00

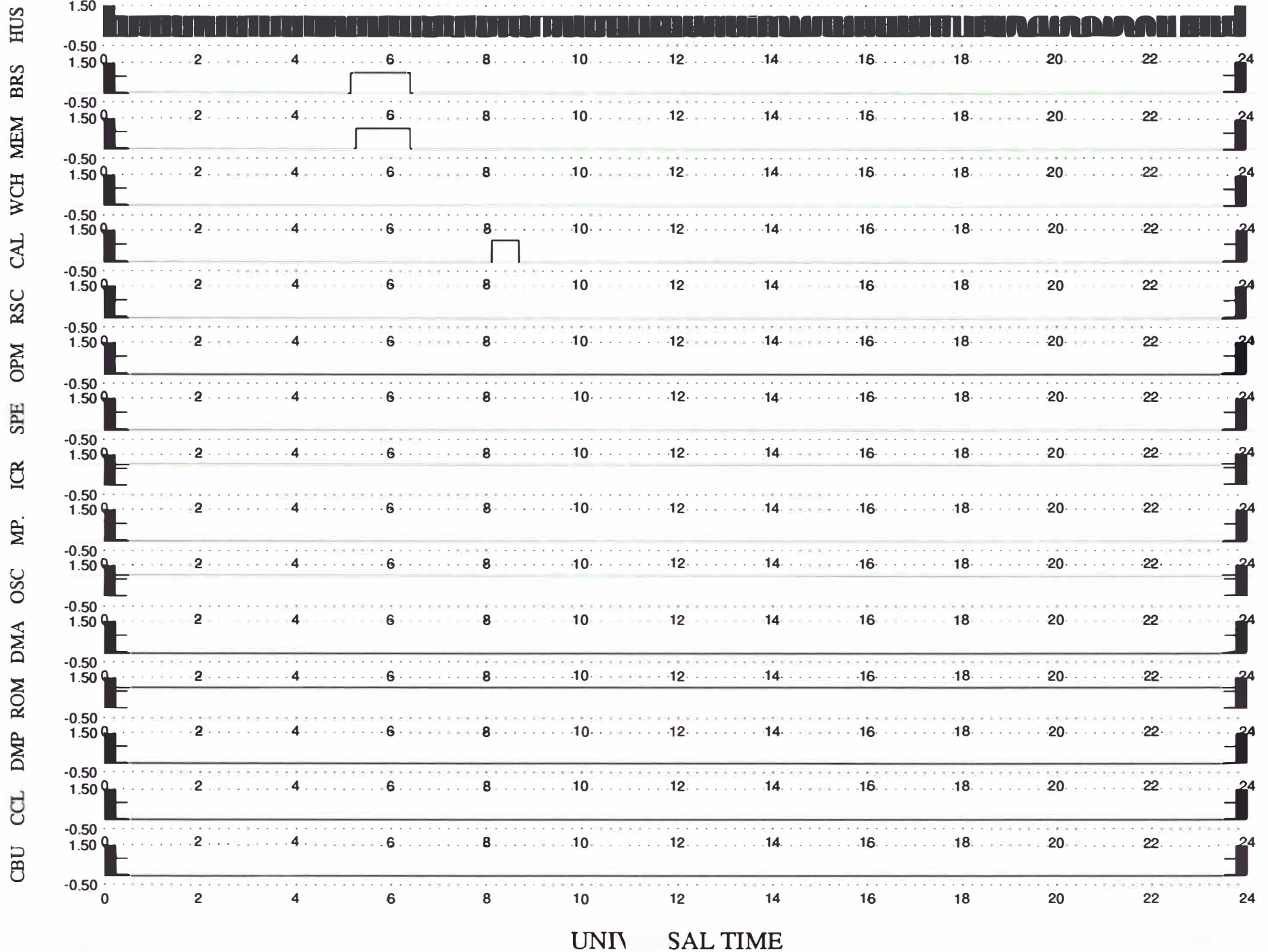
Plot created: 98/08/08, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

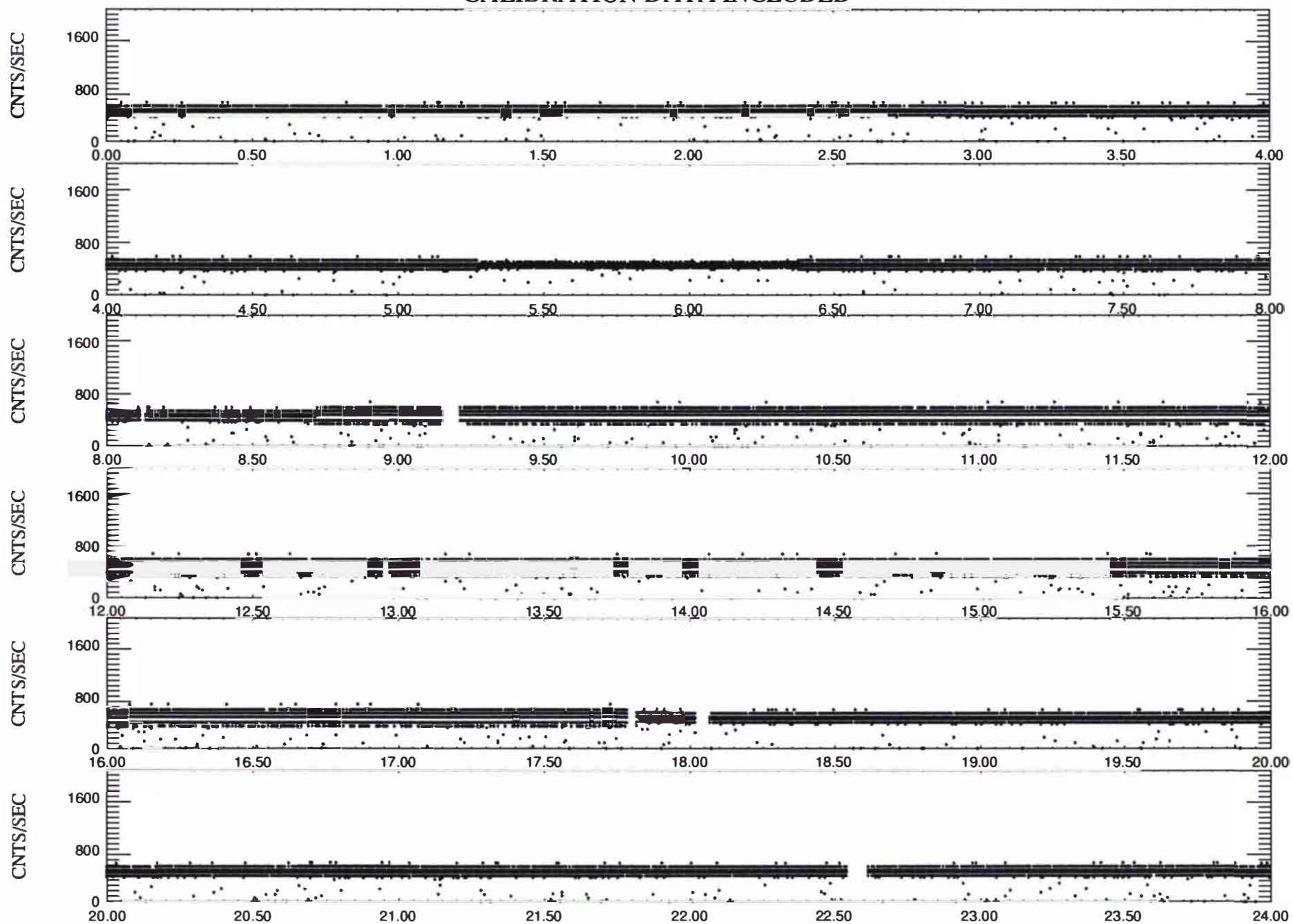
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 5

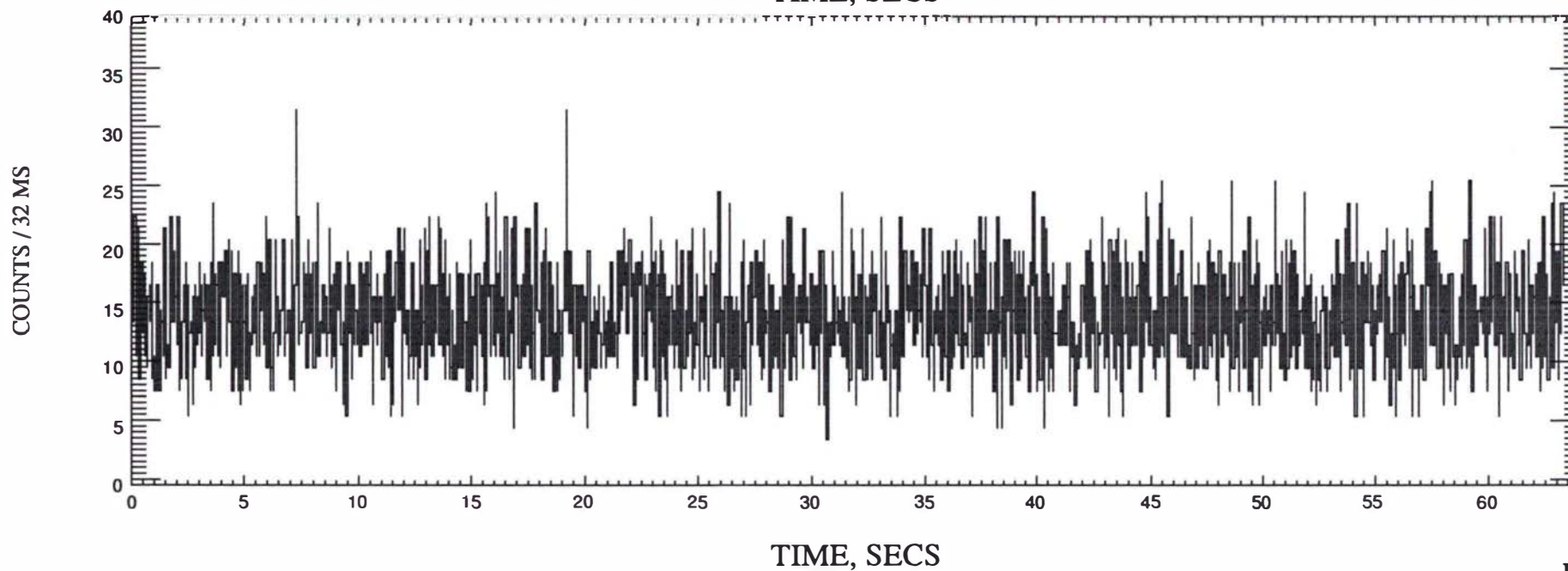
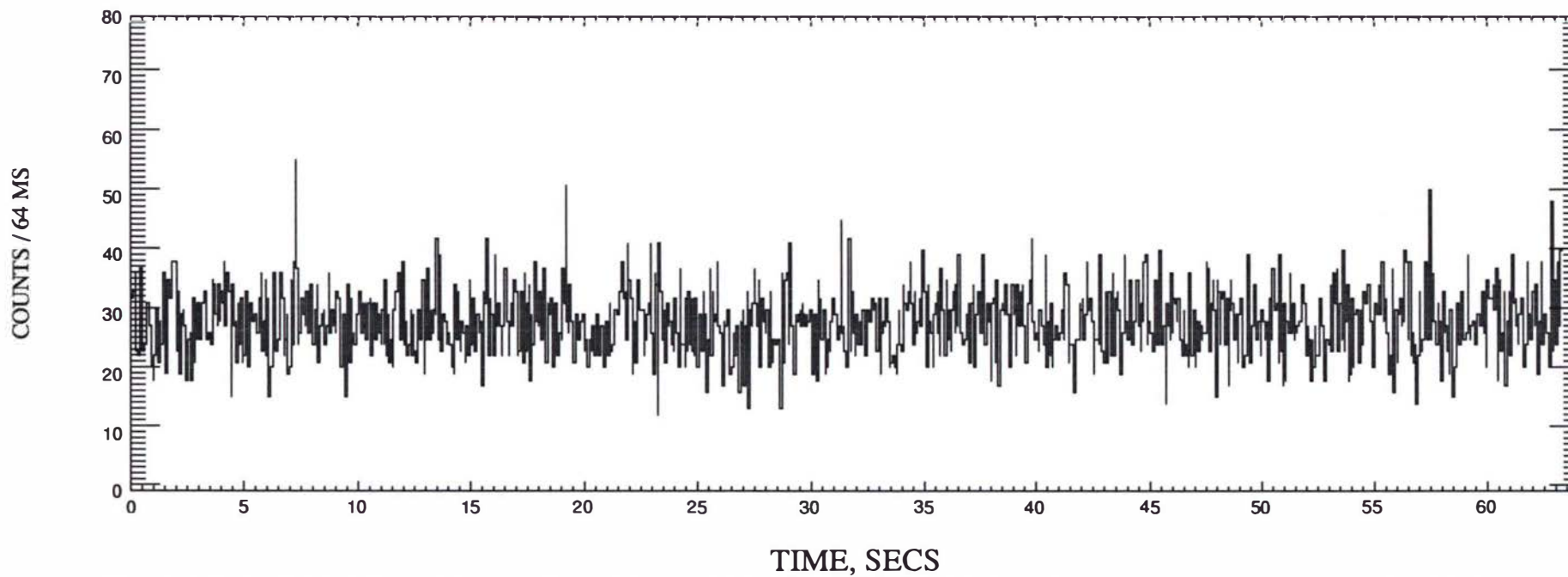


CALIBRATION DATA INCLUDED

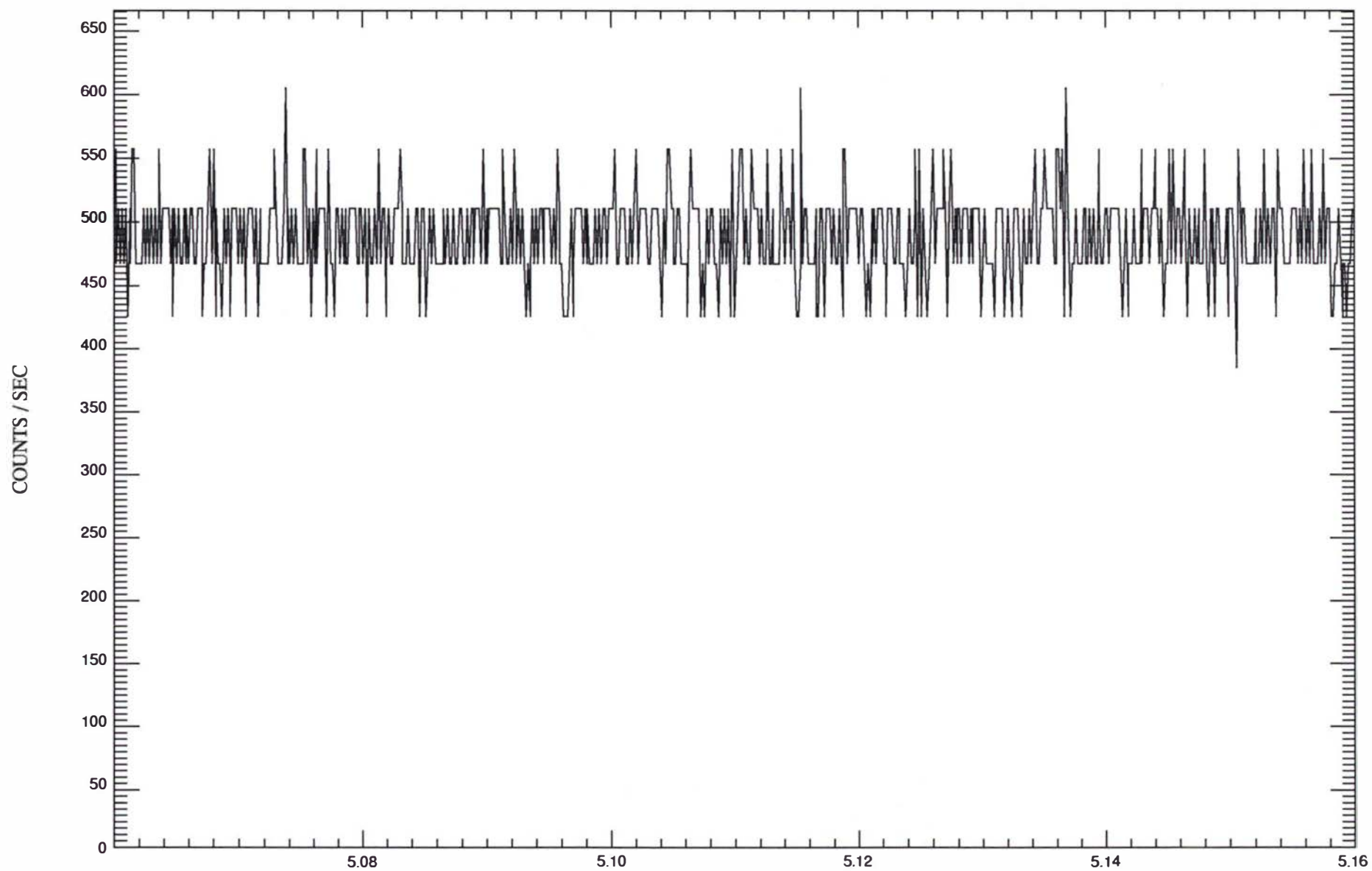


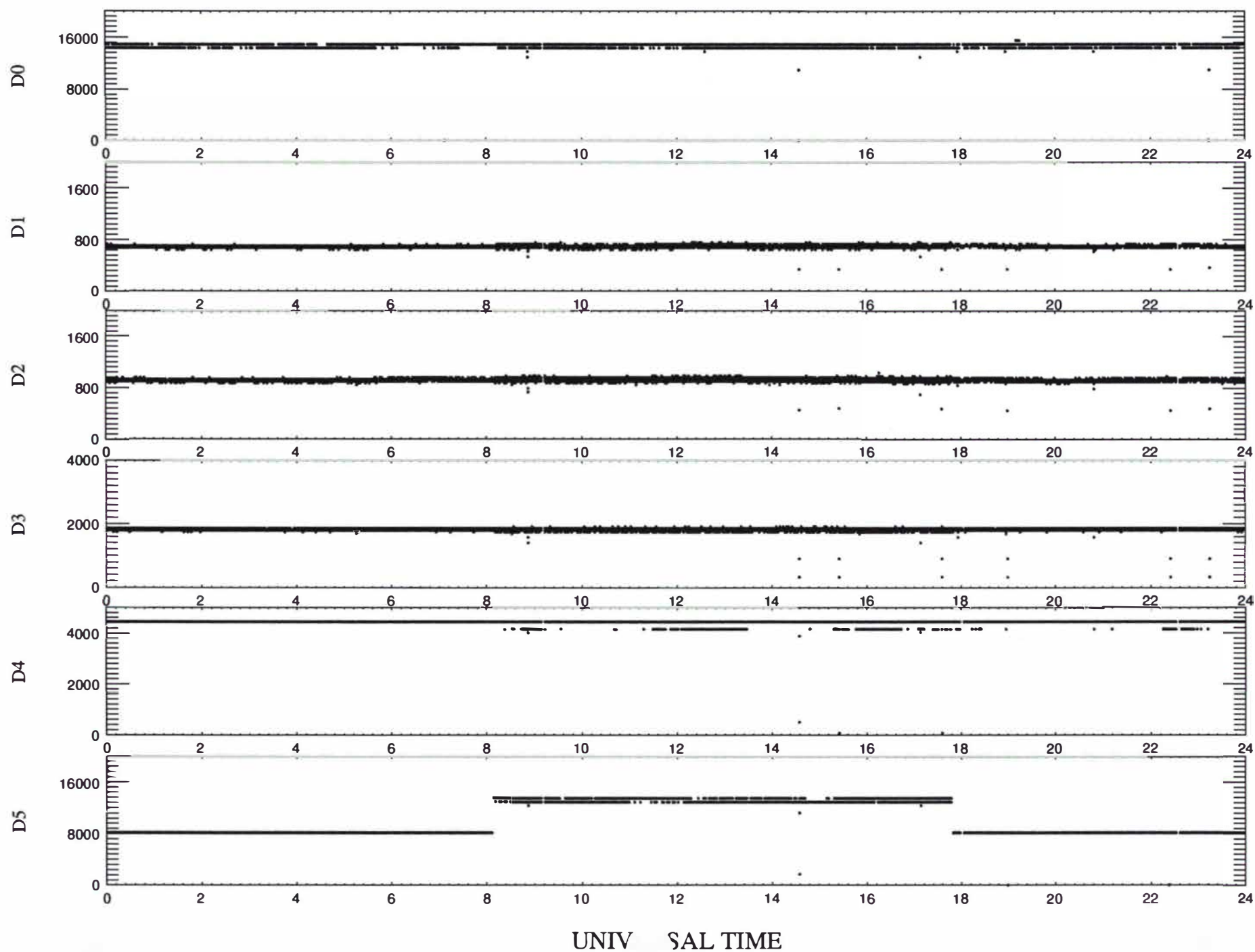
UNIV SAL TIME

Burst Counter 5 at UT= 5.111485002306 h=18401.346 s 05:06:41.346



CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Fri Aug 7 14:34:57 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Fri, 7 Aug 1998 16:33:44 -0500 (CDT)

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

Subject: Burst Trigger Message

Trigger

BATSE BURST TRIGGER

NO.: 6966

Aug 5

TIME: TJD=1030 SECONDS=37672

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=110.3 AZIMUTH=182.3 ERROR=2. DEGREES

COMMENTS:

SGR 1806-20. SINGLE PULSE LASTING ABOUT 0.16 SEC. SOME
SUBSTRUCTURE. NOT VISIBLE ABOVE 100 KEV.

From WOODSP@fender.msfc.nasa.gov Fri Aug 7 14:37:17 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA20801; Fri, 7 Aug 1998 14:37:16 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA05730; Fri, 7 Aug 1998 14:37:14 -0700
Date: Fri, 7 Aug 1998 16:37:15 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980807163715.2021f06b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6967
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6967
EVENT OF 1998 AUG 5 DAY OF YEAR=217
EVENT CROSSING TIME AT BATSE : 49024. S. OR 13:37:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 115.000 -24.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/ 8/ 98 IS:
RA= 154.891 DEC= 6.442 DIST= 6.301 AU
BATSE-ULYSSES DISTANCE = 942681835. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.61 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2046.64 SECS.
CROSSING TIME AT ULYSSES IS 46977. S. OR 13:02:57 +/- 433.38 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/ 8/ 98 IS:
RA= 111.490 DEC= 22.830 DIST= 2.470 AU
MARS-BATSE DISTANCE = 369514656. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=133.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -841.32 SECS.
CROSSING TIME AT MARS IS 48183. S. OR 13:23:02 +/- 143.61 SECONDS

BATSE BURST TRIGGER

NO.: 6967

TIME: TJD=1030 SECONDS=49024

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=56.7 AZIMUTH=59.5 ERROR=8 DEGREES

COMMENTS:

GRB LASTING AT LEAST 25 SECONDS. DISCLB READOUT STARTS AFTER
BEGINNING OF BURST. NOT VISIBLE ABOVE 300 KE

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6967	980805	11030	49024	4000	115	-24	25

BATSE BURST# 6967

ULYSSES RT

7 / 8 / 98

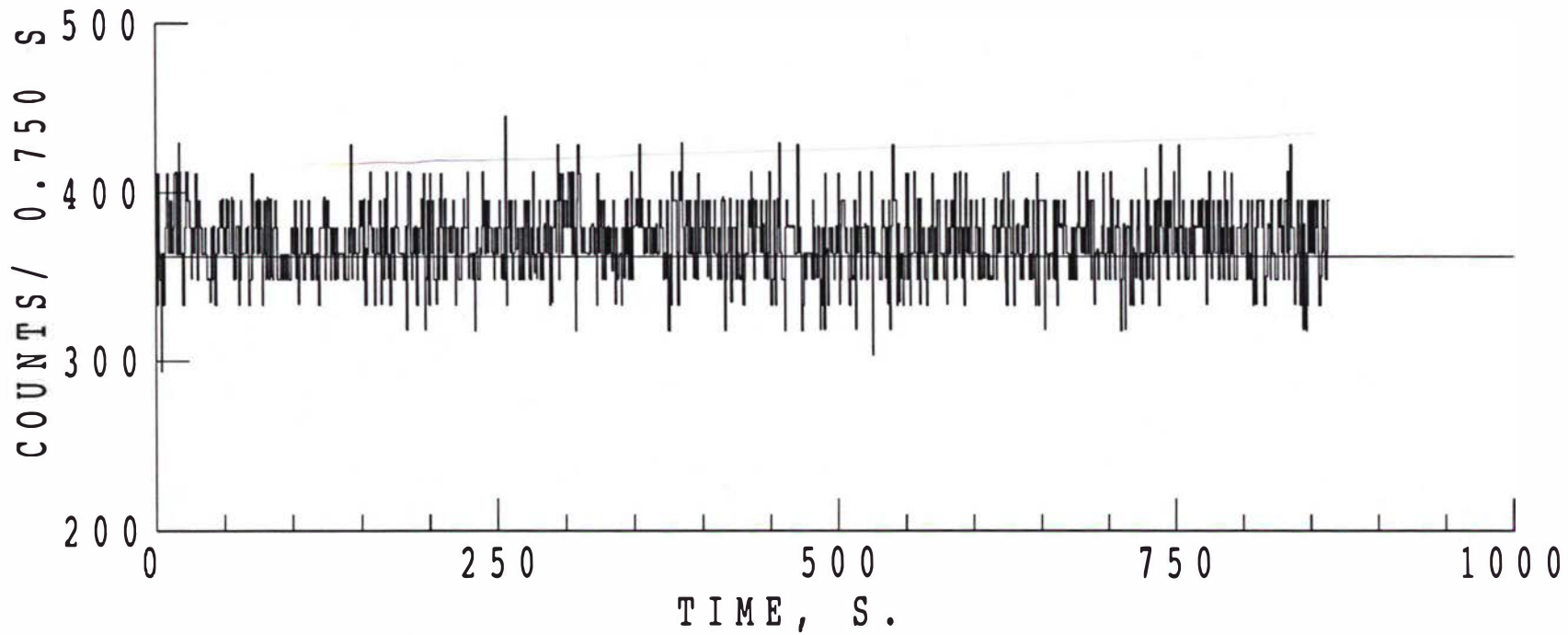
5 / 8 / 98 46548.062 s

0.250 S INTERVALS REGROUPED BY 3

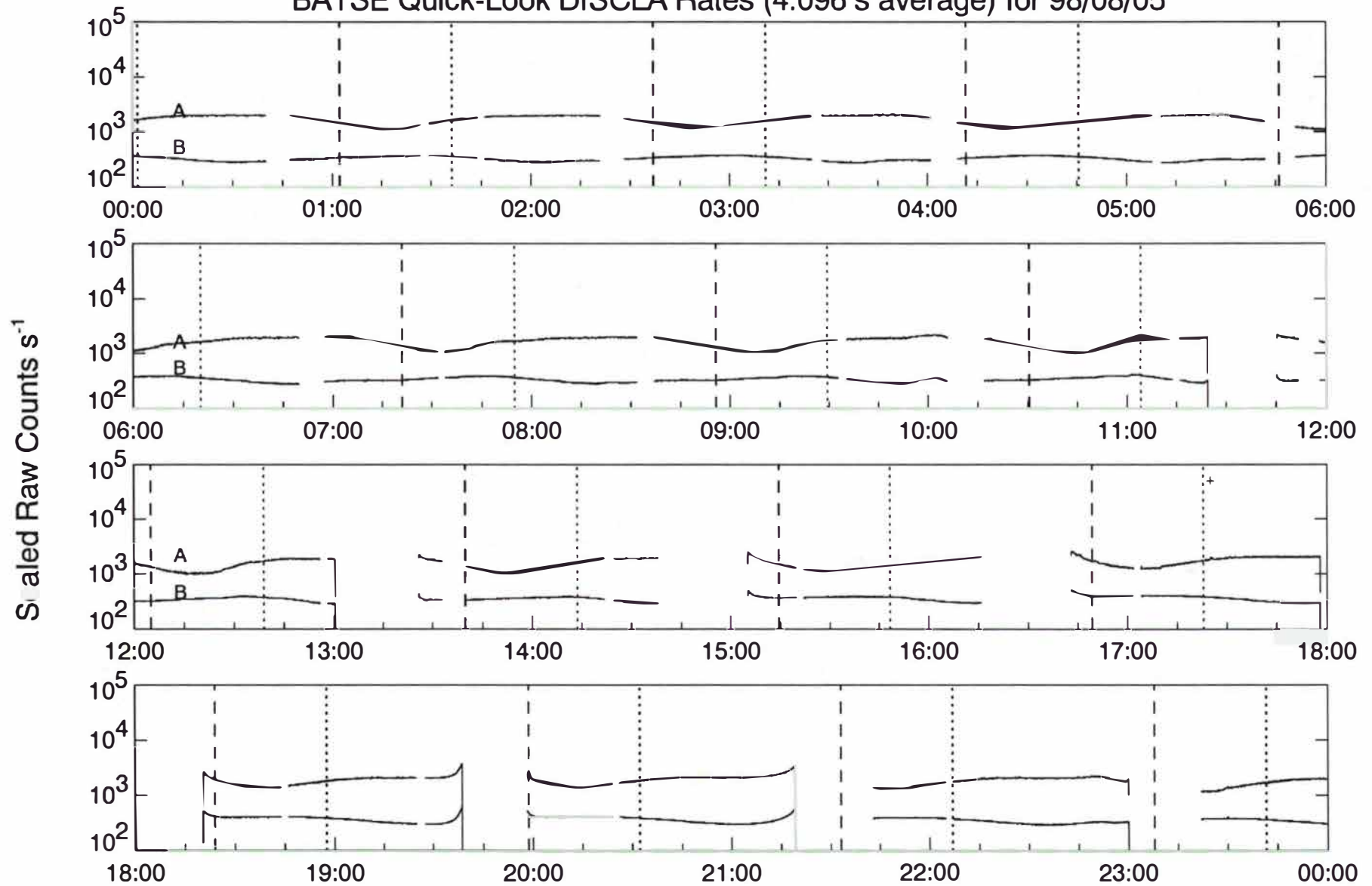
0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/05

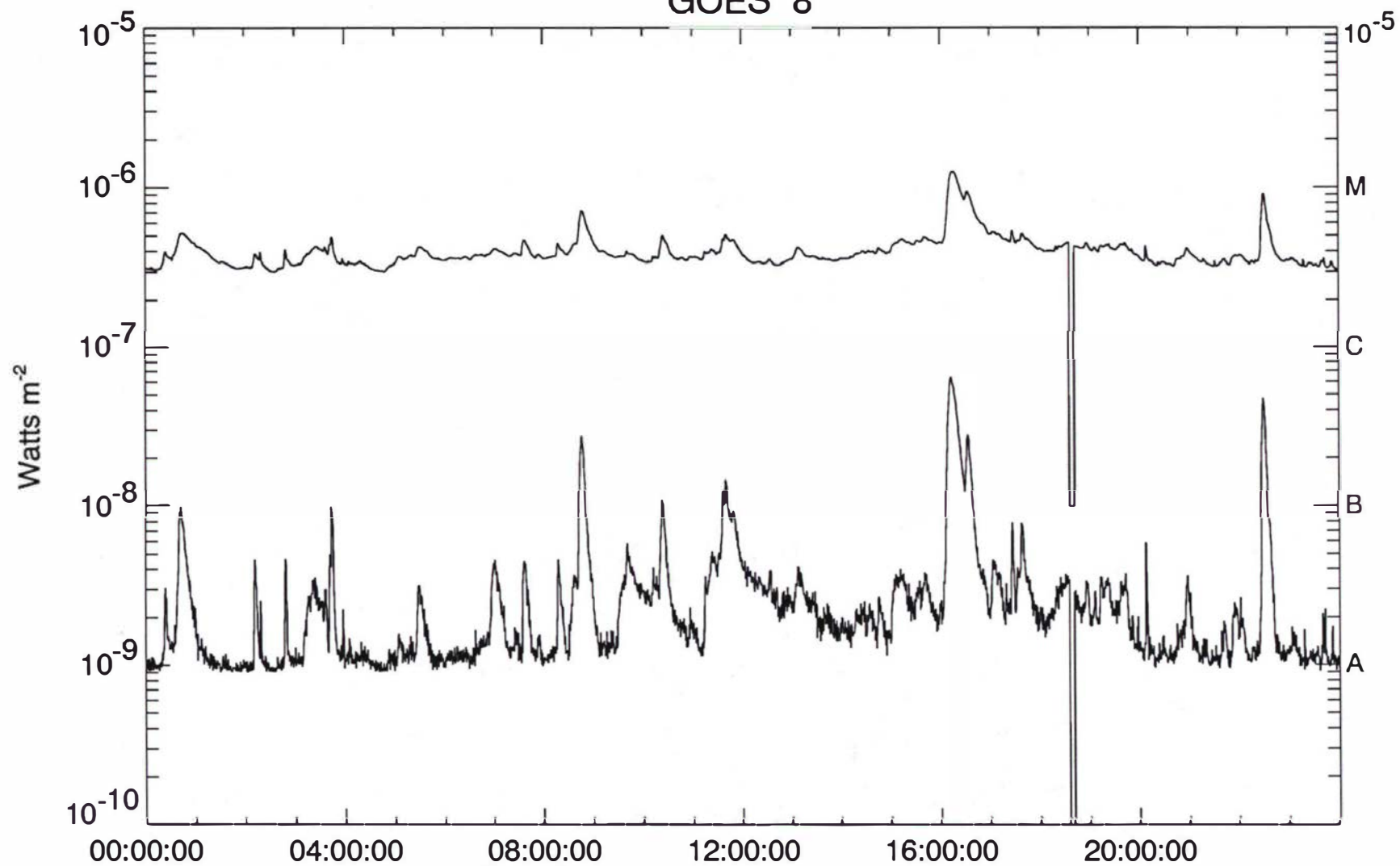


Current Time: 98/08/09, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



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

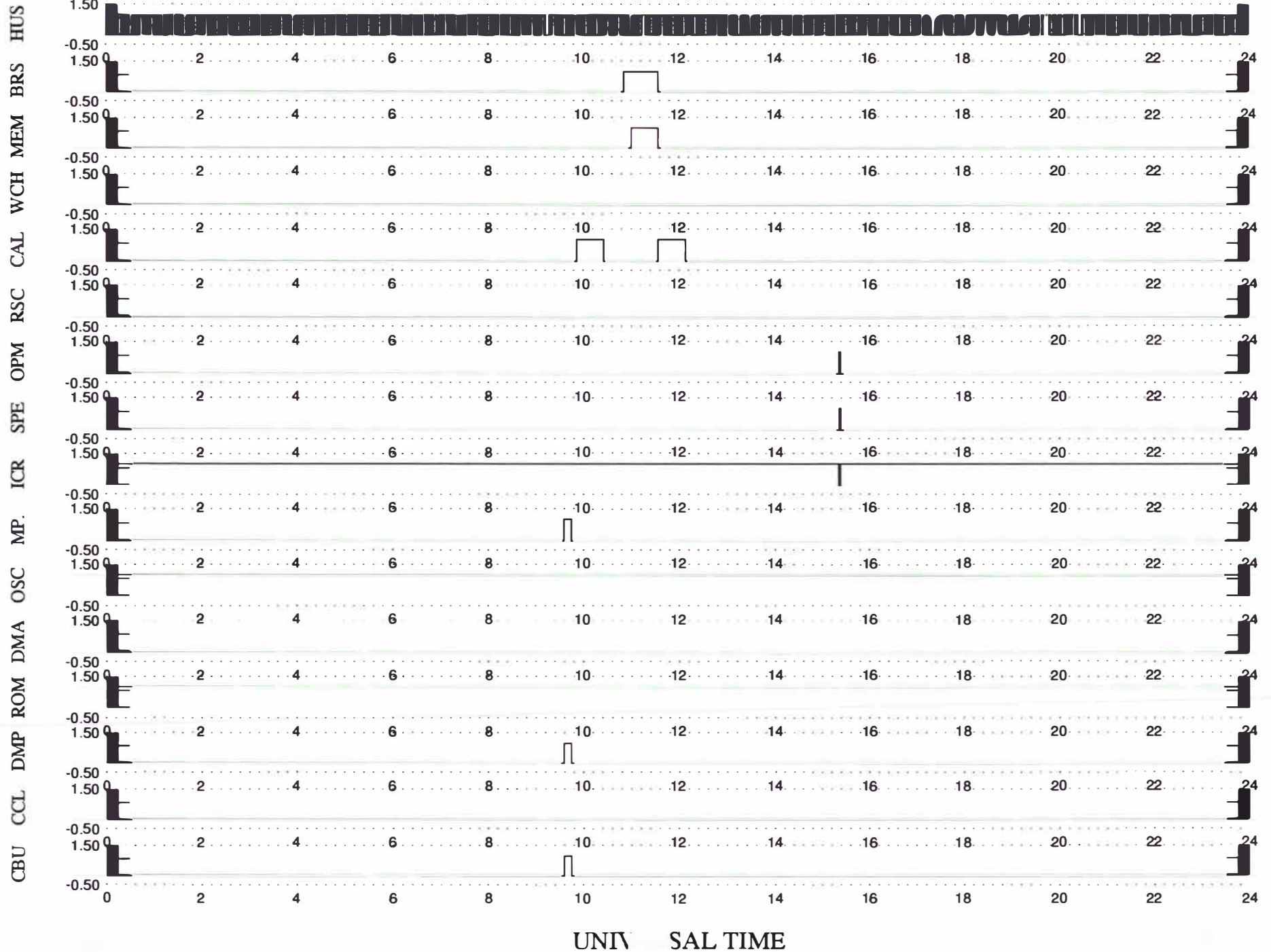
Plot created: 98/08/09, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 6, 1 - 1, 6

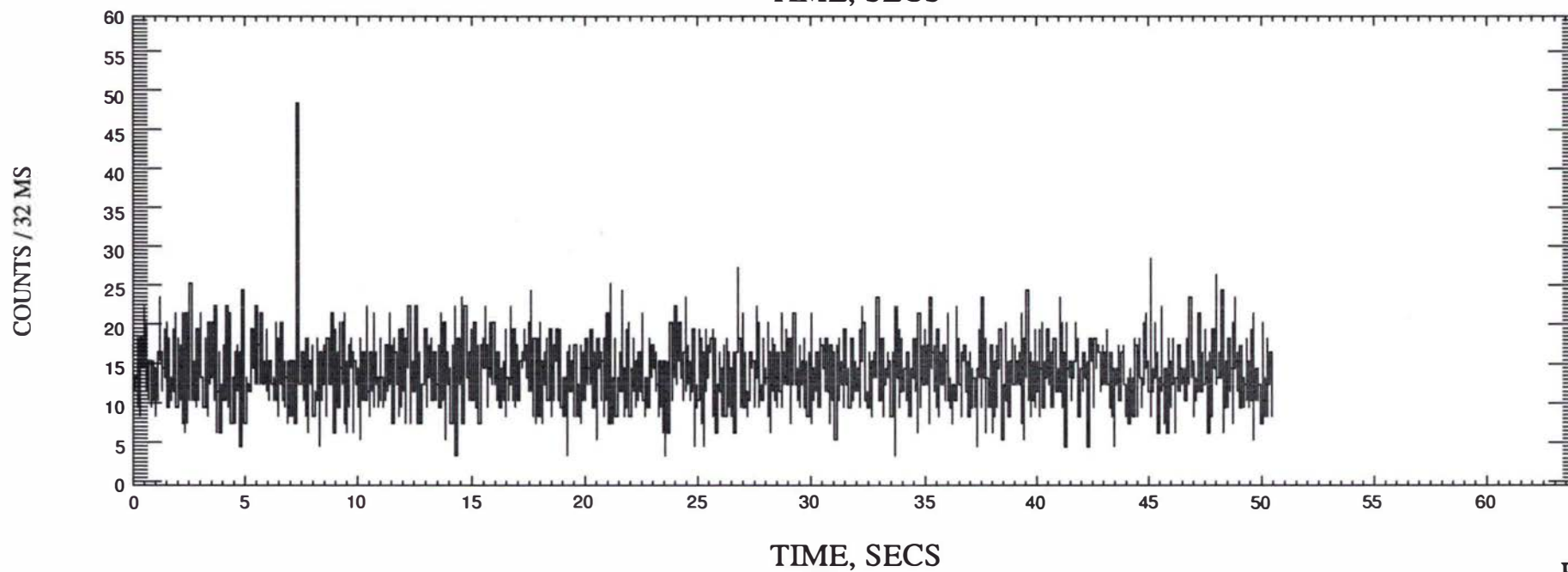
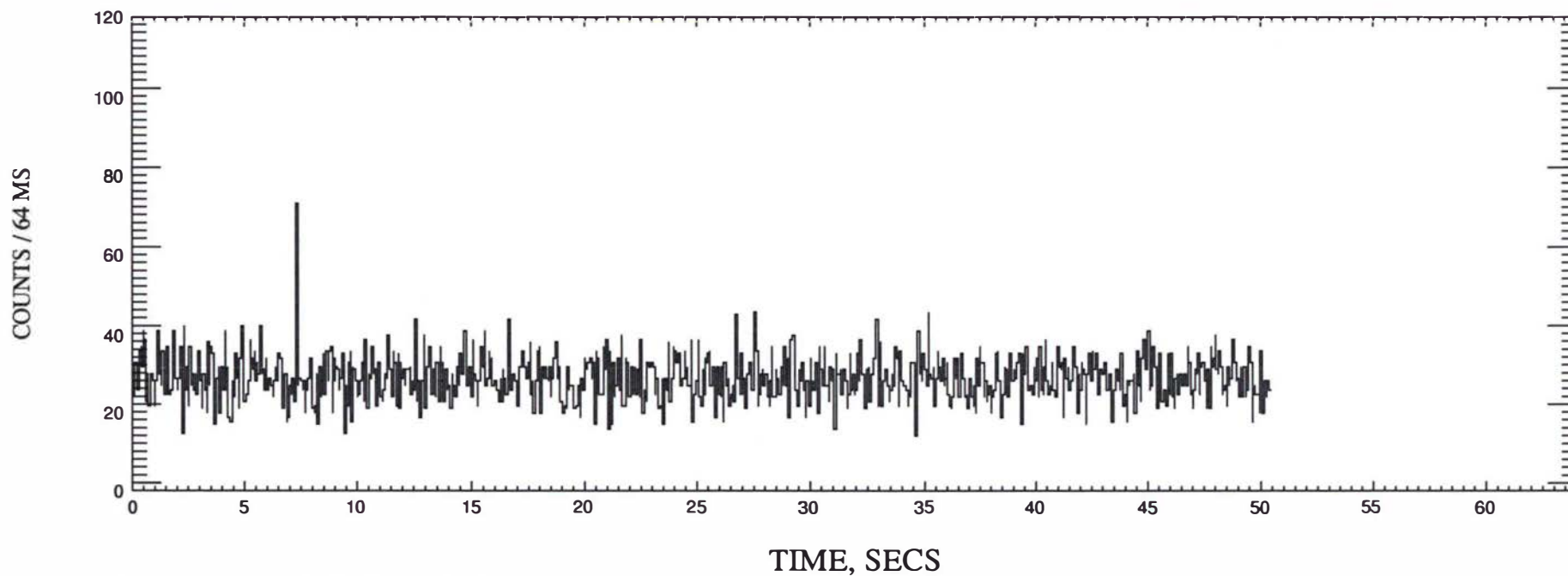


CALIBRATION DATA INCLUDED

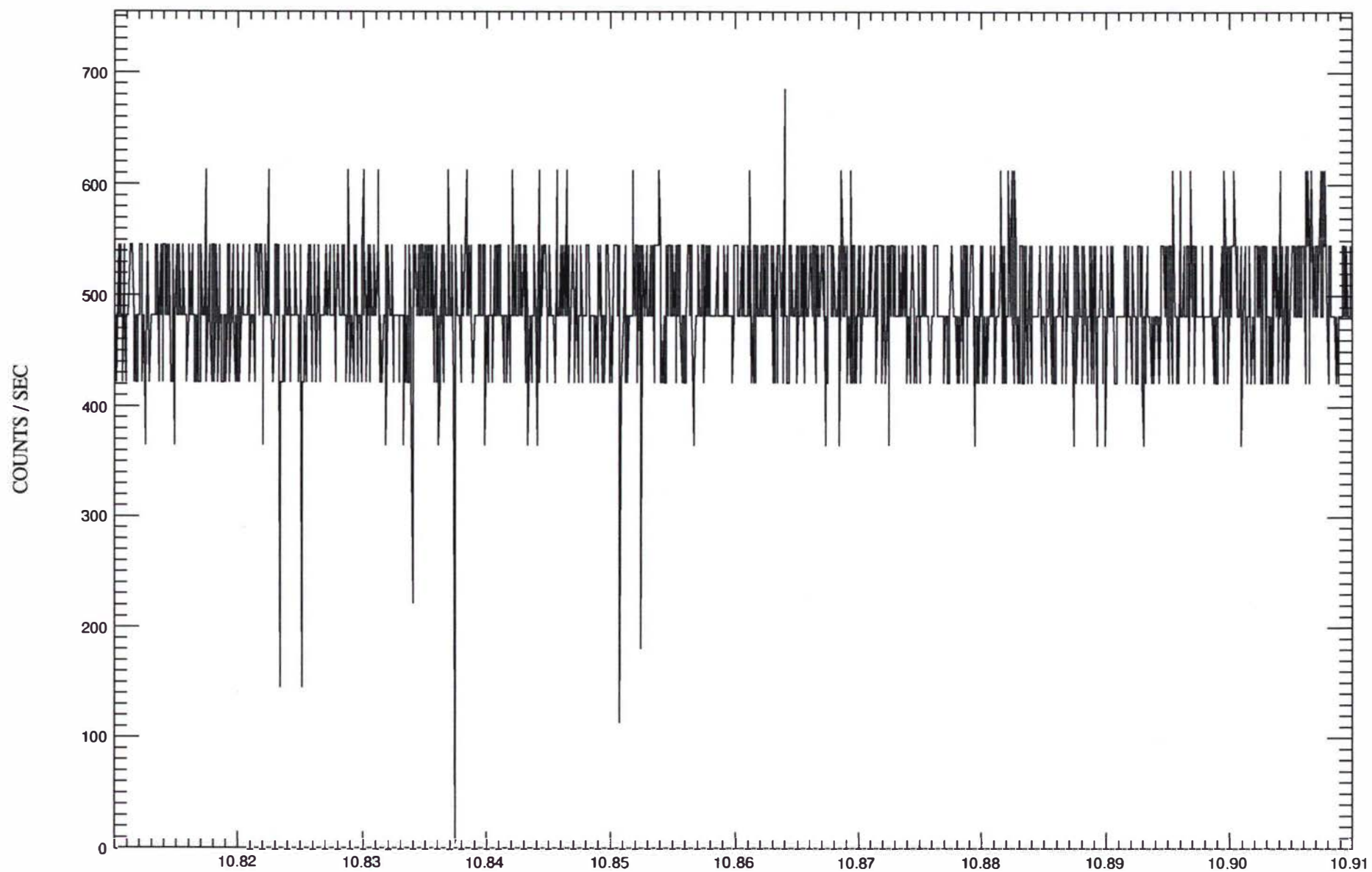


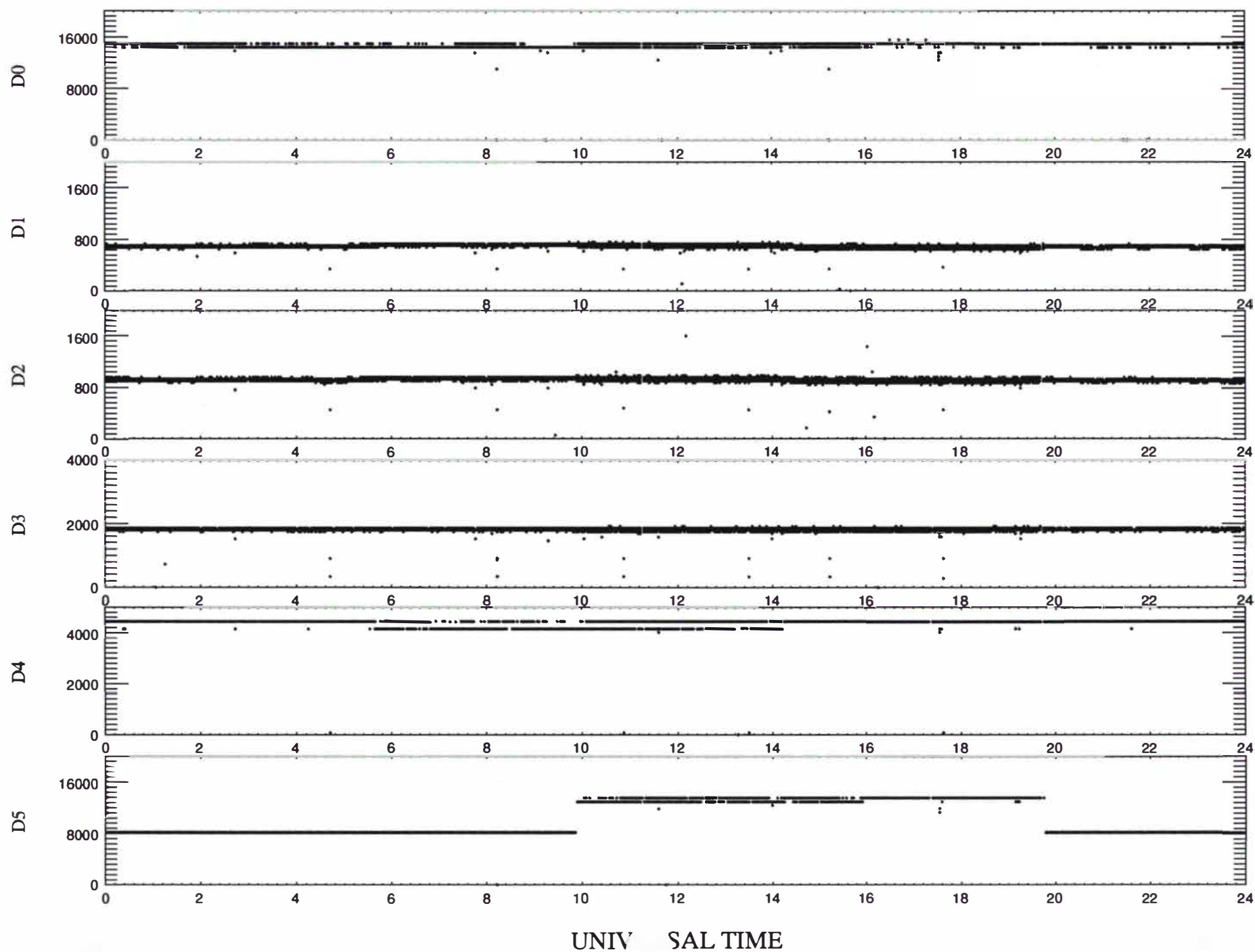
UNIV SAL TIME

Burst Counter 6 at UT=10.864126091003 h=39110.854 s 10:51:50.854



CALIBRATION DATA INCLUDED





From MOORETX@fender.msfc.nasa.gov Fri Aug 7 09:23:52 1998

From: MOORETX@fender.msfc.nasa.gov

Date: Fri, 7 Aug 1998 11:20:02 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6968

TIME: TJD=1031 SECONDS=38337

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

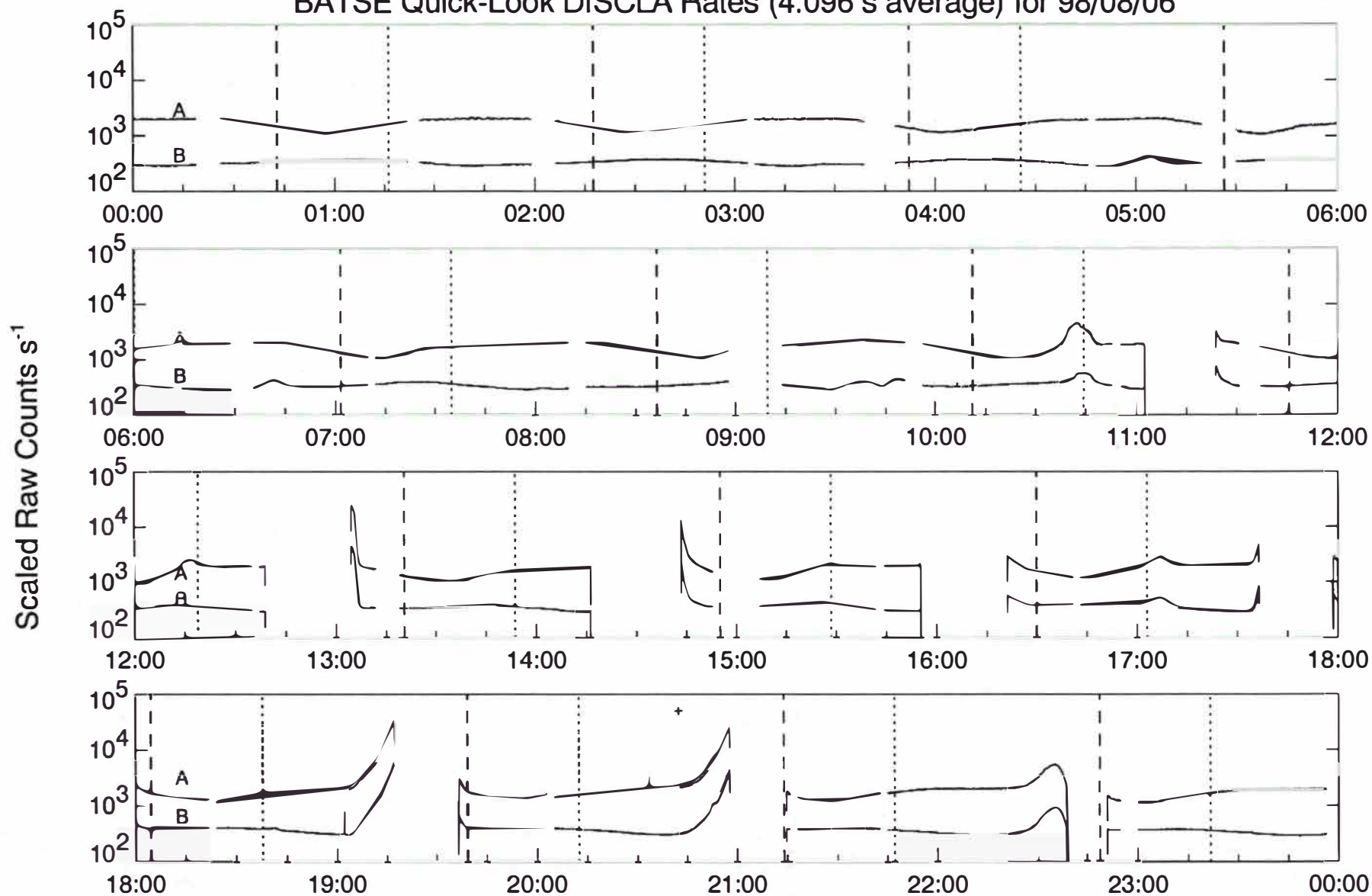
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/06

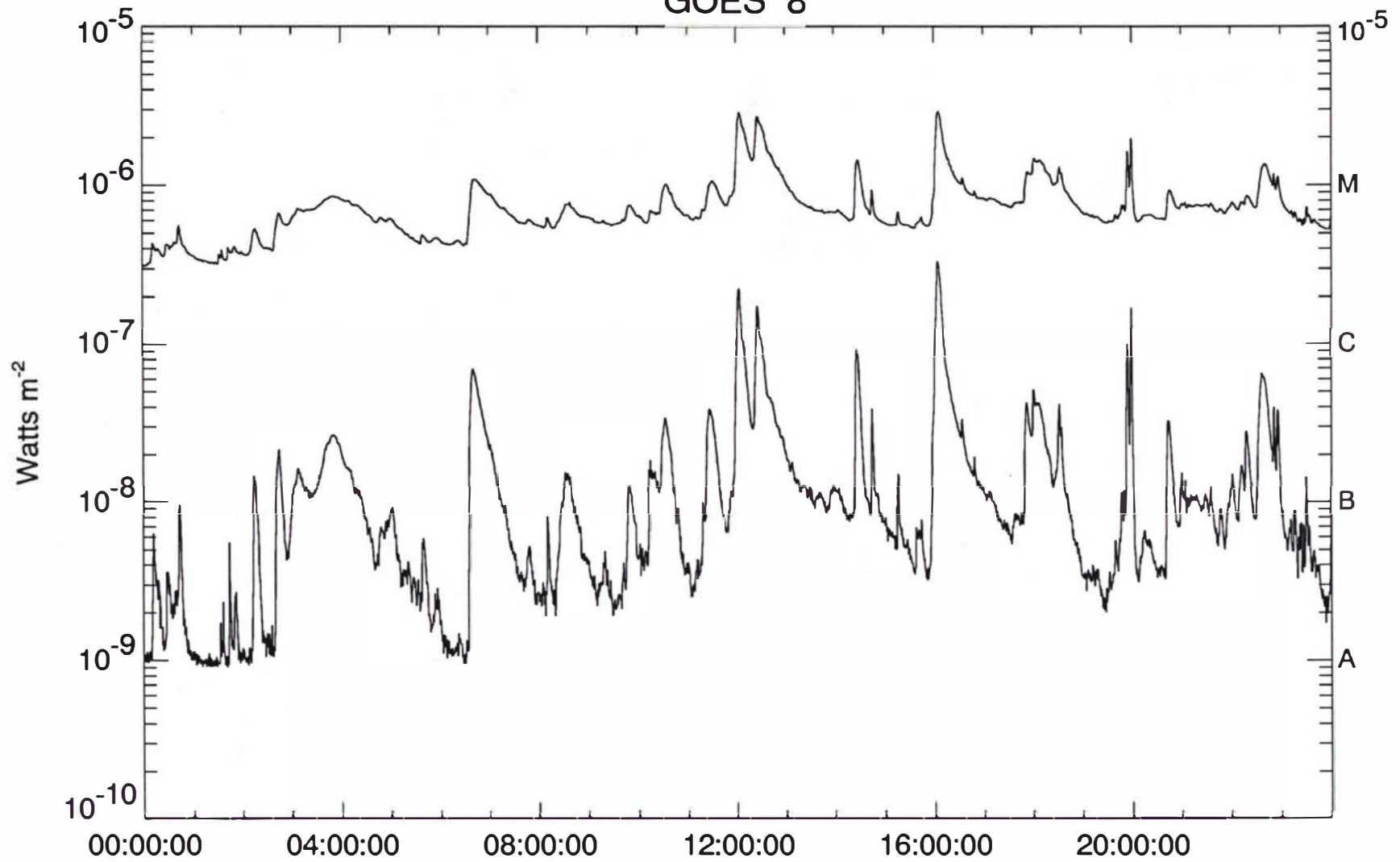


Current Time: 98/08/10, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

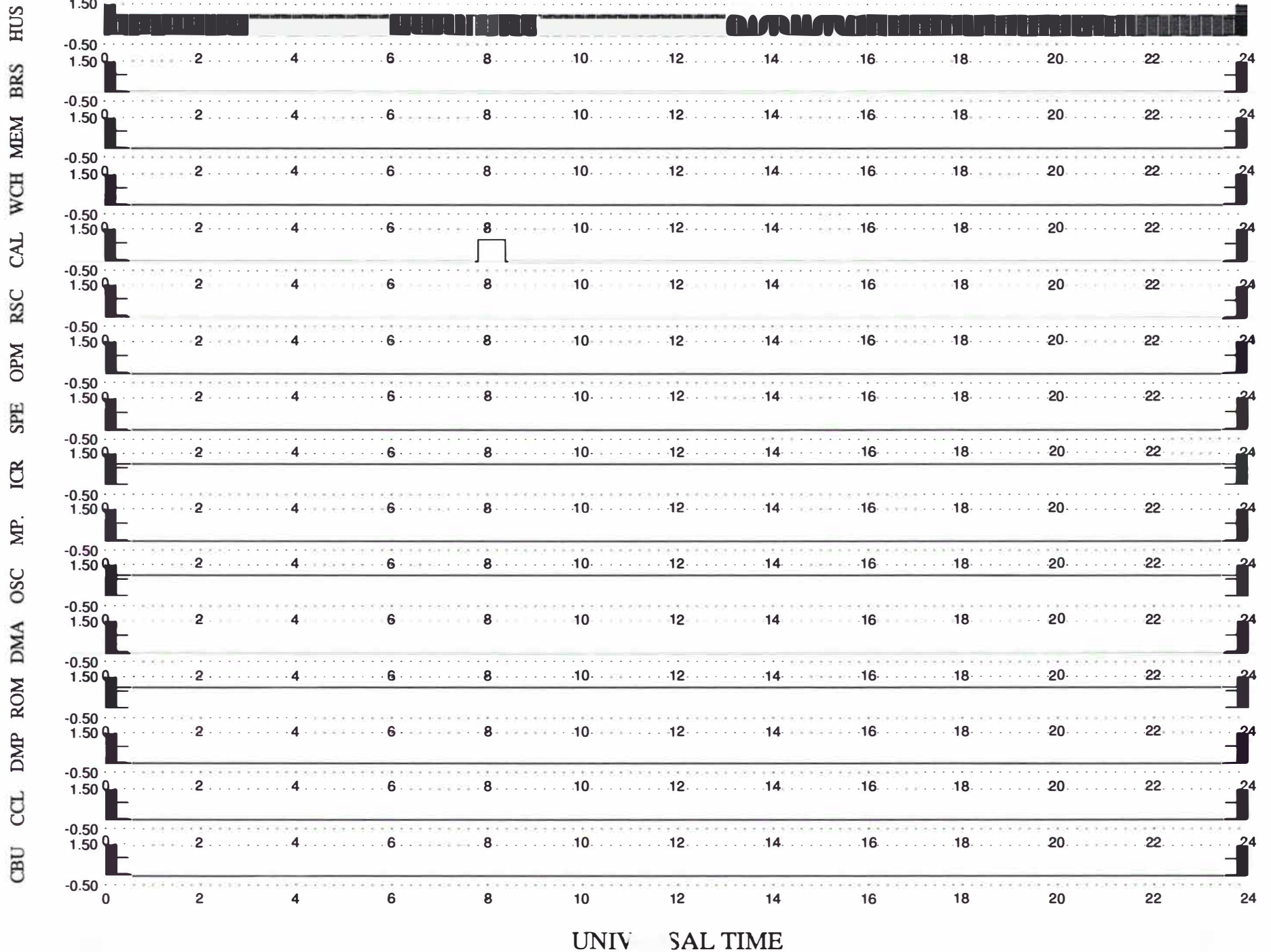


Data Start: 98/08/06, 0000:00

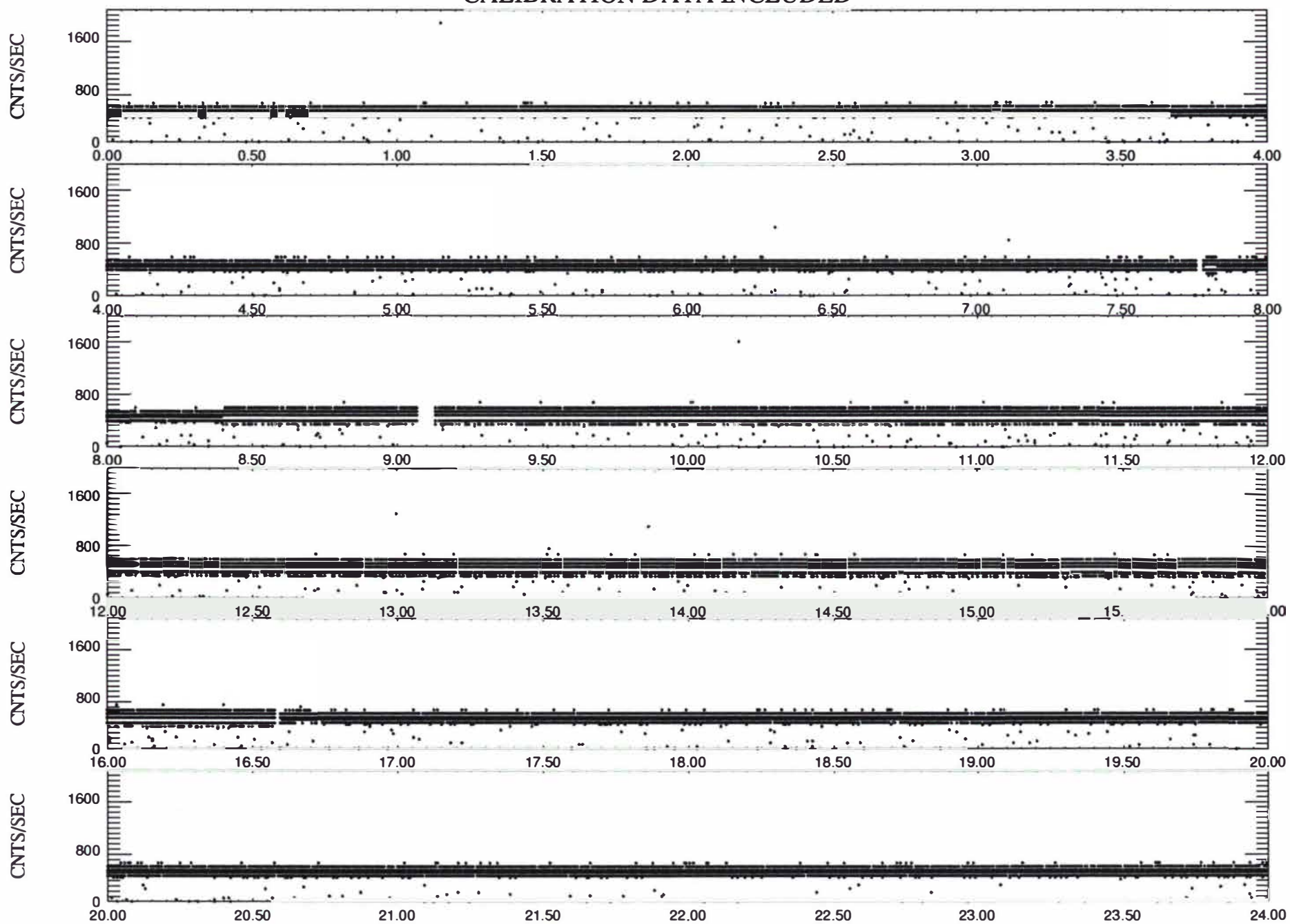
Plot created: 98/08/10, 1007

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

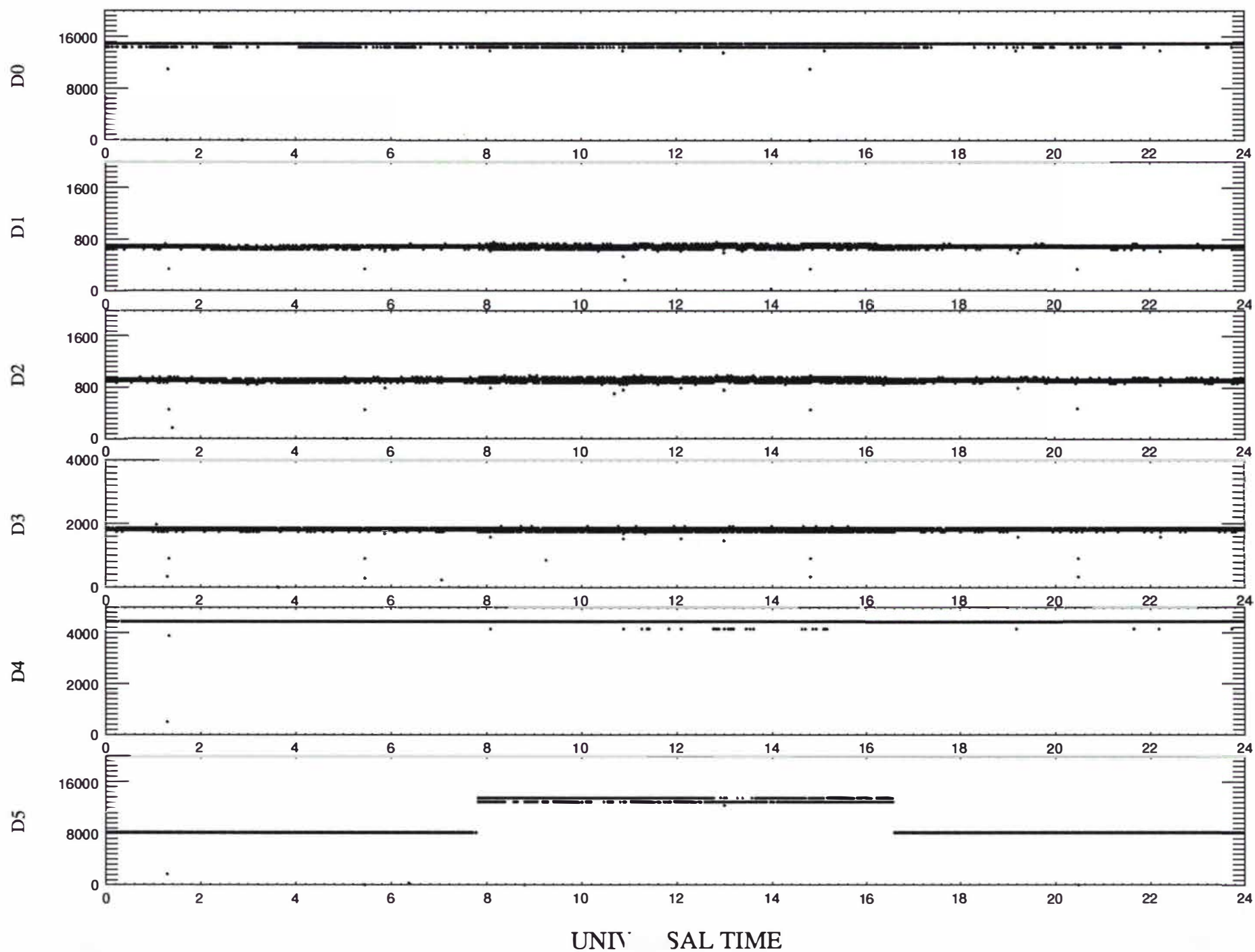
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From HENZE@fender.msfc.nasa.gov Mon Aug 10 14:14:21 1998
Date: Mon, 10 Aug 1998 16:13:54 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 6969

TIME: TJD=1032 SECONDS=11920

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 25.0 AZIMUTH= 0.0 ERROR= 3.7 DEGREES

COMMENTS:

GOES B9.3 FLARE, NO OPTICAL IDENT. SINGLE PULSE, DUR. APPROX. 40 S.
NOT VISIBLE ABOVE 100 KEV.

From HENZE@fender.msfc.nasa.gov Mon Aug 10 14:16:10 1998
Date: Mon, 10 Aug 1998 16:15:45 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6970

TIME: TJD=1032 SECONDS=22336

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From HENZE@fender.msfc.nasa.gov Mon Aug 10 14:18:32 1998
Date: Mon, 10 Aug 1998 16:18:03 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6971

TIME: TJD=1032 SECONDS=33573

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From HENZE@fender.msfc.nasa.gov Mon Aug 10 14:20:16 1998

Date: Mon, 10 Aug 1998 16:19:54 -0500 (CDT)

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

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6972

TIME: TJD=1032 SECONDS=39857

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

From HENZE@fender.msfc.nasa.gov Tue Aug 11 12:41:14 1998

Date: Tue, 11 Aug 1998 14:40:59 -0500 (CDT)

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

To: burst@compel.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.: 6973

286.8, 9.3

TIME: TJD=1032 *Aug 7* SECONDS=66151

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

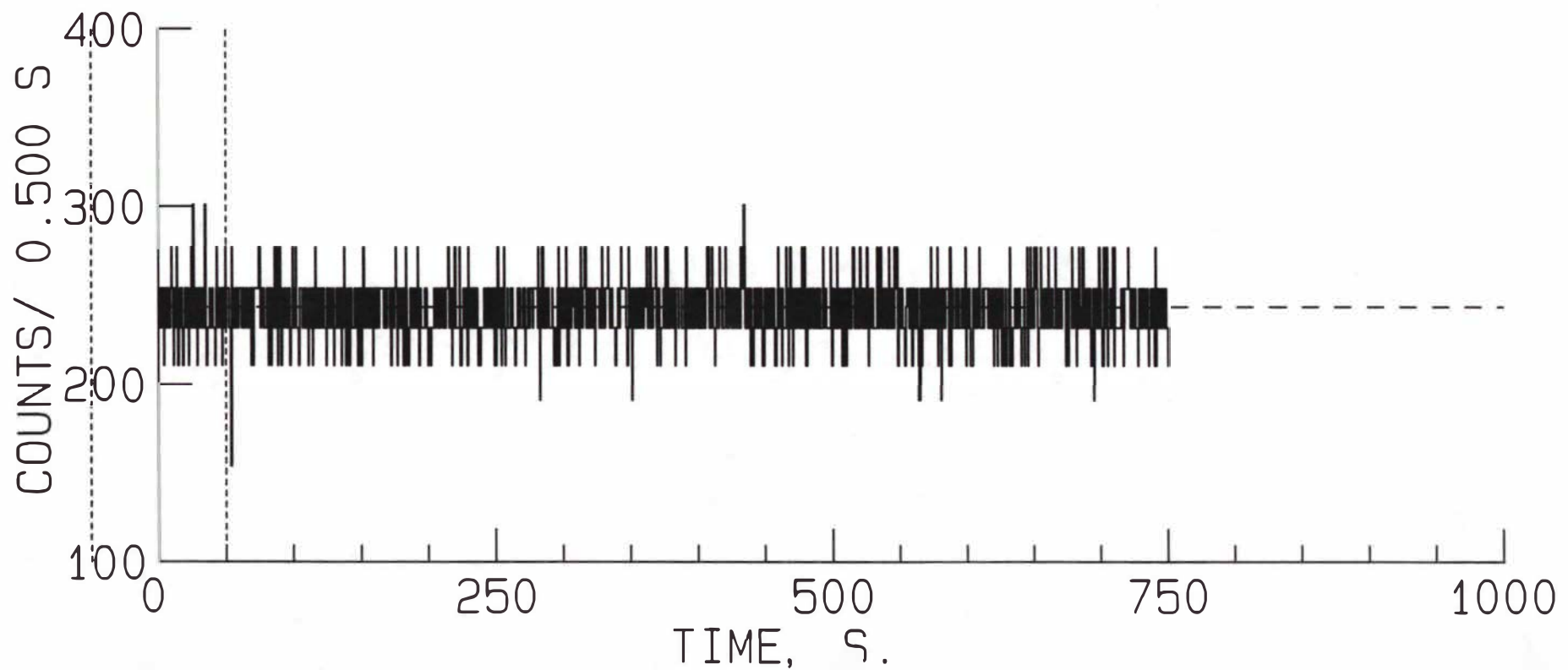
LOCATION: ZENITH=116.0 AZIMUTH=215.8 ERROR= 8.6 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE, DUR. APPROX. 0.05 S. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT
7/ 8/98 67644.357 s
22- 149 keV

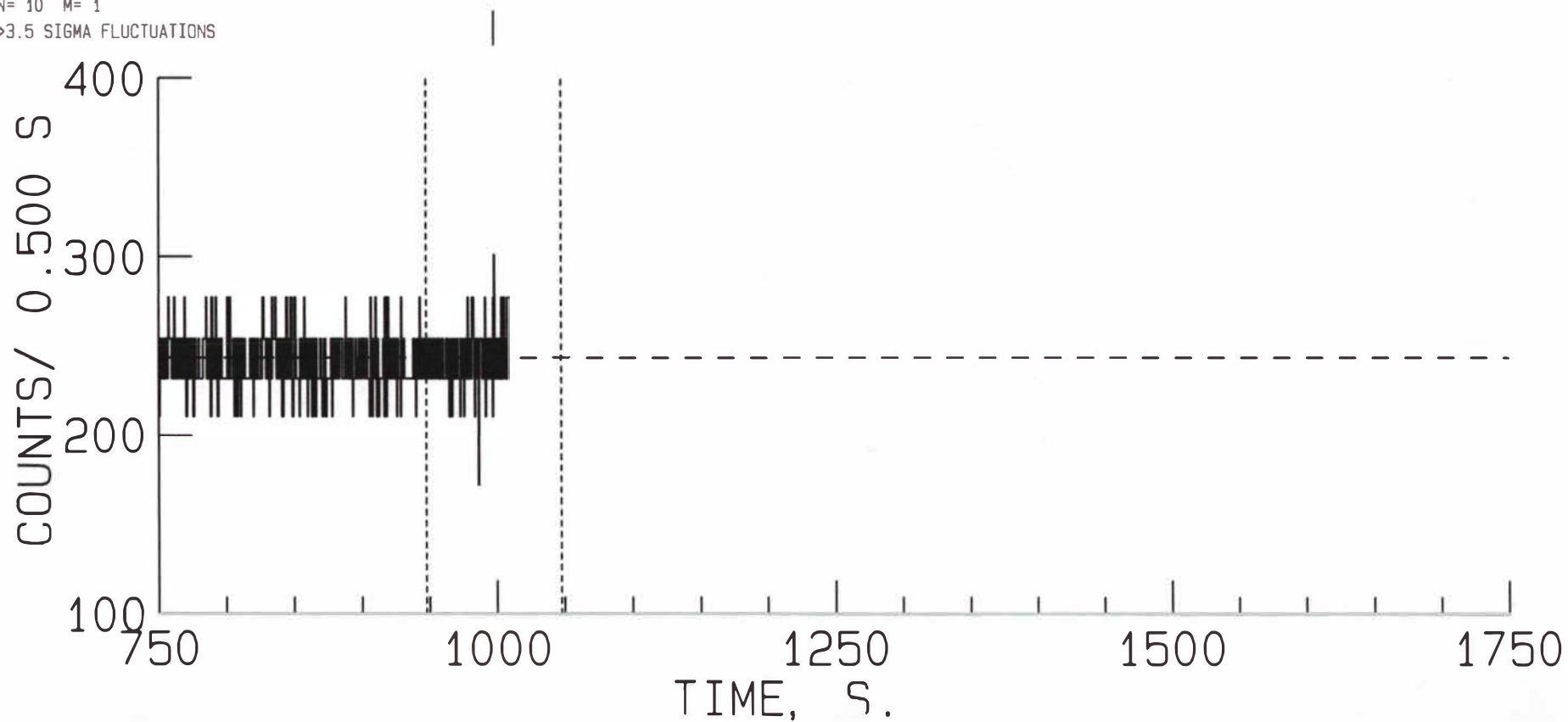
12/ 8/98



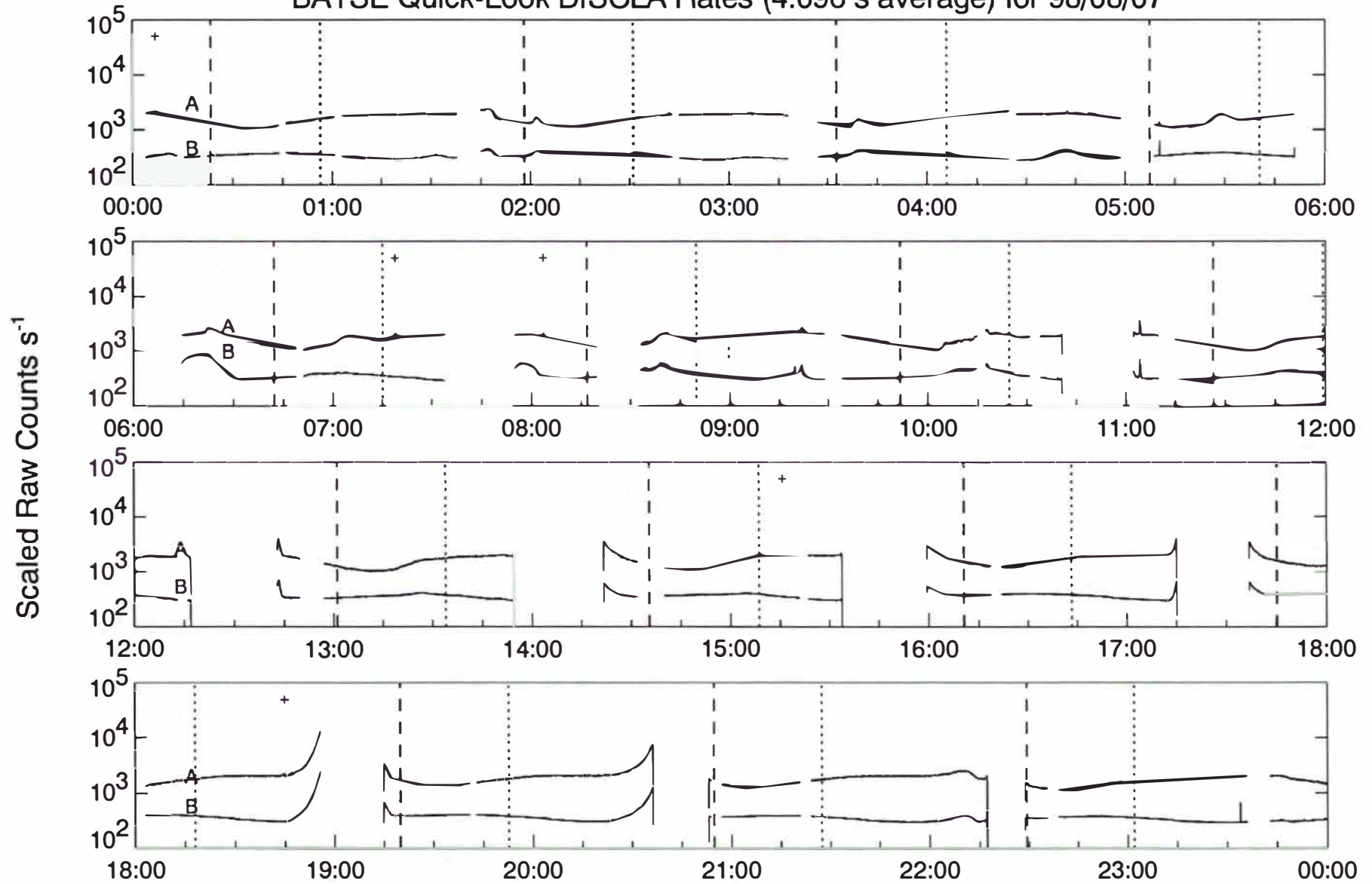
ULYSSES RT
7/ 8/98 67644.357 s
22- 149 keV

12/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



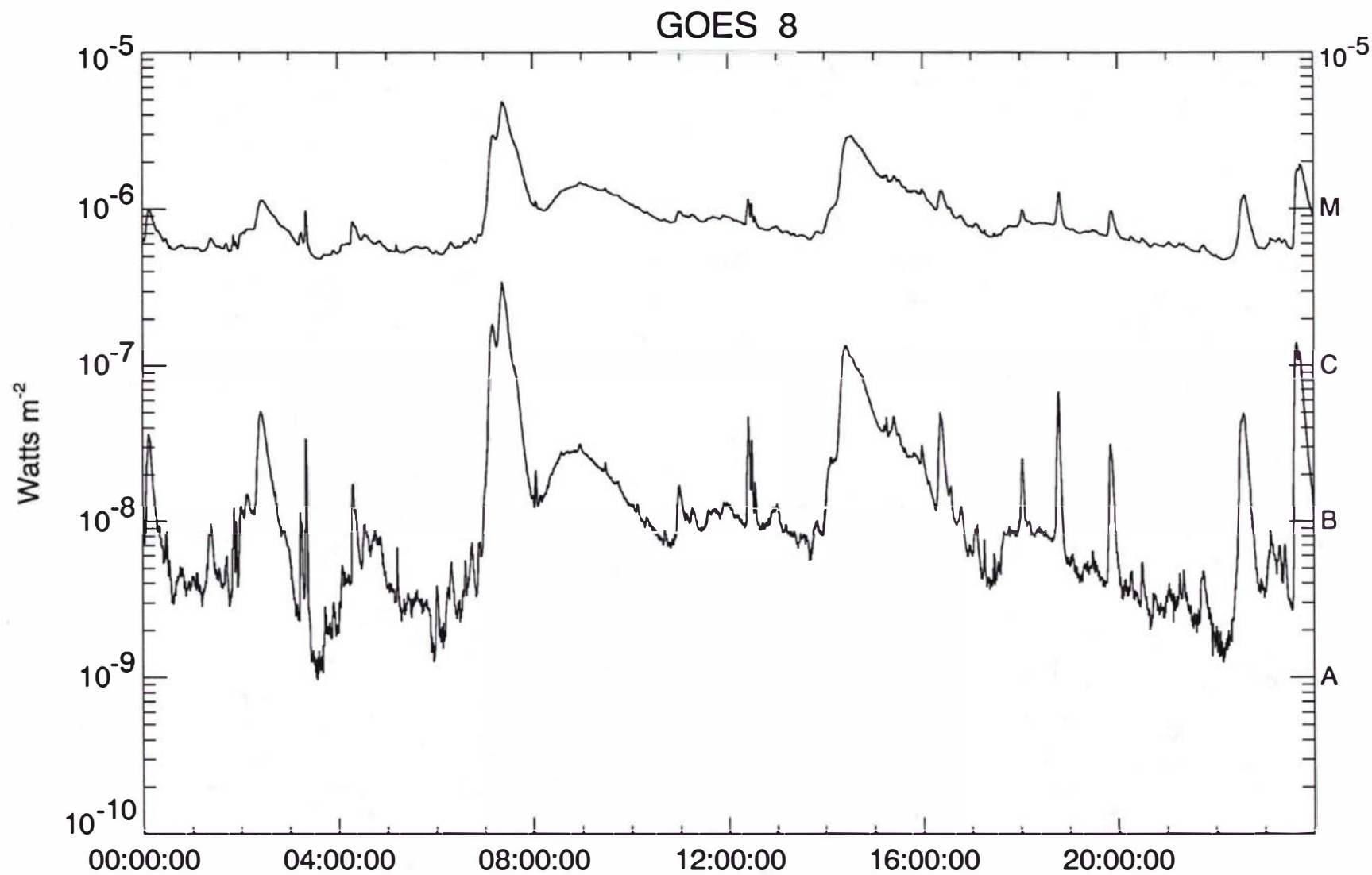
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/07



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

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/08/07, 0000:00

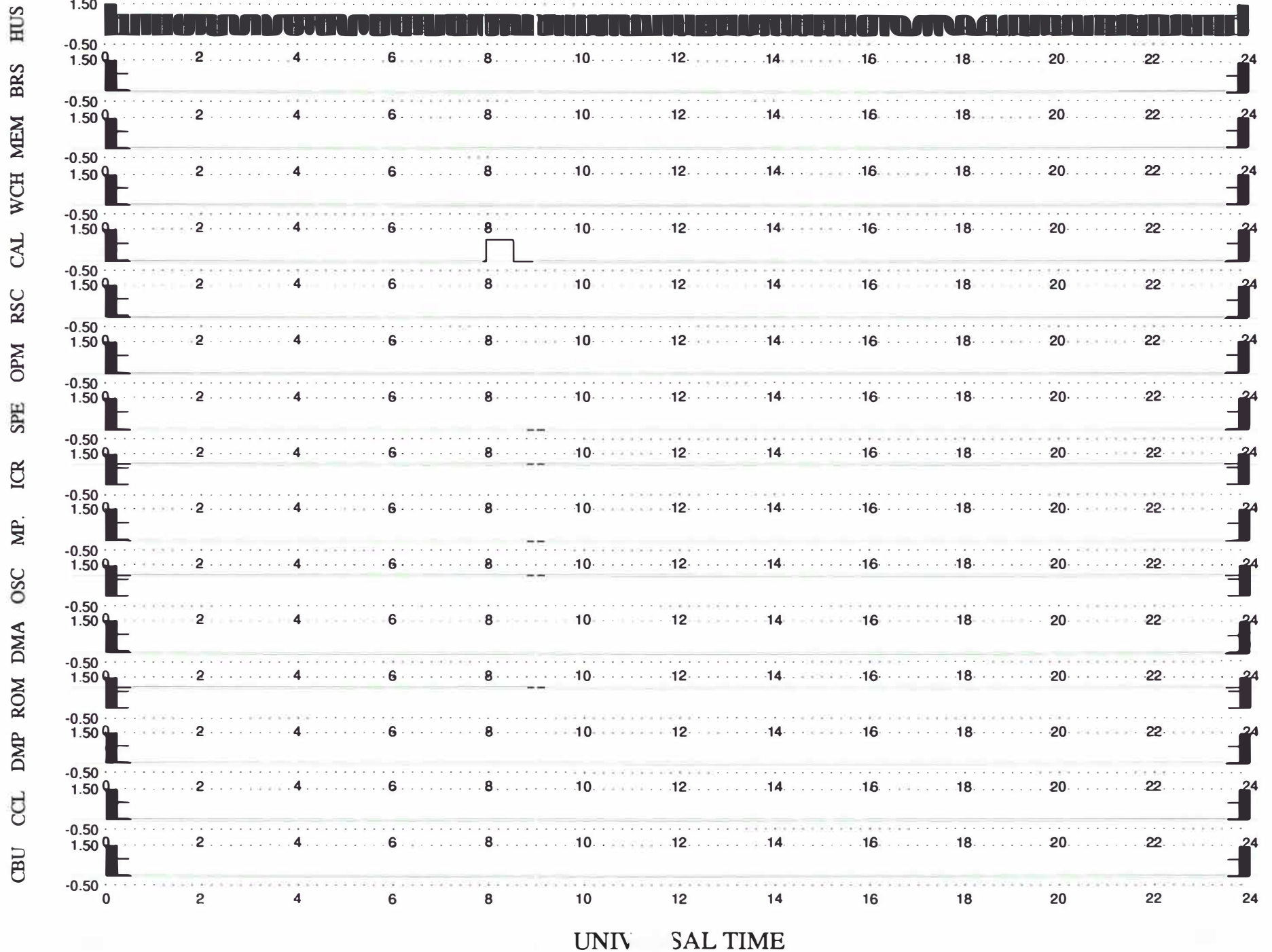
Plot created: 98/08/11, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

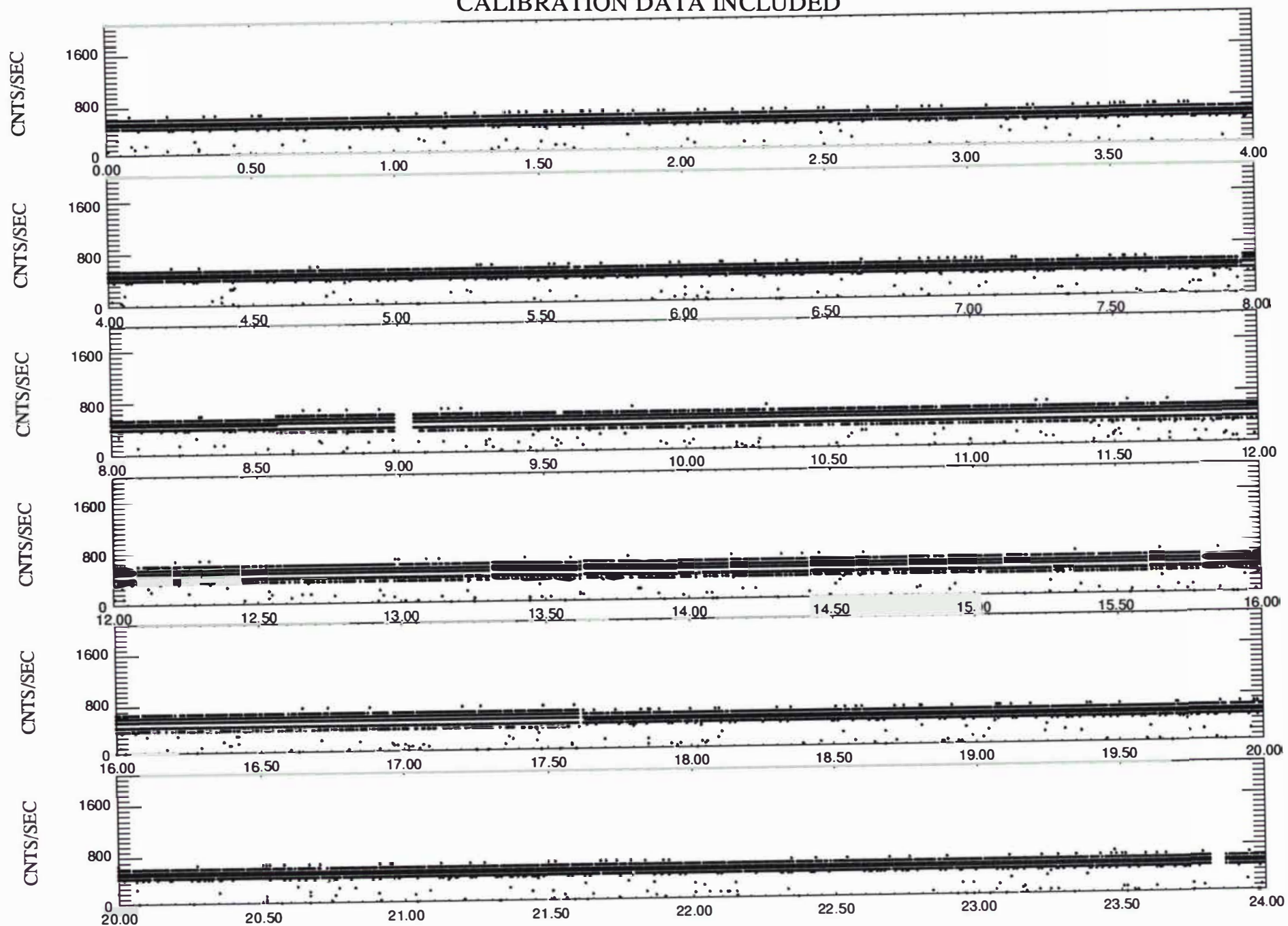
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

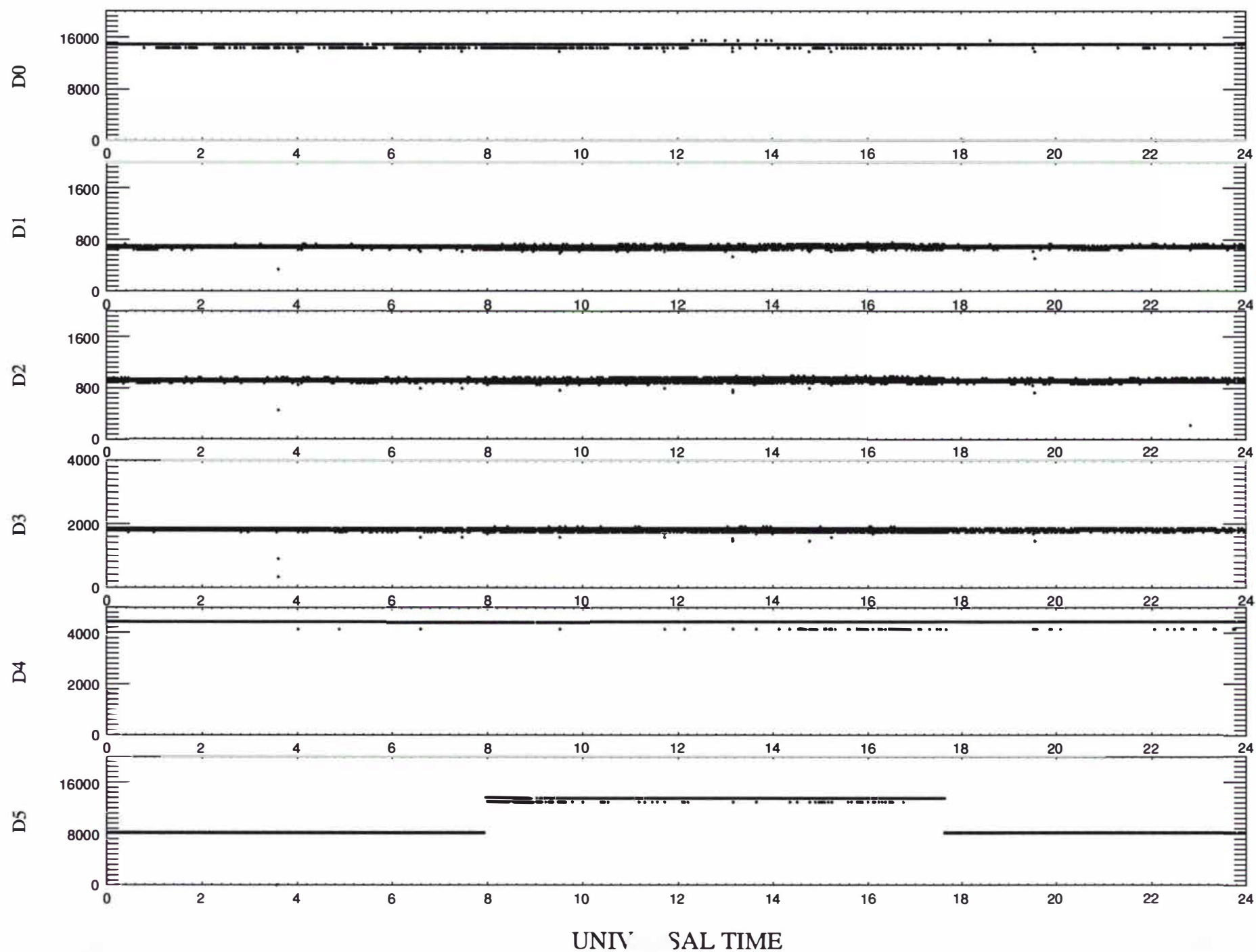
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From RICHARDSON@fender.msfc.nasa.gov Mon Aug 10 10:18:52 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 10 Aug 1998 12:18:12 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6974

TIME: TJD=1033 SECONDS=8128

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=27.7 AZIMUTH=355.5 ERROR=1.9 DEGREES

COMMENTS:

SOLAR FLARE GOES C3.1 NO OPTICAL

SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 180 SEC.

NOT VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Mon Aug 10 10:29:25 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA03100; Mon, 10 Aug 1998 10:29:24 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA22577; Mon, 10 Aug 1998 10:29:19 -0700
Date: Mon, 10 Aug 1998 12:29:17 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980810122917.202235ac@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6975
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6975
EVENT OF 1998 AUG 8 DAY OF YEAR=220
EVENT CROSSING TIME AT BATSE : 28241. S. OR 07:50:41.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 123.000 -4.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 8/ 98 IS:
RA= 155.247 DEC= 6.191 DIST= 6.315 AU
BATSE-ULYSSES DISTANCE = 944687984. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=146.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2619.40 SECS.
CROSSING TIME AT ULYSSES IS 25622. S. OR 07:07:01 +/- 314.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 8/ 98 IS:
RA= 113.596 DEC= 22.556 DIST= 2.463 AU
MARS-BATSE DISTANCE = 368460576. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=151.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1084.17 SECS.
CROSSING TIME AT MARS IS 27157. S. OR 07:32:36 +/- 84.04 SECONDS

BATSE BURST TRIGGER

NO.: 6975

TIME: TJD=1033 SECONDS=28241

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=40 AZIMUTH=41.7 ERROR=1.2 DEGREES

COMMENTS:

GRB. LOTS OF STRUCTURE. DURATION APPROX. = 95 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6975	980808	11033	28241	3500	123	-04	95

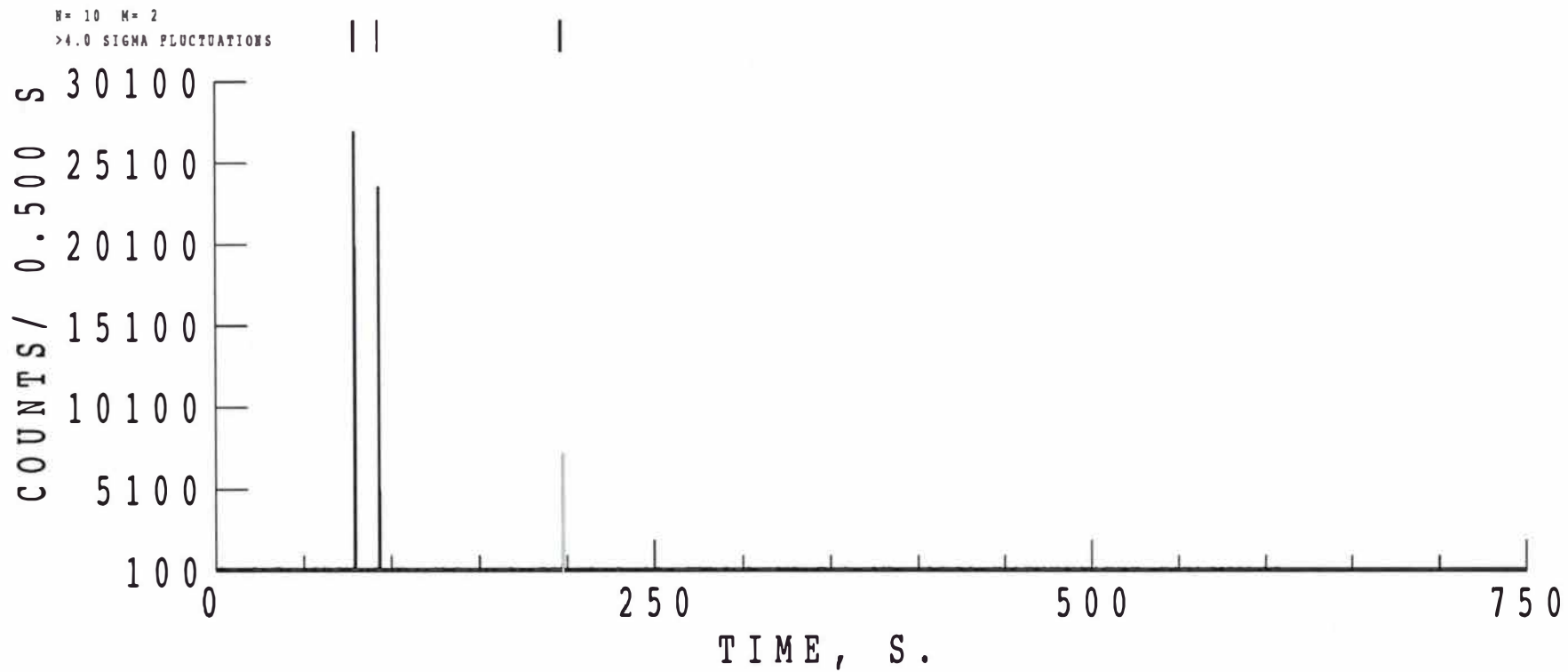
BATSE BURST# 6975

ULYSSES RT

10 / 8 / 98

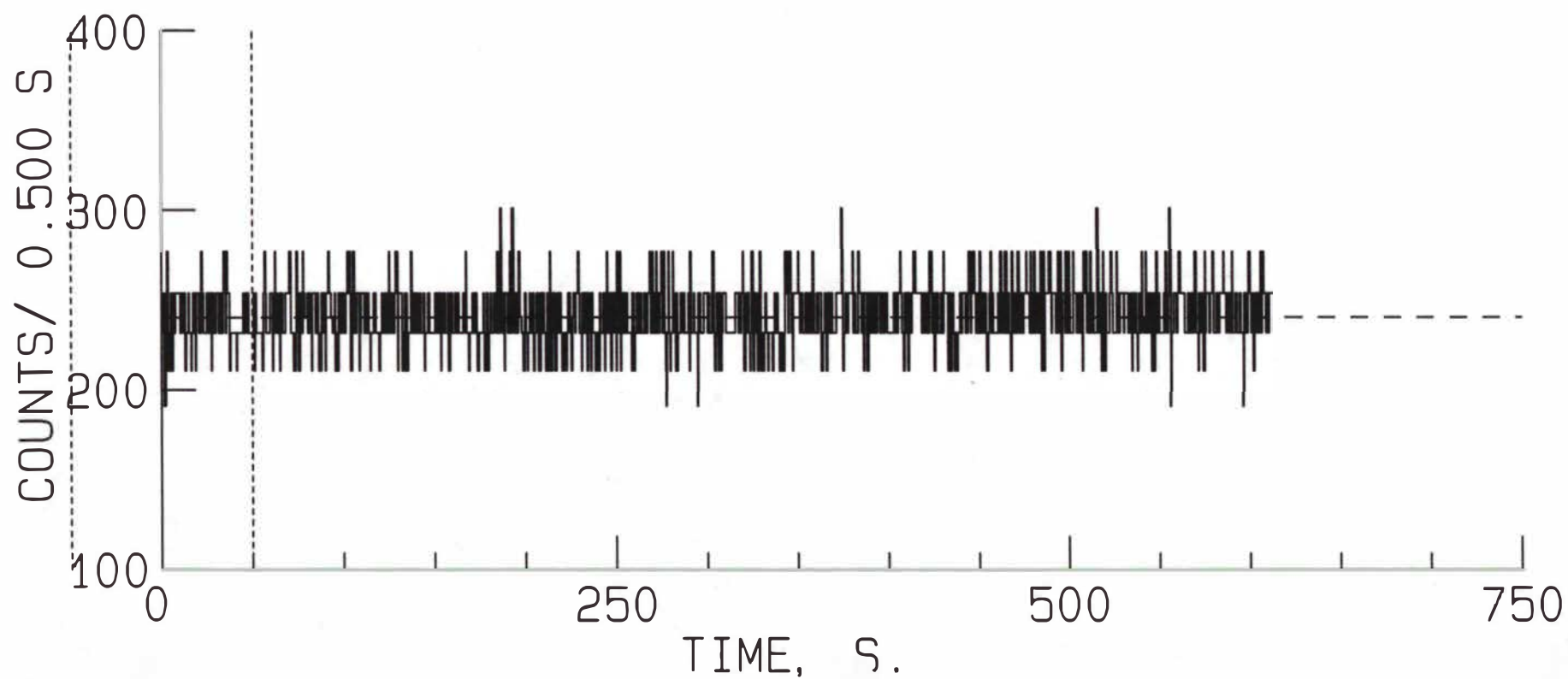
8 / 8 / 98 25308.322 s

0 - 0 keV



ULYSSES RT
8/ 8/98 25308.322 s
22- 149 keV

17 / 8 / 98



From WOODSP@fender.msfc.nasa.gov Mon Aug 17 07:33:32 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 17 Aug 1998 9:32:29 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6976

TIME: TJD=1033 SECONDS=38593

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=108.7 AZIMUTH=175.4 ERROR=8.3 DEGREES

COMMENTS:

SGR 1806-20. VERY WEAK SINGLE PULSE. DURATION ABOUT 0.07 SEC.
NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 6976

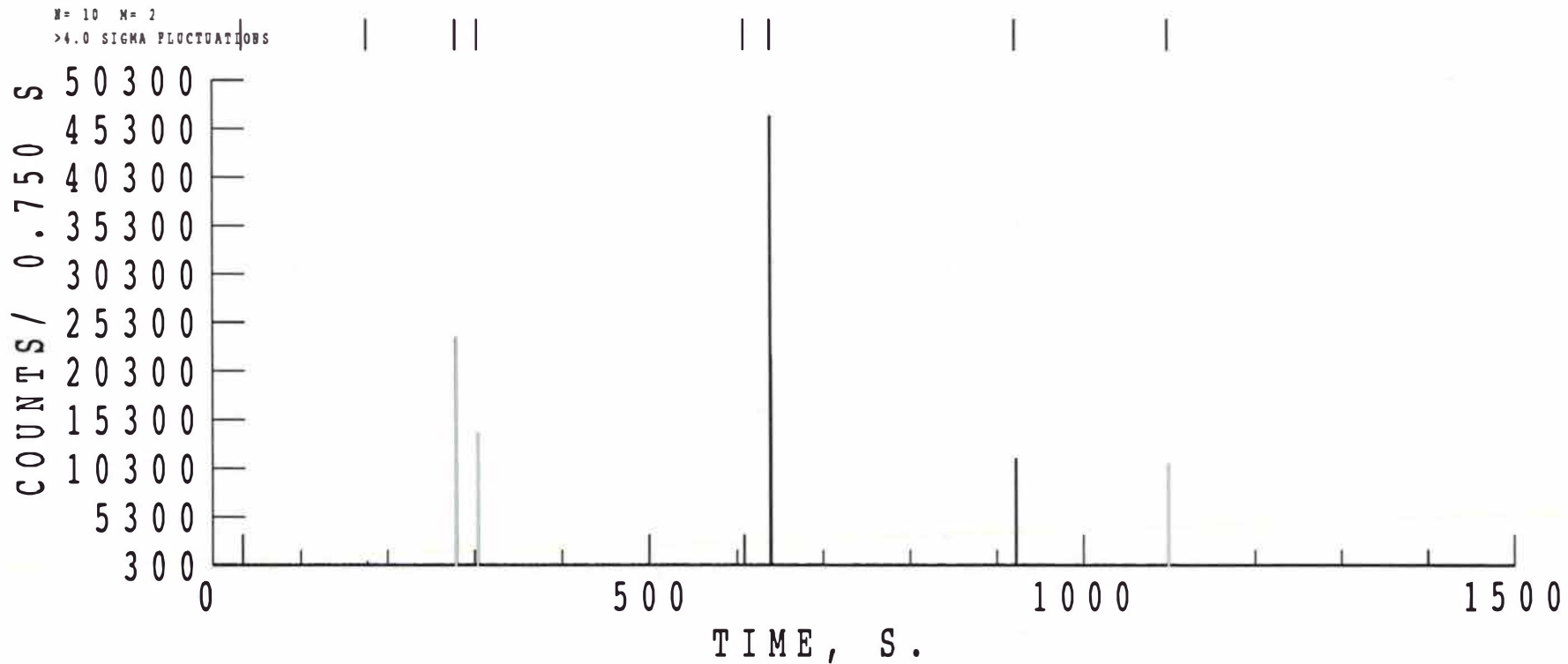
ULYSSES RT

17 / 8 / 98

8 / 8 / 98 39492.223 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV



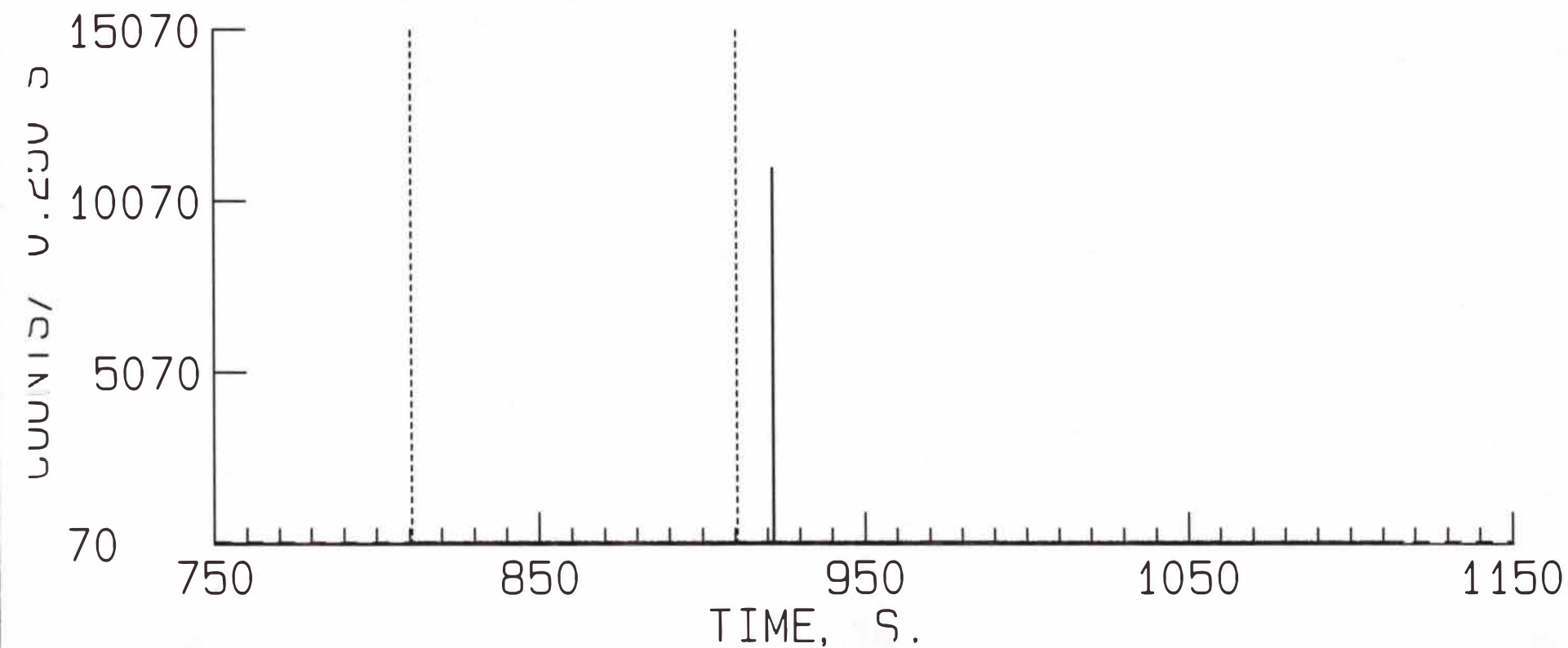
ULYSSES RT

18 / 8 / 98

8 / 8 / 98 39492.222 s

22- 149 keV

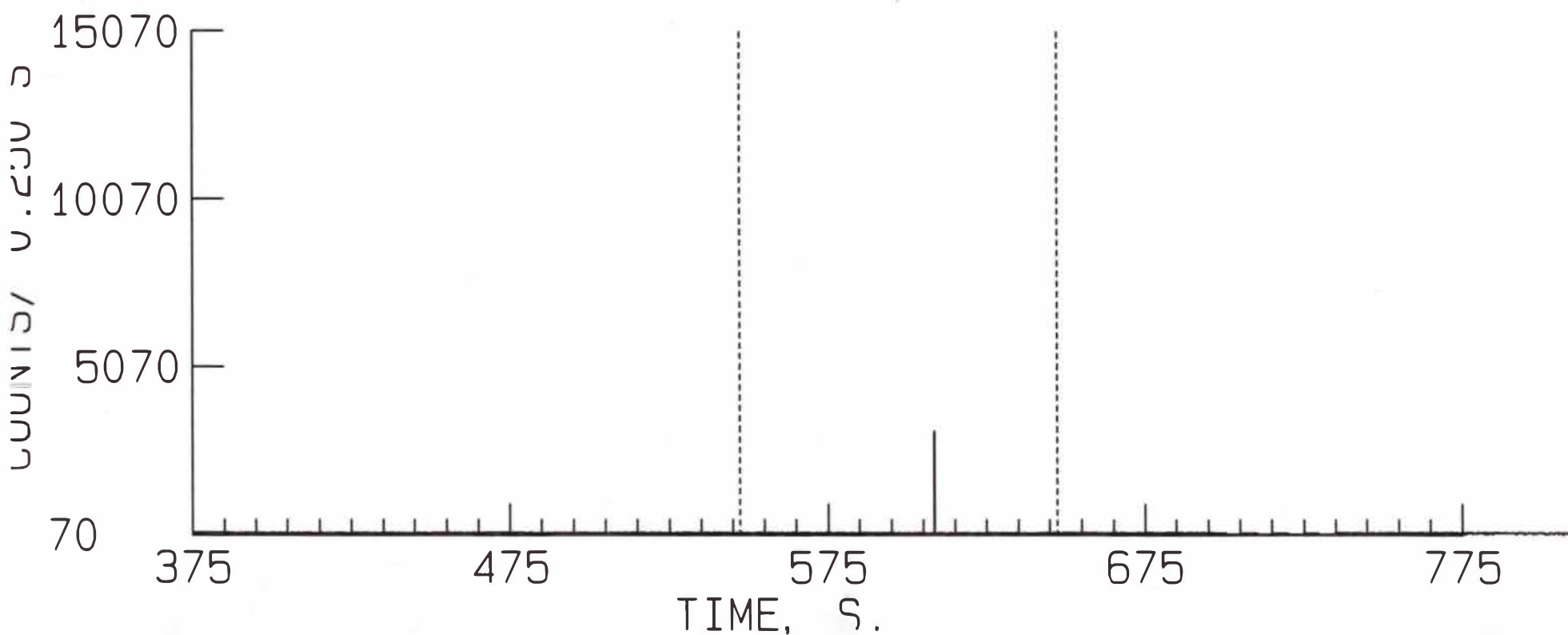
N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



ULYSSES RT
8/ 8/98 39492.222 s
22- 149 keV

18 / 8 / 98

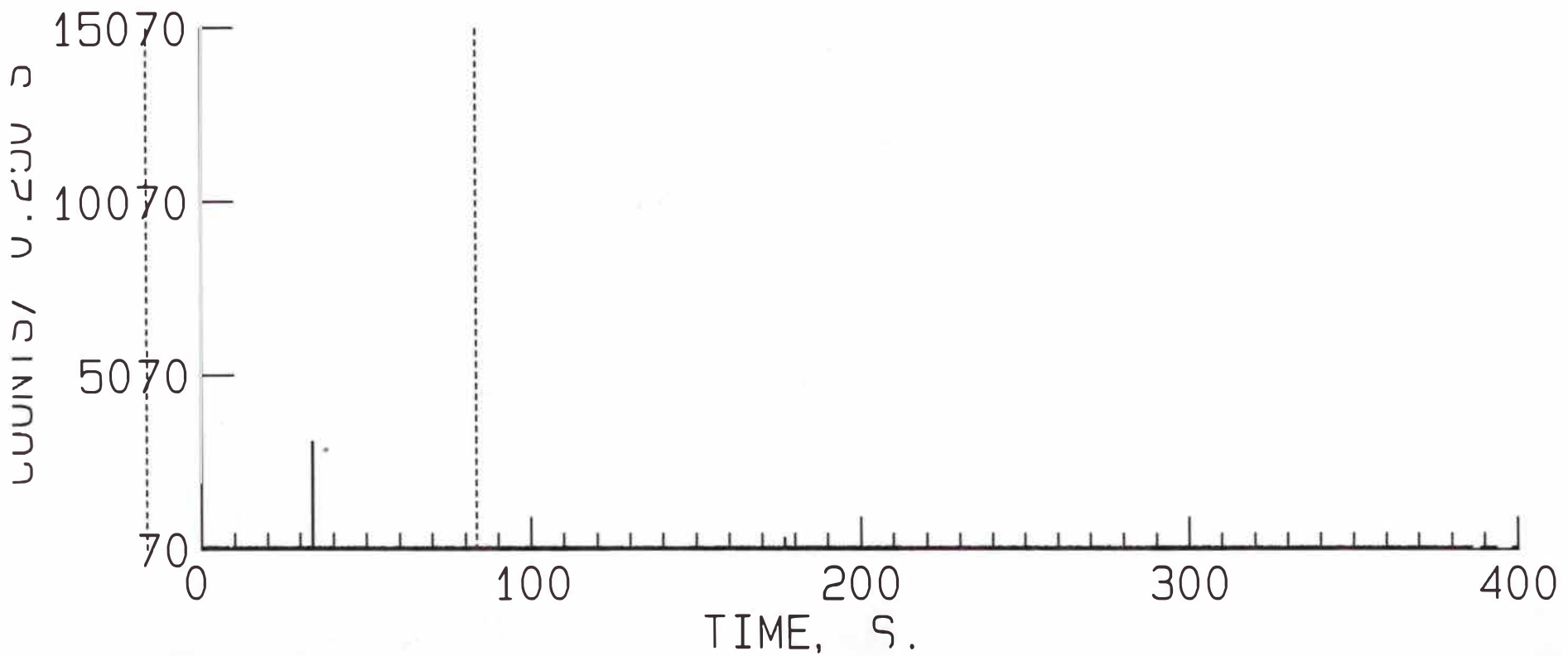
N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



ULYSSES RT
8/ 8/98 39492.222 s
22- 149 keV

18/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Aug 10 10:26:00 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 10 Aug 1998 12:25:39 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6977

TIME: TJD=1033 SECONDS=53470

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=25.5 AZIMUTH=355.3 ERROR=1.1 DEGREES

COMMENTS:

SOLAR FLARE. OPTICAL SF GOES C4.0

SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 85 SEC

NOT VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Mon Aug 10 10:30:54 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA03147; Mon, 10 Aug 1998 10:30:54 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA22620; Mon, 10 Aug 1998 10:30:49 -0700
Date: Mon, 10 Aug 1998 12:30:50 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980810123050.202235ac@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6978
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6978
EVENT OF 1998 AUG 8 DAY OF YEAR=220
EVENT CROSSING TIME AT BATSE : 69619. S. OR 19:20:19.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 196.000 45.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 8/ 98 IS:
RA= 155.309 DEC= 6.147 DIST= 6.317 AU
BATSE-ULYSSES DISTANCE = 945010489. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=127.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1919.02 SECS.
CROSSING TIME AT ULYSSES IS 67700. S. OR 18:48:19 +/- 455.03 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 8/ 98 IS:
RA= 113.596 DEC= 22.556 DIST= 2.463 AU
MARS-BATSE DISTANCE = 368460576. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.95 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -439.45 SECS.
CROSSING TIME AT MARS IS 69180. S. OR 19:12:59 +/- 192.60 SECONDS

BATSE BURST TRIGGER

NO.: 6978

TIME: TJD=1033 SECONDS=69619

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=44.9 AZIMUTH=252.9 ERROR=3.0 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION APPROX. = 6 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6978	980808	11033	69619	5000	196	+45	6

BATSE BURST# 6978

ULYSSES RT

10 / 8 / 98

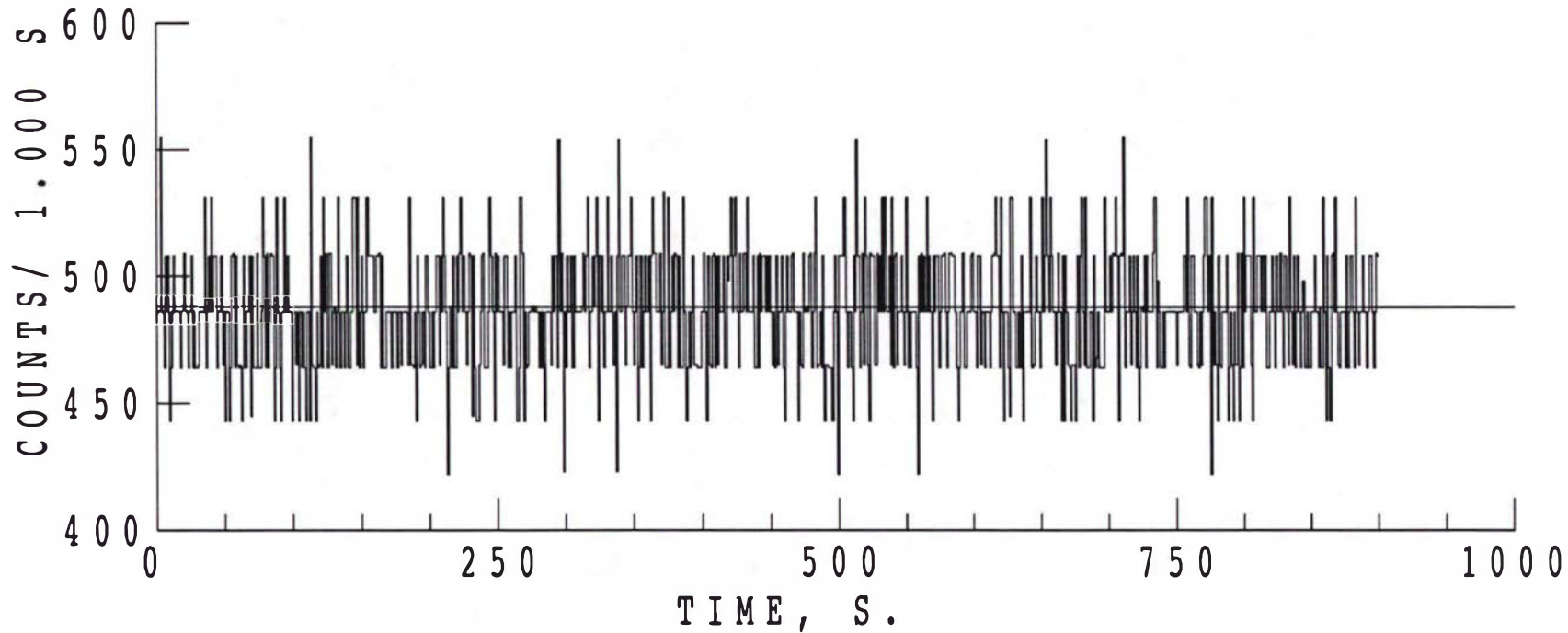
8 / 8 / 98 67248.266 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Aug 11 18:40:15 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 11 Aug 1998 20:40:01 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6979

TIME: TJD=1033 SECONDS=84916

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=21.3 AZIMUTH=356.9 ERROR=0.4 DEGREES

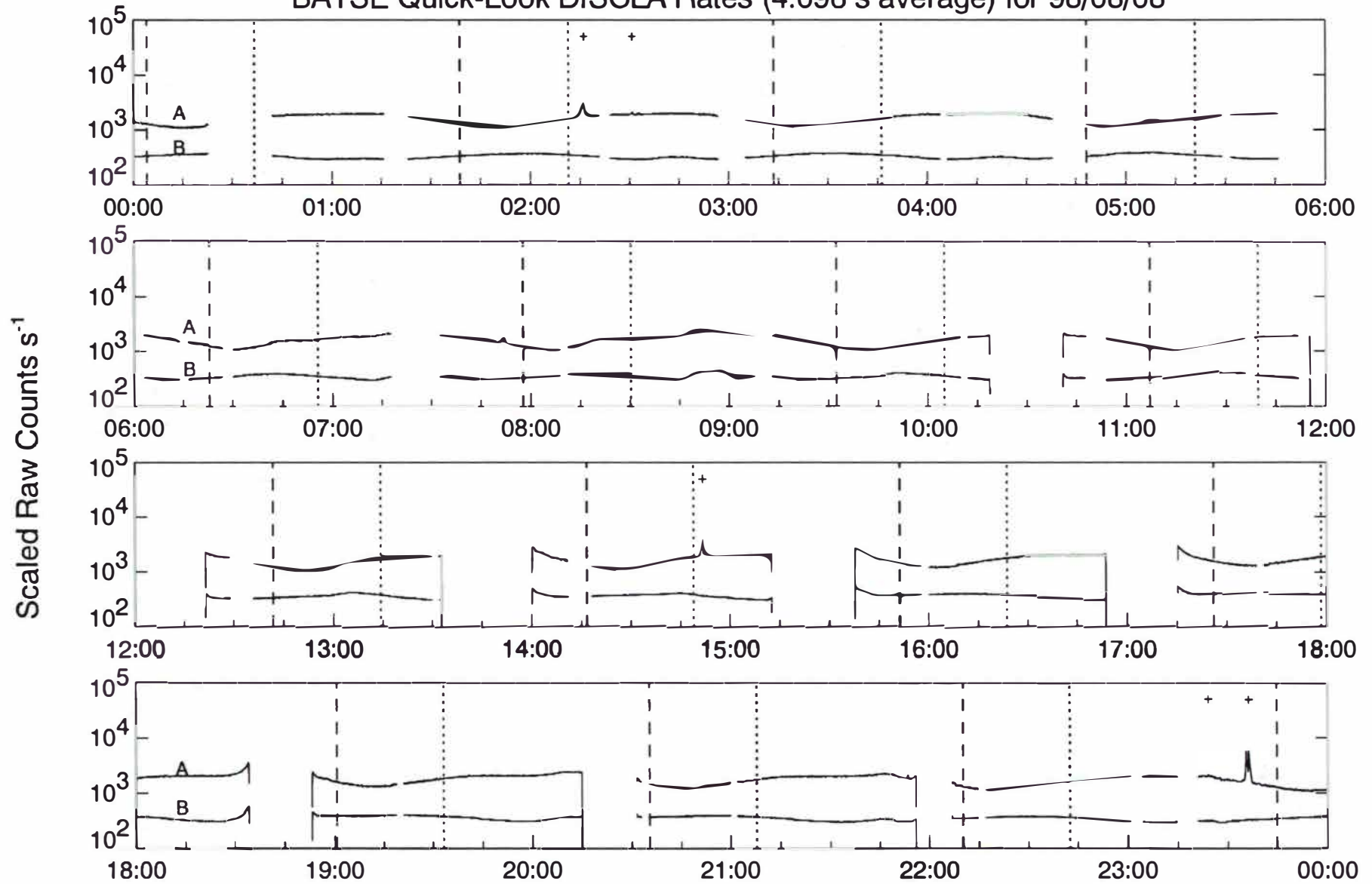
COMMENTS:

SOLAR FLARE. GOES C5.1, OPTICAL SF

TWO PEAKS WITH STRUCTURE. DURATION APPROX. = 150 SEC.

SLIGHTLY VISIBLE ABOVE 100KEV.

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

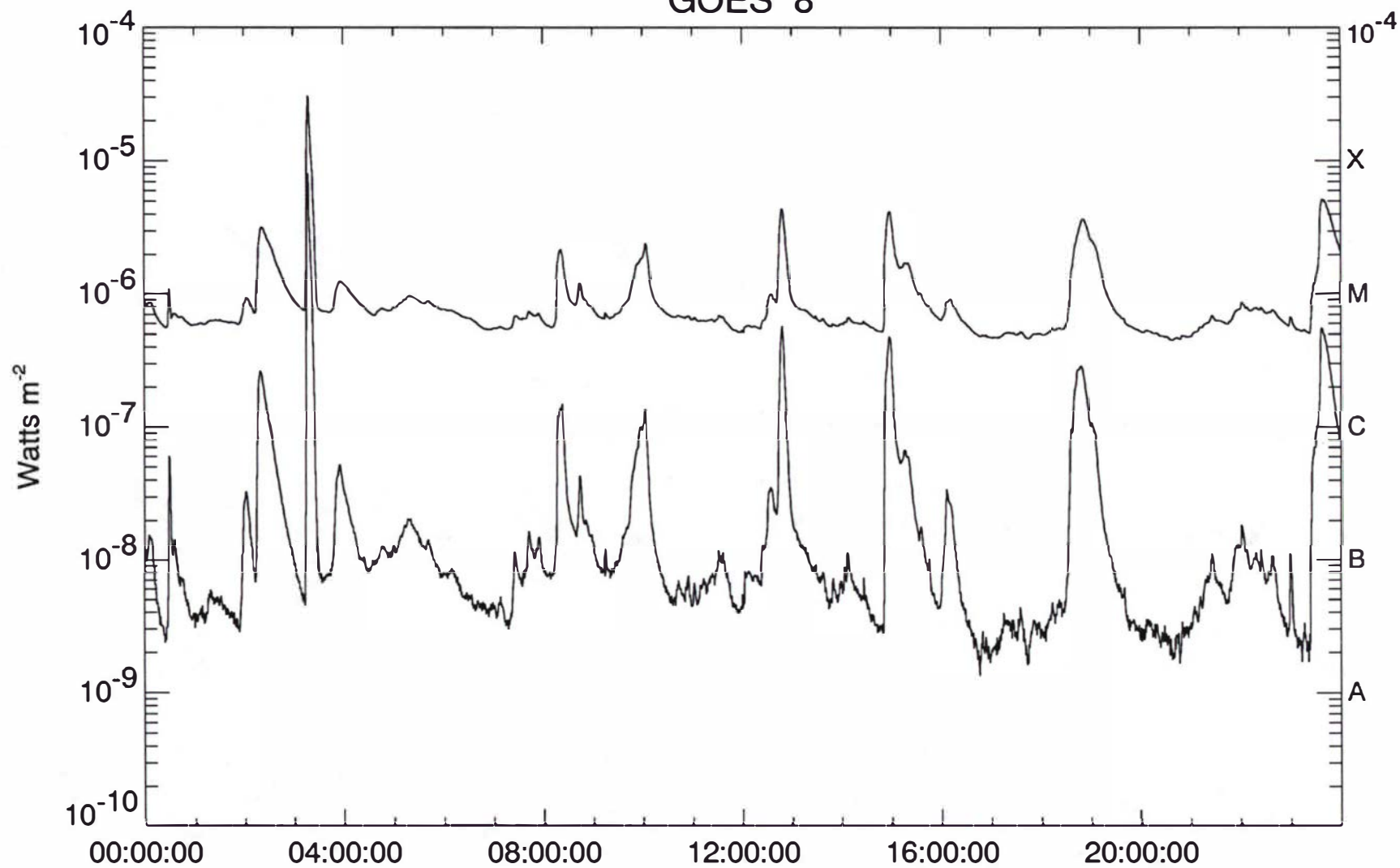


Current Time: 98/08/12, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



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

Plot created: 98/08/12, 1007

Channel

1 (1.0 - 8.0 Angstroms)

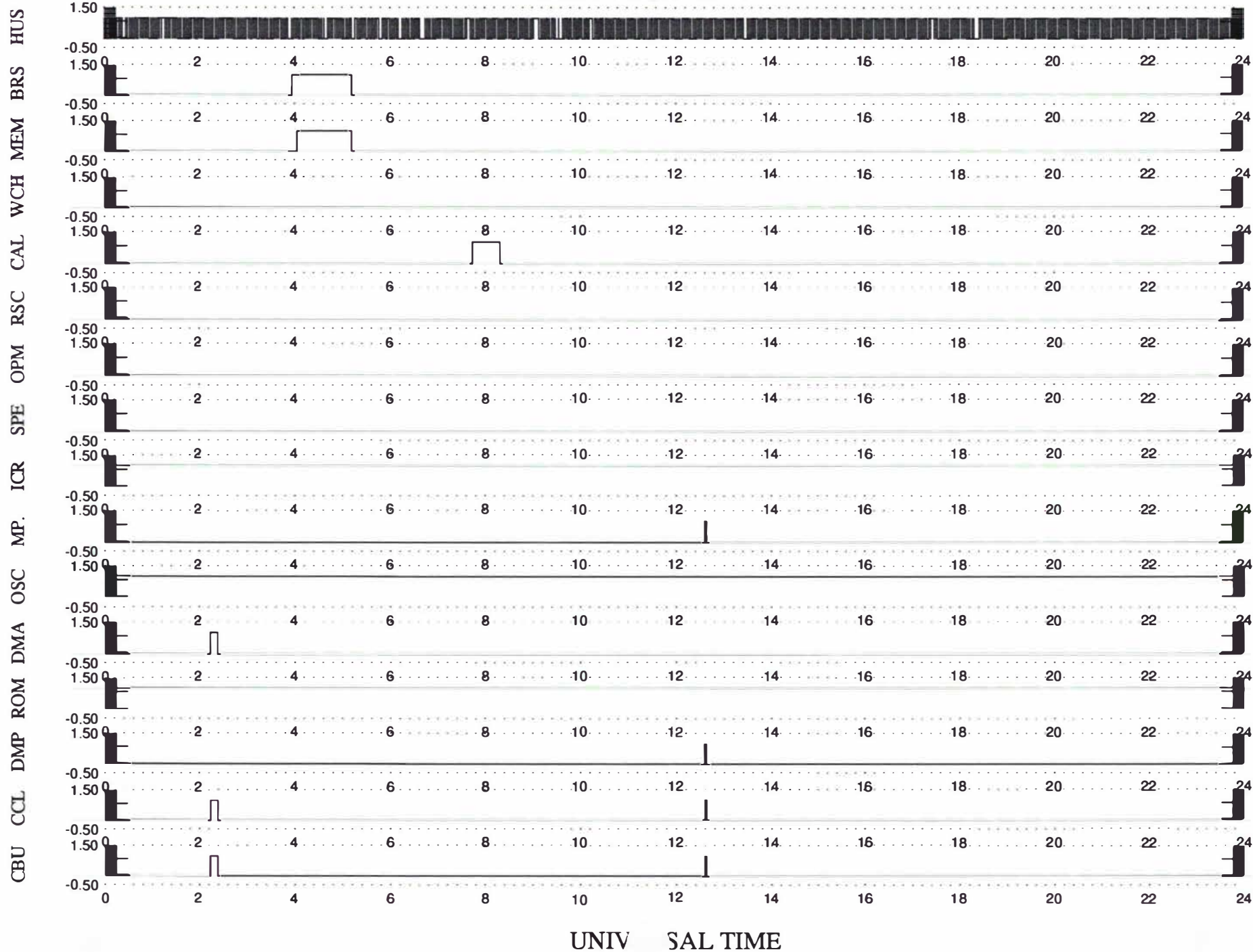
Background not subtracted

2 (0.5 - 4.0 Angstroms)

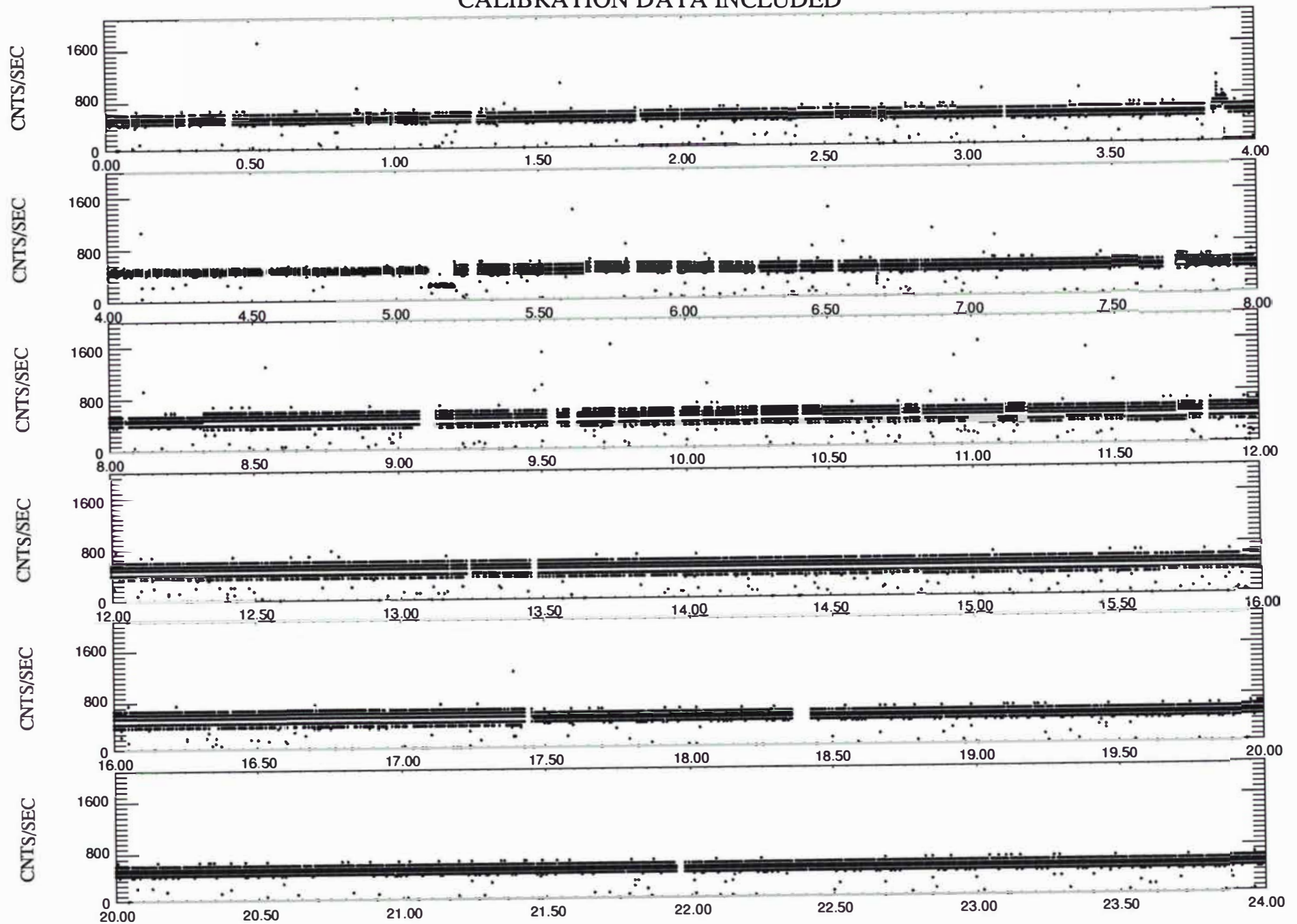
Background not subtracted

Sample average = 10

BURST NUMBER 7

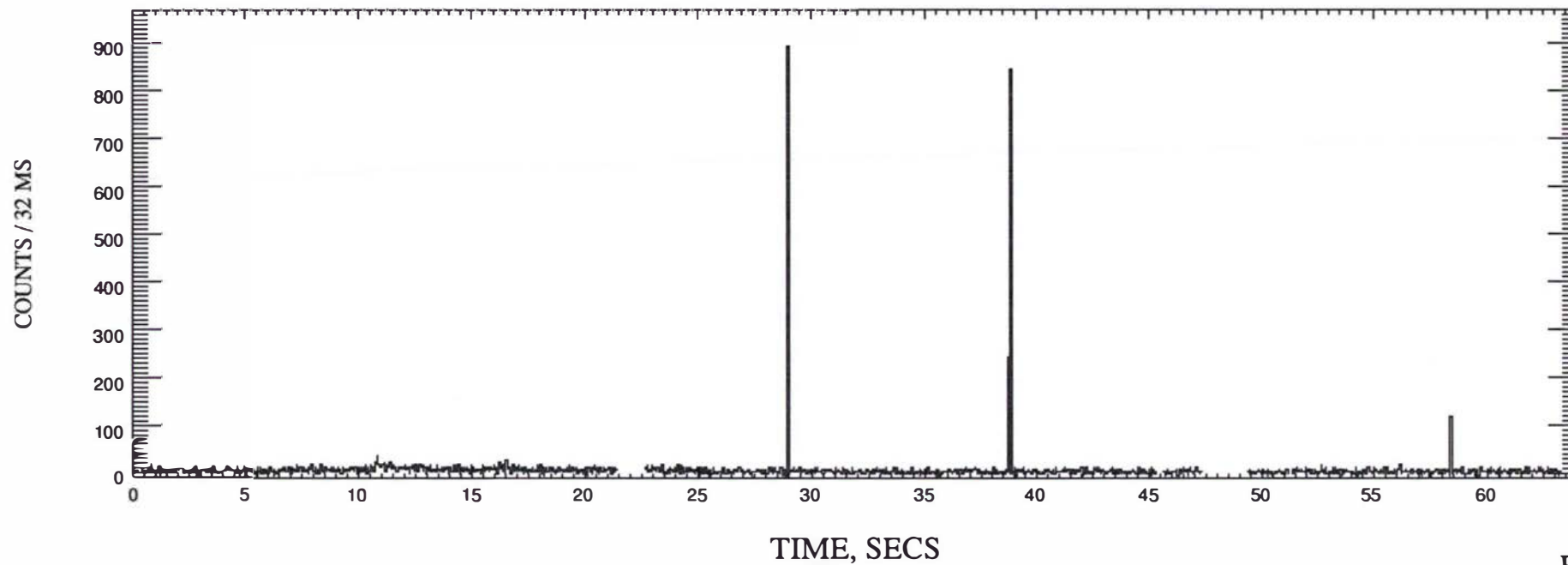
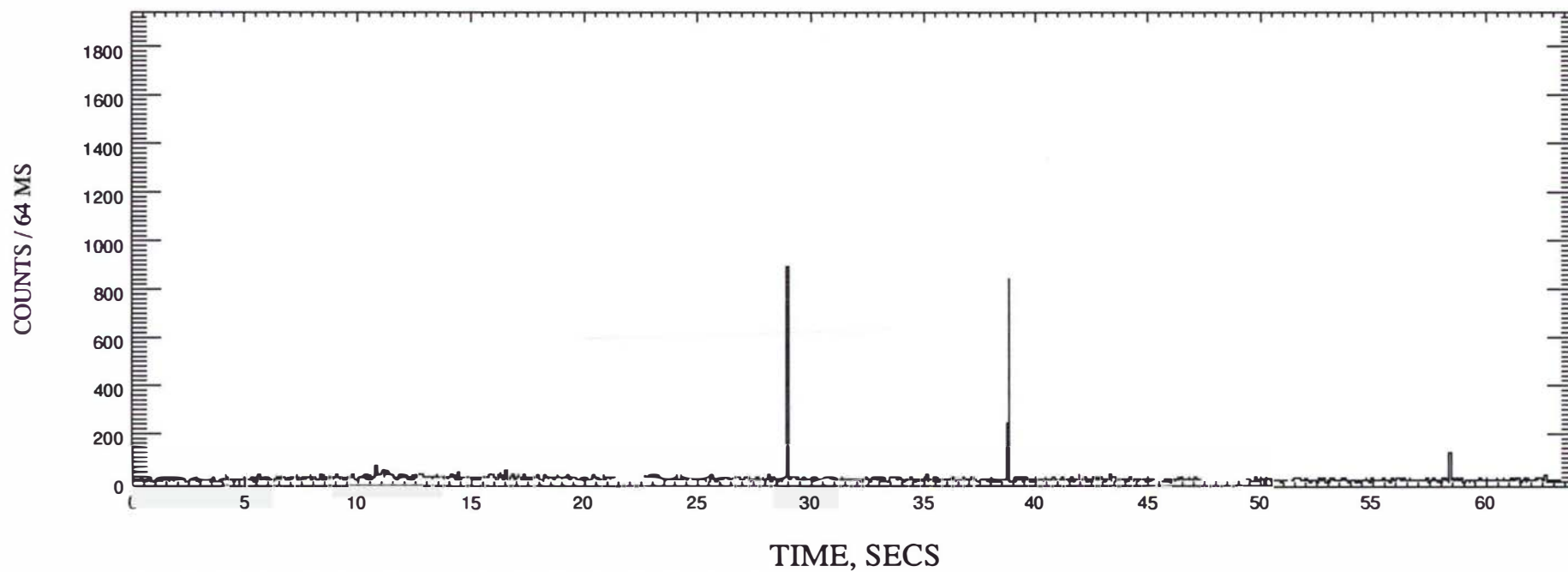


CALIBRATION DATA INCLUDED

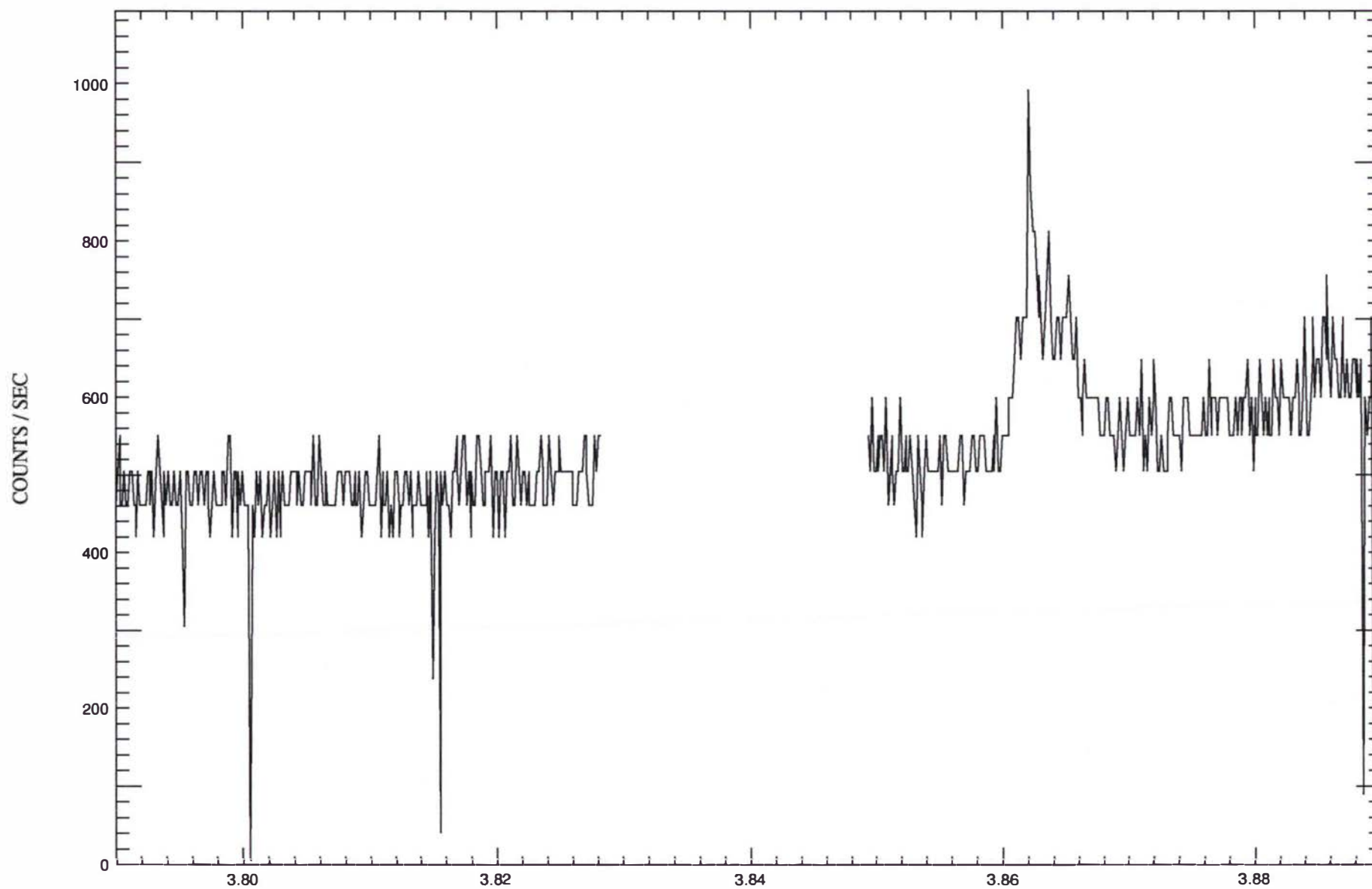


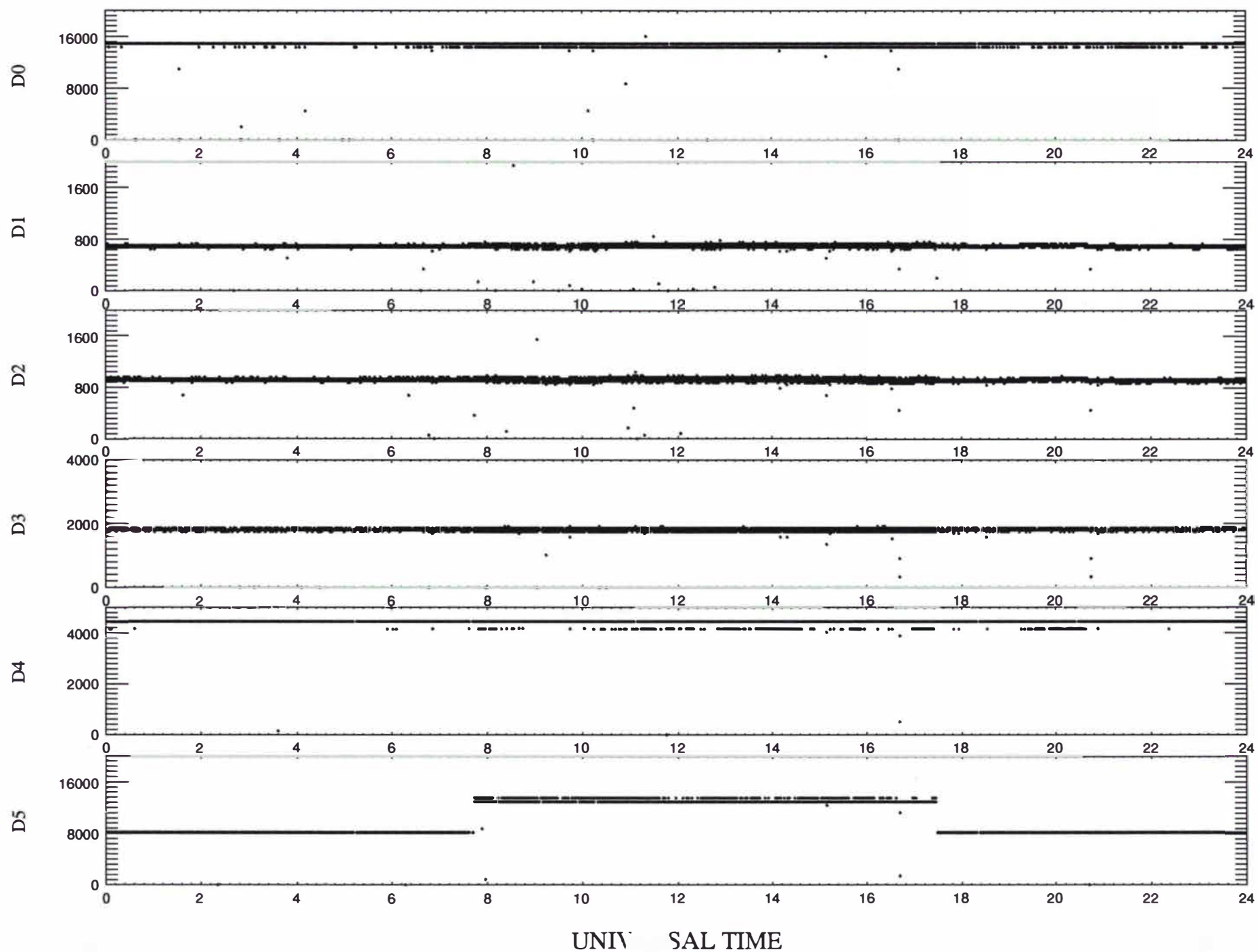
UNIV SAL TIME

Burst Counter 7 at UT= 3.840087369283 h=13824.315 s 03:50:24.315



CALIBRATION DATA INCLUDED





From JONESSD@fender.msfc.nasa.gov Wed Aug 12 10:16:50 1998

From: JONESSD@fender.msfc.nasa.gov

Date: Wed, 12 Aug 1998 12:16:28 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6980

TIME: TJD=1034 SECONDS=7684

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=19.0 AZIMUTH=11.7 ERROR=2 DEGREES

COMMENTS:

NO GOES, NO OPTICAL IDENTIFICATION. SINGLE PULSE, DURATION ABOUT
20S. NOT VISIBLE ABOVE 100KEV.

From JONESSD@fender.msfc.nasa.gov Tue Aug 11 11:53:09 1998

From: JONESSD@fender.msfc.nasa.gov

Date: Tue, 11 Aug 1998 13:52:27 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6981

TIME: TJD=1034 SECONDS=26951

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=12.2 AZIMUTH=9.8 ERROR=2.5 DEGREES

COMMENTS:

OPTICAL SF. NO GOES CLASSIFICATION. IN GAP LASTING ABOUT 10 SECS.

From JONESSD@fender.msfc.nasa.gov Wed Aug 12 10:22:05 1998
From: JONESSD@fender.msfc.nasa.gov
Date: Wed, 12 Aug 1998 12:21:43 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6983

TIME: TJD=1034 SECONDS=64253

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=21.0 AZIMUTH=8.0 ERROR=3.9 DEGREES

COMMENTS:

NO GOES. OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE, DURATION ABOUT
45 SECS. ALSO POSSIBLE ADDITIONAL EMISSION BEFORE AND AFTER. NOT
VISIBLE ABOVE 100KEV.

From JONESSD@fender.msfc.nasa.gov Wed Aug 12 10:26:20 1998
From: JONESSD@fender.msfc.nasa.gov
Date: Wed, 12 Aug 1998 12:26:04 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 6984

TIME: TJD=1034 SECONDS=75192

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

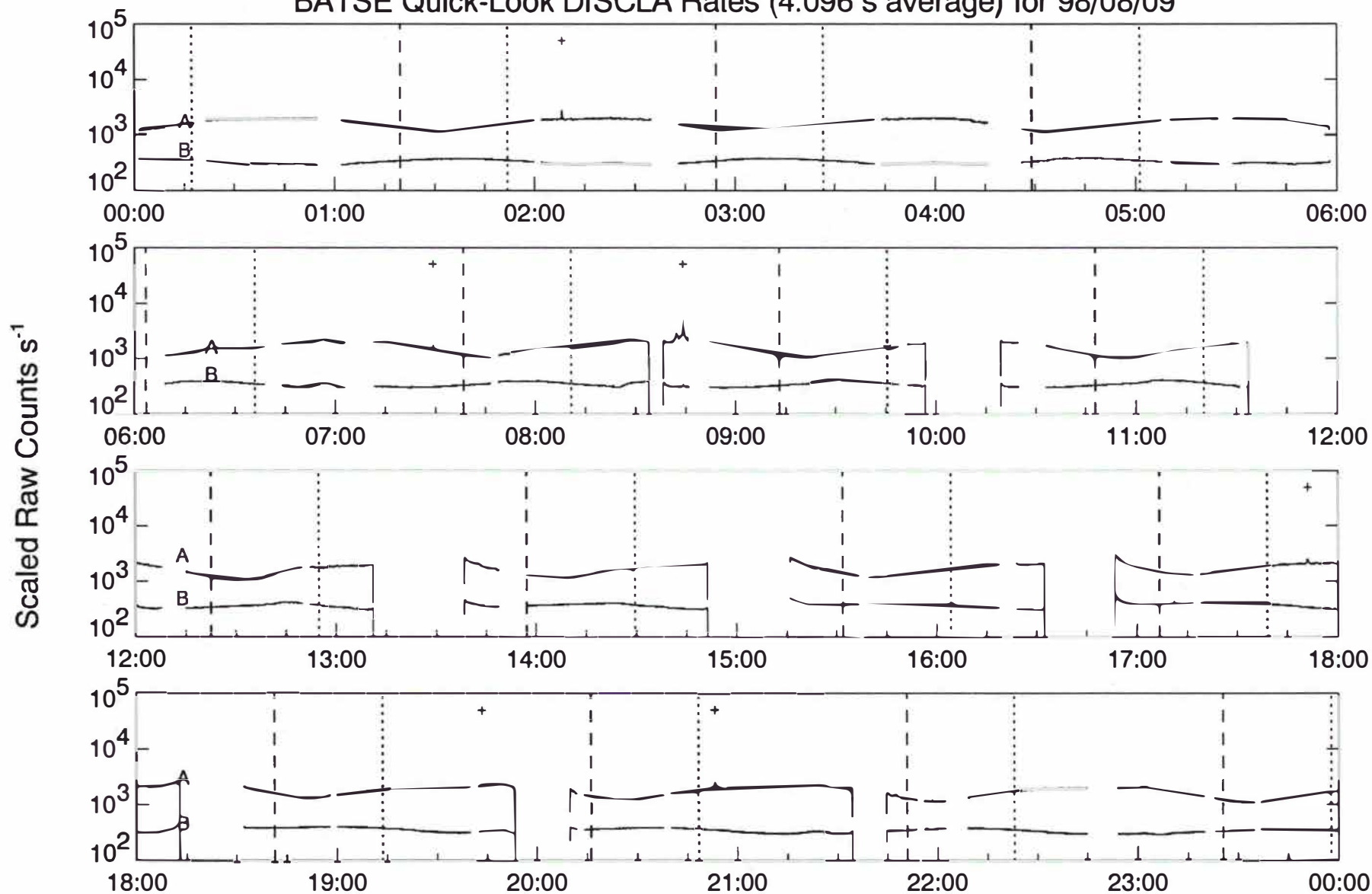
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=28.4 AZIMUTH=357.9 ERROR=6.7 DEGREES

COMMENTS:

GOES C2.0 NO OPTICAL. SINGLE PULSE, STARTS AT ABOUT T-35S, DUR
ABOUT 130S. MARGINAL ABOVE 50KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/09

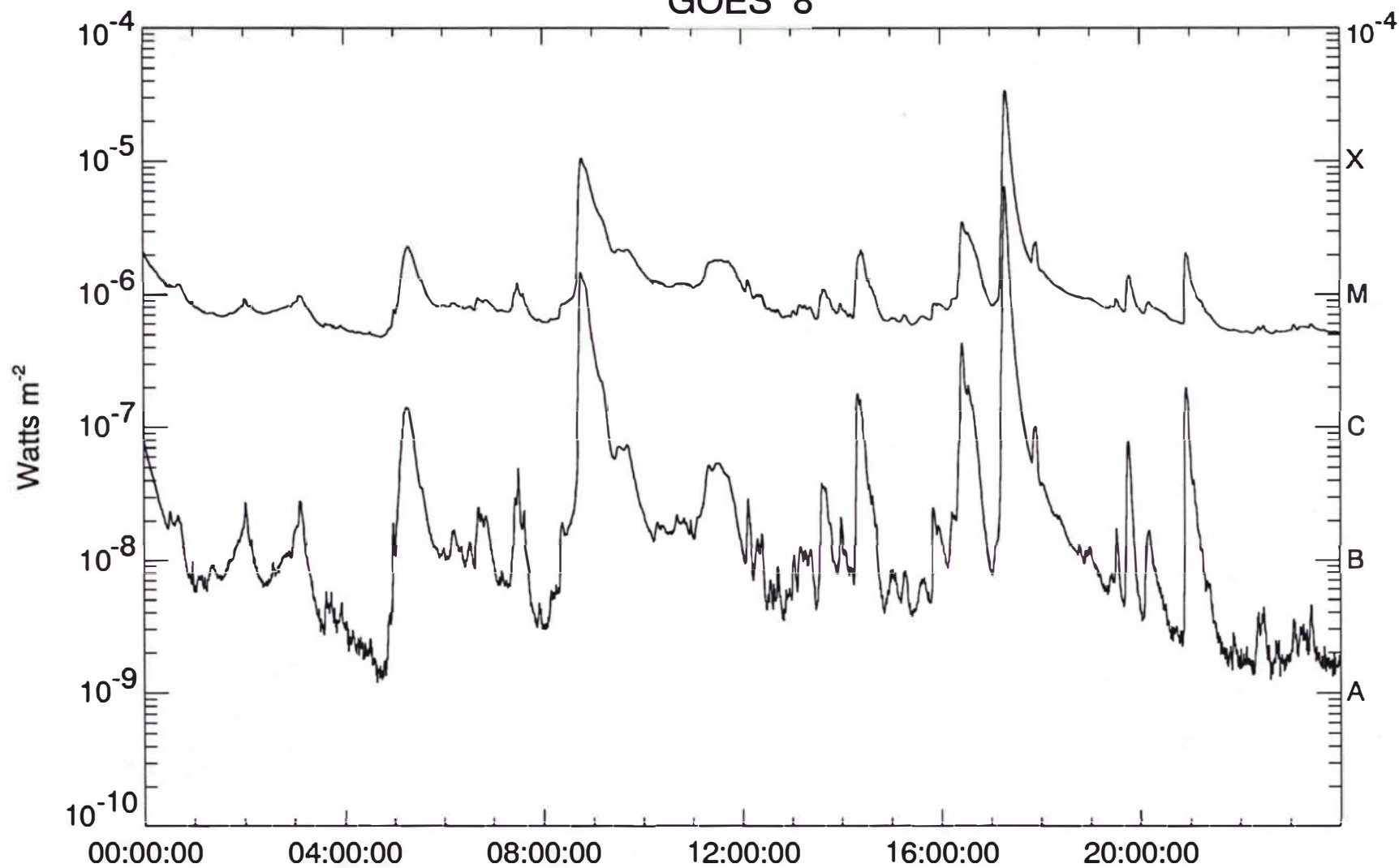


Current Time: 98/08/13, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/08/09, 0000:00

Plot created: 98/08/13, 1007

Channel 1 (1.0 - 8.0 Angstroms)

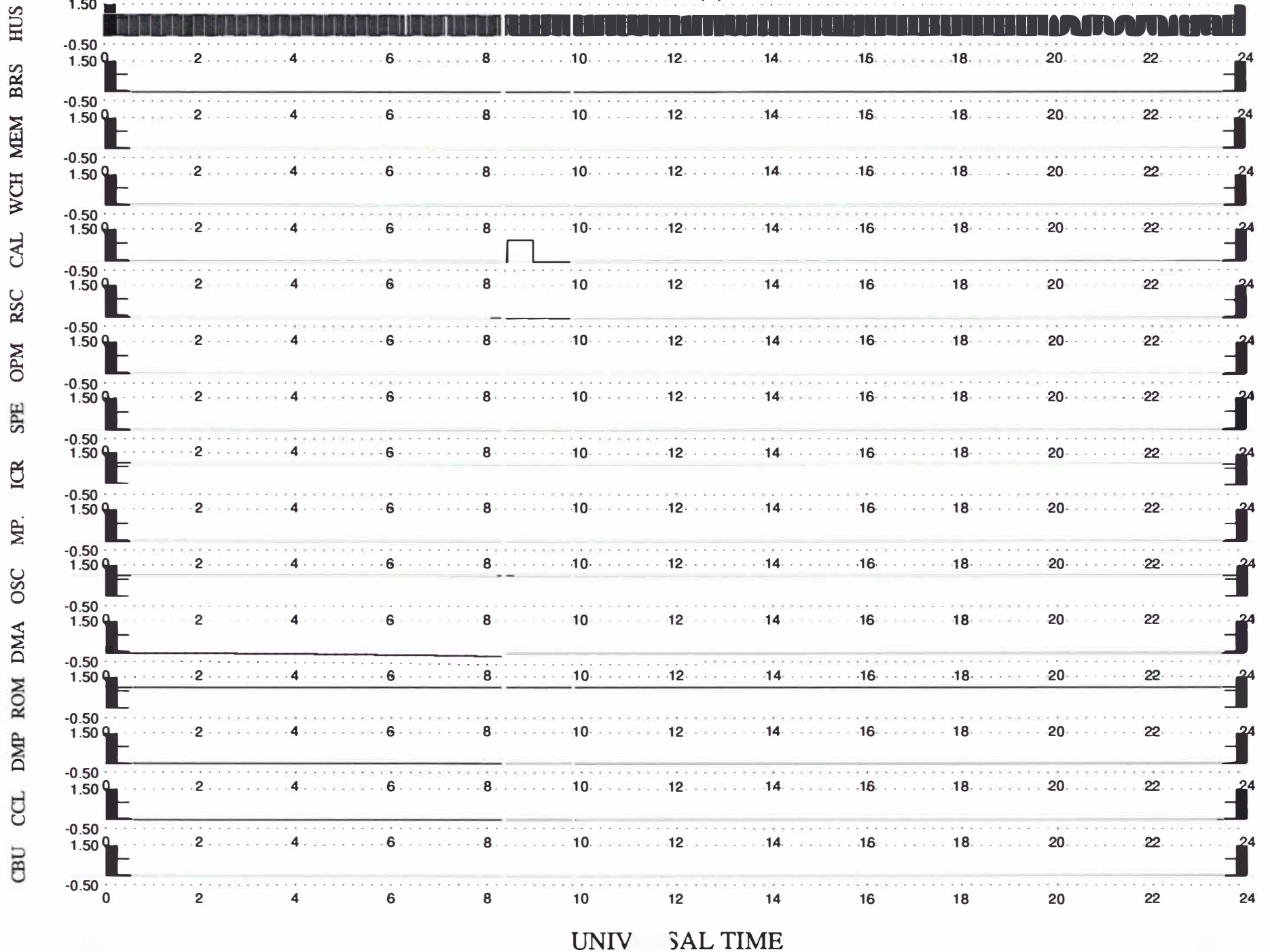
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

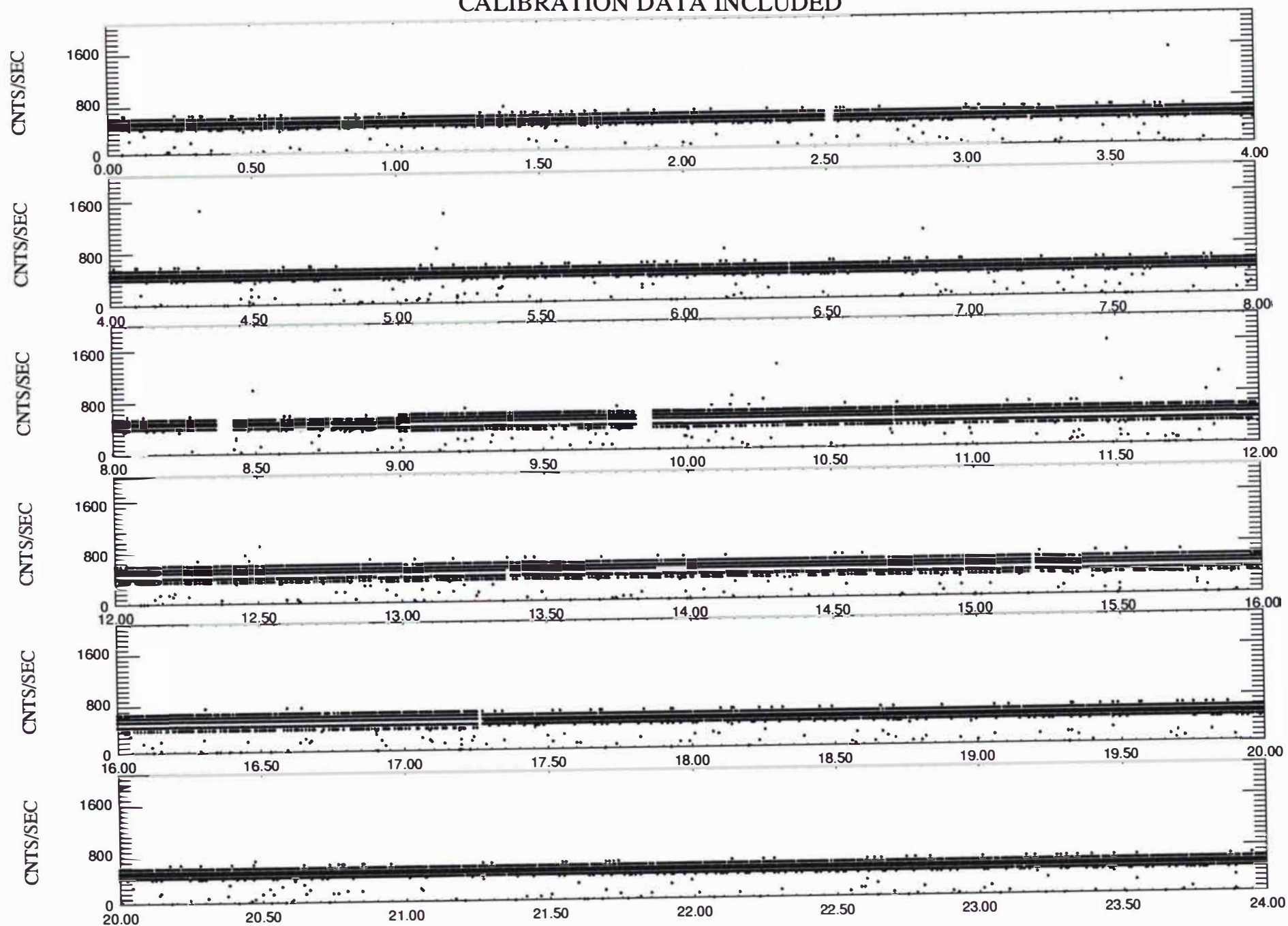
Background not subtracted

Sample average = 10

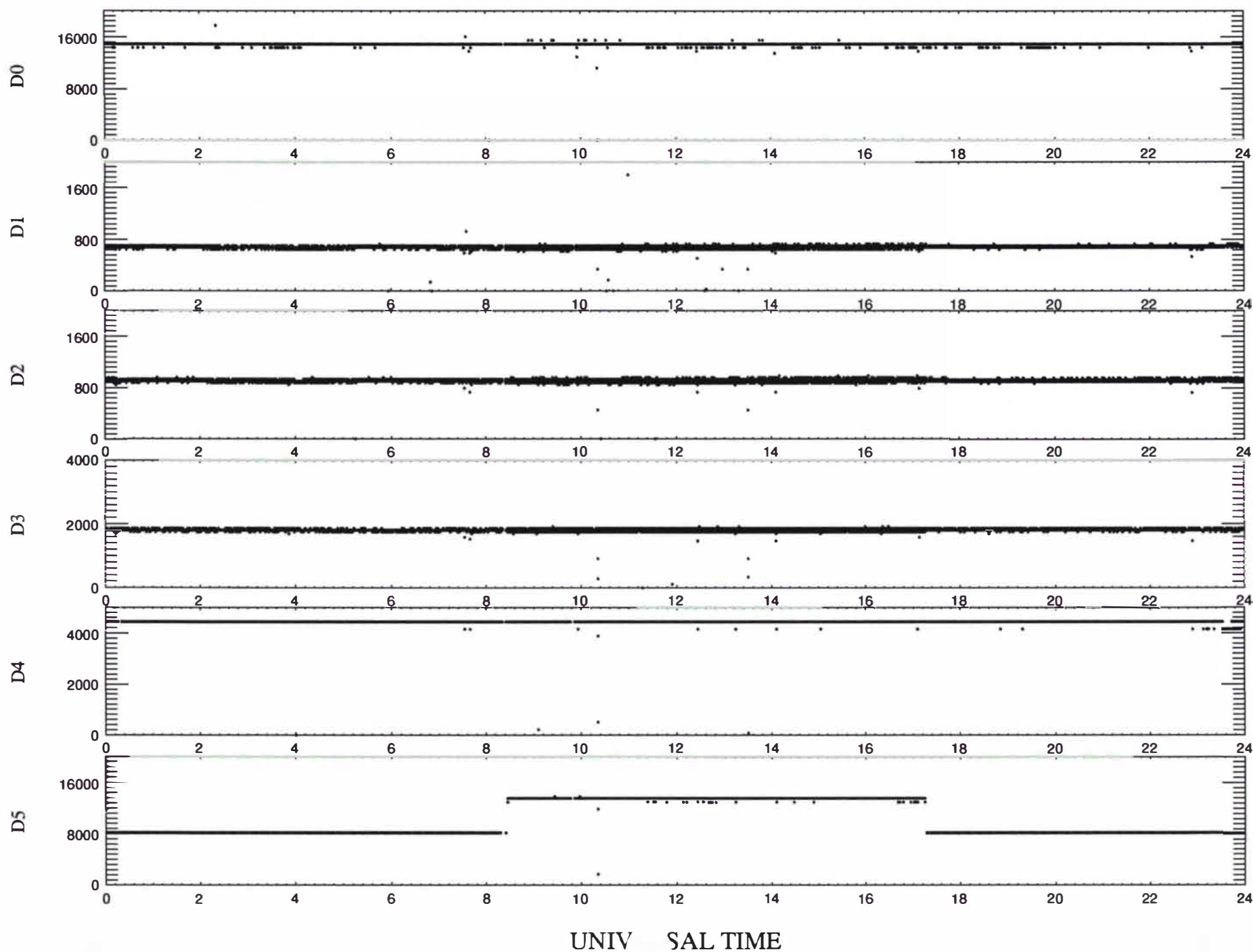
NO BURST (7)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From HENZE@joplin.msfc.nasa.gov Thu Aug 13 08:45:26 1998
Return-Path: <HENZE@joplin.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA06960; Thu, 13 Aug 1998 08:45:25 -0700
From: HENZE@joplin.msfc.nasa.gov
Received: from joplin.msfc.nasa.gov by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA20796; Thu, 13 Aug 1998 08:45:22 -0700
Received: by joplin.msfc.nasa.gov for khurley@sunspot.ssl.berkeley.edu;
Thu, 13 Aug 1998 10:44:48 -0500
Date: Thu, 13 Aug 1998 10:44:48 -0500
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980813104448.20401452@joplin.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6985
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6985
EVENT OF 1998 AUG 10 DAY OF YEAR=222
EVENT CROSSING TIME AT BATSE : 66929. S. OR 18:35:29.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 350.000 25.000
BATSE PEAK COUNTING RATE: 61000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 8/ 98 IS:
RA= 155.567 DEC= 5.966 DIST= 6.325 AU
BATSE-ULYSSES DISTANCE = 946247221. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2616.70 SECS.
CROSSING TIME AT ULYSSES IS 69546. S. OR 19:19:05 +/- 396.18 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 8/ 98 IS:
RA= 114.992 DEC= 22.358 DIST= 2.458 AU
MARS-BATSE DISTANCE = 367716128. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 71.34 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 392.38 SECS.
CROSSING TIME AT MARS IS 67321. S. OR 18:42:01 +/- 207.72 SECONDS

BATSE BURST TRIGGER

NO.: 6985

TIME: TJD=1035 SECONDS=66929

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=141.5 AZIMUTH=304.4 ERROR= 0.3 DEGREES

COMMENTS:

BRIGHT, COMPLEX, WITH MULTIPLE PEAKS; DUR. APPROX. 45 S. HARD SPECTRUM.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6985	980810	11035	66929	61000	350	+25	45

Date: 20/1/00

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

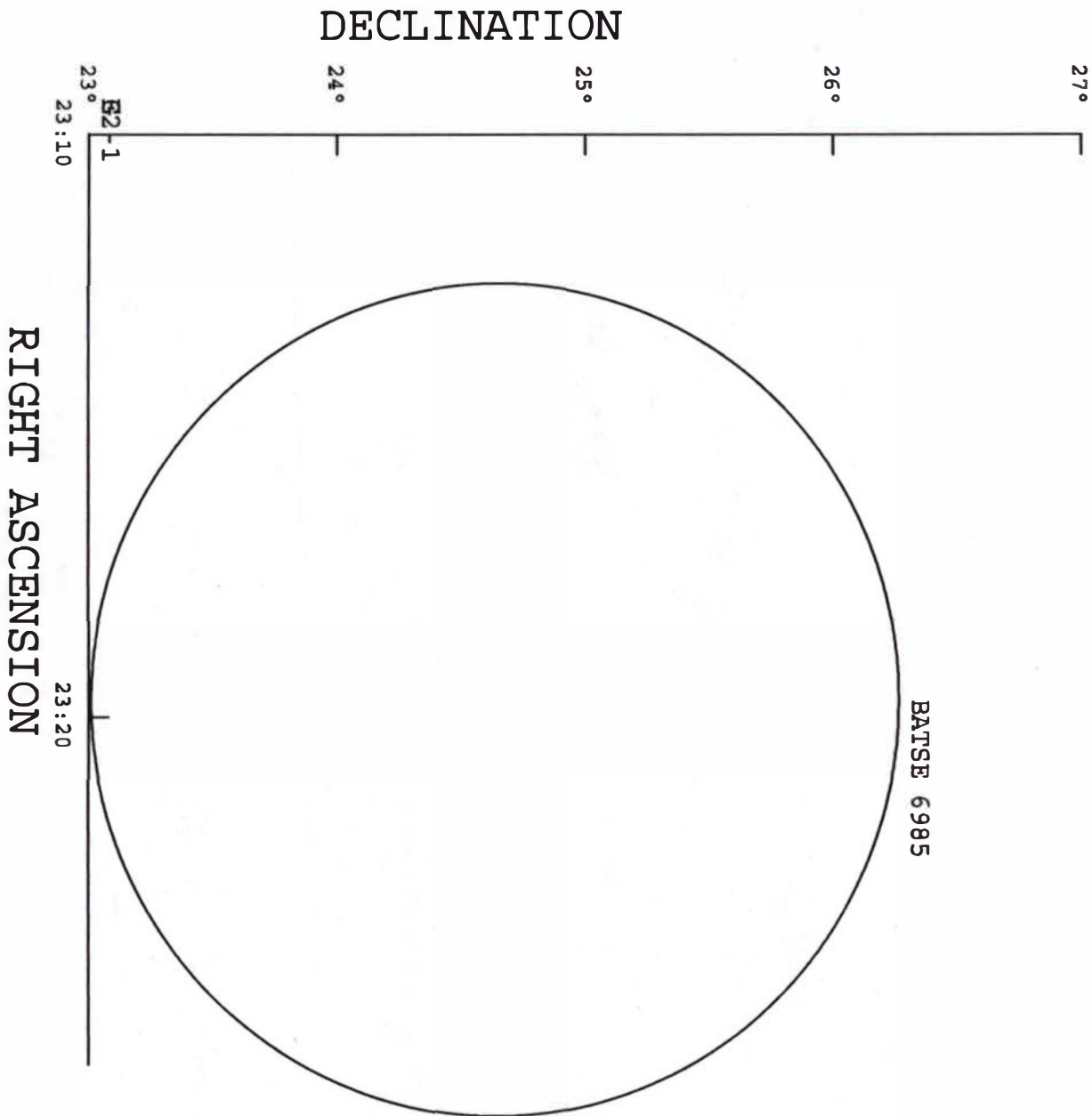
- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ 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 AUG 10, 1998 18:35

20 / 1 / 0



BATSE

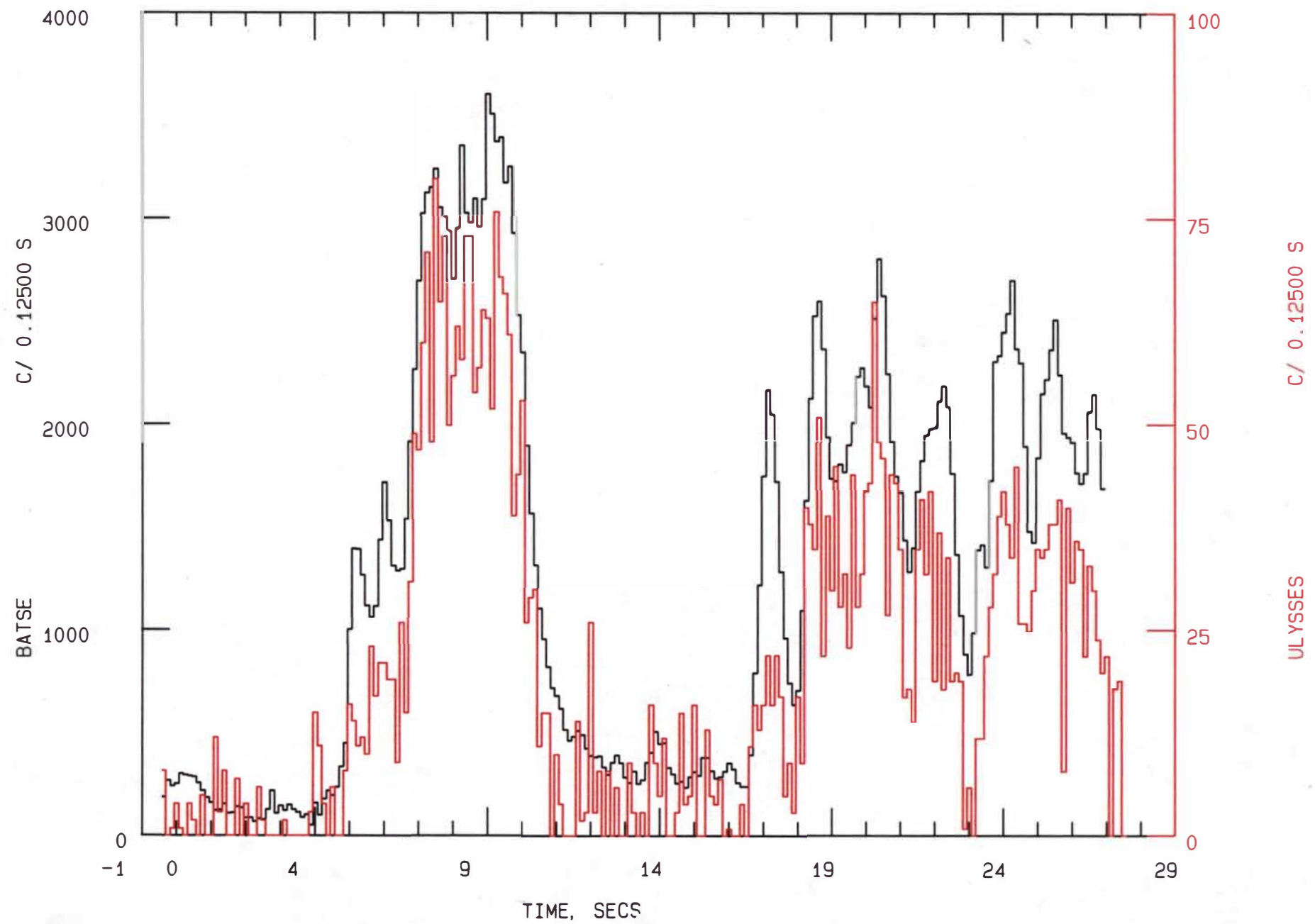
-ULYSSES

CORRELATION

10/ 8/98

66929.377

20/ 1/ 0



BATSE

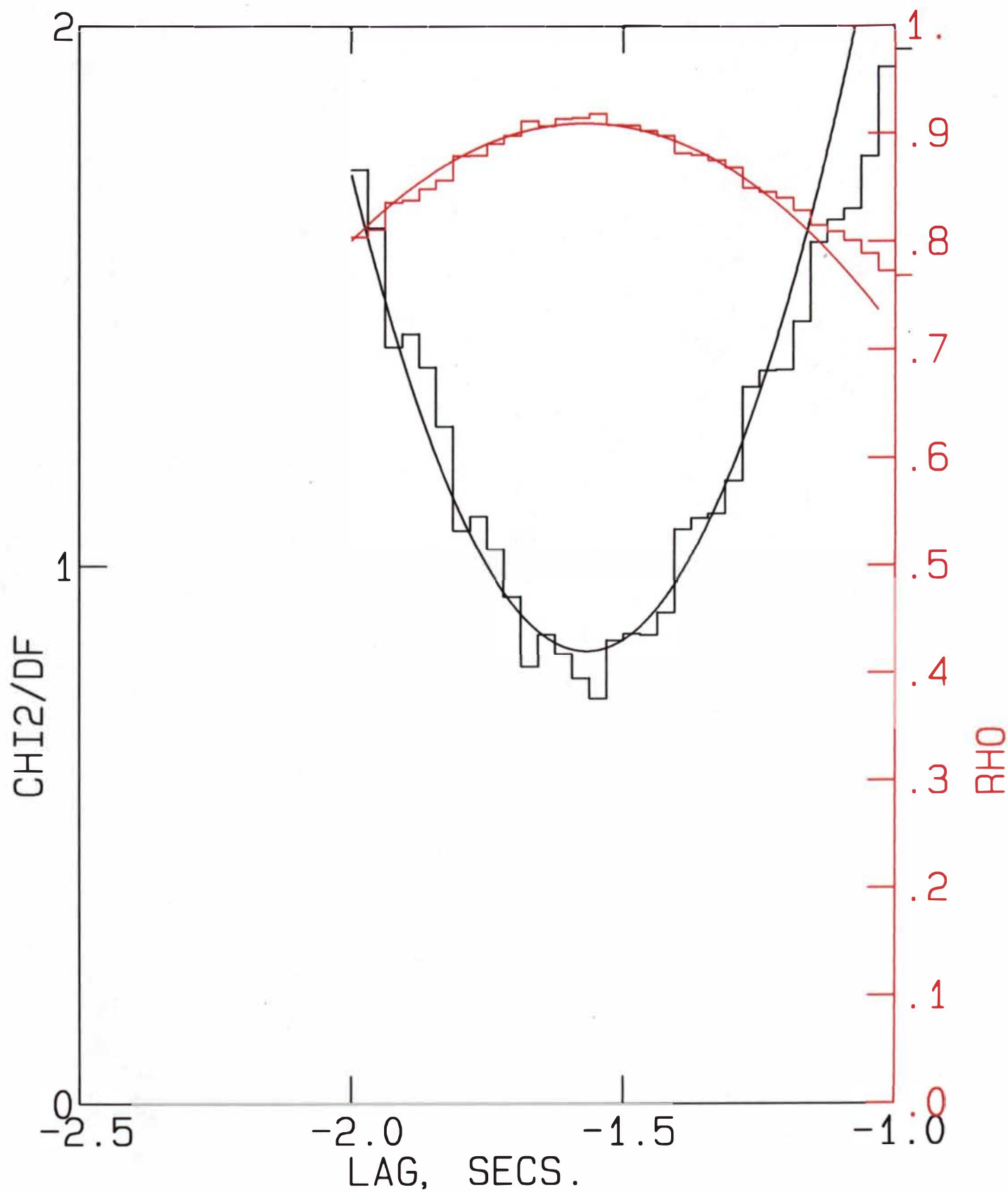
-ULYSSES

CORRELATION

10/ 8/98

66929.377

20/ 1/ 0



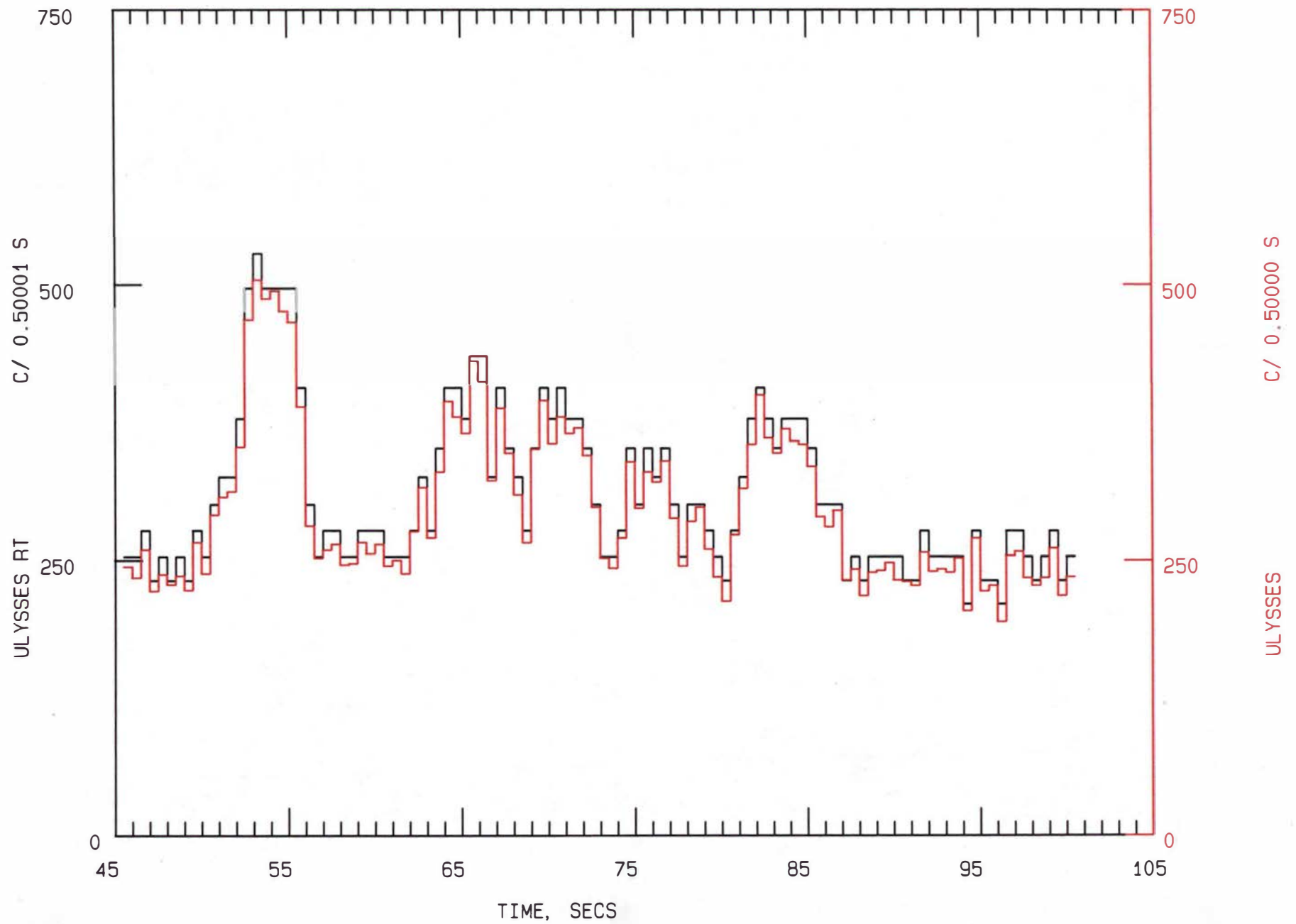
ULYSSES RT-ULYSSES

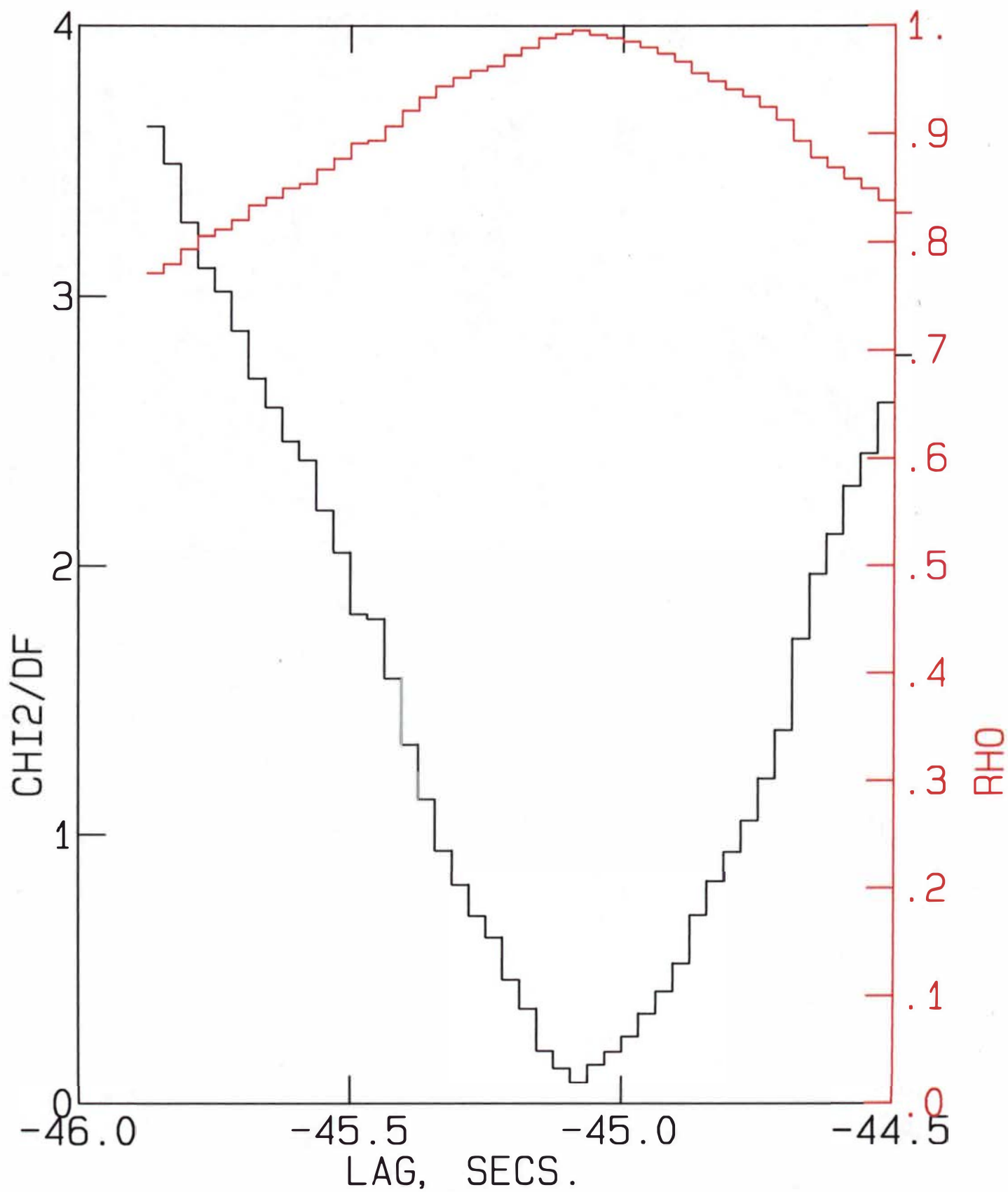
CORRELATION

10/ 8/98

69714.116

20/ 1/**

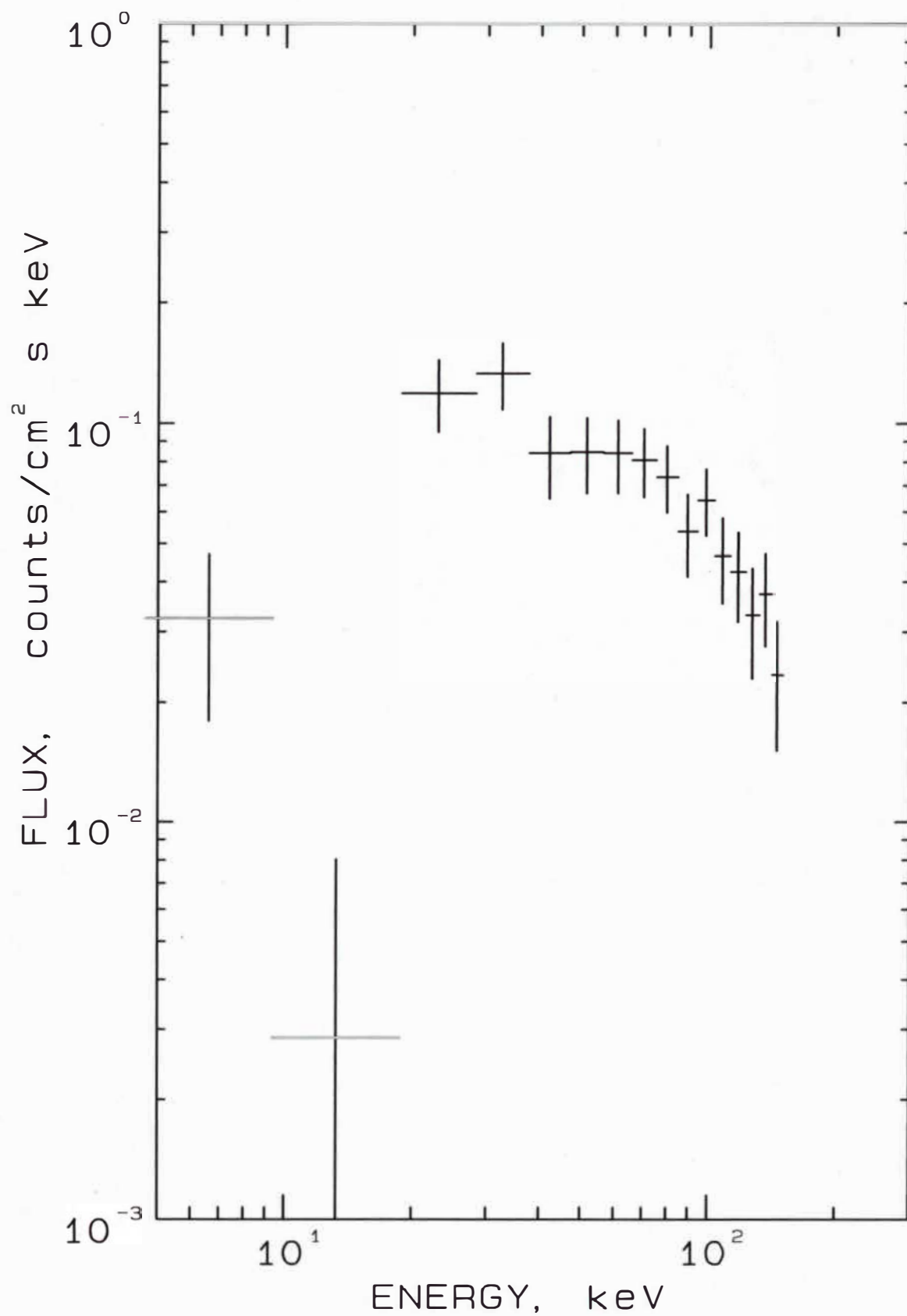




ULYSSES 10/08/98 69766.597

20/ 1/**

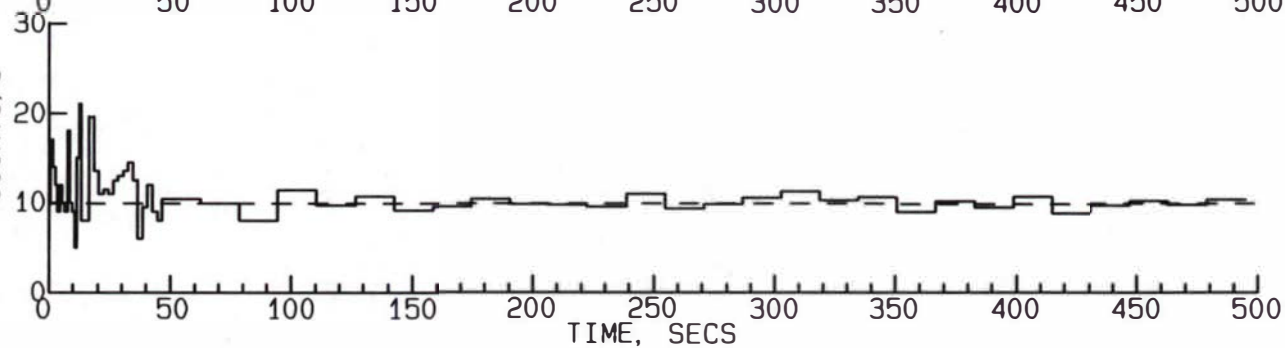
SPECTRUM INTEGRATED OVER 42.5 SECONDS, INTERVALS 2 TO 30



ULYSSES 10/08/98 69766.597 BURST SPECTRAL COUNT RATES

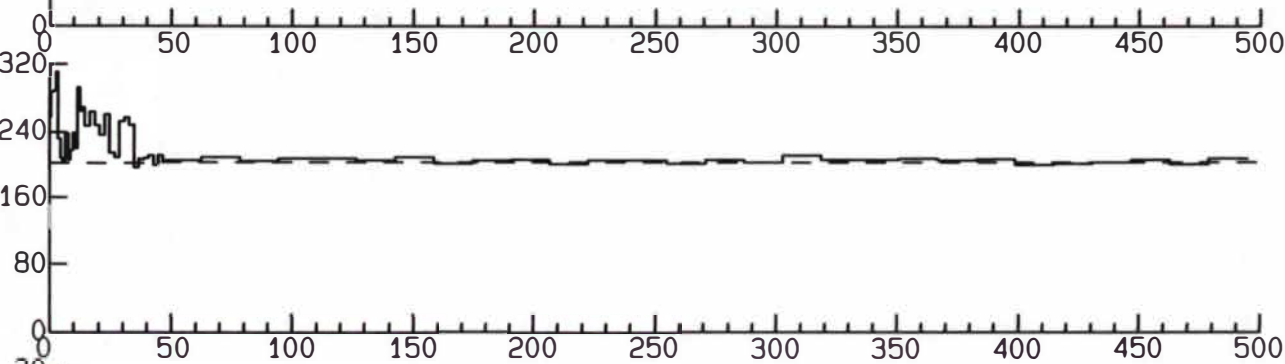
4- 18 keV

COUNTS/S



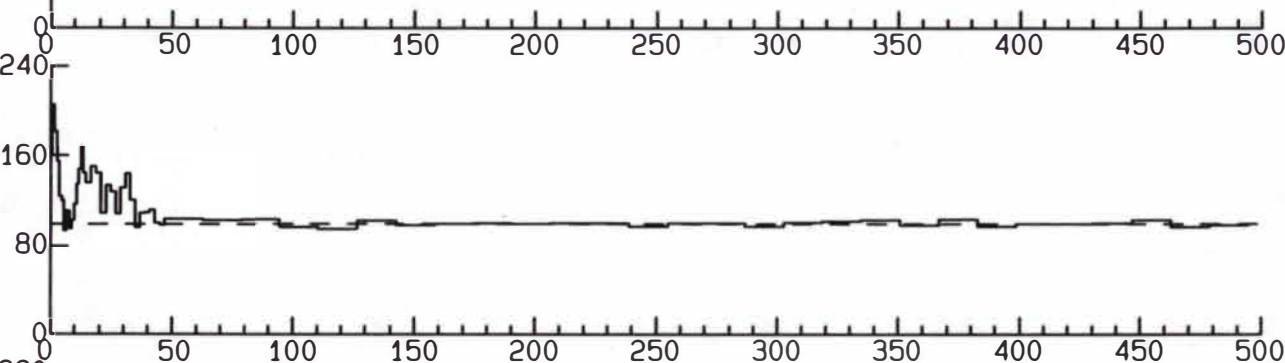
18- 46 keV

COUNTS/S



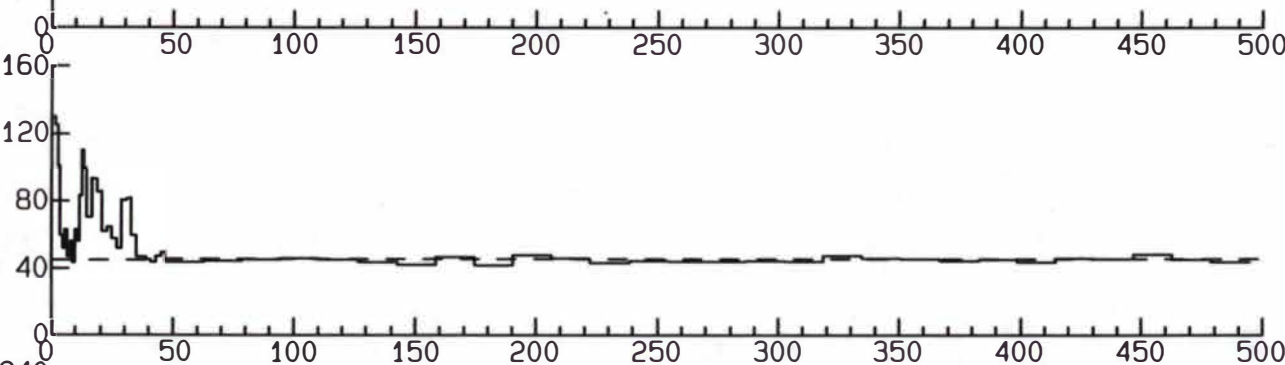
46- 74 keV

COUNTS/S



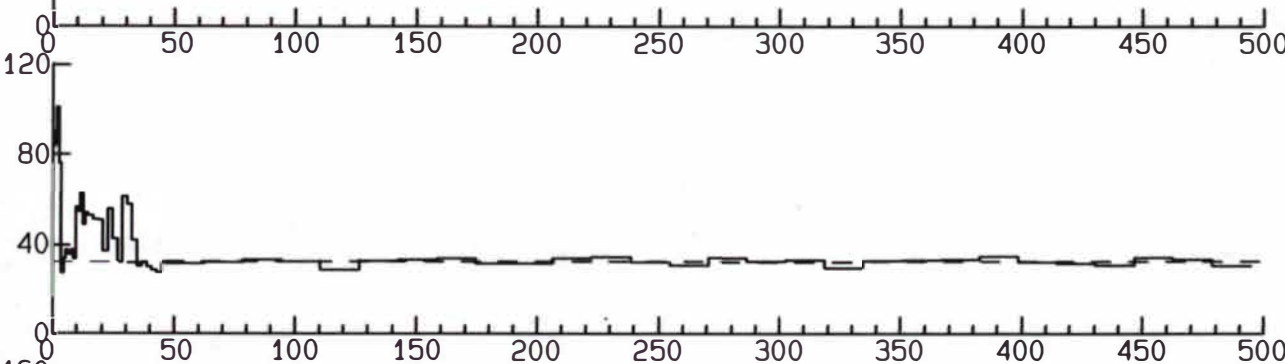
74-102 keV

COUNTS/S



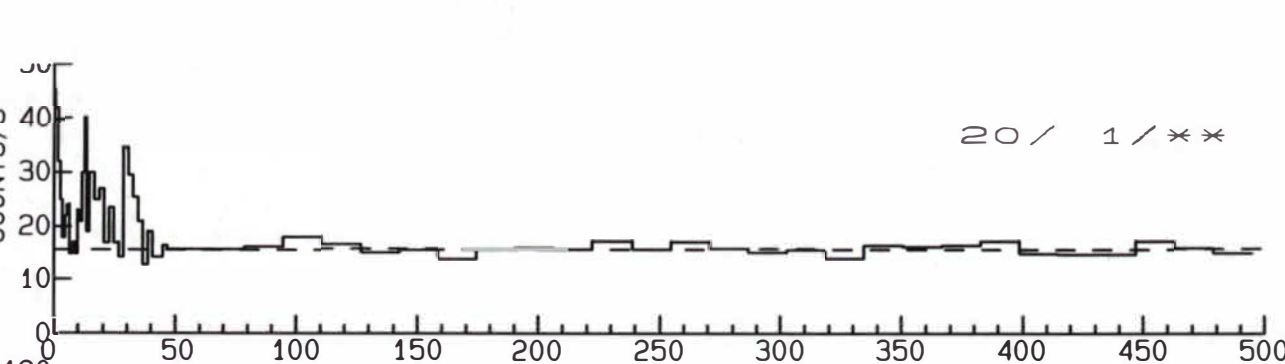
102-131 keV

COUNTS/S



131-149 keV

COUNTS/S



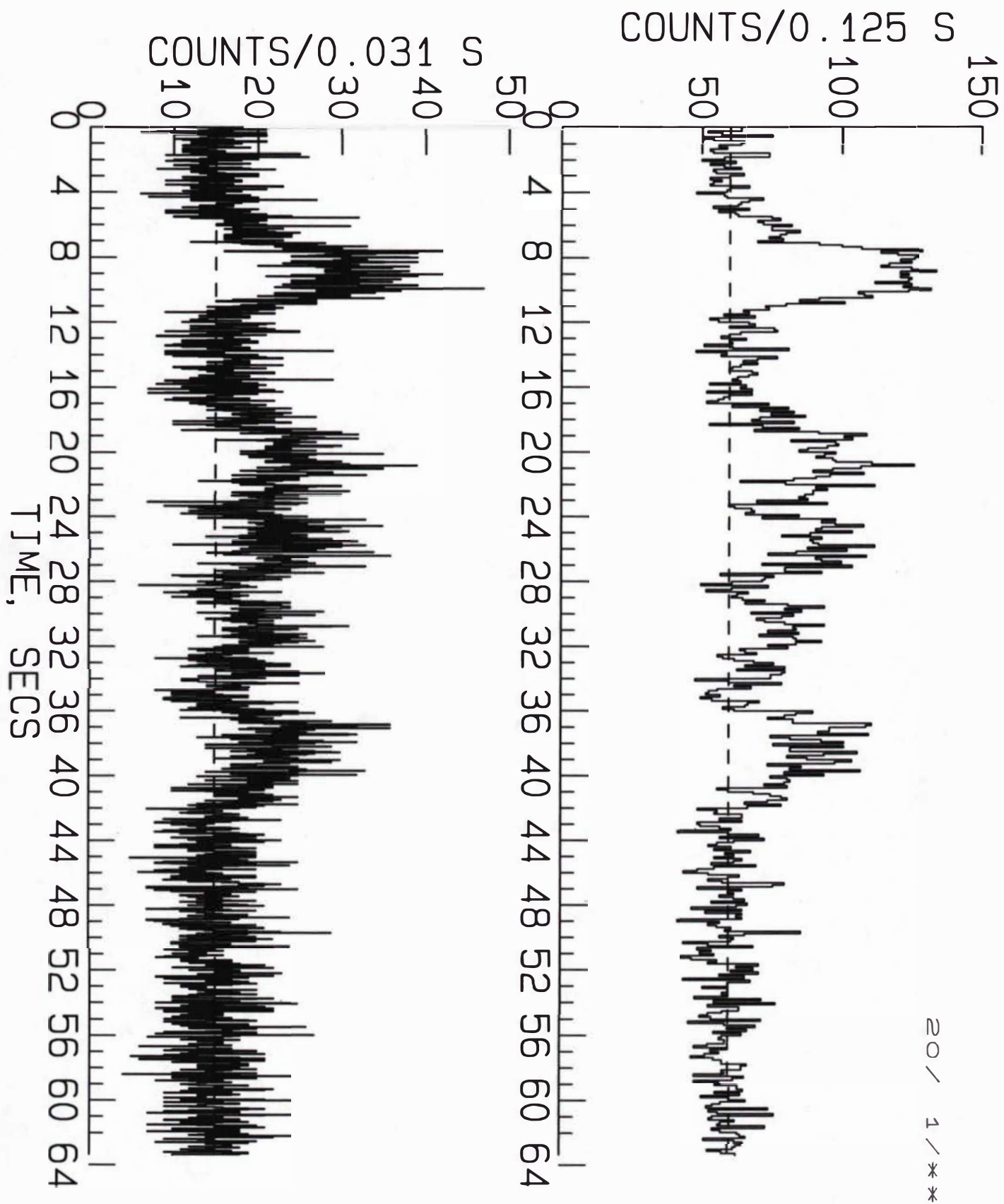
20 / 1 / **

ULYSSES

10/08/98

Ttrig=69766.610

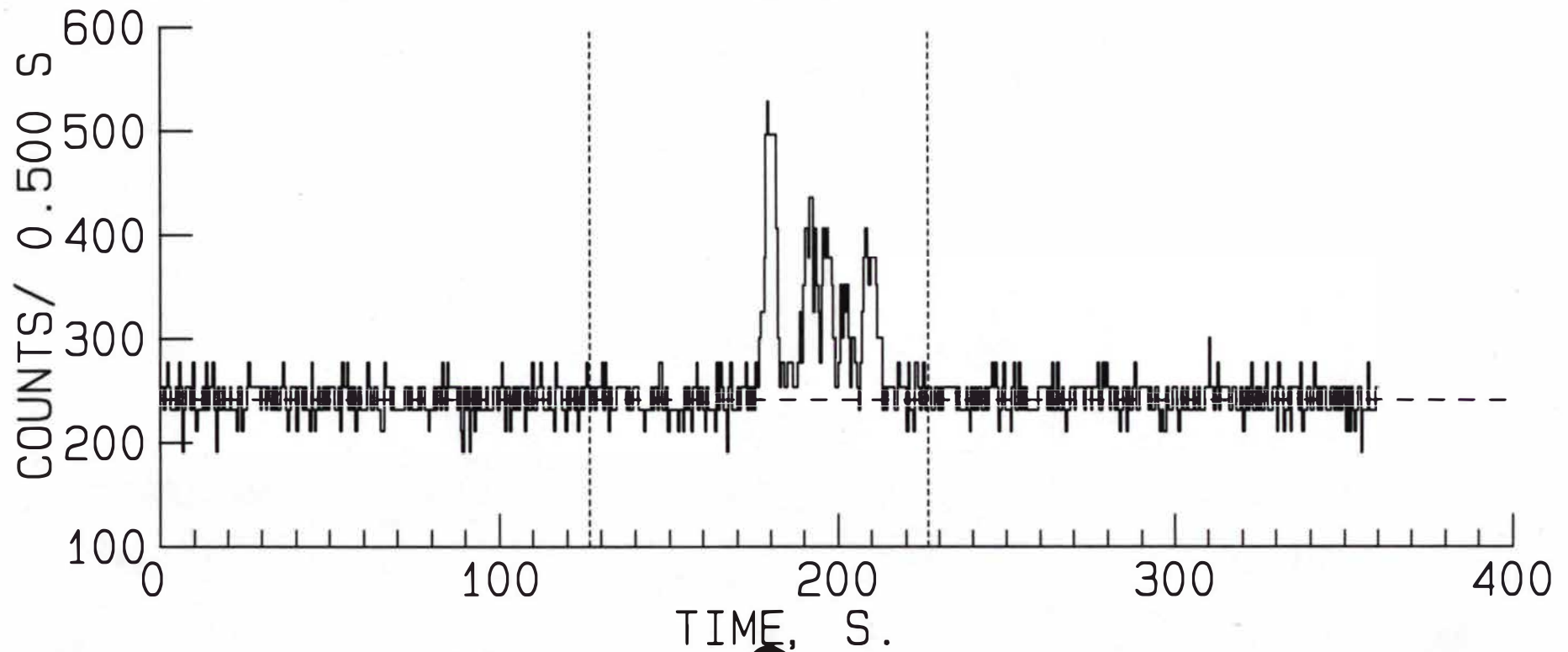
22- 150 keV



ULYSSES RT
10/ 8/98 69588.104 s
22- 150 keV

20 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



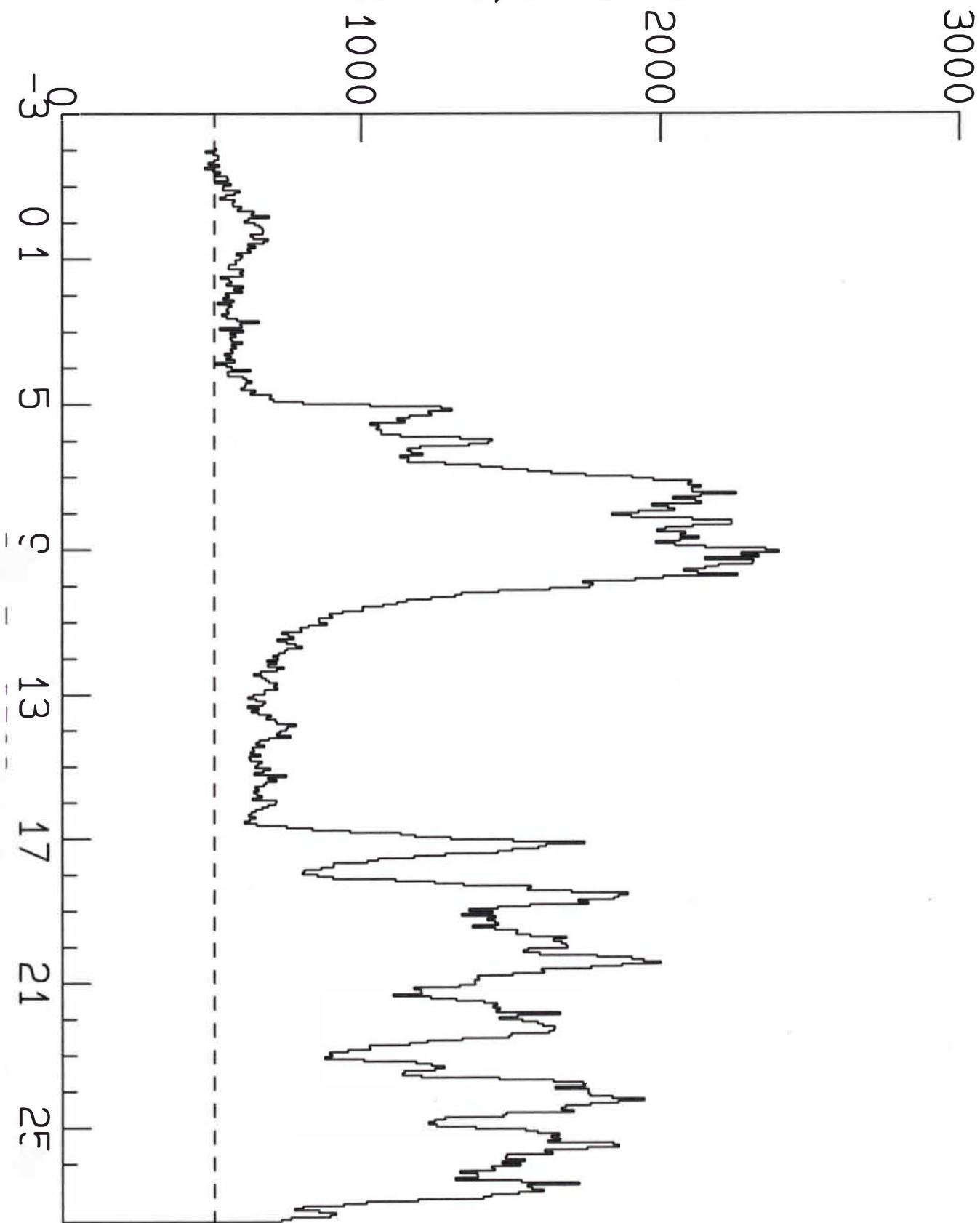
BATSE

10/08/98

66929.377

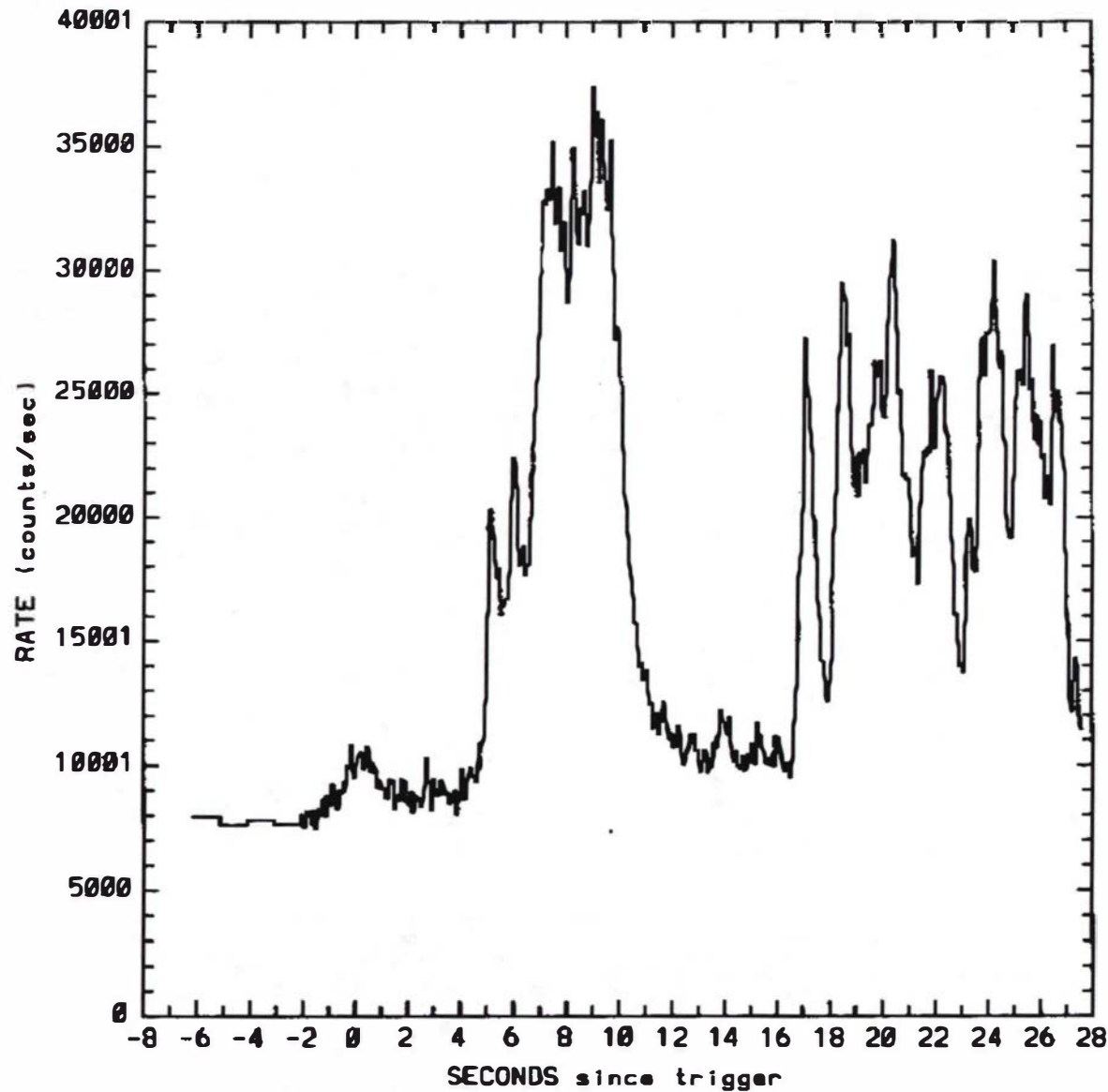
25- 100 keV

COUNTS/0.064 S



9 / 12 / 98

DISCSC Data for K. Hurley, No. 6985



27-AUG-1998 09:19:46

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6985

Trigger Time:
11835 / 66929.377

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

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

Discriminators:
(1 , 2)

Quality Mask:
BDISP1

From TERRELL@nisdpo.lanl.gov Fri Aug 14 15:01 PDT 1998

From: TERRELL@nisdpo.lanl.gov

Date: Fri, 14 Aug 1998 16:01:42 -0600

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

X-Vmsmail-To: @MAILOUTUL.DIS

Subject: dmsp grb detections: 980706,980721,980803,980810

From: jterrell@lanl.gov (James Terrell) 980814

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

Subj: DMSP GRB detections: 980706,980721,980803,980810

The following GRB were detected by DMSP13 or DMSP14 (or NOT detected, if indicated).
No detection can occur for bursts more than ~118 degrees from spacecraft zenith,
or in the presence of very high counting rates (SAA,SR,NR).

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

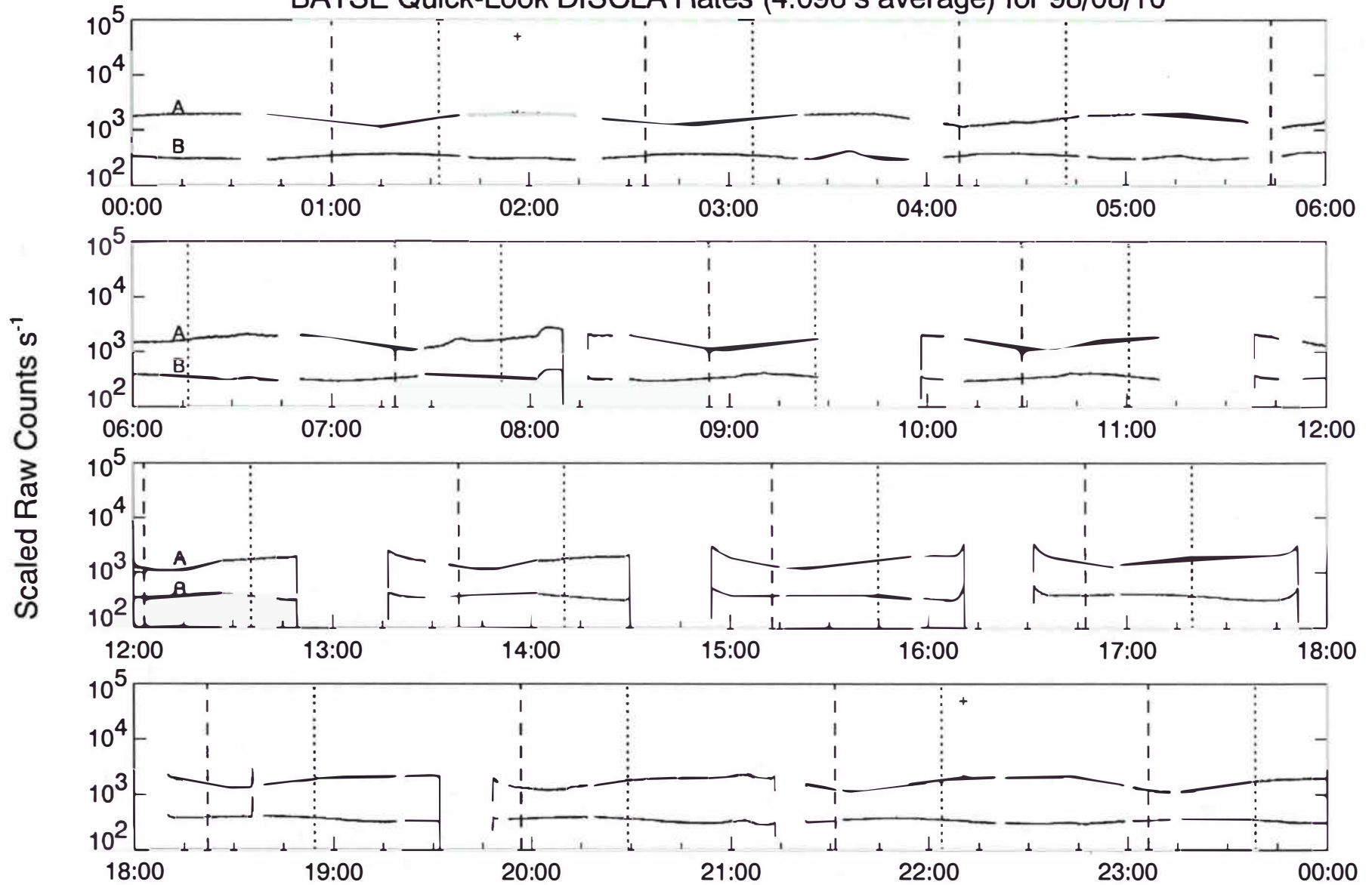
Various other BATSE GRB were also detected, but not reported here; numerous
weak detections by Ulysses have not been checked because of low counting
rates expected at an indefinite time.

NOTE that DMSP14 trigger peak times reported previously (980228 and earlier) need to be
increased by 0.10 seconds, due to a re-examination of the data-processing program.

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

980706 187 58587.0 BATSE#6904 (32476/S) (164.7,50.6)C (INTENSE SPIKE,~1S)
13 187 57587.3 PEAK (220/S,<2S) HARD! @25DEG
14 187 57588.3 PEAK (650/S,<2S) HARD! @105DEG
14 187 57588.0 TRIG PK(.1024S,10K/S);.0128S:587.58(2K/S),587.94,588.02
14 187 57588.0 (CONT) MAIN PEAK 0.31S LONG (57587.86-588.17)
980706 14 187 NOTE: INCREASE ALL PREVIOUS TRIGGER PEAK TIMES BY 0.10 SEC!!
980708 189U60360 UL MOD GRB, 10S @3000LS (13NA,14NA)
980717 198U 7680 UL MOD GRB, 32MS @3000LS,POSSIBLE SGR (13NA,14NA)
980717 198 10706.6 BATSE#6930(10048/S) (333.3,-53.7)C,PEAK@32.8S,DOUBLE PULSE
198 10706.6 (CONT) (13NA@74DEG,~SR)(14NA@58DEG,~SR) SAME AS ULYSSES?
980721 202U13920 UL INTENSE GRB (SGR?), 32MS @3100LS (13NA,14NA)
980721 202U23460 UL MOD GRB, 10S @3100LS
13 202 20629.5 PEAK (ONE-SIDED,50/S,<6S) (WEAK) (14SR,NA ELSEWHERE)
980803 215 48980.7 BATSE#6963 (24619/S) (152.0,60.1)C PK AT +23.6S,~33S LONG
13 215 49016.1 PEAKS,49034.1 (WEAK,ON TAIL OF NR,@20DEG) (14NO,@117DEG)
980804 216U18420 UL MOD GRB (SGR?), 32MS @3700LS (!) (13NA,14NA)
980810 222 66929.4 BATSE #6985 (353.1,22.2)C (30141/S,PEAK@+10.2S)
14 222 66937.3 PKS(900/S),949.3(620),955.3(600),967.3(650);<36S,HARD,
14 222 66937.2 (CONT) ONE-SIDED, NO TRIGGER, @103DEG (13SAA)

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/10

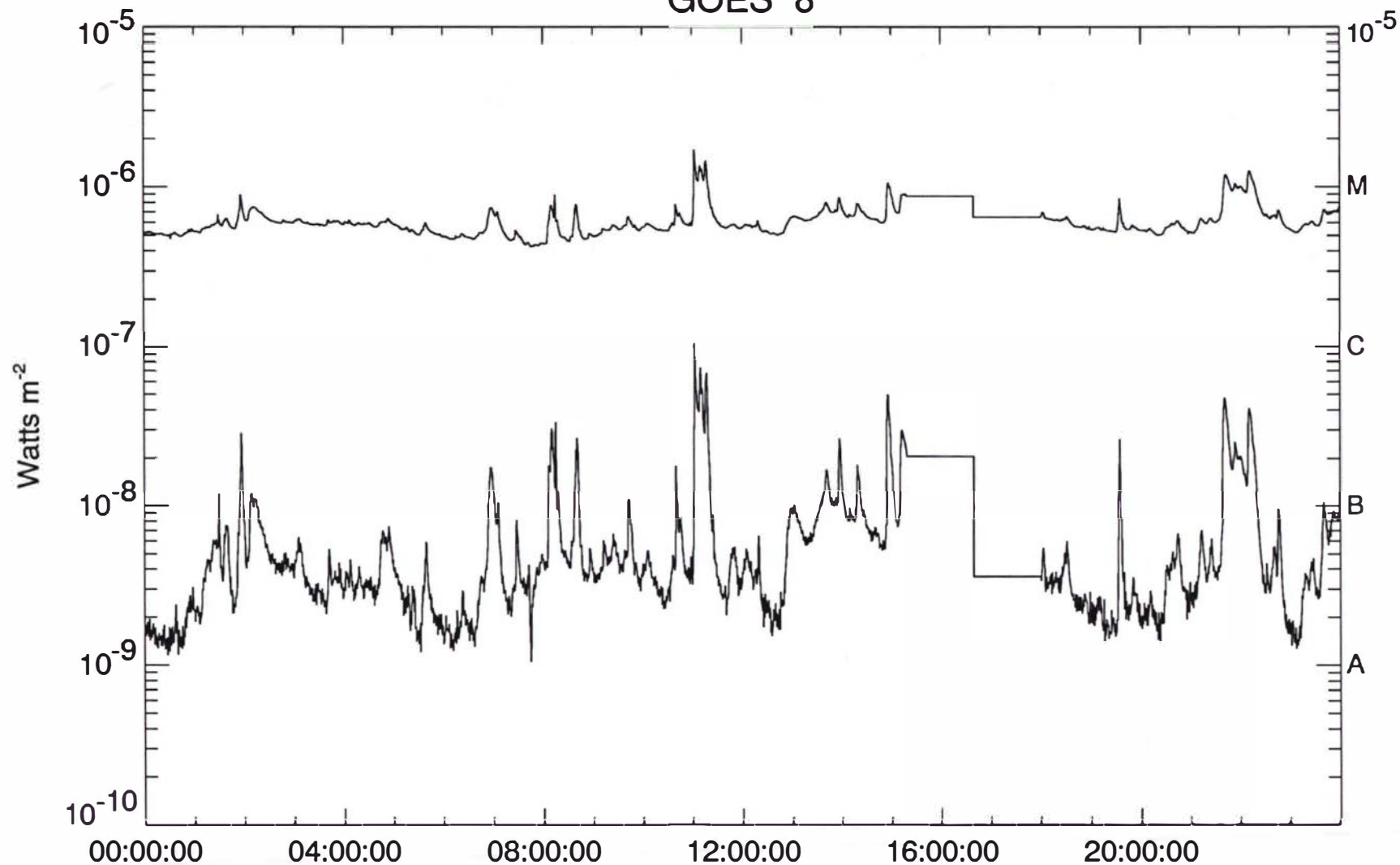


Current Time: 98/08/14, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/10, 0000:00

Plot created: 98/08/14, 1007

Channel

1 (1.0 - 8.0 Angstroms)

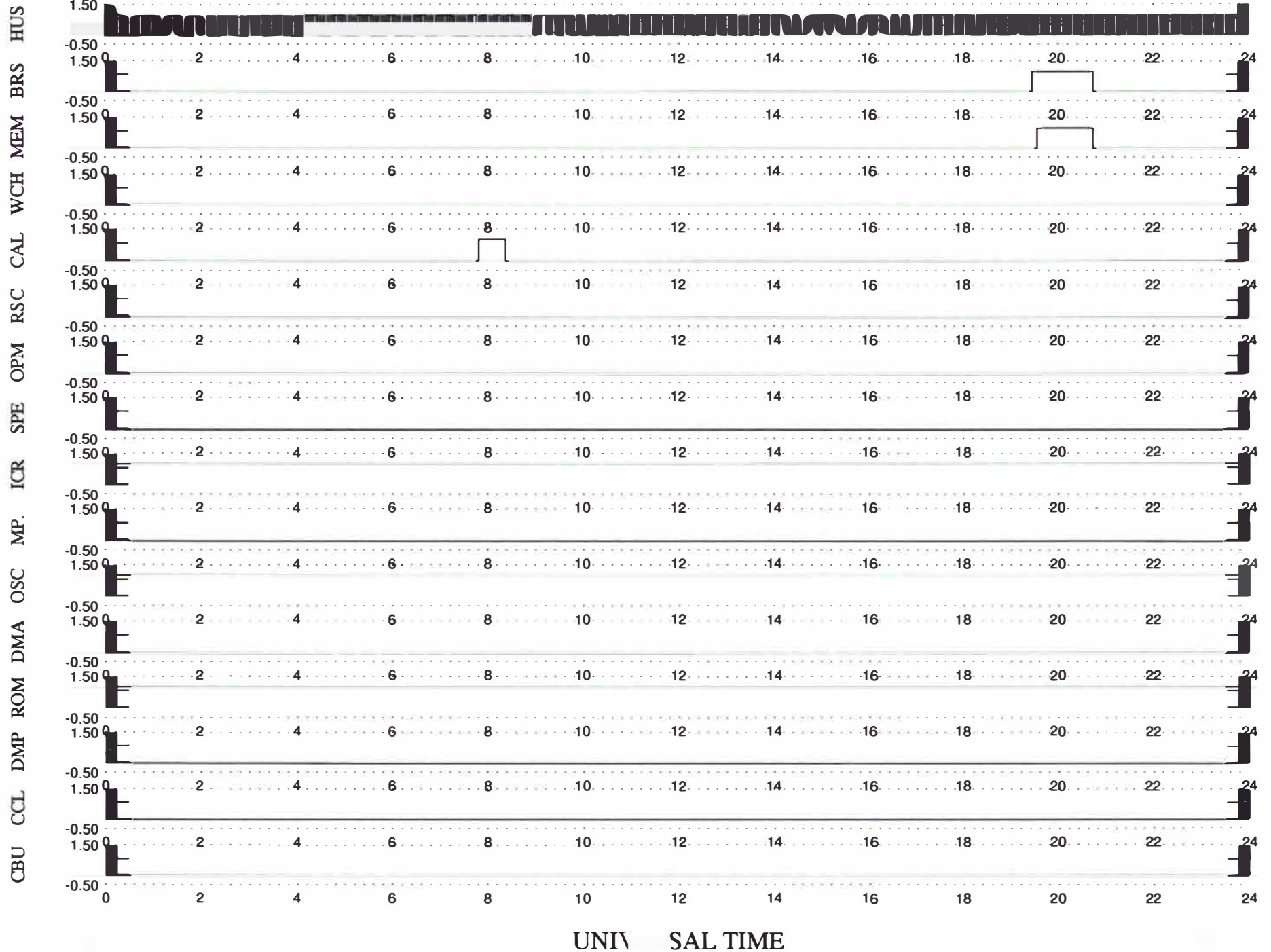
Background not subtracted

2 (0.5 - 4.0 Angstroms)

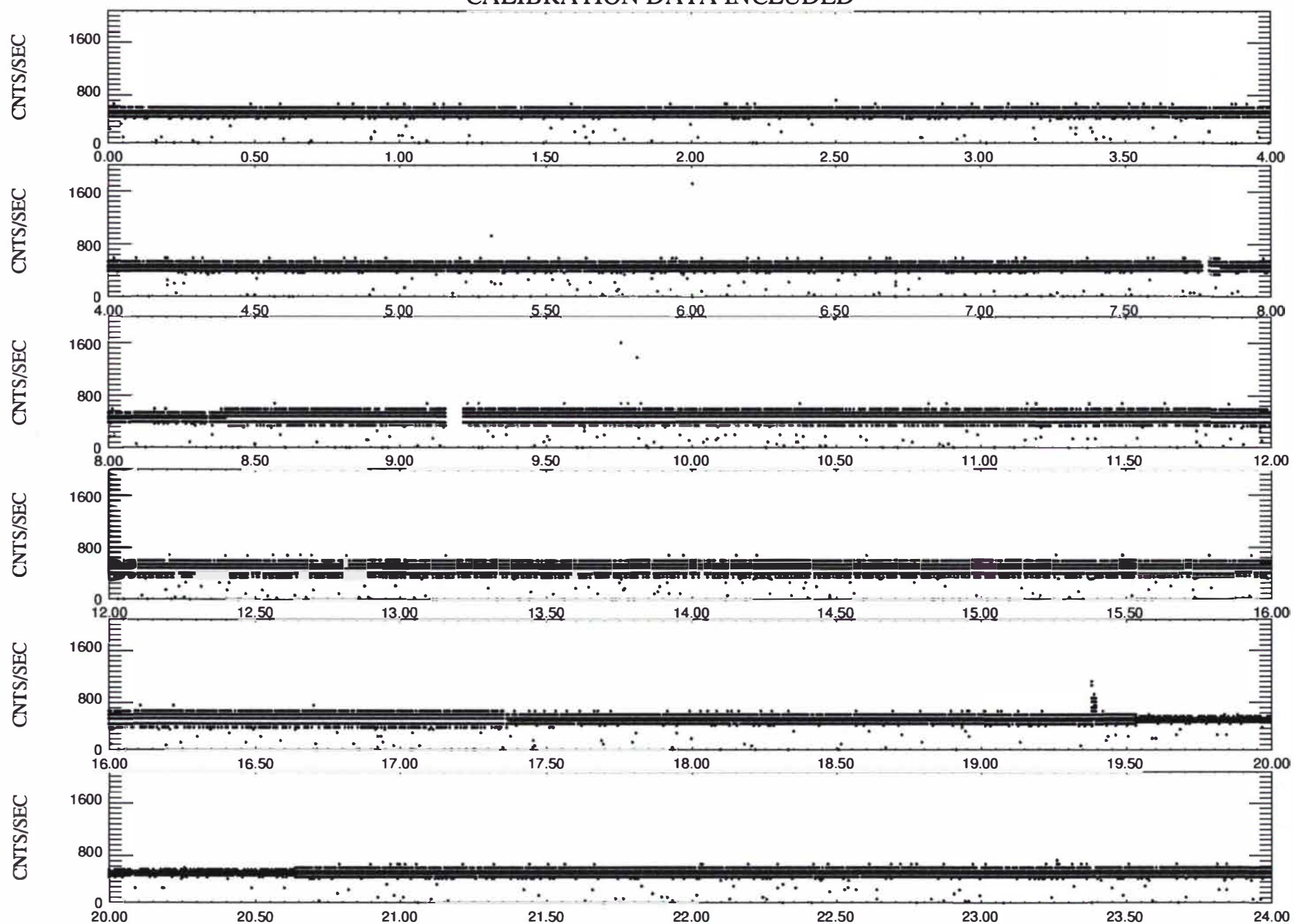
Background not subtracted

Sample average = 10

BURST NUMBER 8

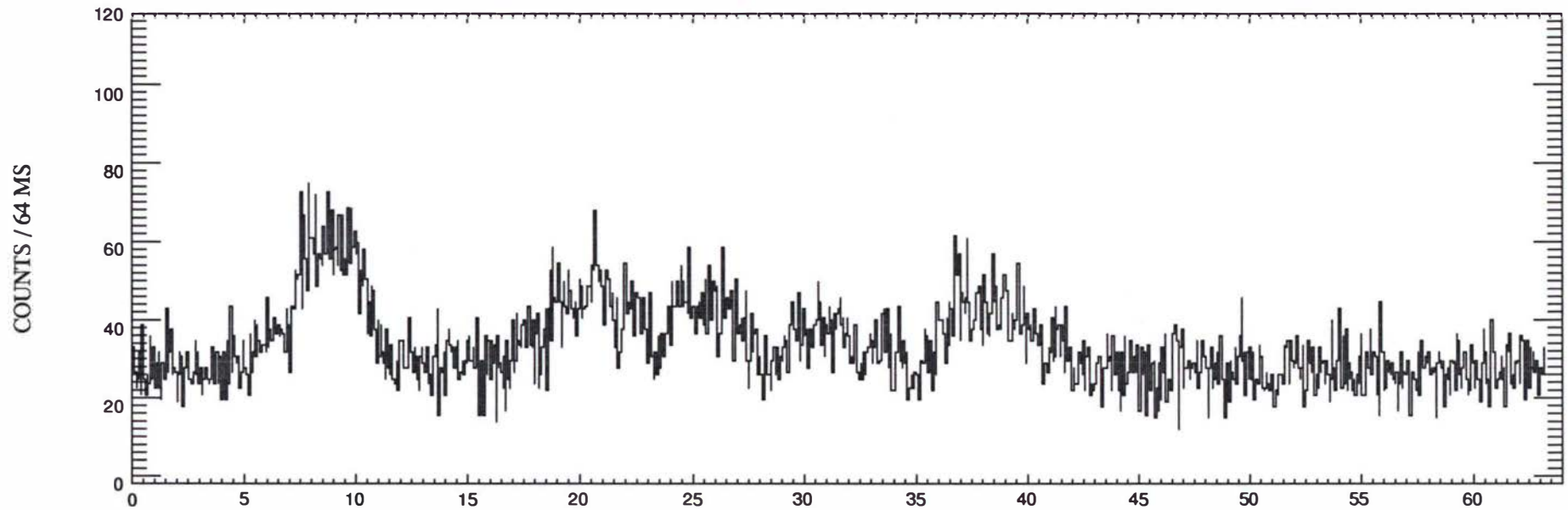


CALIBRATION DATA INCLUDED

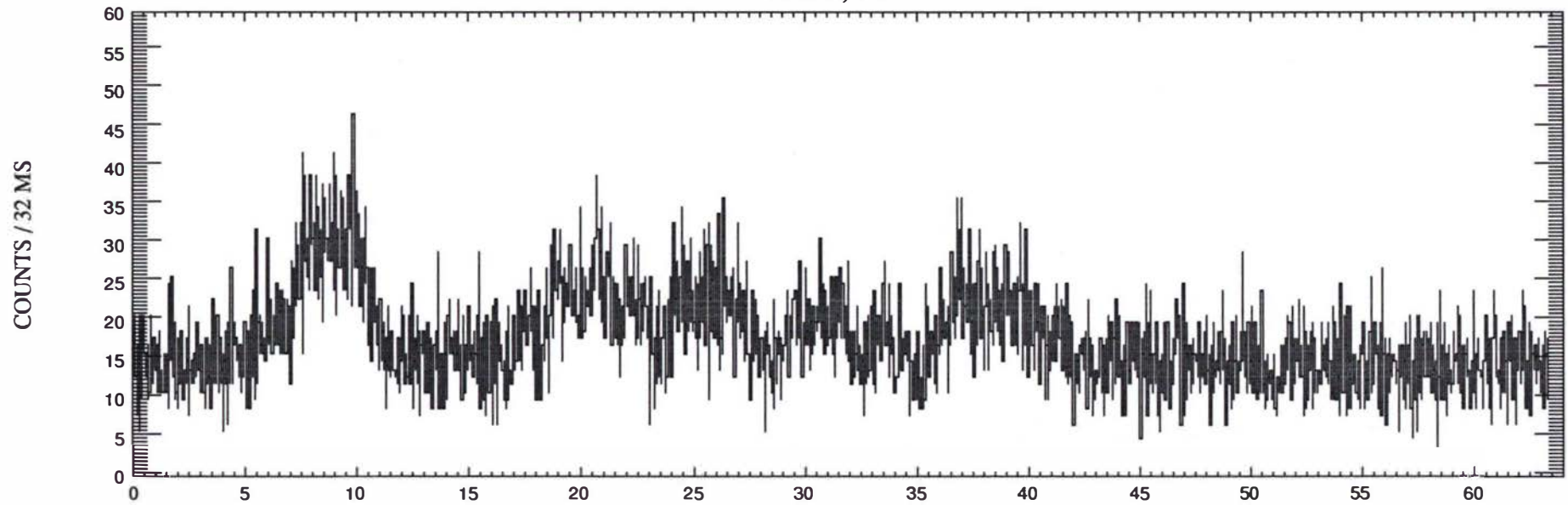


UNIV SAL TIME

Burst Counter 8 at UT=19.379610243903 h=69766.597 s 19:22:46.597

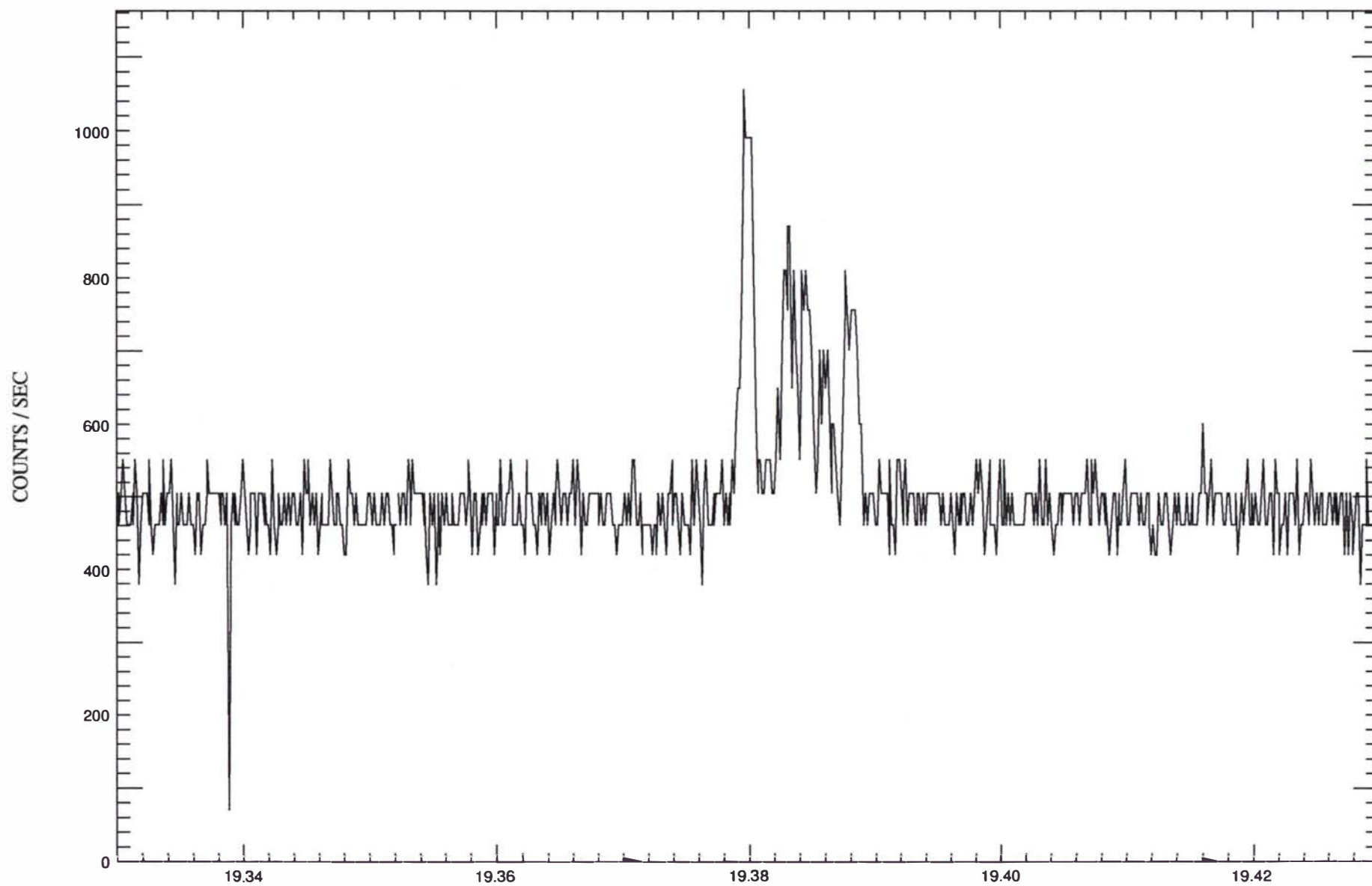


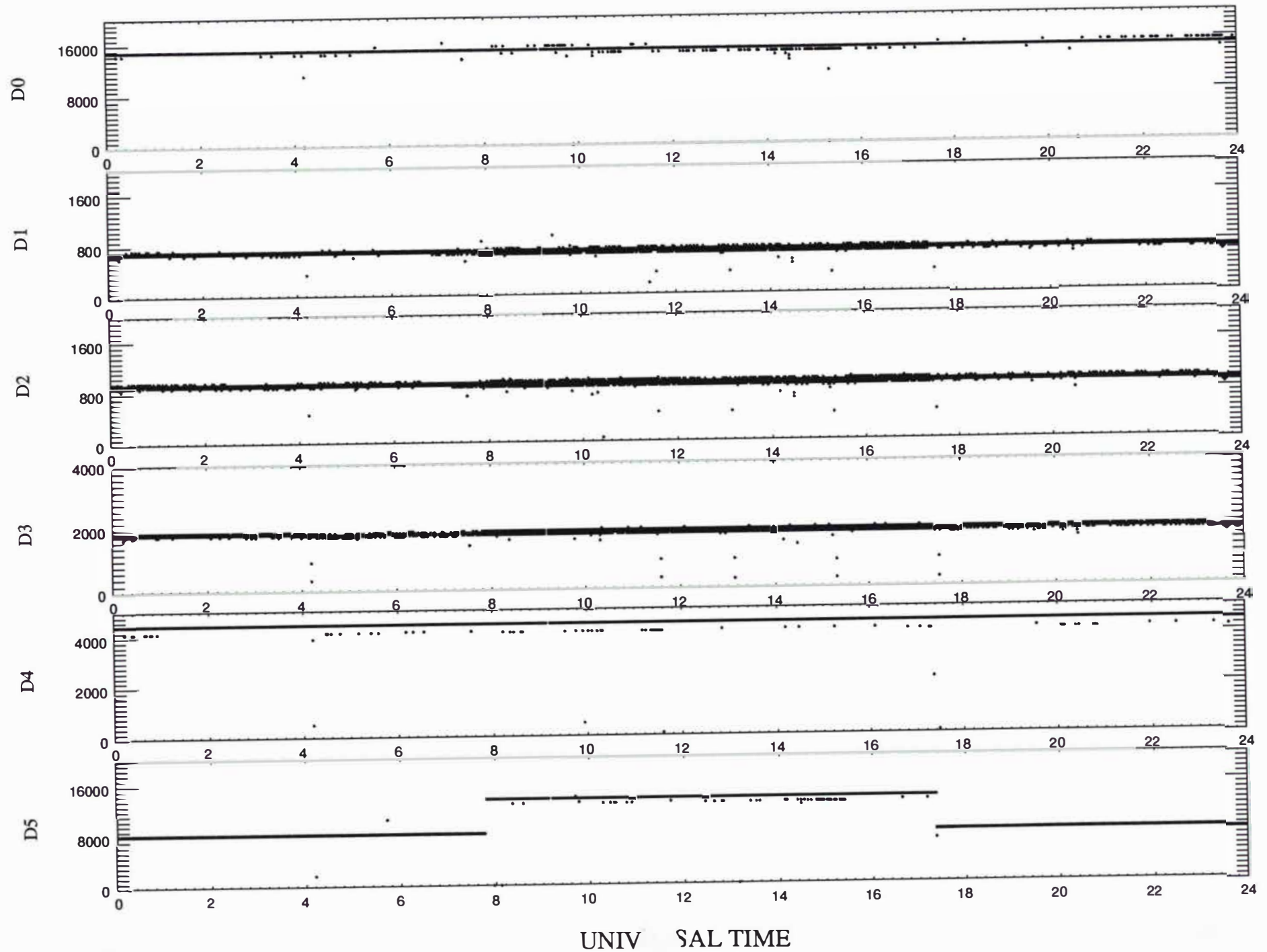
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Fri Aug 14 11:04:39 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA07249; Fri, 14 Aug 1998 11:04:35 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA13150; Fri, 14 Aug 1998 11:04:31 -0700
Date: Fri, 14 Aug 1998 13:03:39 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980814130339.20226a2d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6986
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6986
EVENT OF 1998 AUG 11 DAY OF YEAR=223
EVENT CROSSING TIME AT BATSE : 24308. S. OR 06:45:08.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 267.000 4.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 8/ 98 IS:
RA= 155.633 DEC= 5.919 DIST= 6.327 AU
BATSE-ULYSSES DISTANCE = 946541050. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.25 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1118.72 SECS.
CROSSING TIME AT ULYSSES IS 25427. S. OR 07:03:46 +/- 579.59 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 8/ 98 IS:
RA= 115.687 DEC= 22.256 DIST= 2.455 AU
MARS-BATSE DISTANCE = 367331200. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 960.02 SECS.
CROSSING TIME AT MARS IS 25268. S. OR 07:01:08 +/- 146.77 SECONDS

BATSE BURST TRIGGER

NO.: 6986

TIME: TJD=1036 SECONDS=24308

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=105.8 AZIMUTH=206.8 ERROR=1.2 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION APPROX.= 18 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6986	980811	11036	24308	3000	267	+04	18

Date: 20/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

- ☐ 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

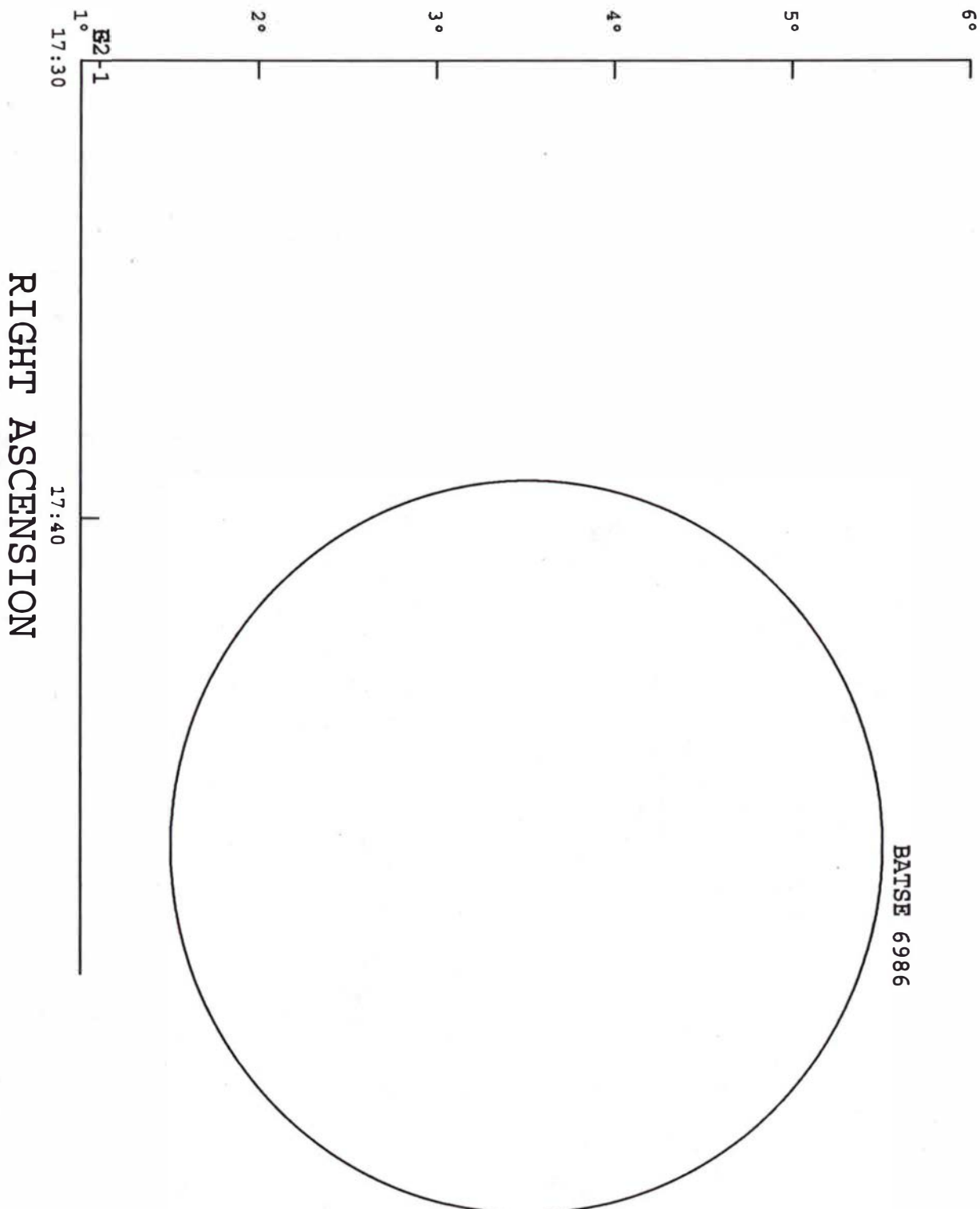
1 BATSE

2 ULYSSES

DECLINATION

EVENT OF AUG 11, 1998 6:45

20 / 1 / 0



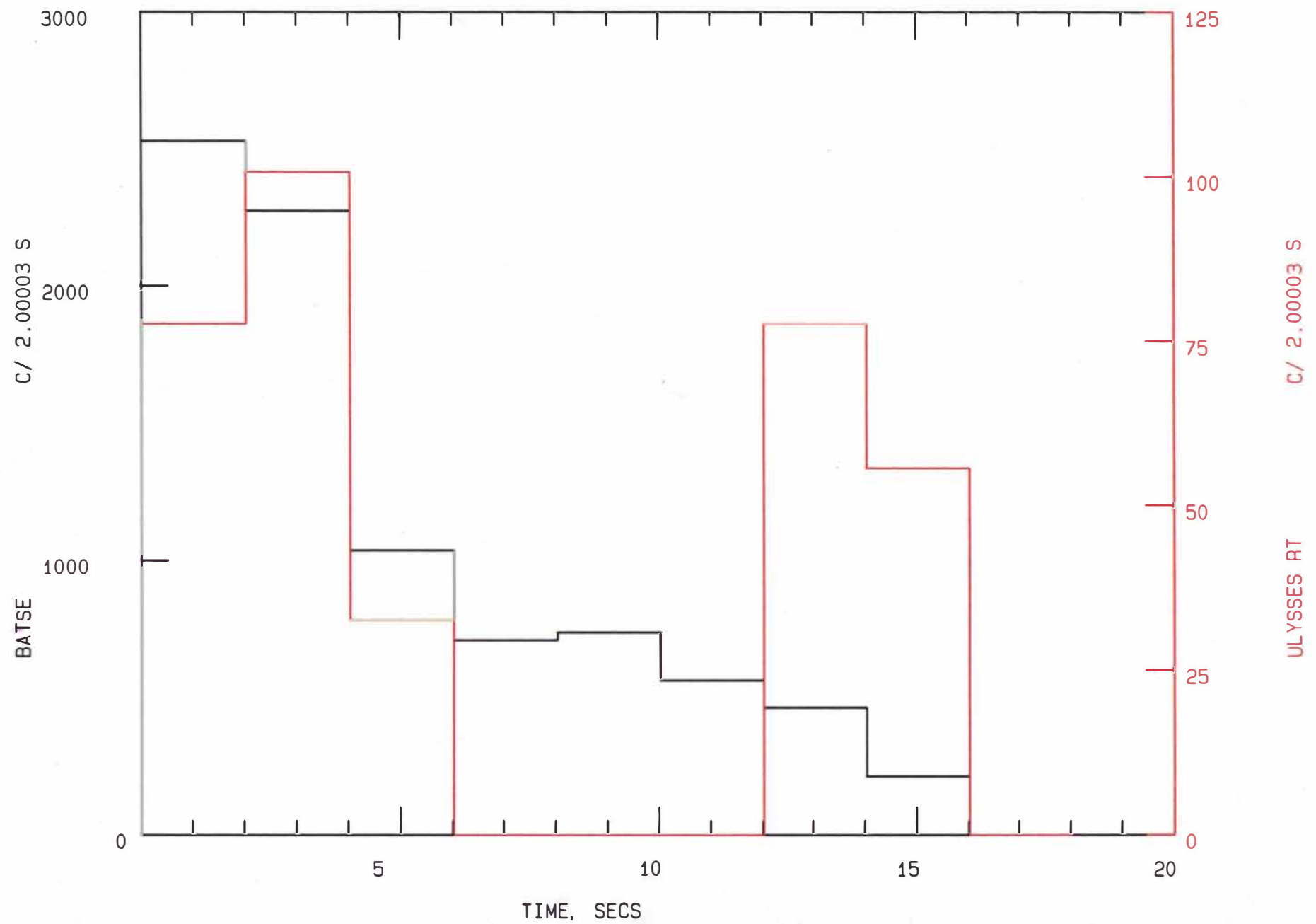
BATSE

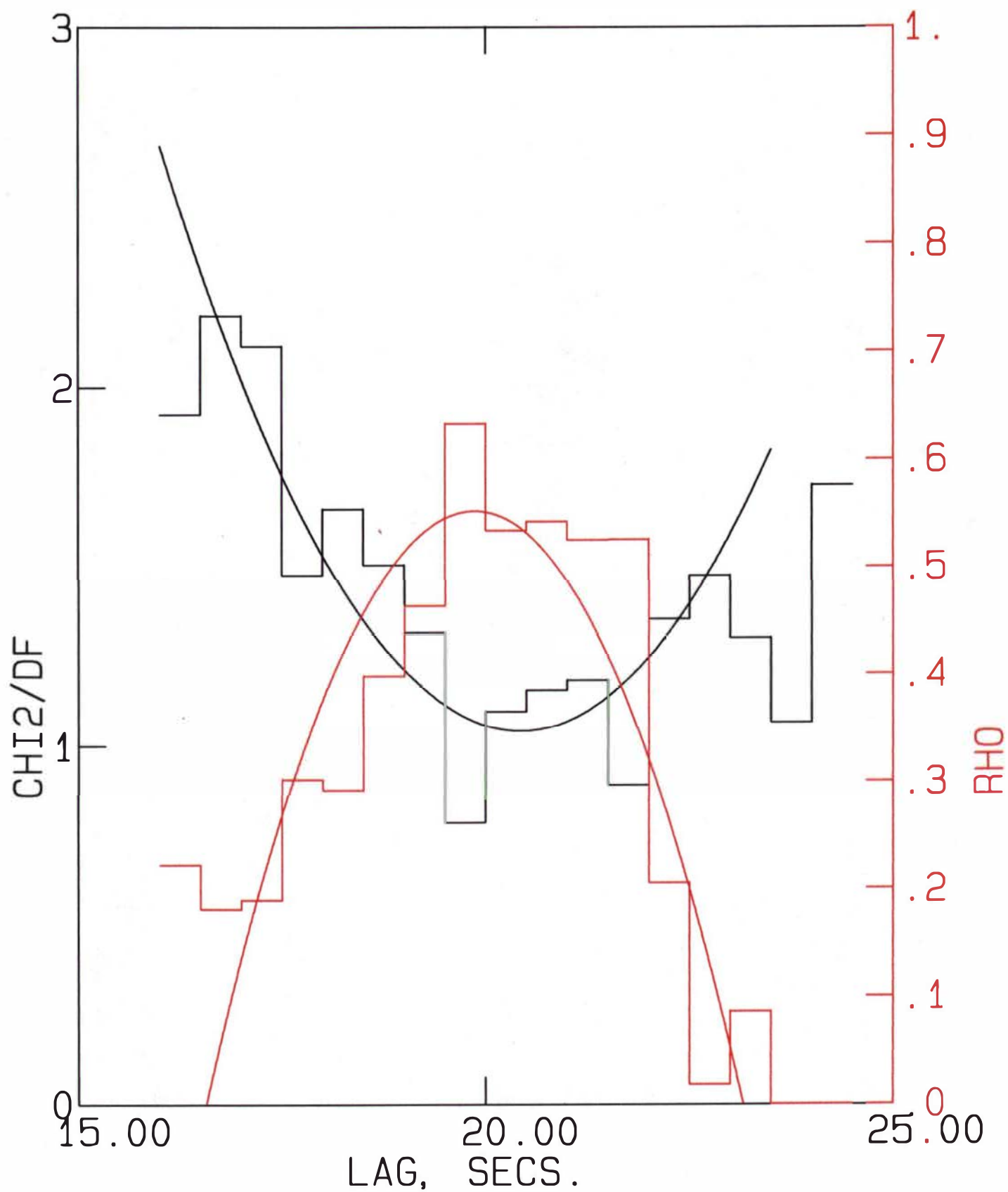
-ULYSSES RT CORRELATION

11/ 8/98

24308.193

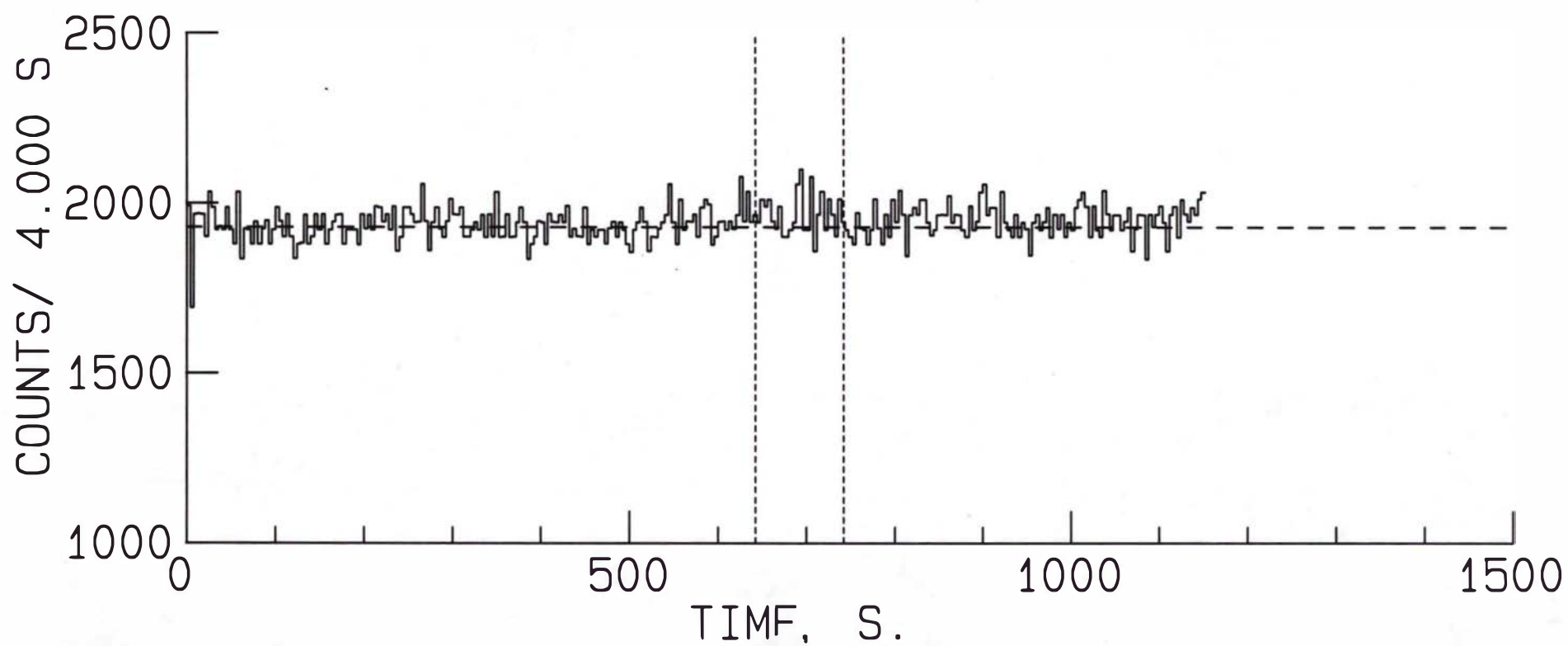
20/ 1/ 0





ULYSSES RT
11/ 8/98 24840.046 s
0.500 S INTERVALS REGROUPED BY 8
22- 149 keV

20 / 1 / 0



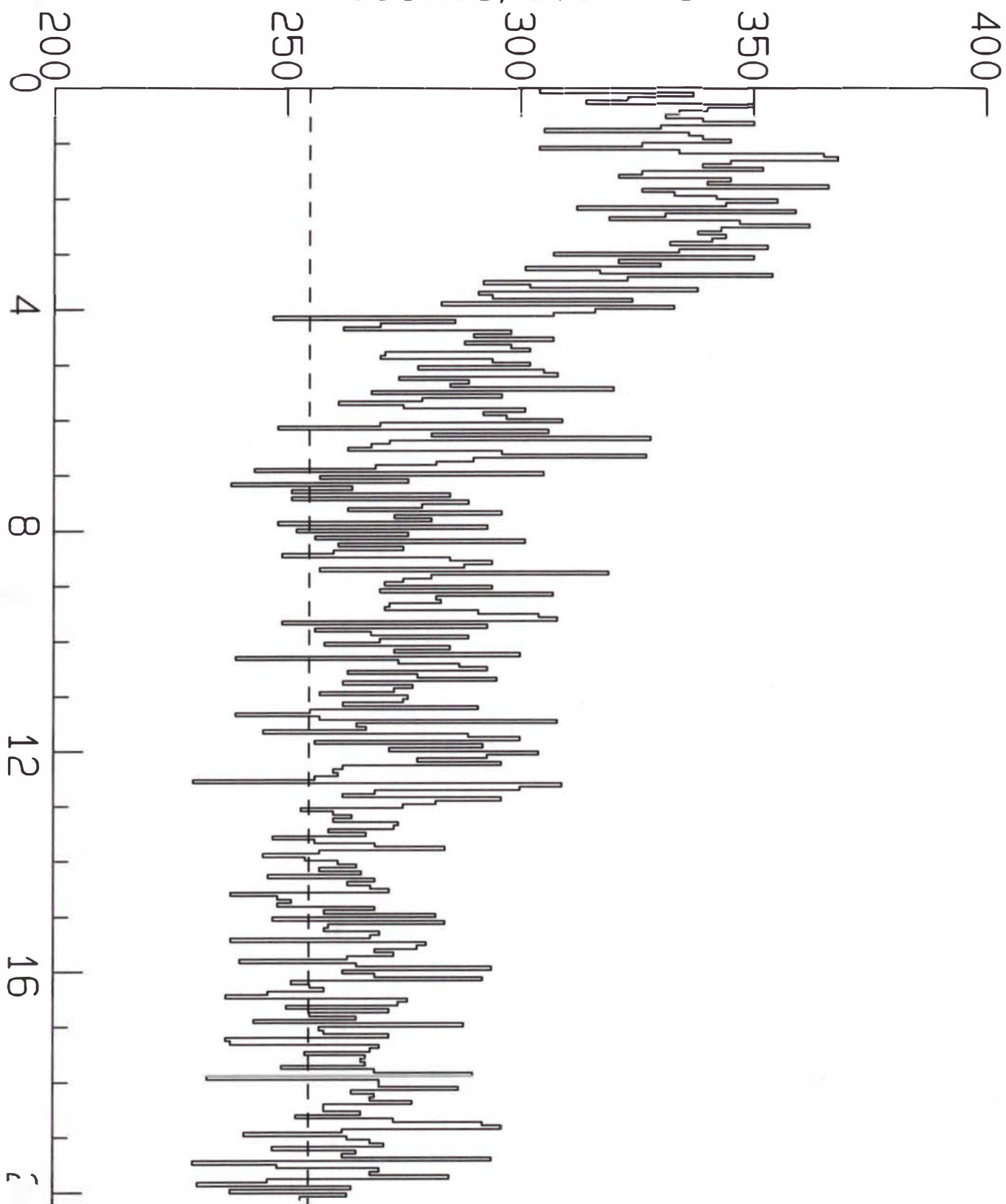
BATSE

11/08/98

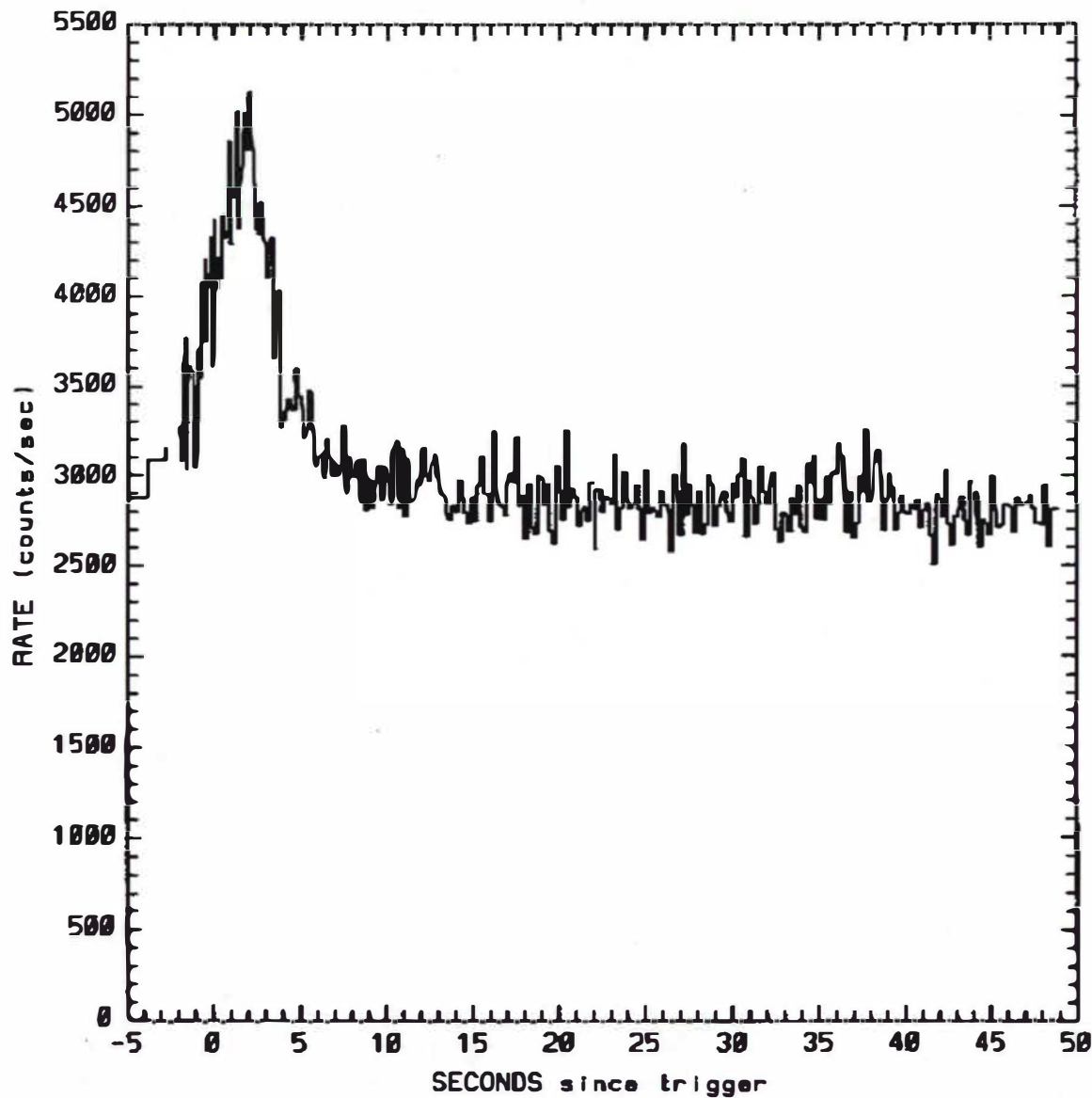
24308.193

25- 100 keV

COUNTS/0.064 S



TTS Data for K. Hurley, No. 6986



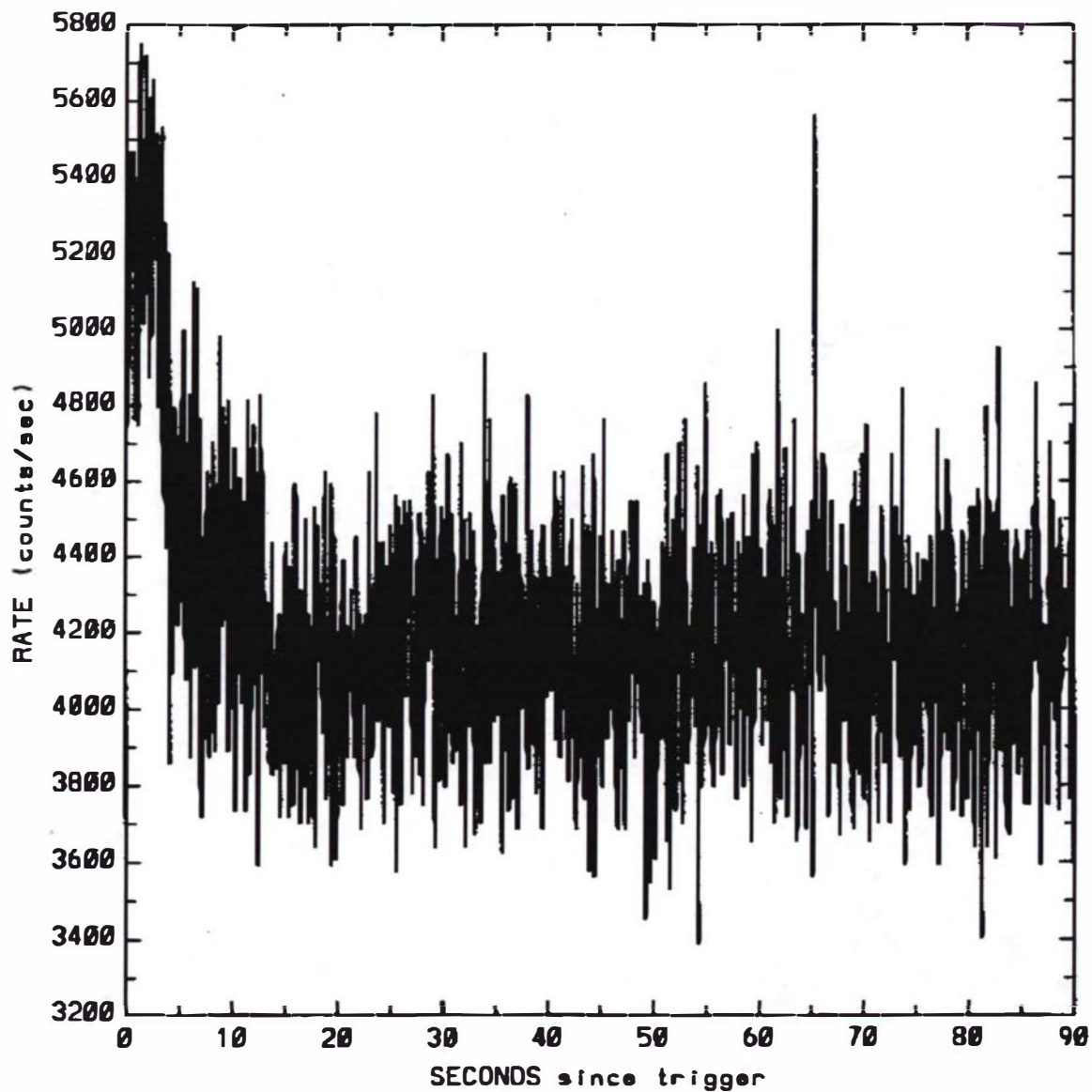
19-AUG-1998 08:48:29

Created by NOPS BD
IBurst Display
Version 12.25

Trigger # : 6986

Trigger Time:
11036 / 24308.193Burst Data Type:
TTSTime Corrected: Y
Maximum Time Error:
0.06554 second(s)Deadtime
Corrected: N
Background Data
Type: PREB + DISCLABin Count: 8
Detectors [7..8]:
76-----Discriminators:
(2 : 2)Quality Mask:
80ISP1

MER Data for K. Hurley, No. 6986



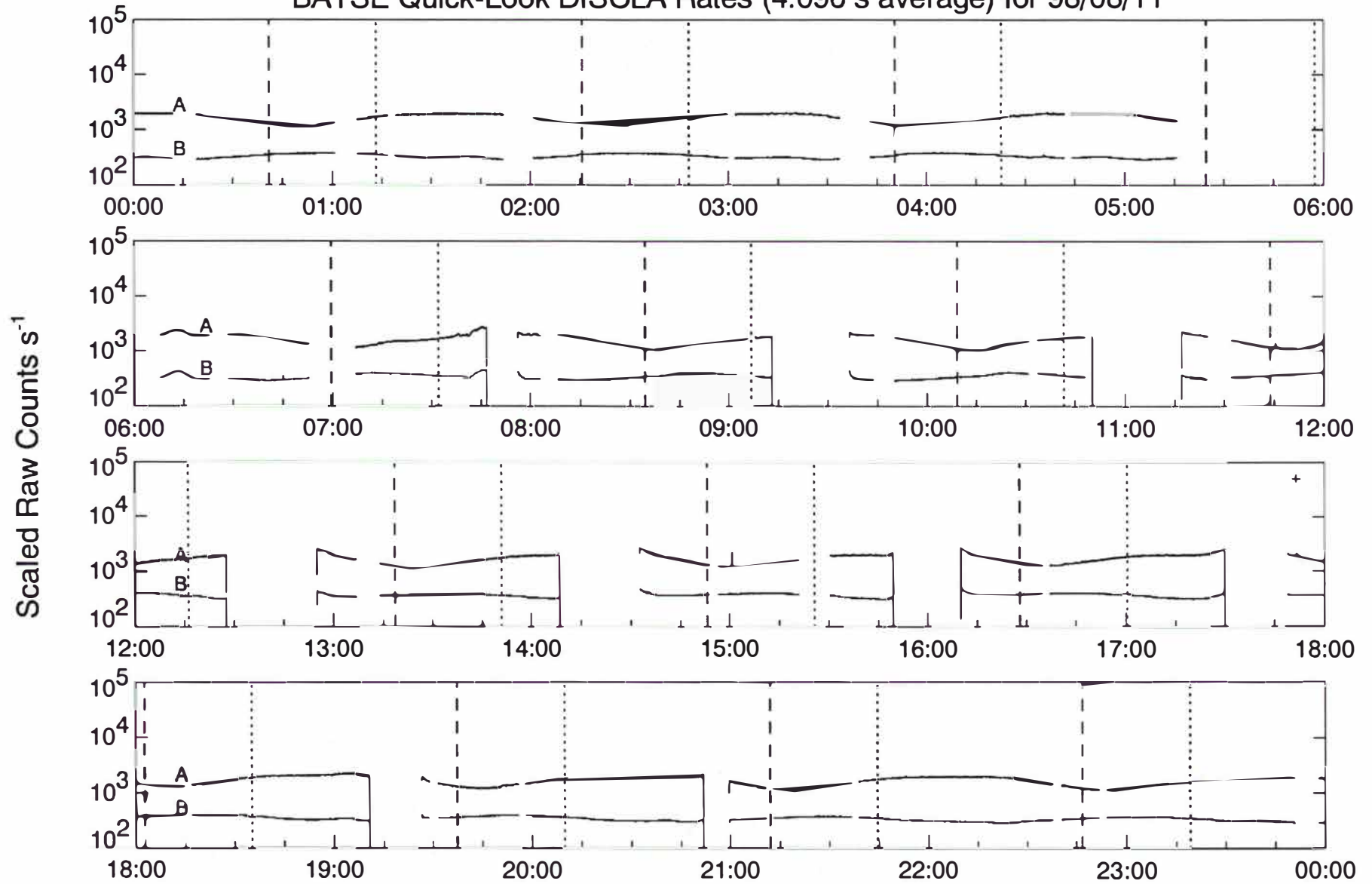
19-AUG-1998 08:32:47

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6986

Trigger Time:
11836 / 24308.193Burst Data Type:
MERDeadtime
Corrected: NBackground Data
Type: CONTMinimum Integ. Time:
0.064 secondsDetectors (7..8):
76-----Channels:
(0..6)Quality Mask:
BOTSP1

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

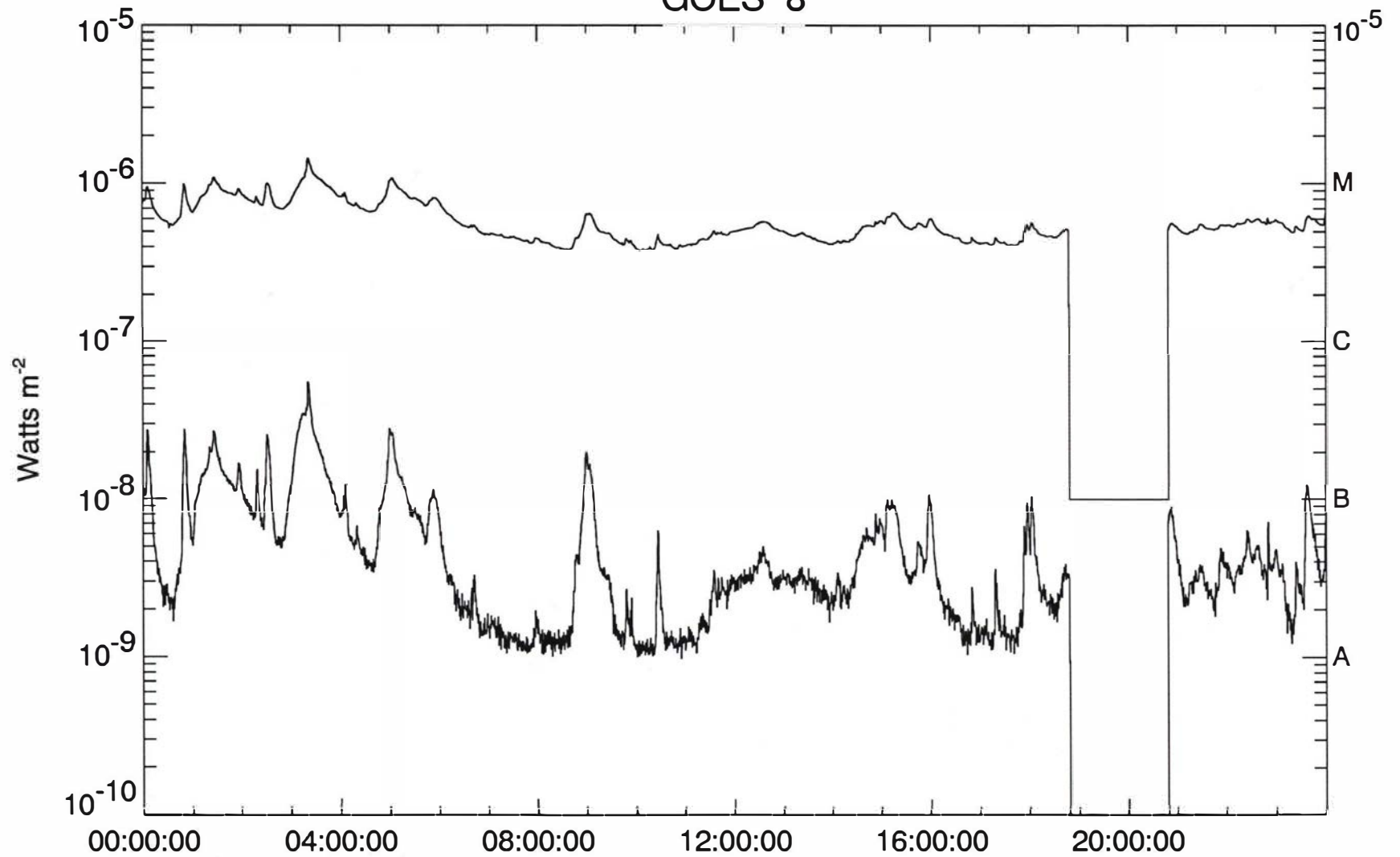


Current Time: 98/08/15, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



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

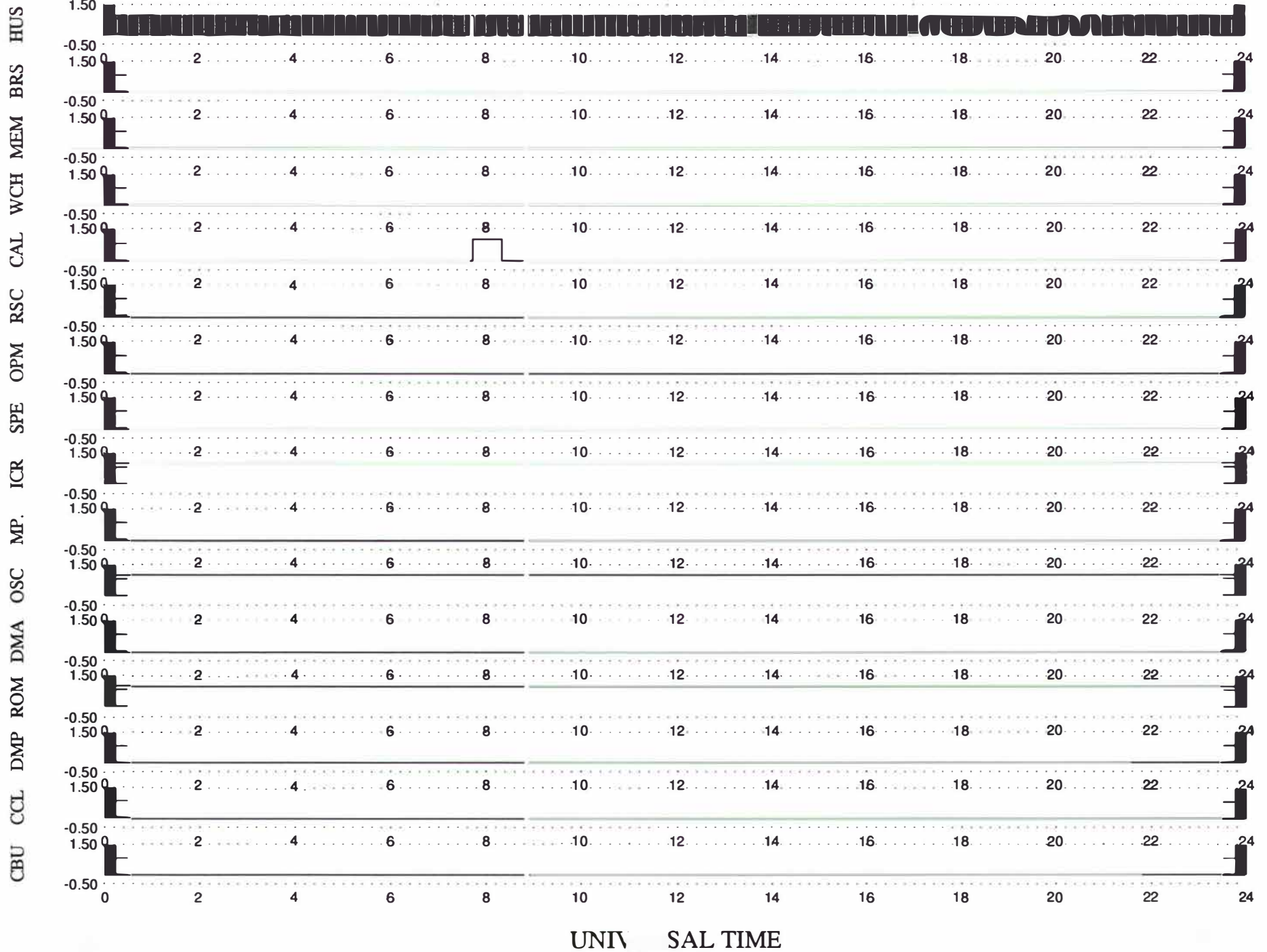
Plot created: 98/08/15, 1007

Channel

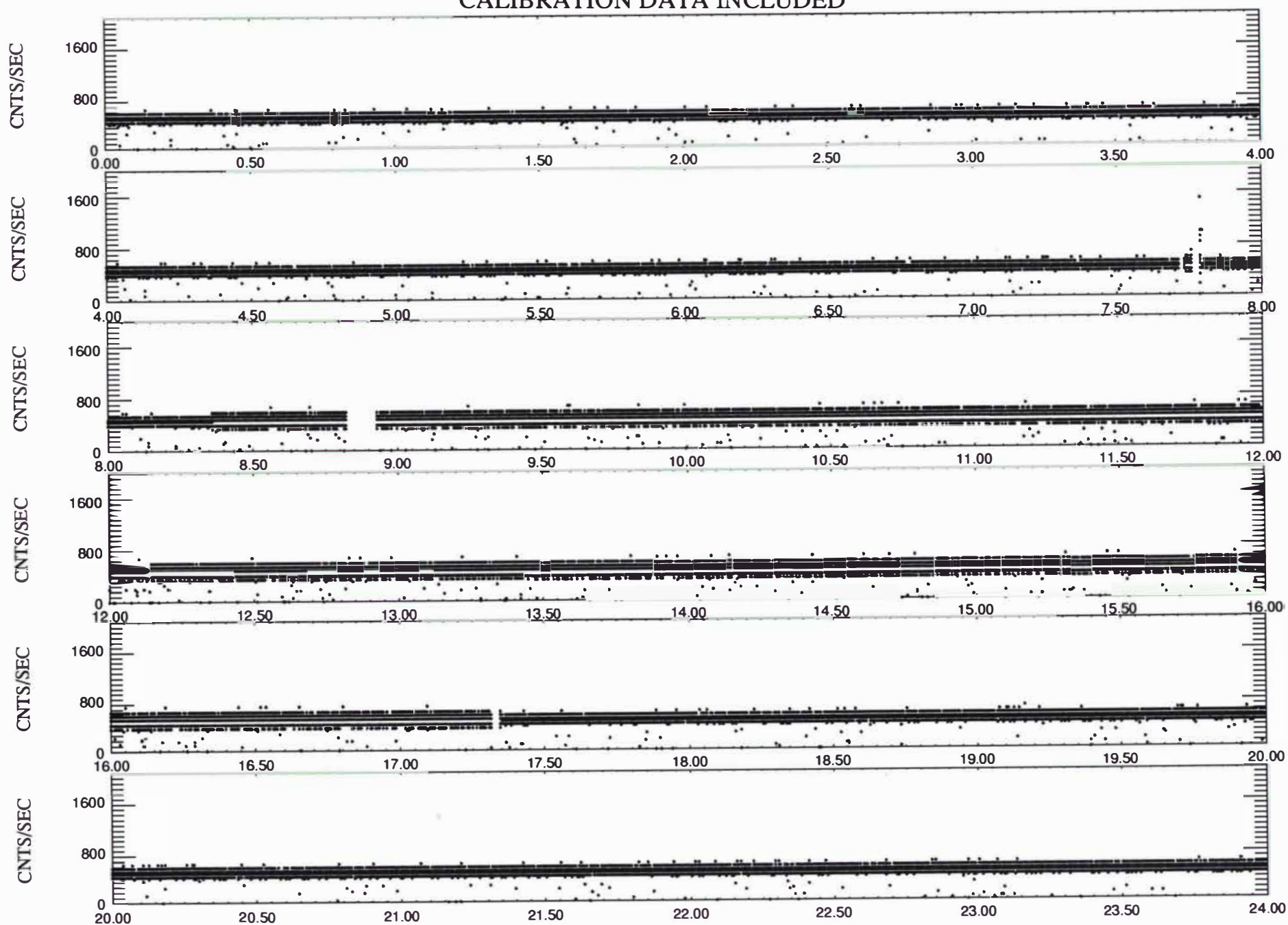
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

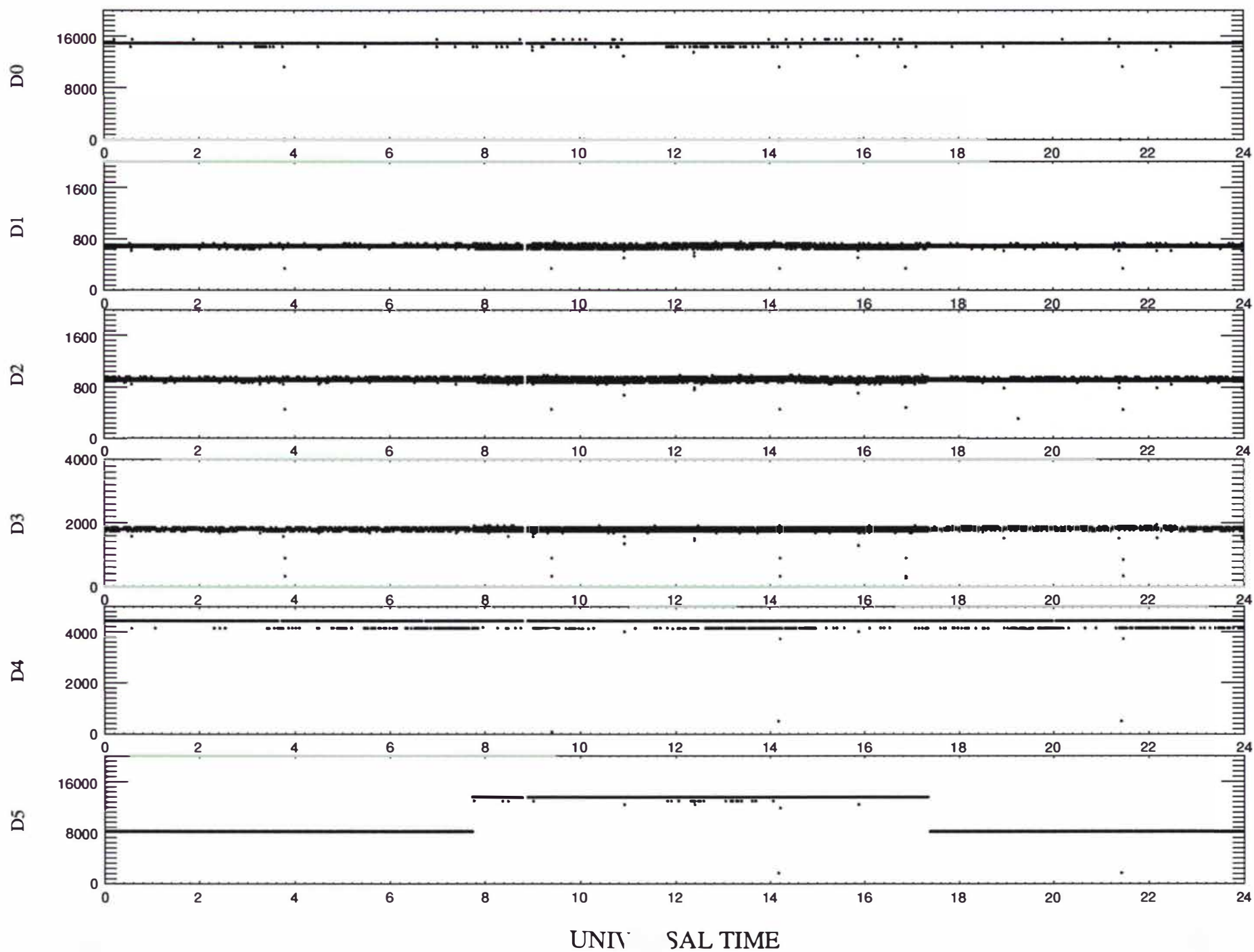
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



BATSE time corrected w/01

Date: July 5 2002

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

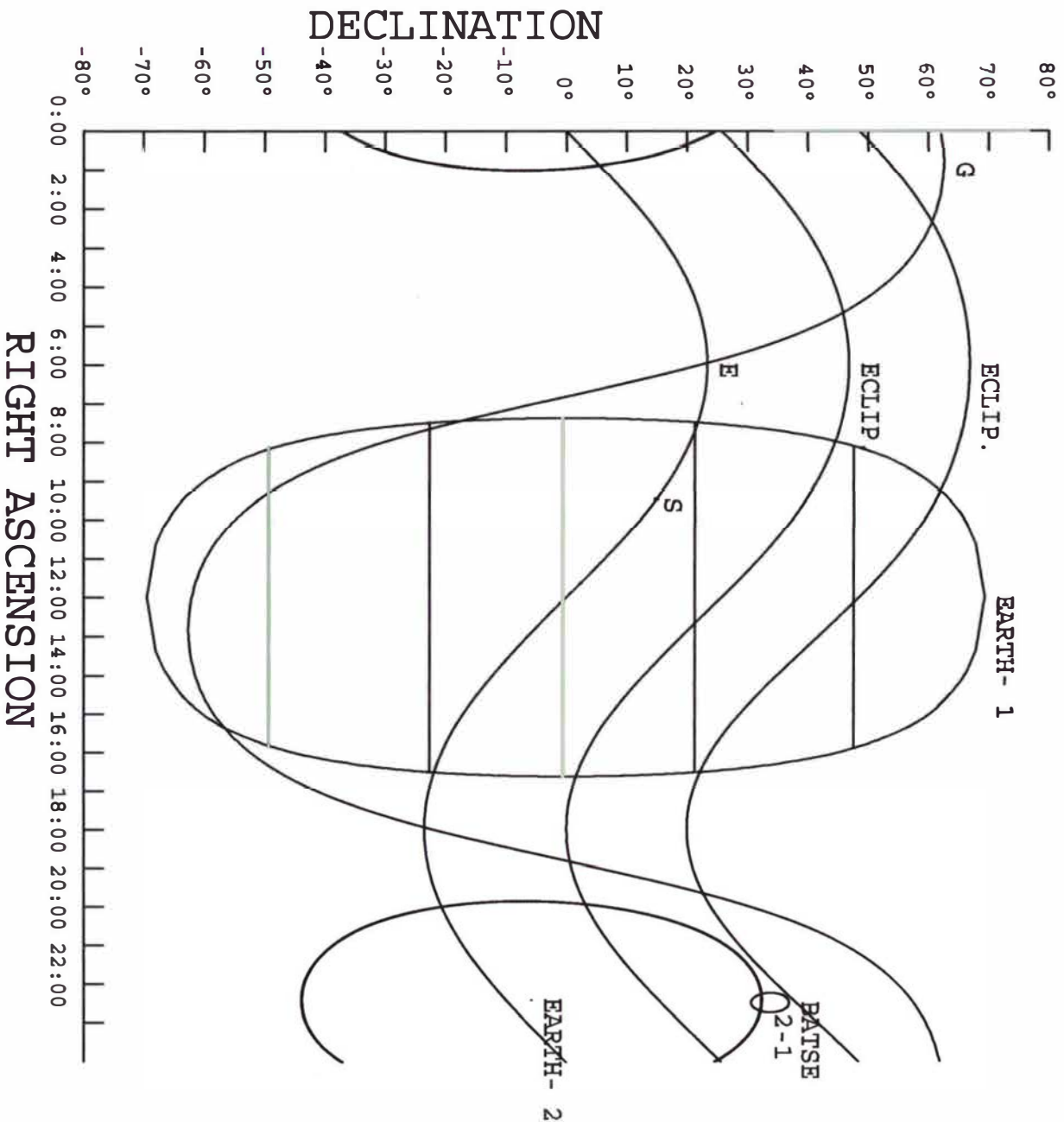
- ☐ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

EVENT OF AUG 12, 1998 5:15

3 / 5 / 7

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



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

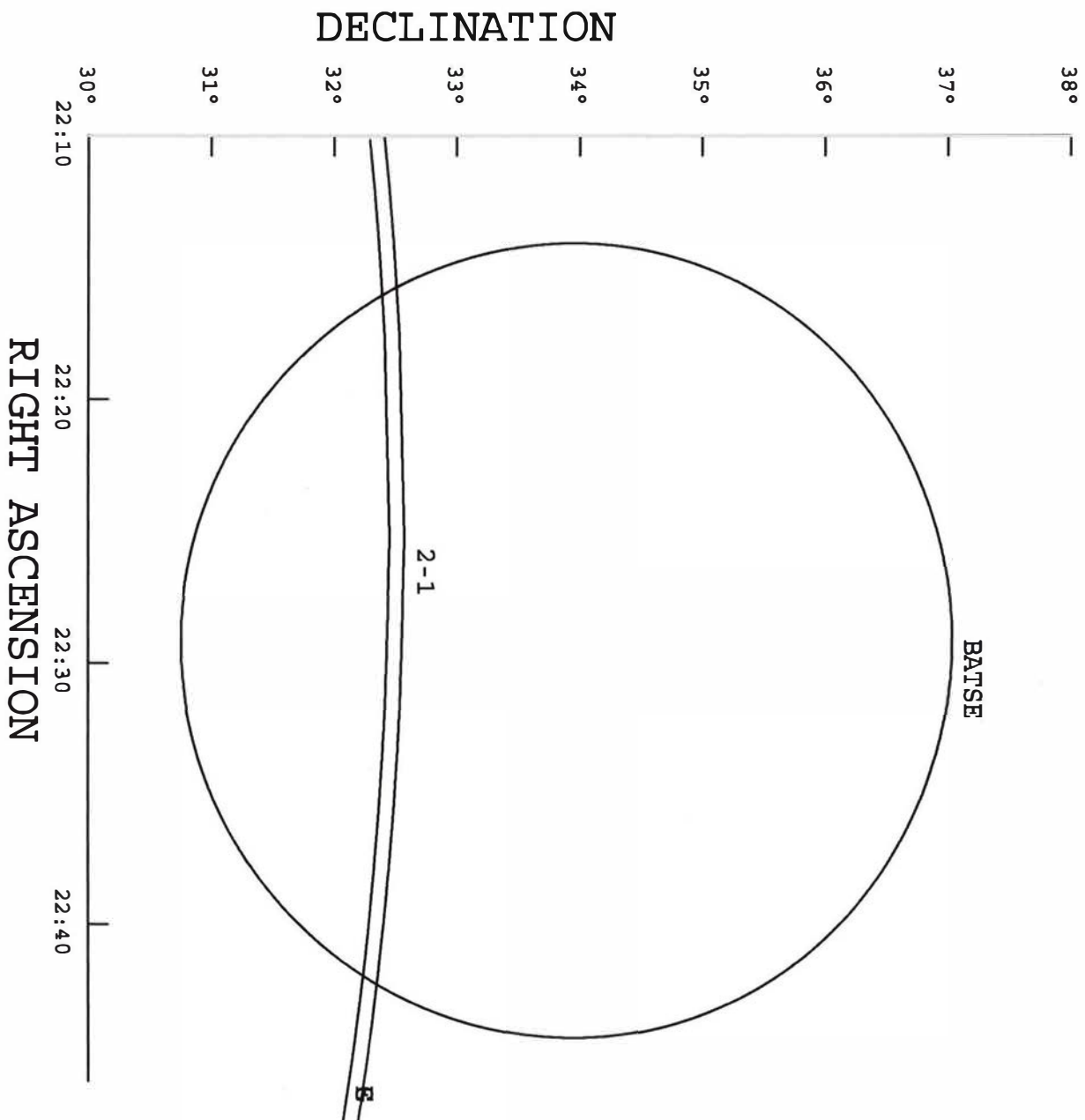
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF AUG 12, 1998 5:15

5/ 7/ 2



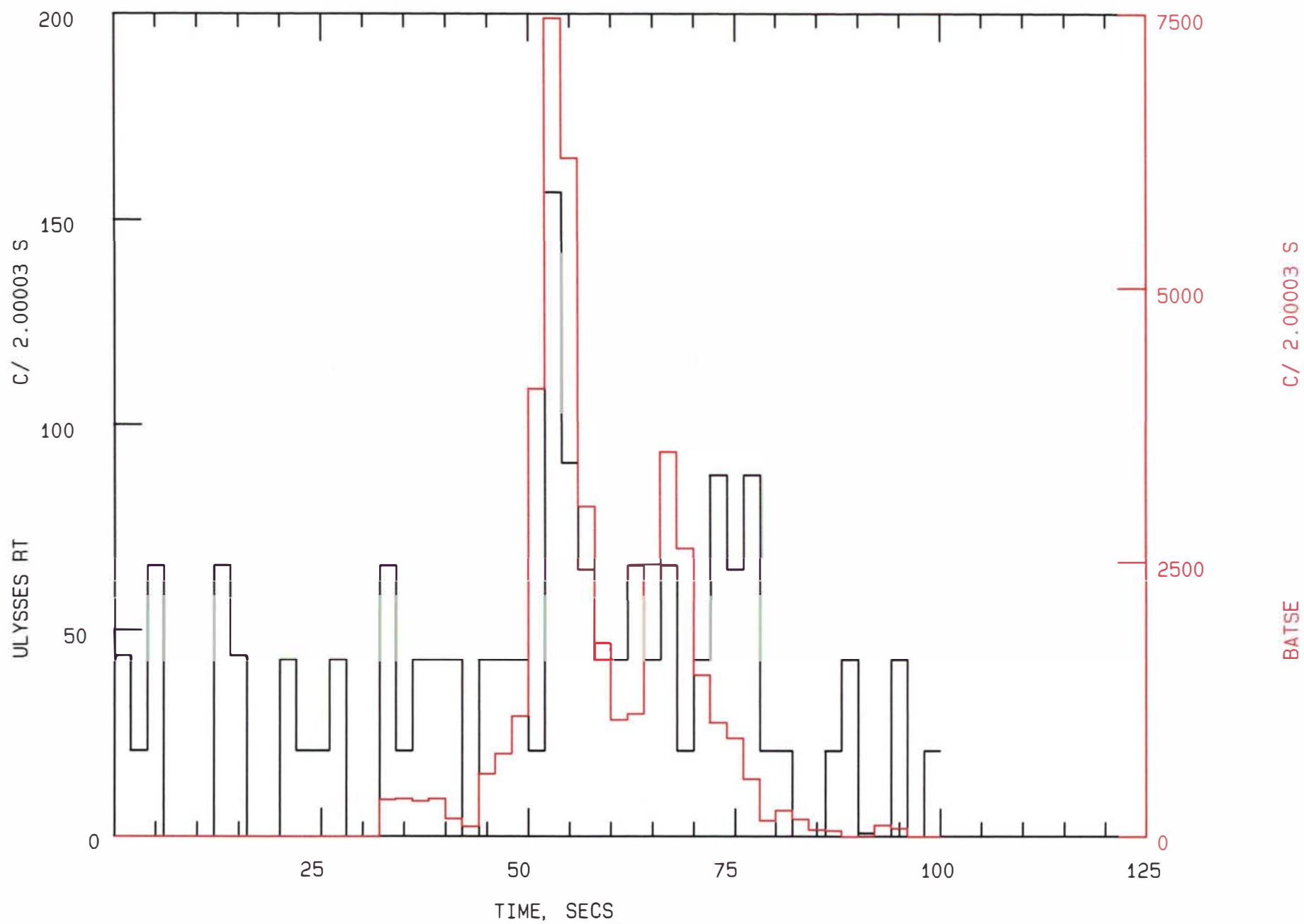
ULYSSES RT-BATSE

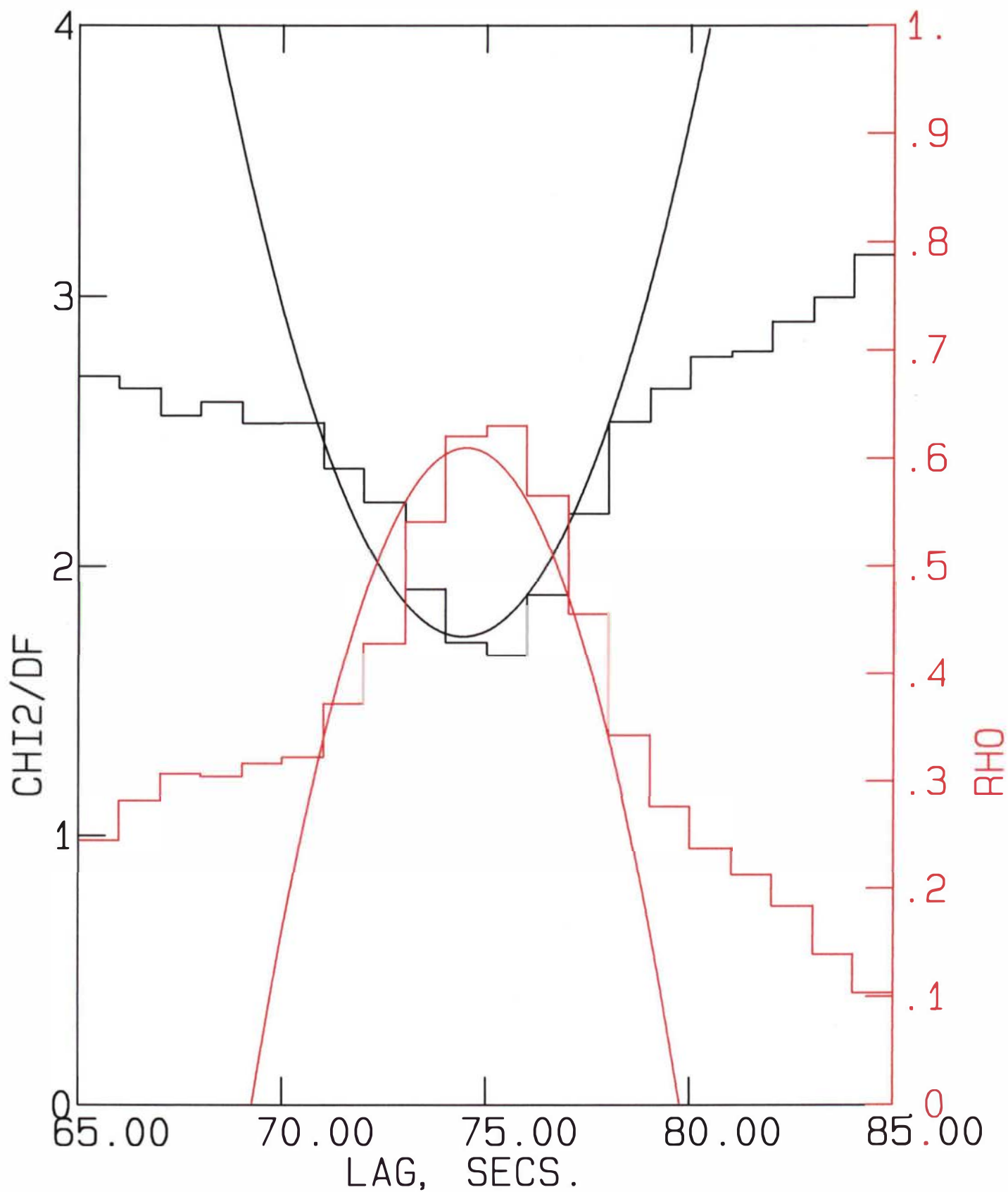
CORRELATION

12/ 8/98

21398.426

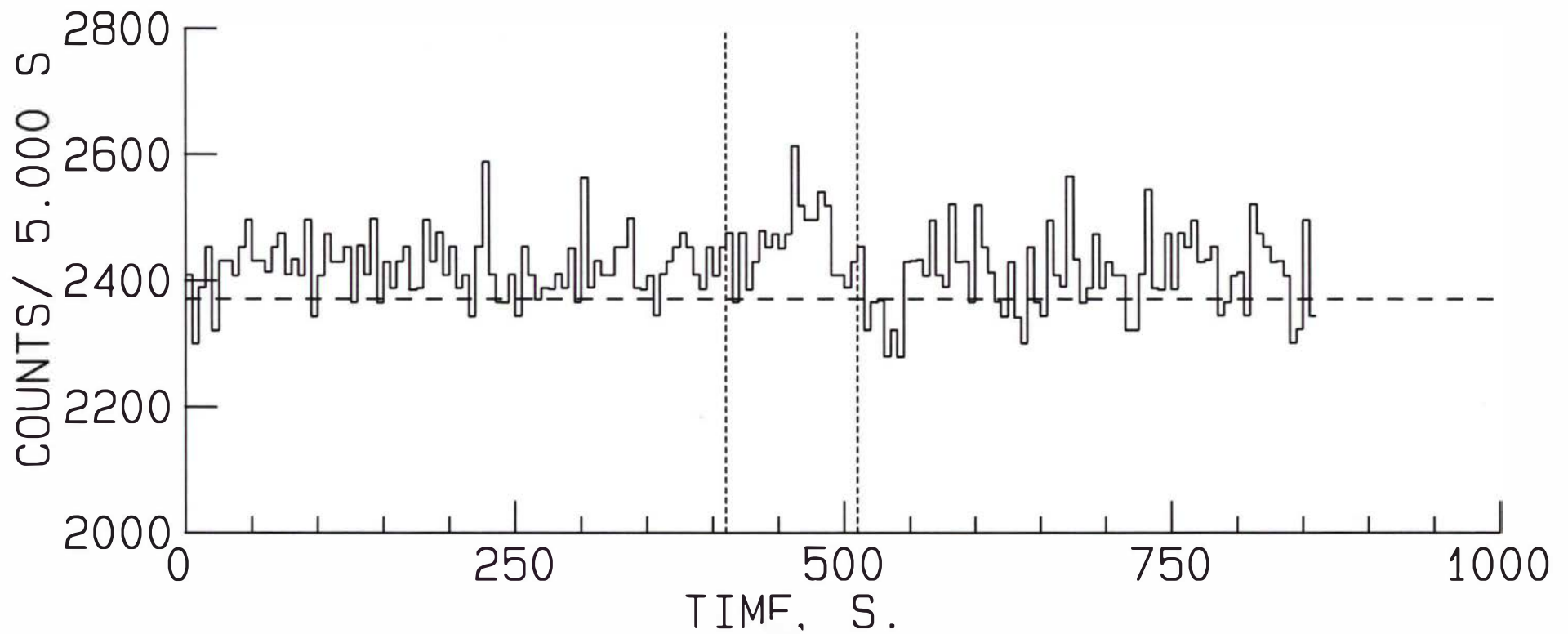
5/ 7/ 2





ULYSSES RT
12/ 8/98 20988.412 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

5 / 7 / 2



KONUS 771

20 / 2 / 99

ULYSSES RT

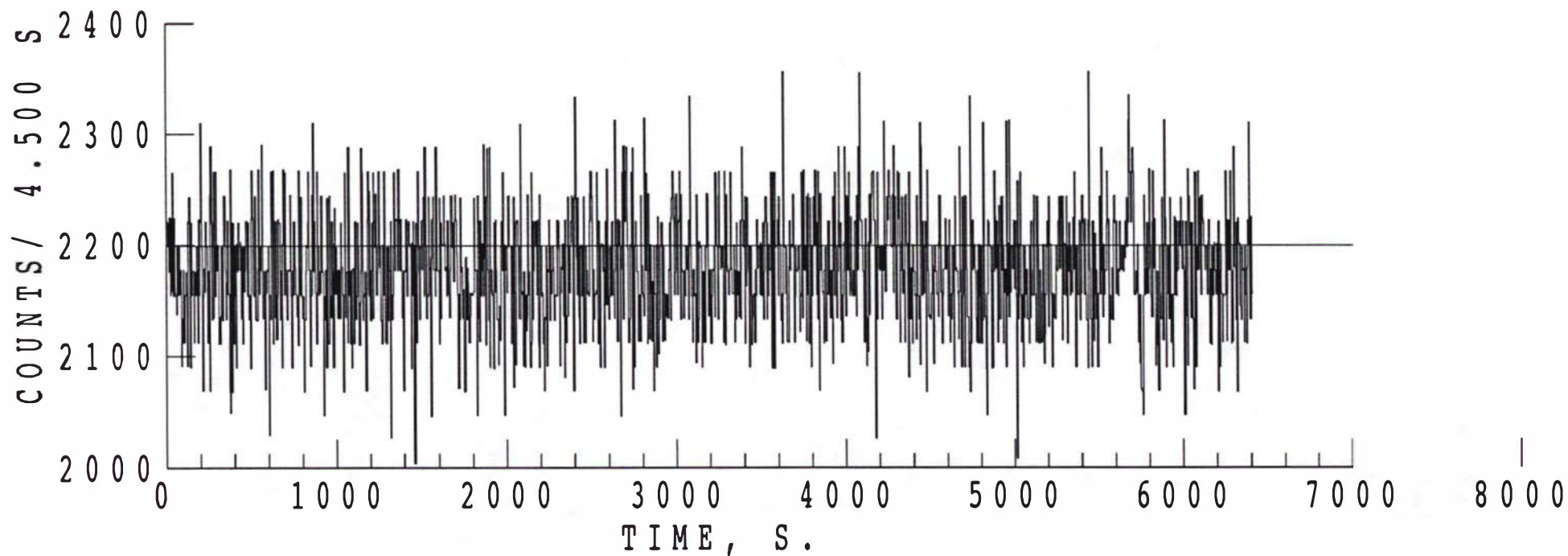
12 / 8 / 98 15768.358 s

0.500 S INTERVALS REGROUPED BY 9

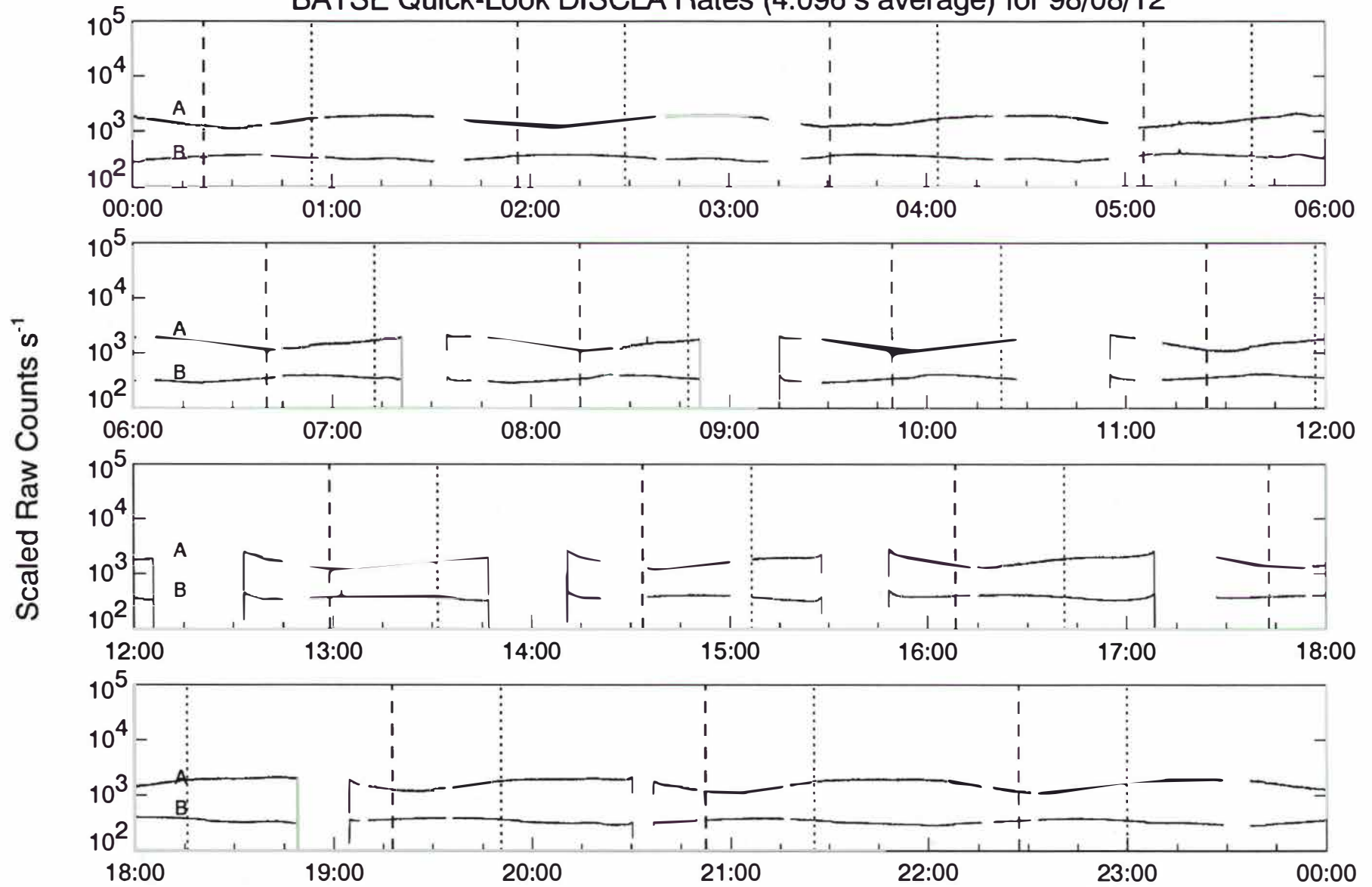
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/12

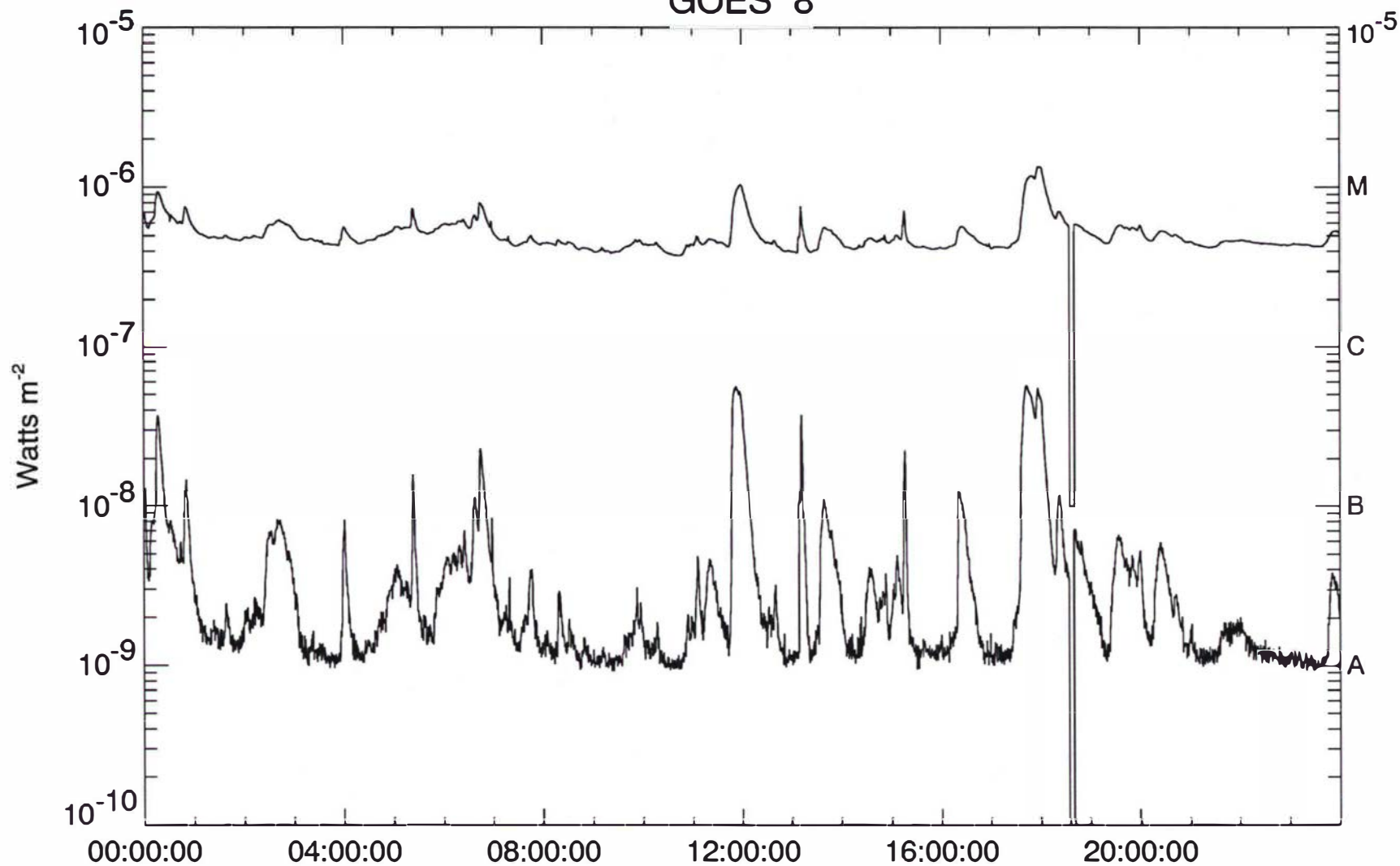


Current Time: 98/08/16, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/12, 0000:00

Plot created: 98/08/16, 1007

Channel 1 (1.0 - 8.0 Angstroms)

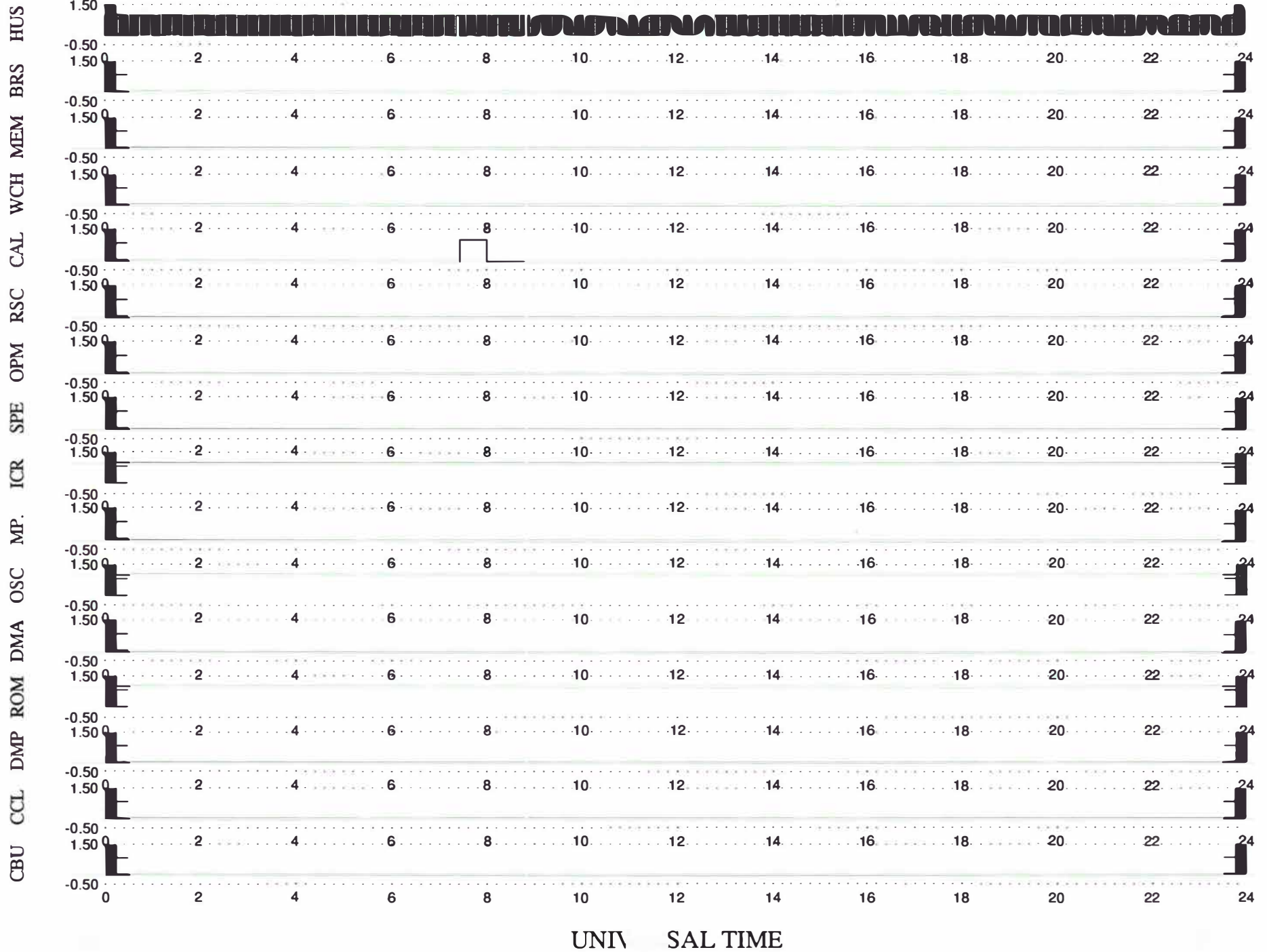
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

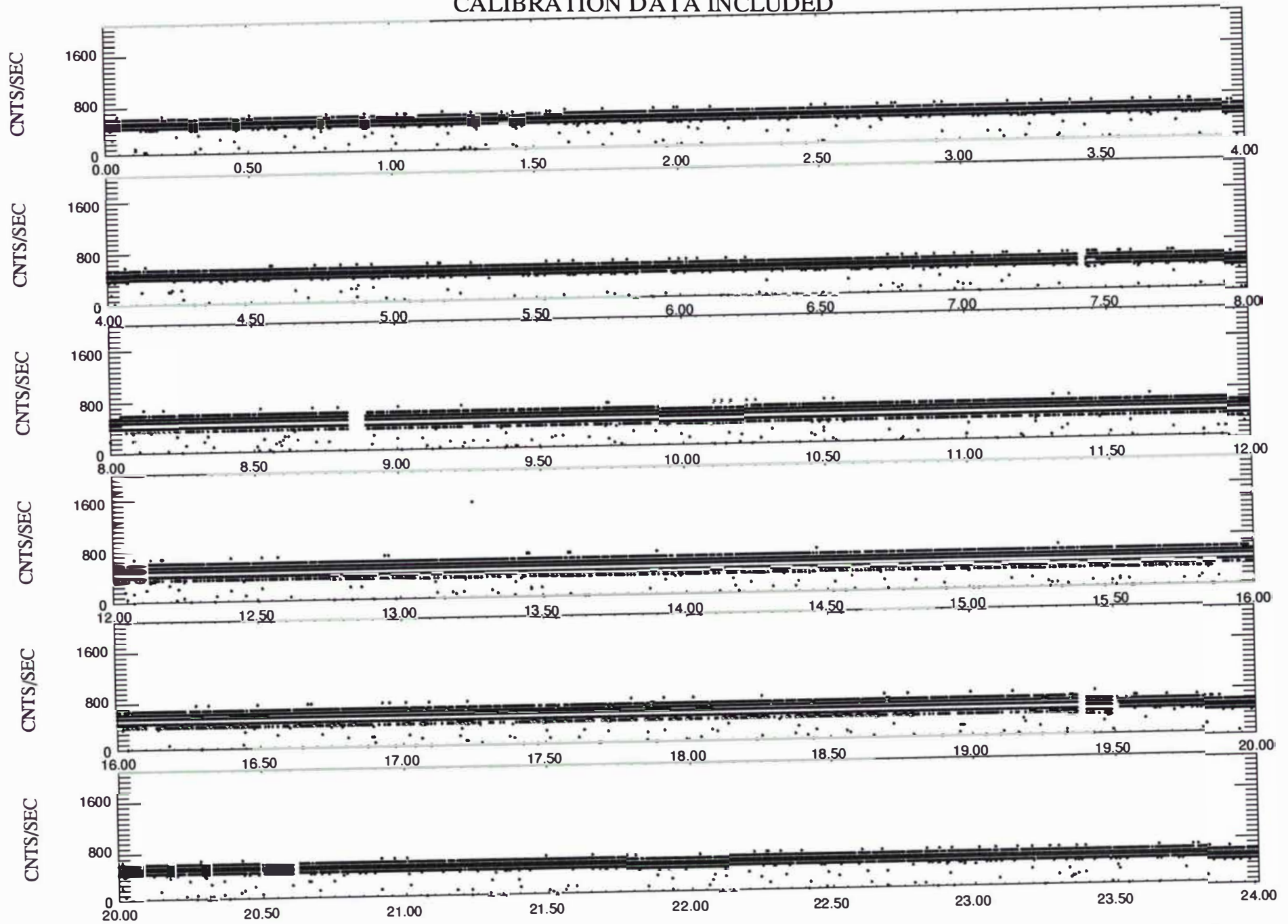
Background not subtracted

Sample average = 10

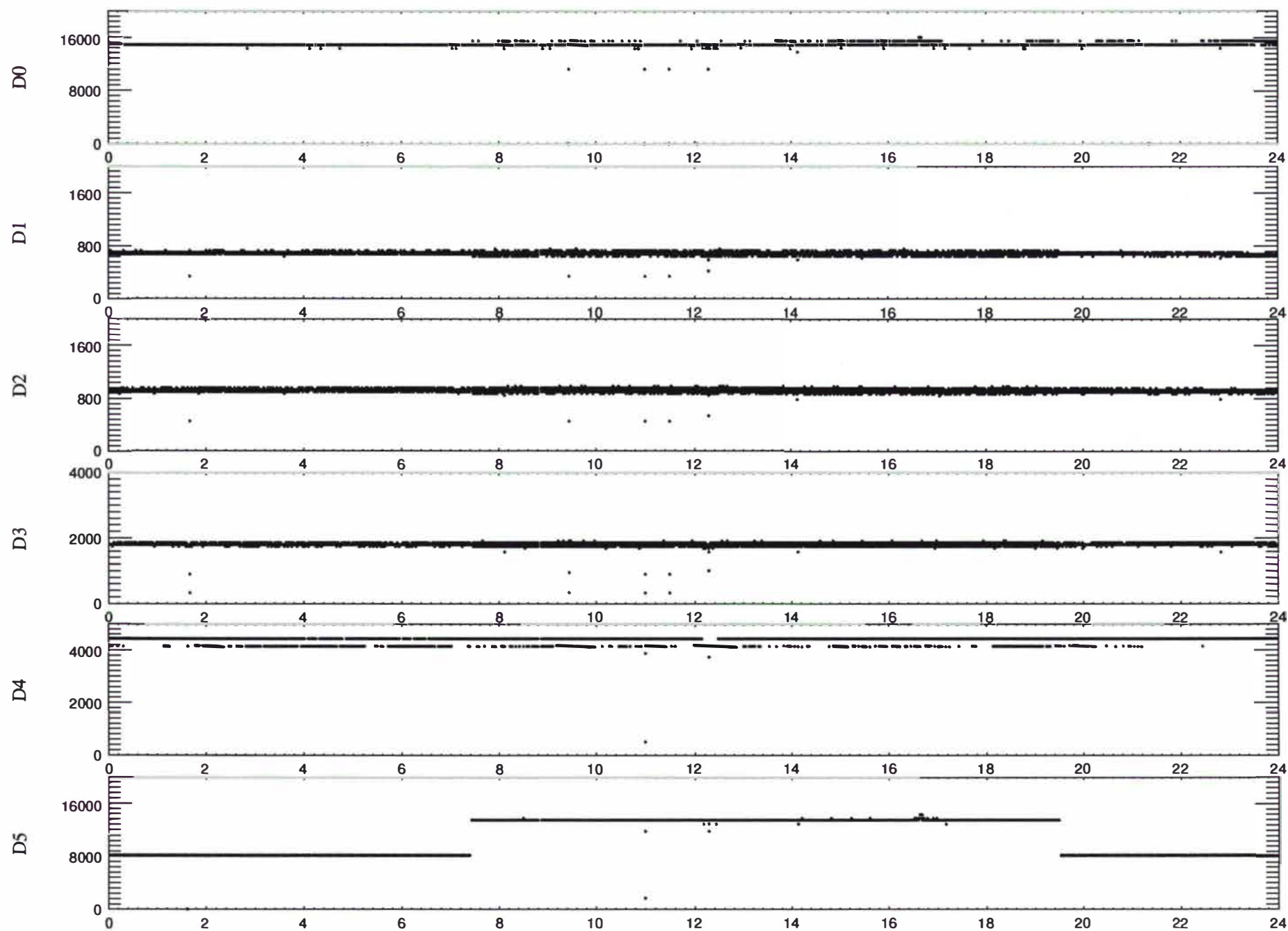
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



UNIV SAL TIME

From khurley@sunspot Tue Aug 18 11:36 PDT 1998

Date: Tue, 18 Aug 1998 11:40:11 -0700

From: khurley@sunspot (Kevin Hurley)

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

Subject: GRB980813

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

Ulysses observed the following burst:

August 13 1998 06:32 Ulysses time; moderate burst, 30 s long

The spacecraft was about 3150 light-seconds from Earth.

Was this event detected by anyone else?

CC: ulyssesbursts alias list

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

Date: Sep 21 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

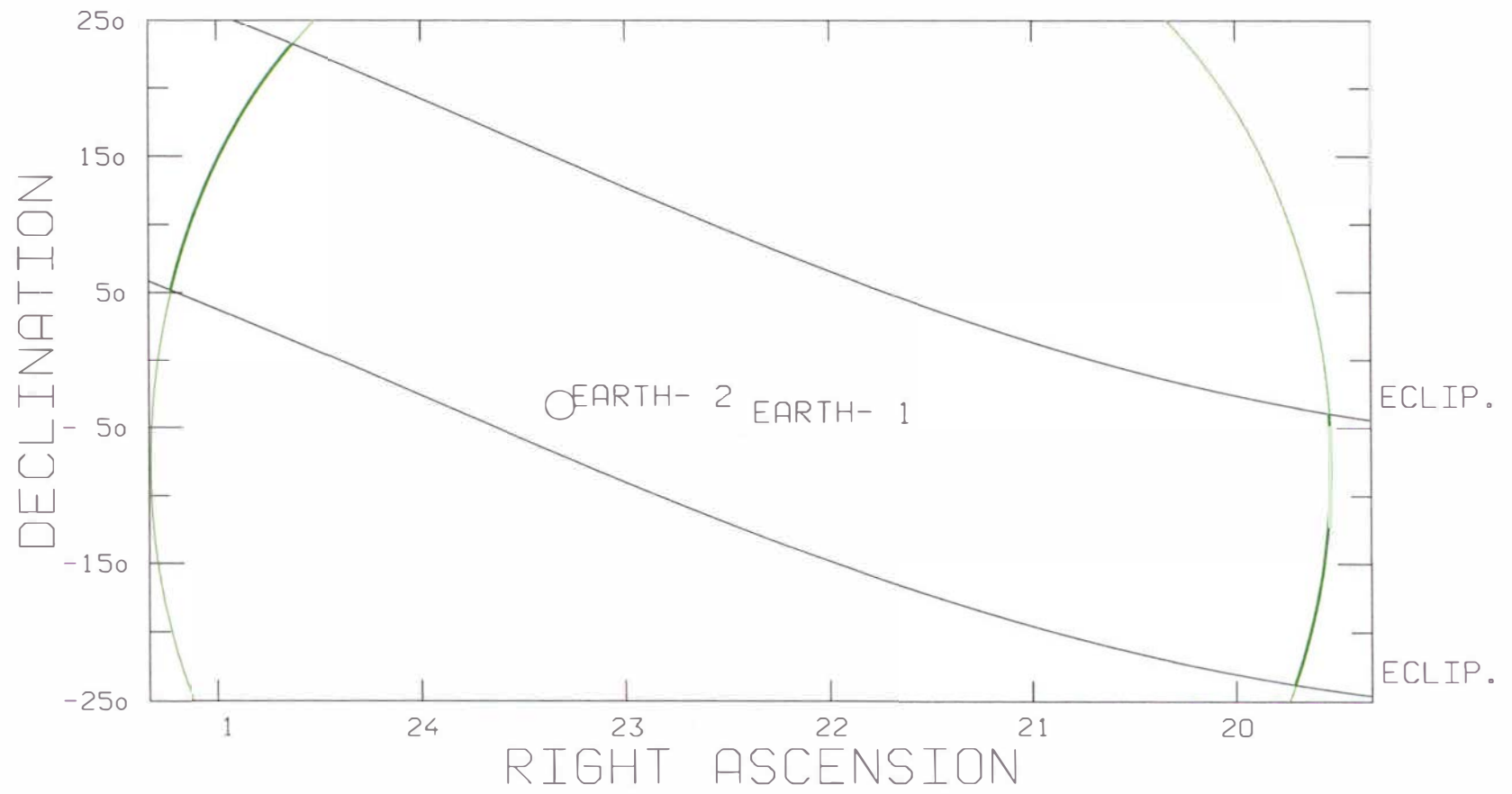
- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Were data checked by Joe Springer for 0.5 s errors?
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is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

2. BATSE Data

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

3. PVO Data

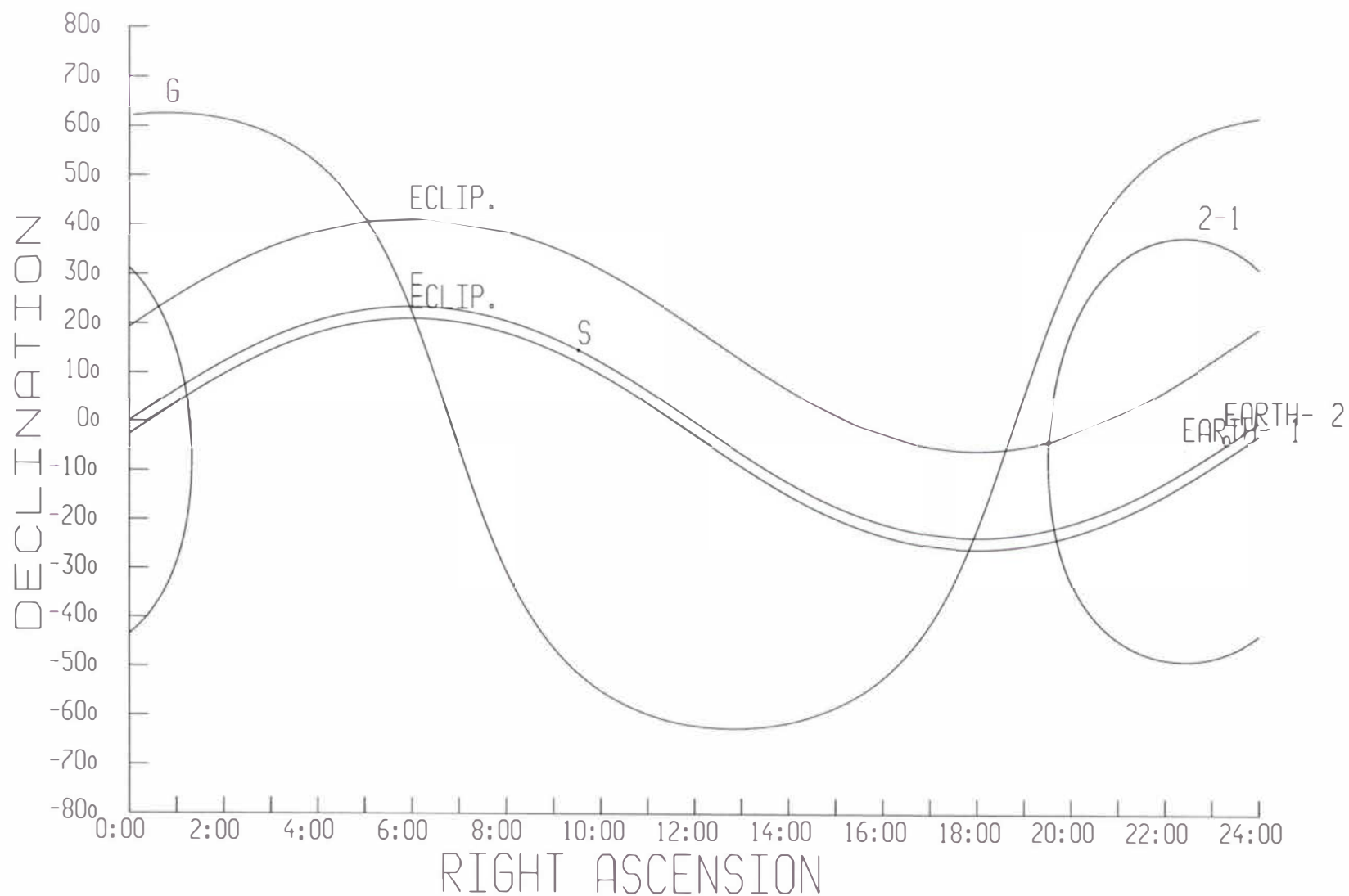
- ☐ Ephemeris of PVO used (not Venus)?
 - ☐ 2000 coordinates used?
 - ☐ Geocentric time used?
-
- ☒ ACCESS and MBL databases updated with identical times?

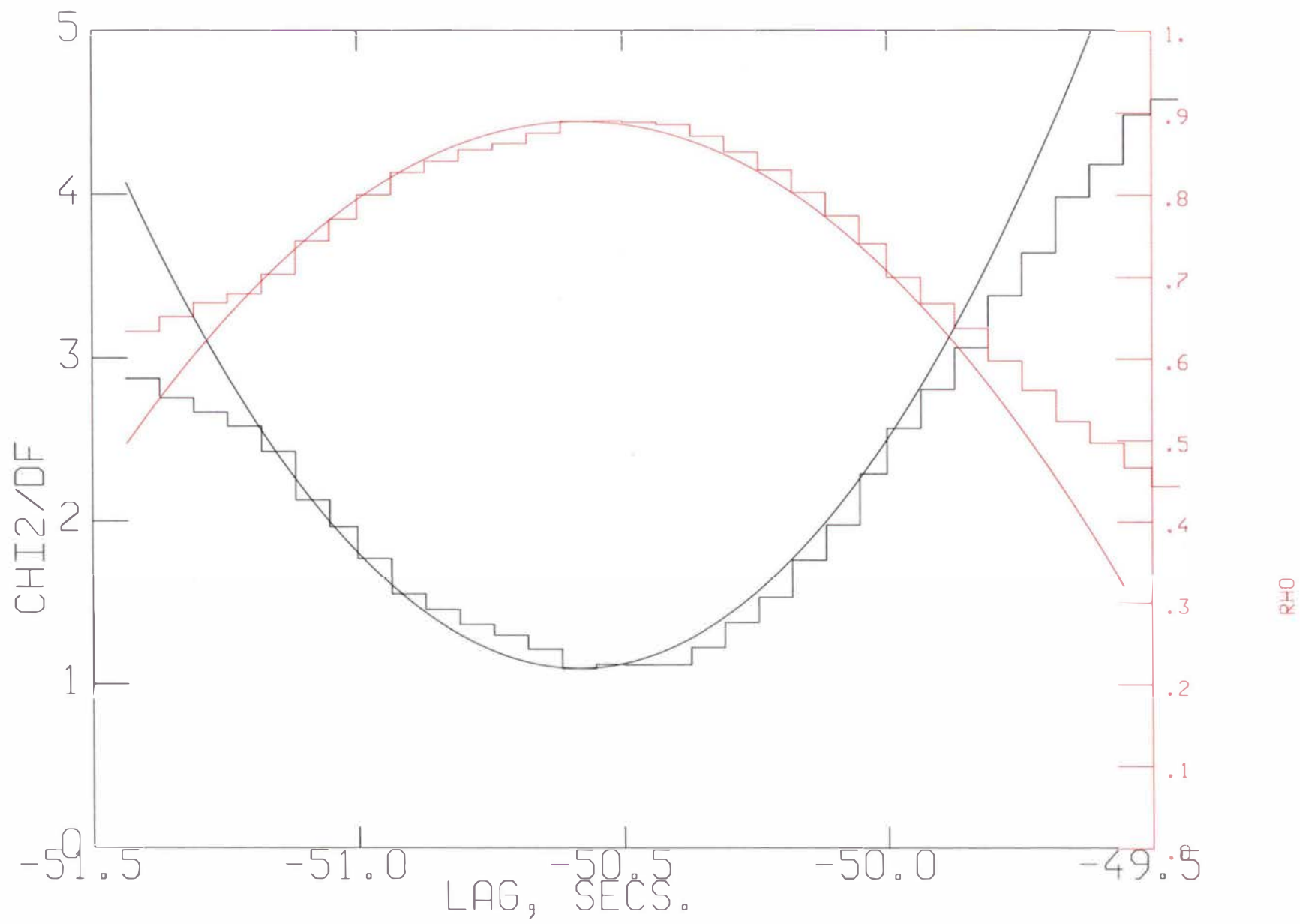


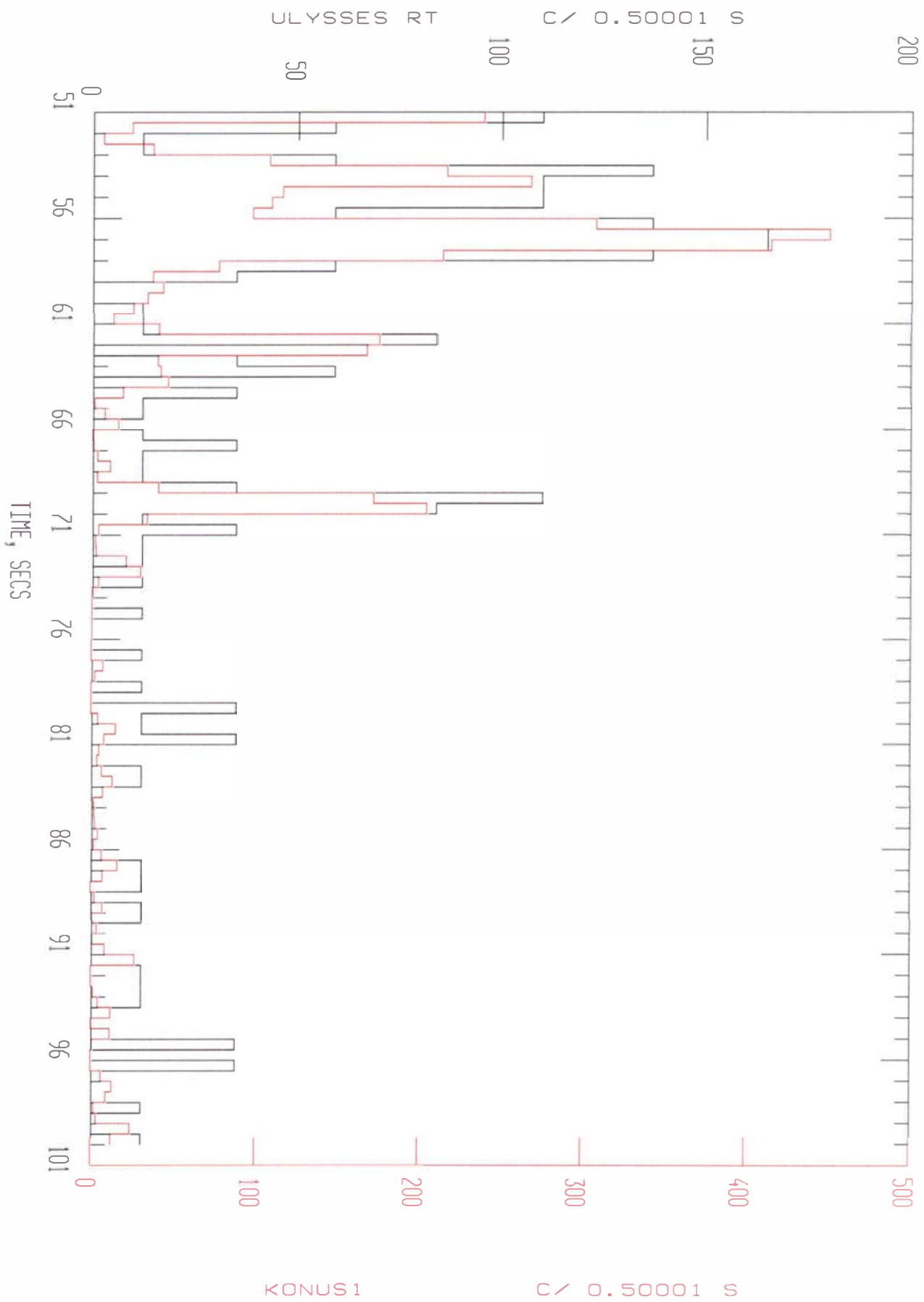
EVENT OF AUG 13, 1998 6:38

21/09/2012

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







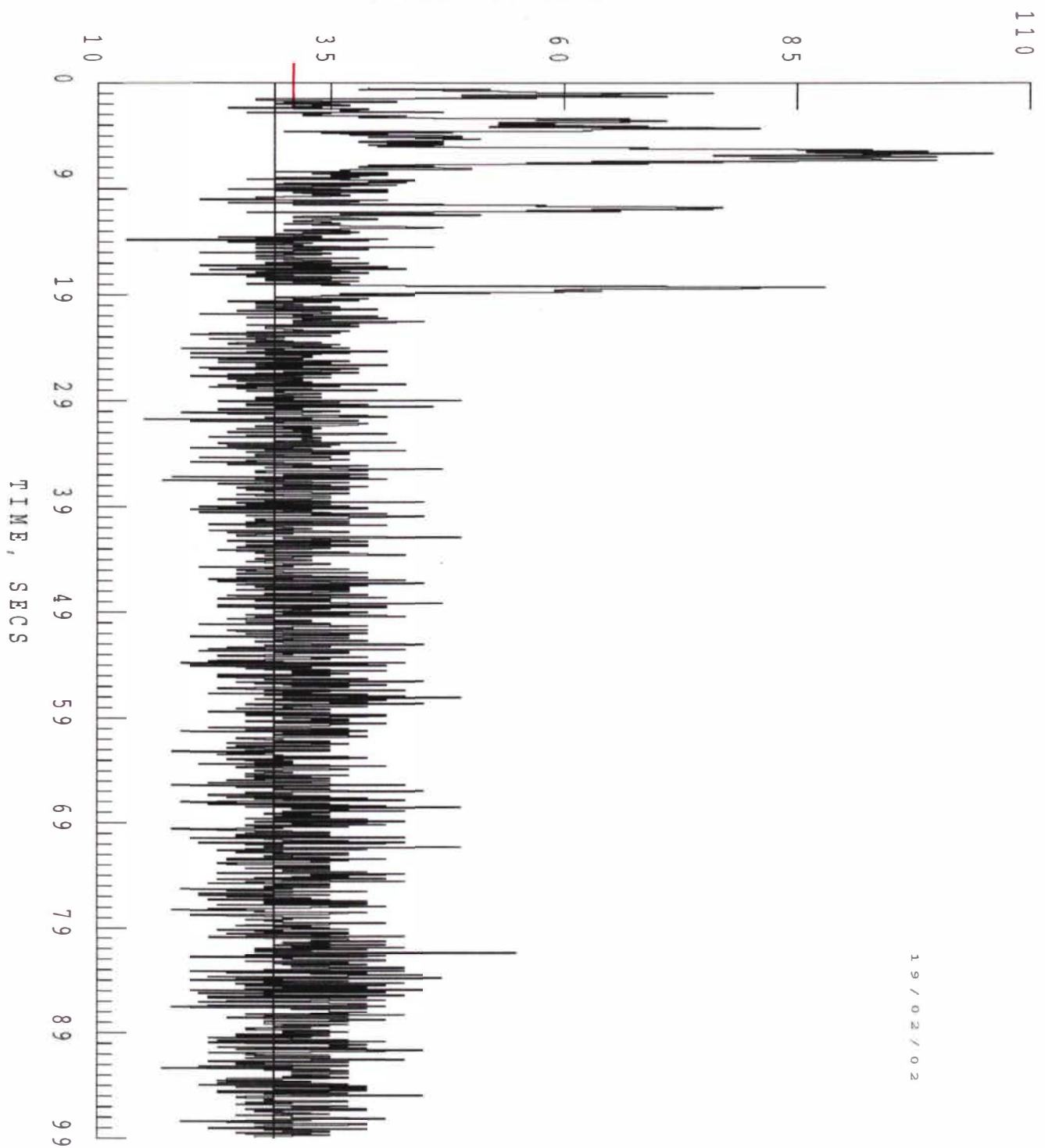
KONUS1

13/08/98

21677.179

50 - 200 keV

COUNTS/0.064 S



19980813 23981

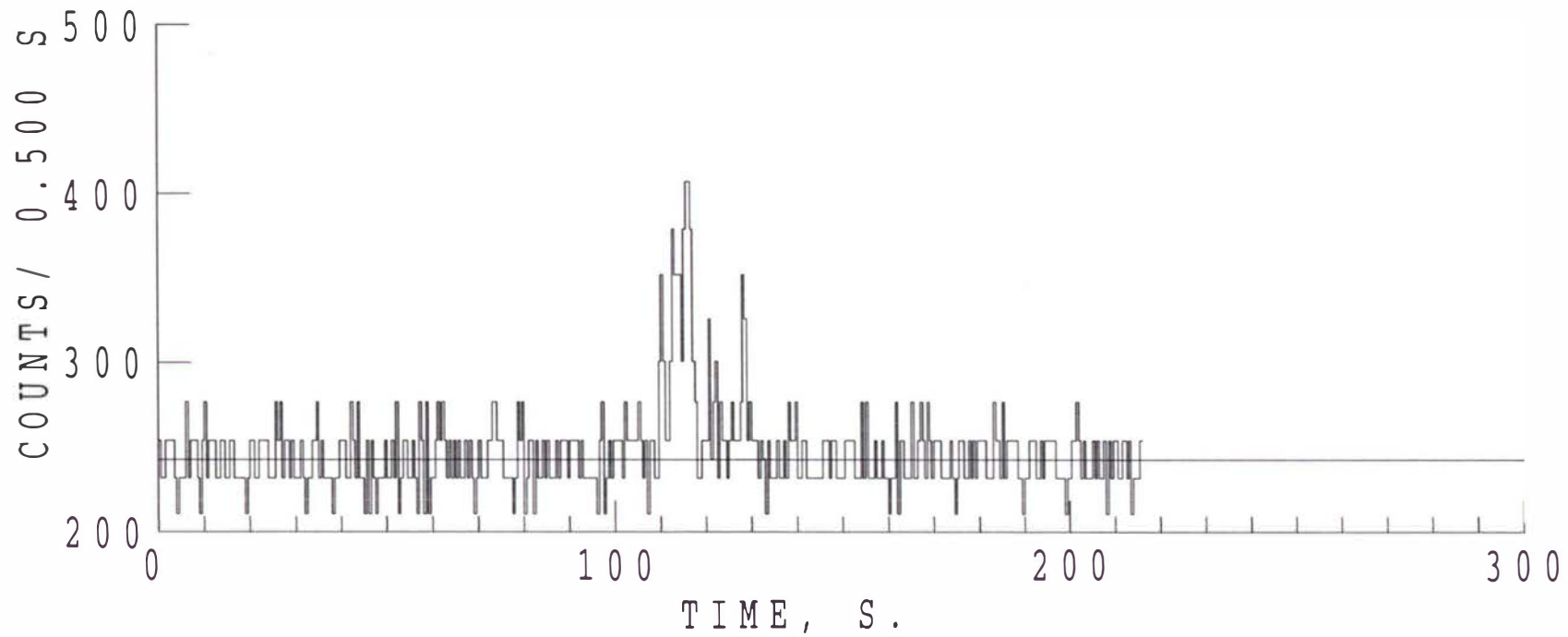
ULYSSES RT

21 / 09 / 12

13 / 08 / 98 23868.355 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS1 19980813 21677

ULYSSES RT

19 / 02 / 02

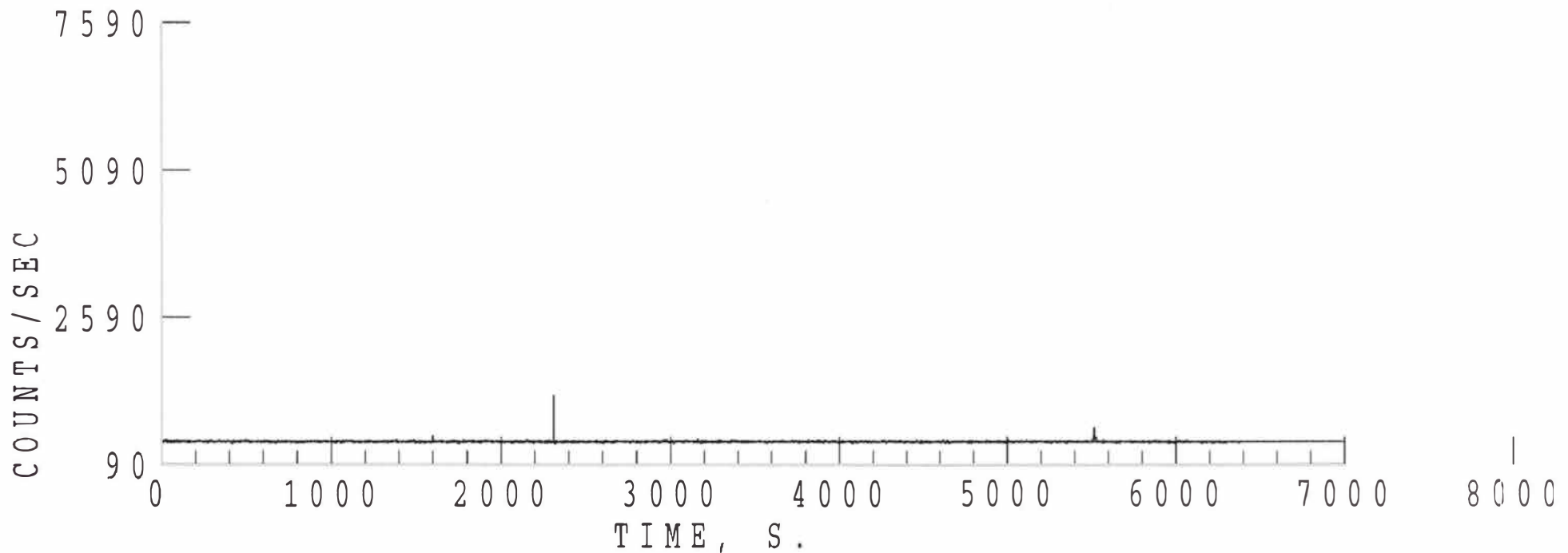
13 / 08 / 98 18468.297 s

INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE BURST TRIGGER

NO.: 06987

TIME: TJD=1103 SECONDS=83811

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=032.0 AZIMUTH=350.6 ERROR=8.9 DEGREES

COMMENTS:

GRB. APPROX 6 S DURATION; NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6987	980813	11038	83811	2500	129	+26	6

 BATSEARCH PROGRAM

BATSE BURST # 6987
 EVENT OF 1998 AUG 13 DAY OF YEAR=225
 EVENT CROSSING TIME AT BATSE : 83811. S. OR 23:16:51.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 129.000 26.000
 BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 13/ 8/ 98 IS:
 RA= 155.987 DEC= 5.669 DIST= 6.337 AU
 BATSE-ULYSSES DISTANCE = 947965606. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=147.17 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2657.11 SECS.
 CROSSING TIME AT ULYSSES IS 81154. S. OR 22:32:33 +/- 307.26 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 13/ 8/ 98 IS:
 RA= 117.073 DEC= 22.042 DIST= 2.450 AU
 MARS-BATSE DISTANCE = 366535616. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=168.42 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1197.72 SECS.
 CROSSING TIME AT MARS IS 82613. S. OR 22:56:53 +/- 24.44 SECONDS

BATSE BURST# 6987

ULYSSES RT

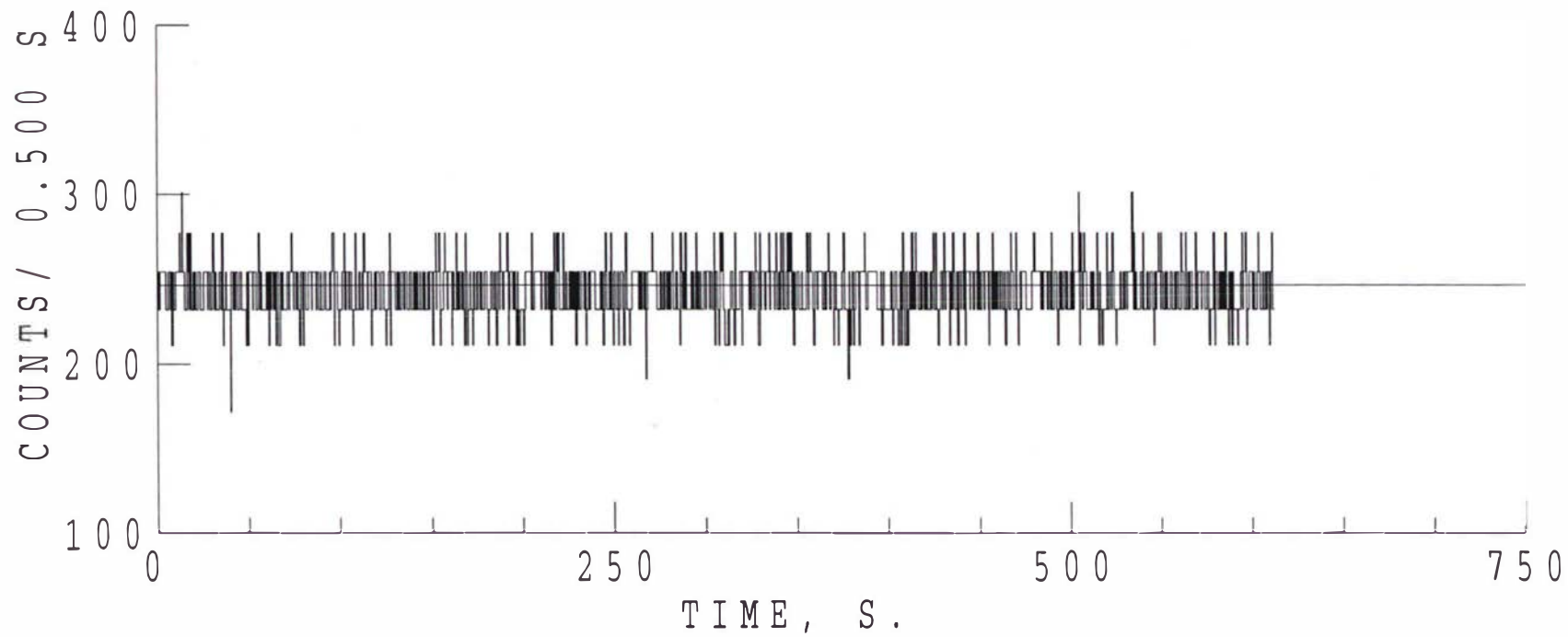
14 / 1 / 99

13 / 8 / 98 80856.453 s

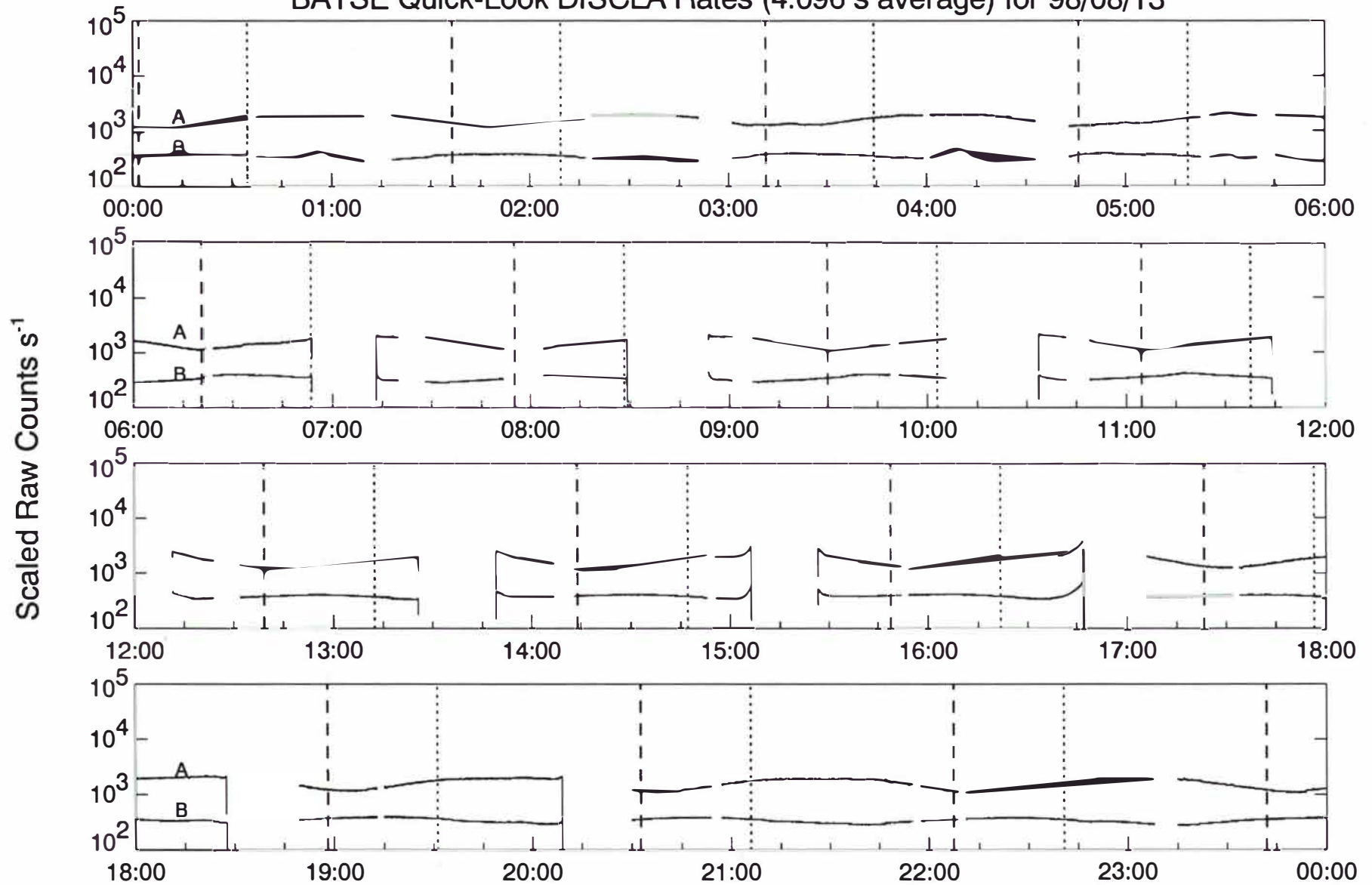
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/13

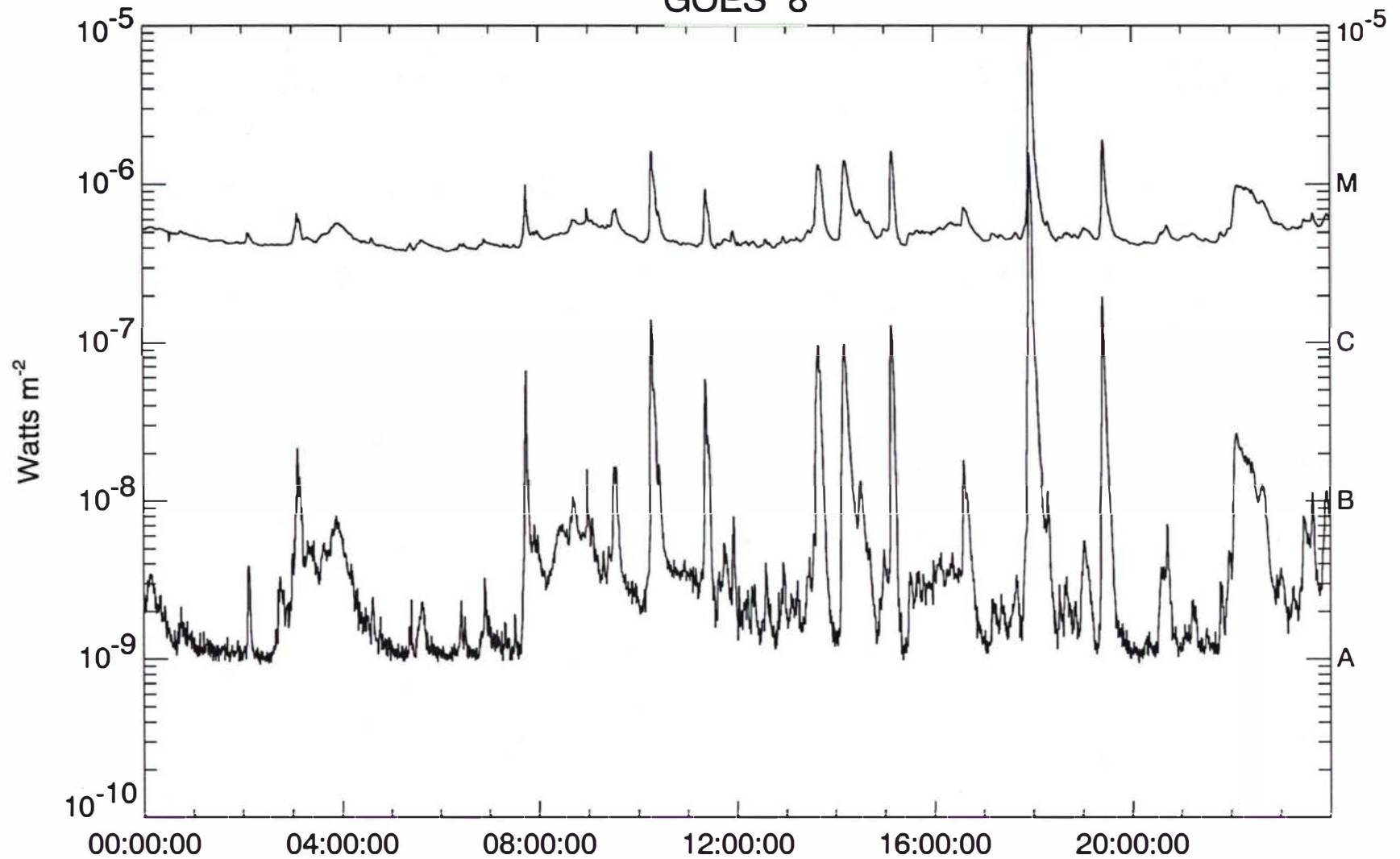


Current Time: 98/08/17, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

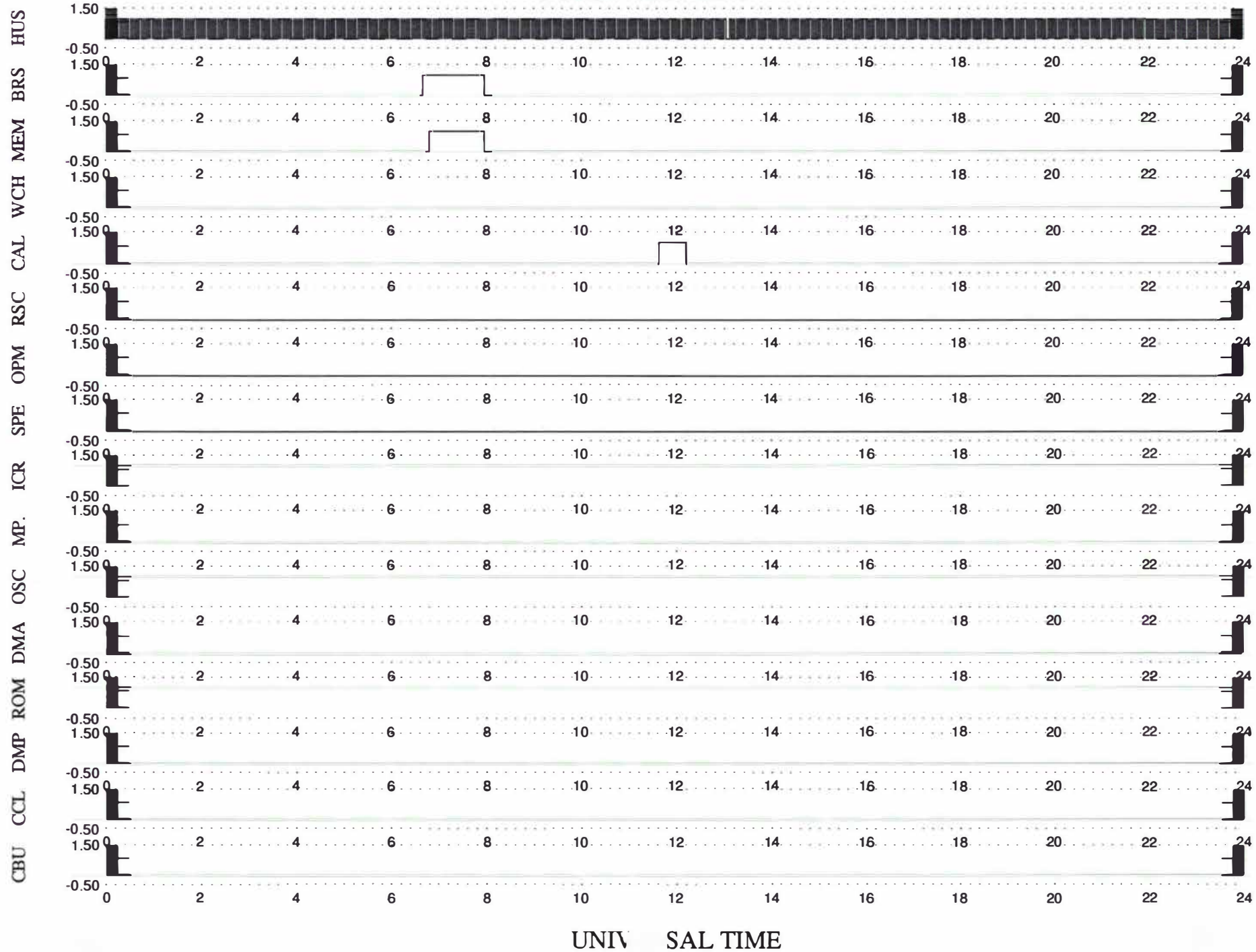


Data Start: 98/08/13, 0000:00

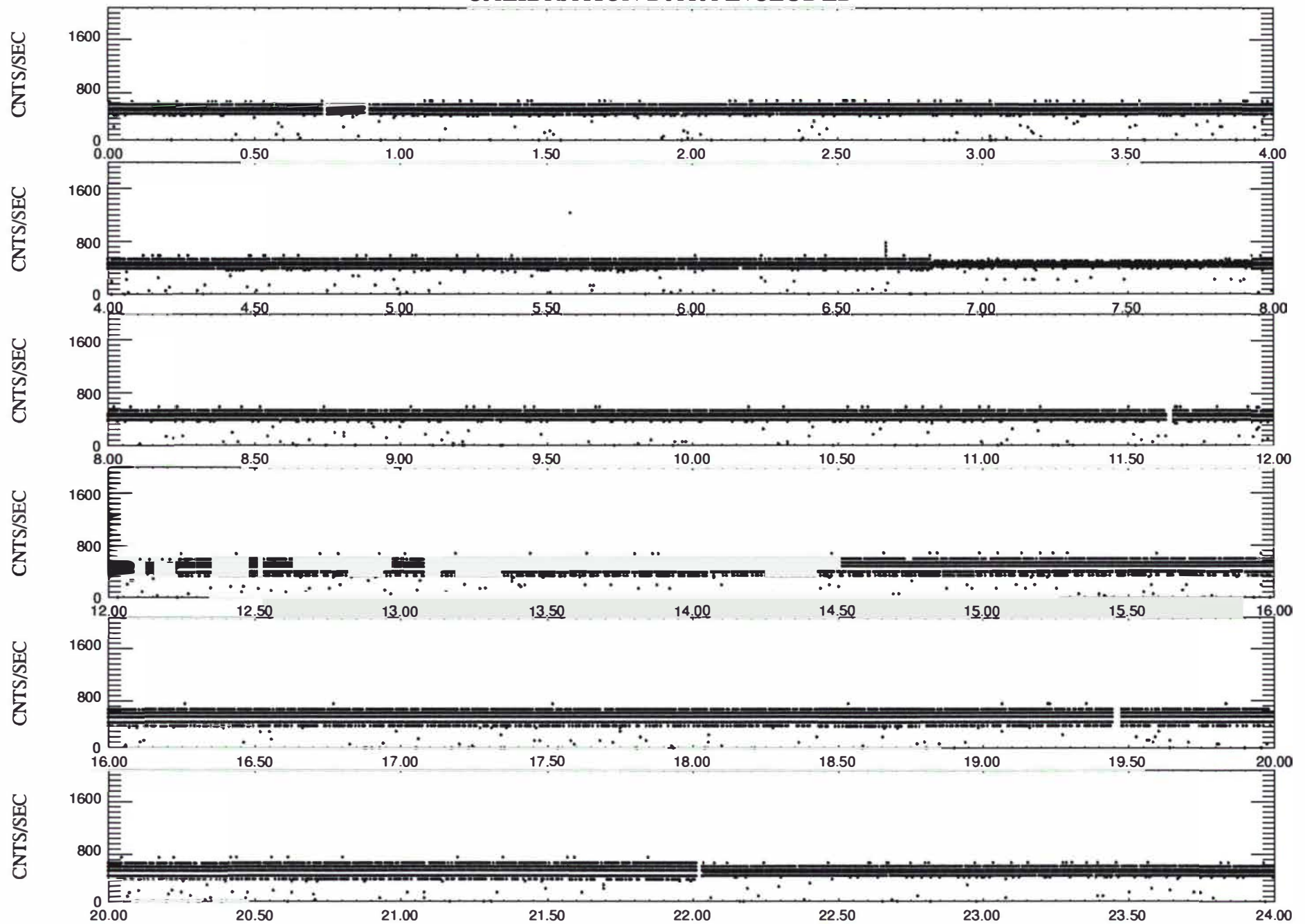
Plot created: 98/08/17, 1007

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

BURST NUMBER 9

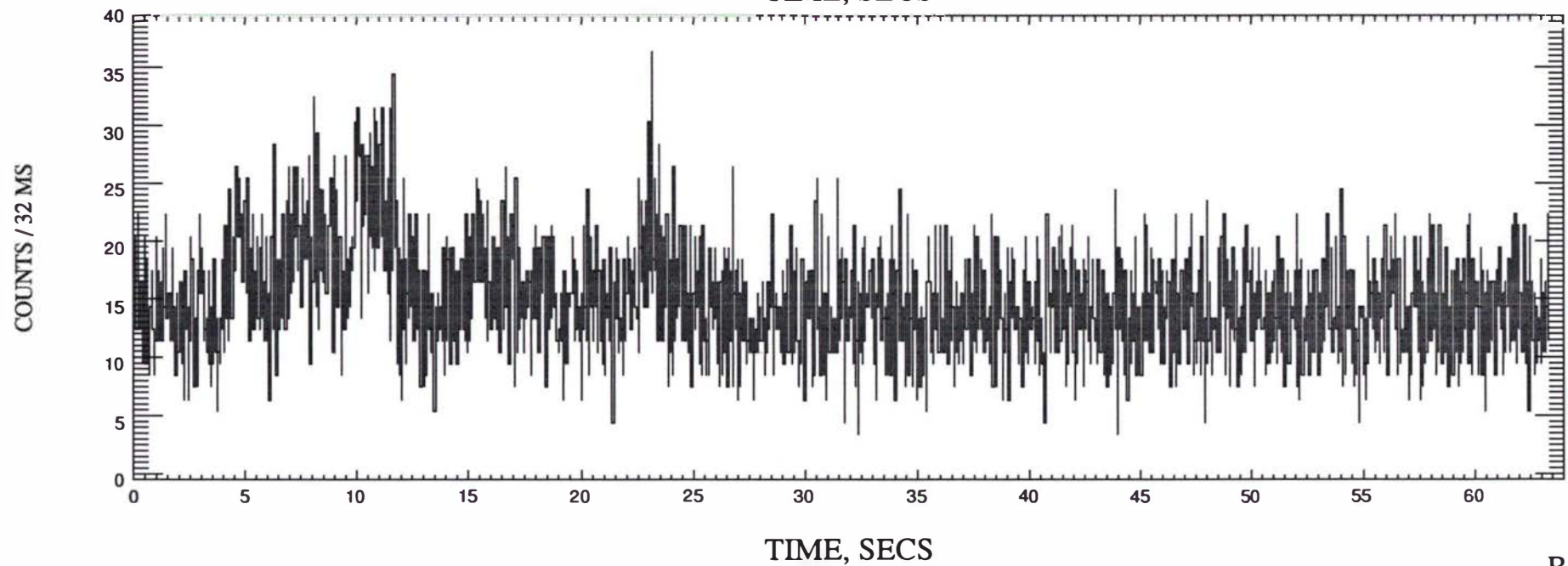
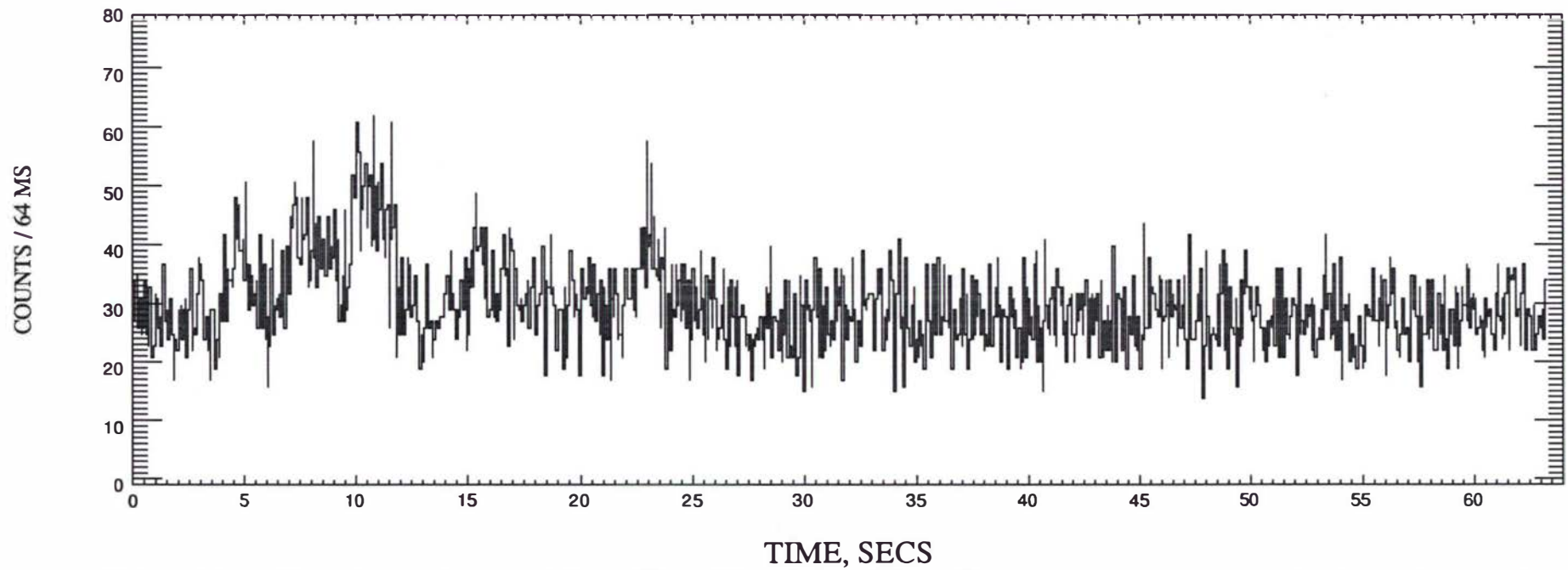


CALIBRATION DATA INCLUDED

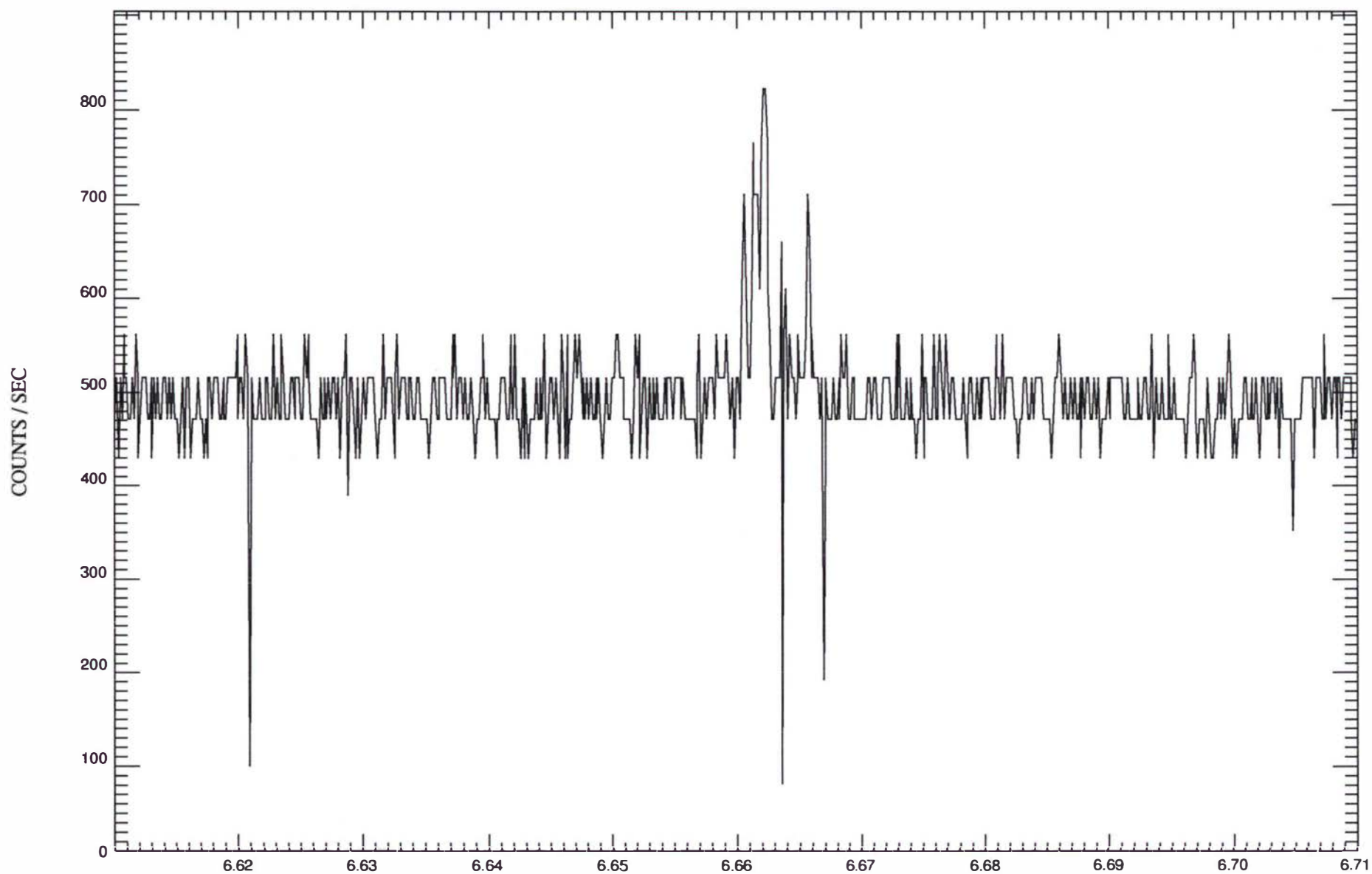


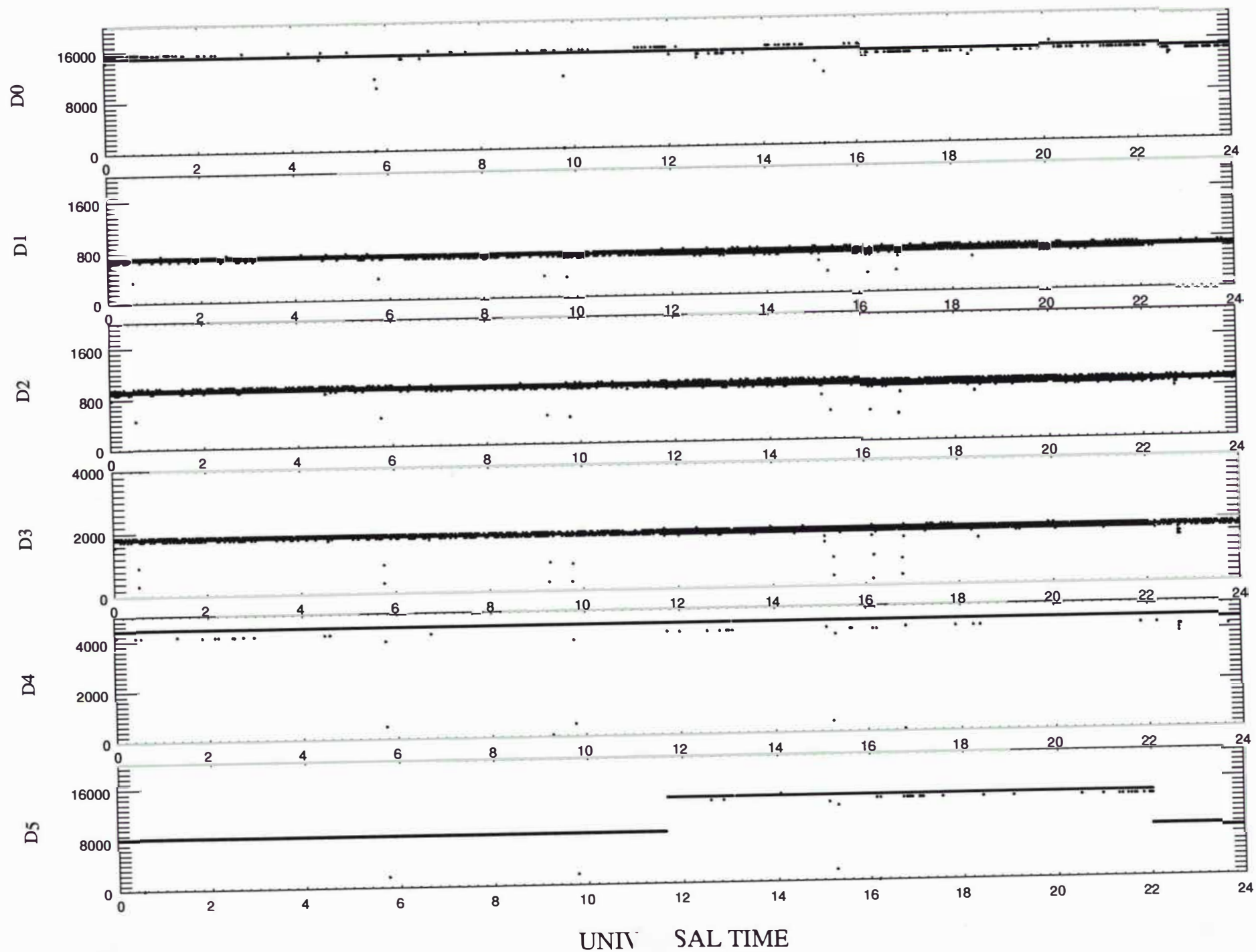
UNIV SAL TIME

Burst Counter 9 at UT= 6.661414578756 h=23981.092 s 06:39:41.092



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Tue Aug 18 11:58:54 1998
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA10791; Tue, 18 Aug 1998 11:58:54 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA26532; Tue, 18 Aug 1998 11:58:51 -0700
Date: Tue, 18 Aug 1998 13:58:13 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980818135813.2022ca6f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6989
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6989
EVENT OF 1998 AUG 14 DAY OF YEAR=226
EVENT CROSSING TIME AT BATSE : 48798. S. OR 13:33:18.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 311.000 61.000
BATSE PEAK COUNTING RATE: 3700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/ 8/ 98 IS:
RA= 156.066 DEC= 5.613 DIST= 6.339 AU
BATSE-ULYSSES DISTANCE = 948242171. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1111.81 SECS.
CROSSING TIME AT ULYSSES IS 49910. S. OR 13:51:49 +/- 580.99 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/ 8/ 98 IS:
RA= 117.763 DEC= 21.931 DIST= 2.447 AU
MARS-BATSE DISTANCE = 366124832. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.62 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 135.71 SECS.
CROSSING TIME AT MARS IS 48934. S. OR 13:35:33 +/- 212.78 SECONDS

BATSE BURST TRIGGER

NO.: 6989

TIME: TJD=1039 SECONDS=48798

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=102.8 AZIMUTH=275.7 ERROR=10.77 DEGREES

COMMENTS:

GRB. COMPLEX TRIPLE PEAK. DURATION ABOUT 55 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6989	980814	11039	48798	3700	311	+61	55

BATSE BURST# 6989

ULYSSES RT

19 / 8 / 98

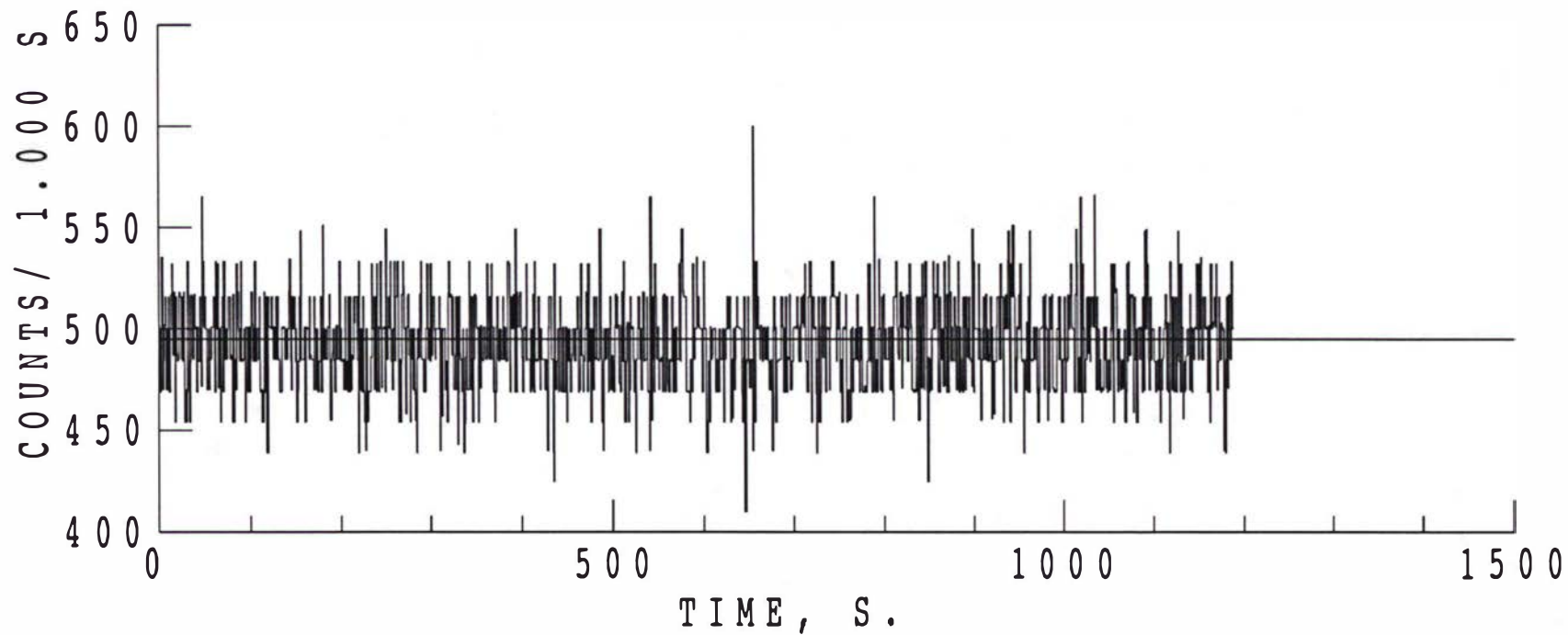
14 / 8 / 98 49320.031 s

0.250 S INTERVALS REGROUPED BY 4

0 - 0 keV

M= 10 M=10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue Aug 18 09:18:30 1998

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 18 Aug 1998 11:17:42 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6988

TIME: TJD=1039 SECONDS=02732

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

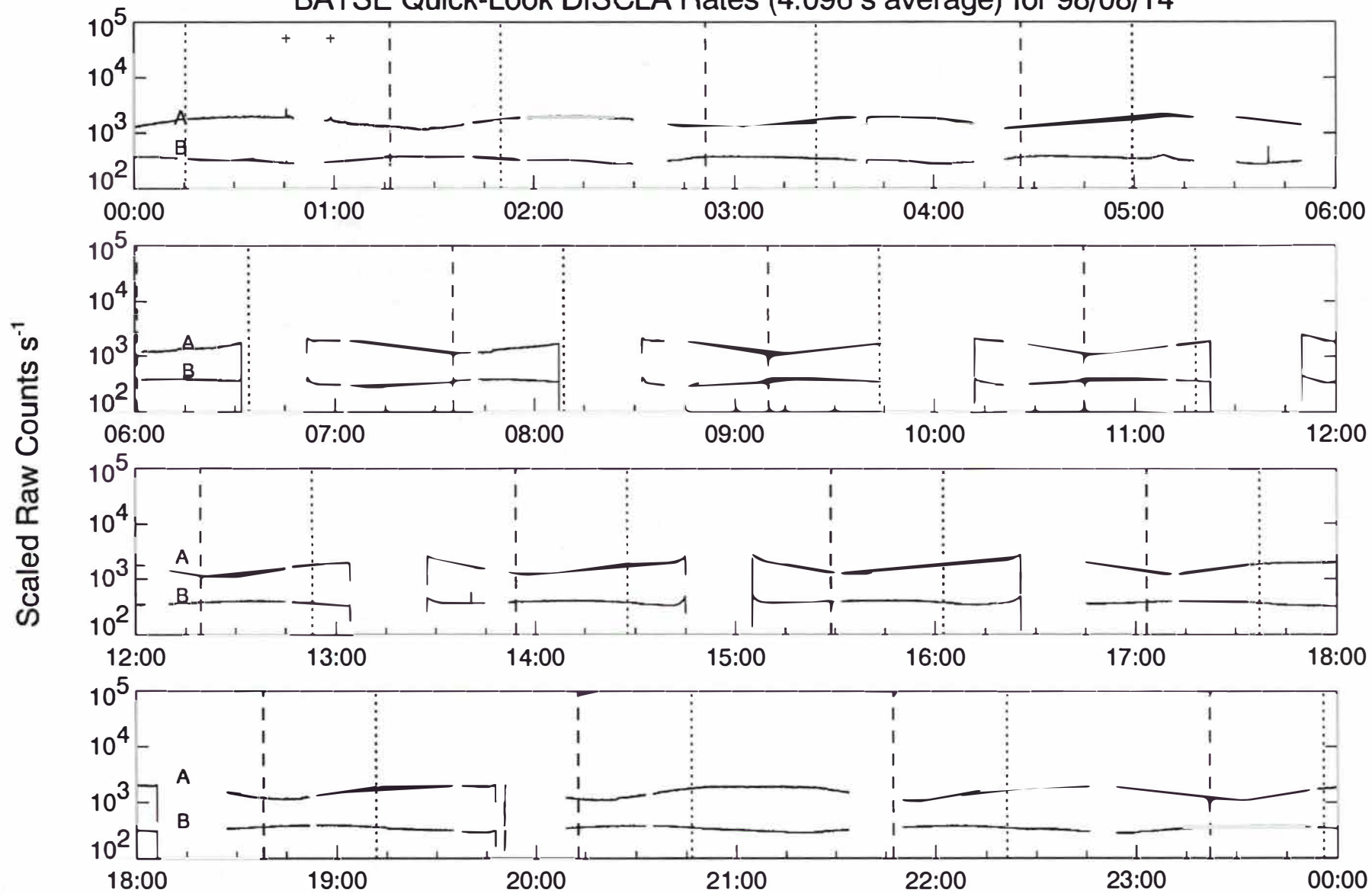
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=15.5 AZIMUTH=4.2 ERROR=1.642 DEGREES

COMMENTS:

SOLAR FLARE. GOES C1.8, NO OPTICAL. DOUBLE PULSE. DURATION ABOUT 60 S.
NOT VISIBLE ABOVE 300 KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/14

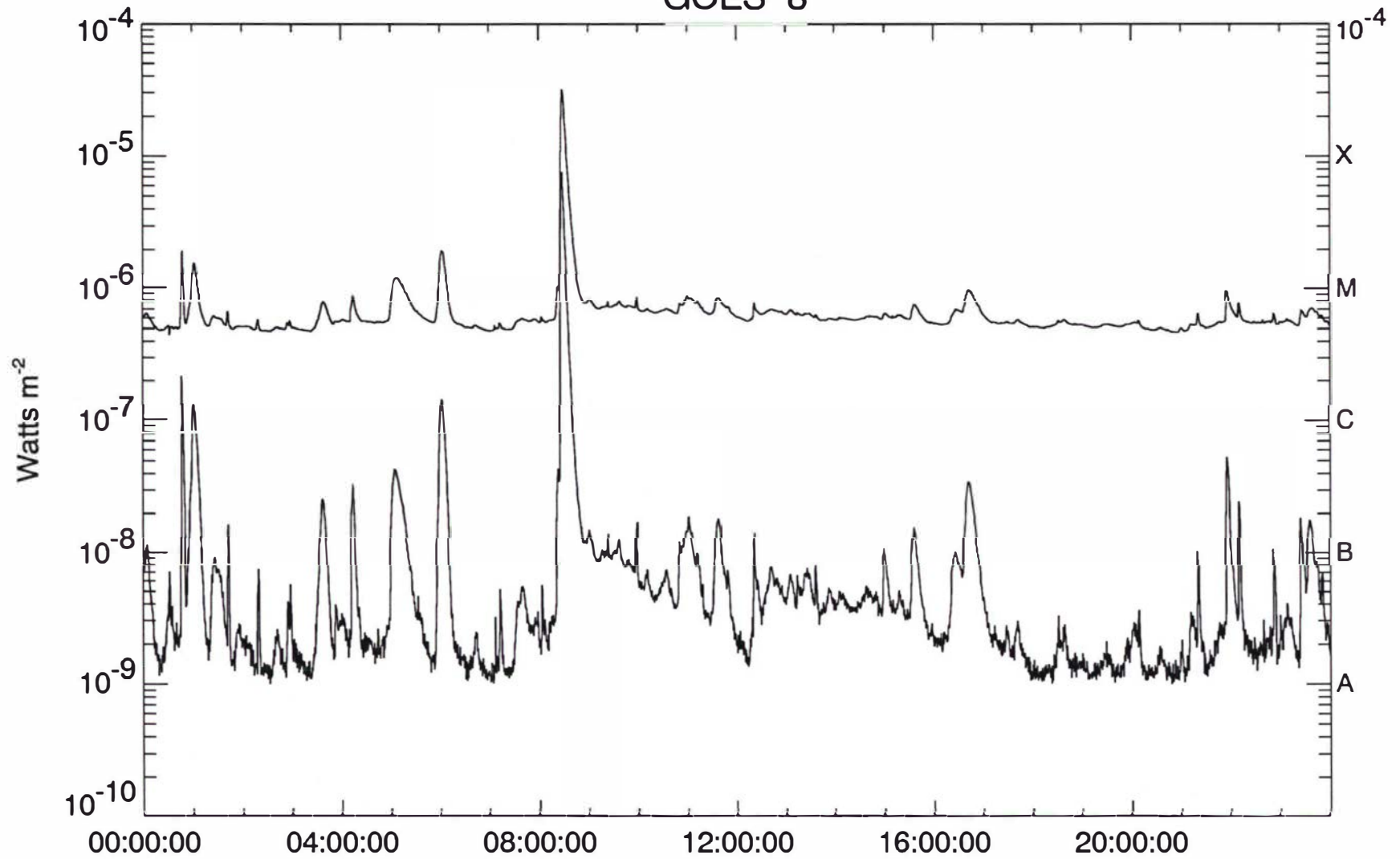


Current Time: 98/08/18, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

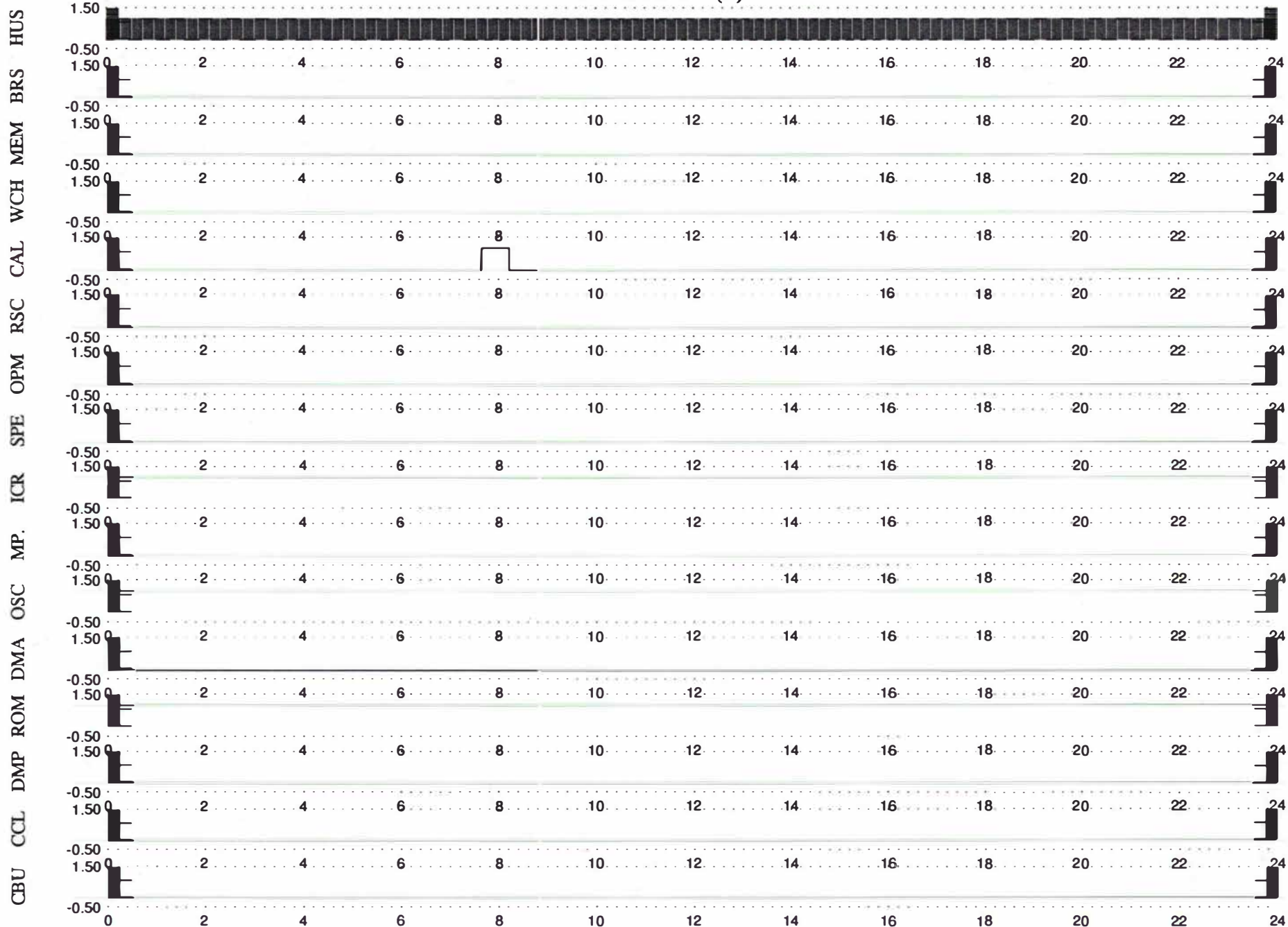


Data Start: 98/08/14, 0000:00

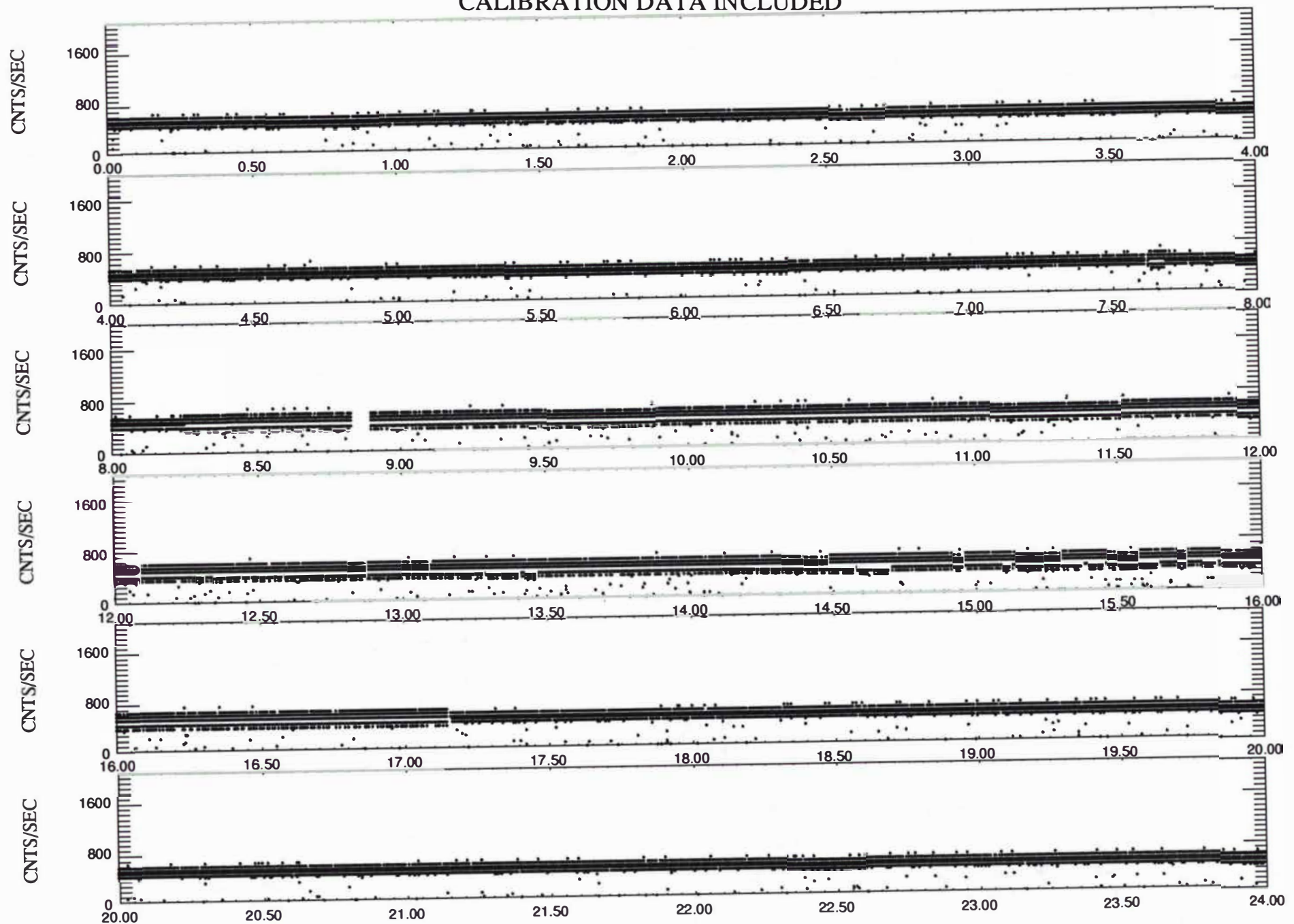
Plot created: 98/08/18, 1007

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

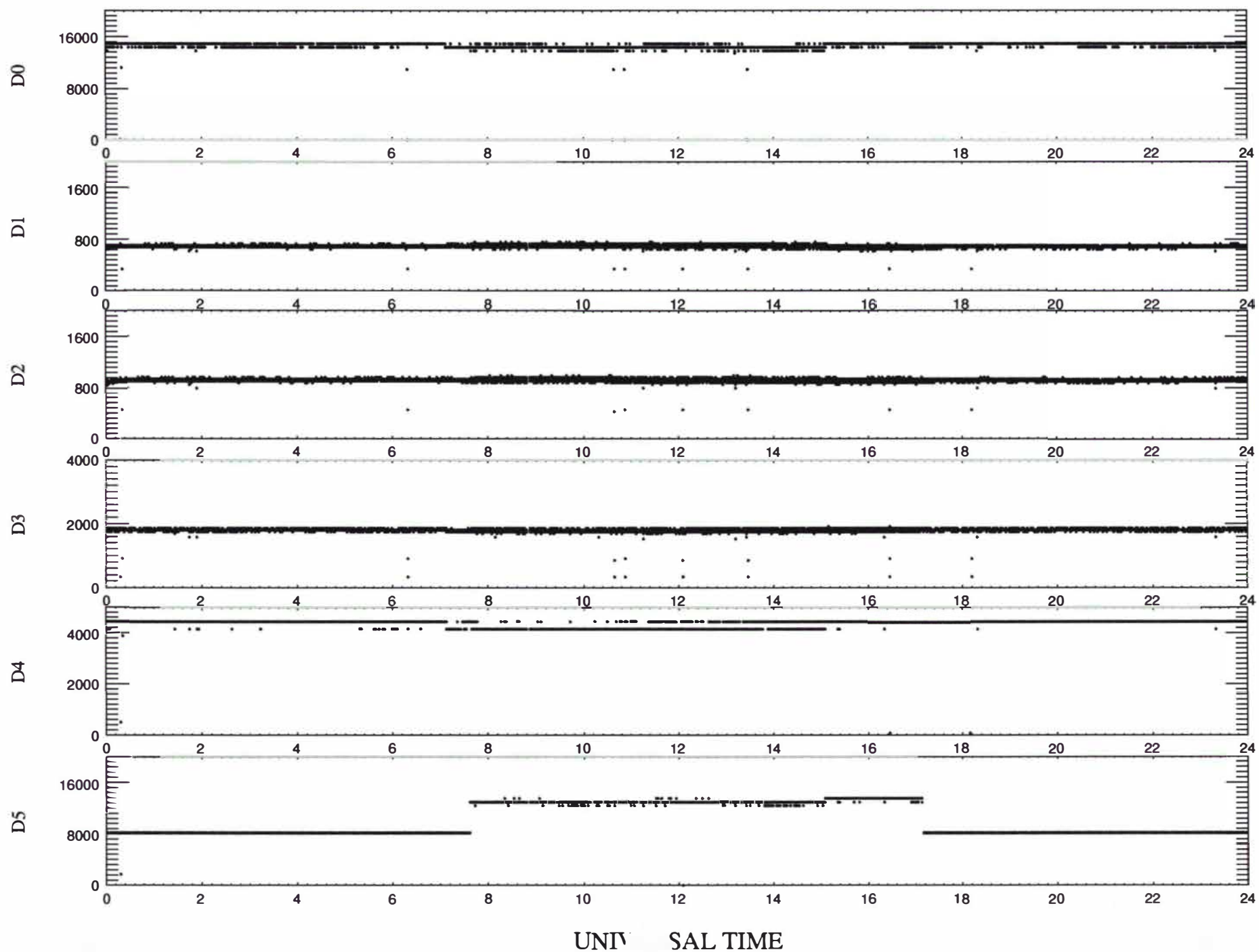
UNIT	SAL	TIME
1	10	10
2	10	10
3	10	10
4	10	10
5	10	10
6	10	10
7	10	10
8	10	10
9	10	10
10	10	10
11	10	10
12	10	10
13	10	10
14	10	10
15	10	10
16	10	10
17	10	10
18	10	10
19	10	10
20	10	10
21	10	10
22	10	10
23	10	10
24	10	10
25	10	10
26	10	10
27	10	10
28	10	10
29	10	10
30	10	10
31	10	10
32	10	10
33	10	10
34	10	10
35	10	10
36	10	10
37	10	10
38	10	10
39	10	10
40	10	10
41	10	10
42	10	10
43	10	10
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45	10	10
46	10	10
47	10	10
48	10	10
49	10	10
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56	10	10
57	10	10
58	10	10
59	10	10
60	10	10
61	10	10
62	10	10
63	10	10
64	10	10
65	10	10
66	10	10
67	10	10
68	10	10
69	10	10
70	10	10
71	10	10
72	10	10
73	10	10
74	10	10
75	10	10
76	10	10
77	10	10
78	10	10
79	10	10
80	10	10
81	10	10
82	10	10
83	10	10
84	10	10
85	10	10
86	10	10
87	10	10
88	10	10
89	10	10
90	10	10
91	10	10
92	10	10
93	10	10
94	10	10
95	10	10
96	10	10
97	10	10
98	10	10
99	10	10
100	10	10



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From HENZE@fender.msfc.nasa.gov Tue Aug 18 09:18:11 1998
Date: Tue, 18 Aug 1998 11:16:49 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6990

TIME: TJD=1040 SECONDS= 1969

Aug 15

272.2, -20.4

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=165.1 AZIMUTH=167.8 ERROR= 6.8 DEGREES

COMMENTS:

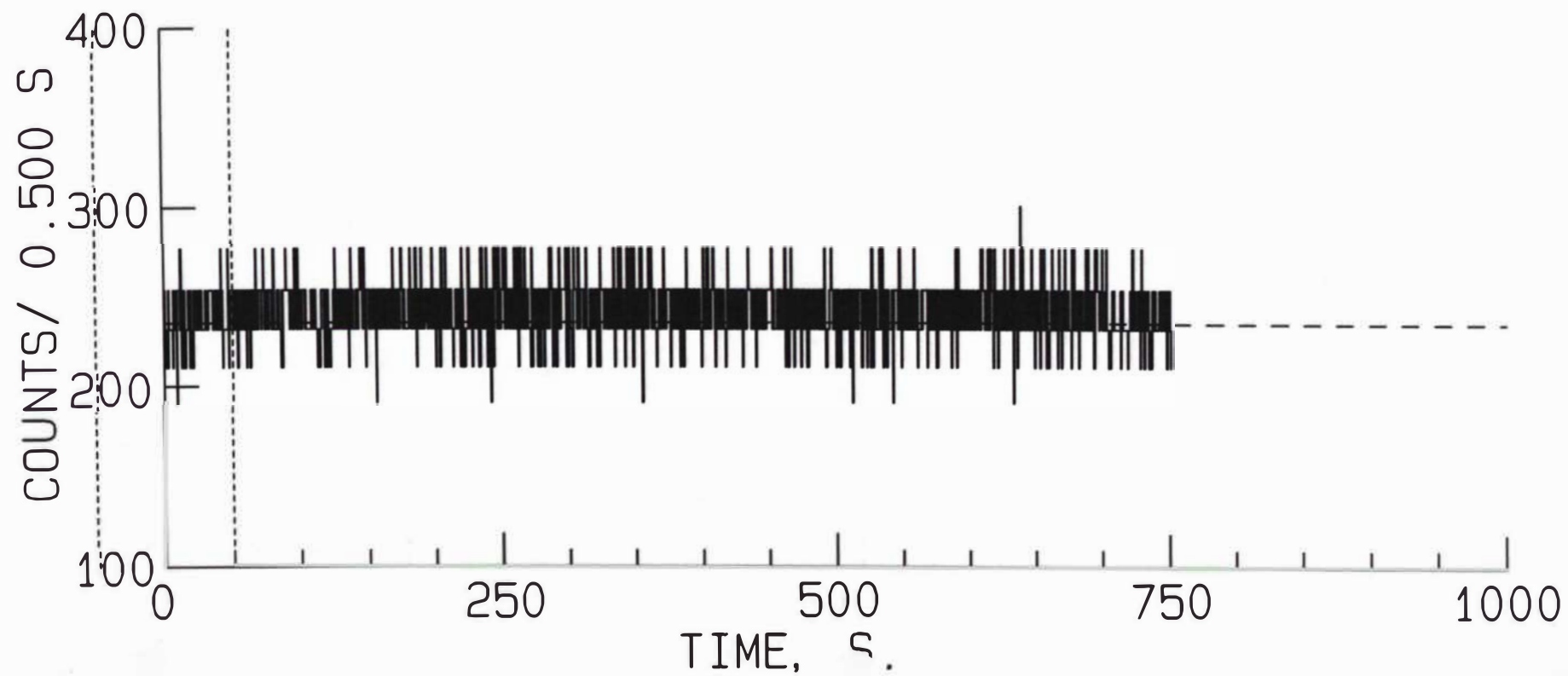
SGR 1806-20 SINGLE SPIKE, DUR. APPROX. 0.04 S. NOT VISIBLE ABOVE 100 KEV.

ULYSSES RT

21 / 8 / 98

15 / 8 / 98 2808.451 s

22- 149 keV

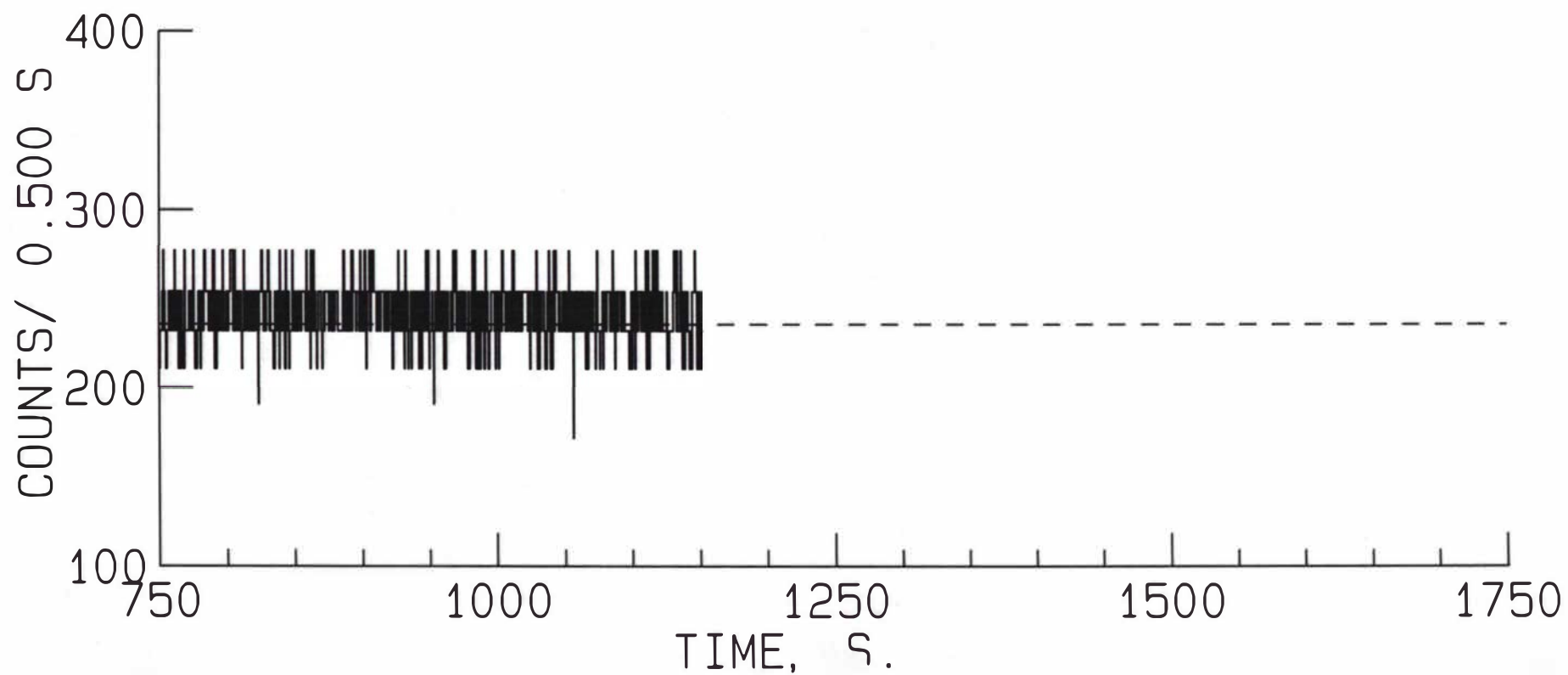


ULYSSES RT

21 / 8 / 98

15 / 8 / 98 2808.451 s

22- 149 keV



From RICHARDSON@fender.msfc.nasa.gov Tue Aug 18 11:52:50 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 18 Aug 1998 13:52:16 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6991

TIME: TJD=1040 SECONDS=53071

Aug 15

286.8 9.3

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.5 AZIMUTH=210.3 ERROR=4.0 DEGREES

COMMENTS:

SGR 1900 +14

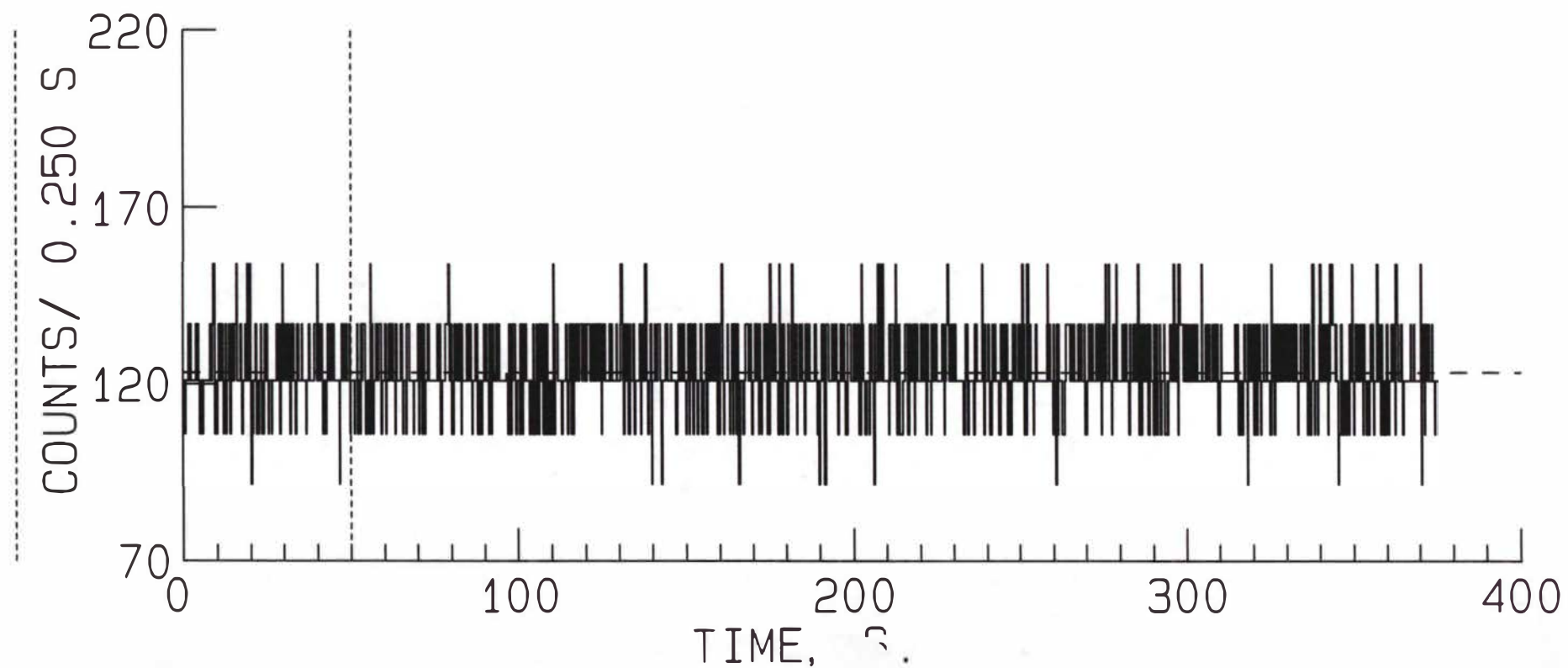
SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 0.12 SEC. NOT VISIBLE
ABOVE 100KEV.

ULYSSES RT

19/ 8/98

15/ 8/98 54540.248 s

22- 149 keV

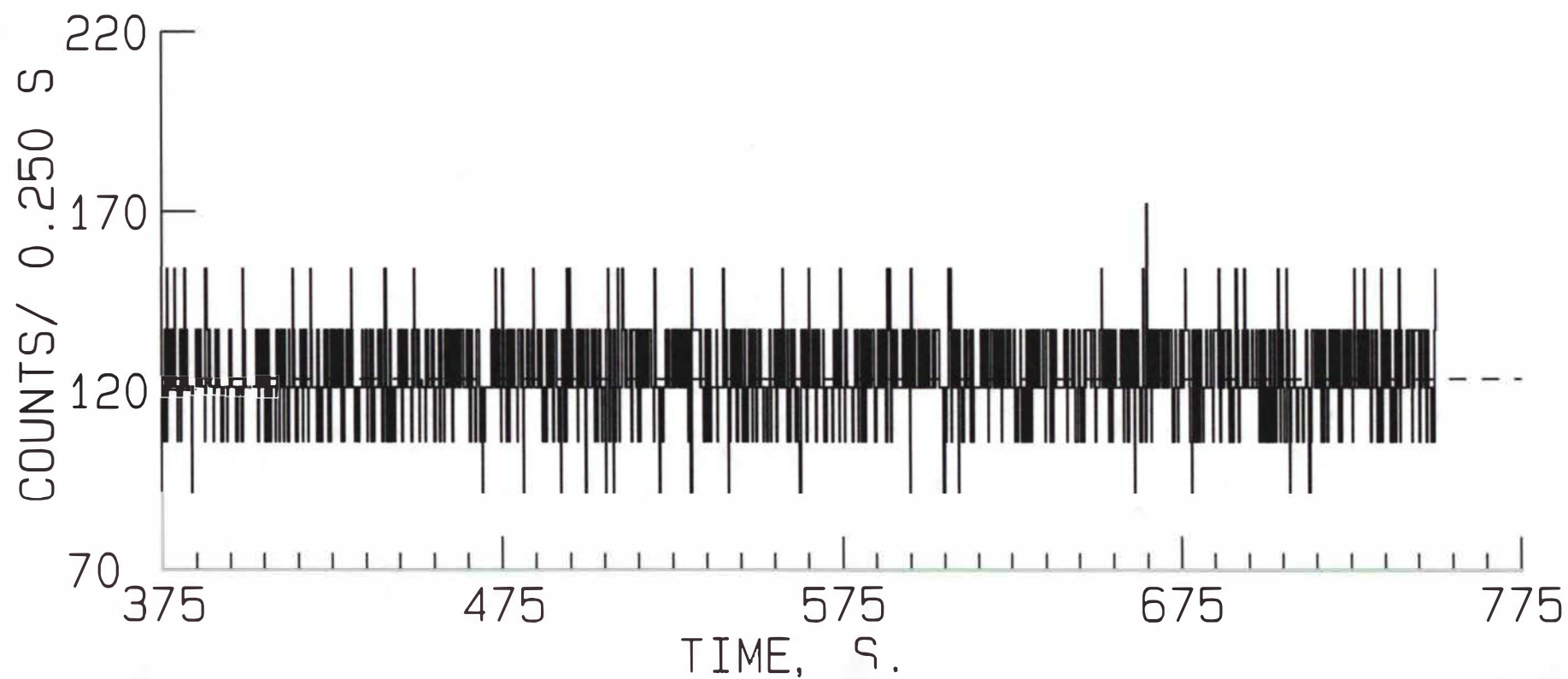


ULYSSES RT

19/ 8/98

15/ 8/98 54540.248 s

22- 149 keV

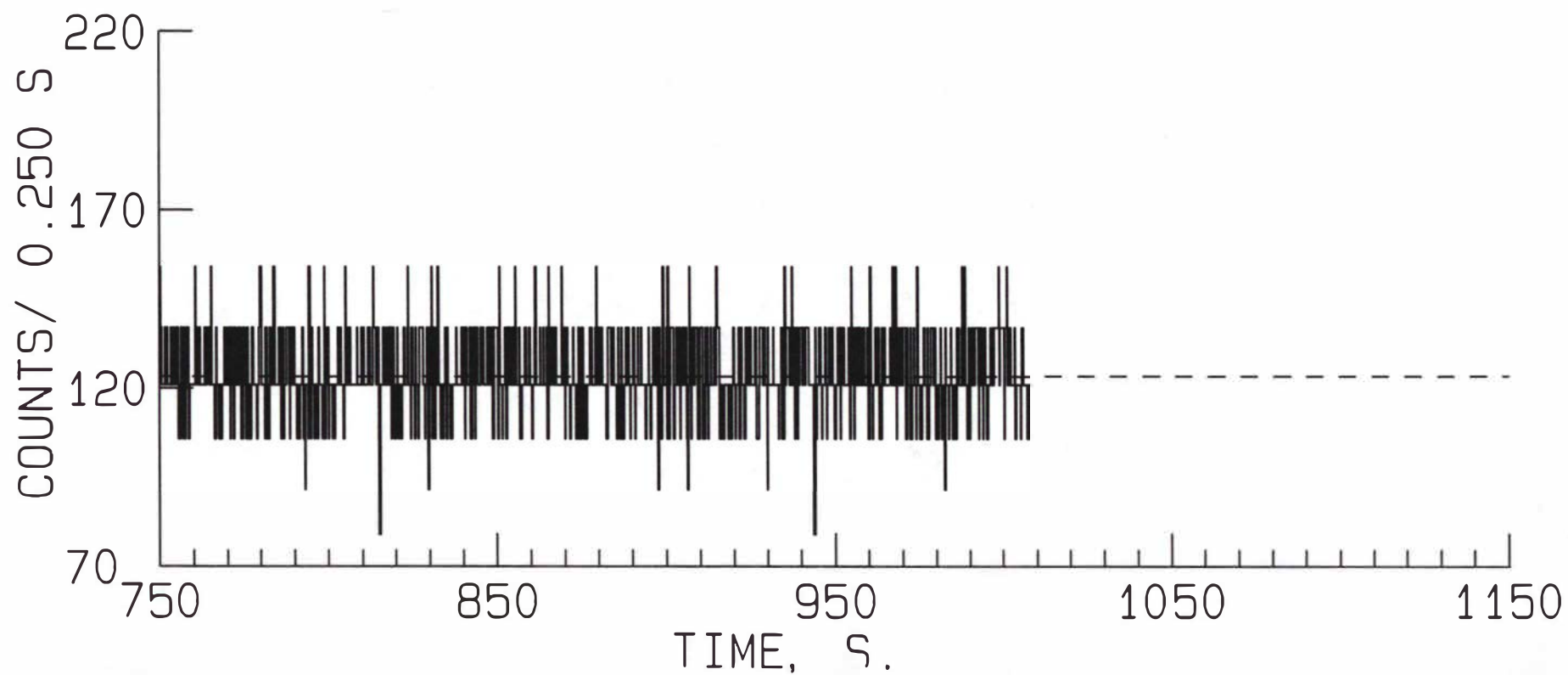


ULYSSES RT

19/ 8/98

15/ 8/98 54540.248 s

22- 149 keV



From RICHARDSON@fender.msfc.nasa.gov Mon Aug 17 14:13:38 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA14845; Mon, 17 Aug 1998 14:13:36 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA08751; Mon, 17 Aug 1998 14:13:33 -0700
Date: Mon, 17 Aug 1998 16:13:33 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980817161333.20226536@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 6992
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 6992
EVENT OF 1998 AUG 15 DAY OF YEAR=227
EVENT CROSSING TIME AT BATSE : 76917. S. OR 21:21:57.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 211.000 -32.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/ 8/ 98 IS:
RA= 156.242 DEC= 5.488 DIST= 6.342 AU
BATSE-ULYSSES DISTANCE = 948823122. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=115.88 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1381.23 SECS.
CROSSING TIME AT ULYSSES IS 75536. S. OR 20:58:55 +/- 523.42 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/ 8/ 98 IS:
RA= 118.451 DEC= 21.817 DIST= 2.445 AU
MARS-BATSE DISTANCE = 365705248. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 76.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 282.95 SECS.
CROSSING TIME AT MARS IS 77200. S. OR 21:26:39 +/- 210.31 SECONDS

BATSE BURST TRIGGER

NO.: 6992

TIME: TJD=1040 SECONDS=76917

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=66.3 AZIMUTH=155.5 ERROR=2.4 DEGREES

COMMENTS:

GRB WITH STRUCTURE. DURATION AT LEAST 50 SEC, BUT EVENT OCCURED IN A DATA GAP. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
6992	980815	11040	76917	4000	211	-32	50

Date: 20/1/00

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

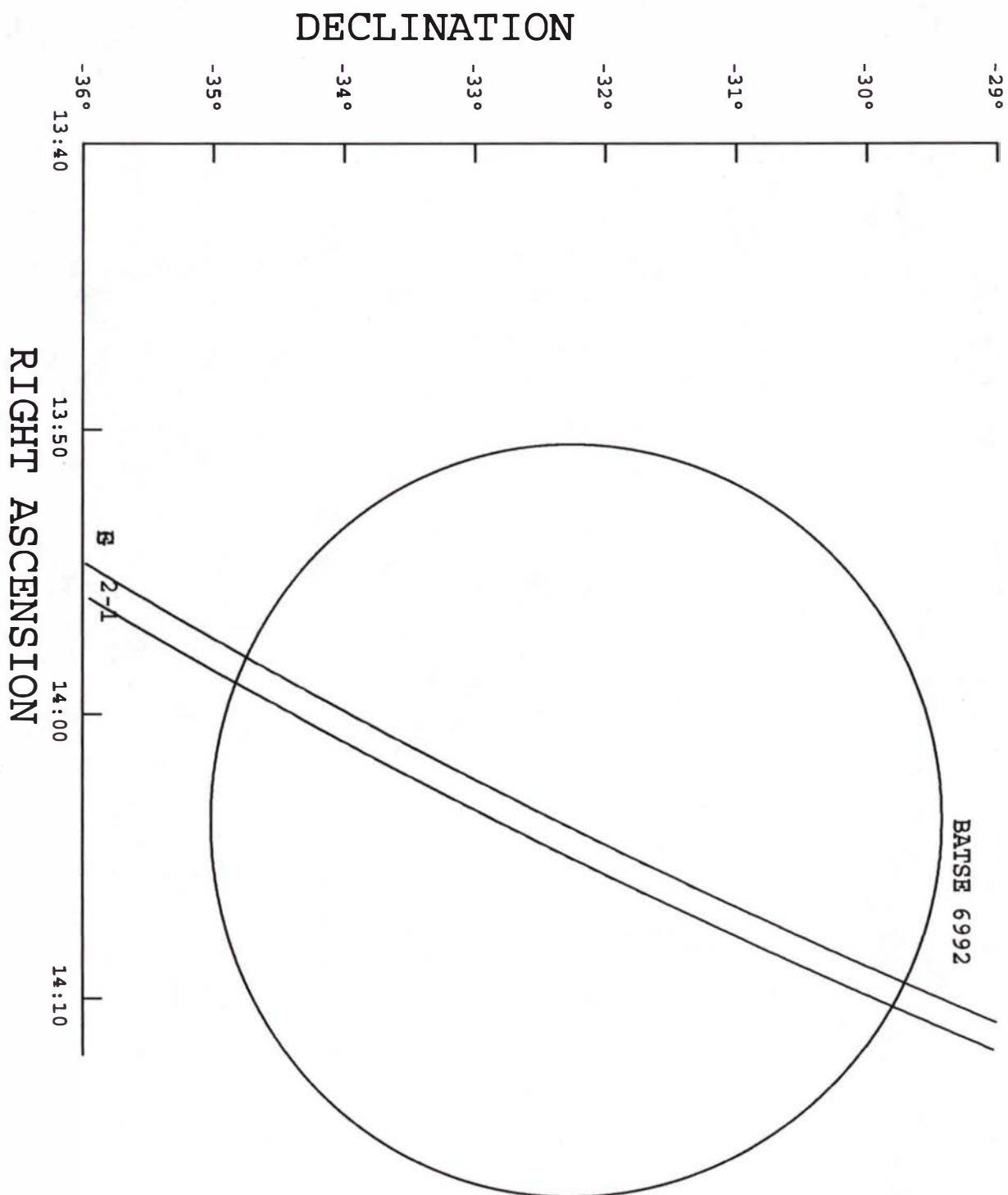
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF AUG 15, 1998 21:21

20 / 1 / 0



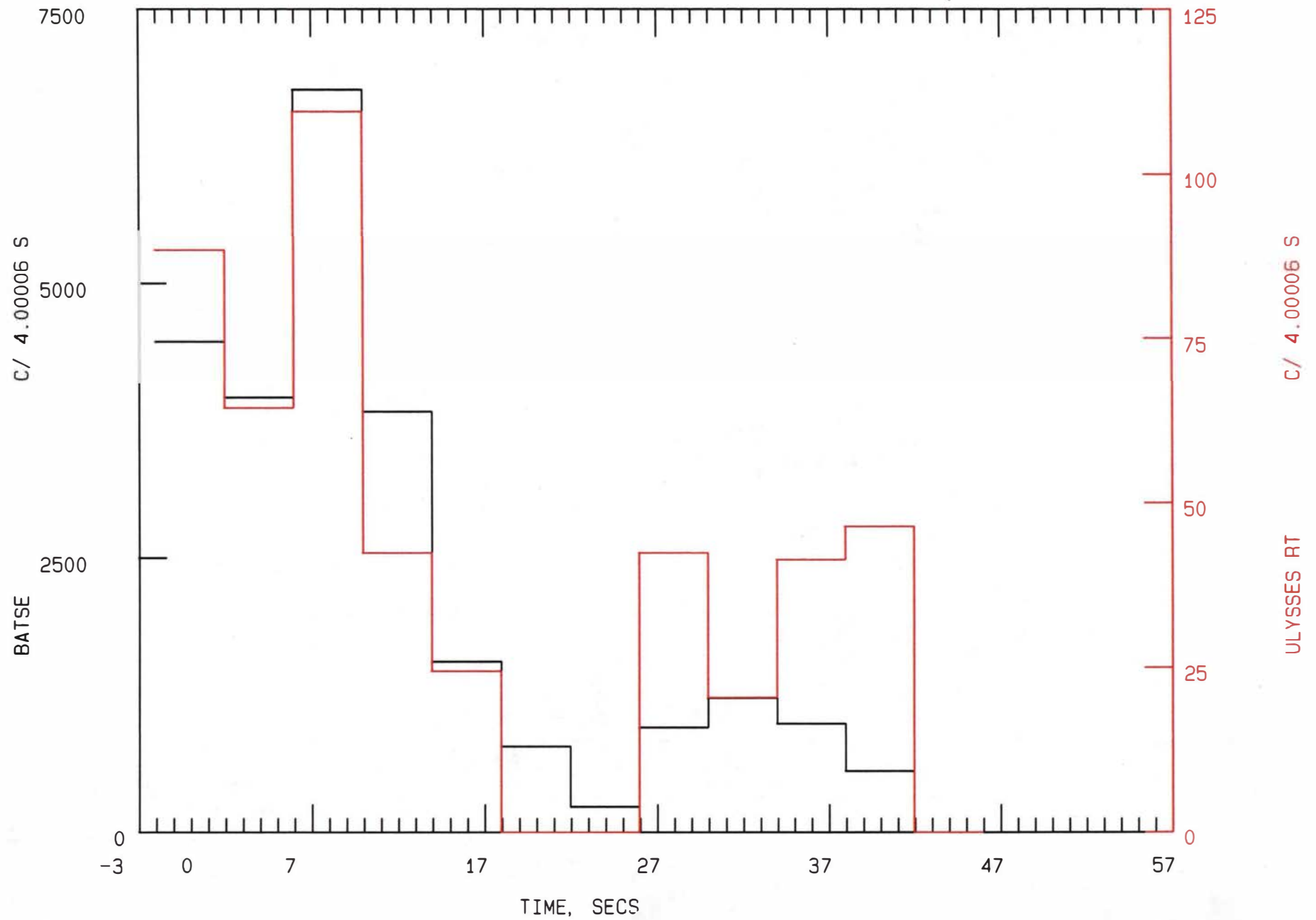
BATSE

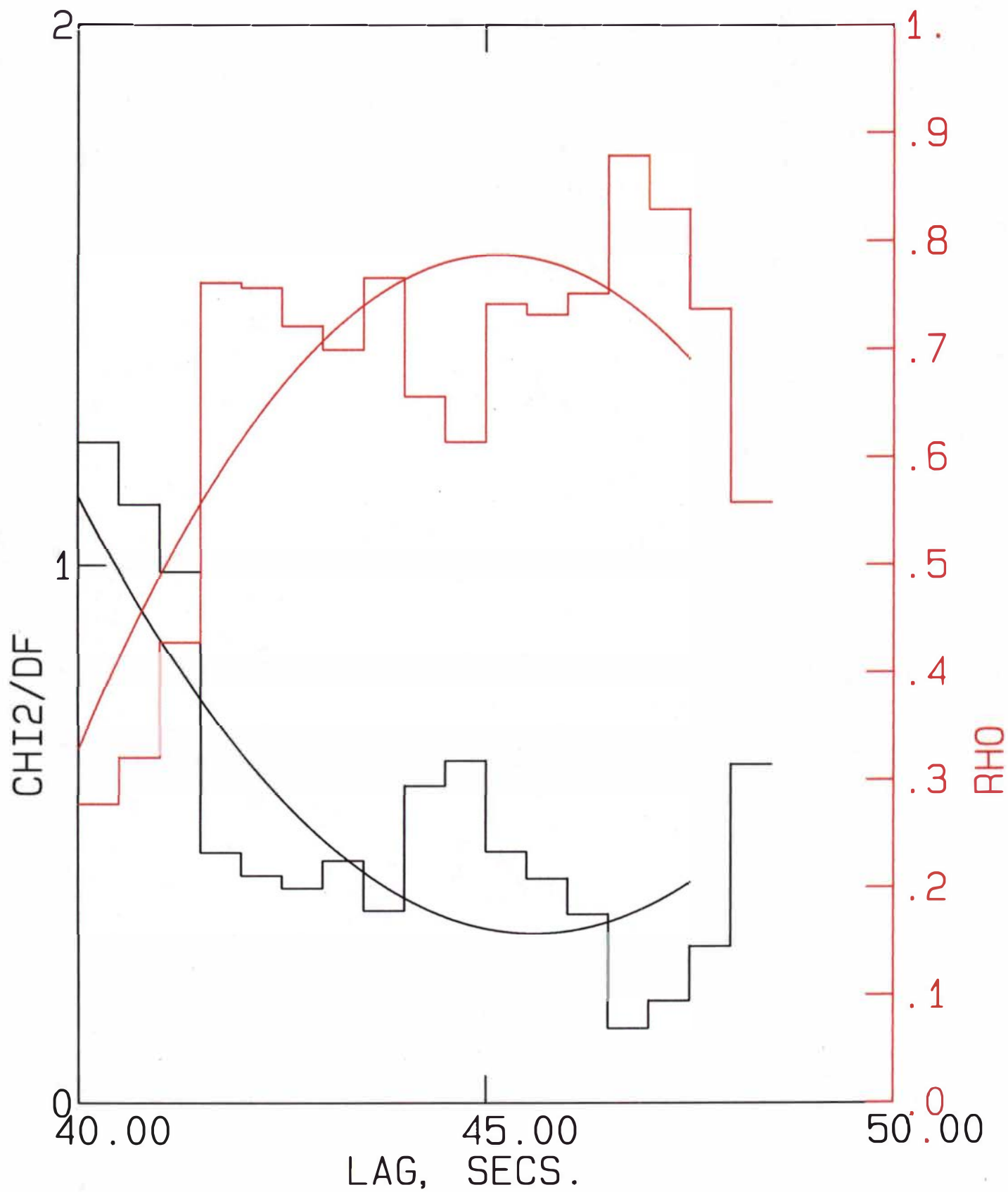
-ULYSSES RT CORRELATION

15/ 8/98

76917.473

20/ 1/ 0





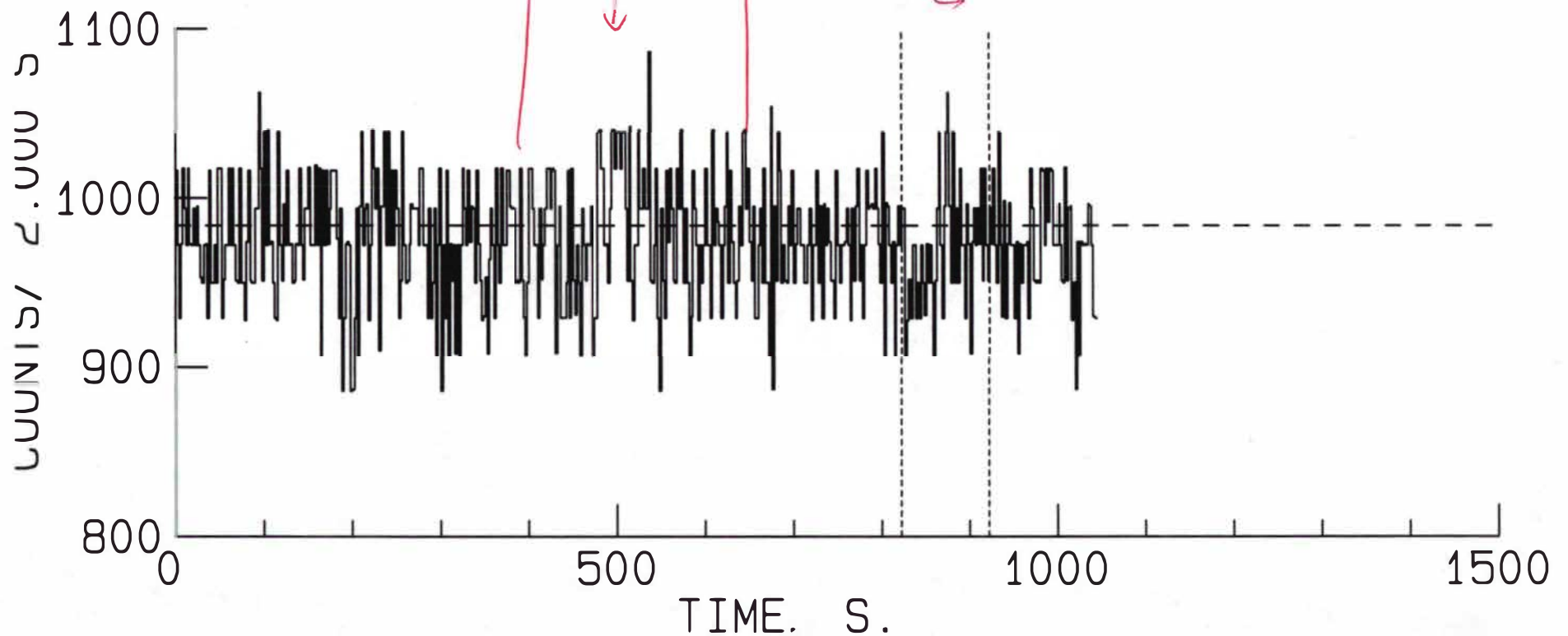
ULYSSES RT

20 / 1 / 0

15 / 8 / 98 75024.214 s

0.500 S INTERVALS REGROUPED BY 4
22- 149 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

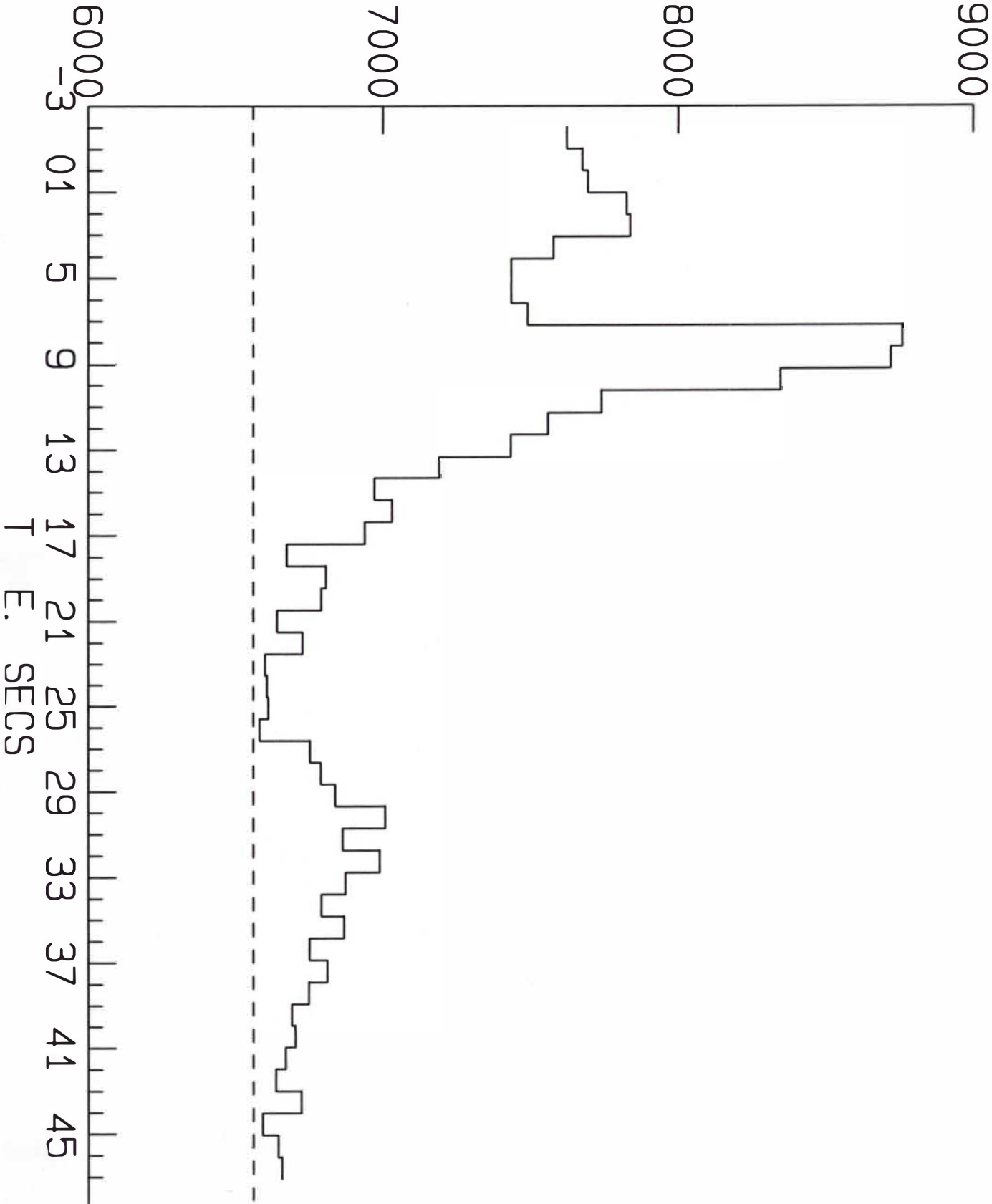
15/08/98

76917.473

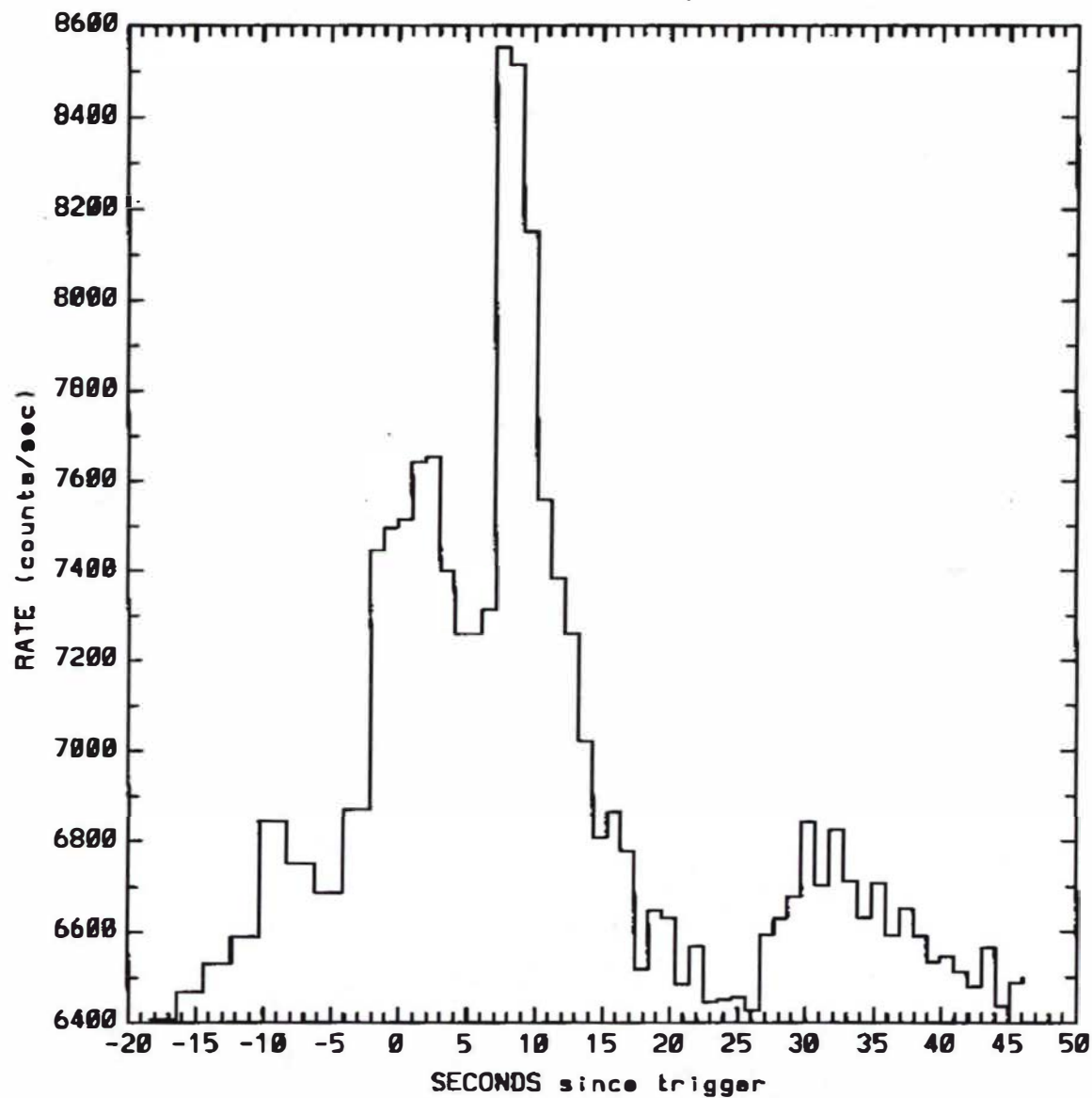
25- 100 keV

COUNTS/1.024 S

9 / 12 / 98



DISCLB Data for K. Hurley, No. 6992



27-AUG-1998 09:16:22

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 6992

Trigger Time:
11040 / 76917.473

Burst Data Type:
DISCLB

Deadtime
Corrected: N

Background Data
Type: None

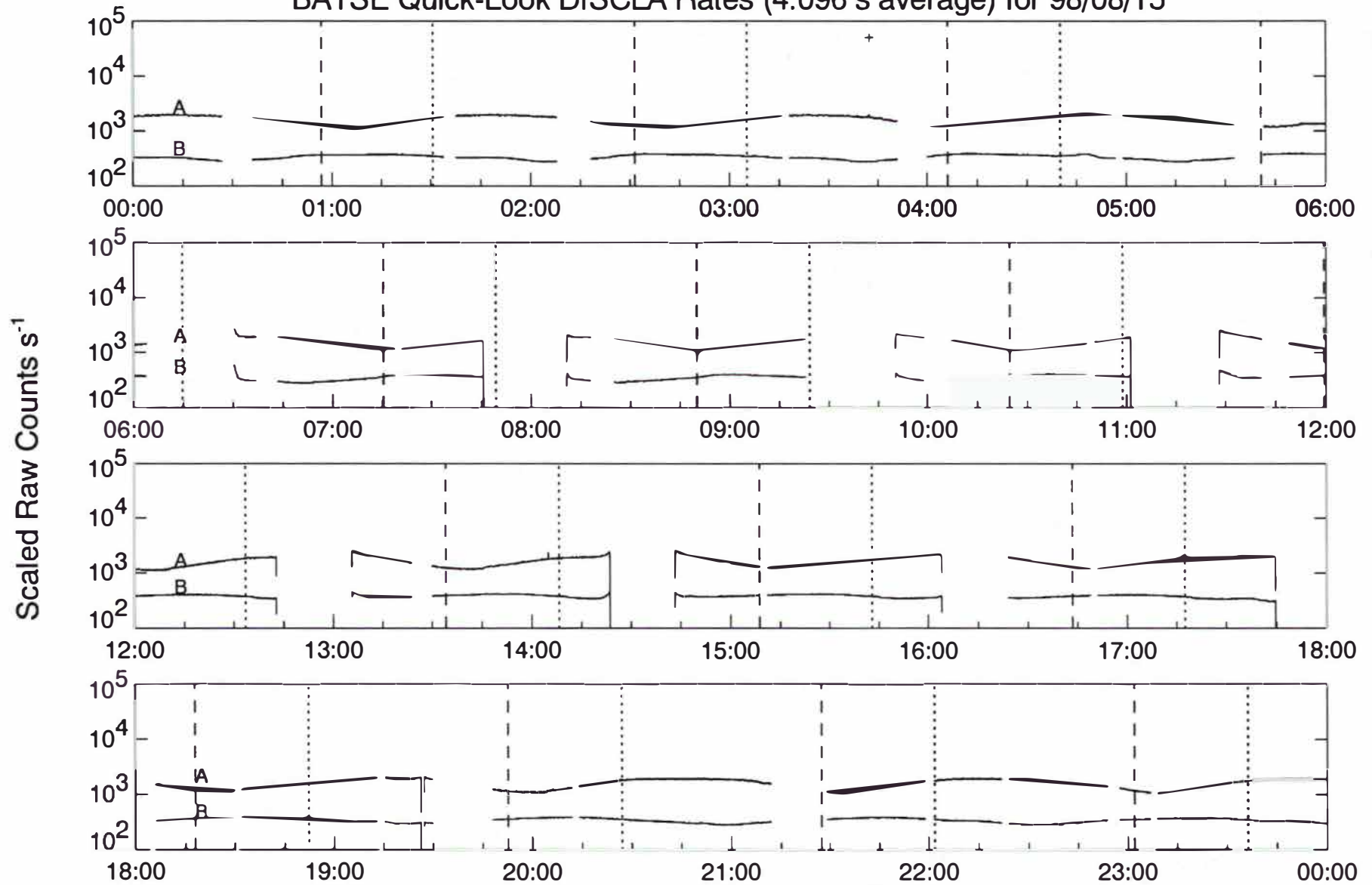
Minimum Integ. Time:
1.024 second(s)

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

Discriminators:
(1..2)

Quality Mask:
BDISP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/15

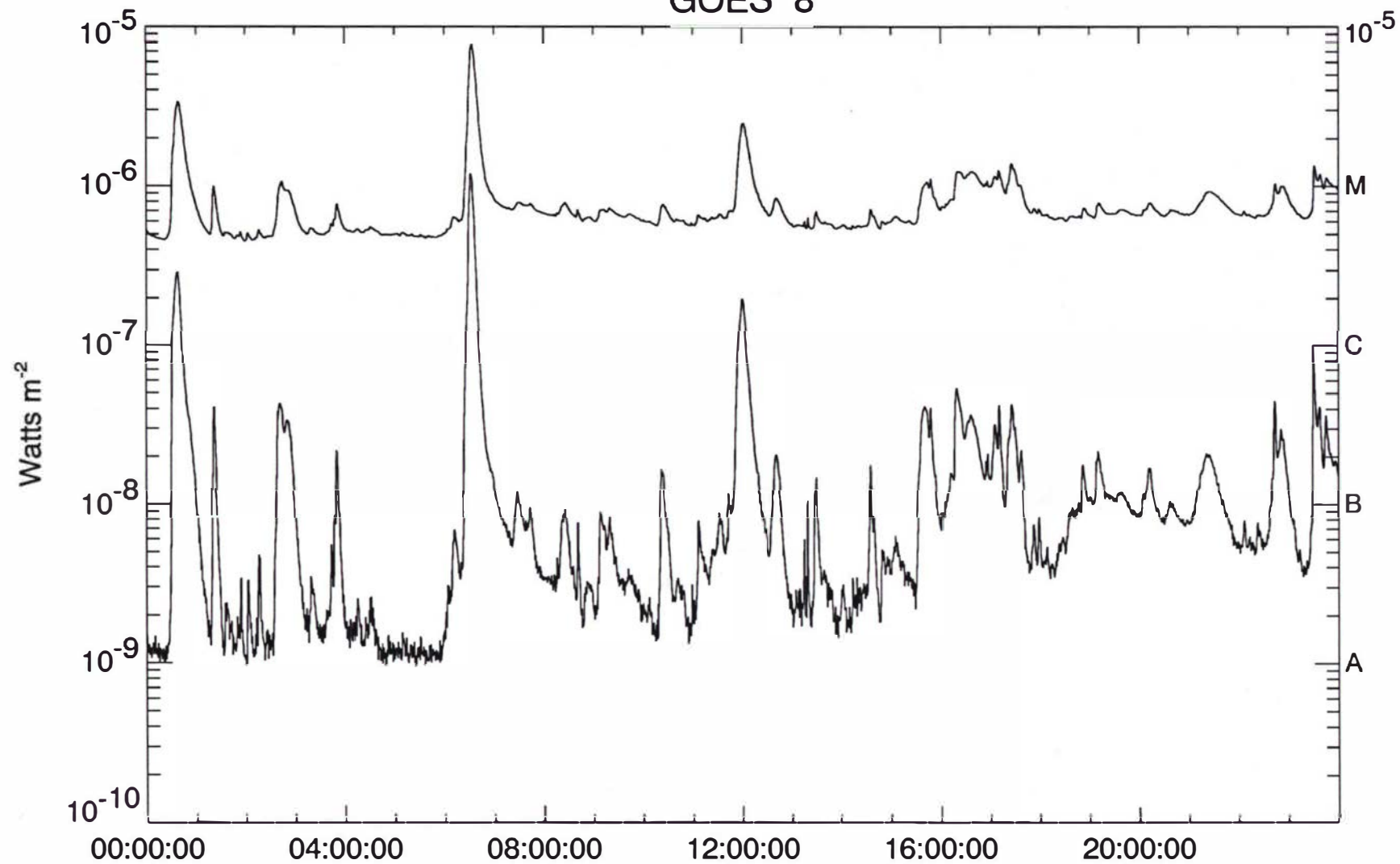


Current Time: 98/08/19, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/08/15, 0000:00

Plot created: 98/08/19, 1007

Channel

1 (1.0 - 8.0 Angstroms)

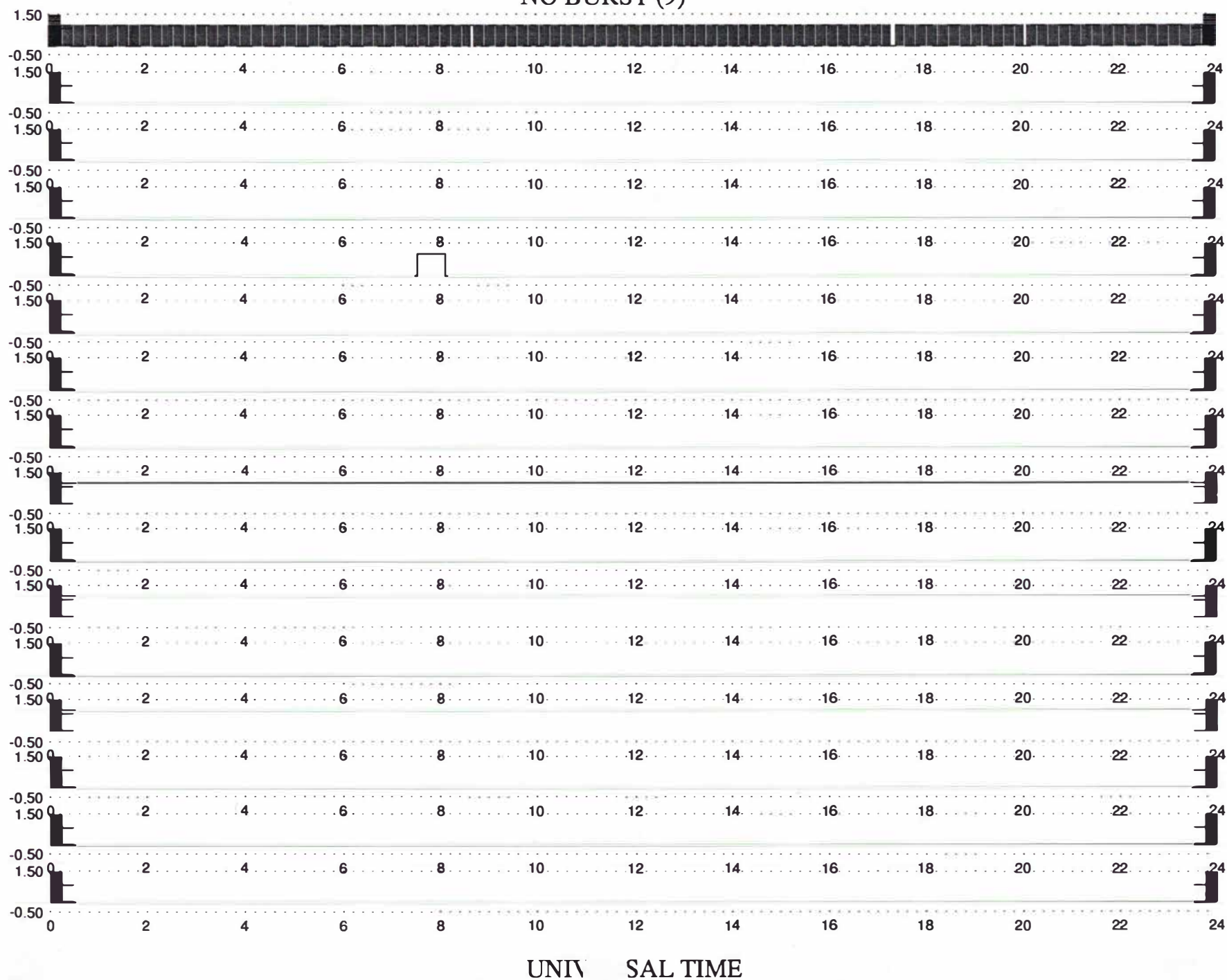
Background not subtracted

2 (0.5 - 4.0 Angstroms)

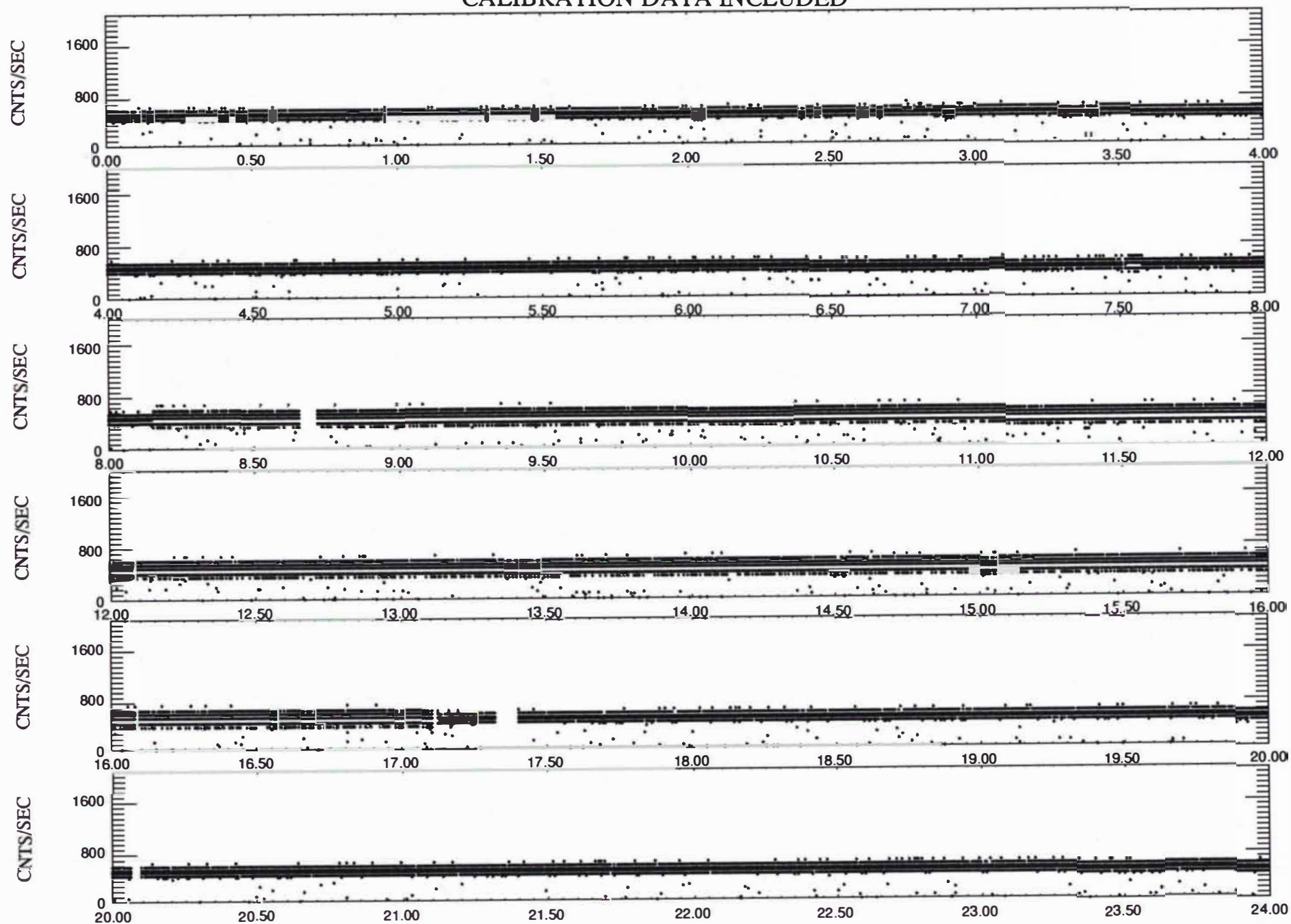
Background not subtracted

Sample average = 10

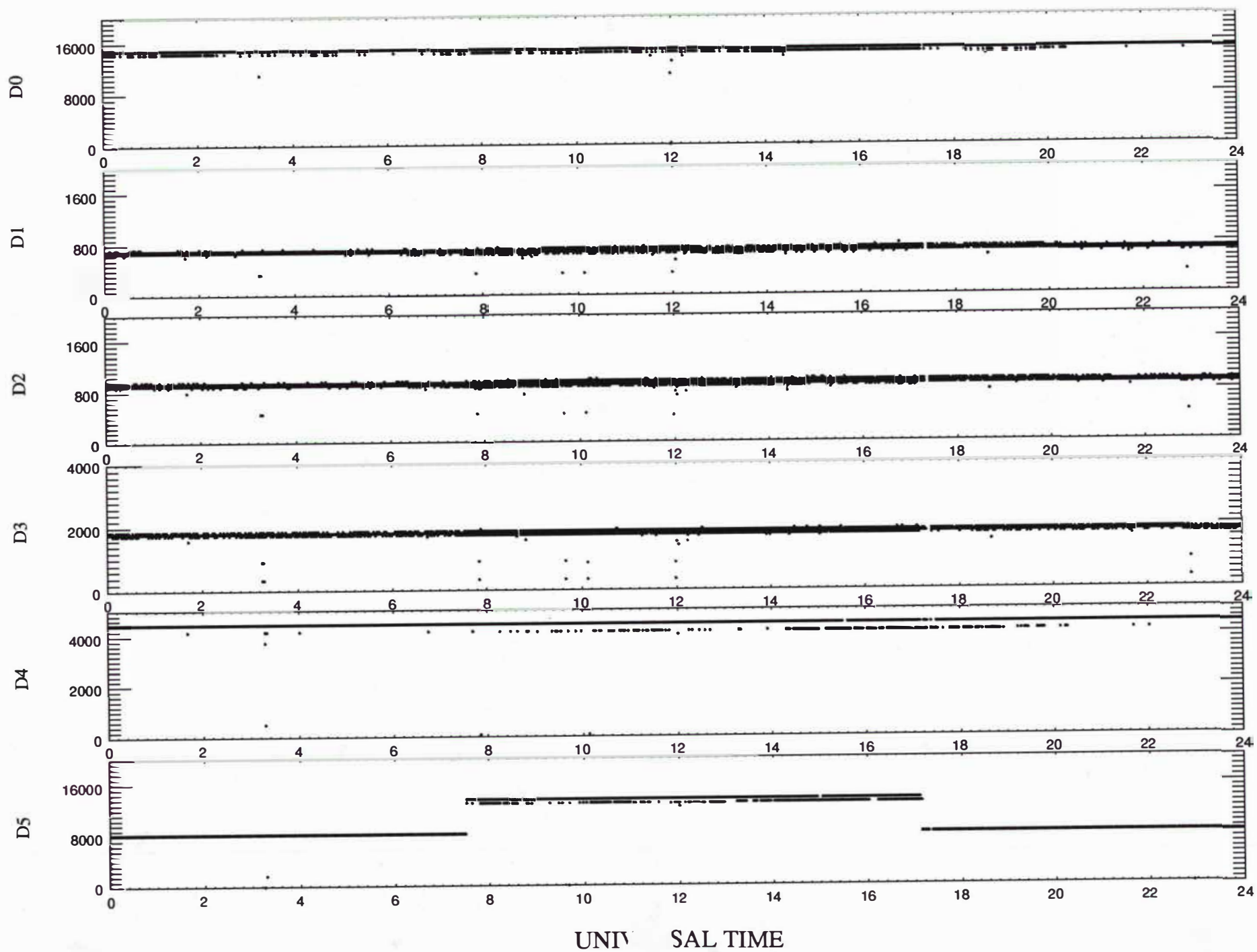
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



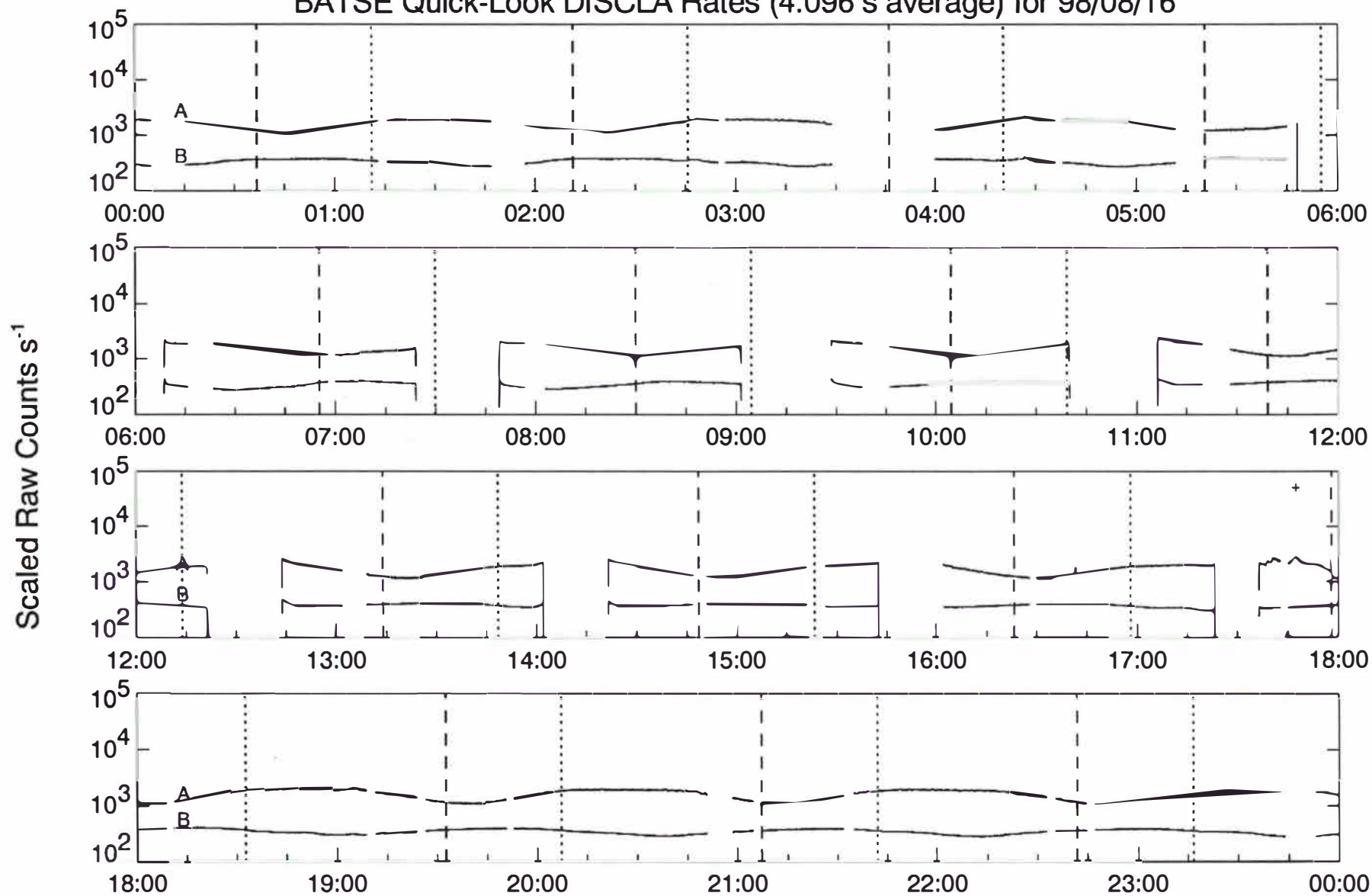
CALIBRATION DATA INCLUDED



UNIV SAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/16

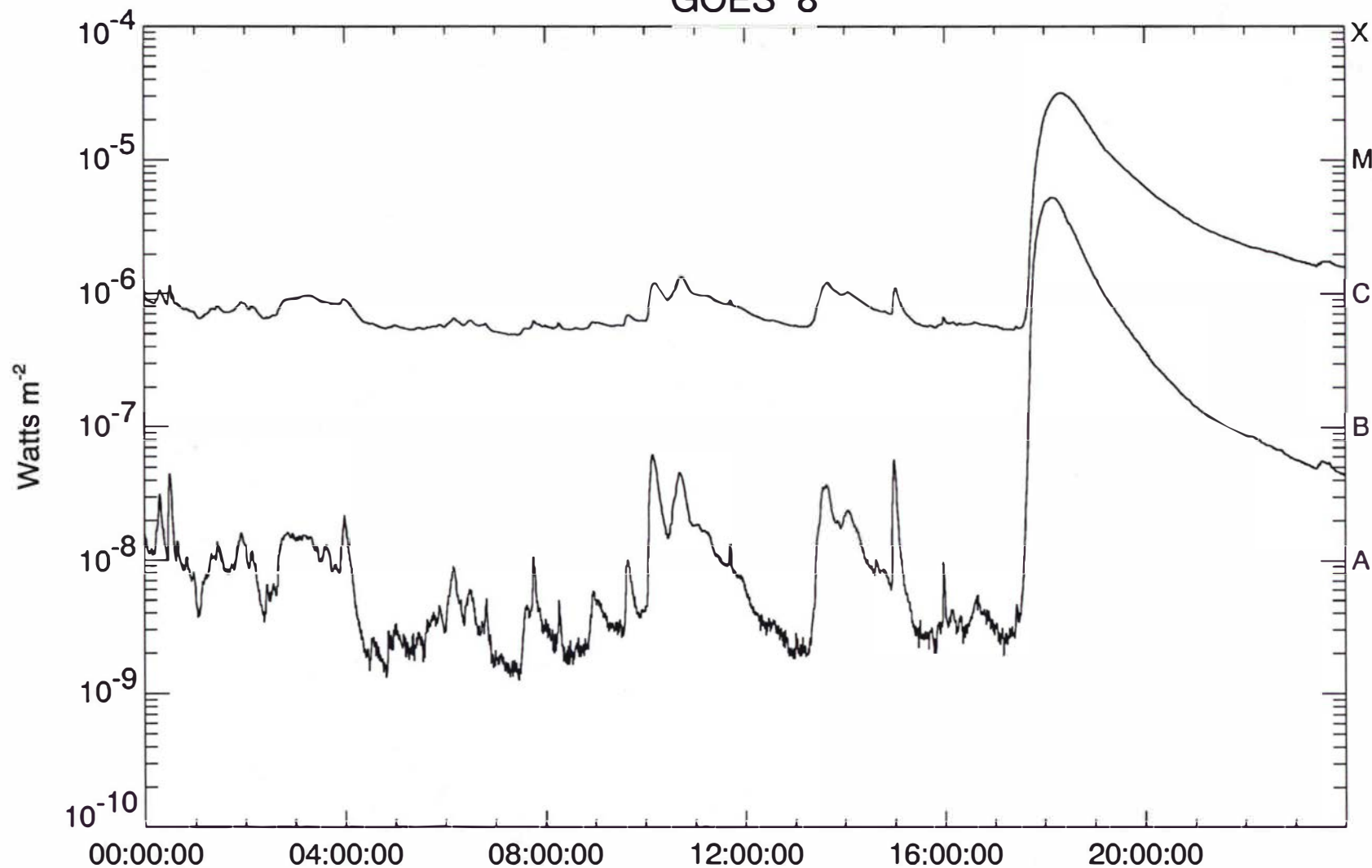


Current Time: 98/08/20, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/16, 0000:00

Plot created: 98/08/20, 1007

Channel 1 (1.0 - 8.0 Angstroms)

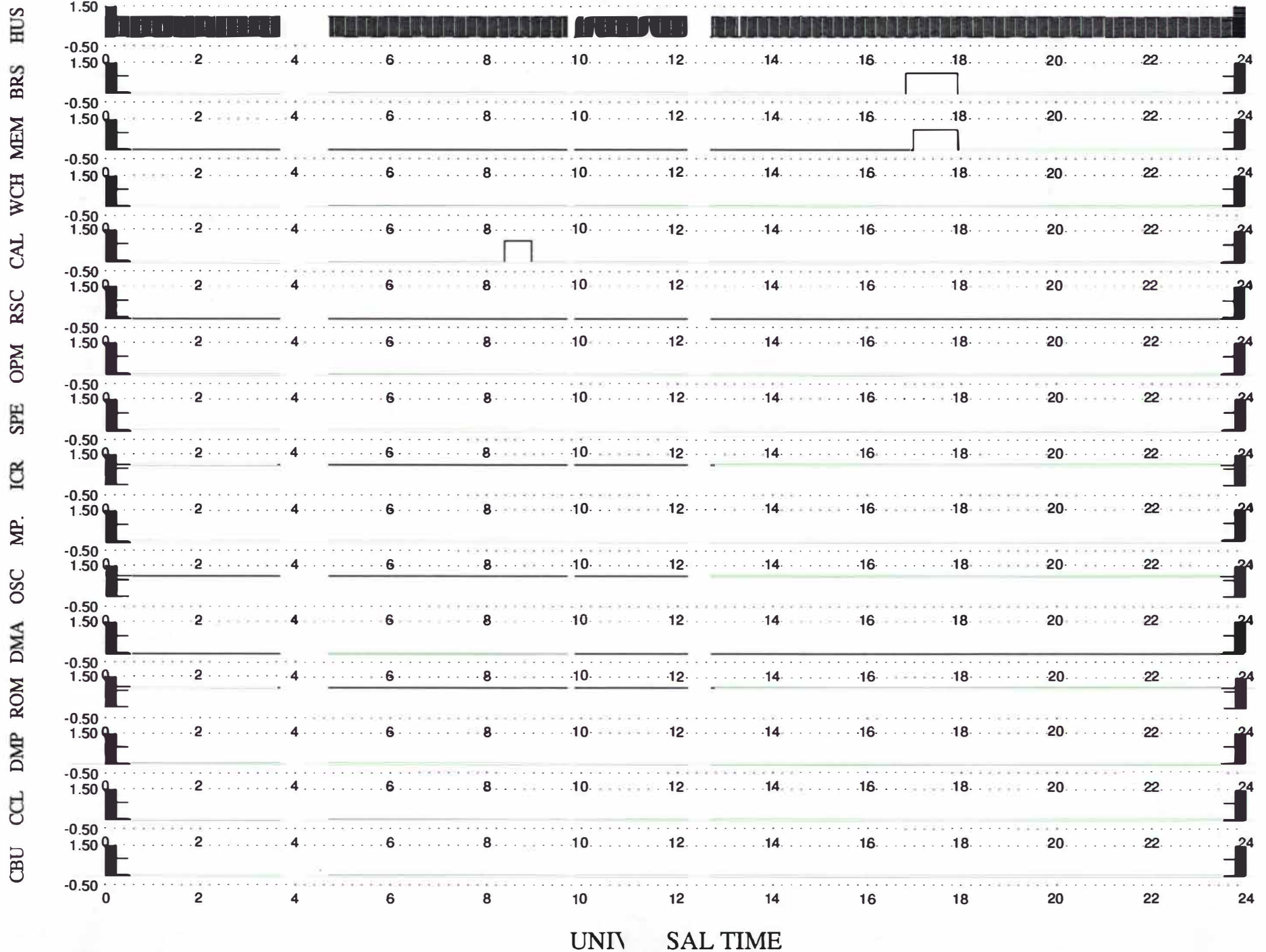
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

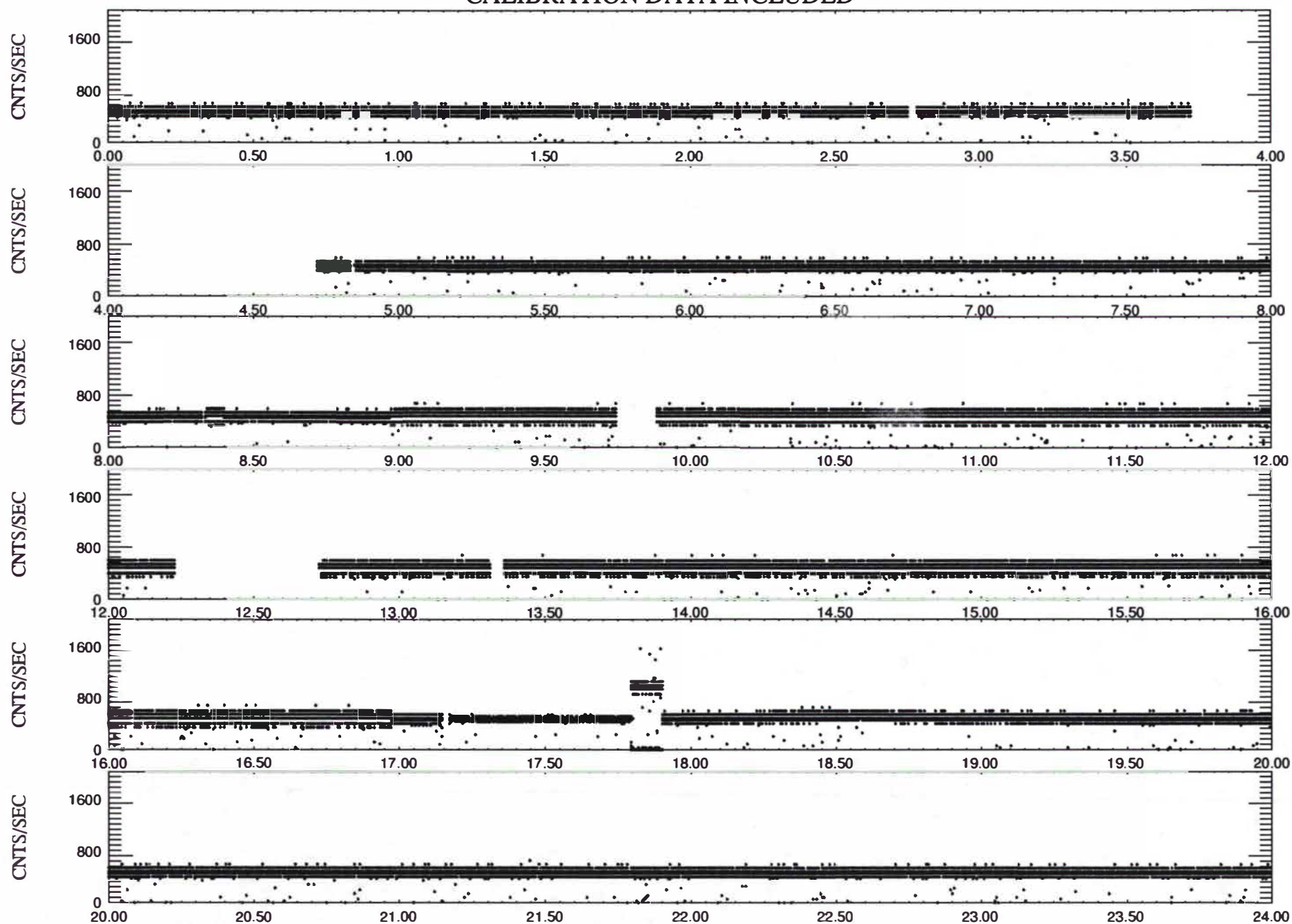
Background not subtracted

Sample average = 10

BURST NUMBER 10

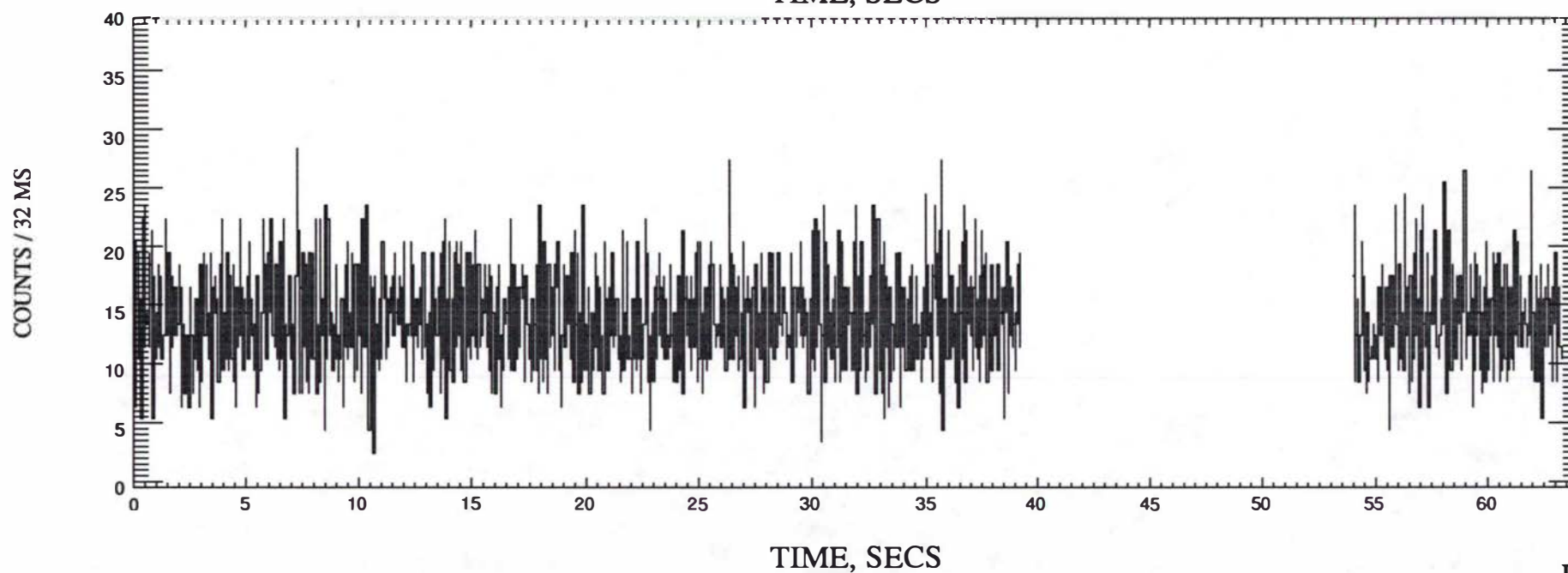
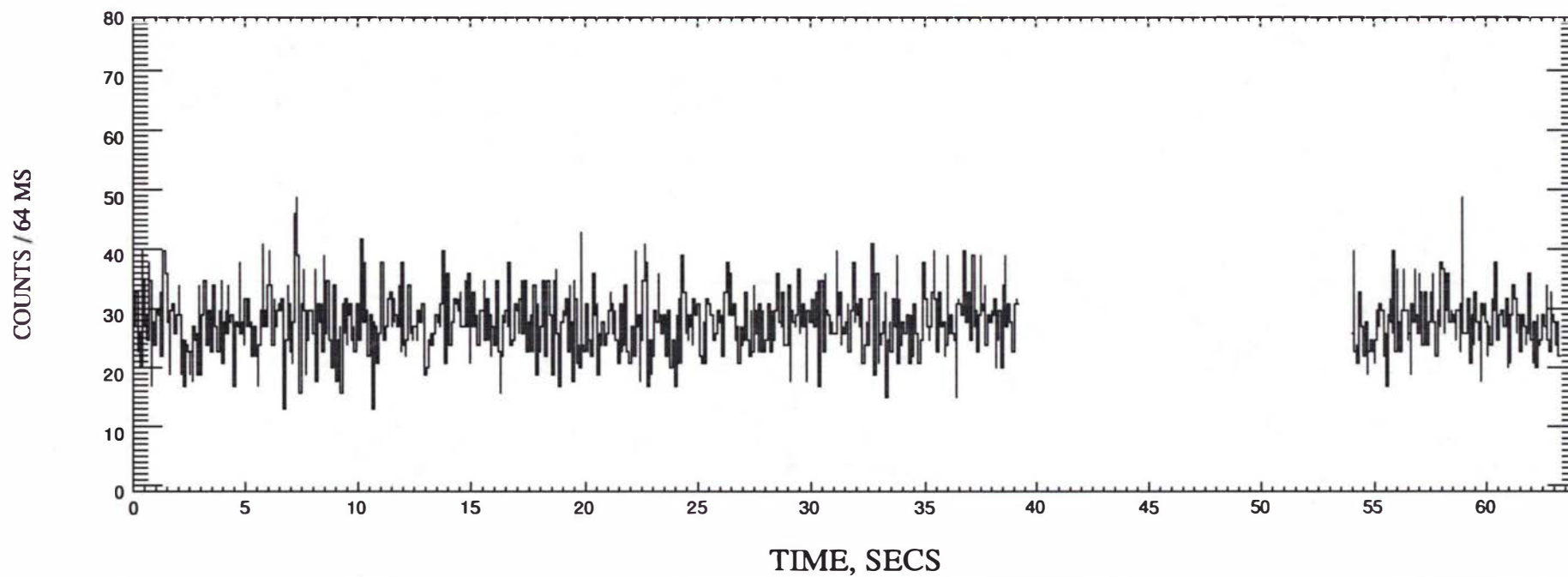


CALIBRATION DATA INCLUDED

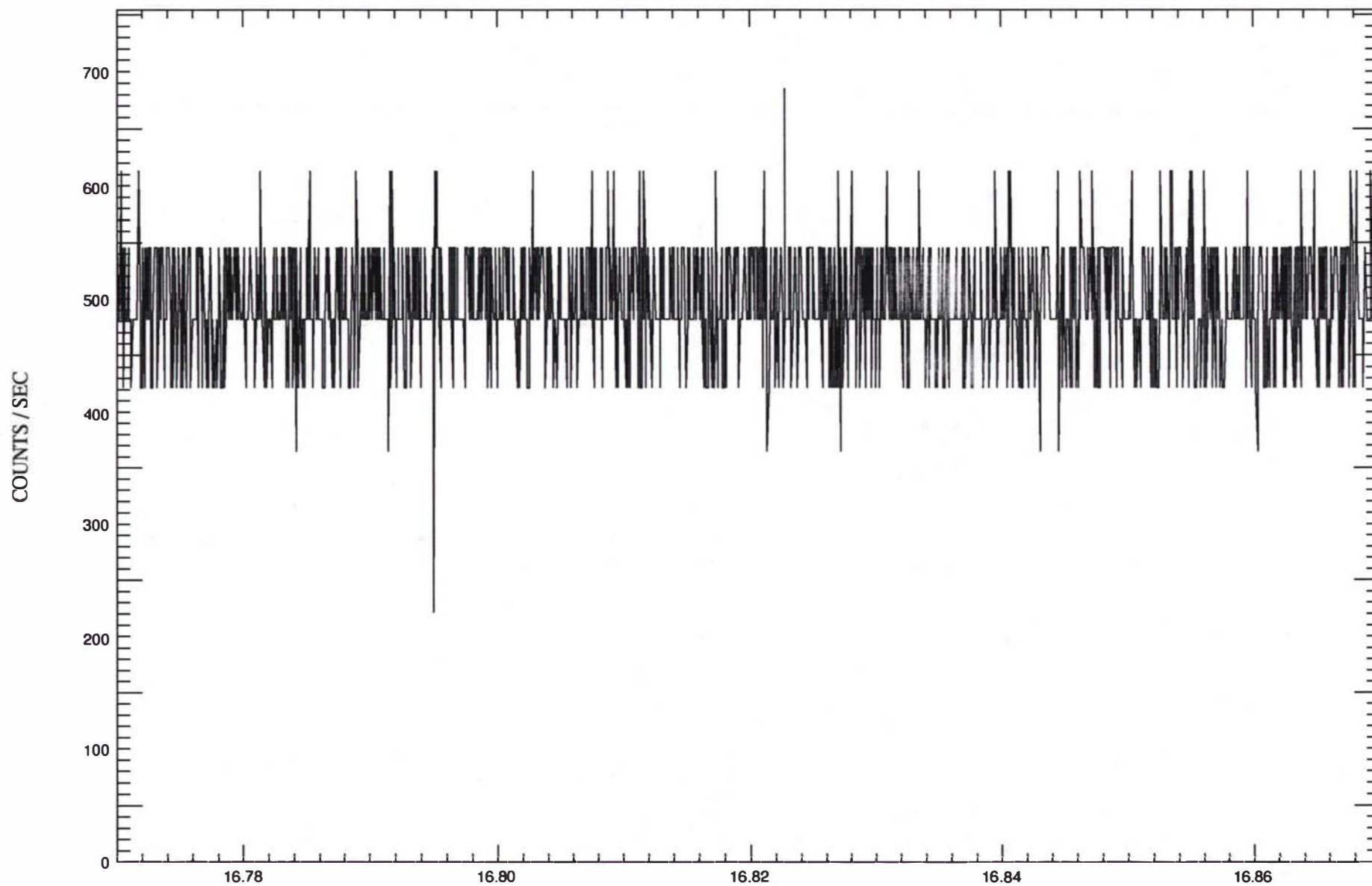


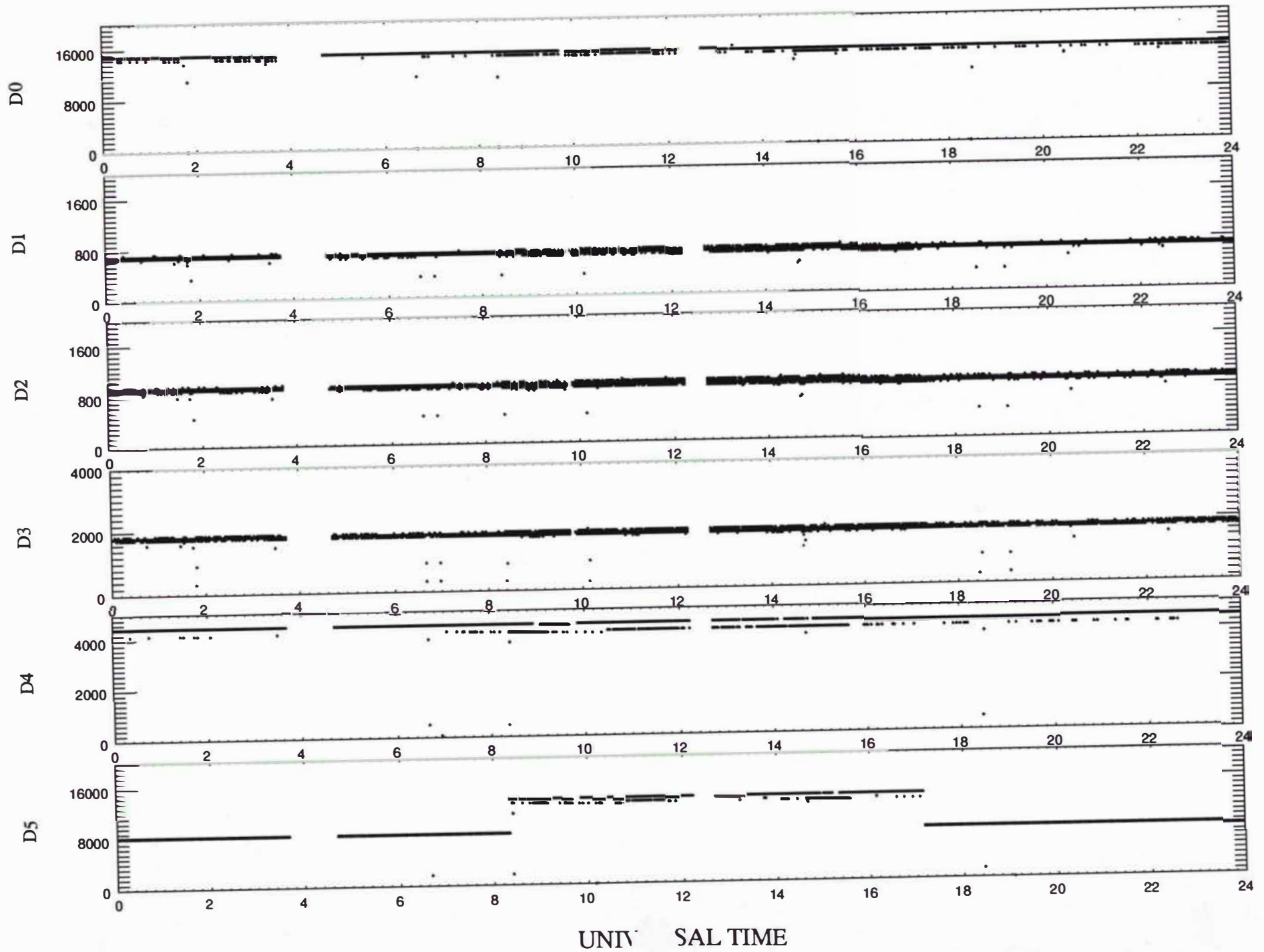
UNIV SAL TIME

Burst Counter 10 at UT=16.822908715142 h=60562.471 s 16:49:22.471



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Wed Aug 19 09:35:42 1998
Date: Wed, 19 Aug 1998 11:35:16 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 6993

TIME: TJD=1042 SECONDS=65609

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: $\hat{\Sigma}$

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 13.7 AZIMUTH= 11.3 ERROR= 0.6 DEGREES

COMMENTS:

GOES C6.9, NO OPTICAL ID. COMPLEX, MULTYPEAKED, DUR. APPROX. 450 S.
MAIN MAX AT APPROX. T+10 S. MOSTLY NOT VISIBLE ABOVE 50 KEV.

From HENZE@fender.msfc.nasa.gov Wed Aug 19 09:38:44 1998
Date: Wed, 19 Aug 1998 11:38:32 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@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.: 6994

TIME: TJD=1042 SECONDS=76929

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 12.2 AZIMUTH= 15.0 ERROR= 0.1 DEGREES

COMMENTS:

GOES X1.2, NO OPTICAL ID. COMPLEX, MULTYPEAKED, DUR. GREATER THAN 450 S.
TRIGGERED AT ORBITAL SUNRISE. VISIBLE ABOVE 100 KEV.

KONUS

19 / 8 / 98

ULYSSES RT

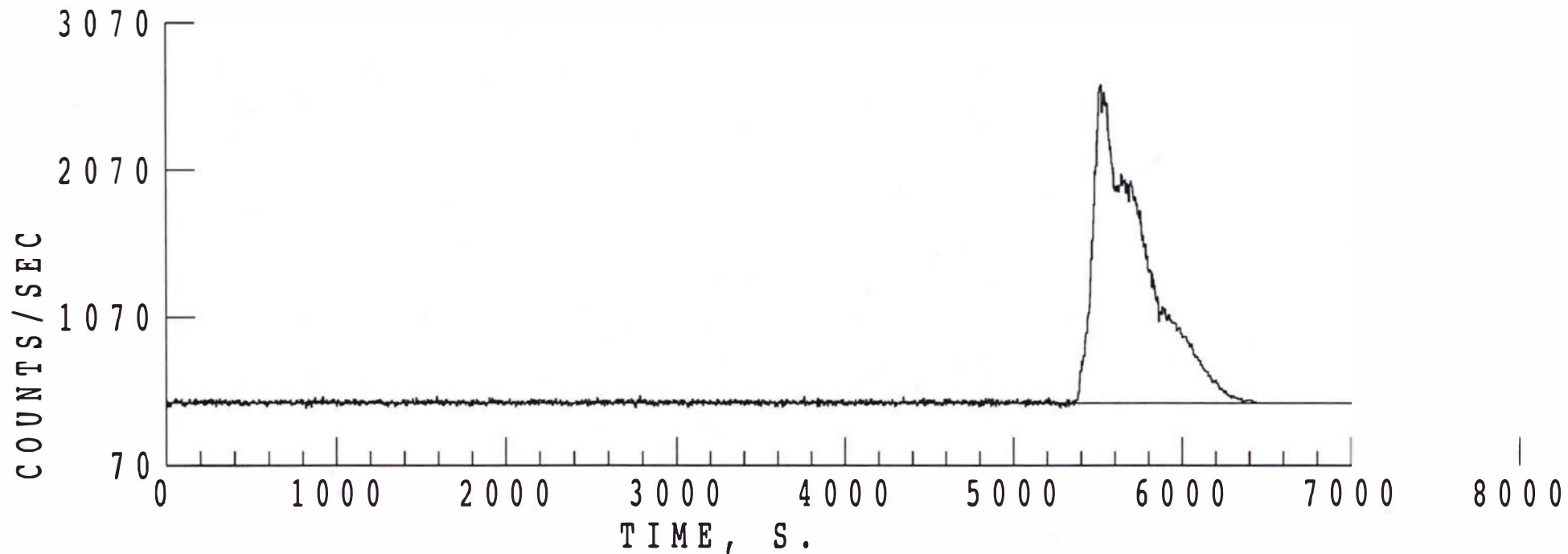
17 / 8 / 98 73188.016 s

INTERVALS REGROUPED BY 17

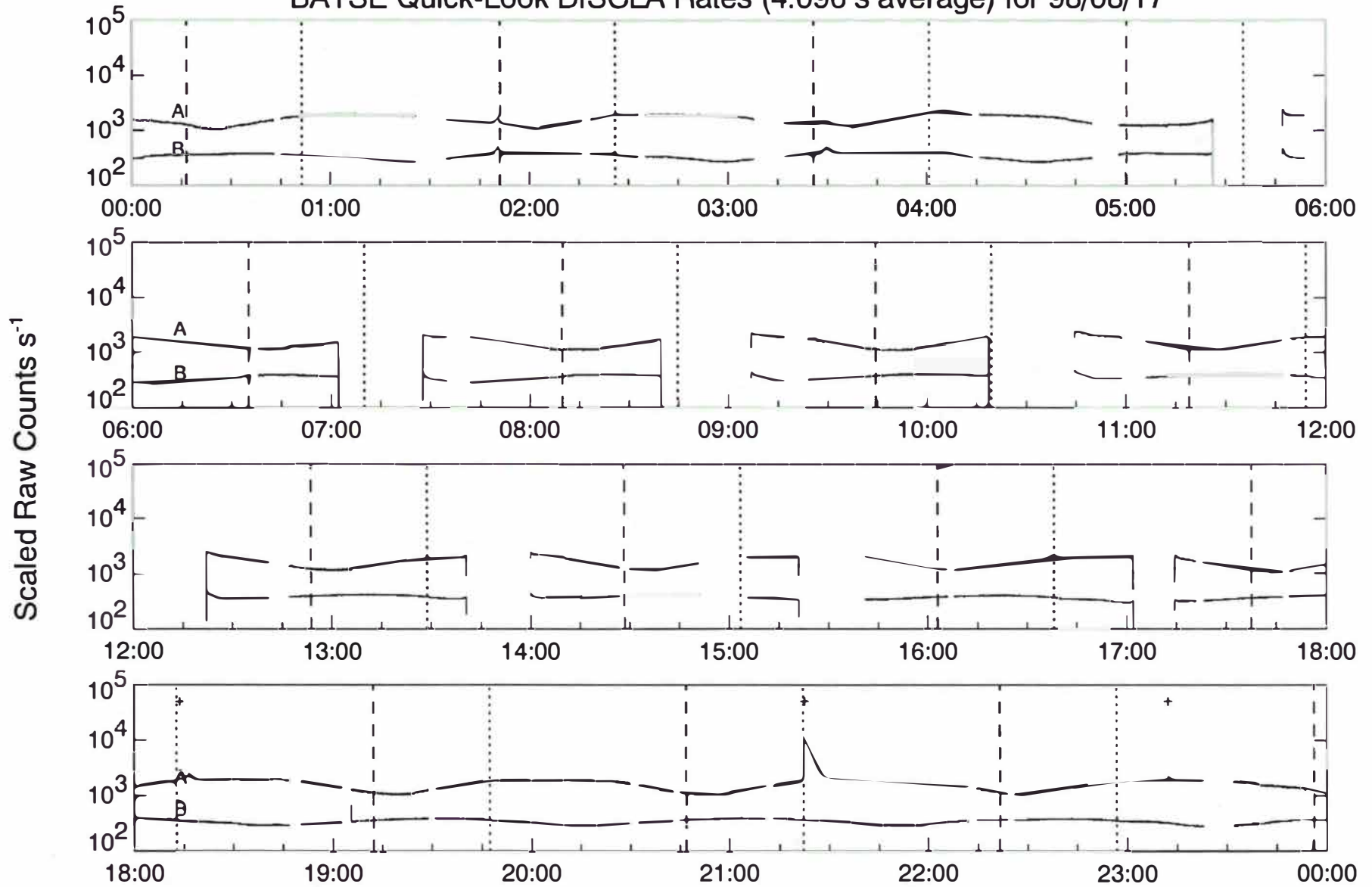
0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/17

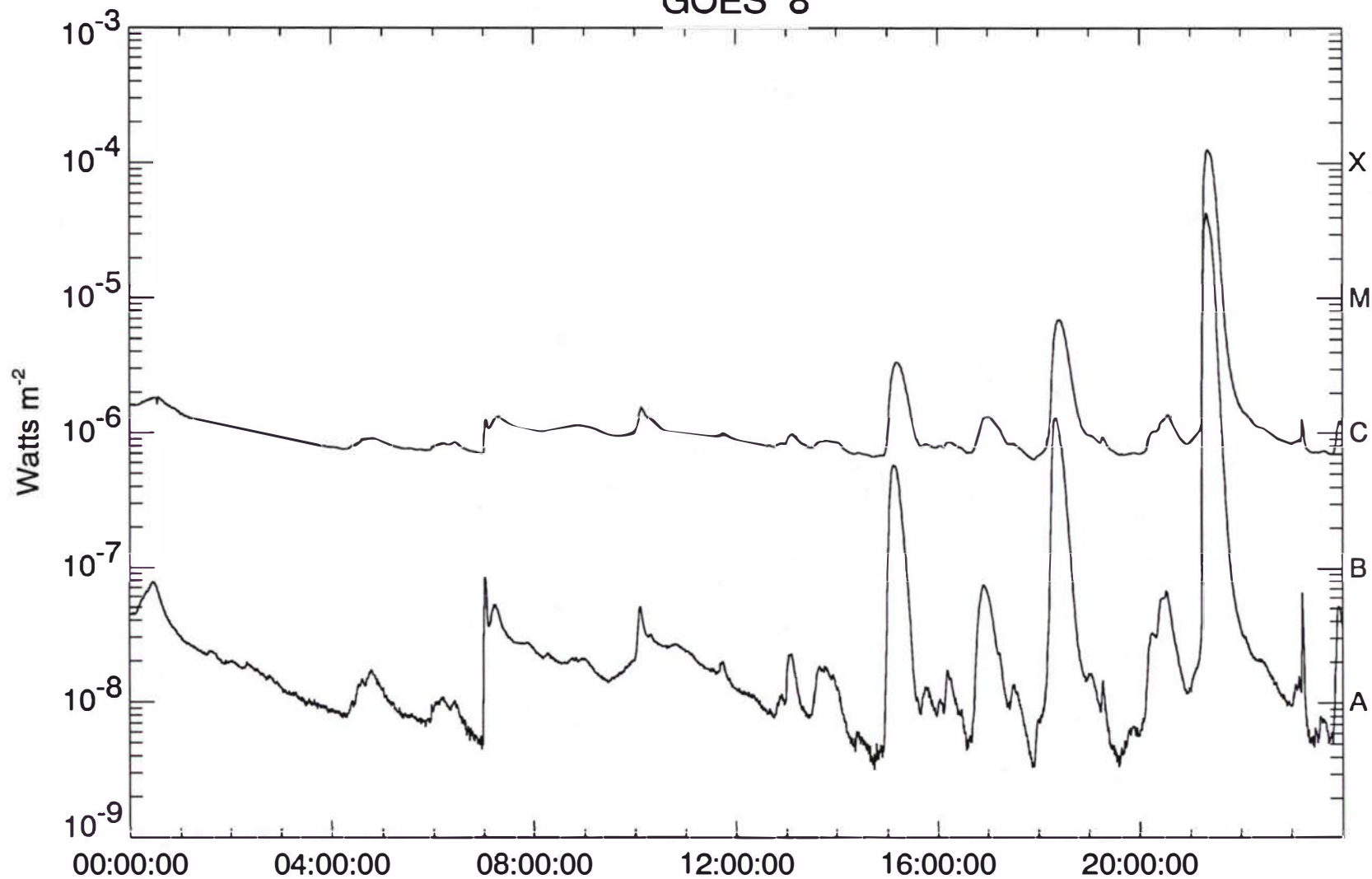


Current Time: 98/08/21, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/17, 0000:00

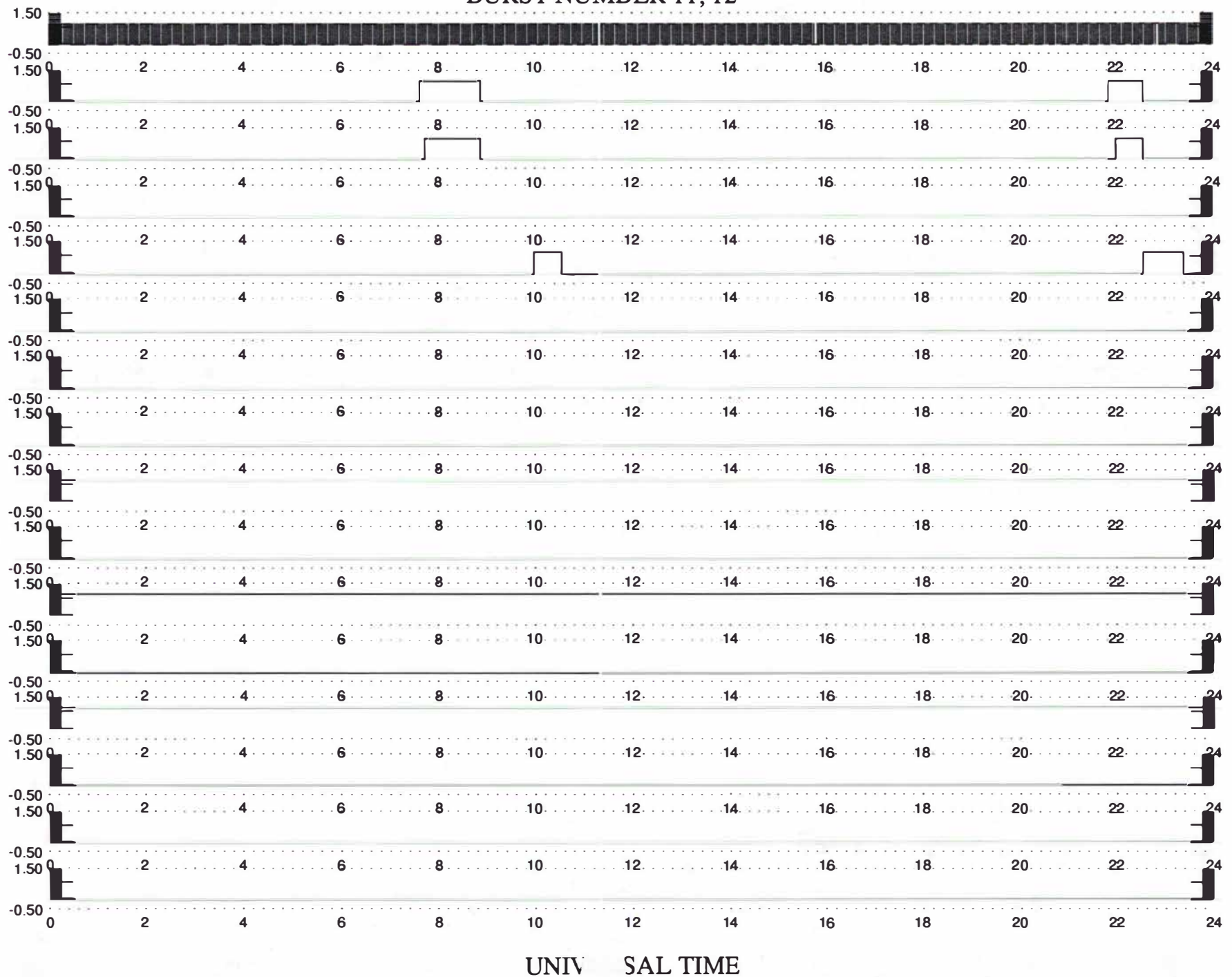
Plot created: 98/08/21, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

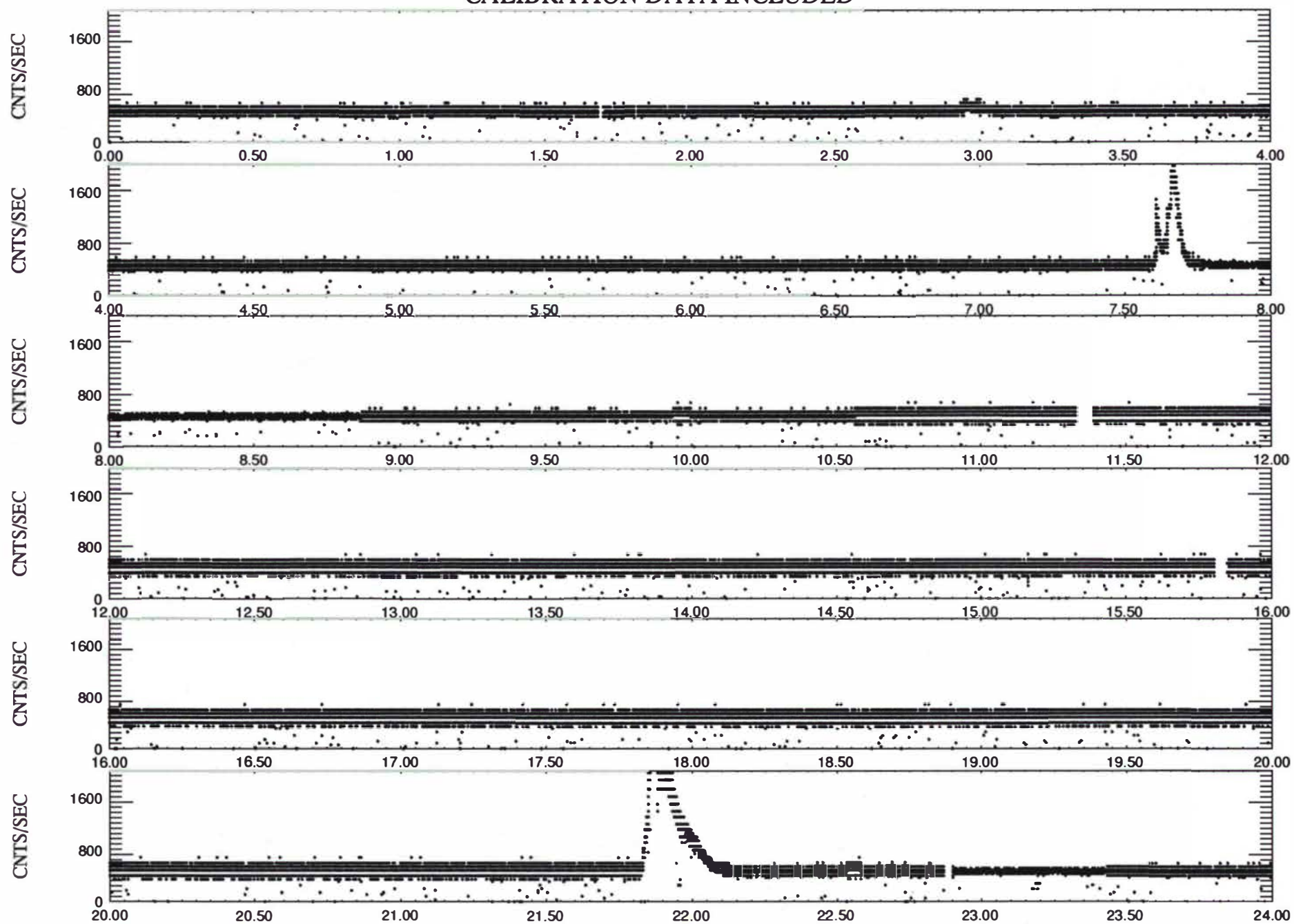
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

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

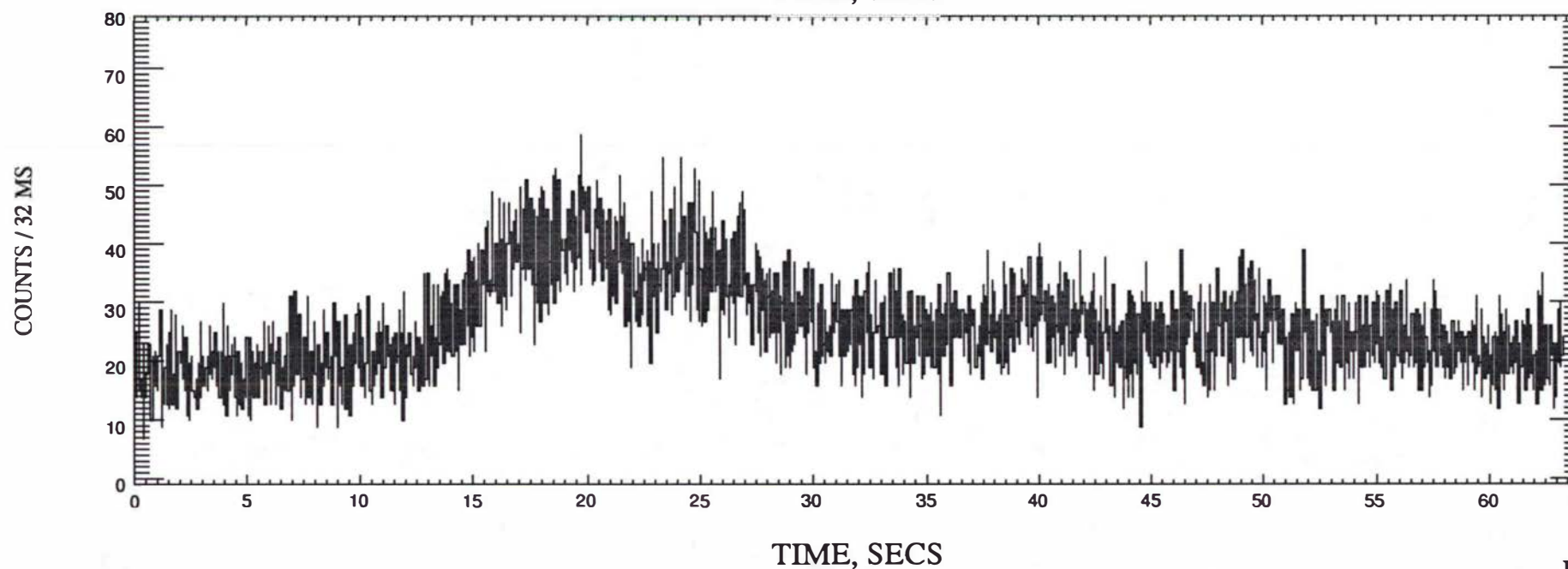
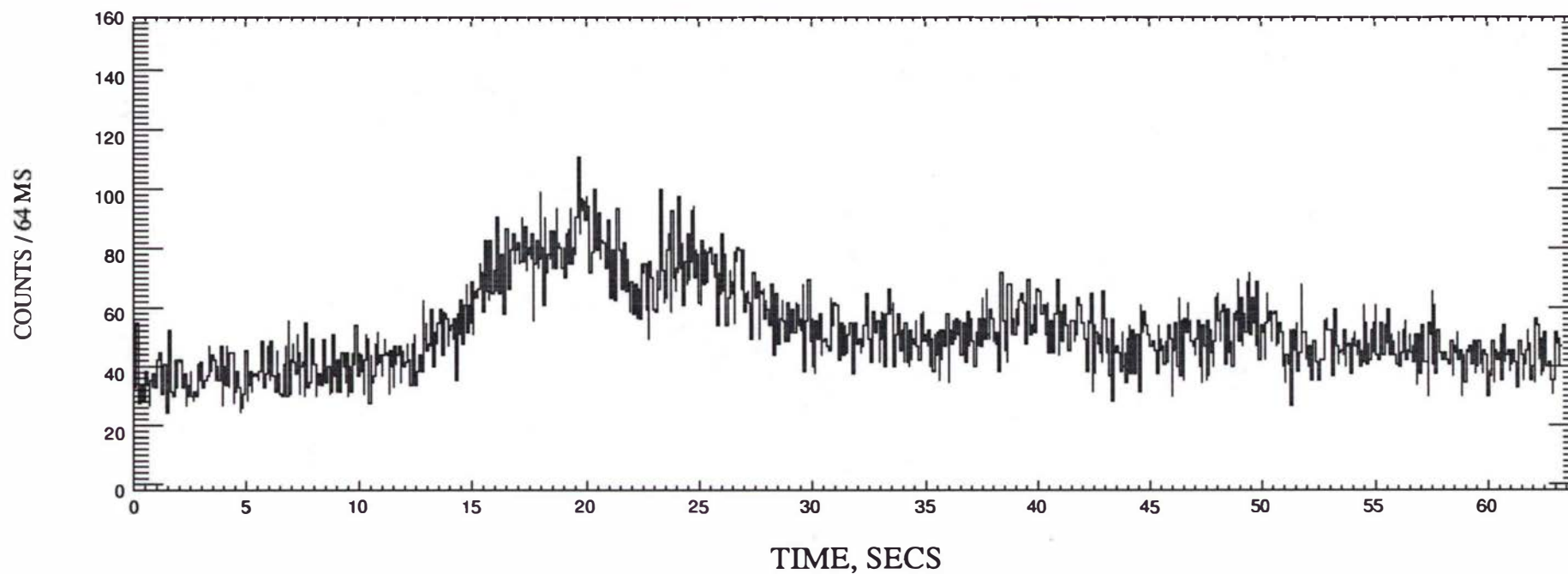


CALIBRATION DATA INCLUDED

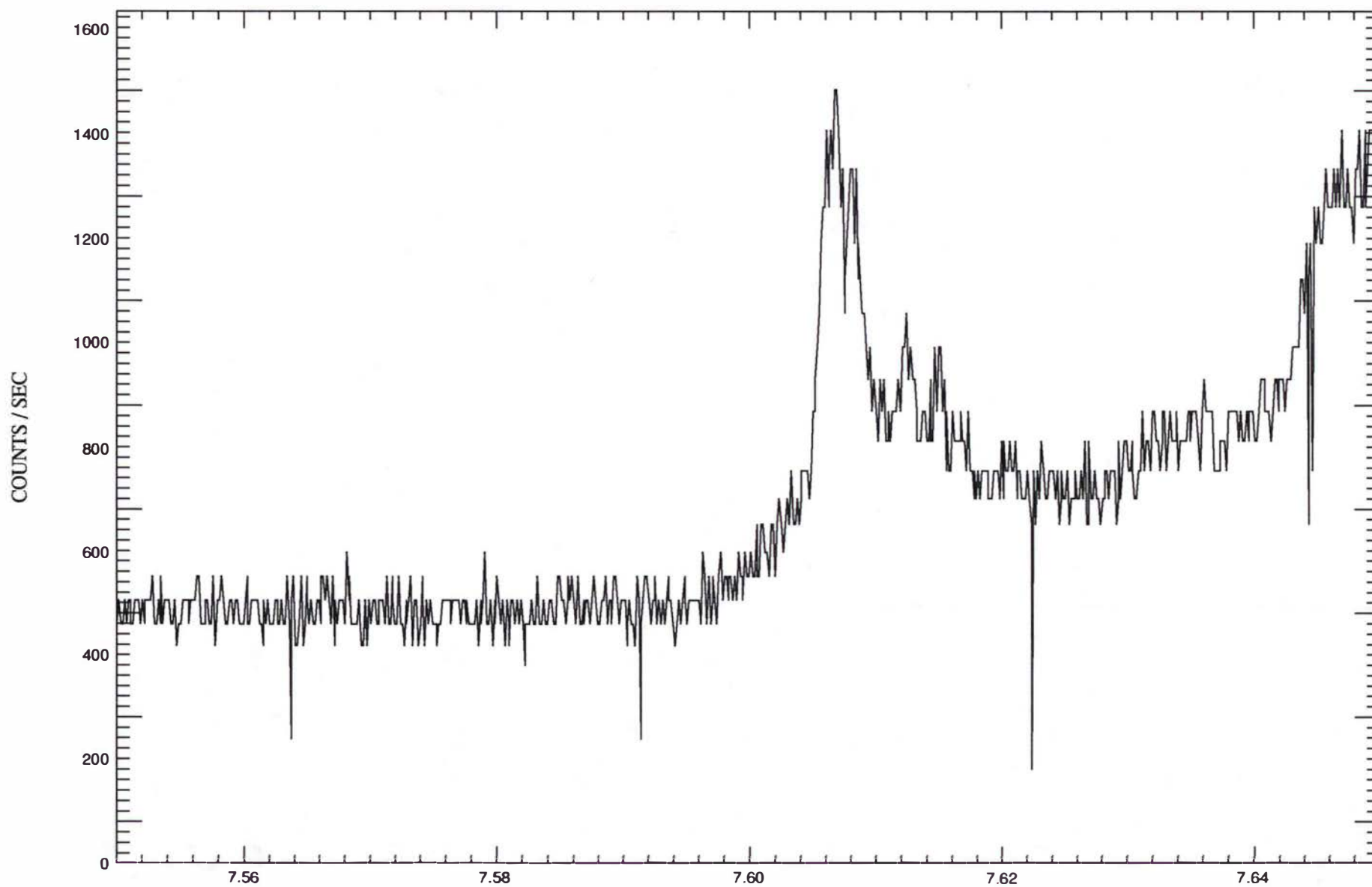


UNIV SAL TIME

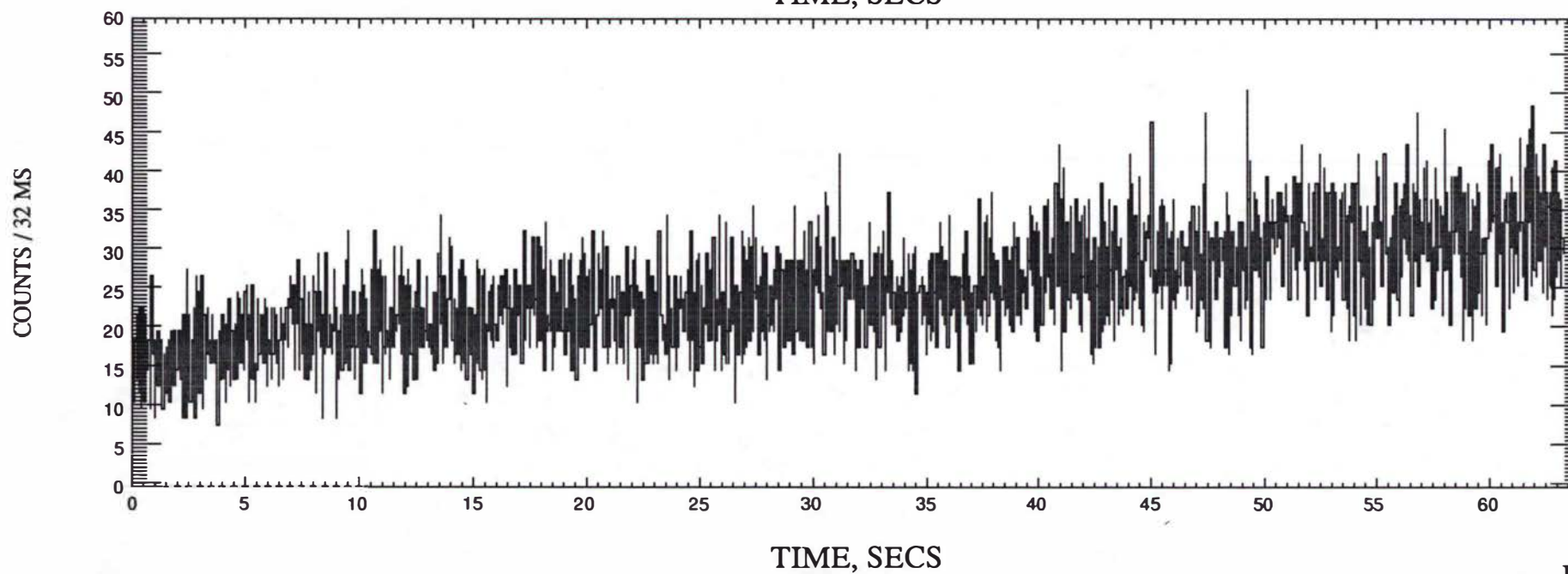
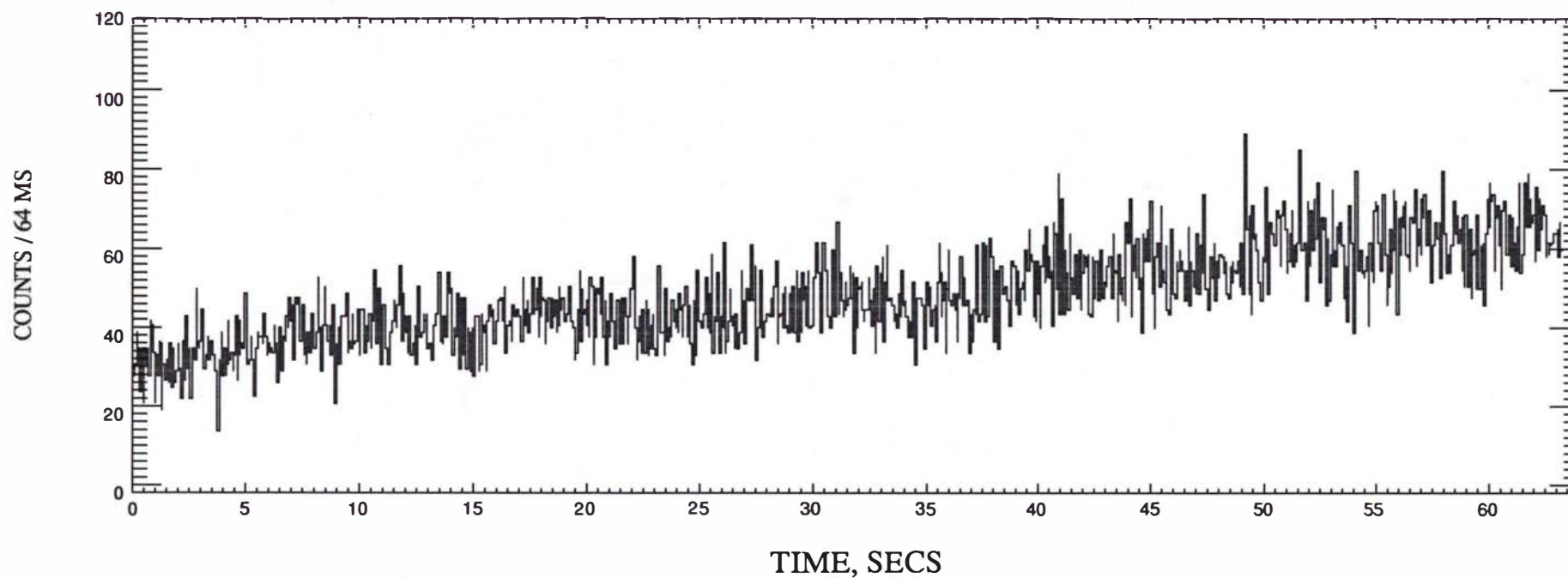
Burst Counter 11 at UT= 7.603476910061 h=27372.517 s 07:36:12.517



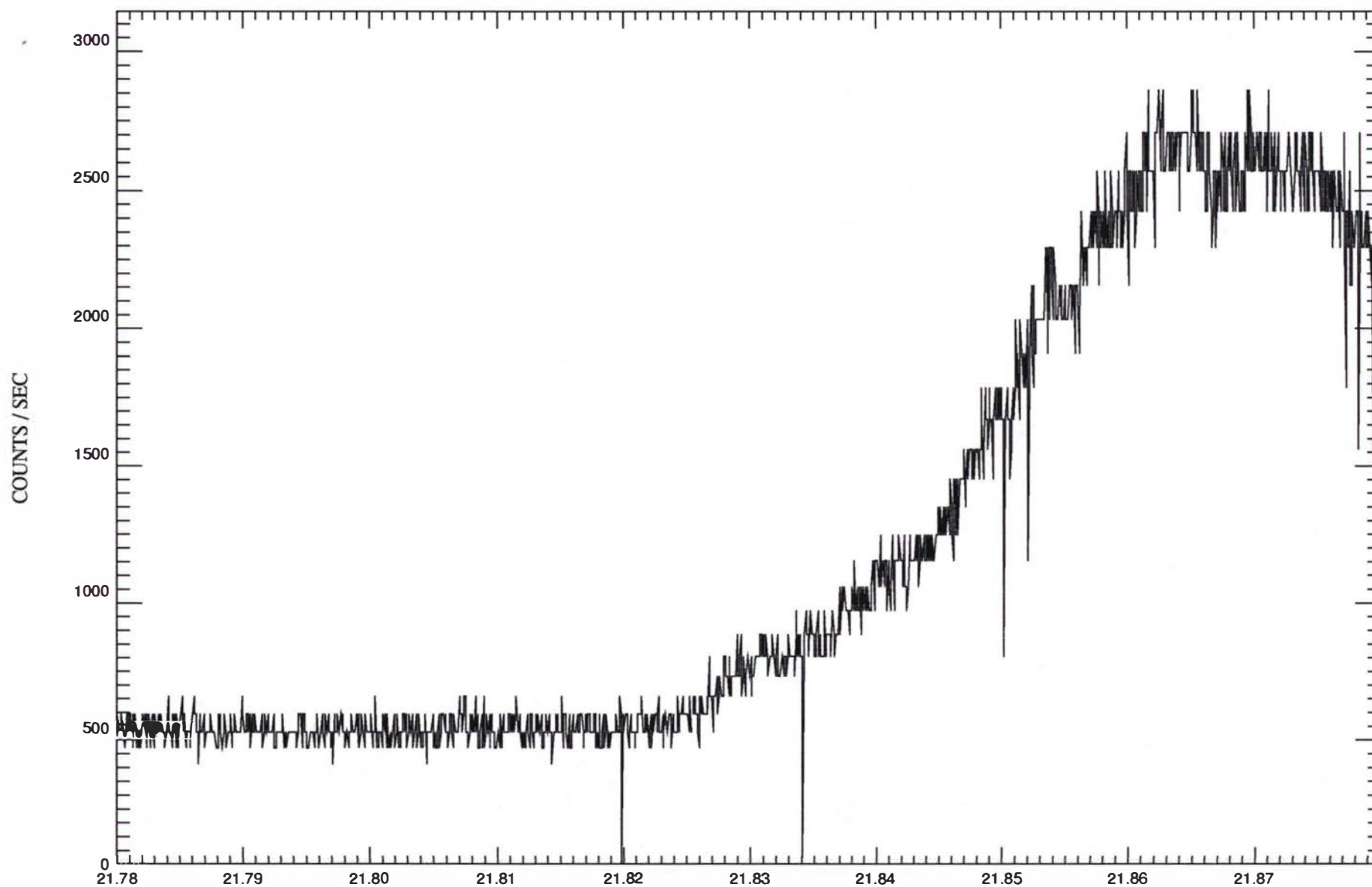
CALIBRATION DATA INCLUDED

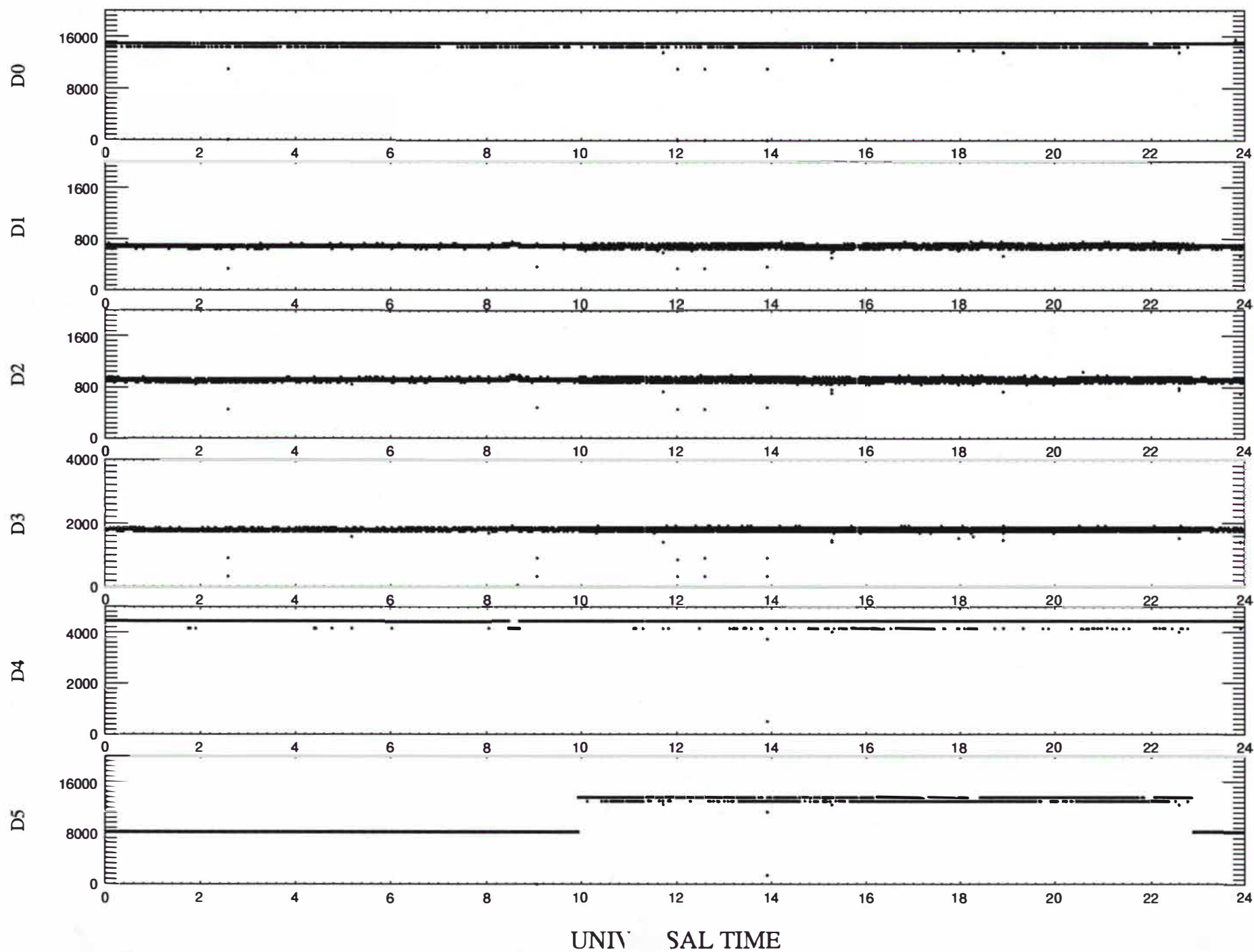


Burst Counter 12 at UT=21.828107528687 h=78581.187 s 21:49:41.187



CALIBRATION DATA INCLUDED





From WOODSP@fender.msfc.nasa.gov Thu Aug 20 09:40:23 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 20 Aug 1998 11:39:36 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

272.2, -20.4

NO.: 6995

TIME: TJD=1043 SECONDS=10083

Aug 18

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

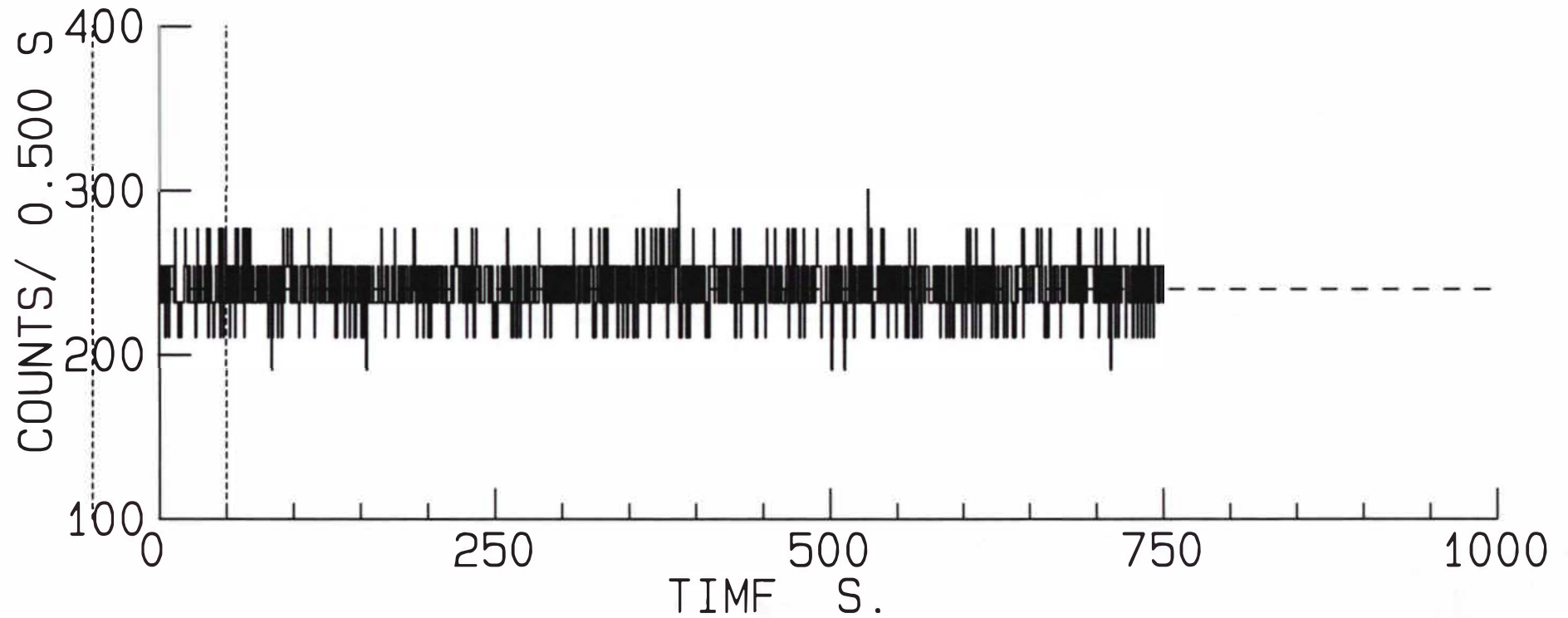
LOCATION: ZENITH=117.2 AZIMUTH=183.7 ERROR=1.8 DEGREES

COMMENTS:

SGR 1806-20. BURST LASTING ABOUT 0.1 SEC. NOT VISIBLE ABOVE
100 KEV.

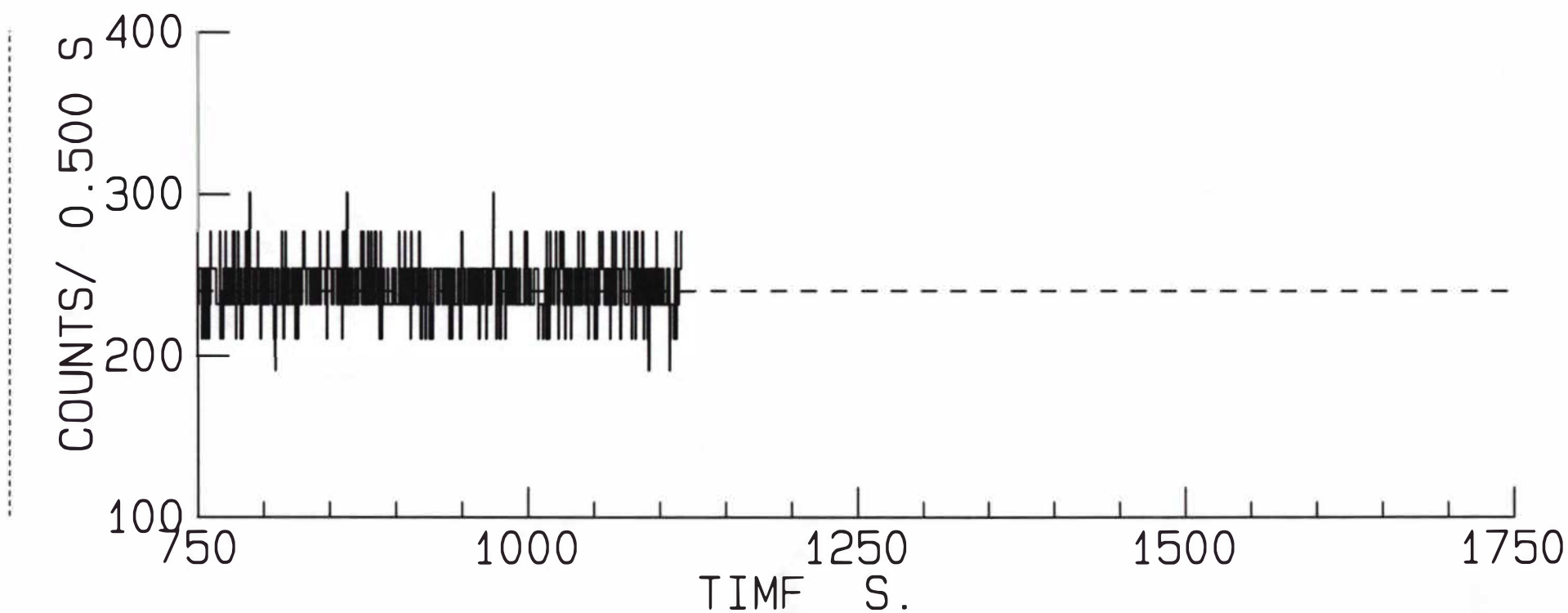
ULYSSES RT
18/ 8/98 10908.266 s
22- 149 keV

28/ 8/98



ULYSSES RT
 18/ 8/98 10908.266 s
 22- 149 keV

28/ 8/98



From WOODSP@fender.msfc.nasa.gov Thu Aug 20 09:41:18 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 20 Aug 1998 11:40:55 -0500 (CDT)

To: burst@compTEL.sr.unh.edu, grobad@ests2.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.: 6996

TIME: TJD=1043 SECONDS=41169

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

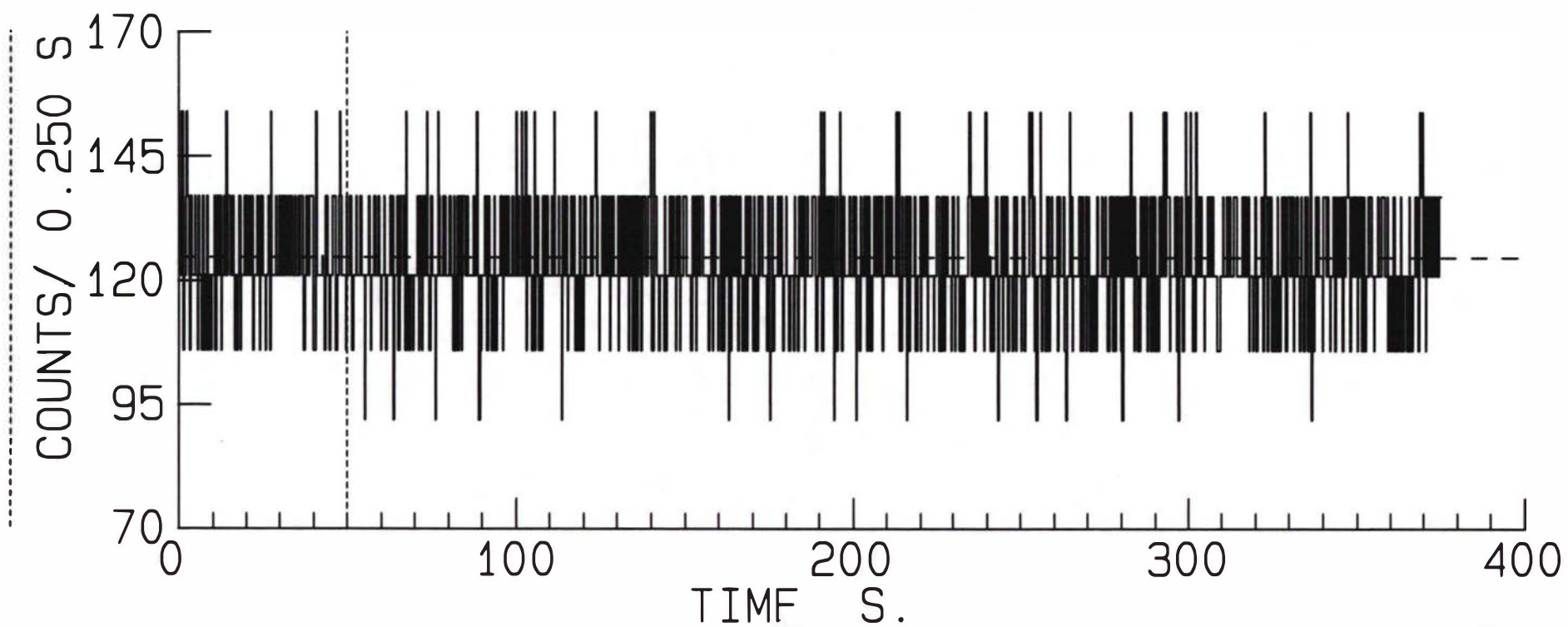
LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SGR 1806-20. BURST LASTING ABOUT 0.05 SEC. NOT VISIBLE ABOVE
100 KEV.

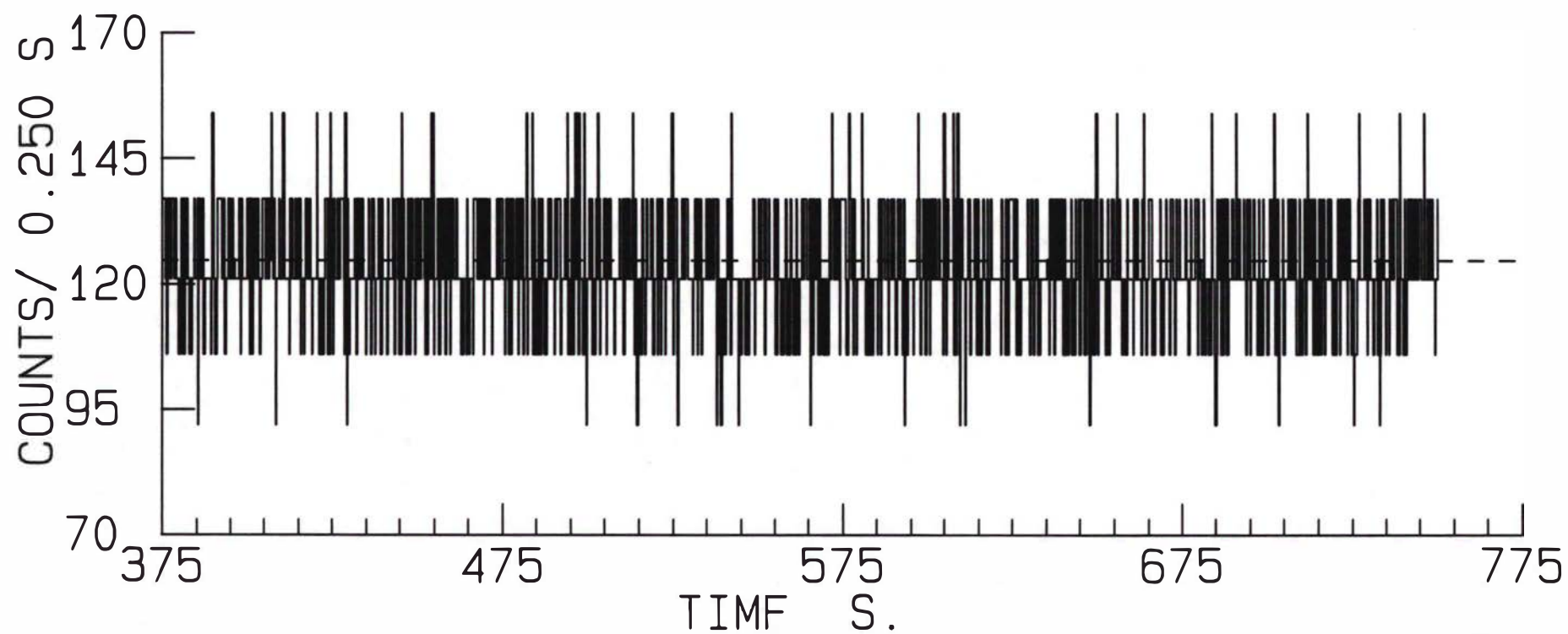
ULYSSES RT
18/ 8/98 41976.095 s
22- 149 keV

28/ 8/98



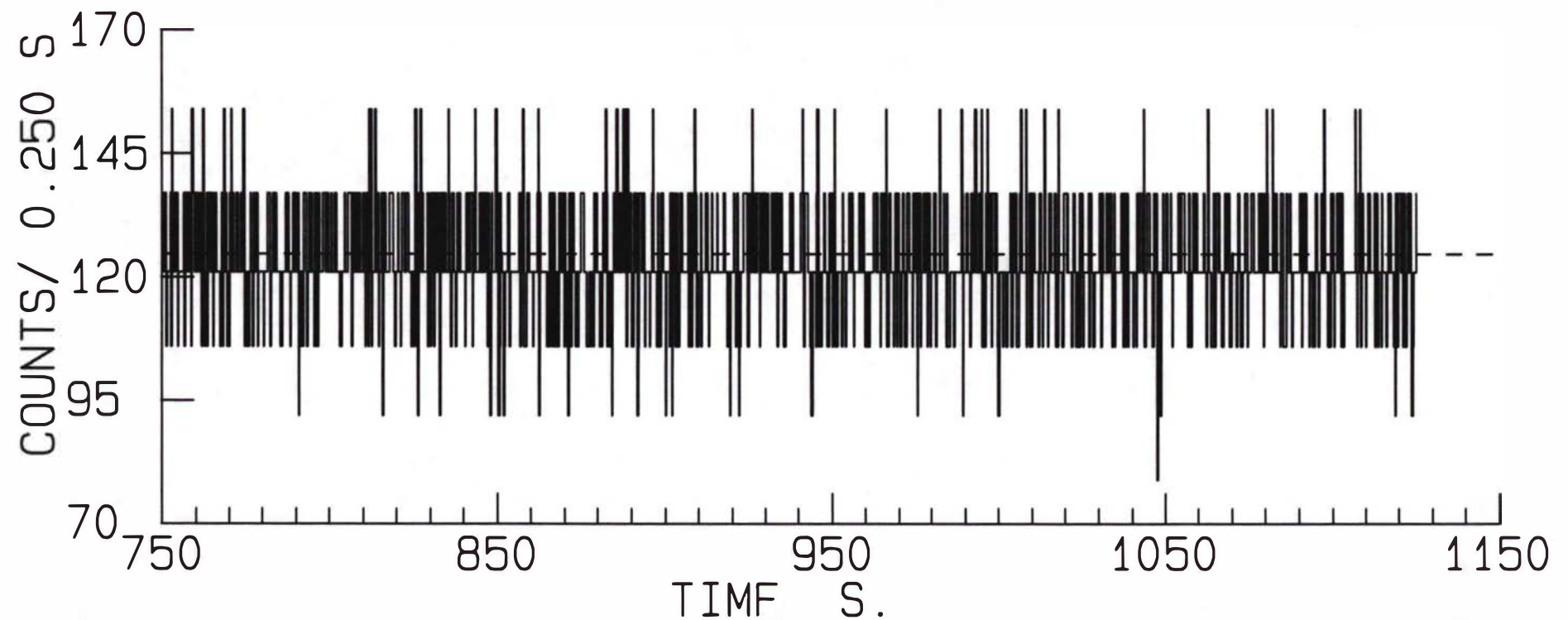
ULYSSES RT
18/ 8/98 41976.095 s
22- 149 keV

28/ 8/98



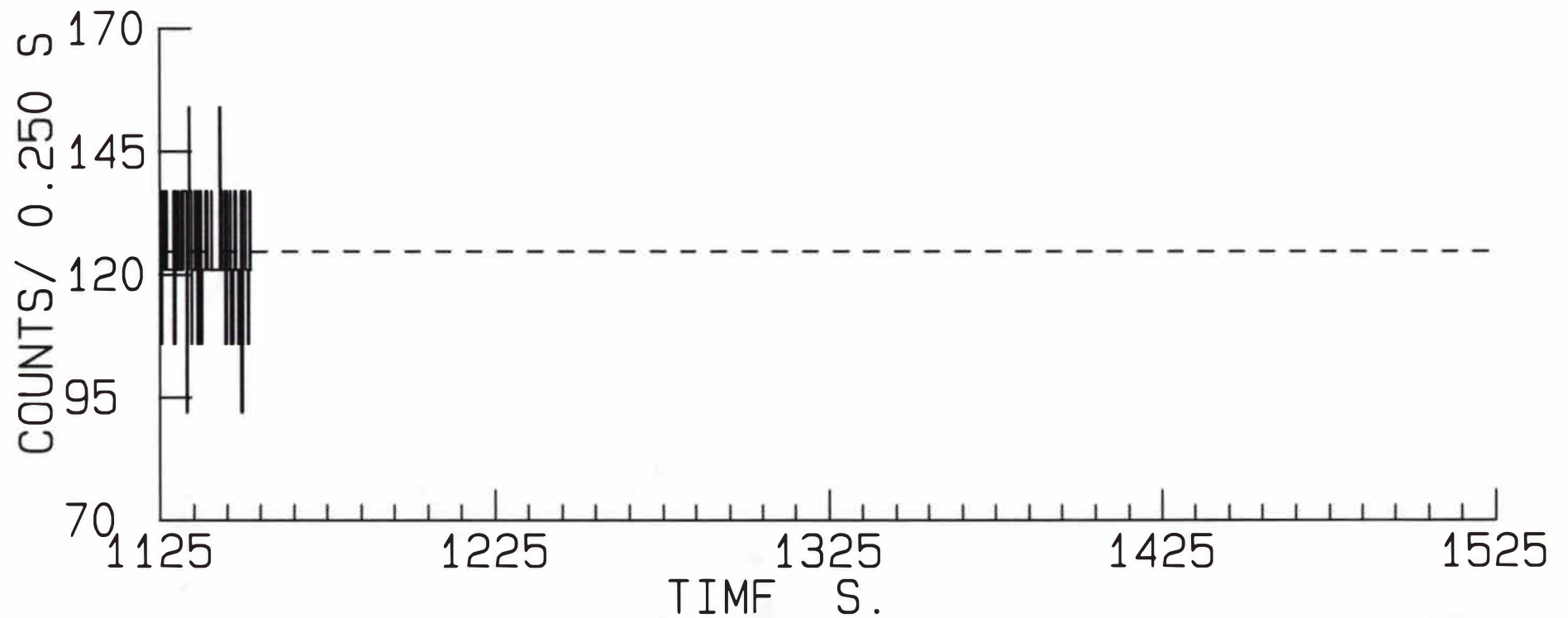
ULYSSES RT
18/ 8/98 41976.095 s
22- 149 keV

28/ 8/98



ULYSSES RT
18/ 8/98 41976.095 s
22- 149 keV

28/ 8/98



KONUS

19 / 8 / 98

ULYSSES RT

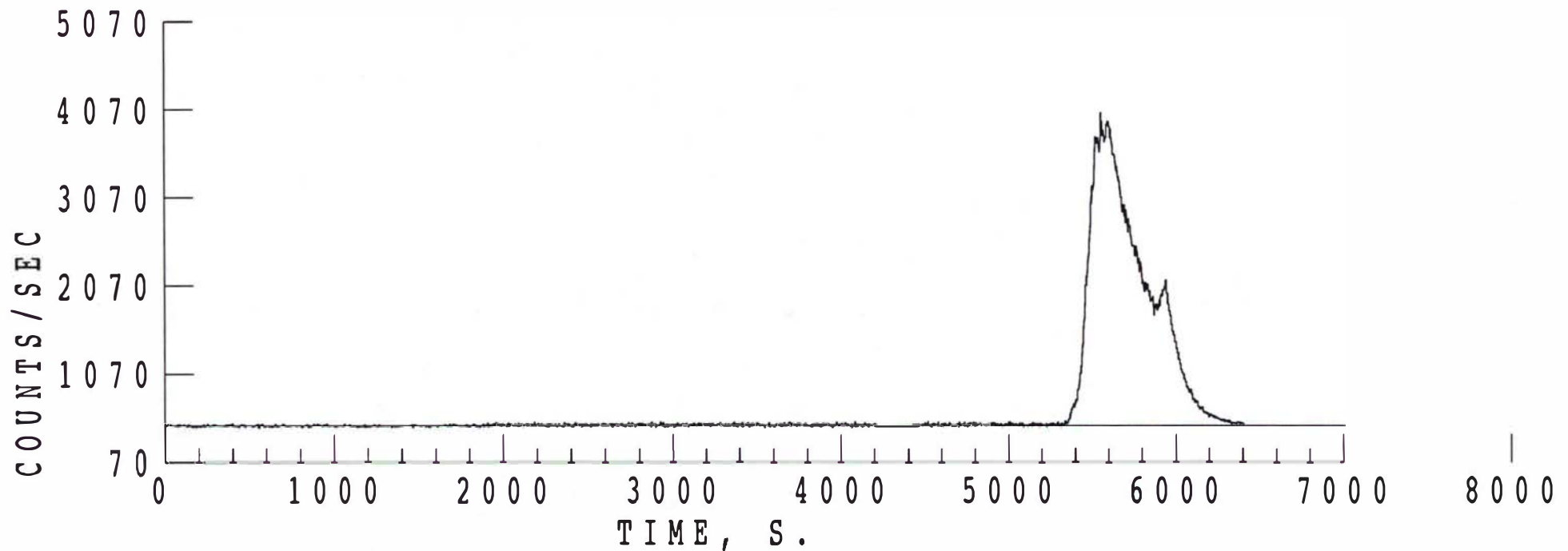
18 / 8 / 98 26676.436 s

INTERVALS REGROUPED BY 14

0 - 0 keV

N= 10 M=10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Thu Aug 20 09:48:41 1998
From: WOODSP@fender.msfc.nasa.gov
Date: Thu, 20 Aug 1998 11:48:28 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6997

TIME: TJD=1043 SECONDS=56223

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=10.9 AZIMUTH=3.5 ERROR=1.0 DEGREES

COMMENTS:

THIS MESSAGE SUPERCEDES PREVIOUS MESSAGE. SOLAR FLARE.
NO GOES. NO OPTICAL. NOT VISIBLE ABOVE 100 KEV.
PREVIOUS MESSAGE CONTAINS RA AND DEC FOR LOCATION RATHER THAN
GRO ZENITH AND AZIMUTH.

From WOODSP@fender.msfc.nasa.gov Thu Aug 20 09:44:58 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Thu, 20 Aug 1998 11:44:39 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6998

TIME: TJD=1043 SECONDS=81411

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=8.6 AZIMUTH=7.9 ERROR=0.5 DEGREES

COMMENTS:

SOLAR FLARE. GOES X4.9. OPTICAL 1B. VISIBLE ABOVE 300 KEV.
TRIGGERED AT ORBITAL SUNRISE.

BACODINE 6998 18/08/98 81399.521

25- 100 keV

COUNTS/1.024 S

41000

36000

31000

26000

21000

16000

11000

6000

- D

24

49

74

99

124

149

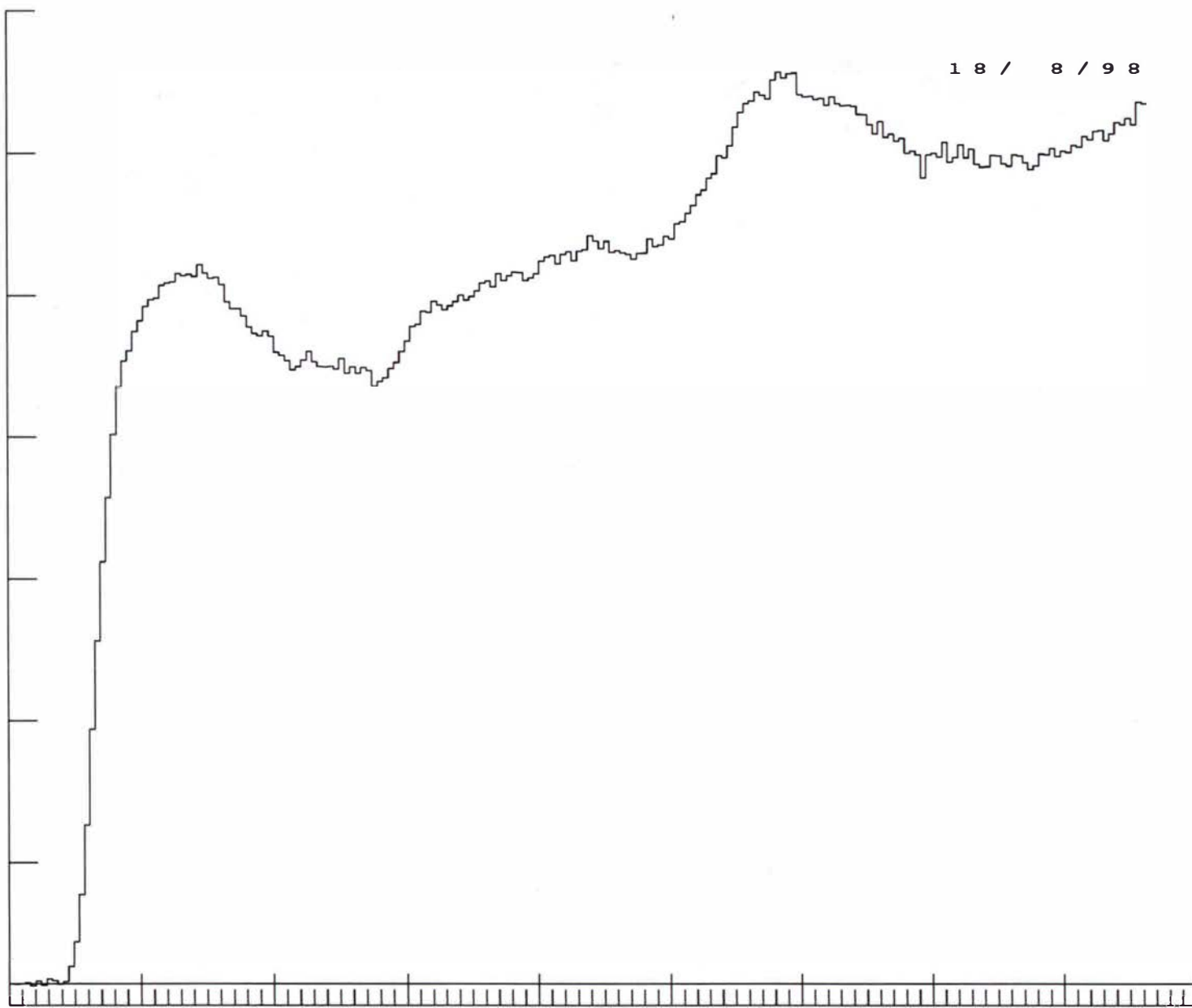
174

199

224

TIME, SECS

18 / 8 / 98



BACODINE# 6998

ULYSSES RT

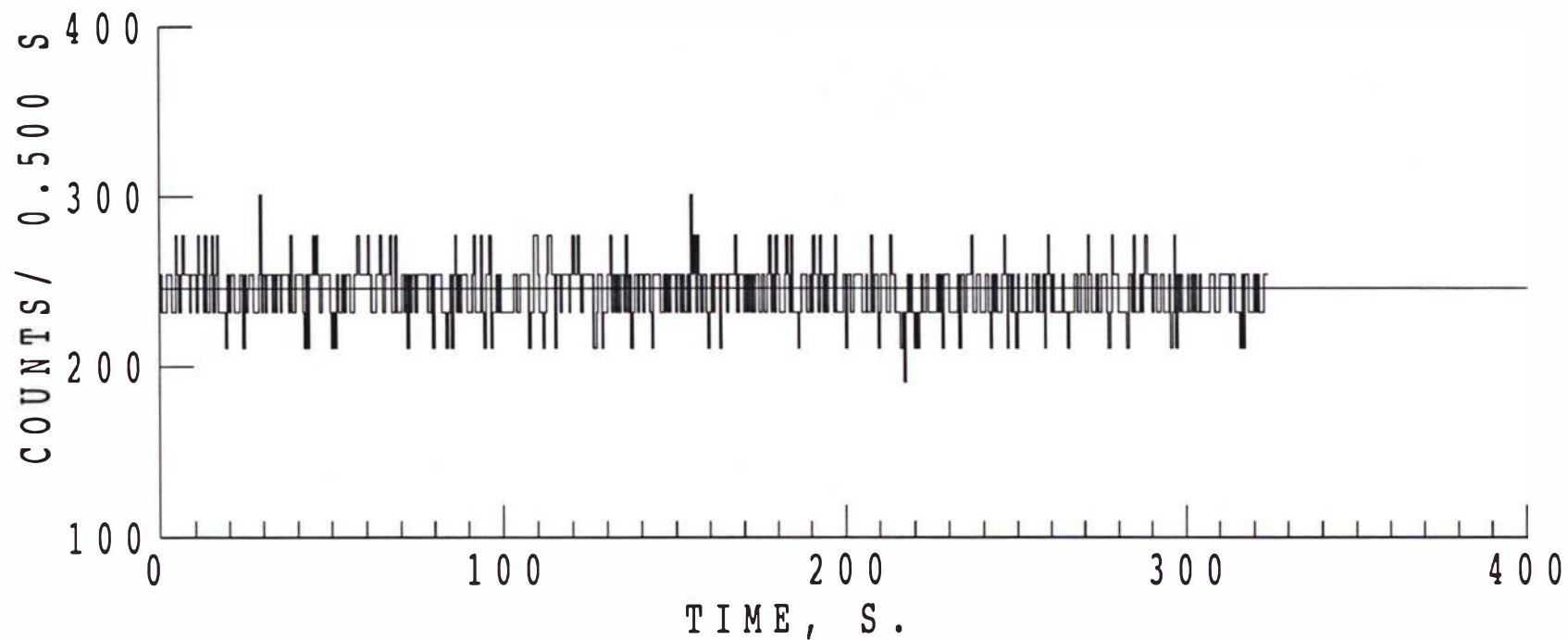
27 / 8 / 98

18 / 8 / 98 78192.469 s

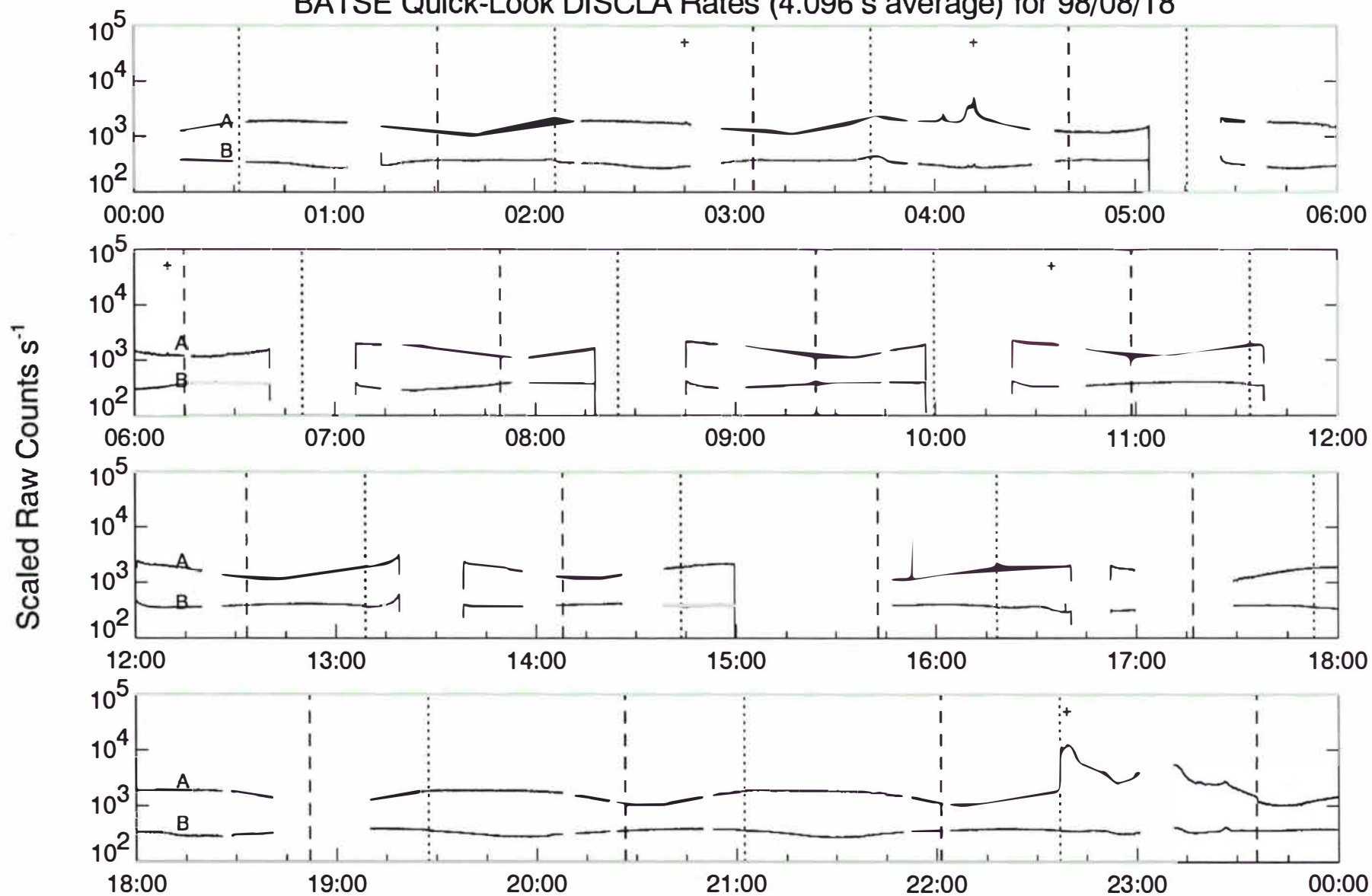
0 - 0 keV

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 98/08/18

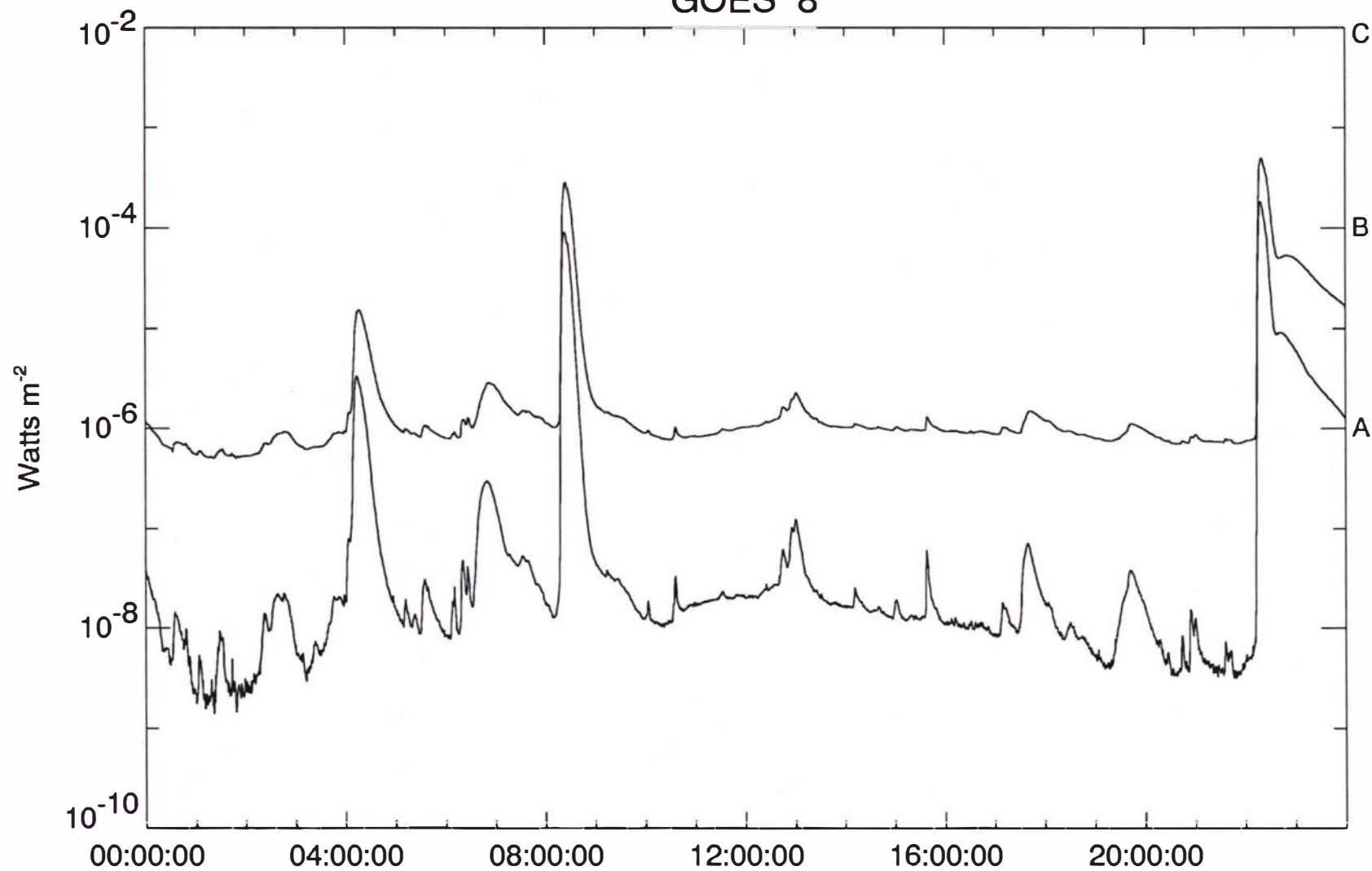


Current Time: 98/08/22, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/18, 0000:00

Plot created: 98/08/22, 1007

Channel 1 (1.0 - 8.0 Angstroms)

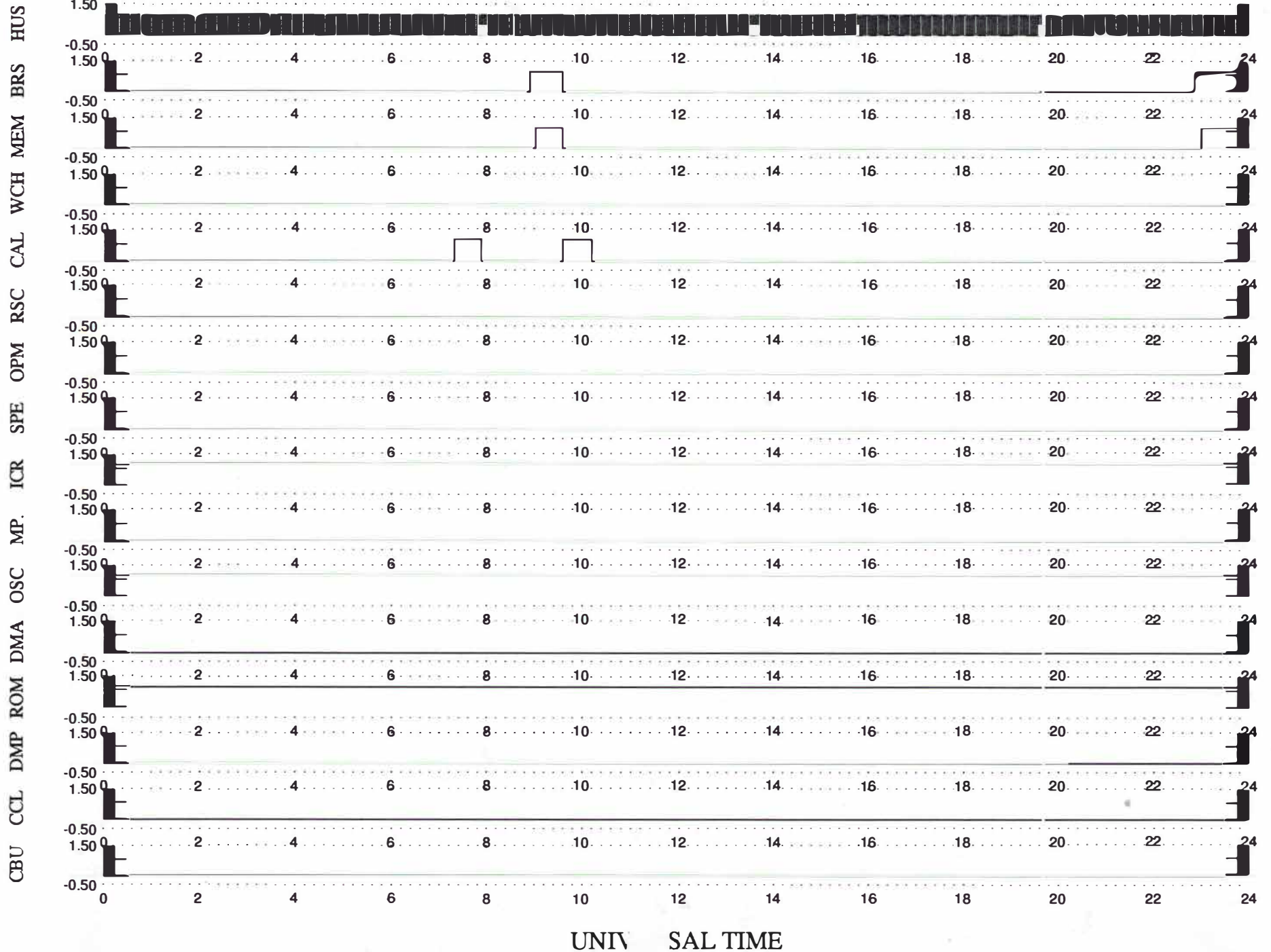
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

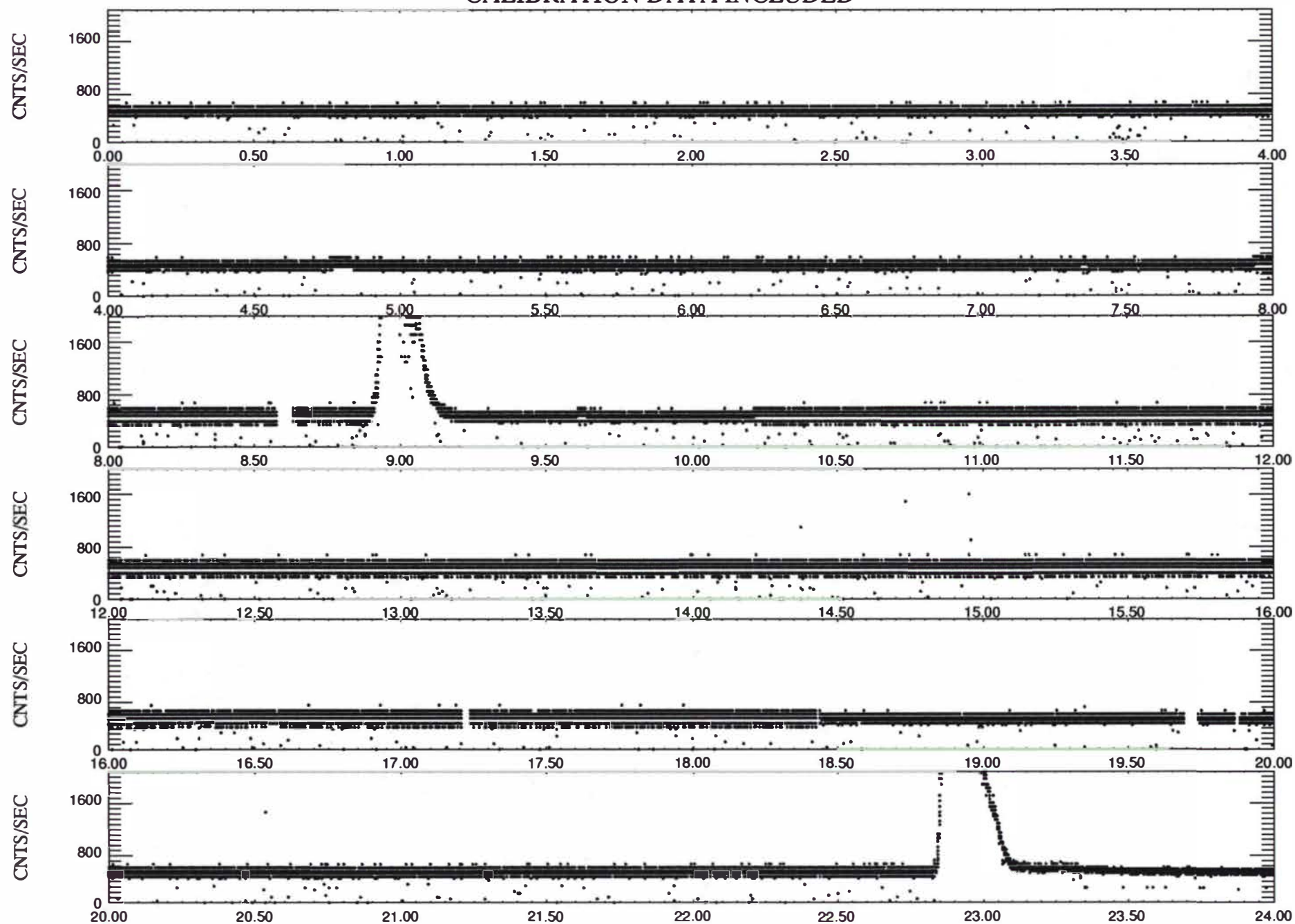
Background not subtracted

Sample average = 10

BURST NUMBER 13, 14

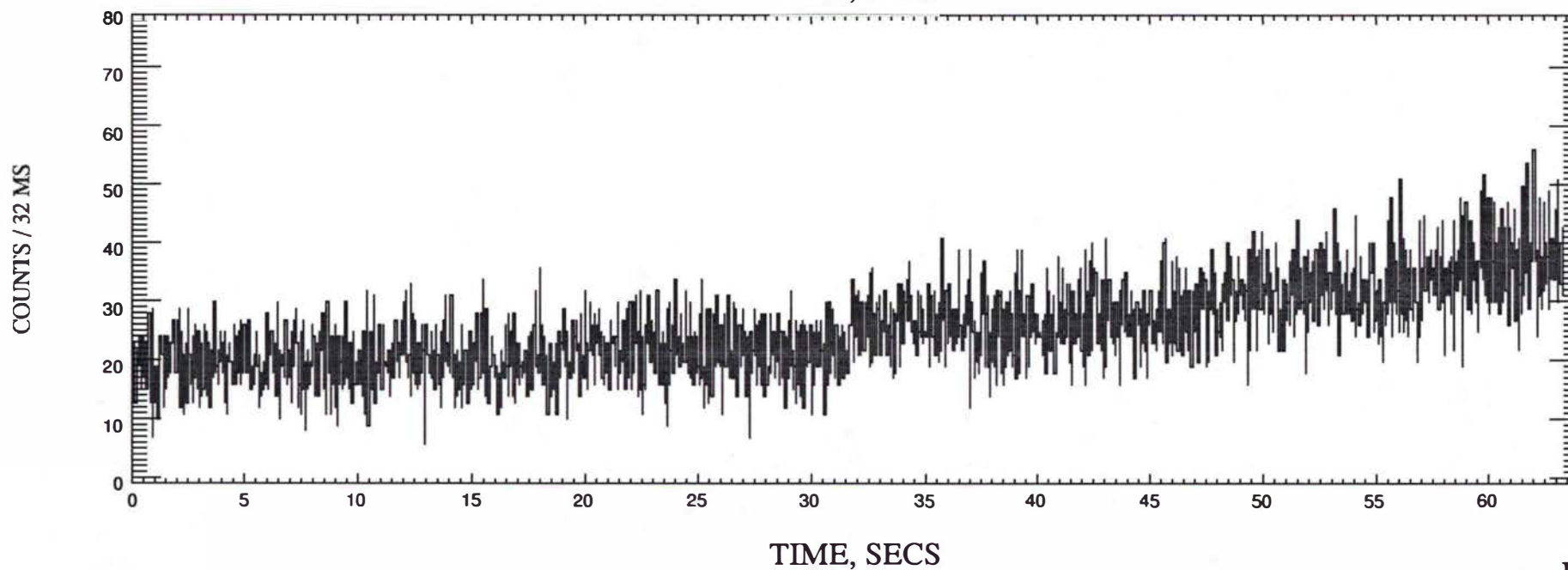
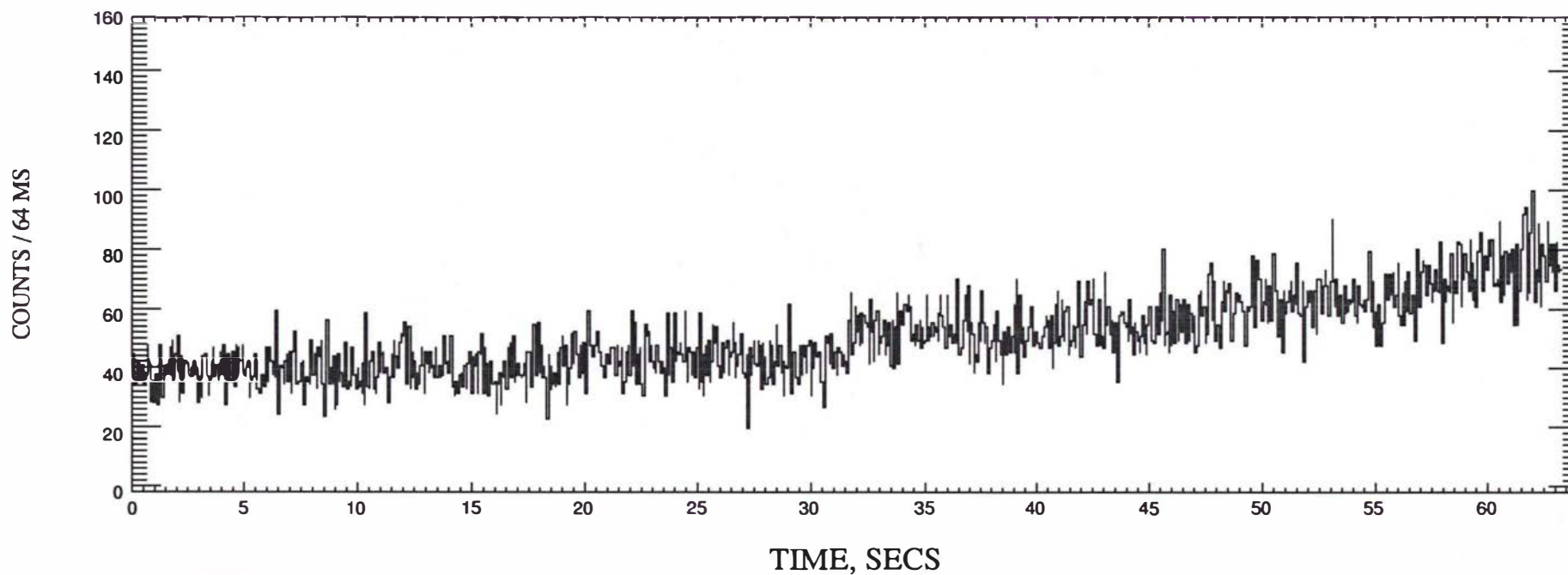


CALIBRATION DATA INCLUDED

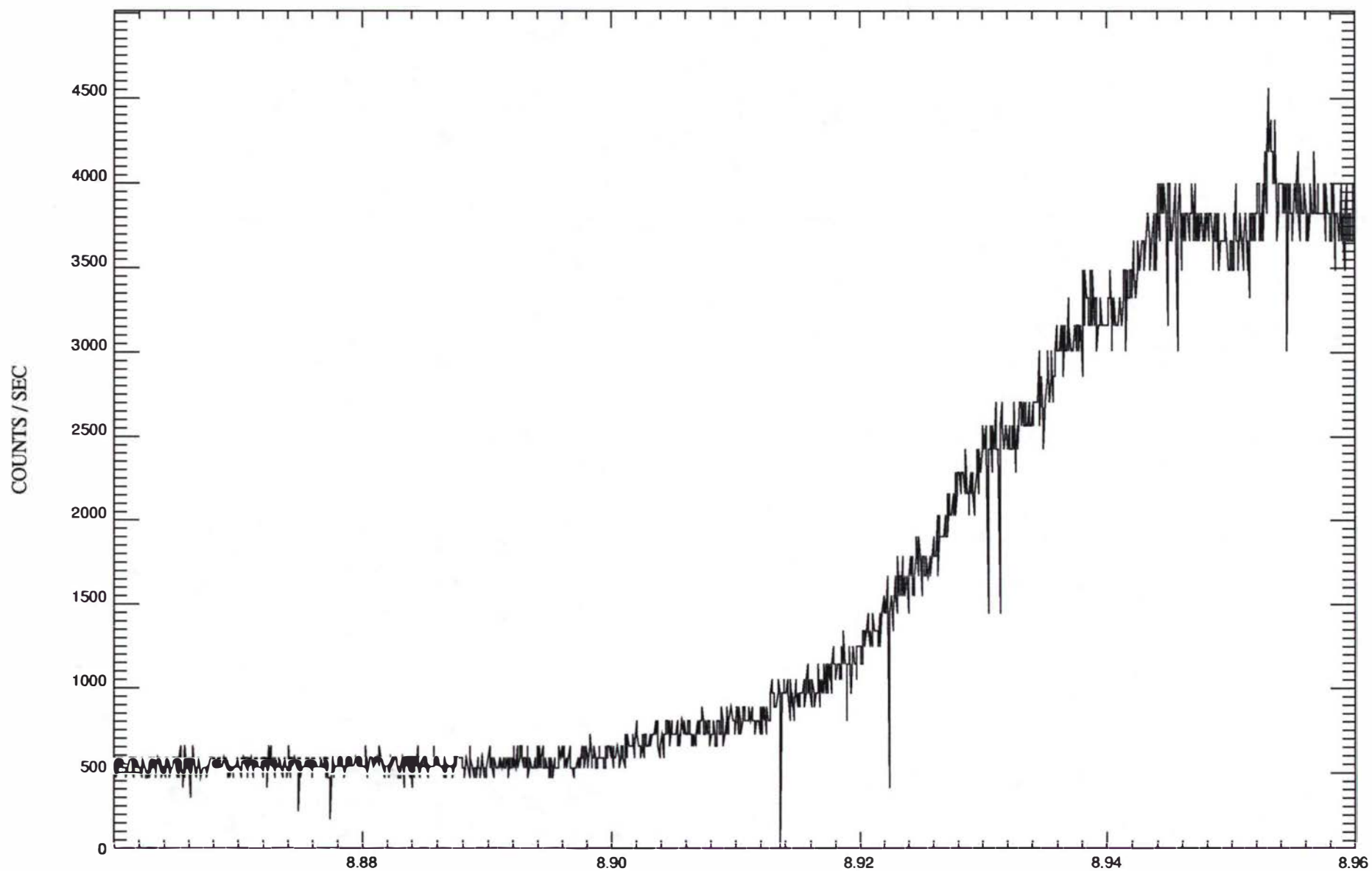


UNIV SAL TIME

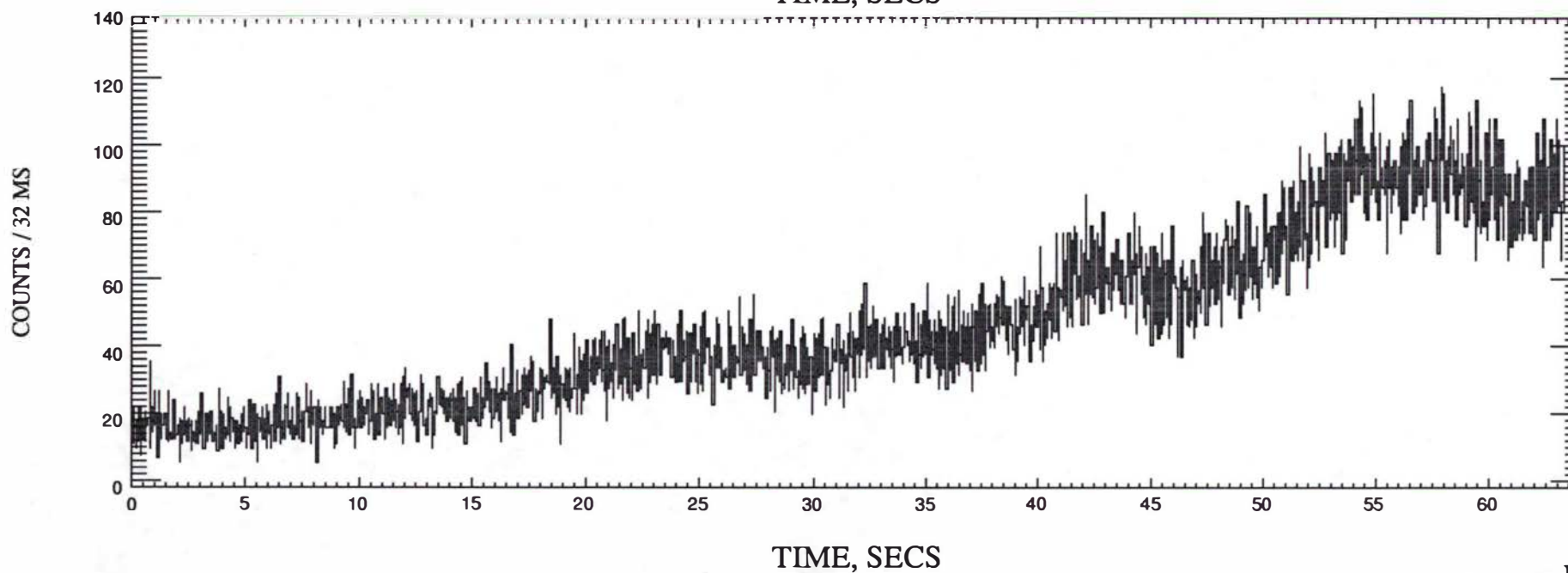
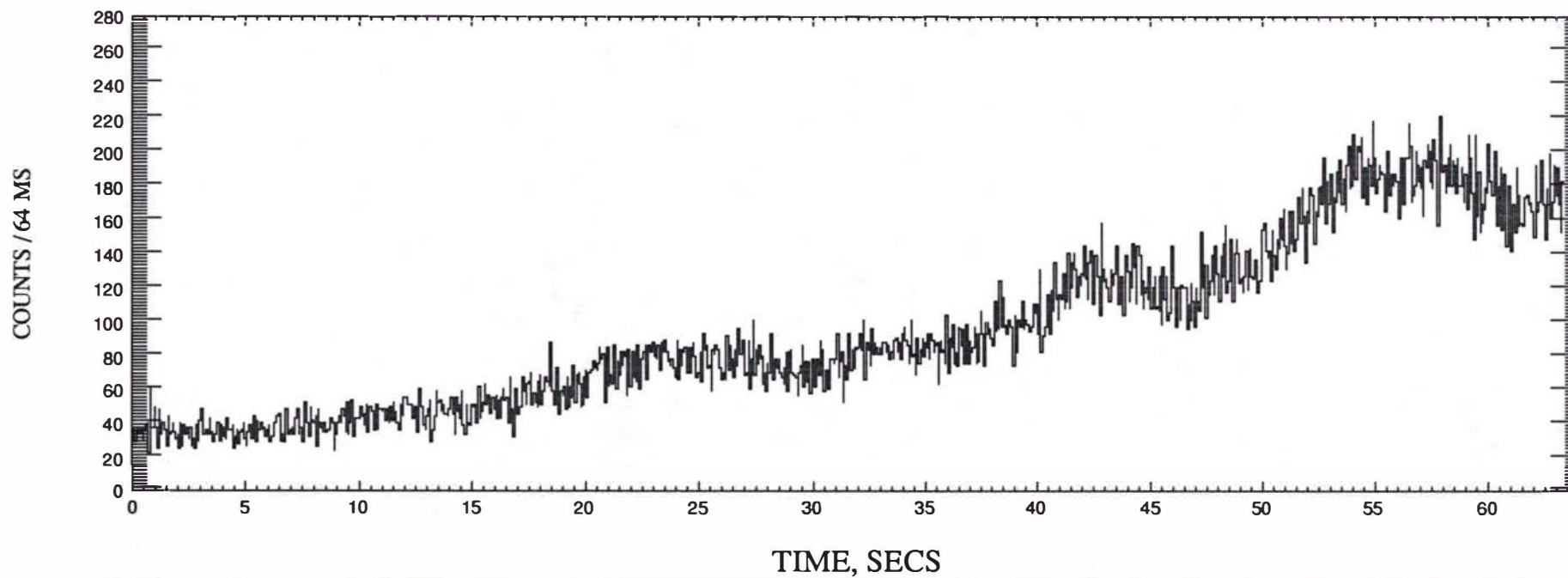
Burst Counter 13 at UT= 8.906071569655 h=32061.858 s 08:54:21.858



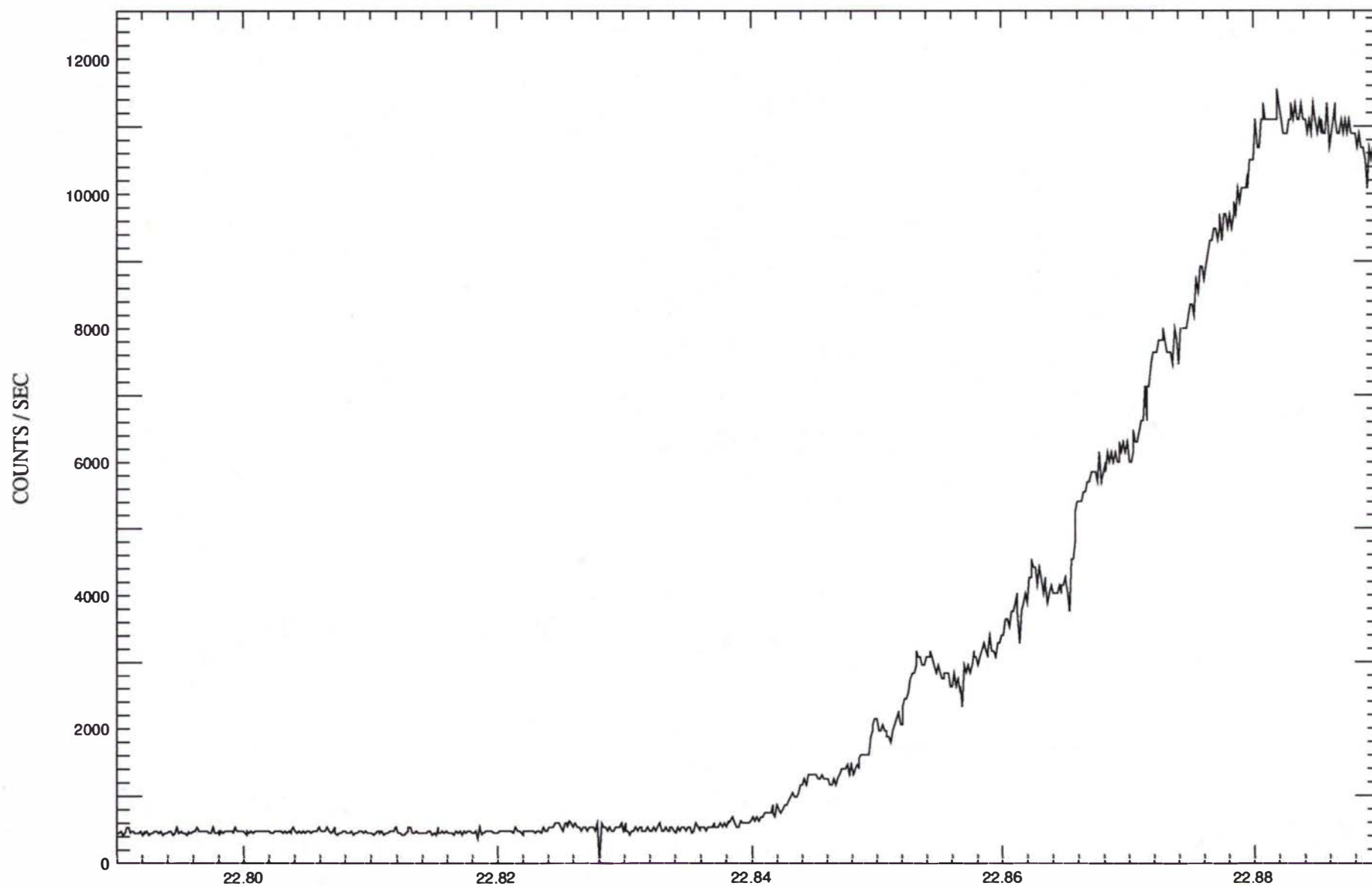
CALIBRATION DATA INCLUDED

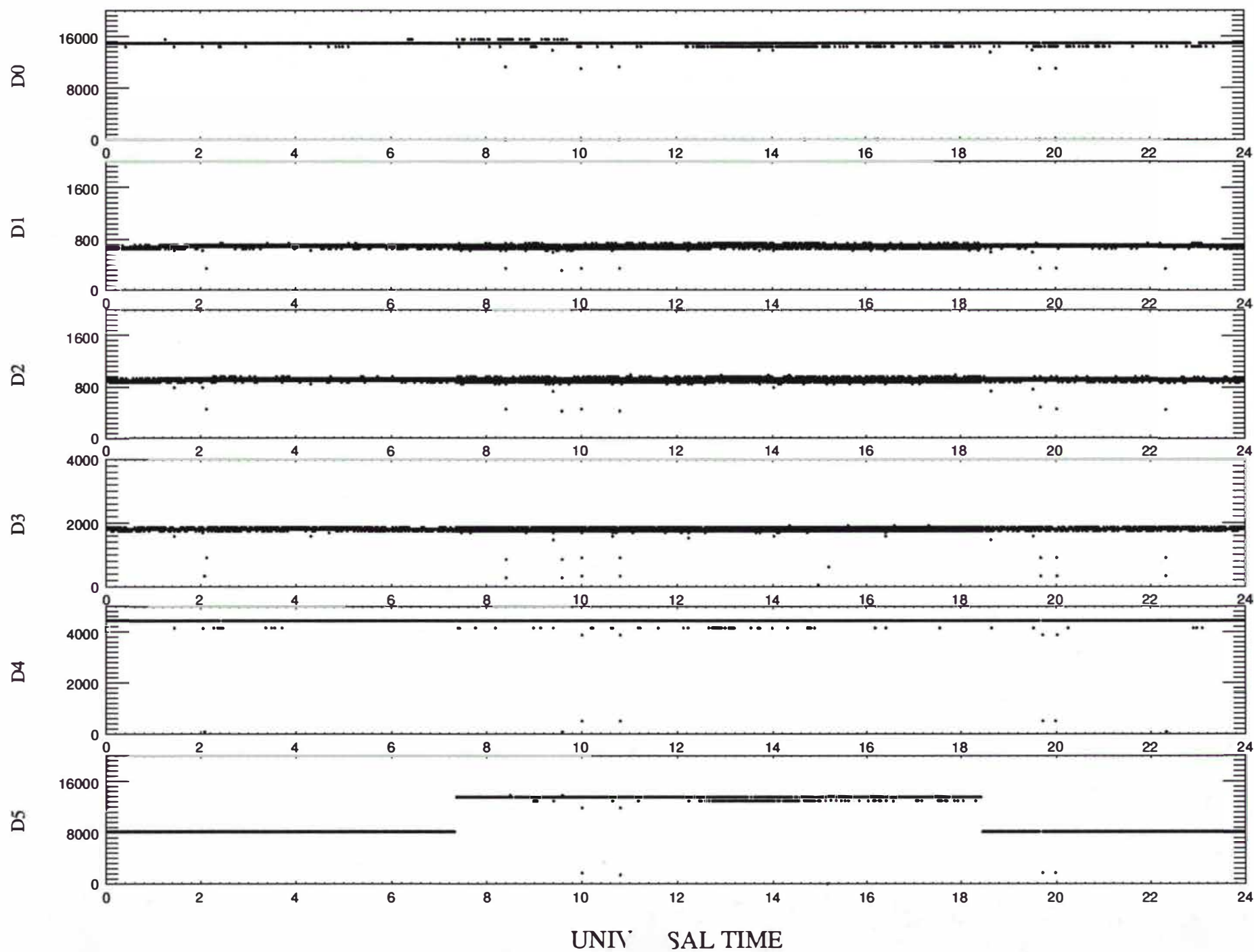


Burst Counter 14 at UT=22.840384445190 h=82225.384 s 22:50:25.384



CALIBRATION DATA INCLUDED





From JONESSD@fender.msfc.nasa.gov Fri Aug 21 11:56:48 1998

From: JONESSD@fender.msfc.nasa.gov

Date: Fri, 21 Aug 1998 13:56:16 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 6999

TIME: TJD=1044 SECONDS=12065

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

From JONESSD@fender.msfc.nasa.gov Fri Aug 21 13:07:22 1998
Return-Path: <JONESSD@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA15656; Fri, 21 Aug 1998 13:07:21 -0700
From: JONESSD@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA01895; Fri, 21 Aug 1998 13:07:16 -0700
Date: Fri, 21 Aug 1998 15:00:05 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980821150005.20229770@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7000
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7000
EVENT OF 1998 AUG 19 DAY OF YEAR=231
EVENT CROSSING TIME AT BATSE : 31349. S. OR 08:42:29.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 193.000 28.000
BATSE PEAK COUNTING RATE: 3700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 8/ 98 IS:
RA= 156.705 DEC= 5.160 DIST= 6.350 AU
BATSE-ULYSSES DISTANCE = 950034174. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.67 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2379.82 SECS.
CROSSING TIME AT ULYSSES IS 28969. S. OR 08:02:49 +/- 377.16 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 8/ 98 IS:
RA= 121.187 DEC= 21.336 DIST= 2.433 AU
MARS-BATSE DISTANCE = 363937824. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=115.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -518.99 SECS.
CROSSING TIME AT MARS IS 30830. S. OR 08:33:50 +/- 182.65 SECONDS

BATSE BURST TRIGGER

NO.: 7000

TIME: TJD=1044 SECONDS=31349

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=34.8 AZIMUTH=231.9 ERROR=2.4 DEGREES

COMMENTS:

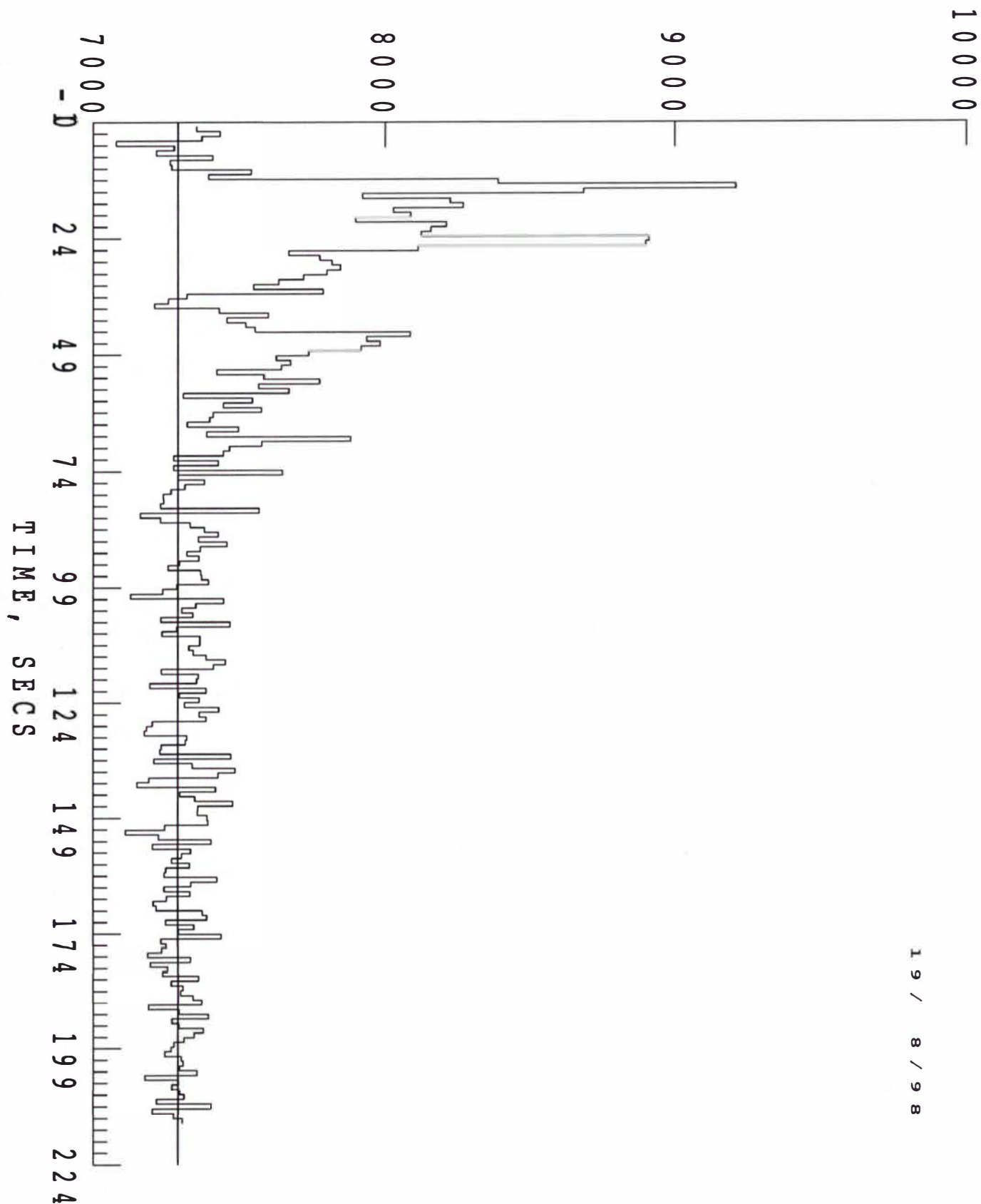
DOUBLE PEAKED, DUR ABOUT 70SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7000	980819	11044	31349	3700	193	+28	70

BACODINE 7000 19/08/98 31337.185

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7000

ULYSSES RT

27 / 8 / 98

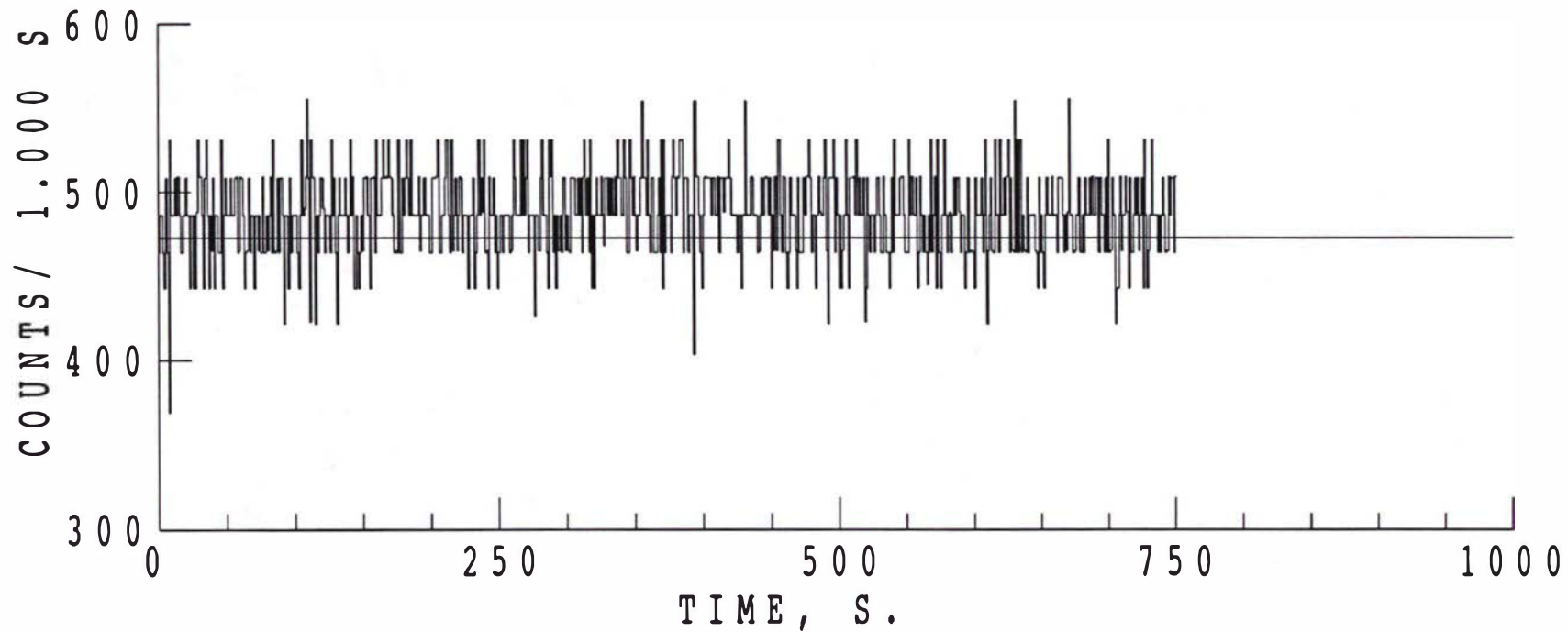
19 / 8 / 98 28588.863 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M=10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From JONESSD@fender.msfc.nasa.gov Fri Aug 21 12:53:19 1998

From: JONESSD@fender.msfc.nasa.gov

Date: Fri, 21 Aug 1998 14:53:01 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7001

TIME: TJD=1044 SECONDS=36506

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=11.7 AZIMUTH=12.9 ERROR=0.3 DEGREES

COMMENTS:

GOES C5.8, OPTICAL SF. SOLAR FLARE COMPLEX, TOTAL DUR ABOUT 450SECS.

STARTS AT ABOUT T-150SECS. WEAKLY VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Sat Aug 22 07:51:26 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Sat, 22 Aug 1998 9:50:51 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

Aug 19 272.2 -20.4

NO.: 7002

TIME: TJD=1044 SECONDS=48826

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.5 AZIMUTH=182.7 ERROR=7.7 DEGREES

COMMENTS:

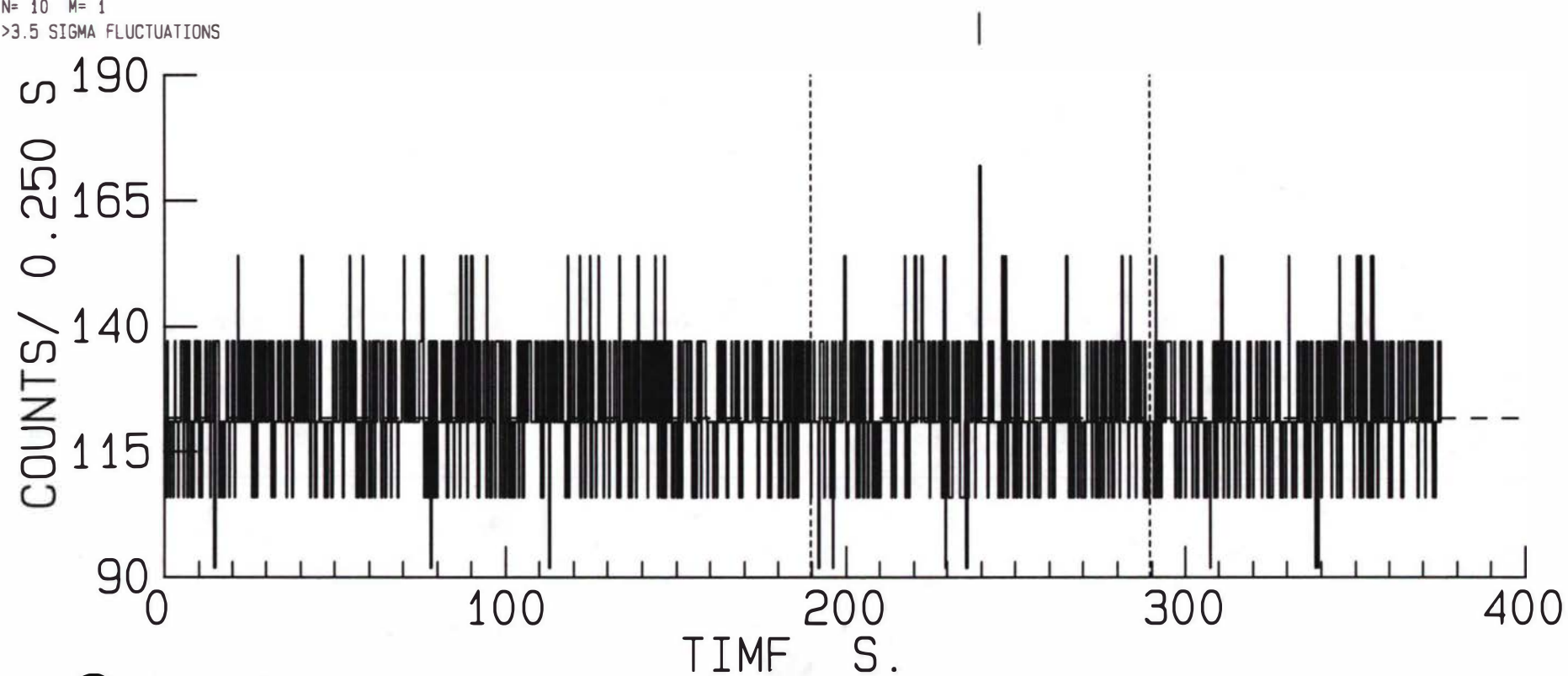
SGR 1806-20

SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 0.1 SEC. NOT VISIBLE ABOVE
100KEV.

ULYSSES RT
19/ 8/98 49644.086 s
22- 149 keV

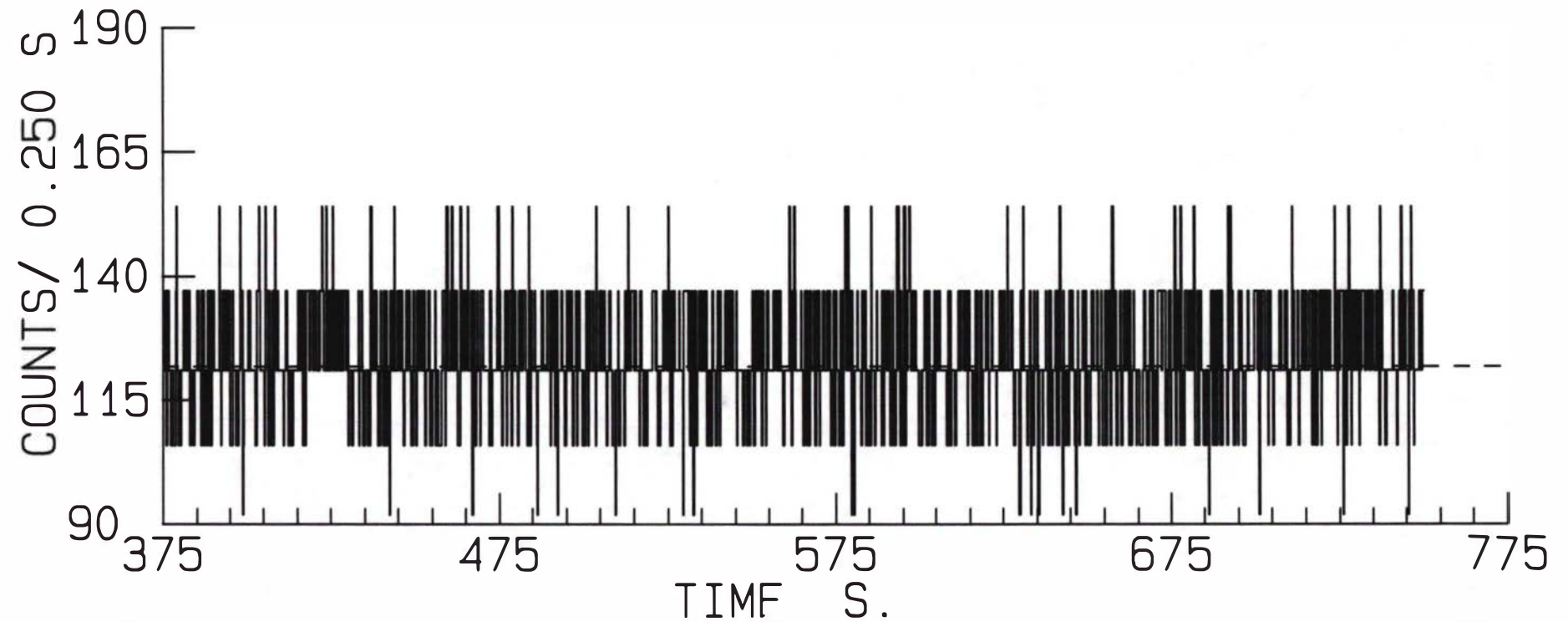
28/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



ULYSSES RT
19/ 8/98 49644.086 s
22- 149 keV

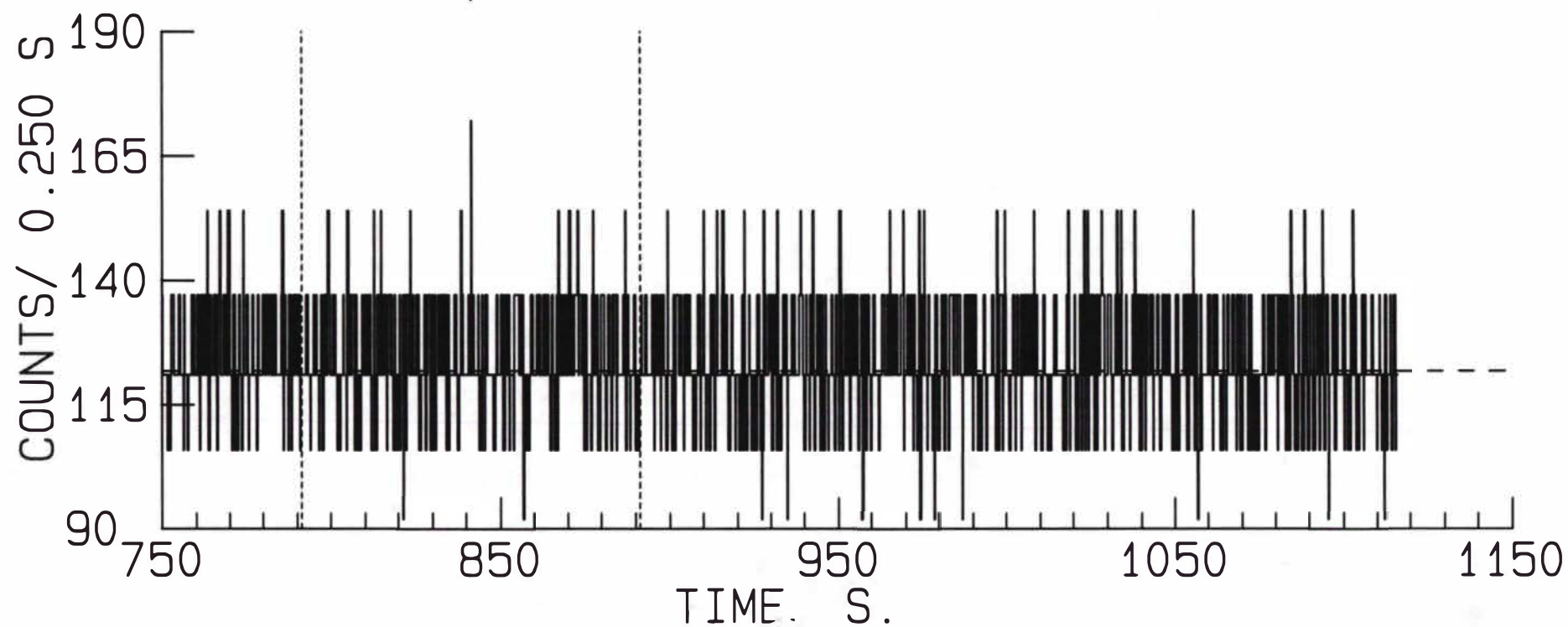
28/ 8/98



ULYSSES RT
19/ 8/98 49644.086 s
22- 149 keV

28/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Fri Aug 21 11:38:27 1998
Date: Fri, 21 Aug 1998 13:38:04 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@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.: 7003

TIME: TJD=1044 SECONDS=51817

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 11.8 AZIMUTH= 21.4 ERROR= 0.6 DEGREES

COMMENTS:

GOES M3.0, OPTICAL SF. TRIGGERED AT ORBITAL SUNRISE.
MULTIPEAKED, TOTAL DUR. (INCLUDING EXTENDED EMISSION TAIL) GREATER THAN 400 S.
PROBABLY NOT VISIBLE ABOVE 300 KEV.

From WOODSP@fender.msfc.nasa.gov Mon Aug 24 15:09:19 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 24 Aug 1998 17:03:08 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

Aug 19

272.2, -20.4

NO.: 7004

TIME: TJD=1044 SECONDS=62194

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

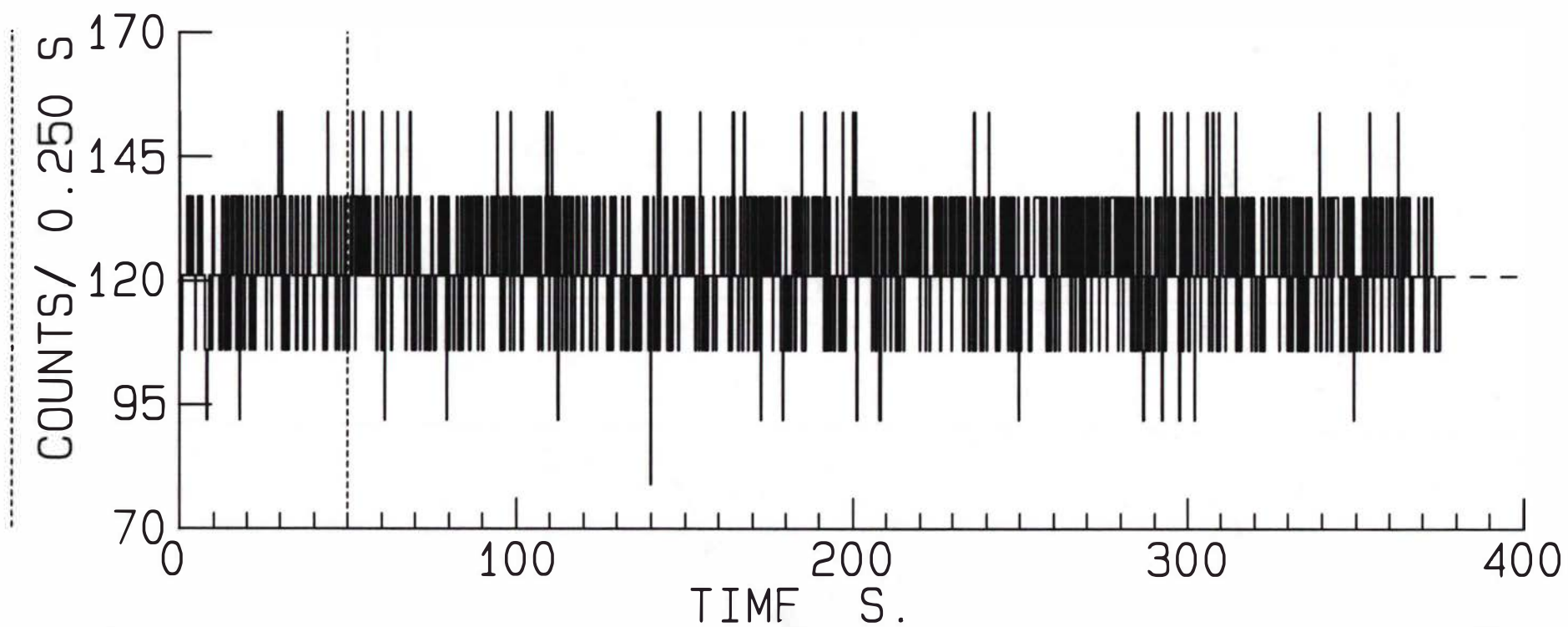
LOCATION: ZENITH=109.1 AZIMUTH=182.7 ERROR=4.7 DEGREES

COMMENTS:

SGR 1806-20. SINGLE PULSE LASTING ABOUT 0.015 SEC. NOT VISIBLE
ABOVE 100 KEV.

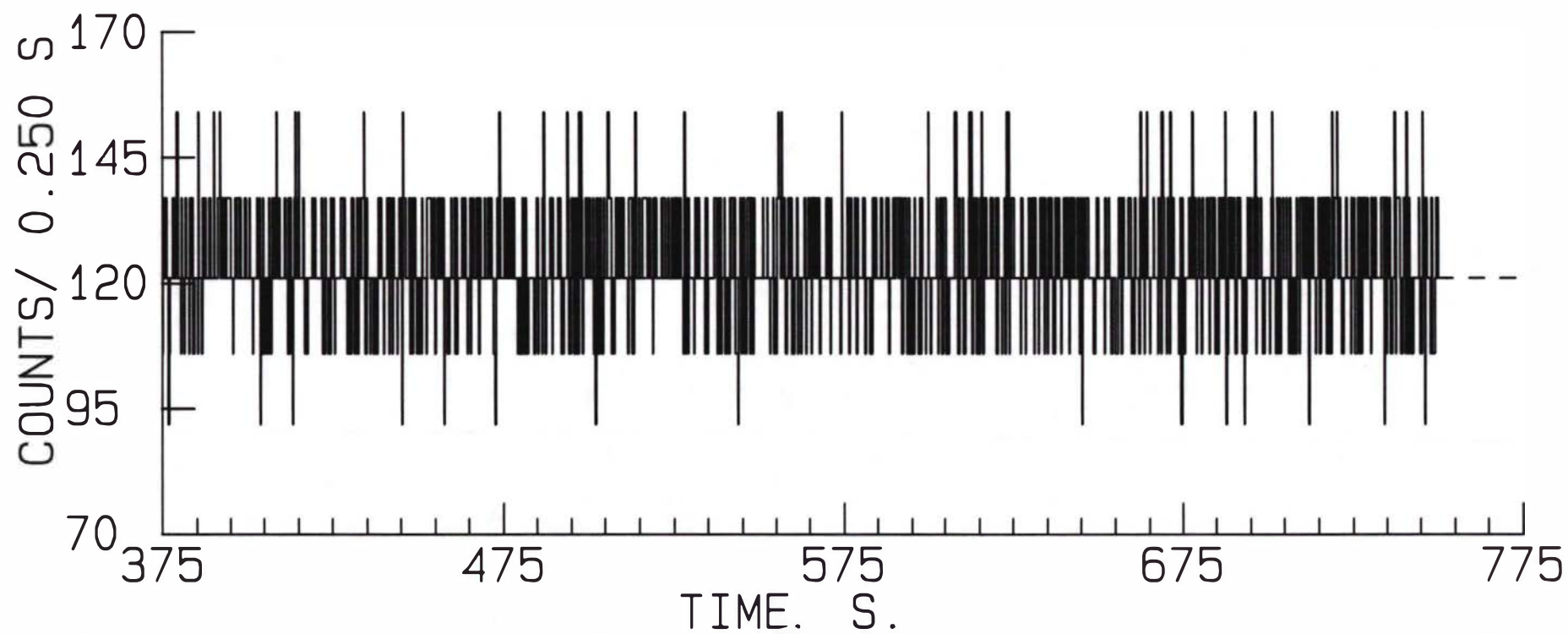
ULYSSES RT
19/ 8/98 63000.227 s
22- 149 keV

28/ 8/98



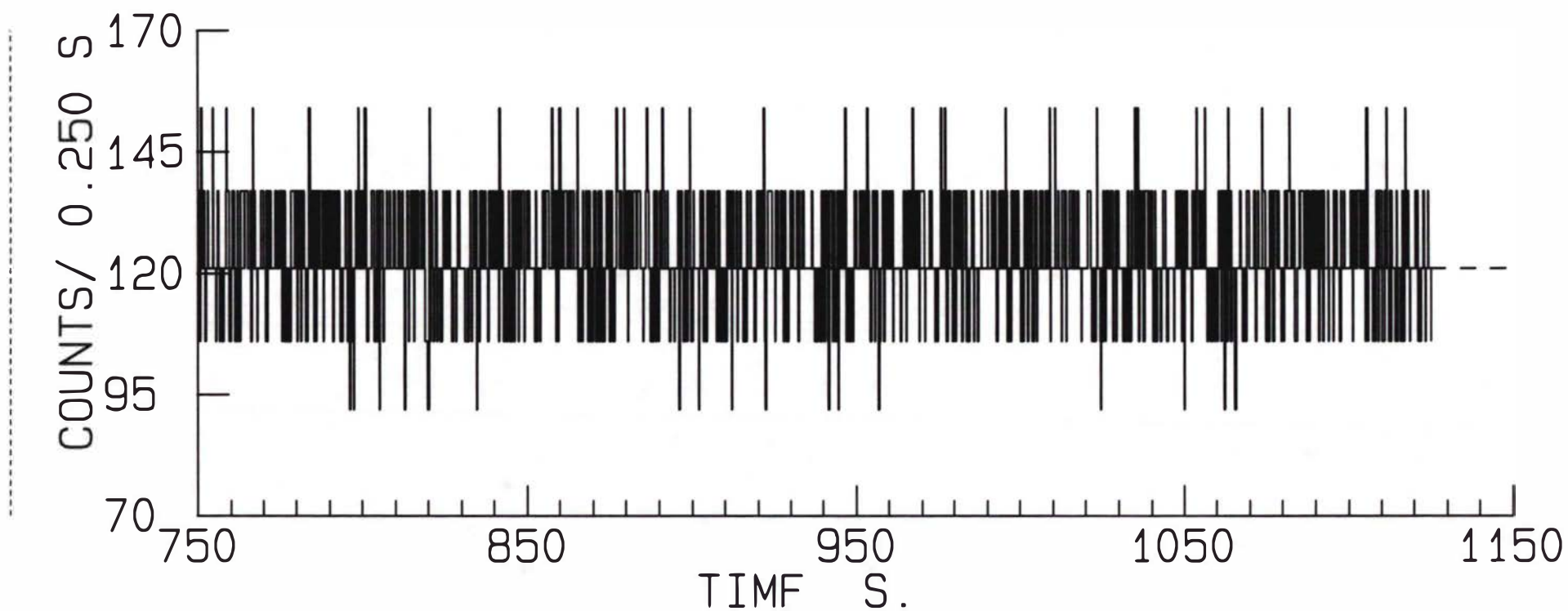
ULYSSES RT
19/ 8/98 63000.227 s
22- 149 keV

28/ 8/98



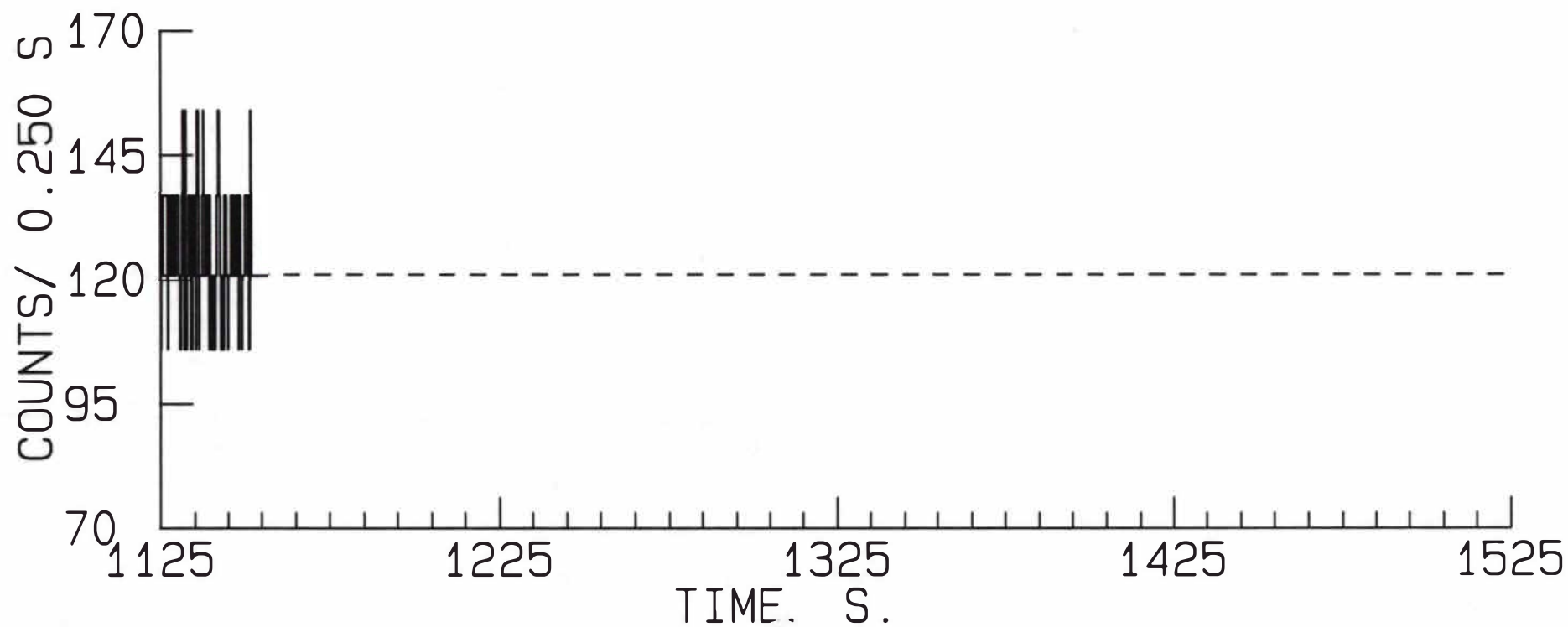
ULYSSES RT
19/ 8/98 63000.227 s
22- 149 keV

28/ 8/98



ULYSSES RT
19/ 8/98 63000.227 s
22- 149 keV

28/ 8/98



From WOODSP@fender.msfc.nasa.gov Mon Aug 24 15:12:06 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 24 Aug 1998 17:05:25 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 7005

TIME: TJD=1044 SECONDS=65328

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=134.2 AZIMUTH=183.0 ERROR=36 DEGREES

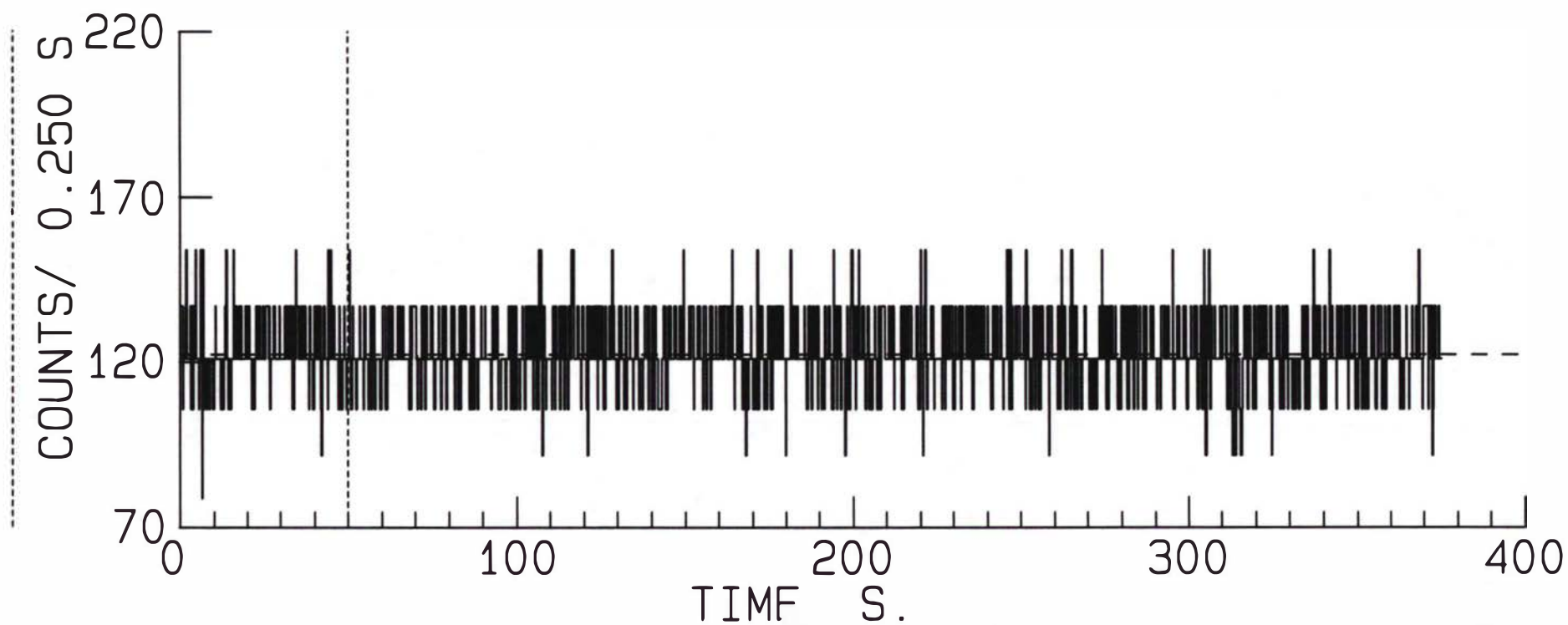
COMMENTS:

SGR 1806-20. WEAK BURST WITH SPARSE DATA. NOT VISIBLE ABOVE
100 KEV.

Aug 19

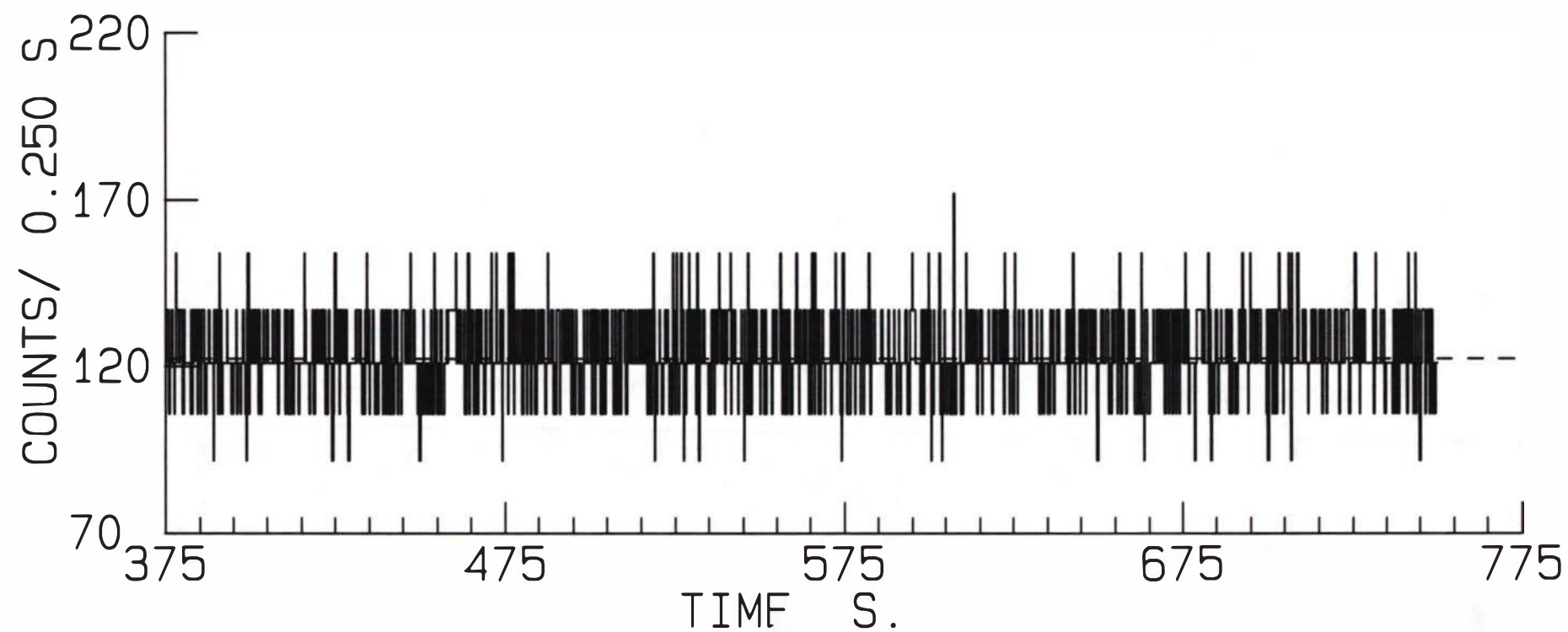
ULYSSES RT
19/ 8/98 66132.010 s
22- 149 keV

28/ 8/98



ULYSSES RT
19/ 8/98 66132.010 s
22- 149 keV

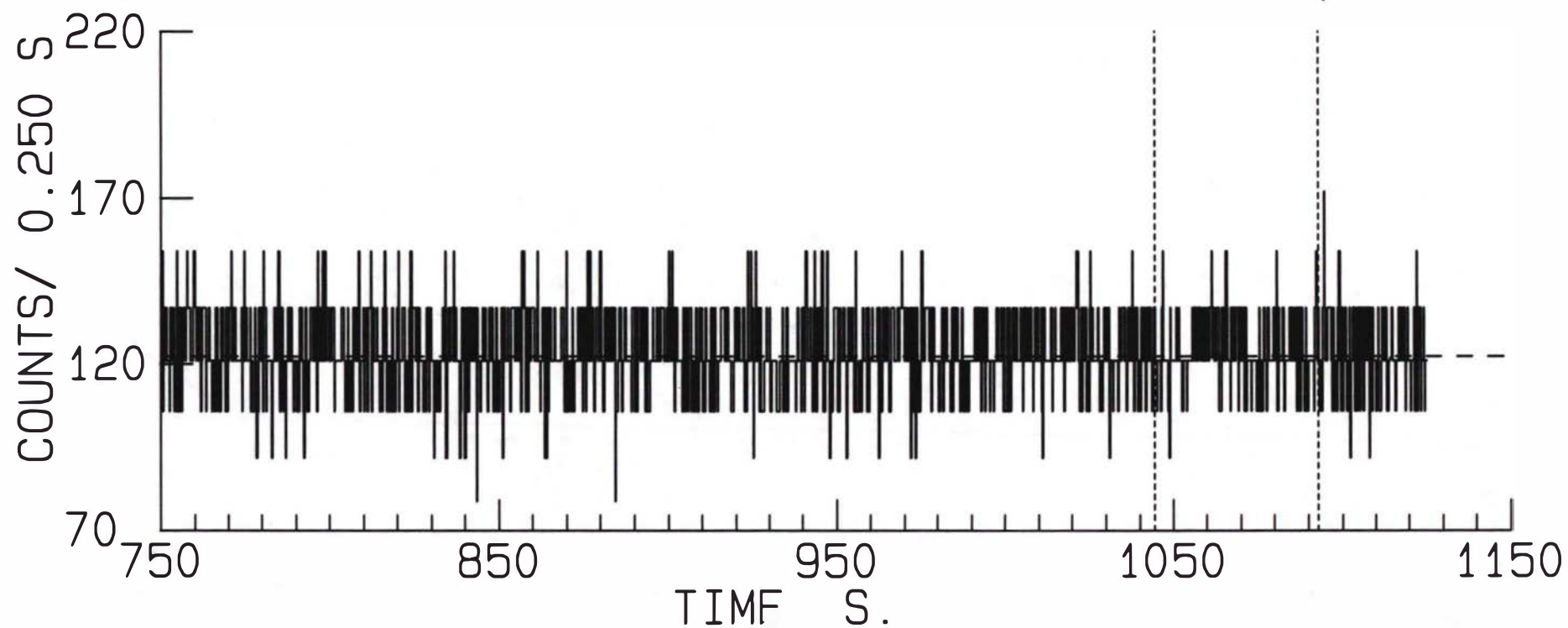
28/ 8/98



ULYSSES RT
19/ 8/98 66132.010 s
22- 149 keV

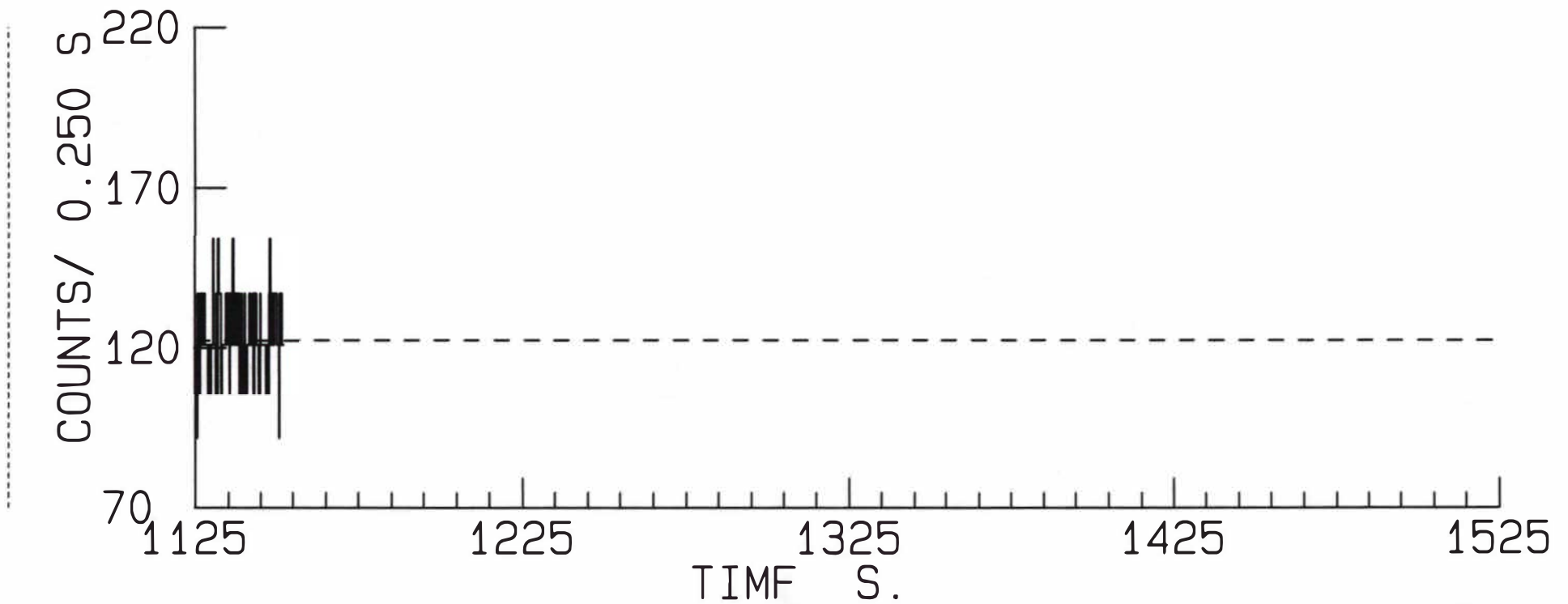
28/ 8/98

N= 10 M= 1
>3.5 SIGMA FLUCTUATIONS



ULYSSES RT
19/ 8/98 66132.010 s
22- 149 keV

28/ 8/98



From HENZE@fender.msfc.nasa.gov Fri Aug 21 11:43:31 1998

Date: Fri, 21 Aug 1998 13:43:13 -0500 (CDT)

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,
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.: 7006

TIME: TJD=1044 SECONDS=77960

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

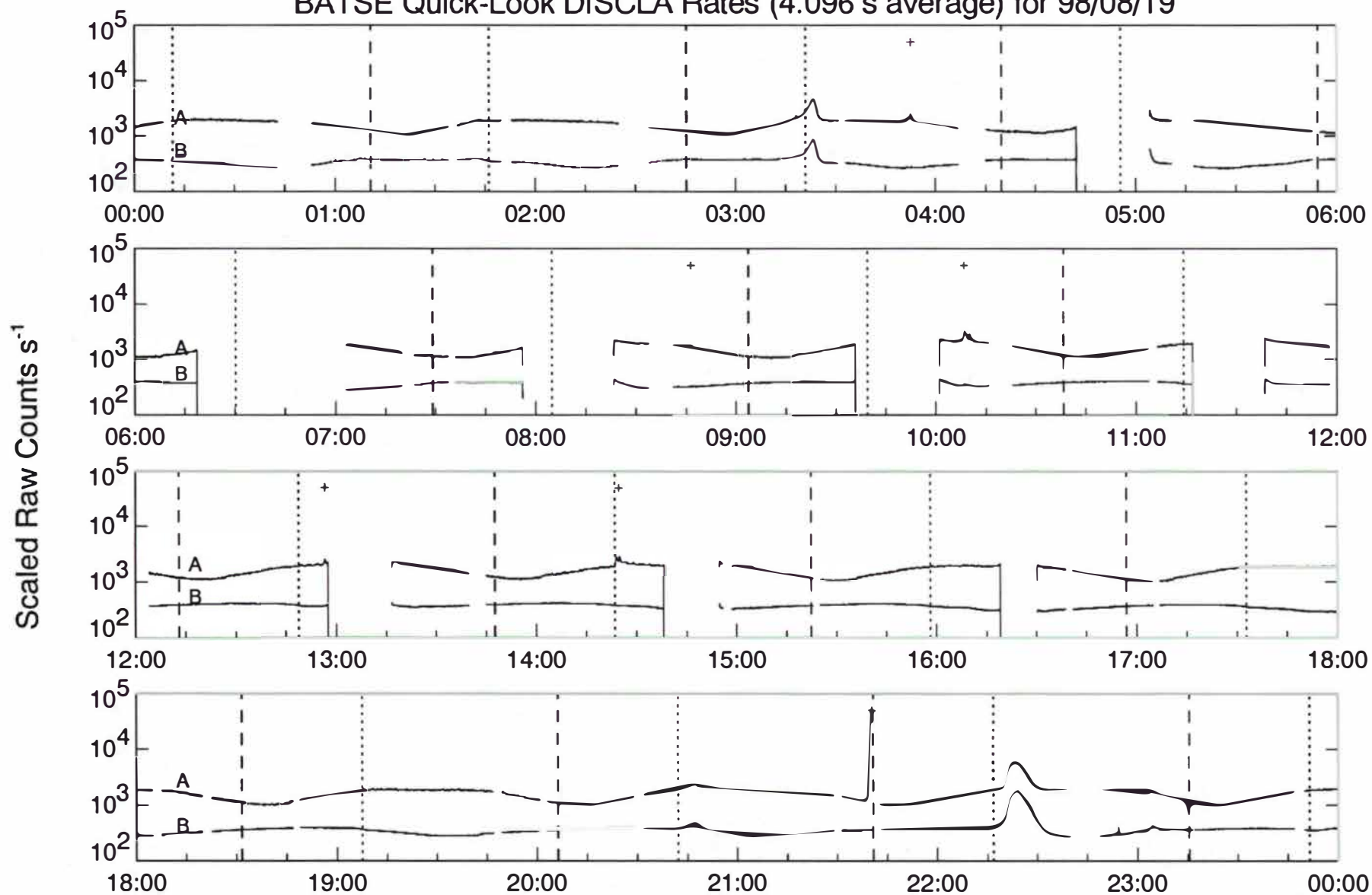
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 8.8 AZIMUTH= 8.6 ERROR= 0.02 DEGREES

COMMENTS:

GOES X3.9, NO OPTICAL IDENT.? ORBITAL SUNSET AT APPROX. T+100 S.
MULTIPEAKED, DUR. GREATER THAN 100 S. PROBABLY NOT VISIBLE ABOVE 300 KEV.

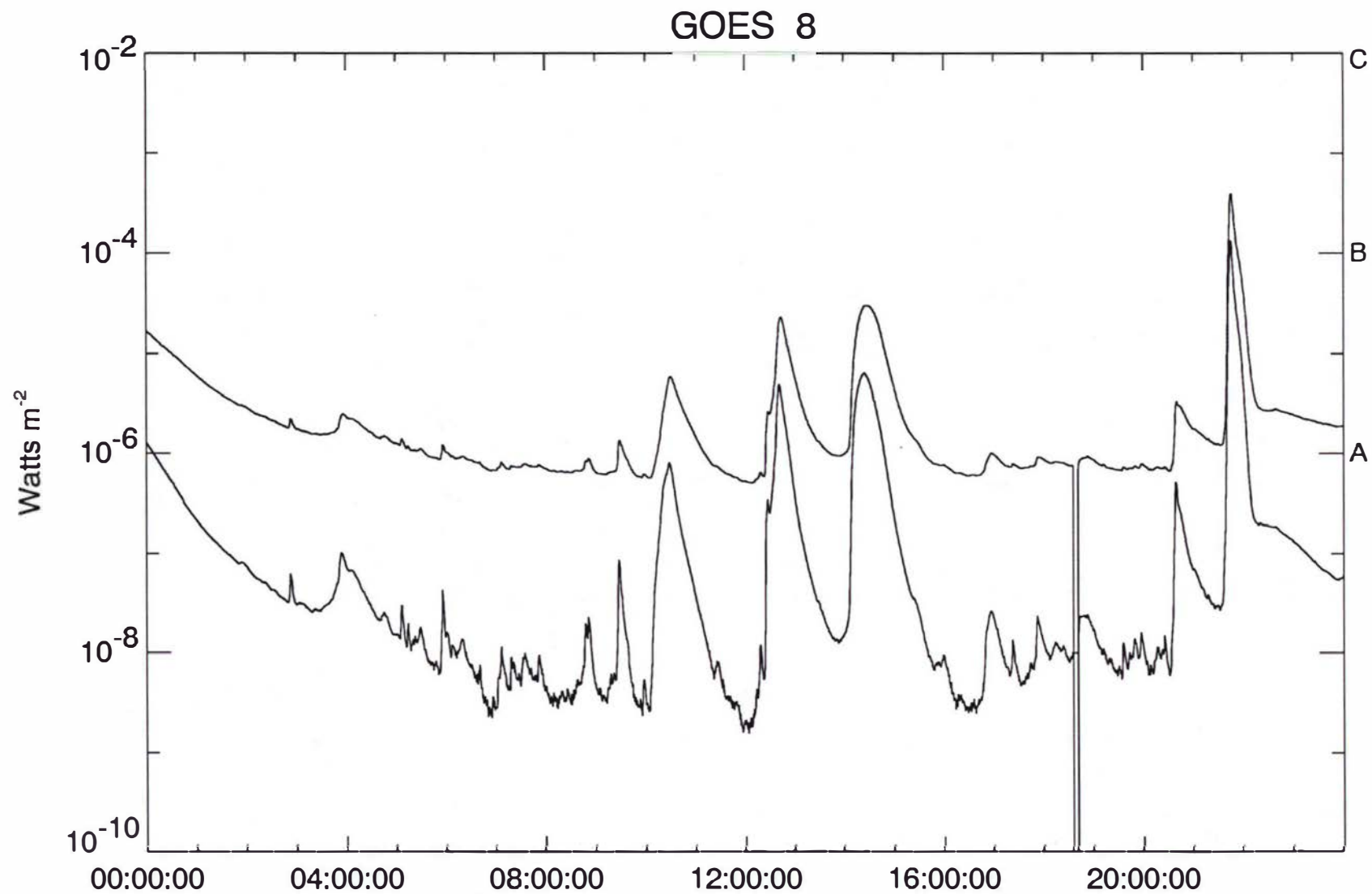
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/19



Current Time: 98/08/23, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/08/19, 0000:00

Plot created: 98/08/23, 1007

Channel

1 (1.0 - 8.0 Angstroms)

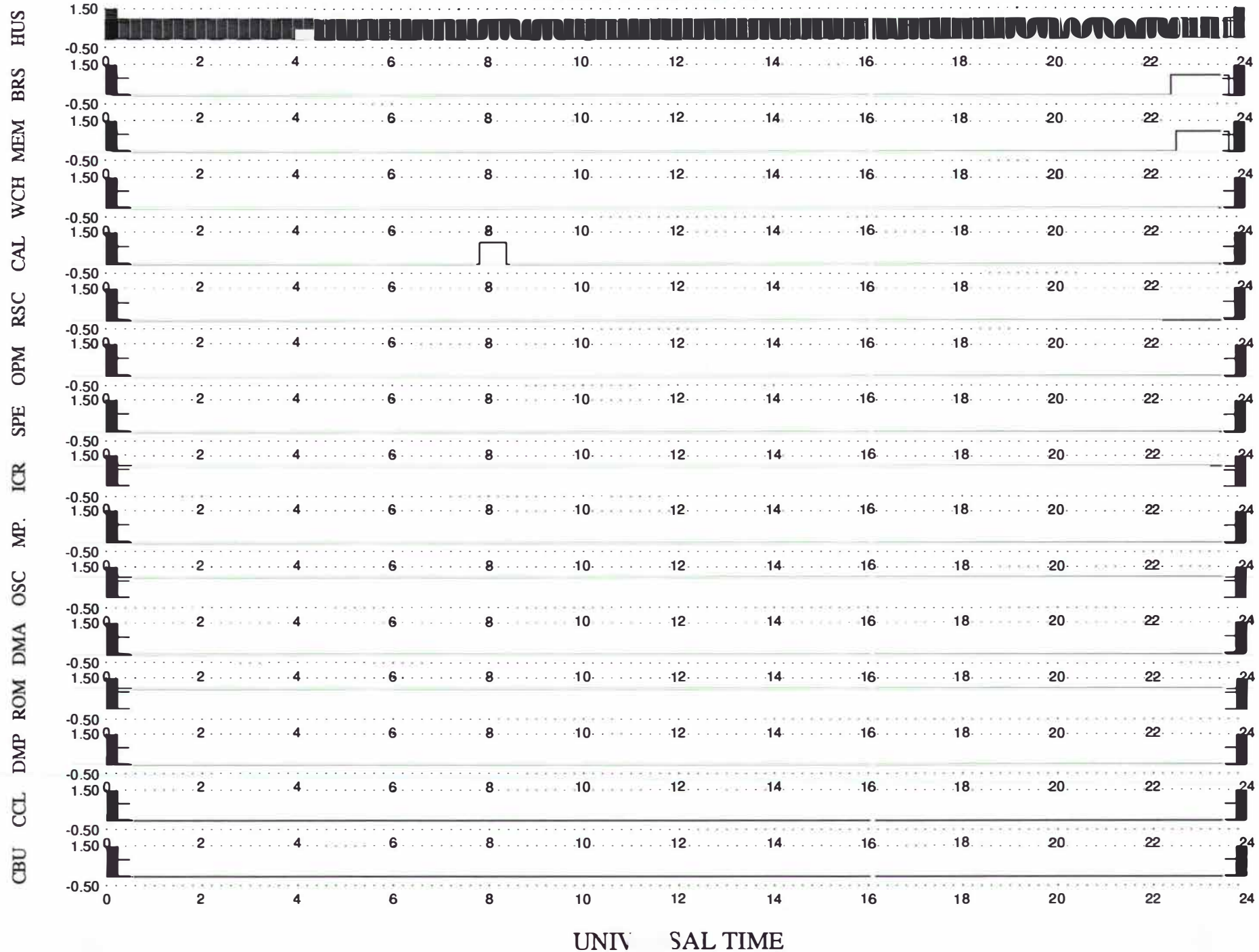
Background not subtracted

2 (0.5 - 4.0 Angstroms)

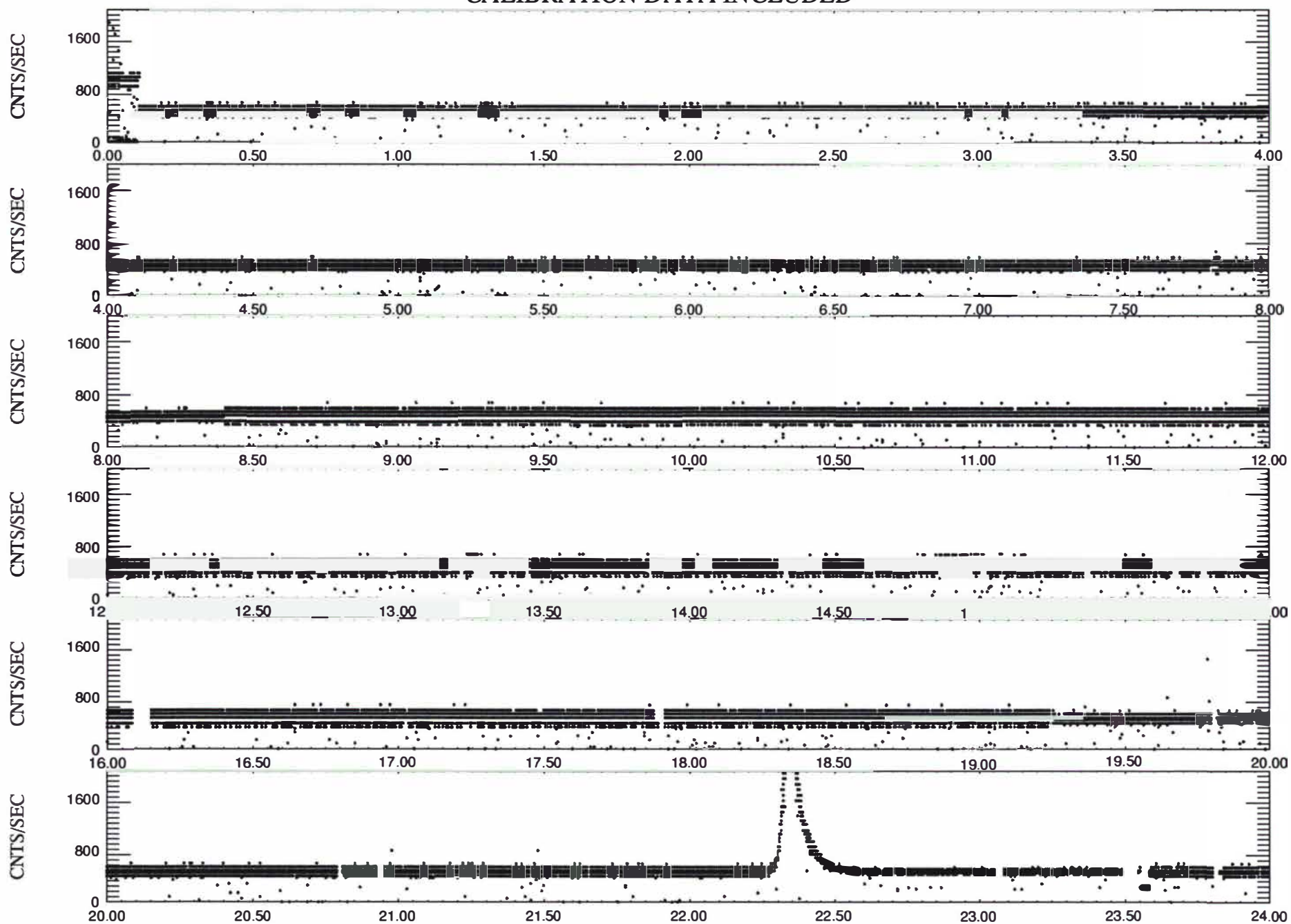
Background not subtracted

Sample average = 10

BURST NUMBER 15

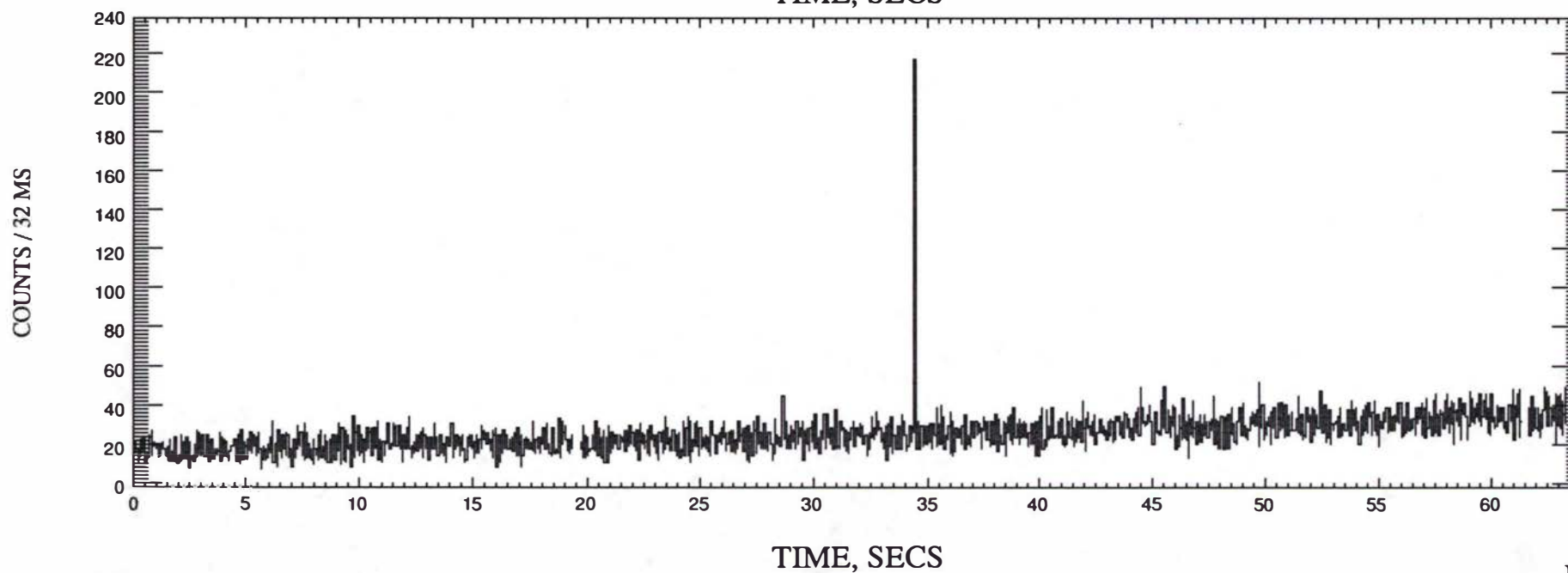
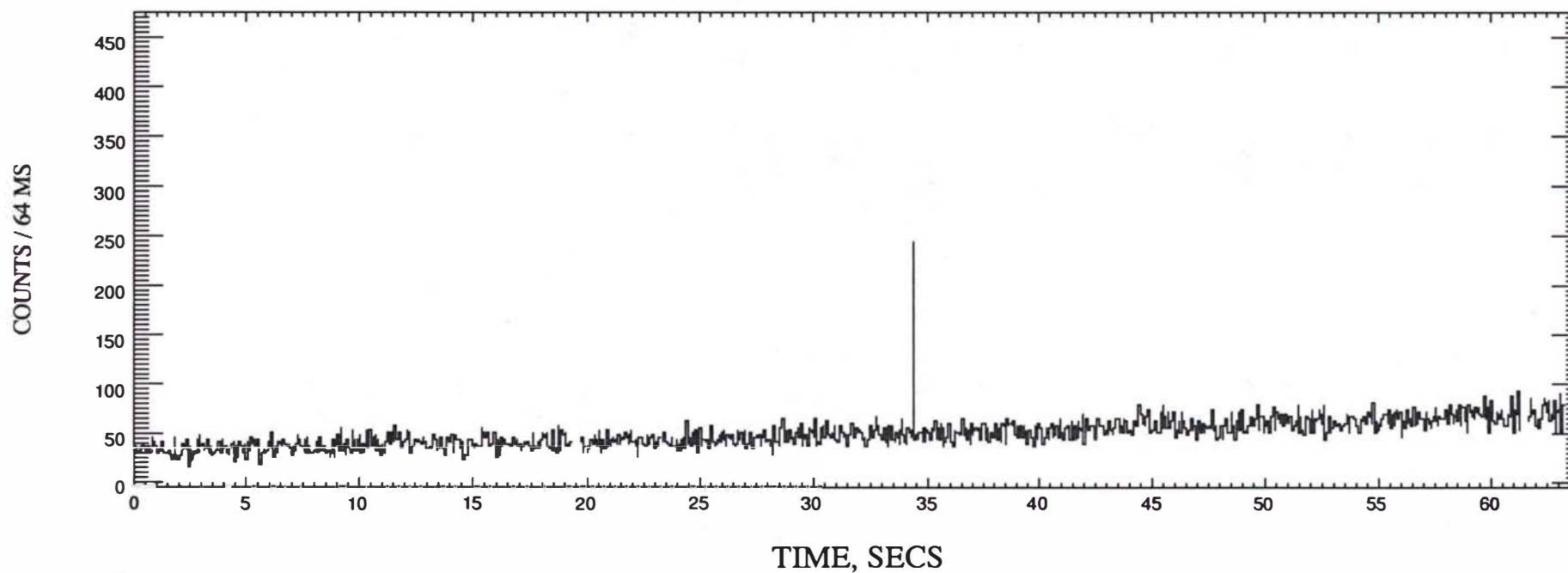


CALIBRATION DATA INCLUDED

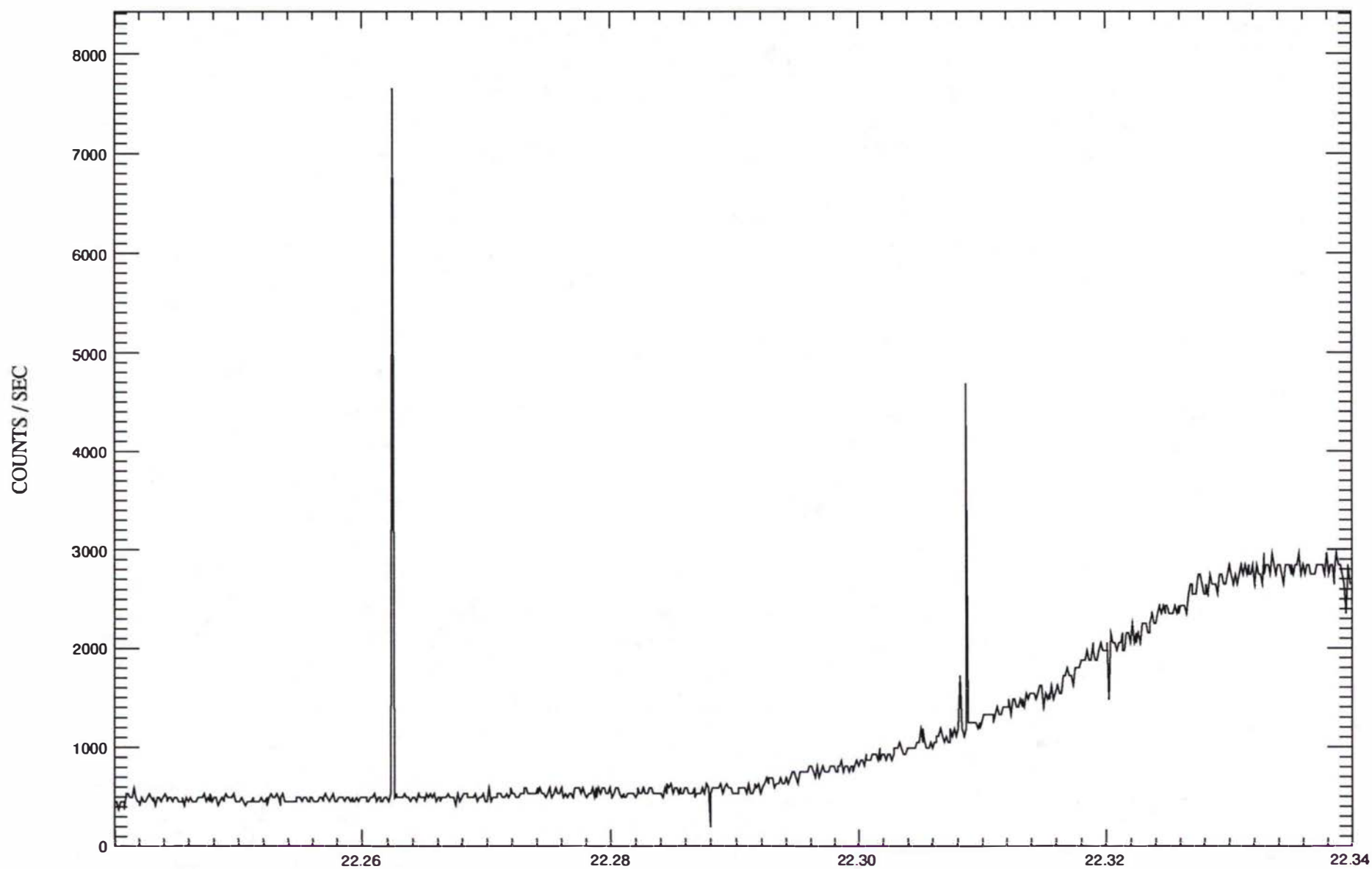


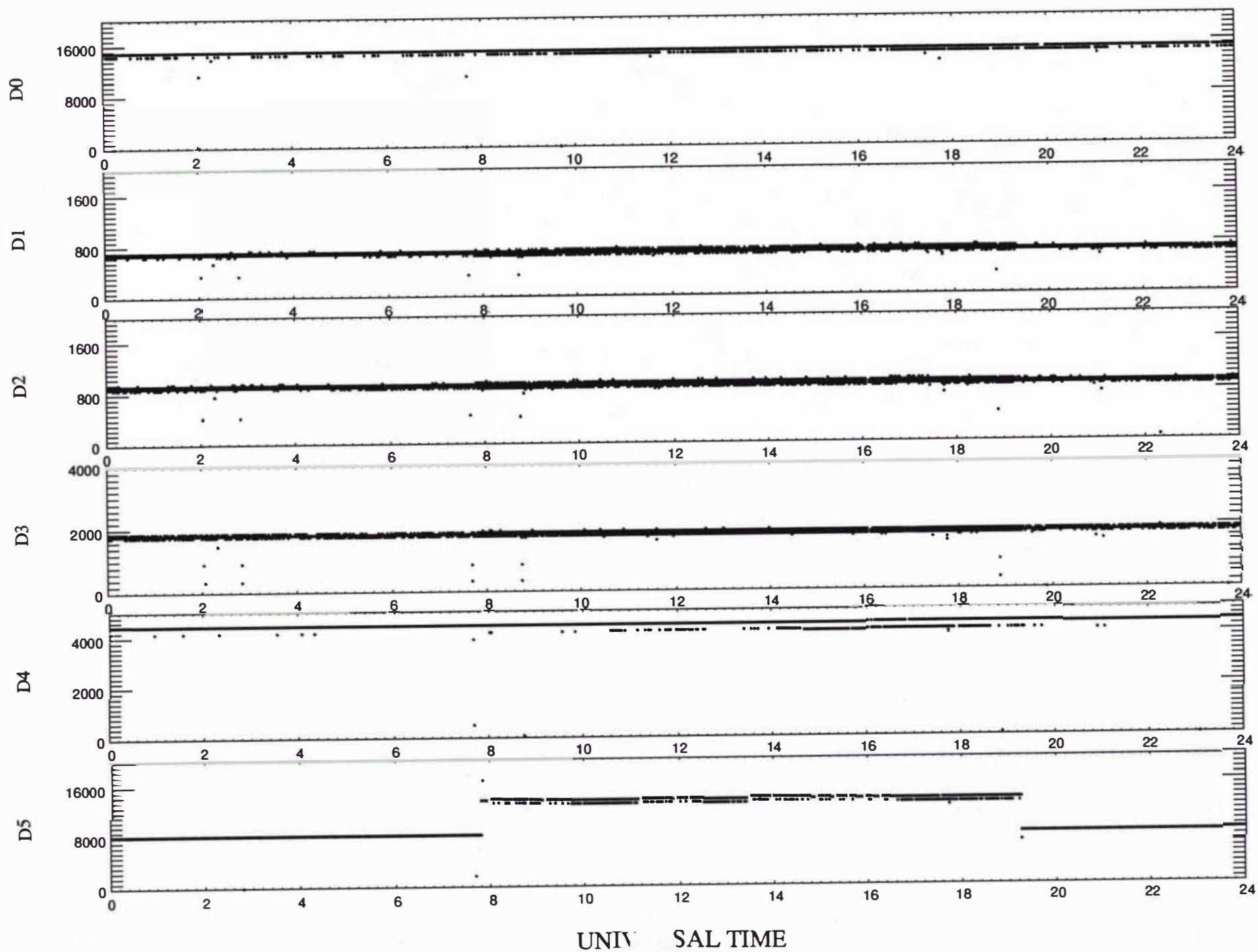
UNIV SAL TIME

Burst Counter 15 at UT=22.294798600939 h=80261.275 s 22:17:41.275



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Aug 24 11:08:55 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 24 Aug 1998 13:08:26 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7007

TIME: TJD=1045 SECONDS=1722

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=152.0 AZIMUTH=14.0 ERROR=0.4 DEGREES

COMMENTS:

SOLAR FLARE GOES C5.7, OPTICAL SF

LOTS OF STRUCTURE. DURATION APPROX. = 275 SEC. NOT VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Mon Aug 24 11:10:27 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 24 Aug 1998 13:10:05 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7008

TIME: TJD=1045 SECONDS=17028

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 Mon Aug 24 12:15:30 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA02669; Mon, 24 Aug 1998 12:15:29 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA22474; Mon, 24 Aug 1998 12:15:24 -0700
Date: Mon, 24 Aug 1998 14:12:35 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980824141235.2020f148@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7009
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7009
EVENT OF 1998 AUG 20 DAY OF YEAR=232
EVENT CROSSING TIME AT BATSE : 37486. S. OR 10:24:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 311.000 5.000
BATSE PEAK COUNTING RATE: 32000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 8/ 98 IS:
RA= 156.849 DEC= 5.058 DIST= 6.352 AU
BATSE-ULYSSES DISTANCE = 950318800. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 27.71 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2806.49 SECS.
CROSSING TIME AT ULYSSES IS 40292. S. OR 11:11:32 +/- 348.49 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 8/ 98 IS:
RA= 121.867 DEC= 21.210 DIST= 2.430 AU
MARS-BATSE DISTANCE = 363473440. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 27.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1073.49 SECS.
CROSSING TIME AT MARS IS 38559. S. OR 10:42:39 +/- 114.14 SECONDS

BATSE BURST TRIGGER

NO.: 7009

TIME: TJD=1045 SECONDS=37486

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=146.6 AZIMUTH=229.8 ERROR=3.2 DEGREES

COMMENTS:

GRB SHORT SINGLE SPIKE. DURATION APPROX. = 0.14 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7009	980820	11045	37486	32000	311	+05	.14

BATSE BURST# 7009

ULYSSES RT

27 / 8 / 98

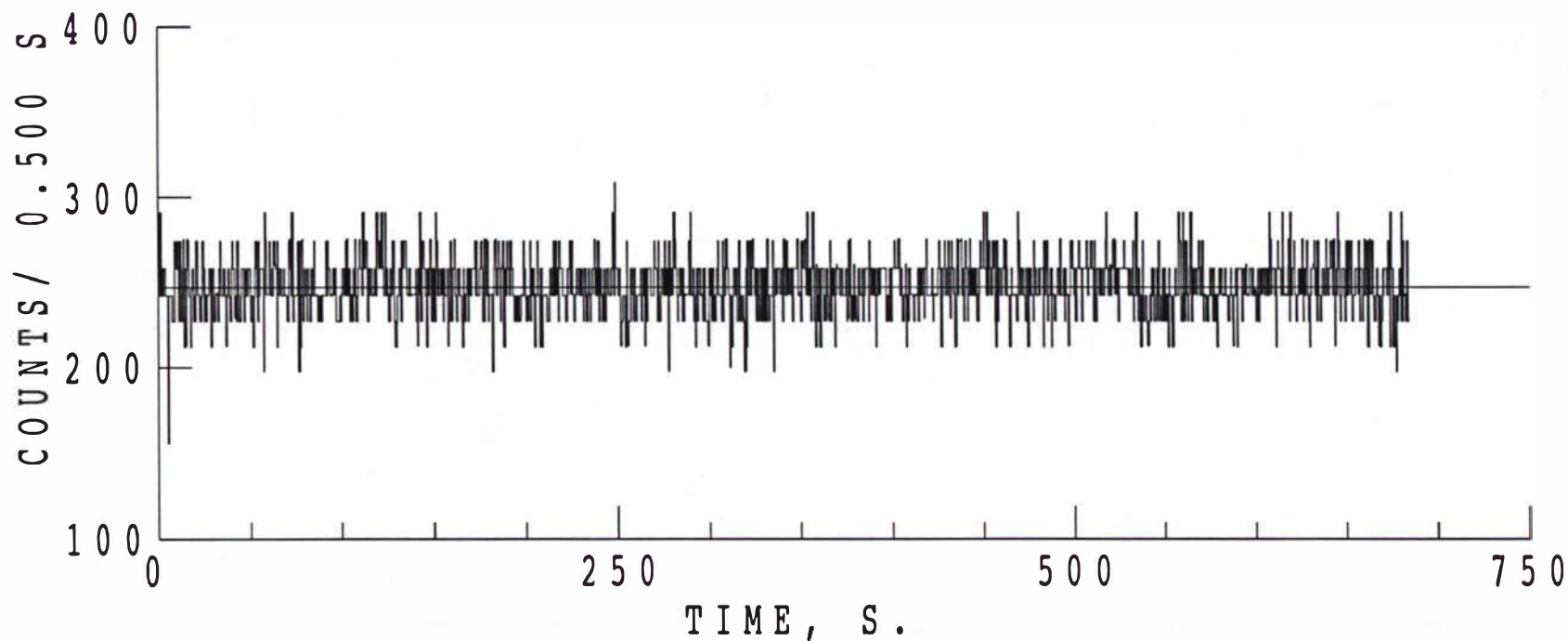
20 / 8 / 98 39960.145 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M=10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Aug 24 11:23:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 24 Aug 1998 13:23:10 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7010

TIME: TJD=1045 SECONDS=75292

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=10.0 AZIMUTH=16.1 ERROR=1.2 DEGREES

COMMENTS:

SOLAR FLARE. SINGLE PULSE WITH STRUCTURE. DURATION APPROX. = 20 SEC
NOT VISIBLE ABOVE 100KEV.

GRBM 19980820 84317

ULYSSES RT

26 / 08 / 09

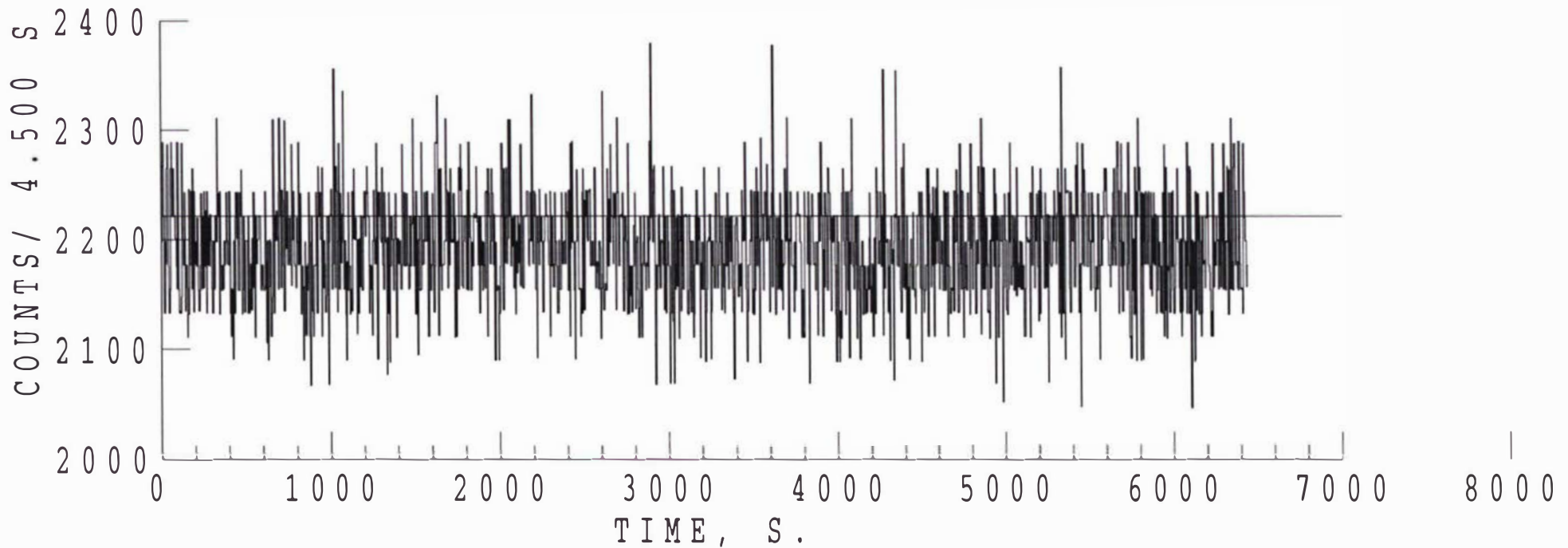
20/08/98 81108.320 s

0.500 S INTERVALS REGROUPED BY 9

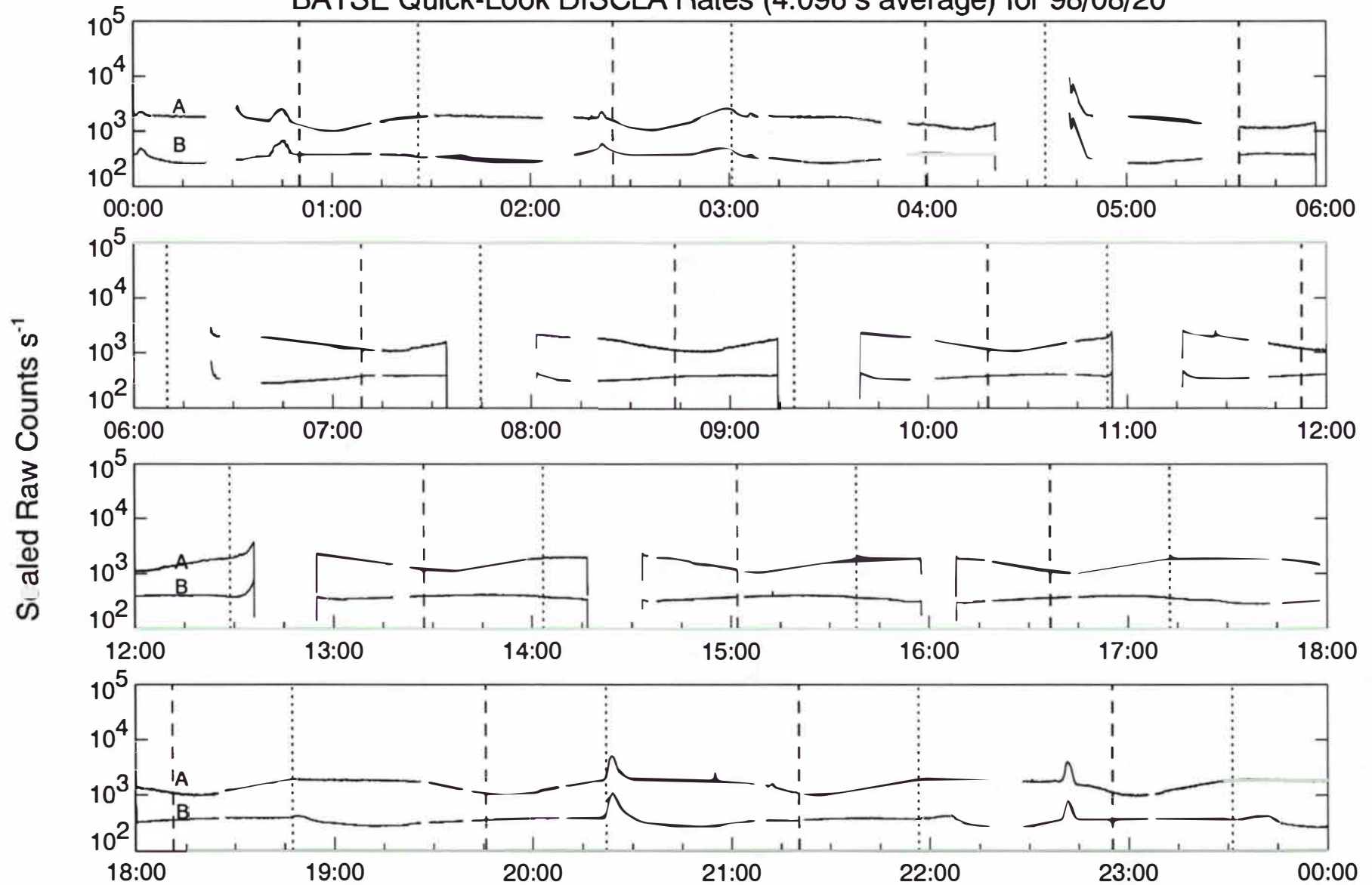
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/20

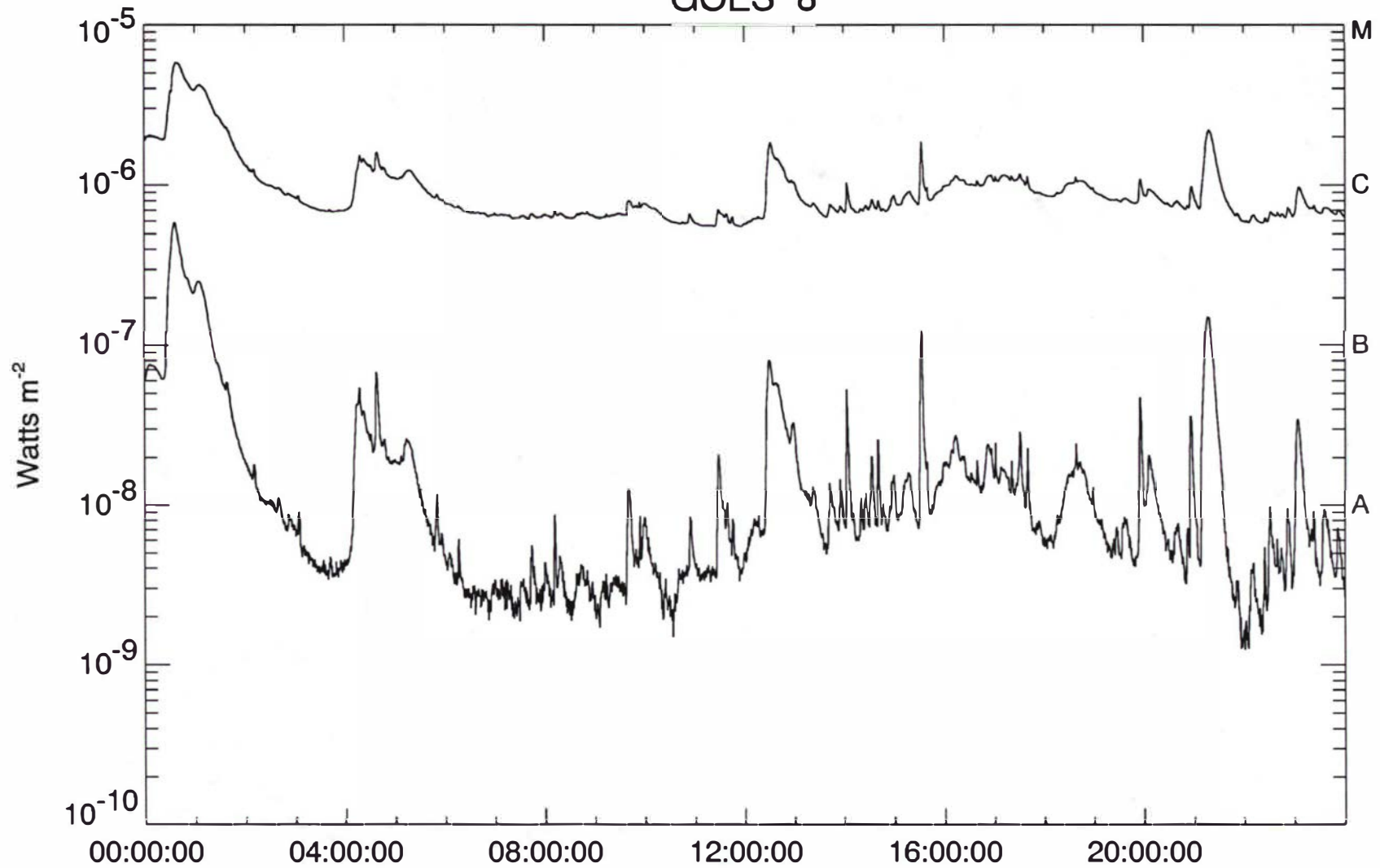


Current Time: 98/08/24, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/08/20, 0000:00

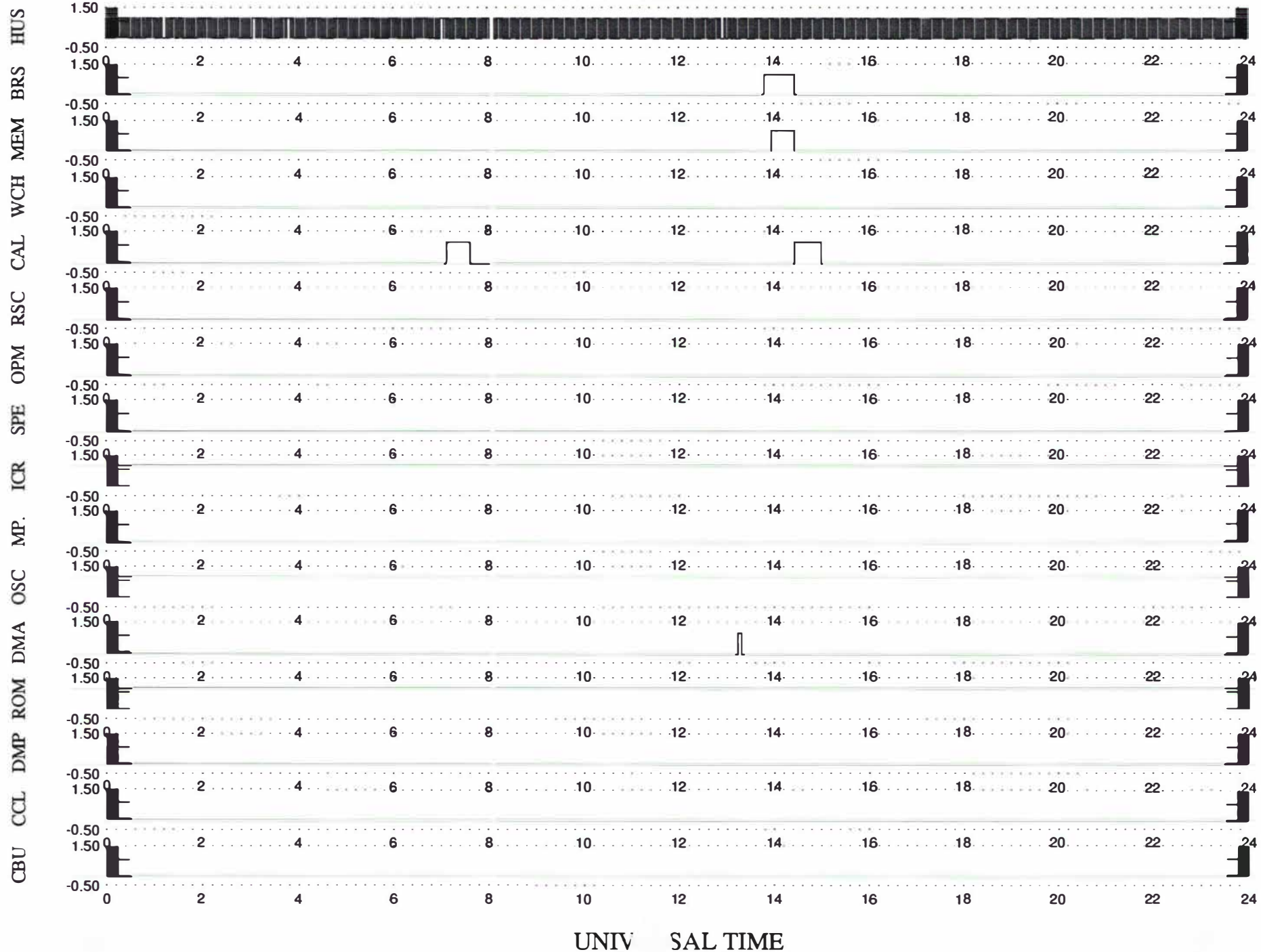
Plot created: 98/08/24, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

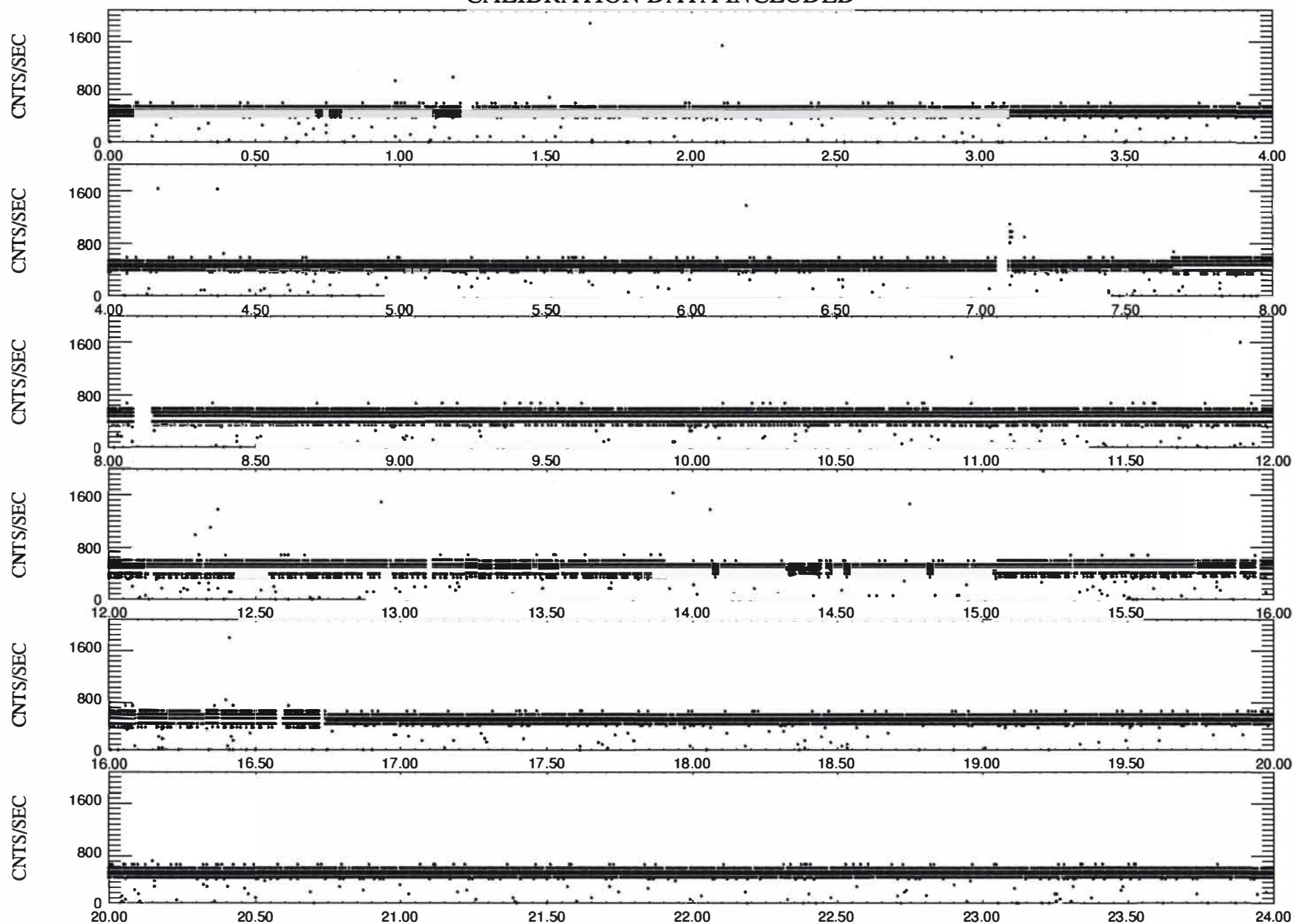
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 0

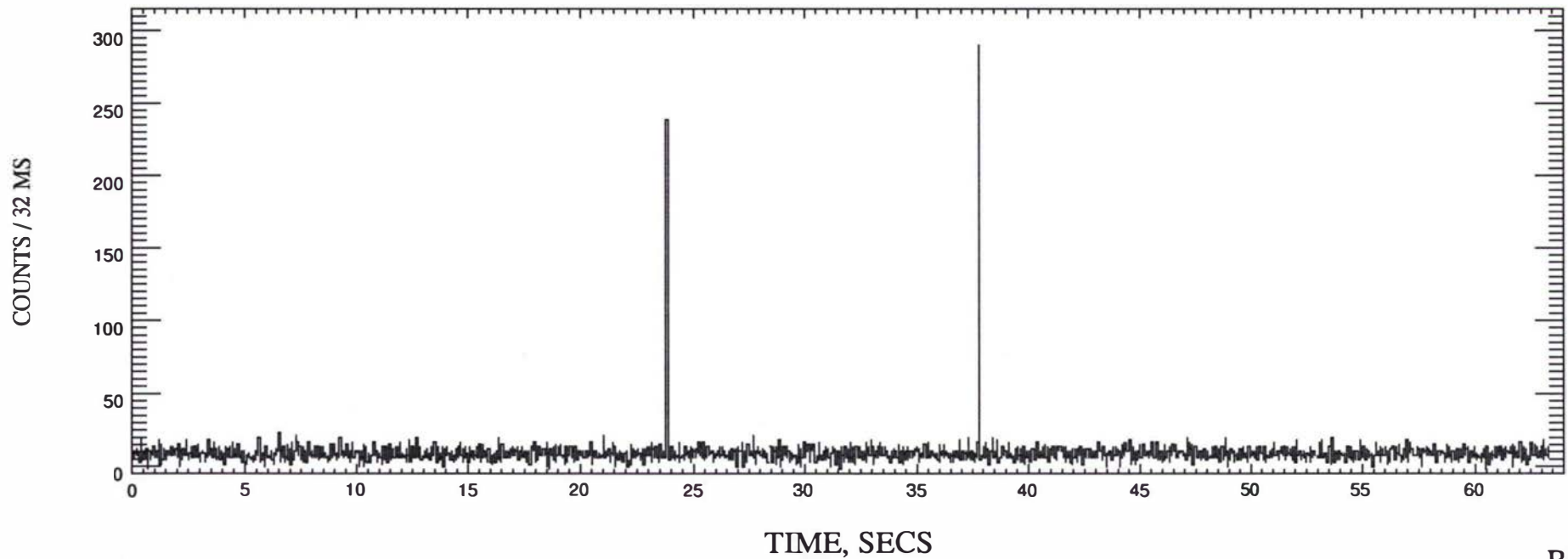
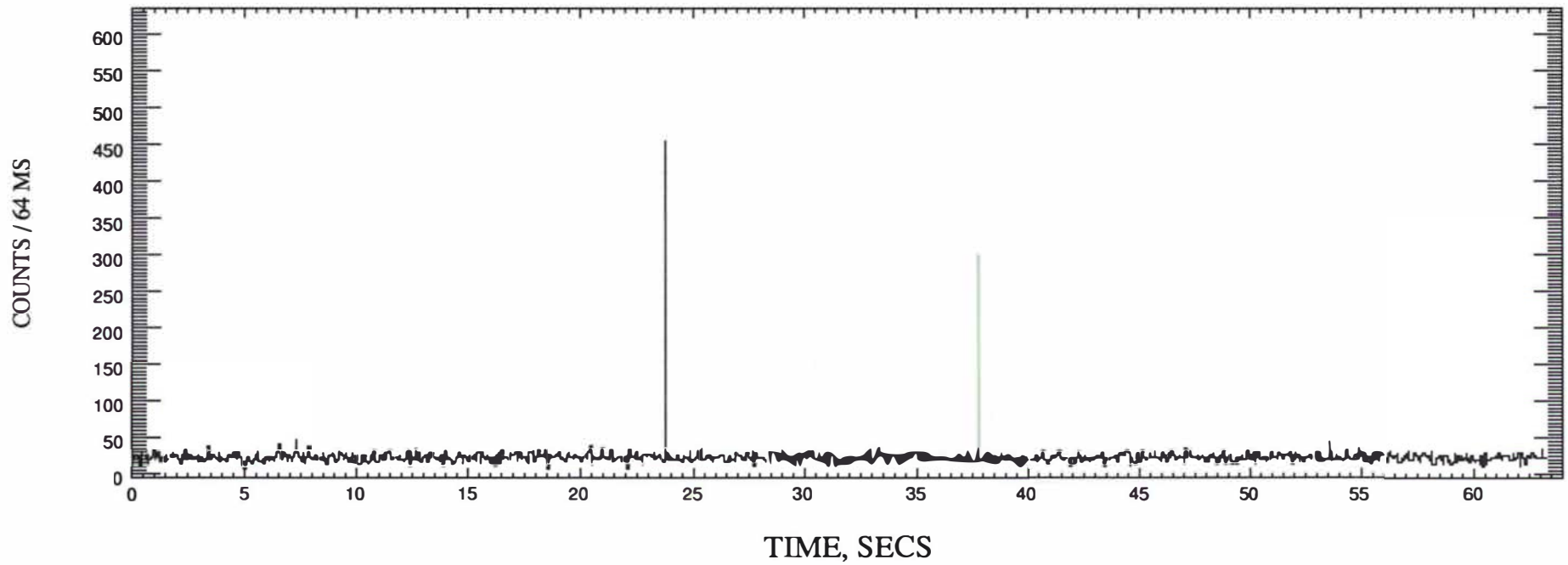


CALIBRATION DATA INCLUDED

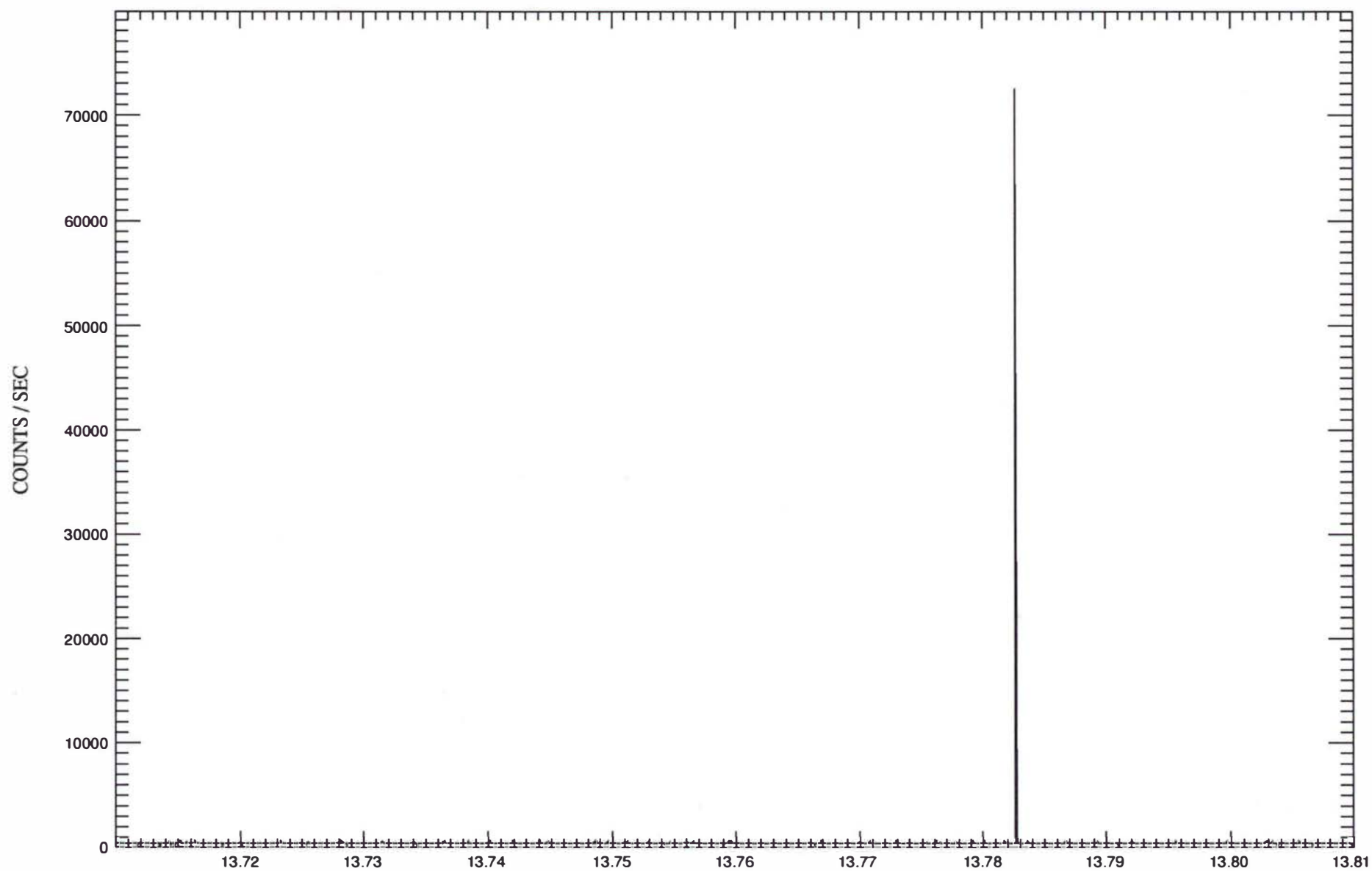


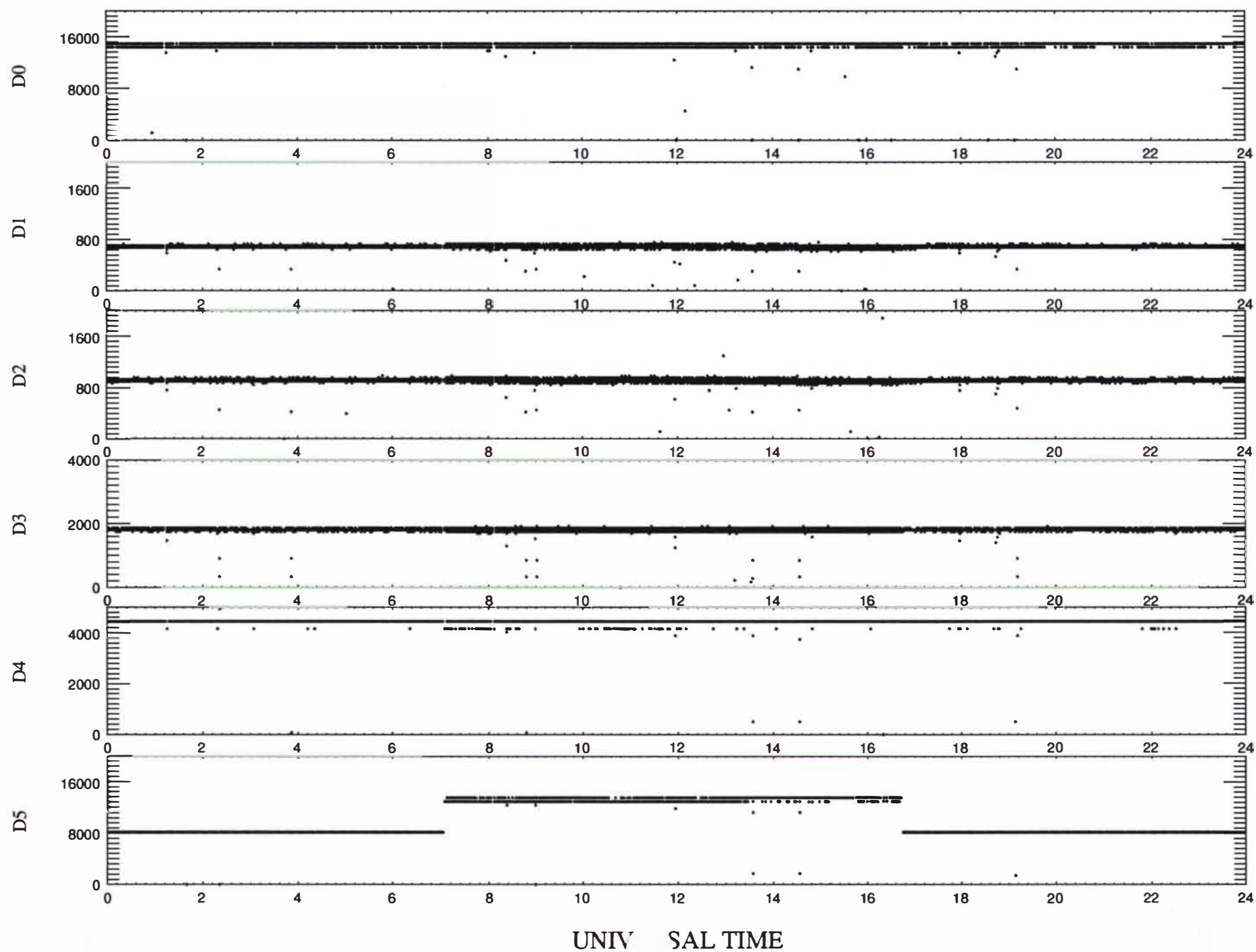
UNIV SAL TIME

Burst Counter 0 at UT=13.759788424174 h=49535.238 s 13:45:35.238



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Tue Aug 25 12:34:33 1998
Date: Tue, 25 Aug 1998 14:34:12 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@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.: 7011

TIME: TJD=1046 SECONDS= 4172

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

Aug 21

From HENZE@fender.msfc.nasa.gov Tue Aug 25 14:30:12 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA01240; Tue, 25 Aug 1998 14:30:11 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA14893; Tue, 25 Aug 1998 14:30:09 -0700
Date: Tue, 25 Aug 1998 16:29:49 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980825162949.20227bdd@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7012
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7012
EVENT OF 1998 AUG 21 DAY OF YEAR=233
EVENT CROSSING TIME AT BATSE : 62165. S. OR 17:16:05.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 124.000 -12.000
BATSE PEAK COUNTING RATE: 53000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 21/ 8/ 98 IS:
RA= 157.021 DEC= 4.935 DIST= 6.354 AU
BATSE-ULYSSES DISTANCE = 950607349. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=143.06 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2534.23 SECS.
CROSSING TIME AT ULYSSES IS 59631. S. OR 16:33:50 +/- 342.40 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 21/ 8/ 98 IS:
RA= 122.544 DEC= 21.081 DIST= 2.426 AU
MARS-BATSE DISTANCE = 362999904. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=146.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1014.20 SECS.
CROSSING TIME AT MARS IS 61151. S. OR 16:59:10 +/- 99.44 SECONDS

BATSE BURST TRIGGER

NO.: 7012

TIME: TJD=1046 SECONDS=62165

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 43.5 AZIMUTH= 52.3 ERROR= 0.2 DEGREES

COMMENTS:

THREE PULSES, EACH WITH SUBSTRUCTURE, TOTAL DUR. APPROX. 50 S.
HIGHEST MAX IS IN SECOND PULSE AT APPROX. T+14 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7012	980821	11046	62165	53000	124	-12	50

Date: 20/1/00

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

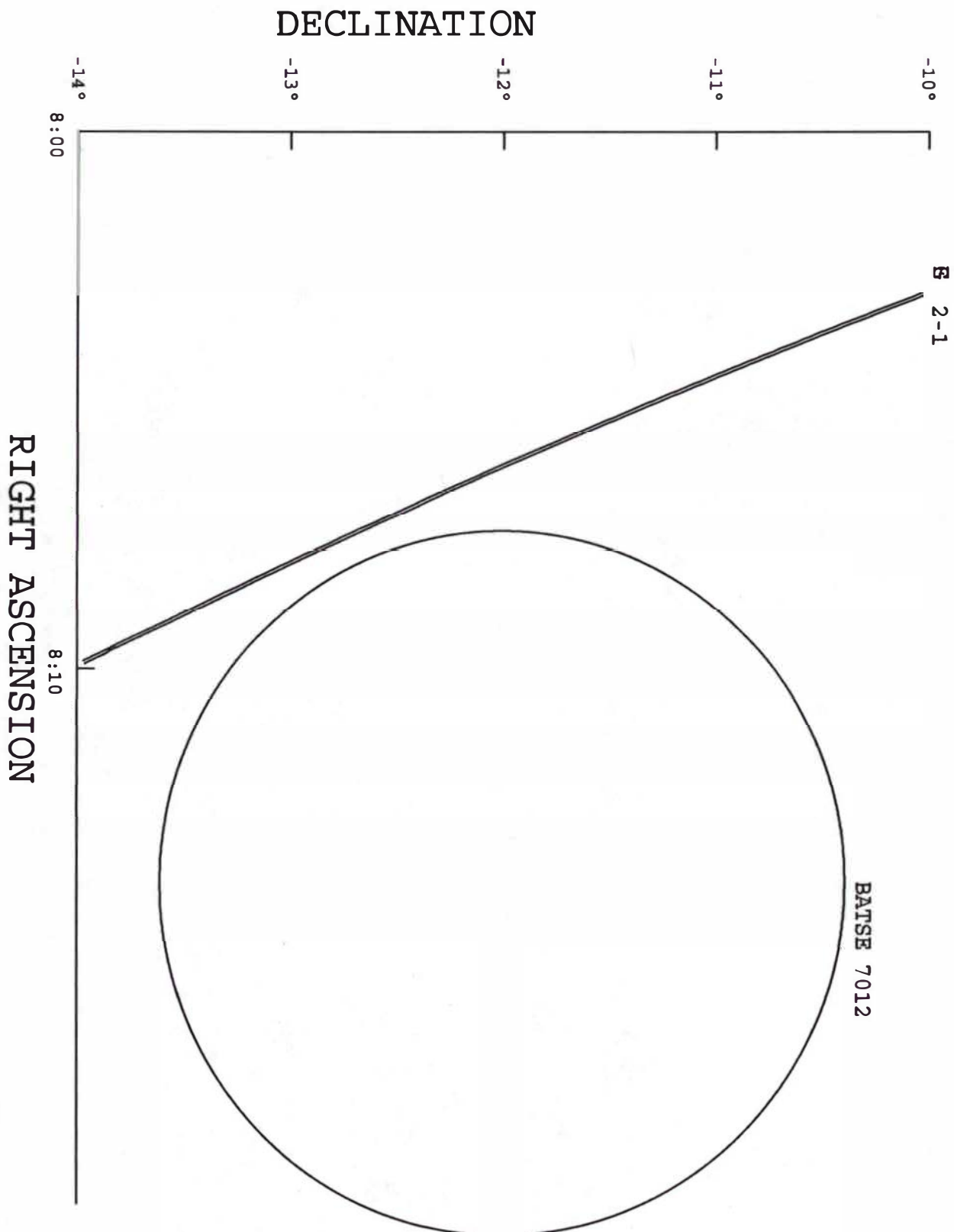
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF AUG 21, 1998 17:16

20 / 1 / 0



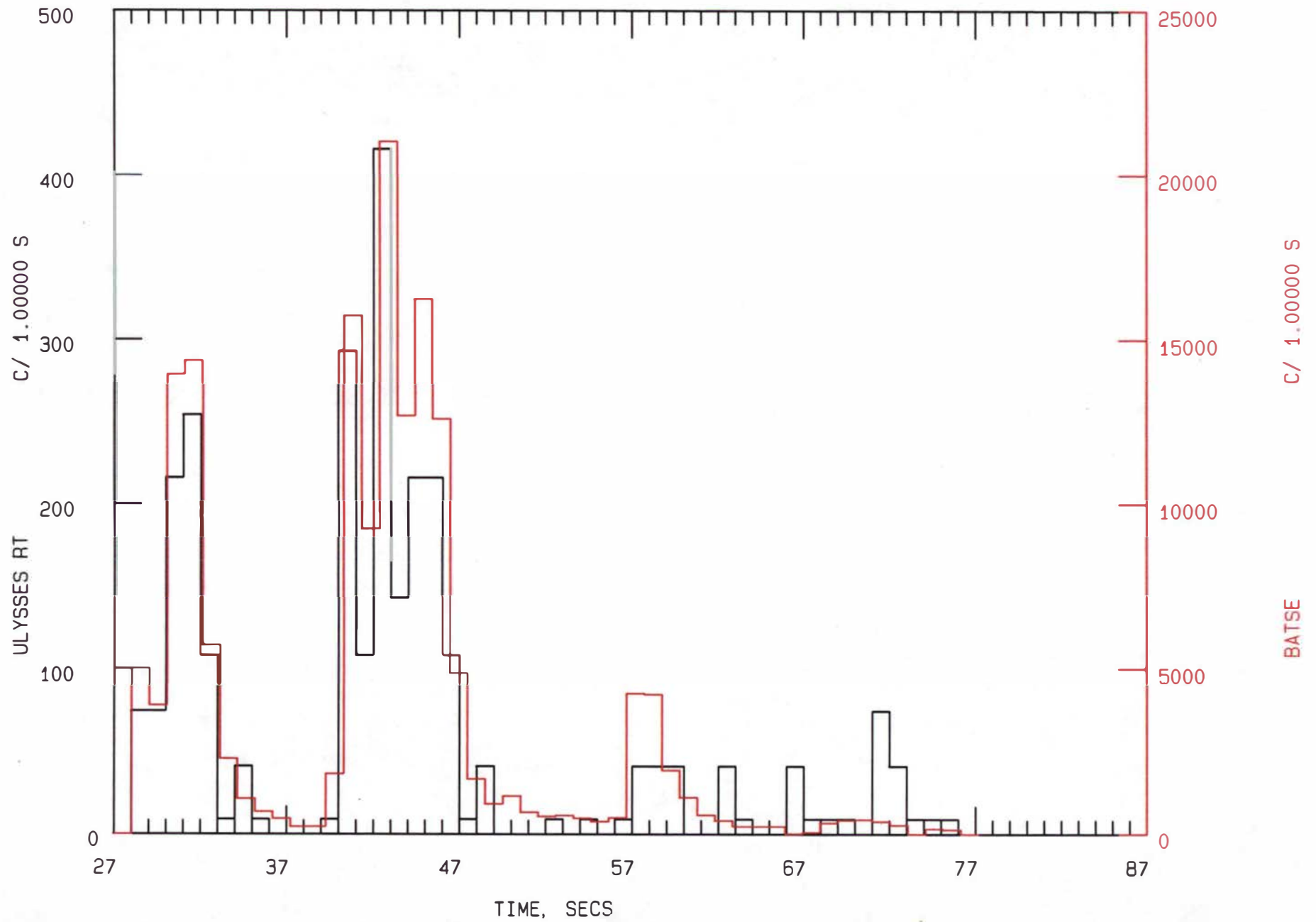
ULYSSES RT-BATSE

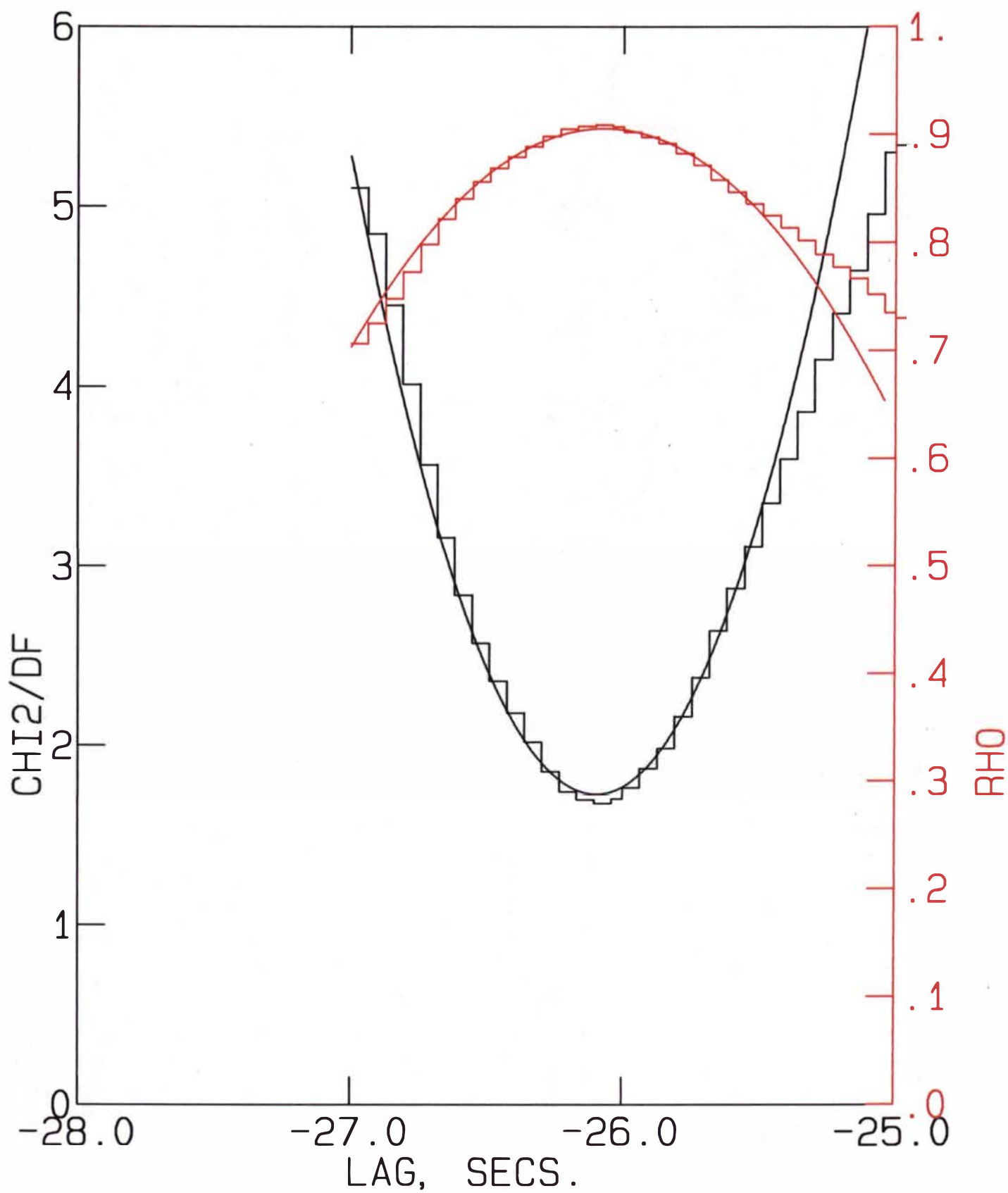
CORRELATION

21/ 8/98

59691.990

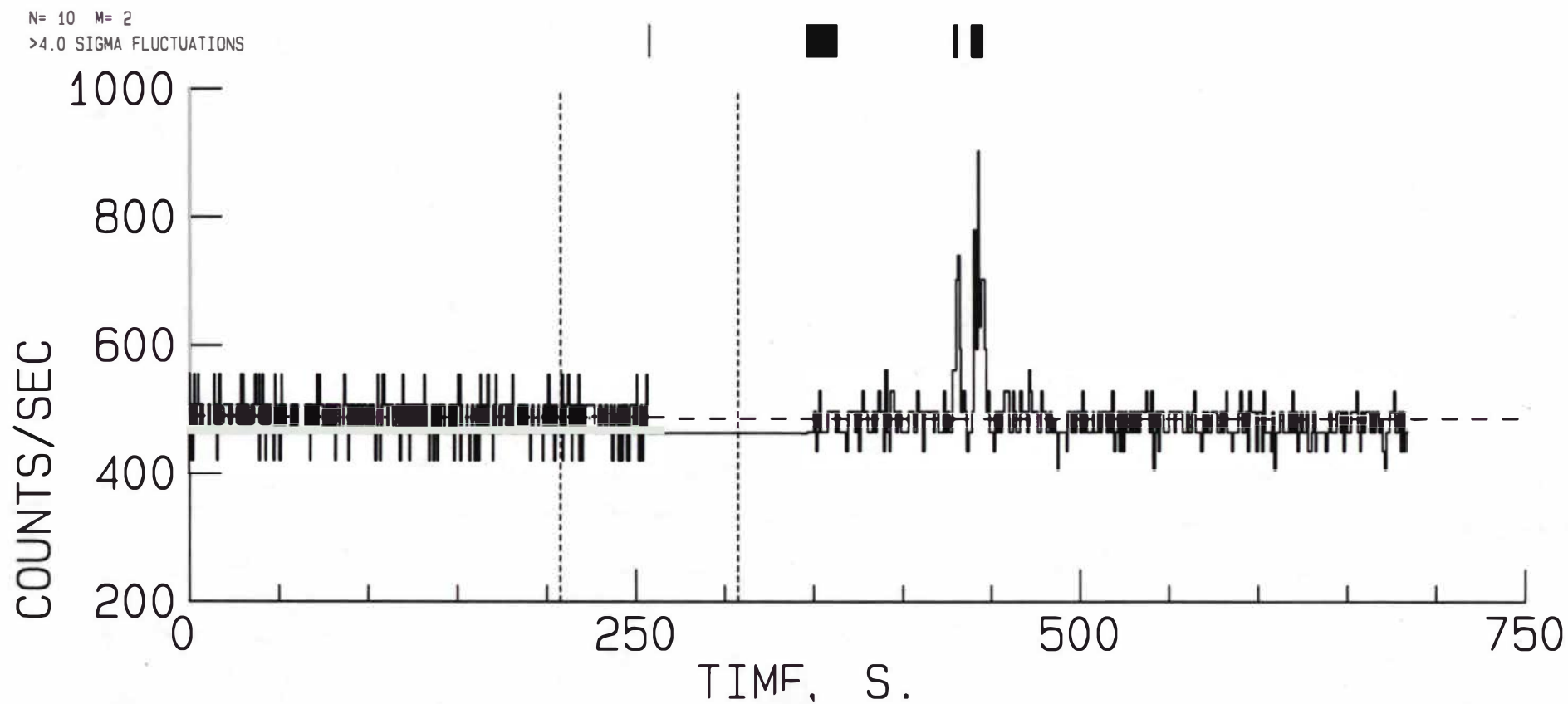
20/ 1/ 0





ULYSSES RT
21/ 8/98 59292.007 s
22- 149 keV

20 / 1 / 0



BATSE

21/08/98

62165.729

25- 100 keV

COUNTS/0.064 S

3000

2000

1000

-3

01

5

9

13

17

21

25

29

33

37

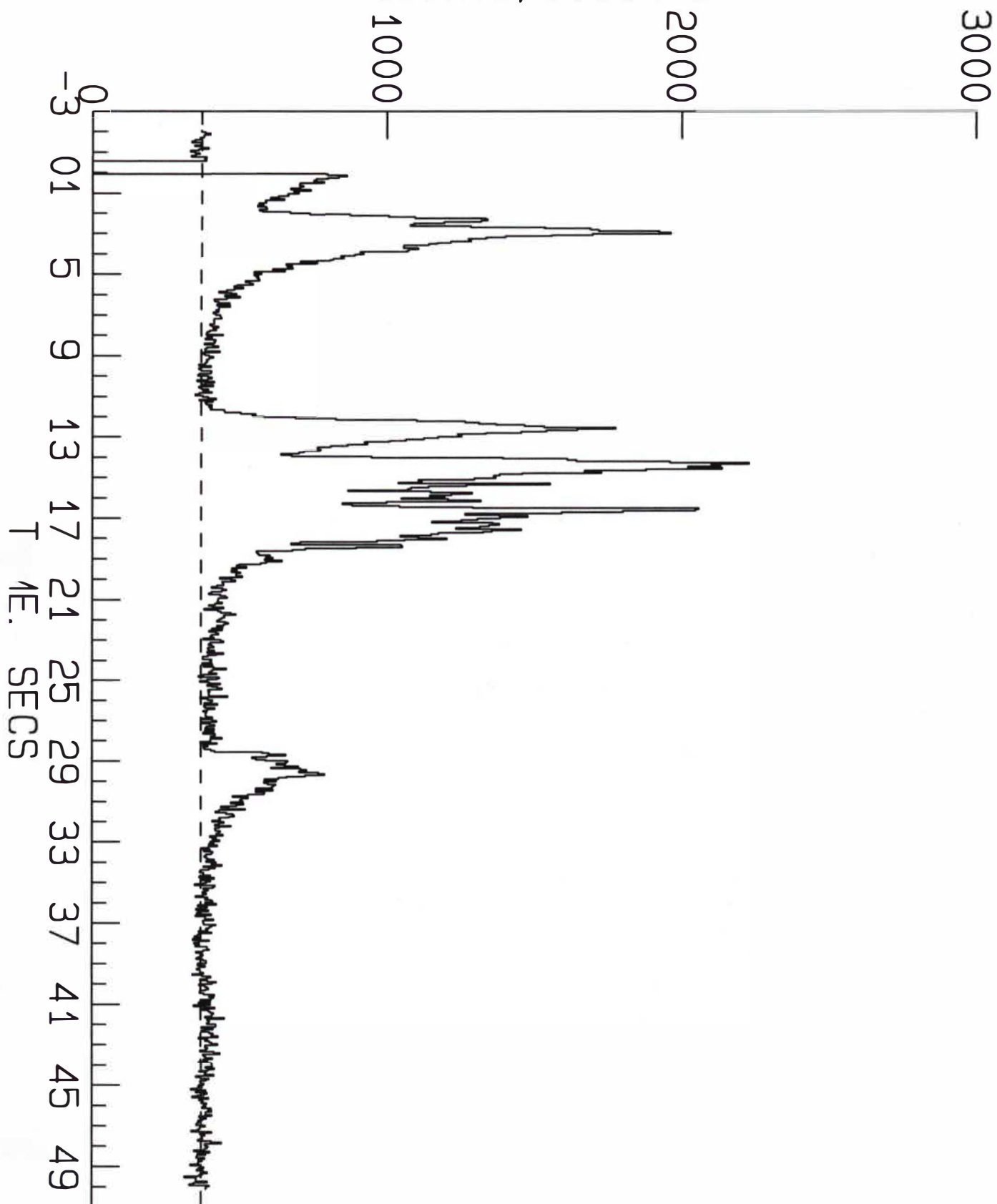
41

45

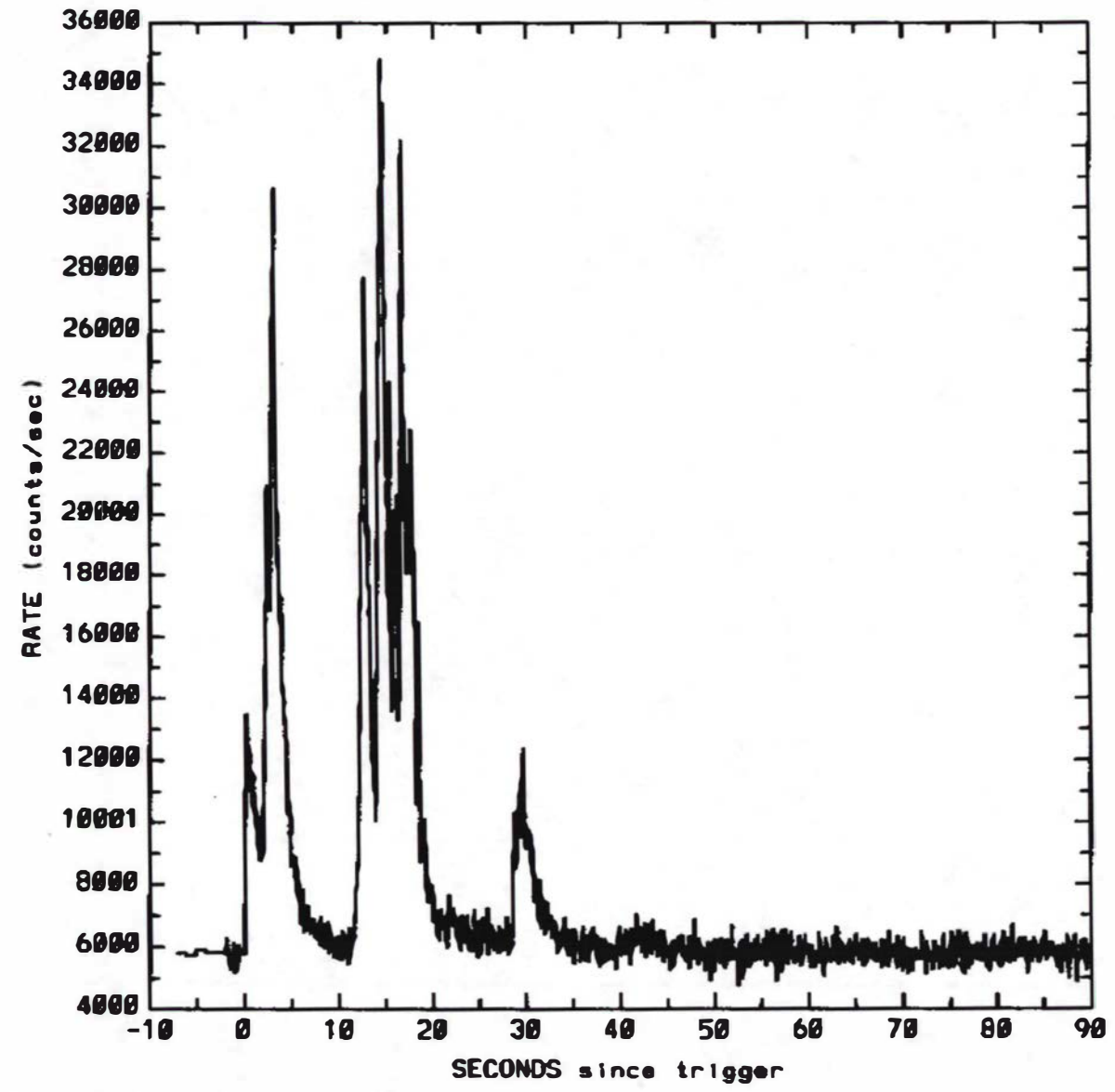
49

T
IE. SECS

9 / 12 / 98



DISCSC Data for K. Hurley, No. 7012



2-SEP-1998 13:21.06

Created by MOPS 80
(Burst Display)
Version 12.25

Trigger # : 7012

Trigger Time:
11846 / 62165.729

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

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

Discriminators:
(1 , 2)

Quality Mask:
80ISP1

From HENZE@fender.msfc.nasa.gov Thu Aug 27 17:33:02 1998
Date: Thu, 27 Aug 1998 19:32:18 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7018

TIME: TJD= SECONDS=

TYPE: SOLAR FLARE TRIGGER SIGNAL:

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

BECAUSE OF A GRO ATTITUDE CONTROL PROBLEM, THE DATA FOR TRIGGERS 7013
THROUGH 7018 HAVE BEEN IRRETRIEVABLY LOST.
BEGINNING WITH TRIGGER NO. 7019, BATSE IS USING DISCLA CHANNELS 3+4 (APPROX.
100 KEV AND HIGHER) AS THE TRIGGER CHANNELS (HAD BEEN CHANNELS 1+2).

From cline@apache.gsfc.nasa.gov Wed Aug 26 08:46 PDT 1998
Mime-Version: 1.0
Date: Wed, 26 Aug 1998 11:50:51 -0400
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: GRB980821, 980822

DEAR KEVIN

I don't know about the 21st but checking out auto-Konus on the 22nd,
it triggered four times, including 07818.780 seconds UT with the peak 40
seconds later (corresponding to your "" 22 AUG 98 02:49 5-s long""
and also at 54328 sec. UT, and 82158 sec. UT.

TLC

>

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

>Ulysses observed the following bursts:

>

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

>

>21 AUG 98 18:24	32 ms long, moderate - SGR?	3150
------------------	-----------------------------	------

>21 AUG 98 22:32	64 ms long, intense - SGR?	3150
------------------	----------------------------	------

>22 AUG 98 02:49	5 s long, moderate	3150
------------------	--------------------	------

>22 AUG 98 10:23	64 ms long, intense - SGR?	3150
------------------	----------------------------	------

>

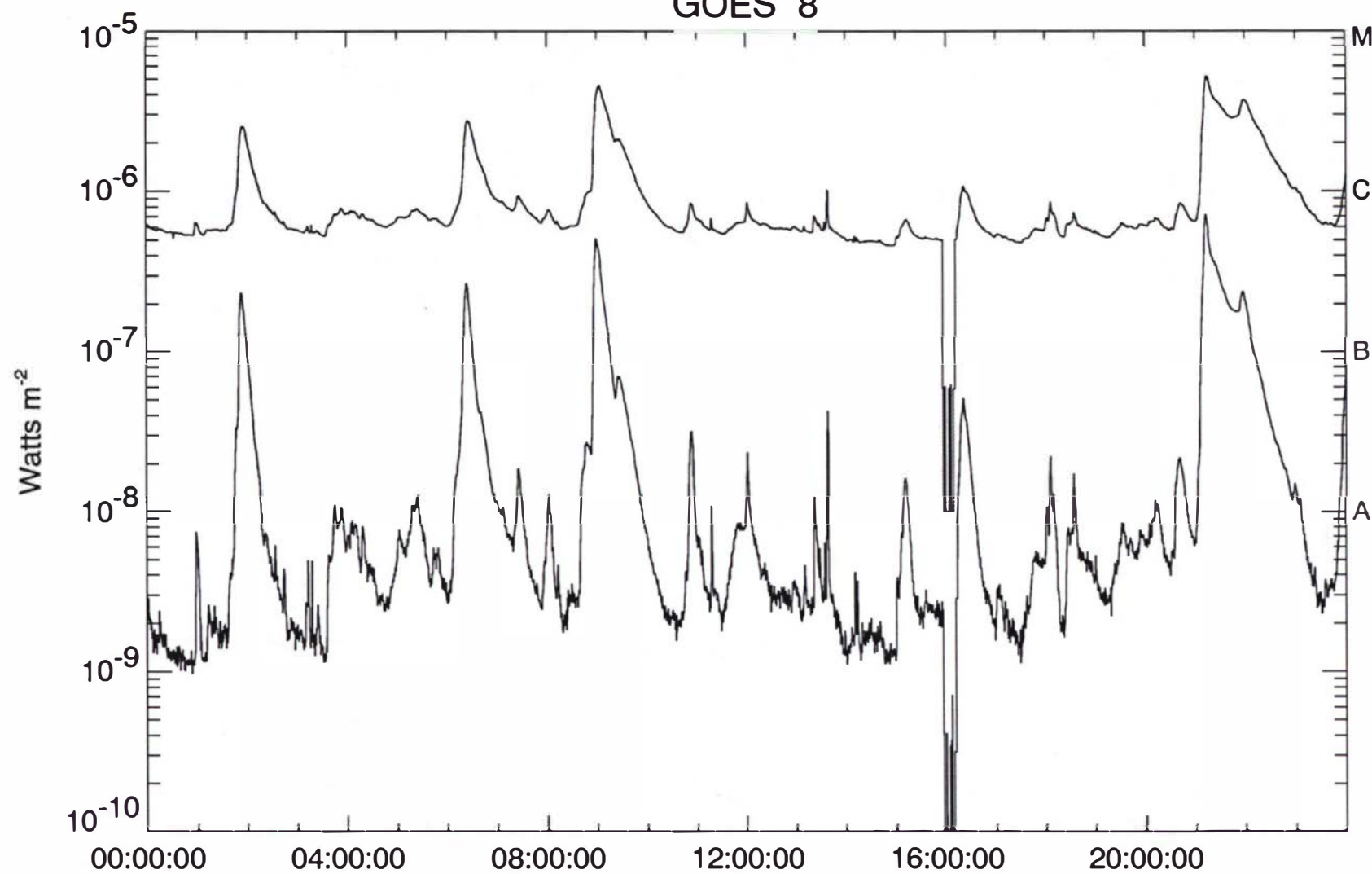
>Were these events detected by anyone else?

C: ulyssesbursts alias list

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

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

GOES 8



Data Start: 98/08/21, 0000:00

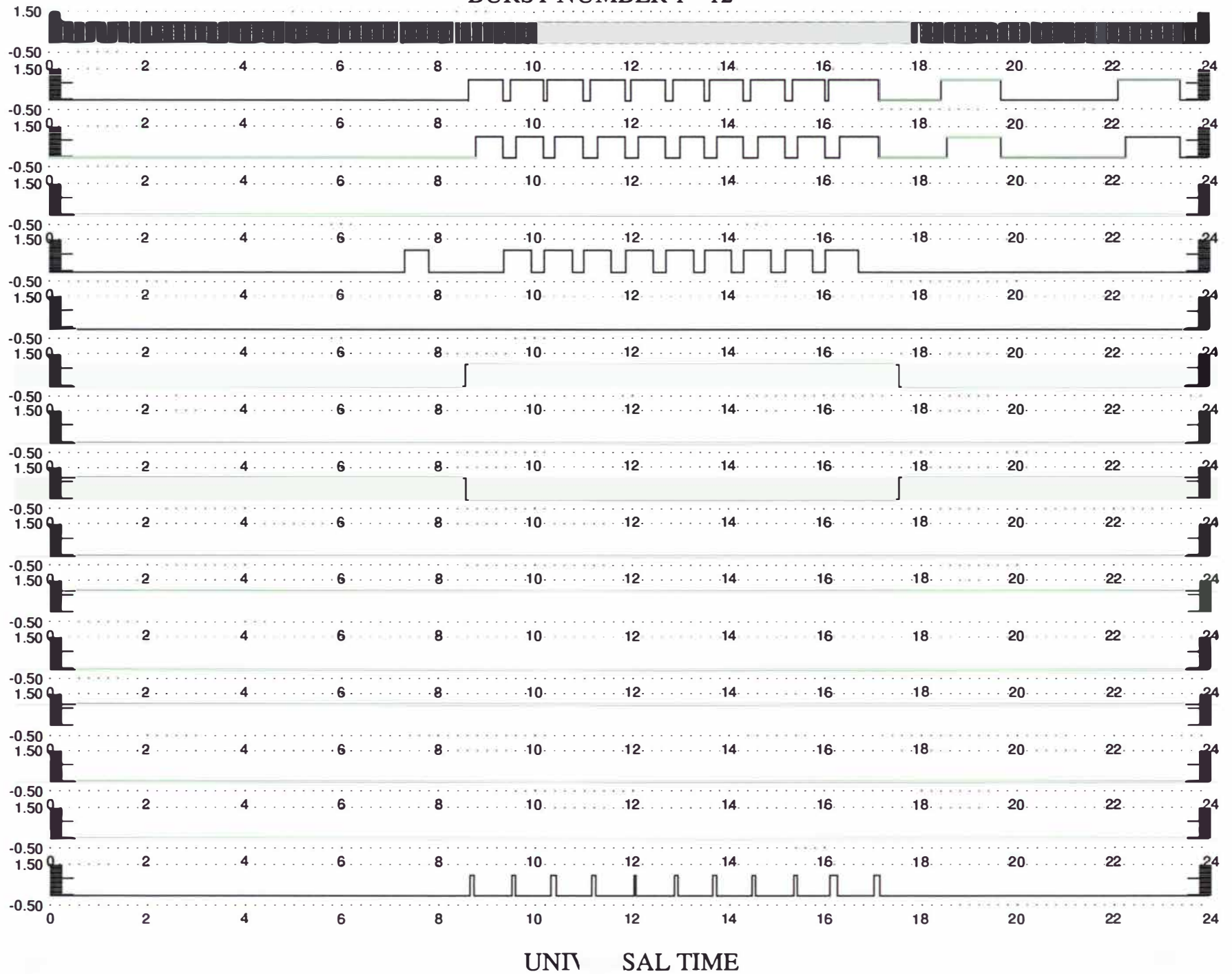
Plot created: 98/08/25, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

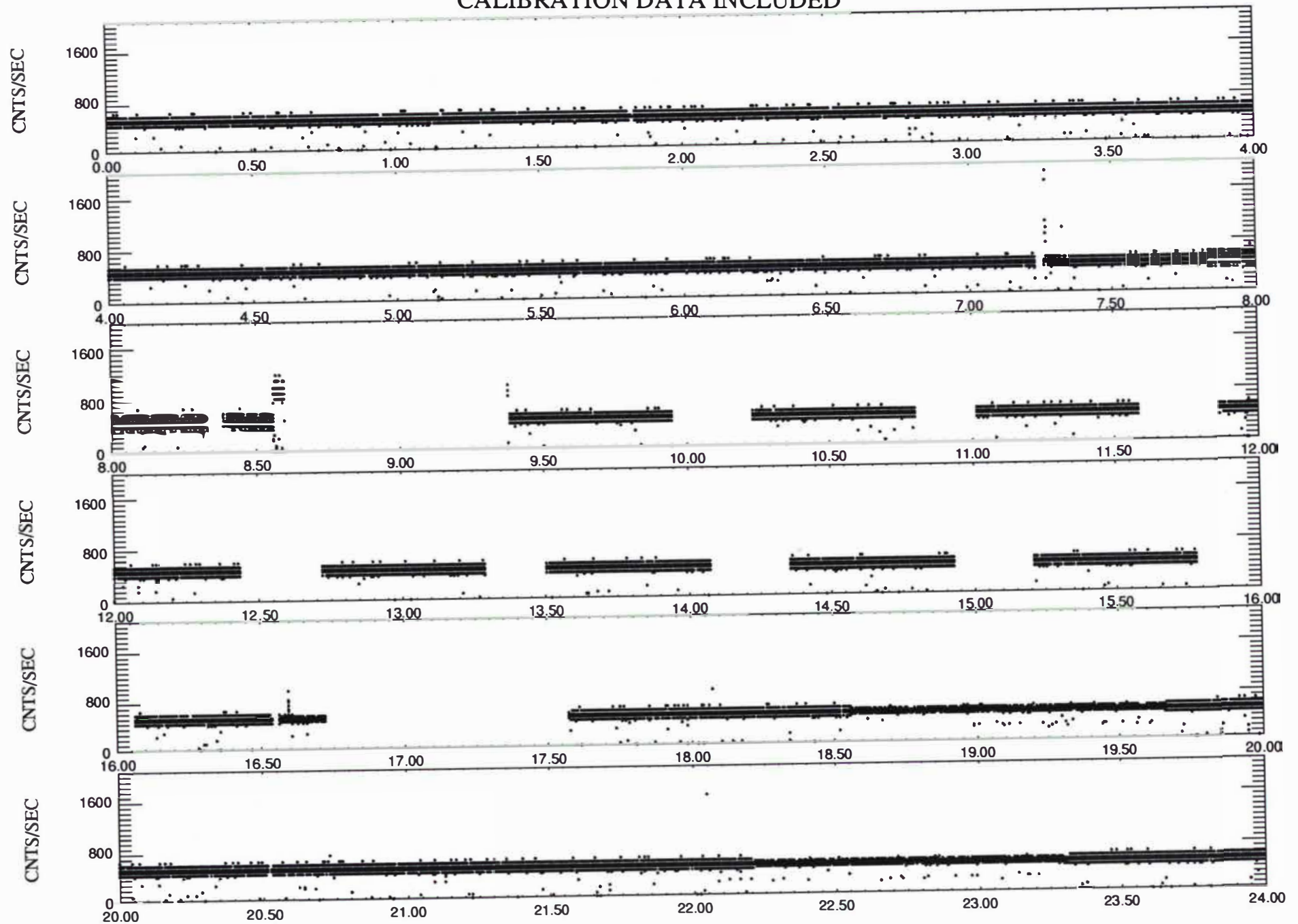
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

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

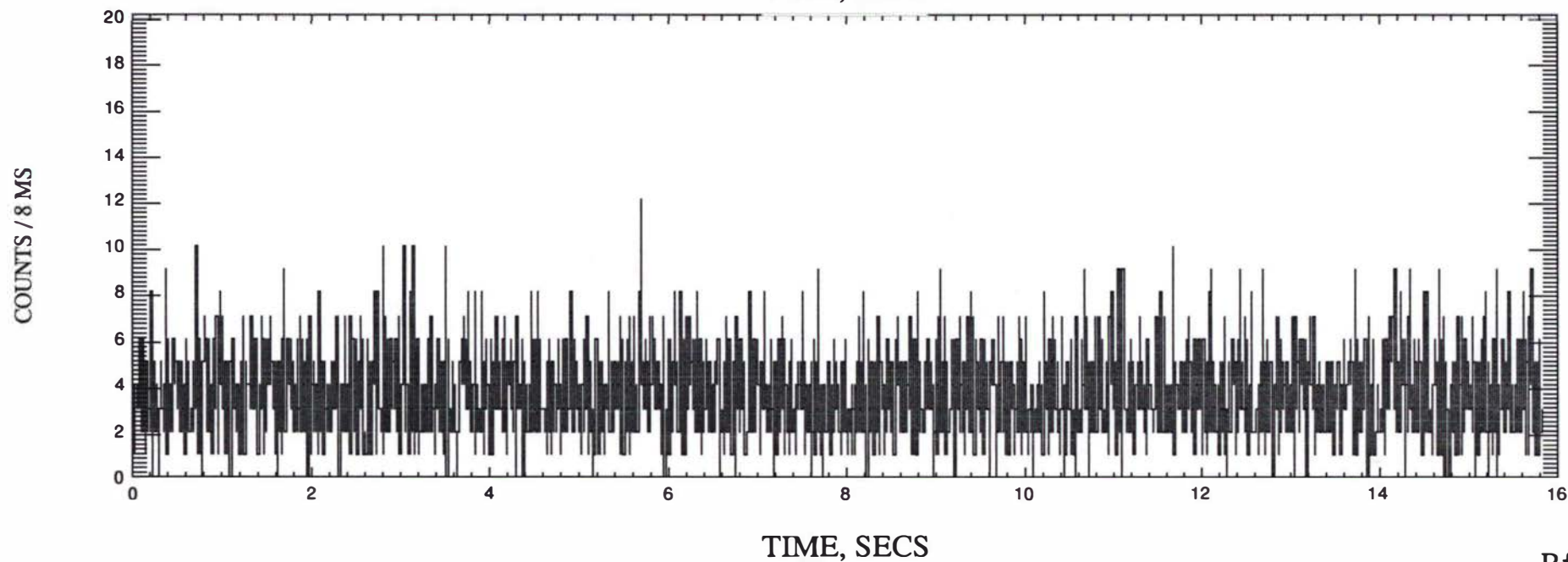
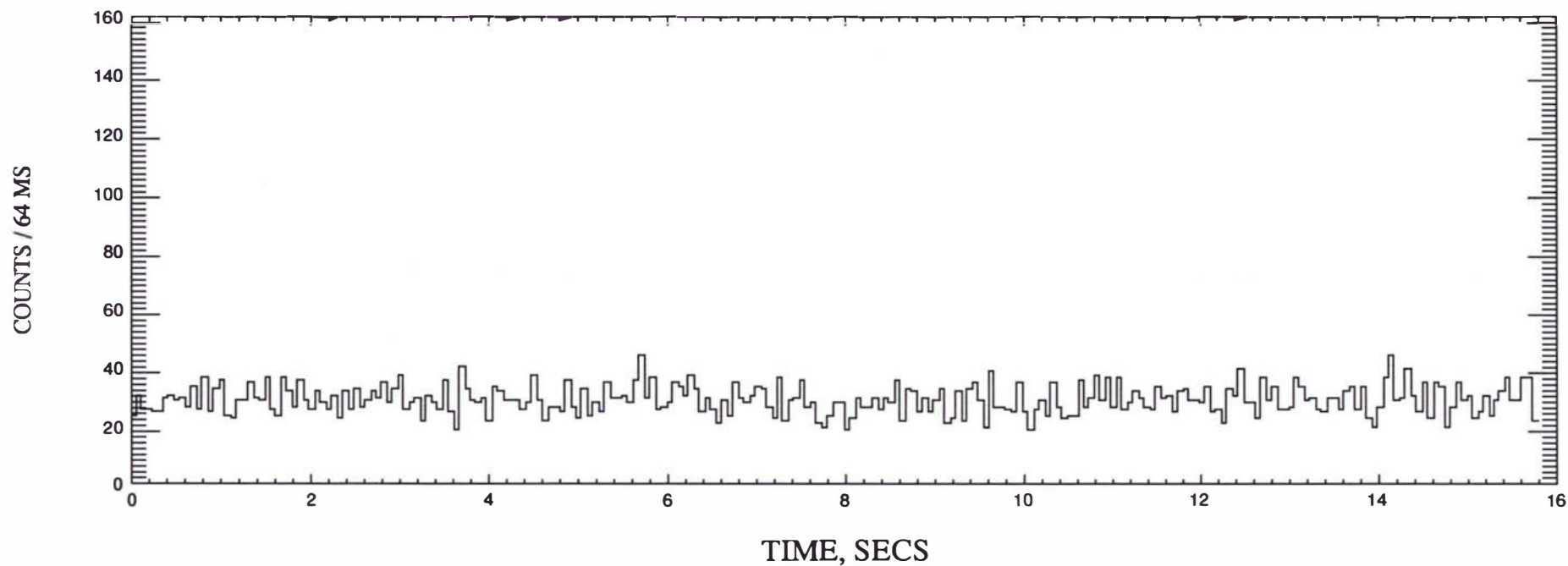


CALIBRATION DATA INCLUDED

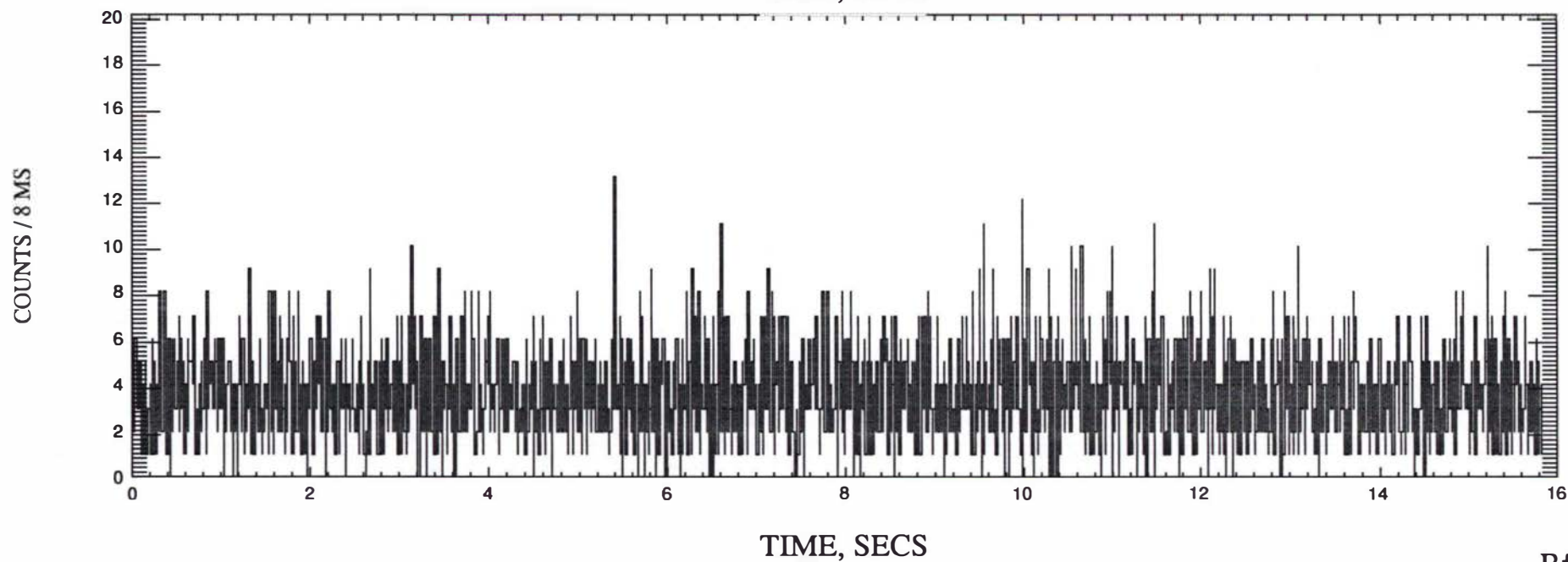
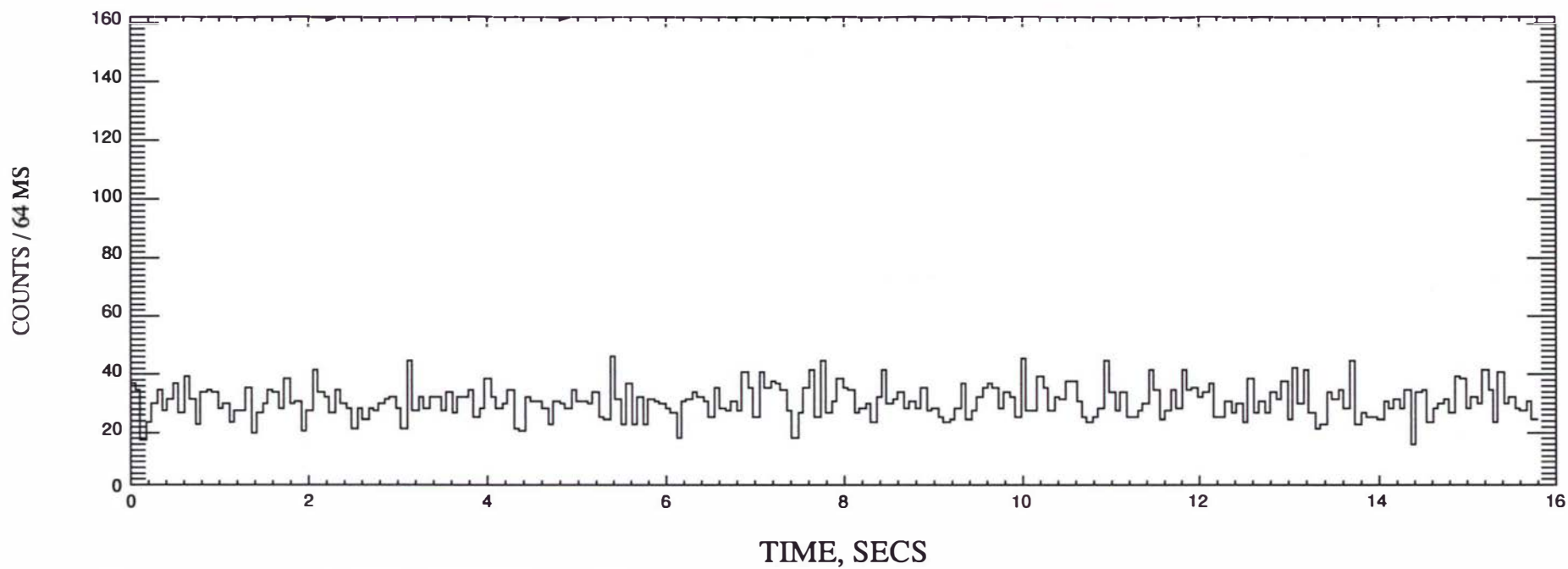


UNIV SAL TIME

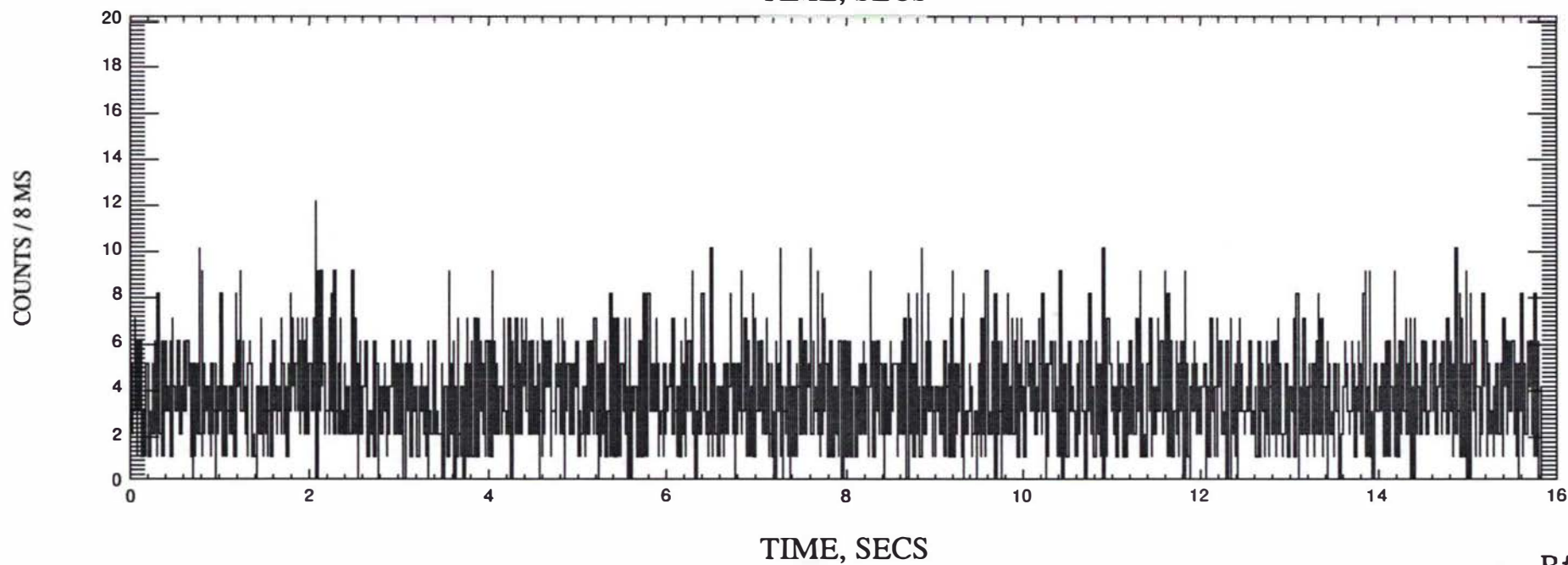
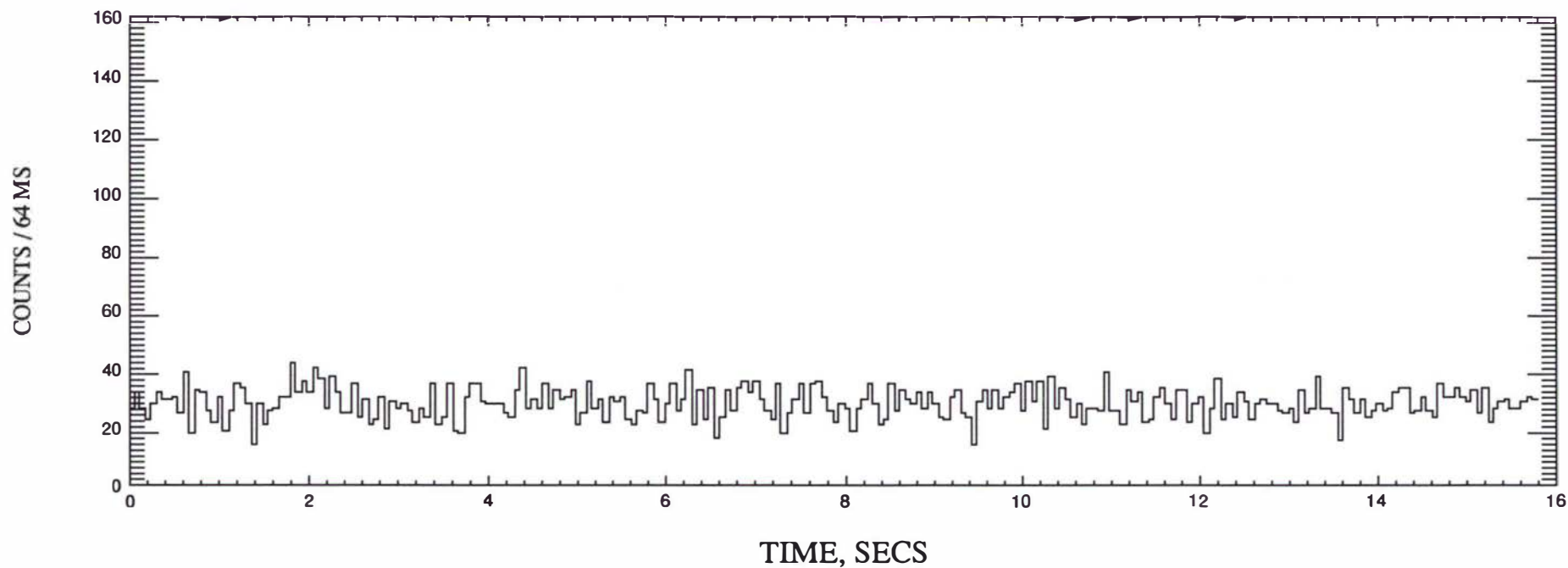
Burst Counter 1 at UT= 8.634858826531 h=31085.492 s 08:38:05.492



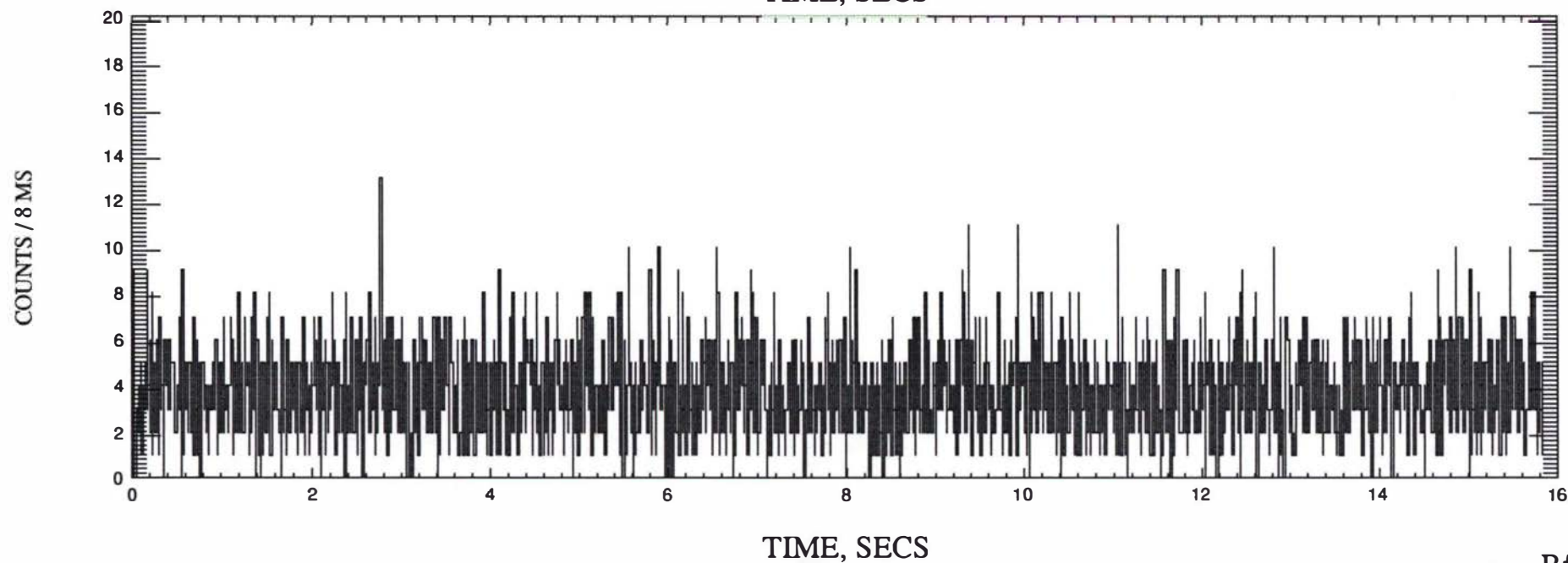
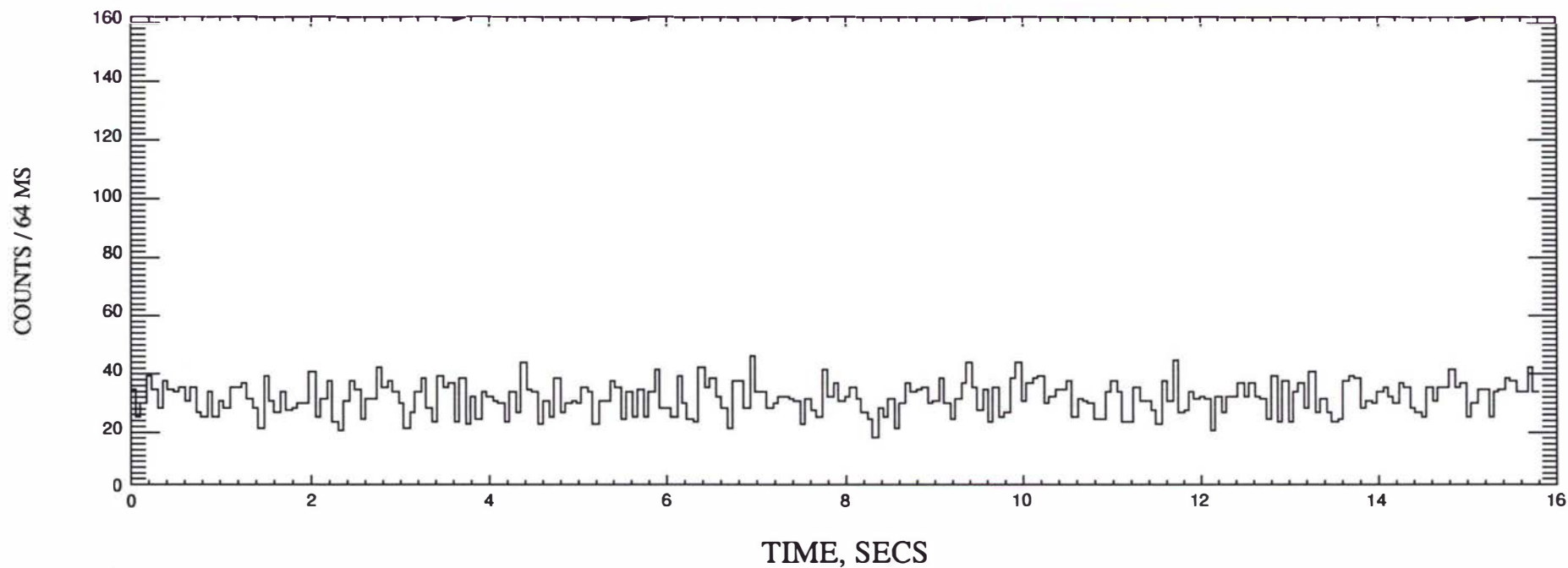
Burst Counter 2 at UT= 9.468131701152 h=34085.274 s 09:28:05.274



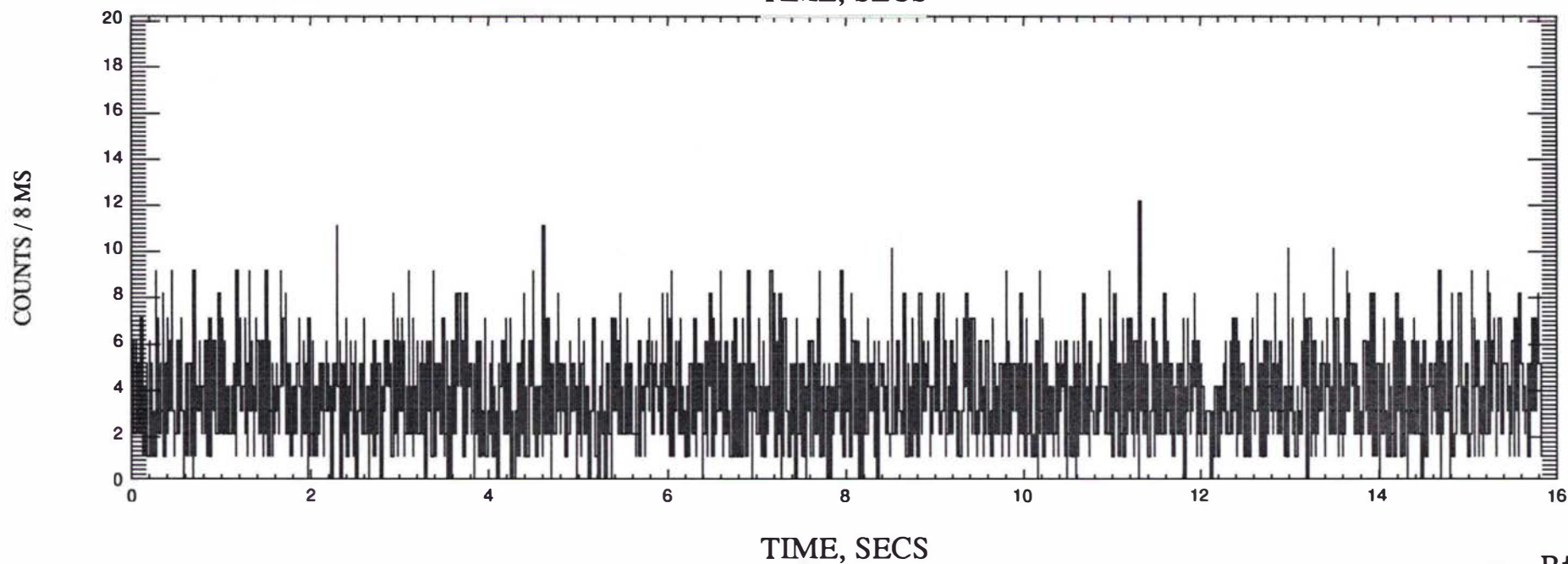
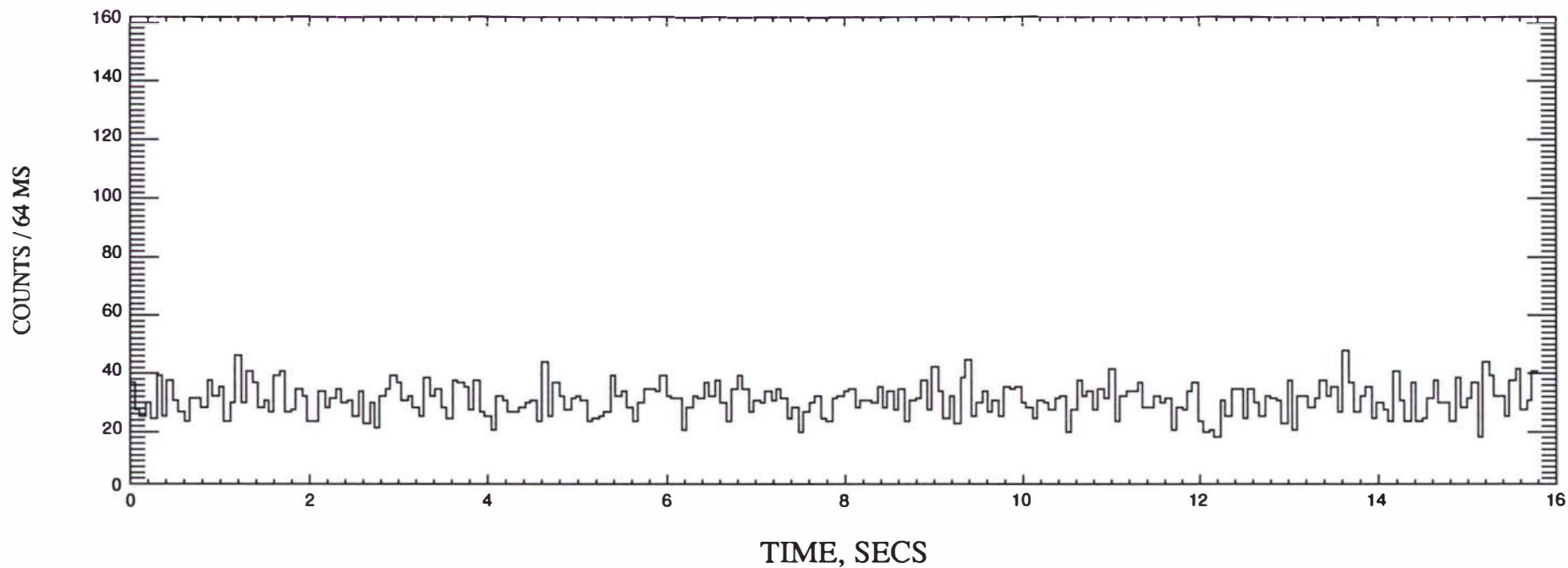
Burst Counter 3 at UT=10.301473274231 h=37085.304 s 10:18:05.304



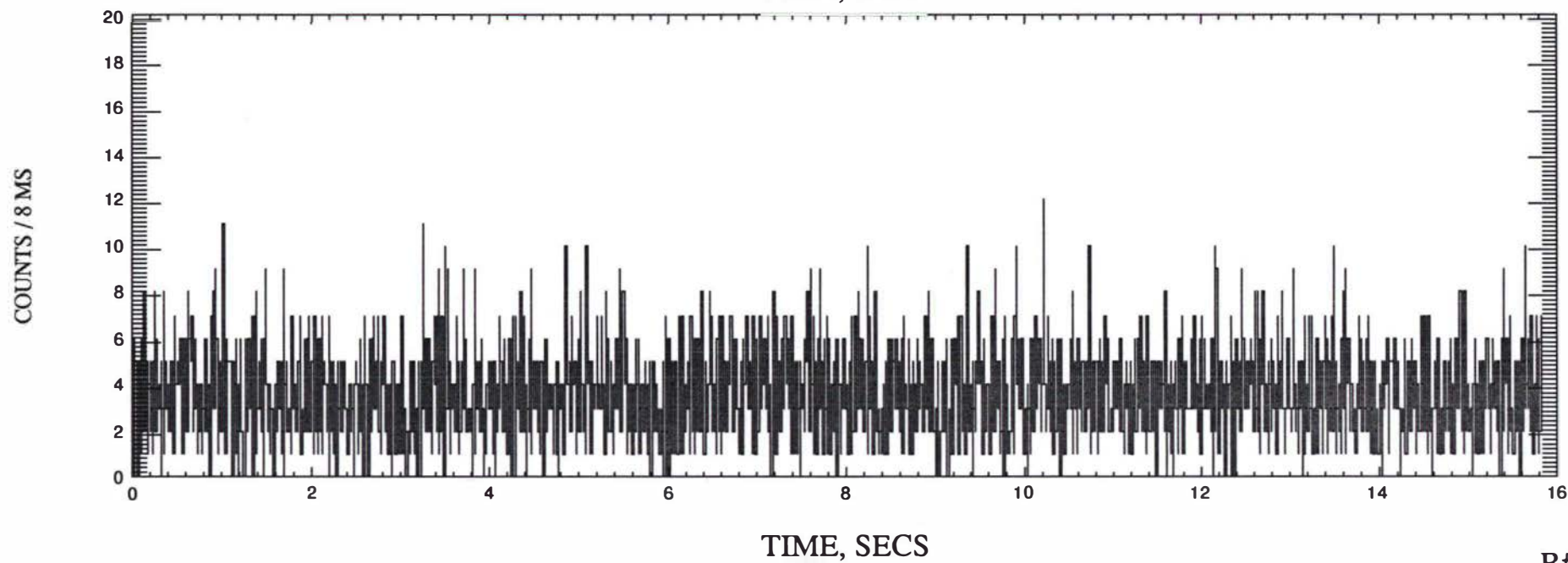
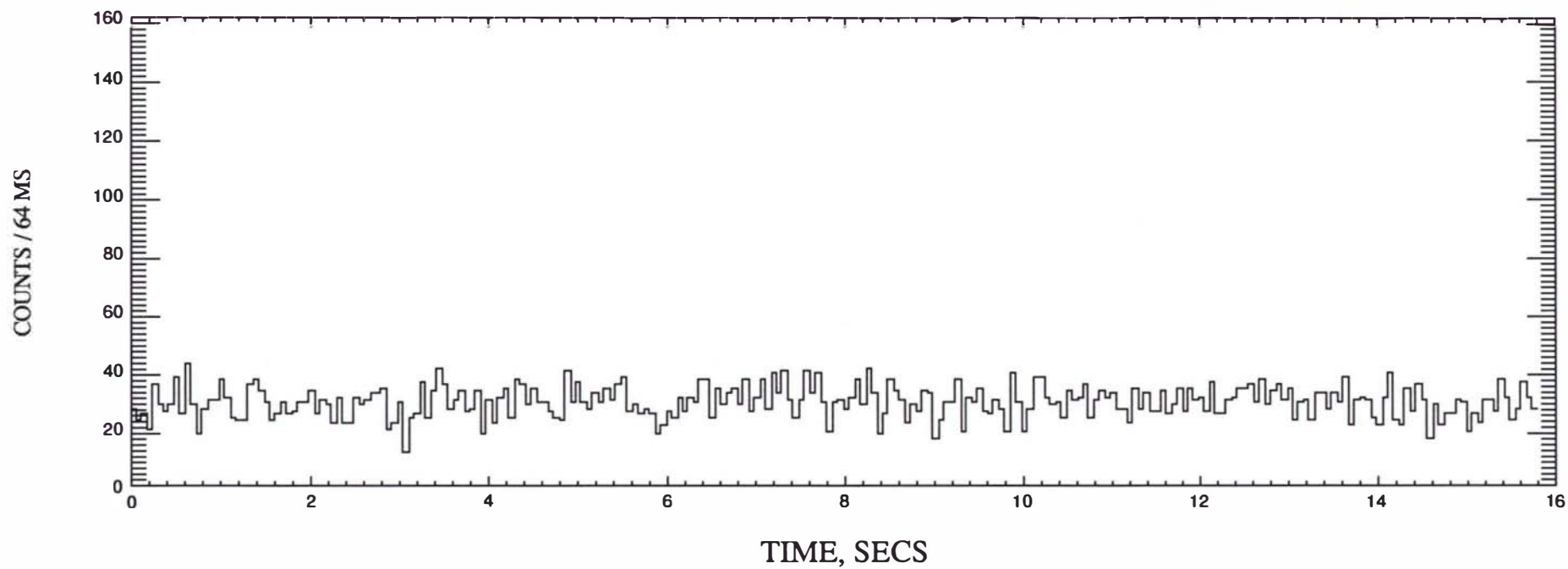
Burst Counter 4 at UT=11.134850315518 h=40085.461 s 11:08:05.461



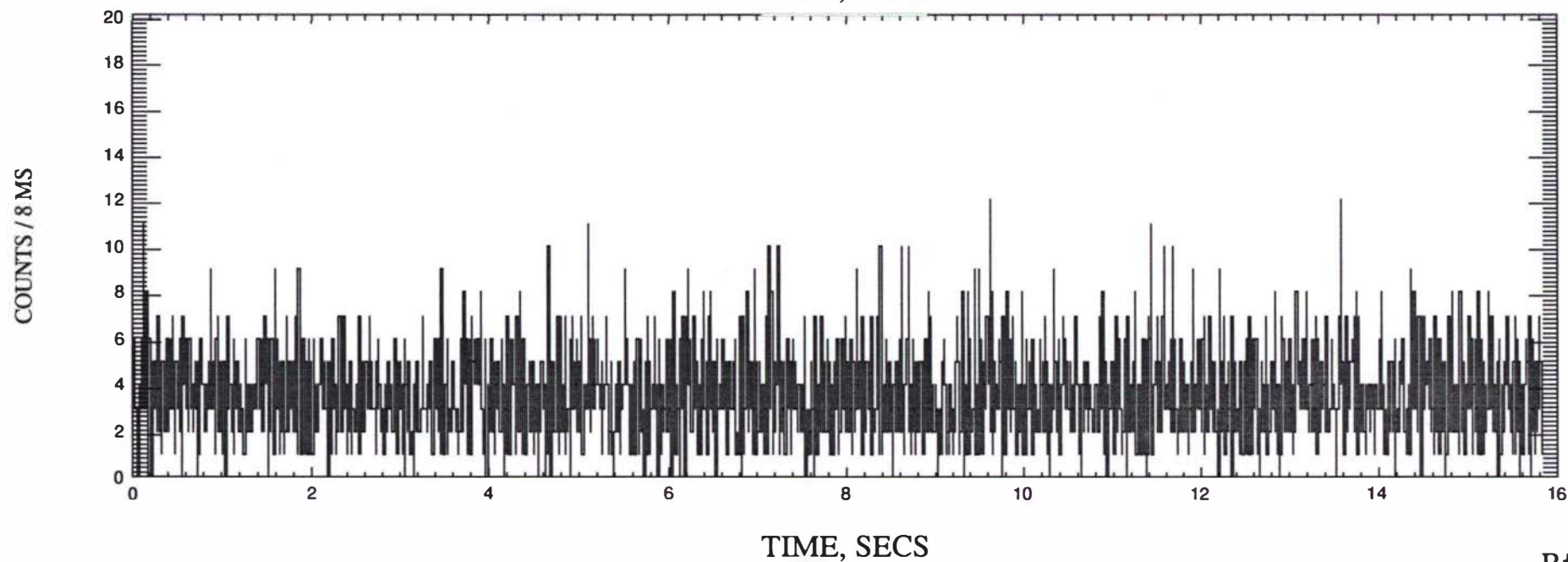
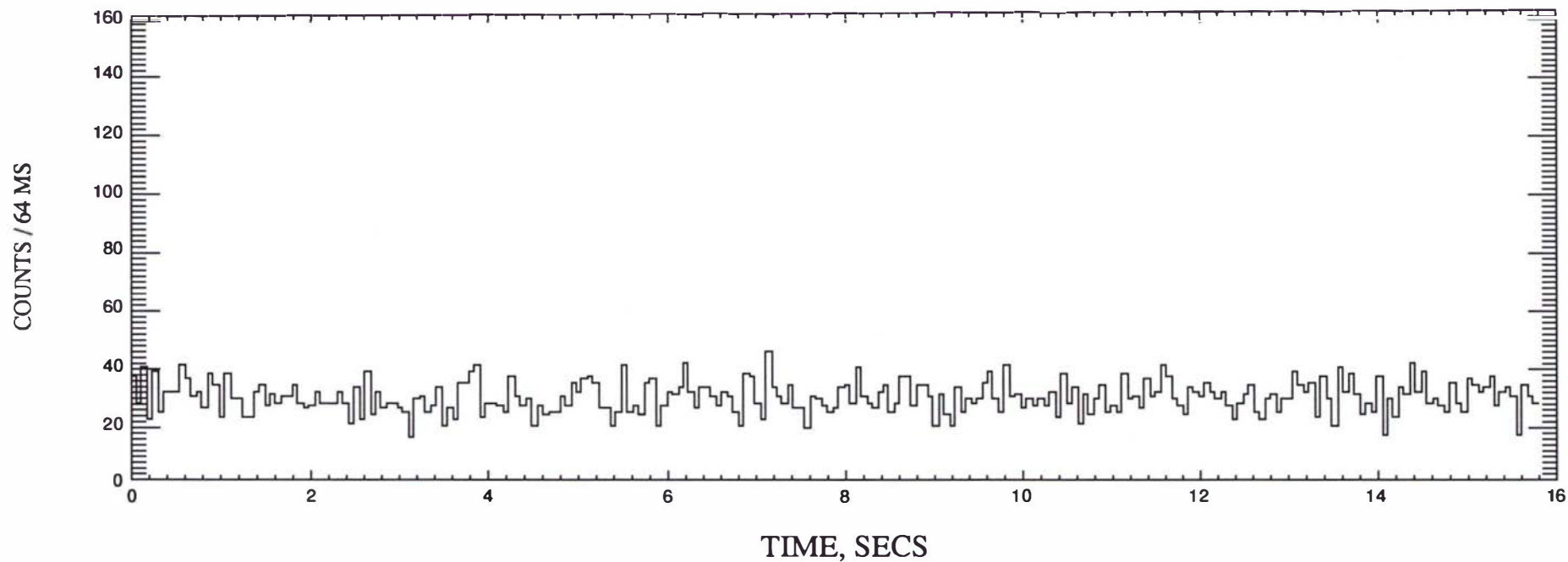
Burst Counter 5 at UT=11.968157912360 h=43085.368 s 11:58:05.368



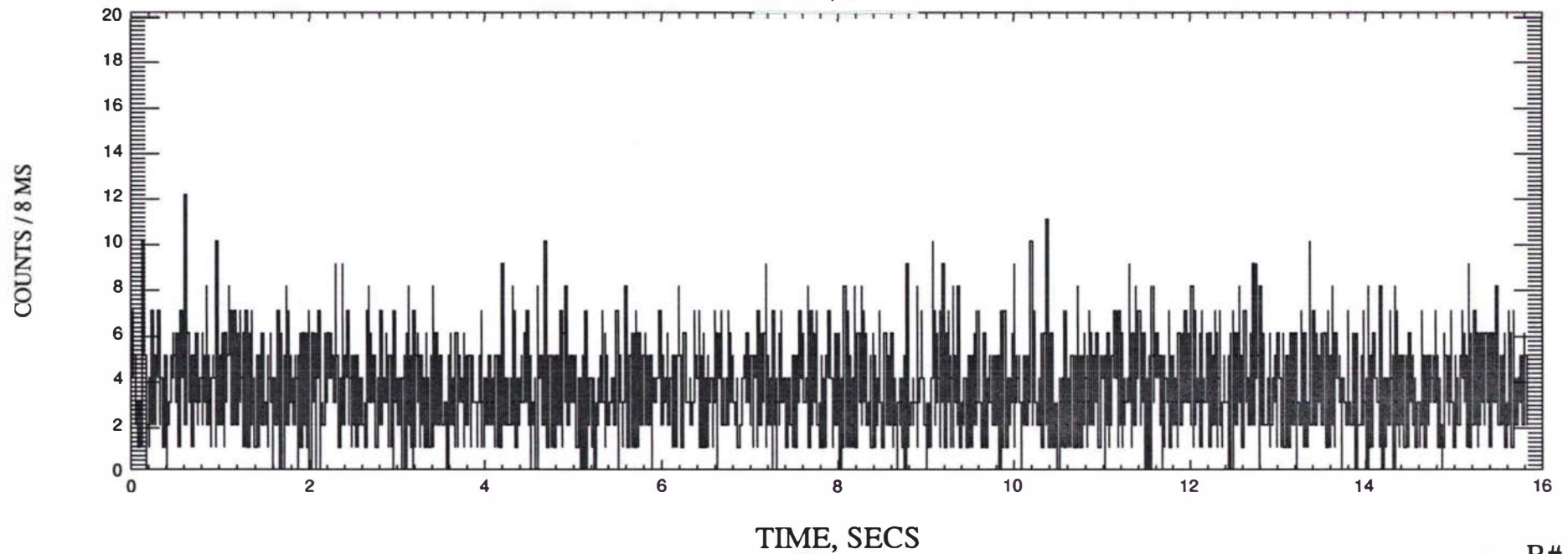
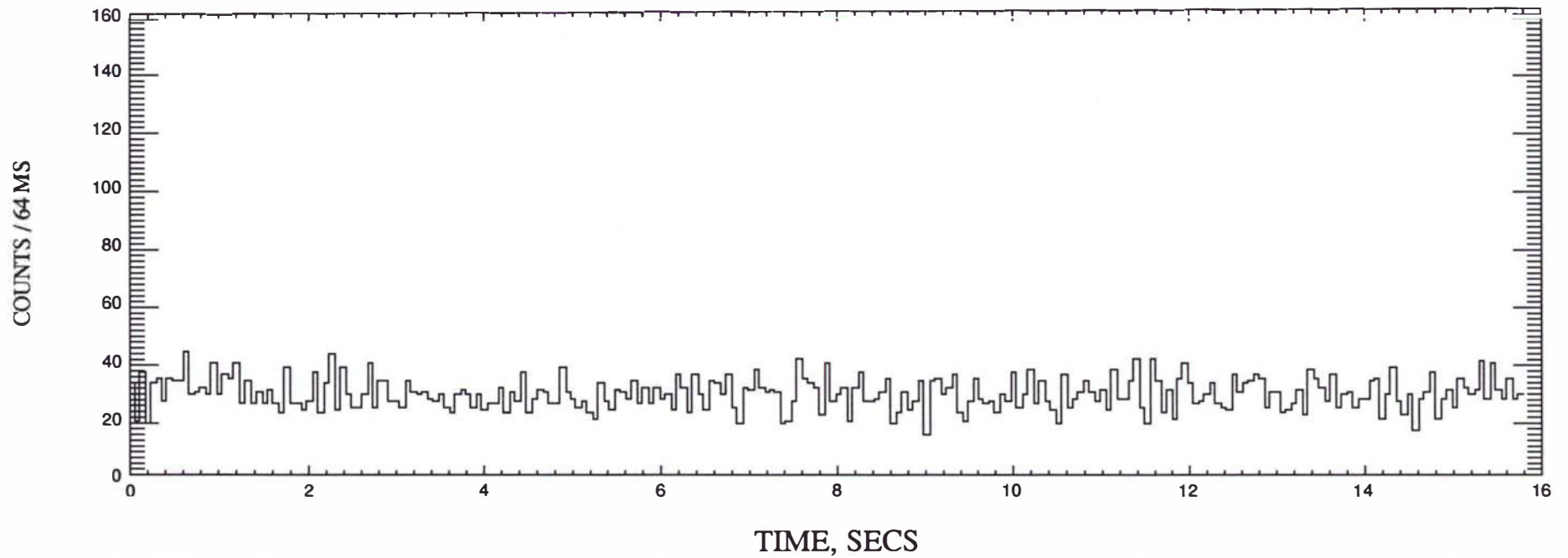
Burst Counter 6 at UT=12.801534953647 h=46085.526 s 12:48:05.526



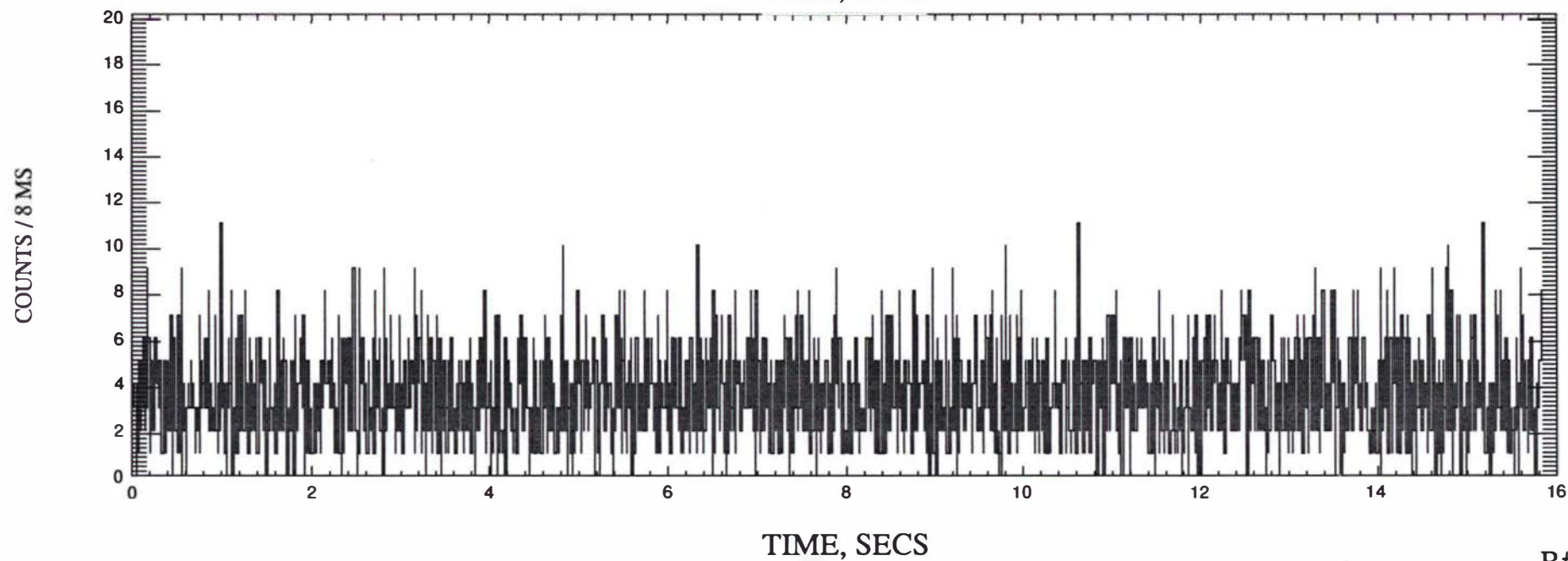
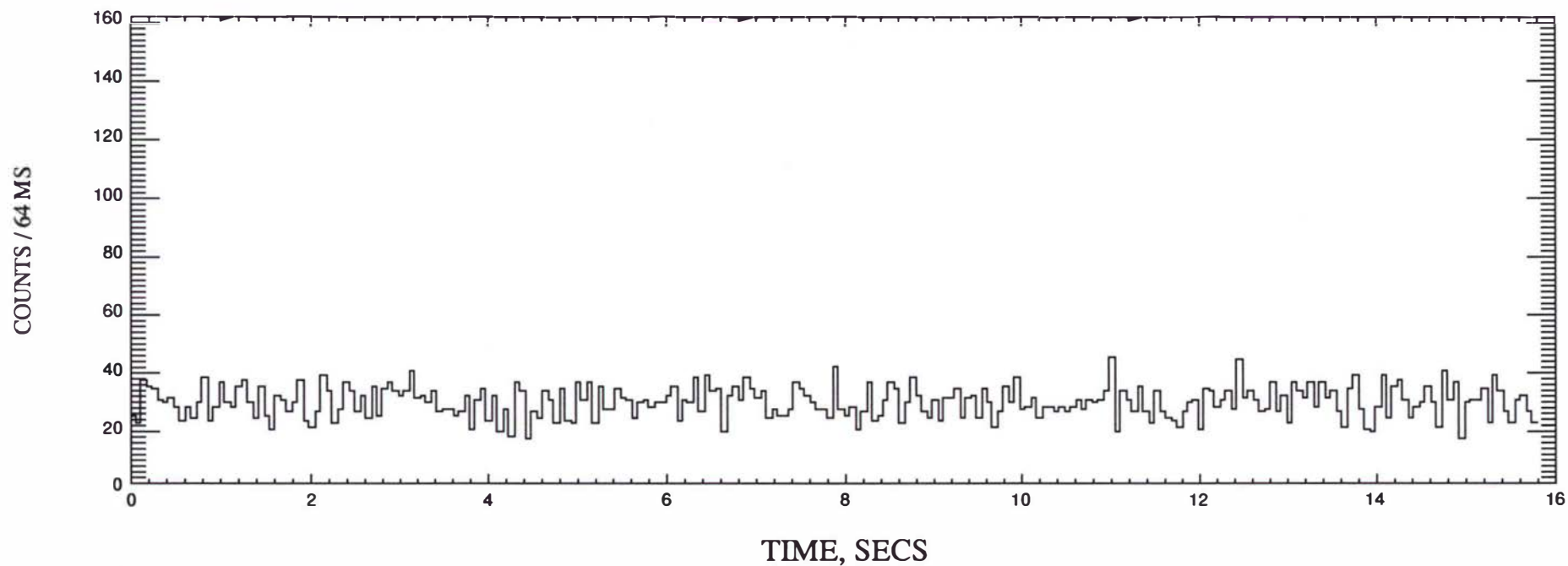
Burst Counter 7 at UT=13.634876522488 h=49085.555 s 13:38:05.555



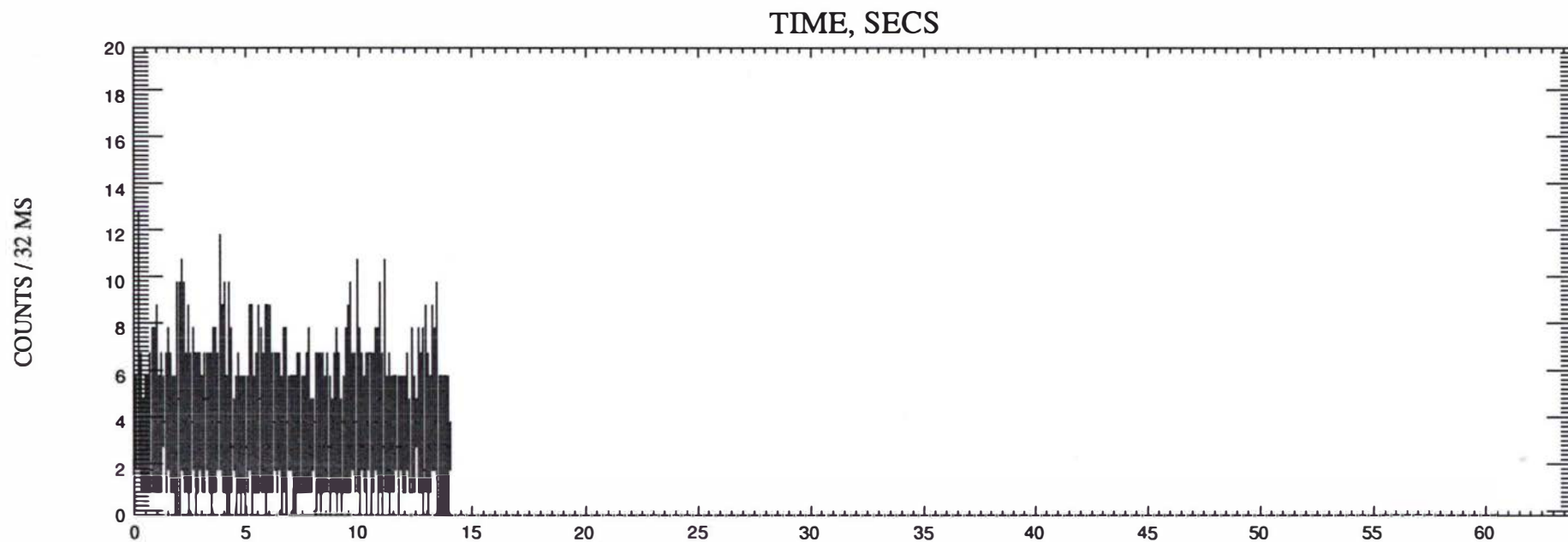
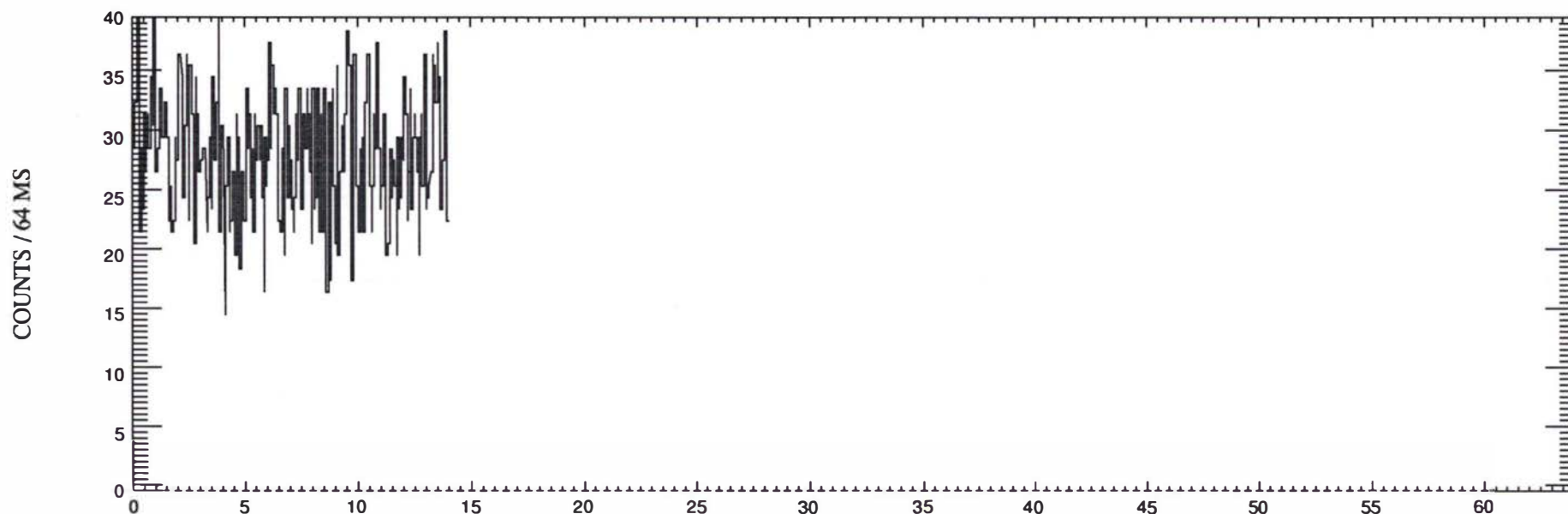
Burst Counter 8 at UT=14.468184119331 h=52085.463 s 14:28:05.463



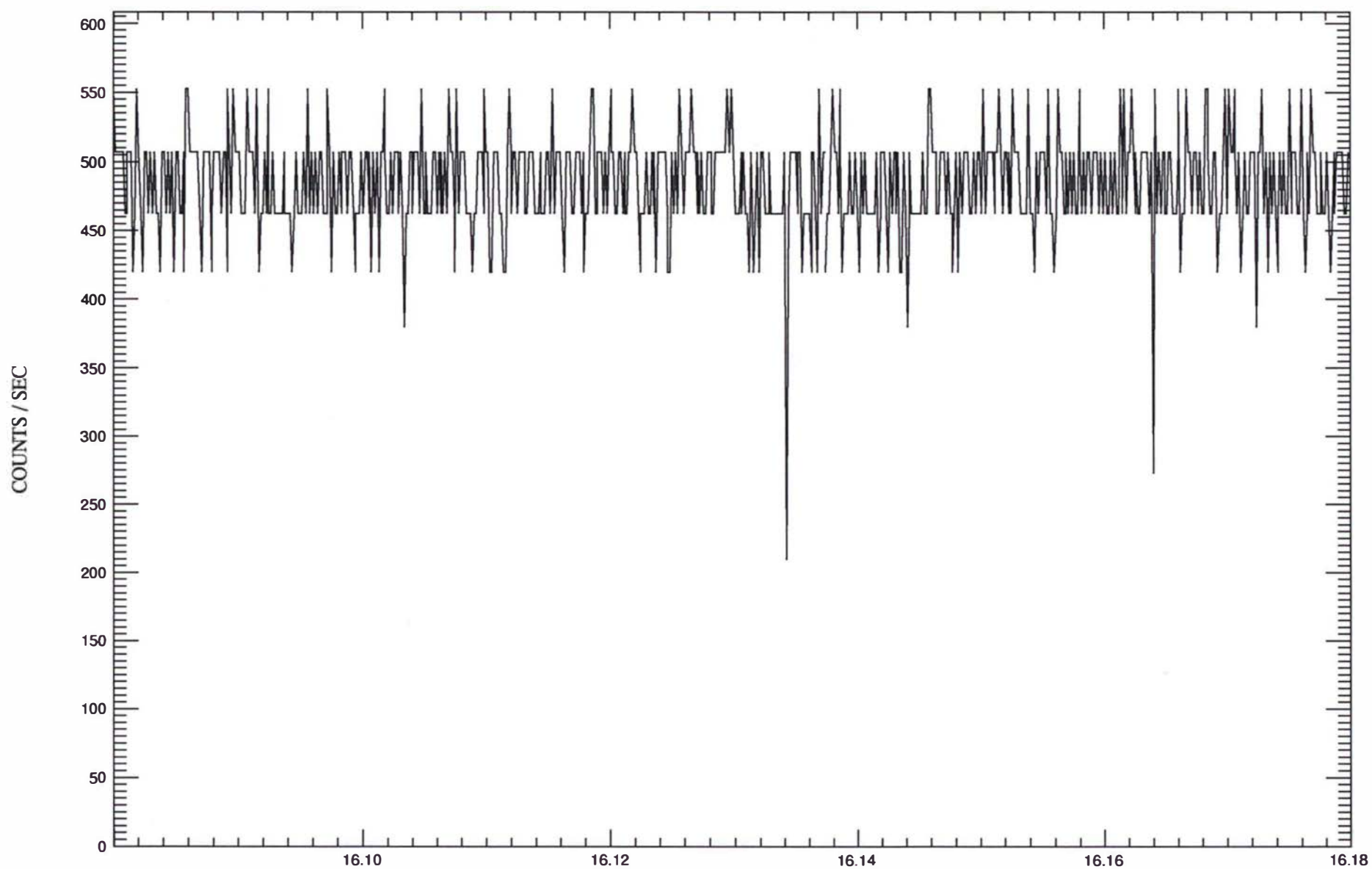
Burst Counter 9 at UT=15.301561160617 h=55085.620 s 15:18:05.620



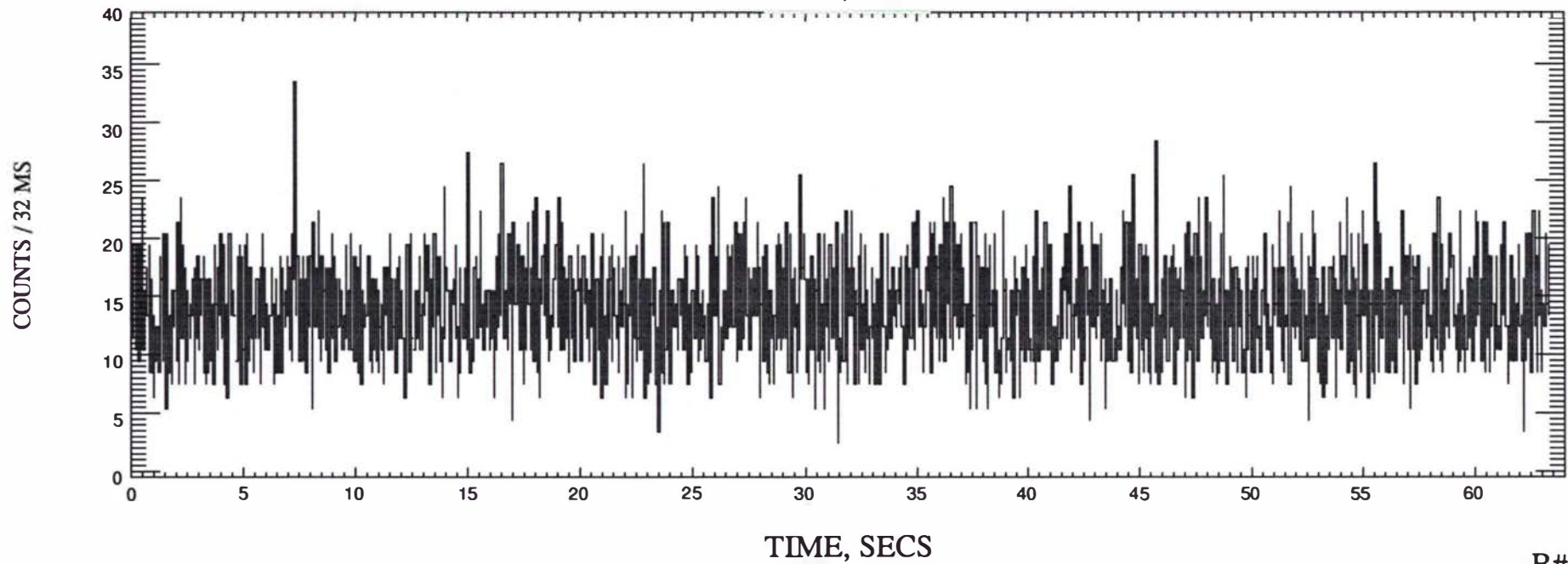
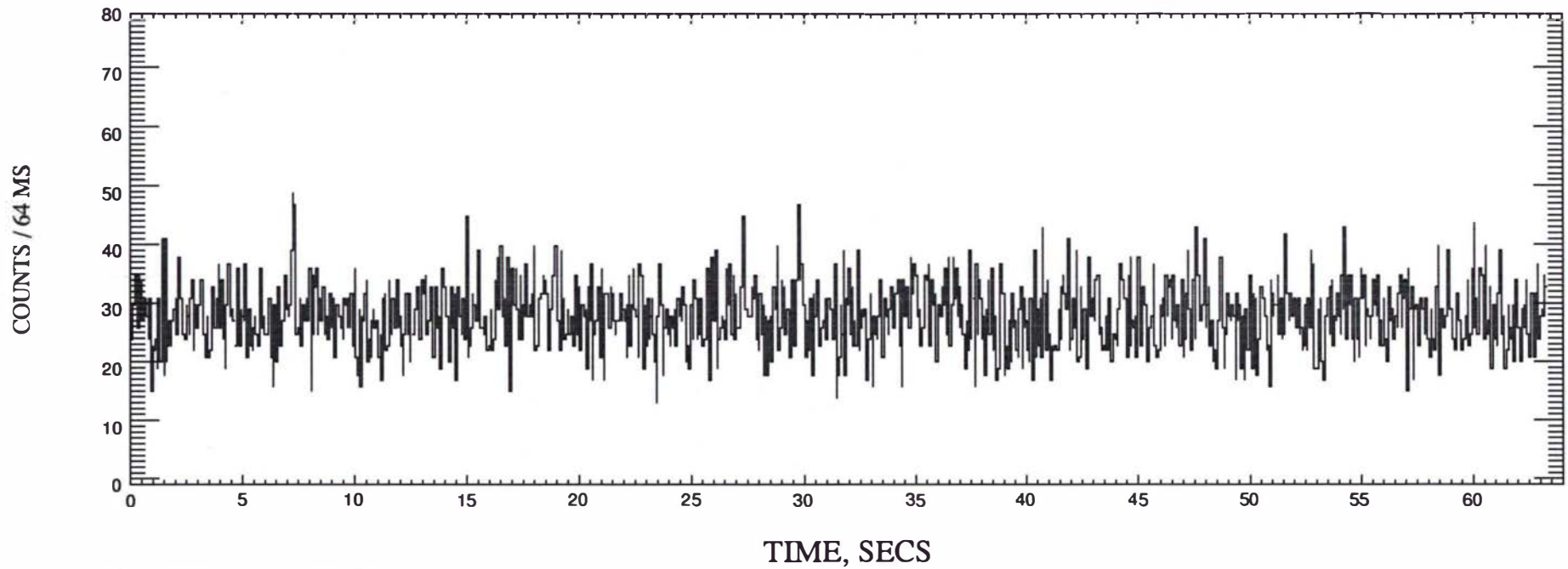
Burst Counter 10 at UT=16.134868011475 h=58085.525 s 16:08:05.525



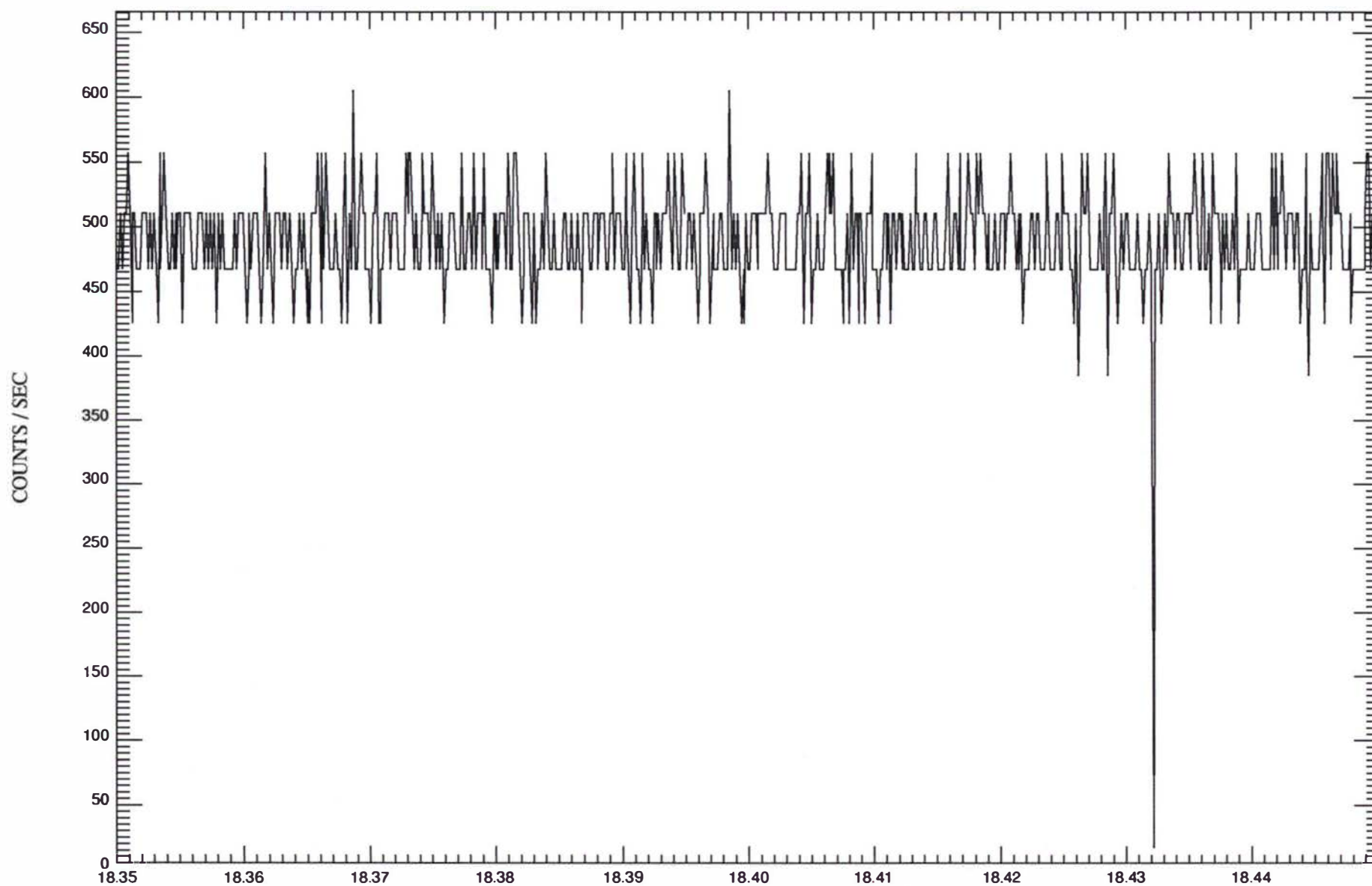
CALIBRATION DATA INCLUDED



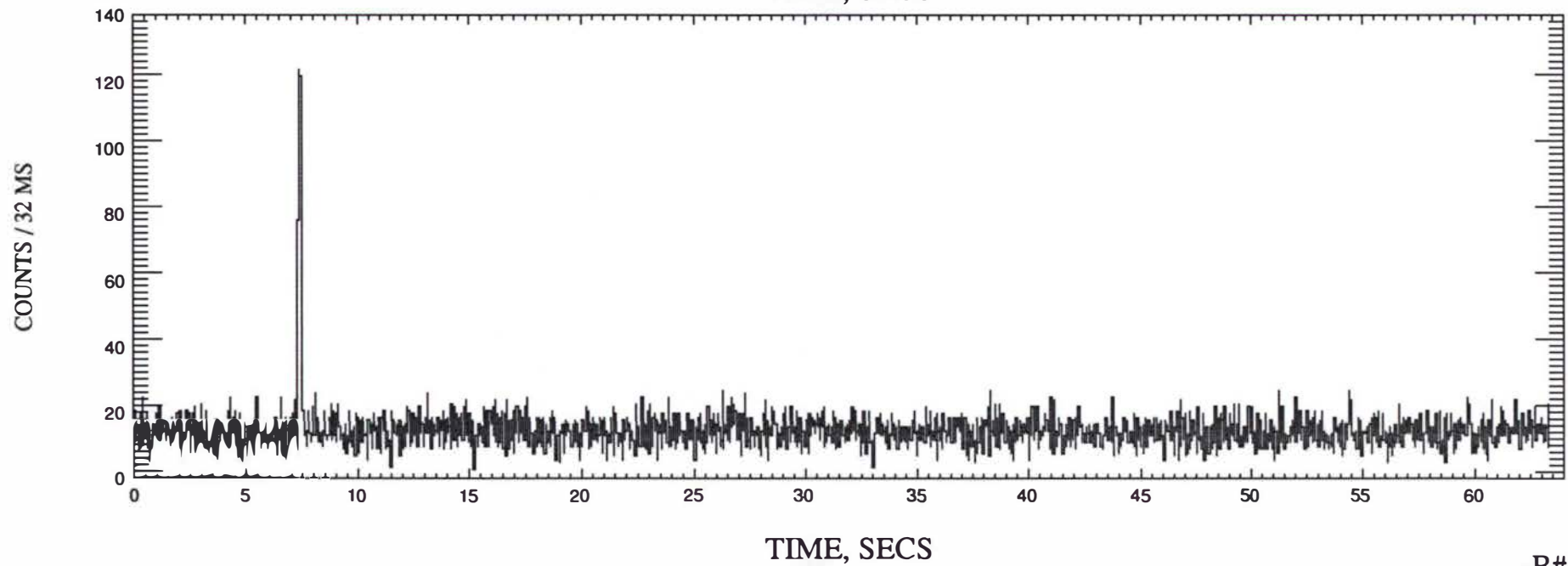
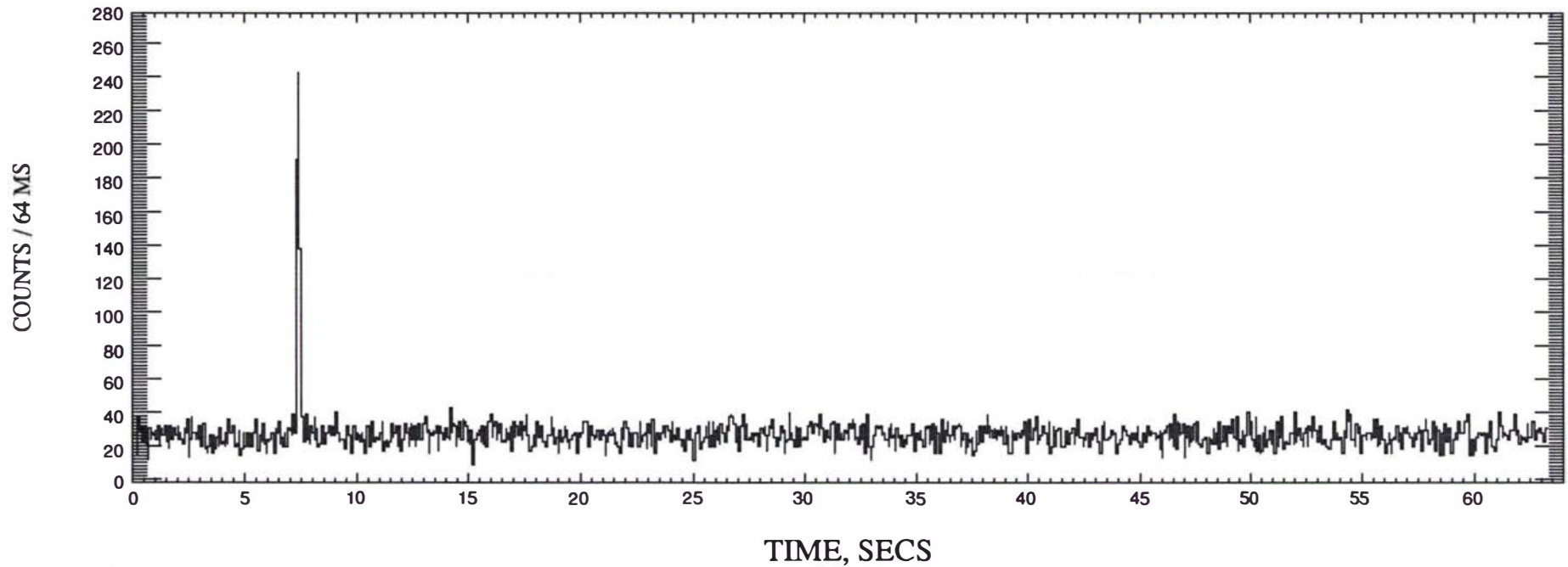
Burst Counter 11 at UT=18.398734355503 h=66235.444 s 18:23:55.444



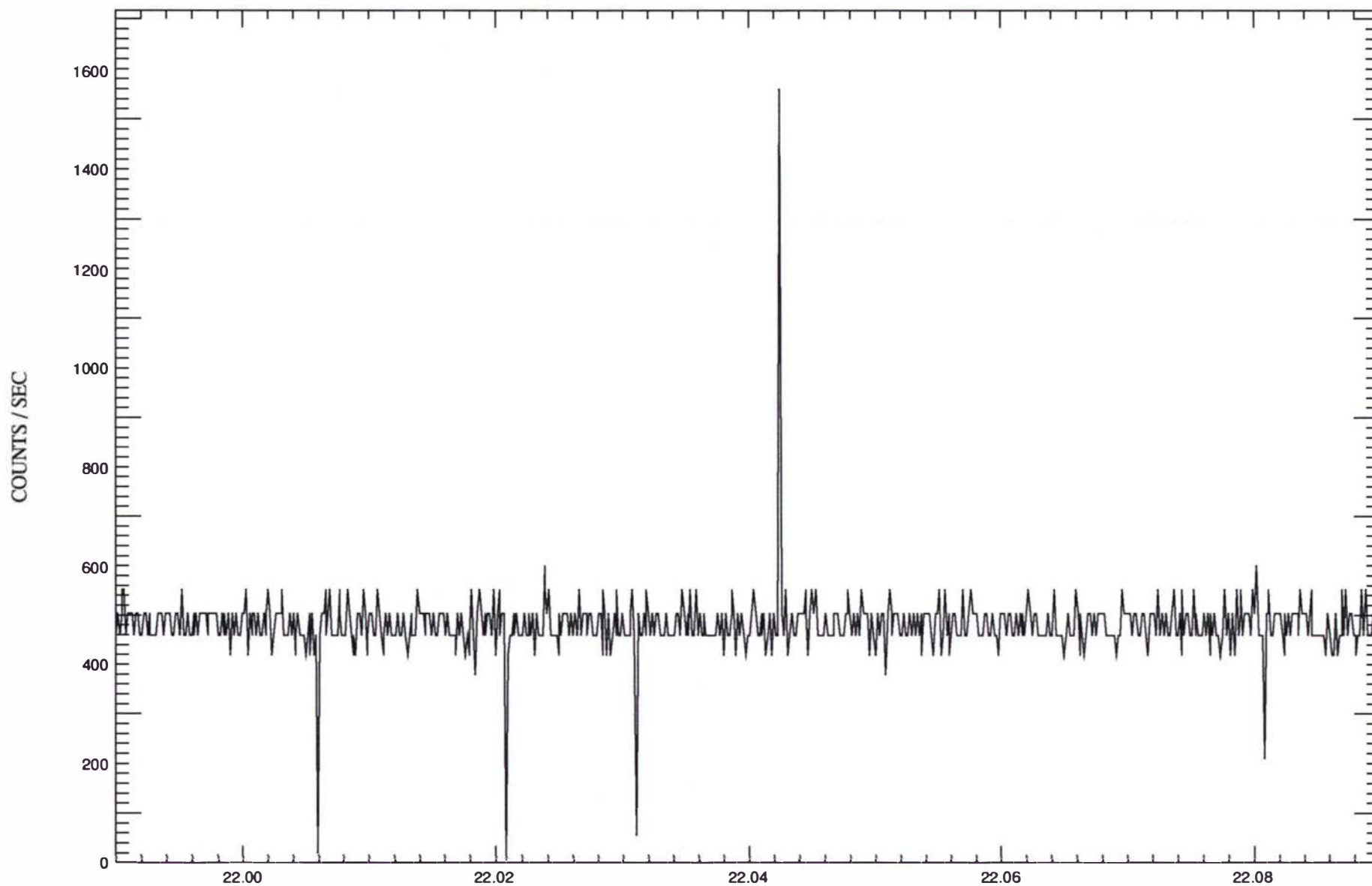
CALIBRATION DATA INCLUDED

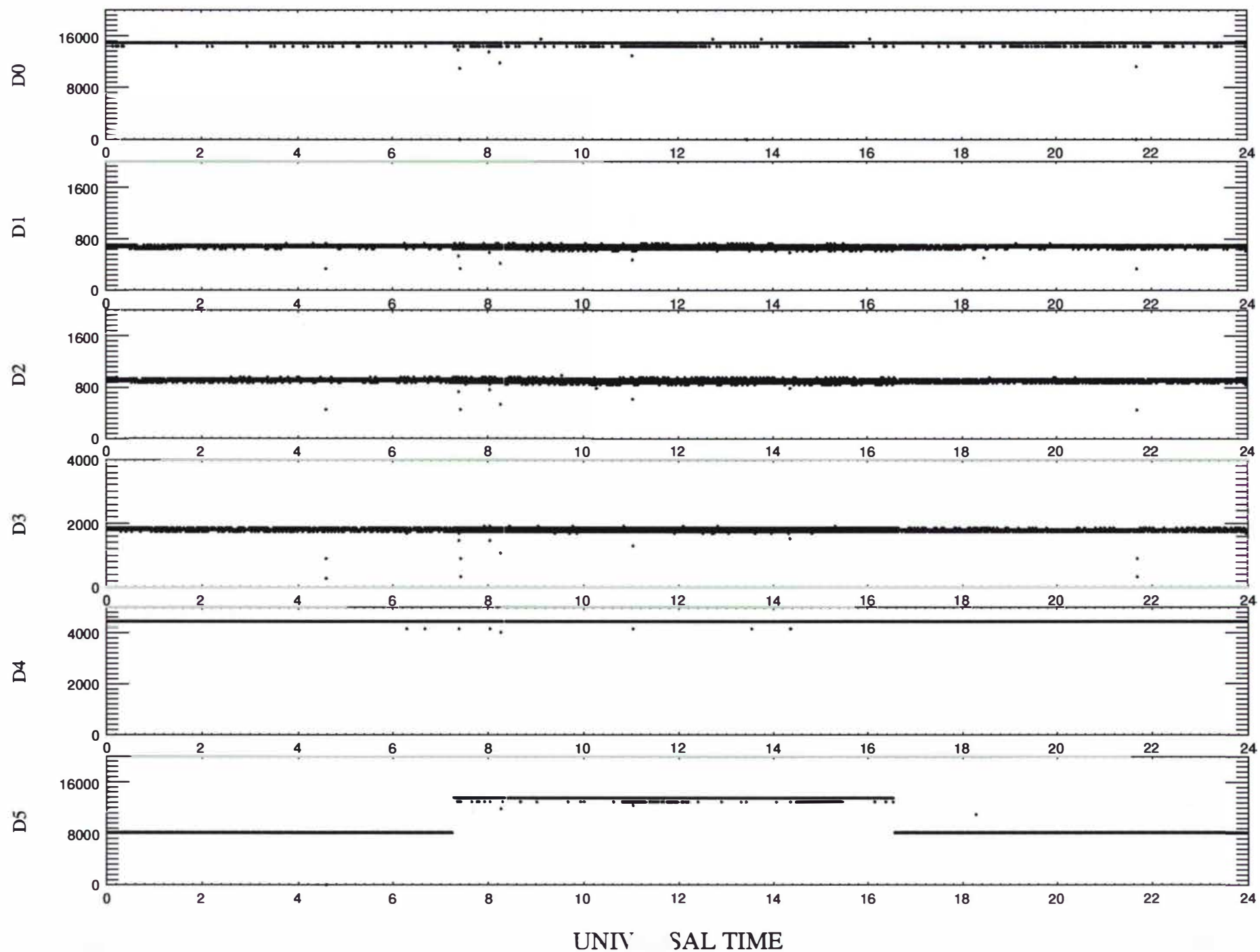


Burst Counter 12 at UT=22.042612270779 h=79353.404 s 22:02:33.404



CALIBRATION DATA INCLUDED





Date: Sep 24 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

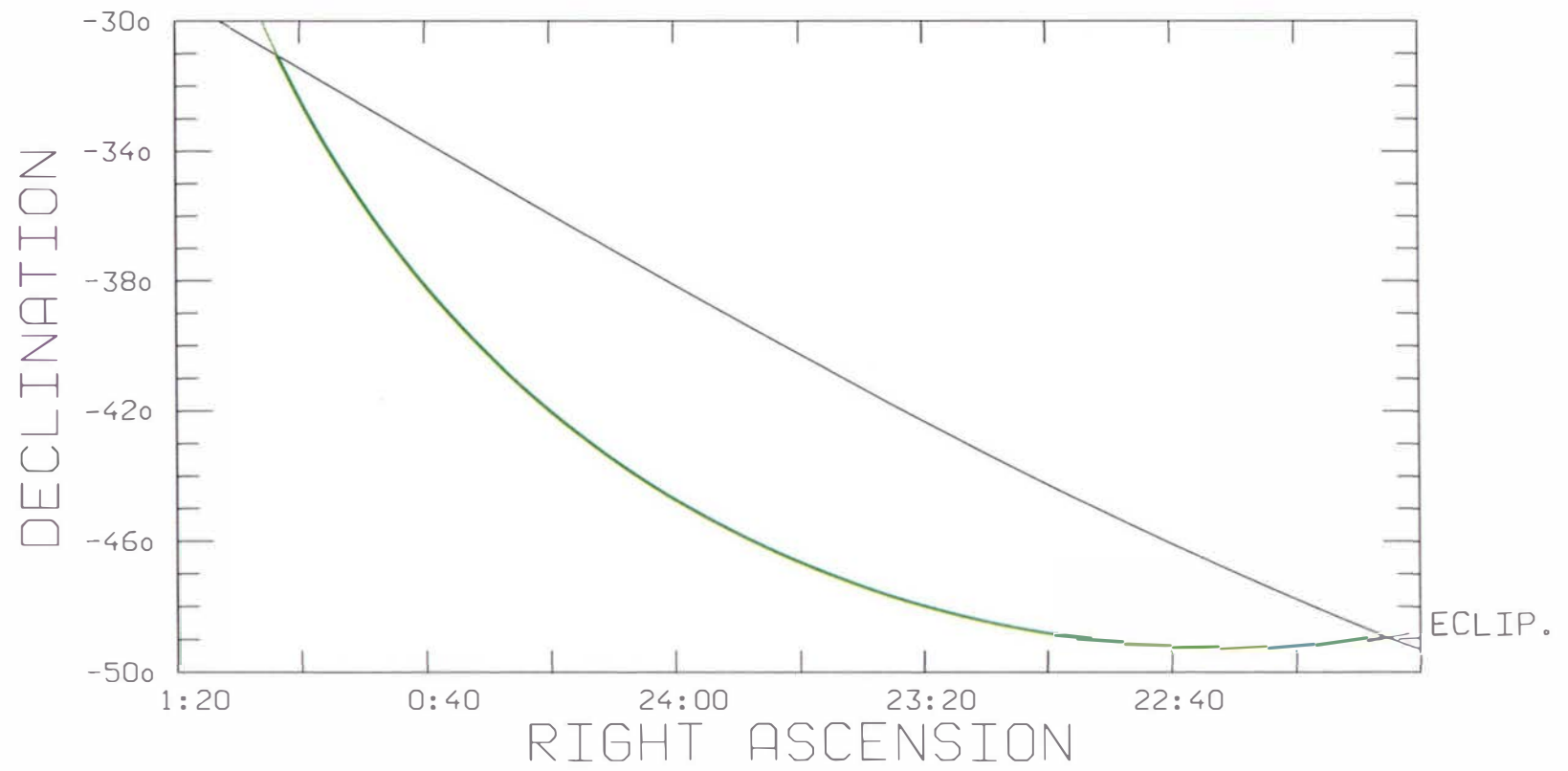
- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☒ Were data checked by Joe Springer for 0.5 s errors?
- ☒ If a 2 spacecraft triangulation, was Ulysses time corrected for aberration?
- ☒ Is the order of the data in CORREL such that a vernier is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

2. BATSE Data

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

3. PVO Data

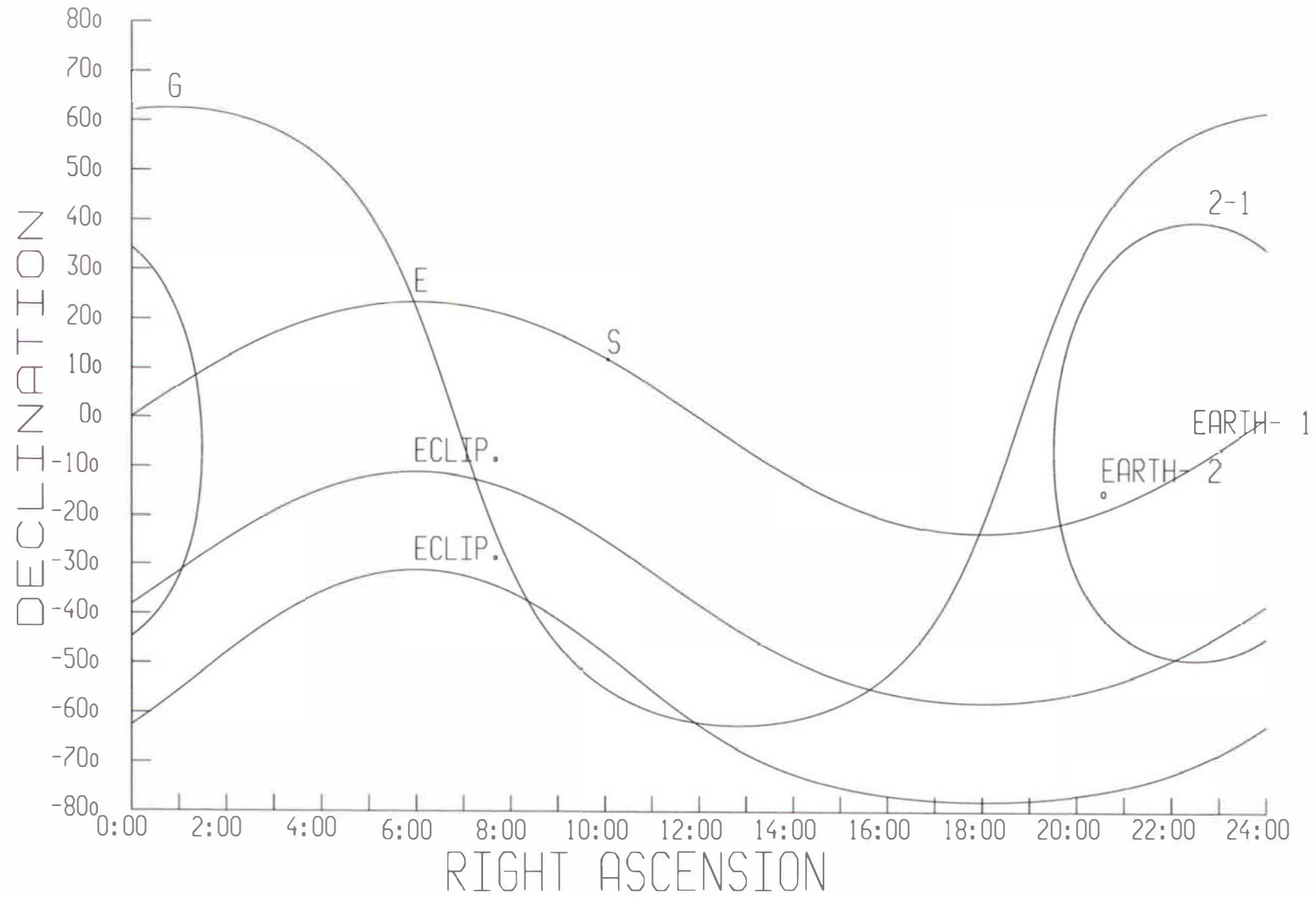
- ☐ Ephemeris of PVO used (not Venus)?
- ☐ 2000 coordinates used?
- ☐ Geocentric time used?
- ☒ ACCESS and MBL databases updated with identical times?

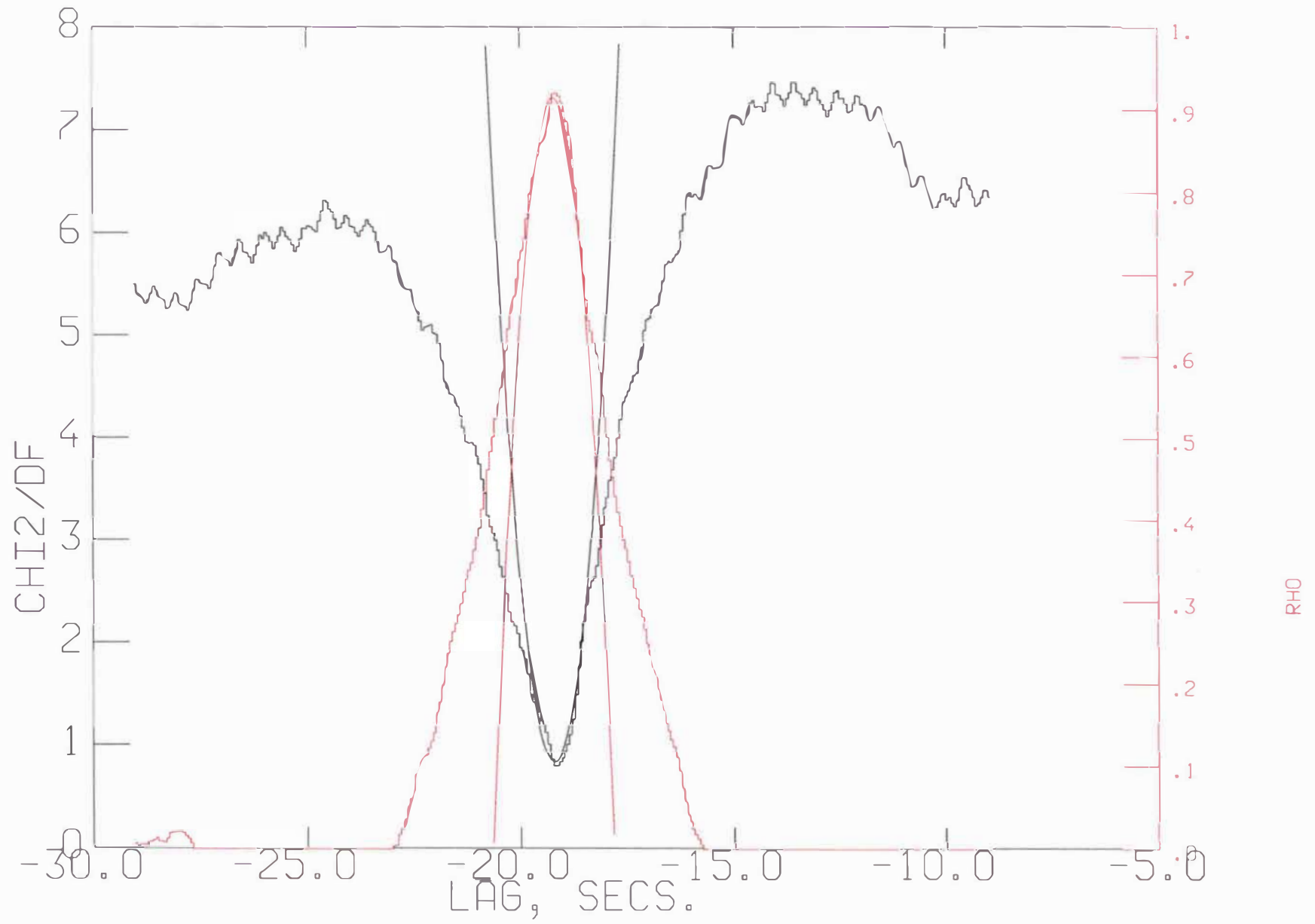


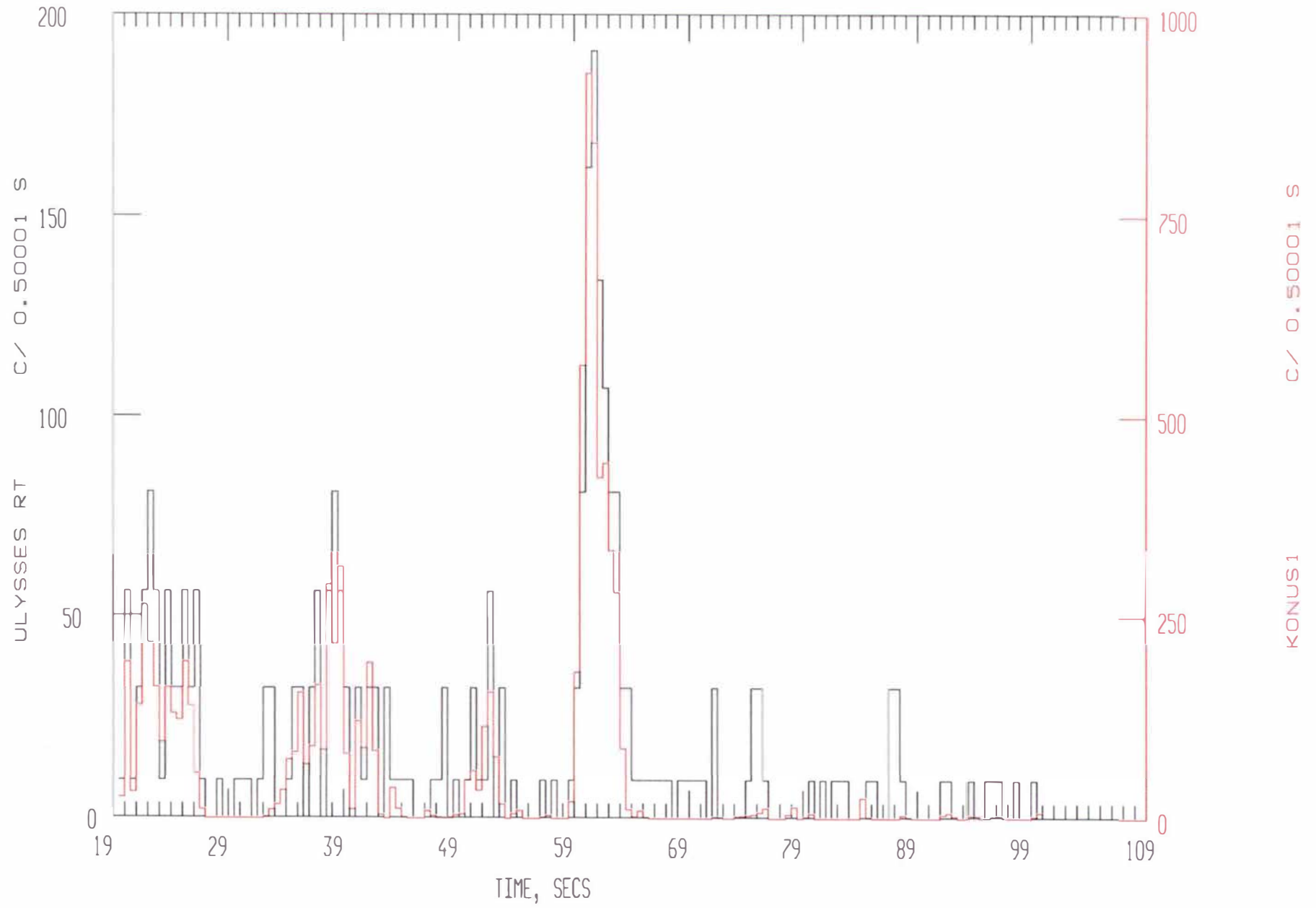
EVENT OF AUG 22, 1998 2:47

24/09/2012

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







19980822 10118

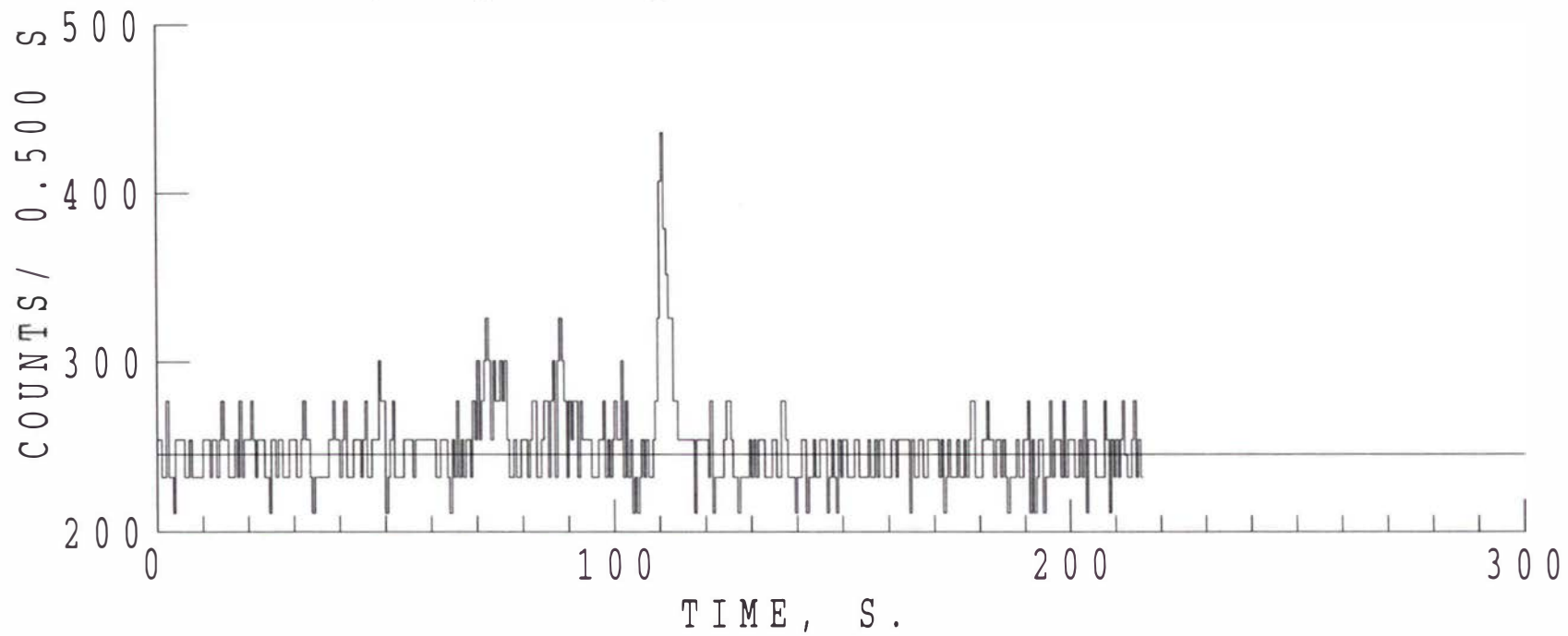
ULYSSES RT

21 / 09 / 12

22/08/98 10008.394 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

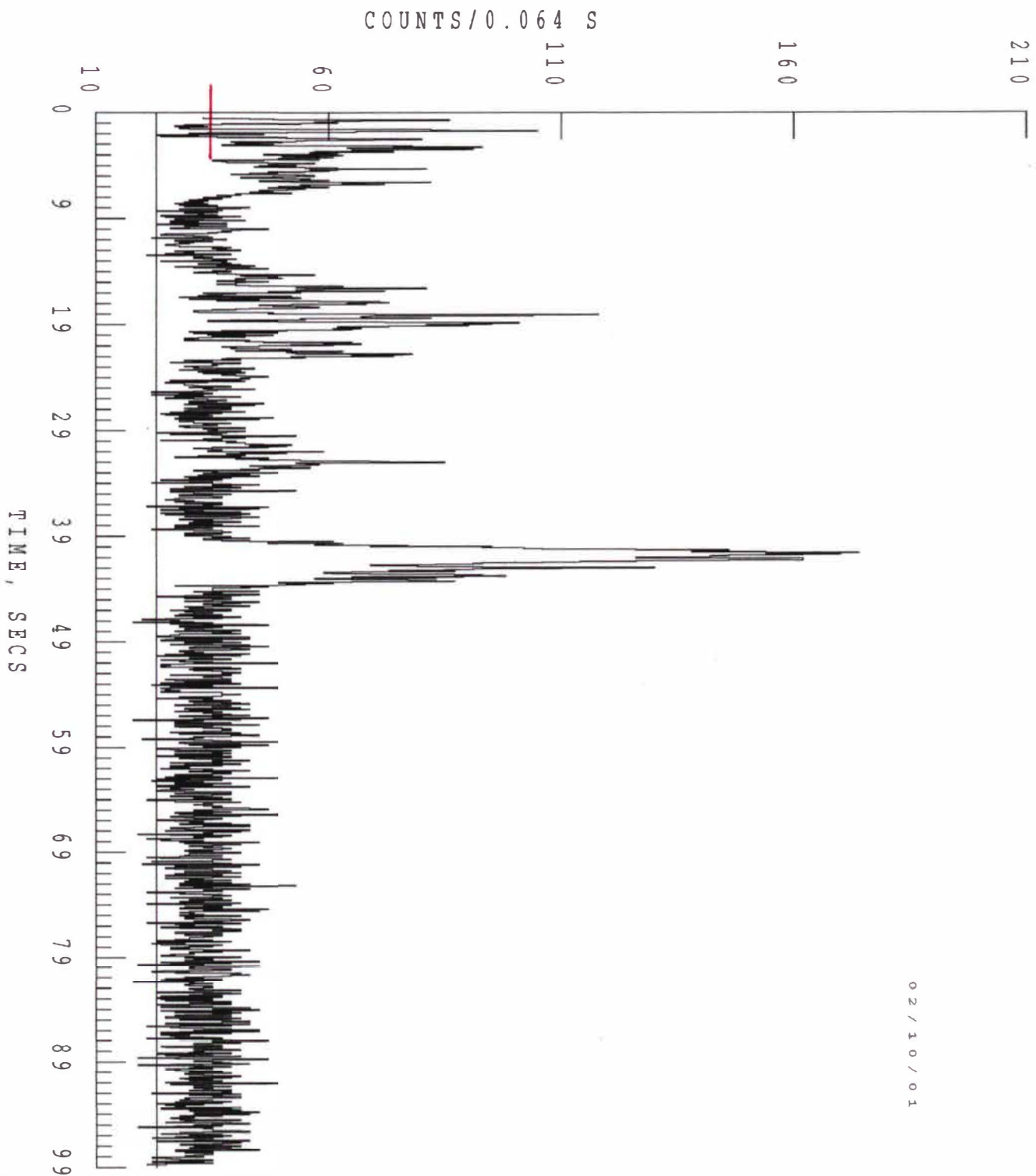


KONUS1

22/08/98

7818.780

50 - 200 keV



KONUS1 19980822 07818

ULYSSES RT

02 / 10 / 01

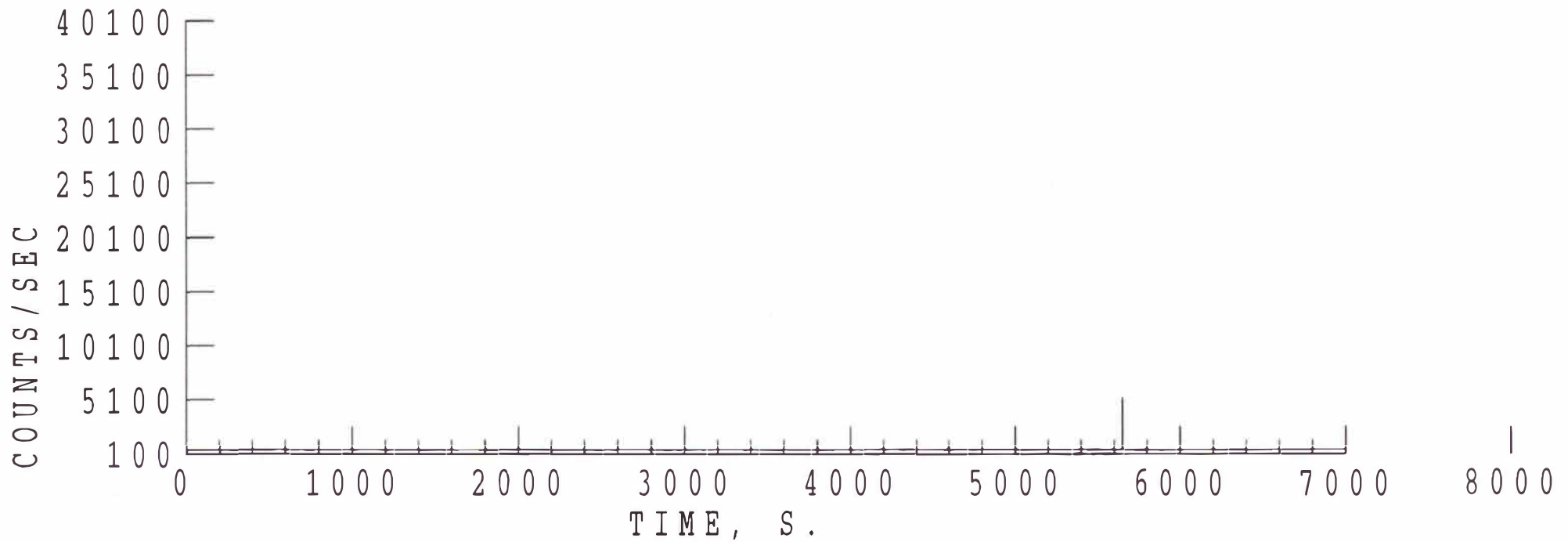
22 / 08 / 98 4608.340 s

INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Sep 24
Mar 9 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

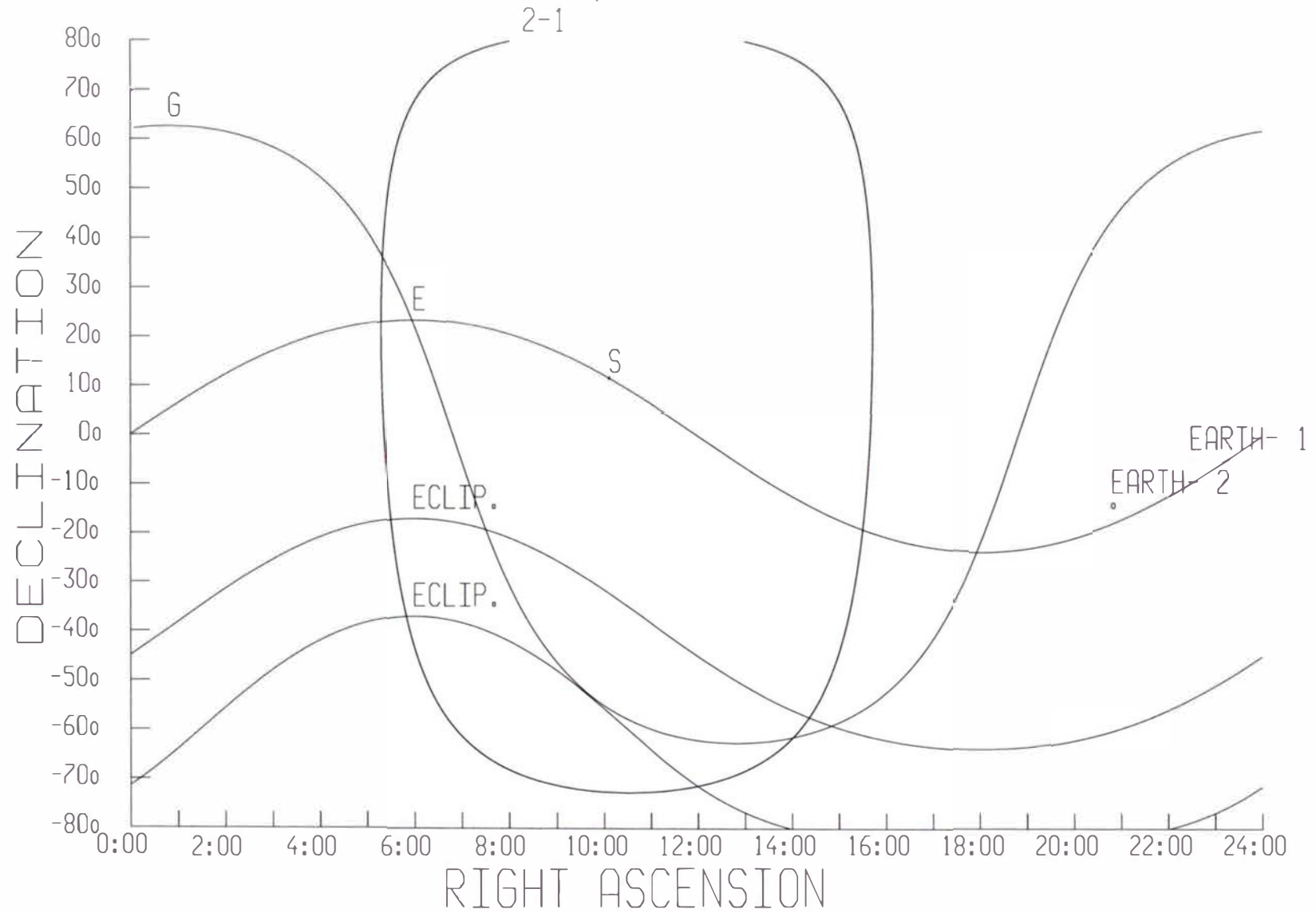
- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

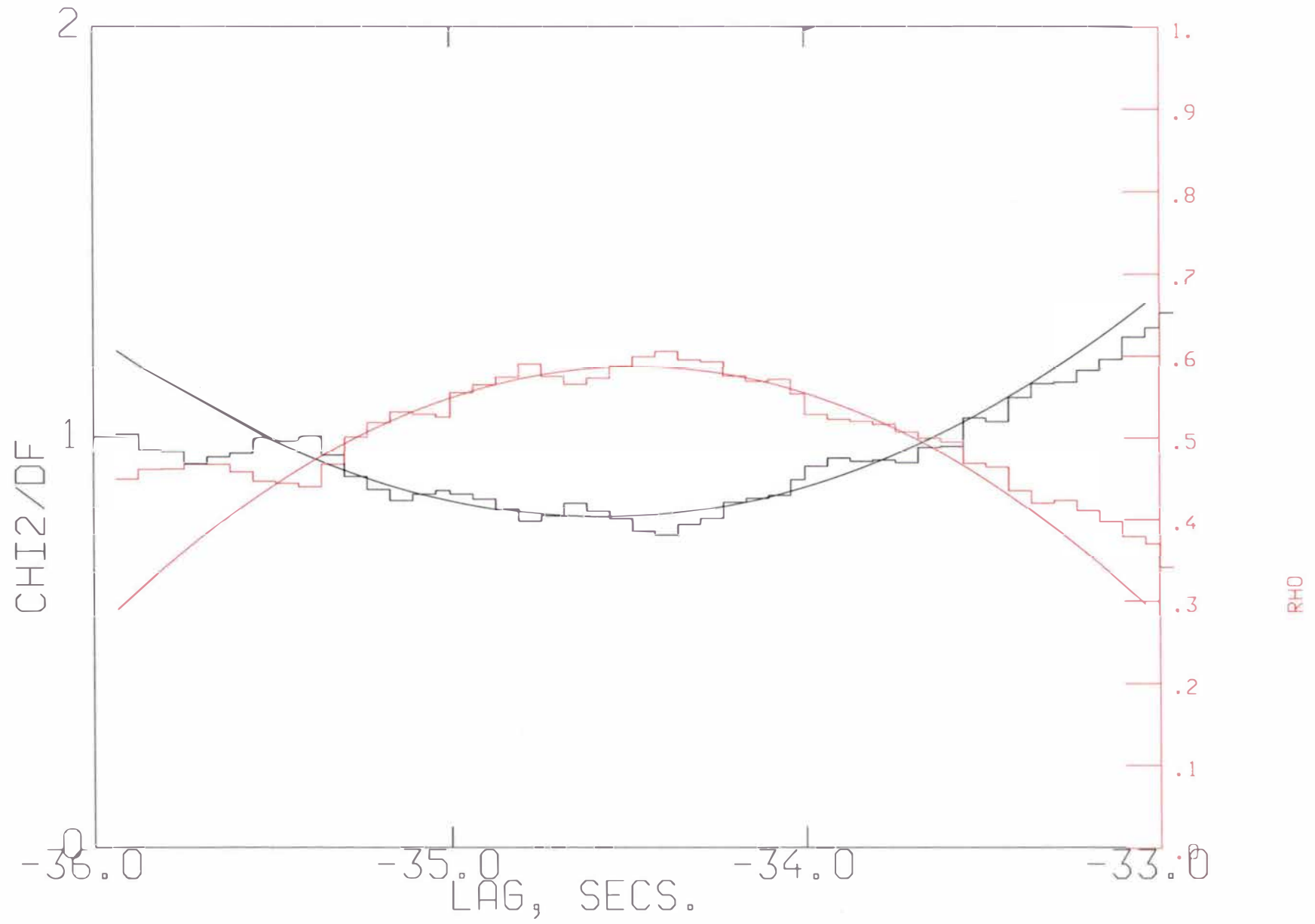
-
- ☒ ACCESS and MBL4 databases updated with identical times?

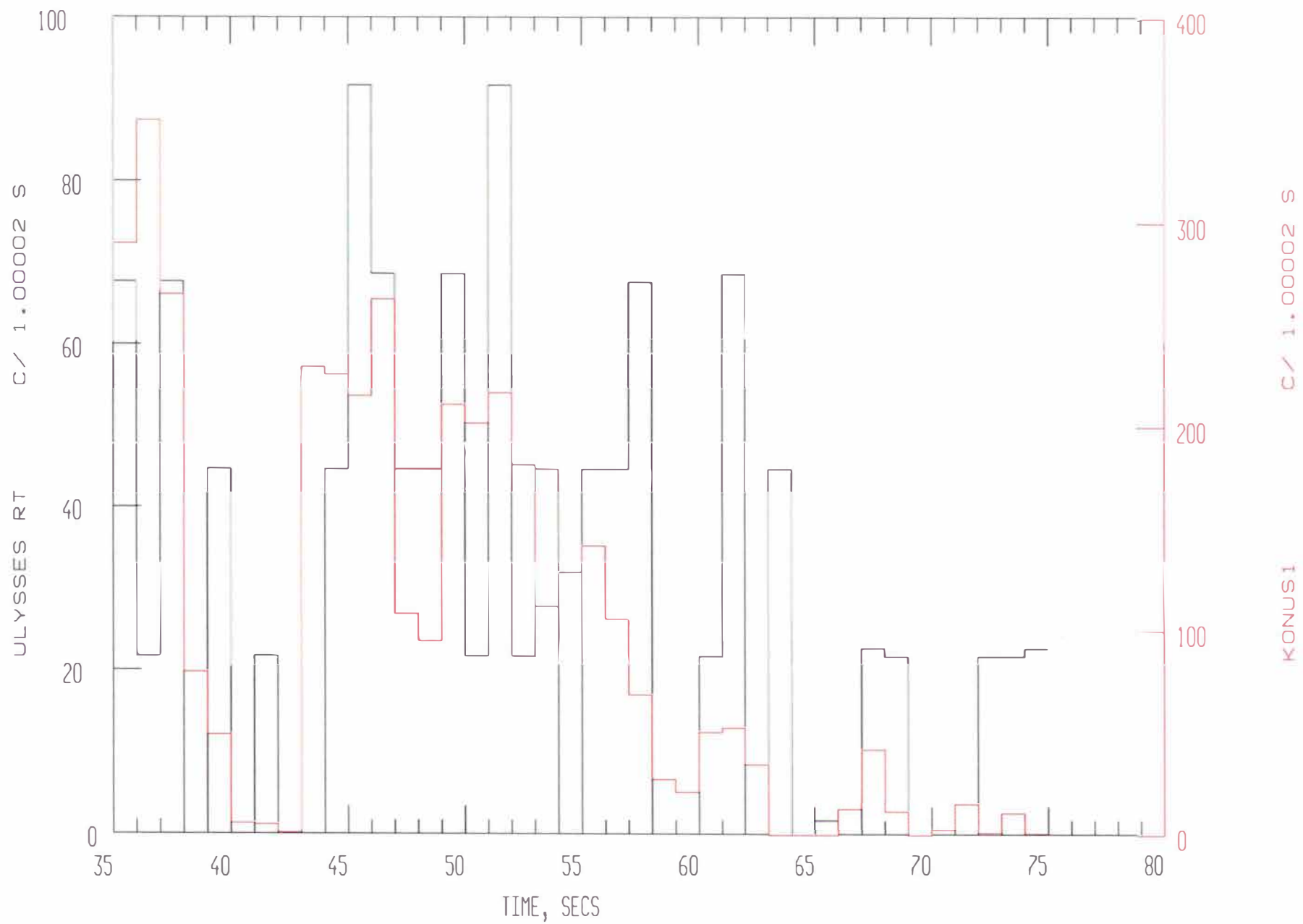
EVENT OF AUG 22, 1998 22:37

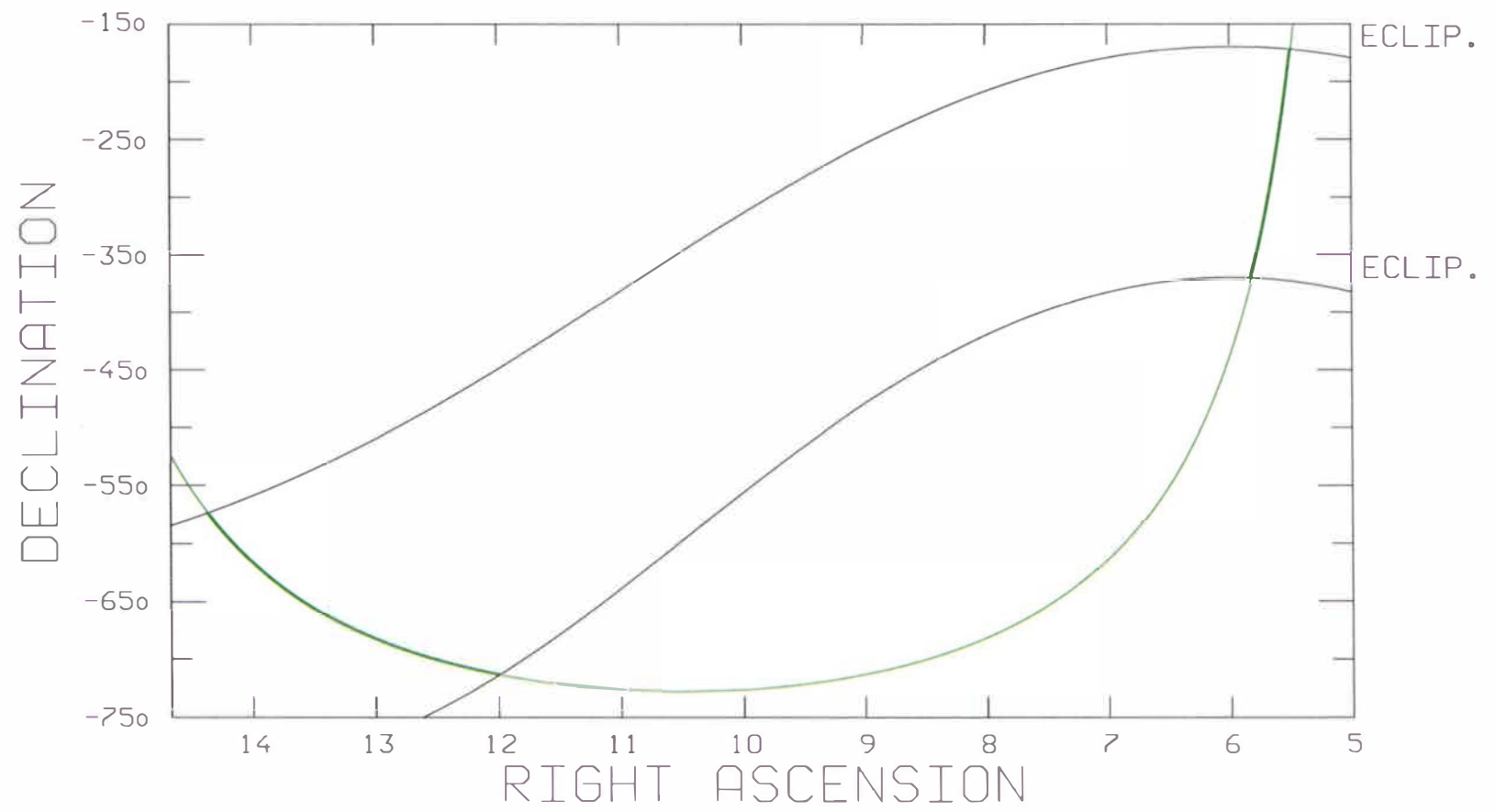
24/09/2012

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







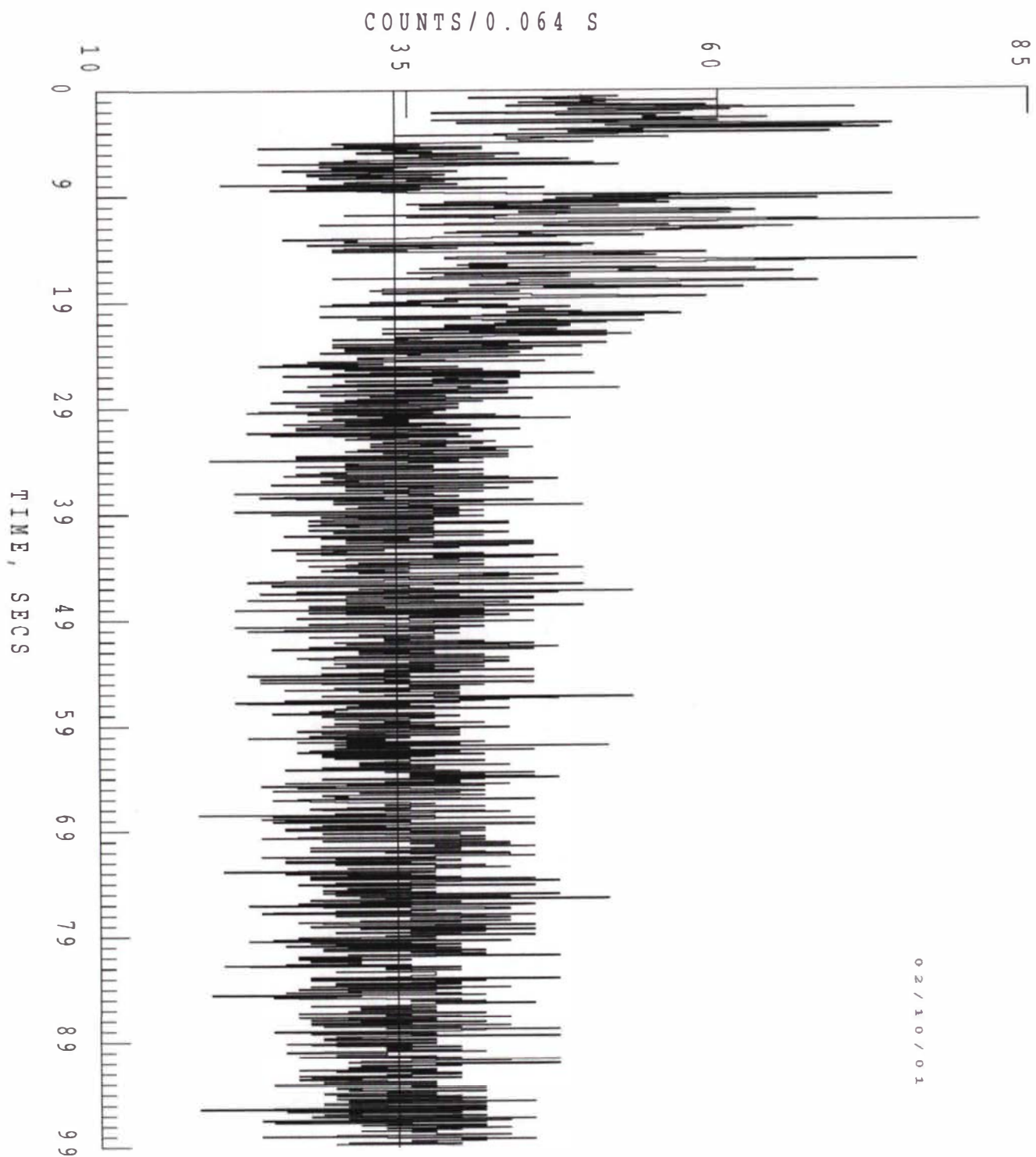


KONUS1

22/08/98

82158.509

50- 200 keV



19980822 81448

ULYSSES RT

21 / 09 / 12

22/08/98 81360.148 s

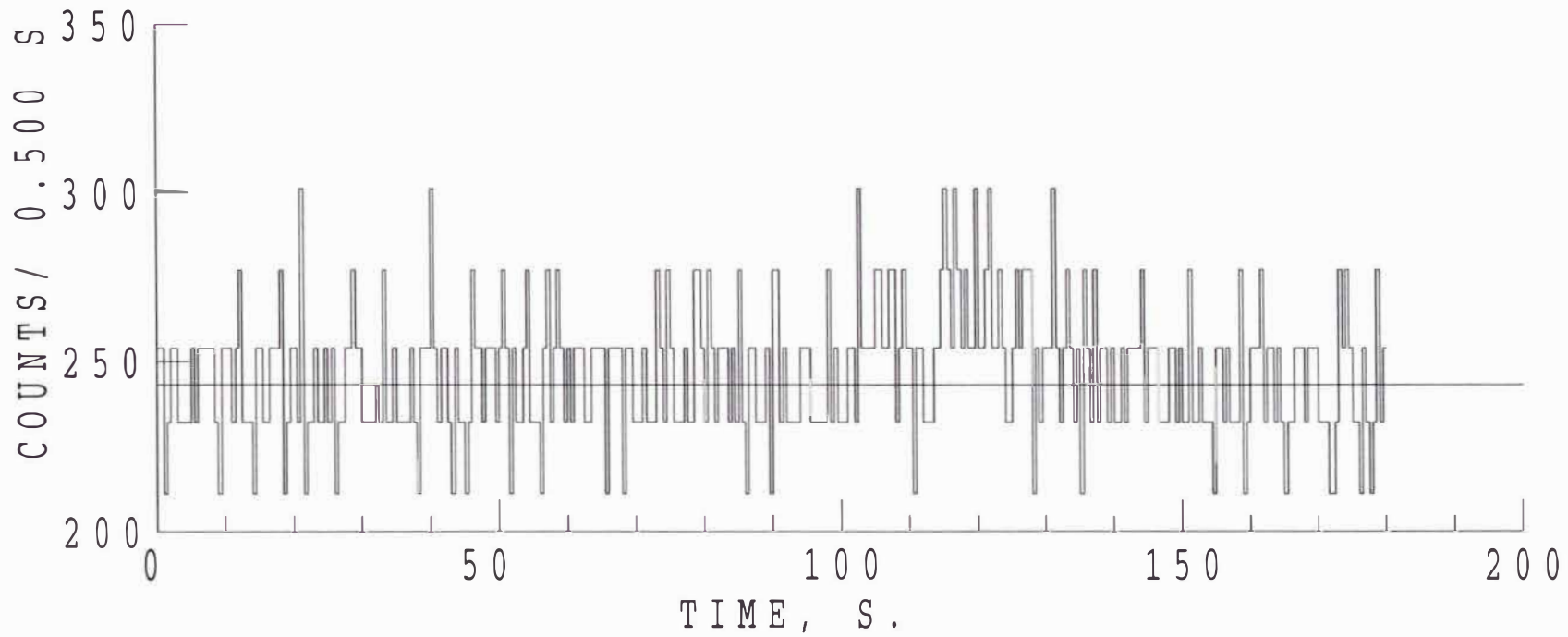
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS1 19980822 82158

ULYSSES RT

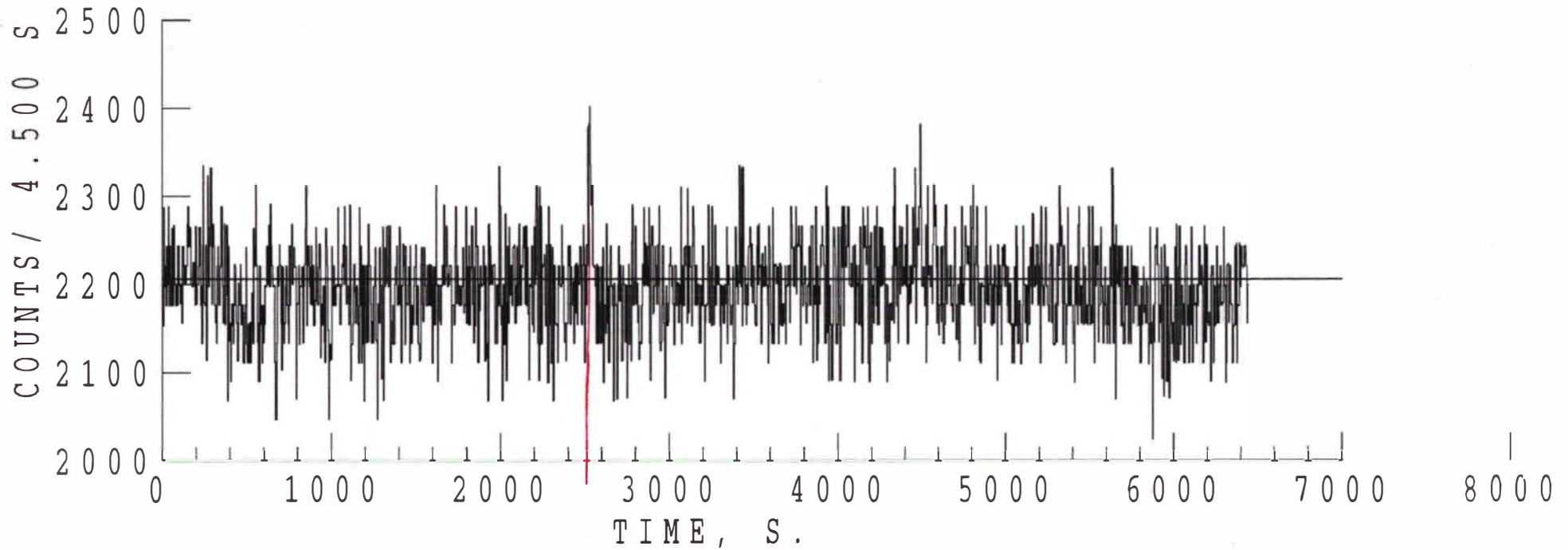
02/10/01

22/08/98 78948.117 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Wed Aug 26 08:46 PDT 1998
Mime-Version: 1.0
Date: Wed, 26 Aug 1998 11:50:51 -0400
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: GRB980821, 980822

DEAR KEVIN

I don't know about the 21st but checking out auto-Konus on the 22nd, it triggered four times, including 07818.780 seconds UT with the peak 40 seconds later (corresponding to your "" 22 AUG 98 02:49 5-s long"" and also at 54328 sec. UT, and 82158 sec. UT.

TLC

>

>ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

>

>Ulysses observed the following bursts:

>

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

>21 AUG 98 18:24	32 ms long, moderate - SGR?	3150
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>21 AUG 98 22:32	64 ms long, intense - SGR?	3150
------------------	----------------------------	------

>22 AUG 98 02:49	5 s long, moderate	3150
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>22 AUG 98 10:23	64 ms long, intense - SGR?	3150
------------------	----------------------------	------

>

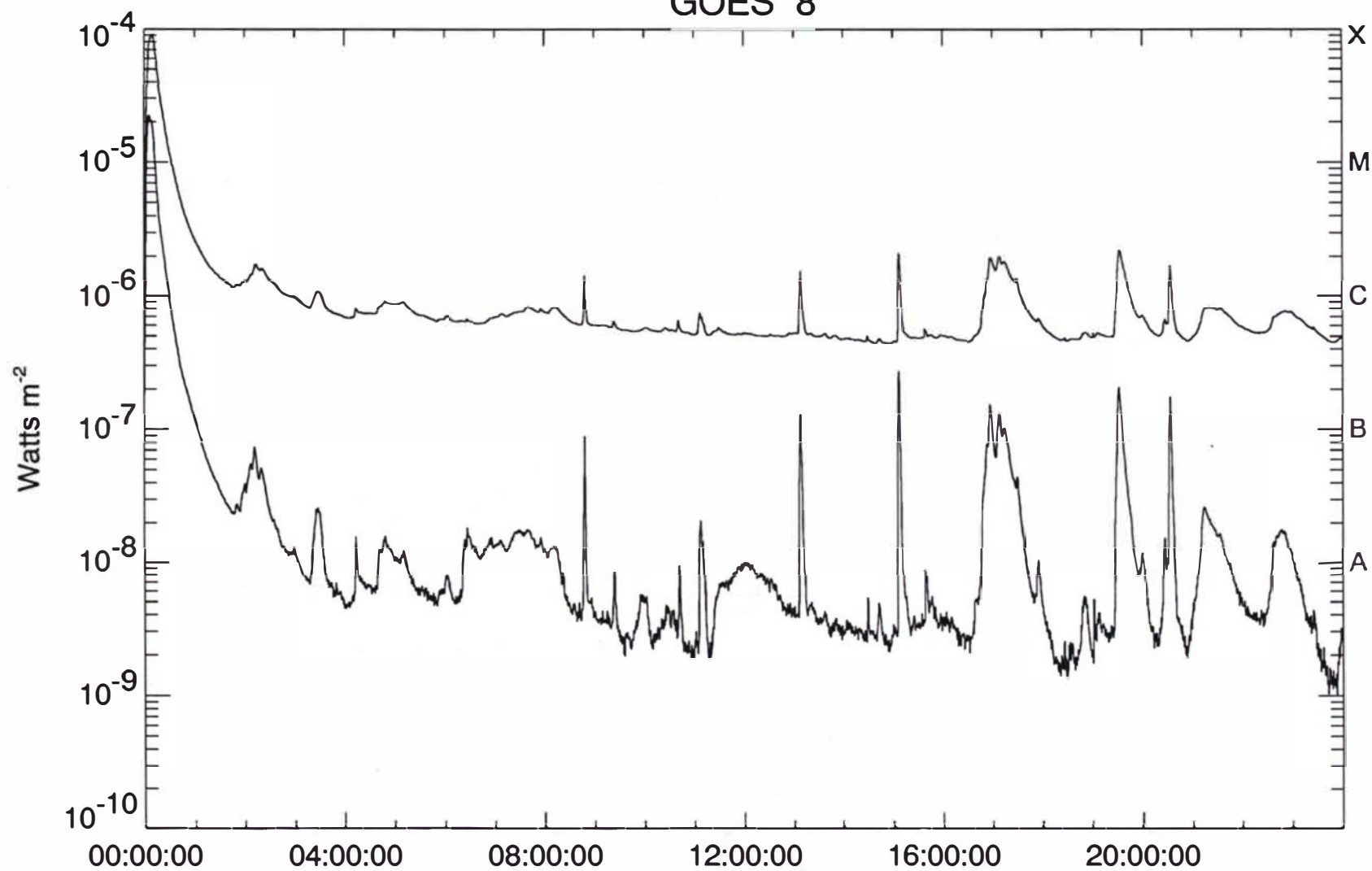
>Were these events detected by anyone else?

C: ulyssesbursts alias list

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

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

GOES 8



Data Start: 98/08/22, 0000:00

Plot created: 98/08/26, 1007

Channel

1 (1.0 - 8.0 Angstroms)

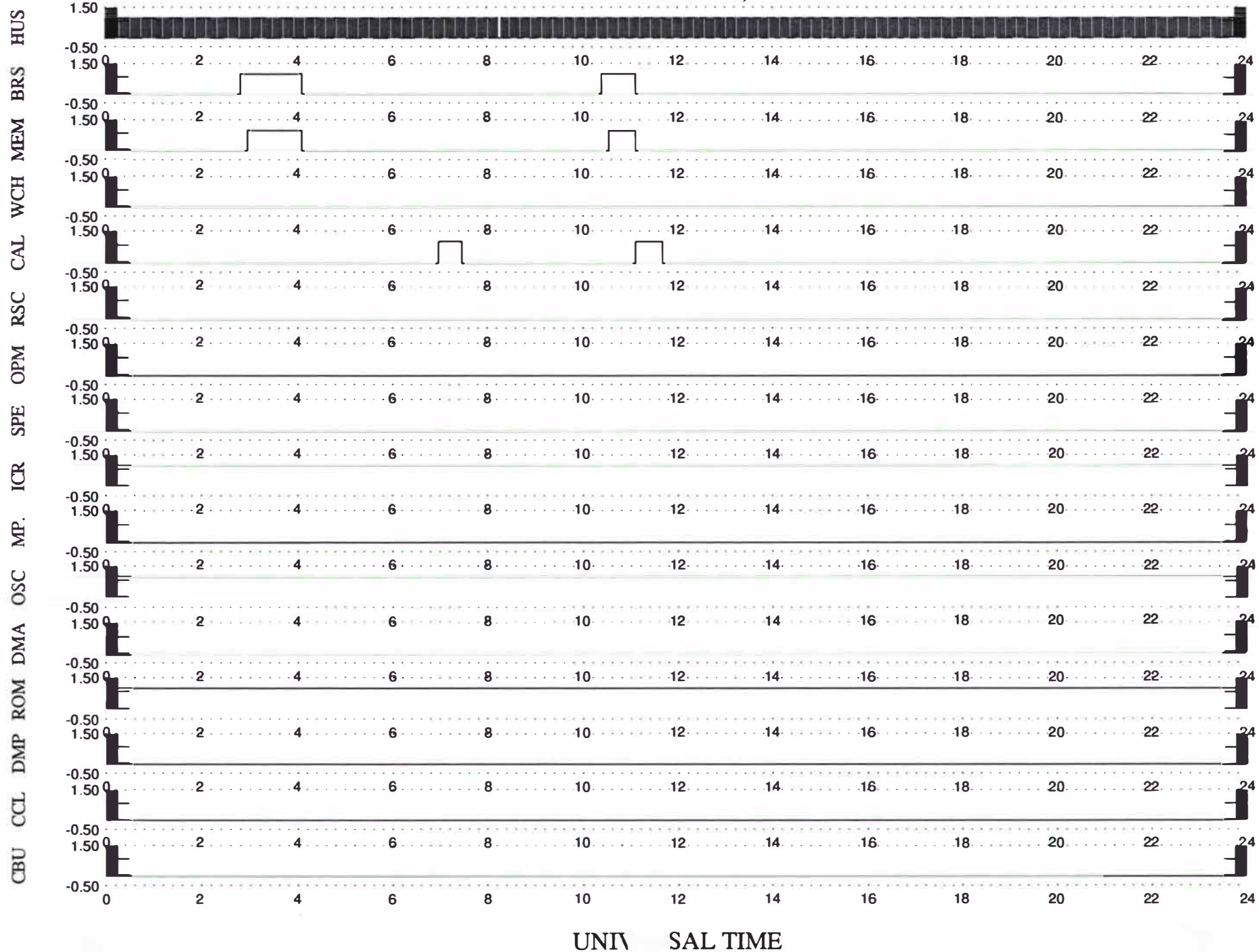
Background not subtracted

2 (0.5 - 4.0 Angstroms)

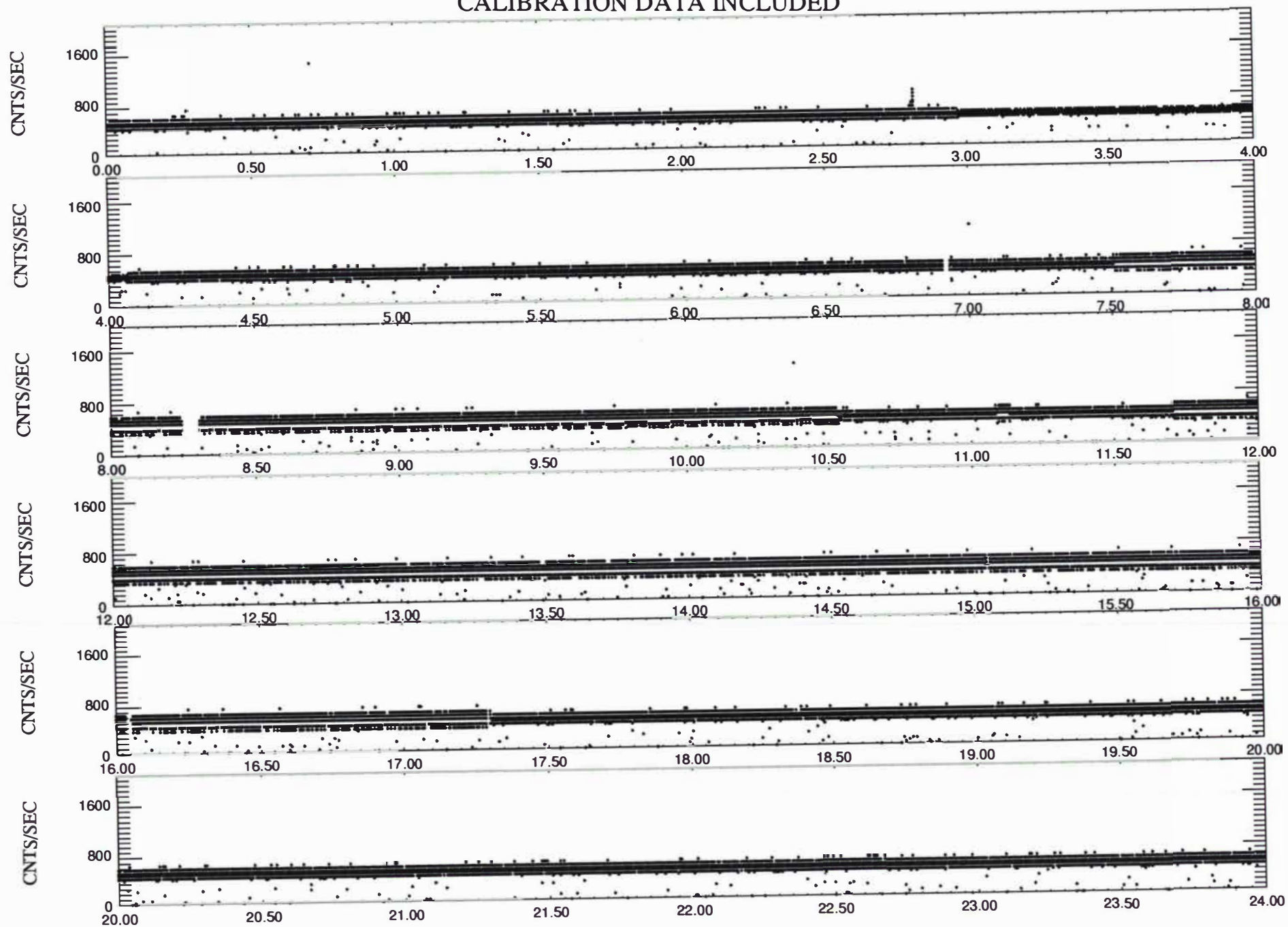
Background not subtracted

Sample average = 10

BURST NUMBER 13, 14

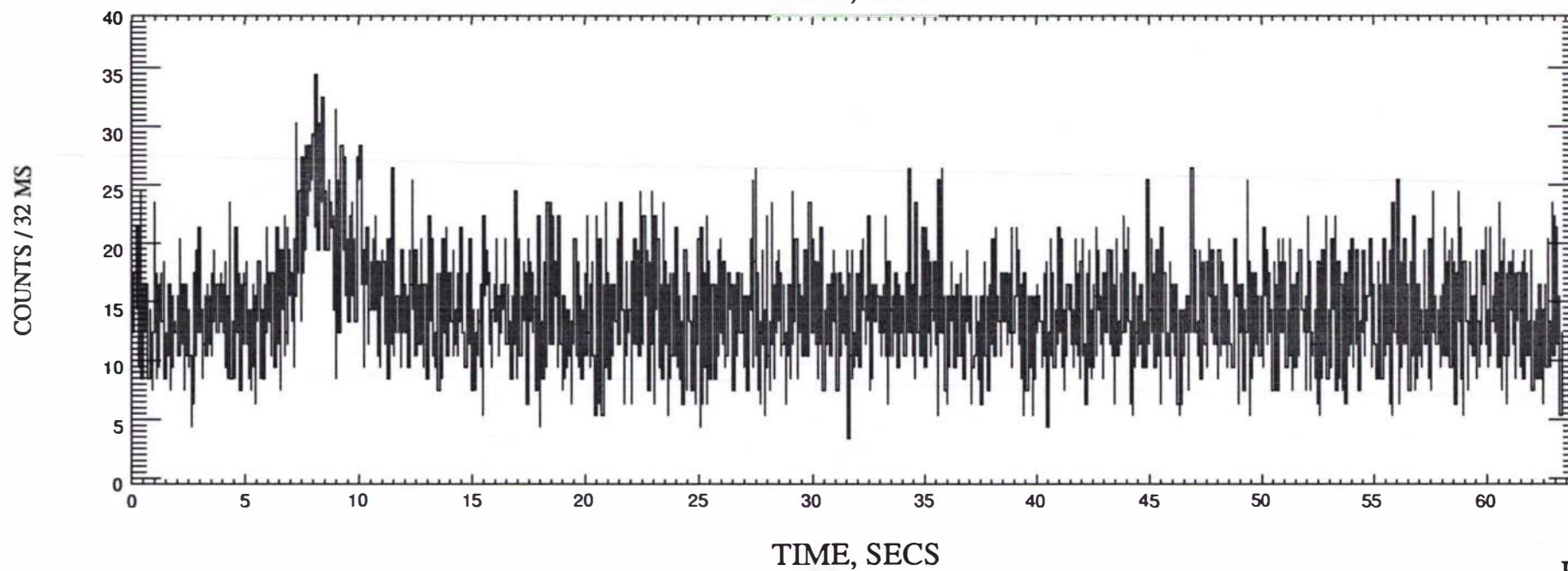
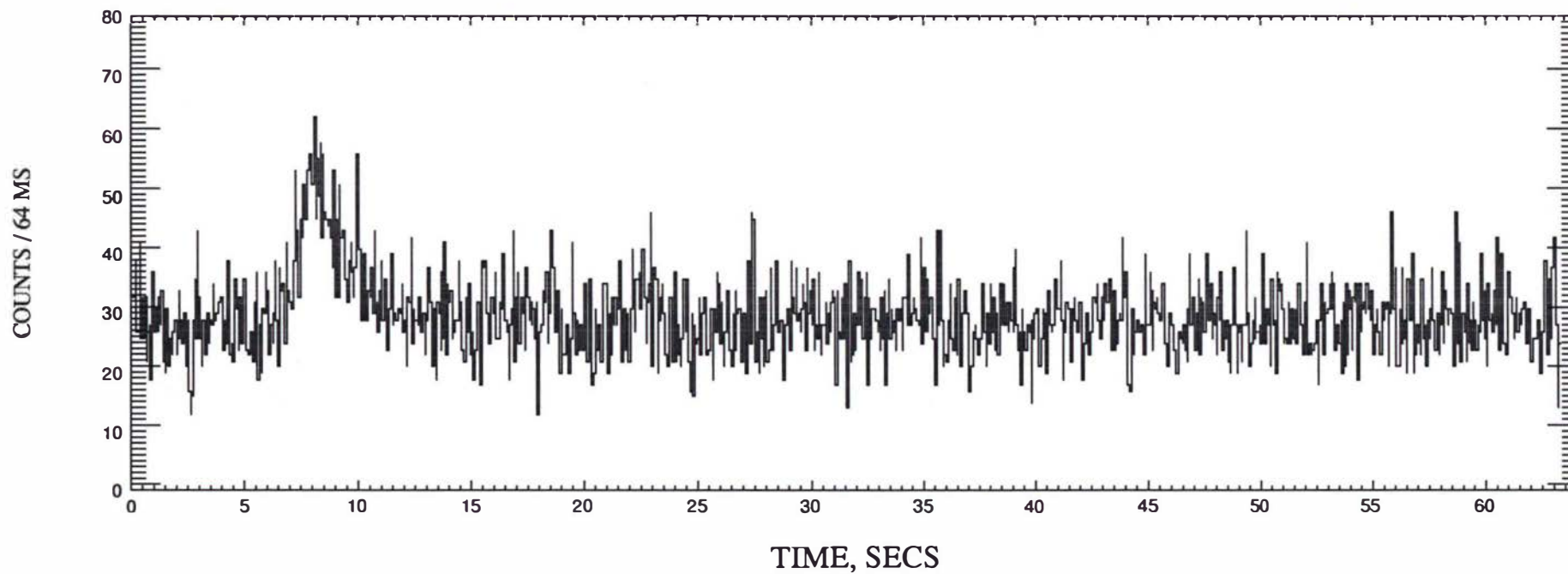


CALIBRATION DATA INCLUDED

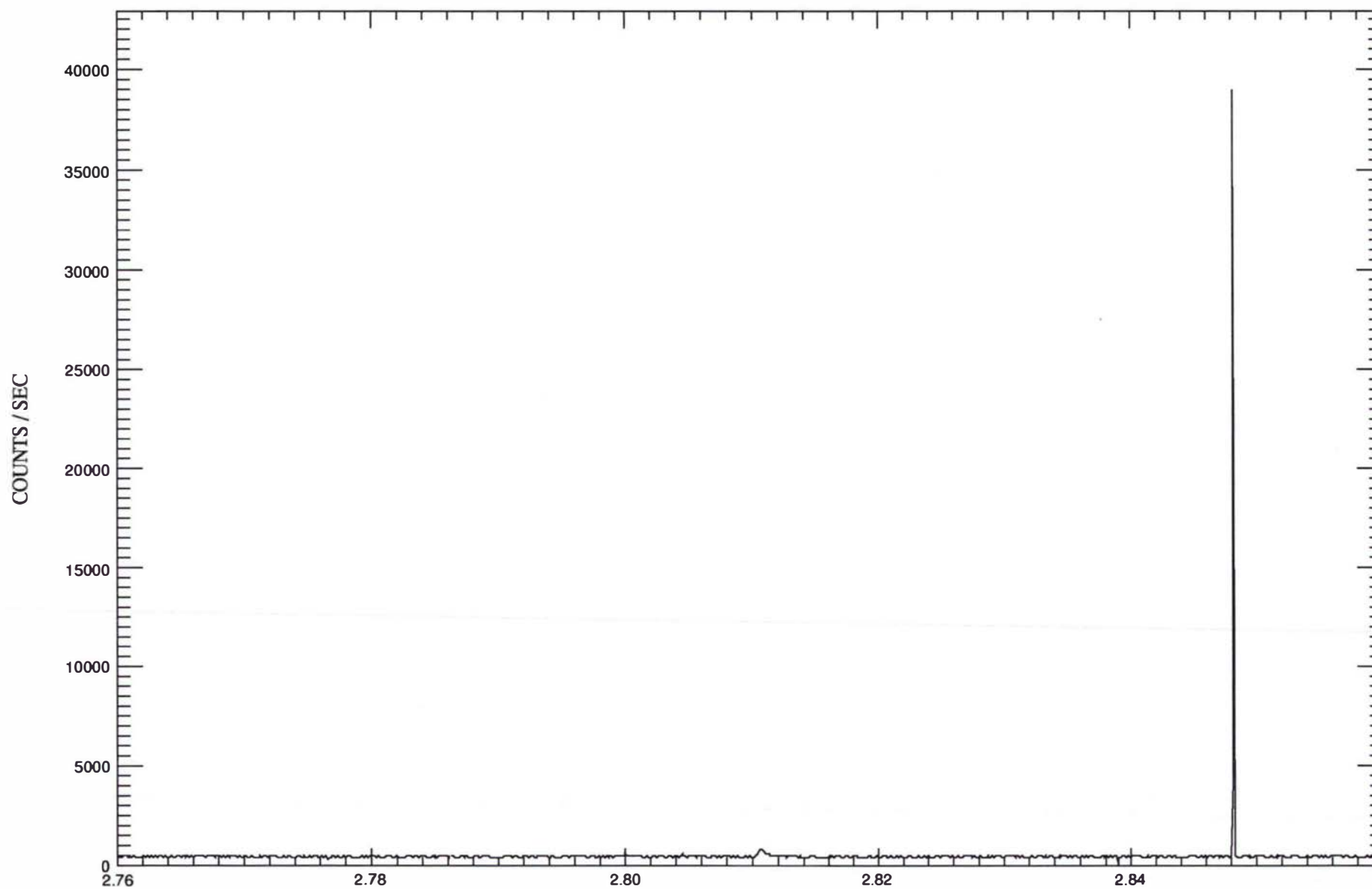


UNIV SAL TIME

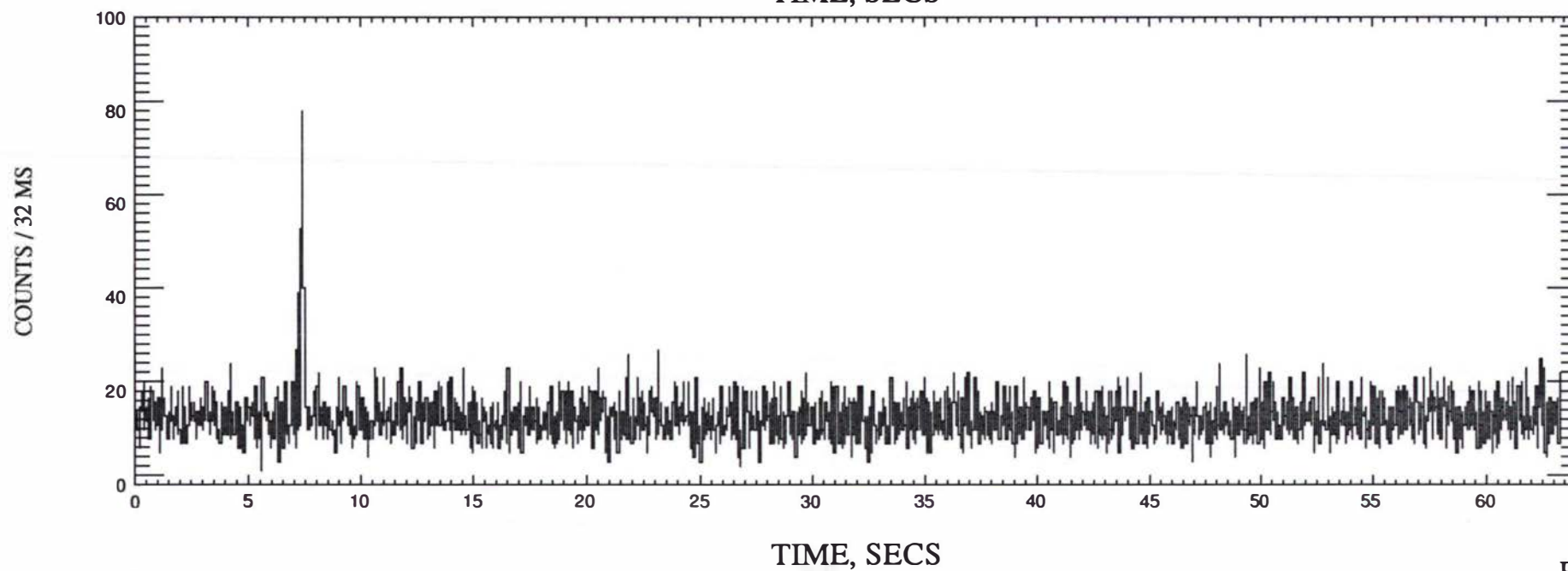
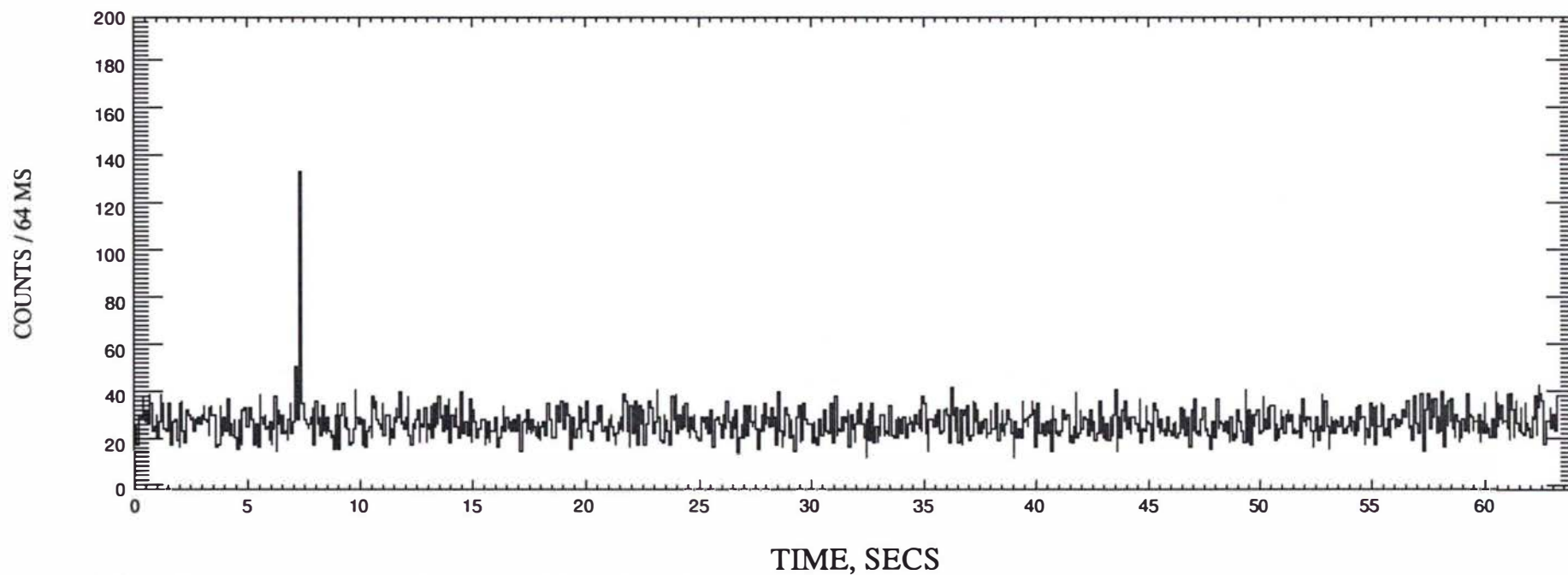
Burst Counter 13 at UT= 2.810628272163 h=10118.262 s 02:48:38.262



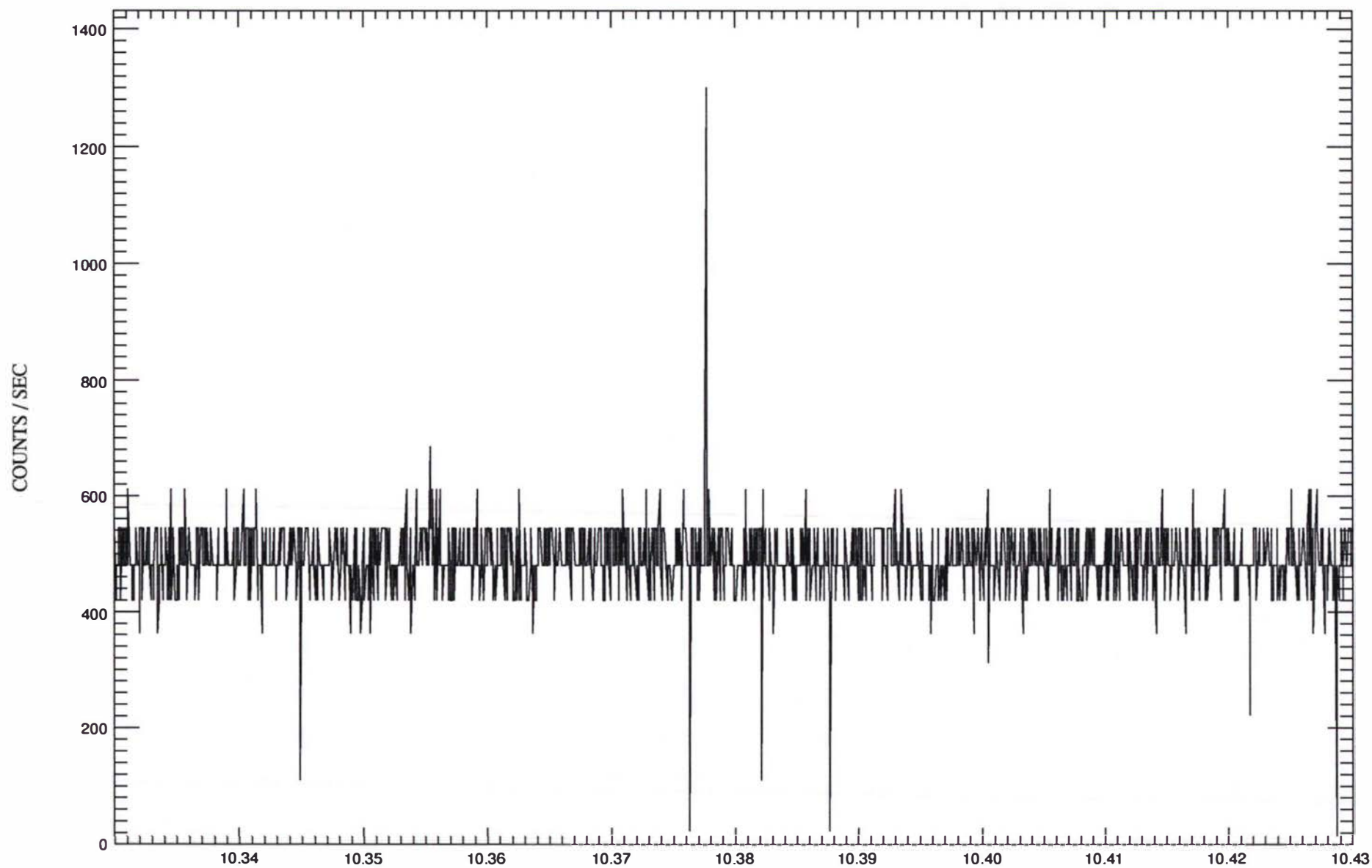
CALIBRATION DATA INCLUDED

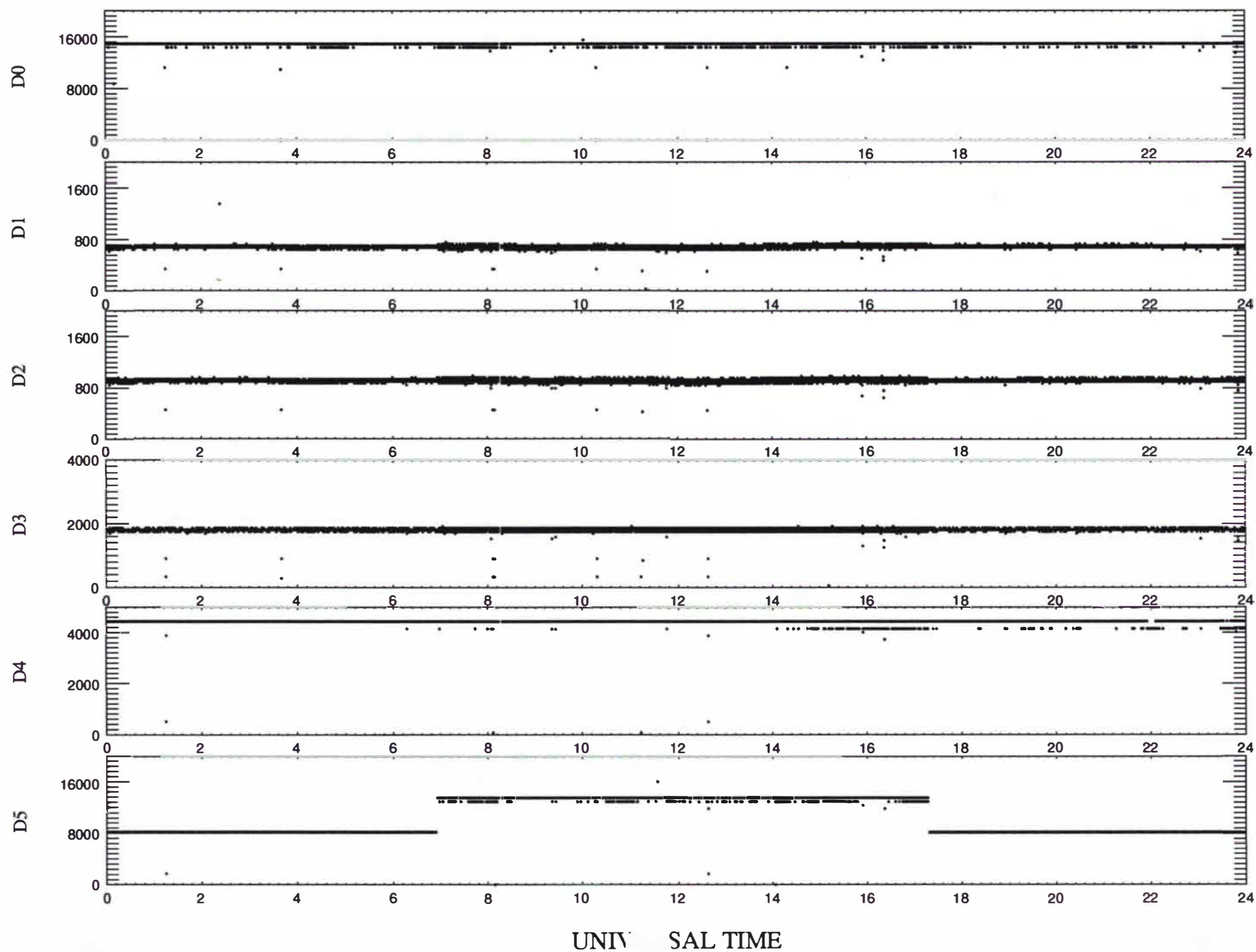


Burst Counter 14 at UT=10.377783423530 h=37360.020 s 10:22:40.020

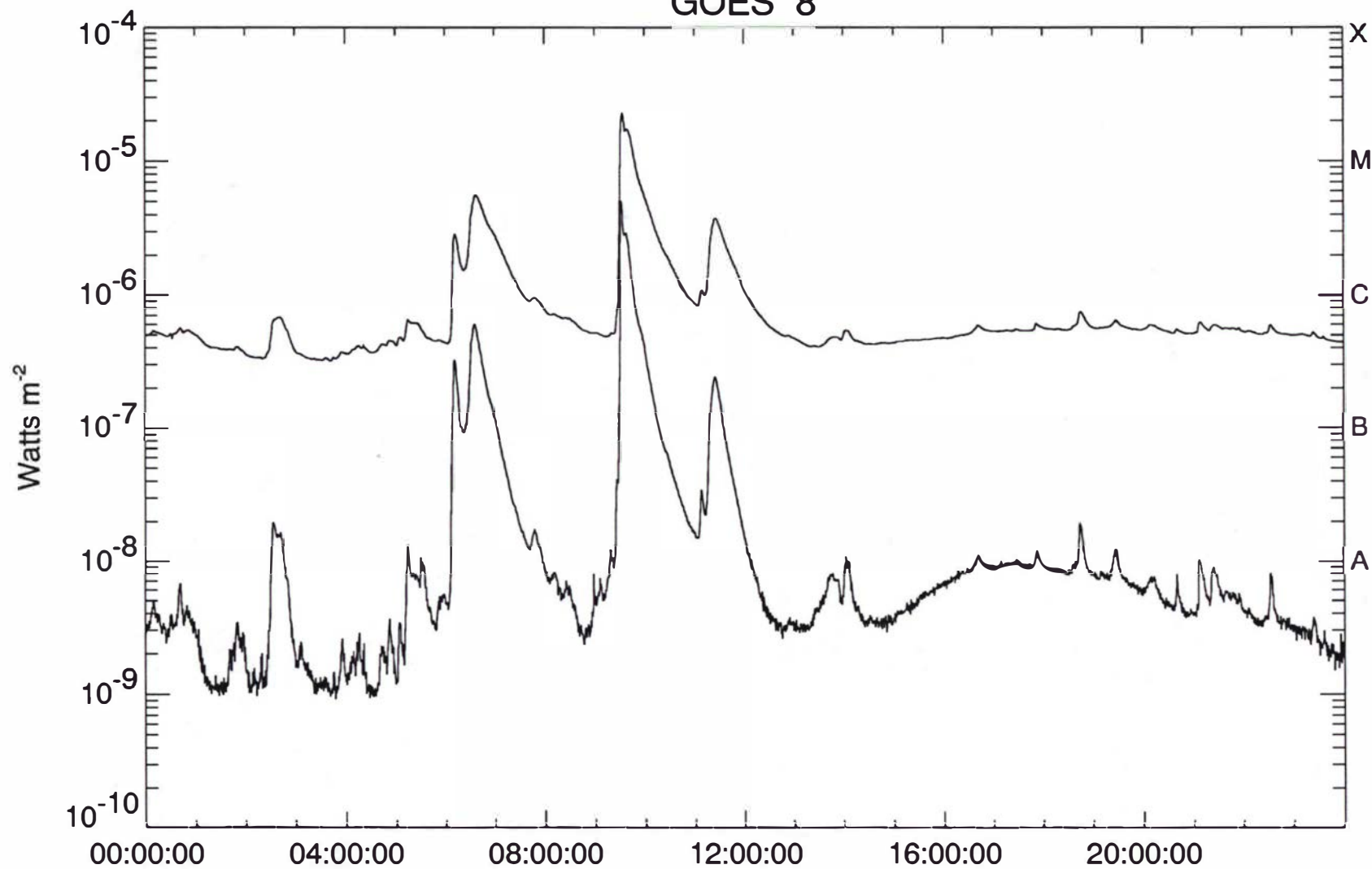


CALIBRATION DATA INCLUDED





GOES 8



Data Start: 98/08/23, 0000:00

Plot created: 98/08/27, 1007

Channel

1 (1.0 - 8.0 Angstroms)

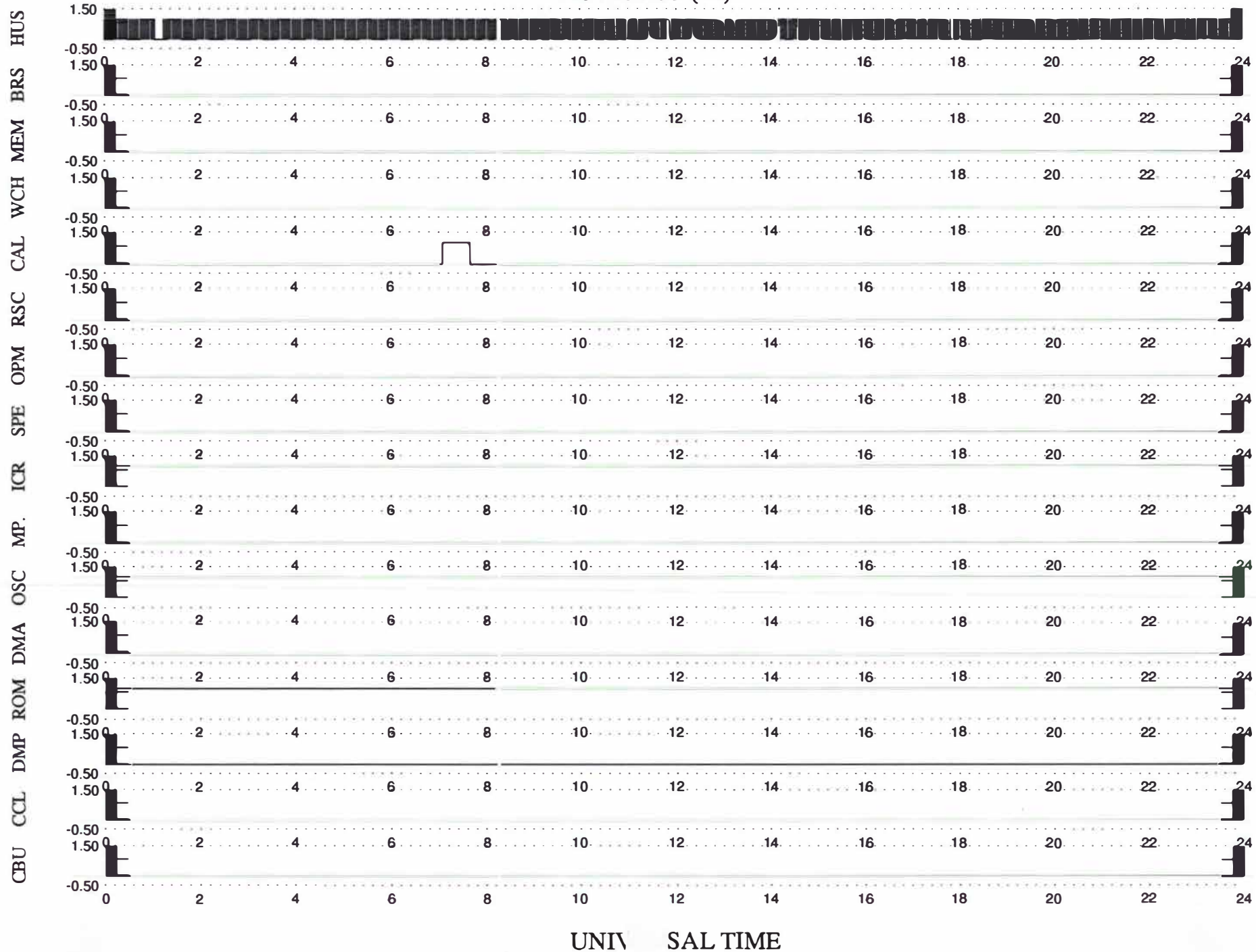
Background not subtracted

2 (0.5 - 4.0 Angstroms)

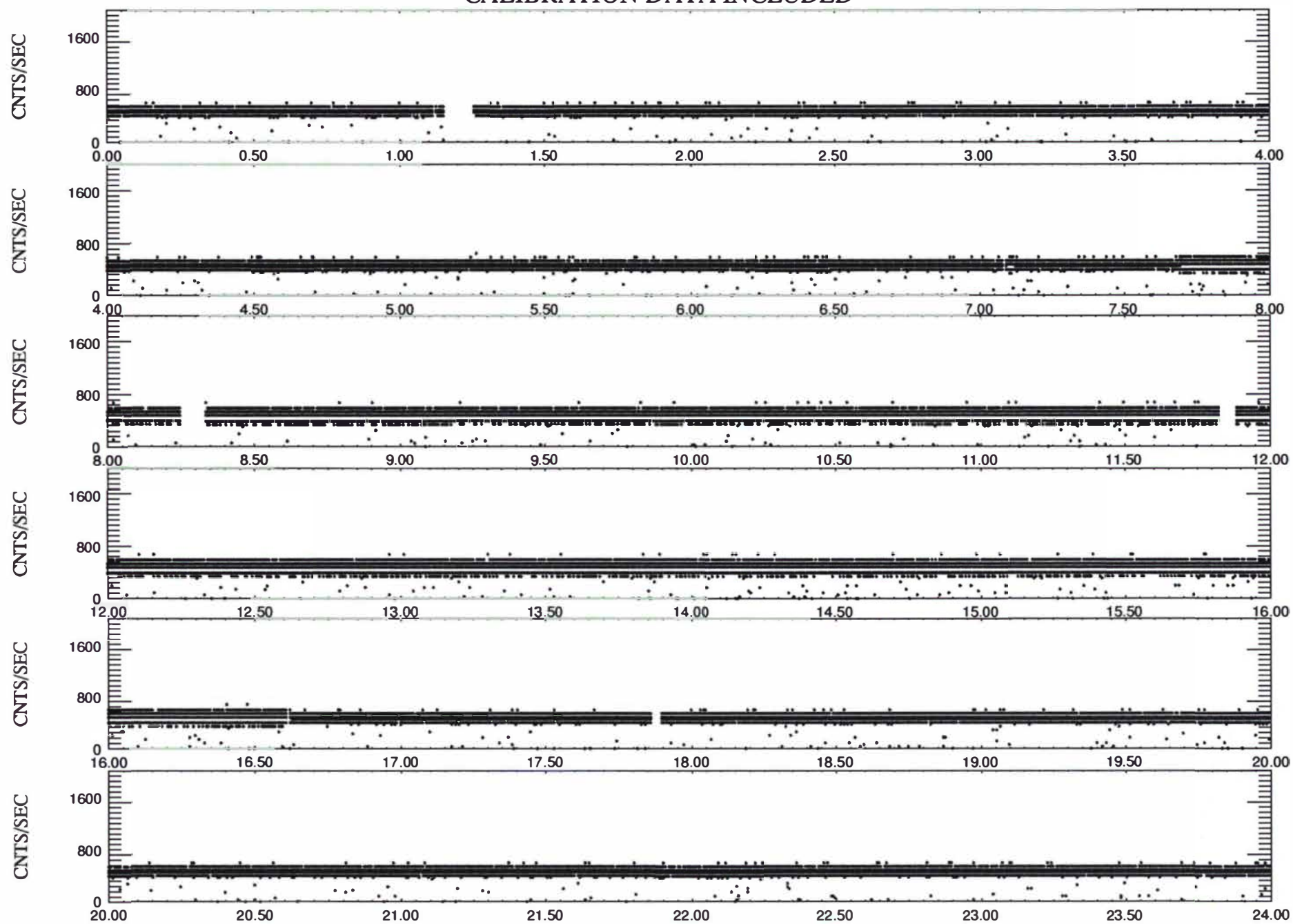
Background not subtracted

Sample average = 10

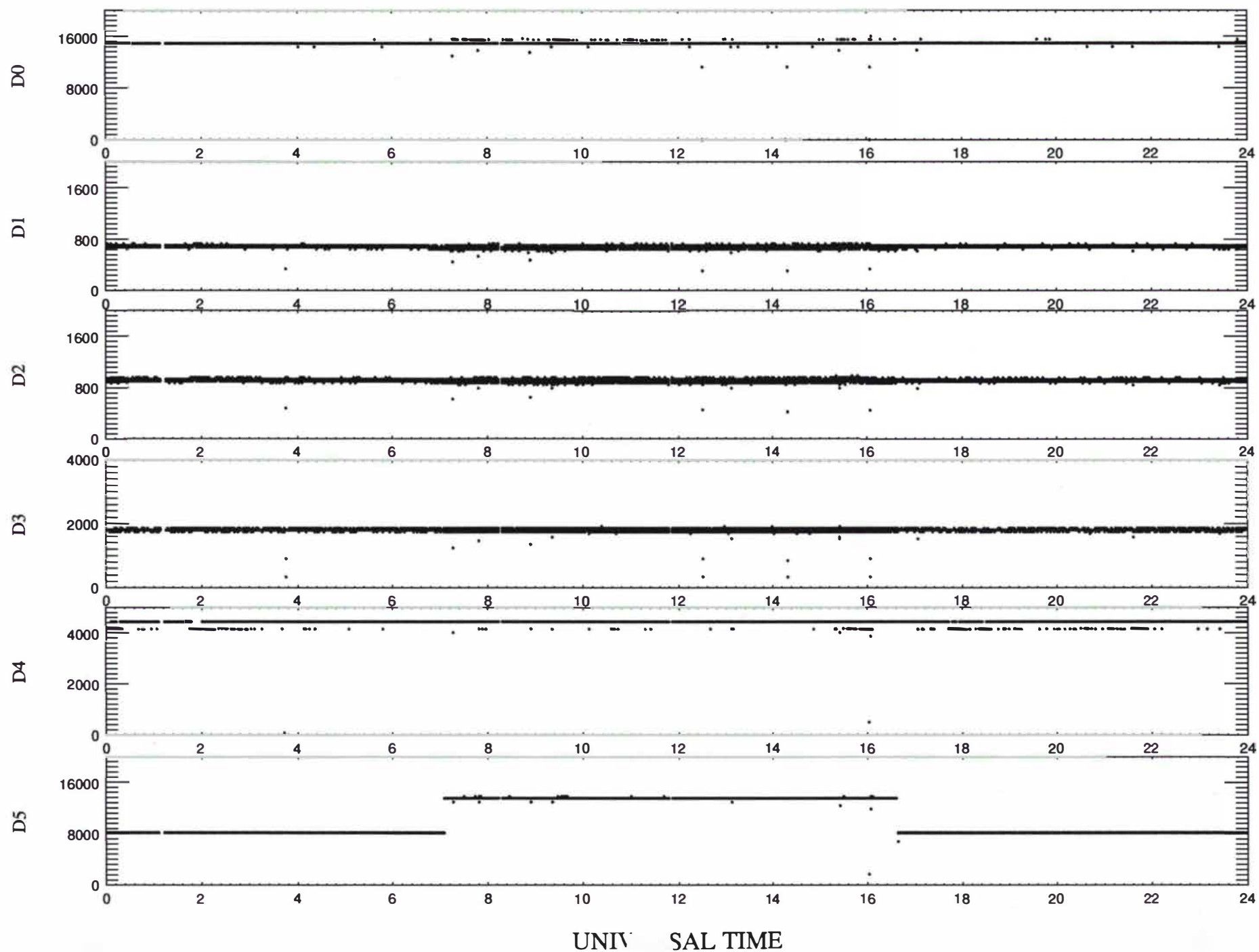
NO BURST (14)



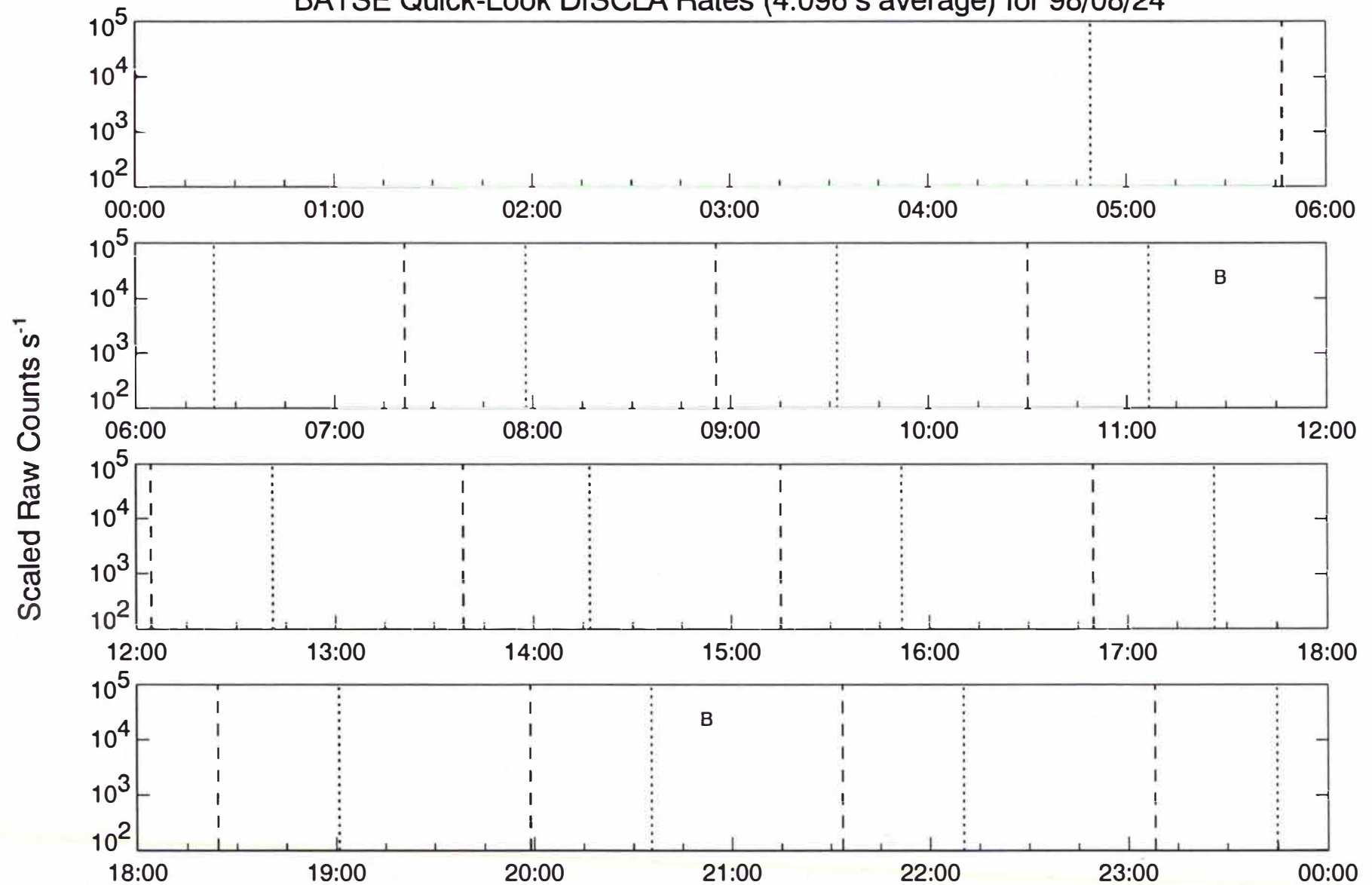
CALIBRATION DATA INCLUDED



UNIT SAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/24

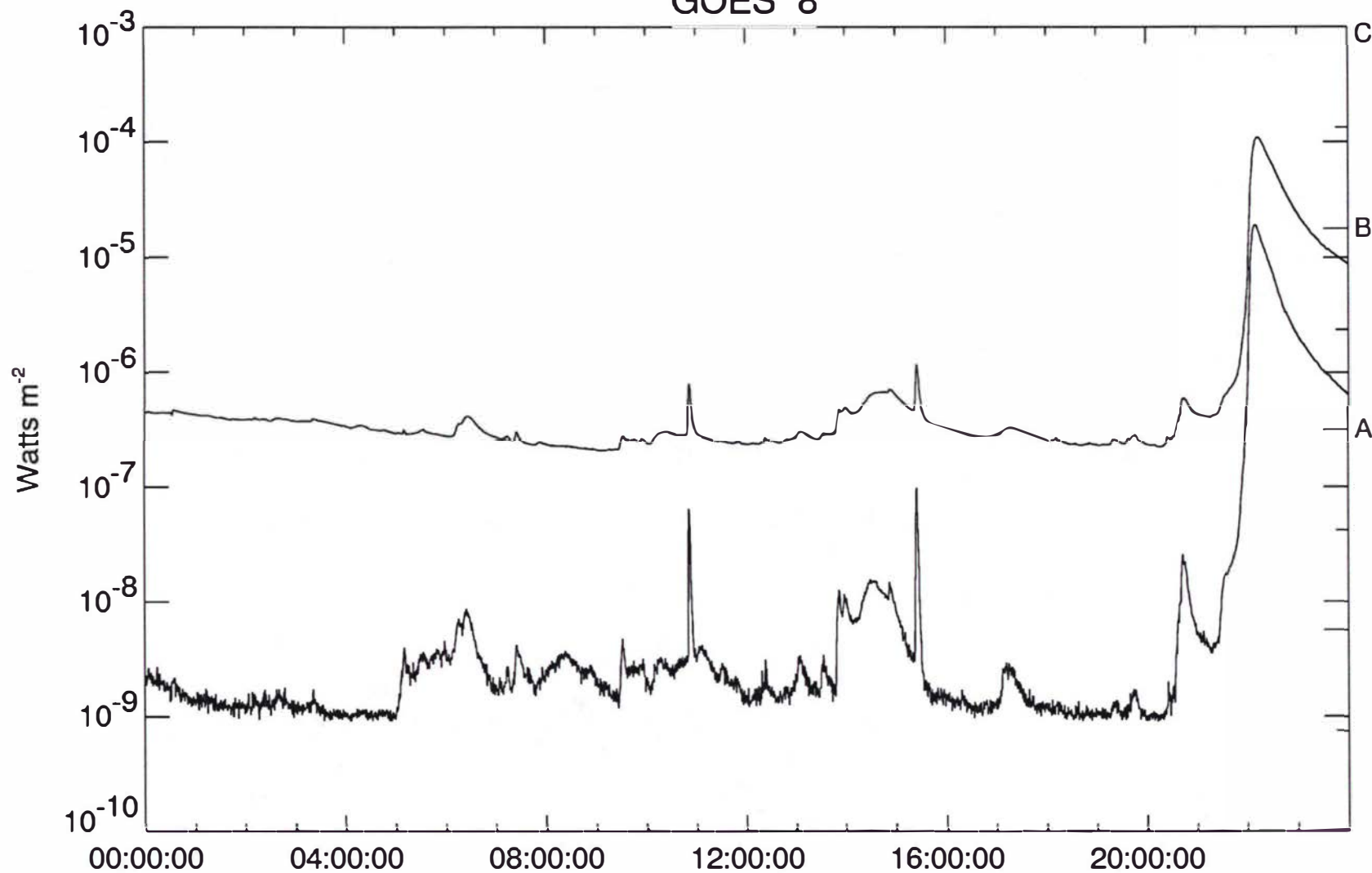


Current Time: 98/08/28, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

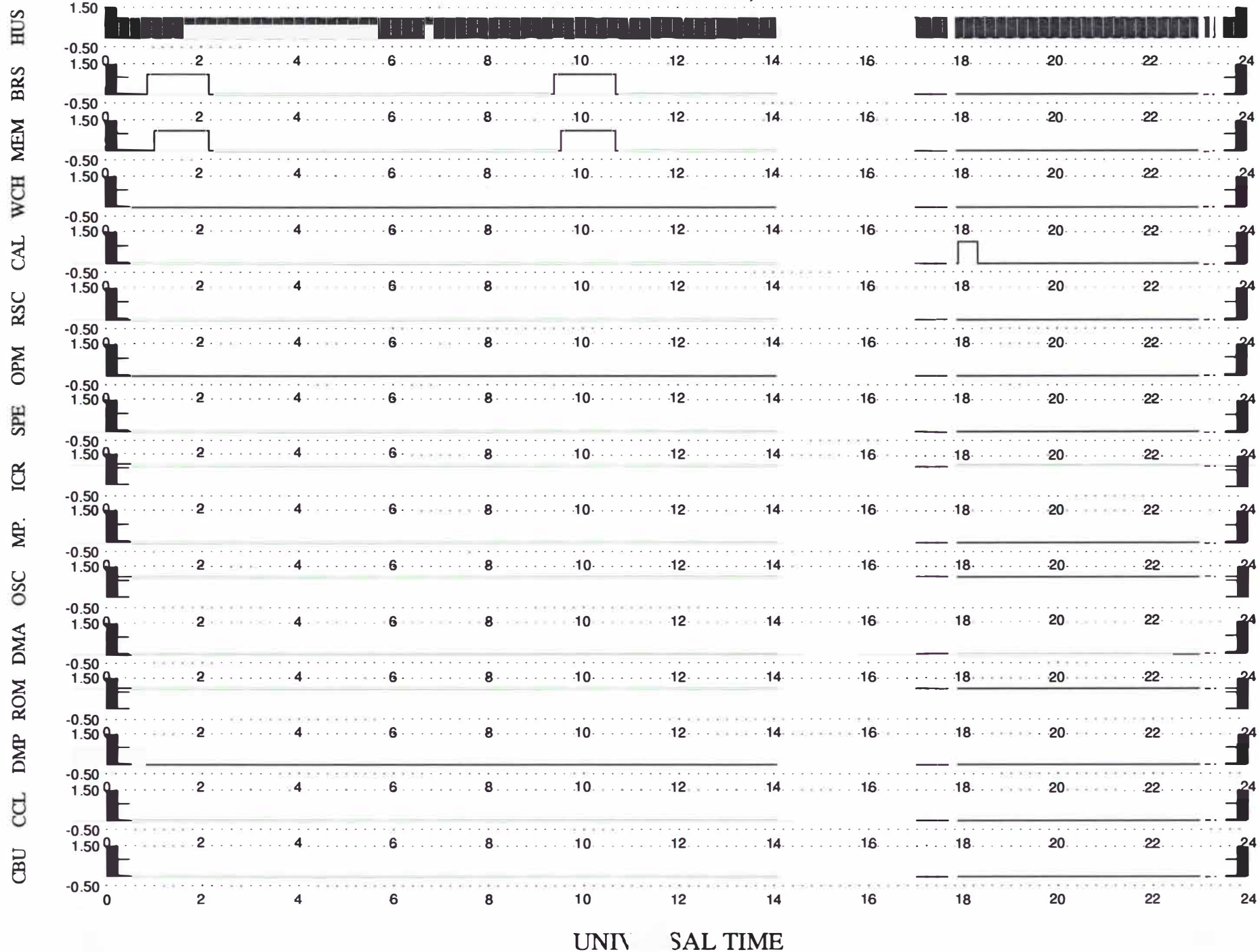


Data Start: 98/08/24, 0000:00

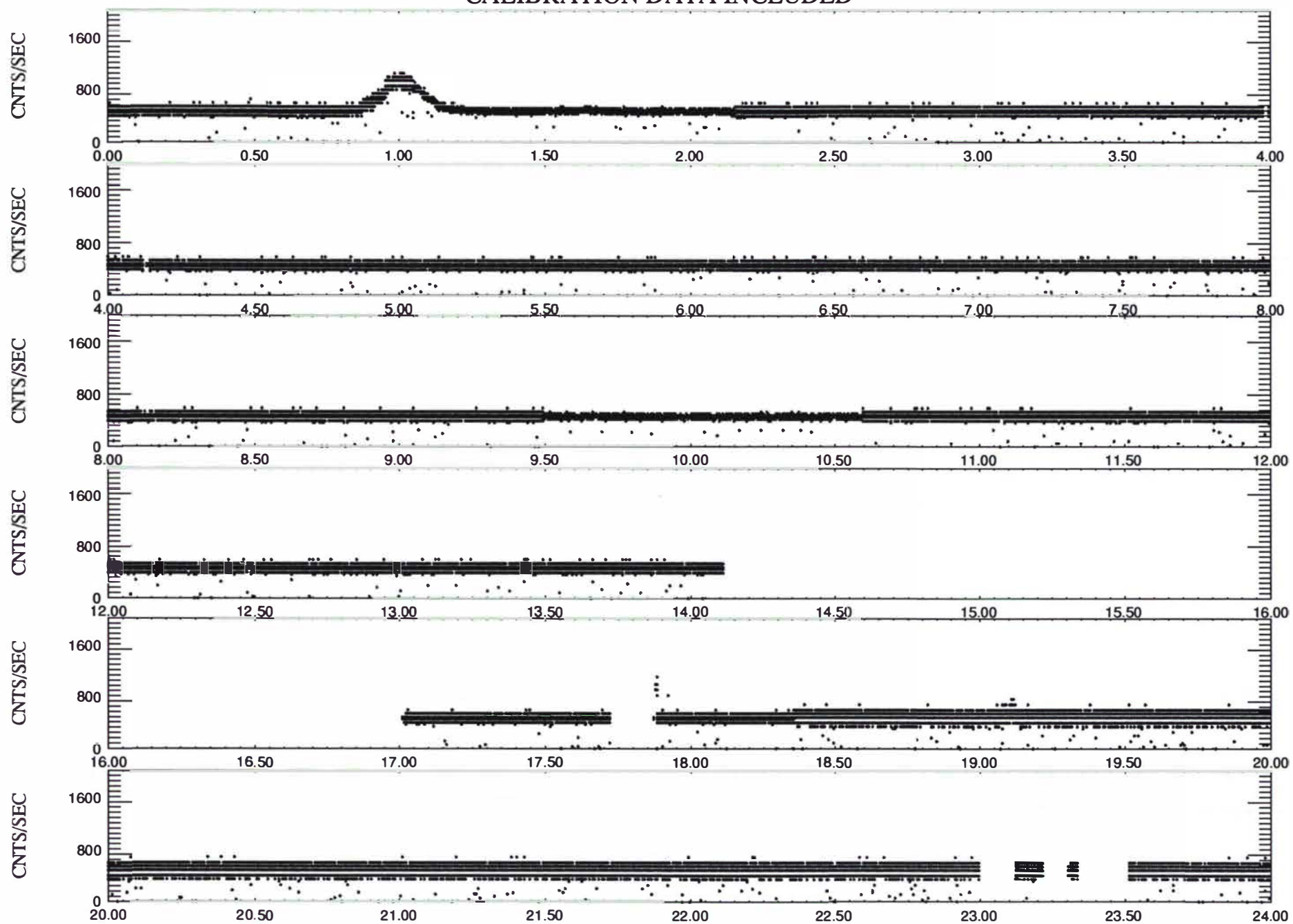
Plot created: 98/08/28, 1007

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

BURST NUMBER 15, 0

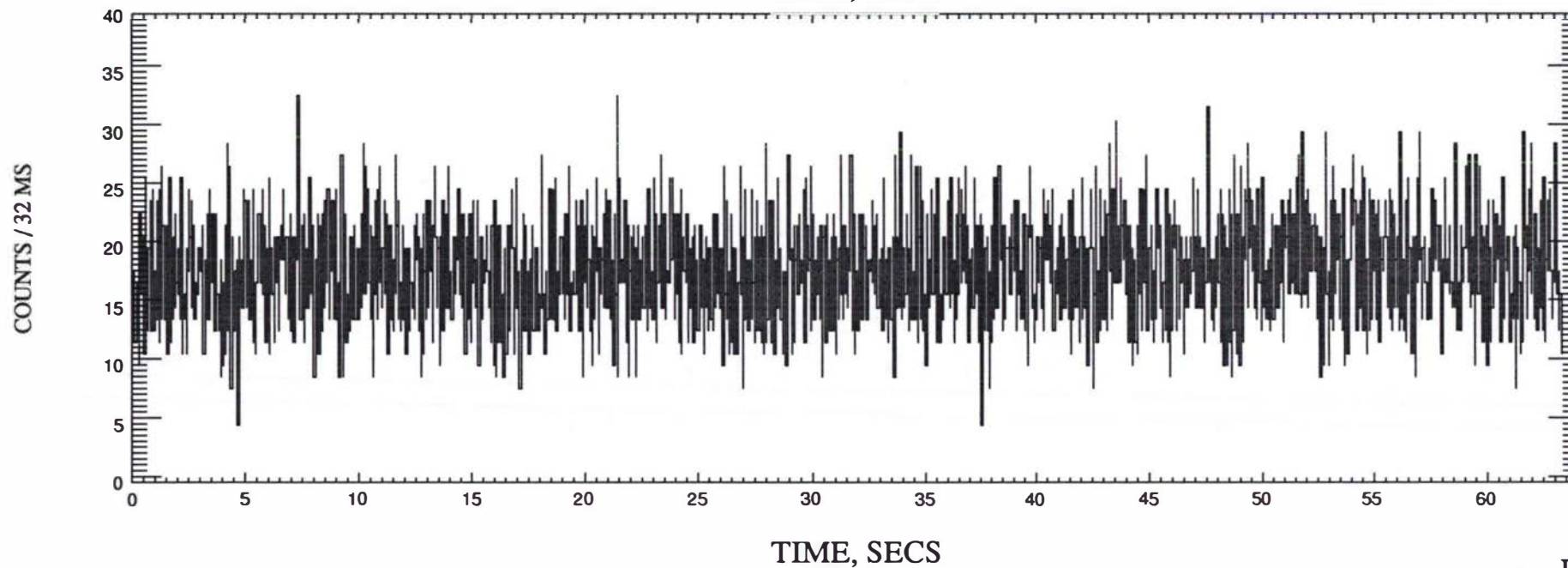
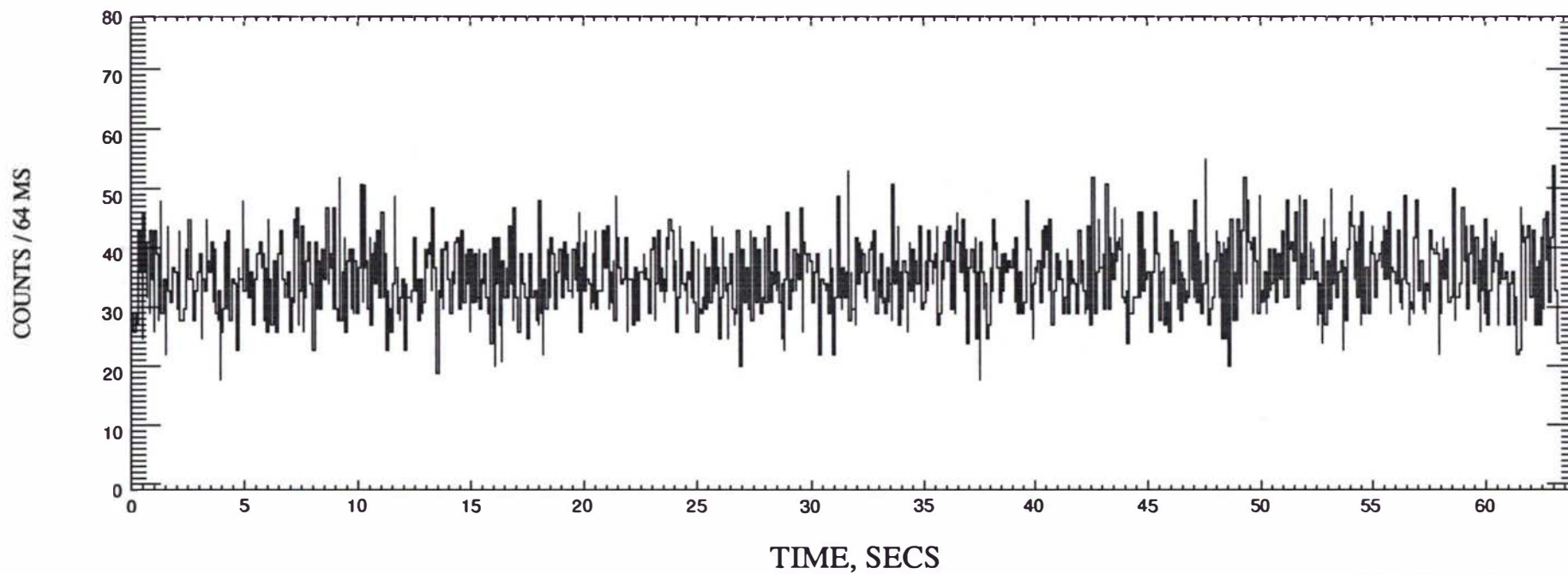


CALIBRATION DATA INCLUDED

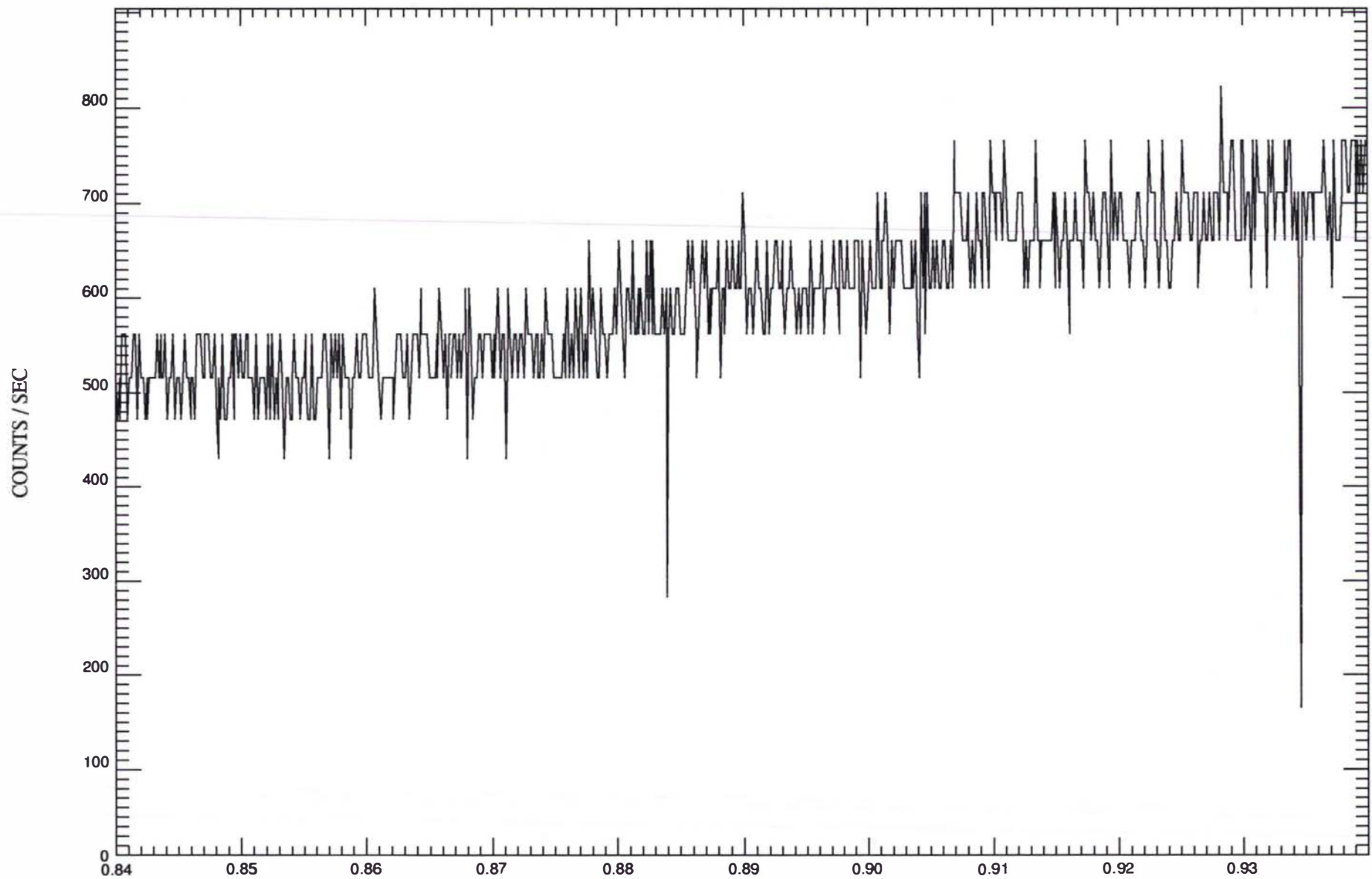


UNIV SAL TIME

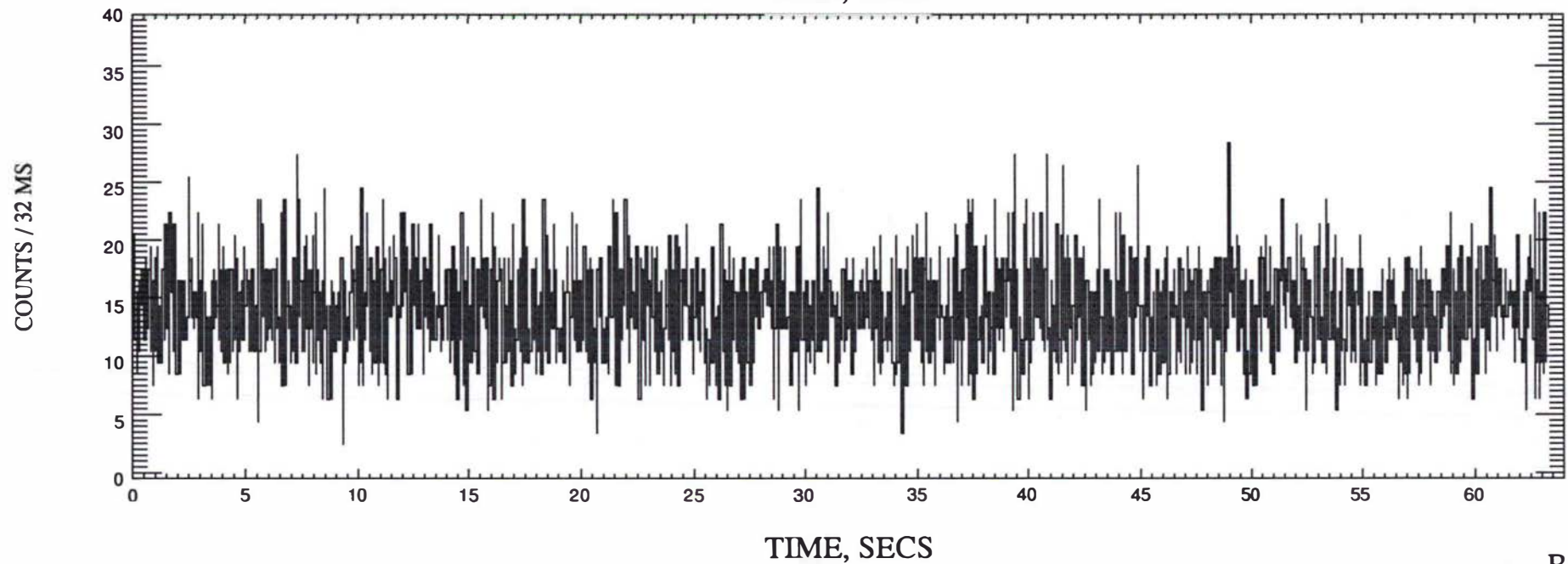
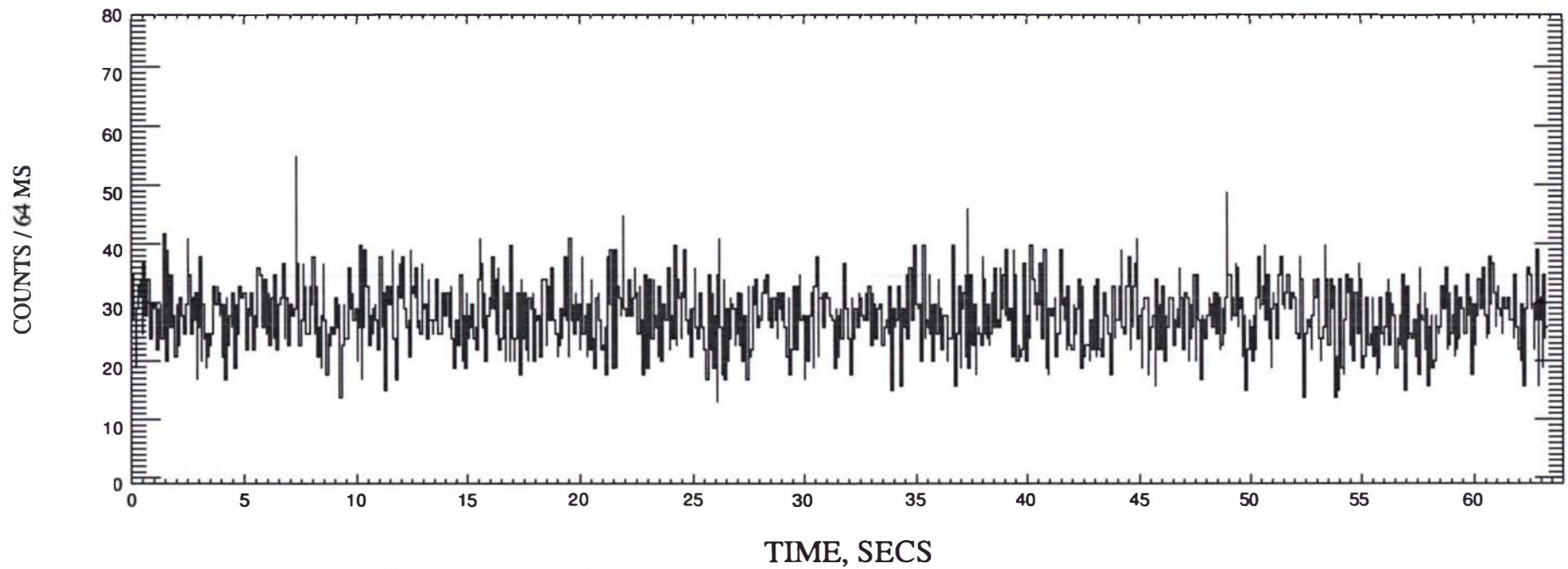
Burst Counter 15 at UT= 0.889273240831 h= 3201.384 s 00:53:21.384



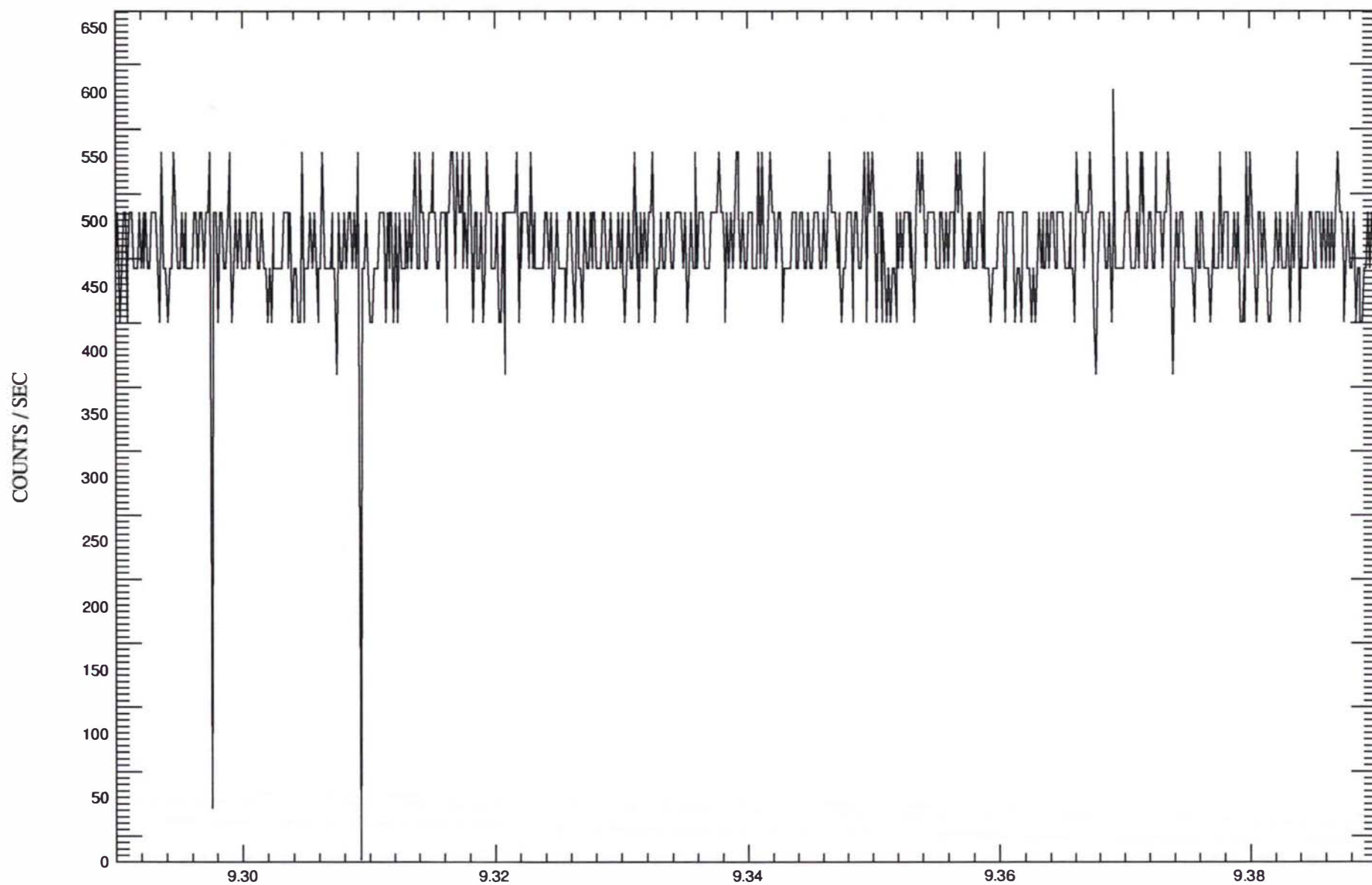
CALIBRATION DATA INCLUDED

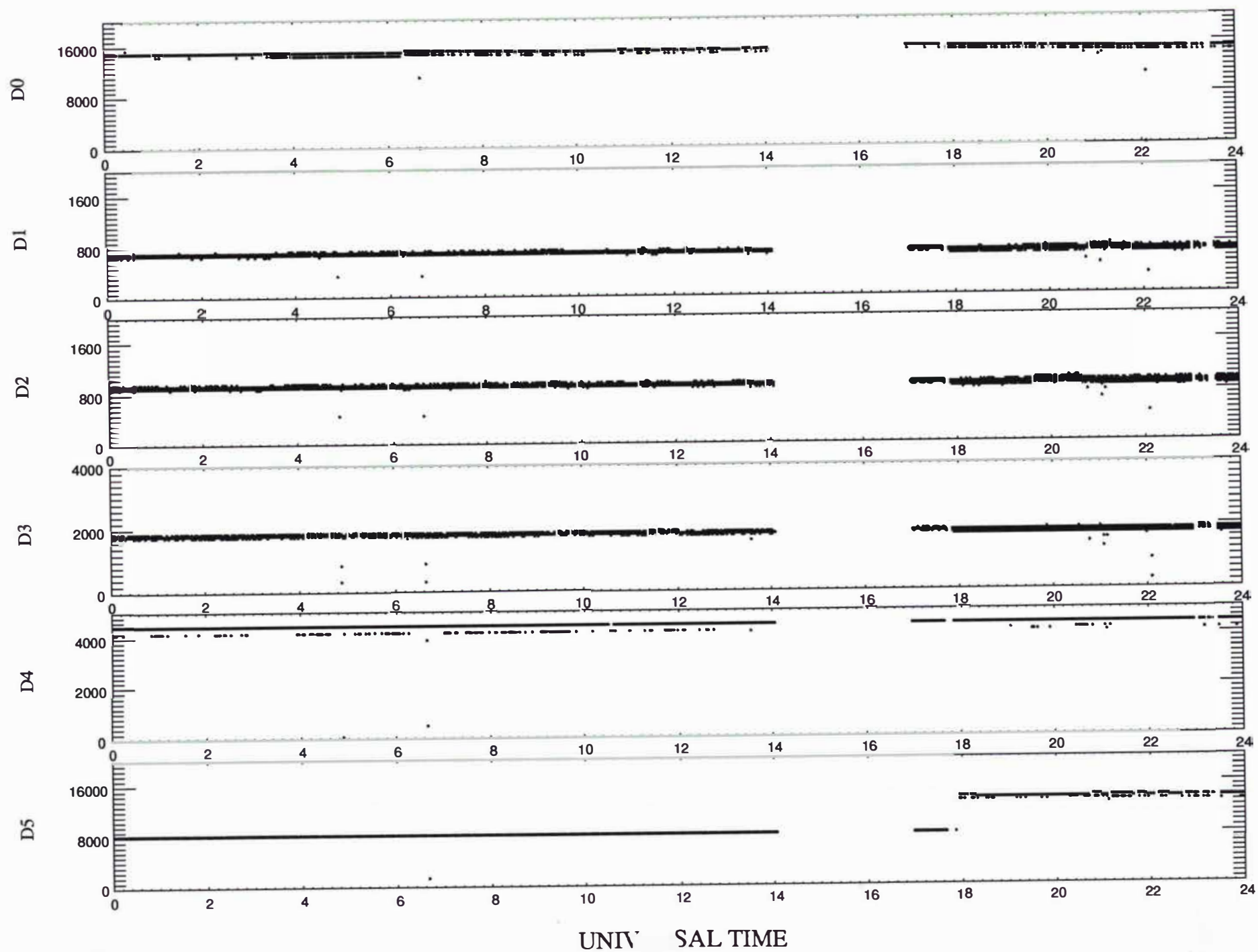


Burst Counter 0 at UT= 9.337906934950 h=33616.465 s 09:20:16.465

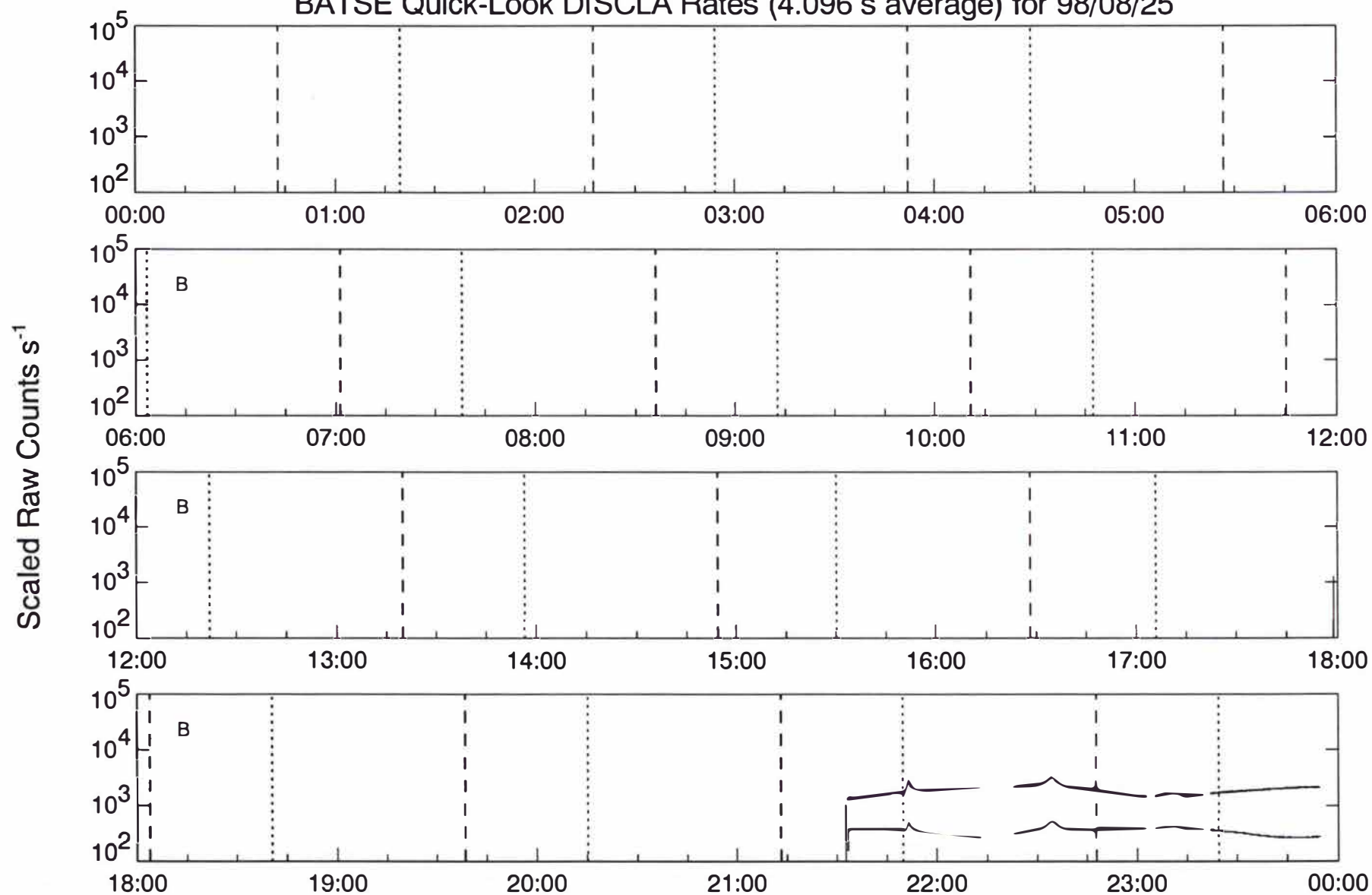


CALIBRATION DATA INCLUDED





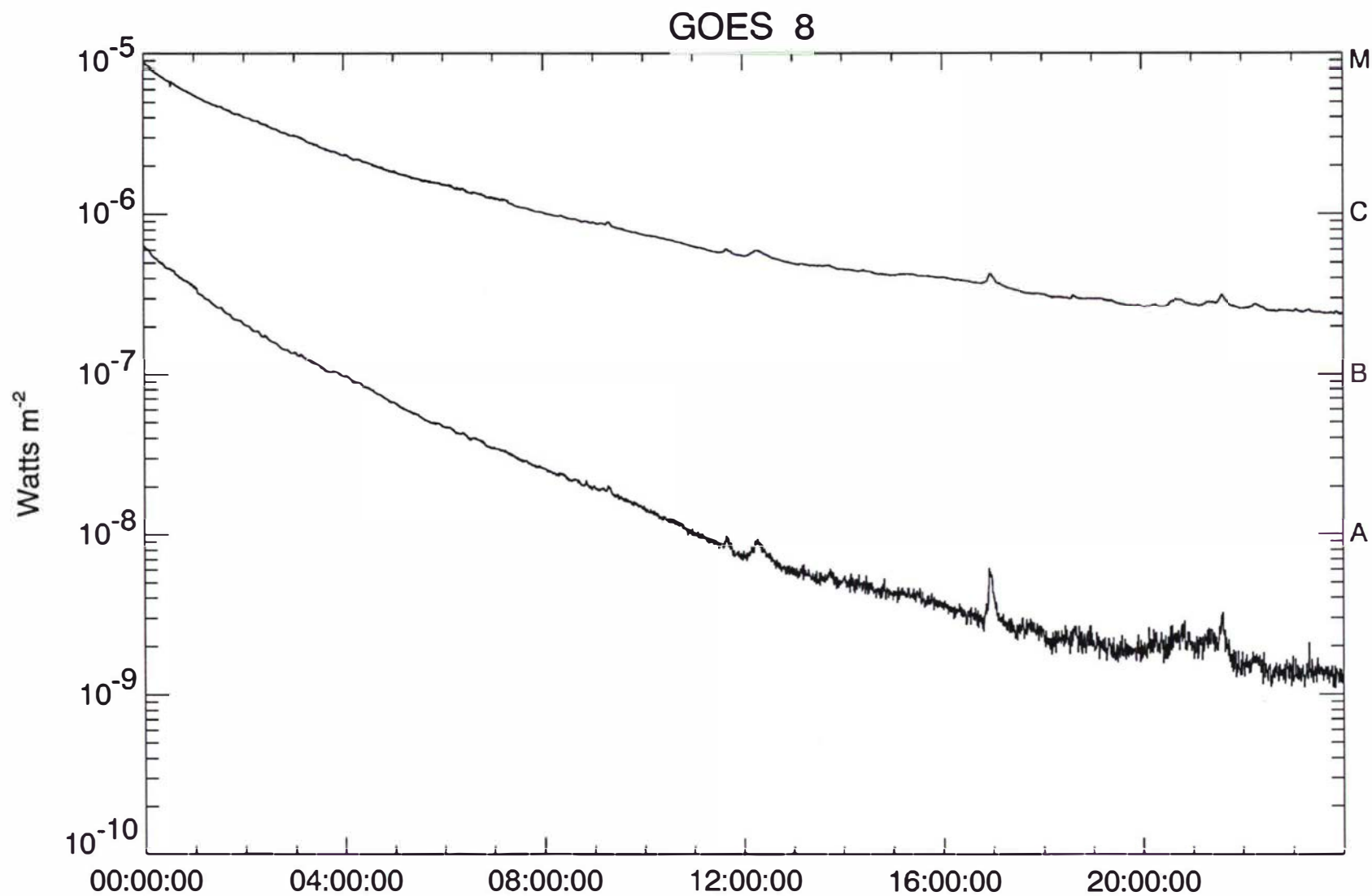
BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/25



Current Time: 98/08/29, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 98/08/25, 0000:00

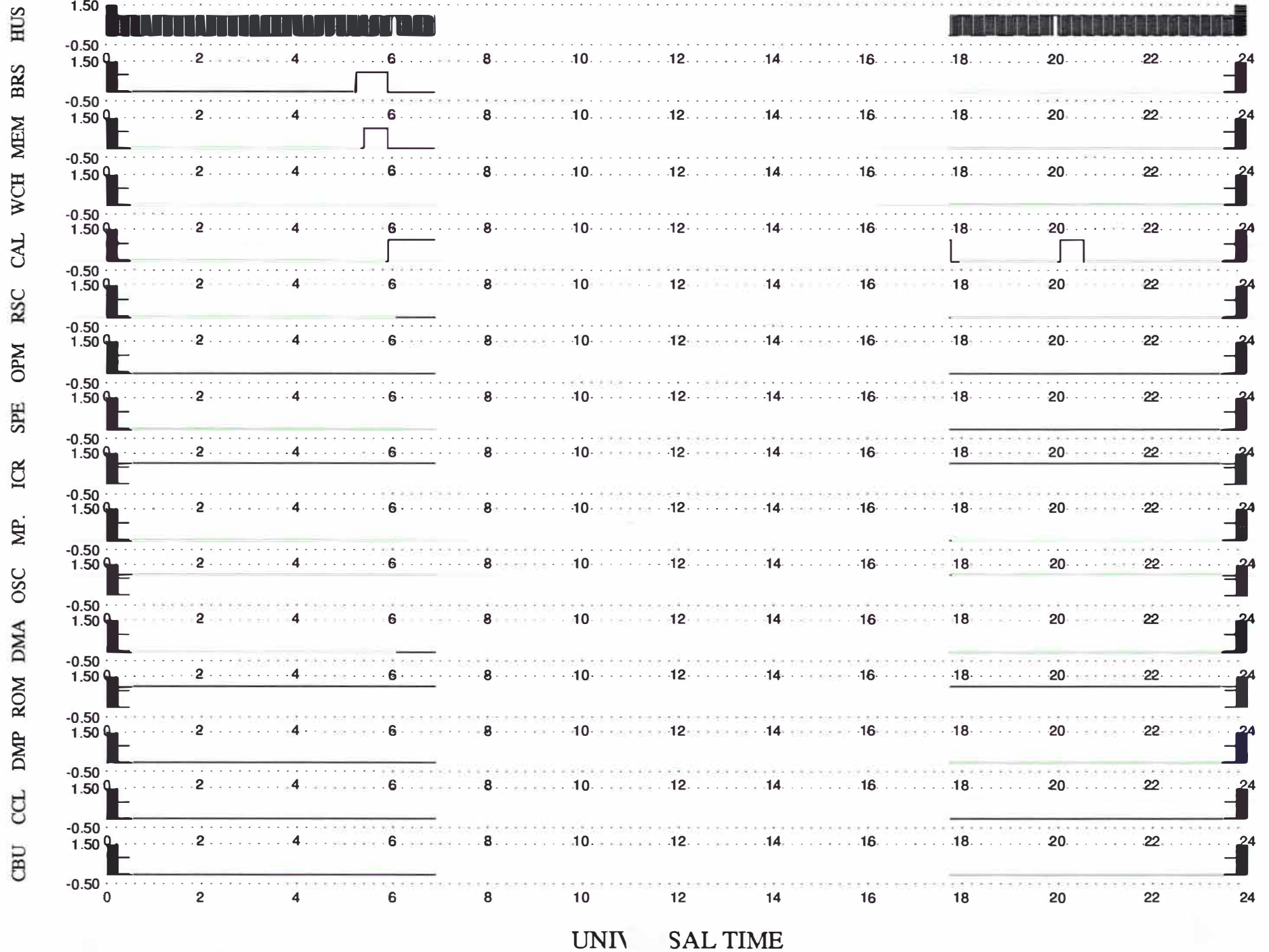
Plot created: 98/08/29, 1007

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

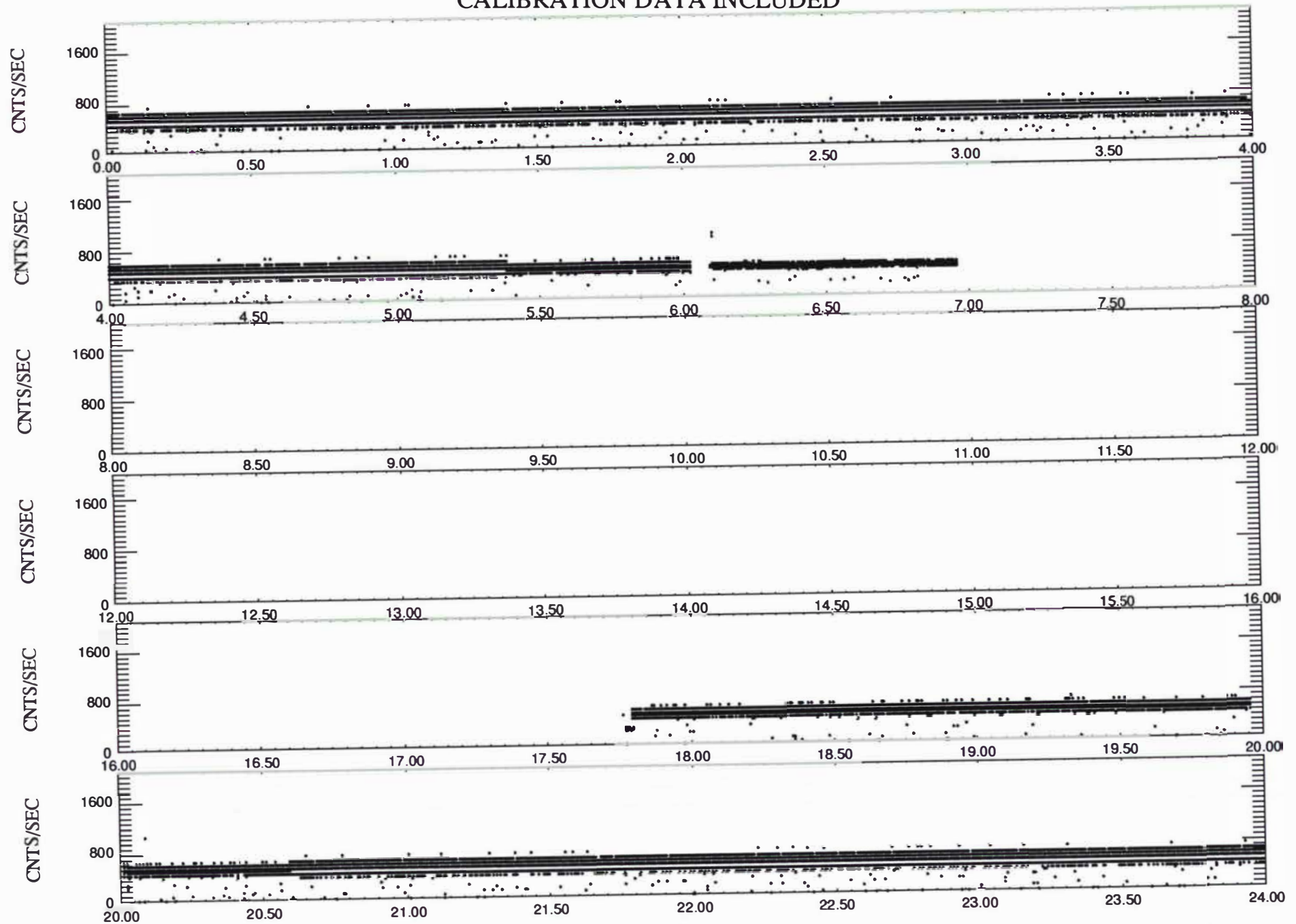
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 1, 2

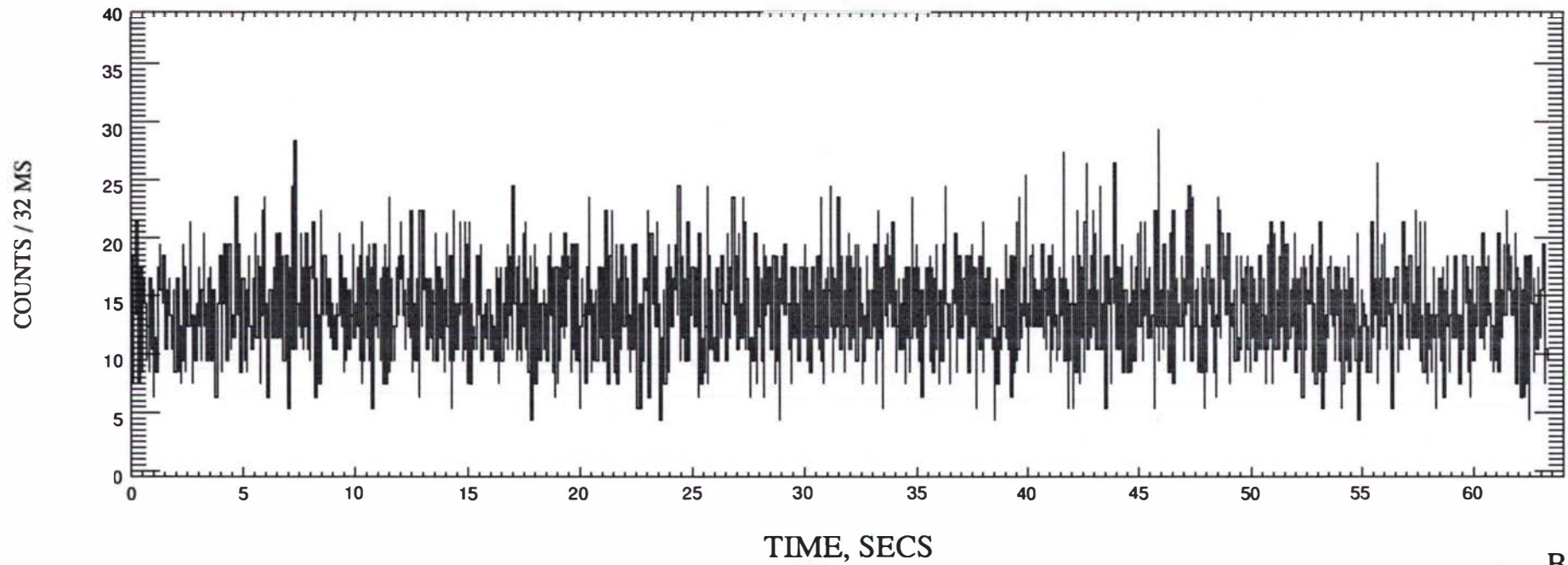
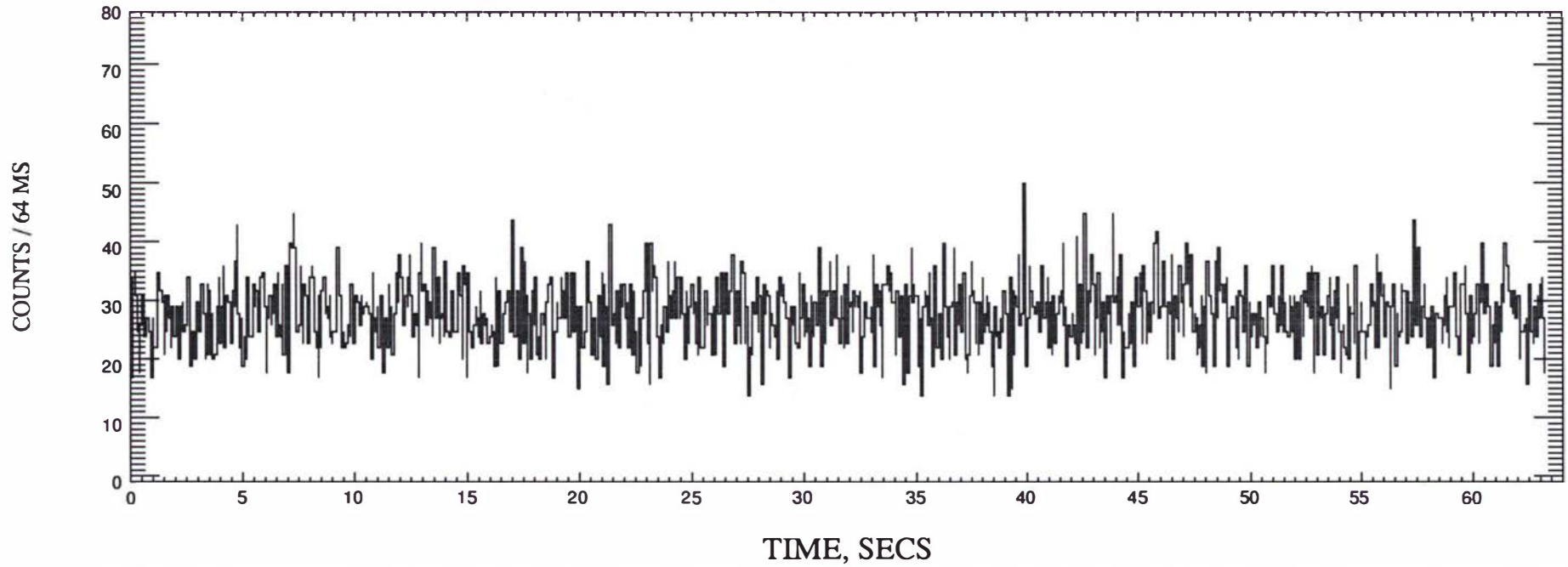


CALIBRATION DATA INCLUDED

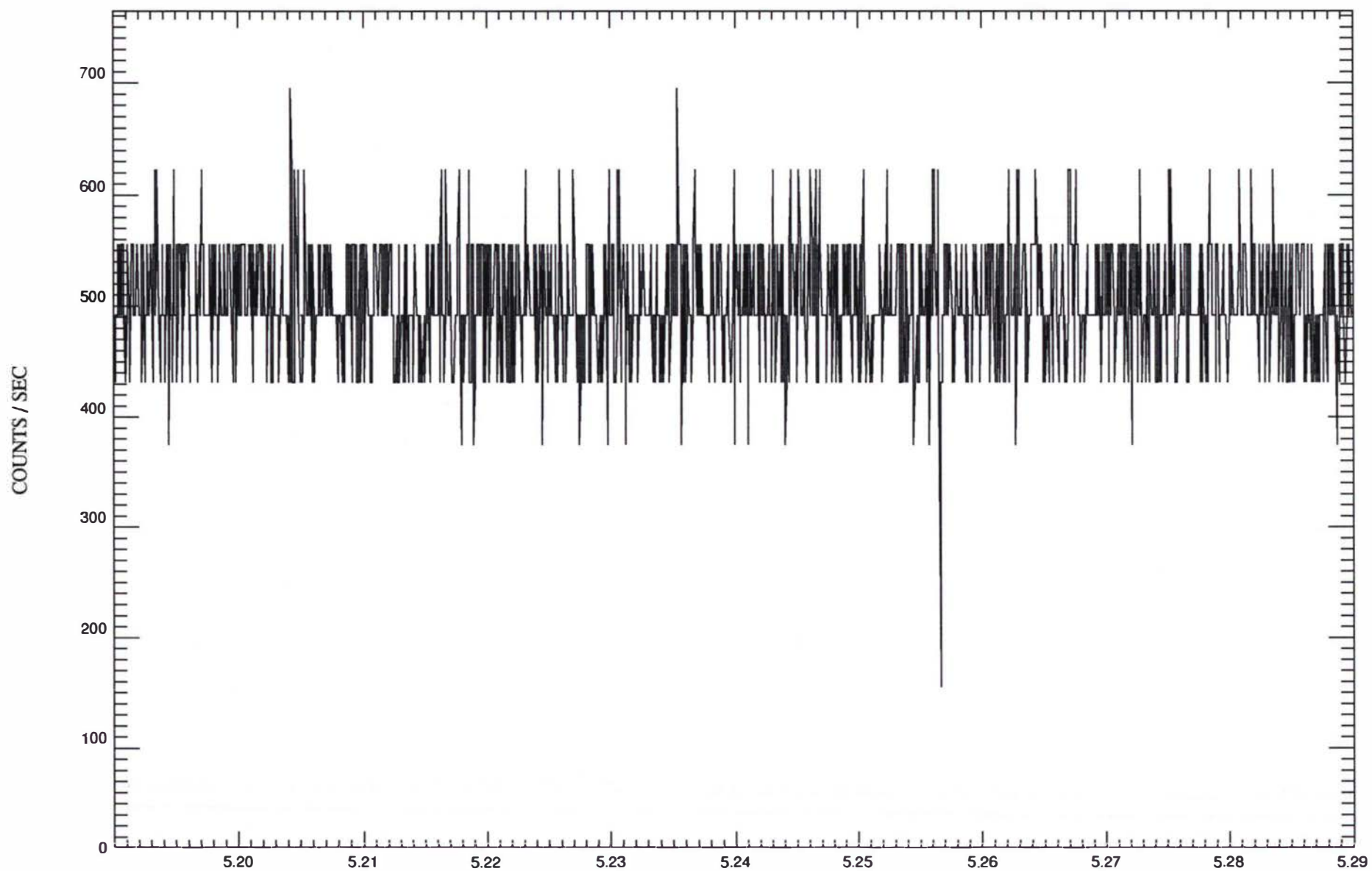


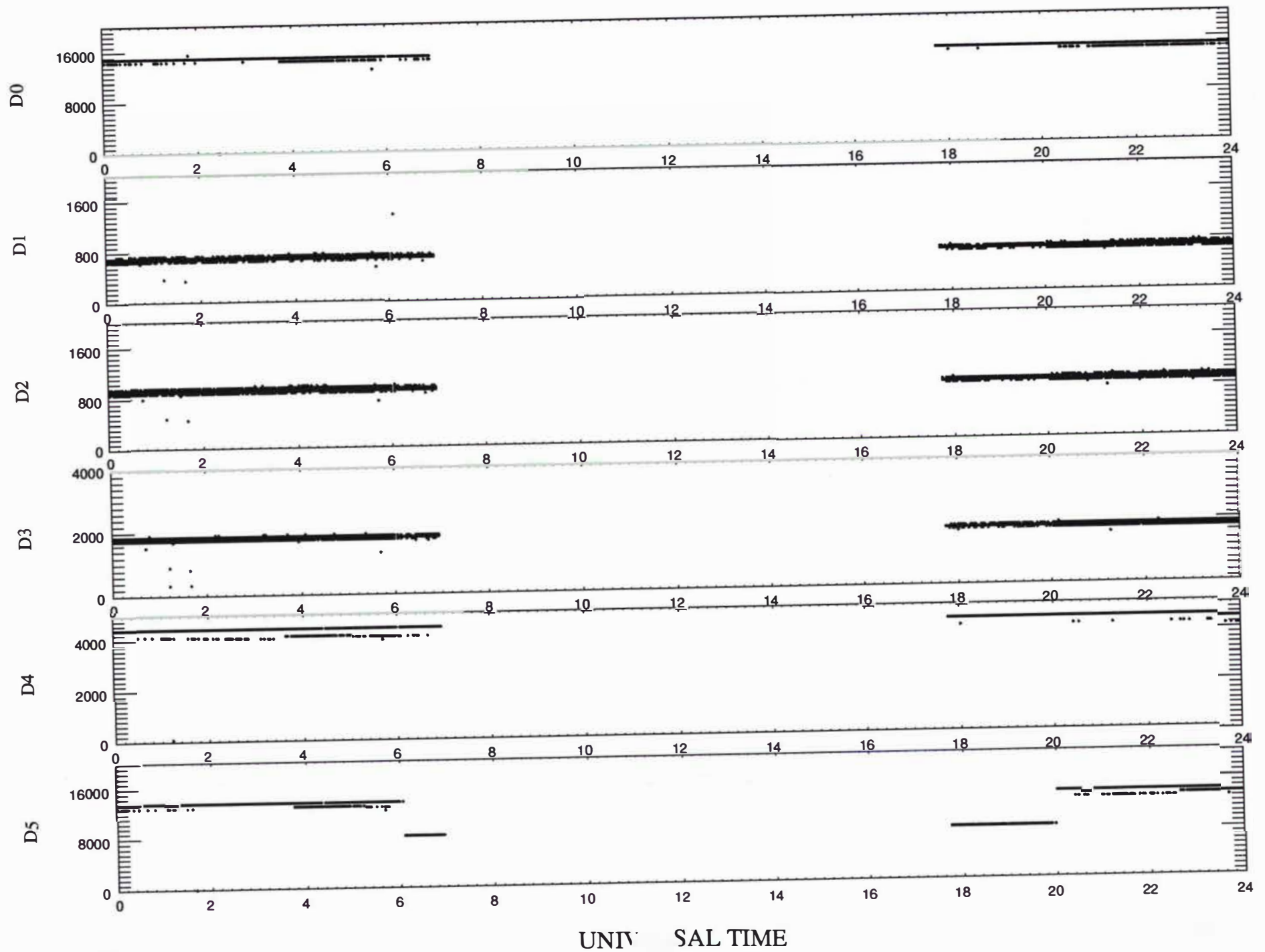
UNIV SAL TIME

Burst Counter 1 at UT= 5.235510648092 h=18847.838 s 05:14:07.838



CALIBRATION DATA INCLUDED





From HENZE@joplin.msfc.nasa.gov Thu Sep 3 11:46:21 1998
Date: Thu, 3 Sep 1998 13:44:59 -0500
From: Bill Henze (256-544-7616) <HENZE@joplin.msfc.nasa.gov>
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@joplin.msfc.nasa.gov,
HORACK@joplin.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7019

TIME: TJD=1051 SECONDS= 1961

TYPE: UNKNOWN SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

CALLING IT UNKNOWN. SEEMS TO BE A COINCIDENCE BETWEEN A SPIKE IN DET. 5 AND A
FLUCTUATION IN DET. 7. DET. 5 WAS IN A STRANGE HIGH NOISY STATE AT THAT TIME.
ALL BACKGROUND RATES WERE INCREASING AS SAA APPROACHED. HV OFF AT APPROX. T+31 S

From RICHARDSON@fender.msfc.nasa.gov Mon Aug 31 20:11:09 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 31 Aug 1998 8:09:14 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7020

TIME: TJD=1051 SECONDS=77193

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

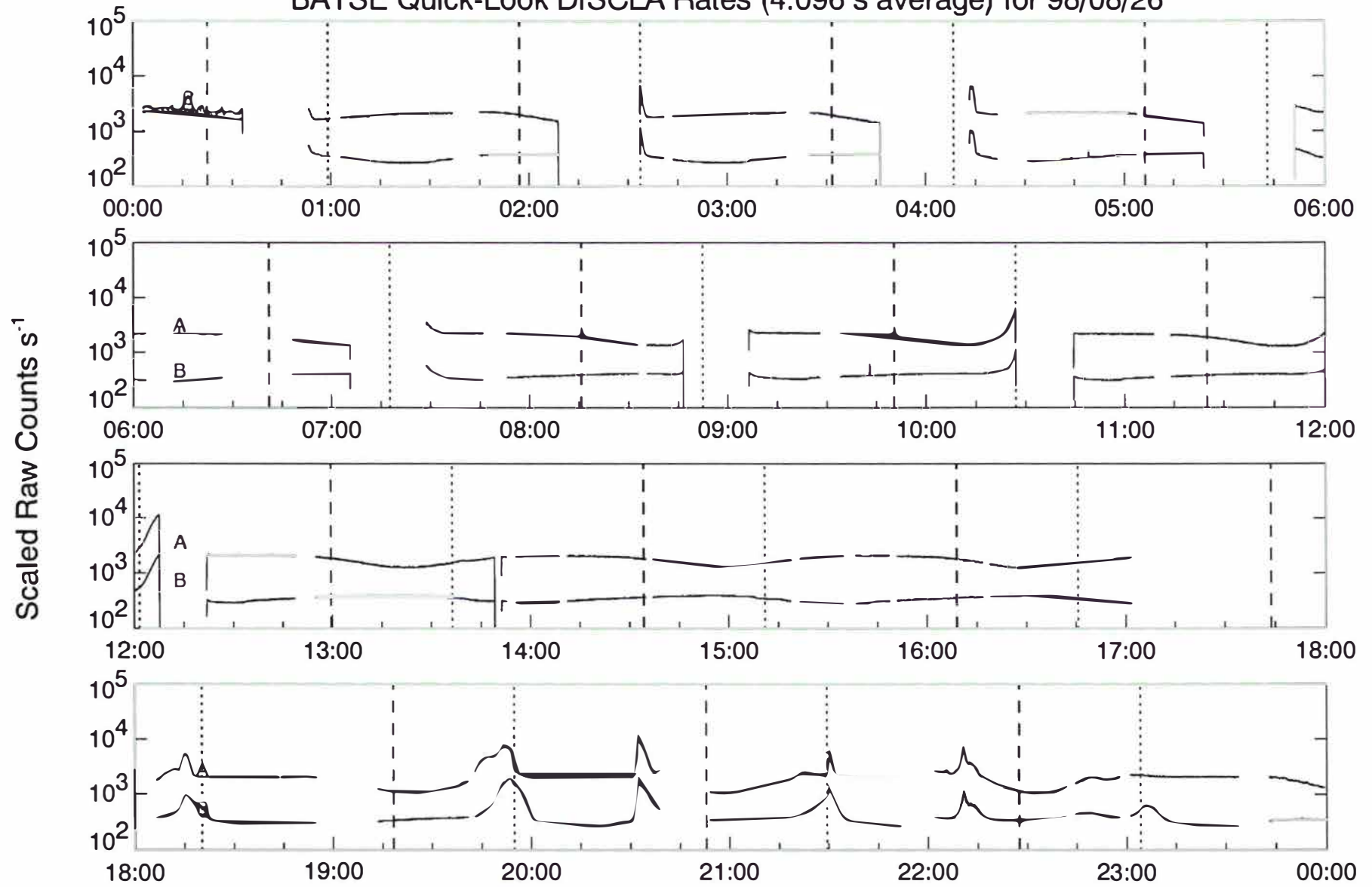
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/26

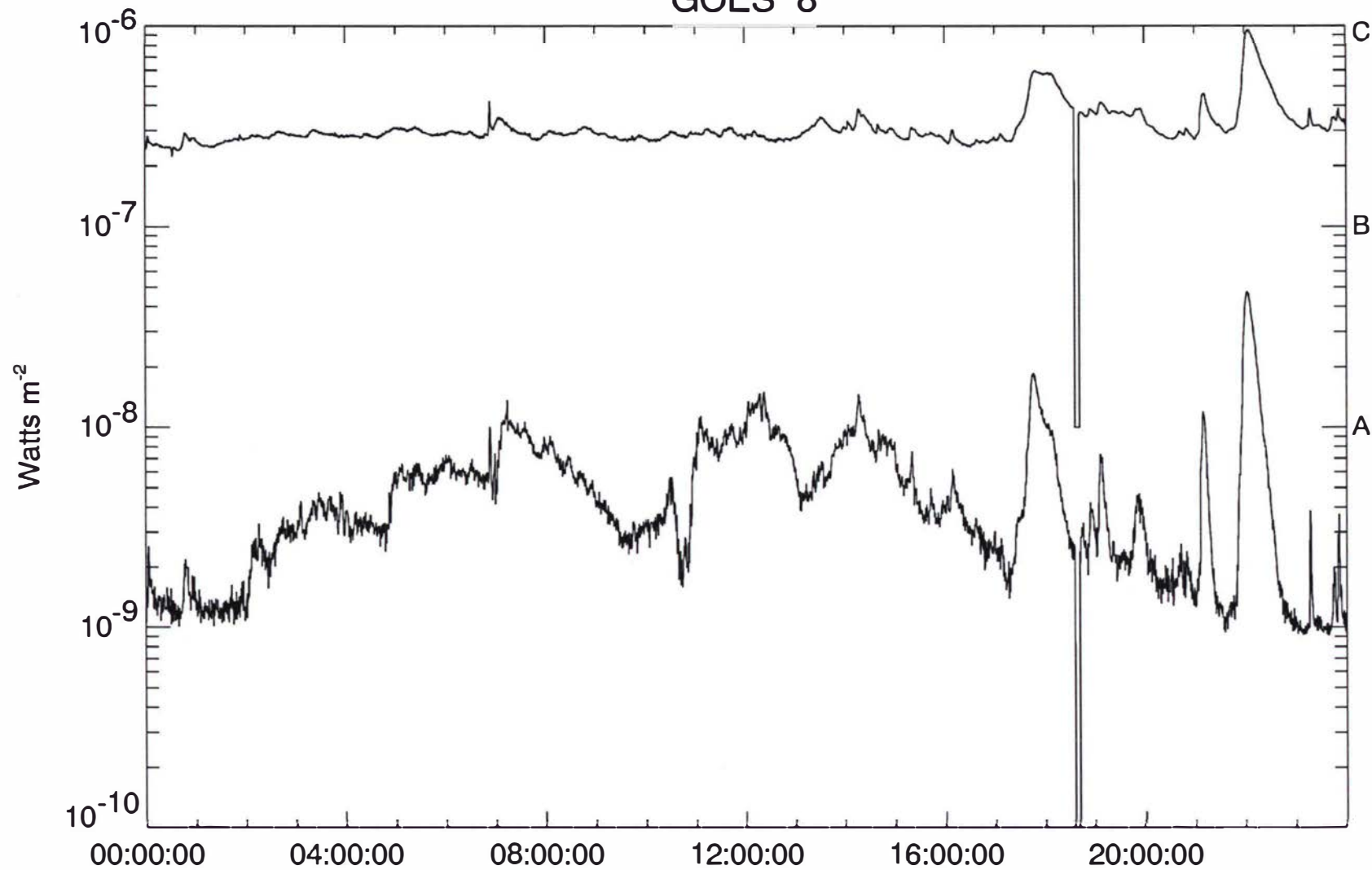


Current Time: 98/08/30, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/26, 0000:00

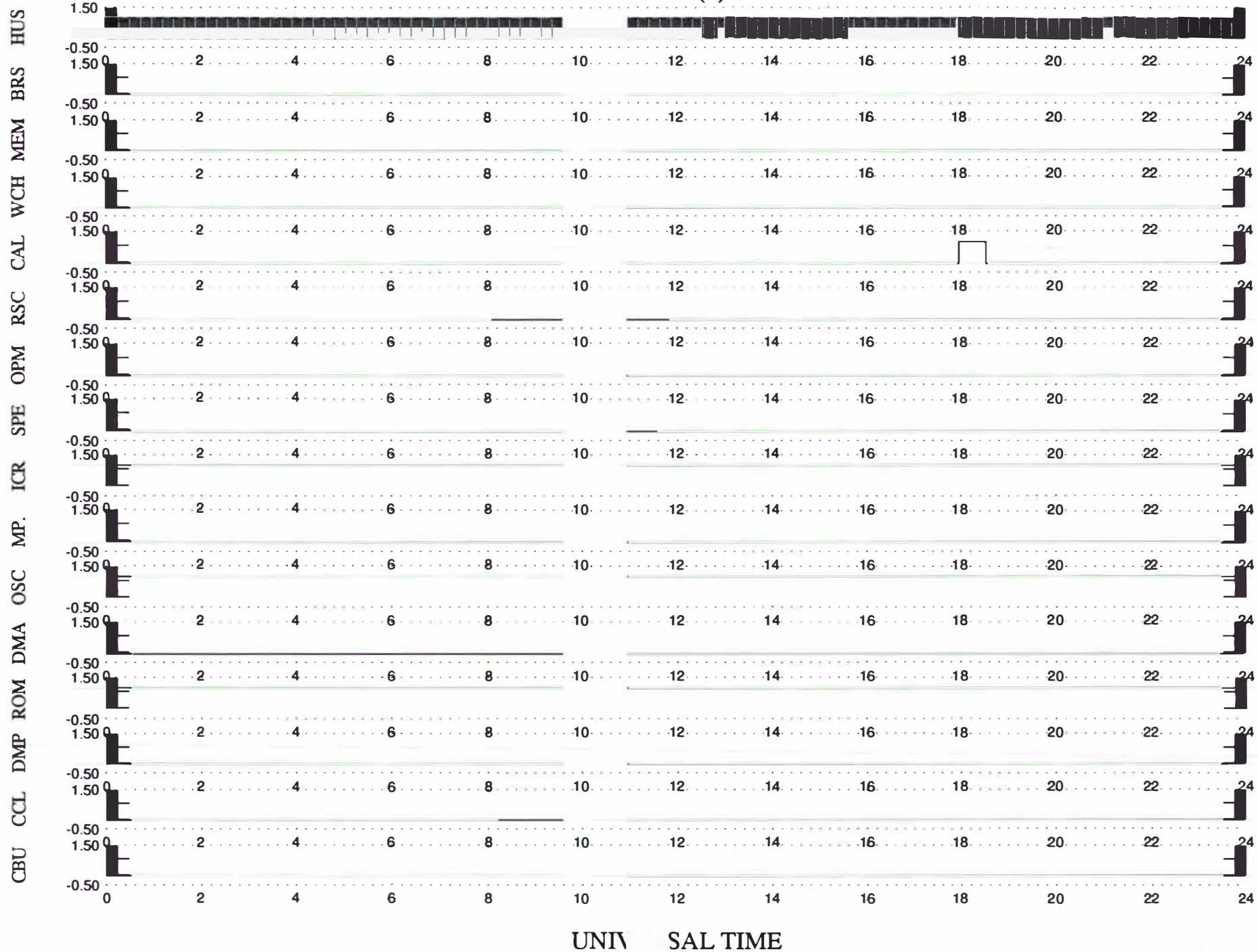
Plot created: 98/08/30, 1007

Channel

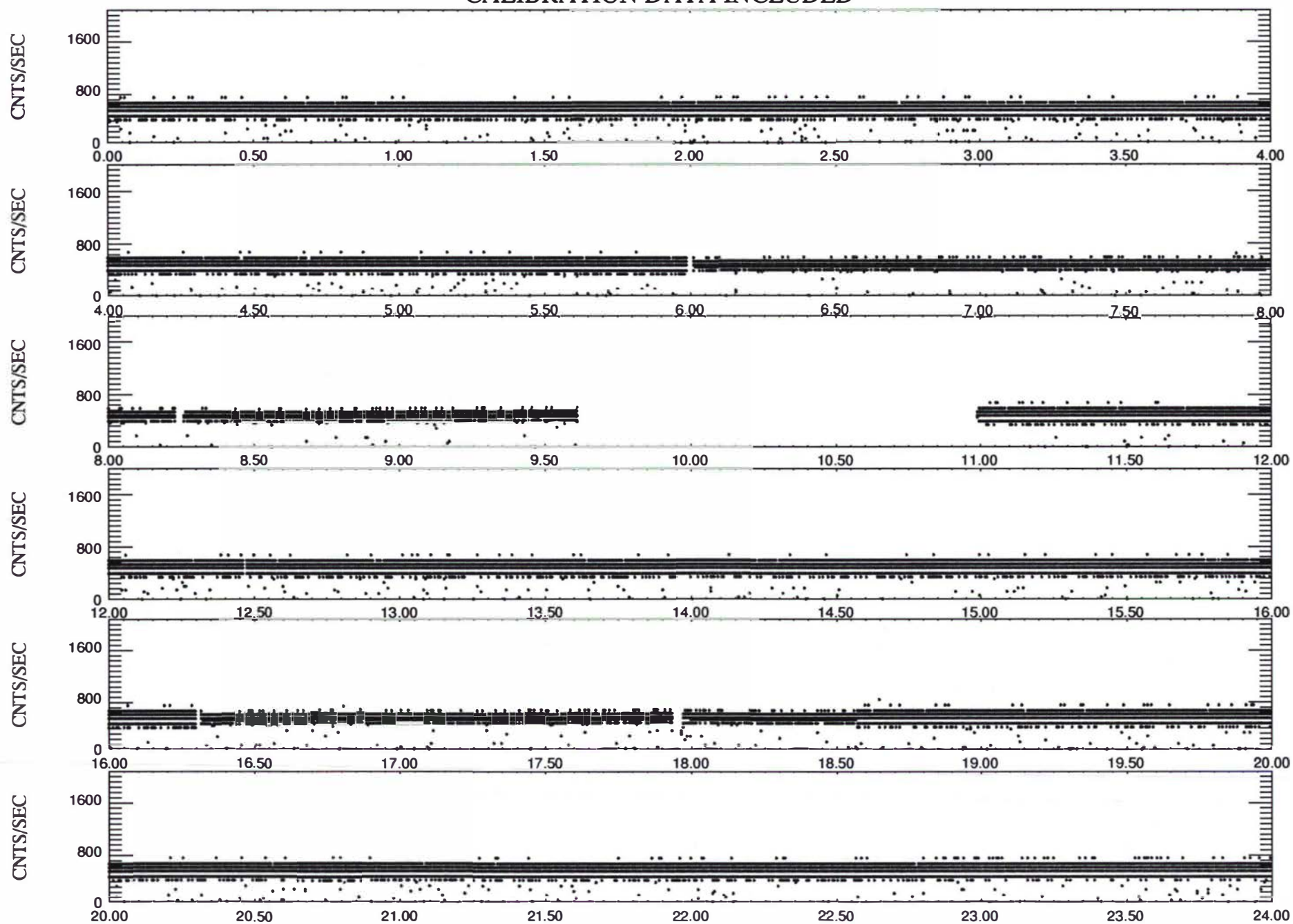
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

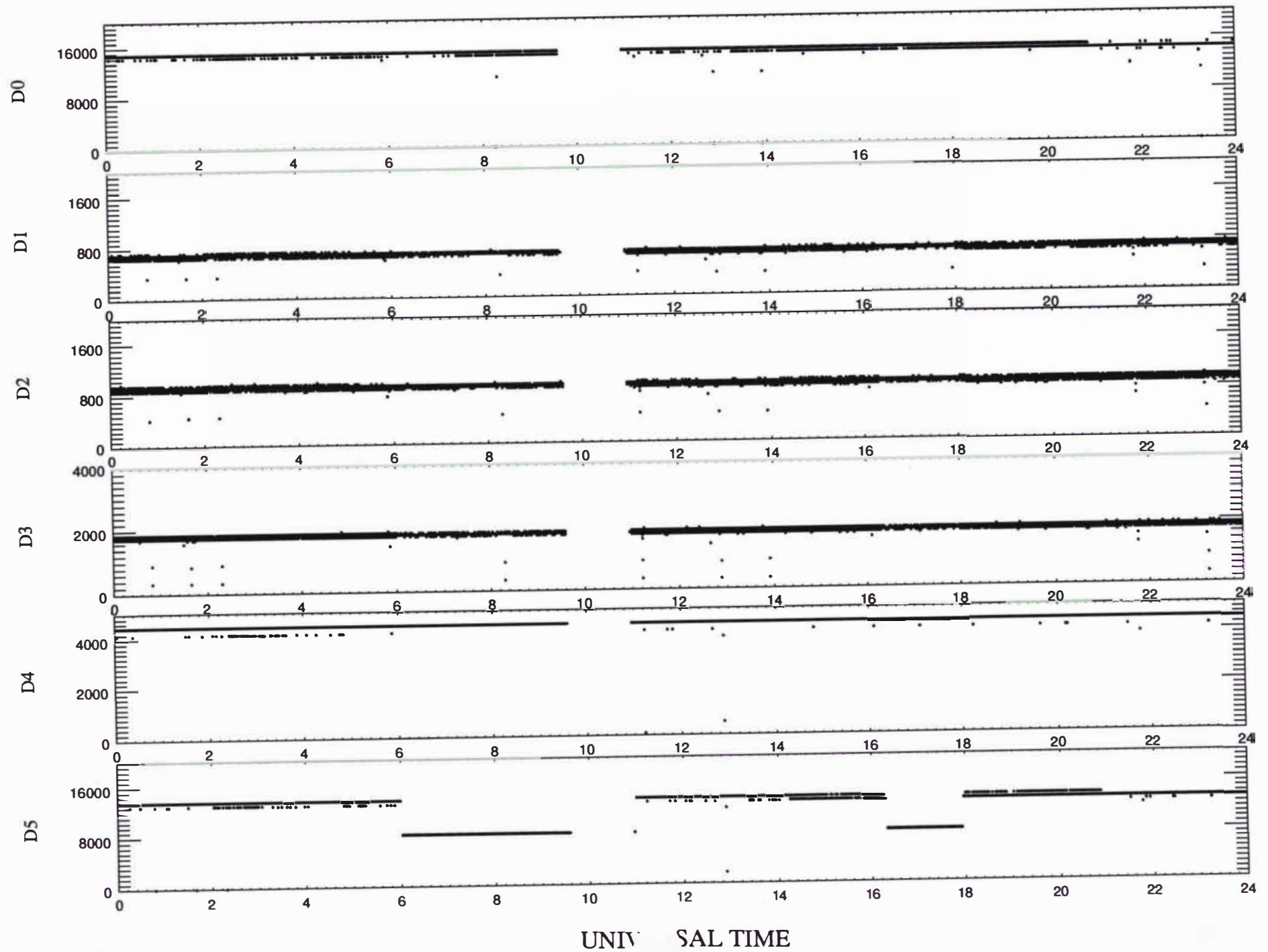
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



GRBM 19980827 12810

ULYSSES RT

15 / 01 / 07

27/08/98 9576.443 s

INTERVALS REGROUPED BY 17

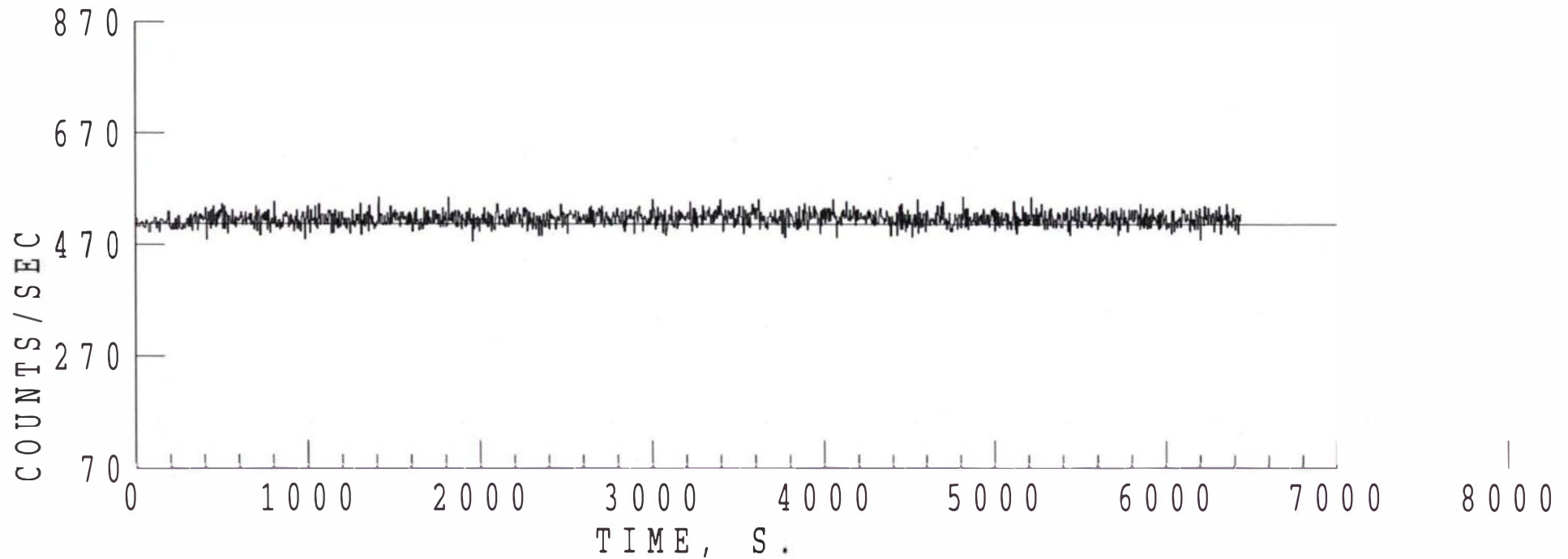
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

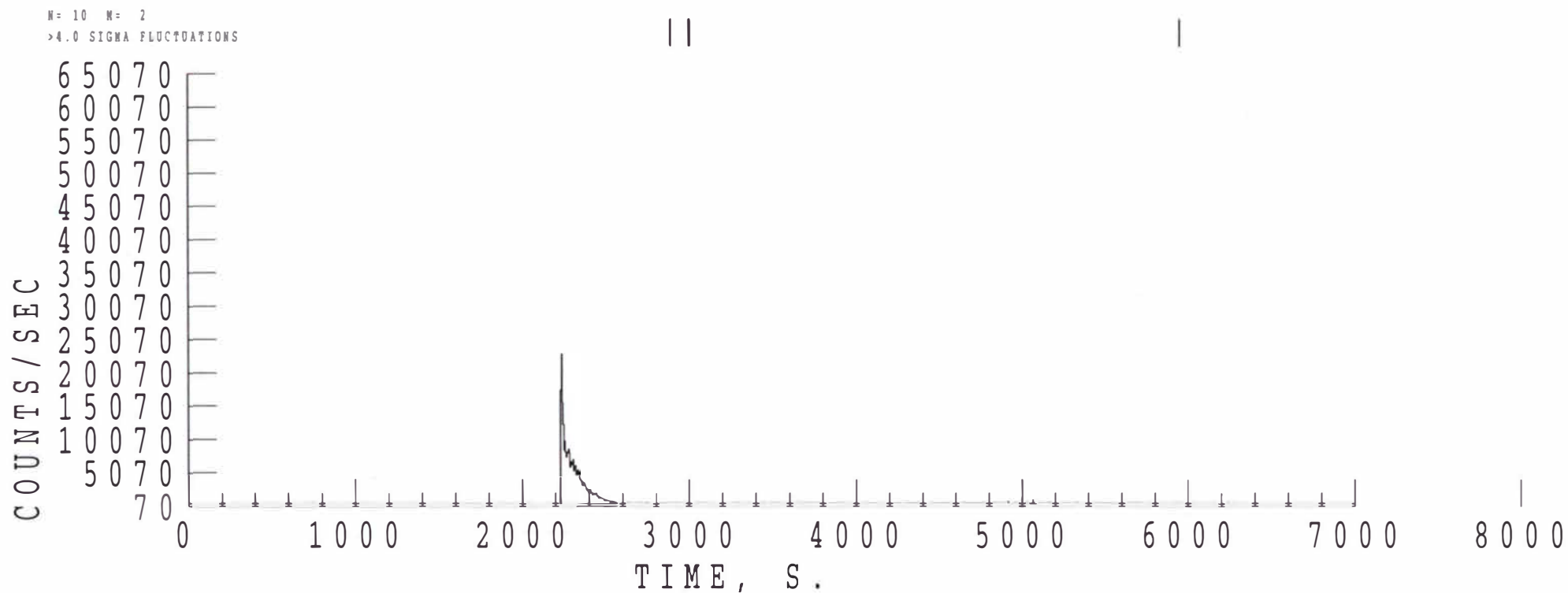
>4.0 SIGMA FLUCTUATIONS



SAX GRBM
HUS DATA

ULYSSES RT
27/08/98 37008.230 s
INTERVALS REGROUPED BY 9
0 - 0 keV

19/07/05

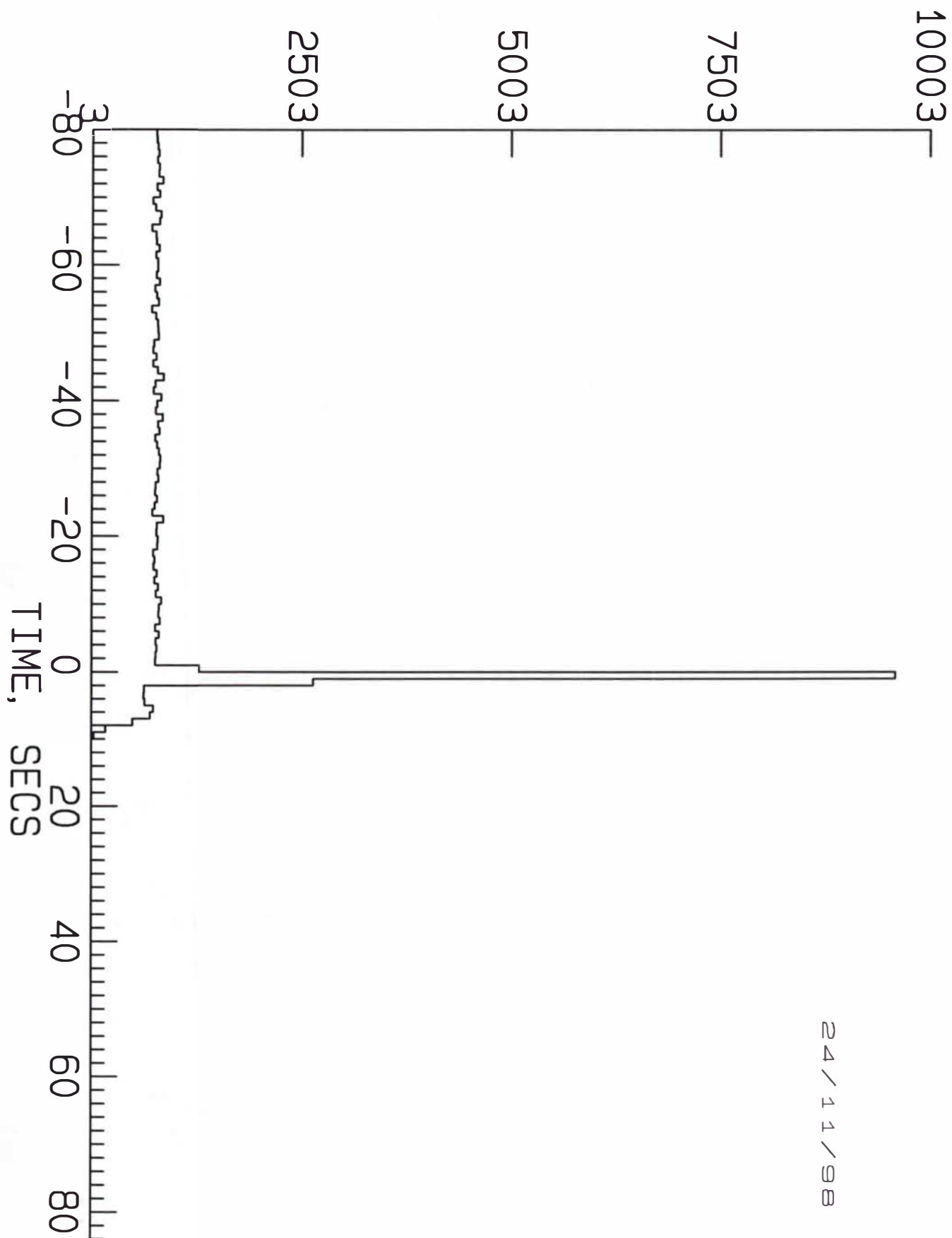


NEAR

27/08/98 36978.817

100-1000 keV

COUNTS/1.000 S



24 / 11 / 98

From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:09:28 1998
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id UAA22094; Mon, 31 Aug 1998 20:09:28 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id UAA07779; Mon, 31 Aug 1998 20:09:24 -0700
Date: Mon, 31 Aug 1998 15:50:08 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980831155008.20236a5a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7023
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7023
EVENT OF 1998 AUG 27 DAY OF YEAR=239
EVENT CROSSING TIME AT BATSE : 49106. S. OR 13:38:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 116.000 33.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 8/ 98 IS:
RA= 157.810 DEC= 4.368 DIST= 6.358 AU
BATSE-ULYSSES DISTANCE = 951149994. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=131.67 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2109.15 SECS.
CROSSING TIME AT ULYSSES IS 46997. S. OR 13:03:16 +/- 429.46 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 8/ 98 IS:
RA= 126.570 DEC= 20.257 DIST= 2.406 AU
MARS-BATSE DISTANCE = 359967168. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=164.16 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1155.11 SECS.
CROSSING TIME AT MARS IS 47951. S. OR 13:19:10 +/- 39.37 SECONDS

BATSE BURST TRIGGER

NO.: 7023

TIME: TJD=1052 SECONDS=49106

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 46.8 AZIMUTH=268.3 ERROR=12.2 DEGREES

COMMENTS:

SINGLE SPIKE, DUR. APPROX. 0.2 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7023	980827	11052	49106	4500	116	+33	.2

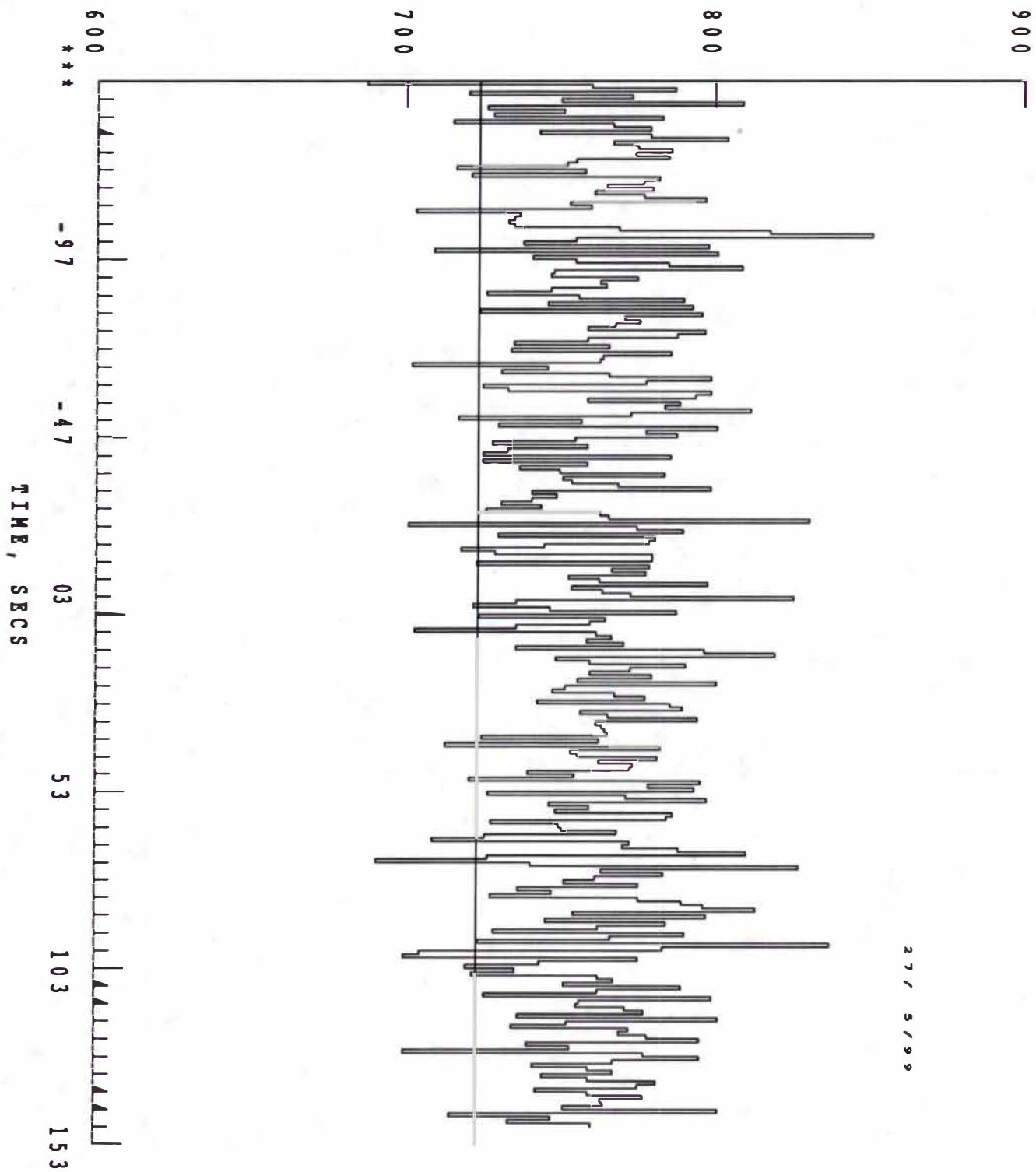
NEAR

27/08/98

49547.172

100-1000 keV

COUNTS/1.000 S



27 / 5 / 99

BATSE BURST# 7023

ULYSSES RT

20 / 2 / 99

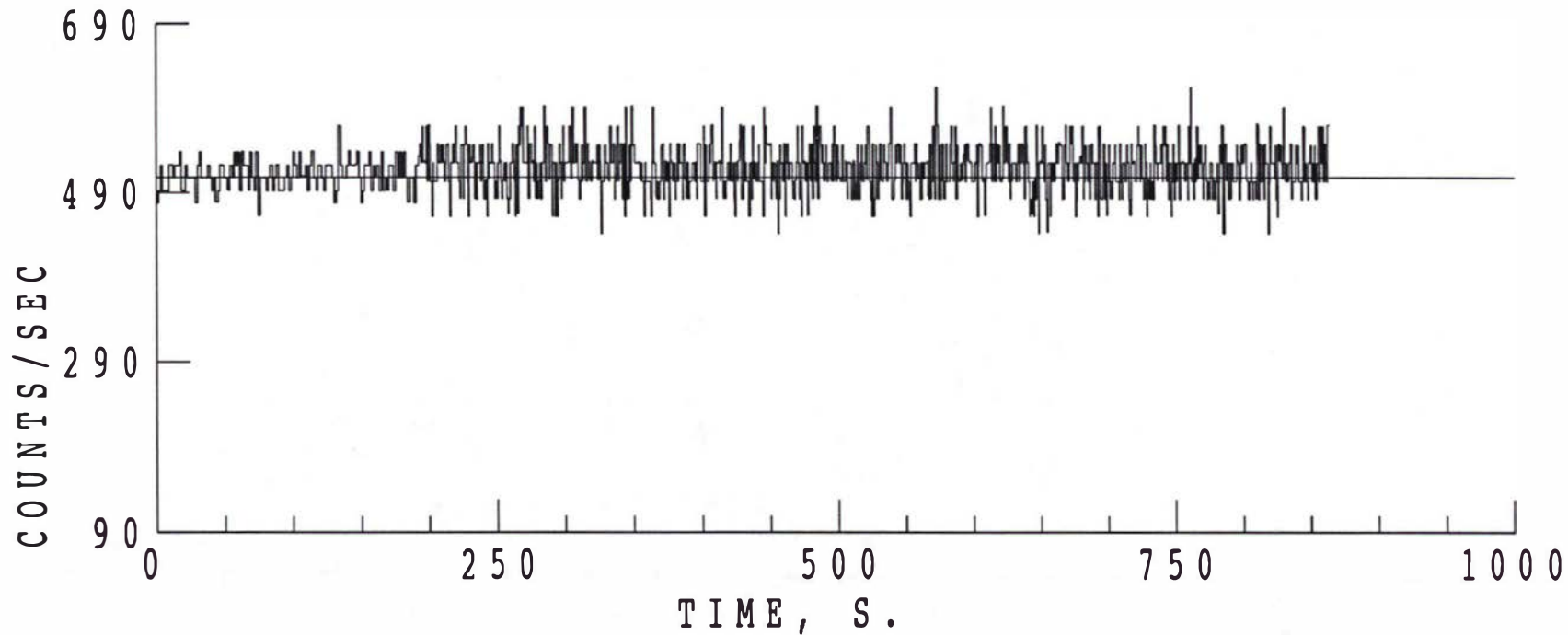
27 / 8 / 98 46548.332 s

INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



k o n u s

U L Y S S E S R T

3 / 9 / 9 8

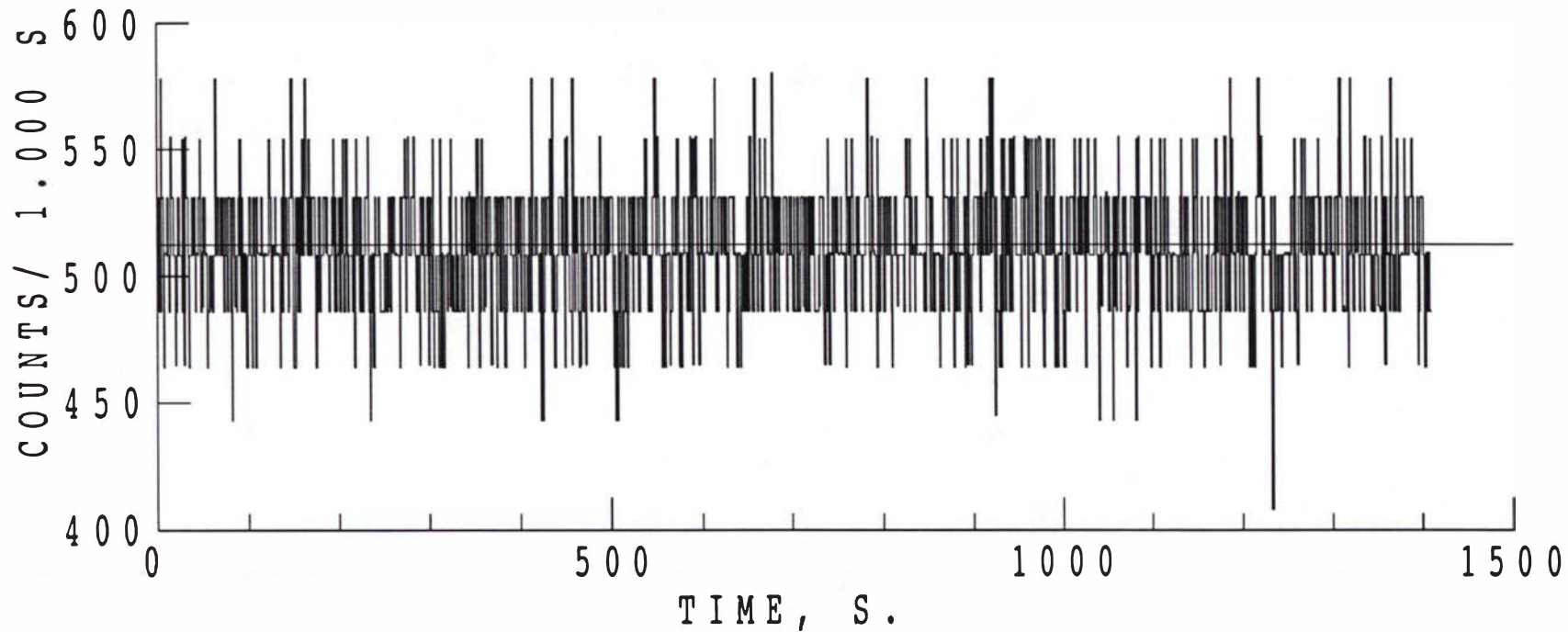
2 7 / 8 / 9 8 6 0 5 1 6 . 4 8 0 s

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

0 - 0 k e V

W= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Thu Sep 10 10:52 PDT 1998
Mime-Version: 1.0
Date: Thu, 10 Sep 1998 13:57:19 -0400
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: second 98-08-27 EVENT

>Subject: another event on Aug 27
>X-Sun-Charset: US-ASCII
>
>Tom,
>
>Ulysses had a burst around 61761 s which may have been from 1900.
>
>Did KONUS observe it 1900 s earlier?
>
>Kevin
>

KEVIN

NEAR had one at 73315.817 on Aug 27th, as you know.

So far, nothing we can use that I know of.

TLC

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

Date: Oct 28 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 ULYSSES

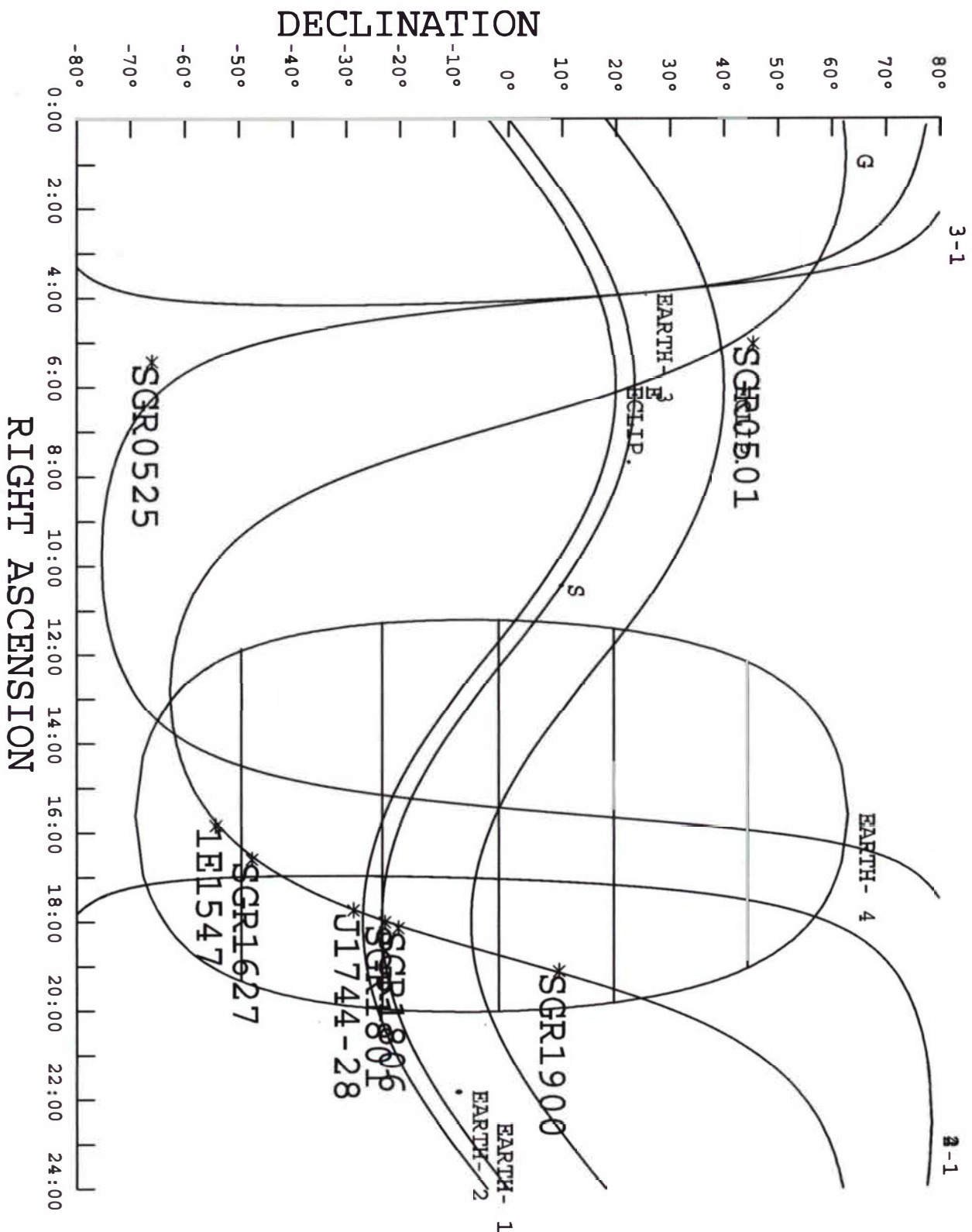
2 KONUS2

3 NBAR

4 SAX

EVENT OF AUG 27, 1998 20:17

28/10/ 9



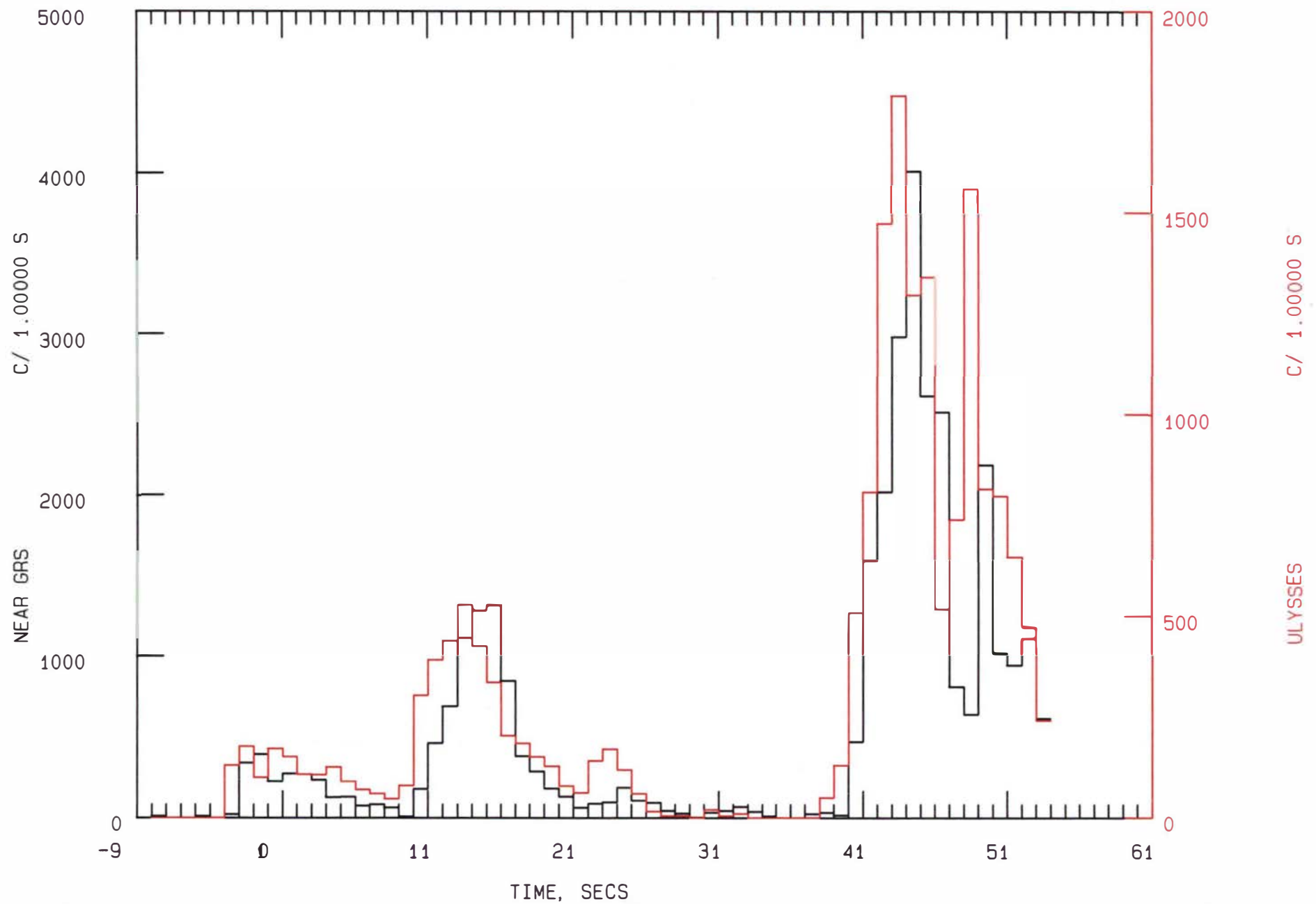
NEAR GRS -ULYSSES

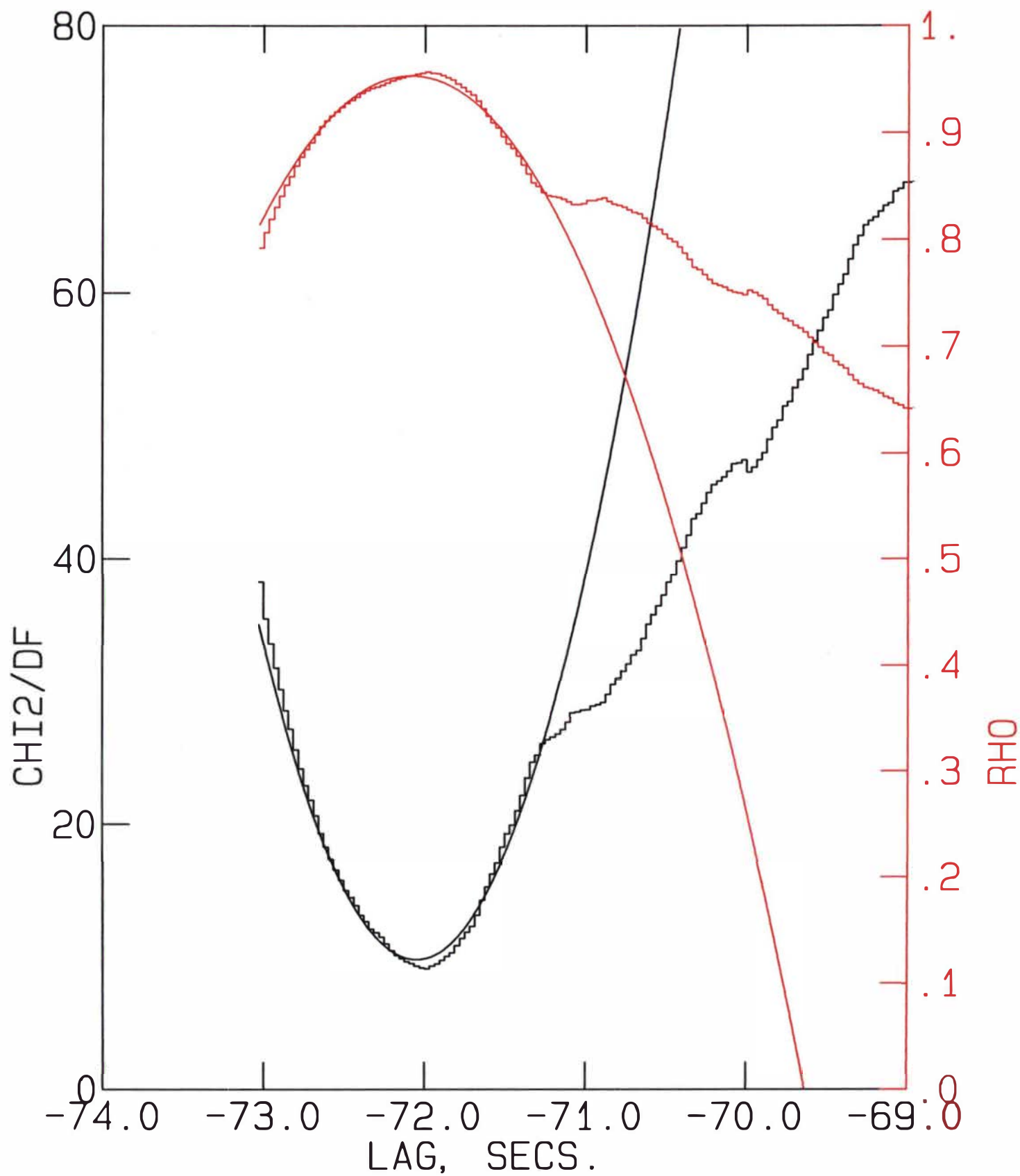
CORRELATION

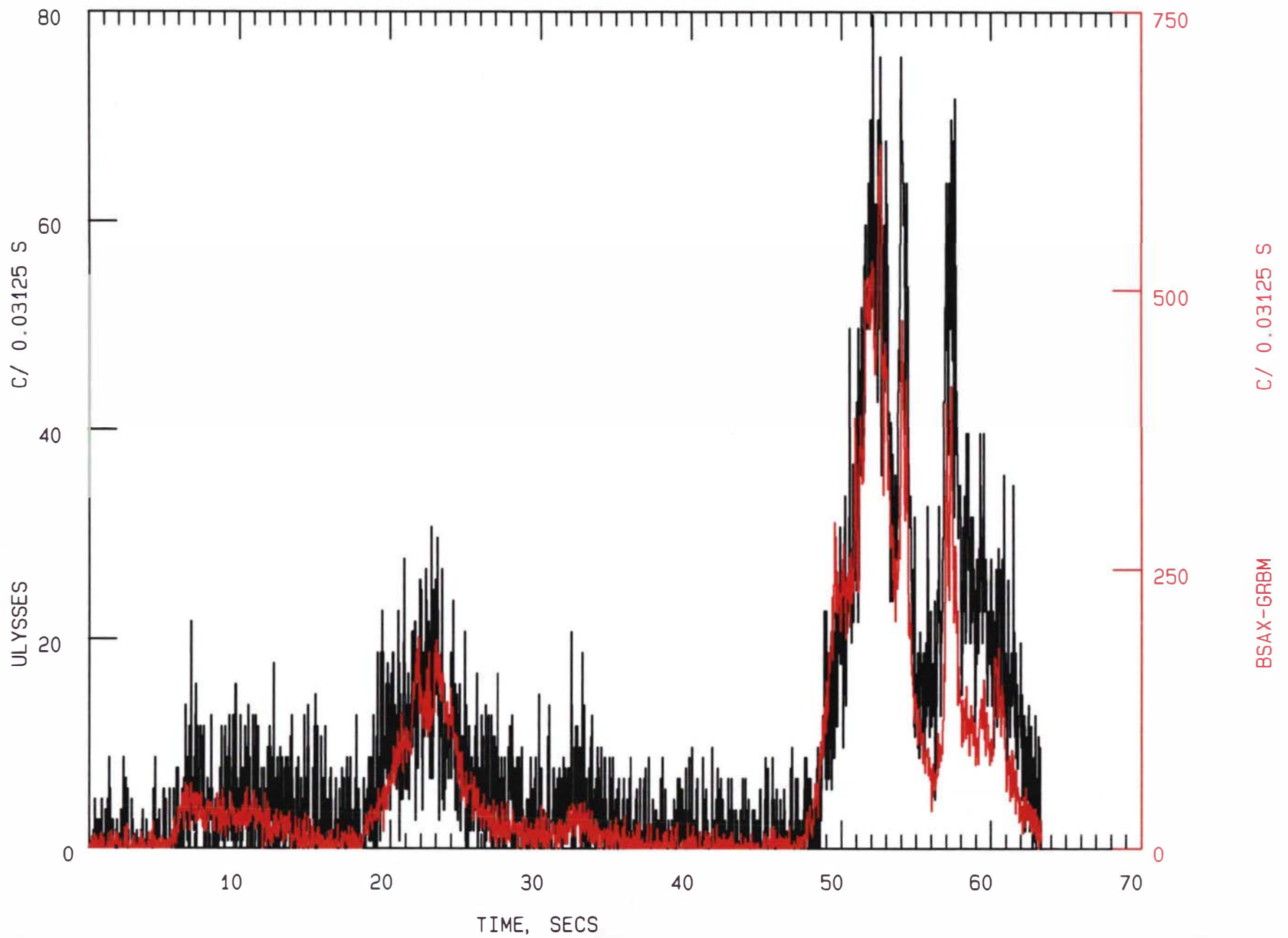
27/08/98

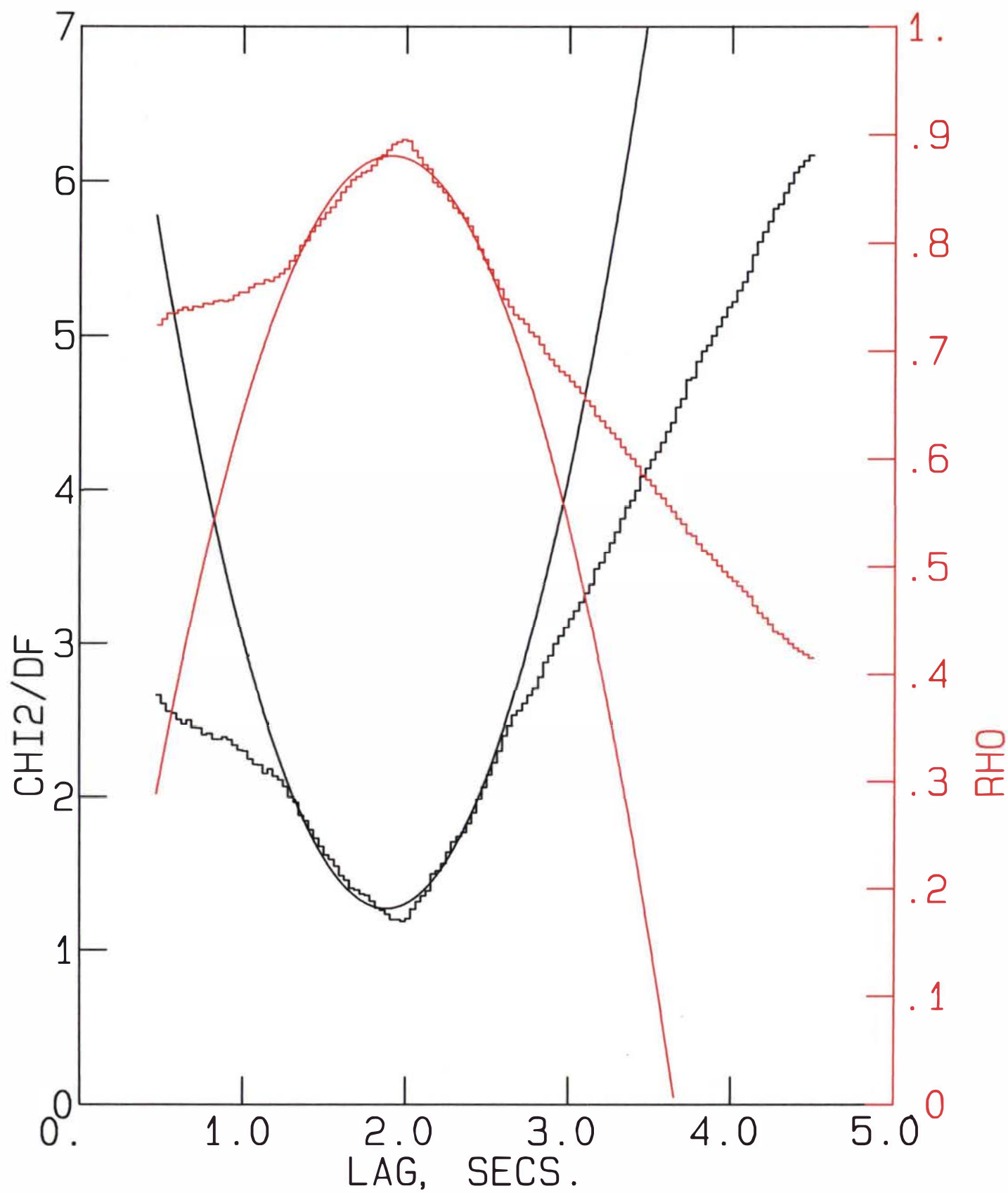
73314.166

28/10/ 9









KONUS2

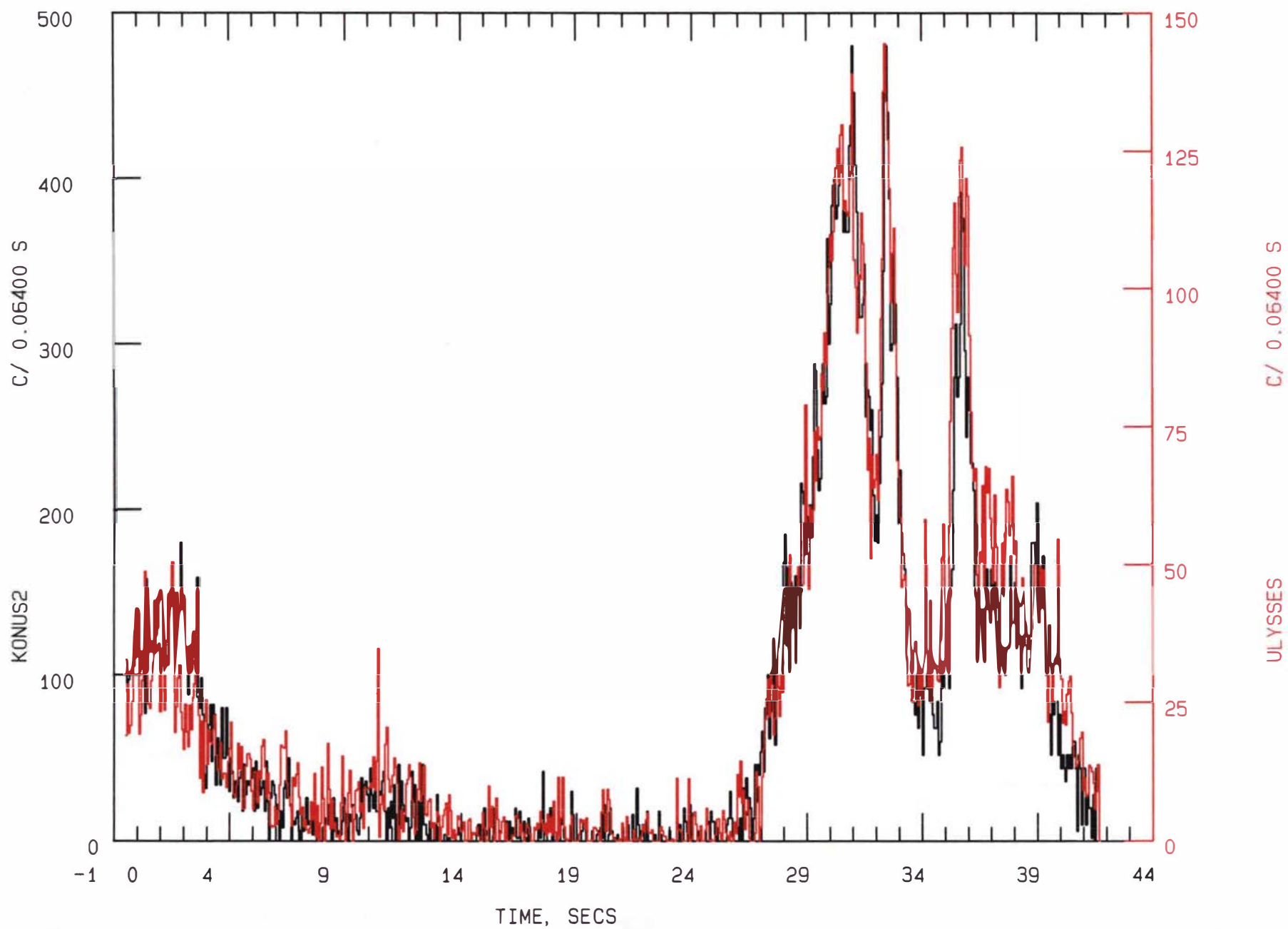
-ULYSSES

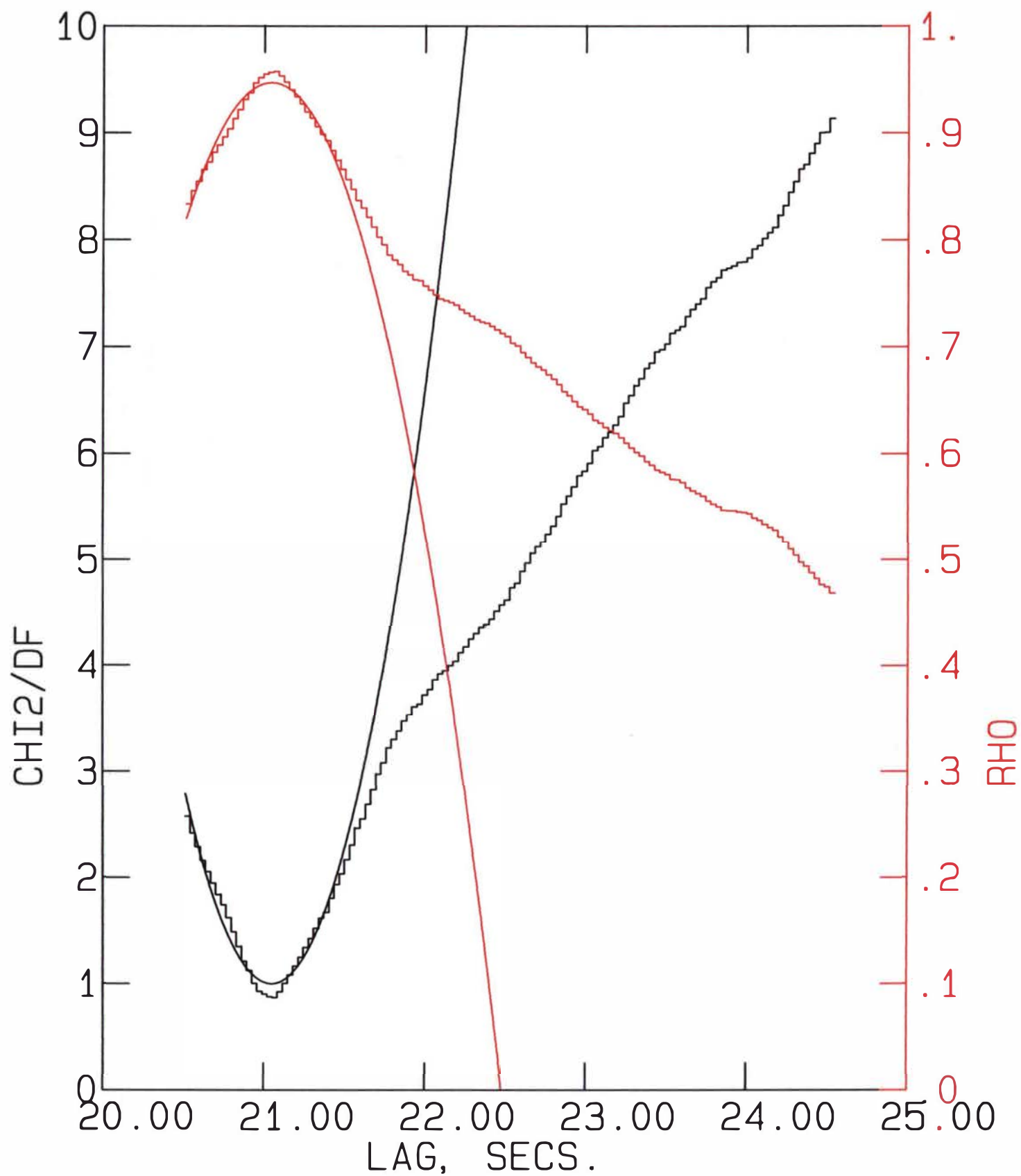
CORRELATION

27/08/98

72641.214

28/10/ 9





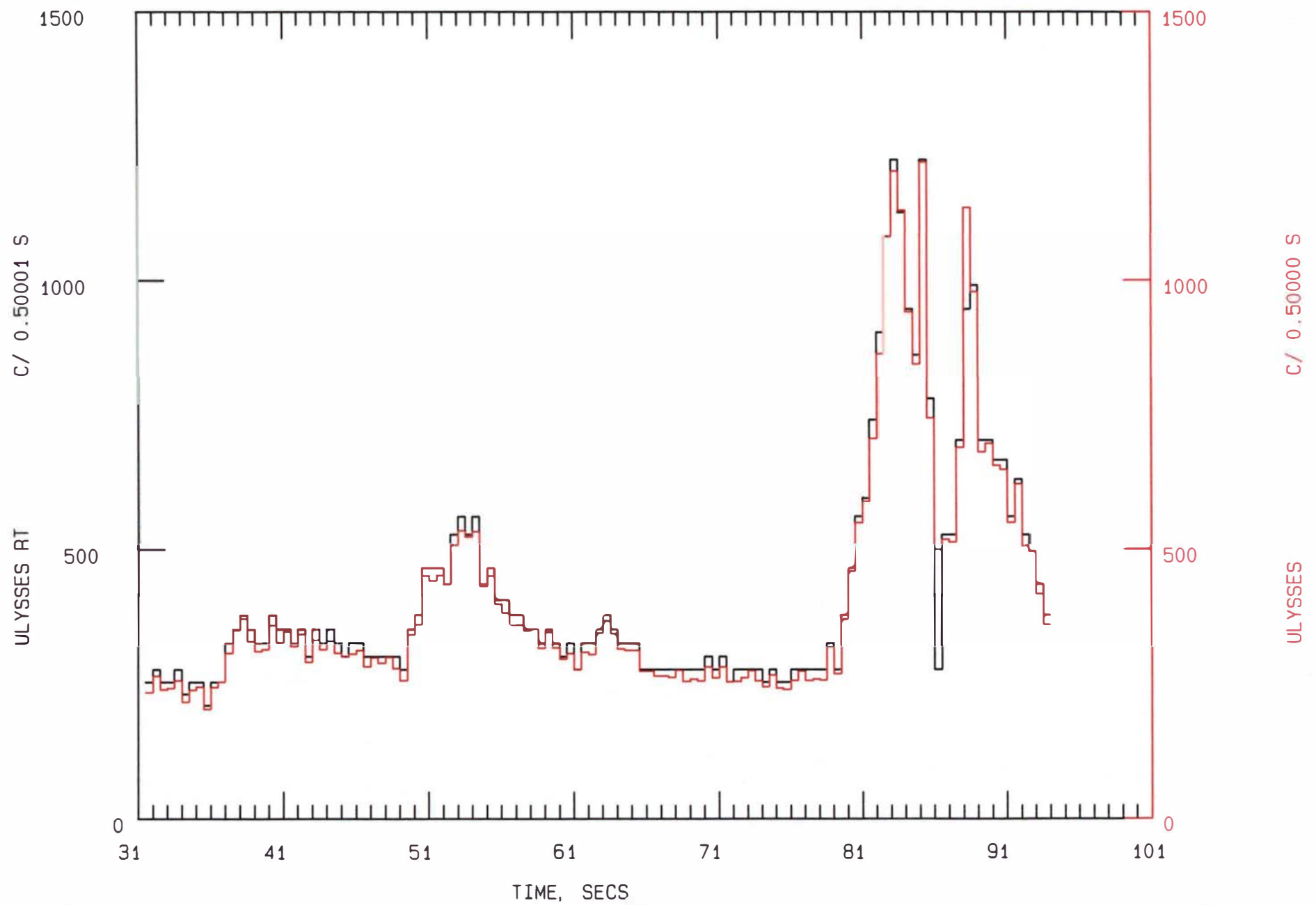
ULYSSES RT-ULYSSES

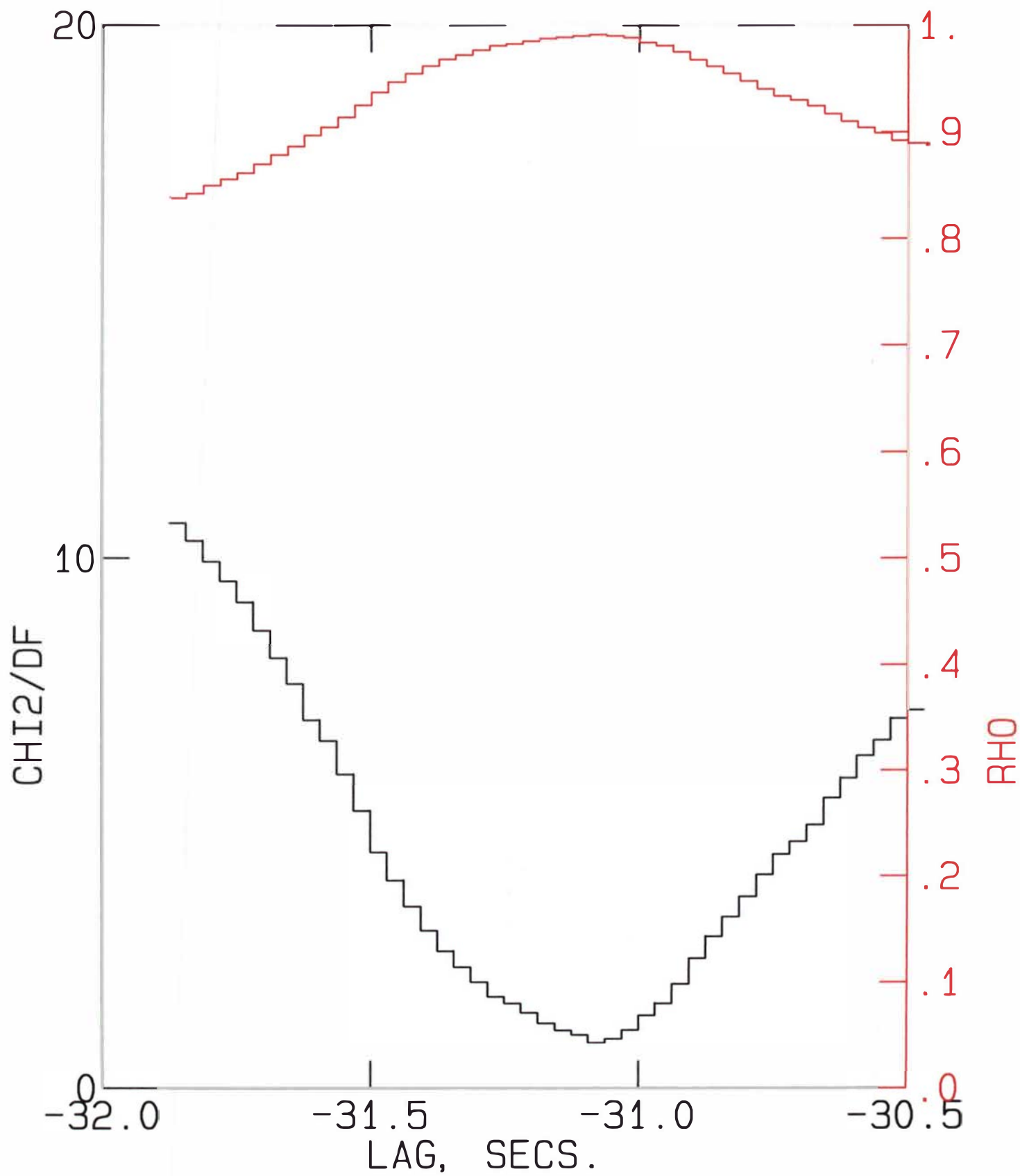
CORRELATION

27/ 8/98

72994.079

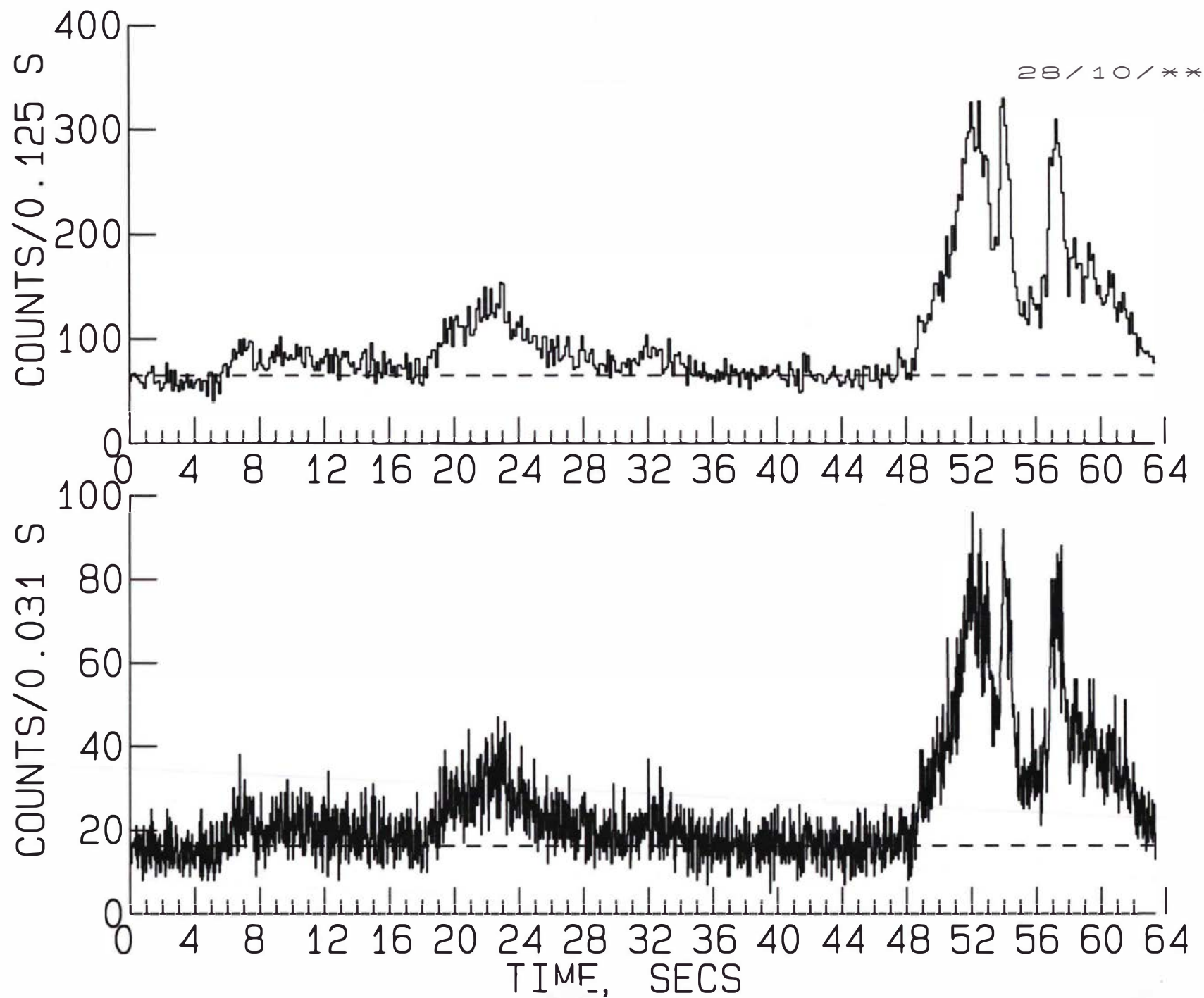
28/10/ 9





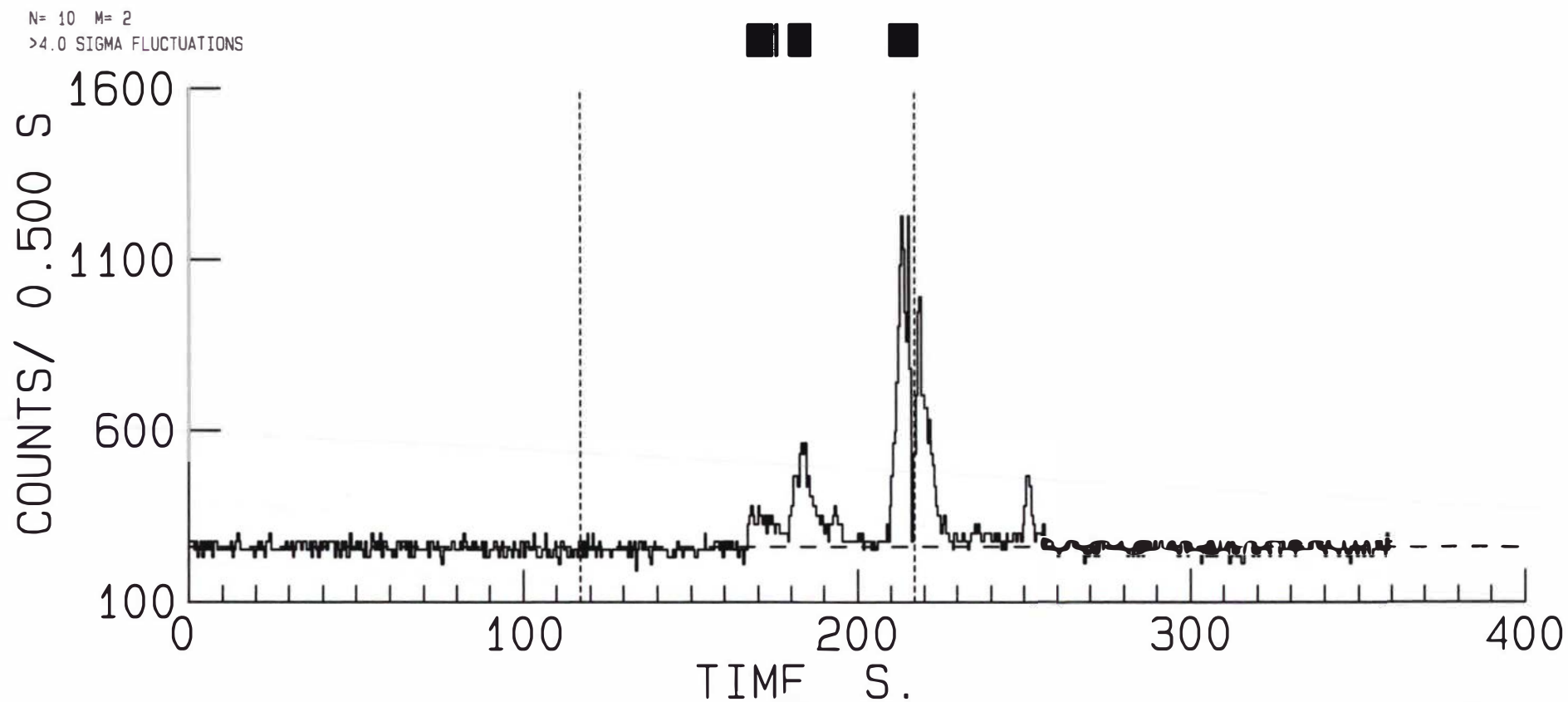
ULYSSES 27/08/98 Ttrig=73032.583

22- 149 keV



ULYSSES RT
27/ 8/98 72864.109 s
22- 149 keV

28/10/ 9

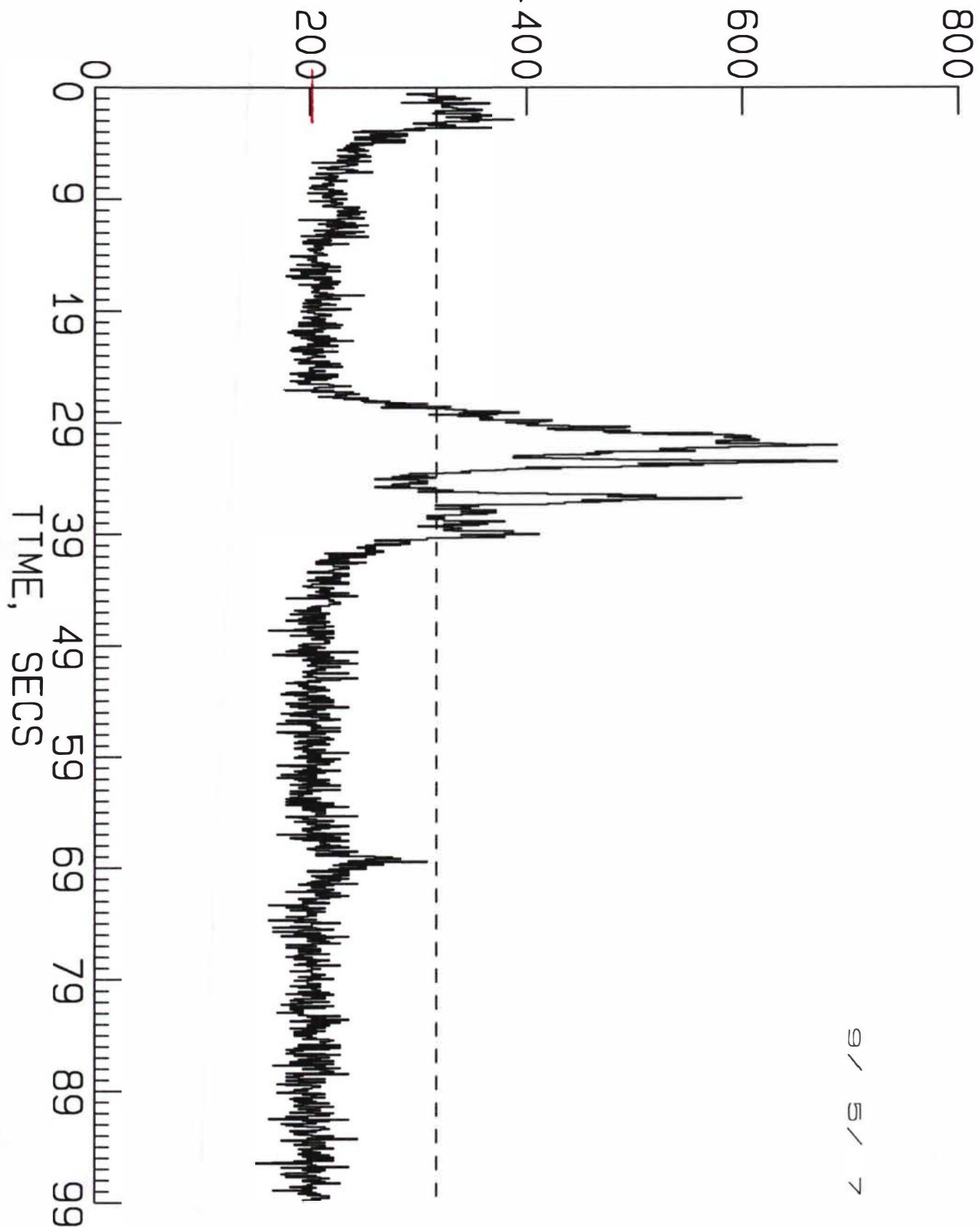


KONUS

27/08/98 72641.200

50- 200 keV 20:10:41

COUNTS/0.064 S



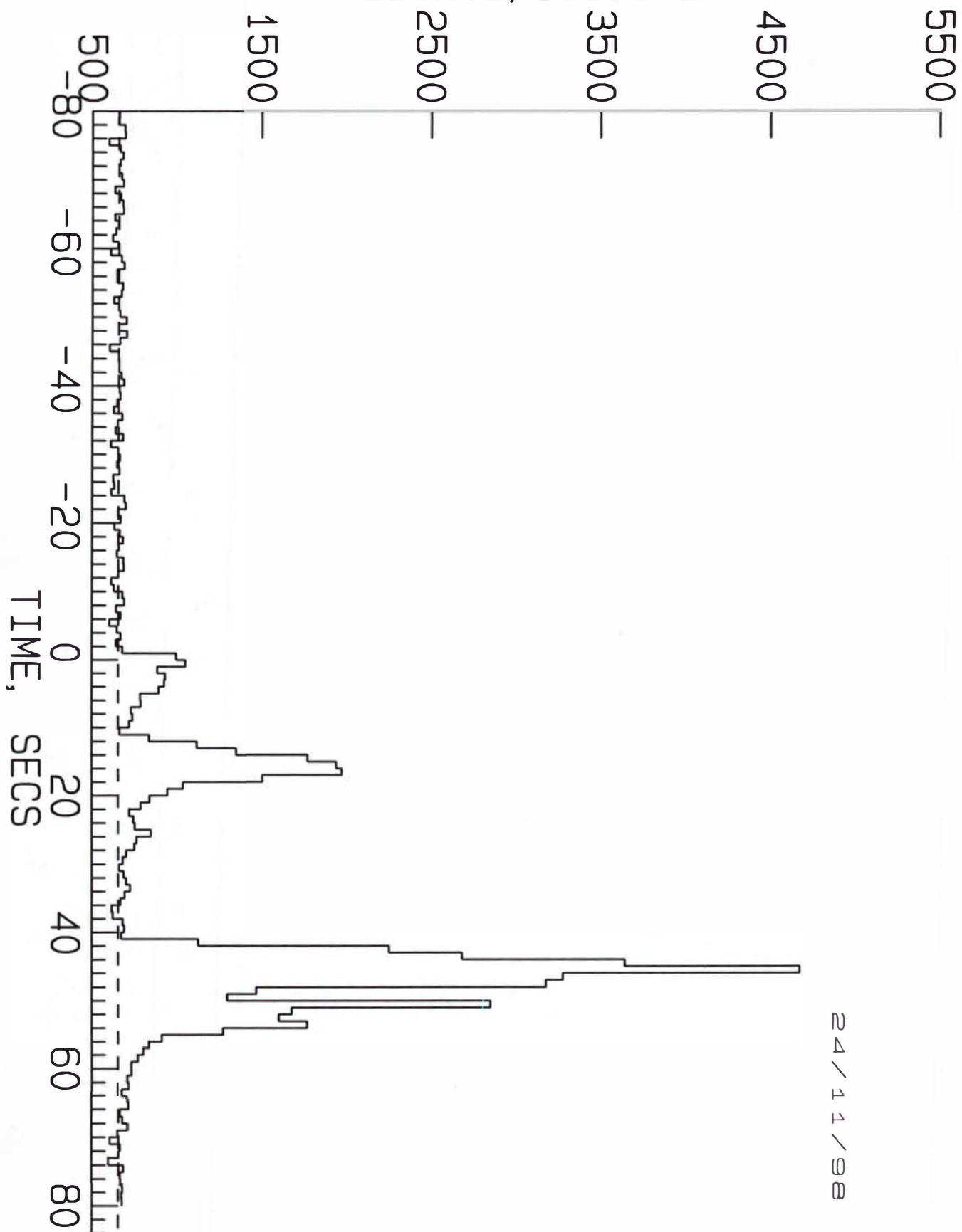
NEAR

27/08/98 73315.817

100-1000 keV

20:21:55

COUNTS/1.000 S



24 / 11 / 98

N E A R

ULYSSES RT

1 4 / 1 / 9 9

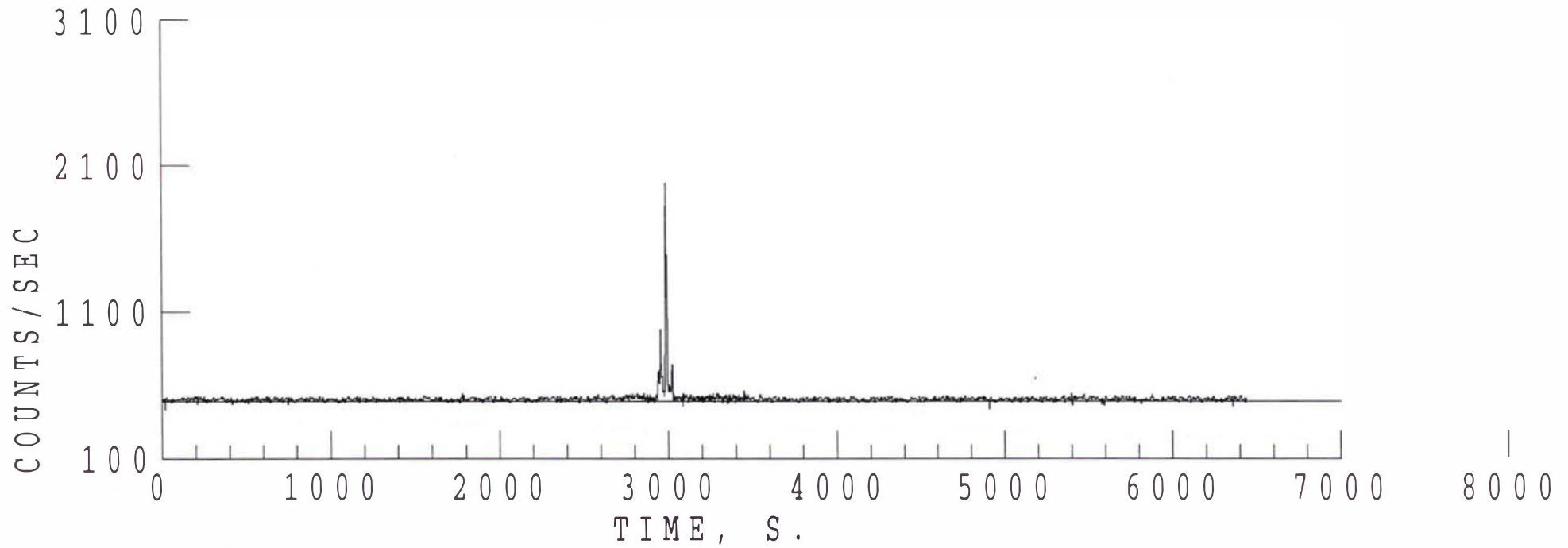
27 / 8 / 98 70092.586 s

INTERVALS REGROUPED BY 5

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

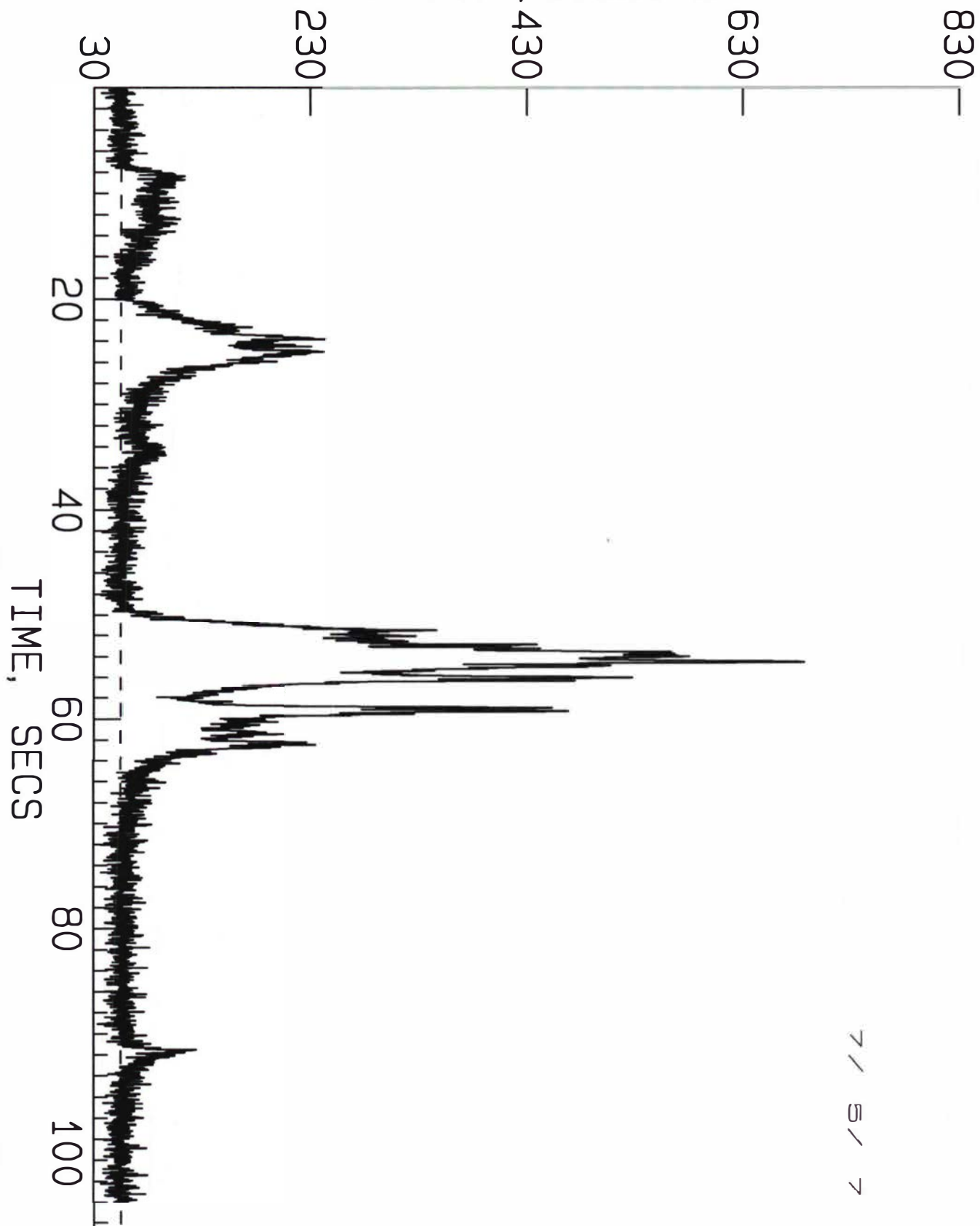
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Aug 27 1998 72625 GRBM

40- 700 keV

COUNTS/0.031 S



From cline@apache.gsfc.nasa.gov Wed Sep 2 07:32 PDT 1998
Mime-Version: 1.0
Date: Wed, 2 Sep 1998 10:37:05 -0400
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: another event on Aug 27

KEVIN

I've asked Paul B.

There was no other auto-Konus event on the 27th, anyway.

T

--

>Tom,

>

>Ulysses had a burst around 61761 s which may have been from 1900.

>

>Did KONUS observe it 1900 s earlier?

>

>Kevin

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

From cline@apache.gsfc.nasa.gov Wed Sep 9 13:40 PDT 1998
Mime-Version: 1.0
Date: Wed, 9 Sep 1998 16:45:40 -0400
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: 4 total NEAR events now - one making sense

Dear Kevin

Did you notice that on NEAR's web pages now, they have three recent events including two on 98-08-27 (!) the second at 73315 seconds. I can't find a corresponding Konus event for that time. Does Ulysses have one? Is this a solar flare or a screwball GRB ??

Also, there just now came a fourth NEAR event on e-mail - on Sept 8th, yesterday, Like the one on Sept 3rd, it looks like a featureless SGR.

However I could not triangulate the one on Sept. 3rd, on the other day, to fit either currently active SGR source direction. Not much good luck so far.

TLC

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

NEAR

ULYSSES RT

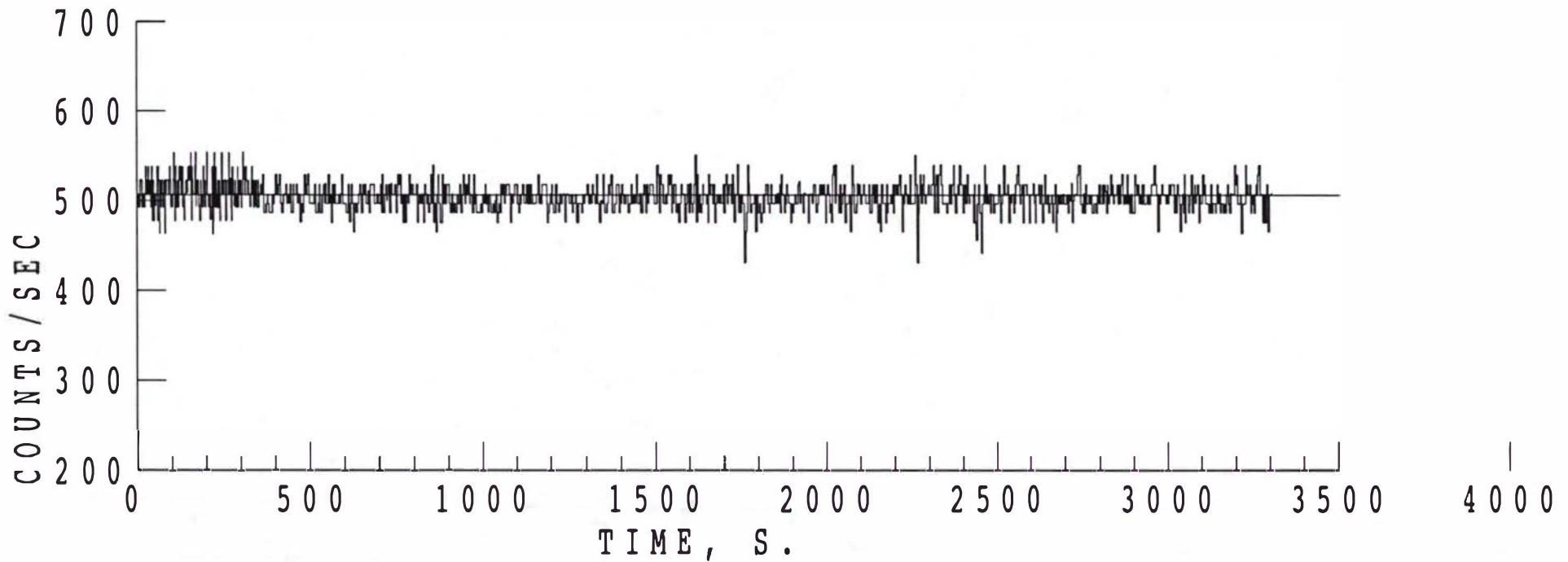
9 / 9 / 98

27 / 8 / 98 73230.109 s

INTERVALS REGROUPED BY 3

0 - 0 keV

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot Thu Sep 3 08:36 PDT 1998
 Date: Thu, 3 Sep 1998 08:40:01 -0700
 From: khurley@sunspot (Kevin Hurley)
 To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
 butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
 kmarar@isac.ernet.in, vnp@isac.ernet.in,
 bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
 yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
 henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov
 Subject: CORRECTION TO PREVIOUS LIST
 Cc: woods@eagles.msfc.nasa.gov, chryssa.kouveliotou@msfc.nasa.gov

The list I sent out on the 2nd had the days shifted, and one day was omitted. Thanks to Paul Butterworth for pointing this out. I haven't been getting much sleep lately. Here's the correct list up to the 30th.

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing times would have been ~1900 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
27 AUG 98 01:27	32 ms long, weak	3150
27 AUG 98 10:54	300 s long, intense; definitely SGR1900	3150
27 AUG 98 11:38	1 s long, intense; followed by another intense burst 144 s later	3150
27 AUG 98 13:13	32 ms long, intense	3150
27 AUG 98 17:09	>64 s long, intense	3150
28 AUG 98 00:07	32 ms long, moderate	3150
28 AUG 98 06:44	? data missing	3150
28 AUG 98 21:44	32 ms long, weak	3150
28 AUG 98 23:11	32 ms long, weak	3150
29 AUG 98 02:11	64 ms long, moderate	3150
29 AUG 98 10:48	5 s long, intense	3150
29 AUG 98 15:14	32 ms long, weak	3150
29 AUG 98 18:50	2 s long, intense	3150
30 AUG 98 01:31	64 ms long, weak	3150
30 AUG 98 05:48	64 ms long, weak	3150
30 AUG 98 07:49	64 ms long, moderate	3150
30 AUG 98 14:09	32 ms long, weak	3150
30 AUG 98 21:50	32 ms long, weak	3150

NO TGRS

Were these events detected by anyone else?

CC

From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:11:26 1998
Date: Mon, 31 Aug 1998 15:21:06 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lhev.gsfc.nasa.gov, barthelmy@lhev.gsfc.nasa.gov,
bacodine@lhev.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhev.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7021

TIME: TJD=1052 SECONDS= 643

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 Mon Aug 31 20:11:43 1998
Date: Mon, 31 Aug 1998 15:22:40 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7022

TIME: TJD=1052 SECONDS=24019

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 Mon Aug 31 20:21:49 1998
Date: Mon, 31 Aug 1998 15:30:13 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@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.: 7024

TIME: TJD=1052 SECONDS=58523

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:06:00 1998
Date: Mon, 31 Aug 1998 15:31:54 -0500 (CDT)
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.: 7025

TIME: TJD=1052 SECONDS=69644

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From HENZE@fender.msfc.nasa.gov Wed Sep 2 12:45:32 1998
Date: Wed, 2 Sep 1998 14:45:12 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@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.: 7026

TIME: TJD=1052 SECONDS=78324

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

CORRECTED MESSAGE: EARLIER VERSION HAD INCORRECT TJD.
PARTICLE EVENT.

From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:06:04 1998
Date: Mon, 31 Aug 1998 15:35:04 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@ests2.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.: 7027

TIME: TJD=1052 SECONDS=85738

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

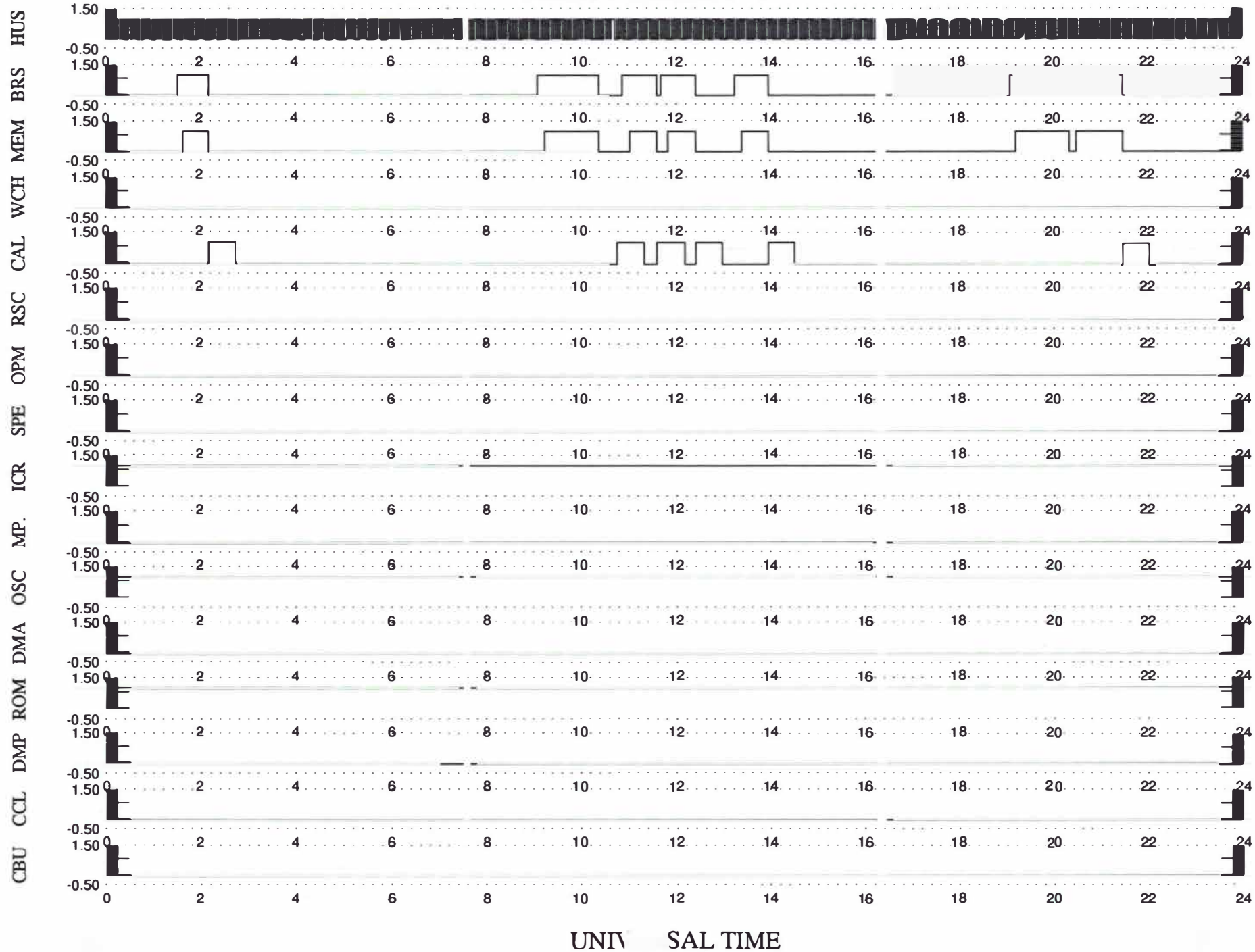
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

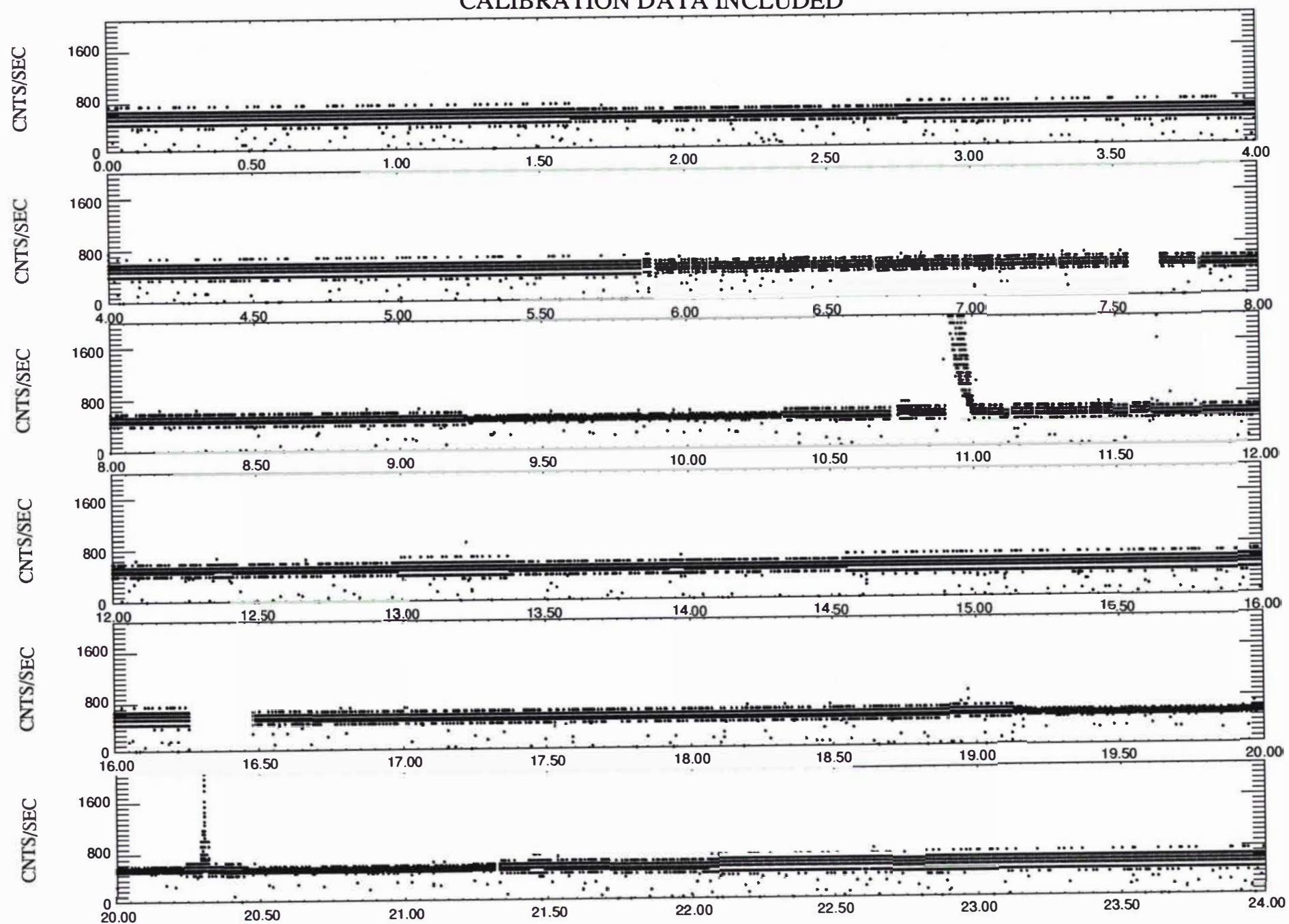
COMMENTS:

SAA ENTRY

BURST NUMBER 3 - 9

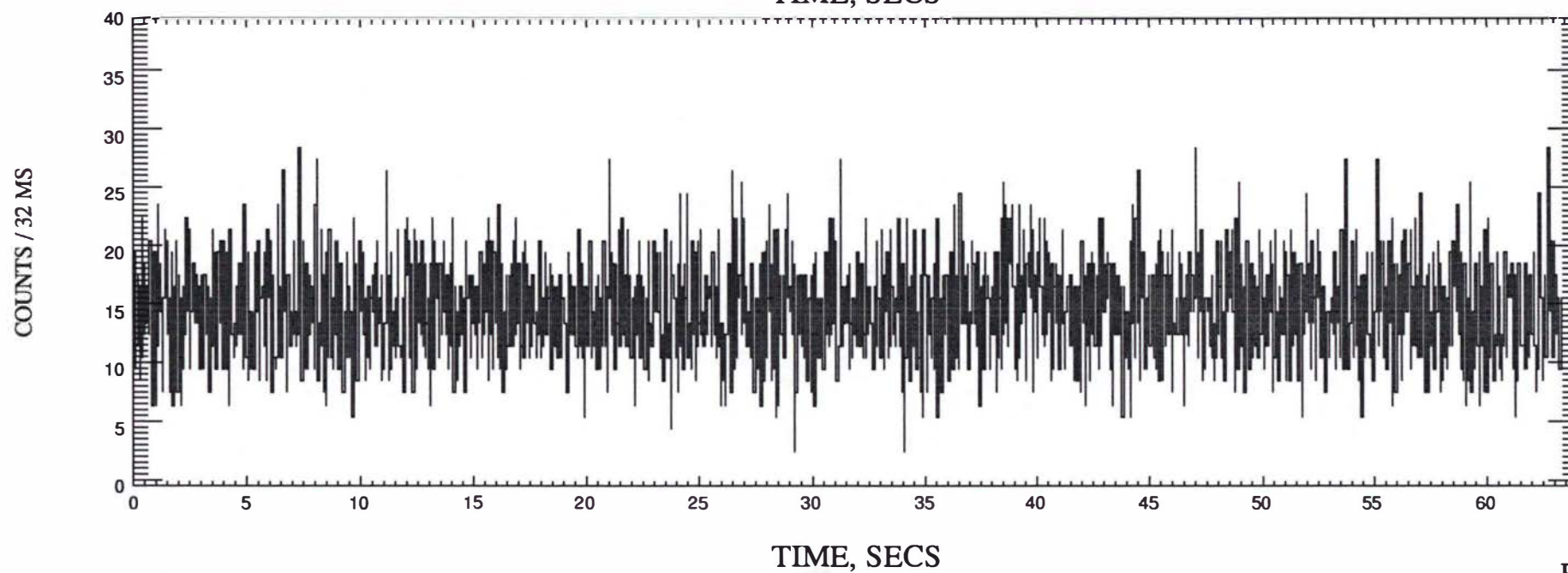
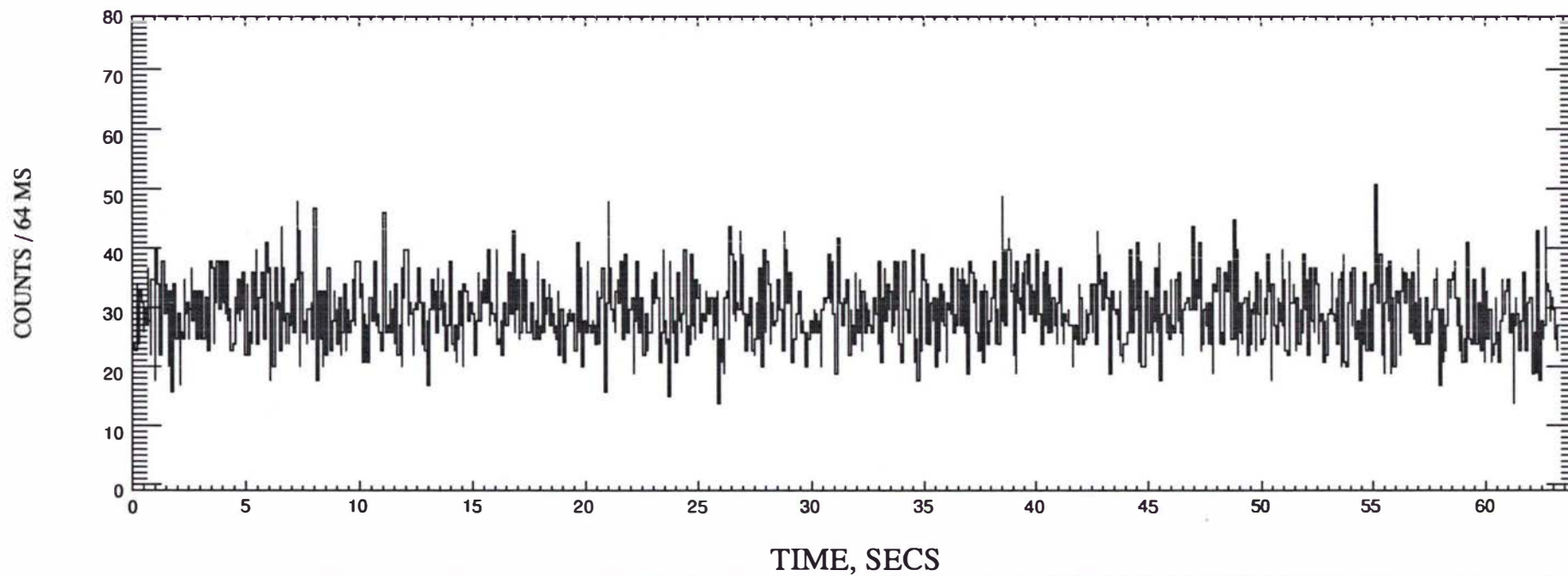


CALIBRATION DATA INCLUDED

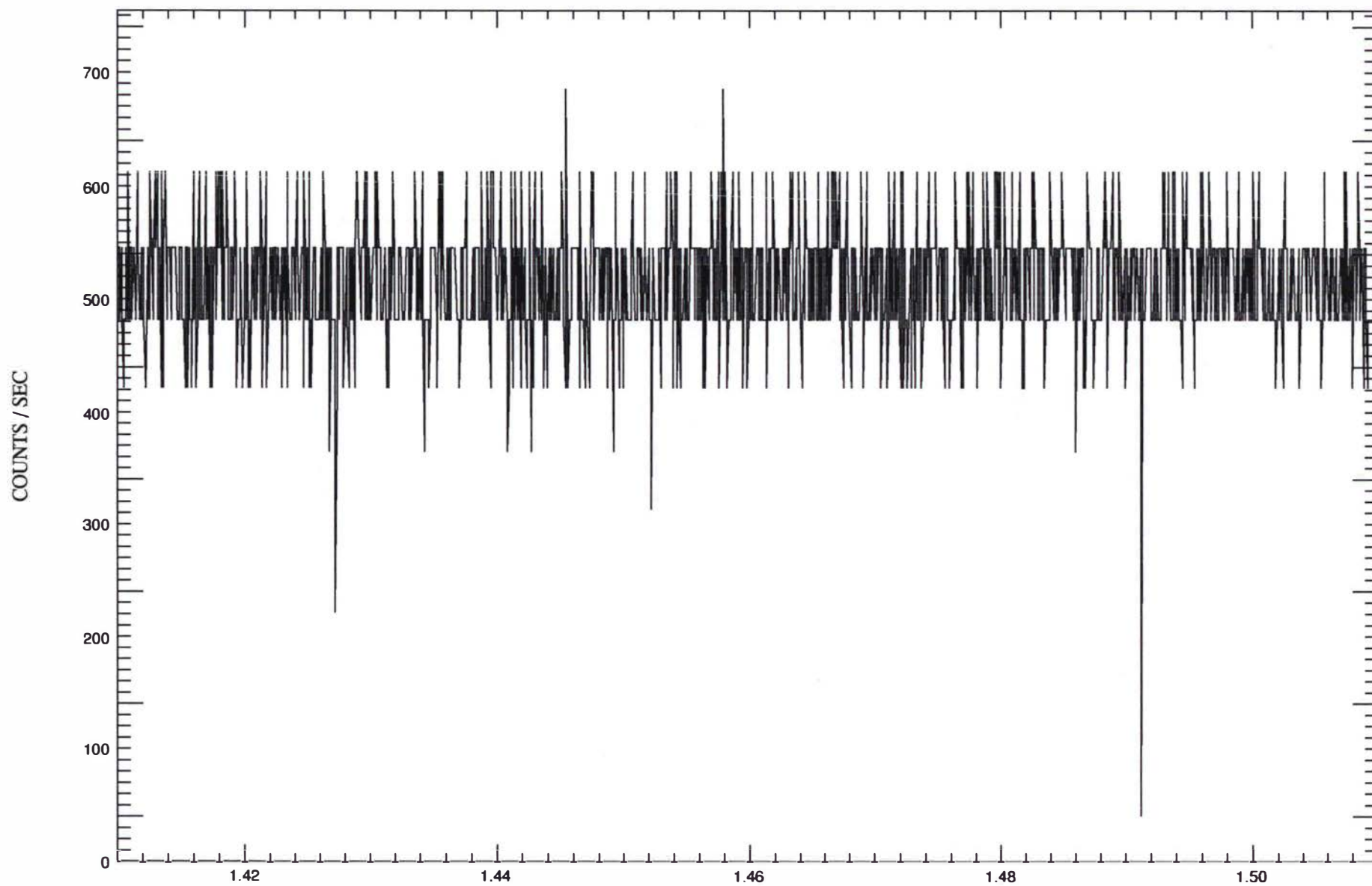


UNIV SAL TIME

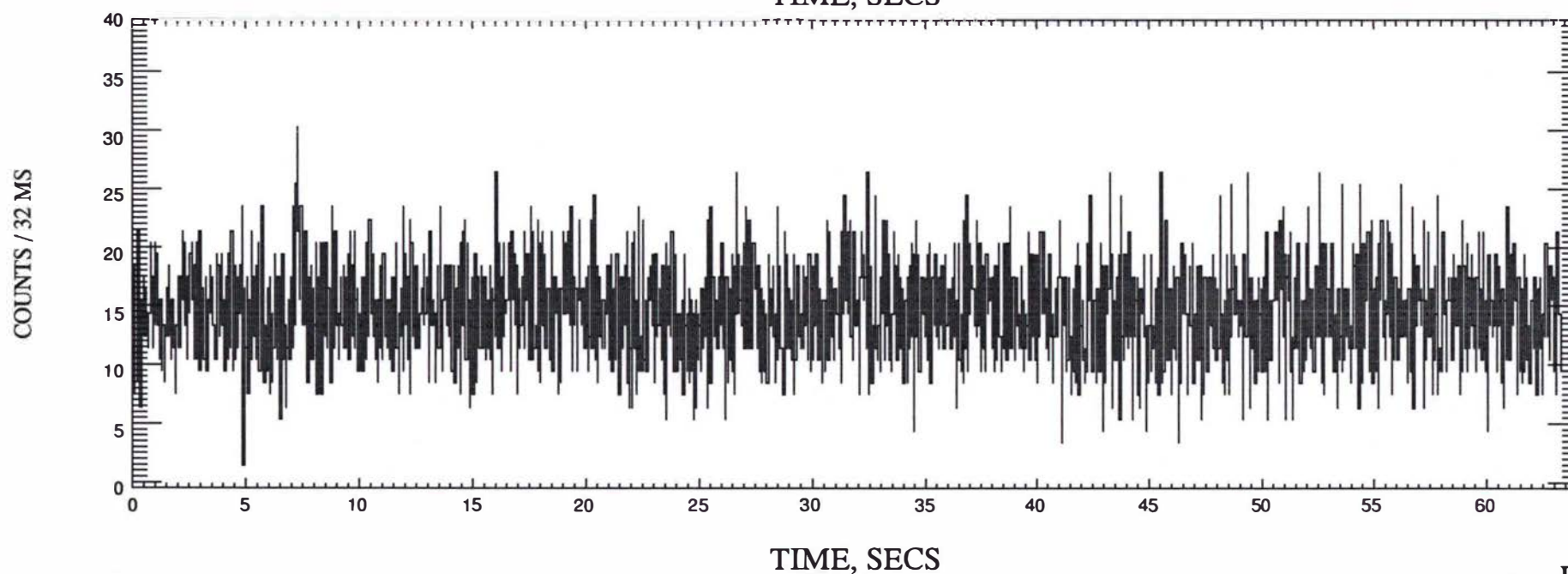
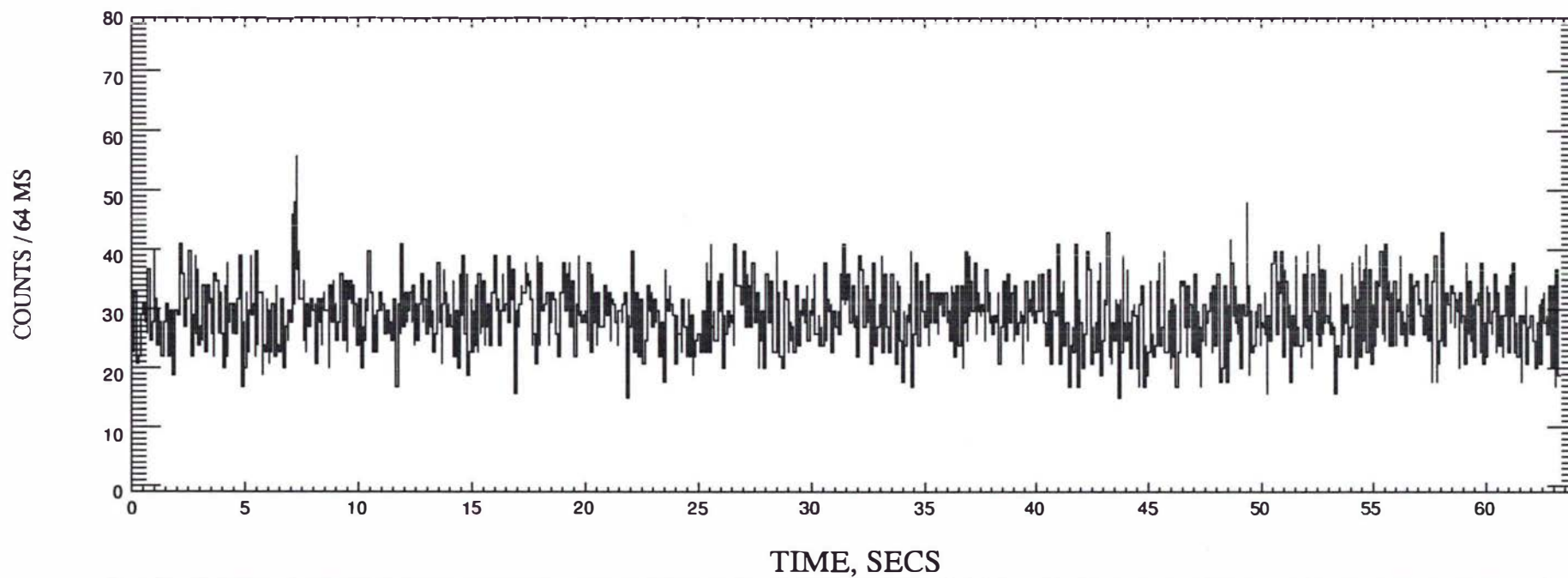
Burst Counter 3 at UT= 1.458025033739 h= 5248.890 s 01:27:28.890



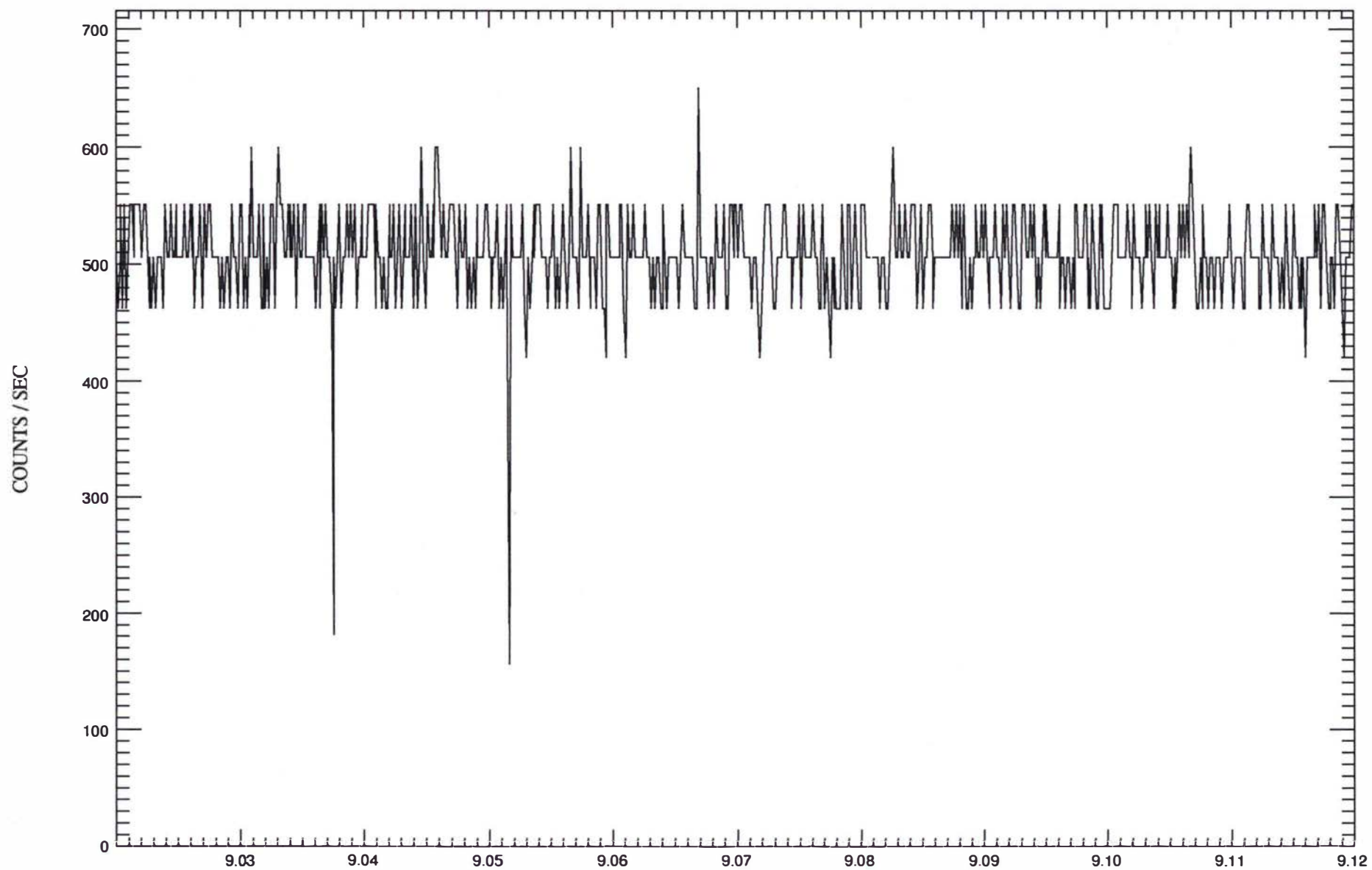
CALIBRATION DATA INCLUDED



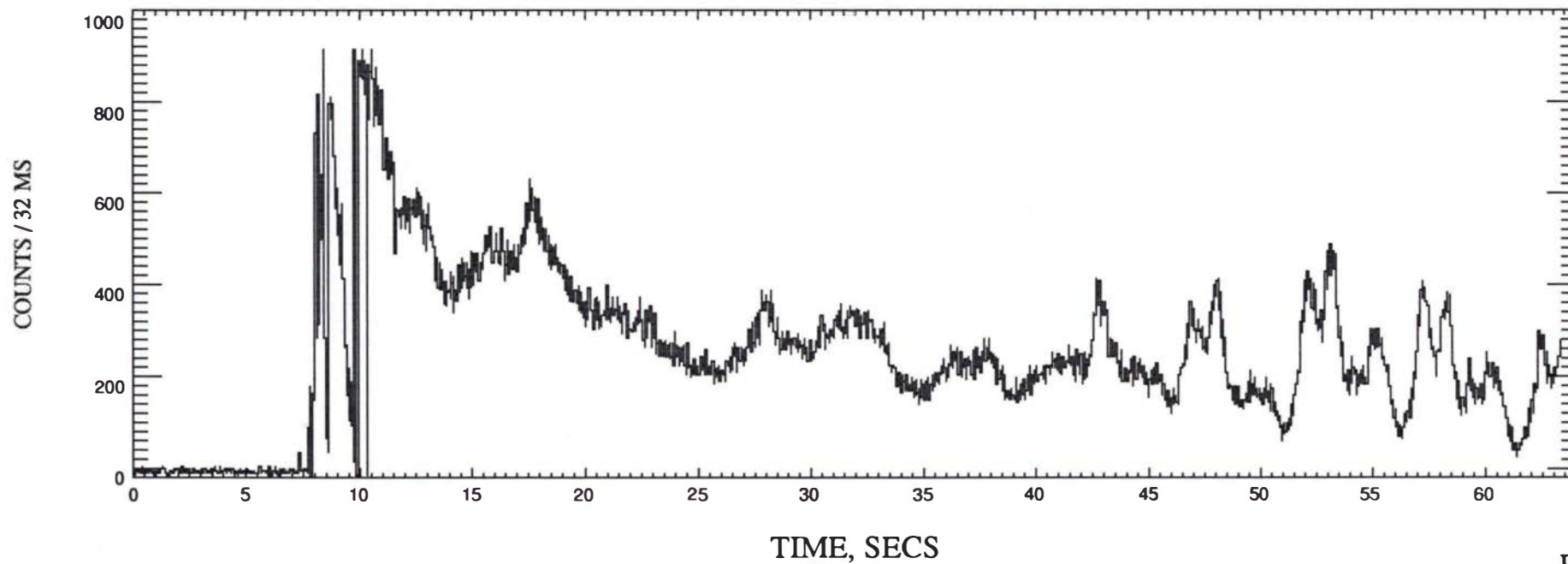
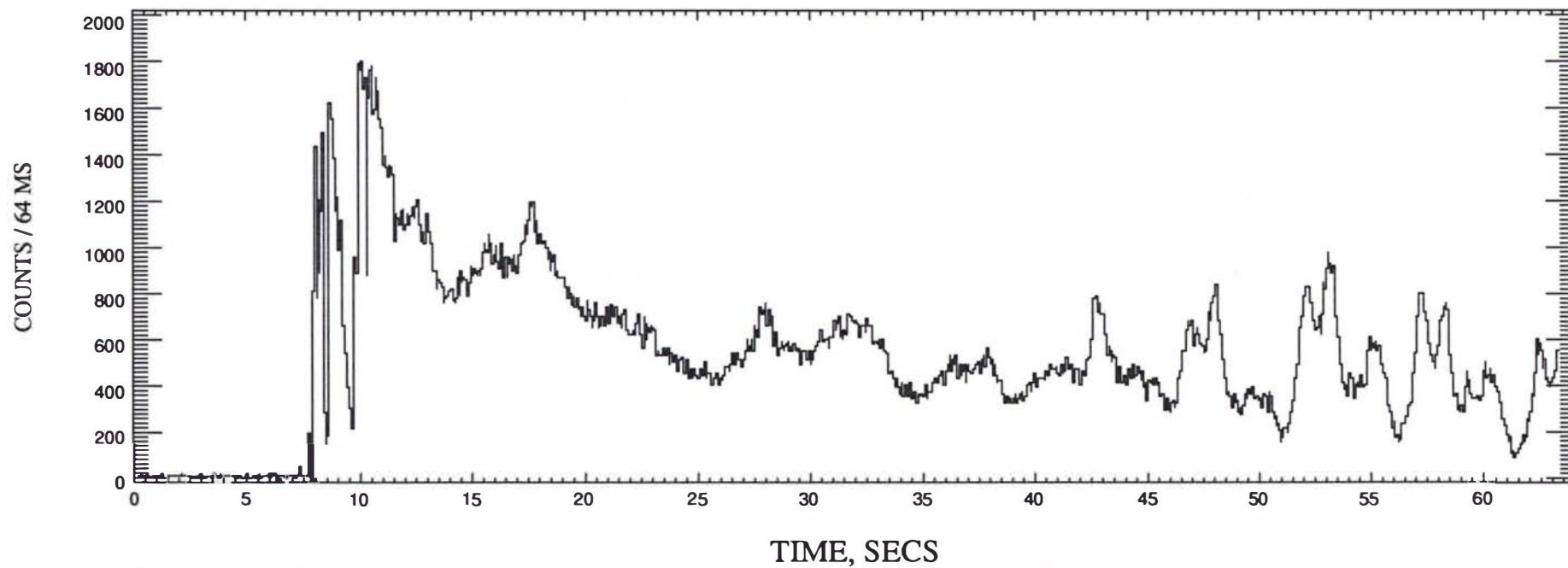
Burst Counter 4 at UT= 9.067131813897 h=32641.675 s 09:04:01.675



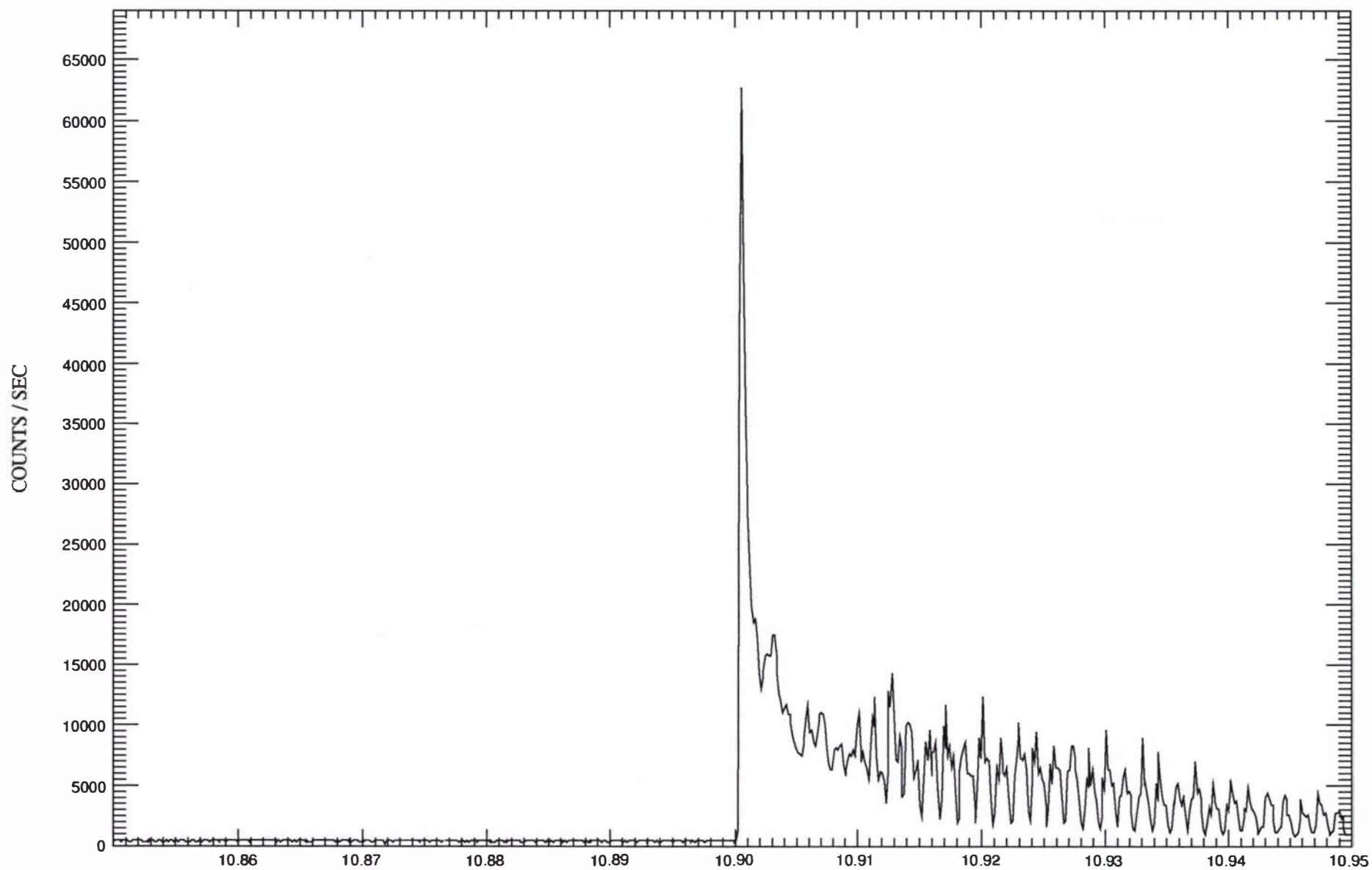
CALIBRATION DATA INCLUDED



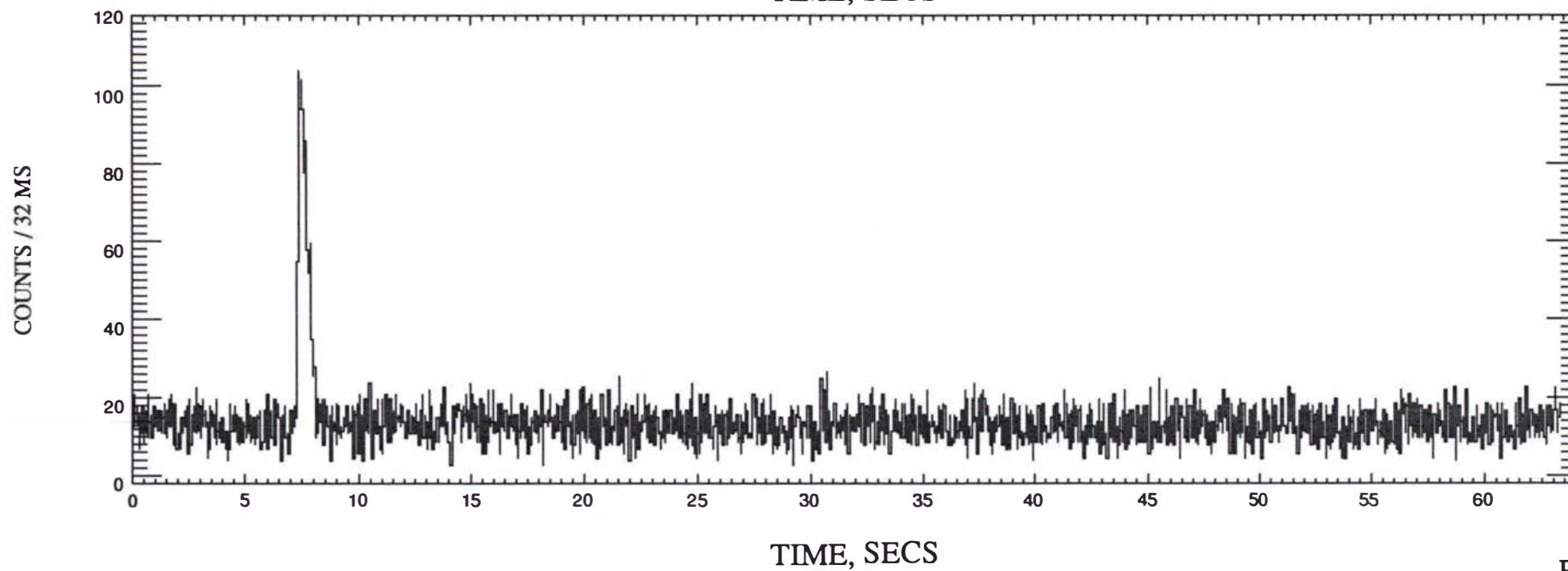
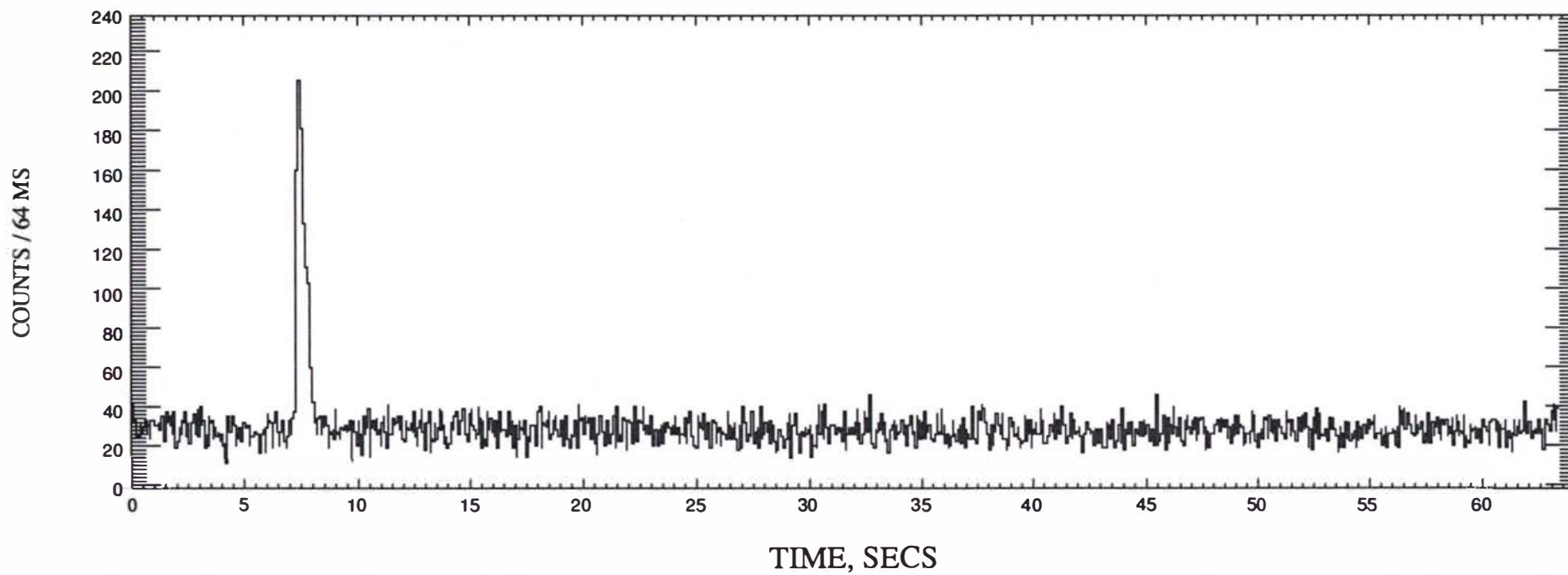
Burst Counter 5 at UT=10.900363277859 h=39241.308 s 10:54:01.308



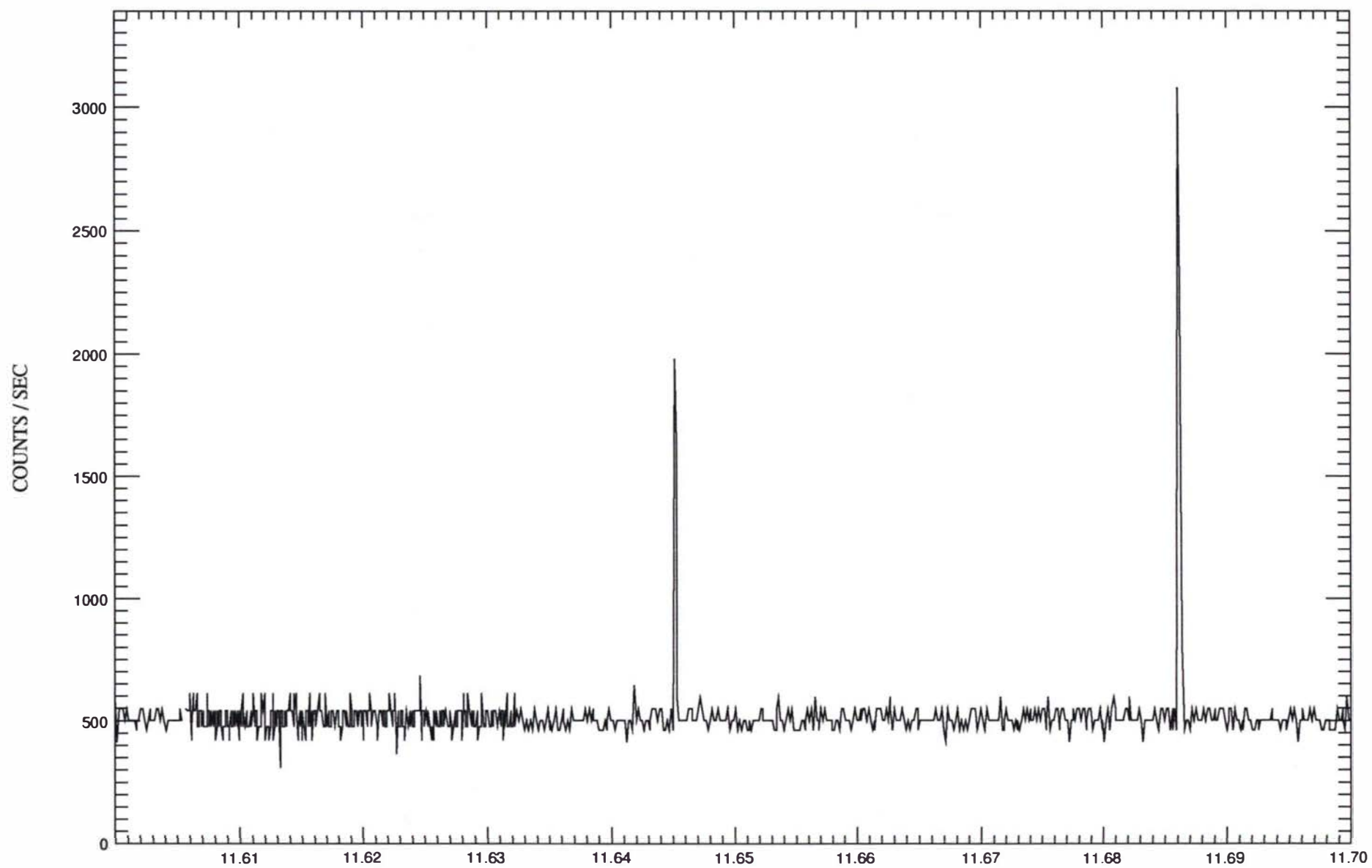
CALIBRATION DATA INCLUDED



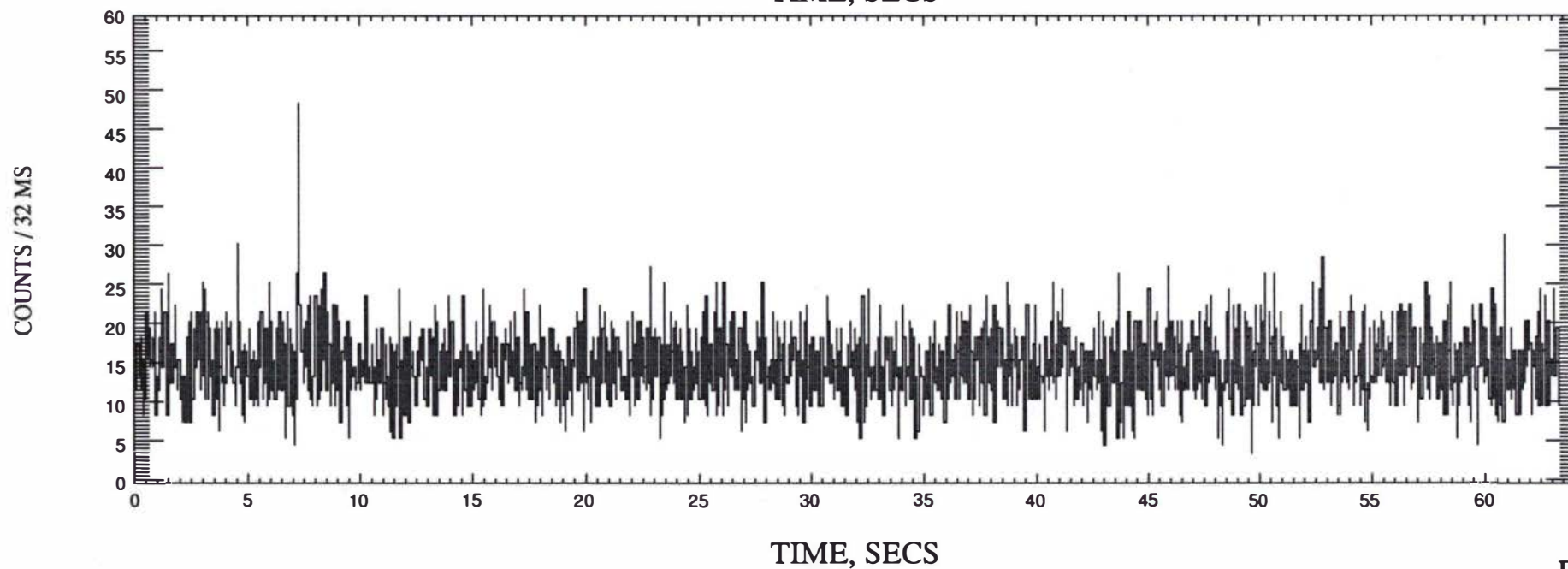
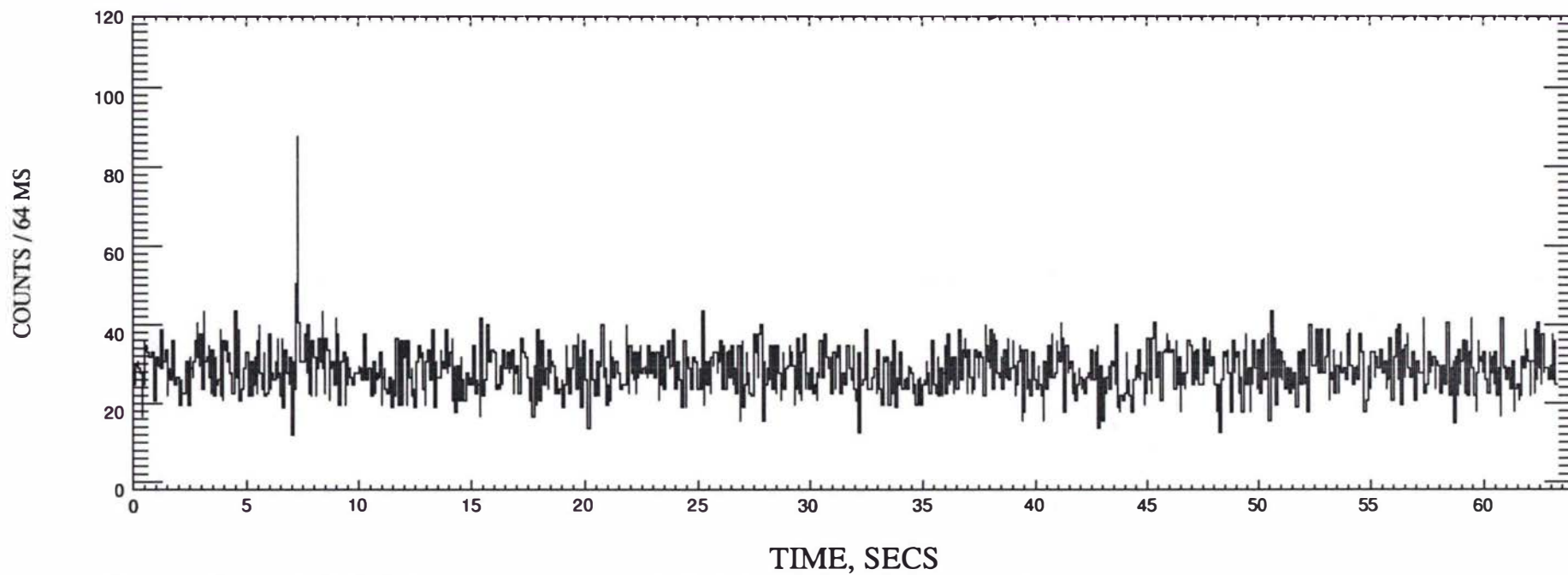
Burst Counter 6 at UT=11.645282537672 h=41923.017 s 11:38:43.017



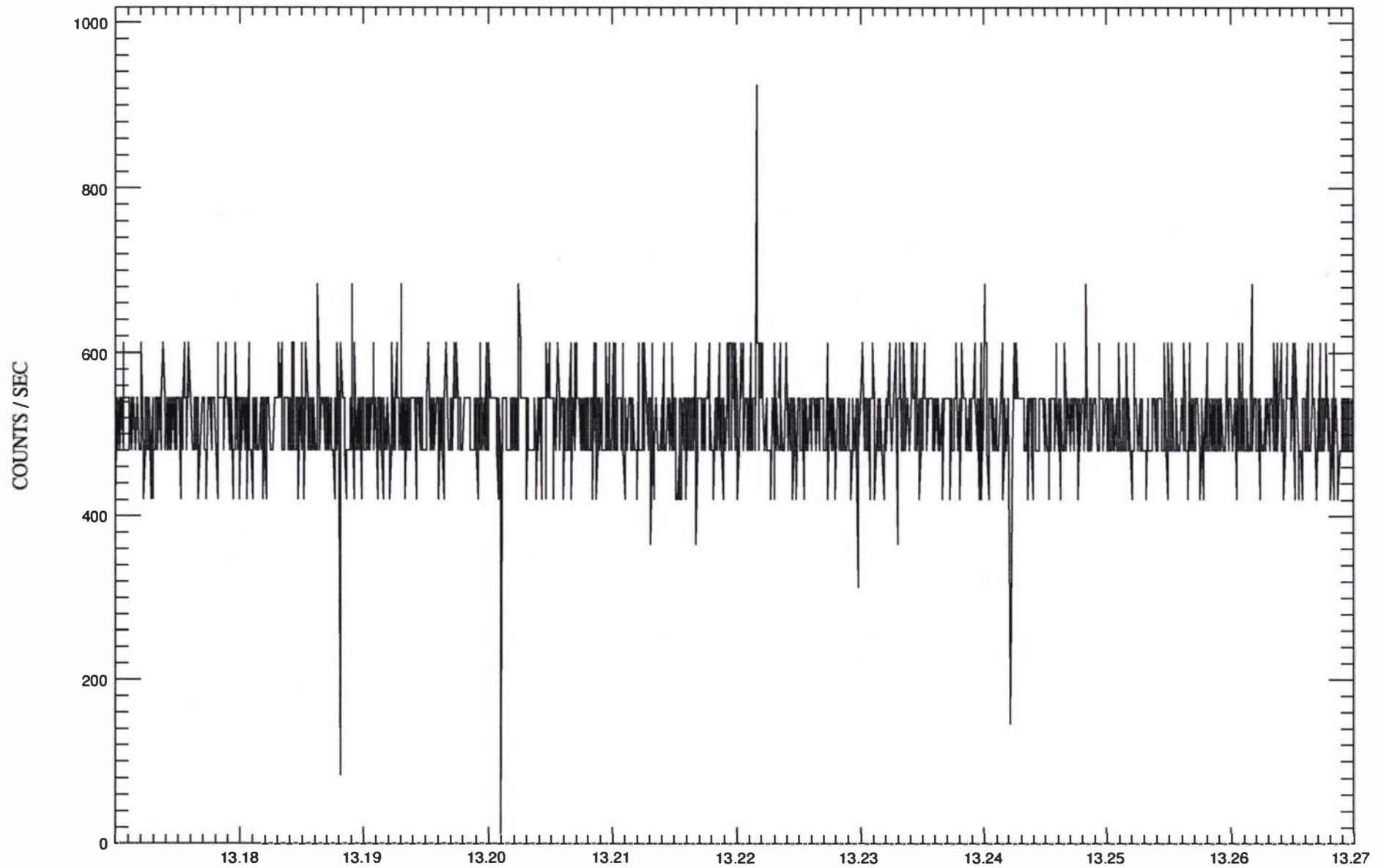
CALIBRATION DATA INCLUDED



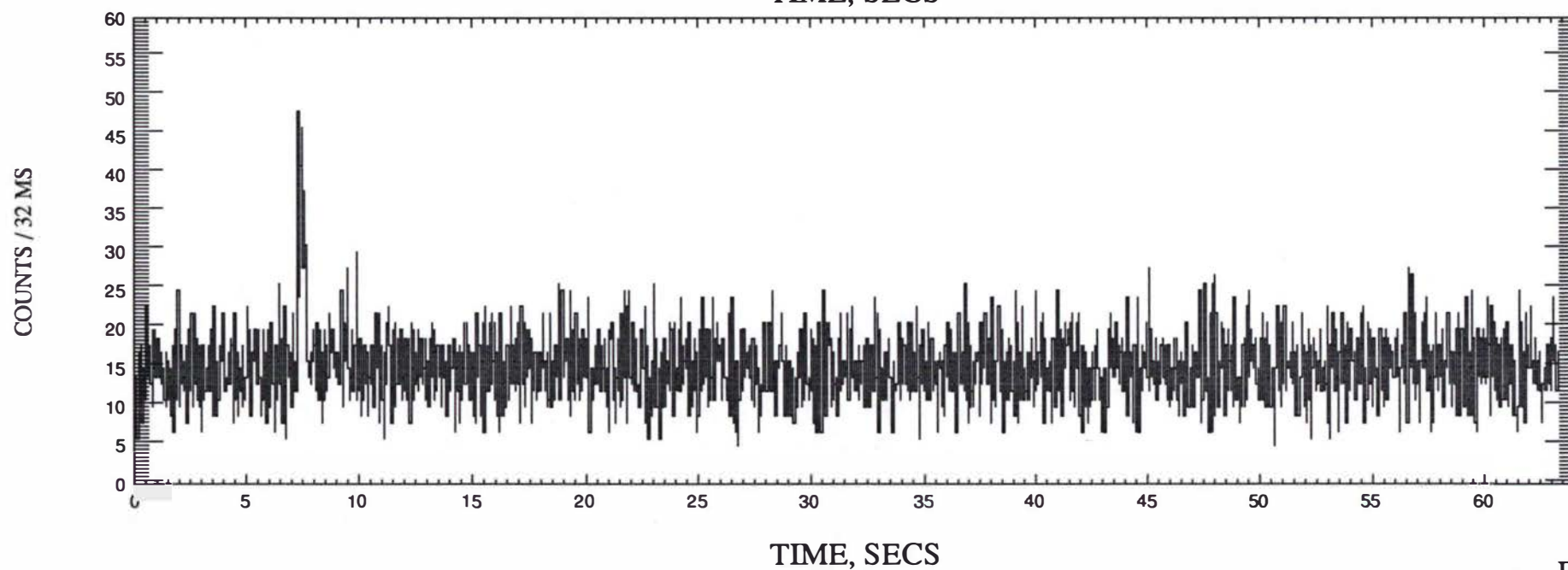
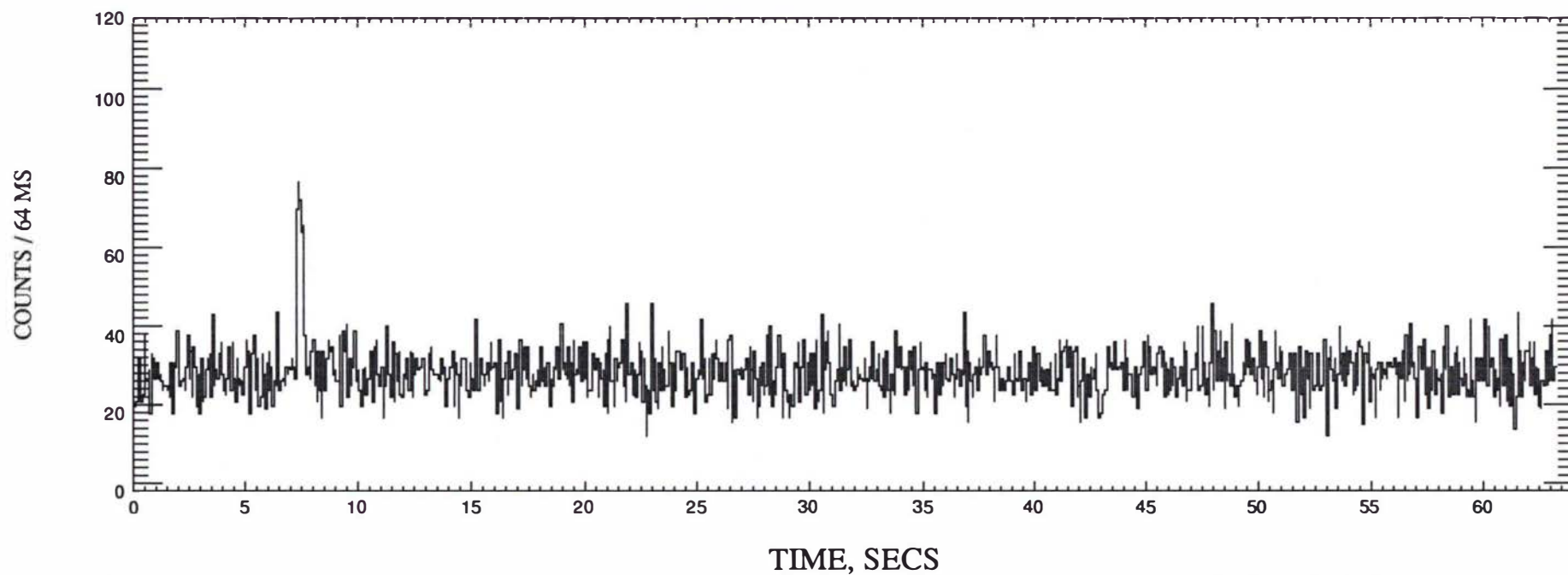
Burst Counter 7 at UT=13.221746495565 h=47598.287 s 13:13:18.287



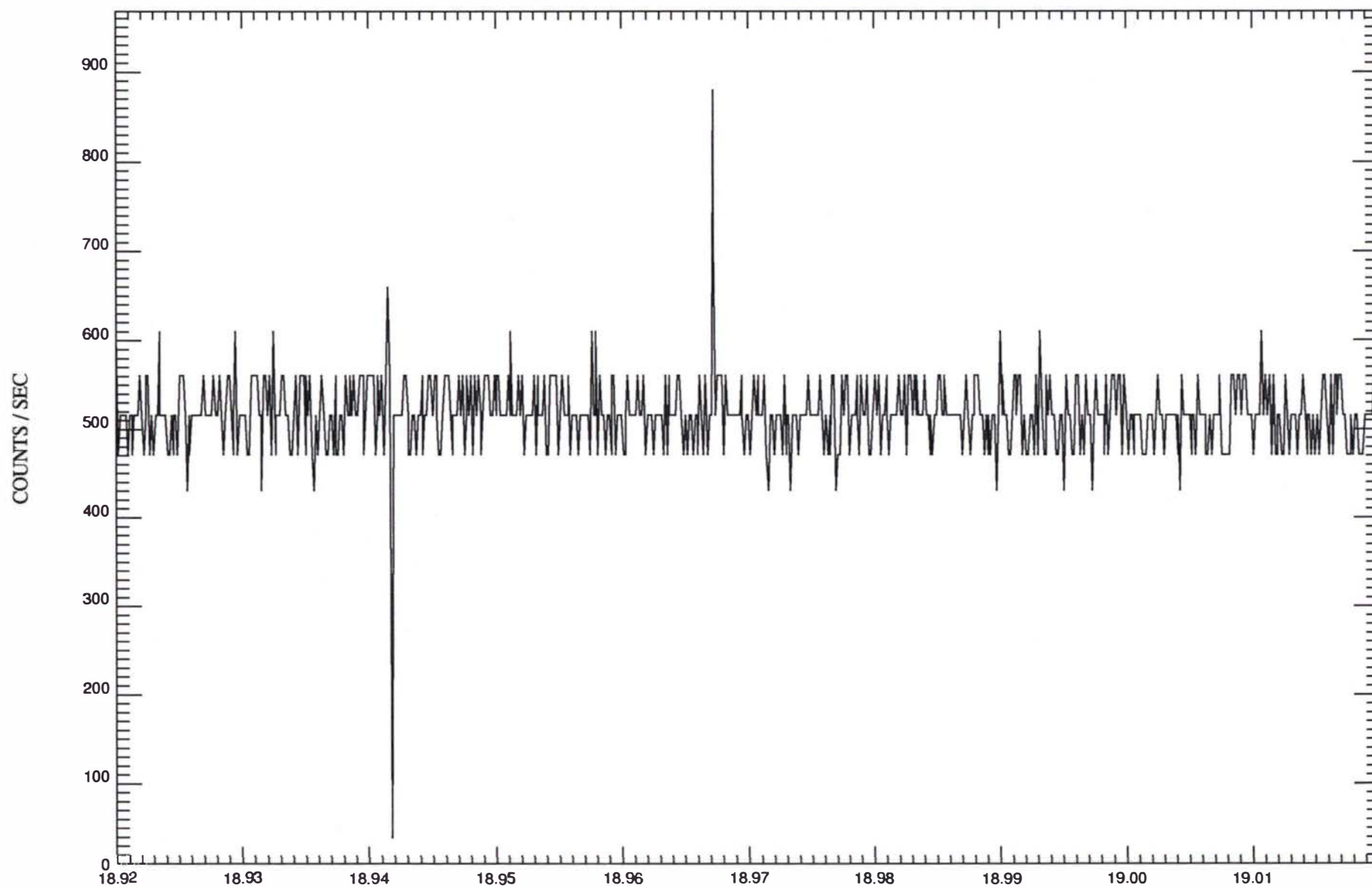
CALIBRATION DATA INCLUDED



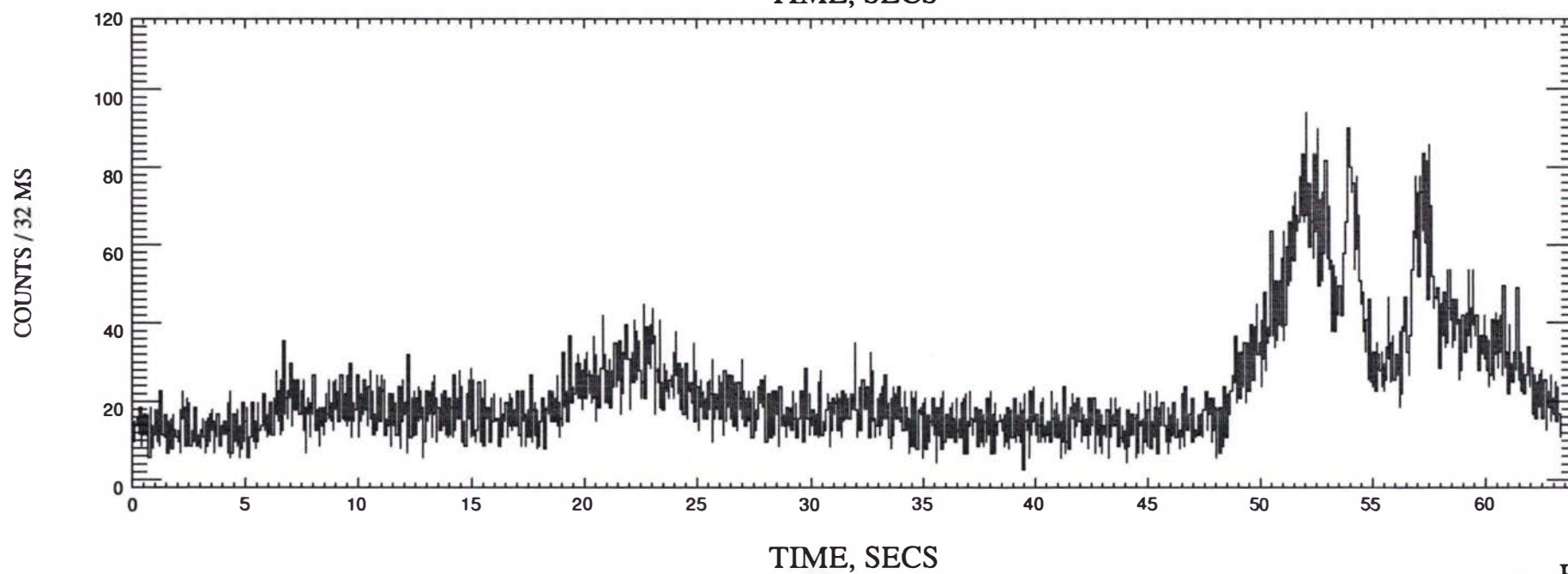
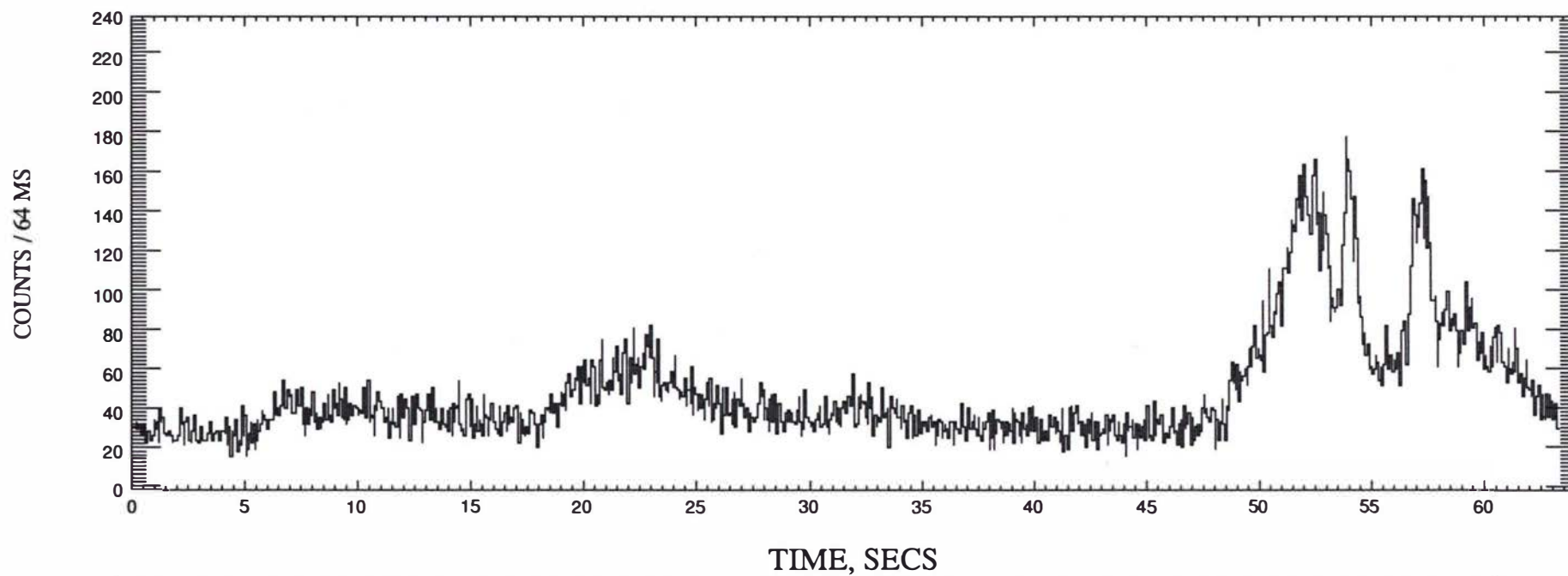
Burst Counter 8 at UT=18.967334306505 h=68282.404 s 18:58:02.404



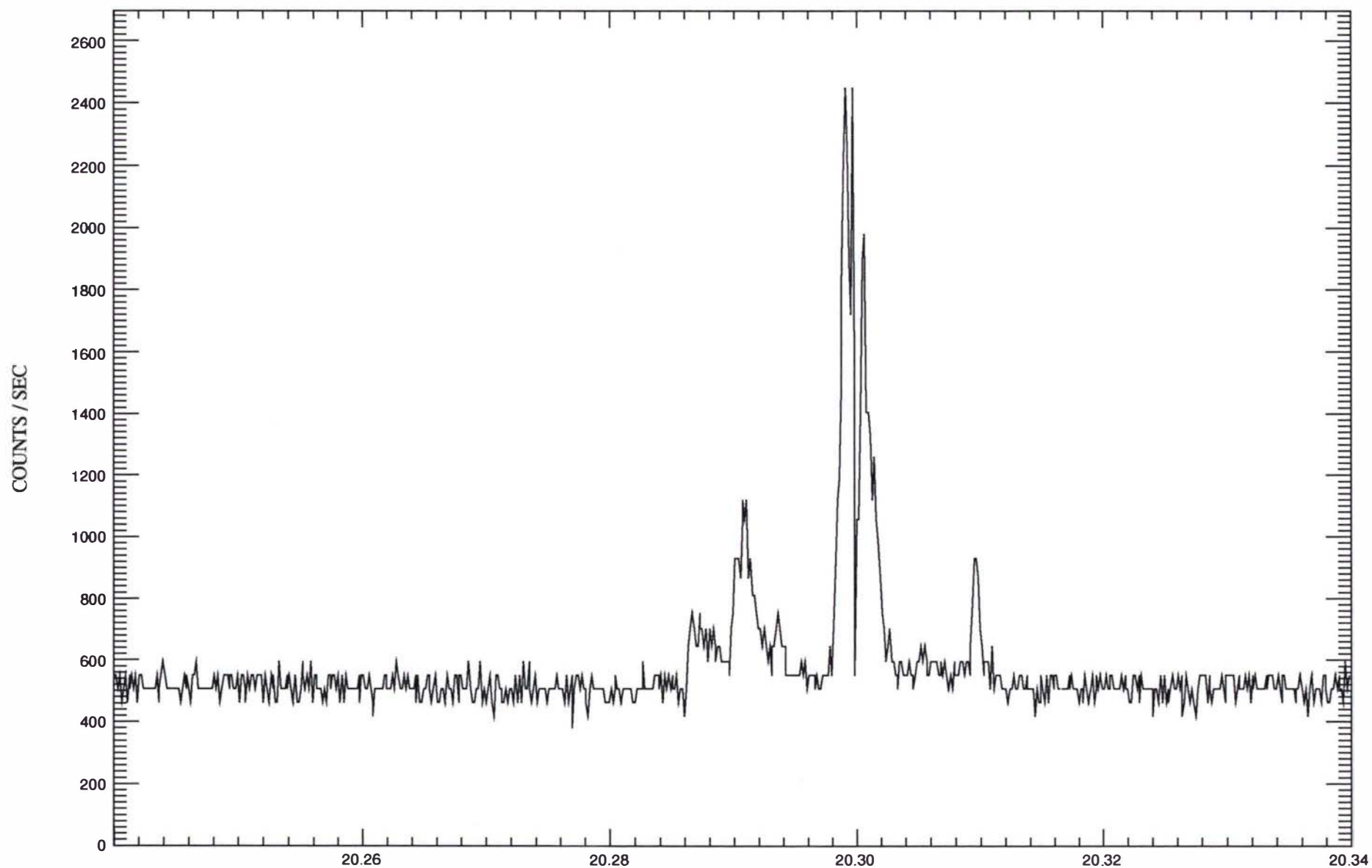
CALIBRATION DATA INCLUDED

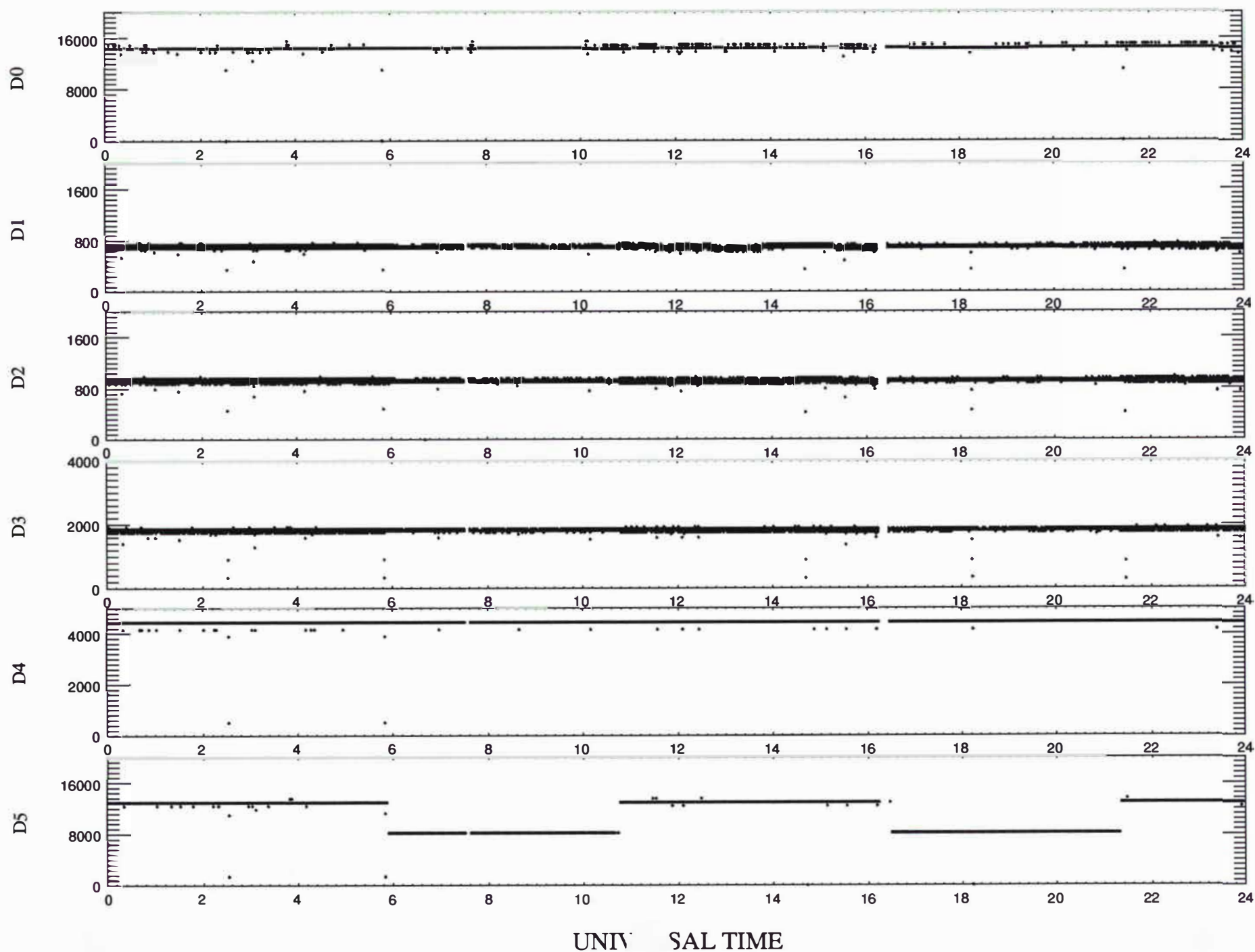


Burst Counter 9 at UT=20.286833462185 h=73032.600 s 20:17:12.600



CALIBRATION DATA INCLUDED





KONUS 789

20 / 2 / 99

ULYSSES RT

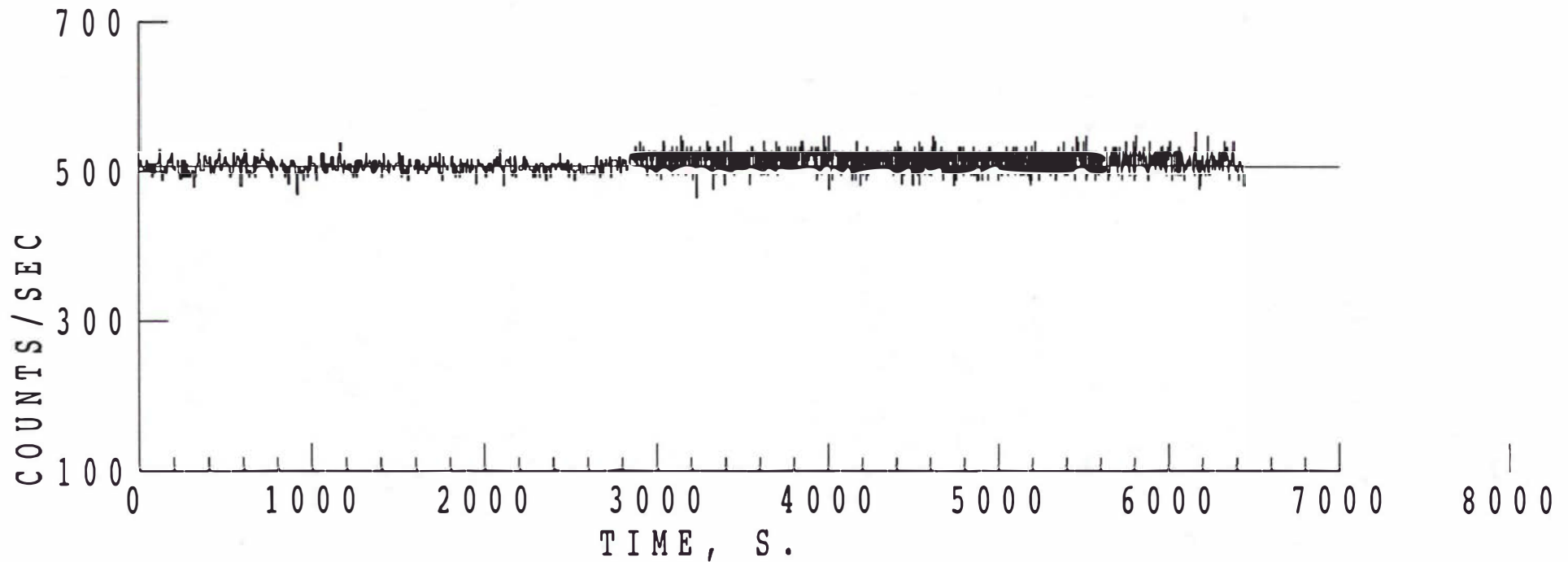
28 / 8 / 98 69408.477 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Sep 1 12:17:07 1998
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA03601; Tue, 1 Sep 1998 12:17:06 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA24503; Tue, 1 Sep 1998 12:17:03 -0700
Date: Tue, 1 Sep 1998 14:16:07 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980901141607.2023defa@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7028
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7028
EVENT OF 1998 AUG 28 DAY OF YEAR=240
EVENT CROSSING TIME AT BATSE : 70685. S. OR 19:38:05.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 146.000 21.000
BATSE PEAK COUNTING RATE: 40000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 8/ 98 IS:
RA= 157.979 DEC= 4.246 DIST= 6.358 AU
BATSE-ULYSSES DISTANCE = 951104411. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=159.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2973.55 SECS.
CROSSING TIME AT ULYSSES IS 67711. S. OR 18:48:31 +/- 196.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 8/ 98 IS:
RA= 127.234 DEC= 20.111 DIST= 2.403 AU
MARS-BATSE DISTANCE = 359429888. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=162.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1142.91 SECS.
CROSSING TIME AT MARS IS 69542. S. OR 19:19:02 +/- 45.52 SECONDS

BATSE BURST TRIGGER

NO.: 7028

TIME: TJD=1053 SECONDS=70685

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=17.2 AZIMUTH=265.5 ERROR=0.6 DEGREES

COMMENTS:

GRB. LOTS OF STRUCTURE. MAIN PULSE AT T=0 WITH DURATION APPROX. = 7 SEC.
SECOND PULSE AT APPROX. T+16 SEC. WITH DURATION APPROX. = 10 SEC. TOTAL
DURATION APPROX. = 25 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7028	980828	11053	70685	40000	146	+21	30

Date: 20/1/00

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

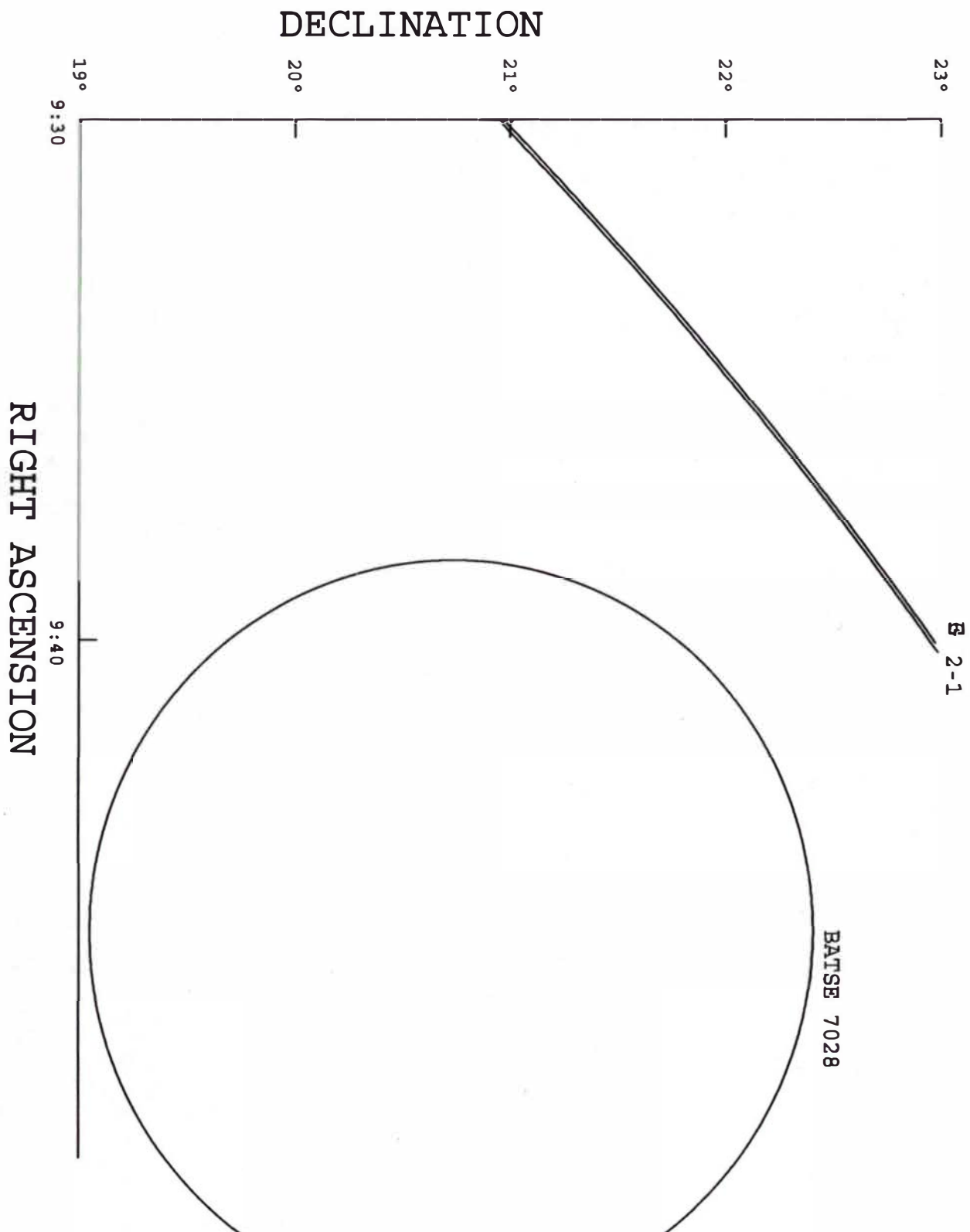
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF AUG 28, 1998 19:38

20 / 1 / 0



BATSE

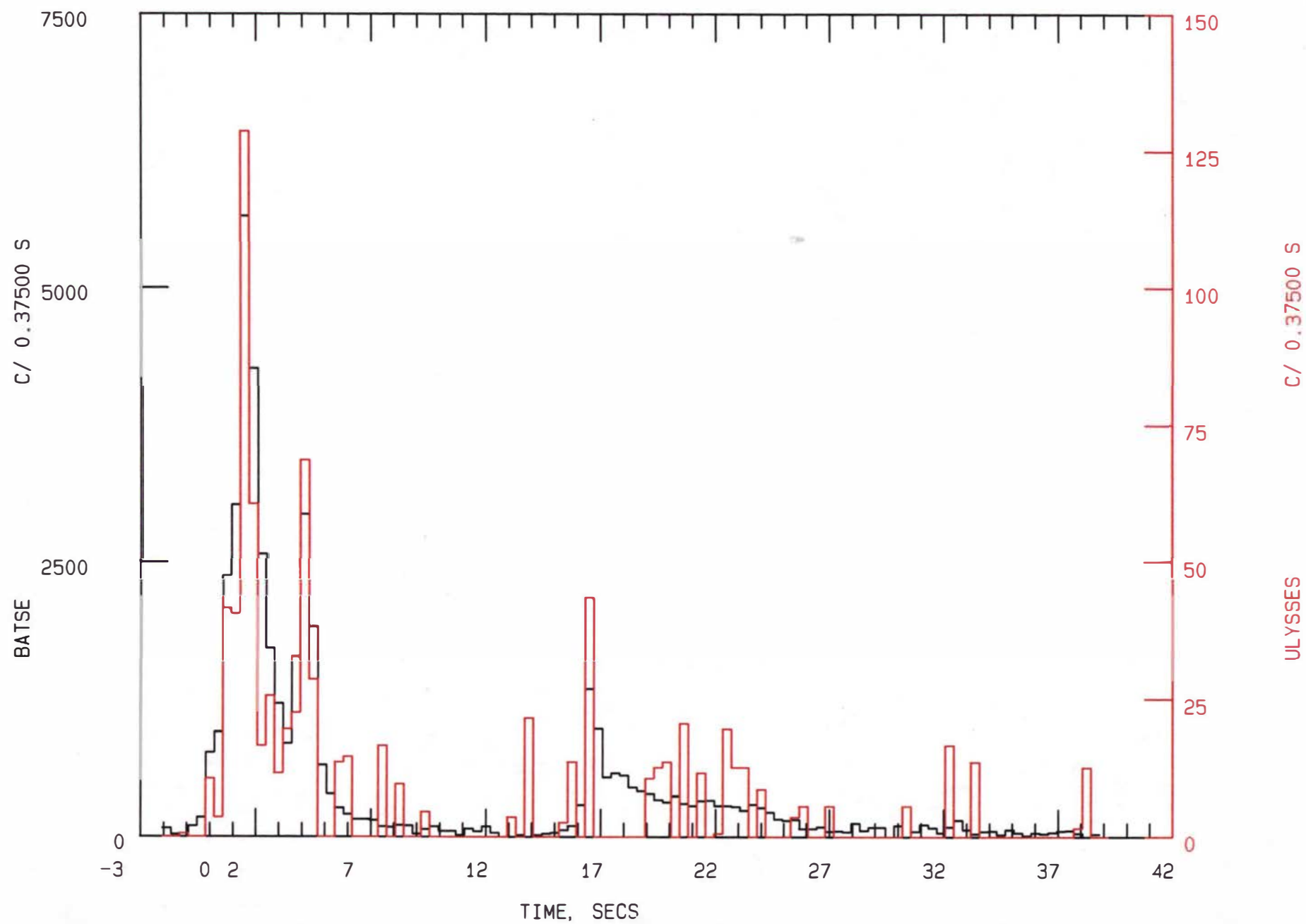
-ULYSSES

CORRELATION

28/ 8/98

70685.793

20/ 1/ 0



BATSE

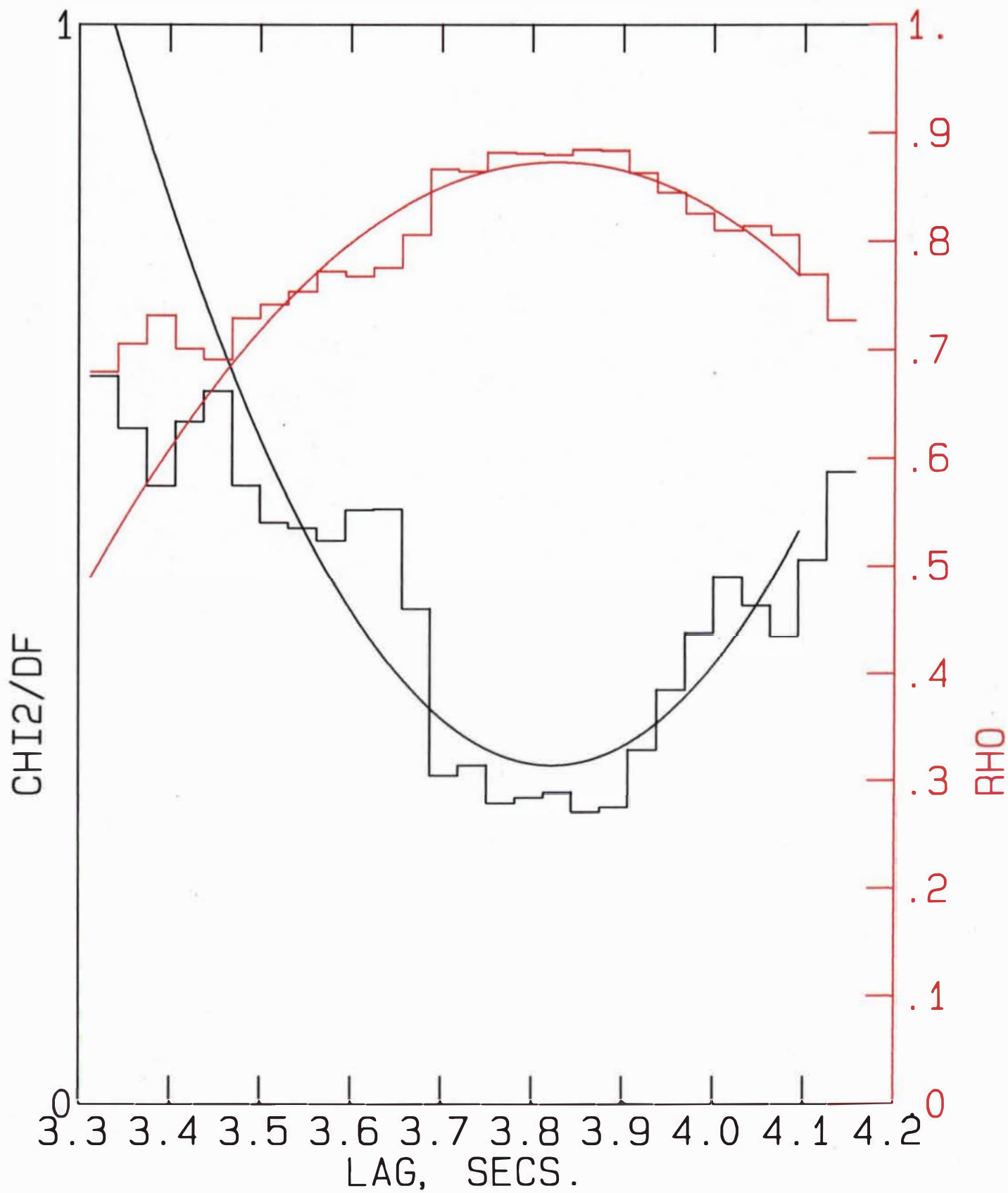
-ULYSSES

CORRELATION

28/ 8/98

70685.793

20/ 1/ 0



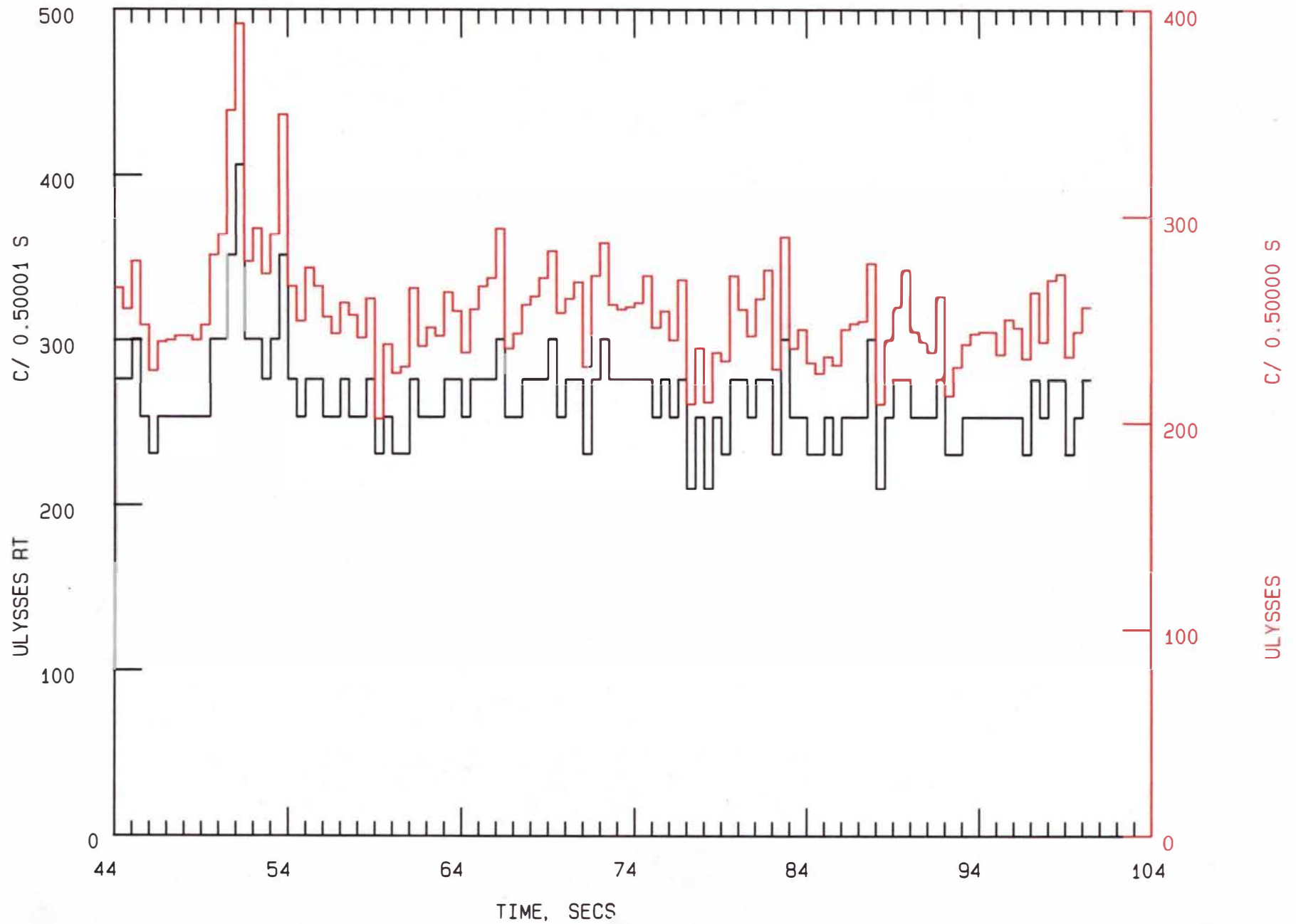
ULYSSES RT-ULYSSES

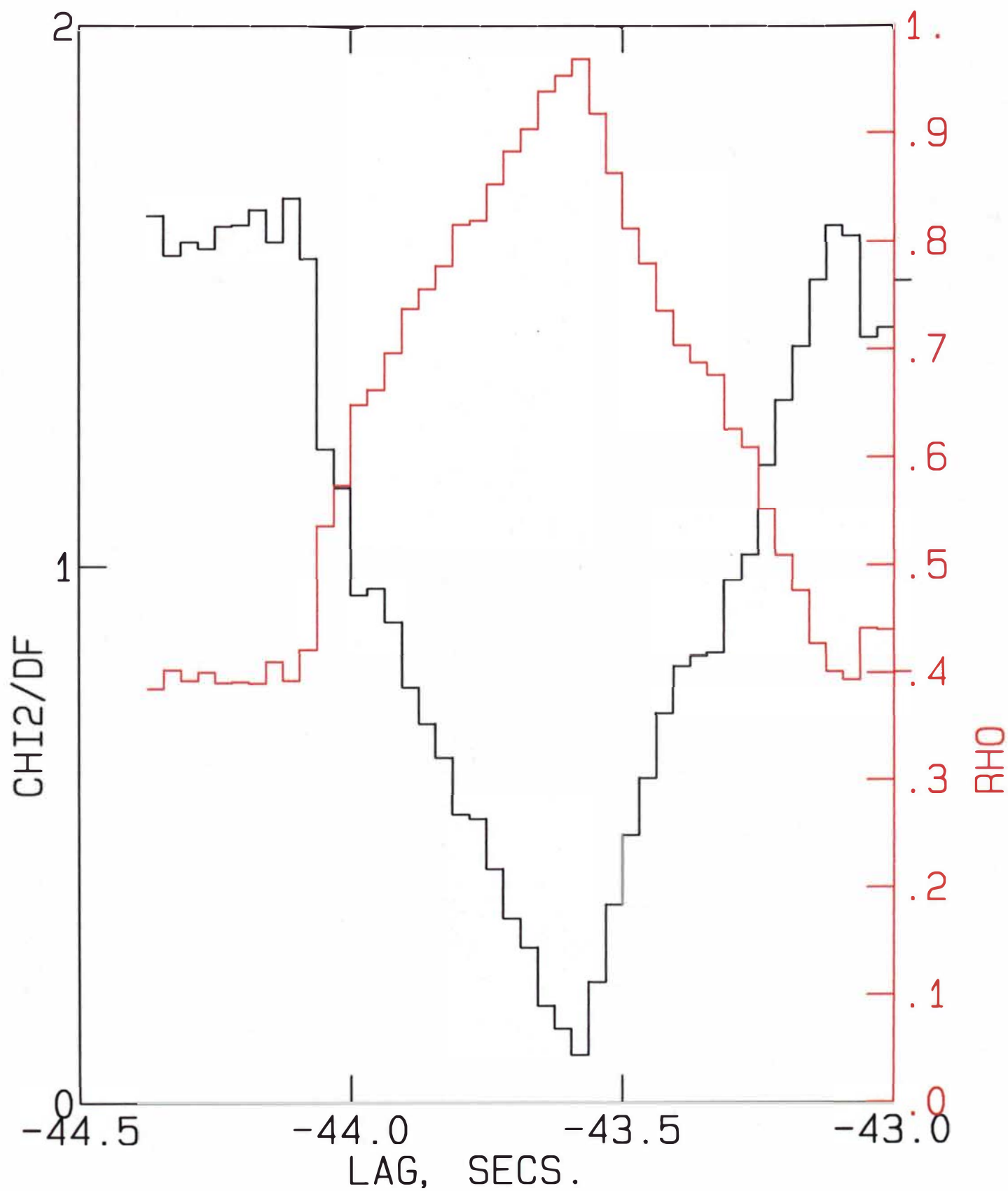
CORRELATION

28/ 8/98

67714.435

20/ 1/**

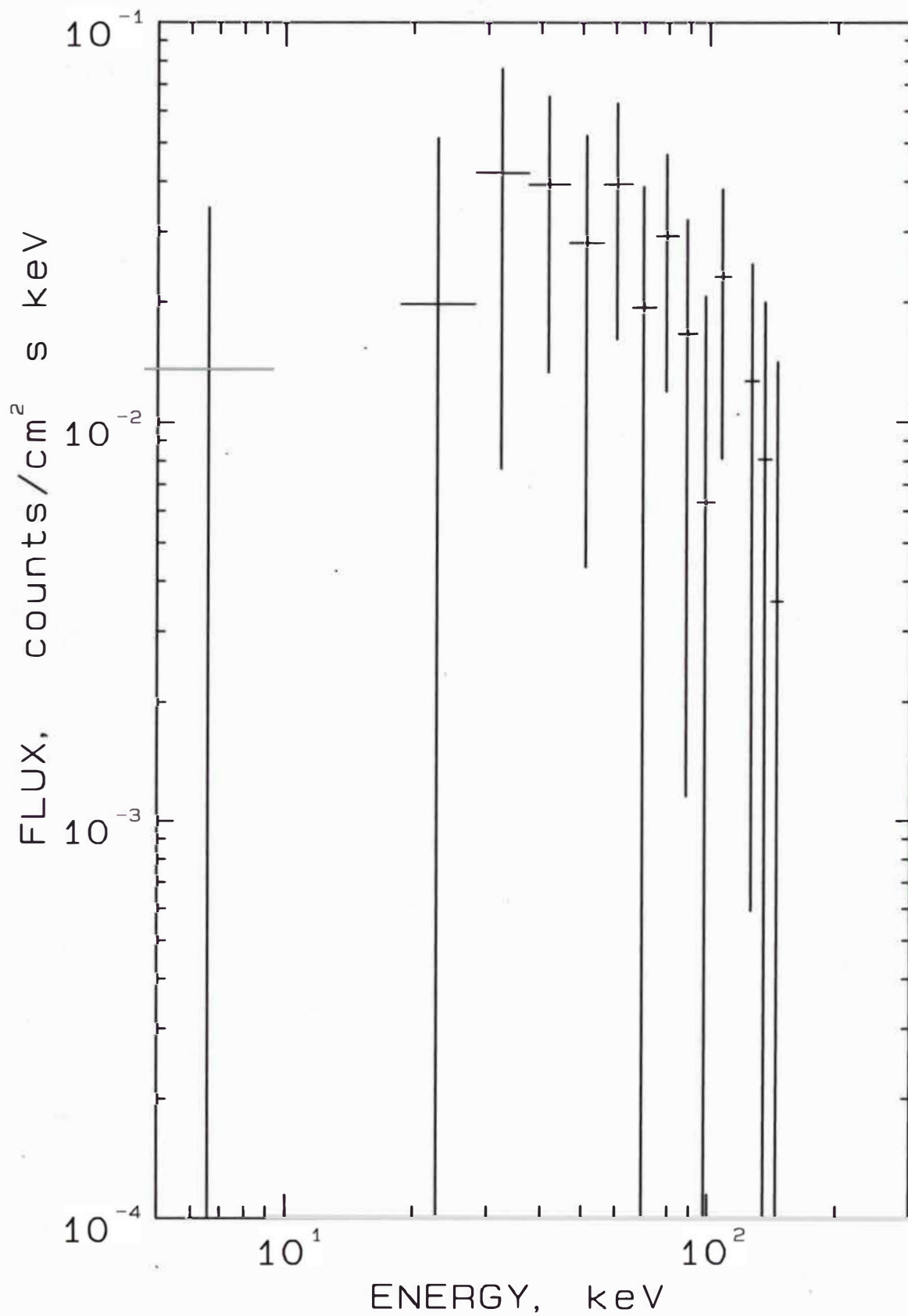




ULYSSES 28/08/98 67765.450

20/ 1/**

SPECTRUM INTEGRATED OVER 9.0 SECONDS, INTERVALS 2 TO 10



ULYSSES 28/08/98 67765.450 BURST SPECTRAL COUNT RATES

4- 18 keV

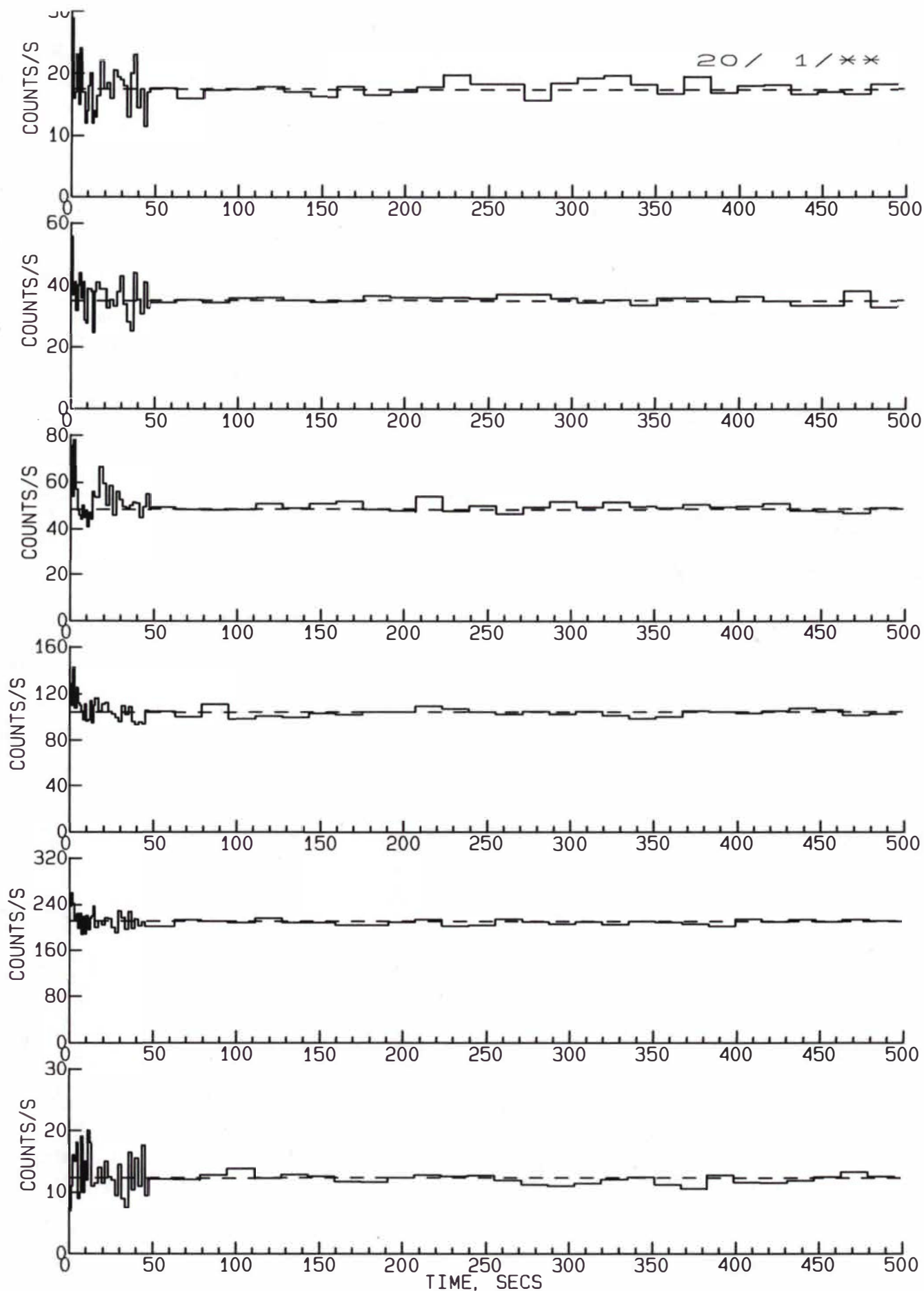
18- 46 keV

46- 74 keV

74-102 keV

102-130 keV

130-149 keV

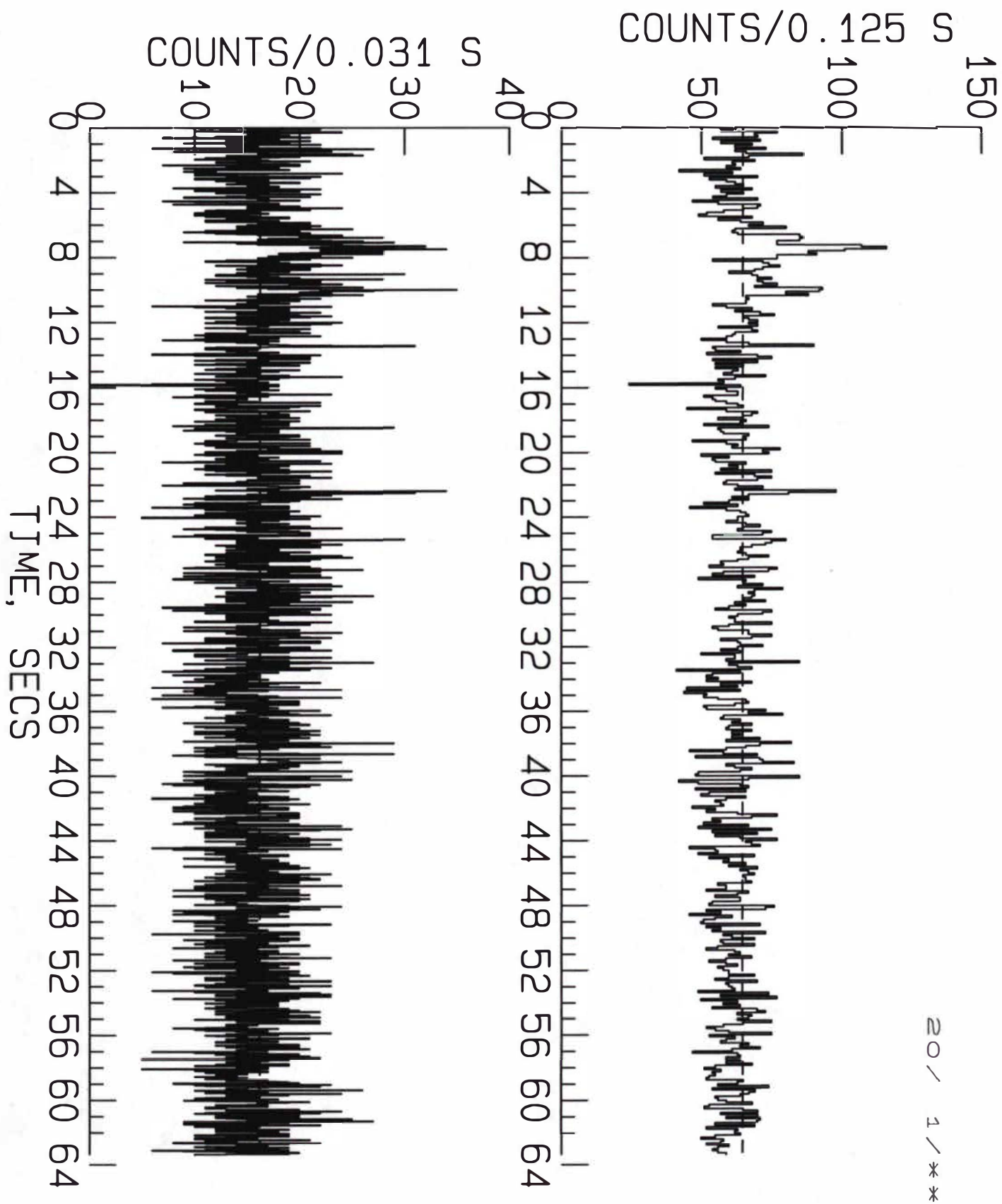


ULYSSES

28/08/98

Ttrig=67765.434

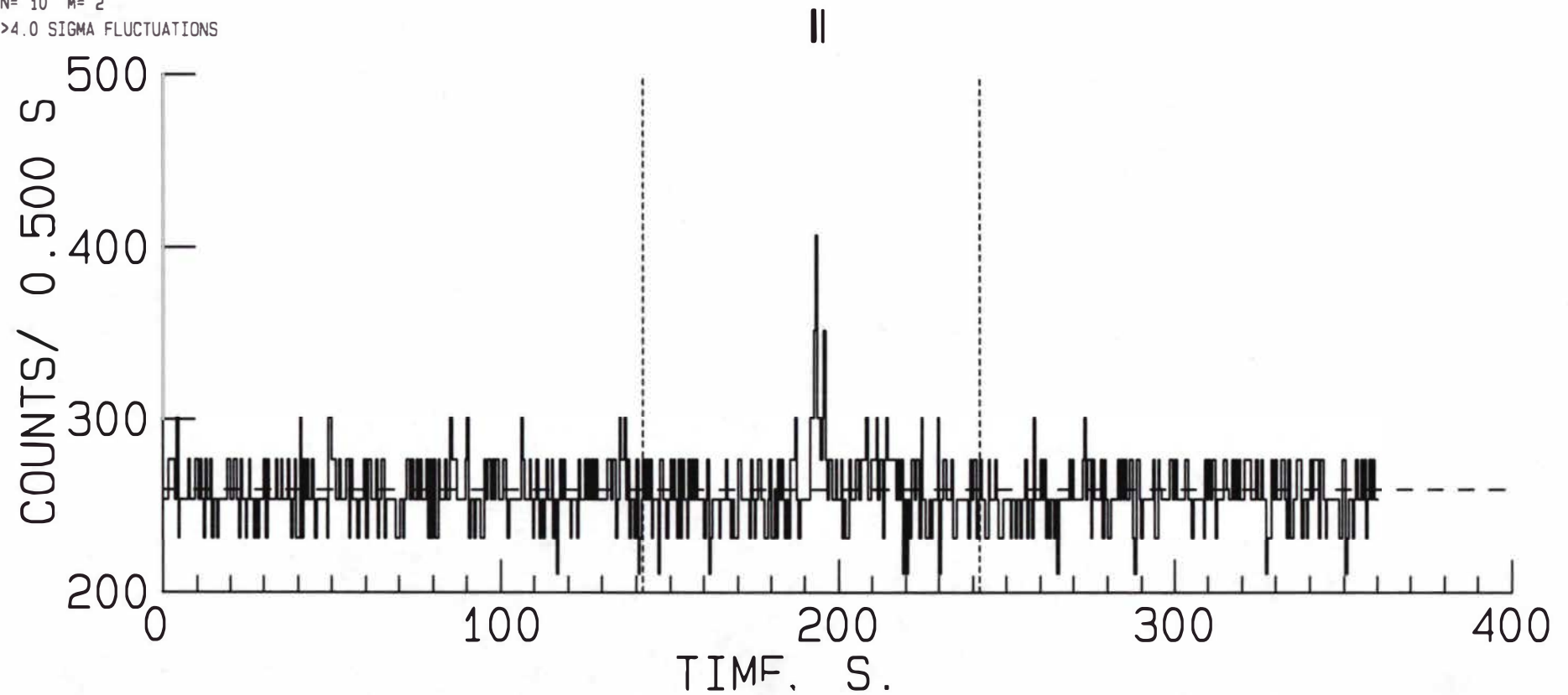
22- 149 keV



ULYSSES RT
28/ 8/98 67572.462 s
22- 149 keV

20 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



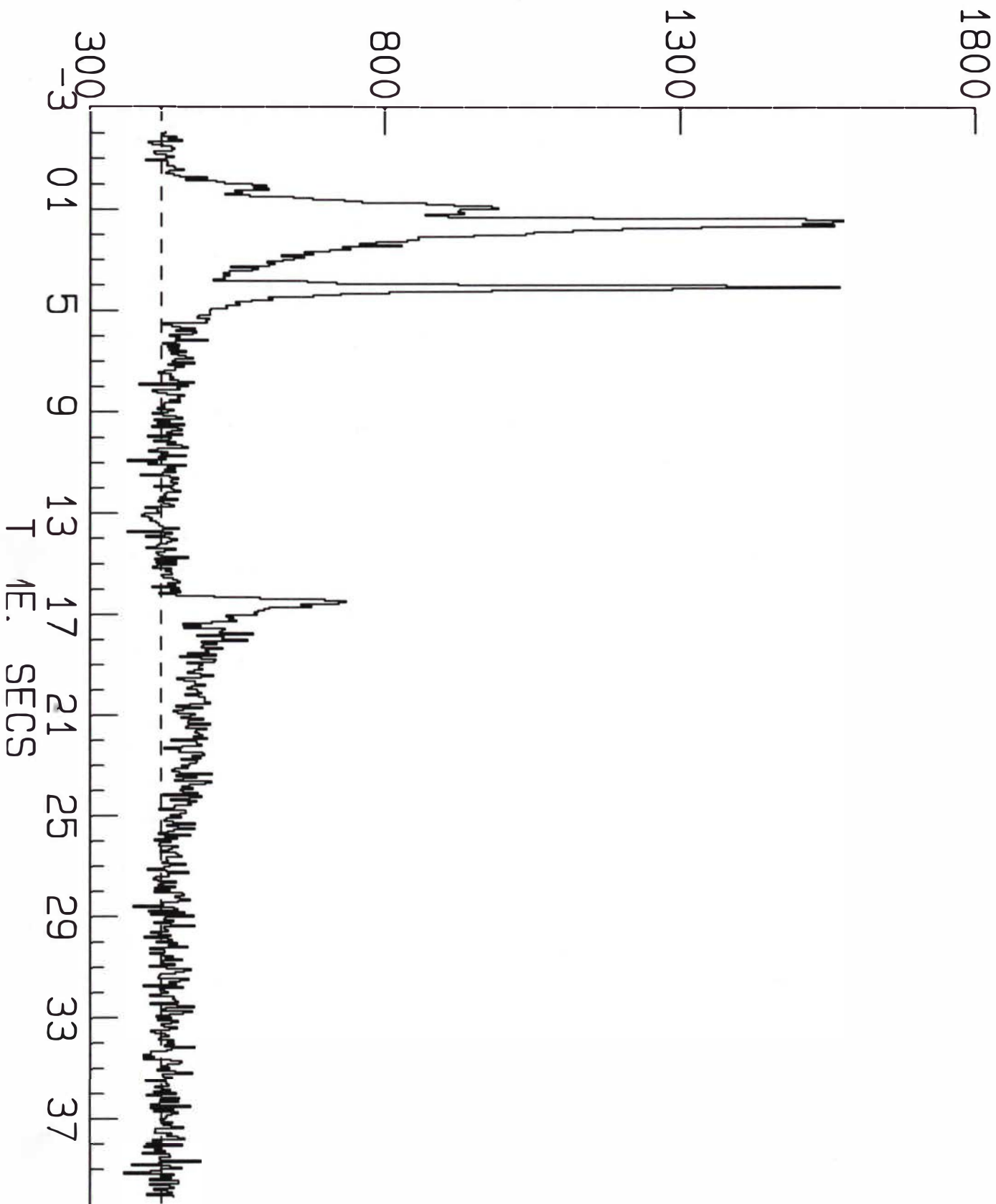
BATSE

28/08/98

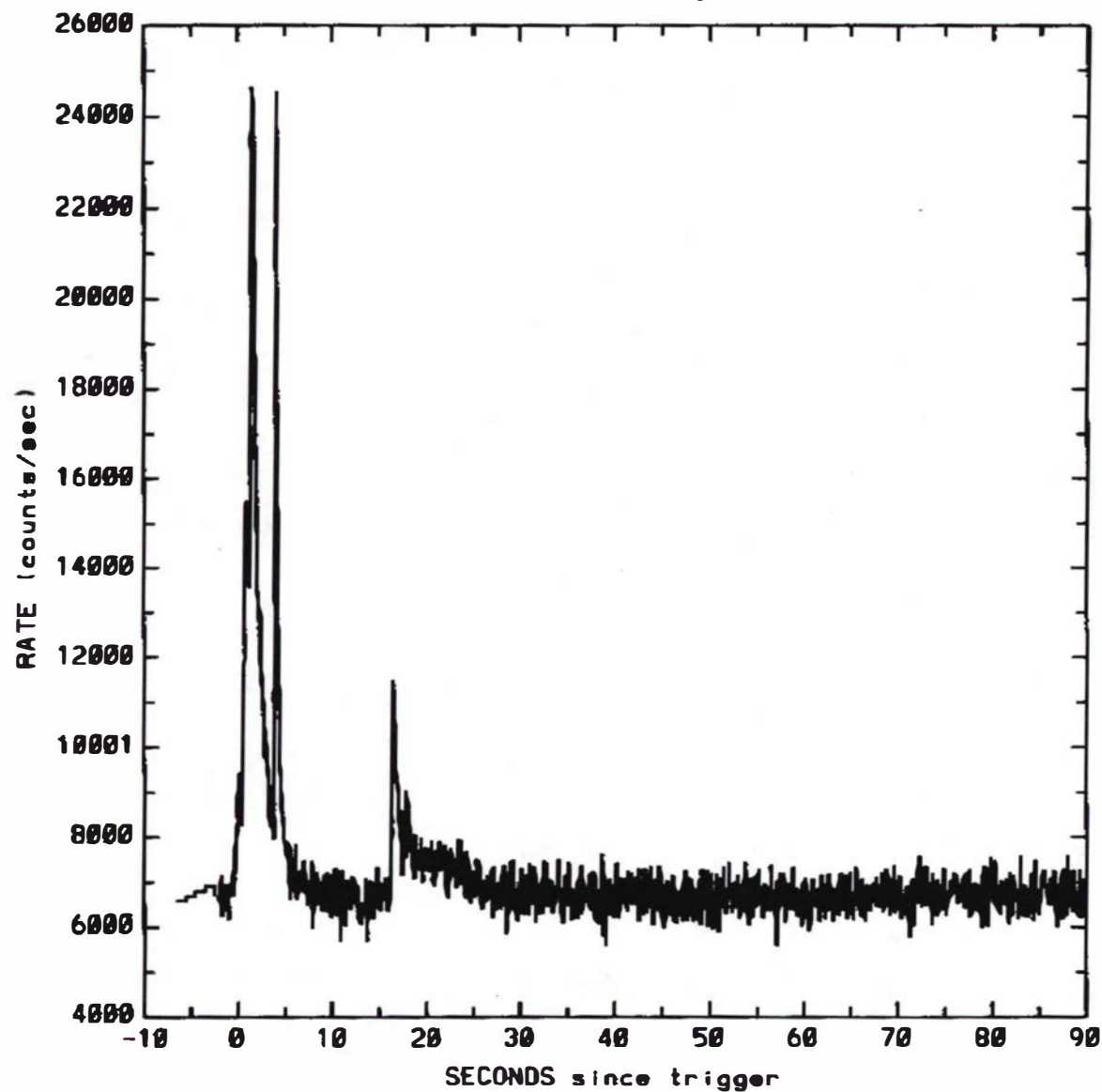
70685.793

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7028



19-JAN-1999 13:25:24

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

Trigger * . 7028

Trigger Time:
11053 / 70605.793

Burst Data Type:
DISCSC

Deadtime
Corrected. N

Background Data
Type. PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8].
---4-2--

Discriminators:
(1 : 2)

Quality Mask:
BDISP1

K O N U S

1 4 / 1 / 9 9

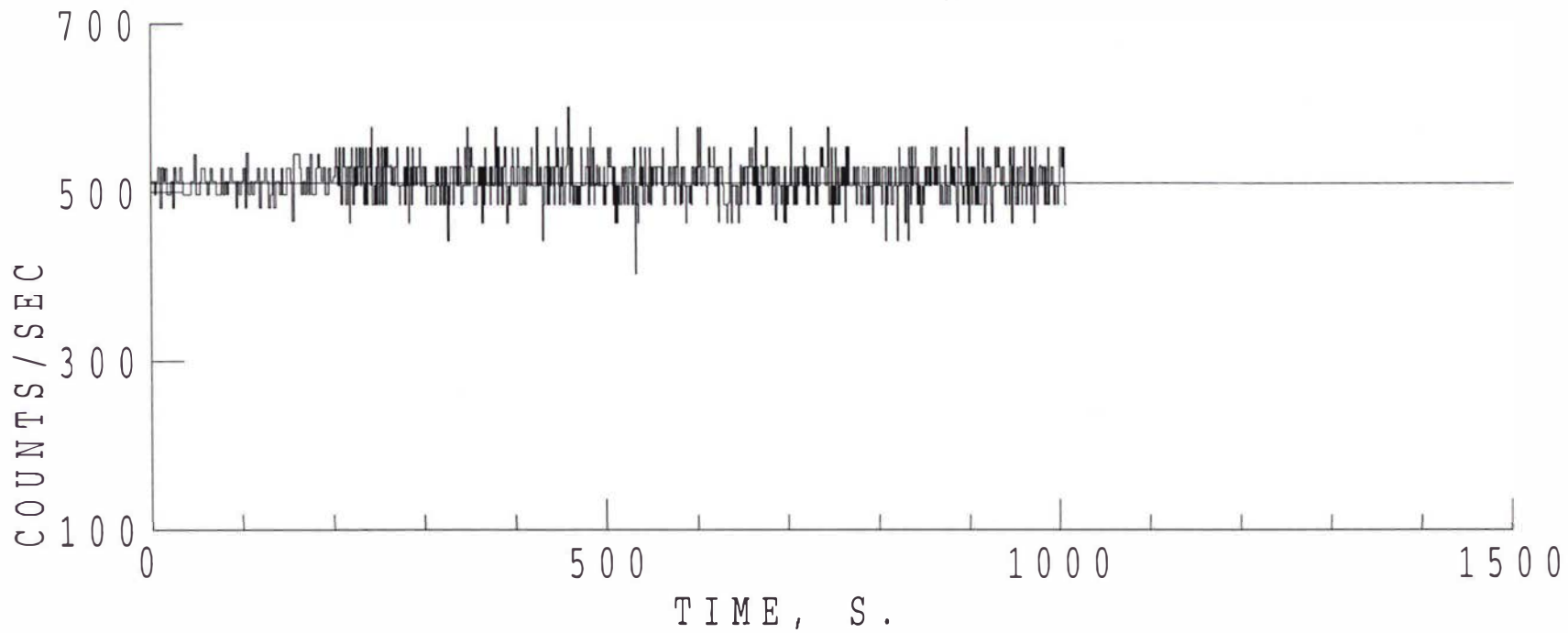
U L Y S S E S R T

2 8 / 8 / 9 8 7 2 1 0 8 . 5 1 6 s

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

0 - 0 k e V

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following: *Ulysses would have been 1927s later*

70684.449 8/28
83650.680 8/28
36994.068 8/29
65925.166 8/29
56858.156 8/31
69227.249 8/31
17656.387 9/01
62419.649 9/02
27657.917 9/03
349.014 9/04
23131.249 9/05
etc.
etc.

*72611 This is BATSE 7028, NOT from the SGR
85577*

64995.550 8/30 appears to be a GRB, however.

TLC

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

KONUS

2 / 10 / 98

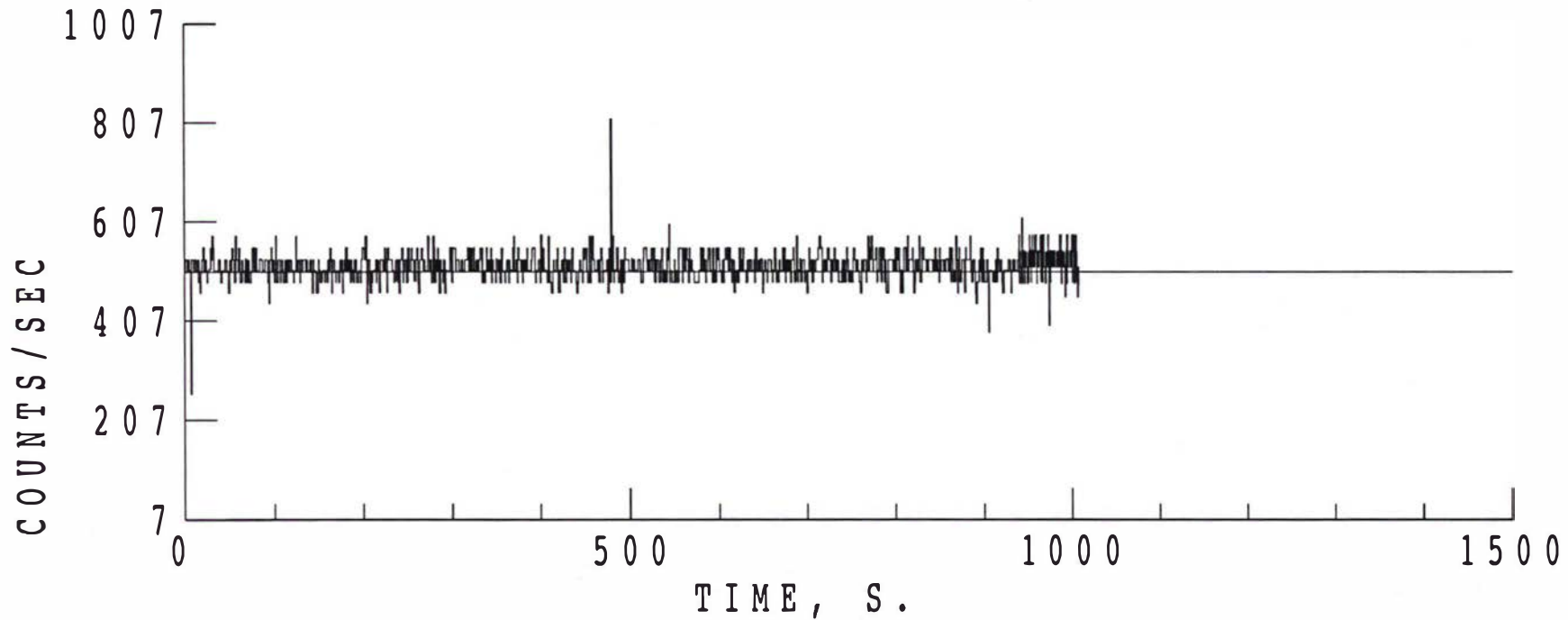
ULYSSES RT

28 / 8 / 98 85068.141 s

INTERVALS REGROUPED BY 2

0 - 0 keV

W= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From cline@apache.gsfc.nasa.gov Thu Sep 3 10:57 PDT 1998
Mime-Version: 1.0
Date: Thu, 3 Sep 1998 14:02:35 -0400
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: events in the corrected-times list

Dear Kevin,

I see the following correspondign auto-Konus events in our files:

28 AUG 98 21:44	=78240	32 ms long, weak	3150	# 28-1
28 AUG 98 23:11	=83460	32 ms long, weak	3150	# 28-2
29 AUG 98 10:48	=38880	5 s long, intense	3150	# 29-1
29 AUG 98 18:50	=67800	2 s long, intense	3150	# 29-2

and will send them to you.

I will also suggest releasing the auto-Konus to you regularly,
even though all the bugs aren't quite out yet
(only the all-zero condition remains, I believe).

TLC

<This message contains 2 attachments (not printed)>

From khurley@sunspot Thu Sep 3 08:36 PDT 1998
 Date: Thu, 3 Sep 1998 08:40:01 -0700
 From: khurley@sunspot (Kevin Hurley)
 To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
 butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
 kmarar@isac.ernet.in, vnp@isac.ernet.in,
 bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
 yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
 henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov
 Subject: CORRECTION TO PREVIOUS LIST
 Cc: woods@eagles.msfc.nasa.gov, chryssa.kouveliotou@msfc.nasa.gov

The list I sent out on the 2nd had the days shifted, and one day was omitted. Thanks to Paul Butterworth for pointing this out. I haven't been getting much sleep lately. Here's the correct list up to the 30th.

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing times would have been ~1900 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
27 AUG 98 01:27	32 ms long, weak	3150
27 AUG 98 10:54	300 s long, intense; definitely SGR1900	3150
27 AUG 98 11:38	1 s long, intense; followed by another intense burst 144 s later	3150
27 AUG 98 13:13	32 ms long, intense	3150
27 AUG 98 17:09	>64 s long, intense	3150
28 AUG 98 00:07	32 ms long, moderate	3150
28 AUG 98 06:44	? data missing	3150
28 AUG 98 21:44	32 ms long, weak	3150
28 AUG 98 23:11	32 ms long, weak	3150
29 AUG 98 02:11	64 ms long, moderate	3150
29 AUG 98 10:48	5 s long, intense	3150
29 AUG 98 15:14	32 ms long, weak	3150
29 AUG 98 18:50	2 s long, intense	3150
30 AUG 98 01:31	64 ms long, weak	3150
30 AUG 98 05:48	64 ms long, weak	3150
30 AUG 98 07:49	64 ms long, moderate	3150
30 AUG 98 14:09	32 ms long, weak	3150
30 AUG 98 21:50	32 ms long, weak	3150

Were these events detected by anyone else?

CC

From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:06:01 1998
Date: Mon, 31 Aug 1998 15:39:10 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7029

TIME: TJD=1053 SECONDS=84413

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 Mon Aug 31 20:06:03 1998
Date: Mon, 31 Aug 1998 15:40:49 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@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.: 7032

TIME: TJD=1054 SECONDS=78535

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

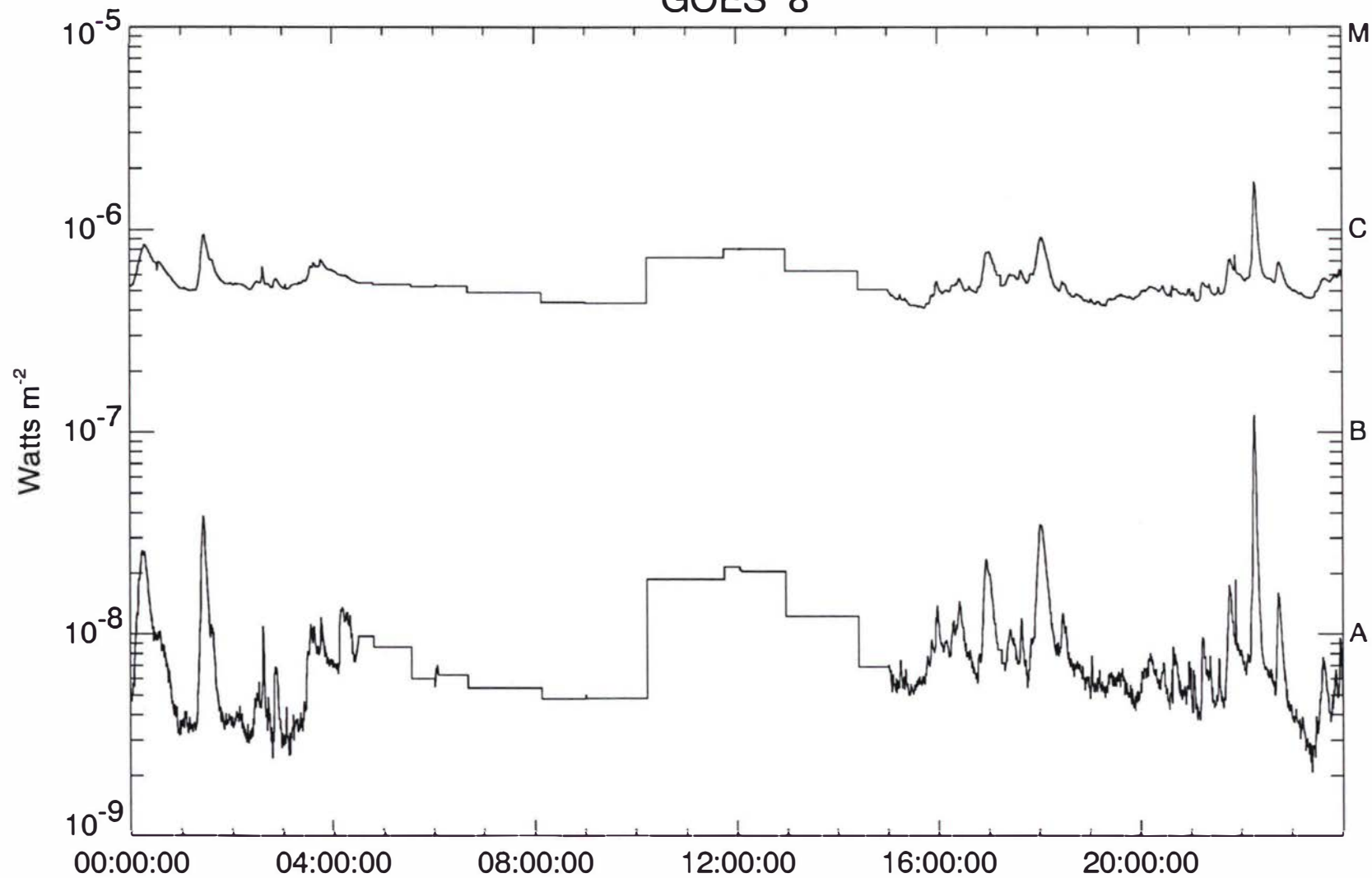
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

GOES 8



Data Start: 98/08/28, 0000:00

Plot created: 98/09/01, 1007

Channel

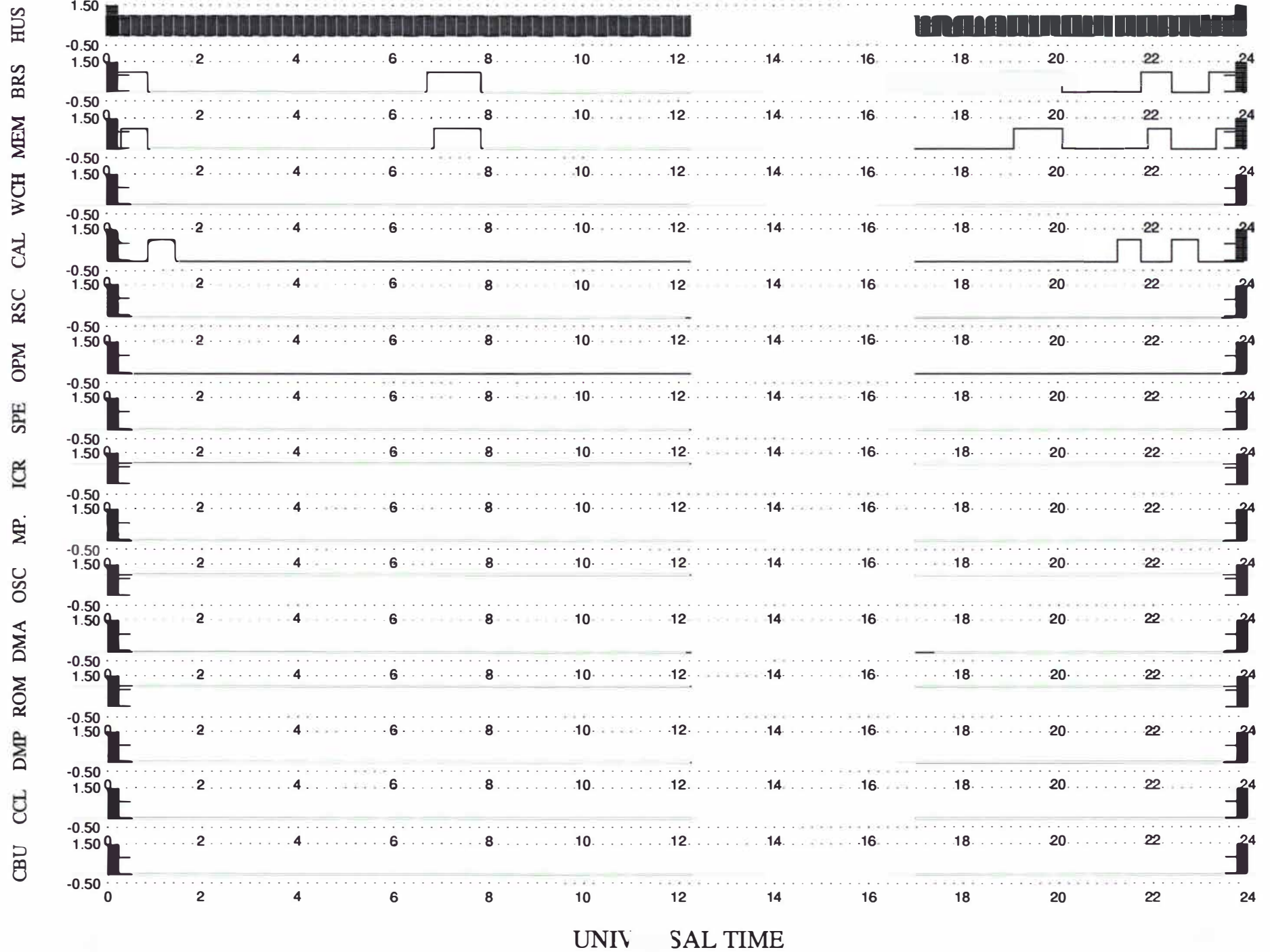
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

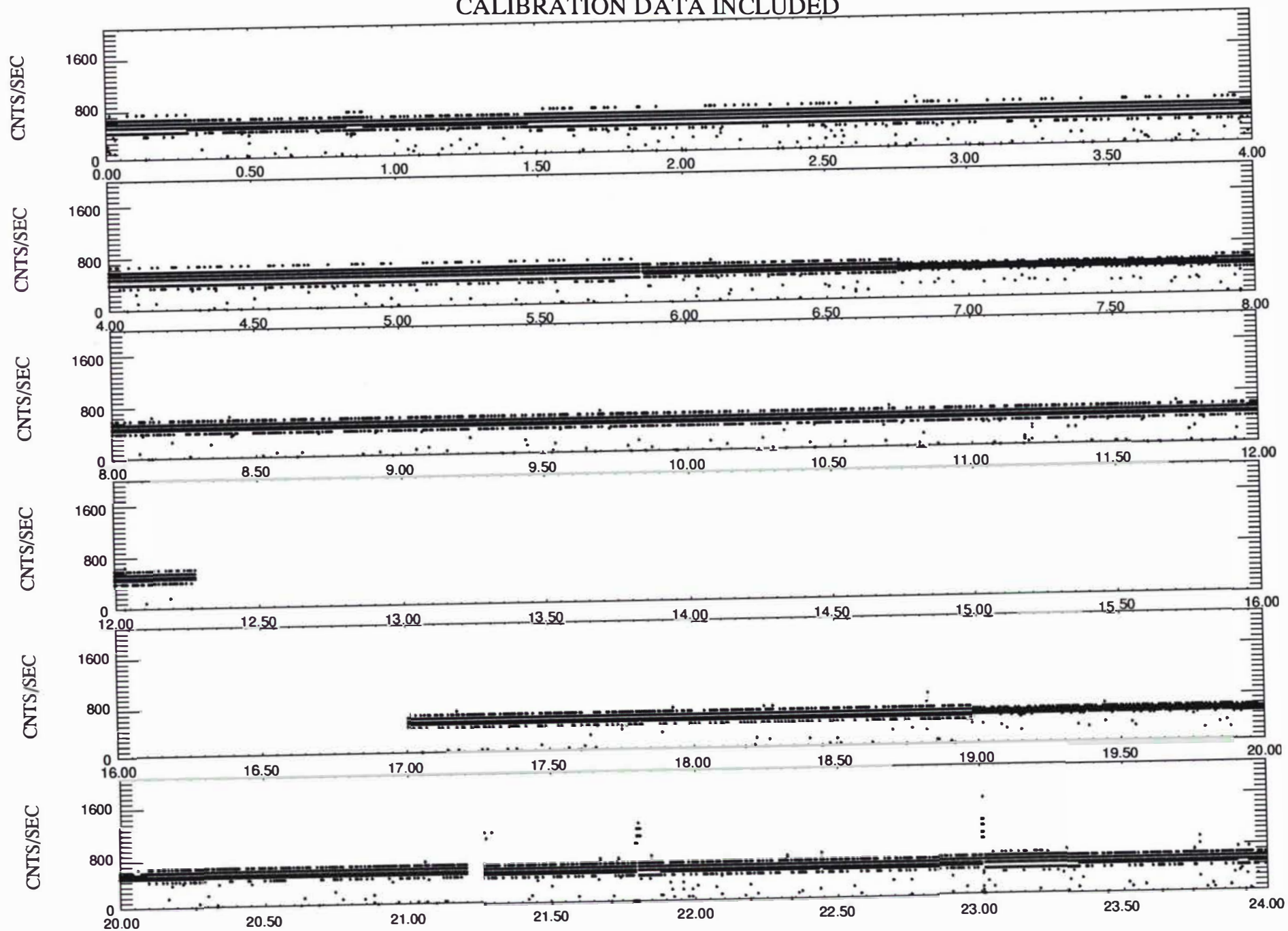
Background not subtracted

Sample average = 10

BURST NUMBER 10 - 15

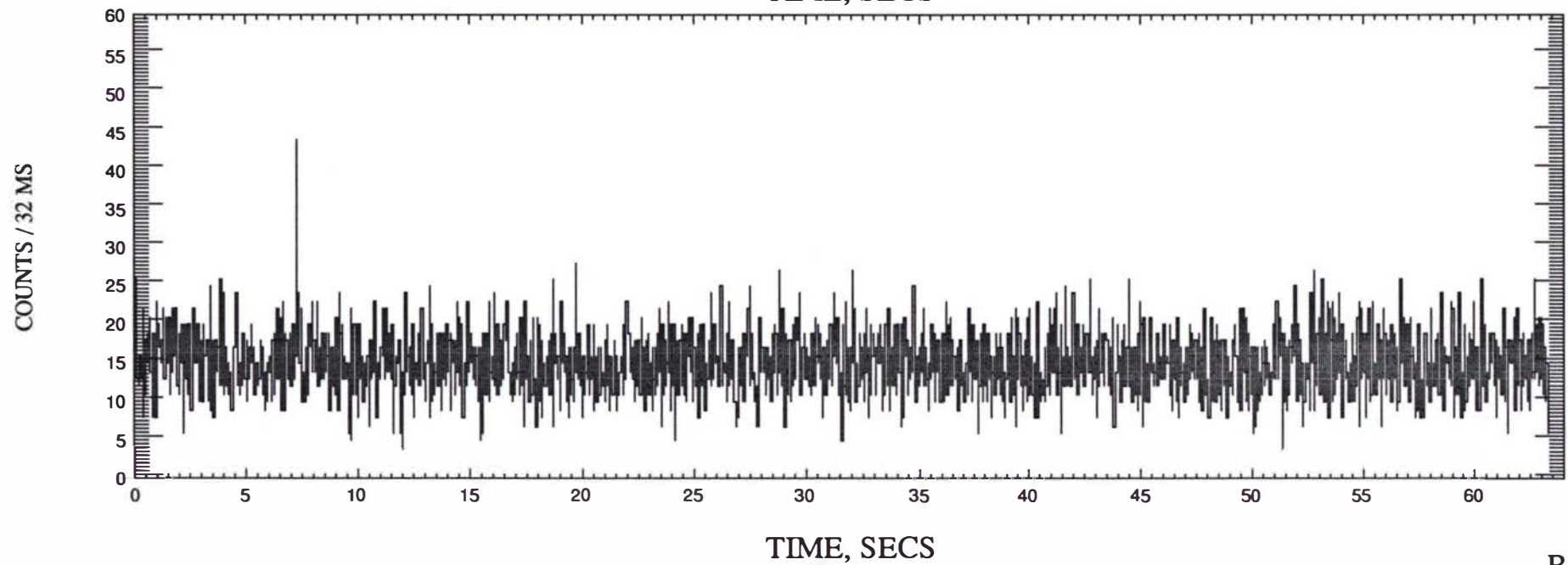
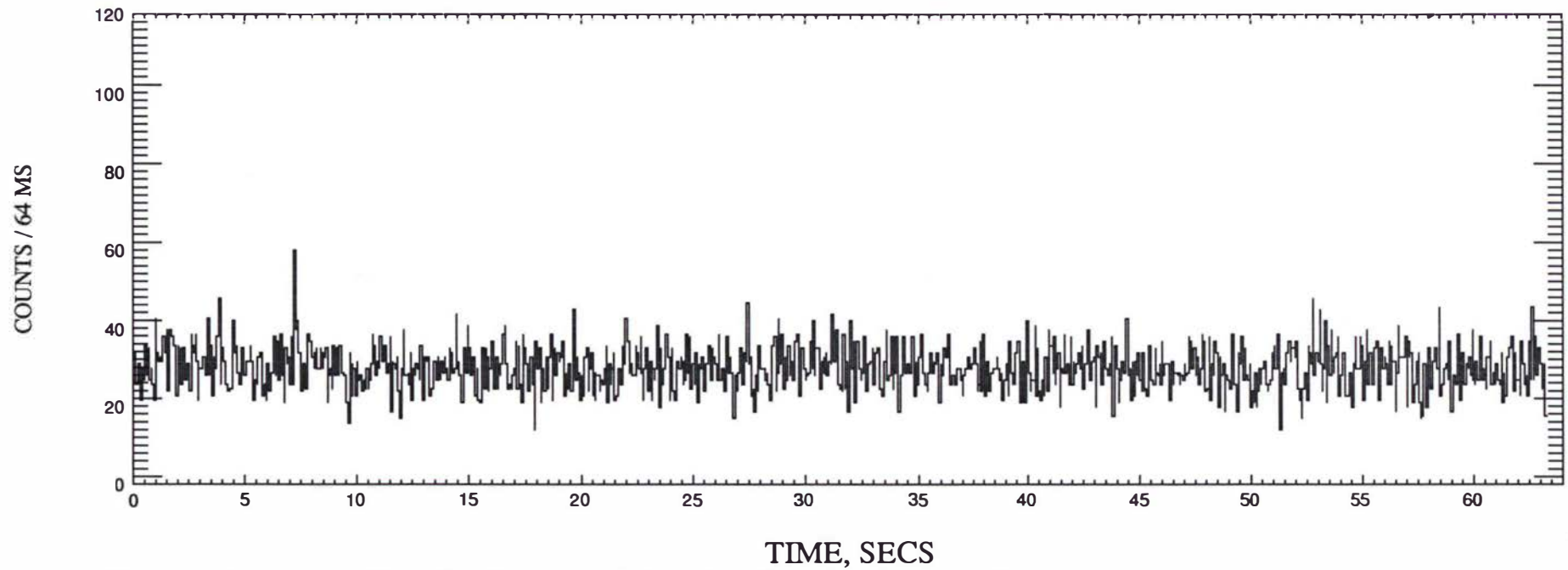


CALIBRATION DATA INCLUDED

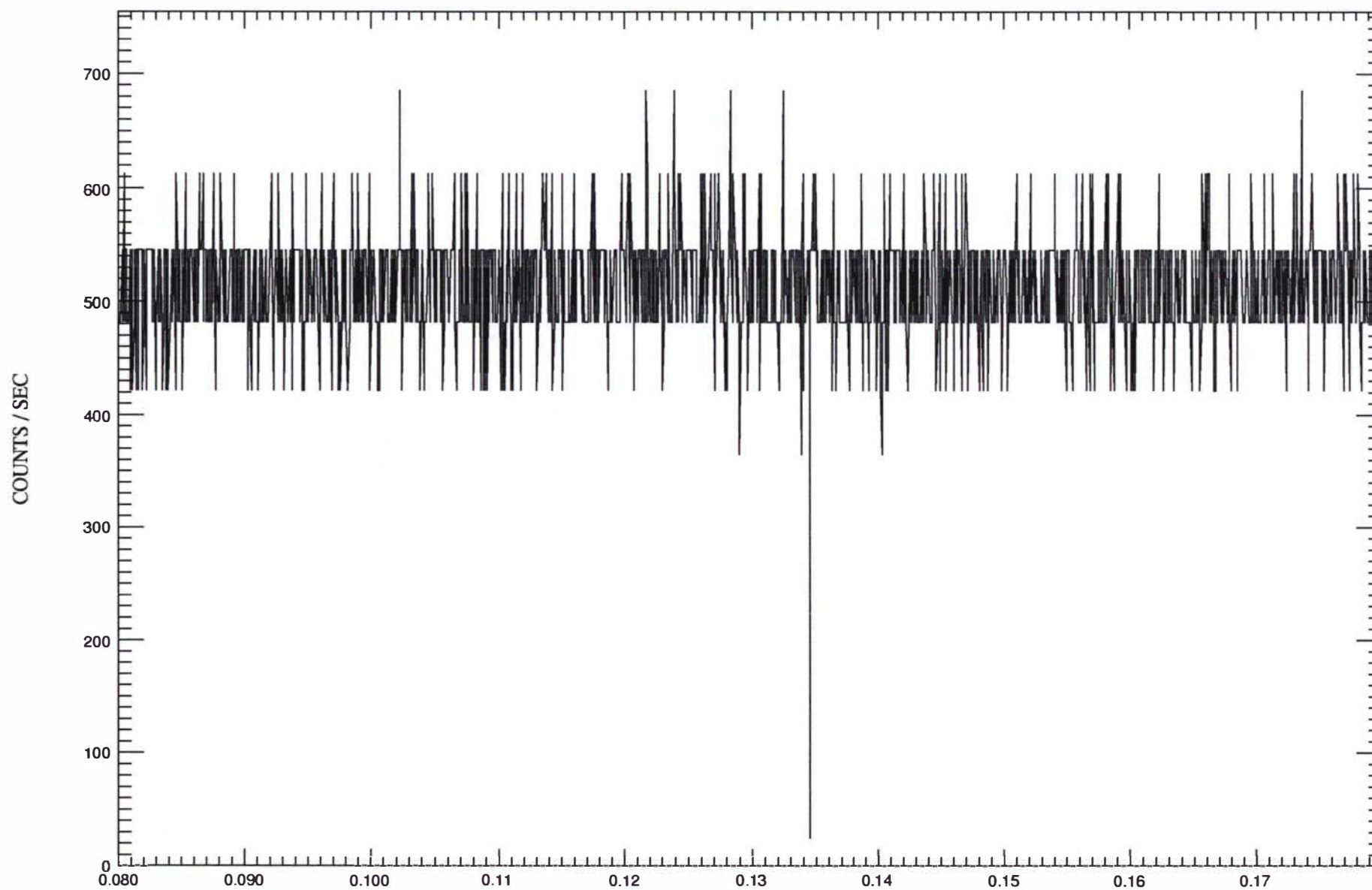


UNIV SAL TIME

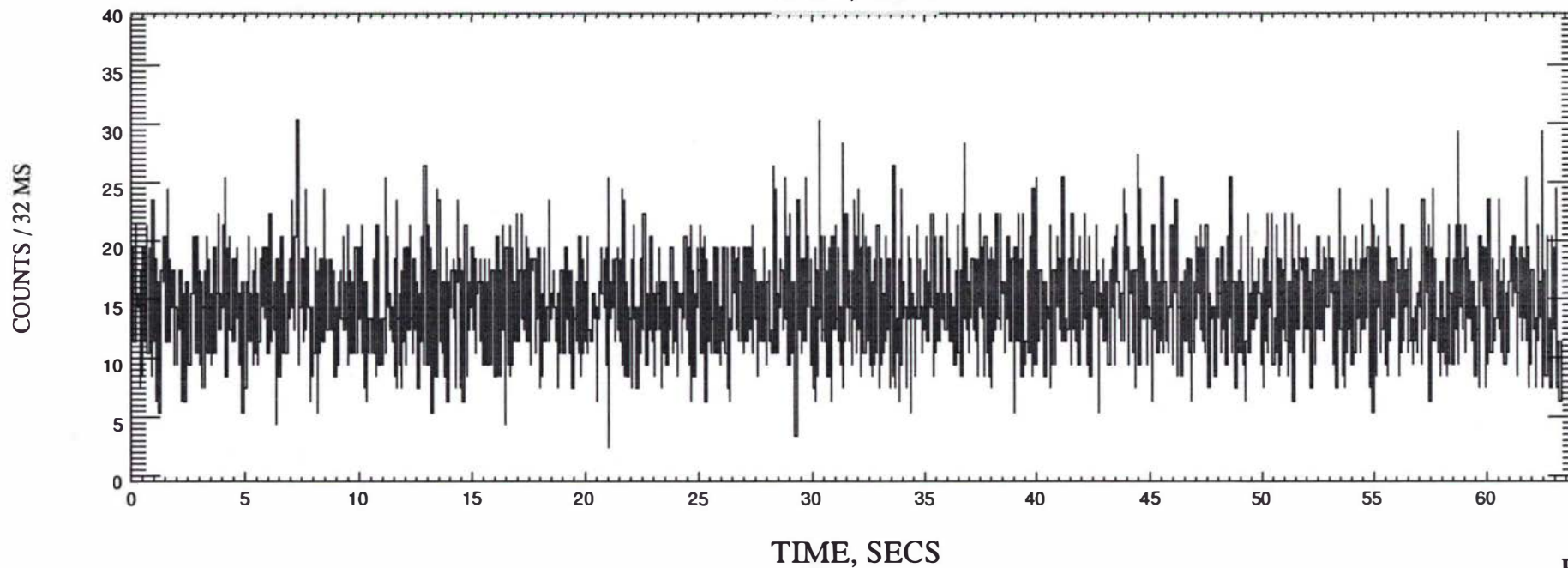
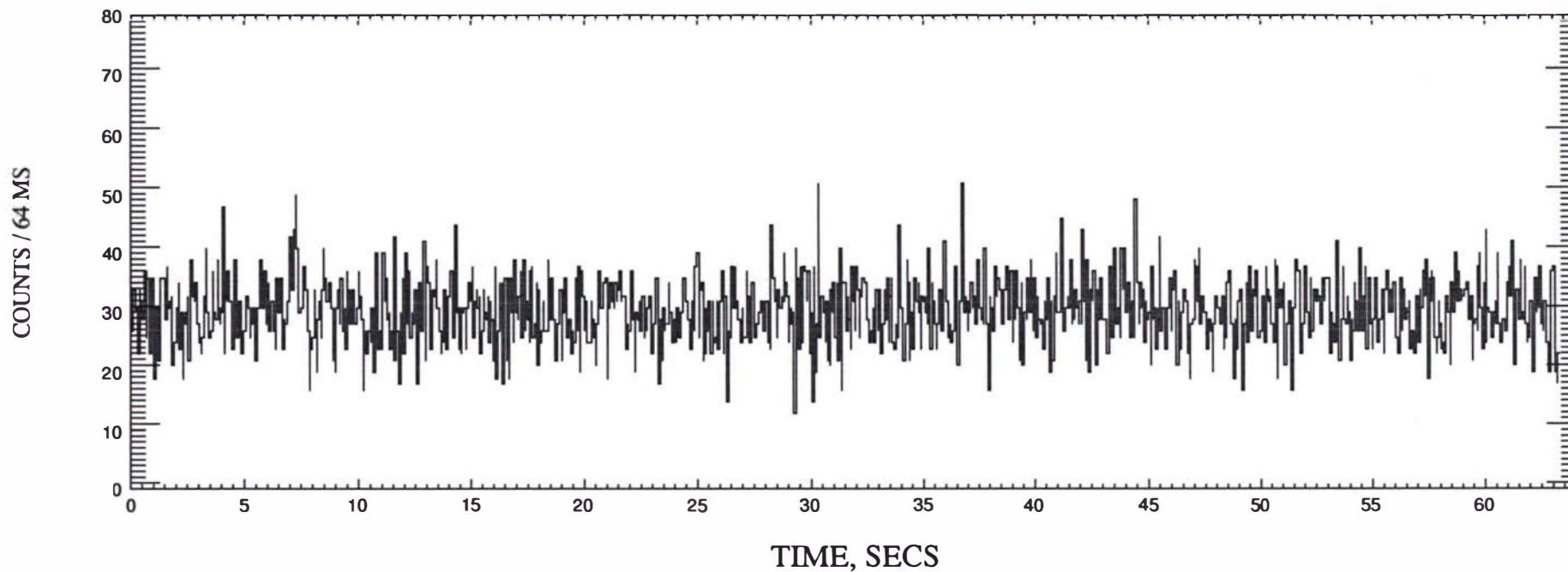
Burst Counter 10 at UT= 0.128471870422 h= 462.499 s 00:07:42.499



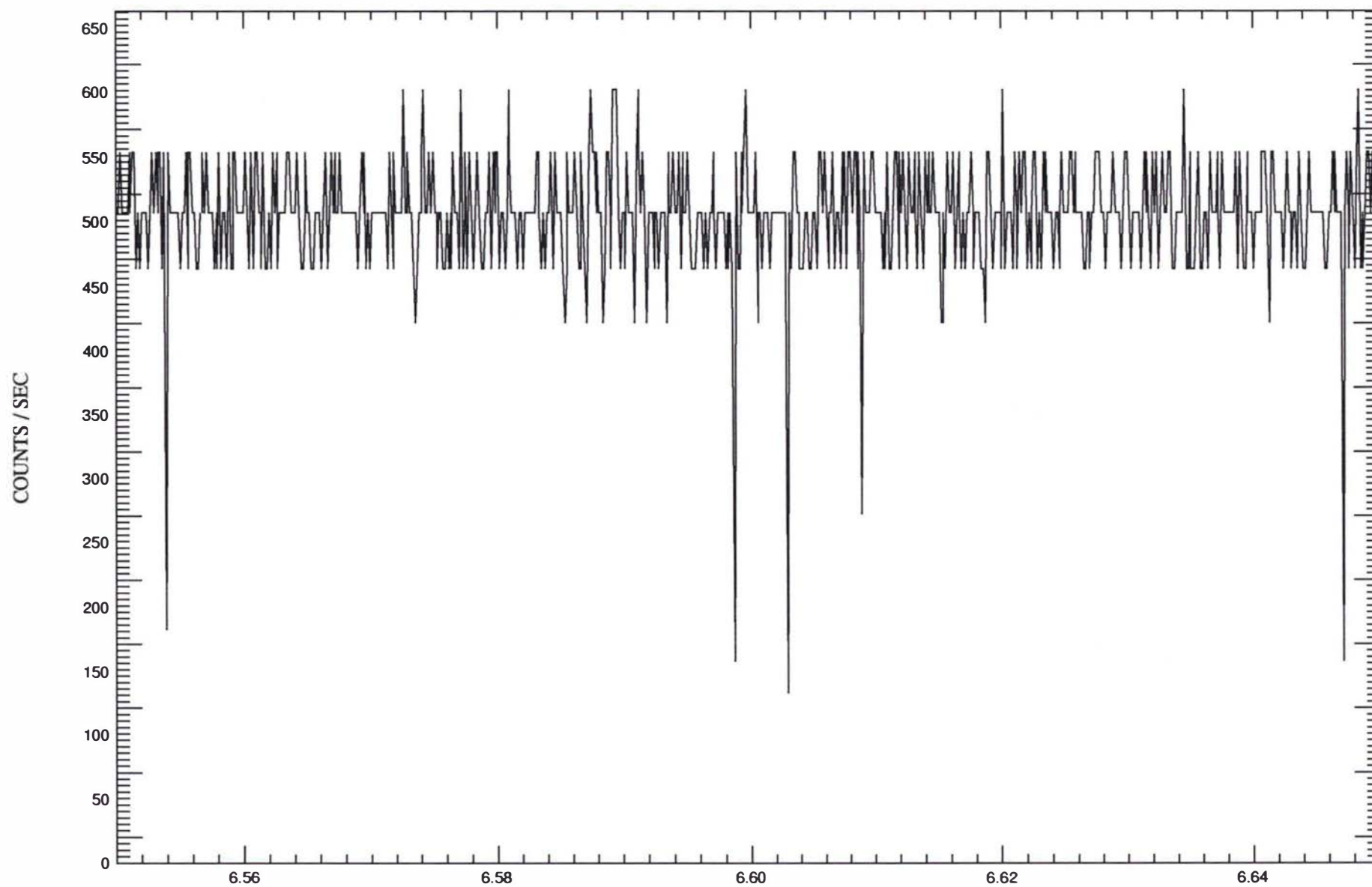
CALIBRATION DATA INCLUDED



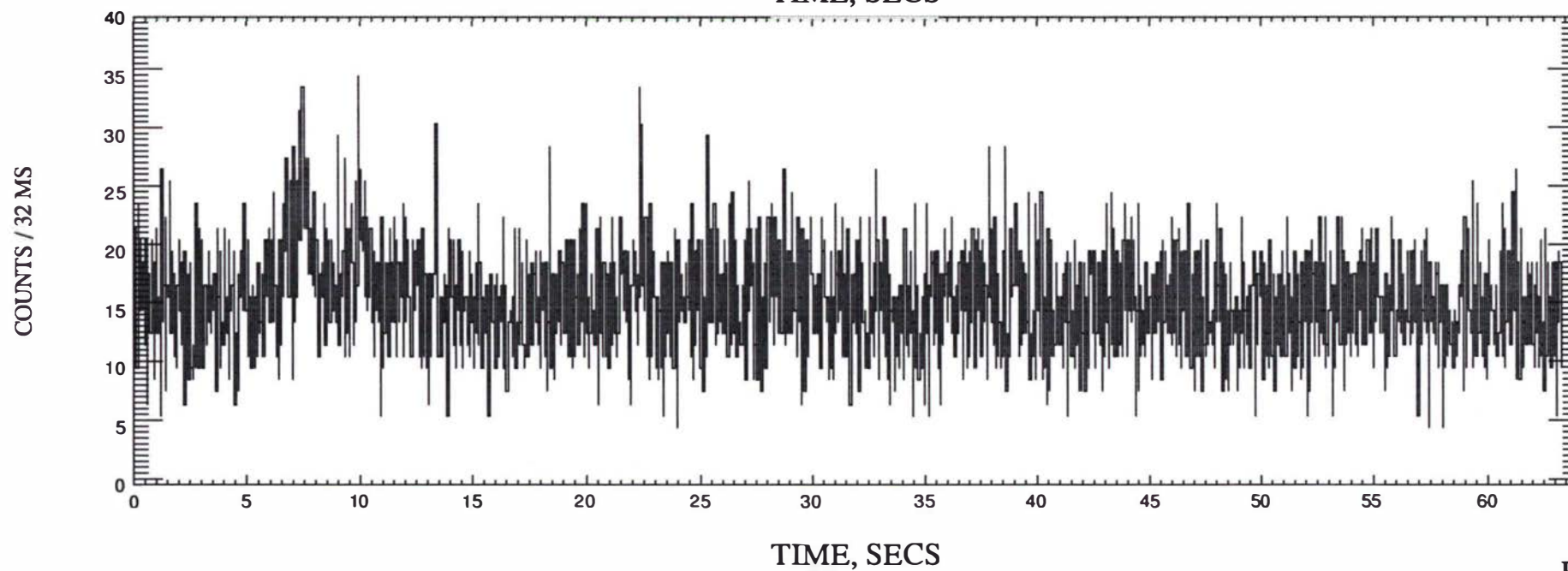
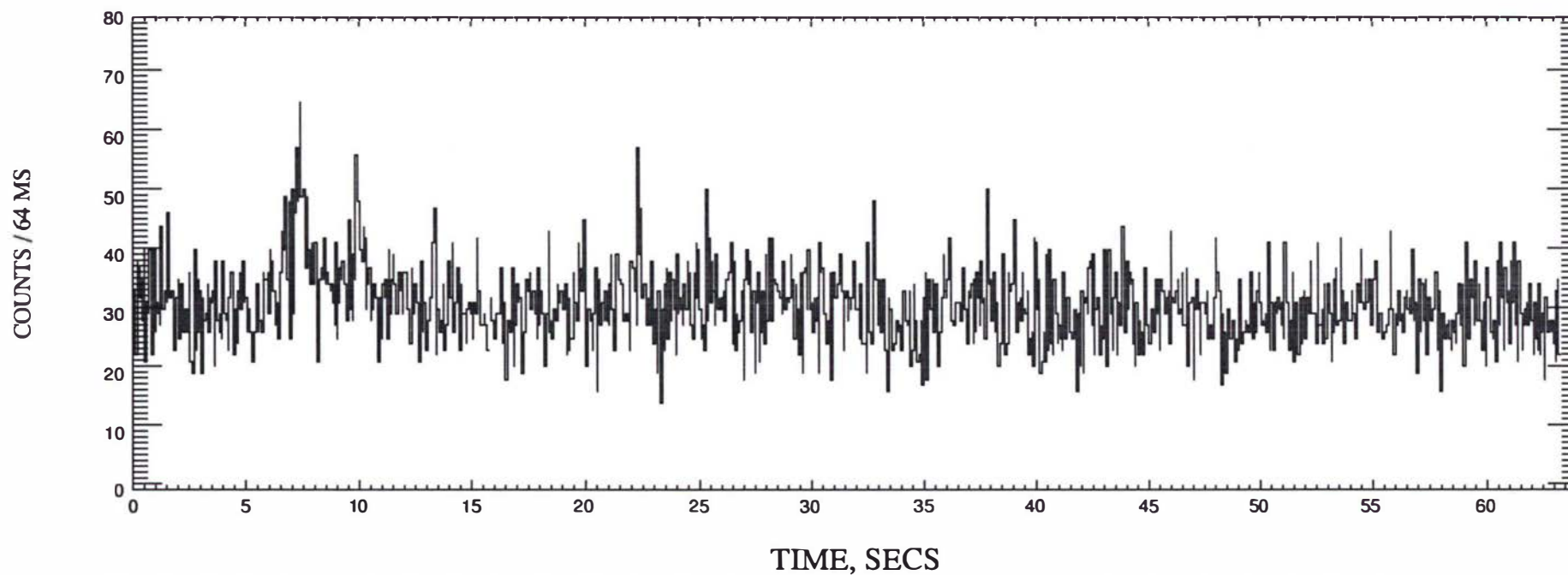
Burst Counter 11 at UT= 6.599790017870 h=23759.244 s 06:35:59.244



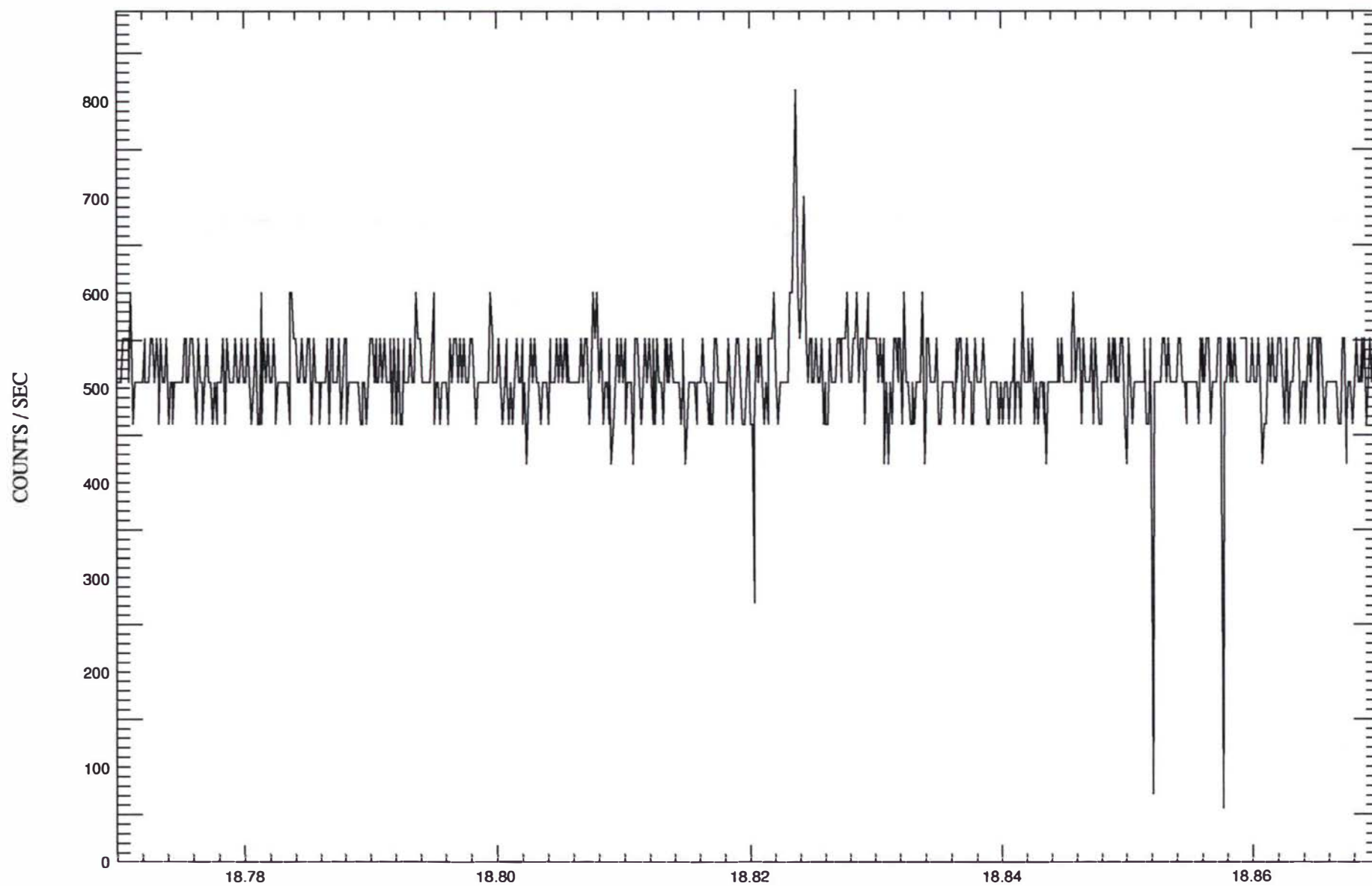
CALIBRATION DATA INCLUDED



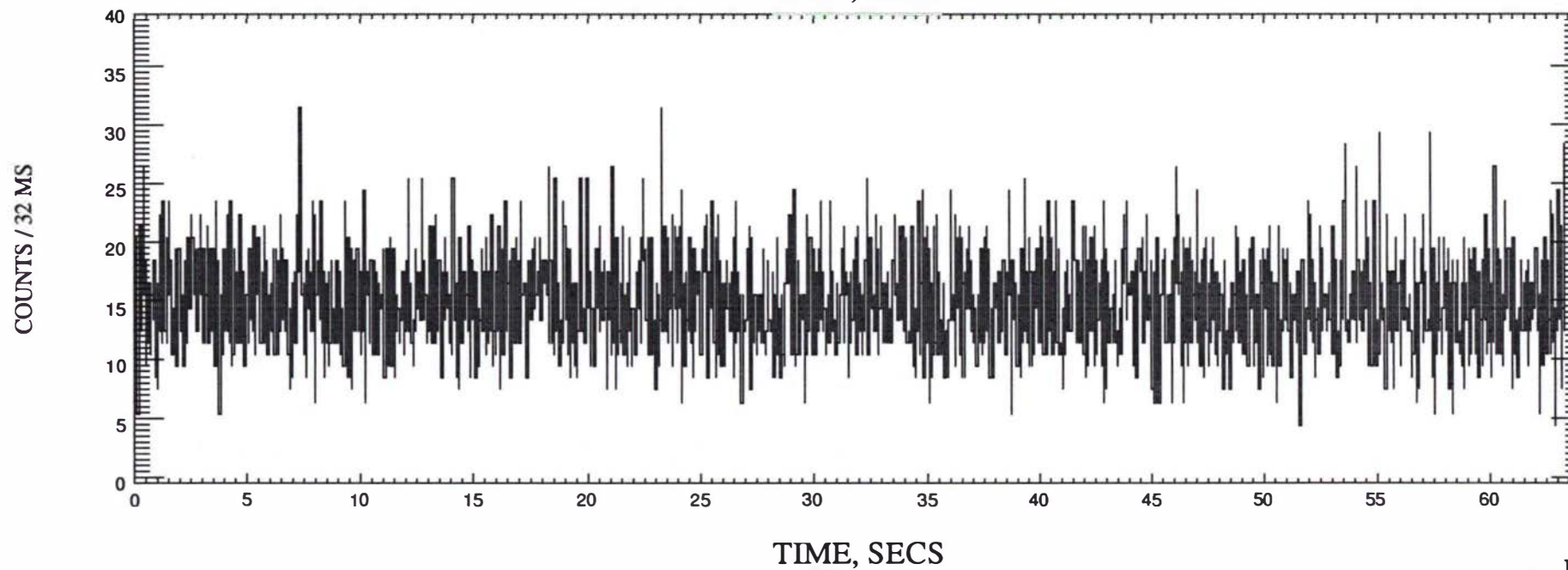
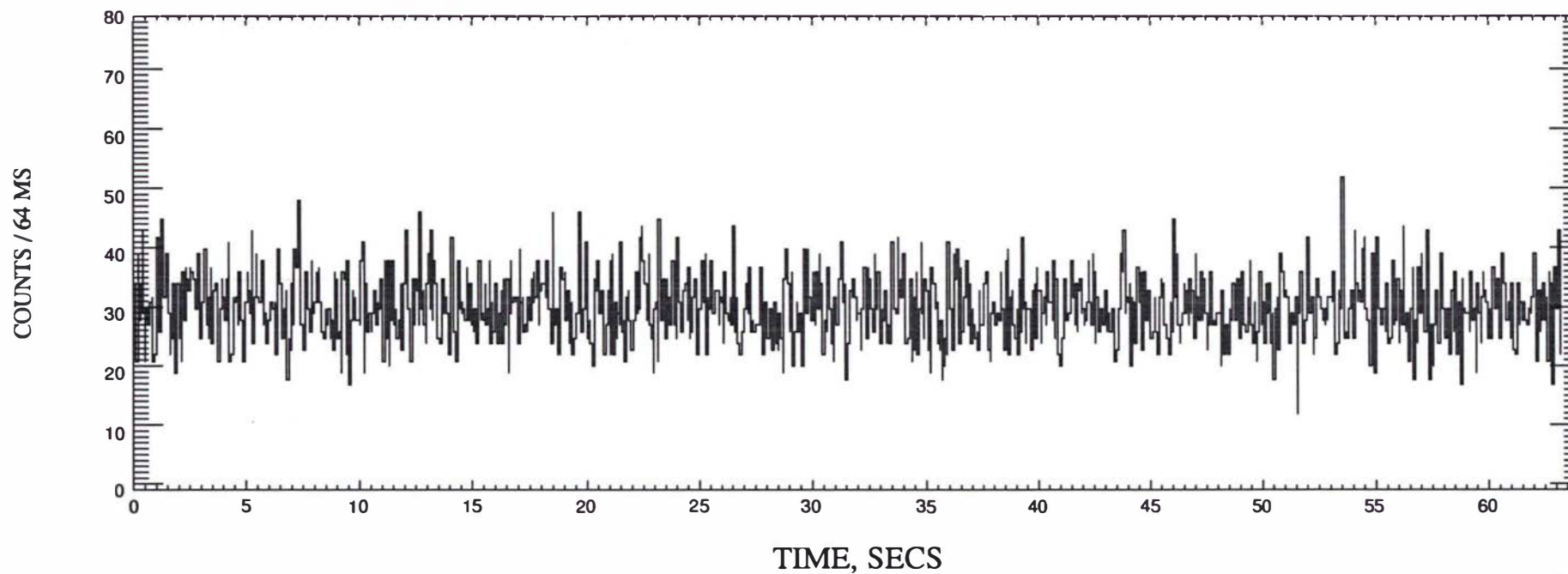
Burst Counter 13 at UT=18.823736012777 h=67765.450 s 18:49:25.450



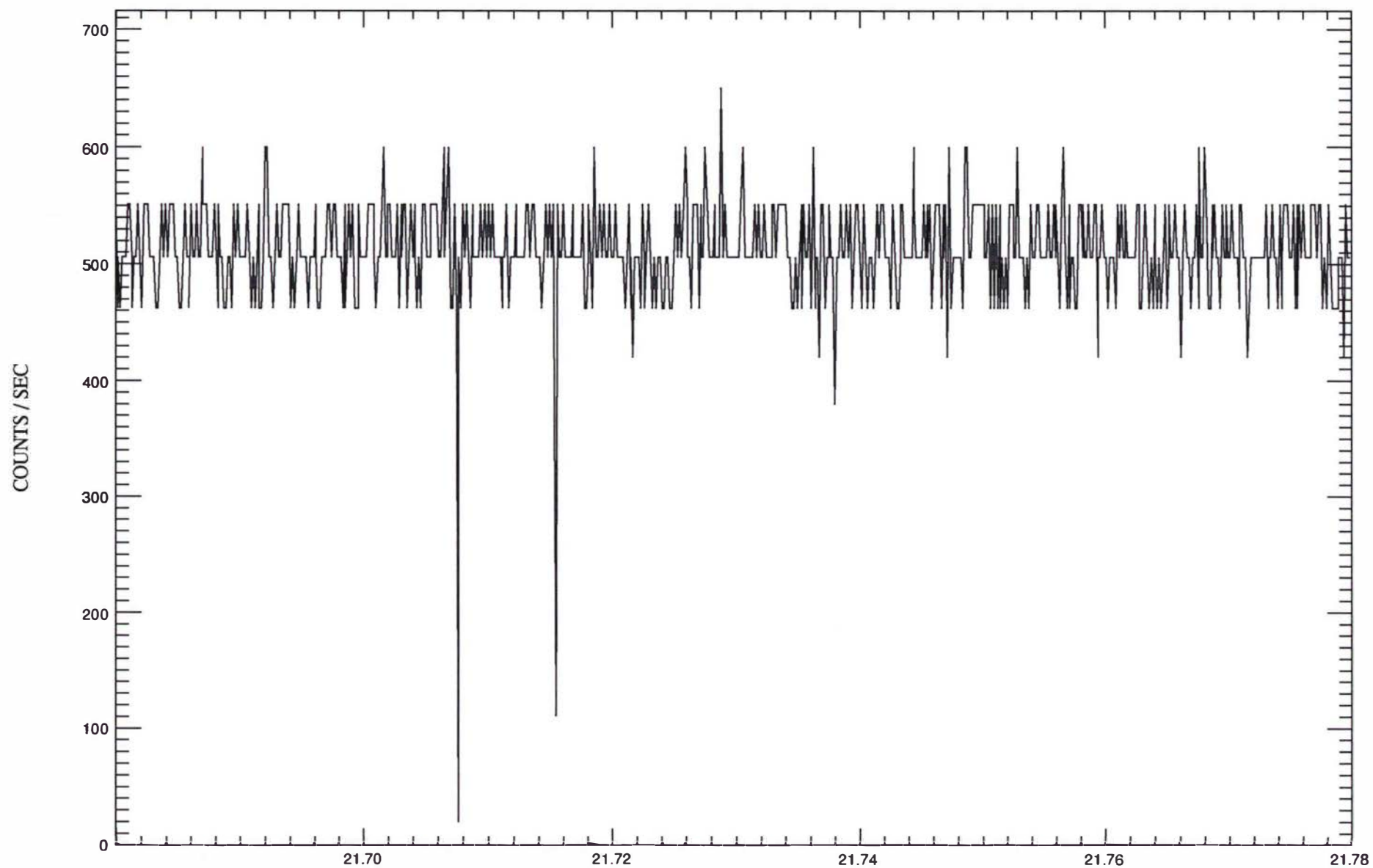
CALIBRATION DATA INCLUDED



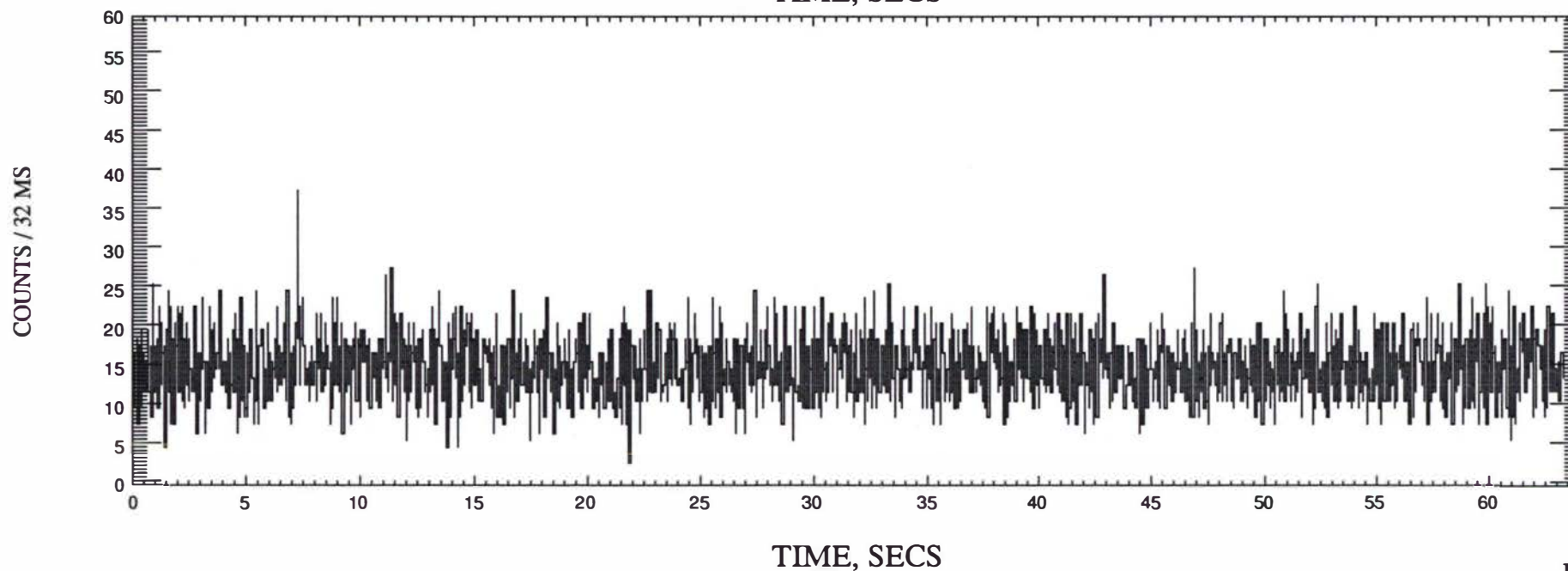
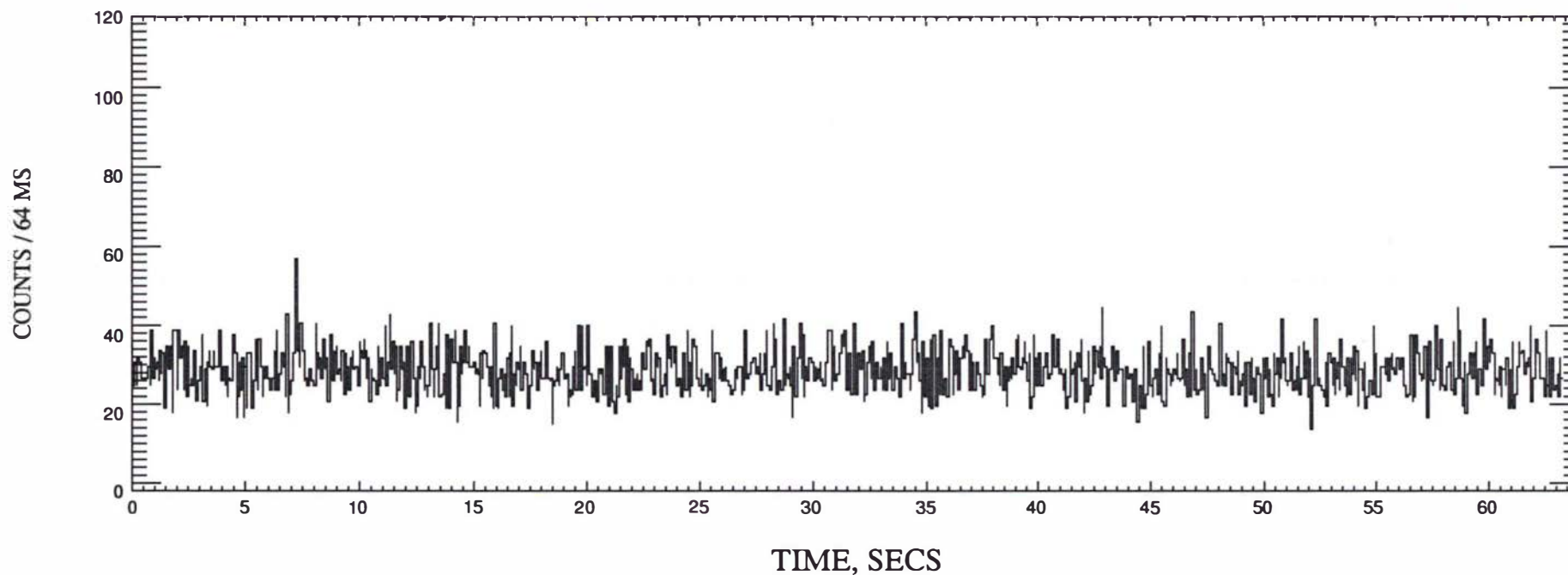
Burst Counter 14 at UT=21.729014002482 h=78224.450 s 21:43:44.450



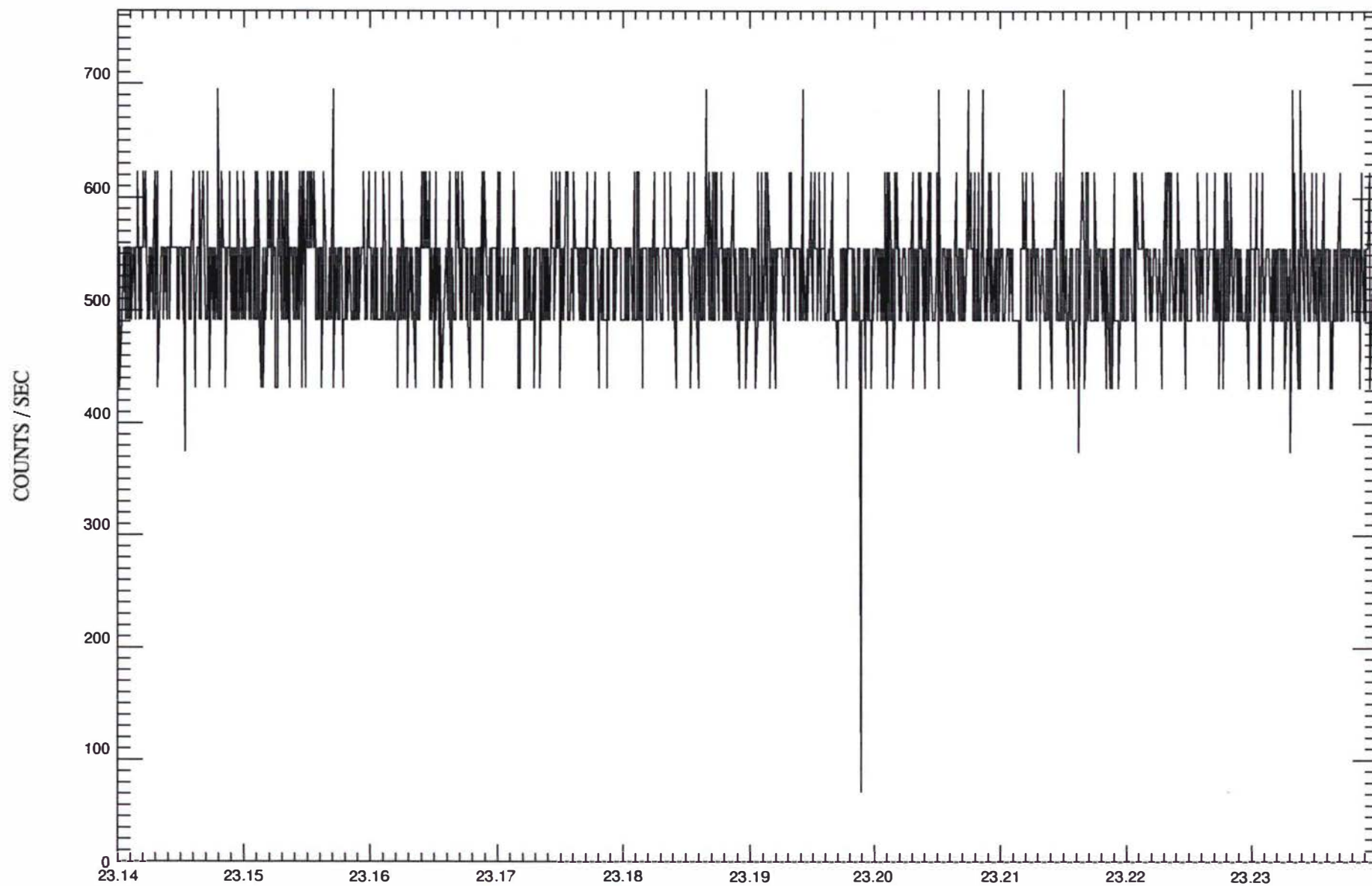
CALIBRATION DATA INCLUDED

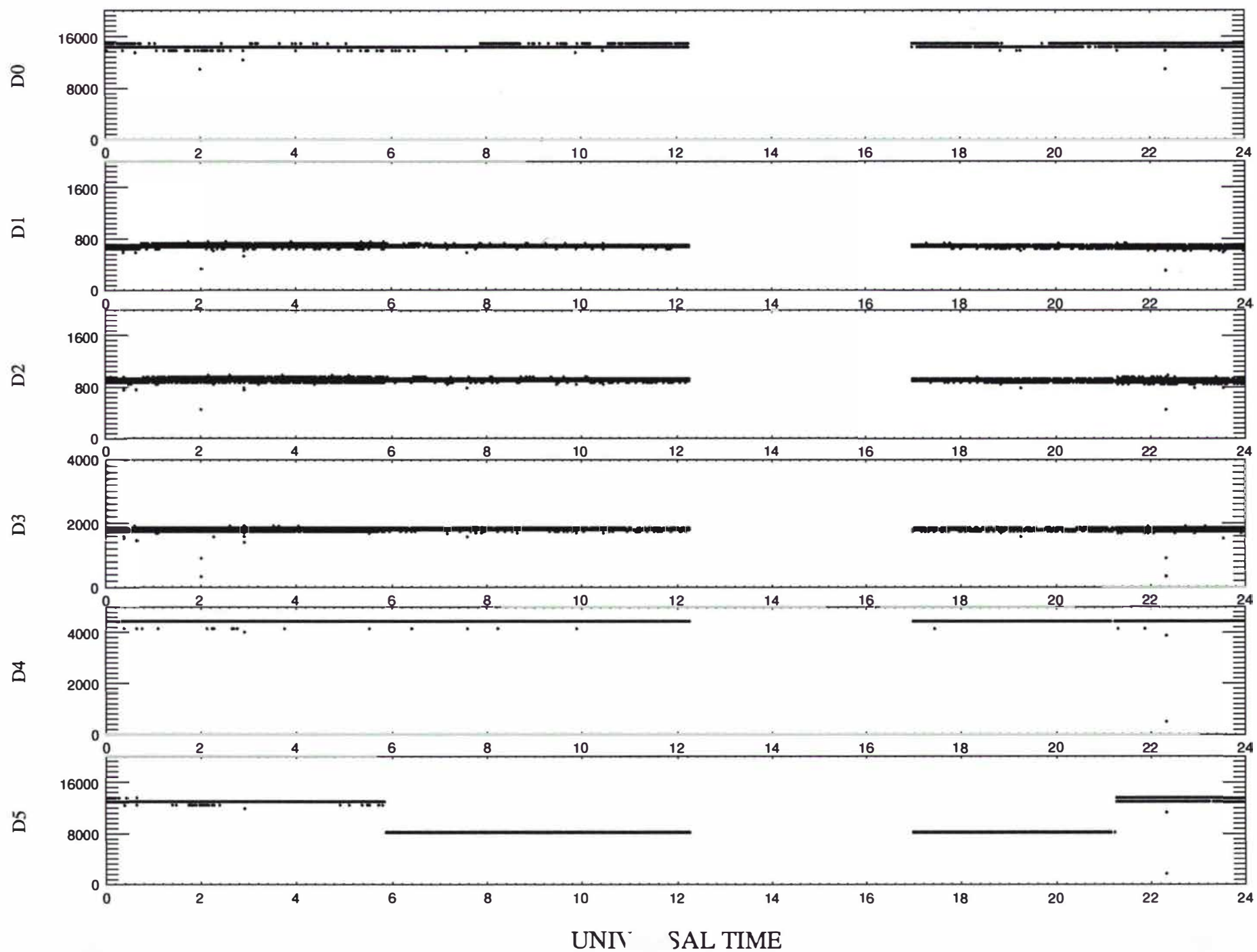


Burst Counter 15 at UT=23.186700418260 h=83472.122 s 23:11:12.122



CALIBRATION DATA INCLUDED





From cline@apache.gsfc.nasa.gov Wed Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28	
83650.680	8/28	
36994.068	8/29	Trigger
65925.166	8/29	Trigger
56858.156	8/31	
69227.249	8/31	
17656.387	9/01	
62419.649	9/02	
27657.917	9/03	
349.014	9/04	
23131.249	9/05	
etc.		
etc.		

64995.550 8/30 appears to be a GRB, however.

TLC

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

From feroci@saturn.ias.rm.cnr.it Tue Sep 22 06:02 PDT 1998
Date: Tue, 22 Sep 1998 15:00:41 +0200 (DFT)
From: Marco Feroci <feroci@ias.rm.cnr.it>
To: Kevin Hurley <khurley@sunspot.ssl.berkeley.edu>
 : Barbara Preger <preger@saxserver1.ias.rm.cnr.it>
Subject: Your triggers
MIME-Version: 1.0

Dear Kevin,

we are checking your non-BATSE triggers. In particular we should have the following 2:

29/8/98 10:48 (GRBM sees it at 10:16:32)
29/8/98 18:50 (GRBM sees it at 18:18:43)

They would be consistent to the Ulysses triggers in case they came from SGR1900+14 (the delay, as computed by you, would be ~1900s). Could you please tell me the exact Ulysses times so that we can be sure they have the same delay? Also, what is the relative intensity of the two events?

Thank you.
Ciao,
Marco

Marco Feroci

Phone: +39-06-4993-4099
x : +39-06-2066-0188

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

From khurley@sunspot Tue Sep 22 08:31 PDT 1998
Date: Tue, 22 Sep 1998 08:36:58 -0700
From: khurley@sunspot (Kevin Hurley)
To: feroci@ias.rm.cnr.it
Subject: Re: Your triggers
Cc: khurley@sunspot

Dear Marco,

>
> 29/8/98 10:48 (GRBM sees it at 10:16:32)

Ulysses observed it at 10:48:08.8 Your time would have been 1921.4 s earlier
This was a big burst, duration 5 s, multiple peaks.

> 29/8/98 18:50 (GRBM sees it at 18:18:43)
Ulysses observed it at 18:50:18.3. You would have seen it 1921.4 s earlier
Again, a big burst, but slightly less intense and somewhat shorter than
the first one.

>
So maybe they are not from 1900+14, but let's exchange data to see.

Ciao

Kevin

From cline@apache.gsfc.nasa.gov Thu Sep 3 10:57 PDT 1998
Mime-Version: 1.0
Date: Thu, 3 Sep 1998 14:02:35 -0400
To: KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: events in the corrected-times list

Dear Kevin,

I see the following correspondign auto-Konus events in our files:

28 AUG 98 21:44	=78240	32 ms long, weak	3150	# 28-1
28 AUG 98 23:11	=83460	32 ms long, weak	3150	# 28-2
29 AUG 98 10:48	=38880	5 s long, intense	3150	# 29-1
29 AUG 98 18:50	=67800	2 s long, intense	3150	# 29-2

and will send them to you.

I will also suggest releasing the auto-Konus to you regularly,
even though all the bugs aren't quite out yet
(only the all-zero condition remains, I believe).

TLC

<This message contains 2 attachments (not printed)>

From khurley@sunspot Thu Sep 3 08:36 PDT 1998
 Date: Thu, 3 Sep 1998 08:40:01 -0700
 From: khurley@sunspot (Kevin Hurley)
 To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
 butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
 kmarar@isac.ernet.in, vnp@isac.ernet.in,
 bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
 yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
 henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov
 Subject: CORRECTION TO PREVIOUS LIST
 Cc: woods@eagles.msfc.nasa.gov, chryssa.kouveliotou@msfc.nasa.gov

The list I sent out on the 2nd had the days shifted, and one day was omitted. Thanks to Paul Butterworth for pointing this out. I haven't been getting much sleep lately. Here's the correct list up to the 30th.

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing times would have been ~1900 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
27 AUG 98 01:27	32 ms long, weak	3150
27 AUG 98 10:54	300 s long, intense; definitely SGR1900	3150
27 AUG 98 11:38	1 s long, intense; followed by another intense burst 144 s later	3150
27 AUG 98 13:13	32 ms long, intense	3150
27 AUG 98 17:09	>64 s long, intense	3150
28 AUG 98 00:07	32 ms long, moderate	3150
28 AUG 98 06:44	? data missing	3150
28 AUG 98 21:44	32 ms long, weak	3150
28 AUG 98 23:11	32 ms long, weak	3150
29 AUG 98 02:11	64 ms long, moderate	3150
29 AUG 98 10:48	5 s long, intense	3150
29 AUG 98 15:14	32 ms long, weak	3150
29 AUG 98 18:50	2 s long, intense	3150
30 AUG 98 01:31	64 ms long, weak	3150
30 AUG 98 05:48	64 ms long, weak	3150
30 AUG 98 07:49	64 ms long, moderate	3150
30 AUG 98 14:09	32 ms long, weak	3150
30 AUG 98 21:50	32 ms long, weak	3150

Were these events detected by anyone else?

CC

From WOODSP@fender.msfc.nasa.gov Wed Sep 2 08:04:49 1998
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA20836; Wed, 2 Sep 1998 08:04:48 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV by sunspot.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id IAA10421; Wed, 2 Sep 1998 08:04:47 -0700
Date: Wed, 2 Sep 1998 10:04:46 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <980902100446.202323b6@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7030
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7030
EVENT OF 1998 AUG 29 DAY OF YEAR=241
EVENT CROSSING TIME AT BATSE : 19249. S. OR 05:20:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 240.000 -54.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 8/ 98 IS:
RA= 158.033 DEC= 4.206 DIST= 6.357 AU
BATSE-ULYSSES DISTANCE = 951076447. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 91.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -71.63 SECS.
CROSSING TIME AT ULYSSES IS 19177. S. OR 05:19:37 +/- 599.56 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 8/ 98 IS:
RA= 127.897 DEC= 19.964 DIST= 2.399 AU
MARS-BATSE DISTANCE = 358883616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 579.52 SECS.
CROSSING TIME AT MARS IS 19829. S. OR 05:30:28 +/- 190.66 SECONDS

BATSE BURST TRIGGER

NO.: 7030

TIME: TJD=1054 SECONDS=19249

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=92.2 AZIMUTH=69.5 ERROR=1.5 DEGREES

COMMENTS:

GRB LASTING ABOUT 55 SEC. THREE PULSES, WITH SUBSTRUCTURE. NOT
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7030	980829	11054	19249	10000	240	-54	55

Date: Feb 15 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

- ☒ Jim Schmidling's stat file correction applied?
- ☒ Final ephemeris used?
- ☒ Final, CDROM data used?
- ☐ 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

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

3. NEAR Data

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

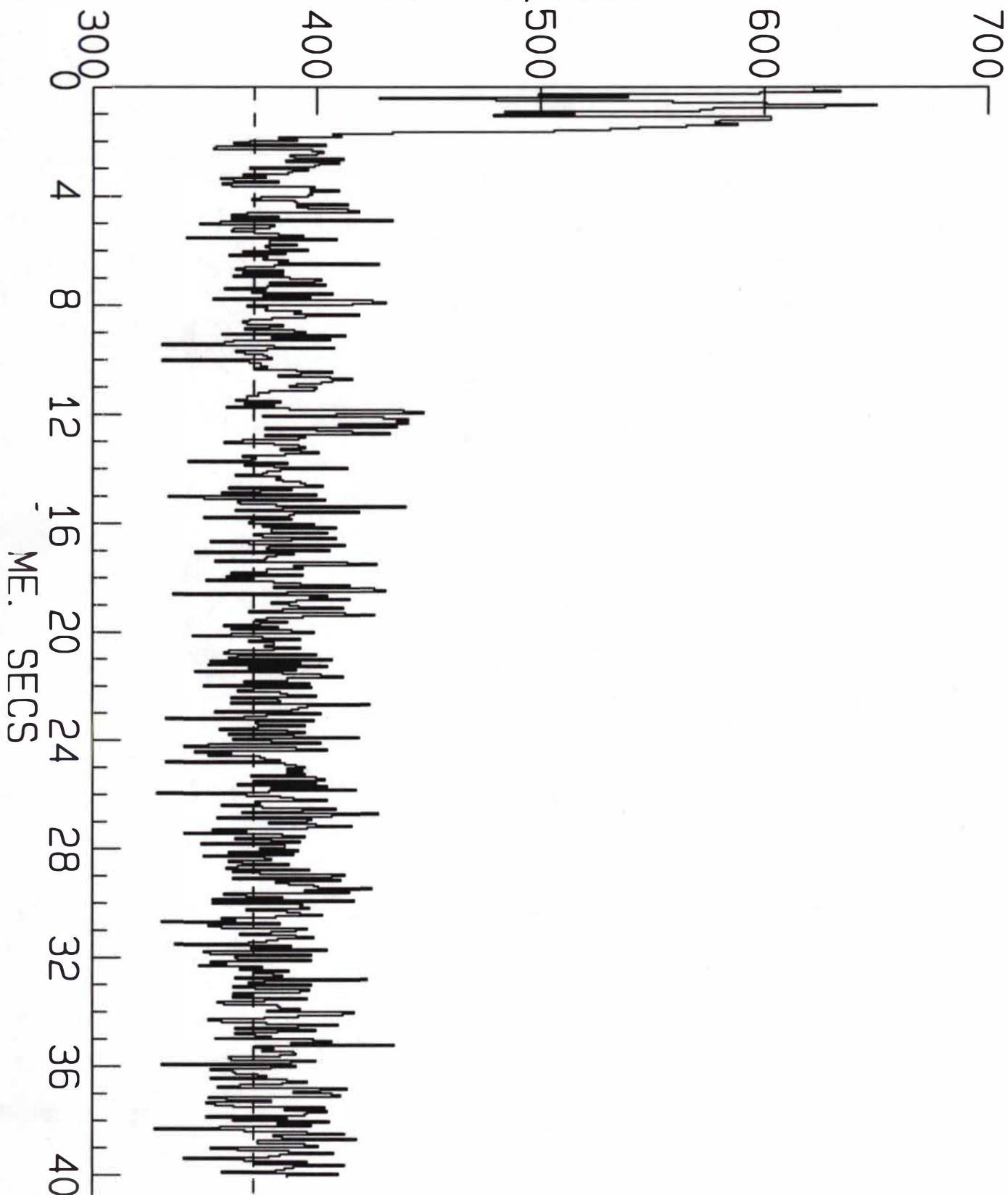
BATSE

29/08/98

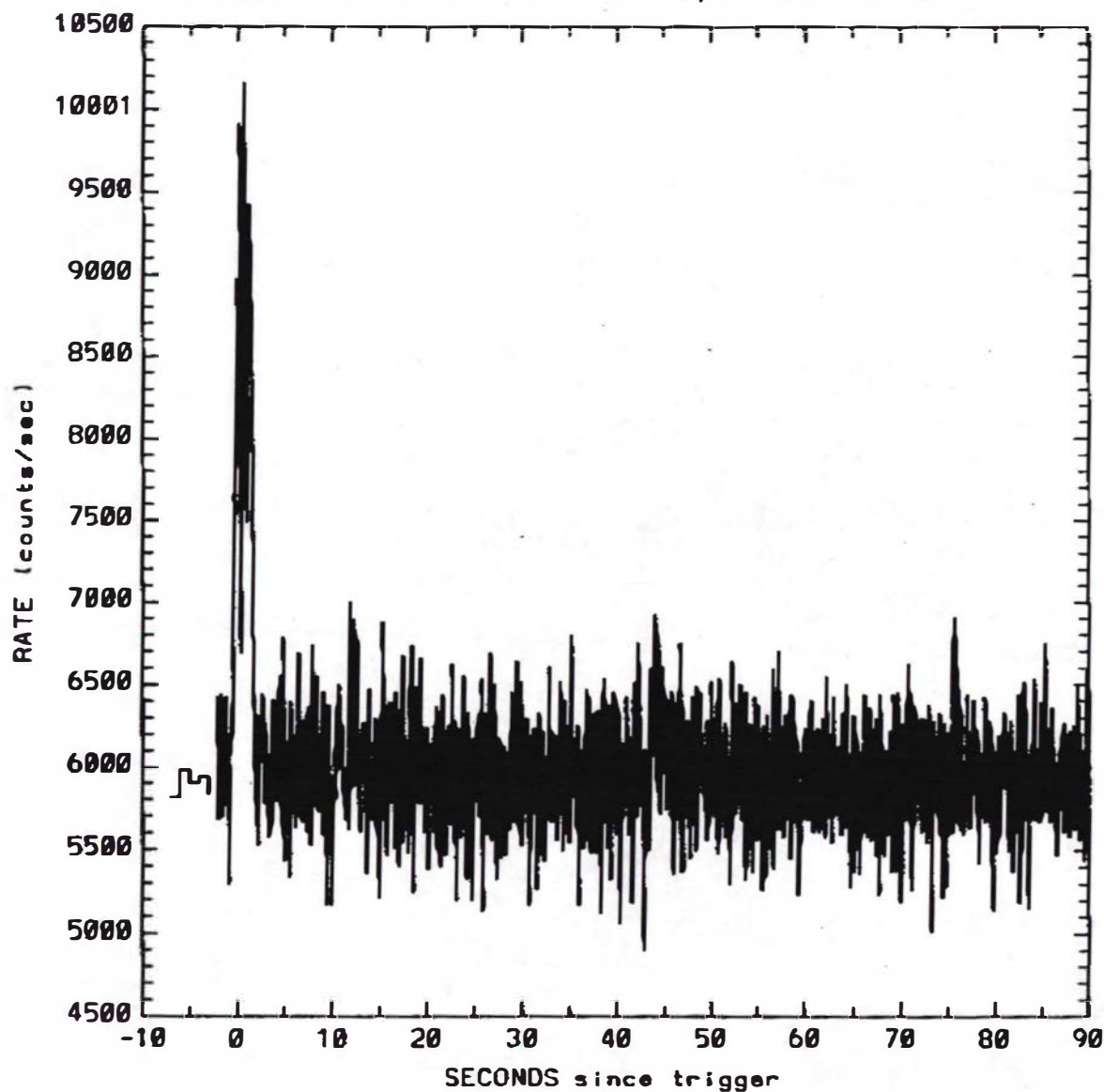
19249.825

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7030



9-FEB-2000 09:05:45

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7030

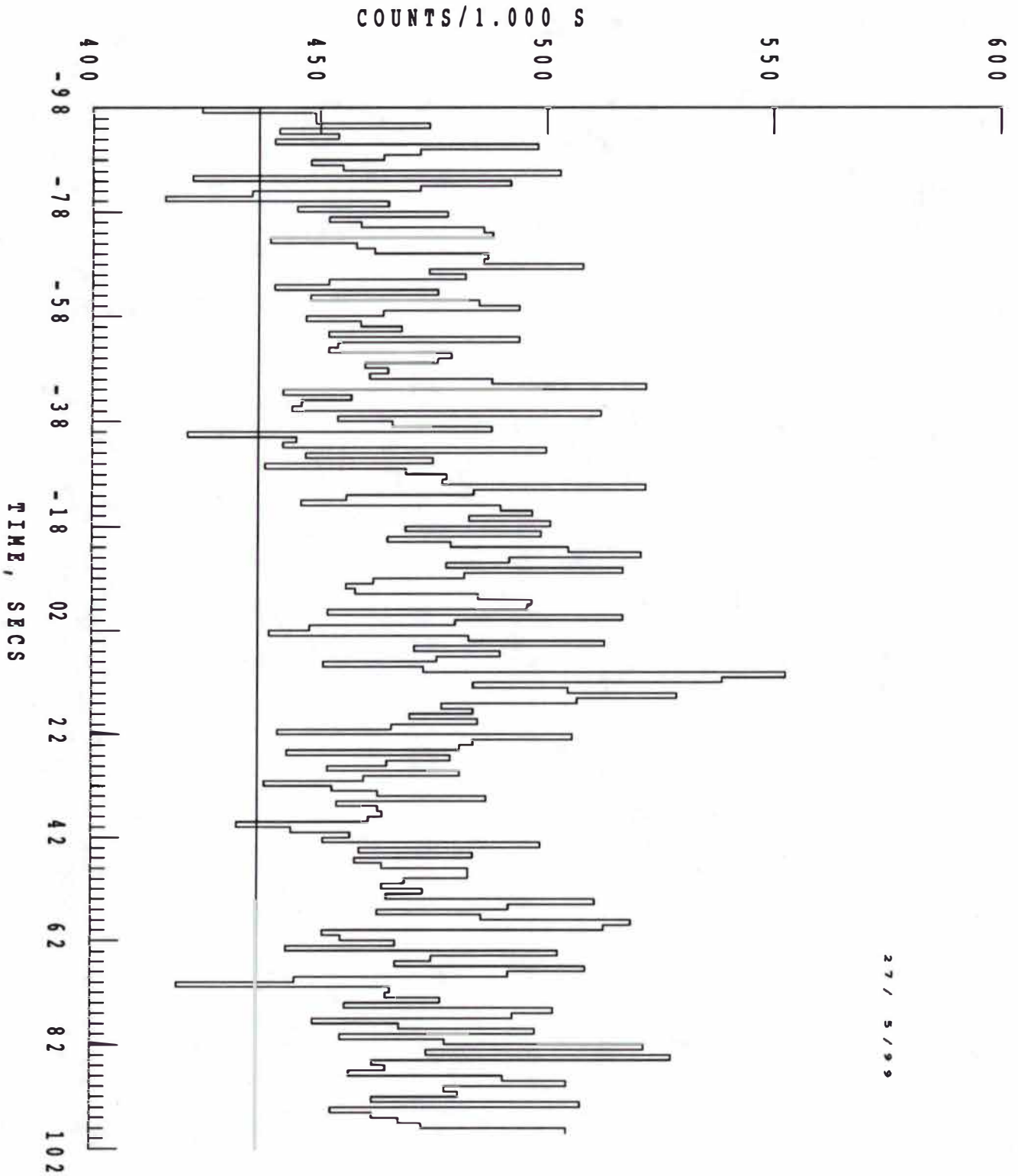
Trigger Time:
11054 / 19249.825Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PRED + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..0).
-----10Discriminators:
(3 . 4)Quality Mask:
BDISP1

NEAR

29/08/98

18639.137

100-1000 keV



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

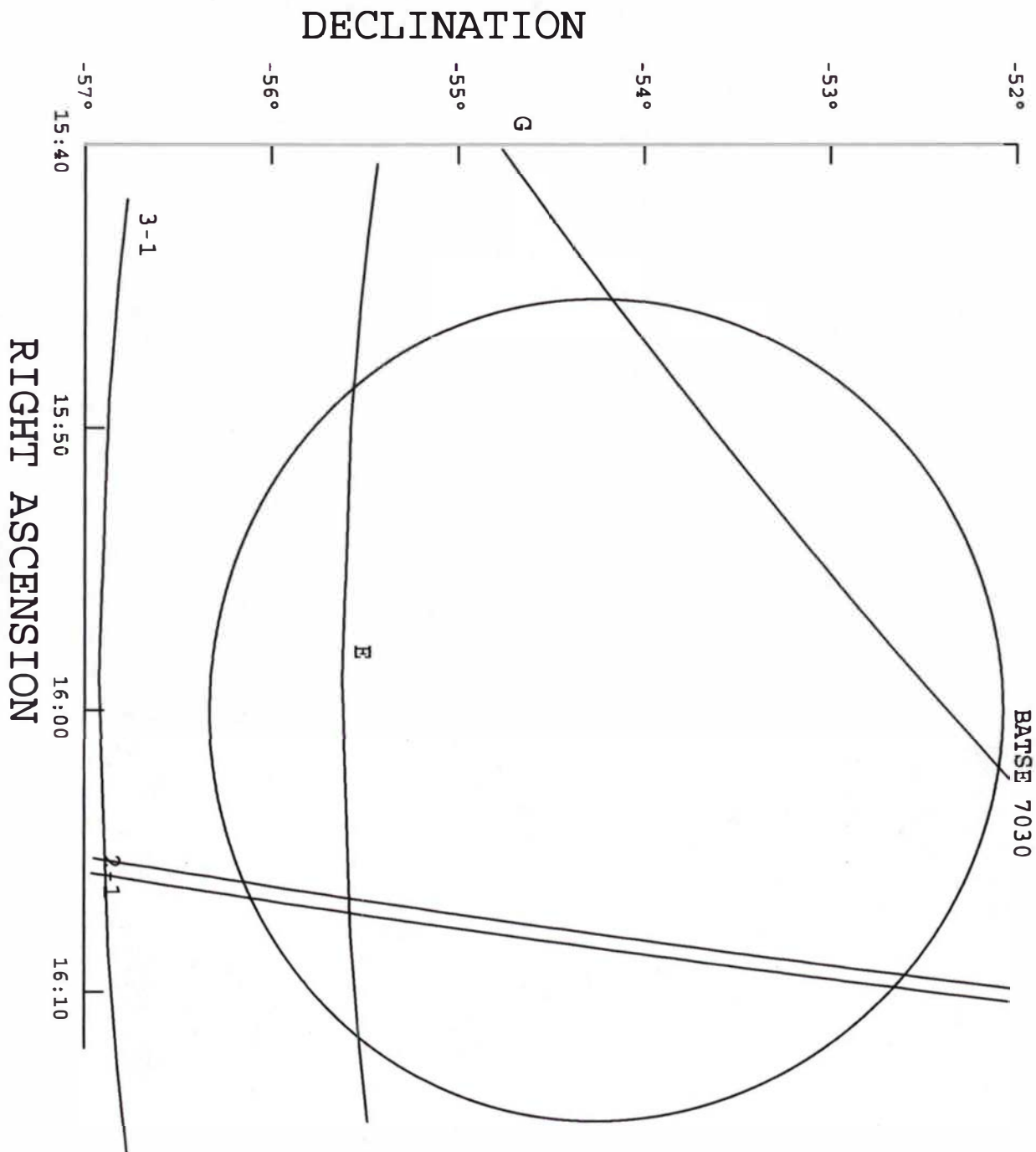
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF AUG 29, 1998 5:20

15 / 2 / 0



BATSE

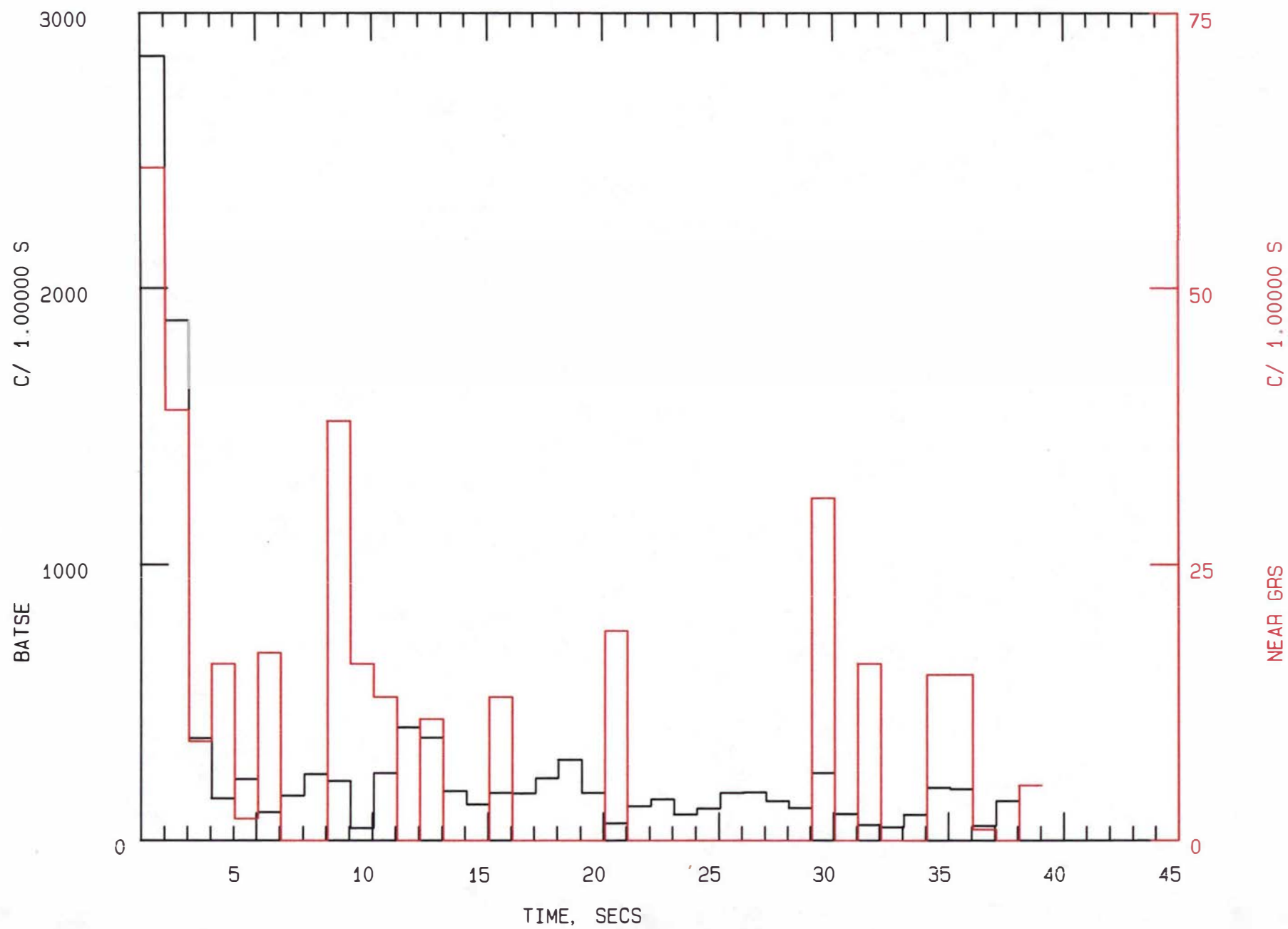
-NEAR GRS

CORRELATION

29/08/98

19249.825

15/ 2/ 0



BATSE

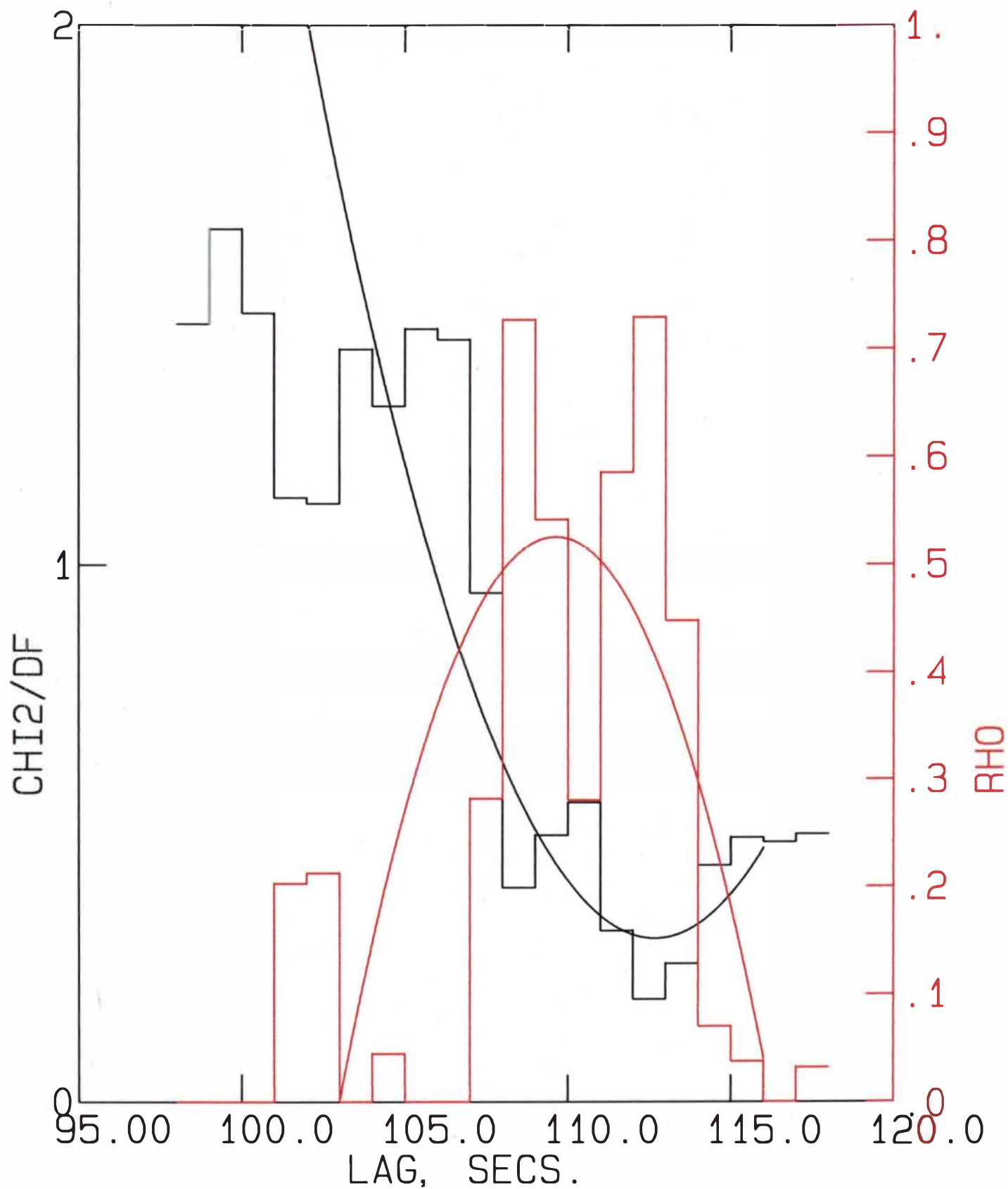
-NEAR GRS

CORRELATION

29/08/98

19249.825

15/ 2/ 0



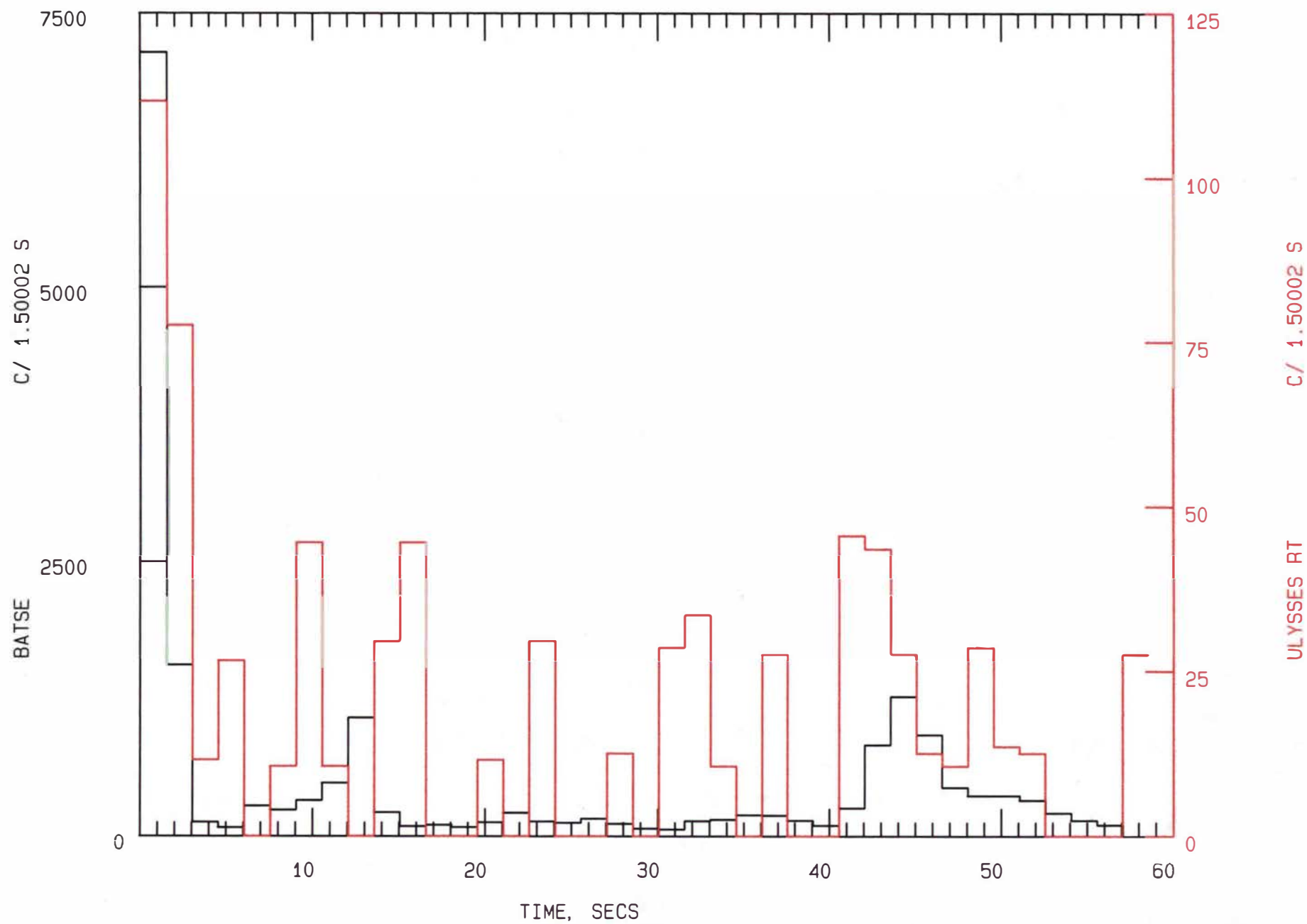
BATSE

-ULYSSES RT CORRELATION

29/ 8/98

19249.825

5/ 6/99

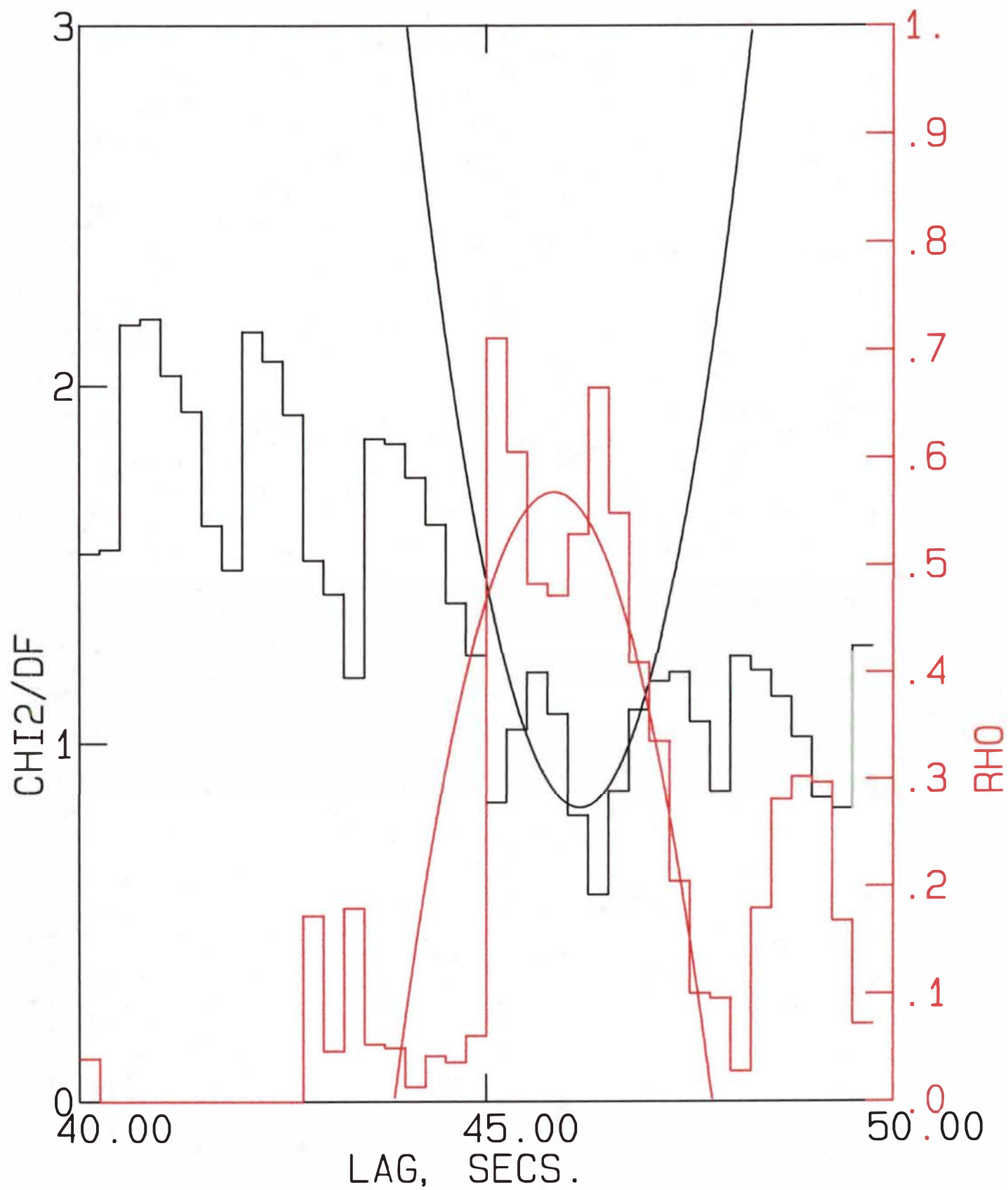


BATSE

-ULYSSES RT CORRELATION

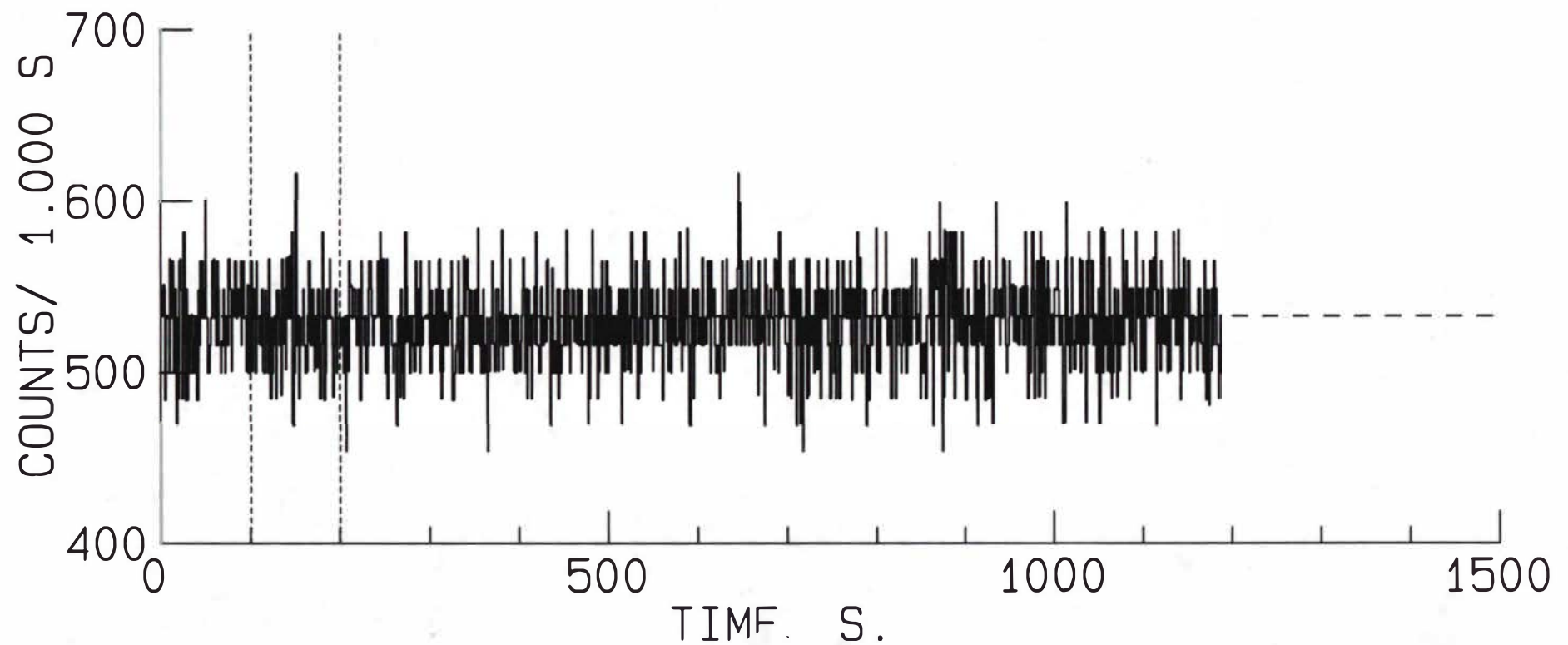
29/ 8/98

19249.825



ULYSSES RT
29/ 8/98 18576.108 s
0.250 S INTERVALS REGROUPED BY 4
22- 149 keV

5/ 6/99



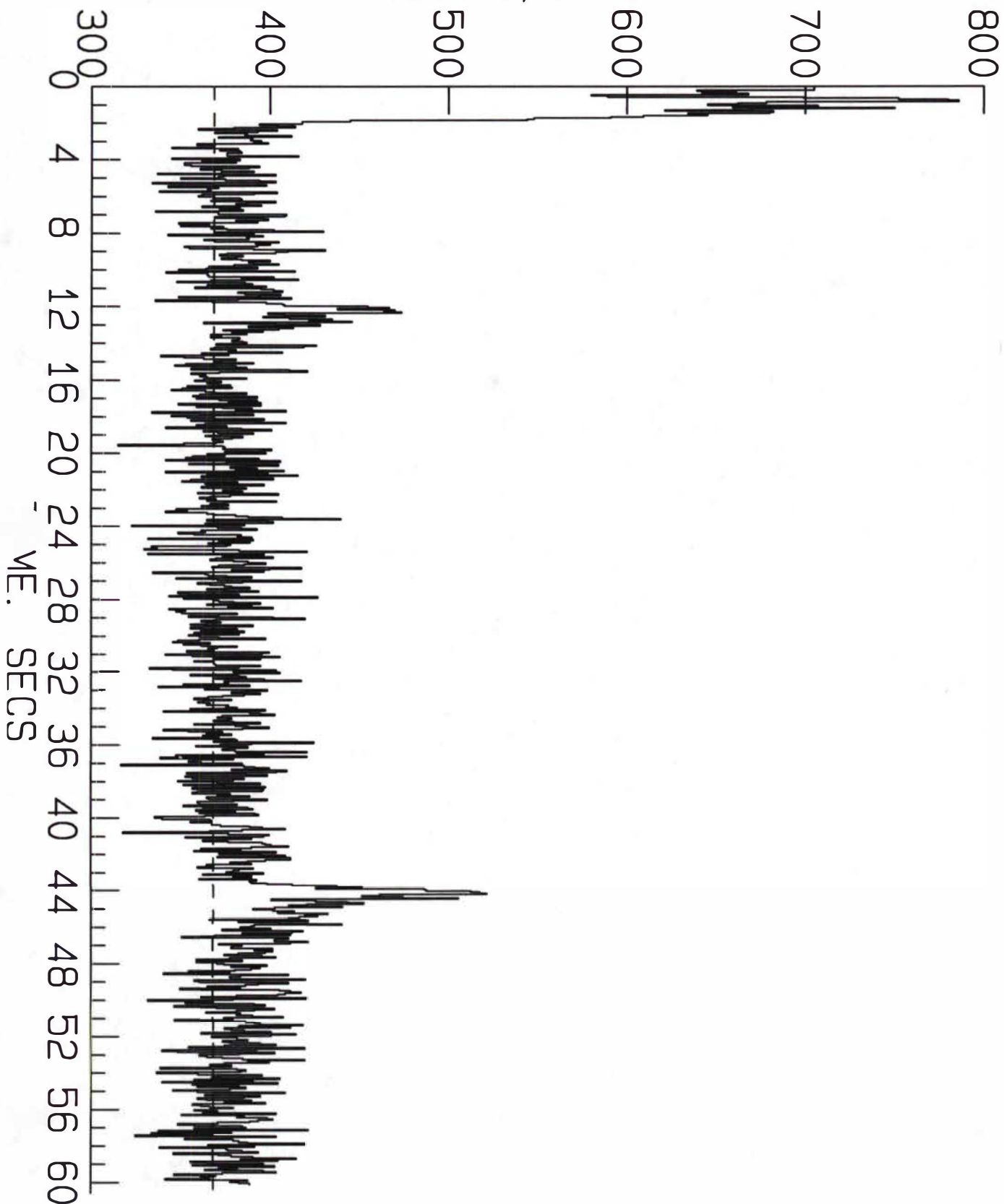
BATSE

29/08/98

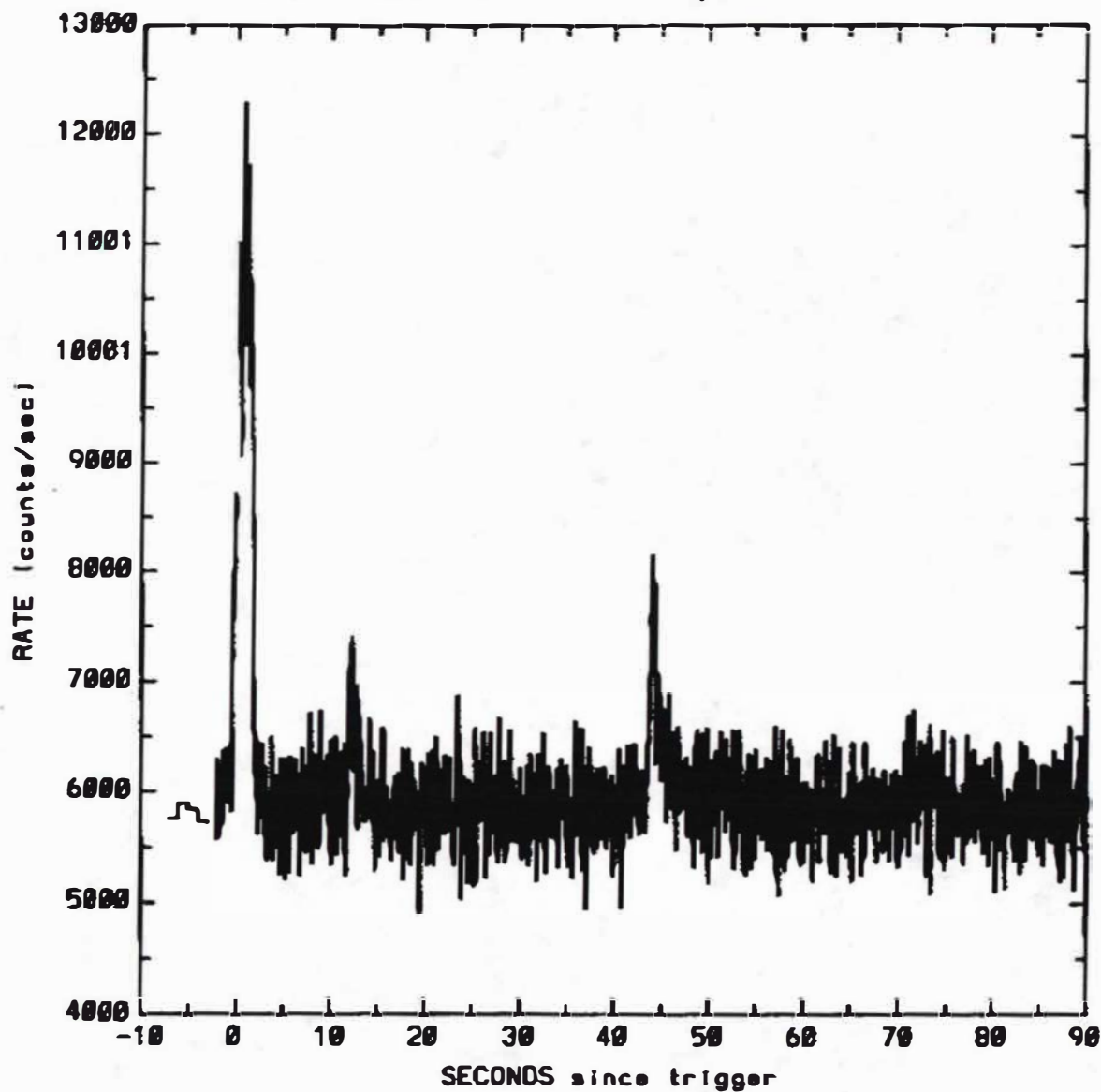
19249.825

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7030



4-JUN-1999 11:27:59

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7030

Trigger Time:
11054 / 19249.825Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PRED + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
-----10Discriminators:
(1, 2)Quality Mask:
B0ISP1

SAX GRBM
HUS DATA

ULYSSES RT

19 / 07 / 05

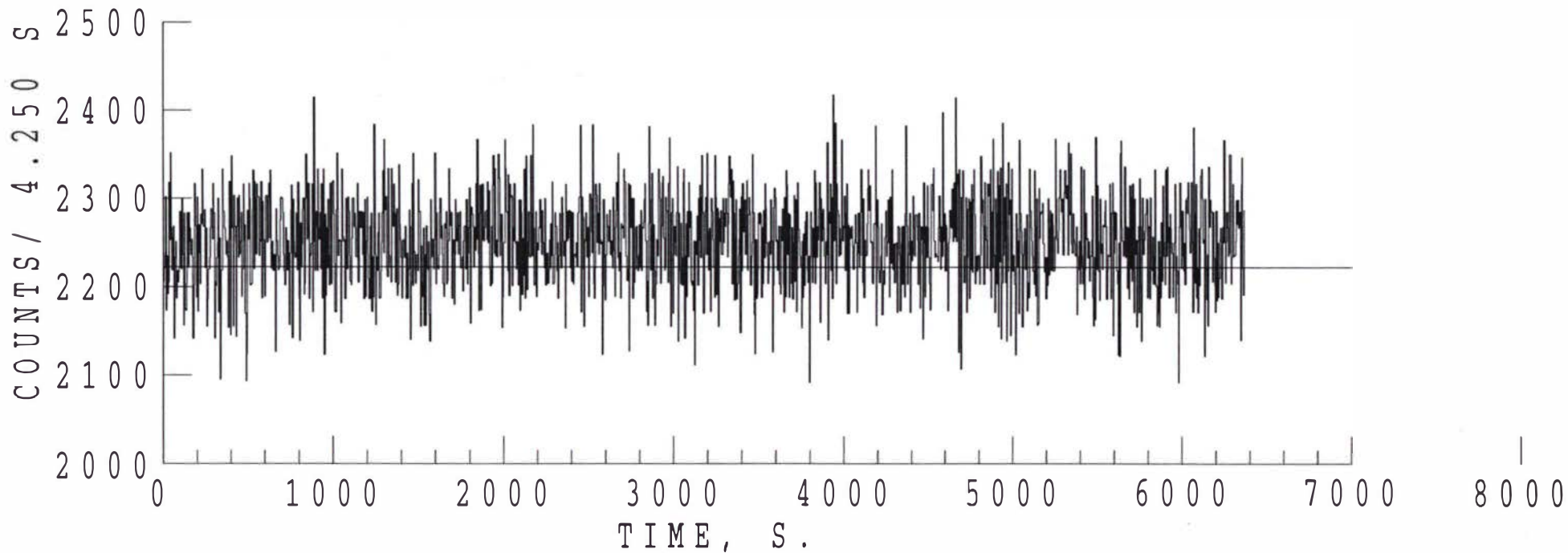
29 / 08 / 98 30600.236 s

0.250 S INTERVALS REGROUPED BY 17

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Wed Sep 2 08:01:02 1998
From: WOODSP@fender.msfc.nasa.gov
Date: Wed, 2 Sep 1998 10:00:25 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7031

TIME: TJD=1054 SECONDS=36992

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=121.7 AZIMUTH=143.4 ERROR=3.1 DEGREES

COMMENTS:

SGR 1900+14. LONG, BRIGHT BURST LASTING ABOUT 3.5 SEC. SMALL
PRECURSOR AT T-1.5 SEC. SUBSTRUCTURE VISIBLE WITHIN MAIN PULSE.
VISIBLE ABOVE 100 KEV.

BATSE BURST# 7031

ULYSSES RT

20 / 2 / 99

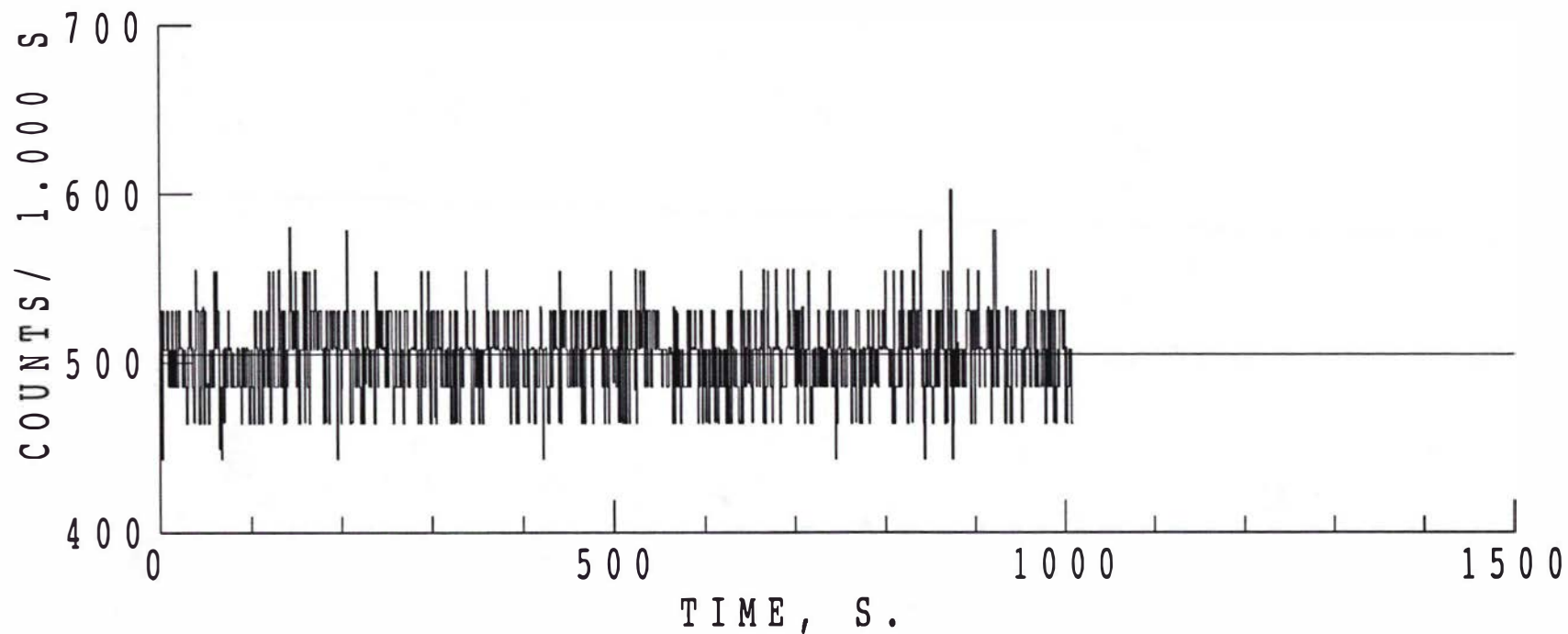
28 / 8 / 98 38412.152 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Mon Aug 31 20:06:06 1998
Date: Mon, 31 Aug 1998 15:42:29 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@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.: 7033

TIME: TJD=1055 SECONDS= 8343

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 Sep 1 10:42:01 1998
Date: Tue, 1 Sep 1998 12:41:31 -0500 (CDT)
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,
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.: 7034

TIME: TJD=1055 SECONDS=54348

TYPE: ACCIDEN SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

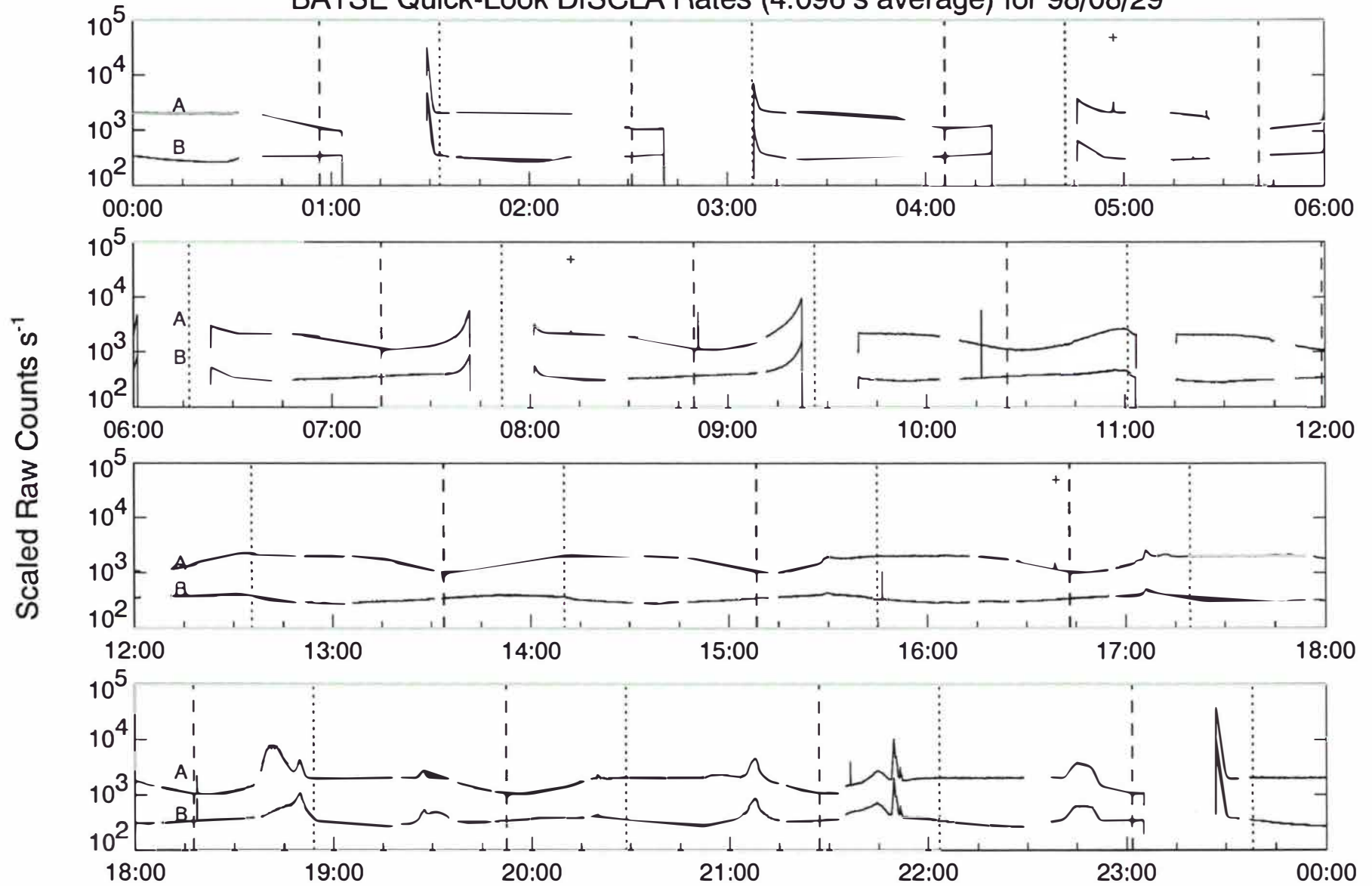
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

ACCIDENTAL TRIGGER CAUSED BY FLIGHT SOFTWARE CHANGE TO TRIGGER ON
DISCLA CHANNELS 1 PLUS 2.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/29

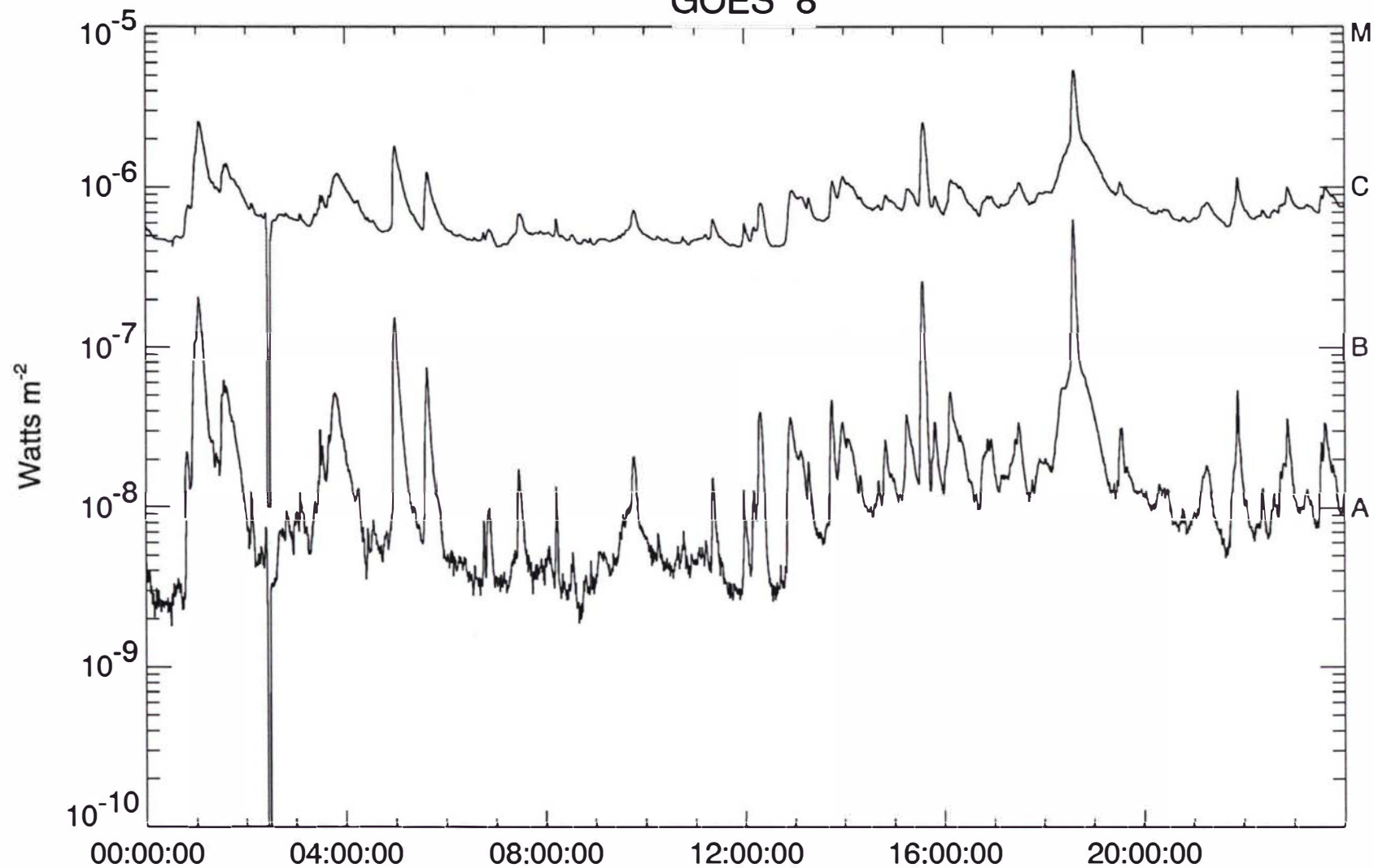


Current Time: 98/09/02, 1008 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 98/08/29, 0000:00

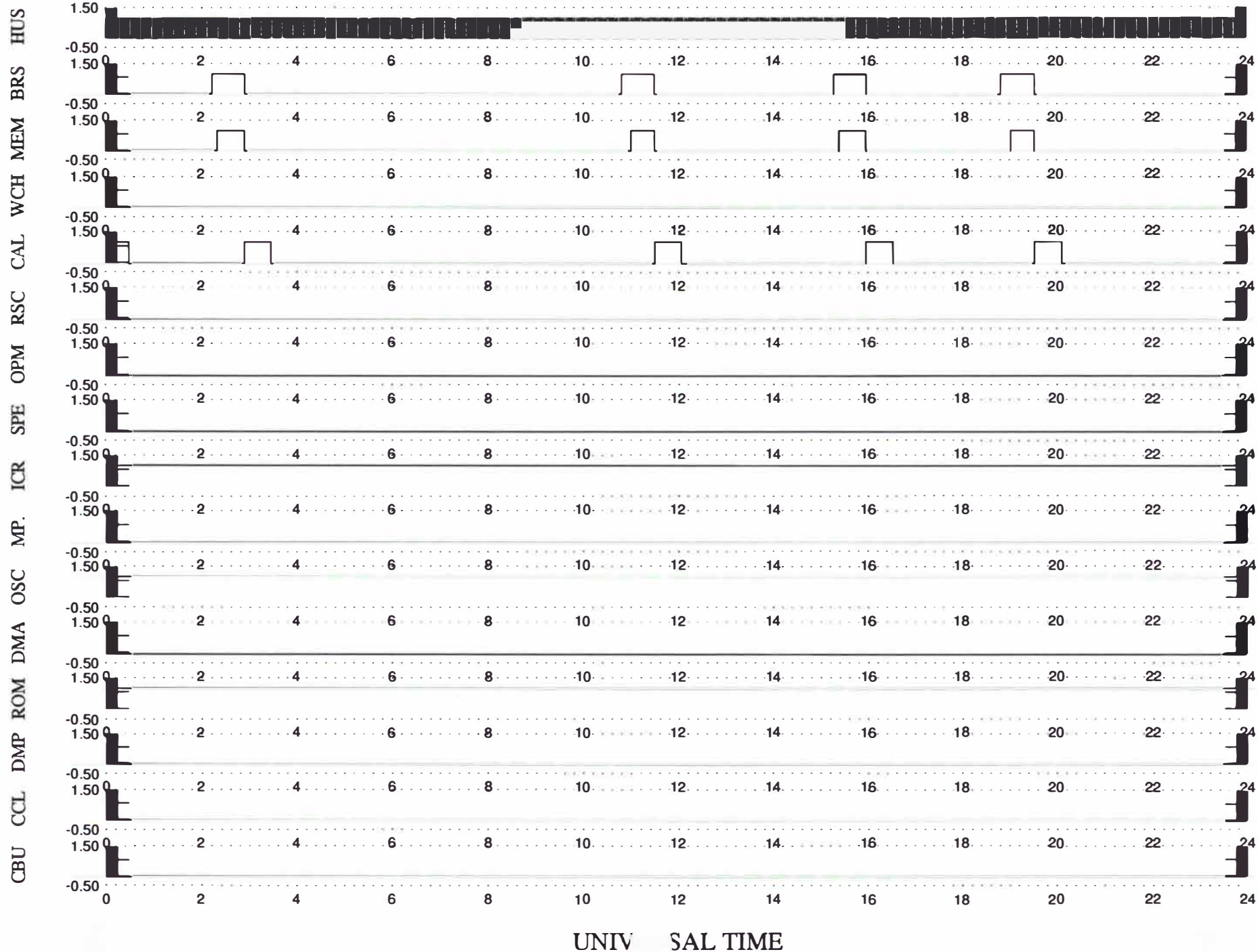
Plot created: 98/09/02, 1007

Channel

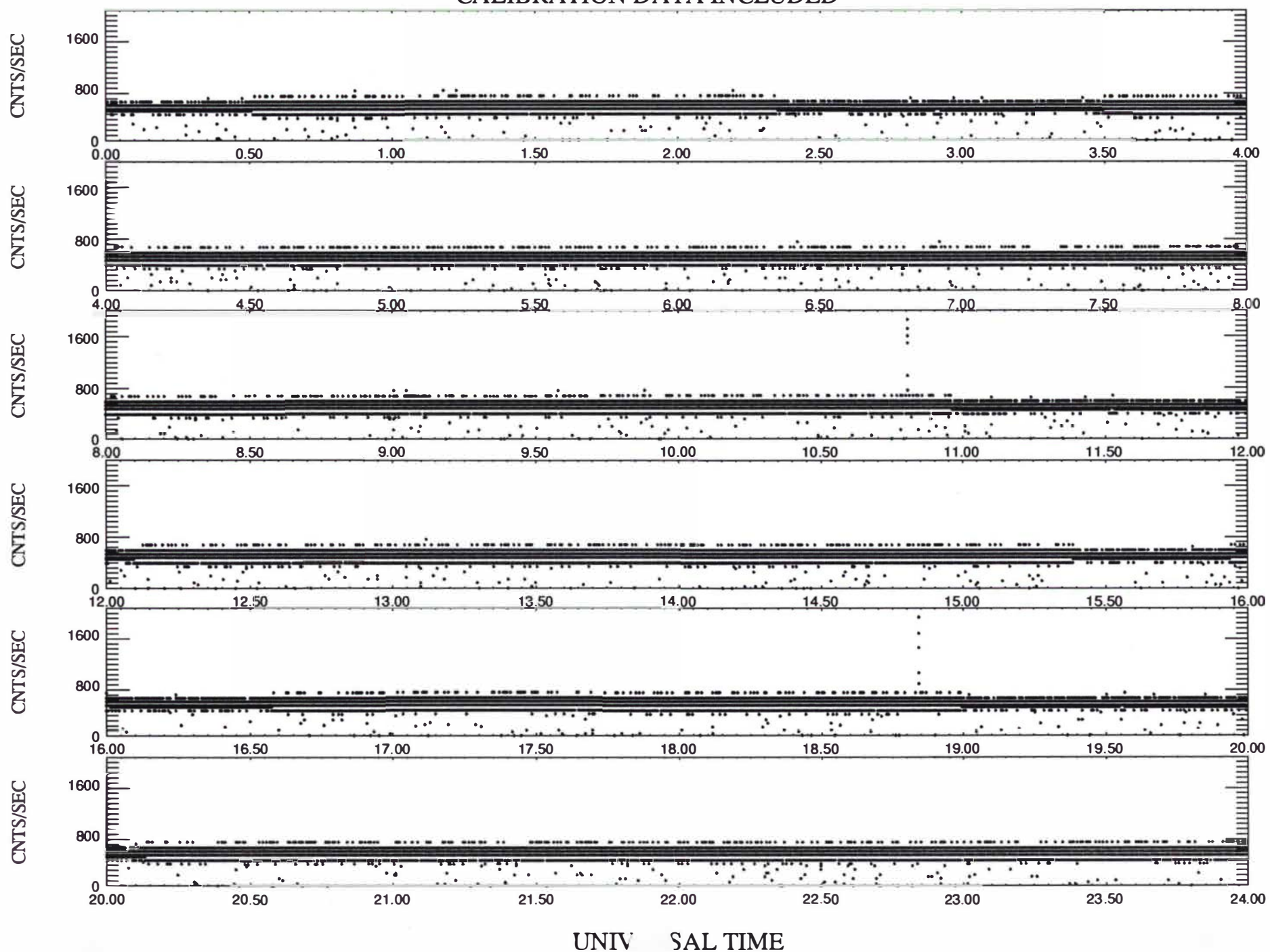
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

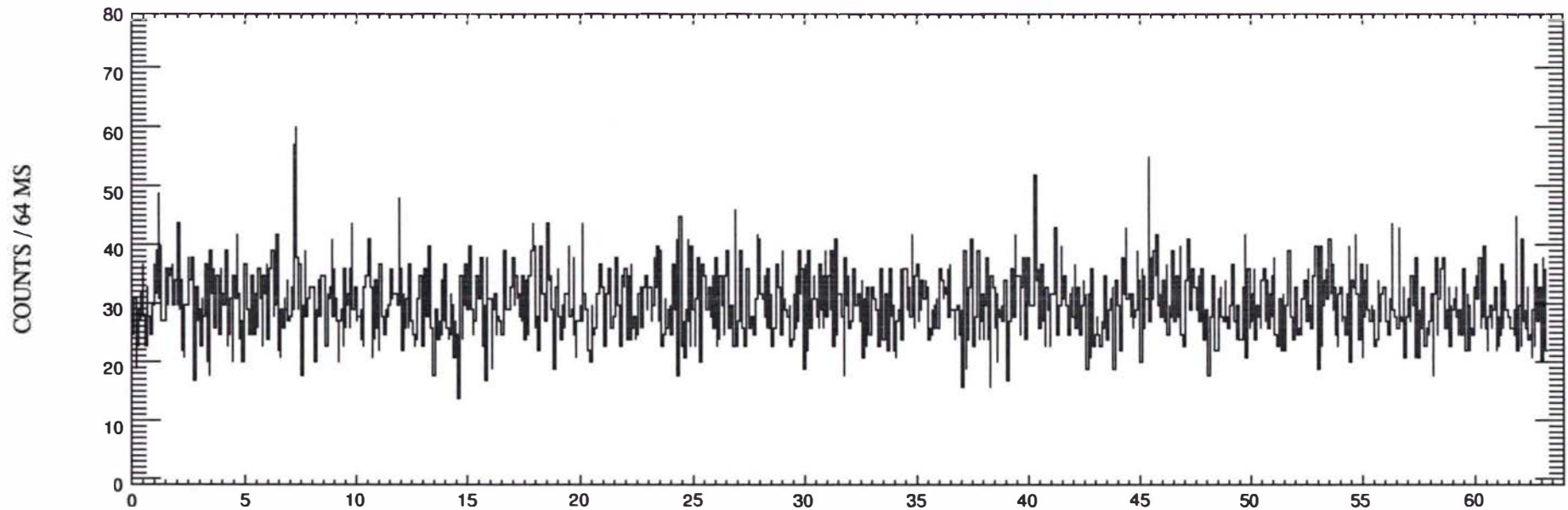
BURST NUMBER 0 - 3



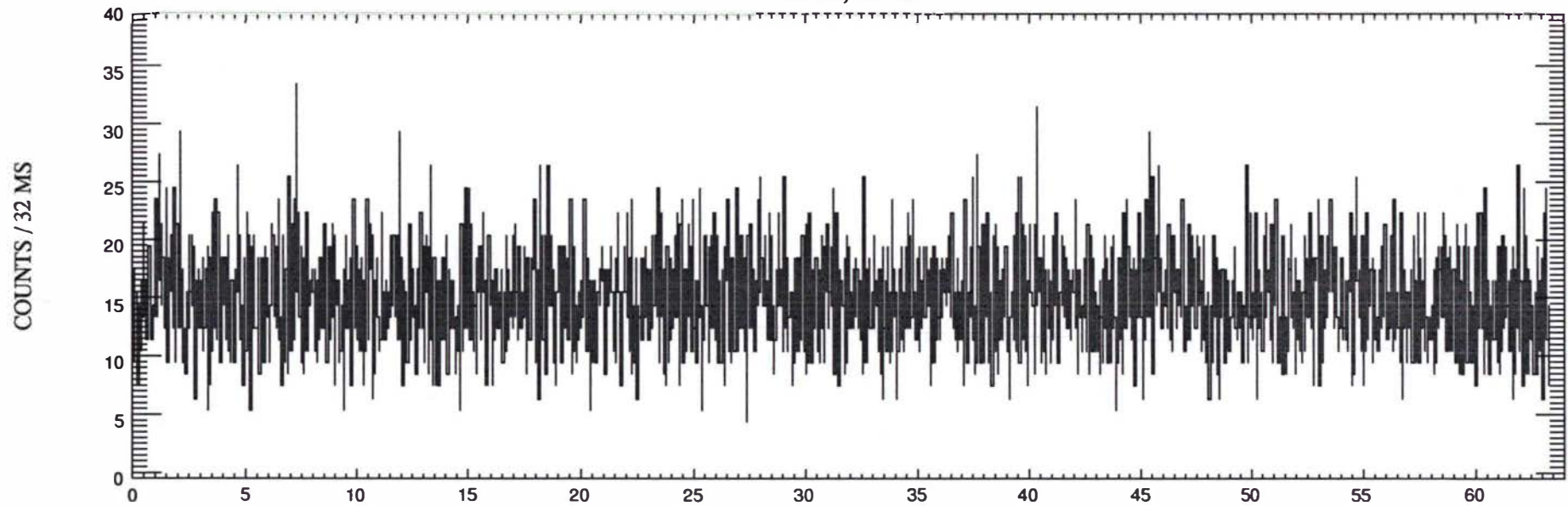
CALIBRATION DATA INCLUDED



Burst Counter 0 at UT= 2.190546972487 h= 7885.969 s 02:11:25.969

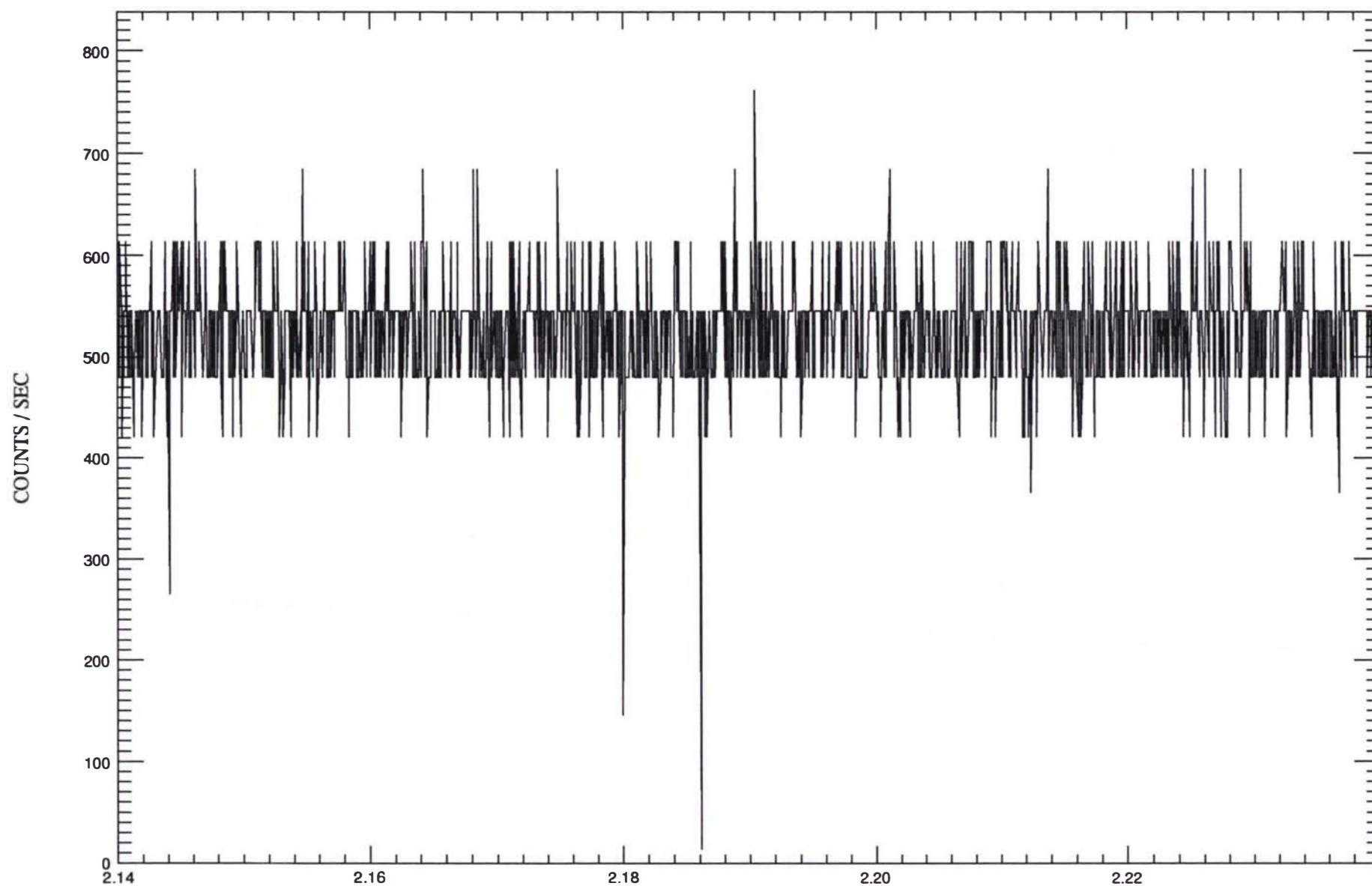


TIME, SECS

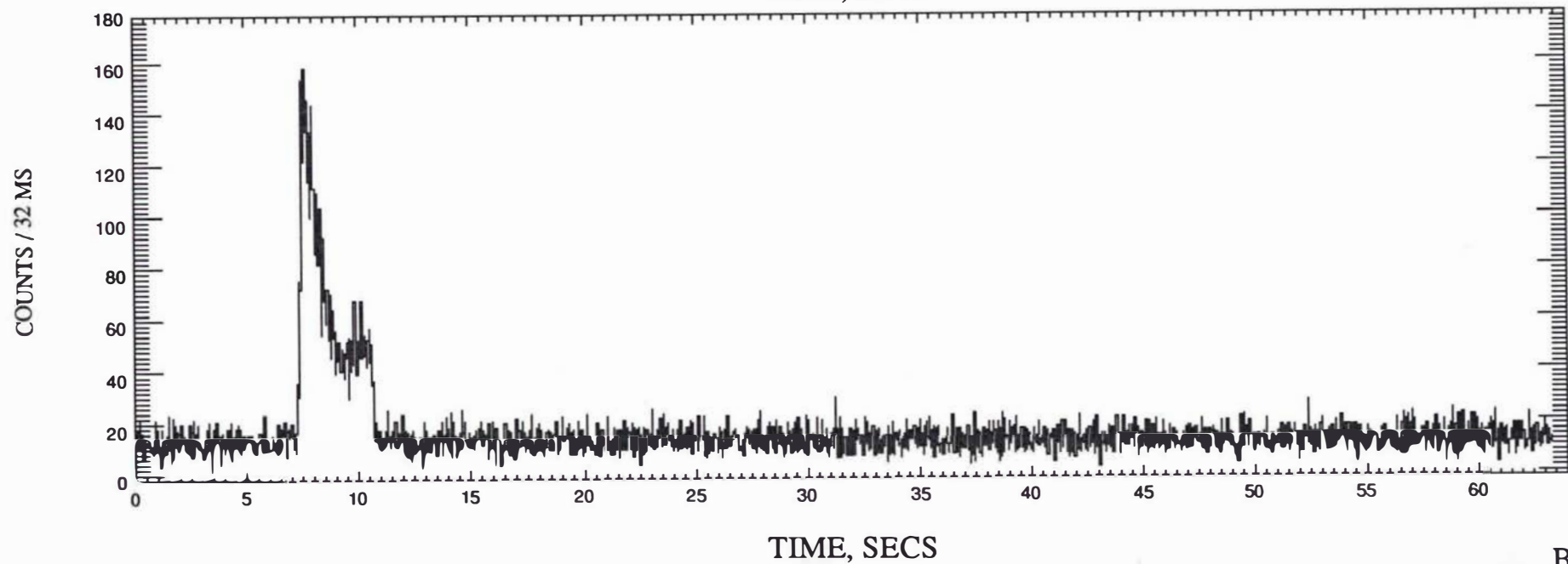
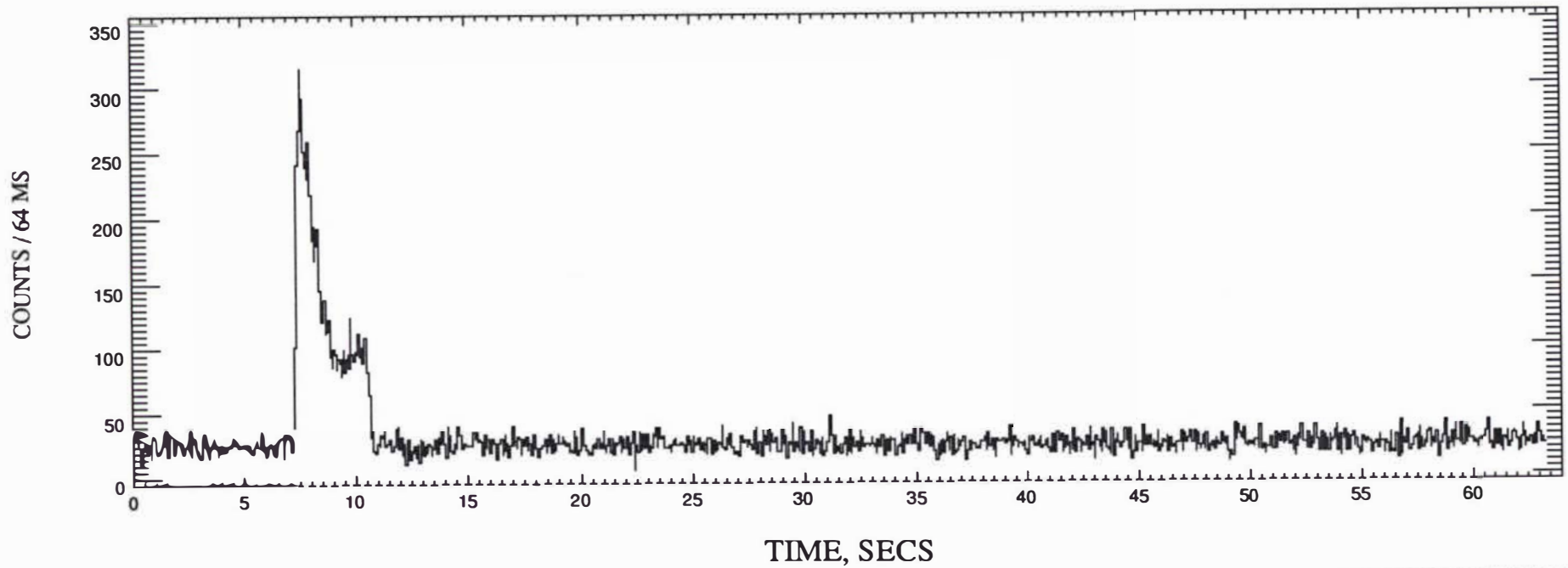


TIME, SECS

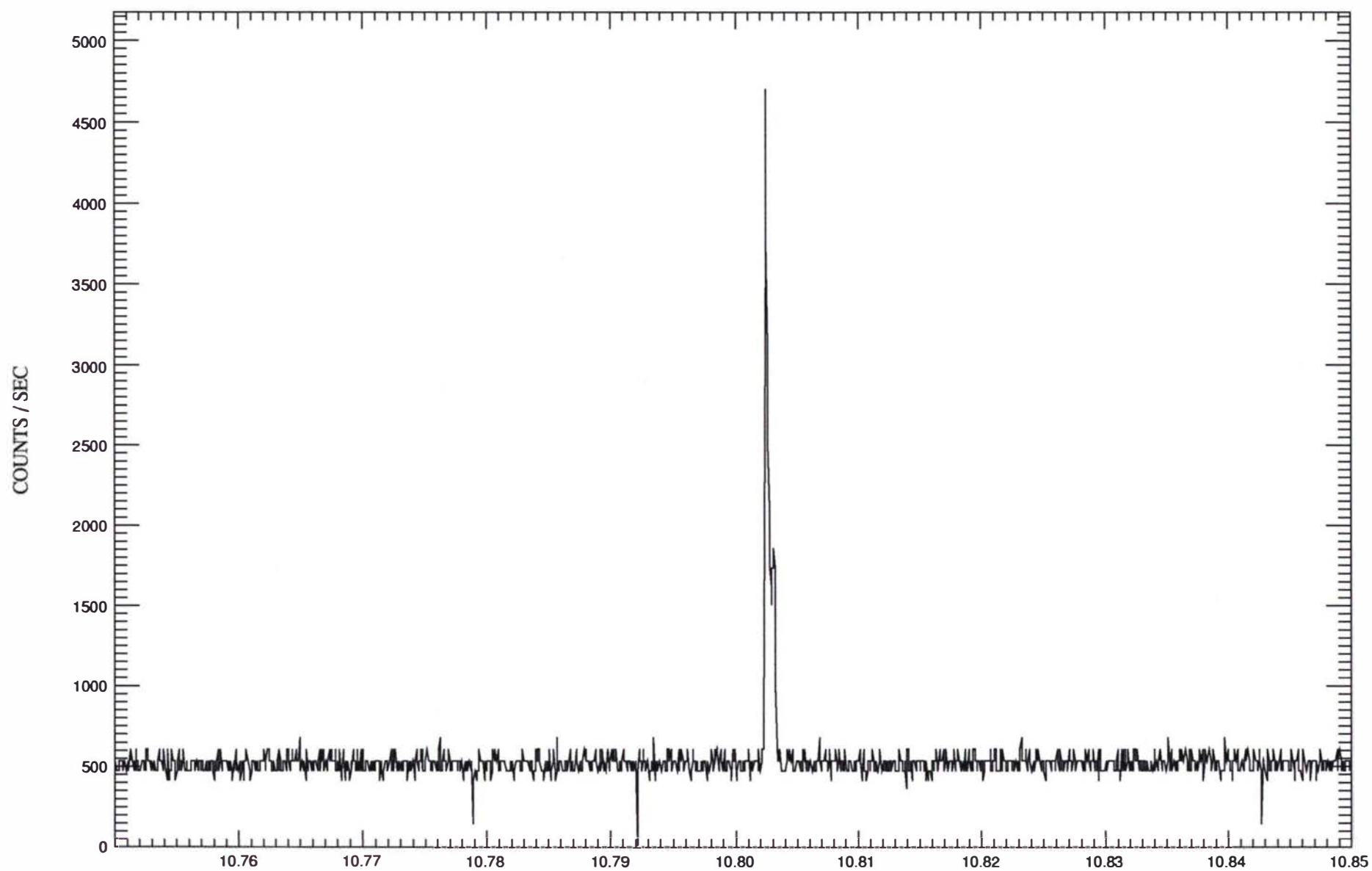
CALIBRATION DATA INCLUDED



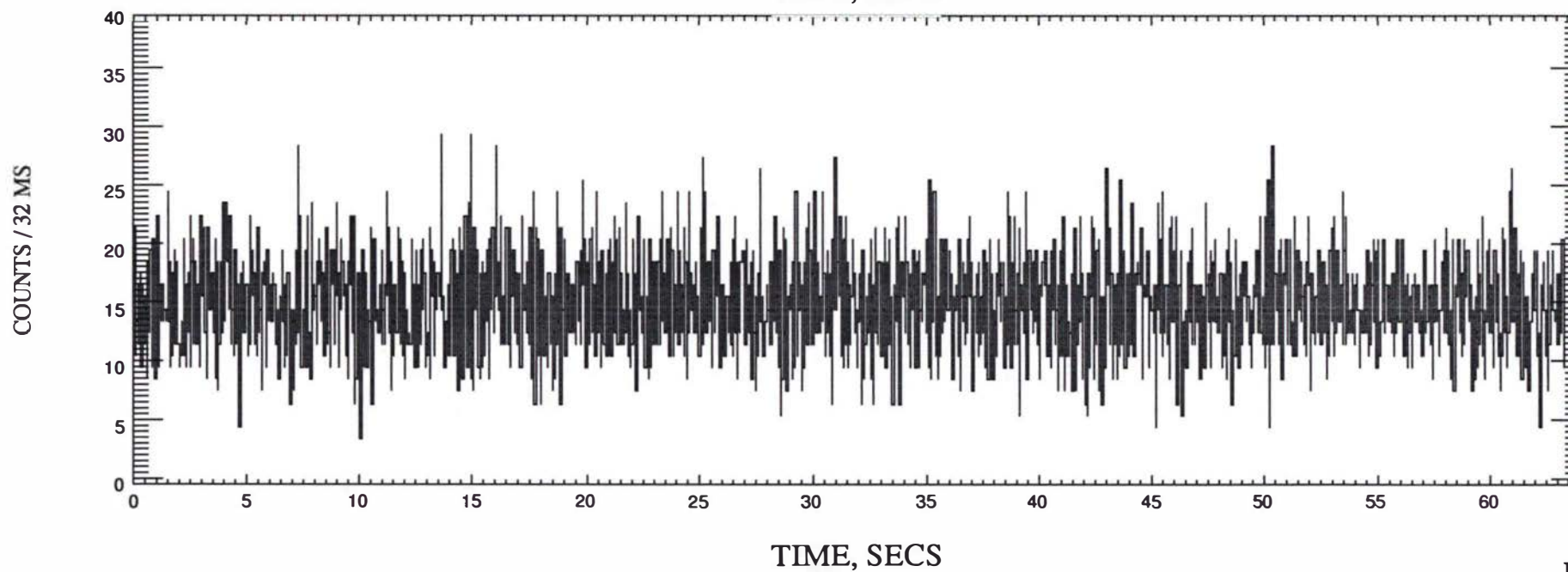
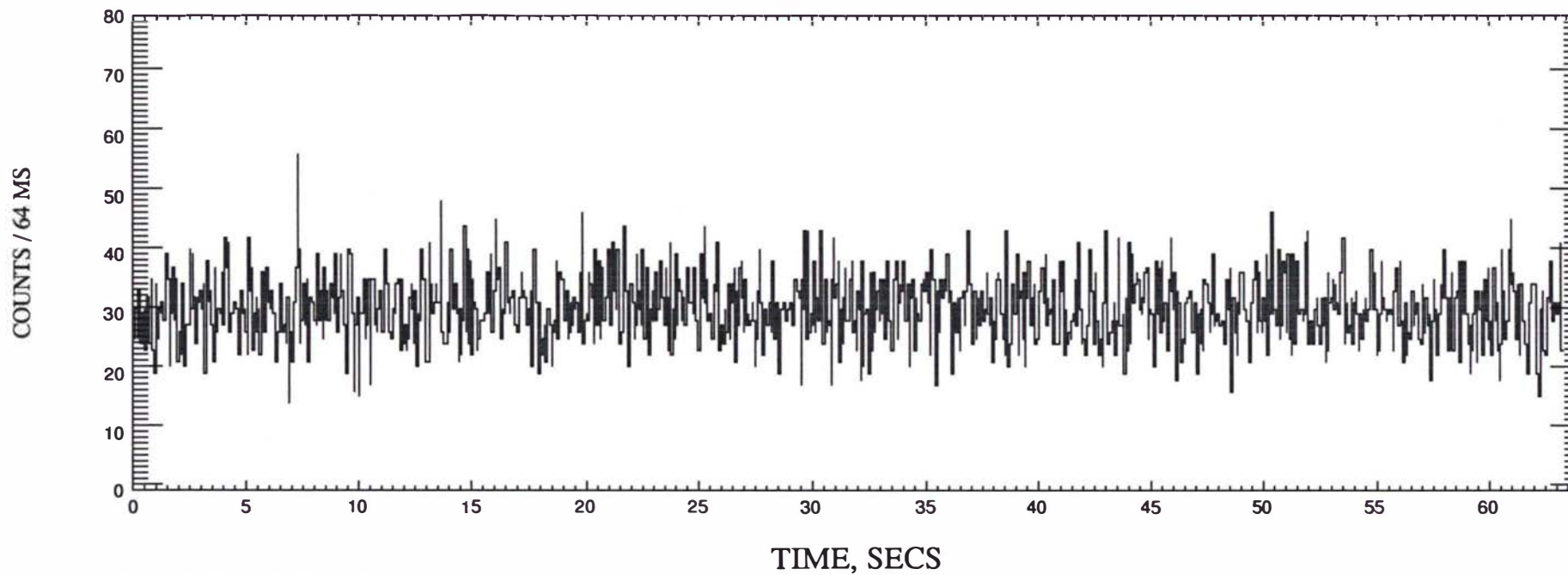
Burst Counter 1 at UT=10.802445309957 h=38888.803 s 10:48:08.803



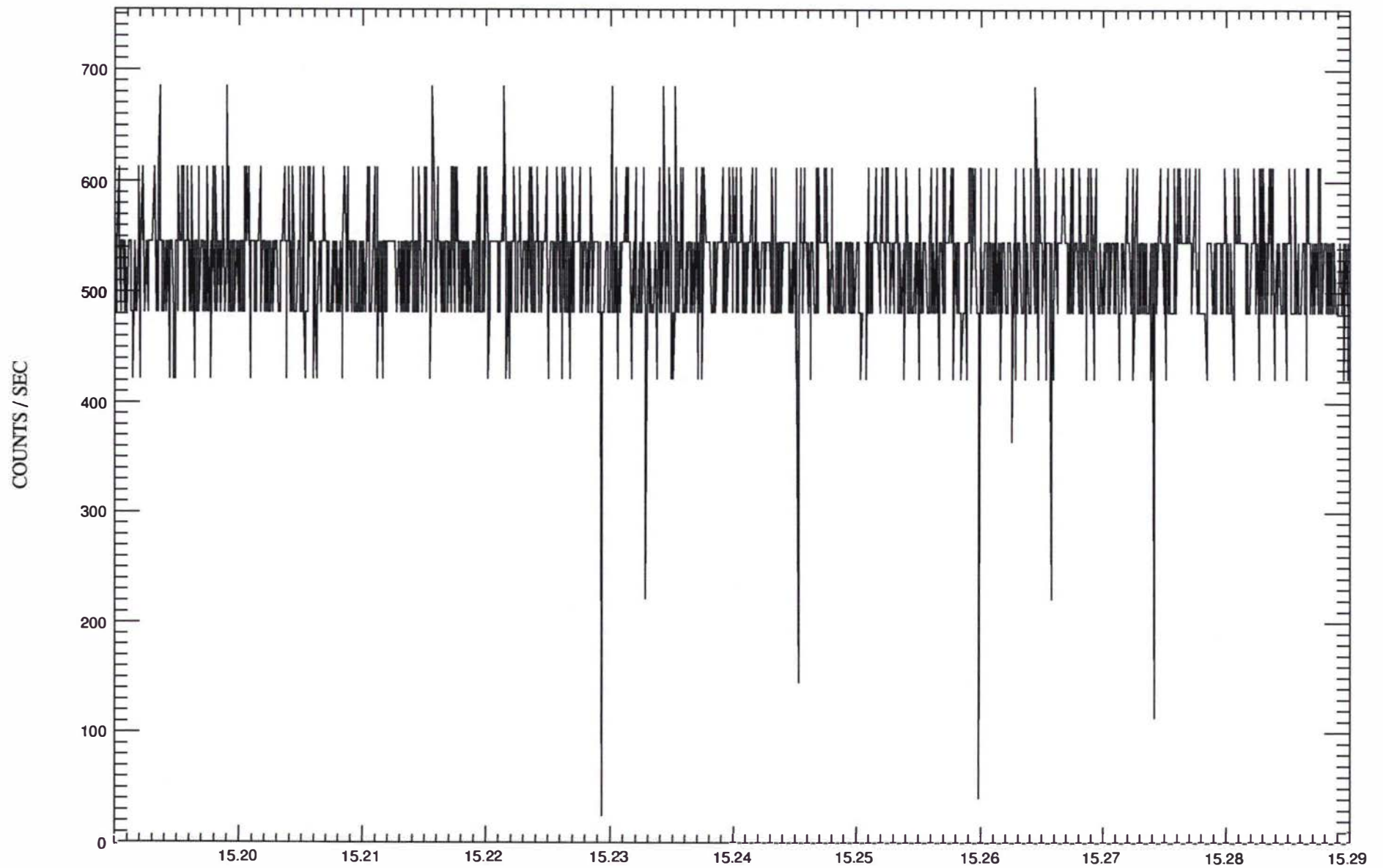
CALIBRATION DATA INCLUDED



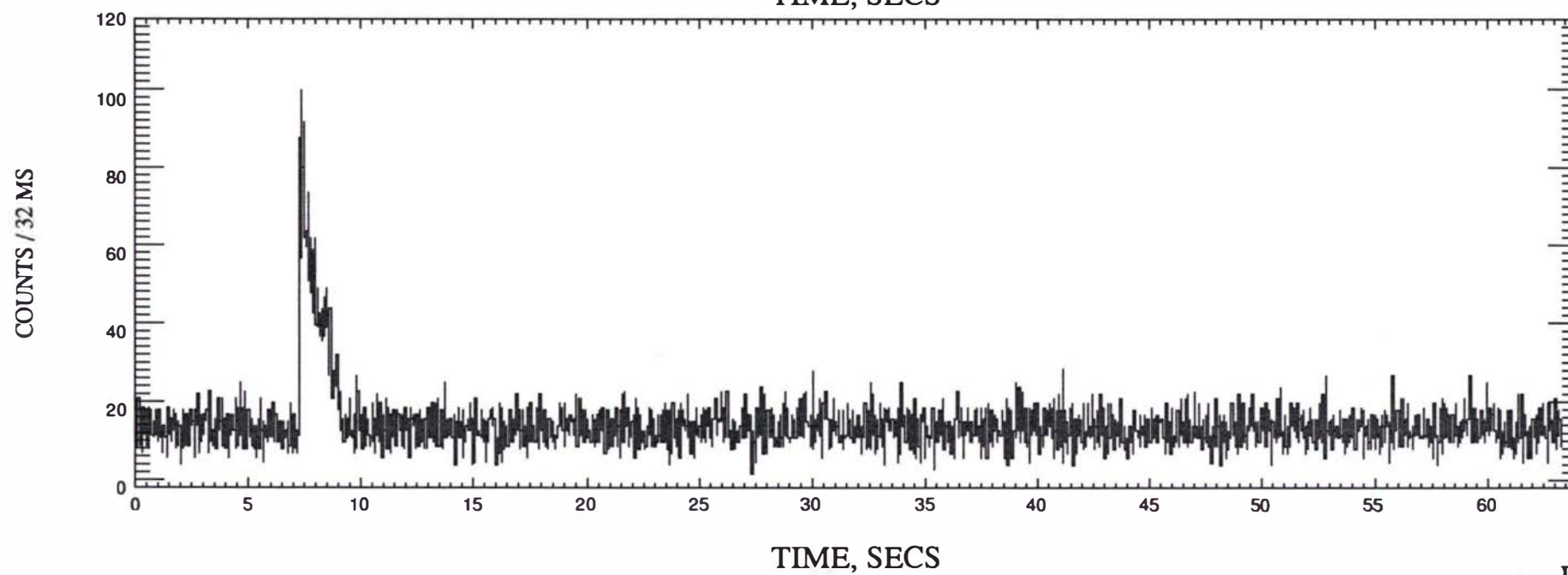
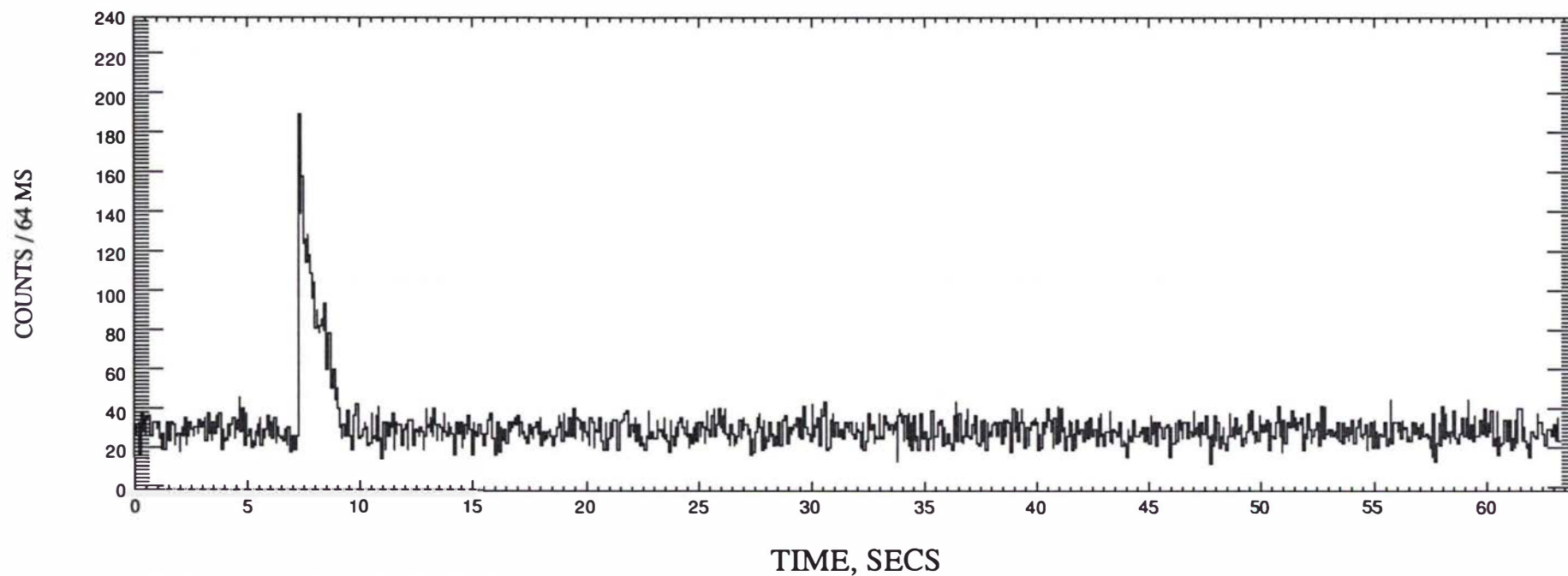
Burst Counter 2 at UT=15.235304985046 h=54847.098 s 15:14:07.098



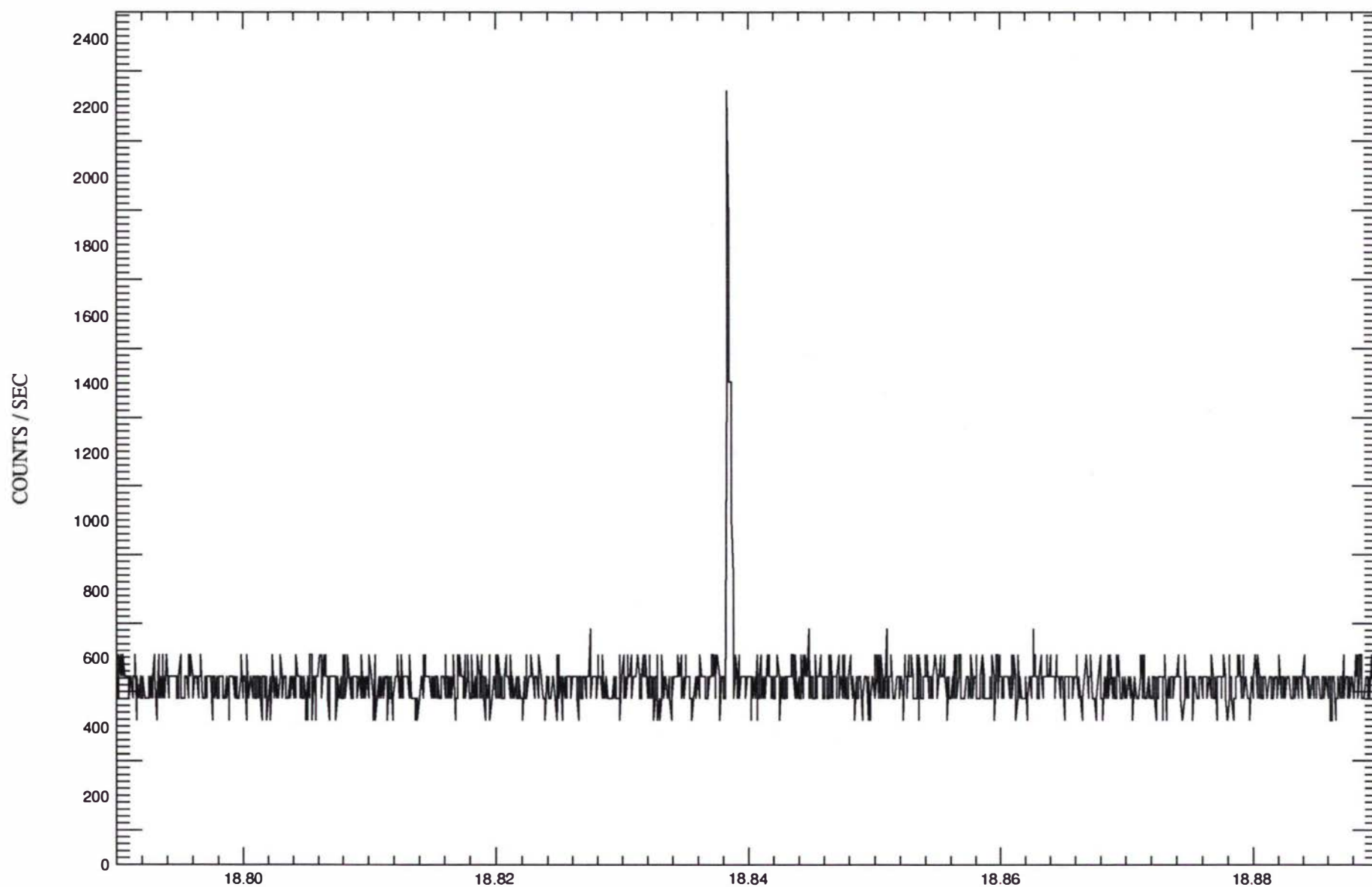
CALIBRATION DATA INCLUDED

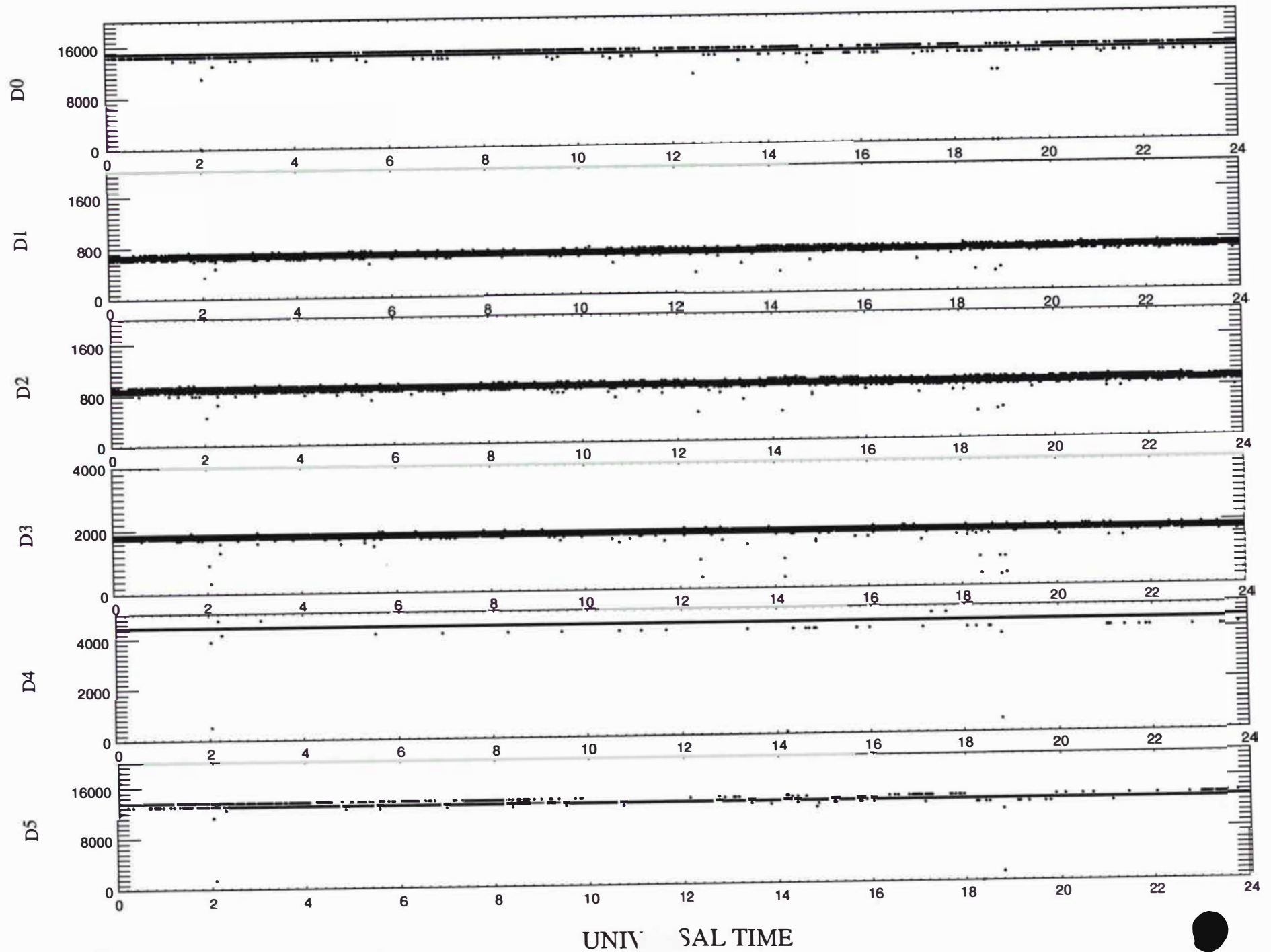


Burst Counter 3 at UT=18.838415345086 h=67818.295 s 18:50:18.295



CALIBRATION DATA INCLUDED





From khurley@sunspot Wed Sep 2 08:44 PDT 1998
 Date: Wed, 2 Sep 1998 08:47:10 -0700
 From: khurley@sunspot (Kevin Hurley)
 To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
 butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
 kmarar@isac.ernet.in, vnp@isac.ernet.in,
 bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
 yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
 henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov
 Subject: Bursts from SGR1900, August 28-30

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing times would have been ~1900 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
28 AUG 98 01:27	32 ms long, weak	3150
28 AUG 98 10:54	300 s long, intense; definitely SGR1900	3150
28 AUG 98 11:38	1 s long, intense; followed by another intense burst 144 s later	3150
28 AUG 98 13:13	32 ms long, intense	3150
28 AUG 98 17:09	>64 s long, intense	3150
29 AUG 98 00:07	32 ms long, moderate	3150
29 AUG 98 06:44	? data missing	3150
29 AUG 98 21:44	32 ms long, weak	3150
29 AUG 98 23:11	32 ms long, weak	3150
30 AUG 98 02:11	64 ms long, moderate	3150
30 AUG 98 10:48	5 s long, intense	3150
30 AUG 98 15:14	32 ms long, weak	3150
30 AUG 98 18:50	2 s long, intense	3150

Were these events detected by anyone else?

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

From RICHARDSON@fender.msfc.nasa.gov Tue Sep 8 08:10:00 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 8 Sep 1998 10:04:05 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7033

TIME: TJD=1055 SECONDS= 8343

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
SAA ENTRY

GRBM 19980830 52457

ULYSSES RT

04 / 05 / 07

30/08/98 50220.102 s

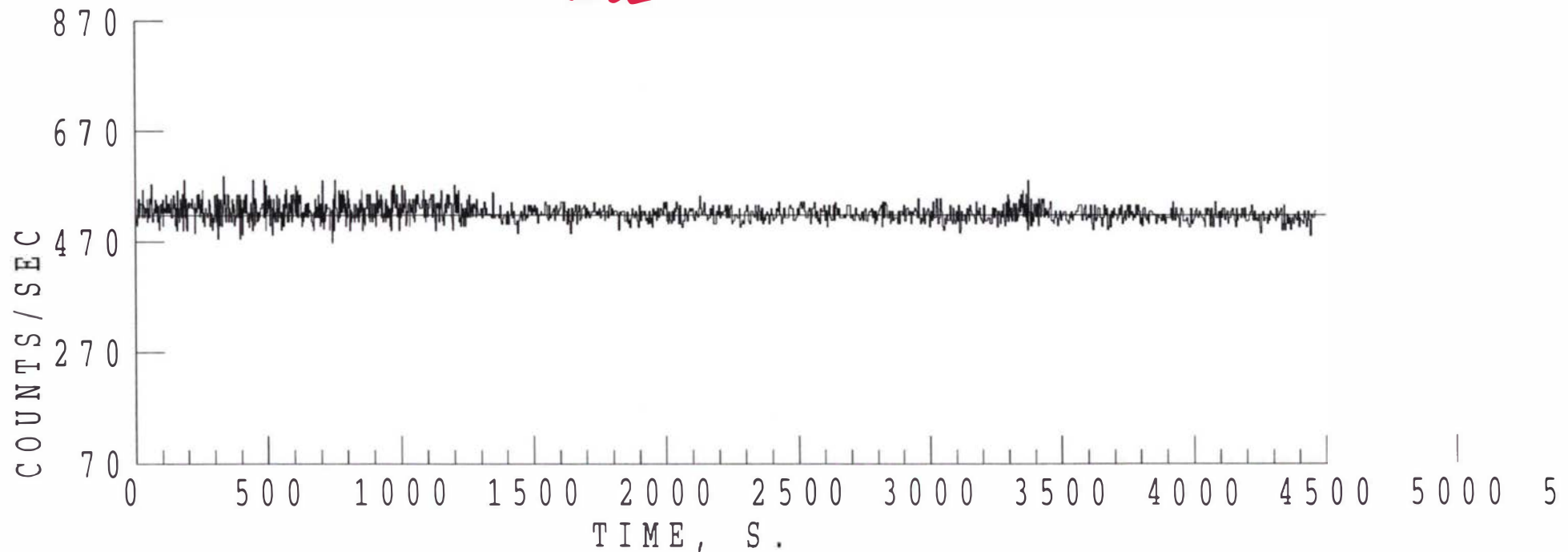
INTERVALS REGROUPED BY 8

0 - 0 keV

M= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

M= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

*This is the entire crossing
window for the GRBM error
circle*



From WOODSP@fender.msfc.nasa.gov Wed Sep 2 08:36:25 1998

From: WOODSP@fender.msfc.nasa.gov

Date: Wed, 2 Sep 1998 10:35:57 -0500 (CDT)

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

286.8, 9.3

BATSE BURST TRIGGER

NO.: 7035

Aug 30
TIME: TJD=1055 SECONDS=69775 19:22:55

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

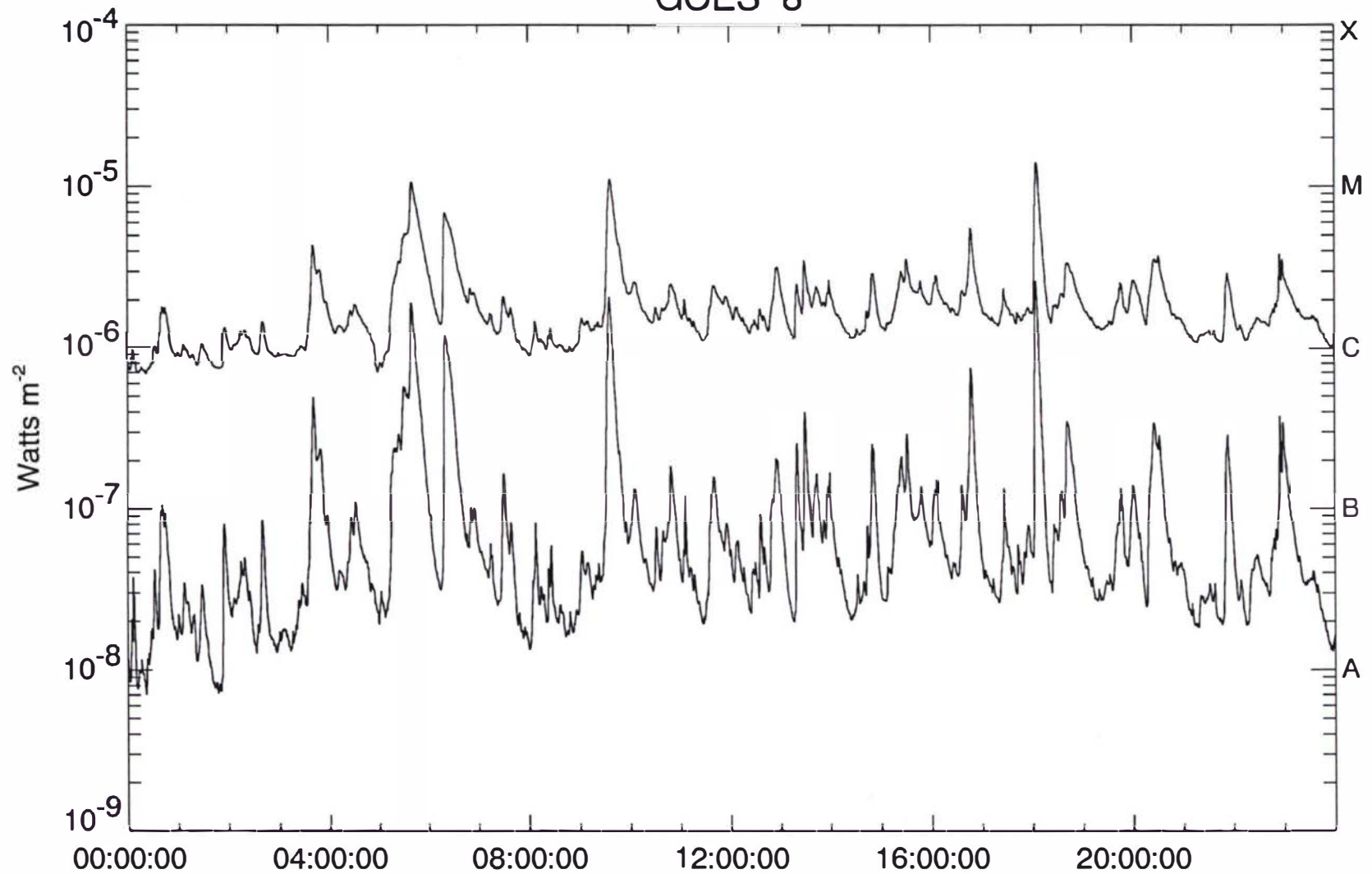
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.8 AZIMUTH=143.9 ERROR=3.6 DEGREES

COMMENTS:

SGR 1900+14. SINGLE PULSE WITH SUBSTRUCTURE LASTING ABOUT 0.08 SEC.
WEAKLY VISIBLE ABOVE 100 KEV.

GOES 8



Data Start: 98/08/30, 0000:00

Plot created: 98/09/03, 1007

Channel

1 (1.0 - 8.0 Angstroms)

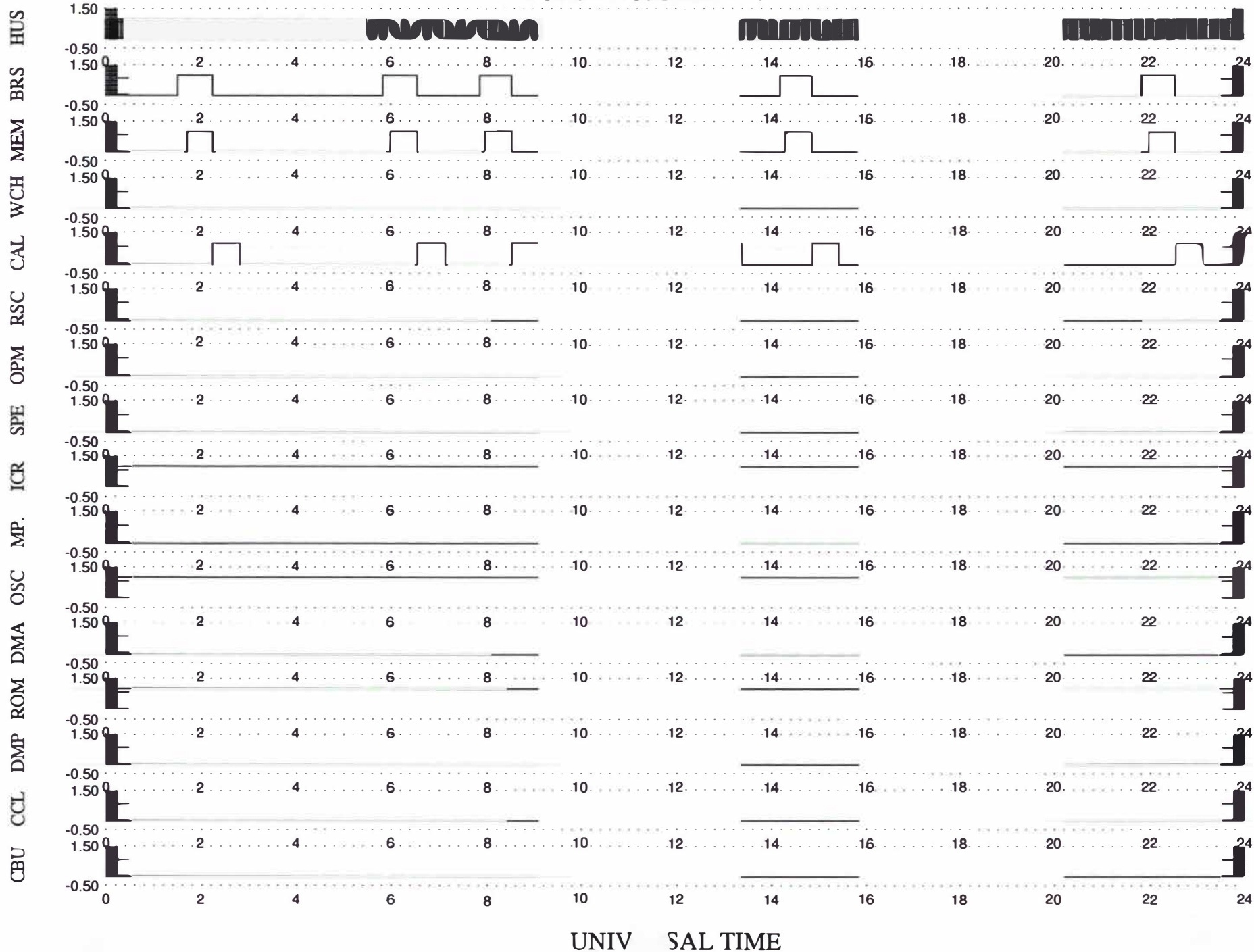
Background not subtracted

2 (0.5 - 4.0 Angstroms)

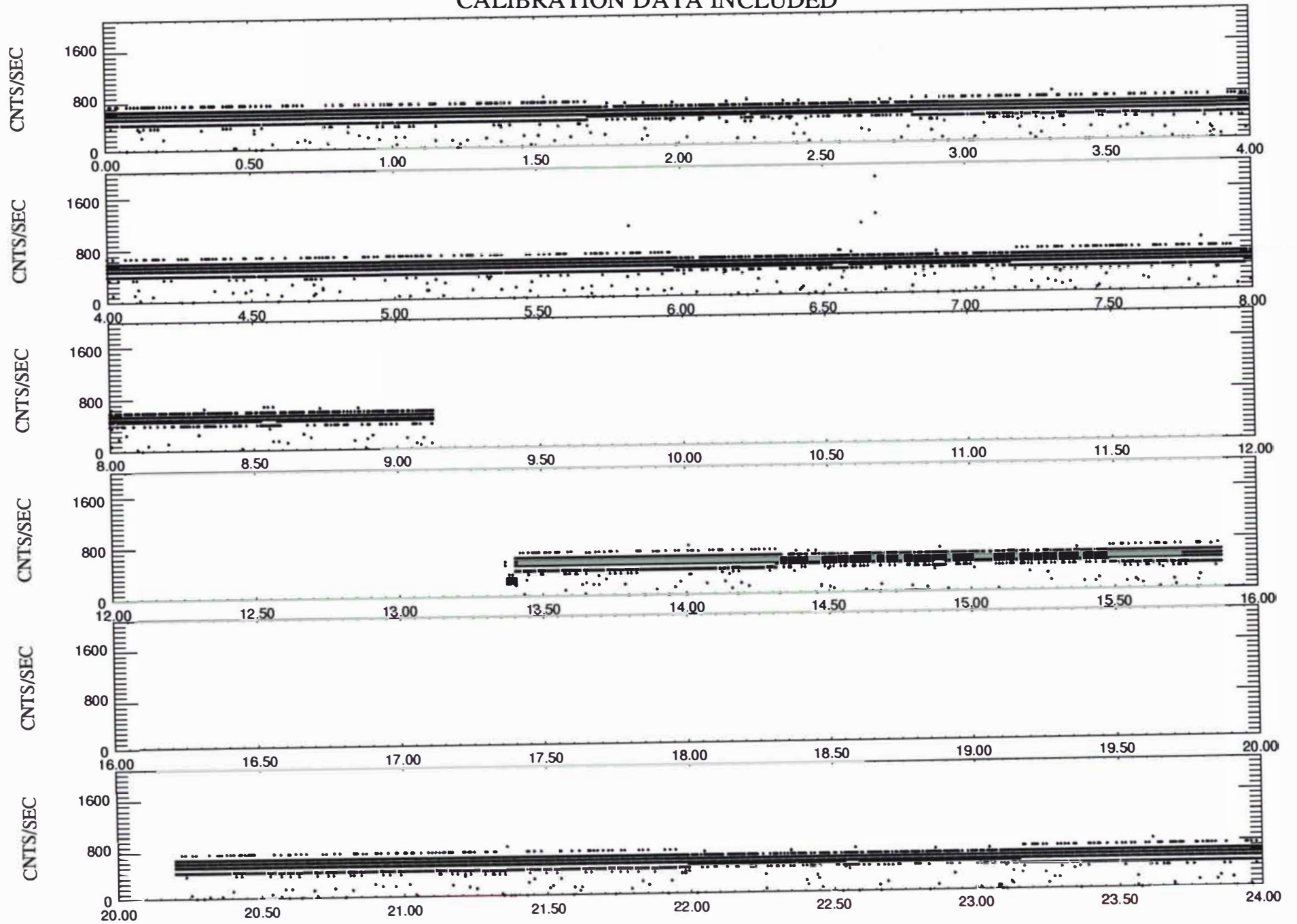
Background not subtracted

Sample average = 10

BURST NUMBER 4 - 9

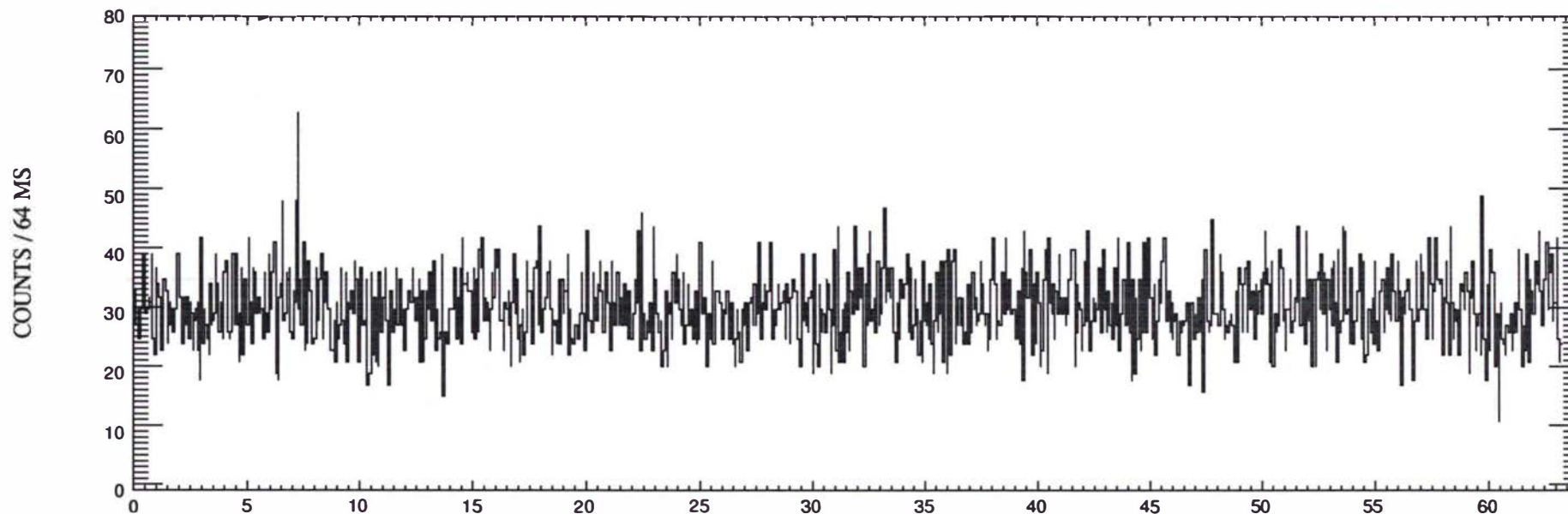


CALIBRATION DATA INCLUDED

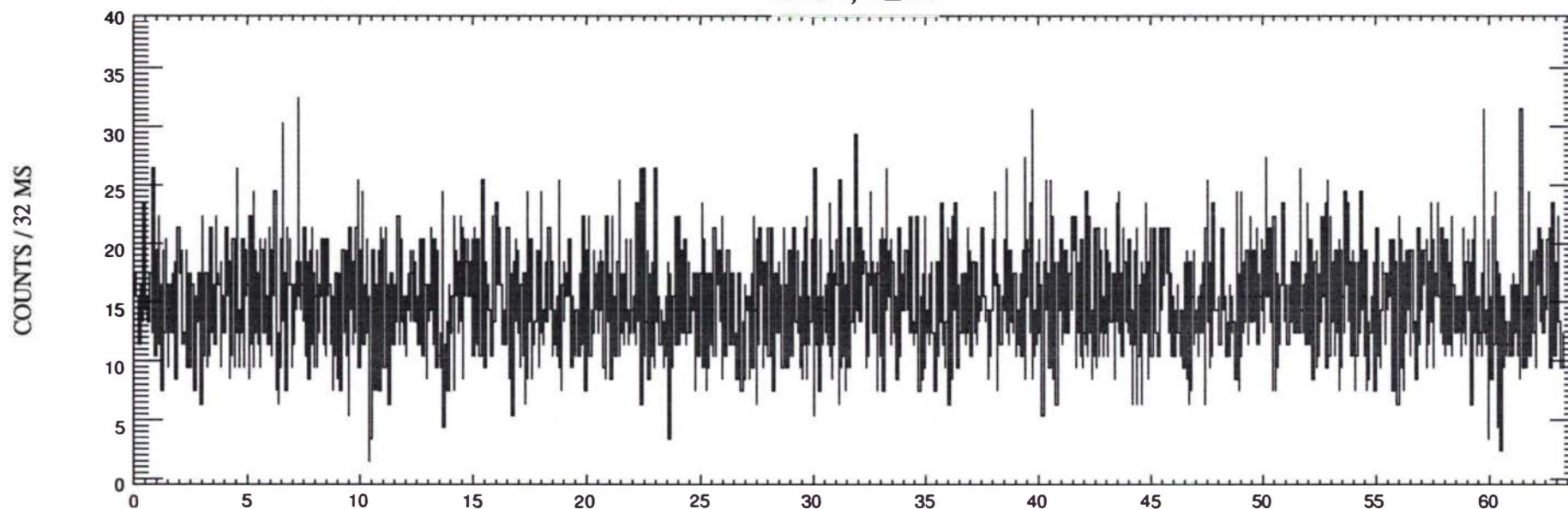


UNIV SAL TIME

Burst Counter 4 at UT= 1.525549536811 h= 5491.978 s 01:31:31.978

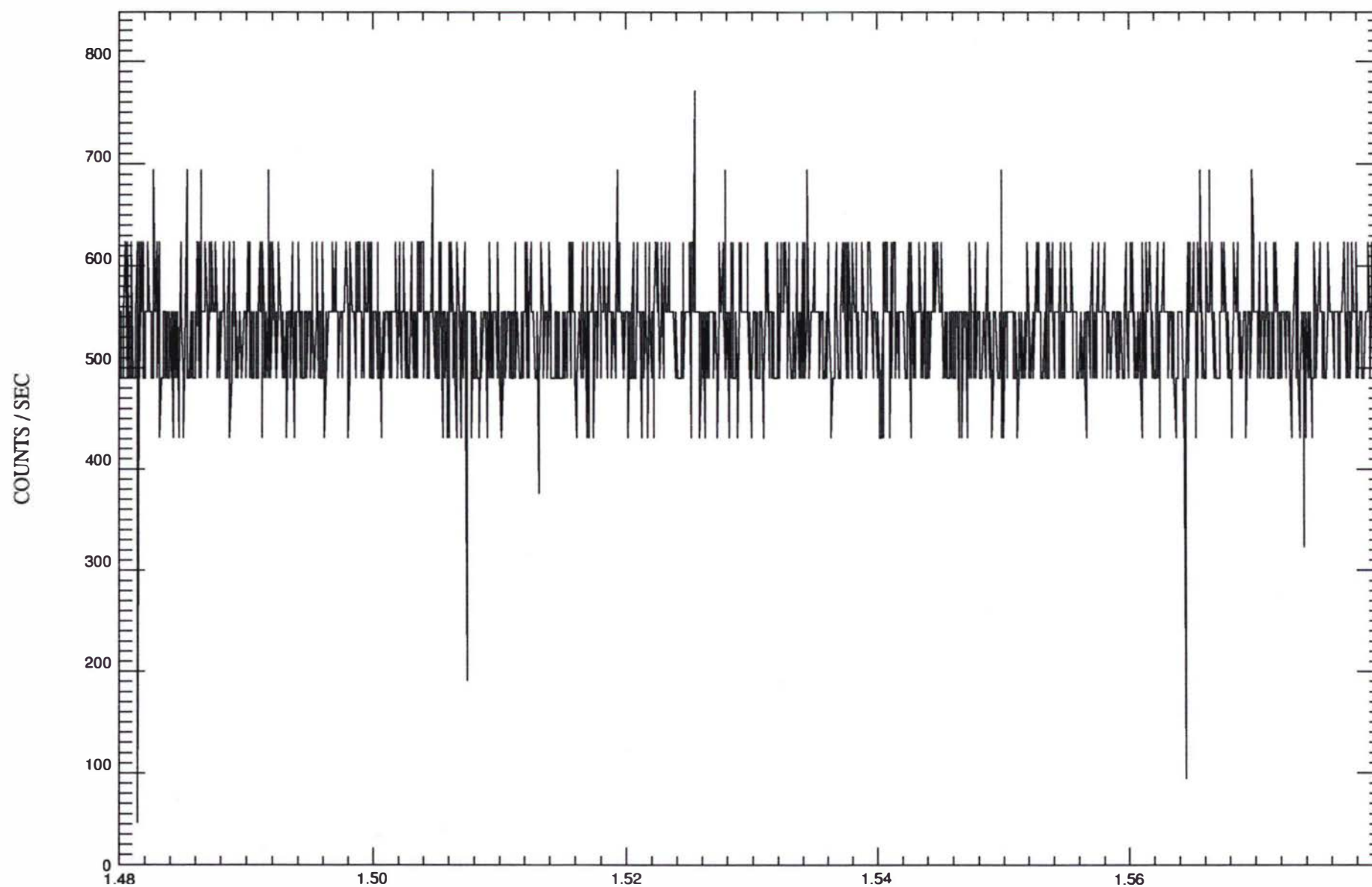


TIME, SECS

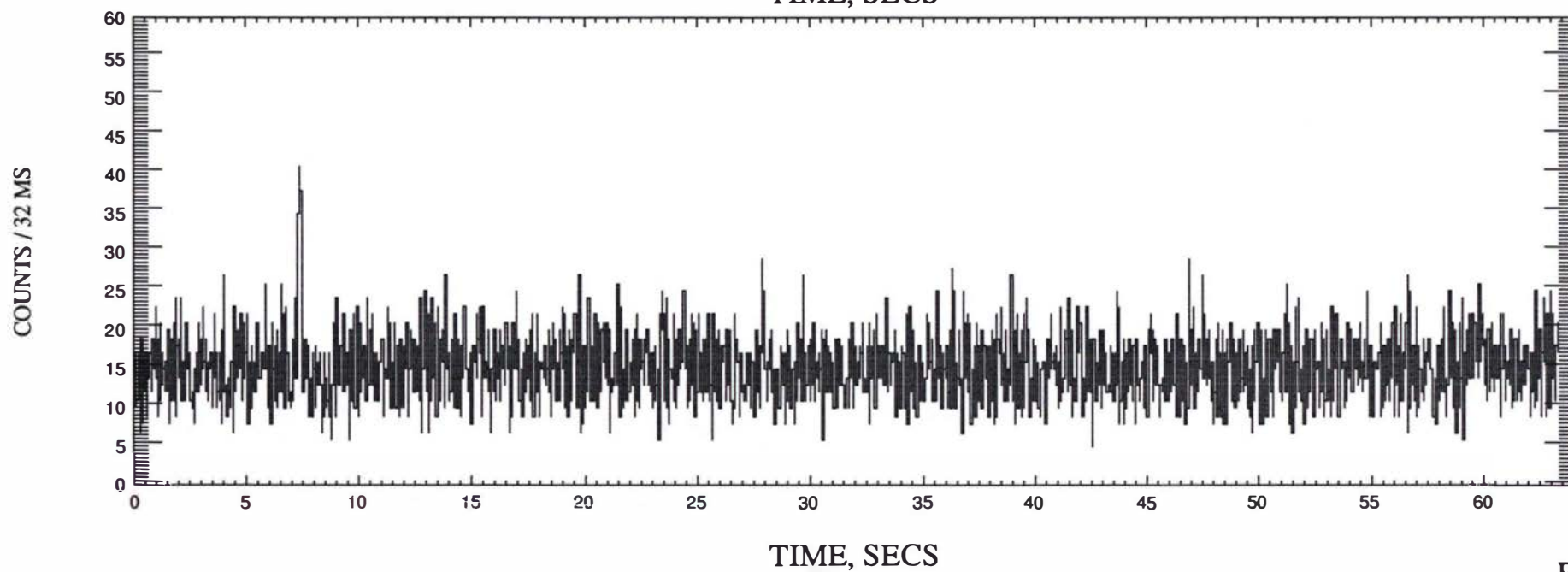
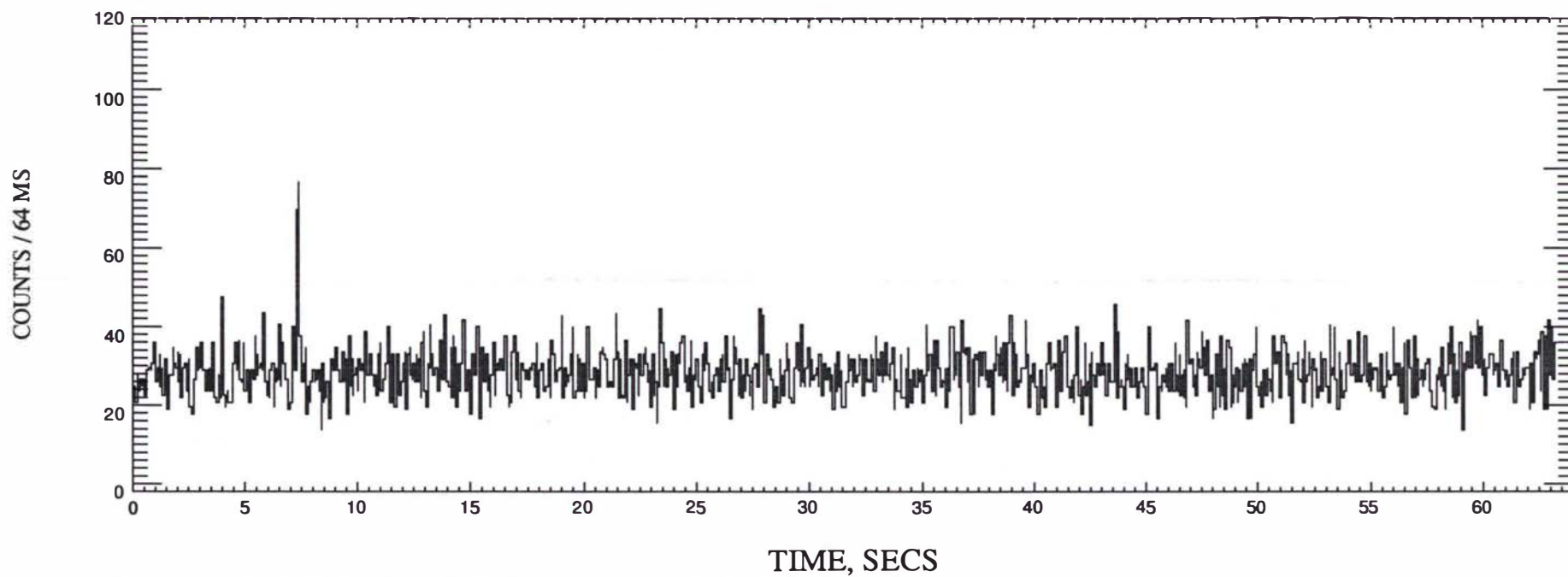


TIME, SECS

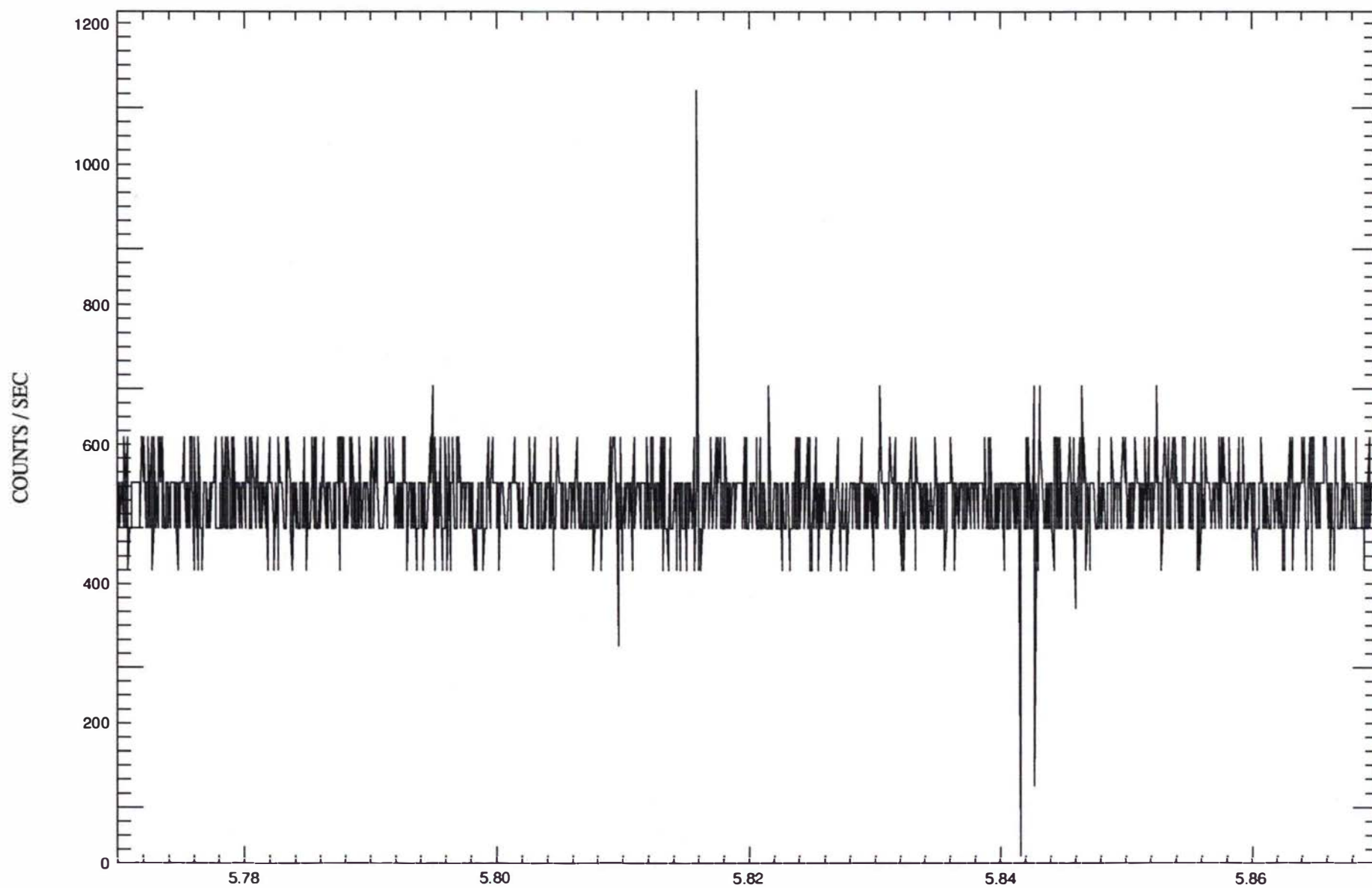
CALIBRATION DATA INCLUDED



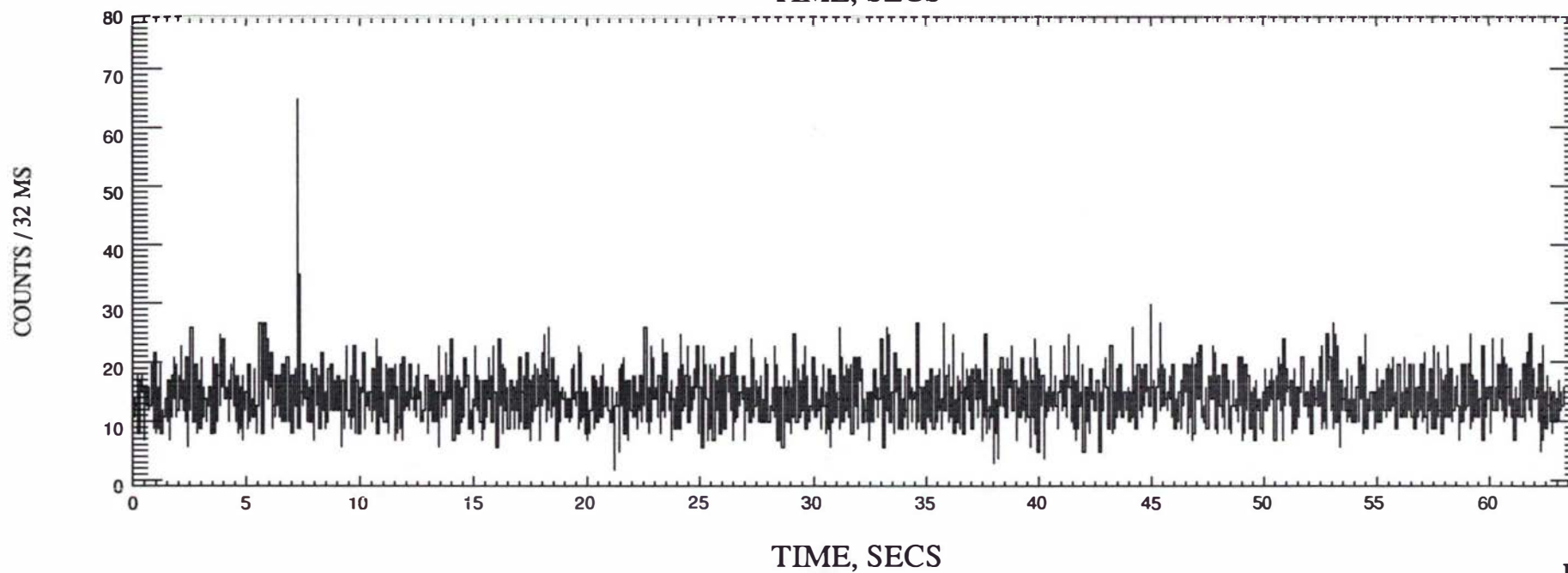
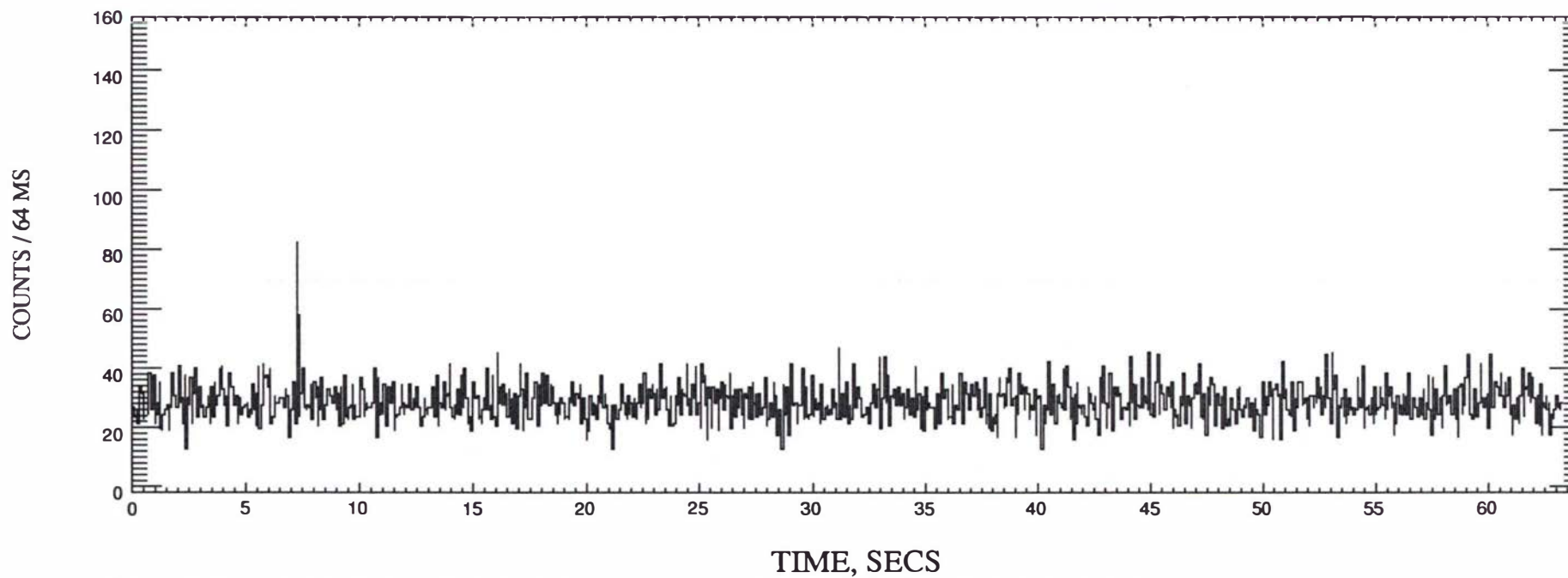
Burst Counter 5 at UT= 5.815935927497 h=20937.369 s 05:48:57.369



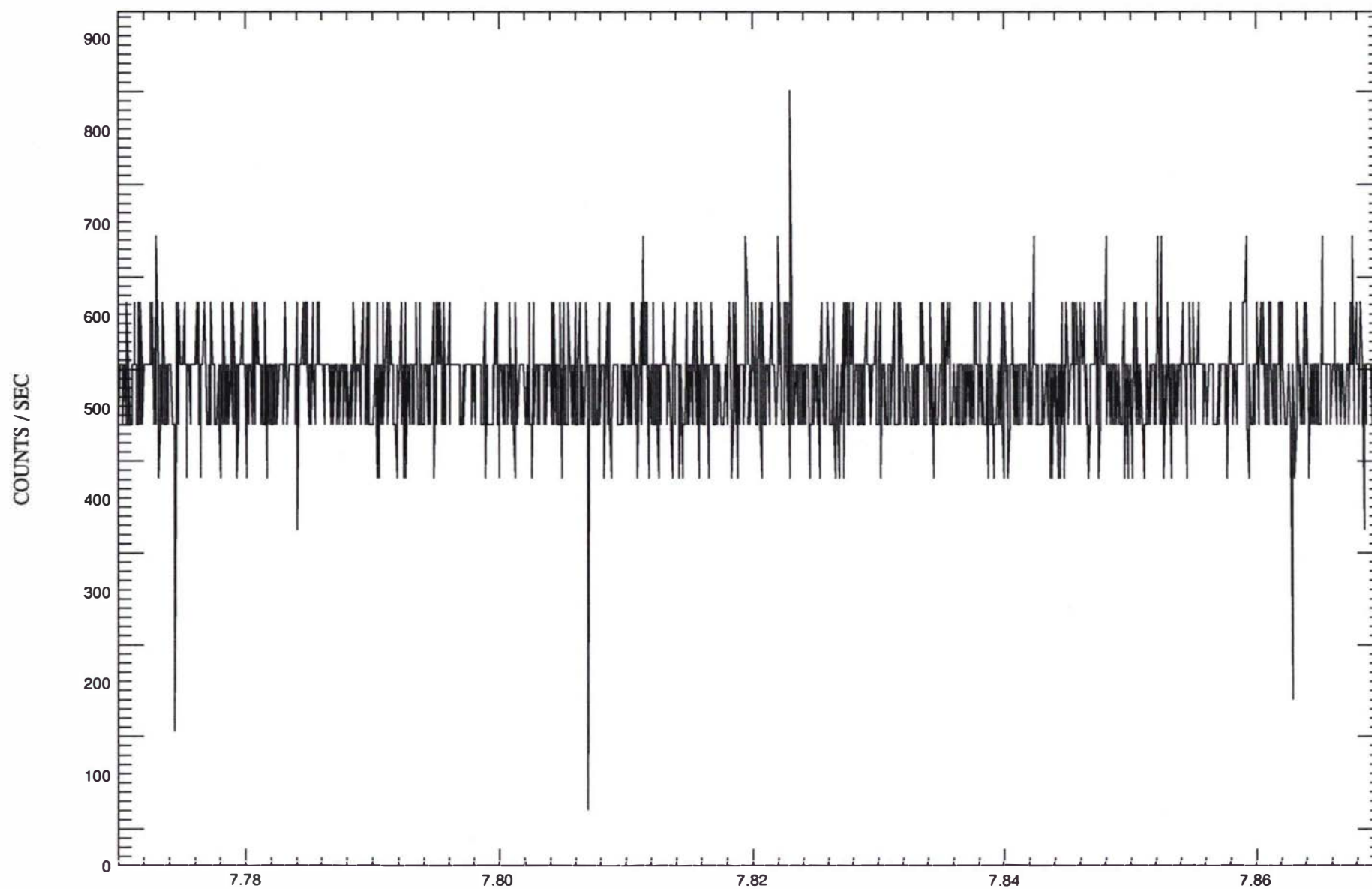
CALIBRATION DATA INCLUDED



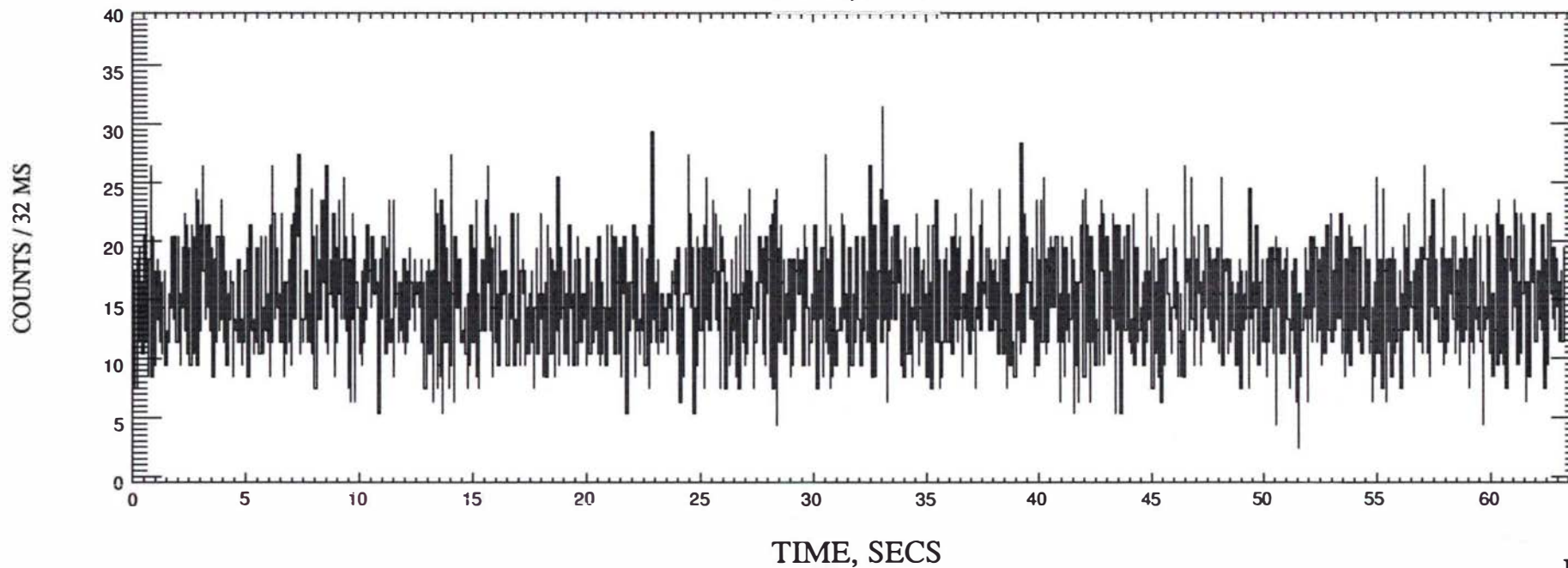
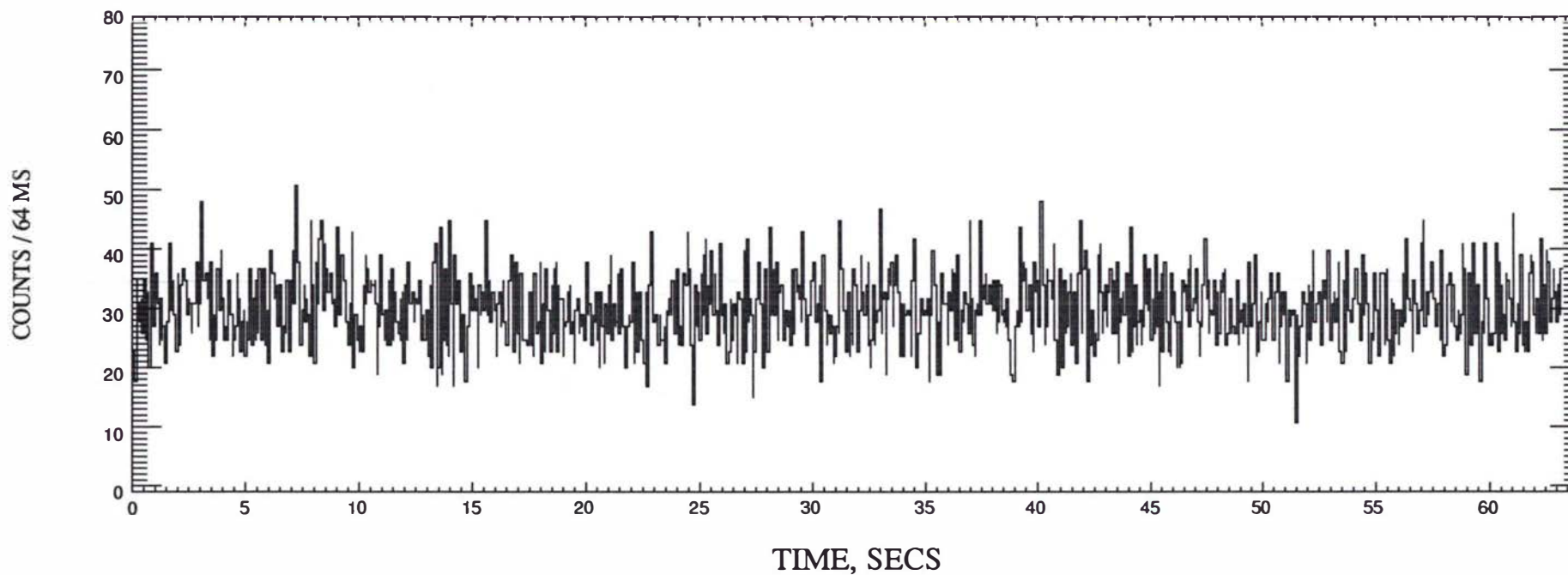
Burst Counter 6 at UT= 7.823079291450 h=28163.085 s 07:49:23.085



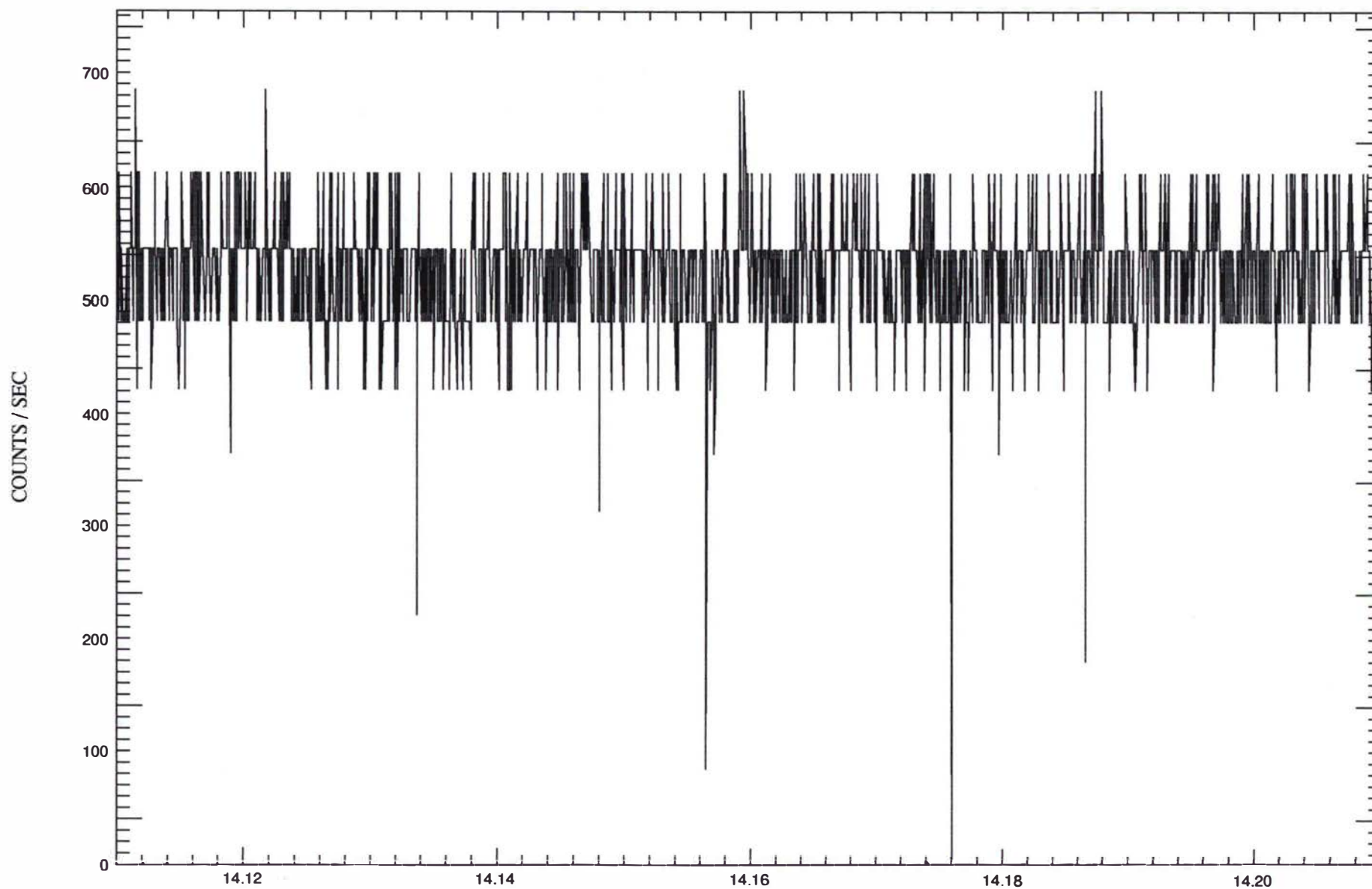
CALIBRATION DATA INCLUDED



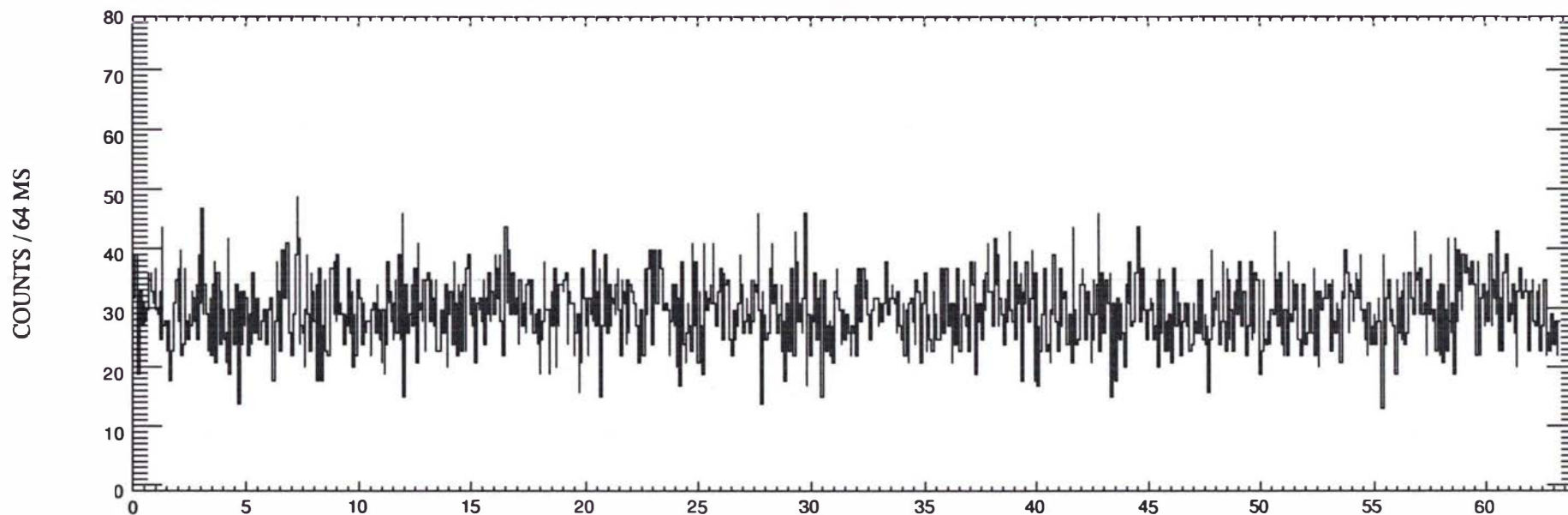
Burst Counter 8 at UT=14.159298282199 h=50973.474 s 14:09:33.474



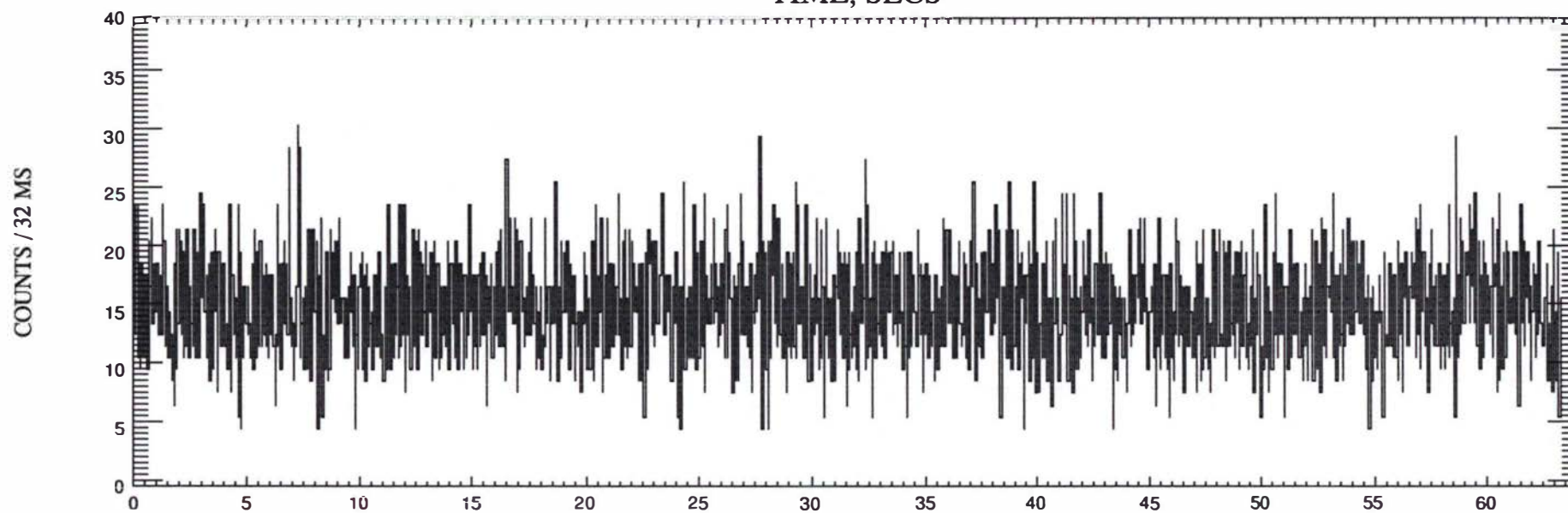
CALIBRATION DATA INCLUDED



Burst Counter 9 at UT=21.835768042670 h=78608.765 s 21:50:08.765

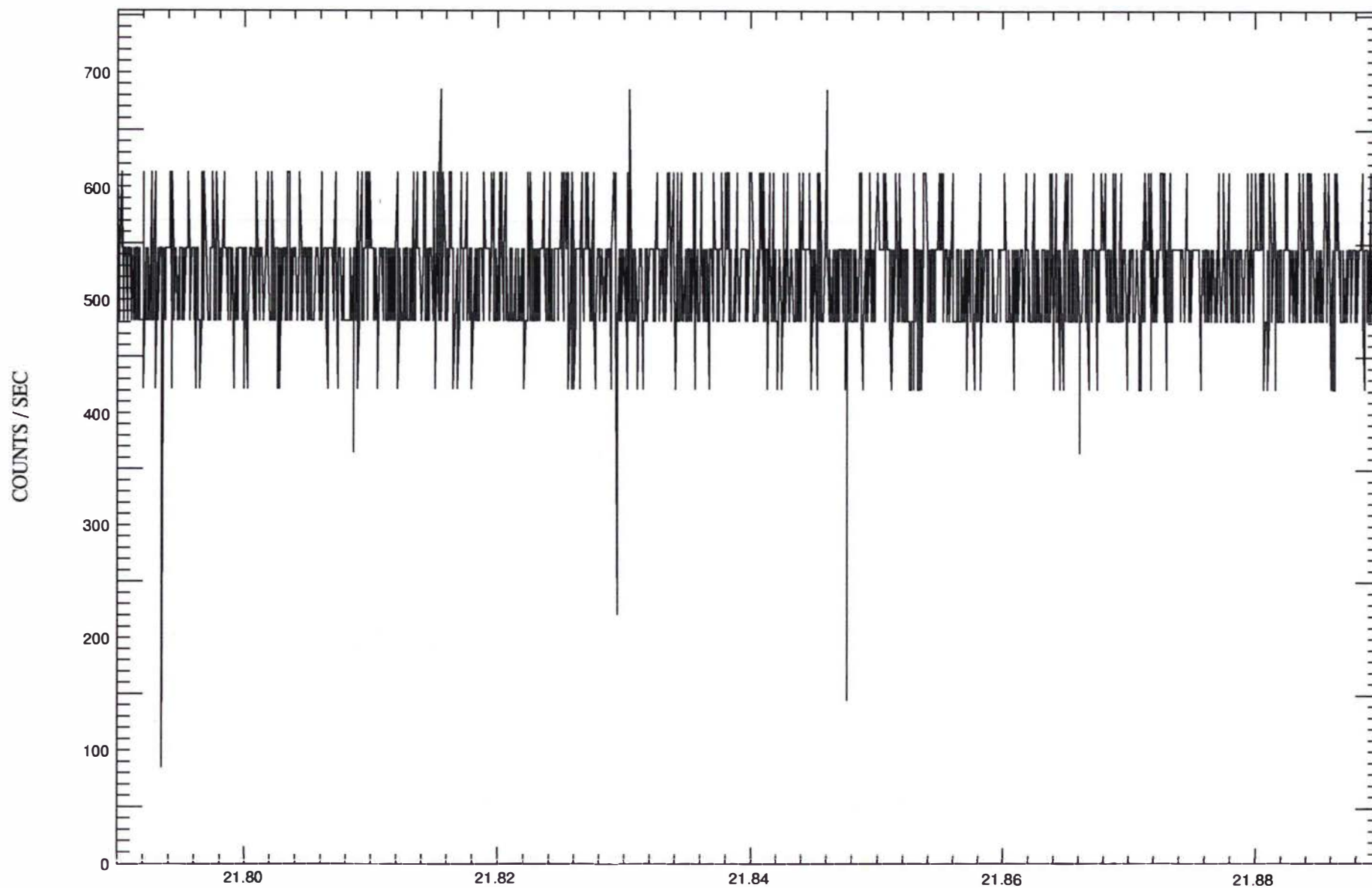


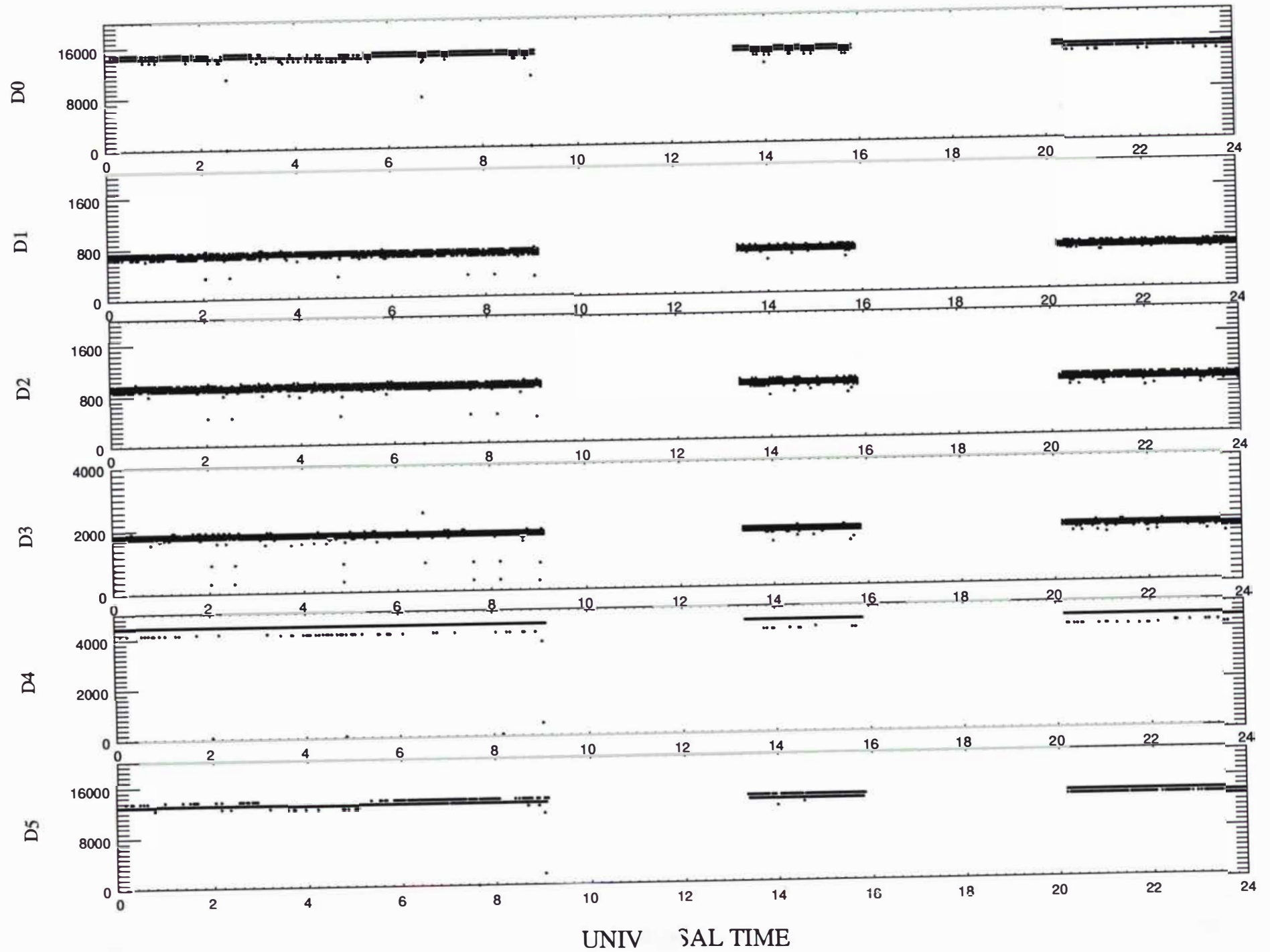
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Thu Sep 3 08:39:48 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 3 Sep 1998 10:39:29 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7038

TIME: TJD=1056 SECONDS=45300 12:35:00

Aug 31

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=127.9 AZIMUTH=140.1 ERROR=9.2 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE DUR. APPROX. 0.07 S, STARTS AT APPROX. T-0.07 S. NOT
VISIBLE ABOVE 100 KEV. OVERWRITTEN DURING HERB SO STE READ OUT AS #7039.

From SAHI@fender.msfc.nasa.gov Thu Sep 3 08:44:19 1998
From: SAHI@fender.msfc.nasa.gov
Date: Thu, 3 Sep 1998 10:44:04 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7039

TIME: TJD=1056 SECONDS=47151 13:05:51

Aug 31

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.7 AZIMUTH=153.8 ERROR=1.73 DEGREES

COMMENTS:

SGR 1900+14. INTENSE SINGLE SPIKE, WITH SUBSTRUCTURE, DUR. APPROX. 0.5 S.
VISIBLE ABOVE 100 KEV. OVERWROTE PREVIOUS EVENT DURING HERB SO STE BELONGS TO
7038.

From RICHARDSON@fender.msfc.nasa.gov Wed Sep 2 11:02:41 1998

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 2 Sep 1998 13:02:26 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7041

TIME: TJD=1056 SECONDS=63373

Aug 31

17:36:13

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=122.1 AZIMUTH=143.0 ERROR=4.2 DEGREES

COMMENTS:

SGR 1900+14

DOUBLE PULSE WITH STRUCTURE. DURATION APPROX. = 0.15 SEC.

NOT VISIBLE ABOVE 100KEV.

BATSE BURST# 7041

ULYSSES RT

14 / 1 / 99

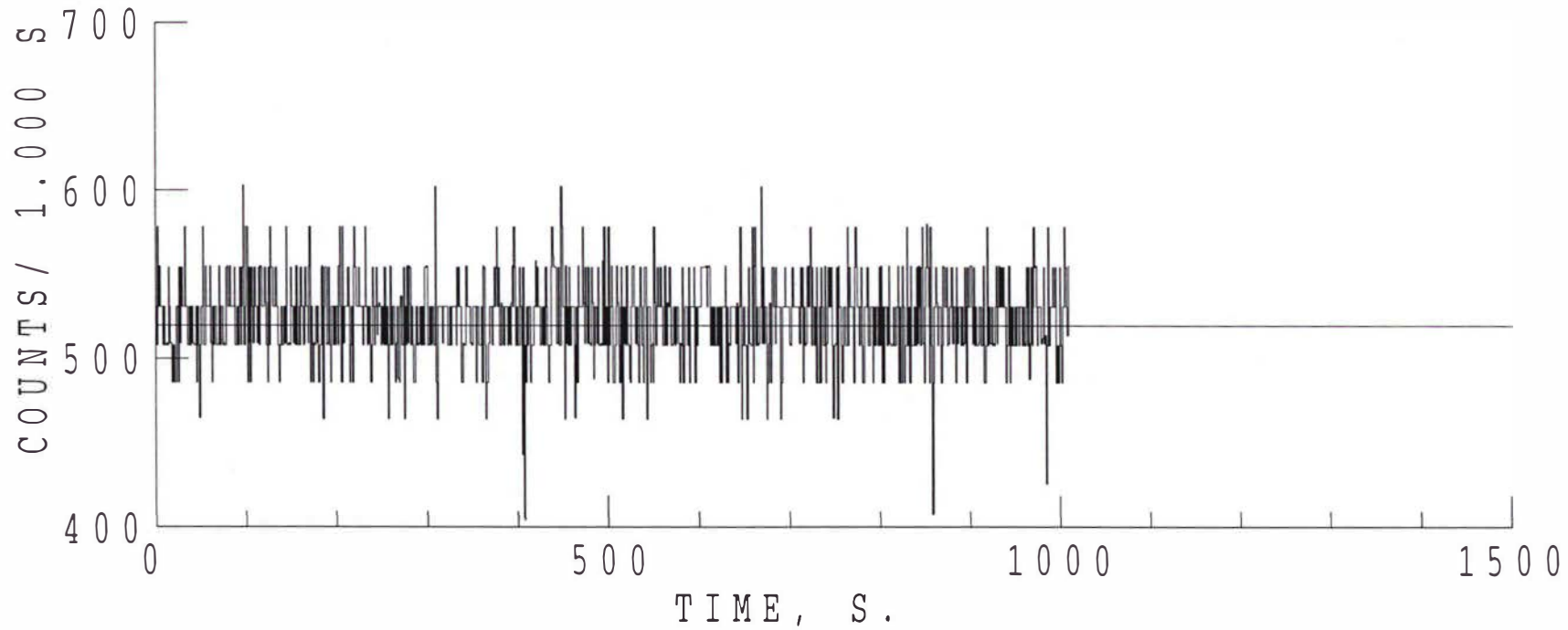
31 / 8 / 98 64764.160 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

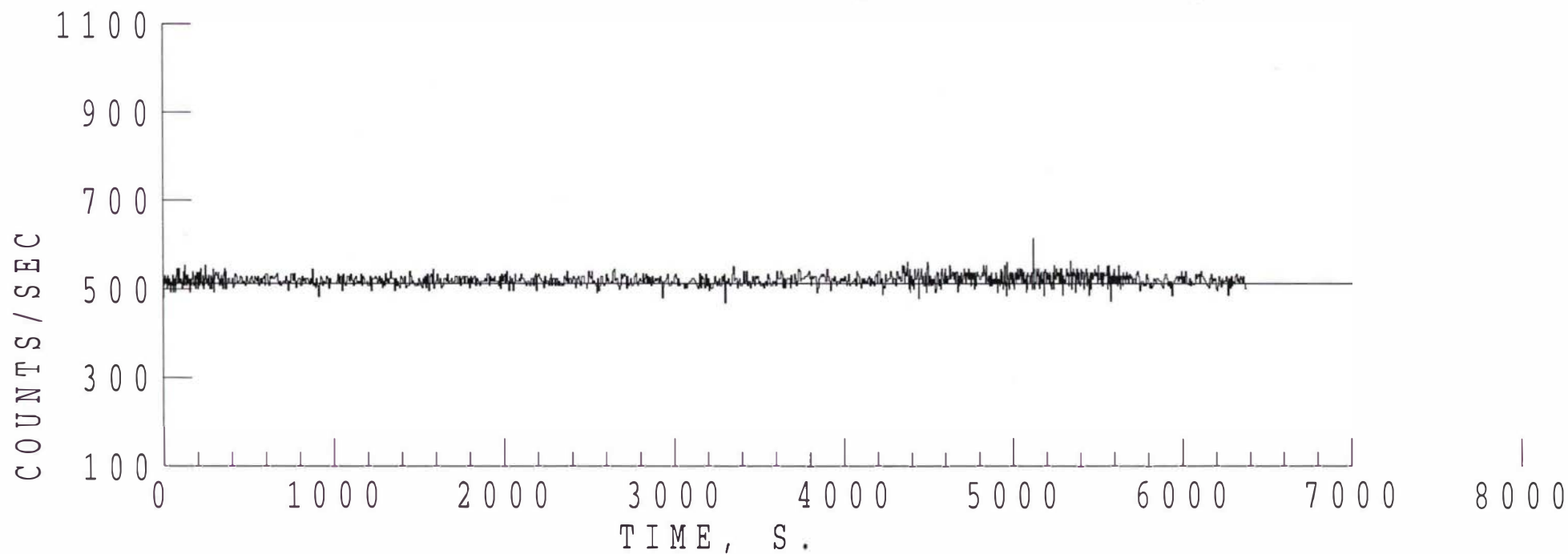


KONUS SGR 69227

14 / 1 / 99

ULYSSES RT
31 / 8 / 98 65988.180 s
INTERVALS REGROUPED BY 6
0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

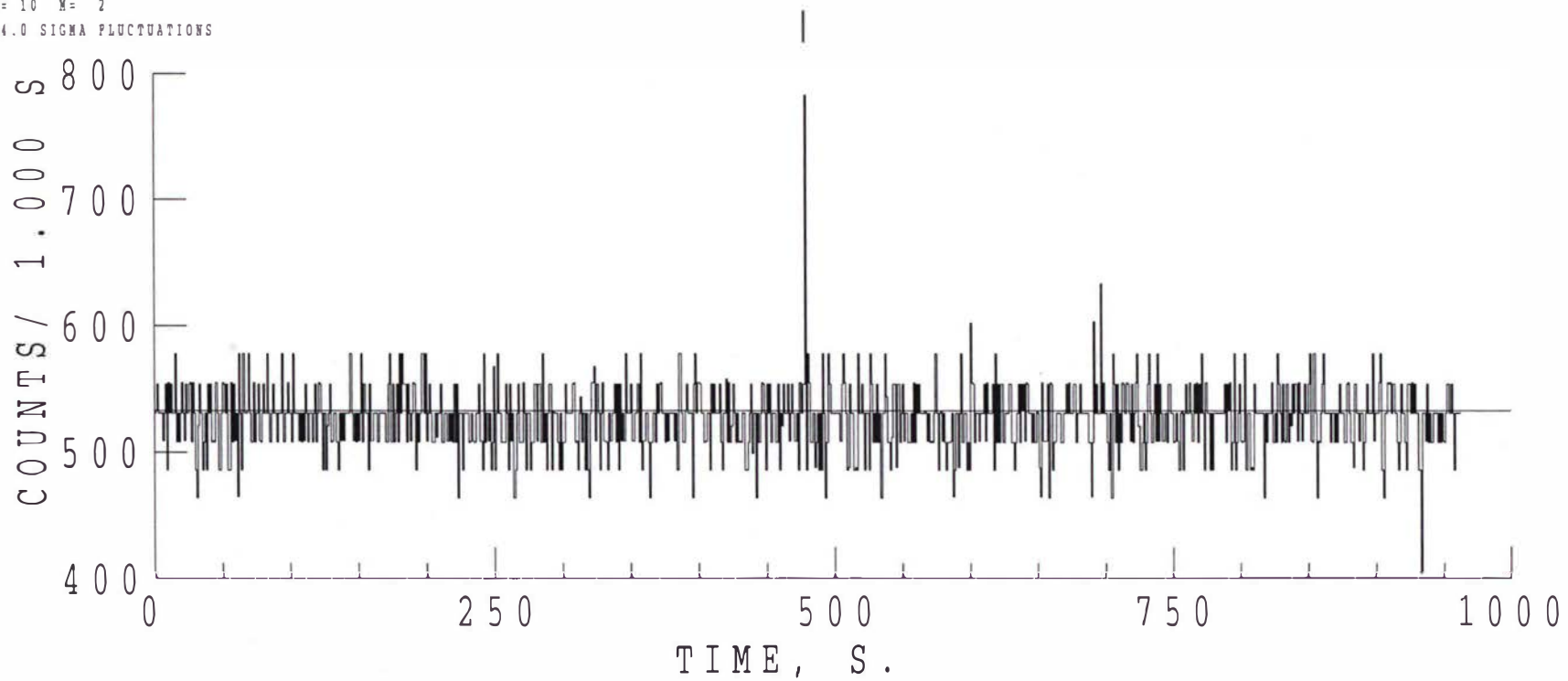
14 / 1 / 99

31 / 8 / 98 70632.227 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS SGR

22 / 12 / 98

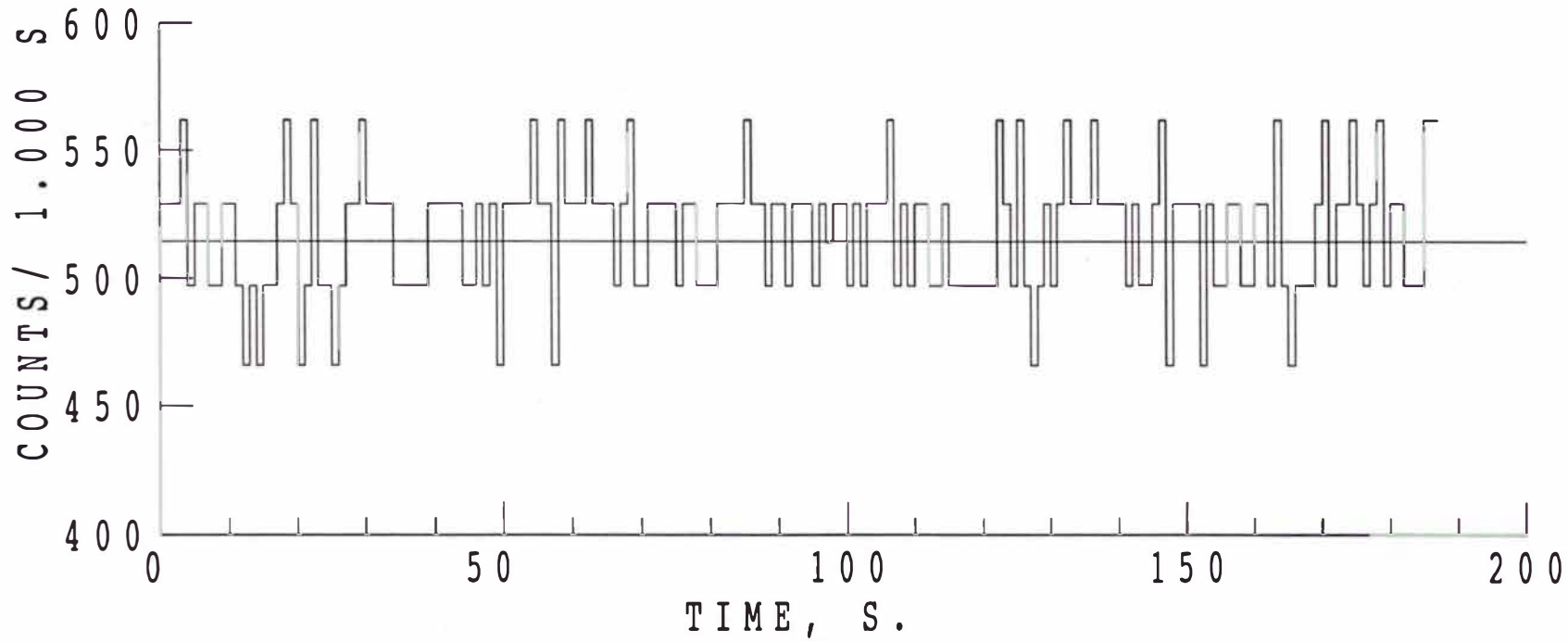
ULYSSES RT

31 / 8 / 98 72245.242 s

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 Sep 30 13:25 PDT 1998
Mime-Version: 1.0
Date: Wed, 30 Sep 1998 16:30:43 -0400
To: mazets@mz.ioffe.rssi.ru, golen@mz.ioffe.rssi.ru,
KHURLEY@sunspot.ssl.berkeley.edu
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Correction

Dear Evgeny, Sergei, and Kevin:

I may have sent an incorrect message, which I had lost before I finished it.

The message I mean to convey is that there are a number of sequel events to the giant 98 08 27 event, that I had overlooked in my being out of town and in my general preoccupation with other things during the last few weeks.

These events (may be no big deal, since SGRs are going off now all the time now) but may be interesting in that some seem to also have a periodicity.

These may include the following:

70684.449	8/28
83650.680	8/28
36994.068	8/29
65925.166	8/29
56858.156	8/31 <i>Trigger</i>
69227.249	8/31
17656.387	9/01
62419.649	9/02
27657.917	9/03
349.014	9/04
23131.249	9/05
etc.	
etc.	

64995.550 8/30 appears to be a GRB, however.

TLC

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

From cline@apache.gsfc.nasa.gov Thu Sep 3 09:23 PDT 1998
Mime-Version: 1.0
Date: Thu, 3 Sep 1998 12:28:34 -0400
To: khurley@sunspot.ssl.berkeley.edu (Kevin Hurley)
From: cline@apache.gsfc.nasa.gov (T L Cline)
Subject: Re: GRBs on 980831

KEVIN

I've been amazed (ever since 1976 or so) that two different spacecraft seem to see often such a disparate group of events.

Auto-Konus has sent me the following recent events:

```
98 08 31 56858 sec
      "   69227
09 01 17656
      "   61232
02 62419
```

Auto-Konus should be sending you these, if it isn't yet.
I don't know if Teresa and Paul have finished their checkouts,
but the auto-Konus events I've seen are OK, EXCEPT that
some small fraction of the events still come as all zeroes.

I'll attach the first one - it may fit, and find out.

TLC

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come
>from SGR1900+14. If so, the Earth-crossing time would have
>been ~1900 s earlier.

```
>
>ULYSSES DATE & TIME      COMMENTS          ULYSSES DISTANCE FROM EARTH, LIGHT-S
>
>31 AUG 98 03:47          32 ms long, weak          3150
>31 AUG 98 06:19          32 Ms long, weak          3150
>31 AUG 98 10:17           1 s long, moderate        3150
>31 AUG 98 16:19         100 ms long, moderate        3150
>31 AUG 98 21:28          32 ms long, weak          3150
>31 AUG 98 22:53           3 s long, moderate        3150
>31 AUG 98 23:59          64 ms long, weak          3150
```

```
>
>Were these events detected by anyone else?
```

```
>
>CC: ulyssesbursts alias list
>    (barthelmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar,
>teegarden, terrell, yoshimori)
```

<This message contains 2 attachments (not printed)>

From khurley@sunspot Thu Sep 3 07:51 PDT 1998
Date: Thu, 3 Sep 1998 07:55:37 -0700
From: khurley@sunspot (Kevin Hurley)
To: scott@lheamail.gsfc.nasa.gov, khurley@sunspot,
butterworth@lhevax.gsfc.nasa.gov, cline@lhevax.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@lheamail.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, filippo@botes1.tesre.bo.cnr.it,
henze@fender.msfc.nasa.gov, kraken@rosserv.gsfc.nasa.gov
Subject: GRB's on 980831
Cc: woods@eagles.msfc.nasa.gov

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

Ulysses observed the following bursts, all suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1900 s earlier.

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
31 AUG 98 03:47	32 ms long, weak	3150
31 AUG 98 06:19	32 Ms long, weak	3150
31 AUG 98 10:17	1 s long, moderate	3150
31 AUG 98 16:19	100 ms long, moderate	3150
31 AUG 98 21:28	32 ms long, weak	3150
31 AUG 98 22:53	3 s long, moderate	3150
31 AUG 98 23:59	64 ms long, weak	3150

Were these events detected by anyone else?

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

From SAHI@fender.msfc.nasa.gov Thu Sep 3 08:25:21 1998
From: SAHI@fender.msfc.nasa.gov
Date: Thu, 3 Sep 1998 10:24:37 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7036

TIME: TJD=1056 SECONDS=23102

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=3.1 AZIMUTH=318.8 ERROR=0.08 DEGREES

COMMENTS:

NO GOES, OPTICAL SF.-SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 150 S, STARTS
AT APPROX. T-45 S, MAX. AT APPROX. T+27 S. NOT VISIBLE ABOVE 100 KEV. UNTRIGGERED
SGR AT APPROX. T+270 S. PHOSHOESCENT SPOKE AT APPROX. T+360 S.

From SAHI@fender.msfc.nasa.gov Thu Sep 3 08:30:12 1998

From: SAHI@fender.msfc.nasa.gov

Date: Thu, 3 Sep 1998 10:29:30 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7037

Aug 31

286.8, 9.3

TIME: TJD=1056 SECONDS=34606

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=117.8 AZIMUTH=151.1 ERROR=2.9 DEGREES

COMMENTS:

SGR 1900+14. SINGLE SPIKE, DUR. APPROX. 0.05 S. NOT VISIBLE ABOVE 100 KEV.

SUCCESSOR EVENT AT APPROX. T+500 S.

Saw this one

BATSE BURST# 7037

ULYSSES RT

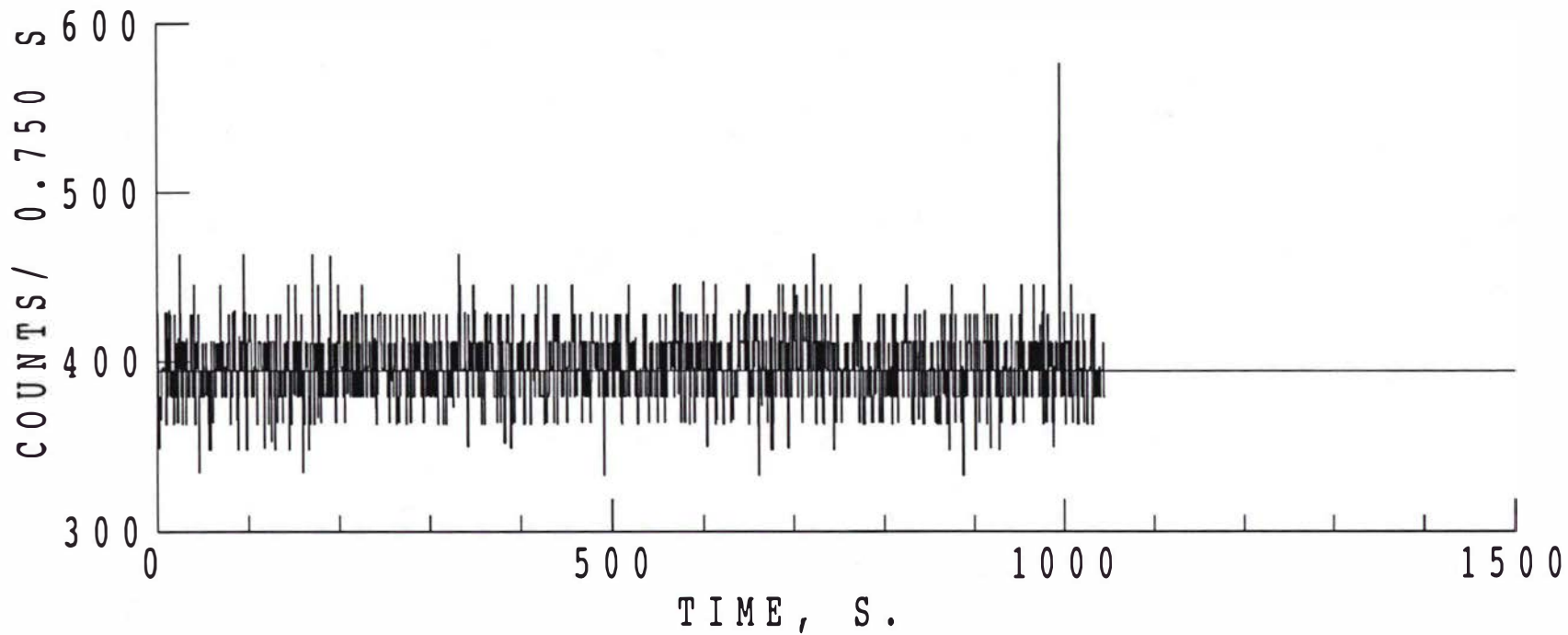
4 / 9 / 98

31 / 8 / 98 36000.113 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Wed Sep 2 12:24:10 1998
Date: Wed, 2 Sep 1998 14:23:45 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7040

TIME: TJD=1056 SECONDS=56114

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 2.1 AZIMUTH=315.8 ERROR= 0.1 DEGREES

COMMENTS:

GOES M1.5, OPTICAL SF. SINGLE PULSE, DUR. PROB. APPROX. 130 S.
MAX AT APPROX. T+55 S. NOT VISIBLE ABOVE 300 KEV.

From HENZE@fender.msfc.nasa.gov Wed Sep 2 12:28:43 1998
Date: Wed, 2 Sep 1998 14:28:21 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7042

TIME: TJD=1056 SECONDS=71625

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 3.1 AZIMUTH=351.6 ERROR= 0.7 DEGREES

COMMENTS:

GOES C4.4, OPTICAL SF. TWO PULSES, MAXES AT APPROX T+2 S, T+55 S.
STARTS AT APPROX. T-20 S, TOTAL DUR. APPROX. 100 S. NOT VISIBLE ABOVE 100 KEV.

From RICHARDSON@fender.msfc.nasa.gov Wed Sep 2 11:05:55 1998
From: RICHARDSON@fender.msfc.nasa.gov
Date: Wed, 2 Sep 1998 13:05:39 -0500 (CDT)
To: burst@compTEL.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7043

TIME: TJD=1056 SECONDS=80119 22:15:19

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.1 AZIMUTH=141.9 ERROR=6.4 DEGREES

COMMENTS:

SGR 1900+14

MULTIPLE PULSES WITH STRUCTURE. DURATION APPROX. = 0.4 SEC.
NOT VISIBLE ABOVE 100KEV.

BATSE BURST# 7043

ULYSSES RT

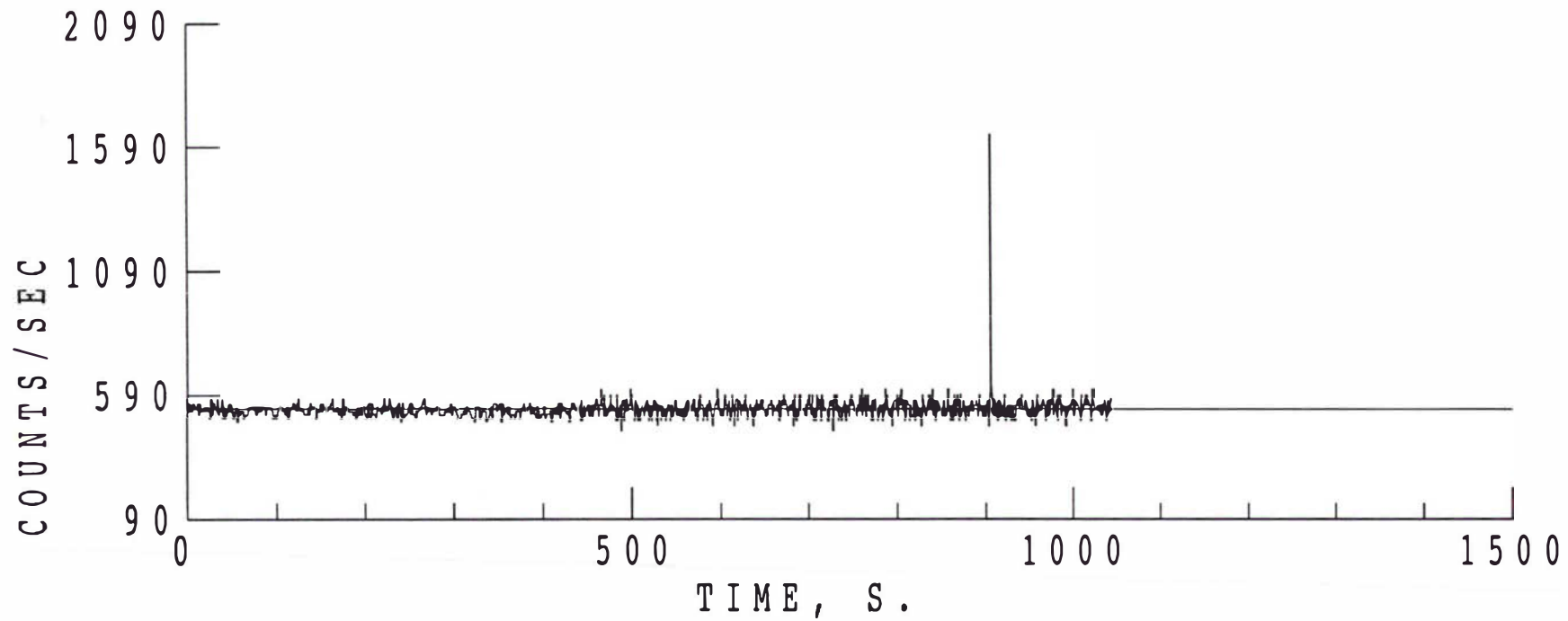
3 / 9 / 98

31 / 8 / 98 81504.336 s

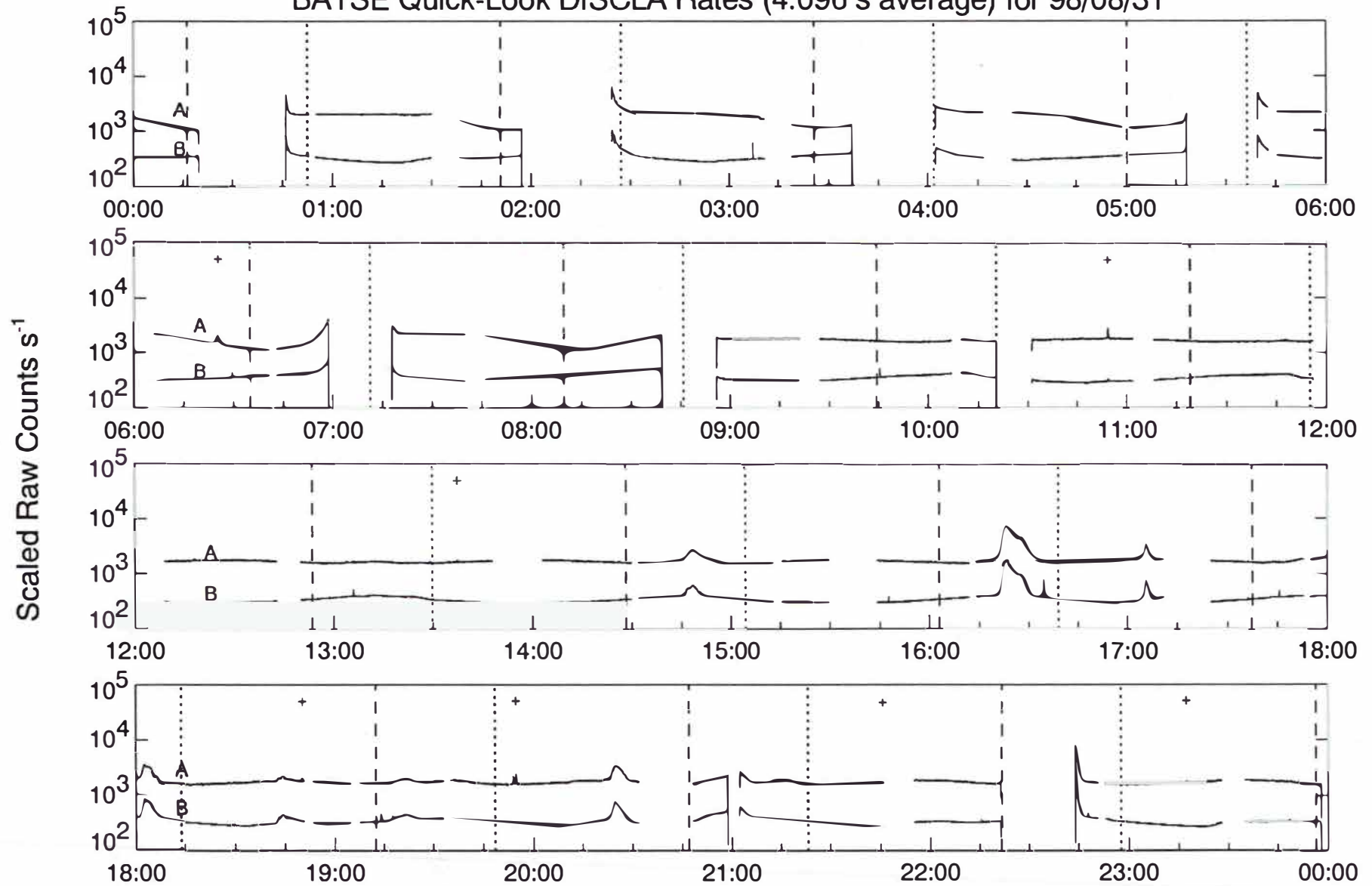
INTERVALS REGROUPED BY 3

0 - 0 keV

M= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 98/08/31

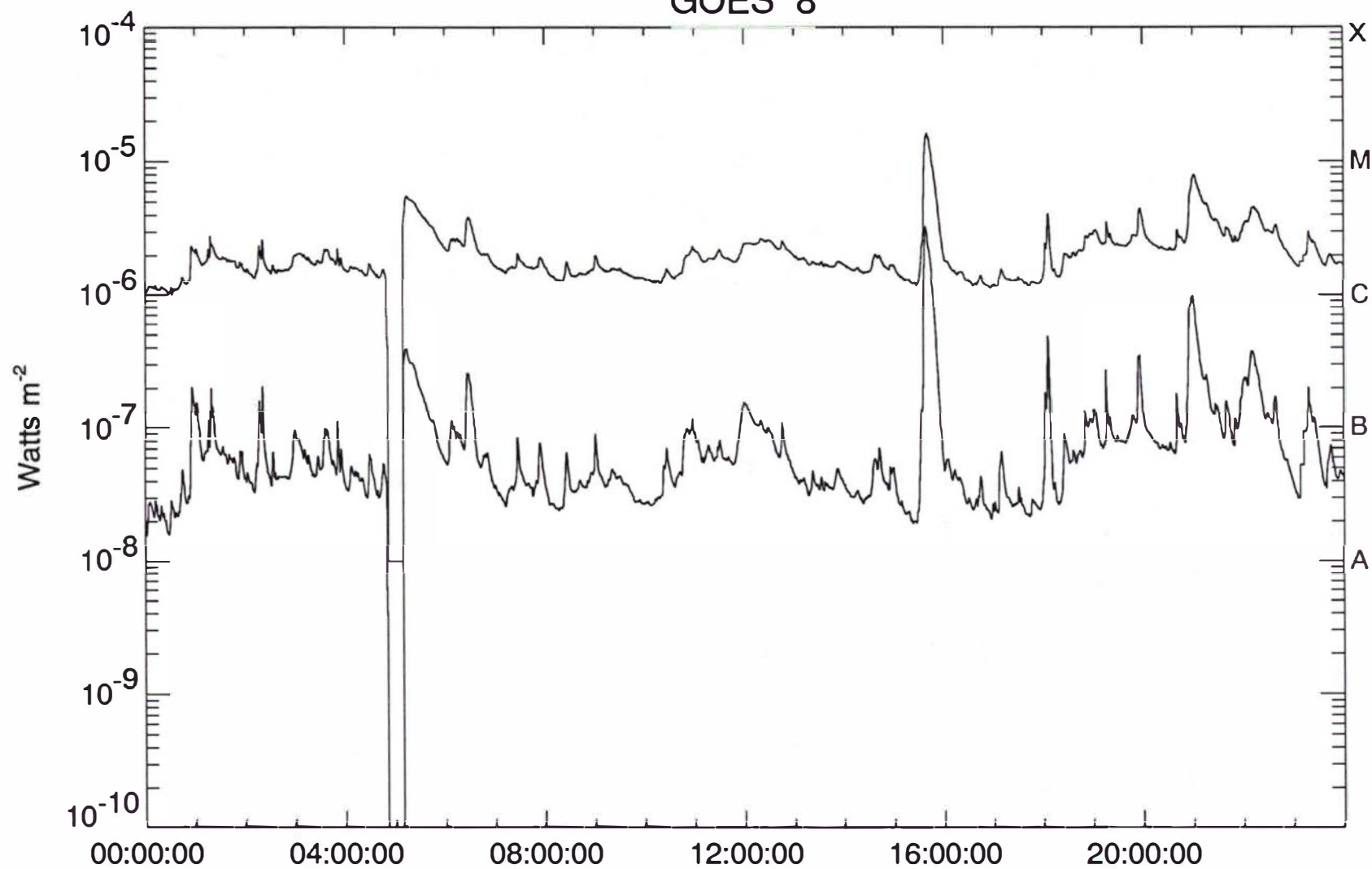


Current Time: 98/09/04, 1008 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 98/08/31, 0000:00

Plot created: 98/09/04, 1007

Channel

1 (1.0 - 8.0 Angstroms)

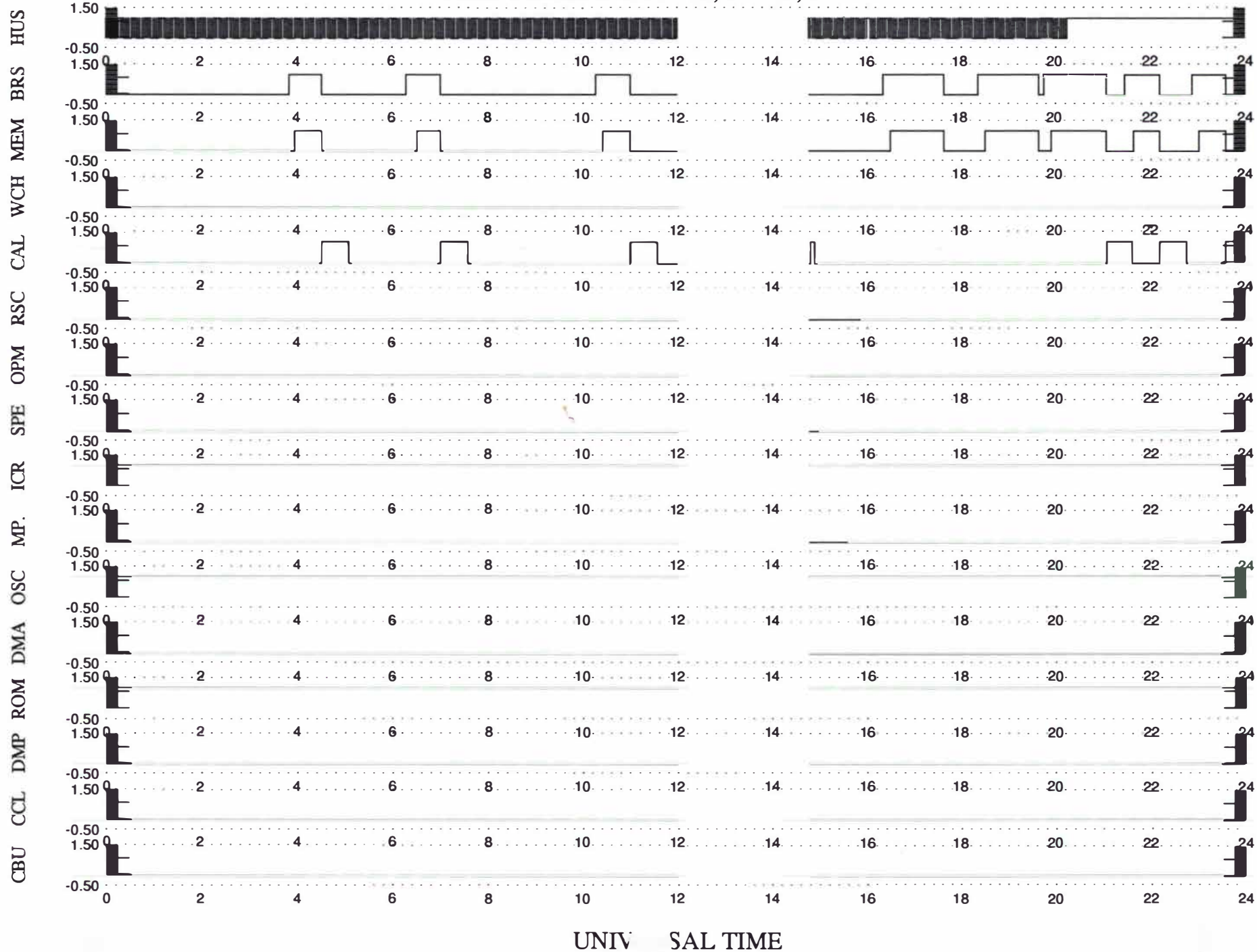
Background not subtracted

2 (0.5 - 4.0 Angstroms)

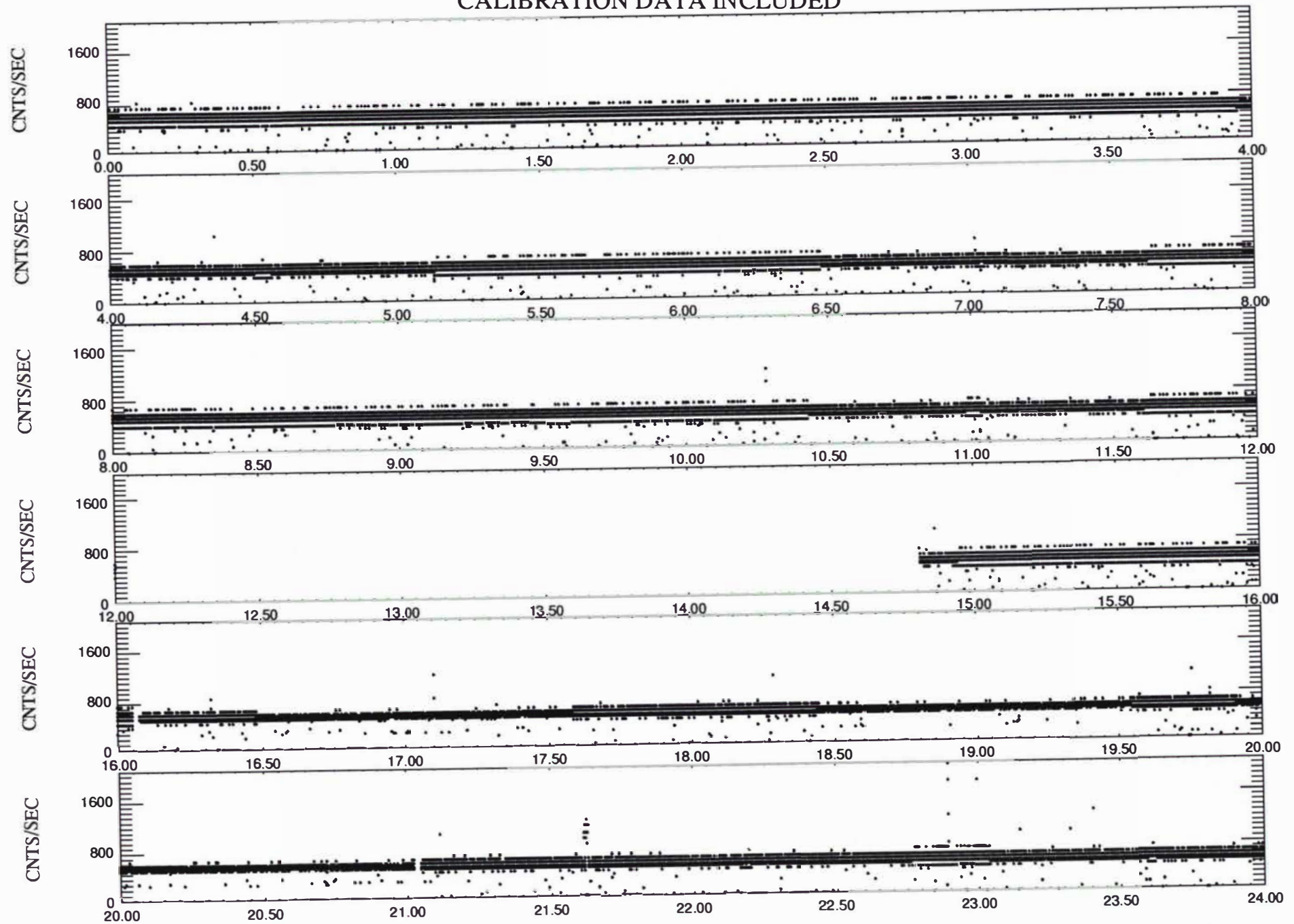
Background not subtracted

Sample average = 10

BURST NUMBER 10 - 12, 14 - 15, 0 - 3

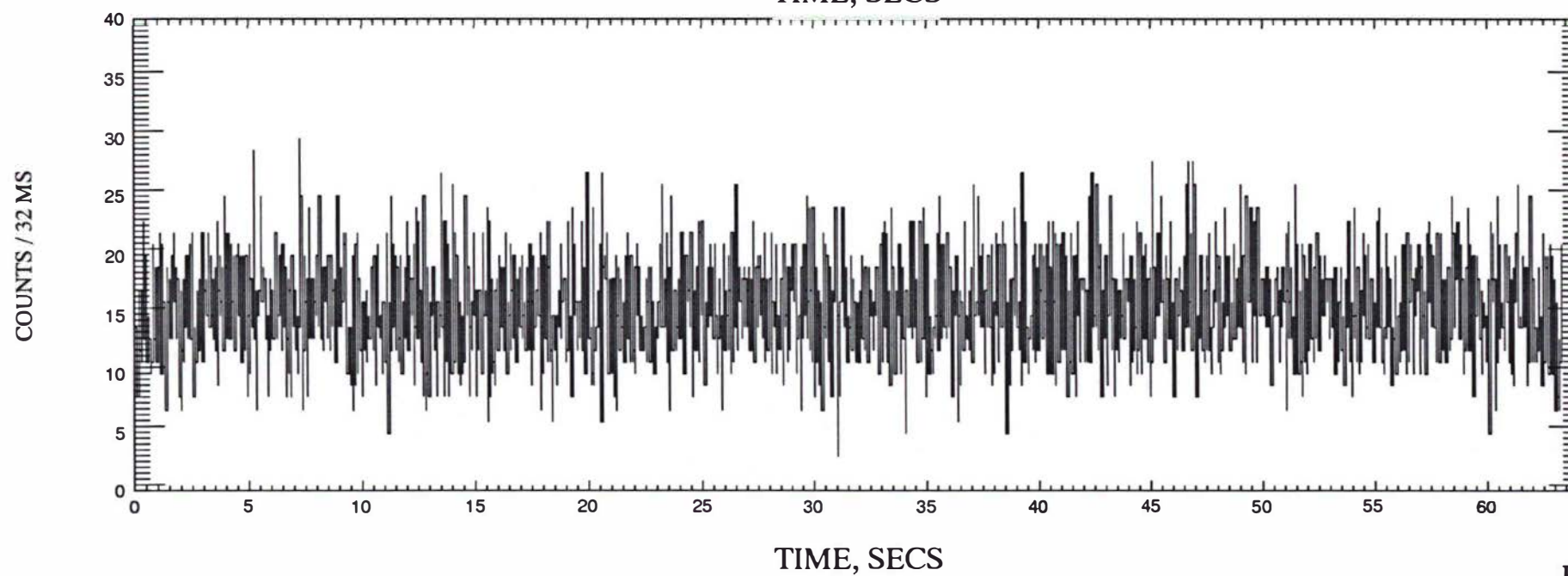
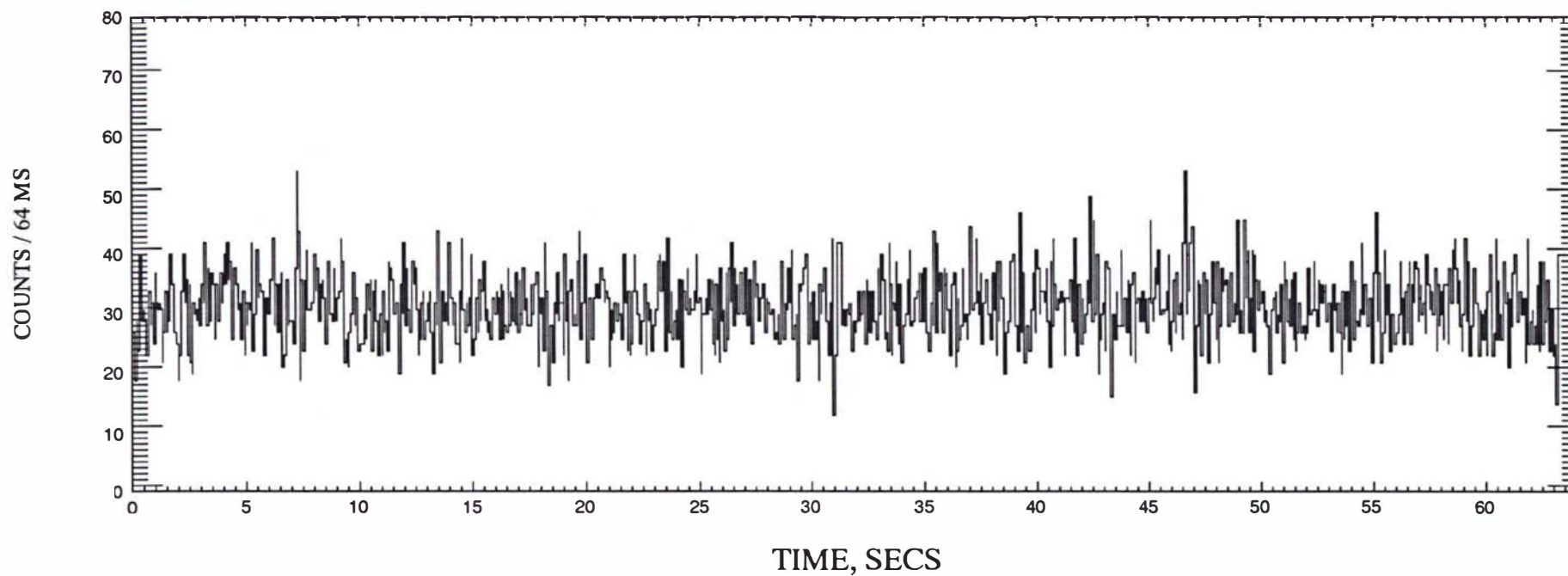


CALIBRATION DATA INCLUDED

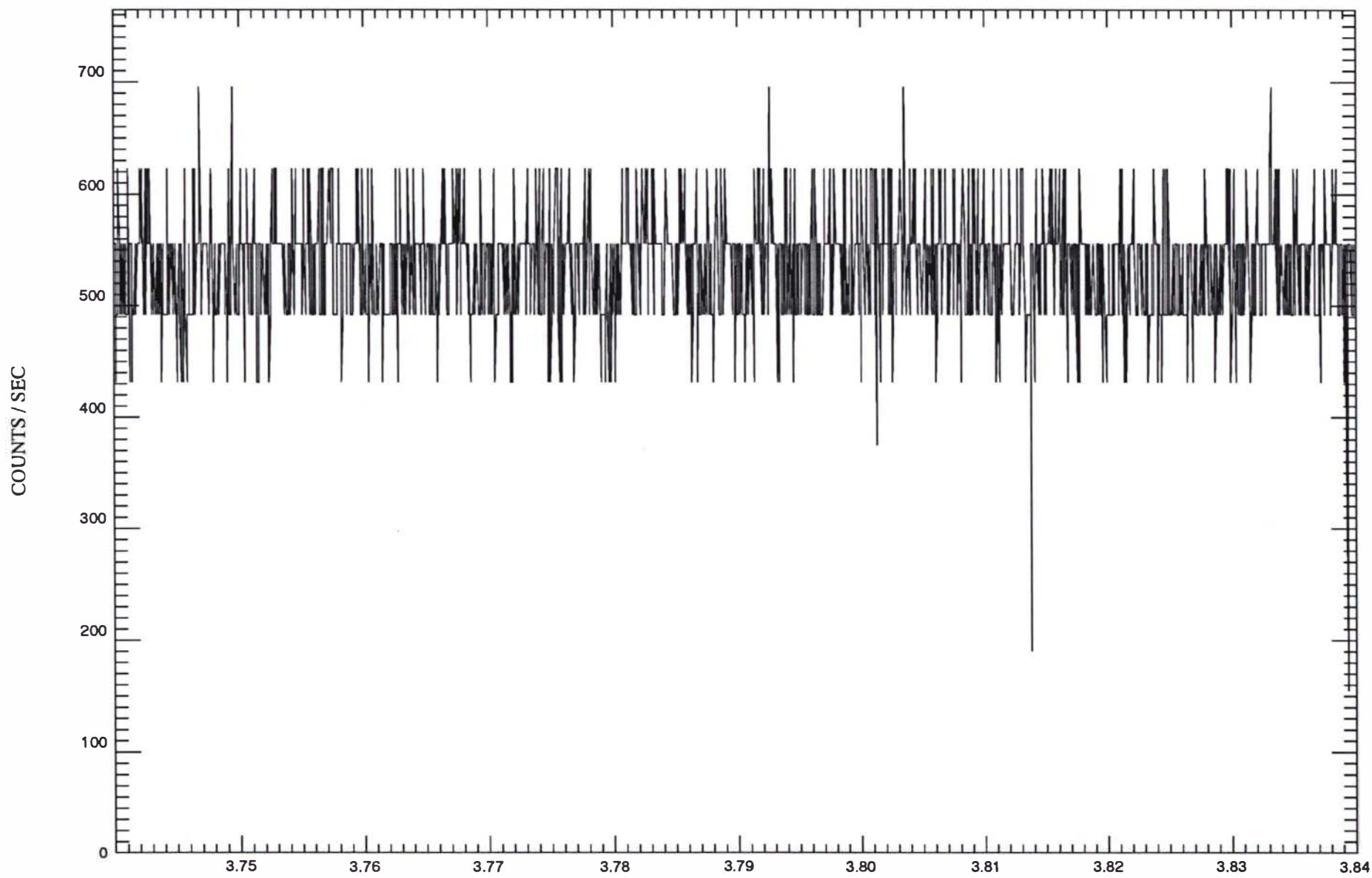


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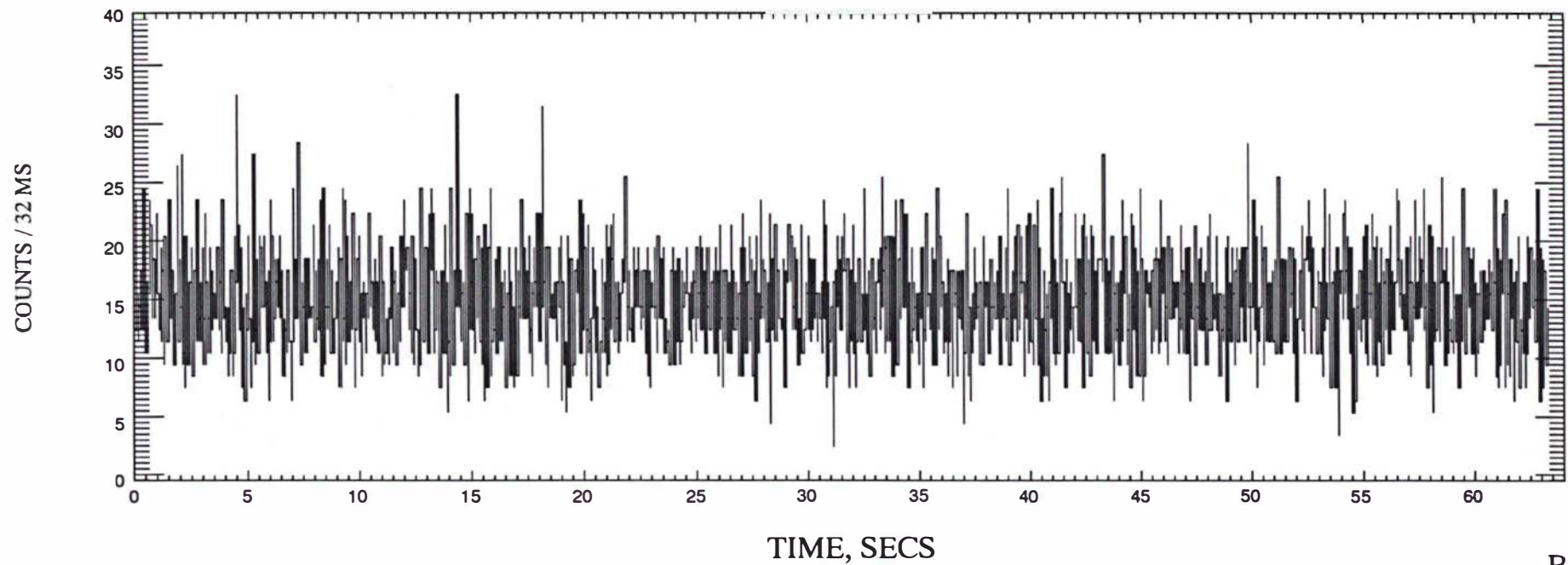
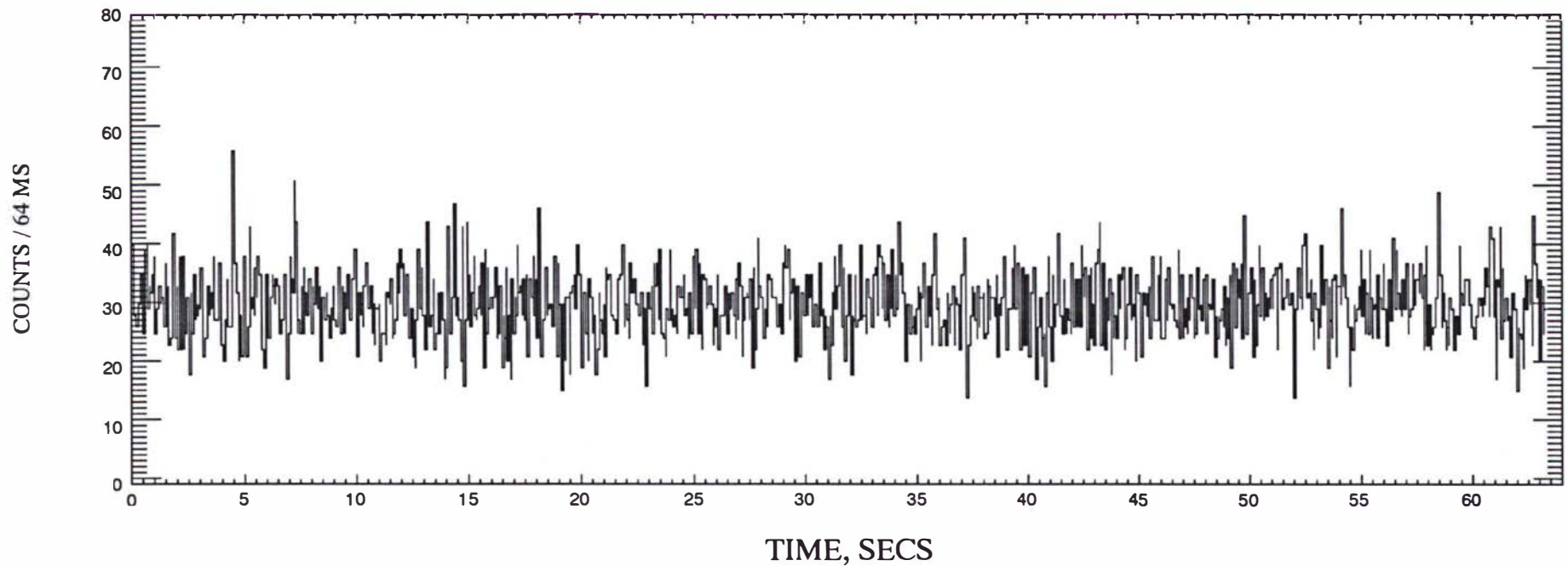
Burst Counter 10 at UT= 3.792705947028 h=13653.741 s 03:47:33.741



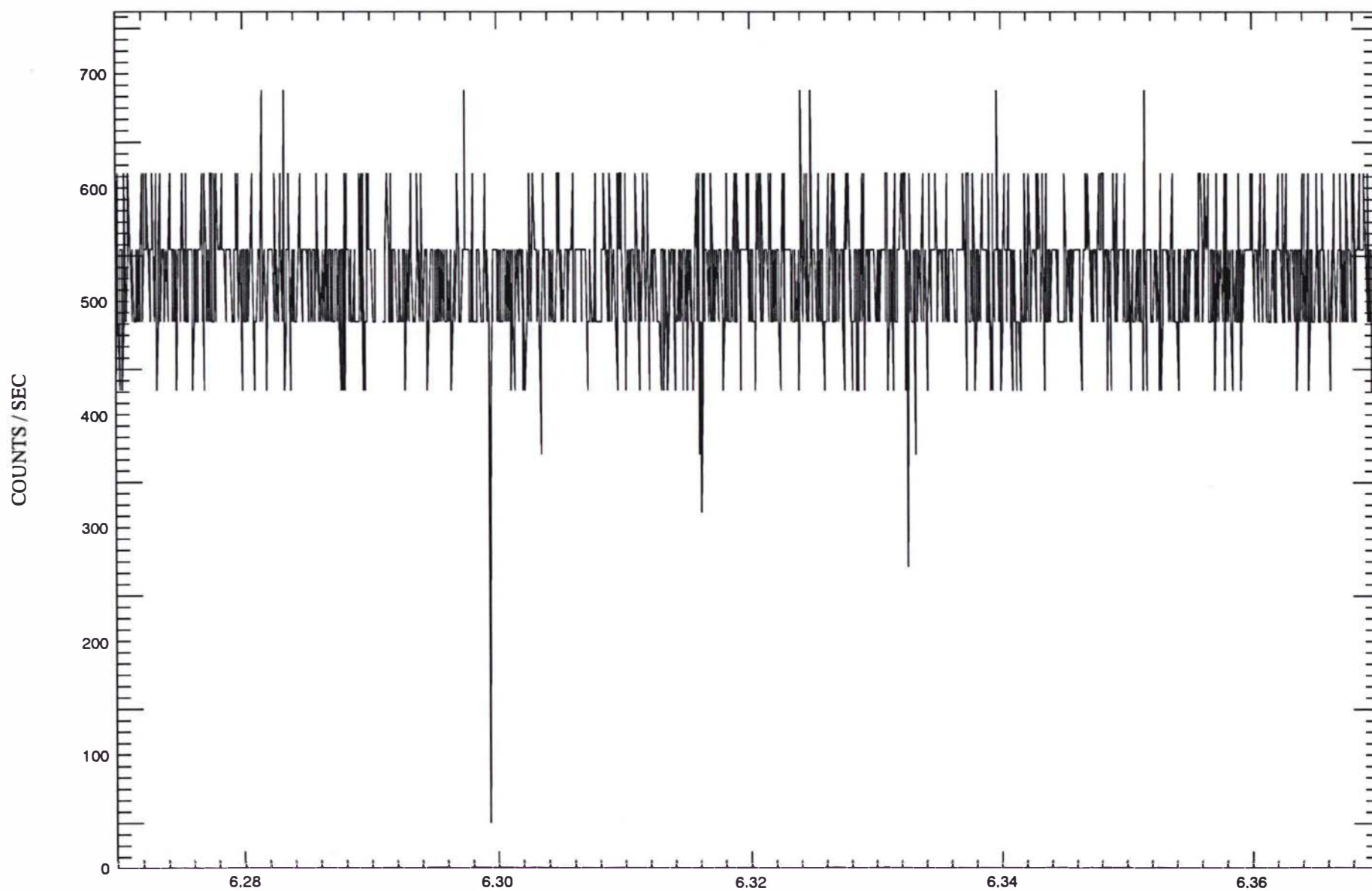
CALIBRATION DATA INCLUDED



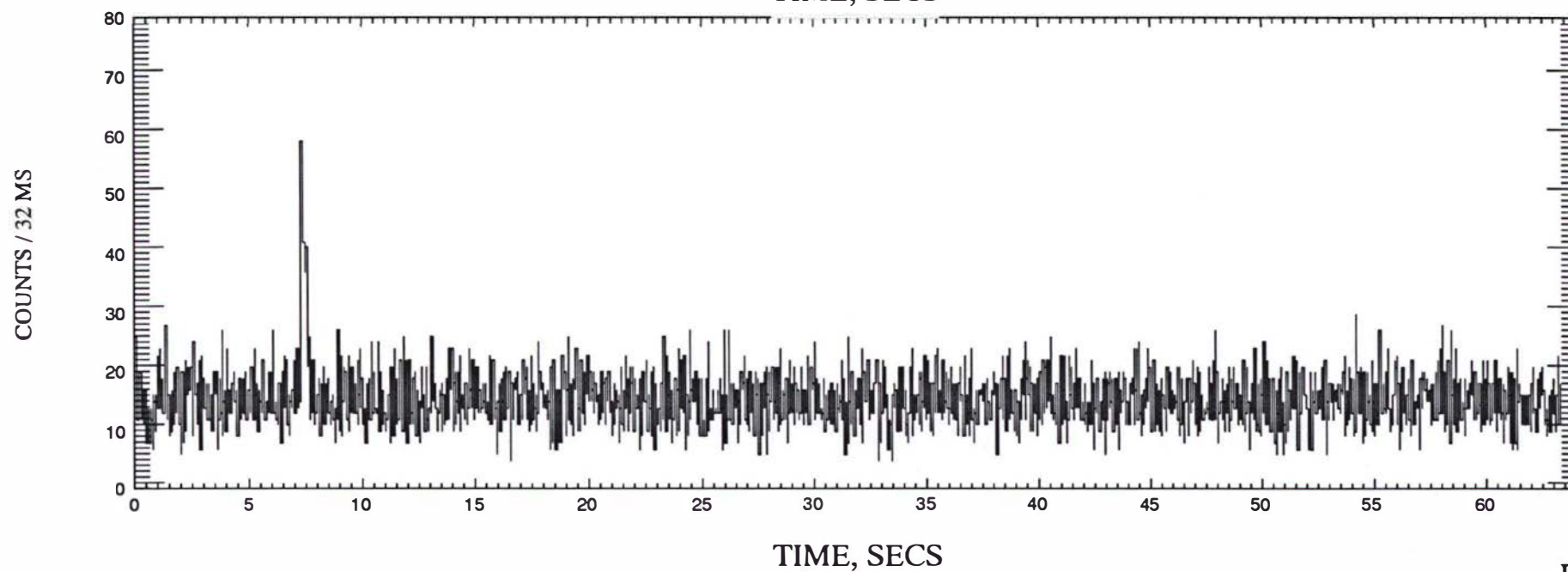
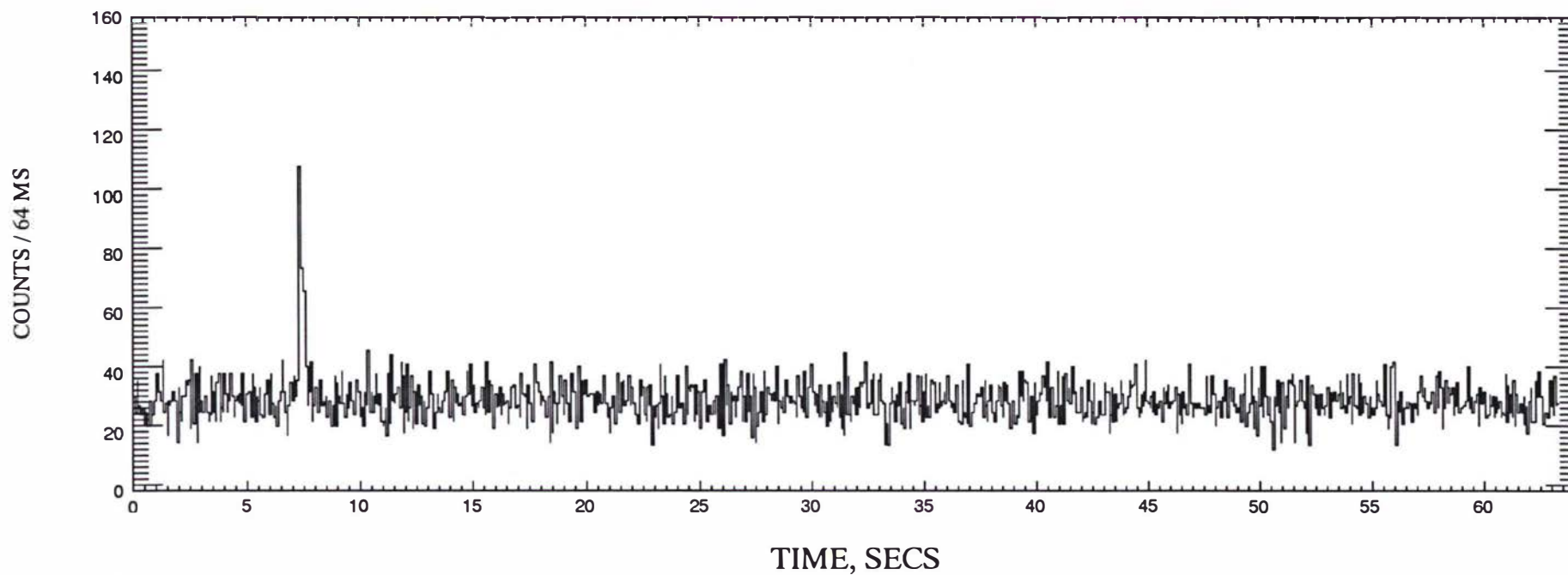
Burst Counter 11 at UT= 6.324954376221 h=22769.836 s 06:19:29.836



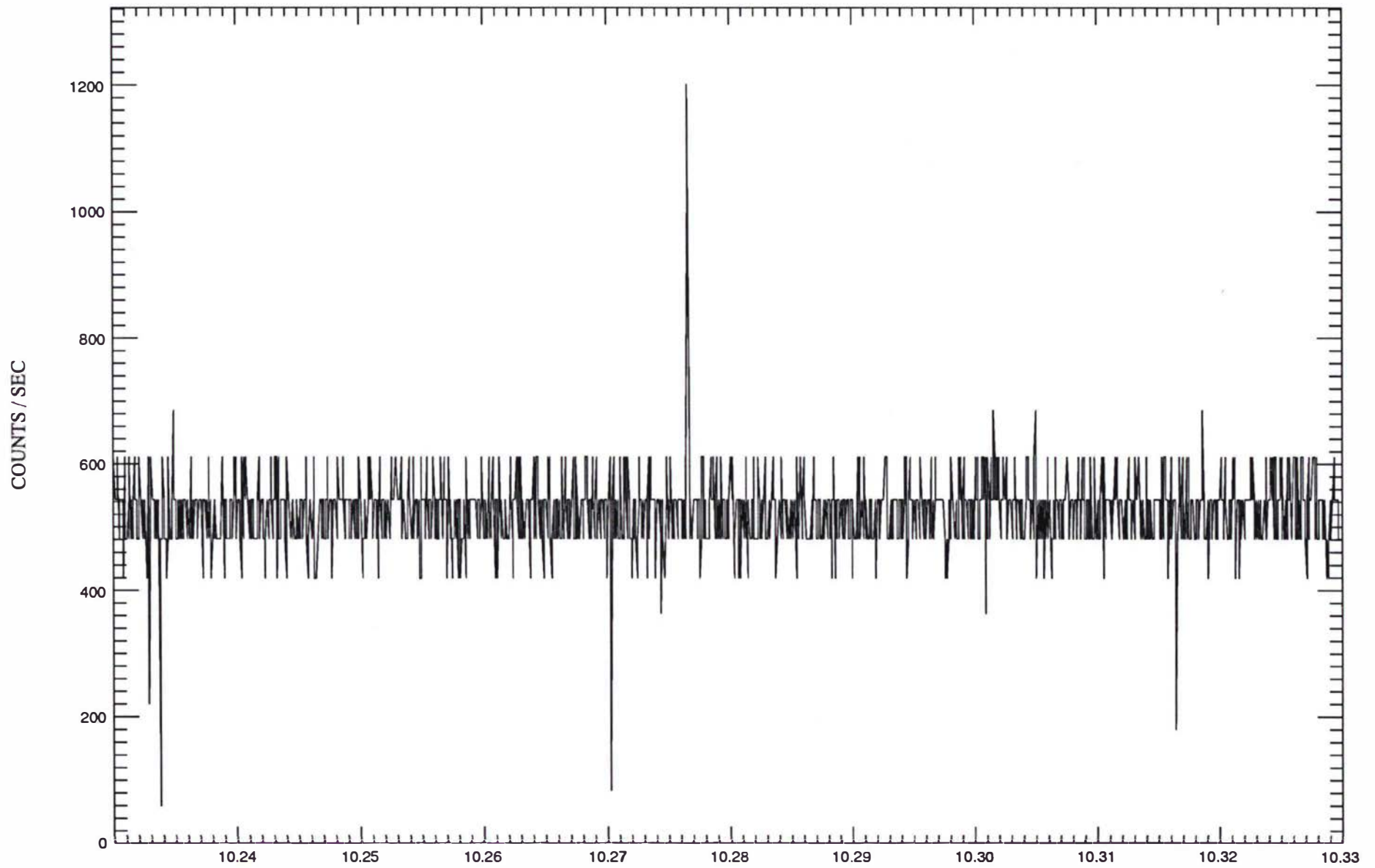
CALIBRATION DATA INCLUDED



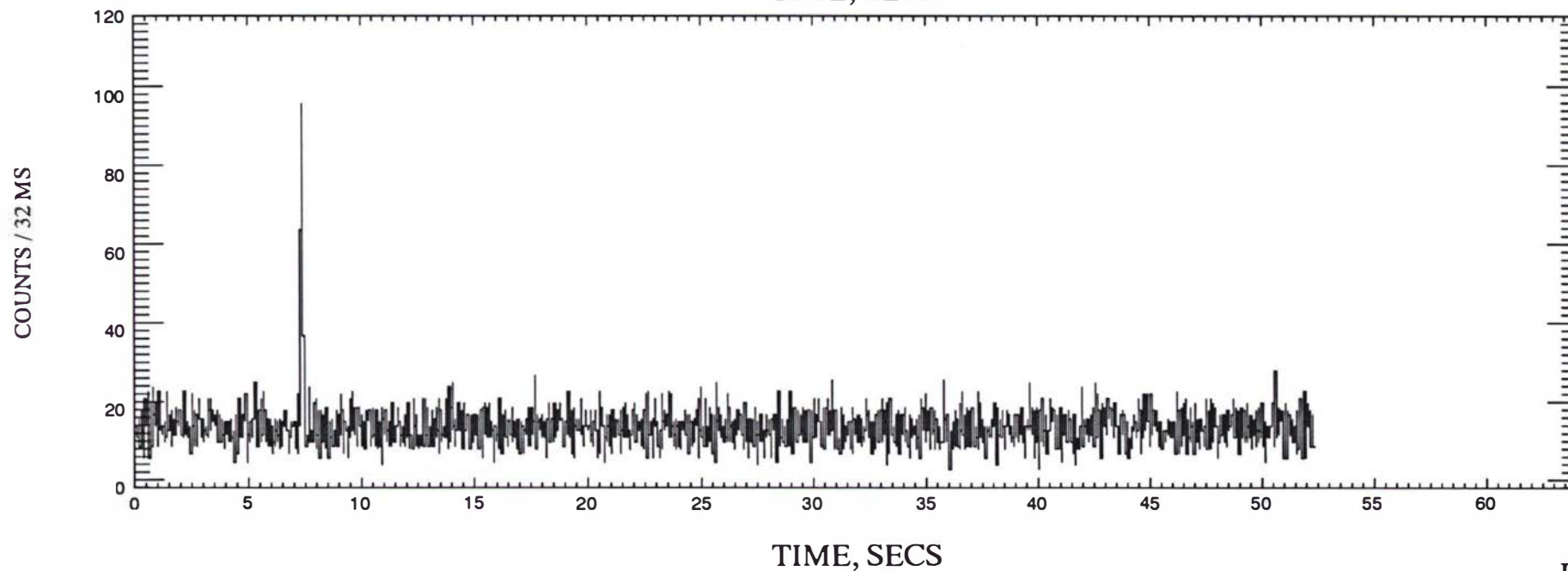
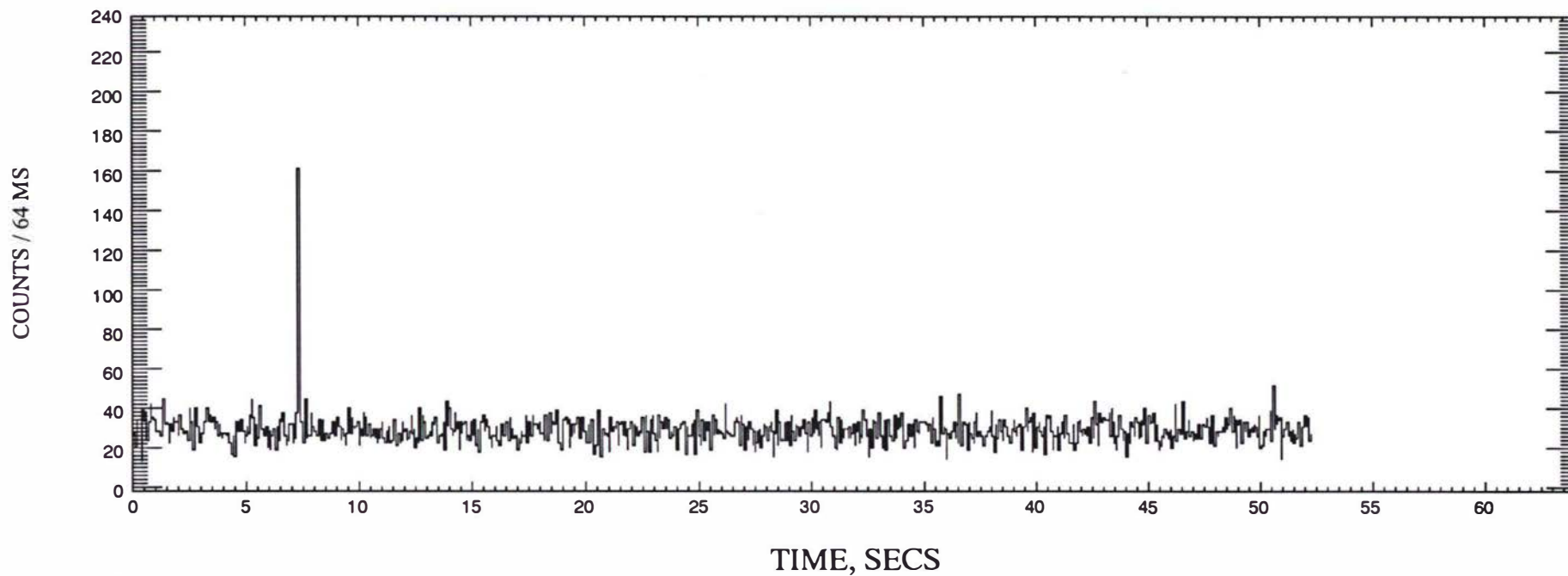
Burst Counter 12 at UT=10.276687223646 h=36996.074 s 10:16:36.074



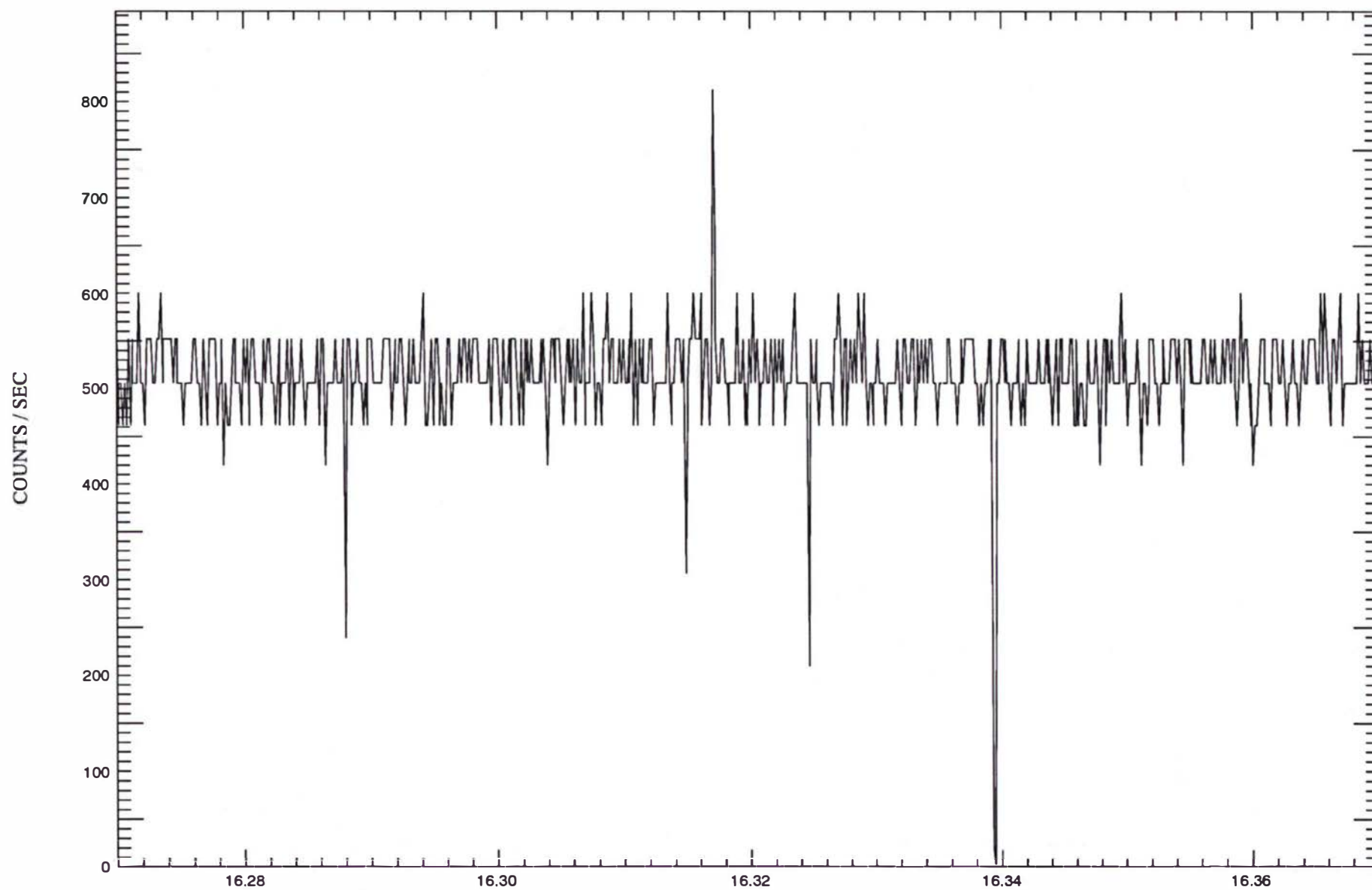
CALIBRATION DATA INCLUDED



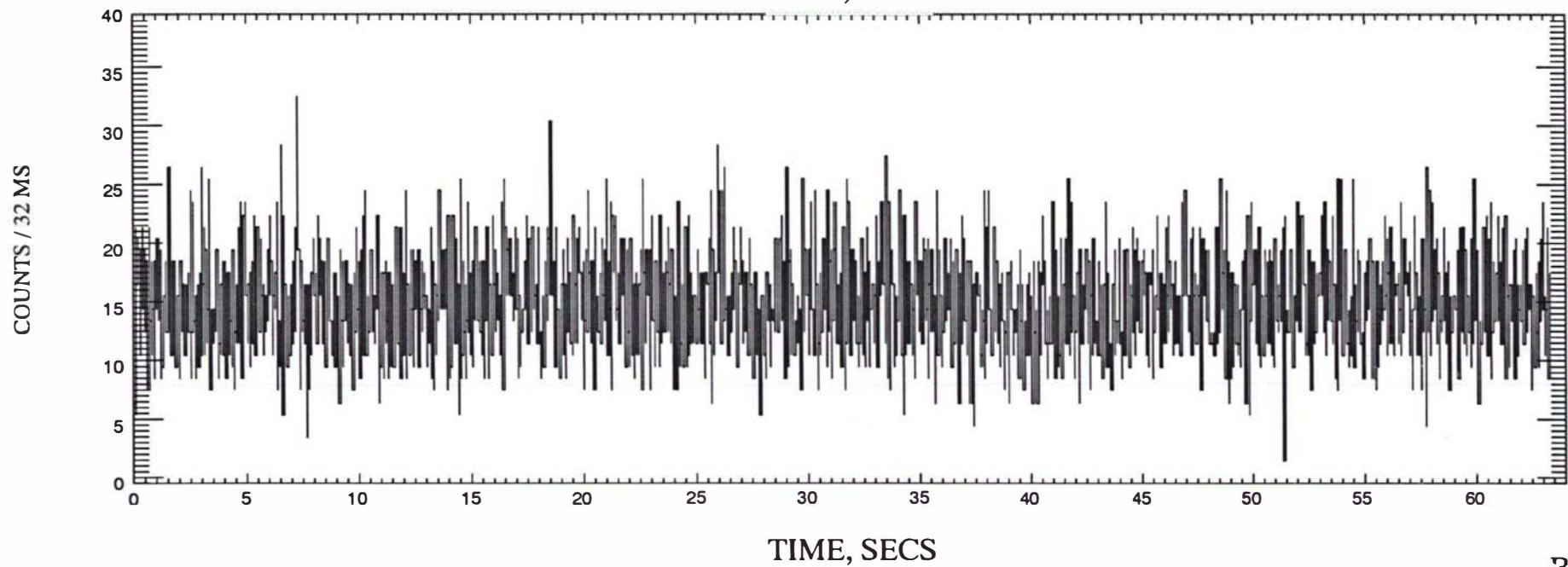
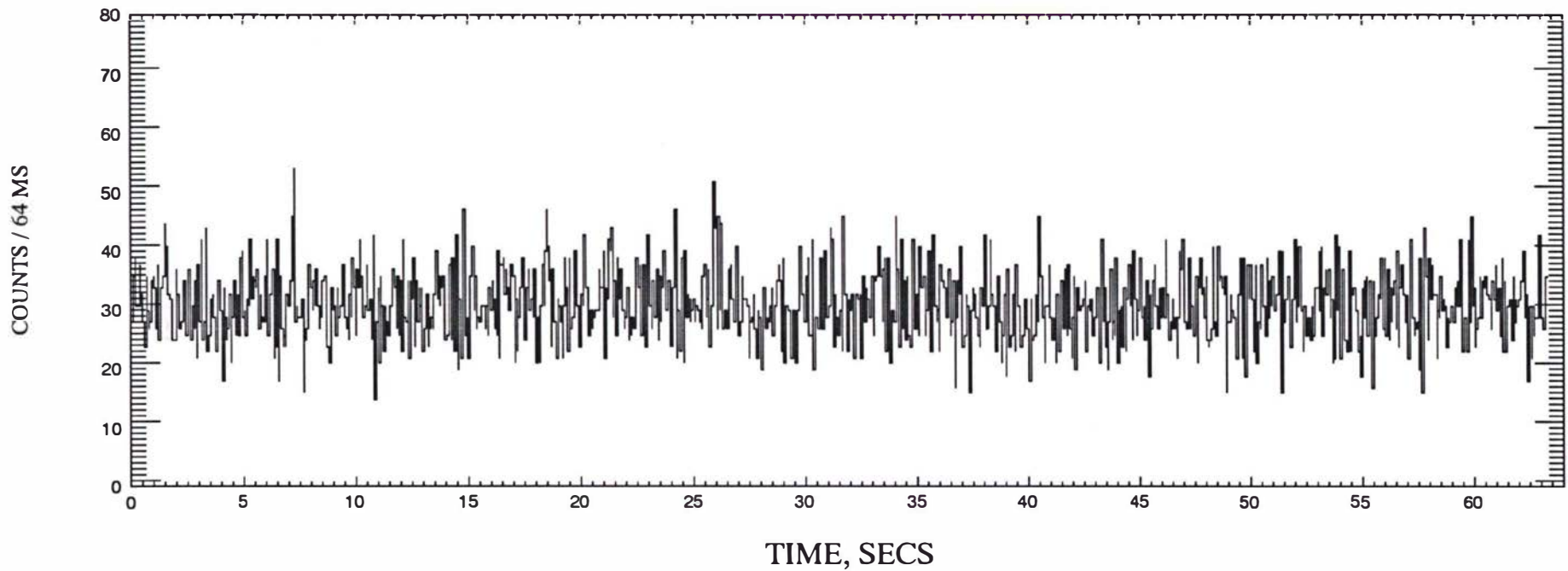
Burst Counter 15 at UT=16.317238222758 h=58742.058 s 16:19:02.058



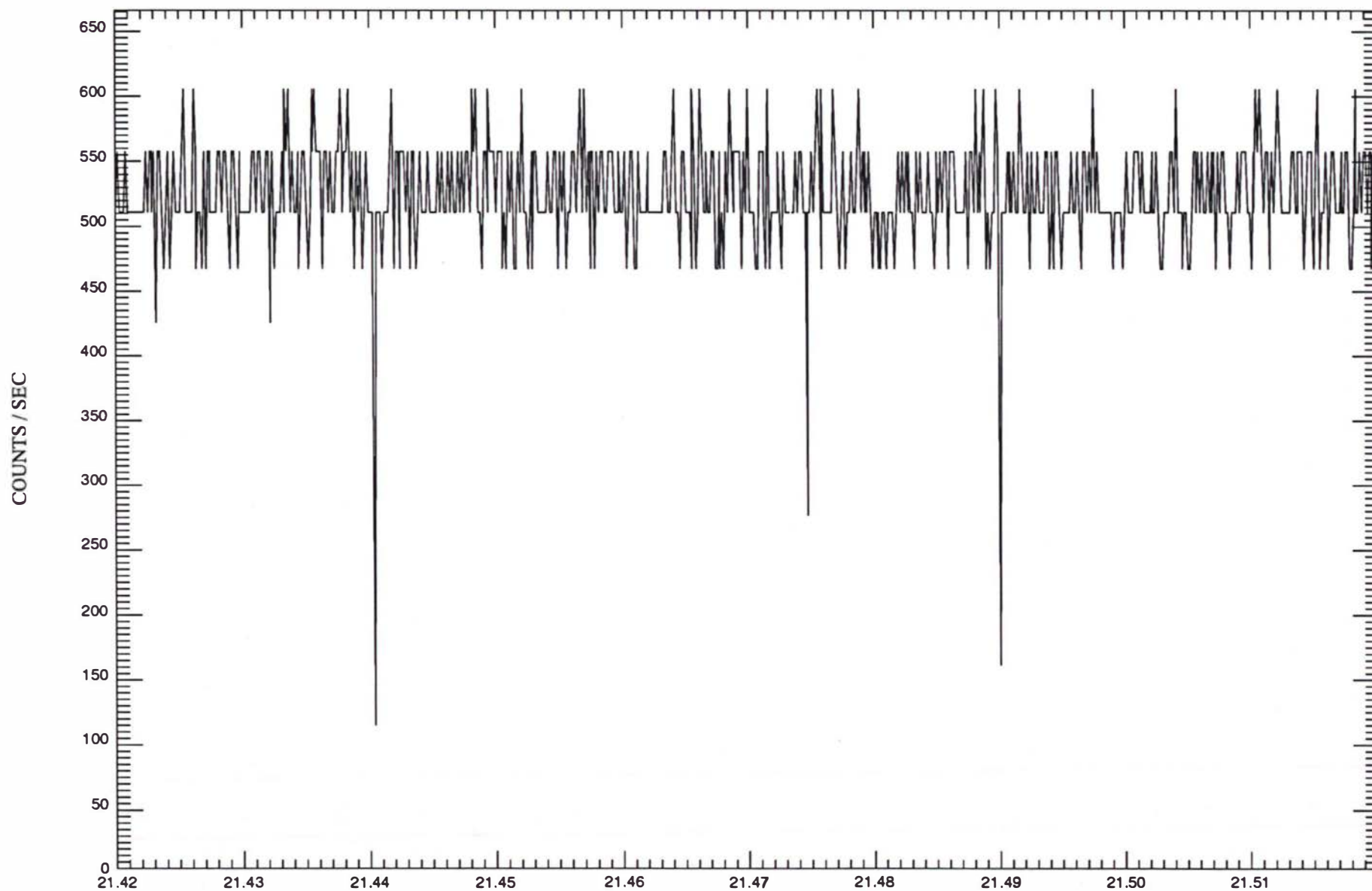
CALIBRATION DATA INCLUDED



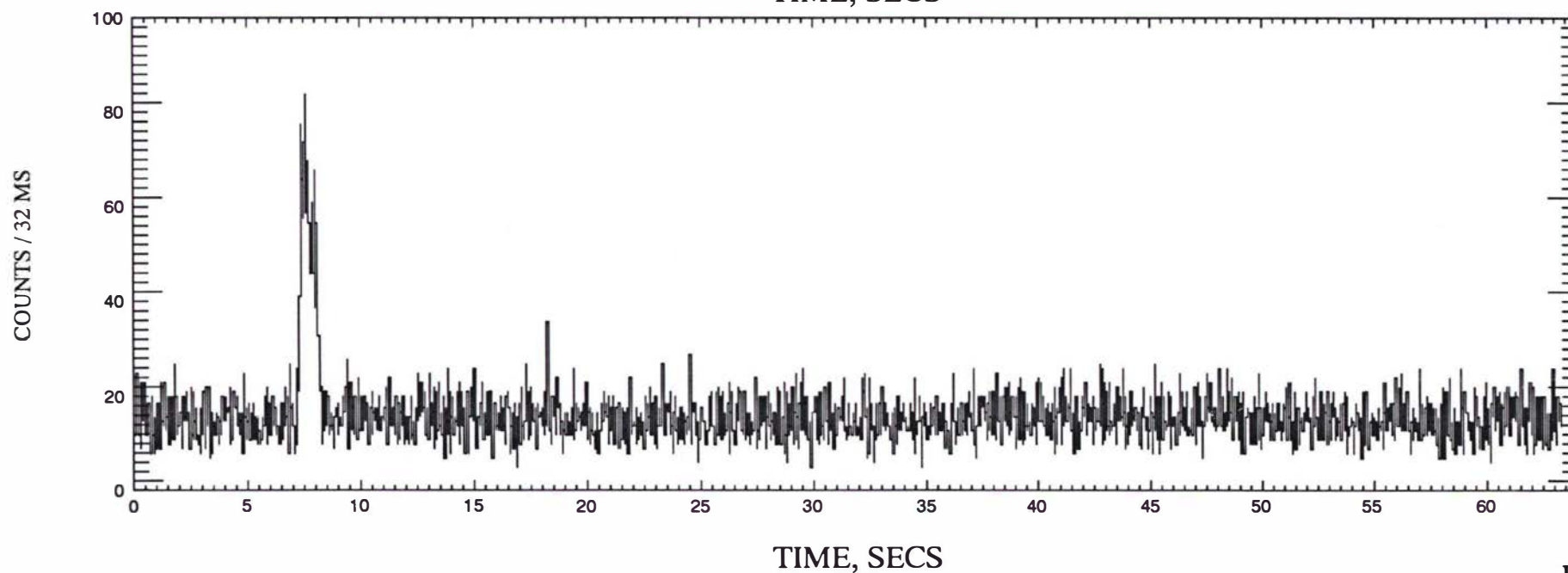
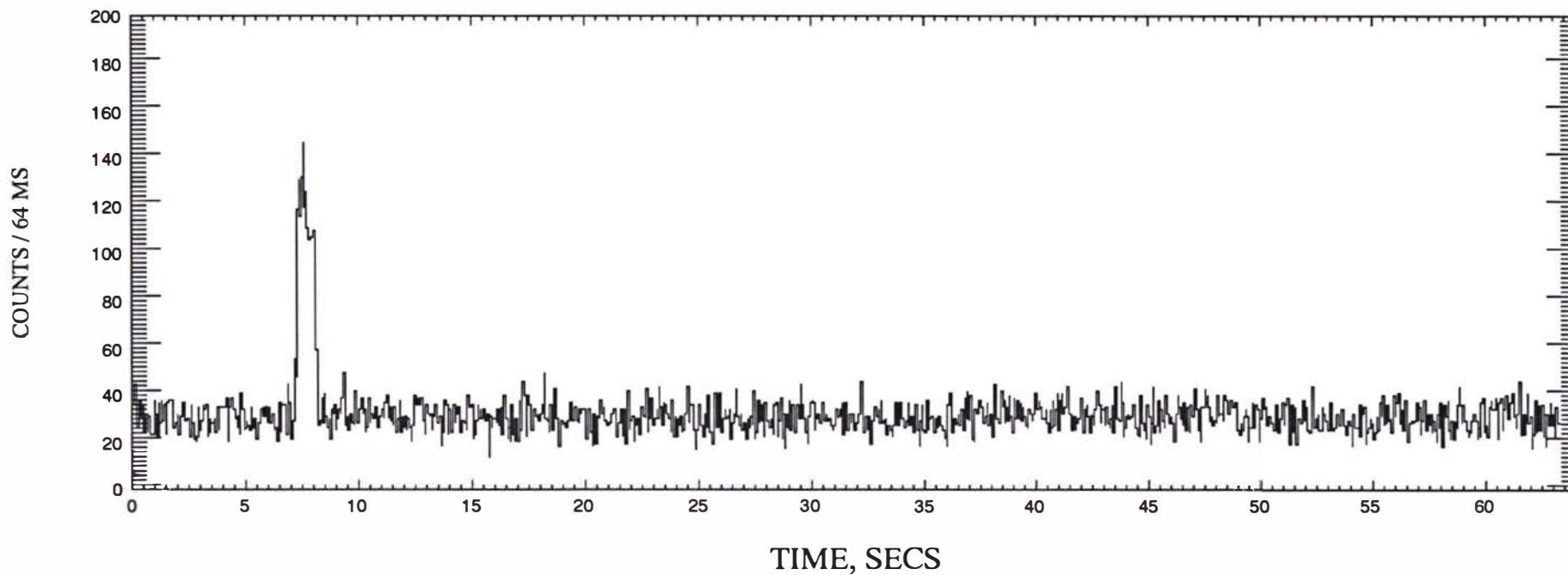
Burst Counter 2 at UT=21.471676754422 h=77298.036 s 21:28:18.036



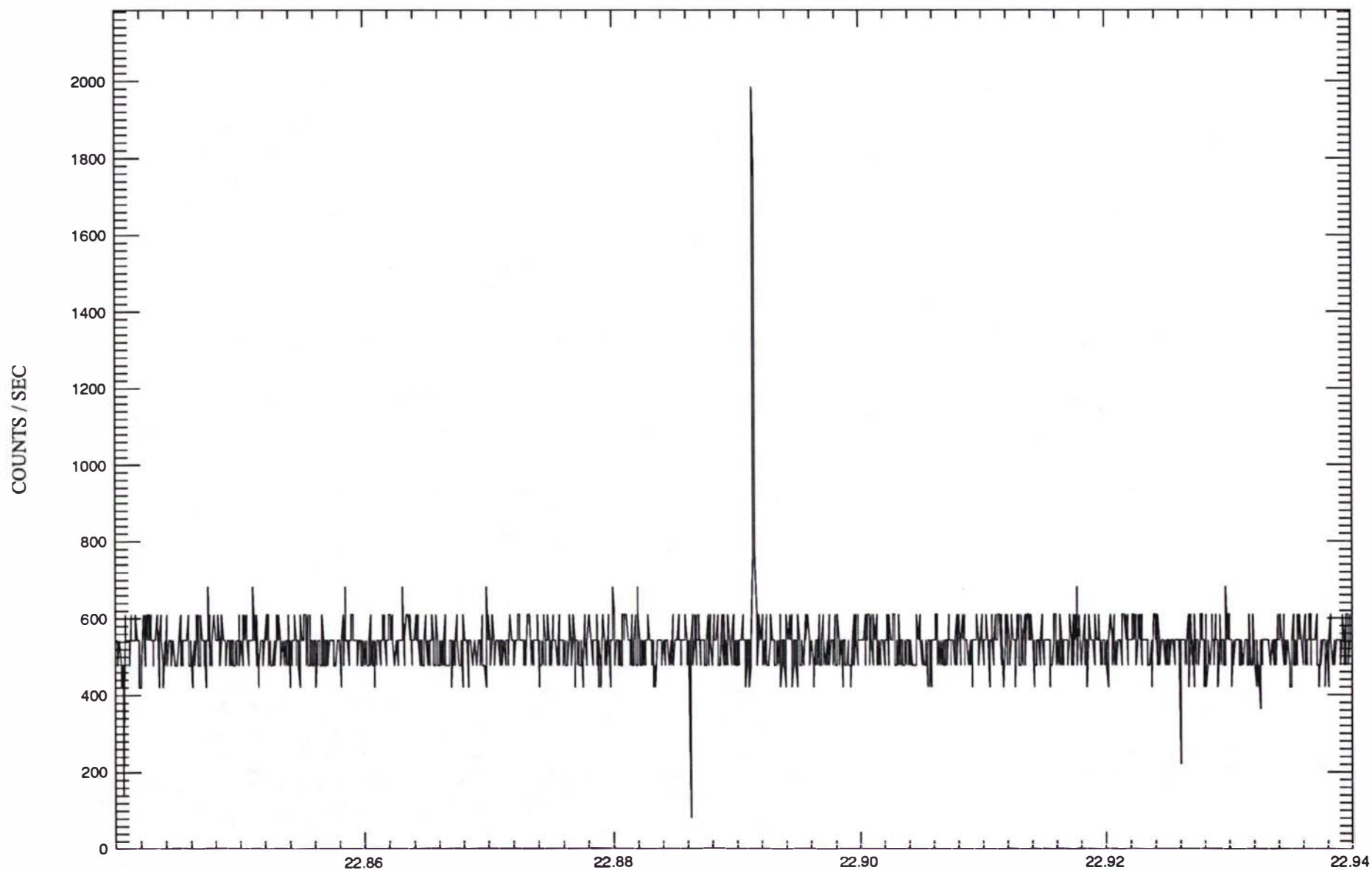
CALIBRATION DATA INCLUDED



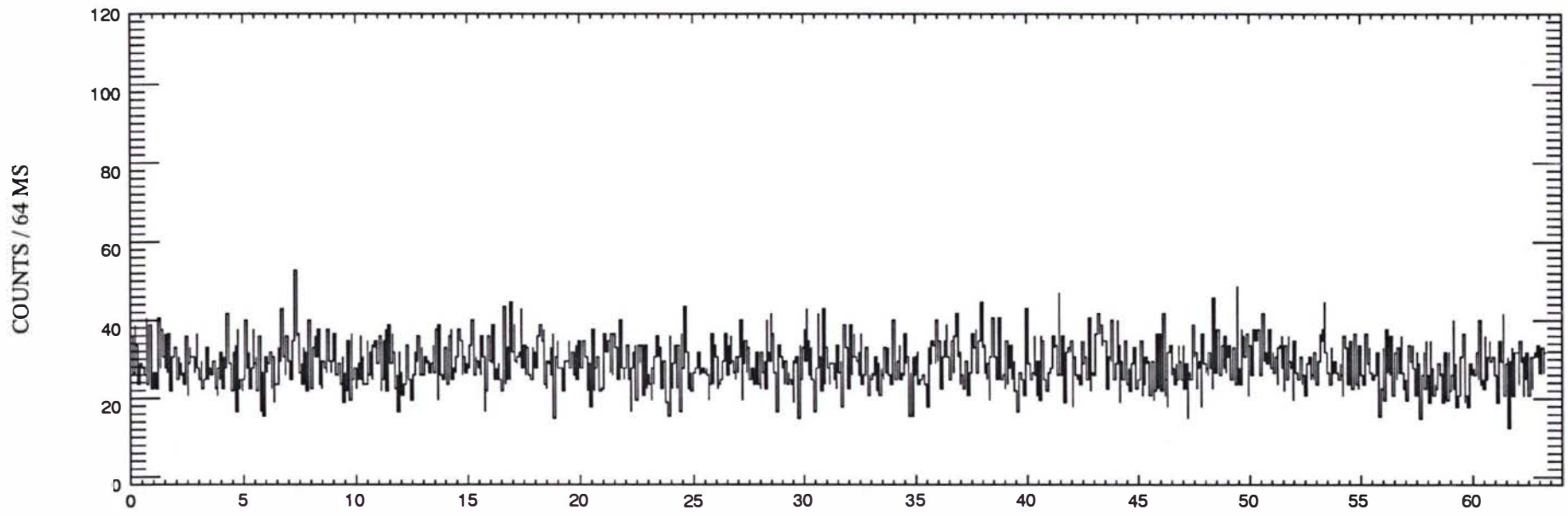
Burst Counter 3 at UT=22.891411781311 h=82409.082 s 22:53:29.082



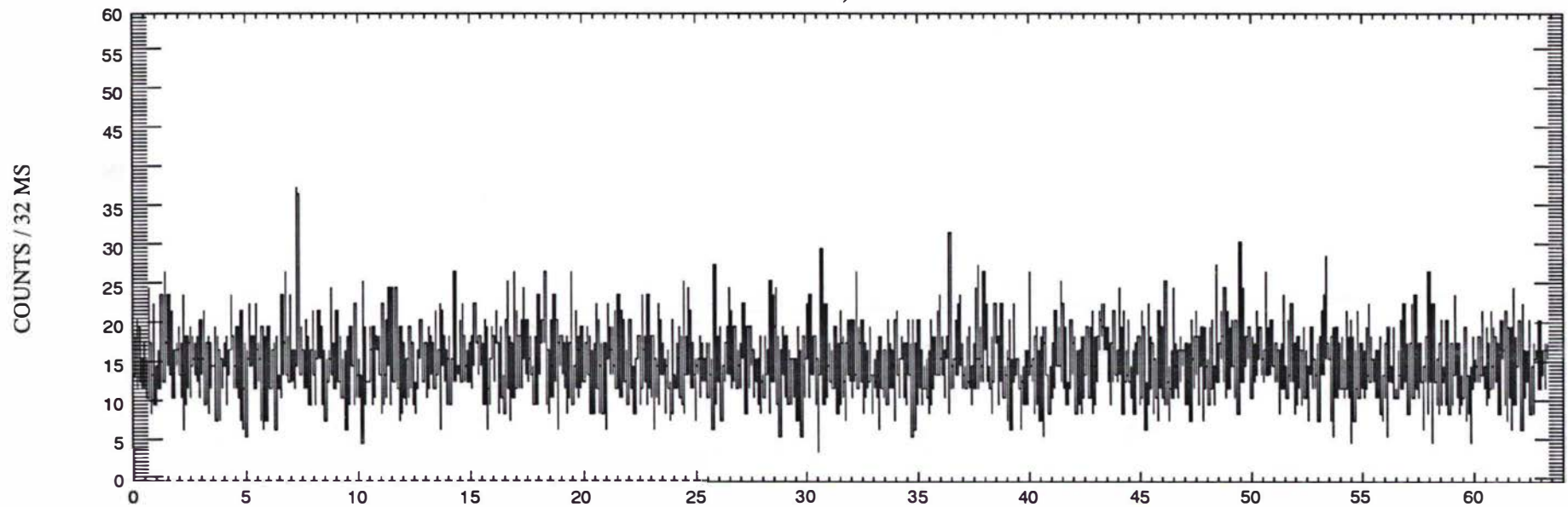
CALIBRATION DATA INCLUDED



Burst Counter 4 at UT=23.991493208143 h=86369.376 s 23:59:29.376

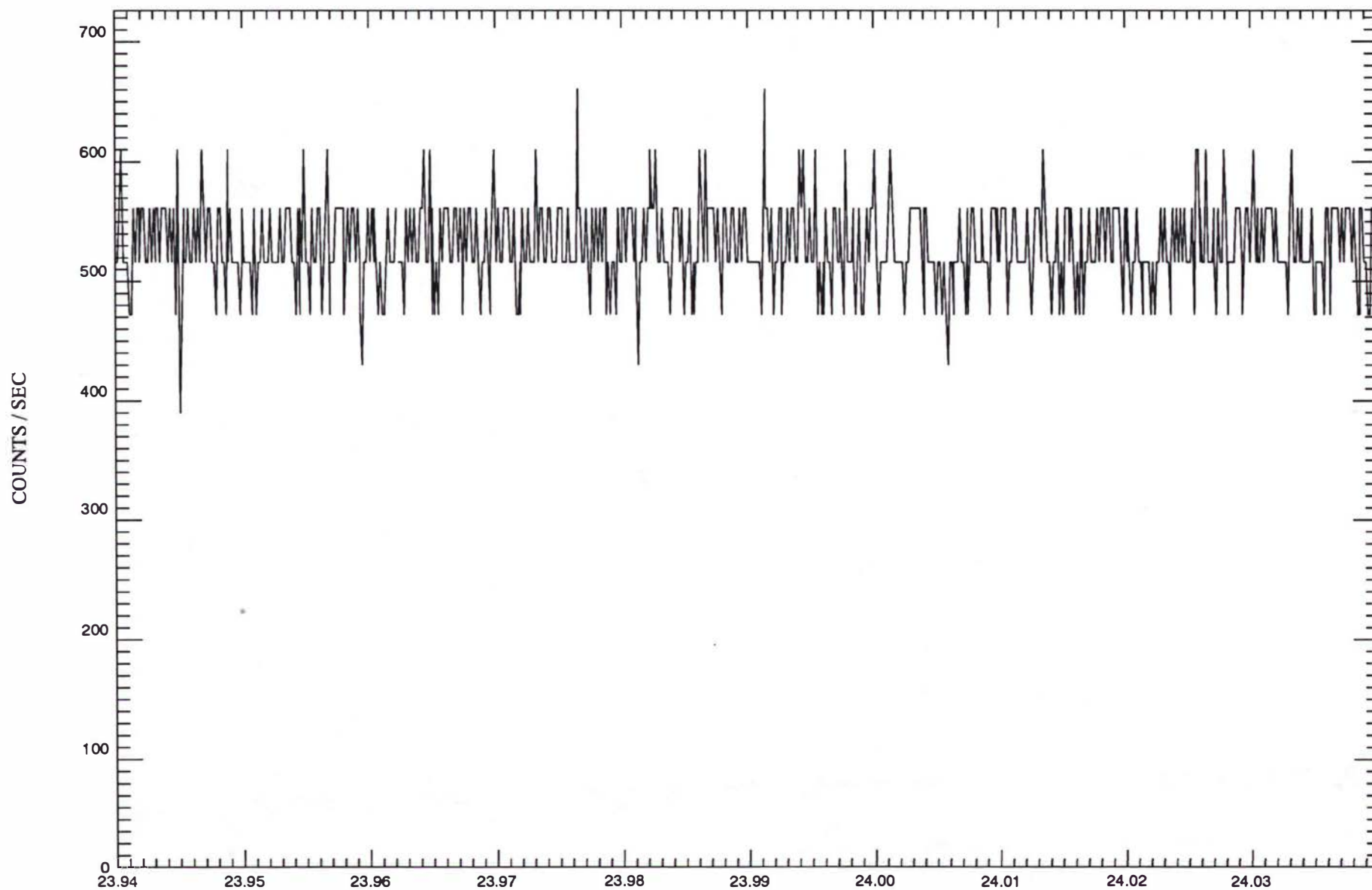


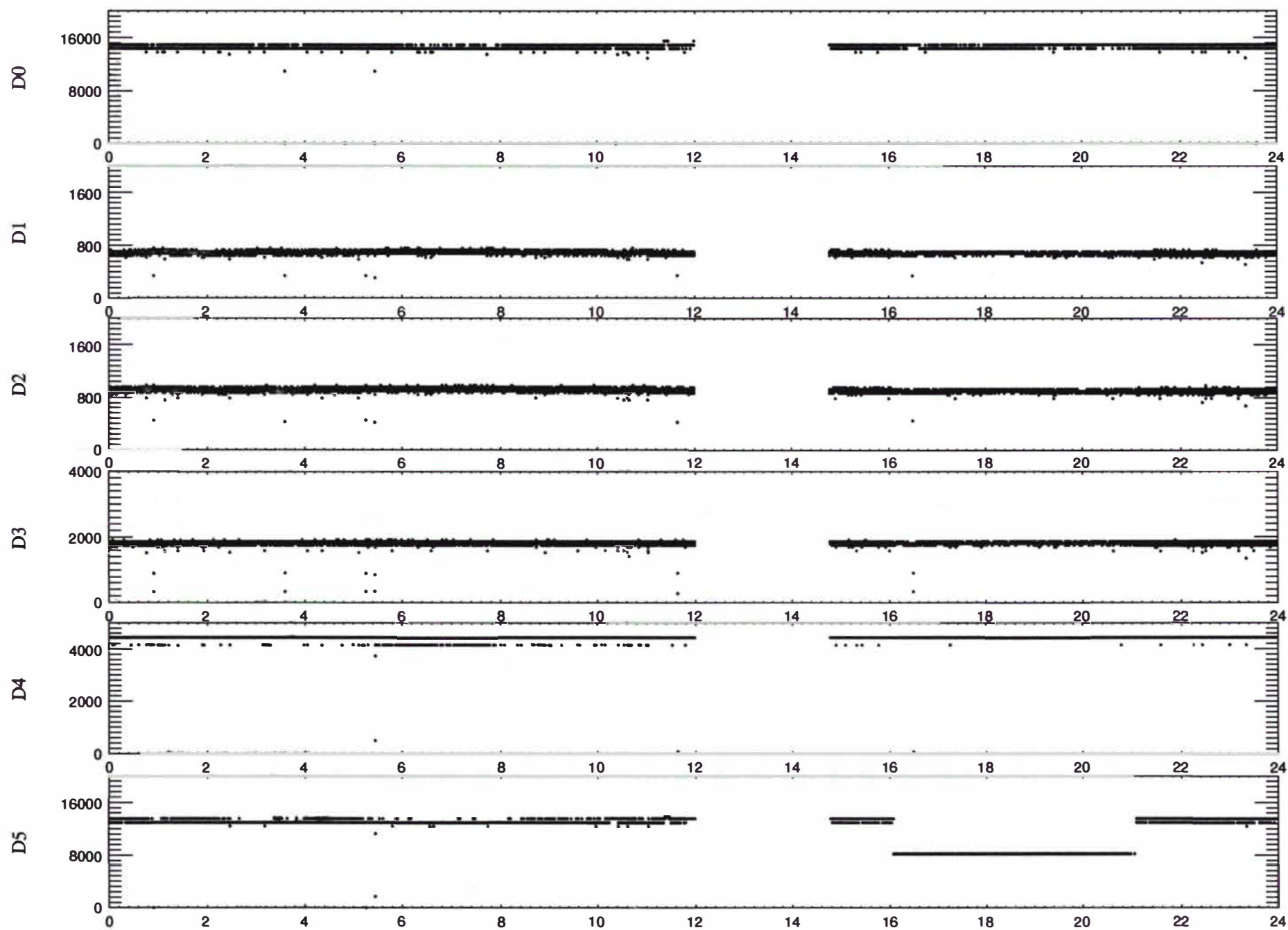
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





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