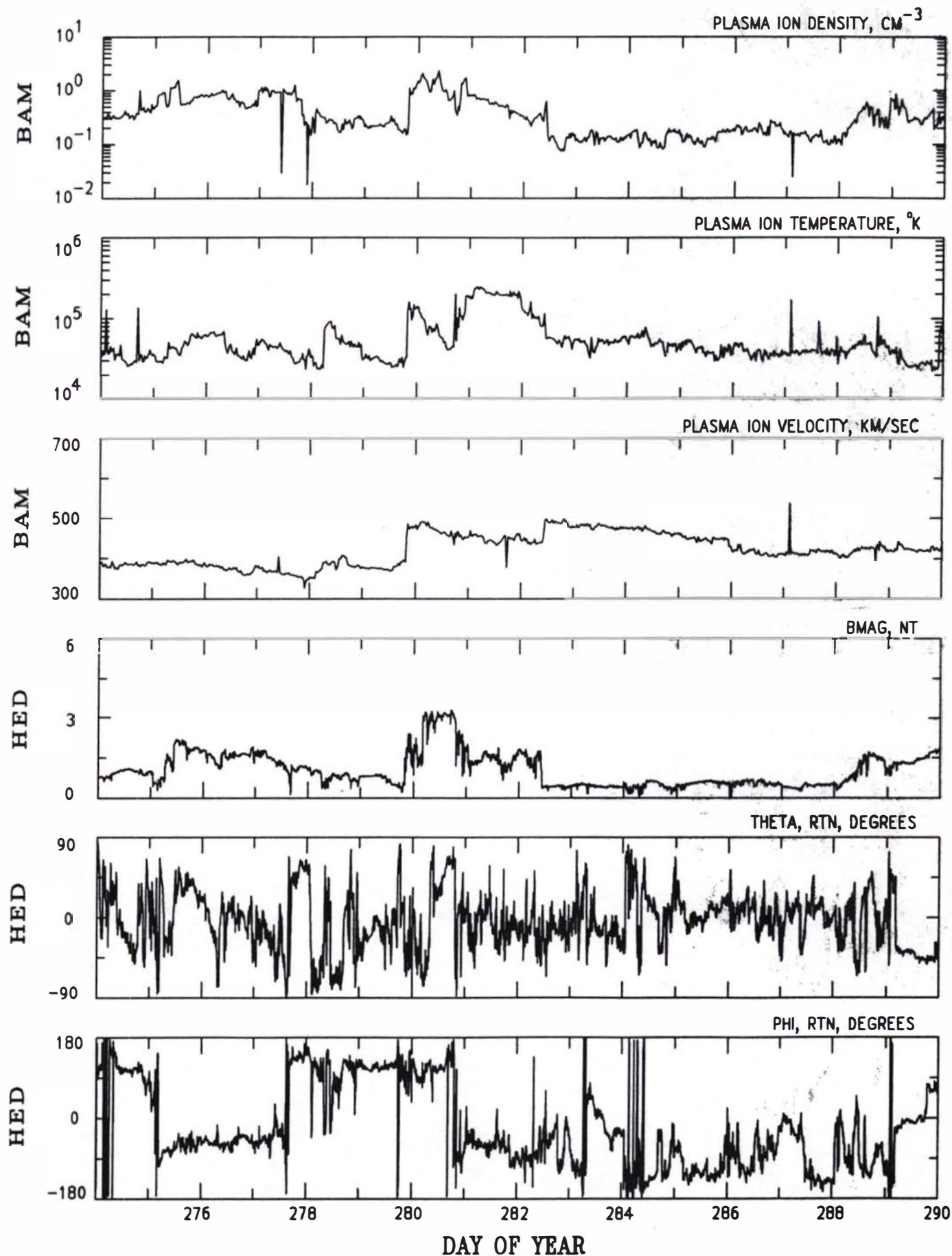


ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

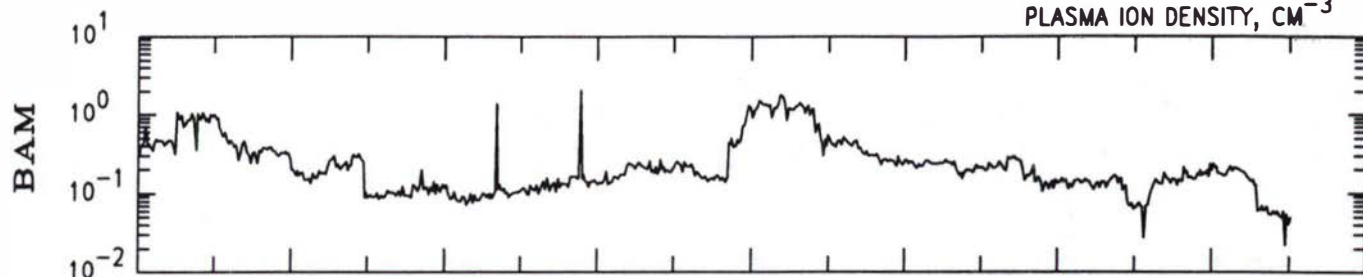
99 274 OCT 1 00:00:00.000 - 99 290 OCT 17 00:00:00.000



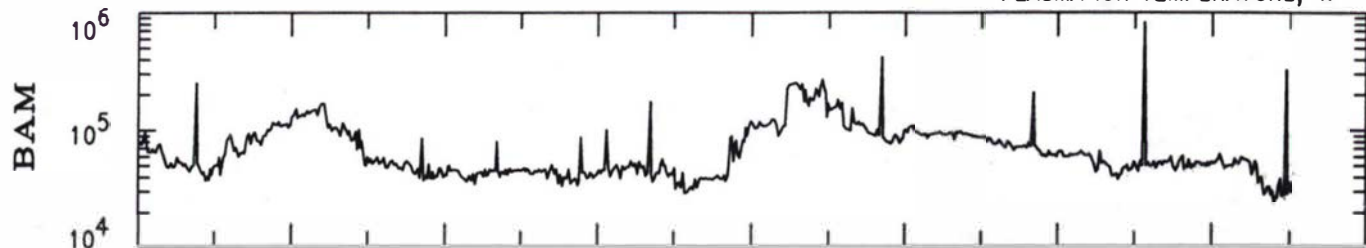
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 290 OCT 17 00:00:00.000 - 99 306 NOV 2 00:00:00.000

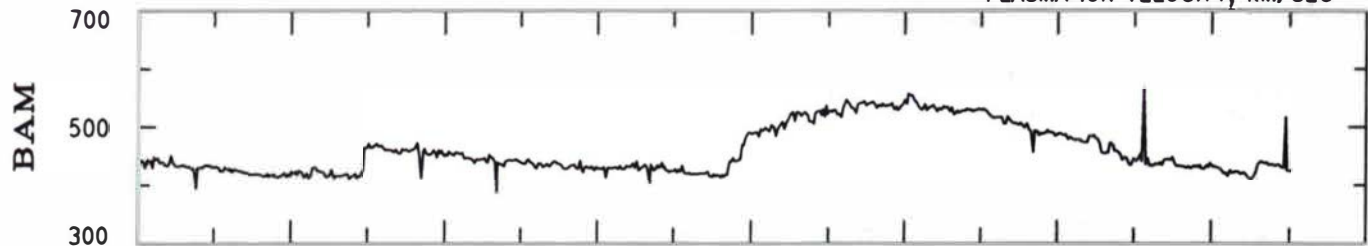
PLASMA ION DENSITY, CM^{-3}



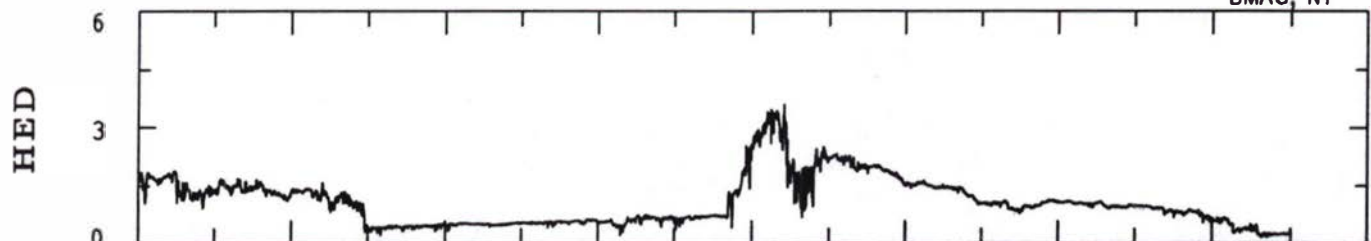
PLASMA ION TEMPERATURE, $^{\circ}\text{K}$



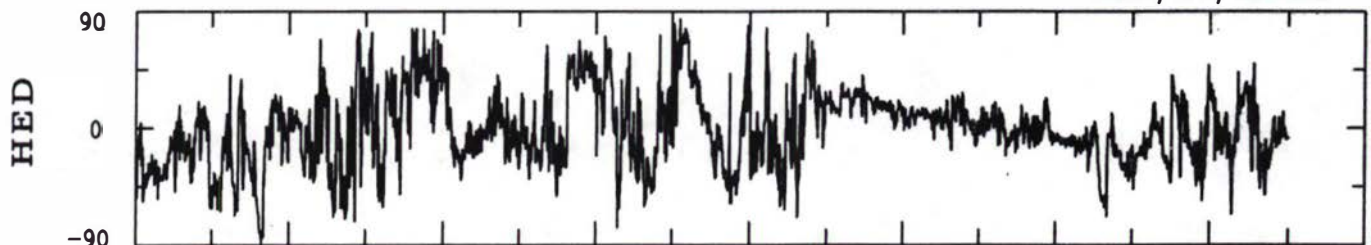
PLASMA ION VELOCITY, KM/SEC



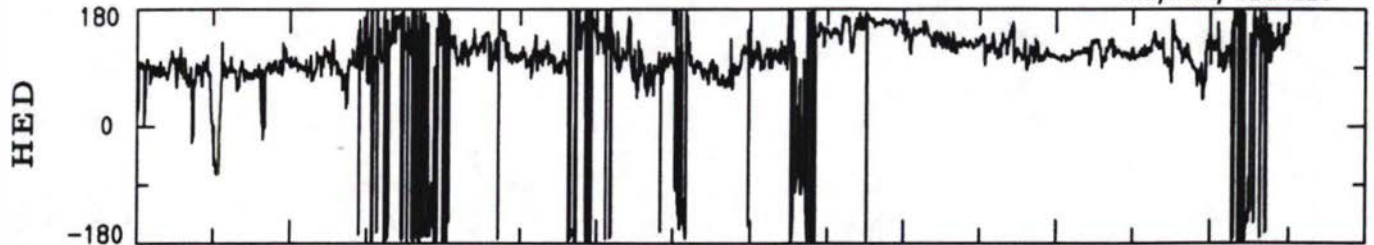
BMAG, NT



THETA, RTN, DEGREES



PHI, RTN, DEGREES



292

294

296

298

300

302

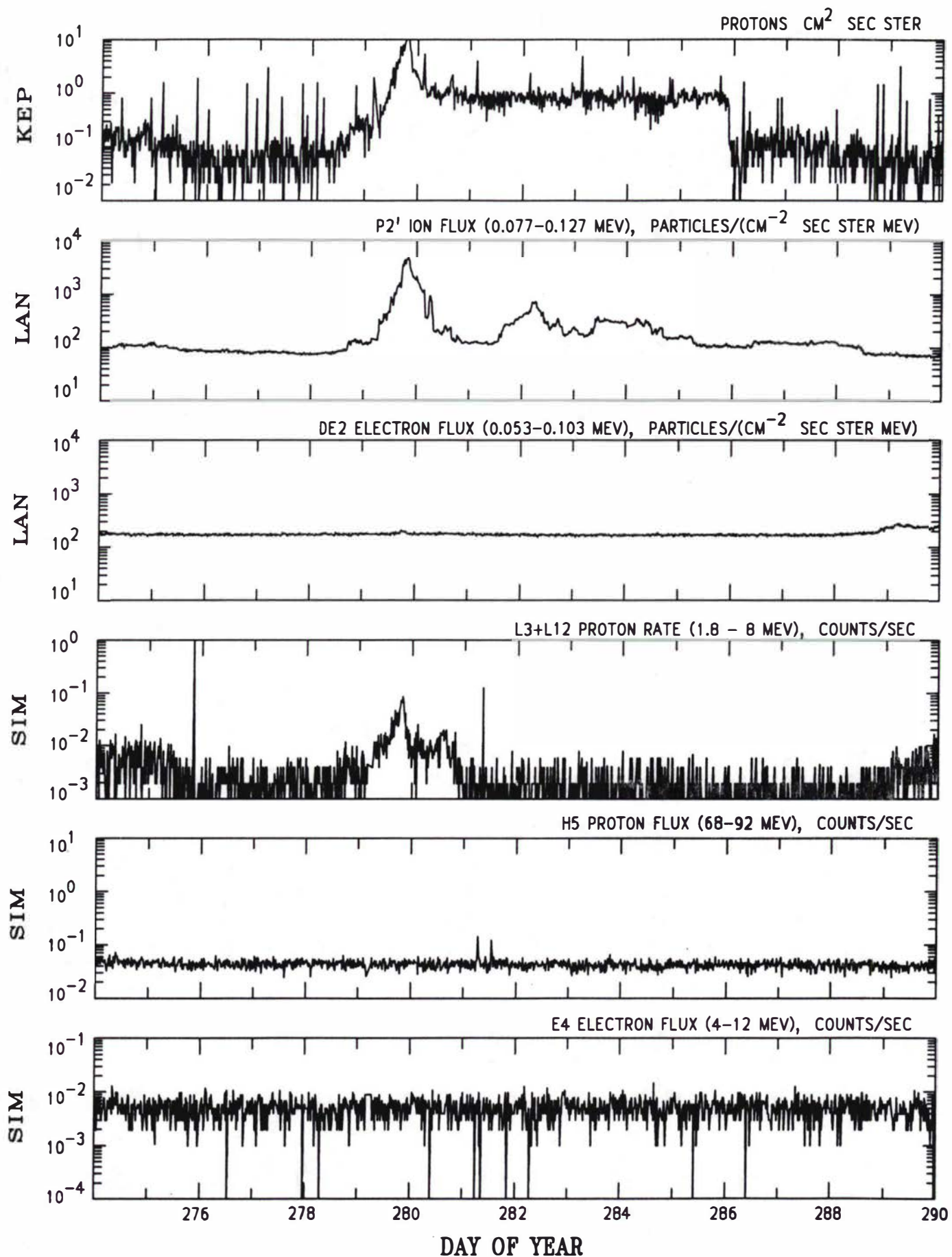
304

306

DAY OF YEAR

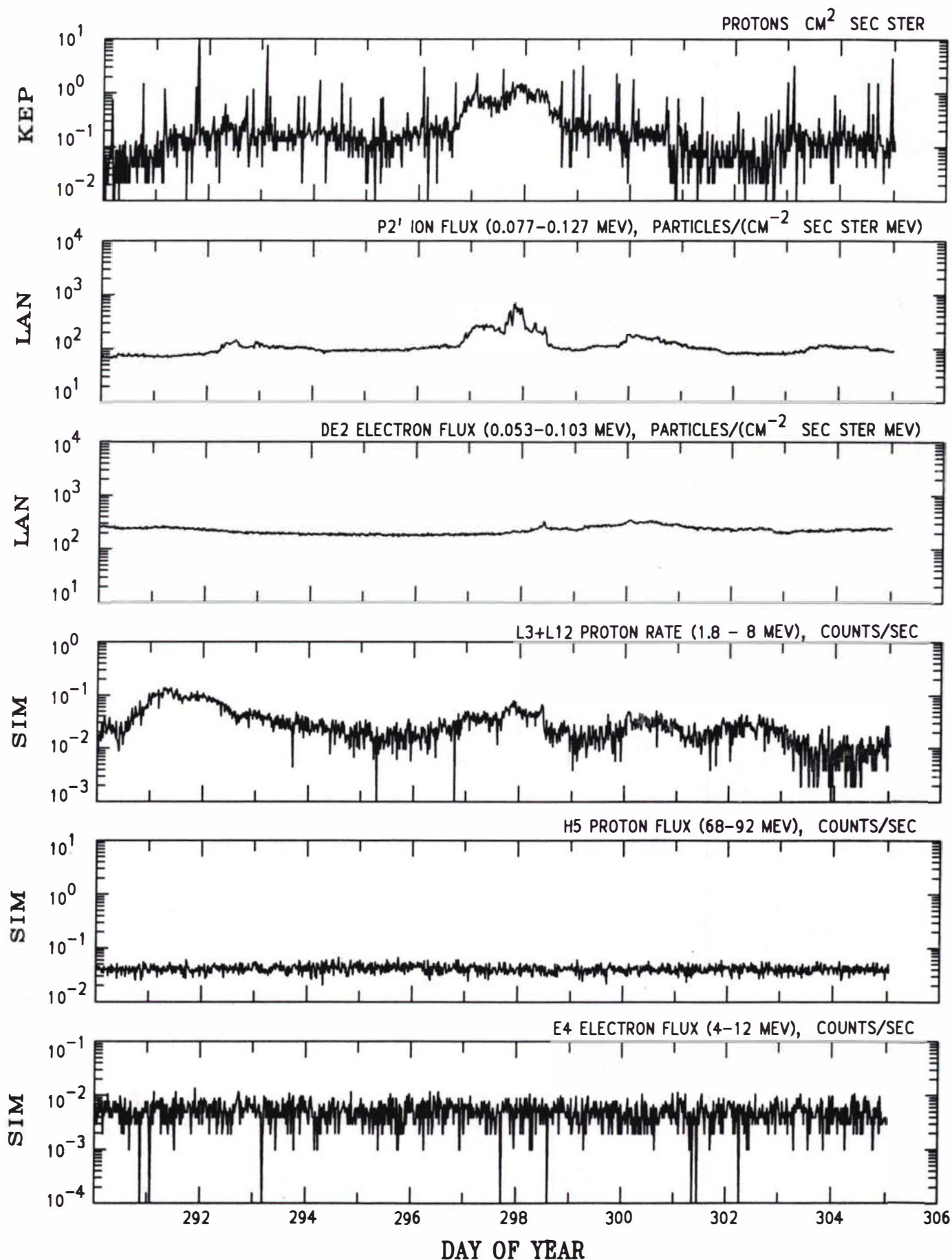
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

99 274 OCT 1 00:00:00.000 - 99 290 OCT 17 00:00:00.000



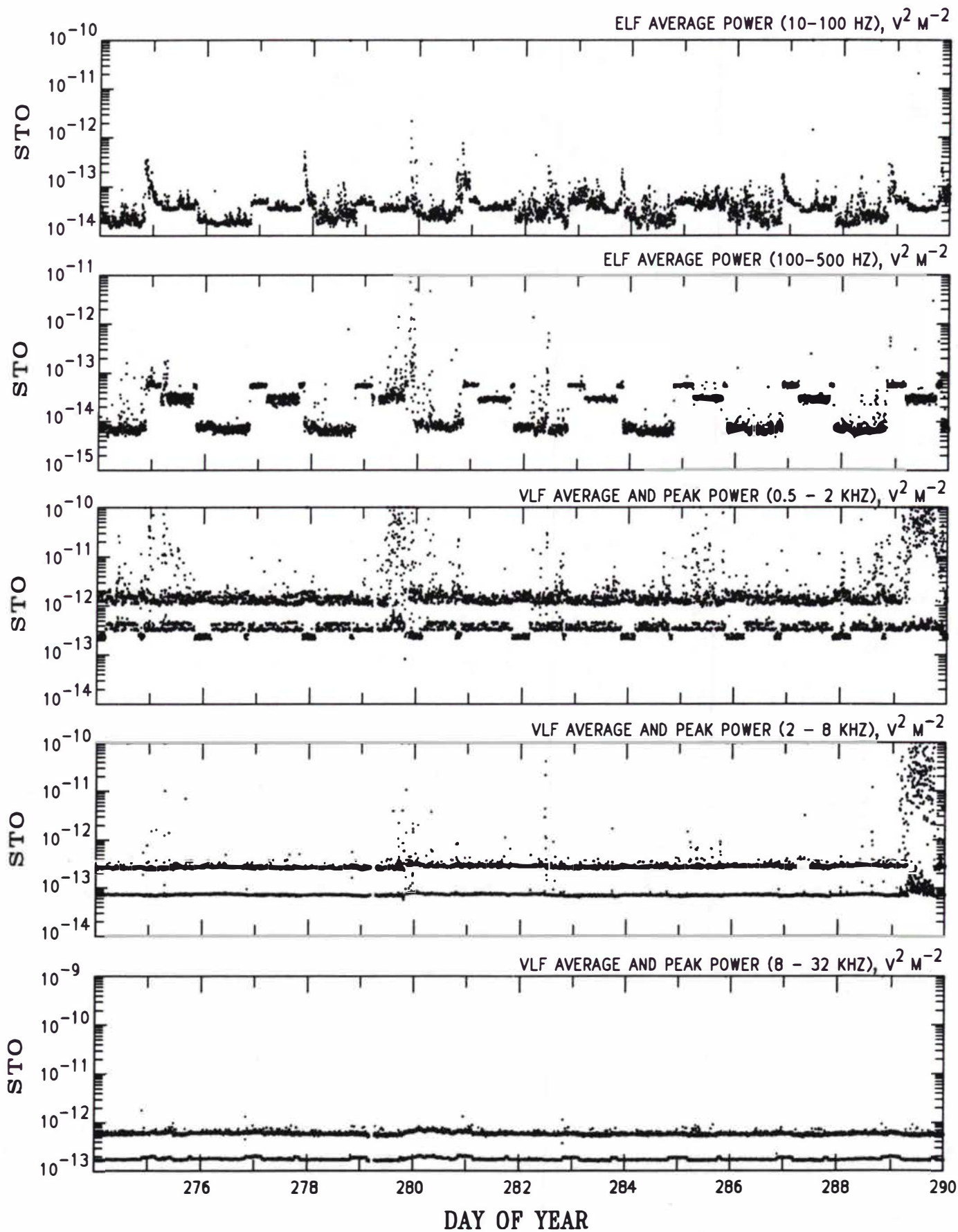
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

99 290 OCT 17 00:00:00.000 - 99 306 NOV 2 00:00:00.000



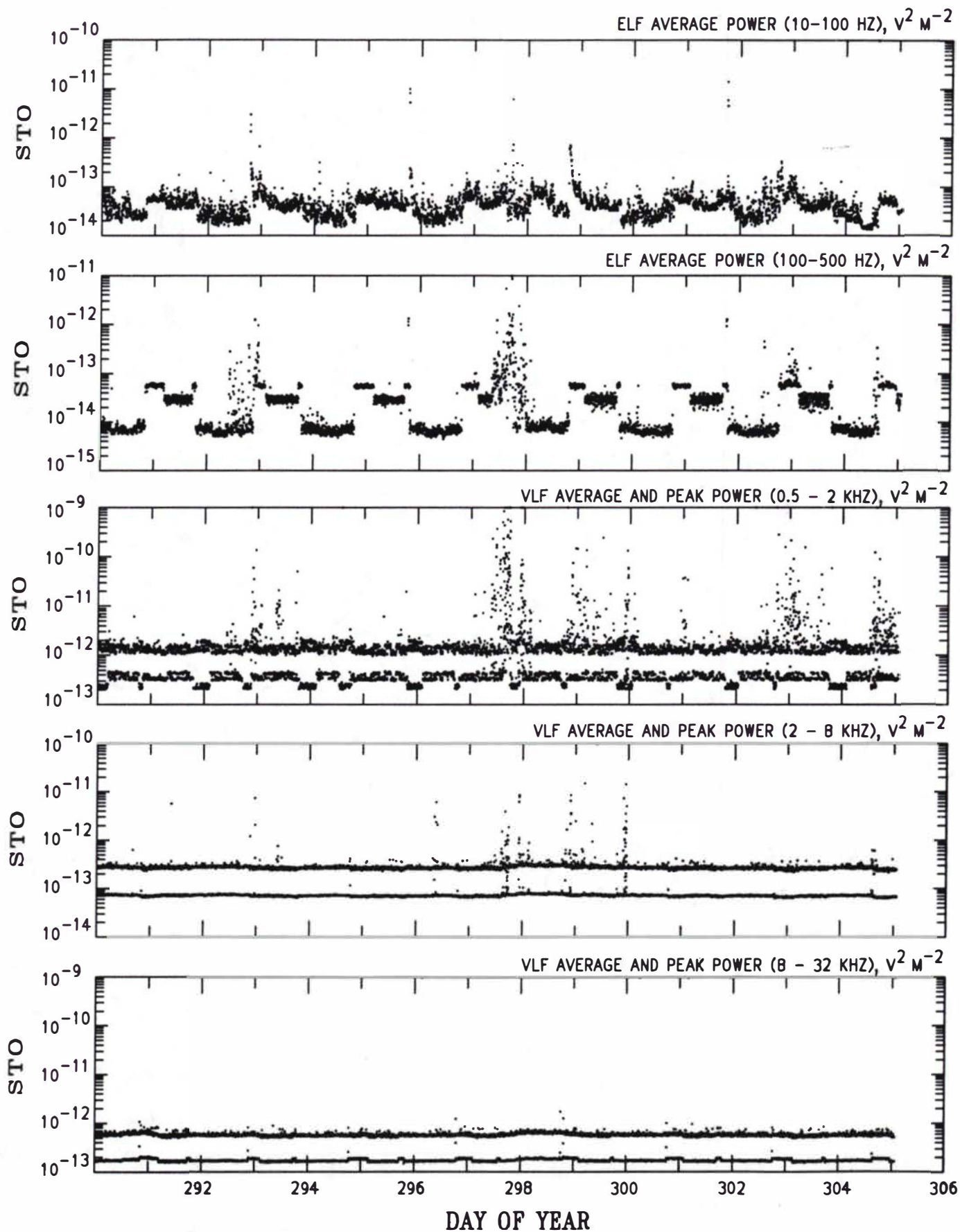
ULYSSES CDR - PLASMA WAVE

99 274 OCT 1 00:00:00.000 - 99 290 OCT 17 00:00:00.000



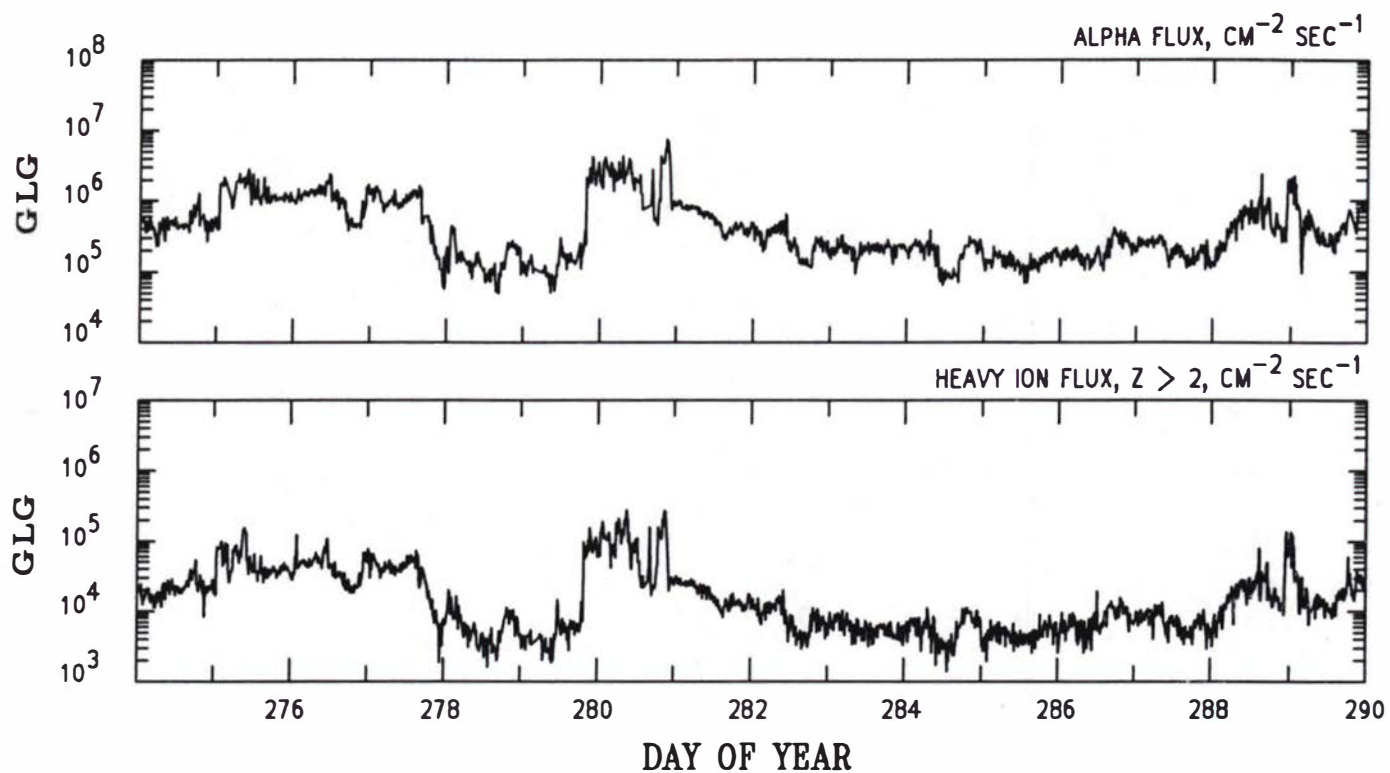
ULYSSES CDR - PLASMA WAVE

99 290 OCT 17 00:00:00.000 - 99 306 NOV 2 00:00:00.000



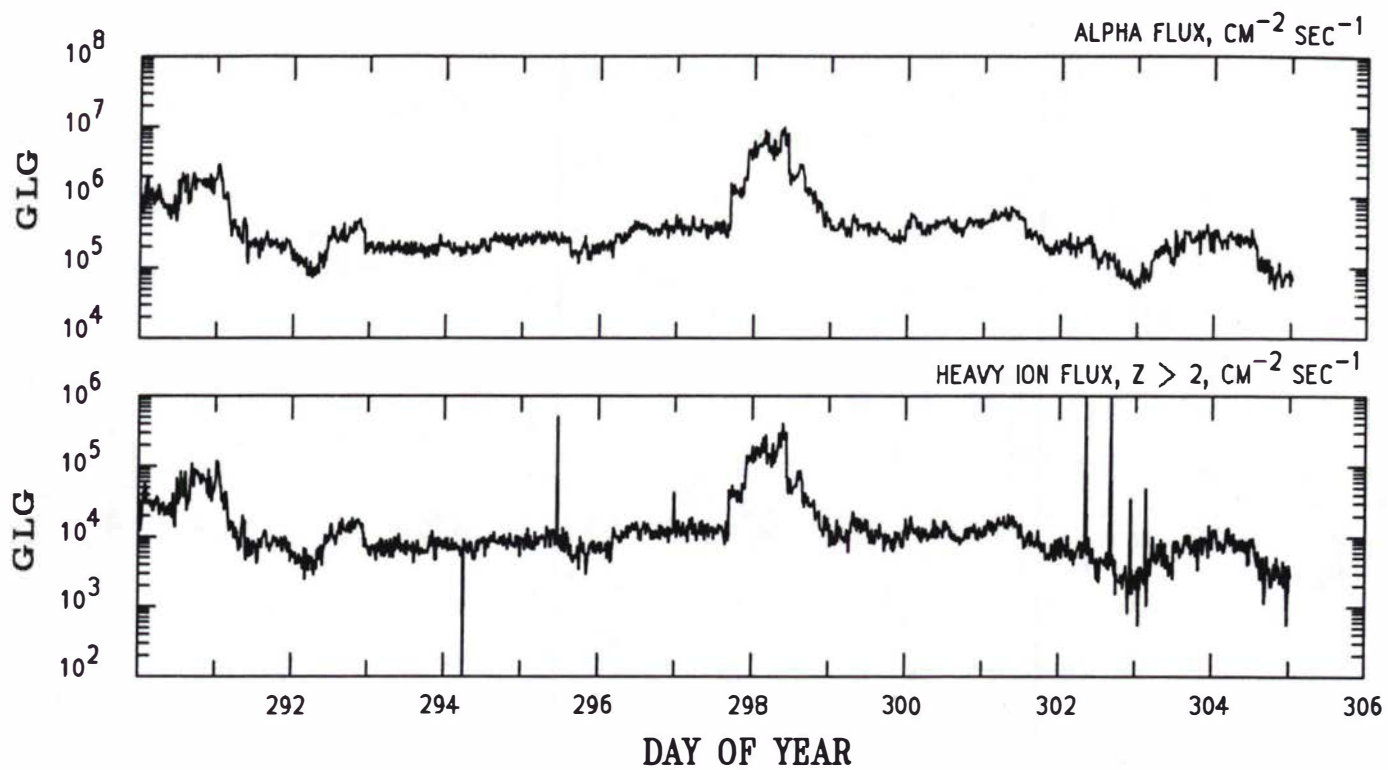
ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 274 OCT 1 00:00:00.000 - 99 290 OCT 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 290 OCT 17 00:00:00.000 - 99 306 NOV 2 00:00:00.000



From GOGUSE@fender.msfc.nasa.gov Tue Oct 5 05:35 PDT 1999
From: GOGUSE@fender.msfc.nasa.gov
Date: Tue, 5 Oct 1999 7:35:44 -0500 (CDT)
>: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7781

BATSEARCH PROGRAM

BATSE BURST # 7781
EVENT OF 1999 OCT 1 DAY OF YEAR=274
EVENT CROSSING TIME AT BATSE : 4950. S. OR 01:22:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 6.000 37.000
BATSE PEAK COUNTING RATE: 19000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/10/ 99 IS:
RA= 159.798 DEC= -16.783 DIST= 5.349 AU
BATSE-ULYSSES DISTANCE = 800199054. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 30.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2295.03 SECS.
CROSSING TIME AT ULYSSES IS 7245. S. OR 02:00:45 +/- 321.47 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/10/ 99 IS:
RA= 257.477 DEC= -24.764 DIST= 1.355 AU
MARS-BATSE DISTANCE = 202781520. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 326.35 SECS.
CROSSING TIME AT MARS IS 5276. S. OR 01:27:56 +/- 107.82 SECONDS

BATSE BURST TRIGGER

NO.: 7781

TIME: TJD=1452 SECONDS= 4950

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=150.8 AZIMUTH=163.6 ERROR= 1.2 DEGREES

COMMENTS:

GRB, DOUBLE PEAKES WITH STRUCTURE, DURATION APPROX. 2 S, marginally visible
above 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7781	991001	11452	04950	19000	006	+37	2

Date: 8 May 2 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

N/A

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

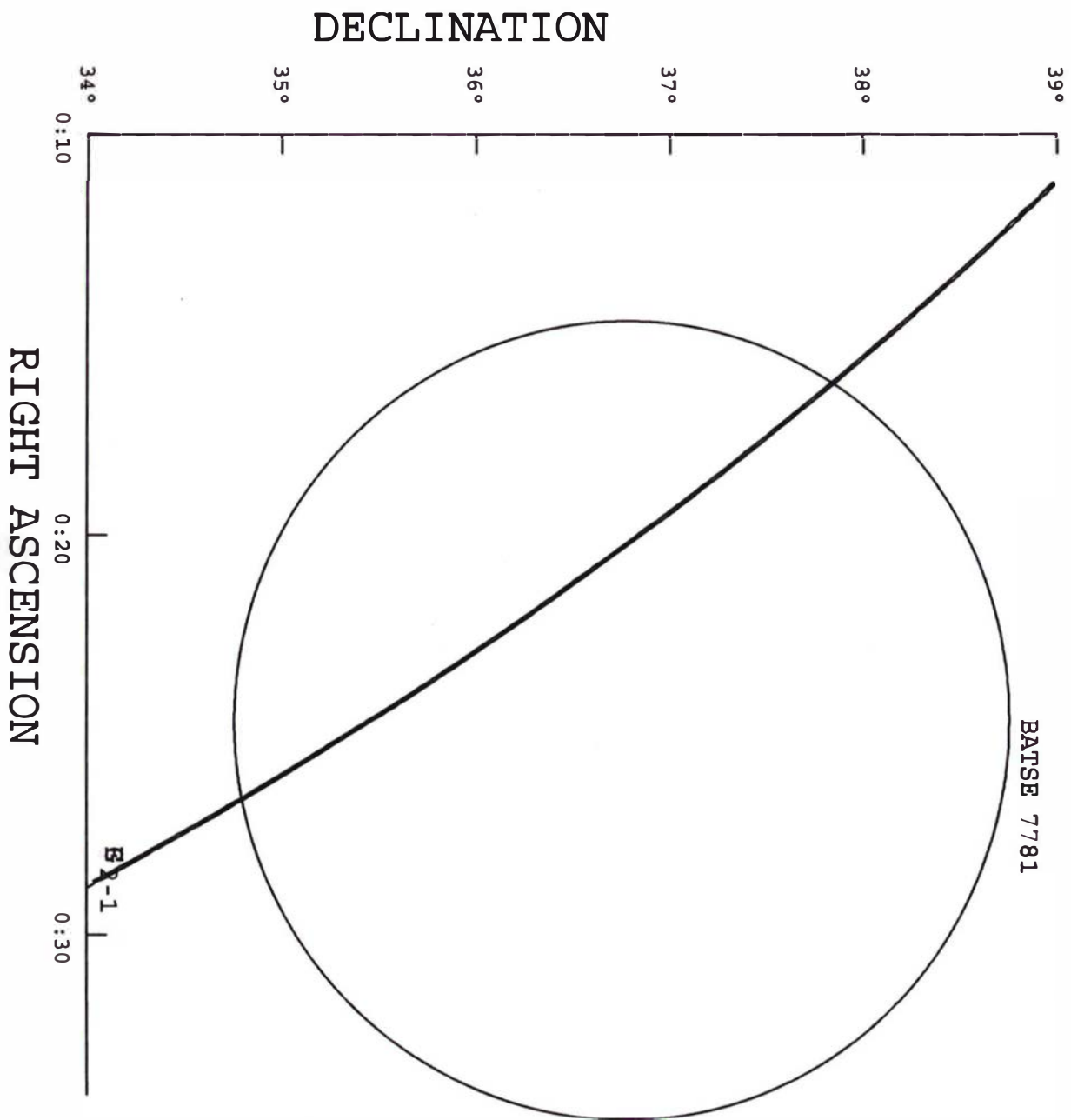
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF OCT 1, 1999 1:22

2 / 5 / 0



BATSE

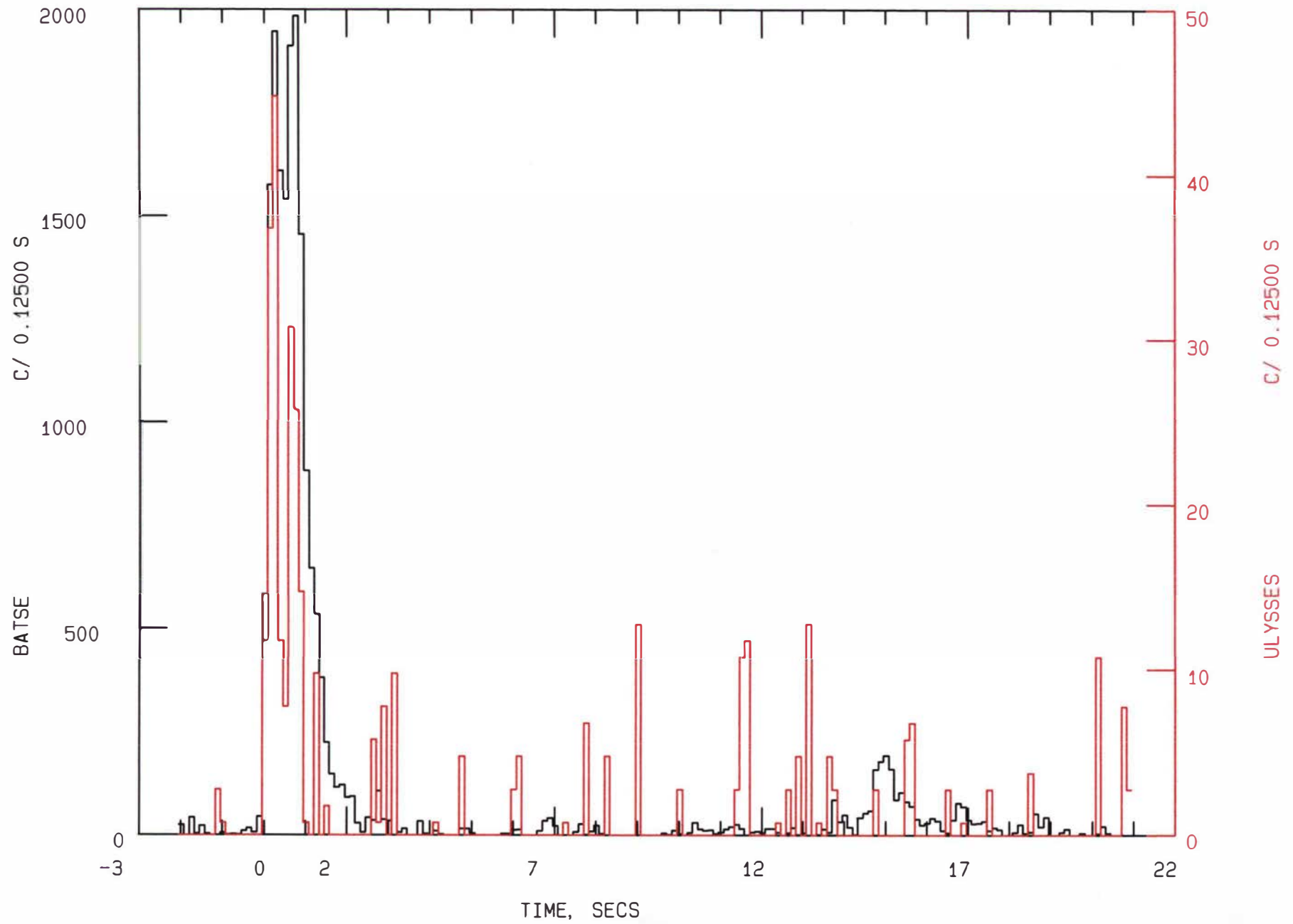
-ULYSSES

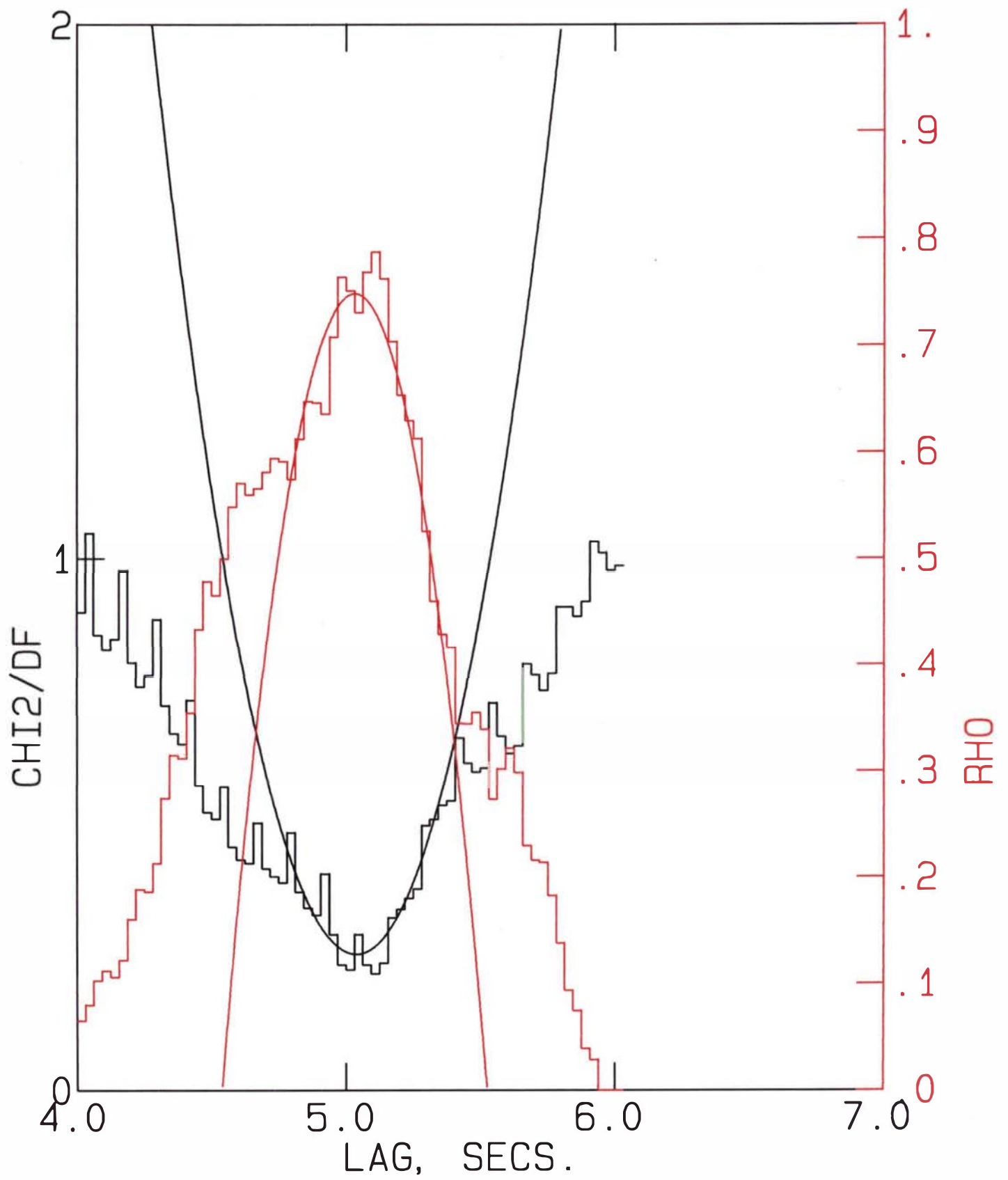
CORRELATION

1/10/99

4950.201

2/ 5/ 0





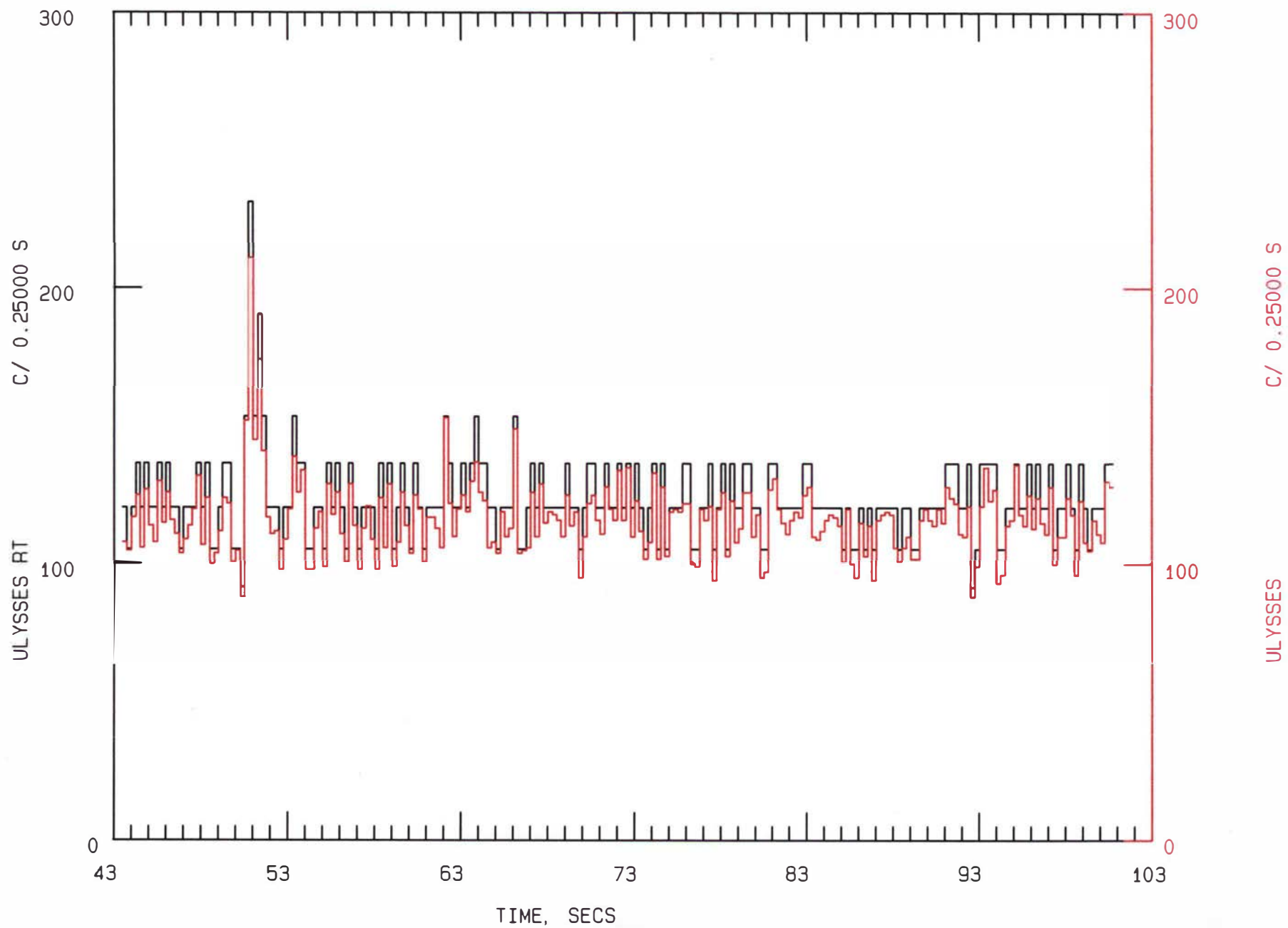
ULYSSES RT-ULYSSES

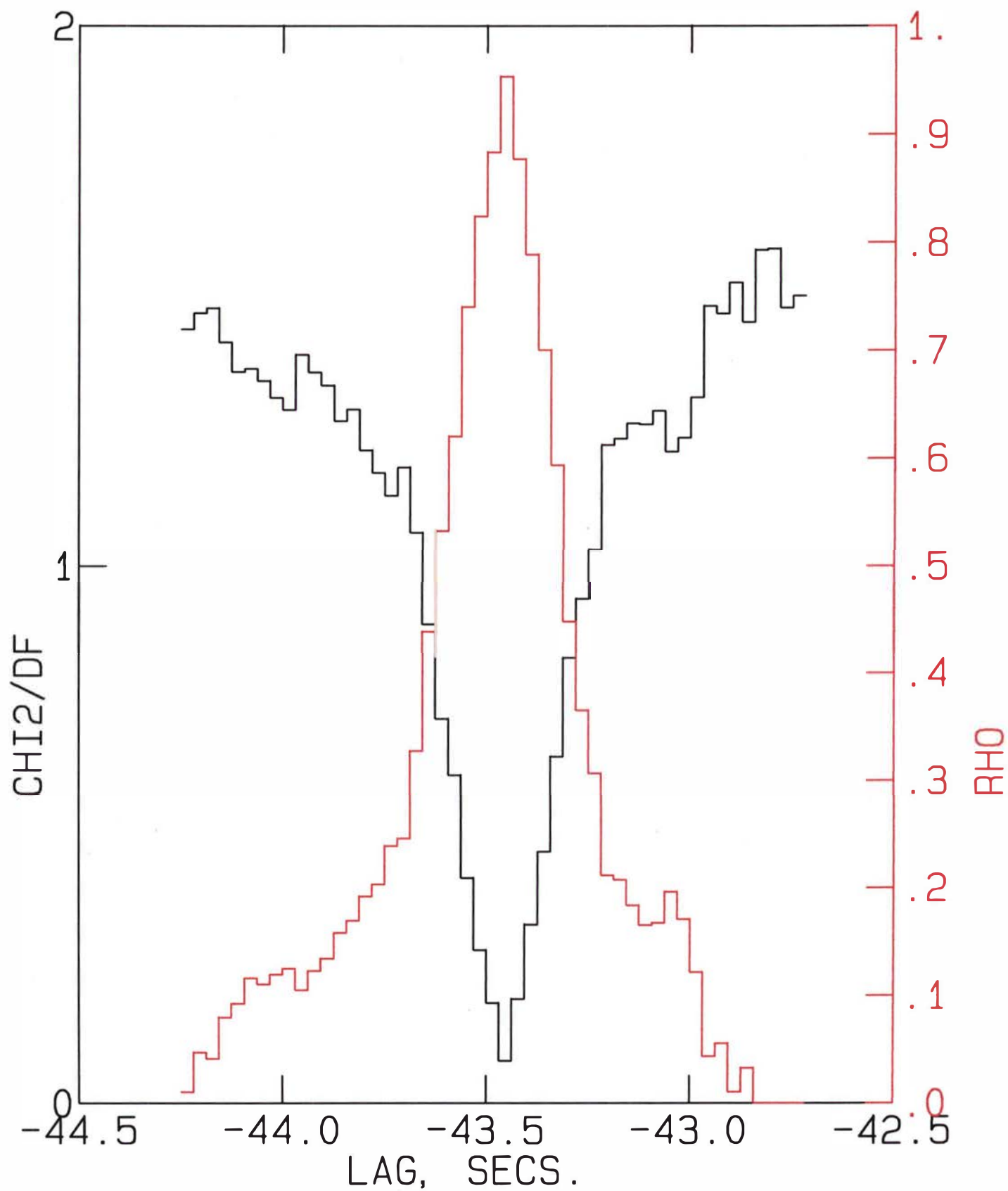
CORRELATION

1/10/99

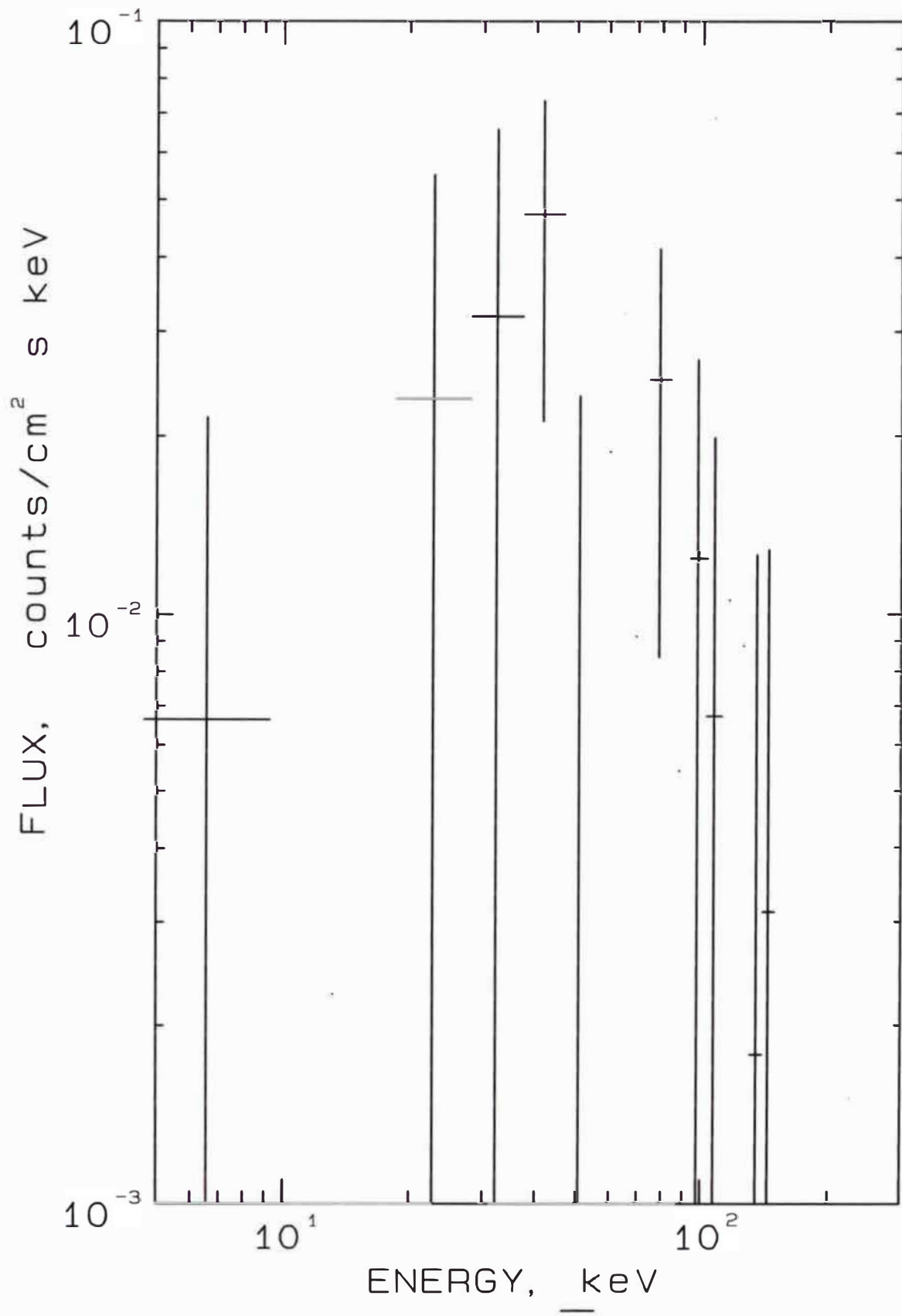
7225.108

2/ 5/ 0



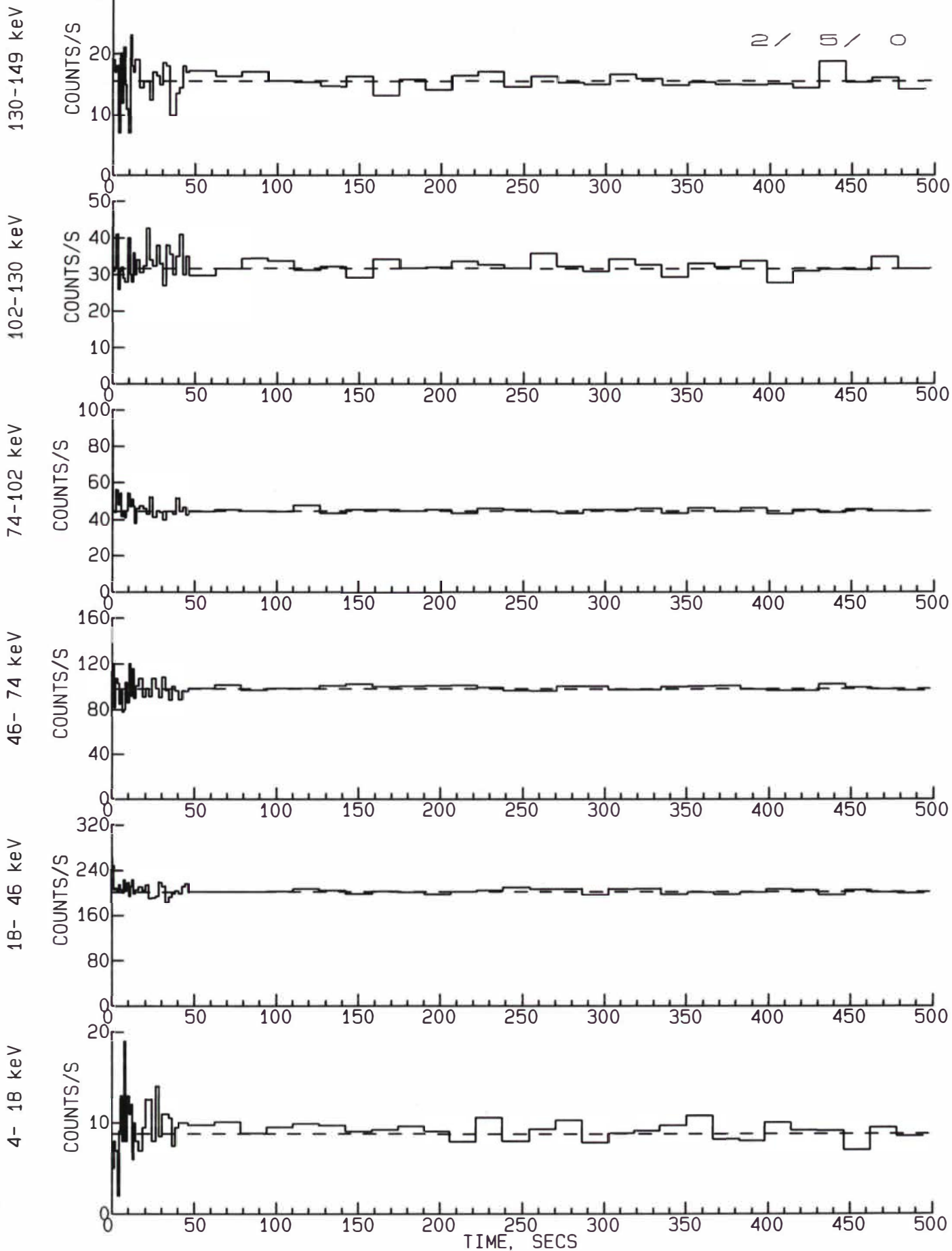


SPECTRUM INTEGRATED OVER 8.4 SECONDS, INTERVALS 2 TO 10



BURST SPECTRAL COUNT RATES

ULRSSES 01/10/99

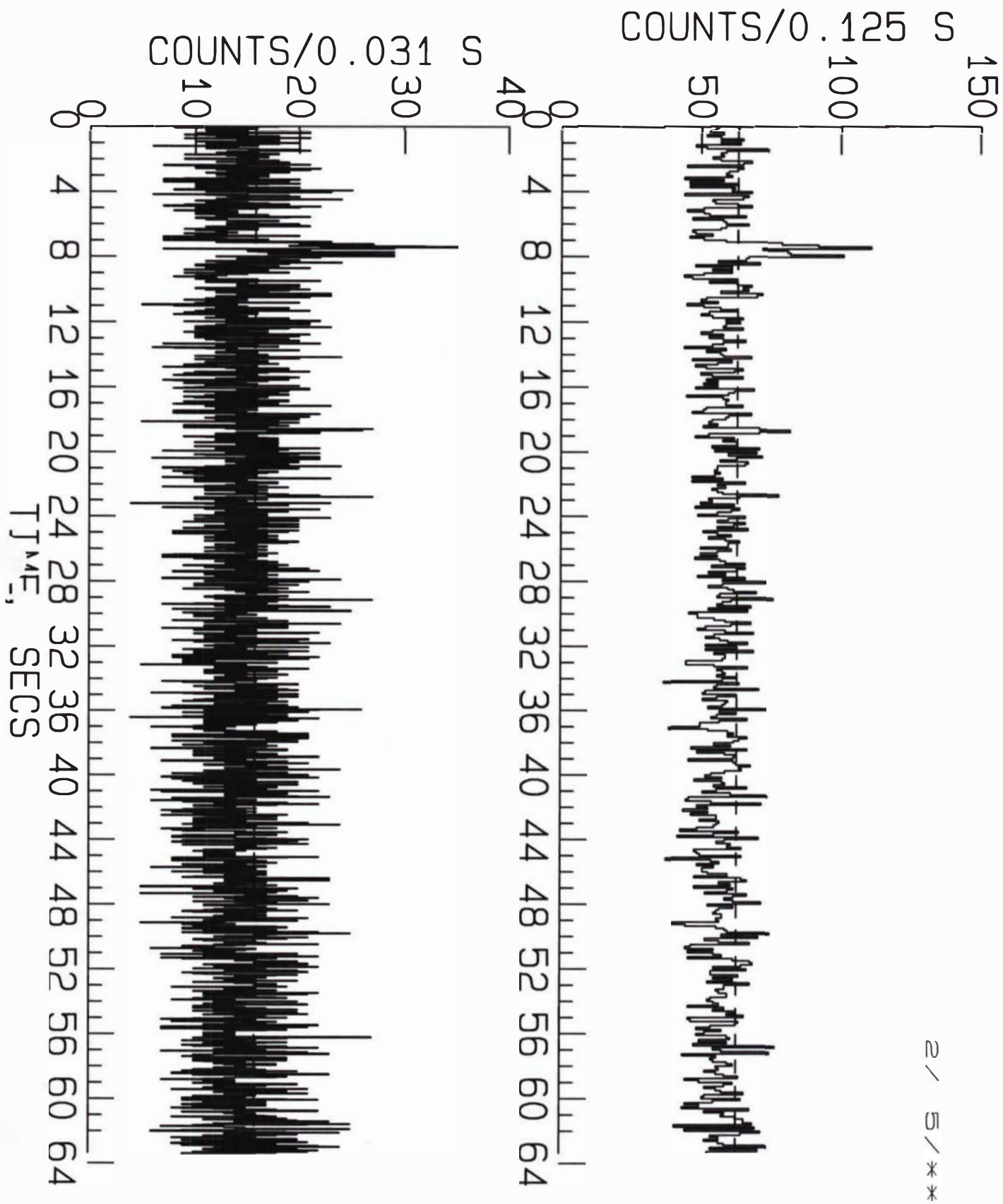


ULYSSES

01/10/99

Ttrig= 7275.982

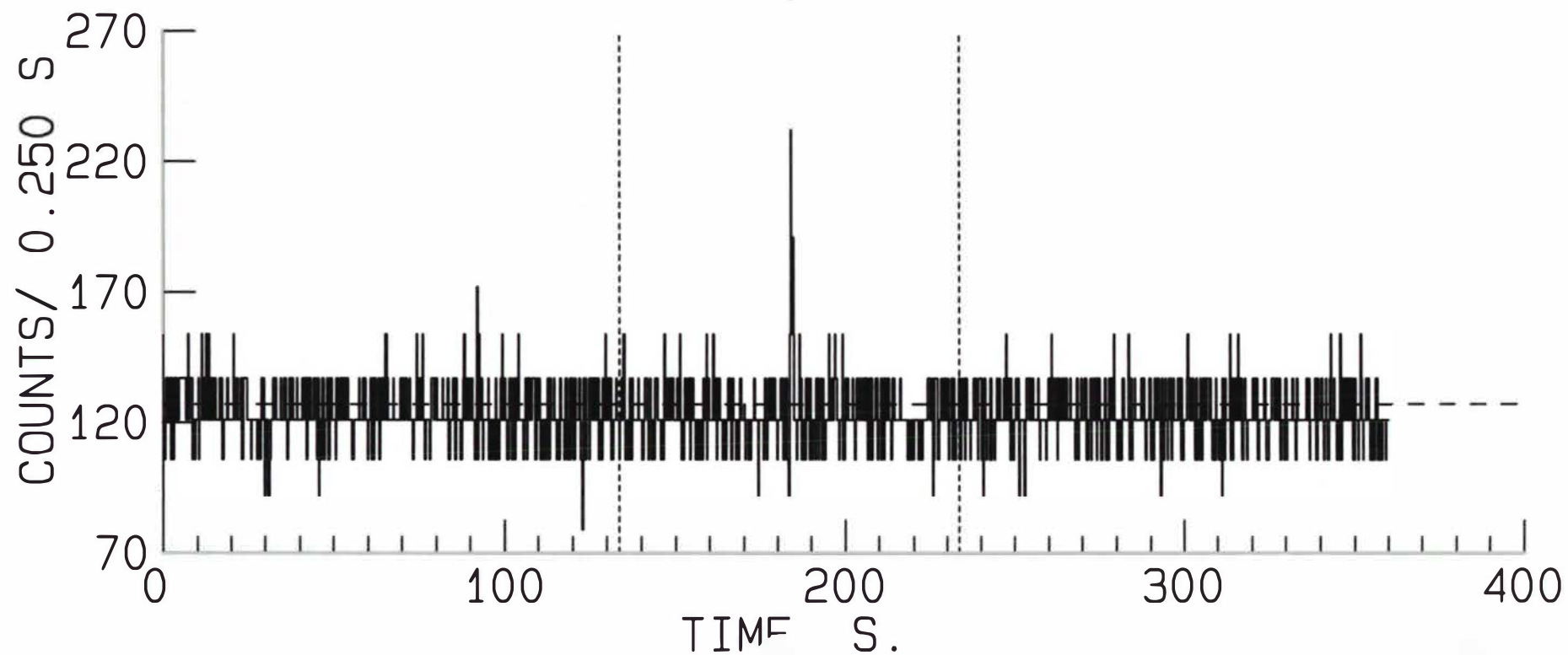
22- 149 keV



ULYSSES RT
1/10/99 7092.101 s
22- 149 keV

2 / 5 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



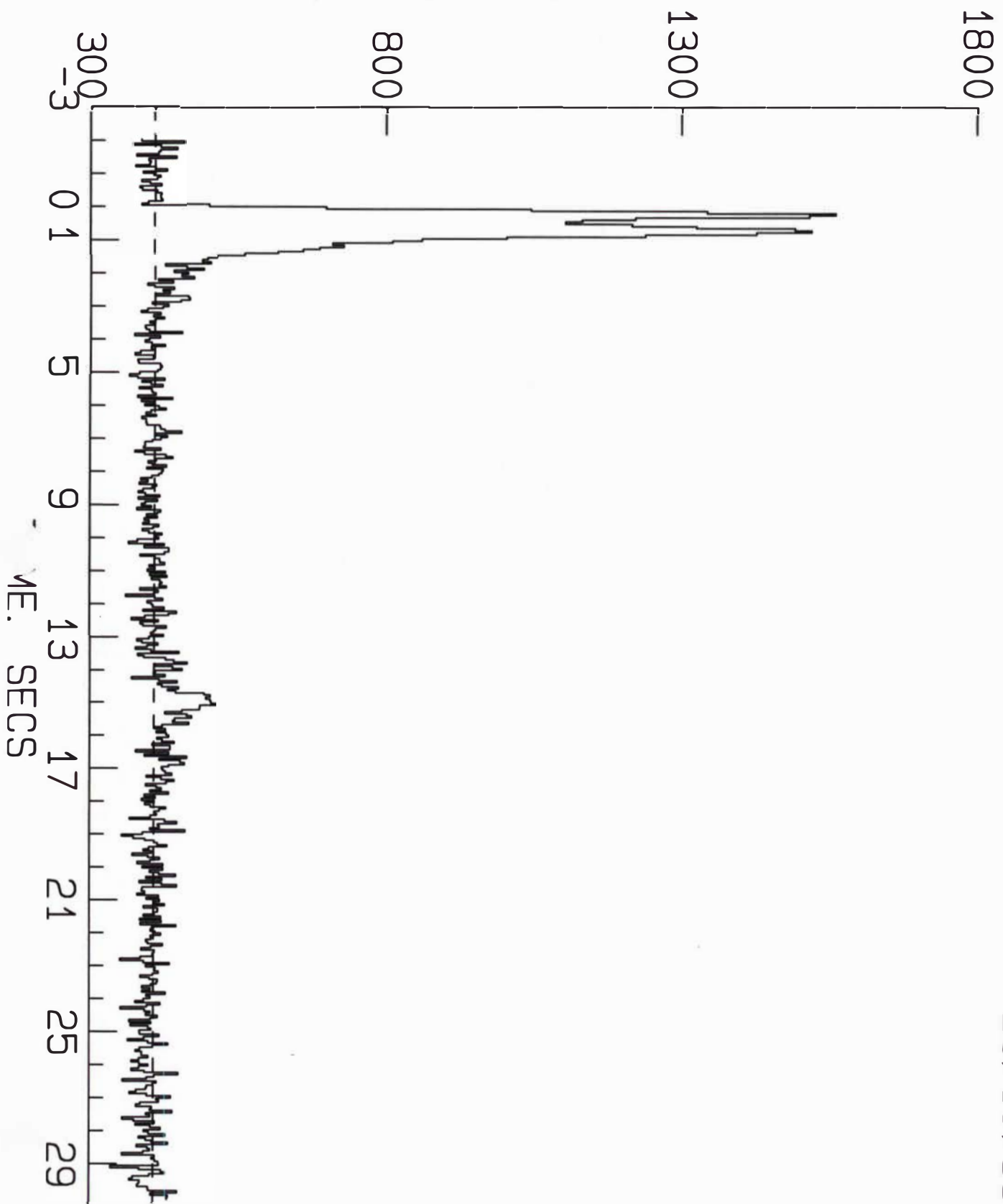
BATSE

01/10/99

4950.201

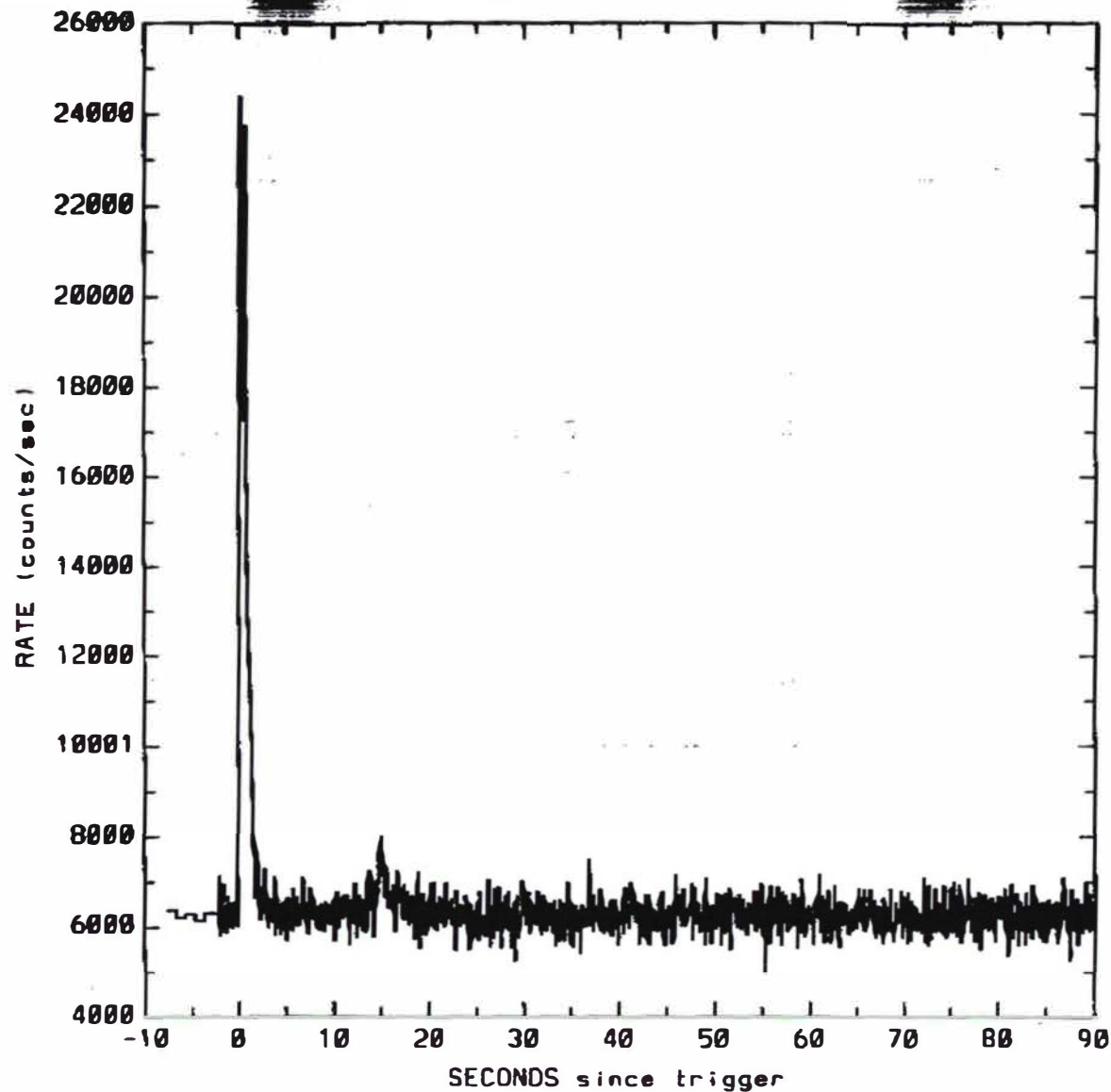
25- 100 keV

COUNTS/0.064 S



28/10/99

DISC Data for K. Hurley, No. 778



18-OCT-1999 13:26:52

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # = 7781

Trigger Time:
11452 / 4950.201

Burst Data Type:
DISCSC

Deadline
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..0):
7-5----

Discriminators:
(1, 2)

Quality Mask:
BOTSP1

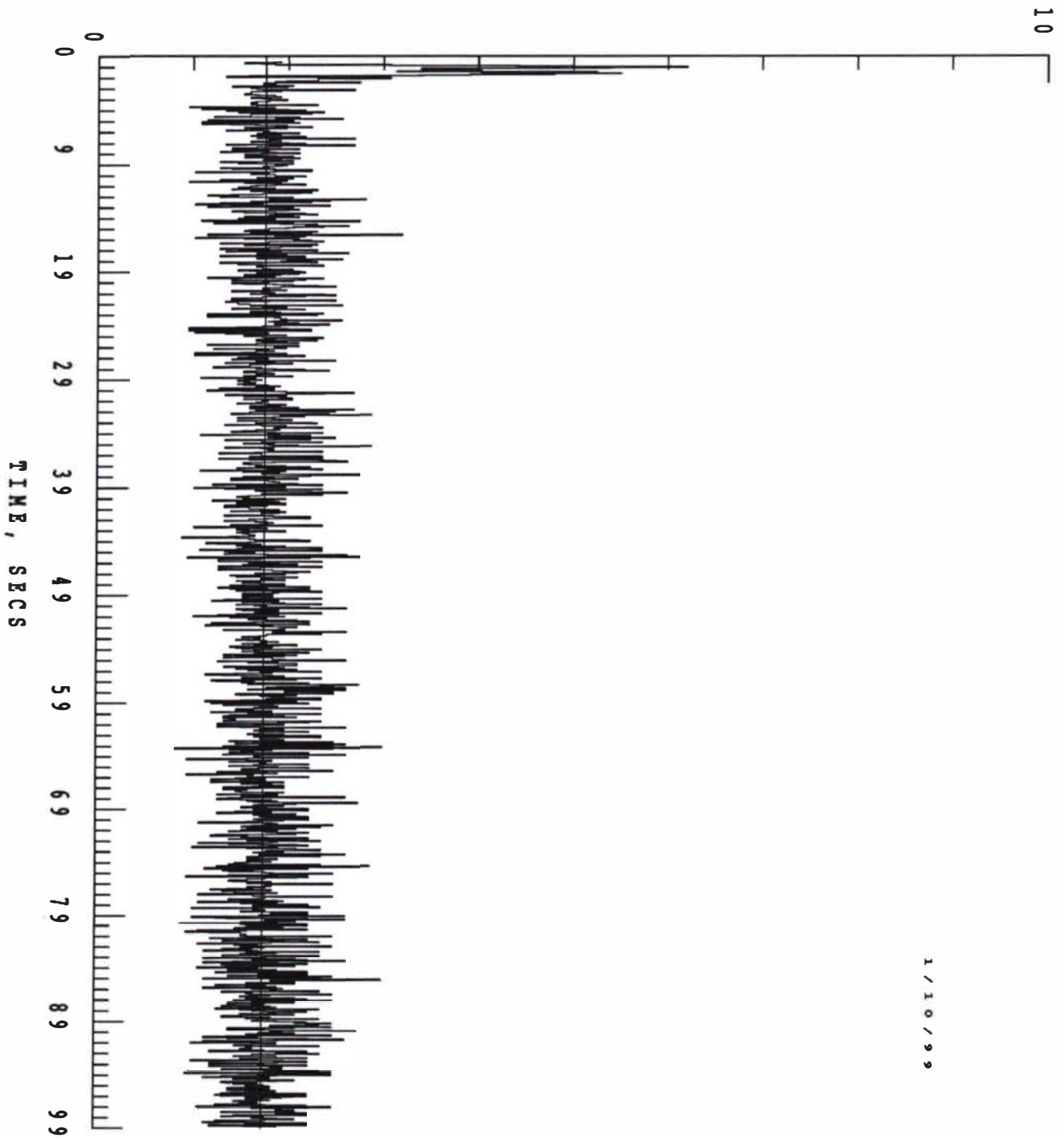
KONUS

01/10/99

4950.128

50 - 200 keV

COUNTS/0.064 S



1 / 10 / 99

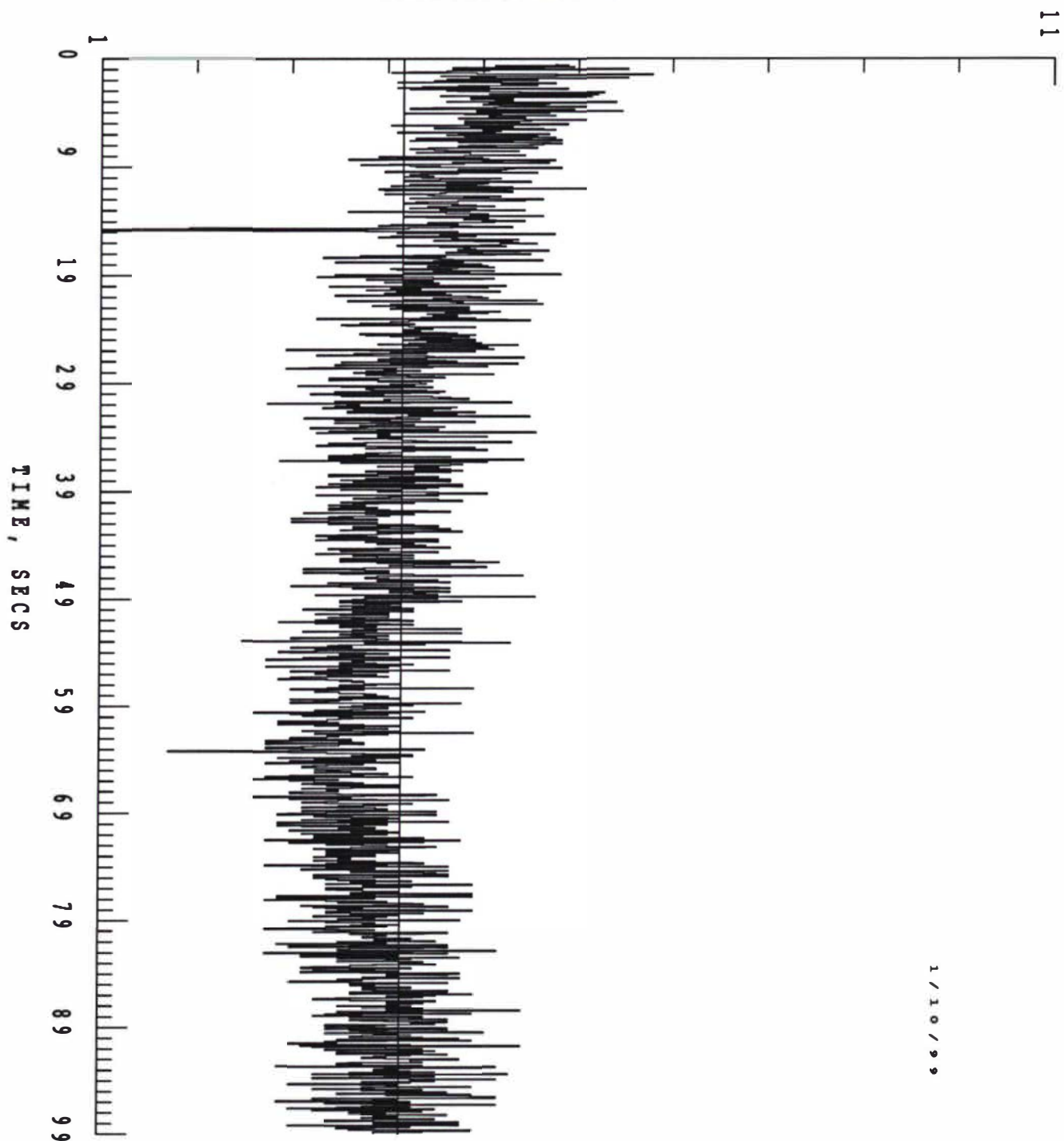
KONUS

01/10/99

25496.696

50 - 200 keV

COUNTS/0.064 S



1 / 10 / 99

KONUS1 19991001 25496

ULYSSES RT

5 / 10 / 99

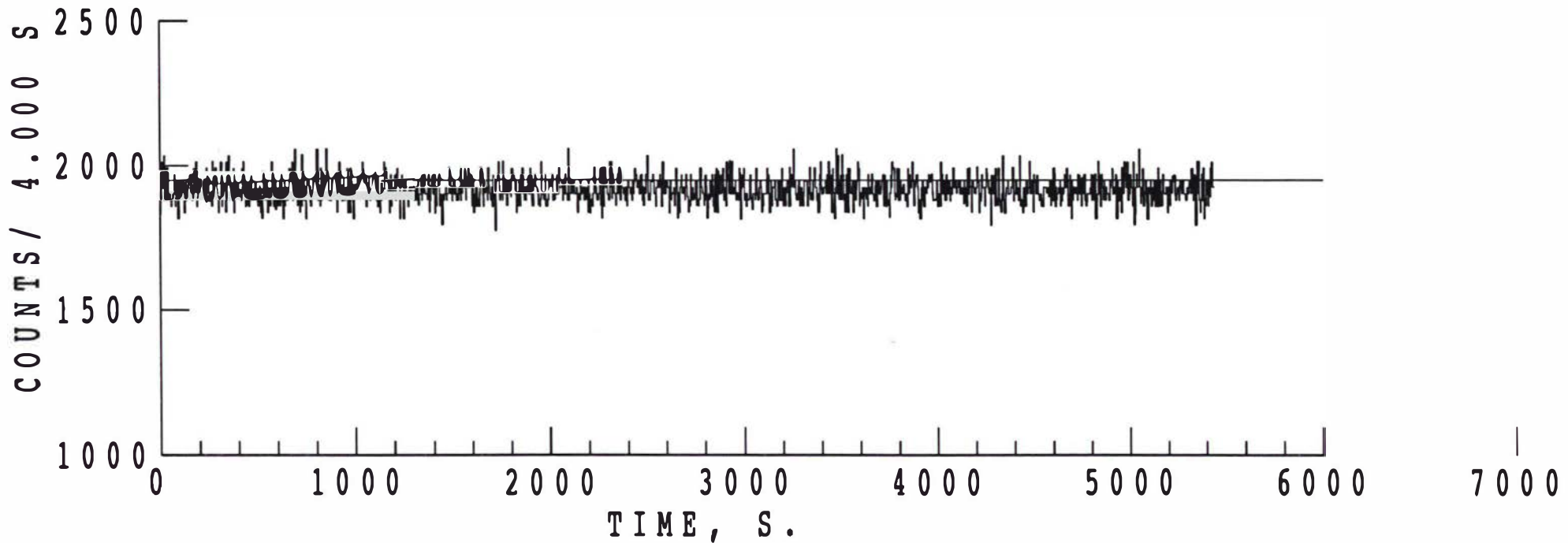
1/10/99 22788.008 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From GOGUSE@fender.msfc.nasa.gov Mon Oct 4 15:24 PDT 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Mon, 4 Oct 1999 17:31:32 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7782

TIME: TJD=1452 SECONDS=29521

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 57.2 AZIMUTH= 1.9 ERROR= 0.5 DEGREES

COMMENTS:

GOES C3.6, NO OPTICAL, DURATION APPROX. 80 S, NOT VISIBLE ABOVE 300 KEV

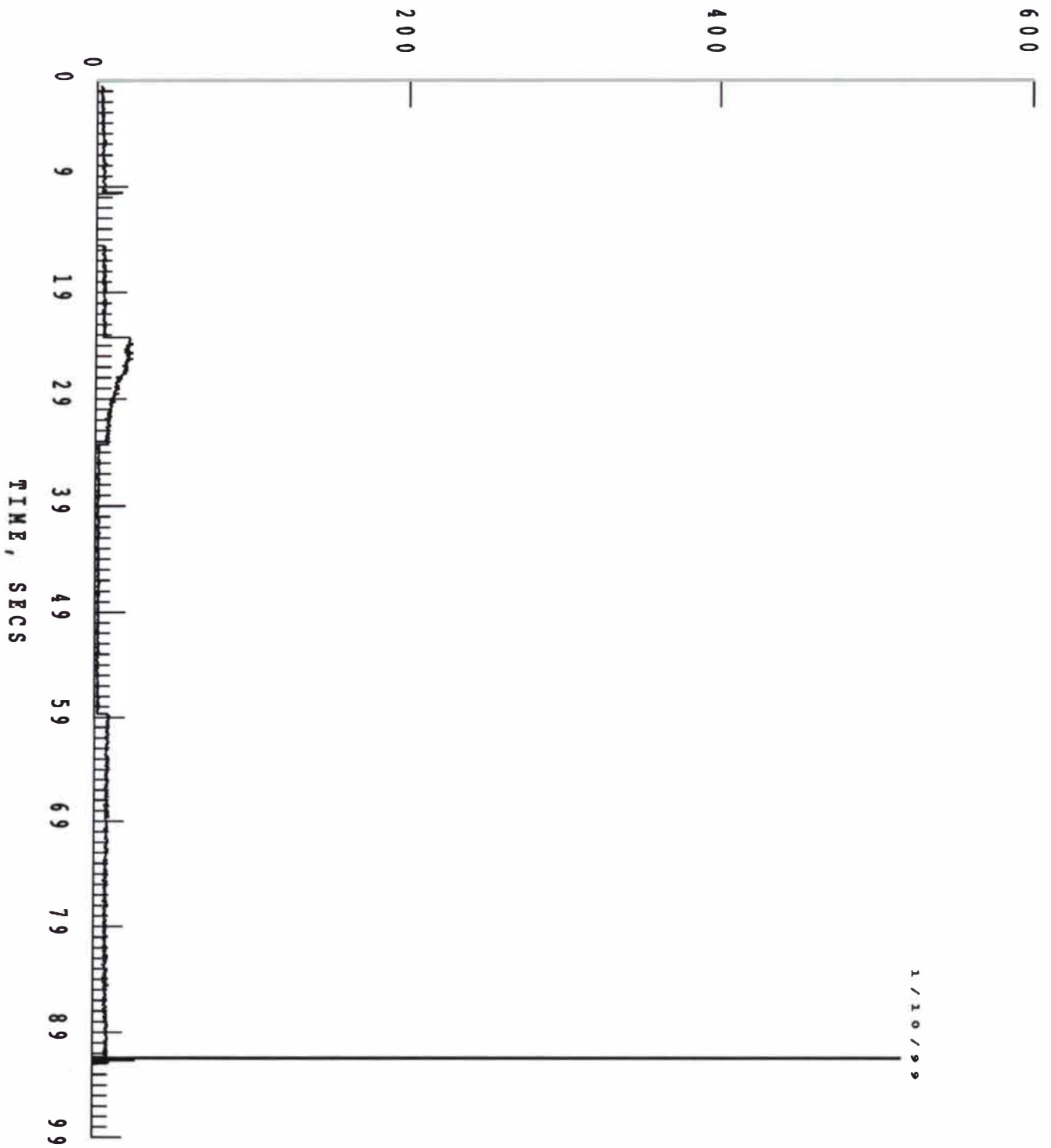
KONUS

01/10/99

30739.081

50 - 200 keV

COUNTS/0.064 S



KONUS2 19991001 30739

ULYSSES RT

5 / 10 / 99

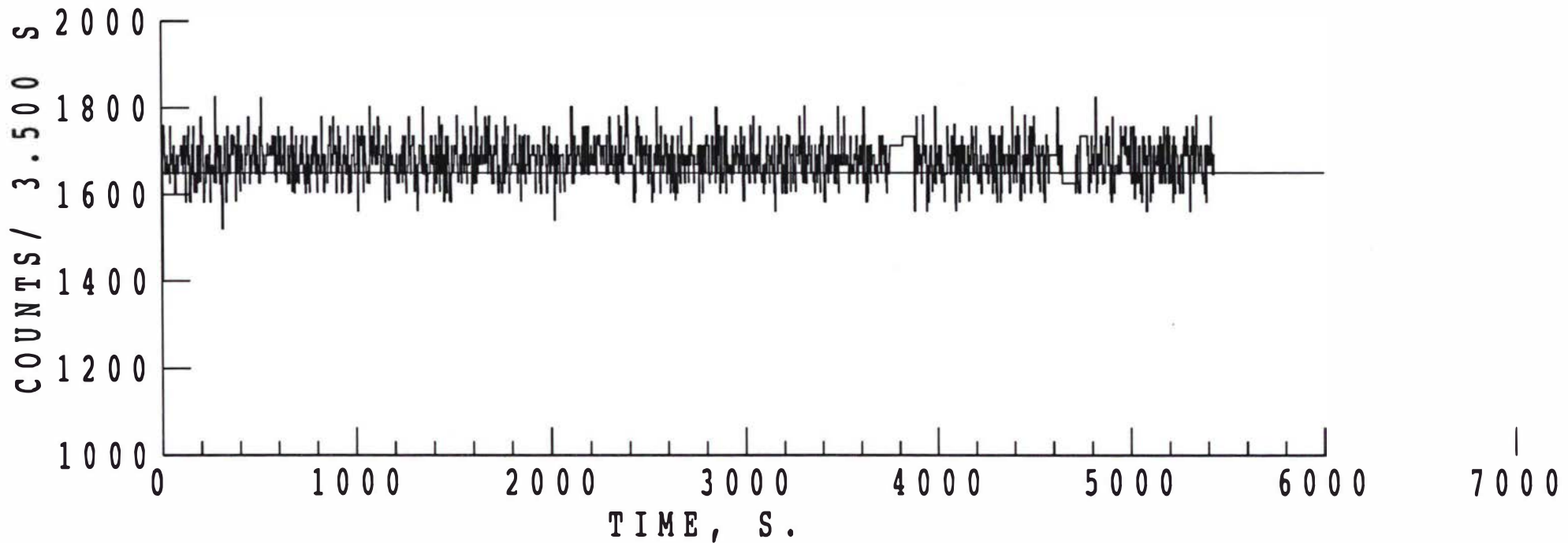
1 / 10 / 99 28008.061 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



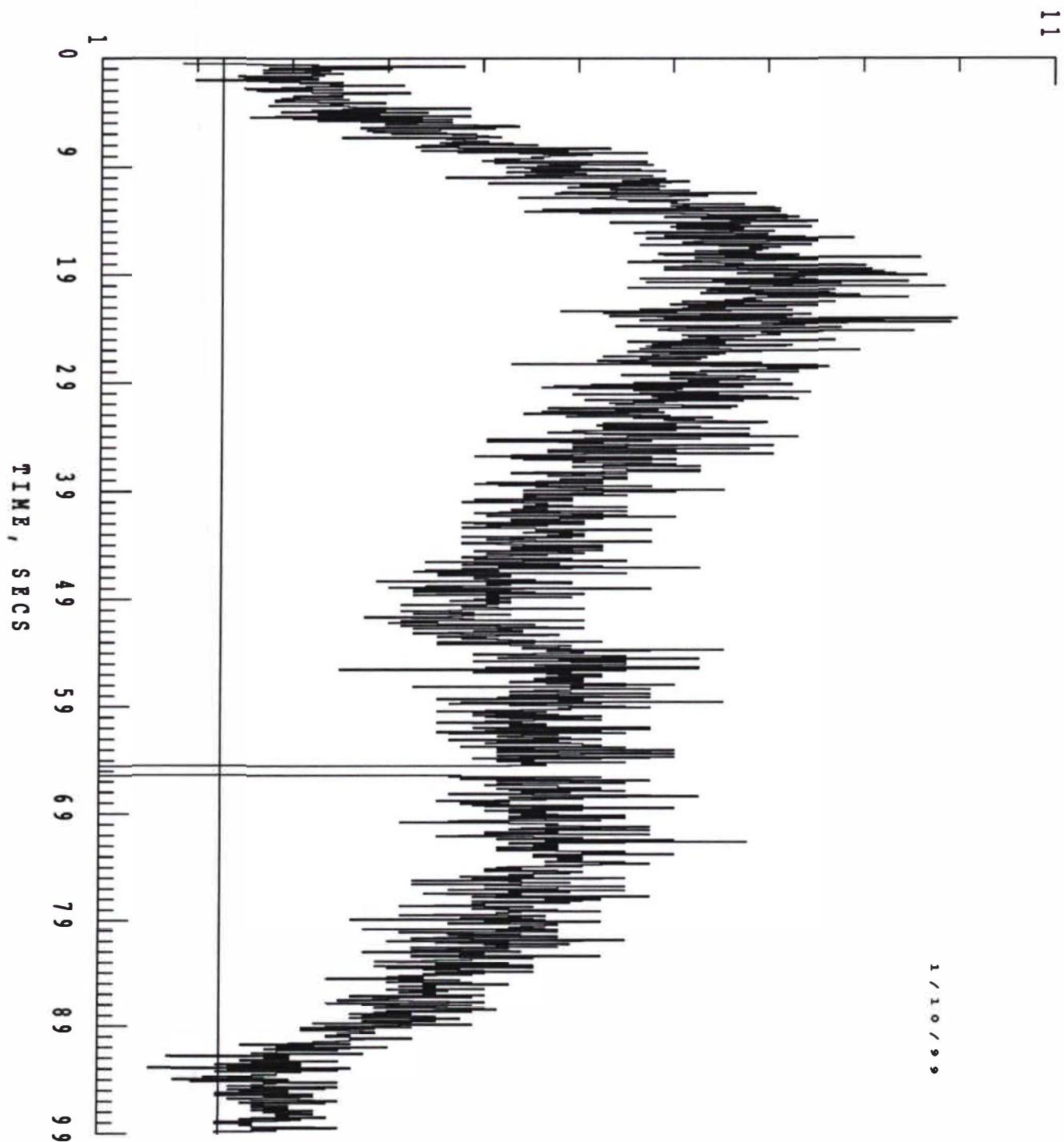
KONUS

01/10/99

36683.445

50 - 200 keV

COUNTS/0.064 S



KONUS1 19991001 36683

ULYSSES RT

5 / 10 / 99

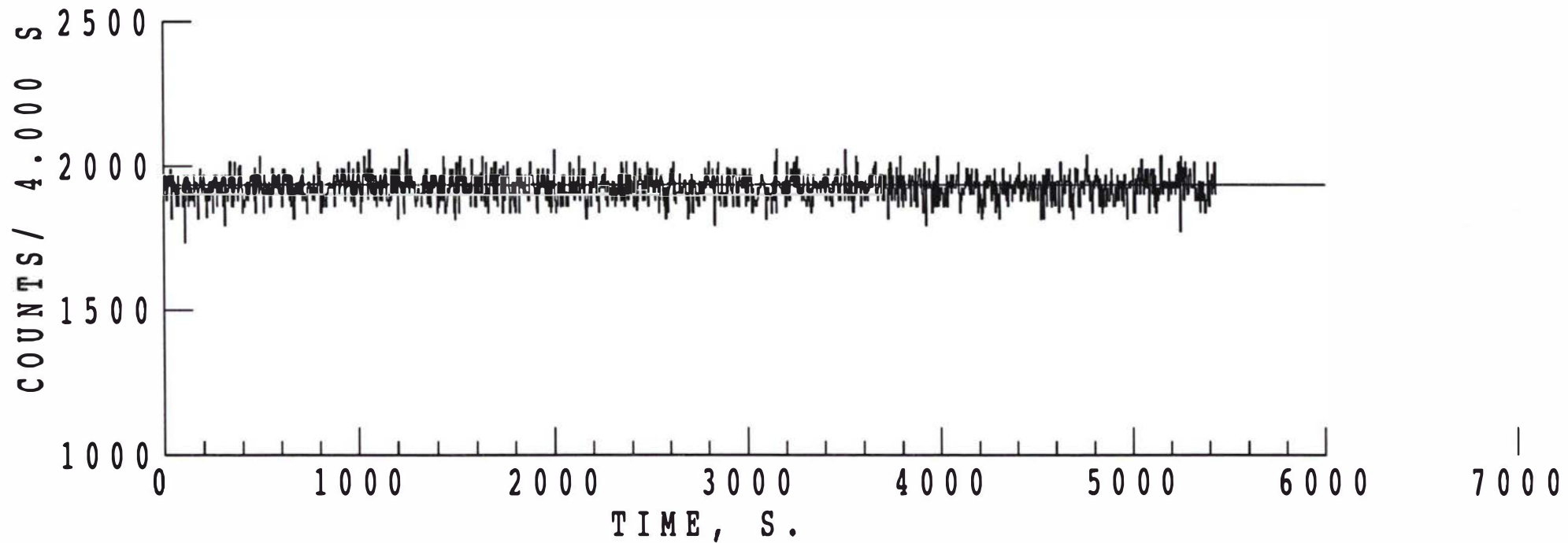
1/10/99 33948.125 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Oct 4 10:47 PDT 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 4 Oct 1999 12:52:33 -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, 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.: 7783

TIME: TJD=1452 SECONDS=37702

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=64.1 AZIMUTH=1.4 ERROR=3.1 DEGREES

COMMENTS:

SOLAR FLARE, NO GOES, NO OPTICAL.

SINGLE PULSE WITH LOTS OF STRUCTURE. DURATION APPROX. = 50 SEC.

NOT VISIBLE ABOVE 300KEV.

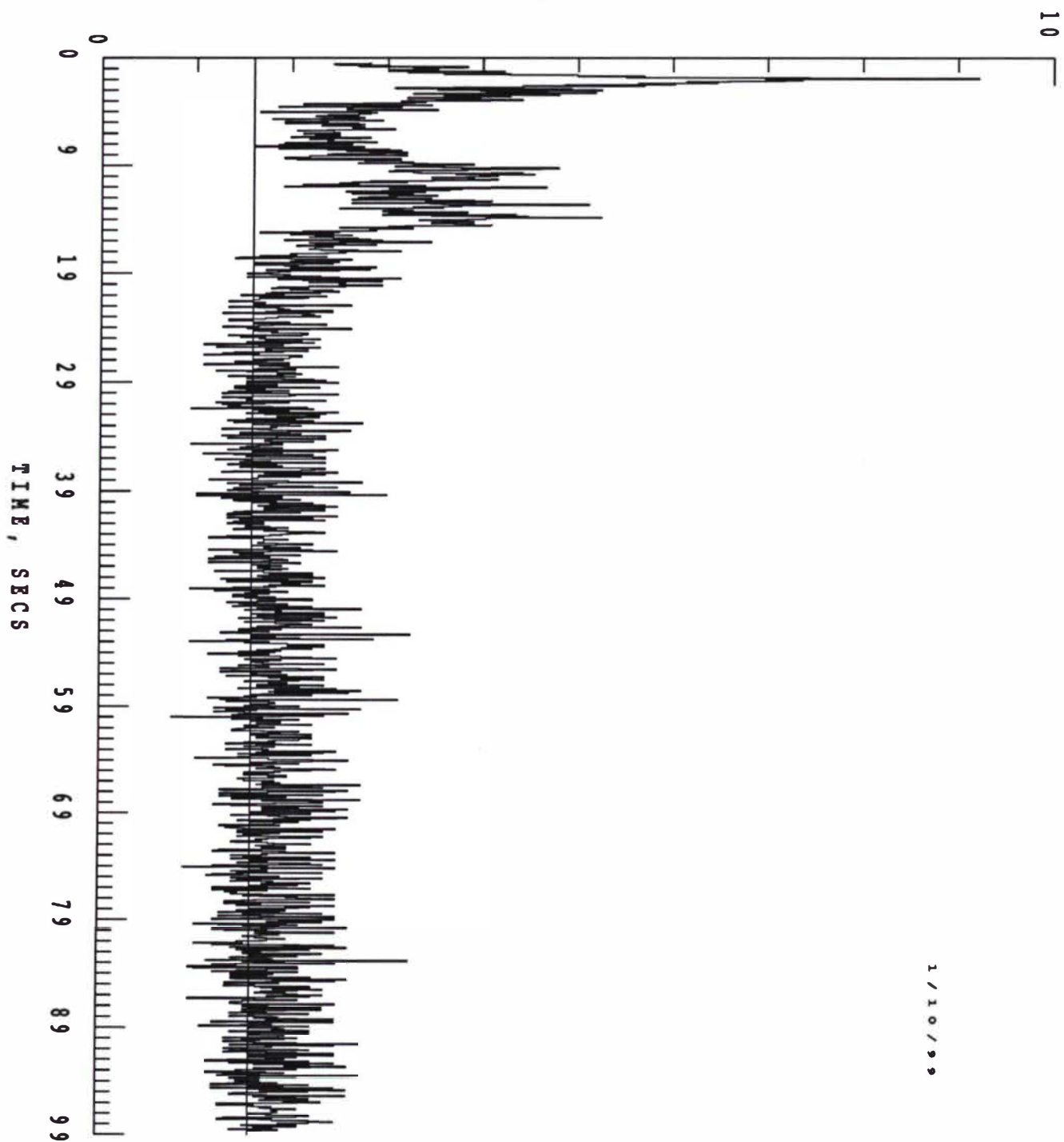
KONUS

01/10/99

53946.020

50- 200 keV

COUNTS/0.064 S



KONUS2 19991001 53946

ULYSSES RT

5 / 10 / 99

1/10/99 51228.293 s

0.500 S INTERVALS REGROUPED BY 8

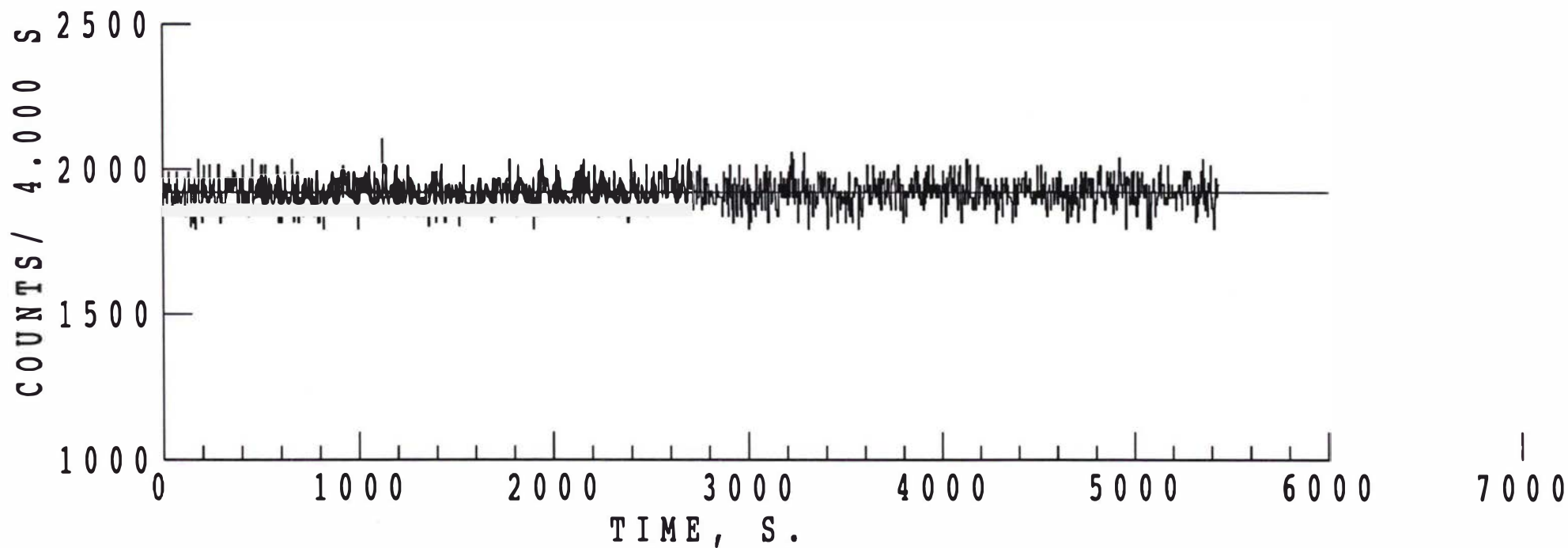
0 - 0 keV

N= 10 M= 10

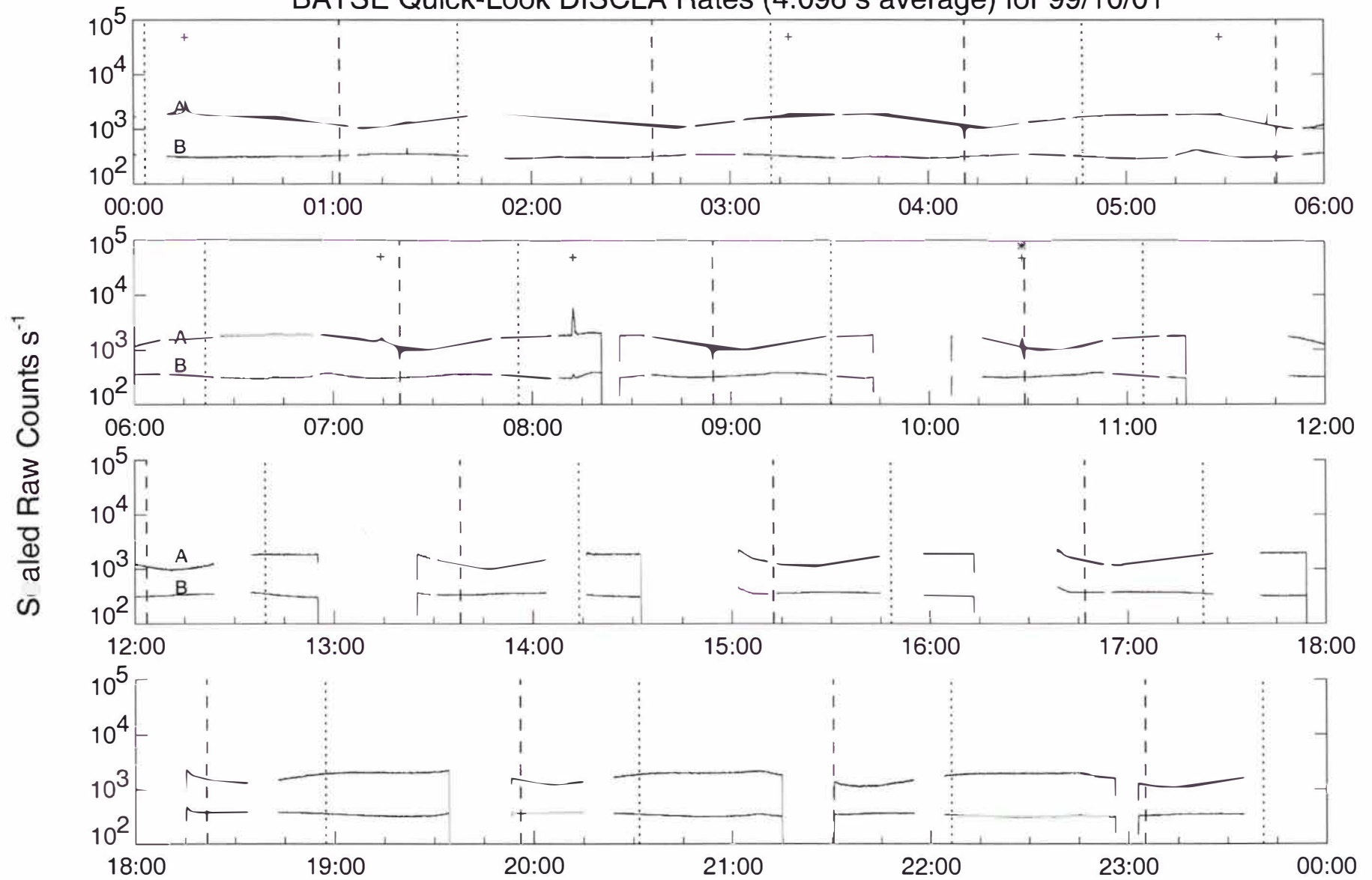
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



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

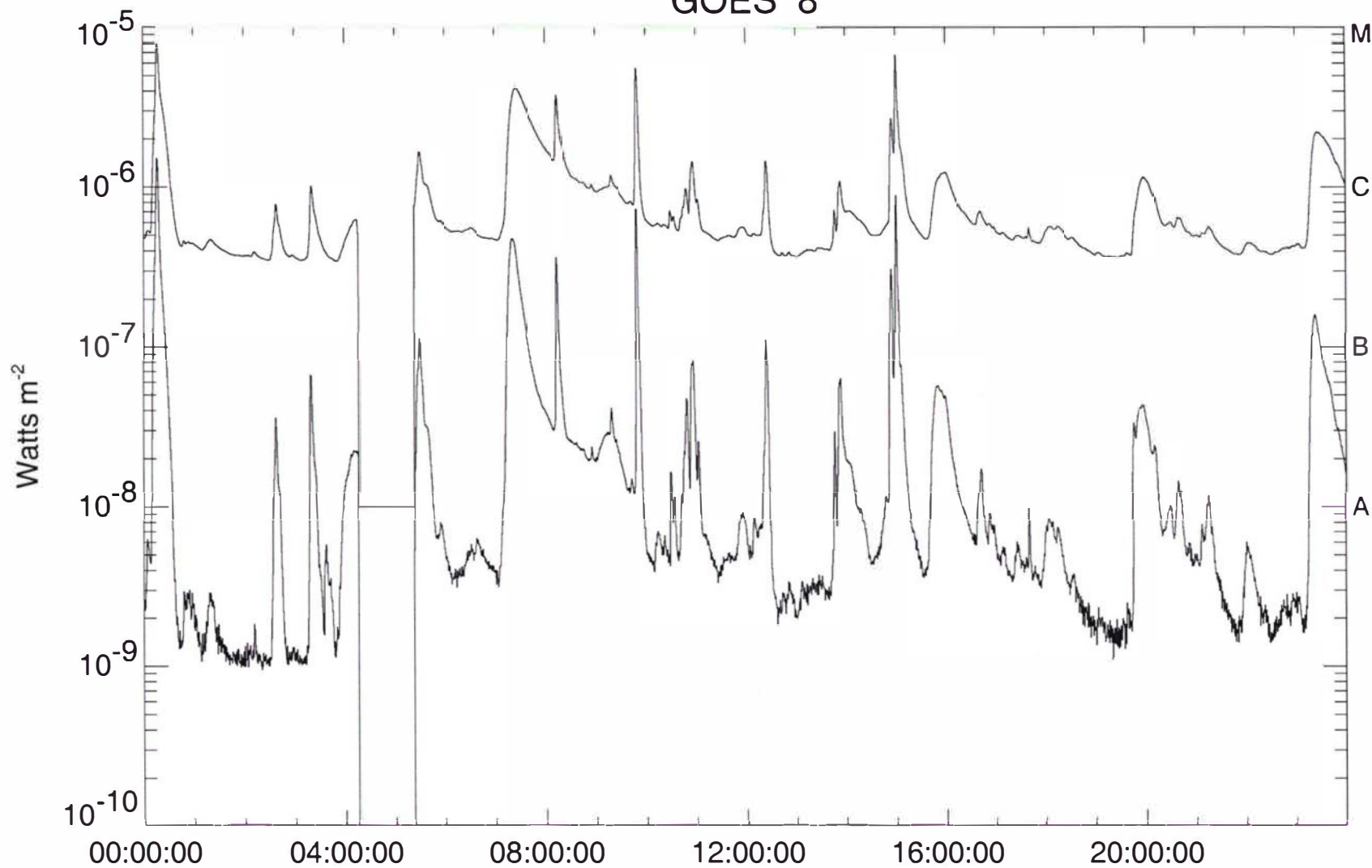


Current Time: 99/10/18, 2311 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



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

Plot created: 99/10/18, 2311

Channel

1 (1.0 - 8.0 Angstroms)

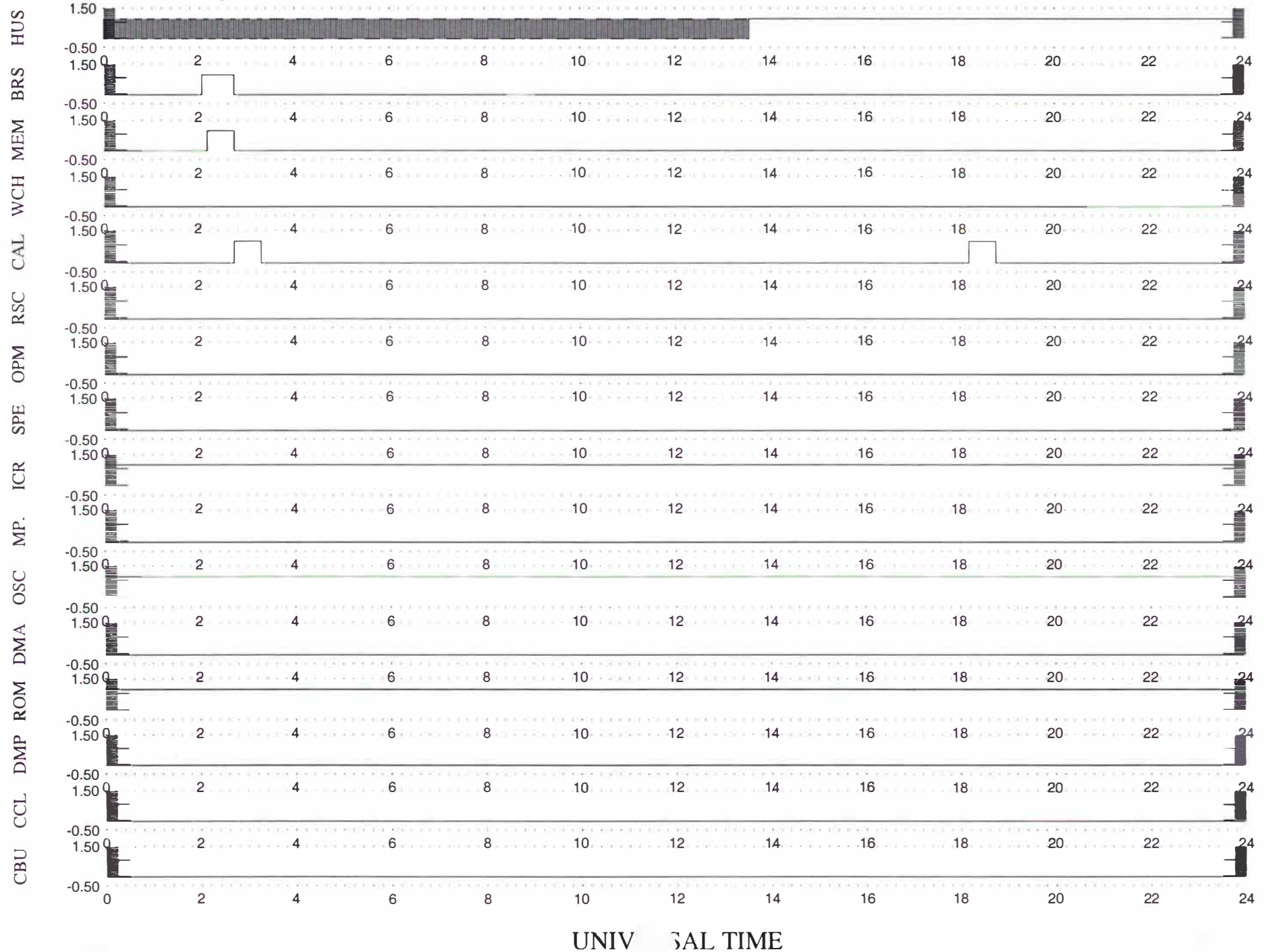
Background not subtracted

2 (0.5 - 4.0 Angstroms)

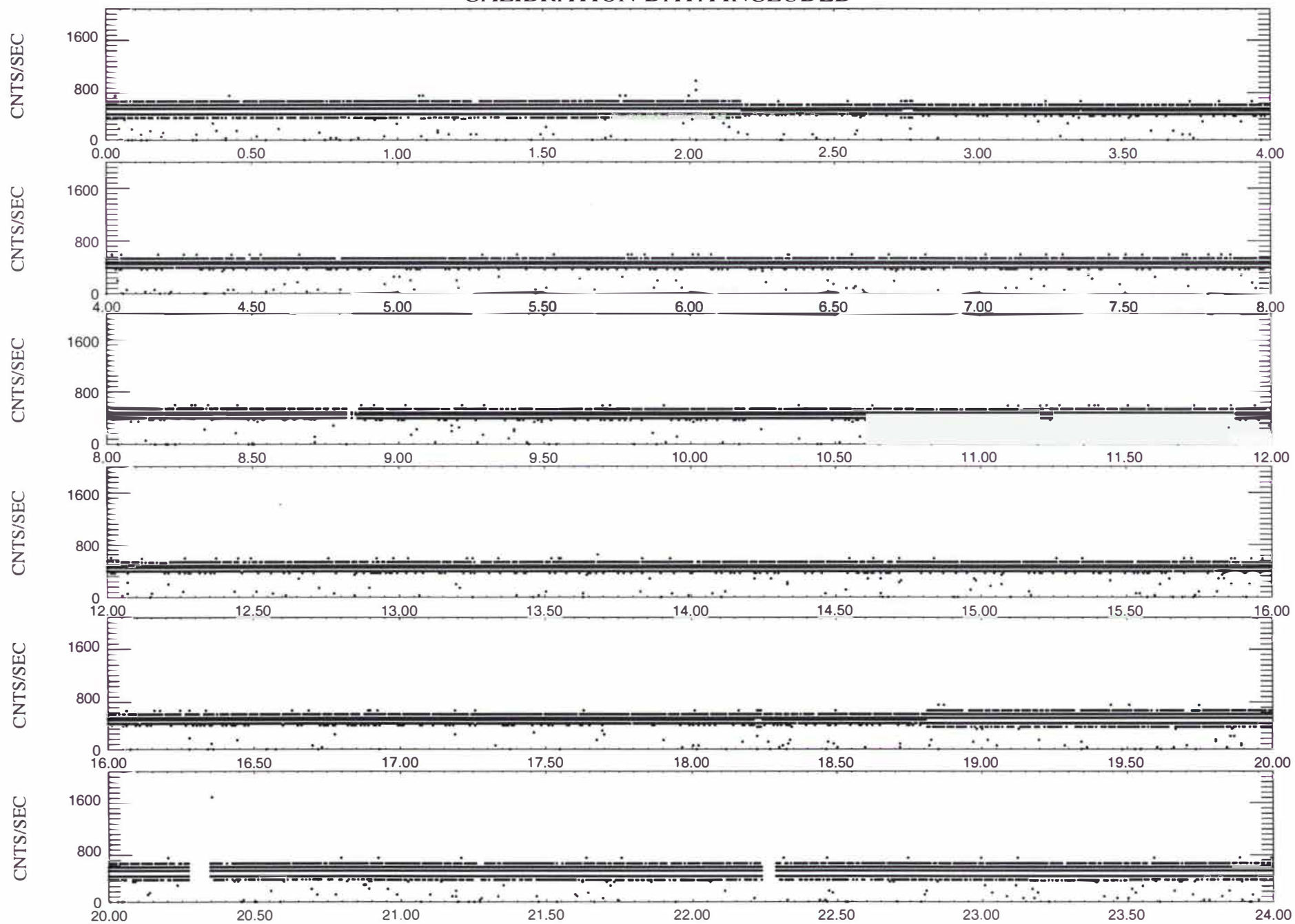
Background not subtracted

Sample average = 10

BURST NUMBER 8

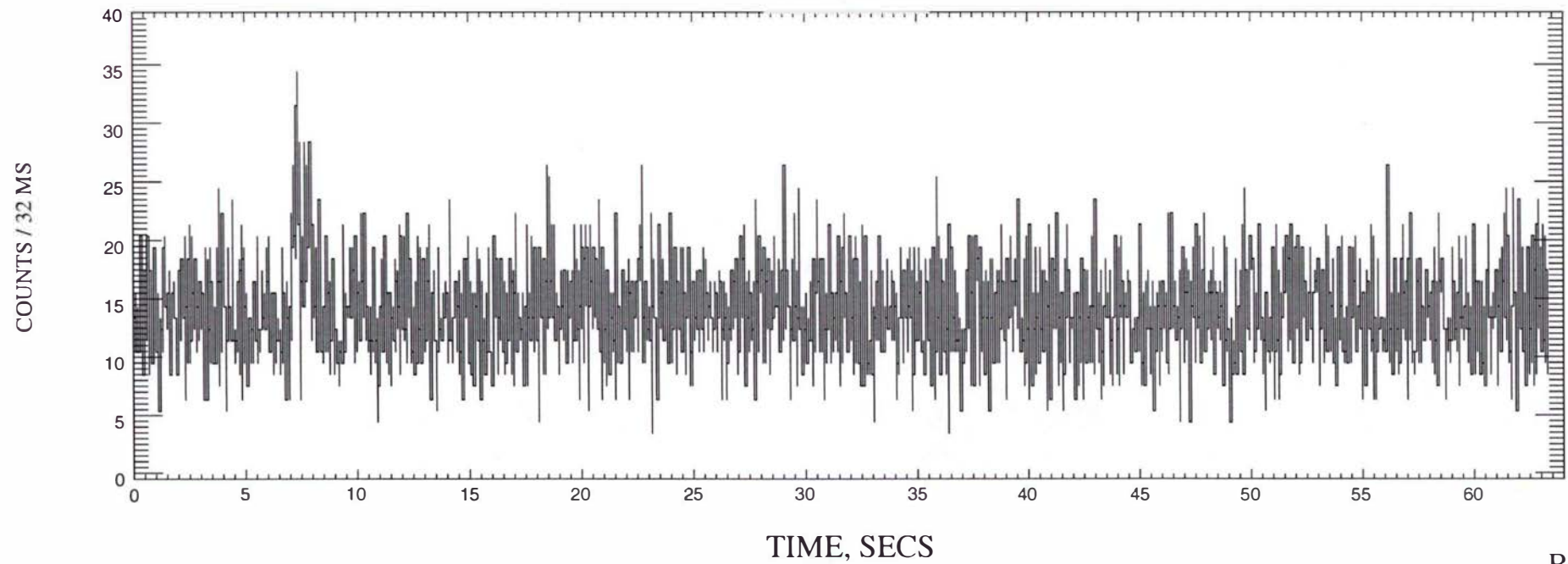
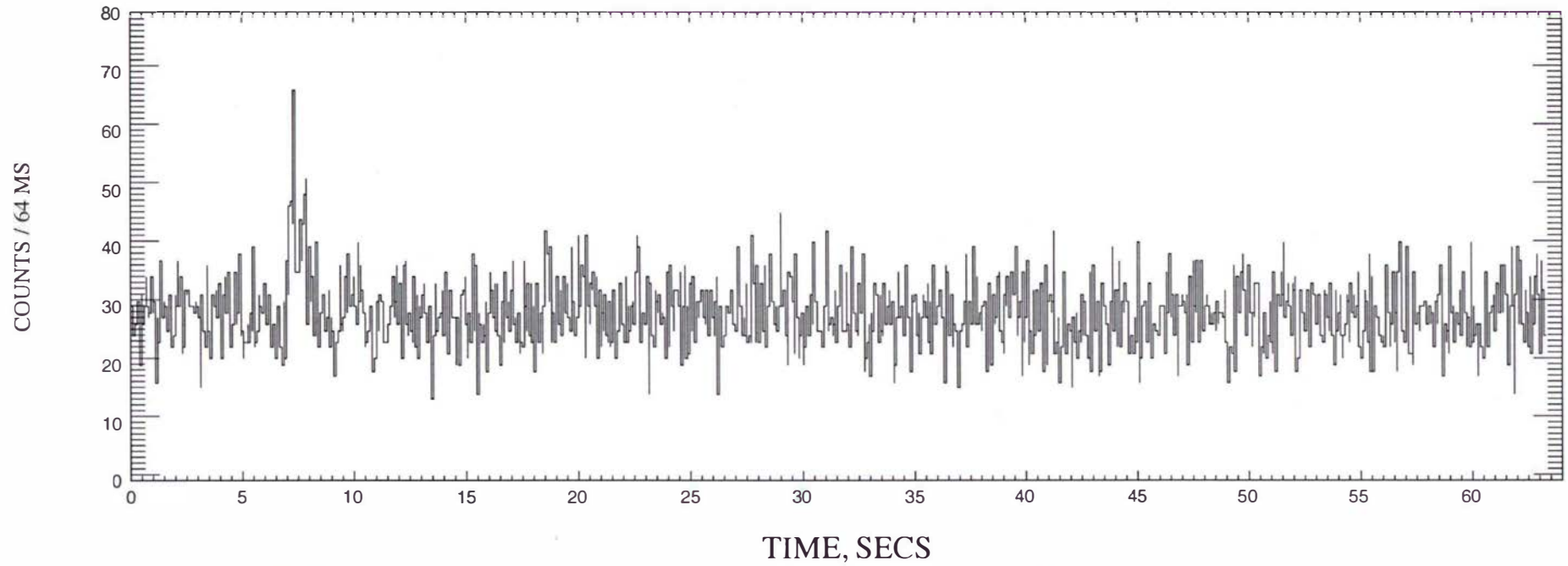


CALIBRATION DATA INCLUDED

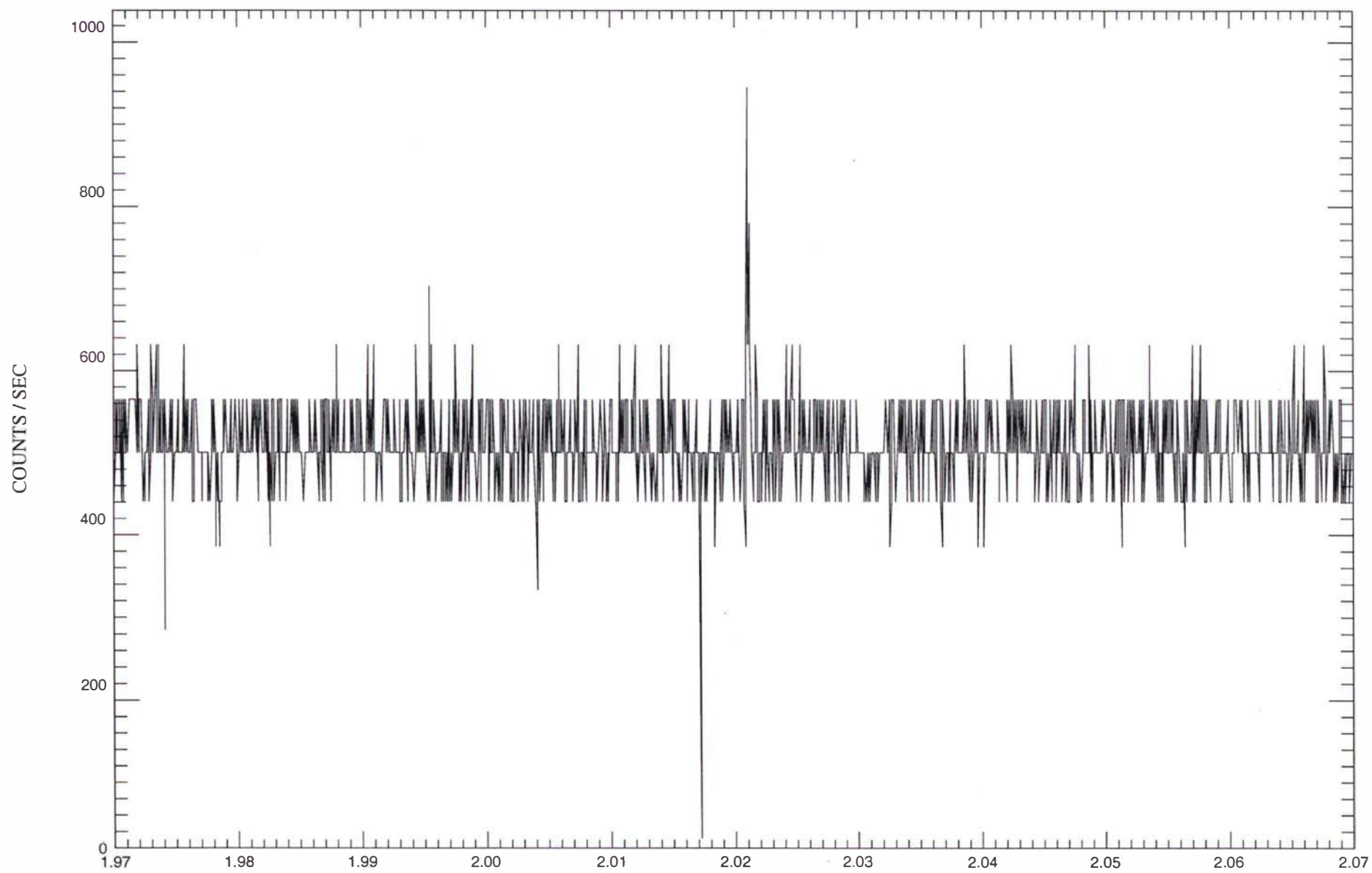


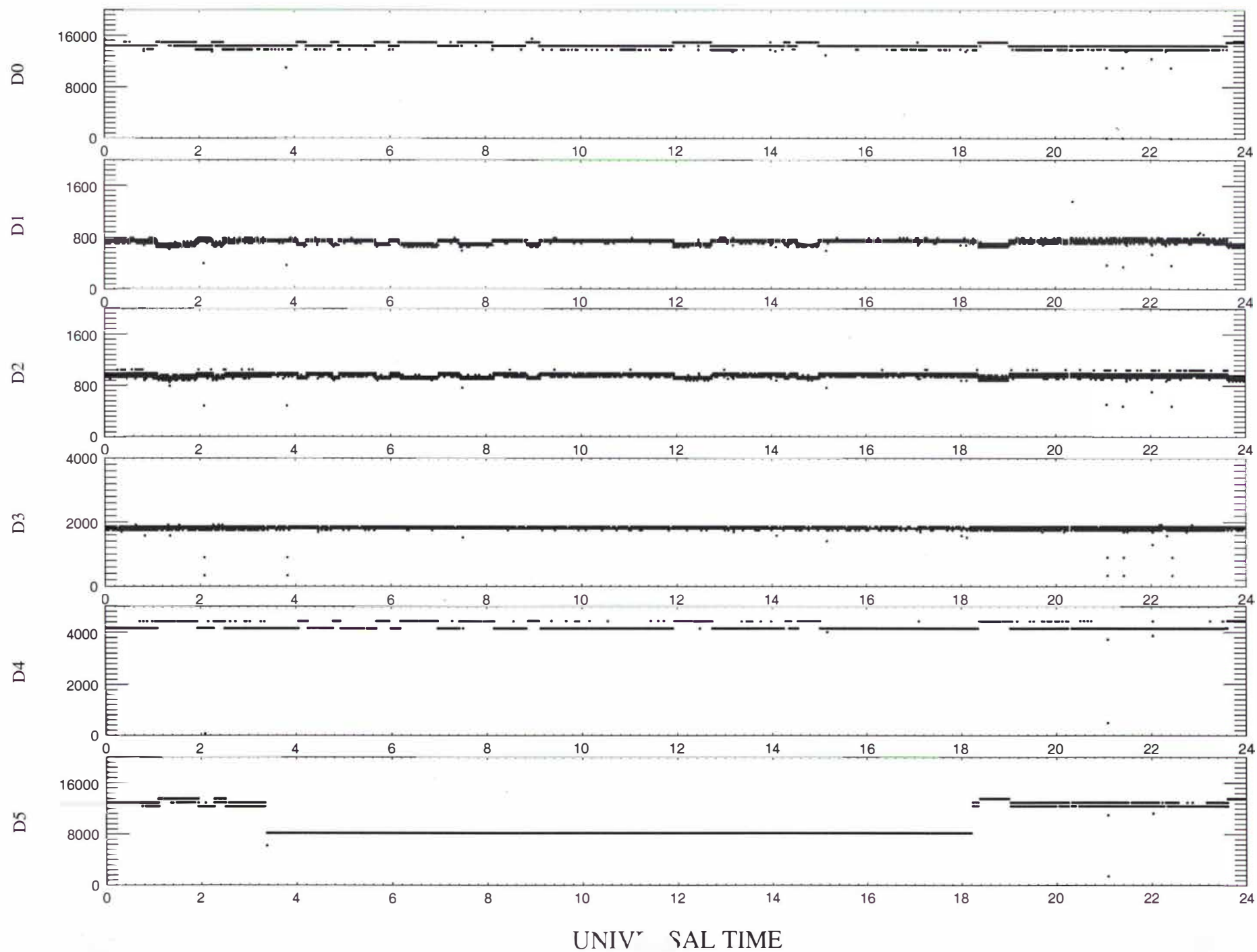
UNIV SAL TIME

Burst Counter 8 at UT= 2.021102307638 h= 7275.968 s 02:01:15.968



CALIBRATION DATA INCLUDED



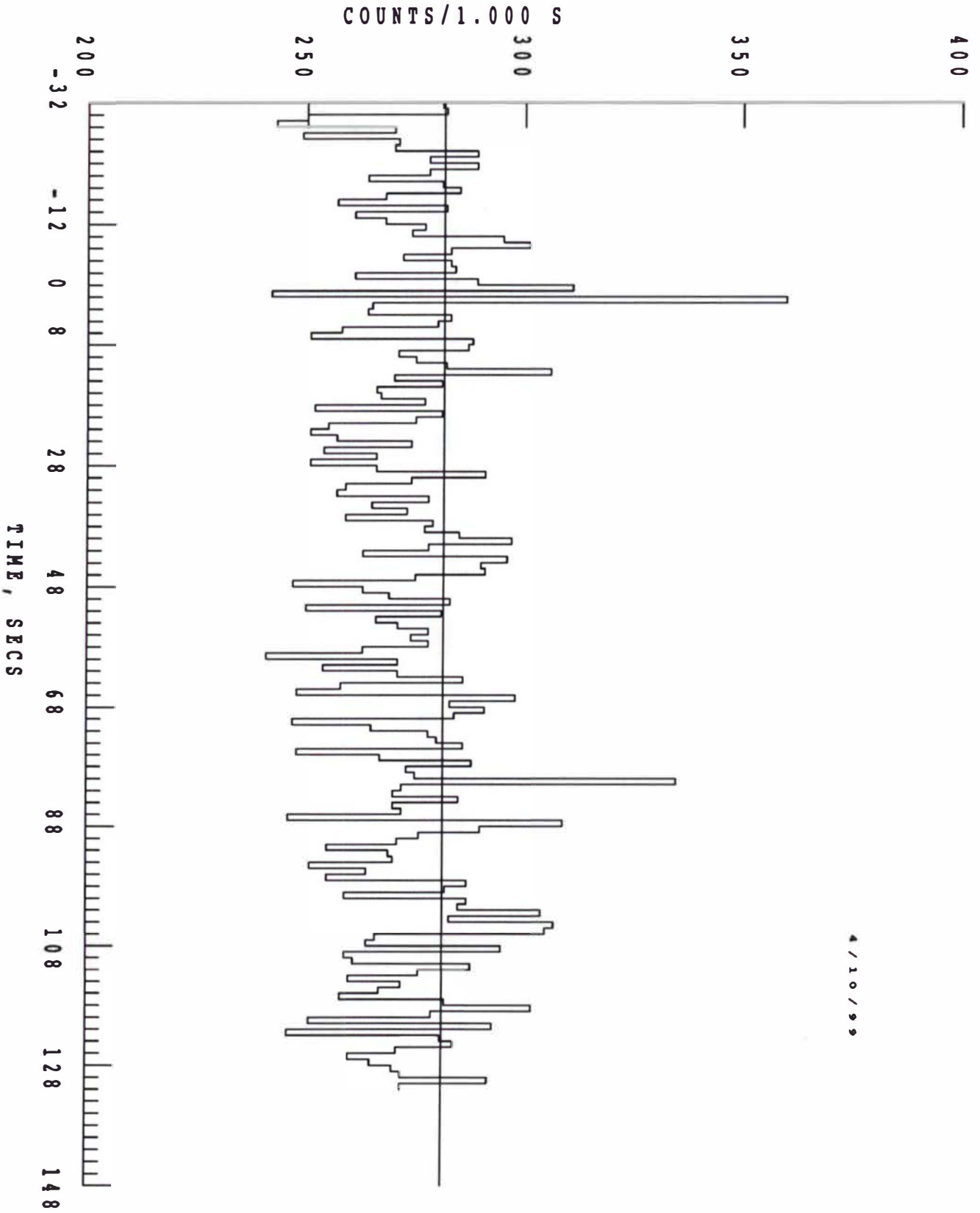


NEAR

02/10/99

12481.563

100-1000 keV



KNEAR GRS 19991002 12481

ULYSSES RT

16 / 03 / 00

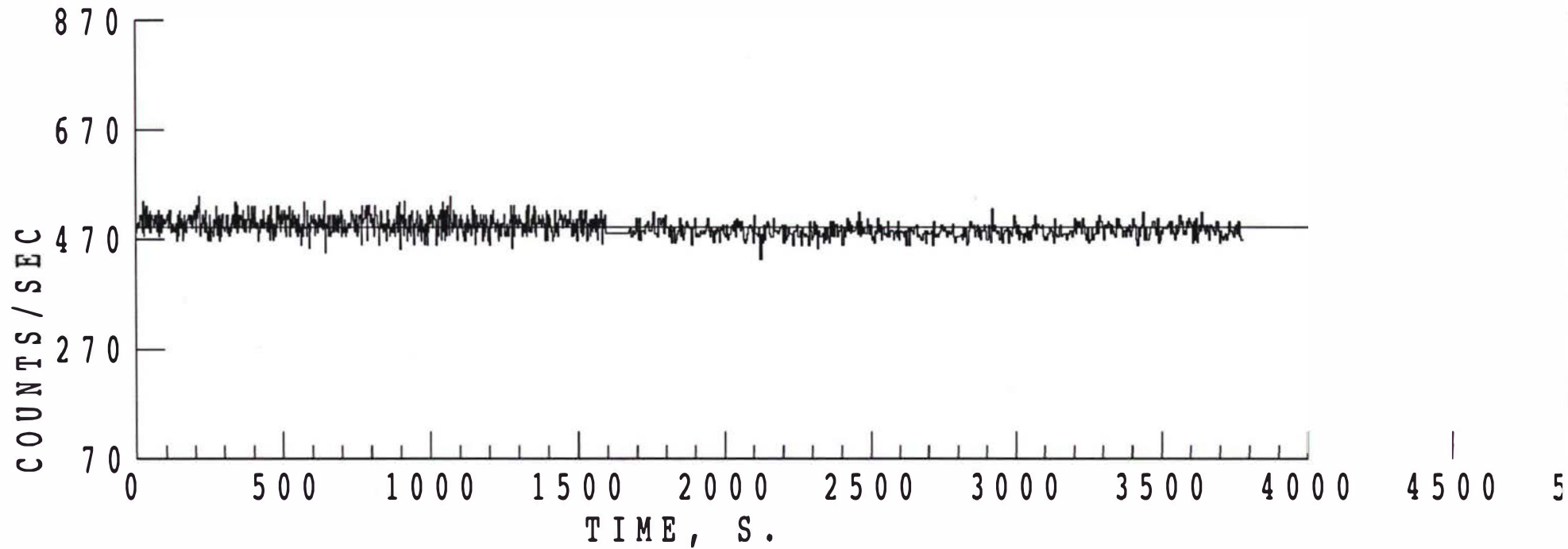
02/10/99 10584.007 s

INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Feb 9 '10

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data *N/A*

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

3. NEAR Data *N/A*

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

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

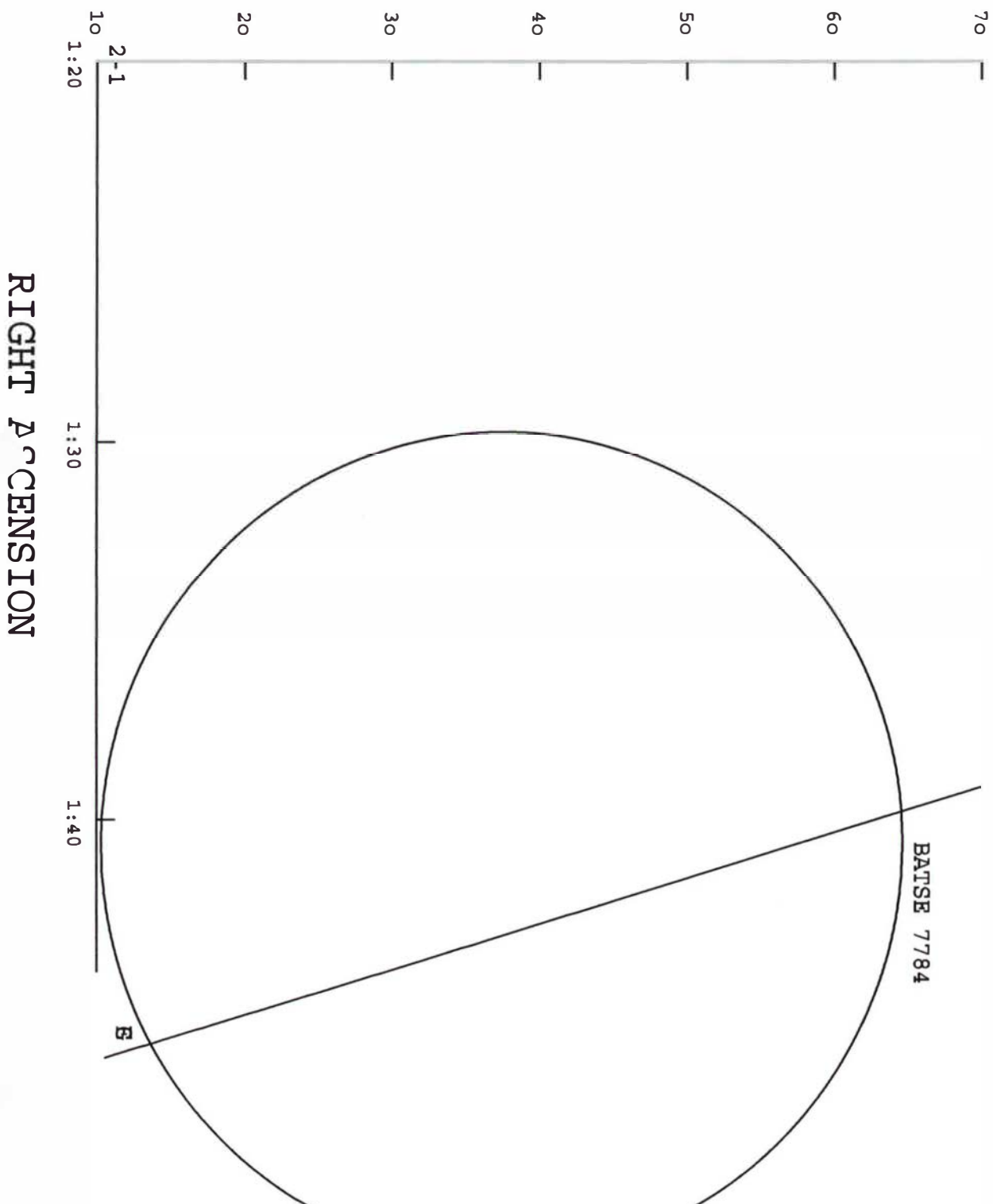
1 KONUS1

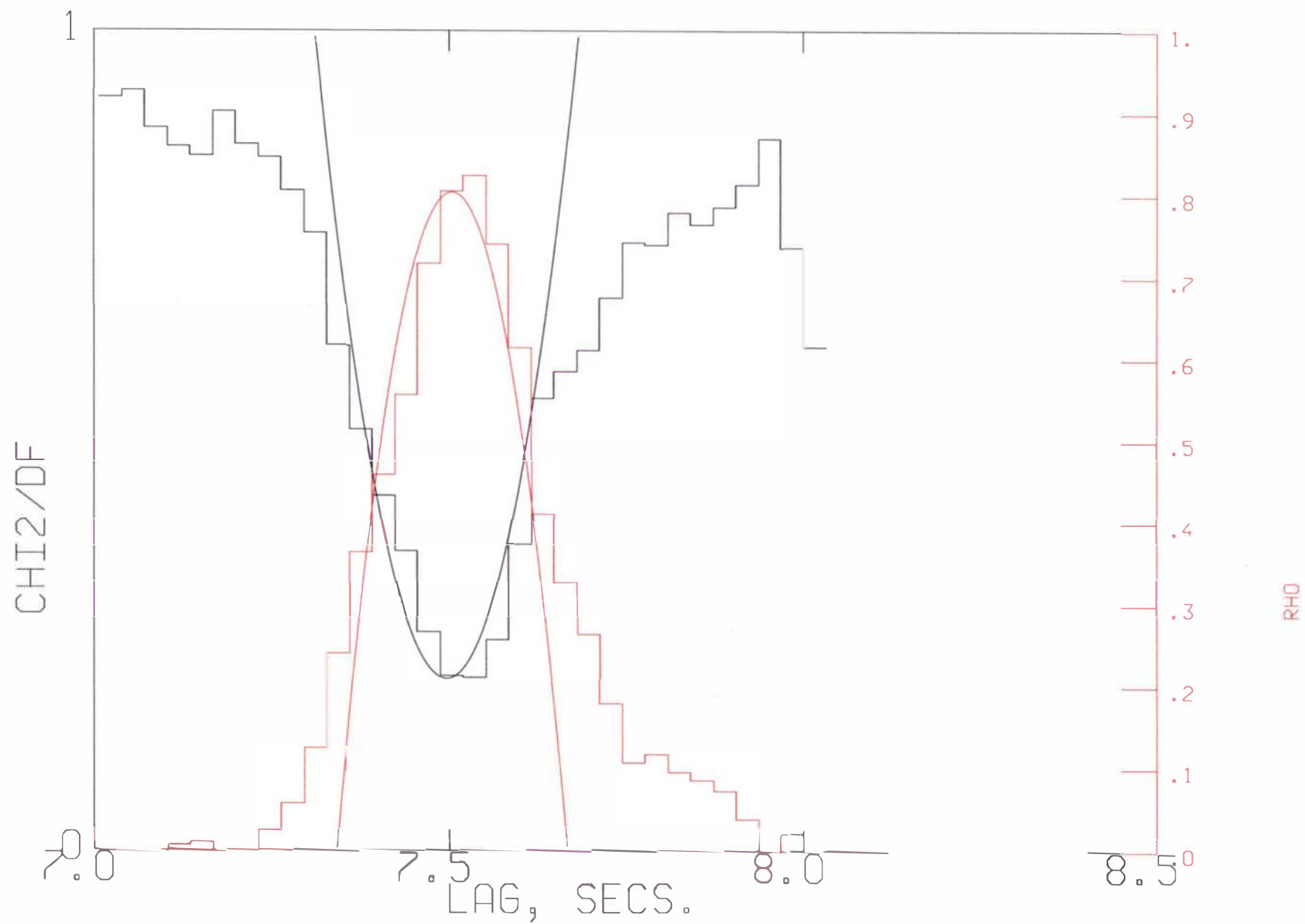
2 SAX

DECLINATION

EVENT OF OCT 2, 1999 22:49

09/02/2010





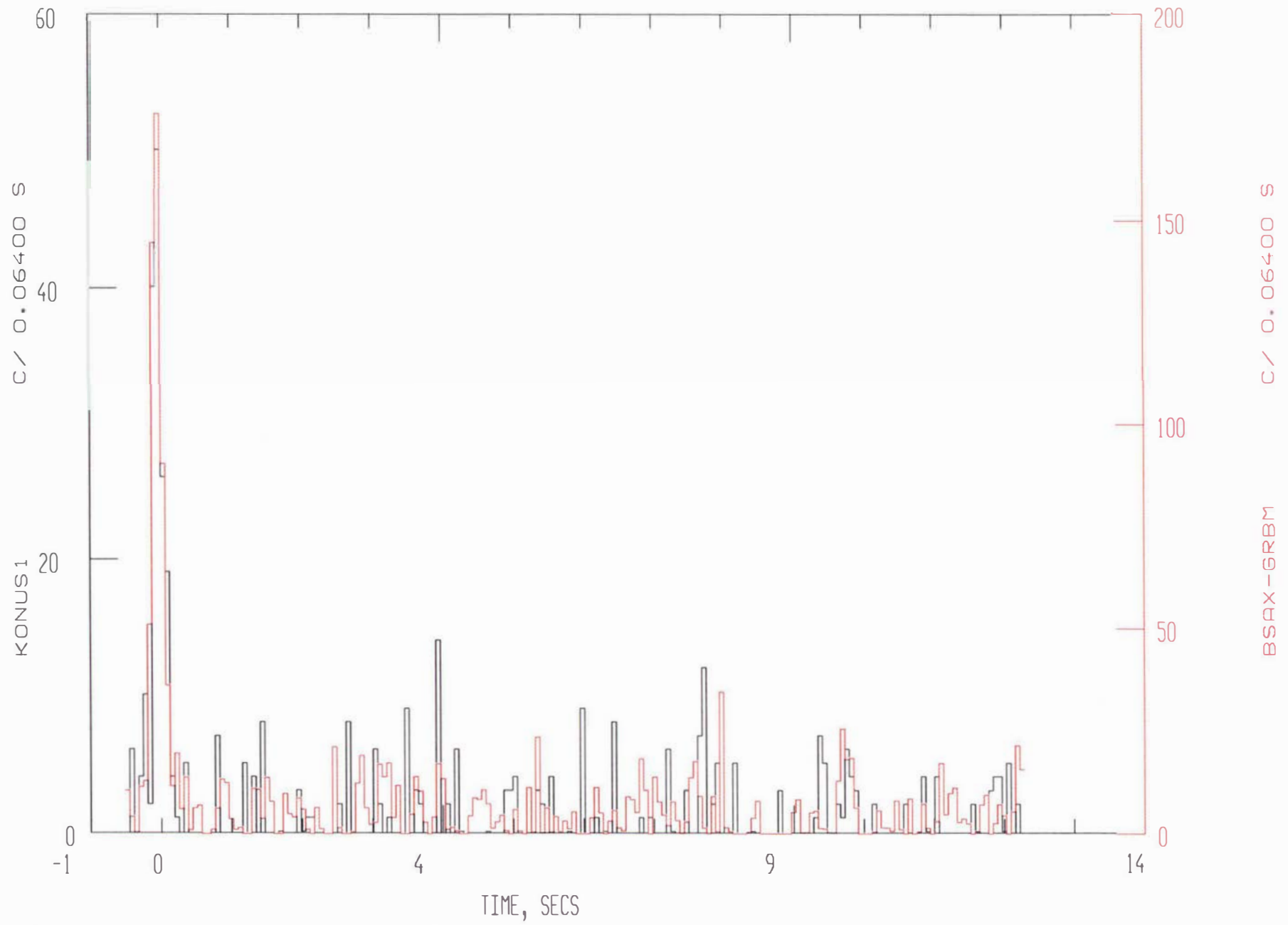
KONUS1

-BSAX-GRBM CORRELATION

02/10/99

82143.664

9/ 2/10



From SAHI@fender.msfc.nasa.gov Mon Oct 4 12:54 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 4 Oct 1999 14:55:29 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7784

BATSEARCH PROGRAM

SN 1999eb? See 1AUC
7269, Terlevich et al

BATSE BURST # 7784
EVENT OF 1999 OCT 2 DAY OF YEAR=275
EVENT CROSSING TIME AT BATSE : 82143. S. OR 22:49:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 25.000 4.000
BATSE PEAK COUNTING RATE: 39000 C/S

Too weak!

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/10/ 99 IS:
RA= 160.076 DEC= -17.070 DIST= 5.331 AU
BATSE-ULYSSES DISTANCE = 797495678. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 45.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1850.61 SECS.
CROSSING TIME AT ULYSSES IS 83994. S. OR 23:19:53 +/- 409.87 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/10/ 99 IS:
RA= 258.238 DEC= -24.820 DIST= 1.361 AU
MARS-BATSE DISTANCE = 203593760. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 55.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 387.89 SECS.
CROSSING TIME AT MARS IS 82531. S. OR 22:55:30 +/- 102.67 SECONDS

BATSE BURST TRIGGER

NO.: 7784

TIME: TJD=1453 SECONDS=82143

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.5 AZIMUTH=166.0 ERROR=2.25 DEGREES

COMMENTS:

GRB. SINGLE SPIKE, DUR. 0.8 S, STARTS AT T-0.1 S, MAX. AT T+0.125 S. MARGINALLY
VISIBLE ABOVE 300 KEV. PHOSPHORESCENCE SPIKE AT T+176 S. CRAB RISE AT T+28 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7784	991002	11453	82143	39000	025	+04	.8

BATSE

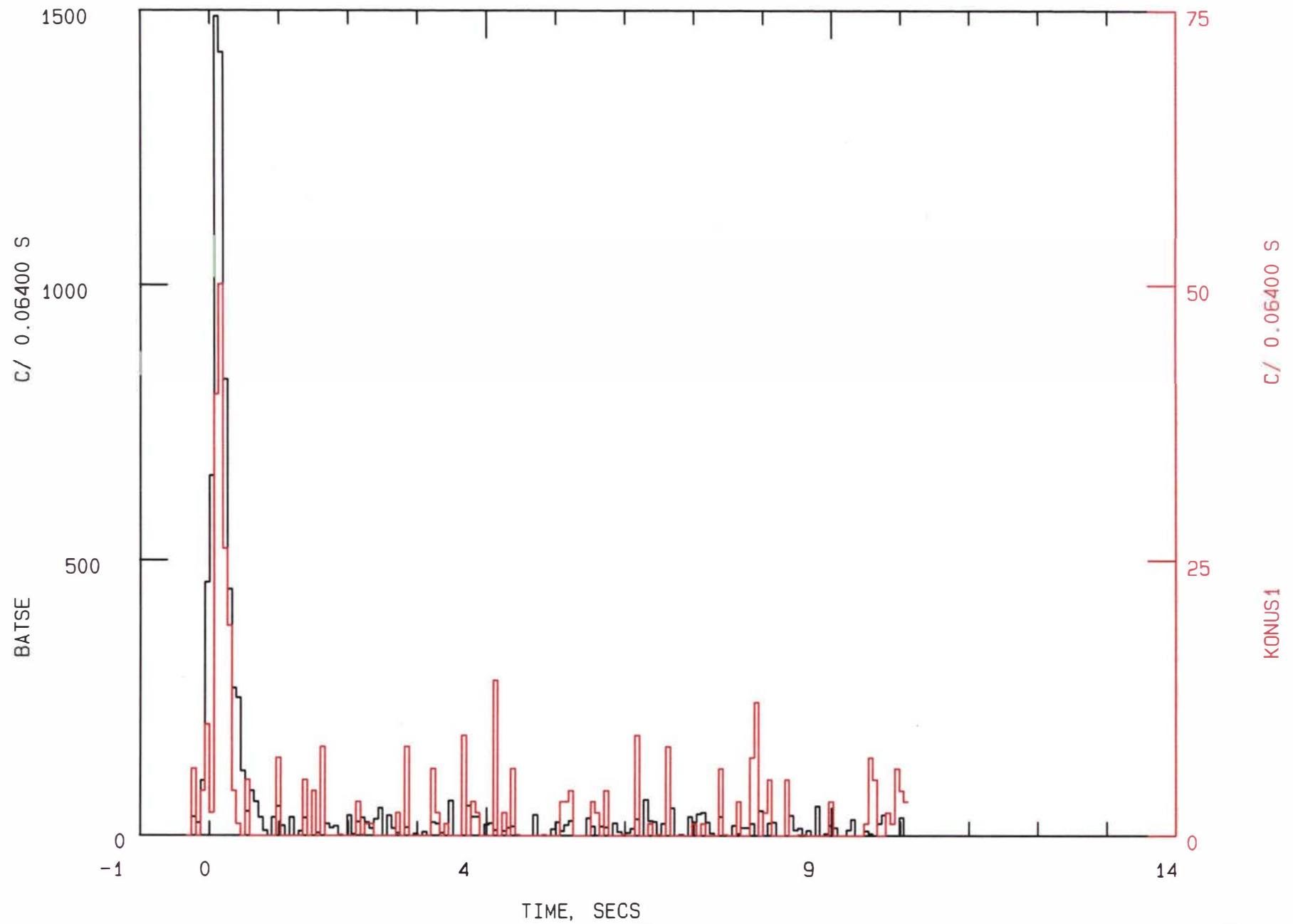
-KONUS1

CORRELATION

02/10/99

82143.417

15/ 3/ 1



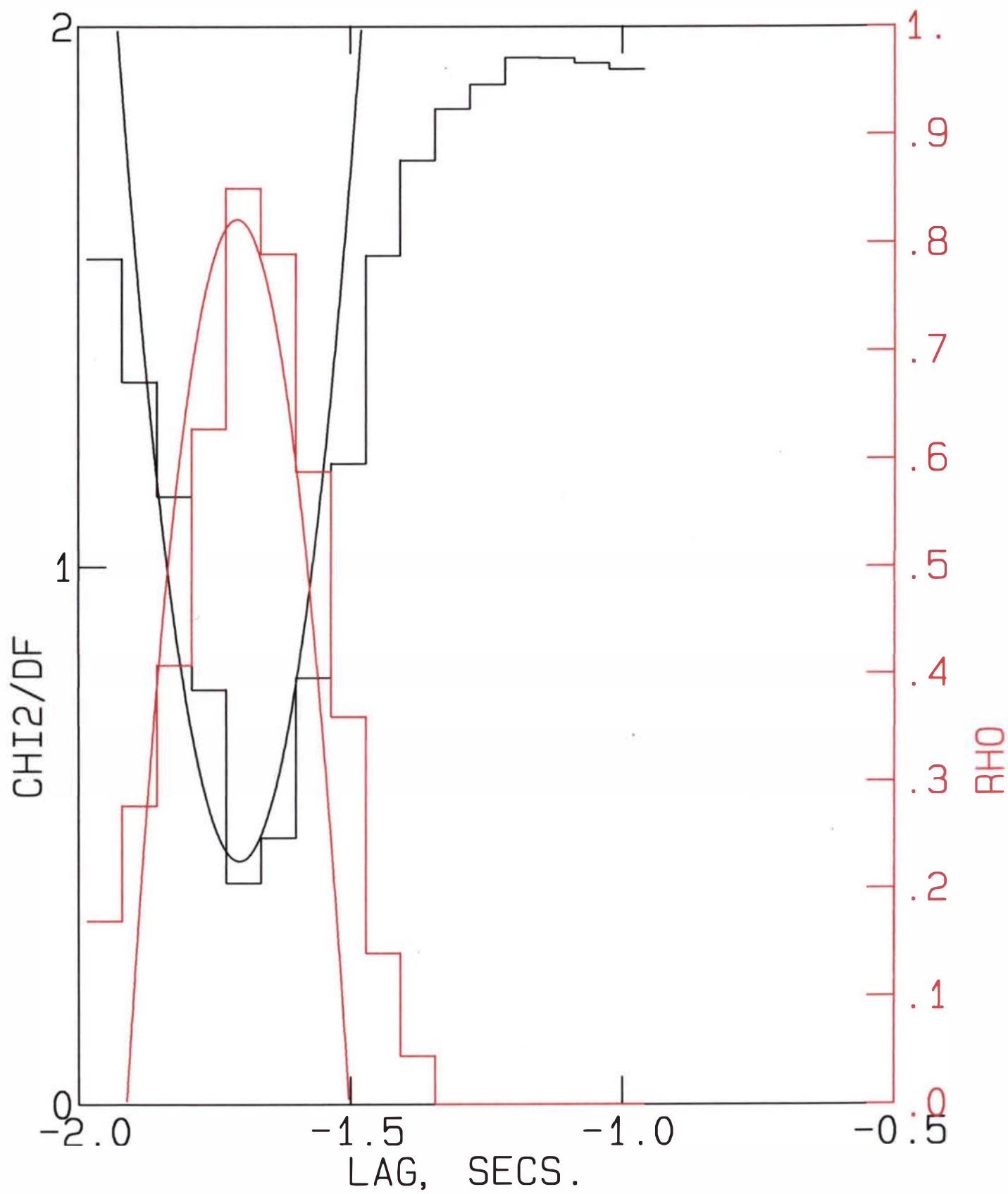
BATSE

-KONUS1

CORRELATION

02/10/99

82143.417



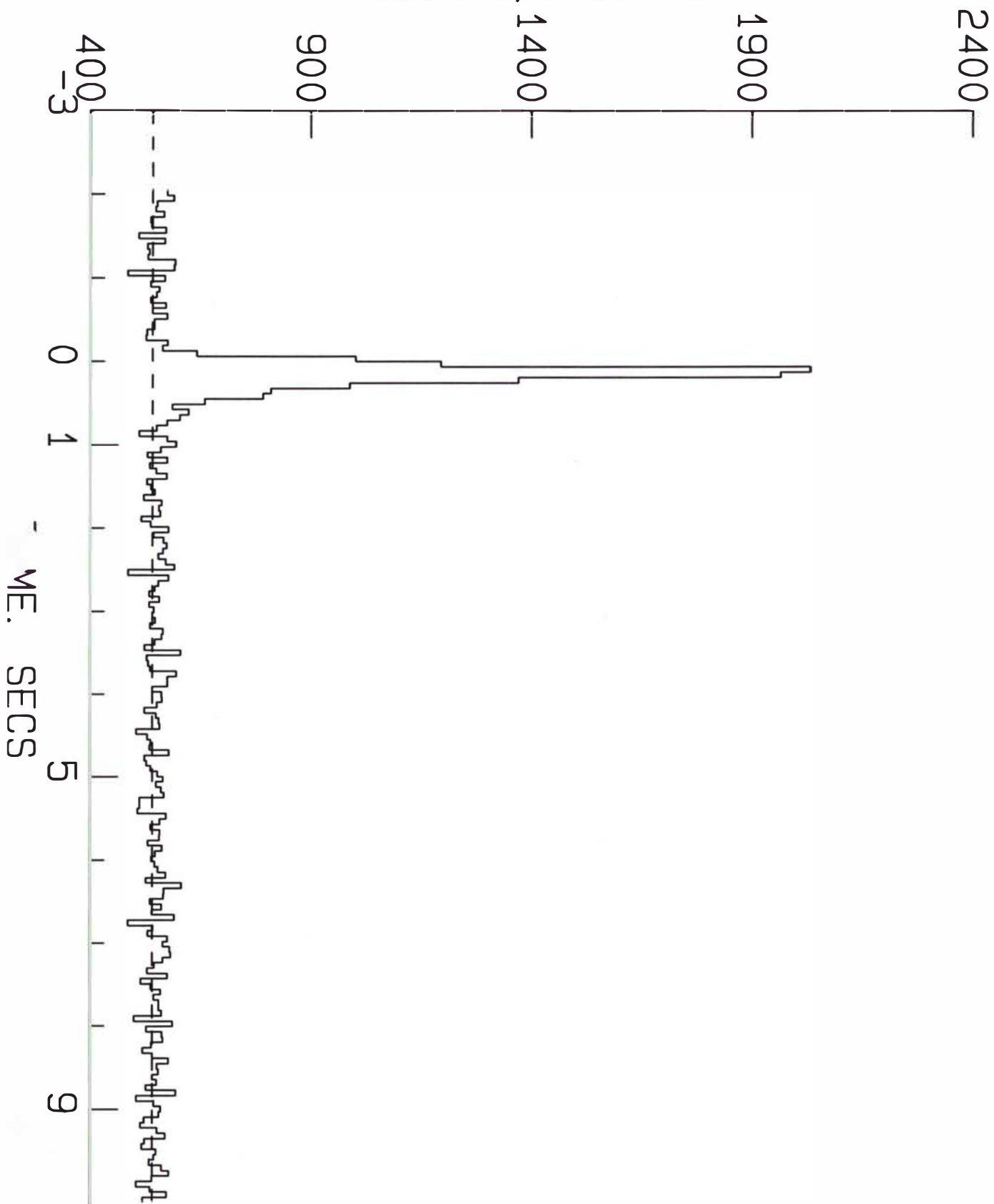
BATSE

02/10/99

82143.417

25- 100 keV

COUNTS/0.064 S



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

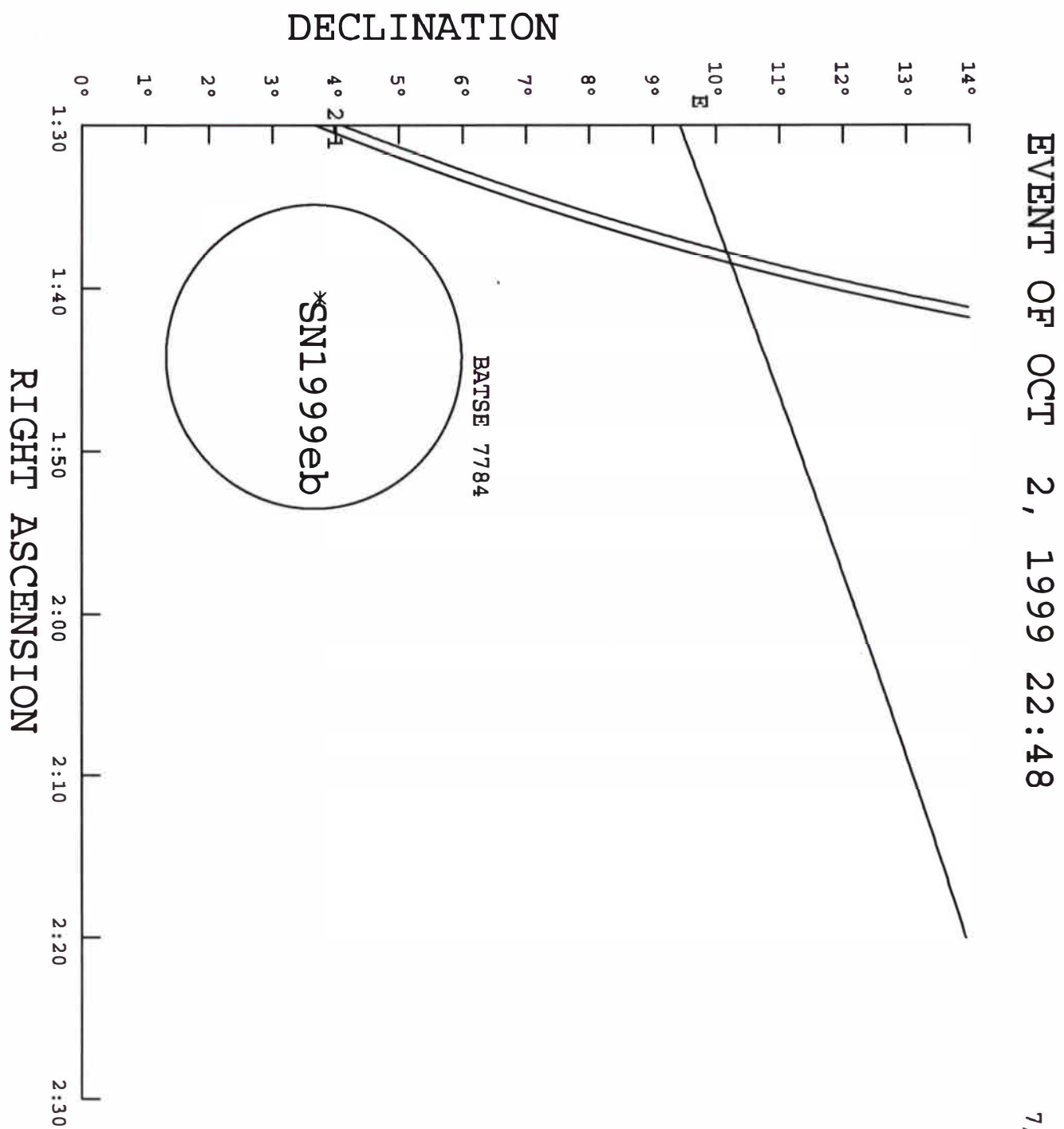
S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES



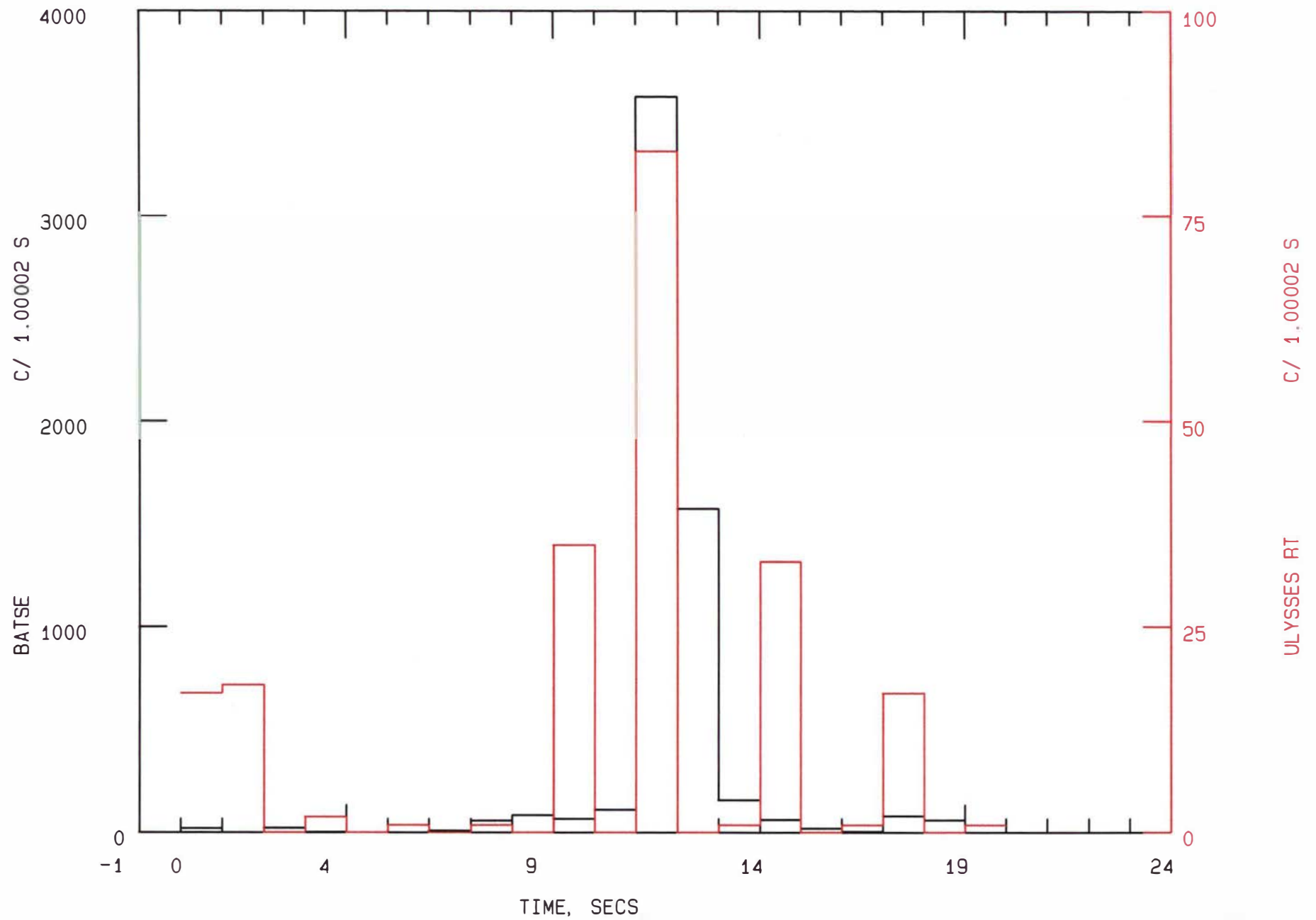
BATSE

-ULYSSES RT CORRELATION

2/10/99

82131.705

7/10/99



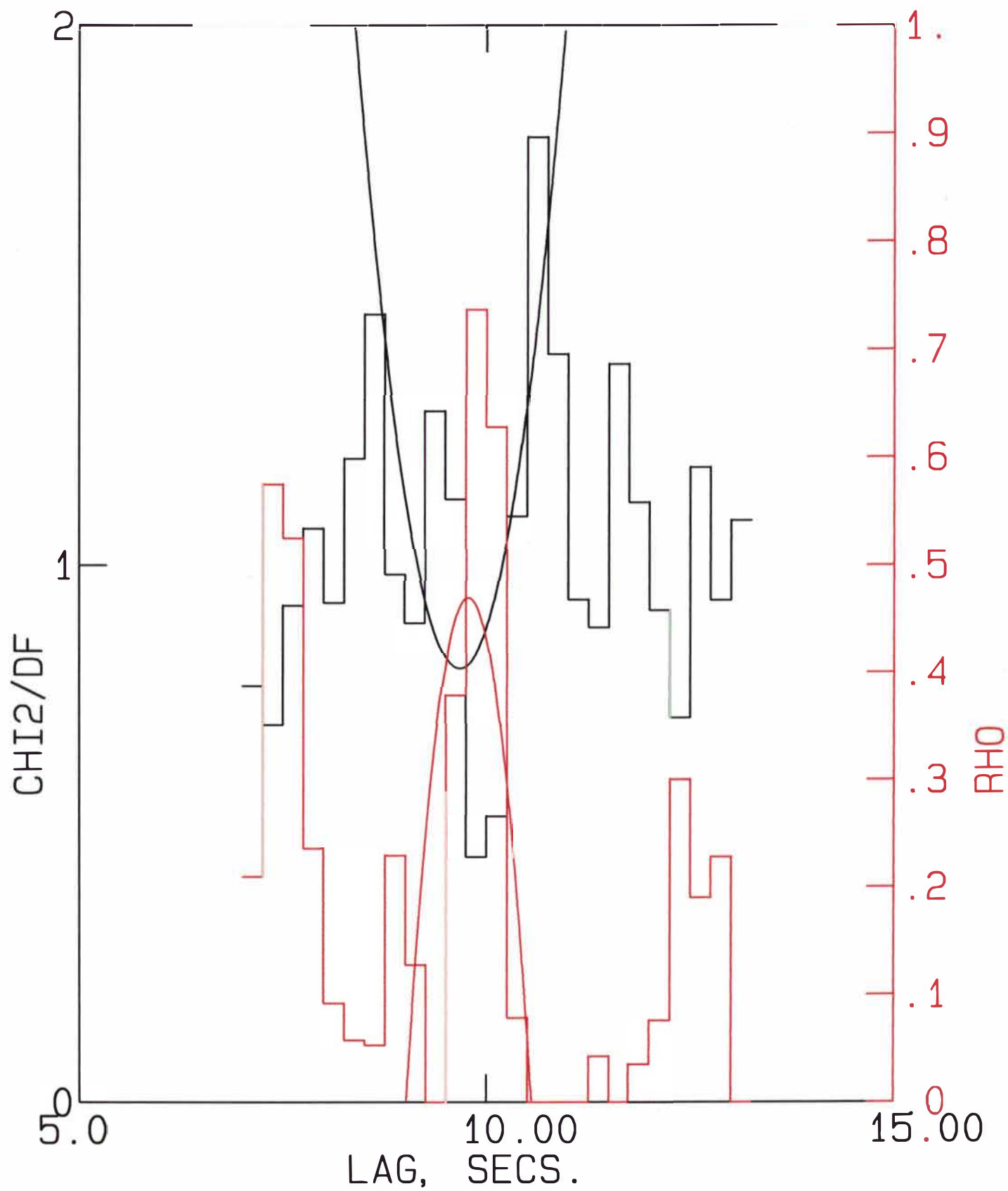
BATSE

-ULYSSES RT CORRELATION

2/10/99

82131.705

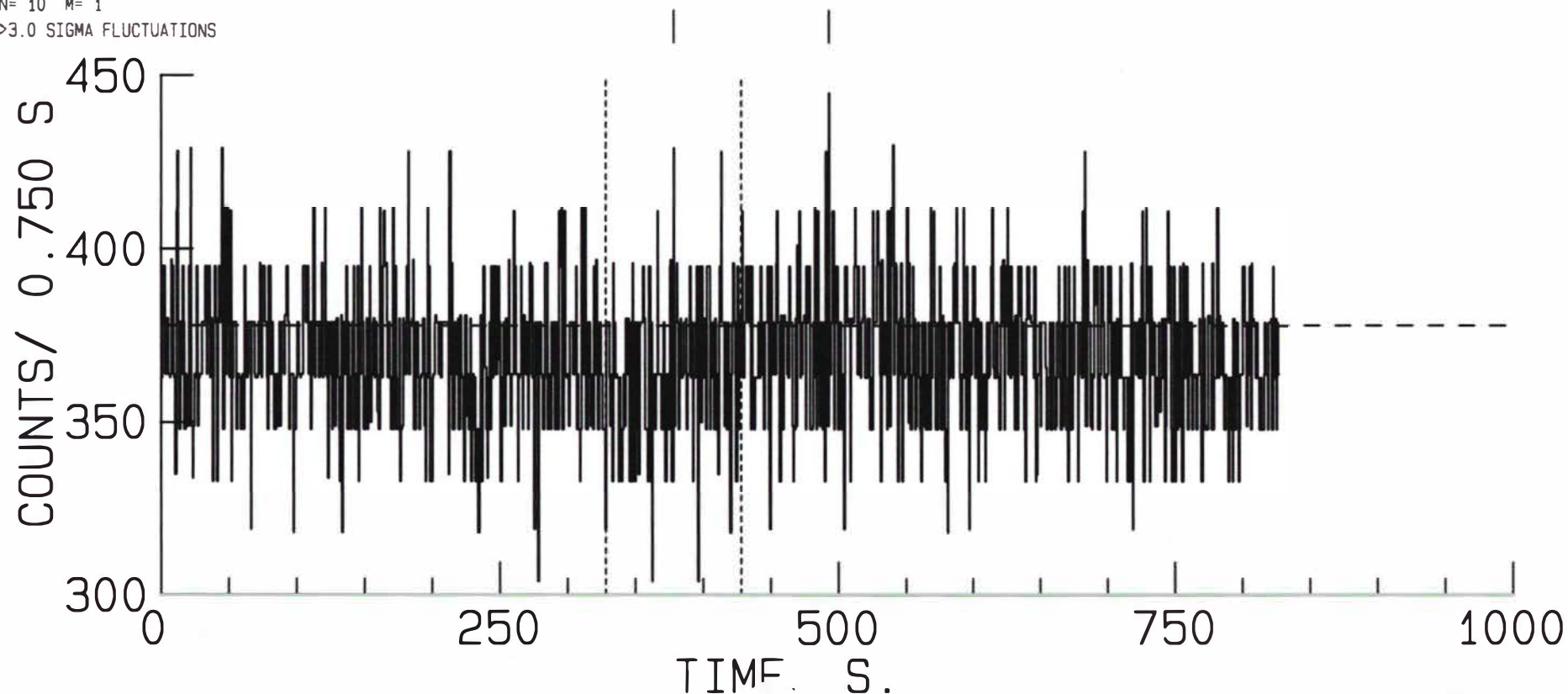
7/10/99



ULYSSES RT
2/10/99 83592.244 s
0.250 S INTERVALS REGROUPED BY 3
22- 150 keV

7/10/99

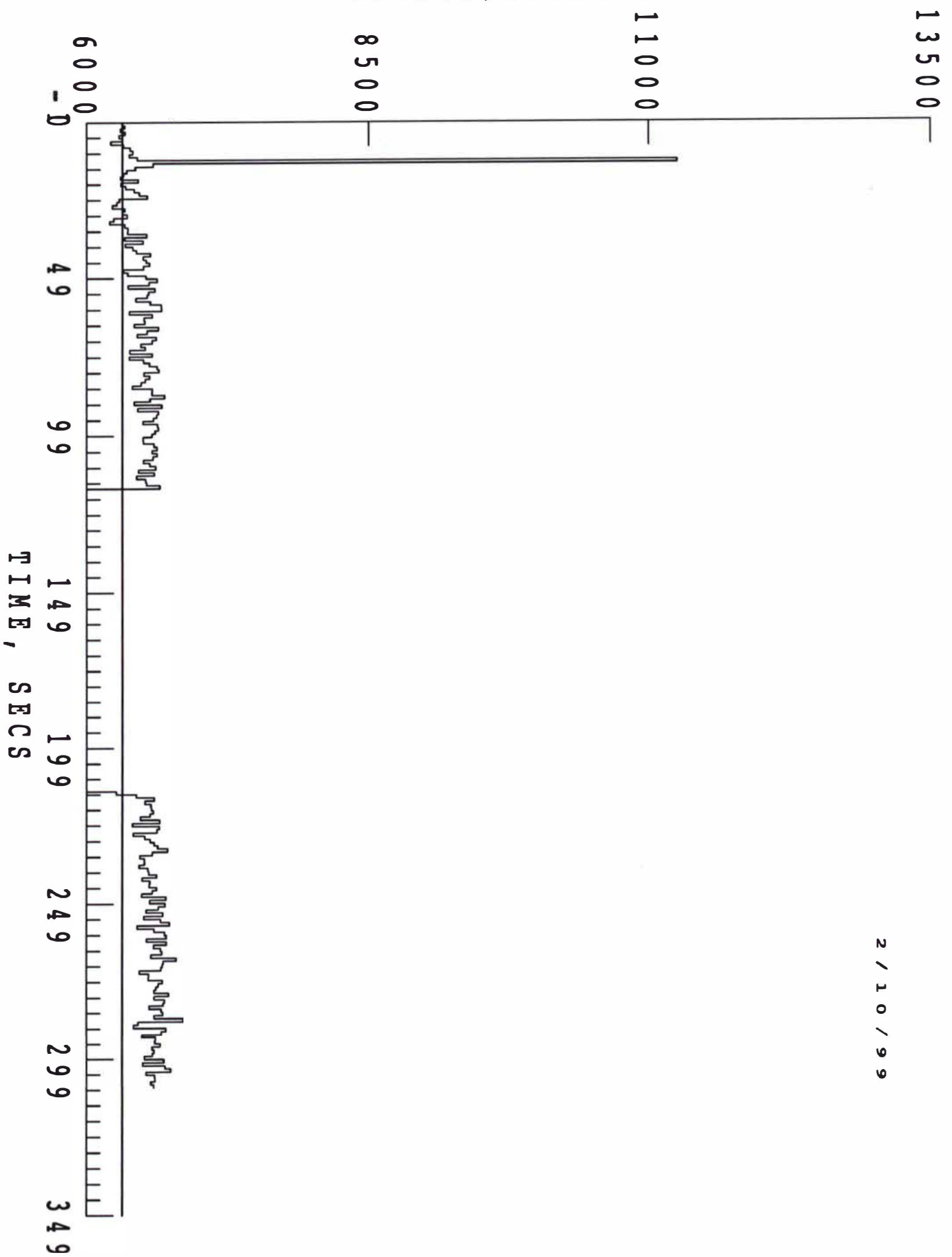
N= 10 M= 1
>3.0 SIGMA FLUCTUATIONS



BACODINE 7784 02/10/99 82131.705

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7784

ULYSSES RT

5 / 10 / 99

2 / 10 / 99 83592.242 s

0.250 S INTERVALS REGROUPED BY 3

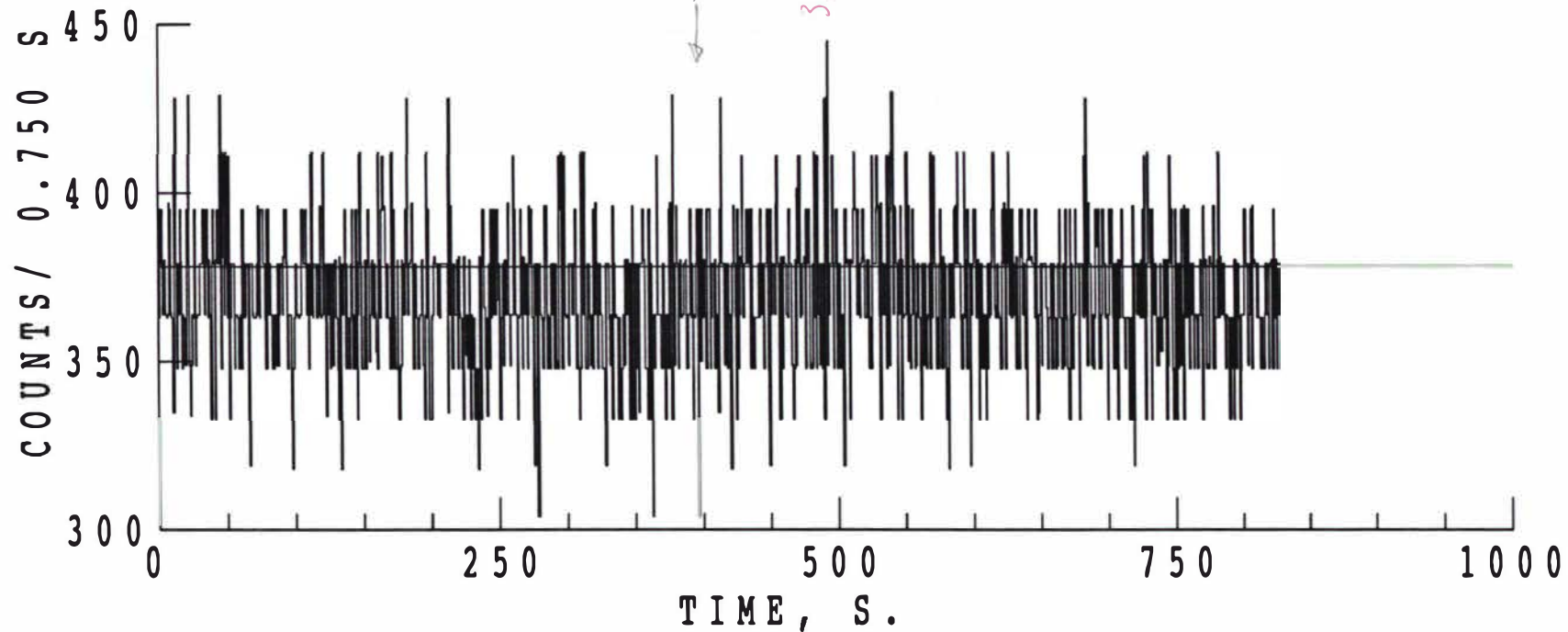
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

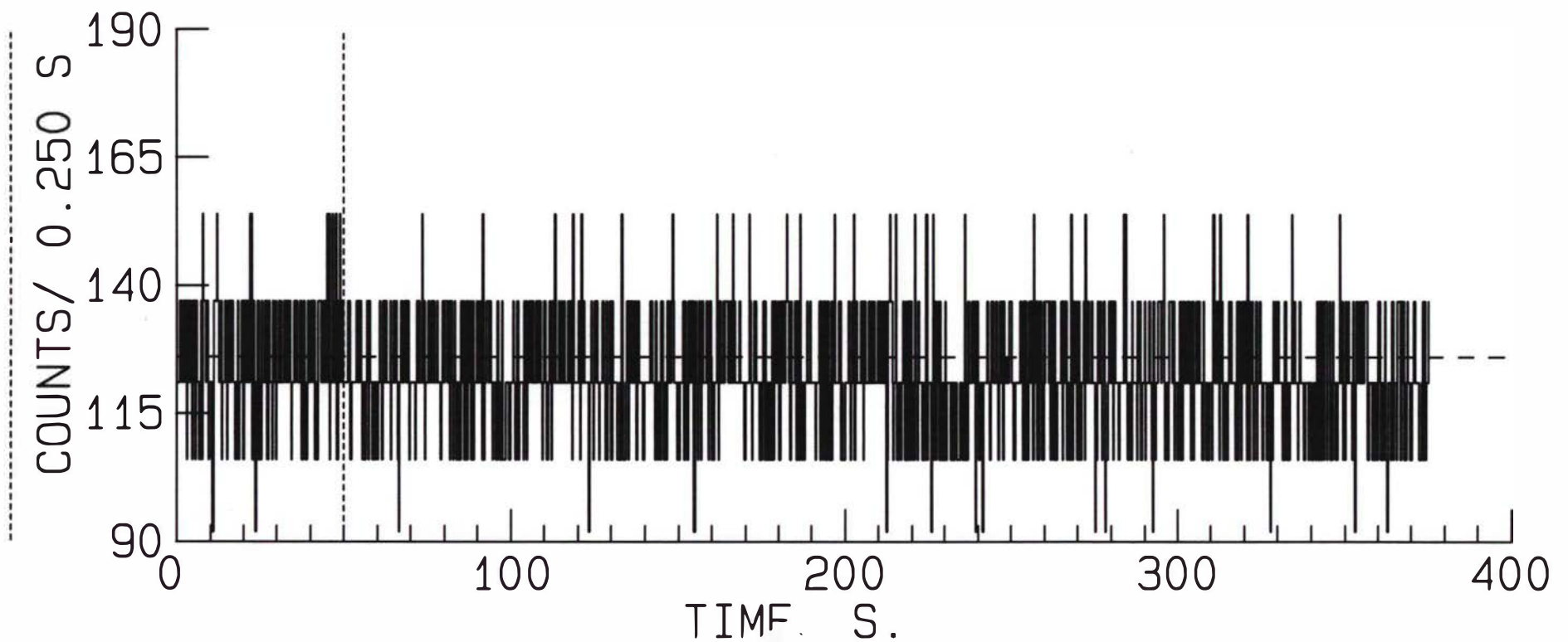
N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



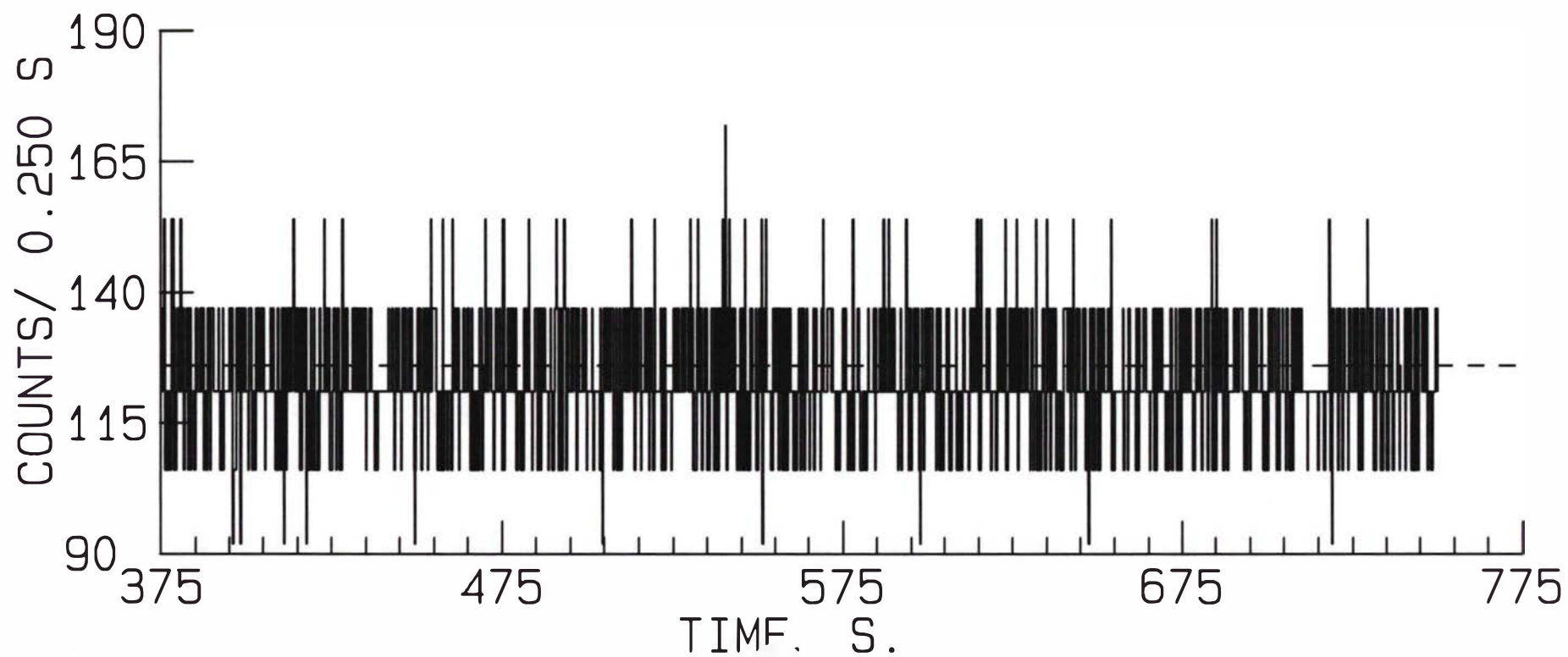
ULYSSES RT
2/10/99 83592.244 s
22- 150 keV

5/10/99



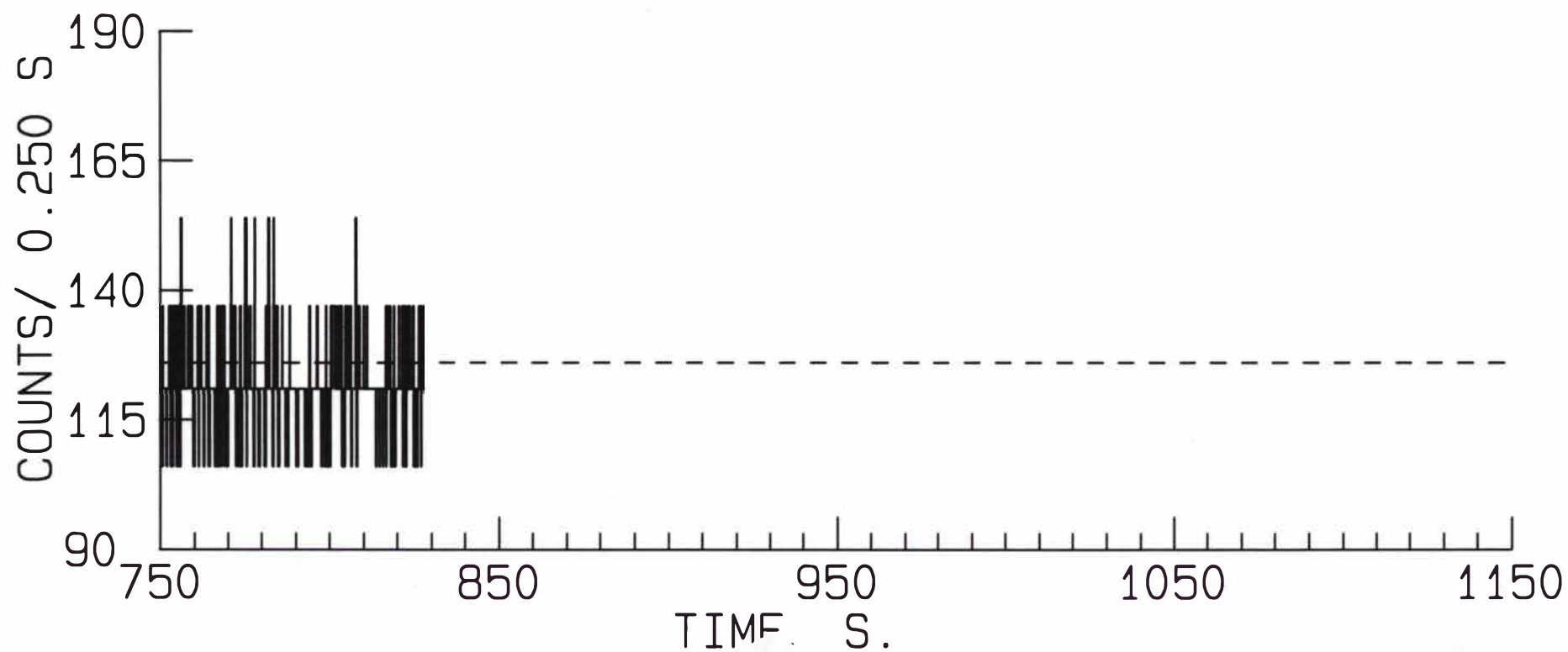
ULYSSES RT
2/10/99 83592.244 s
22- 150 keV

5/10/99



ULYSSES RT
2/10/99 83592.244 s
22- 150 keV

5/10/99



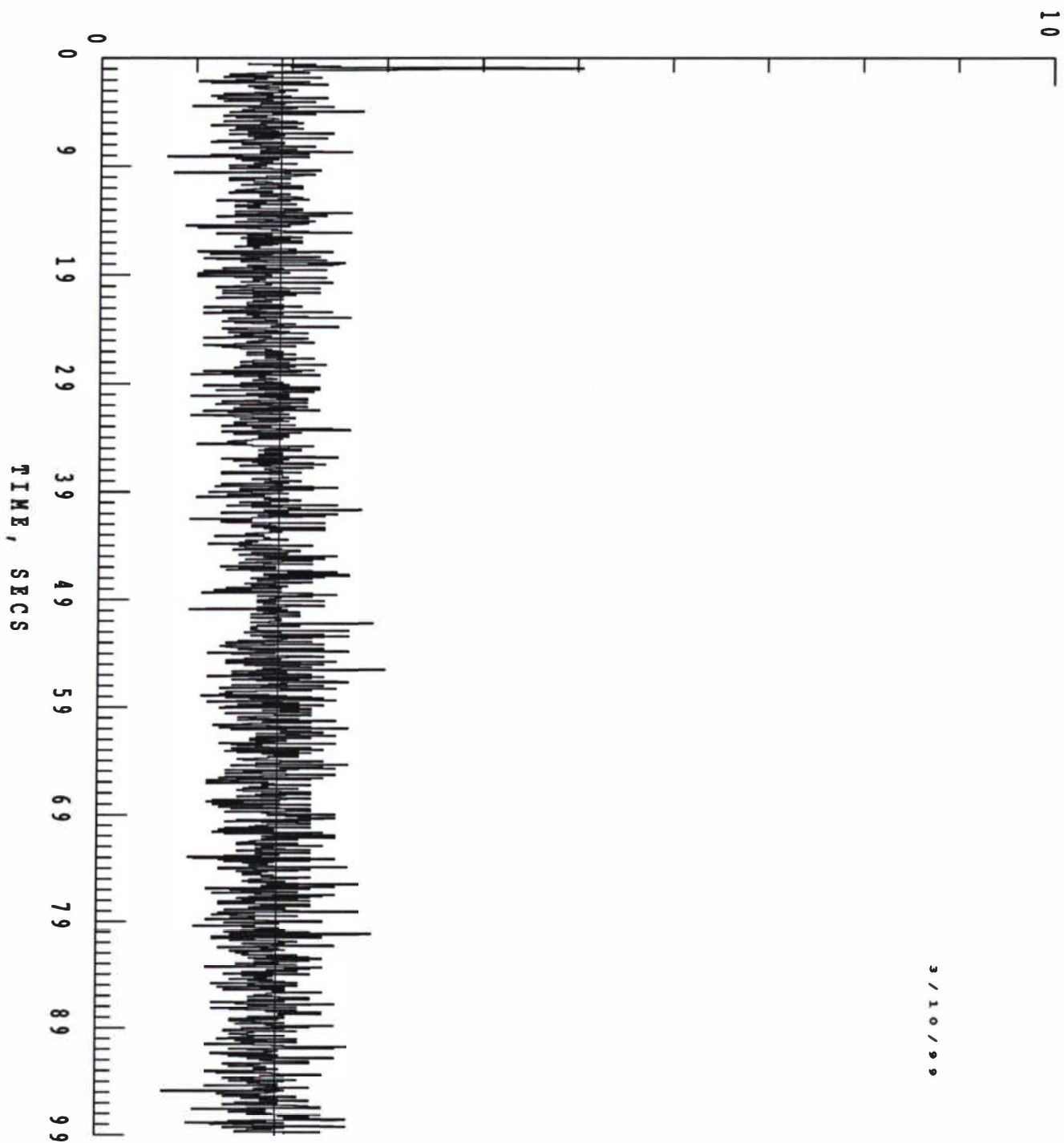
KONUS

02/10/99

82143.664

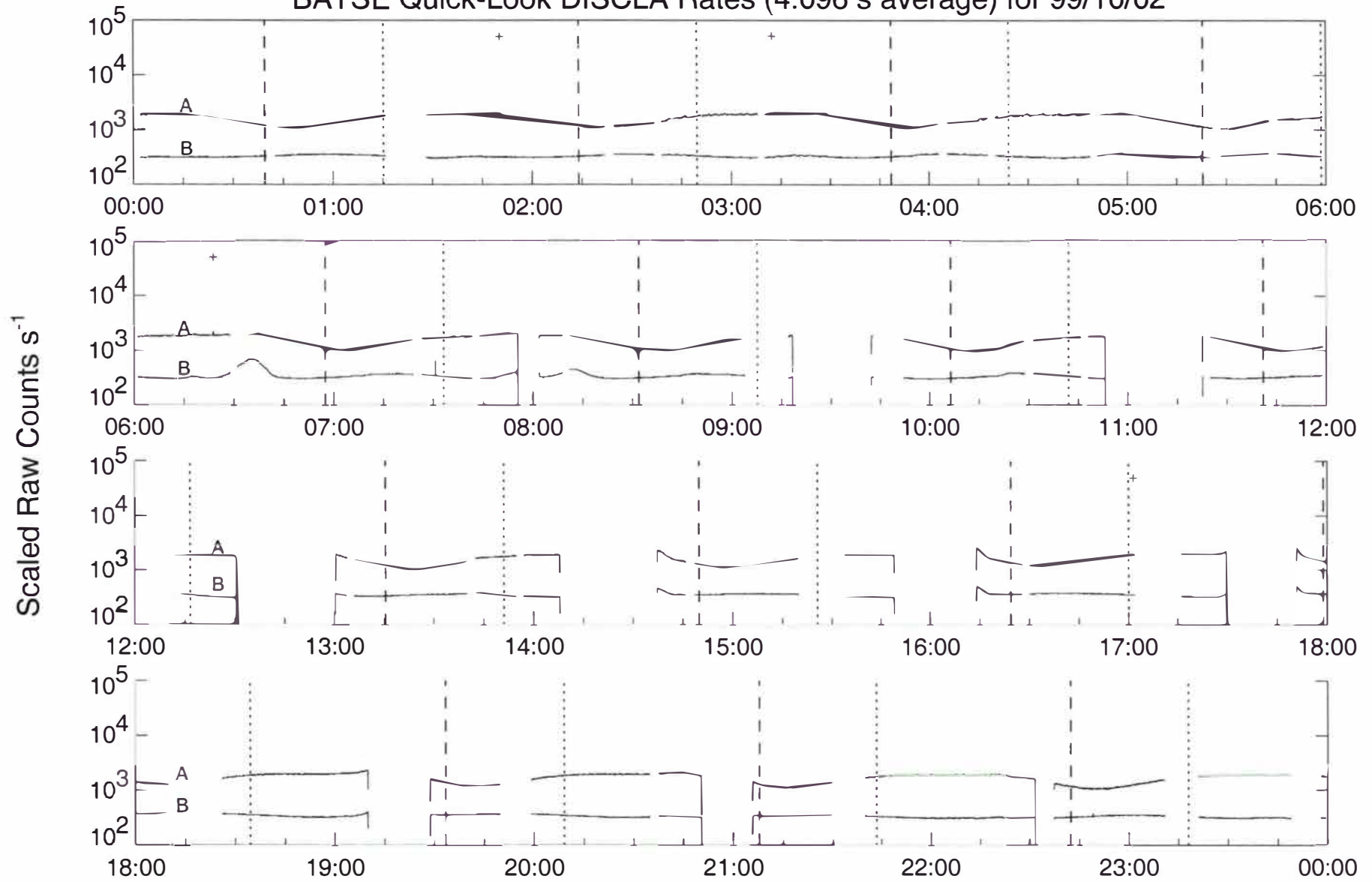
50 - 200 keV

COUNTS/0.064 S



3 / 10 / 99

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/02

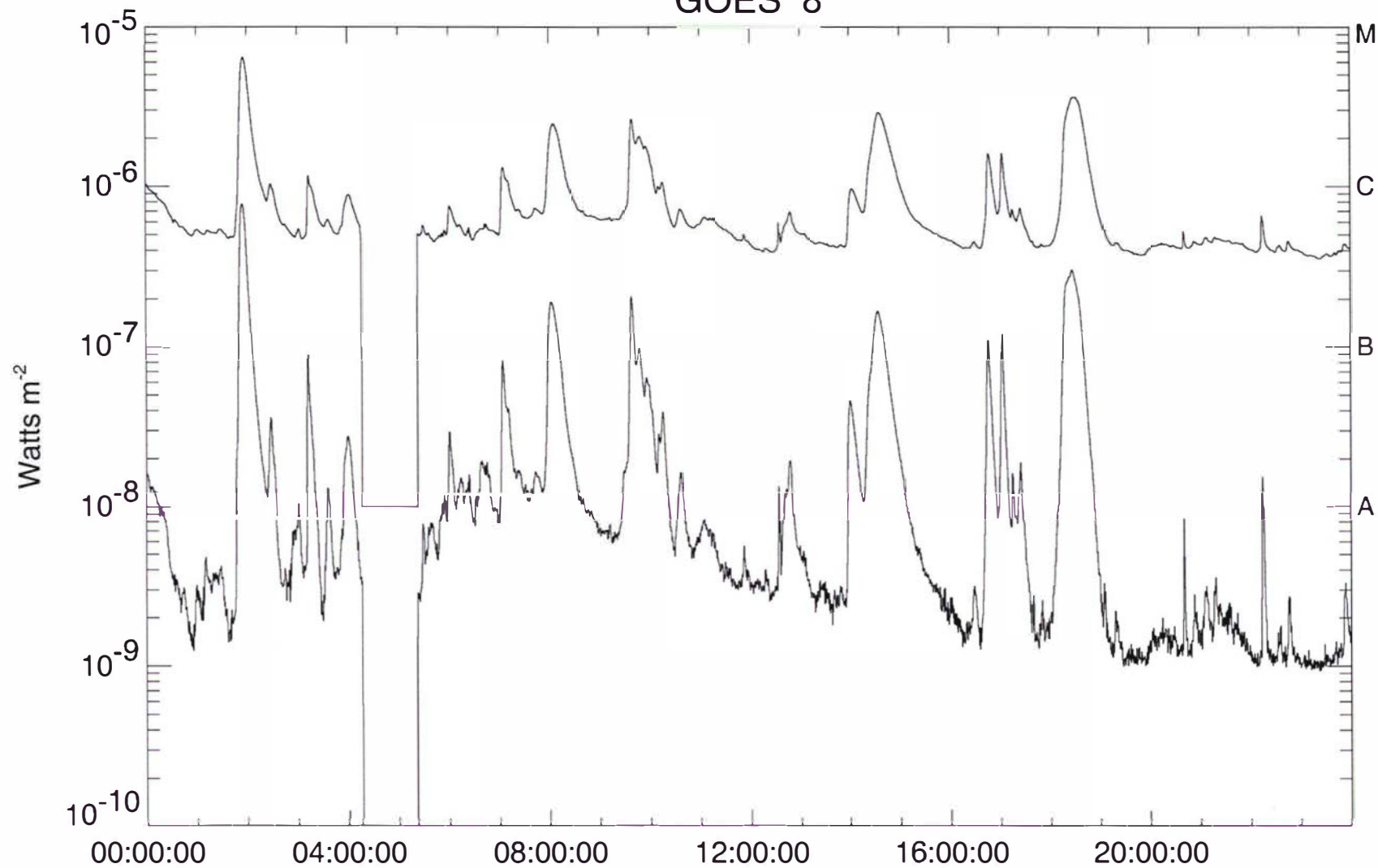


Current Time: 99/10/18, 2315 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/02, 0000:00

Plot created: 99/10/18, 2315

Channel

1 (1.0 - 8.0 Angstroms)

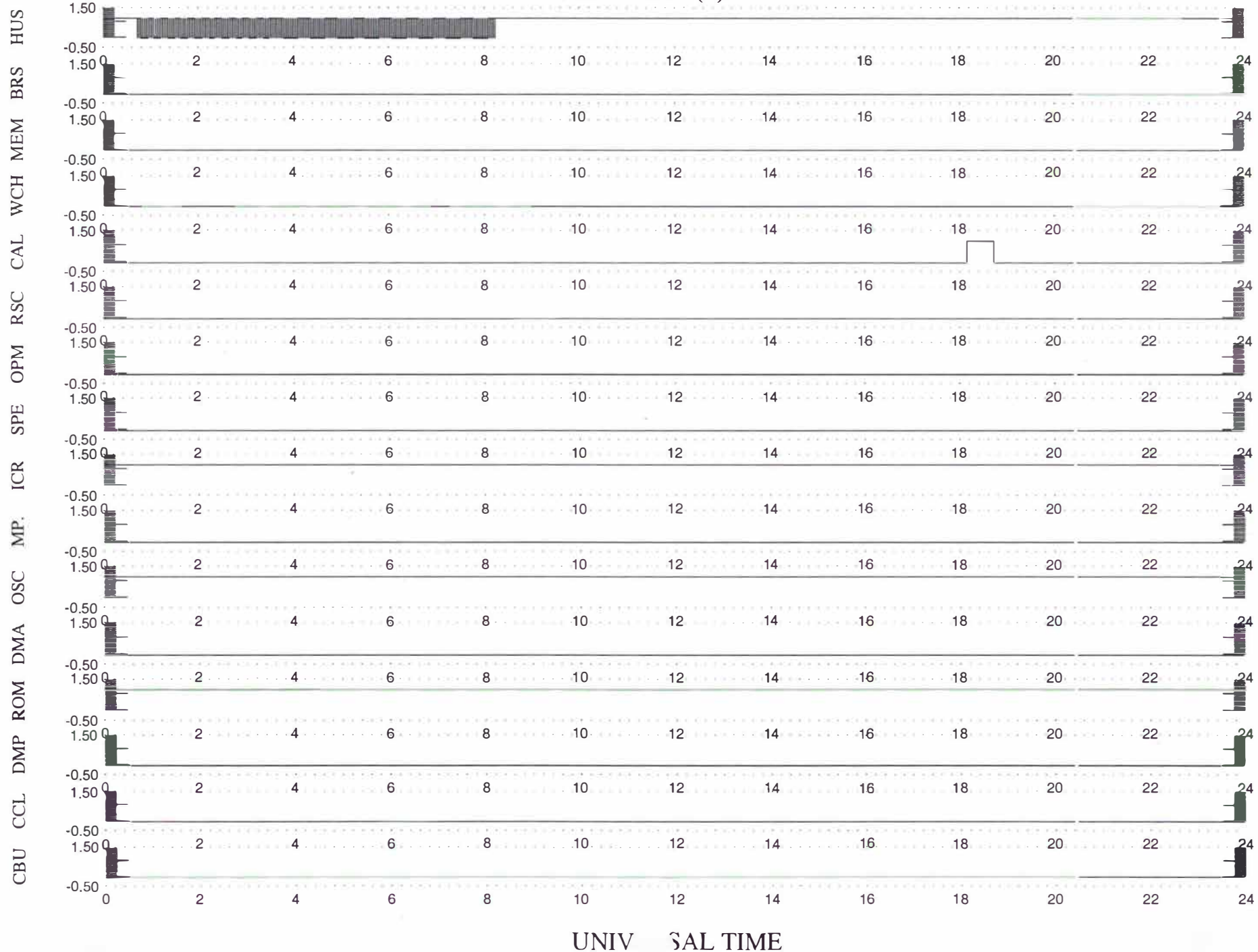
Background not subtracted

2 (0.5 - 4.0 Angstroms)

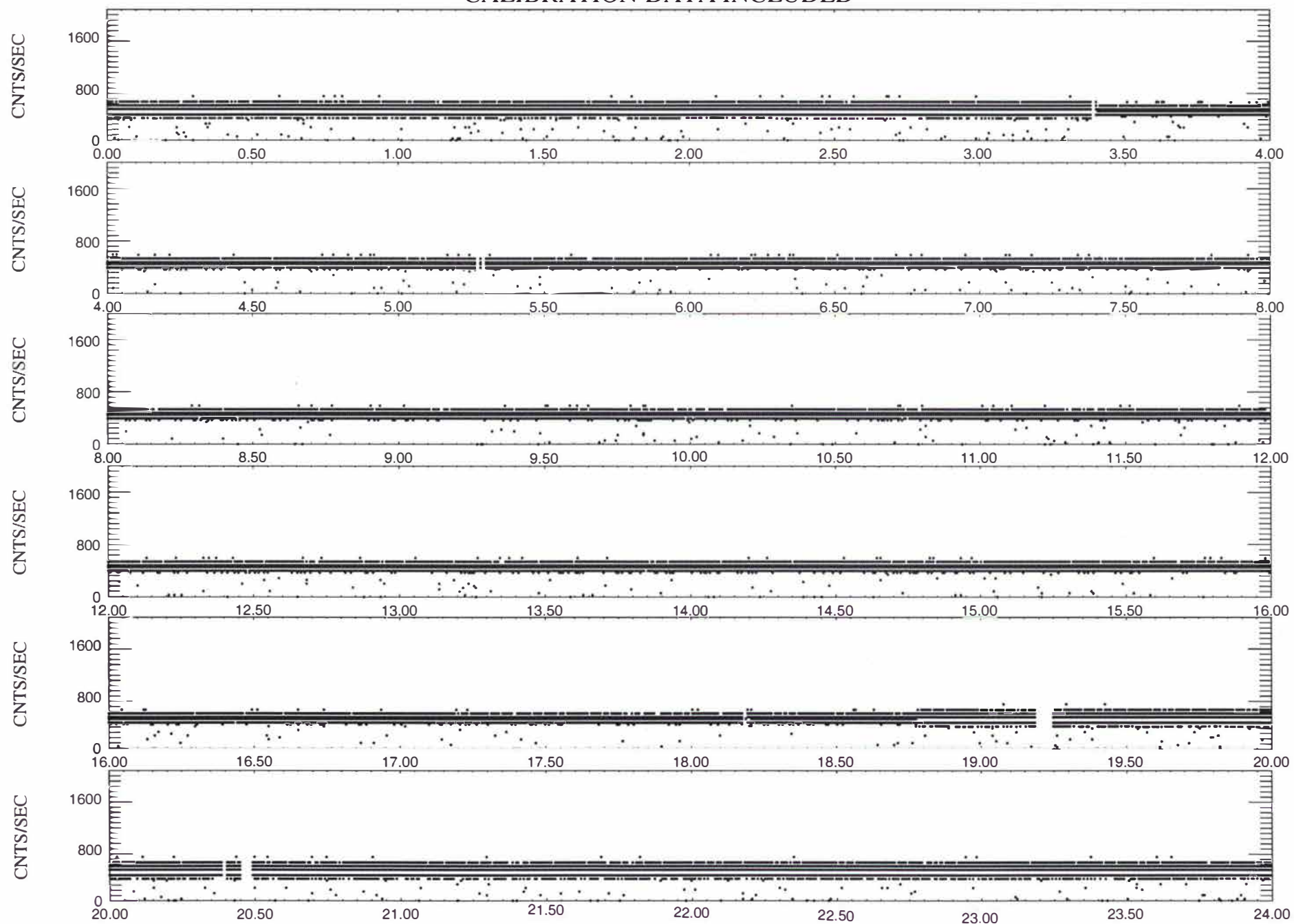
Background not subtracted

Sample average = 10

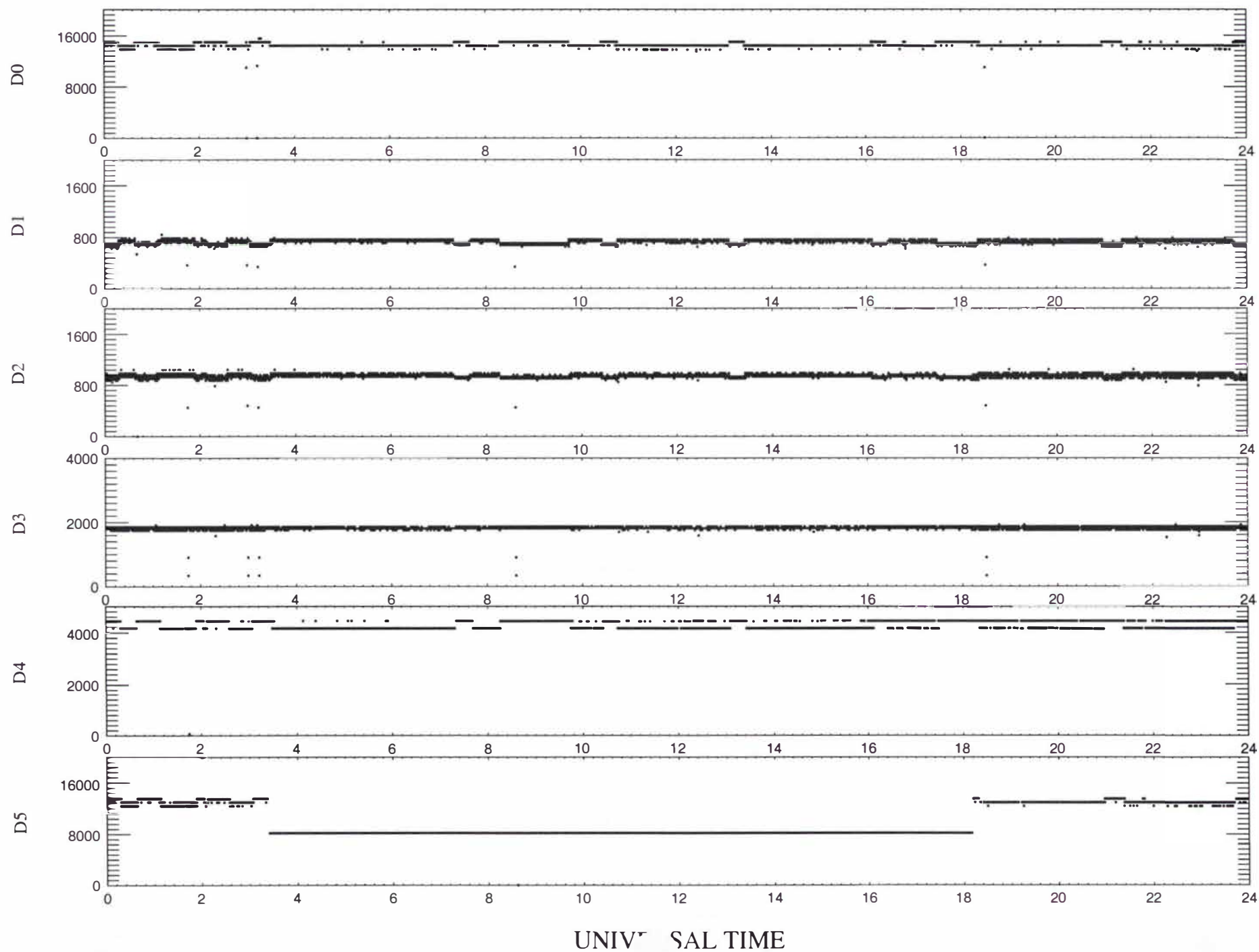
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



JANA TAB1 19991003 31414

ULYSSES RT

05/08/05

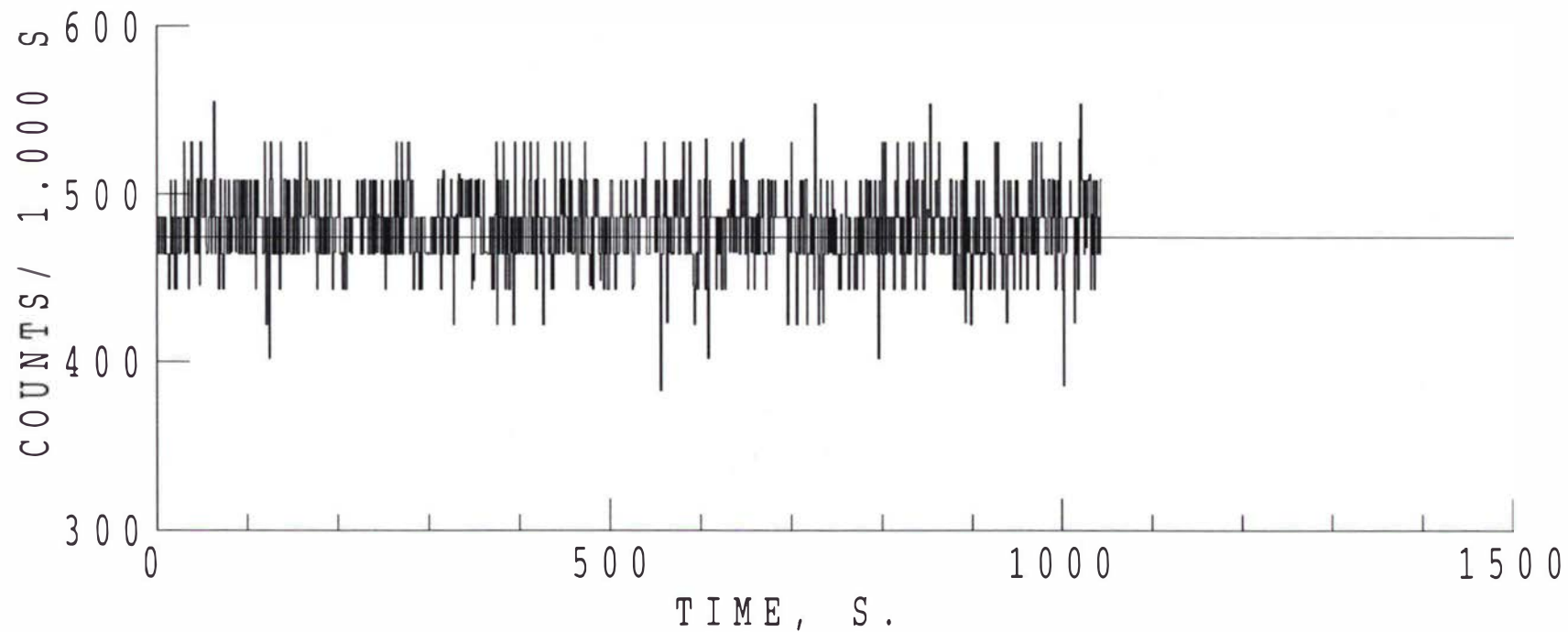
03/10/99 30888.332 s

0.500 S INTERVALS REGROUPED BY 2

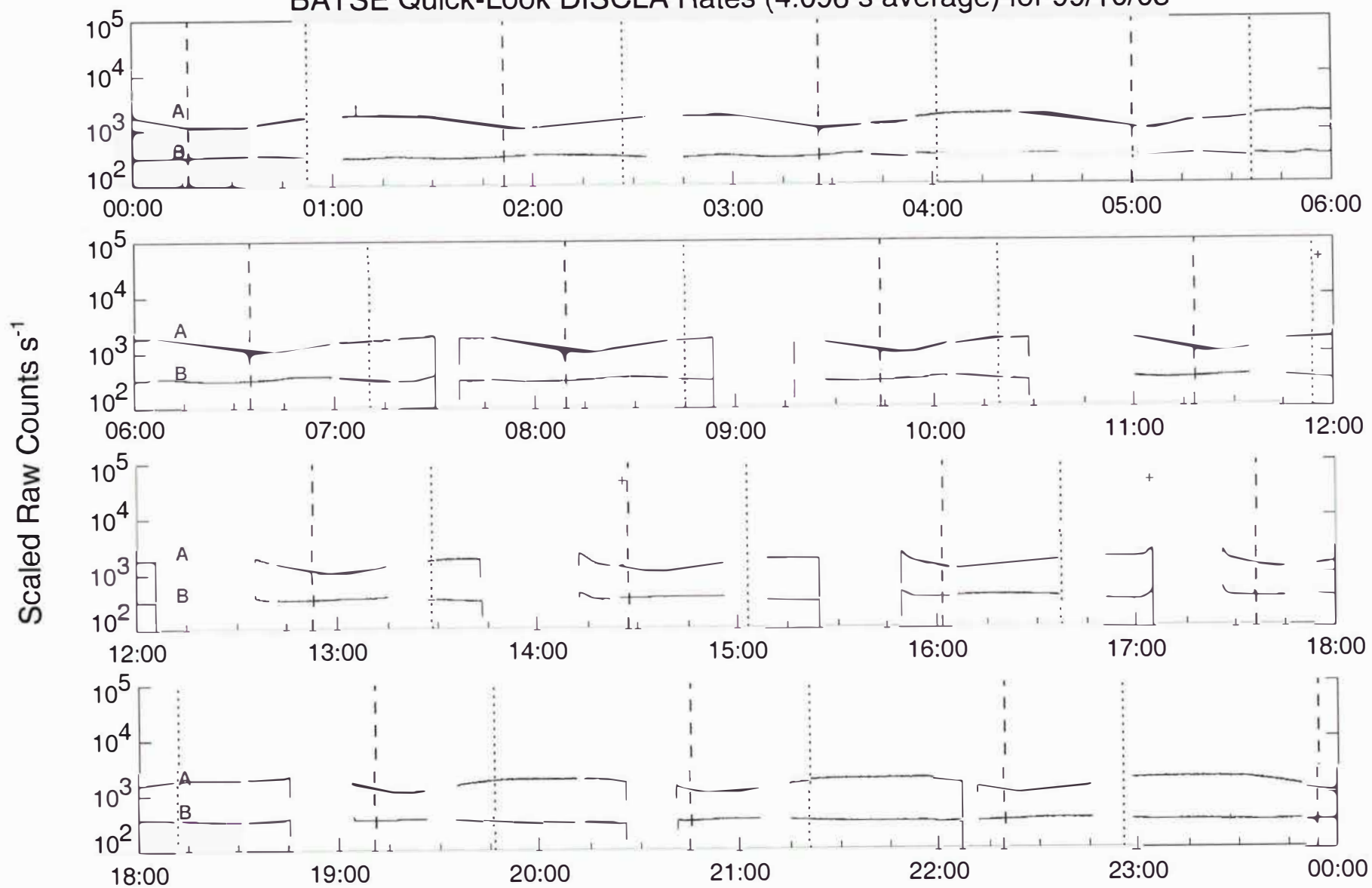
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/03

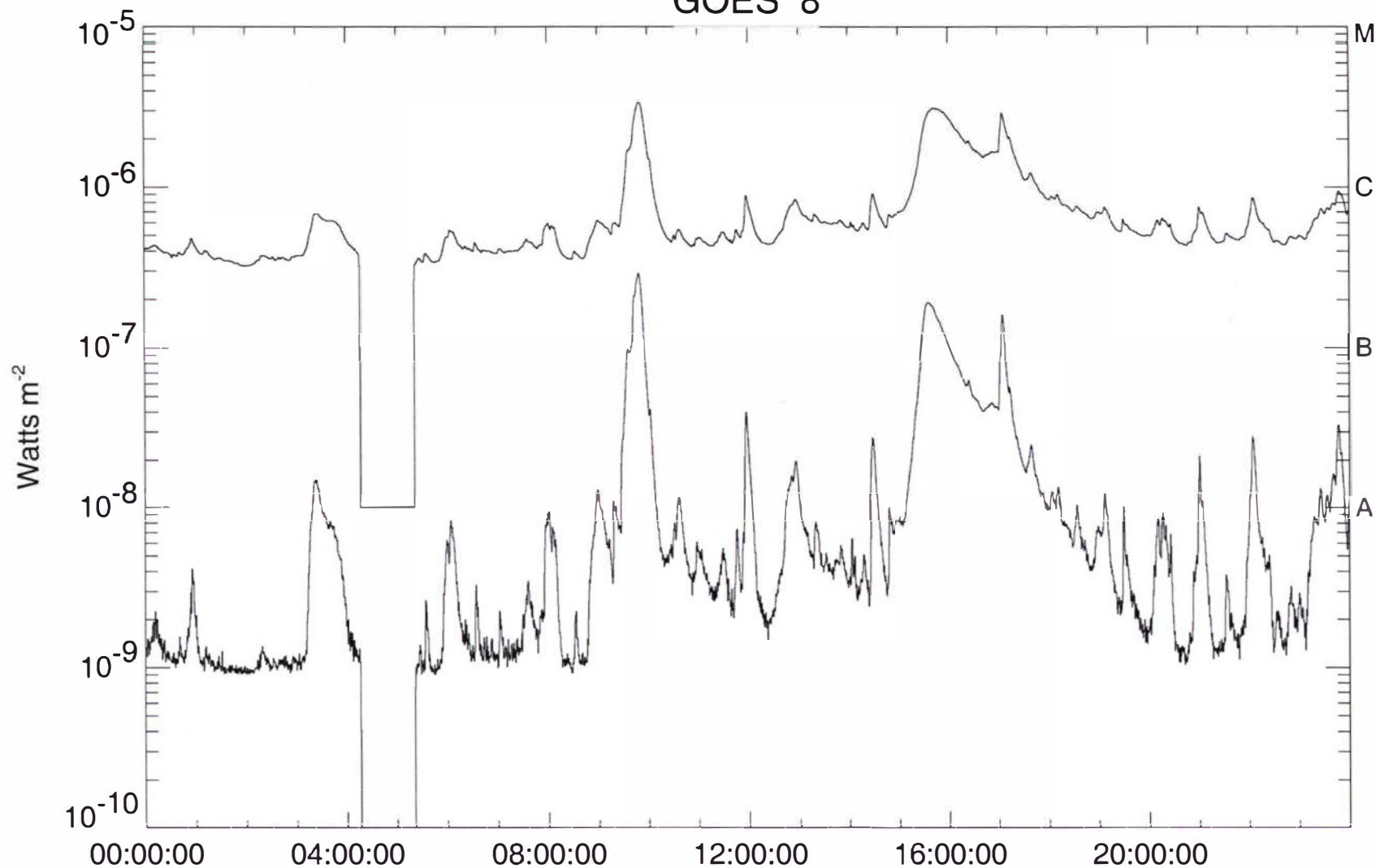


Current Time: 99/10/18, 2320 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/03, 0000:00

Plot created: 99/10/18, 2319

Channel

1 (1.0 - 8.0 Angstroms)

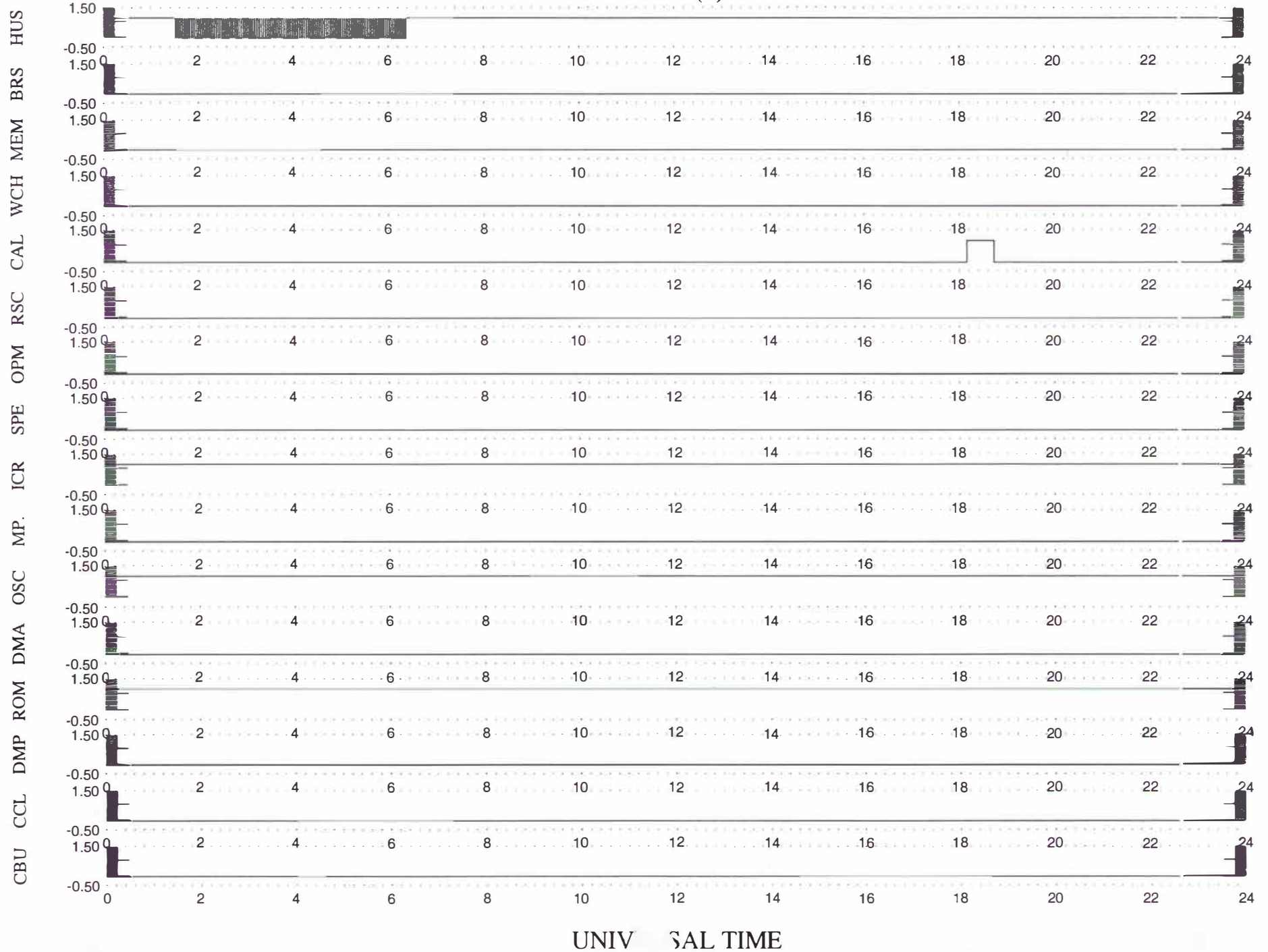
Background not subtracted

2 (0.5 - 4.0 Angstroms)

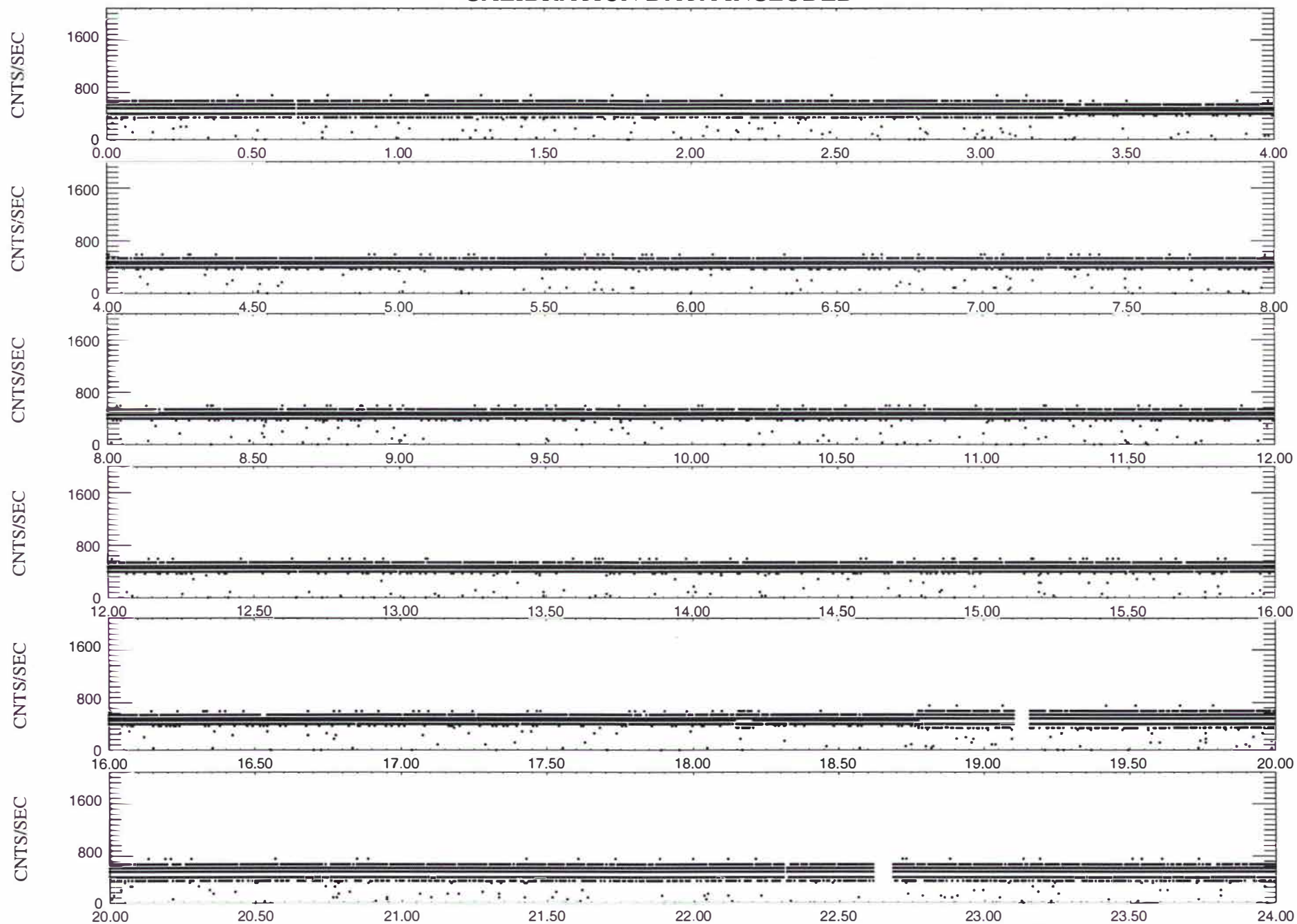
Background not subtracted

Sample average = 10

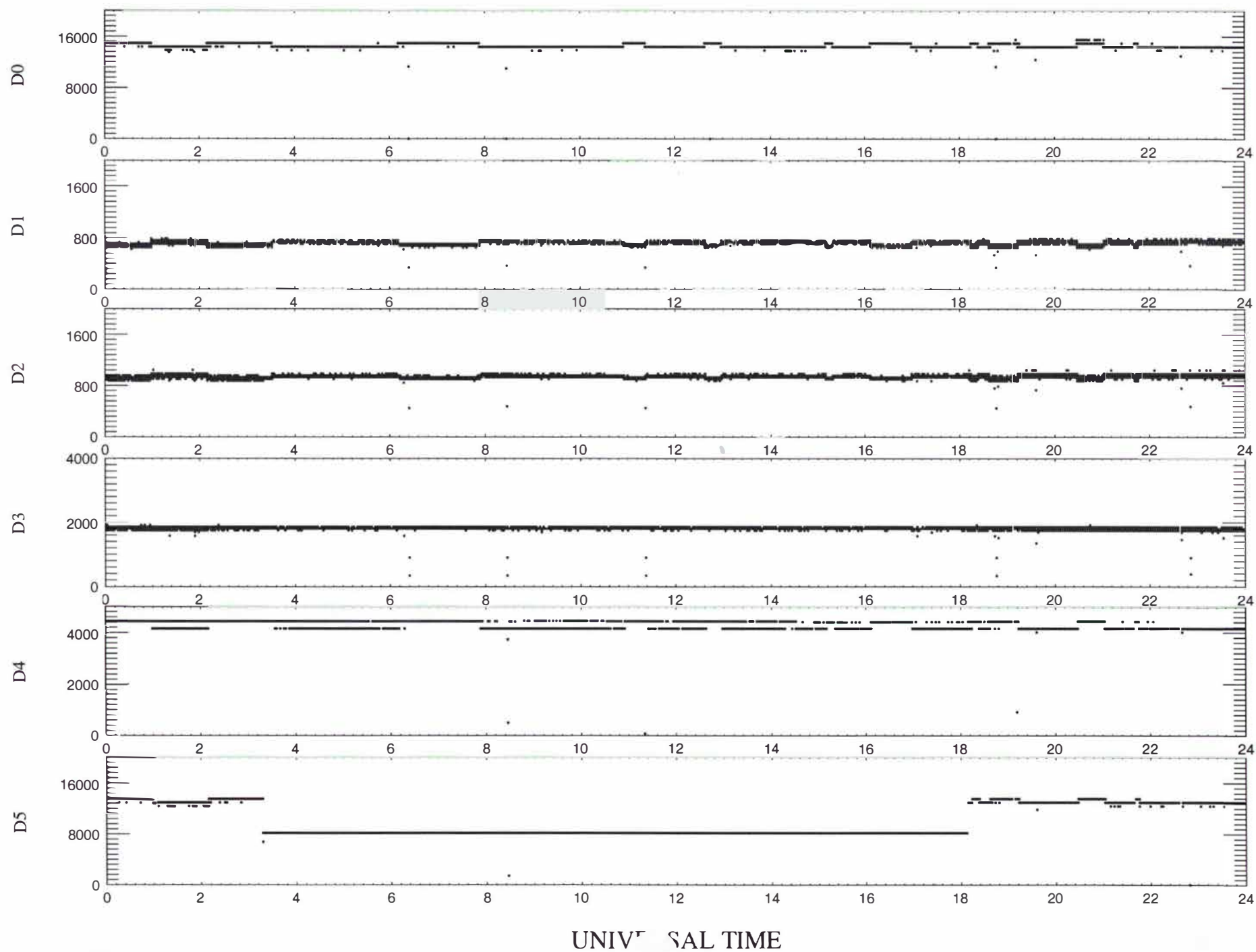
NO BURST (8)



CALIBRATION DATA INCLUDED



UNIV* SAL TIME



From SAHI@fender.msfc.nasa.gov Sat Oct 9 06:23 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 8 Oct 1999 14:24:58 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7785

BATSEARCH PROGRAM

BATSE BURST # 7785
EVENT OF 1999 OCT 4 DAY OF YEAR=277
EVENT CROSSING TIME AT BATSE : 6785. S. OR 01:53:05.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 330.000 -16.000
BATSE PEAK COUNTING RATE: 9000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/10/ 99 IS:
RA= 160.240 DEC= -17.244 DIST= 5.320 AU
BATSE-ULYSSES DISTANCE = 795835645. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2181.36 SECS.
CROSSING TIME AT ULYSSES IS 8966. S. OR 02:29:26 +/- 345.78 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/10/ 99 IS:
RA= 259.769 DEC= -24.921 DIST= 1.372 AU
MARS-BATSE DISTANCE = 205215616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -281.34 SECS.
CROSSING TIME AT MARS IS 6504. S. OR 01:48:23 +/- 104.07 SECONDS
BATSE BURST TRIGGER

NO.: 7785

TIME: TJD=1455 SECONDS=6785

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=107.3 AZIMUTH=227.9 ERROR=0.83 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 150 S, MAX. AT T+50 S, STARTS
AT T-2 S. MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7785	991004	11455	06785	9000	330	-16	150

Date: May 2 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data *N/A*

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

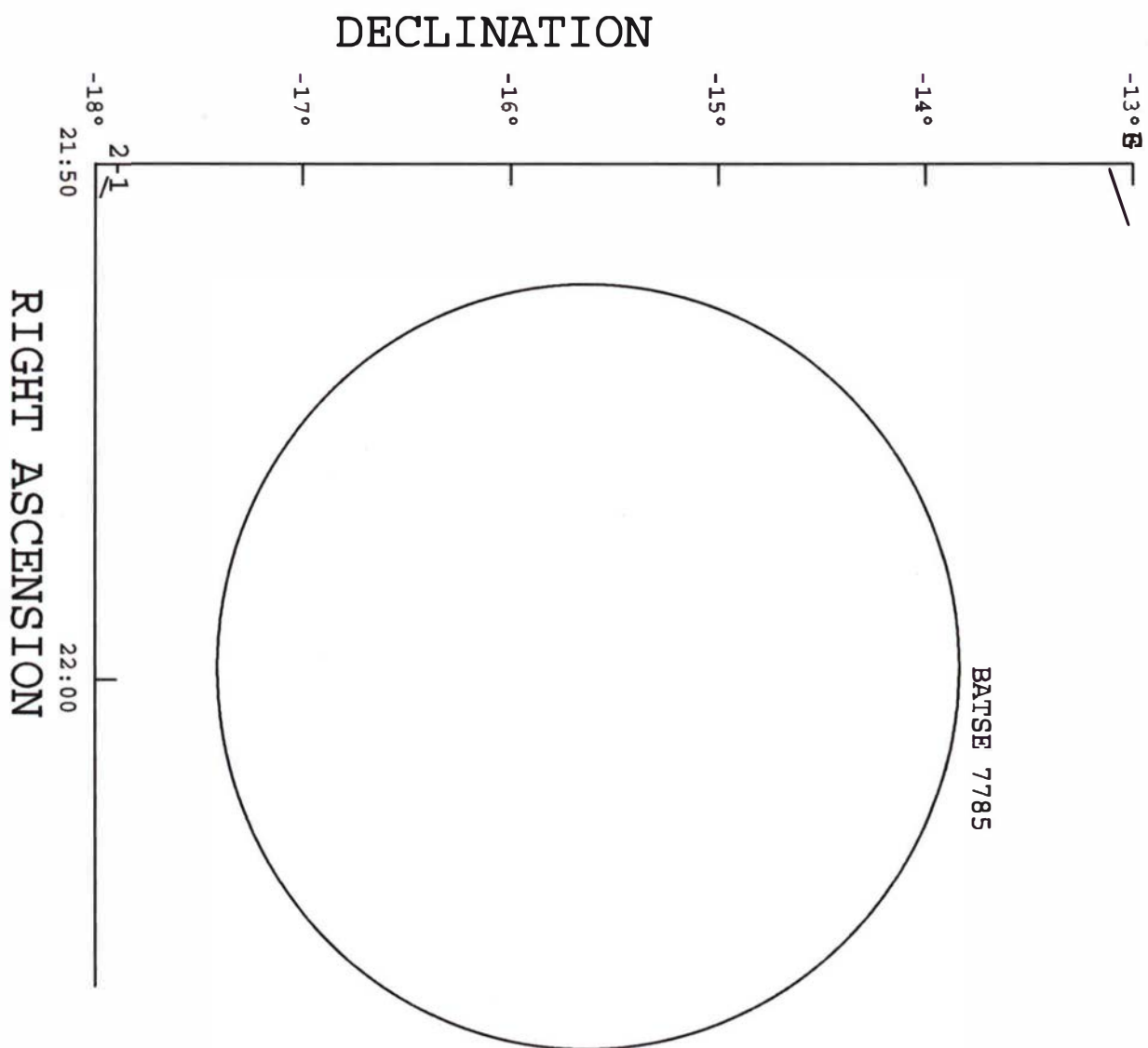
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF OCT 4, 1999 1:53

2 / 5 / 0



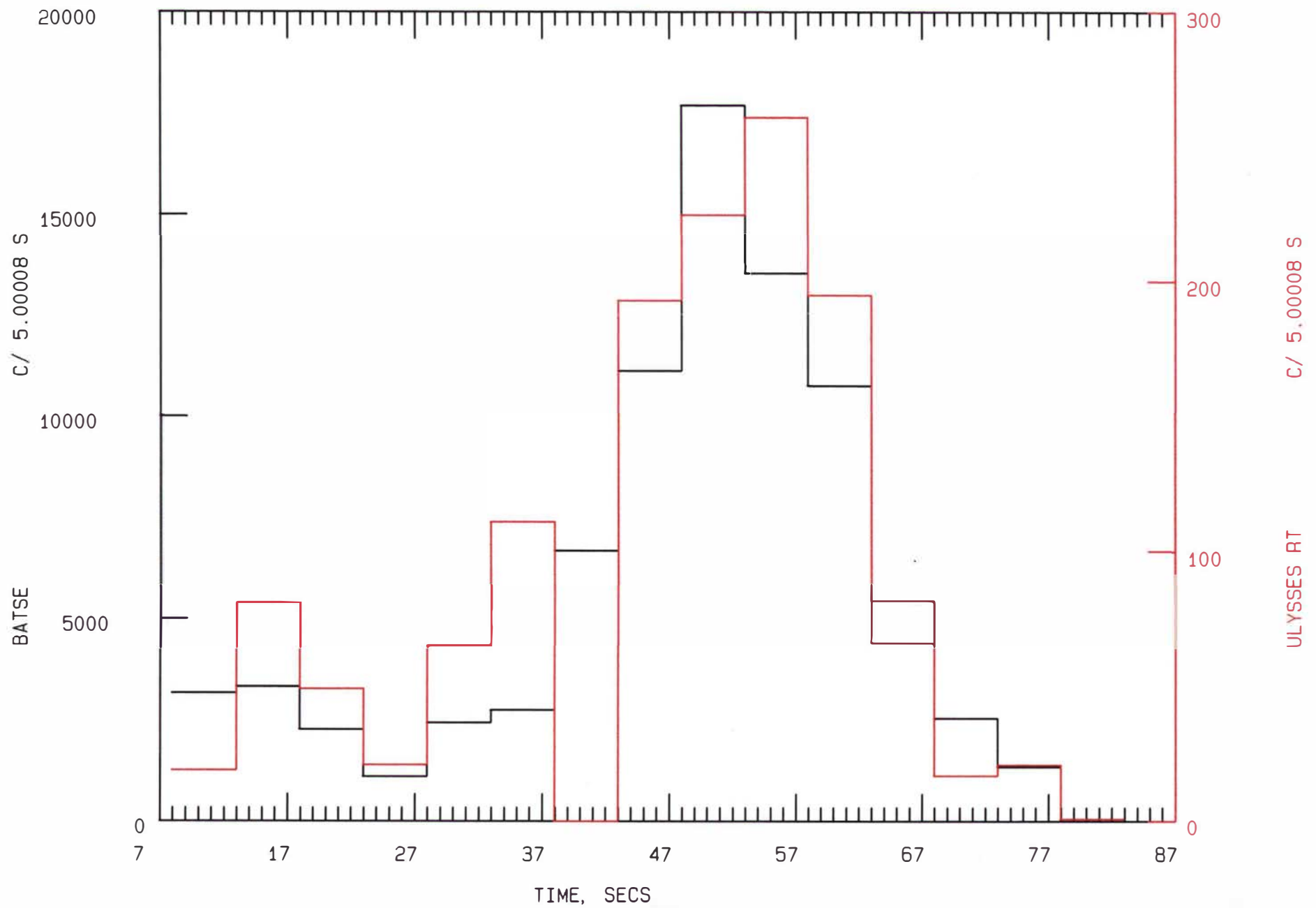
BATSE

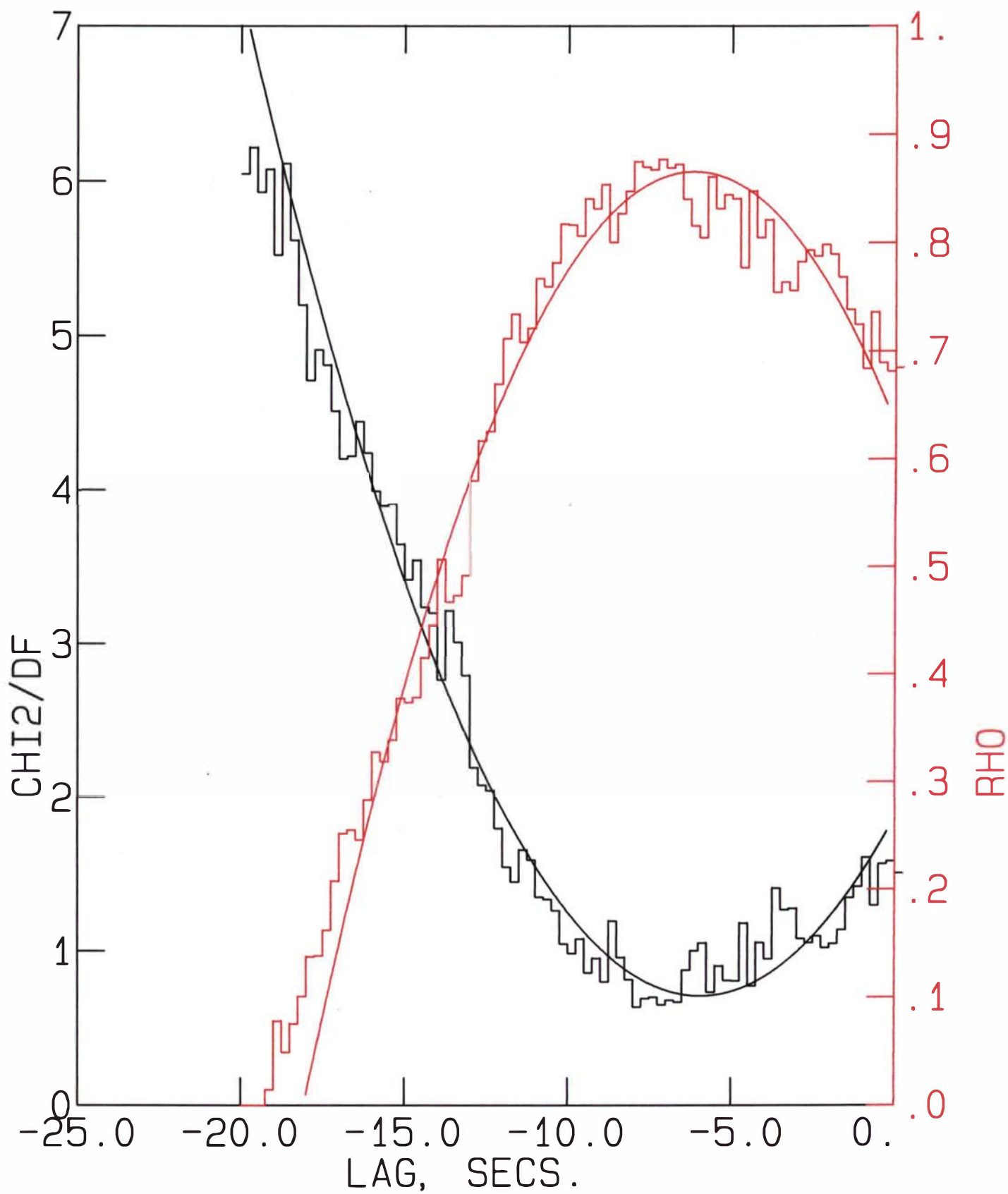
-ULYSSES RT CORRELATION

04/10/99

6785.785

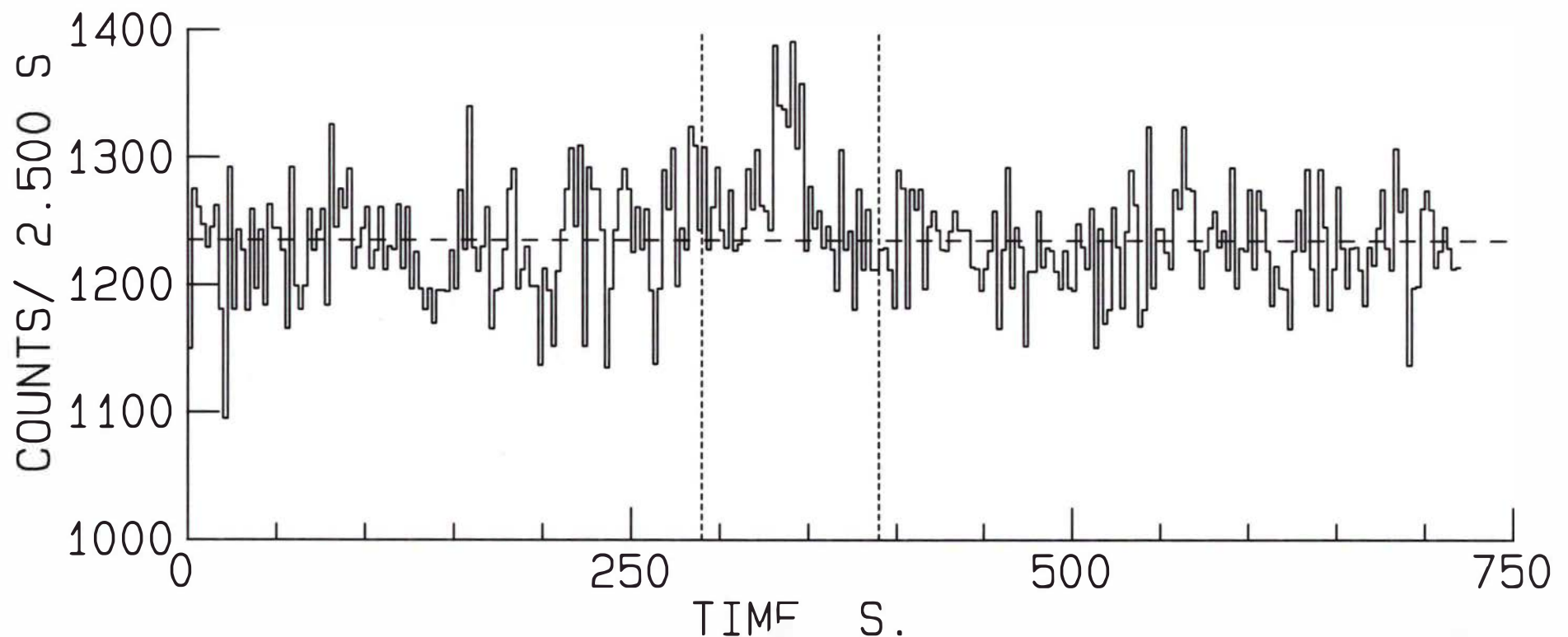
2/ 5/ 0





ULYSSES RT
4/10/99 8604.231 s
0.250 S INTERVALS REGROUPED BY 10
22- 151 keV

2 / 5 / 0



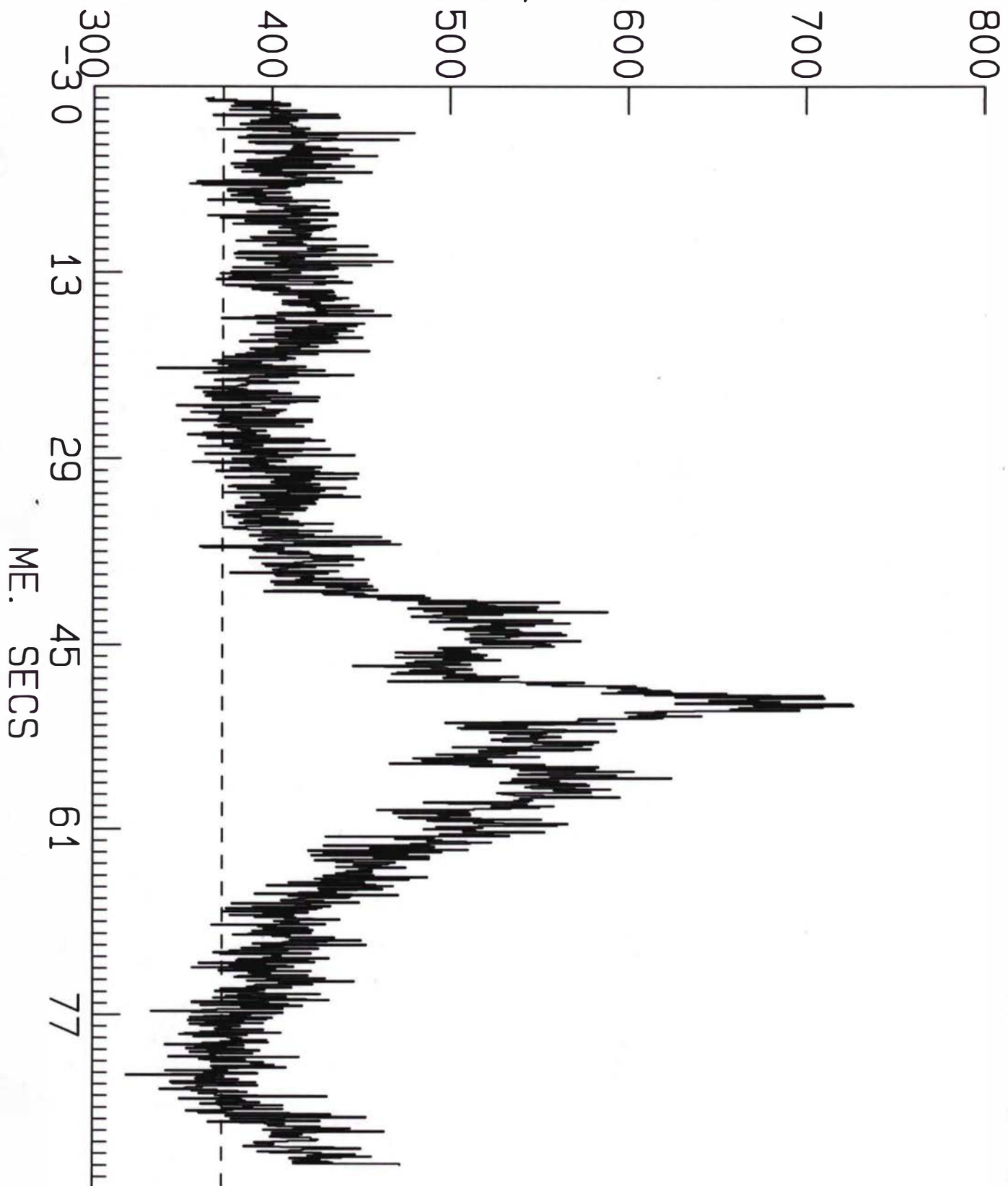
BATSE

04/10/99

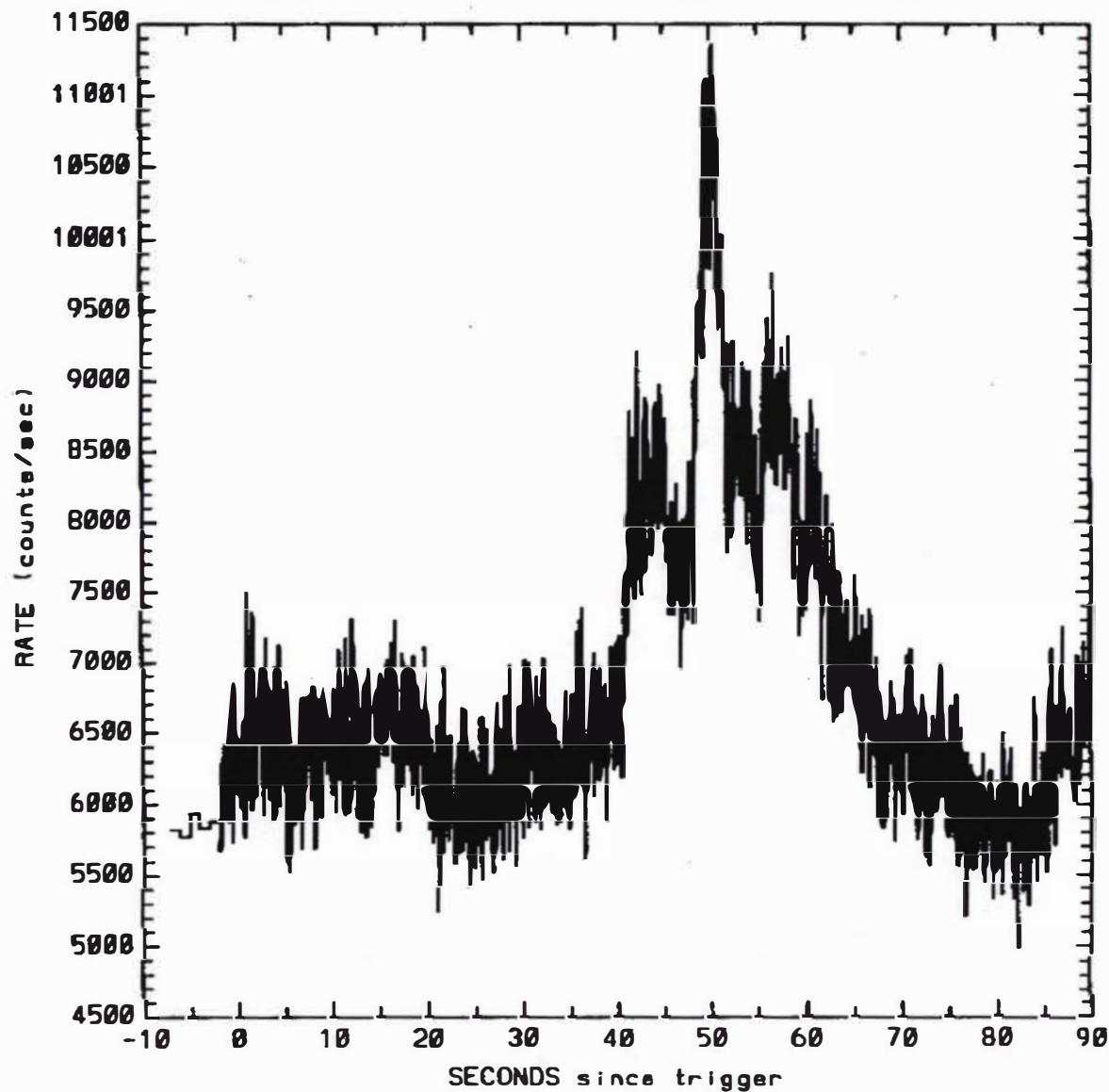
6785.785

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7785



24-MAR-2000 09:04:20

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

Trigger # . 7785

Trigger Time:
11455 / 6785.785

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..0).
76-----

Discriminators:
(1 , 2)

Quality Mask:
80ISP1

From SAHI@fender.msfc.nasa.gov Sat Oct 9 06:23 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 8 Oct 1999 14:26:43 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7786

BATSEARCH PROGRAM

BATSE BURST # 7786
EVENT OF 1999 OCT 4 DAY OF YEAR=277
EVENT CROSSING TIME AT BATSE : 15580. S. OR 04:19:40.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 230.000 -21.000
BATSE PEAK COUNTING RATE: 7500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/10/ 99 IS:
RA= 160.255 DEC= -17.260 DIST= 5.319 AU
BATSE-ULYSSES DISTANCE = 795680848. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1101.40 SECS.
CROSSING TIME AT ULYSSES IS 14479. S. OR 04:01:18 +/- 452.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/10/ 99 IS:
RA= 259.769 DEC= -24.921 DIST= 1.372 AU
MARS-BATSE DISTANCE = 205215616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=152.37 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -606.44 SECS.
CROSSING TIME AT MARS IS 14974. S. OR 04:09:33 +/- 45.91 SECONDS
BATSE BURST TRIGGER

NO.: 7786

TIME: TJD=1455 SECONDS=15580

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=64.6 AZIMUTH=313.6 ERROR=1.14 DEGREES

COMMENTS:

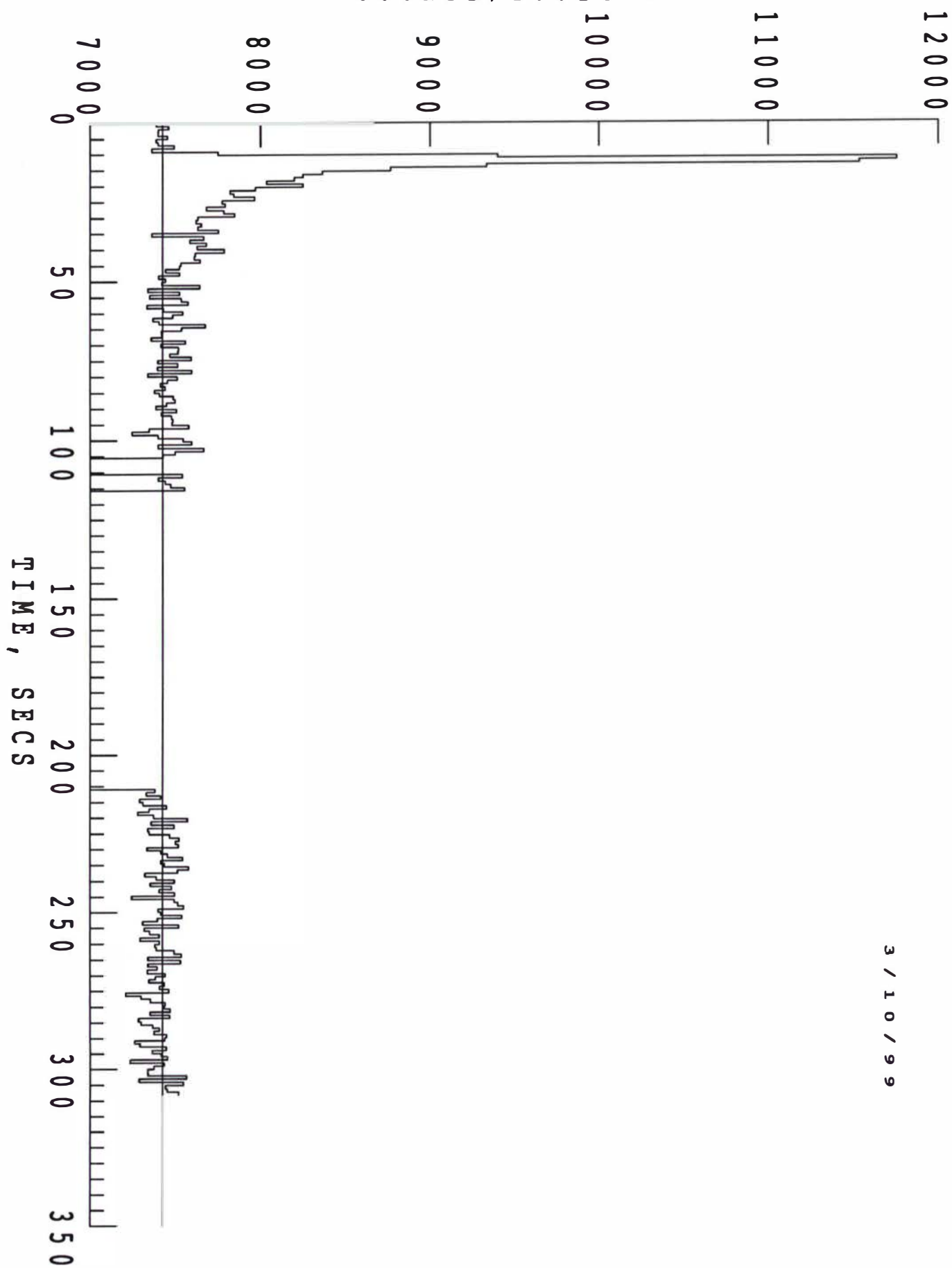
GRB. SINGLE PULSE, WITH SUBSTRUCTURE, DUR. 40 S, MAX. AT T+1.2 S, STARTS
AT T-1 S. MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7786	991004	11455	15580	7500	230	-21	40

BACODINE 7786 04/10/99 15569.657

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7786

ULYSSES RT

16/03/00

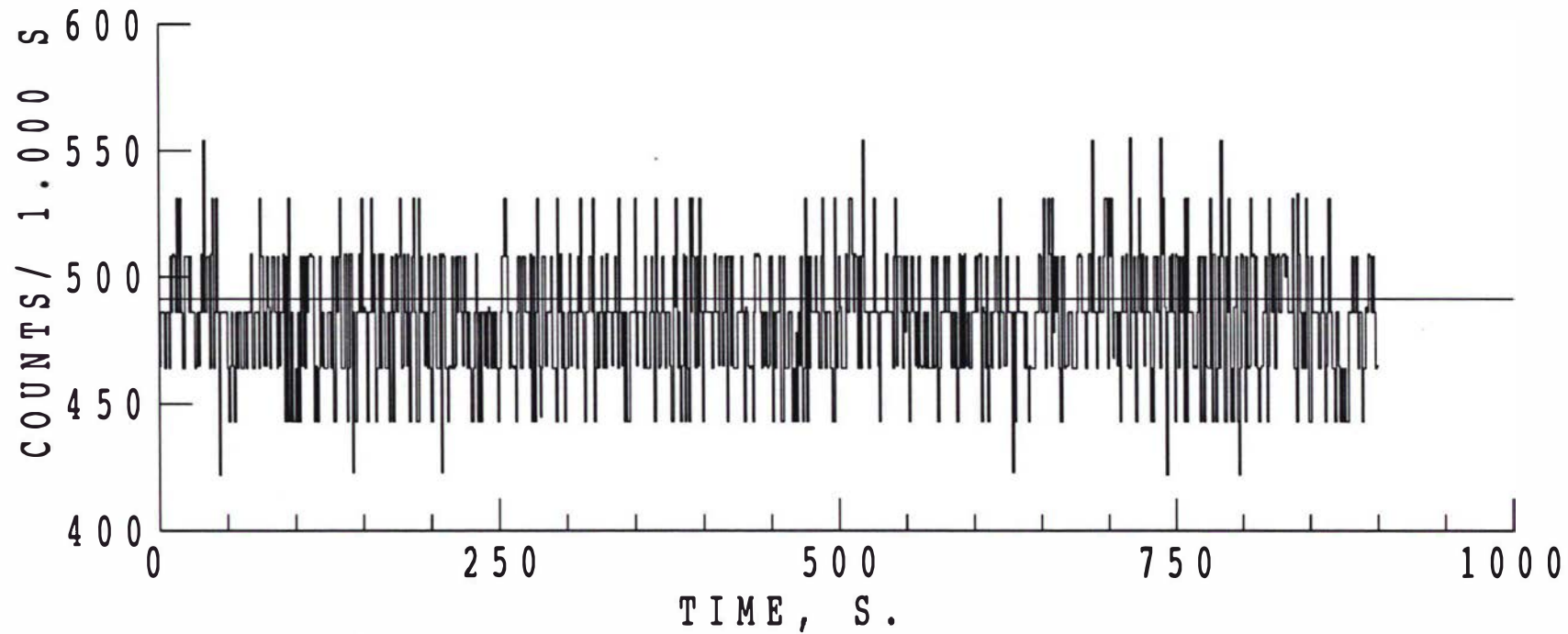
04/10/99 14040.033 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Sat Oct 9 06:23 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 8 Oct 1999 14:28:32 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7787

BATSEARCH PROGRAM

BATSE BURST # 7787
EVENT OF 1999 OCT 4 DAY OF YEAR=277
EVENT CROSSING TIME AT BATSE : 24296. S. OR 06:44:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 41.000 -24.000
BATSE PEAK COUNTING RATE: 5500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/10/ 99 IS:
RA= 160.270 DEC= -17.275 DIST= 5.318 AU
BATSE-ULYSSES DISTANCE = 795530189. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 811.25 SECS.
CROSSING TIME AT ULYSSES IS 25107. S. OR 06:58:27 +/- 500.97 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/10/ 99 IS:
RA= 259.769 DEC= -24.921 DIST= 1.372 AU
MARS-BATSE DISTANCE = 205215616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.67 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 324.85 SECS.
CROSSING TIME AT MARS IS 24621. S. OR 06:50:20 +/- 109.54 SECONDS

BATSE BURST TRIGGER

NO.: 7787

TIME: TJD=1455 SECONDS=24296

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=81.7 AZIMUTH=166.0 ERROR=10.2 DEGREES

COMMENTS:

GRB. SINGLE SPIKE, DUR.0.03 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7787	991004	11455	24296	5500	041	-24	.03

BATSE BURST# 7787

ULYSSES RT

16/03/00

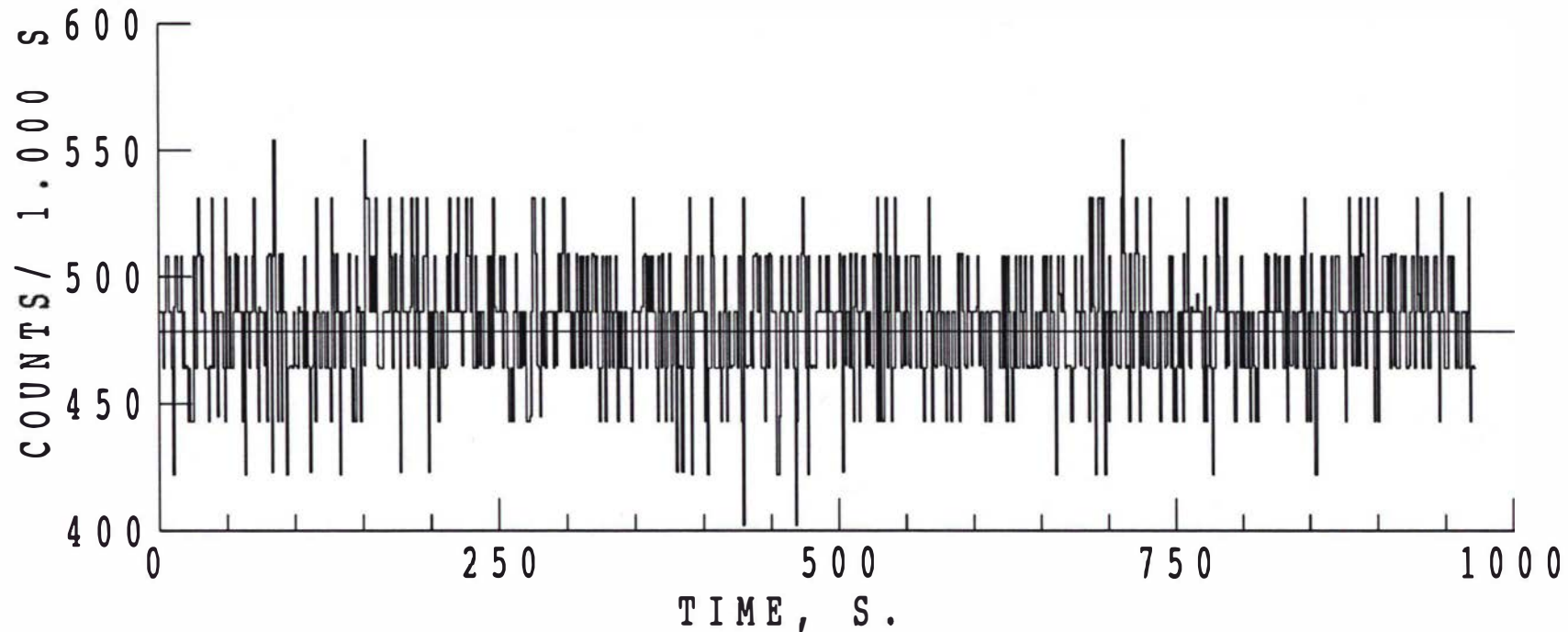
04/10/99 24624.141 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Sat Oct 9 06:23 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 8 Oct 1999 14:30:31 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7788

BATSEARCH PROGRAM

BATSE BURST # 7788
EVENT OF 1999 OCT 4 DAY OF YEAR=277
EVENT CROSSING TIME AT BATSE : 47660. S. OR 13:14:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 211.000 -19.000
BATSE PEAK COUNTING RATE: 29000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/10/ 99 IS:
RA= 160.308 DEC= -17.317 DIST= 5.315 AU
BATSE-ULYSSES DISTANCE = 795124365. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=131.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1773.66 SECS.
CROSSING TIME AT ULYSSES IS 45886. S. OR 12:44:46 +/- 365.42 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/10/ 99 IS:
RA= 259.769 DEC= -24.921 DIST= 1.372 AU
MARS-BATSE DISTANCE = 205215616. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=134.62 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -480.78 SECS.
CROSSING TIME AT MARS IS 47179. S. OR 13:06:19 +/- 77.30 SECONDS

BATSE BURST TRIGGER

NO.: 7788

TIME: TJD=1455 SECONDS=47660

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=56.0 AZIMUTH=331.8 ERROR=0.74 DEGREES

COMMENTS:

GRB. COMPLEX, DUR. 115 S, MAX. T+70 S, STARTS AT T-2 S. VISIBLE ABOVE
300 KEV. HV OFF AT T+270 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7788	991004	11455	47660	29000	211	-19	115

Date: May 2 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

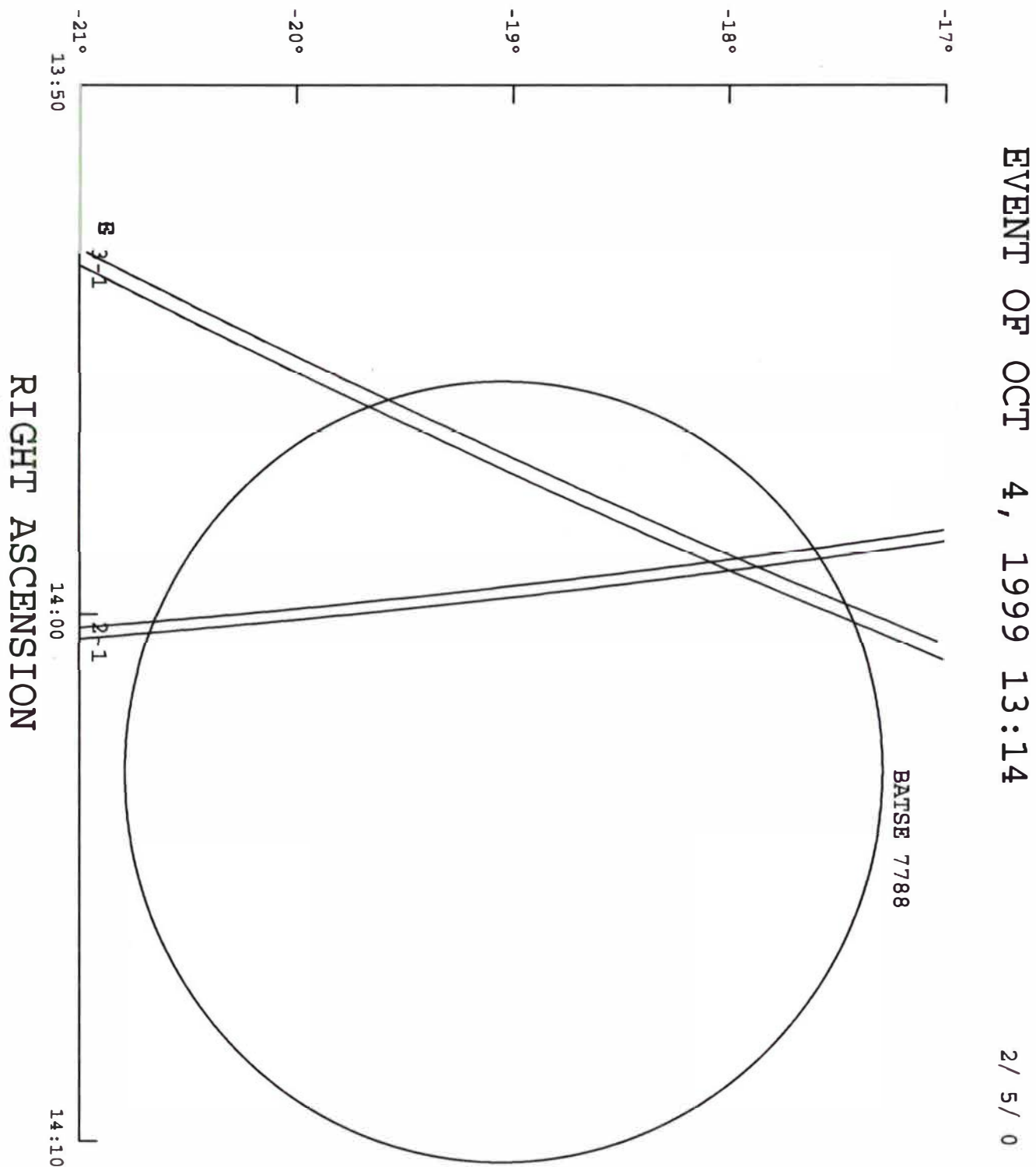
G=GALACTIC EQUATOR

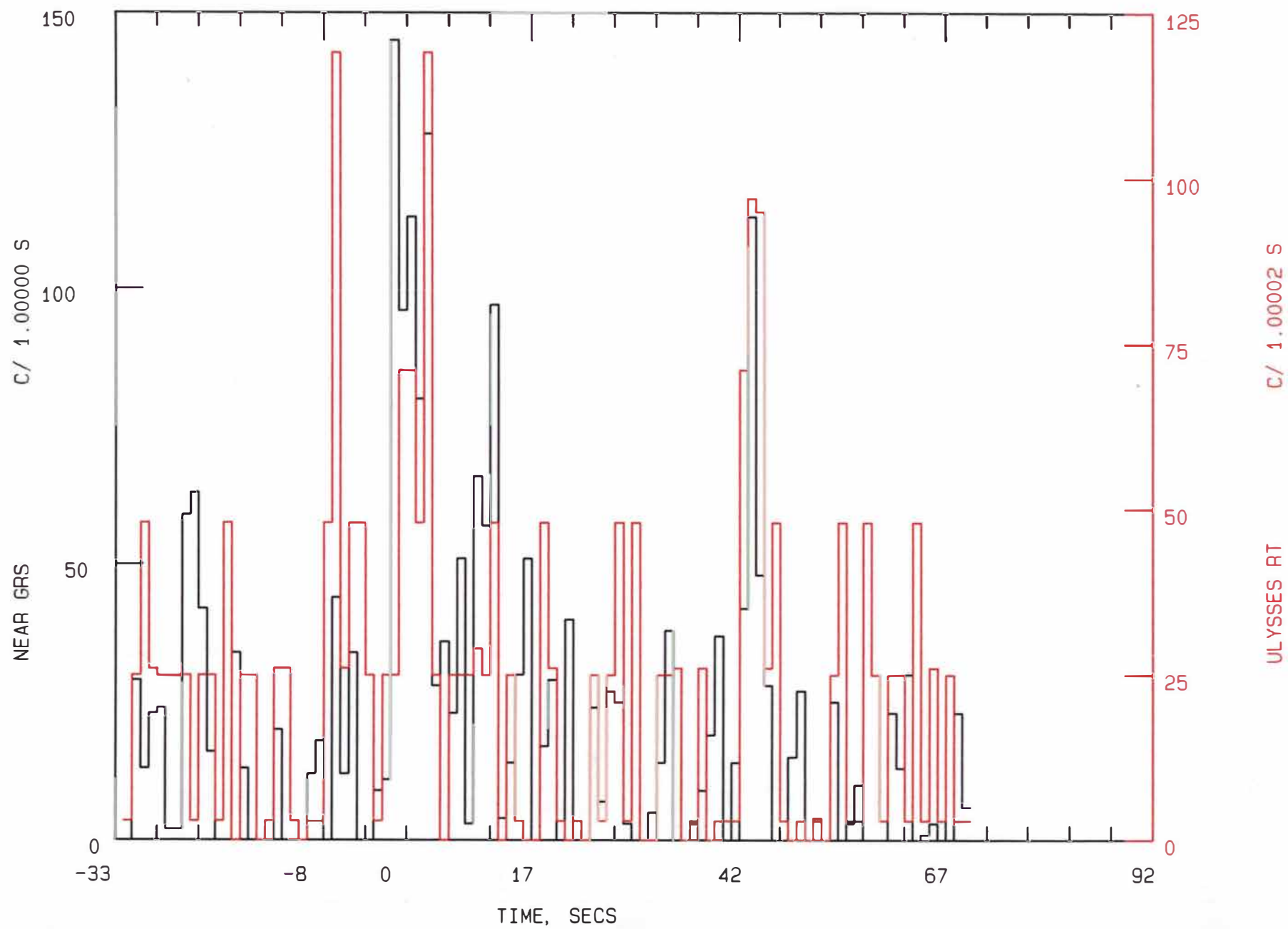
1 BATSE

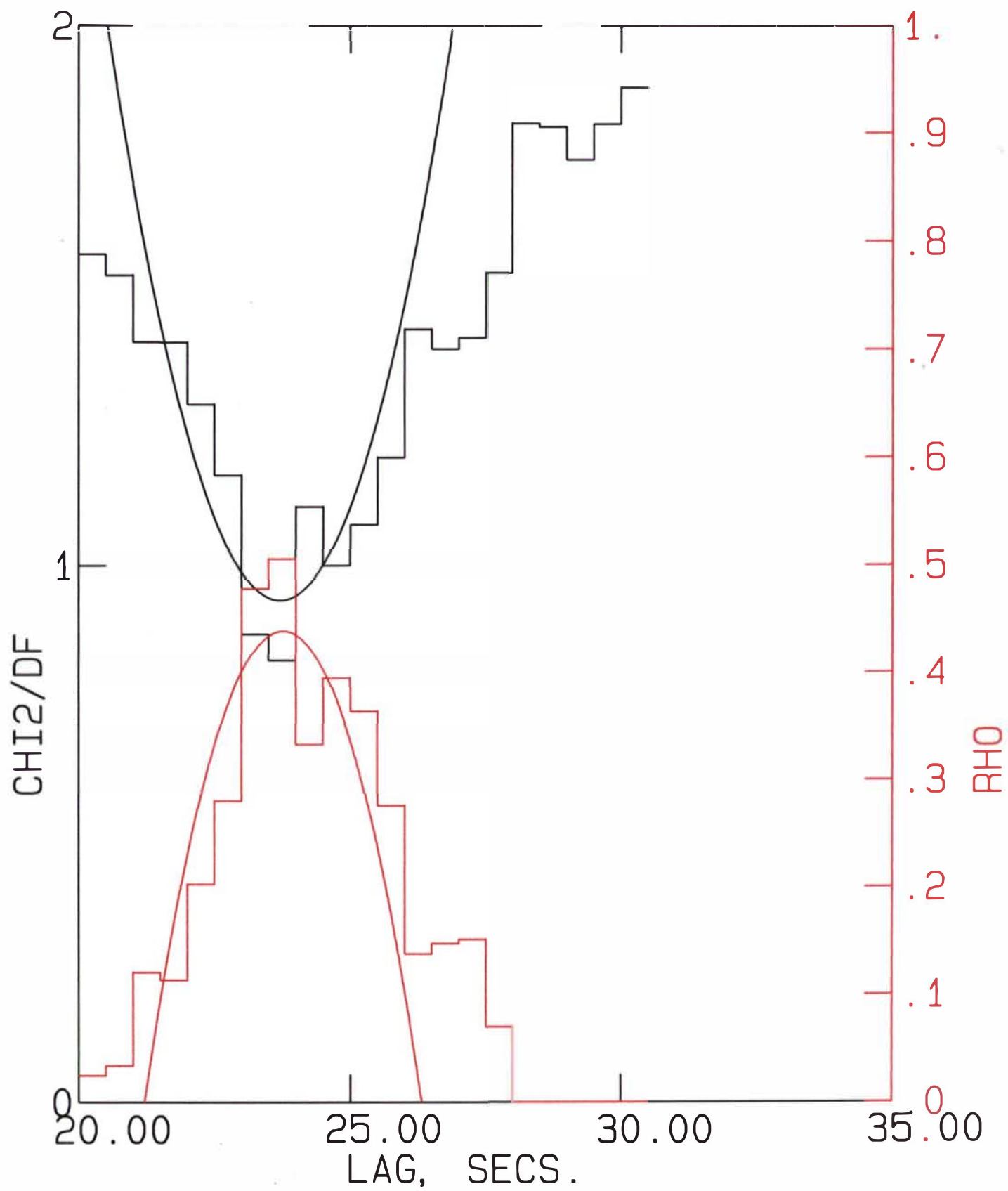
2 ULYSSES

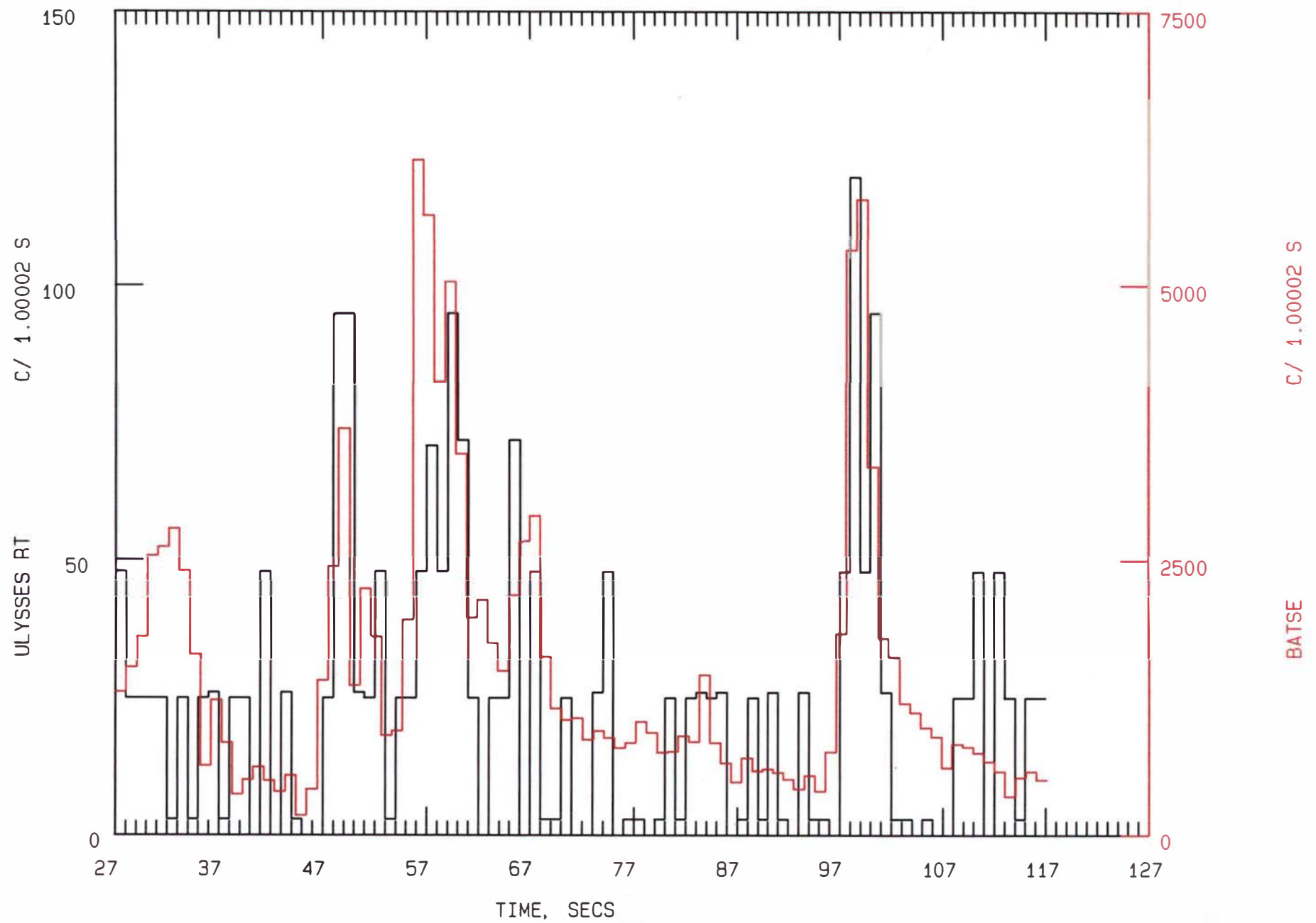
3 NEAR

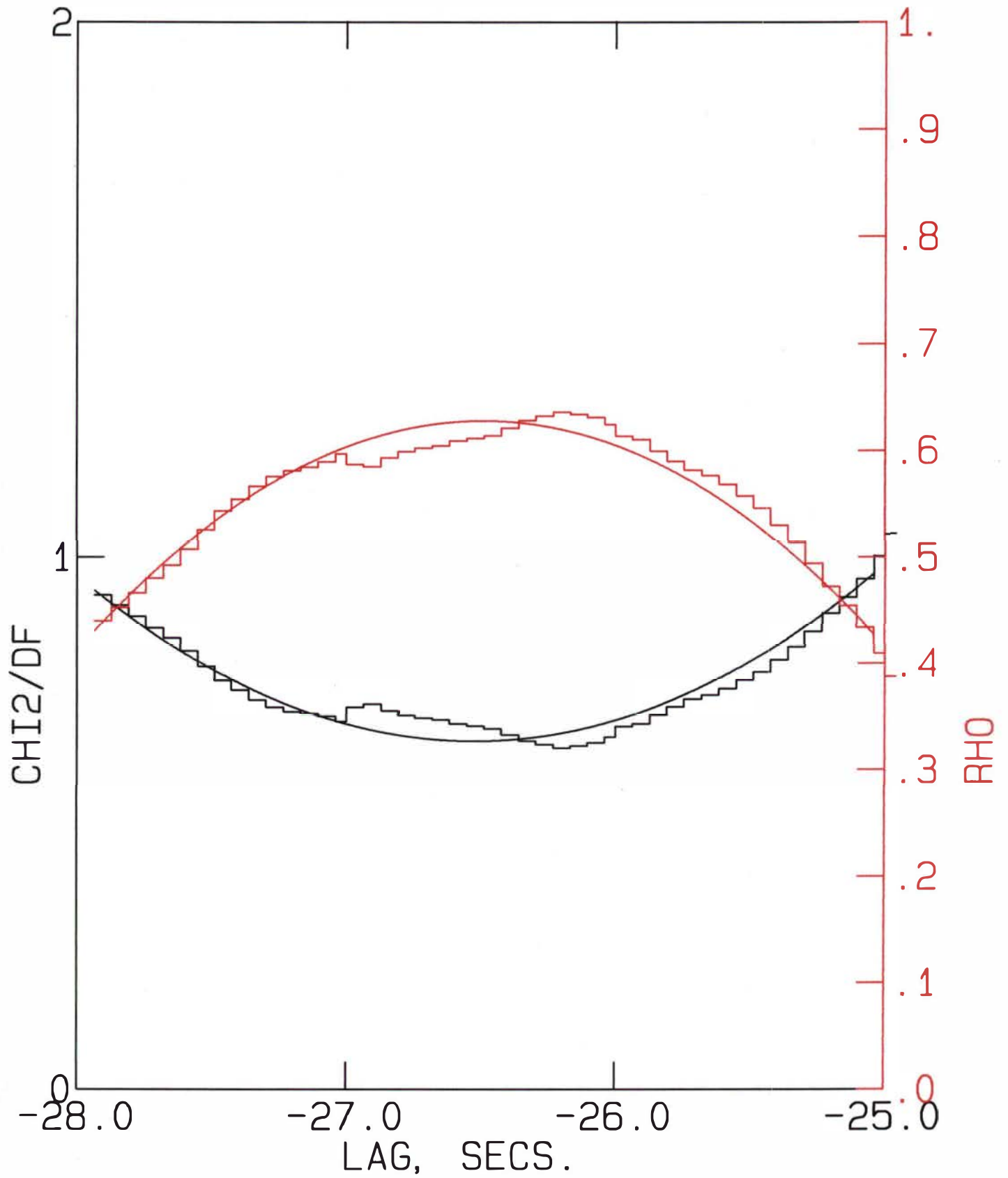
DECLINATION







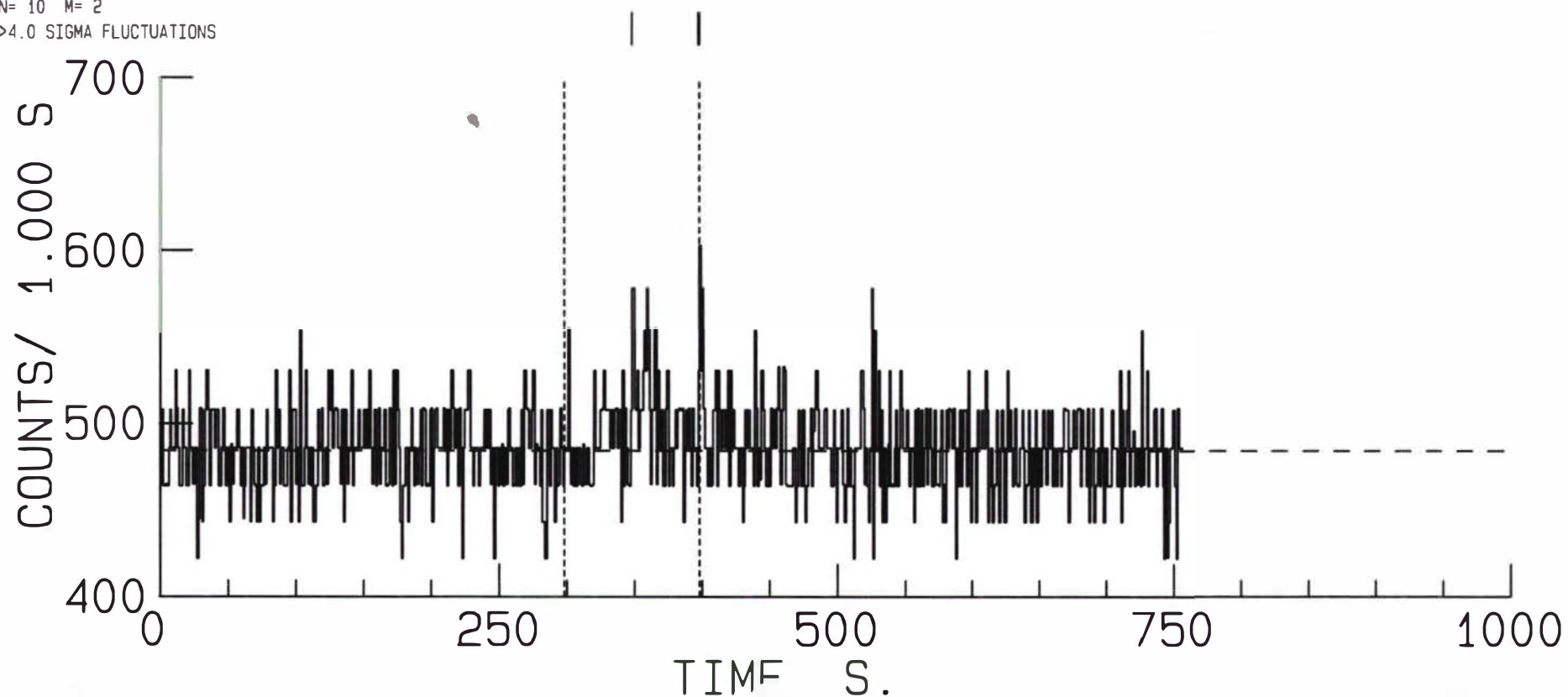




ULYSSES RT
4/10/99 45504.353 s
0.500 S INTERVALS REGROUPED BY 2
22- 151 keV

2 / 5 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

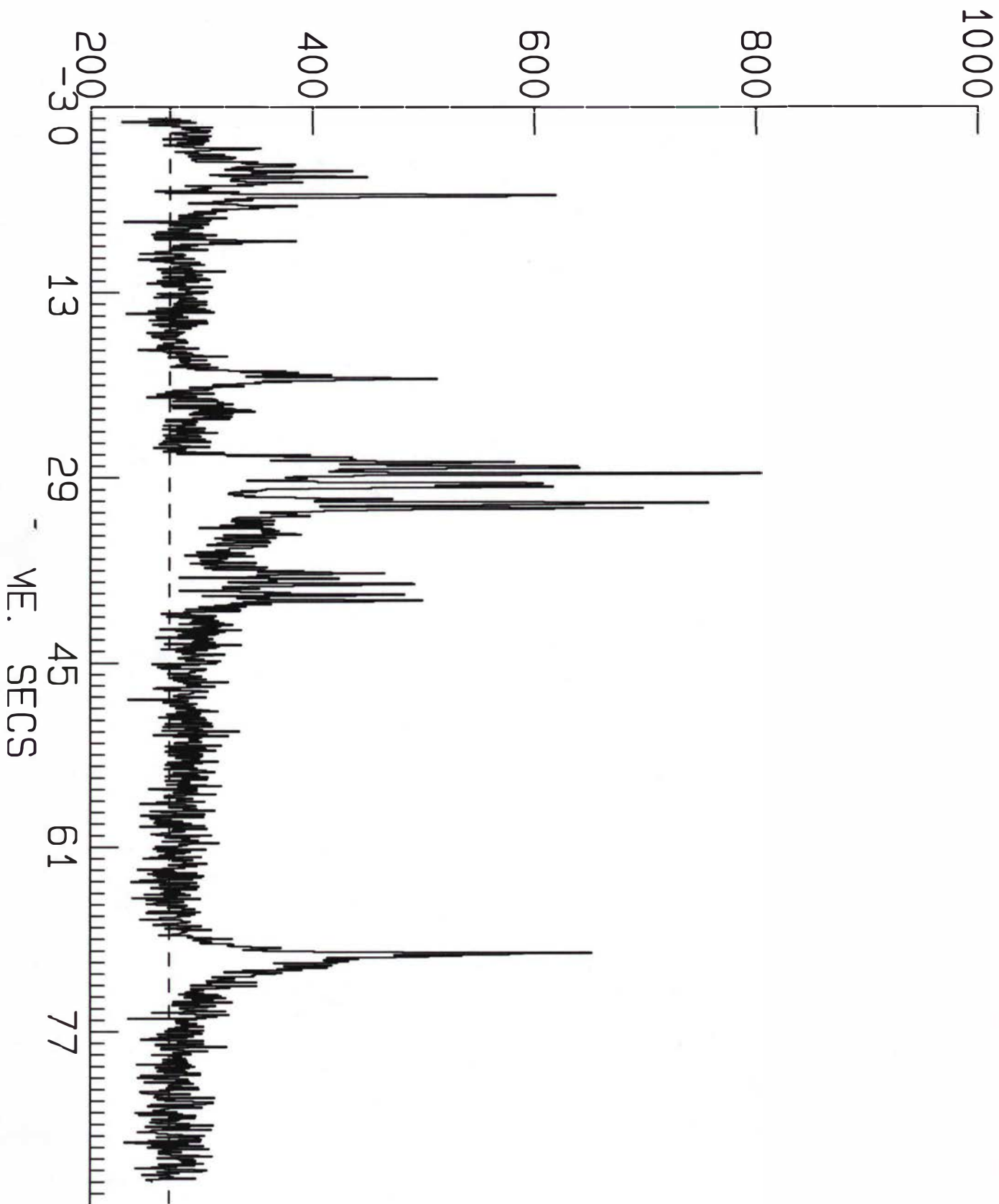
04/10/99

47660.793

100-1000 keV

COUNTS/0.064 S

28/10/99



BATSE

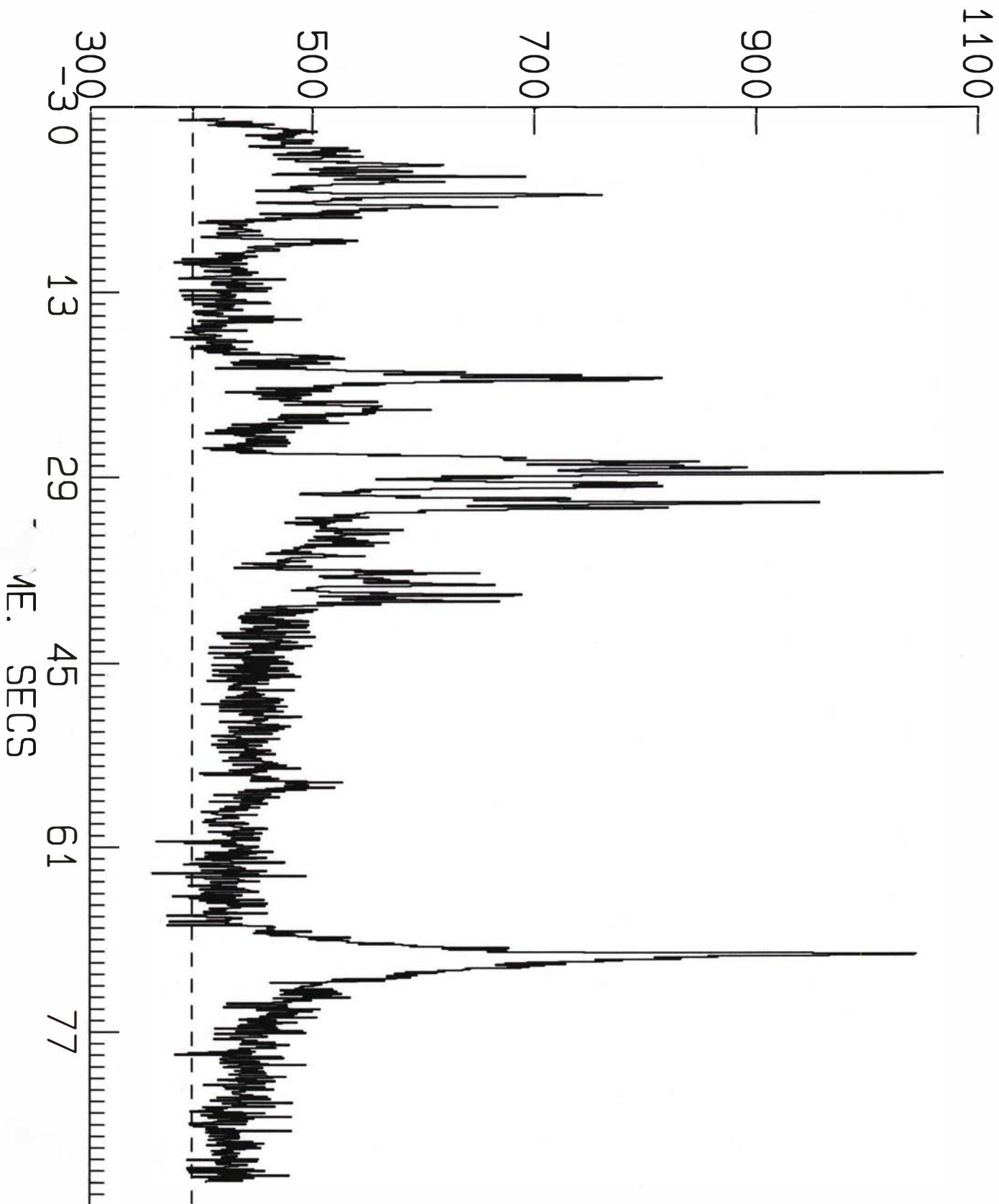
04/10/99

47660.793

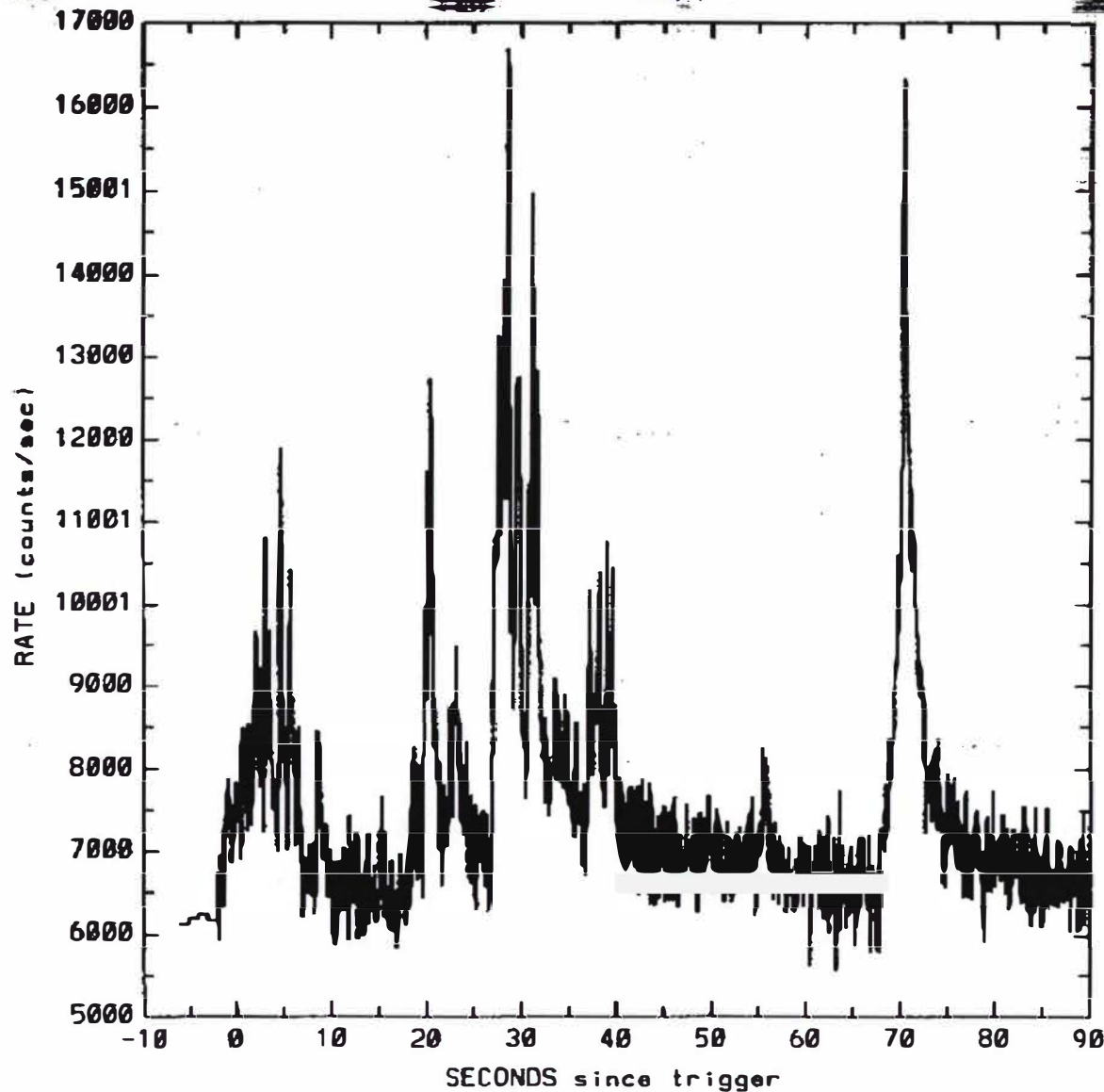
25- 100 keV

COUNTS/0.064 S

28 / 10 / 99



DISCSC Data K. Hurley, No. 7788



18-OCT-1999 13:35:45

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

Trigger = 7788

Trigger Time:
11455 / 47668.793

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

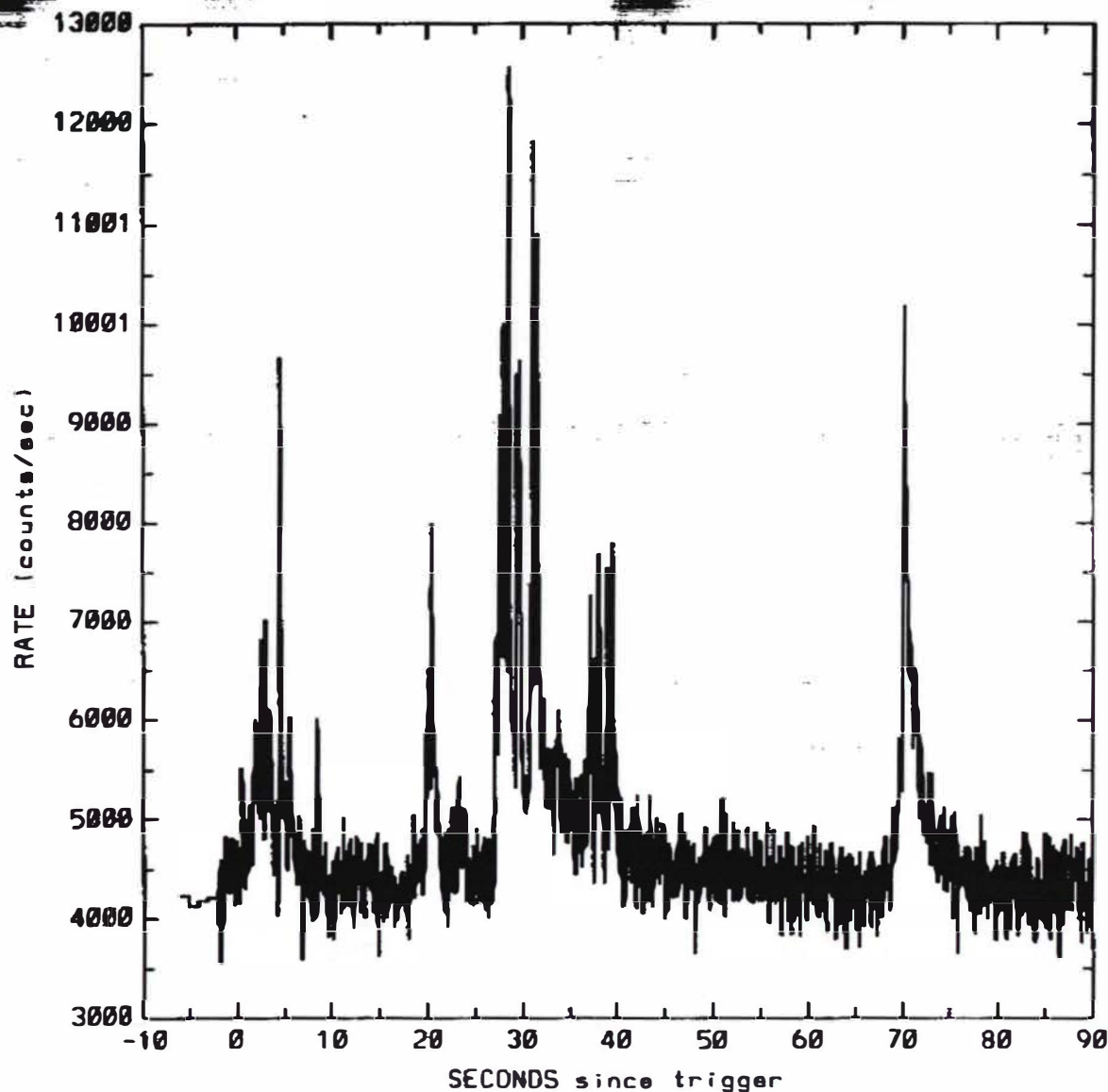
Minimum Integ. Time:
0.064 seconds

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

Discriminators:
1 1 . 2 1

Quality Mask:
B0ISP1

DISCSC Data for K. H. Ray, No. 7788



18-OCT-1999 13:38:36

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

Trigger = 7788

Trigger Time:
11455 / 47660.793

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

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

Discriminators:
1 3 . 4 1

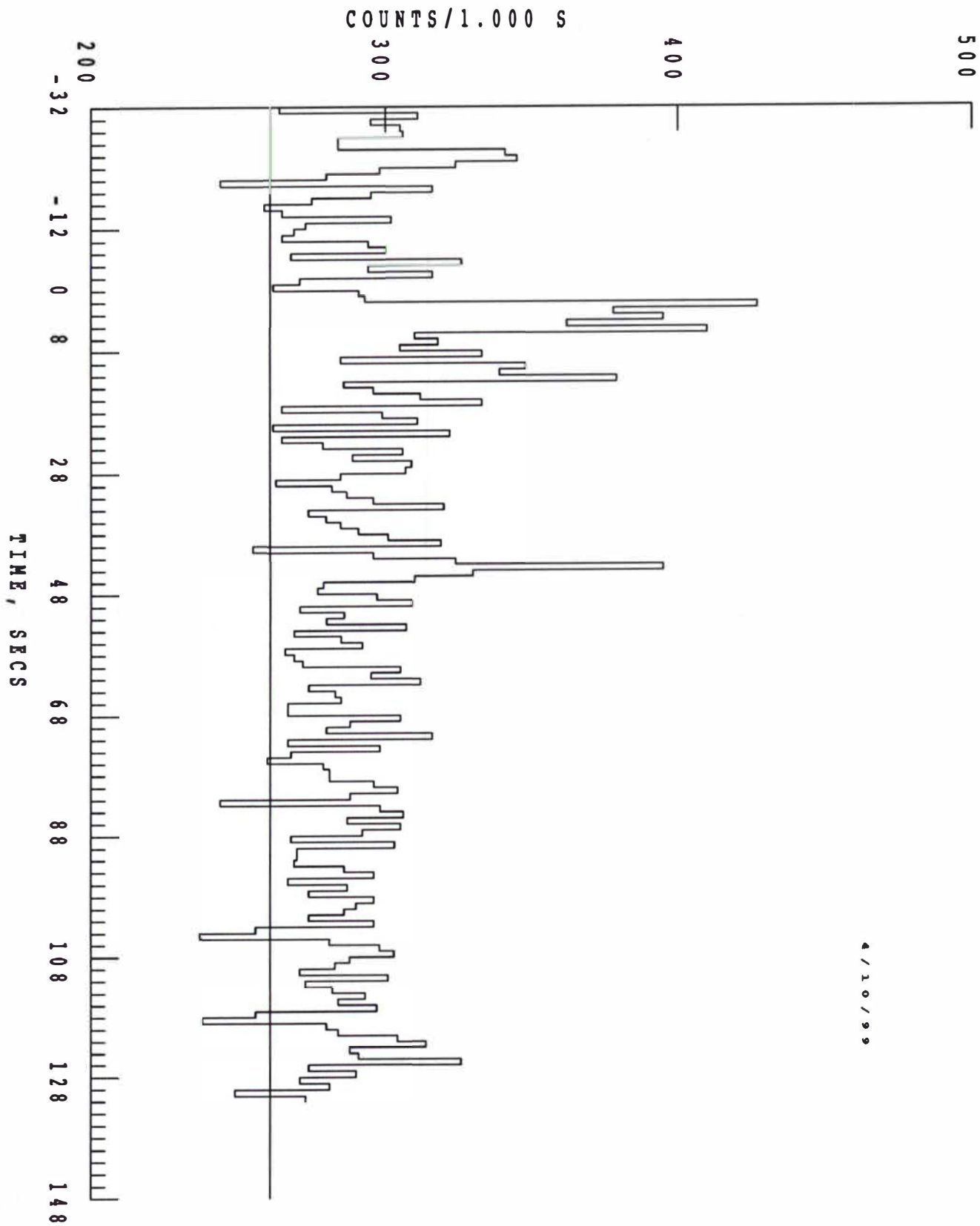
Quality Mask:
BDISP1

NEAR

04/10/99

47115.451

100-1000 keV



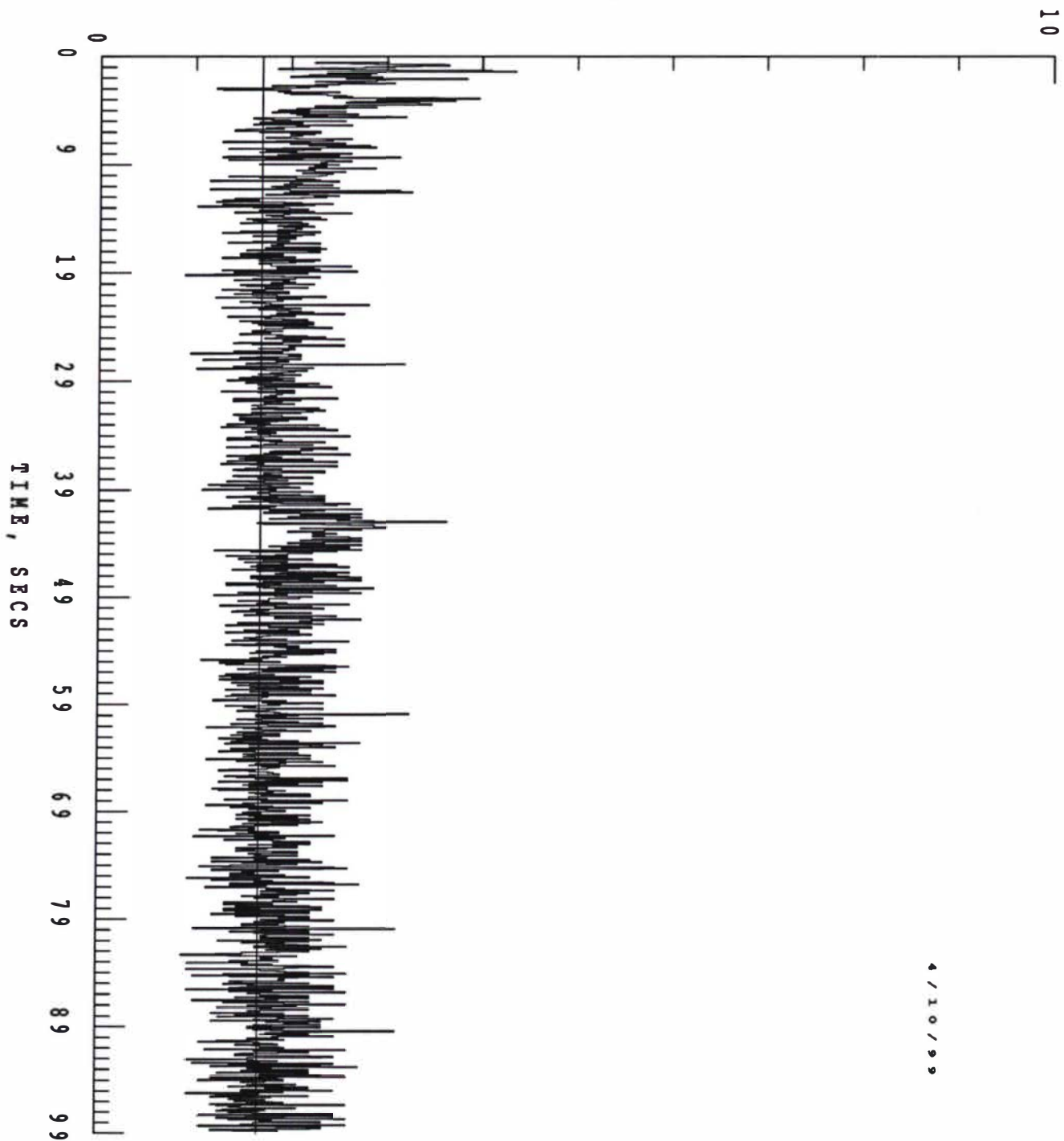
KONUS

04/10/99

47688.816

50- 200 keV

COUNTS/0.064 S



4 / 10 / 99

Date: Jul 5 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *Too weak*

- ☐ 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

- ☒ $3\Delta t$'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?

IPN box inconsis. w. GRBM circle; "other" circle added

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

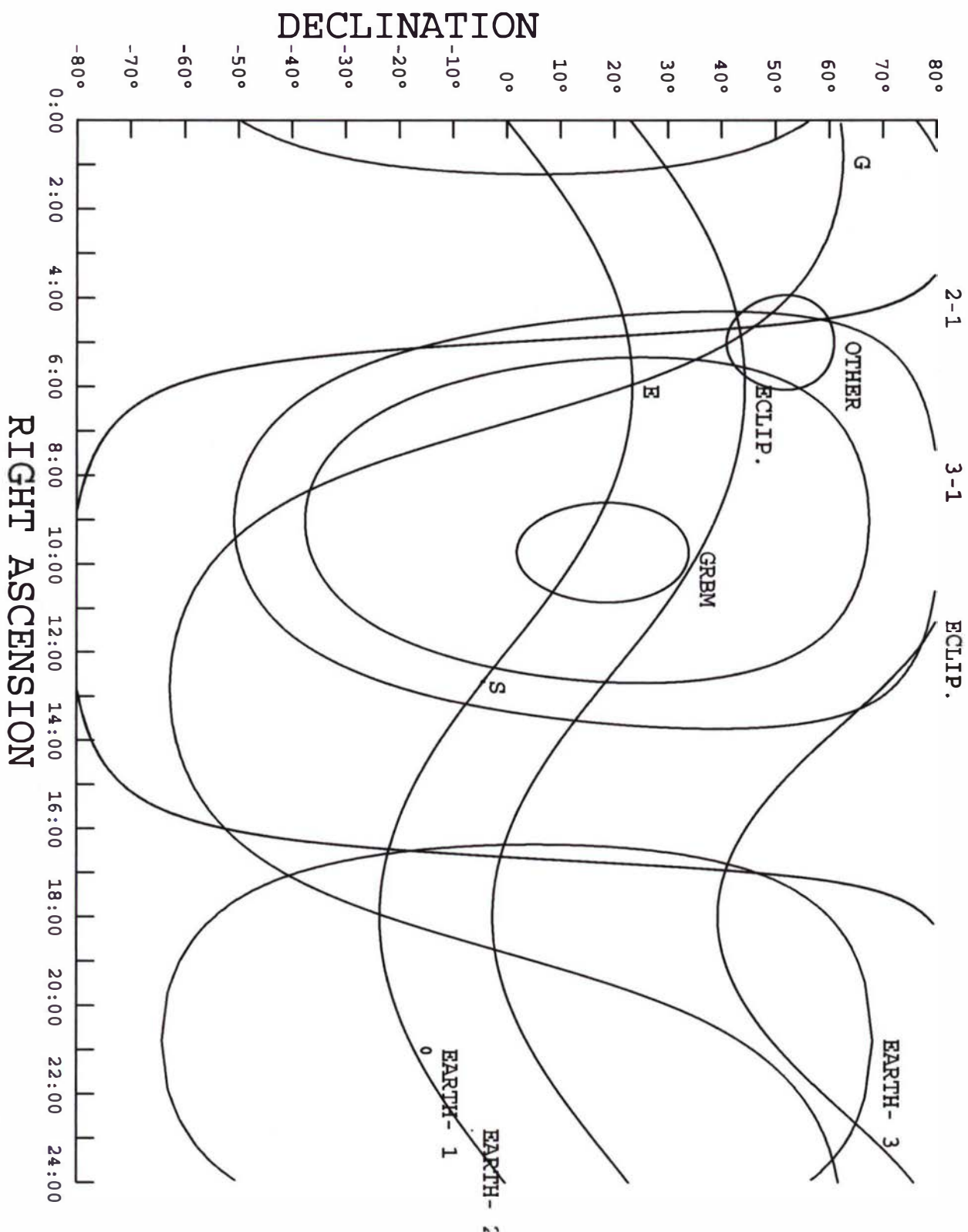
1 KONUS2

2 NEAR

3 SAX

EVENT OF OCT 4, 1999 15:12

27 / 7 / 9



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

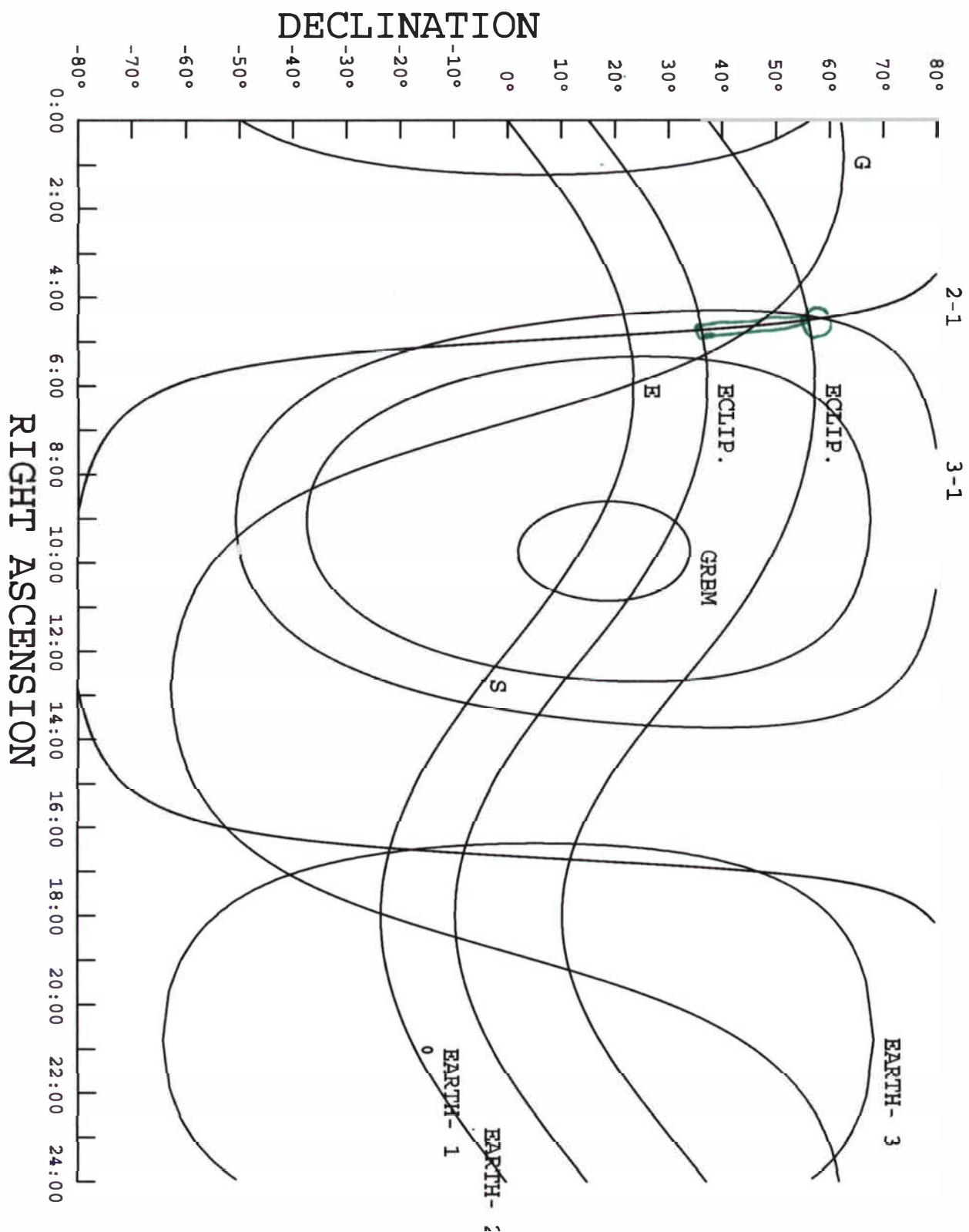
1 KONUS2

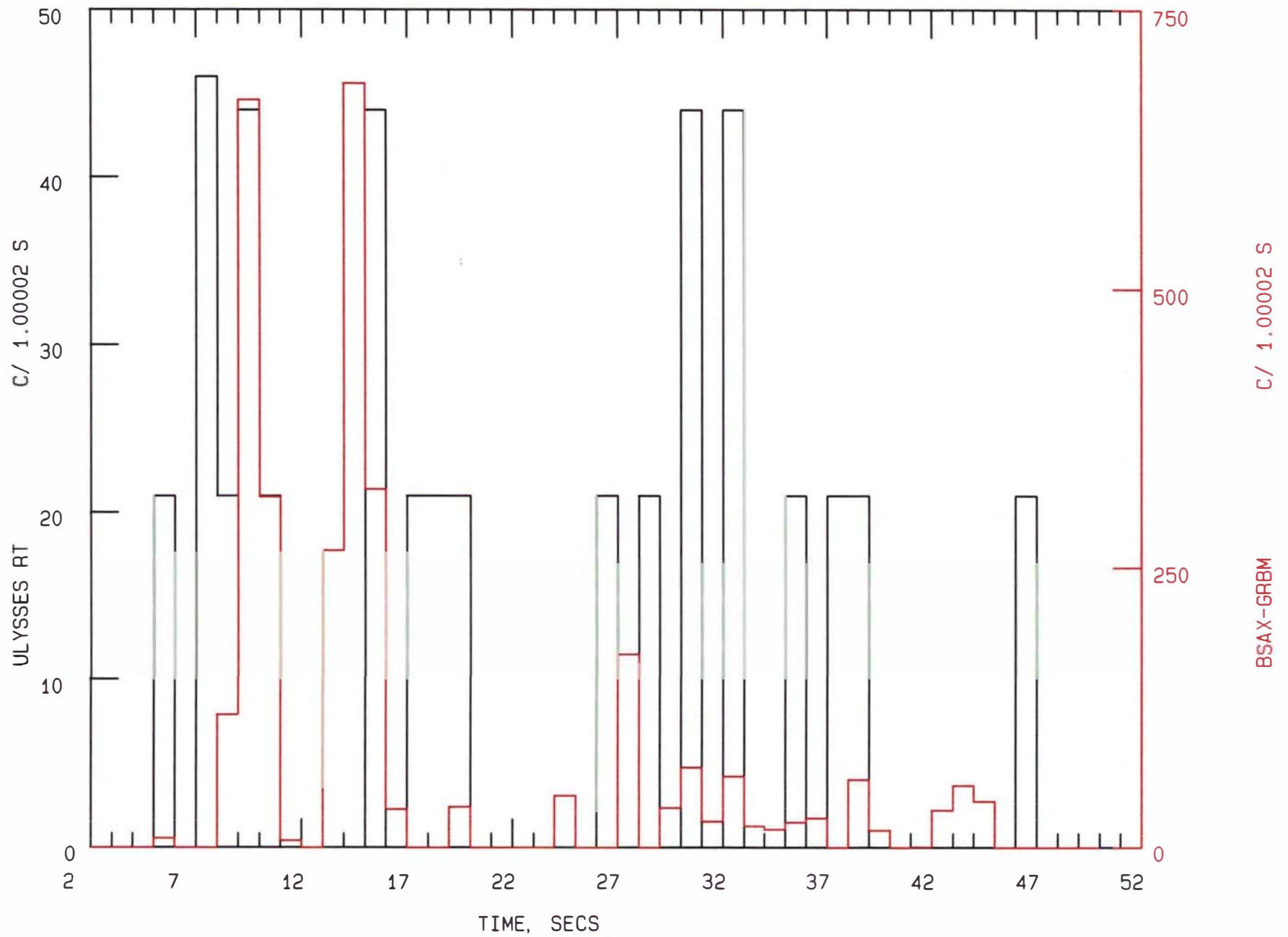
2 NEAR

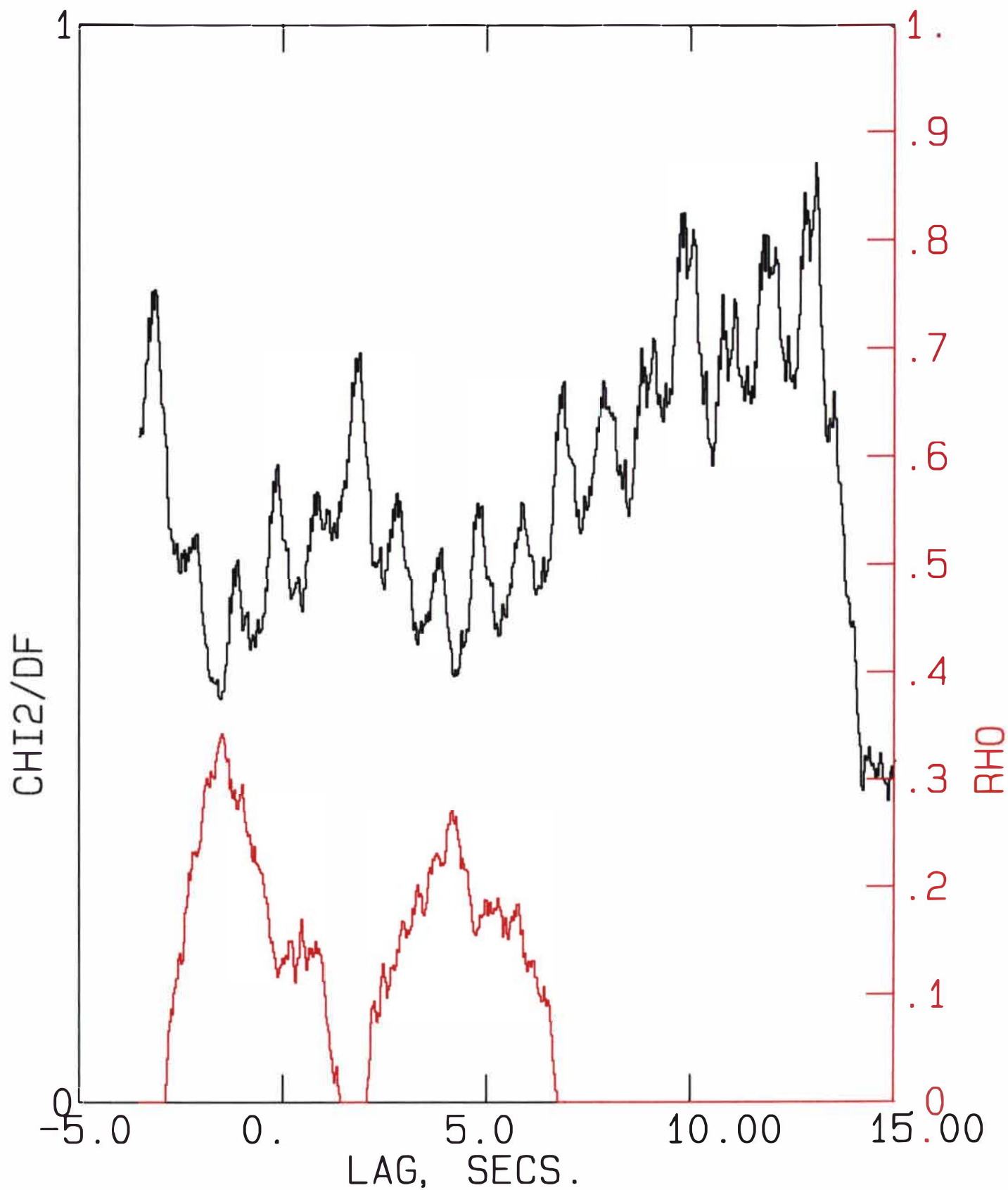
3 SAX

EVENT OF OCT 4, 1999 15:12

5 / 7 / 7







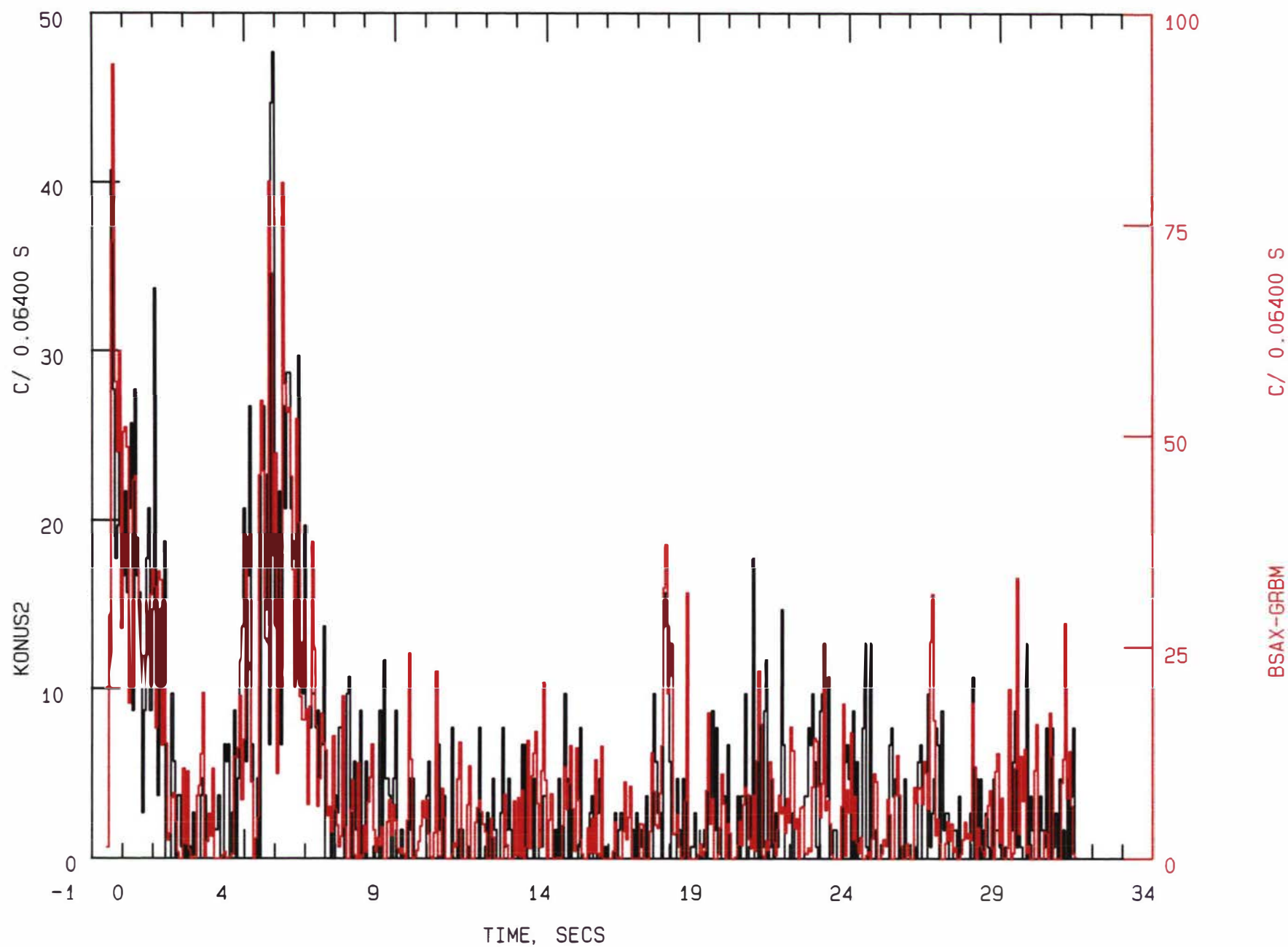
KONUS2

-BSAX-GRBM CORRELATION

04/10/99

54757.118

5/ 7/ 7

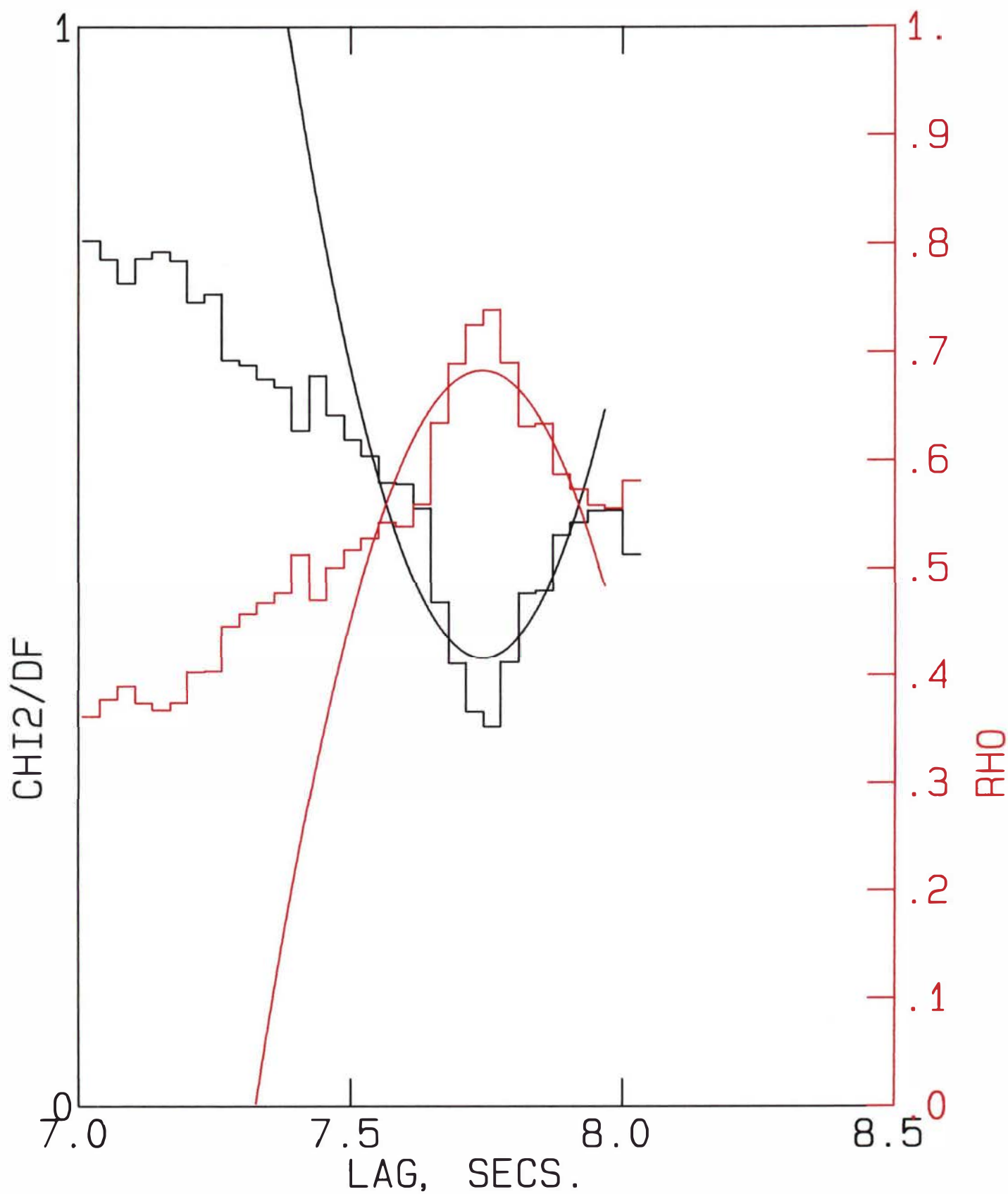


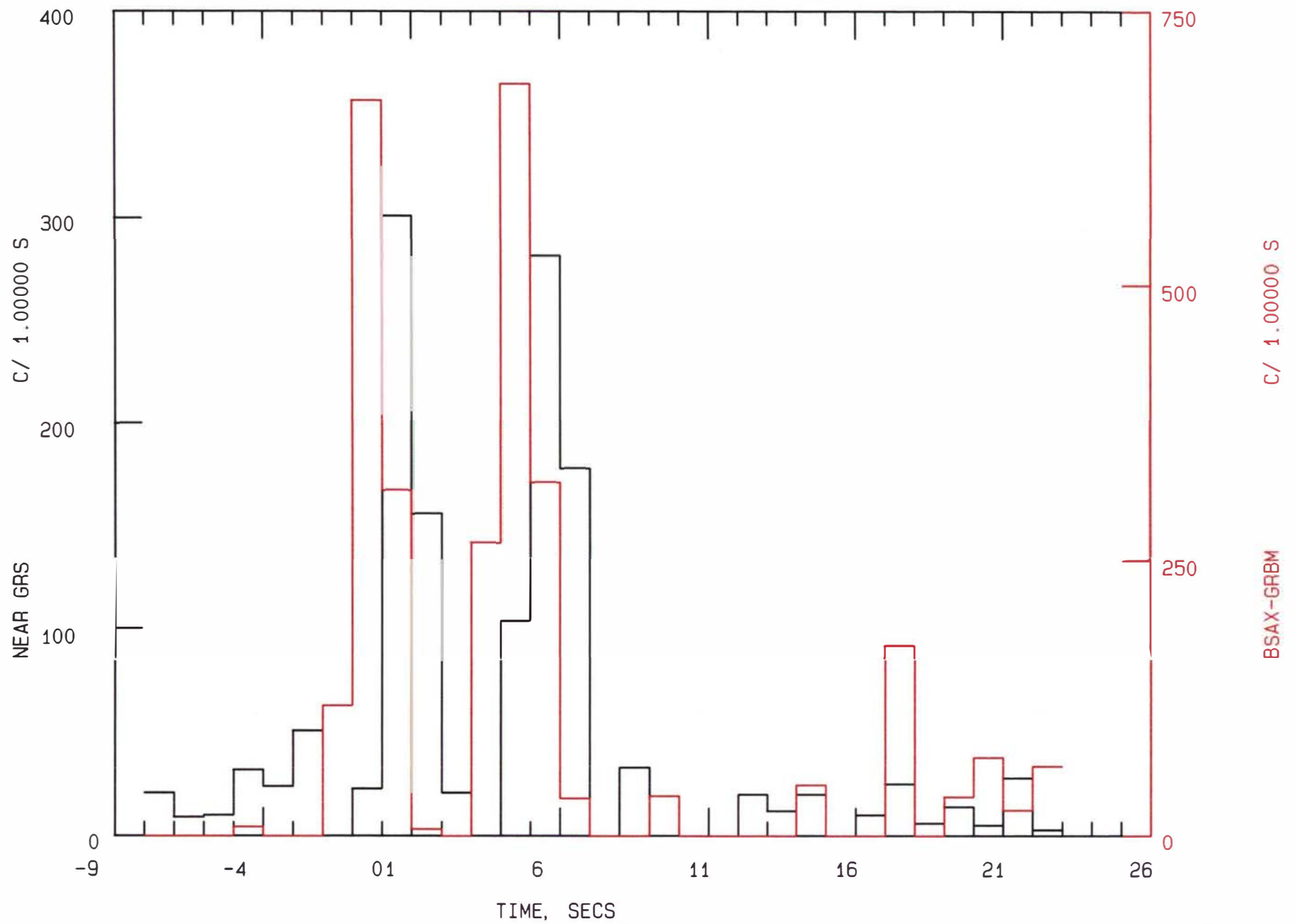
KONUS2

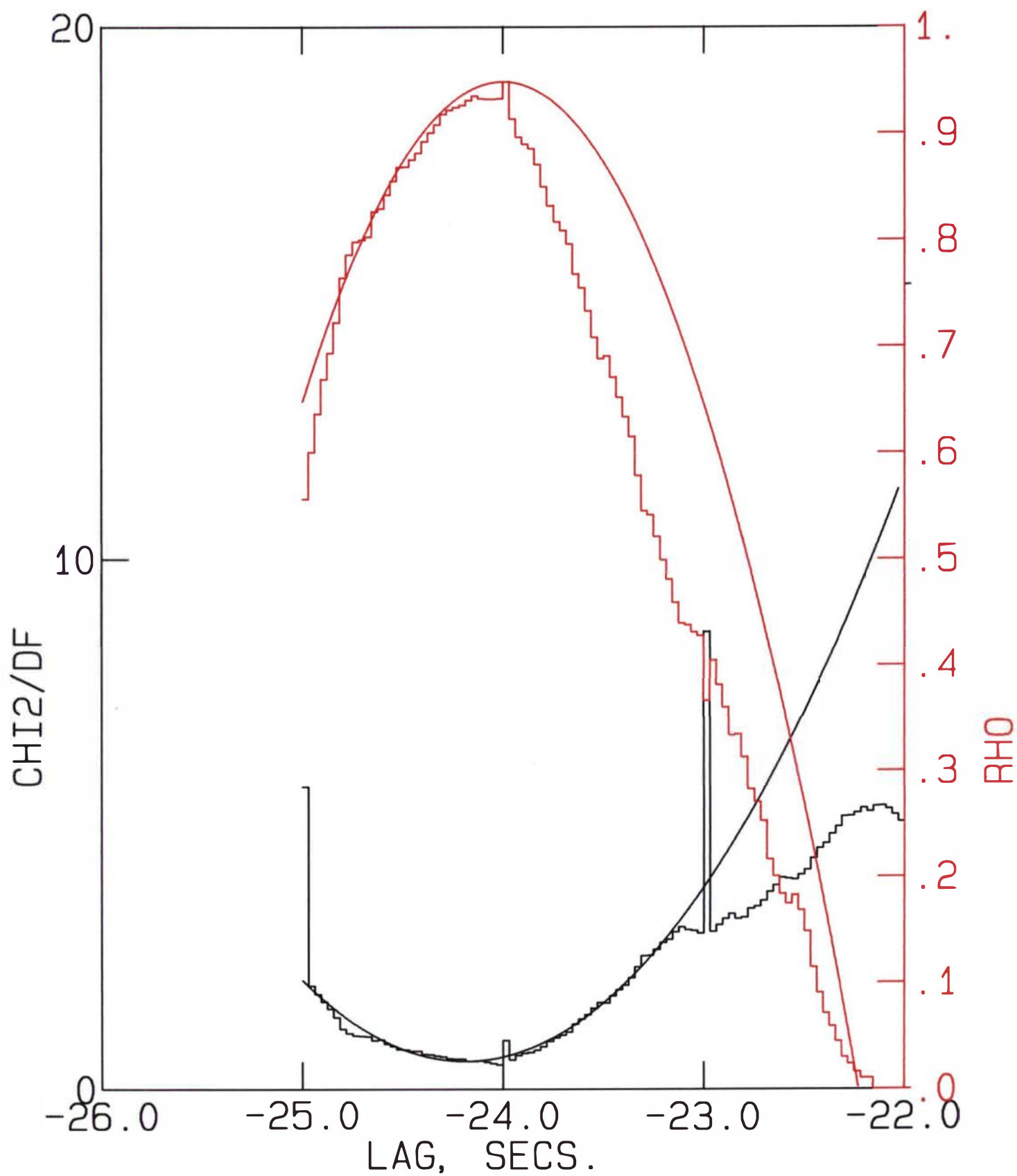
-BSAX-GRBM CORRELATION

04/10/99

54757.118







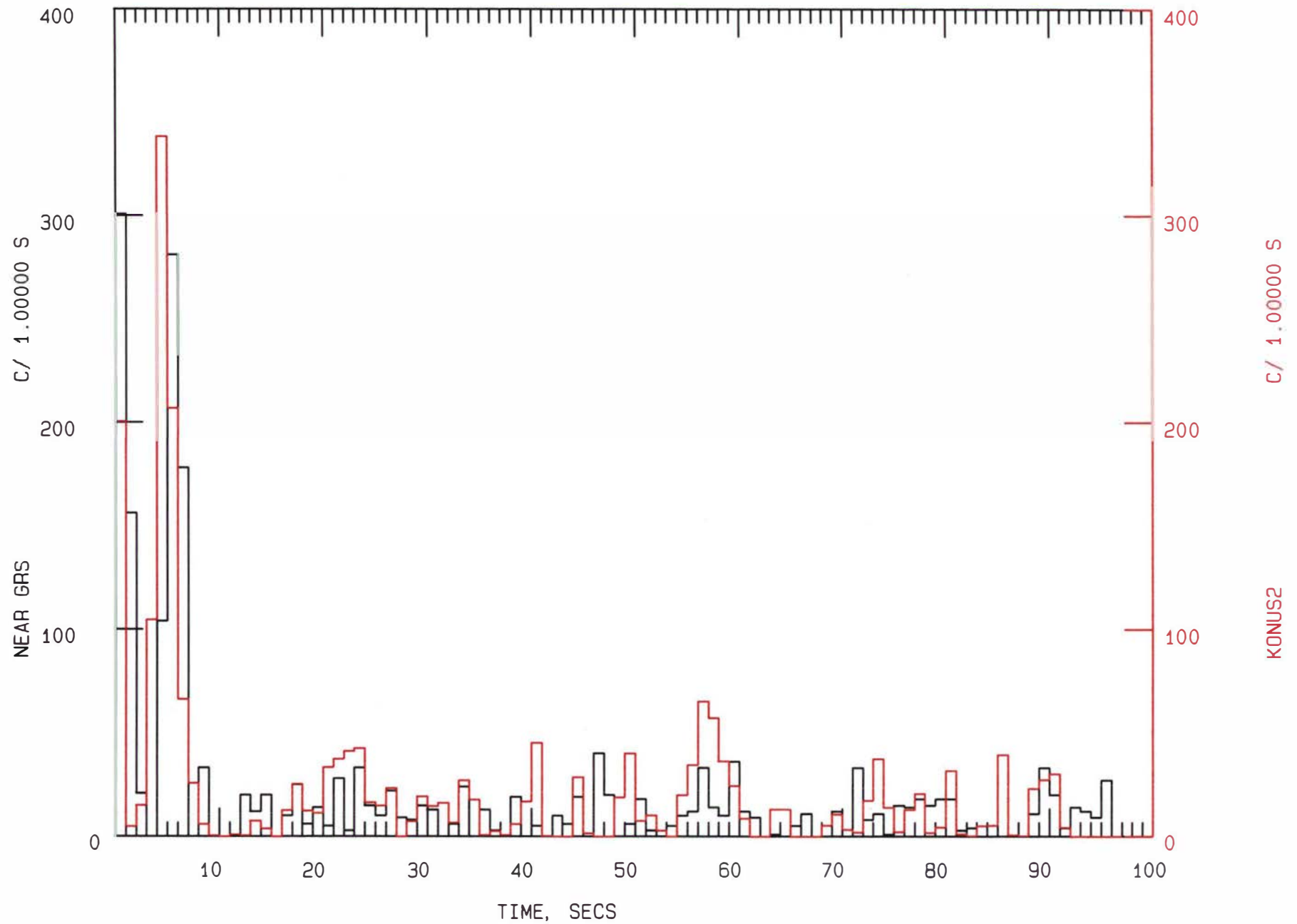
NEAR GRS -KONUS2

CORRELATION

04/10/99

54714.447

5/ 7/ 7

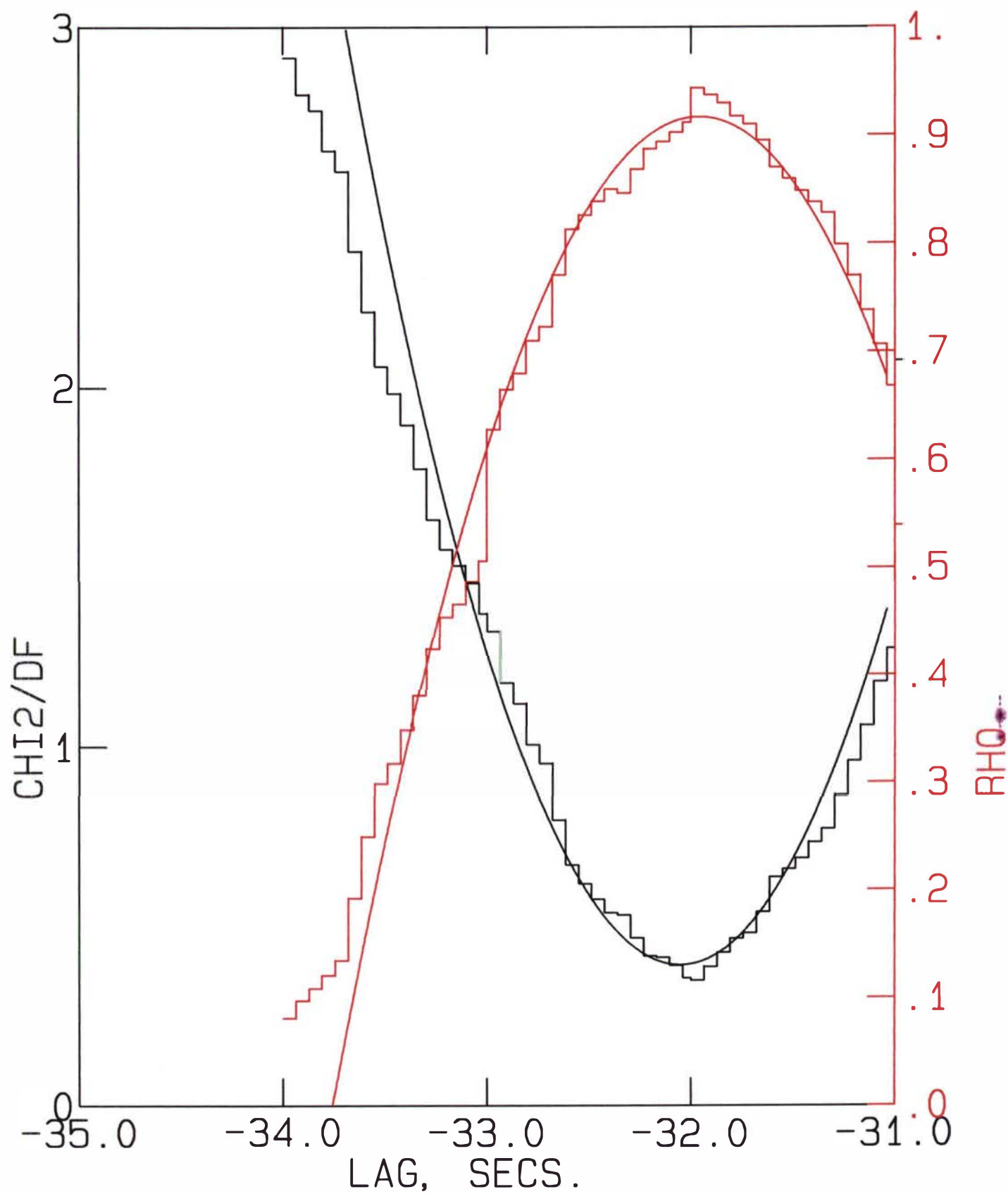


NEAR GRS -KONUS2

CORRELATION

04/10/99

54714.447



grbm 19991004 52740

ULYSSES RT

03/07/07

04/10/99 52308.422 s

0.500 S INTERVALS REGROUPED BY 2

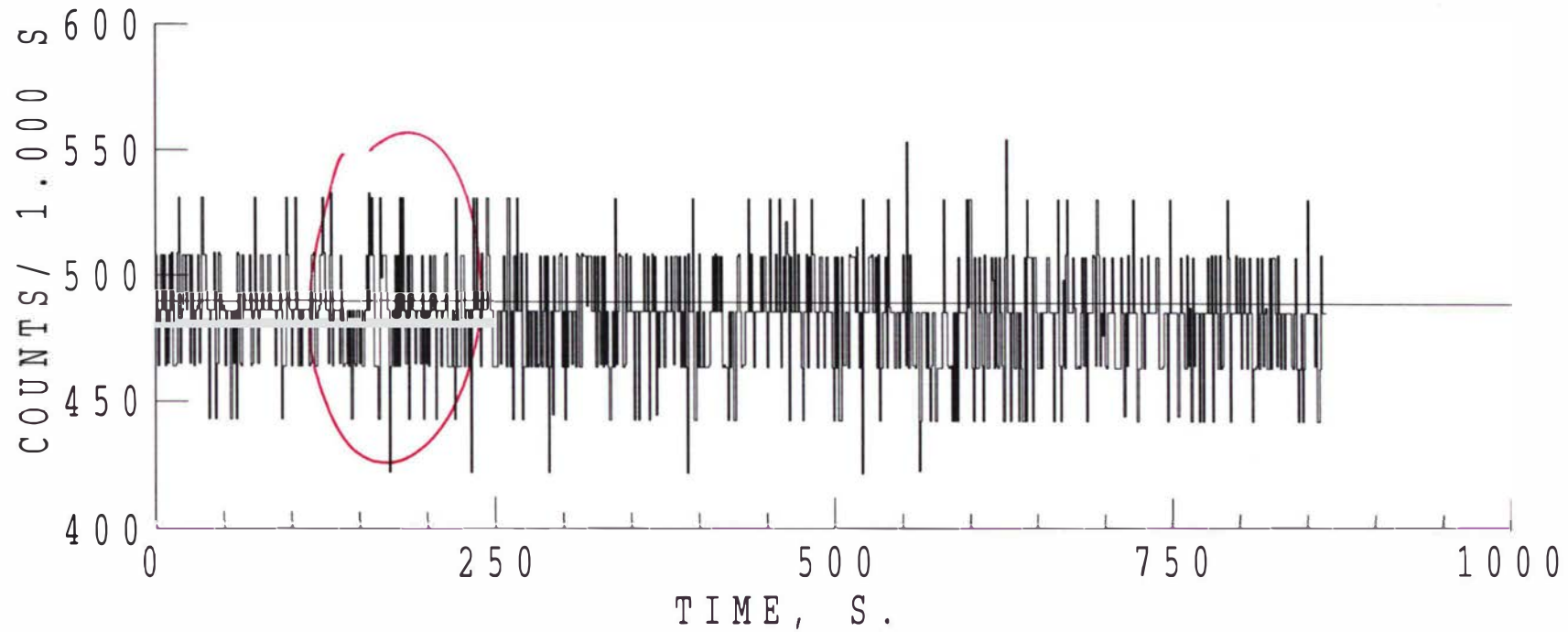
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



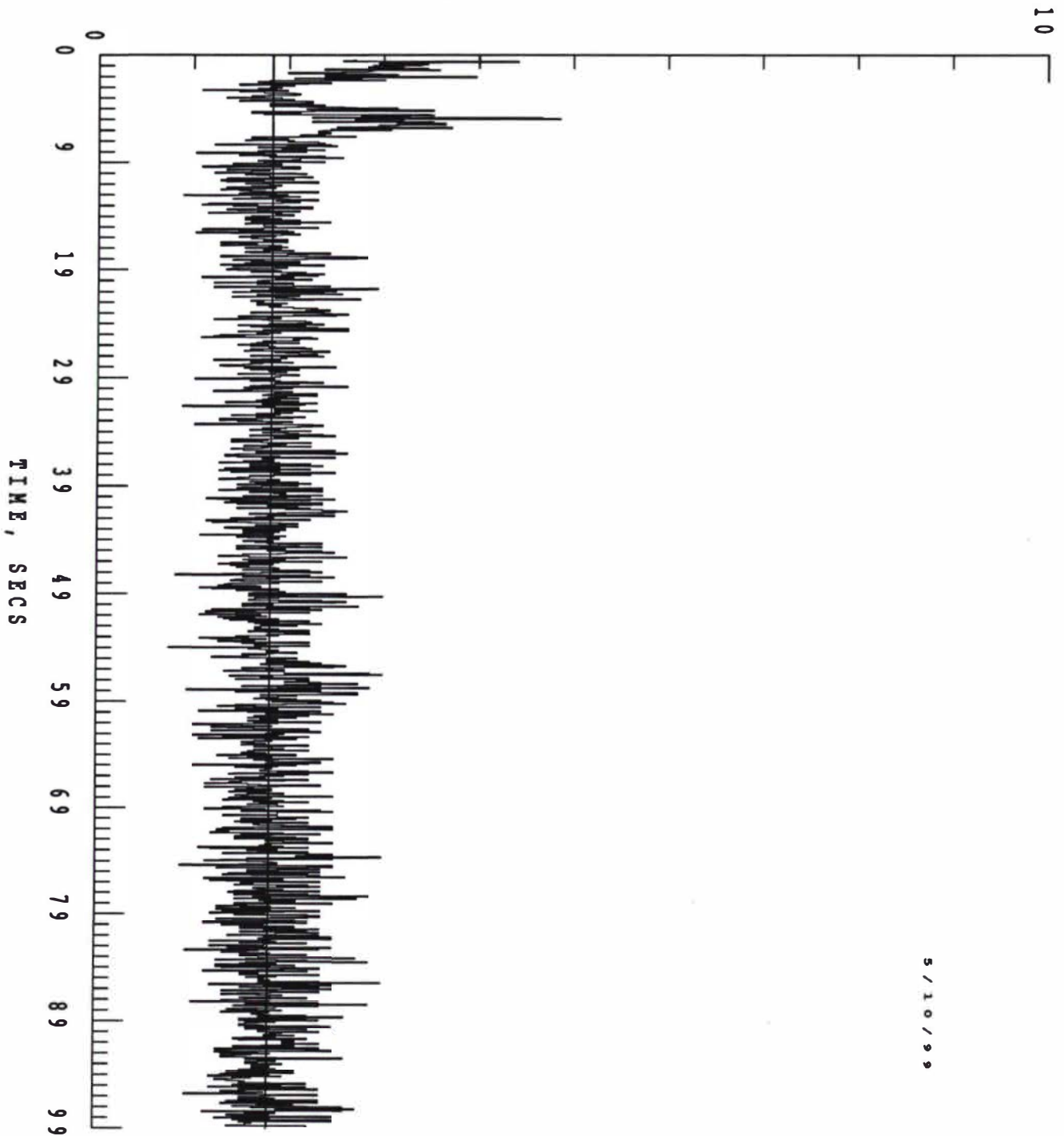
KONUS

04/10/99

54757.118

50 - 200 keV

COUNTS/0.064 S

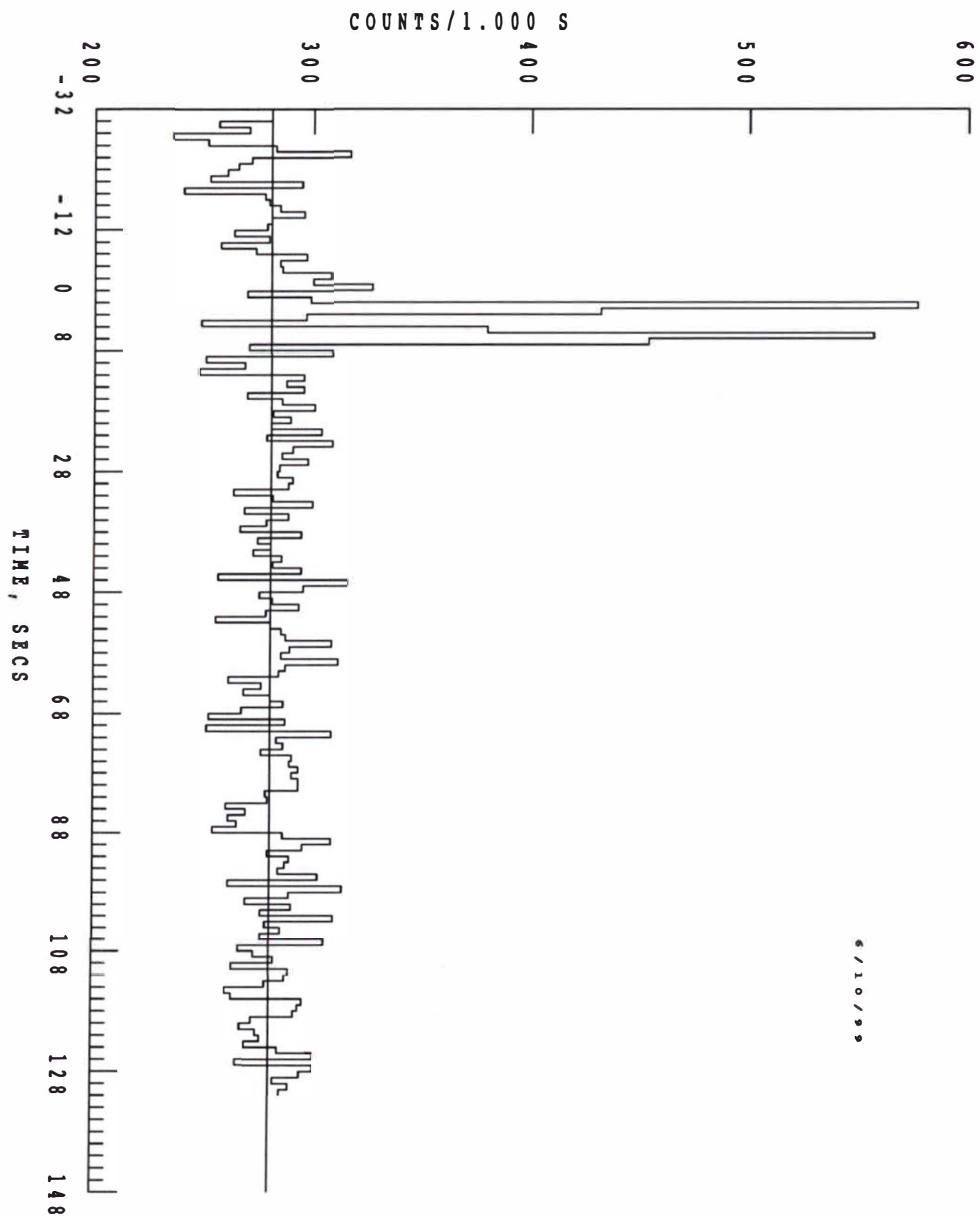


NEAR

04/10/99

54714.447

100-1000 keV

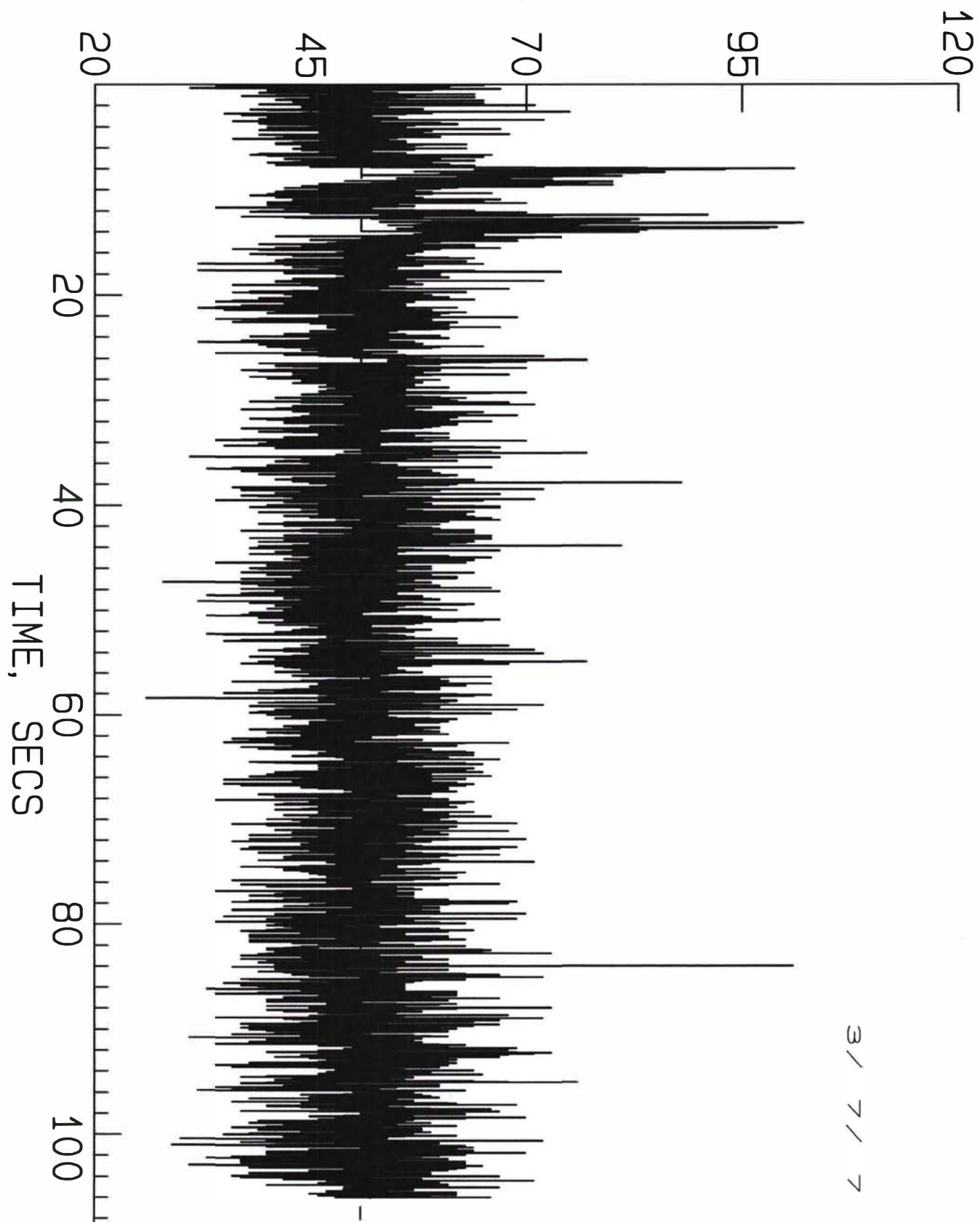


SAX GRBM

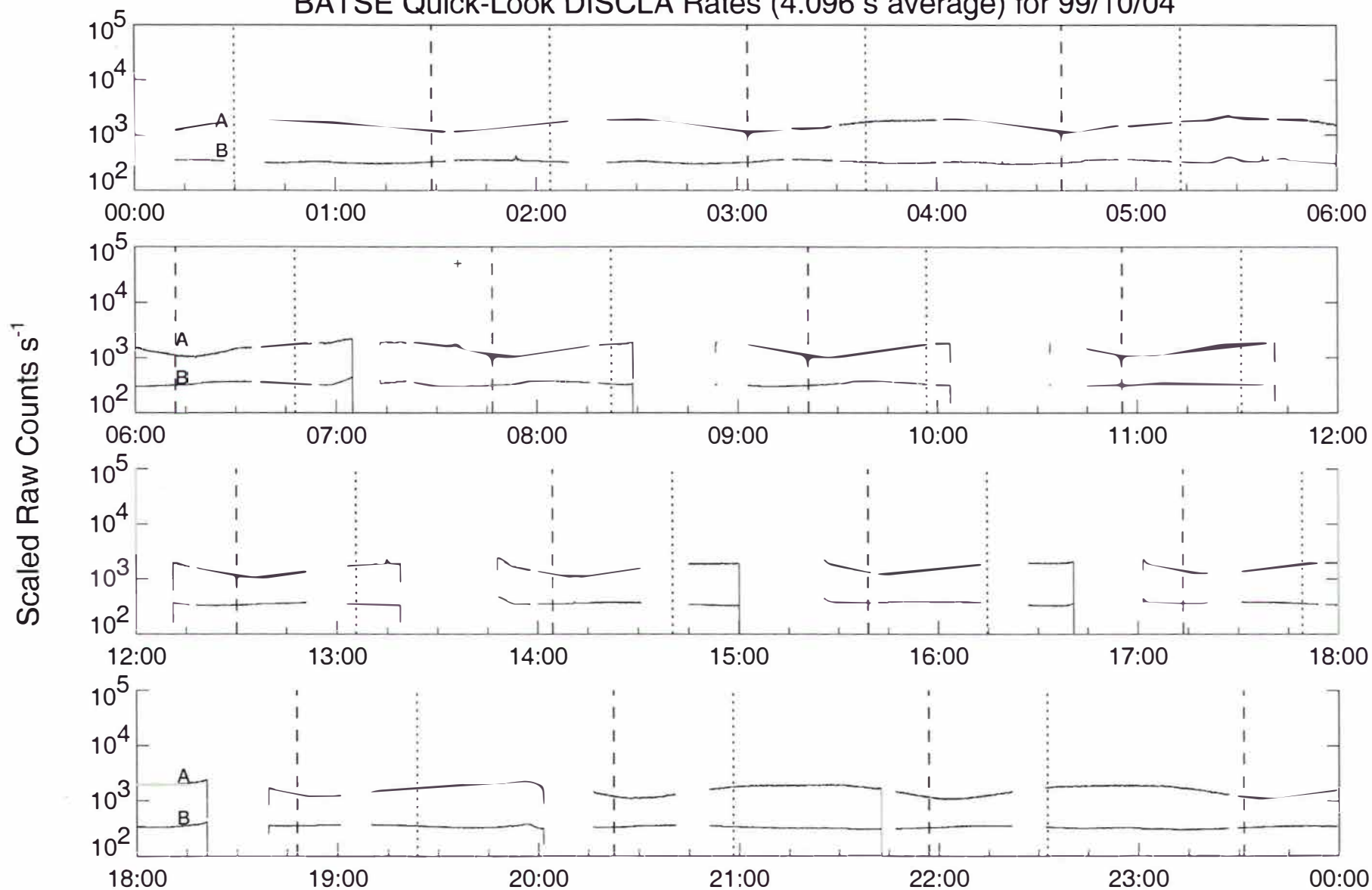
04/10/99 54749.534

40- 700 keV

COUNTS/0.031 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/04

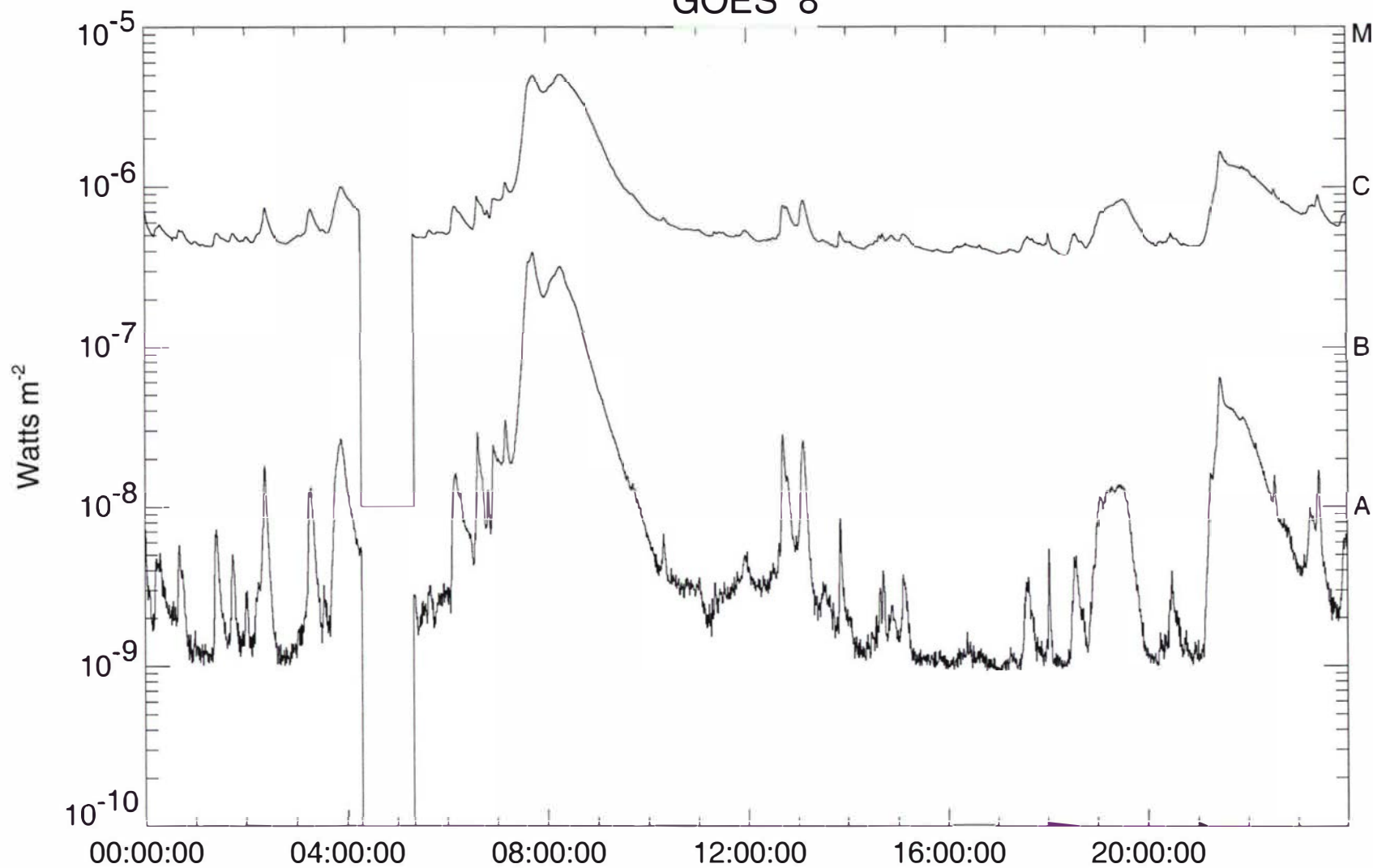


Current Time: 99/10/18, 2324 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/04, 0000:00

Plot created: 99/10/18, 2323

Channel

1 (1.0 - 8.0 Angstroms)

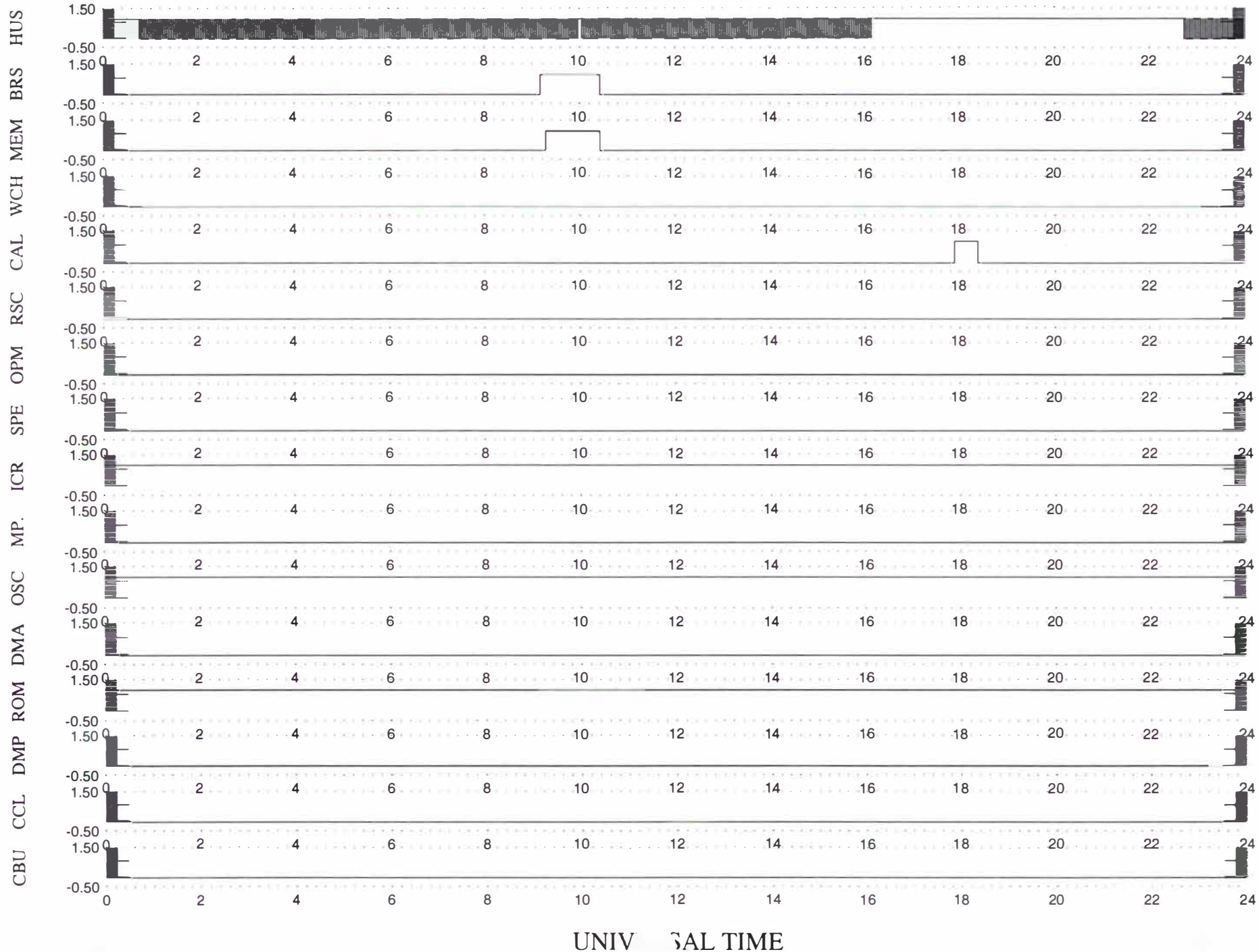
Background not subtracted

2 (0.5 - 4.0 Angstroms)

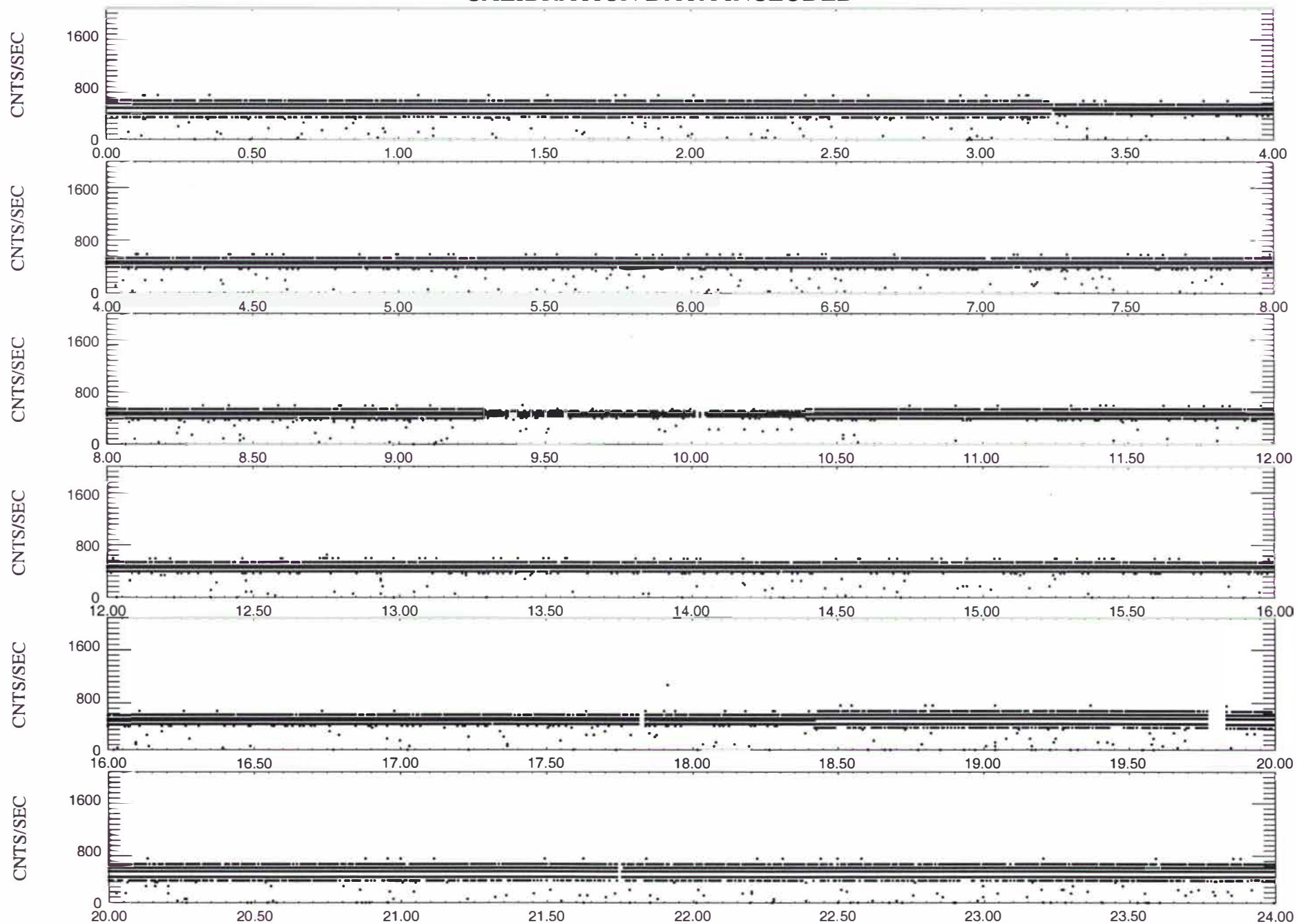
Background not subtracted

Sample average = 10

BURST NUMBER 9

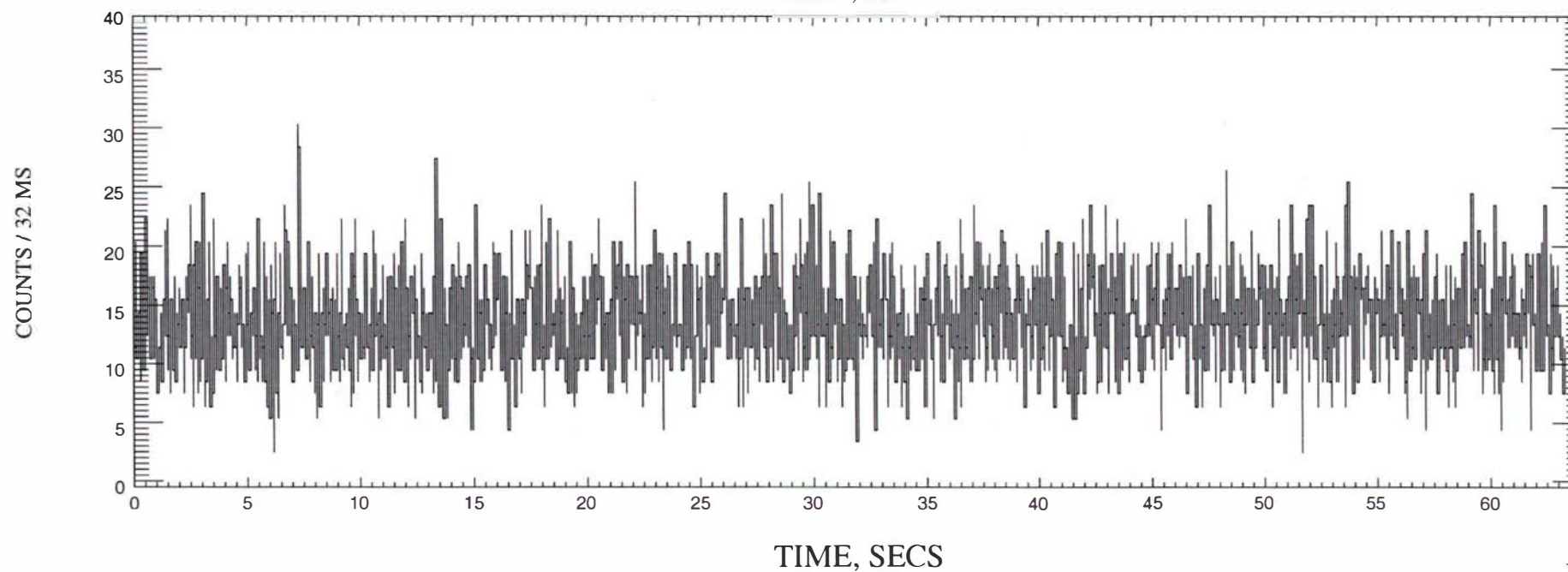
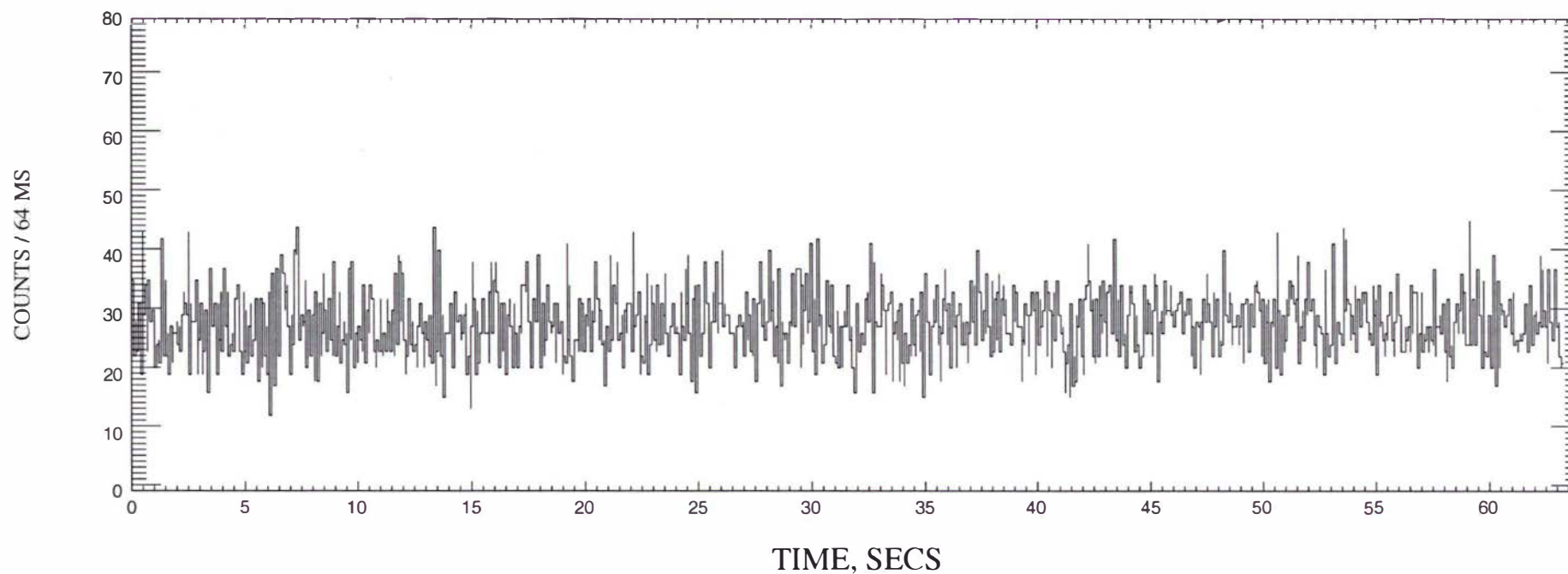


CALIBRATION DATA INCLUDED

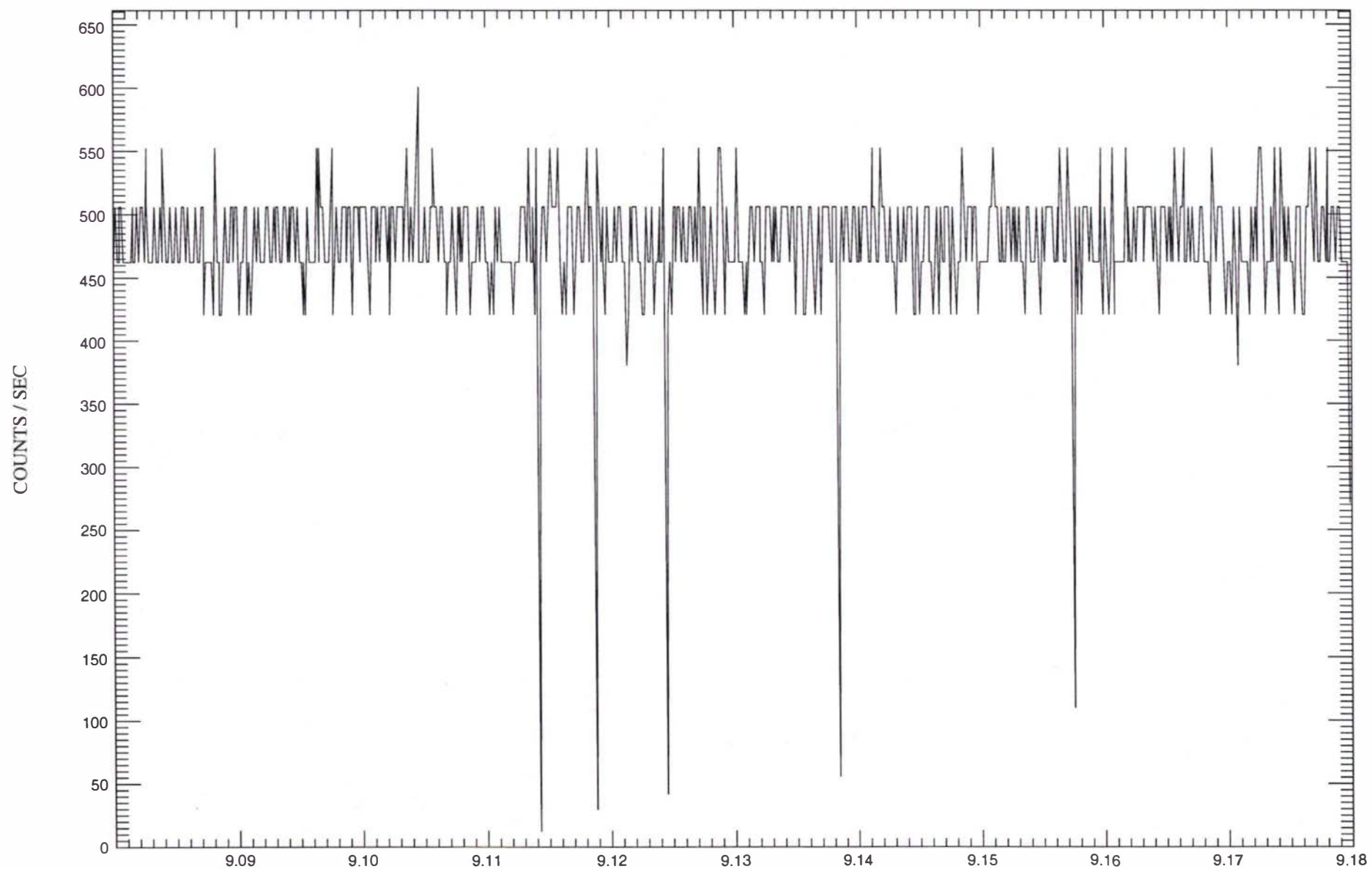


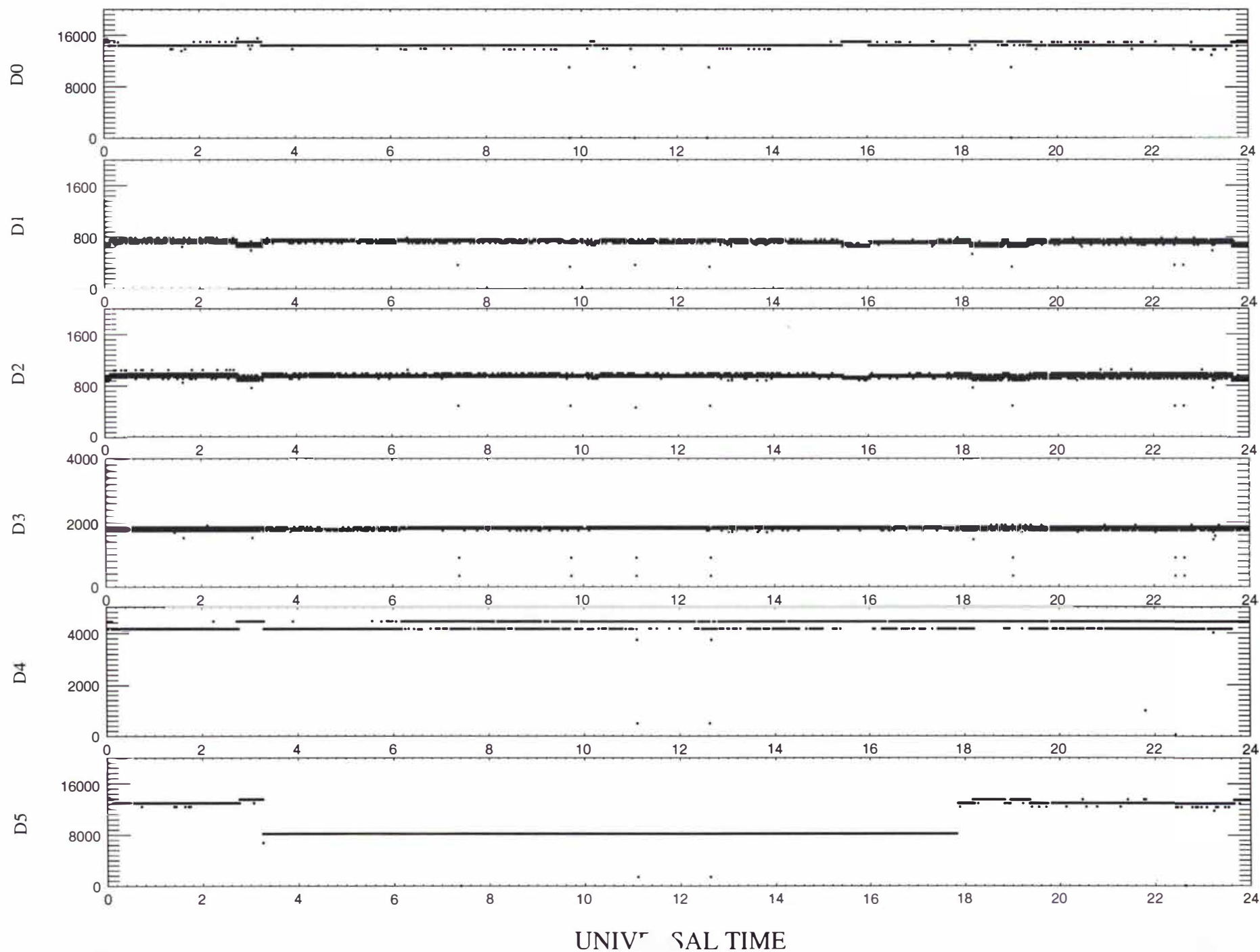
UNIV SAL TIME

Burst Counter 9 at UT= 9.129192827013 h=32865.094 s 09:07:45.094



CALIBRATION DATA INCLUDED





From GOGUSE@fender.msfc.nasa.gov Thu Oct 7 10:59 PDT 1999
From: GOGUSE@fender.msfc.nasa.gov
Date: Thu, 7 Oct 1999 13:01:10 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7789

No
Too weak

BATSEARCH PROGRAM

BATSE BURST # 7789
EVENT OF 1999 OCT 1 DAY OF YEAR=274
EVENT CROSSING TIME AT BATSE : 12592. S. OR 03:29:52.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 48.000 -73.000
BATSE PEAK COUNTING RATE: 24000 C/S

Probably on the 5th - this is the date
in the current catalog

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/10/ 99 IS:
RA= 159.811 DEC= -16.797 DIST= 5.348 AU
BATSE-ULYSSES DISTANCE = 800073148. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -459.97 SECS.
CROSSING TIME AT ULYSSES IS 12132. S. OR 03:22:12 +/- 499.42 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/10/ 99 IS:
RA= 257.477 DEC= -24.764 DIST= 1.355 AU
MARS-BATSE DISTANCE = 202781520. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.76 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -114.62 SECS.
CROSSING TIME AT MARS IS 12477. S. OR 03:27:57 +/- 114.00 SECONDS

BATSE BURST TRIGGER

NO.: 7789

TIME: TJD=1456 SECONDS=12592

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 40.9 AZIMUTH=197.4 ERROR= 4.4 DEGREES

COMMENTS:

GRB, SINGLE SPIKE WITH STRUCTURE, DUR. APPROX. 0.2 S

VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7789	991001	11452	12592	24000	048	-73	.2

BATSE BURST# 7789

ULYSSES RT

17 / 03 / 00

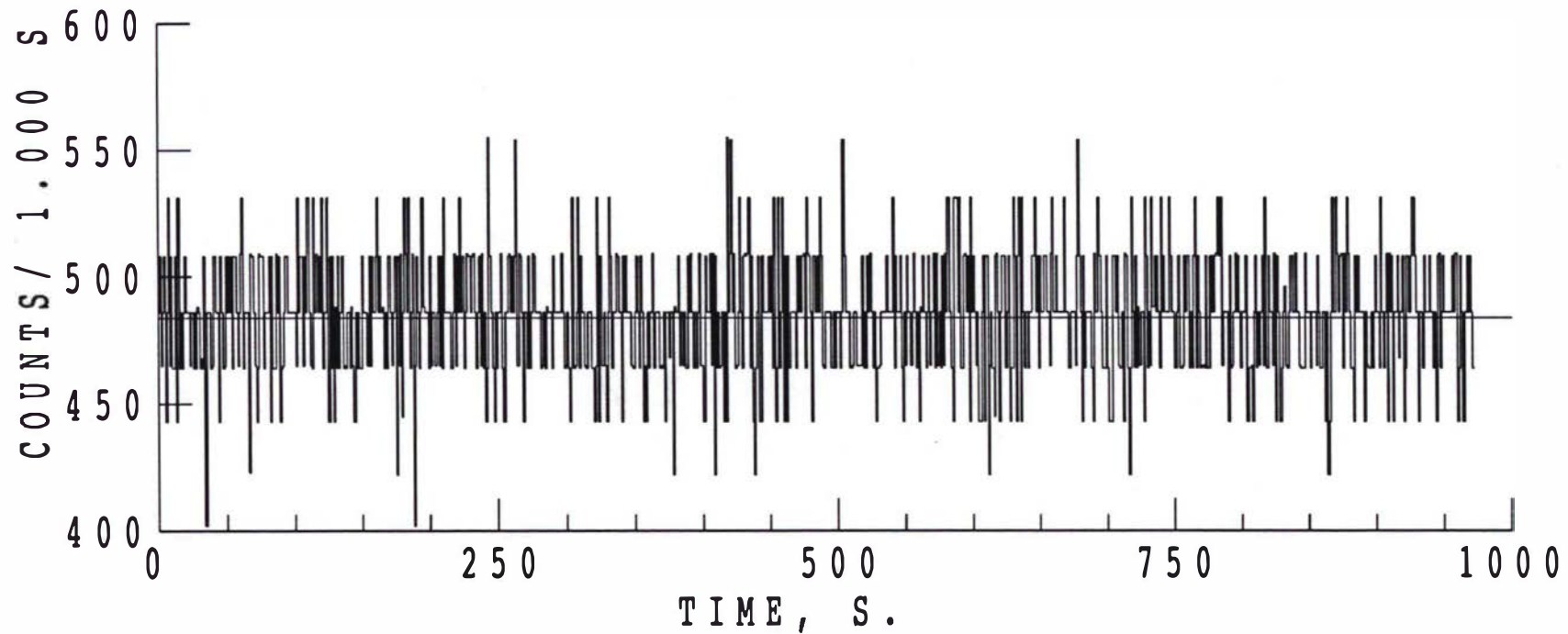
05 / 10 / 99 11628.380 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



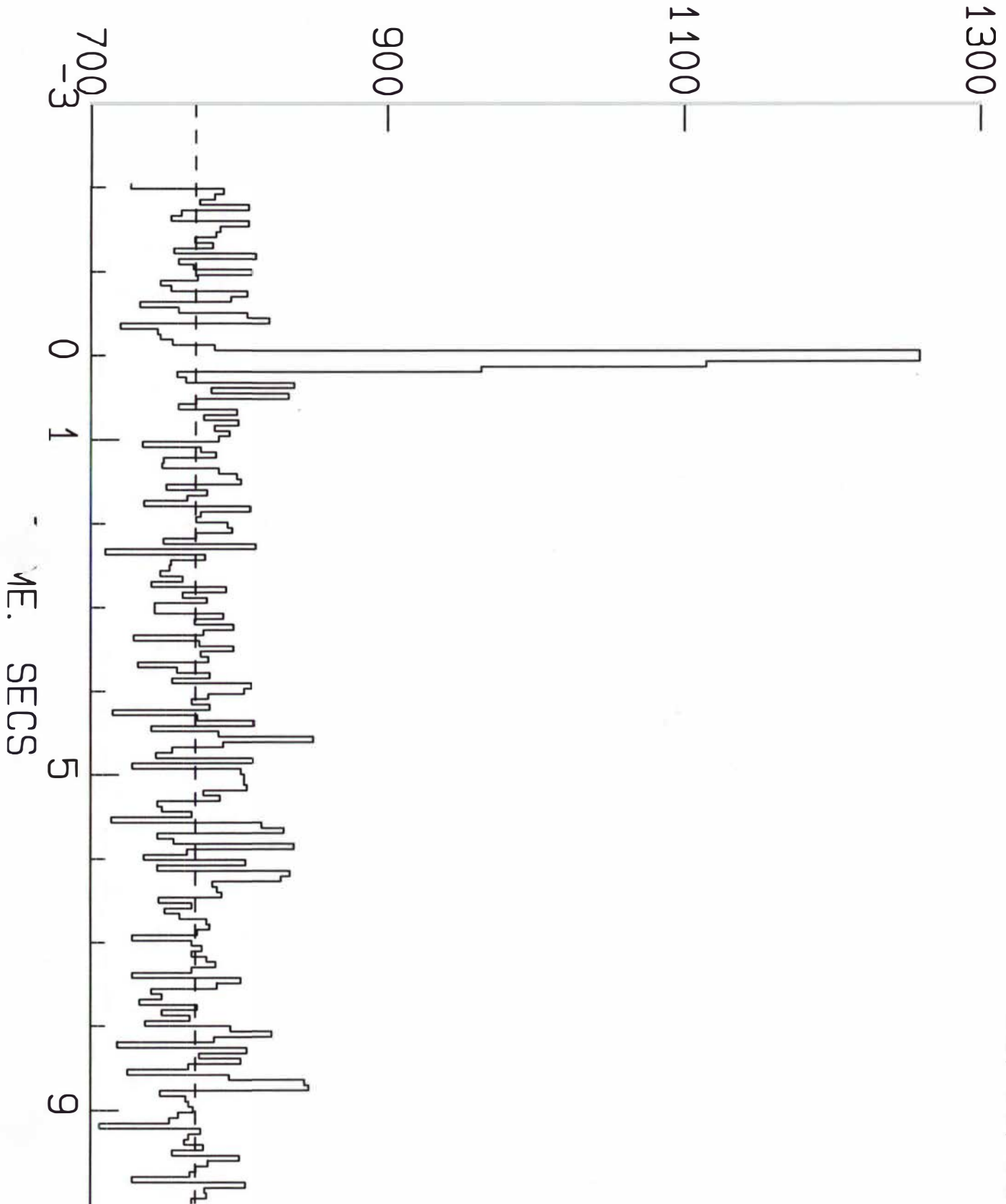
BATSE

05/10/99

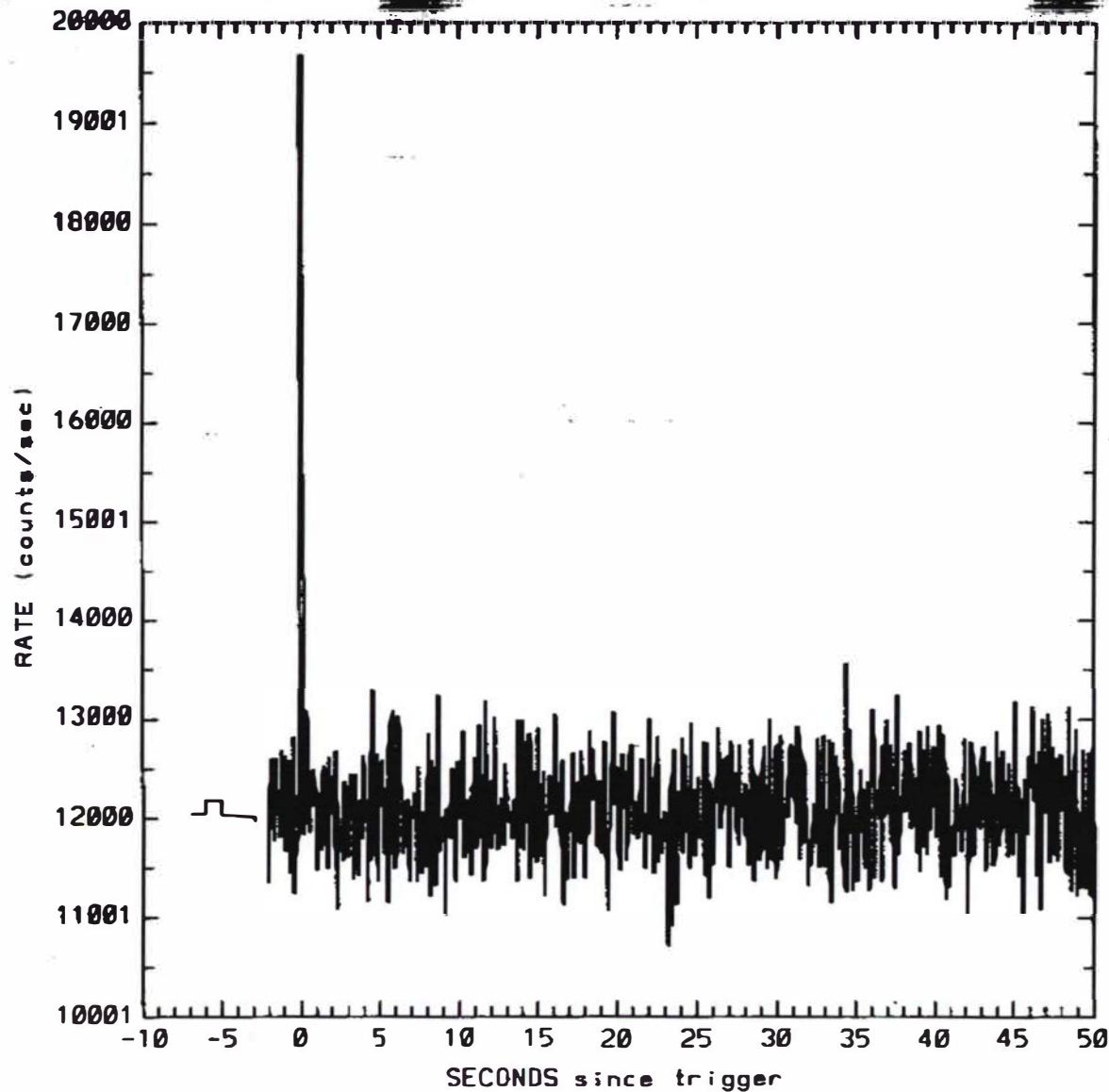
12592.697

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Harley, No. 7789



18-OCT-1999 13.43.23

Created by MDPS BD
(Burst Display)
Version 12.26

Trigger # : 7789

Trigger Time:
11456 / 12592.697

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors [7..0]:
76-4-2--

Discriminators:
[1 , 2]

Quality Mask:
BDISP1

BATSE time corrected 10/01

Date: Jul 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. For 3 Spacecraft events

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

3. For 4 Spacecraft Events

- ☐ BMAPSUM executed to get chisquare for alternate positions?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

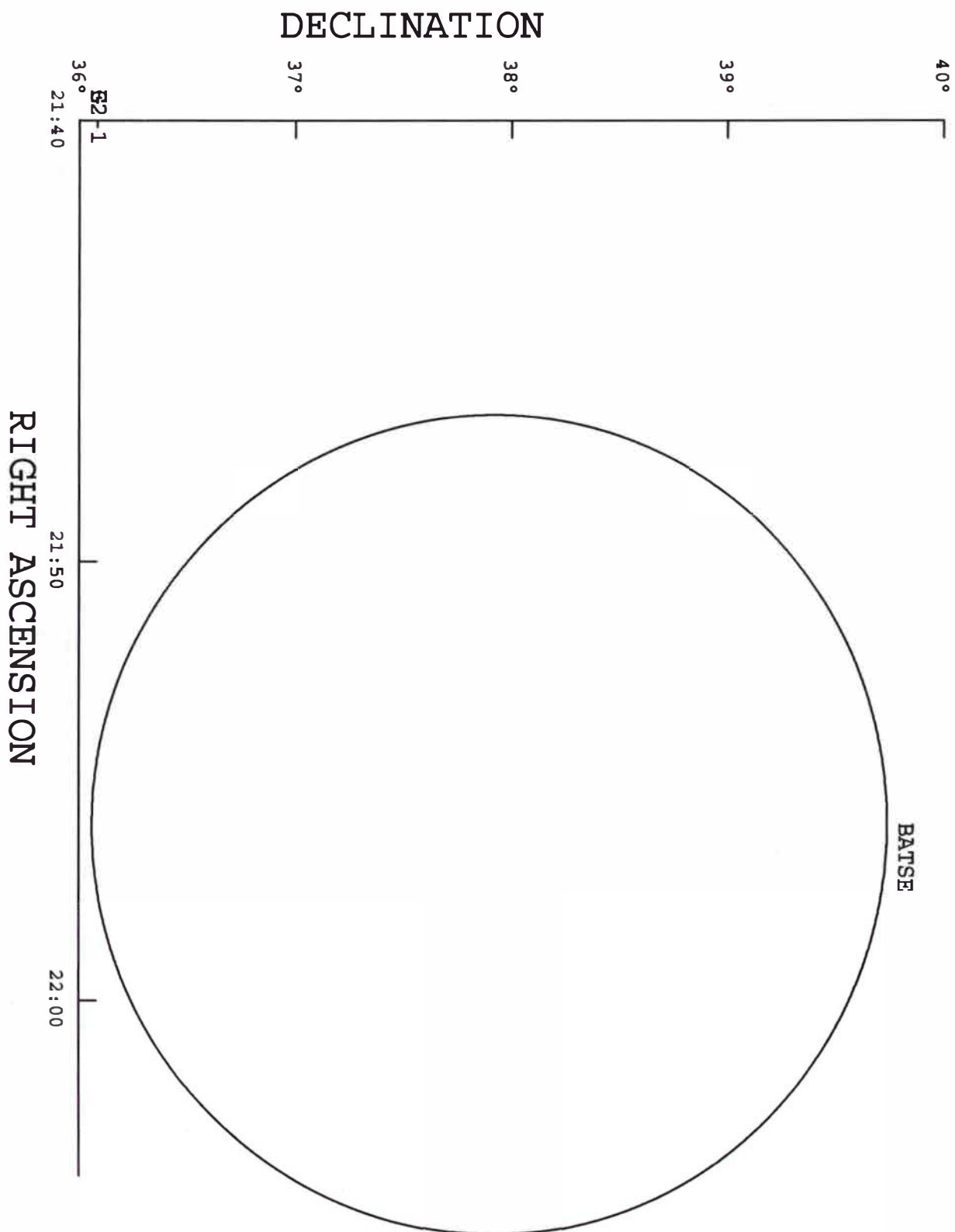
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF OCT 5, 1999 4:14

5 / 7 / 2



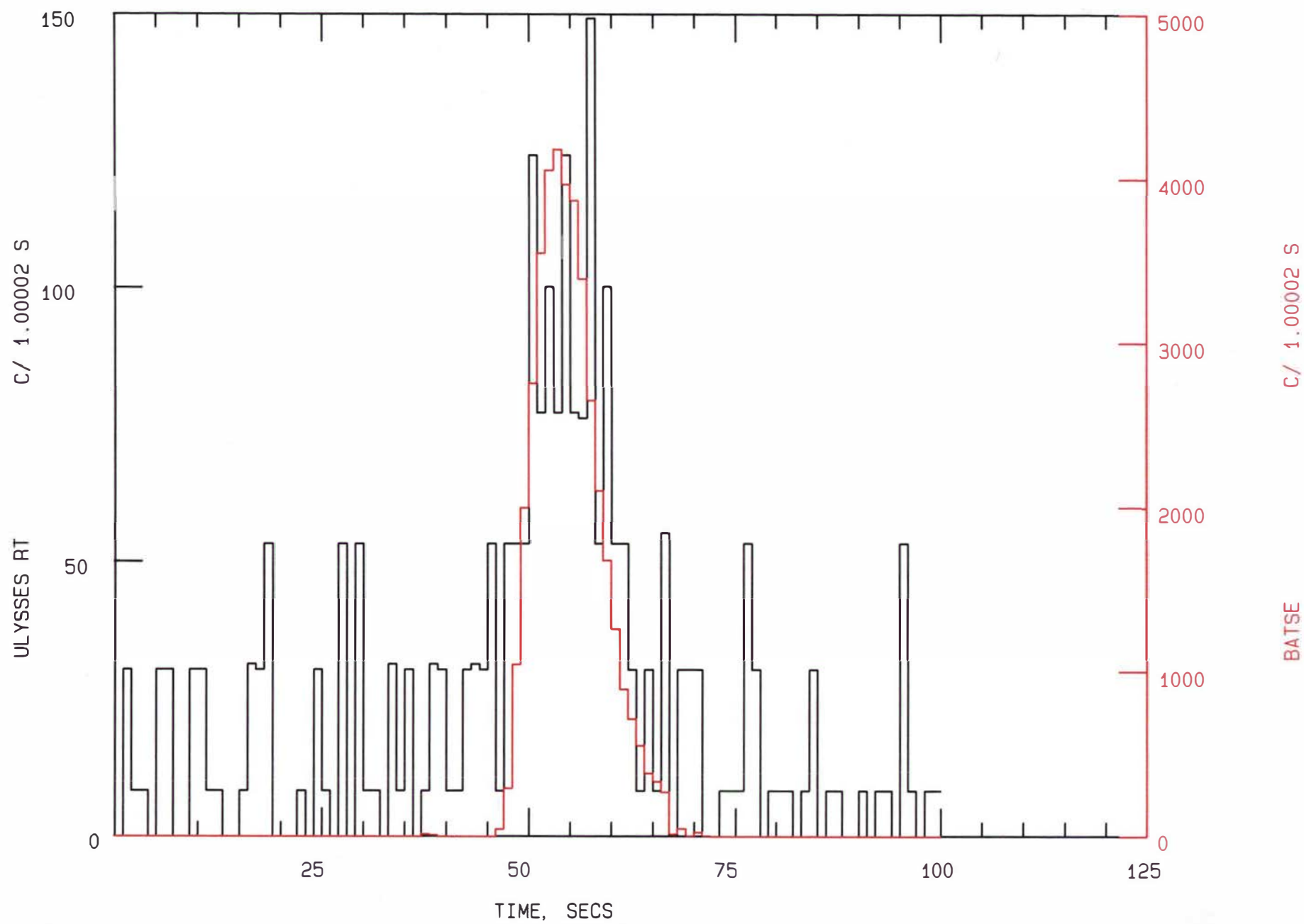
ULYSSES RT-BATSE

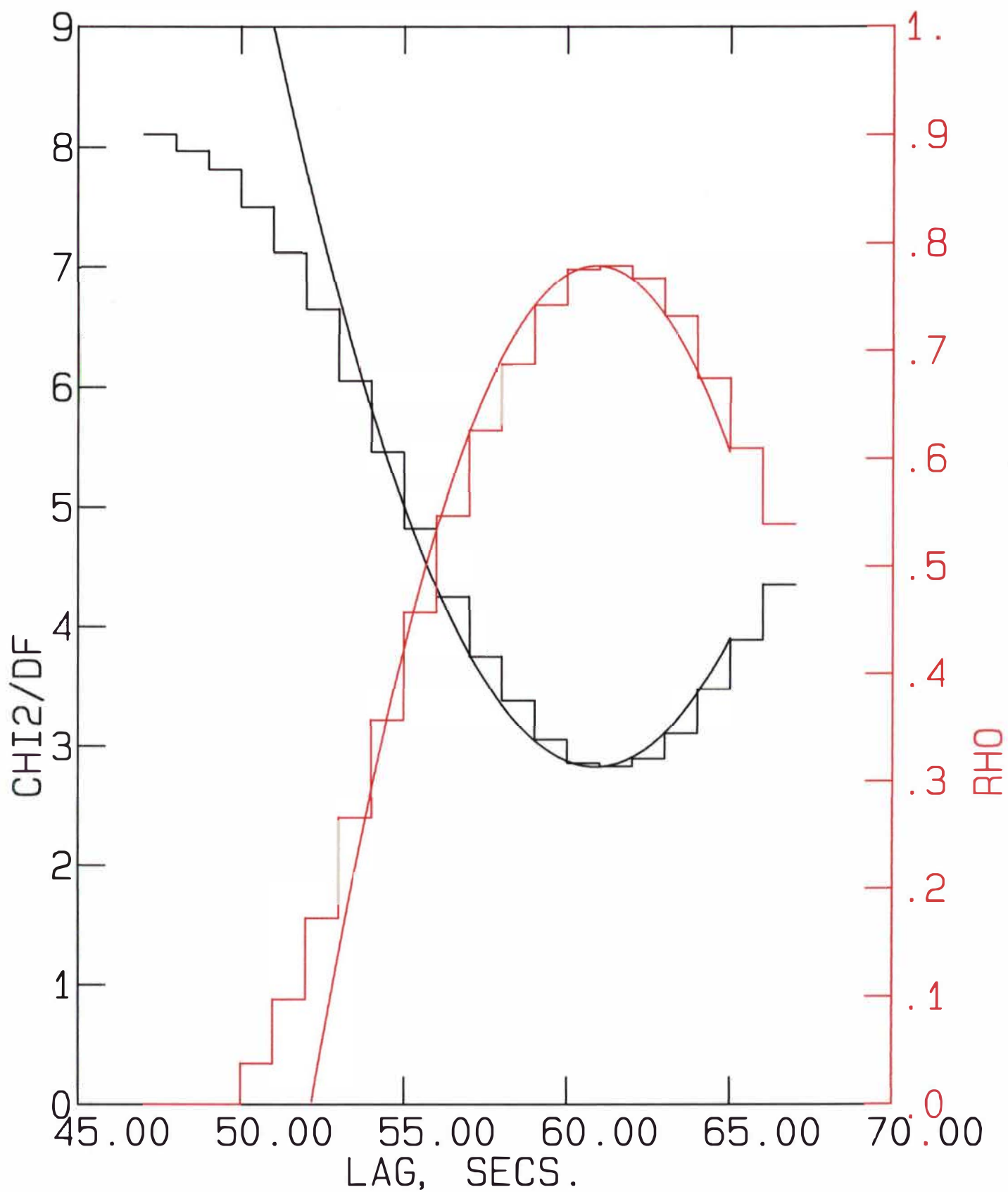
CORRELATION

5/10/99

17738.444

5/ 7/ 2

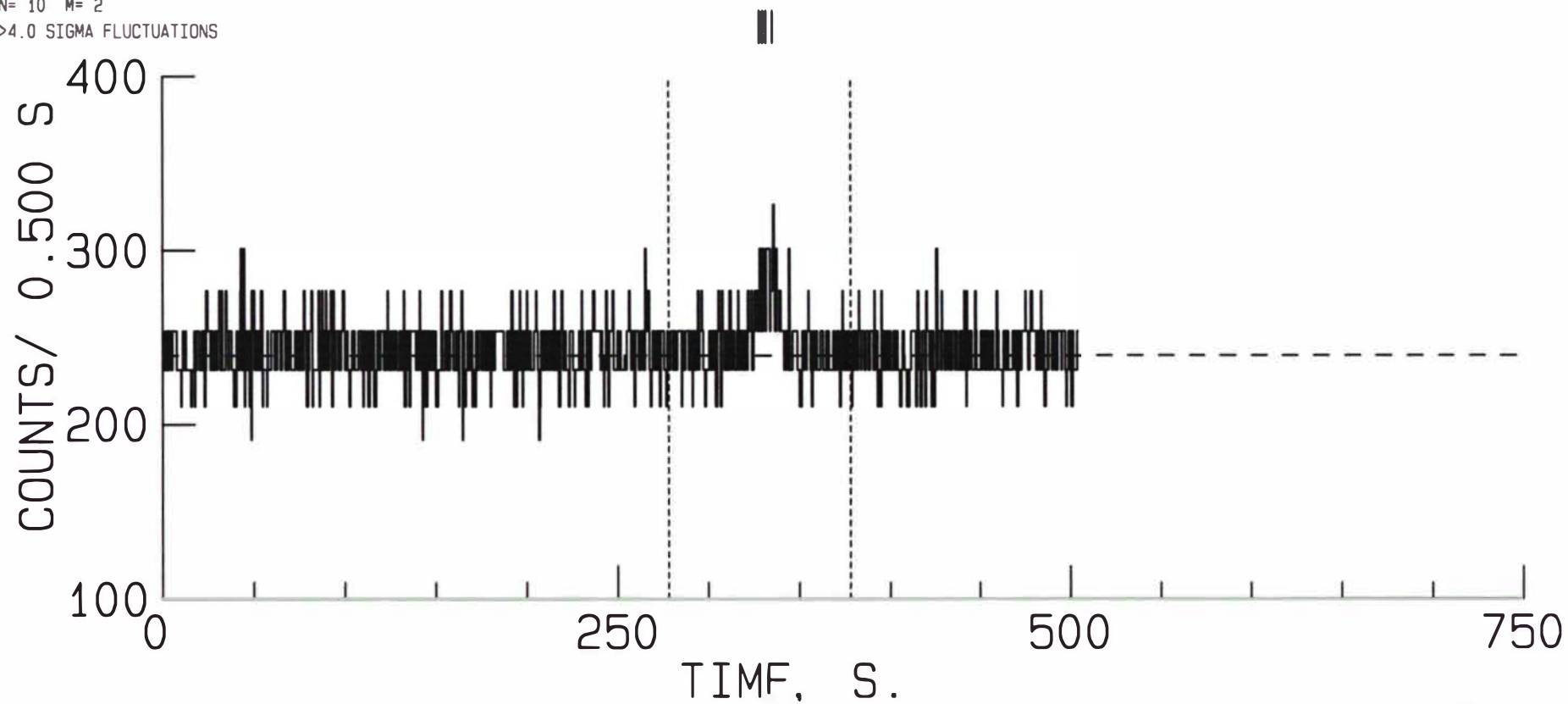




ULYSSES RT
5/10/99 17460.441 s
22- 150 keV

5 / 7 / 2

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

05/10/99

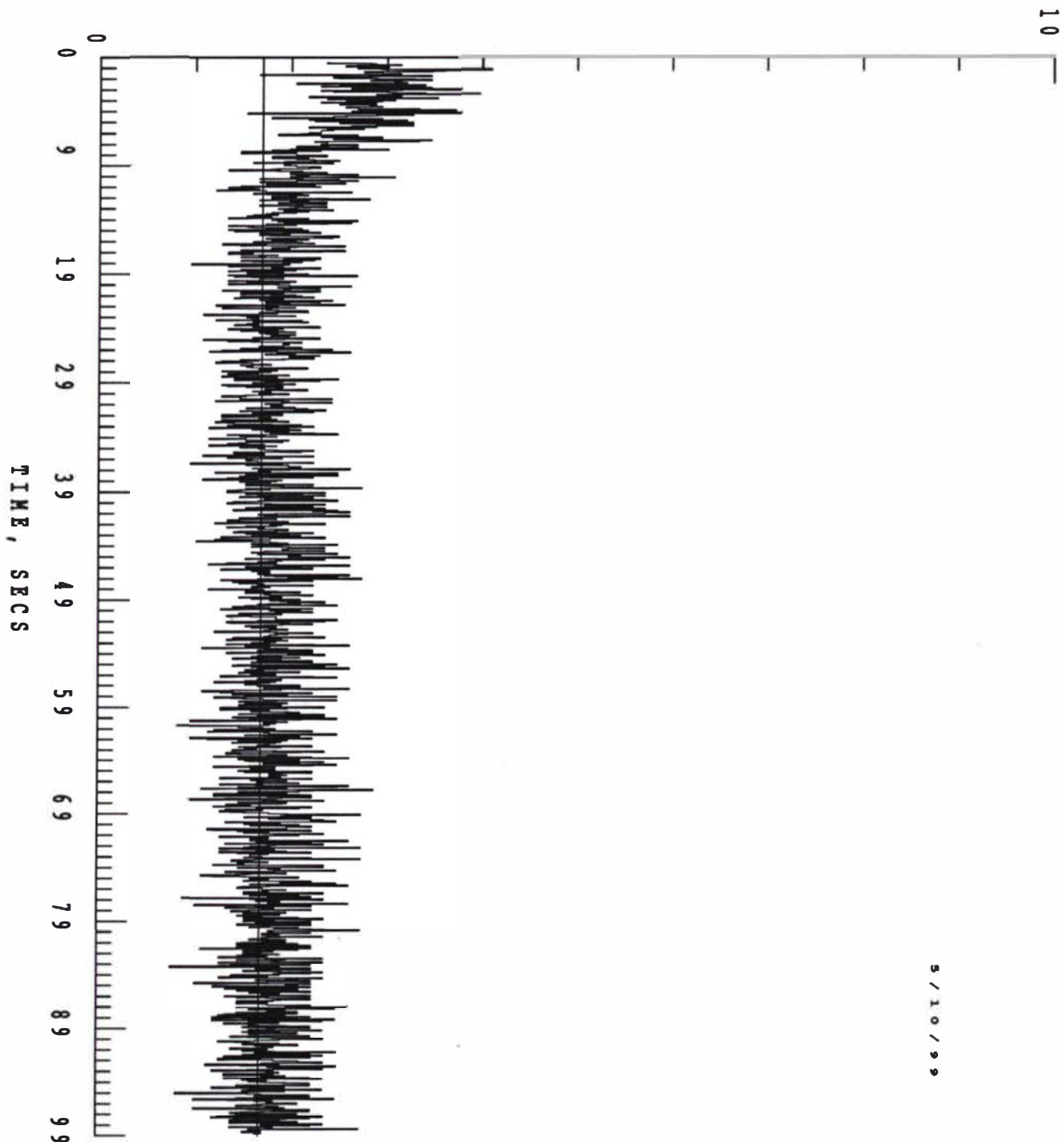
15269.631

50 - 200 keV

Konus EL = 27 - 47

Skin EL = 46.5, $T_{90} = 15s$

COUNTS/0.064 S



From HENZE@fender.msfc.nasa.gov Thu Oct 14 13:59 PDT 1999
From: HENZE@fender.msfc.nasa.gov
Date: Thu, 14 Oct 1999 15:58:07 -0500 (CDT)
>: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7790

BATSEARCH PROGRAM

BATSE BURST # 7790
EVENT OF 1999 OCT 5 DAY OF YEAR=278
EVENT CROSSING TIME AT BATSE : 38966. S. OR 10:49:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 342.000 6.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/10/ 99 IS:
RA= 160.438 DEC= -17.456 DIST= 5.306 AU
BATSE-ULYSSES DISTANCE = 793760229. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 11.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2594.01 SECS.
CROSSING TIME AT ULYSSES IS 41560. S. OR 11:32:40 +/- 181.49 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/10/ 99 IS:
RA= 260.538 DEC= -24.966 DIST= 1.377 AU
MARS-BATSE DISTANCE = 206025232. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 95.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -61.67 SECS.
CROSSING TIME AT MARS IS 38904. S. OR 10:48:24 +/- 117.90 SECONDS

BATSE BURST TRIGGER

NO.: 7790

TIME: TJD=1456 SECONDS=38966

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=128.8 AZIMUTH=213.3 ERROR= 3.6 DEGREES

COMMENTS:

PROBABLE GRB. COMPLEX, MULTISPIKED, TOTAL DUR. APPROX. 270 S, STARTS AT APPROX. T-10 S, MAX AT APPROX. T+112 S. NOT VISIBLE ABOVE 300 KEV. SUPERIMPOSED ON RISE IN BACKGROUND AT HIGH GEOGRAPHIC LATITUDE (+28.4 DEG) OVER NORTH PACIFIC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7790	991005	11456	38966	4500	342	+06	270

BATSE BURST# 7790

ULYSSES RT

14 / 10 / 99

5 / 10 / 99 41364.176 s

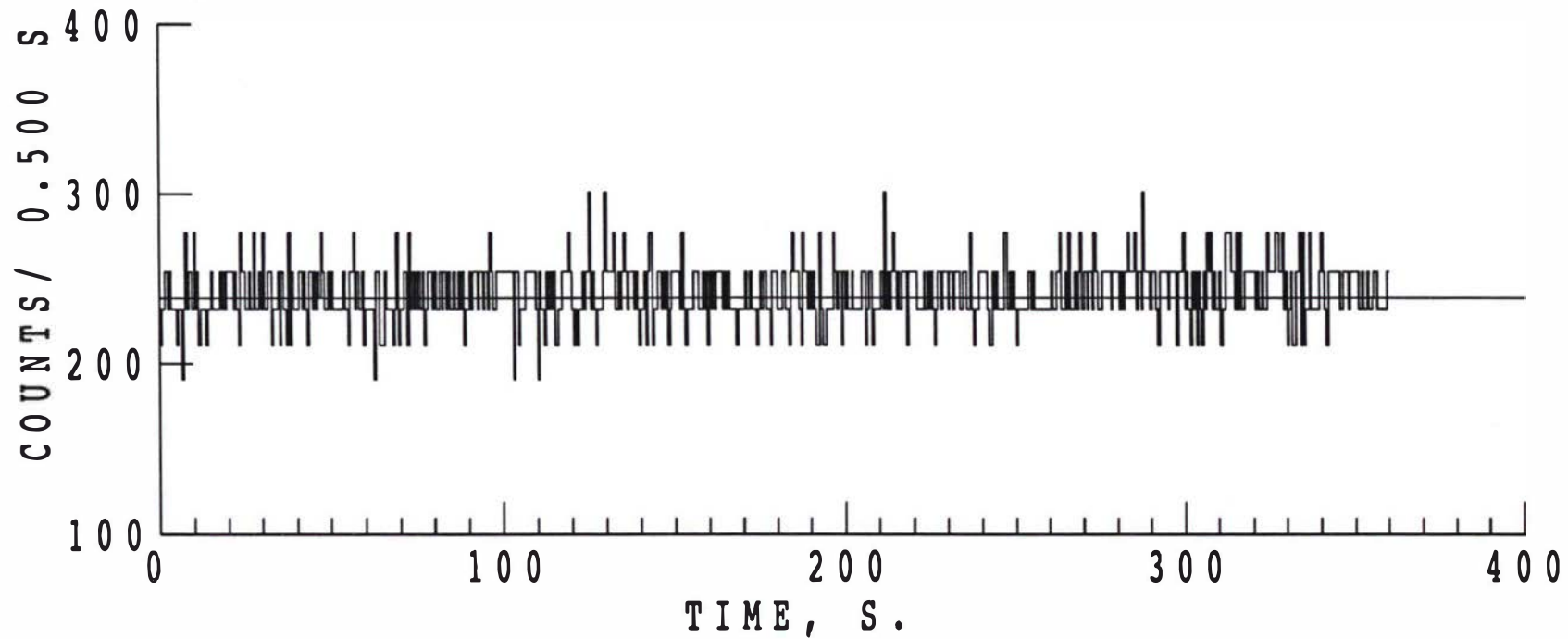
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS

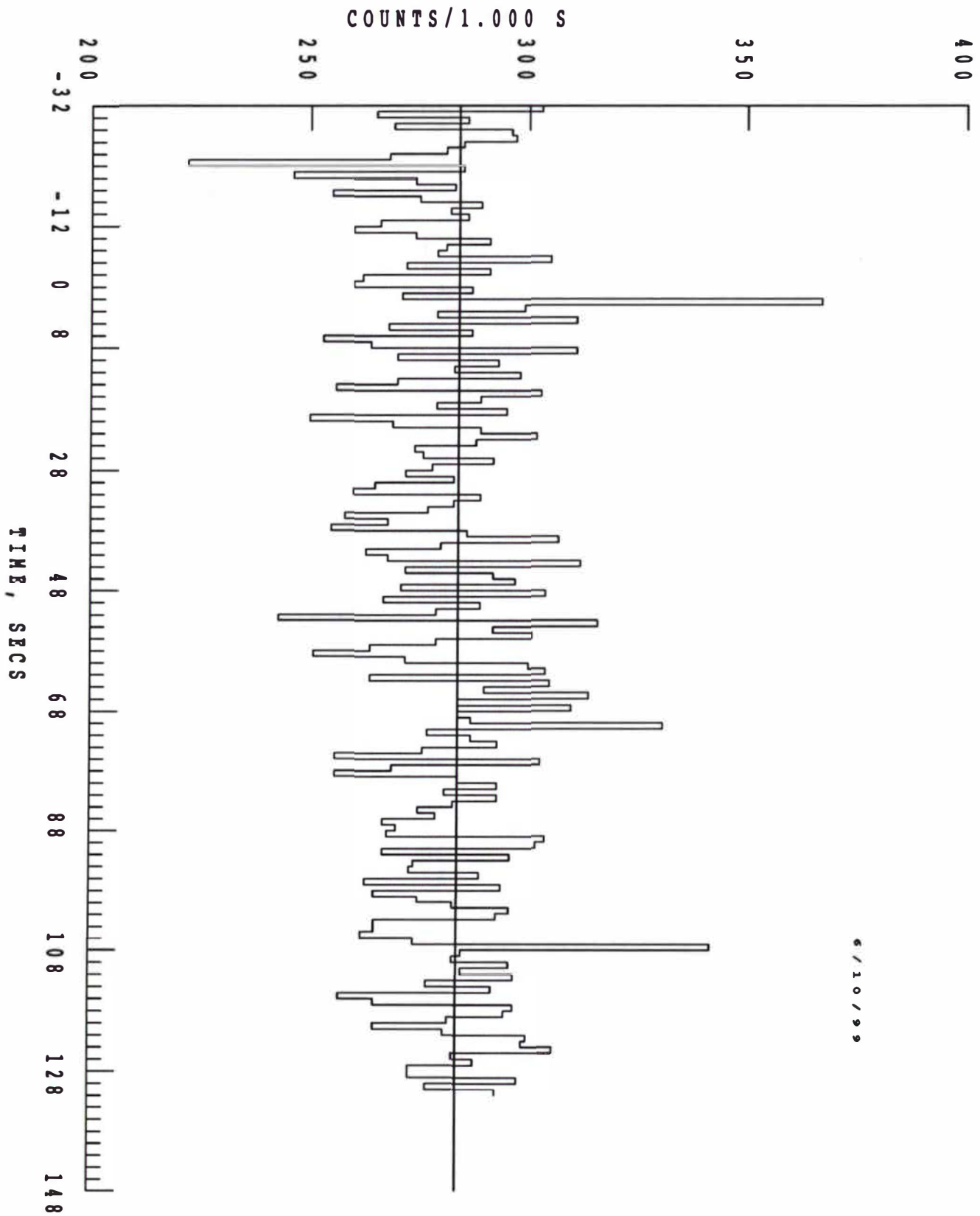


NEAR

05/10/99

62666.405

100-1000 keV



6/10/99

KNEAR GRS 19991005 62666

ULYSSES RT

6 / 10 / 99

5 / 10 / 99 60804.375 s

INTERVALS REGROUPED BY 6

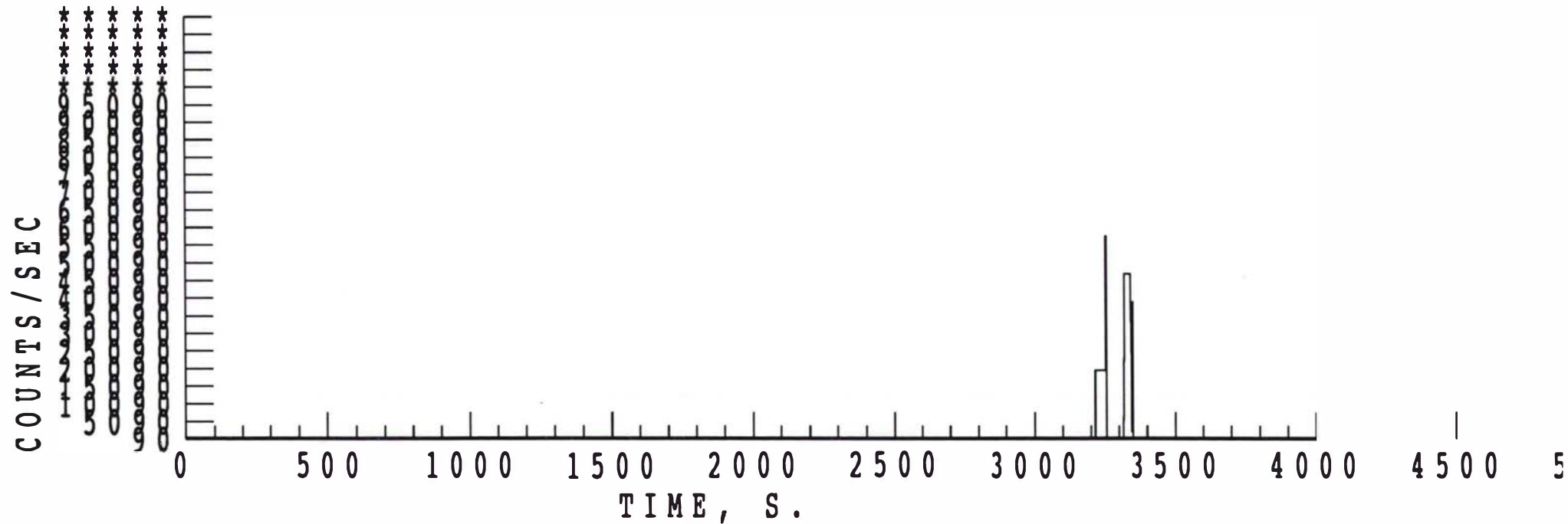
0 - 0 keV

N= 10 M= 10

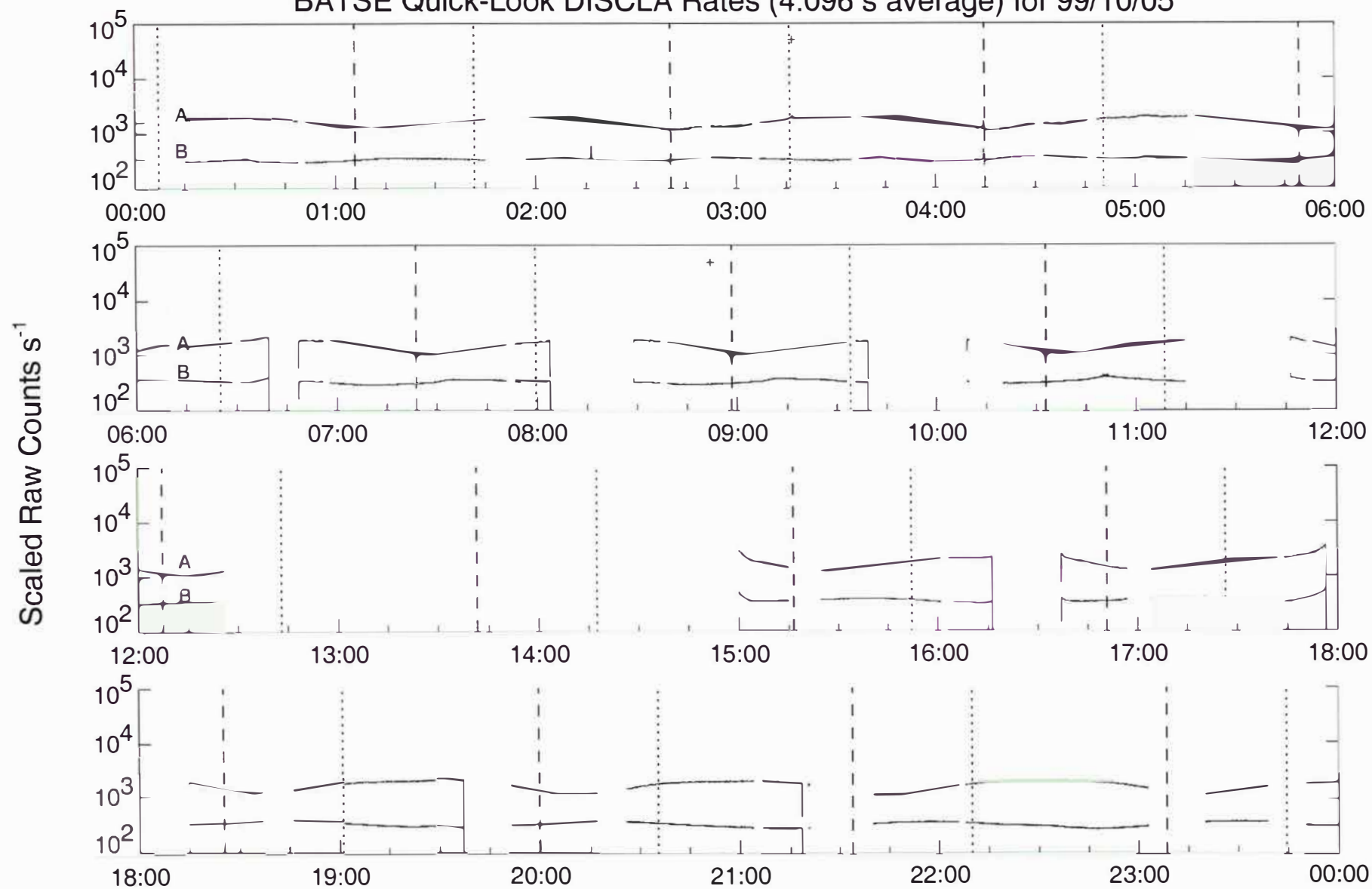
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS

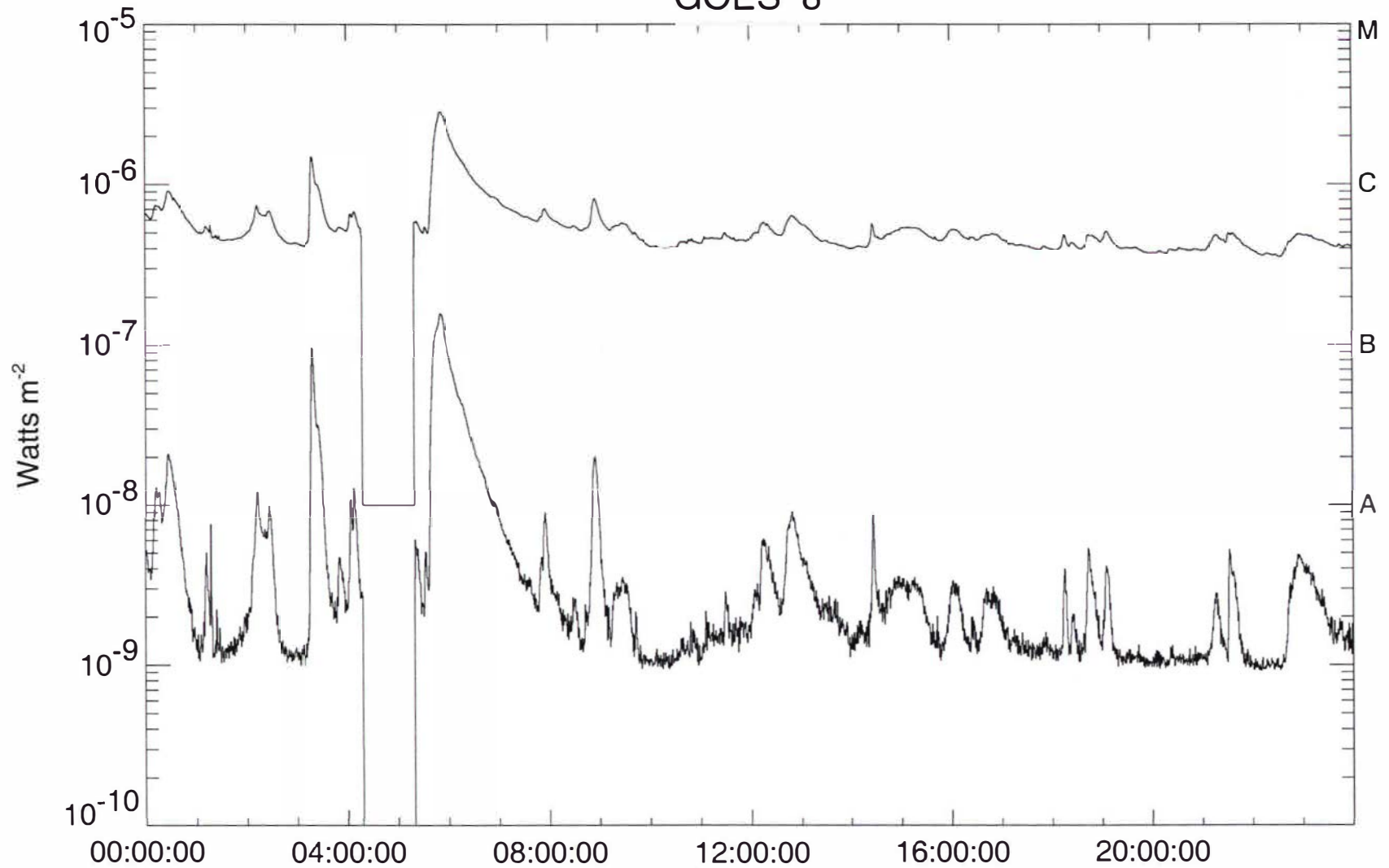


BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/05



Current Time: 99/10/18, 2328 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

GOES 8



Data Start: 99/10/05, 0000:00

Plot created: 99/10/18, 2327

Channel

1 (1.0 - 8.0 Angstroms)

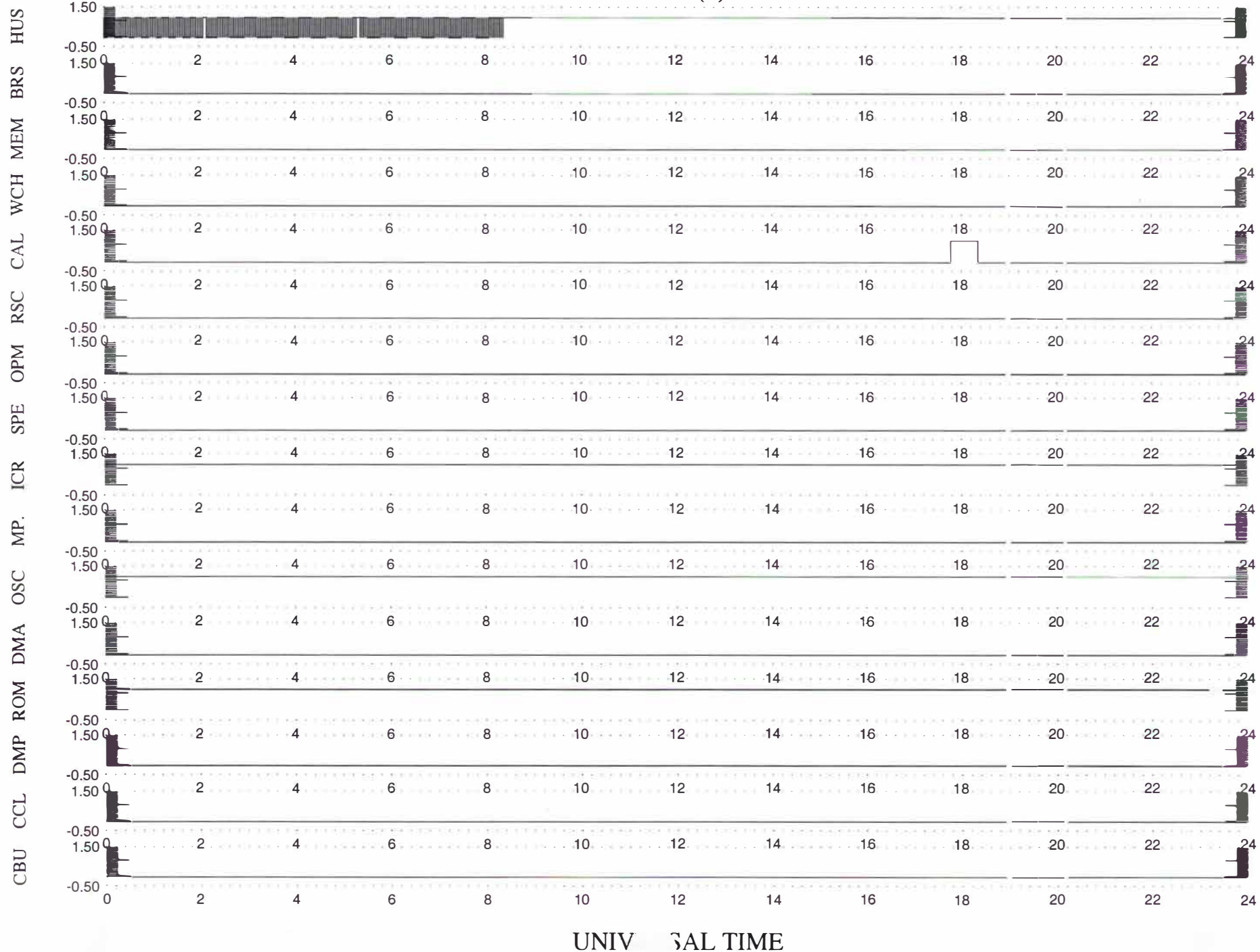
Background not subtracted

2 (0.5 - 4.0 Angstroms)

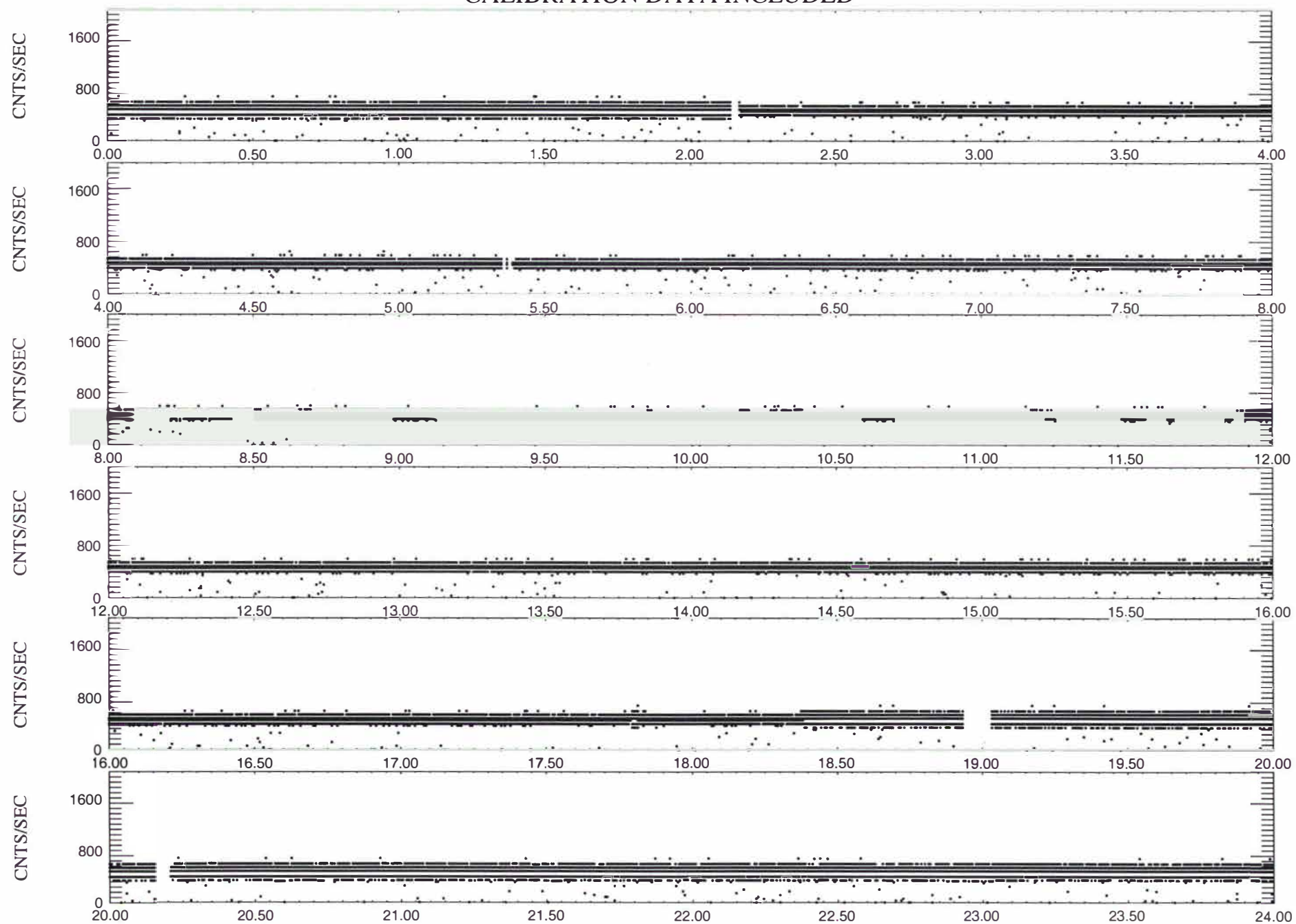
Background not subtracted

Sample average = 10

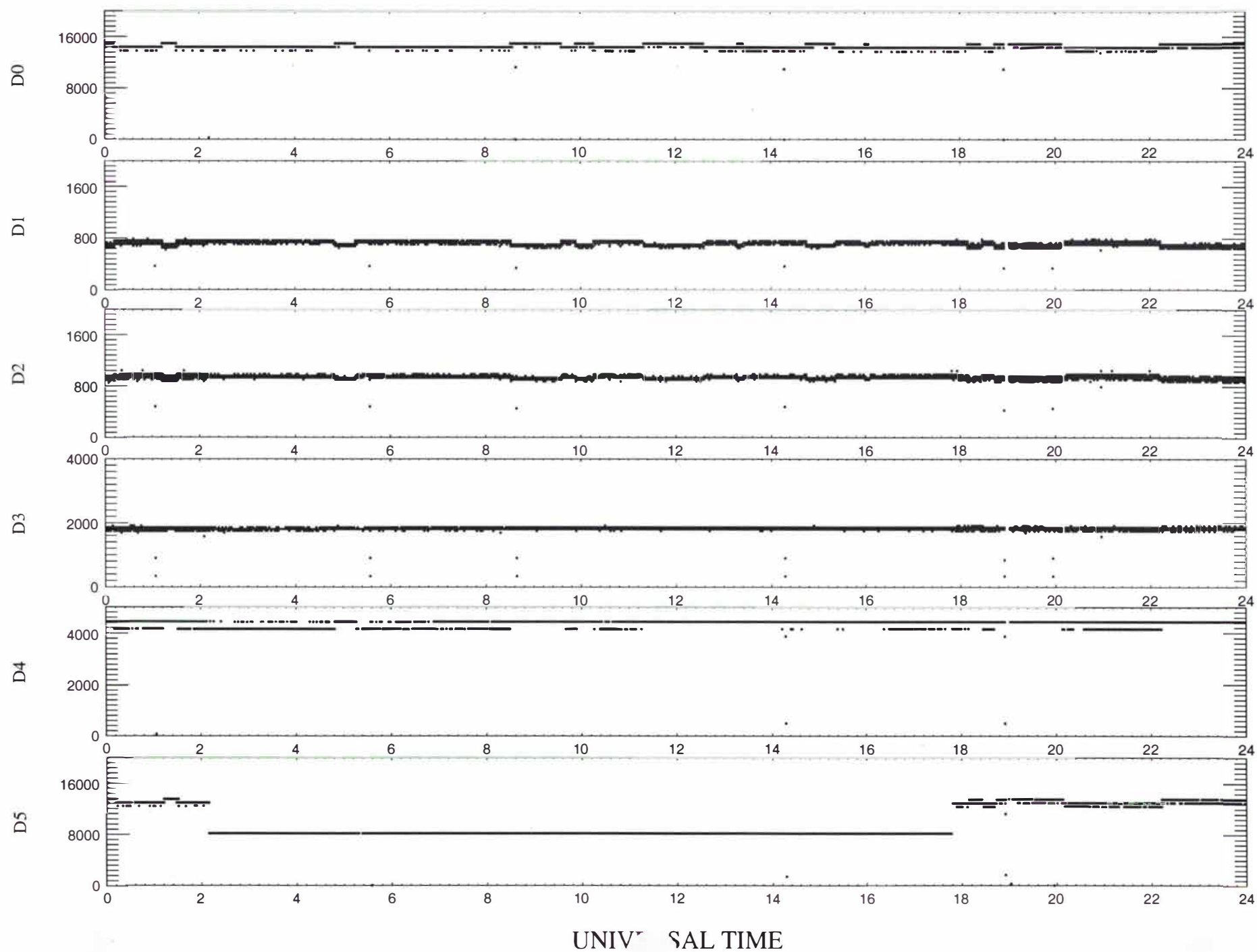
NO BURST (9)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Thu Oct 21 14:39 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:17:03 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7791

BATSEARCH PROGRAM

No

BATSE BURST # 7791
EVENT OF 1999 OCT 6 DAY OF YEAR=279
EVENT CROSSING TIME AT BATSE : 36858. S. OR 10:14:18.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 98.000 46.000
BATSE PEAK COUNTING RATE: 2100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/10/ 99 IS:
RA= 160.578 DEC= -17.608 DIST= 5.296 AU
BATSE-ULYSSES DISTANCE = 792255421. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 95.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -230.76 SECS.
CROSSING TIME AT ULYSSES IS 36627. S. OR 10:10:27 +/- 503.55 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/10/ 99 IS:
RA= 261.310 DEC= -25.008 DIST= 1.383 AU
MARS-BATSE DISTANCE = 206833984. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 24.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 625.84 SECS.
CROSSING TIME AT MARS IS 37484. S. OR 10:24:43 +/- 59.92 SECONDS

BATSE BURST TRIGGER

NO.: 7791

TIME: TJD=1457 SECONDS=36858

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=98.3 AZIMUTH=237.4 ERROR=5.8 DEGREES

COMMENTS:

GRB. SINGLE PULSE, WITH SUBSTRUCTURE, DUR. 70 S, STARTS AT T-4 S. NOT VISIBLE
ABOVE 300 KEV. APPEARS TO BE IN PROGRESS WHILE EMERGING FROM EARTH OCCULTATION.
CRAB RISE AT T+22 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7791	991006	11457	36858	2100	098	+46	70

BATSE BURST# 7791

ULYSSES RT

21 / 10 / 99

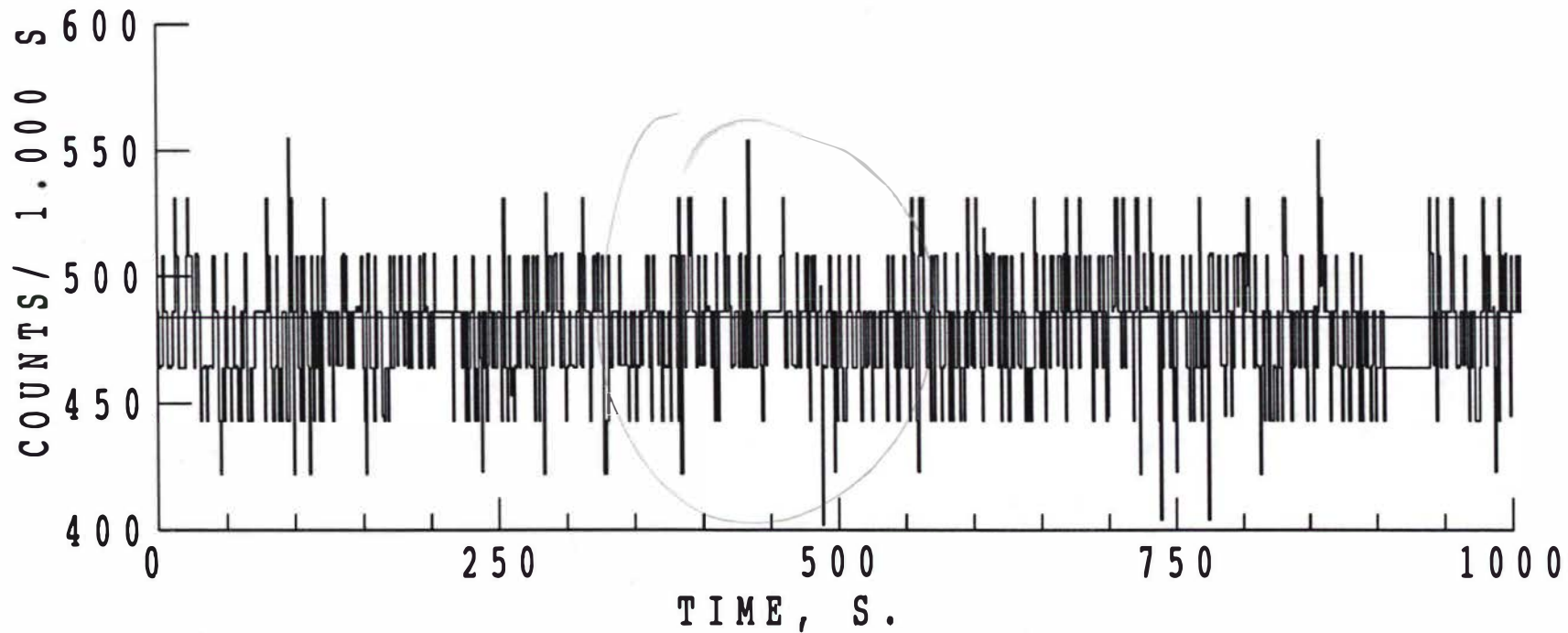
6/10/99 36108.496 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

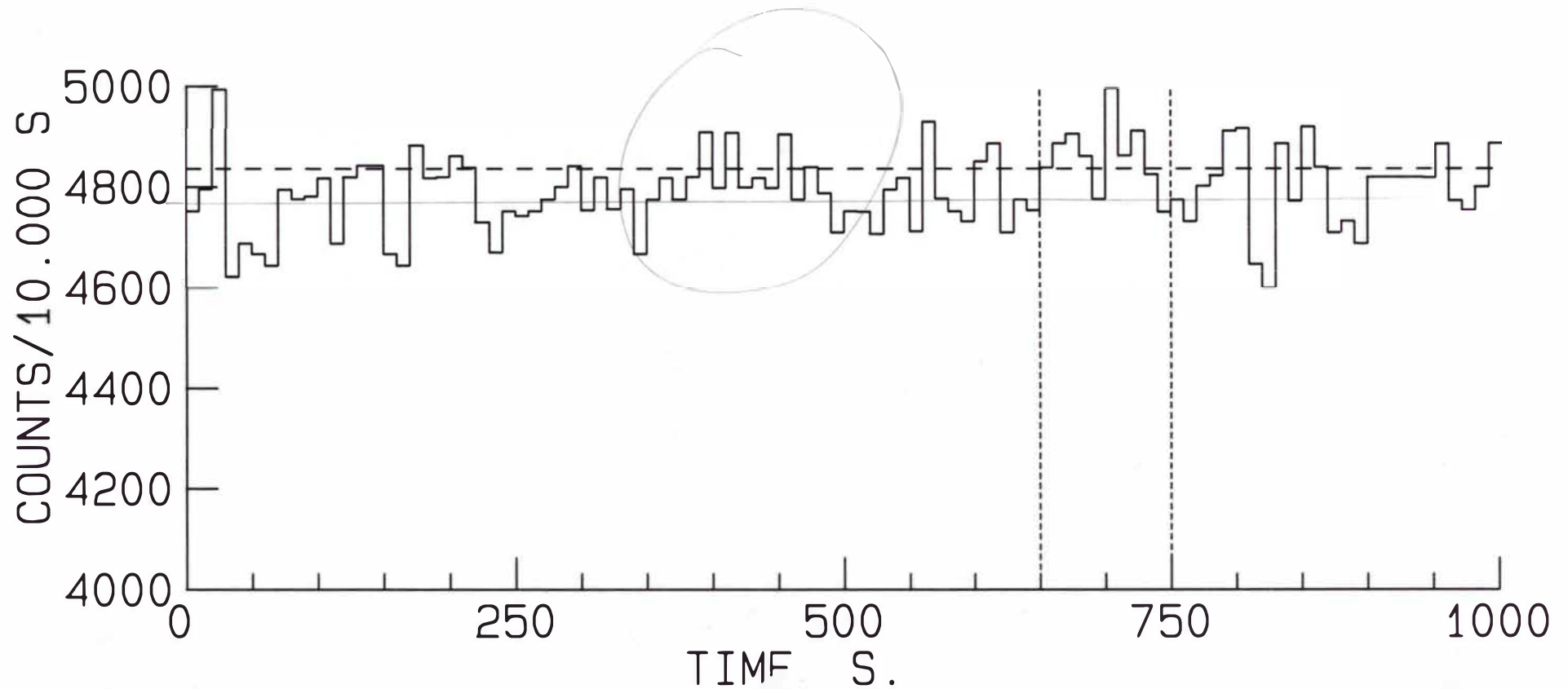
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
6/10/99 36108.496 s
0.500 S INTERVALS REGROUPED BY 20
22- 150 keV

28/10/99



BATSE

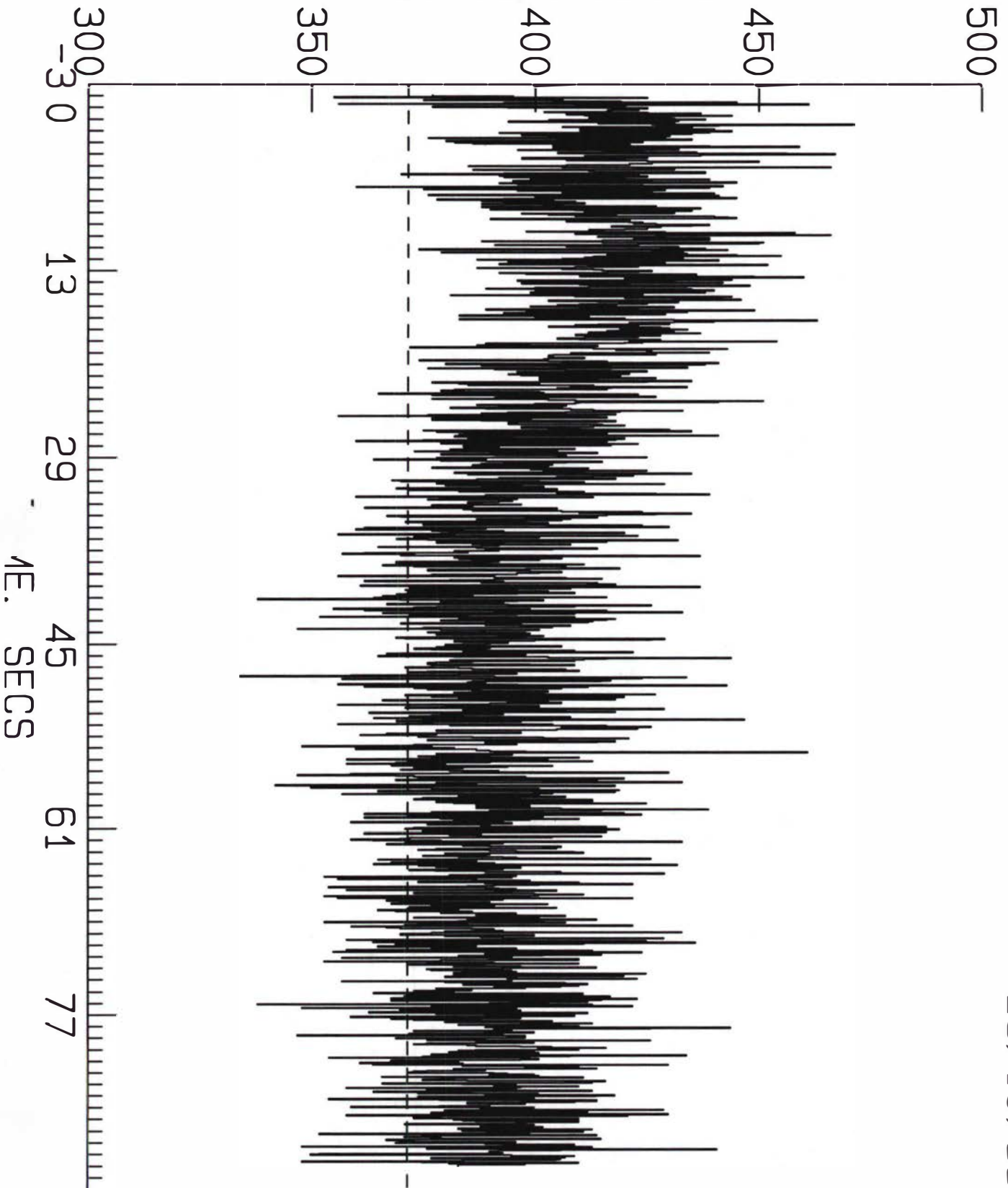
06/10/99

36858.617

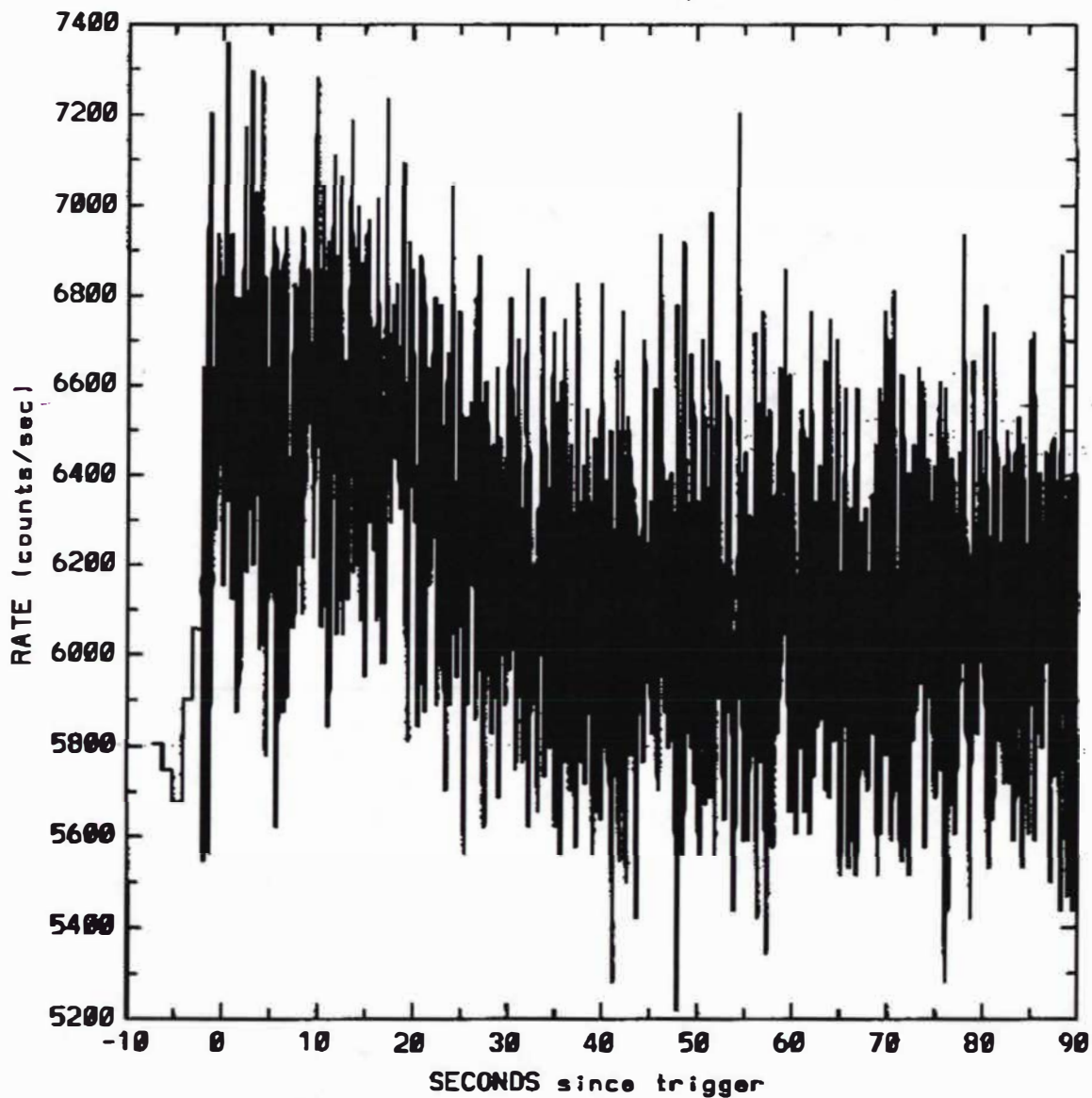
25- 100 keV

COUNTS/0.064 S

28 / 10 / 99



DISCSC Data for K. Hurley, No. 7791



27-OCT-1999 13:25:19

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7791

Trigger Time:
11457 / 36858.617Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..9):
76-----Discriminators:
[1 . 2]Quality Mask:
BDISP1

From SAHI@fender.msfc.nasa.gov Thu Oct 21 14:39 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:18:15 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7792

BATSEARCH PROGRAM

BATSE BURST # 7792
EVENT OF 1999 OCT 6 DAY OF YEAR=279
EVENT CROSSING TIME AT BATSE : 68201. S. OR 18:56:41.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 102.000 10.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/10/ 99 IS:
RA= 160.630 DEC= -17.665 DIST= 5.292 AU
BATSE-ULYSSES DISTANCE = 791686097. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=115.84 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1150.80 SECS.
CROSSING TIME AT ULYSSES IS 67050. S. OR 18:37:30 +/- 445.18 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/10/ 99 IS:
RA= 261.310 DEC= -25.008 DIST= 1.383 AU
MARS-BATSE DISTANCE = 206833984. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 24.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 626.68 SECS.
CROSSING TIME AT MARS IS 68828. S. OR 19:07:07 +/- 59.62 SECONDS

BATSE BURST TRIGGER

NO.: 7792

TIME: TJD=1457 SECONDS=68201

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=133.7 AZIMUTH=231.4 ERROR=1.97 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 80 S, STARTS AT T-25 S. NOT VISIBLE
ABOVE 300 KEV. CRAB SET AT T+510 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7792	991006	11457	68201	3500	102	+10	80

Date: May 2 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

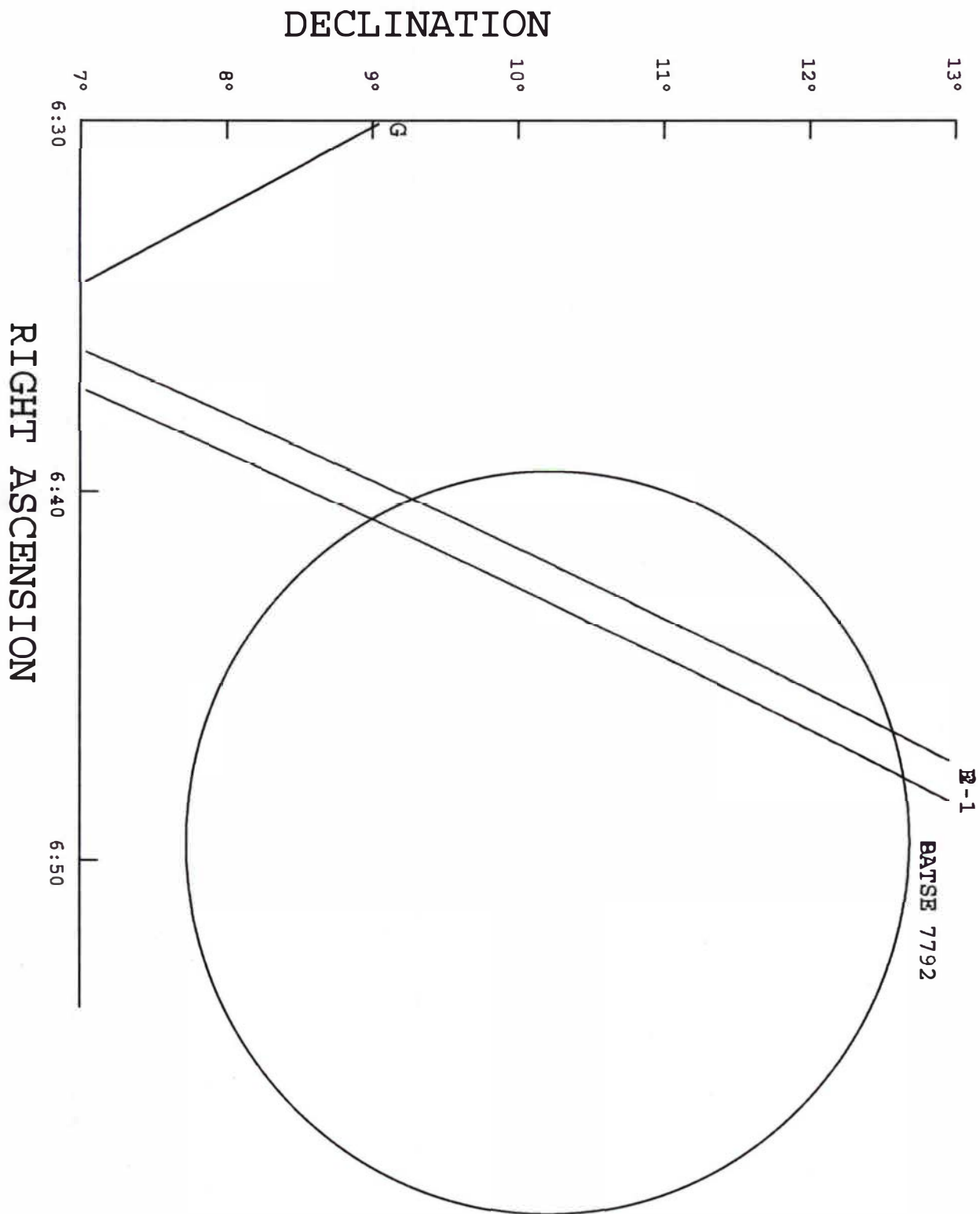
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF OCT 6, 1999 18:56

2 / 5 / 0



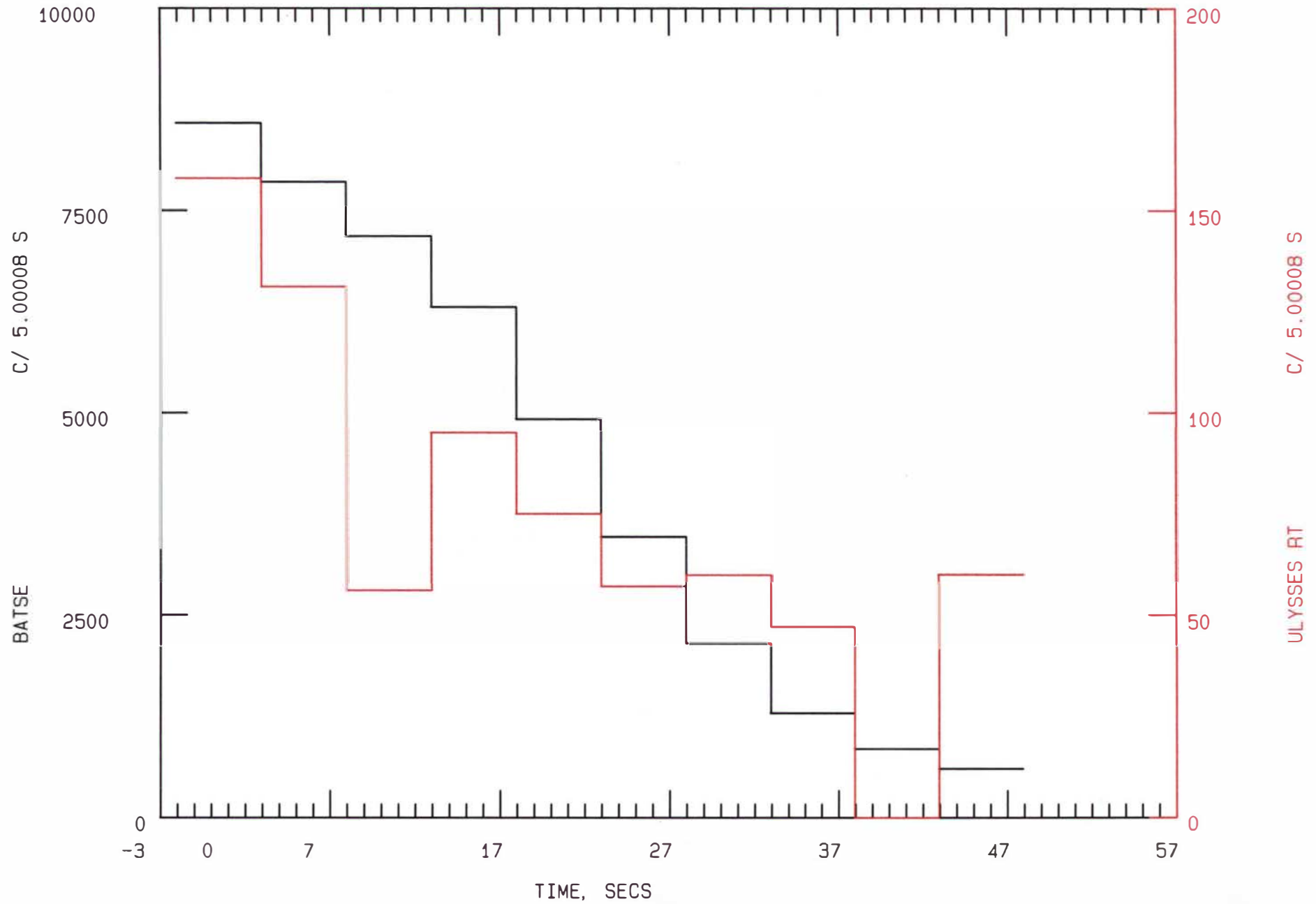
BATSE

-ULYSSES RT CORRELATION

6/10/99

68201.209

2/ 5/ 0

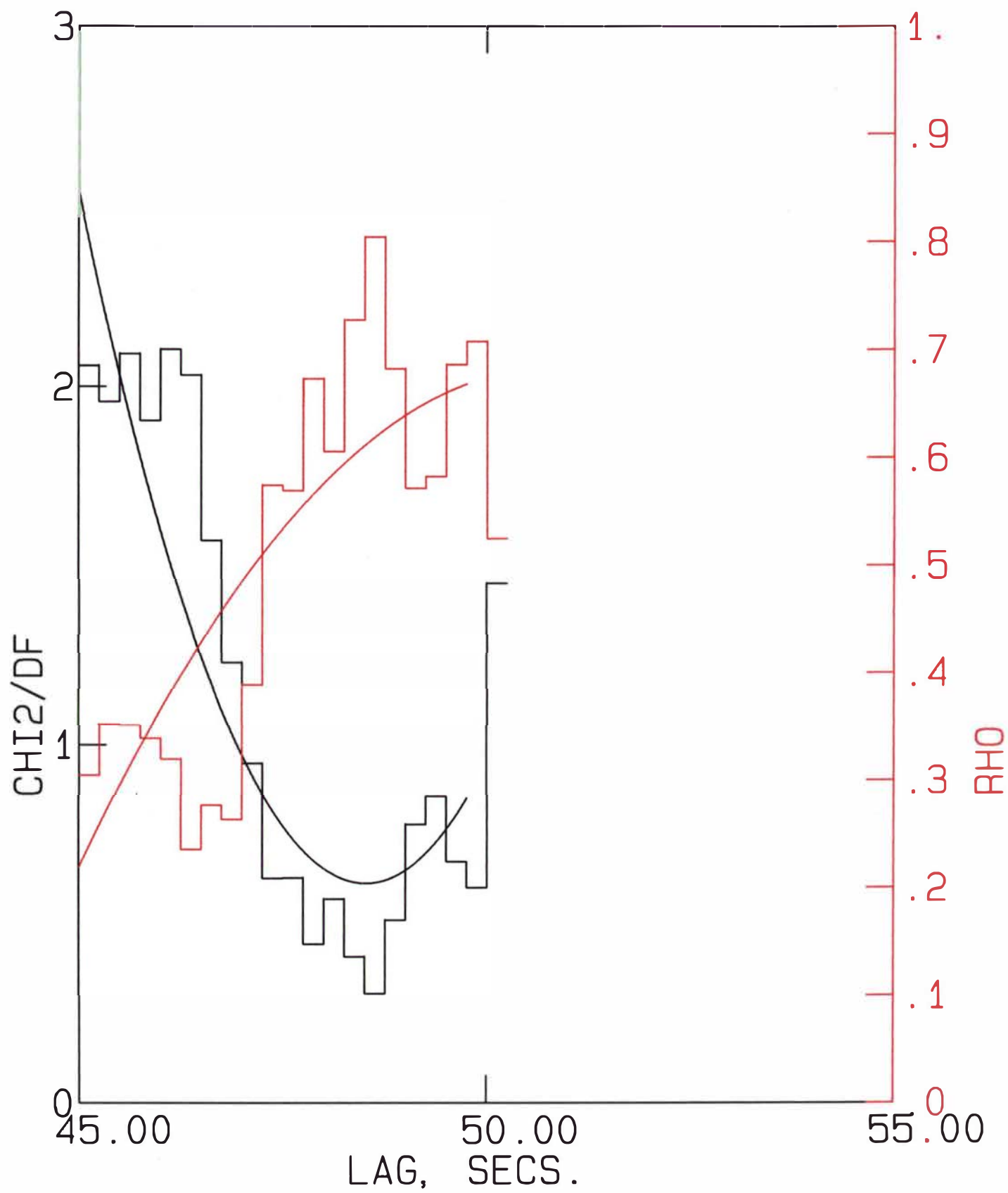


BATSE

-ULYSSES RT CORRELATION

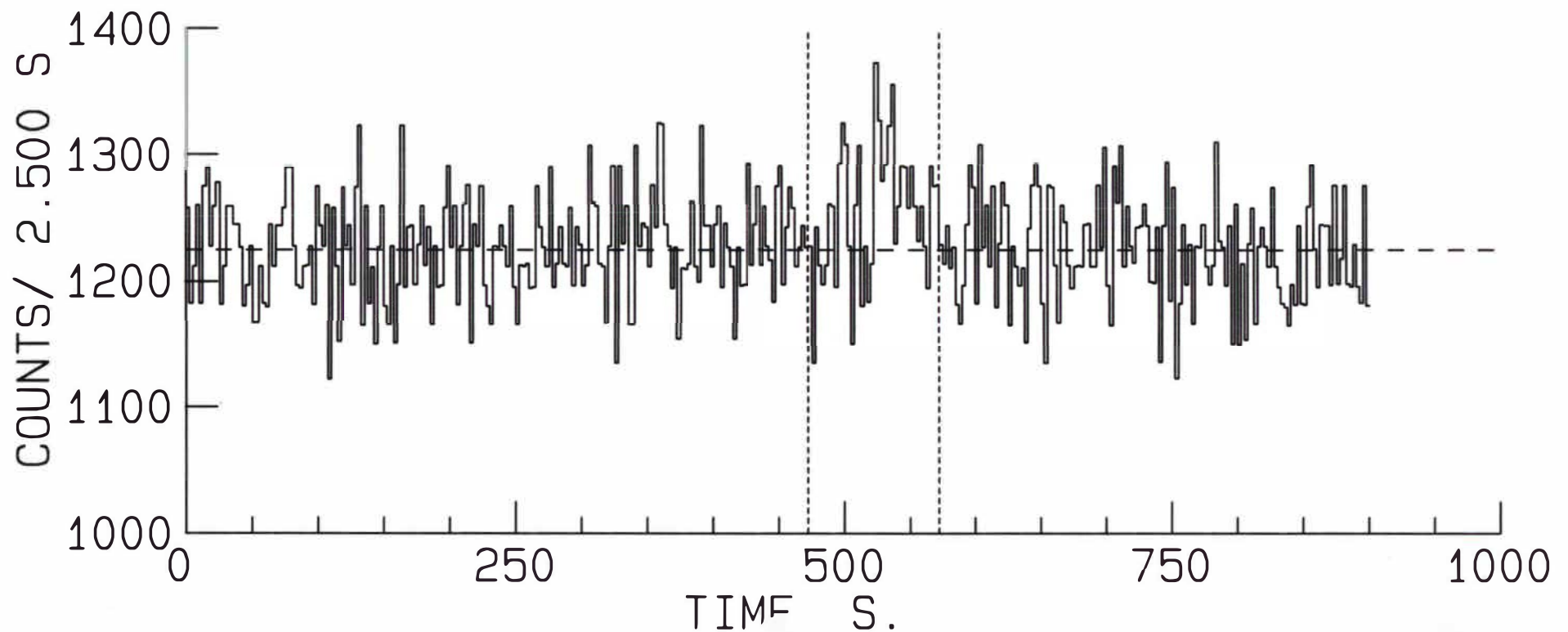
6/10/99

68201.209



ULYSSES RT
6/10/99 66600.058 s
0.250 S INTERVALS REGROUPED BY 10
22- 150 keV

2 / 5 / 0



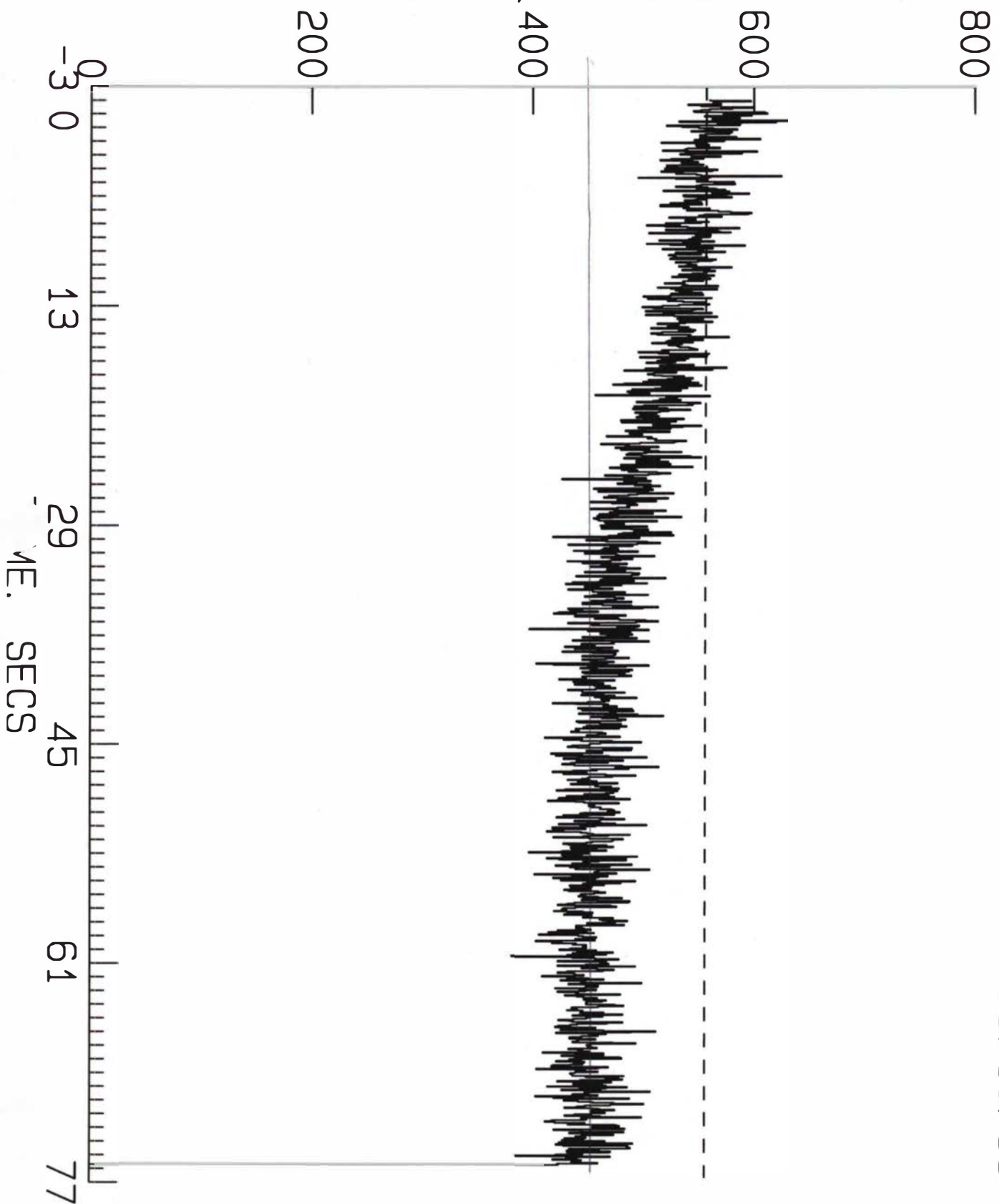
BATSE

06/10/99

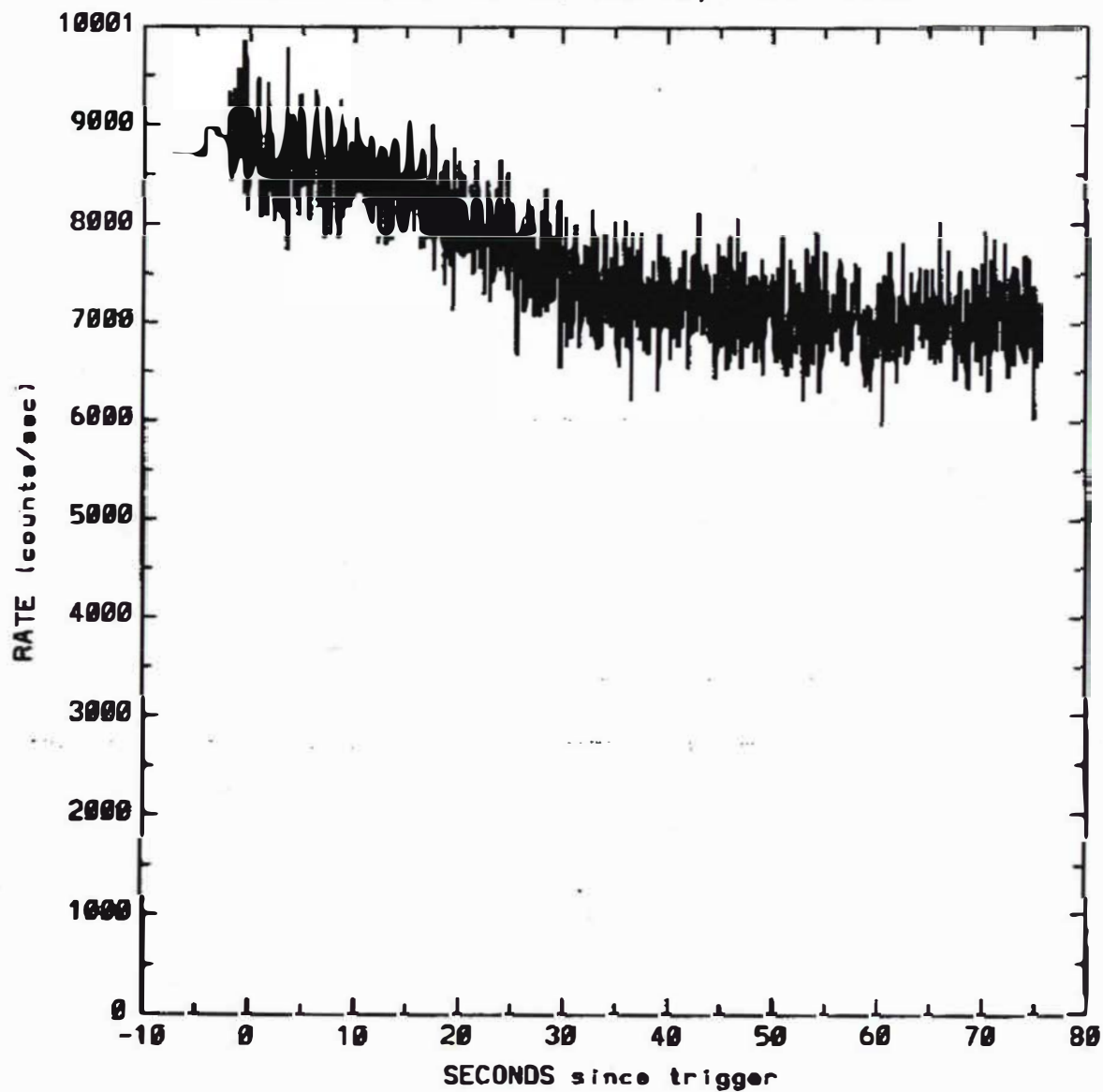
68201.209

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7792



27-OCT-1999 13.22.18

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

Trigger # 7792

Trigger Time:
11457 / 68281.289Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PRED + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
7---3---Discriminators:
(1..2)Quality Mask:
00ISP1

JANA TAB2 19991006 66972

ULYSSES RT

05/08/05

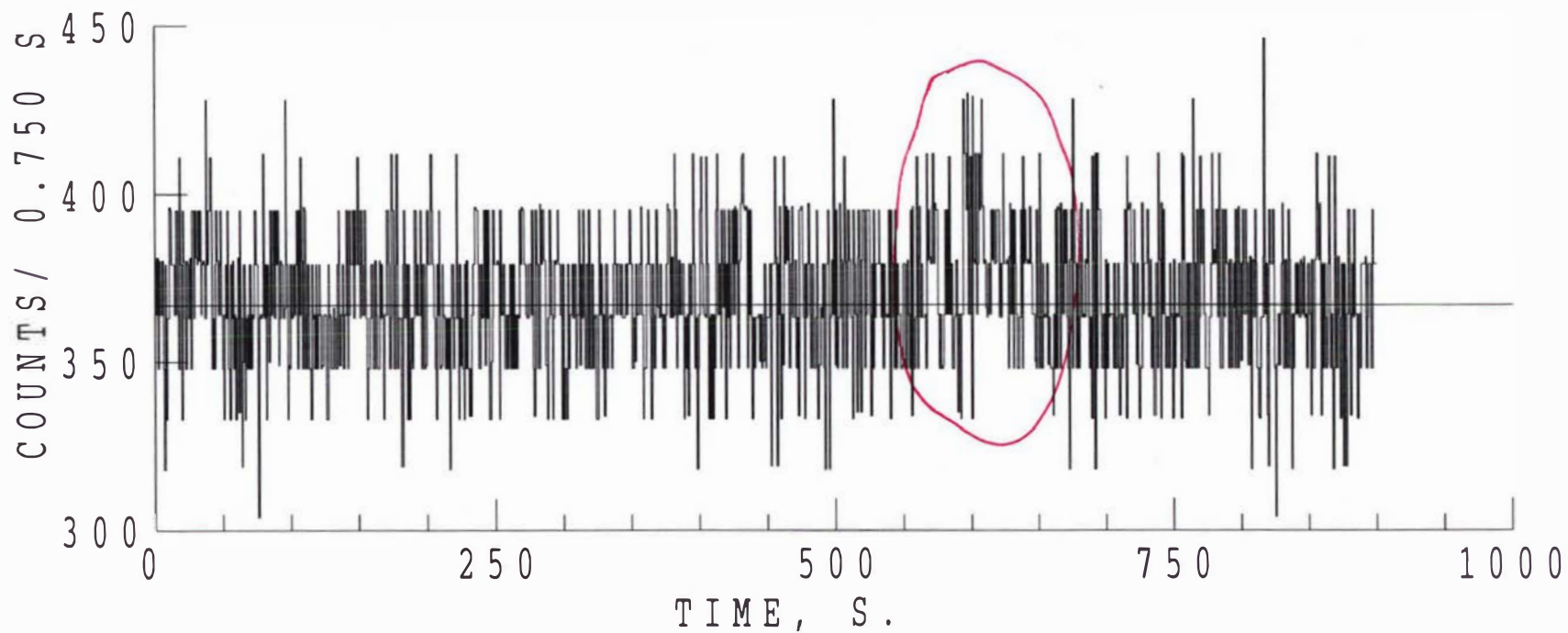
06/10/99 66528.055 s

0.250 S INTERVALS REGROUPED BY 3

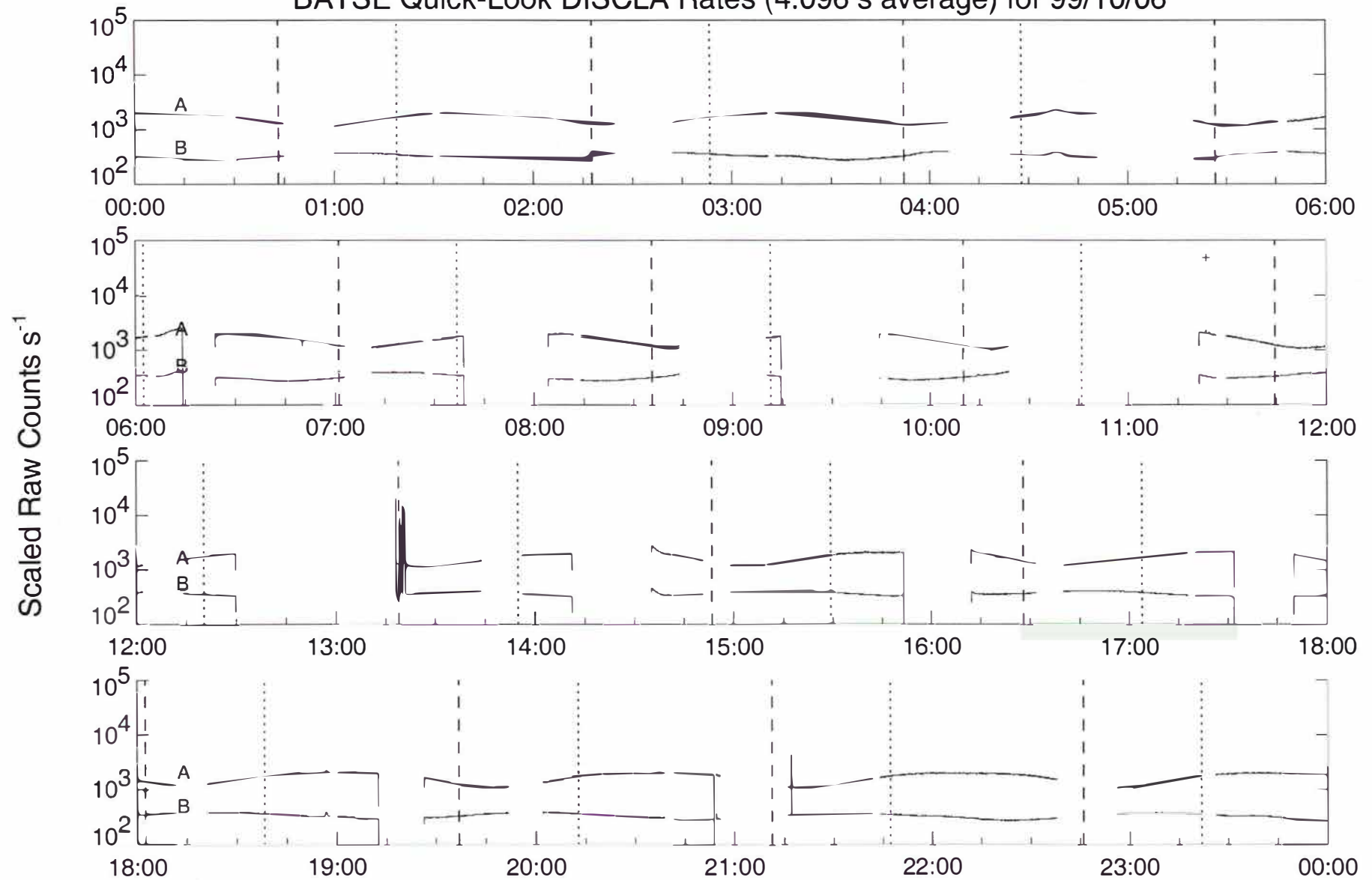
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/06

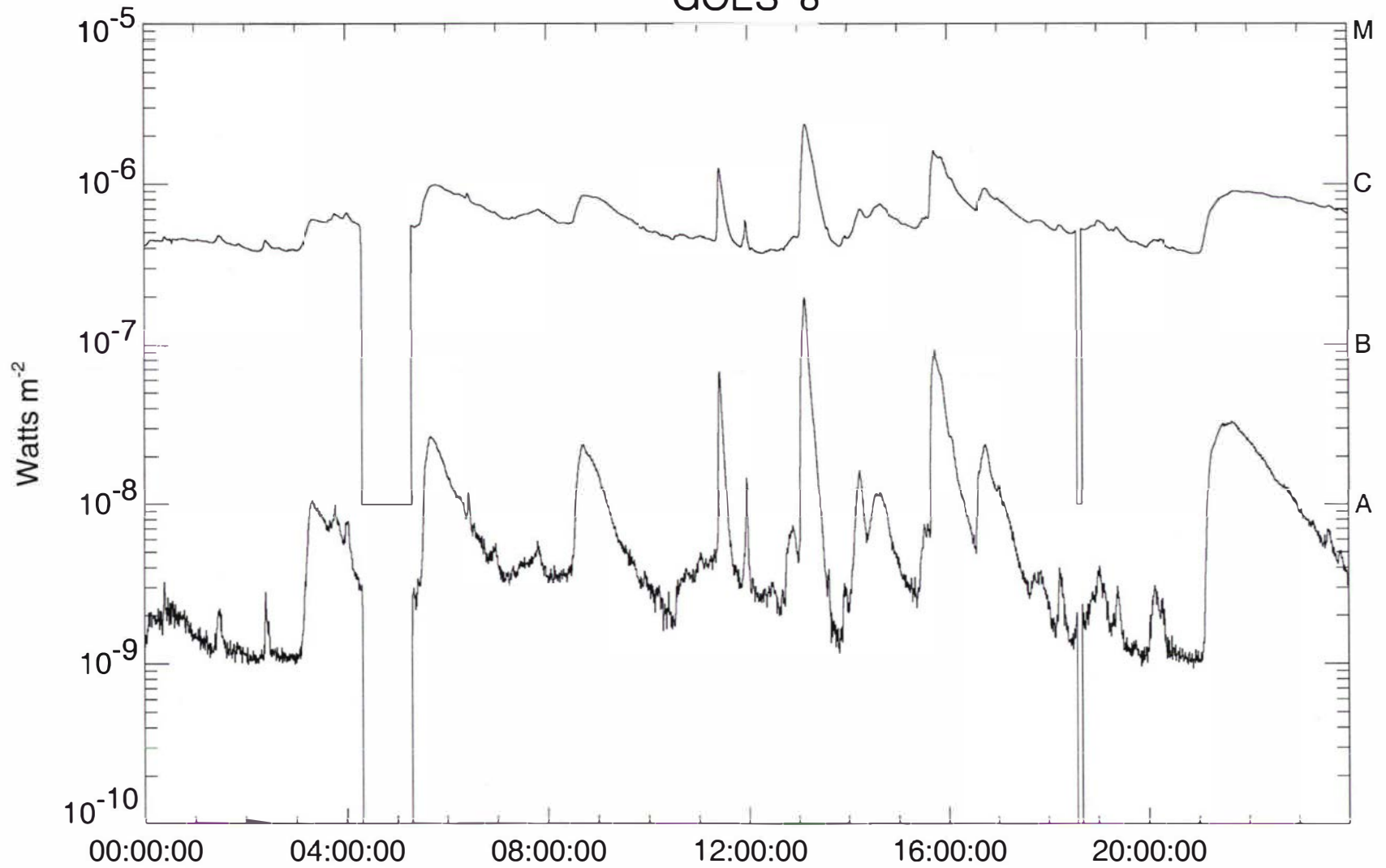


Current Time: 99/10/18, 2332 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/06, 0000:00

Plot created: 99/10/18, 2331

Channel

1 (1.0 - 8.0 Angstroms)

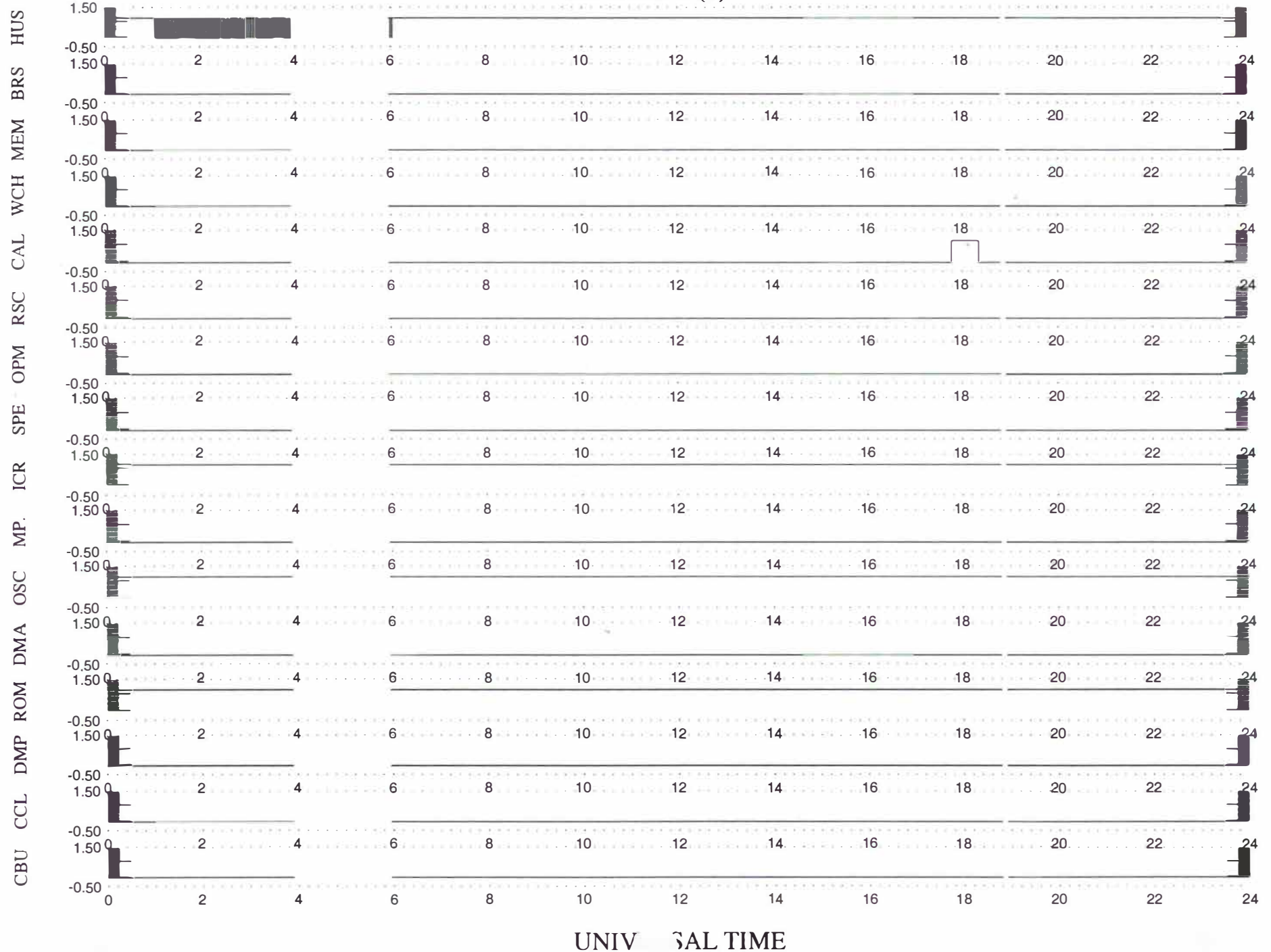
Background not subtracted

2 (0.5 - 4.0 Angstroms)

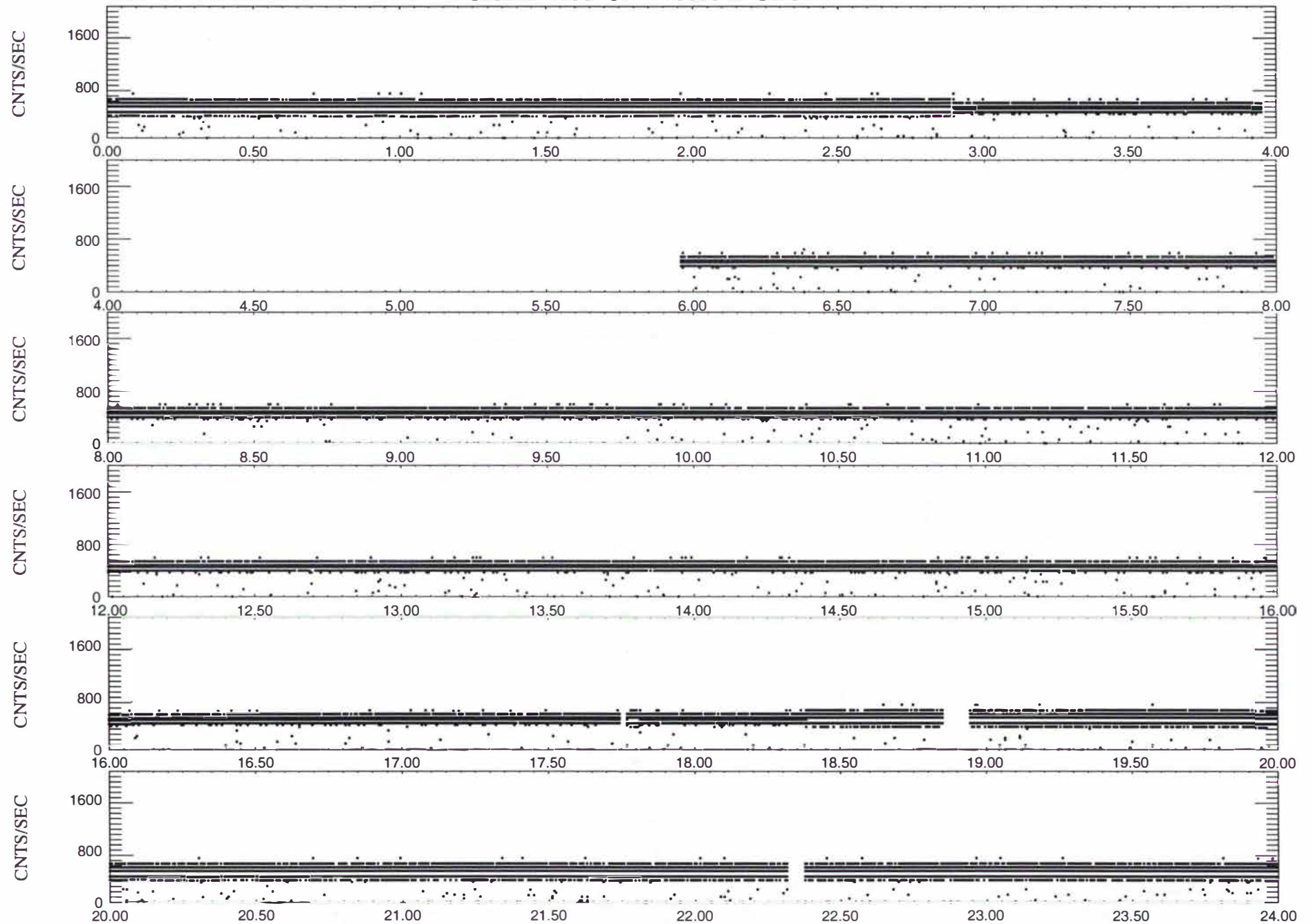
Background not subtracted

Sample average = 10

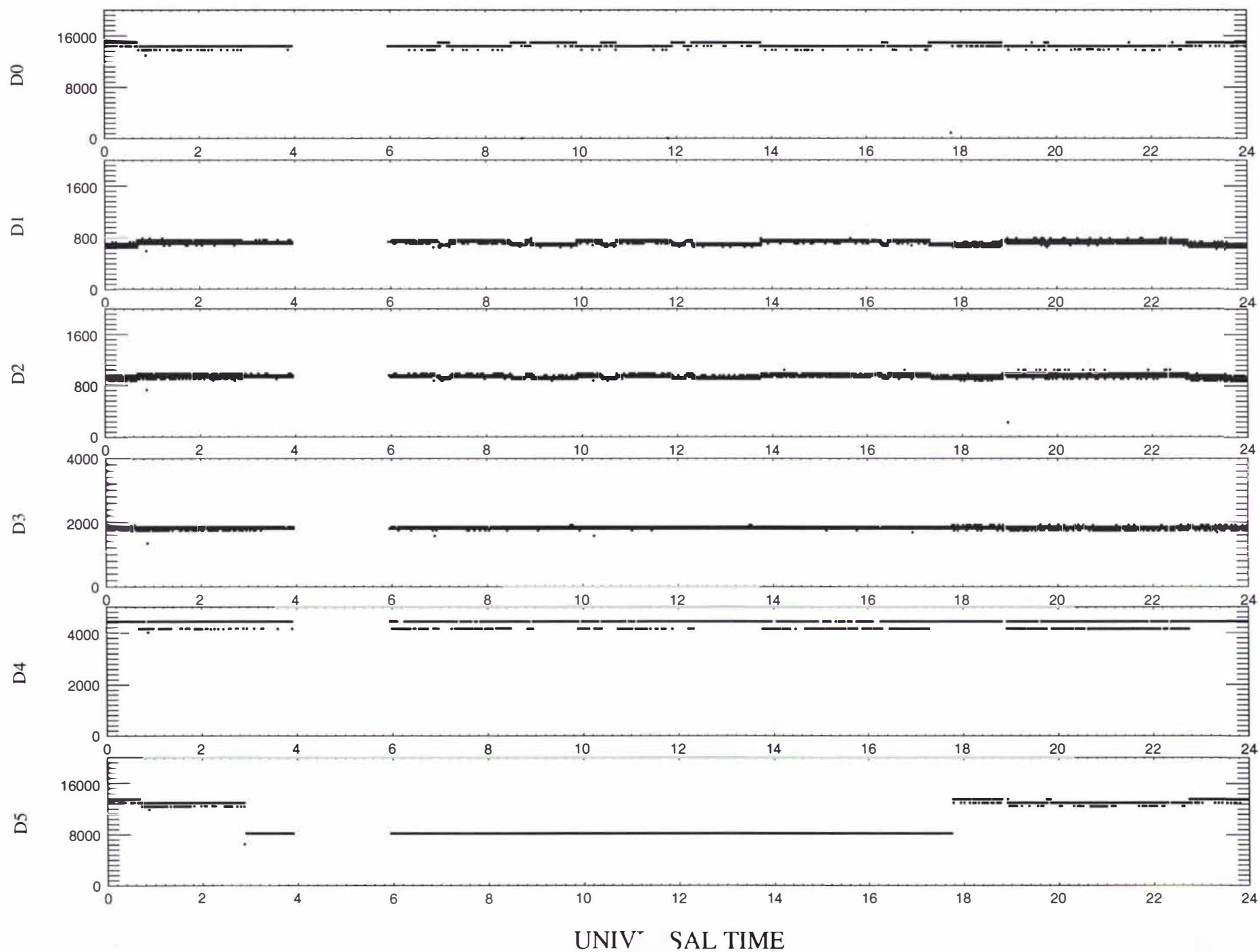
NO BURST (9)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Thu Oct 21 14:40 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:20:20 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7793

BATSEARCH PROGRAM

*No. too weak for Ulysses
Obs by NEAR*

BATSE BURST # 7793
EVENT OF 1999 OCT 7 DAY OF YEAR=280
EVENT CROSSING TIME AT BATSE : 6567. S. OR 01:49:27.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 234.000 -3.000
BATSE PEAK COUNTING RATE: 26000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 7/10/ 99 IS:
RA= 160.671 DEC= -17.710 DIST= 5.289 AU
BATSE-ULYSSES DISTANCE = 791236189. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -762.29 SECS.
CROSSING TIME AT ULYSSES IS 5805. S. OR 01:36:44 +/- 477.12 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 7/10/ 99 IS:
RA= 262.084 DEC= -25.046 DIST= 1.388 AU
MARS-BATSE DISTANCE = 207641856. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=145.12 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -568.19 SECS.
CROSSING TIME AT MARS IS 5999. S. OR 01:39:58 +/- 60.14 SECONDS

BATSE BURST TRIGGER

NO.: 7793

TIME: TJD=1458 SECONDS=6567

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=69.2 AZIMUTH=359.8 ERROR=1.4 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 1.5 S, STARTS AT T-0.01 S, MAX. AT T+0.5 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7793	991007	11458	06567	26000	234	-03	1.5

Date: May 2, '01

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data

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

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *No - 2s long burst - good χ^2 - shouldn't matter*
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

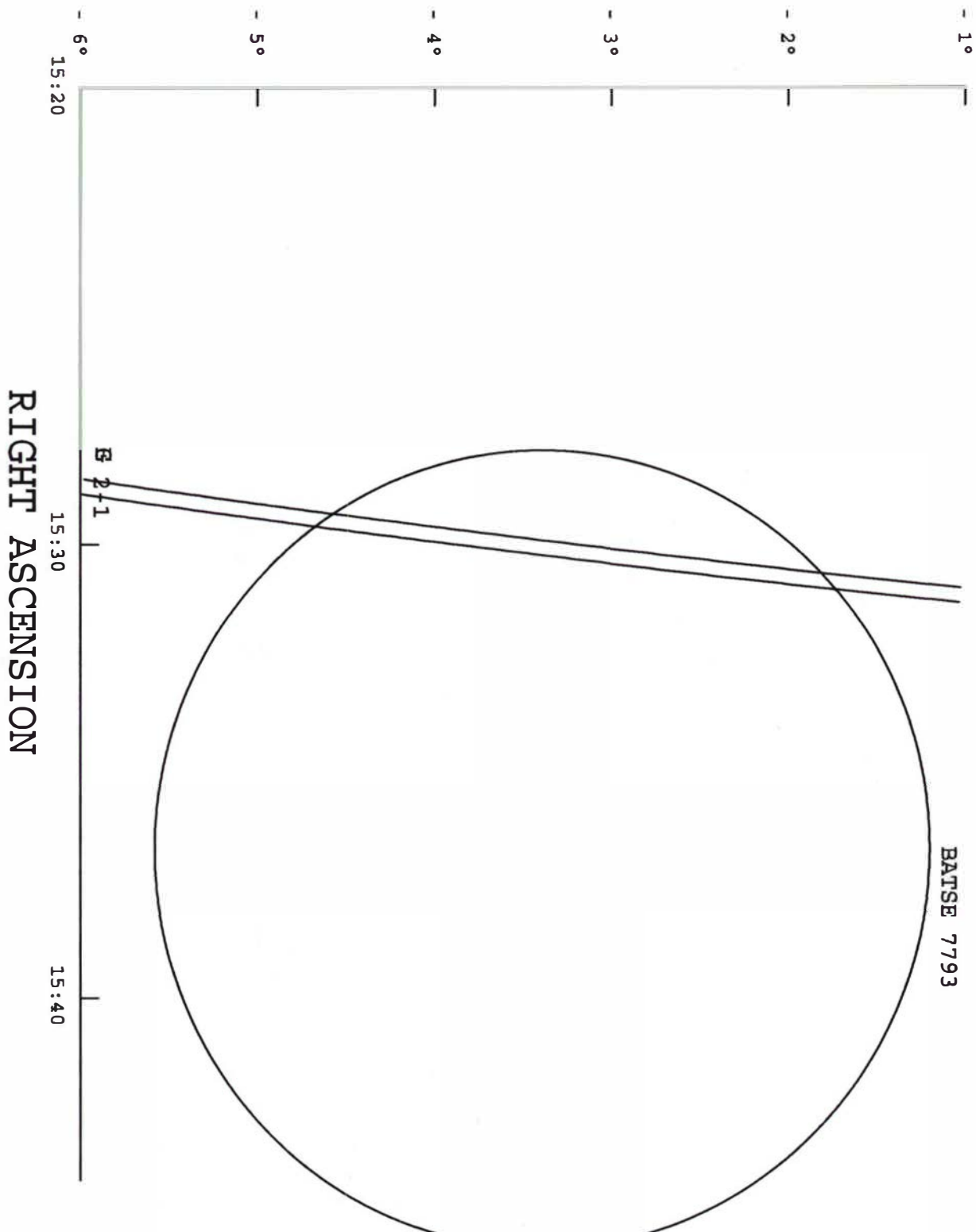
1 BATSE

2 NEAR

DECLINATION

EVENT OF OCT 7, 1999 1:49

2 / 5 / 1



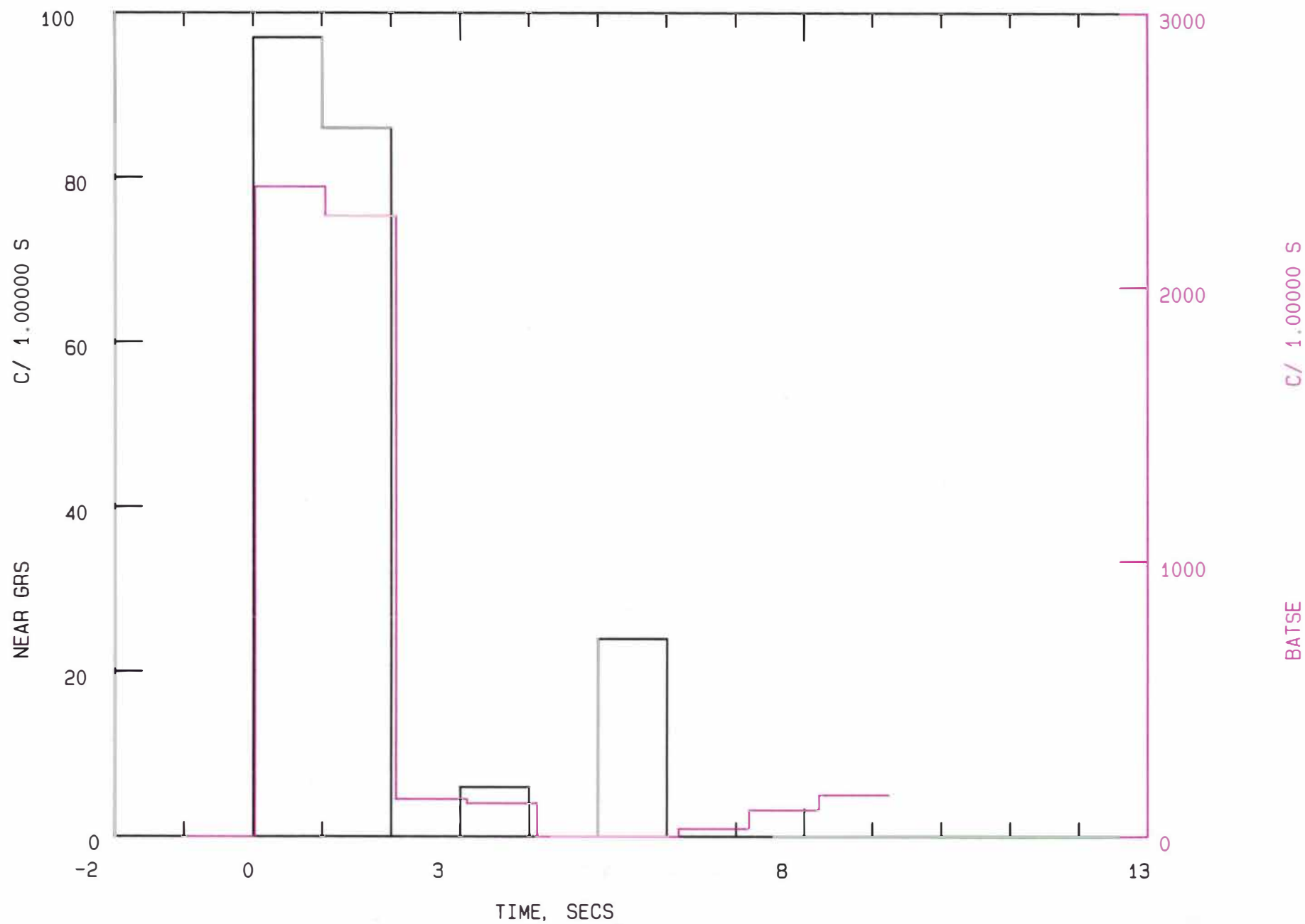
NEAR GRS -BATSE

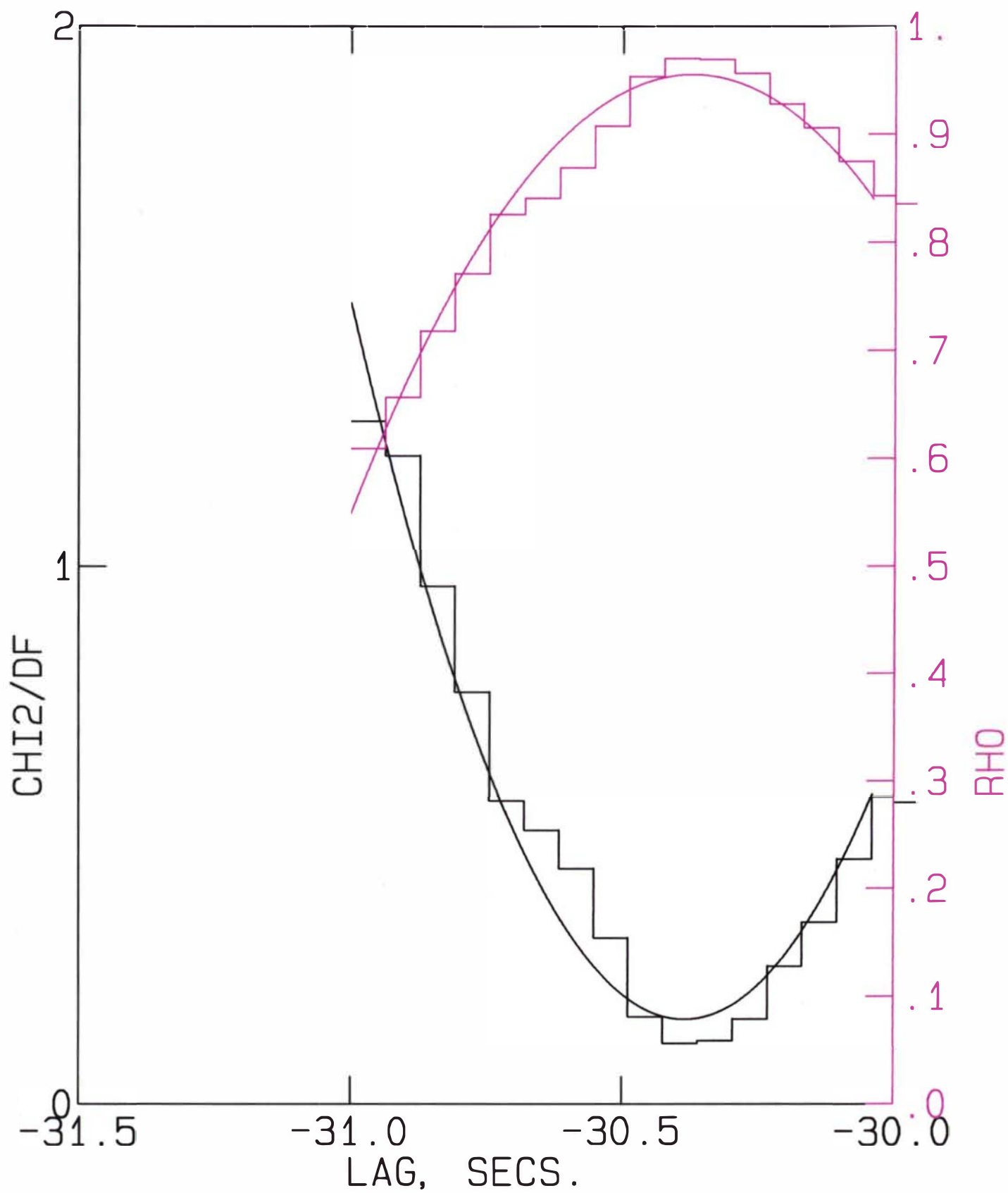
CORRELATION

07/10/99

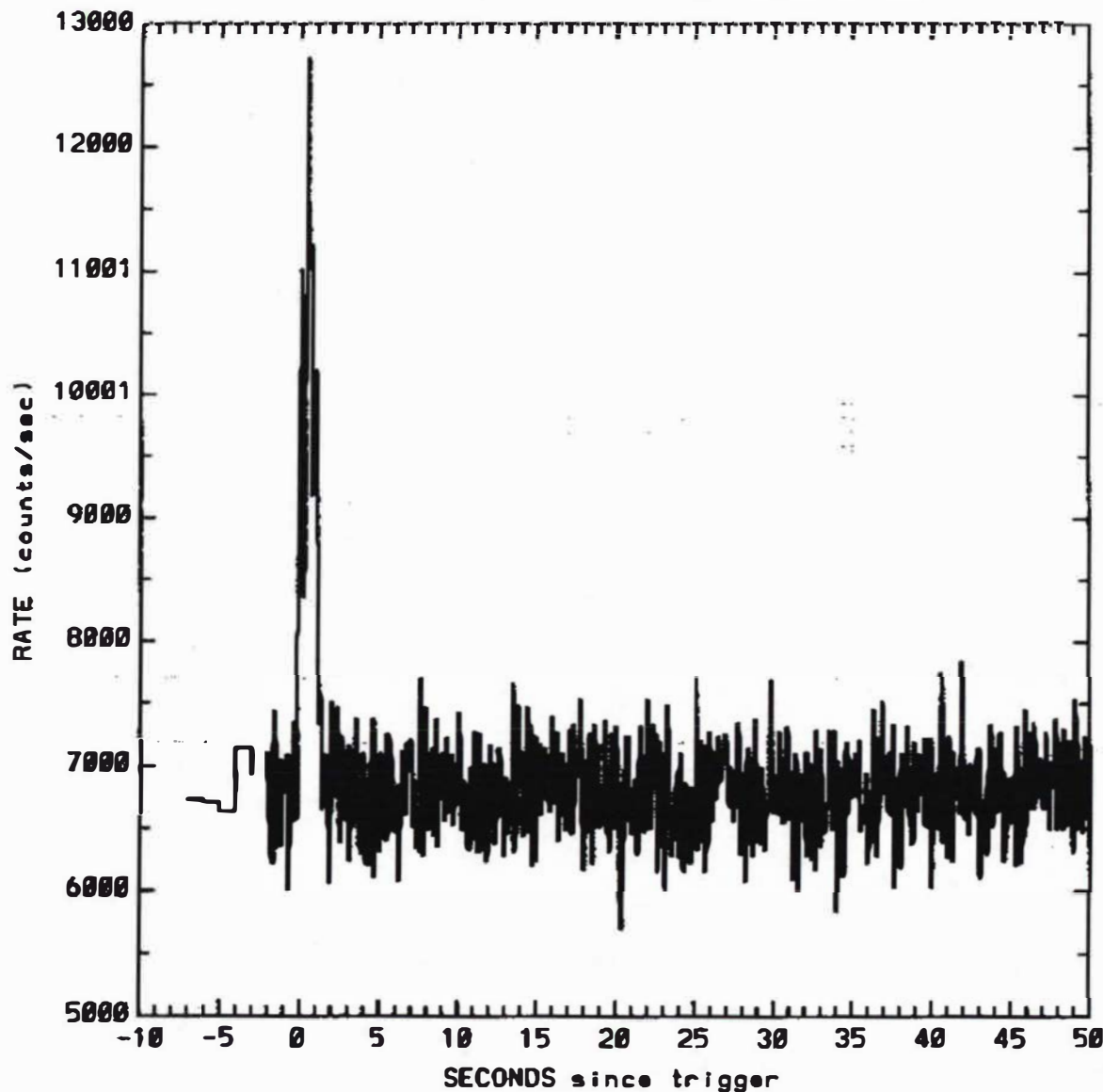
6223.354

2/ 5/ 1





DISCSC Data for K. Hurley, No. 7793



27-OCT-1999 13:18:16

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7793

Trigger Time:
11458 / 6567.689Burst Data Type:
DISCSCDeadtime
Corrected: MBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors [7..8].
-----2-8Discriminators:
1 1 . 2 1Quality Mask:
BDISPI

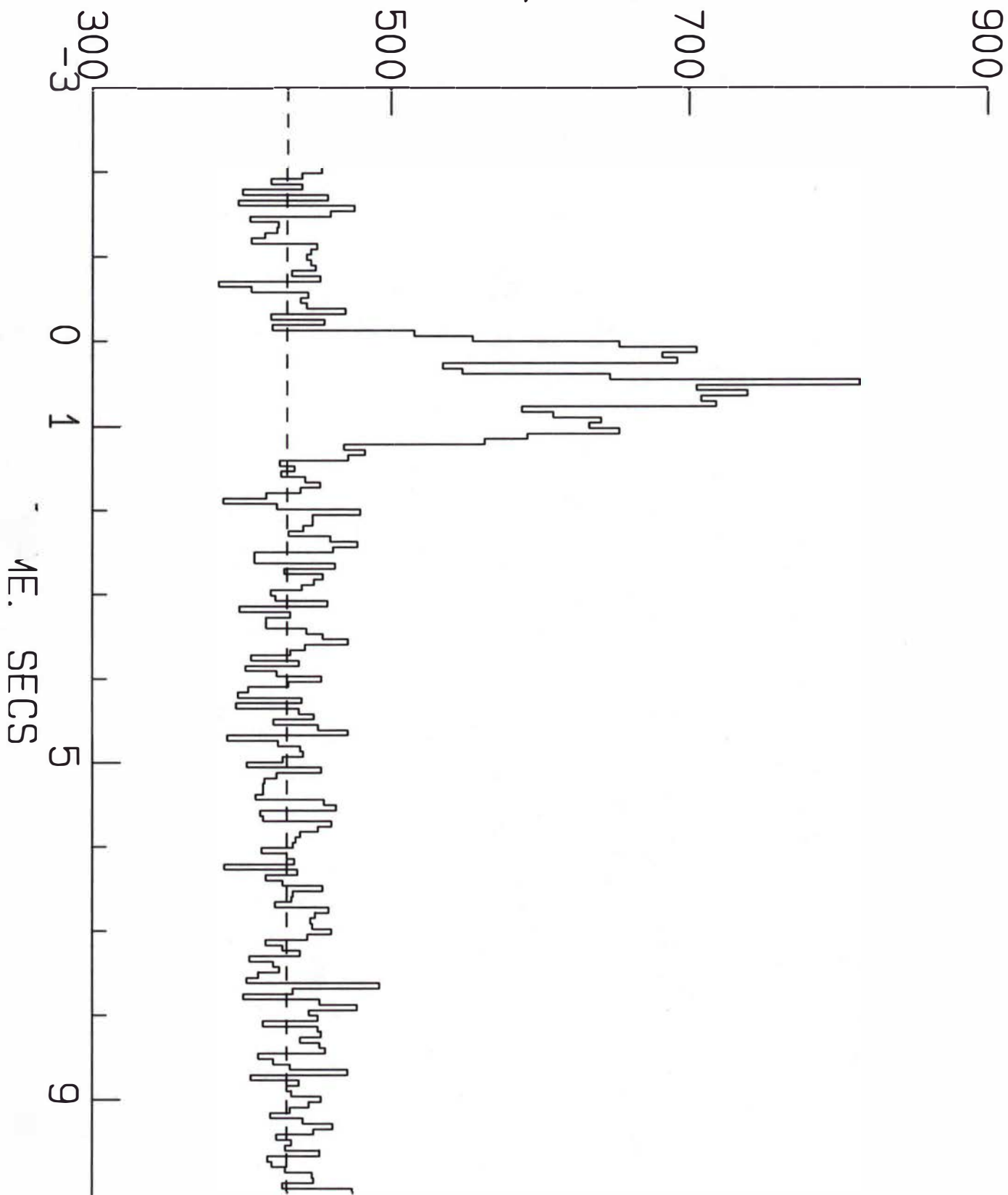
BATSE

07/10/99

6567.609

25- 100 keV

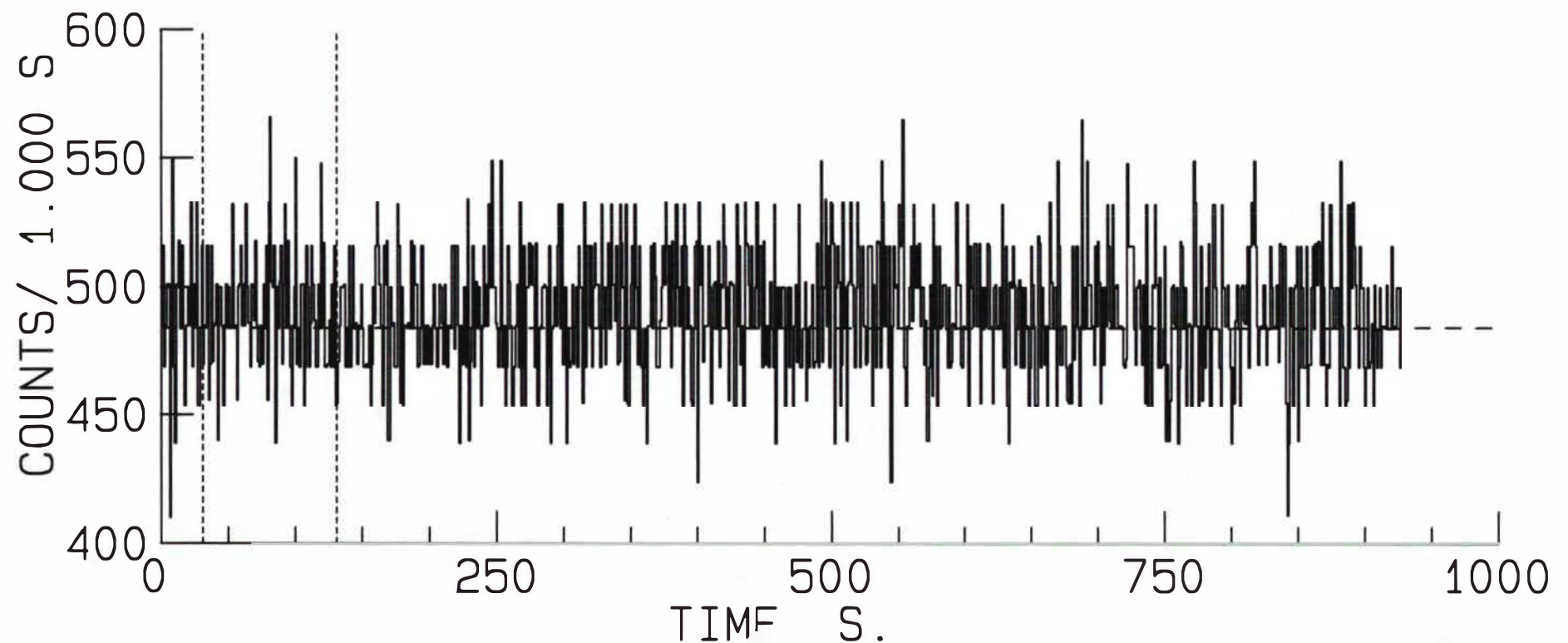
COUNTS/0.064 S



29/10/99

ULYSSES RT
7/10/99 5372.811 s
0.250 S INTERVALS REGROUPED BY 4
22- 150 keV

29/10/99



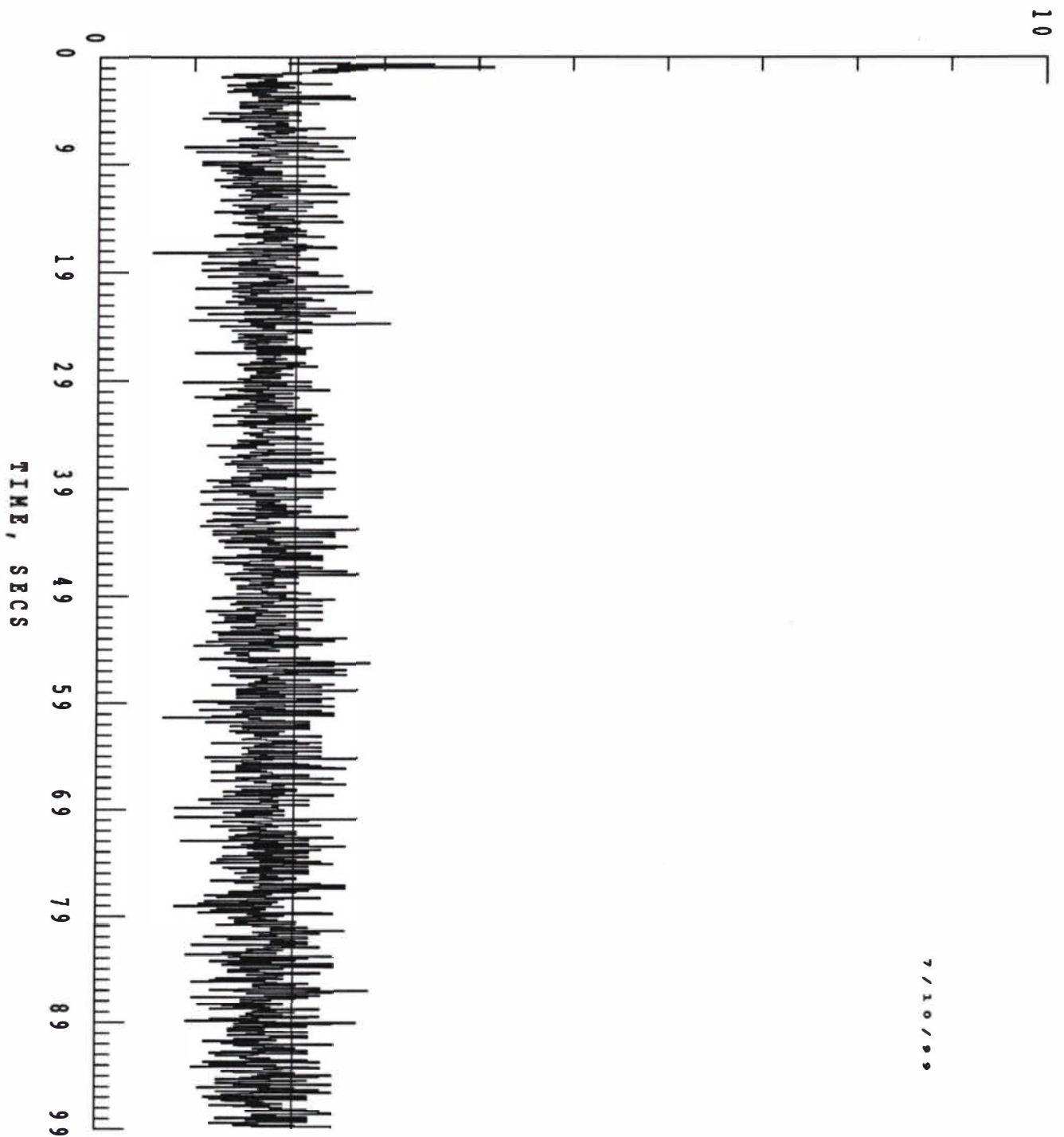
KONUS

07/10/99

6568.239

50 - 200 keV

COUNTS/0.064 S



7/10/99

KONUS2 19991007 06568

ULYSSES RT

17 / 03 / 00

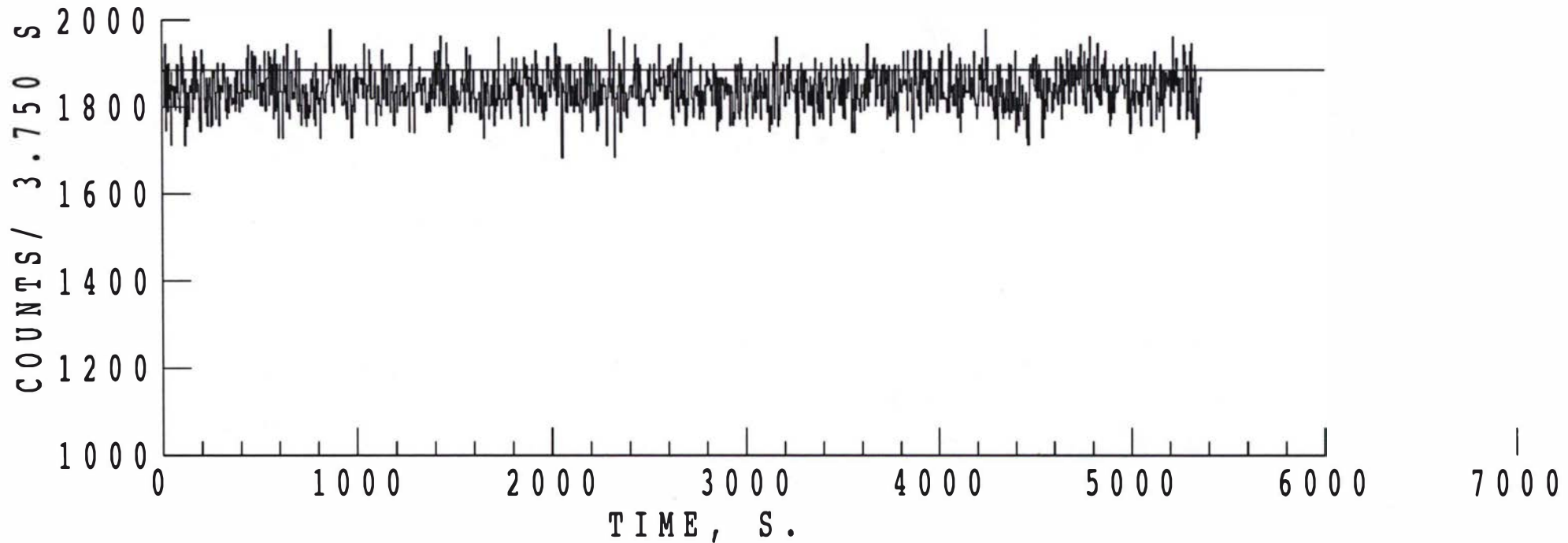
07/10/99 3888.045 s

0.250 S INTERVALS REGROUPED BY 15

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

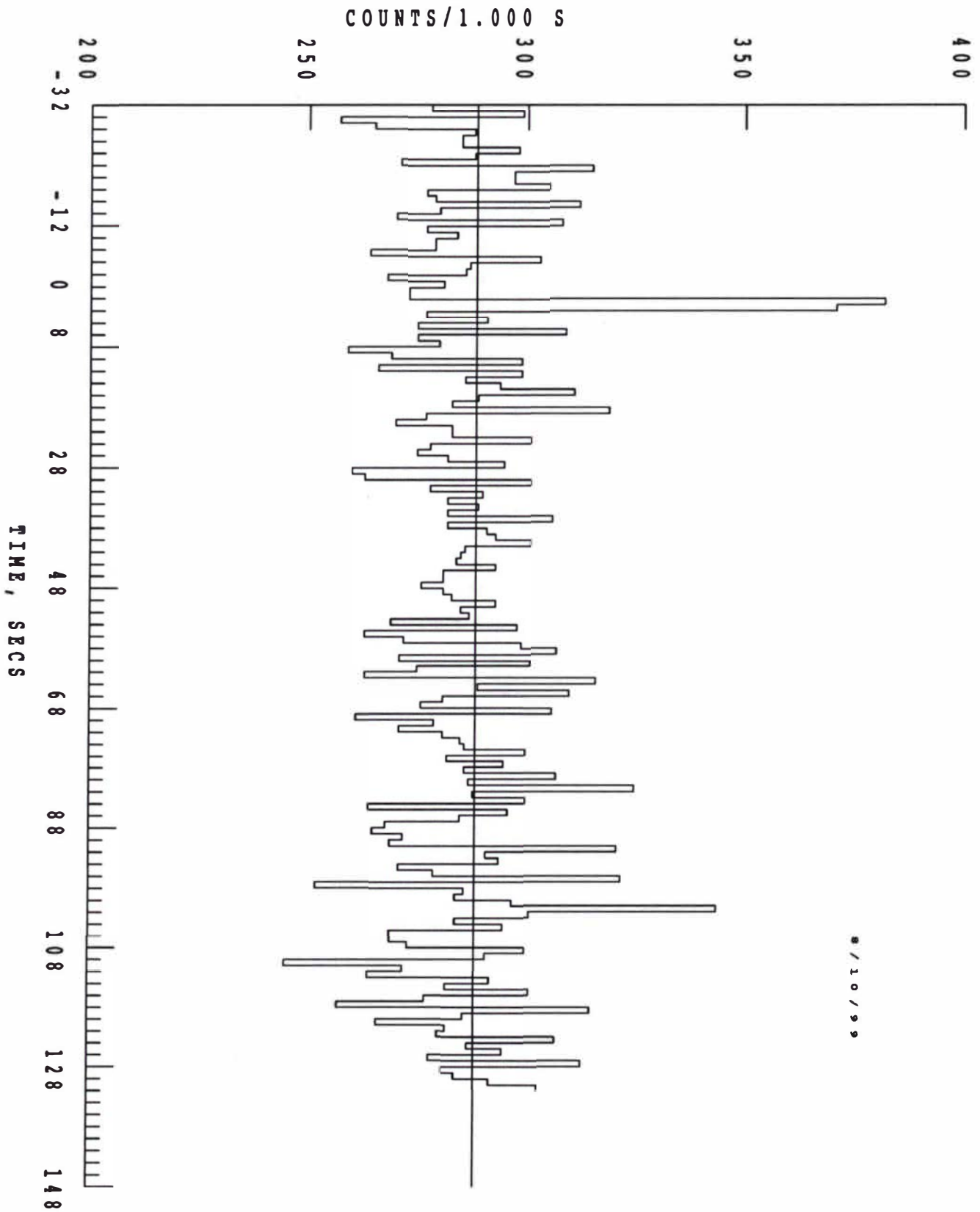


NEAR

07/10/99

6223.354

100-1000 keV



Date: Jul 5 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 ULYSSES

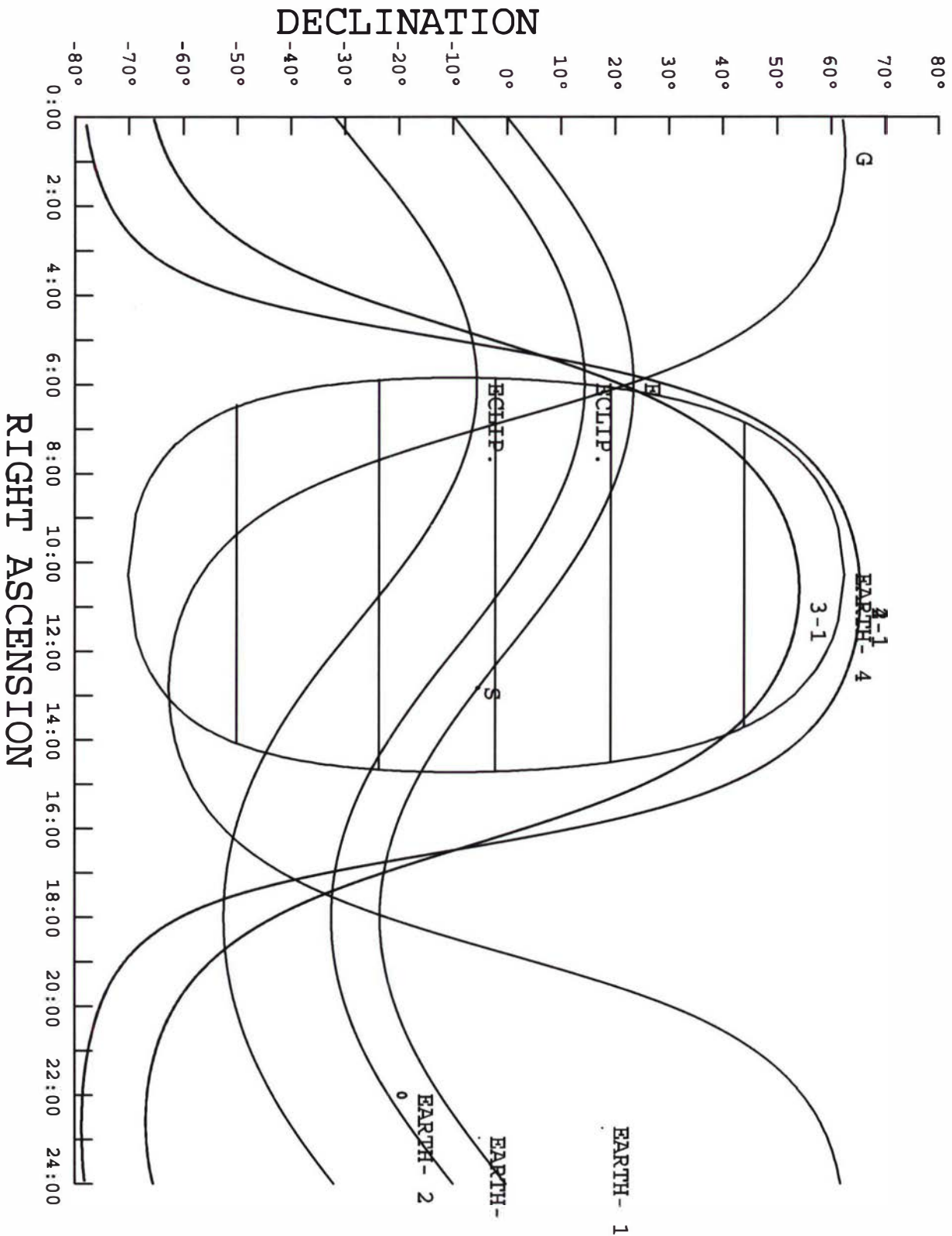
2 KONUS1

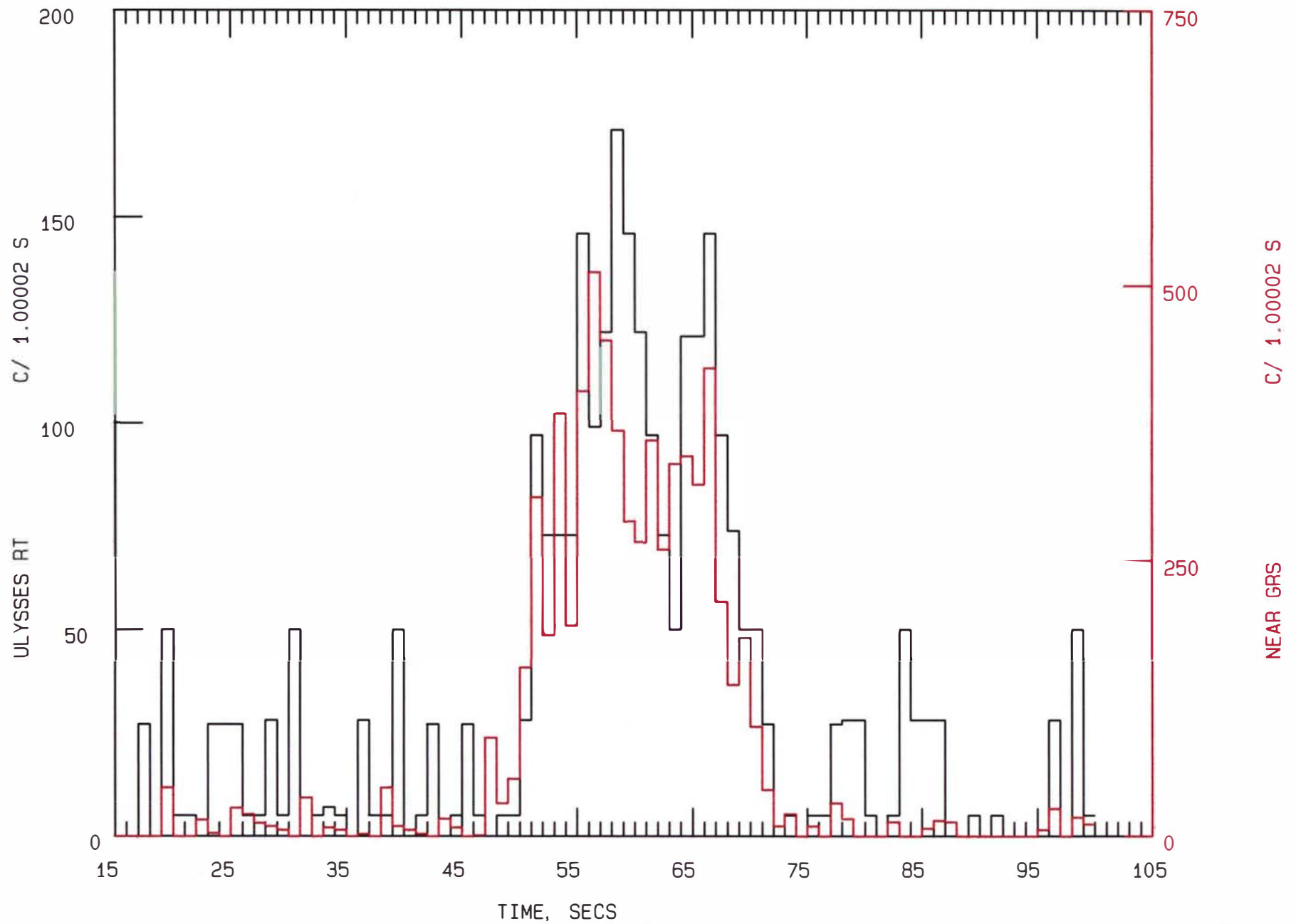
3 NEAR

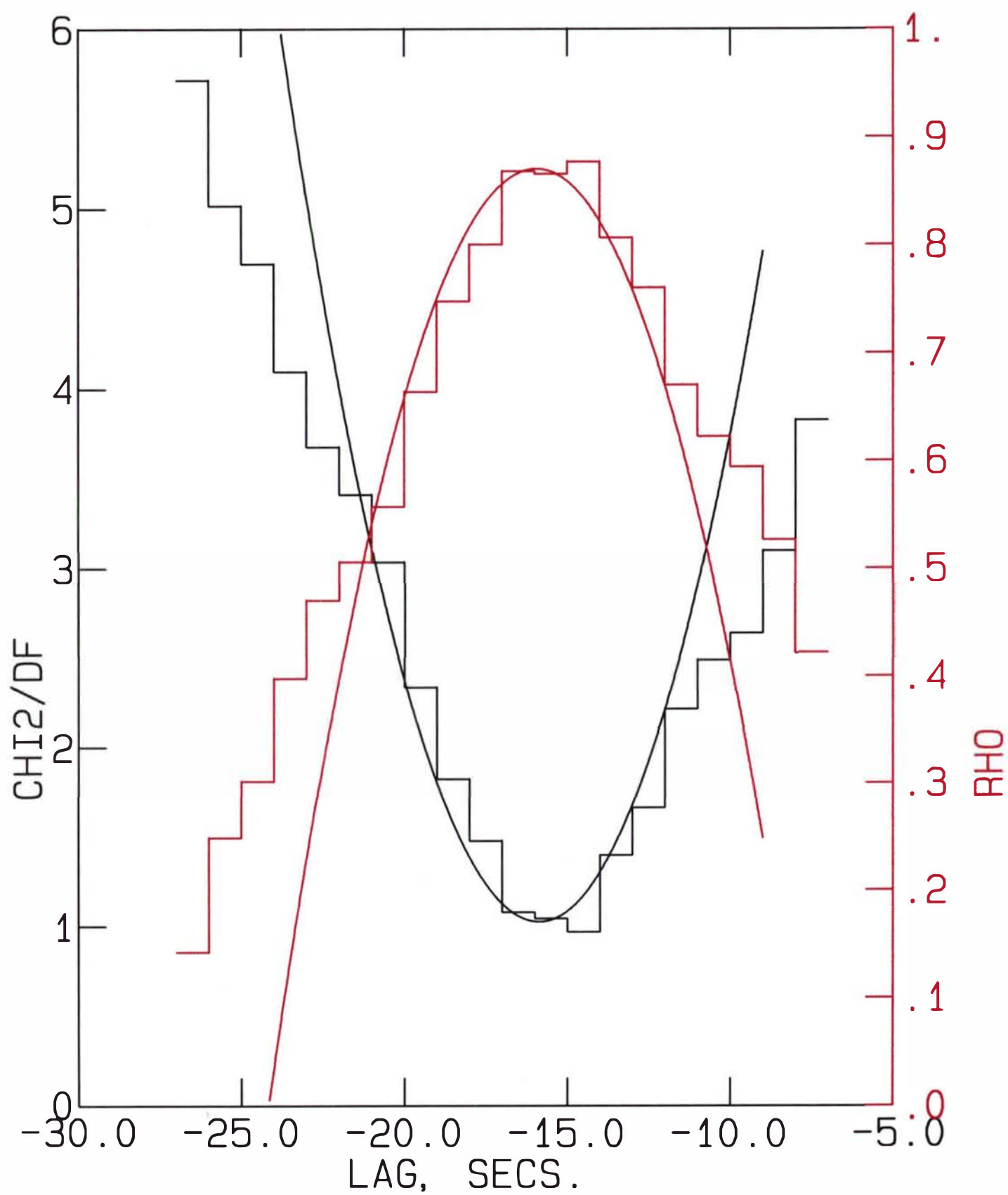
4 SAX

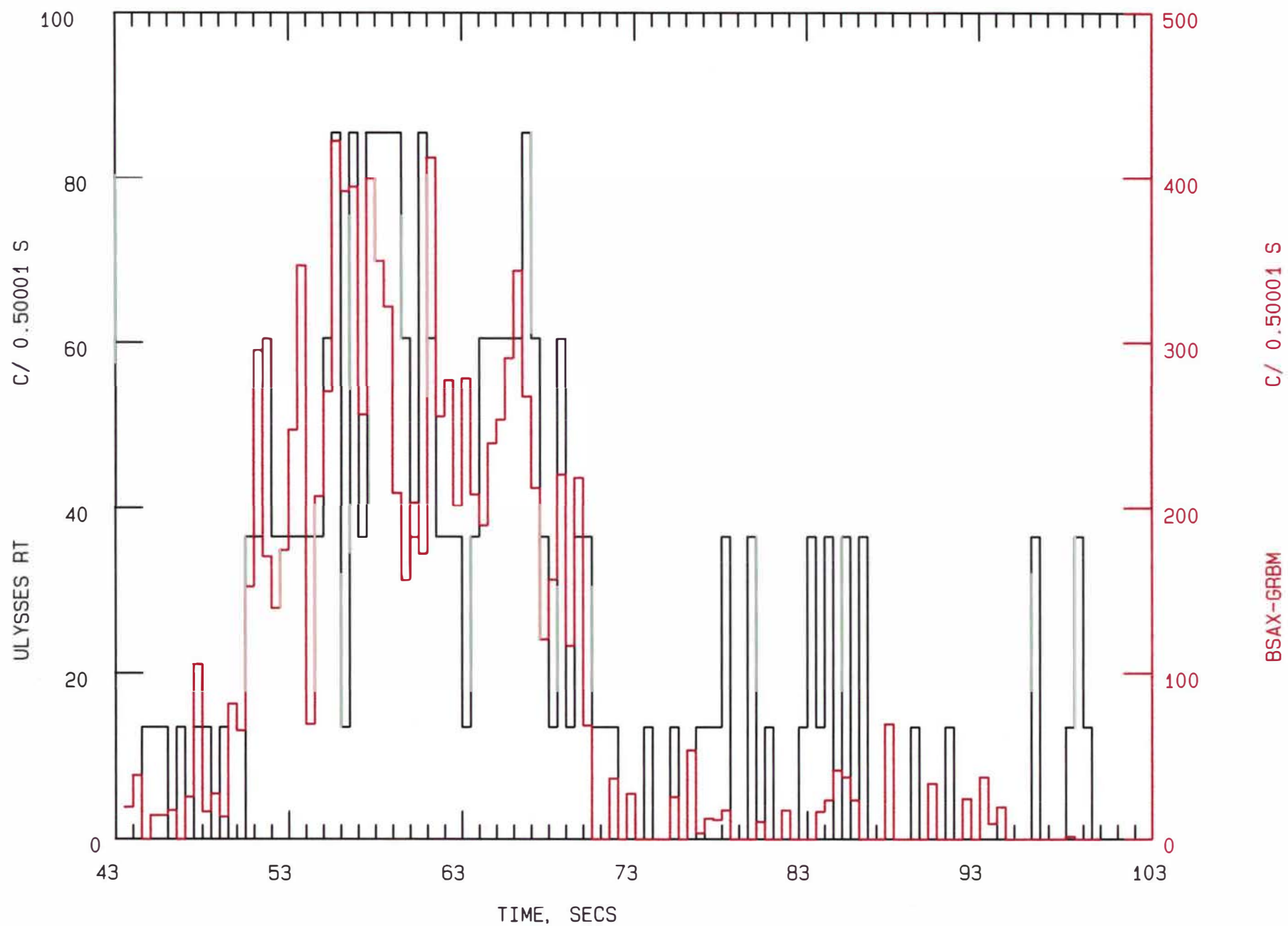
EVENT OF OCT 7, 1999 6:28

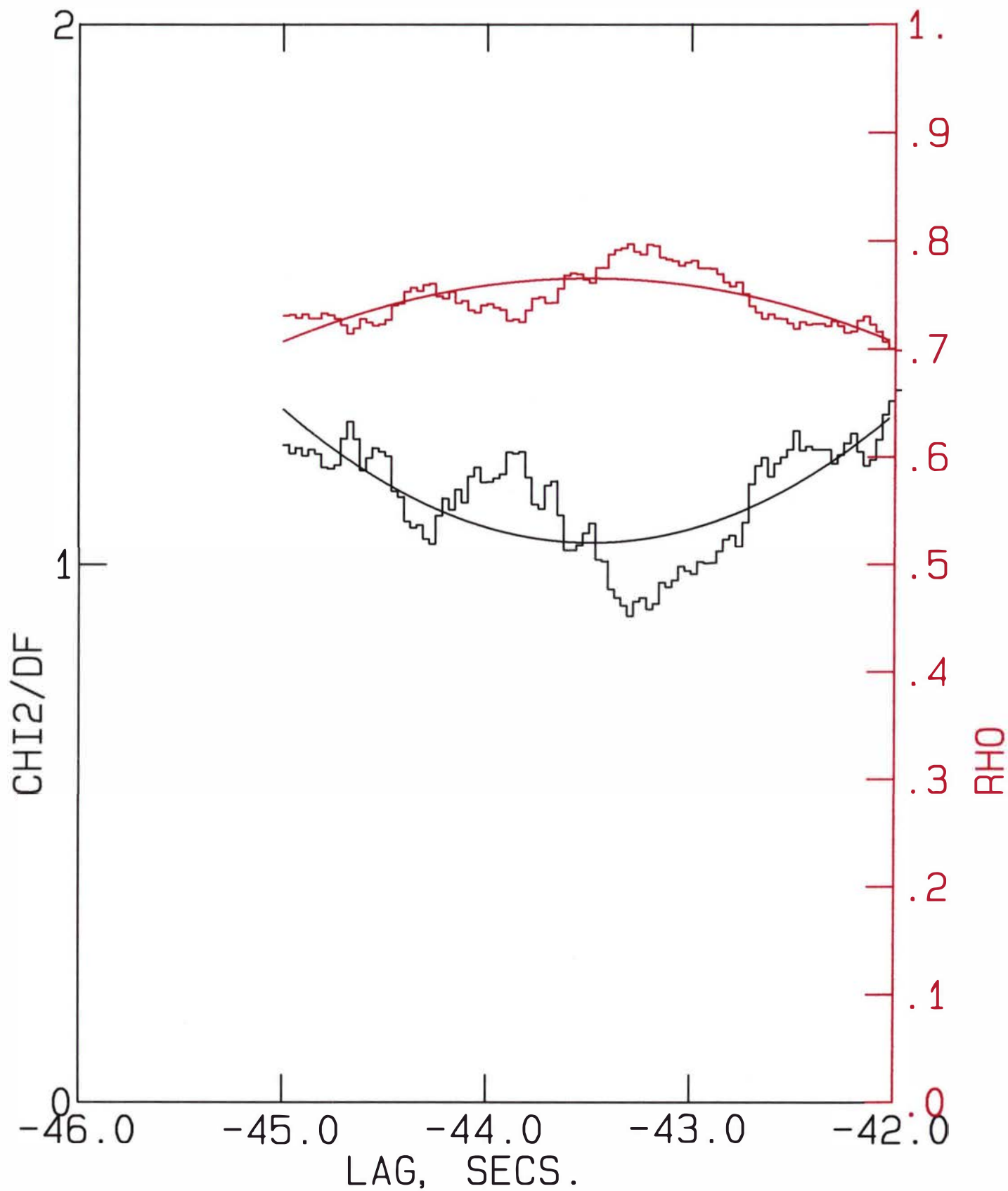
5 / 7 / 7

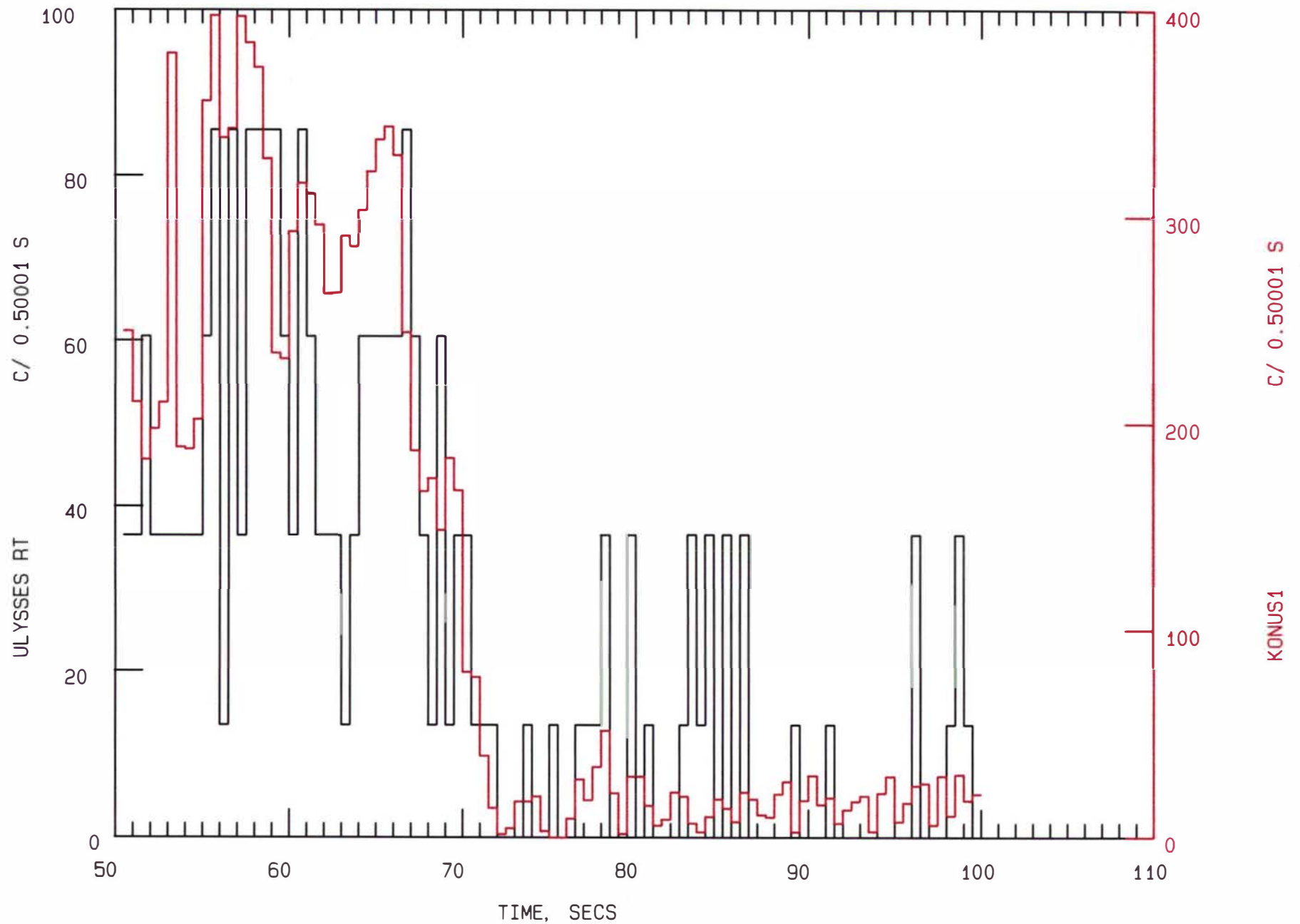


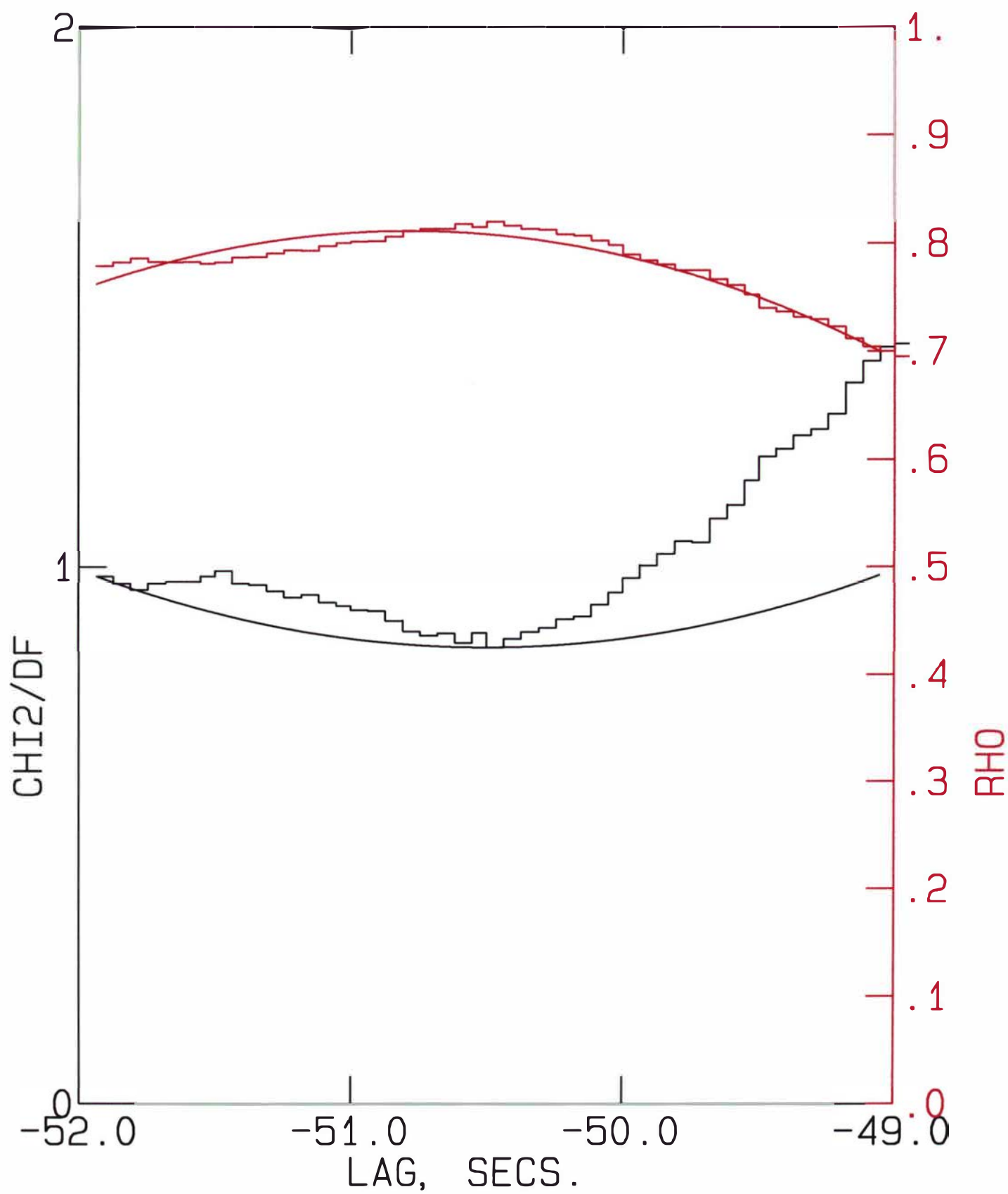








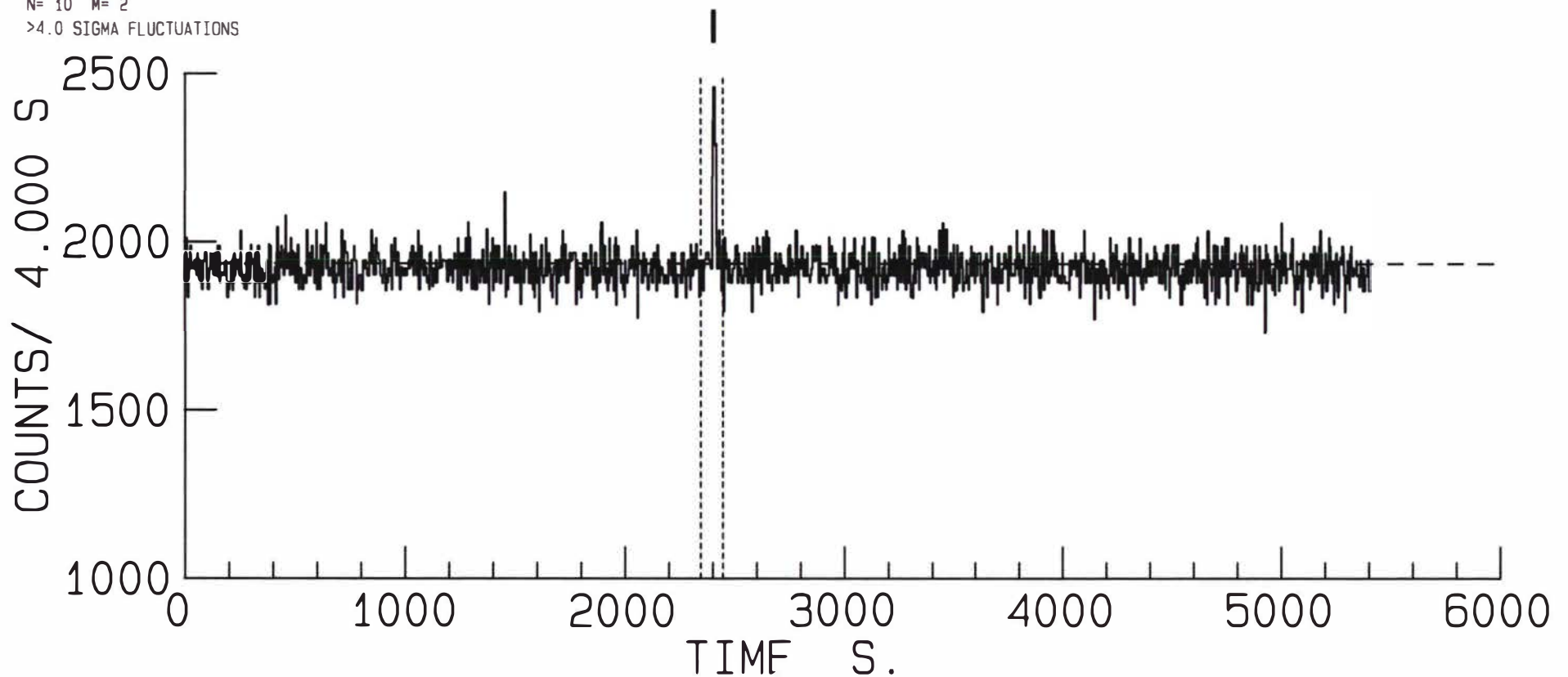




ULYSSES RT
7/10/99 20952.221 s
0.500 S INTERVALS REGROUPED BY 8
22- 151 keV

5 / 7 / 7

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

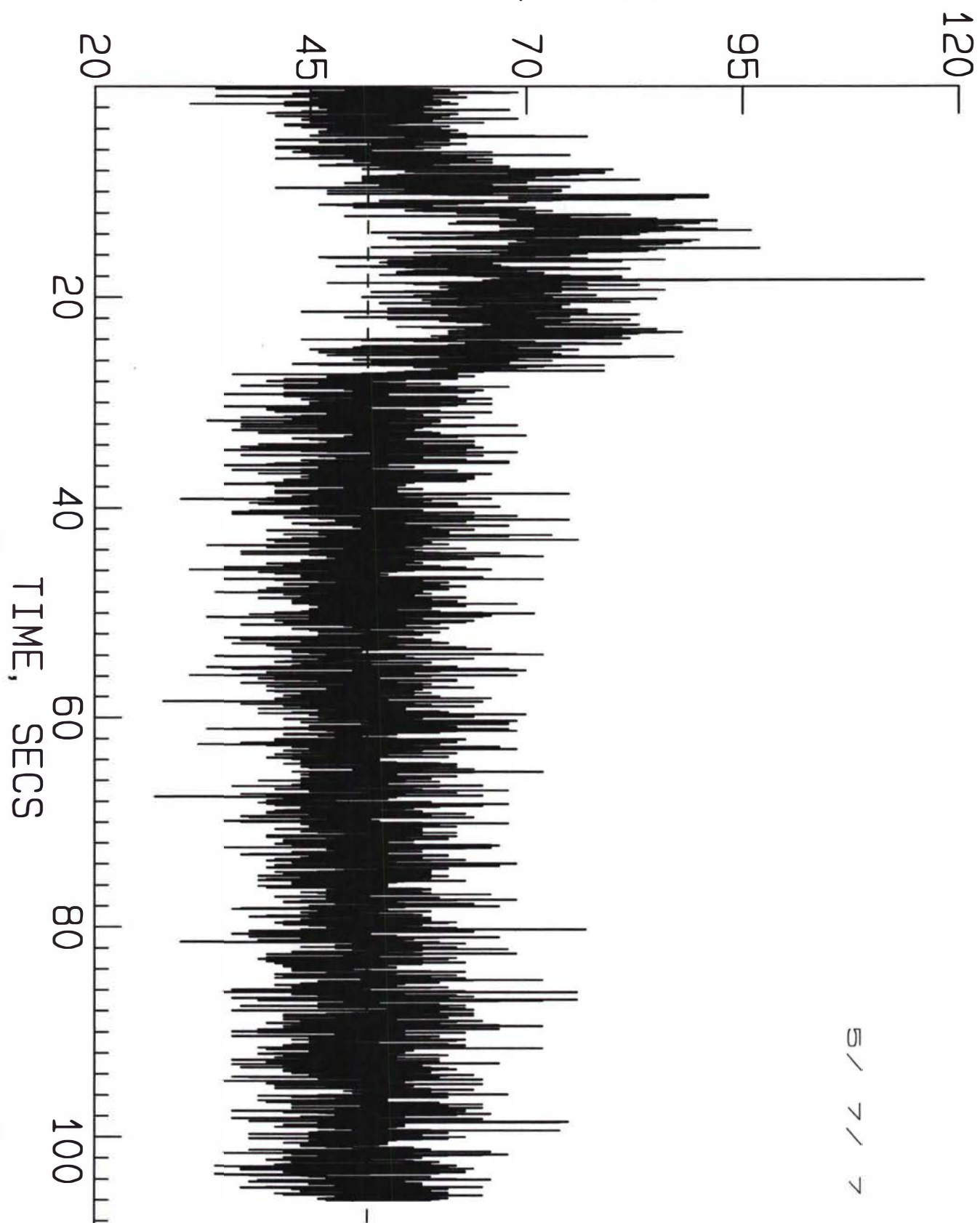


SAX GRBM

07/10/99 23645.698

40- 700 keV

COUNTS/0.031 S



5 / 7 / 7

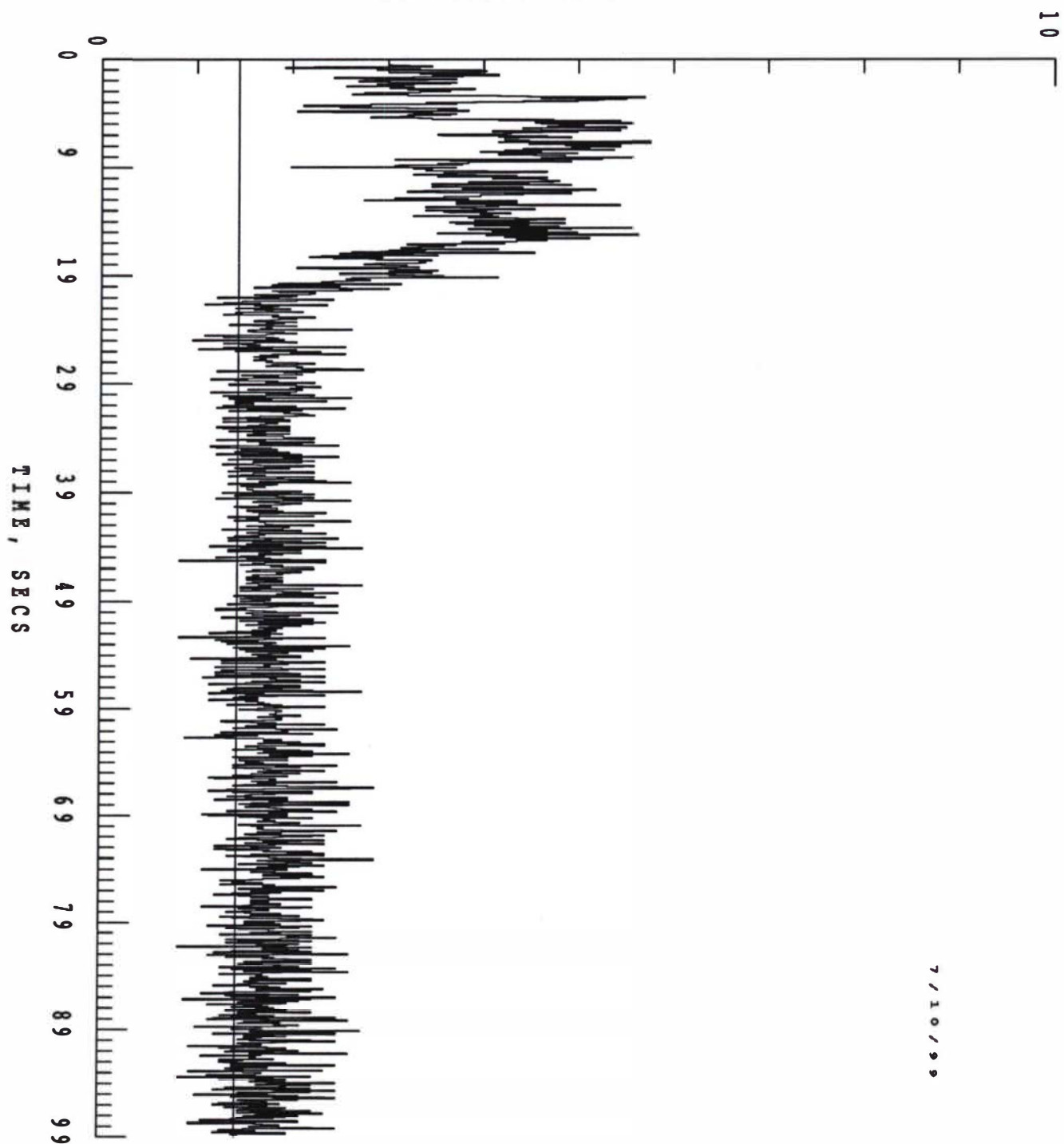
KONUS

07/10/99

23653.084

50 - 200 keV

COUNTS/0.064 S



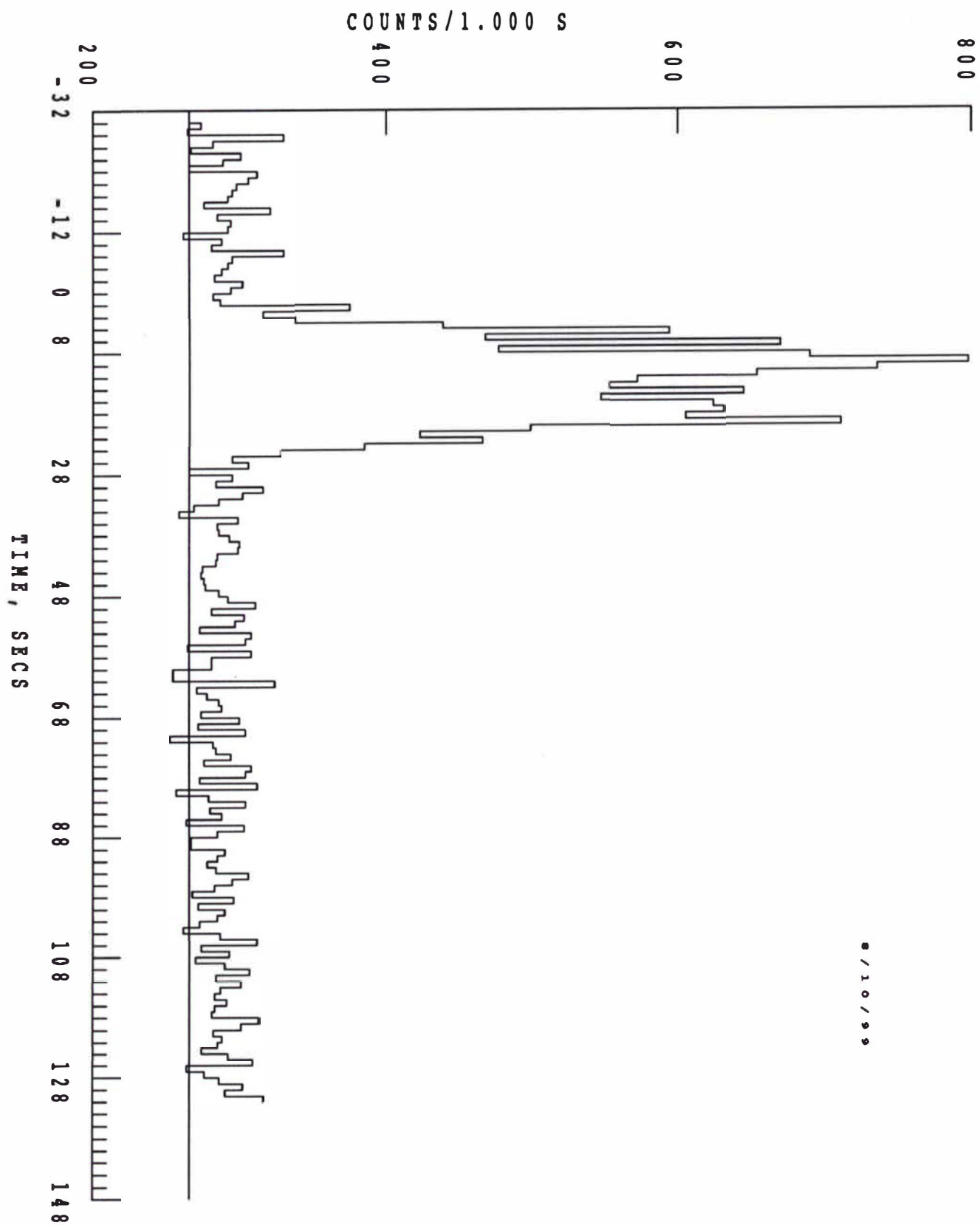
7/10/99

NEAR

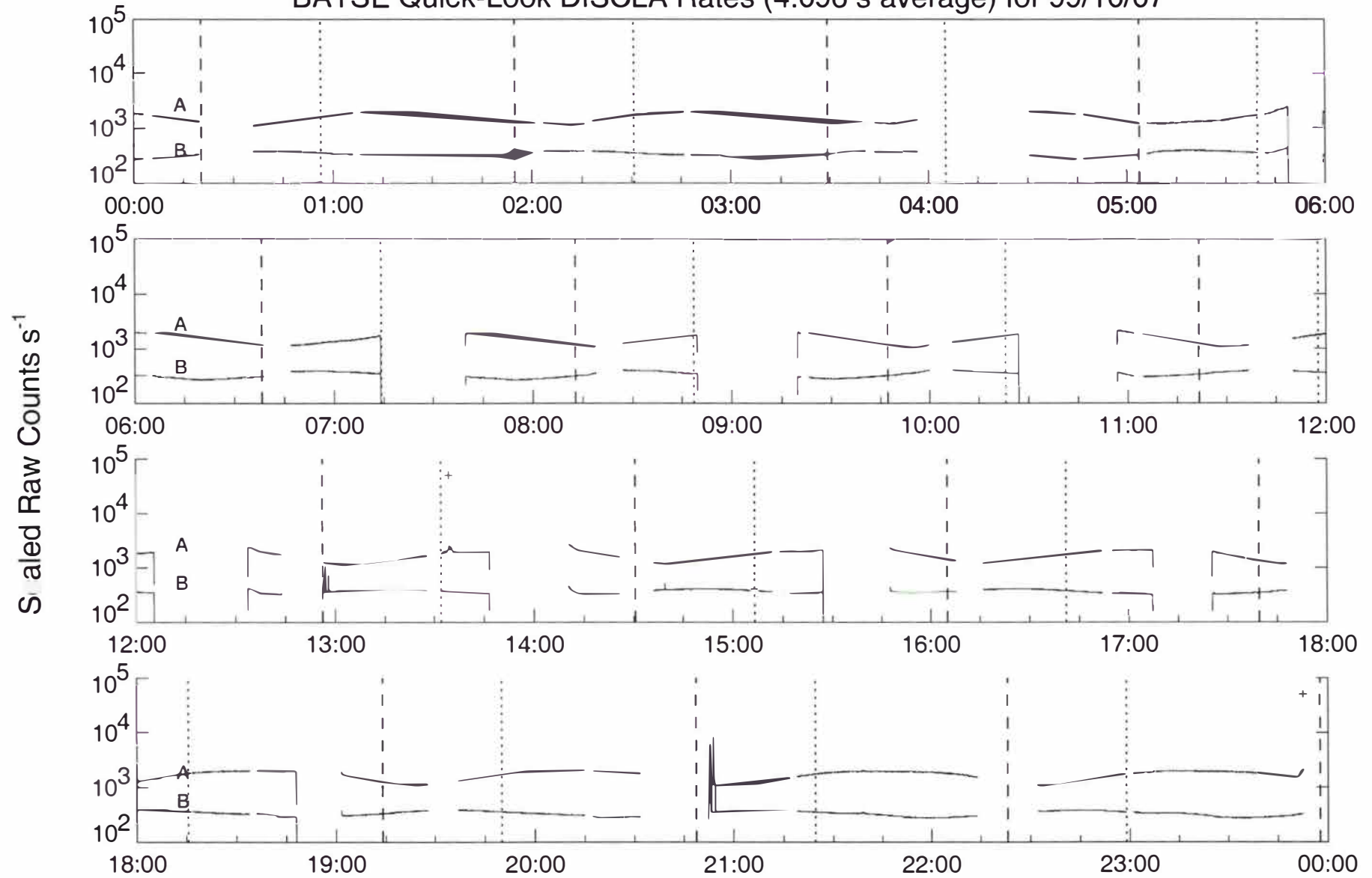
07/10/99

23544.346

100-1000 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/07

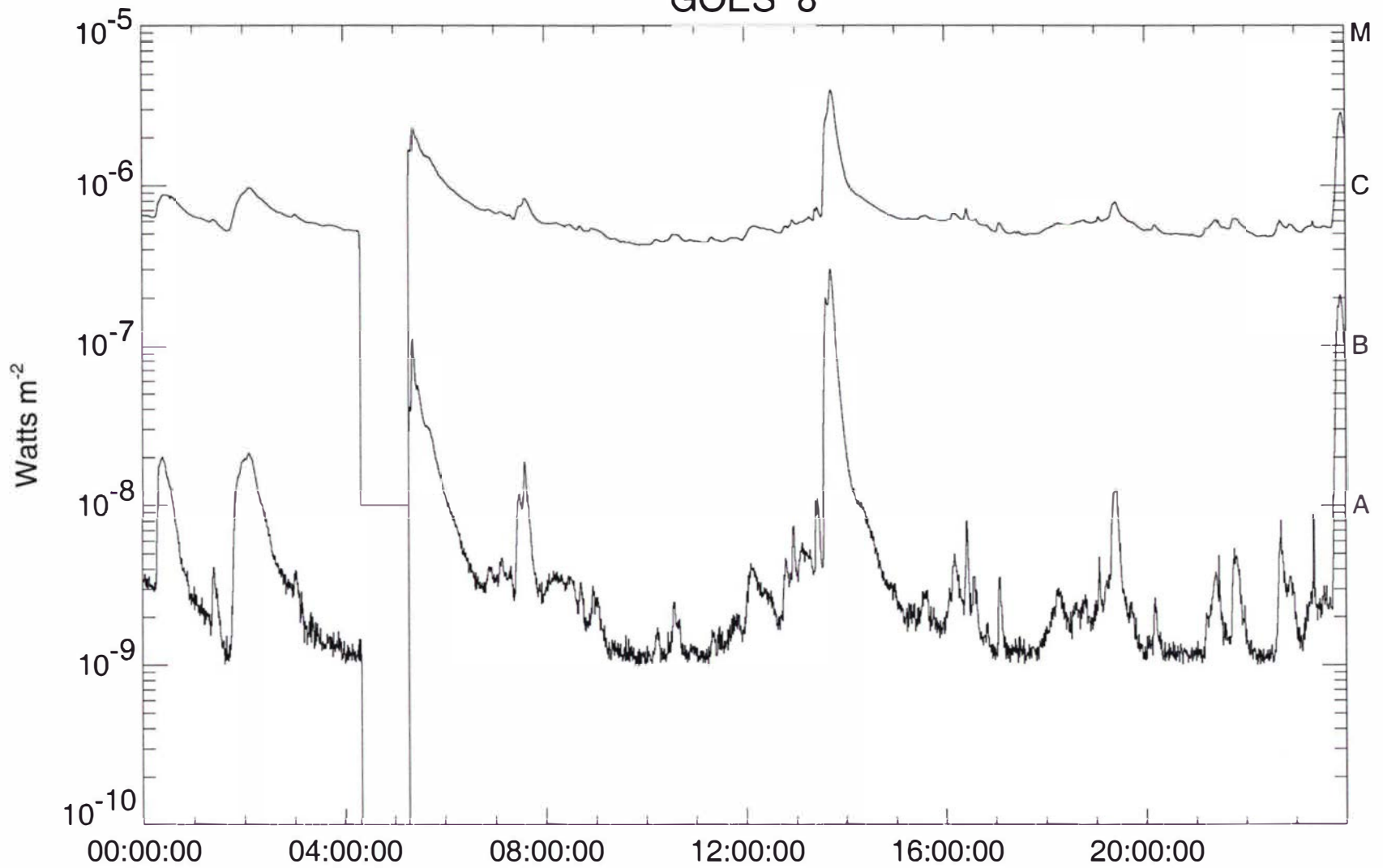


Current Time: 99/10/18, 2336 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/07, 0000:00

Plot created: 99/10/18, 2335

Channel

1 (1.0 - 8.0 Angstroms)

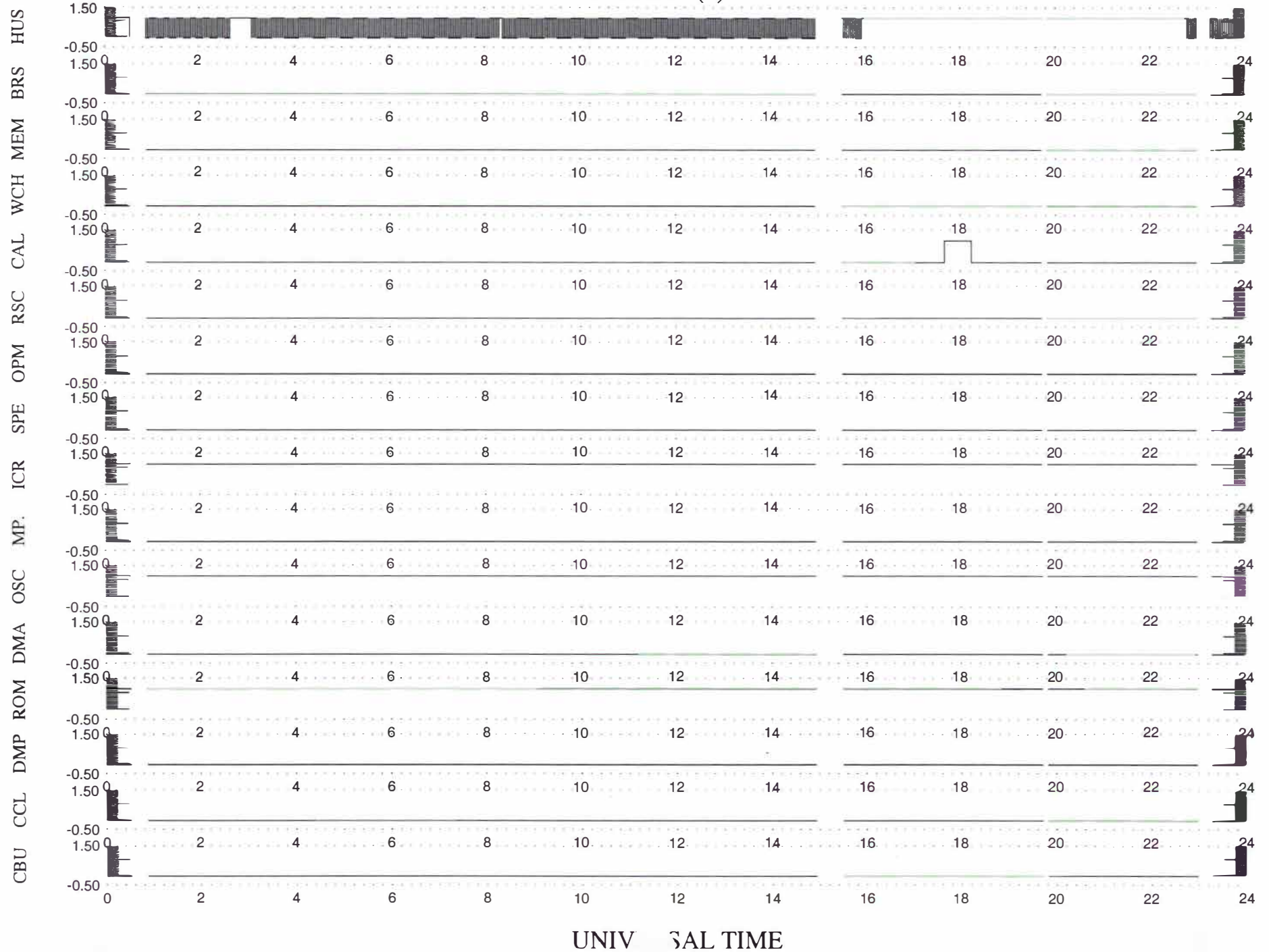
Background not subtracted

2 (0.5 - 4.0 Angstroms)

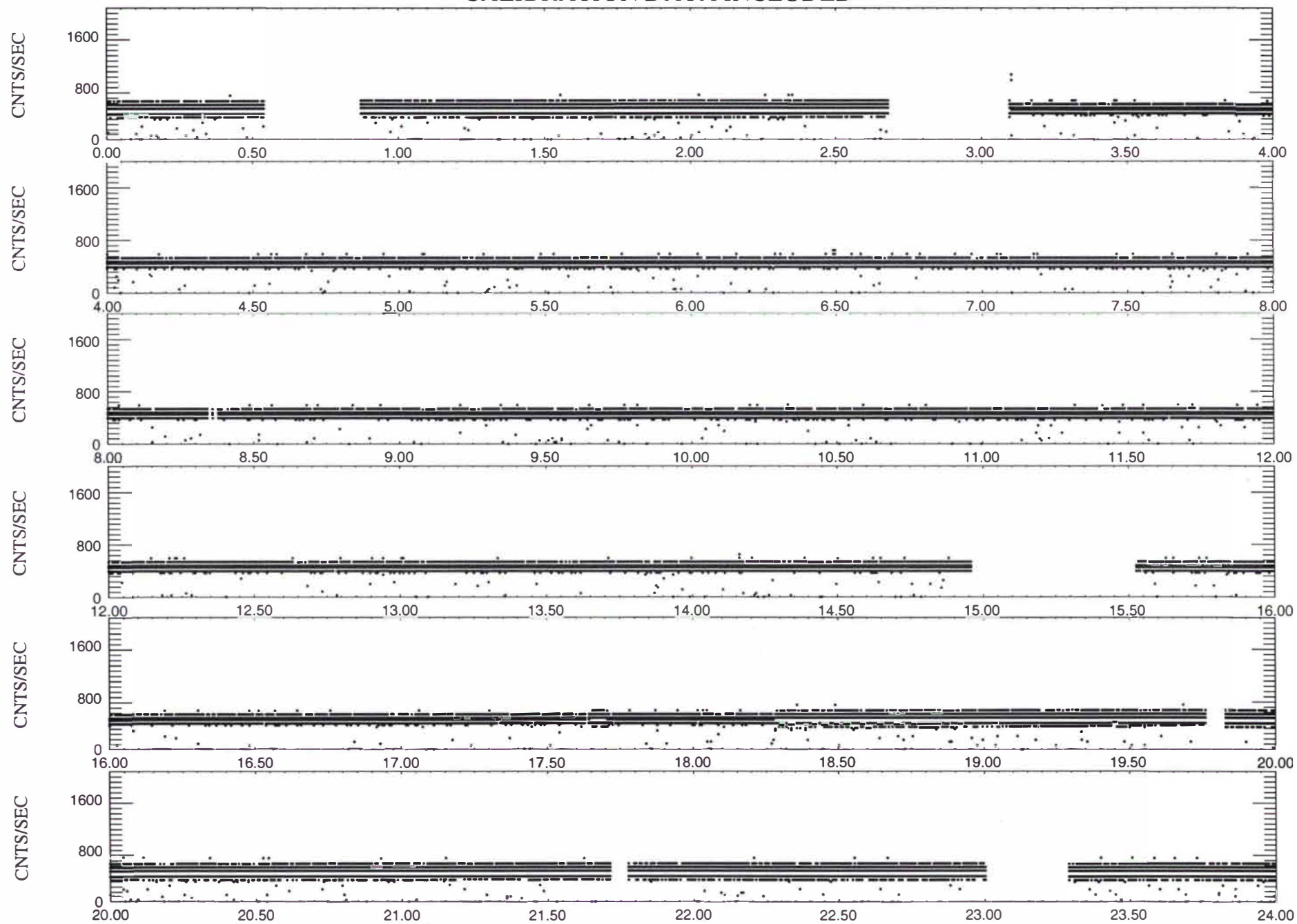
Background not subtracted

Sample average = 10

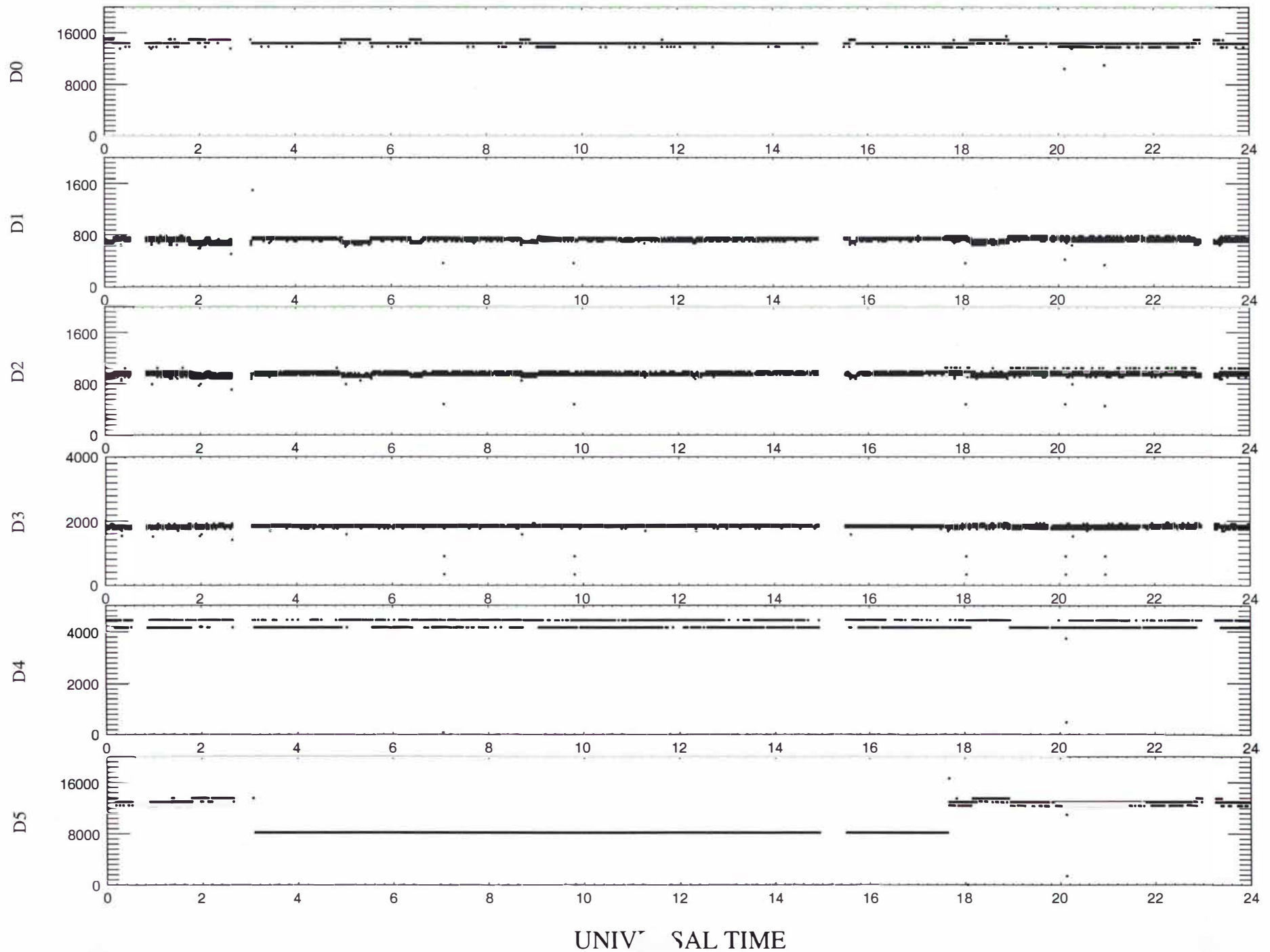
NO BURST (9)



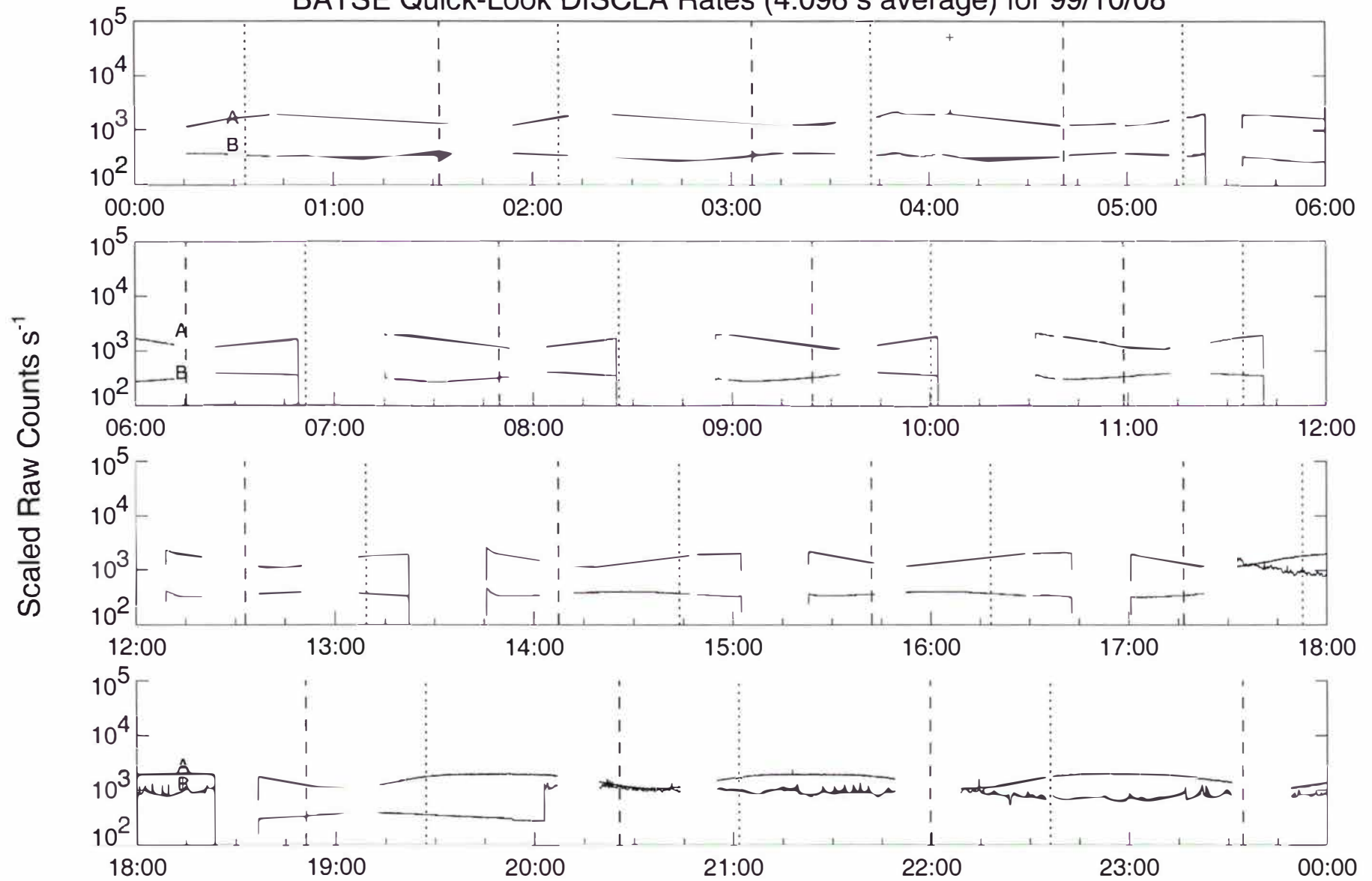
CALIBRATION DATA INCLUDED



UNIV SAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/08

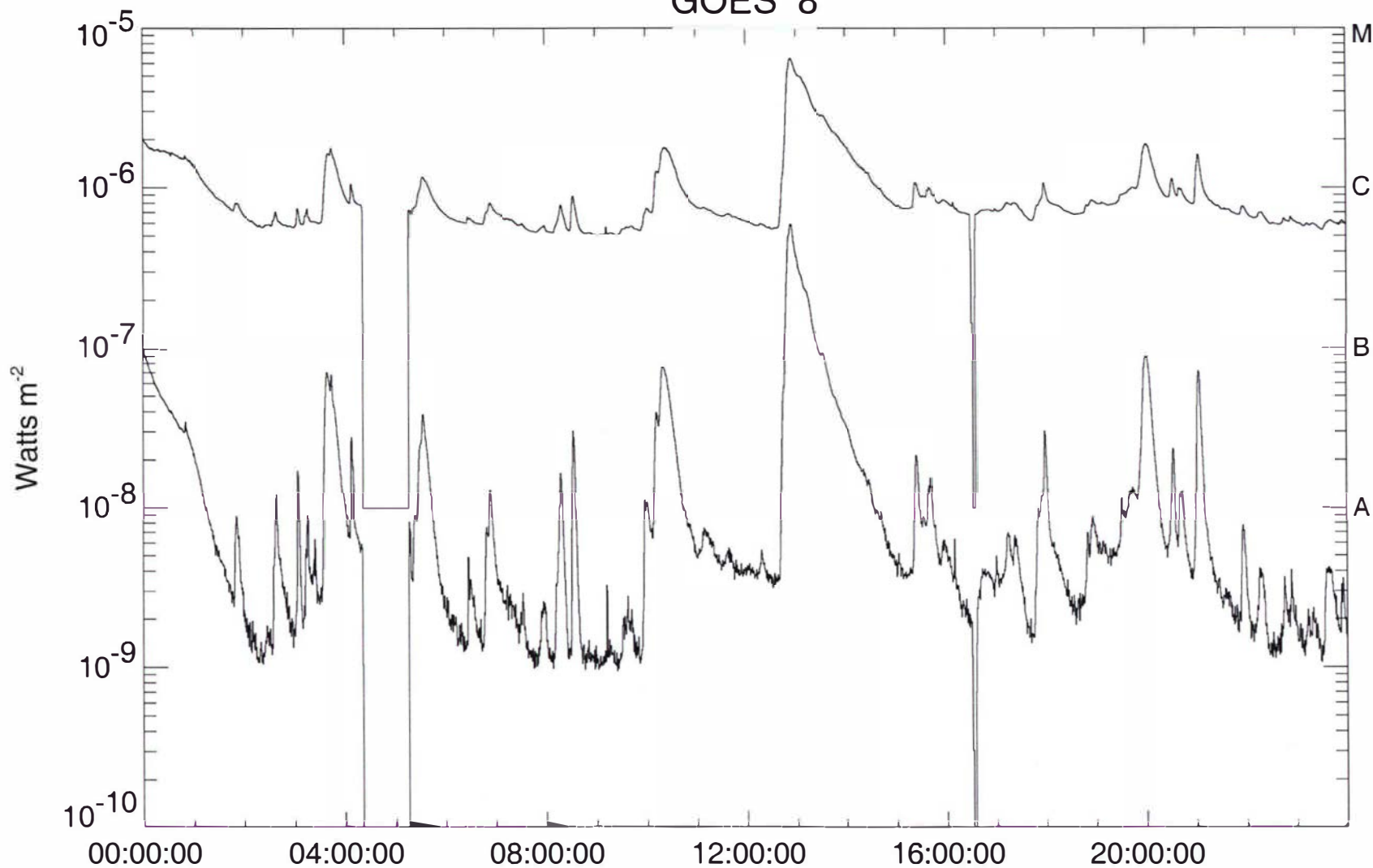


Current Time: 99/10/18, 2340 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/08, 0000:00

Plot created: 99/10/18, 2340

Channel

1 (1.0 - 8.0 Angstroms)

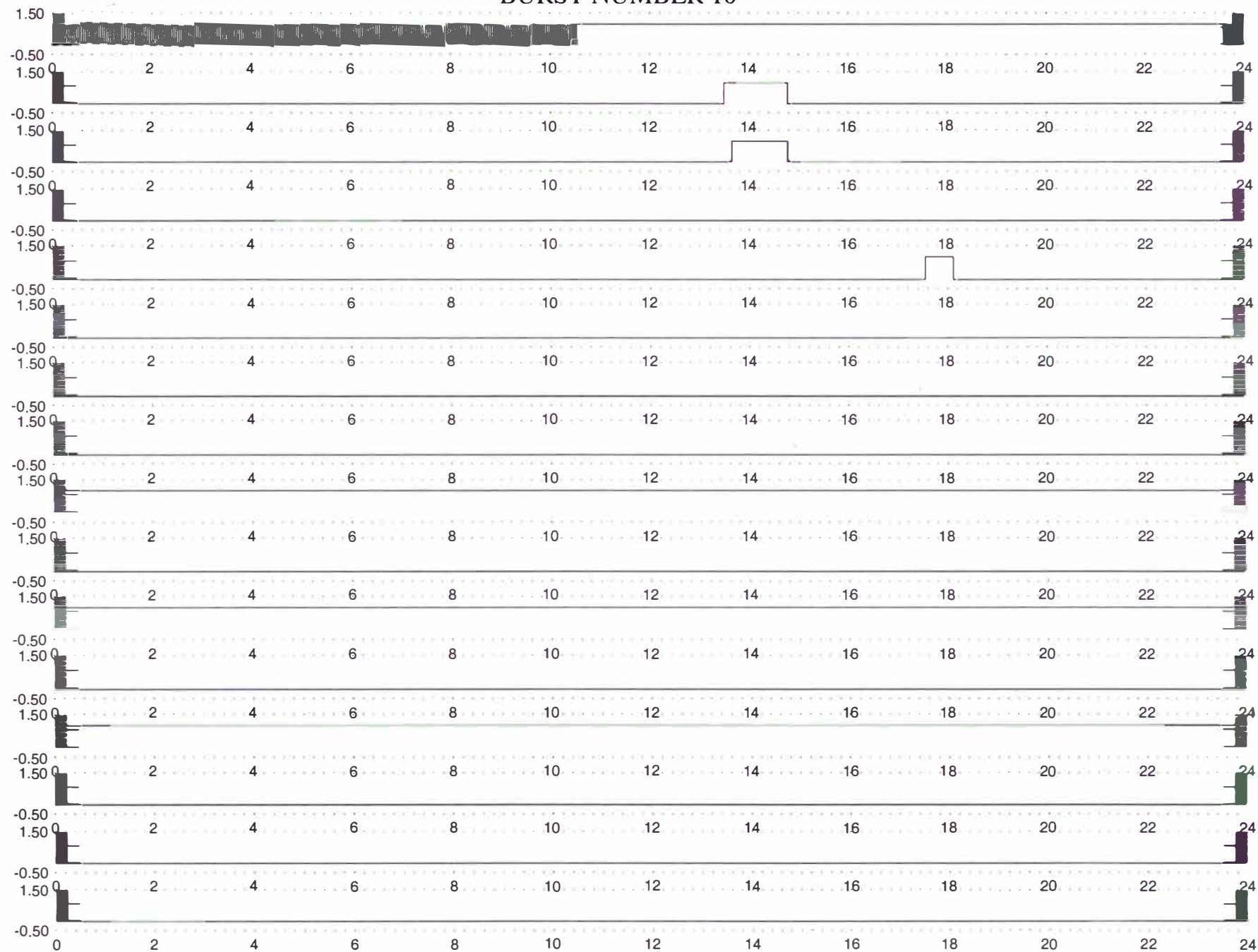
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

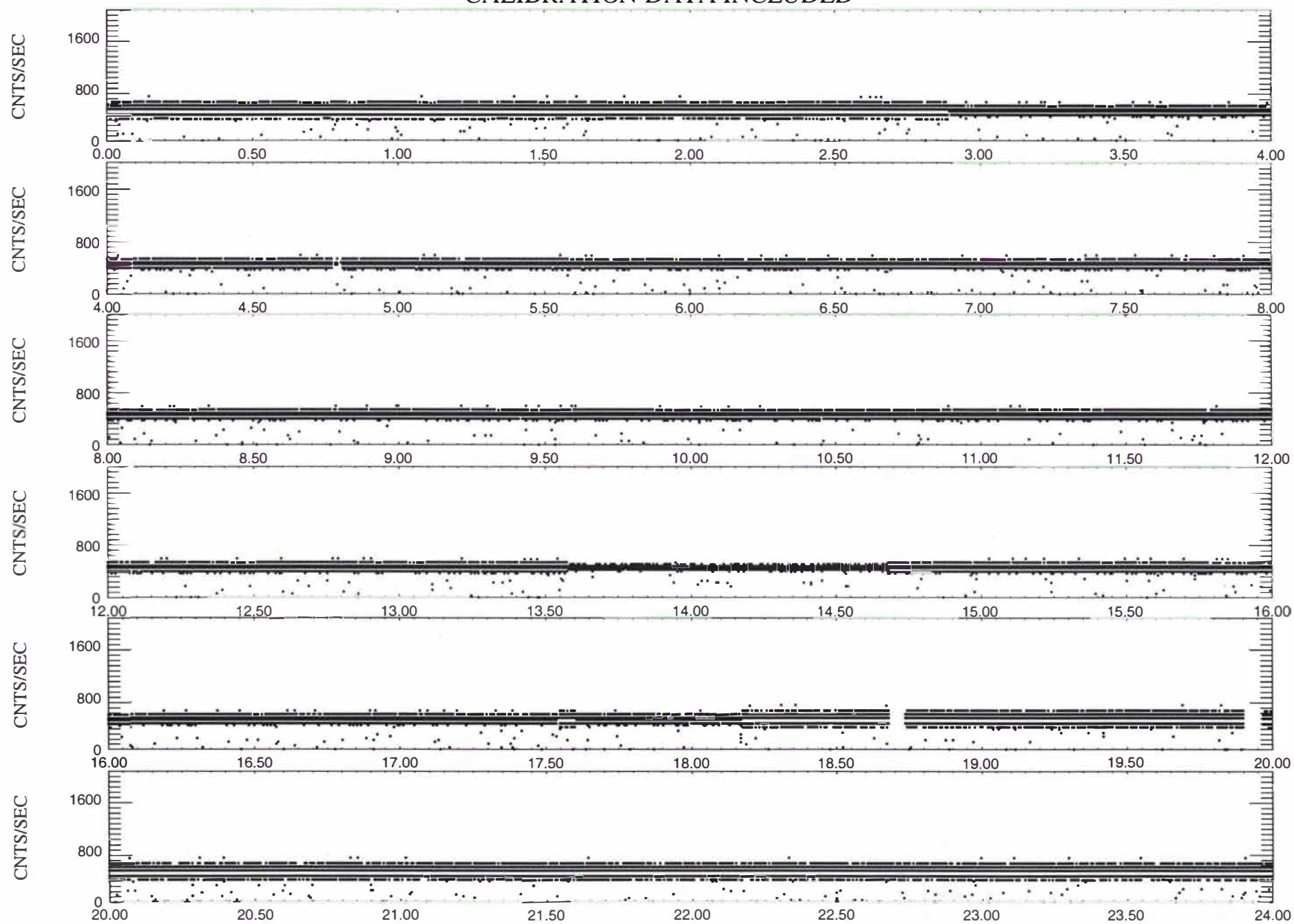
Sample average = 10

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



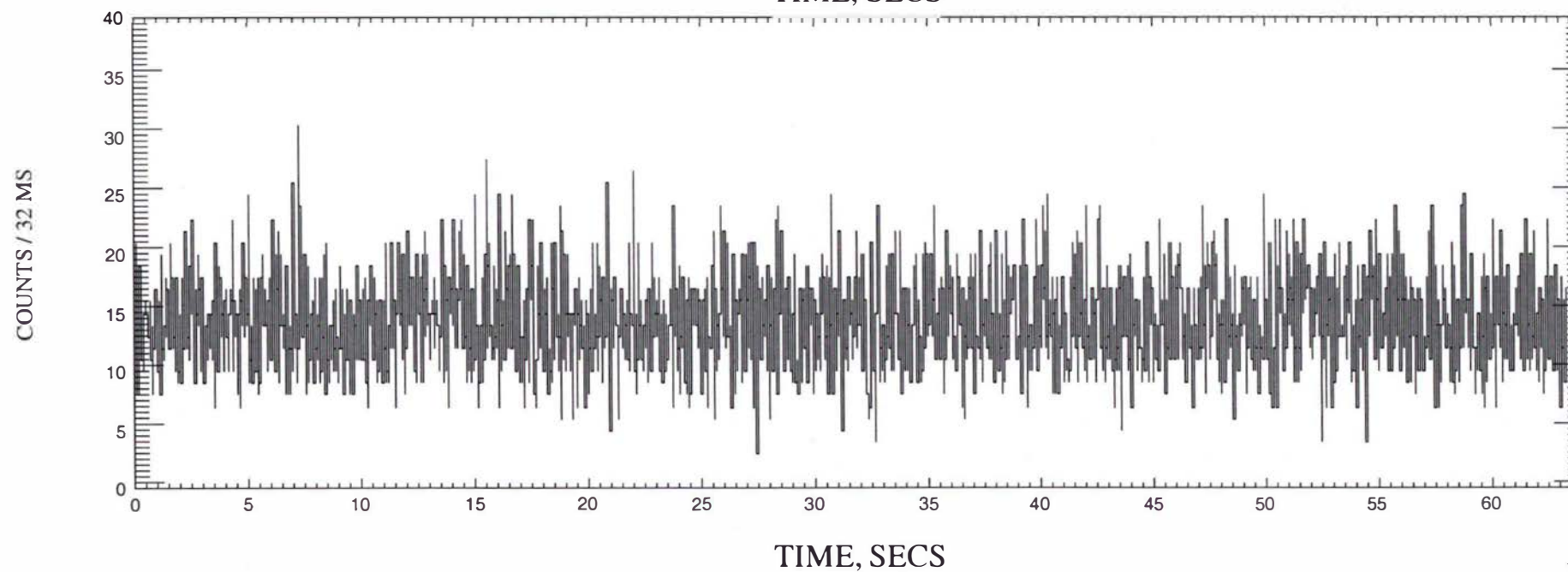
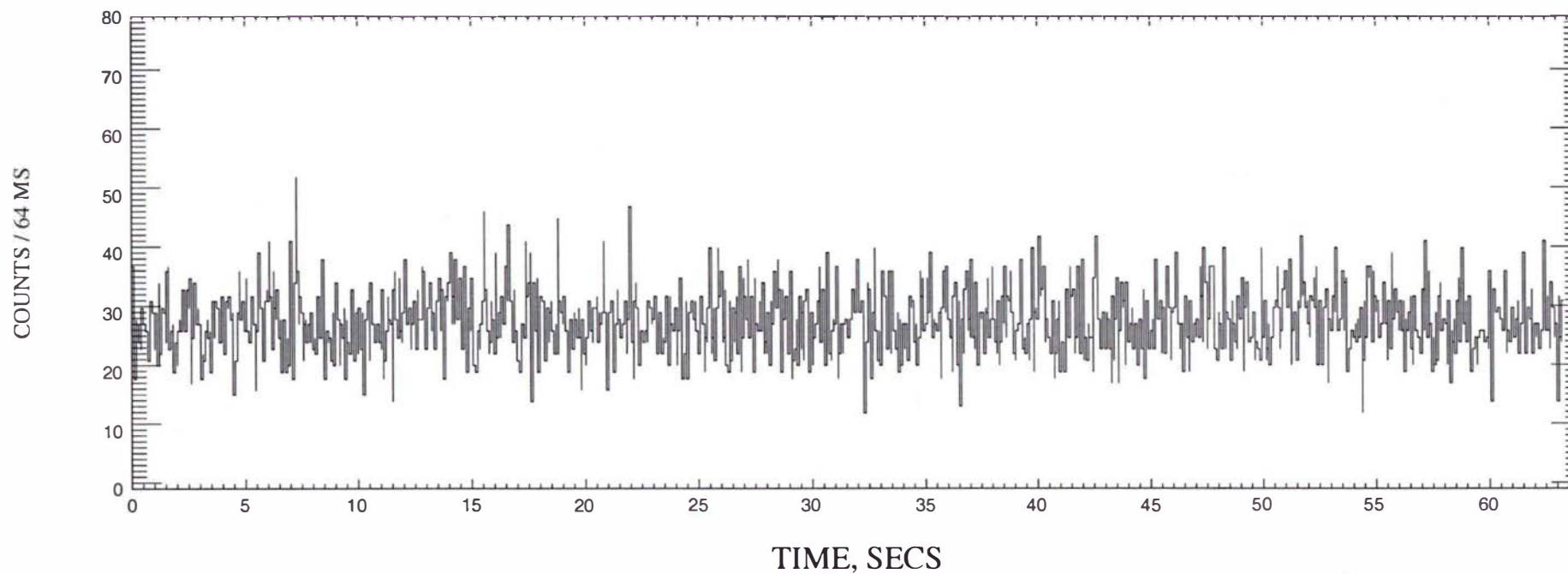
UNIV. SAL TIME

CALIBRATION DATA INCLUDED

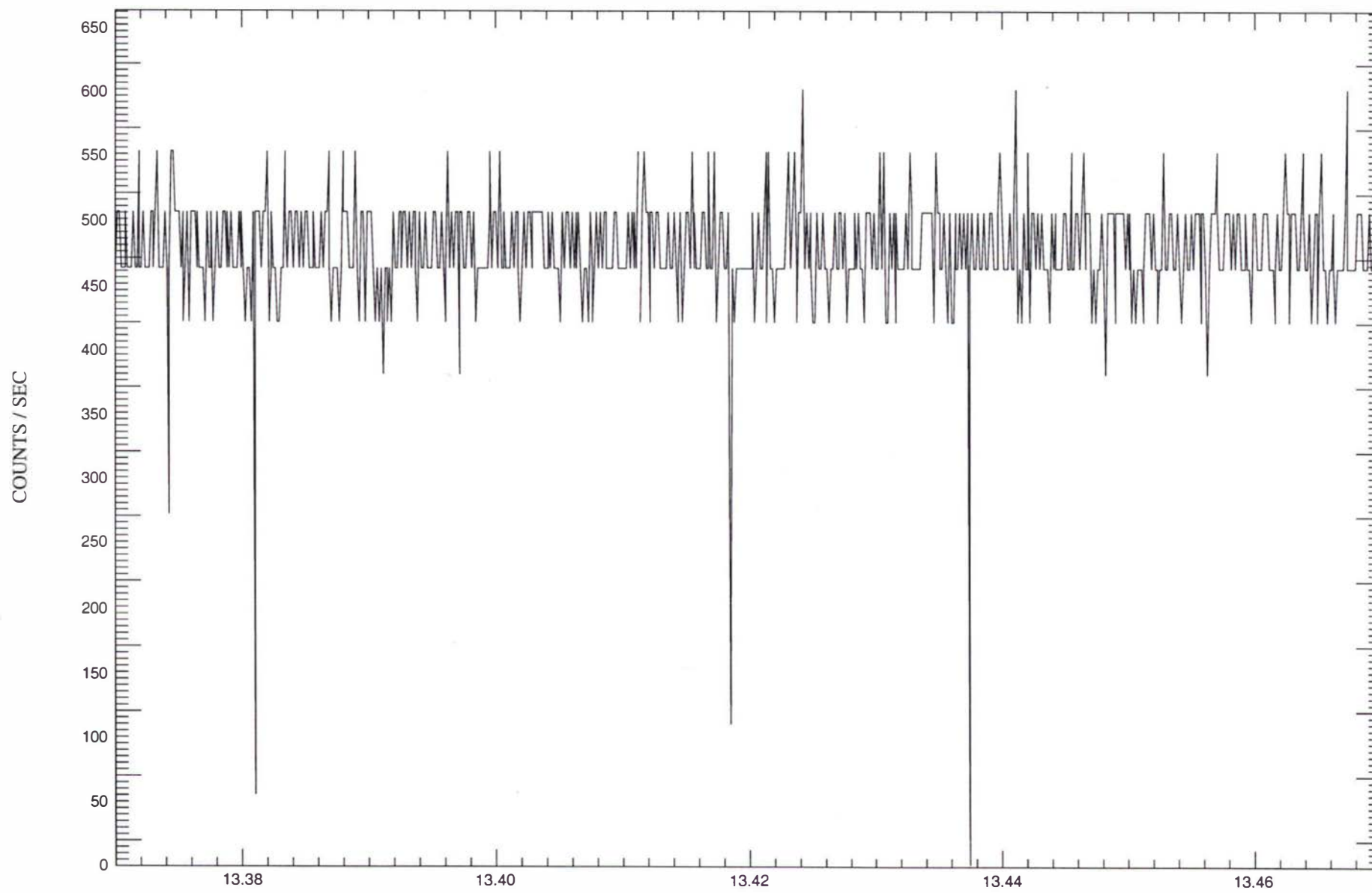


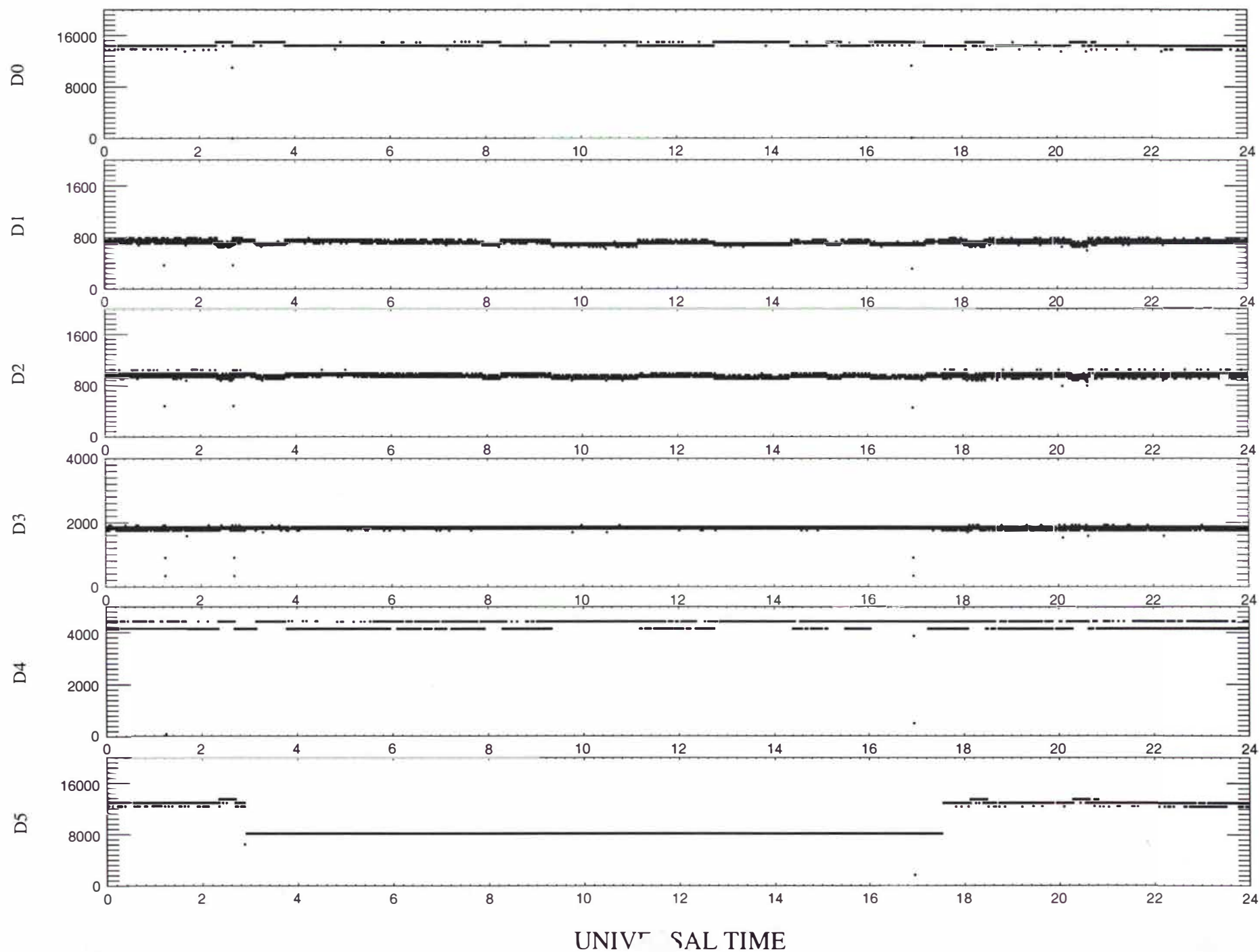
UNIV SAL TIME

Burst Counter 10 at UT=13.421730240716 h=48318.229 s 13:25:18.229



CALIBRATION DATA INCLUDED





JANA TAB1 19991009 29233

ULYSSES RT

05/08/05

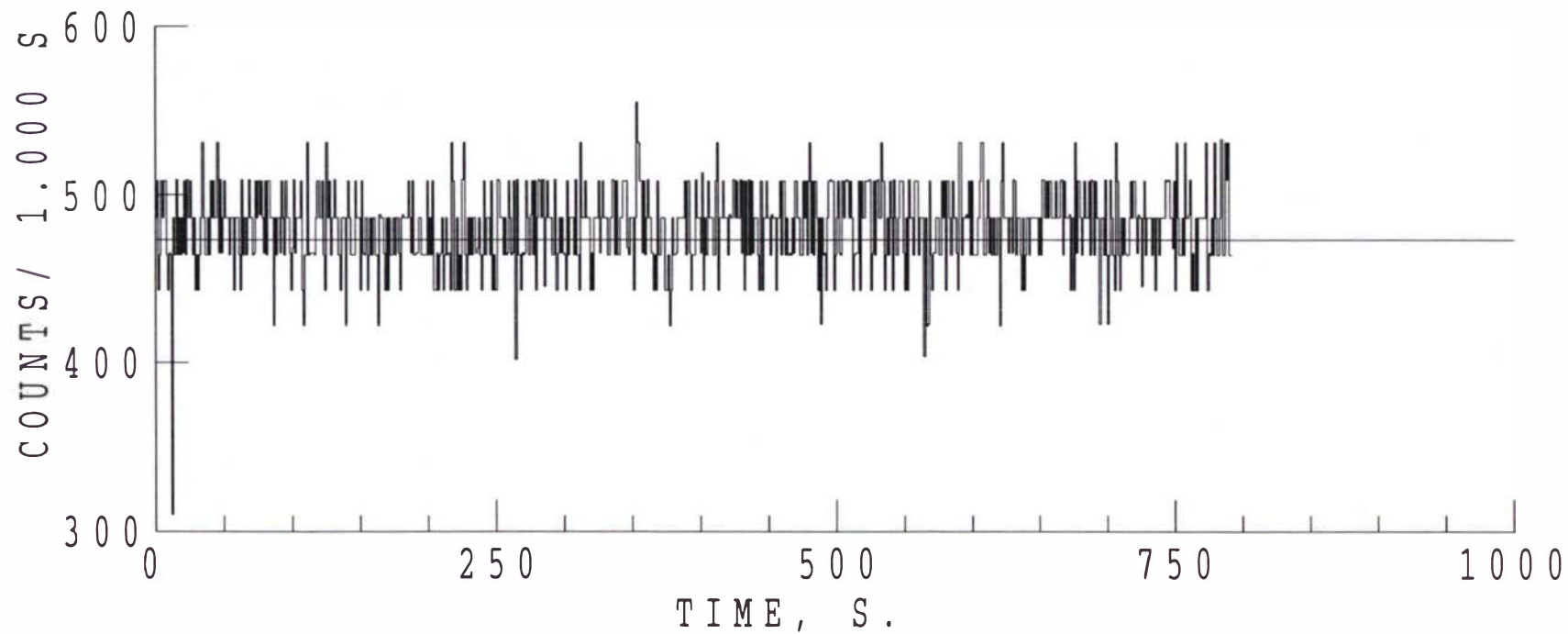
09/10/99 28836.039 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

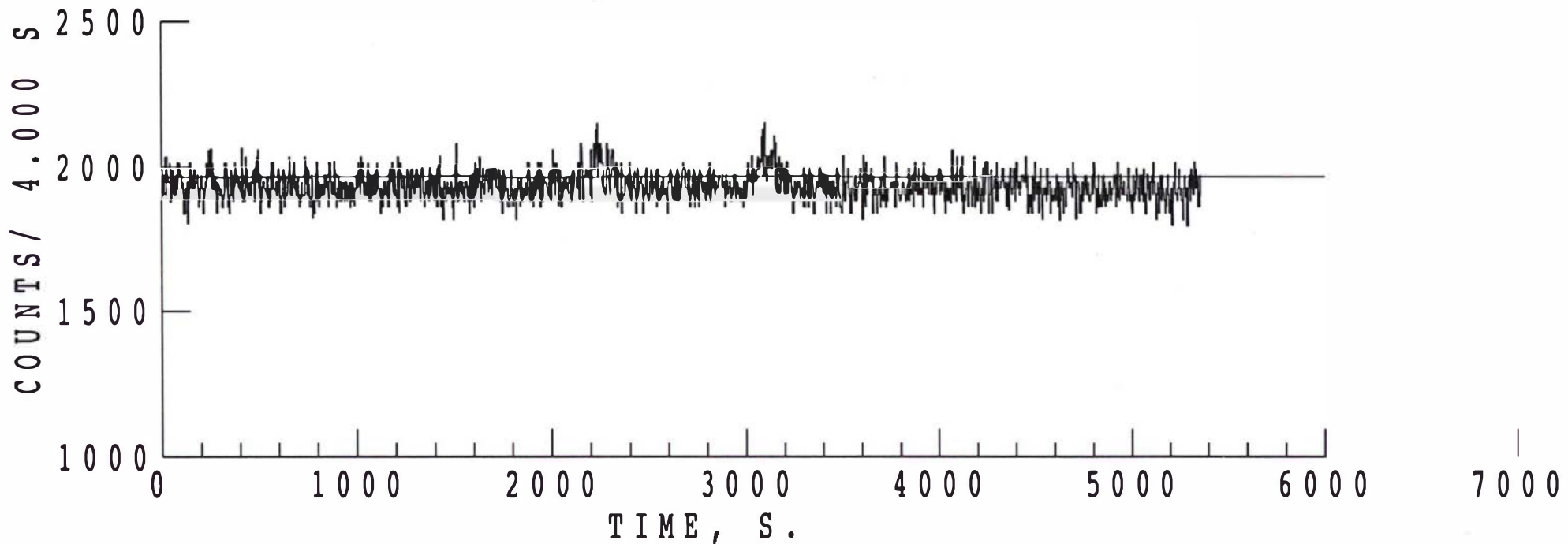
01/05/00

09/10/99 56988.324 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLOCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Wed Oct 13 10:21 PDT 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Wed, 13 Oct 1999 12:23:08 -0500 (CDT)
>: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7794

BATSEARCH PROGRAM

BATSE BURST # 7794
EVENT OF 1999 OCT 9 DAY OF YEAR=282
EVENT CROSSING TIME AT BATSE : 60595. S. OR 16:49:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 257.000 -47.000
BATSE PEAK COUNTING RATE: 6500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 9/10/ 99 IS:
RA= 161.041 DEC= -18.126 DIST= 5.261 AU
BATSE-ULYSSES DISTANCE = 787002537. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.22 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -420.64 SECS.
CROSSING TIME AT ULYSSES IS 60174. S. OR 16:42:54 +/- 493.49 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 9/10/ 99 IS:
RA= 263.641 DEC= -25.109 DIST= 1.399 AU
MARS-BATSE DISTANCE = 209254912. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=157.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -644.78 SECS.
CROSSING TIME AT MARS IS 59950. S. OR 16:39:10 +/- 36.62 SECONDS

BATSE BURST TRIGGER

NO.: 7794

TIME: TJD=1460 SECONDS=60595

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL: Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=88.3 AZIMUTH=44.9 ERROR=0.6 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH LOTS OF STRUCTURE. DURATION APPROX. = 210 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7794	991009	11460	60595	6500	257	-47	210

Date: May 2 '00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data *N/A*

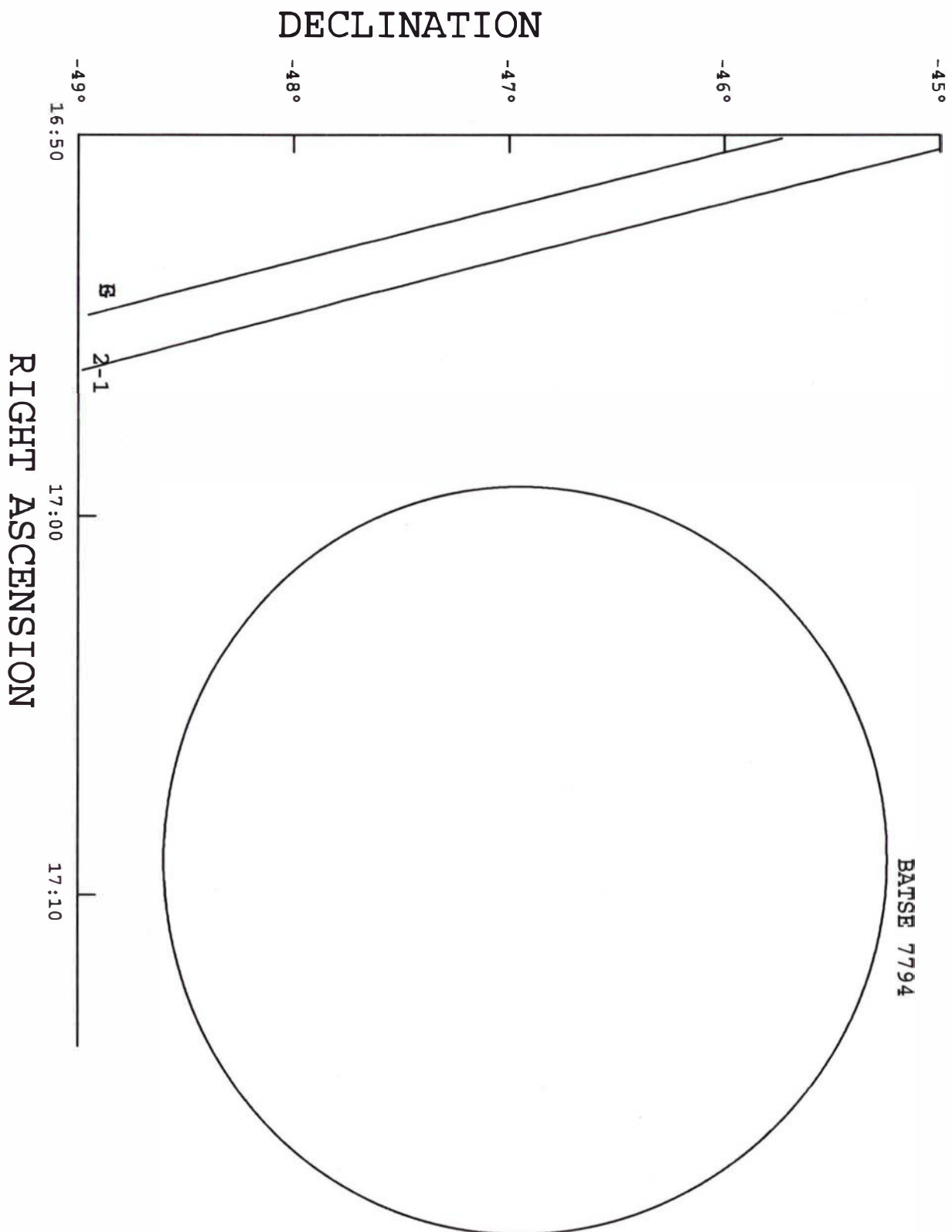
- ☐ Final, correct time used? (Files postmarked vwx@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

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

EVENT OF OCT 9, 1999 16:49

2 / 5 / 0



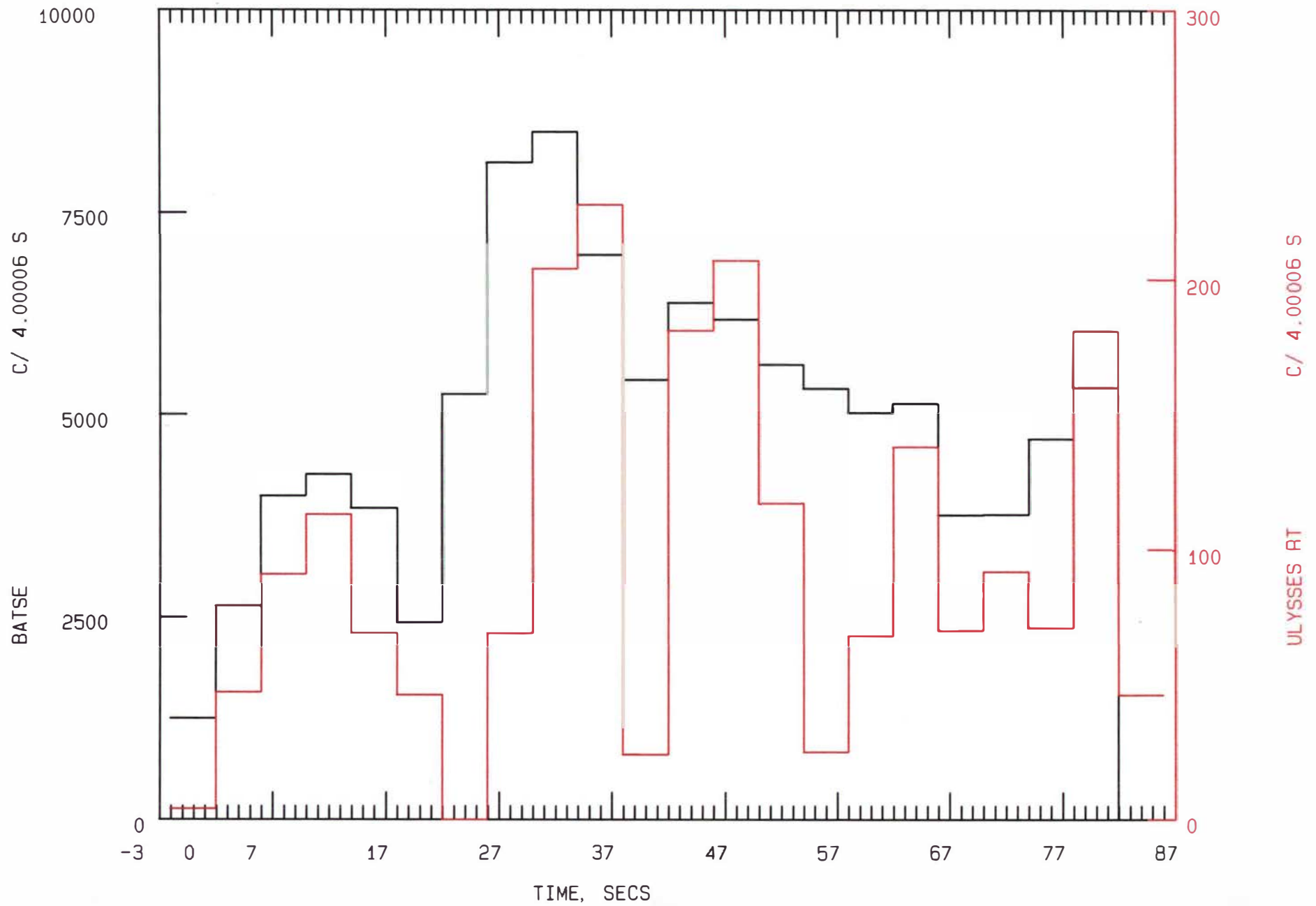
BATSE

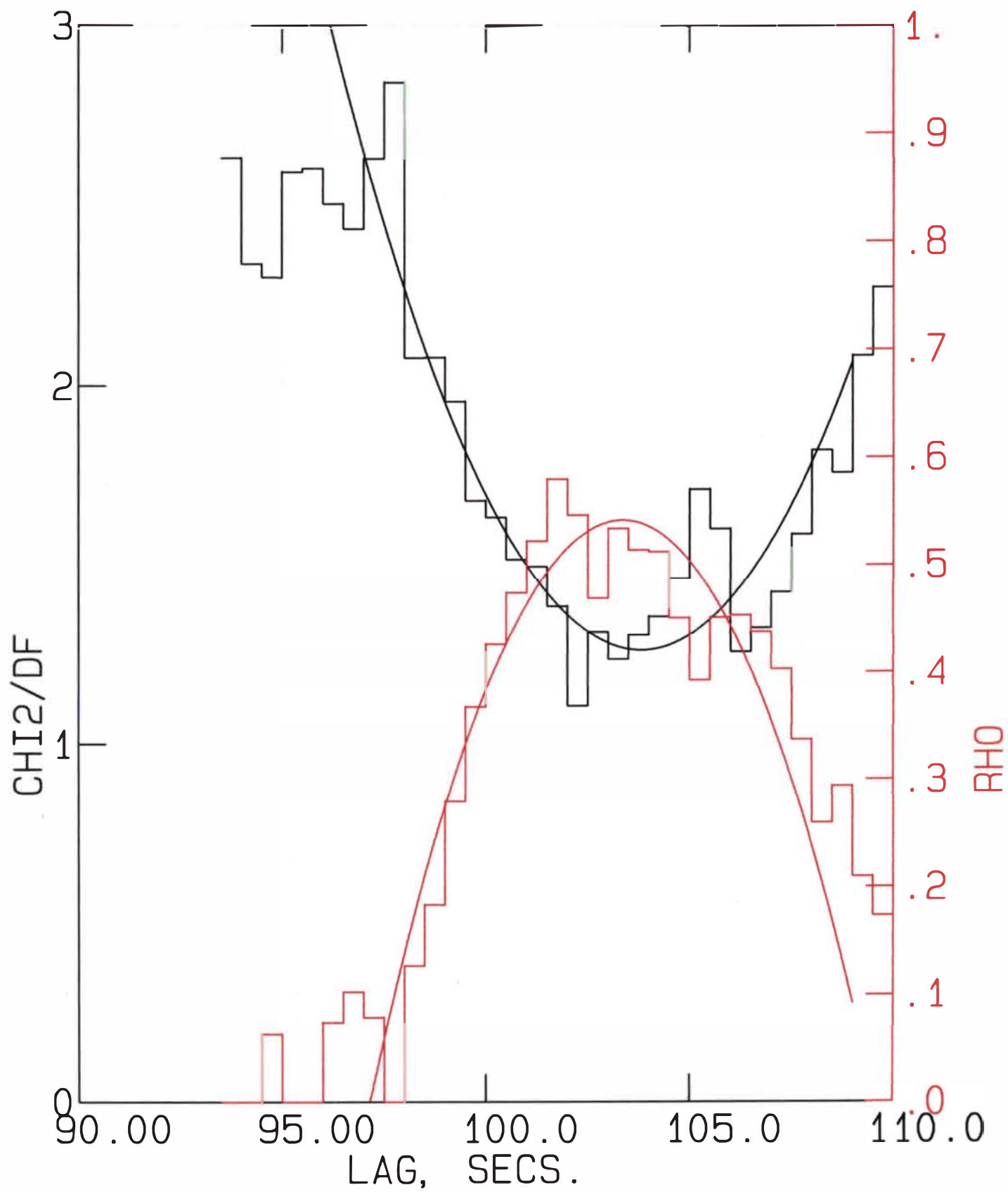
-ULYSSES RT CORRELATION

9/10/99

60595.961

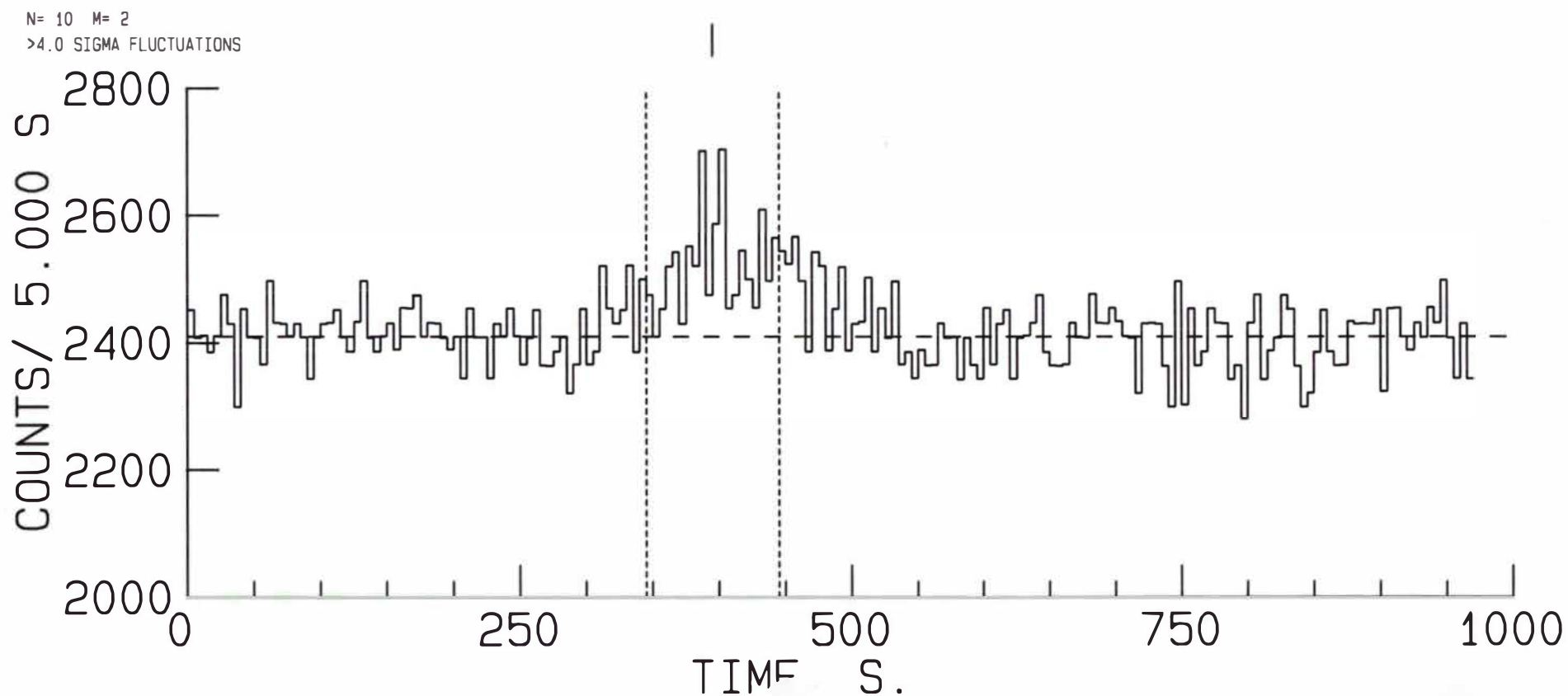
2/ 5/ 0





ULYSSES RT
9/10/99 59688.349 s
0.500 S INTERVALS REGROUPED BY 10
22- 151 keV

2 / 5 / 0



BATSE

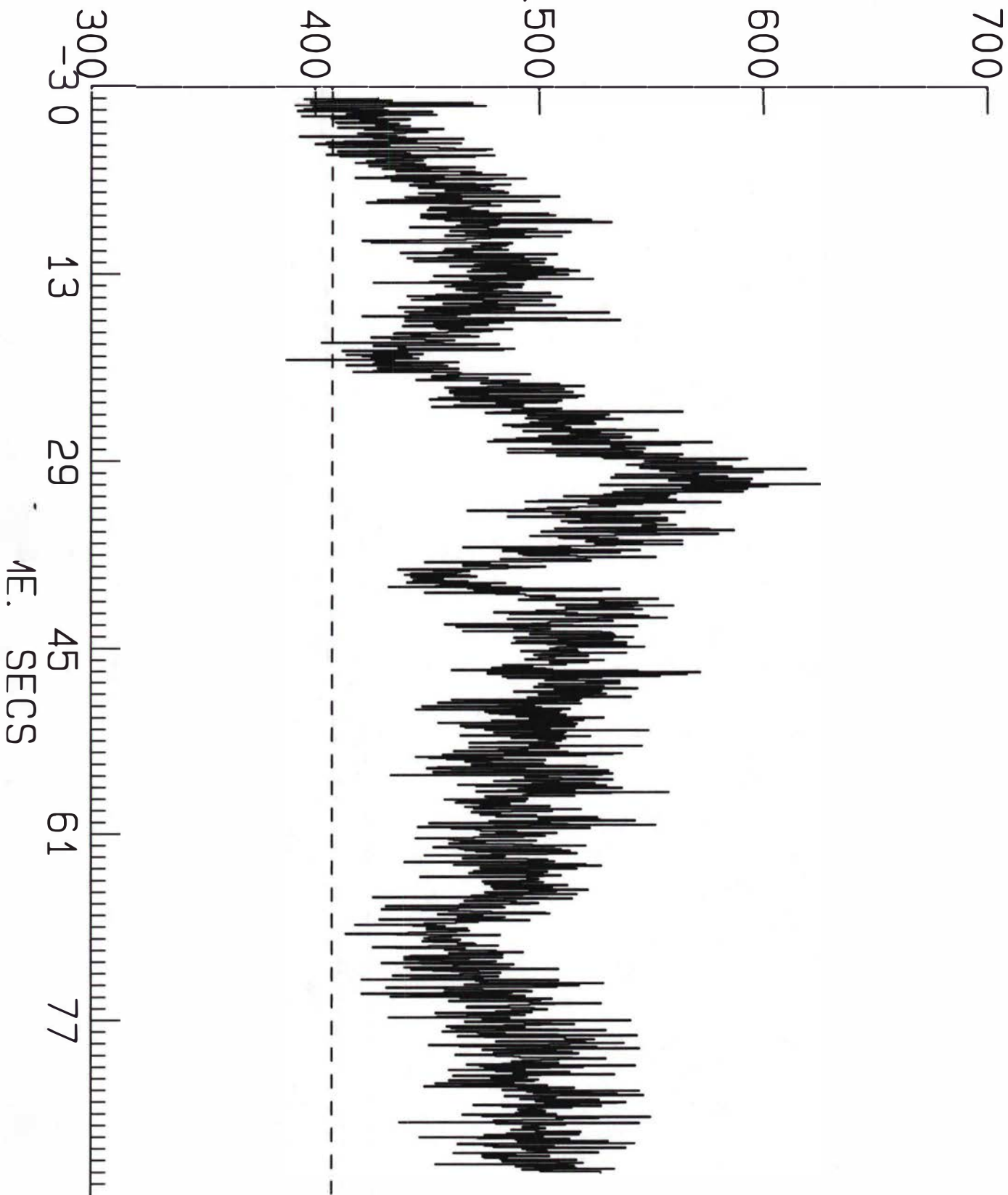
09/10/99

60595.961

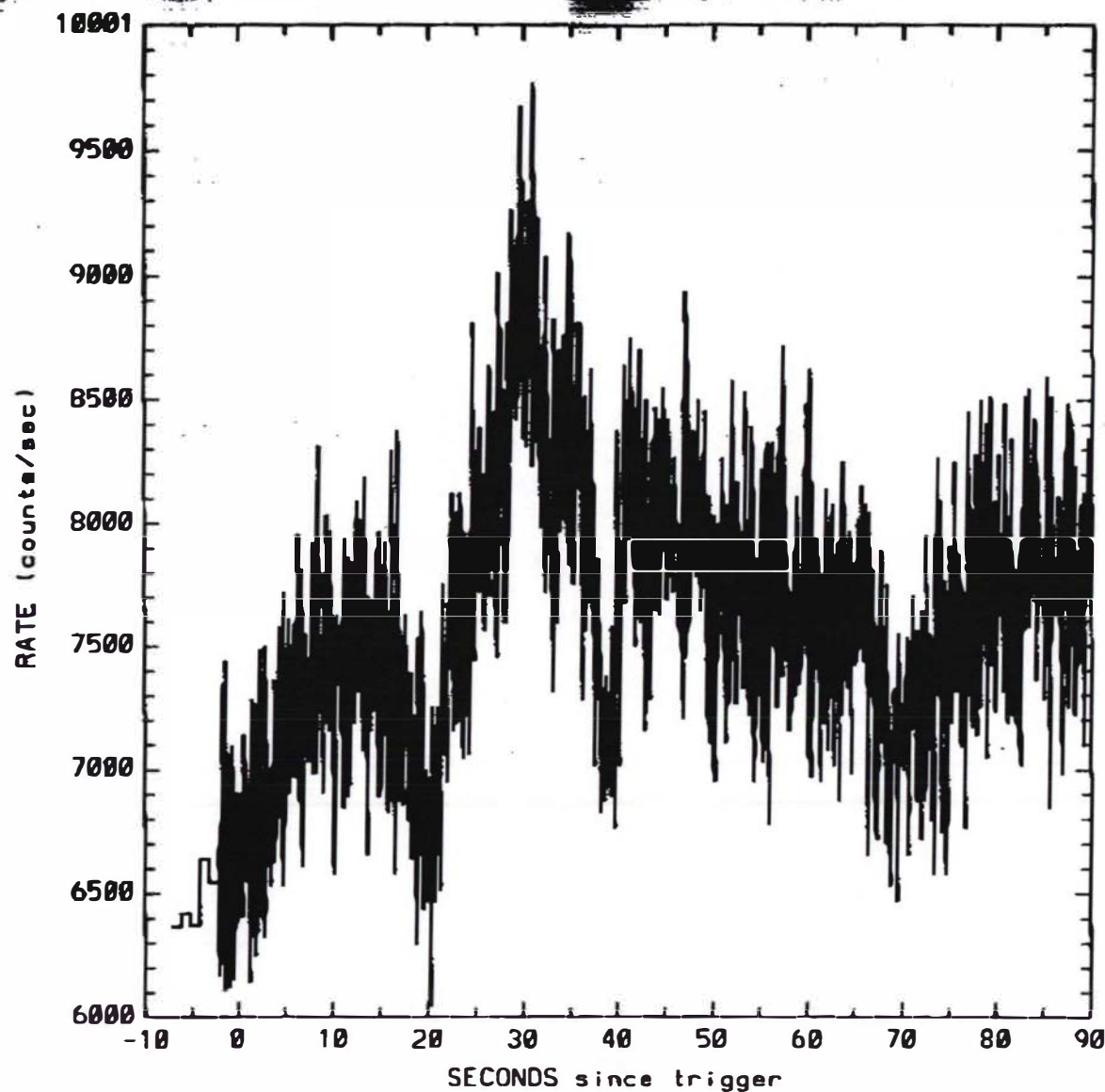
25- 100 keV

COUNTS/0.064 S

29/10/99



DISCSC Data for K. Arley, No. 7794



18-OCT-1999 13:45:38

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7794

Trigger Time:
11468 / 68575.961

Burst Data Type:
DISCSC

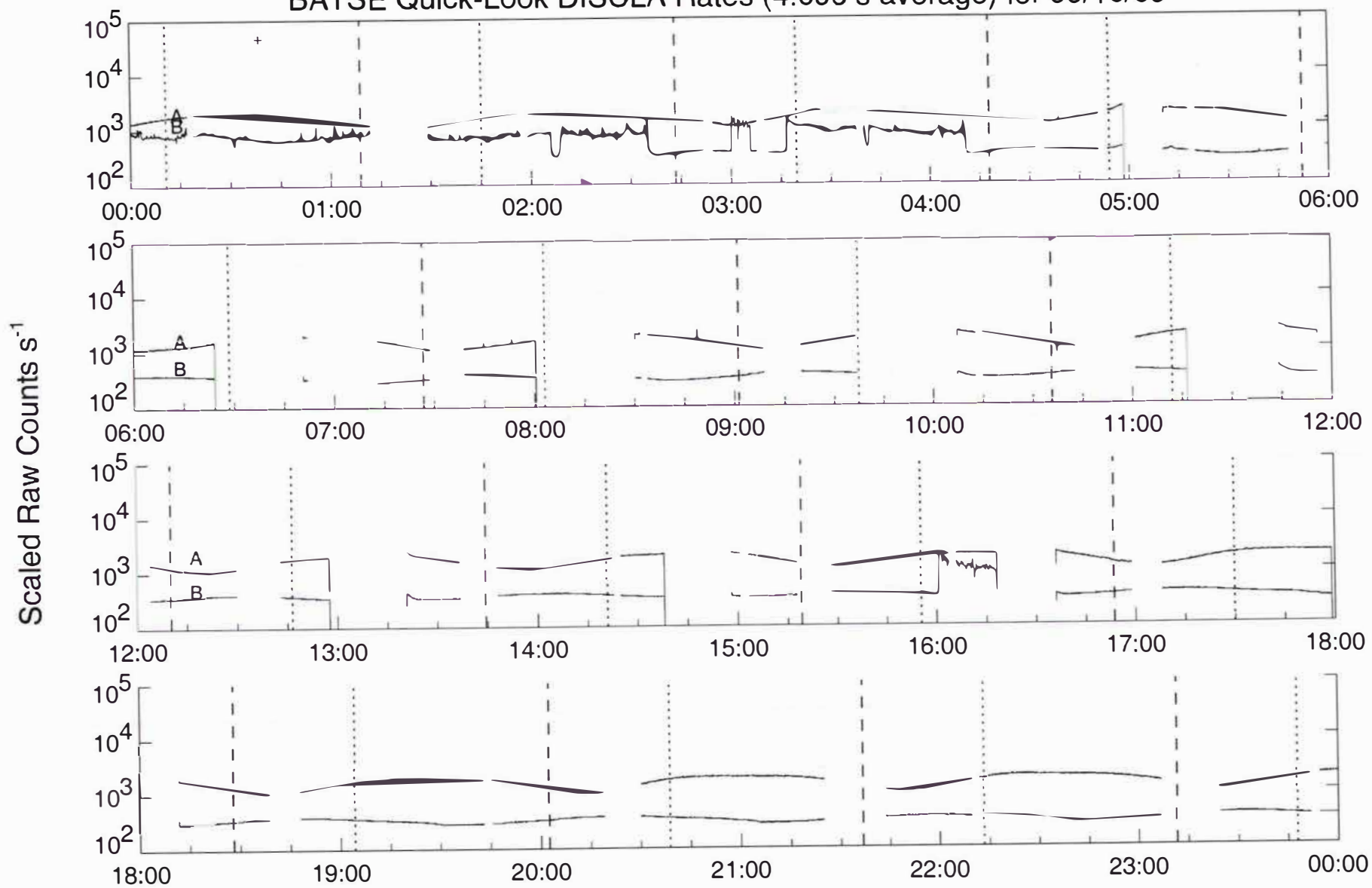
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds)

Detectors (7..0):
-----18

Discriminators:
(1 1 2)

Quality Mask:
BDISP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/09

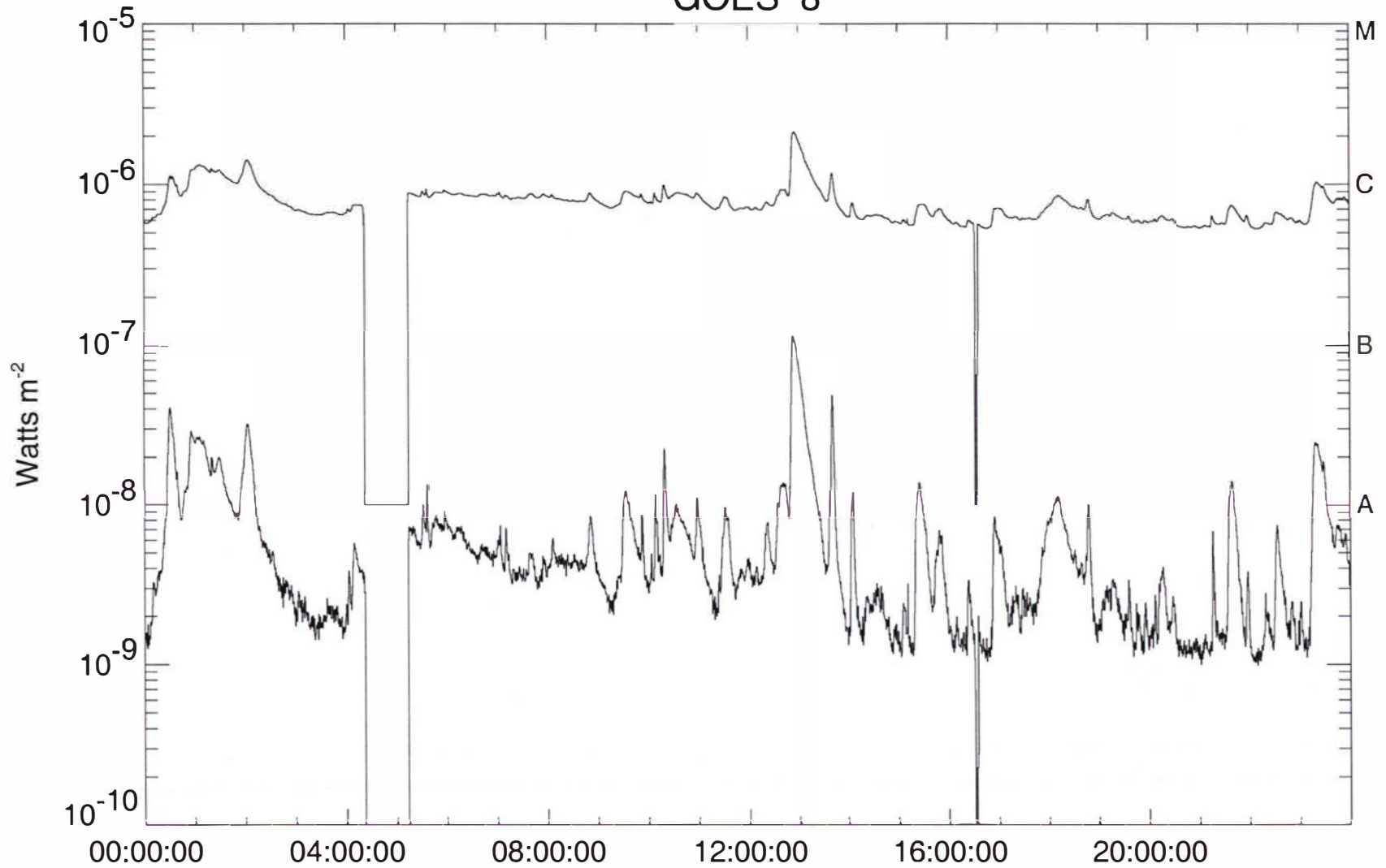


Current Time: 99/10/18, 2345 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/09, 0000:00

Plot created: 99/10/18, 2345

Channel

1 (1.0 - 8.0 Angstroms)

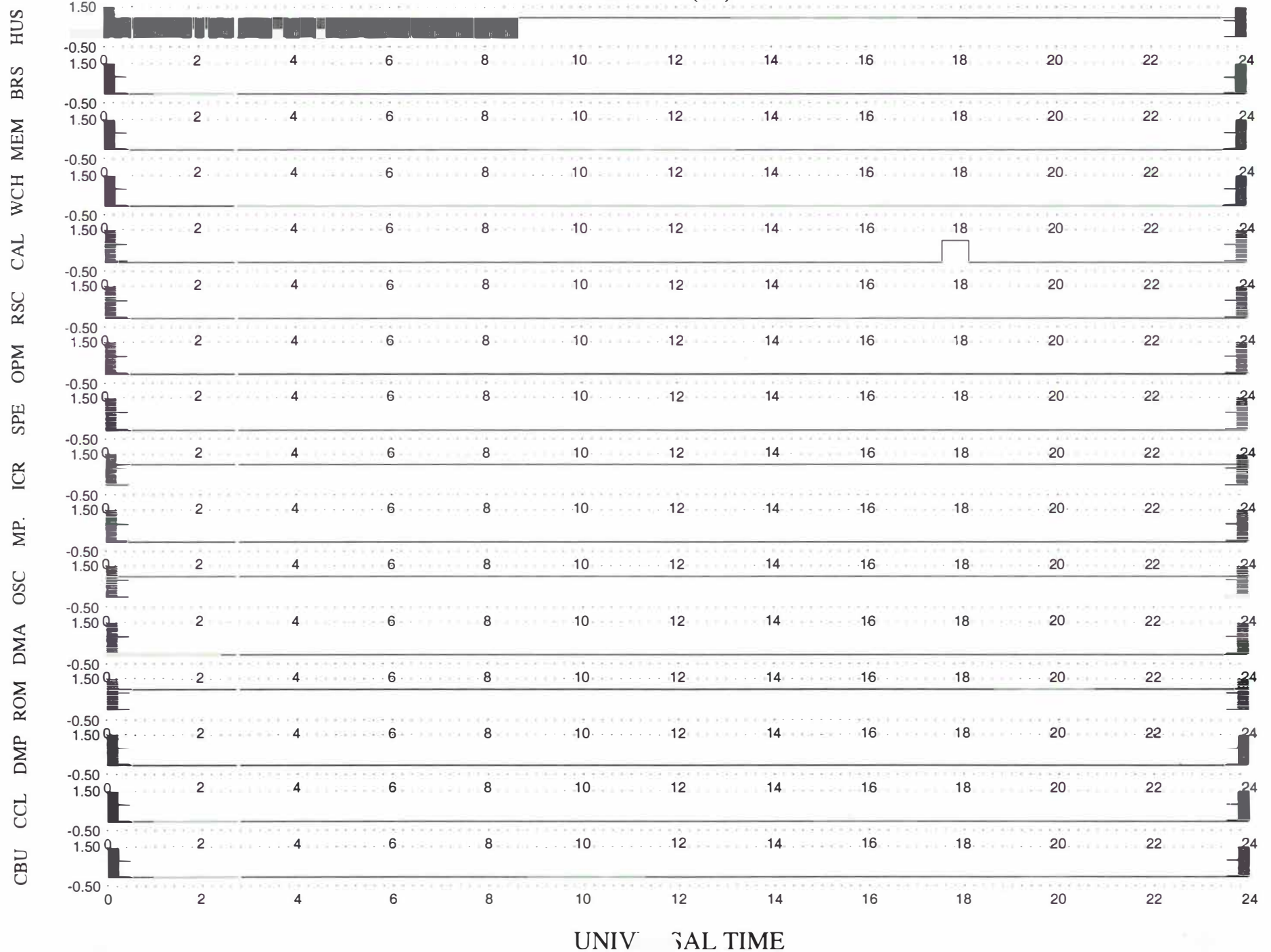
Background not subtracted

2 (0.5 - 4.0 Angstroms)

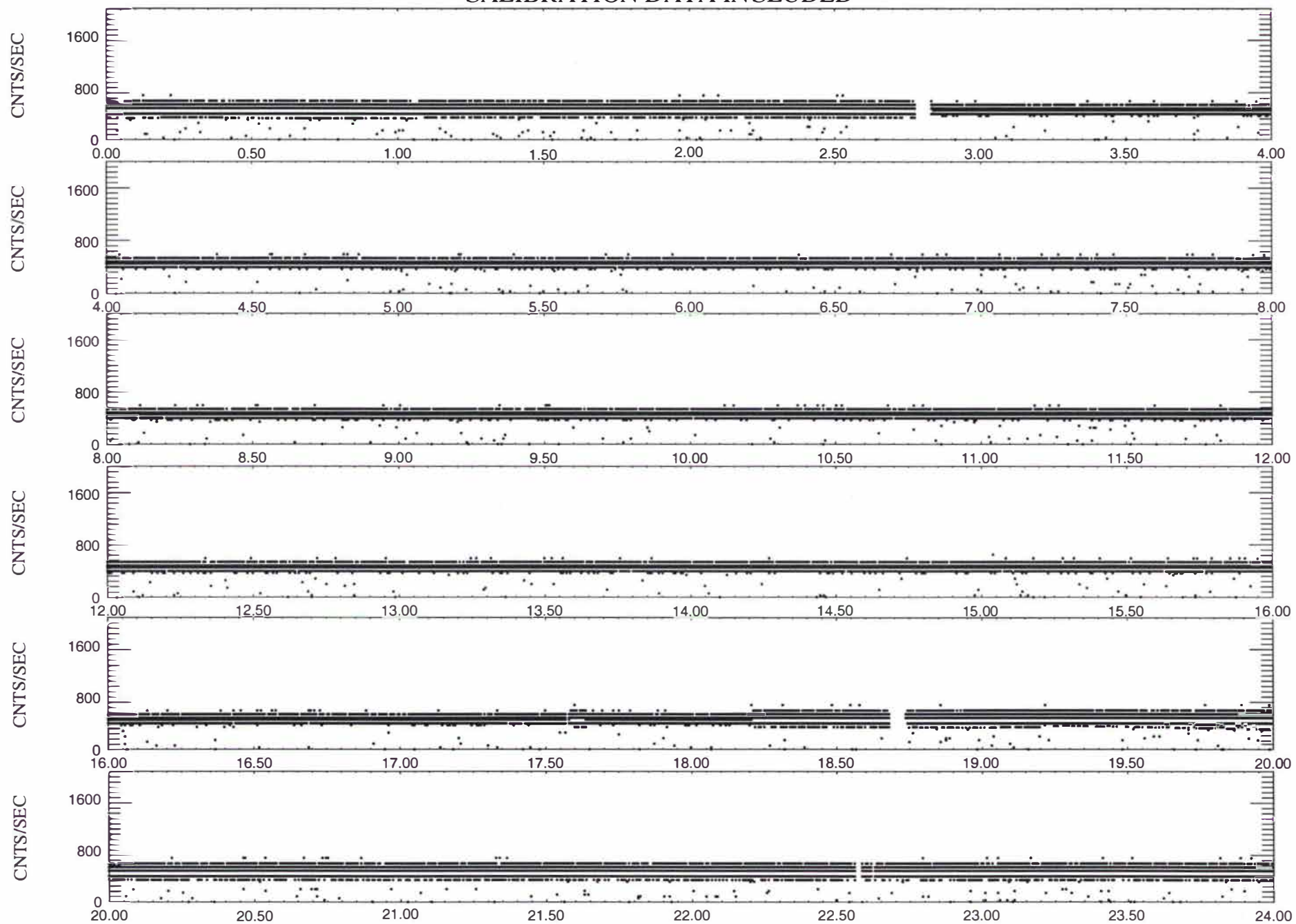
Background not subtracted

Sample average = 10

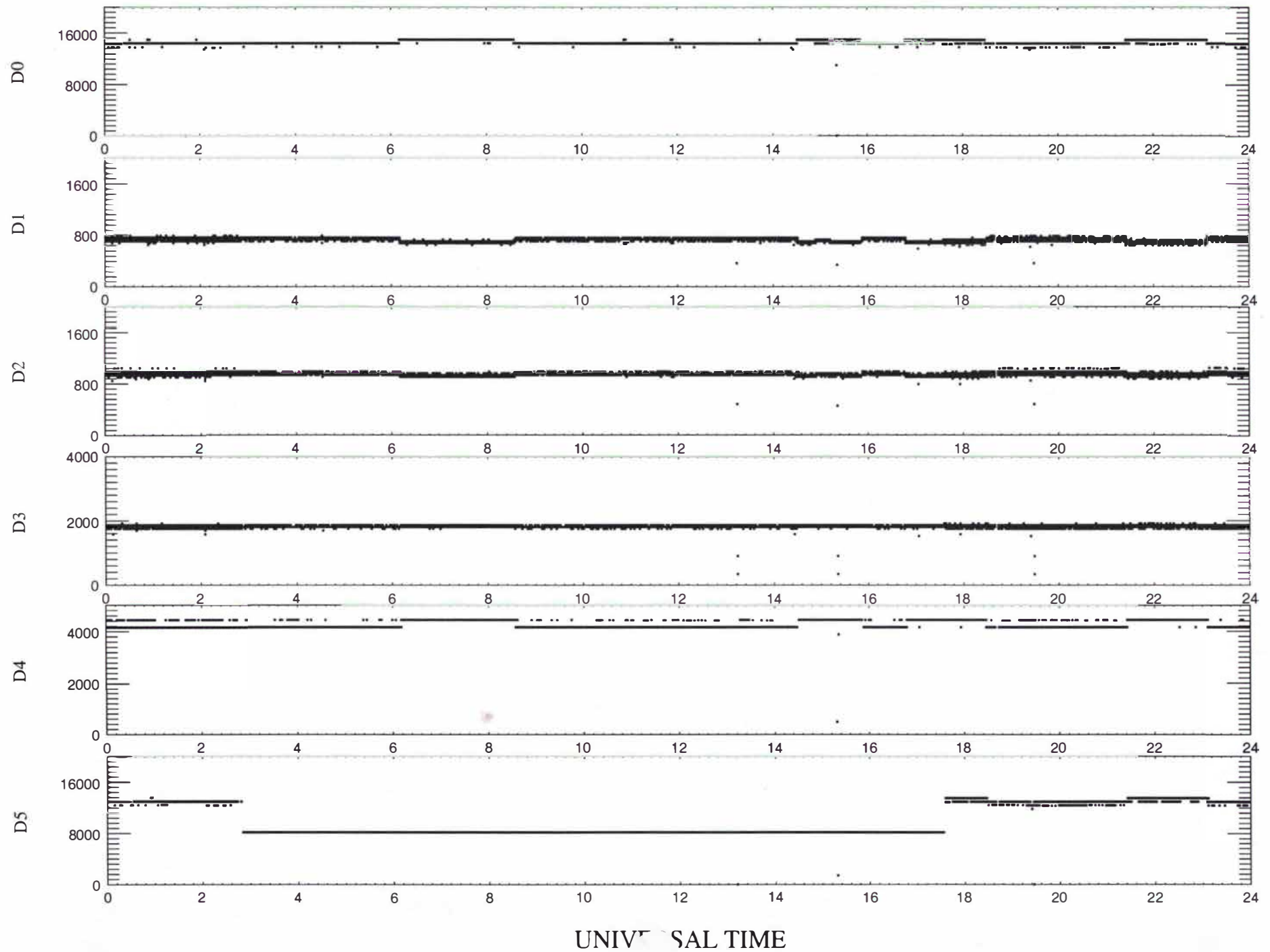
NO BURST (10)



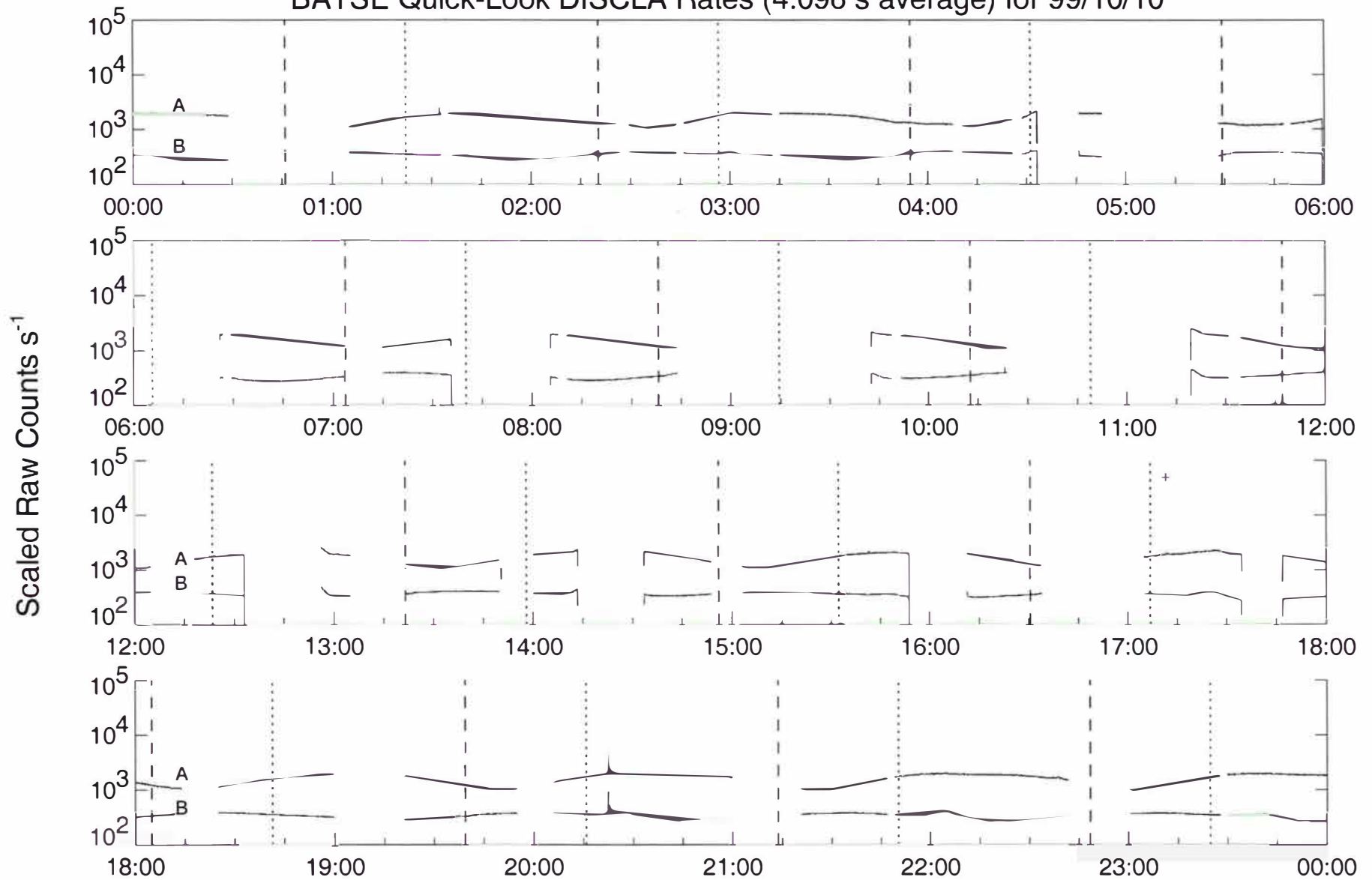
CALIBRATION DATA INCLUDED



UNIFOCAL TIME



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

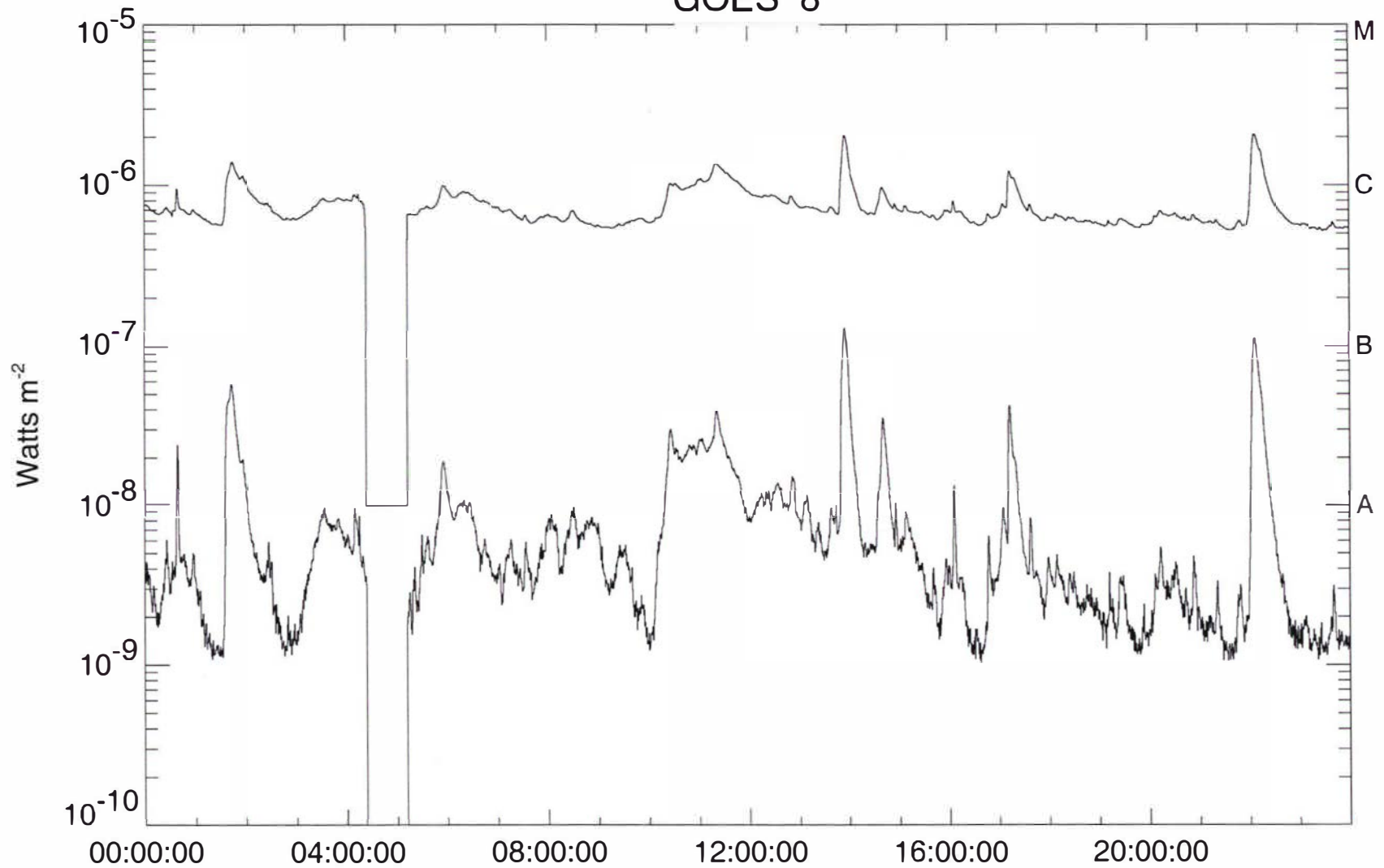


Current Time: 99/10/18, 2351 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



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

Plot created: 99/10/18, 2350

Channel

1 (1.0 - 8.0 Angstroms)

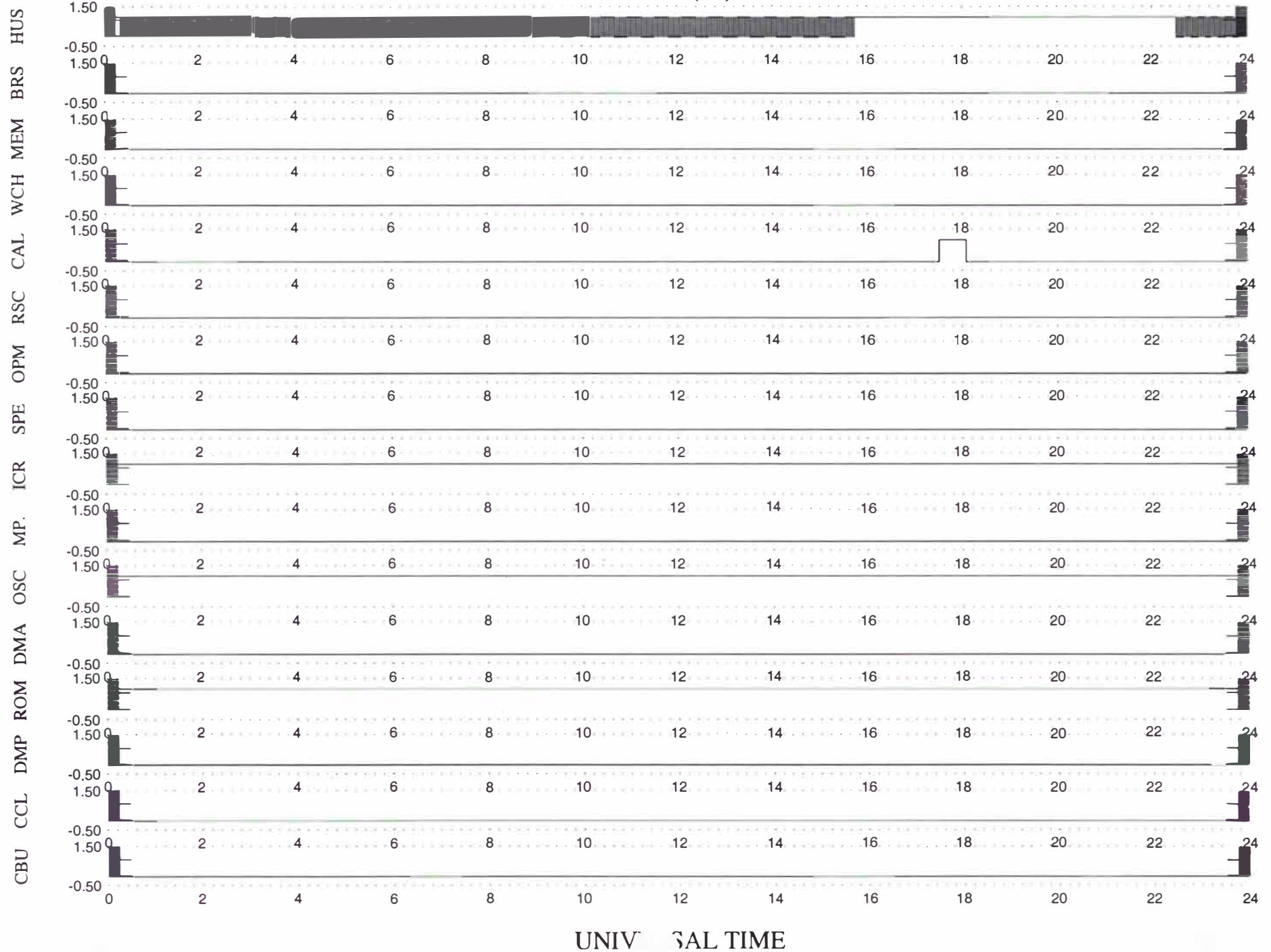
Background not subtracted

2 (0.5 - 4.0 Angstroms)

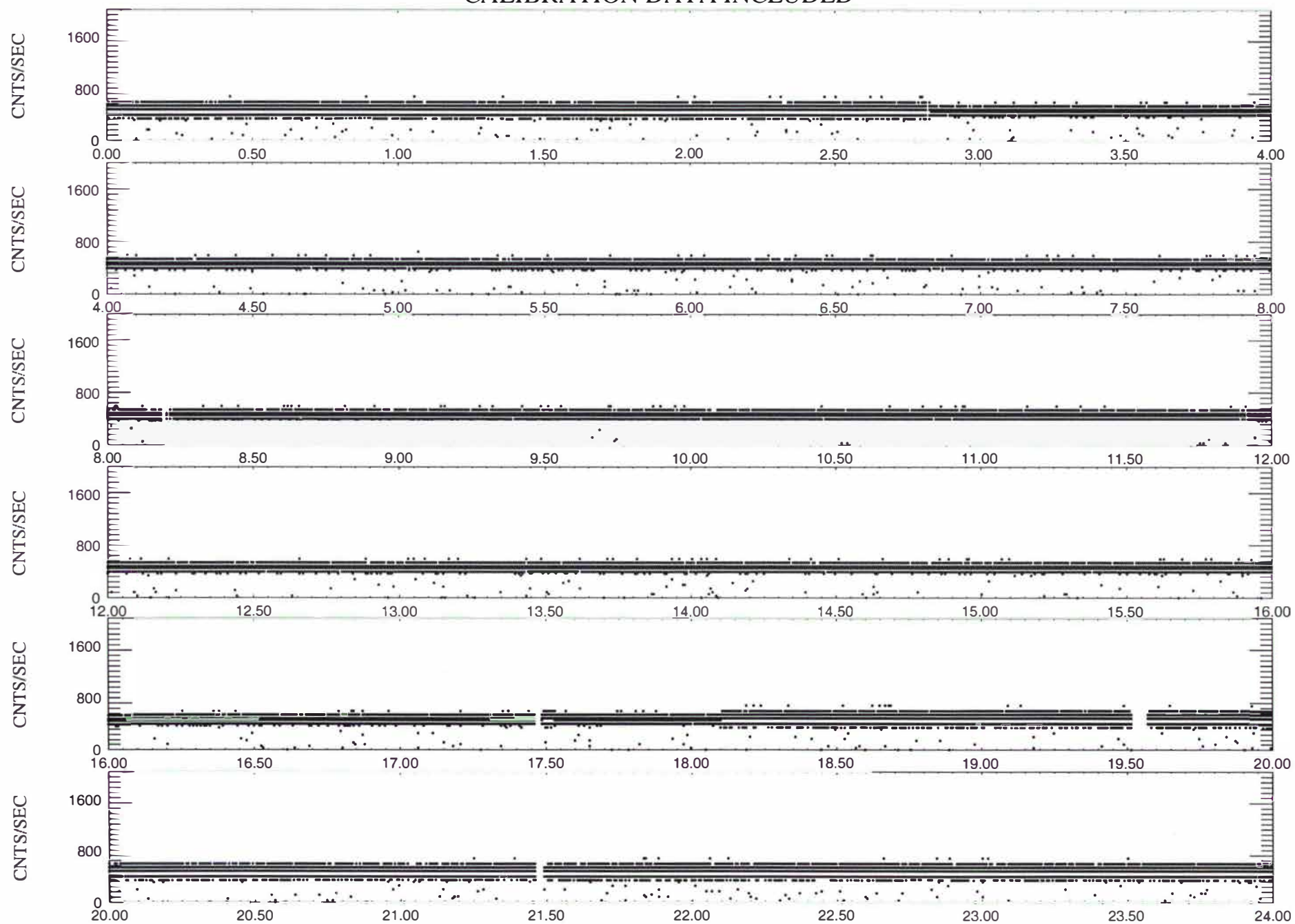
Background not subtracted

Sample average = 10

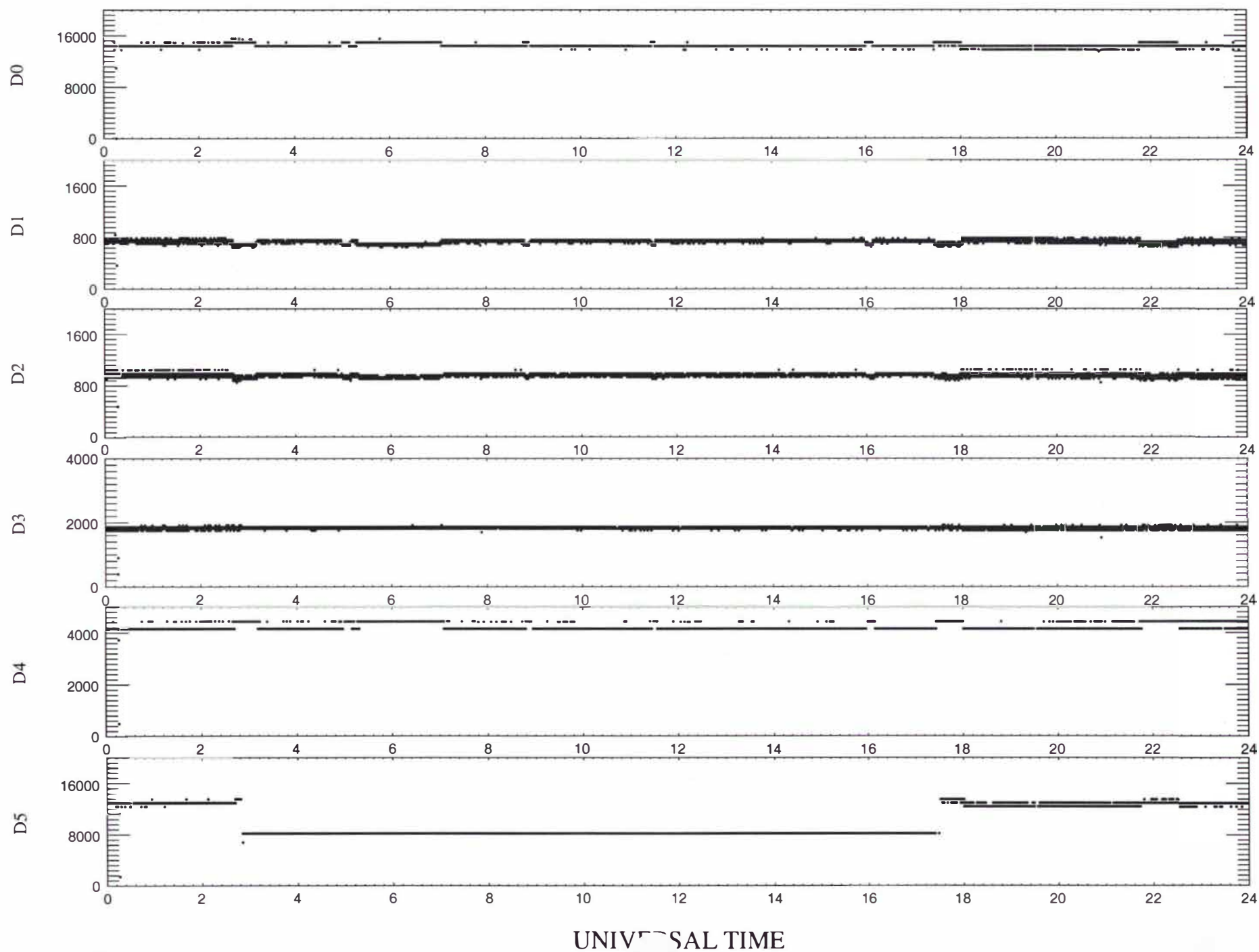
NO BURST (10)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From PETERSON@fender.msfc.nasa.gov Fri Oct 15 12:10 PDT 1999
From: PETERSON@fender.msfc.nasa.gov
Date: Fri, 15 Oct 1999 14:11:23 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7795

BATSEARCH PROGRAM

BATSE BURST # 7795
EVENT OF 1999 OCT 11 DAY OF YEAR=284
EVENT CROSSING TIME AT BATSE : 5446. S. OR 01:30:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 160.000 -22.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/10/ 99 IS:
RA= 161.230 DEC= -18.345 DIST= 5.246 AU
BATSE-ULYSSES DISTANCE = 784728668. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=176.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2611.72 SECS.
CROSSING TIME AT ULYSSES IS 2834. S. OR 00:47:14 +/- 59.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/10/ 99 IS:
RA= 265.207 DEC= -25.158 DIST= 1.410 AU
MARS-BATSE DISTANCE = 210864272. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 86.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 42.82 SECS.
CROSSING TIME AT MARS IS 5489. S. OR 01:31:28 +/- 122.54 SECONDS

BATSE BURST TRIGGER

NO.: 7795

TIME: TJD=1462 SECONDS= 5446

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=140.1 AZIMUTH=334.6 ERROR=3.56 DEGREES

COMMENTS:

GRB. DOUBLE PULSE, DUR. APPROX. 120S, MAX AT APPROX T+1S. NOT VISIBLE ABOVE 300 KEV. CRAB SET AT APPROX. T-360S. OVERWRITTEN DURING MER, SO STTE READOUT AS #7796.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7795	991011	11462	05446	2500	160	-22	120

BATSE BURST# 7795

ULYSSES RT

15 / 10 / 99

11/10/99 2772.021 s

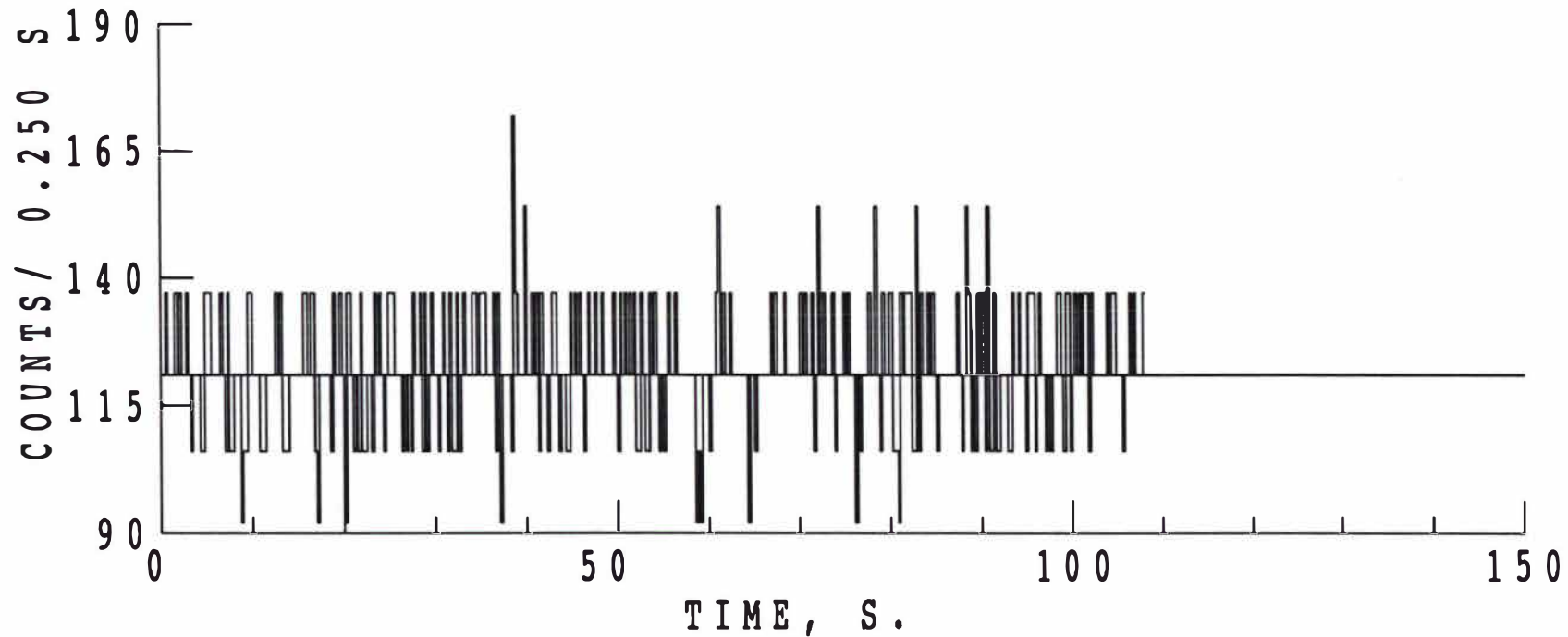
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BACODINE# 7795

ULYSSES RT

11 / 10 / 99

11/10/99 2844.021 s

0.250 S INTERVALS REGROUPED BY 2

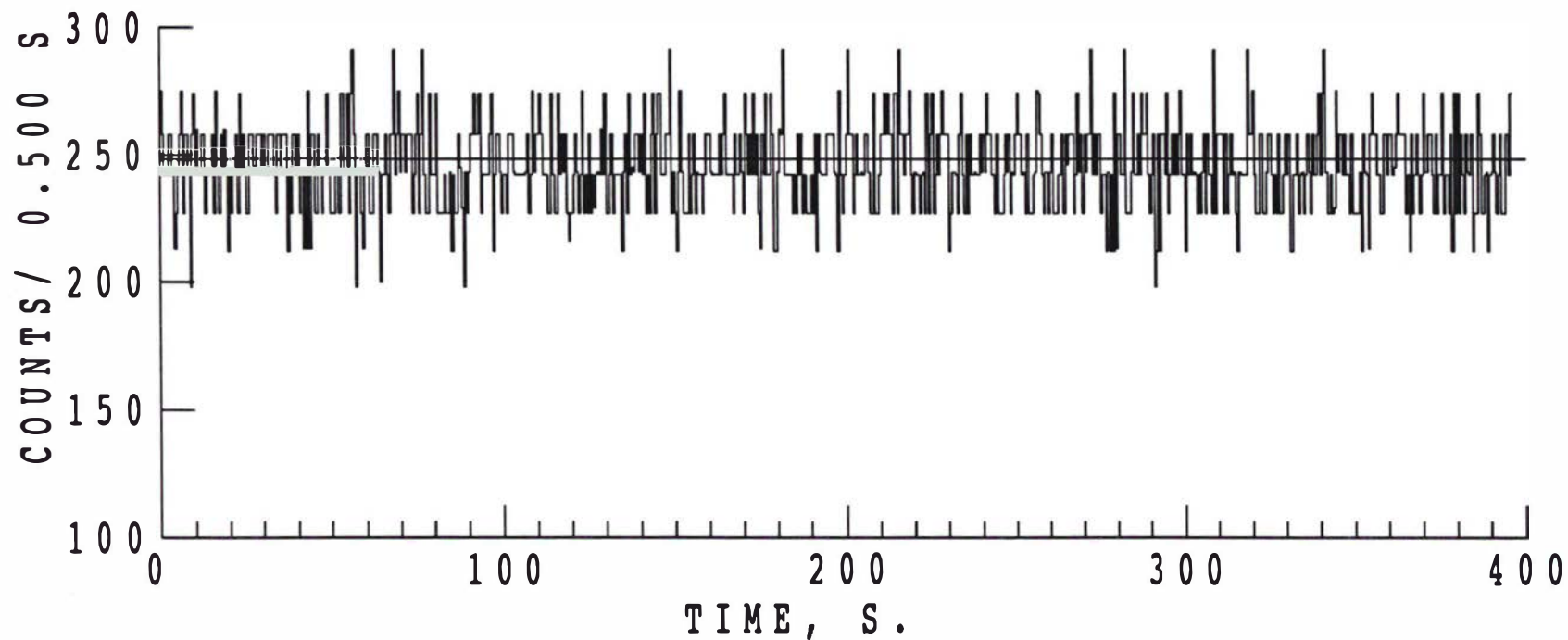
0 - 0 keV

N= 10 M= 10

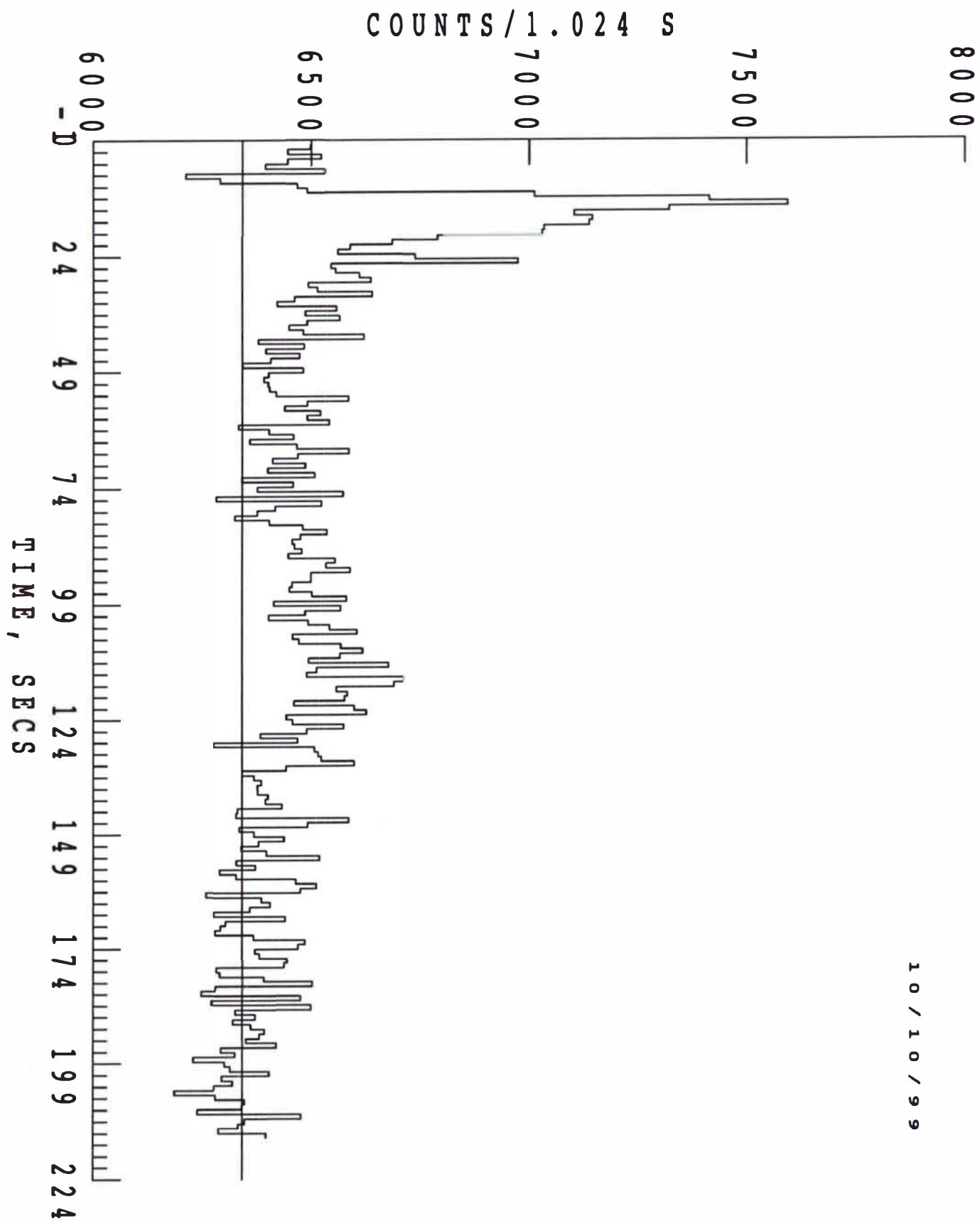
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BACODINE 7795 11/10/99 5435.129
25 - 100 keV



From PETERSON@fender.msfc.nasa.gov Fri Oct 15 11:22 PDT 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Fri, 15 Oct 1999 13:30:40 -0500 (CDT)

\: 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, 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.: 7796

TIME: TJD=1462 SECONDS= 9996

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=103.4 AZIMUTH=337.7 ERROR=0.507 DEGREES

COMMENTS:

SOLAR FLARE, NO GOES, OPTICAL SF. SINGLE PULSE WITH SPIKEY SUBSTRUCTURE, DUR.
APPROX. 25S, STARTS AT APPROX. T-5S. NOT VISIBLE ABOVE 100KEV. OVERWROTE
PREVIOUS TRIGGER DURING MER, SO STTE BELONG TO TRIGGER #7795.

From SAHI@fender.msfc.nasa.gov Thu Oct 21 14:40 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:22:26 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7797

BATSEARCH PROGRAM

BATSE BURST # 7797
EVENT OF 1999 OCT 11 DAY OF YEAR=284
EVENT CROSSING TIME AT BATSE : 30982. S. OR 08:36:22.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 335.000 -16.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/10/ 99 IS:
RA= 161.272 DEC= -18.393 DIST= 5.242 AU
BATSE-ULYSSES DISTANCE = 784221263. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2144.31 SECS.
CROSSING TIME AT ULYSSES IS 33126. S. OR 09:12:06 +/- 342.69 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/10/ 99 IS:
RA= 265.207 DEC= -25.158 DIST= 1.410 AU
MARS-BATSE DISTANCE = 210864272. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -293.80 SECS.
CROSSING TIME AT MARS IS 30688. S. OR 08:31:28 +/- 106.49 SECONDS

BATSE BURST TRIGGER

NO.: 7797

TIME: TJD=1462 SECONDS=30982

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=62.2 AZIMUTH=113.0 ERROR=4.9 DEGREES

COMMENTS:

GRB. DOUBLE PULSE, WITH SUBSTRUCTURE, DUR. 30 S, MAX. AT T+1 S. NOT VISIBLE
ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7797	991011	11462	30982	6000	335	-16	30

BATSE BURST# 7797

ULYSSES RT

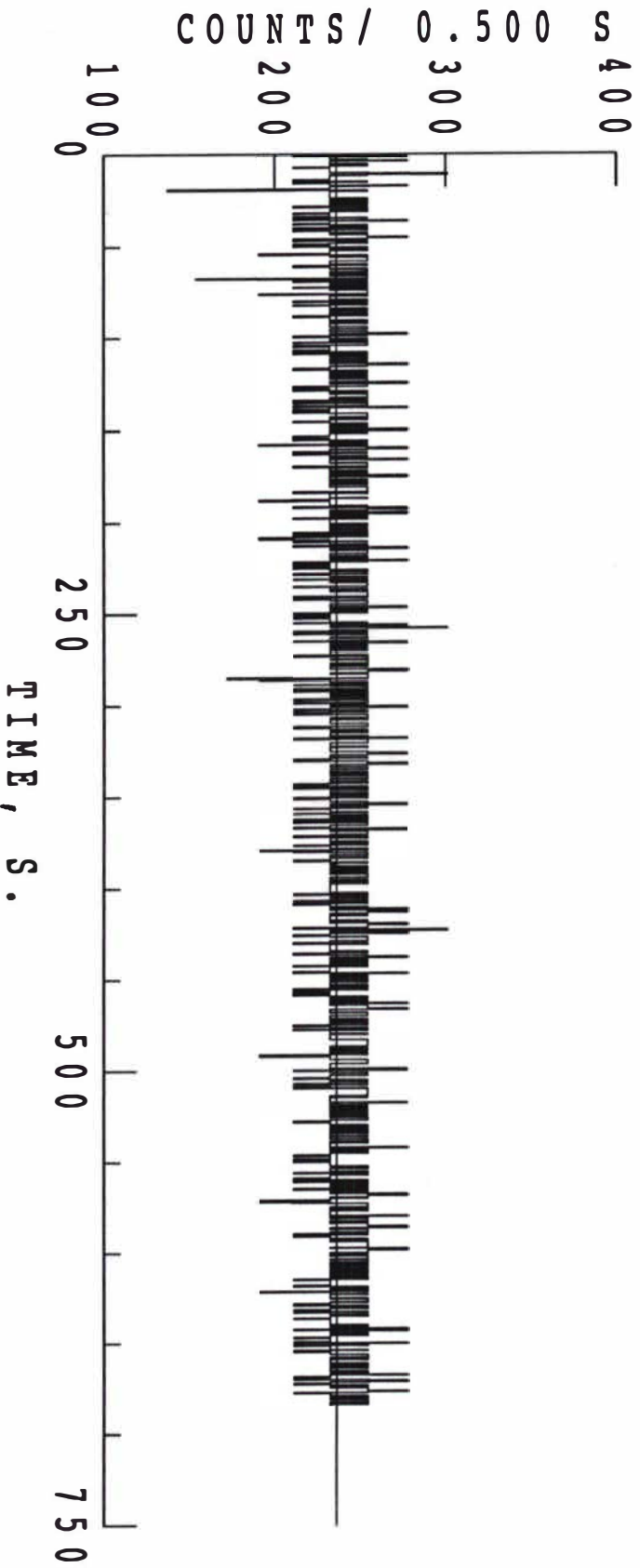
21/10/99

11/10/99 32796.324 s

0 - 0 keV

N=10 M=10
>4.0 SIGMA FLUCTUATIONS

N=10 M=2
>4.0 SIGMA FLUCTUATIONS



konus + Stern untag

ULYSSES RT

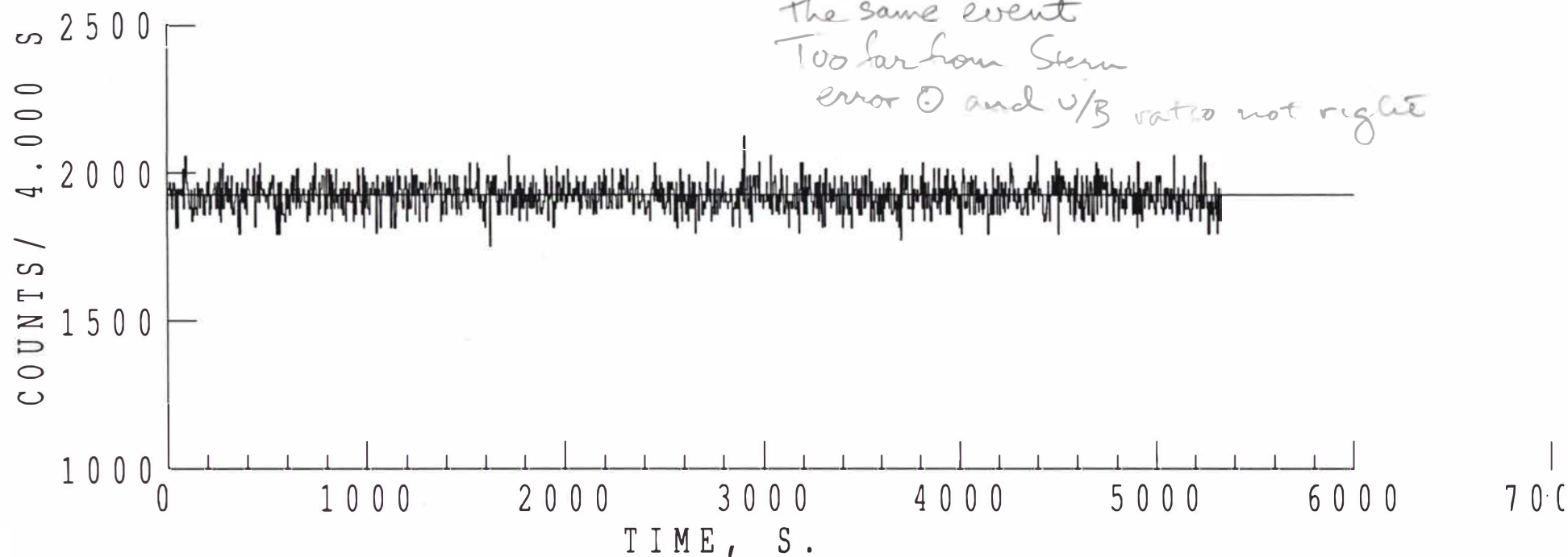
15 / 09 / 00

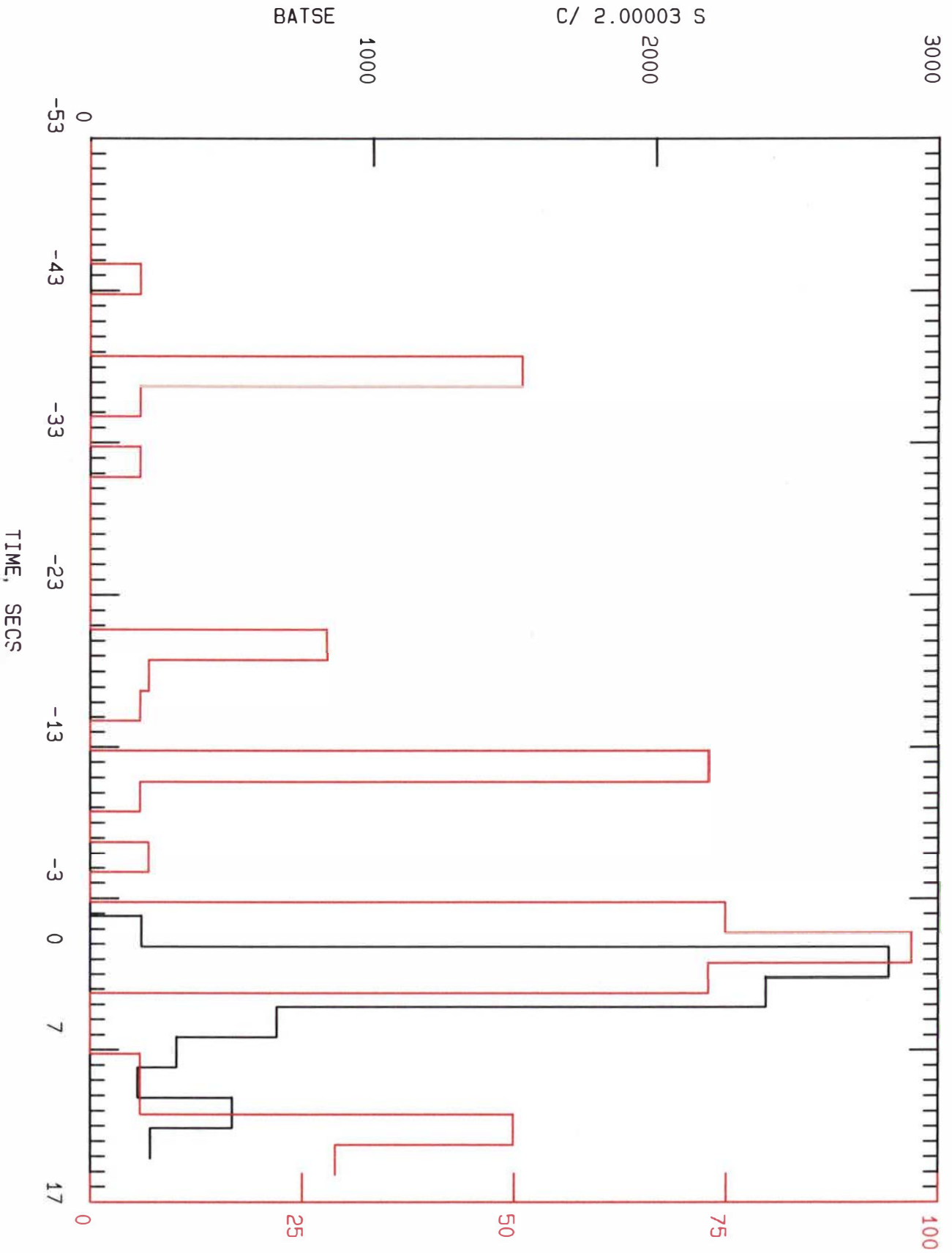
11/10/99 33300.328 s

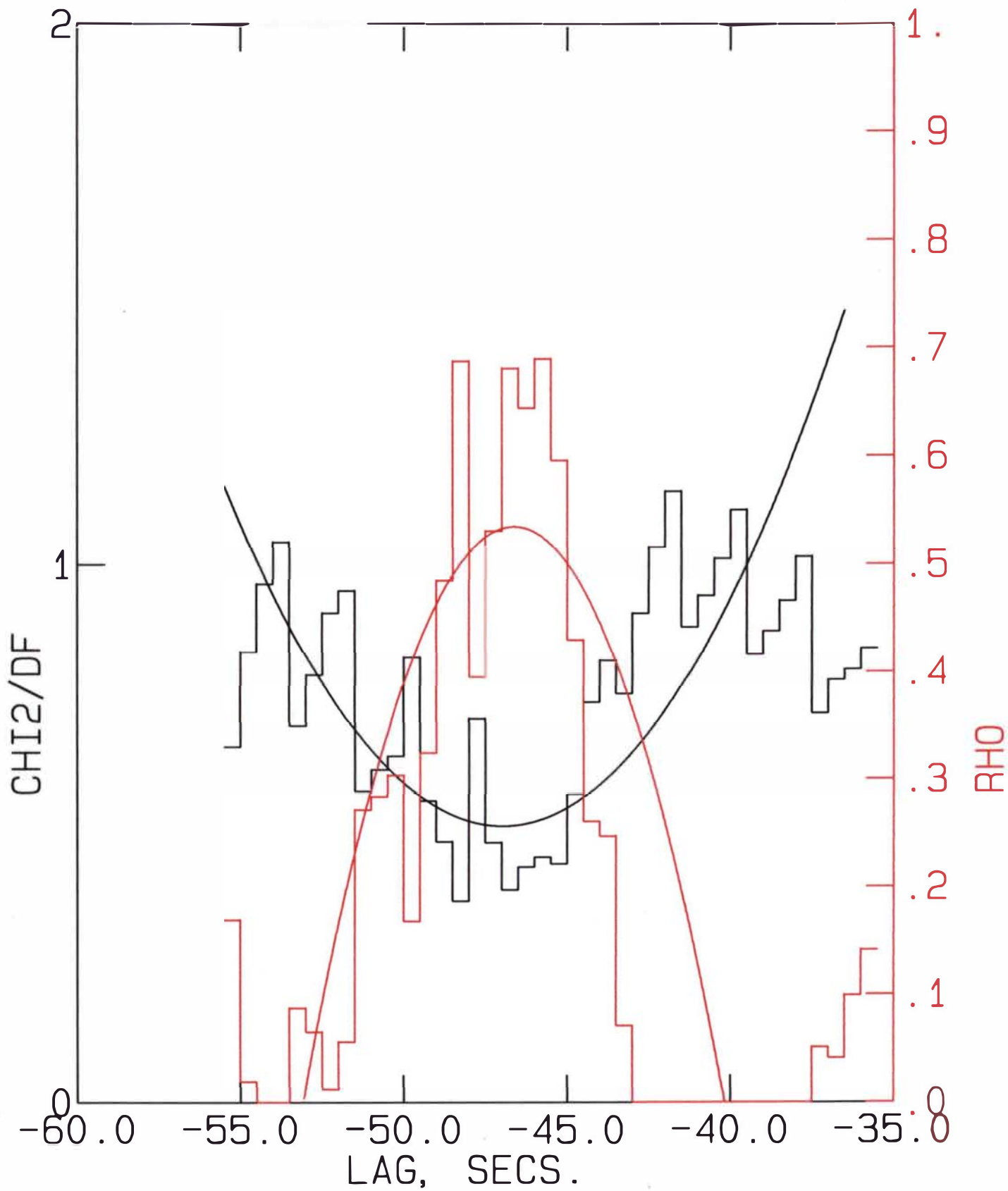
0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

H= 10 M= 2
>4.0 SIGMA FLUCTUATIONS







From SAHI@fender.msfc.nasa.gov Thu Oct 21 15:16 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:24:40 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7798

BATSEARCH PROGRAM

BATSE BURST # 7798
EVENT OF 1999 OCT 11 DAY OF YEAR=284
EVENT CROSSING TIME AT BATSE : 49366. S. OR 13:42:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 203.000 -18.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/10/ 99 IS:
RA= 161.301 DEC= -18.427 DIST= 5.240 AU
BATSE-ULYSSES DISTANCE = 783860880. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=140.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2016.89 SECS.
CROSSING TIME AT ULYSSES IS 47349. S. OR 13:09:09 +/- 308.26 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/10/ 99 IS:
RA= 265.207 DEC= -25.158 DIST= 1.410 AU
MARS-BATSE DISTANCE = 210864272. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=122.19 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -374.73 SECS.
CROSSING TIME AT MARS IS 48991. S. OR 13:36:31 +/- 97.65 SECONDS

BATSE BURST TRIGGER

NO.: 7798

TIME: TJD=1462 SECONDS=49366

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

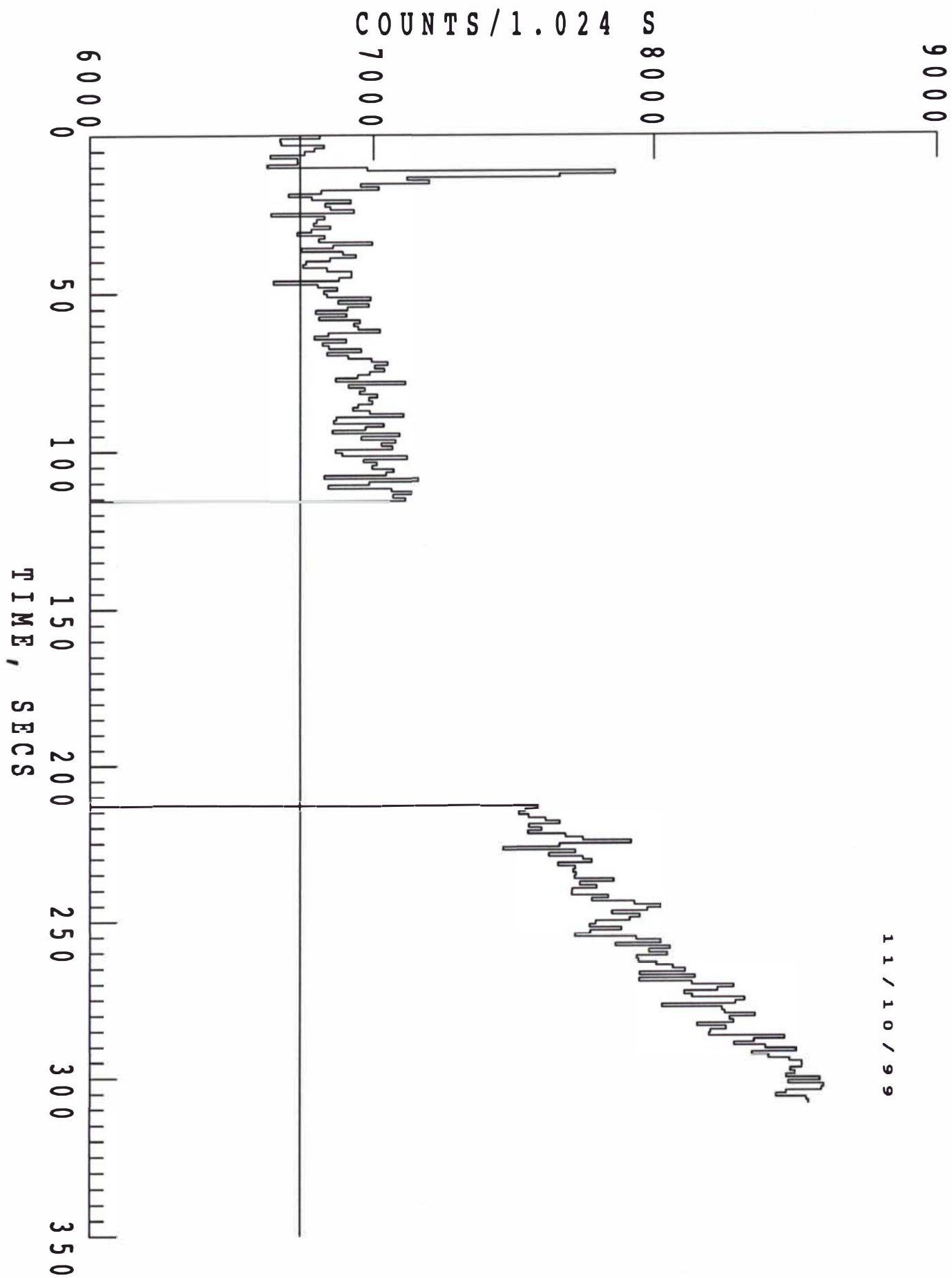
LOCATION: ZENITH=102.1 AZIMUTH=353.8 ERROR=4.8 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. 7 S. NOT VISIBLE ABOVE 300 KEV. HV OFF AT T+373 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7798	991011	11462	49366	3500	203	-18	7

BACODINE 7798 11/10/99 49354.489
25 - 100 keV



BATSE BURST# 7798

ULYSSES RT

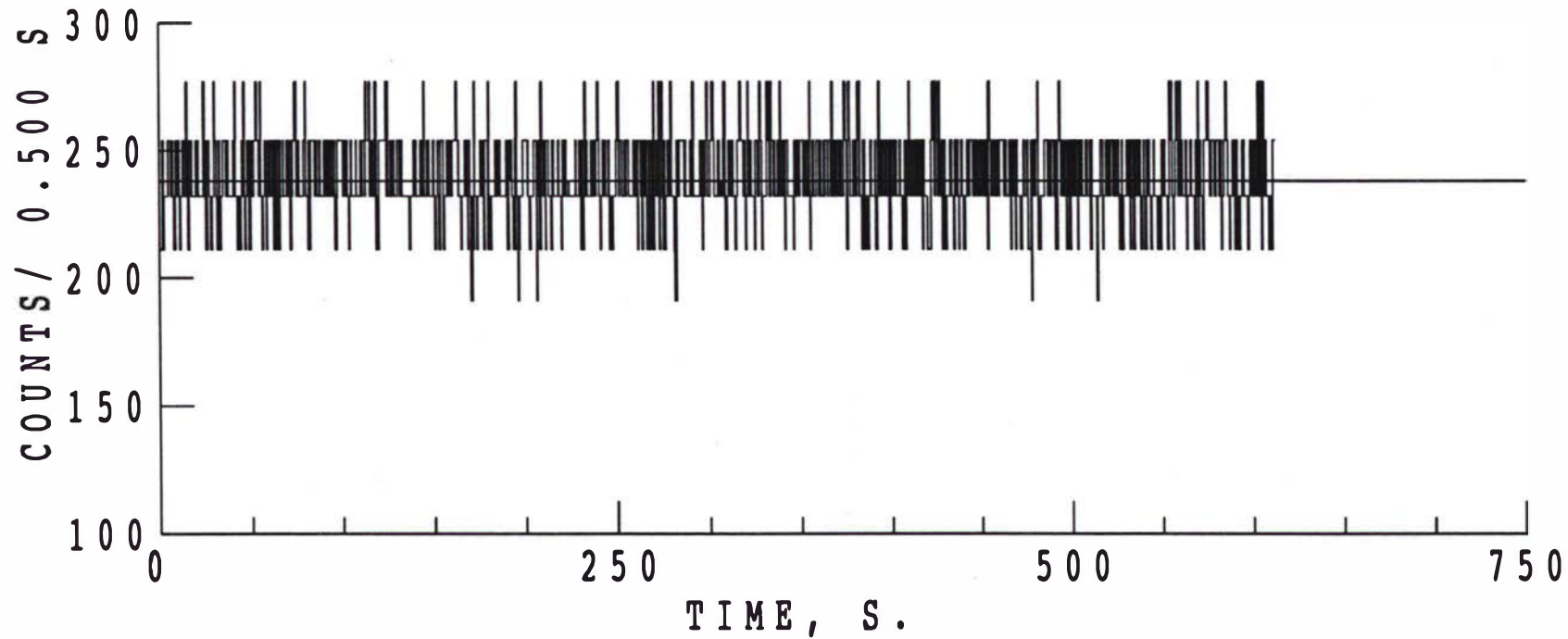
21 / 10 / 99

11 / 10 / 99 47052.469 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Oct 14 13:41 PDT 1999
Date: Thu, 14 Oct 1999 15:49:10 -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@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7799

TIME: TJD=1462 SECONDS=83235

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT WEST OF AUSTRALIA,
TRIGGERED DURING DATA GAP.

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Thu Oct 14 08:46 PDT 1999
Date: Thu, 14 Oct 1999 11:54:14 -0400
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
feroci@saturn.ias.rm.cnr.it, cline@apache.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses event of 991011 was not detected by Konus

Hi Everyone,

Konus didn't trigger on 991011. The only event visible in waiting-mode data within 2600 seconds of the Ulysses event was weak, hard (only seen above 50keV) and south of the ecliptic. It produced a raised value for the single counting bin from 01:30:45 to 01:30:48.

Paul.

re:

Date: Thu, 14 Oct 1999 08:08:00 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199910141508.IAA02463@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB991011
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

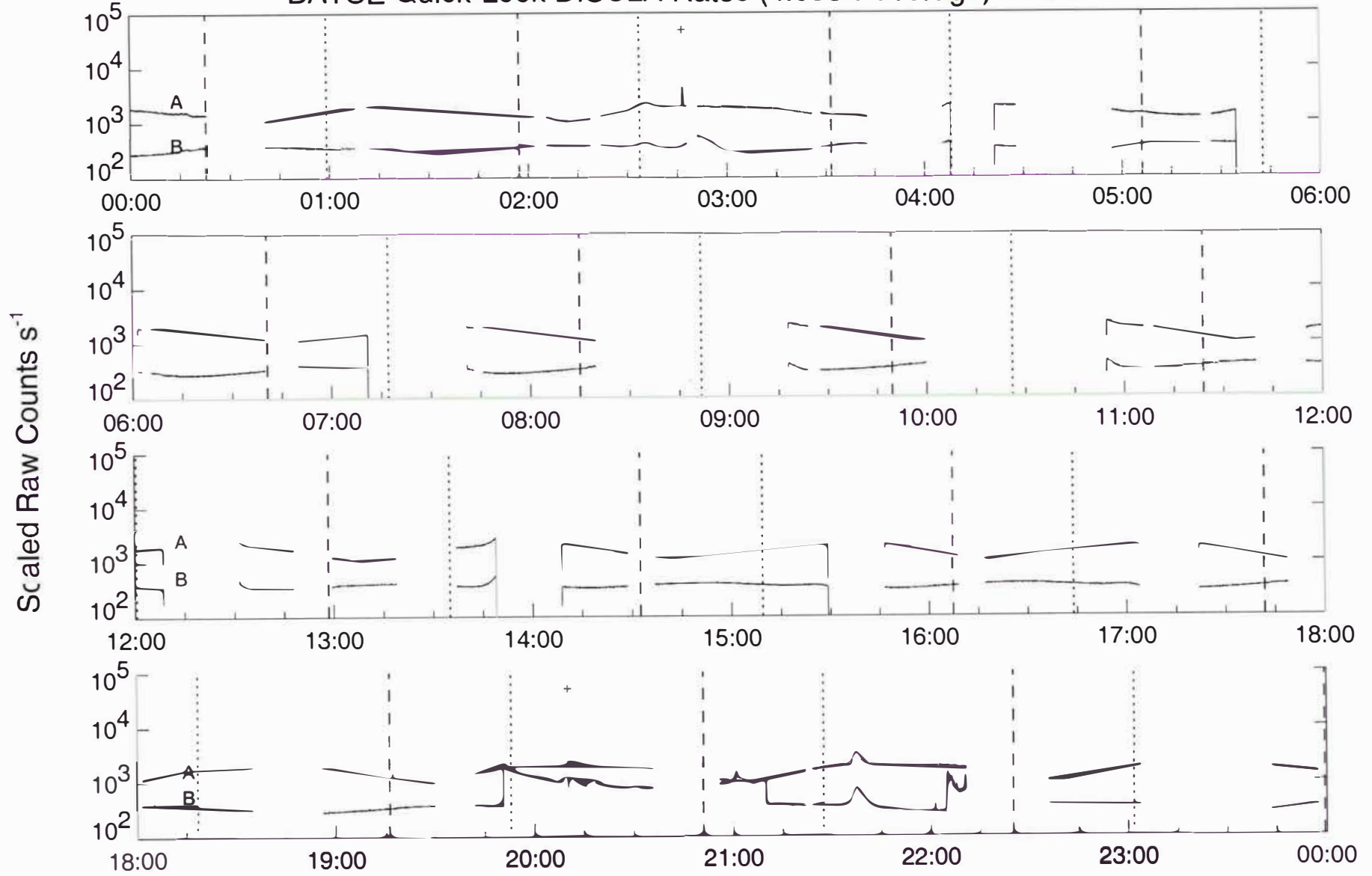
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
OCT 11 1999 01:59	weak, 32 ms long*	2600

*looks like an SGR, but which one?

Was this event detected by anyone else?

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

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/11

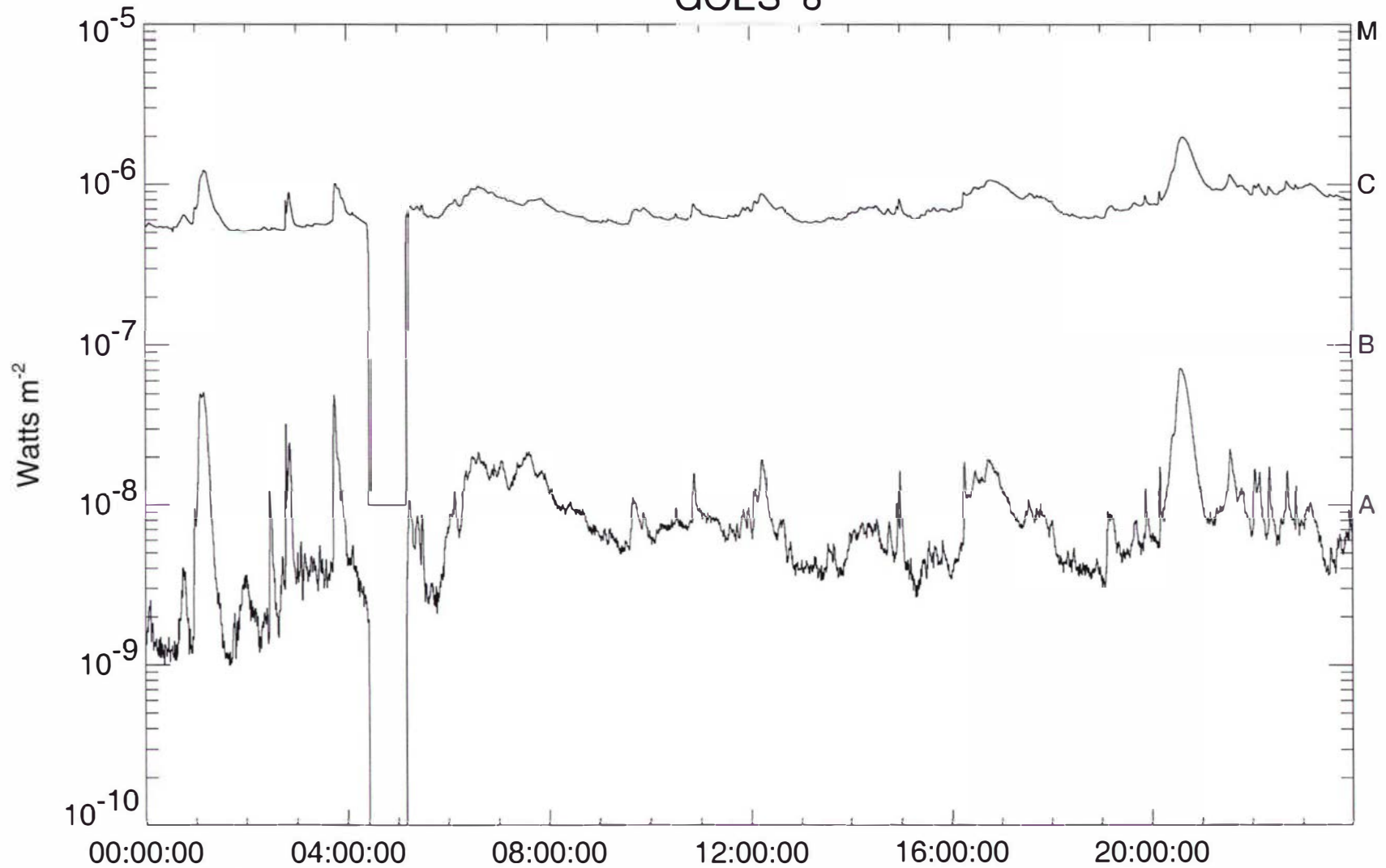


Current Time: 99/10/18, 2358 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/11, 0000:00

Plot created: 99/10/18, 2357

Channel 1 (1.0 - 8.0 Angstroms)

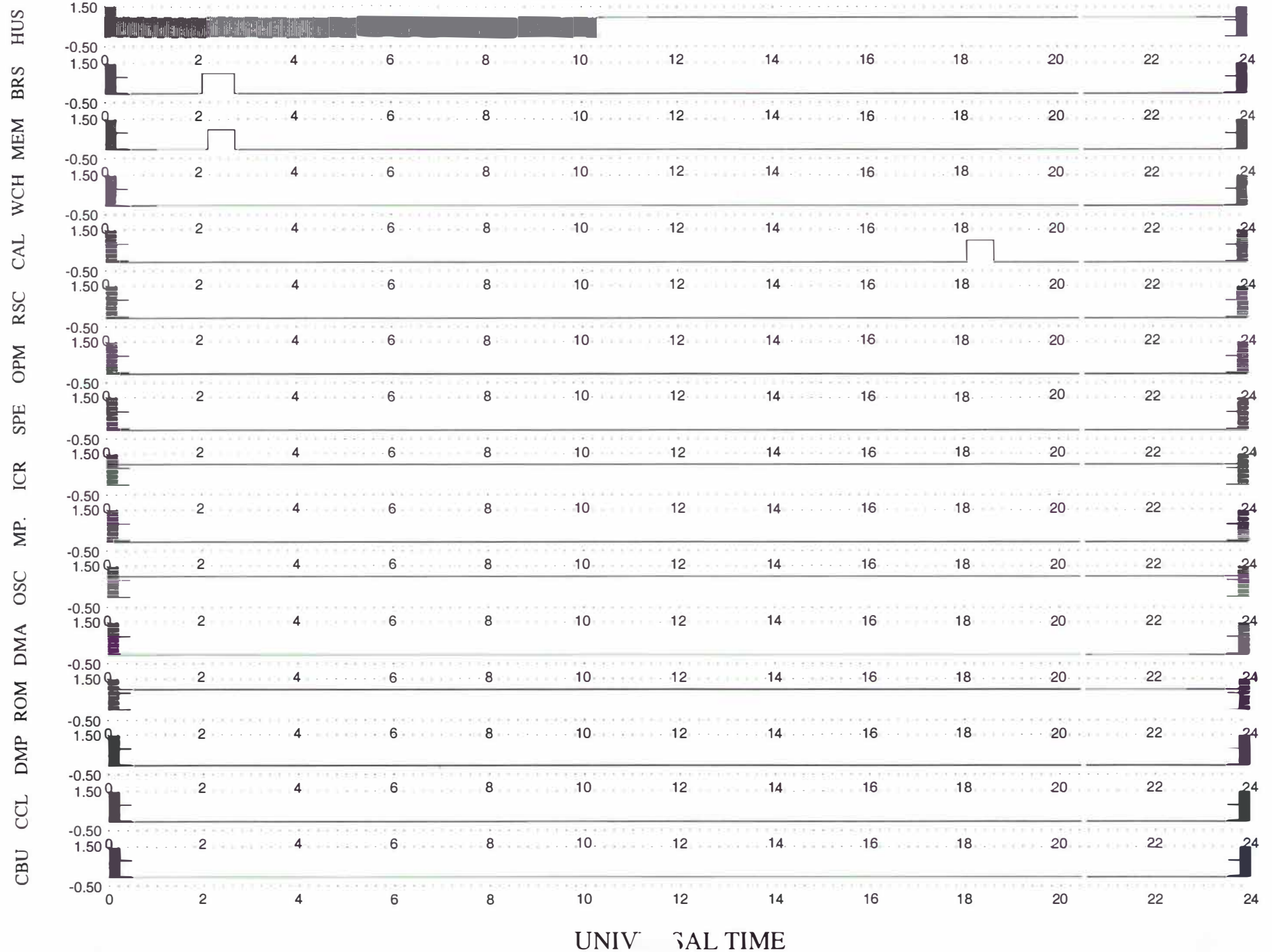
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

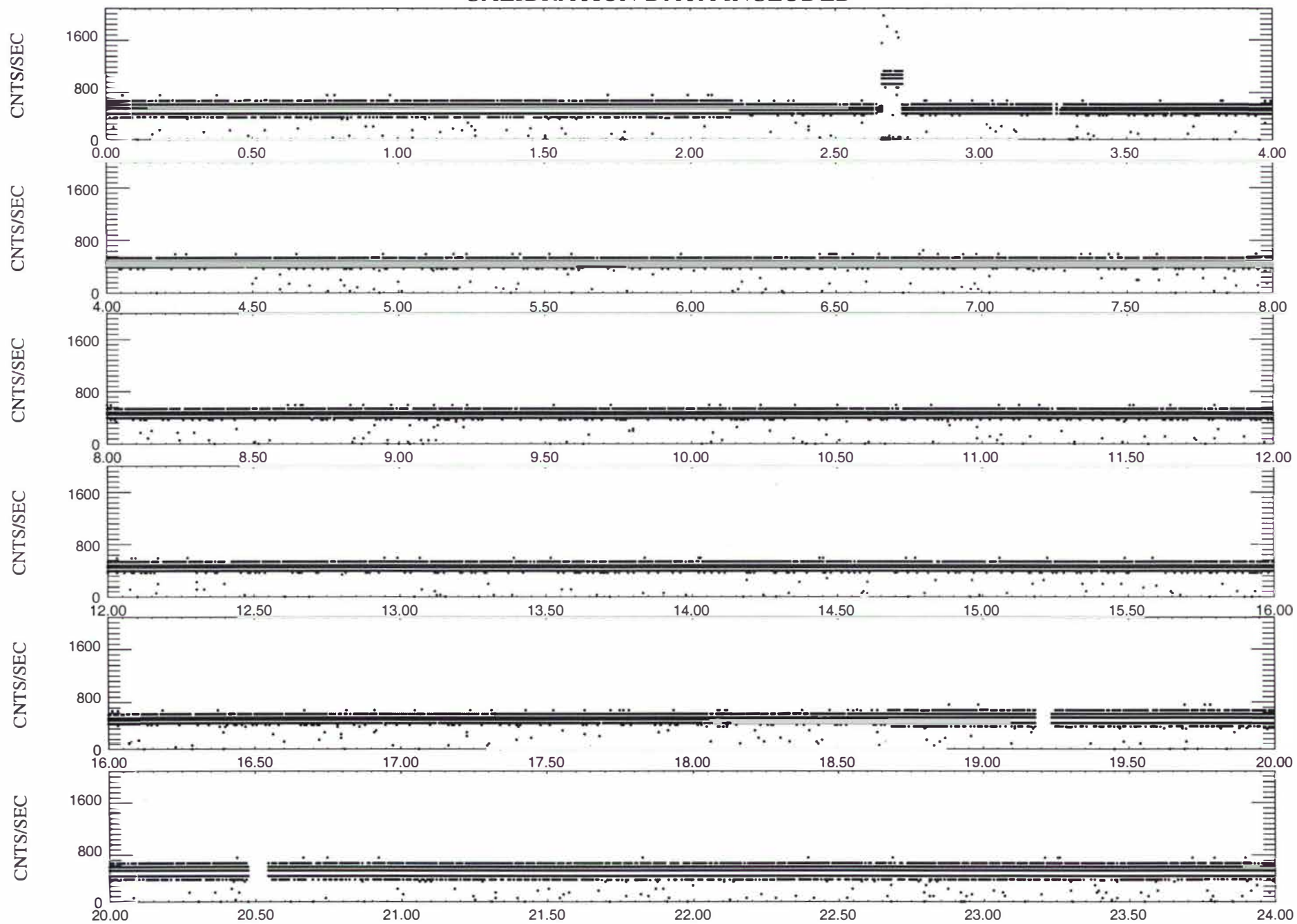
Background not subtracted

Sample average = 10

BURST NUMBER 11

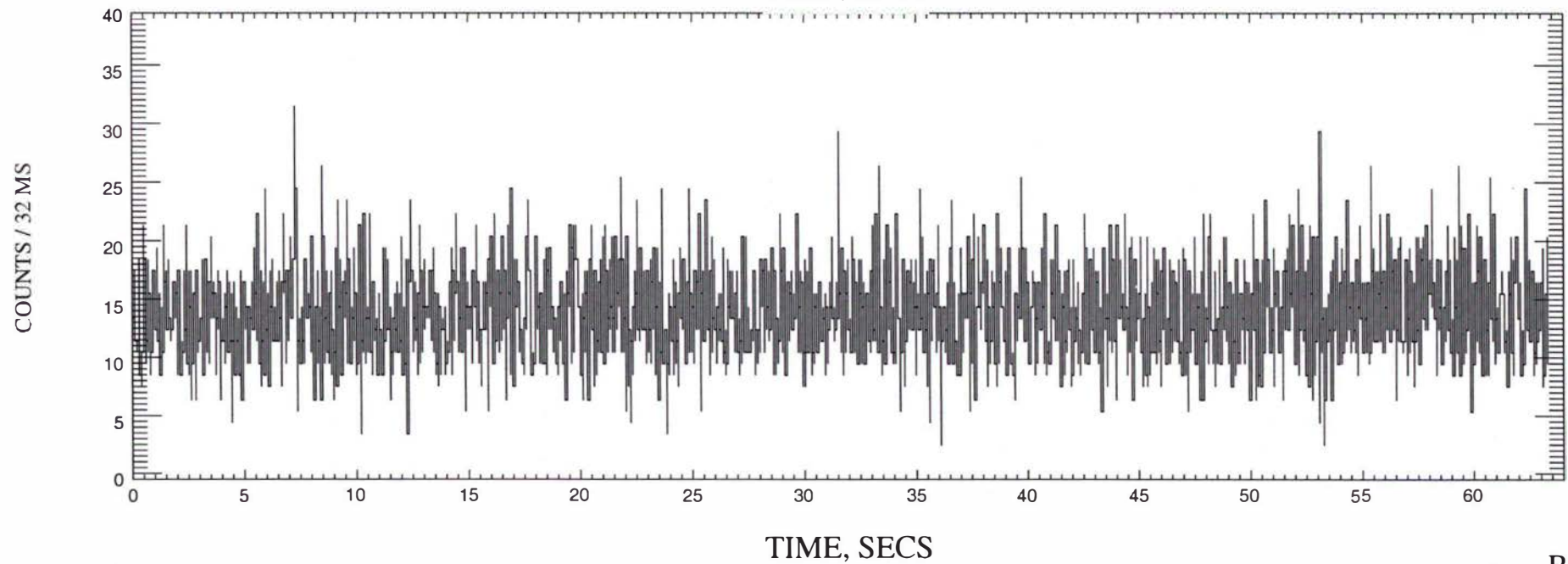
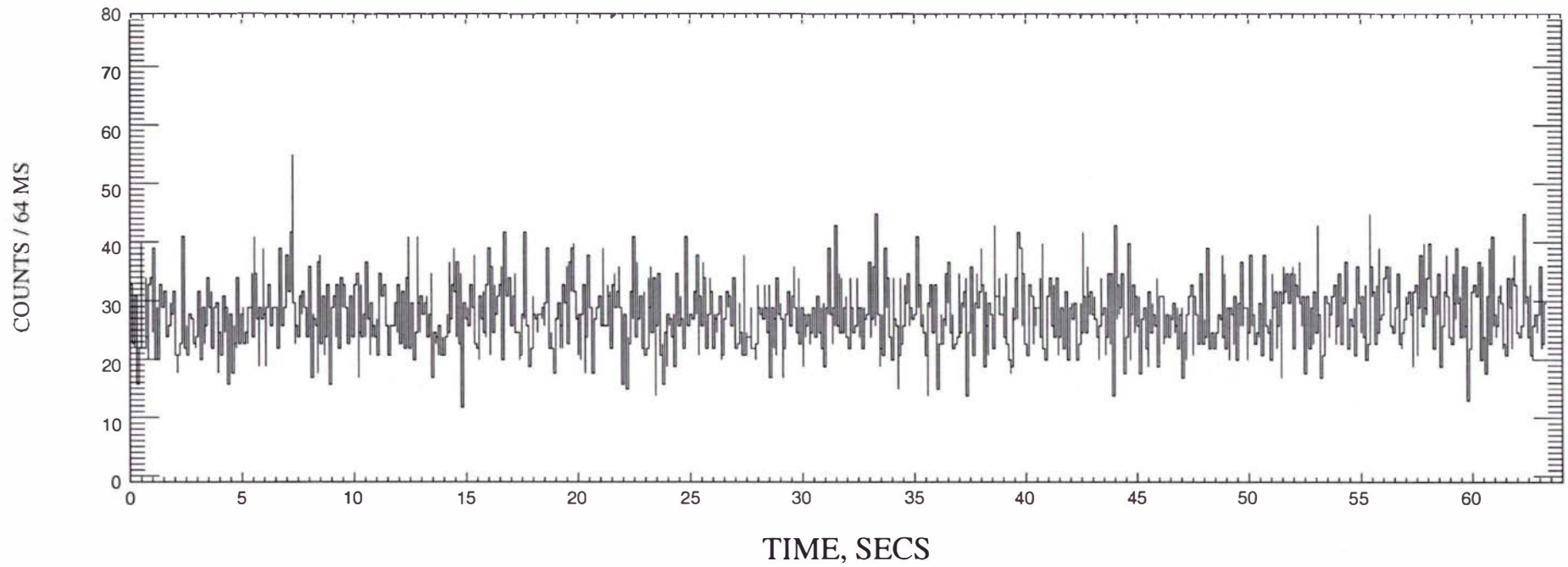


CALIBRATION DATA INCLUDED

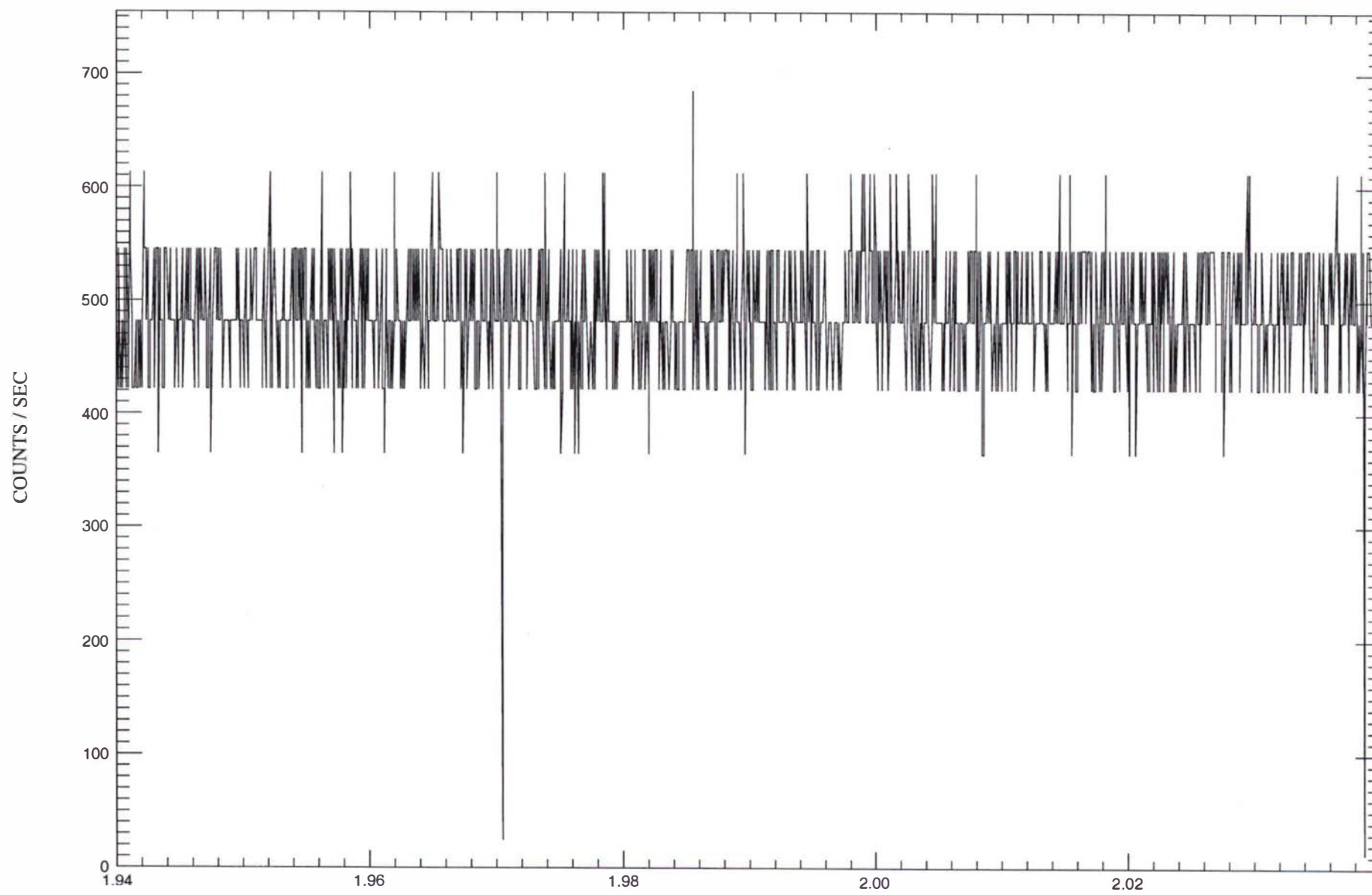


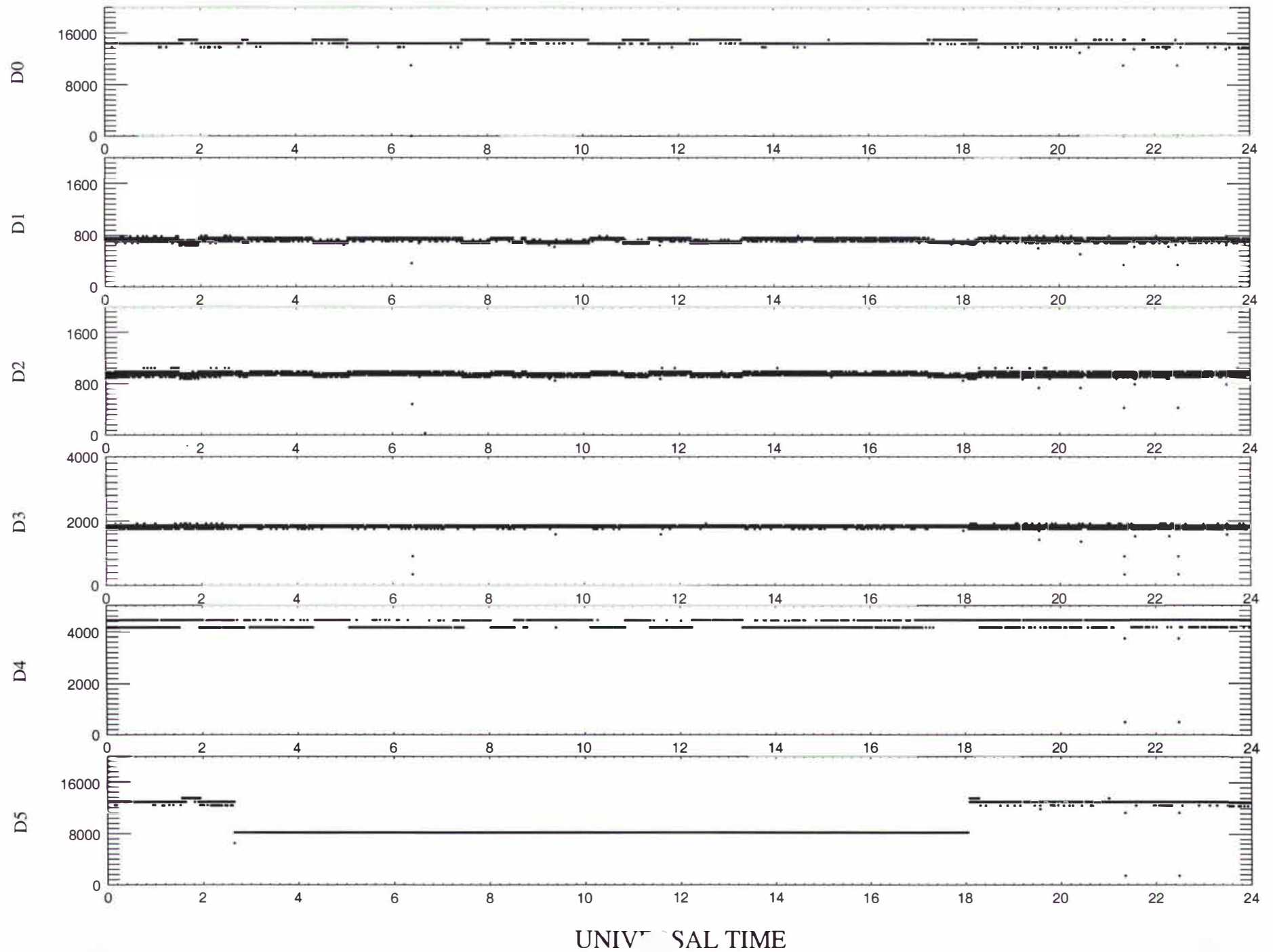
UNIV SAL TIME

Burst Counter 11 at UT= 1.985640881856 h= 7148.307 s 01:59:08.307



CALIBRATION DATA INCLUDED





From SAHI@fender.msfc.nasa.gov Thu Oct 21 15:16 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:27:15 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7800

BATSEARCH PROGRAM

BATSE BURST # 7800
EVENT OF 1999 OCT 12 DAY OF YEAR=285
EVENT CROSSING TIME AT BATSE : 16496. S. OR 04:34:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 218.000 46.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 12/10/ 99 IS:
RA= 161.386 DEC= -18.527 DIST= 5.233 AU
BATSE-ULYSSES DISTANCE = 782802699. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 97.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -349.56 SECS.
CROSSING TIME AT ULYSSES IS 16146. S. OR 04:29:06 +/- 493.95 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 12/10/ 99 IS:
RA= 265.993 DEC= -25.176 DIST= 1.415 AU
MARS-BATSE DISTANCE = 211667536. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 96.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -80.99 SECS.
CROSSING TIME AT MARS IS 16415. S. OR 04:33:35 +/- 120.54 SECONDS

BATSE BURST TRIGGER

NO.: 7800

TIME: TJD=1463 SECONDS=16496

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=58.1 AZIMUTH=302.9 ERROR=5.7 DEGREES

COMMENTS:

GRB. SINGLE SPIKE, WITH SUBSTRUCTURE, DUR. 0.15 S, STARTS AT T-0.15 S, MAX.
AT T-0.05 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7800	991012	11463	16496	5000	218	+46	.15

BATSE BURST# 7800

ULYSSES RT

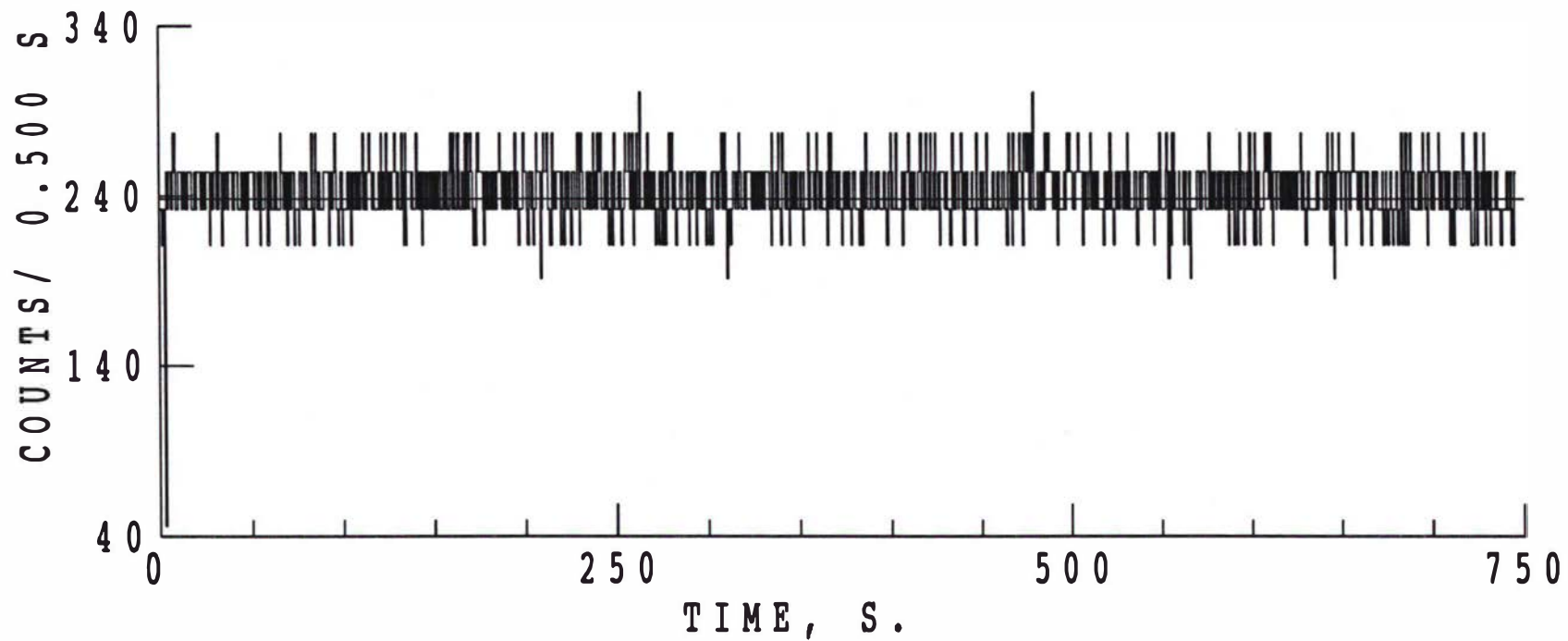
21 / 10 / 99

12 / 10 / 99 15886.525 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Thu Oct 21 15:55 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 18 Oct 1999 12:31:02 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7801

TIME: TJD=1463 SECONDS=78661

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

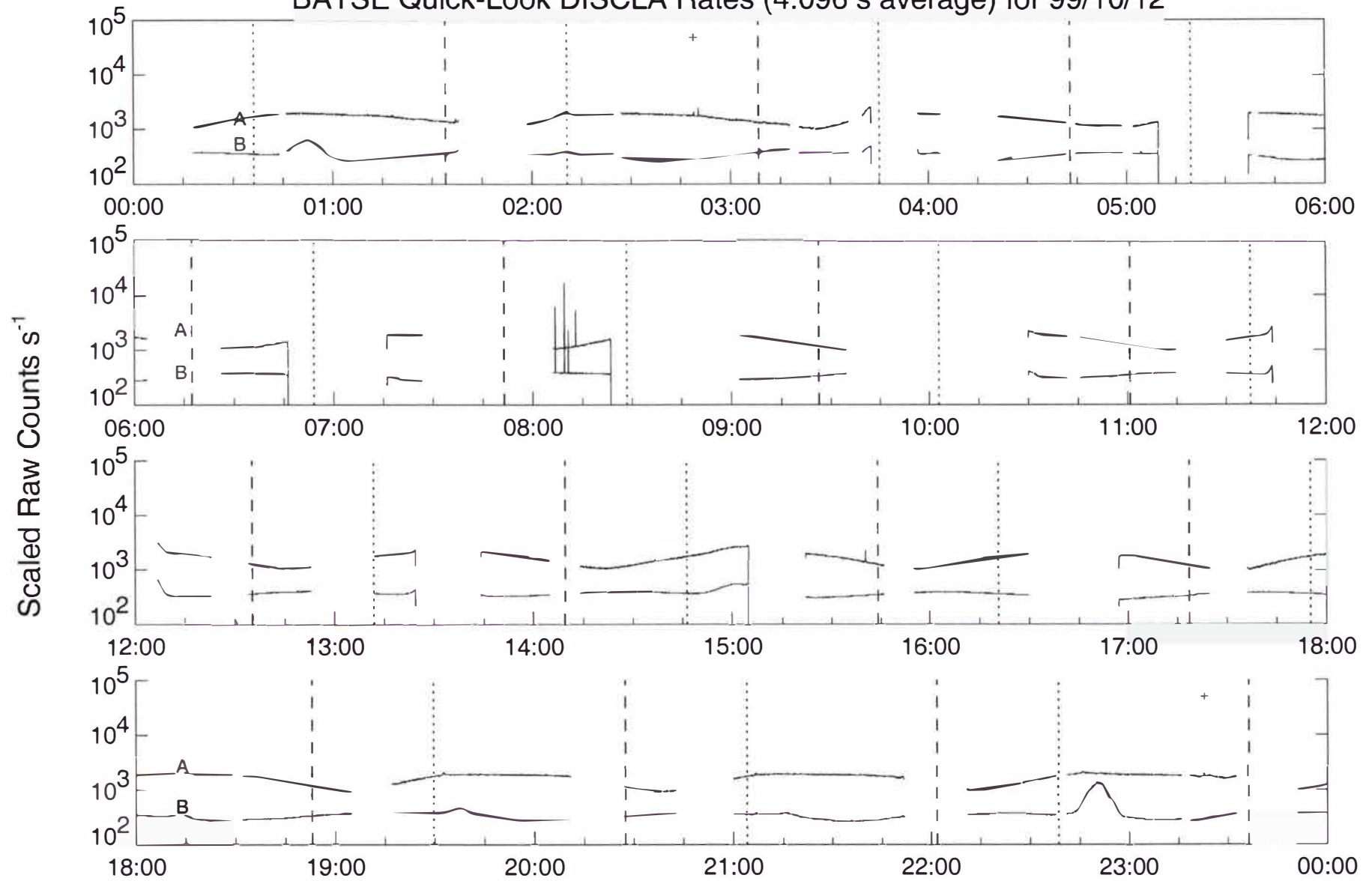
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/12

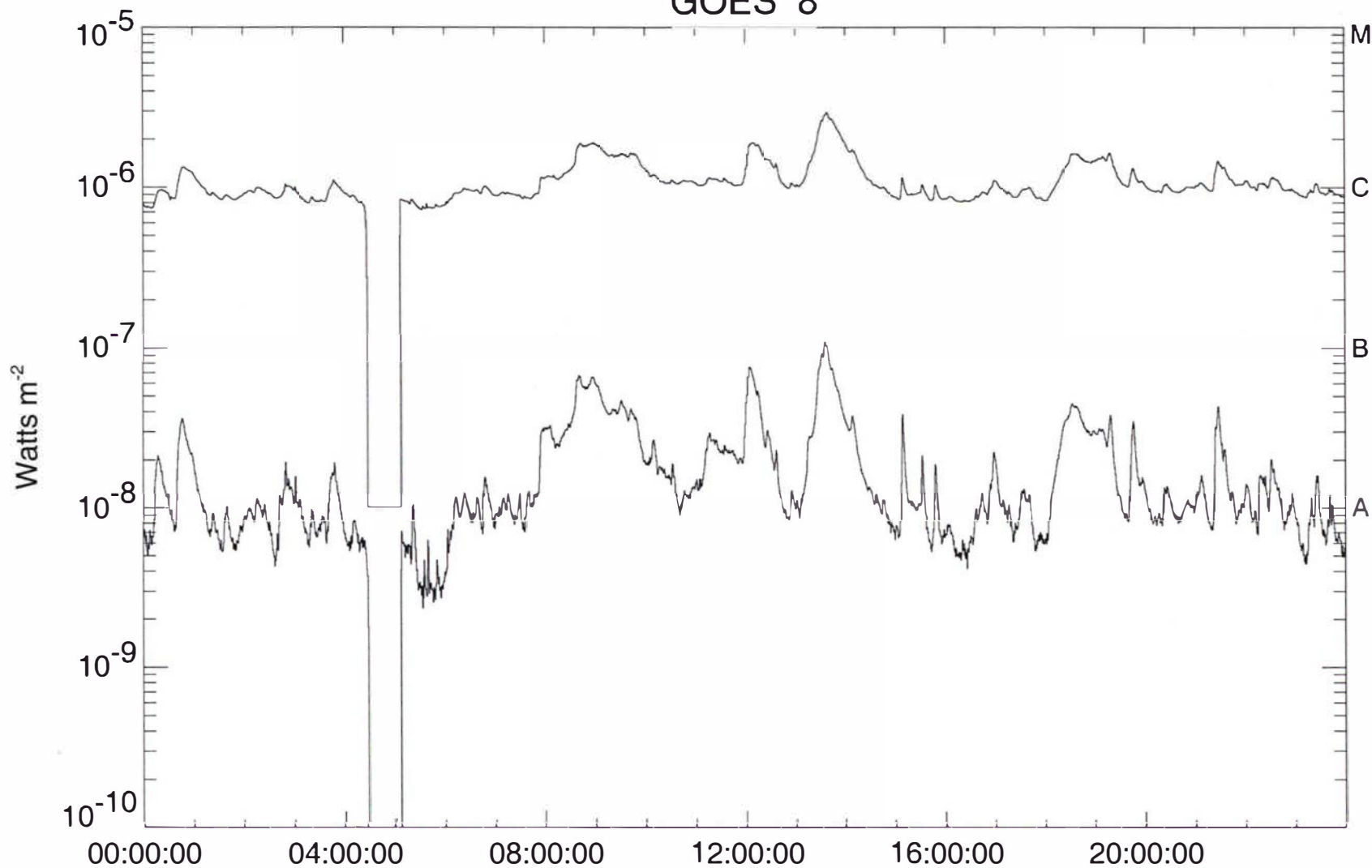


Current Time: 99/10/19, 0002 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/12, 0000:00

Plot created: 99/10/19, 0001

Channel

1 (1.0 - 8.0 Angstroms)

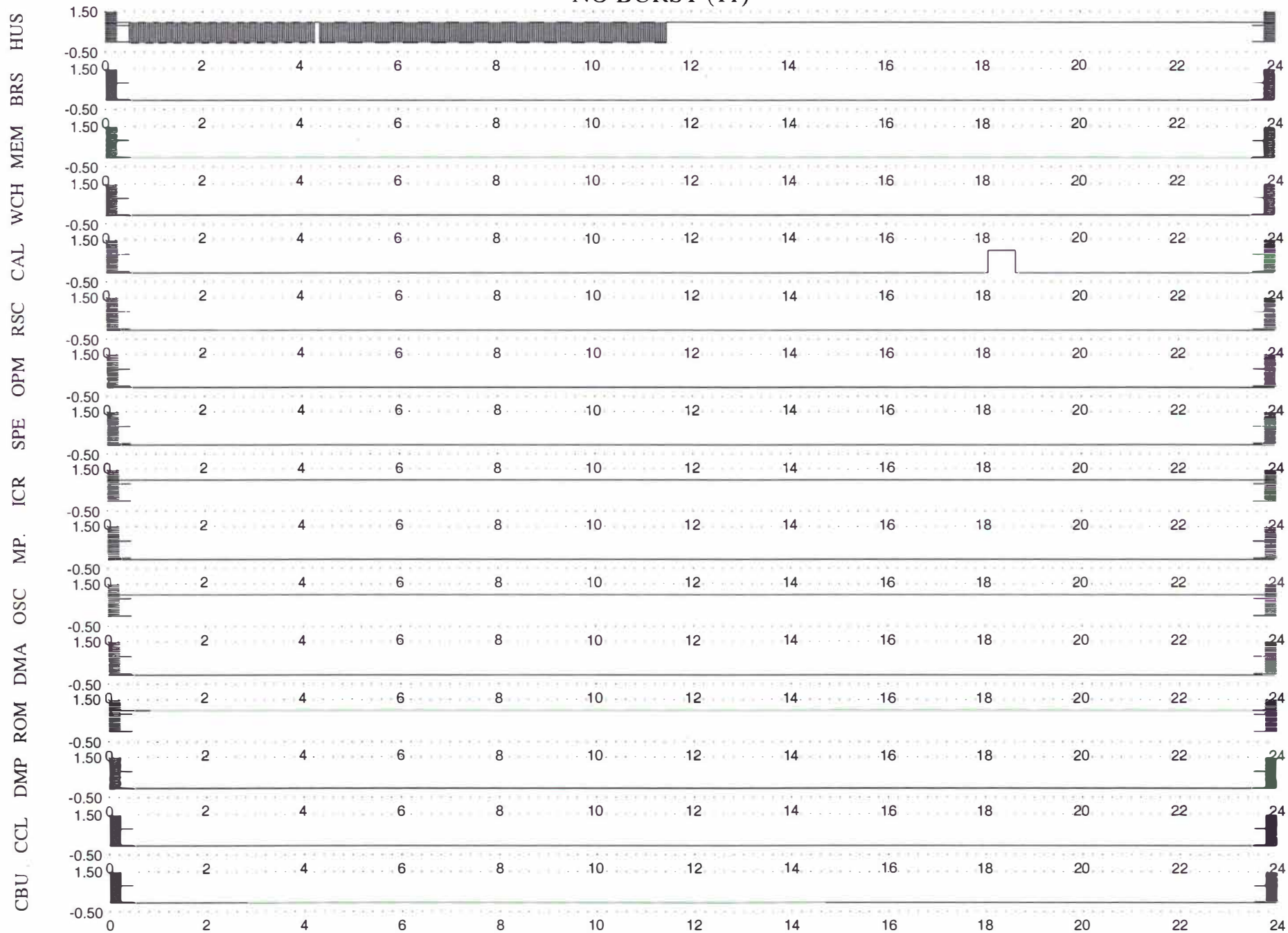
Background not subtracted

2 (0.5 - 4.0 Angstroms)

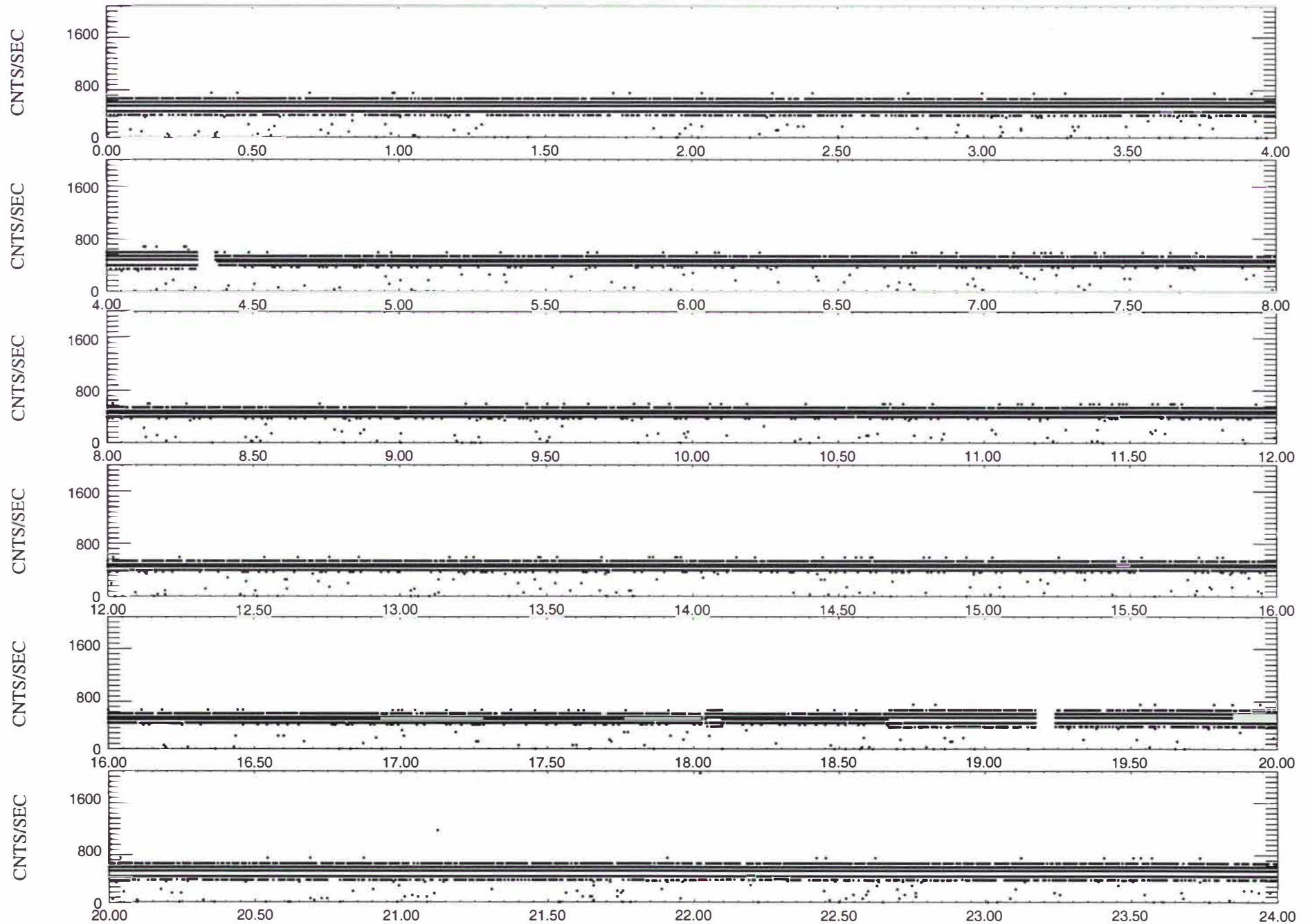
Background not subtracted

Sample average = 10

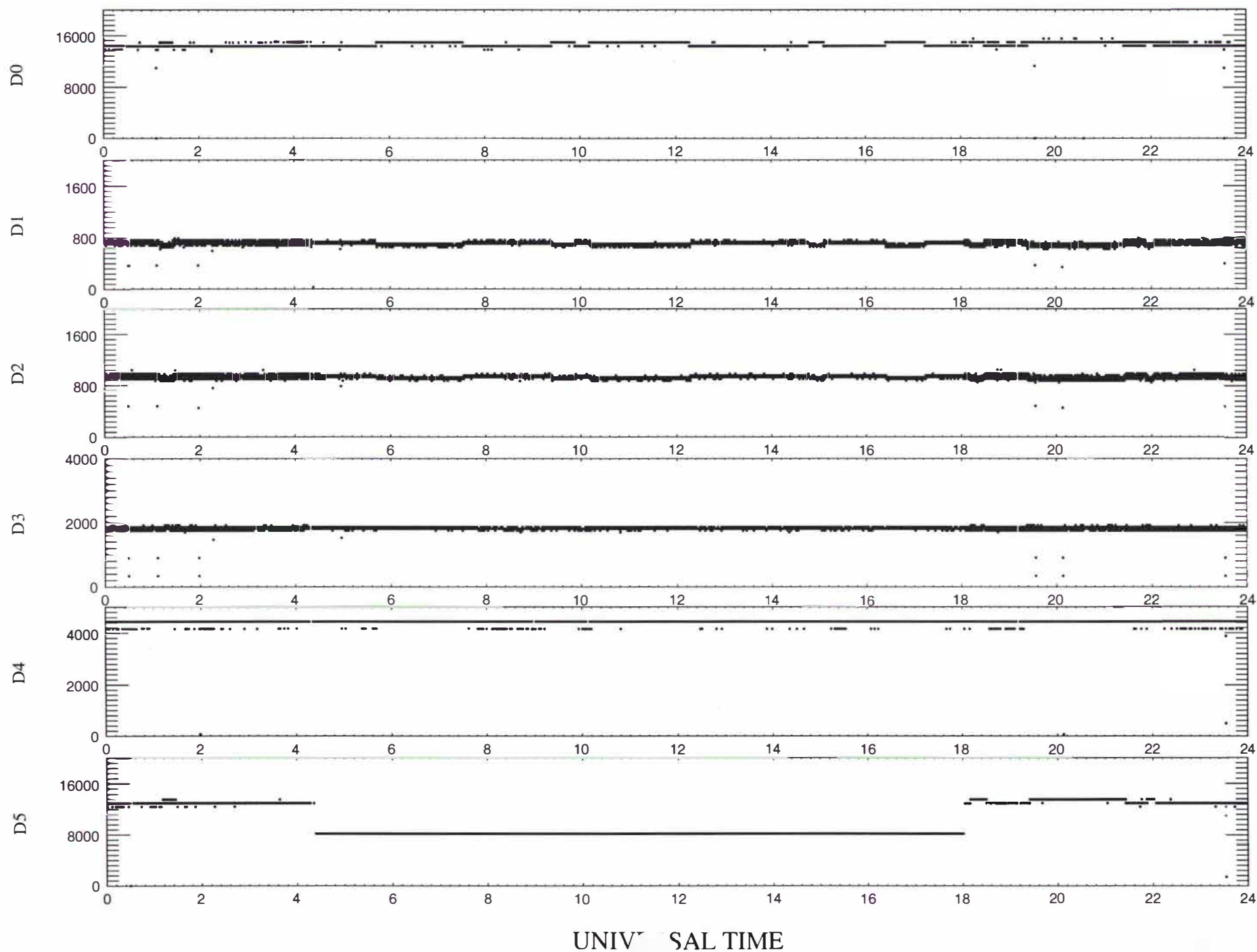
UNIV SAL TIME



CALIBRATION DATA INCLUDED



UNIV SAL TIME

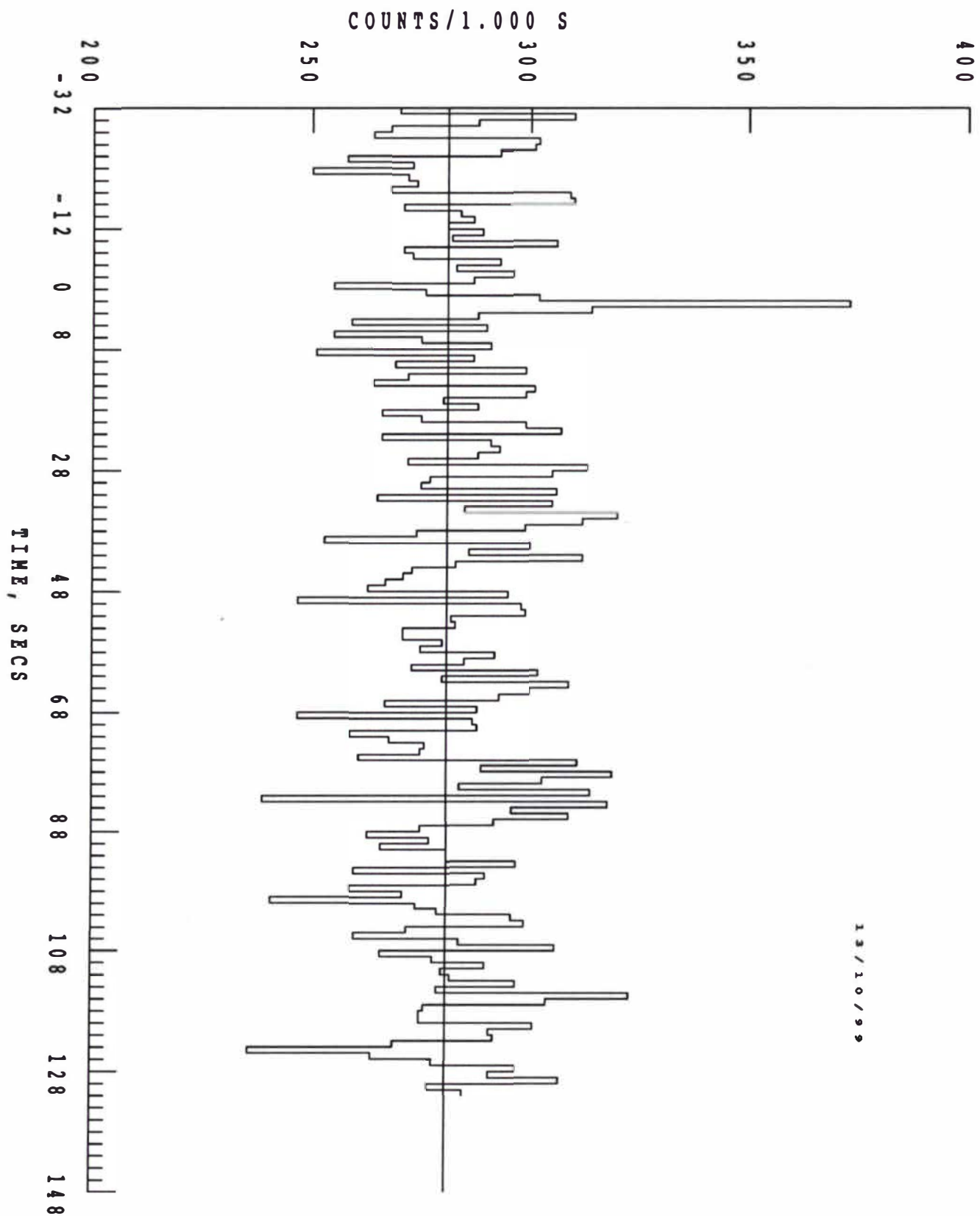


NEAR

13/10/99

6830.123

100-1000 keV



KNEAR GRS 19991013 06830

ULYSSES RT

13 / 10 / 99

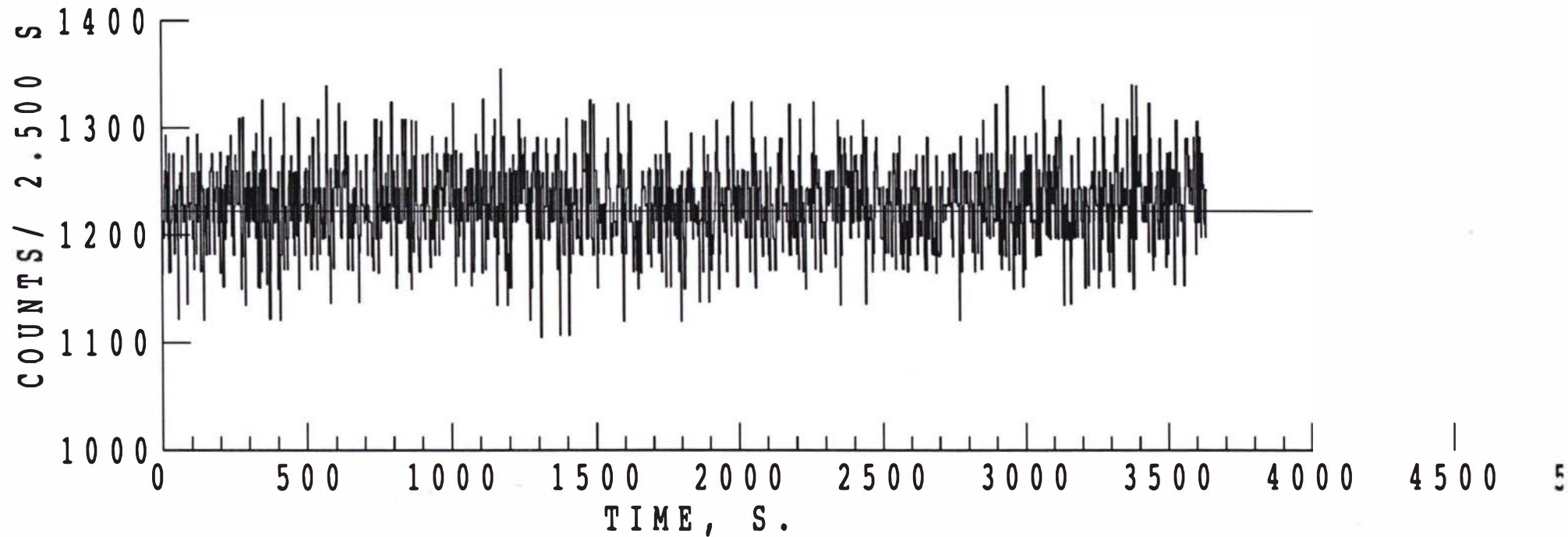
13/10/99 5004.036 s

0.250 S INTERVALS REGROUPED BY 10

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



SAX G12BM
HUS DATA

19 / 07 / 05

ULYSSES RT

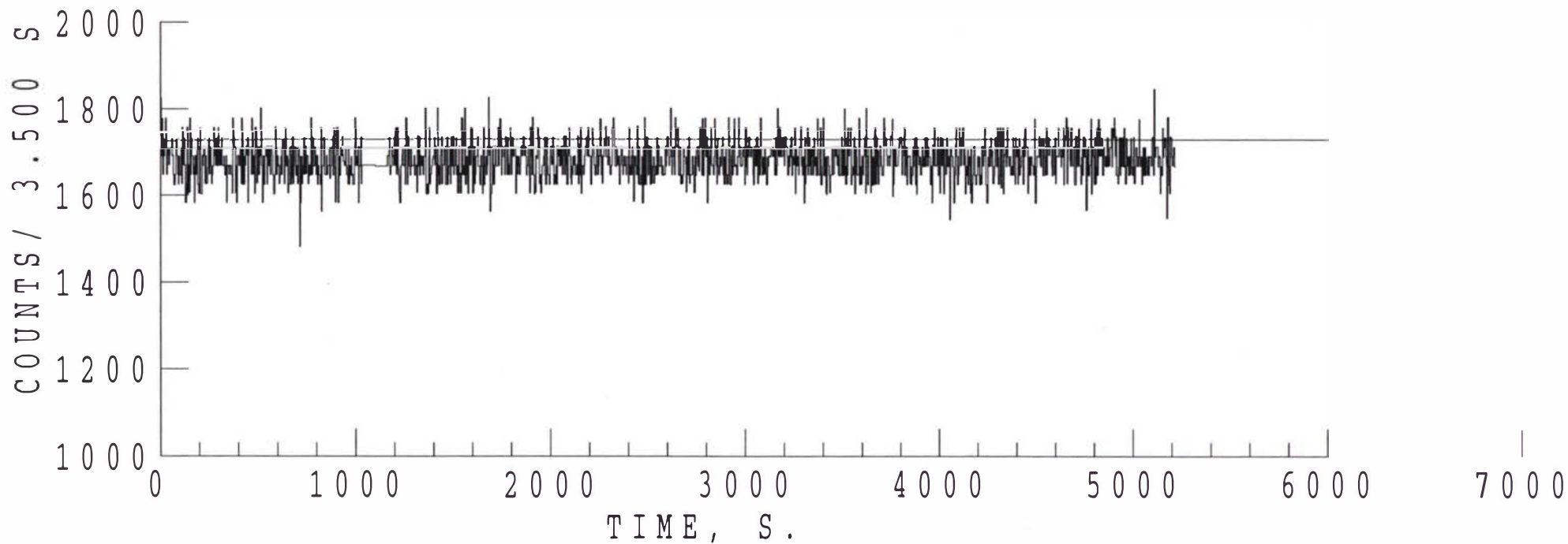
13 / 10 / 99 25812.494 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10'
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



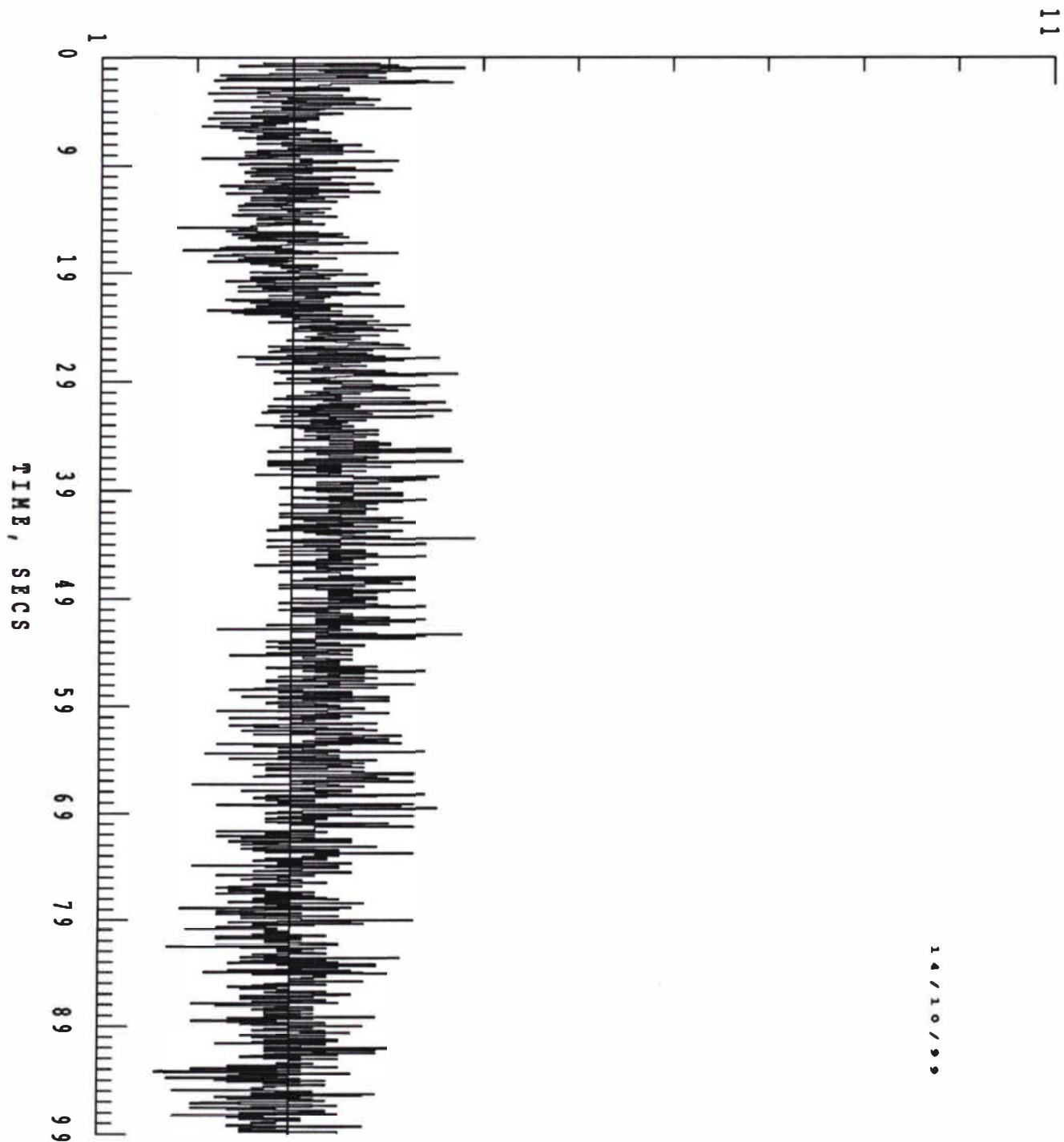
KONUS

13/10/99

71940.312

50 - 200 keV

COUNTS/0.064 S



KONUS1 19991013 71940

ULYSSES RT

14 / 10 / 99

13/10/99 69300.188 s

0.250 S INTERVALS REGROUPED BY 14

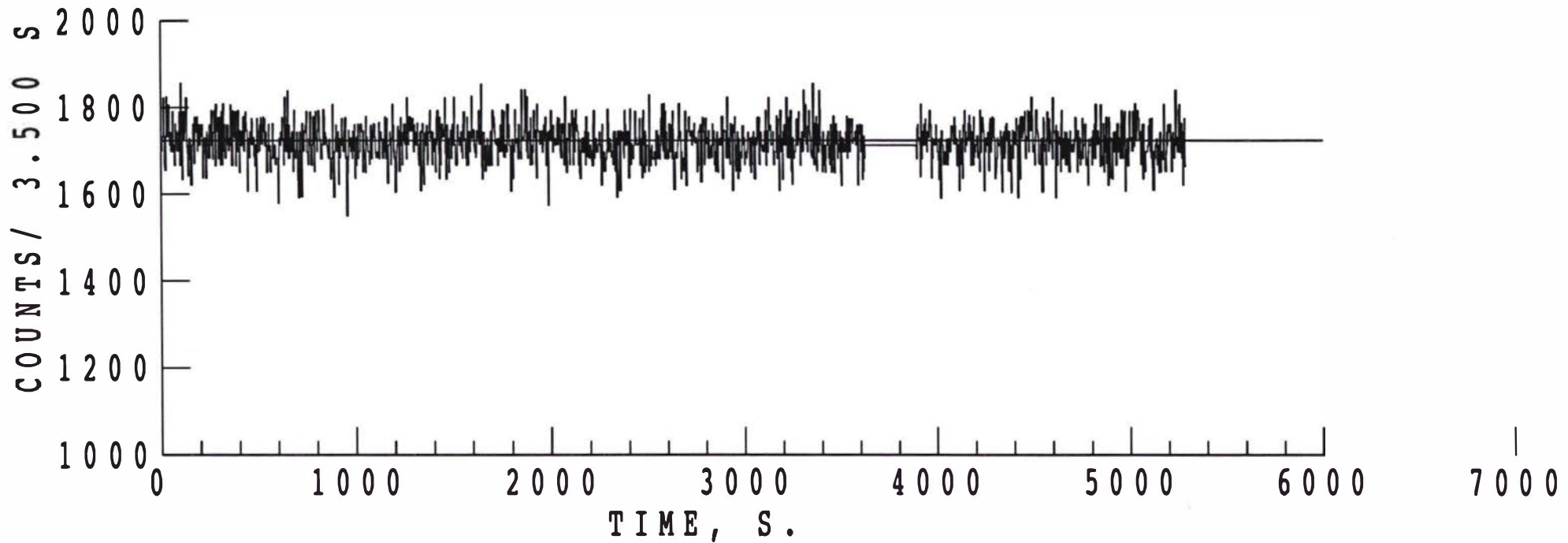
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Sat Oct 16 13:56 PDT 1999
From: HENZE@fender.msfc.nasa.gov
Date: Sat, 16 Oct 1999 15:17:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7802

BATSEARCH PROGRAM

BATSE BURST # 7802
EVENT OF 1999 OCT 13 DAY OF YEAR=286
EVENT CROSSING TIME AT BATSE : 74284. S. OR 20:38:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 124.000 9.000
BATSE PEAK COUNTING RATE: 3100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/10/ 99 IS:
RA= 161.614 DEC= -18.800 DIST= 5.213 AU
BATSE-ULYSSES DISTANCE = 779888028. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=133.65 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1795.58 SECS.
CROSSING TIME AT ULYSSES IS 72488. S. OR 20:08:08 +/- 349.54 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/10/ 99 IS:
RA= 266.781 DEC= -25.190 DIST= 1.420 AU
MARS-BATSE DISTANCE = 212469840. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 551.61 SECS.
CROSSING TIME AT MARS IS 74836. S. OR 20:47:15 +/- 85.63 SECONDS

BATSE BURST TRIGGER

NO.: 7802

TIME: TJD=1464 SECONDS=74284

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

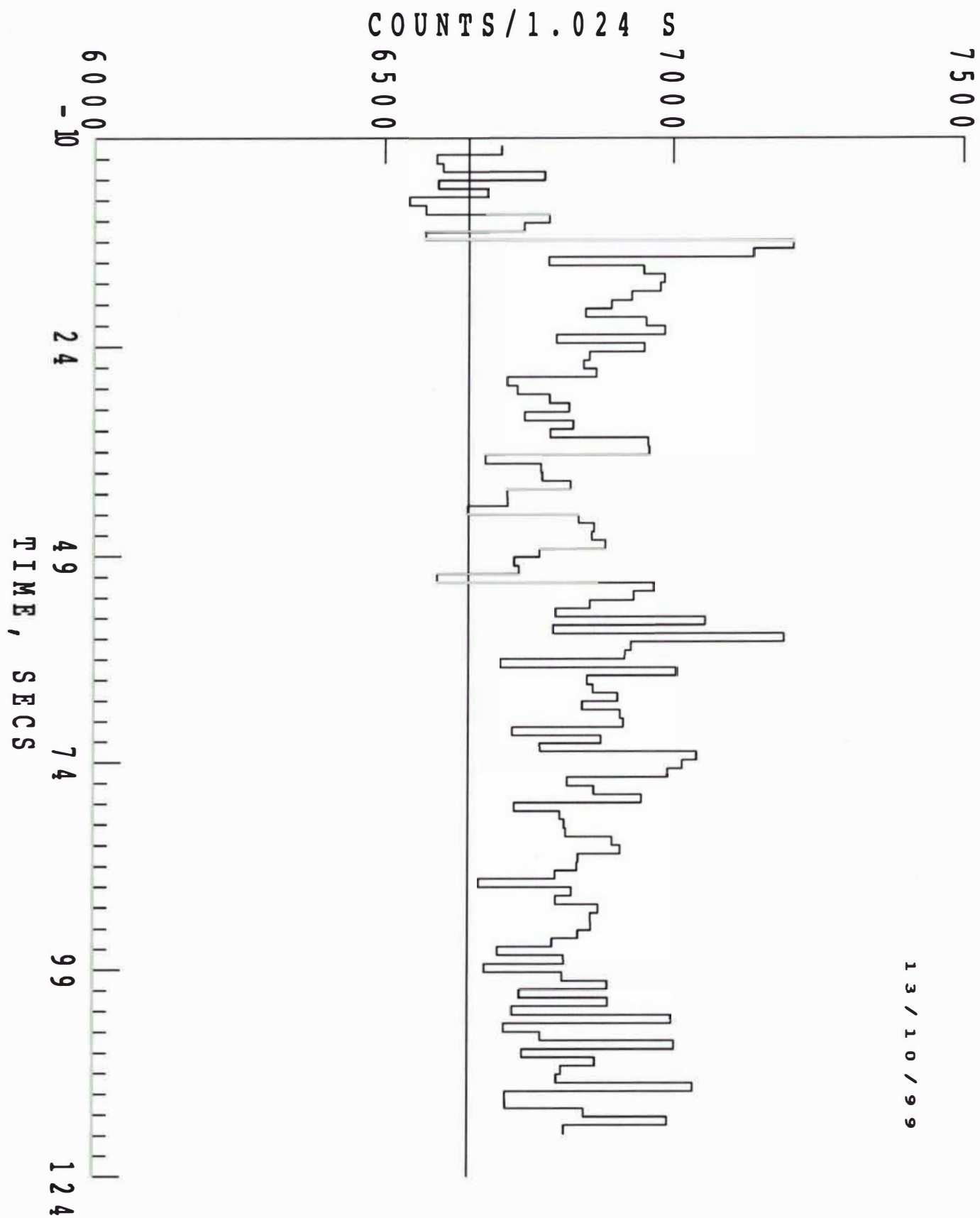
LOCATION: ZENITH=136.6 AZIMUTH=261.6 ERROR= 10.2 DEGREES

COMMENTS:

WEAK DOUBLE PULSE, TOTAL DUR. APPROX. 70 S. PROBABLY NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7802	991013	11464	74284	3100	124	+09	70

BACODINE 7802 13/10/99 74272.505
25- 100 keV



BATSE BURST# 7802

ULYSSES RT

16 / 10 / 99

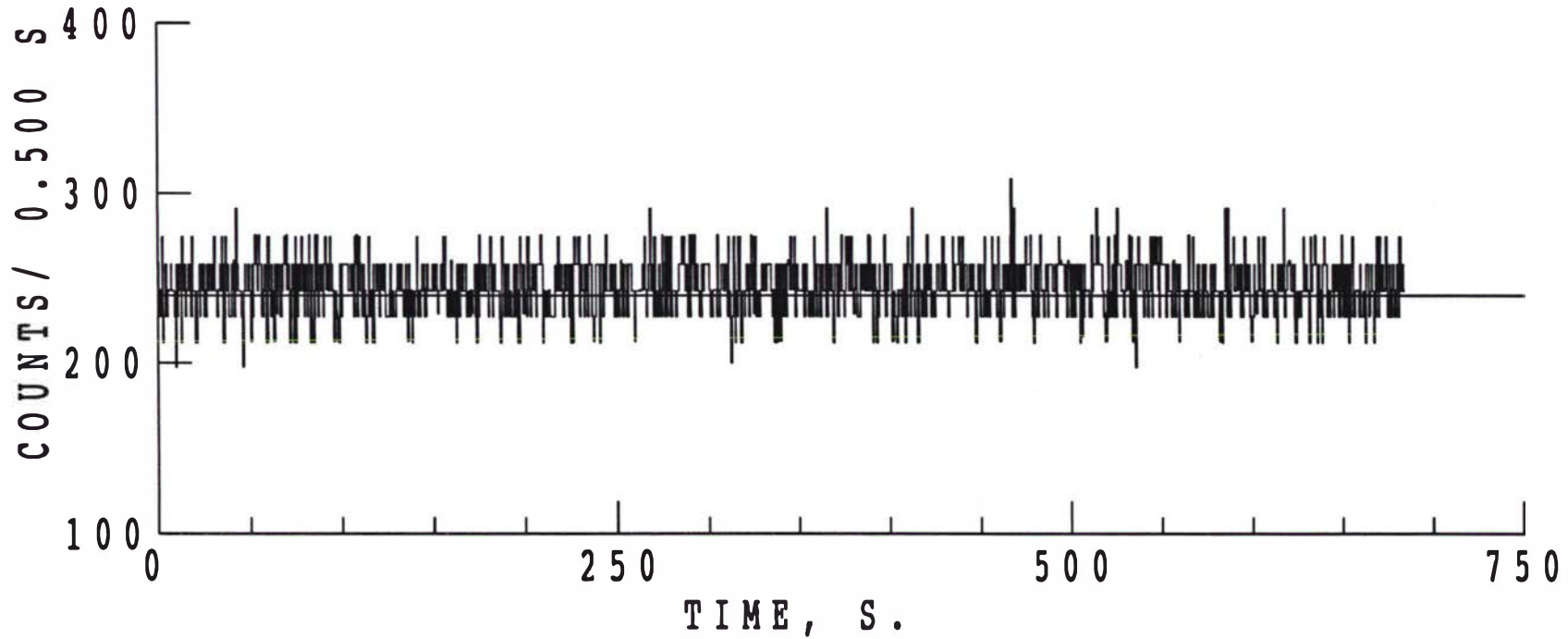
13/10/99 72144.211 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



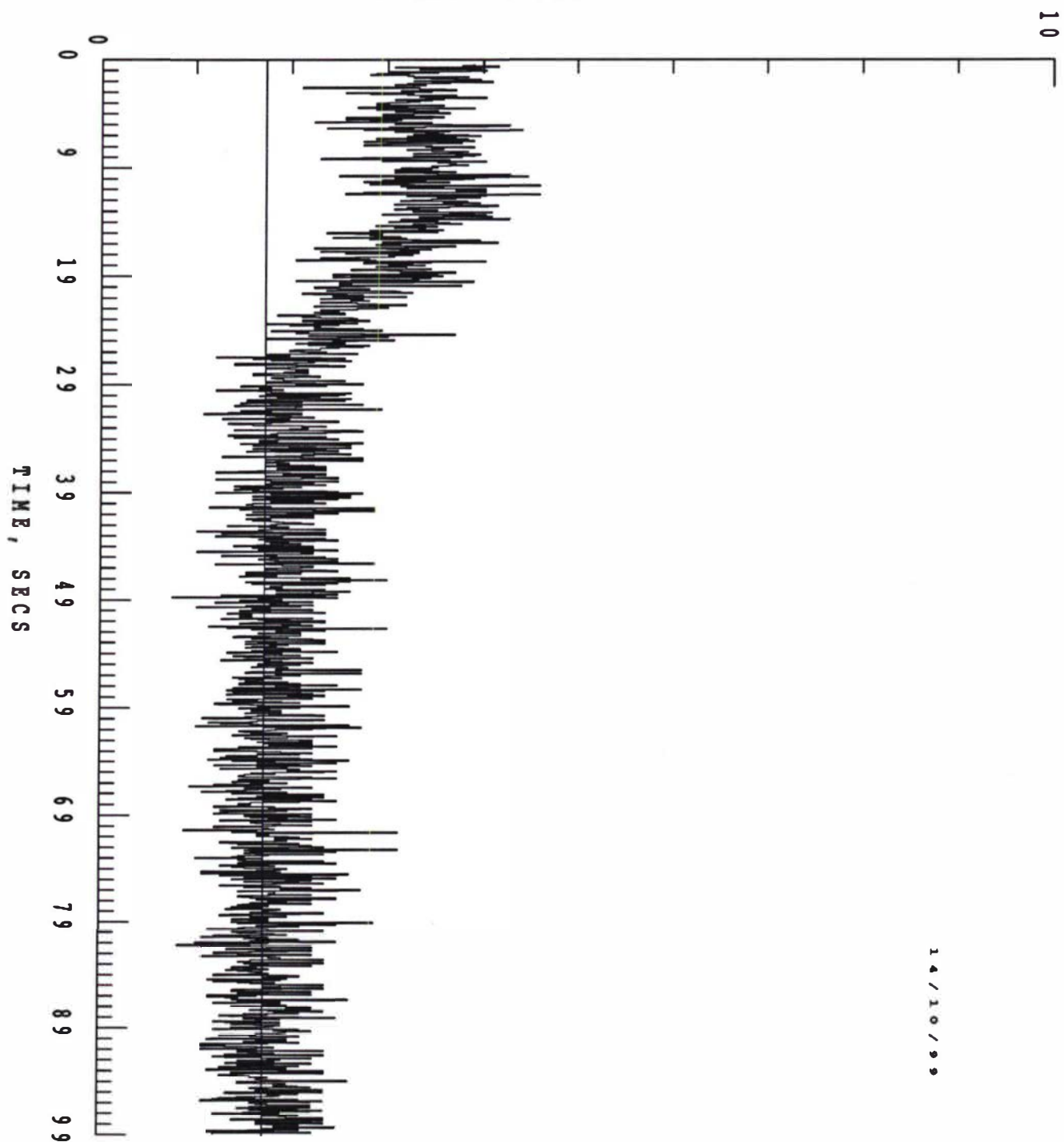
KONUS

13/10/99

82090.498

50 - 200 keV

COUNTS/0.064 S



14/10/99

KONUS1 19991013 82090

ULYSSES RT

14 / 10 / 99

13/10/99 79452.031 s

0.250 S INTERVALS REGROUPED BY 14

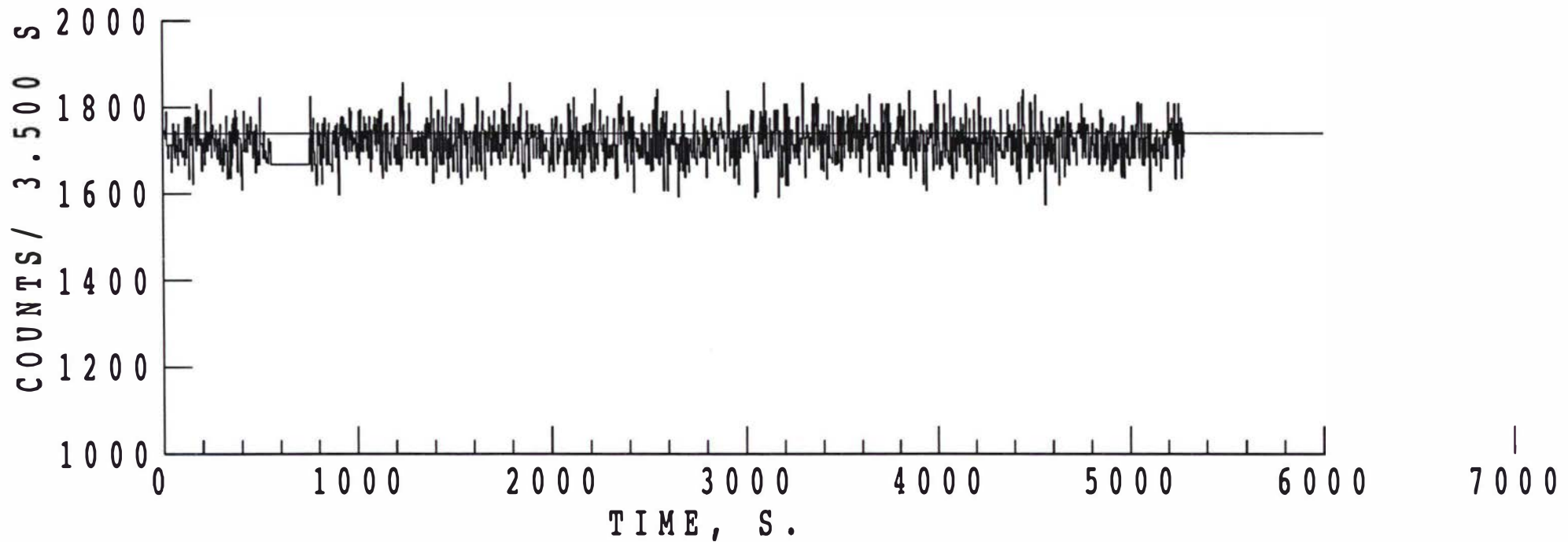
0 - 0 keV

N= 10 M= 10

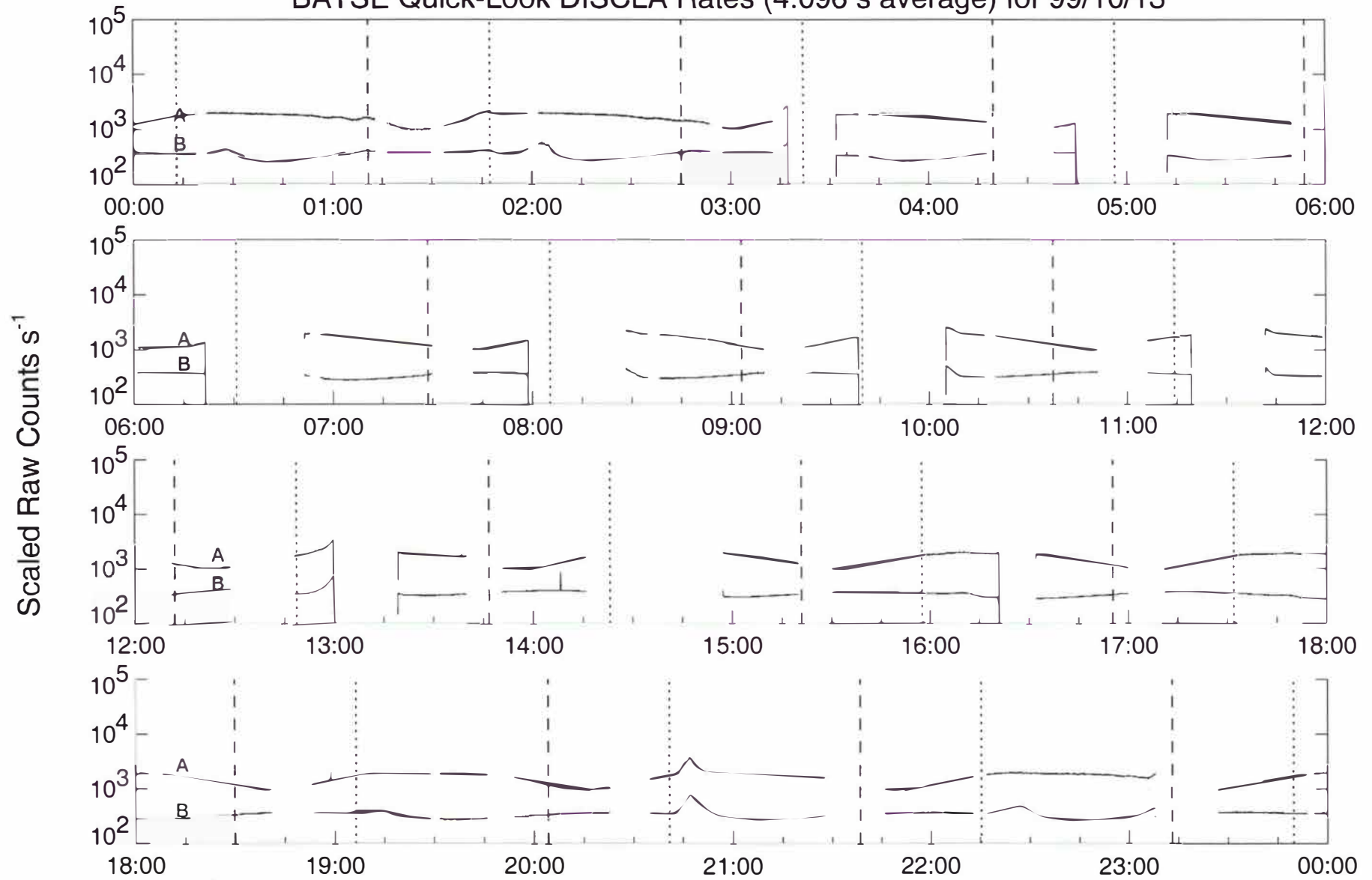
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/13

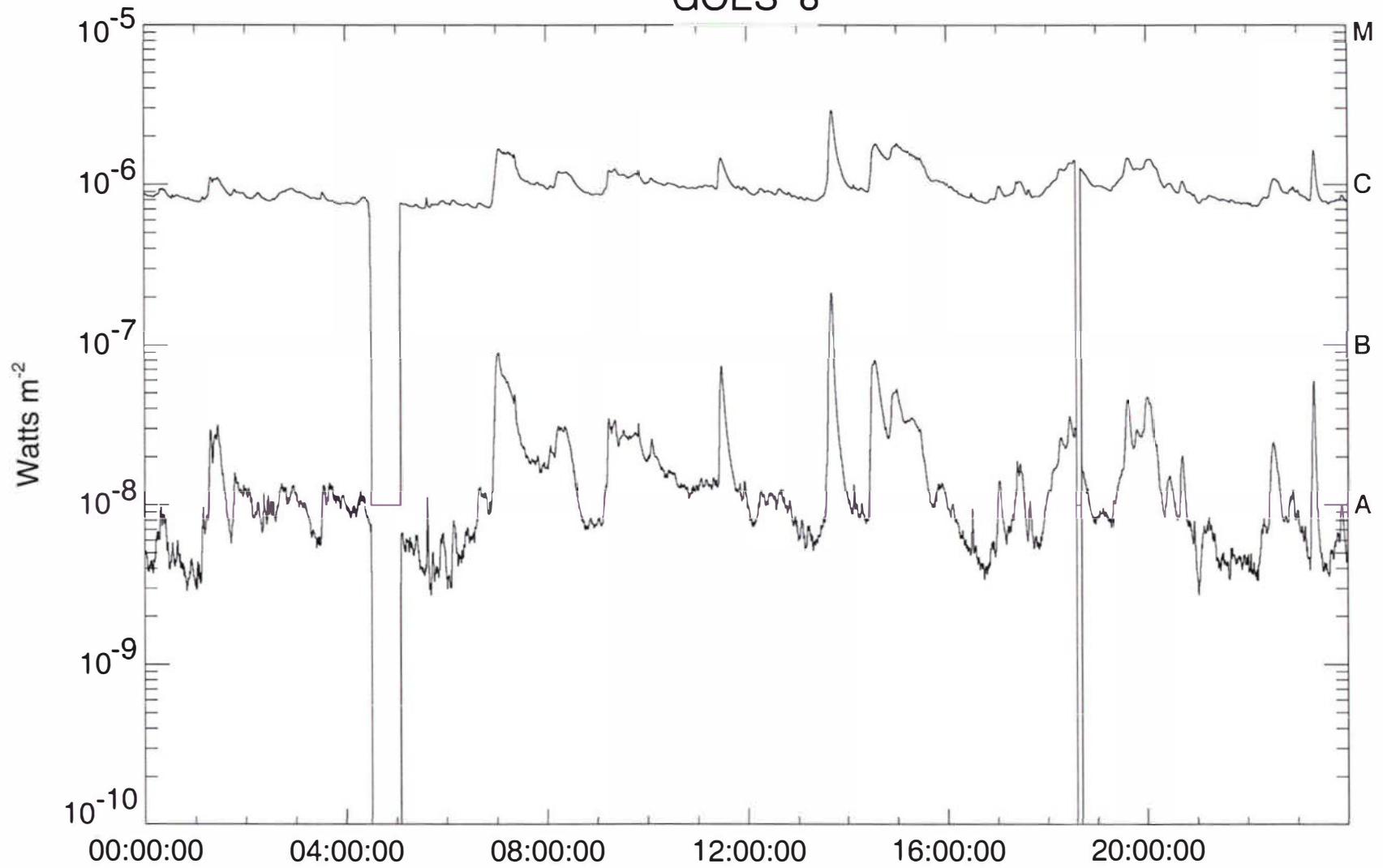


Current Time: 99/10/19, 0006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/13, 0000:00

Plot created: 99/10/19, 0005

Channel

1 (1.0 - 8.0 Angstroms)

Background not subtracted

2 (0.5 - 4.0 Angstroms)

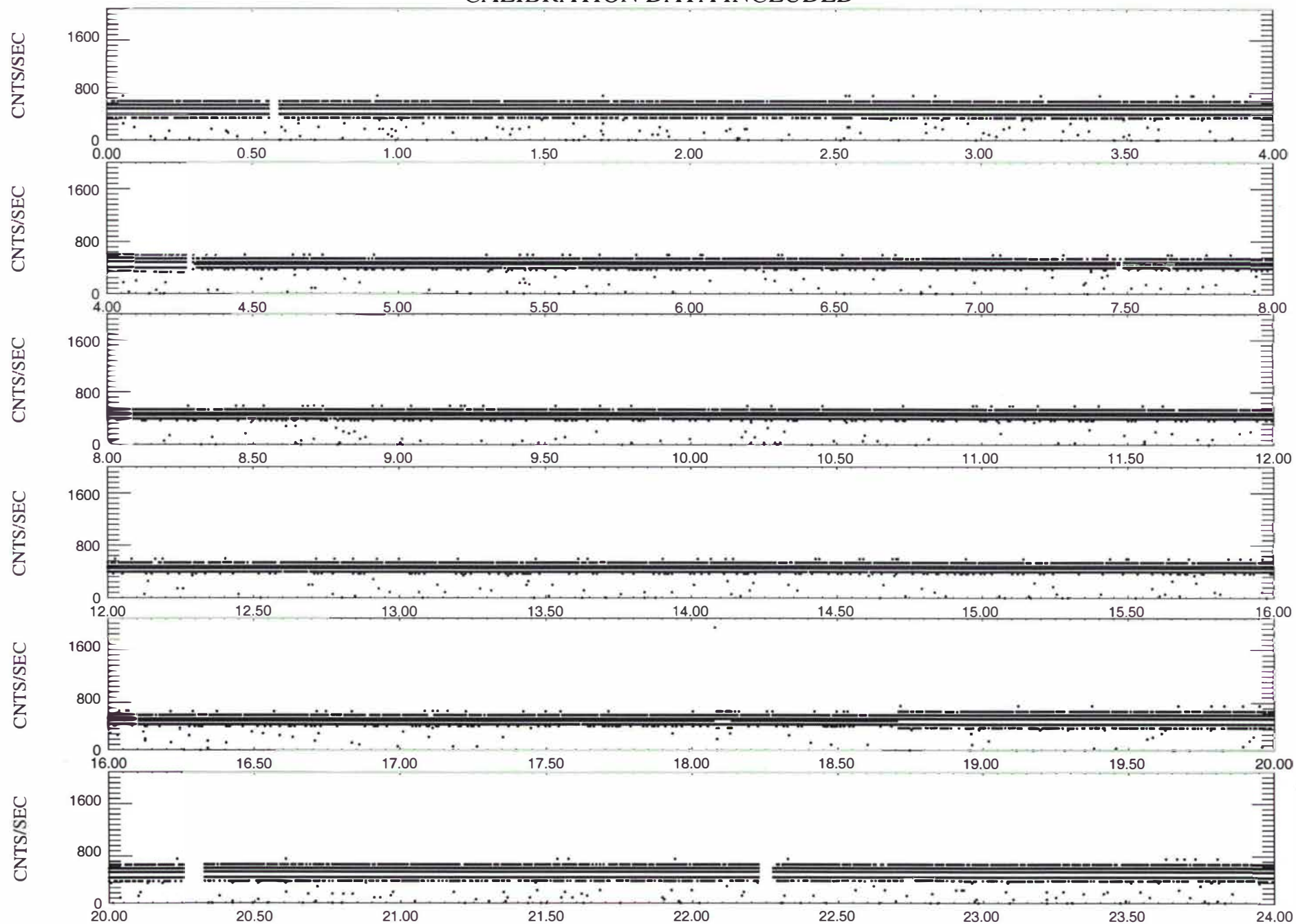
Background not subtracted

Sample average = 10

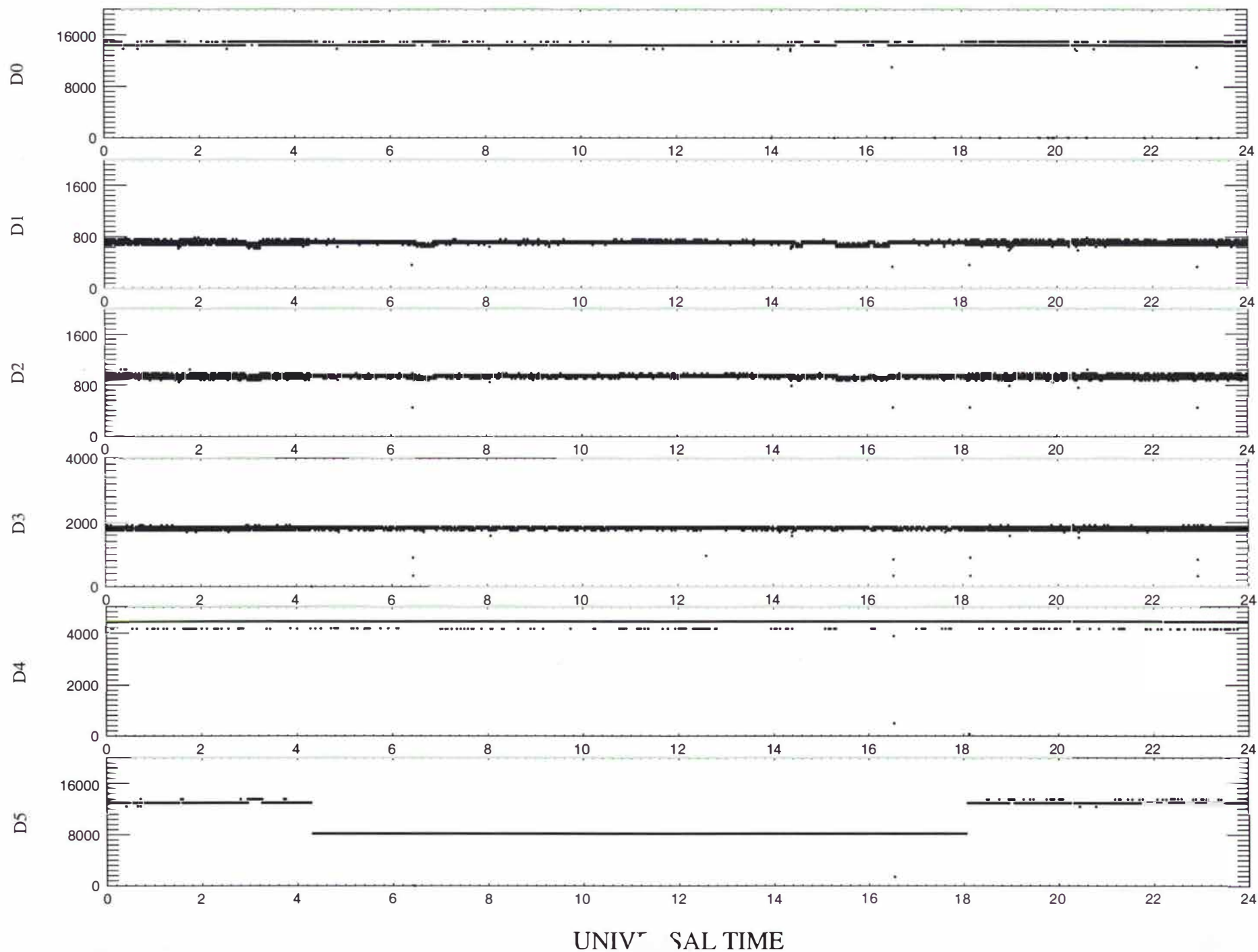
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



CALIBRATION DATA INCLUDED



UNIV SAL TIME



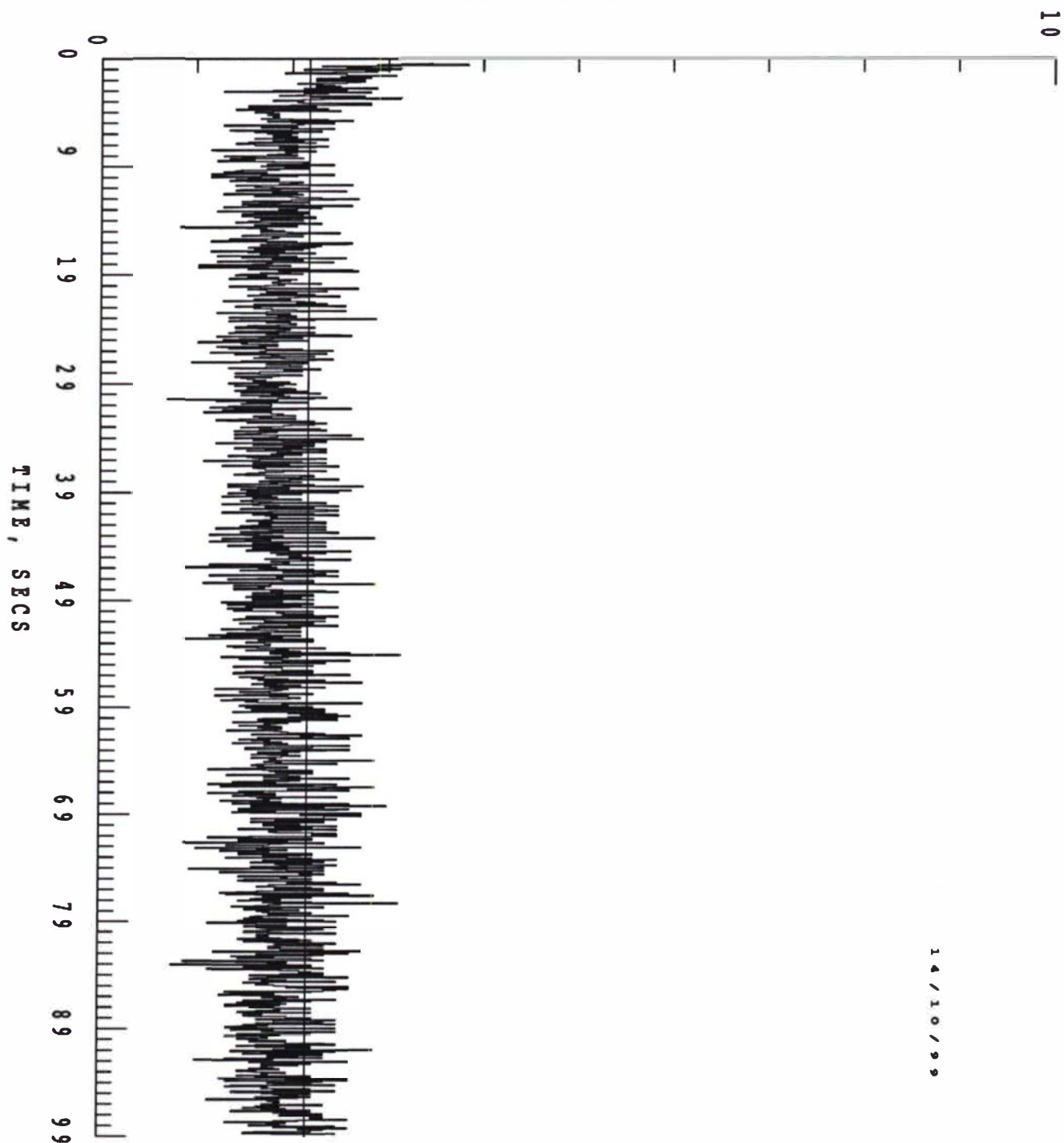
KONUS

14/10/99

1525.916

50 - 200 keV

COUNTS/0.064 S



14/10/99

KONUS1 19991014 01525

ULYSSES RT

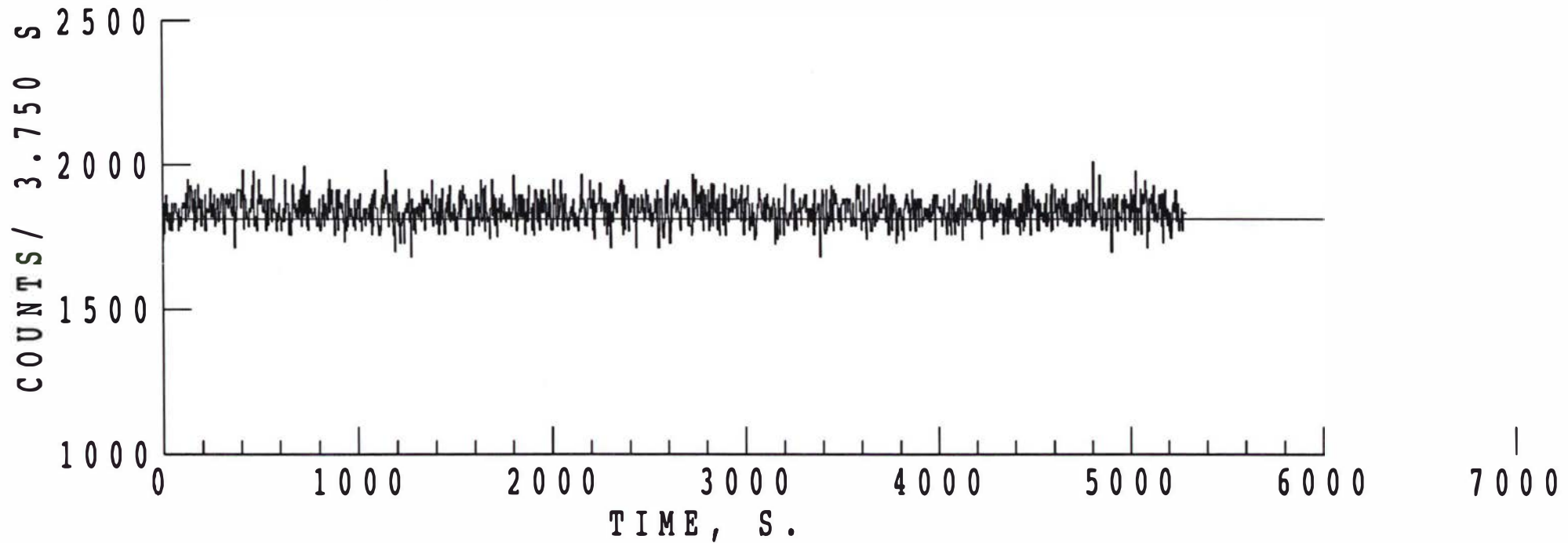
14 / 10 / 99

13/10/99 85284.094 s

0.250 S INTERVALS REGROUPED BY 15

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



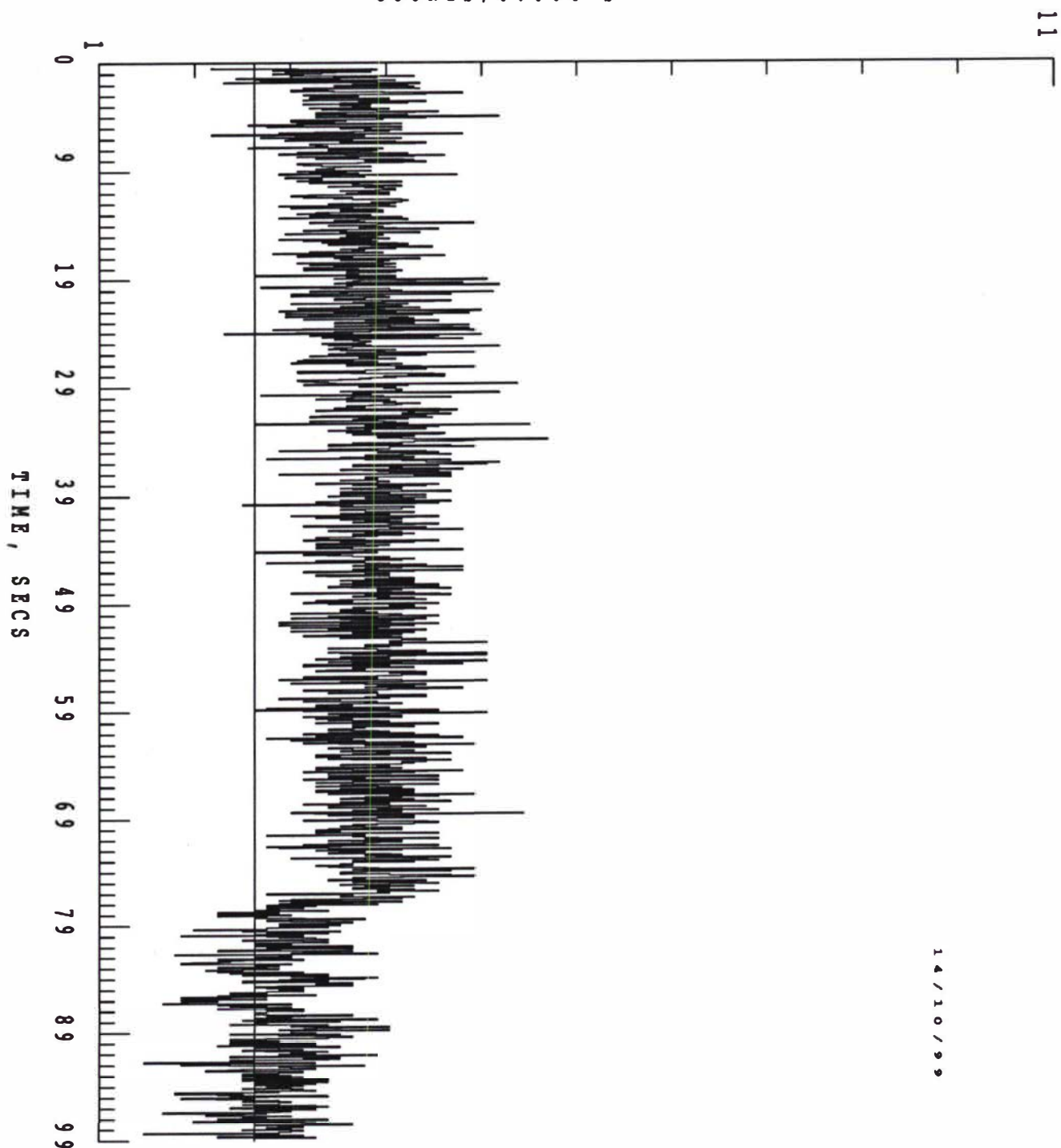
KONUS

14/10/99

28096.996

50 - 200 keV

COUNTS/0.064 S



14/10/99

KONUS2 19991014 28096

ULYSSES RT

15 / 10 / 99

14 / 10 / 99 25452.359 s

0.500 S INTERVALS REGROUPED BY 8

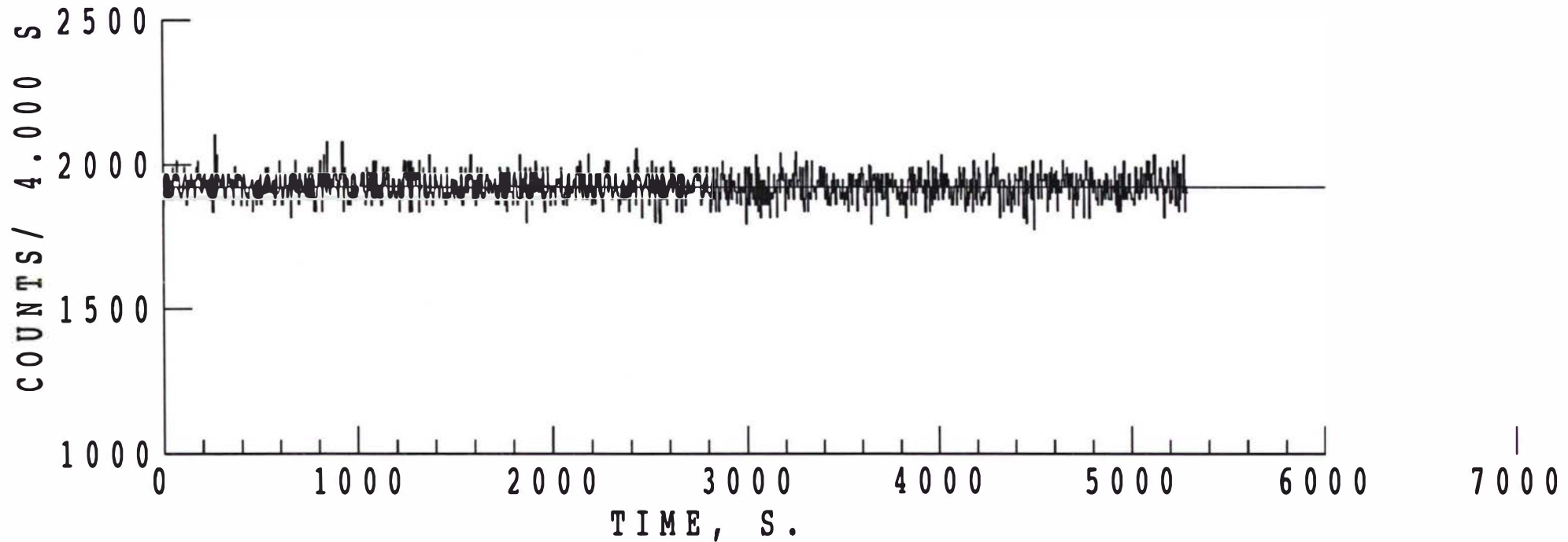
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



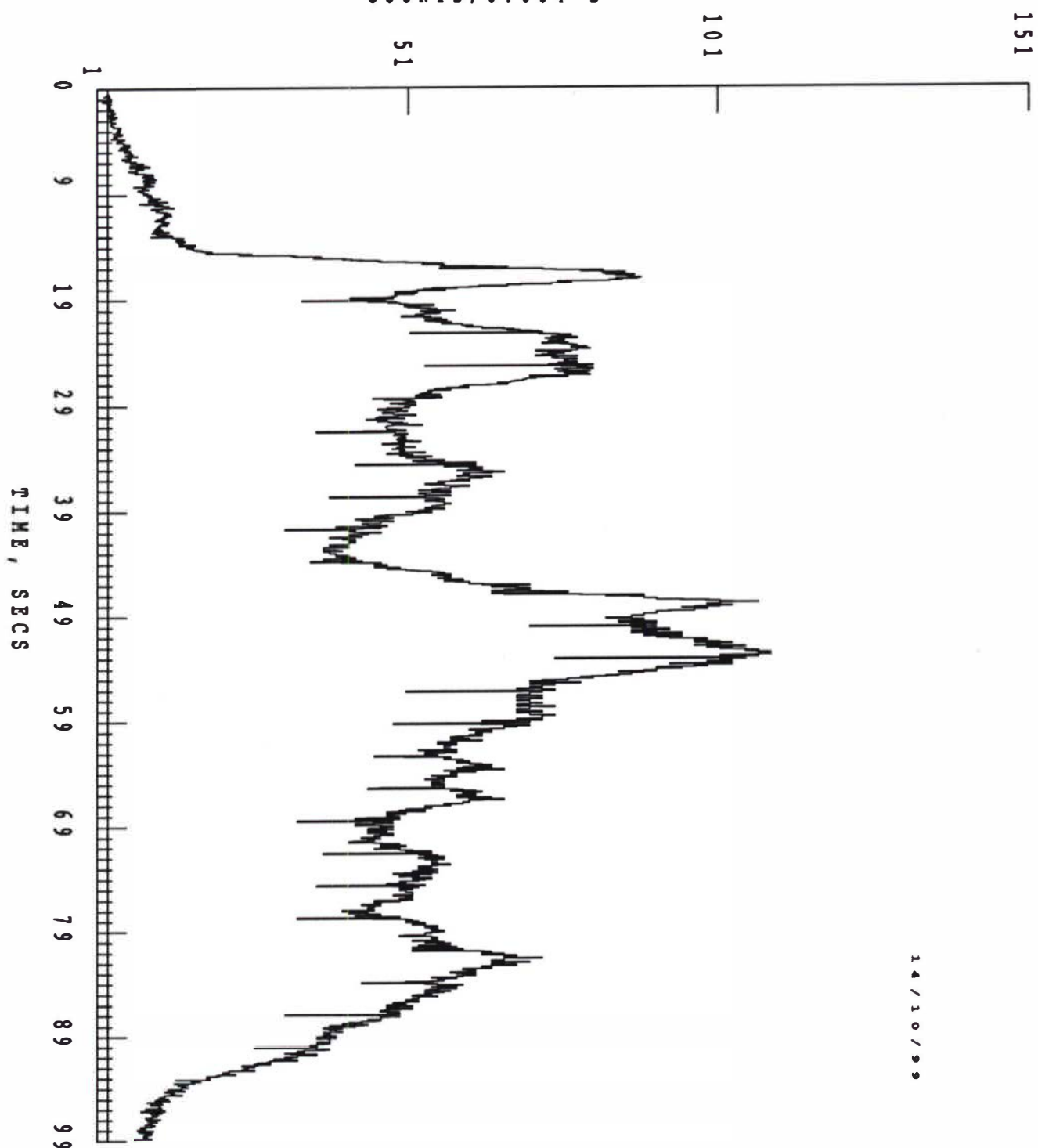
KONUS

14/10/99

32282.241

50- 200 keV

COUNTS/0.064 S



KONUS2 19991014 32282

ULYSSES RT

15 / 10 / 99

14/10/99 29628.404 s

0.500 S INTERVALS REGROUPED BY 8

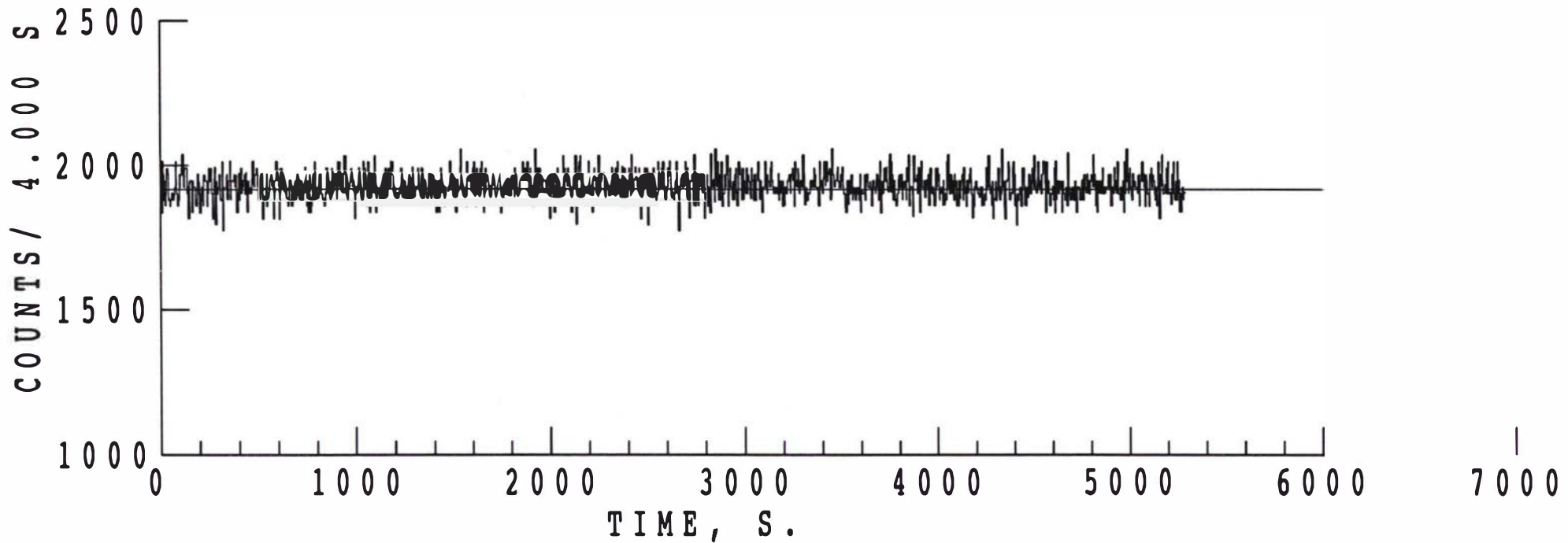
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



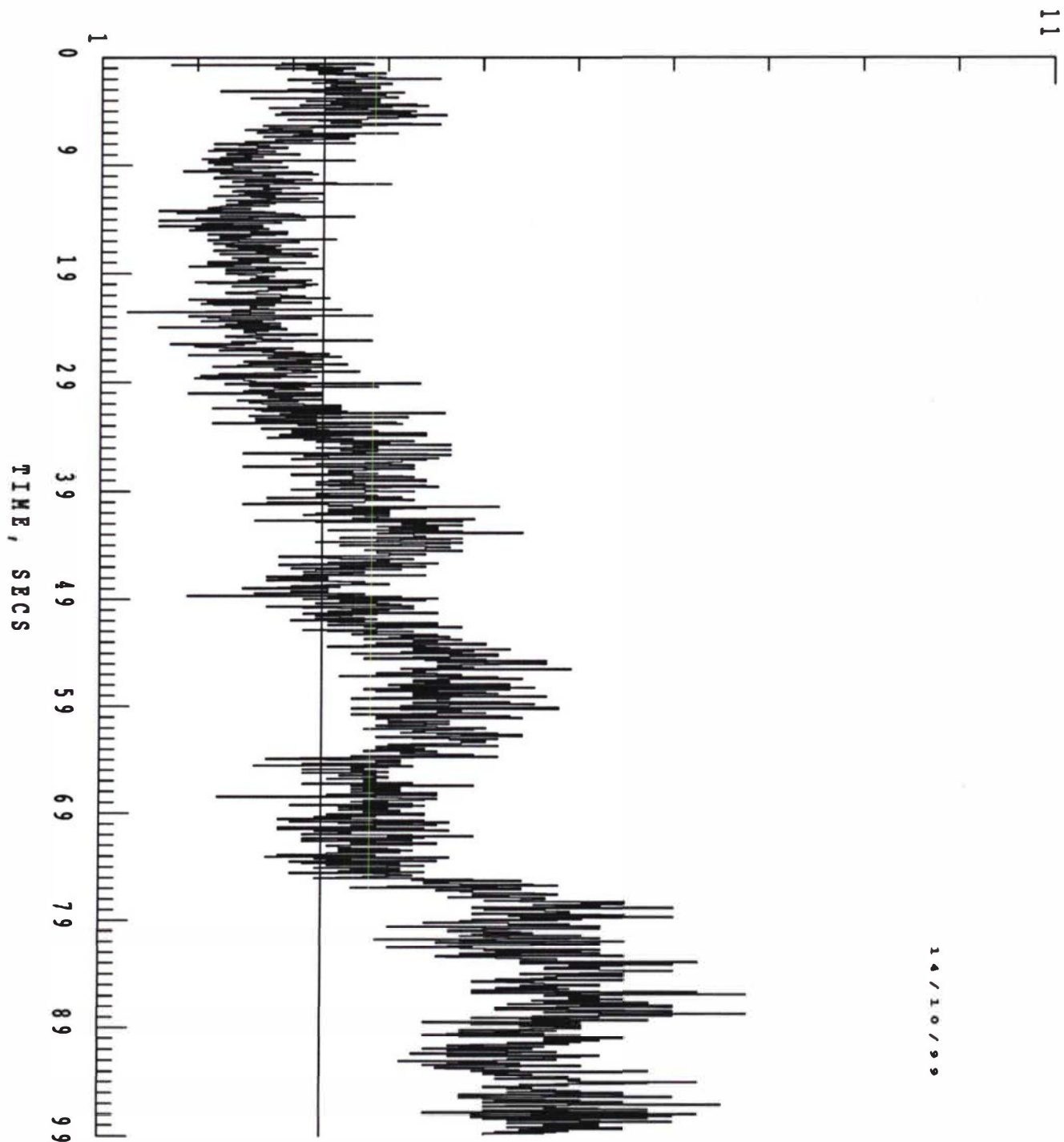
KONUS

14/10/99

47360.045

50 - 200 keV

COUNTS/0.064 S



14/10/99

KONUS2 19991014 47360

ULYSSES RT

15 / 10 / 99

14/10/99 44712.055 s

0.500 S INTERVALS REGROUPED BY 8

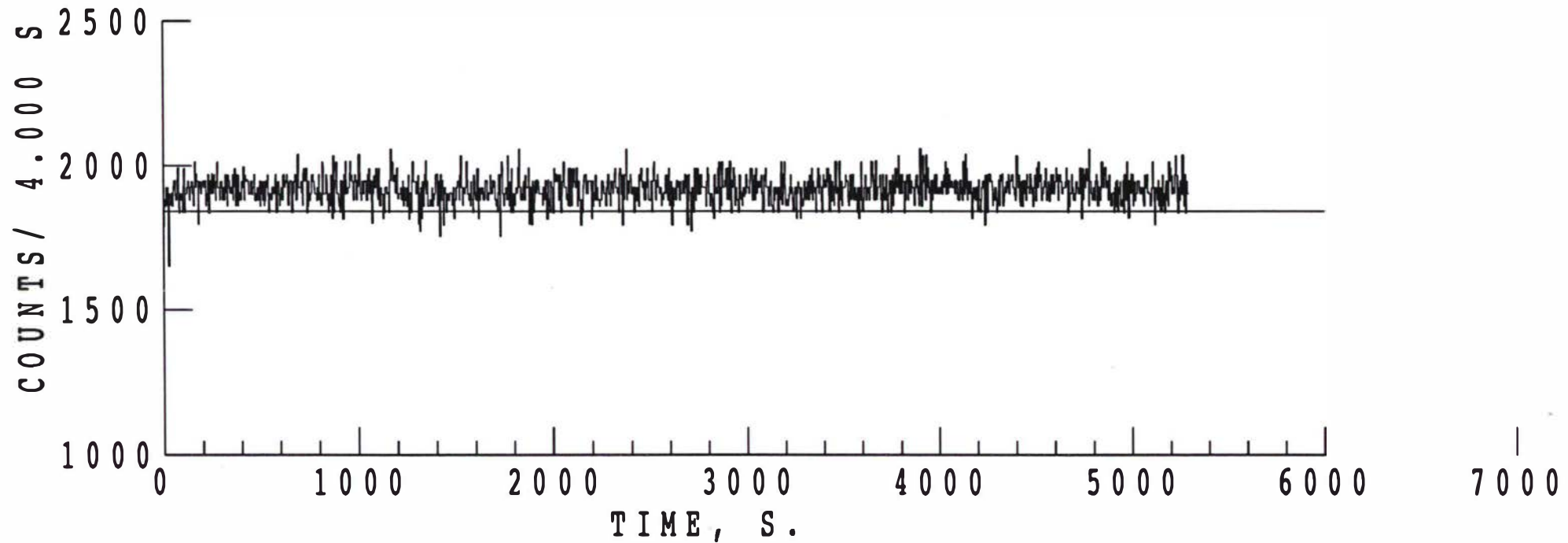
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Fri Oct 29 15:27 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 29 Oct 1999 16:15:55 -0500 (CDT)
: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7803

BATSEARCH PROGRAM

BATSE BURST # 7803
EVENT OF 1999 OCT 14 DAY OF YEAR=287
EVENT CROSSING TIME AT BATSE : 78754. S. OR 21:52:34.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 102.000 13.000
BATSE PEAK COUNTING RATE: 8000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/10/ 99 IS:
RA= 161.755 DEC= -18.973 DIST= 5.201 AU
BATSE-ULYSSES DISTANCE = 778017772. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=113.02 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1014.68 SECS.
CROSSING TIME AT ULYSSES IS 77739. S. OR 21:35:39 +/- 449.29 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/10/ 99 IS:
RA= 267.572 DEC= -25.200 DIST= 1.426 AU
MARS-BATSE DISTANCE = 213271184. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 18.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 675.55 SECS.
CROSSING TIME AT MARS IS 79430. S. OR 22:03:49 +/- 48.97 SECONDS

BATSE BURST TRIGGER

NO.: 7803

TIME: TJD=1465 SECONDS=78754

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=131.3 AZIMUTH=231.3 ERROR=1.7 DEGREES

COMMENTS:

GRB. STRONG PULSE, DUR. 4 S, STARTS AT T-2 S, MAX. AT T+0.4 S, FOLLOWED BY A
WEAK PULSE, STARTS AT T+3 S, DUR. 1 S. NOT VISIBLE ABOVE 300 KEV. RATES IN LAD
5 ARE SPURIOUSLY HIGH.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7803	991014	11465	78754	8000	102	+13	4

Date: May 2 '00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data *N/A*

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

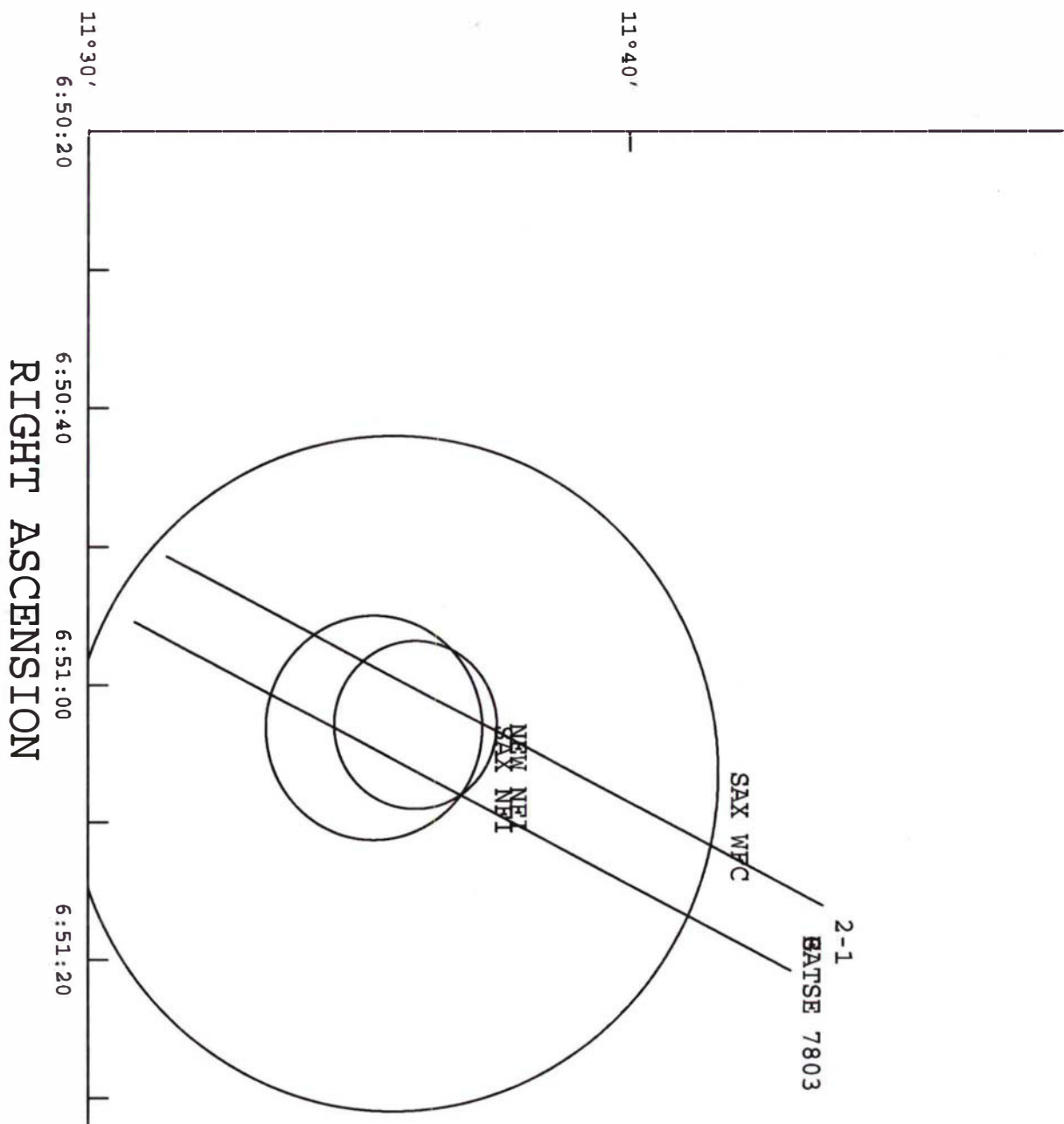
E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

DECLINATION



EVENT OF OCT 14, 1999 21:52

2 / 5 / 0

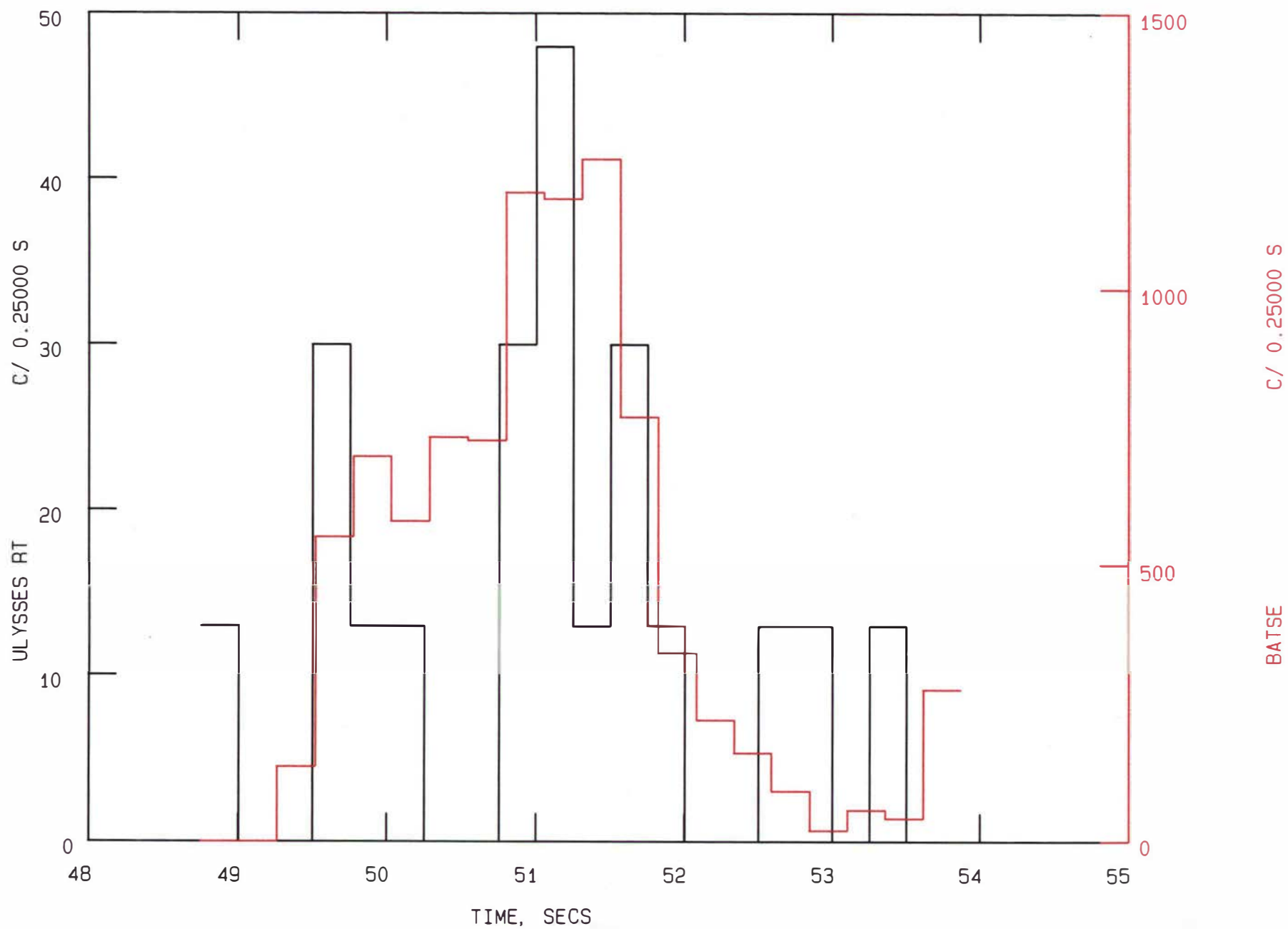
ULYSSES RT-BATSE

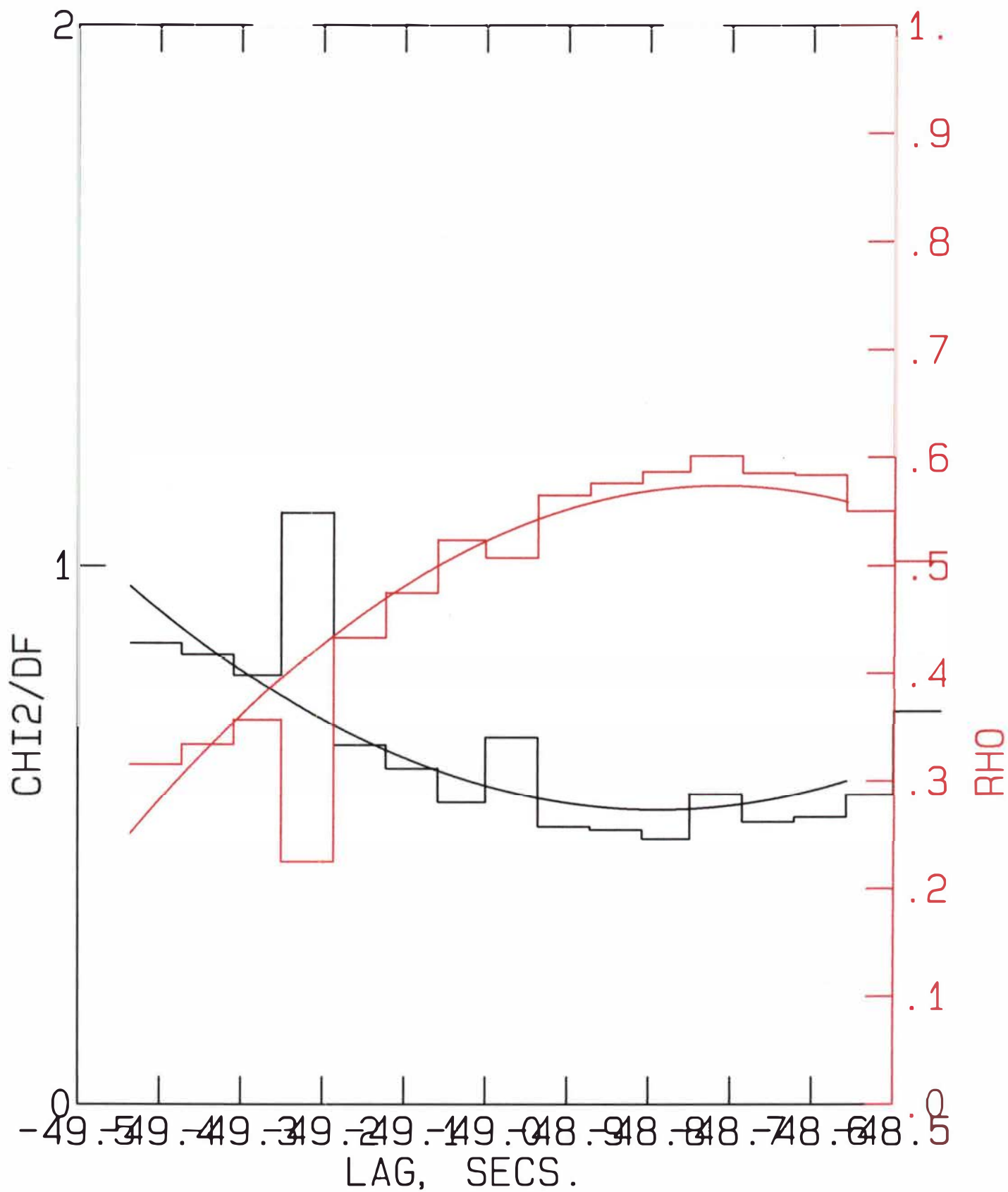
CORRELATION

14/10/99

77651.141

2/ 5/ 0

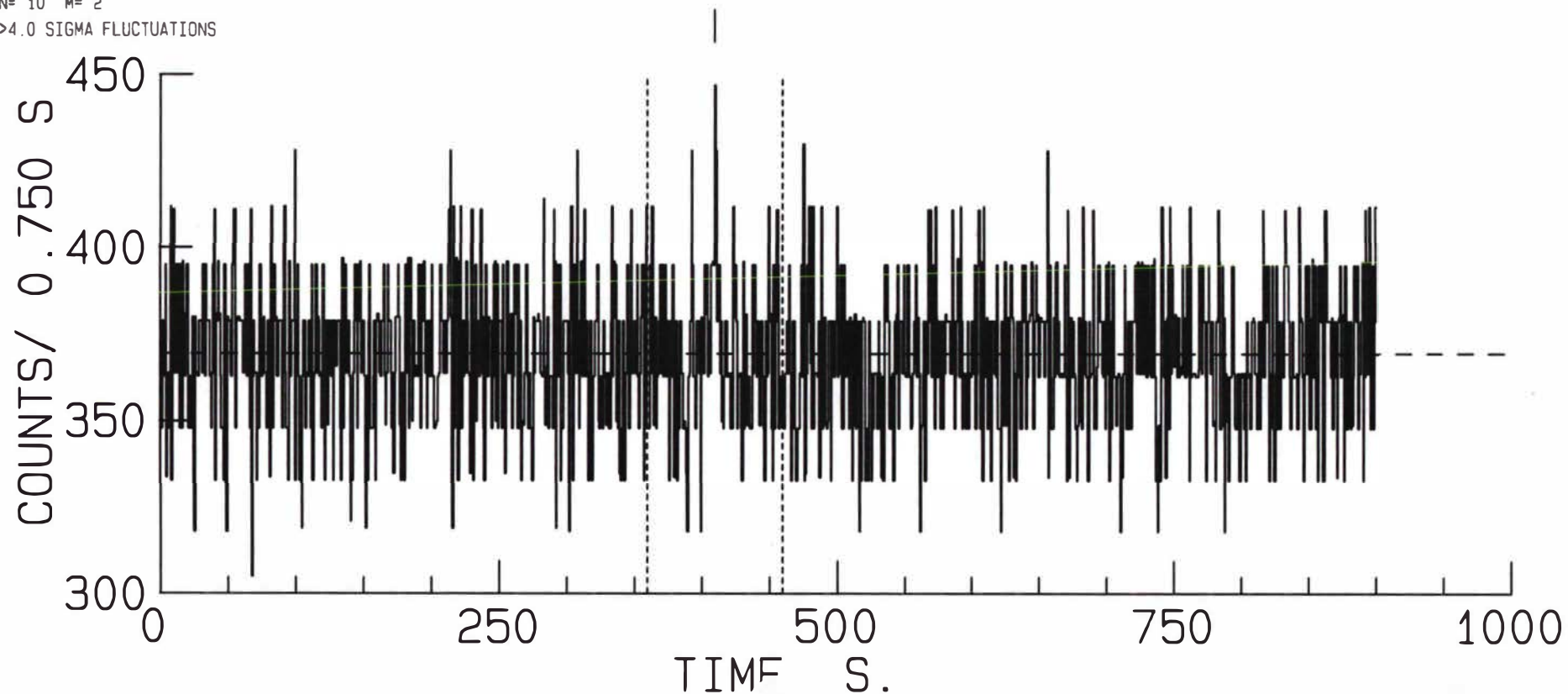




ULYSSES RT
14/10/99 77292.135 s
0.250 S INTERVALS REGROUPED BY 3
22- 151 keV

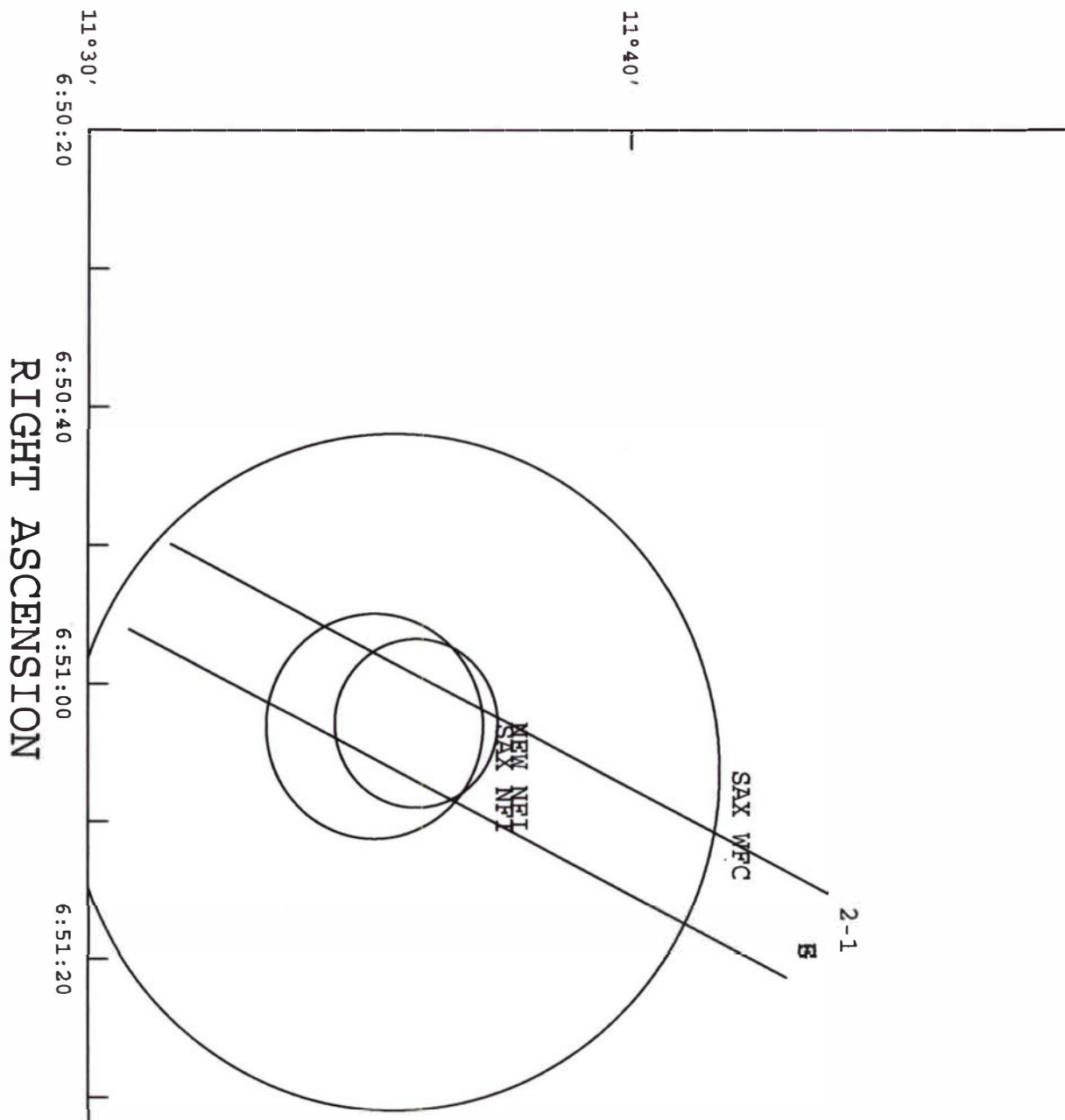
2 / 5 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



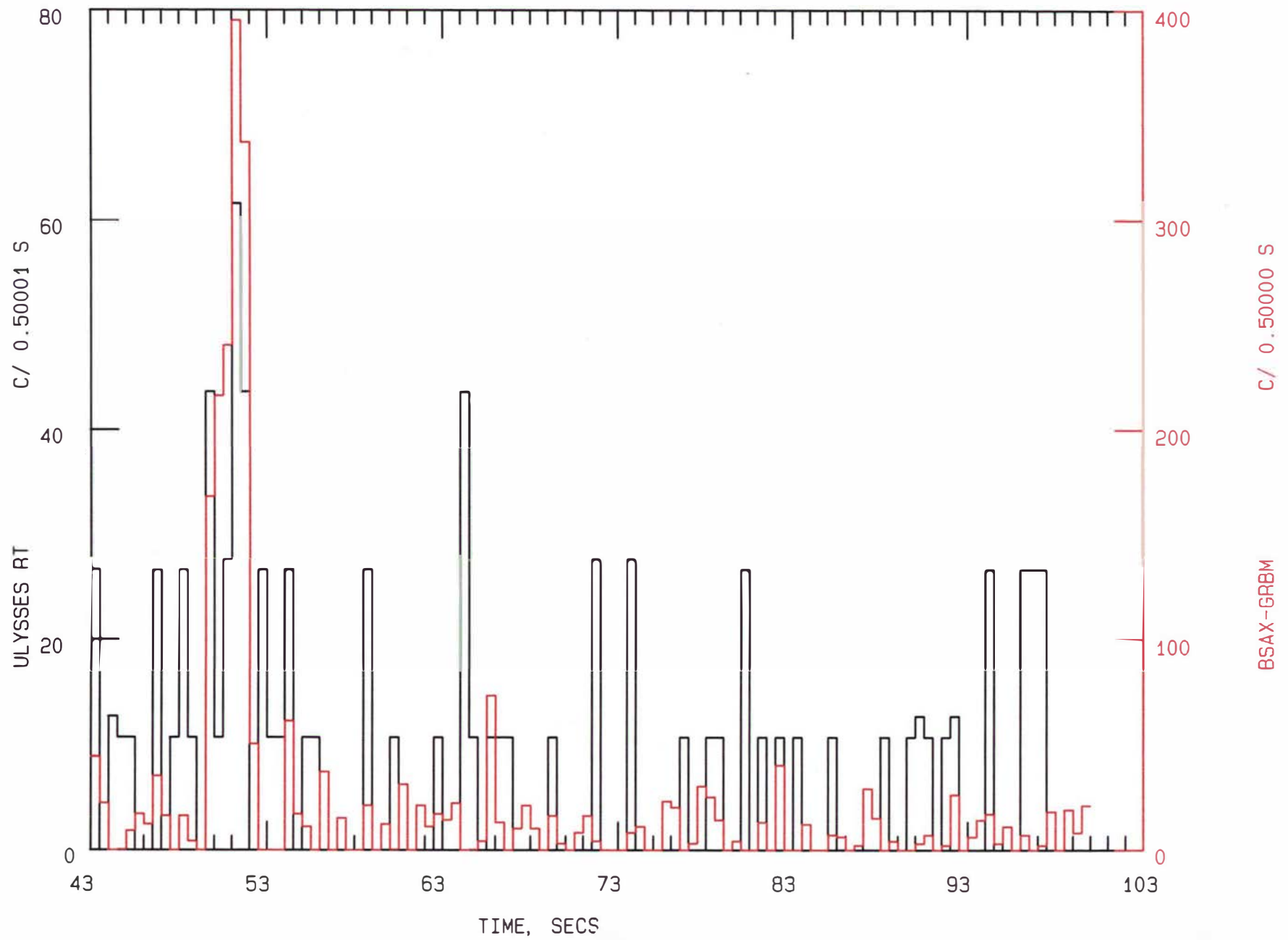
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
 1 ULYSSES 2 SAX

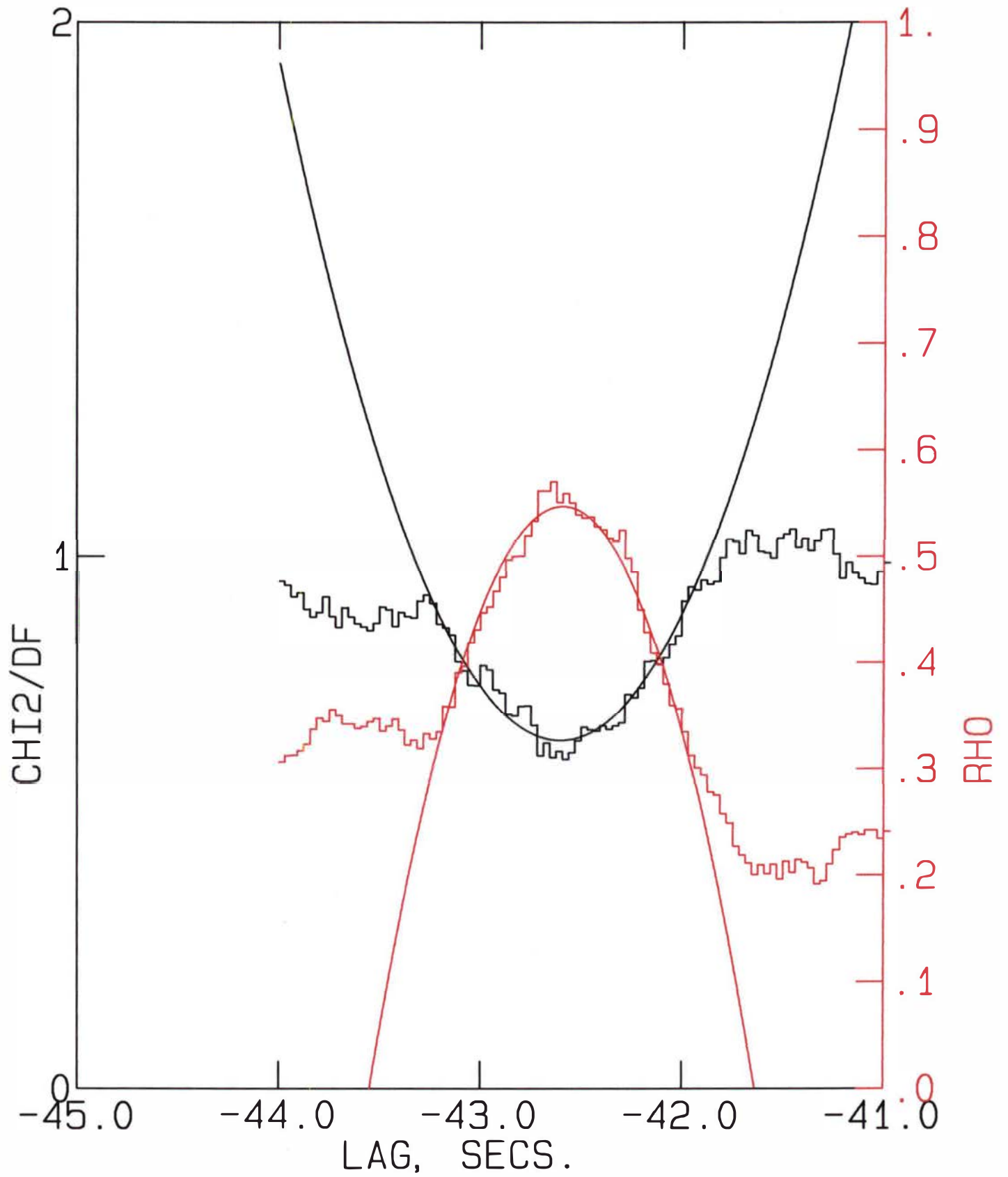
DECLINATION



EVENT OF OCT 14, 1999 21:34

19/ 4/ 0

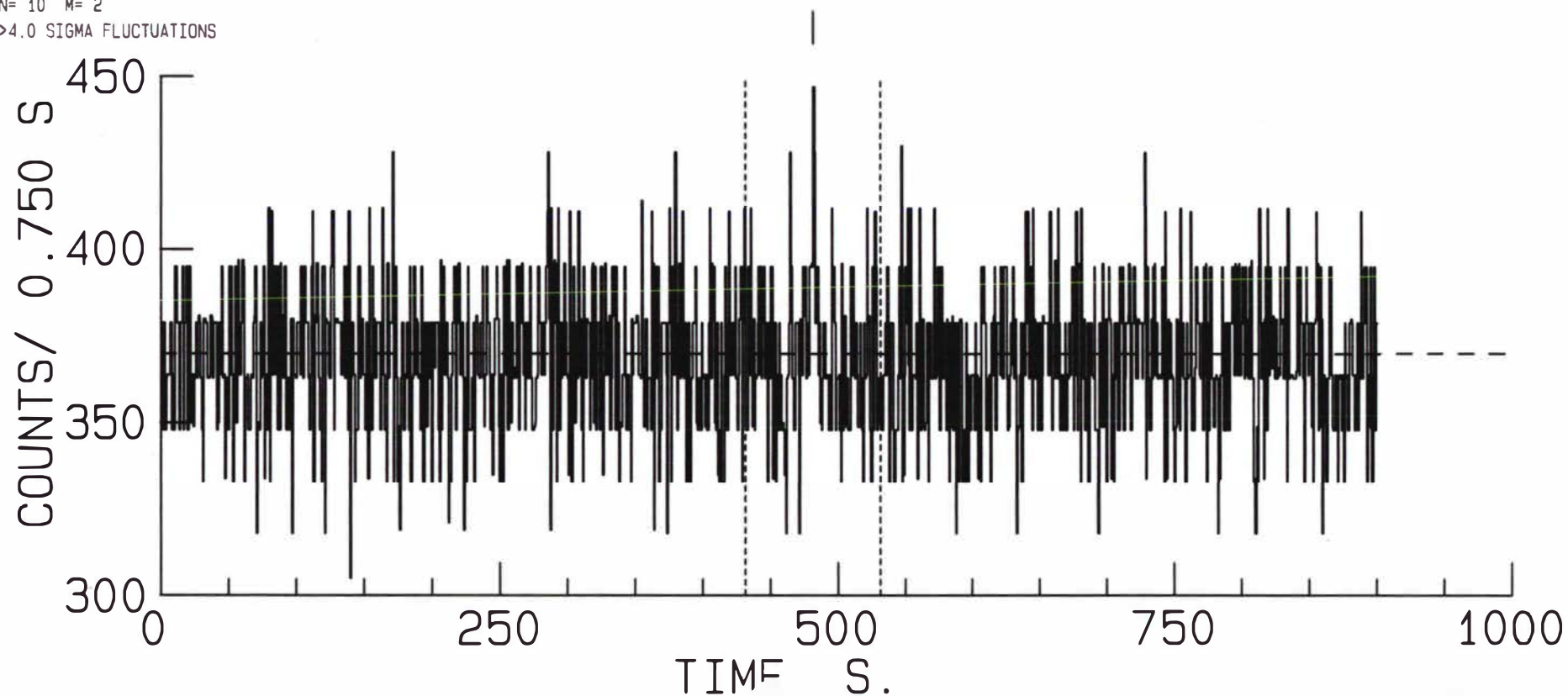




ULYSSES RT
14/10/99 77220.135 s
0.250 S INTERVALS REGROUPED BY 3
22- 151 keV

19 / 4 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



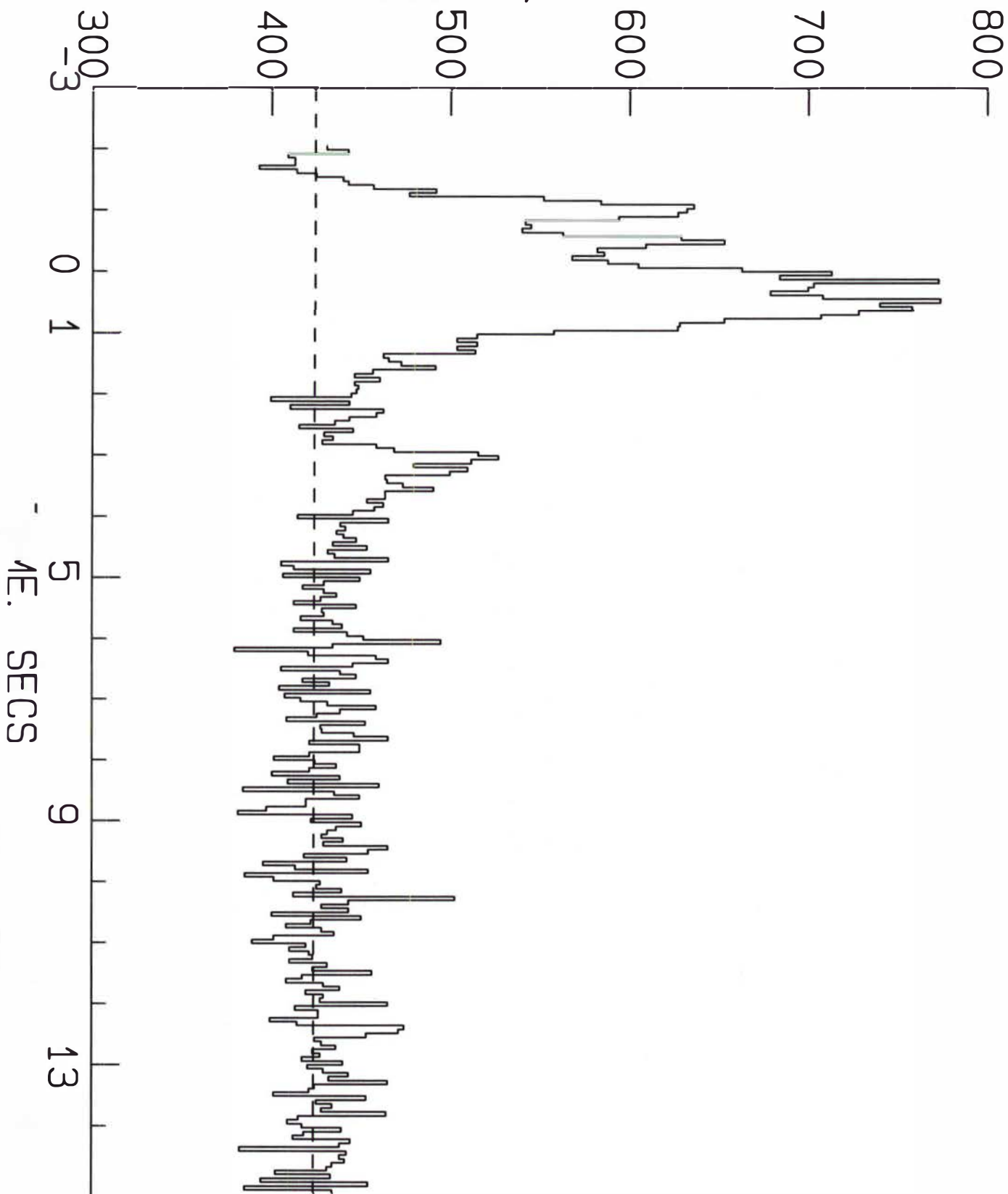
BATSE

14/10/99

78754.553

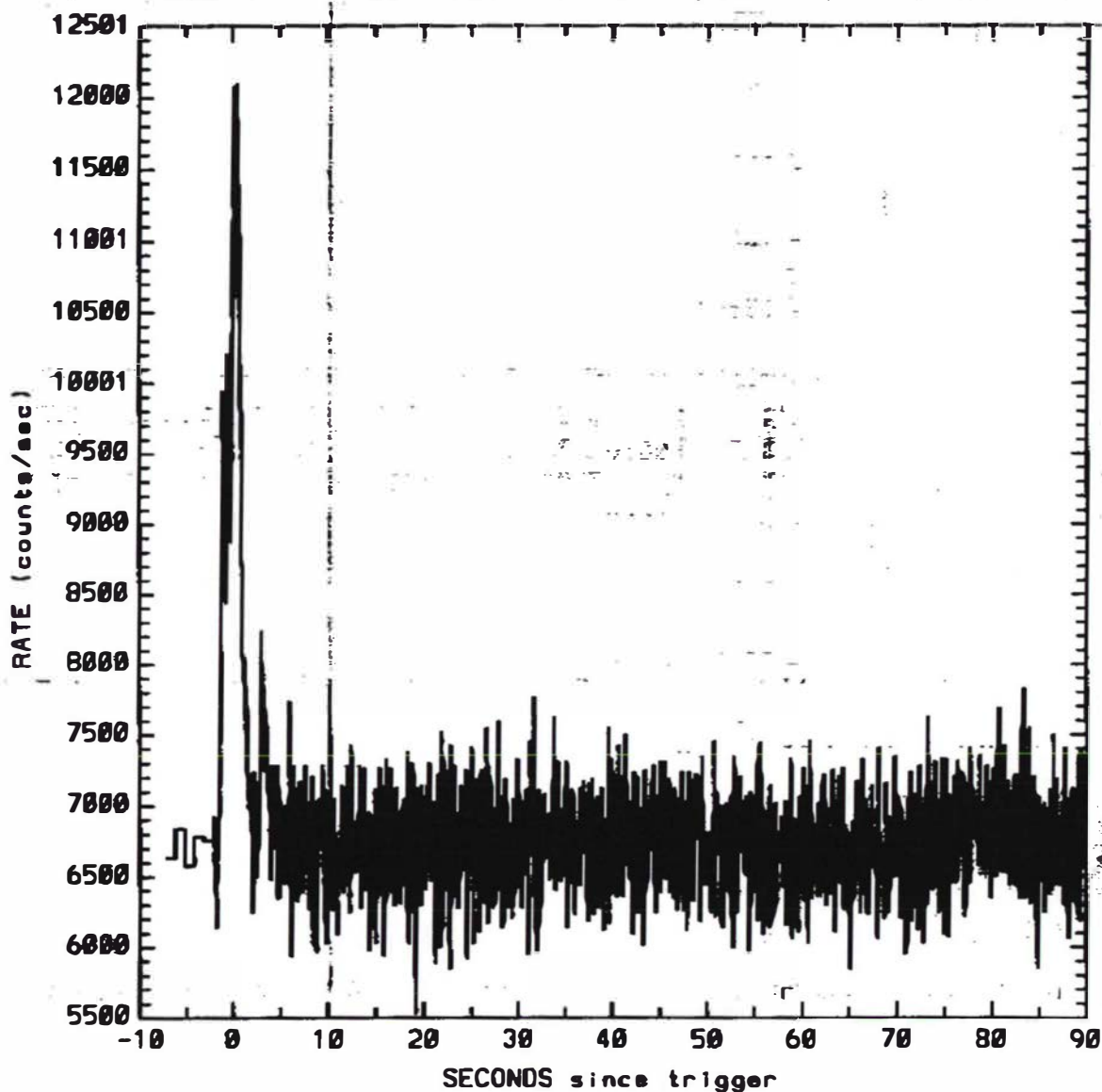
25- 100 keV

COUNTS/0.064 S



19/11/99

DISCSC, Data for K. Hurley. No. 7803



17-NOV-1999 12:24:47

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

Trigger * . 7853

Trigger Time:
11465 / 78754.553

Burst Data Type:
DISCSC

Deadtime
Corrected. N

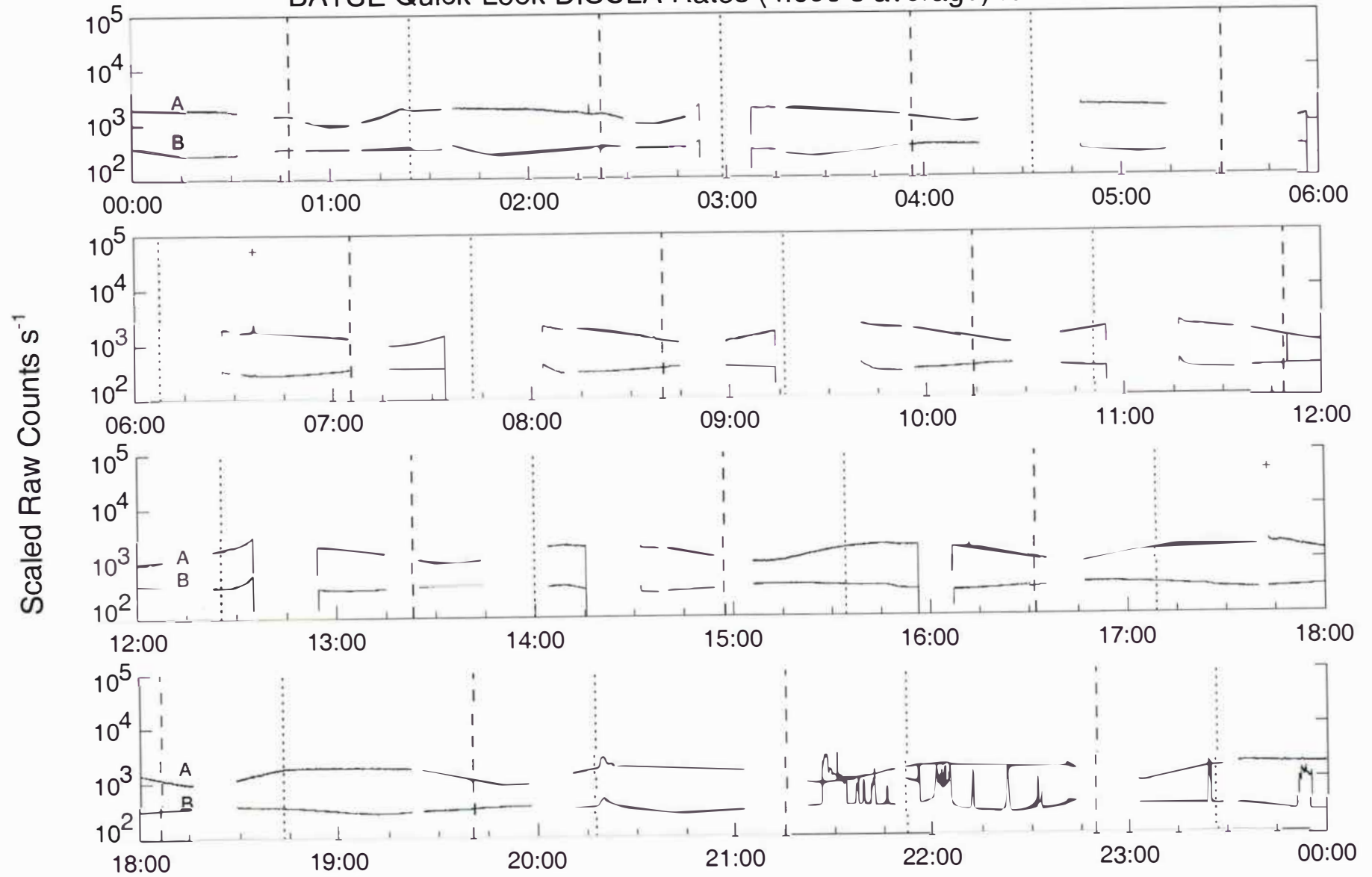
Background Data
Type: PREB + DISCLA

PLEASE TYPE
ON ONE SIDE
OF EACH SHEET
7-3-55

Discriminators.
(1 . 2)

Quality Mark.
BDISP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/14

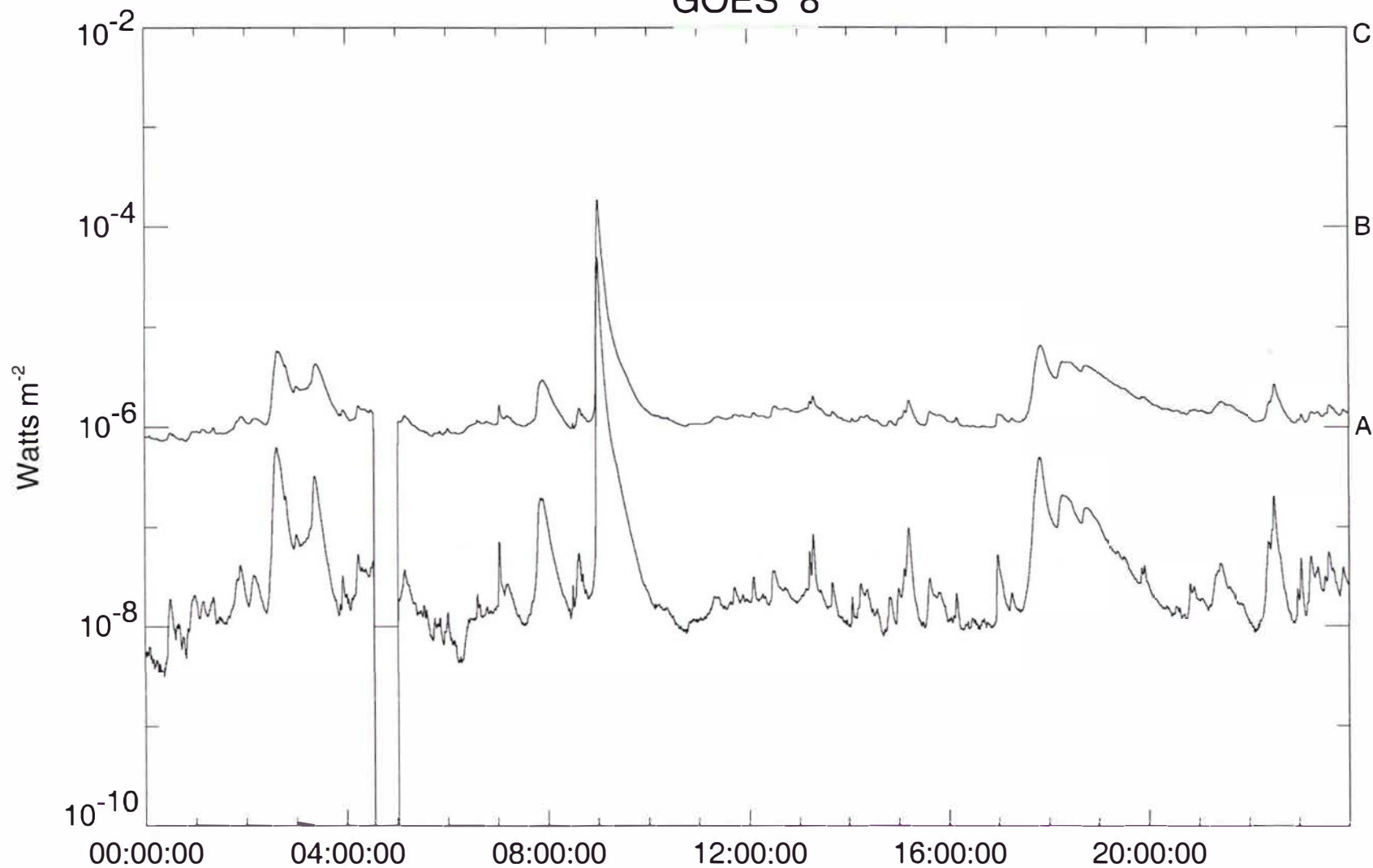


Current Time: 99/10/19, 0010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/14, 0000:00

Plot created: 99/10/19, 0010

Channel

1 (1.0 - 8.0 Angstroms)

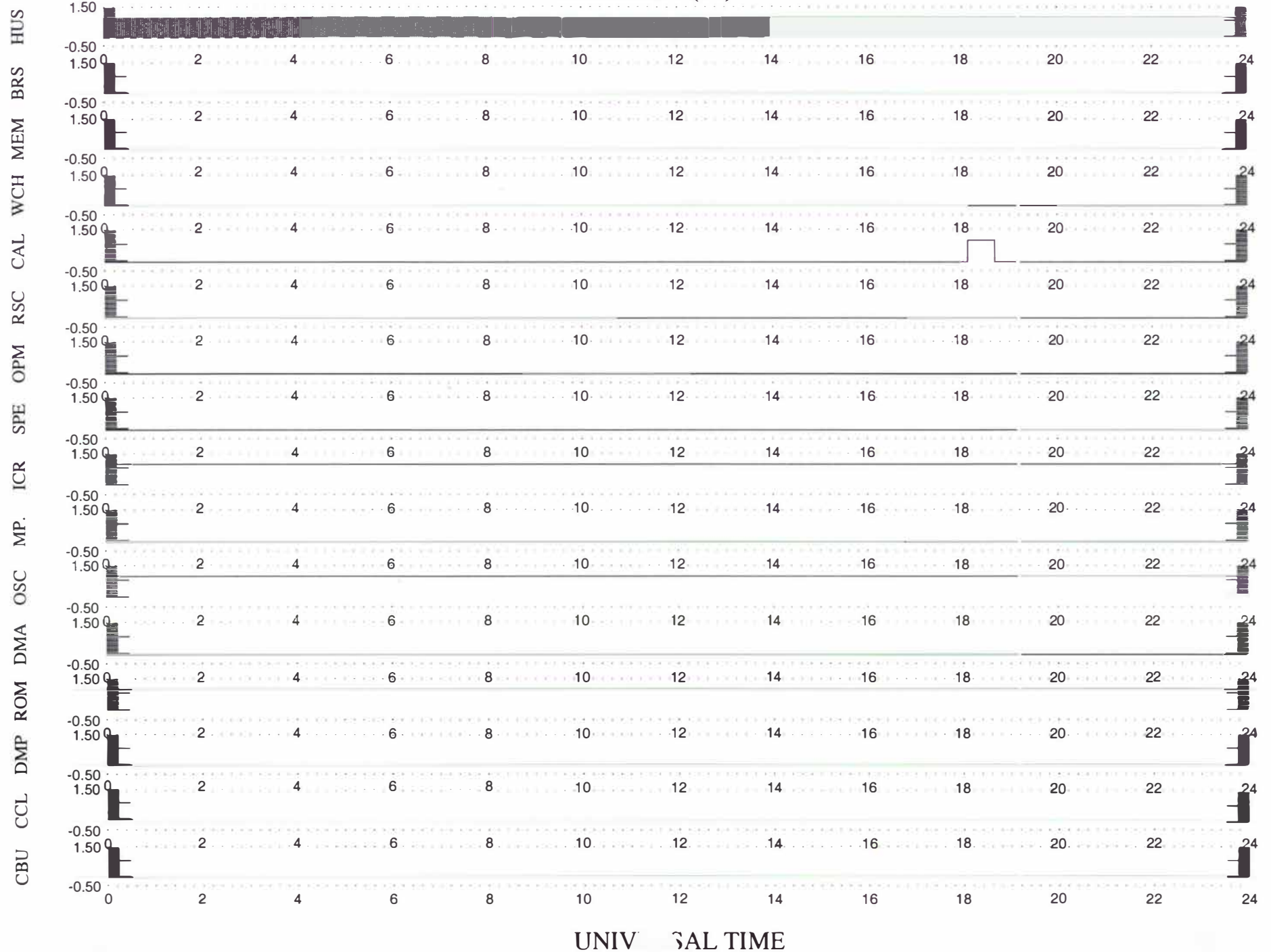
Background not subtracted

2 (0.5 - 4.0 Angstroms)

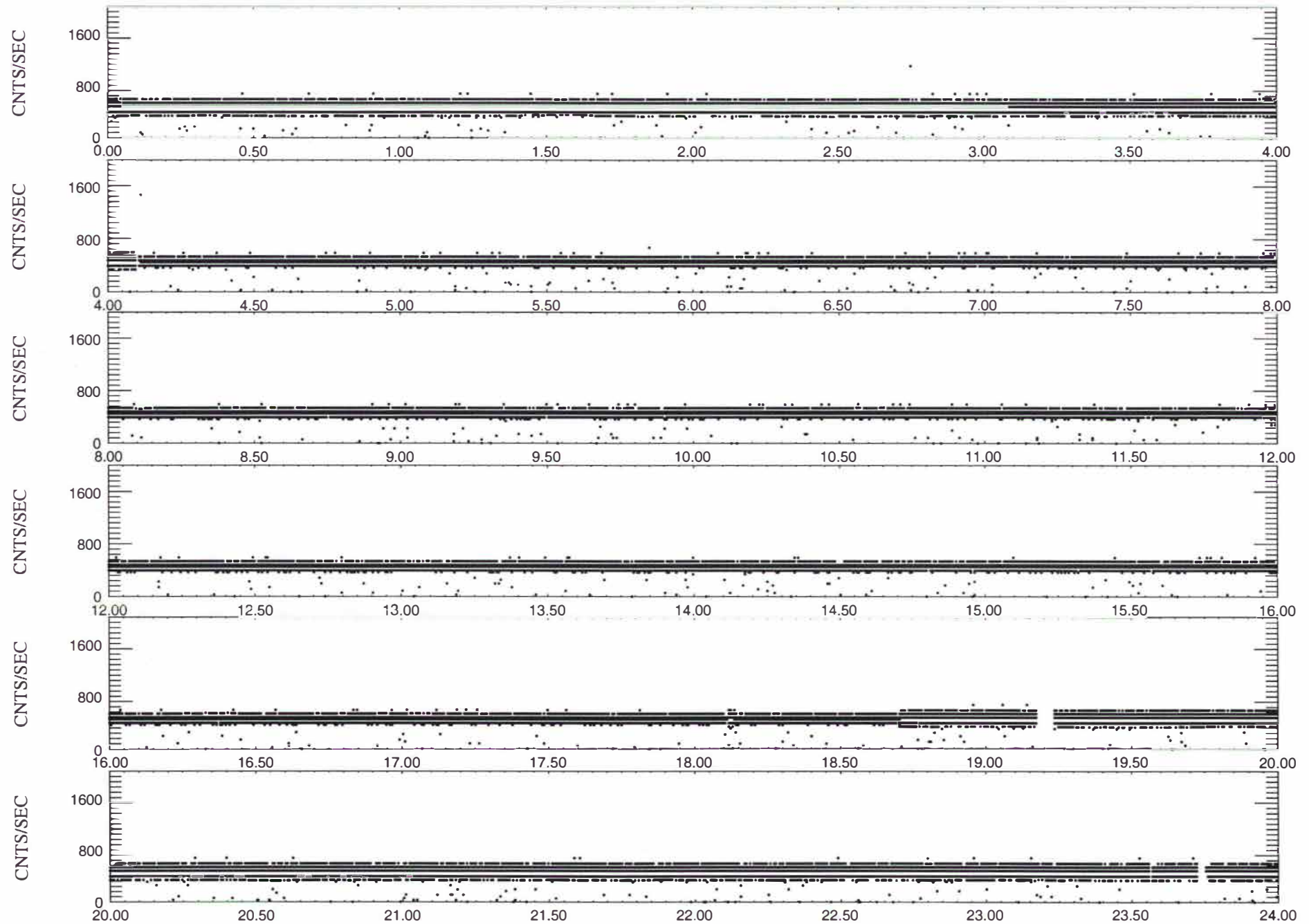
Background not subtracted

Sample average = 10

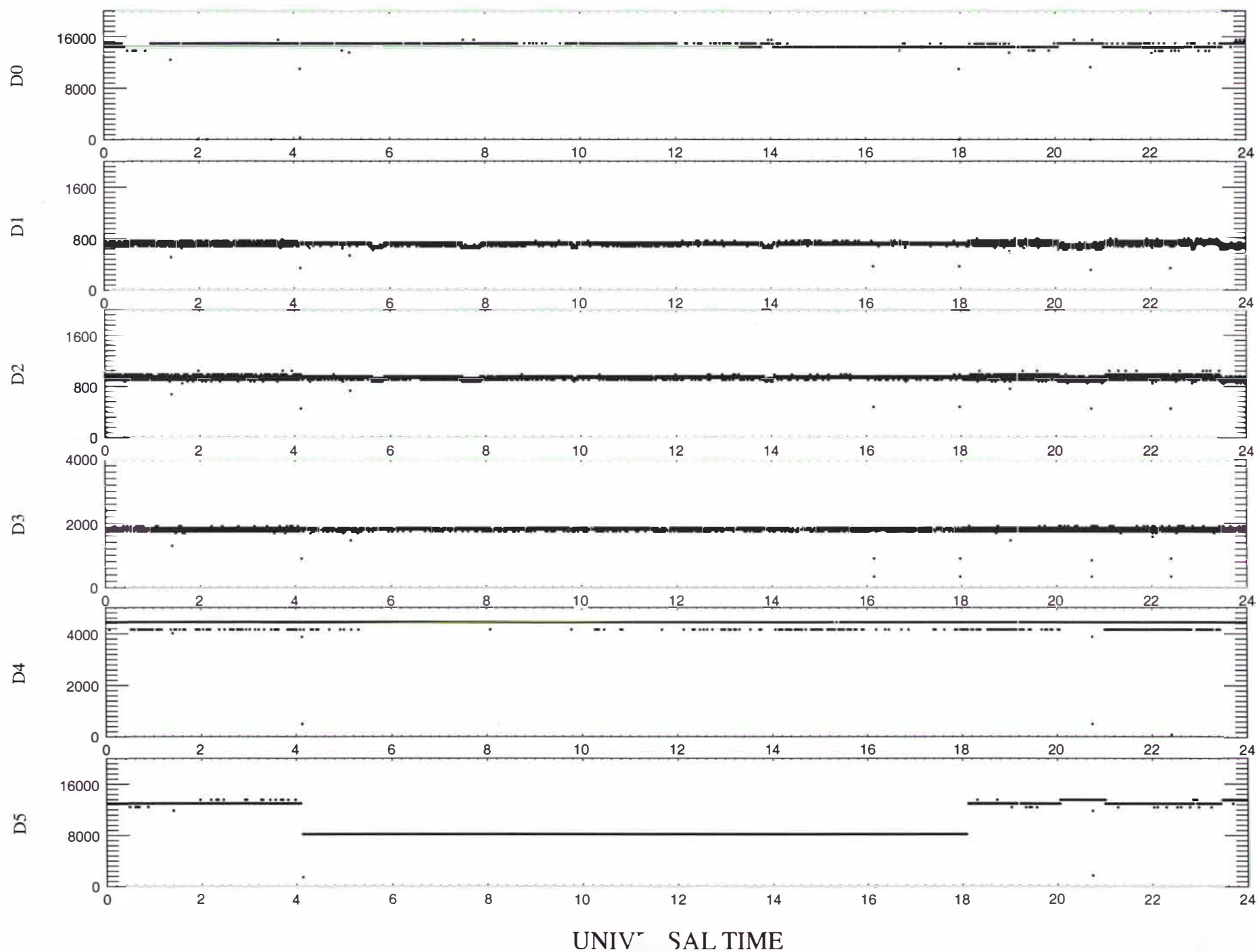
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SAHI@fender.msfc.nasa.gov Fri Oct 29 16:04 PDT 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 29 Oct 1999 16:37:53 -0500 (CDT)

\: burst@comptel.sr.unh.edu, grobad@ests2.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, 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.: 7804

TIME: TJD=1466 SECONDS=4069

TYPE: PARTICL

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

From SAHI@fender.msfc.nasa.gov Fri Oct 29 15:27 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 29 Oct 1999 16:17:36 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7805

BATSEARCH PROGRAM

BATSE BURST # 7805
EVENT OF 1999 OCT 15 DAY OF YEAR=288
EVENT CROSSING TIME AT BATSE : 23937. S. OR 06:38:57.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 12.000 9.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/10/ 99 IS:
RA= 161.804 DEC= -19.034 DIST= 5.196 AU
BATSE-ULYSSES DISTANCE = 777354072. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 30.91 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2224.80 SECS.
CROSSING TIME AT ULYSSES IS 26162. S. OR 07:16:01 +/- 315.01 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/10/ 99 IS:
RA= 268.364 DEC= -25.207 DIST= 1.431 AU
MARS-BATSE DISTANCE = 214071584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 198.02 SECS.
CROSSING TIME AT MARS IS 24135. S. OR 06:42:15 +/- 122.12 SECONDS

BATSE BURST TRIGGER

NO.: 7805

TIME: TJD=1466 SECONDS=23937

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

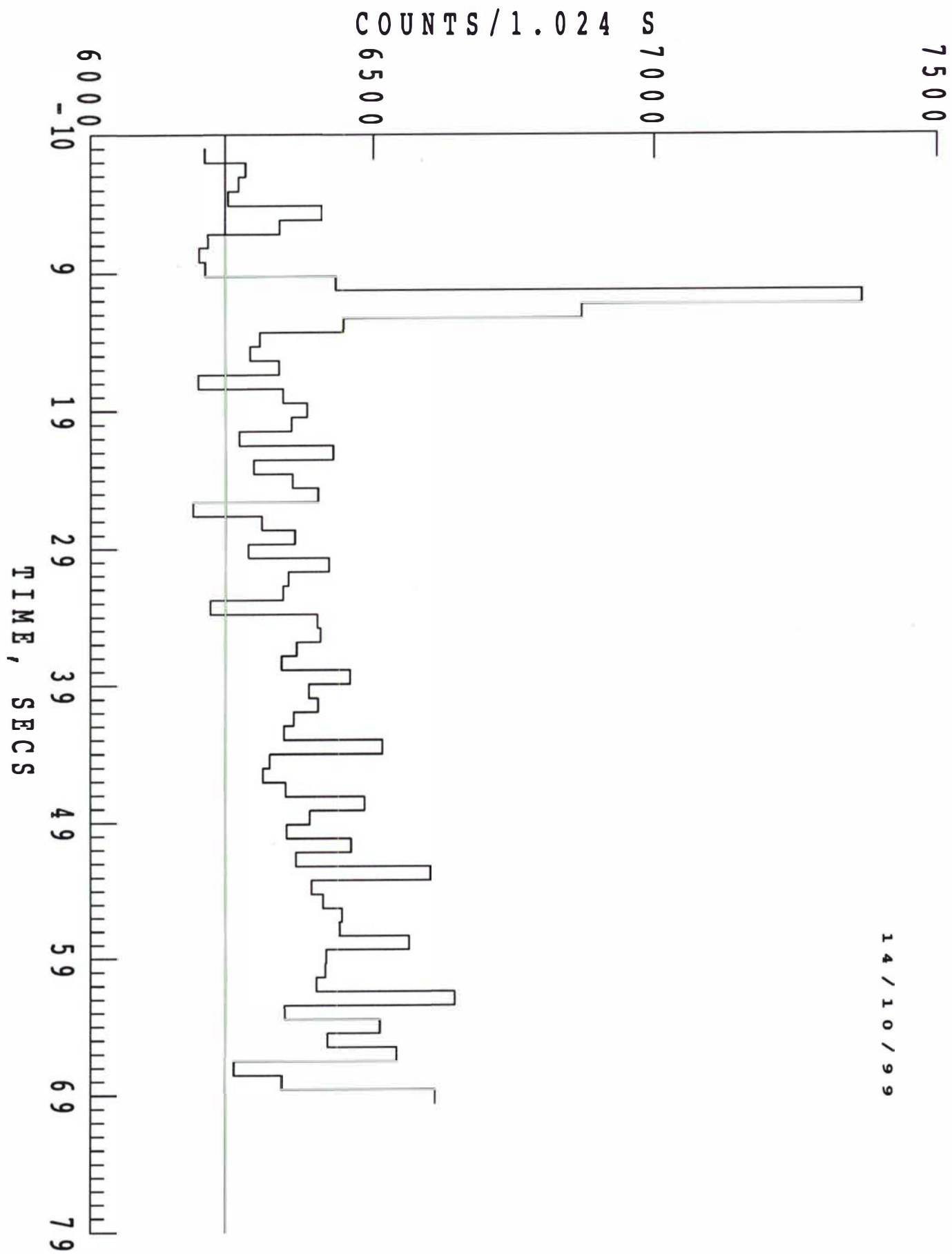
LOCATION: ZENITH=73.1 AZIMUTH=159.6 ERROR=7.8 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 3 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7805	991015	11466	23937	3000	012	+09	3

BACODINE 7805 15/10/99 23926.521
25 - 100 keV



BATSE BURST# 7805

ULYSSES RT

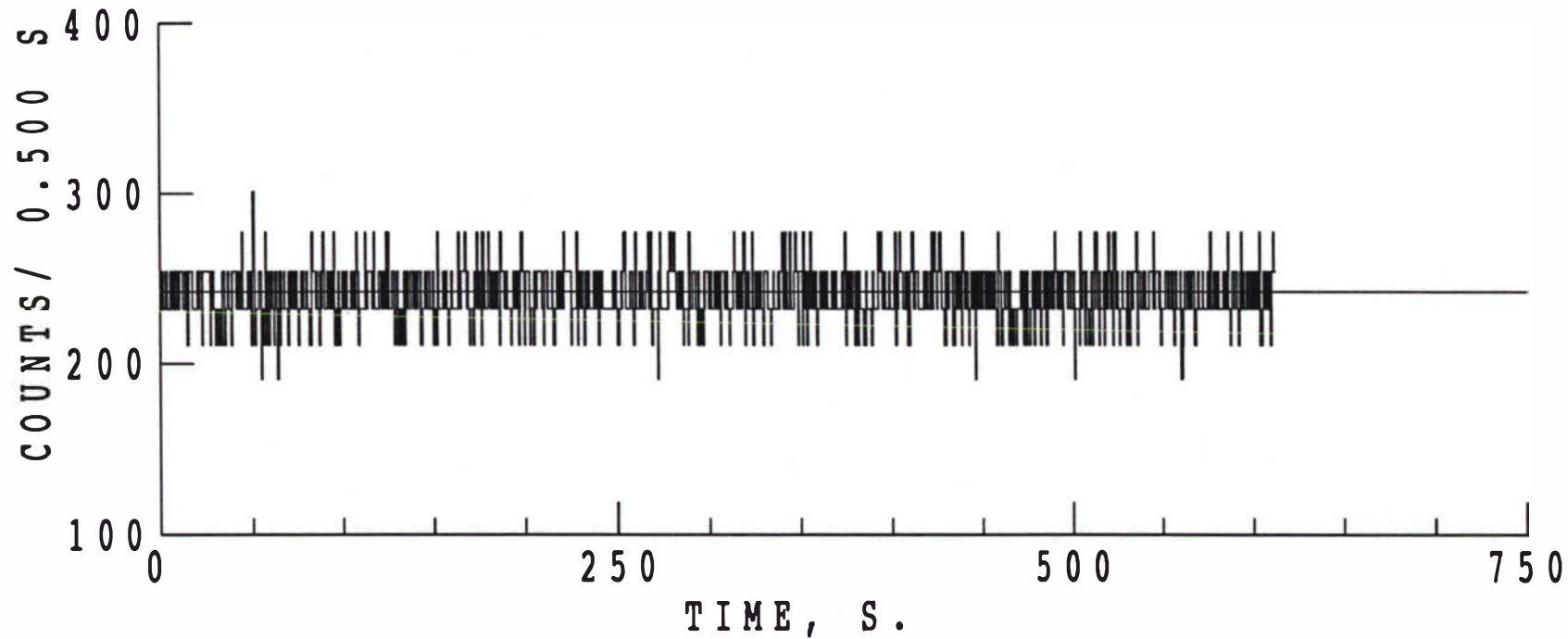
29 / 10 / 99

15 / 10 / 99 25848.236 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



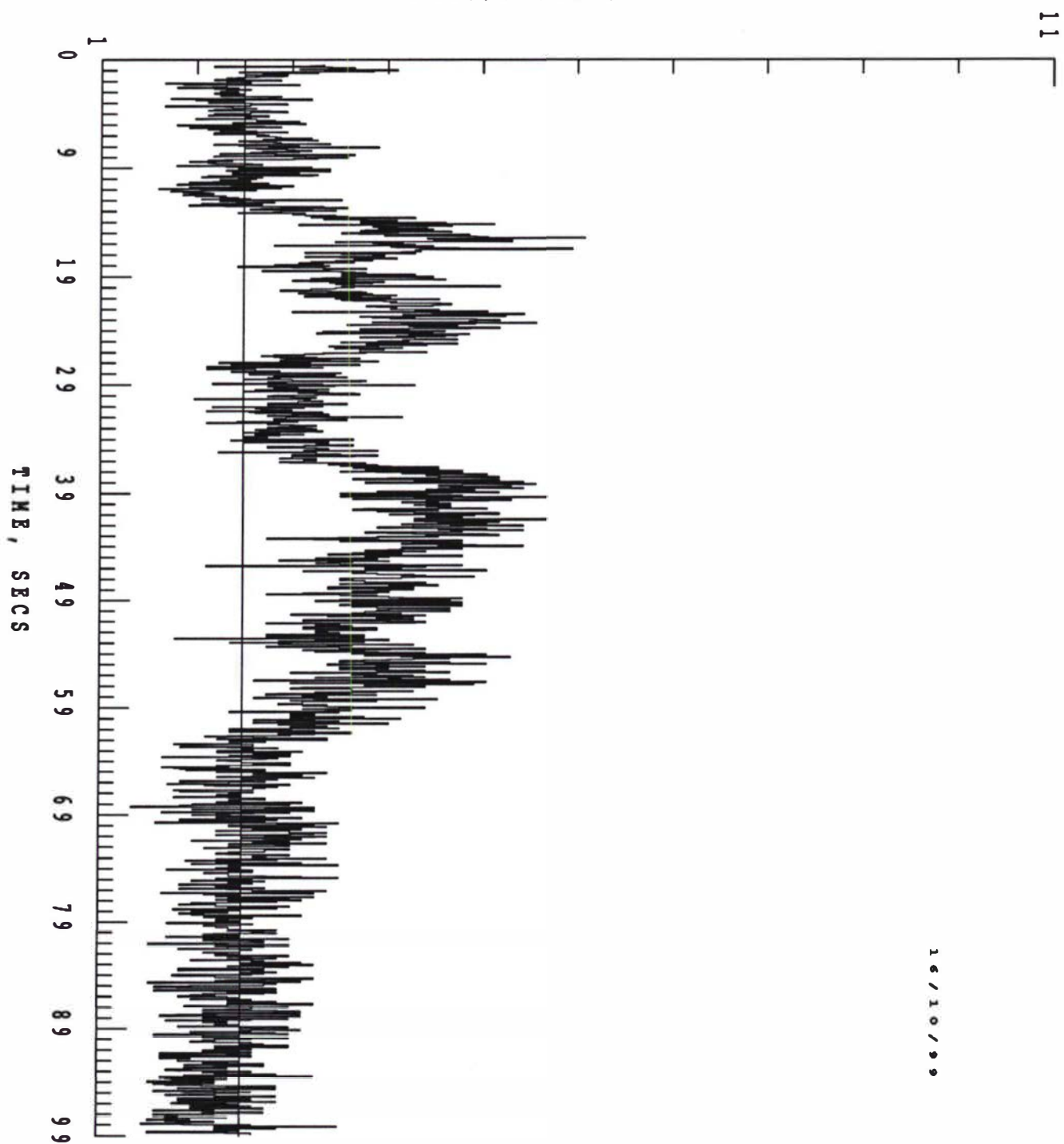
KONUS

15/10/99

37592.836

50 - 200 keV

COUNTS/0.064 S



KONUS2 19991015 37592

ULYSSES RT

18 / 10 / 99

15/10/99 34956.328 s

0.500 S INTERVALS REGROUPED BY 8

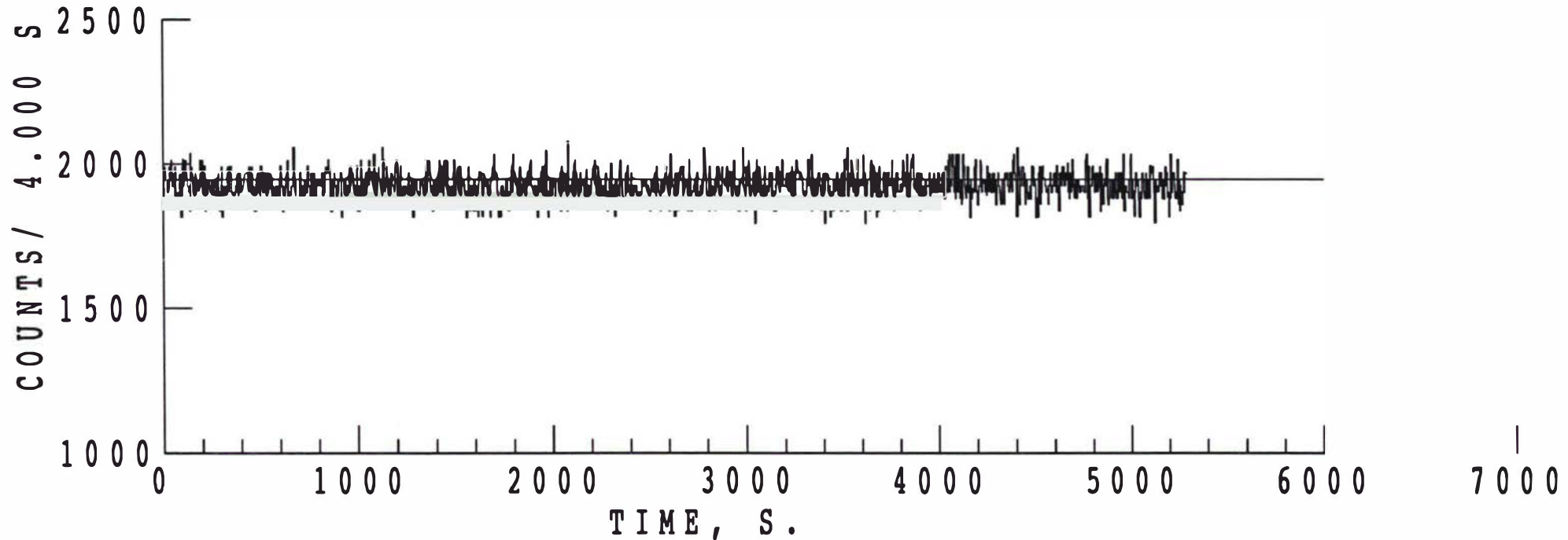
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



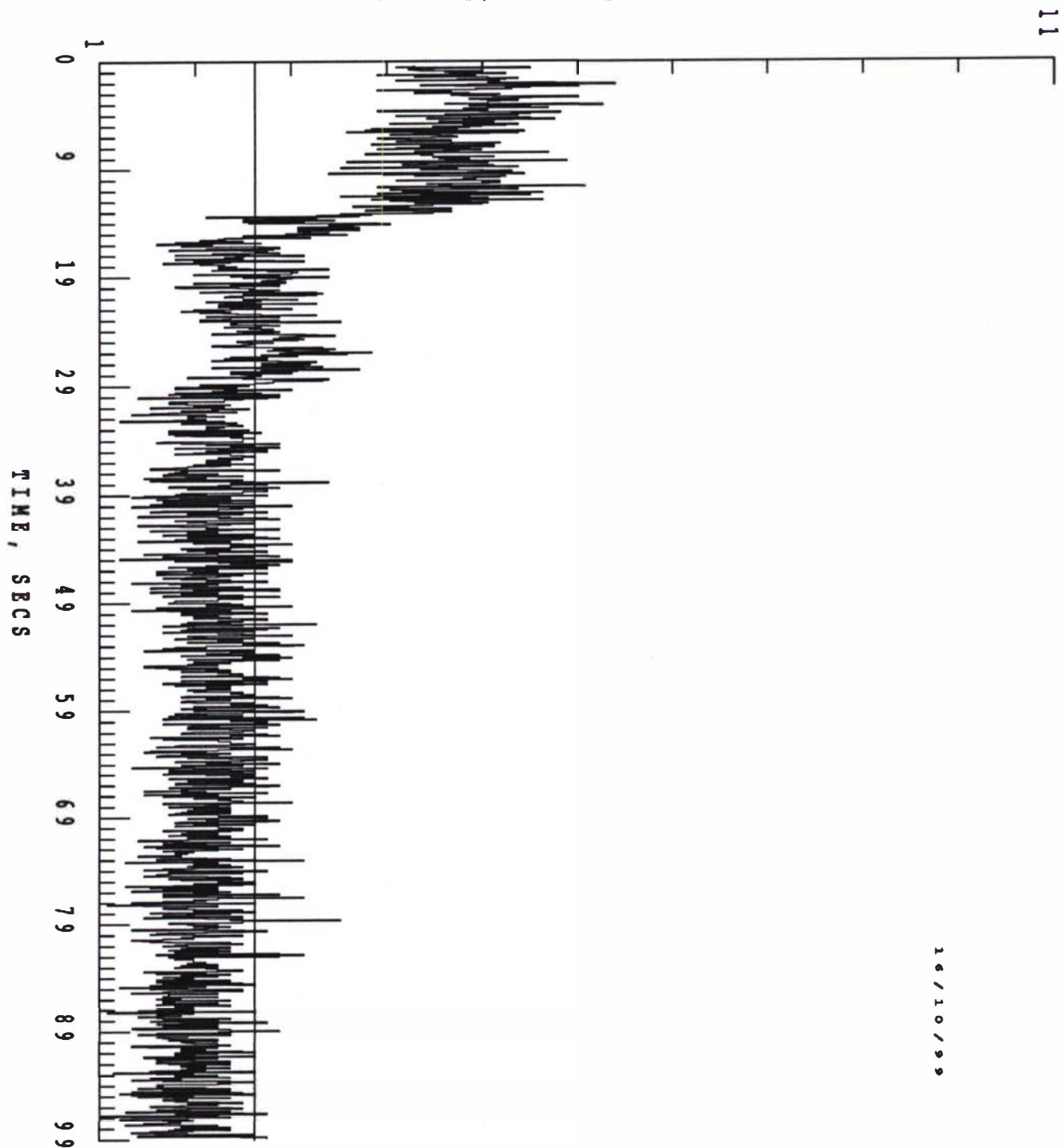
KONUS

15/10/99

42370.259

50 - 200 keV

COUNTS/0.064 S



KONUS2 19991015 42370

ULYSSES RT

18 / 10 / 99

15 / 10 / 99 39744.375 s

0.500 S INTERVALS REGROUPED BY 8

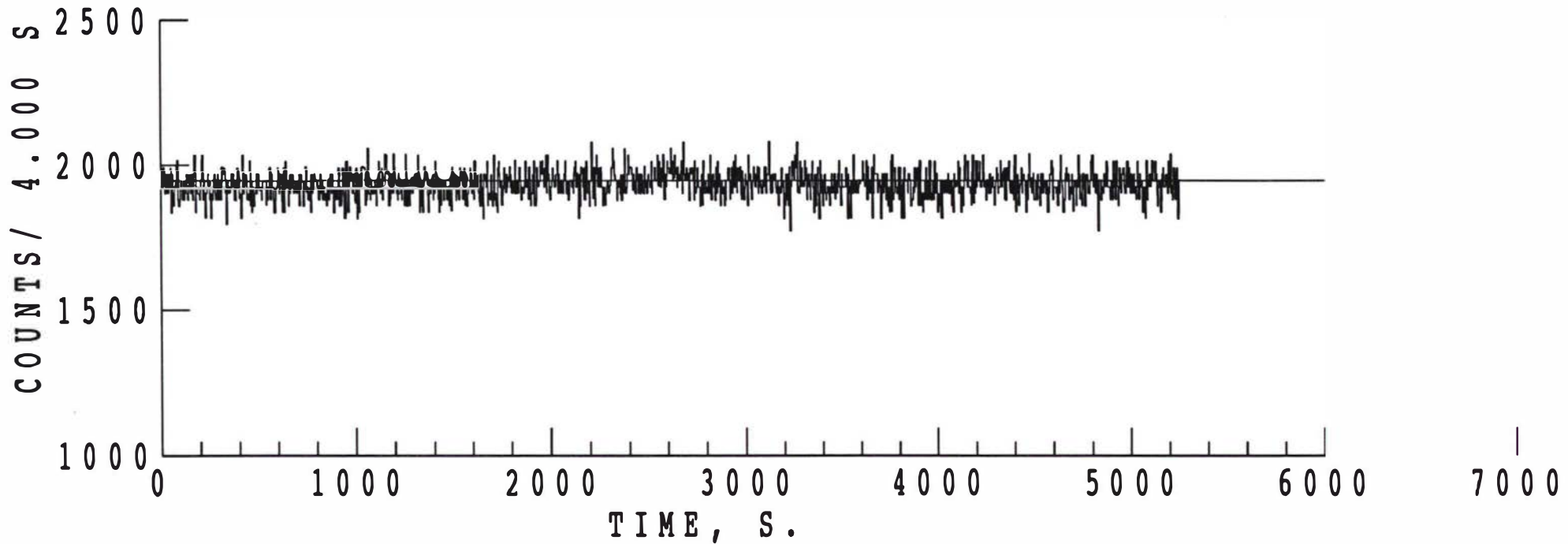
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



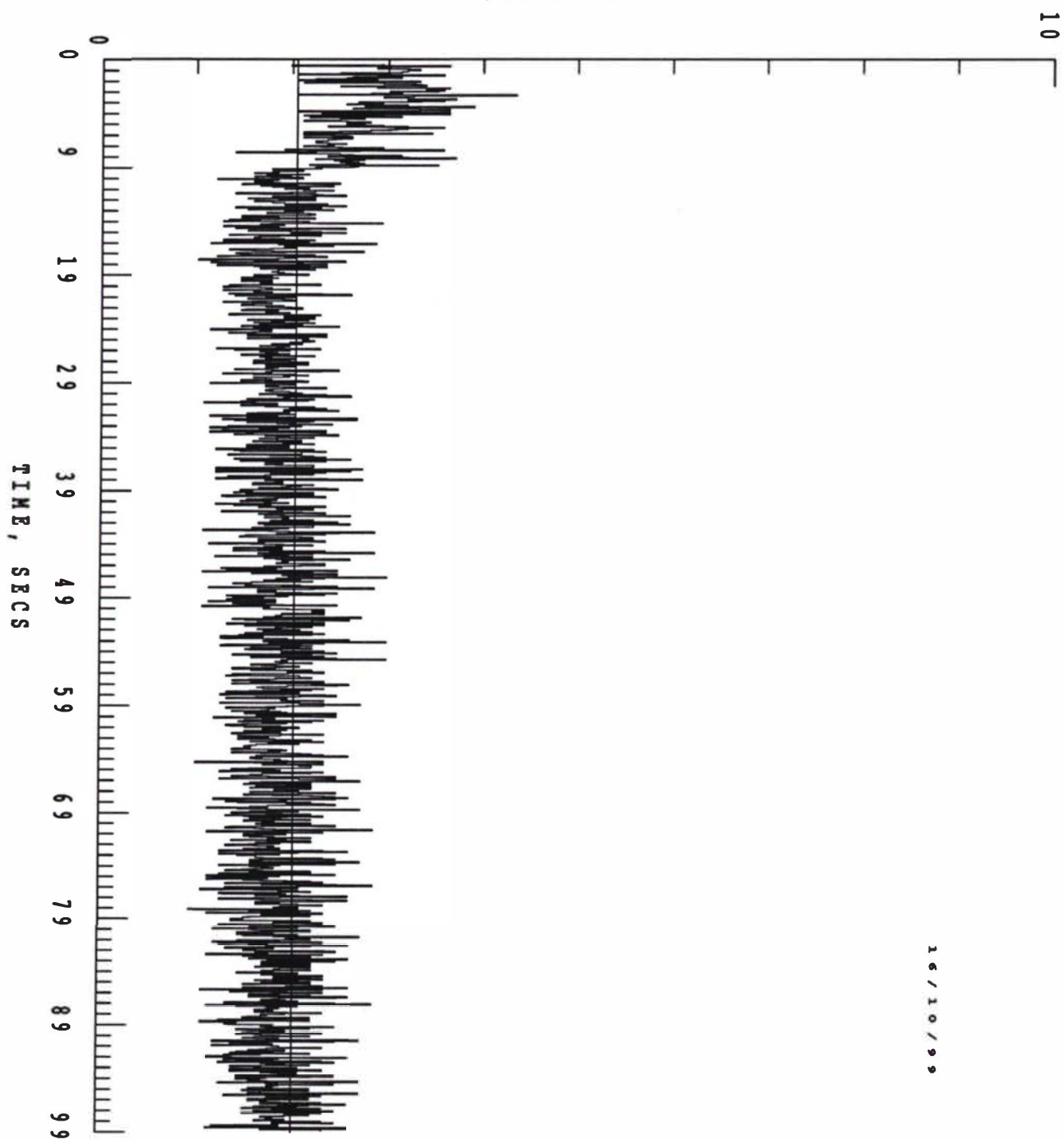
KONUS

15/10/99

46875.725

50 - 200 keV

COUNTS/0.064 S



KONUS1 19991015 46875

ULYSSES RT

18 / 10 / 99

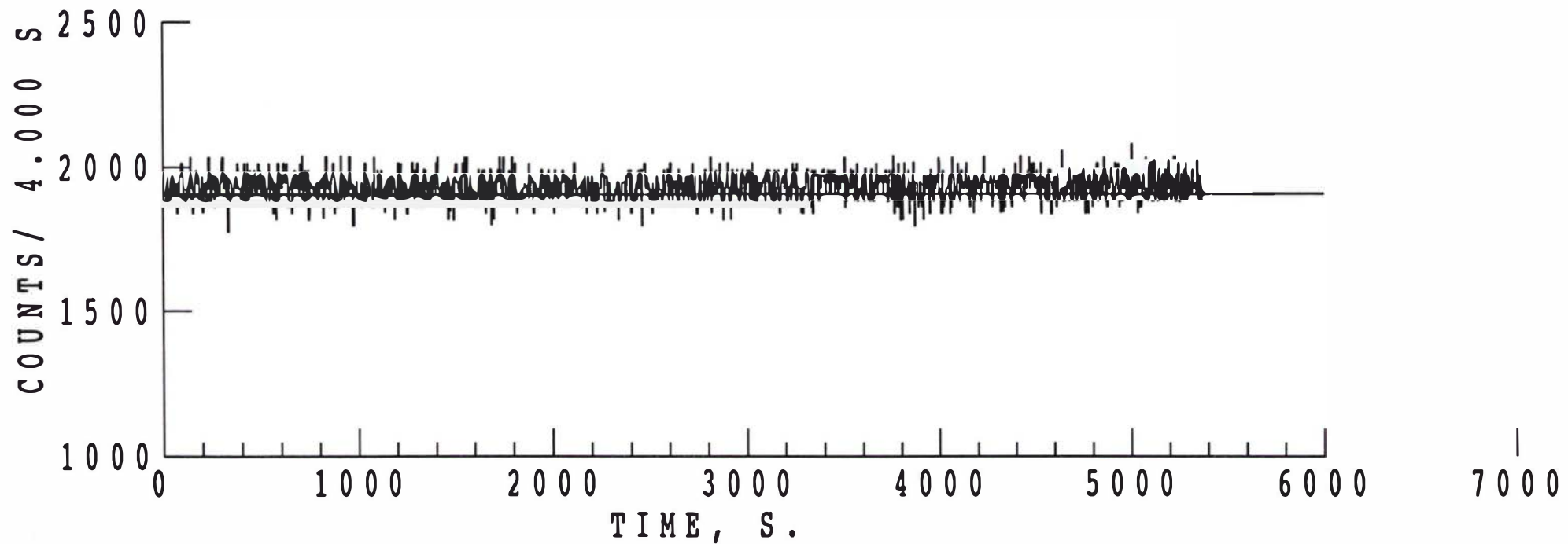
15/10/99 44244.426 s

0.500 S INTERVALS REGROUPED BY 8

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



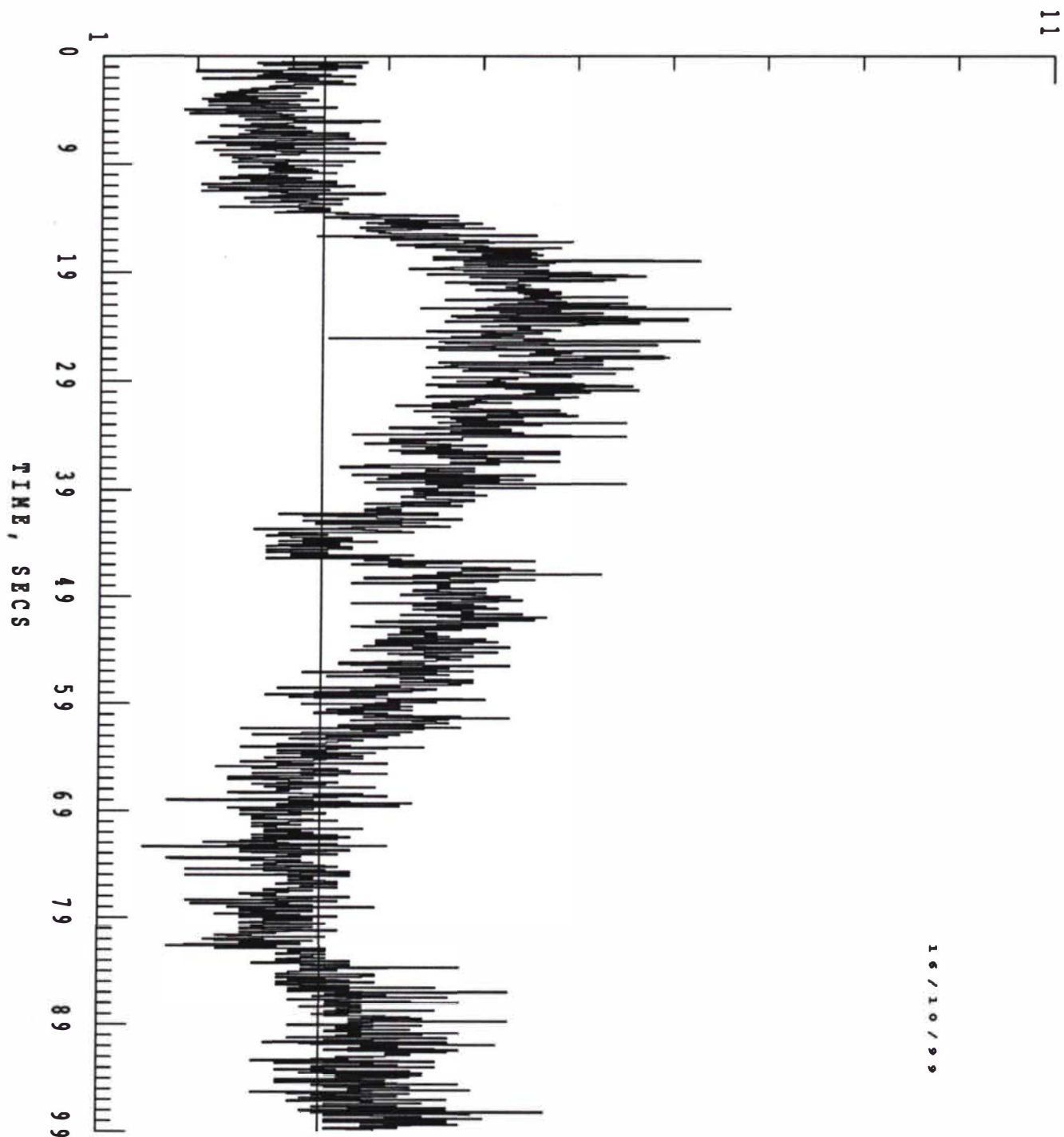
KONUS

15/10/99

53950.537

50 - 200 keV

COUNTS/0.064 S



16/10/99

KONUS2 19991015 53950

ULYSSES RT

18 / 10 / 99

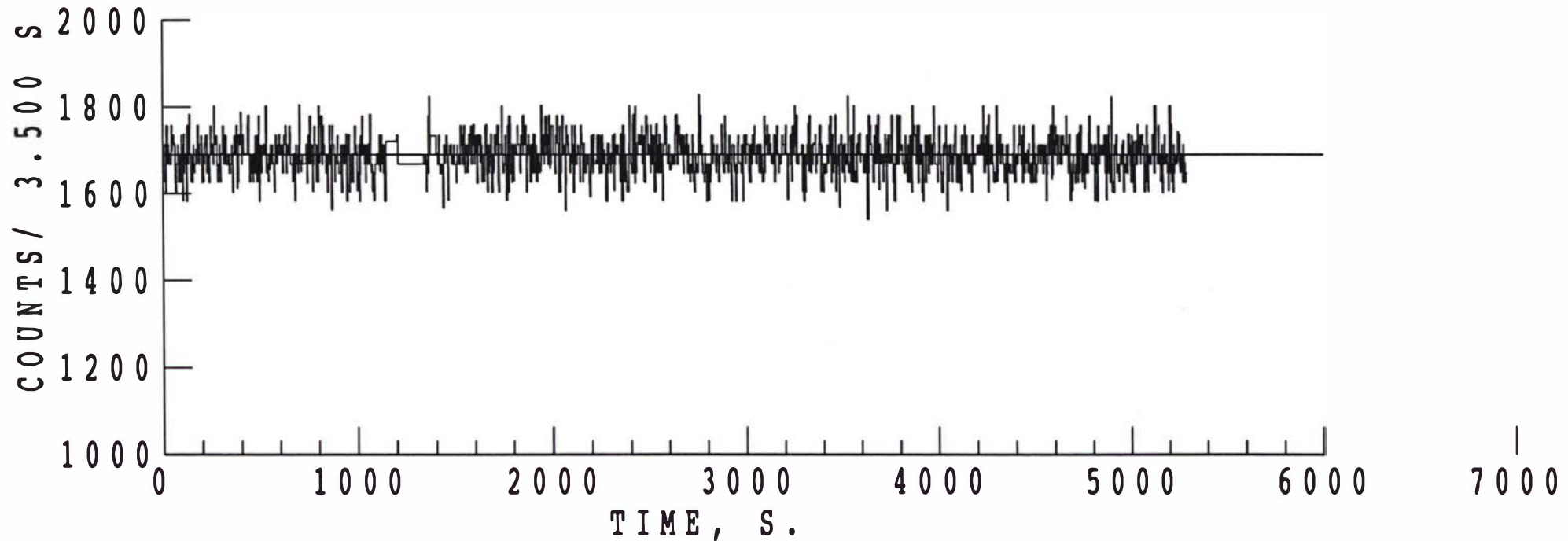
15 / 10 / 99 51300.496 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



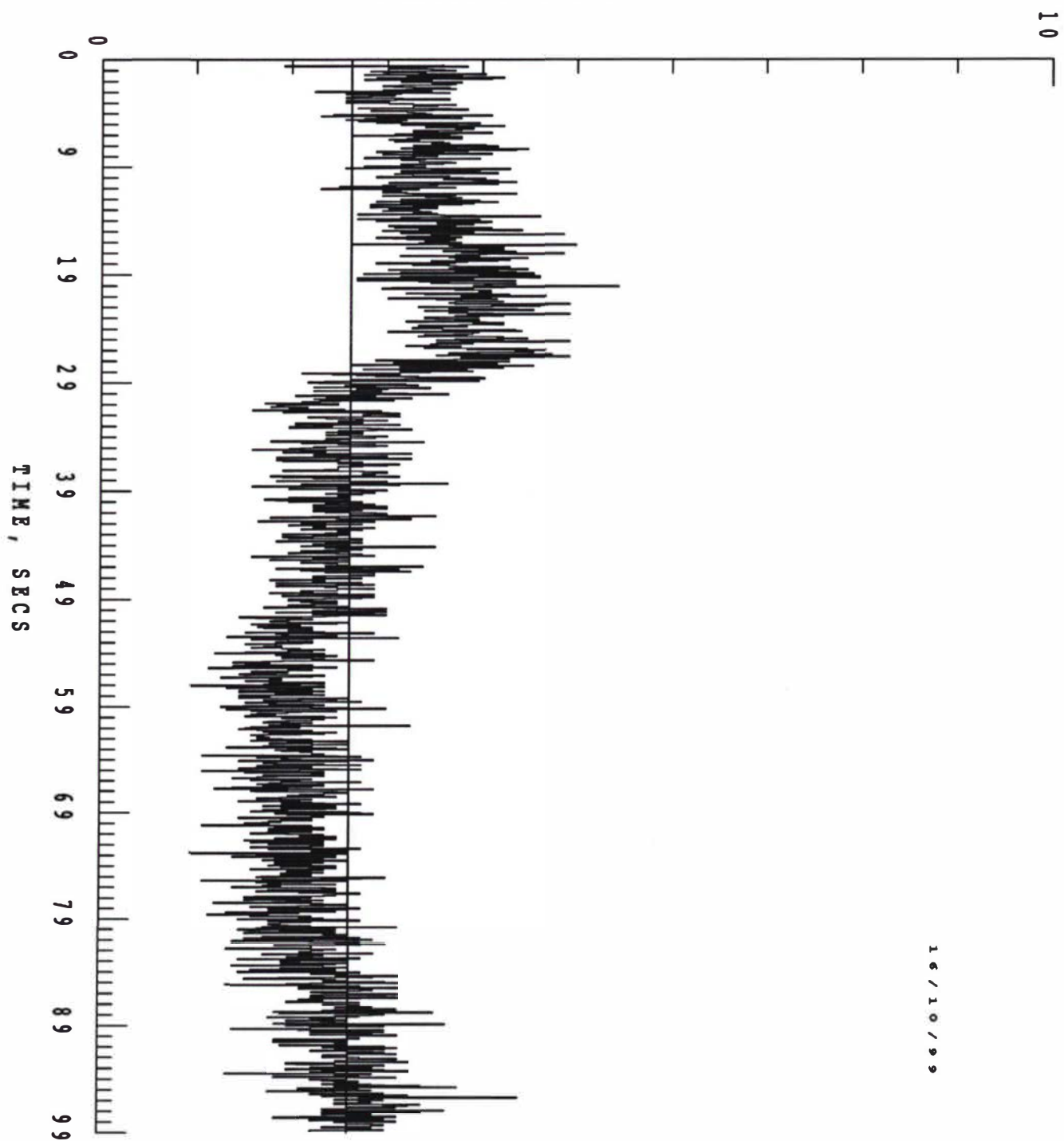
KONUS

15/10/99

70233.647

50 - 200 keV

COUNTS/0.064 S



KONUS2 19991015 70233

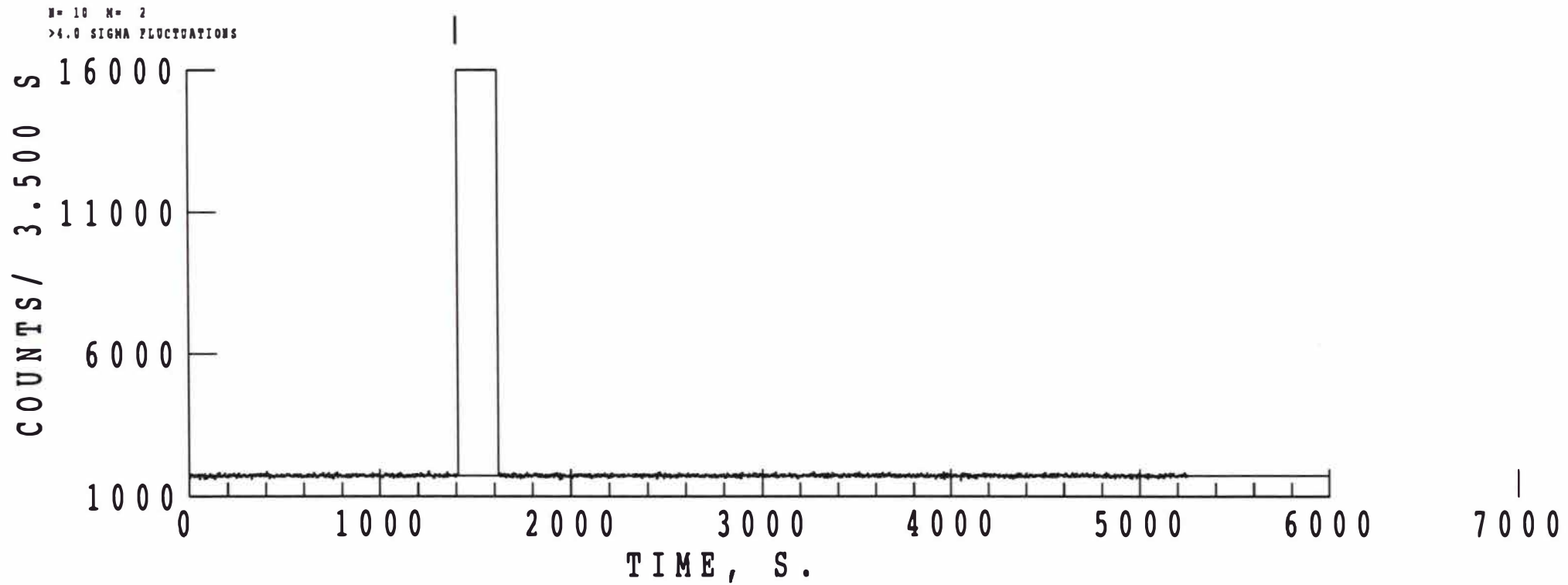
ULYSSES RT

18 / 10 / 99

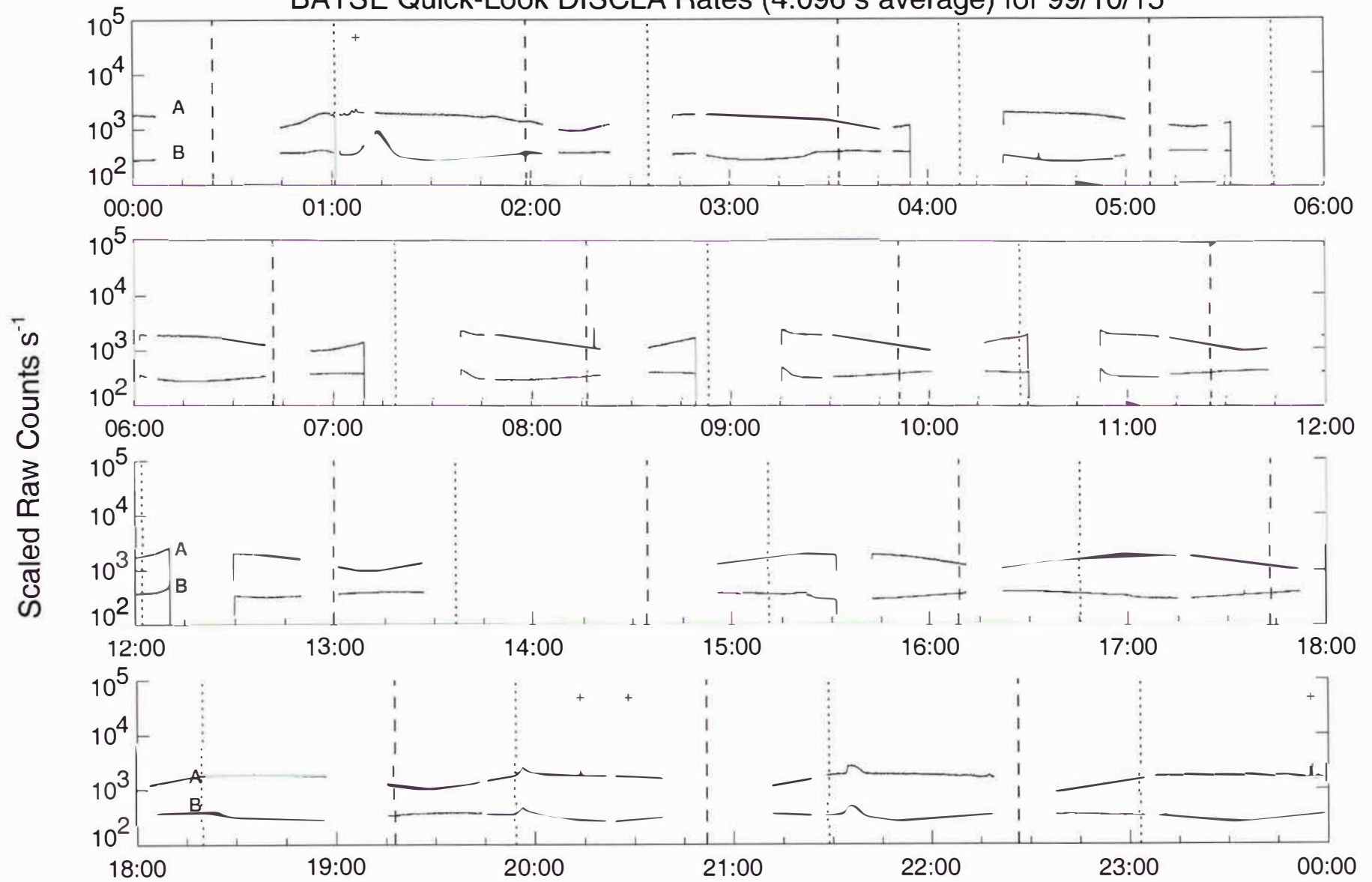
15/10/99 67608.156 s

0.250 S INTERVALS REGROUPED BY 14

0 - 0 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/15

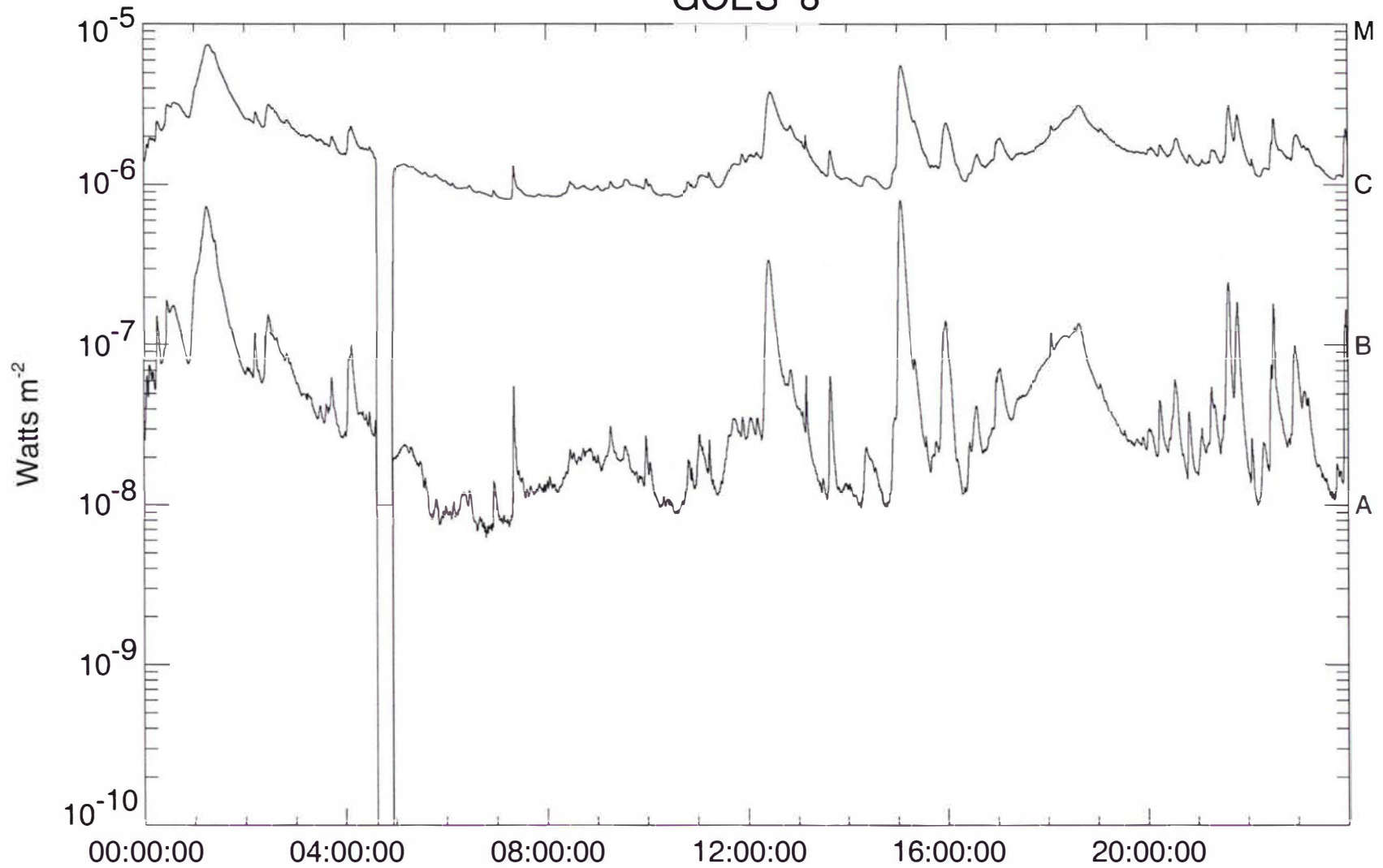


Current Time: 99/10/19, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/15, 0000:00

Plot created: 99/10/19, 1010

Channel

1 (1.0 - 8.0 Angstroms)

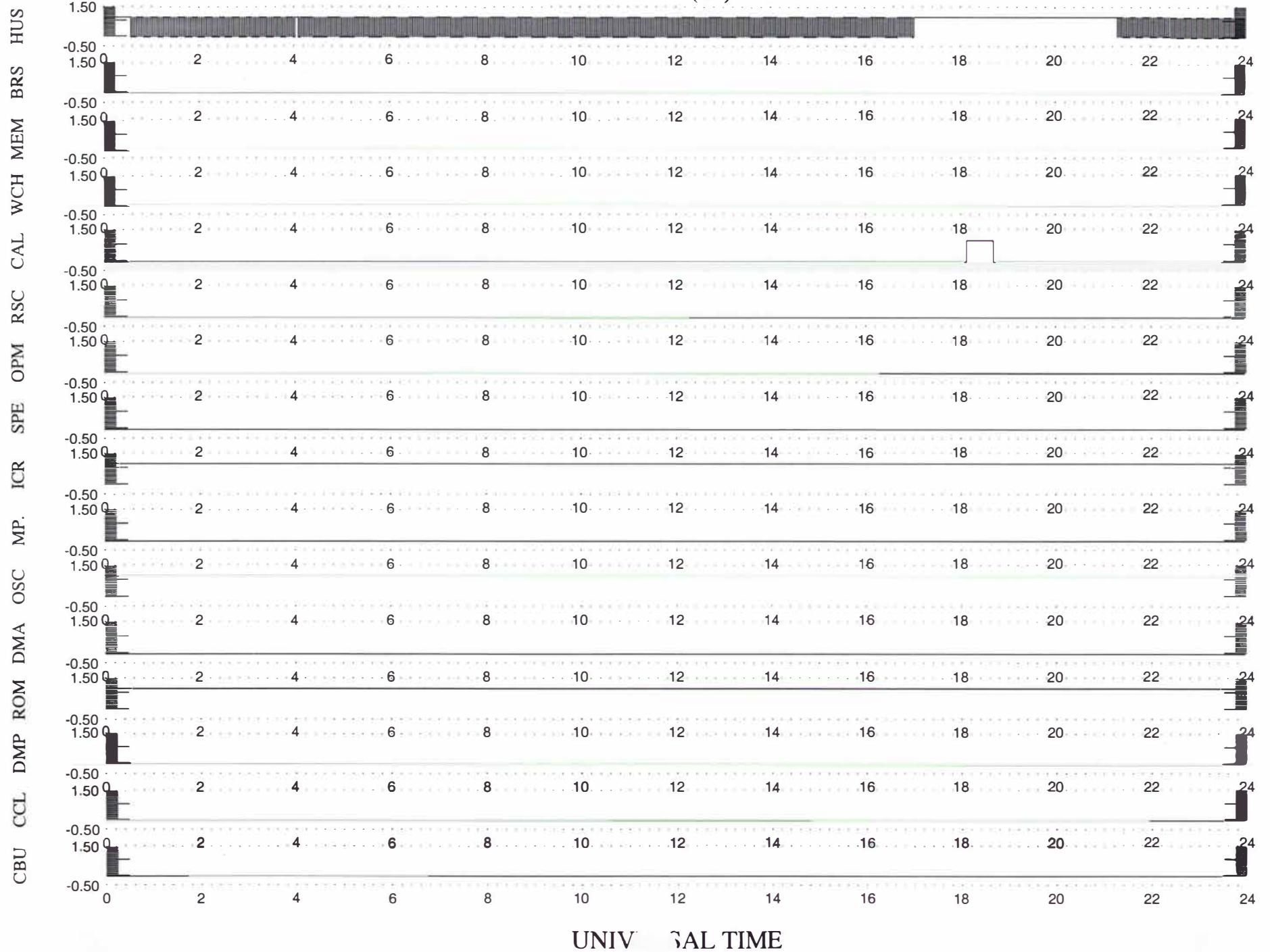
Background not subtracted

2 (0.5 - 4.0 Angstroms)

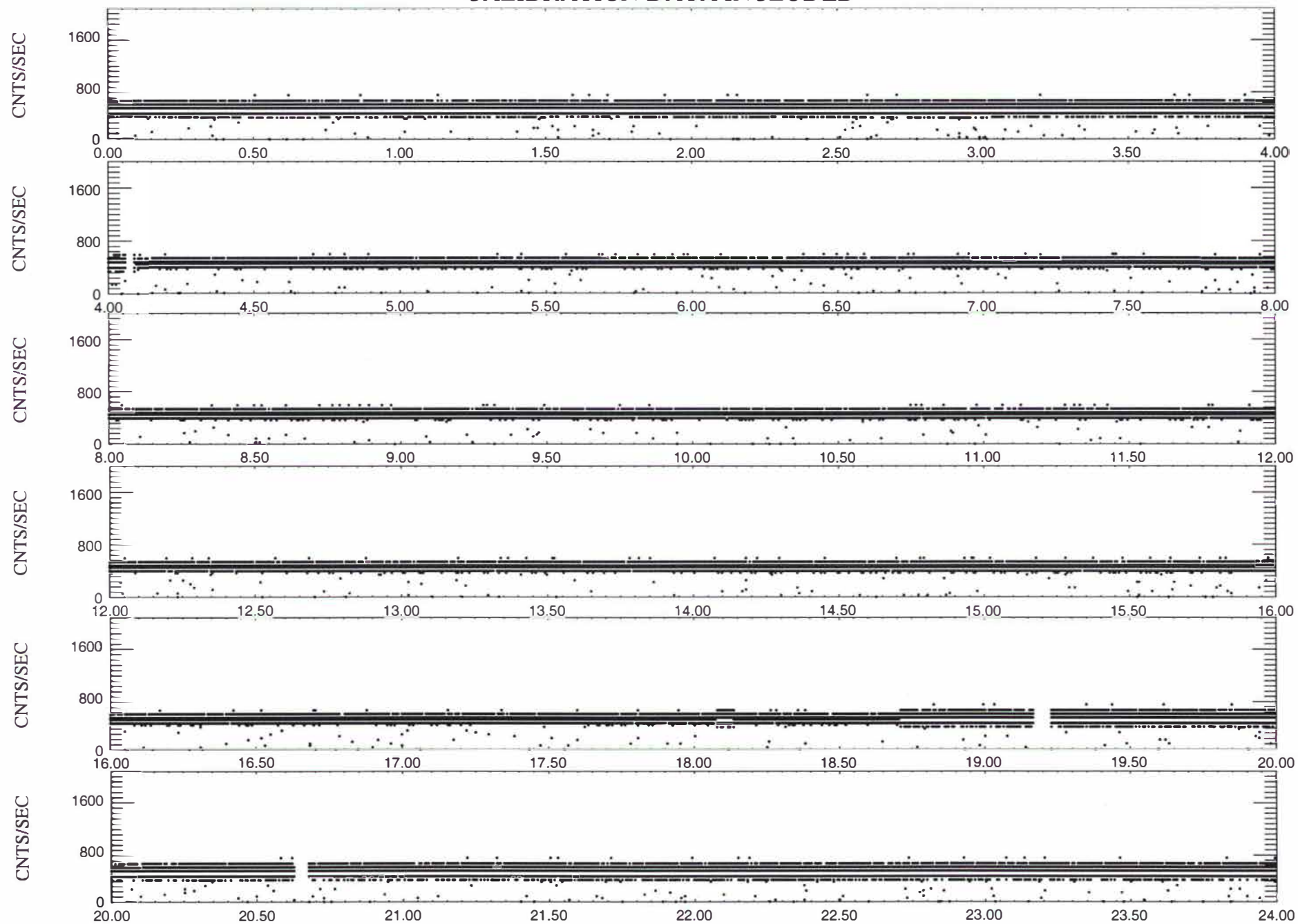
Background not subtracted

Sample average = 10

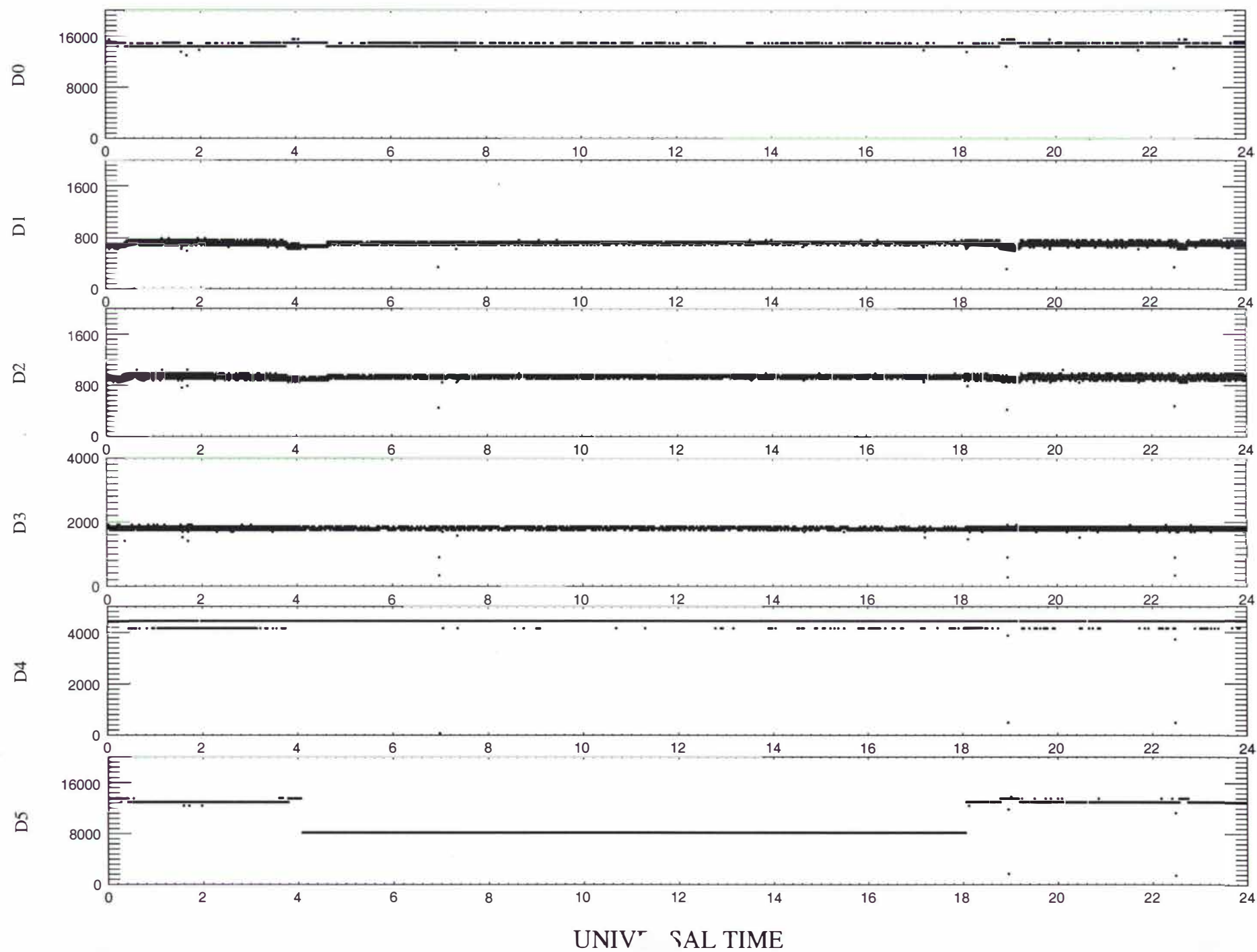
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Thu Oct 21 15:55 PDT 1999
Date: Wed, 20 Oct 1999 13:59:33 -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, 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.: 7806

TIME: TJD=1467 SECONDS=39501

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 92.2 AZIMUTH=354.2 ERROR= 0.9 DEGREES

COMMENTS:

GOES C3.7, OPTICAL SF FLARE. COMPLEX, DUR. APPROX. 110 S, STARTS AT APPROX.
T-60 S, MAX AT APPROX. T+2 S. PROBABLY NOT VISIBLE ABOVE 300 KEV.

From HENZE@fender.msfc.nasa.gov Mon Oct 18 08:33 PDT 1999
Date: Mon, 18 Oct 1999 10:03:34 -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@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7807

TIME: TJD=1467 SECONDS=75944

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

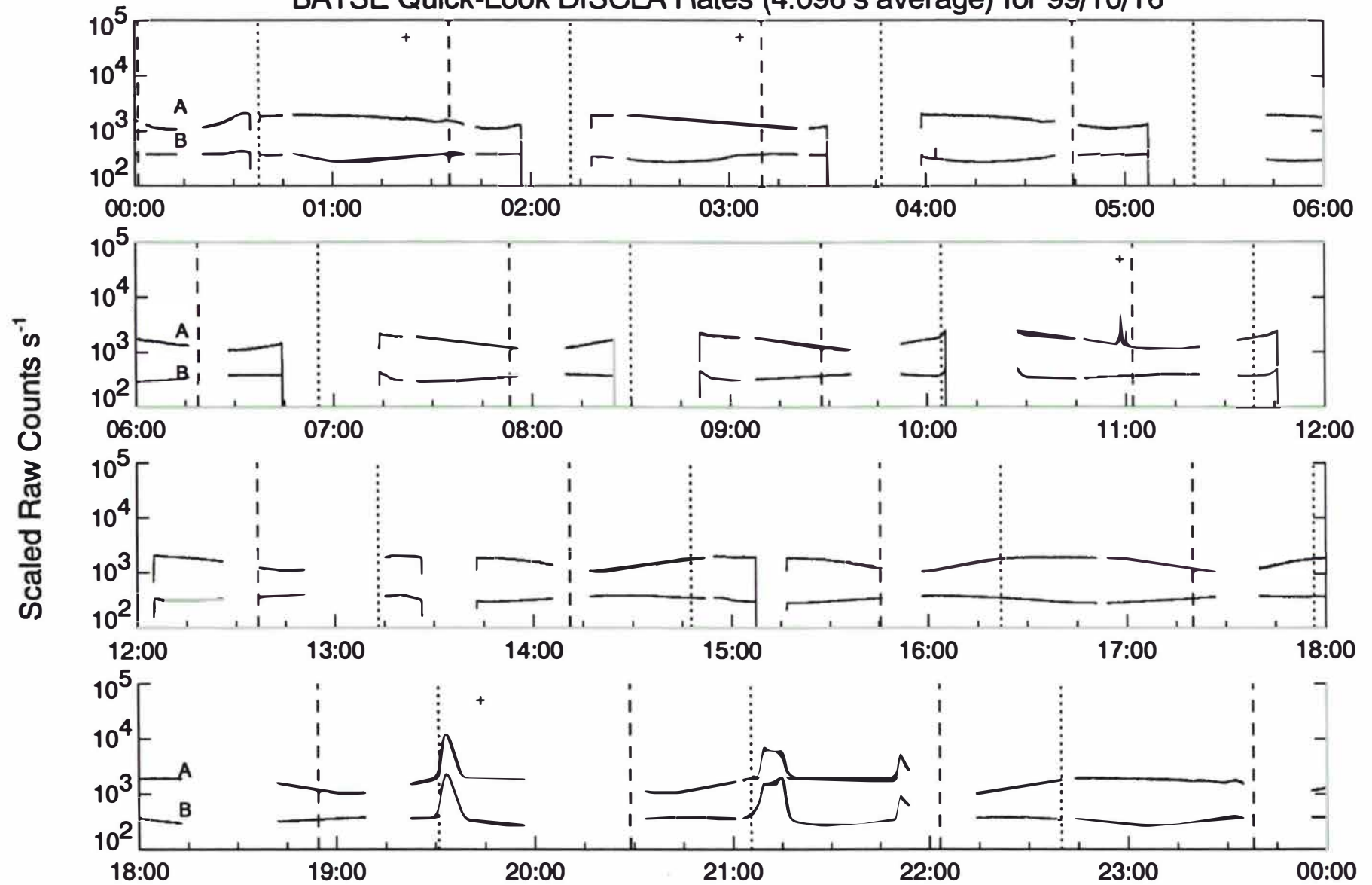
SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT, AUSTRALIA.

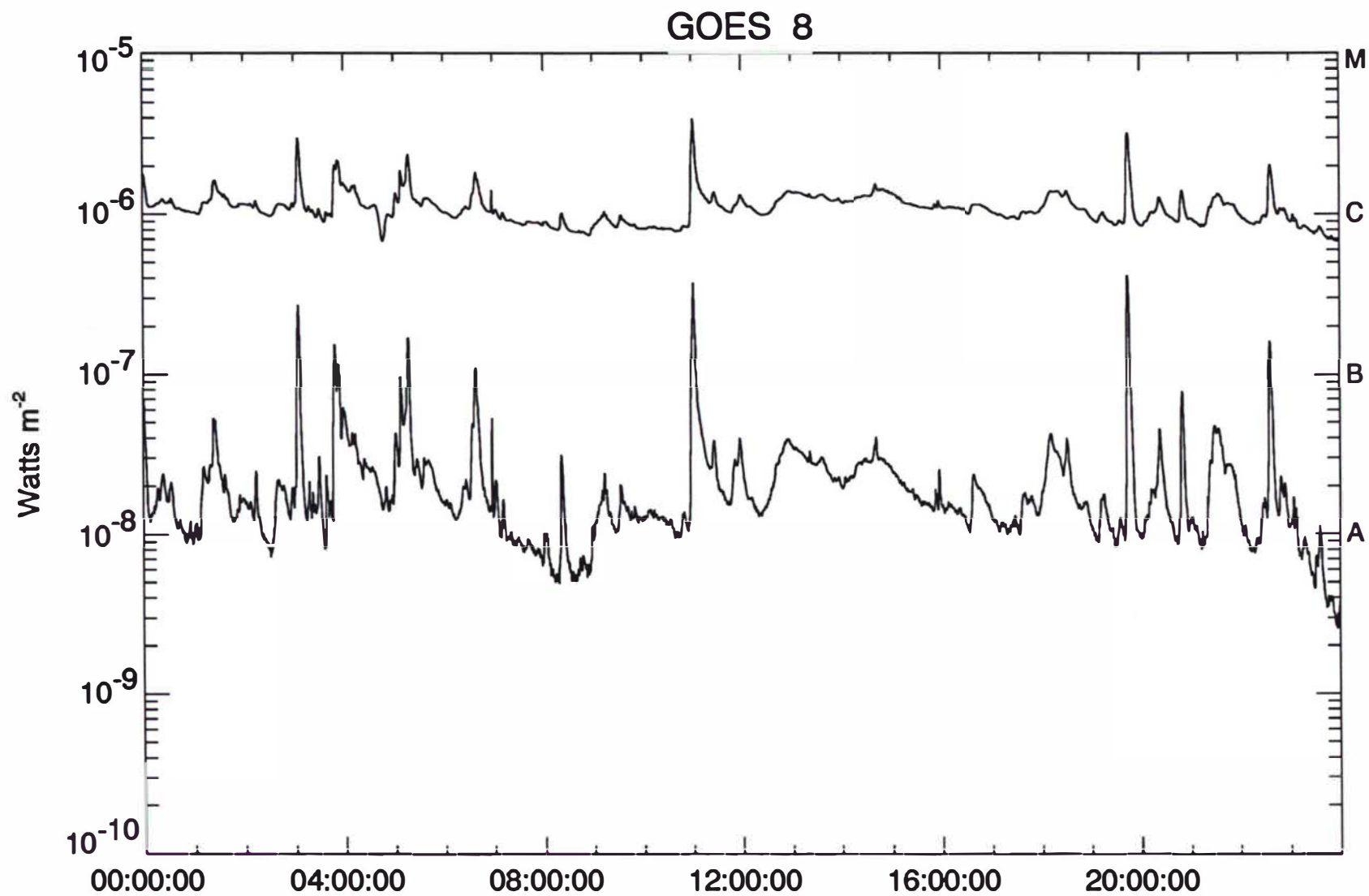
BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/16



Current Time: 99/10/20, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare



Data Start: 99/10/16, 0000:00

Plot created: 99/10/20, 1010

Channel

1 (1.0 - 8.0 Angstroms)

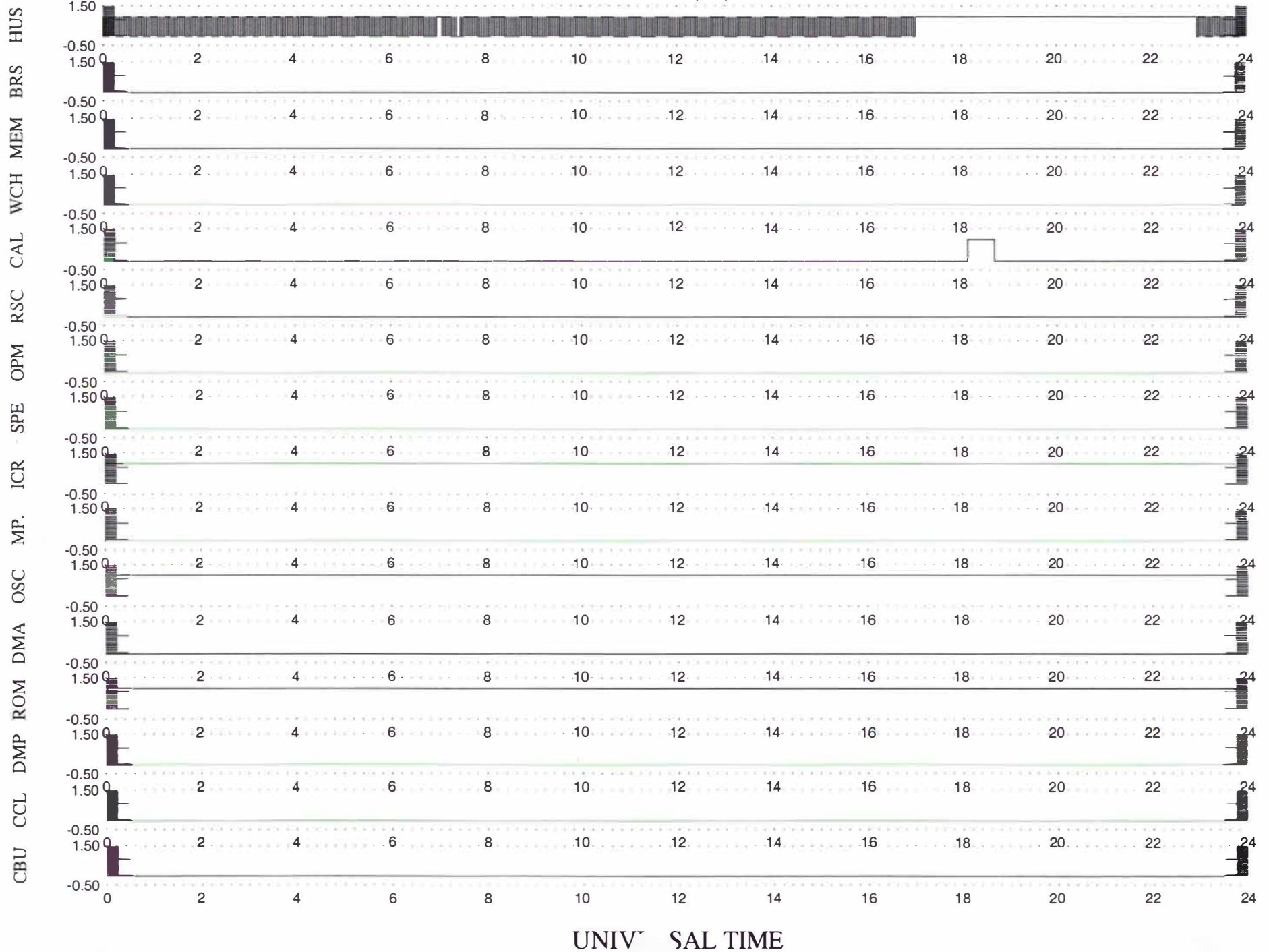
Background not subtracted

2 (0.5 - 4.0 Angstroms)

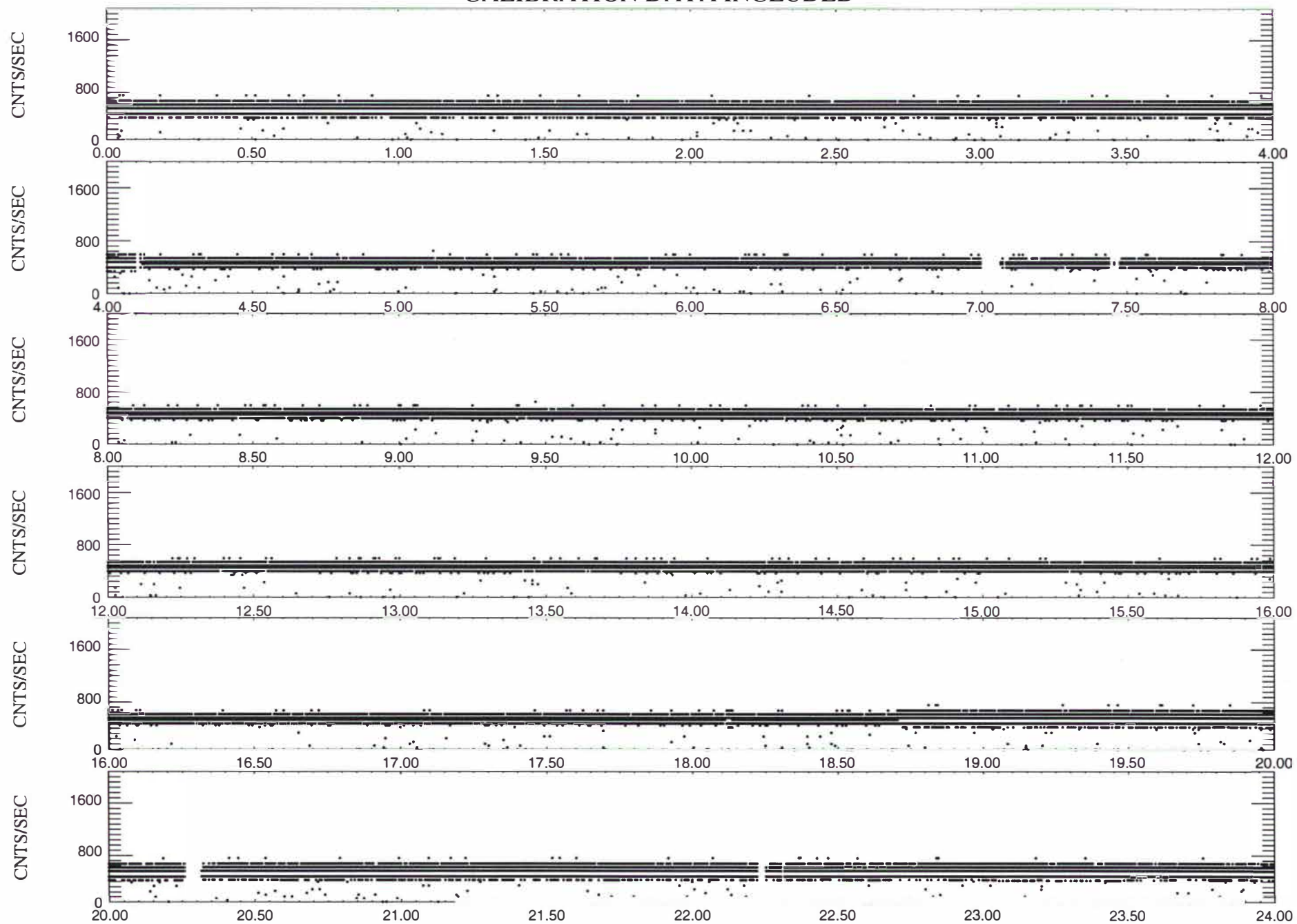
Background not subtracted

Sample average = 10

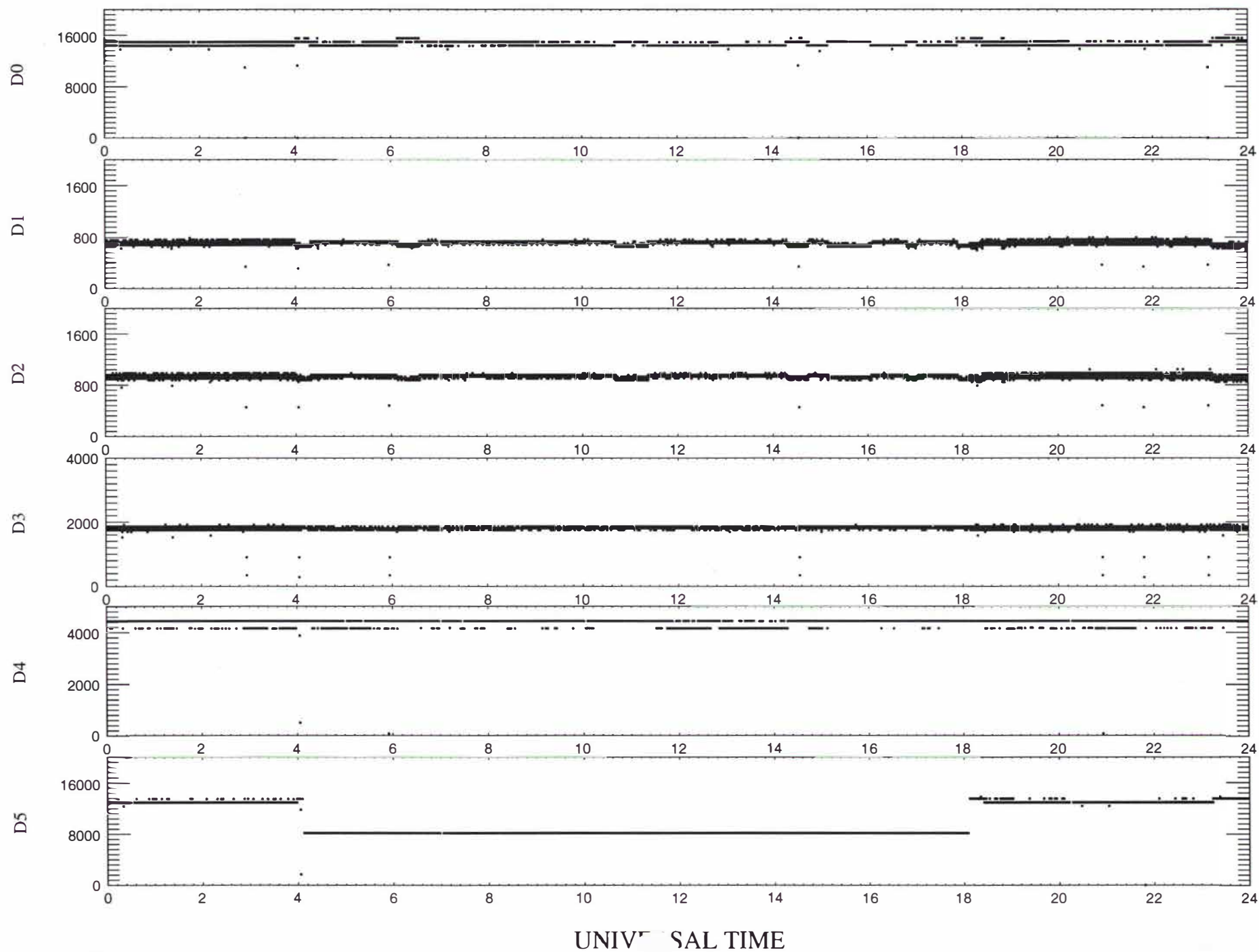
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From RICHARDSON@fender.msfc.nasa.gov Mon Oct 25 13:56 PDT 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 25 Oct 1999 16:04:47 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7808

TIME: TJD=1468 SECONDS=1213

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 Oct 25 14:02 PDT 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 25 Oct 1999 16:11:17 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7809

TIME: TJD=1468 SECONDS=36258

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=92.3 AZIMUTH=356.2 ERROR=0.6 DEGREES

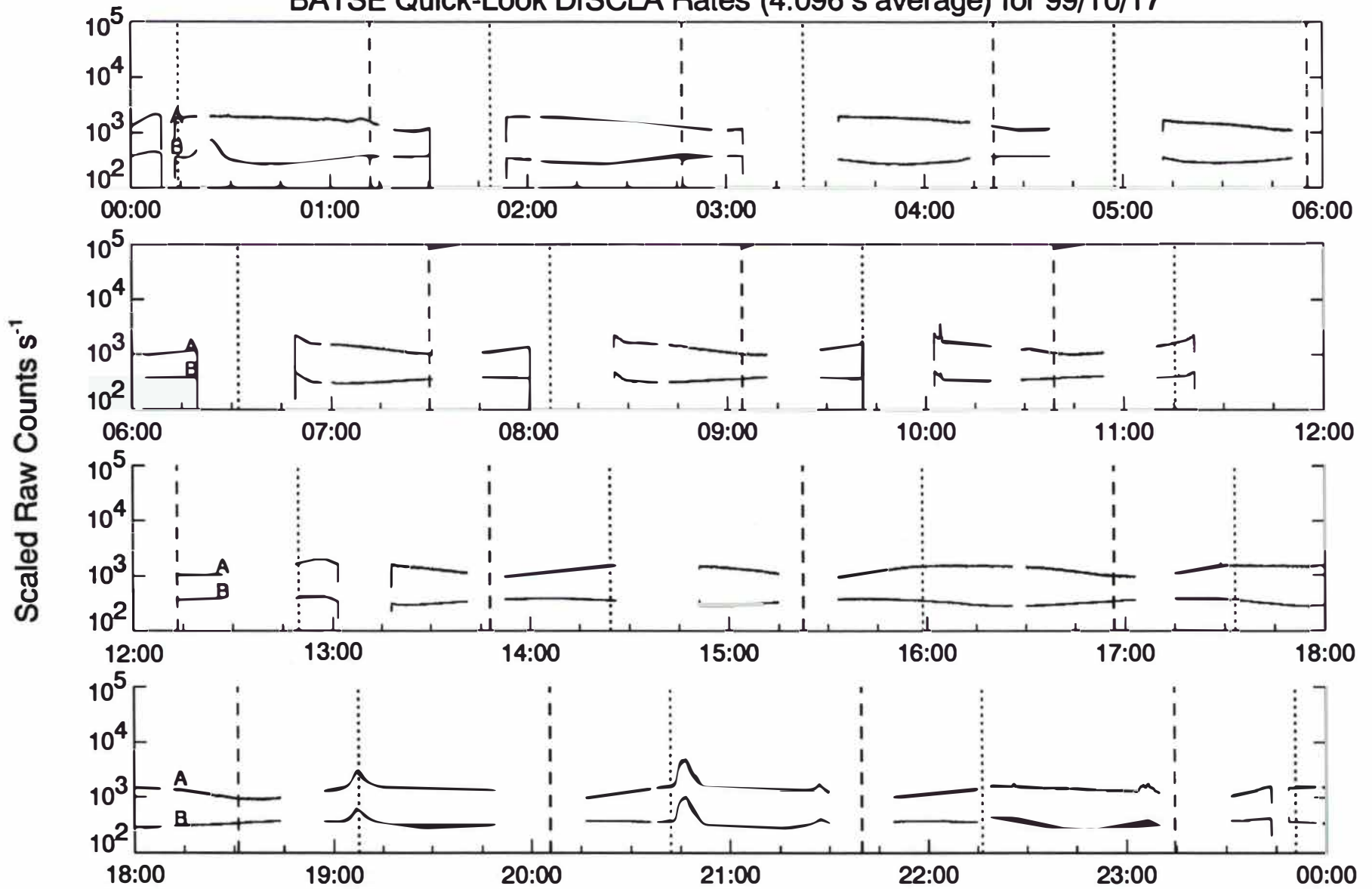
COMMENTS:

SOLAR FLARE, GOES C1.5, NO OPTICAL

SEVERAL PULSES WITH STRUCTURE. DURATION APPROX. = 65 SEC.

NOT VISIBLE ABOVE 300KEV.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/17

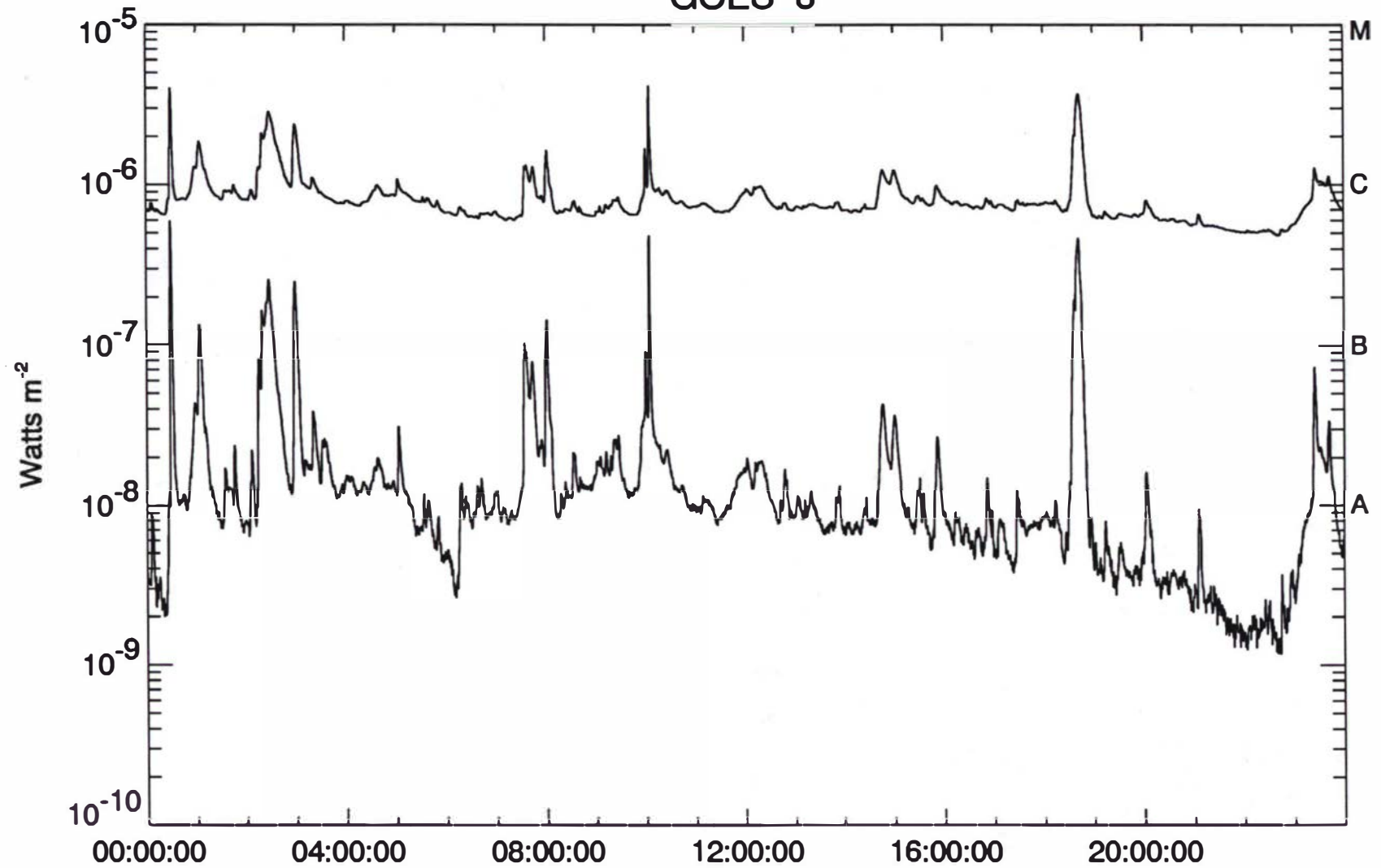


Current Time: 99/10/21, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/17, 0000:00

Plot created: 99/10/21, 1010

Channel

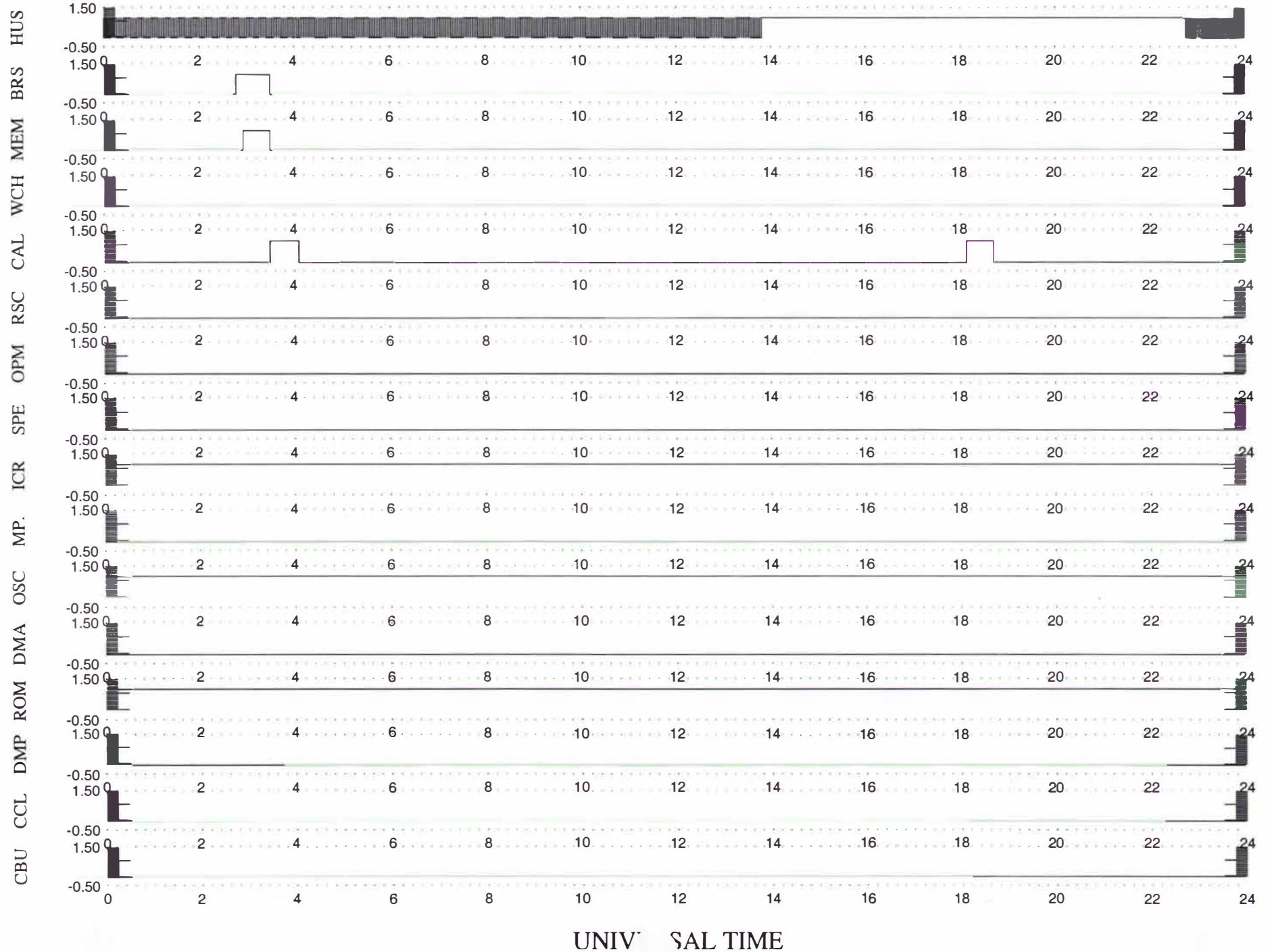
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

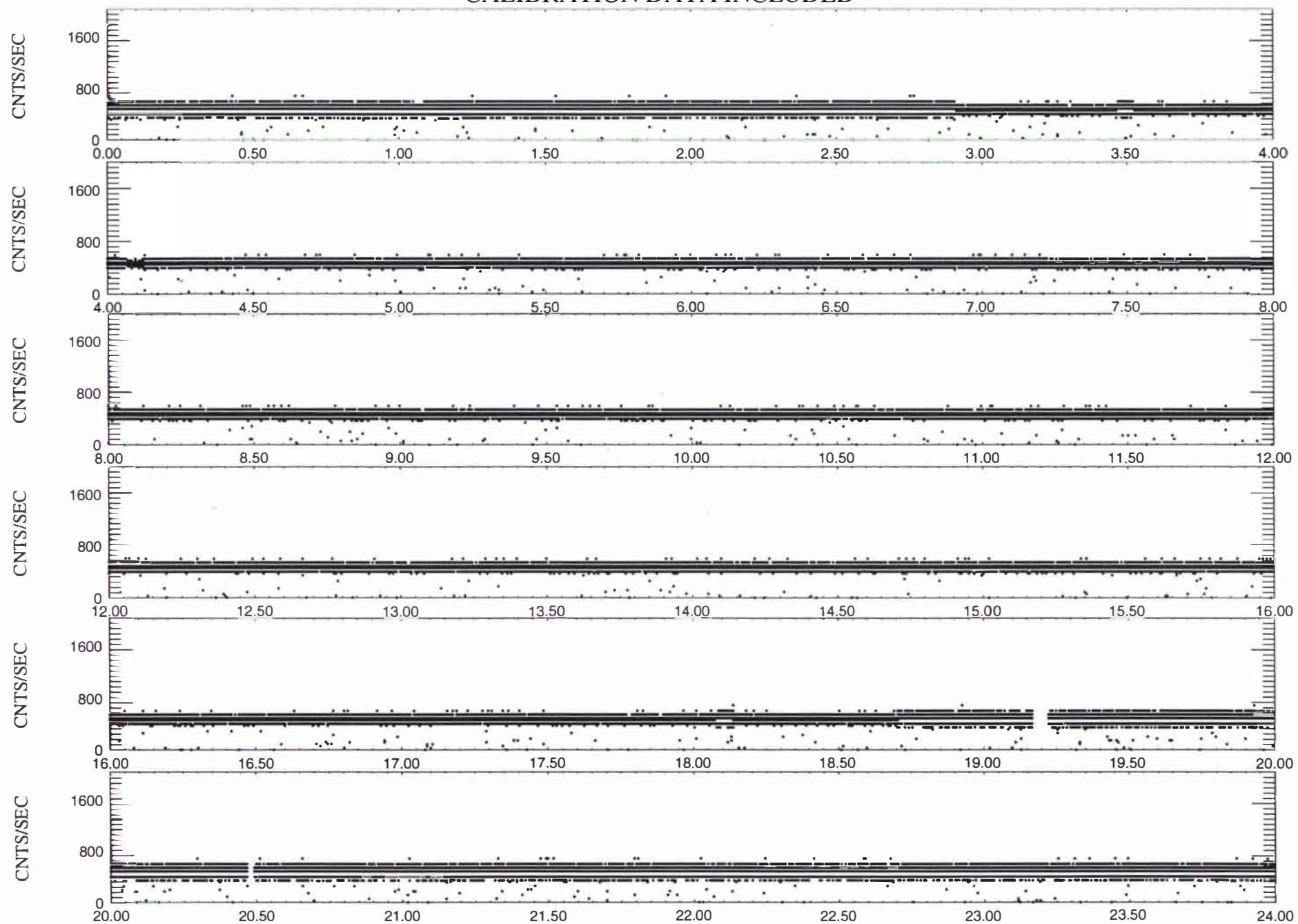
Background not subtracted

Sample average = 10

BURST NUMBER 12

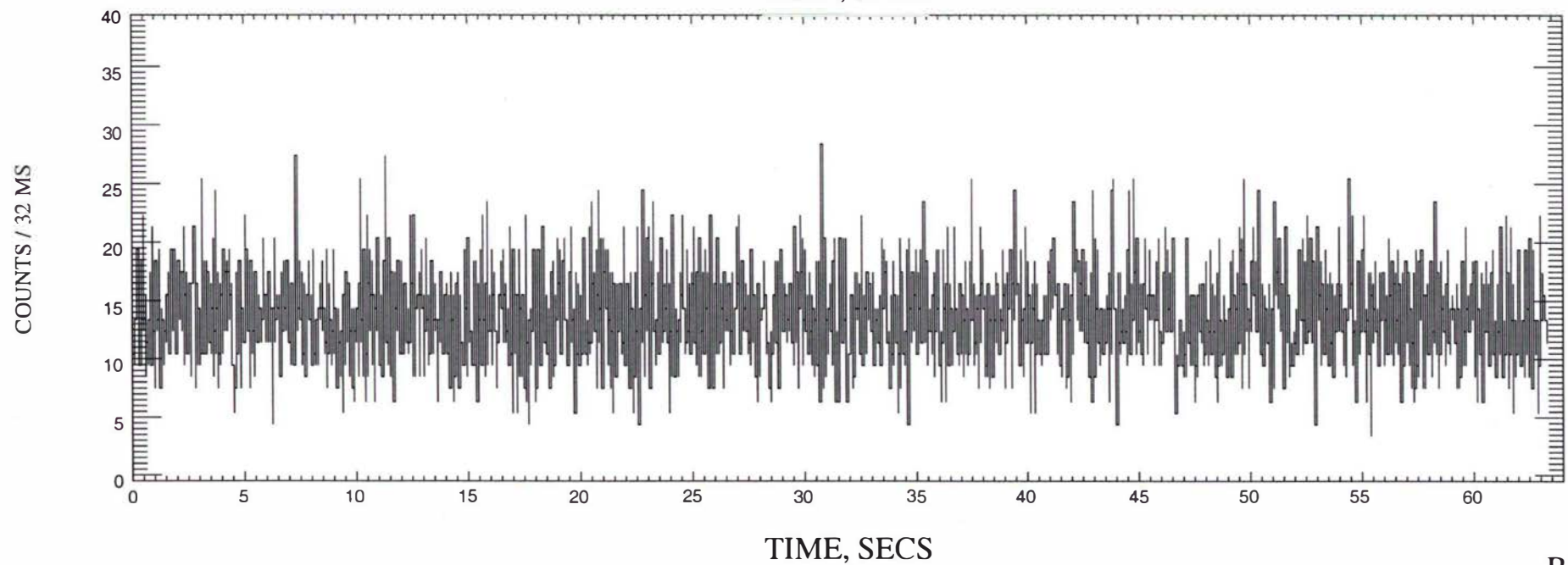
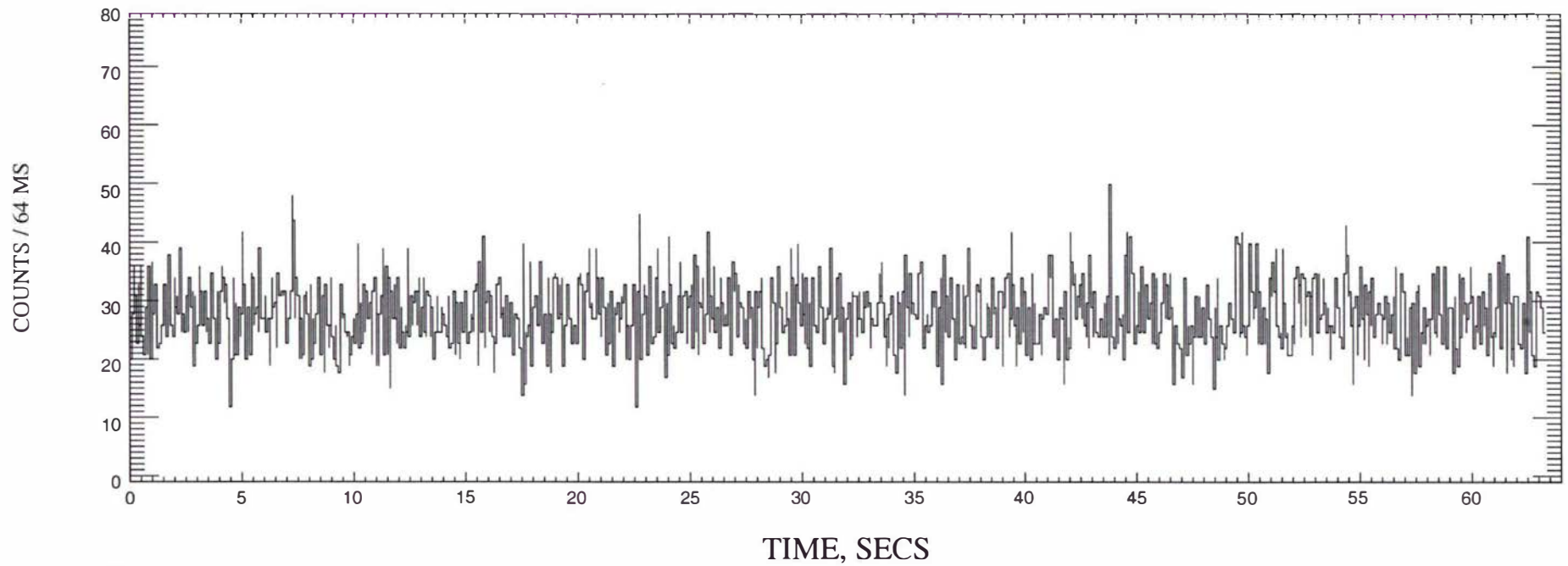


CALIBRATION DATA INCLUDED

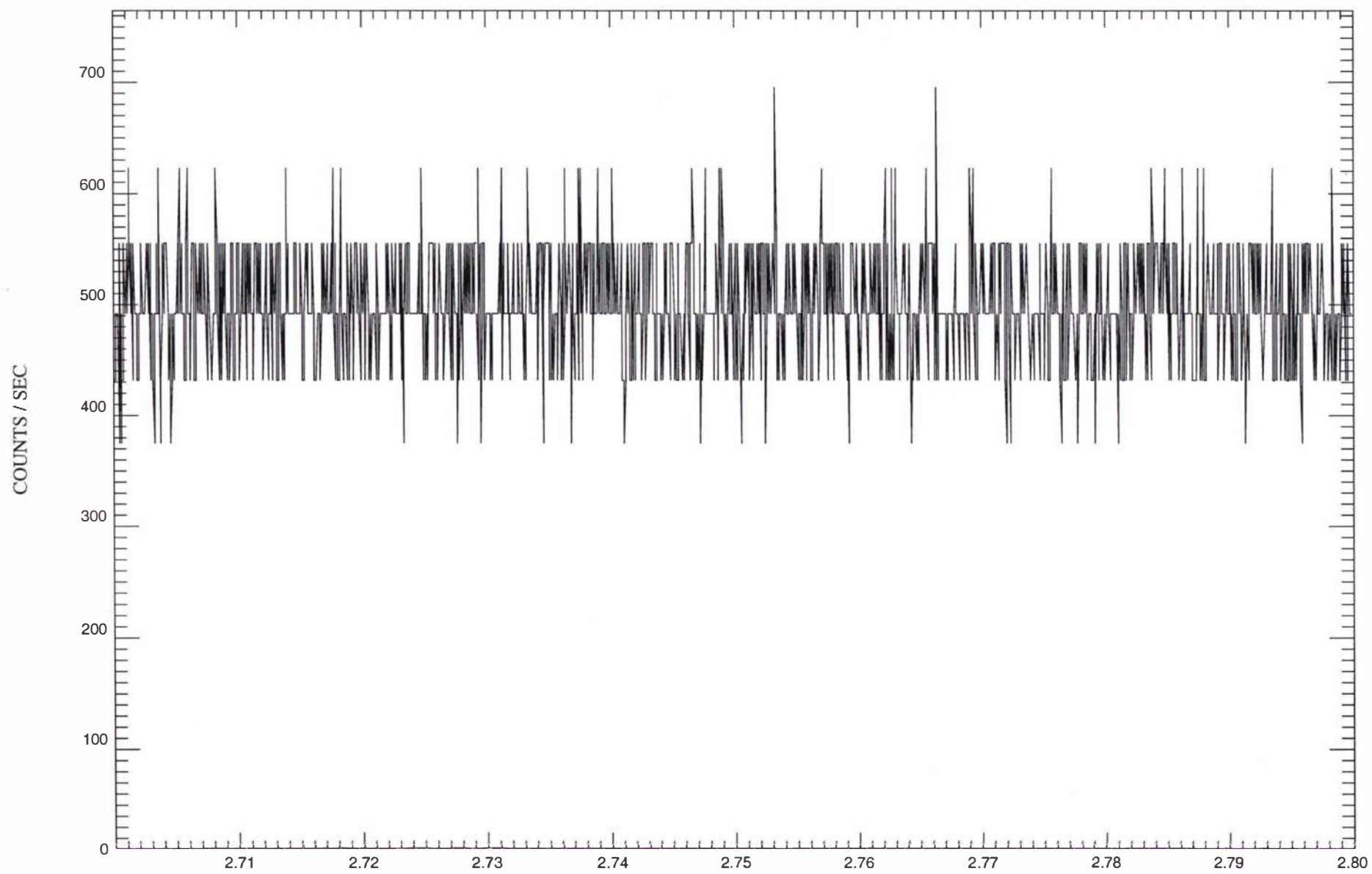


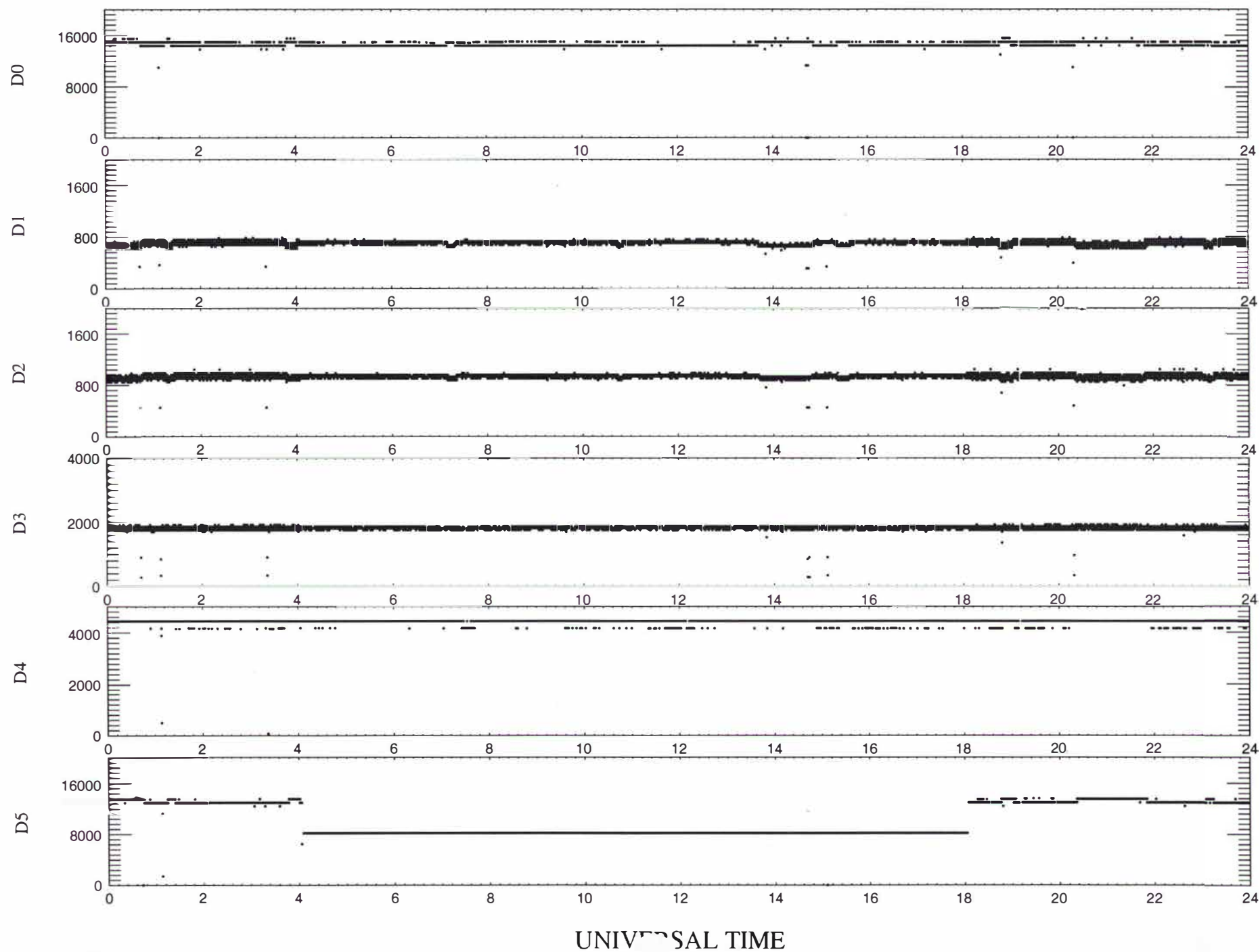
UNIVERSAL TIME

Burst Counter 12 at UT= 2.753420130412 h= 9912.312 s 02:45:12.312



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Oct 25 14:38 PDT 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 25 Oct 1999 16:19:06 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7810

BATSEARCH PROGRAM

*No reliable U detection, but
definite ~ detection*

BATSE BURST # 7810
EVENT OF 1999 OCT 18 DAY OF YEAR=291
EVENT CROSSING TIME AT BATSE : 68561. S. OR 19:02:41.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 224.000 -4.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/10/ 99 IS:
RA= 162.265 DEC= -19.623 DIST= 5.153 AU
BATSE-ULYSSES DISTANCE = 770850047. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=117.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1204.36 SECS.
CROSSING TIME AT ULYSSES IS 67357. S. OR 18:42:36 +/- 426.13 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/10/ 99 IS:
RA= 270.751 DEC= -25.200 DIST= 1.447 AU
MARS-BATSE DISTANCE = 216467376. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.40 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -468.00 SECS.
CROSSING TIME AT MARS IS 68093. S. OR 18:54:53 +/- 88.36 SECONDS

BATSE BURST TRIGGER

NO.: 7810

TIME: TJD=1469 SECONDS=68561

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=69.7 AZIMUTH=4.6 ERROR=1.5 DEGREES

COMMENTS:

GRB. FAST RISE, STRUCTURED DECAY. DURATION APPROX. = 90 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7810	991018	11469	68561	10000	224	-04	90

Date: May 3 2000

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data

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

3. NEAR Data

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

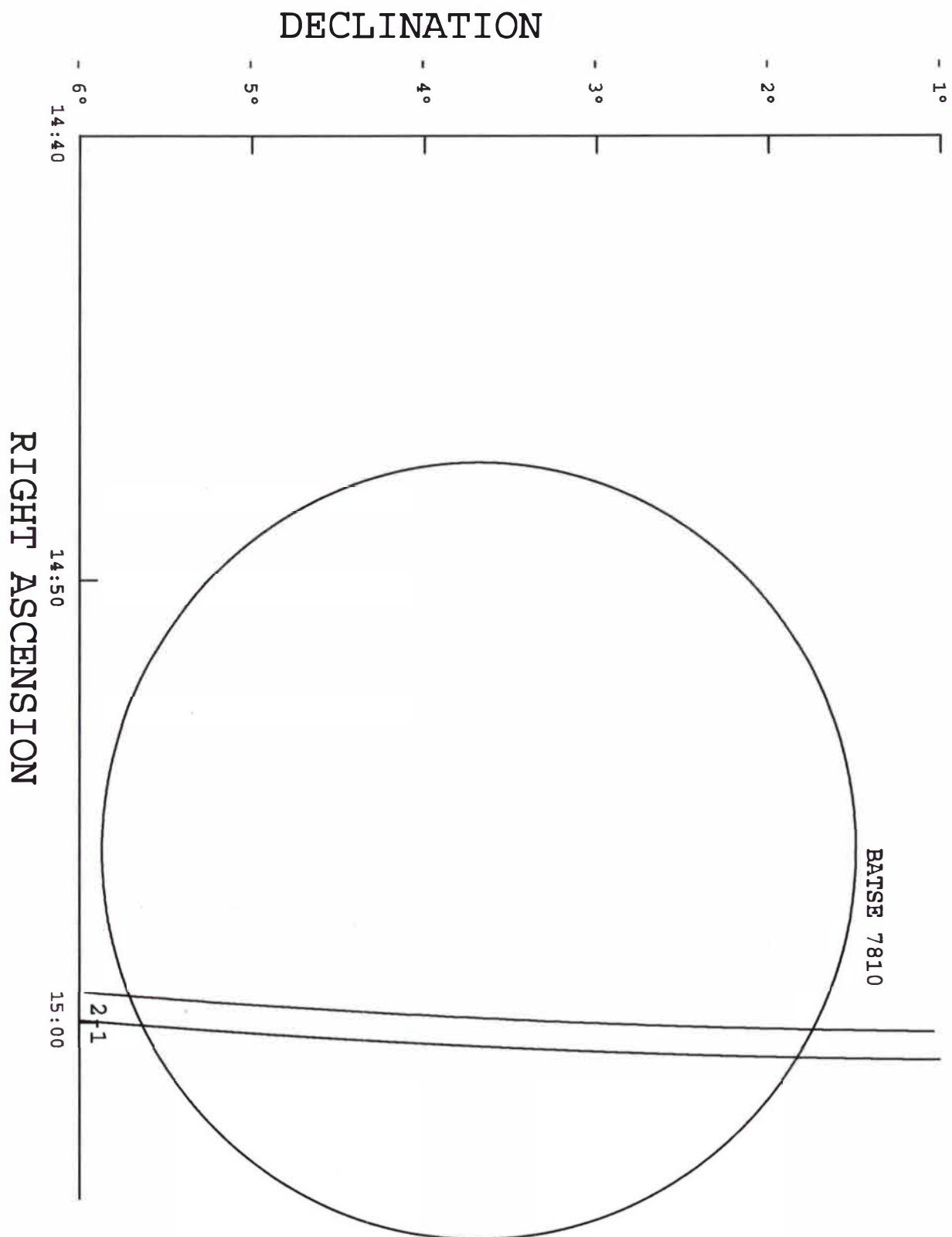
G=GALACTIC EQUATOR

1 BATSE

2 NEAR

EVENT OF OCT 18, 1999 19:02

29/10/99



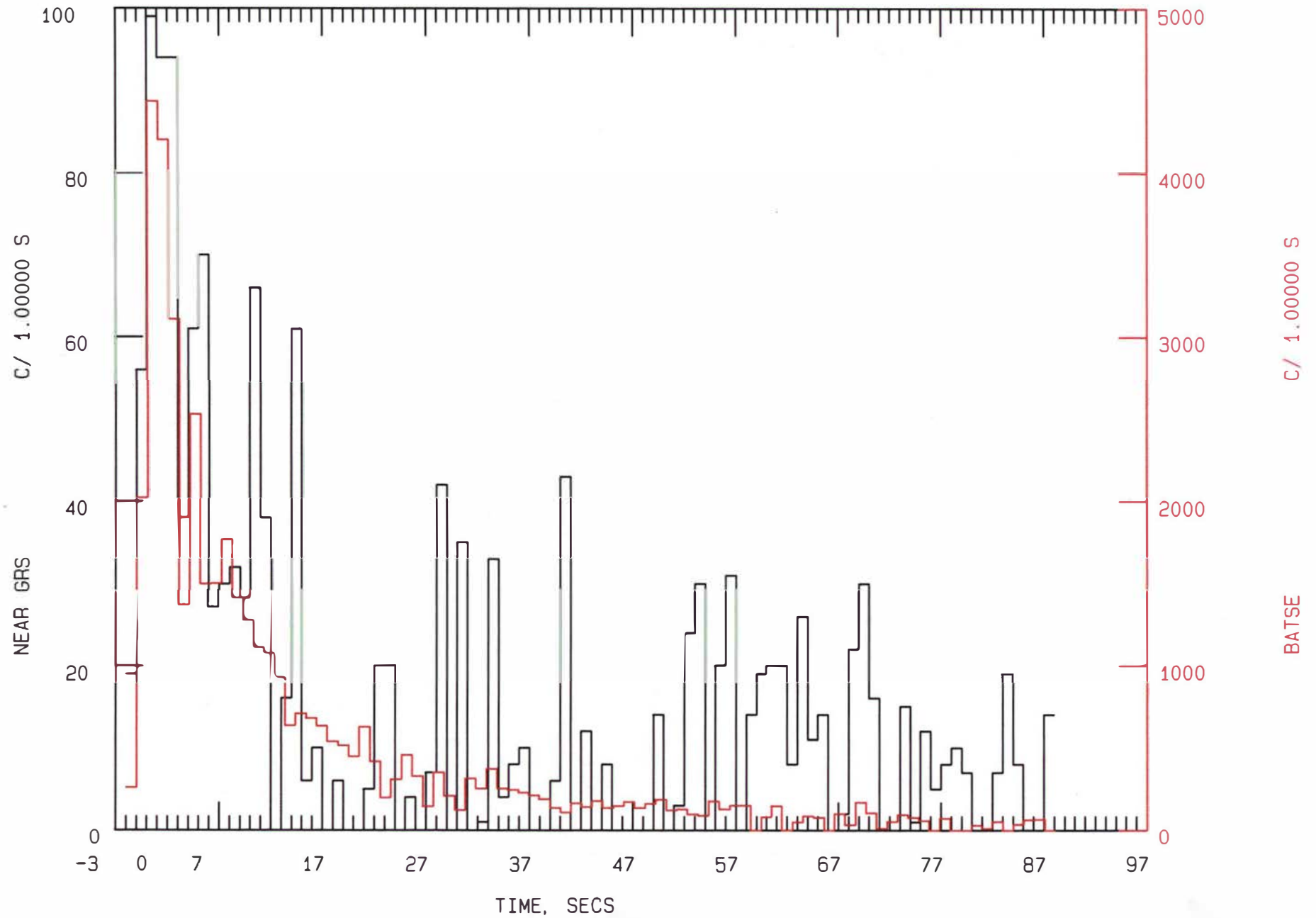
NEAR GRS -BATSE

CORRELATION

18/10/99

67974.903

29/10/99



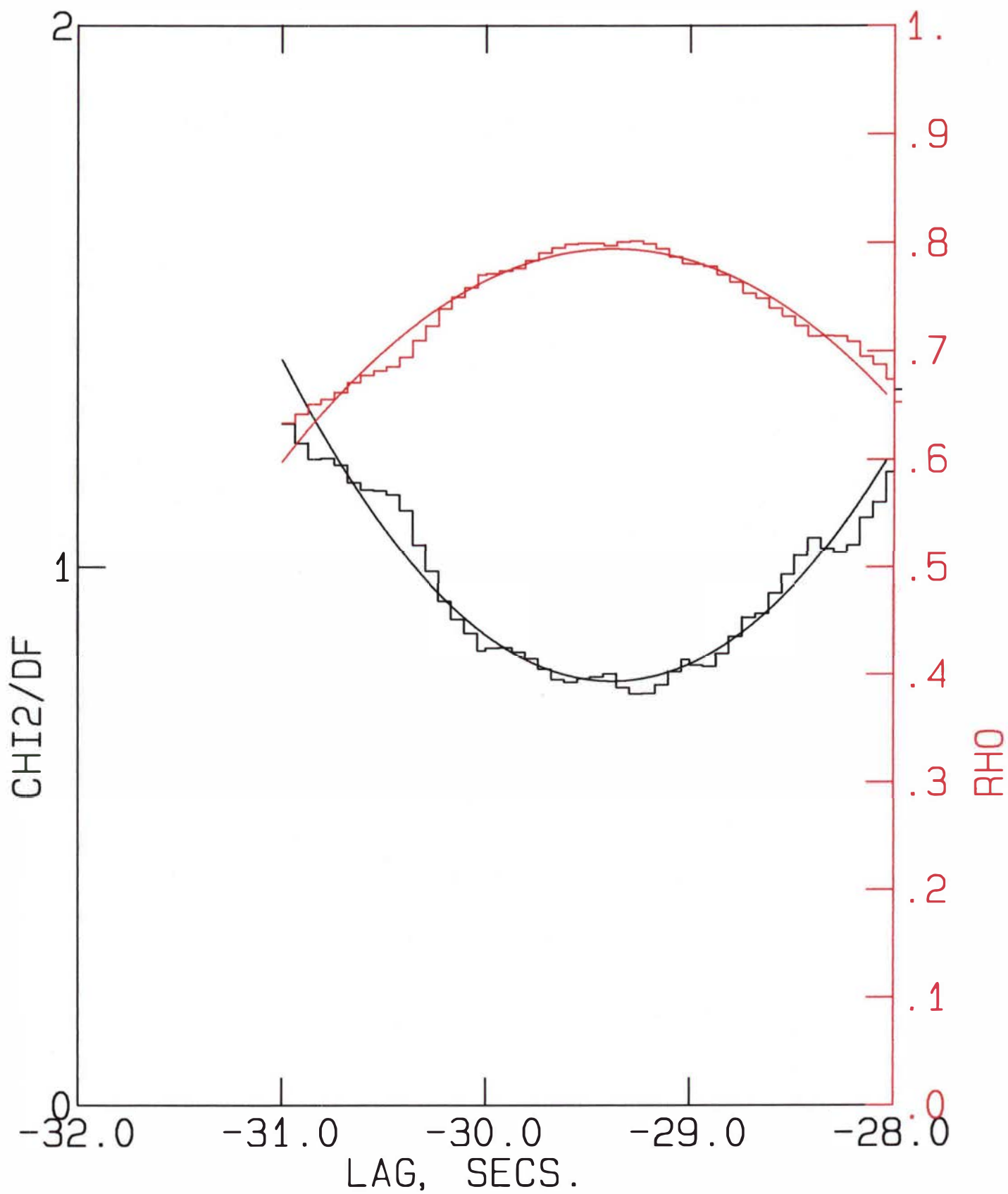
29/10/99

NEAR GRS -BATSE

CORRELATION

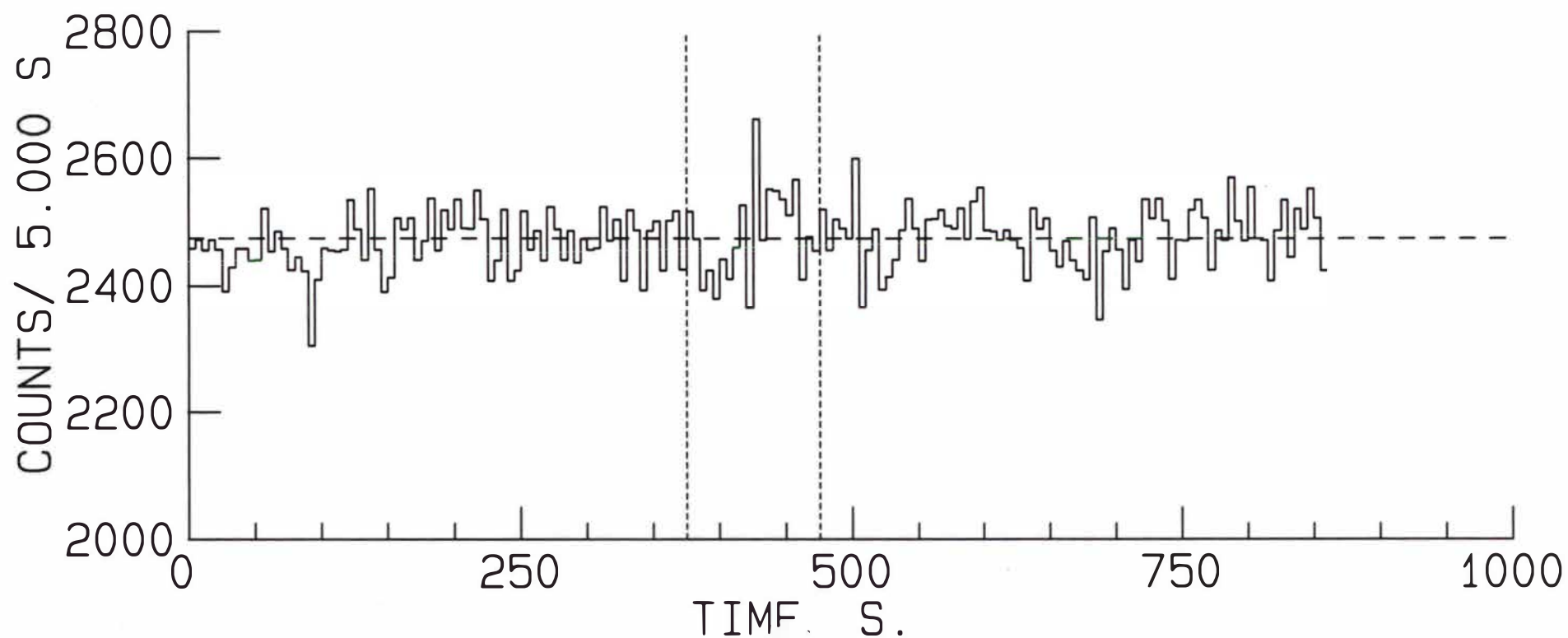
18/10/99

67974.903



ULYSSES RT
18/10/99 66924.016 s
0.250 S INTERVALS REGROUPED BY 20
22- 150 keV

29/10/99



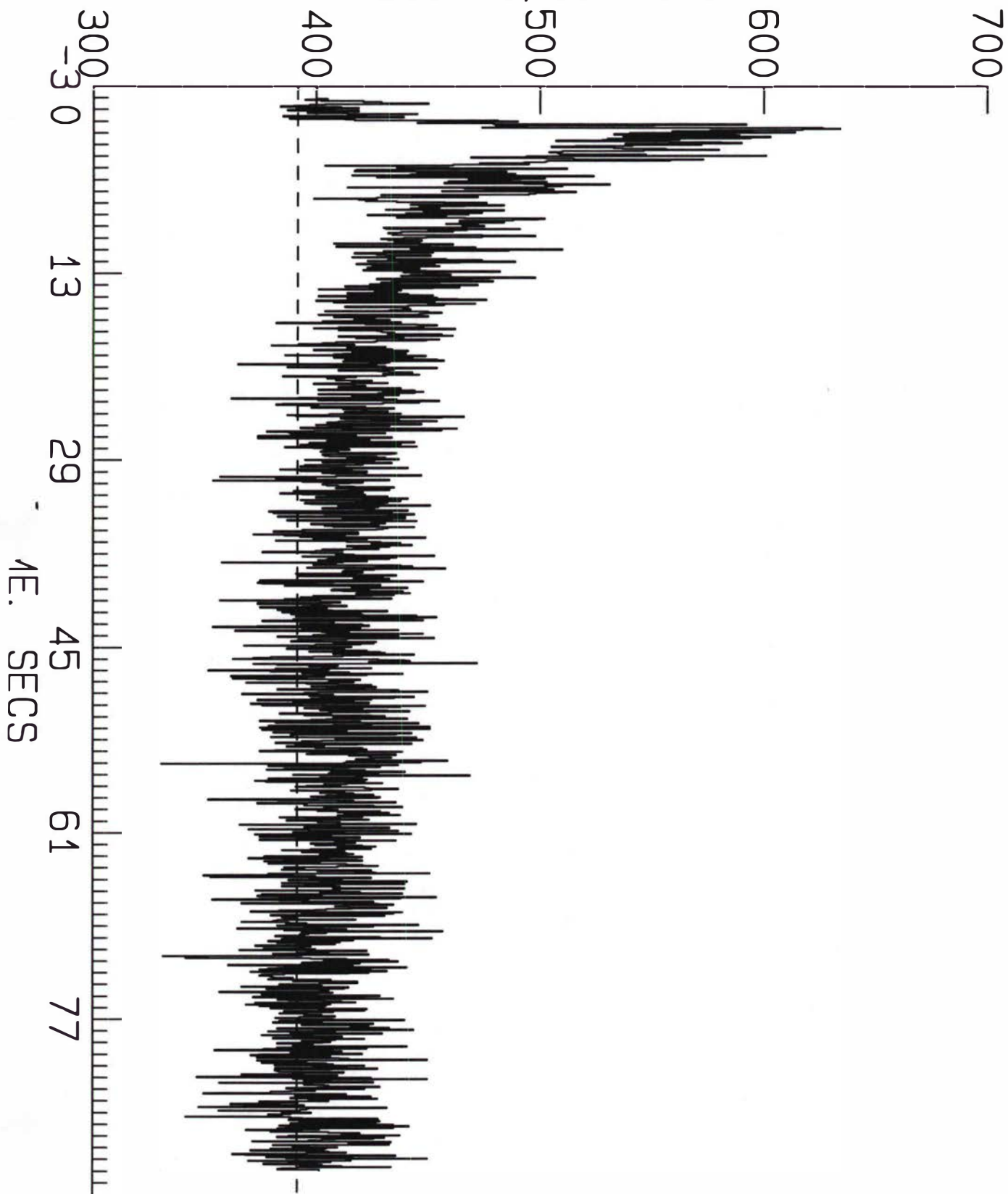
BATSE

18/10/99

68561.529

25- 100 keV

COUNTS/0.064 S



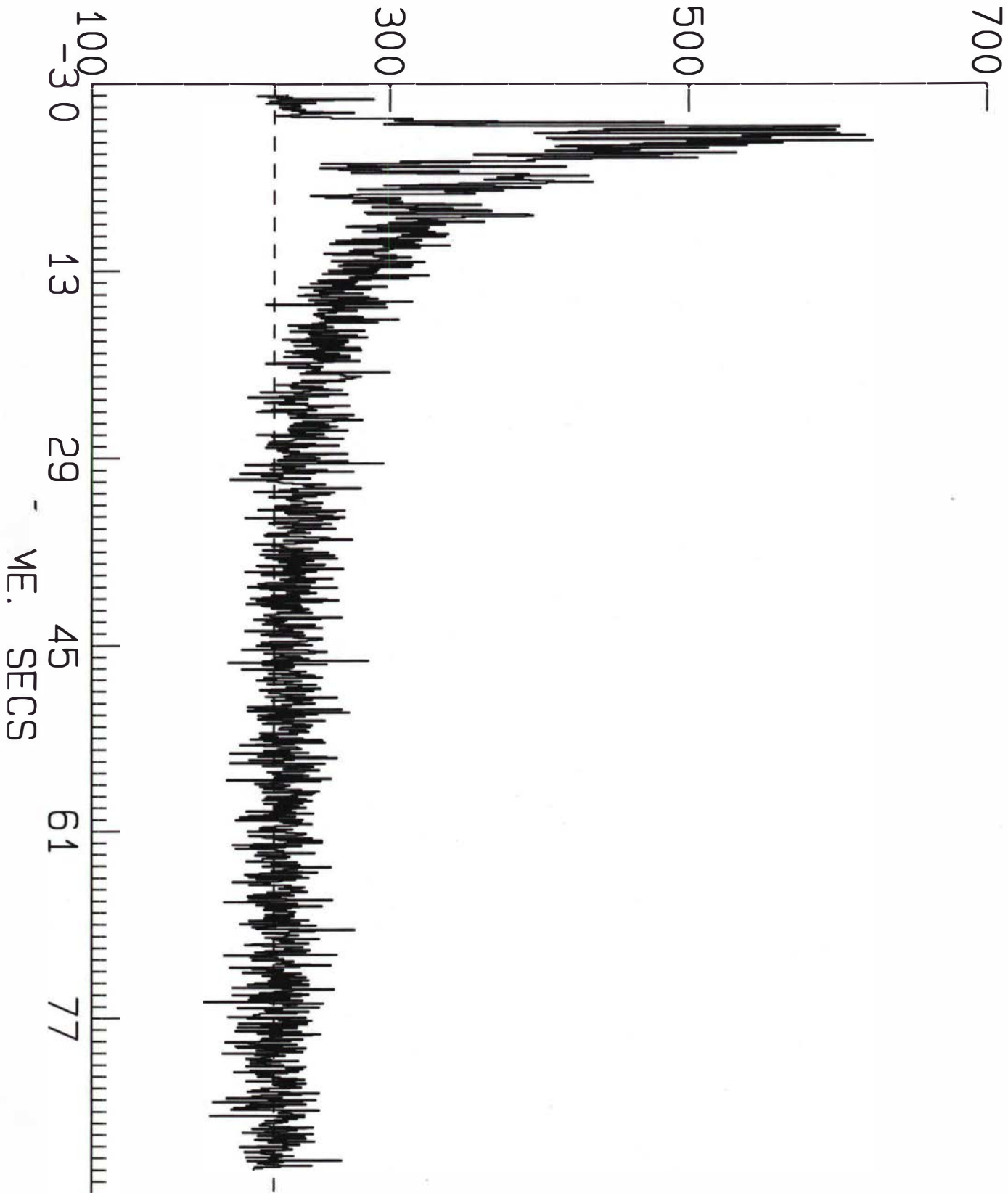
BATSE

18/10/99

68561.529

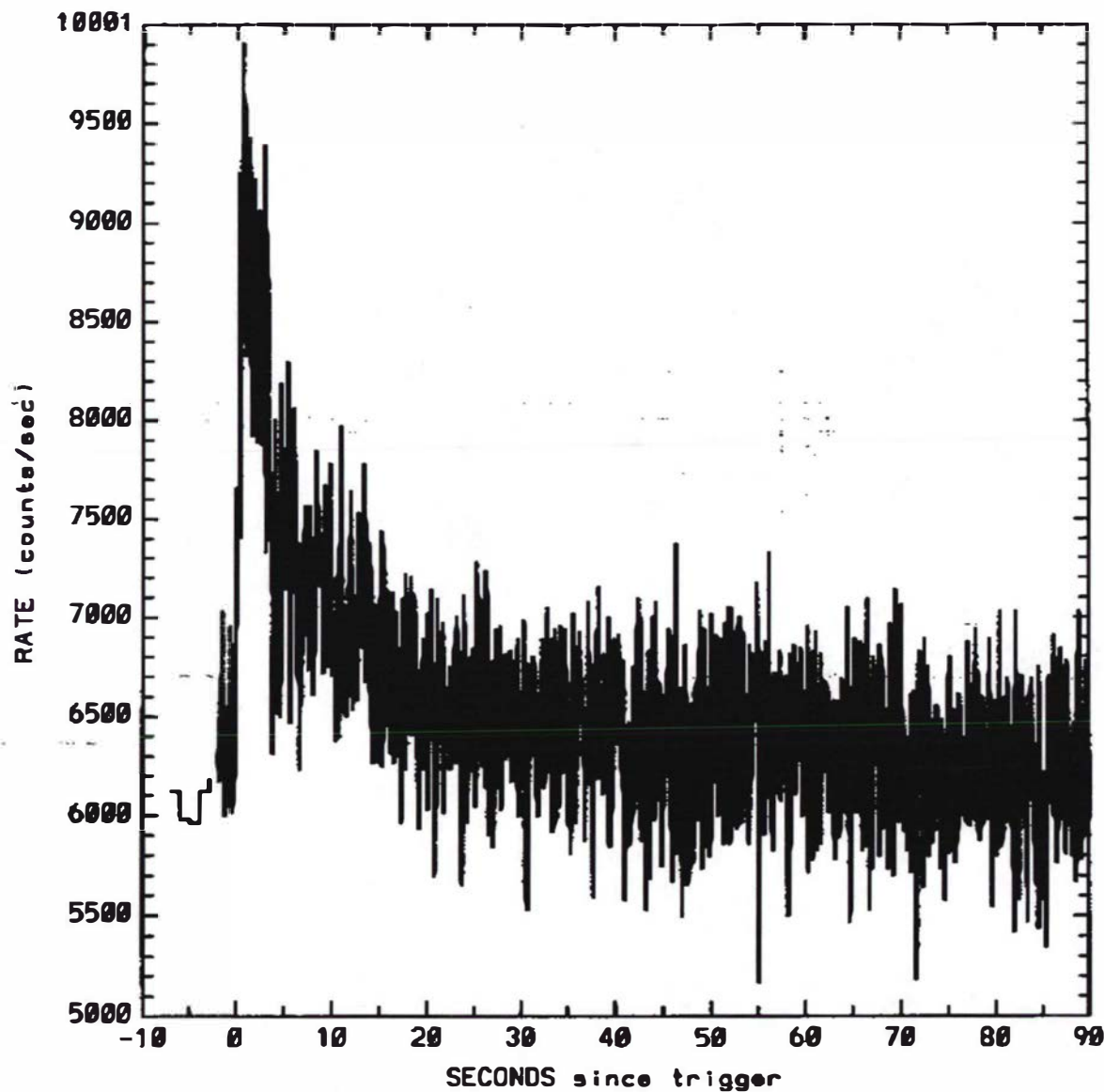
100-1000 keV

COUNTS/0.064 S



29/10/99

DISCSC Data for K. Hurley, No. 7810



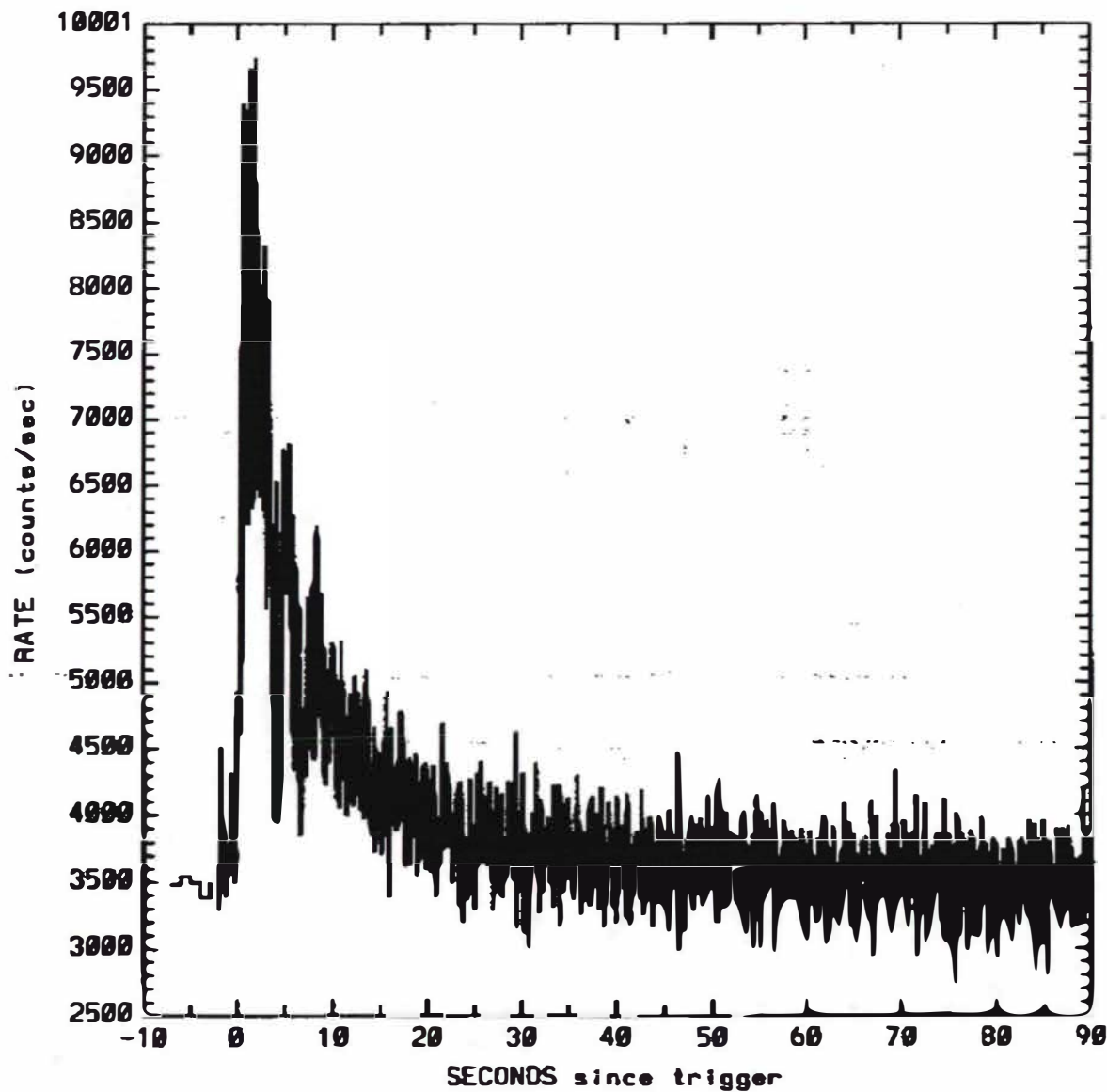
27-OCT-1999 13:18:41

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

Trigger # : 7810

Trigger Time:
11469 / 68561.529Burst Data Type:
DISCSCDeadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 seconds)
Detectors [7..0].
-----2-0
Discriminators:
(1 , 2)
Quality Mask:
80ISP1

DISCSC Data for K. Hurley, No. 7810



27-OCT-1999 13.11.33

Created by MOPS BD
IBurst Display
Version 12.26

Trigger # : 7810

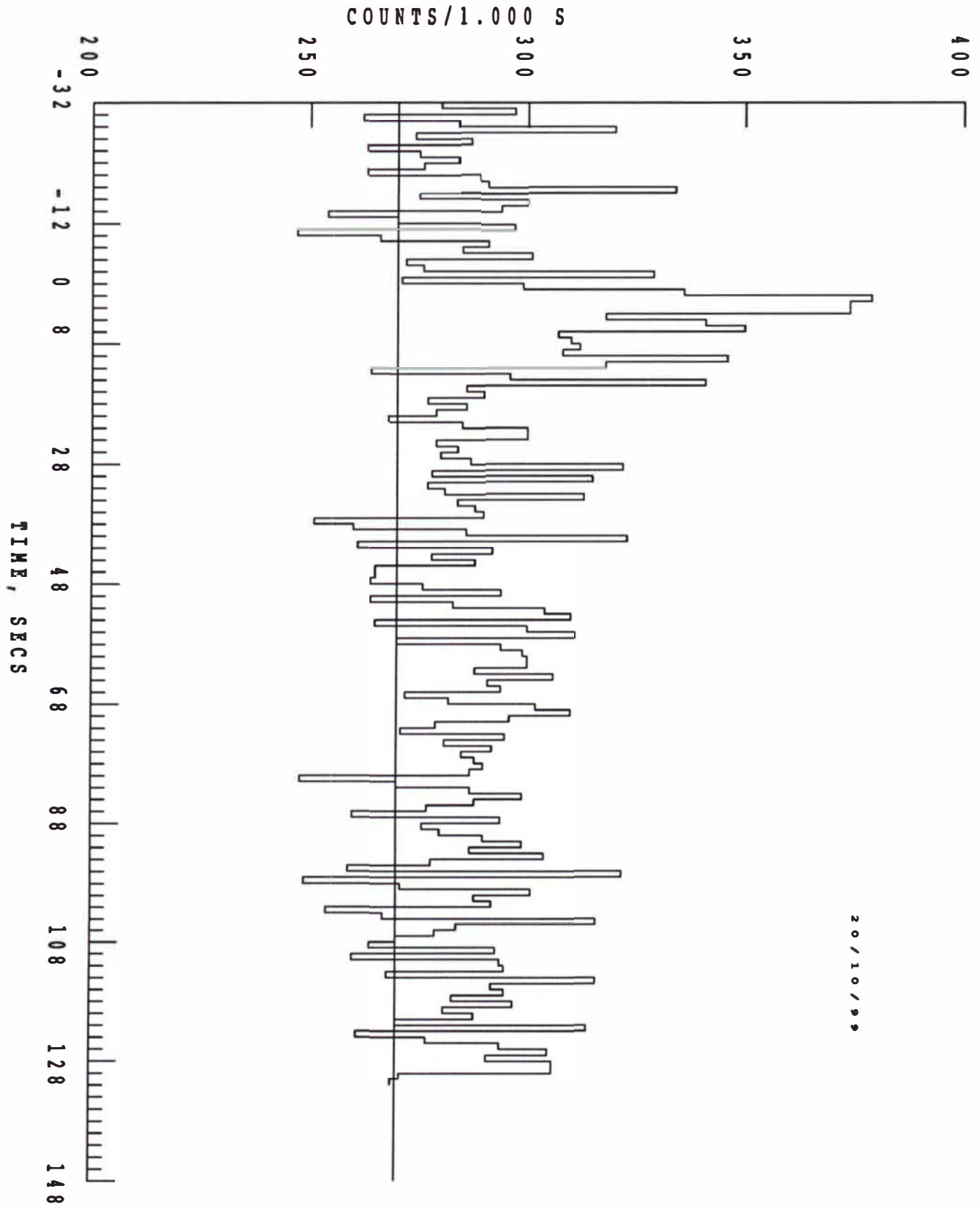
Trigger Time:
11469 / 68561.529Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors [7..8].
-----2-8Discriminators:
(3 . 4)Quality Mask:
BOTSP1

NEAR

18/10/99

67974.903

100-1000 keV



KNEAR GRS 19991018 67974

ULYSSES RT

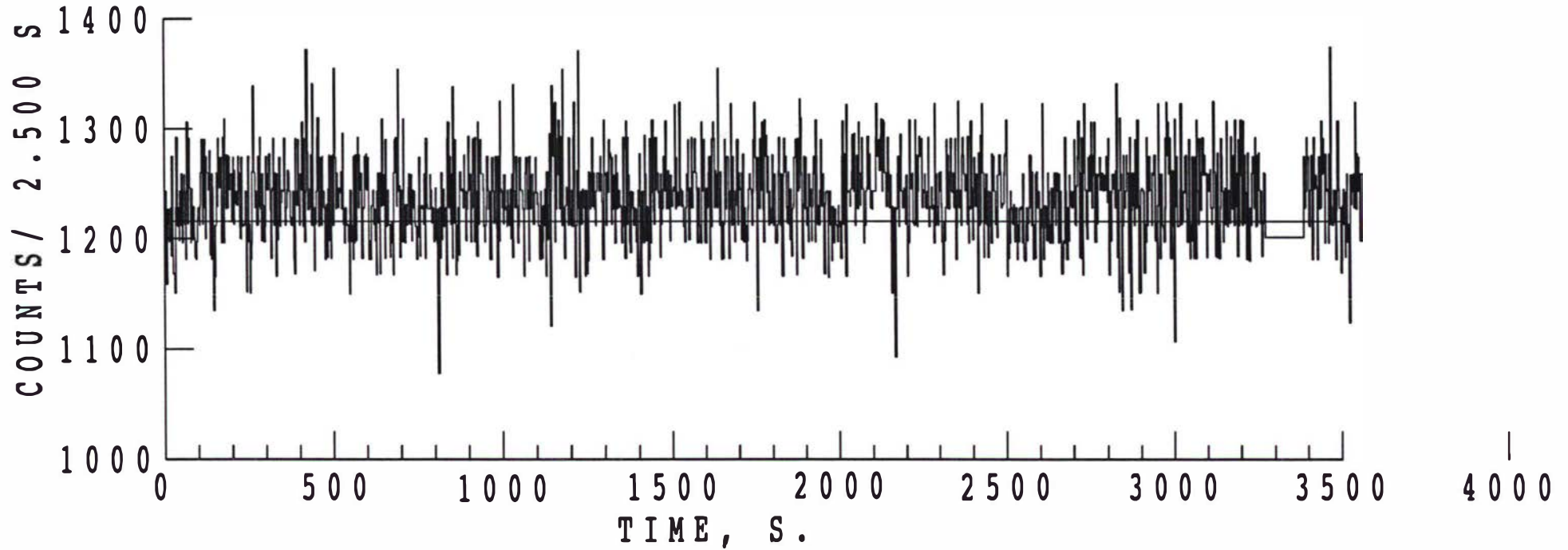
20 / 10 / 99

18 / 10 / 99 66204.008 s

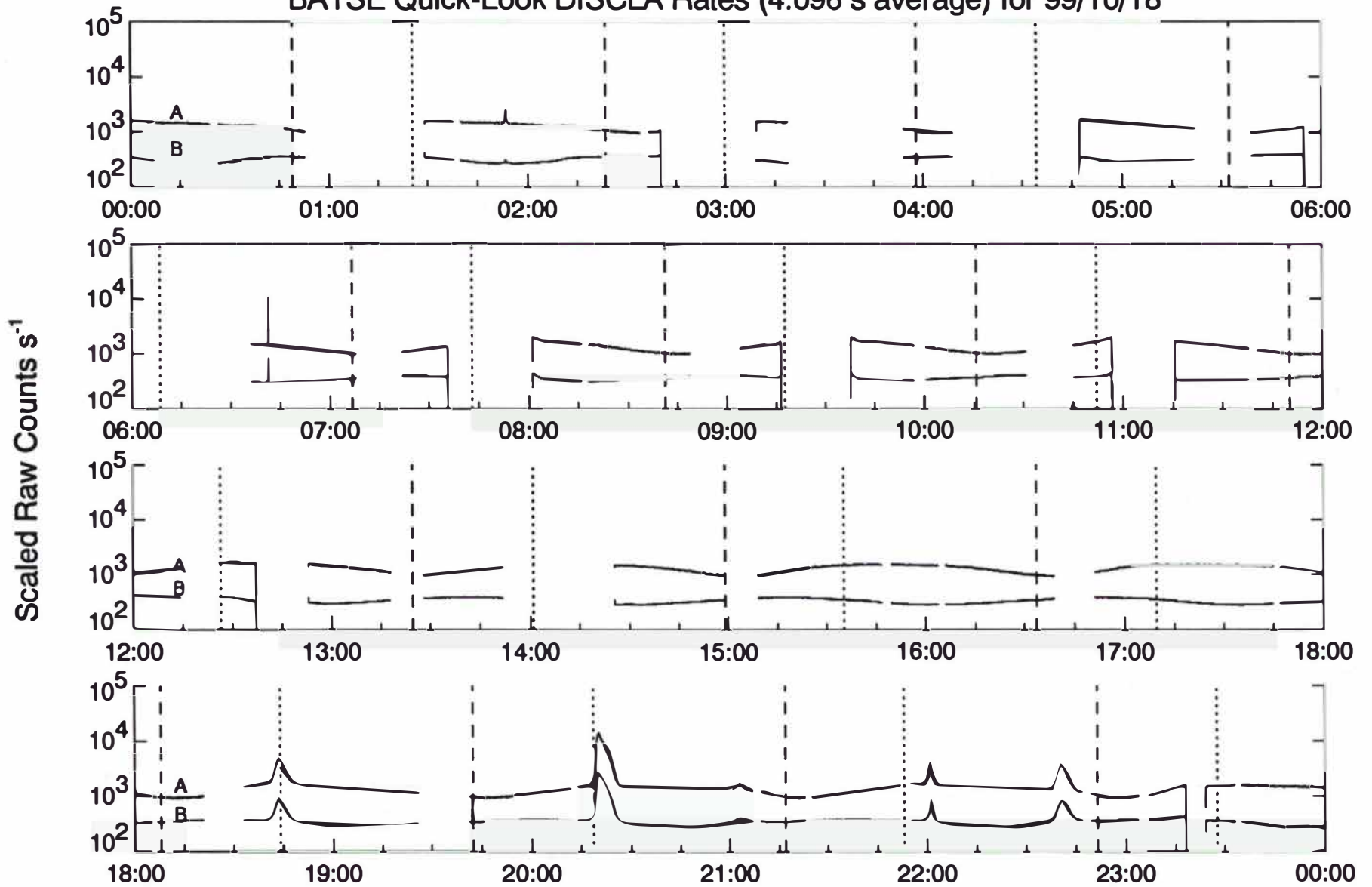
0.250 S INTERVALS REGROUPED BY 10

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/18

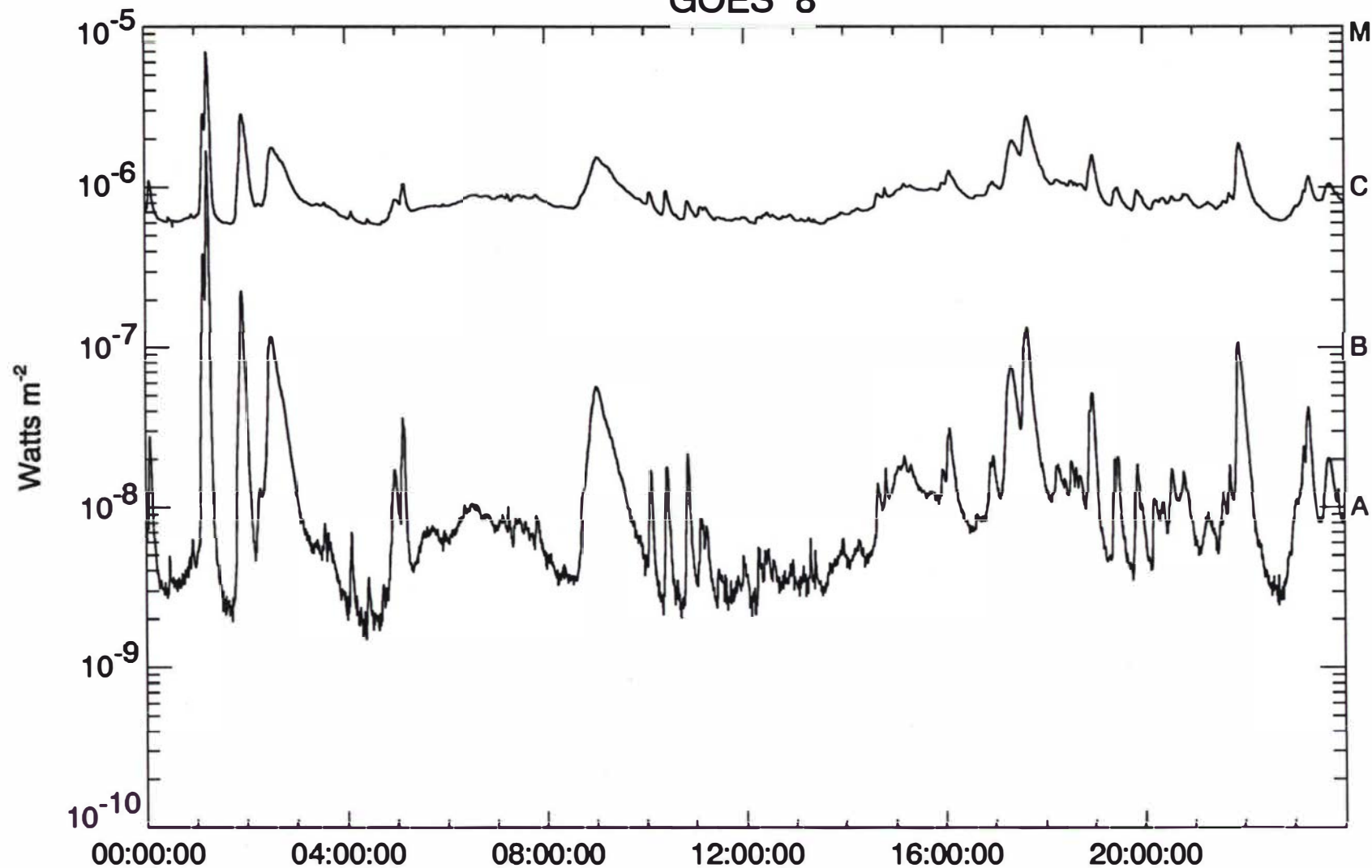


Current Time: 99/10/22, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/18, 0000:00

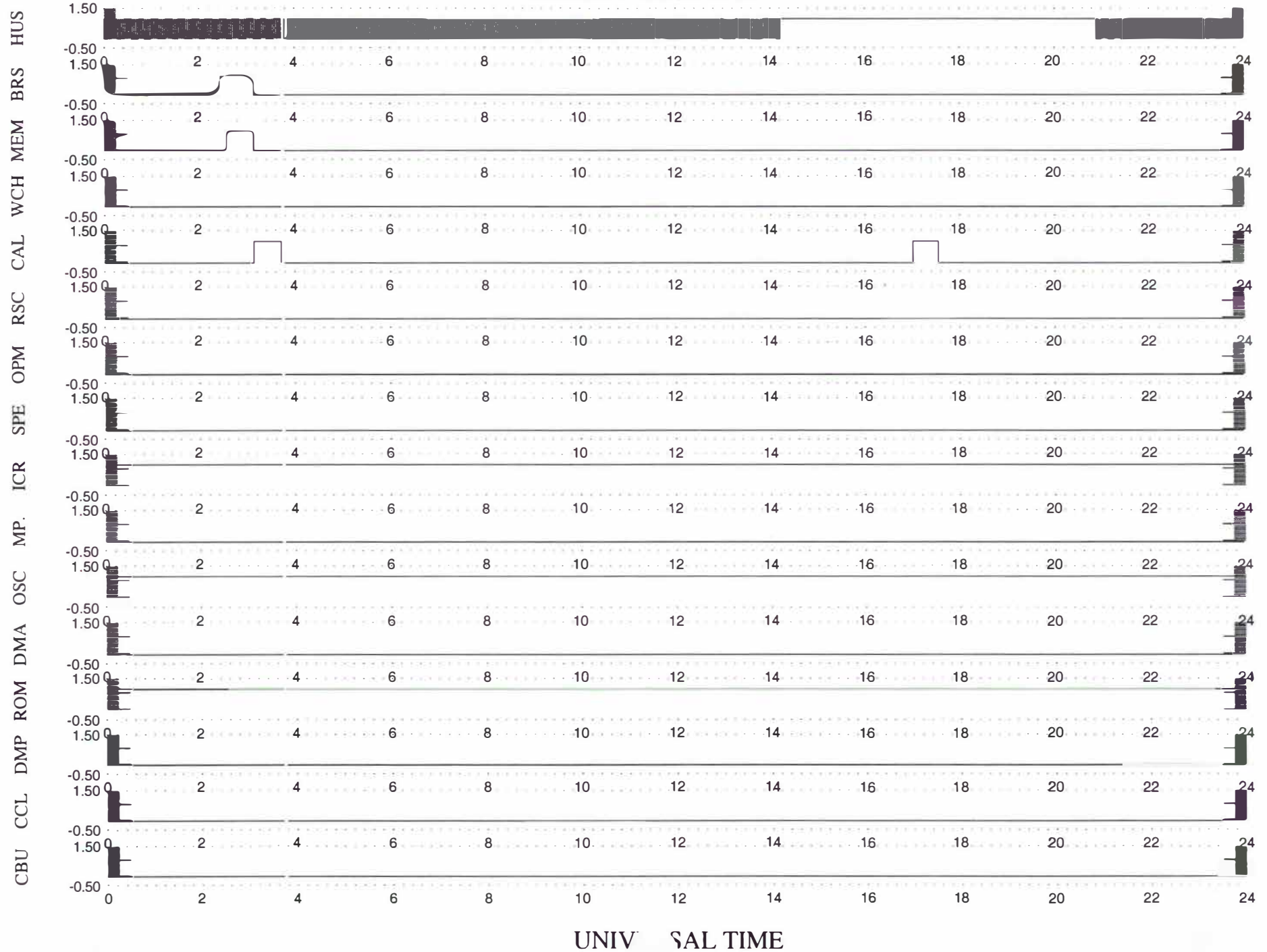
Plot created: 99/10/22, 1010

Channel

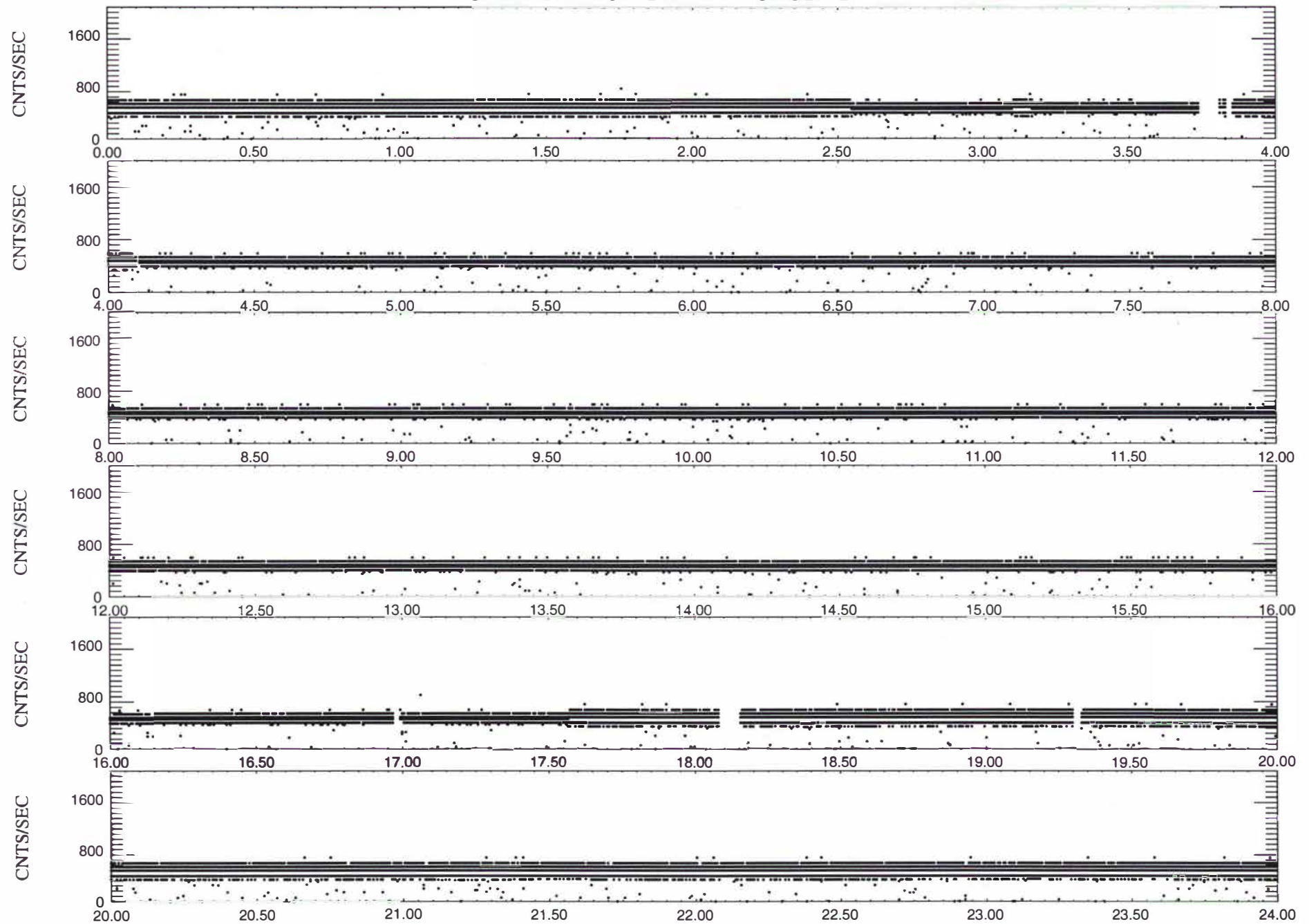
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

BURST NUMBER 13

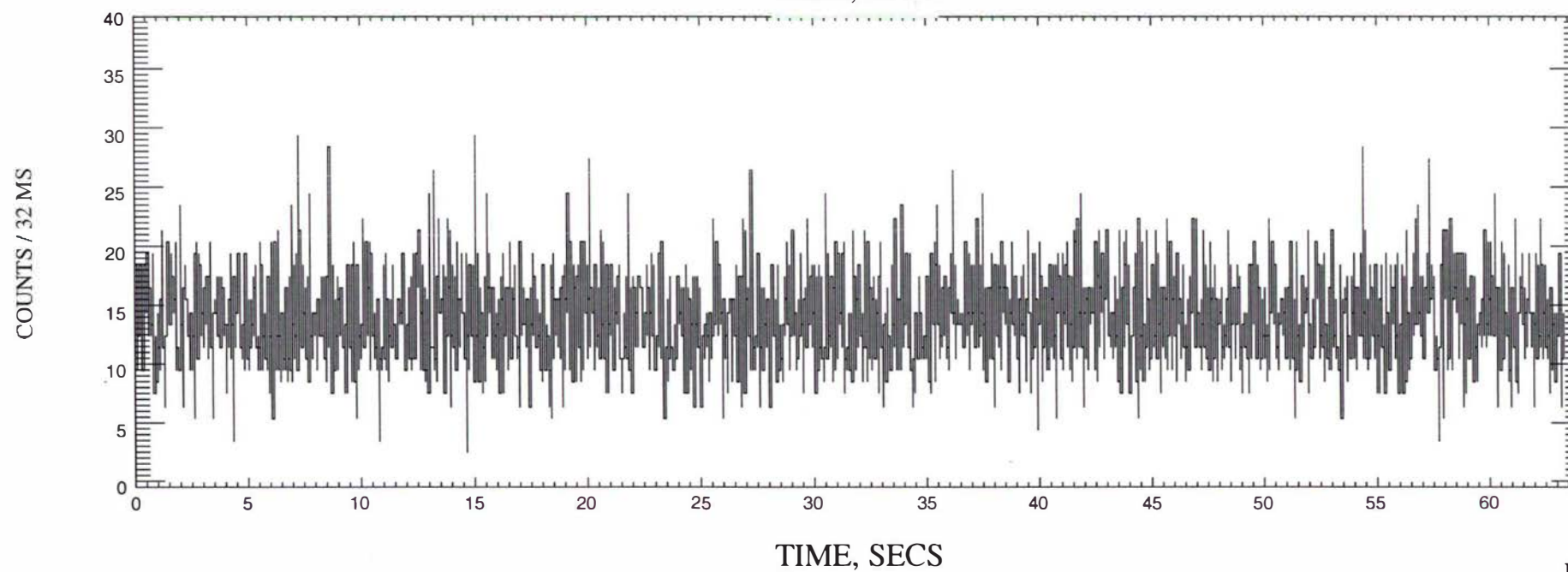
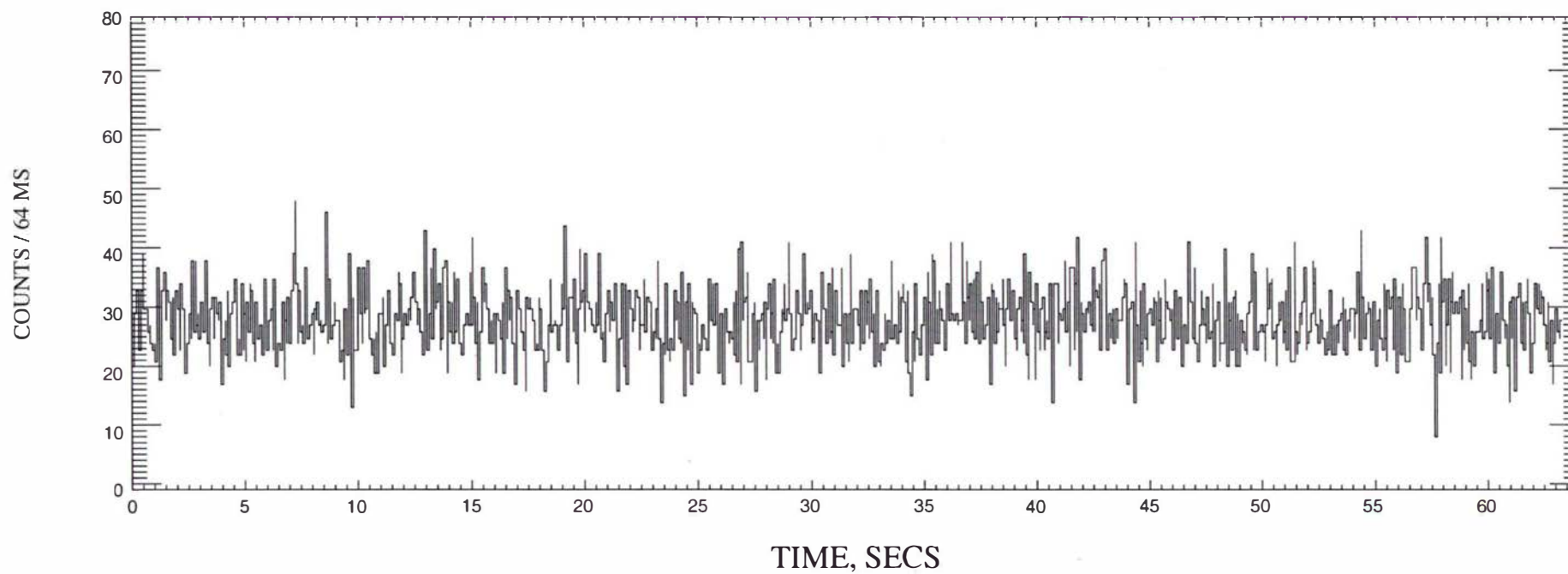


CALIBRATION DATA INCLUDED

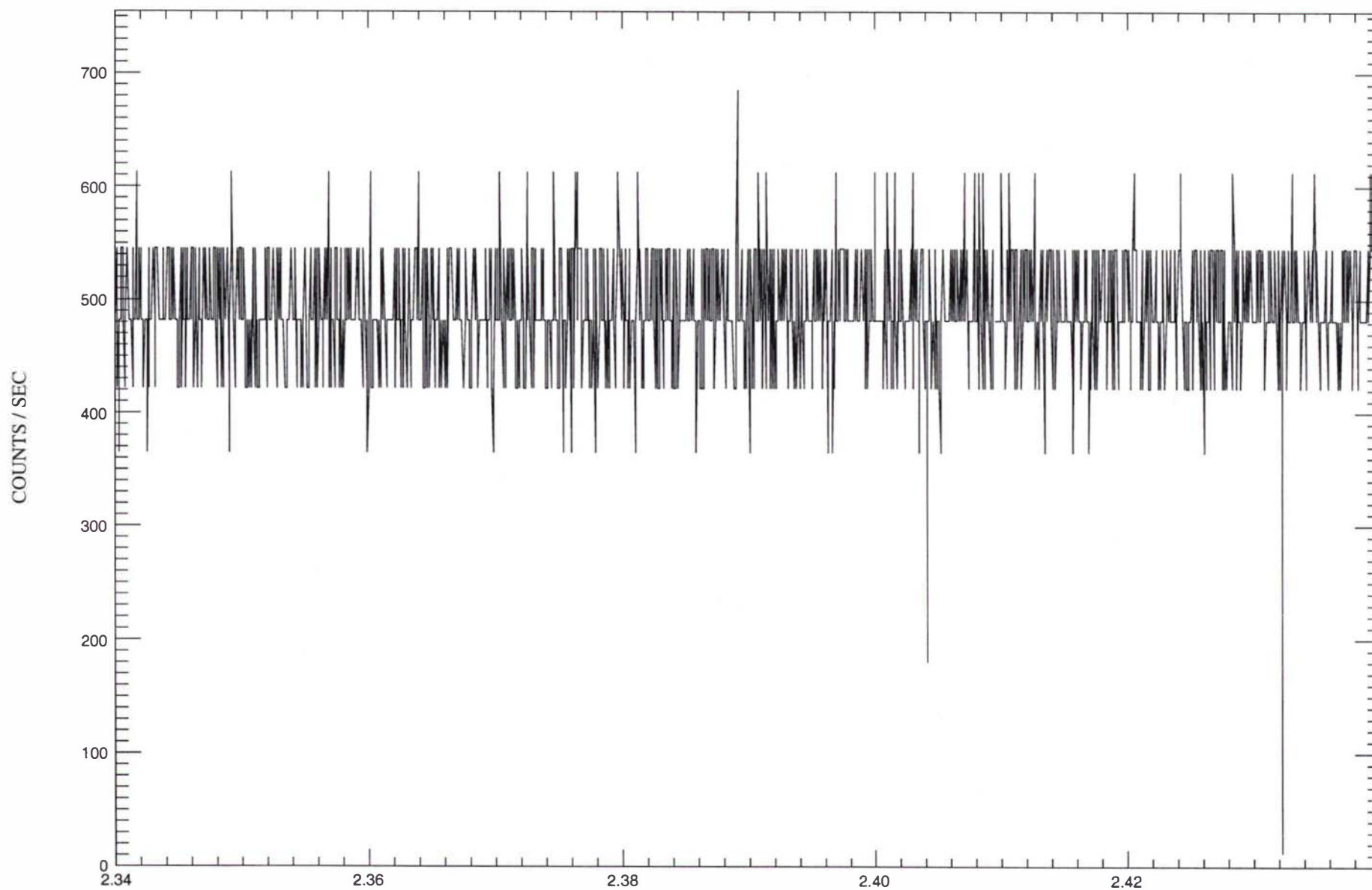


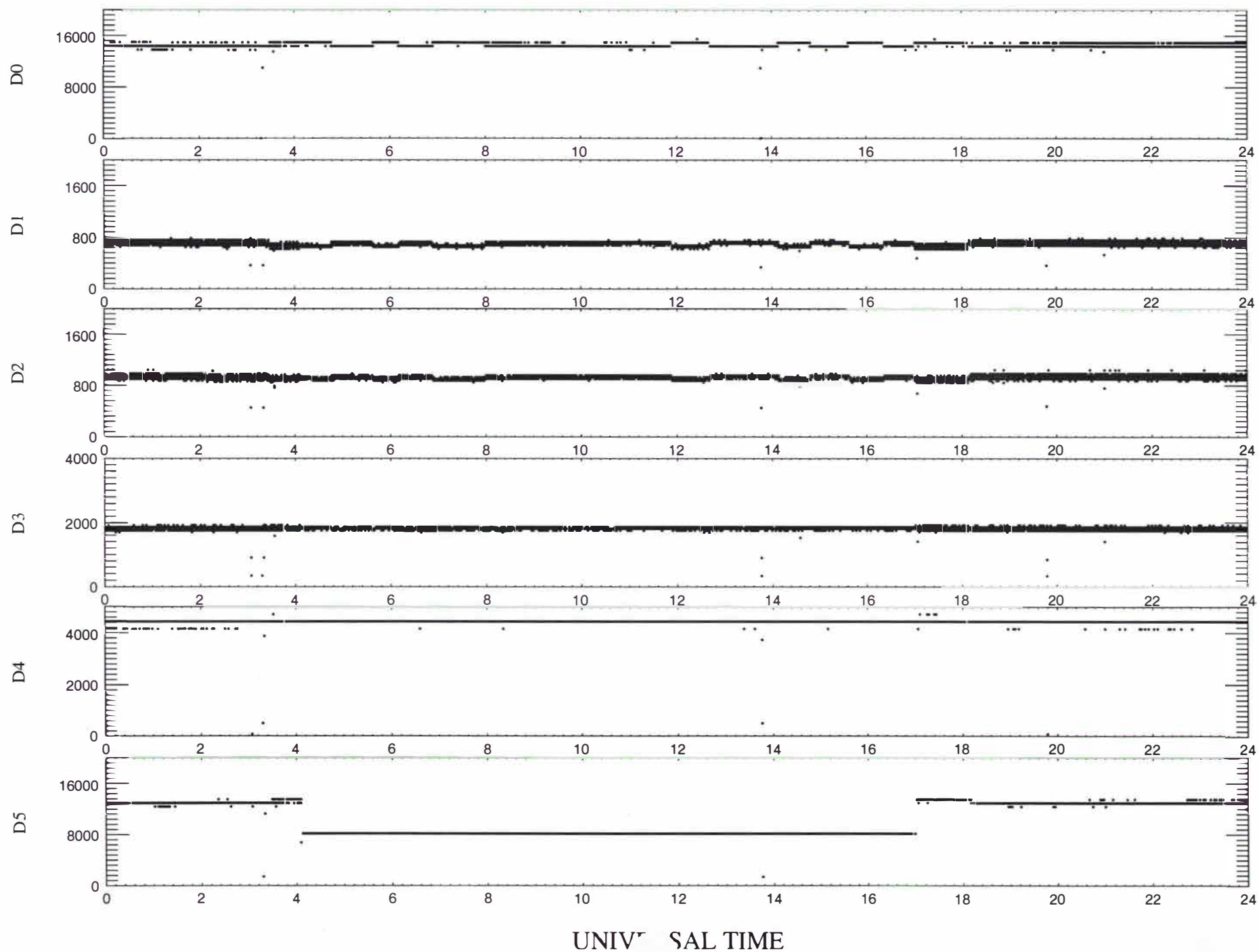
UNIVERSAL TIME

Burst Counter 13 at UT= 2.389179034763 h= 8601.045 s 02:23:21.045



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Mon Oct 25 14:38 PDT 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 25 Oct 1999 16:20:29 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7811

BATSEARCH PROGRAM

BATSE BURST # 7811
EVENT OF 1999 OCT 19 DAY OF YEAR=292
EVENT CROSSING TIME AT BATSE : 464. S. OR 00:07:44.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 258.000 40.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/10/ 99 IS:
RA= 162.293 DEC= -19.659 DIST= 5.150 AU
BATSE-ULYSSES DISTANCE = 770445721. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.26 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 740.11 SECS.
CROSSING TIME AT ULYSSES IS 1204. S. OR 00:20:04 +/- 488.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/10/ 99 IS:
RA= 271.550 DEC= -25.190 DIST= 1.452 AU
MARS-BATSE DISTANCE = 217264304. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=113.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -290.11 SECS.
CROSSING TIME AT MARS IS 174. S. OR 00:02:53 +/- 110.89 SECONDS

BATSE BURST TRIGGER

NO.: 7811

TIME: TJD=1470 SECONDS=464

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=31.5 AZIMUTH=312.5 ERROR=12.1 DEGREES

COMMENTS:

GRB. WEAK SINGLE SPIKE. DURATION APPROX. = 0.04 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7811	991019	11470	00464	3000	258	+40	.04

BATSE BURST# 7811

ULYSSES RT

25 / 10 / 99

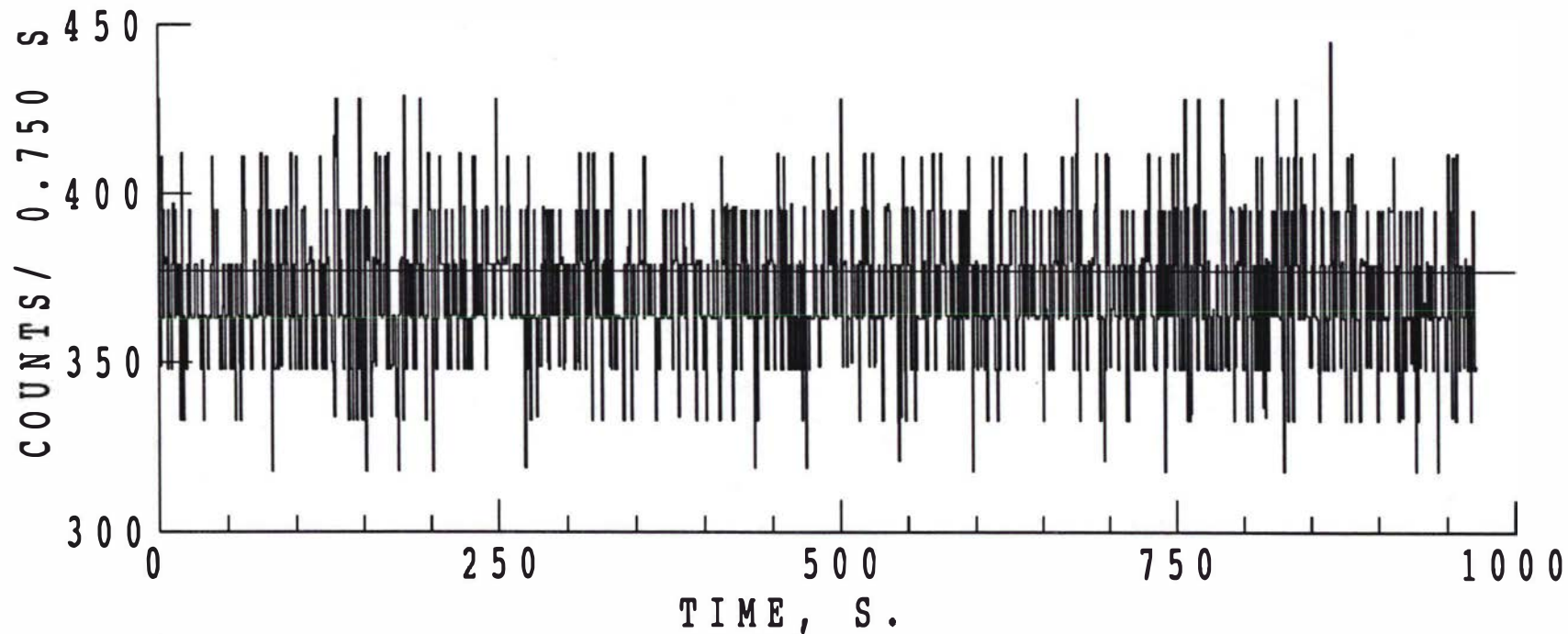
19 / 10 / 99 720.220 s

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 RICHARDSON@fender.msfc.nasa.gov Mon Oct 25 14:38 PDT 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 25 Oct 1999 16:22:03 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7812
Content-Length: 2559
Content-Type: text
X-Lines: 48
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7812
EVENT OF 1999 OCT 19 DAY OF YEAR=292
EVENT CROSSING TIME AT BATSE : 71204. S. OR 19:46:44.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 9.000 -1.000
BATSE PEAK COUNTING RATE: 4600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/10/ 99 IS:
RA= 162.398 DEC= -19.798 DIST= 5.140 AU
BATSE-ULYSSES DISTANCE = 768876355. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 33.36 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2142.15 SECS.
CROSSING TIME AT ULYSSES IS 73346. S. OR 20:22:26 +/- 327.38 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/10/ 99 IS:
RA= 271.550 DEC= -25.190 DIST= 1.452 AU
MARS-BATSE DISTANCE = 217264304. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 79.64 SECS.
CROSSING TIME AT MARS IS 71284. S. OR 19:48:03 +/- 126.27 SECONDS

BATSE BURST TRIGGER

NO.: 7812

TIME: TJD=1470 SECONDS=71204

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=80.0 AZIMUTH=165.1 ERROR=10.9 DEGREES

COMMENTS:

GRB. WEAK SINGLE SPIKE. DURATION APPROX. = 0.065 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7812	991019	11470	71204	4600	009	-01	.065

BATSE BURST# 7812

ULYSSES RT

25 / 10 / 99

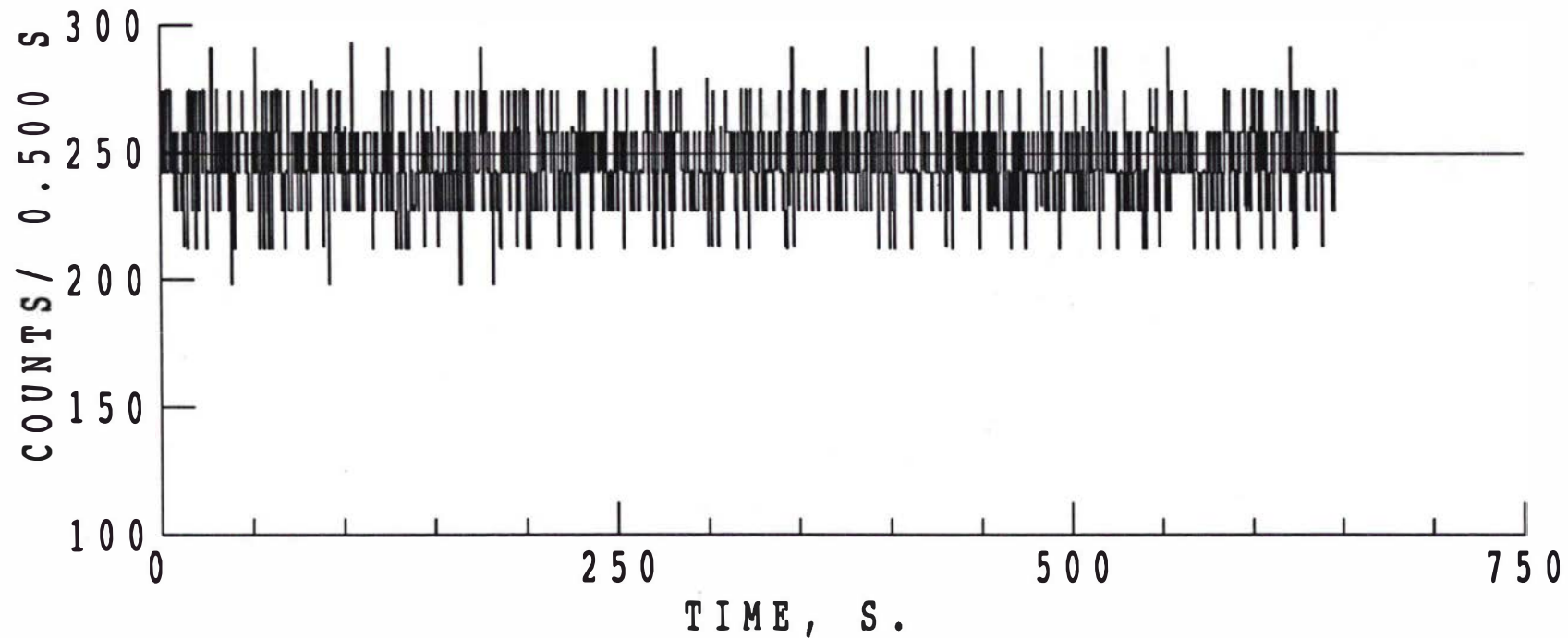
19/10/99 73008.203 s

0.250 S INTERVALS REGROUPED BY 2

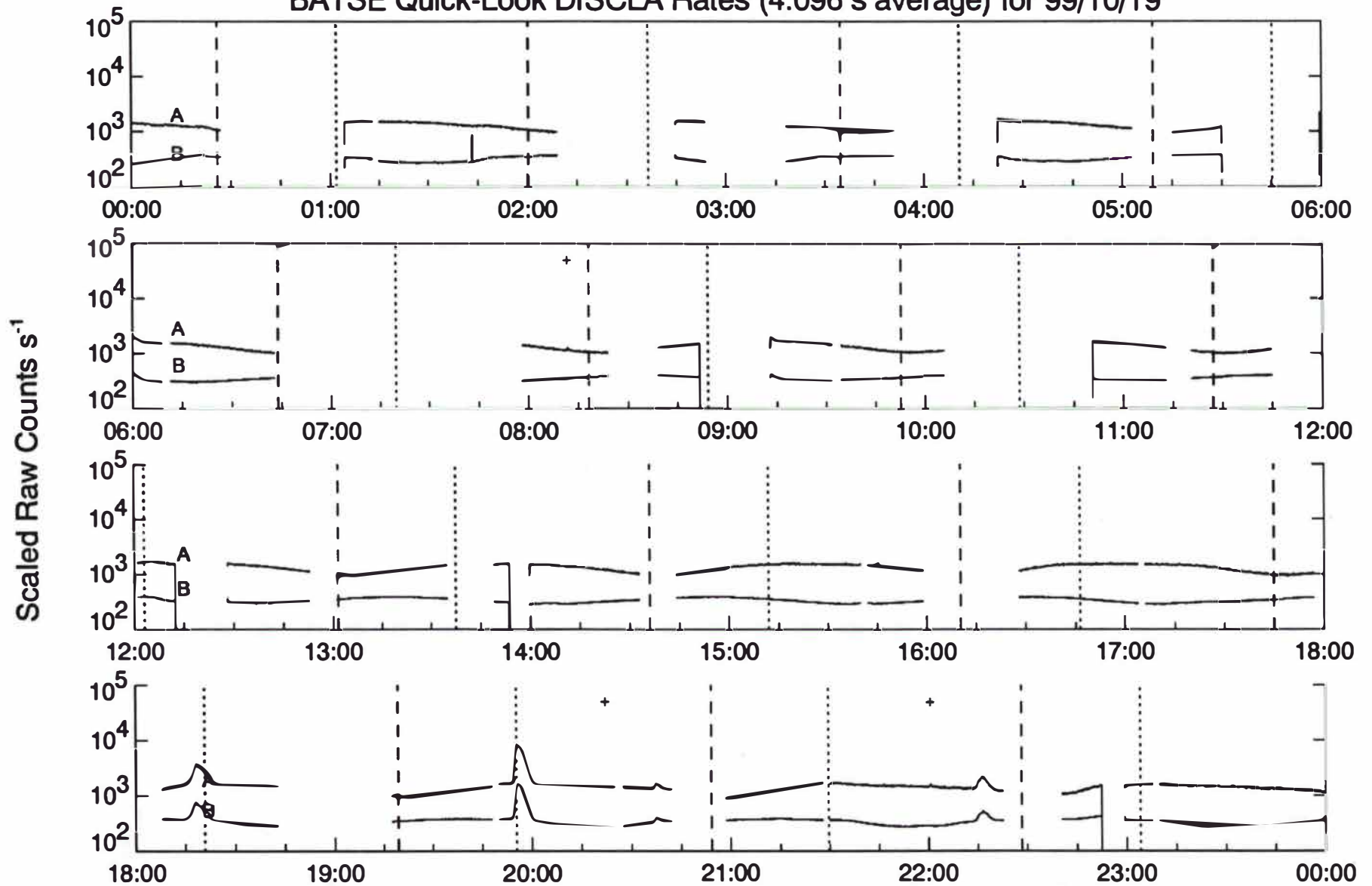
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/19

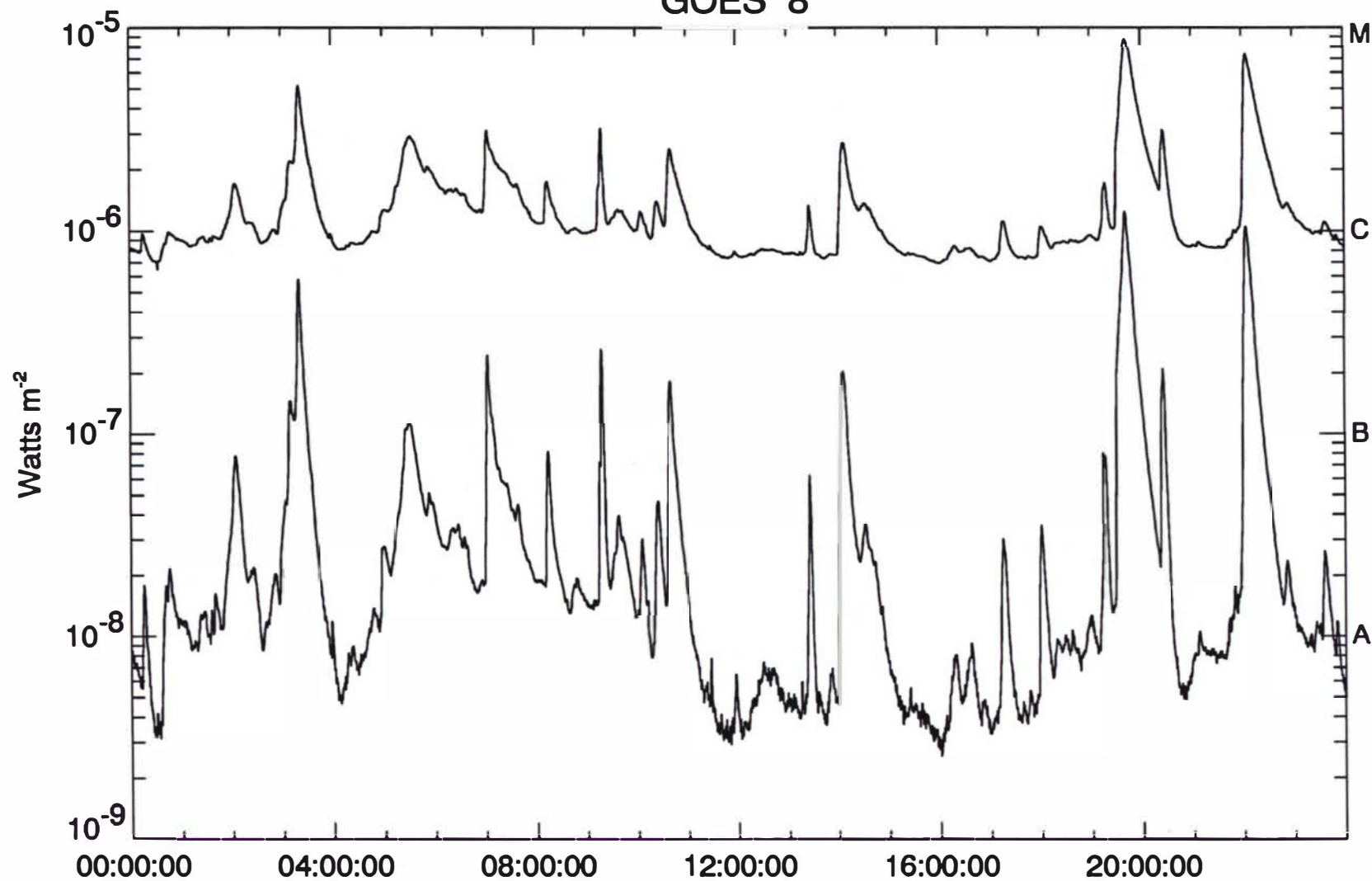


Current Time: 99/10/23, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/19, 0000:00

Plot created: 99/10/23, 1010

Channel

1 (1.0 - 8.0 Angstroms)

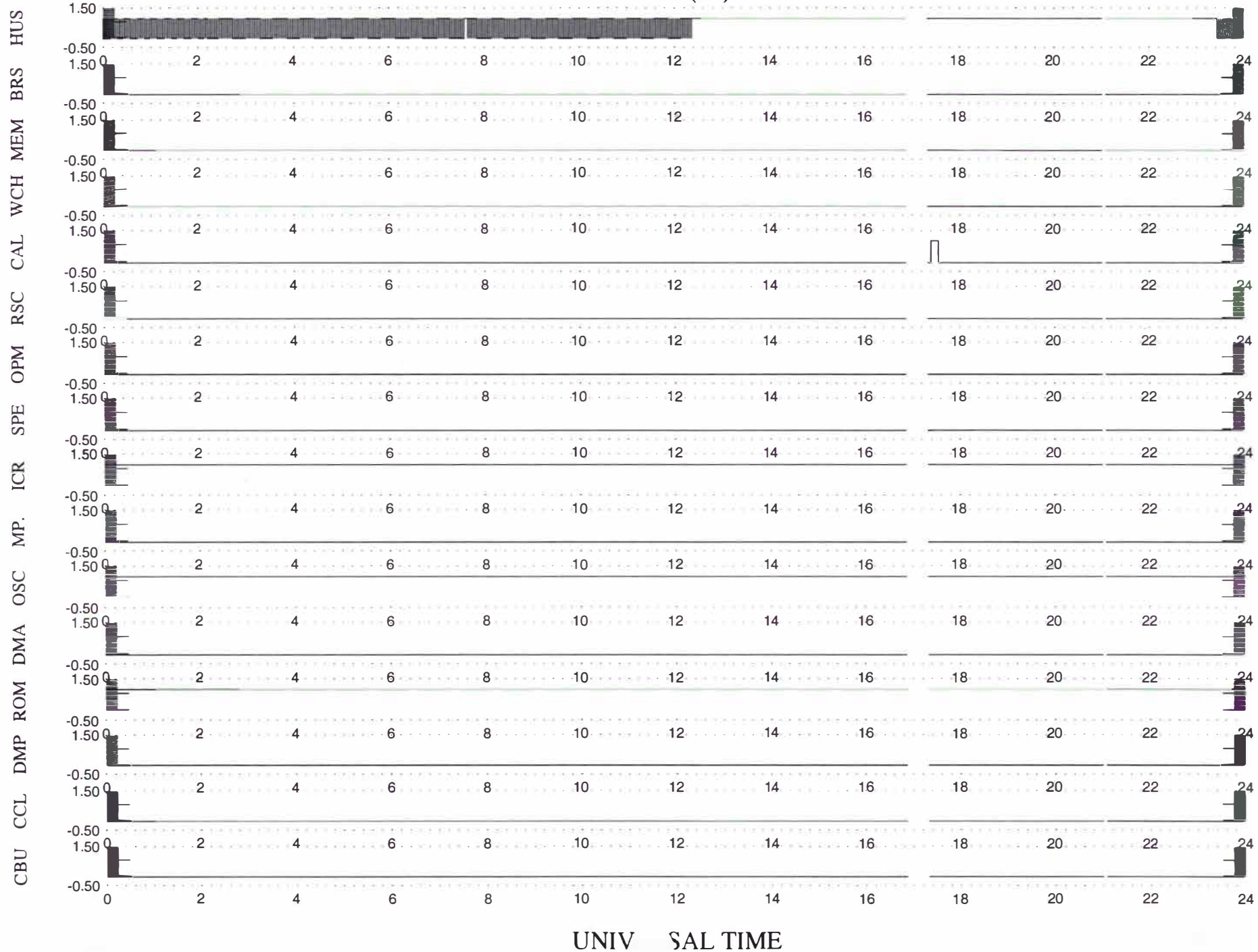
Background not subtracted

2 (0.5 - 4.0 Angstroms)

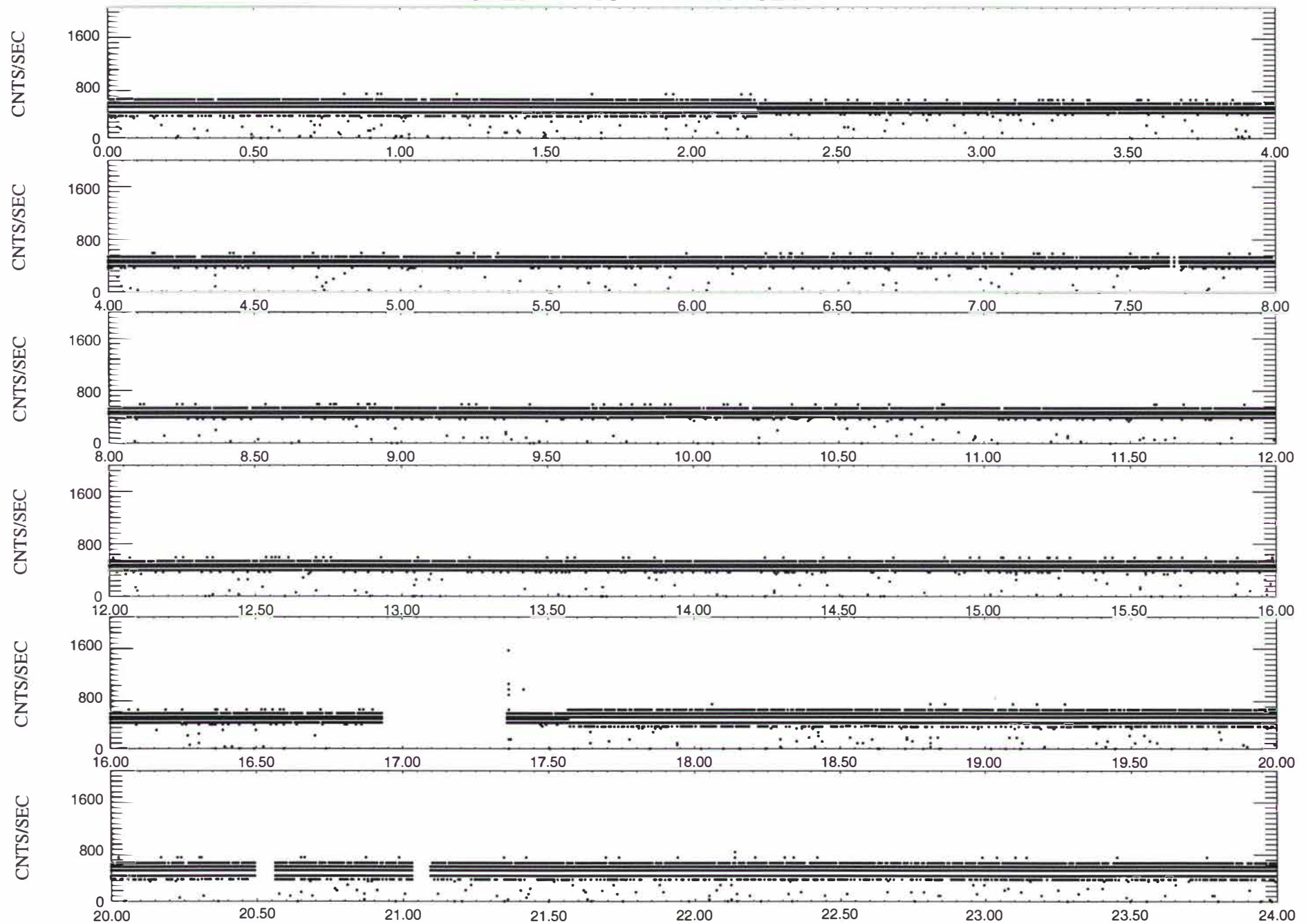
Background not subtracted

Sample average = 10

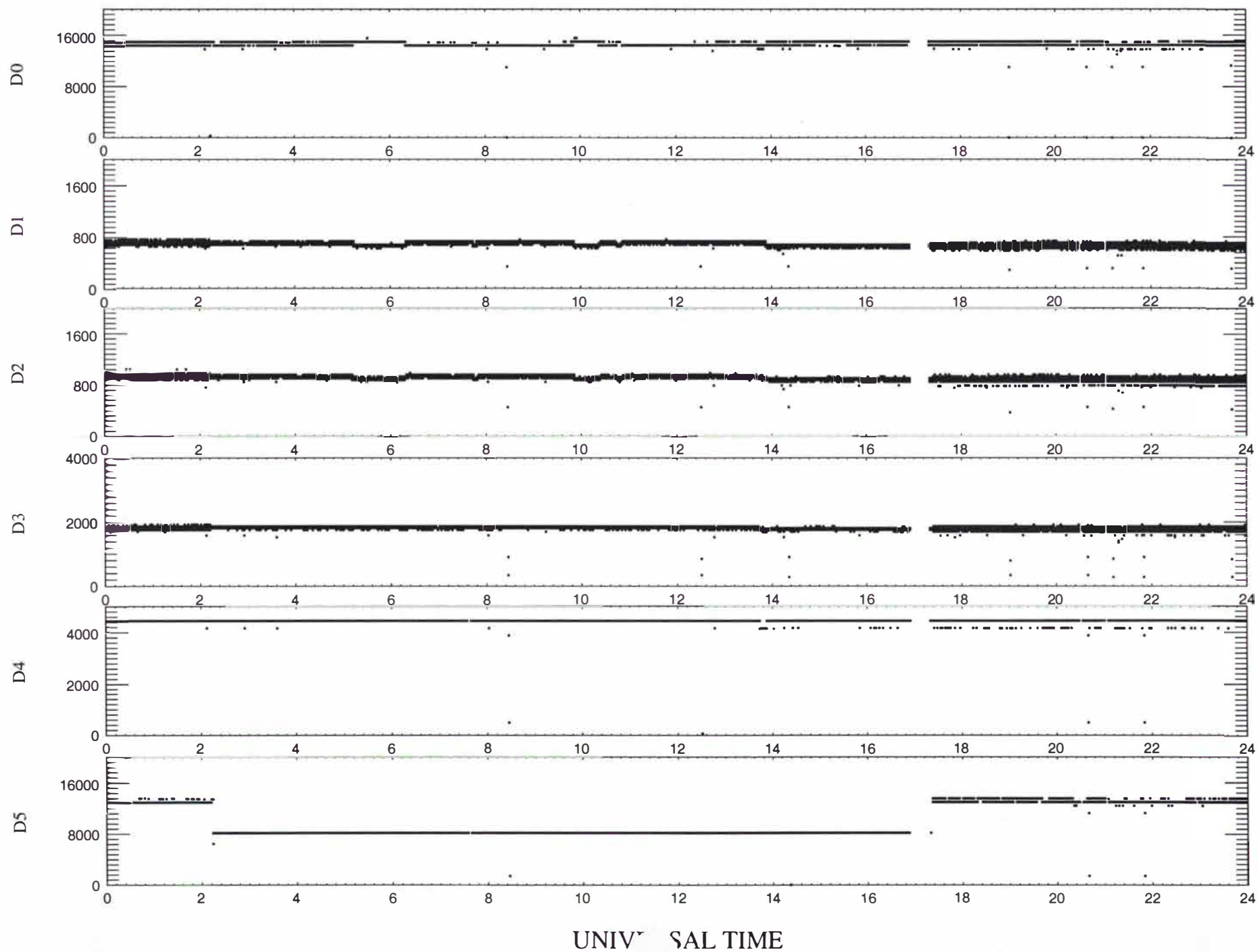
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From GOGUSE@fender.msfc.nasa.gov Mon Oct 25 14:38 PDT 1999
From: GOGUSE@fender.msfc.nasa.gov
Date: Mon, 25 Oct 1999 16:17:49 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7813

BATSEARCH PROGRAM

BATSE BURST # 7813
EVENT OF 1999 OCT 20 DAY OF YEAR=293
EVENT CROSSING TIME AT BATSE : 49221. S. OR 13:40:21.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 262.000 -63.000
BATSE PEAK COUNTING RATE: 17000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/10/ 99 IS:
RA= 162.492 DEC= -19.925 DIST= 5.130 AU
BATSE-ULYSSES DISTANCE = 767437531. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -596.82 SECS.
CROSSING TIME AT ULYSSES IS 48624. S. OR 13:30:24 +/- 473.13 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/10/ 99 IS:
RA= 272.351 DEC= -25.175 DIST= 1.458 AU
MARS-BATSE DISTANCE = 218060496. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.55 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -569.68 SECS.
CROSSING TIME AT MARS IS 48651. S. OR 13:30:51 +/- 69.87 SECONDS

BATSE BURST TRIGGER

NO.: 7813

TIME: TJD=1471 SECONDS=49221

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 89.3 AZIMUTH= 68.4 ERROR= 5.3 DEGREES

COMMENTS:

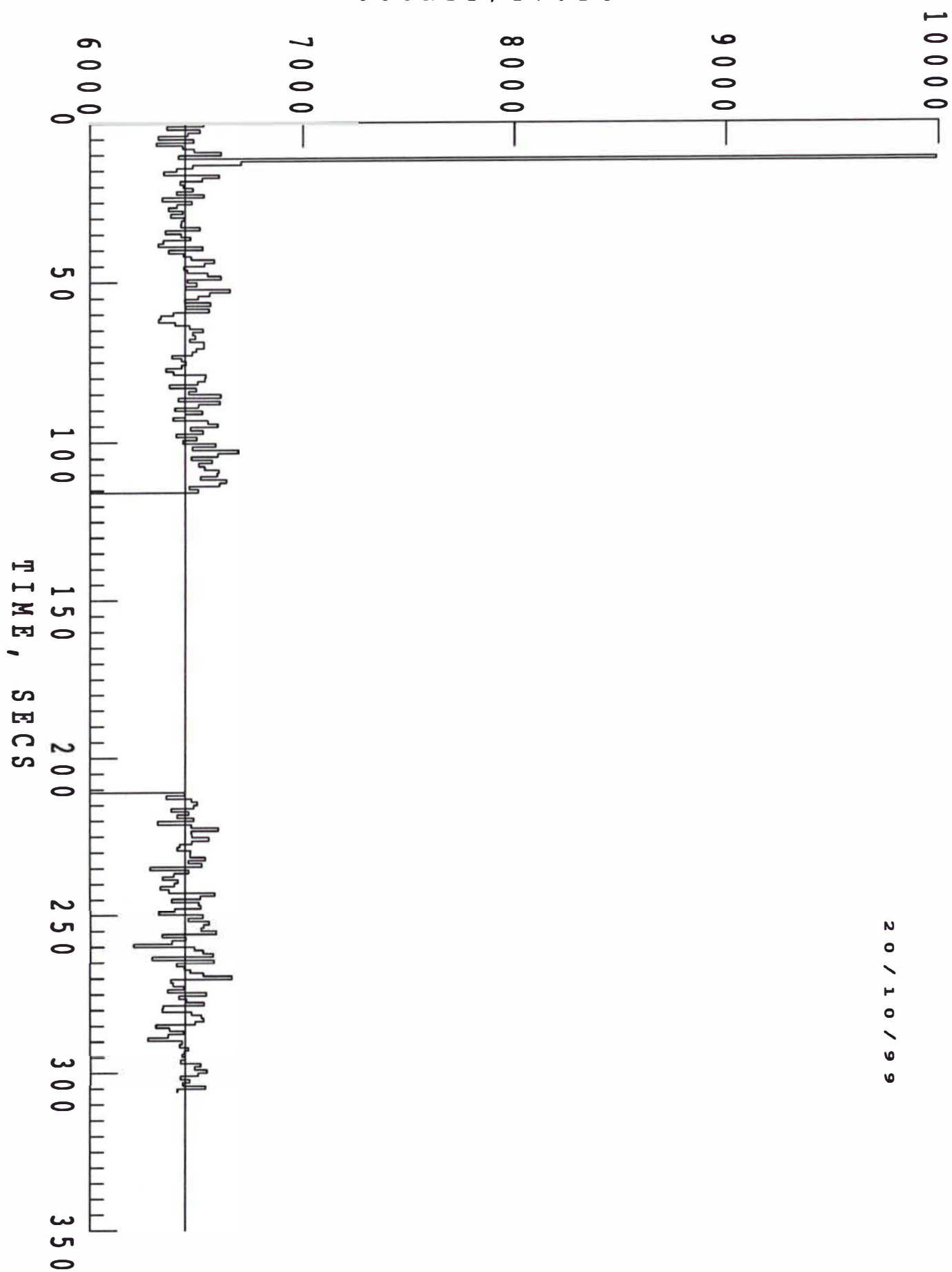
GRB, FRED LIKE WITH STRUCTURE,
DURATION APPROX. 0.6 S, NOT VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7813	991020	11471	49221	17000	262	-63	.6

BACODINE 7813 20/10/99 49210.105

25 - 100 keV

COUNTS/1.024 S



20/10/99

BATSE BURST# 7813

ULYSSES RT

25 / 10 / 99

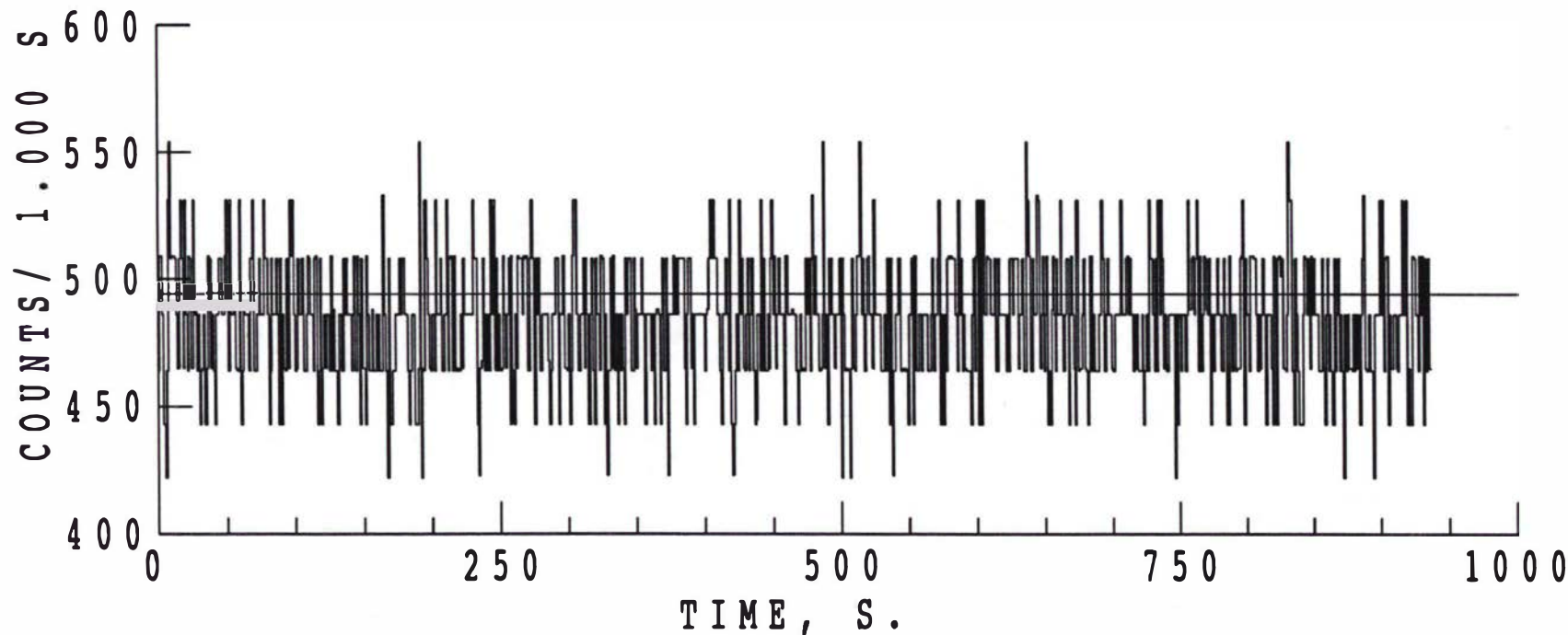
20 / 10 / 99 48168.320 s

0.500 S INTERVALS REGROUPED BY 2

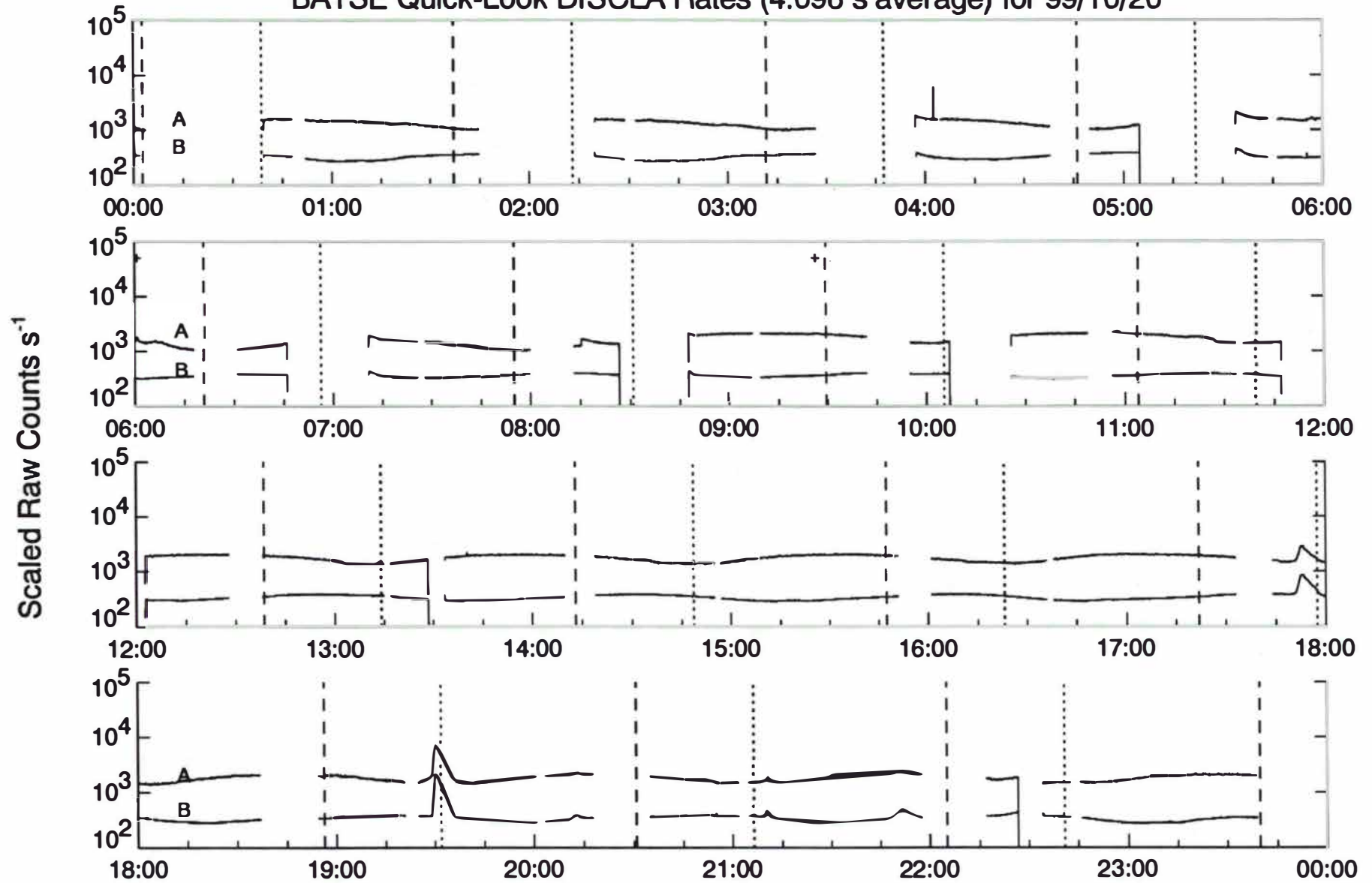
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/20

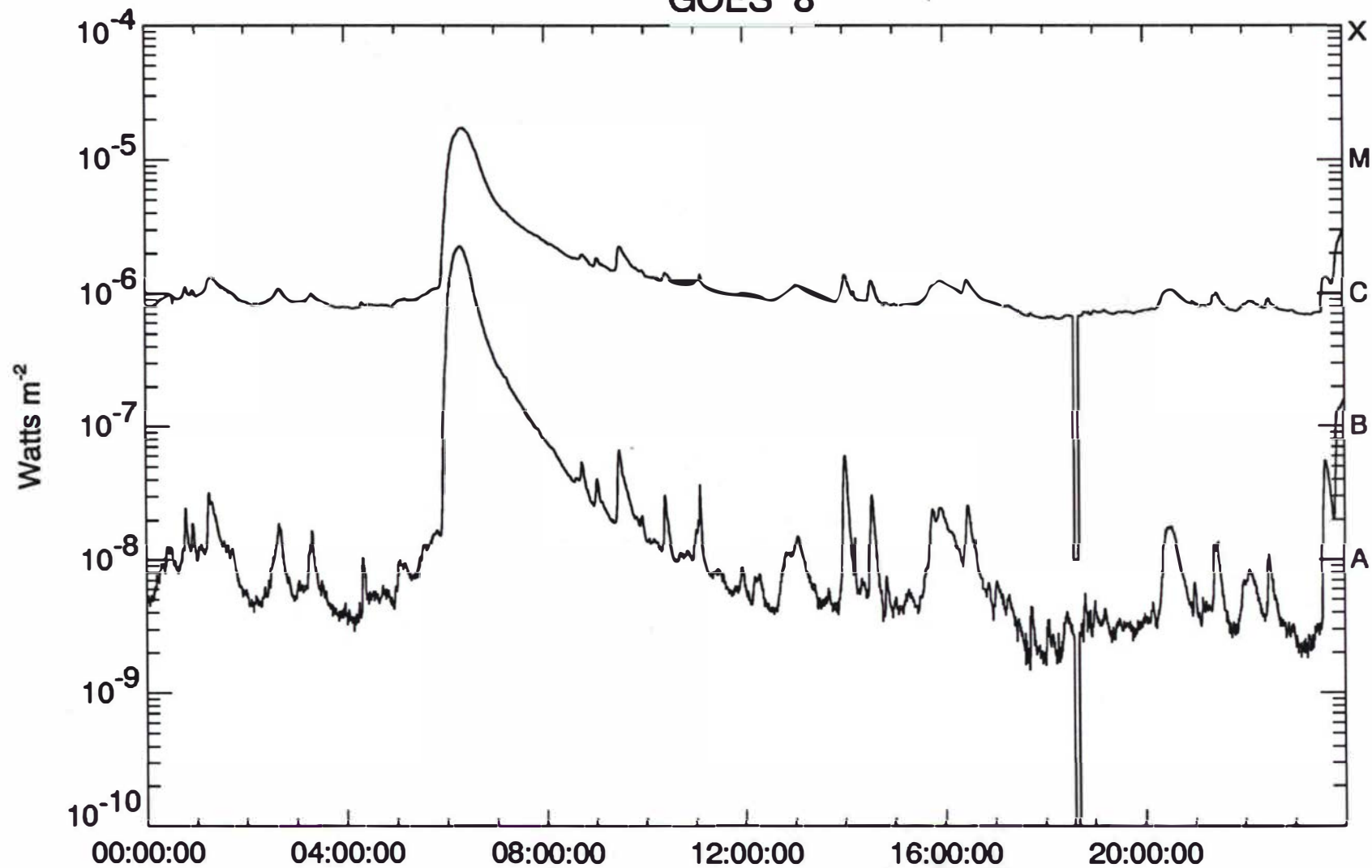


Current Time: 99/10/24, 1011 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

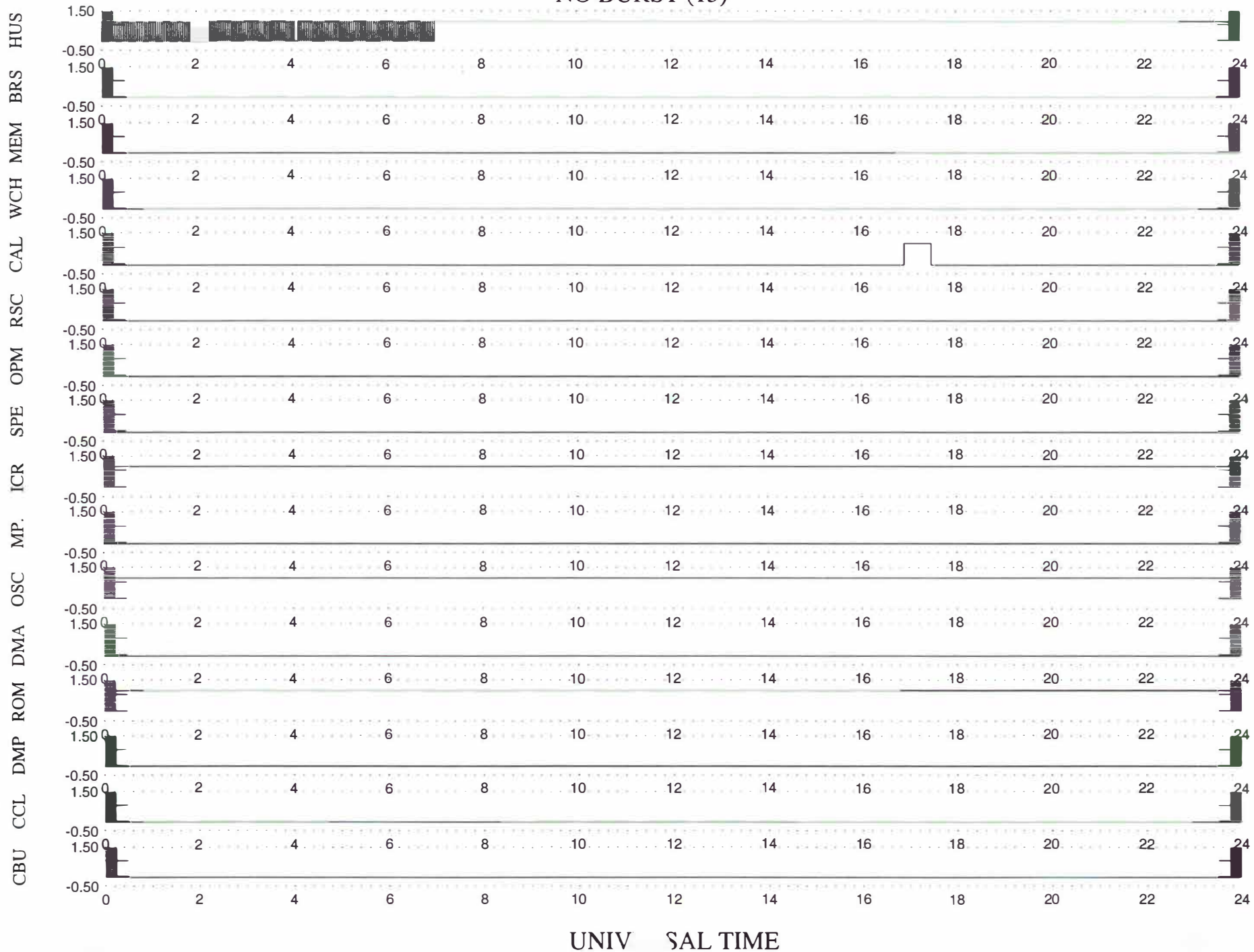


Data Start: 99/10/20, 0000:00

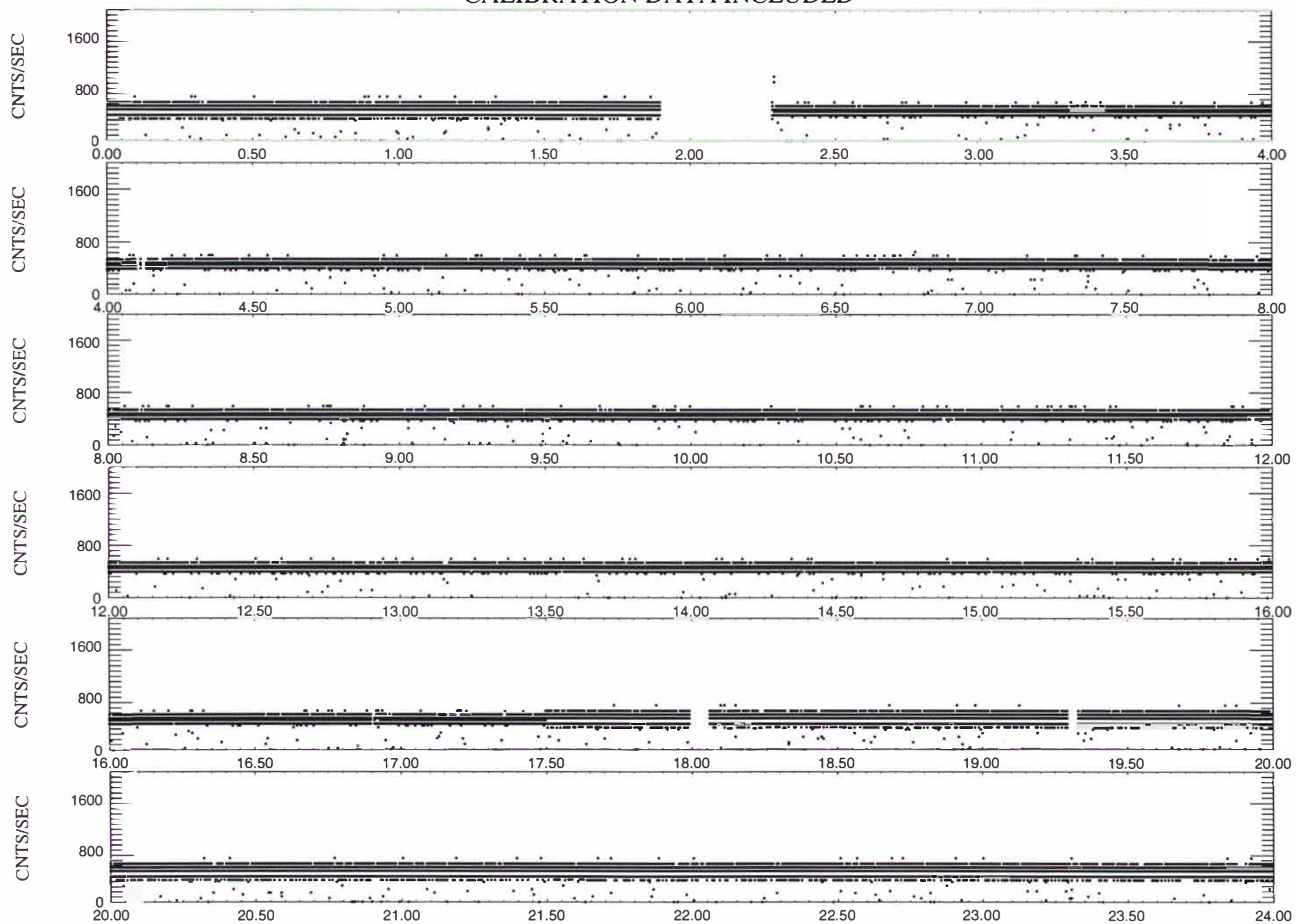
Plot created: 99/10/24, 1011

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

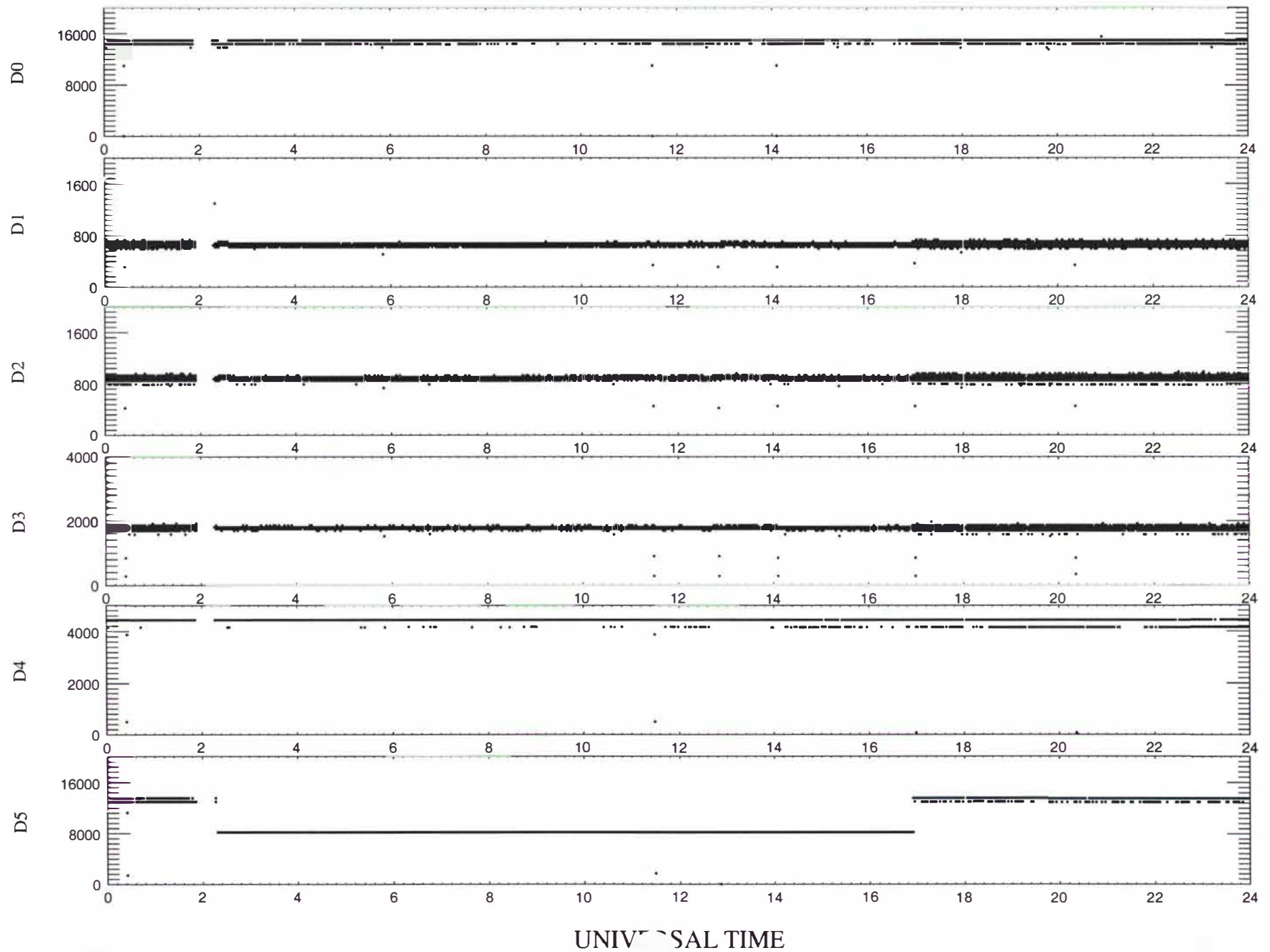
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Fri Oct 29 15:42 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 29 Oct 1999 16:20:58 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7814

BATSEARCH PROGRAM

BATSE BURST # 7814
EVENT OF 1999 OCT 21 DAY OF YEAR=294
EVENT CROSSING TIME AT BATSE : 7121. S. OR 01:58:41.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 346.000 -31.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 21/10/ 99 IS:
RA= 162.557 DEC= -20.013 DIST= 5.123 AU
BATSE-ULYSSES DISTANCE = 766441126. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 51.12 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1604.75 SECS.
CROSSING TIME AT ULYSSES IS 8726. S. OR 02:25:25 +/- 419.90 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 21/10/ 99 IS:
RA= 273.153 DEC= -25.157 DIST= 1.463 AU
MARS-BATSE DISTANCE = 218856000. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 326.87 SECS.
CROSSING TIME AT MARS IS 6794. S. OR 01:53:14 +/- 108.36 SECONDS

BATSE BURST TRIGGER

NO.: 7814

TIME: TJD=1472 SECONDS=7121

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=76.7 AZIMUTH=128.2 ERROR=12 DEGREES

COMMENTS:

GRB. WEAK SINGLE SPIKE, DUR. 0.14 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7814	991021	11472	07121	3500	346	-31	.14

BATSE BURST# 7814

ULYSSES RT

29 / 10 / 99

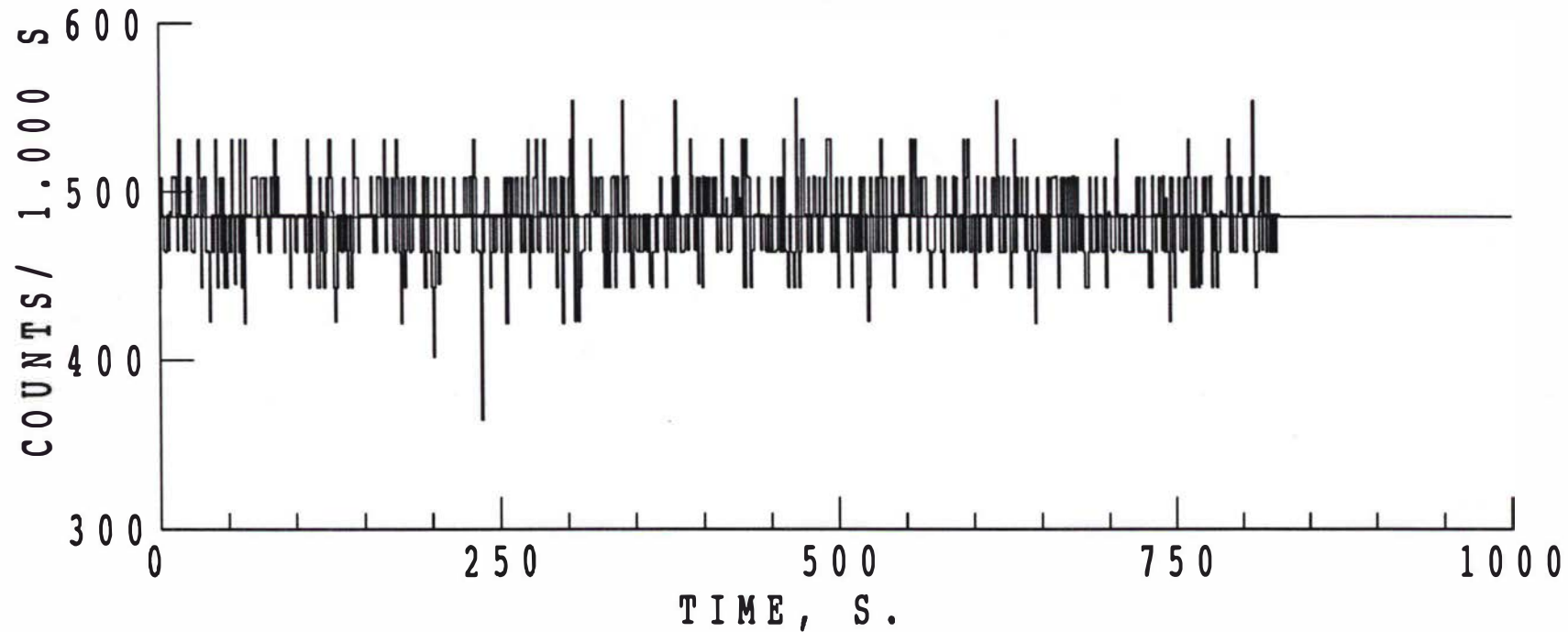
21/10/99 8316.289 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

01/05/00

21/10/99 71424.180 s

0.250 S INTERVALS REGROUPED BY 14

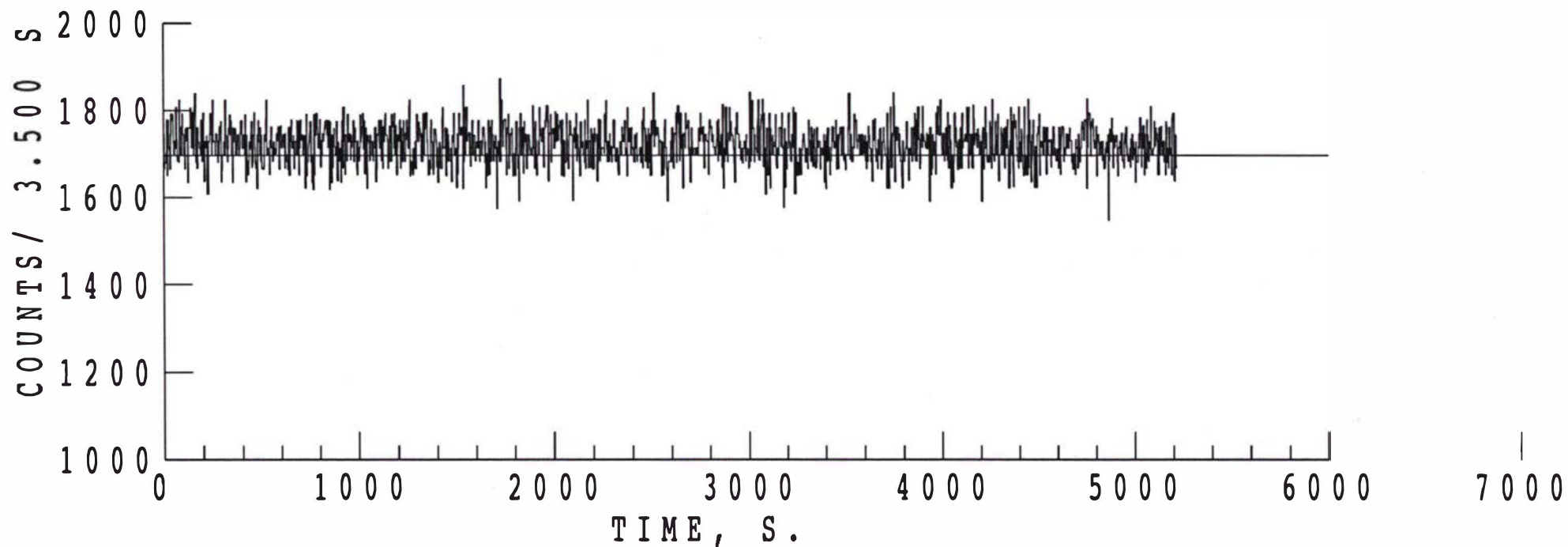
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS

ULYSSES RT

01/05/00

21/10/99 72144.188 s

0.250 S INTERVALS REGROUPED BY 14

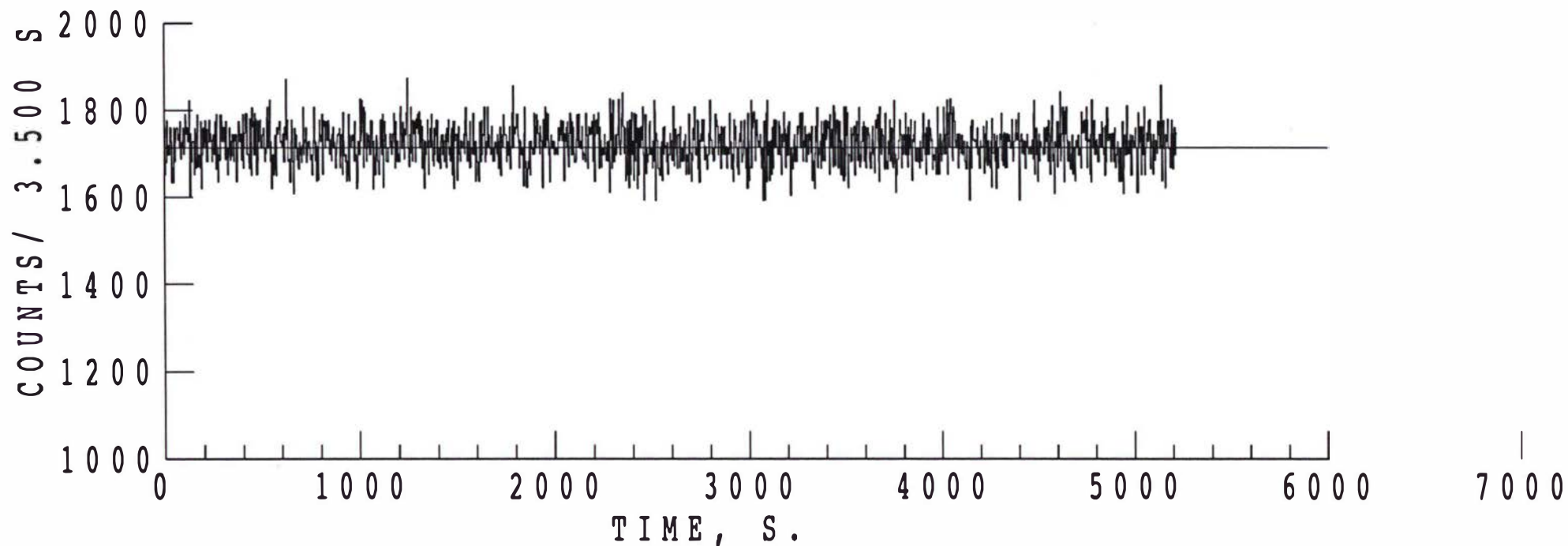
0 - 0 keV

N= 10 M= 10

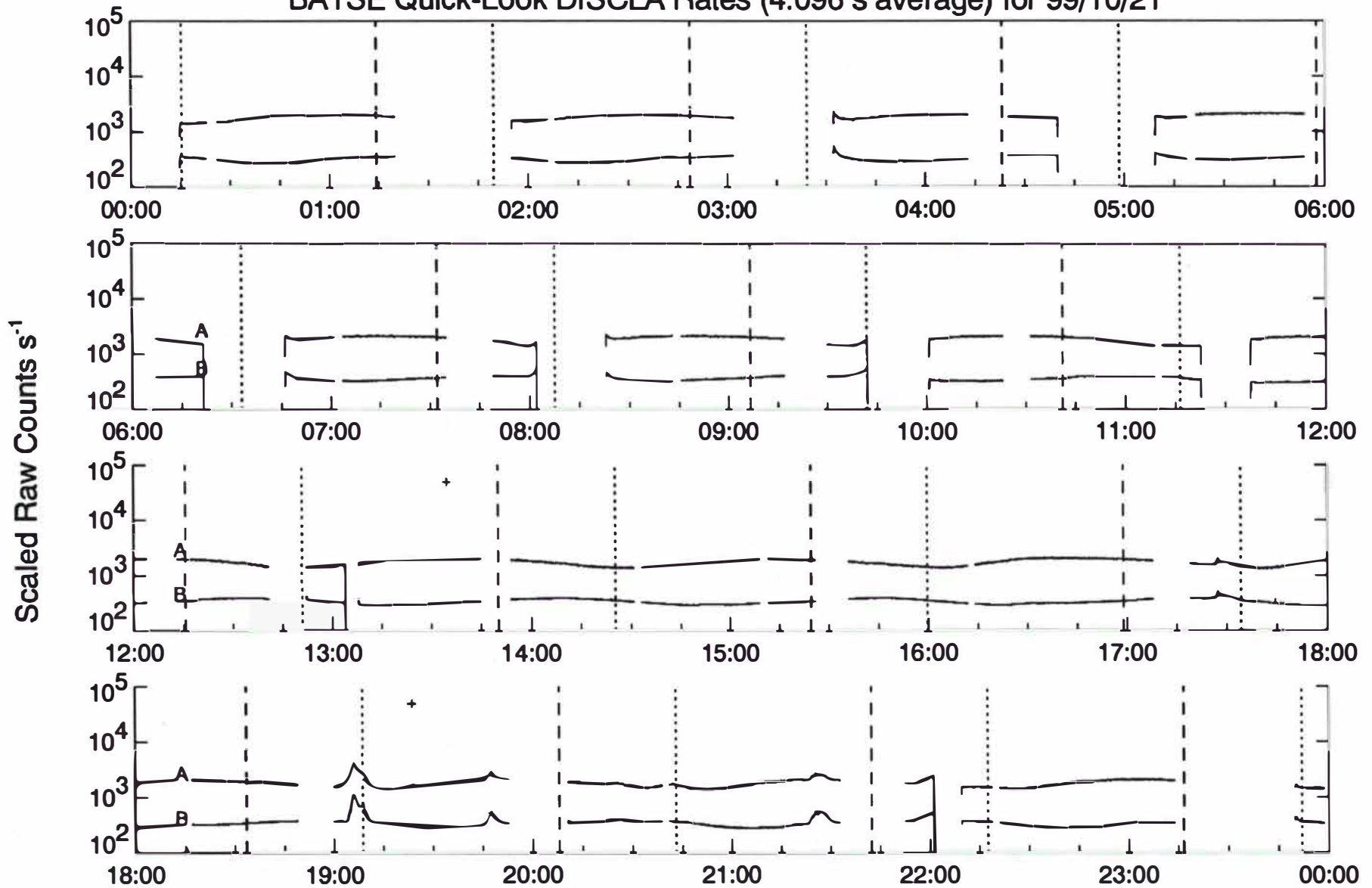
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/21

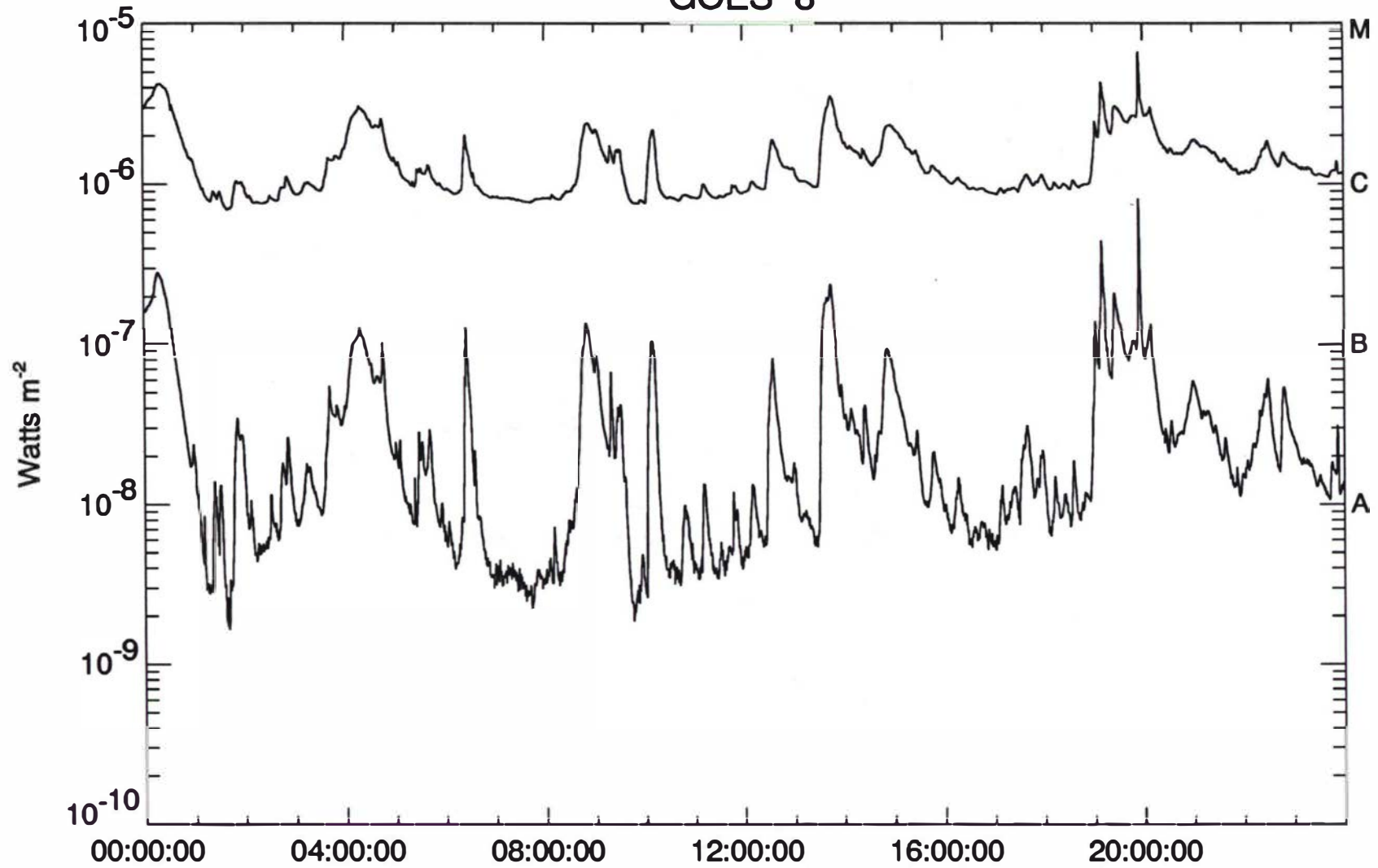


Current Time: 99/10/25, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/21, 0000:00

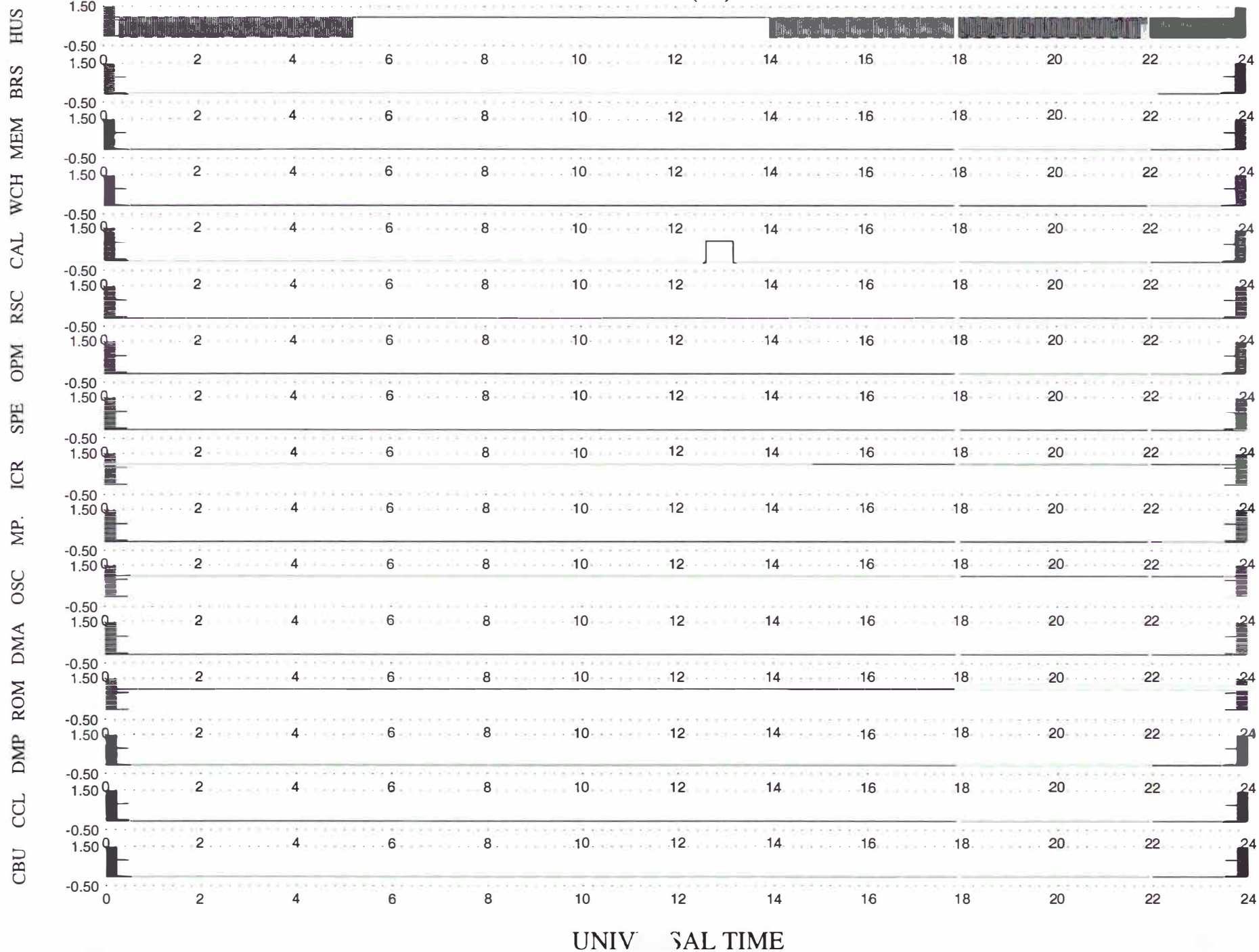
Plot created: 99/10/25, 1010

Channel

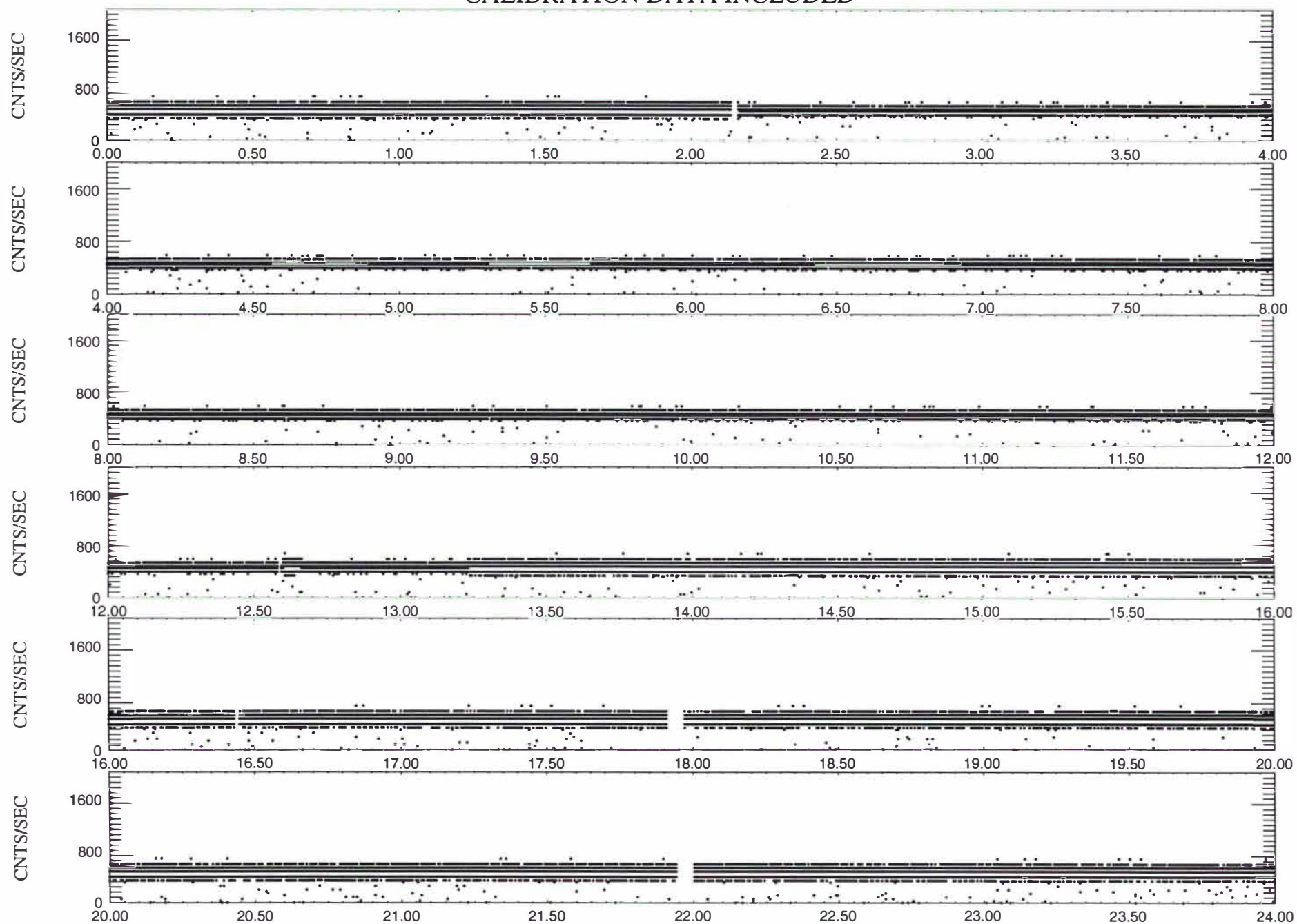
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

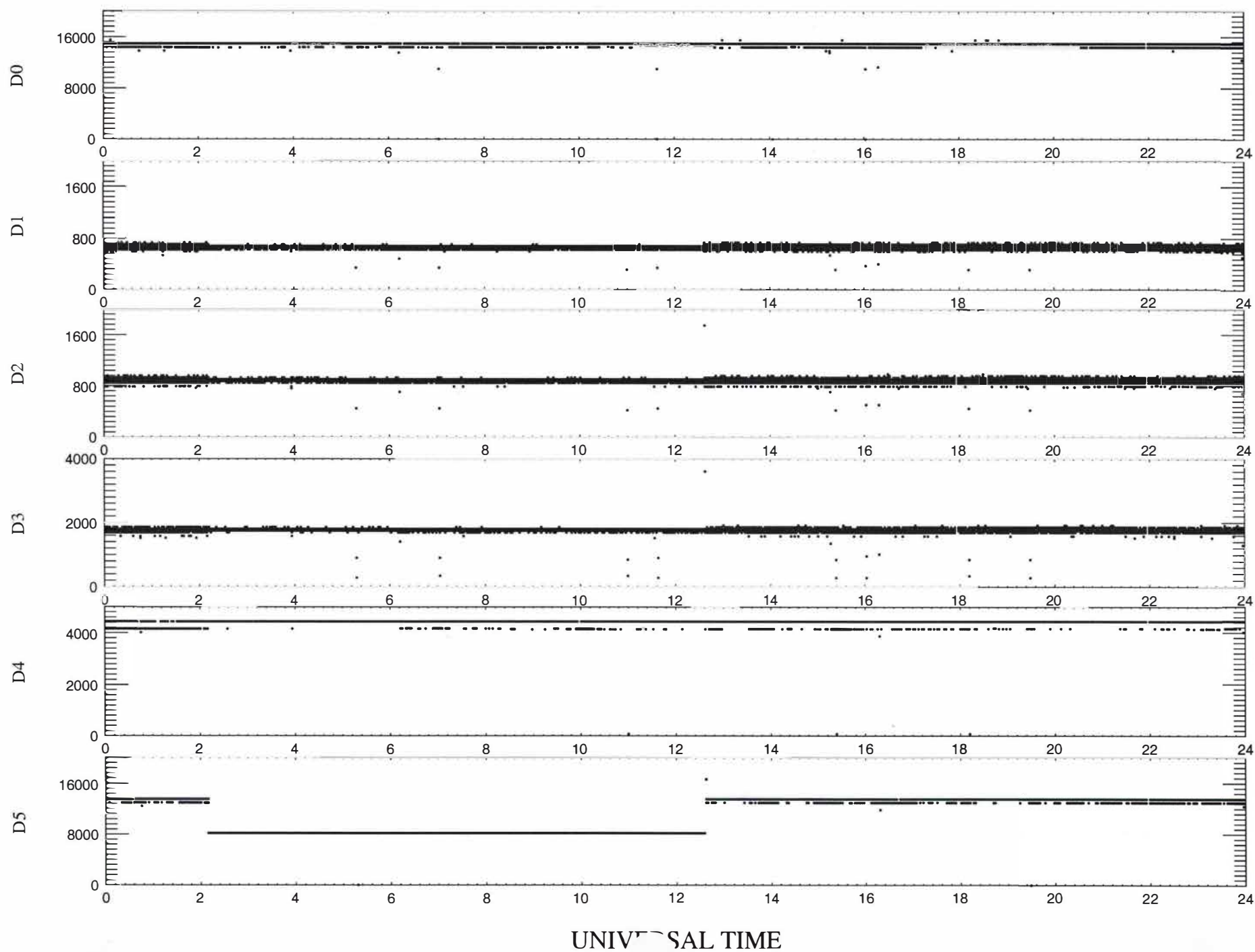
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Tue Oct 26 15:42 PDT 1999
Date: Tue, 26 Oct 1999 17:34:17 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7815

TIME: TJD=1473 SECONDS=13476

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT, OVER NORTH PACIFIC OCEAN.

From HENZE@fender.msfc.nasa.gov Tue Oct 26 15:43 PDT 1999
Date: Tue, 26 Oct 1999 17:36:56 -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@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7816

TIME: TJD=1473 SECONDS=38690

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

EITHER ENTRY INTO BIG SAA OR PARTICLE EVENT OVER SOUTH PACIFIC OCEAN.

From SAHI@fender.msfc.nasa.gov Fri Oct 29 15:49 PDT 1999
From: SAHI@fender.msfc.nasa.gov
Date: Fri, 29 Oct 1999 16:32:17 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7817

BATSEARCH PROGRAM

BATSE BURST # 7817
EVENT OF 1999 OCT 22 DAY OF YEAR=295
EVENT CROSSING TIME AT BATSE : 66754. S. OR 18:32:34.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 1.000 -25.000
BATSE PEAK COUNTING RATE: 4500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/10/ 99 IS:
RA= 162.768 DEC= -20.304 DIST= 5.101 AU
BATSE-ULYSSES DISTANCE = 763100301. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 48.65 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1681.68 SECS.
CROSSING TIME AT ULYSSES IS 68436. S. OR 19:00:35 +/- 407.28 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/10/ 99 IS:
RA= 273.956 DEC= -25.134 DIST= 1.468 AU
MARS-BATSE DISTANCE = 219650928. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=102.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 162.51 SECS.
CROSSING TIME AT MARS IS 66591. S. OR 18:29:51 +/- 121.57 SECONDS

BATSE BURST TRIGGER

NO.: 7817

TIME: TJD=1473 SECONDS=66754

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=84.0 AZIMUTH=140.8 ERROR=2.3 DEGREES

COMMENTS:

GRB. MULTI-PEAKED, TOTAL DUR. 140 S, MAX. AT T+8.5 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7817	991022	11473	66754	4500	001	-25	140

BATSE BURST# 7817

ULYSSES RT

29 / 10 / 99

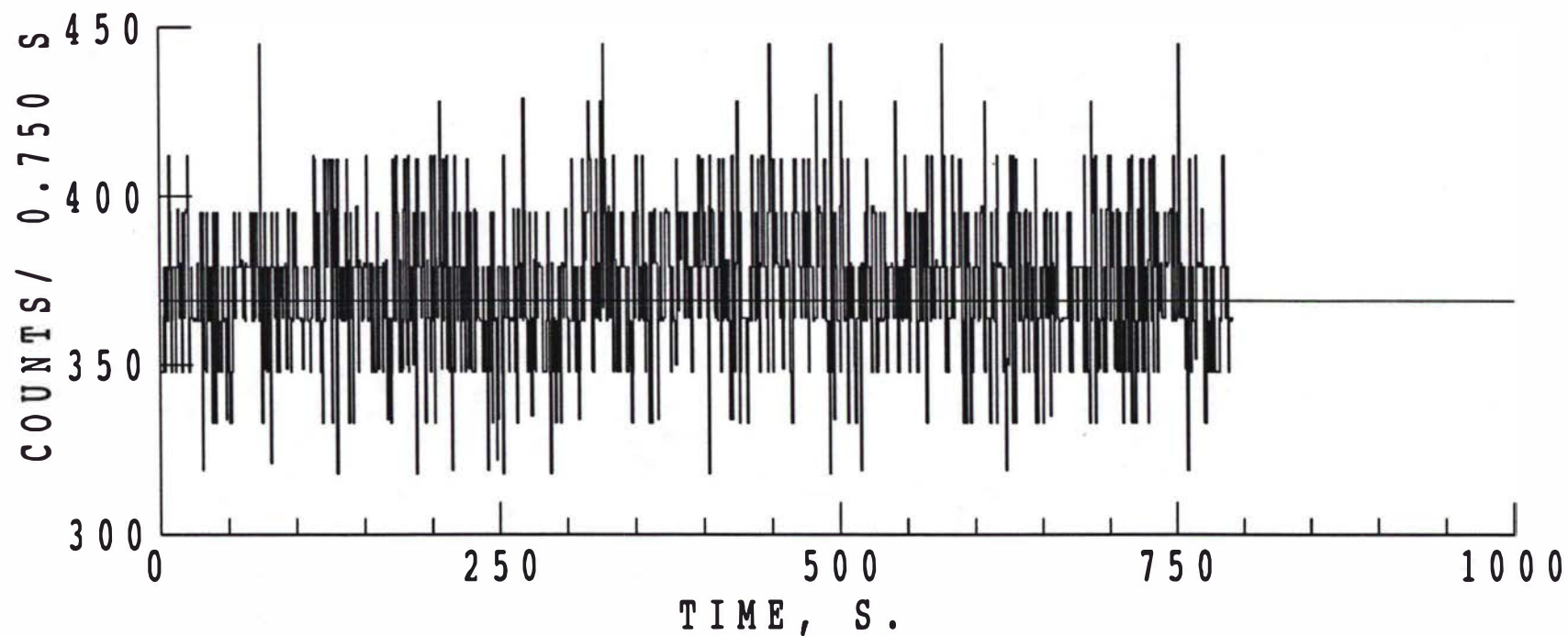
22/10/99 68040.016 s

0.250 S INTERVALS REGROUPED BY 3

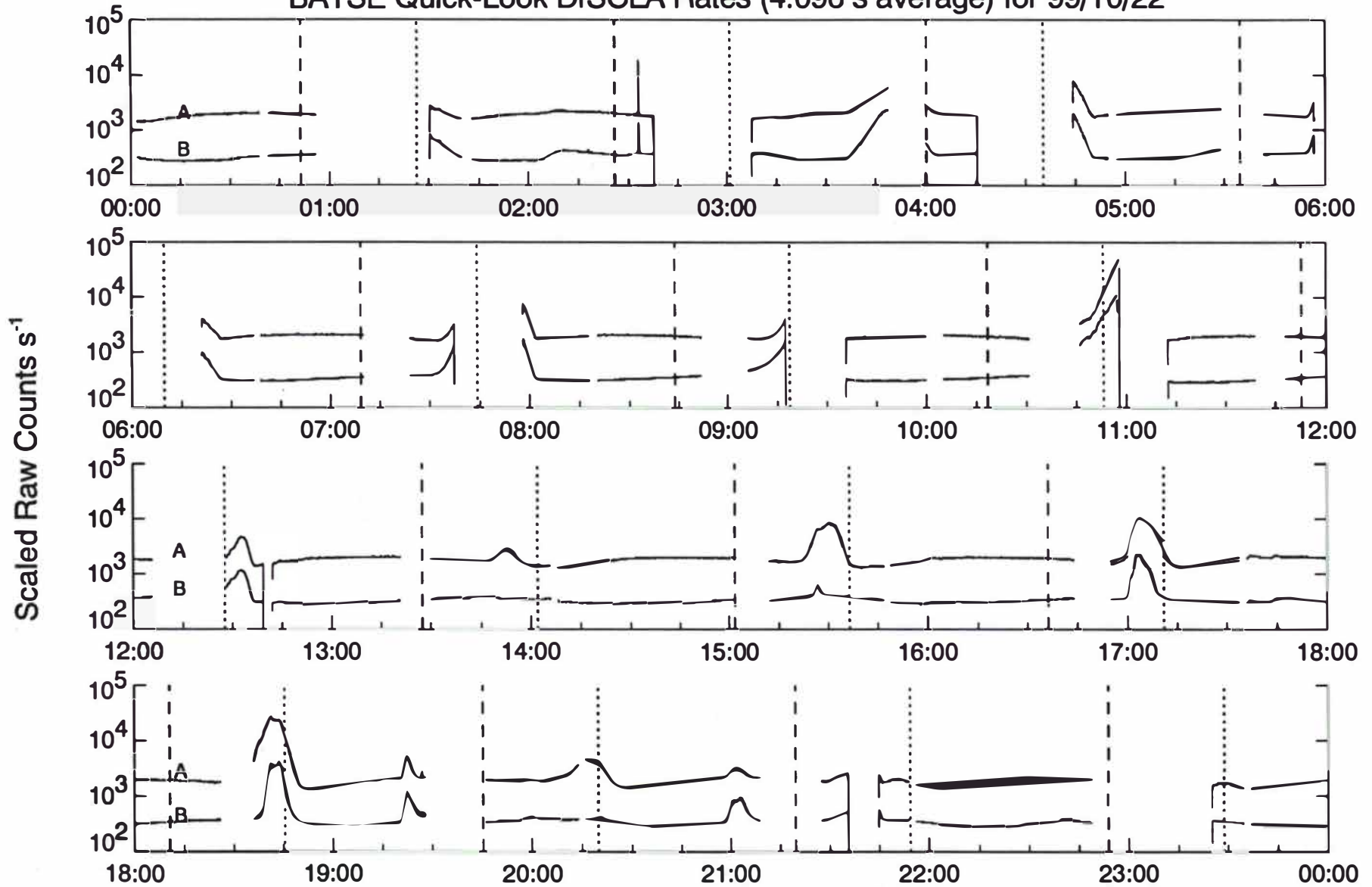
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/22

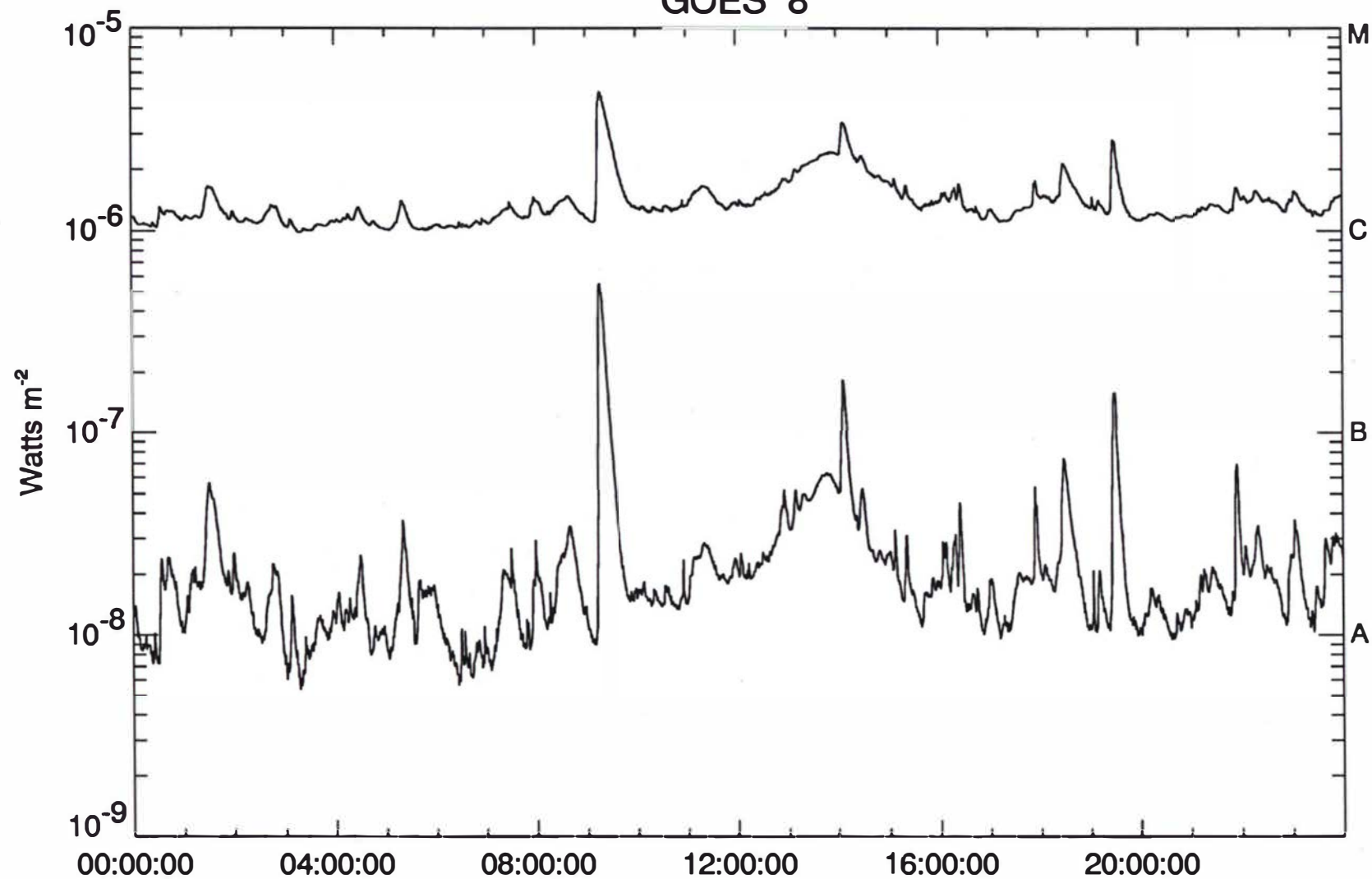


Current Time: 99/10/26, 1011 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/10/22, 0000:00

Plot created: 99/10/26, 1010

Channel 1 (1.0 - 8.0 Angstroms)

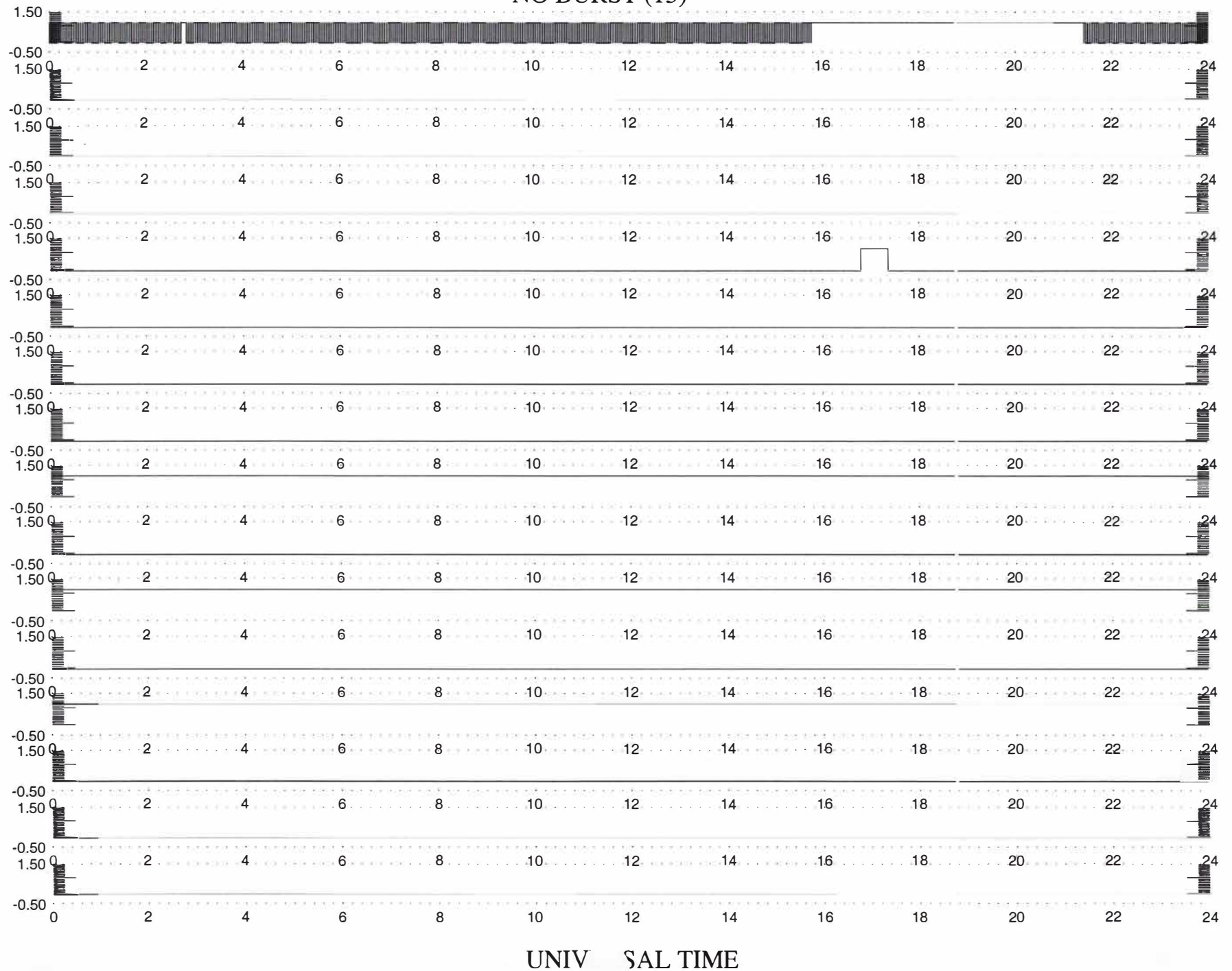
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

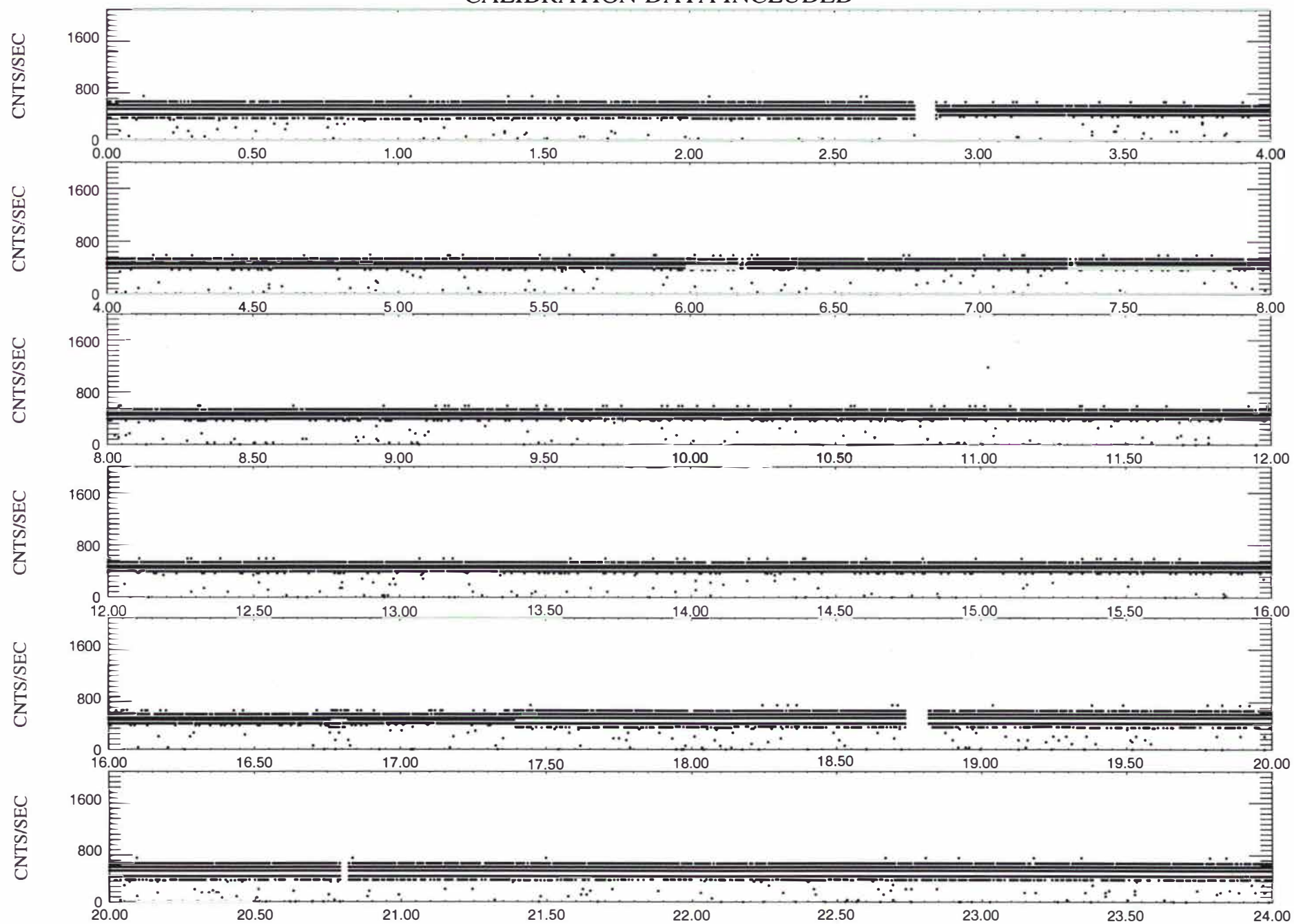
Background not subtracted

Sample average = 10

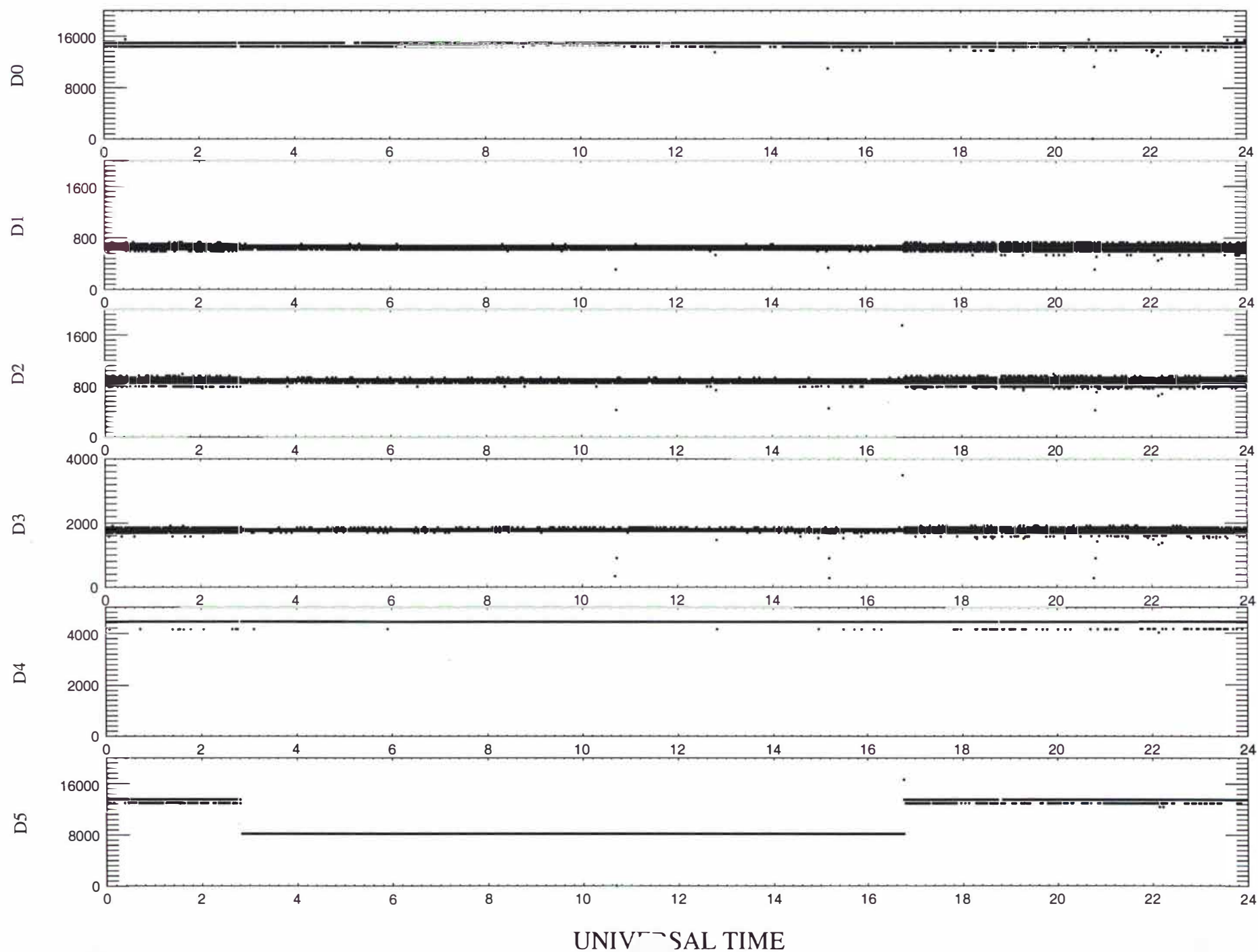
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



CALIBRATION DATA INCLUDED



UNIV SAL TIME

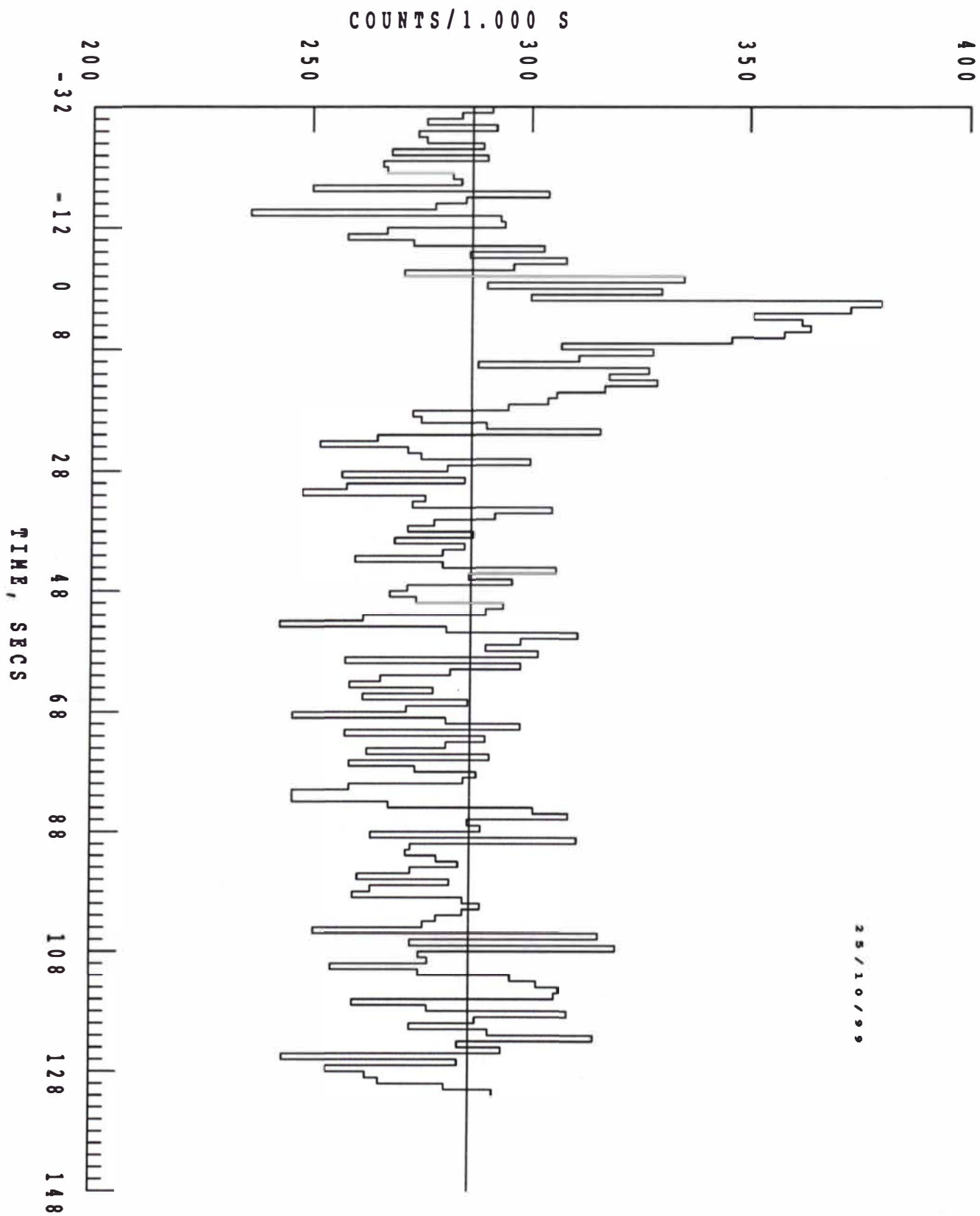


NEAR

23/10/99

4634.739

100-1000 keV



KNEAR GRS 19991023 04634

ULYSSES RT

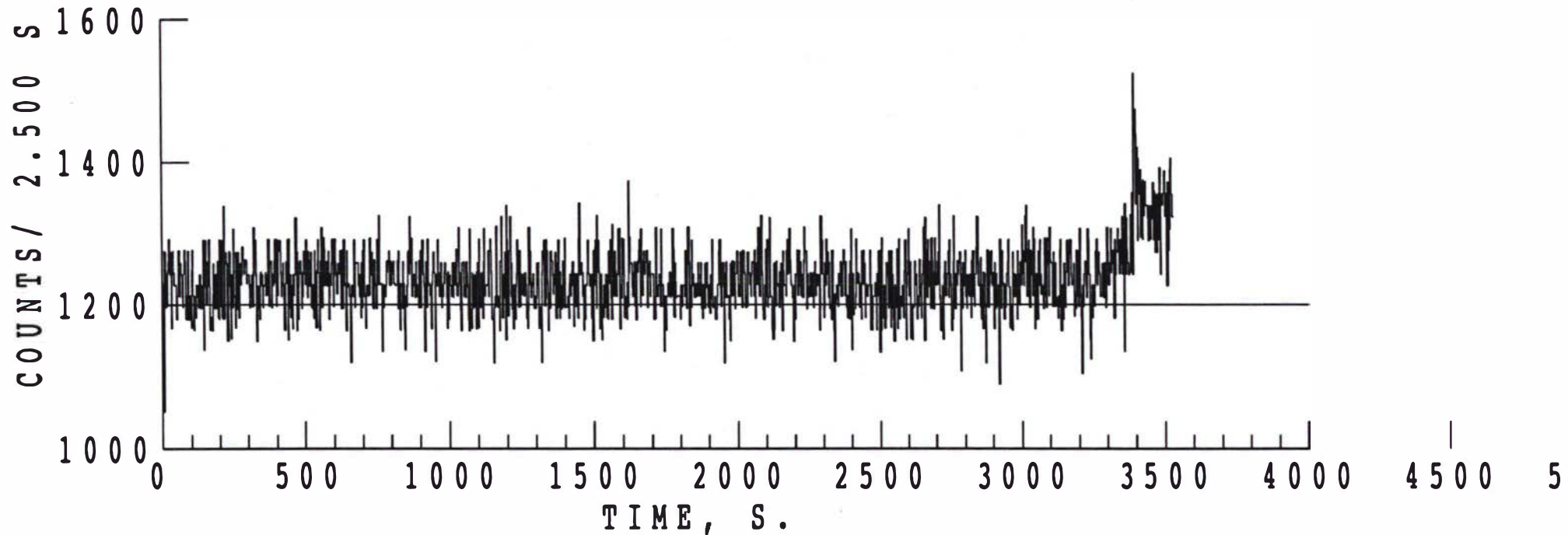
25 / 10 / 99

23/10/99 2880.227 s

0.250 S INTERVALS REGROUPED BY 10

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@joplin.msfc.nasa.gov Wed Oct 27 08:41 PDT 1999
From: SURASAK@joplin.msfc.nasa.gov
Date: Wed, 27 Oct 1999 10:47:35 -0500
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7818

BATSEARCH PROGRAM

No reliable Ulysses detection

BATSE BURST # 7818
EVENT OF 1999 OCT 23 DAY OF YEAR=296
EVENT CROSSING TIME AT BATSE : 51315. S. OR 14:15:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 234.000 -26.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/10/ 99 IS:
RA= 162.868 DEC= -20.447 DIST= 5.090 AU
BATSE-ULYSSES DISTANCE = 761450255. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=115.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1080.72 SECS.
CROSSING TIME AT ULYSSES IS 50234. S. OR 13:57:14 +/- 432.65 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/10/ 99 IS:
RA= 274.760 DEC= -25.106 DIST= 1.474 AU
MARS-BATSE DISTANCE = 220445312. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=143.37 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -590.08 SECS.
CROSSING TIME AT MARS IS 50725. S. OR 14:05:24 +/- 67.21 SECONDS

BATSE BURST TRIGGER

NO.: 7818

TIME: TJD=1474 SECONDS=51315

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=73.8 AZIMUTH=30.3 ERROR=2.02 DEGREES

COMMENTS:

GRB. COMPLEX TRIPLE PULSE. START AT ABOUT T-3 S. PEAK AT ABOUT T+23 S.
DURATION ABOUT 30 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7818	991023	11474	51315	6000	234	-26	30

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

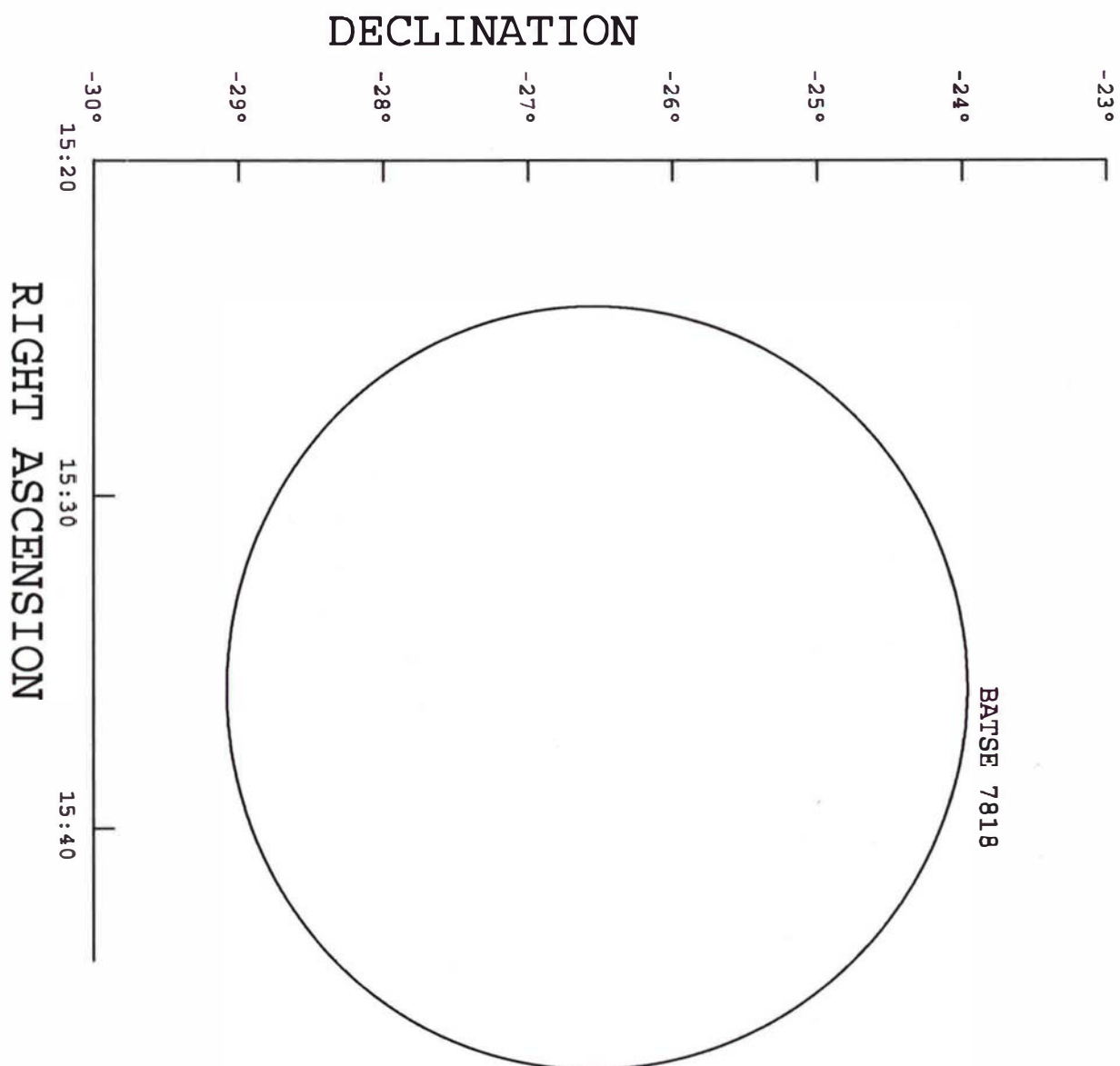
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF OCT 23, 1999 14:15

29/10/99



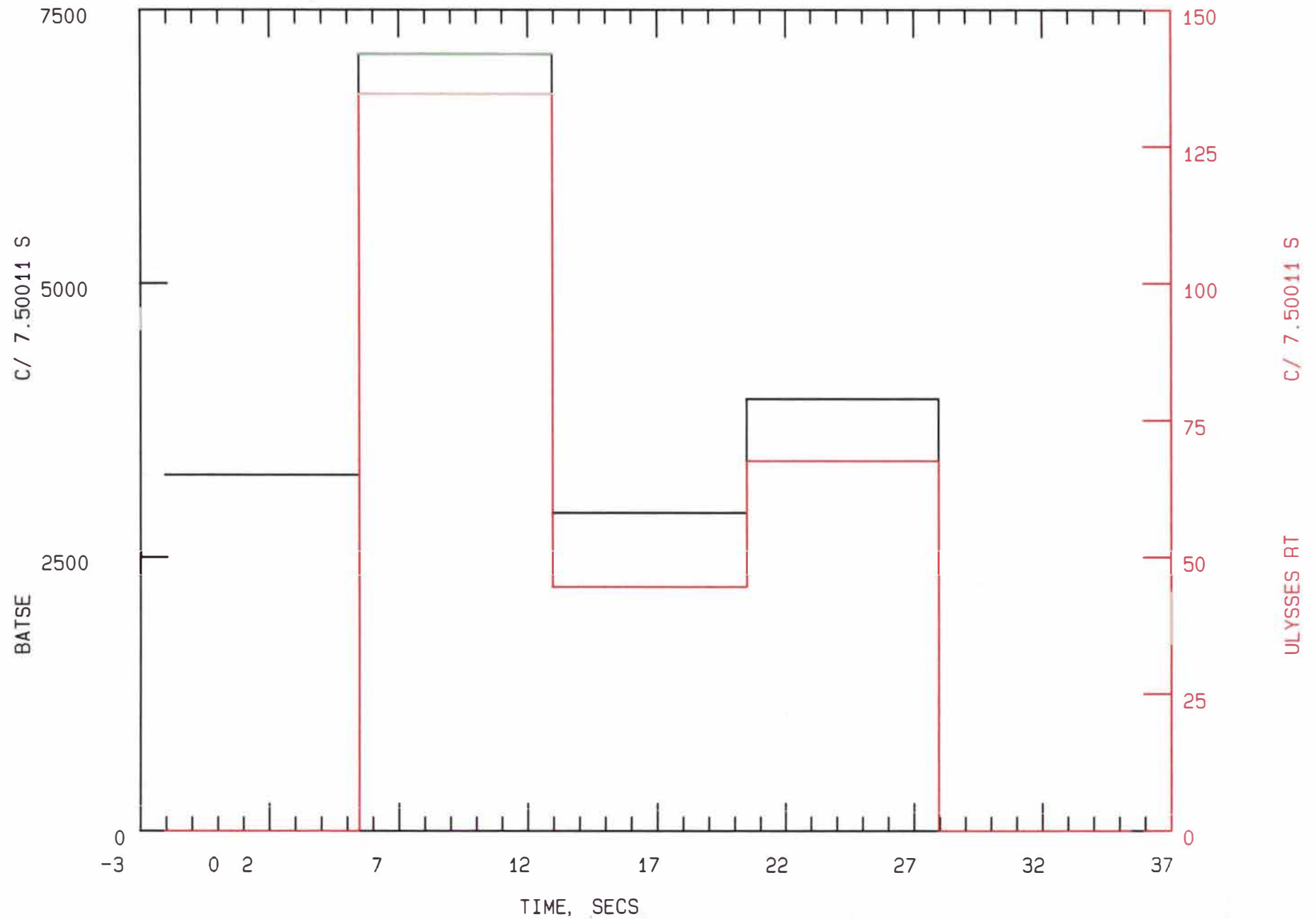
BATSE

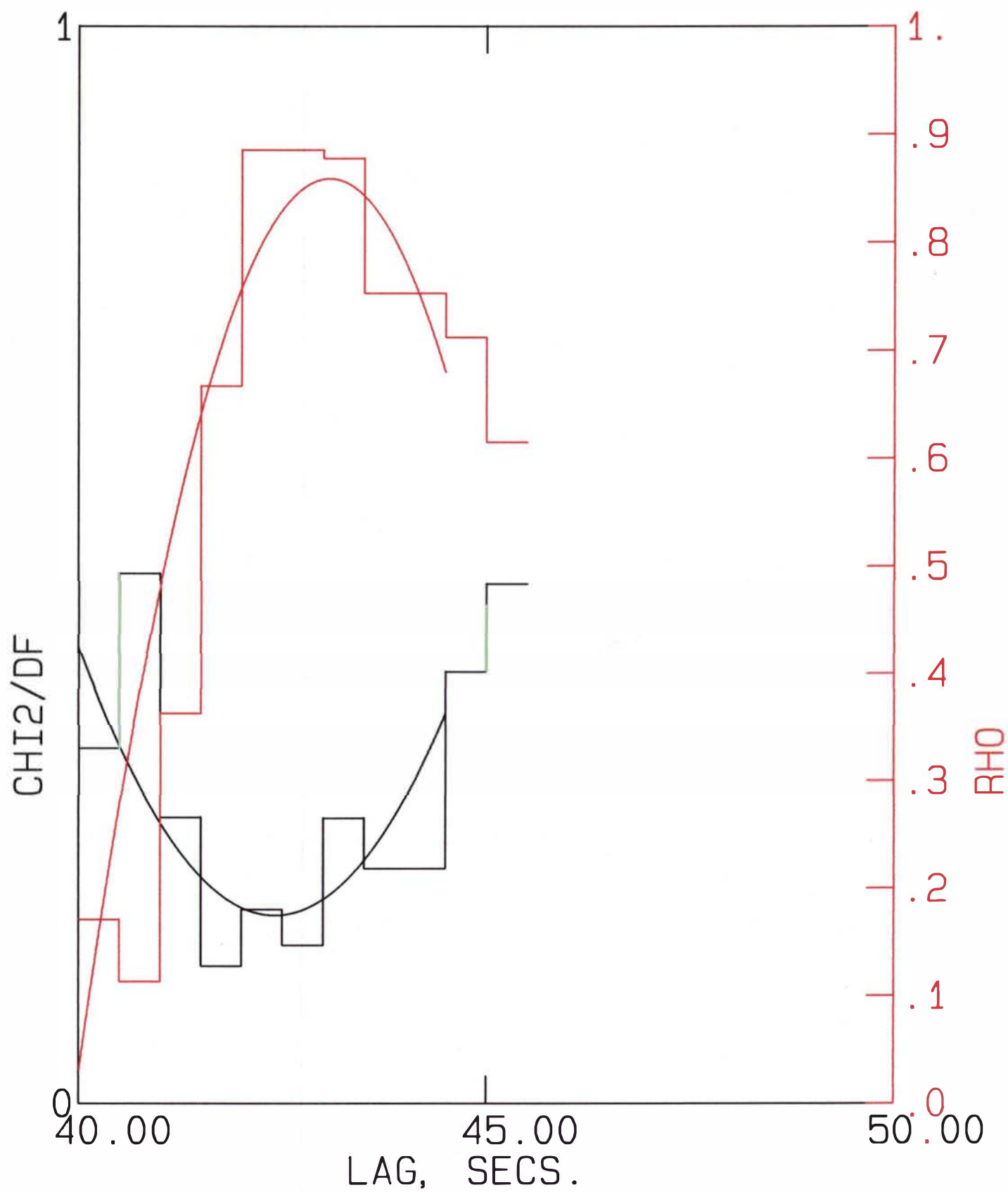
-ULYSSES RT CORRELATION

23/10/99

51315.449

29/10/99





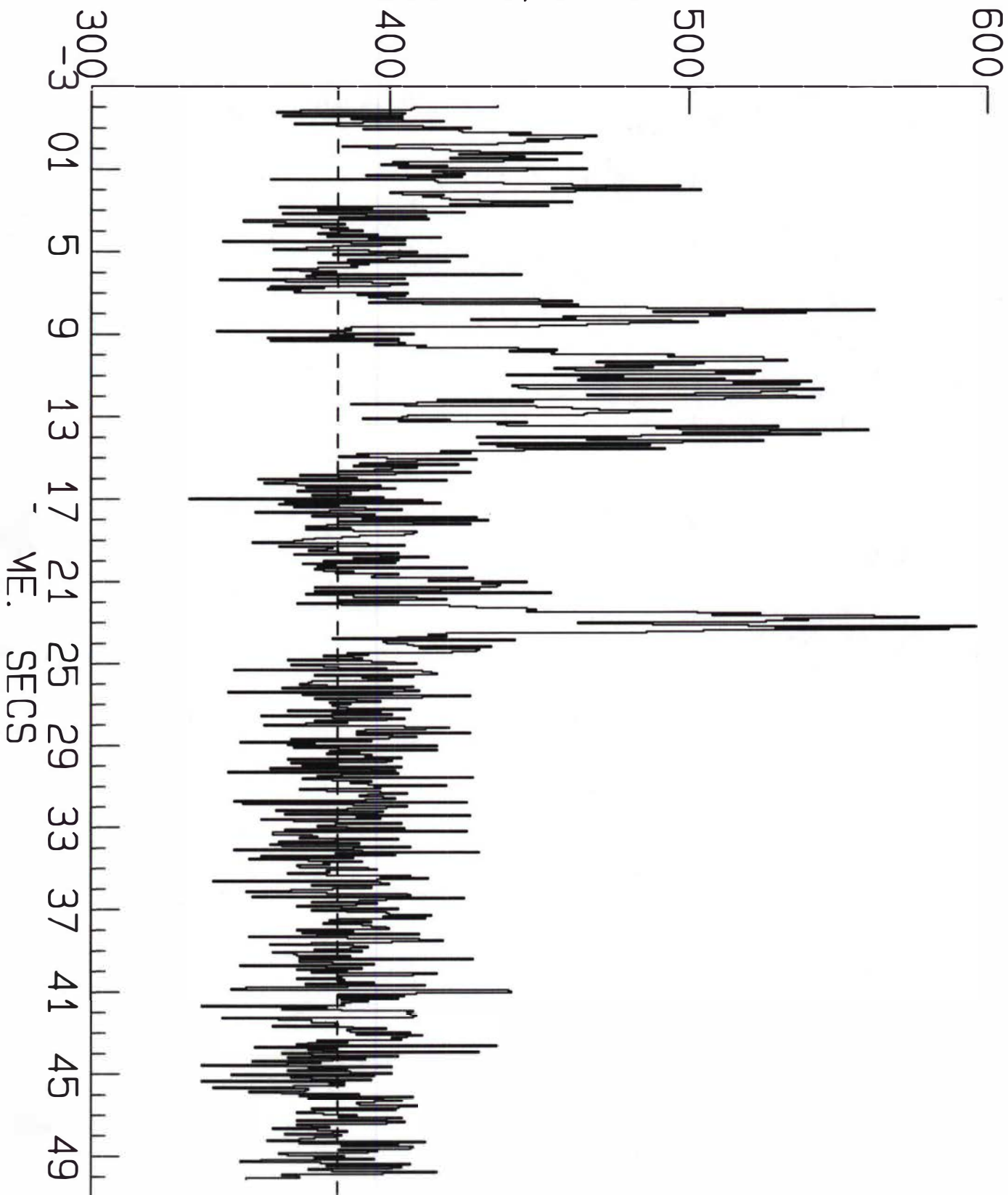
BATSE

23/10/99

51315.449

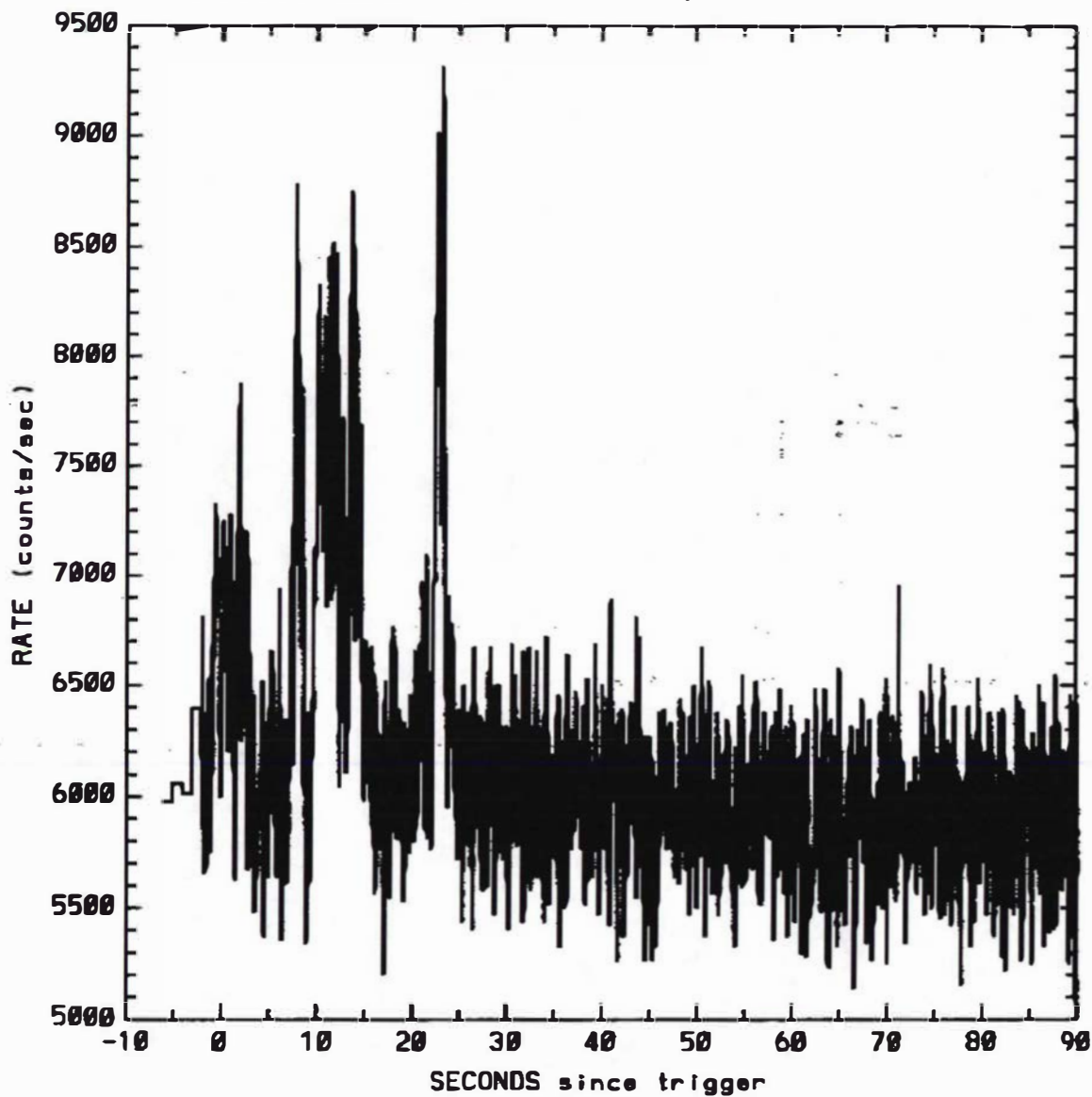
25- 100 keV

COUNTS/0.064 S



29/10/99

DISCSC Data for K. Hurley, No. 7818



27-OCT-1999 13:09.11

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # . 7818

Trigger Time:
11474 / 51315.449Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors [7..0].
-----10Discriminators:
(1..2)Quality Mask:
BDISP1

BATSE BURST# 7818

ULYSSES RT

27 / 10 / 99

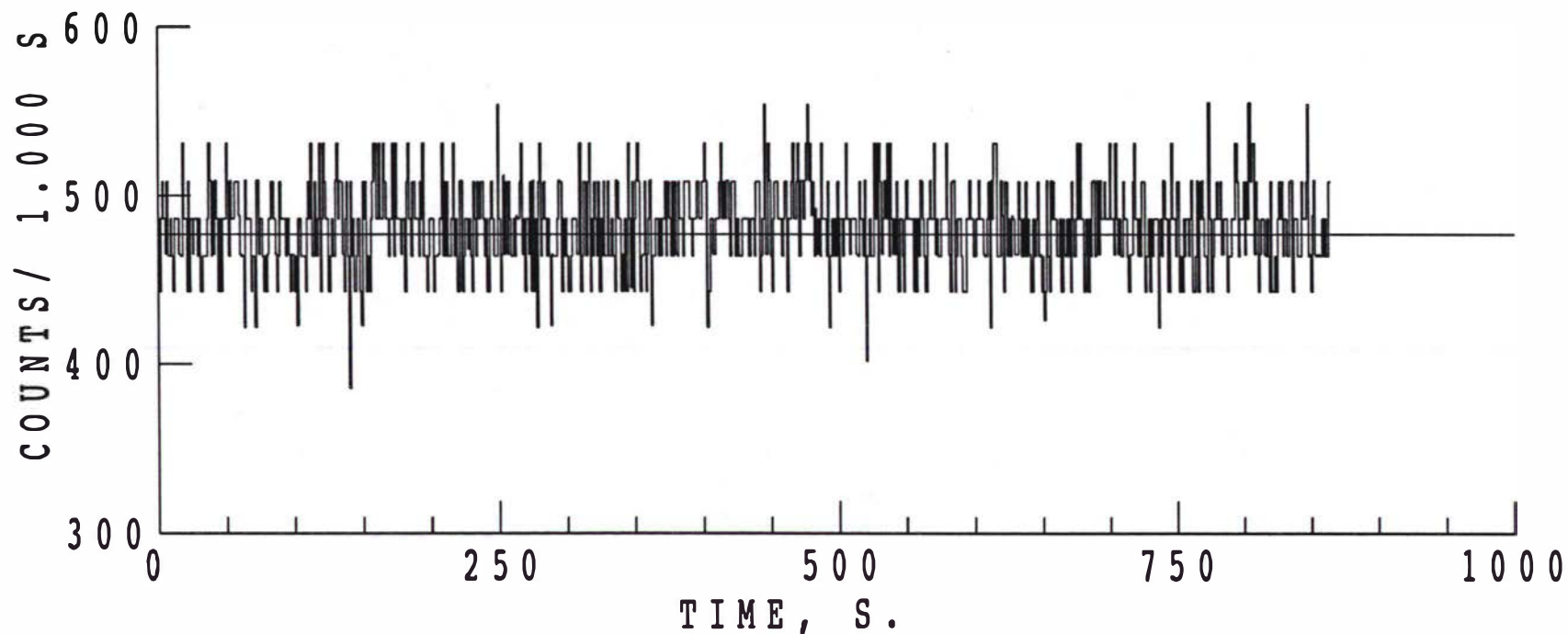
23 / 10 / 99 49788.449 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Mon Oct 25 13:03 PDT 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Mon, 25 Oct 1999 15:12:05 -0500 (CDT)

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, 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.: 7819

TIME: TJD=1474 SECONDS=71106

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

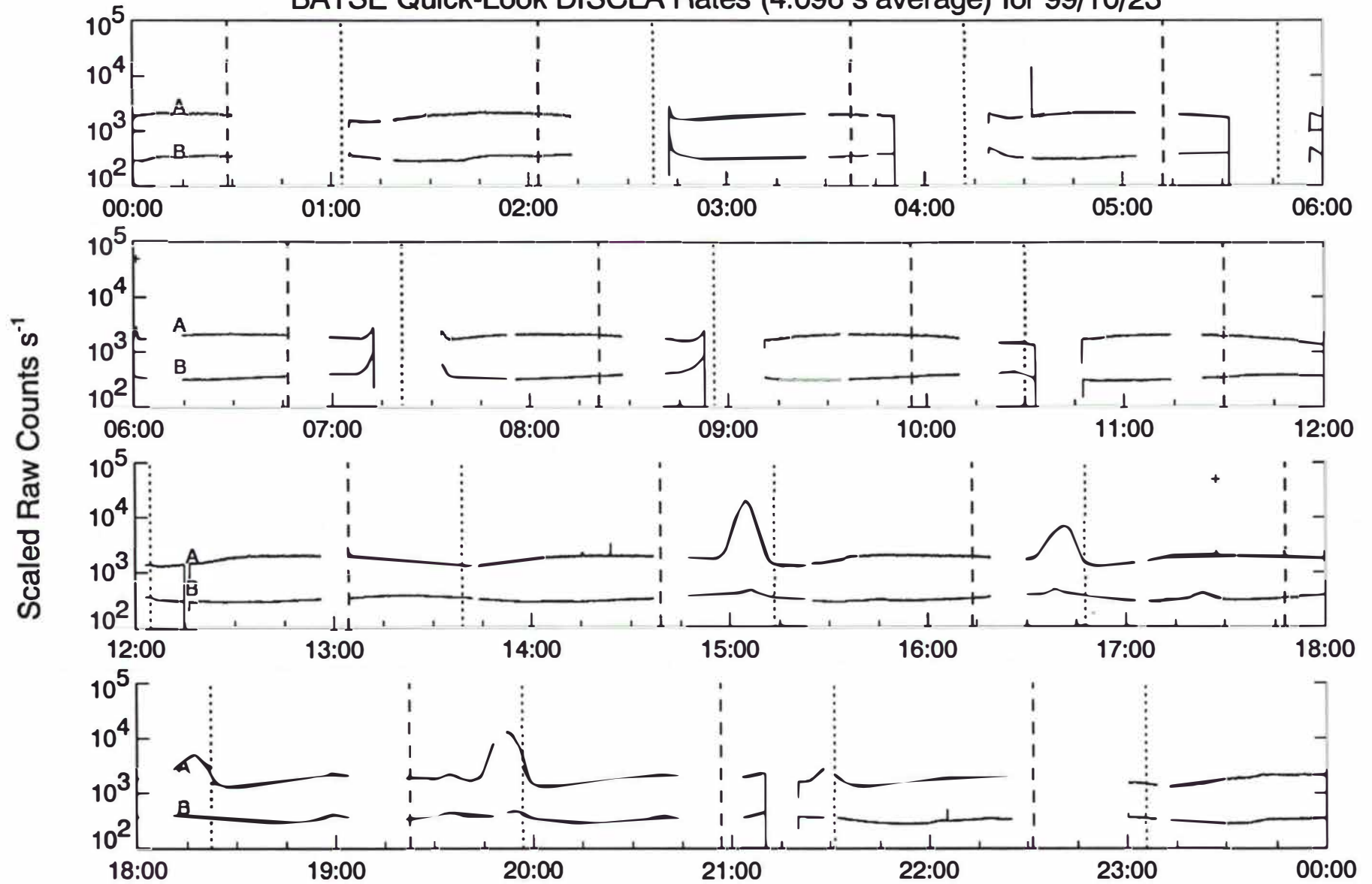
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT (TIME CORRECTION)

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/23

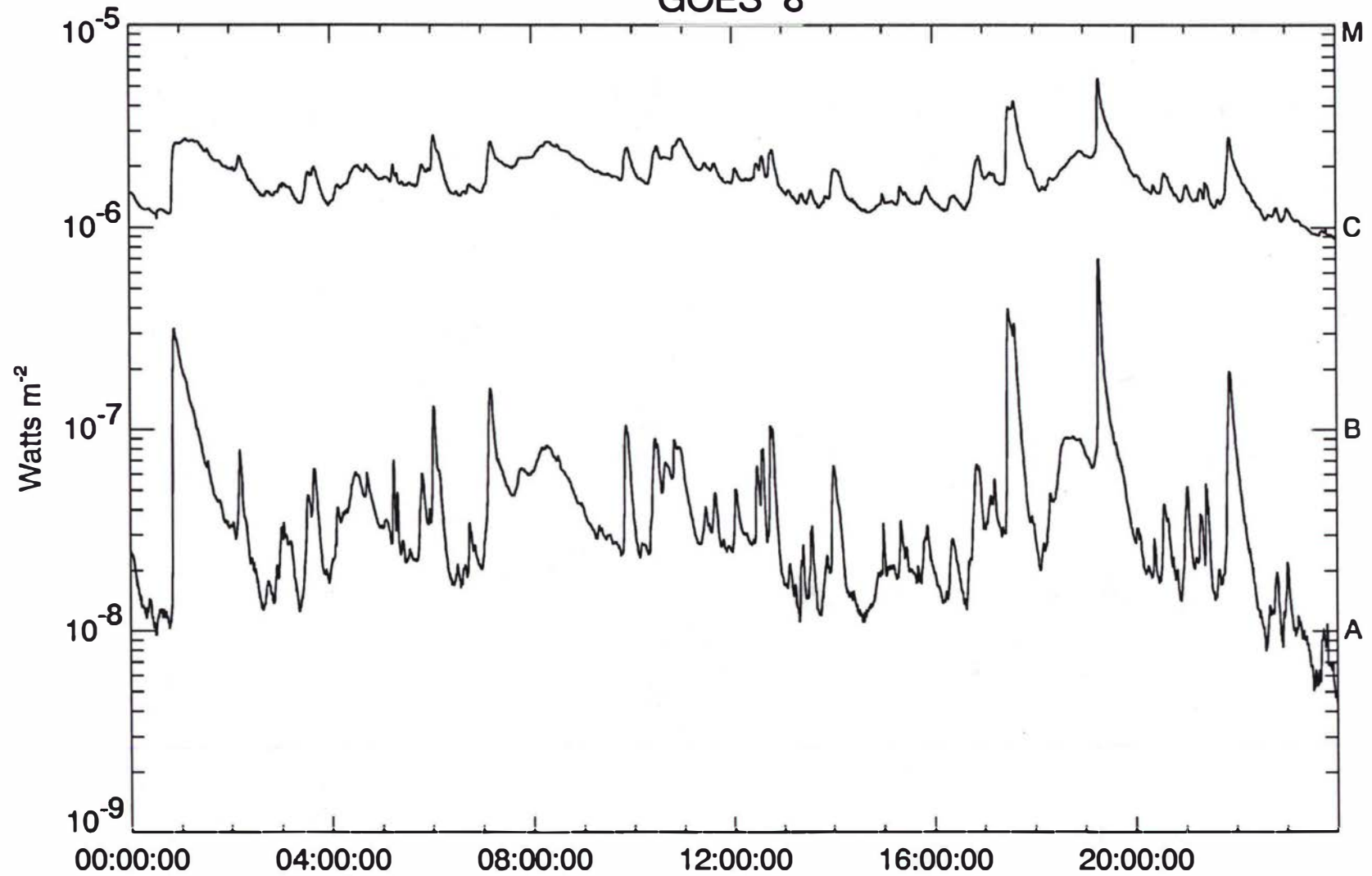


Current Time: 99/10/27, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

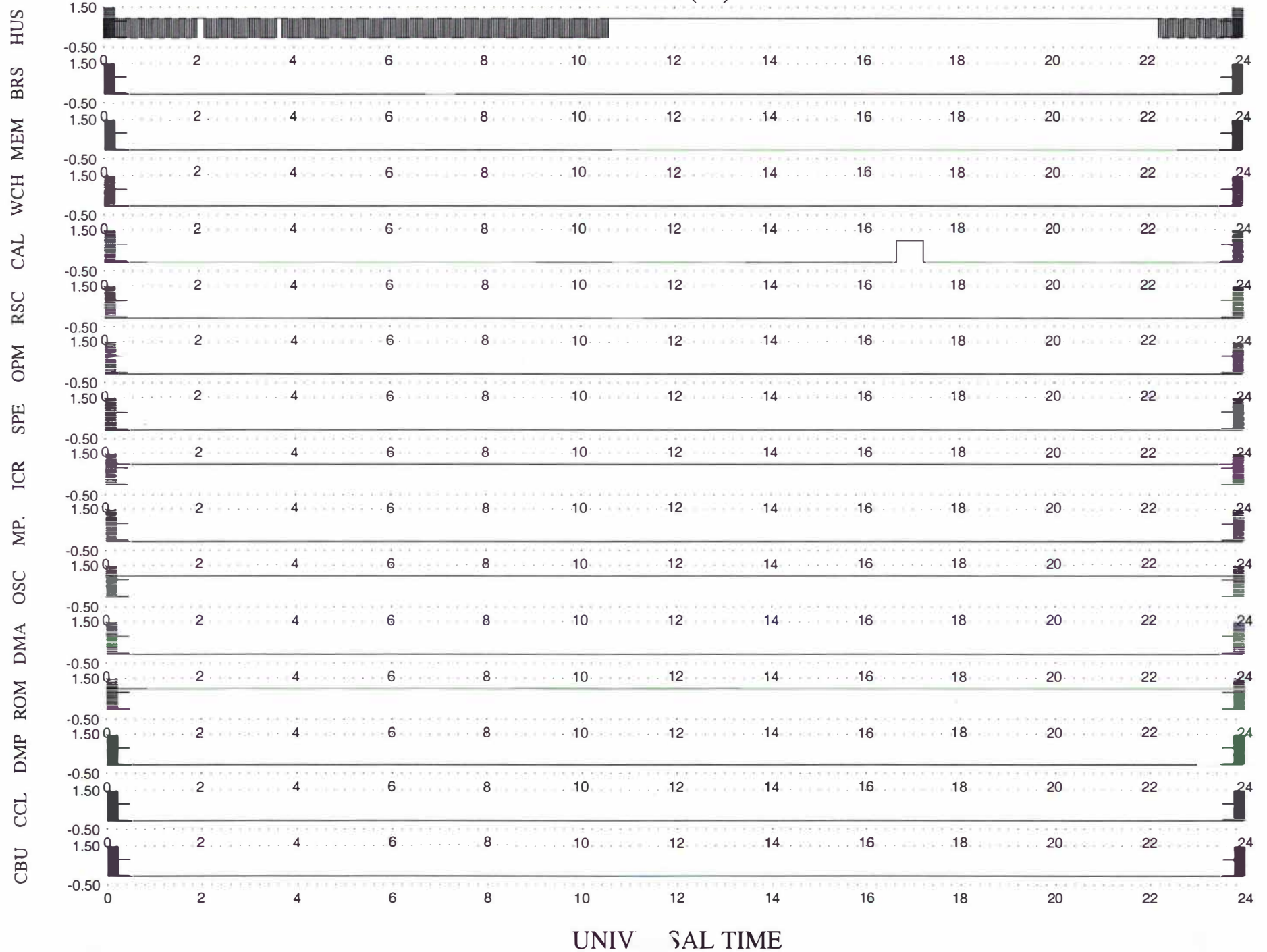


Data Start: 99/10/23, 0000:00

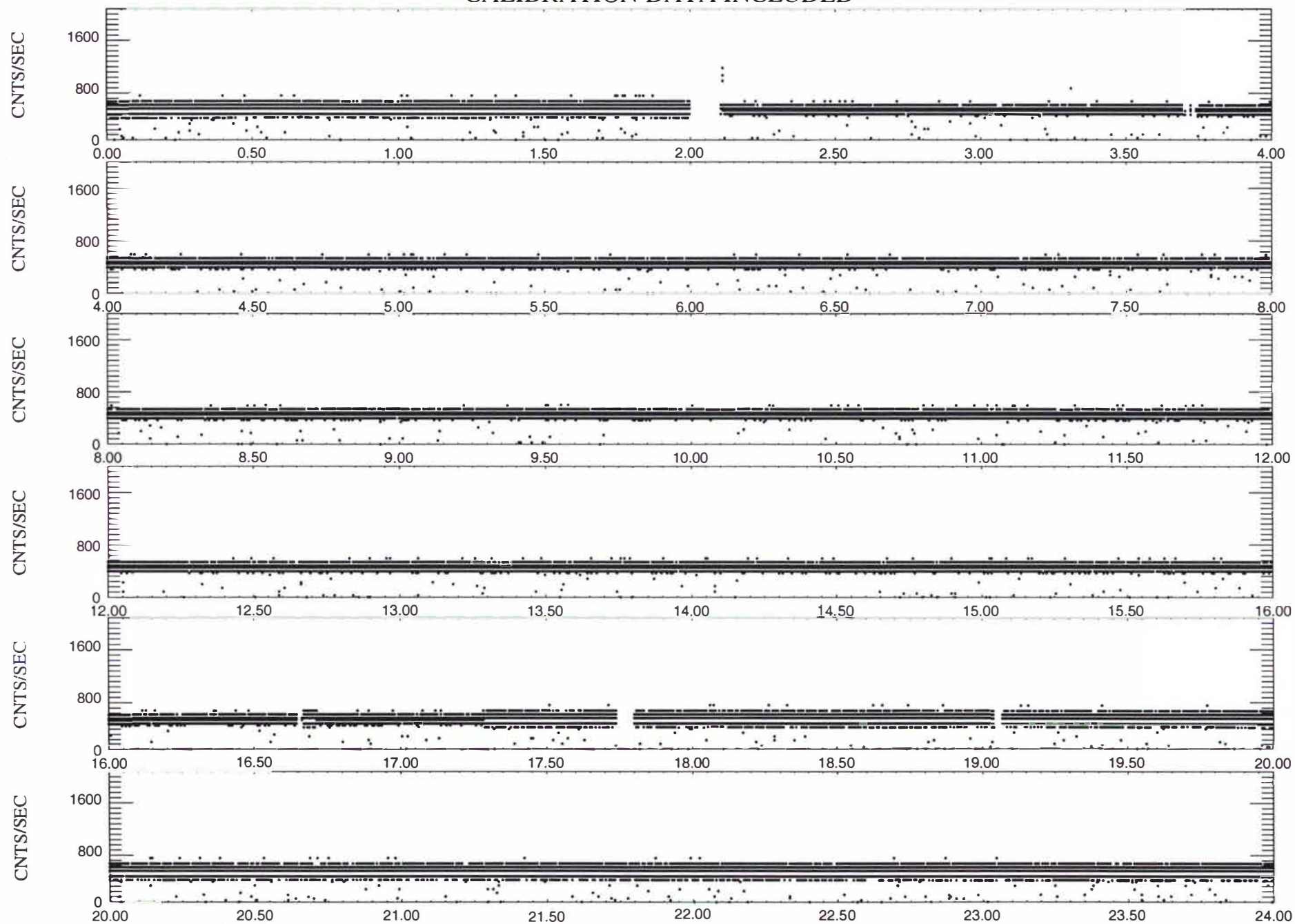
Plot created: 99/10/27, 1010

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

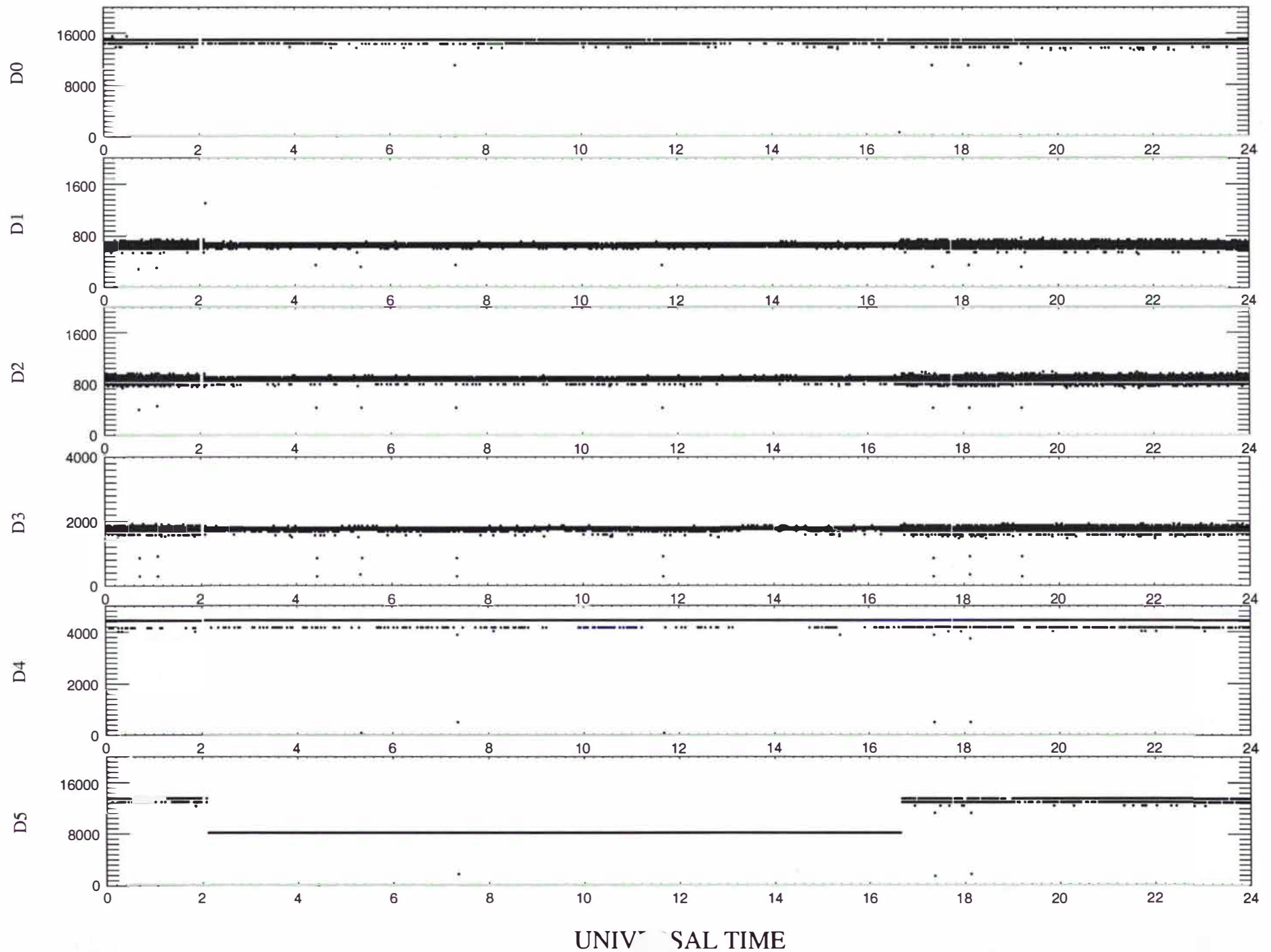
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SURASAK@joplin.msfc.nasa.gov Wed Oct 27 08:34 PDT 1999

From: SURASAK@joplin.msfc.nasa.gov

Date: Wed, 27 Oct 1999 10:40:08 -0500

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, 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.: 7820

TIME: TJD=1475 SECONDS=5399

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=86.1 AZIMUTH=3.7 ERROR=0.937 DEGREES

COMMENTS:

SOLAR FLARE. GOES C1.7, NO OPTICAL. SINGLE PULSE. DURATION ABOUT 60 S.
NOT VISIBLE ABOVE 300 KEV.

Date: Mar 21 2017

BURST TRIANGULATION CHECKLIST

1. Suzaku Data

- ☐ 1 second timing error corrected? (Jan 1 – Apr 24 2009, and July 1 – August 20, 2012 – leap sec.)

2. AGILE Data

- ☐ 1 second timing error corrected?

3. MESSENGER Data

- ☐ Coarse or Precision oscillator (C or P bronte.jhuapl.edu/spice/kernels/scik/timekeeping/OPS_TIME_ENGR.txt)?
- ☐ Timing checked after ~ 1 week?

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. 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). For later data, was timing checked after ~1 week?
- ☐ 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?

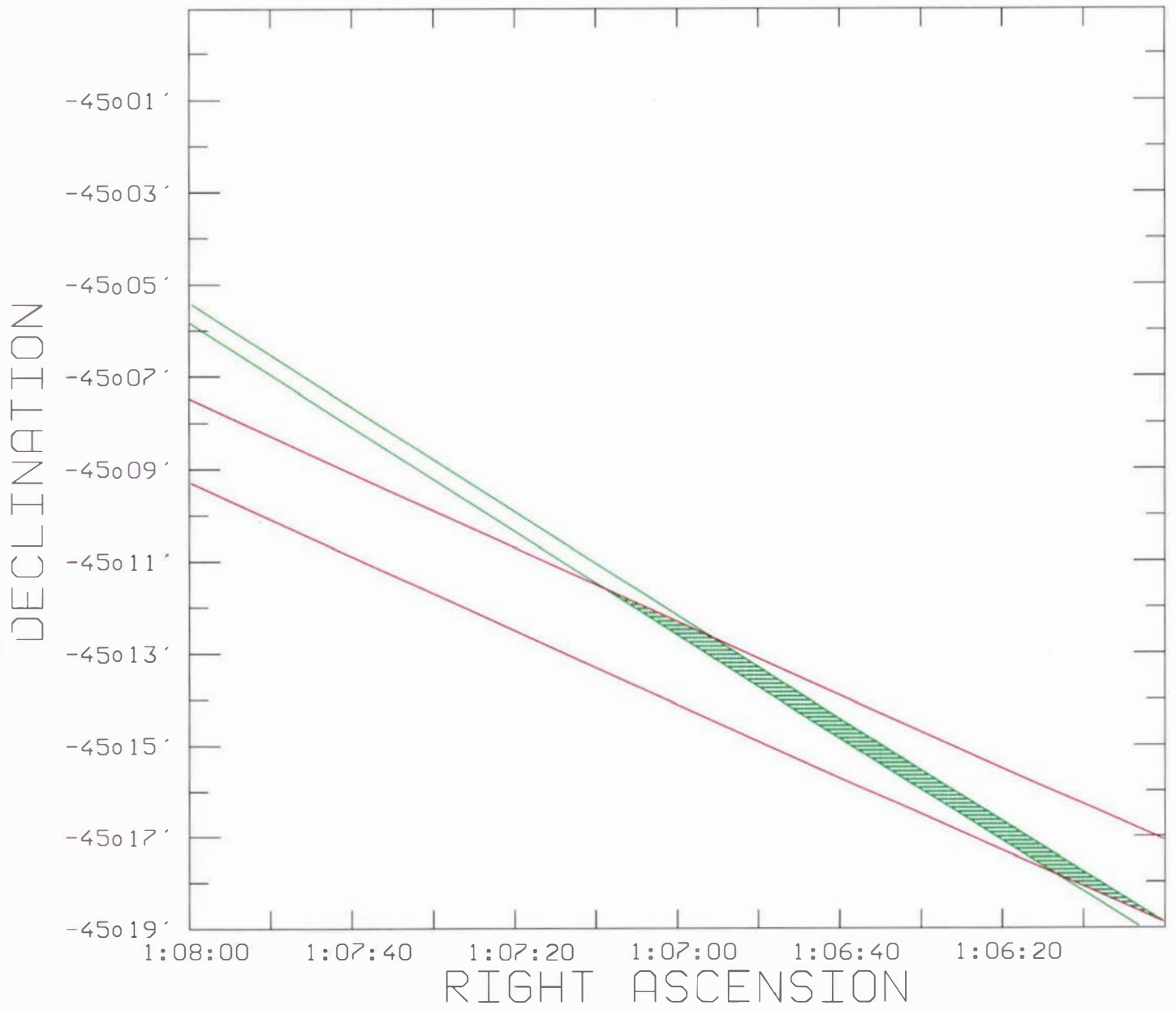
6. For 3 or More Spacecraft events

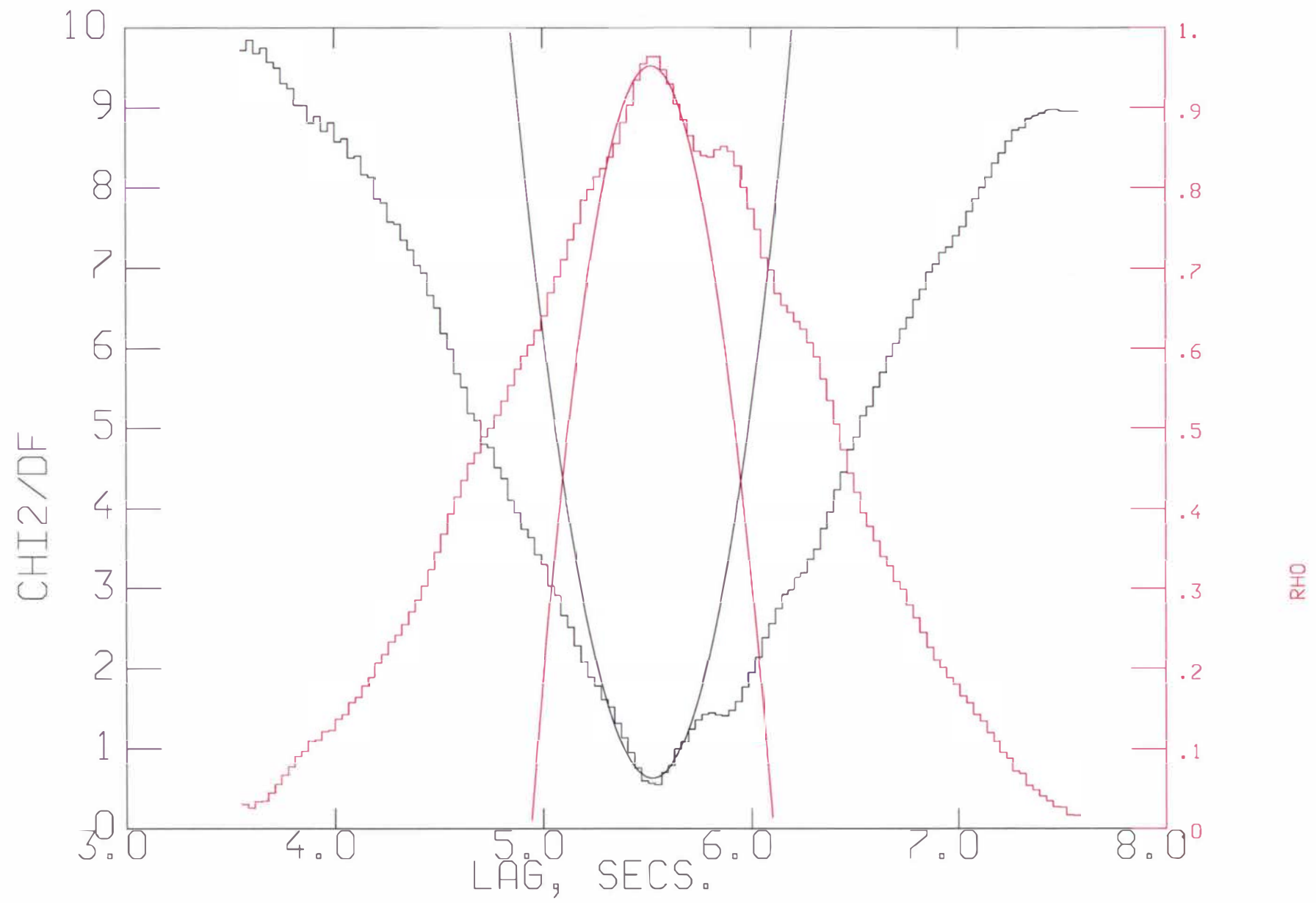
- ☐ $\Sigma 3\Delta t$'s calculated, and/or BMAPSUM executed?

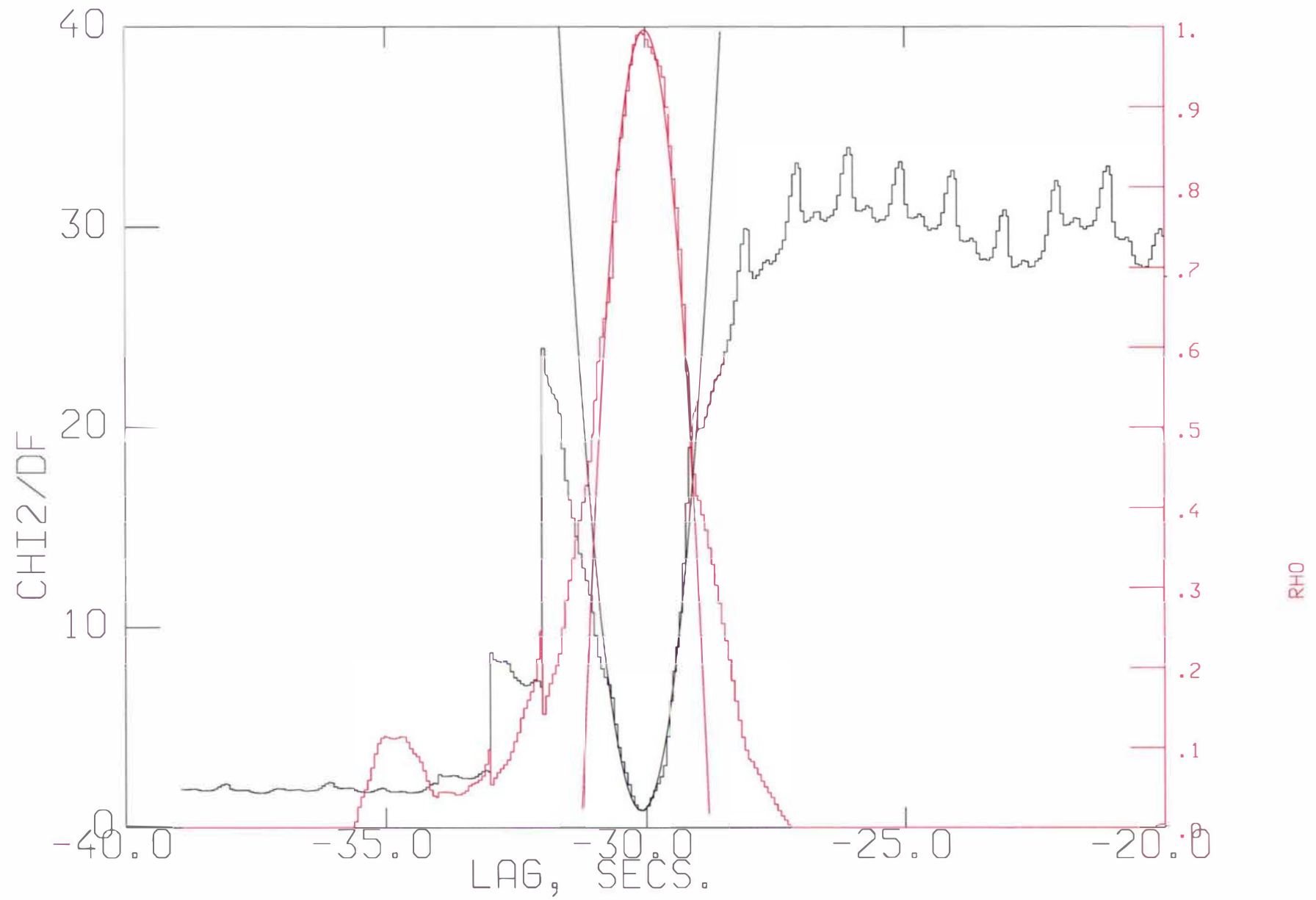
7. For INTEGRAL events

- ☐ 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?
- ☐ Hand-extracted data used (record starts at -30.000 s)?
- ☐ Volodymyr's website checked ? (<http://isdc.unige.ch/~savchenk/spiacs-online/spiacs-ipnlc.pl>)

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



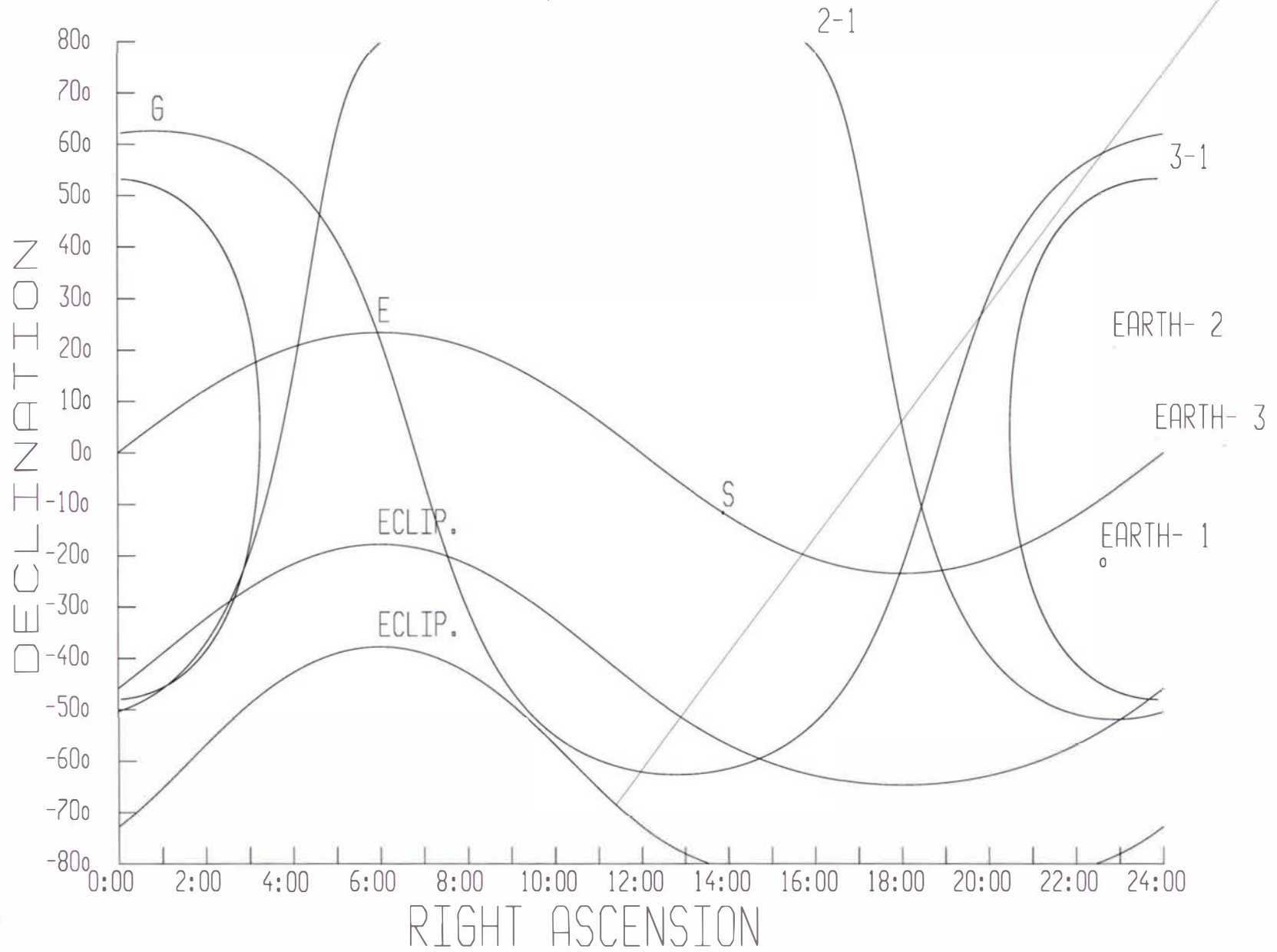




EVENT OF OCT 24, 1999 7:32

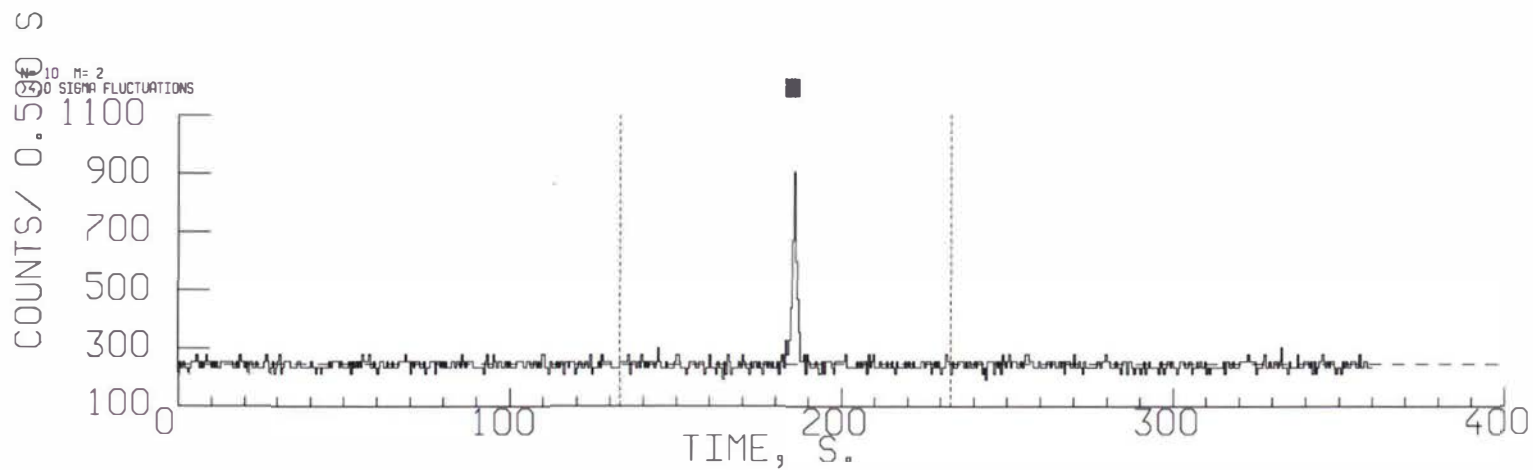
21/03/2017

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



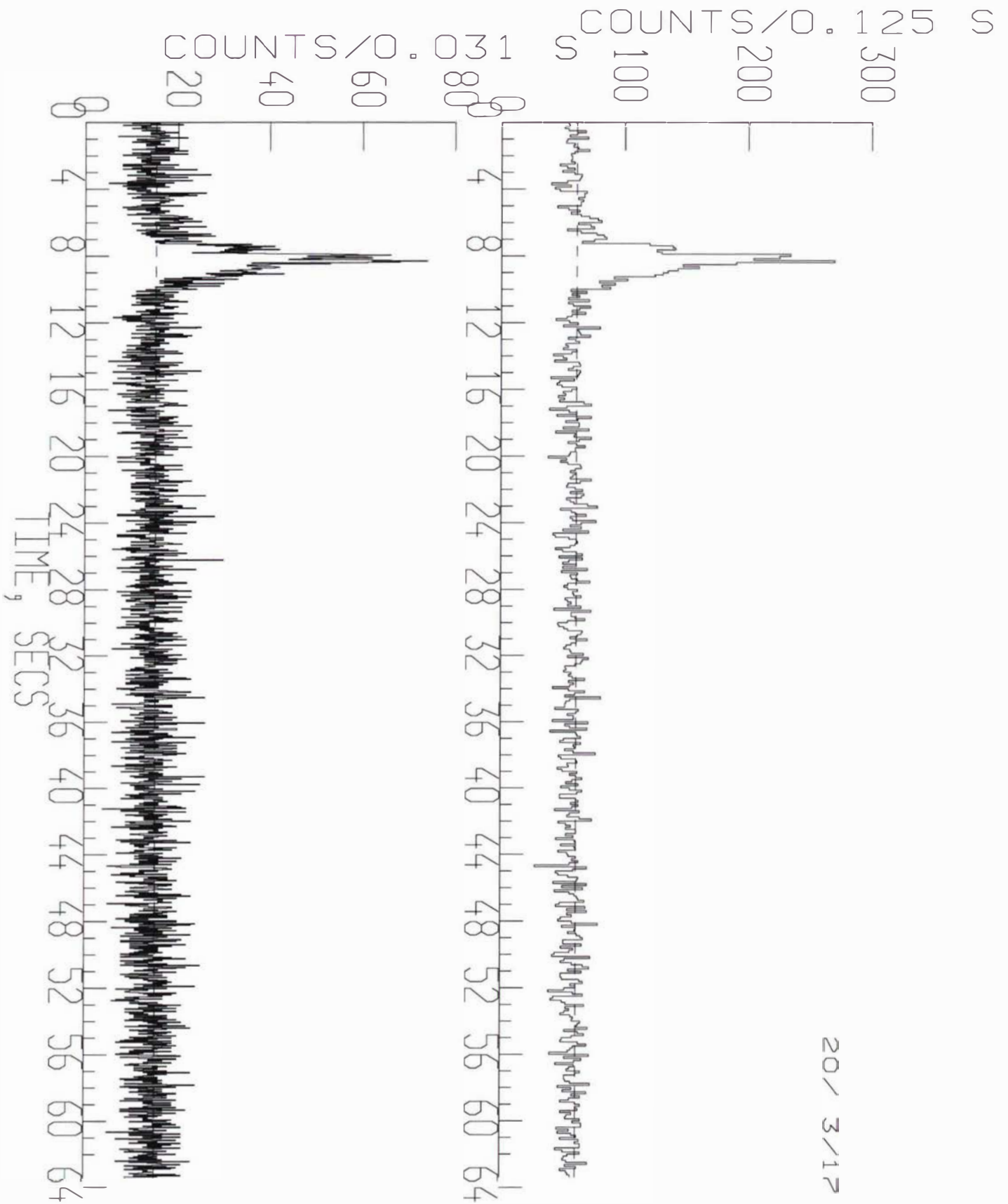
ULYSSES RT
24/10/99 27720.096 s
22- 152 keV

20/ 3/17



ULYSSES 24/10/99 Ttrig=27904.966

22- 152 keV



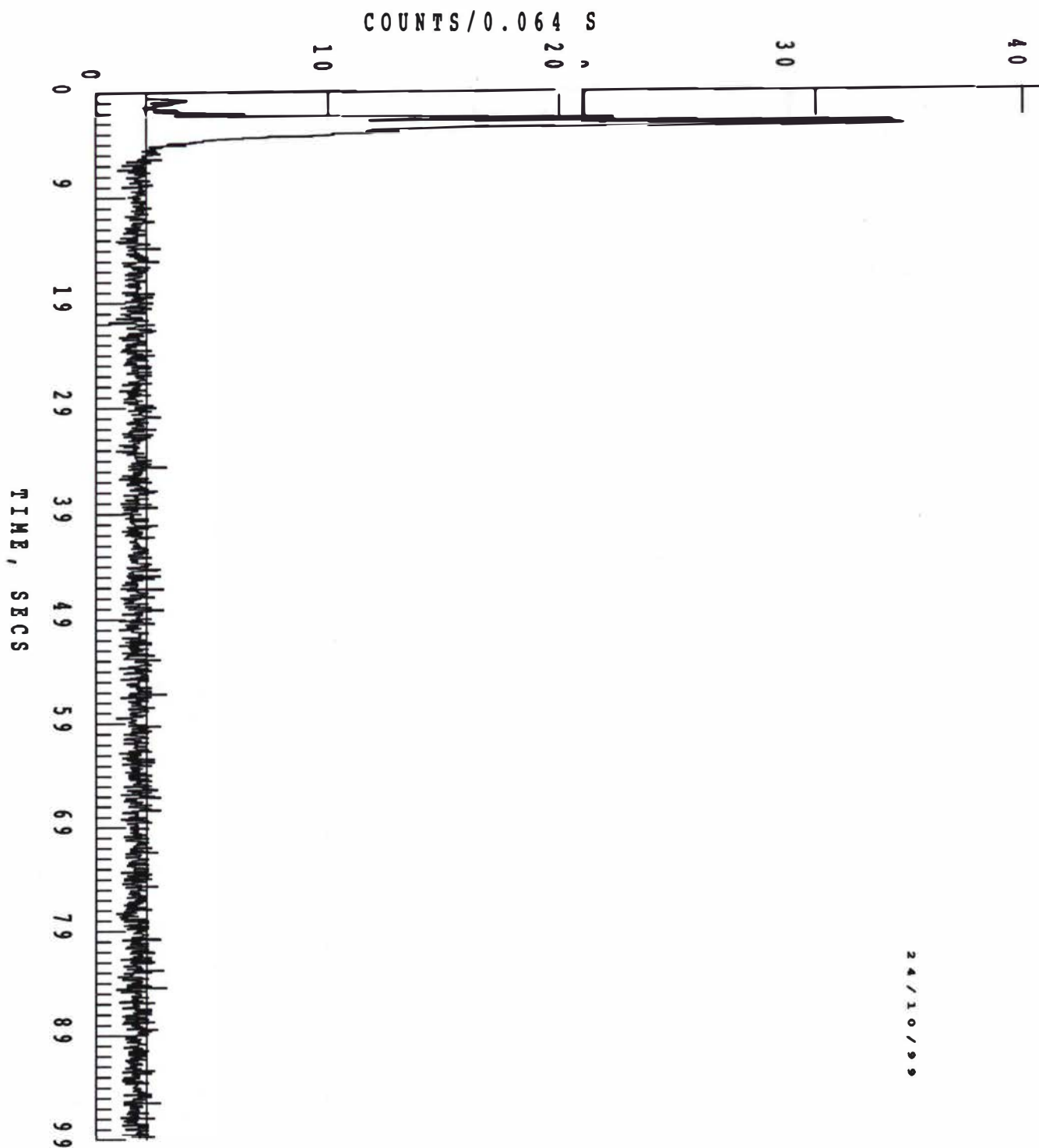
KONUS

24/10/99

27140.764

50 - 200 keV

Trigger



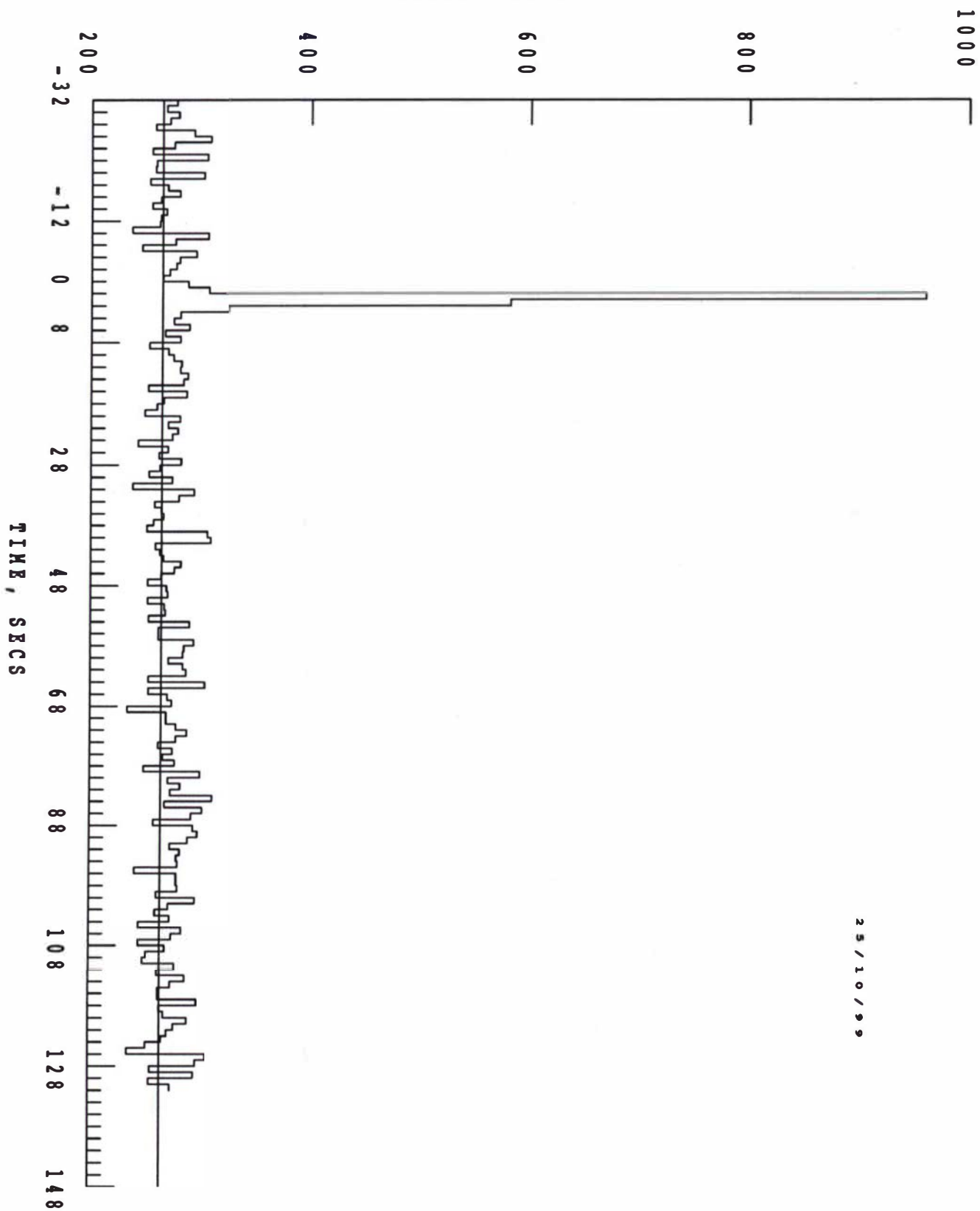
NEAR

24/10/99

27738.691

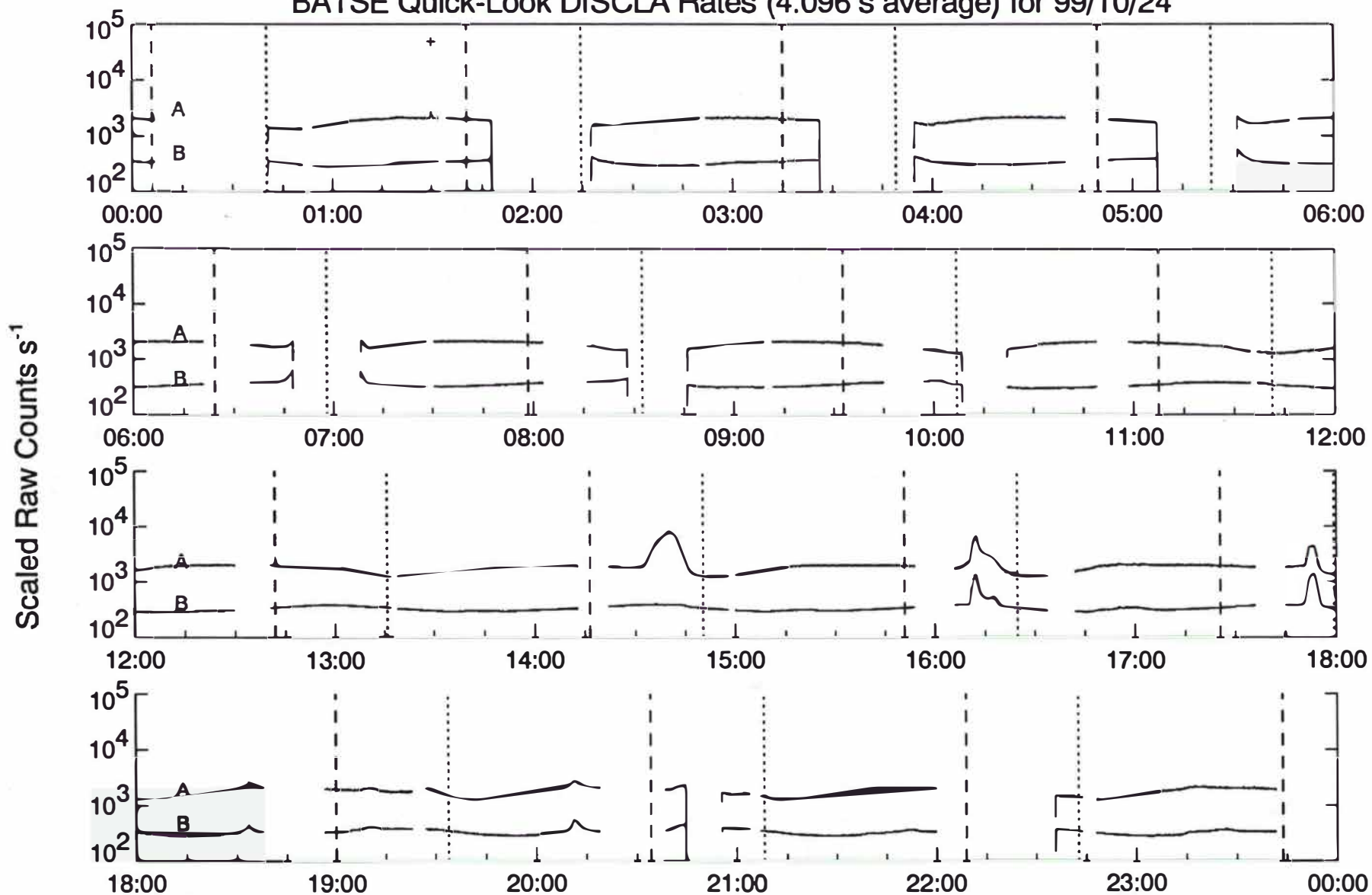
100-1000 keV

COUNTS/1.000 S



25/10/99

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/24



Current Time: 99/10/28, 1010 EDT

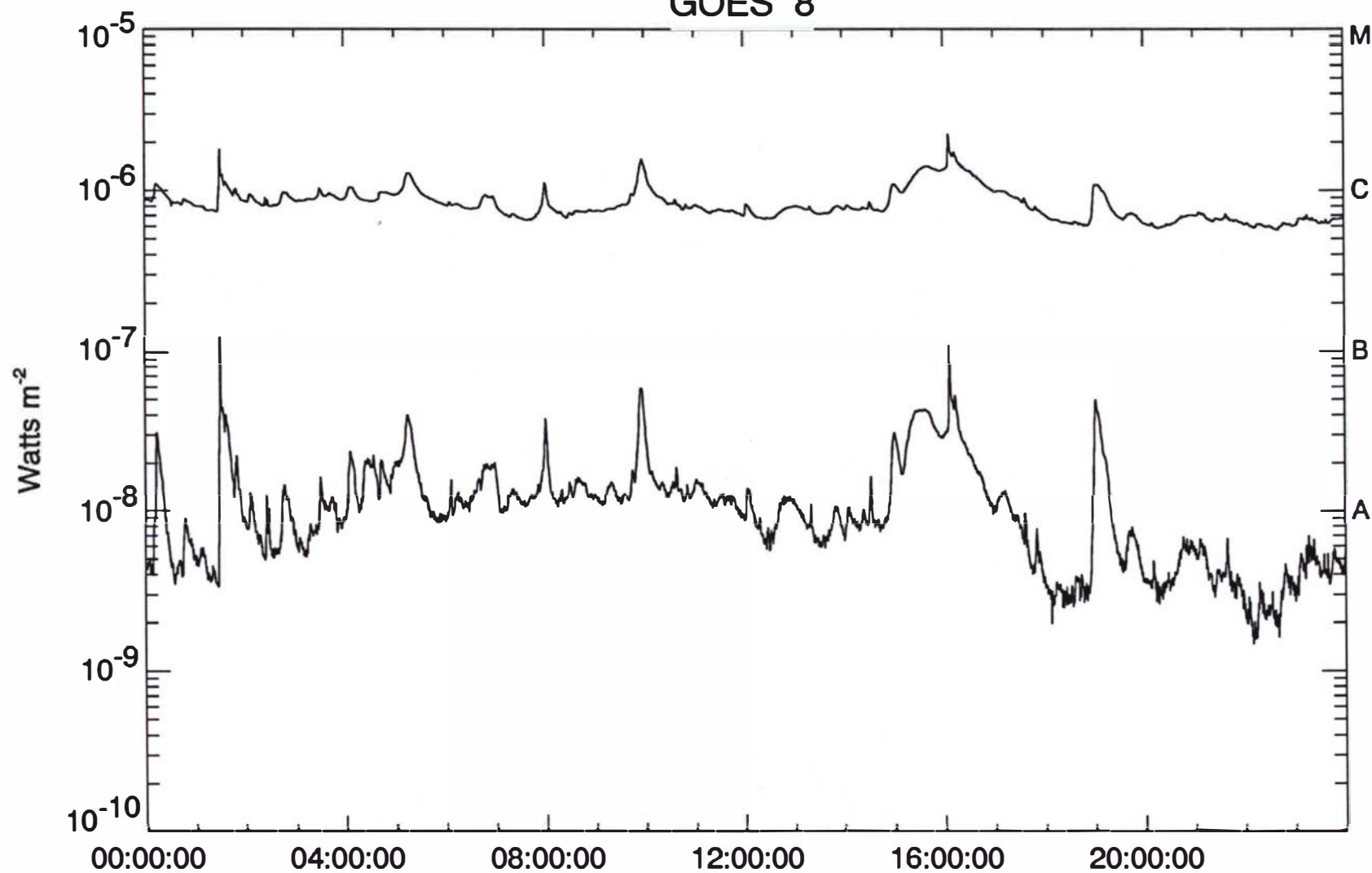
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/10/24, 0000:00

Plot created: 99/10/28, 1010

Channel

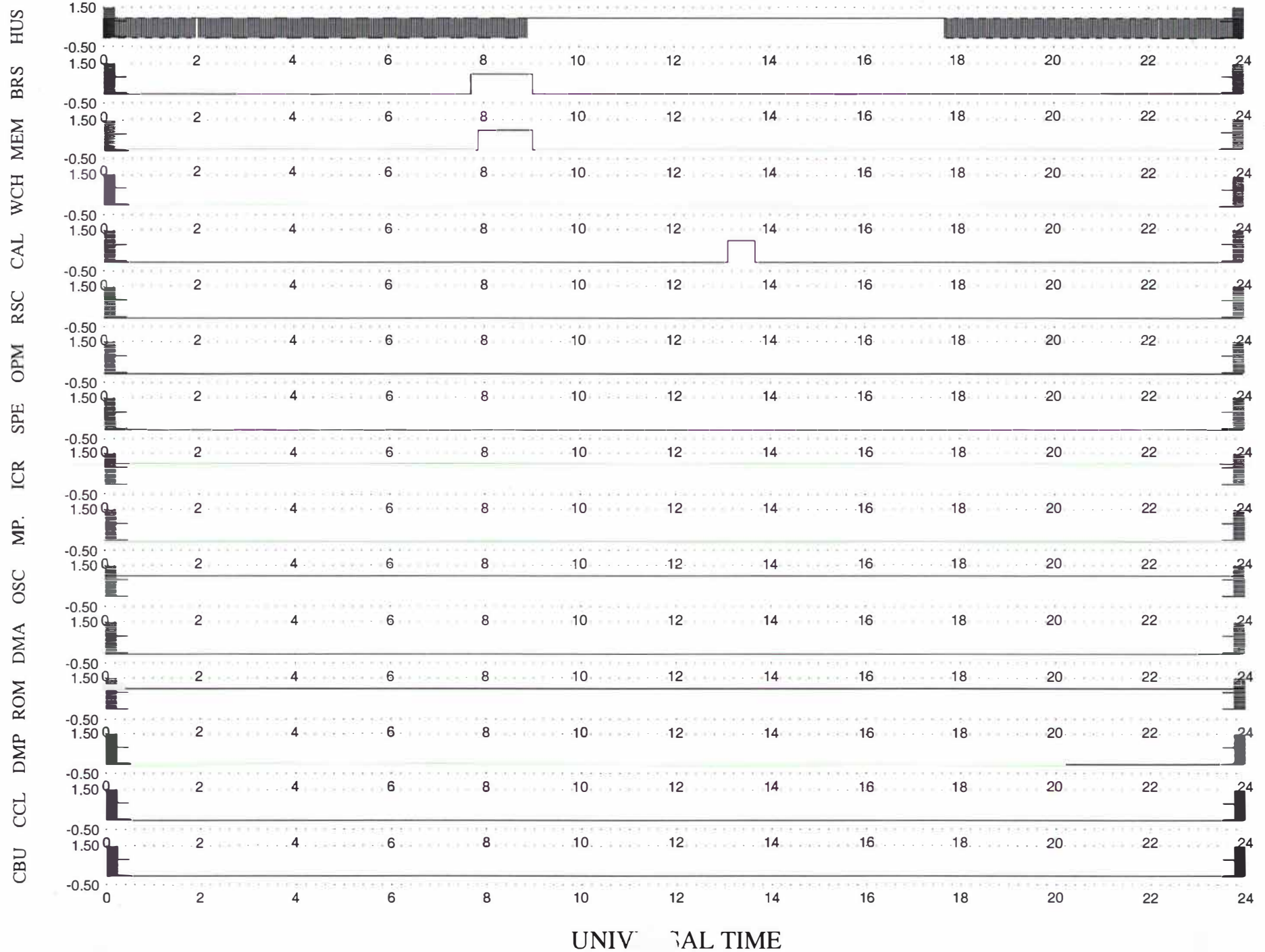
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted

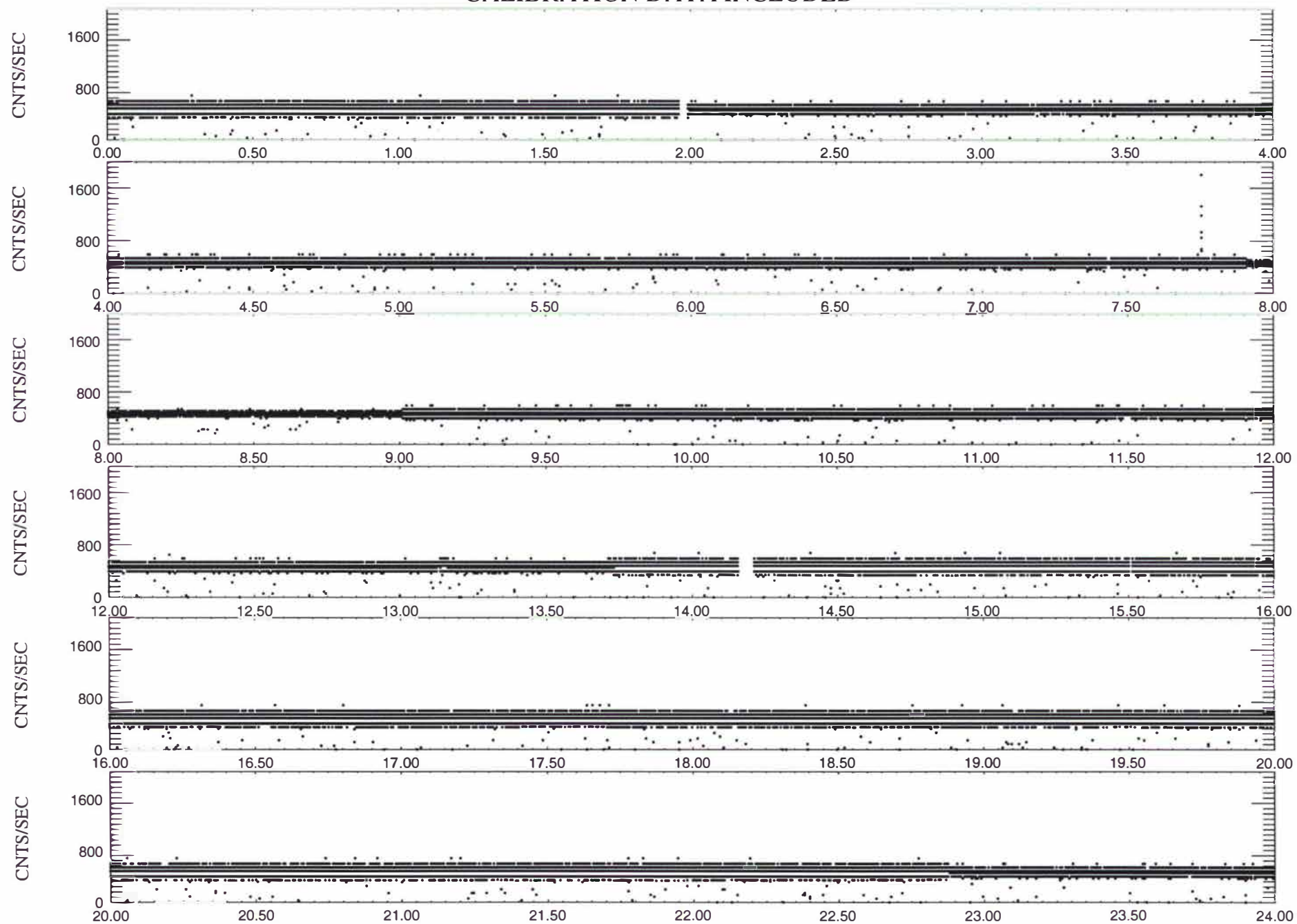
Background not subtracted

Sample average = 10

BURST NUMBER 14

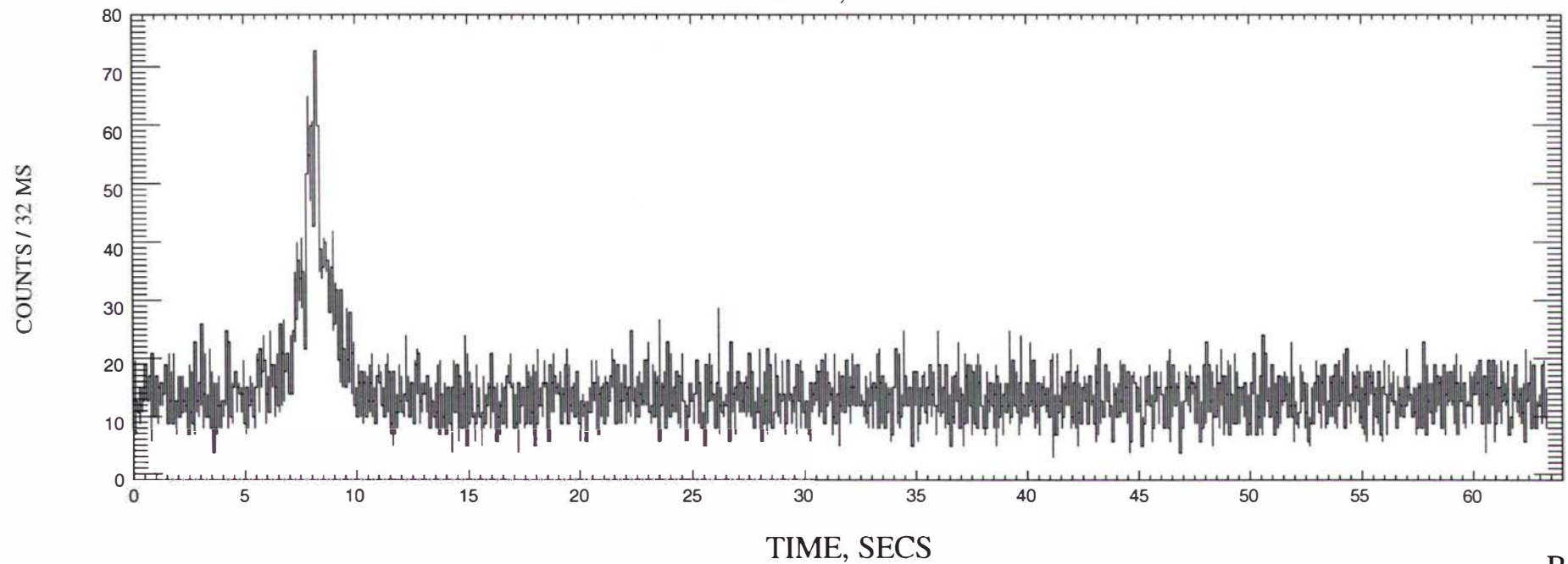
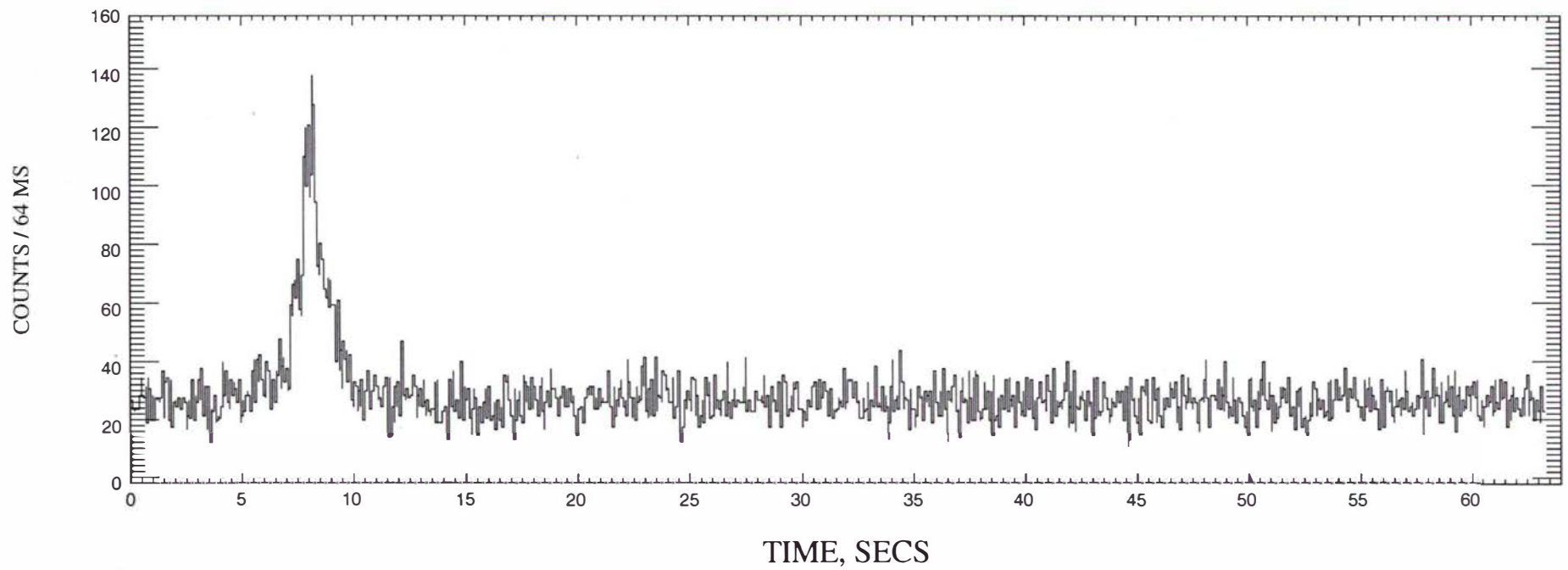


CALIBRATION DATA INCLUDED

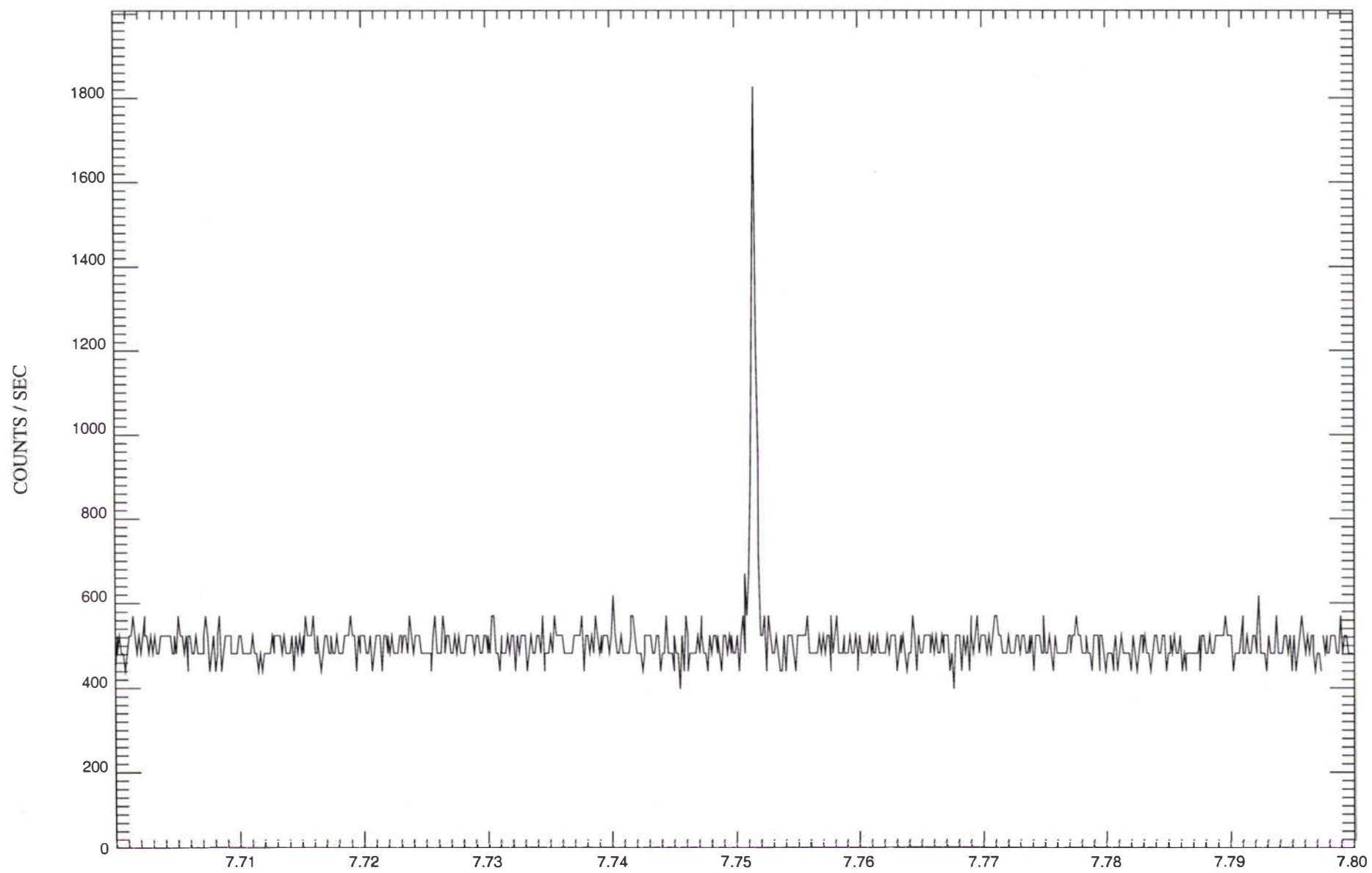


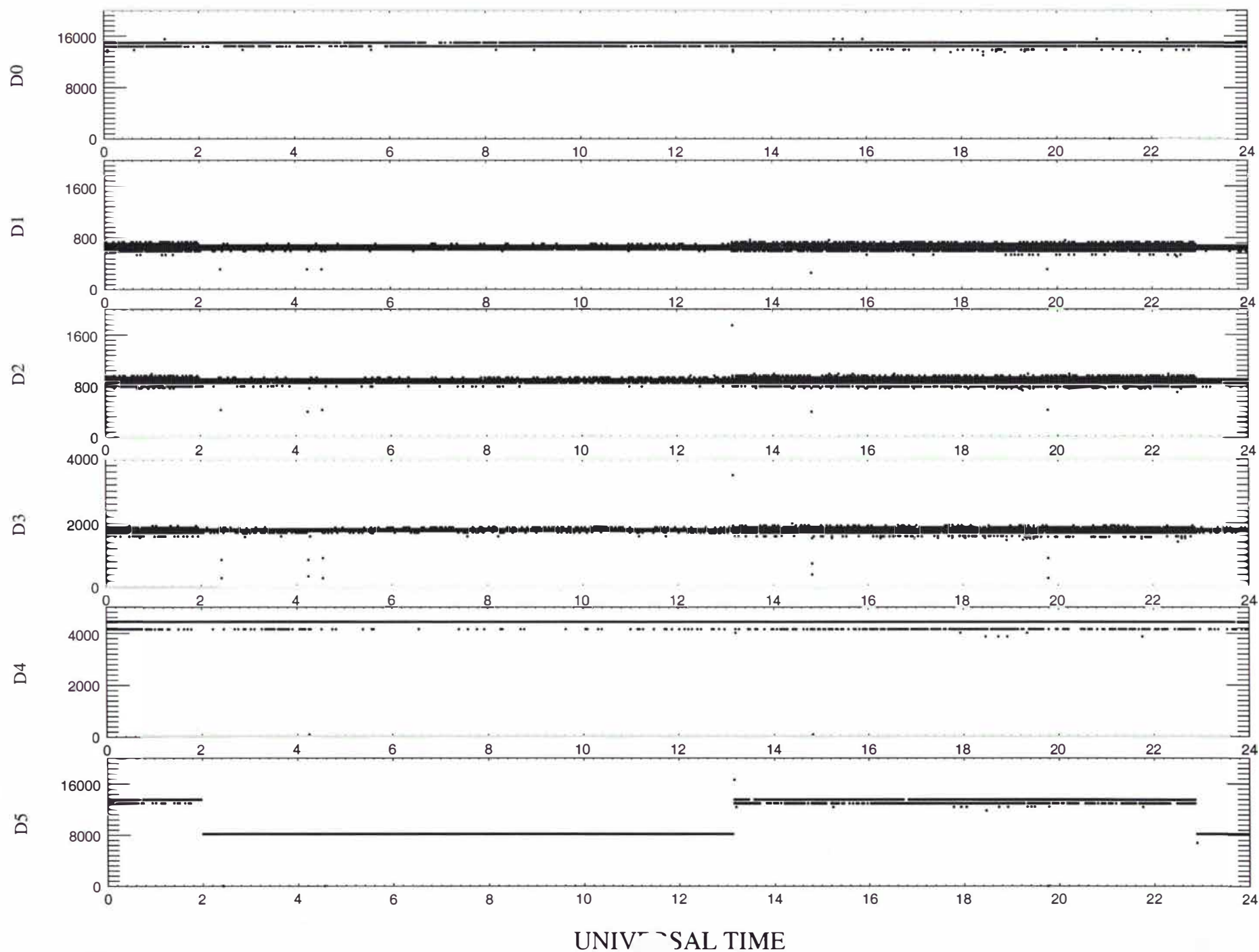
UNIV. SAL TIME

Burst Counter 14 at UT= 7.751371235318 h=27904.936 s 07:45:04.936



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Wed Oct 27 14:31 PDT 1999
Date: Wed, 27 Oct 1999 16:28:41 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7821

TIME: TJD=1476 SECONDS= 8595

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 85.2 AZIMUTH= 3.7 ERROR= 0.3 DEGREES

COMMENTS:

GOES C1.1, OPTICAL SF FLARE. SINGLE PULSE, DUR. APPROX. 23 S, STARTS AT APPROX.
T-8 S, MAX AT APPROX. T+2 S. NOT VISIBLE ABOVE 300 KEV.

From HENZE@fender.msfc.nasa.gov Wed Oct 27 14:53 PDT 1999
From: HENZE@fender.msfc.nasa.gov
Date: Wed, 27 Oct 1999 16:50:34 -0500 (CDT)
>: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7822

BATSEARCH PROGRAM

BATSE BURST # 7822
EVENT OF 1999 OCT 25 DAY OF YEAR=298
EVENT CROSSING TIME AT BATSE : 60990. S. OR 16:56:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 257.000 44.000
BATSE PEAK COUNTING RATE: 10500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/10/ 99 IS:
RA= 163.123 DEC= -20.819 DIST= 5.061 AU
BATSE-ULYSSES DISTANCE = 757134640. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 738.35 SECS.
CROSSING TIME AT ULYSSES IS 61728. S. OR 17:08:48 +/- 480.53 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/10/ 99 IS:
RA= 276.372 DEC= -25.039 DIST= 1.484 AU
MARS-BATSE DISTANCE = 222032816. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=108.71 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -237.62 SECS.
CROSSING TIME AT MARS IS 60752. S. OR 16:52:32 +/- 118.18 SECONDS

BATSE BURST TRIGGER

NO.: 7822

TIME: TJD=1476 SECONDS=60990

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 33.7 AZIMUTH=305.5 ERROR= 0.7 DEGREES

COMMENTS:

SINGLE EPISODE WITH SMALL RISE FOLLOWED BY MAIN PULSE. TOTAL DUR. APPROX.
50 S, STARTS AT APPROX. T-19 S, MAX AT APPROX. T+5 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7822	991025	11476	60990	10500	257	+44	50

Date: May 3 2000

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

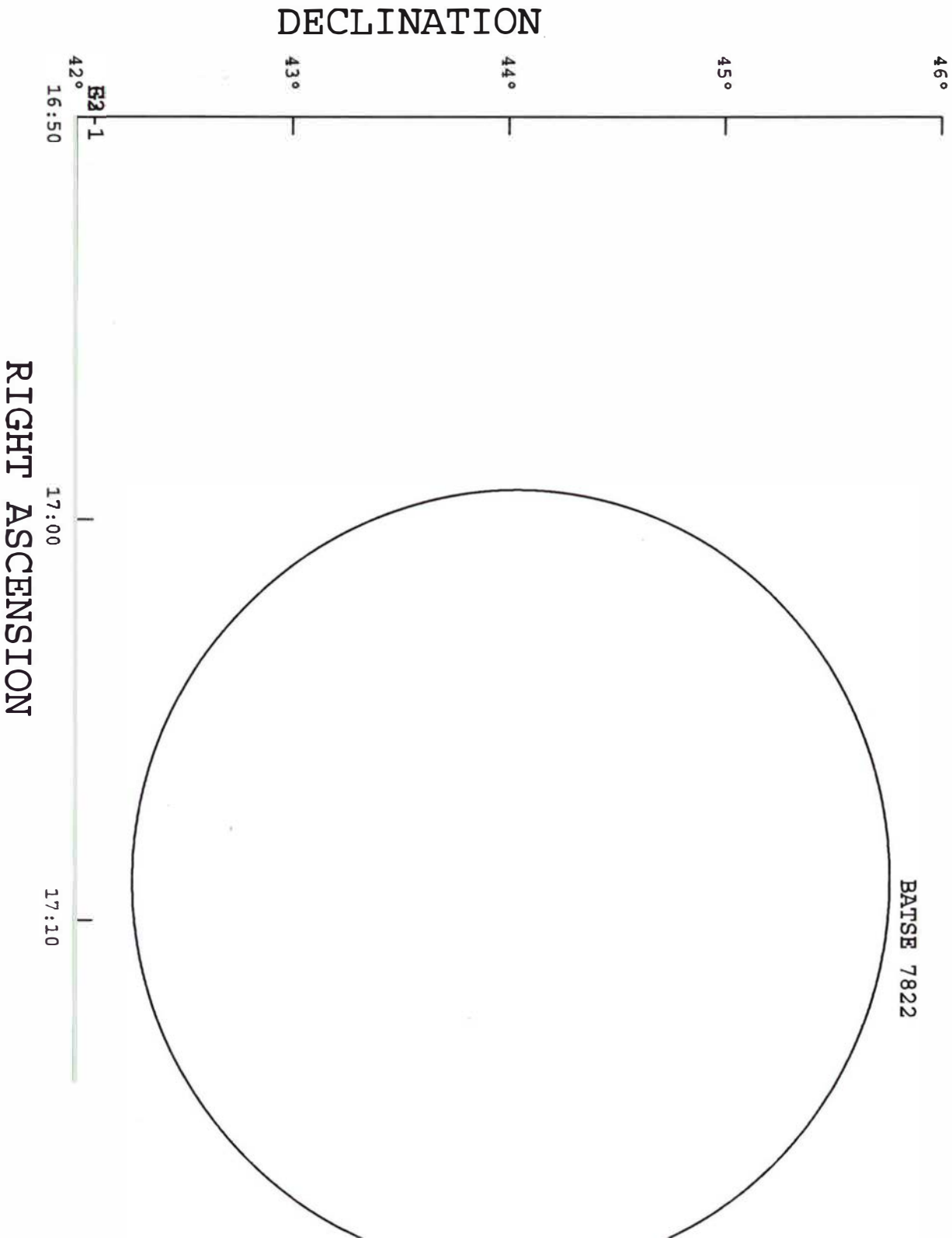
3. NEAR Data

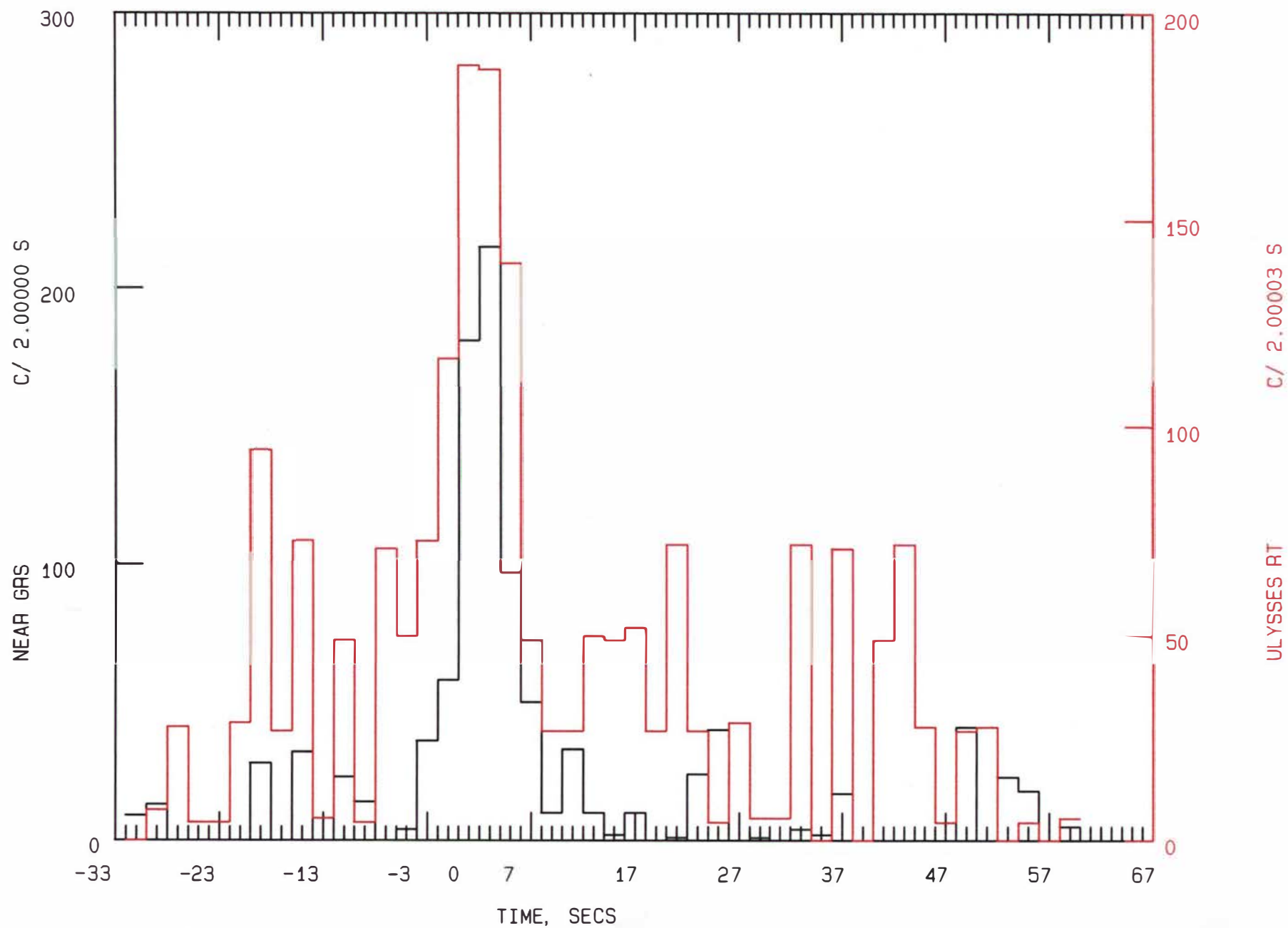
- ☒ Final, correct time used? (Files postmarked vwxx@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ BATSE >100 keV data used for NEAR correlation?
- ☒ ACCESS database updated?

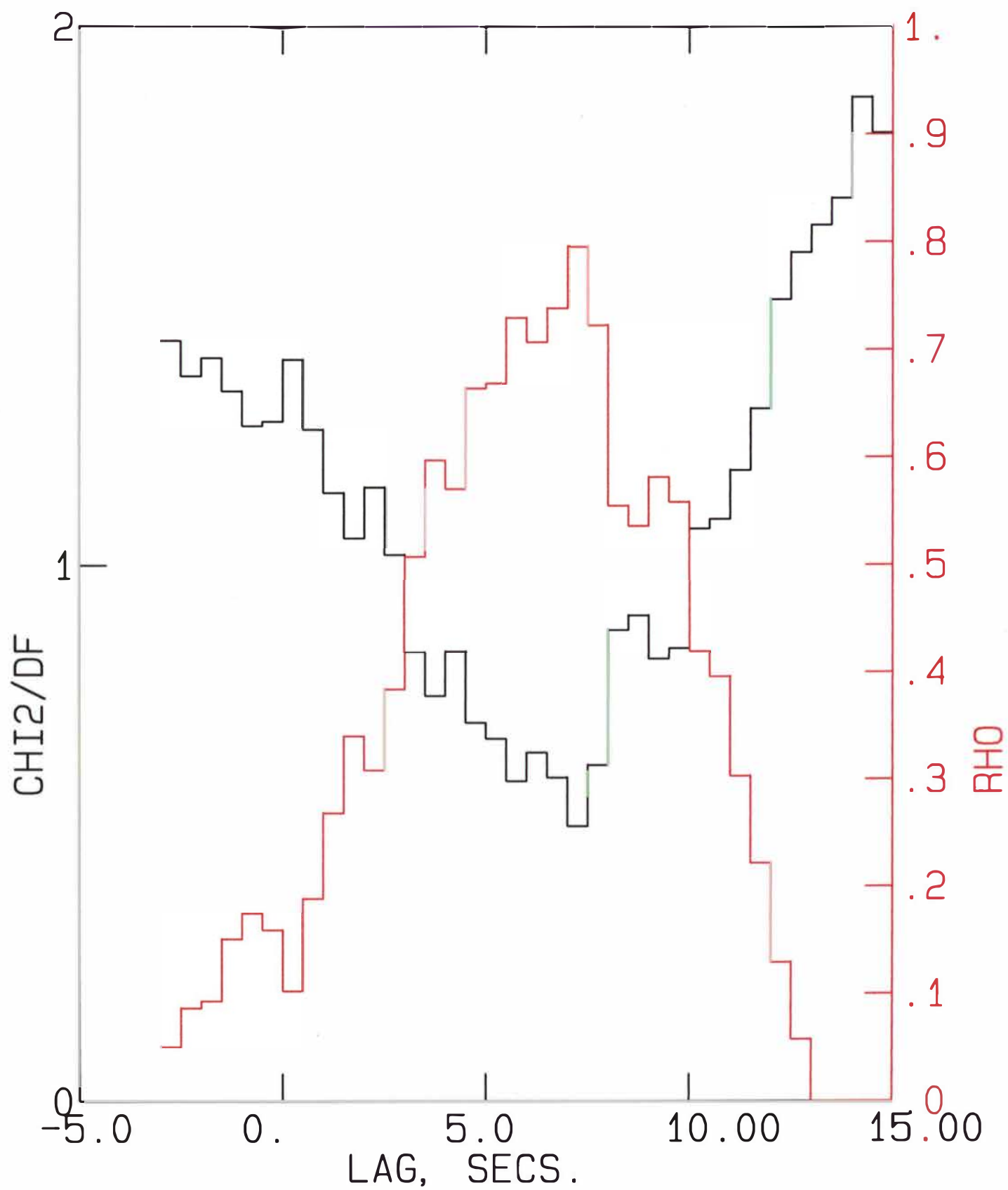
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
 1 BATSE 2 ULYSSES 3 NEAR

EVENT OF OCT 25, 1999 16:56

3 / 5 / 0







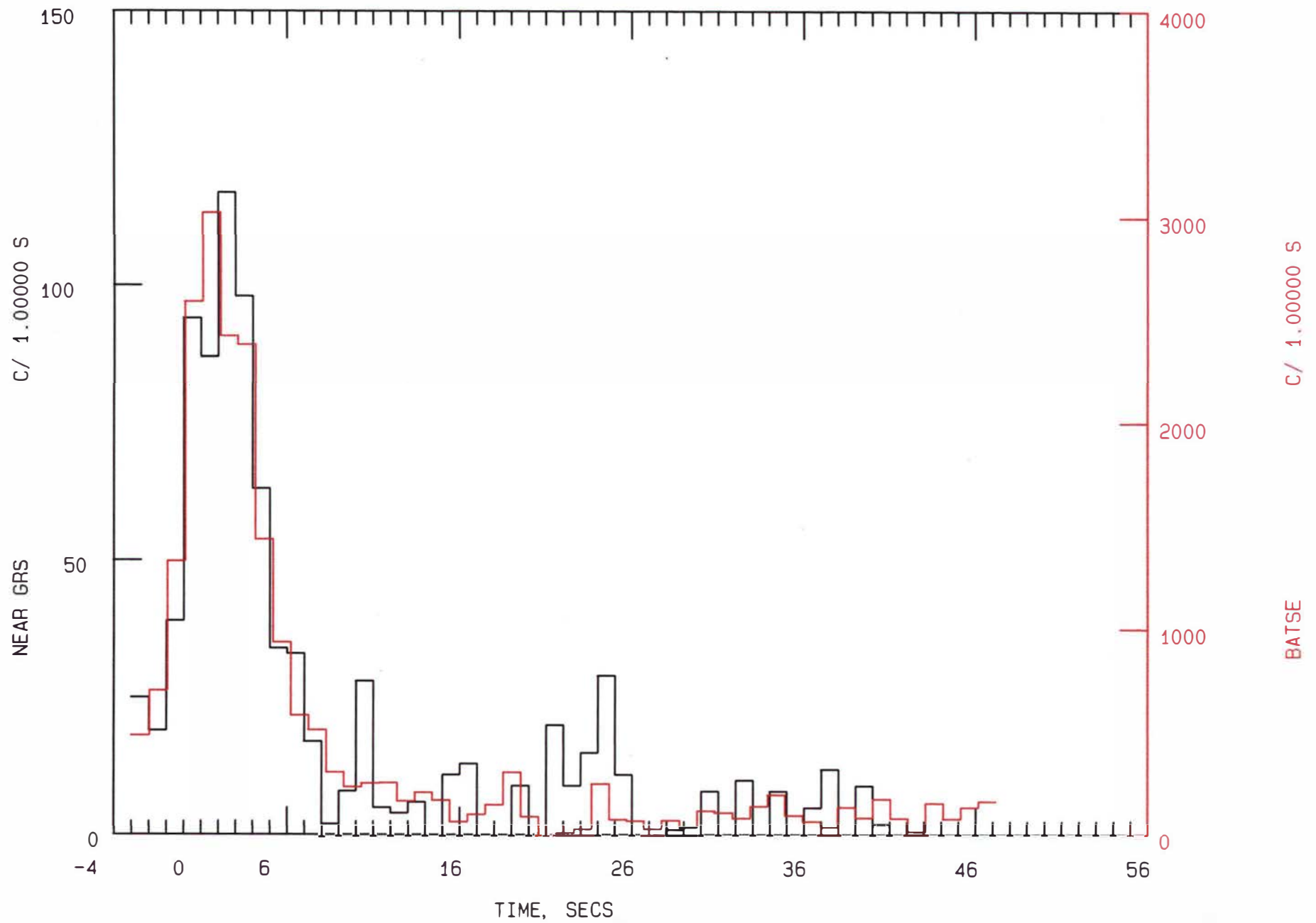
NEAR GRS -BATSE

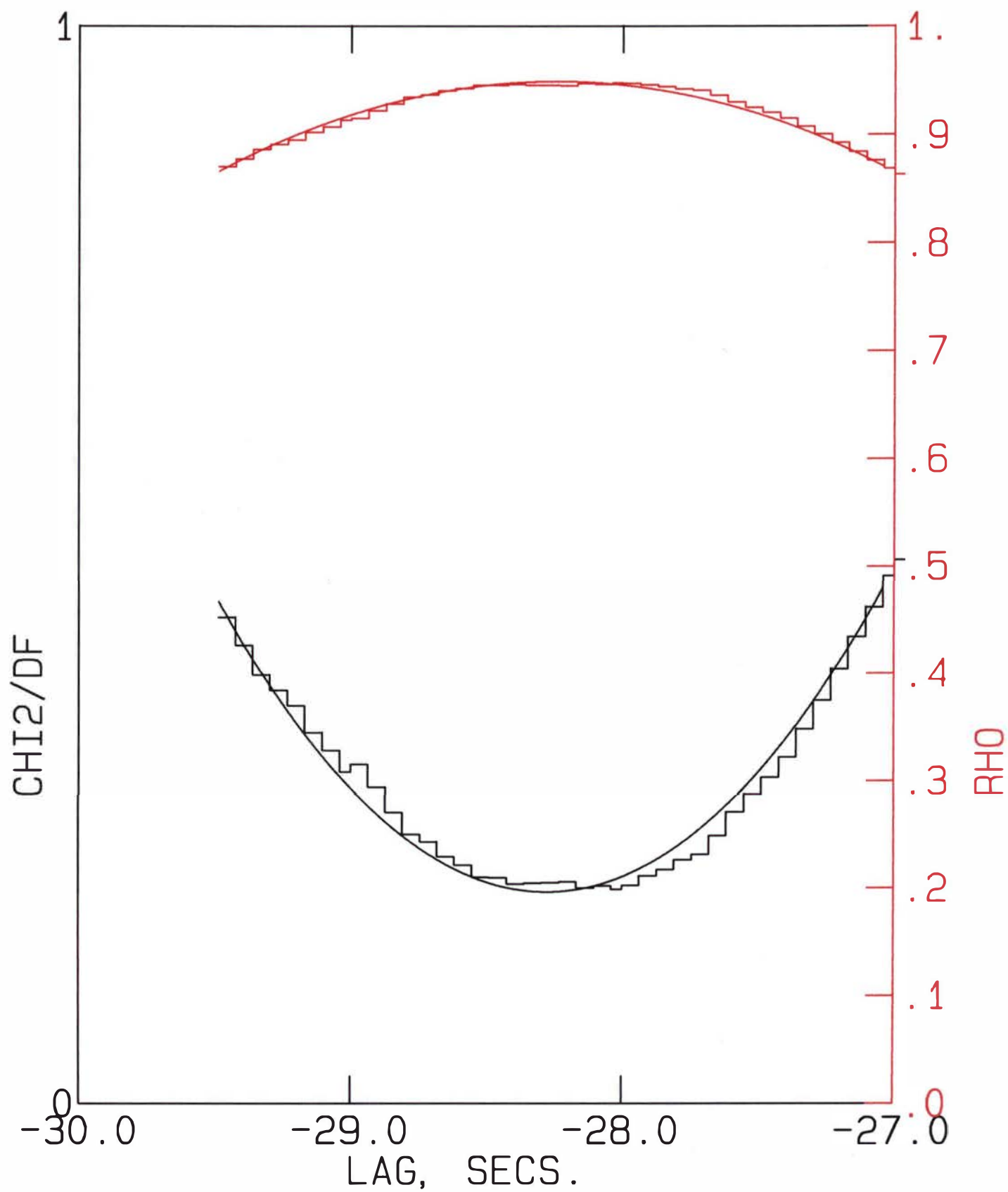
CORRELATION

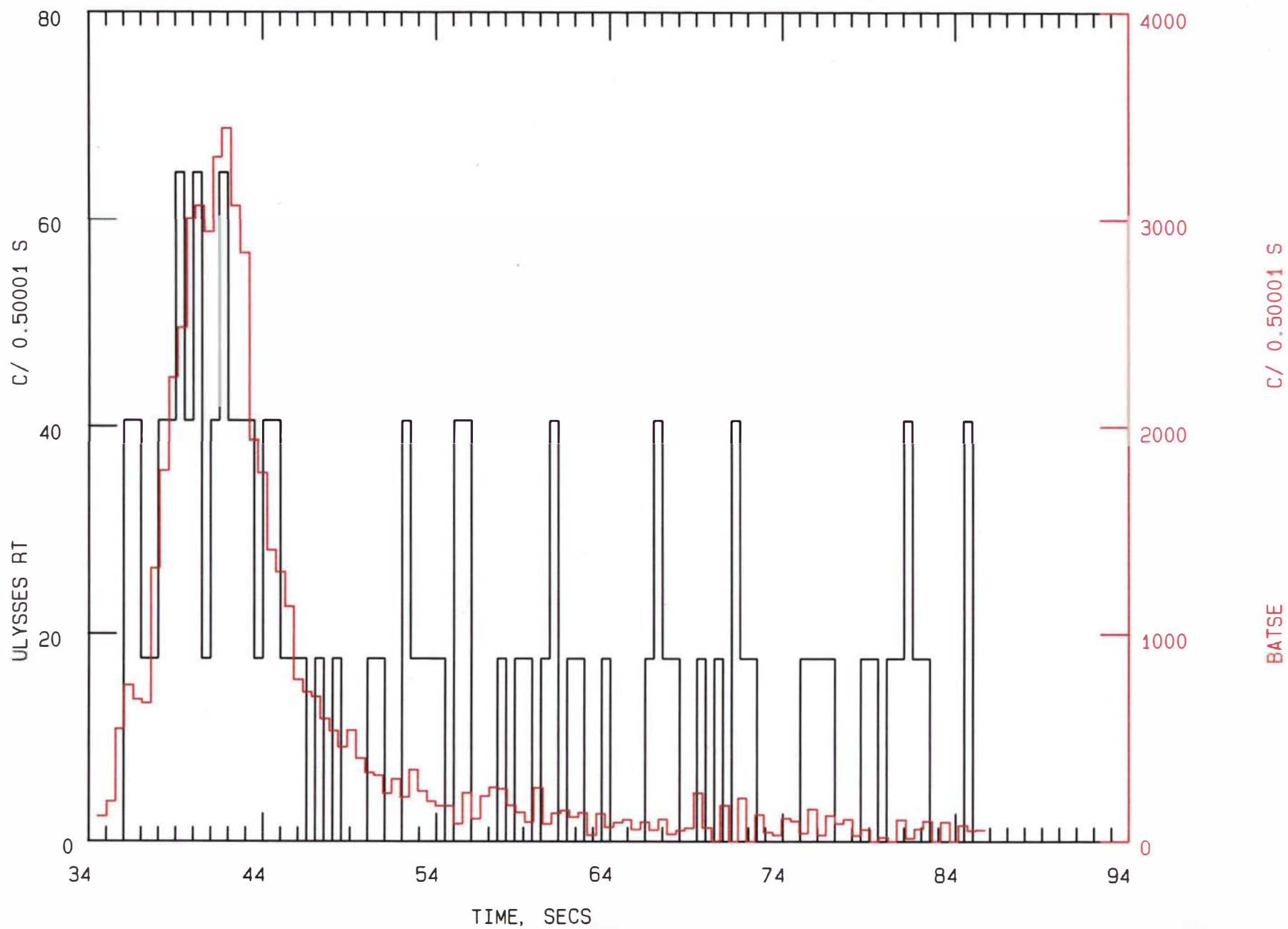
25/10/99

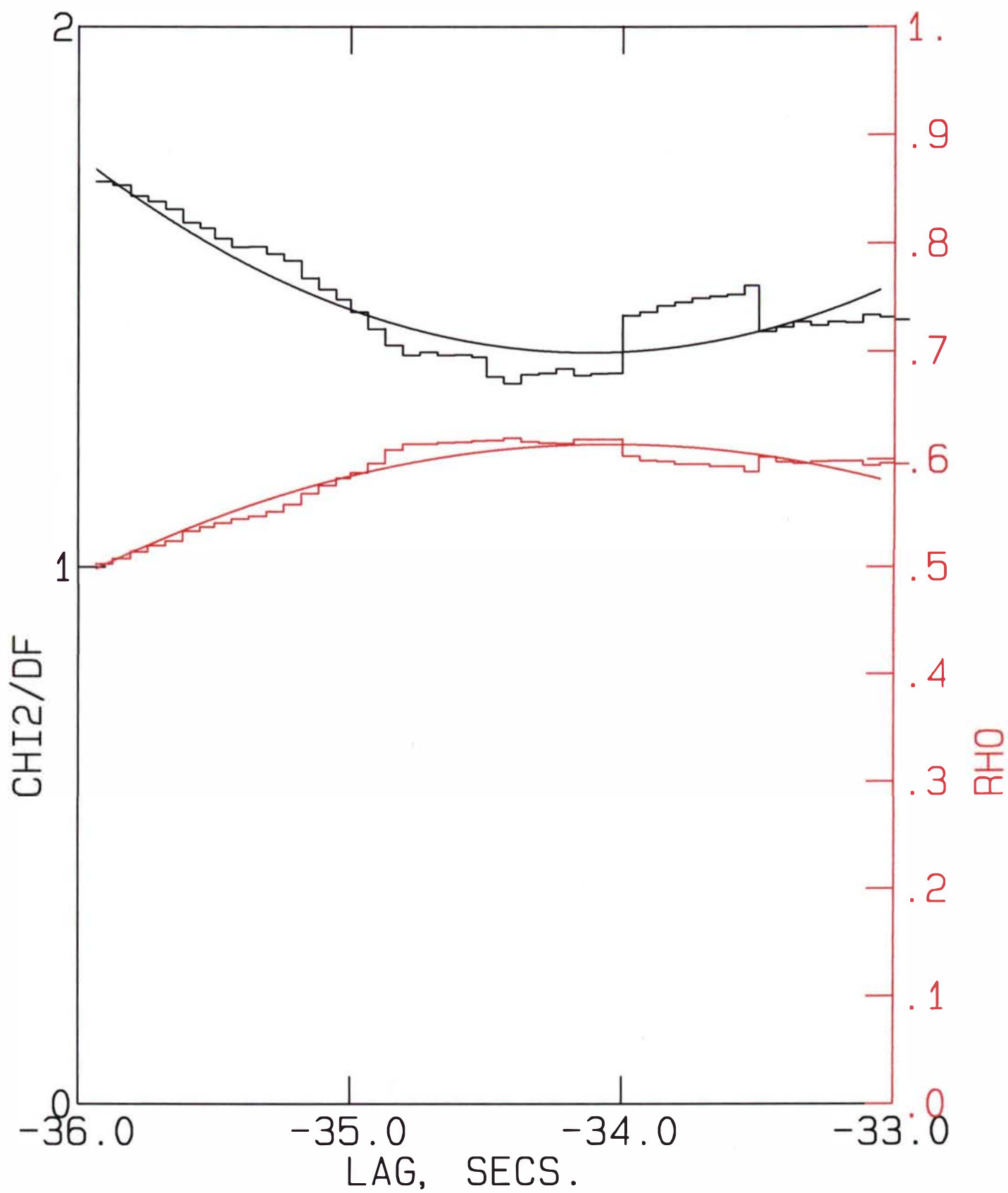
60947.637

3/ 5/ 0



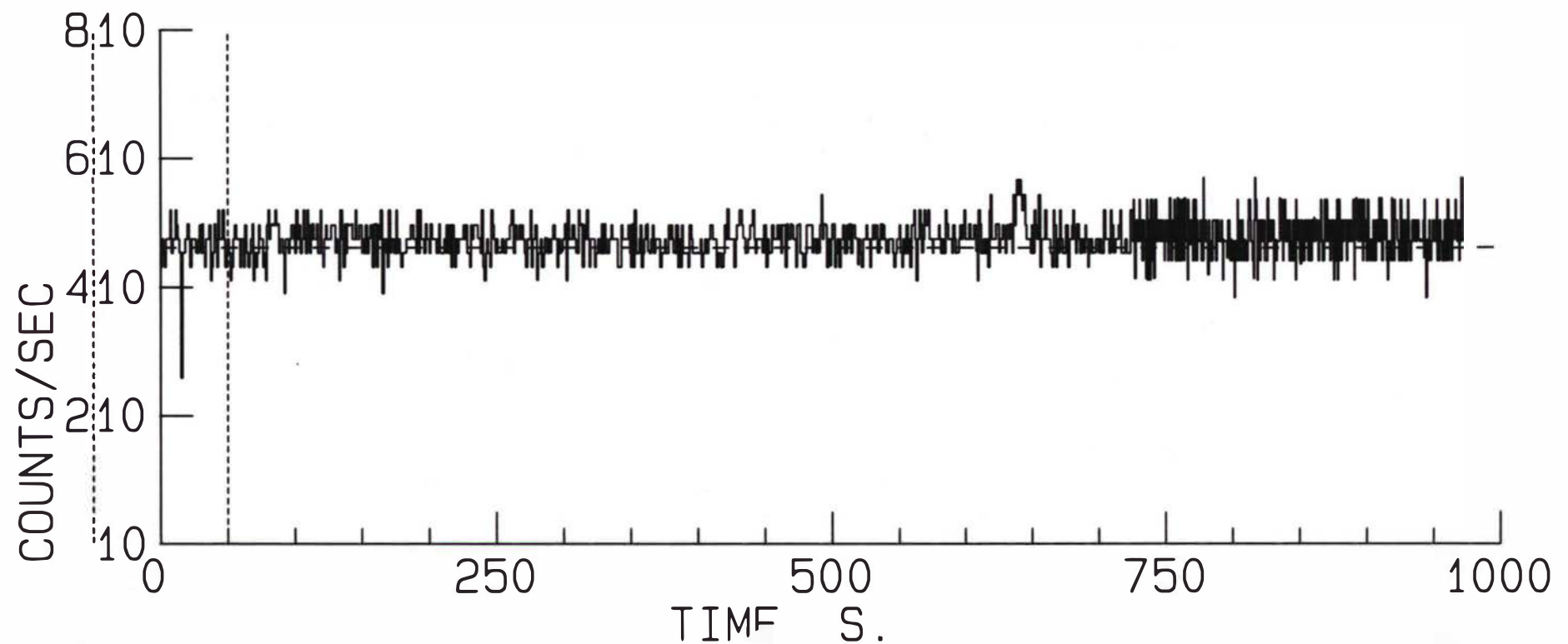






ULYSSES RT
25/10/99 61236.306 s
INTERVALS REGROUPED BY 2
22- 151 keV

3 / 5 / 0



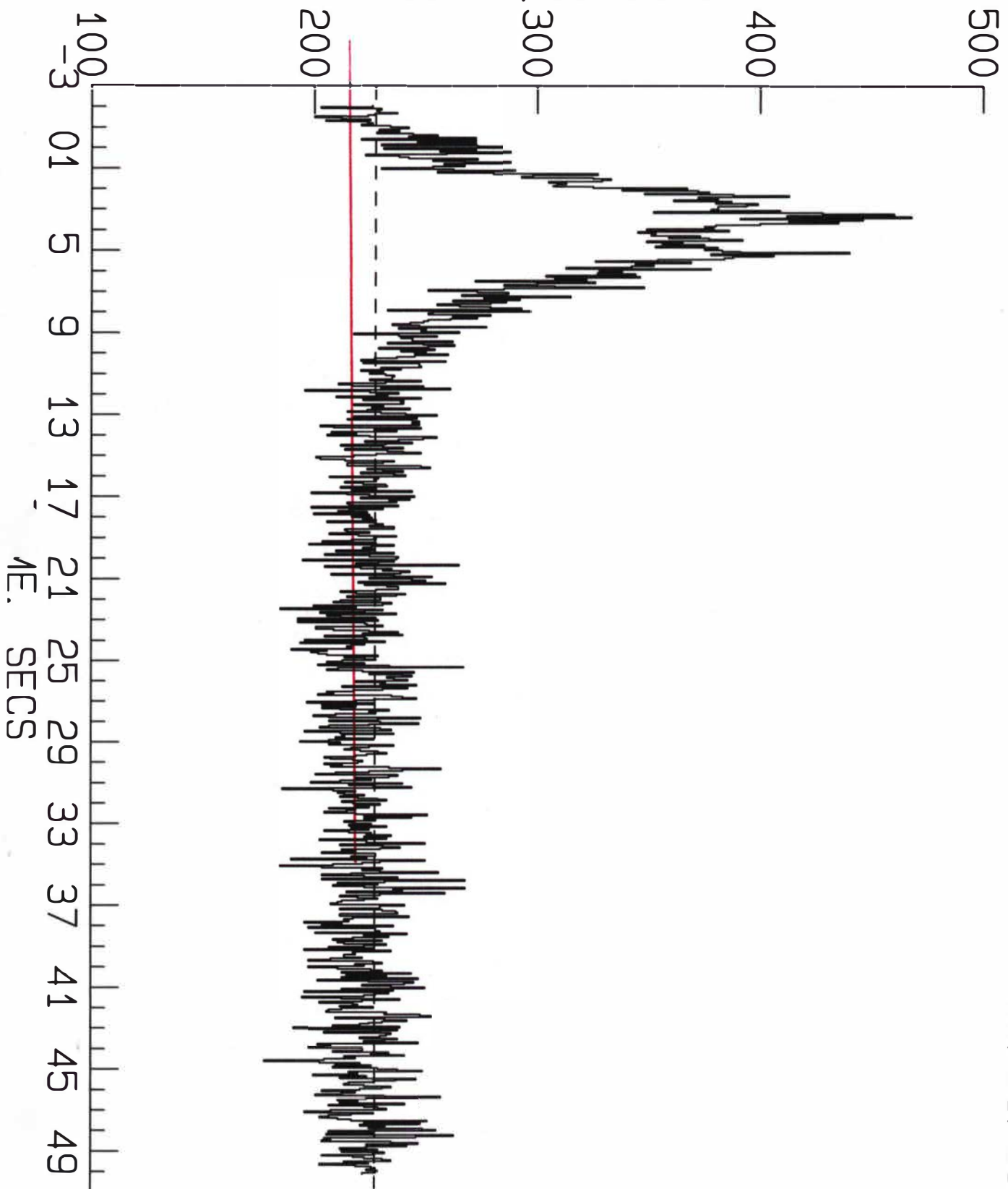
BATSE

25/10/99

60990.201

100-1000 keV

COUNTS/0.064 S



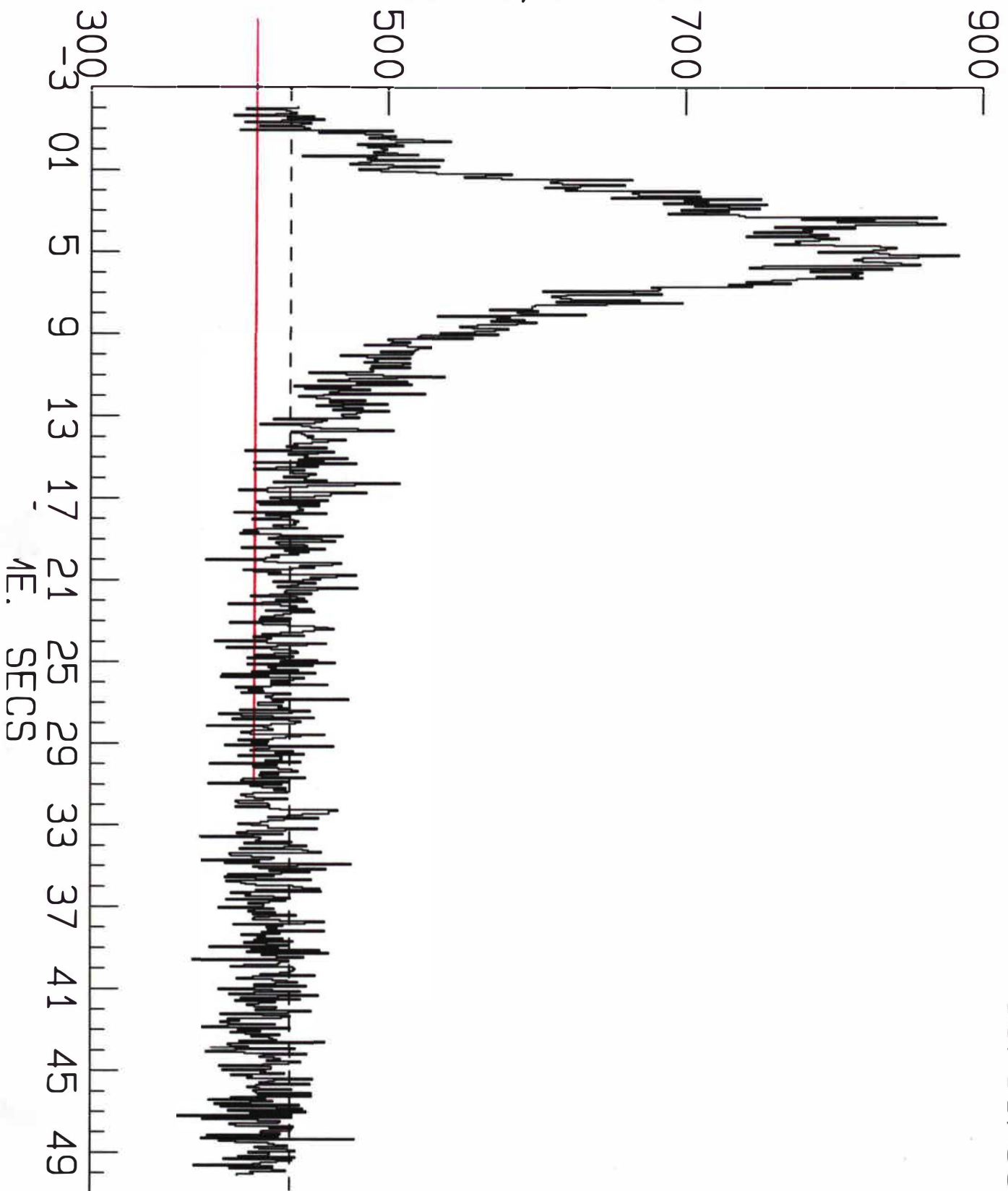
BATSE

25/10/99

60990.201

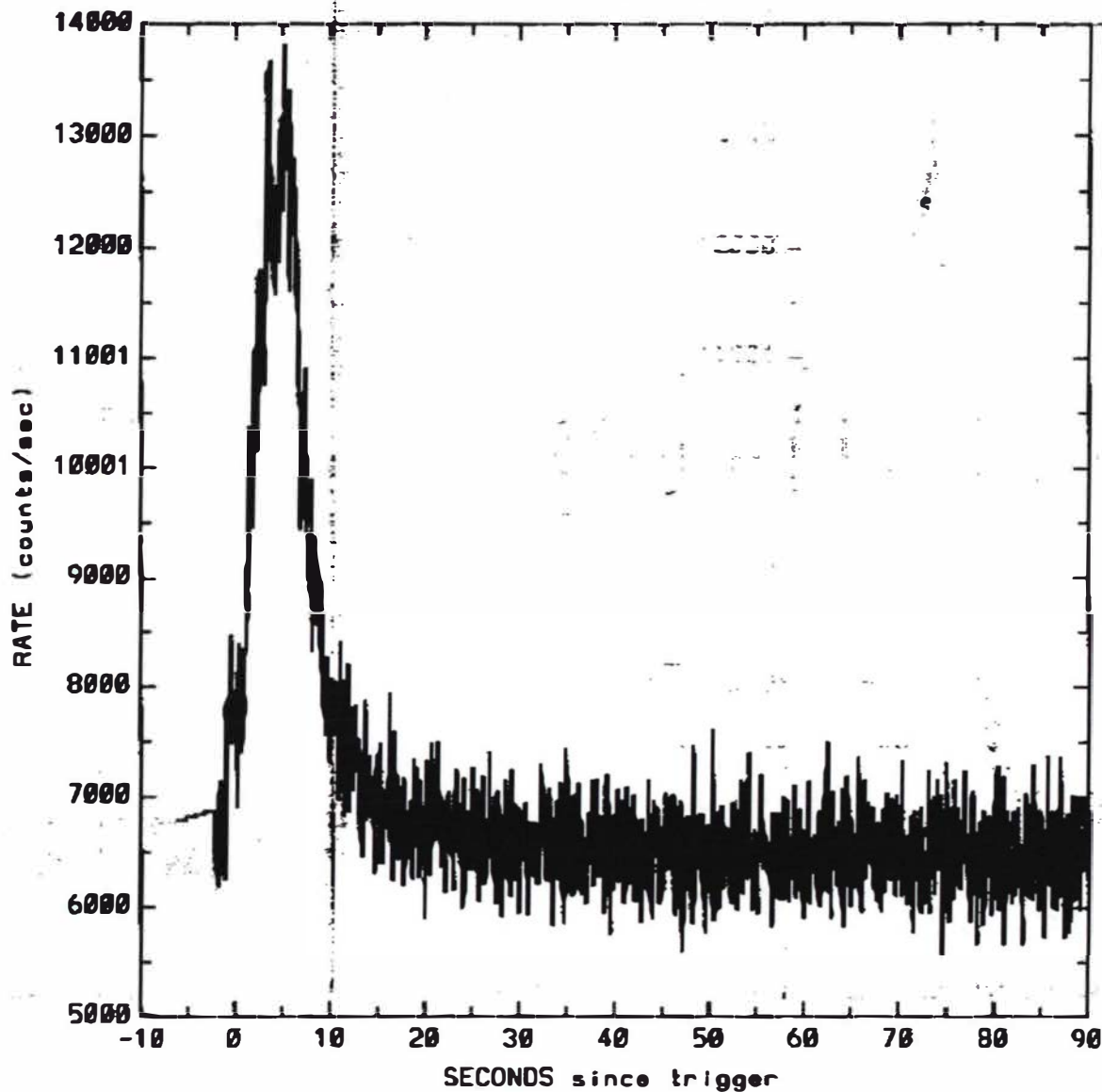
25- 100 keV

COUNTS/0.064 S



19/11/99

DISCSC Data for K. Hurley, No. 7822



17-NOV-1999 12:38.86

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7822

Trigger Time:
11476 / 68998.281

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

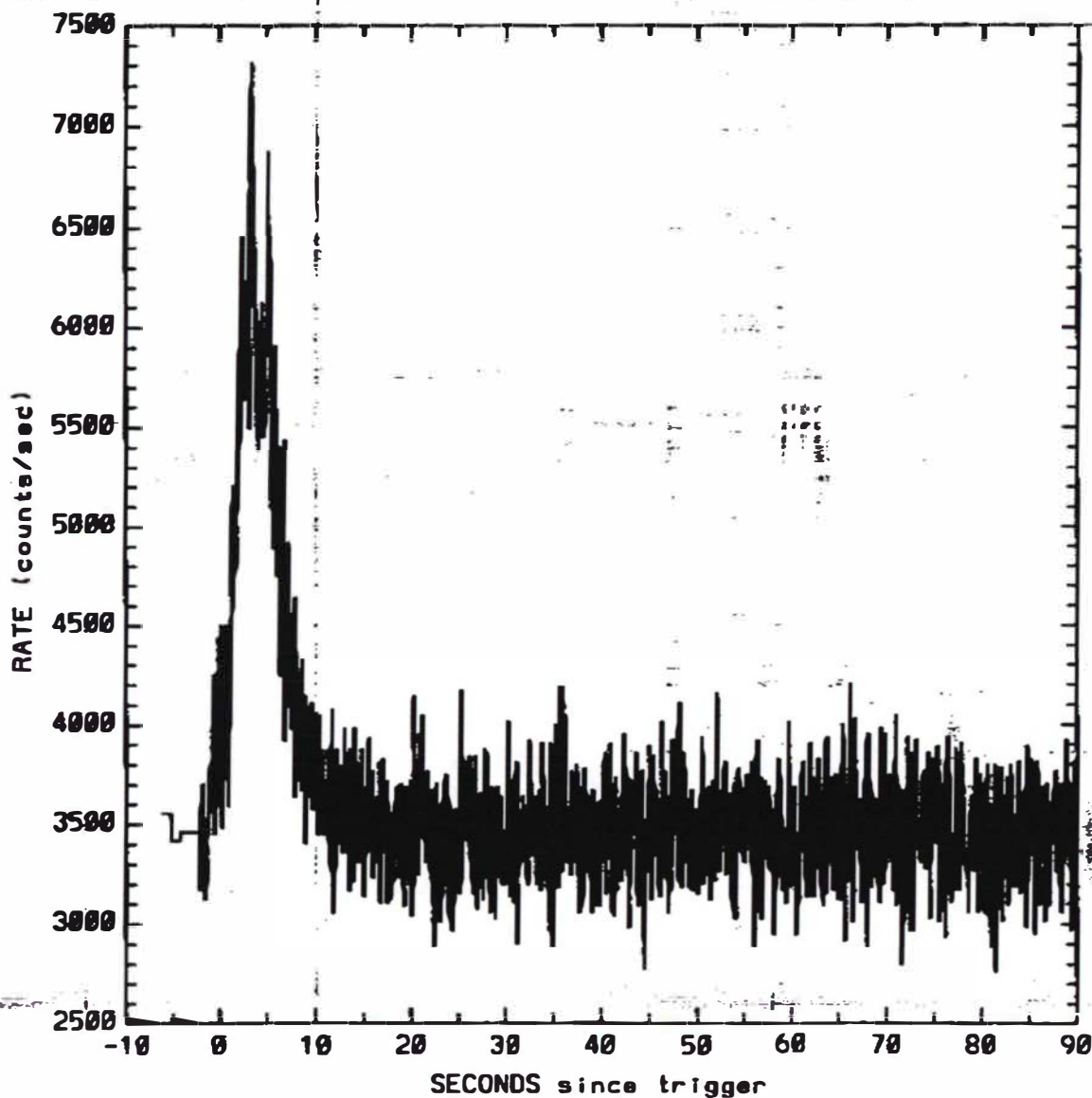
Minimum Integ. Time:
0.004 seconds

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

Discriminators:
(1..2)

Quality Mask:
BDISP1

DISCSC Data for K. Hurley, No. 7822



17-NOV-1999 12:31:19

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7822

Trigger Time:
11476 / 68998.281

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ: 100000
of Channels: 1024

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

Discriminators:
(3 . 4)

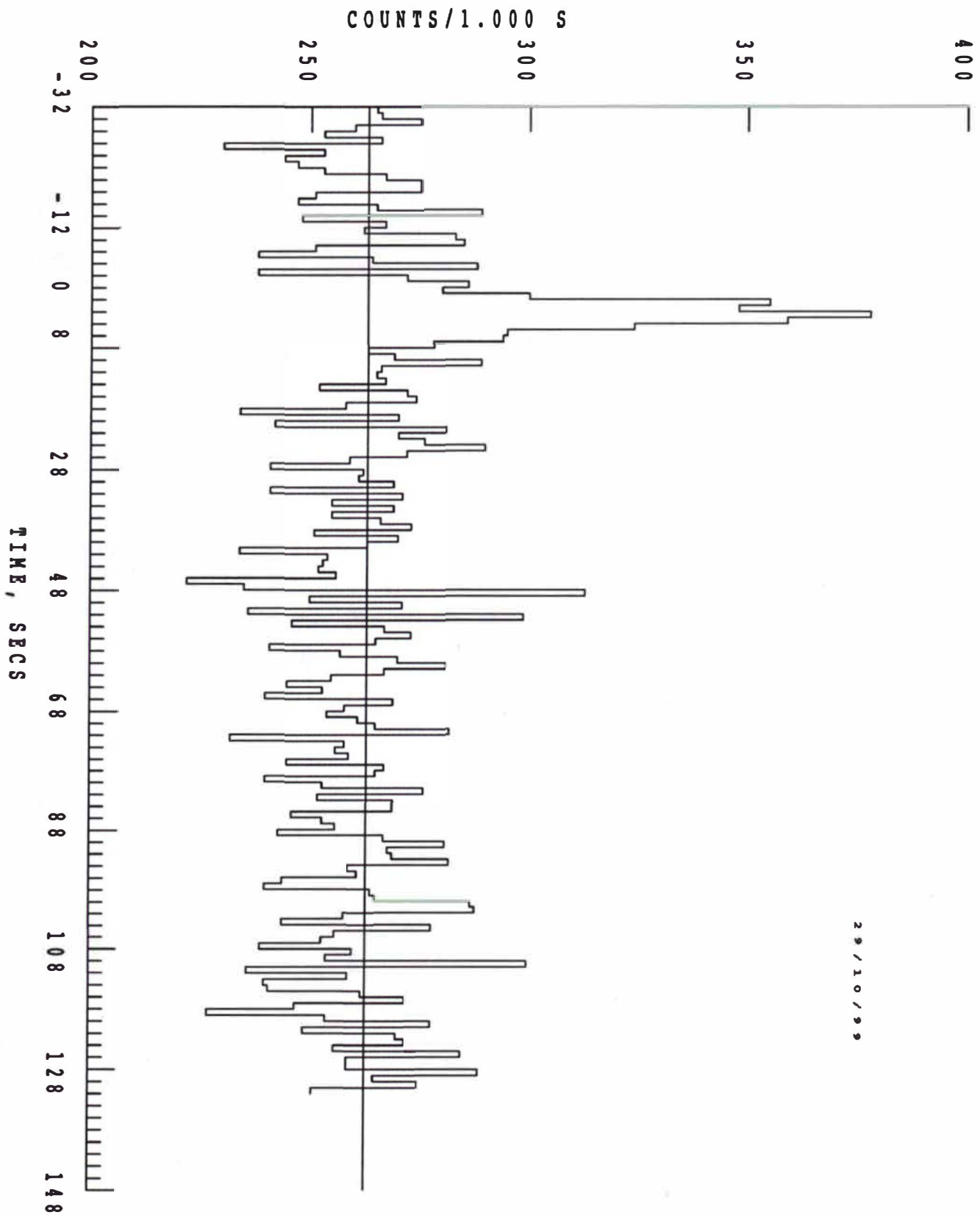
Quality Mask:
BDISP1

NEAR

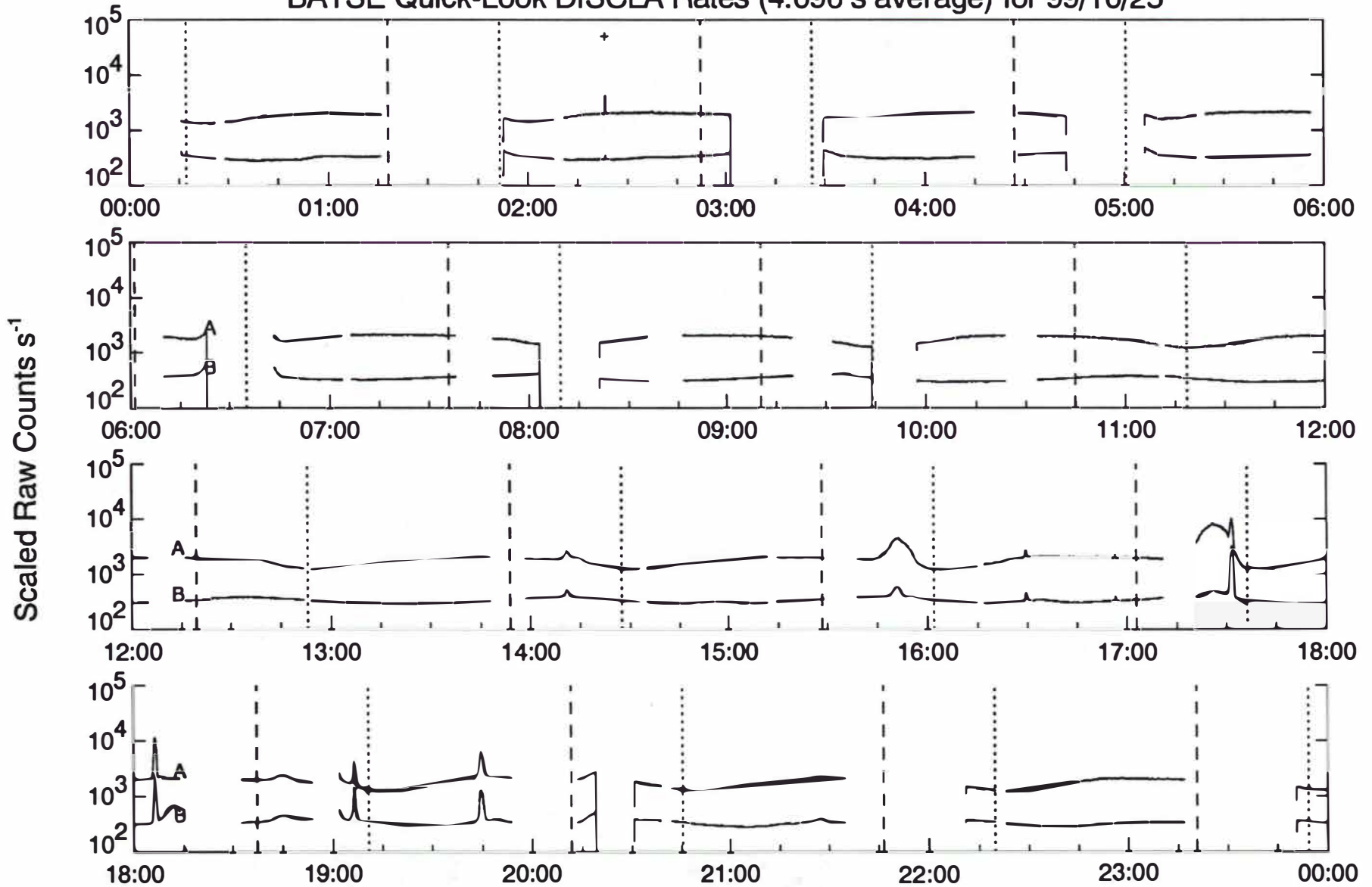
25/10/99

60947.637

100-1000 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/25

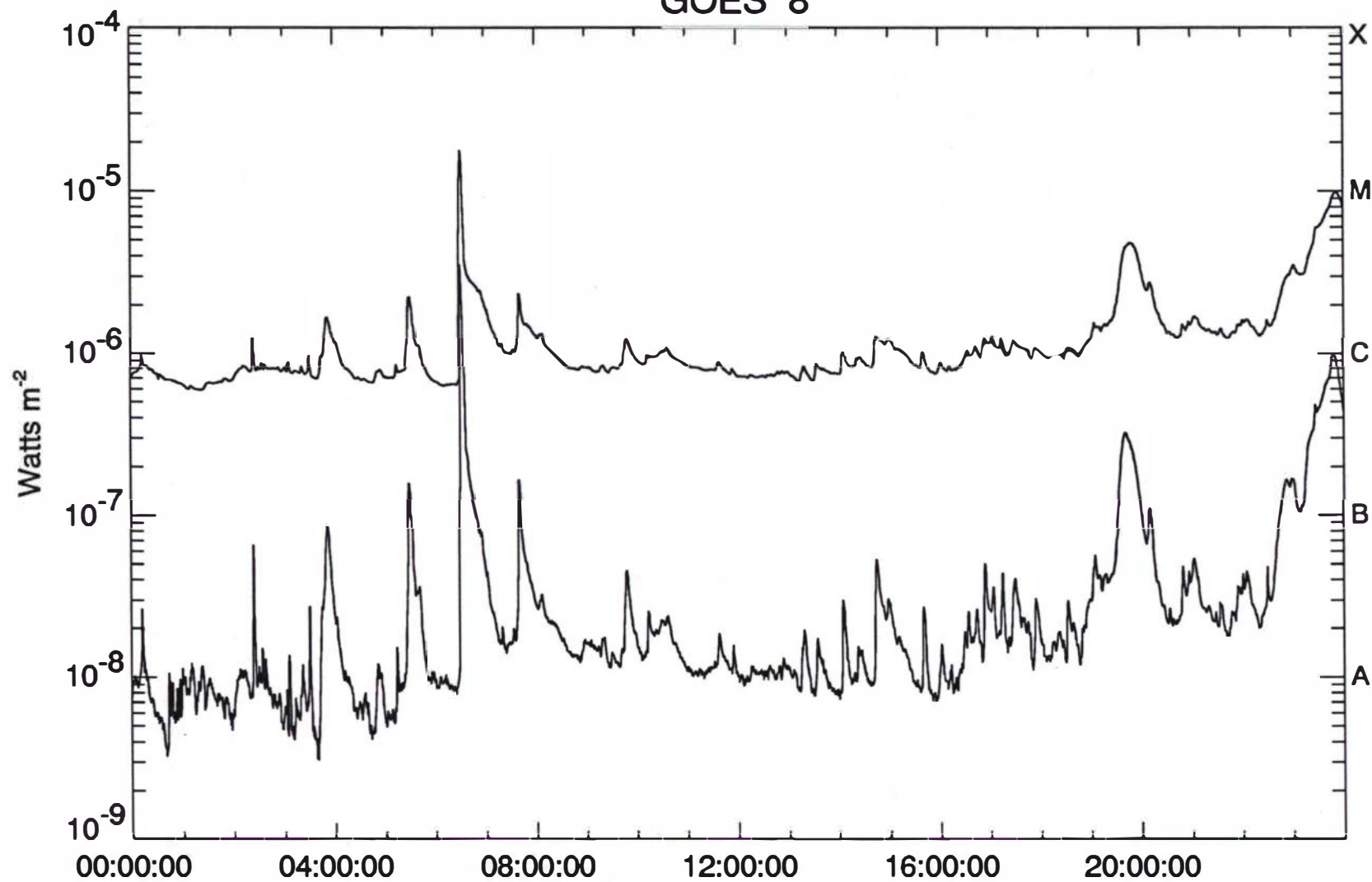


Current Time: 99/10/29, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/25, 0000:00

Plot created: 99/10/29, 1010

Channel

1 (1.0 - 8.0 Angstroms)

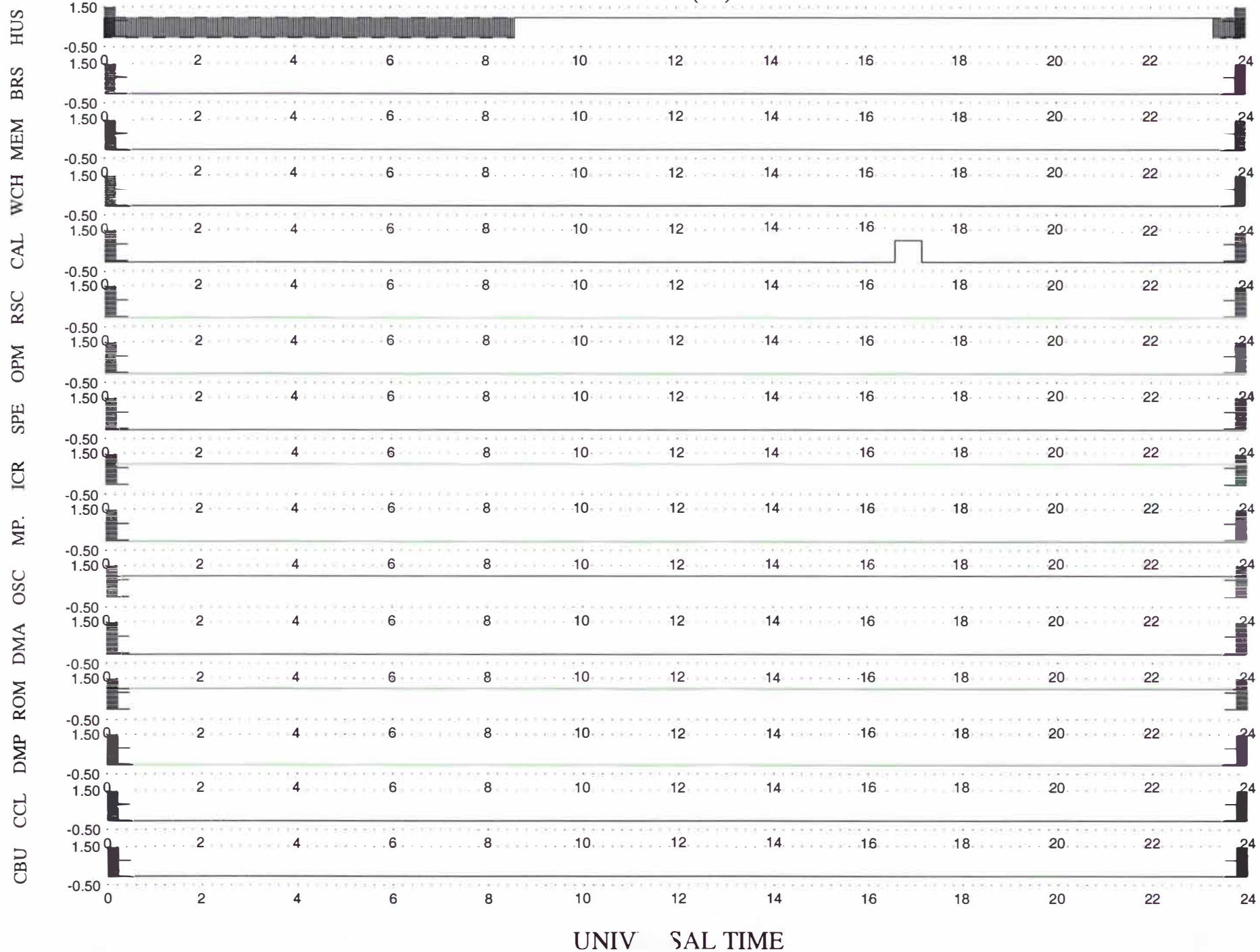
Background not subtracted

2 (0.5 - 4.0 Angstroms)

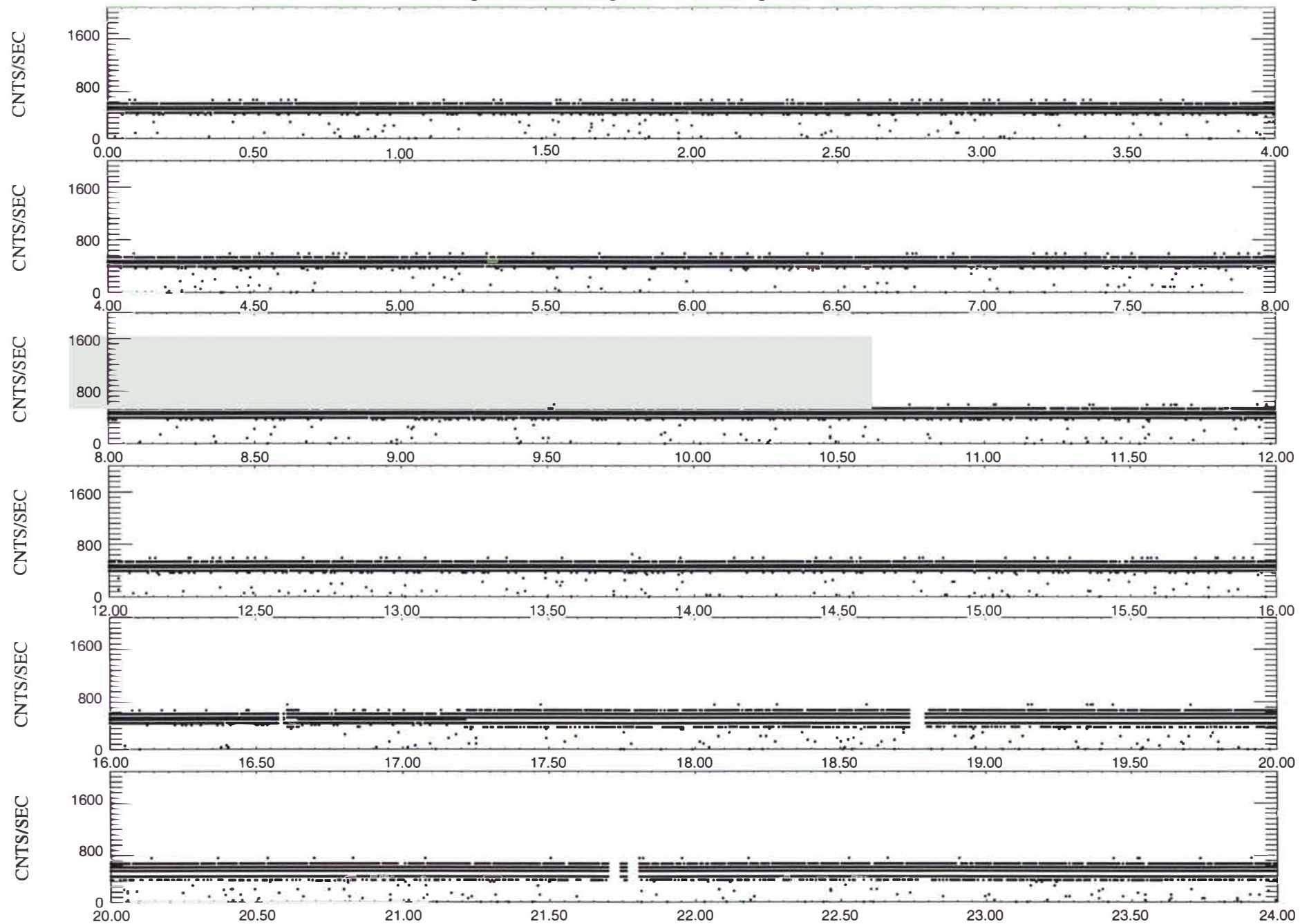
Background not subtracted

Sample average = 10

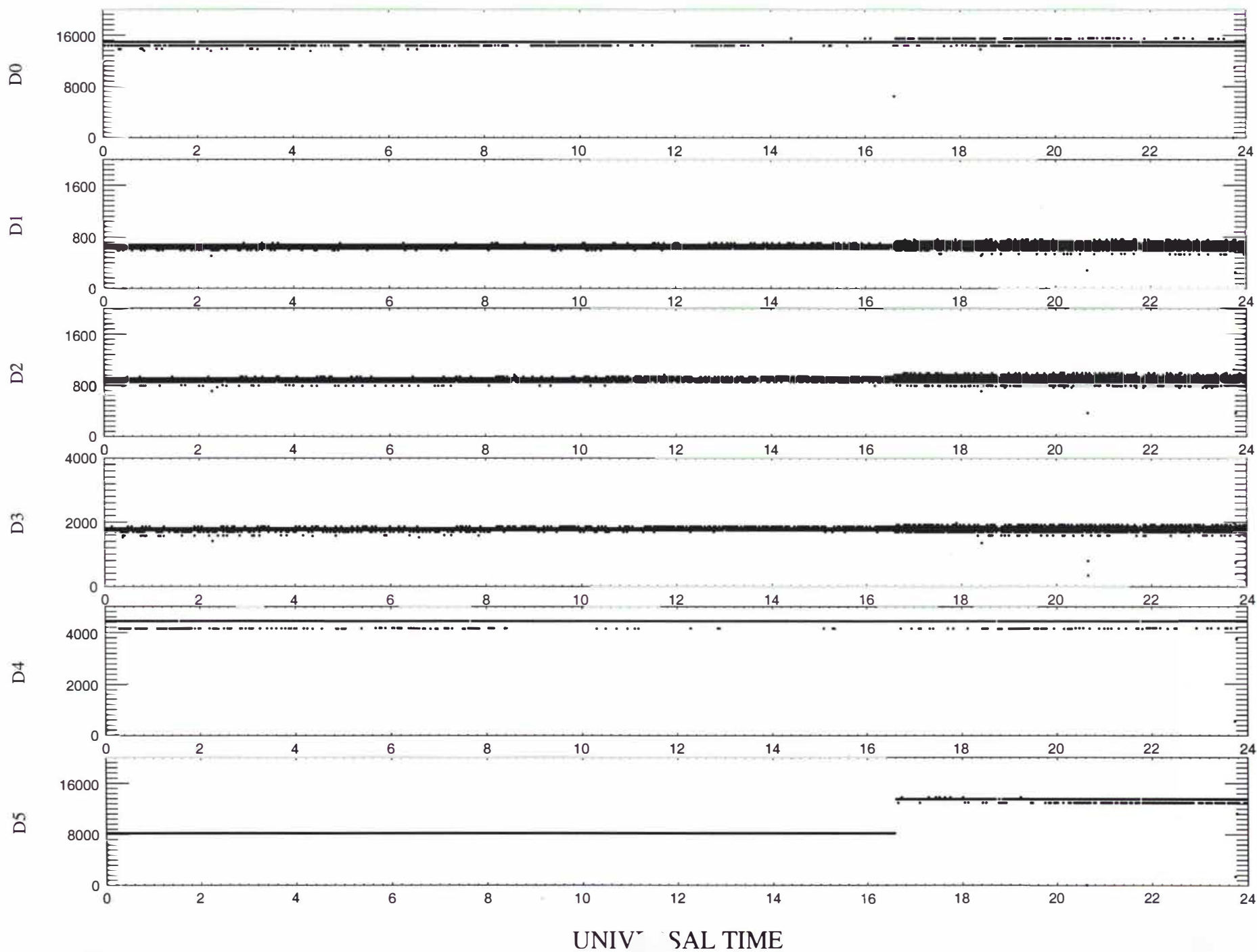
NO BURST (14)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SAHI@fender.msfc.nasa.gov Mon Nov 1 13:14 PST 1999

From: SAHI@fender.msfc.nasa.gov

Date: Mon, 1 Nov 1999 15:12:16 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.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, 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.: 7823

TIME: TJD=1477 SECONDS=3212

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=87.4 AZIMUTH=6.9 ERROR=2.6 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES, NO OPTICAL ID. SINGLE PULSE, DUR. 18 S, STARTS AT T-9 S.
NOT VISIBLE ABOVE 100 KEV. TRIGGERED IN A GAP.

Date: Jul 6 '07

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?

* Error box with best χ^2 is the wrong one - disagrees with Konus el and is accepted to SAX

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

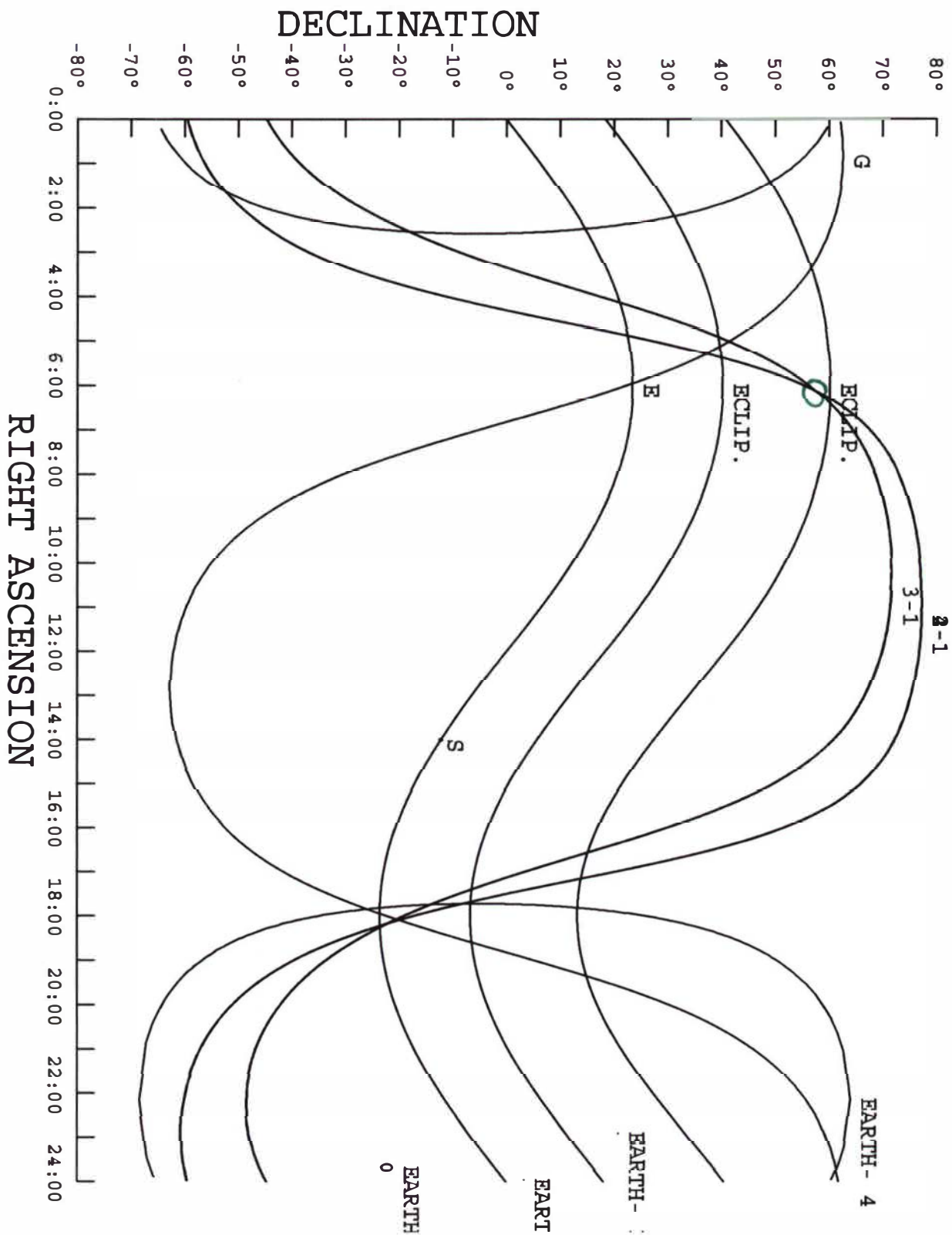
2 KONUS2

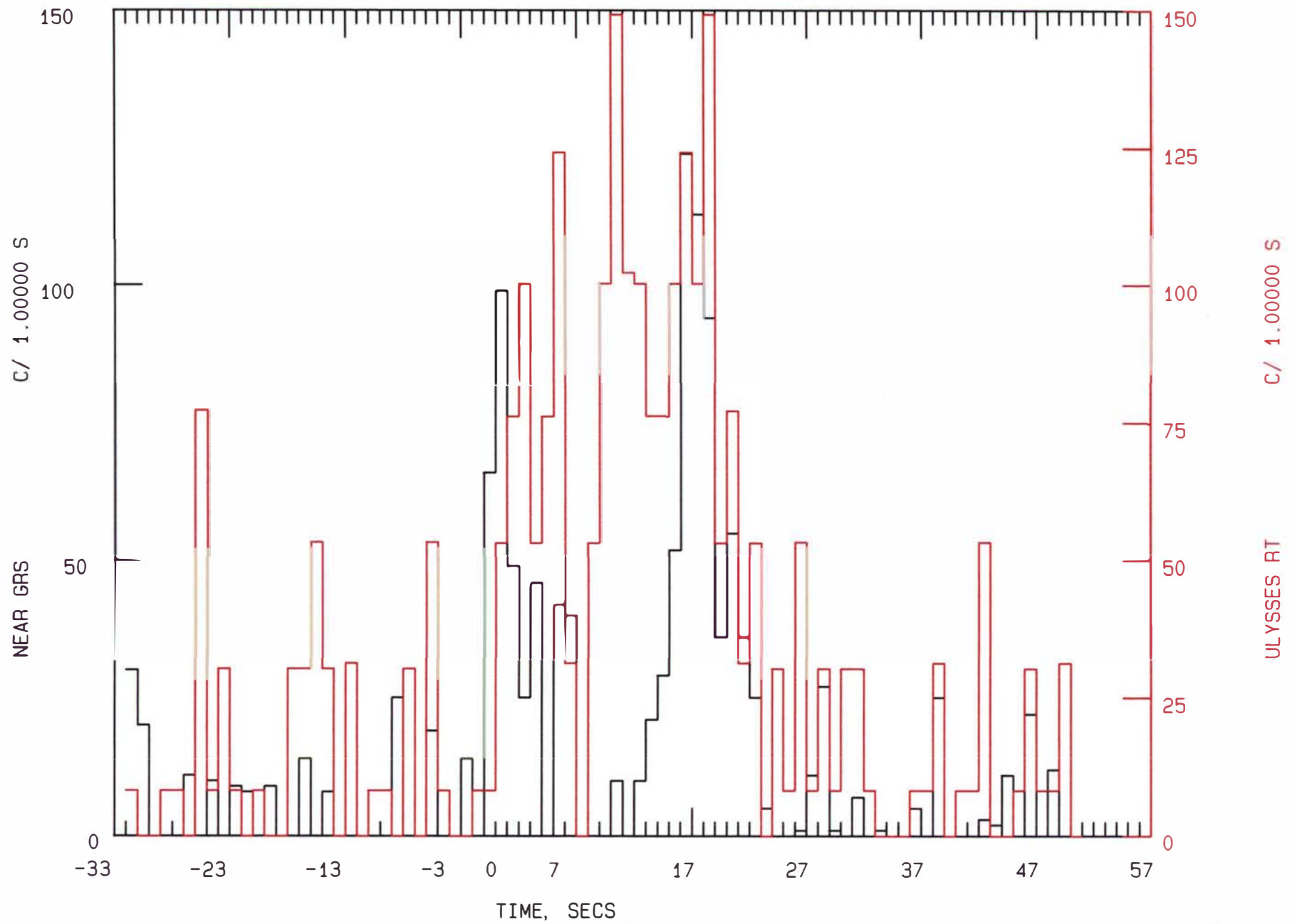
3 NEAR

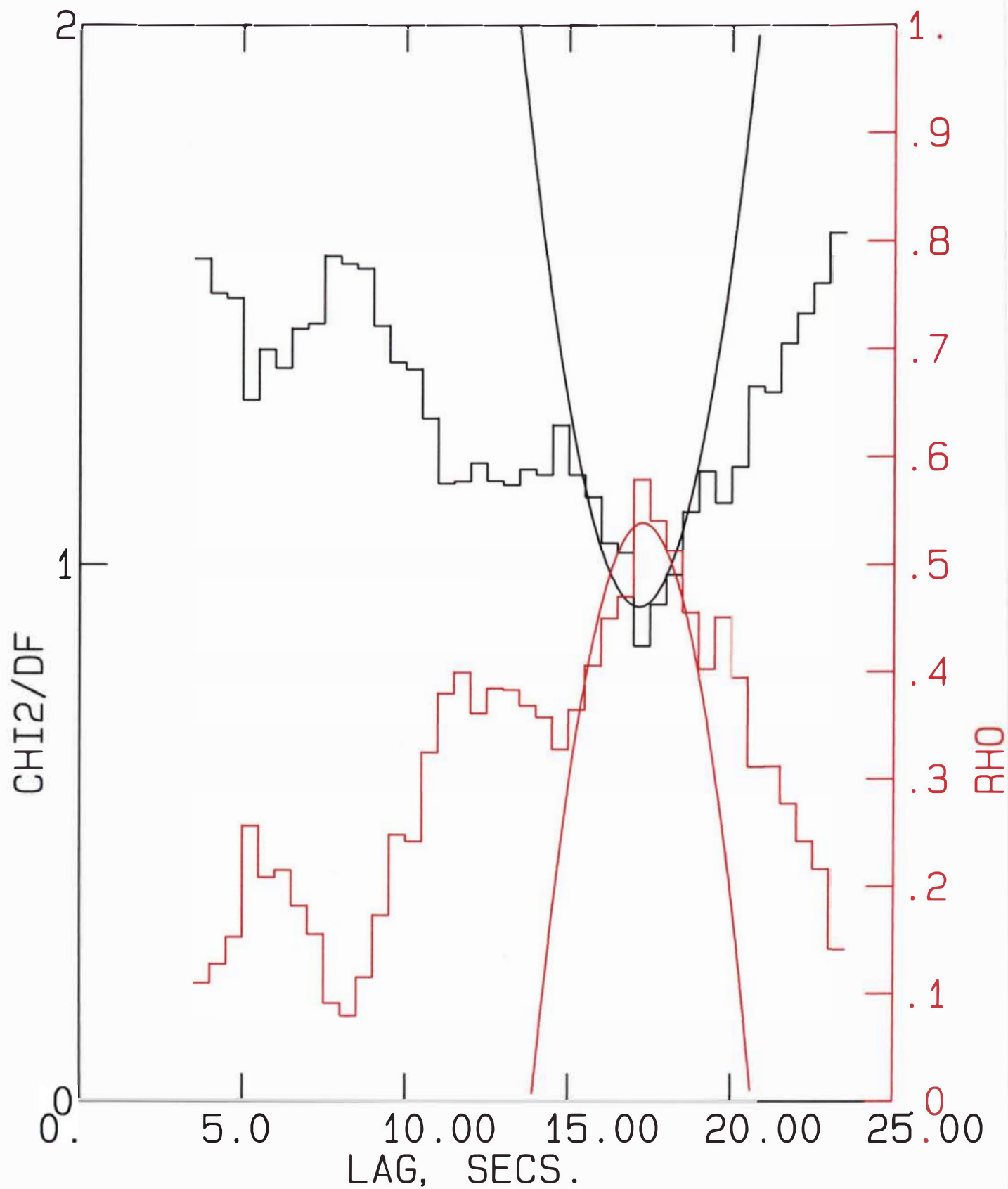
4 SAX

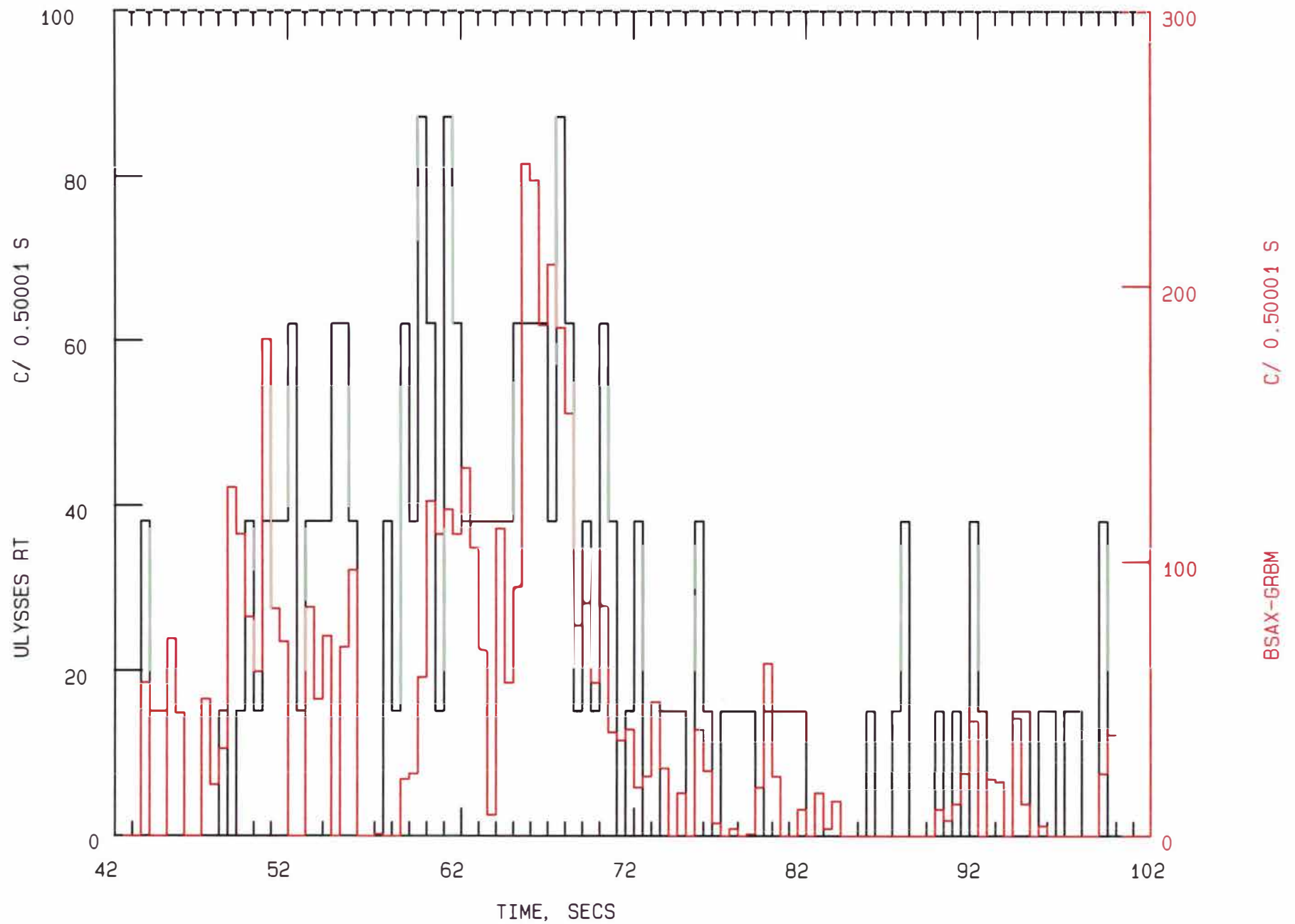
EVENT OF OCT 26, 1999 4:38

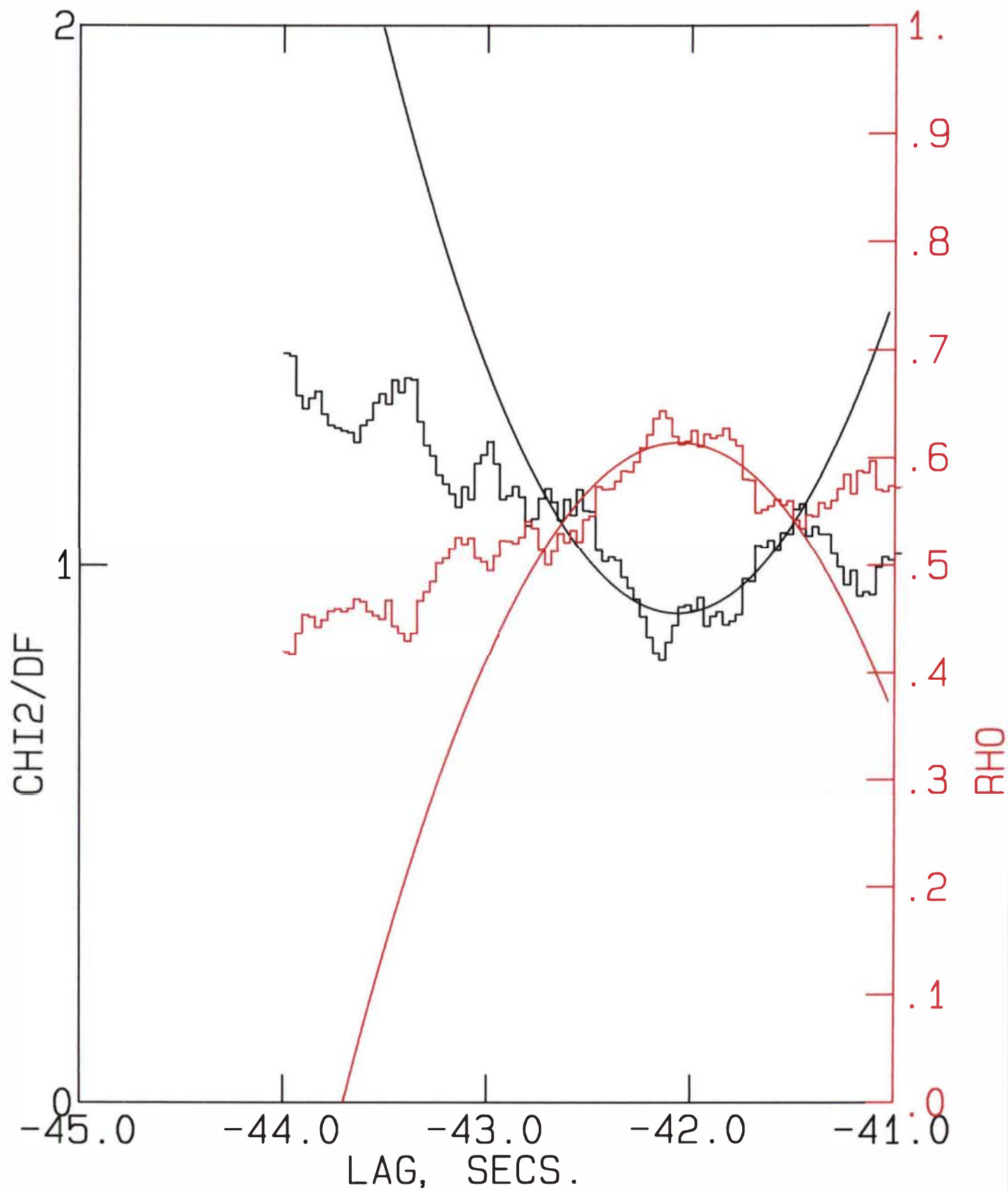
6 / 7 / 7

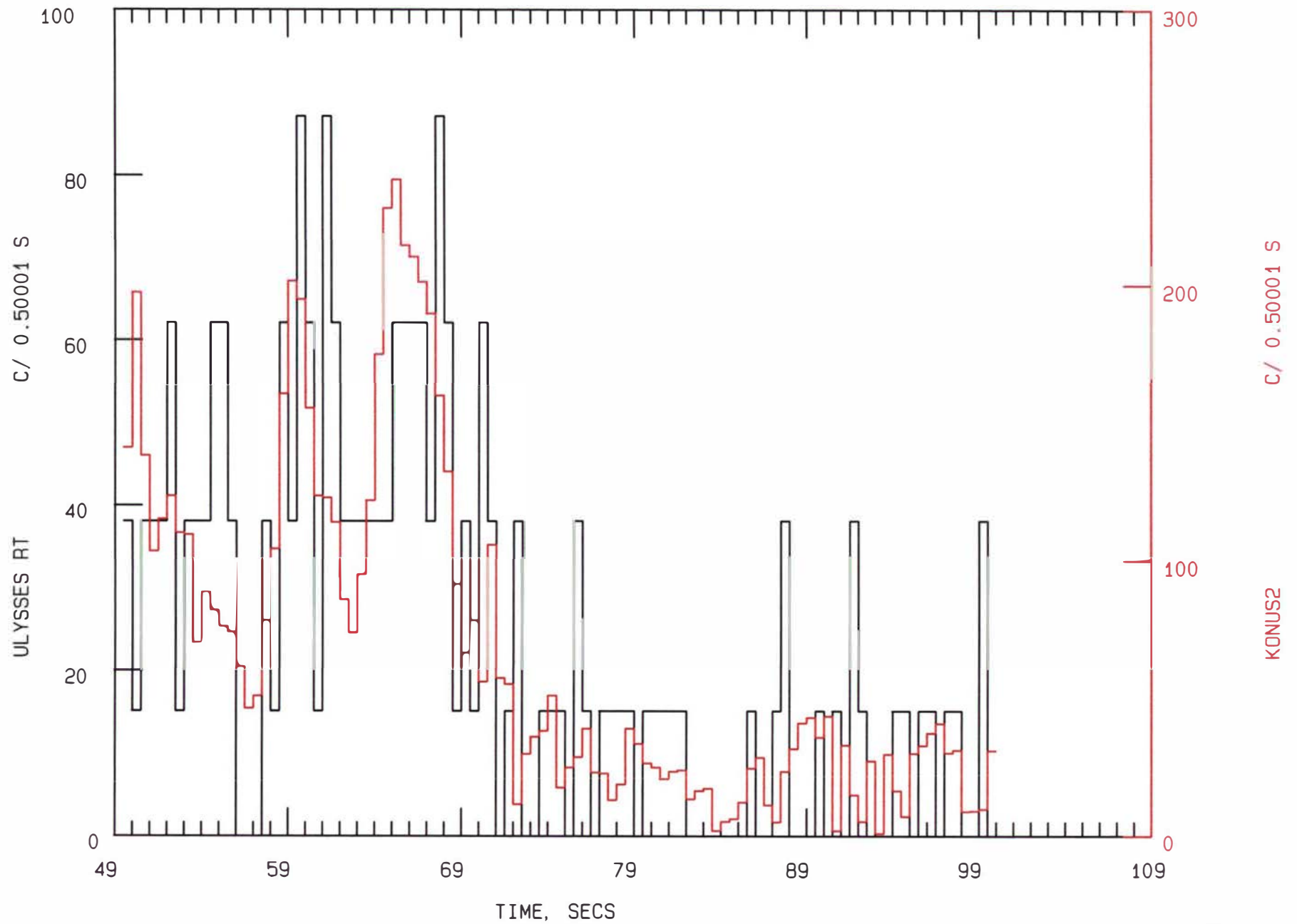


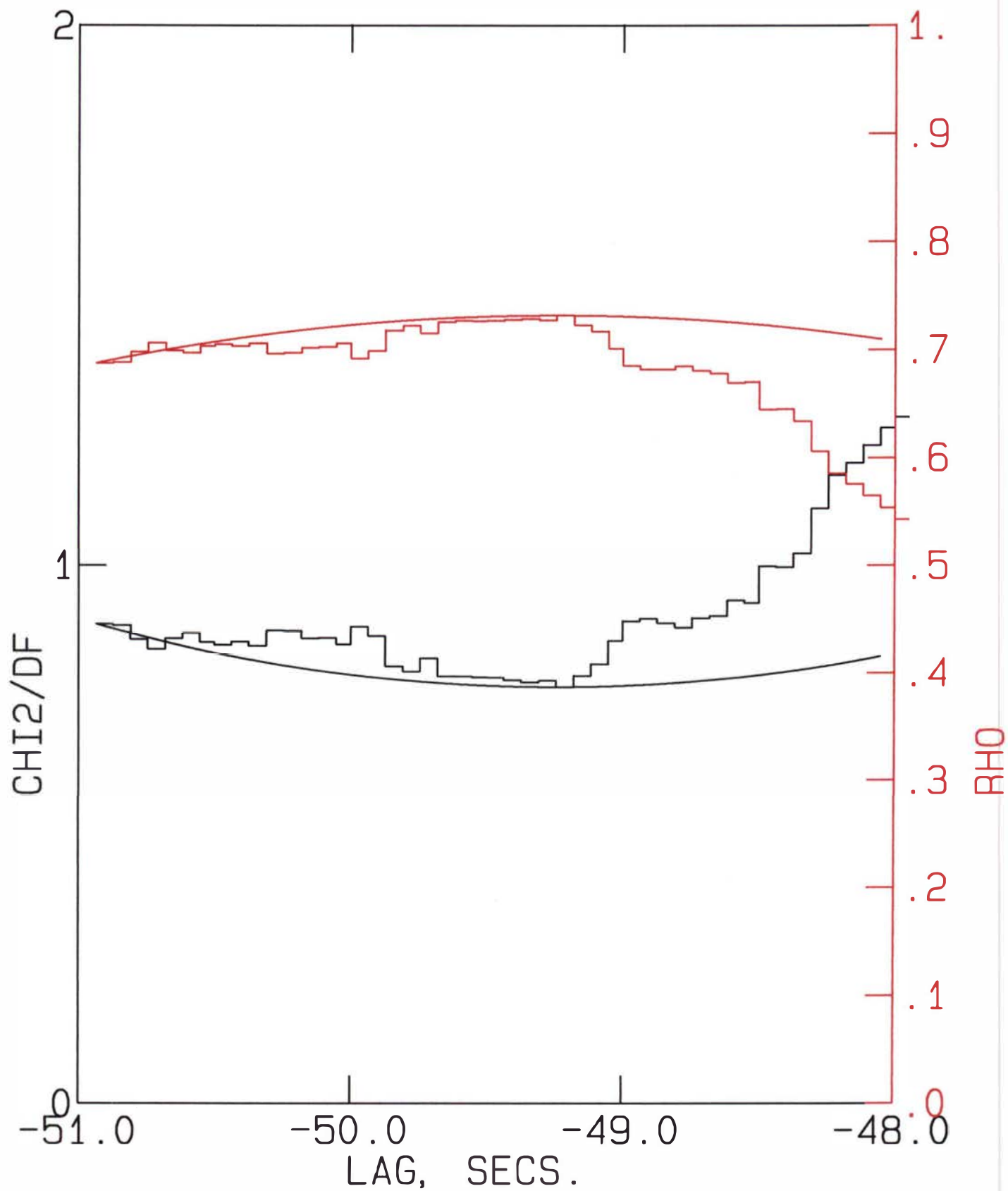












KONUS

26/10/99 16398.140

50- 200 keV

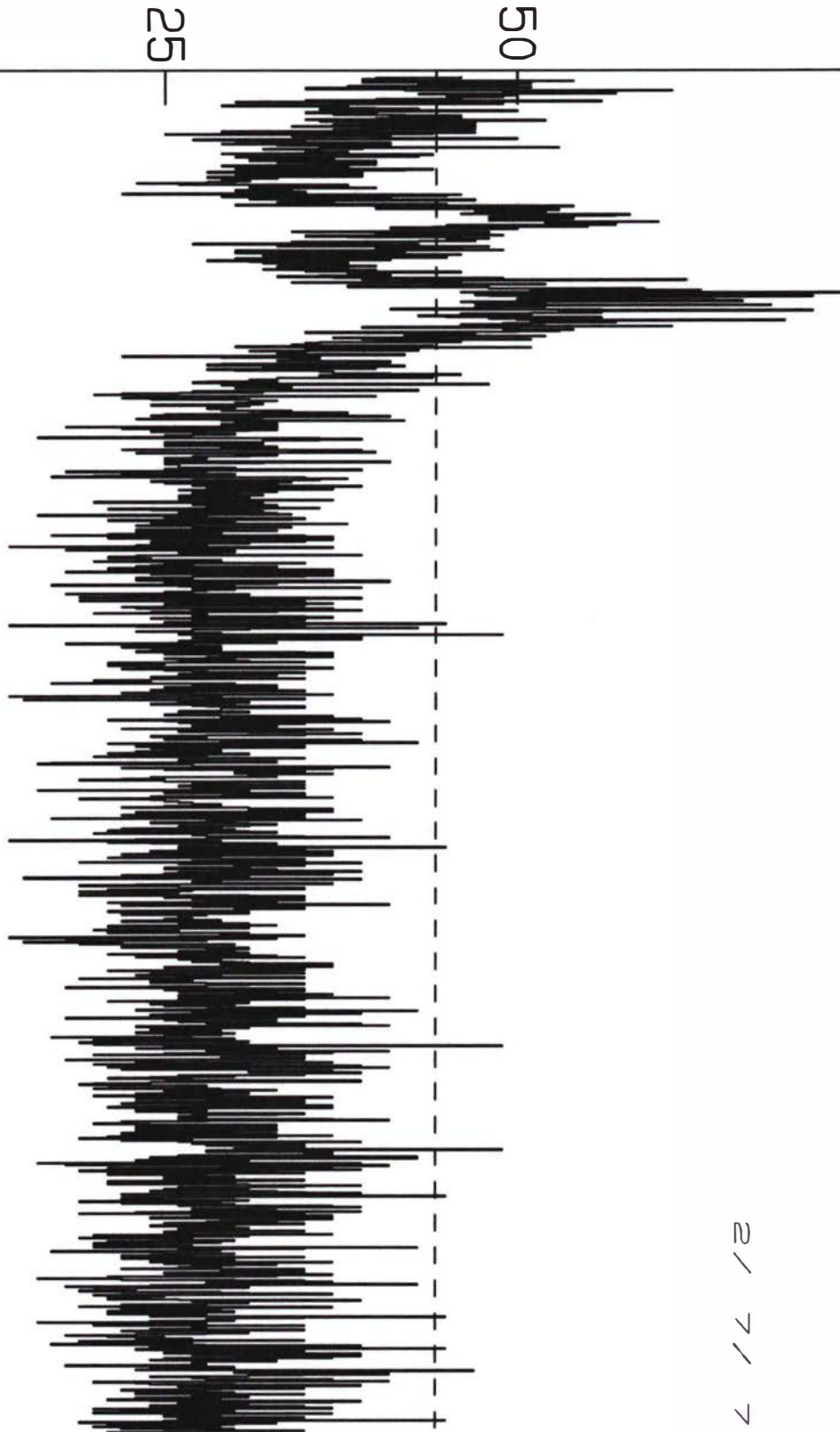
COUNTS/0.064 S

25

50

75

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



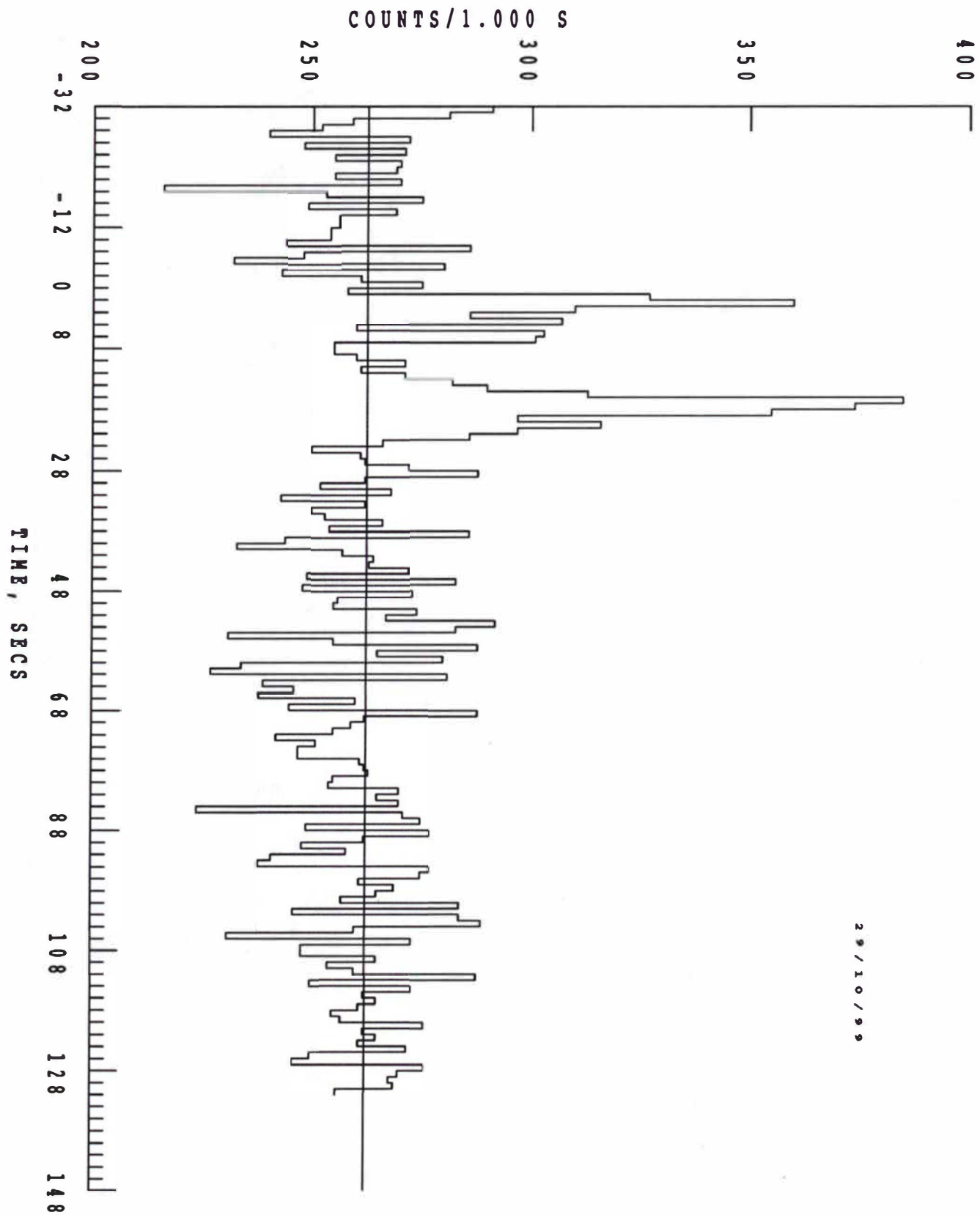
2 / 7 / 7

NEAR

26/10/99

16422.619

100-1000 keV

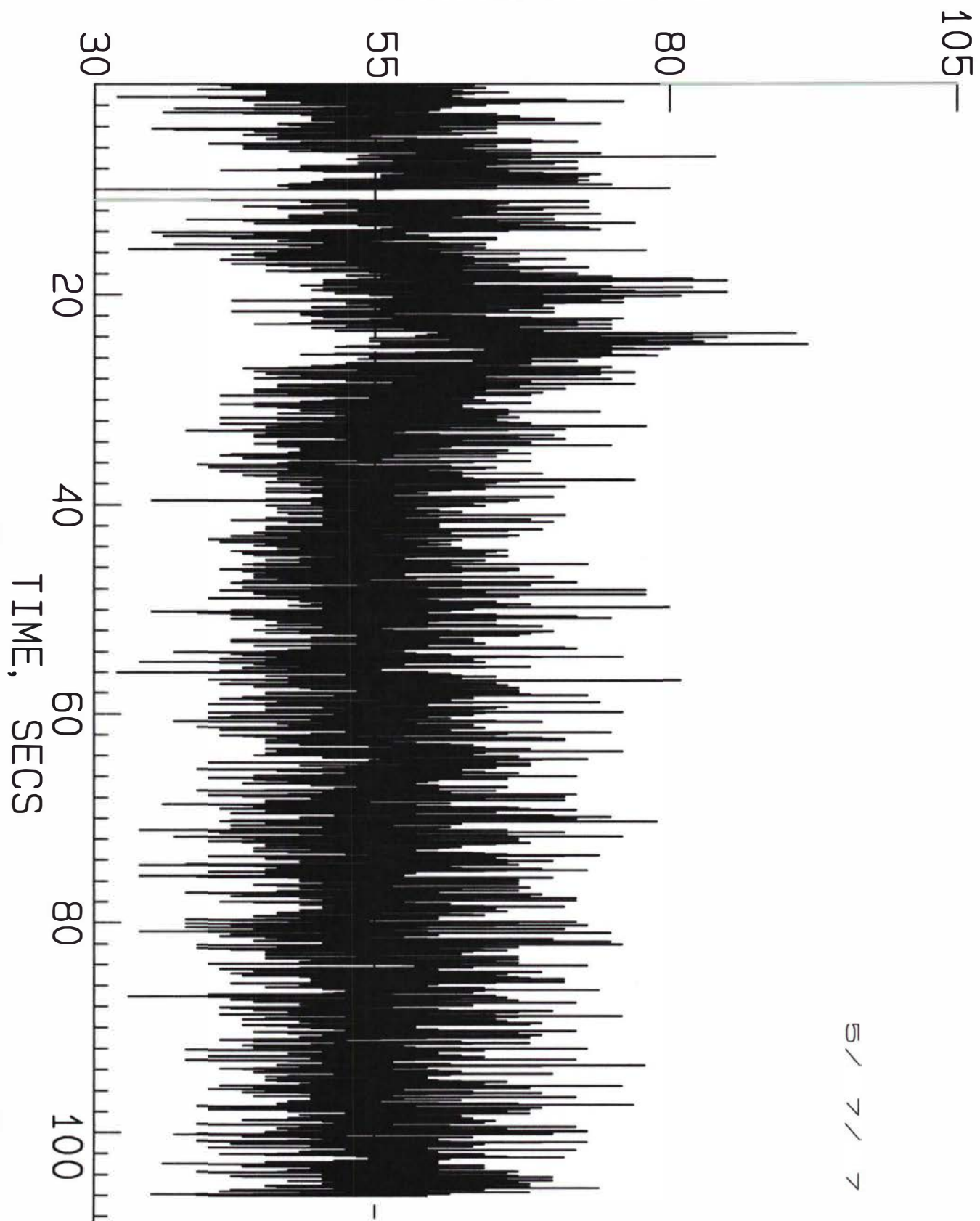


SAX GRBM

26/10/99 16389.833

40- 700 keV

COUNTS/0.031 S



5 / 7 / 7

ULYSSES RT

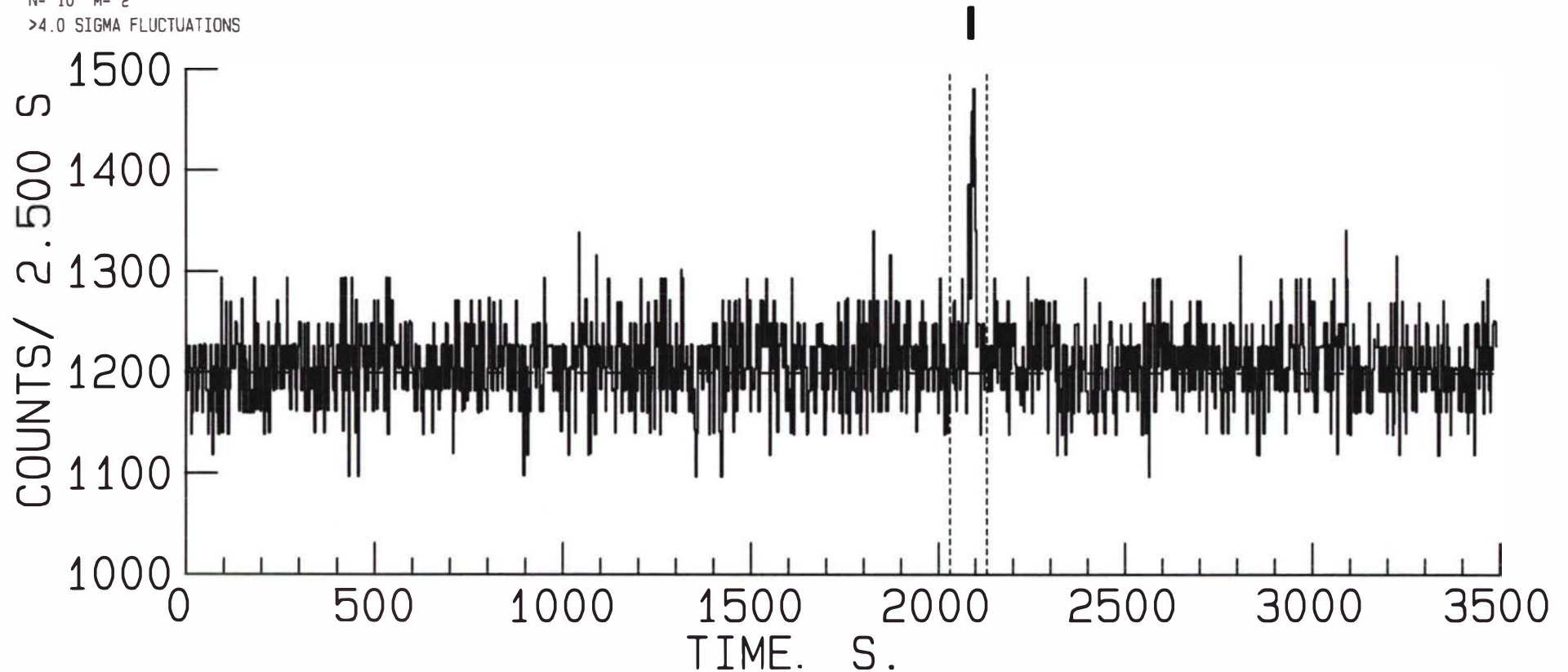
5 / 7 / 7

26/10/99 14688.208 s

0.500 S INTERVALS REGROUPED BY 5

22- 150 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: Apr 6 '04

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data **N/A**

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

3. NEAR Data

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

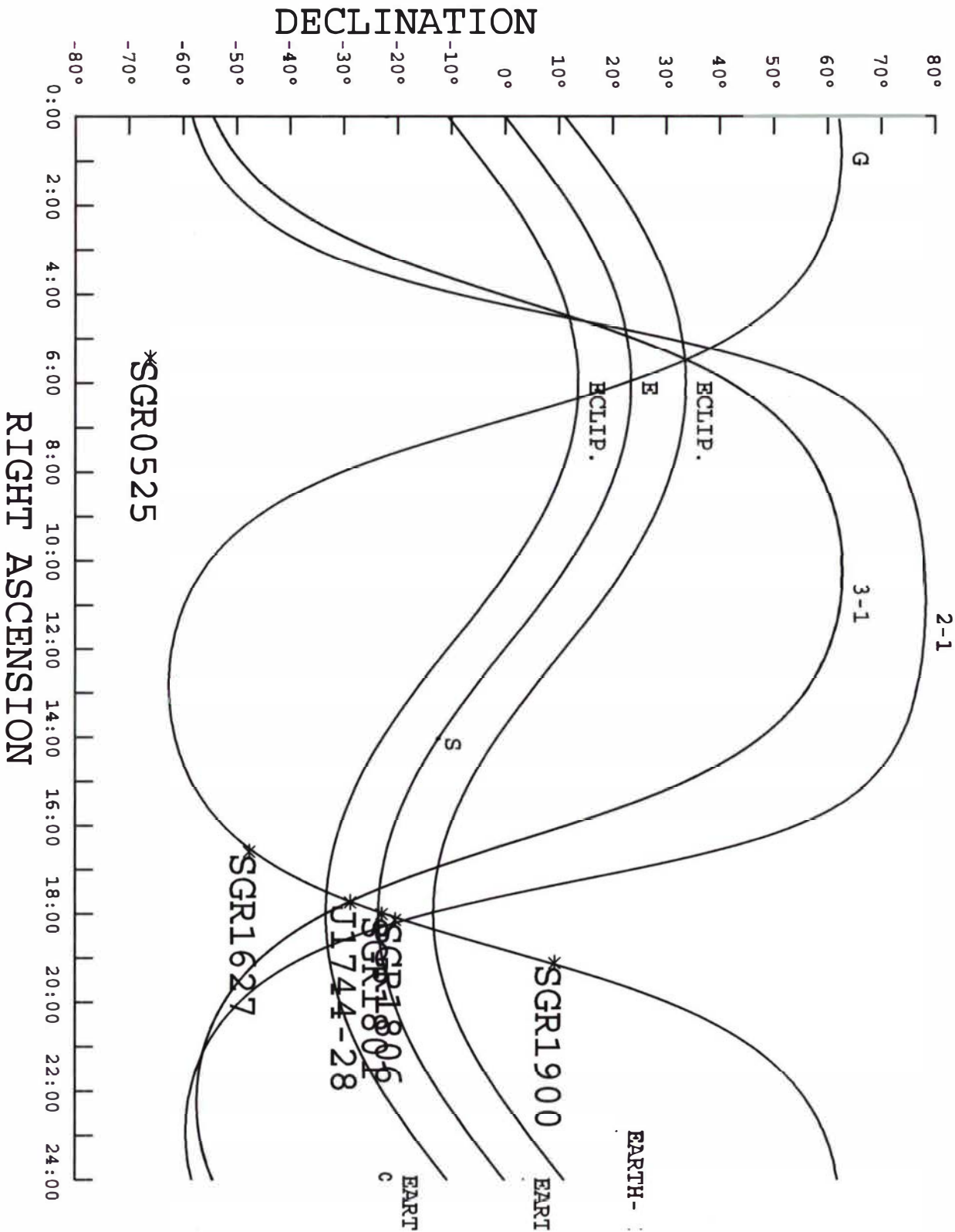
1 ULYSSES

2 KONUS2

3 NEAR

EVENT OF OCT 26, 1999 13:10

6 / 4 / 4



KONUS2

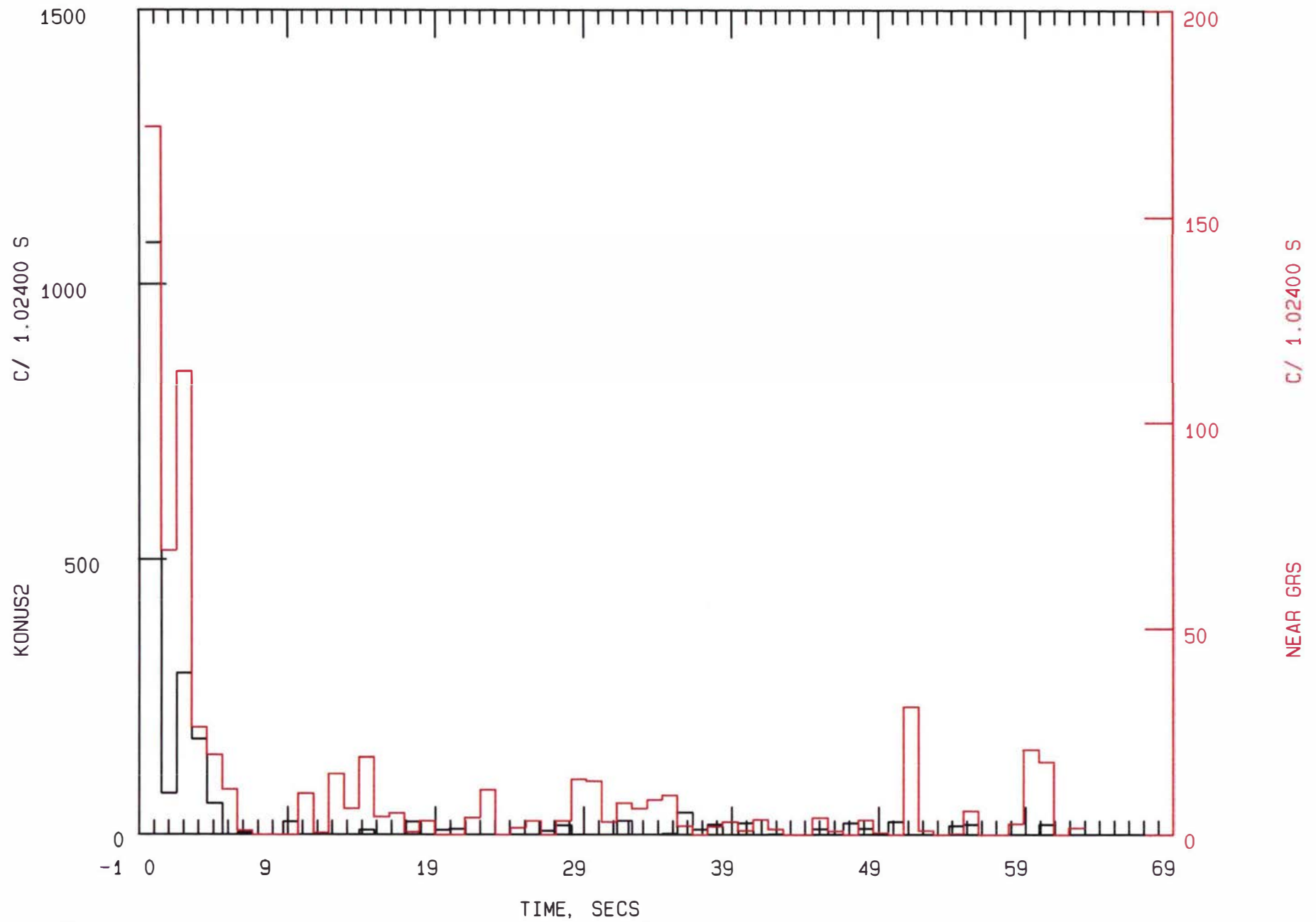
-NEAR GRS

CORRELATION

26/10/99

46985.155

6/ 4/ 4



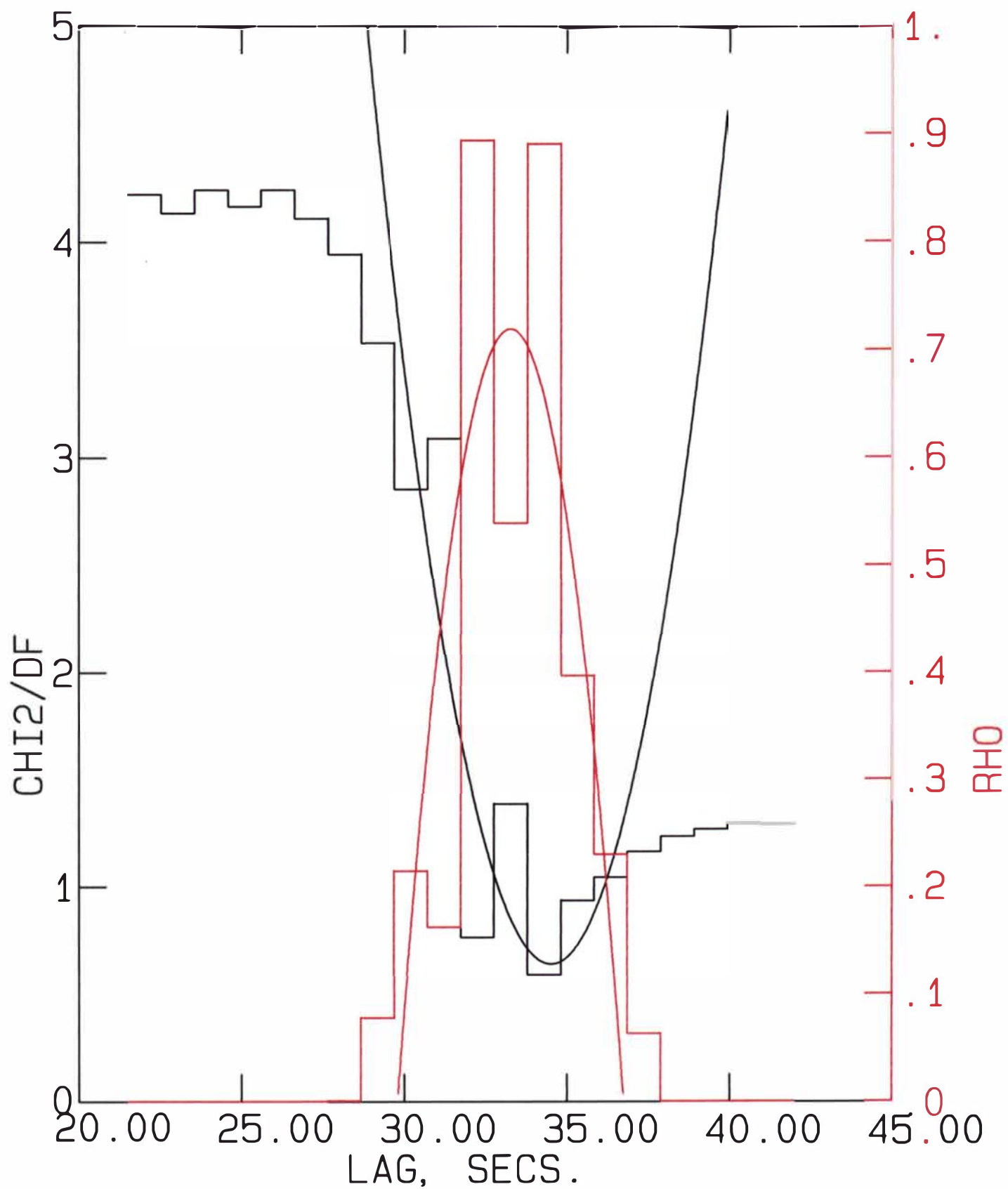
KONUS2

-NEAR GRS

CORRELATION

26/10/99

46985.155



ULYSSES

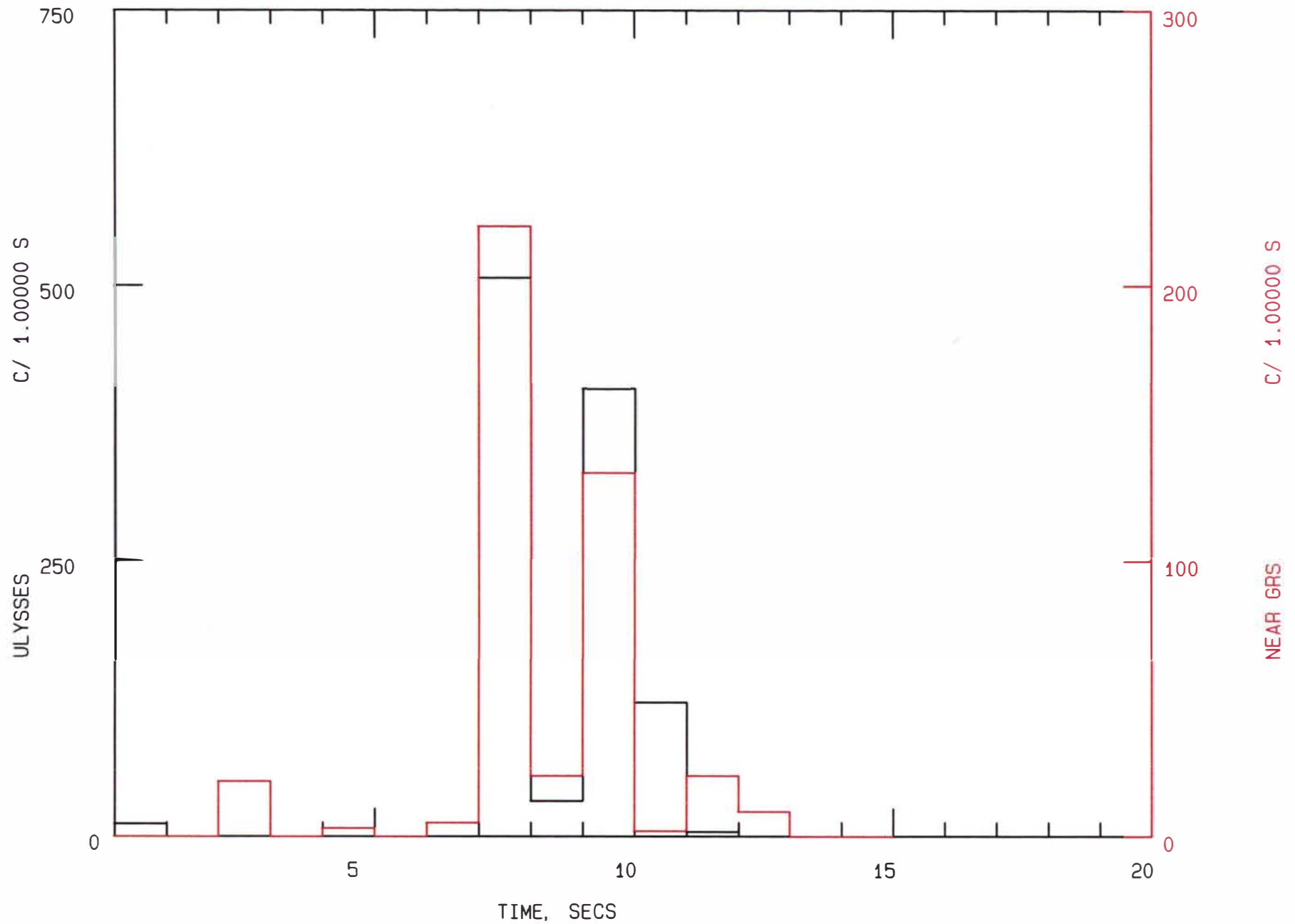
-NEAR GRS

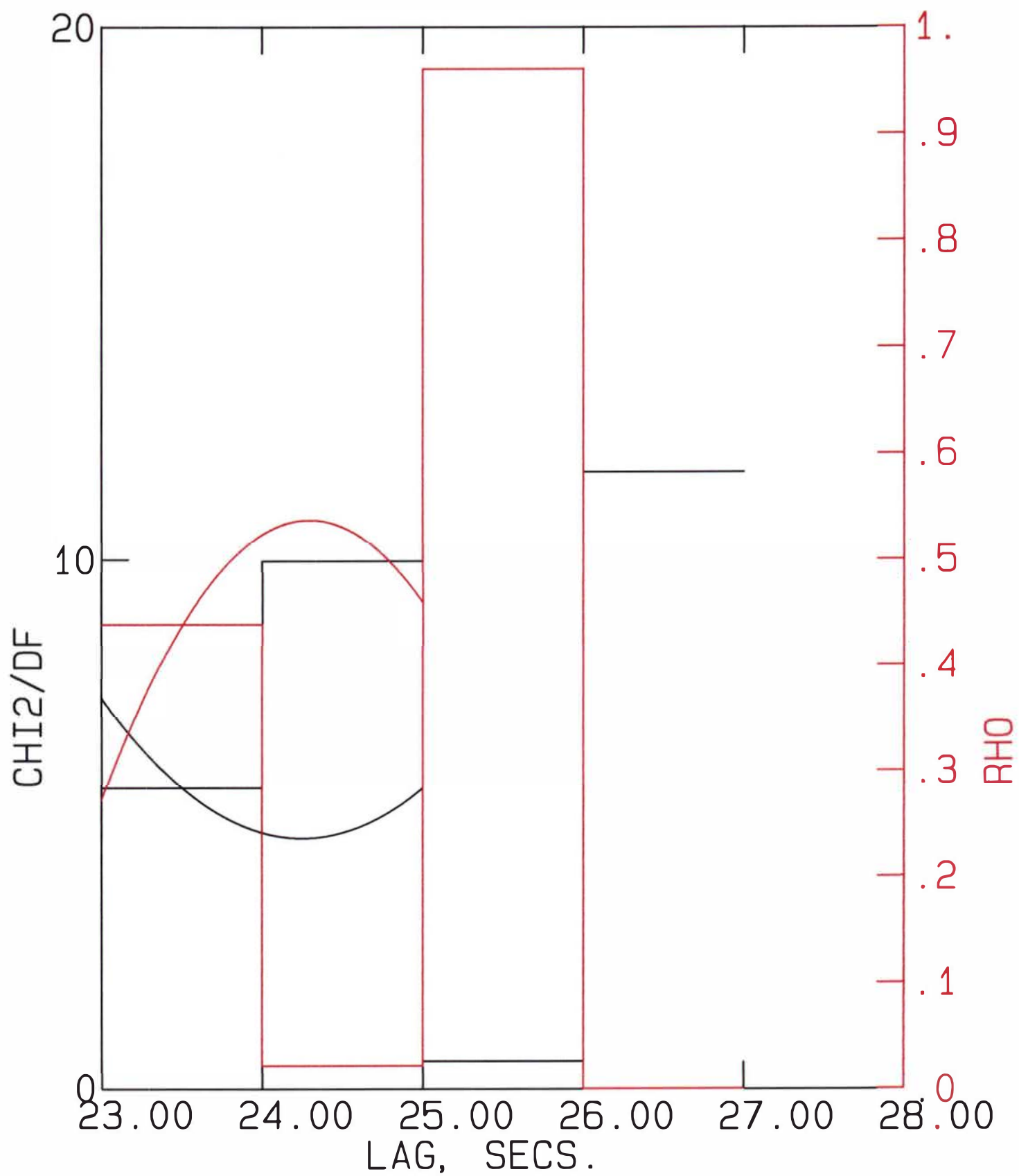
CORRELATION

26/10/99

47402.275

6/ 4/ 4





ULYSSES

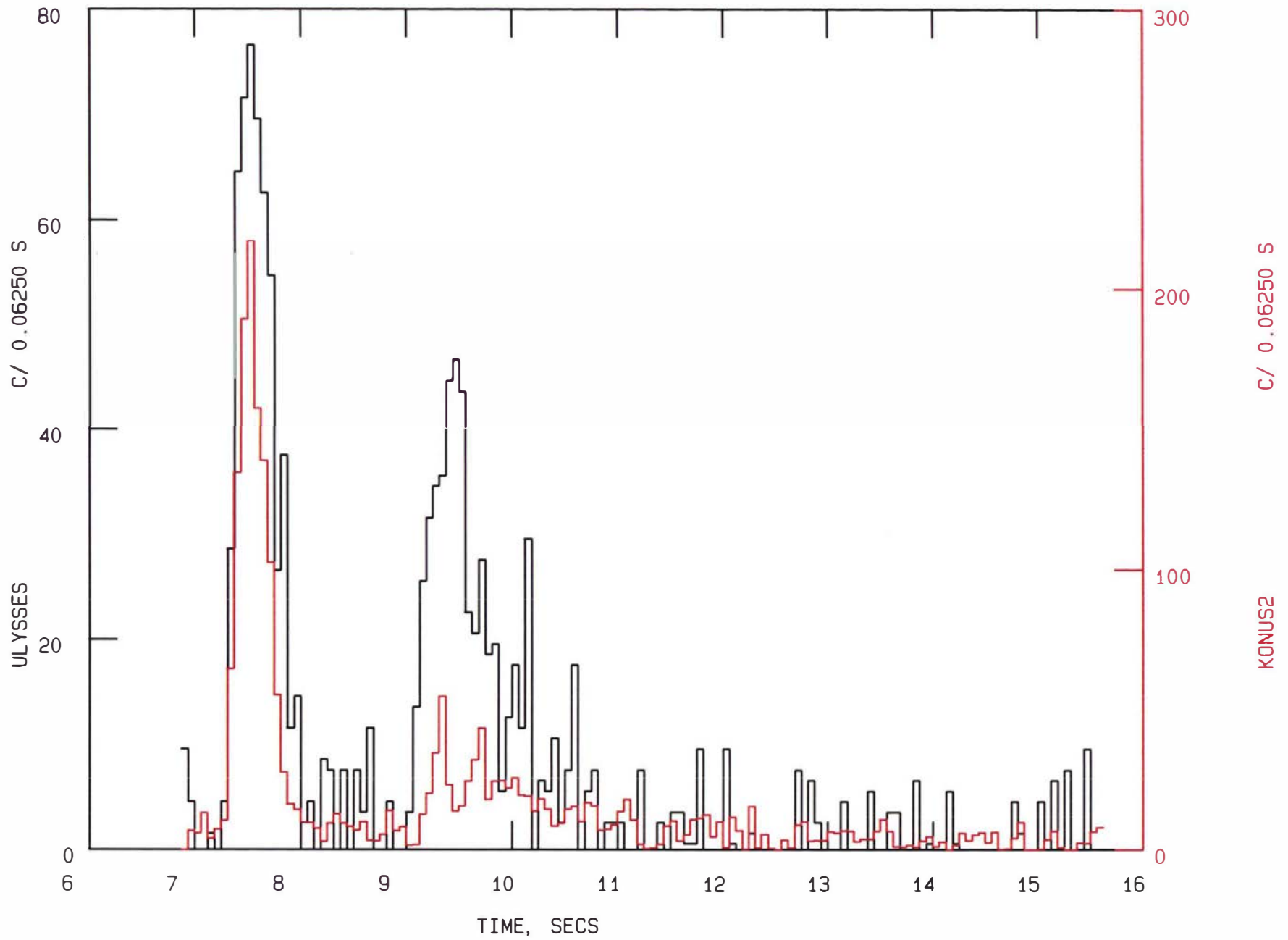
-KONUS2

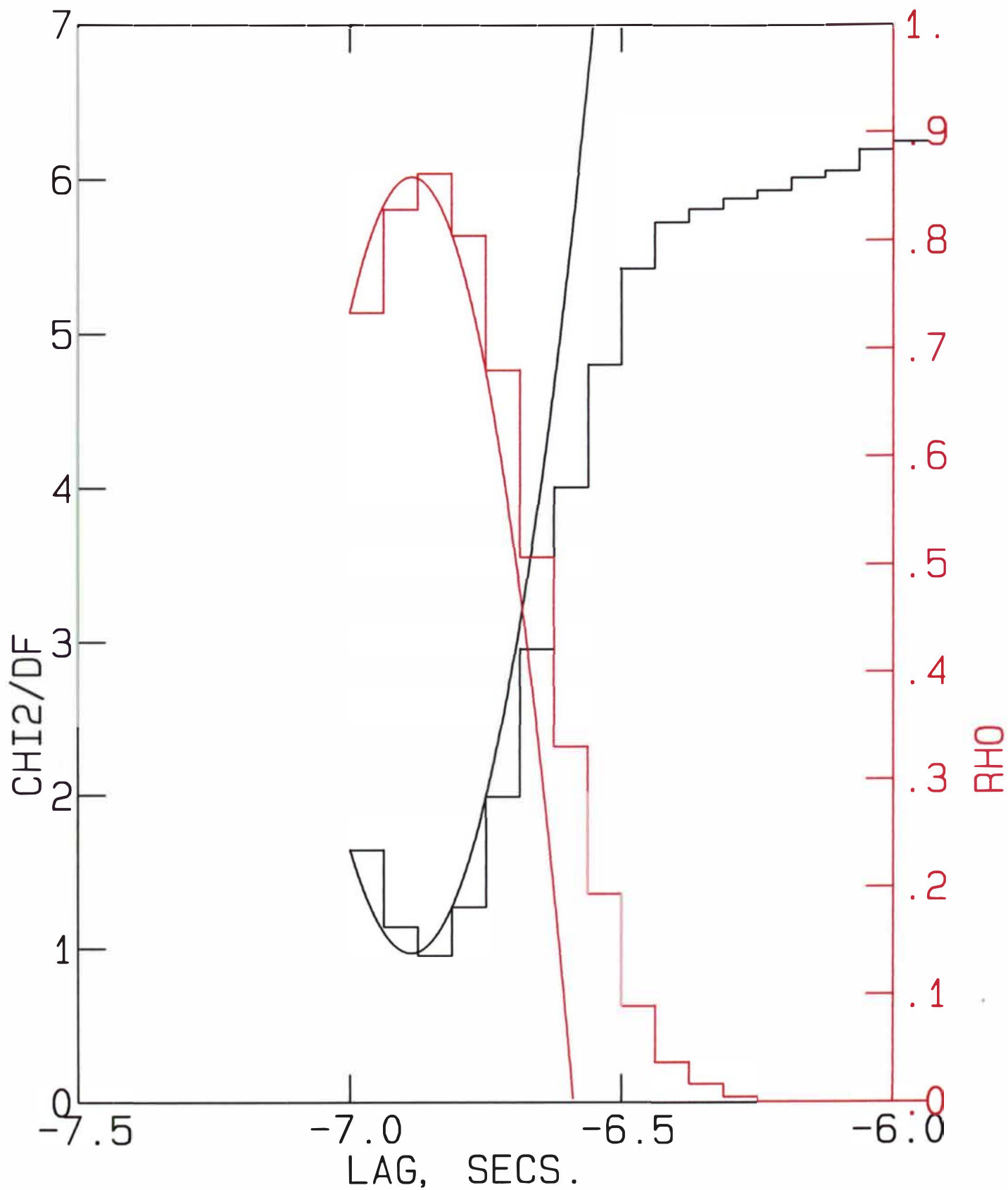
CORRELATION

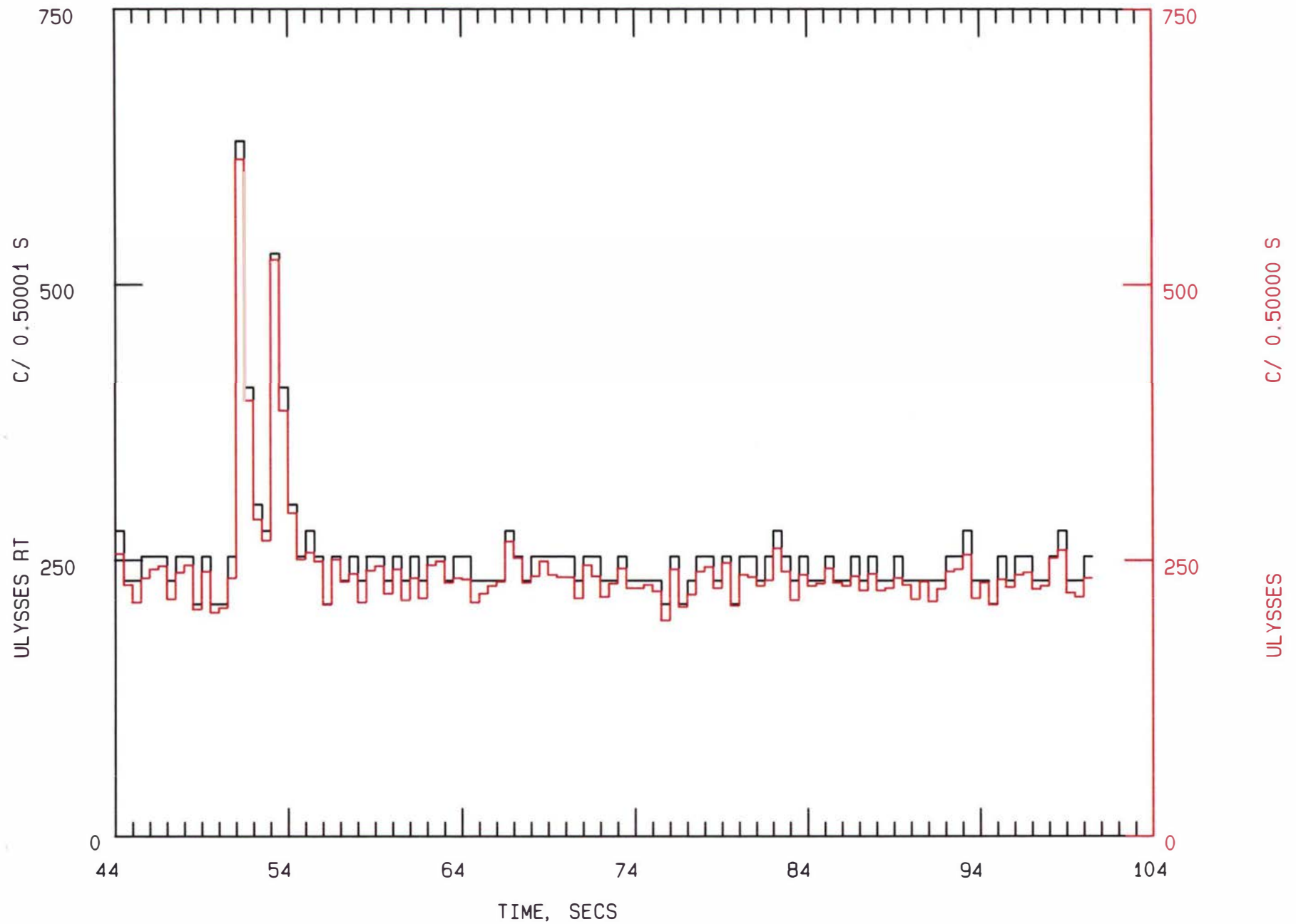
26/10/99

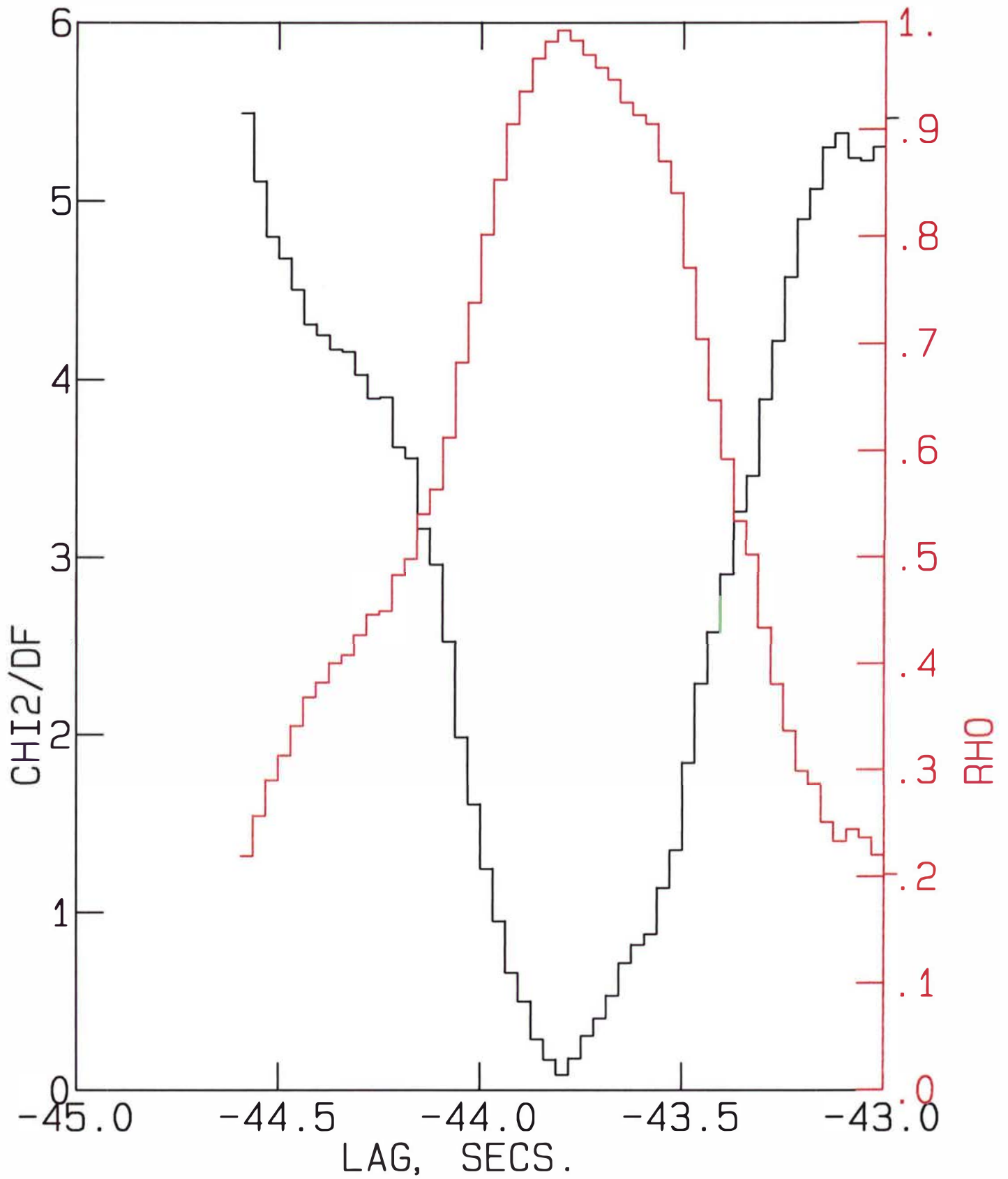
47402.275

6/ 4/ 4







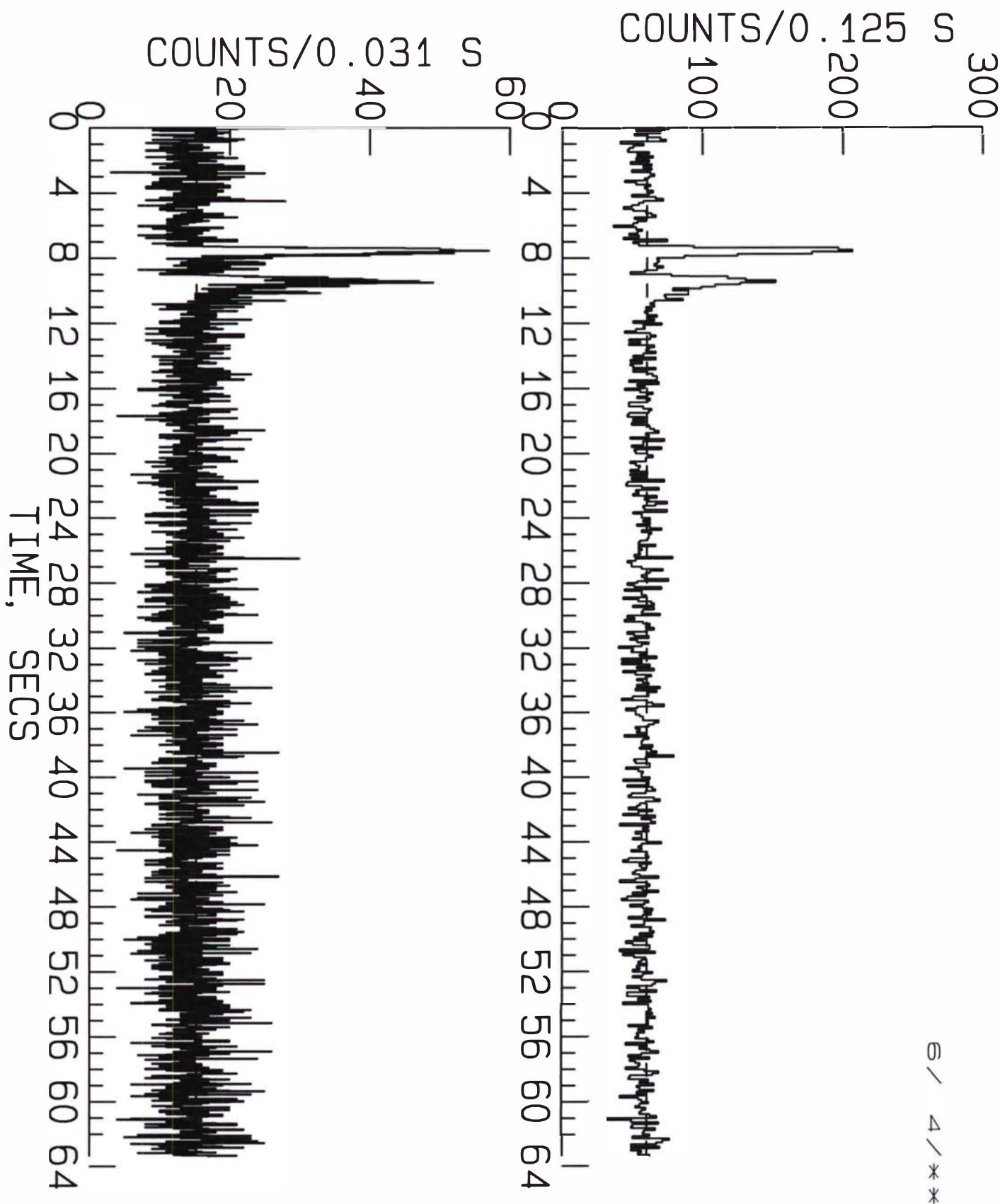


ULYSSES

26/10/99

Ttrig=47402.275

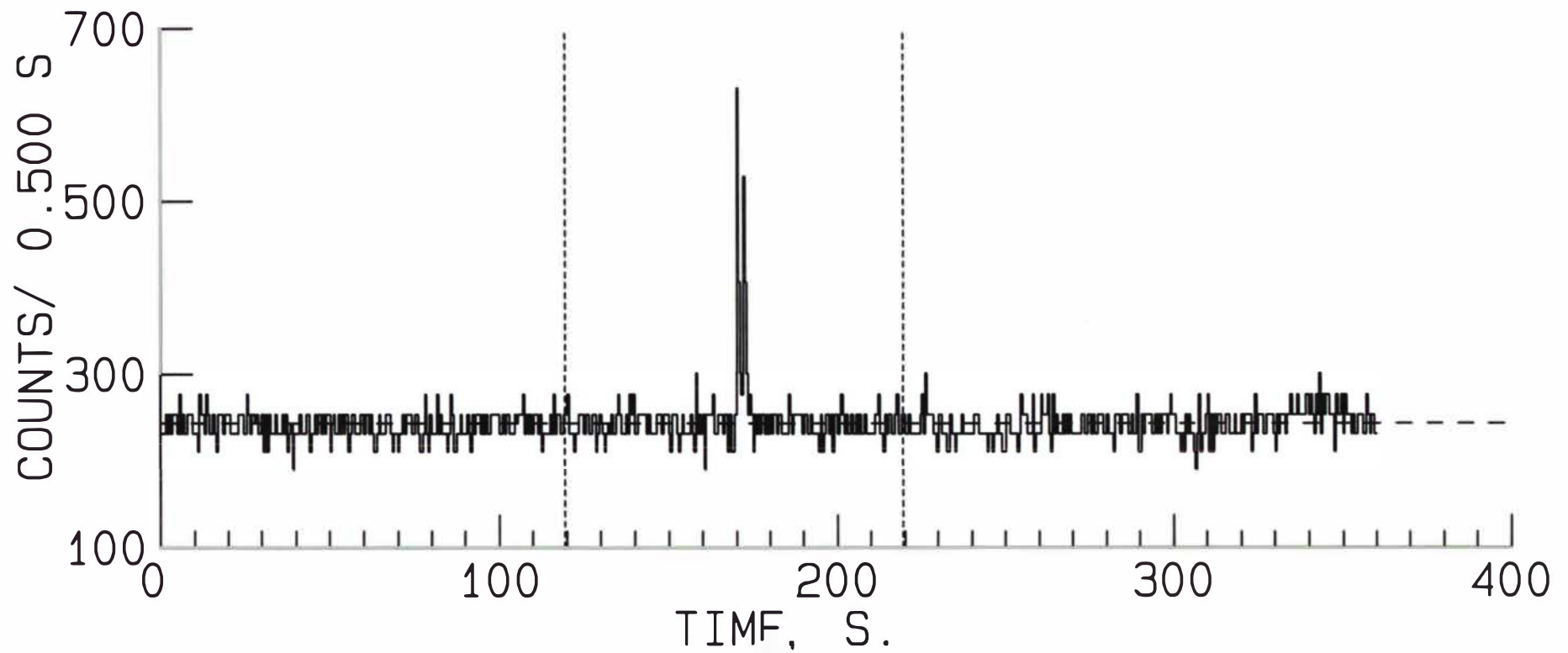
22- 150 keV



ULYSSES RT
26/10/99 47232.031 s
22- 150 keV

6 / 4 / 4

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



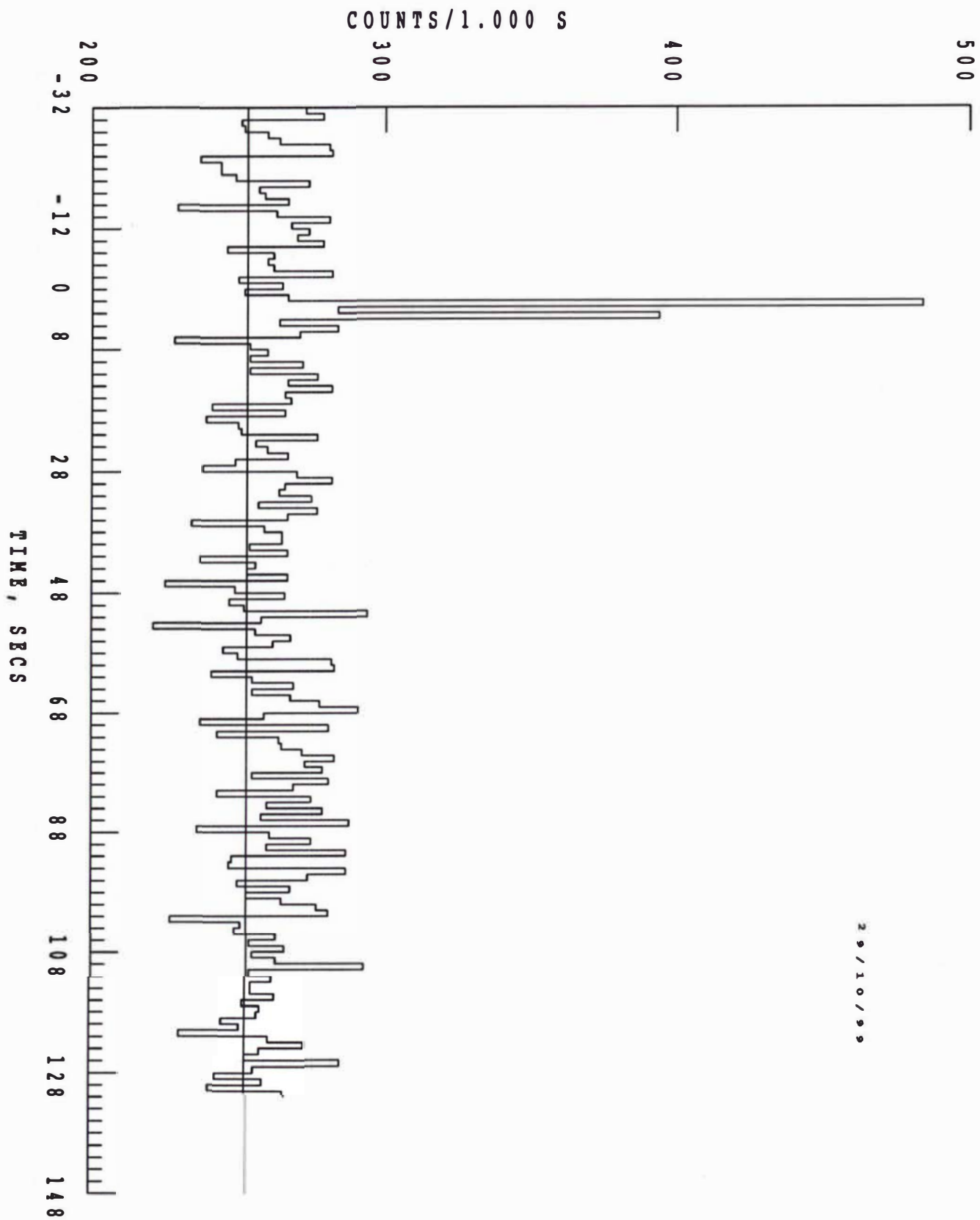
NEAR

26/10/99

47320.605

100-1000 keV

13:08:40



From guidorzi@fe.infn.it Wed Mar 31 02:10:35 2004
Date: Wed, 31 Mar 2004 12:10:49 +0200 (CEST)
From: Cristiano Guidorzi <guidorzi@fe.infn.it>
To: khurley@sunspot.ssl.berkeley.edu
Cc: "Jean in 't Zand" <jeanz@sron.nl>
Subject: GRB991026
MIME-Version: 1.0
X-Spam-Checker-Version: SpamAssassin 2.60 (1.212-2003-09-23-exp) on
smtp.fe.infn.it
X-Spam-Level:
X-Spam-Status: No, hits=0.1 required=5.0 tests=AWL autolearn=no version=2.60

Hi Kevin,

Jean in 't Zand has discovered a new GRB in the WFC that had been detected with GRBM and classified in our GRB catalog.

The GRB is 991026 at 13:02:17 UT as detected with GRBM and lasts ~50s showing a broad single pulse.

This GRB did not trigger the on-board logic, so no high resolution profiles are available.

Moreover, from a list of events detected by Ulysses, I found one that might be the same as ours:

Oct 26 1999 13:10, moderate, dur ~ 5s

Jean found tha NEAR and Konus detected it too, though it looks like a different GRB.

Please, could you help us solve this point, whether the Konus and the Ulysses events are the same GRB or a different one

from that detected with WFC+GRBM?

Below I forward to you the email by Jean, where you may find the WFC coordinates of this GRB.

I send you the BSAX ephemeris:

R.A. (deg) = 259.5
Dec. (deg) = 2.4
Dist. (km) = 6958.9

Thanks
ciao
Cristiano

----- Forwarded message -----

Date: Wed, 31 Mar 2004 10:45:12 METDST
From: Jean in 't Zand <jeanz@sron.nl>
To: Cristiano Guidorzi <guidorzi@fe.infn.it>
Subject: Re: again a new GRB

Hello Cristiano,

Ulysses too? I also found something in NEAR.

There is something odd about this burst on 991026. The Konus data show an onset time of 13:03:05 UT while for SAX it was 13:02:14 so 51 seconds earlier. Konus is not that far away from SAX that the light travel time between both is so large. Also, the Konus time profile is

different: it is much shorter and has two distinct peaks with $\Delta T = 2$ s. Two different GRBs perhaps? But should Konus have seen our burst as well? If Konus, Ulysses and NEAR saw the same burst, there should have been some IPN triangulation but I cannot find it. Do you have a suggestion?

The coordinates are:

991026: 16h35m55.1s -89d30m07.8s error 1.6'

Ciao,
Jean.

From khurley@sunspot.ssl.berkeley.edu Thu Apr 1 15:49:42 2004
Received: from scylla2.ssl.berkeley.edu (scylla2.ssl.berkeley.edu [128.32.147.21] by sunspot.ssl.berkeley.edu (8.12.11/8.12.7) with ESMTP id i31Nnfum01900 Thu, 1 Apr 2004 15:49:42 -0800 (PST)
Received: (from khurley@localhost) by scylla2.ssl.berkeley.edu (8.11.6+Sun/8.11.6) id i31Nk7I13903; Thu, 1 Apr 2004 15:46:07 -0800 (PST)
Date: Thu, 1 Apr 2004 15:46:07 -0800 (PST)
From: Kevin Hurley <khurley@ssl.berkeley.edu>
Message-Id: <200404012346.i31Nk7I13903@scylla2.ssl.berkeley.edu>
To: khurley@sunspot.ssl.berkeley.edu, guidorzi@fe.infn.it
Subject: Re: GRB991026
From: jeanz@sron.nl
Sun-Charset: US-ASCII
Content-Length: 727
X-Lines: 22
Status: RO

Dear Cristiano and Jean,

I am retrieving some old data for this one and I should be able to give you a location for this burst tomorrow. But I can already see that the time histories of Konus, Ulysses, and NEAR all agree that this burst is rather short (~3 s) so it doesn't sound like the WFC event.

On the other hand, if you give me the location of the WFC event, I can do a more sensitive search for it.

Cristiano, I have an unrelated question for you. There was a burst on September 23 2001 which was observed by BeppoSAX, but is not in your list. It was at 33861 s, and I have all the data for it, but I am wondering whether you have a location for it. It seems to come from around RA=300-350, Decl=16-23.

Ciao

Kevin

Date: Nov 16 '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 SAX

SAX WFC position in

Vetere et al is

inconsistent with IPN

analysis. Earlier

private comm. from

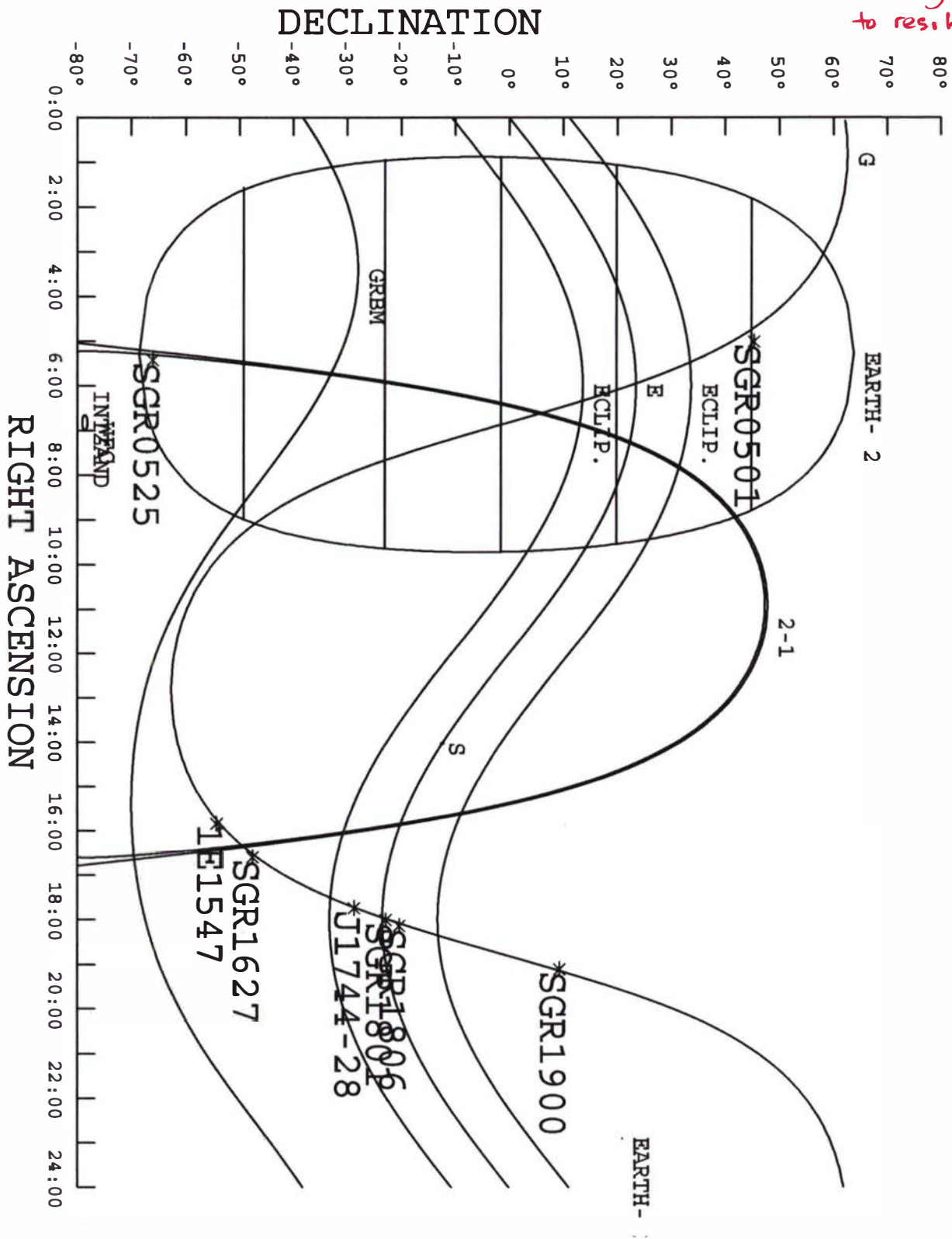
in't Zand is consistent.

Waiting for SAX team

to resolve

EVENT OF OCT 26, 1999 12:46

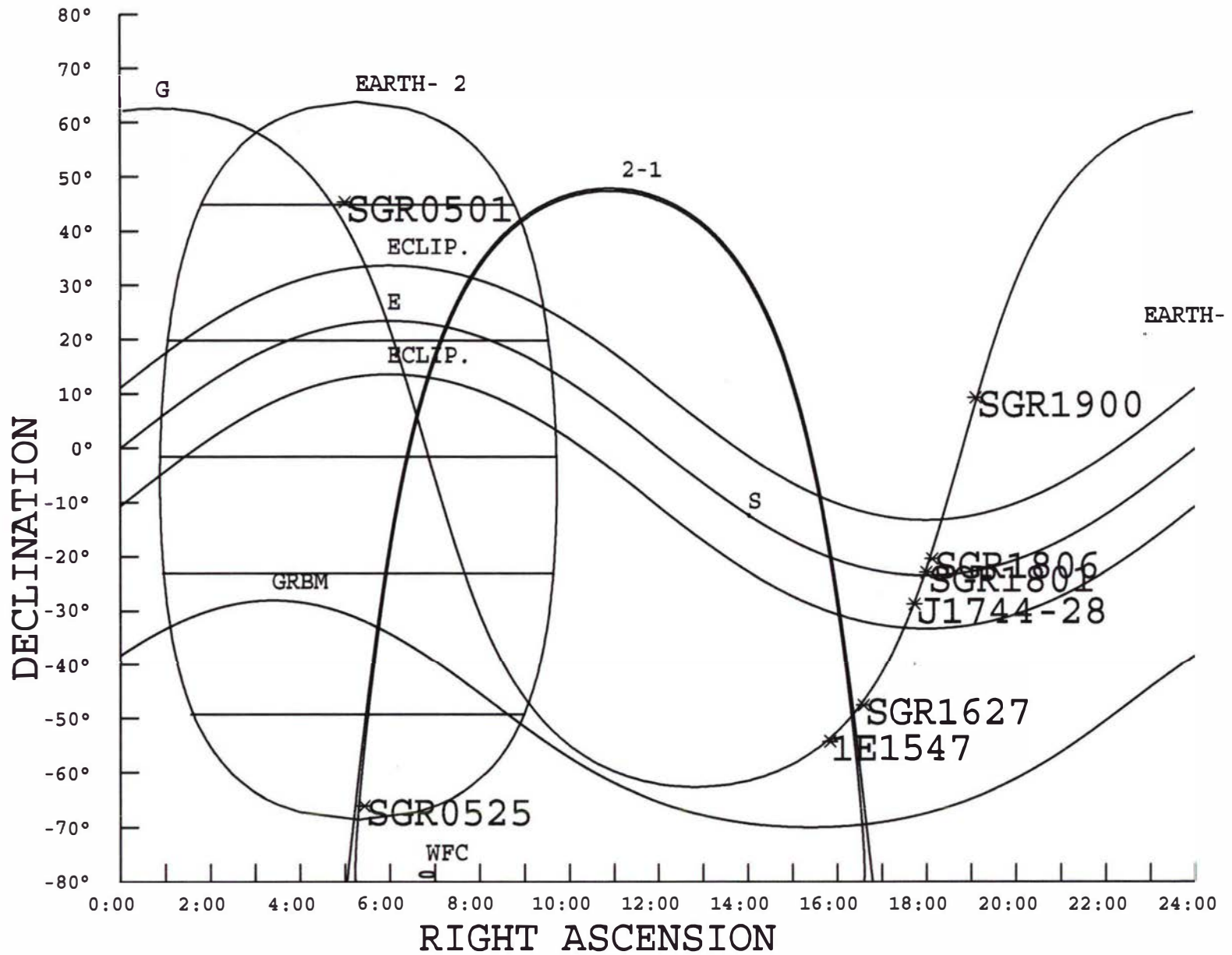
30 / 7 / 9

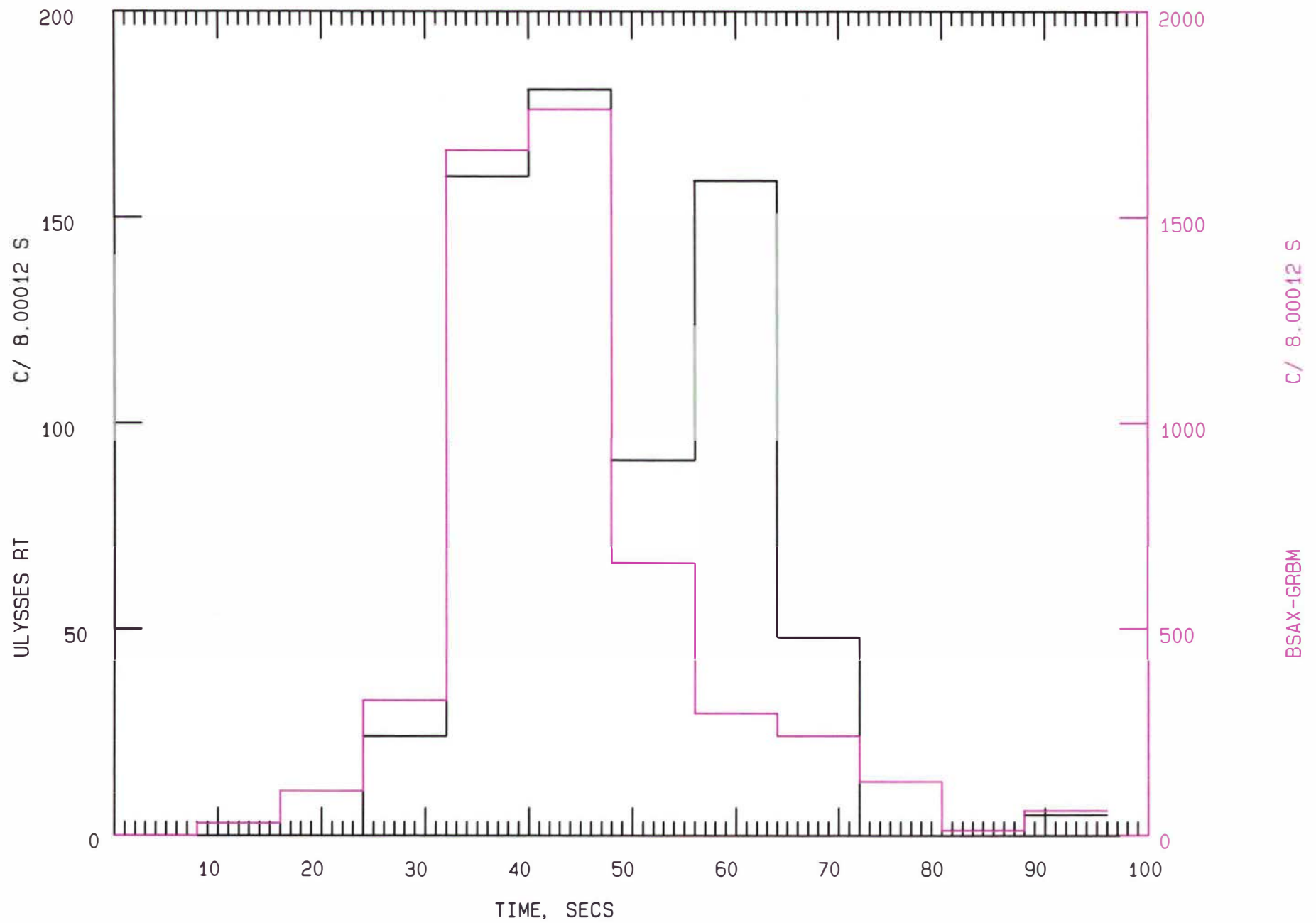


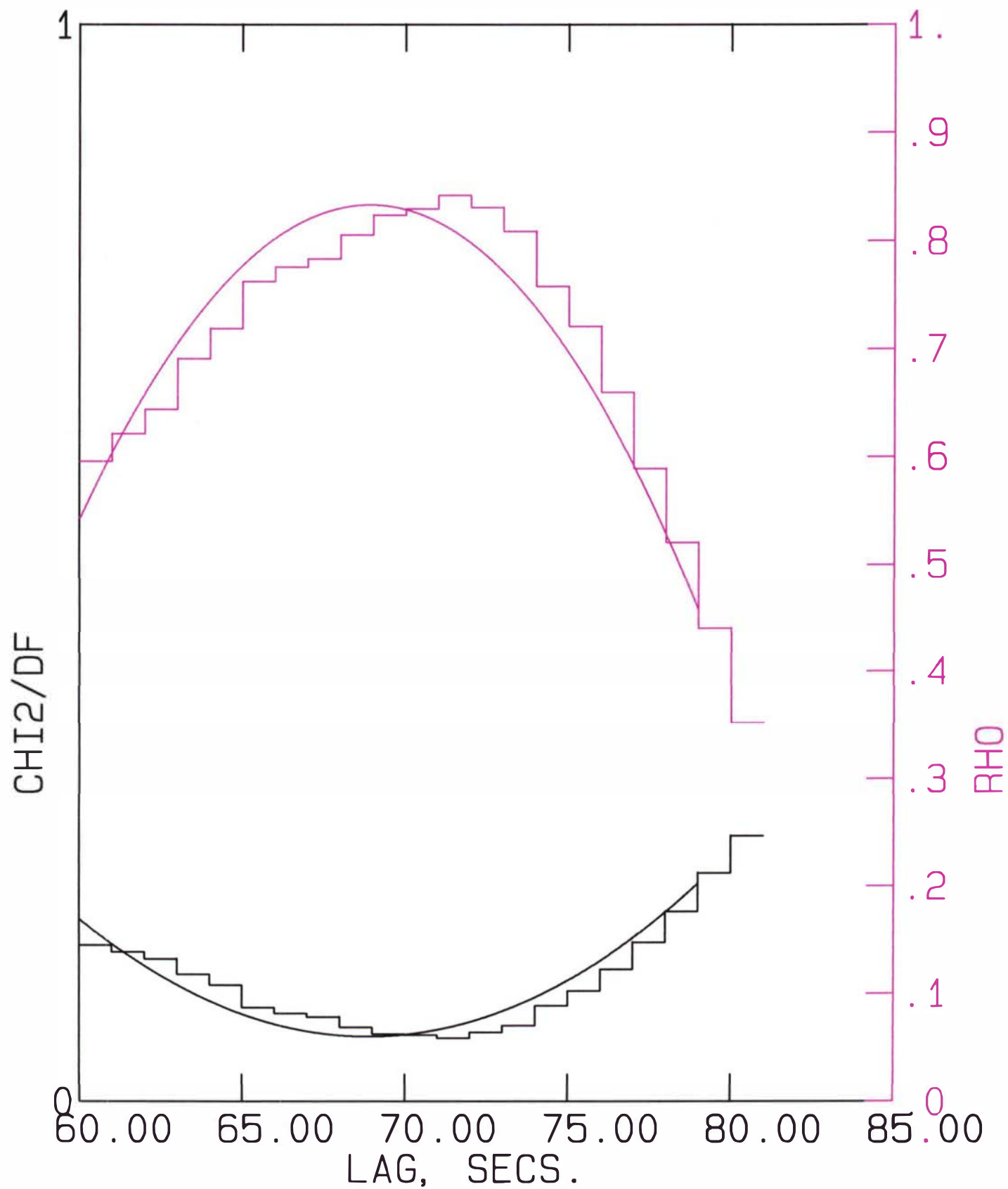
EVENT OF OCT 26, 1999 12:46

30/ 7/ 9

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







SAX GRBM

26/10/99

~~06/12/97~~ 46832.461

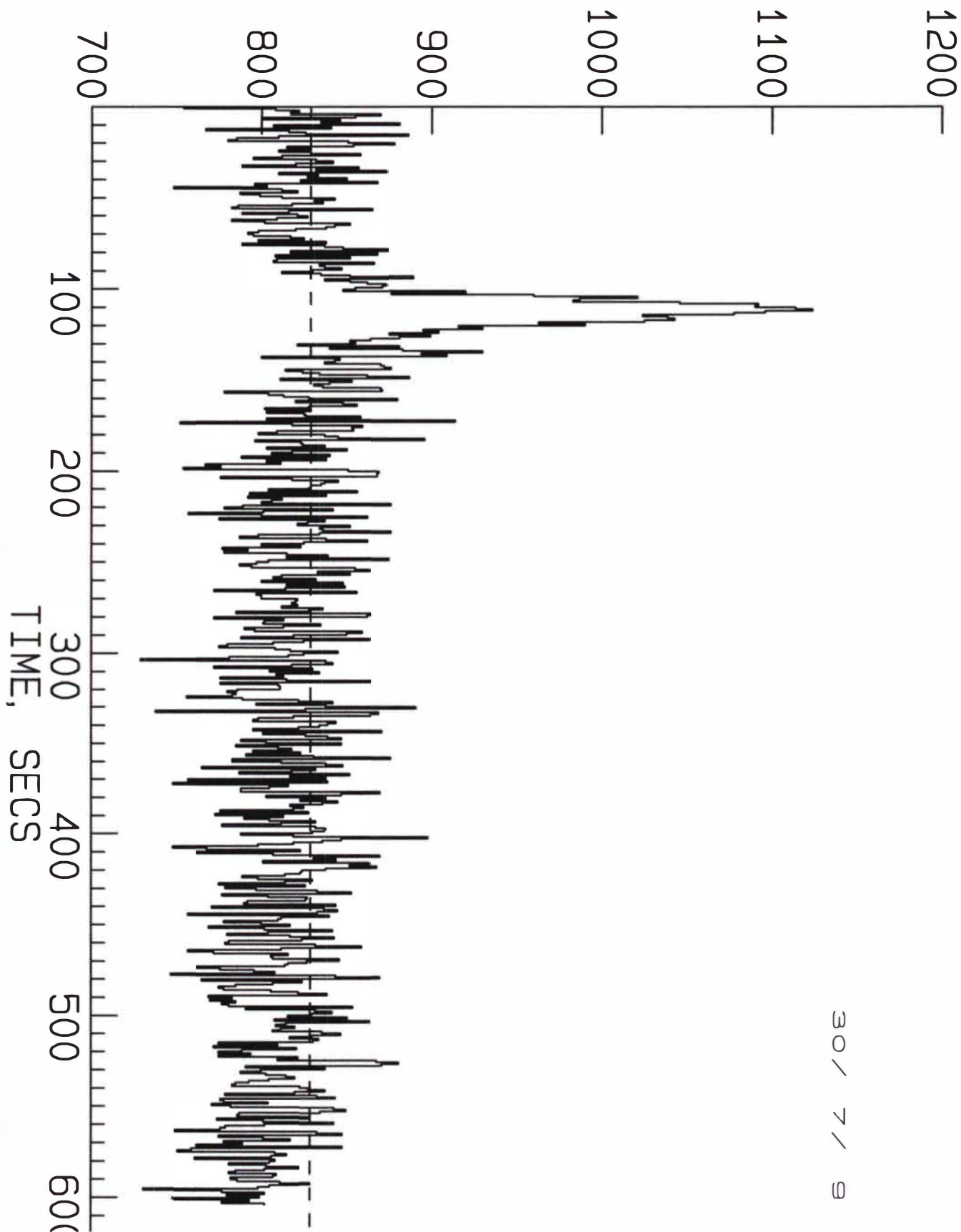
40- 700 keV

This is 991026 B at 13:02:17

46937s

Also a WFC event

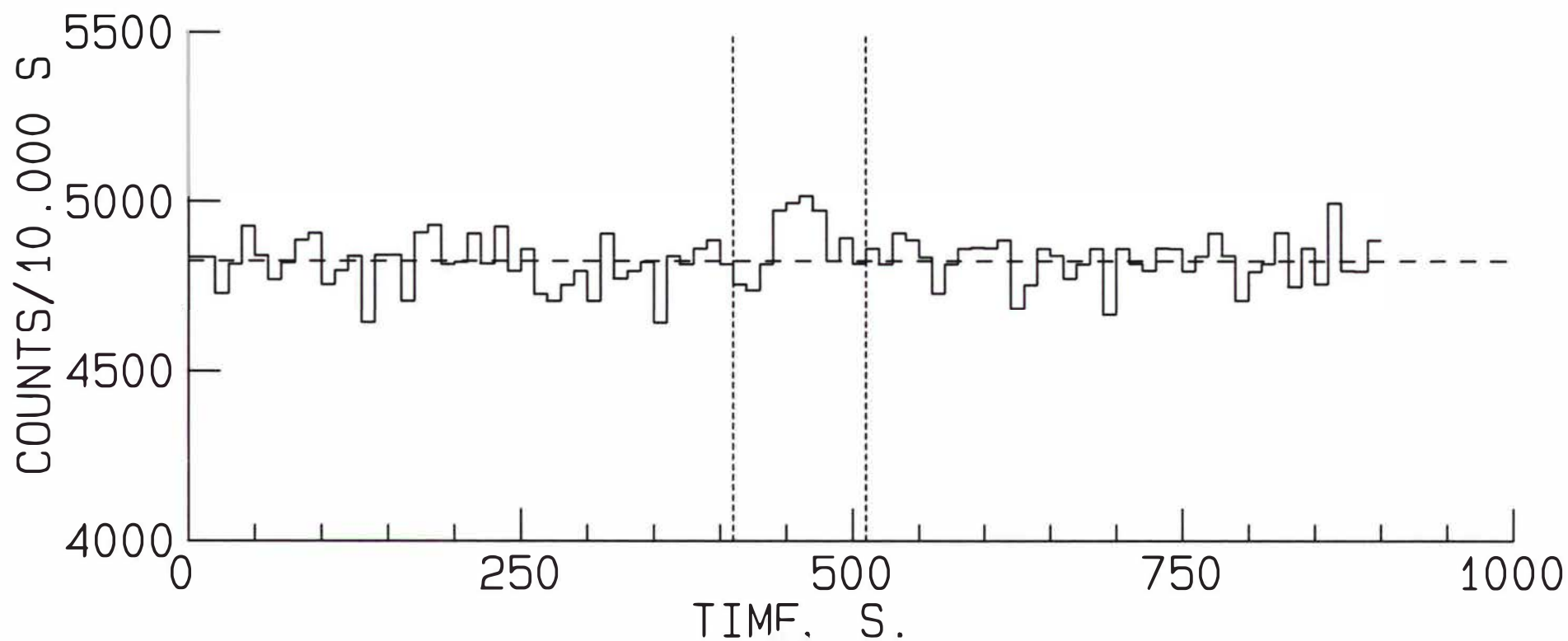
COUNTS/1.000 S



30 / 7 / 9

ULYSSES RT
26/10/99 45576.016 s
0.500 S INTERVALS REGROUPED BY 20
22- 150 keV

2 / 4 / 4



SAX WFC 19991026 46035

ULYSSES RT

02 / 04 / 04

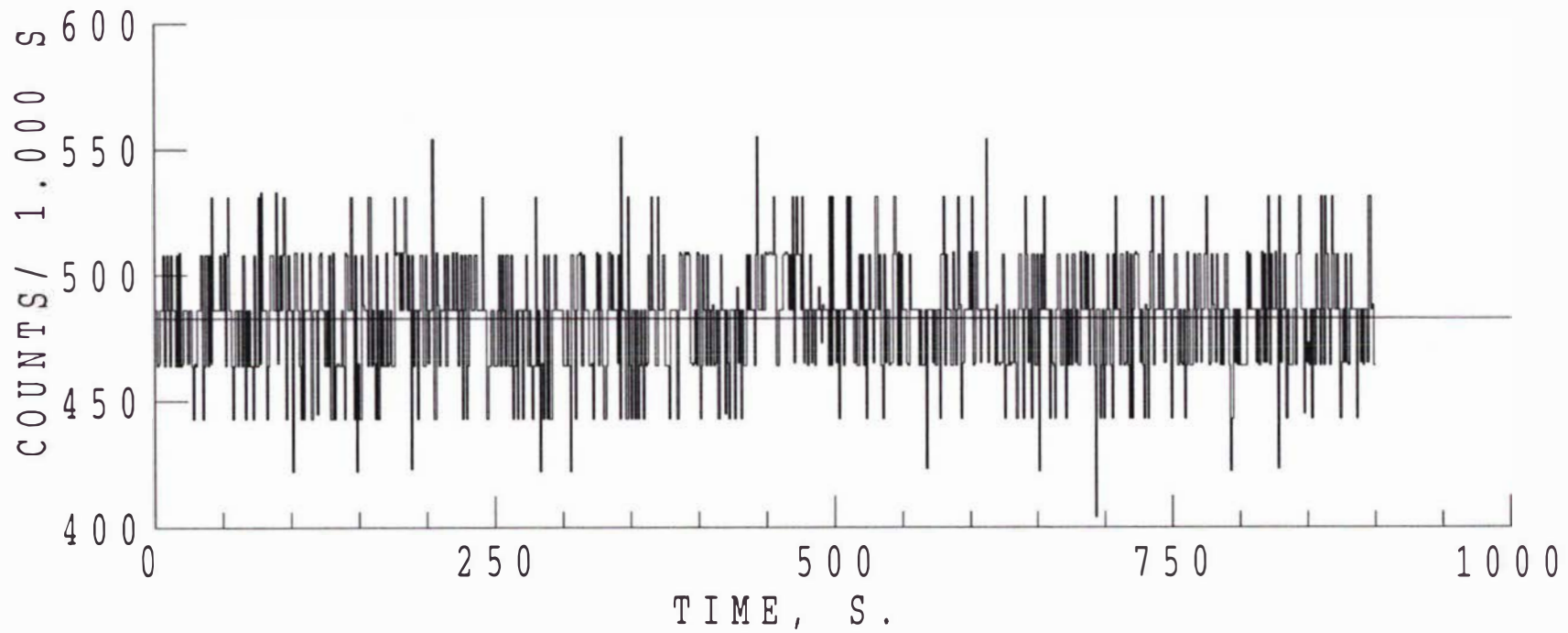
26 / 10 / 99 45576.016 s

0.500 S INTERVALS REGROUPED BY 2

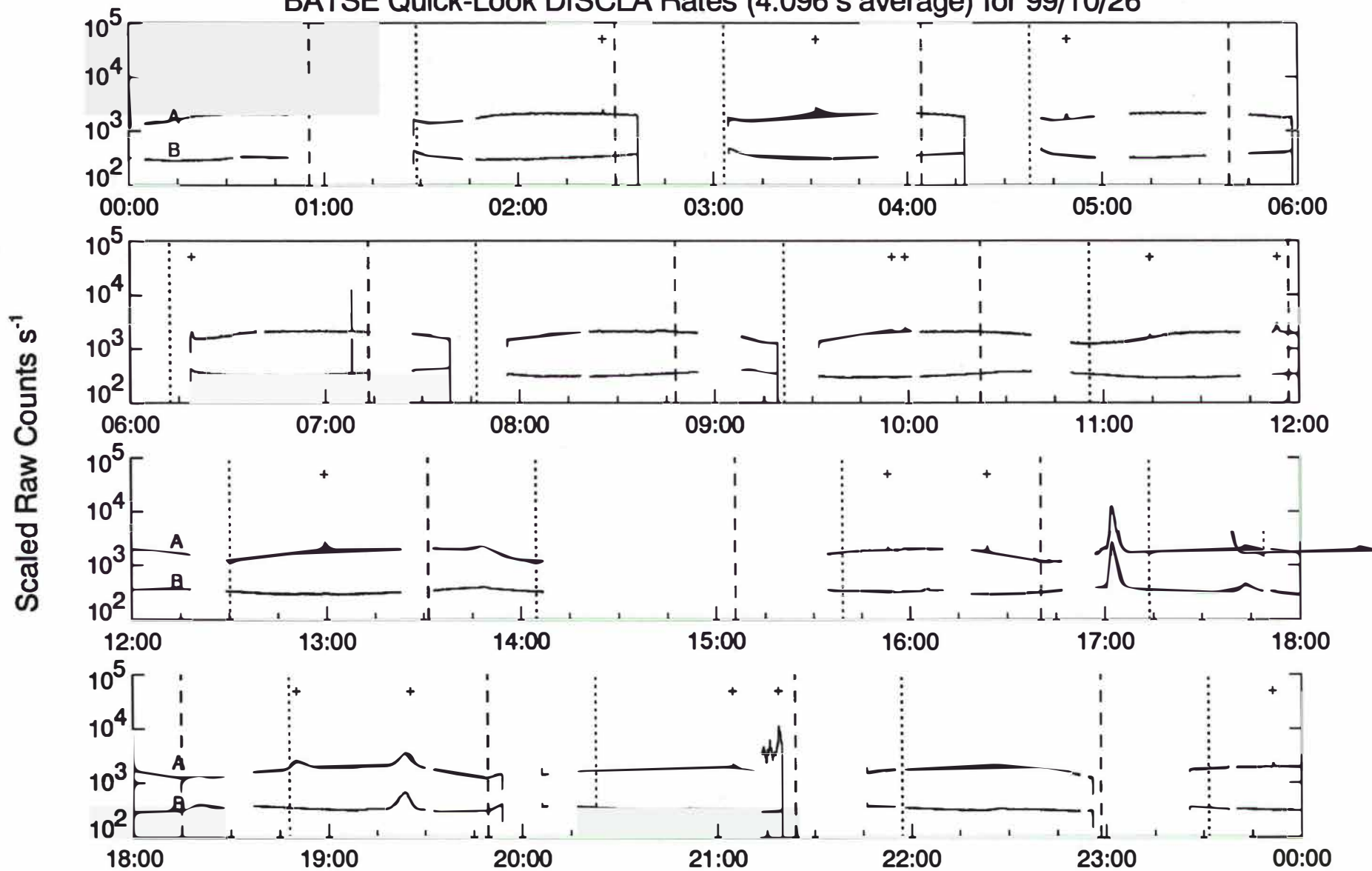
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/26

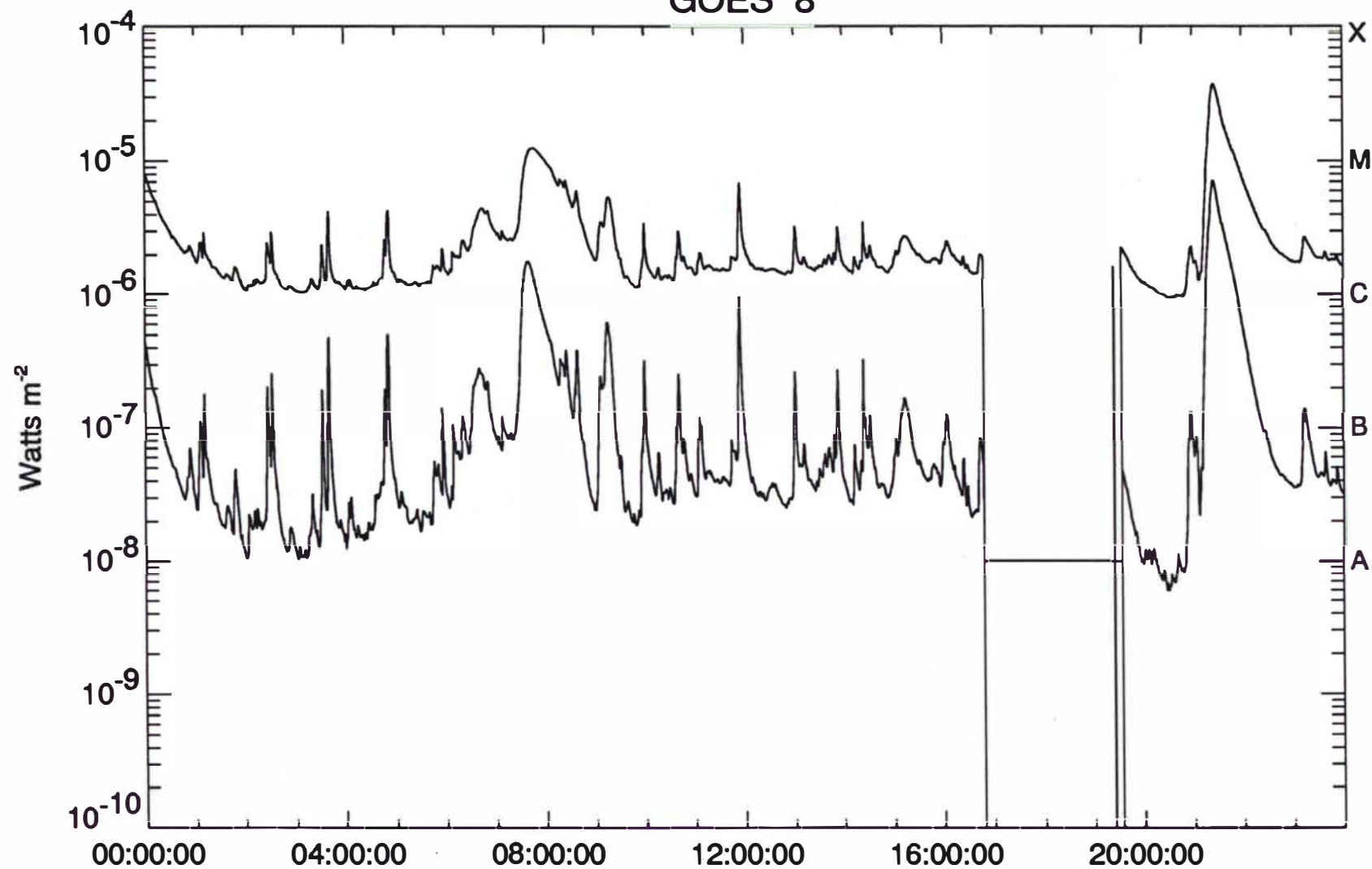


Current Time: 99/10/30, 1010 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/26, 0000:00

Plot created: 99/10/30, 1010

Channel 1 (1.0 - 8.0 Angstroms)

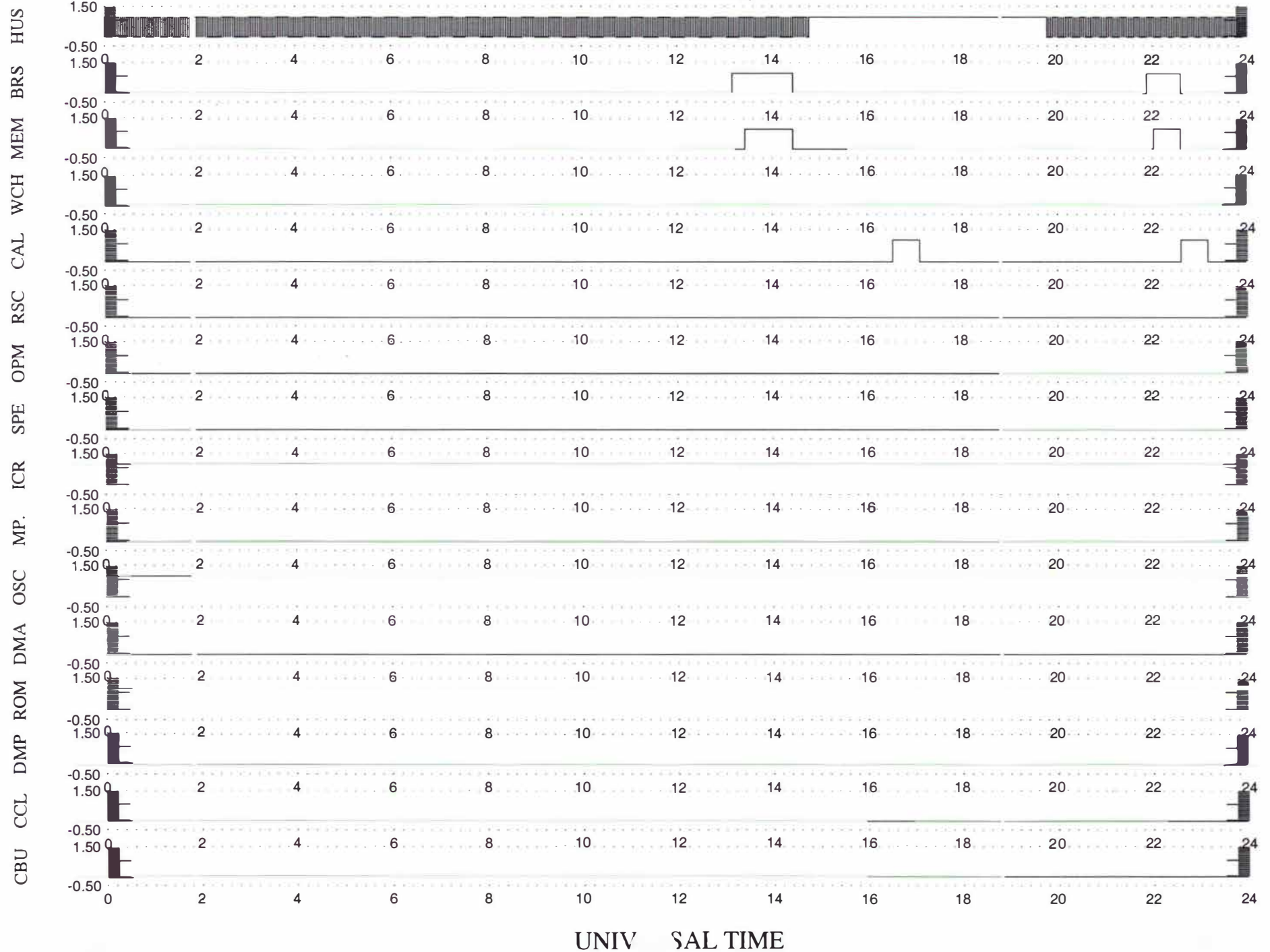
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

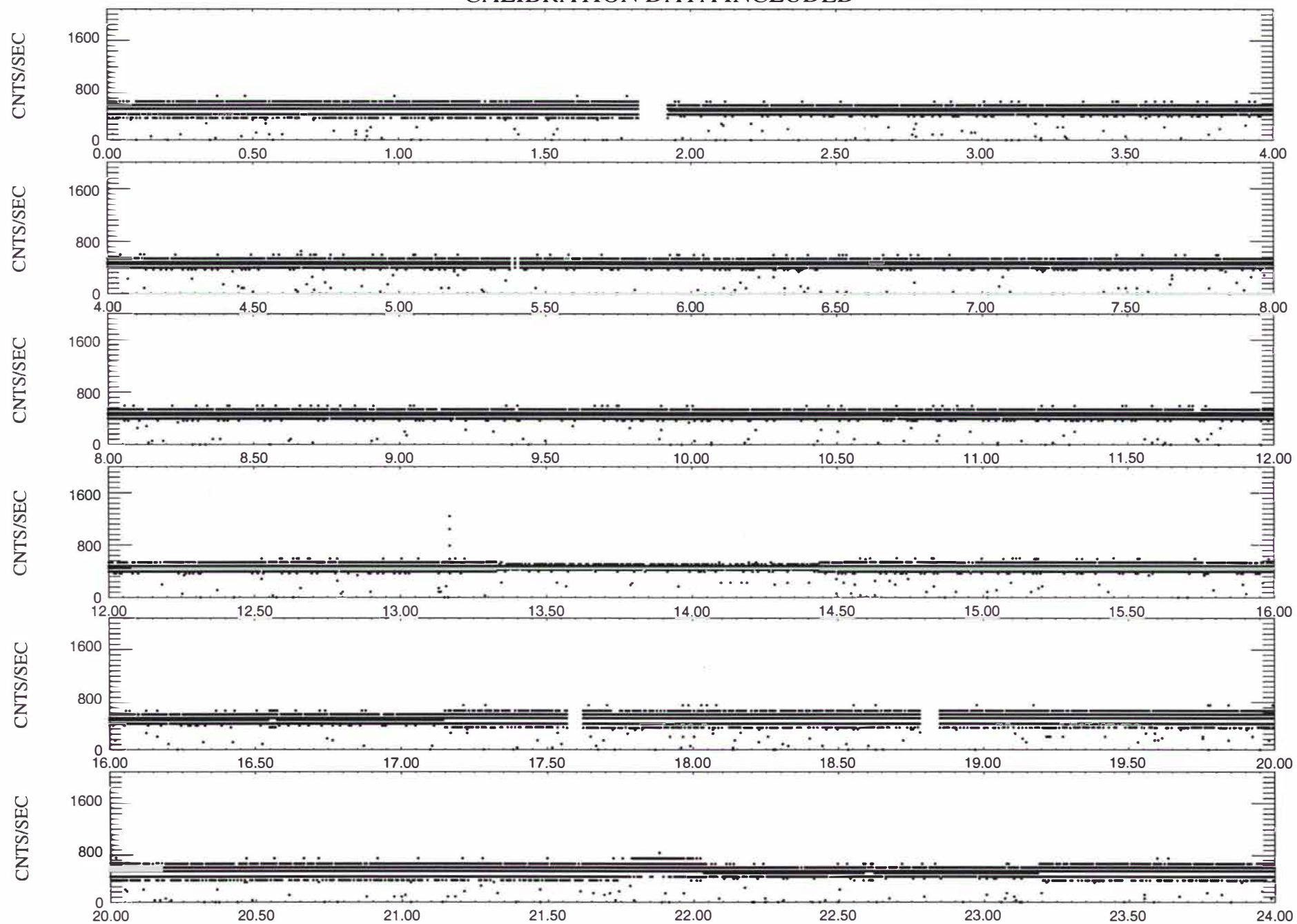
Background not subtracted

Sample average = 10

BURST NUMBER 15, 0

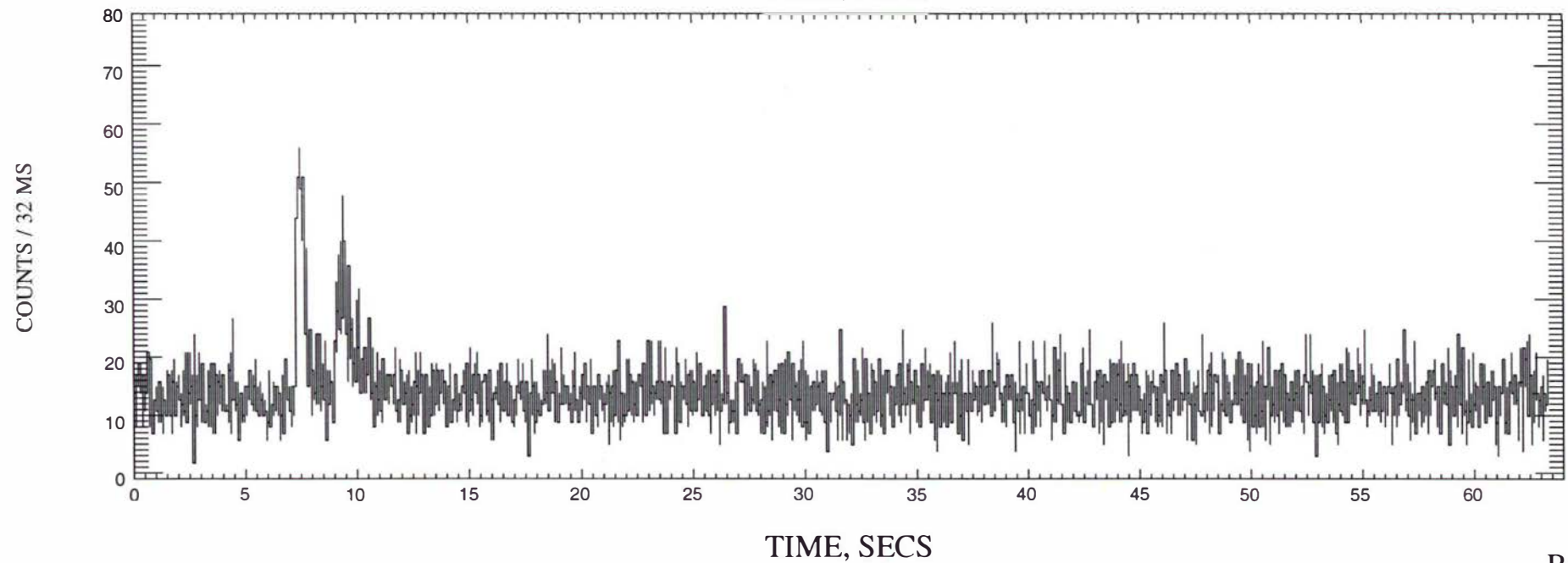
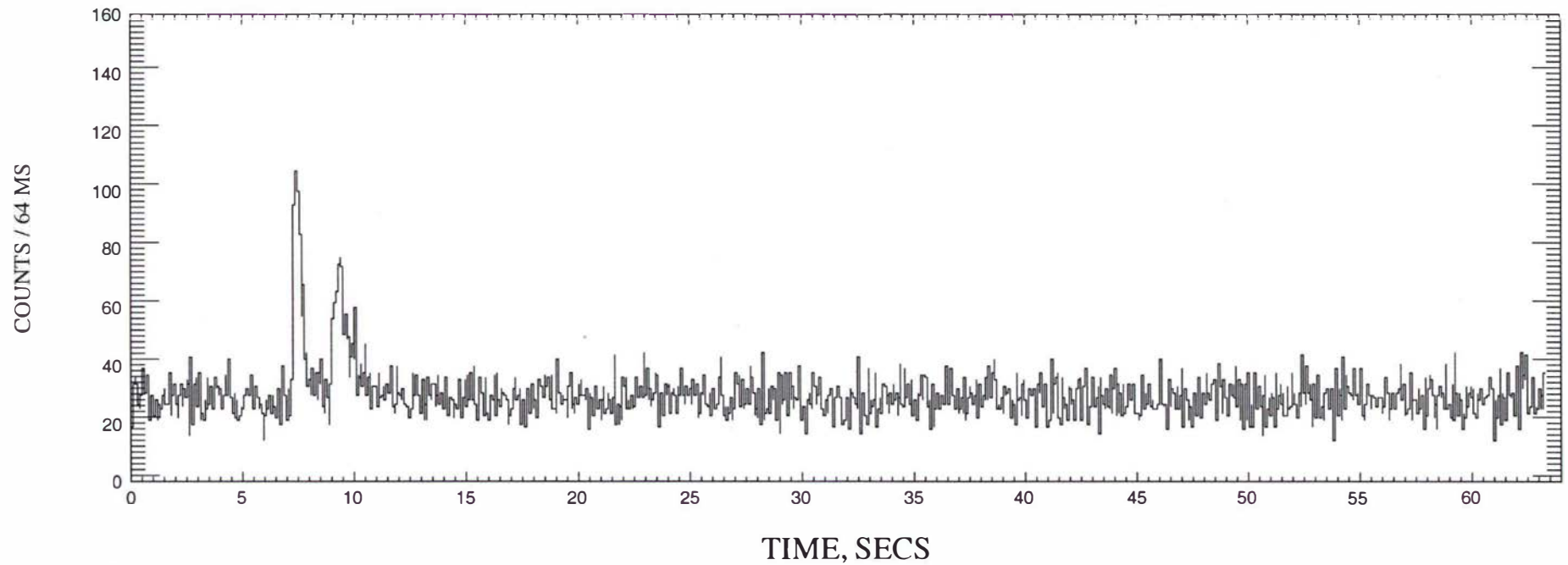


CALIBRATION DATA INCLUDED

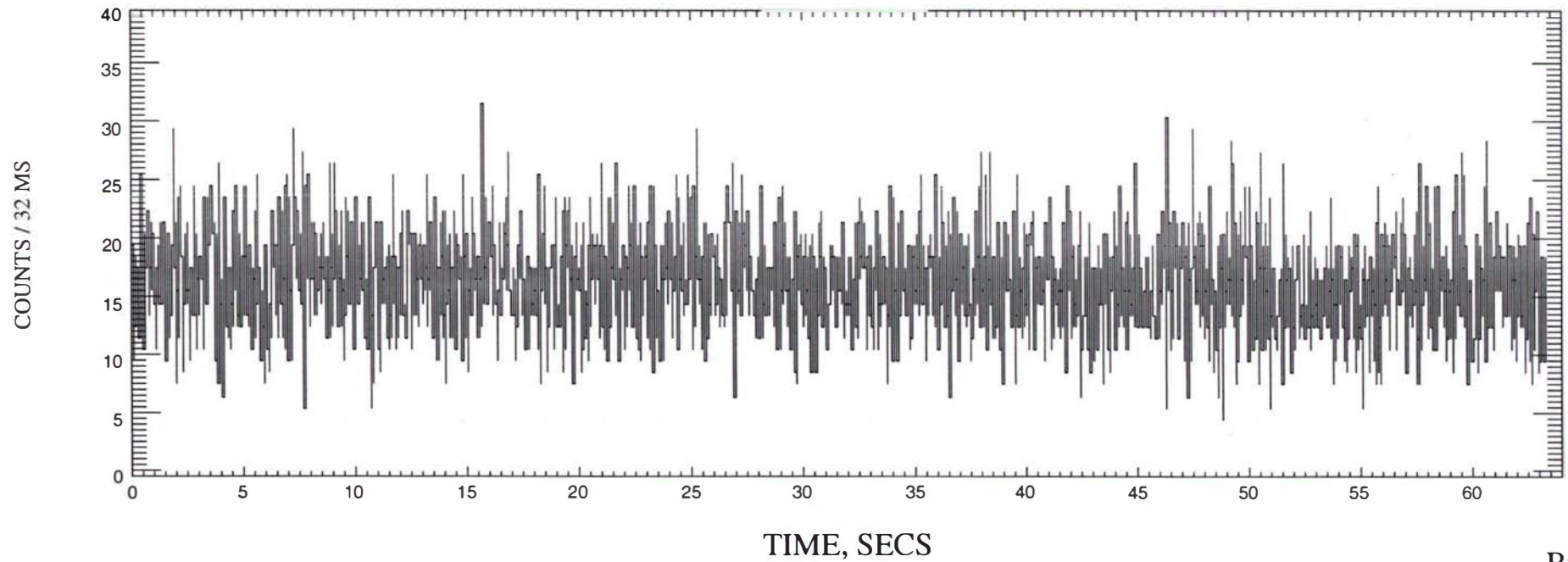
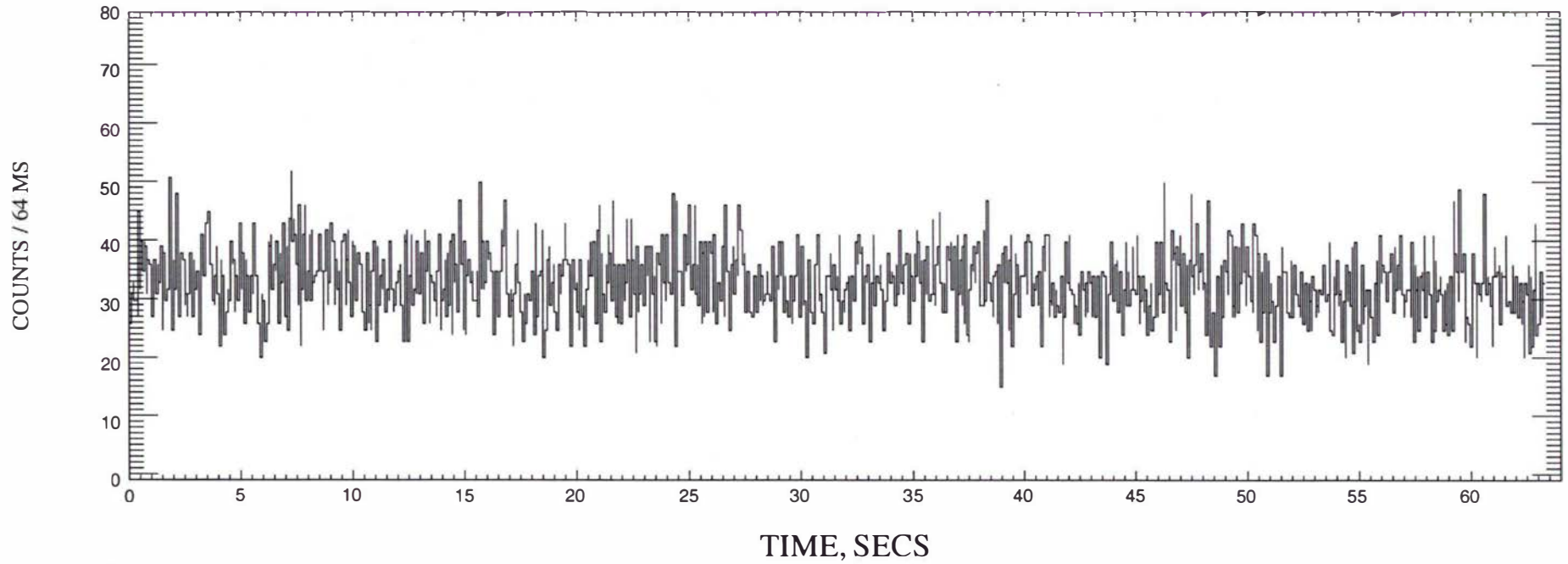


UNIV* SAL TIME

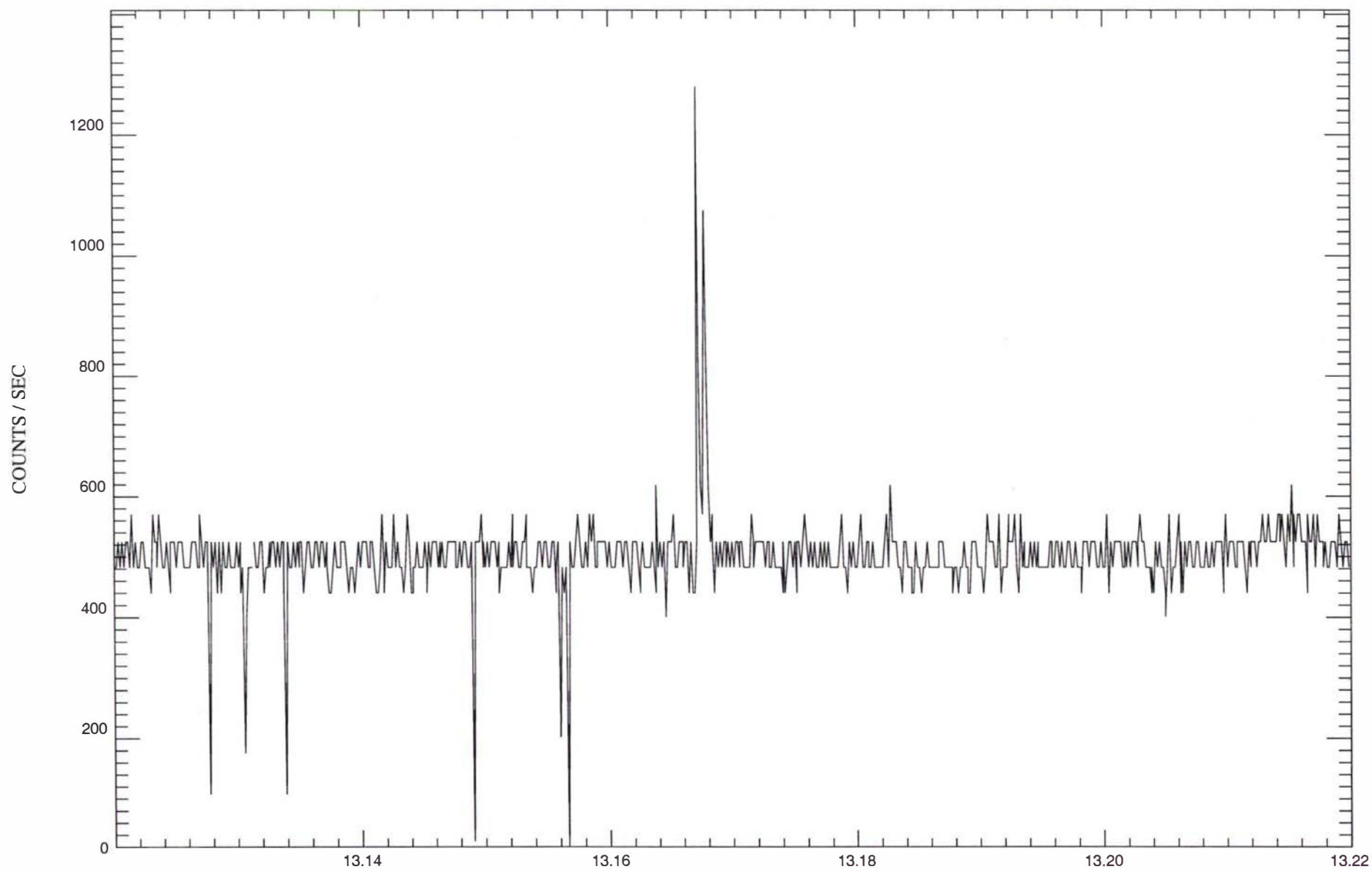
Burst Counter 15 at UT=13.167290255229 h=47402.245 s 13:10:02.245



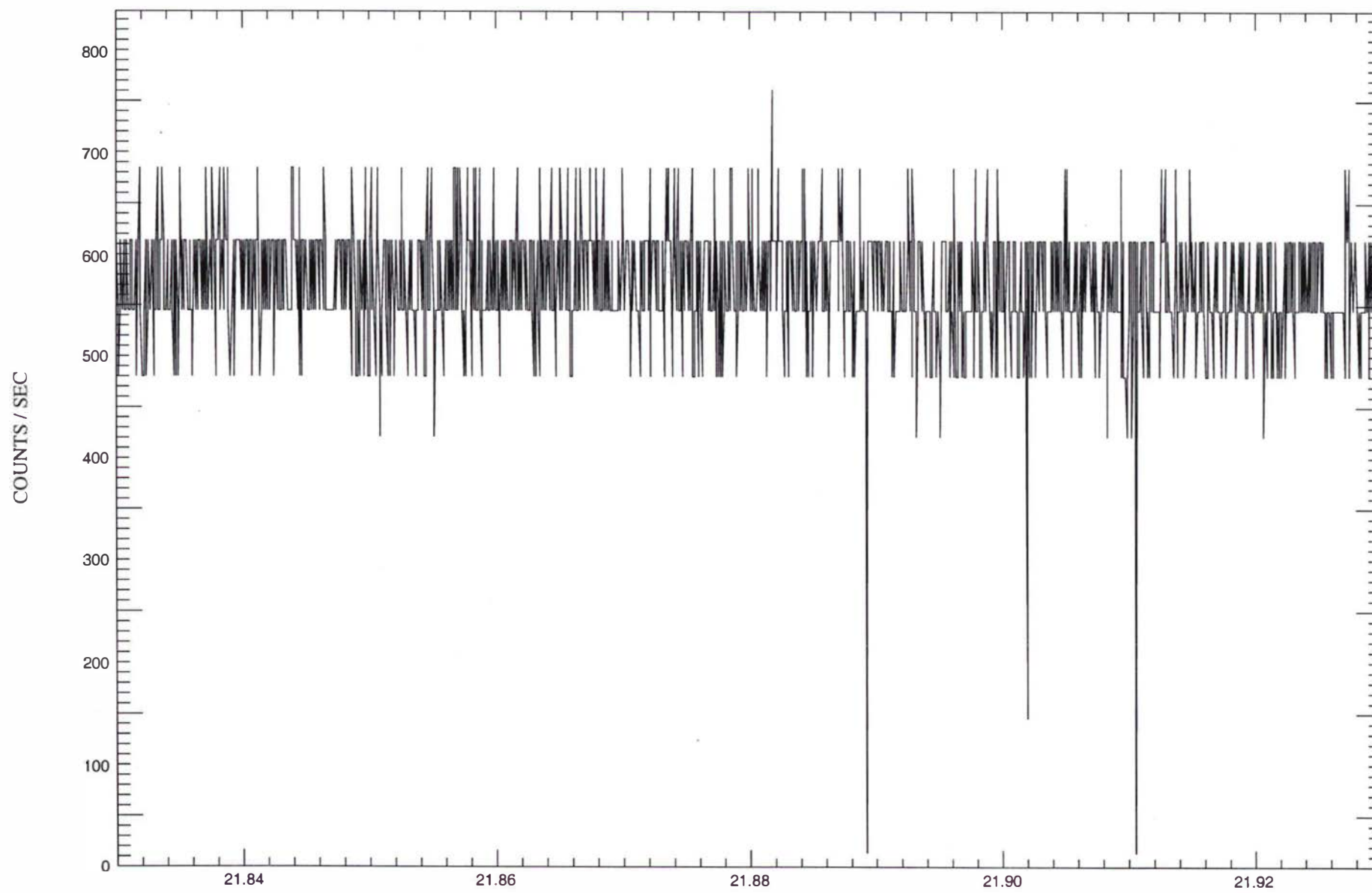
Burst Counter 0 at UT=21.881867201063 h=78774.722 s 21:52:54.722

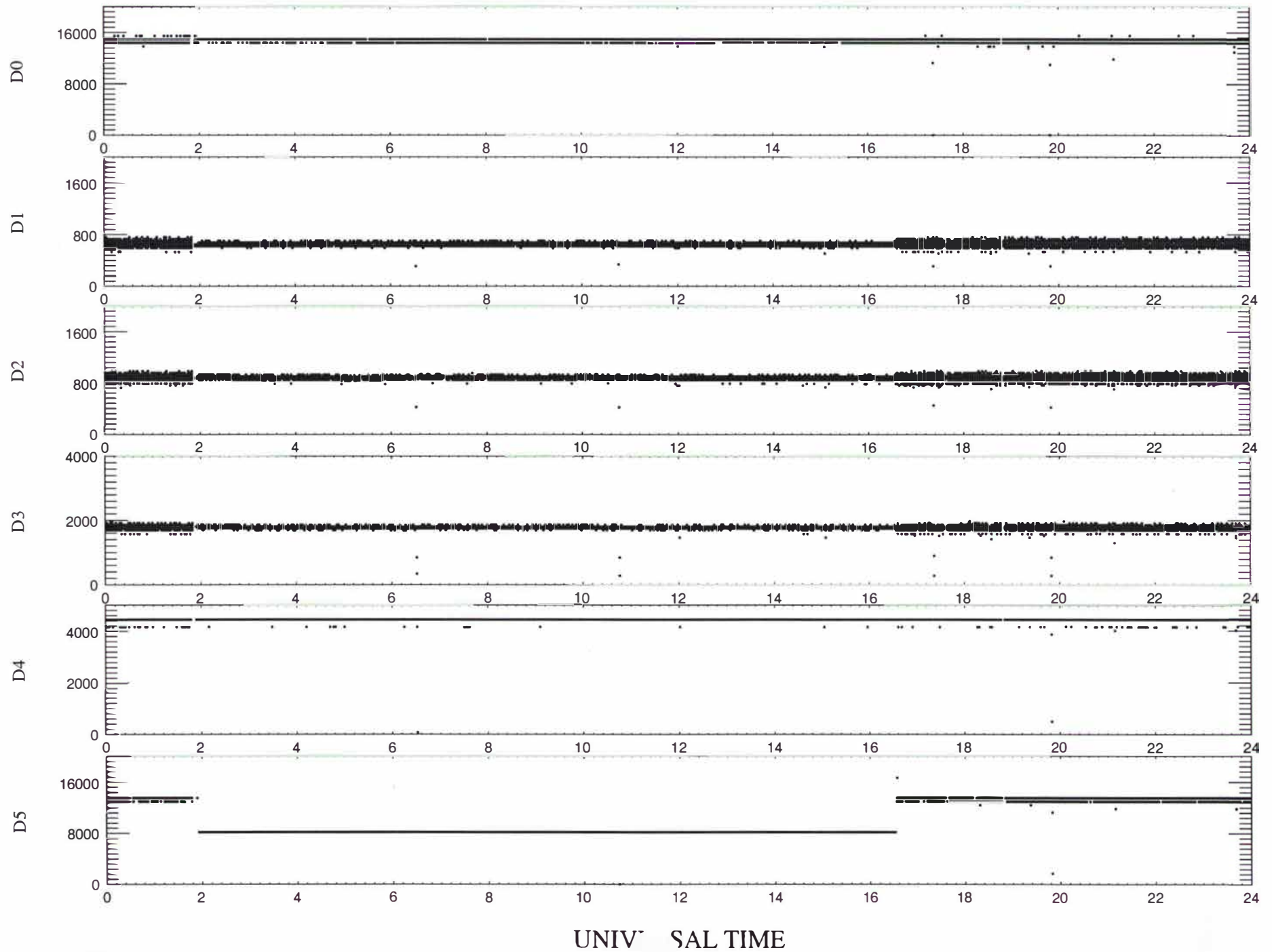


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Fri Oct 29 16:57 PDT 1999
Date: Fri, 29 Oct 1999 17:38:50 -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, 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.: 7824

TIME: TJD=1478 SECONDS=32956

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=104.0 AZIMUTH=333.3 ERROR= 0.2 DEGREES

COMMENTS:

GOES M1.0, NO OPTICAL IDENT. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX.
350 S, STARTS AT APPROX. T-30 S, MAX AT APPROX. T+50 S. NOT VISIBLE ABOVE
300 KEV. CYG X-1 RISE IN LAD 0,2 AT APPROX. T+550 S.

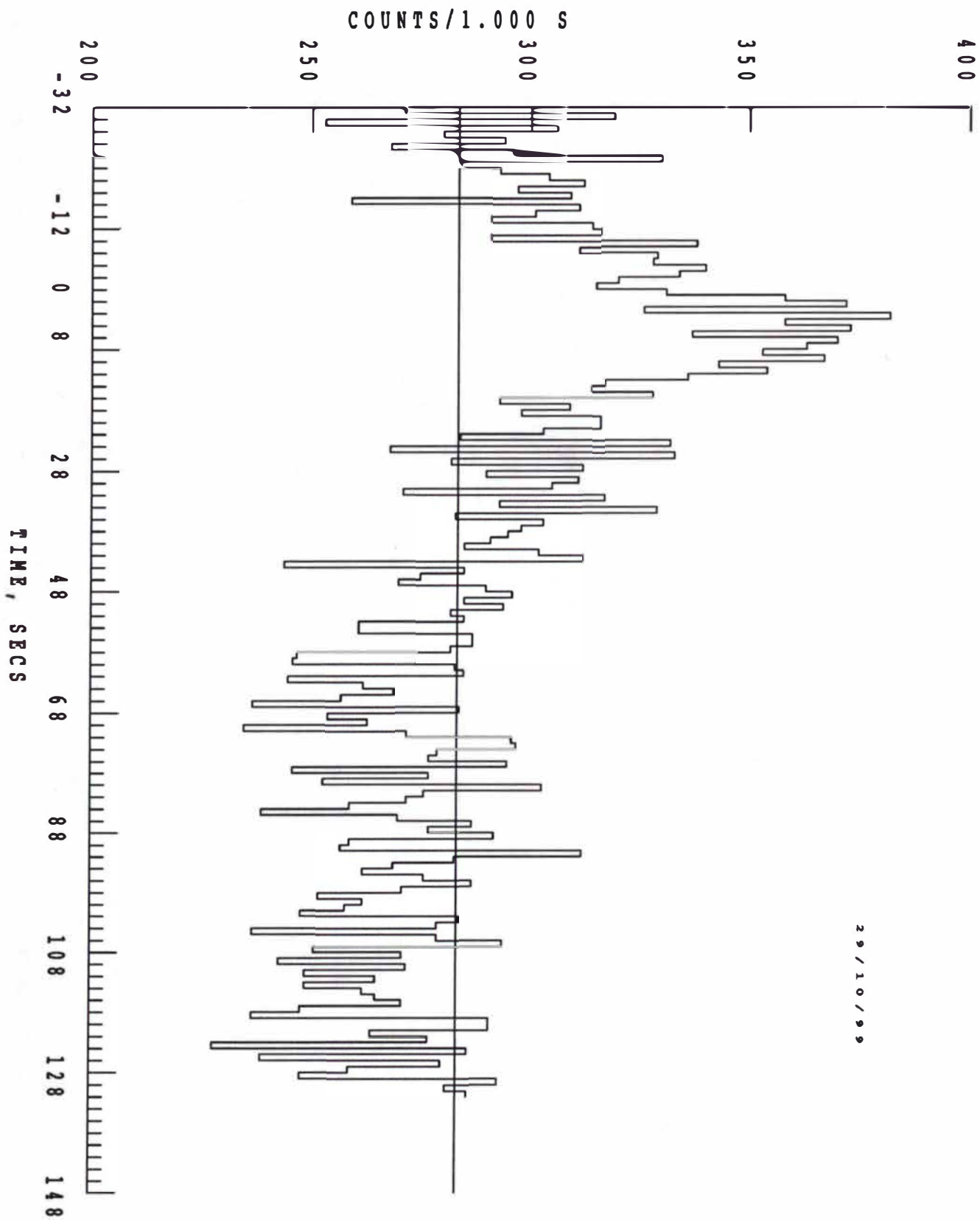
NEAR

27/10/99

33103.573

100-1000 keV

BATSE/Ulysses solar flare?



KNEAR GRS 19991027 33103

ULYSSES RT

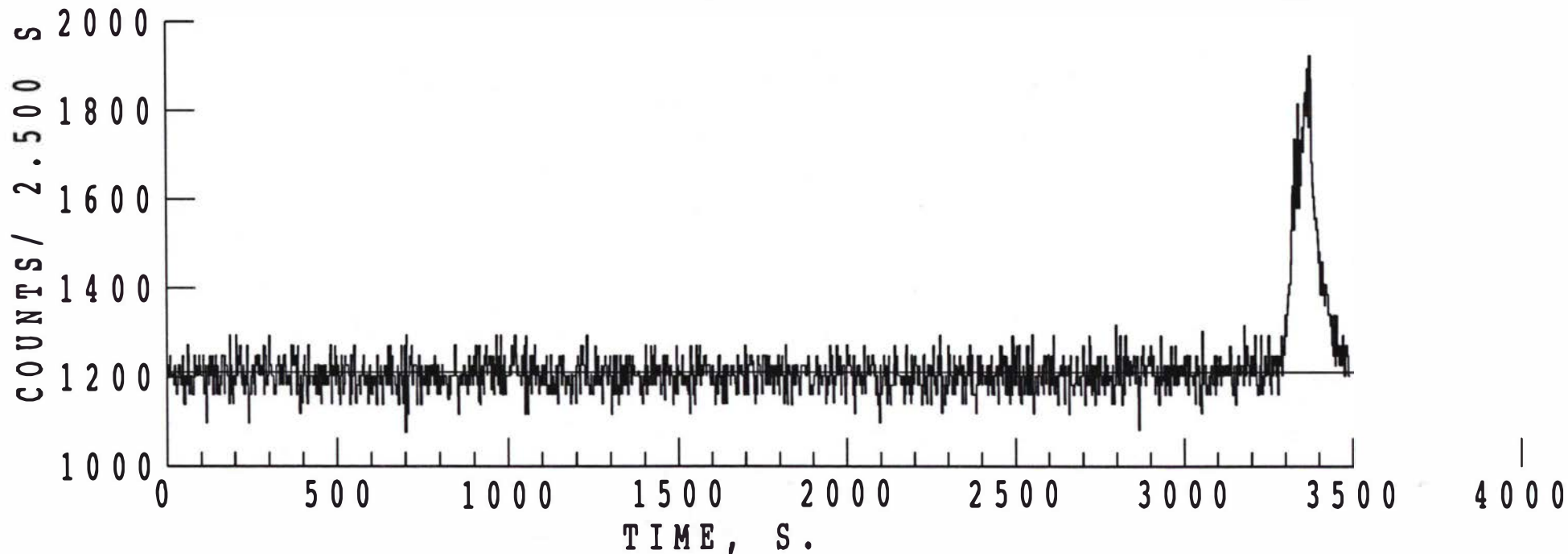
29 / 10 / 99

27/10/99 31356.248 s

0.500 S INTERVALS REGROUPED BY 5

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Tue Nov 2 07:52 PST 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 1 Nov 1999 15:31:12 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7825

BATSEARCH PROGRAM

BATSE BURST # 7825
EVENT OF 1999 OCT 27 DAY OF YEAR=300
EVENT CROSSING TIME AT BATSE : 46177. S. OR 12:49:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 326.000 -6.000
BATSE PEAK COUNTING RATE: 1800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/10/ 99 IS:
RA= 163.337 DEC= -21.142 DIST= 5.036 AU
BATSE-ULYSSES DISTANCE = 753322078. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 32.03 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2130.21 SECS.
CROSSING TIME AT ULYSSES IS 48307. S. OR 13:25:07 +/- 313.75 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/10/ 99 IS:
RA= 277.988 DEC= -24.955 DIST= 1.495 AU
MARS-BATSE DISTANCE = 223619136. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.34 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -482.82 SECS.
CROSSING TIME AT MARS IS 45694. S. OR 12:41:34 +/- 91.38 SECONDS

BATSE BURST TRIGGER

NO.: 7825

TIME: TJD=1478 SECONDS=46177

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=48.0 AZIMUTH=84.8 ERROR=10.6 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. 15 S, STARTS AT T-5 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7825	991027	11478	46177	1800	326	-06	15

BATSE BURST# 7825

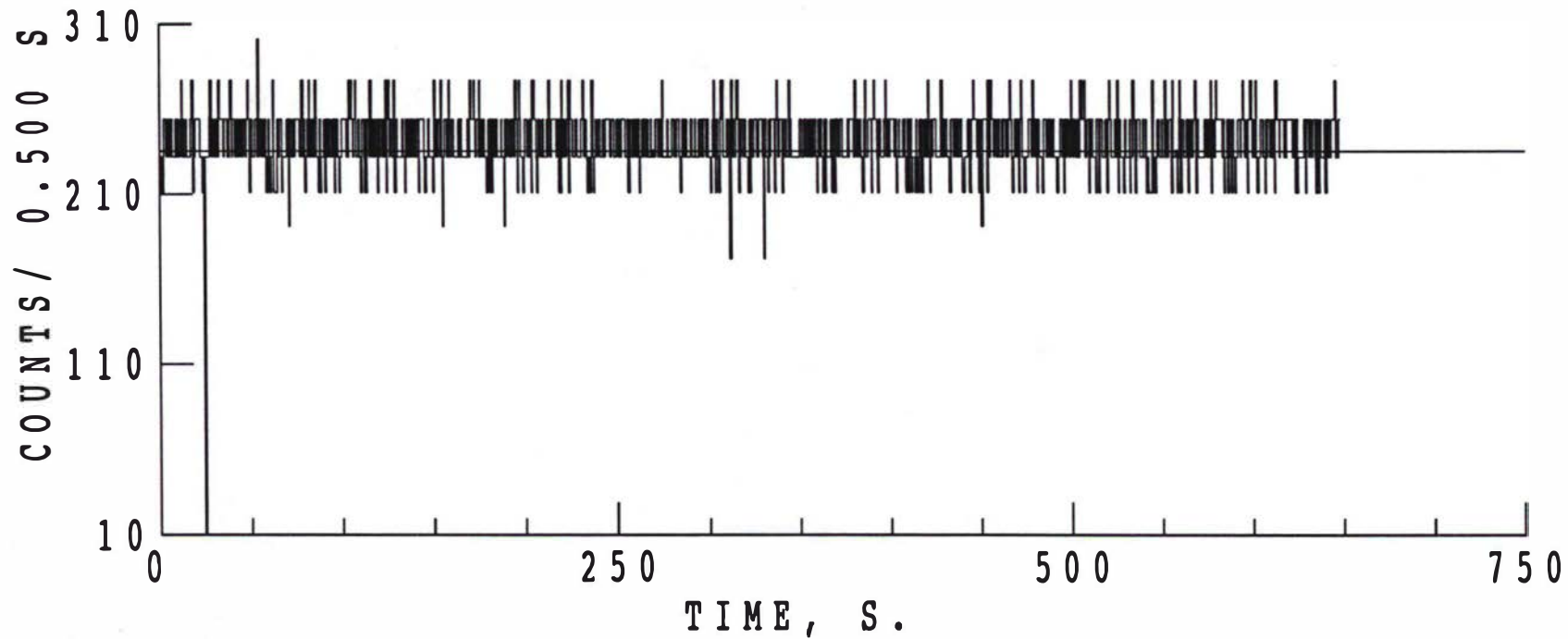
ULYSSES RT

2 / 11 / 99

27 / 10 / 99 47988.414 s

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS |



From HENZE@fender.msfc.nasa.gov Fri Oct 29 16:57 PDT 1999
Date: Fri, 29 Oct 1999 17:27:36 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7826

TIME: TJD=1478 SECONDS=59525

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

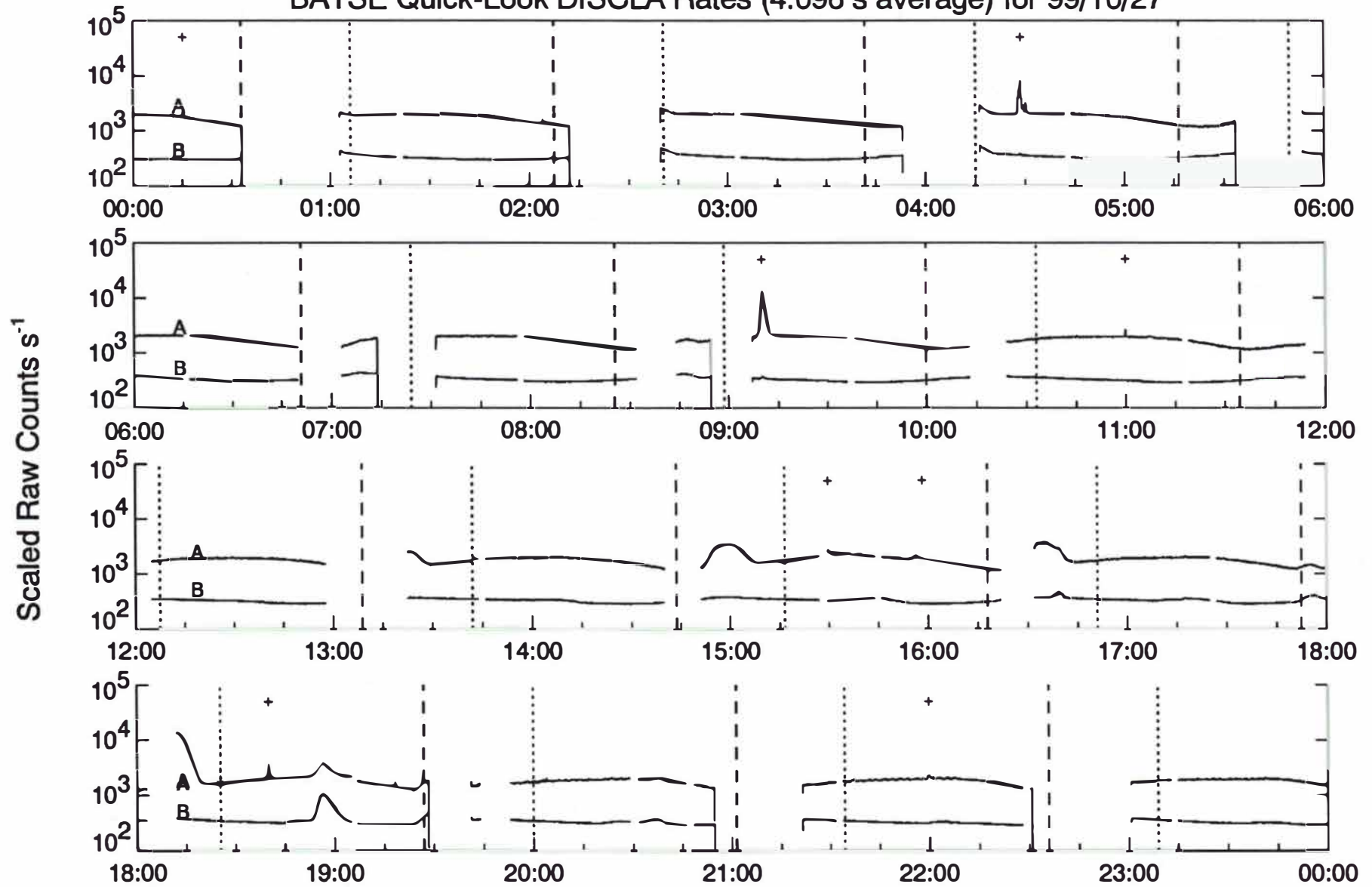
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLES AT A DISTANCE, WEST OF AUSTRALIA.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/27

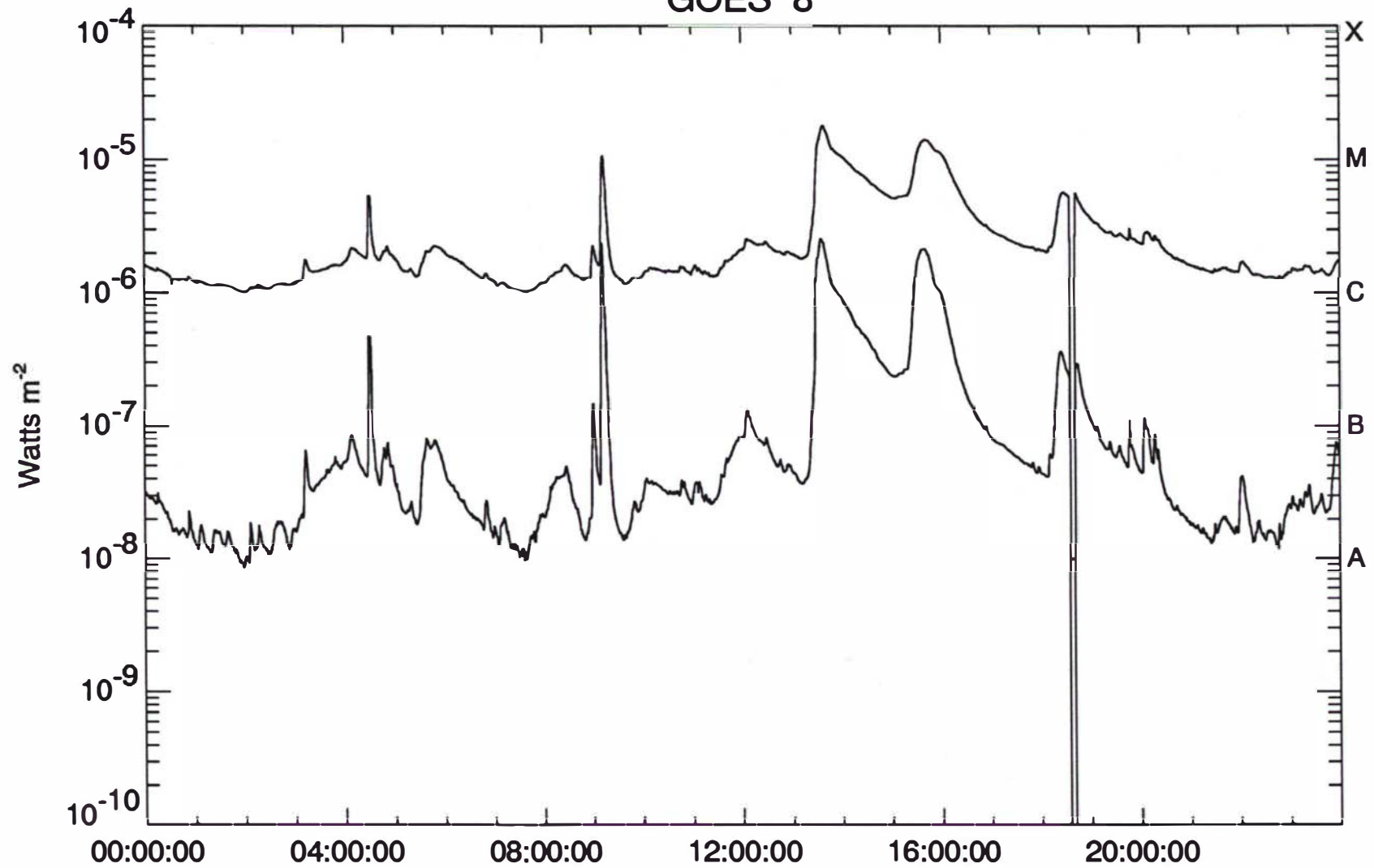


Current Time: 99/10/31, 1110 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/10/27, 0000:00

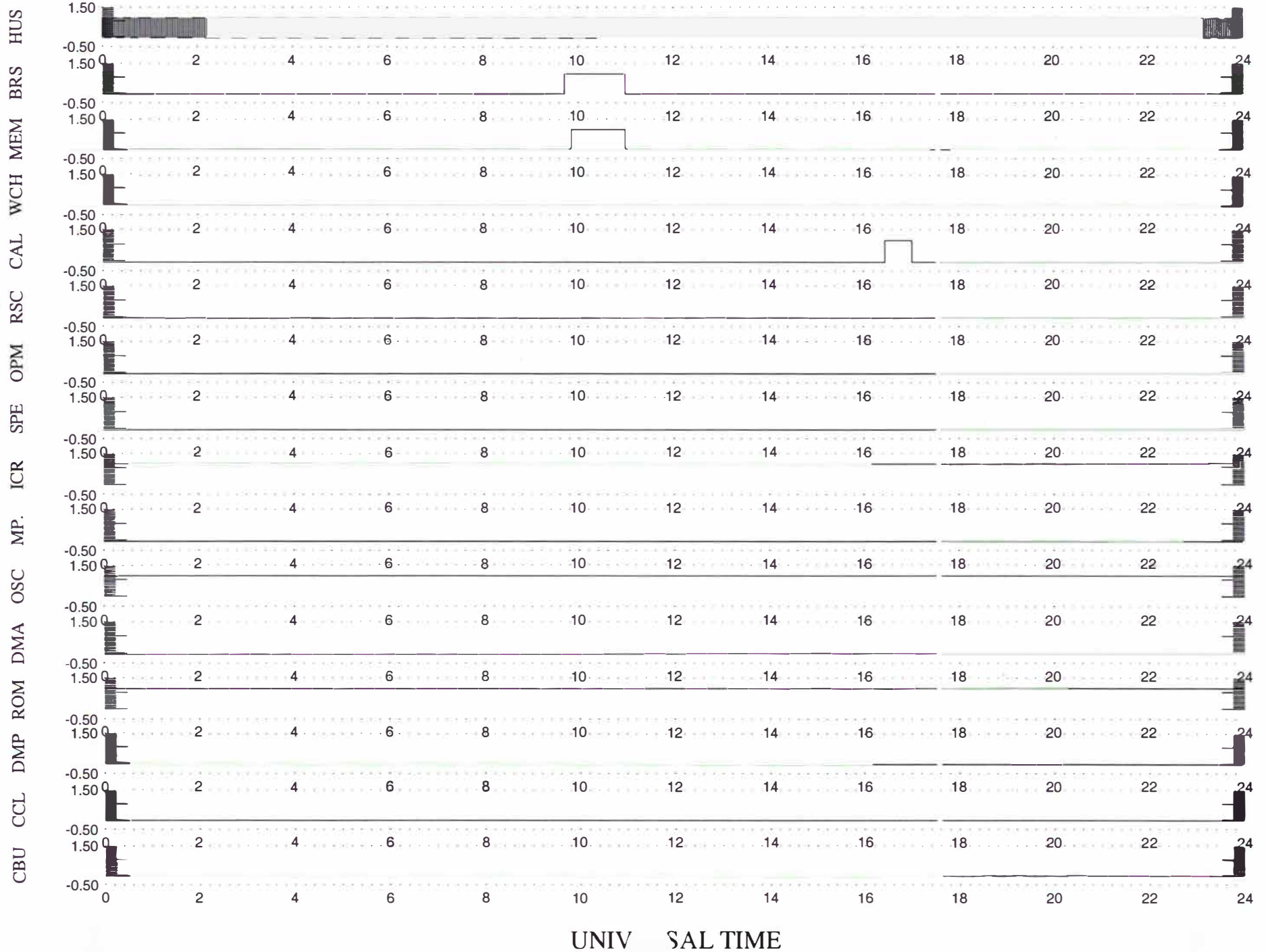
Plot created: 99/10/31, 1110

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

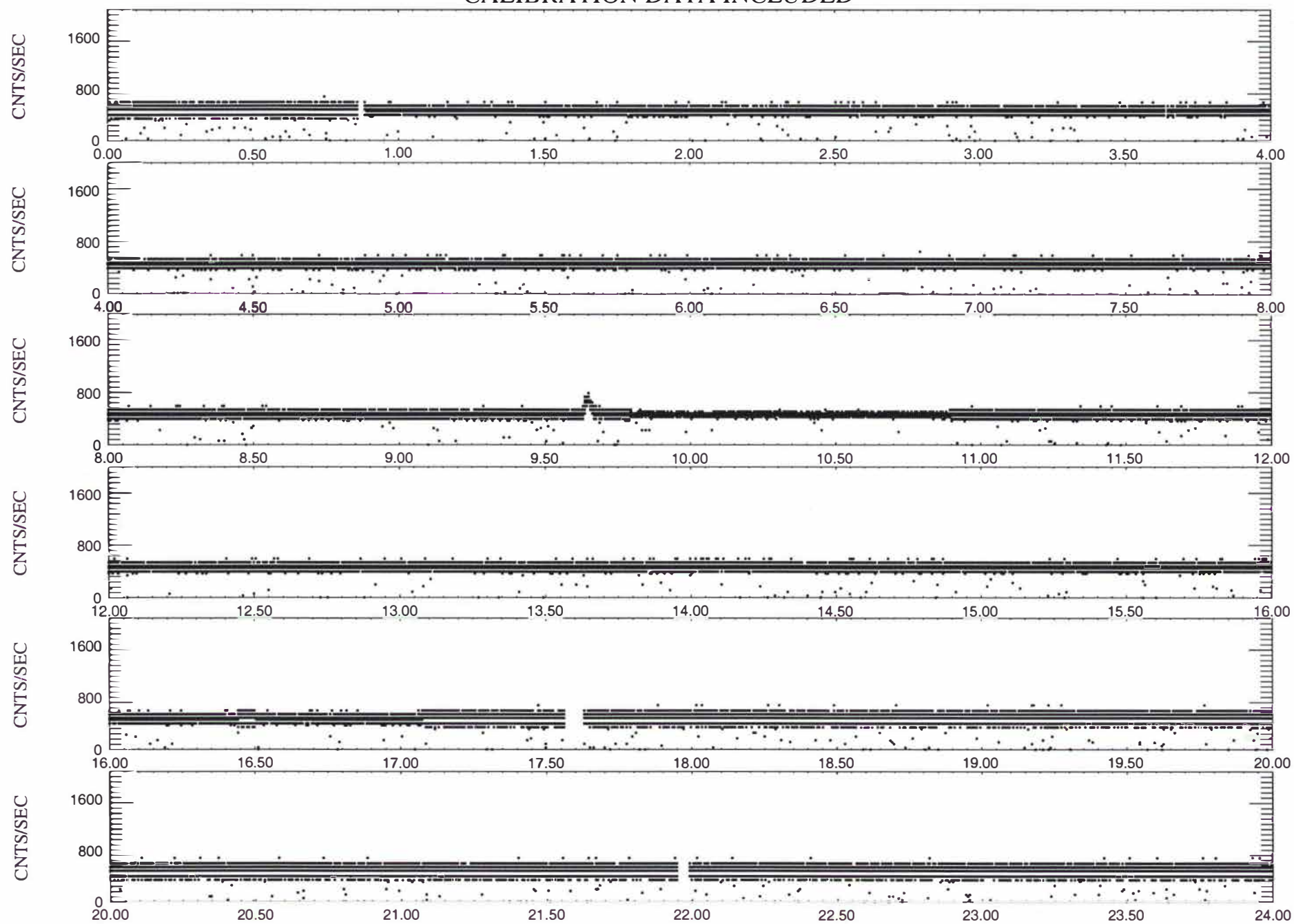
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

BURST NUMBER 1

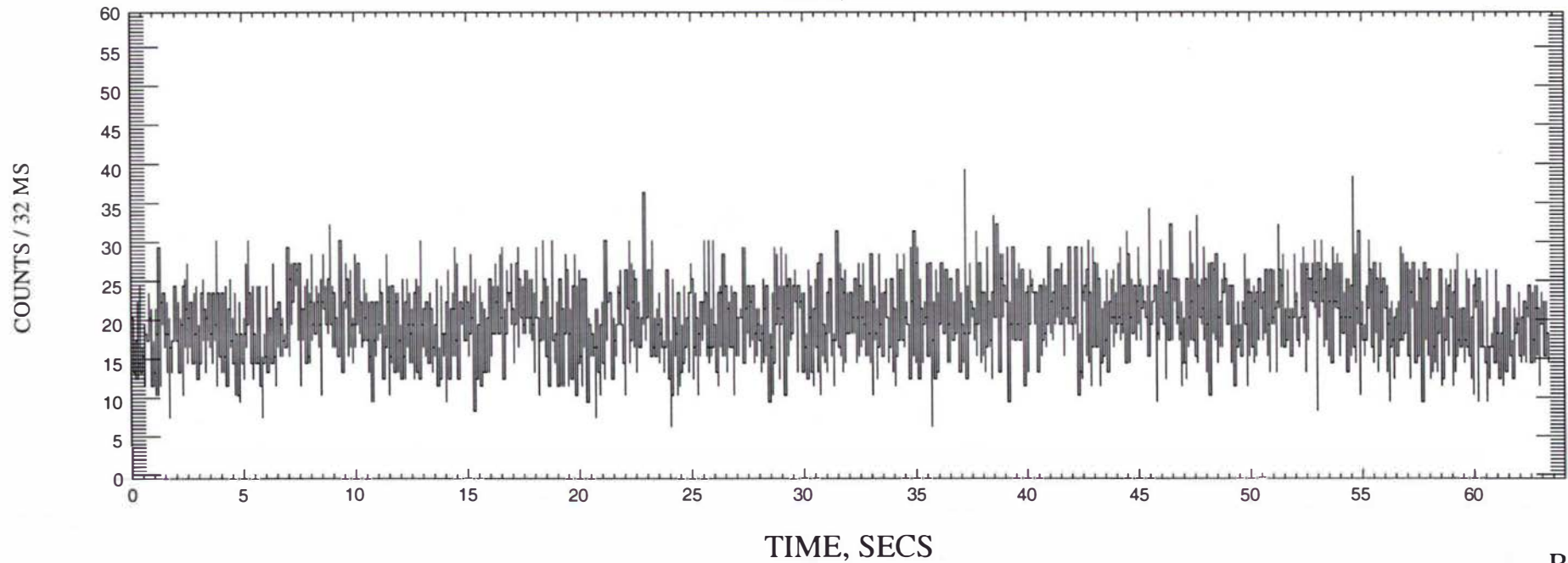
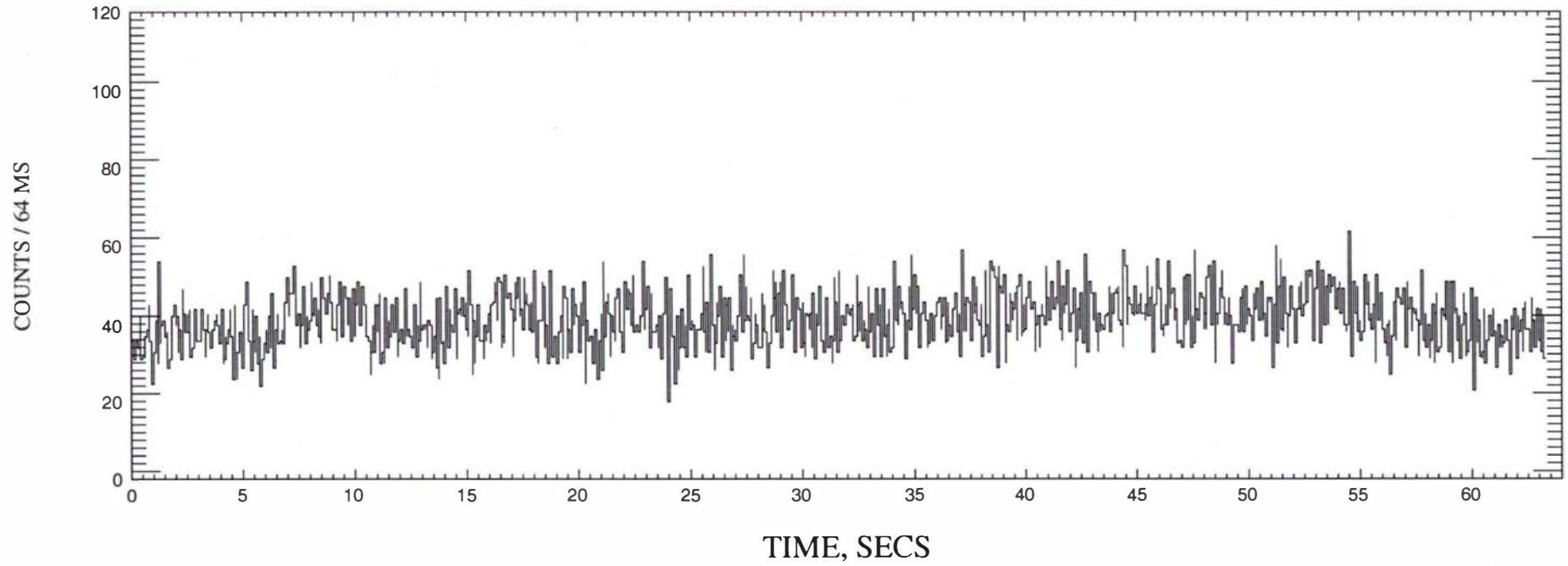


CALIBRATION DATA INCLUDED

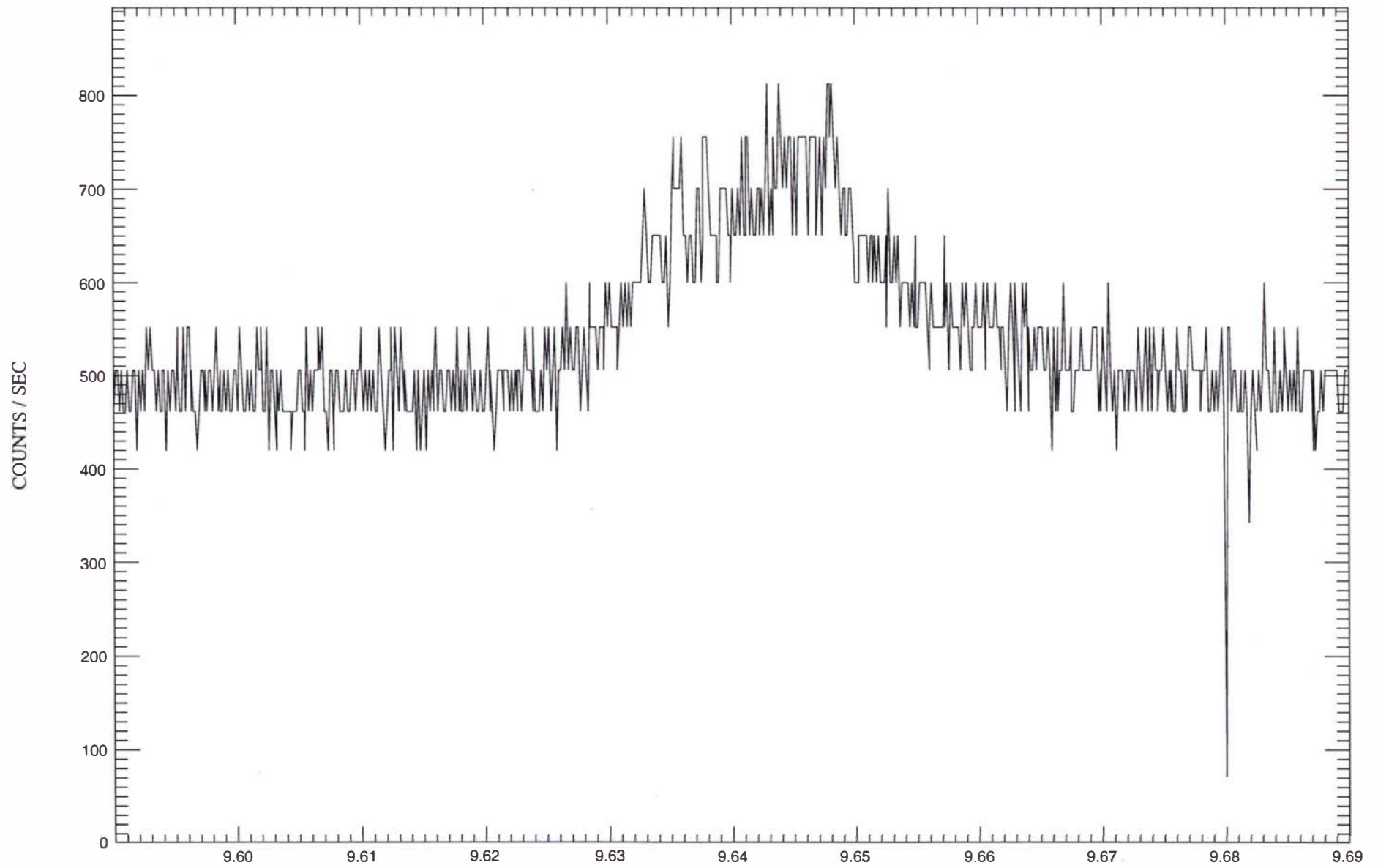


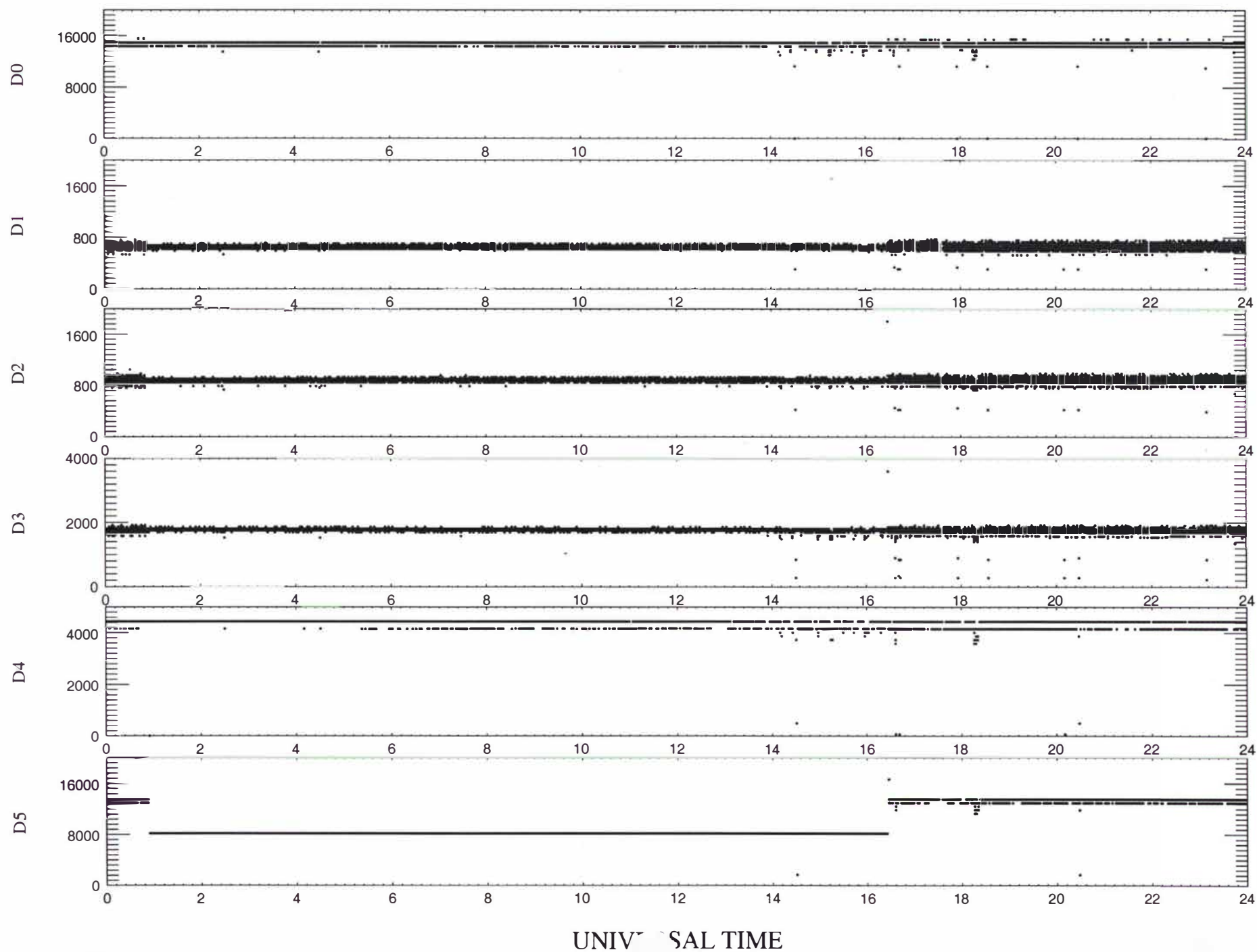
UNIV SAL TIME

Burst Counter 1 at UT= 9.635388120015 h=34687.397 s 09:38:07.397



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Tue Nov 2 07:53 PST 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 1 Nov 1999 15:43:15 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7827

BATSEARCH PROGRAM

BATSE BURST # 7827
EVENT OF 1999 OCT 28 DAY OF YEAR=301
EVENT CROSSING TIME AT BATSE : 31859. S. OR 08:50:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 81.000 -24.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/10/ 99 IS:
RA= 163.433 DEC= -21.291 DIST= 5.024 AU
BATSE-ULYSSES DISTANCE = 751554544. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.06 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -651.24 SECS.
CROSSING TIME AT ULYSSES IS 31208. S. OR 08:40:07 +/- 460.41 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/10/ 99 IS:
RA= 278.797 DEC= -24.906 DIST= 1.500 AU
MARS-BATSE DISTANCE = 224412016. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 51.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 462.35 SECS.
CROSSING TIME AT MARS IS 32321. S. OR 08:58:41 +/- 109.23 SECONDS
BATSE BURST TRIGGER

NO.: 7827

TIME: TJD=1479 SECONDS=31859

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=137.4 AZIMUTH=157.7 ERROR=13.3 DEGREES

COMMENTS:

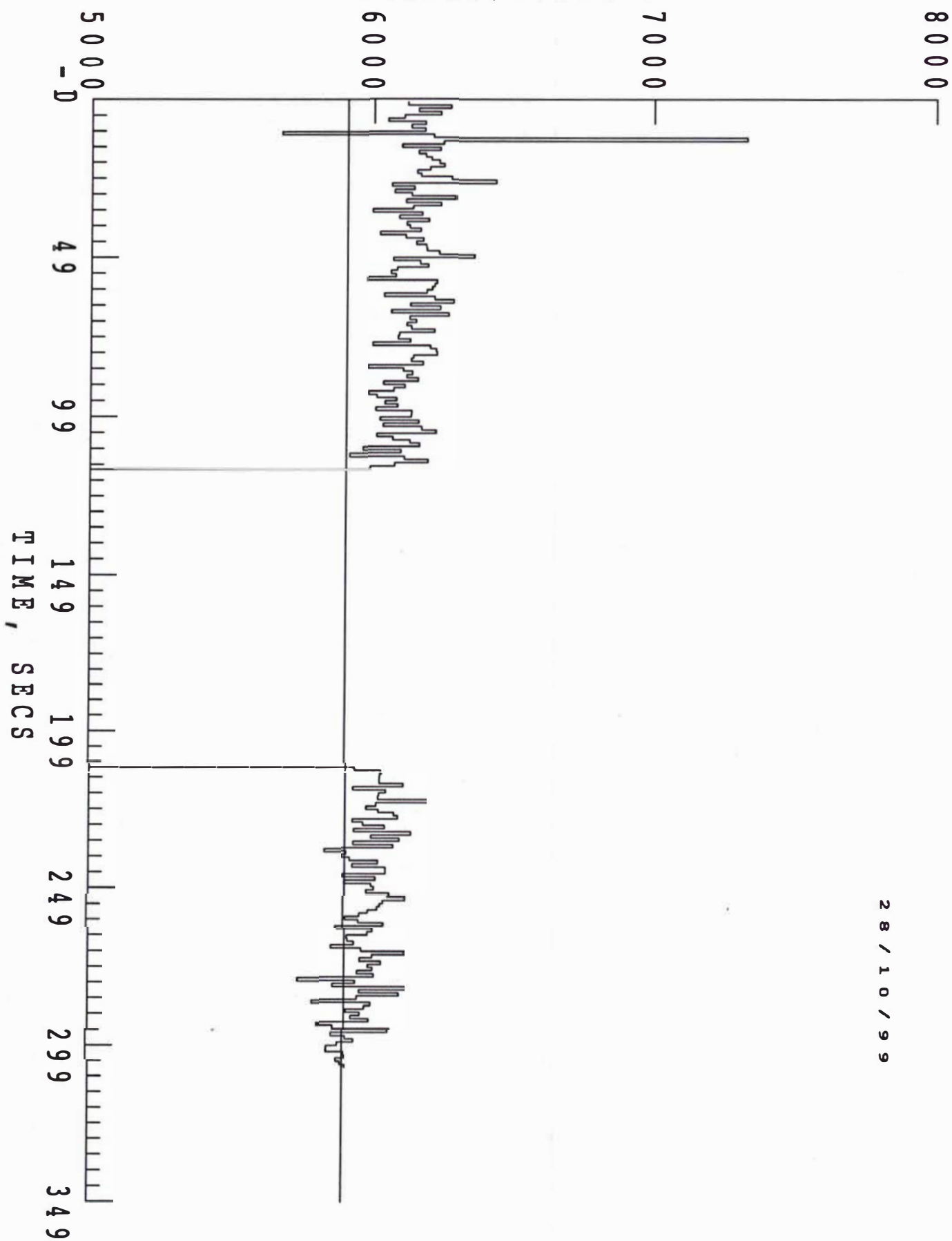
GRB. SHORT EVENT WITH TWO PEAKS. TOTAL DURATION APPROX. = 1 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7827	991028	11479	31859	4000	081	-24	1

BACODINE 7827 28/10/99 31847.161

25- 100 keV

COUNTS/1.024 S



28 / 10 / 99

BATSE BURST# 7827

ULYSSES RT

16 / 03 / 00

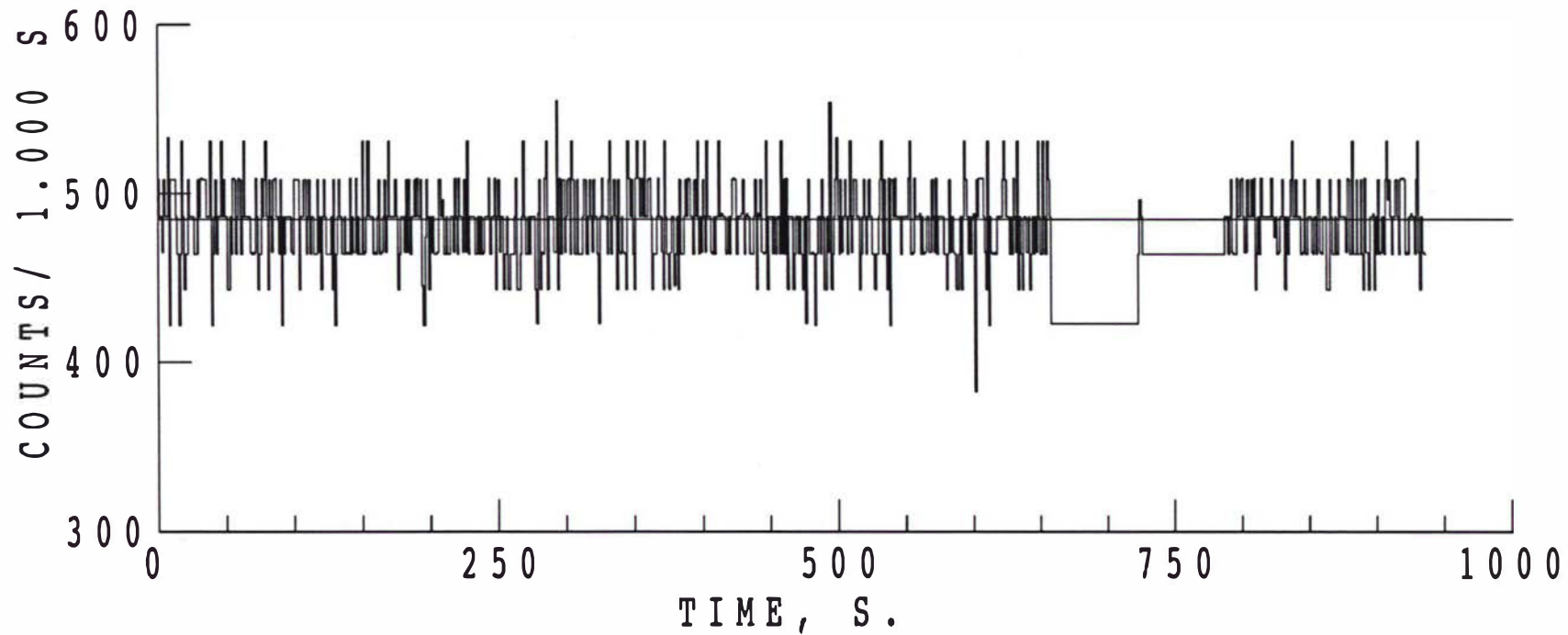
28 / 10 / 99 30744.111 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Nov 1 13:20 PST 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 1 Nov 1999 15:28:23 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7828

TIME: TJD=1479 SECONDS=52012

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

From RICHARDSON@fender.msfc.nasa.gov Mon Nov 1 13:22 PST 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 1 Nov 1999 15:30:26 -0600 (CST)

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, 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.: 7829

TIME: TJD=1479 SECONDS=68442

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

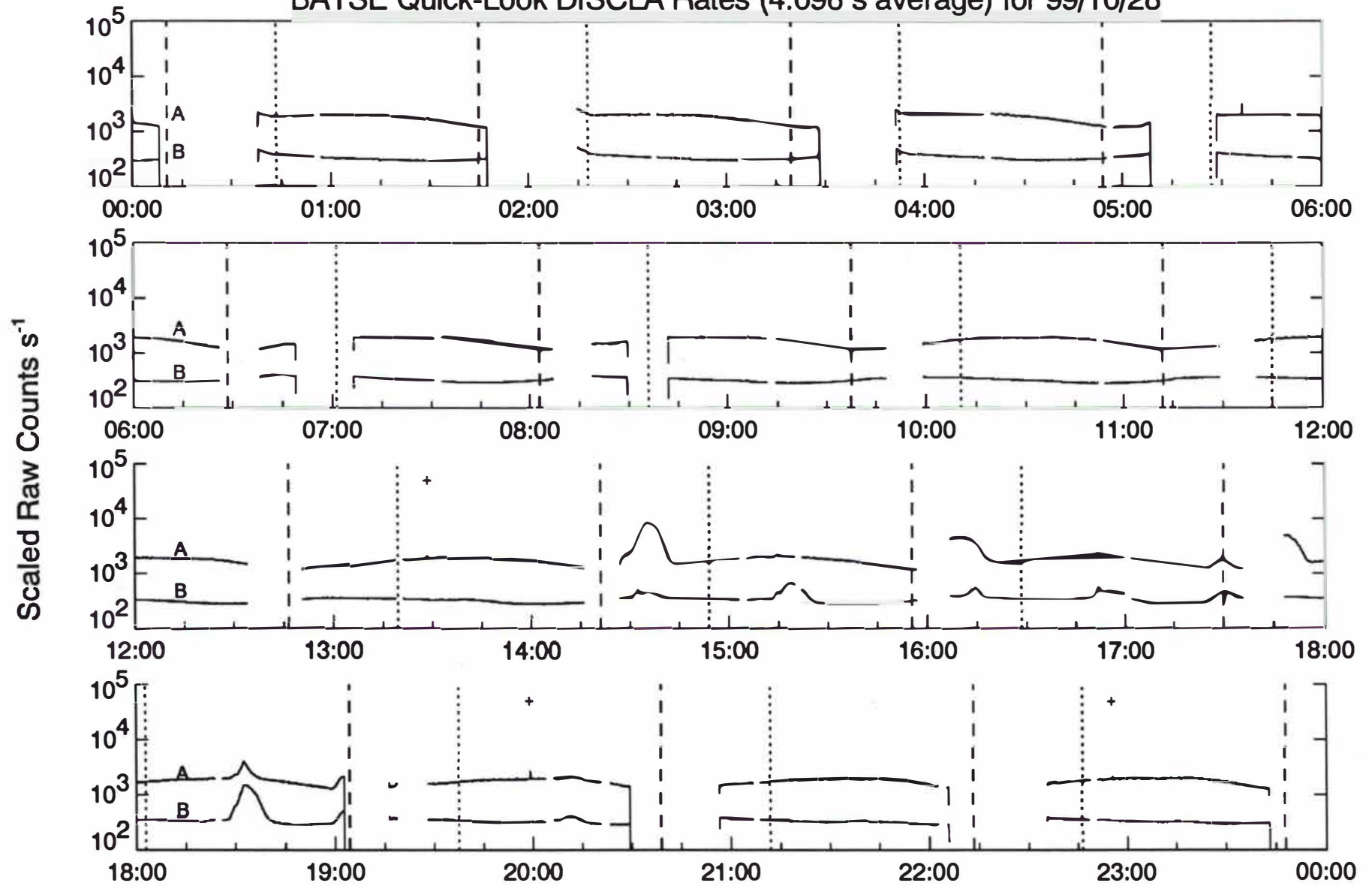
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/28

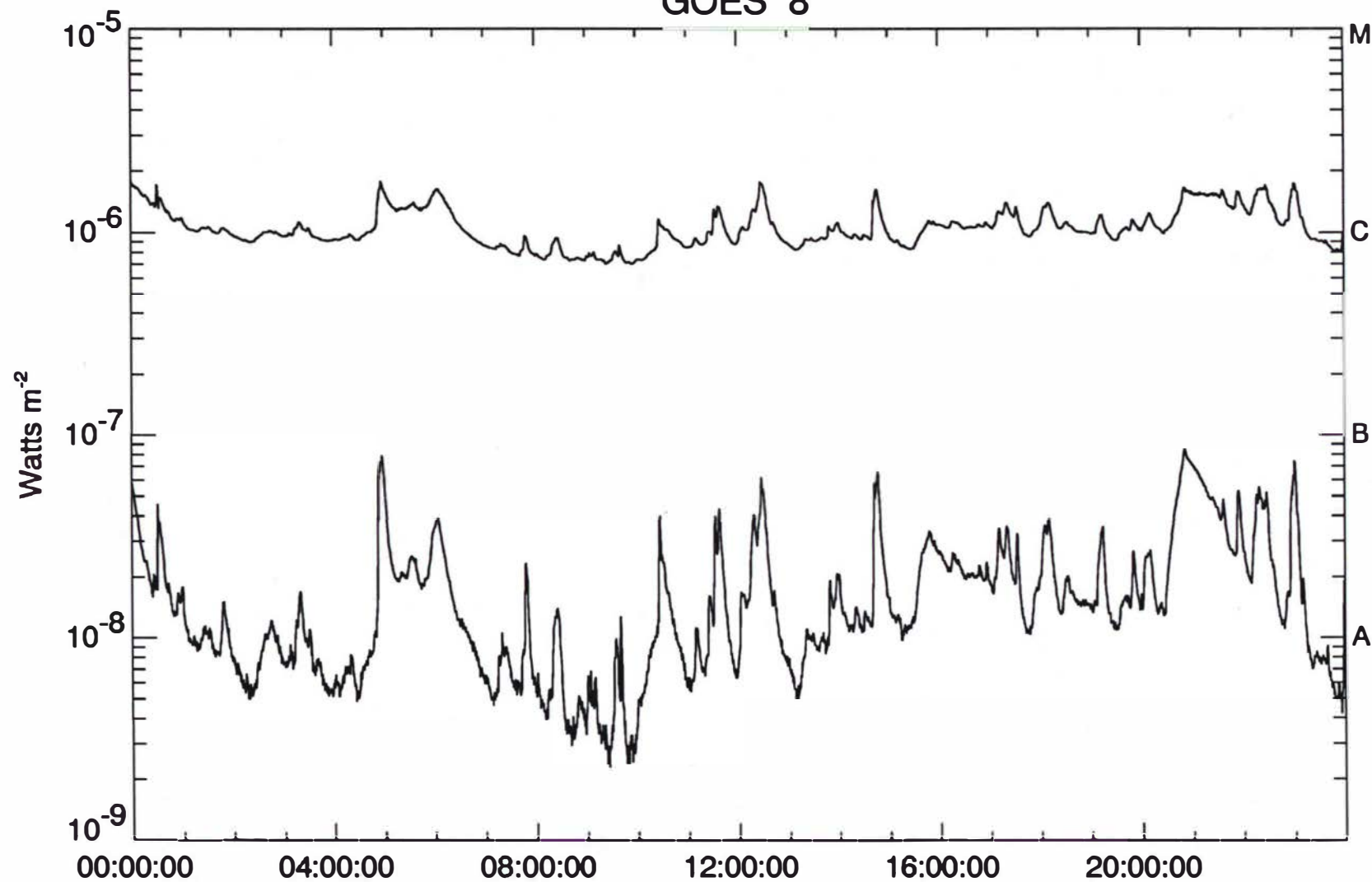


Current Time: 99/11/01, 1110 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/10/28, 0000:00

Plot created: 99/11/01, 1110

Channel

1 (1.0 - 8.0 Angstroms)

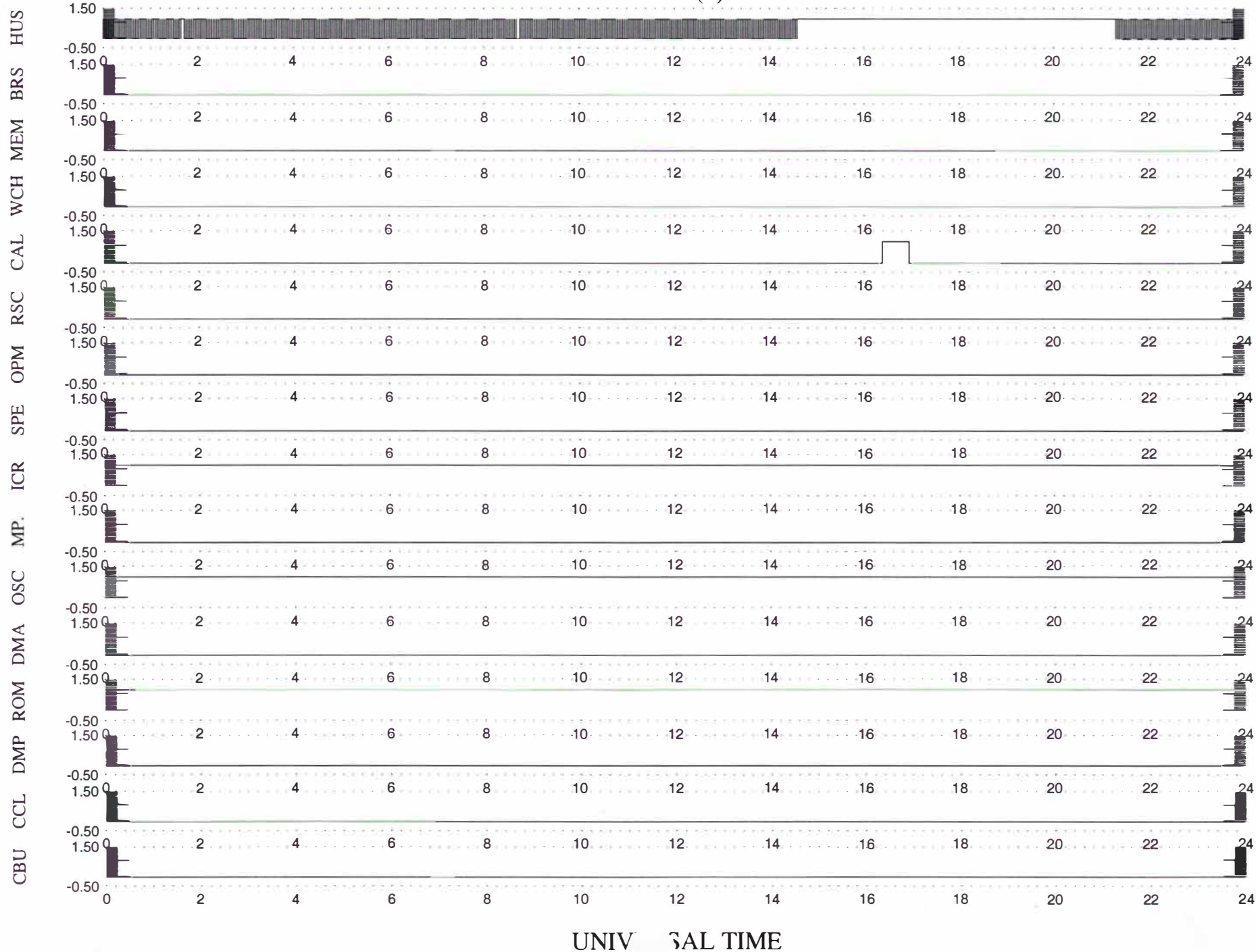
Background not subtracted

2 (0.5 - 4.0 Angstroms)

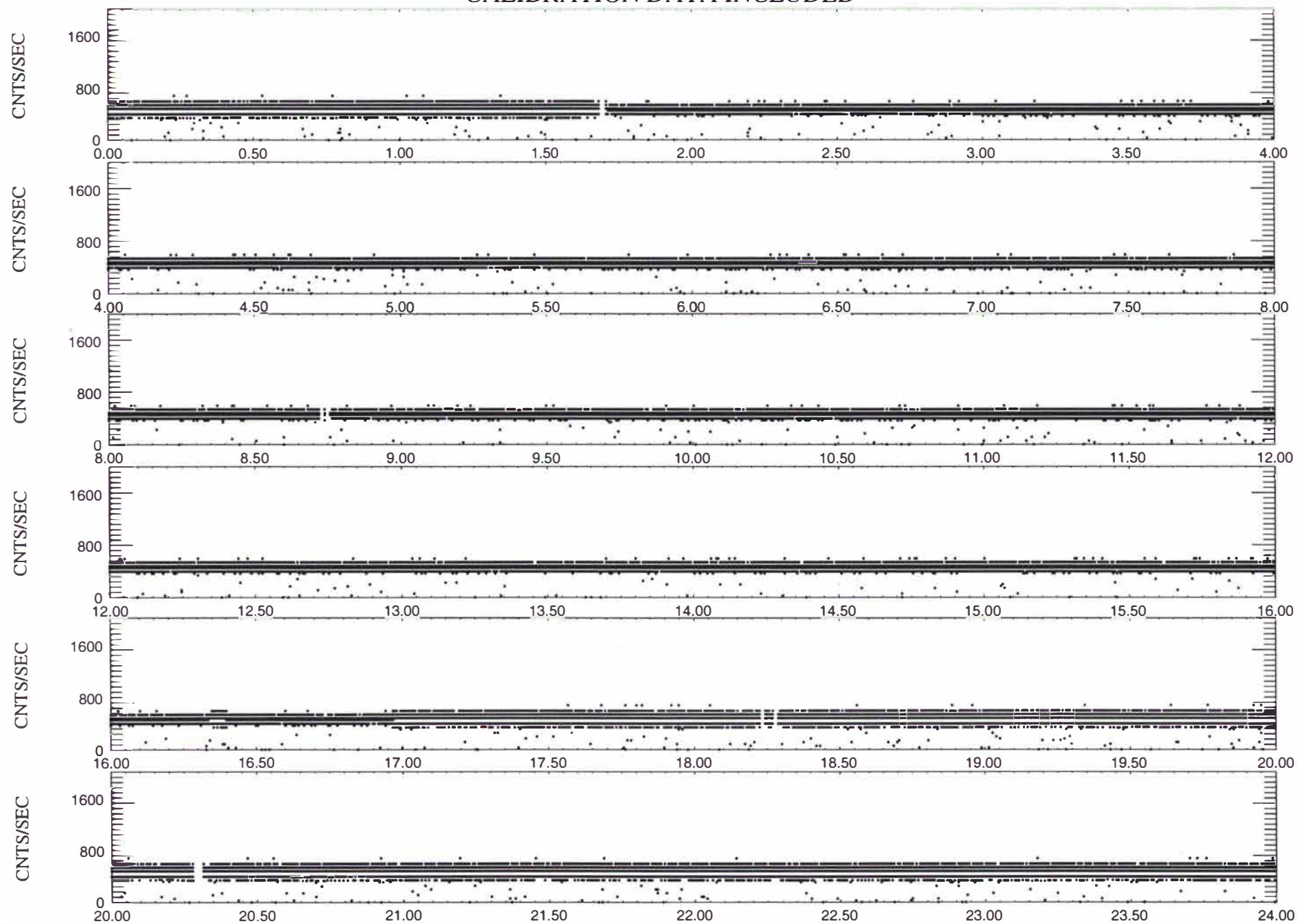
Background not subtracted

Sample average = 10

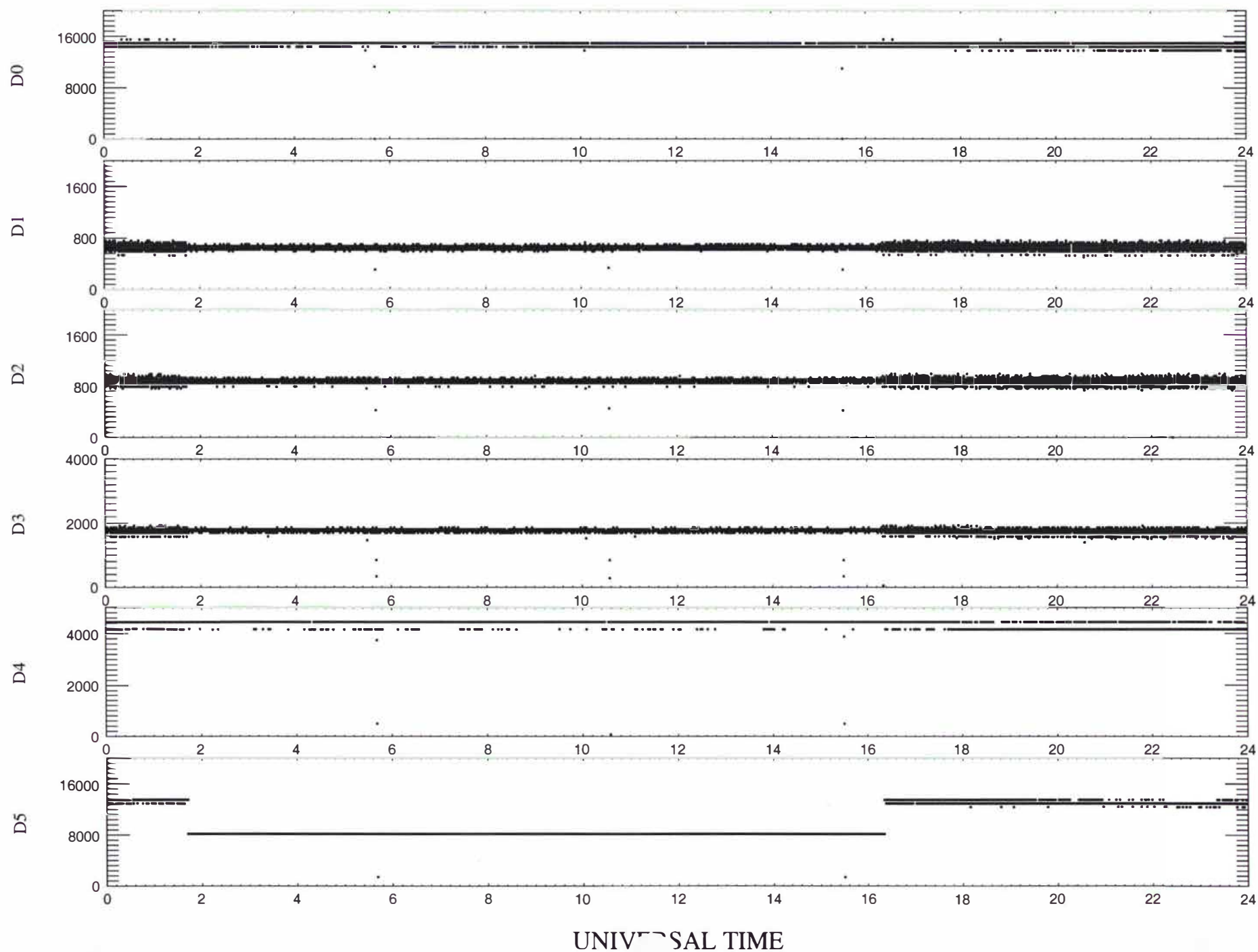
NO BURST (1)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Tue Nov 2 07:53 PST 1999
From: RICHARDSON@fender.msfc.nasa.gov
Date: Mon, 1 Nov 1999 15:44:39 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7830

BATSEARCH PROGRAM

BATSE BURST # 7830
EVENT OF 1999 OCT 29 DAY OF YEAR=302
EVENT CROSSING TIME AT BATSE : 22590. S. OR 06:16:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 343.000 -72.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/10/ 99 IS:
RA= 163.534 DEC= -21.451 DIST= 5.011 AU
BATSE-ULYSSES DISTANCE = 749648905. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -150.54 SECS.
CROSSING TIME AT ULYSSES IS 22439. S. OR 06:13:59 +/- 481.06 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/10/ 99 IS:
RA= 279.607 DEC= -24.853 DIST= 1.505 AU
MARS-BATSE DISTANCE = 225204784. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=121.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -394.61 SECS.
CROSSING TIME AT MARS IS 22195. S. OR 06:09:55 +/- 104.98 SECONDS

BATSE BURST TRIGGER

NO.: 7830

TIME: TJD=1480 SECONDS=22590

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.4 AZIMUTH=71.5 ERROR=8.4 DEGREES

COMMENTS:

GRB. DOUBLE SPIKES, SHORT AND WEAK. TOTAL DURATION APPROX. = 1.2 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7830	991029	11480	22590	3500	343	-72	1.2

BATSE BURST# 7830

ULYSSES RT

2 / 11 / 99

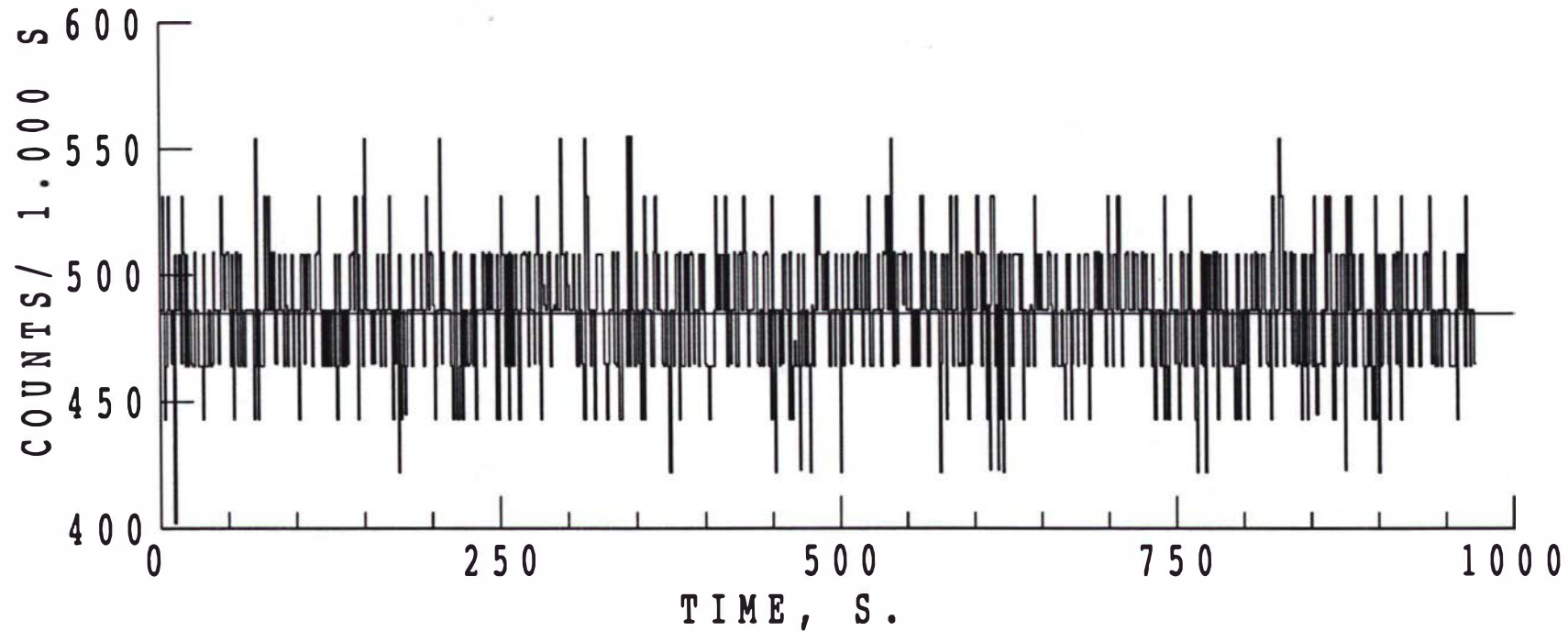
29/10/99 21960.395 s

0.500 S INTERVALS REGROUPED BY 2

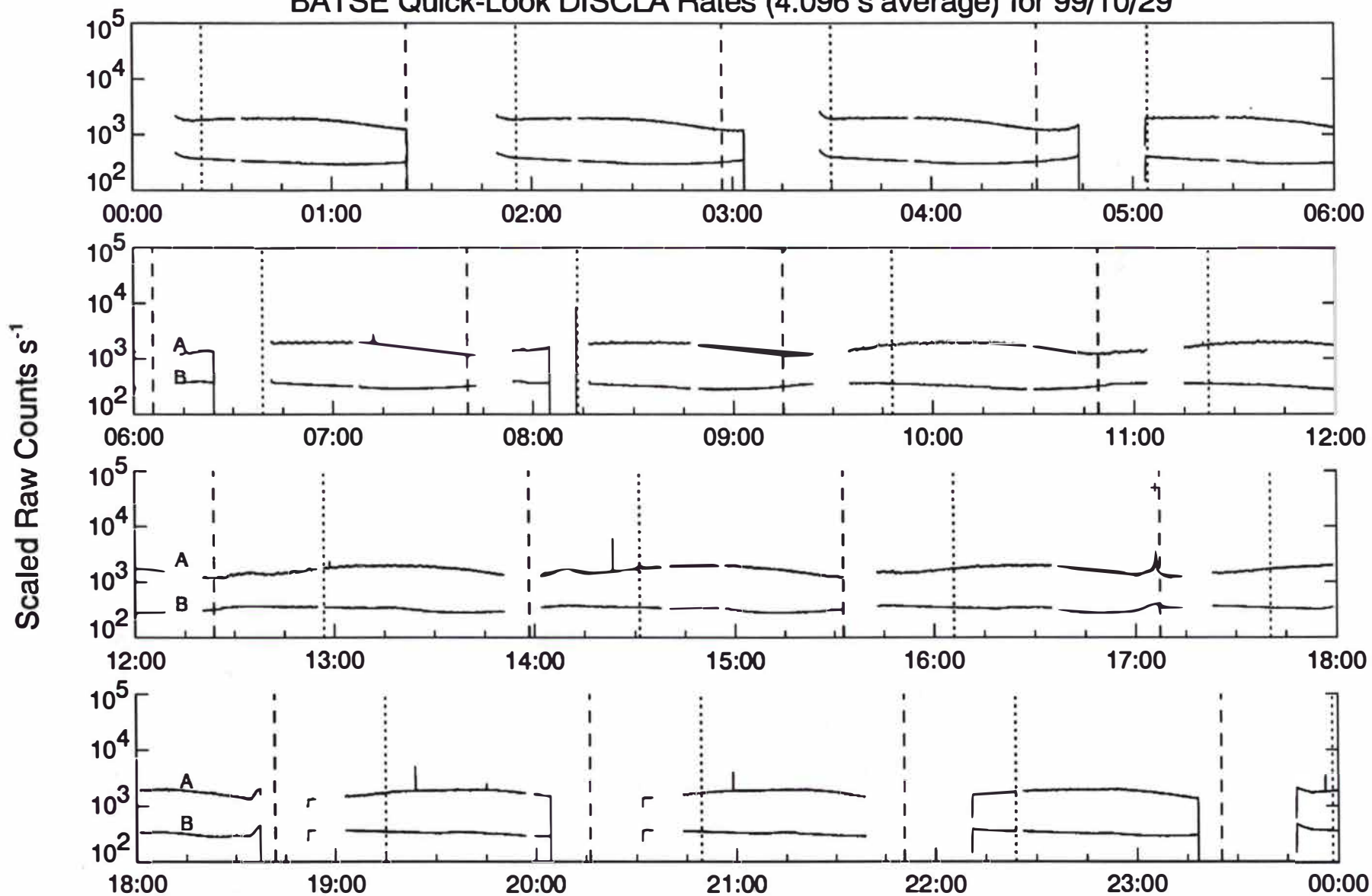
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/29

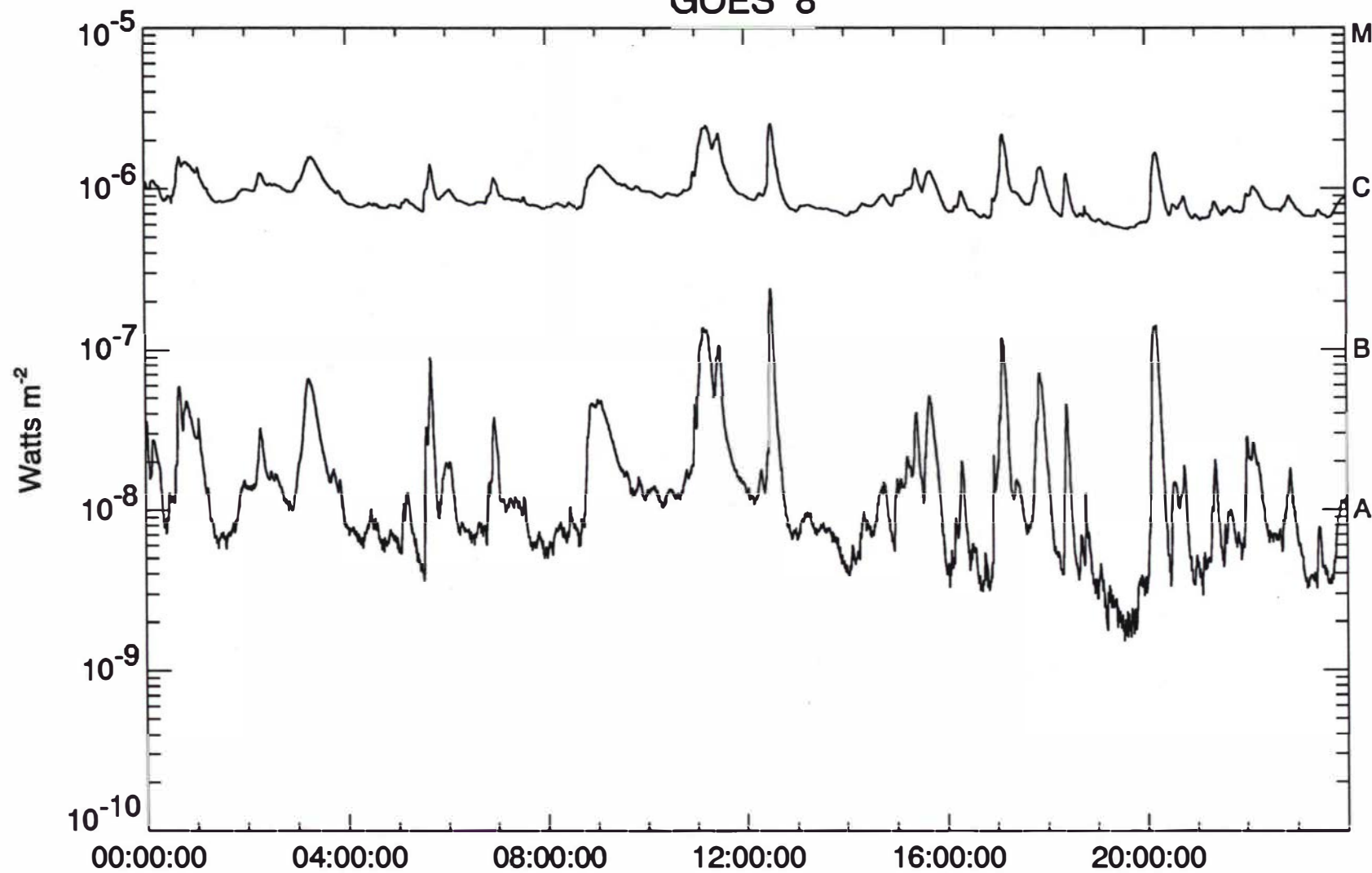


Current Time: 99/11/02, 1110 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/10/29, 0000:00

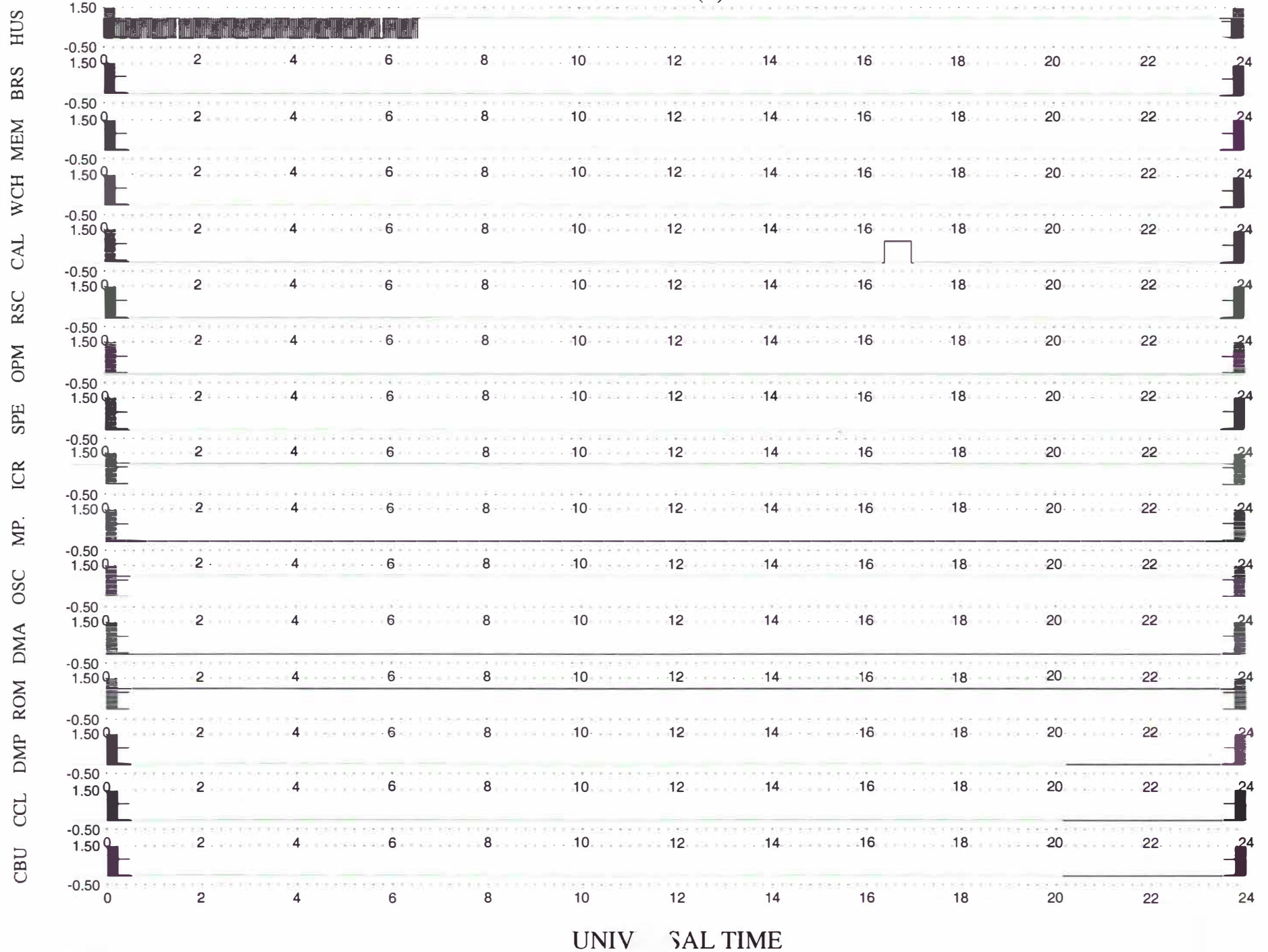
Plot created: 99/11/02, 1110

Channel

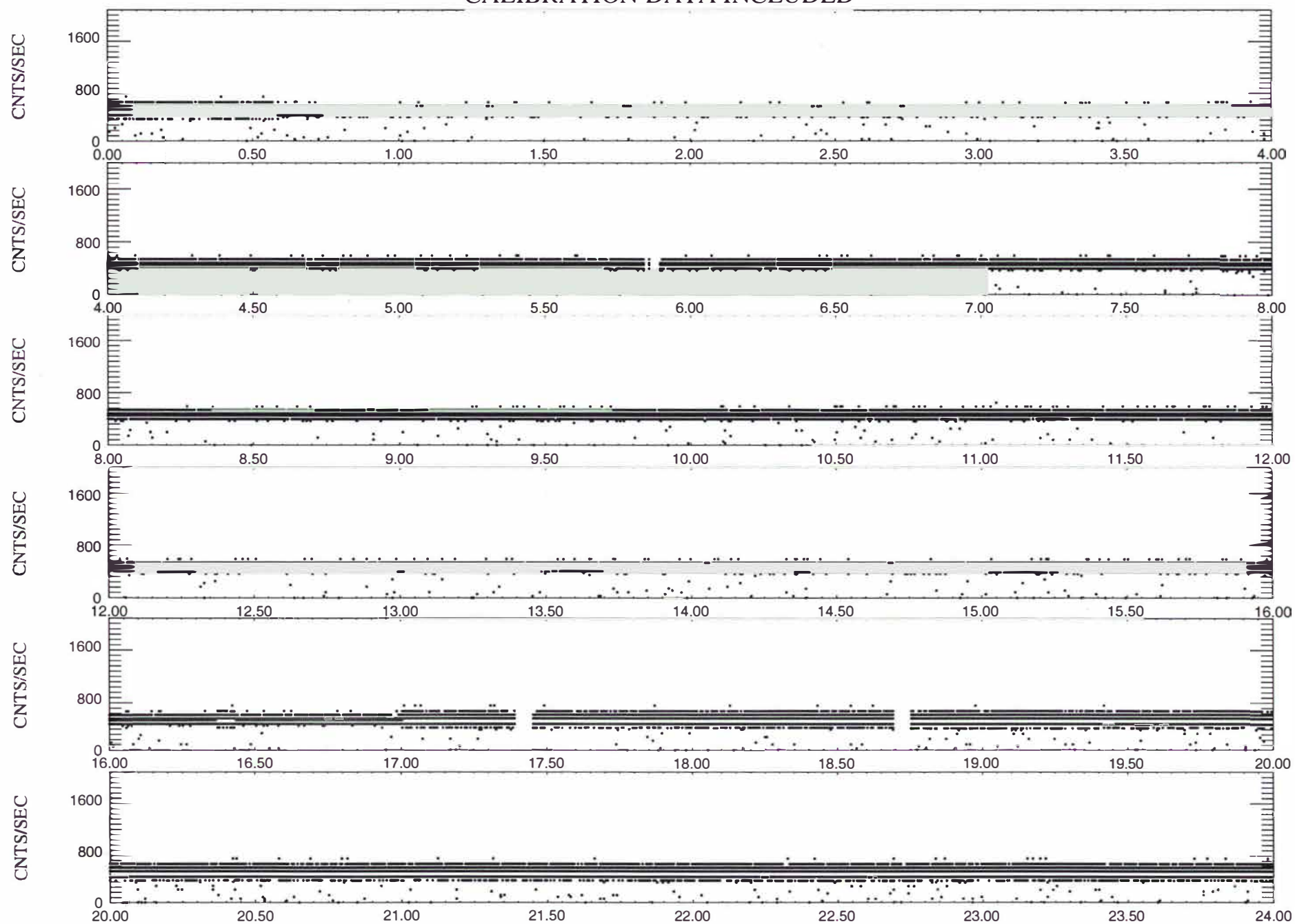
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

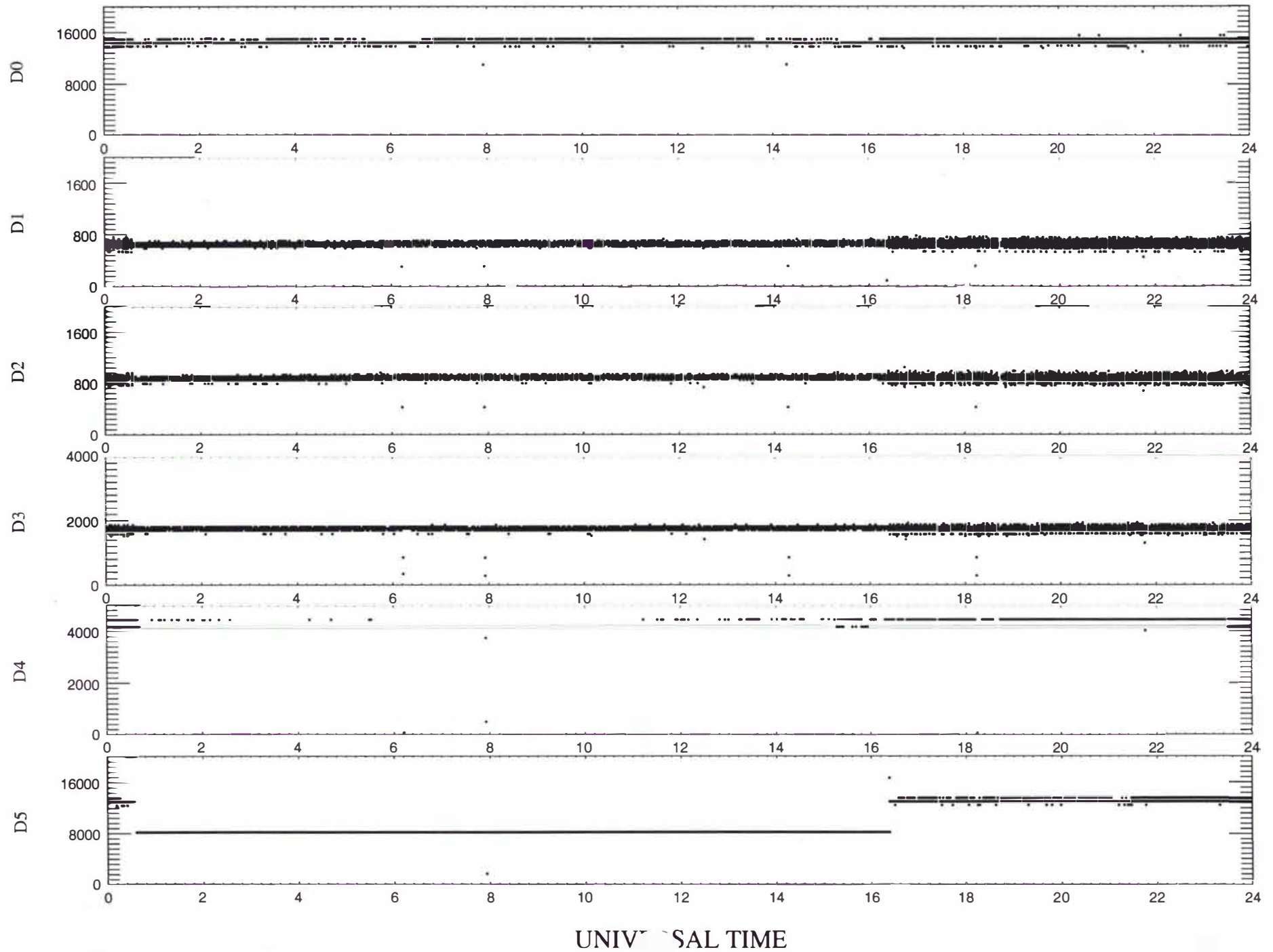
NO BURST (1)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SAHI@fender.msfc.nasa.gov Tue Nov 2 07:52 PST 1999
From: SAHI@fender.msfc.nasa.gov
Date: Mon, 1 Nov 1999 15:32:33 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Subject: Crossing Windows for BATSE Burst 7831

BATSEARCH PROGRAM

BATSE BURST # 7831
EVENT OF 1999 OCT 30 DAY OF YEAR=303
EVENT CROSSING TIME AT BATSE : 6364. S. OR 01:46:04.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 123.000 -48.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/10/ 99 IS:
RA= 163.625 DEC= -21.598 DIST= 4.999 AU
BATSE-ULYSSES DISTANCE = 747896208. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.22 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1860.43 SECS.
CROSSING TIME AT ULYSSES IS 4504. S. OR 01:15:03 +/- 310.30 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/10/ 99 IS:
RA= 280.417 DEC= -24.796 DIST= 1.511 AU
MARS-BATSE DISTANCE = 225997488. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 187.86 SECS.
CROSSING TIME AT MARS IS 6552. S. OR 01:49:11 +/- 129.60 SECONDS

BATSE BURST TRIGGER

NO.: 7831

TIME: TJD=1481 SECONDS=6364

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=171.1 AZIMUTH=83.3 ERROR=0.9 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 100 S, STARTS AT T-50 S, MAX. AT T+15 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7831	991030	11481	06364	2500	123	-48	100

123. -47.52 .98

Date: May 3 2000

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

N/A

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

EVENT OF OCT 30, 1999 1:46

08/04/2010

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

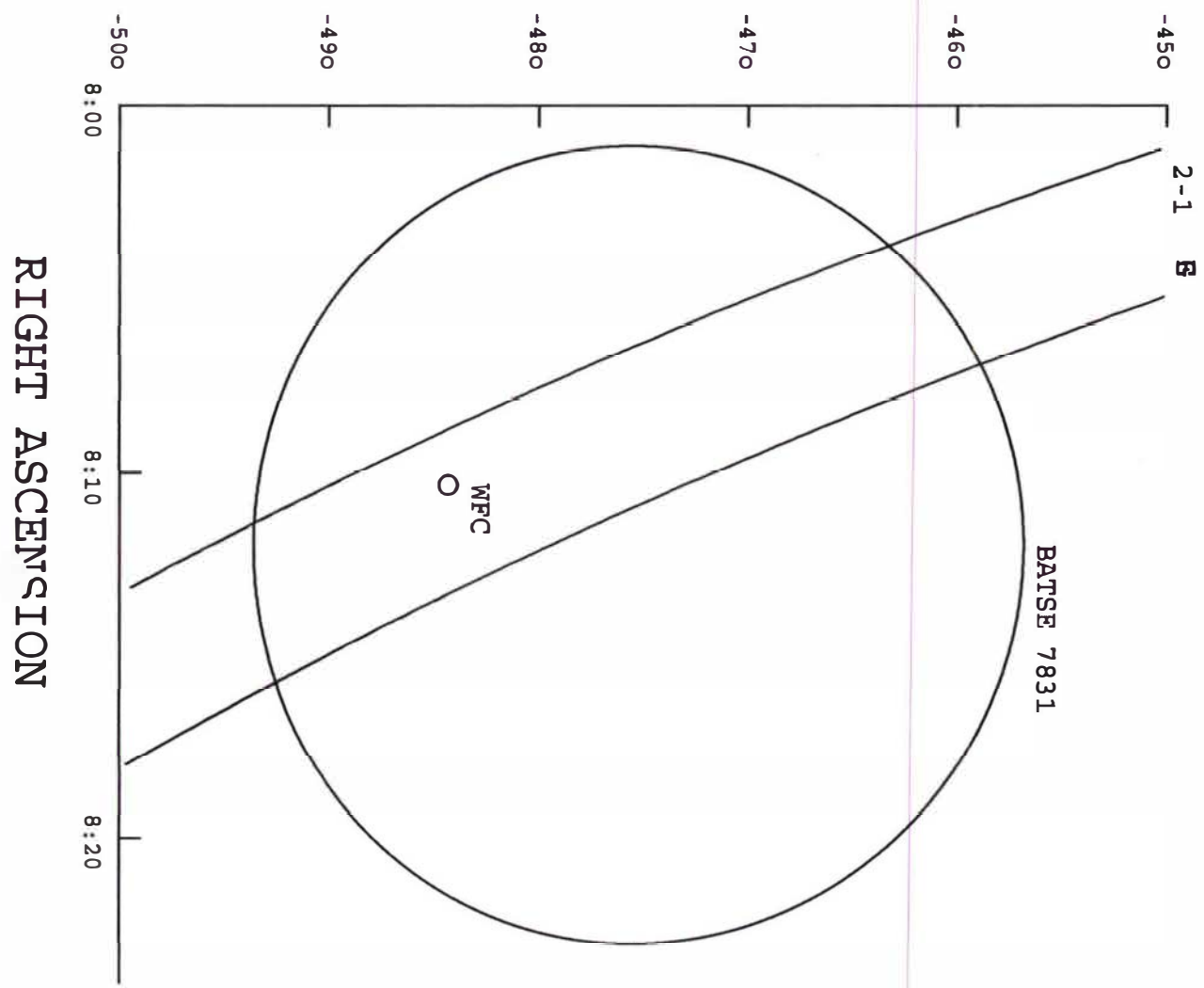
E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

DECLINATION



RIGHT ASCENSION

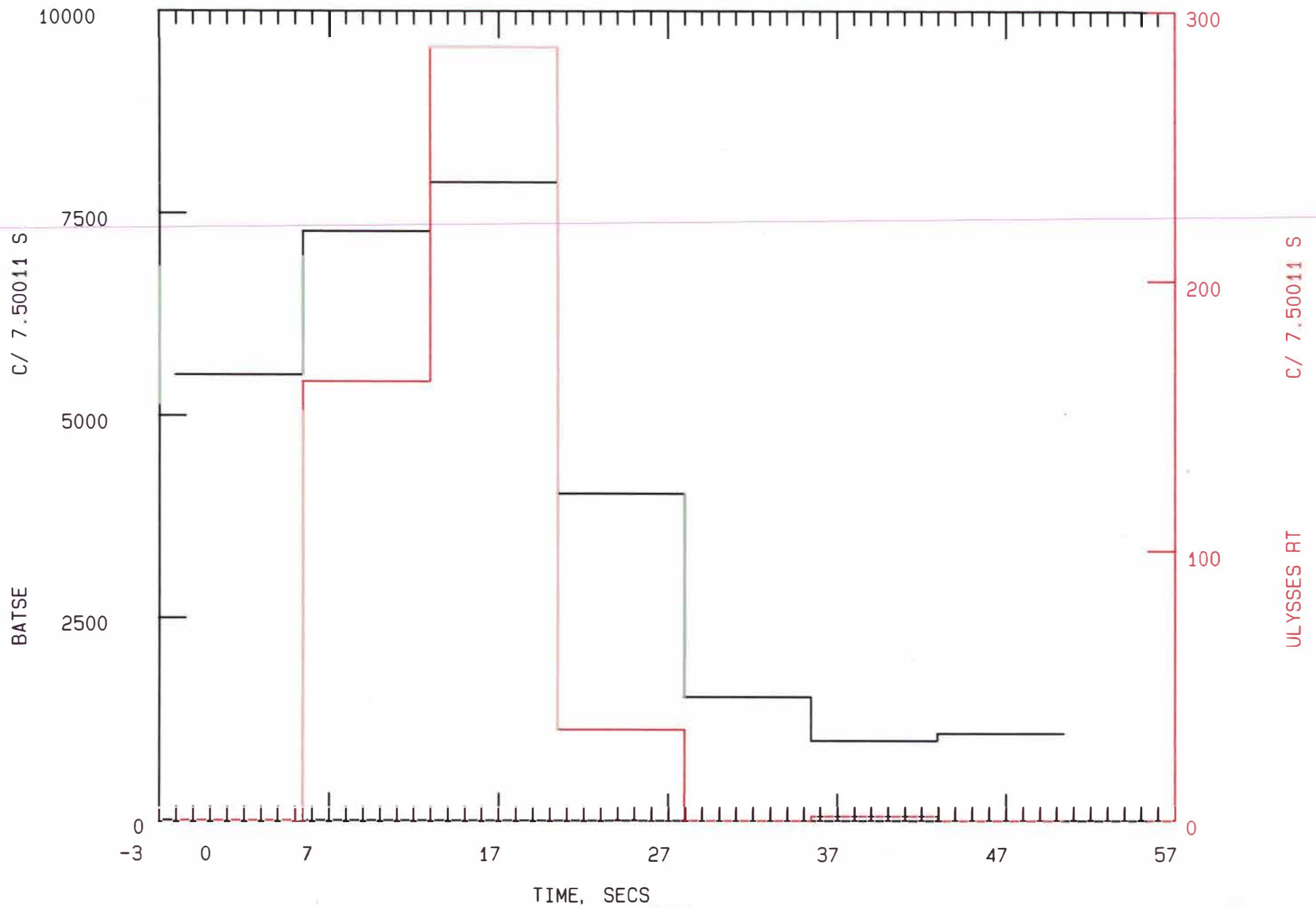
BATSE

-ULYSSES RT CORRELATION

30/10/99

6364.921

3/ 5/ 0



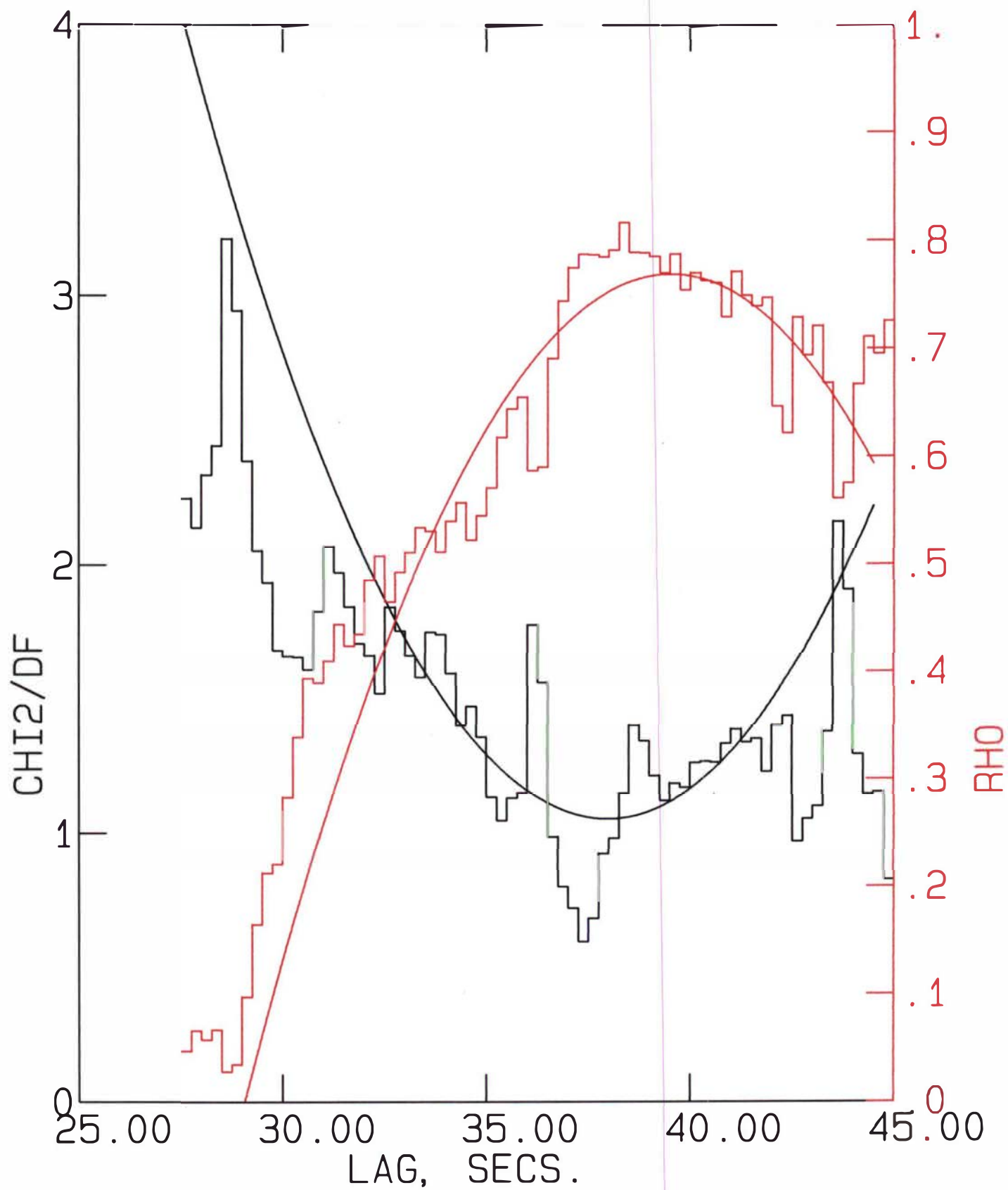
BATSE

-ULYSSES RT CORRELATION

30/10/99

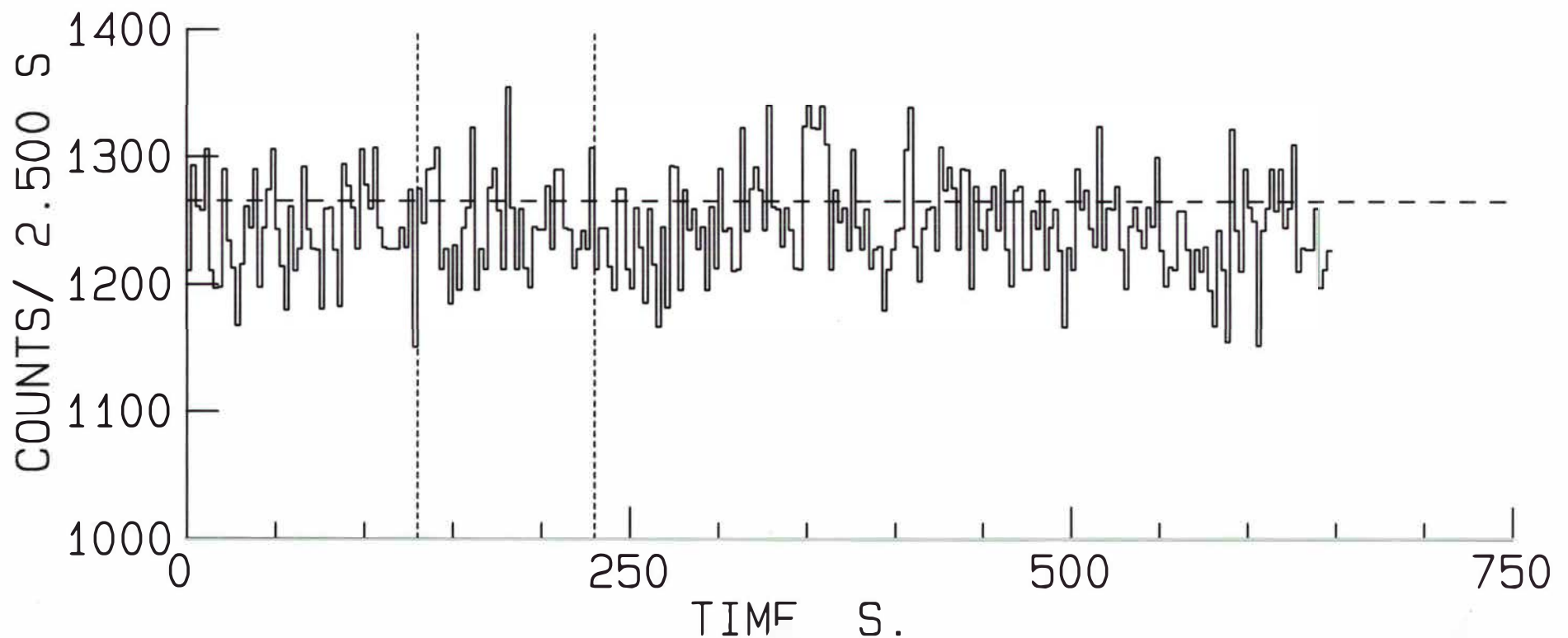
6364.921

3/ 5/ 0



ULYSSES RT
30/10/99 4176.089 s
0.250 S INTERVALS REGROUPED BY 10
22- 152 keV

3 / 5 / 0



BATSE

30/10/99

6364.921

25- 100 keV

COUNTS/0.064 S

500

400

300

200

-3

0

13

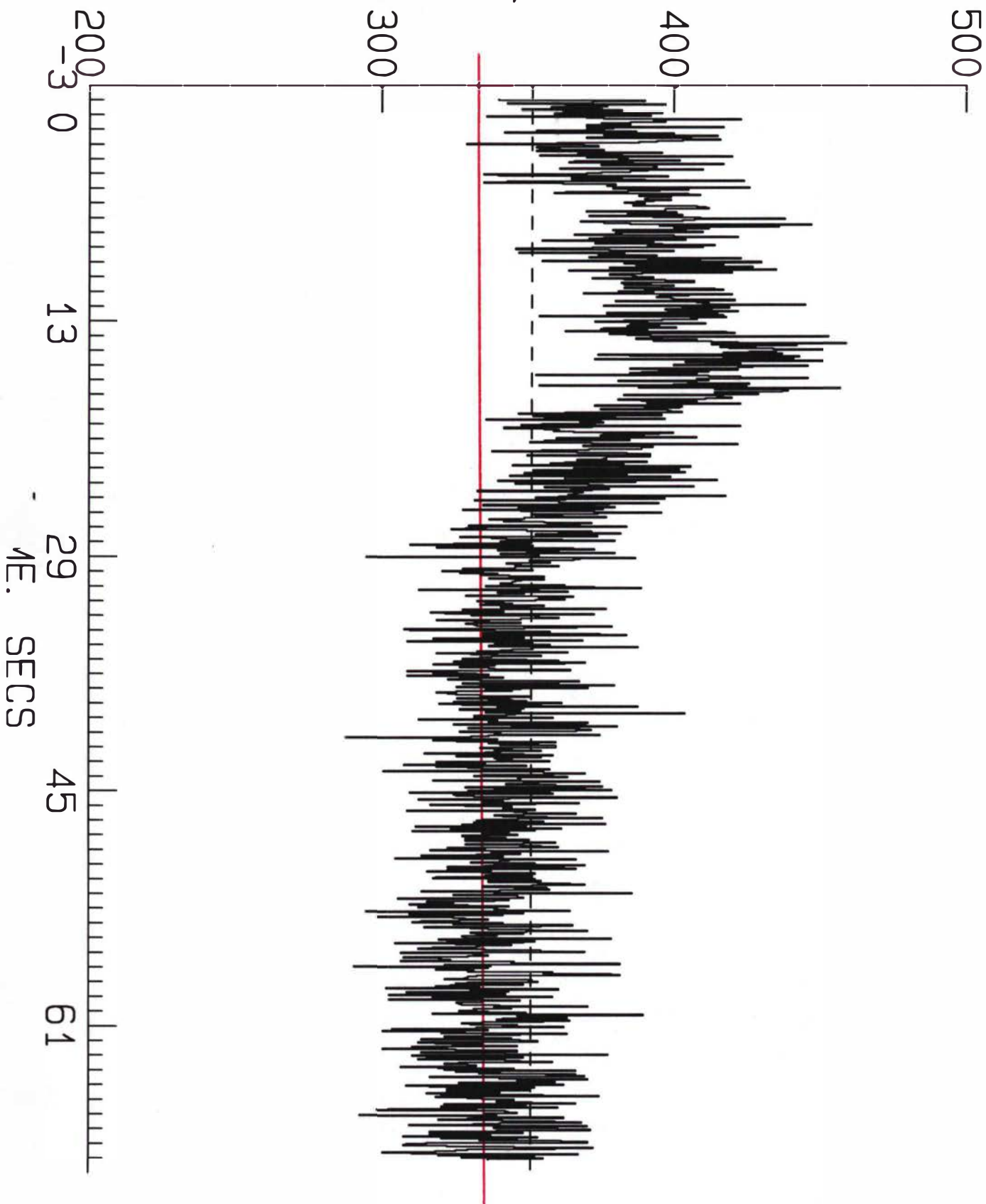
29

45

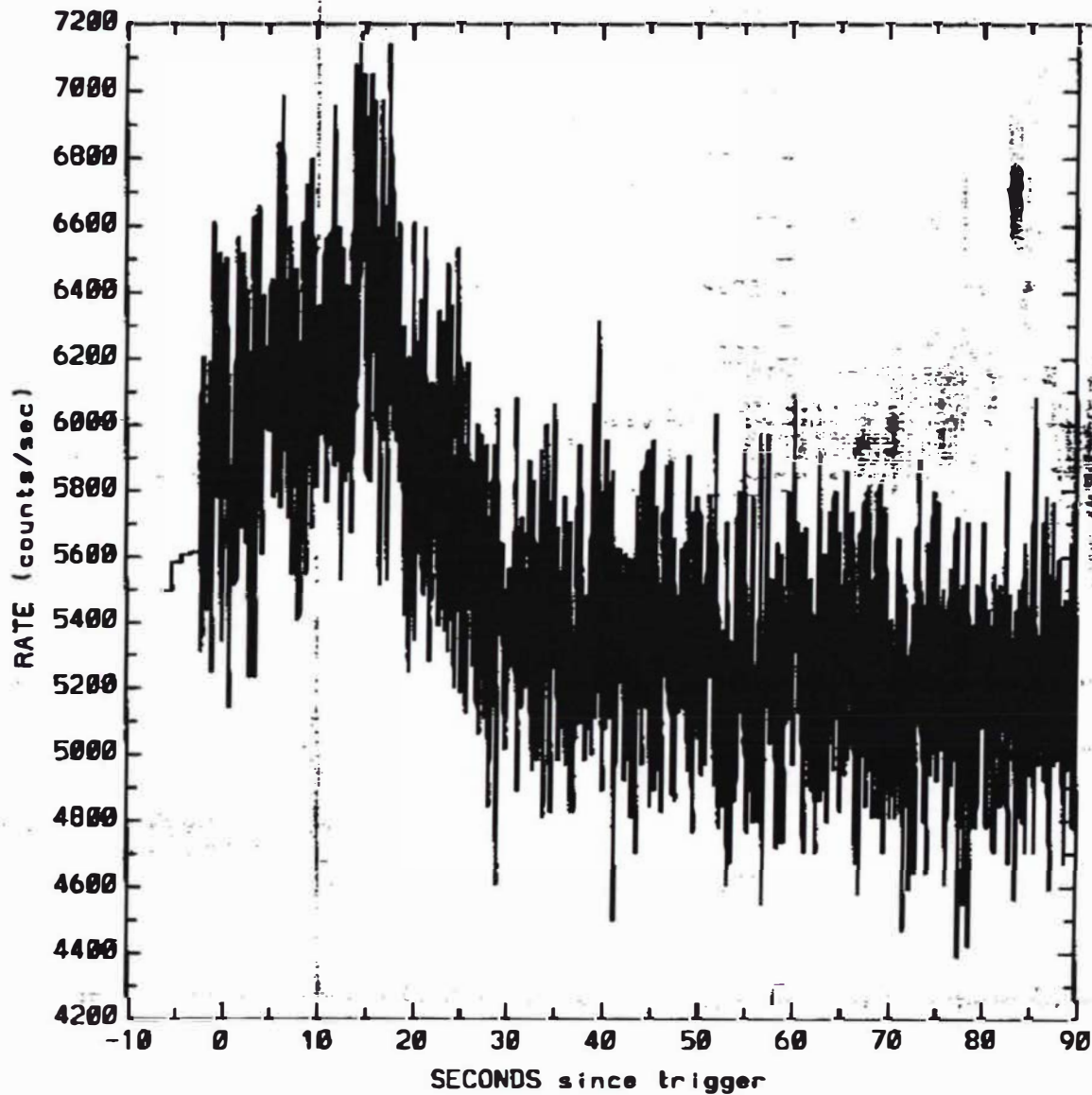
61

ME. SECS

19/11/99



DISCSC Data for K. Hurley, No. 7831



17-NOV-1999 12:36:07

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7831

Trigger Time:
11481 / 6364.921

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors [7..8],
--5--1-

Discriminators:
(1 , 2)

Quality Mask:
BDISP1

From RICHARDSON@fender.msfc.nasa.gov Mon Nov 1 13:21 PST 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 1 Nov 1999 15:29:24 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7832

TIME: TJD=1481 SECONDS=65482

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY. HV OFF AT T+32 S.

BATSE BURST TRIGGER

NO.: 7828

TIME: TJD=1479 SECONDS=52012

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

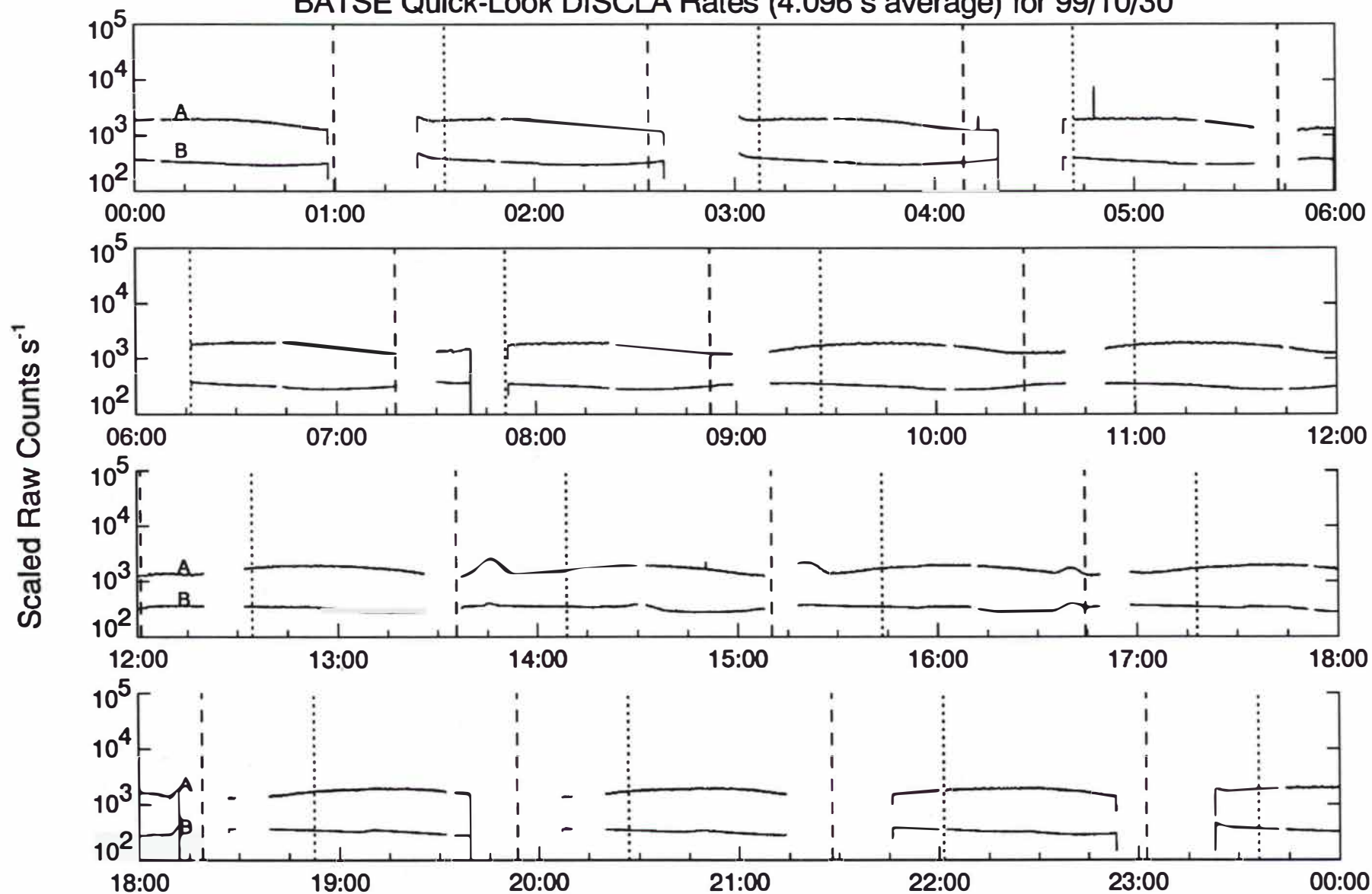
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/30



Current Time: 99/11/03, 1110 EDT

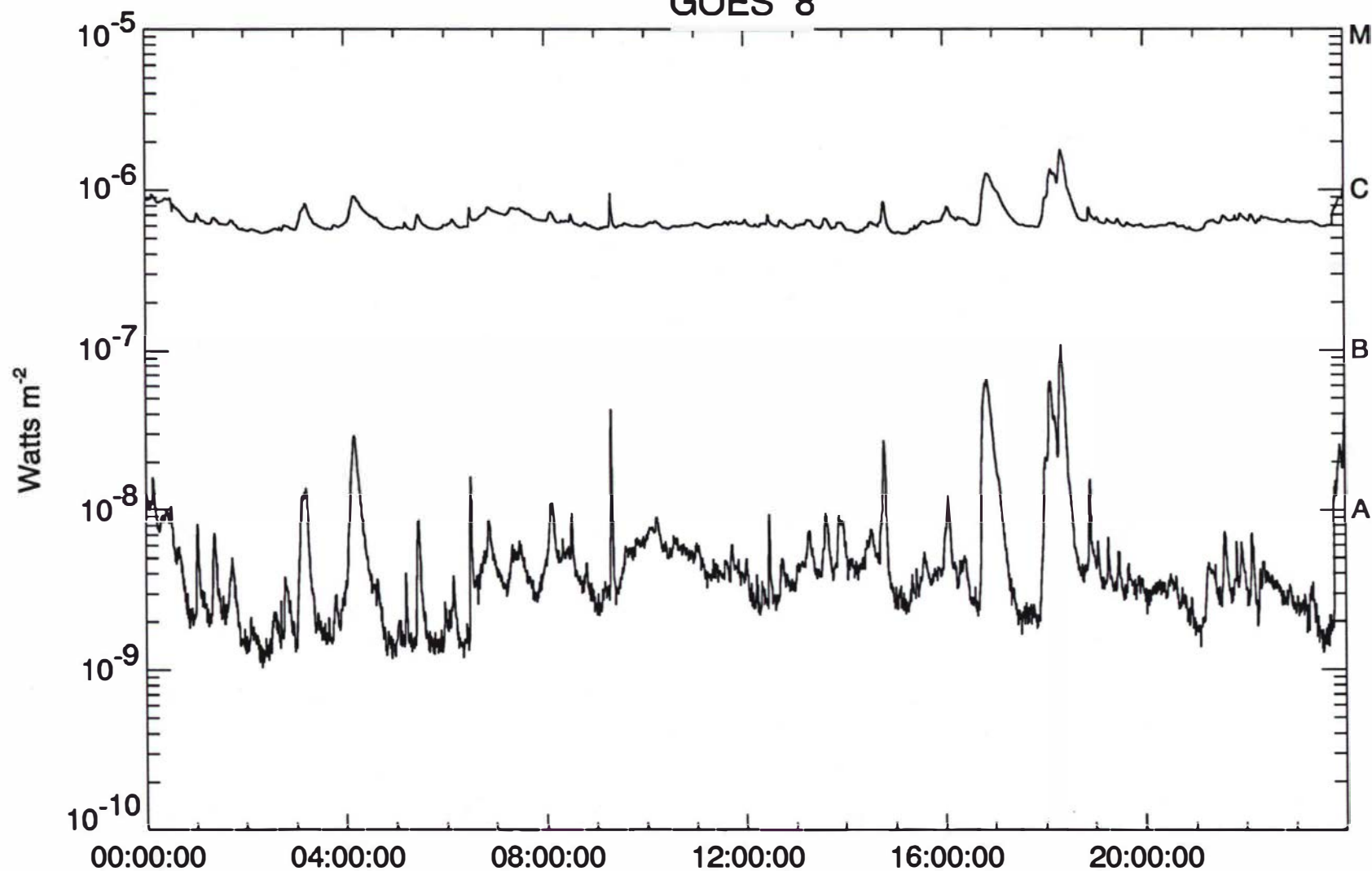
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



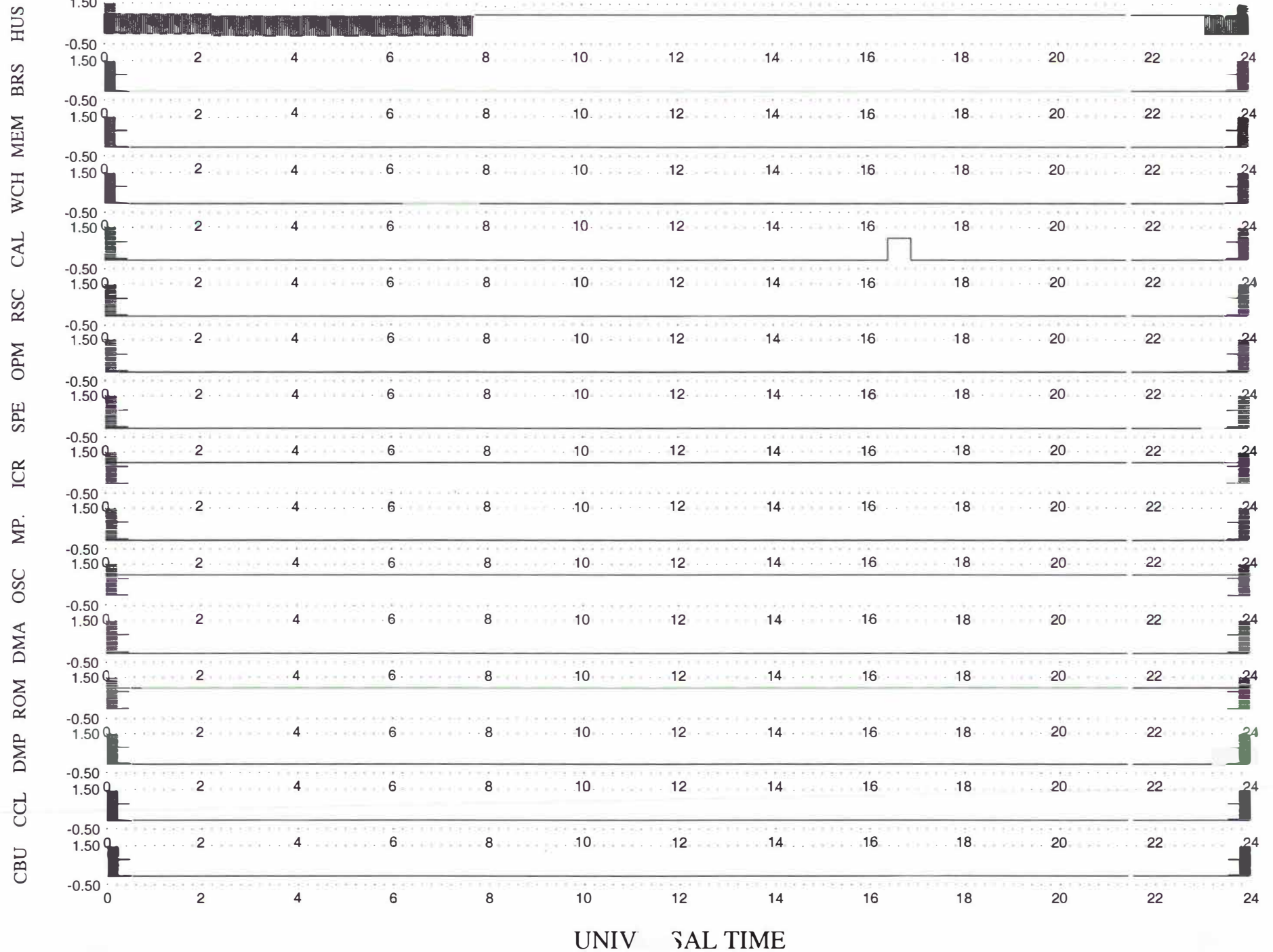
Data Start: 99/10/30, 0000:00

Plot created: 99/11/03, 1110

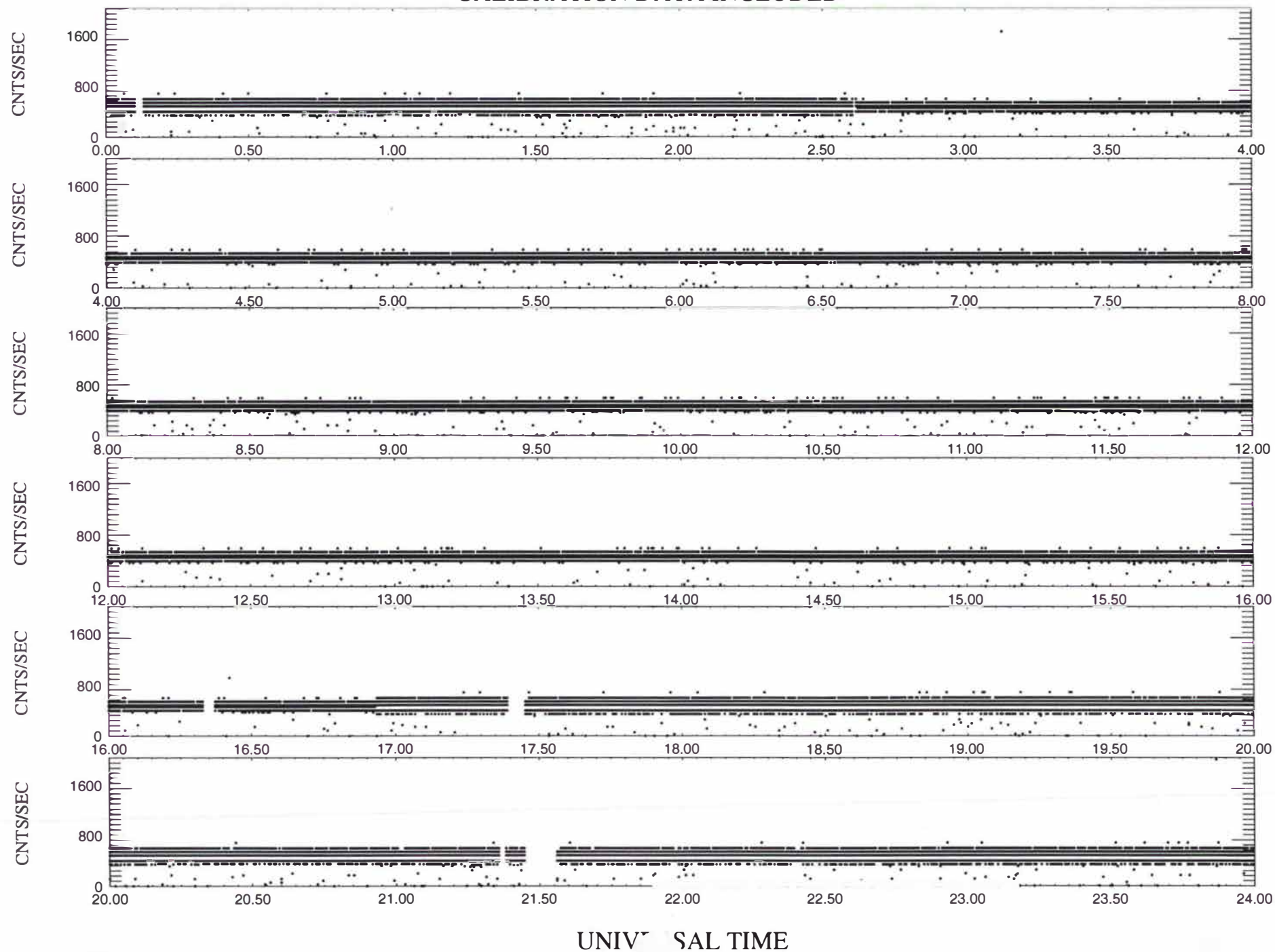
Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

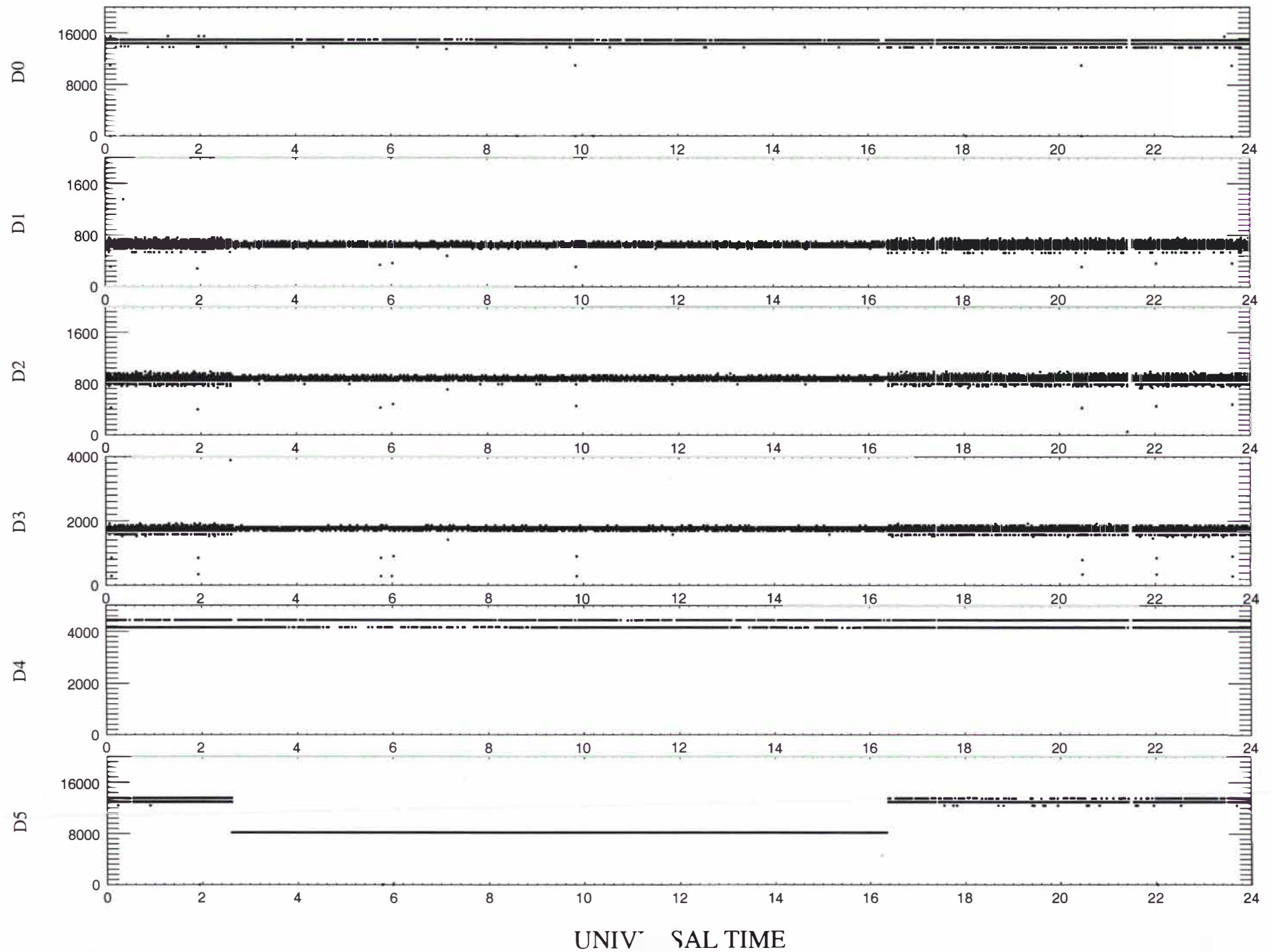
Sample average = 10

NO BURST (1)



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Mon Nov 1 10:45 PST 1999
Date: Mon, 1 Nov 1999 12:45:52 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7833

TIME: TJD=1482 SECONDS=63956

TYPE: SAA SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

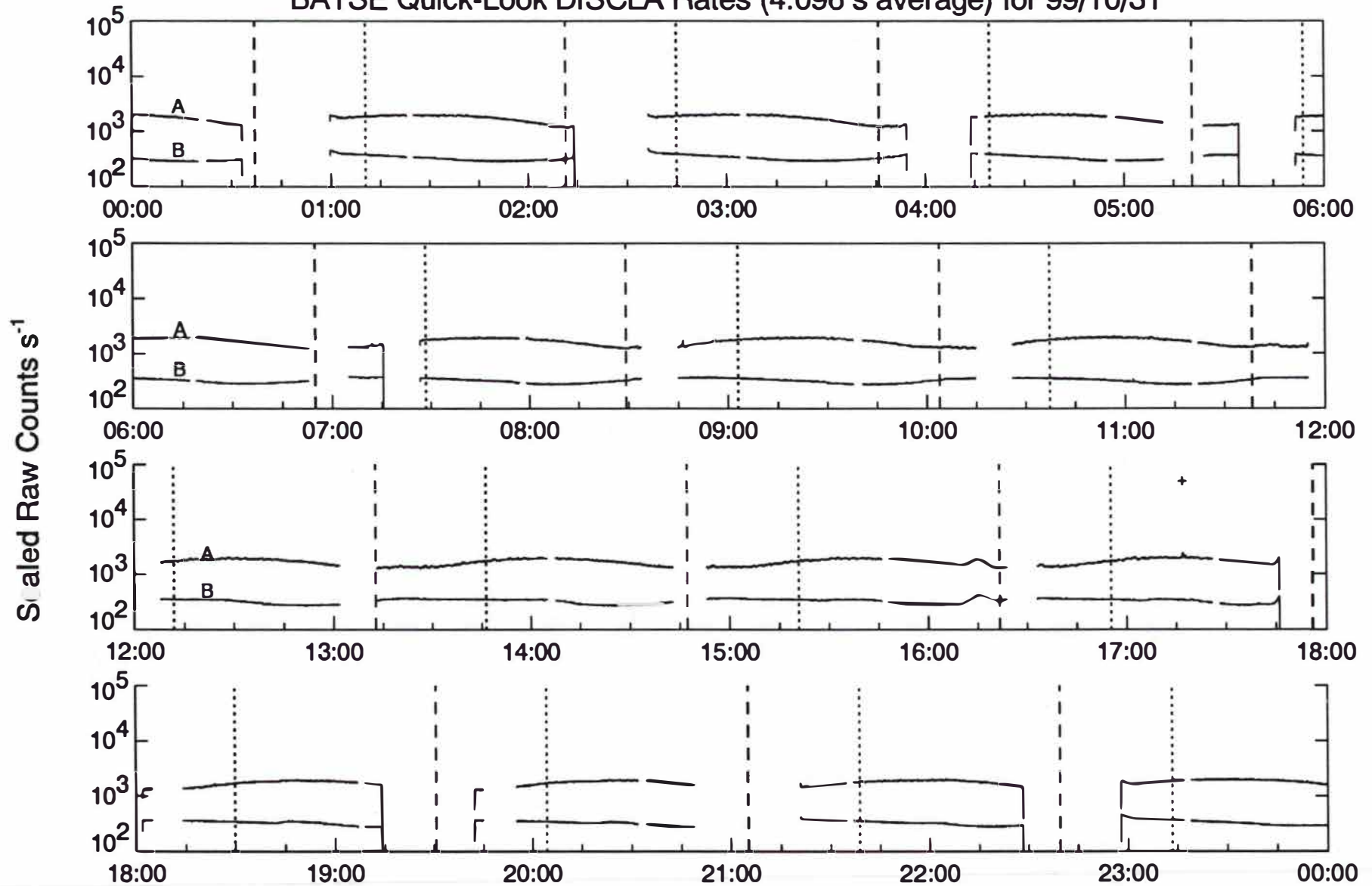
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SAA ENTRY, NORTHEAST SIDE. HV OFF AT APPROX. T+8 S.

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/10/31

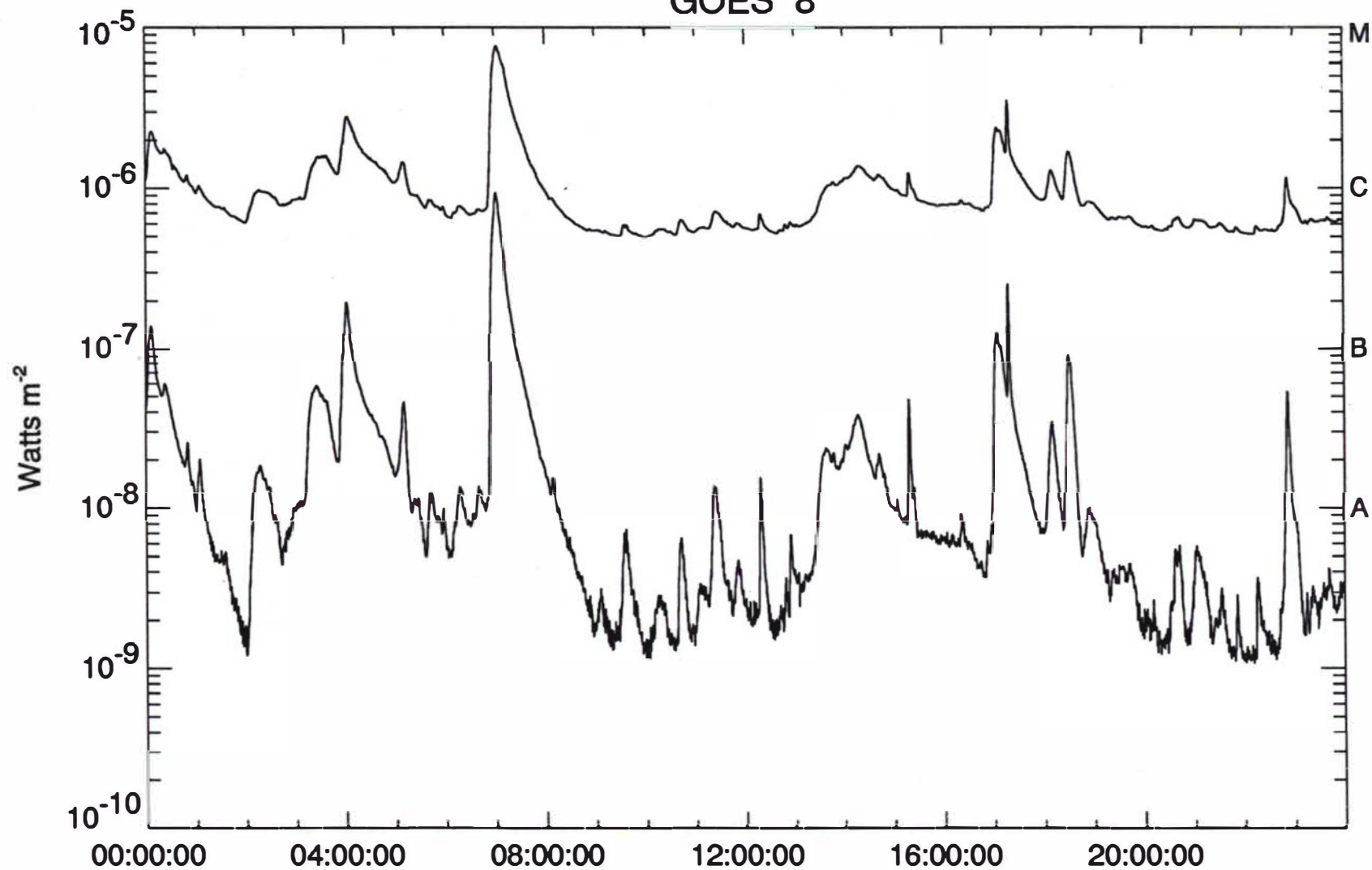


Current Time: 99/11/04, 1110 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/10/31, 0000:00

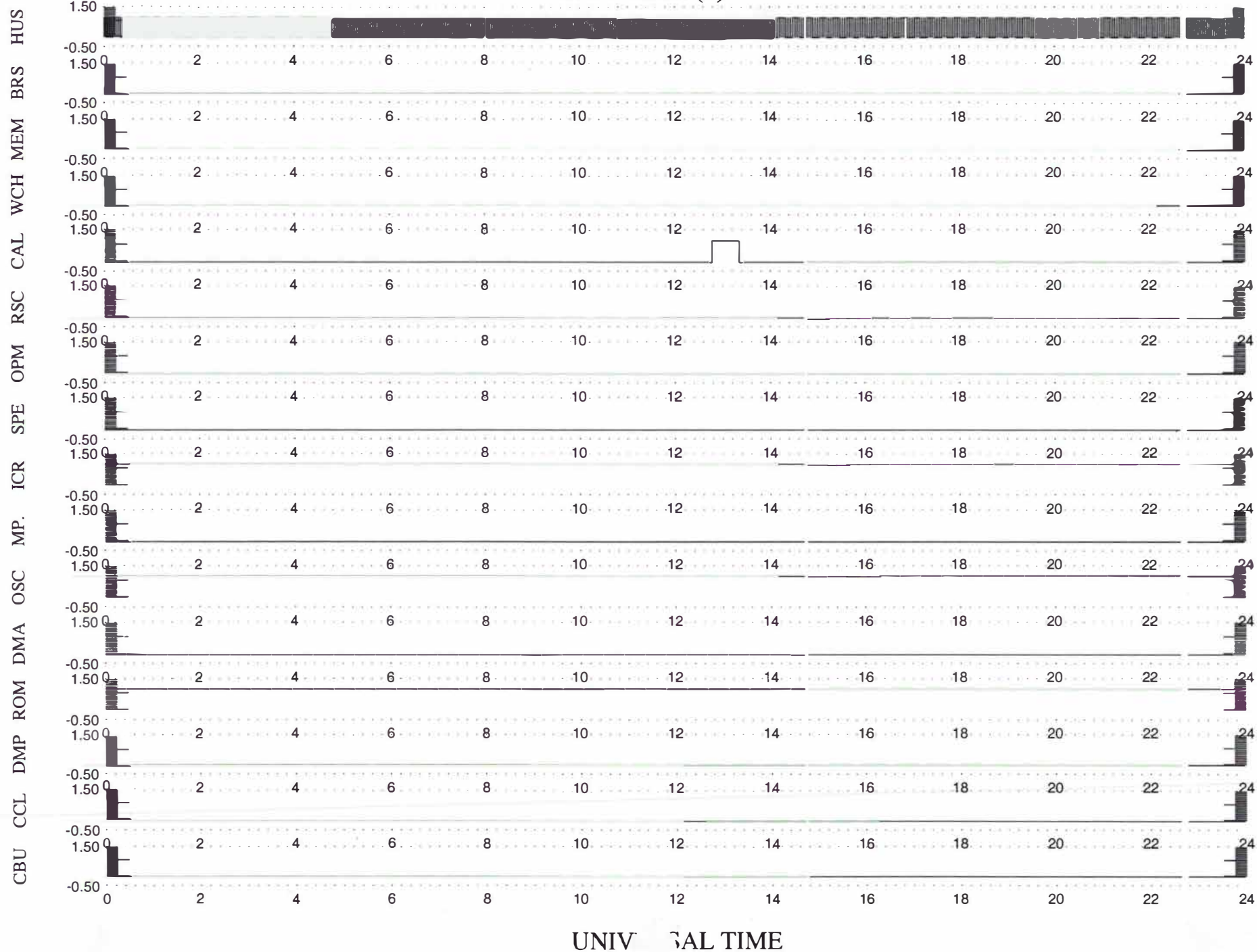
Plot created: 99/11/04, 1109

Channel

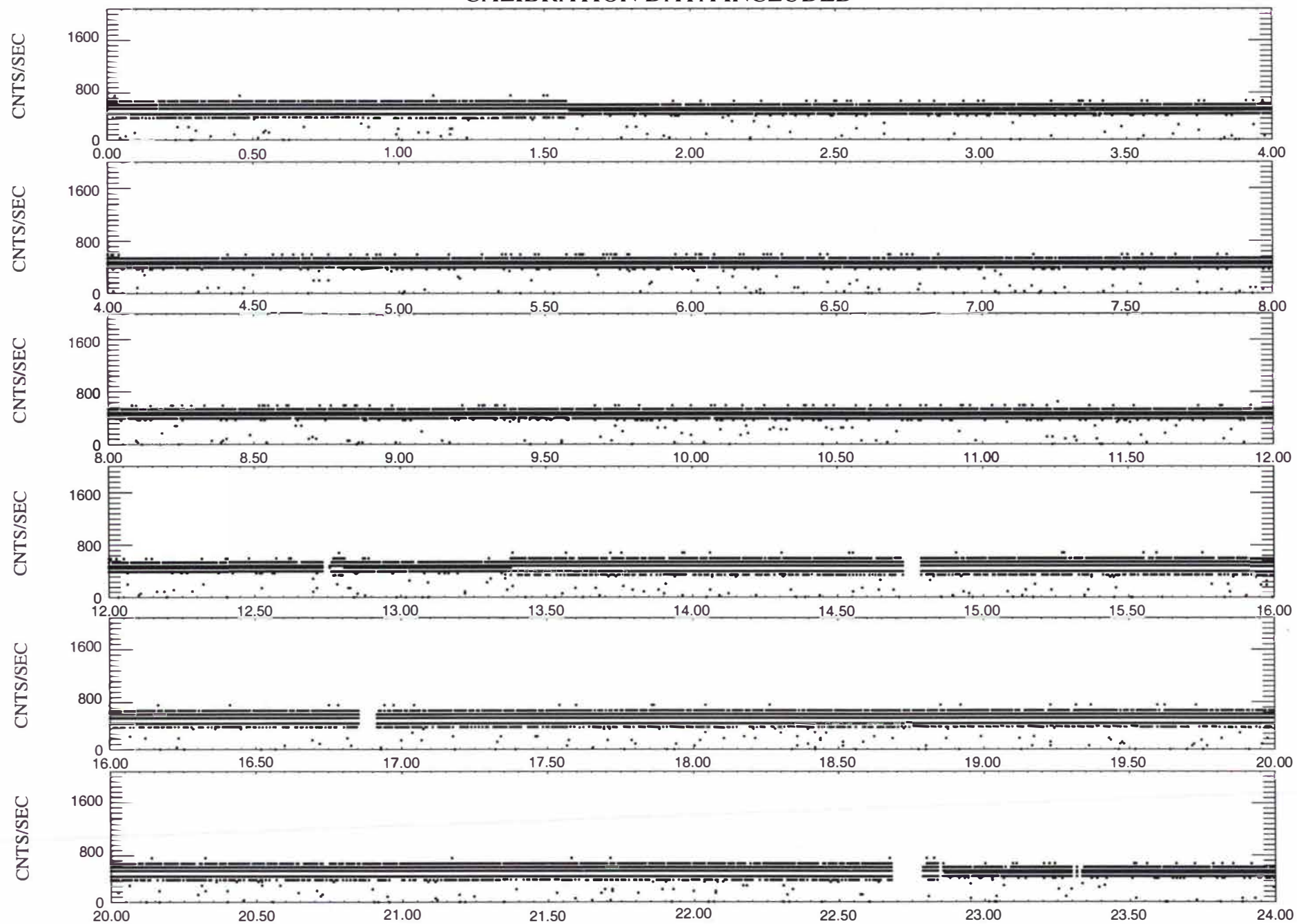
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

NO BURST (1)



CALIBRATION DATA INCLUDED



UNIV SAL TIME

