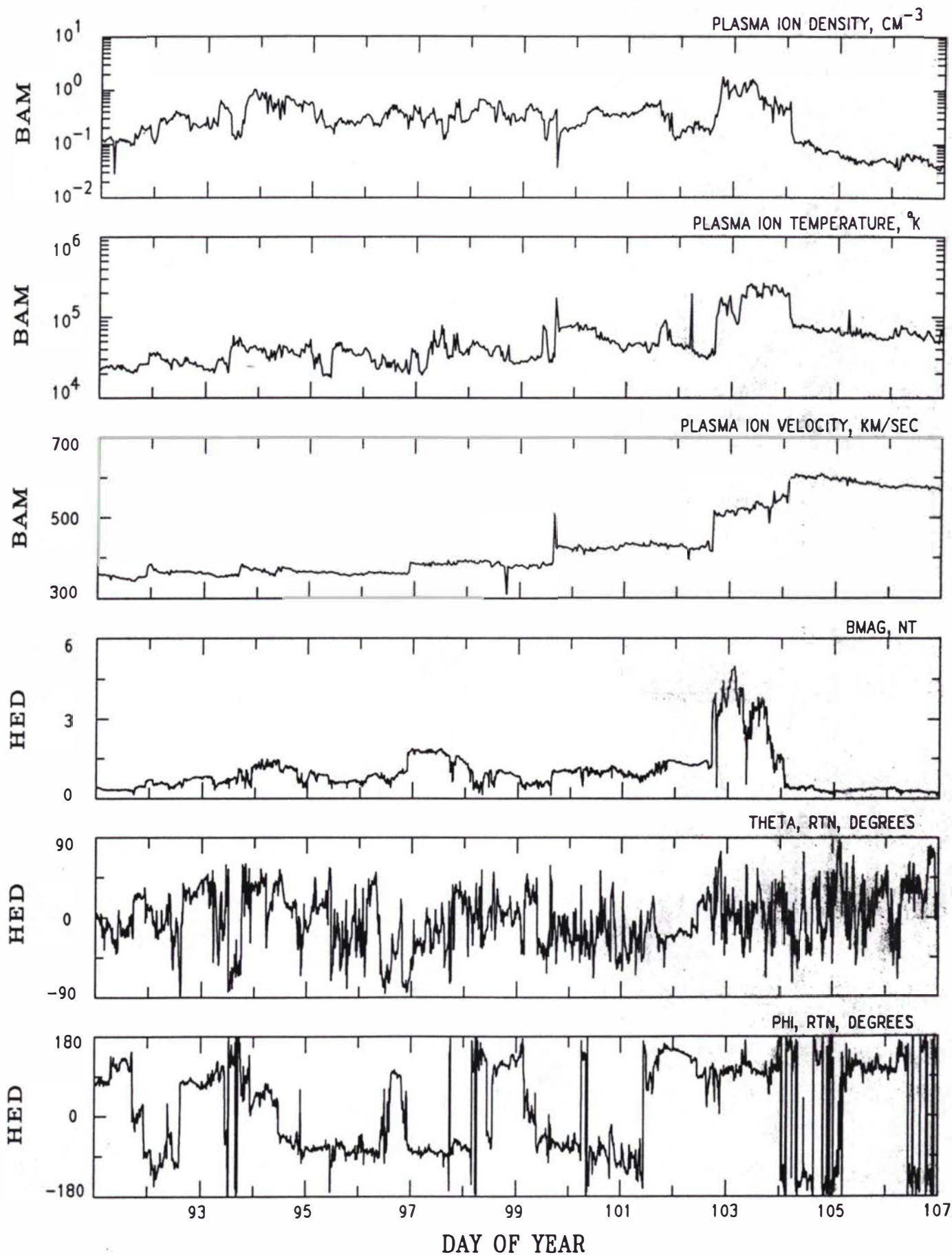


ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 091 APR 1 00:00:00.000 - 99 107 APR 17 00:00:00.000



22-1

10. 11. 1941

10. 11. 1941

10. 11. 1941

10. 11. 1941

10. 11. 1941

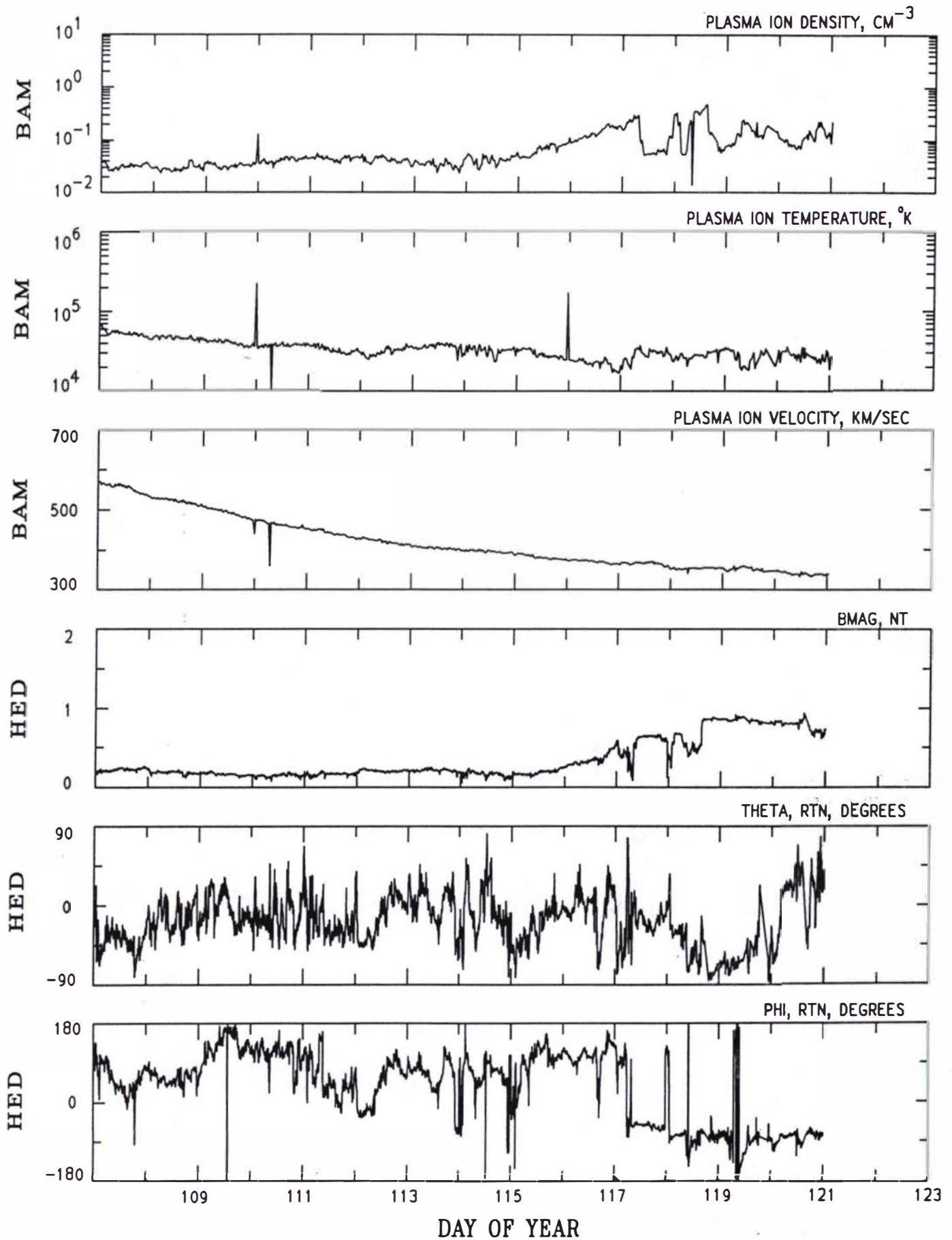
10. 11. 1941

10. 11. 1941

10. 11. 1941

ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 107 APR 17 00:00:00.000 - 99 123 MAY 3 00:00:00.000



1000

1000



1000



1000



1000



1000

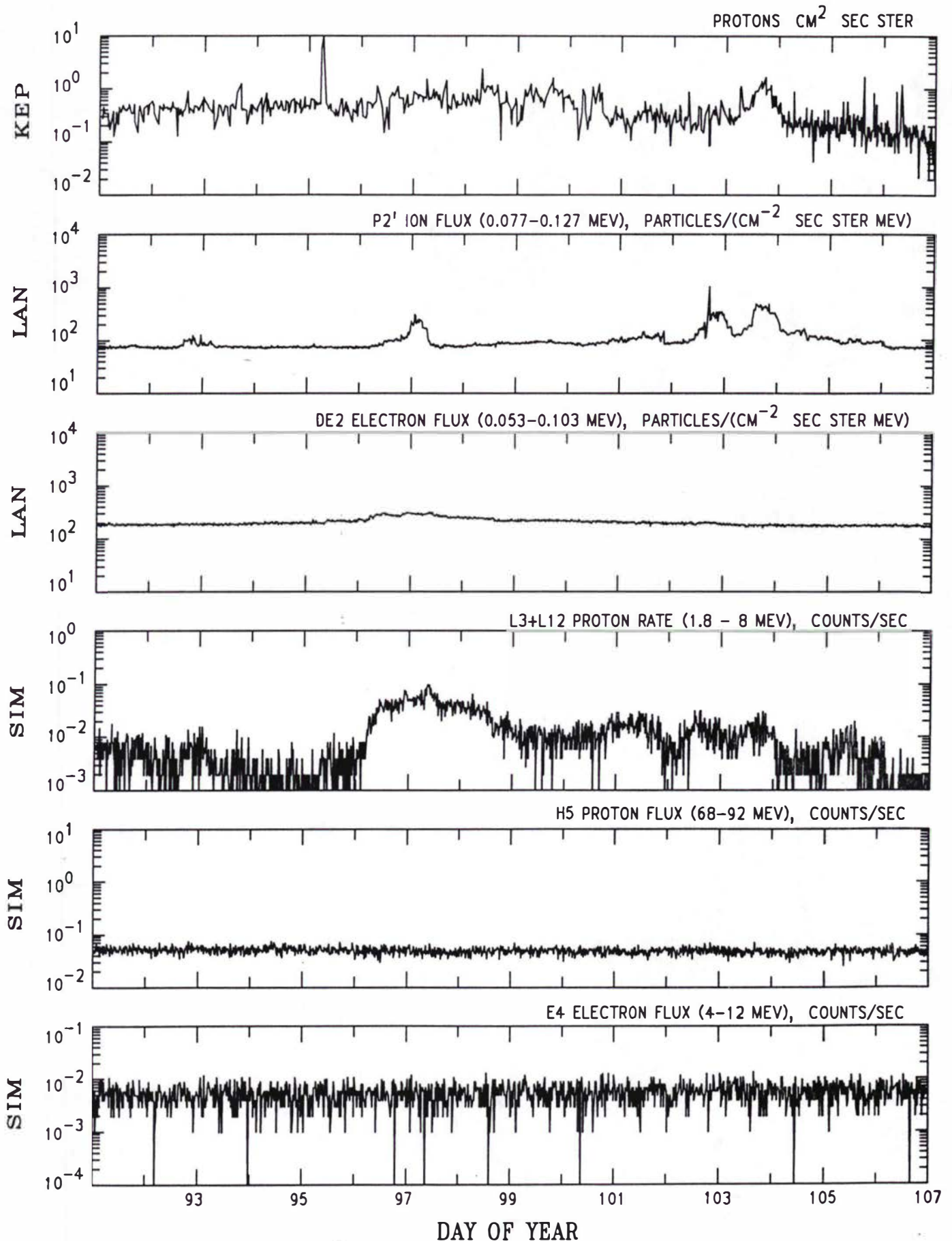


1000



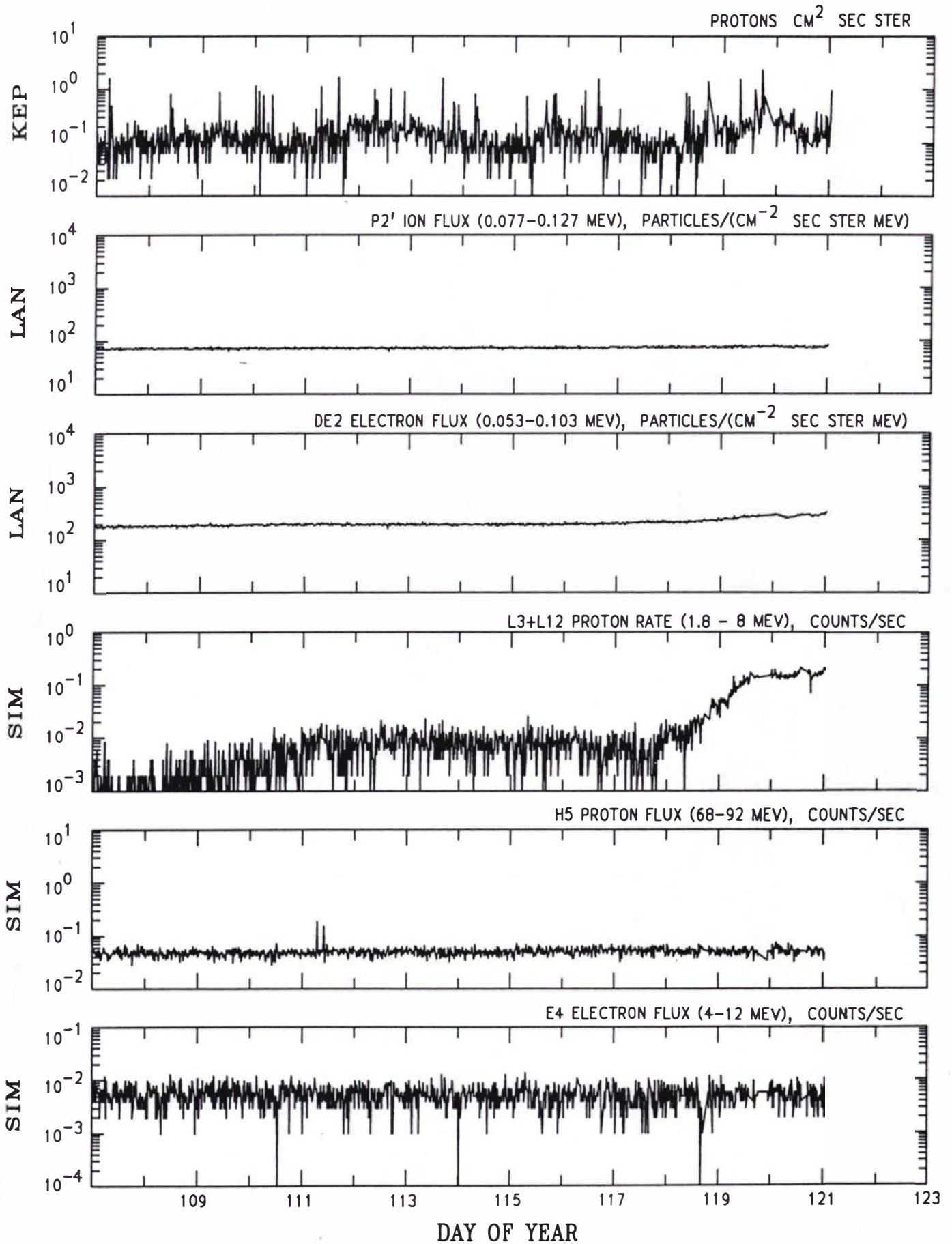
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

99 091 APR 1 00:00:00.000 - 99 107 APR 17 00:00:00.000



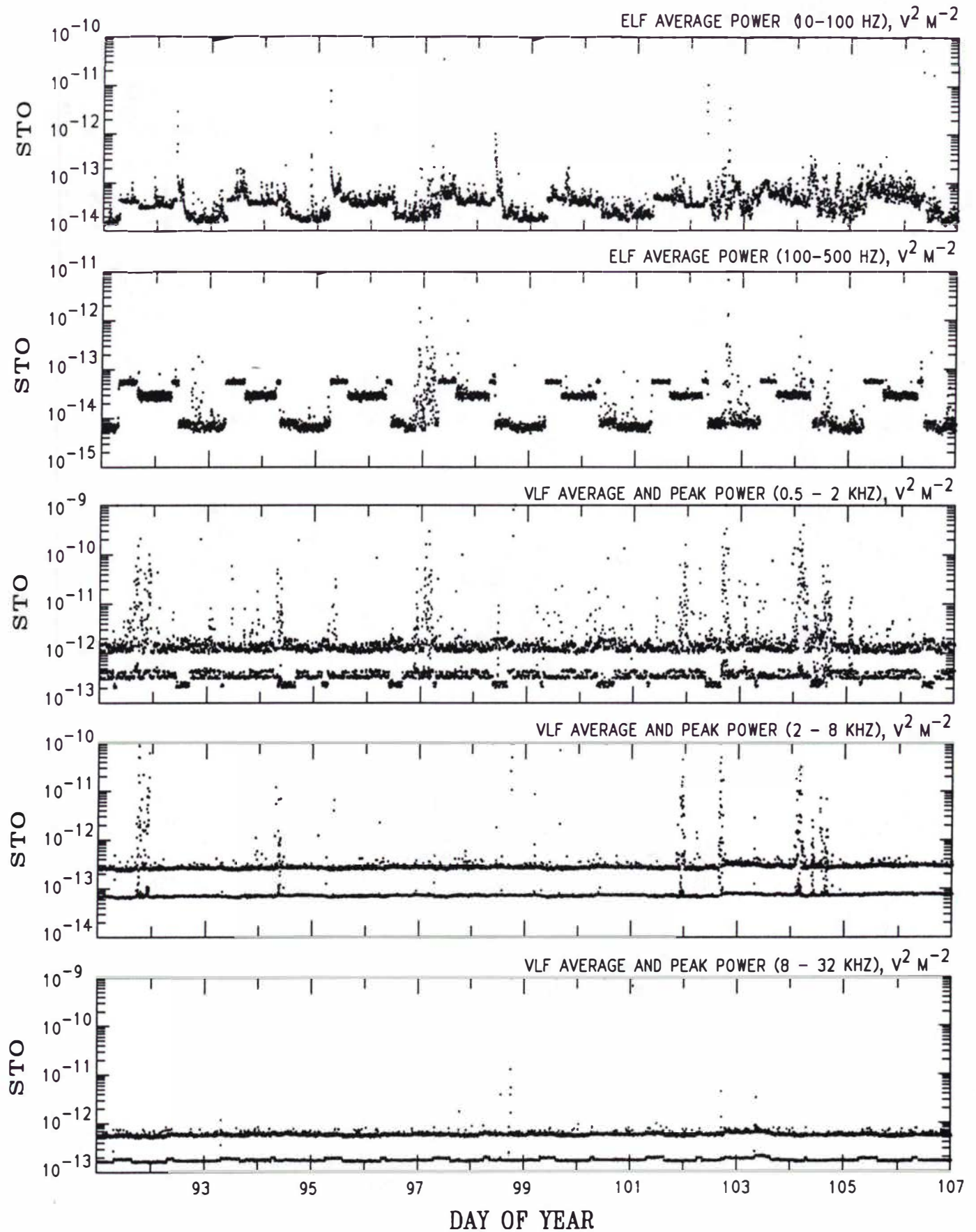
ULYSSES CDR - ENERGETIC PARTICLES, LOW ENERGY IONS AND COSMIC RAY

99 107 APR 17 00:00:00.000 - 99 123 MAY 3 00:00:00.000



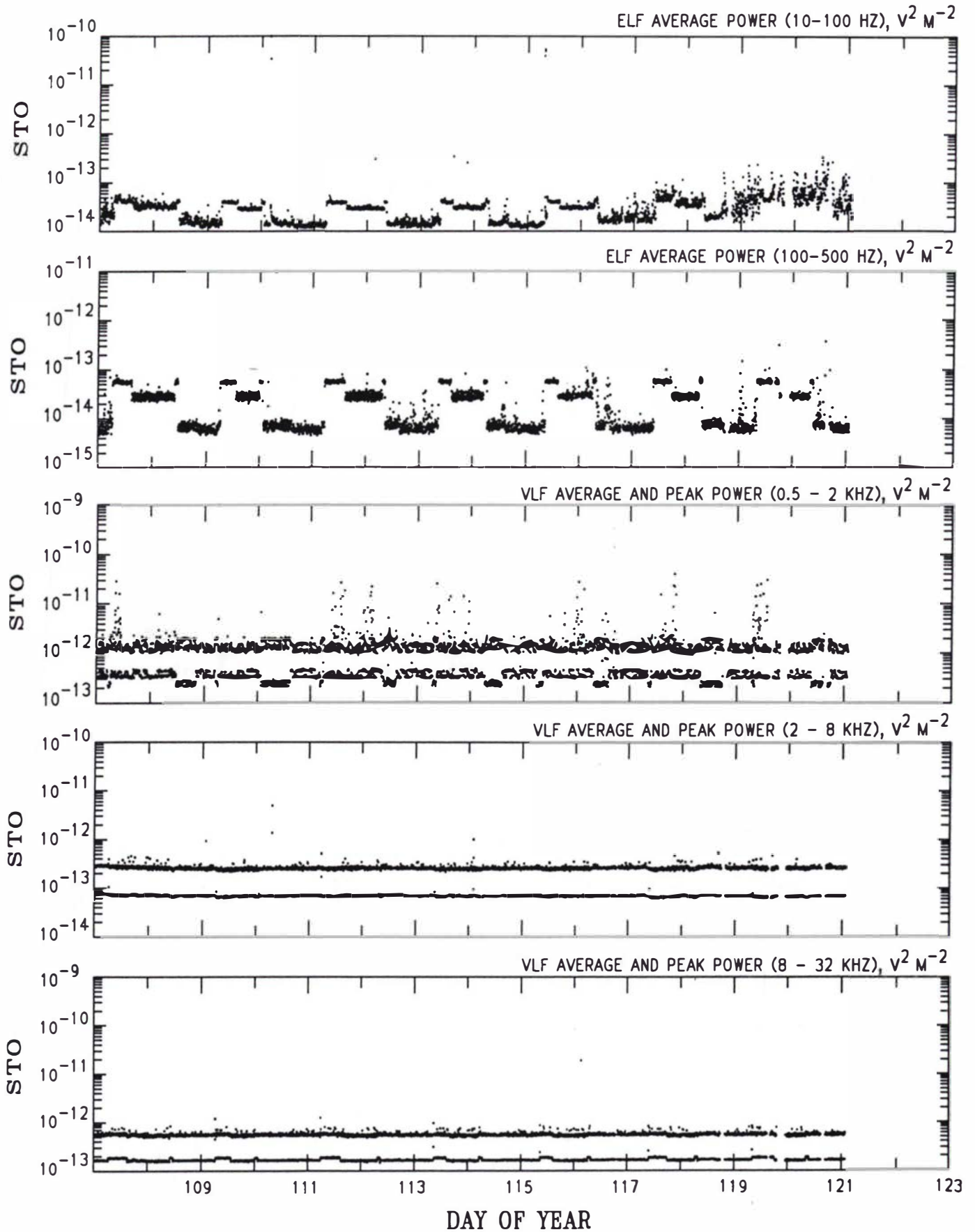
ULYSSES CDR - PLASMA WAVE

99 091 APR 1 00:00:00.000 - 99 107 APR 17 00:00:00.000



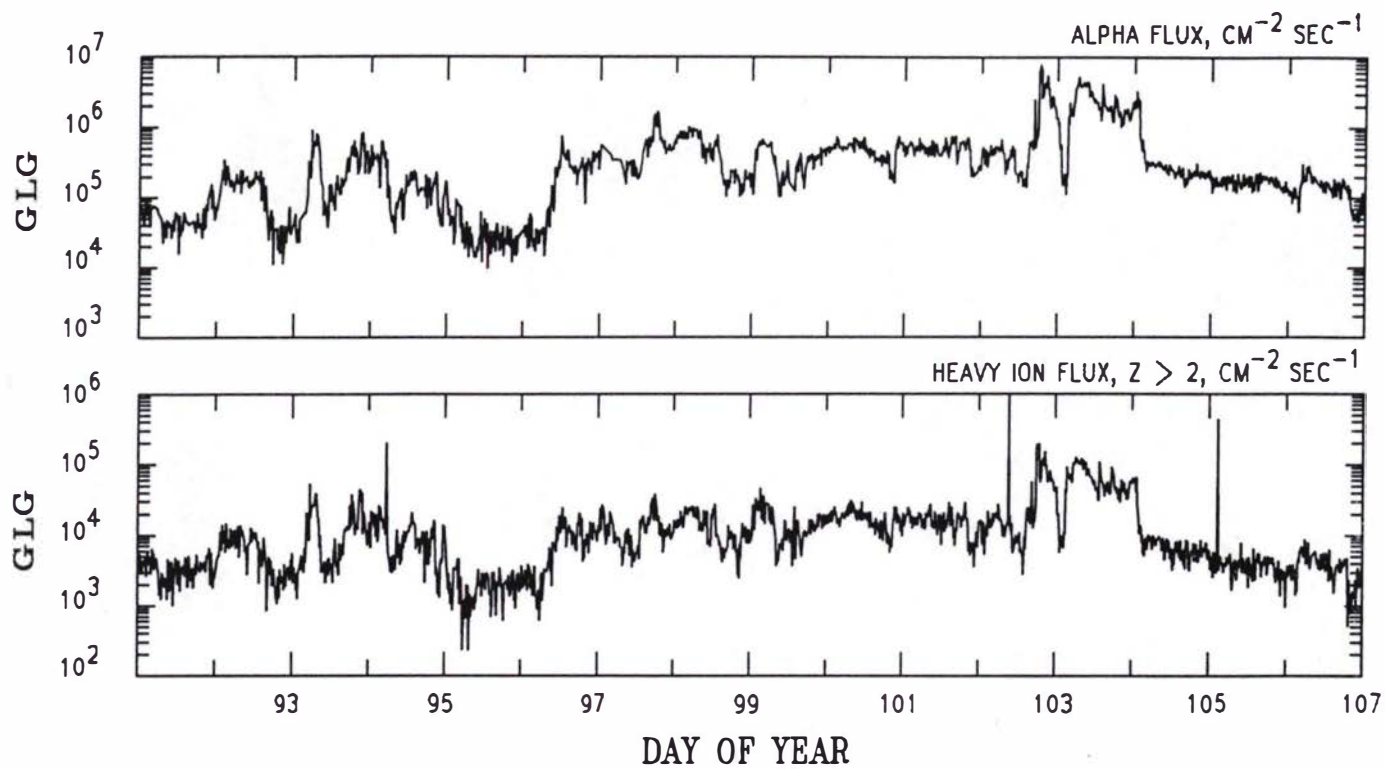
ULYSSES CDR - PLASMA WAVE

99 107 APR 17 00:00:00.000 - 99 123 MAY 3 00:00:00.000



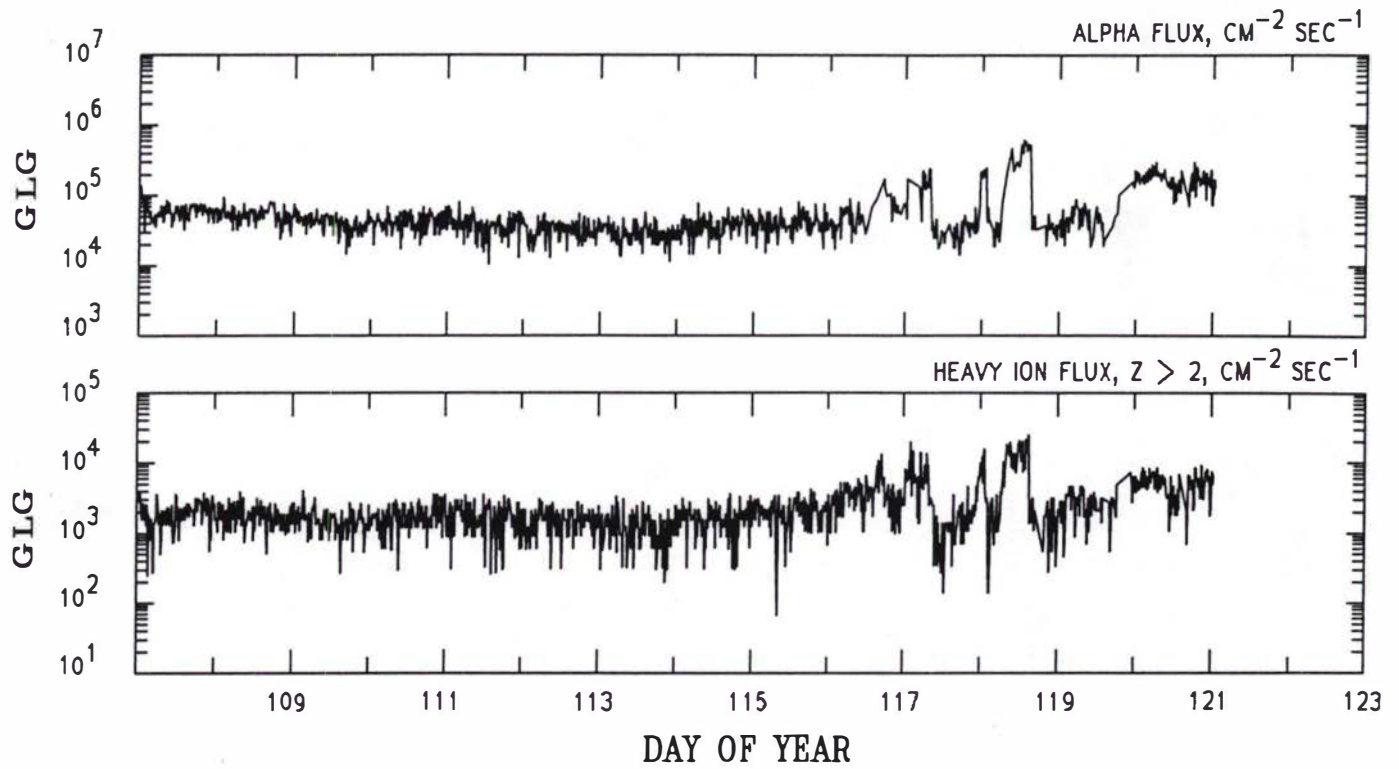
ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 091 APR 1 00:00:00.000 - 99 107 APR 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 107 APR 17 00:00:00.000 - 99 123 MAY 3 00:00:00.000



From RICHARDSON@fender.msfc.nasa.gov Mon Apr 5 11:35:06 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 5 Apr 1999 12:35:09 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7499

TIME: TJD=1269 SECONDS=11740

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 Apr 5 11:41:27 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA19124; Mon, 5 Apr 1999 11:41:26 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id LAA10683
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 5 Apr 1999 11:41:22 -0700 (PDT)
Date: Mon, 5 Apr 1999 12:41:46 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990405124146.2022e21a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7500
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7500
EVENT OF 1999 APR 1 DAY OF YEAR= 91
EVENT CROSSING TIME AT BATSE : 22914. S. OR 06:21:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 33.000 -9.000
BATSE PEAK COUNTING RATE: 2400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 1/ 4/ 99 IS:
RA= 148.189 DEC= -8.397 DIST= 4.244 AU
BATSE-ULYSSES DISTANCE = 634878283. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 66.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 832.29 SECS.
CROSSING TIME AT ULYSSES IS 23746. S. OR 06:35:46 +/- 400.73 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 1/ 4/ 99 IS:
RA= 219.283 DEC= -13.248 DIST= 0.670 AU
MARS-BATSE DISTANCE = 100253600. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 23.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 307.58 SECS.
CROSSING TIME AT MARS IS 23222. S. OR 06:27:01 +/- 27.46 SECONDS

BATSE BURST TRIGGER

NO.: 7500

TIME: TJD=1269 SECONDS=22914

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=23.4 AZIMUTH=230.7 ERROR=4.0 DEGREES

COMMENTS:

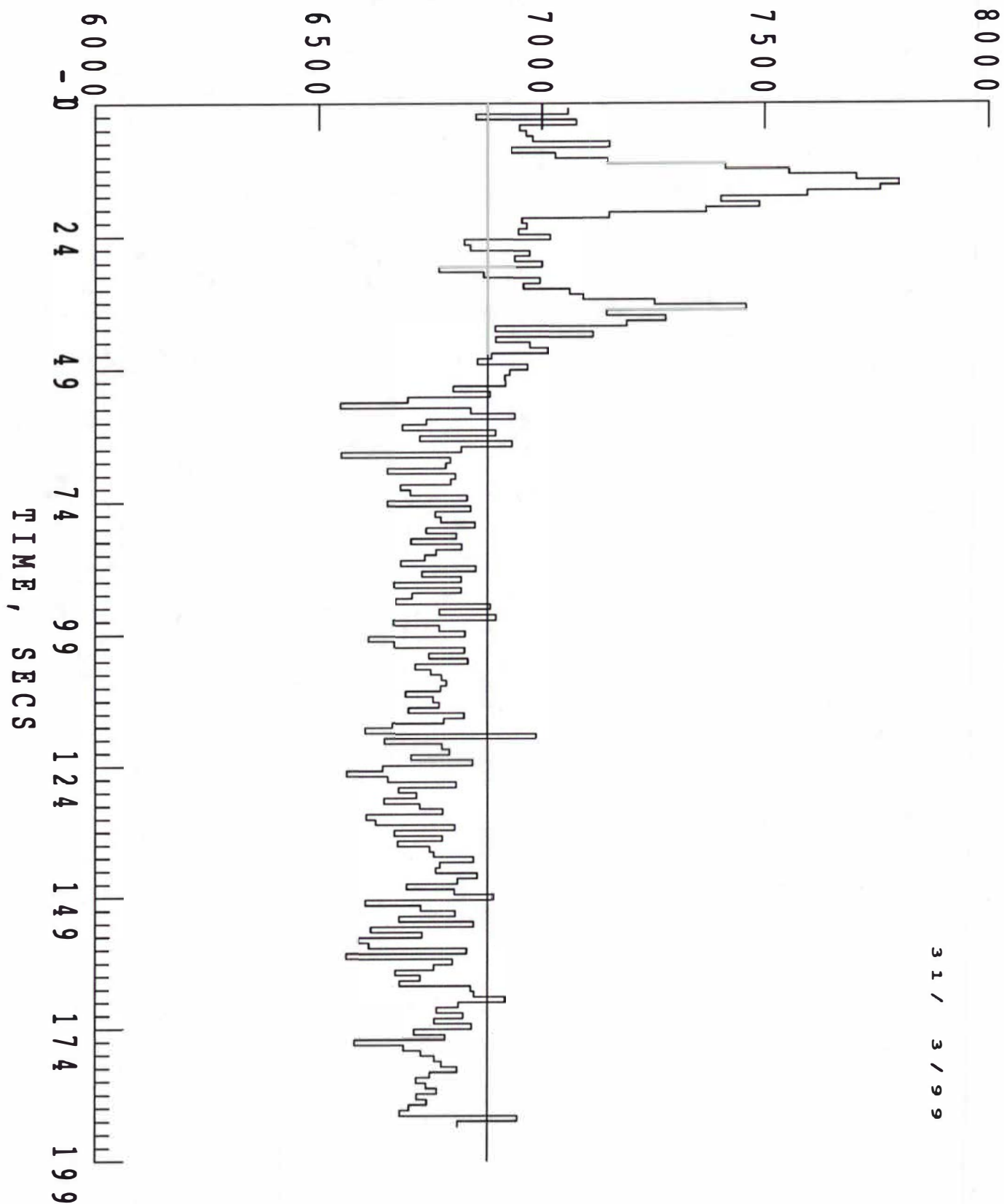
GRB. TWO PULSES. DURATION APPROX. = 55 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7500	990401	11269	22914	2400	033	-09	55

BACODINE 7500 01/04/99 22903.545

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7500

ULYSSES RT

5 / 4 / 99

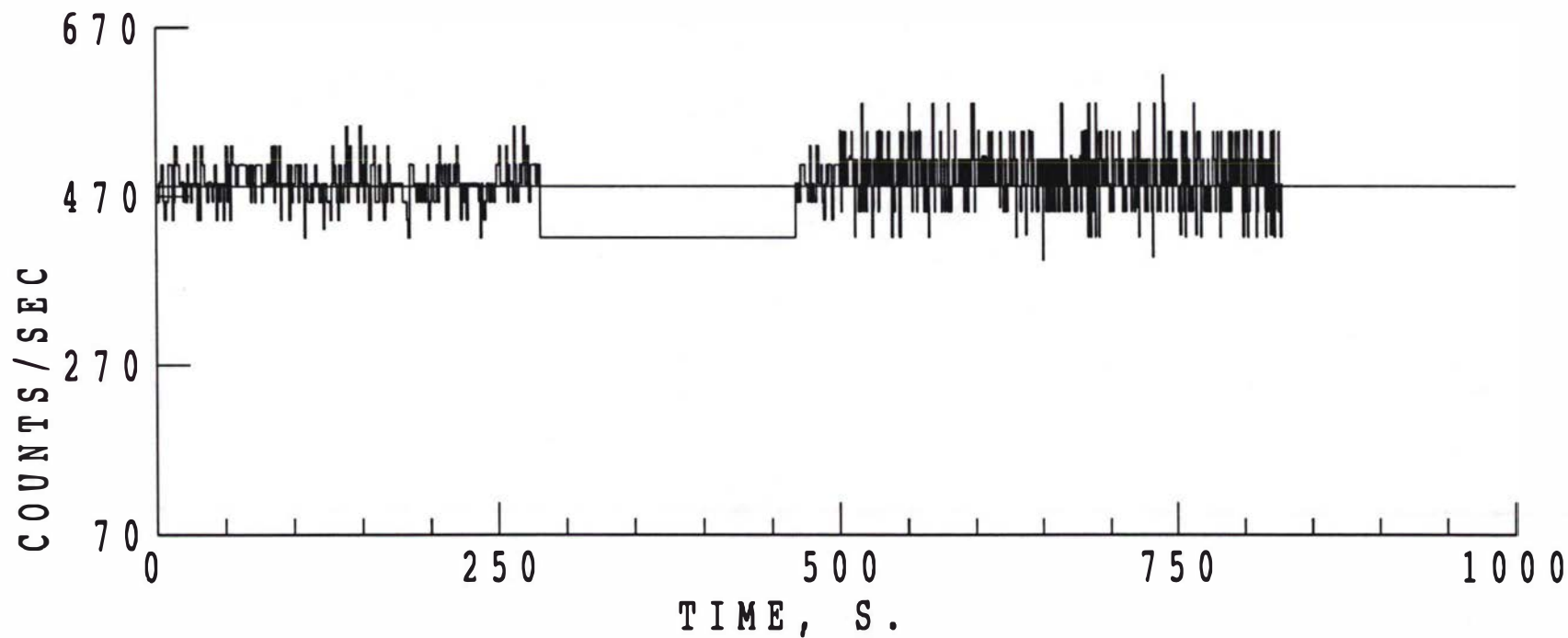
1 / 4 / 99 23328.061 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: 24 Jan 2013

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

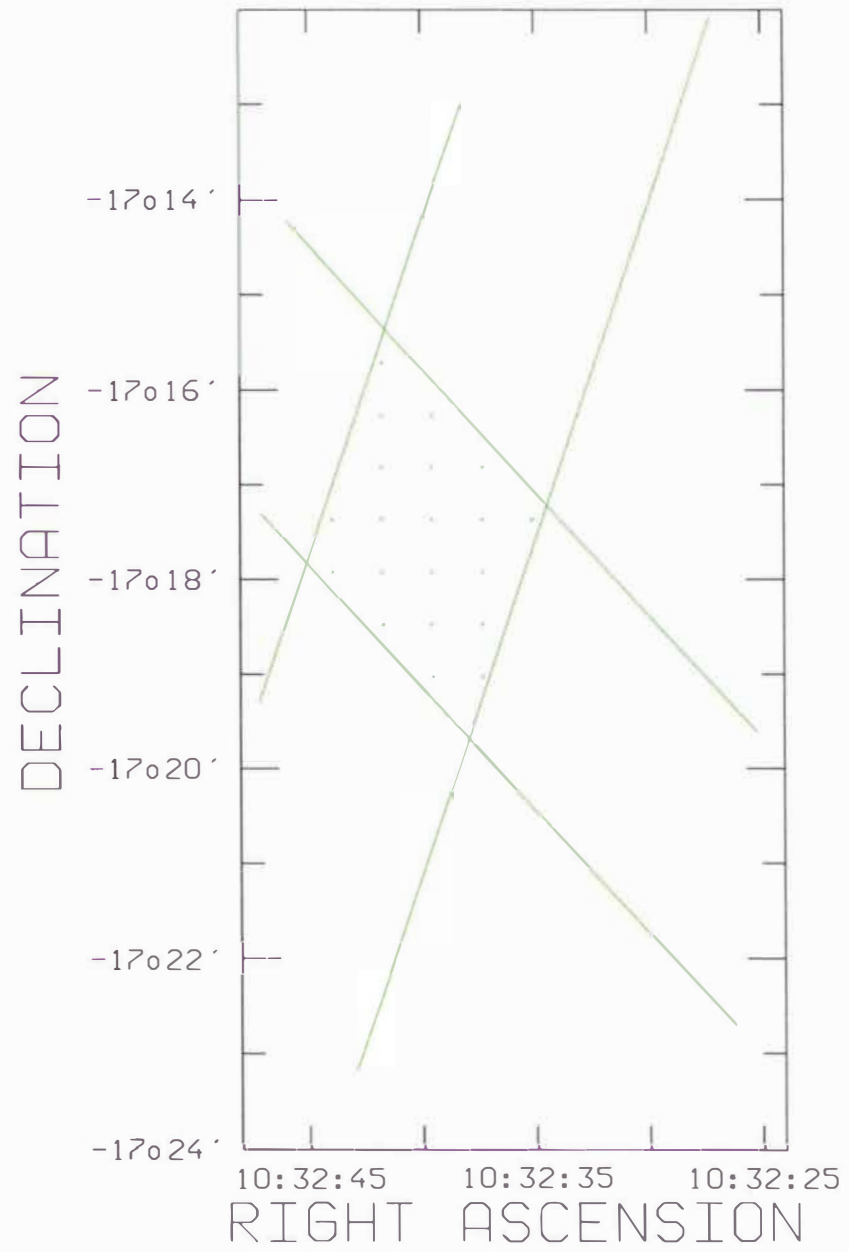
- ☒ Final, correct time used? (Files postmarked vw@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation?

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

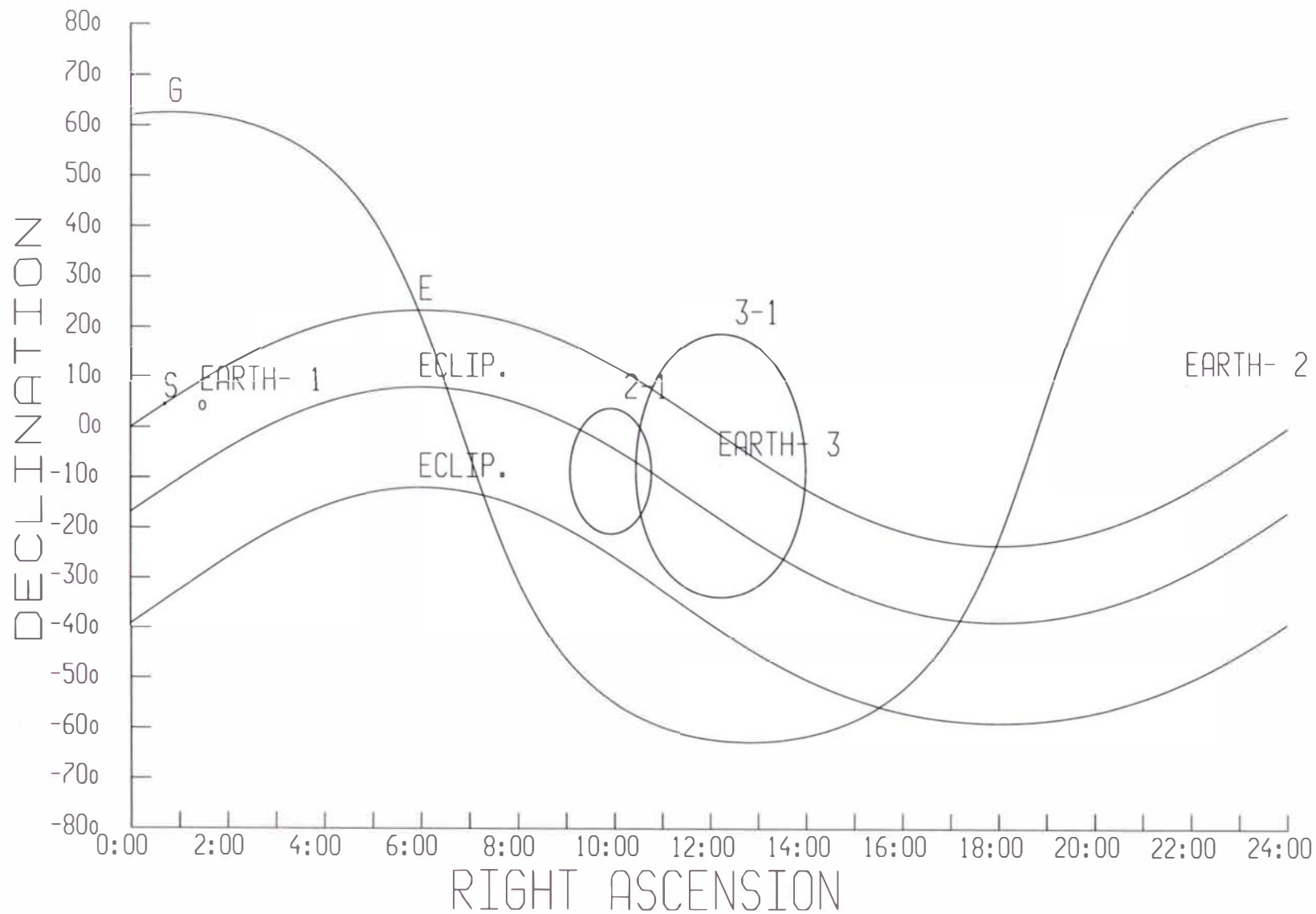
- ☐ $\Sigma 3\Delta t$'s calculated?
- ☒ ACCESS database updated?

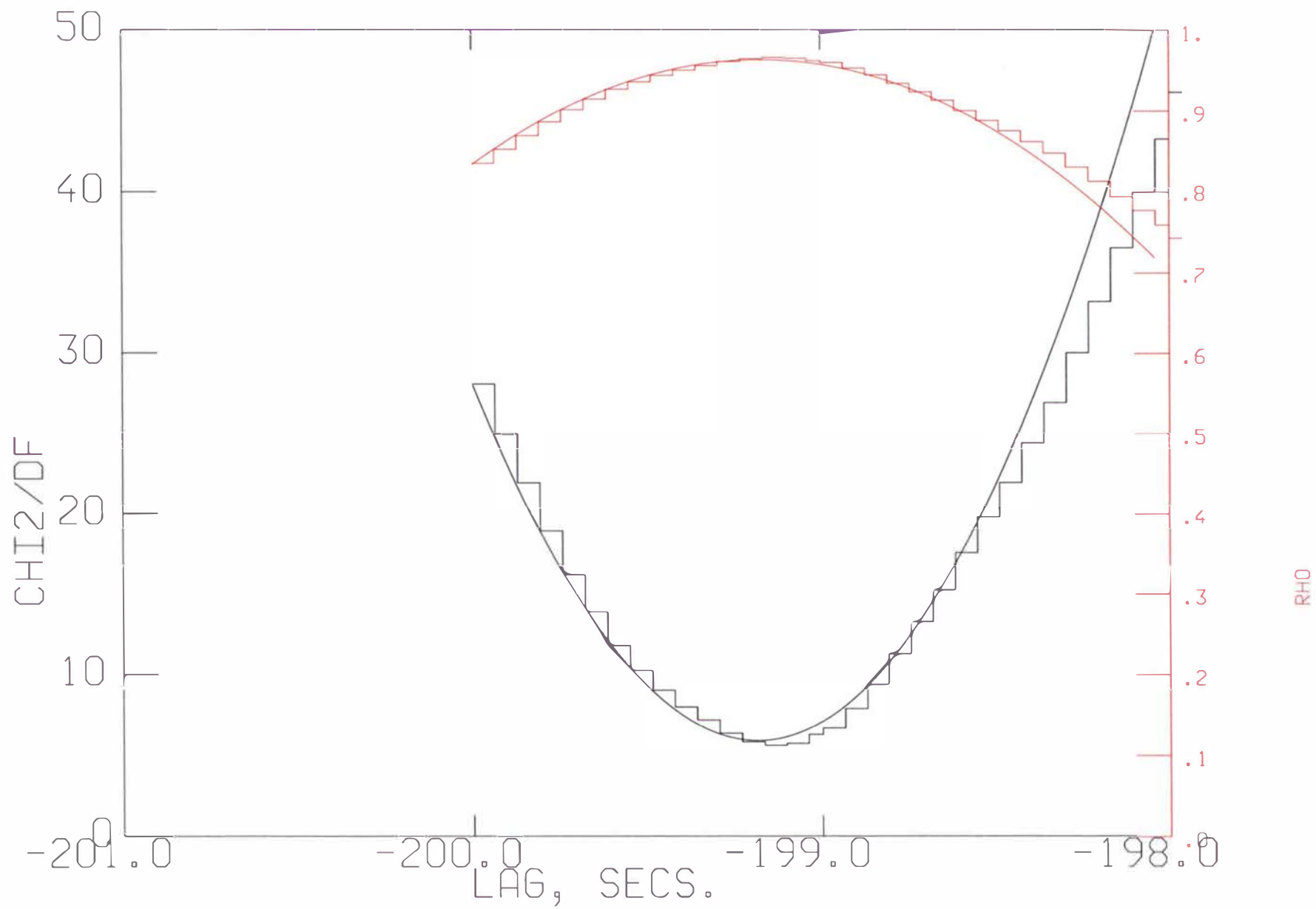


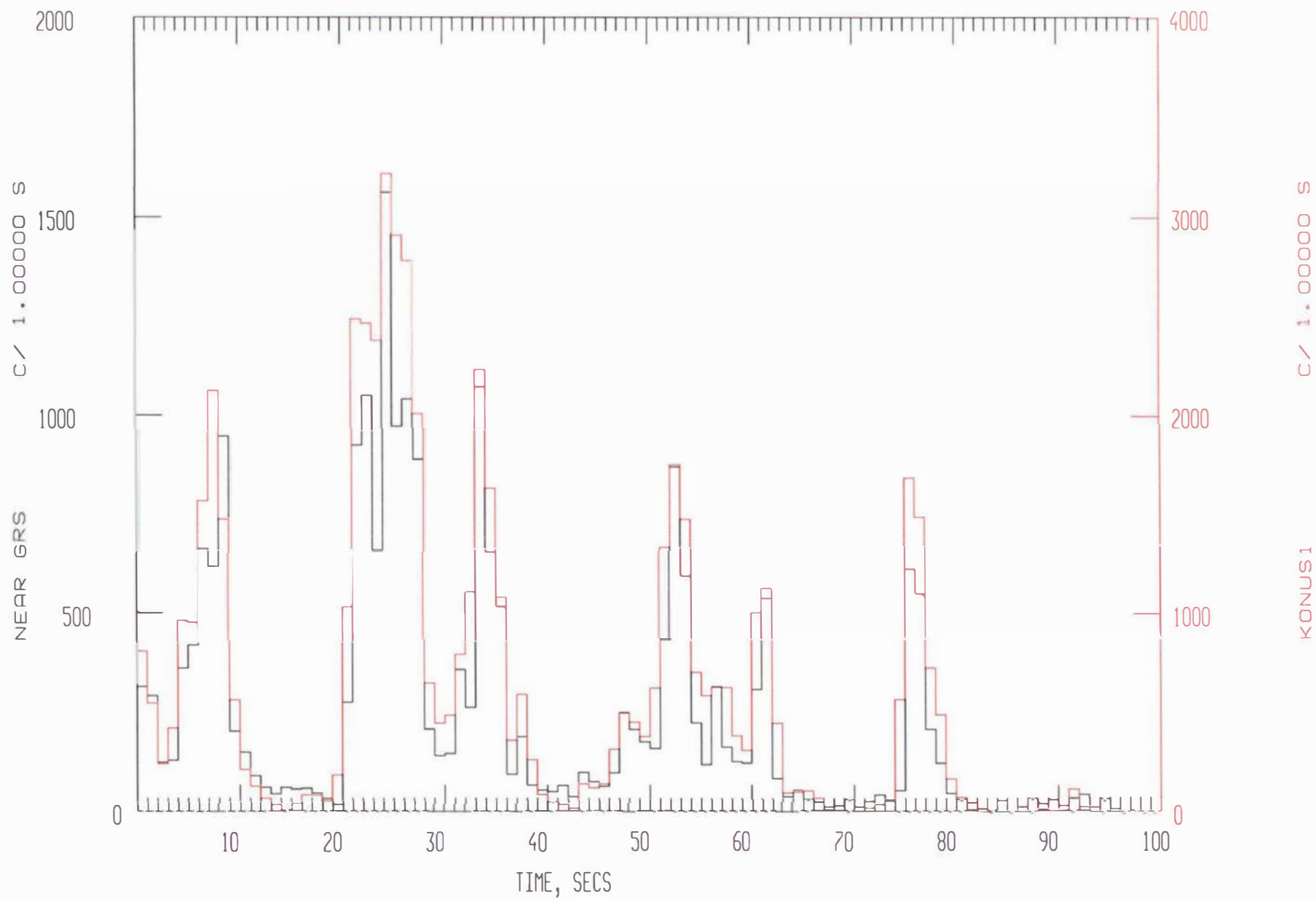
EVENT OF APR 1, 1999 17:16

24/01/2013

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 ULYSSES
3 NEAR

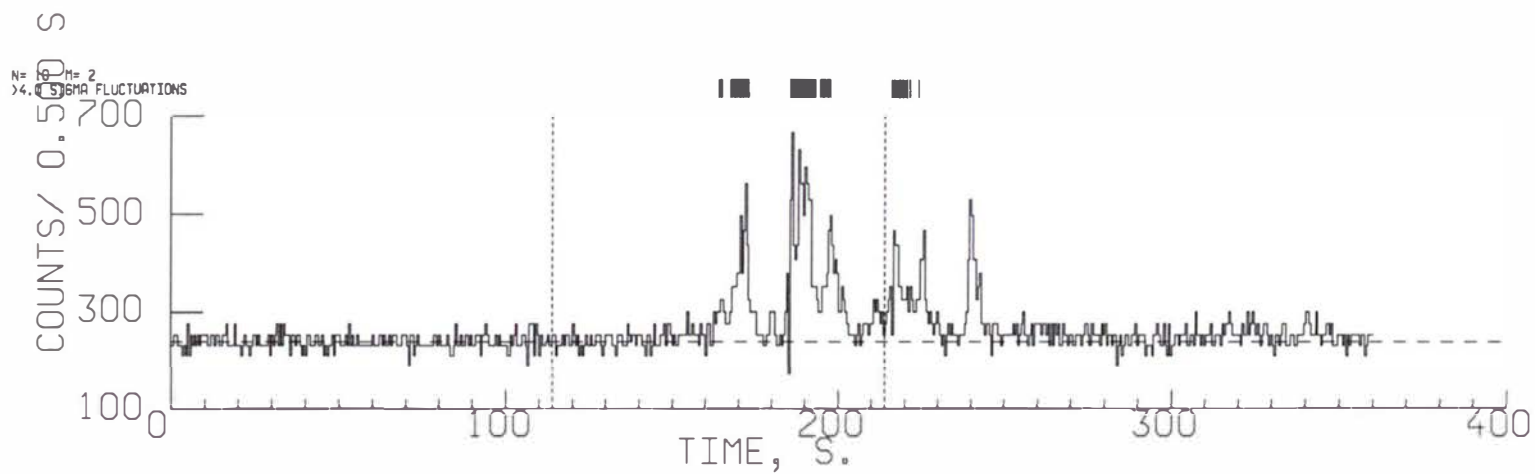






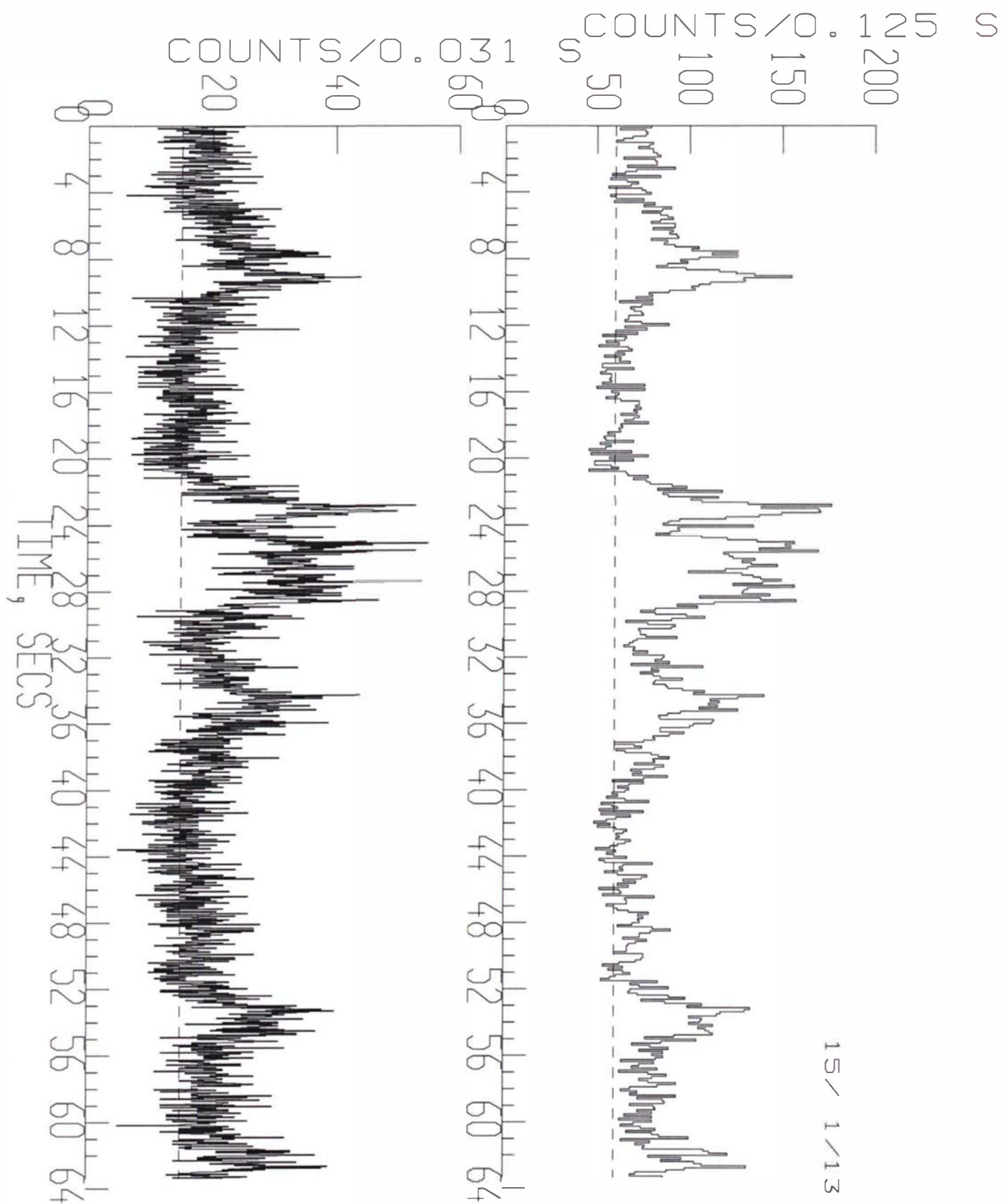
ULYSSES RT
1/ 4/99 59940.371 s
22- 152 keV

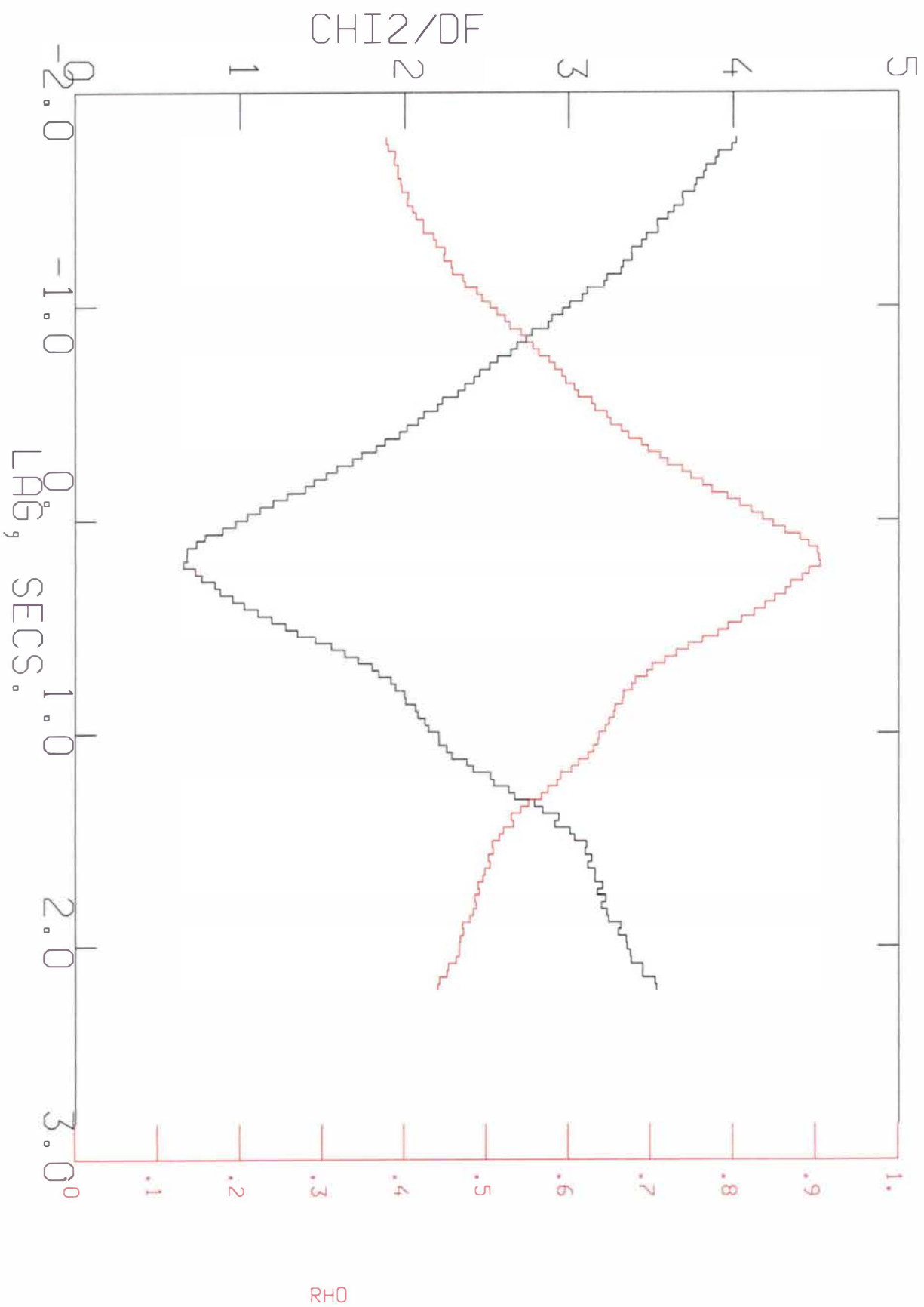
15/ 1/13

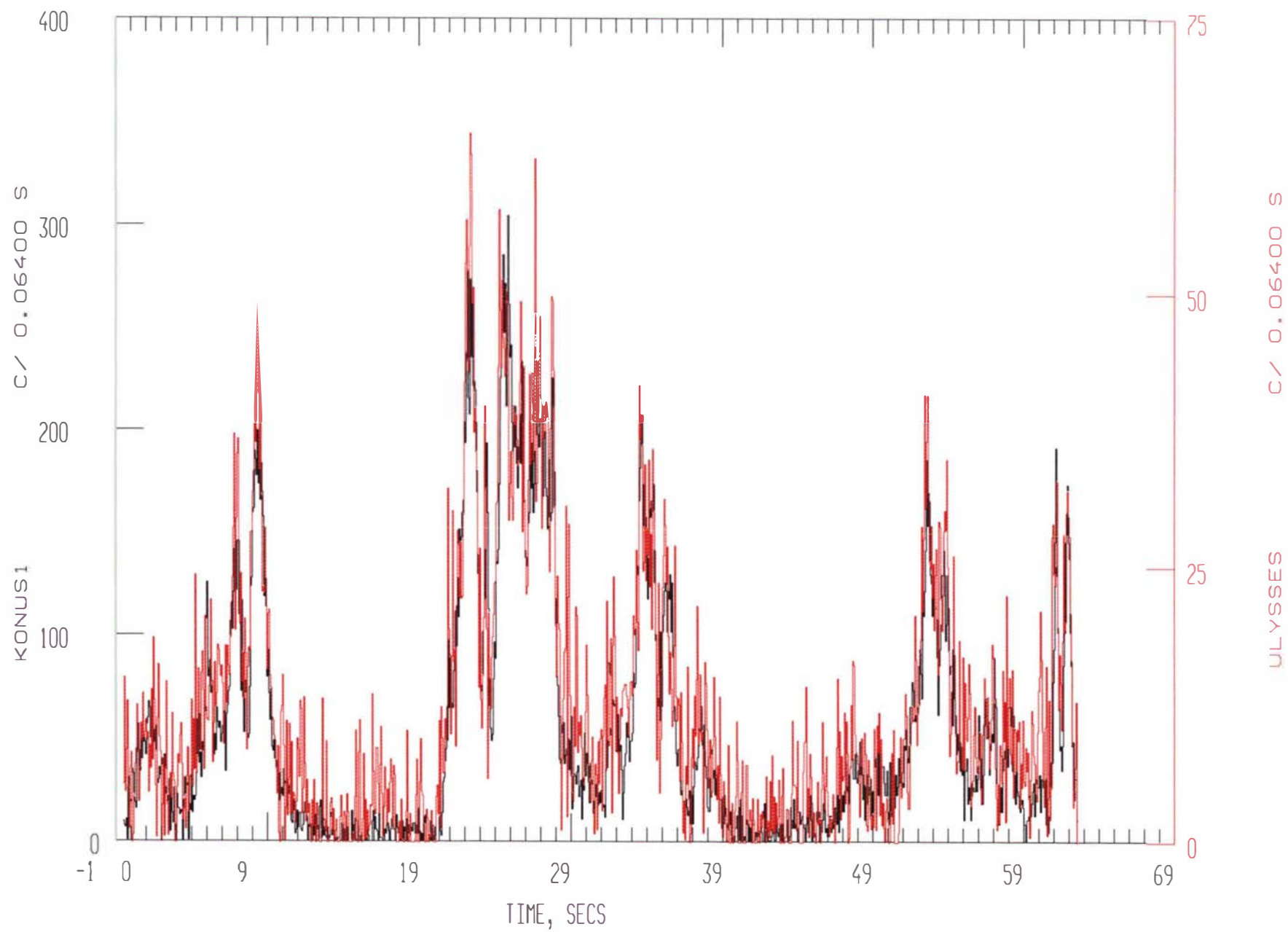


ULYSSES 01/04/99 Ttrig=60110.824

22- 152 keV







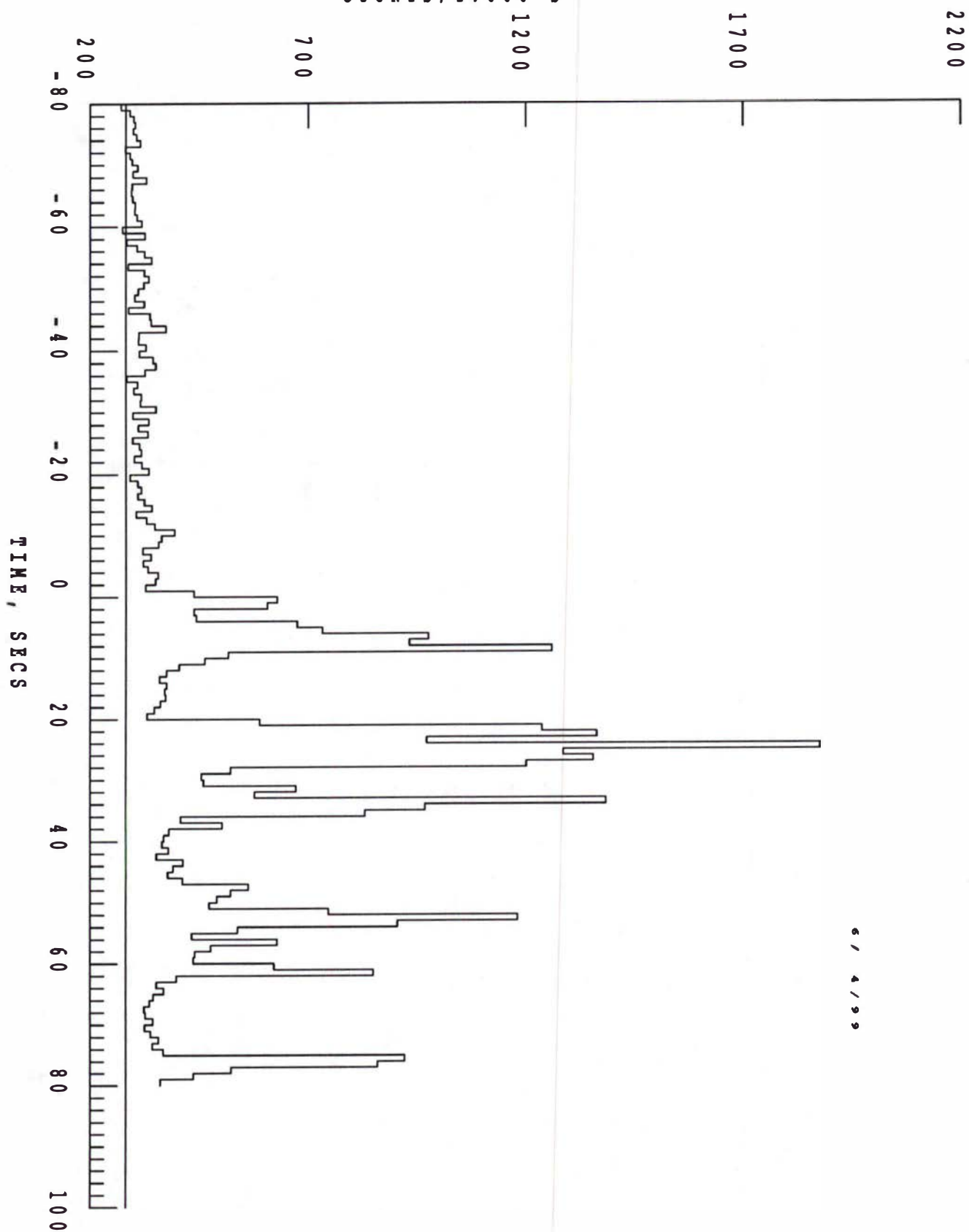
NEAR

01/04/99

63308.814

100-1000 keV

COUNTS/1.000 S

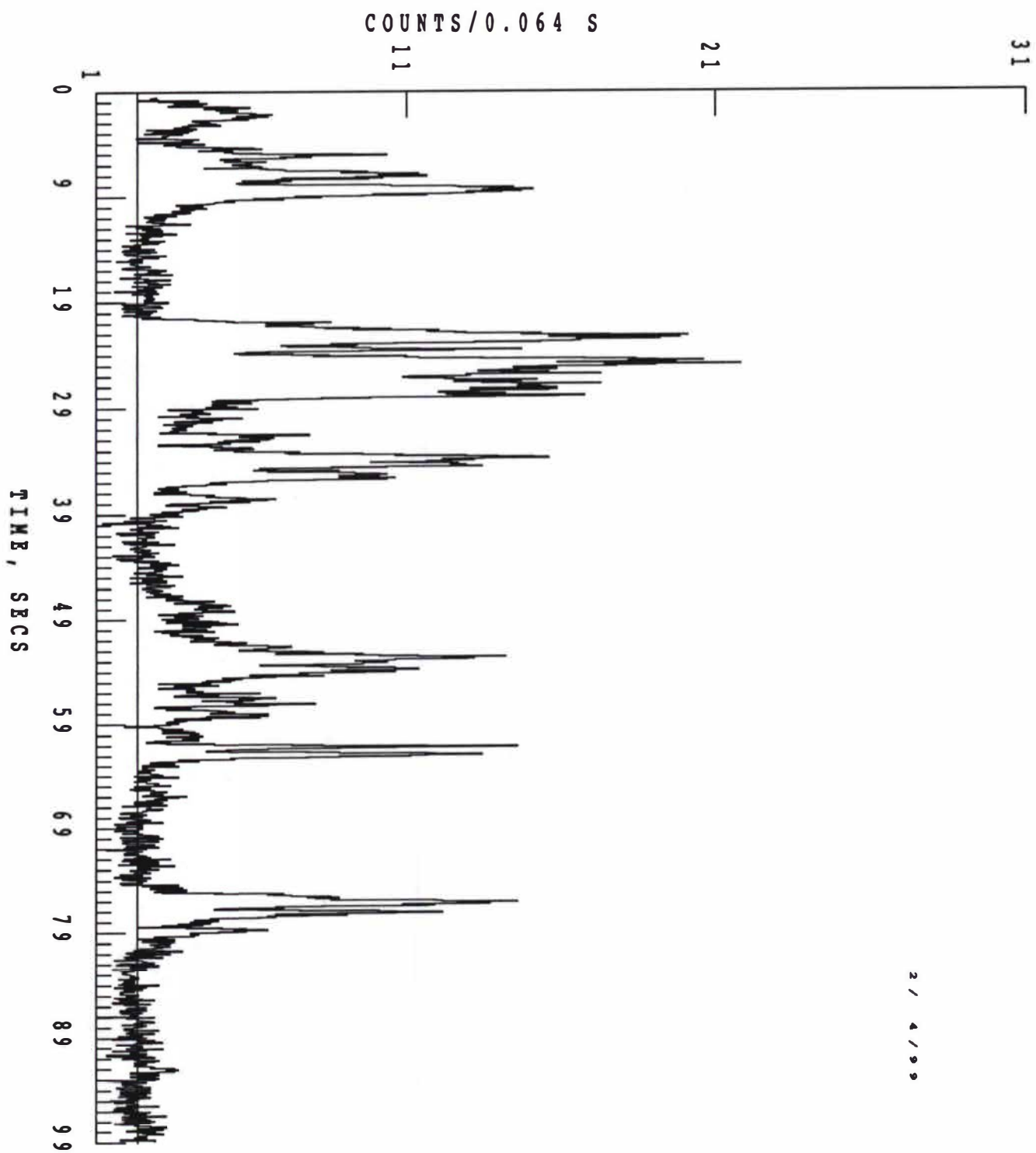


KONUS

01/04/99

62168.958

50- 200 keV



2 / 4 / 9 9

KONUS 19990401 62168

ULYSSES RT

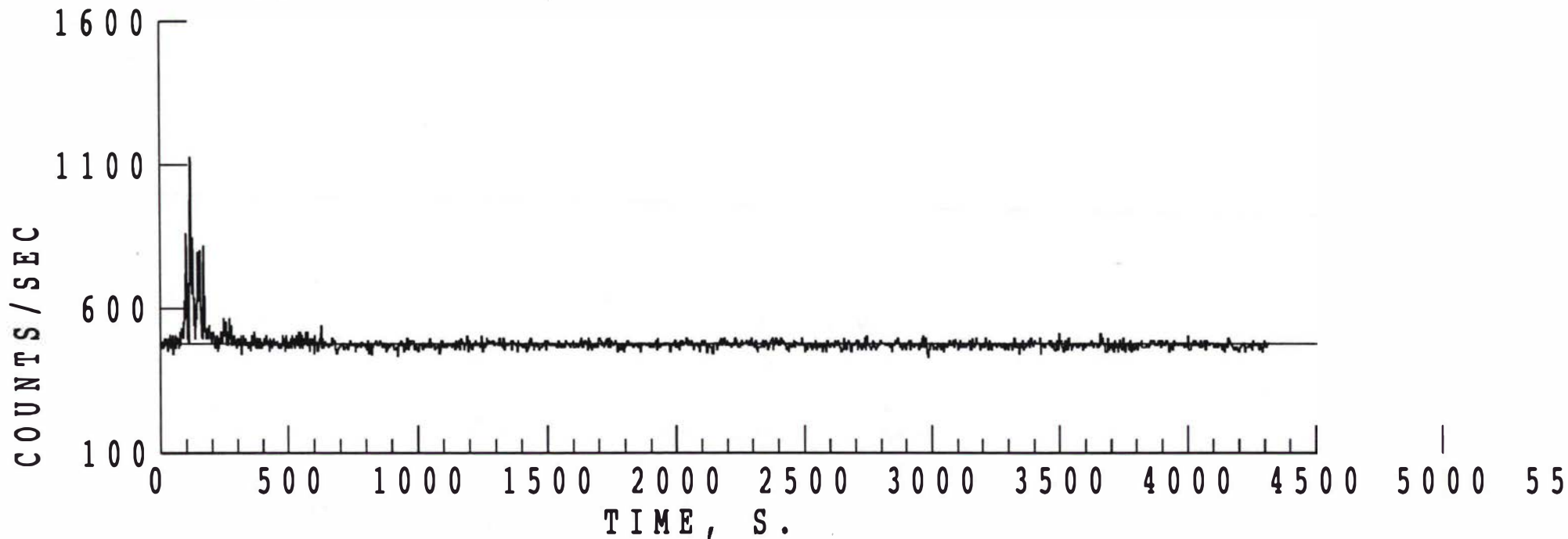
6 / 4 / 99

1 / 4 / 99 60012.375 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

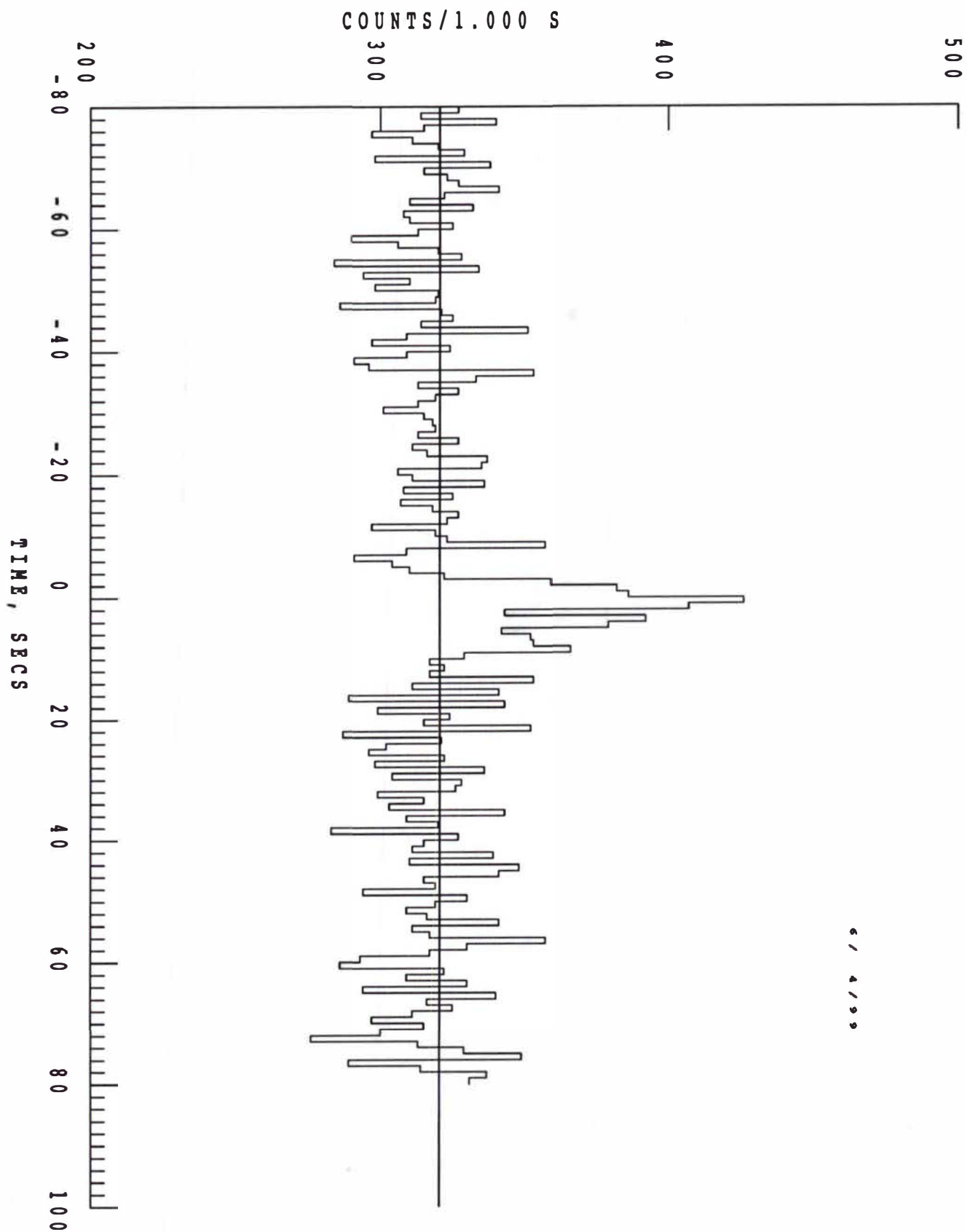


NEAR

01/04/99

68470.814

100-1000 keV



NEAR GRB99091-1

ULYSSES RT

6 / 4 / 99

1 / 4 / 99 61128.883 s

INTERVALS REGROUPED BY 3

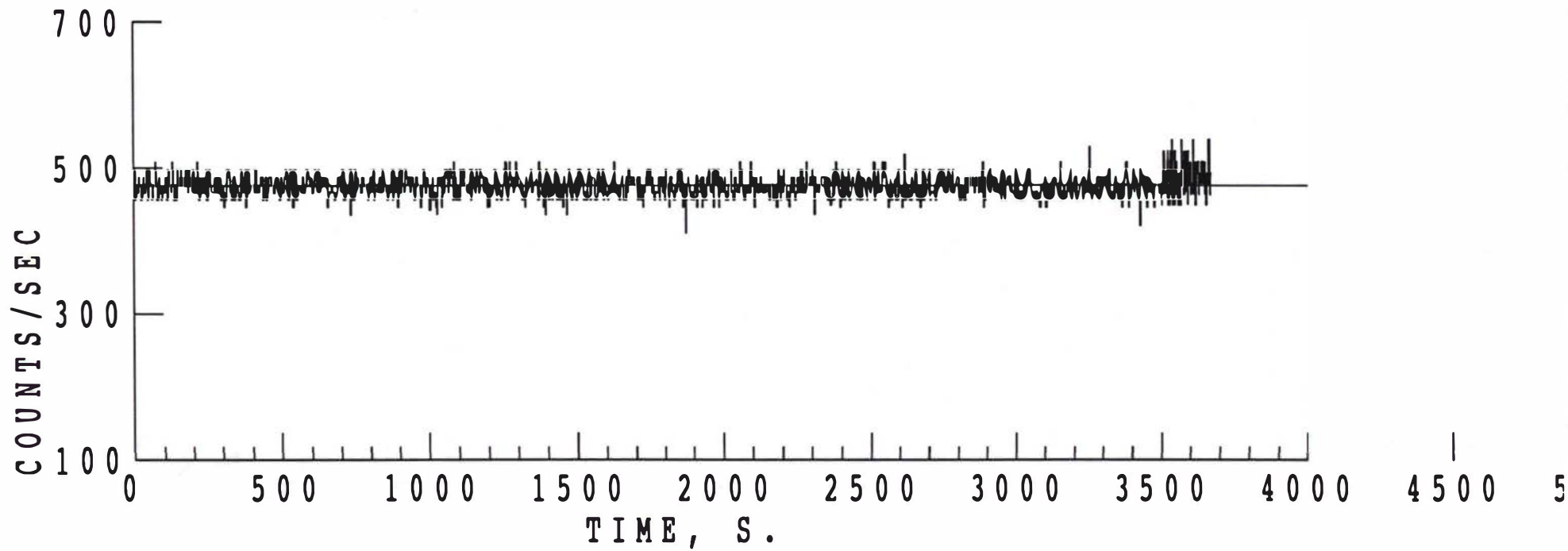
0 - 0 keV

N= 10 M= 10

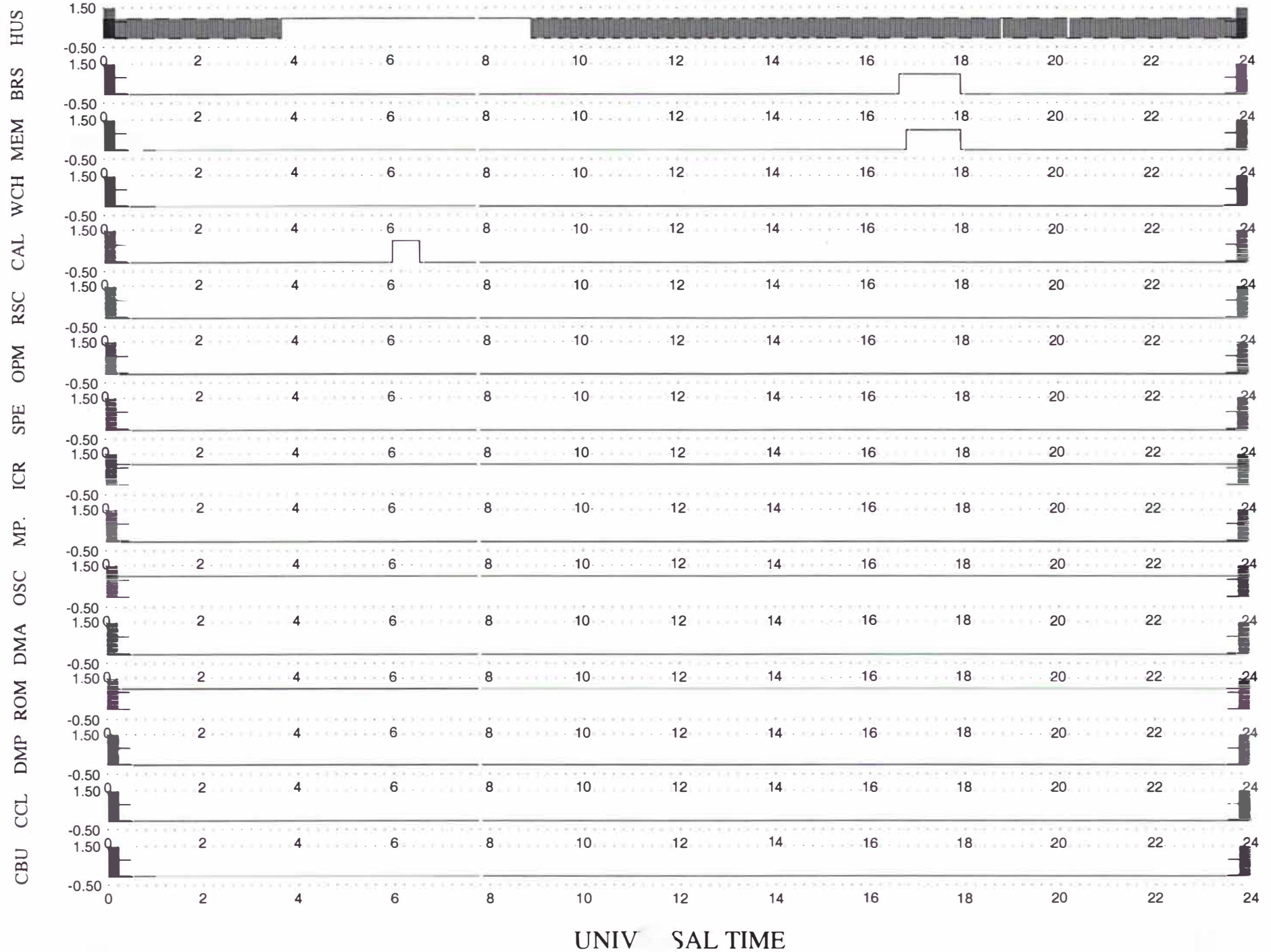
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

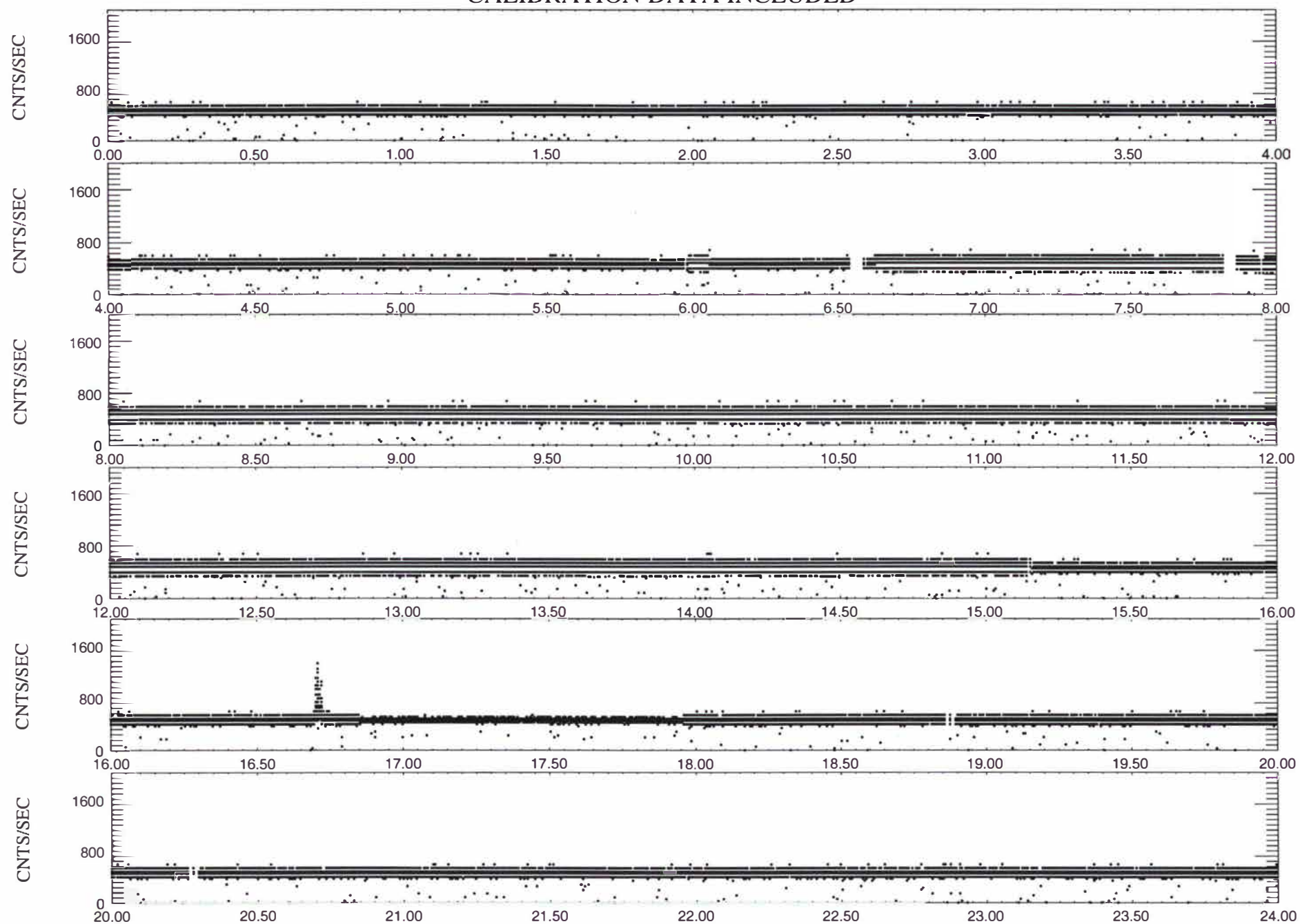
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 14

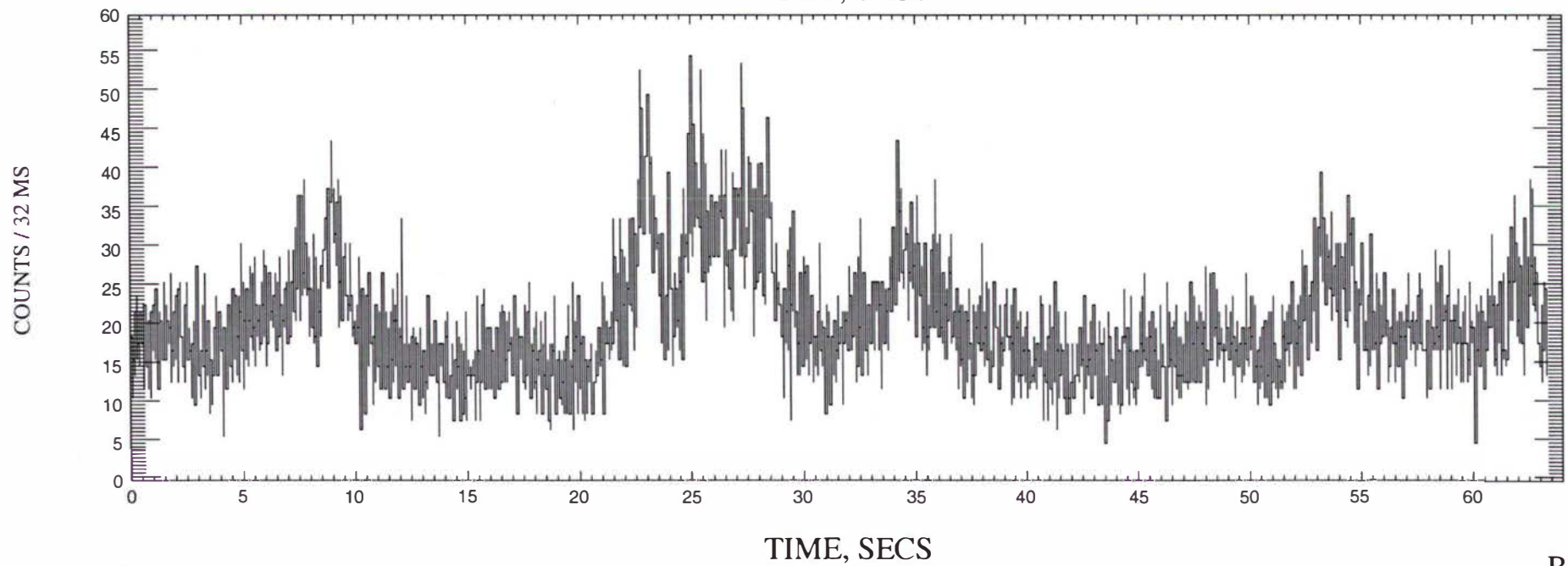
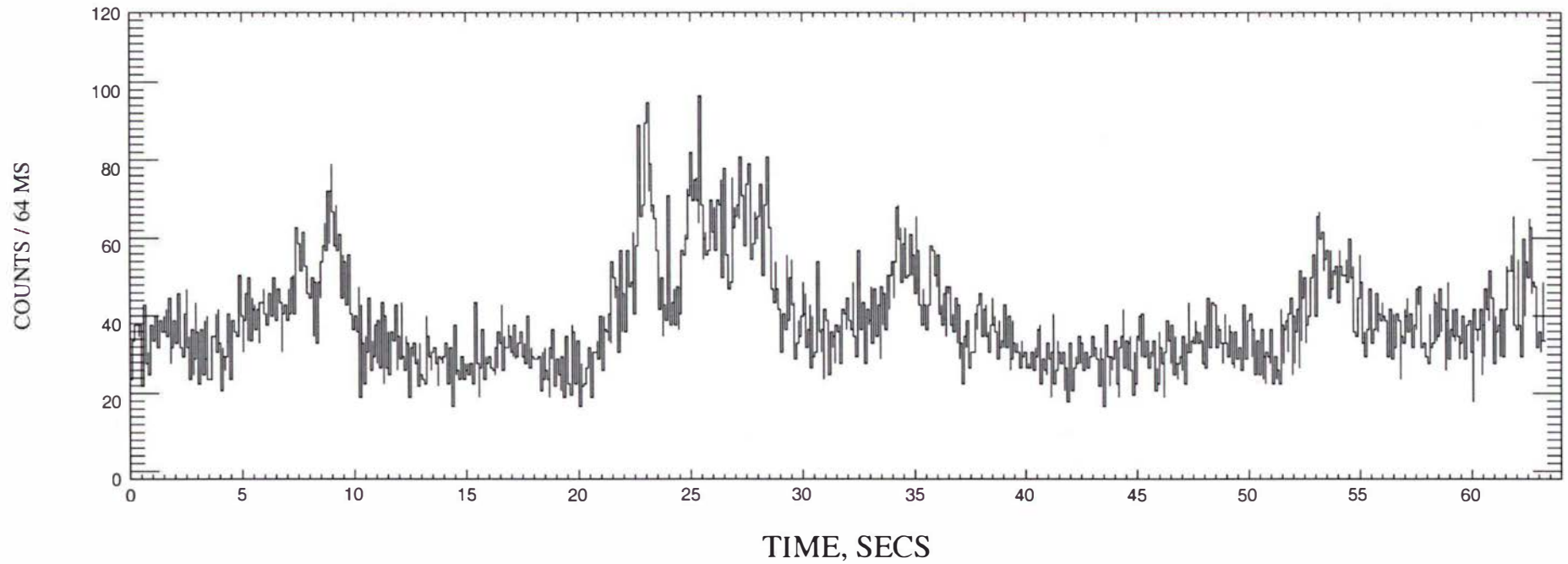


CALIBRATION DATA INCLUDED

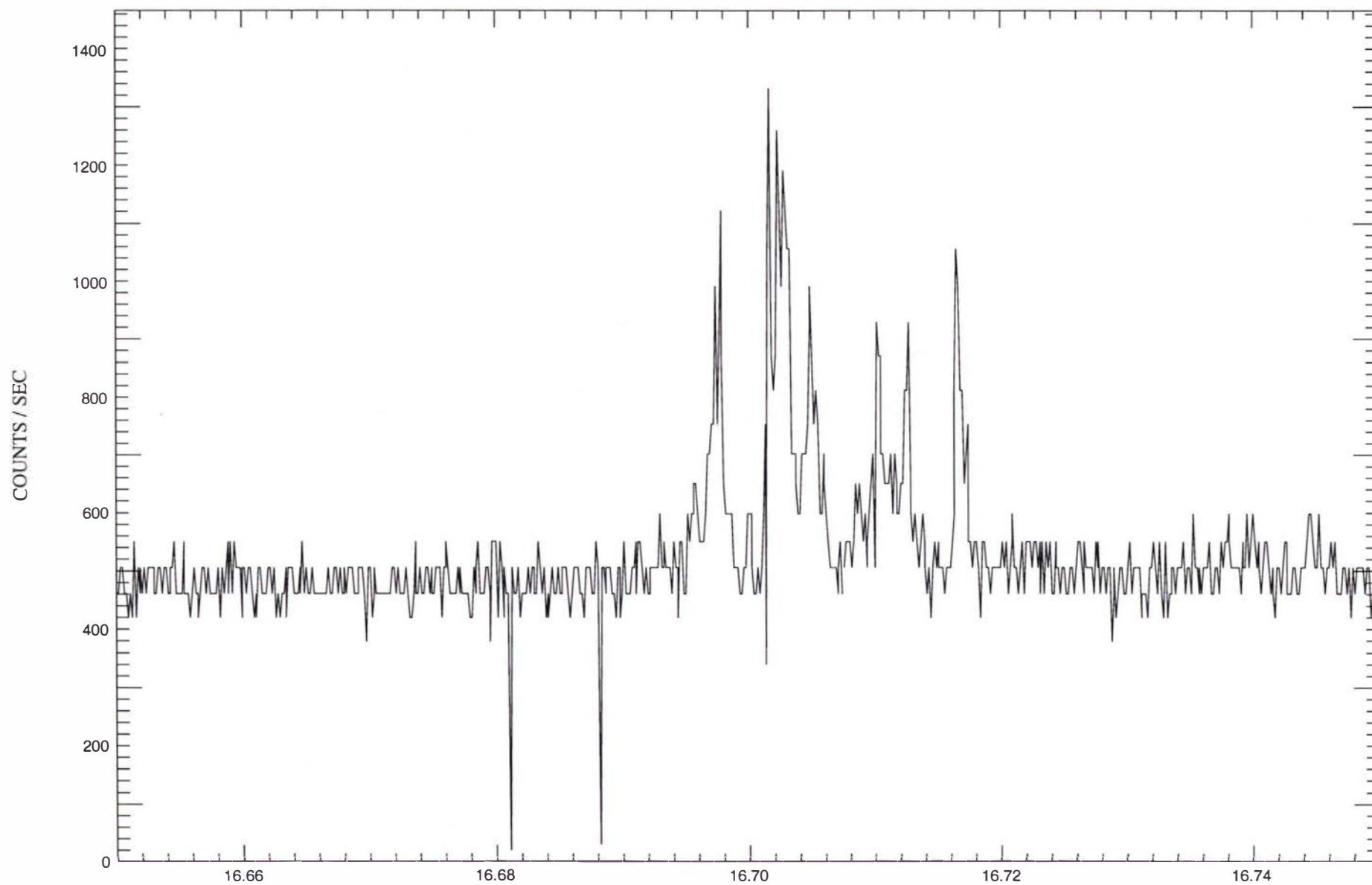


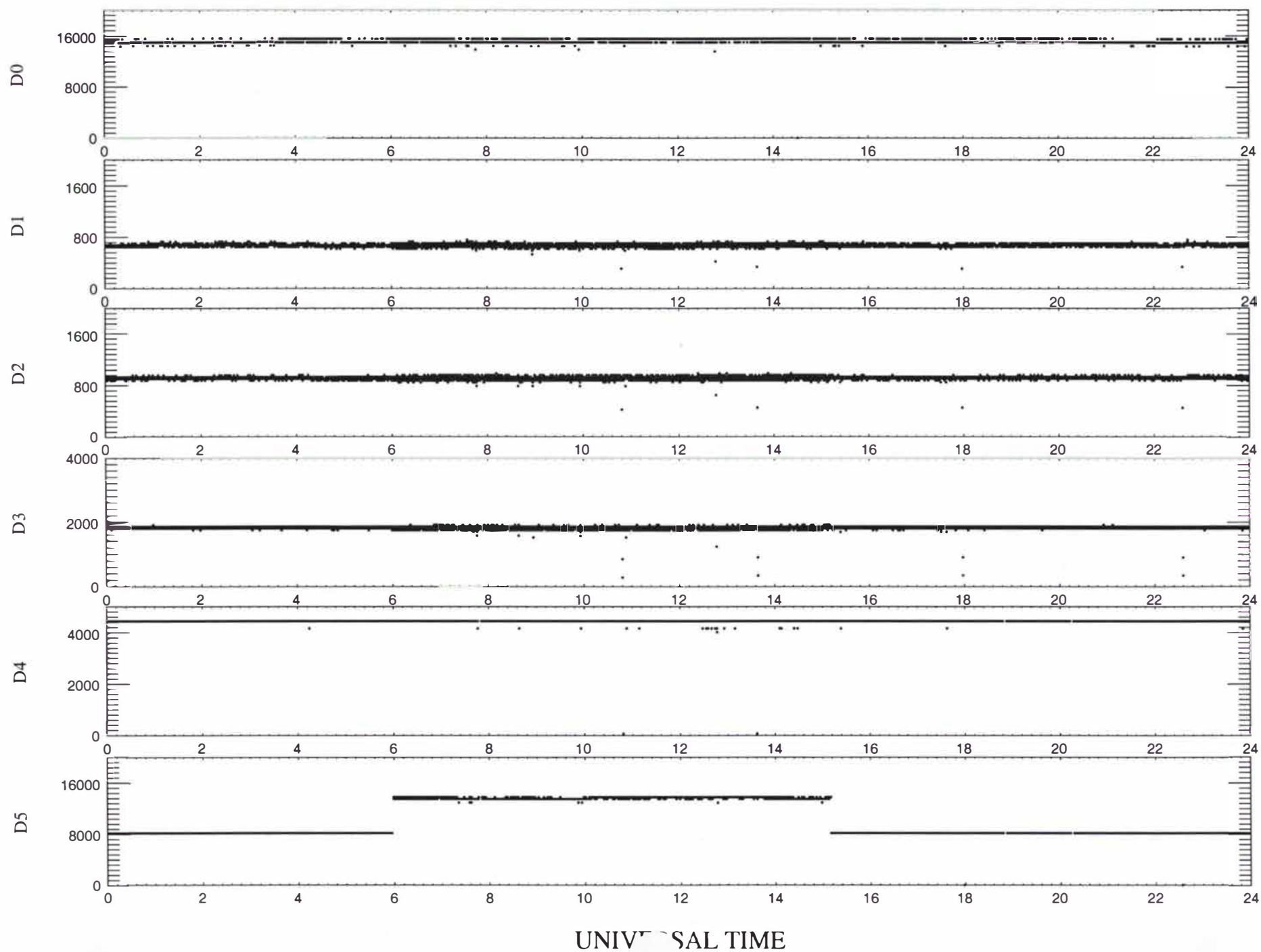
UNIV. SAL TIME

Burst Counter 14 at UT=16.697462518480 h=60110.865 s 16:41:50.865



CALIBRATION DATA INCLUDED



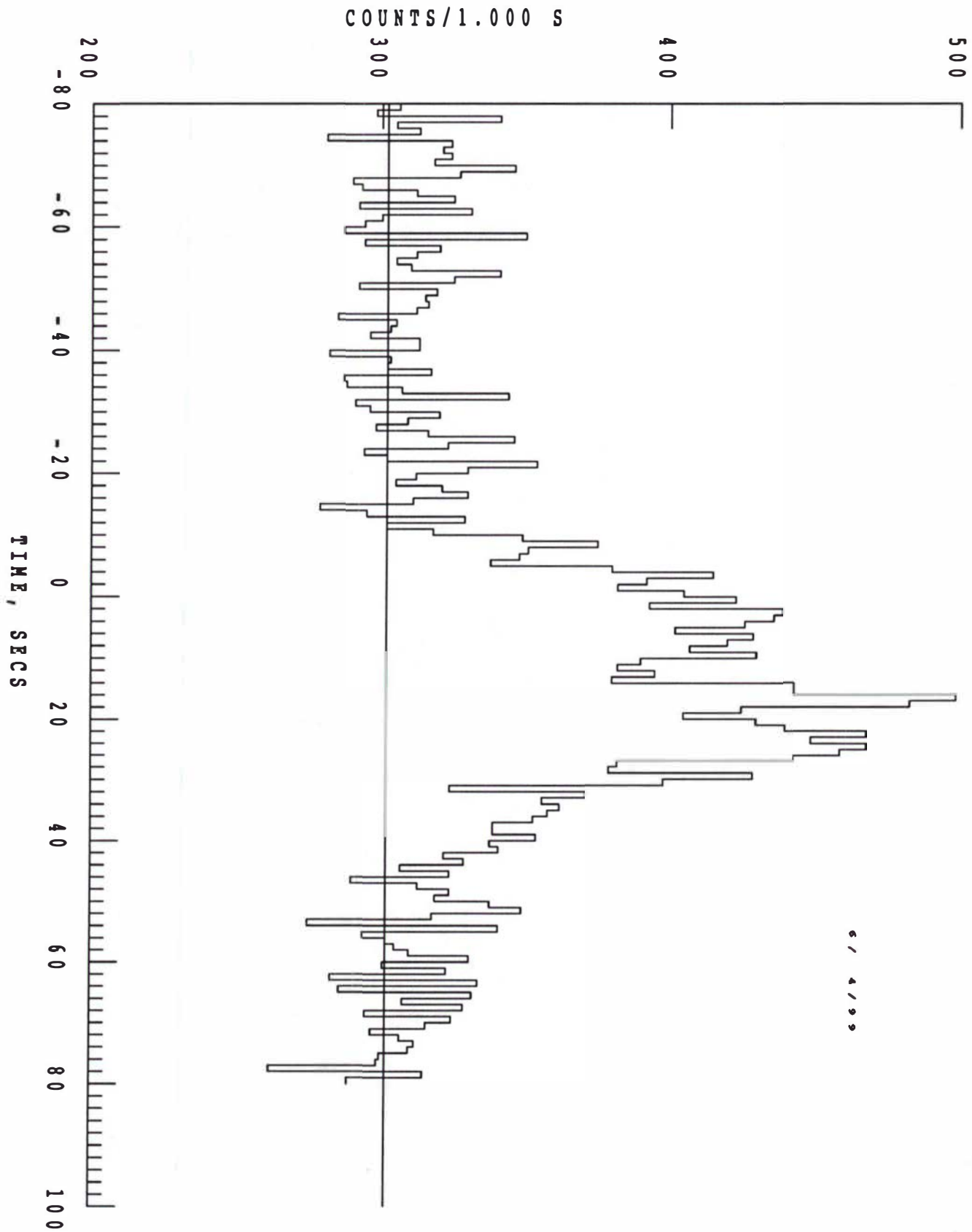


NEAR

02/04/99

29877.814

100-1000 keV

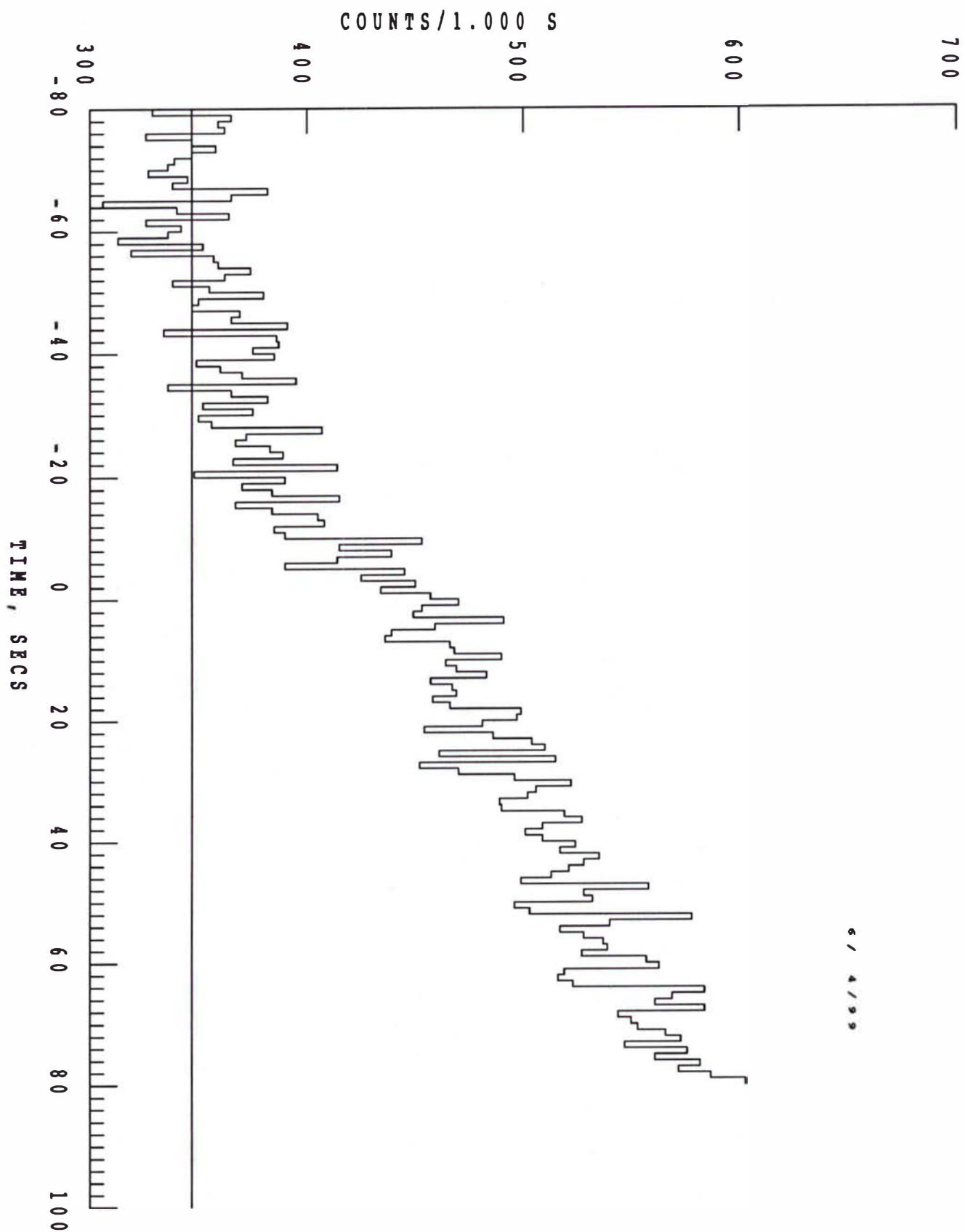


NEAR

02/04/99

30449.814

100-1000 keV



NEAR GRB99092-2

ULYSSES RT

6 / 4 / 99

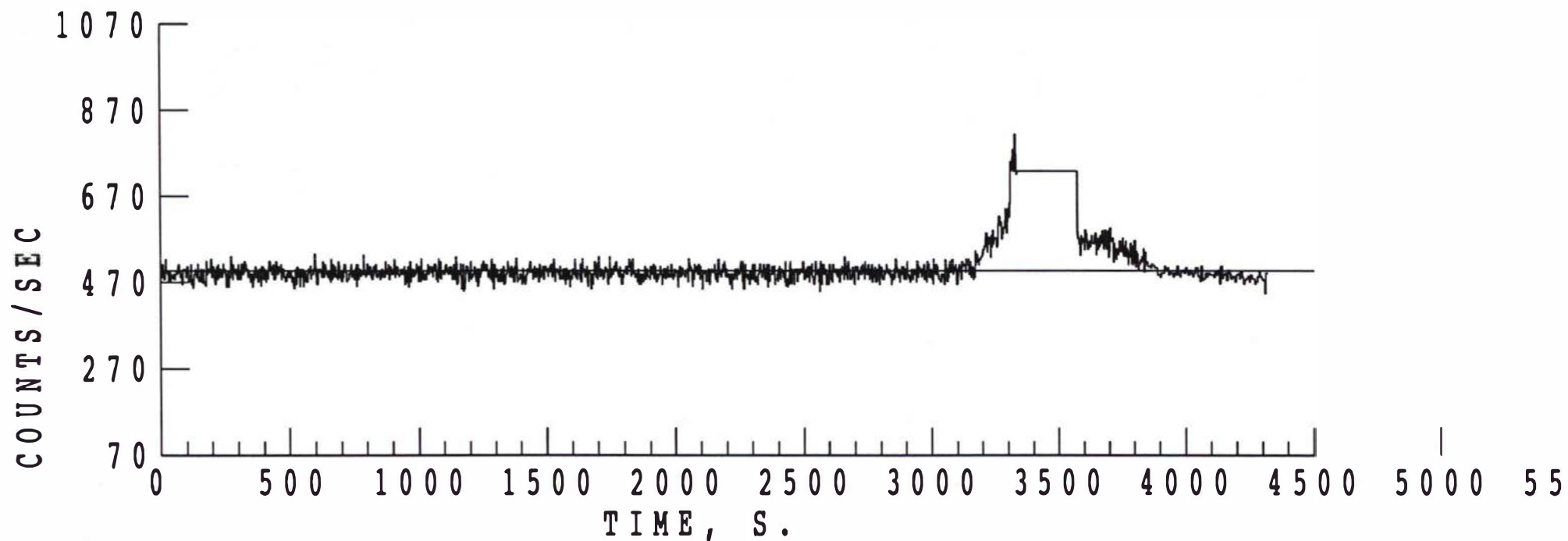
2 / 4 / 99 28296.180 s

INTERVALS REGROUPED BY 11

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 Apr 5 11:40:12 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Mon, 5 Apr 1999 12:40:10 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7501

TIME: TJD=1270 SECONDS=29505

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=5.9 AZIMUTH=355.2 ERROR=1.8 DEGREES

COMMENTS:

SOLAR FLARE. GOES M1.1. NO OPTICAL.

COMPLEX STRUCTURE. DURATION AT LEAST 450 SEC. EVENT ENDS AT SUNSET T+300S.

SLIGHTLY VISIBLE ABOVE 100KEV.

BACODINE# 7501

ULYSSES RT

2 / 4 / 99

2 / 4 / 99 30924.203 s

0.250 S INTERVALS REGROUPED BY 2

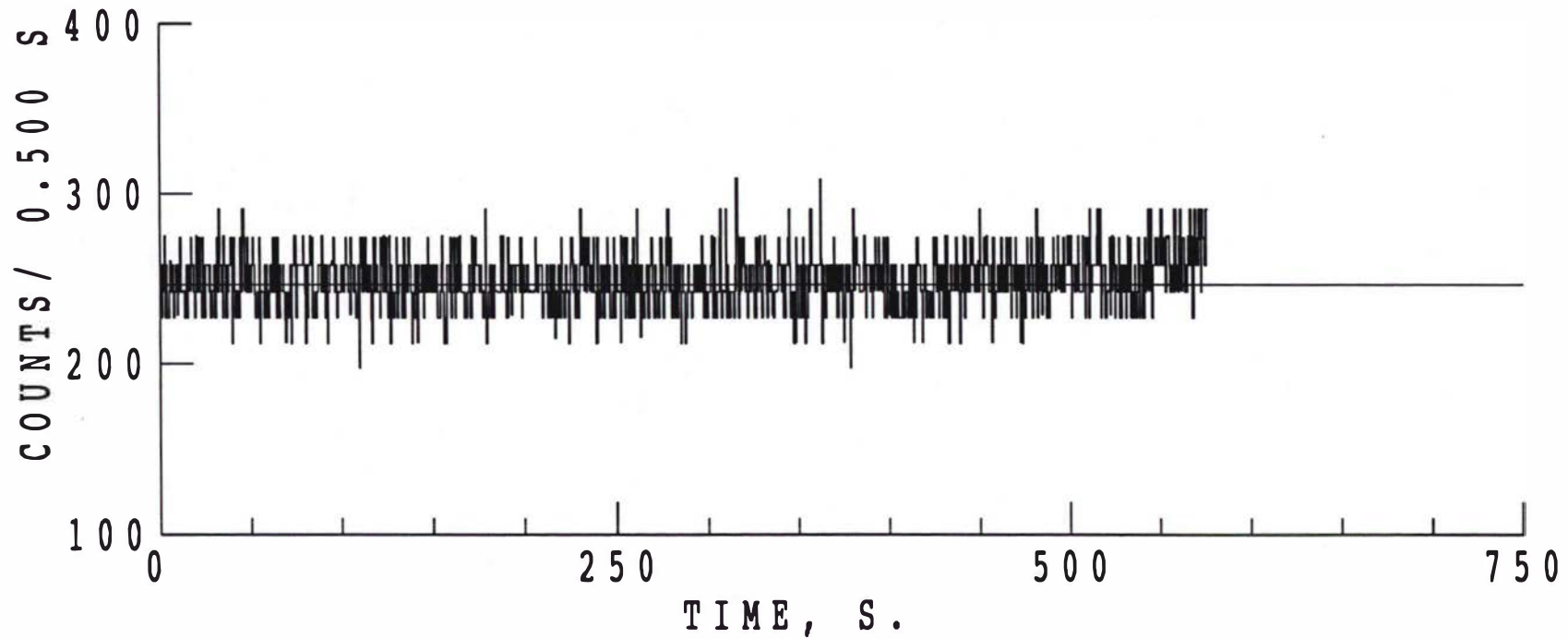
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

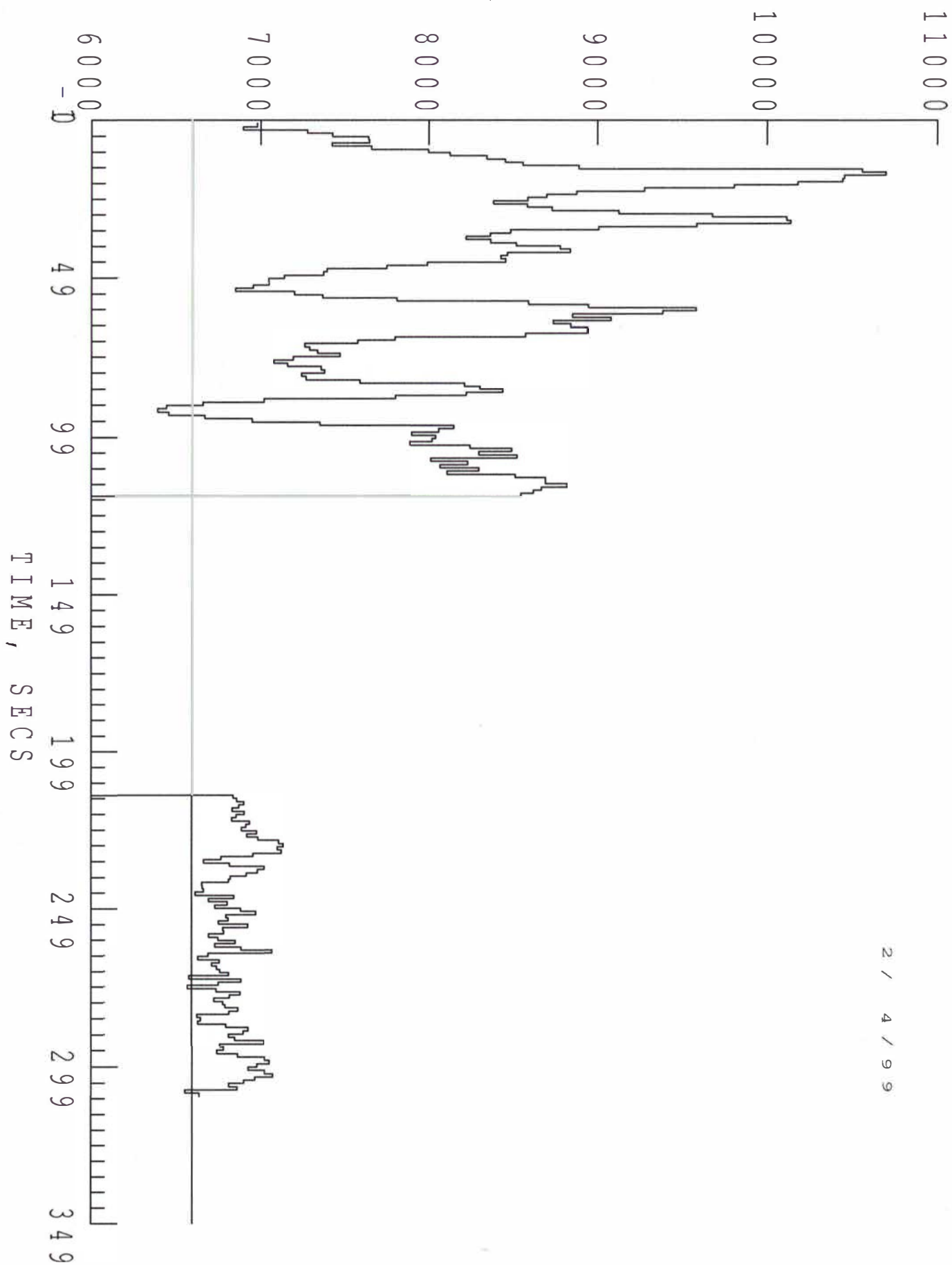
>4.0 SIGMA FLUCTUATIONS



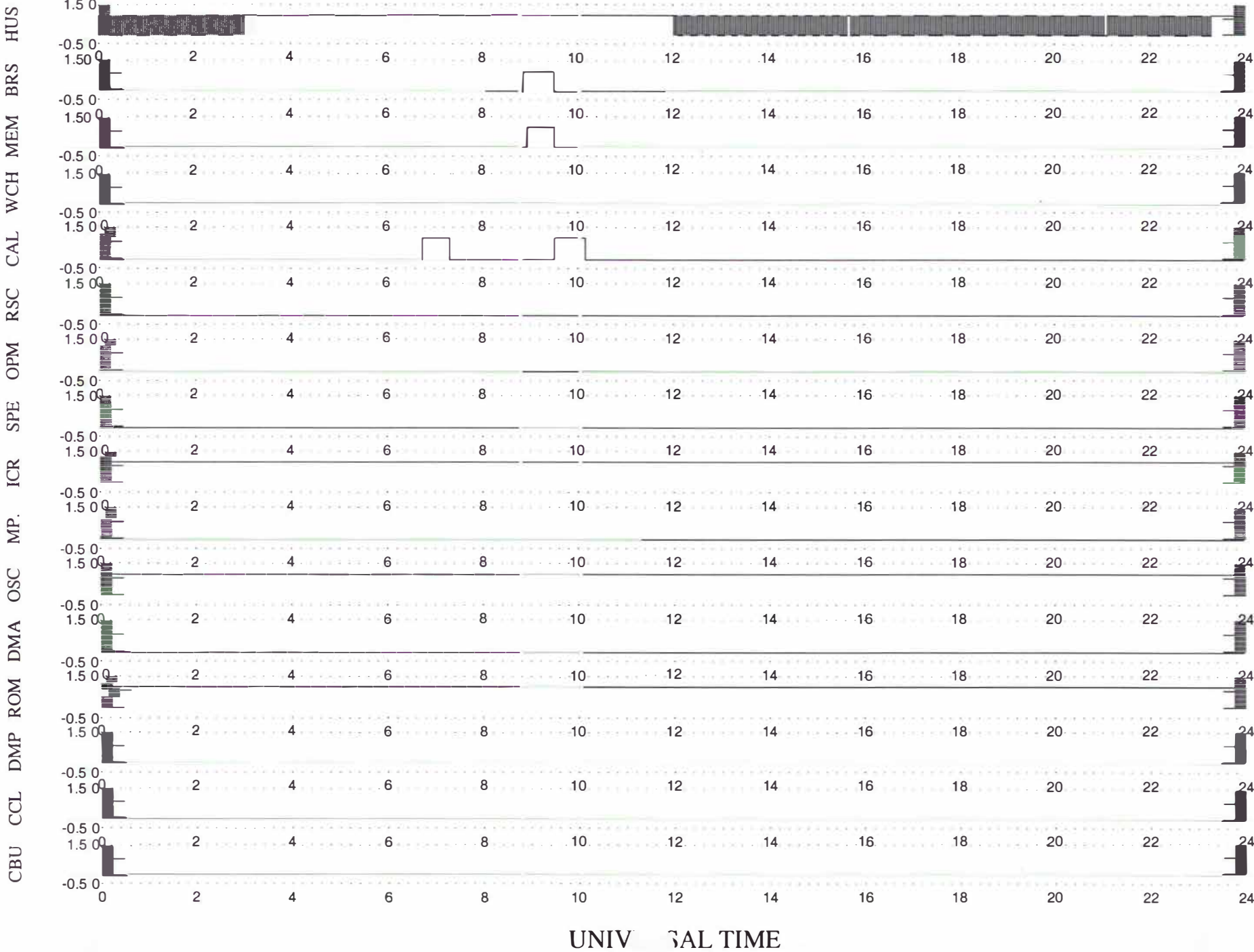
BACODINE 7501 02/04/99 29492.985

25- 100 keV

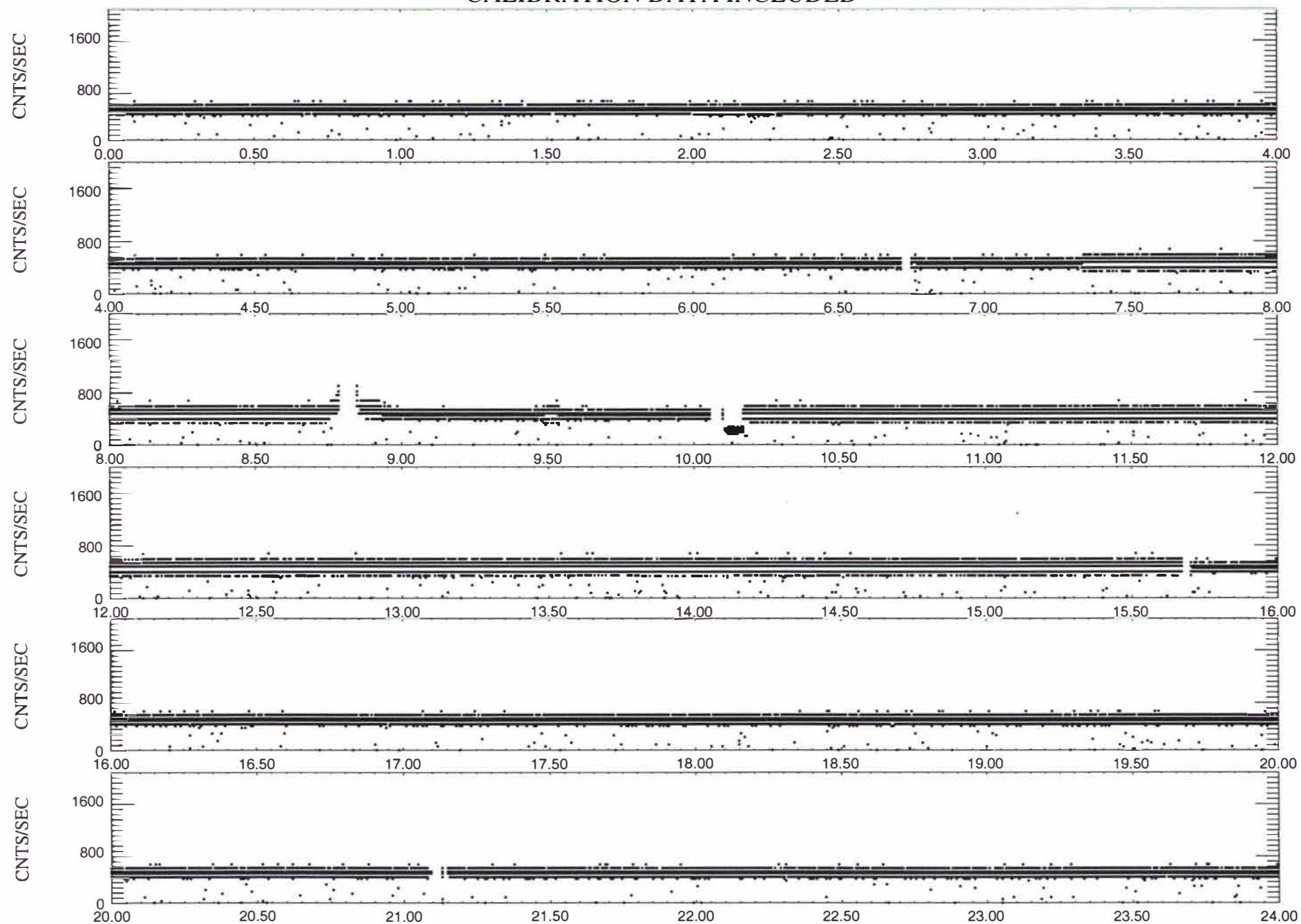
COUNTS/1.024 S



BURST NUMBER 15

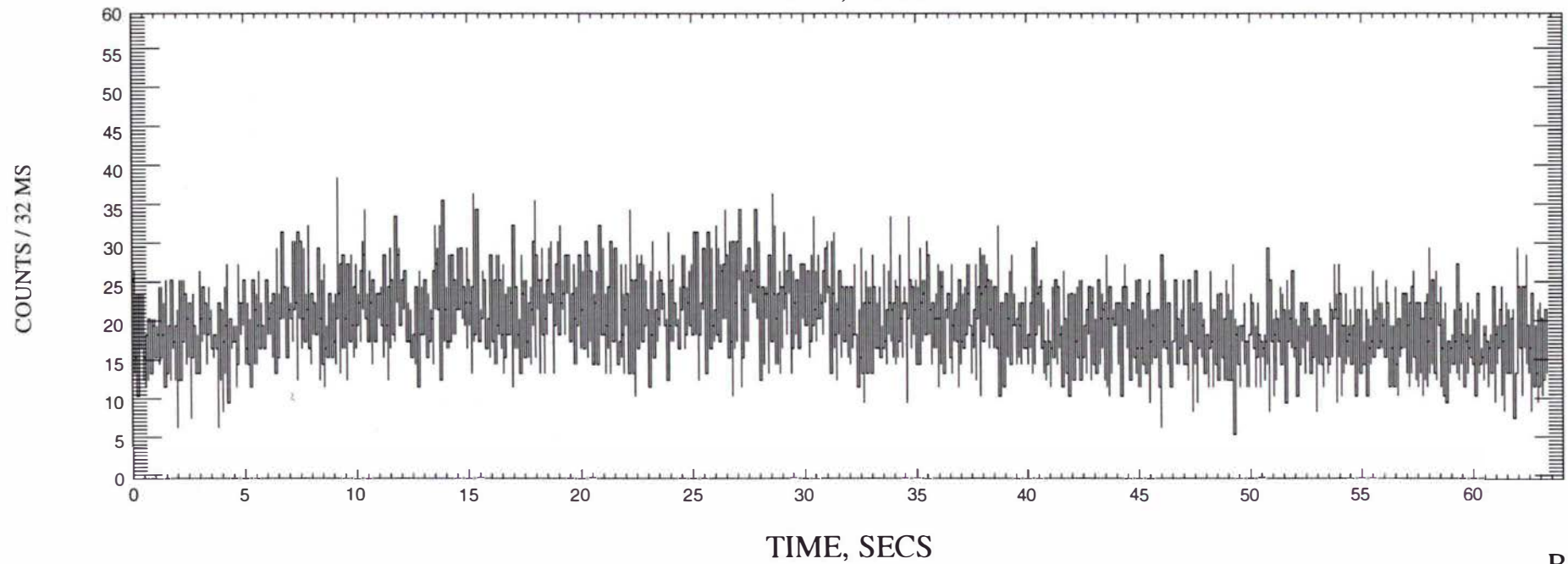
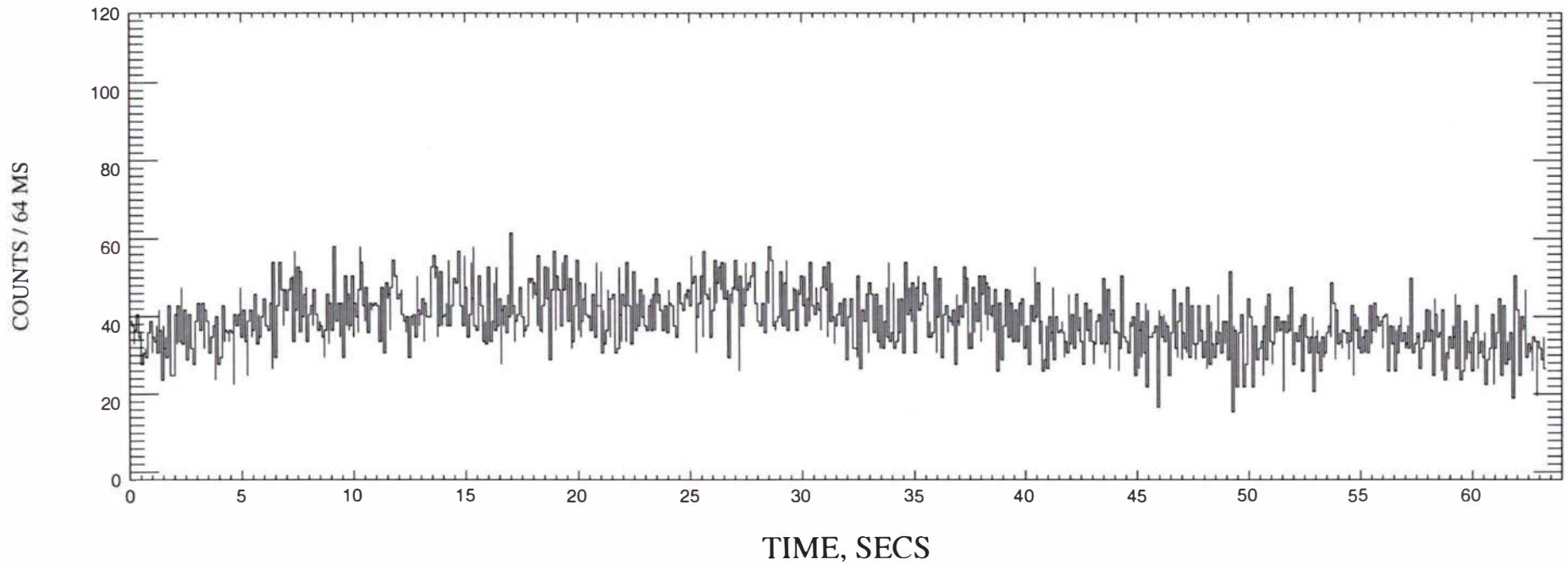


CALIBRATION DATA INCLUDED

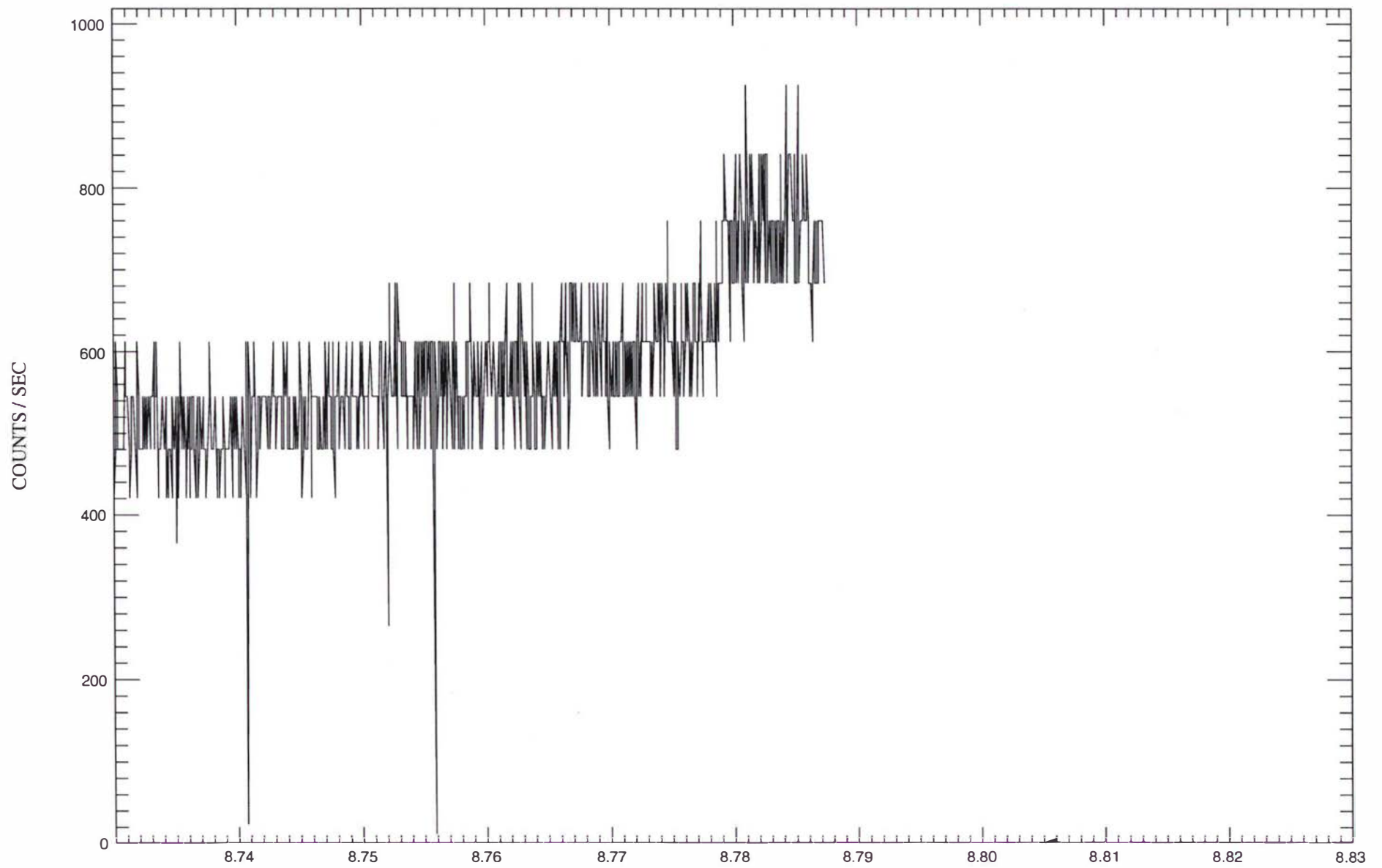


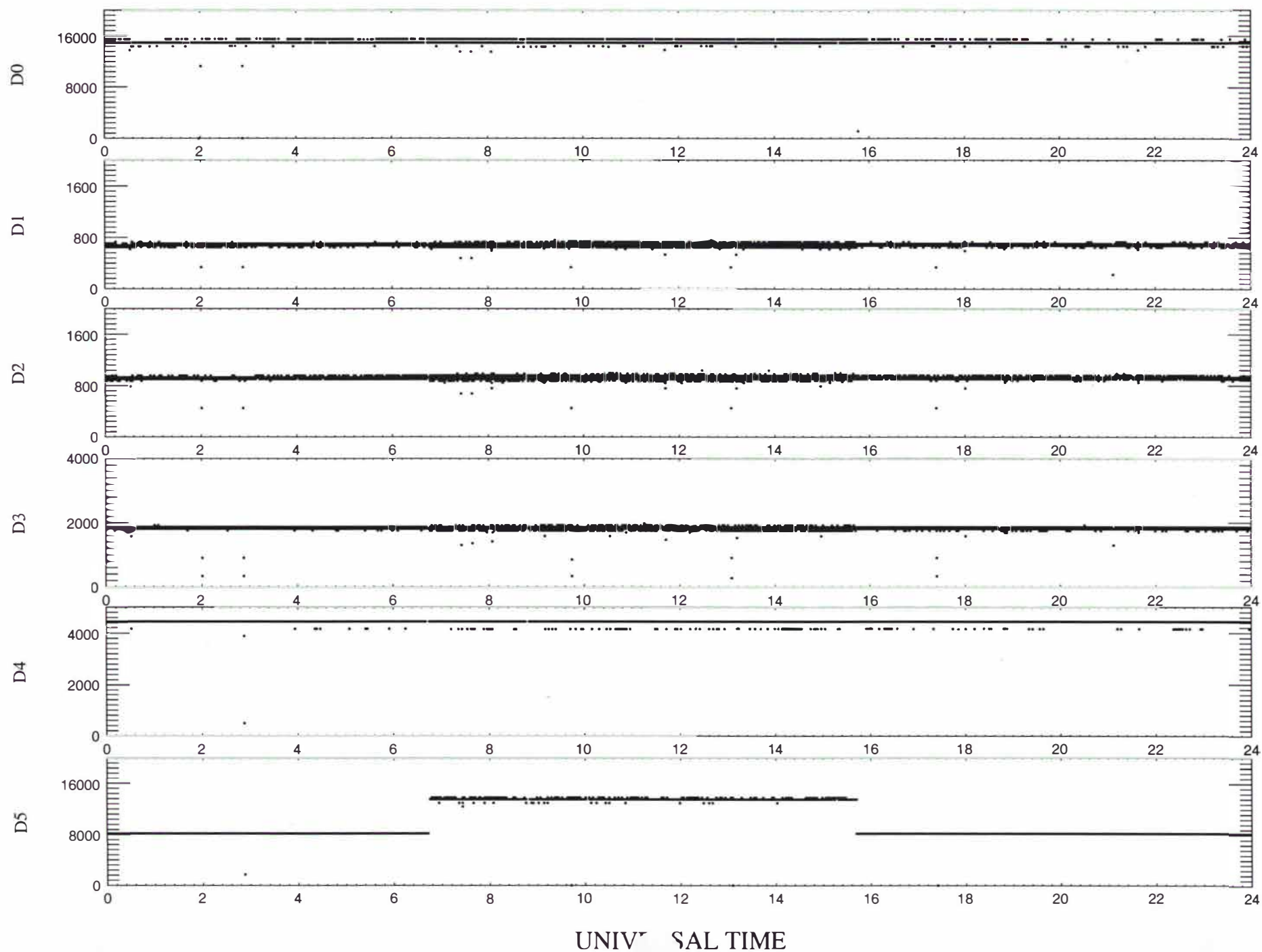
UNIV* SAL TIME

Burst Counter 15 at UT= 8.779464484321 h=31606.072 s 08:46:46.072



CALIBRATION DATA INCLUDED





From MEEGAN@fender.msfc.nasa.gov Mon Apr 5 11:39:10 1999
Return-Path: <MEEGAN@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA19028; Mon, 5 Apr 1999 11:39:09 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id LAA10591
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 5 Apr 1999 11:39:06 -0700 (PDT)
Date: Mon, 5 Apr 1999 12:39:30 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990405123930.2022cd65@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7502
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7502
EVENT OF 1999 APR 3 DAY OF YEAR= 93
EVENT CROSSING TIME AT BATSE : 8552. S. OR 02:22:32.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 301.000 -19.000
BATSE PEAK COUNTING RATE: 6500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 4/ 99 IS:
RA= 147.871 DEC= -8.314 DIST= 4.258 AU
BATSE-ULYSSES DISTANCE = 637059345. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1673.40 SECS.
CROSSING TIME AT ULYSSES IS 10225. S. OR 02:50:25 +/- 302.80 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 4/ 99 IS:
RA= 218.917 DEC= -13.169 DIST= 0.659 AU
MARS-BATSE DISTANCE = 98582272. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=101.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -66.09 SECS.
CROSSING TIME AT MARS IS 8486. S. OR 02:21:25 +/- 54.92 SECONDS

BATSE BURST TRIGGER

NO.: 7502

TIME: TJD=1271 SECONDS=08552

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 72.2 AZIMUTH= 97.8 ERROR= 1.1 DEGREES

COMMENTS:

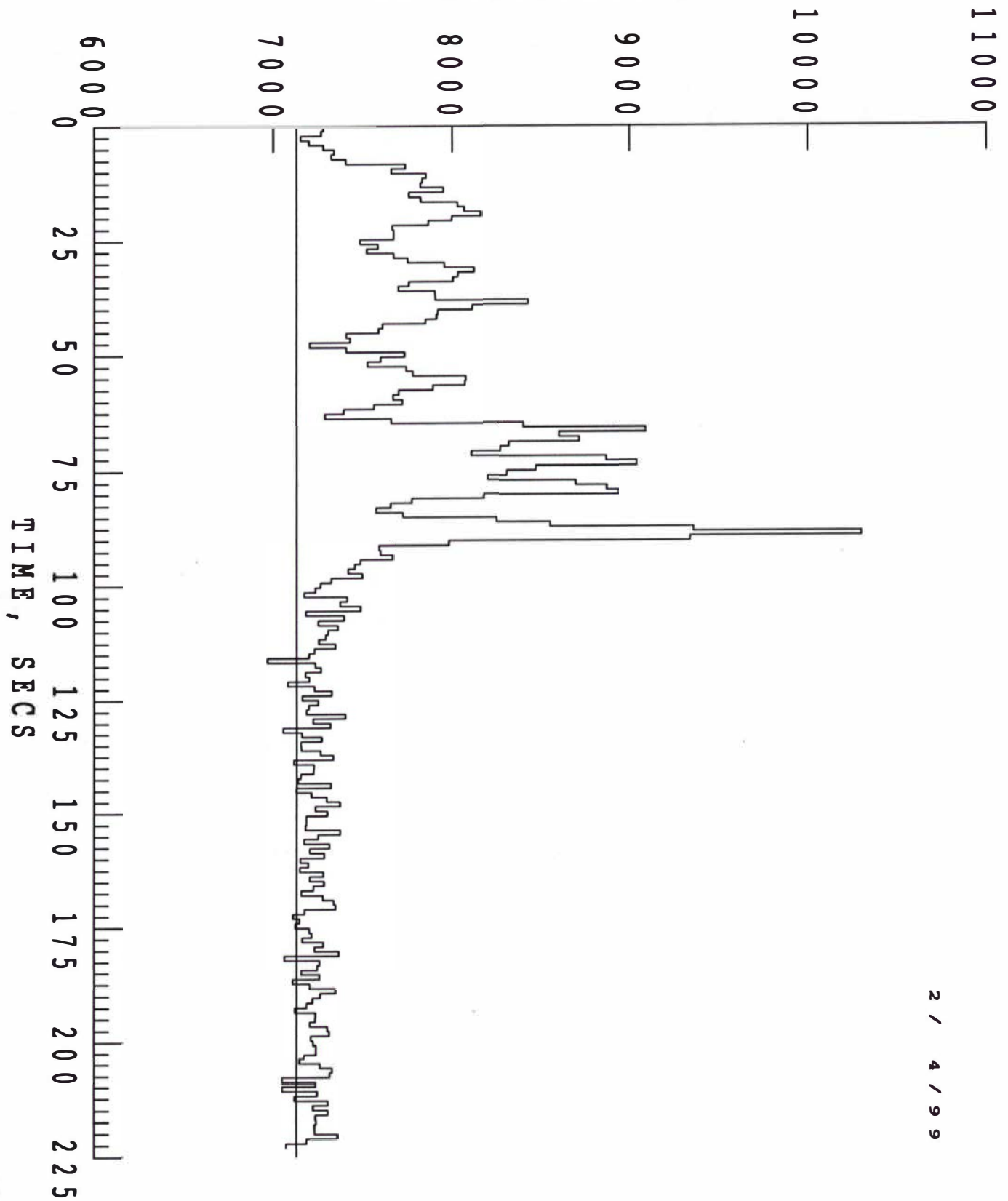
COMPLEX, 100 S LONG. NOT SEEN ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7502	990403	11271	08552	6500	301	-19	100

BACODINE 7502 03/04/99 8540.921

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7502

ULYSSES RT

5 / 4 / 99

3 / 4 / 99 9936.118 s

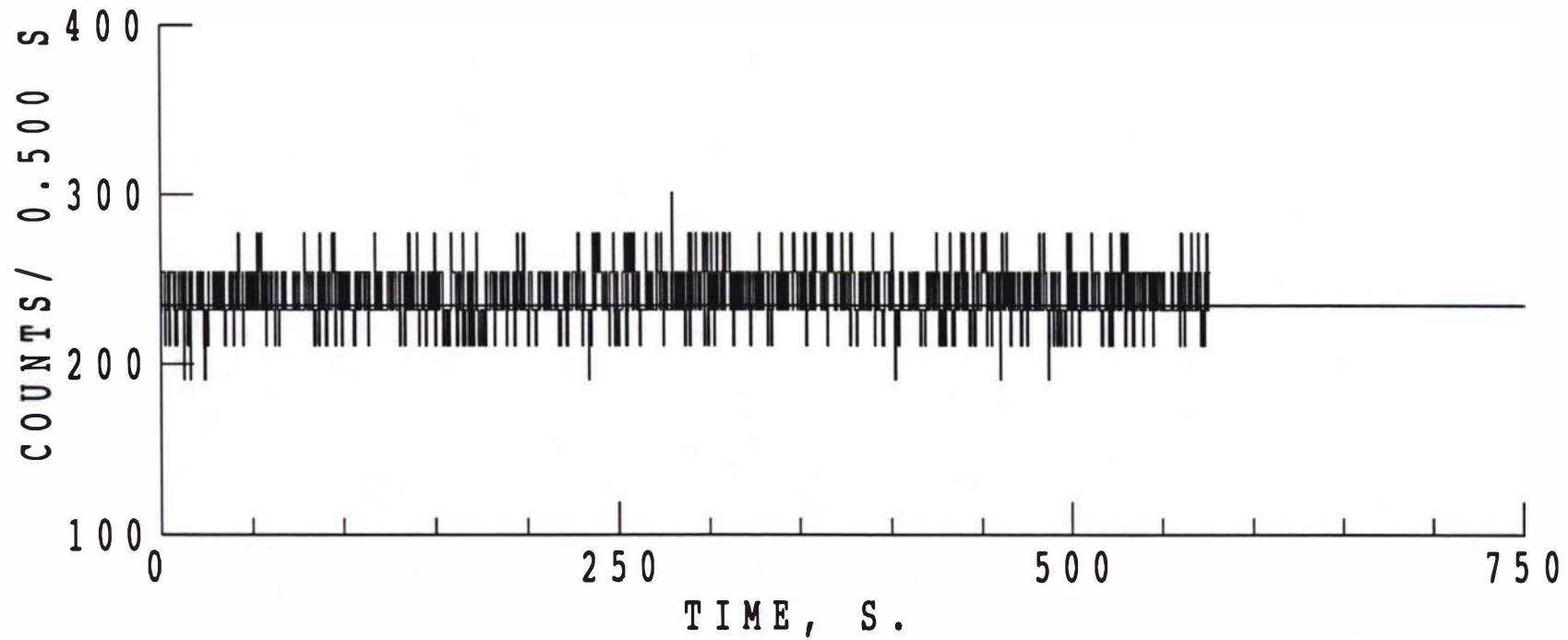
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From MEEGAN@fender.msfc.nasa.gov Mon Apr 5 11:41:10 1999
 Return-Path: <MEEGAN@fender.msfc.nasa.gov>
 Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id LAA19113; Mon, 5 Apr 1999 11:41:10 -0700
 From: MEEGAN@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
 by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id LAA10665
 for <khurley@sunspot.ssl.berkeley.edu>; Mon, 5 Apr 1999 11:41:06 -0700 (PDT)
 Date: Mon, 5 Apr 1999 12:41:21 -0500 (CDT)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990405124121.2022cd65@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7503
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7503
 EVENT OF 1999 APR 3 DAY OF YEAR= 93
 EVENT CROSSING TIME AT BATSE : 35282. S. OR 09:48:02.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 299.000 -5.000
 BATSE PEAK COUNTING RATE: 16000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 3/ 4/ 99 IS:
 RA= 147.819 DEC= -8.301 DIST= 4.261 AU
 BATSE-ULYSSES DISTANCE = 637441415. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 31.67 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1809.64 SECS.
 CROSSING TIME AT ULYSSES IS 37092. S. OR 10:18:11 +/- 271.30 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 3/ 4/ 99 IS:
 RA= 218.917 DEC= -13.169 DIST= 0.659 AU
 MARS-BATSE DISTANCE = 98582272. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=100.77 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -61.46 SECS.
 CROSSING TIME AT MARS IS 35221. S. OR 09:47:00 +/- 55.15 SECONDS

BATSE BURST TRIGGER

NO.: 7503

TIME: TJD=1271 SECONDS=35282

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 73.4 AZIMUTH= 83.0 ERROR= 0.4 DEGREES

COMMENTS:

DOUBLE PULSE, 120 S TOTAL DURATION, VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7503	990403	11271	35282	16000	299	-05	120

Date: Feb 28 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?

*Checking
Time was
~3 ms
off.
Not
corrected*

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

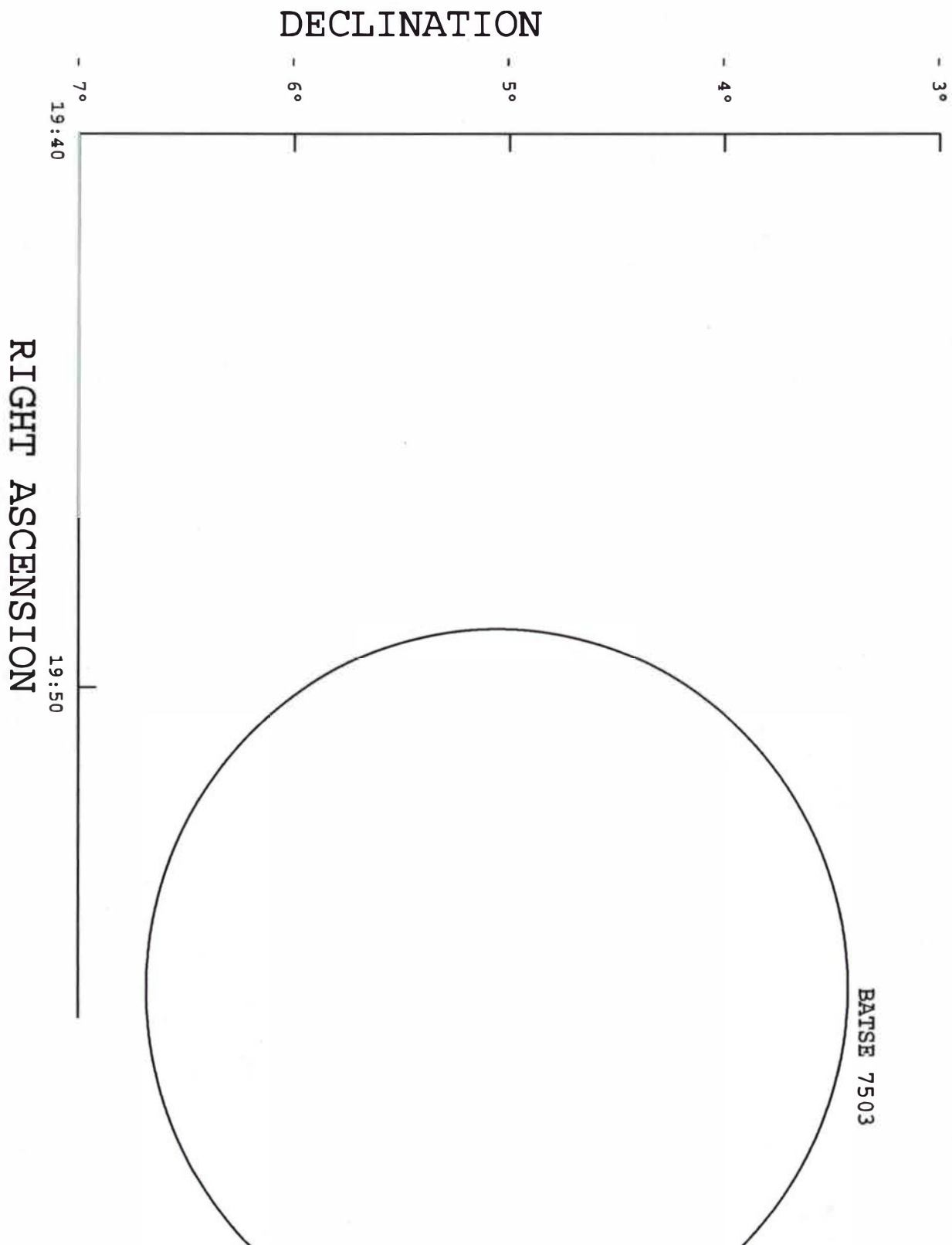
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF APR 3, 1999 9:48

28 / 2 / 0



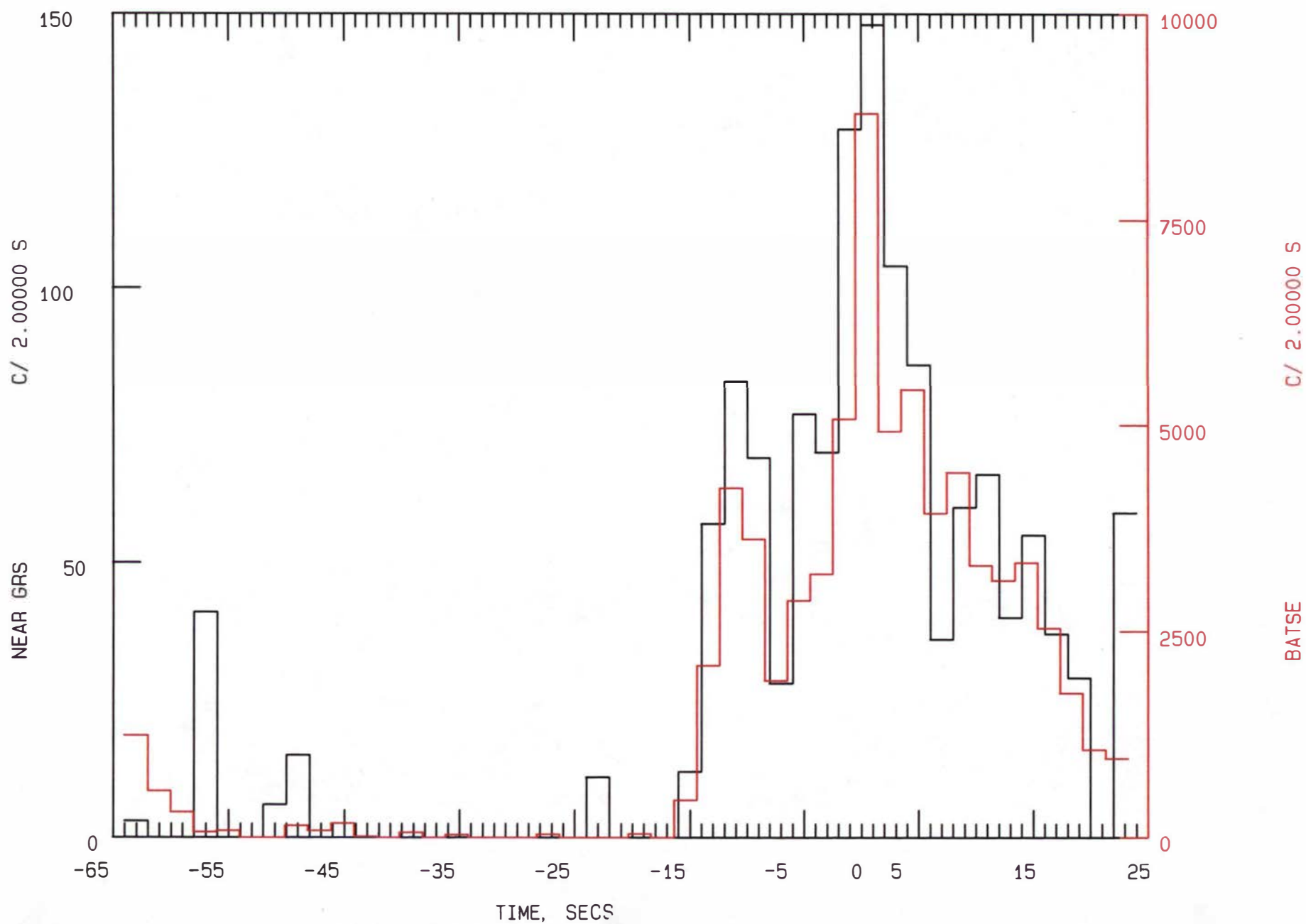
NEAR GRS -BATSE

CORRELATION

03/04/99

34803.814

28/ 2/ 0

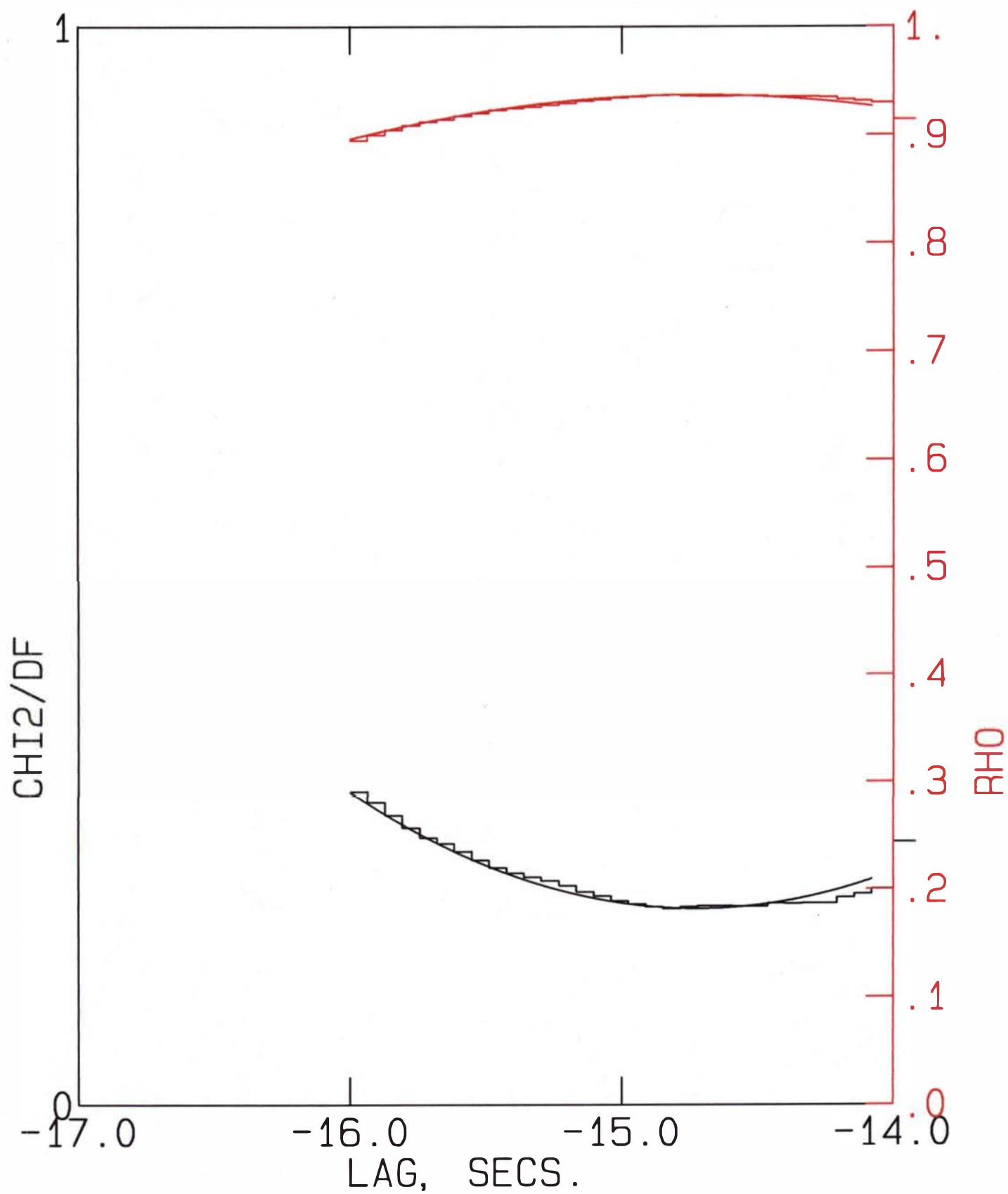


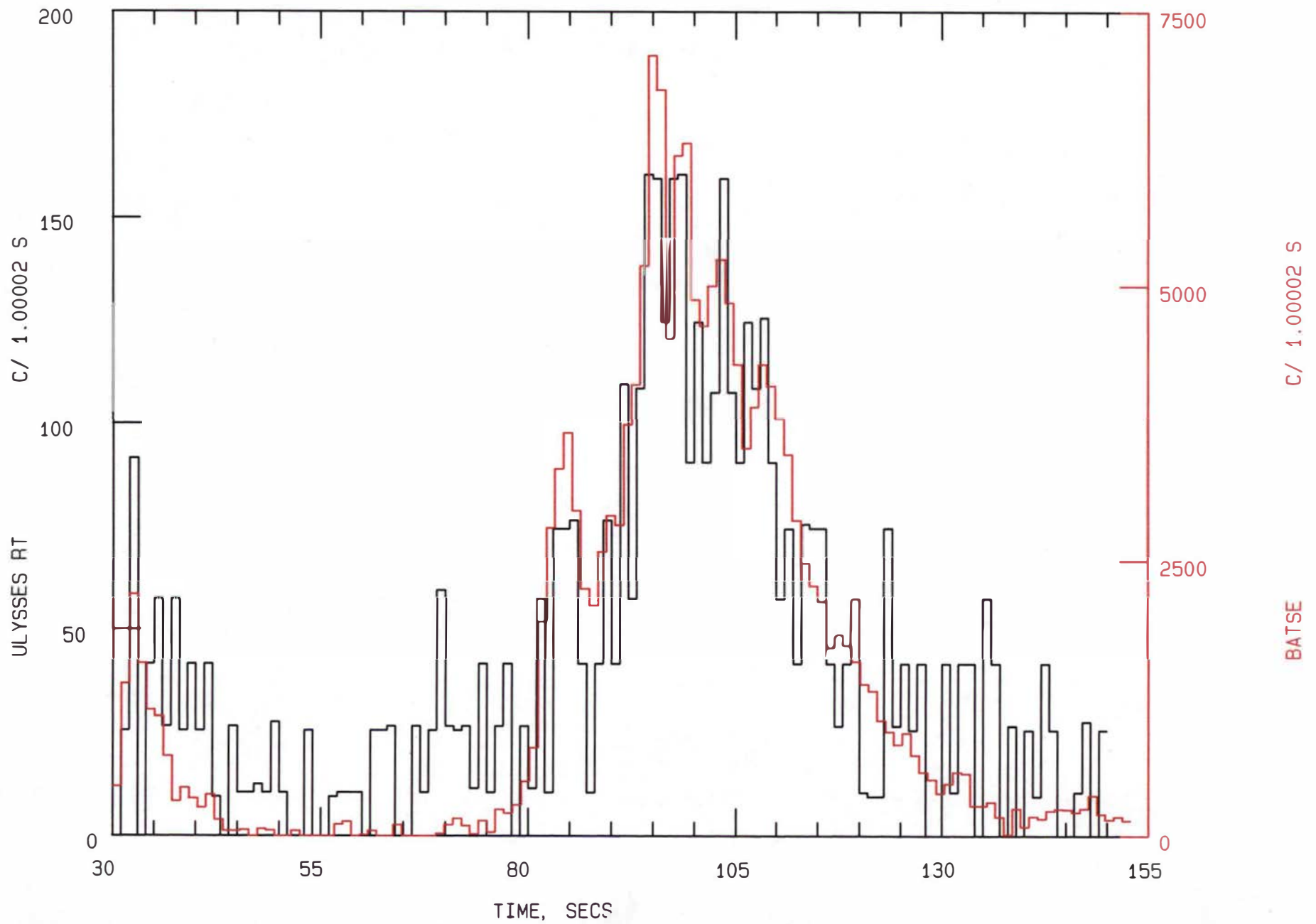
NEAR GRS -BATSE

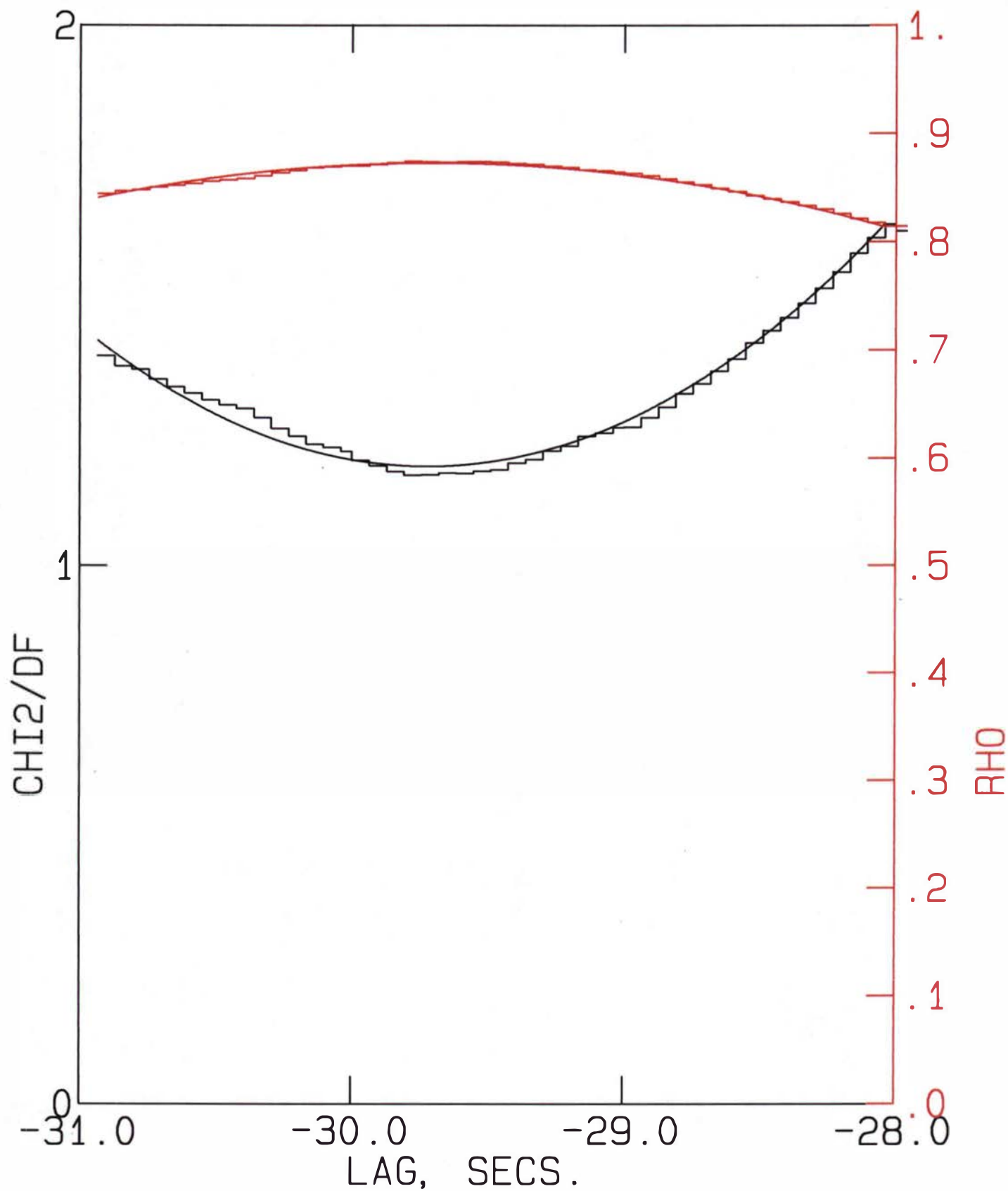
CORRELATION

03/04/99

34803.814



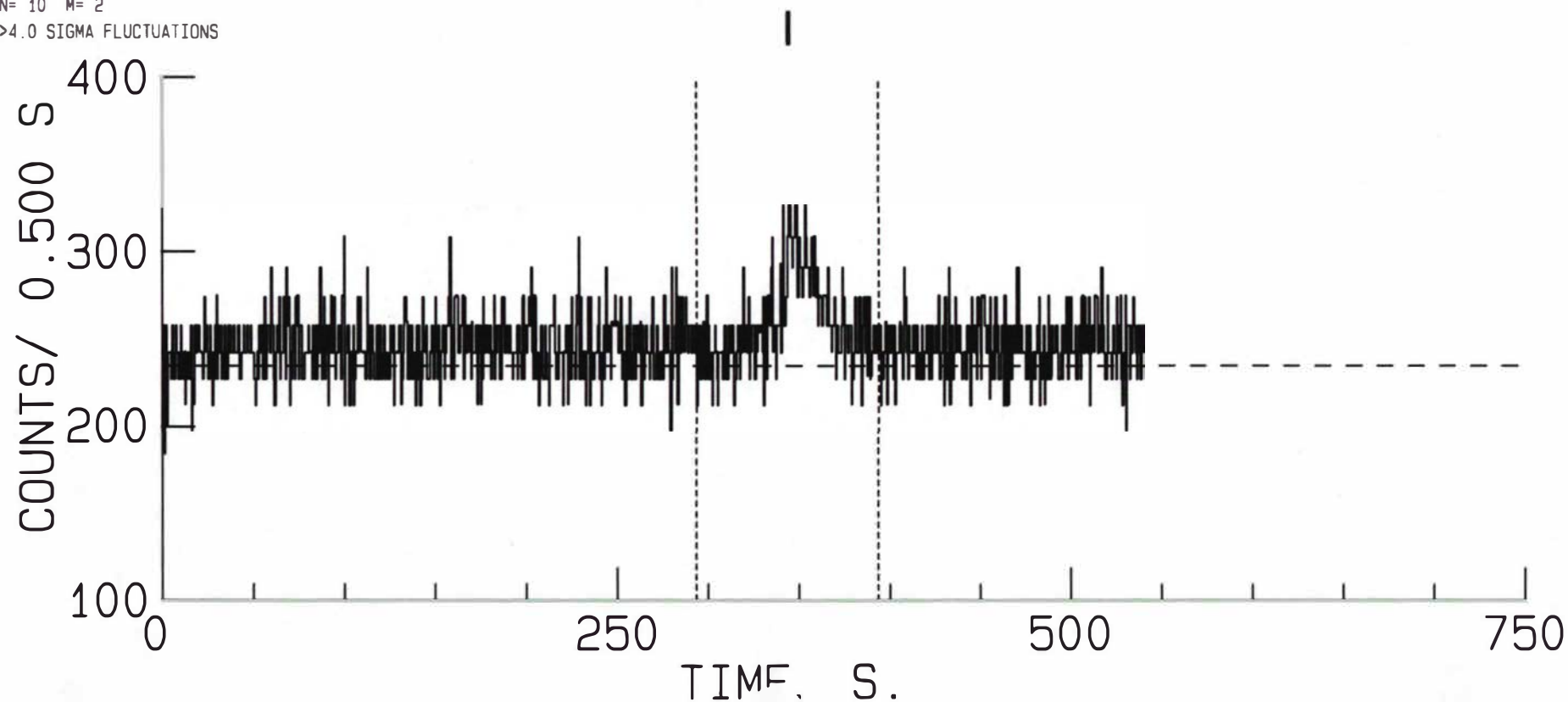




ULYSSES RT
3/ 4/99 36828.141 s
0.250 S INTERVALS REGROUPED BY 2
22- 151 keV

28/ 2/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



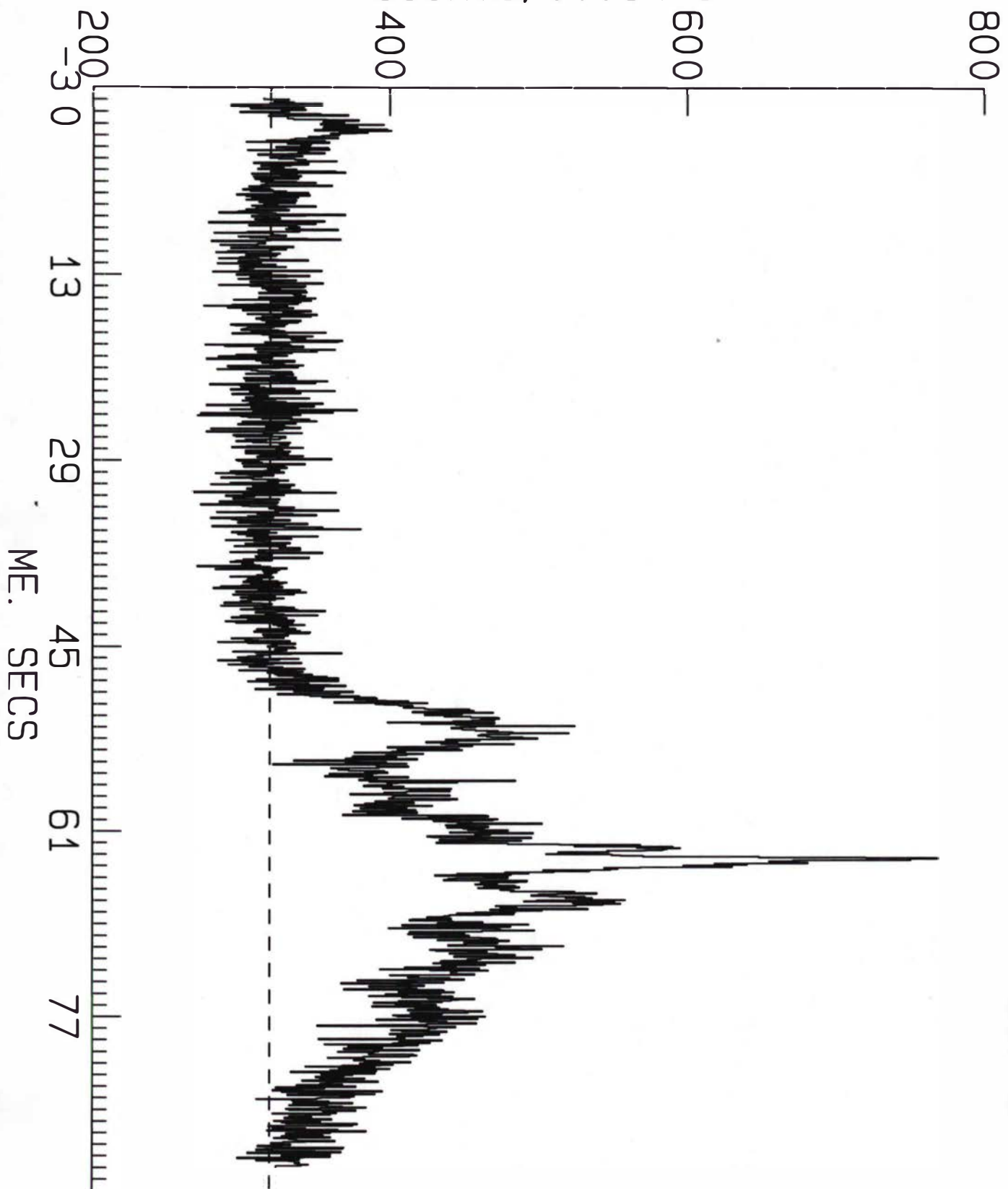
BATSE

03/04/99

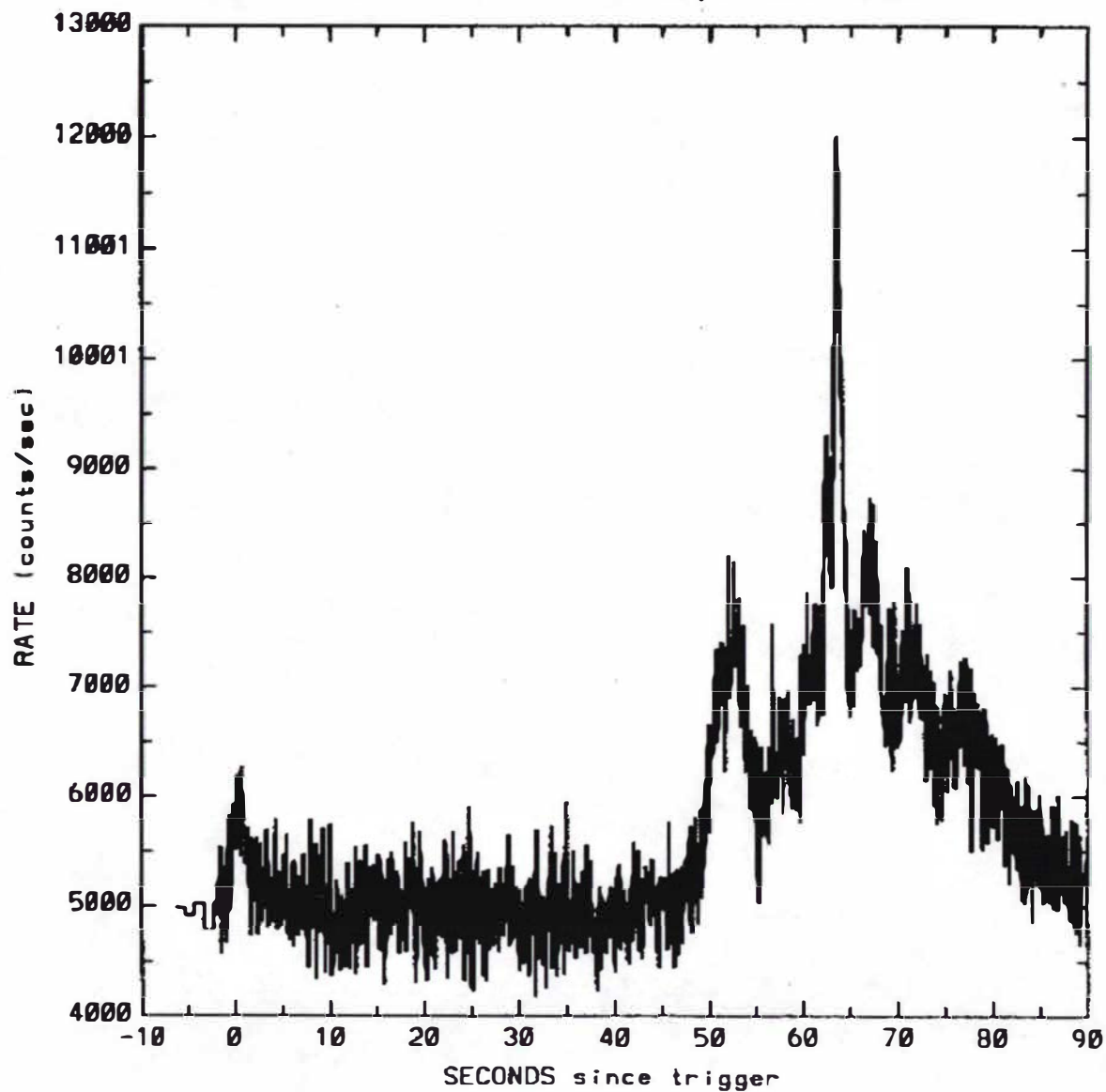
35282.937

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7503



24-FEB-2000 12:03:26

Created by NDPS 80
(Burst Display)
Version 12.26

Trigger # : 7503

Trigger Time:
11271 / 35282.937Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..0):
---4---0Discriminators:
1 3 . 4 1Quality Mask:
BDISP1

BATSE

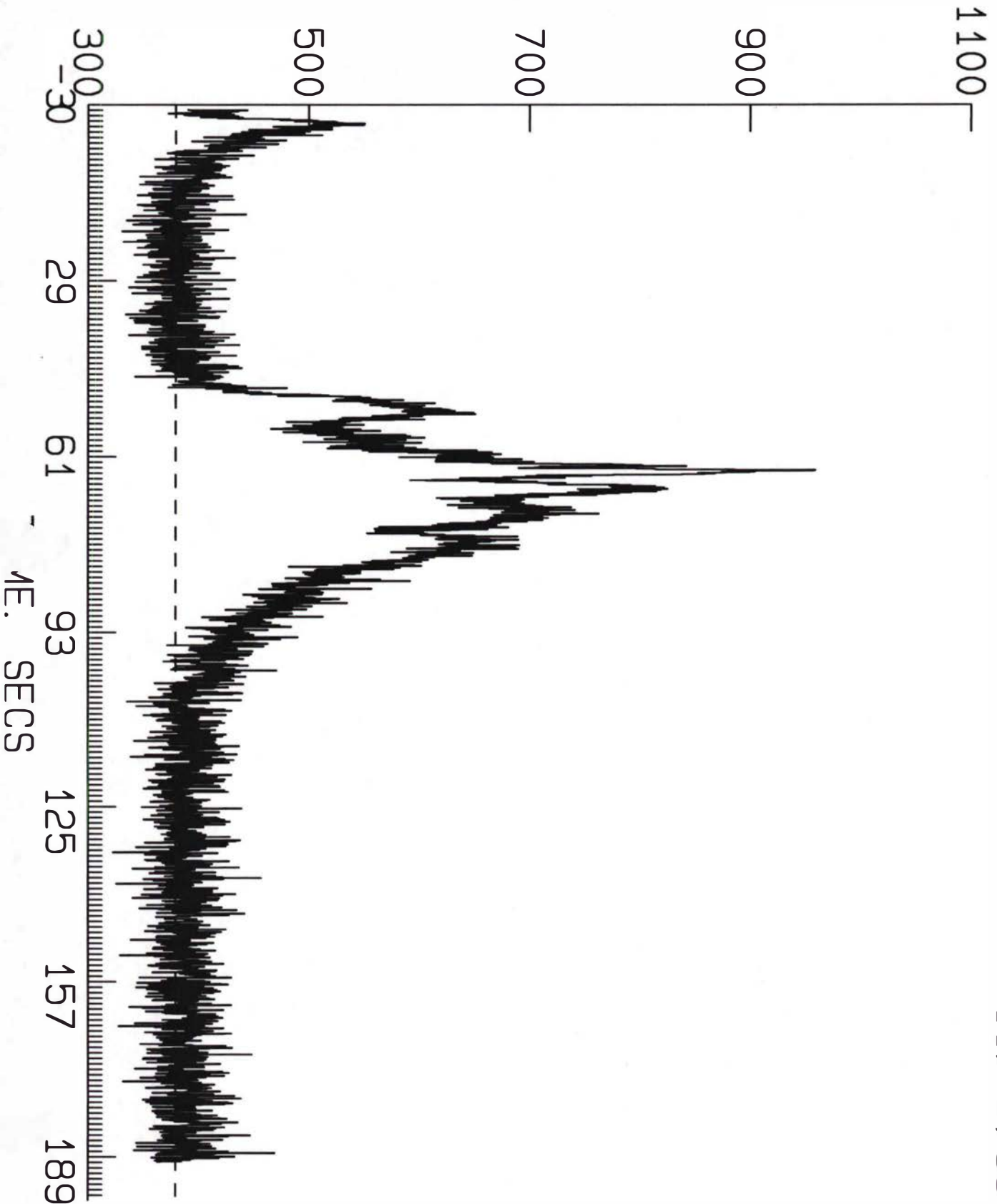
03/04/99

35282.937

25- 100 keV

COUNTS/0.064 S

11 / 4 / 99

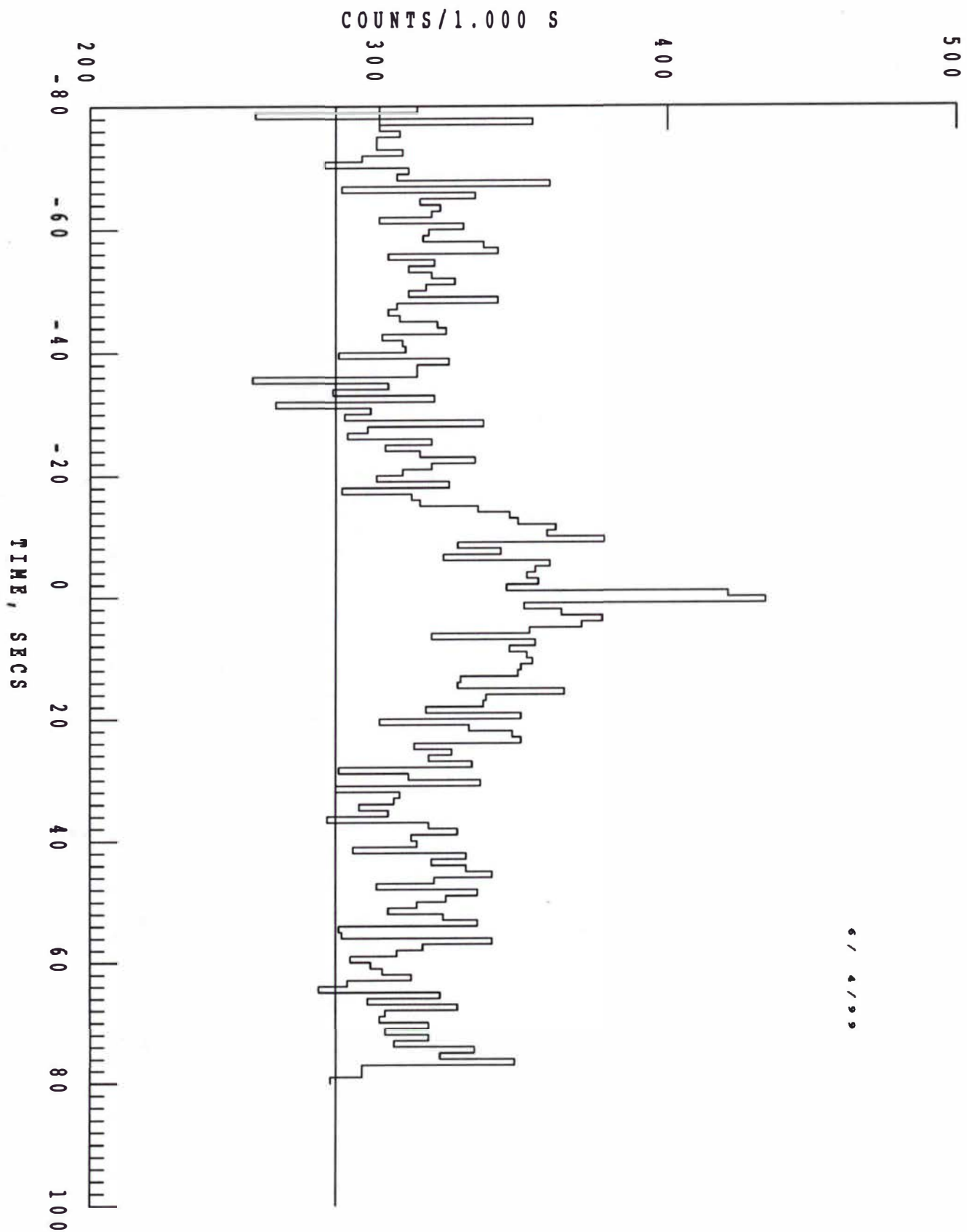


NEAR

03/04/99

34803.814

100-1000 keV



5 / 4 / 9 9

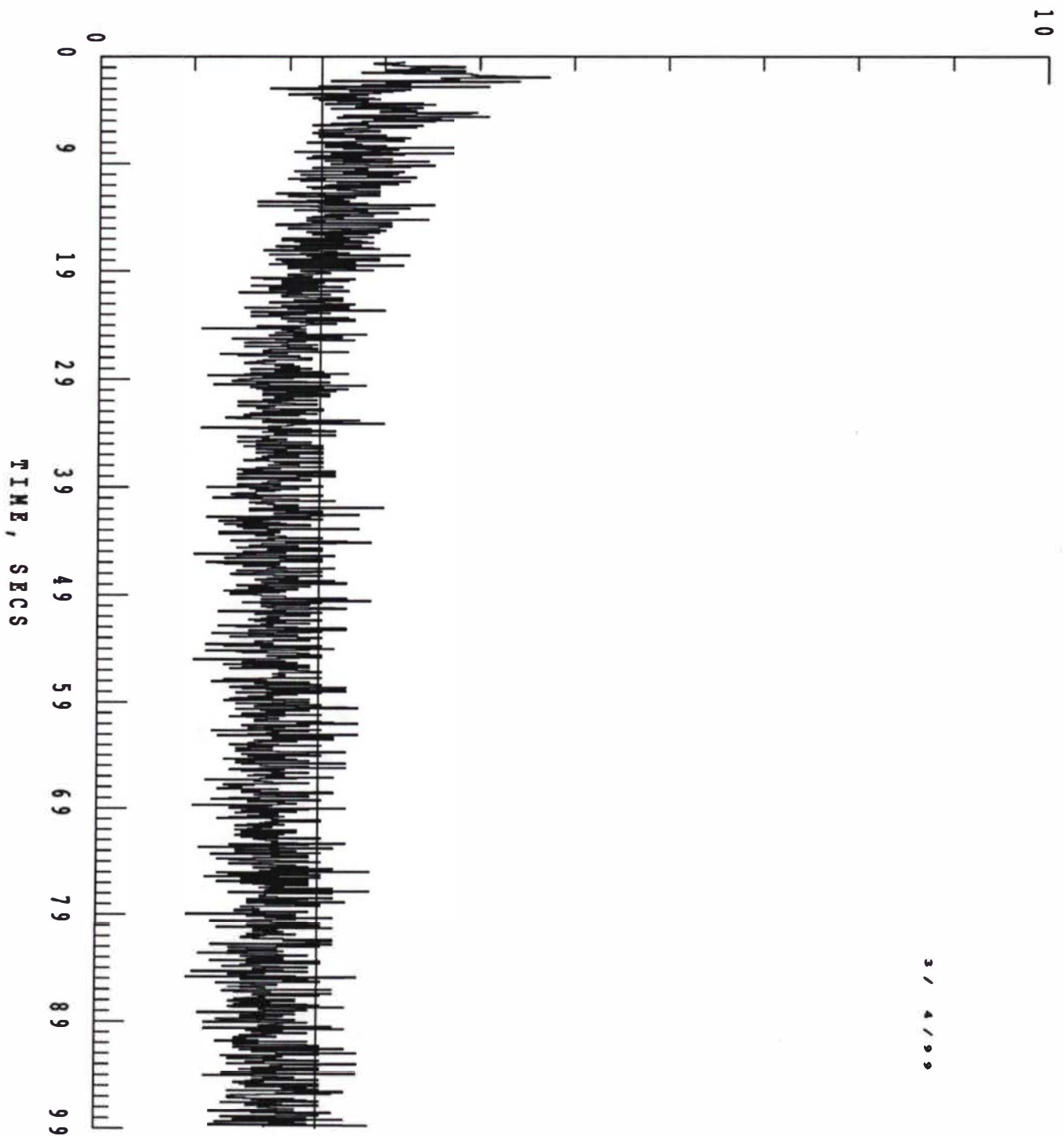
KONUS

03/04/99

35345.561

50 - 200 keV

COUNTS/0.064 S



3 / 4 / 99

From MEEGAN@fender.msfc.nasa.gov Mon Apr 5 11:43:06 1999
 Return-Path: <MEEGAN@fender.msfc.nasa.gov>
 Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
 id LAA19181; Mon, 5 Apr 1999 11:43:06 -0700
 From: MEEGAN@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
 by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id LAA10759
 for <khurley@sunspot.ssl.berkeley.edu>; Mon, 5 Apr 1999 11:43:02 -0700 (PDT)
 Date: Mon, 5 Apr 1999 12:43:25 -0500 (CDT)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990405124325.2022cd65@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7504
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7504
 EVENT OF 1999 APR 3 DAY OF YEAR= 93
 EVENT CROSSING TIME AT BATSE : 74447. S. OR 20:40:47.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 251.000 31.000
 BATSE PEAK COUNTING RATE: 3200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 3/ 4/ 99 IS:
 RA= 147.743 DEC= -8.280 DIST= 4.265 AU
 BATSE-ULYSSES DISTANCE = 637999039. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 74.41 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 571.80 SECS.
 CROSSING TIME AT ULYSSES IS 75019. S. OR 20:50:18 +/- 414.58 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 3/ 4/ 99 IS:
 RA= 218.917 DEC= -13.169 DIST= 0.659 AU
 MARS-BATSE DISTANCE = 98582272. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=126.14 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -193.95 SECS.
 CROSSING TIME AT MARS IS 74253. S. OR 20:37:33 +/- 43.16 SECONDS

BATSE BURST TRIGGER

NO.: 7504

TIME: TJD=1271 SECONDS=74447

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=115.5 AZIMUTH= 41.8 ERROR= 1.3 DEGREES

COMMENTS:

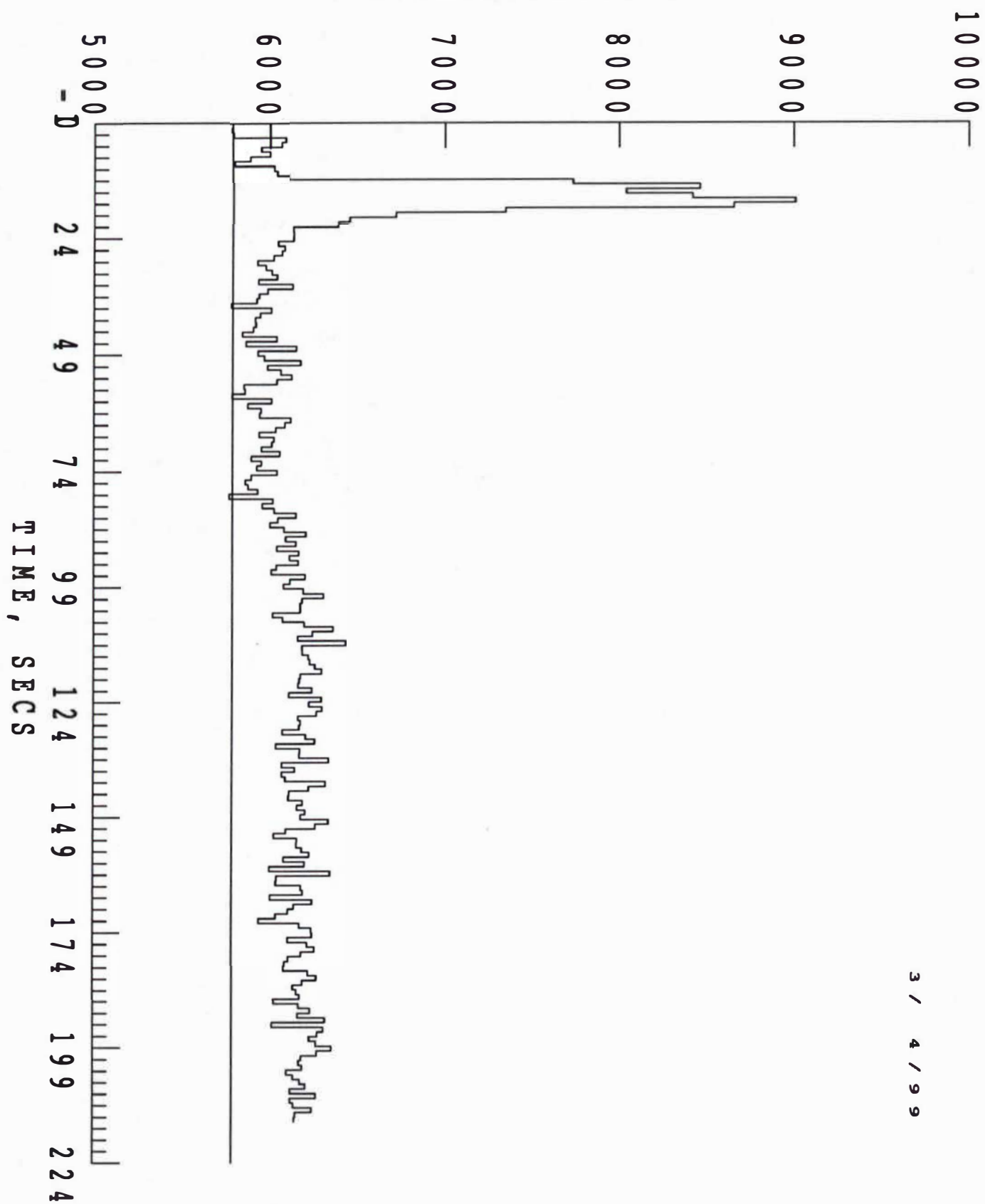
TRIPLE PEAKED, 10 S PULSE. MARGINAL ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7504	990403	11271	74447	3200	251	+31	10

BACODINE 7504 03/04/99 74435.321

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7504

ULYSSES RT

5 / 4 / 99

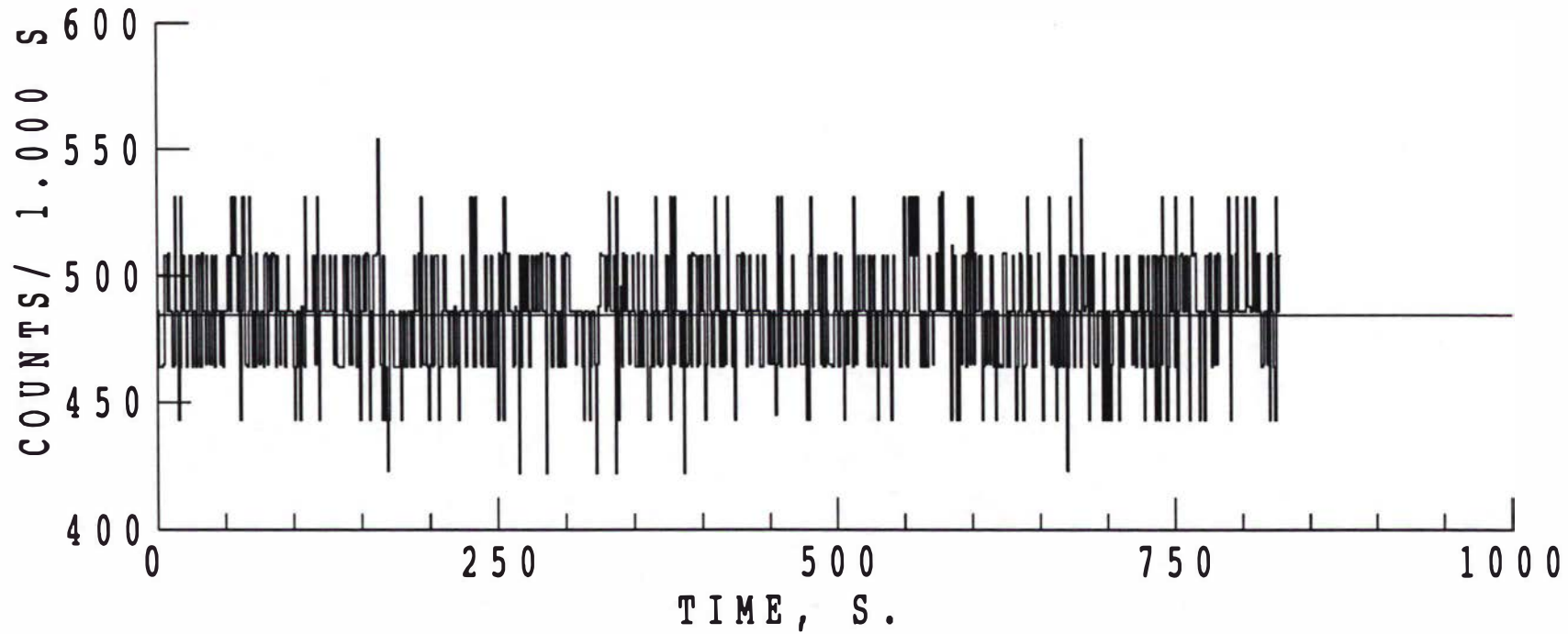
3 / 4 / 99 74592.273 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From MEEGAN@fender.msfc.nasa.gov Mon Apr 5 11:31:11 1999
From: MEEGAN@fender.msfc.nasa.gov
Date: Mon, 5 Apr 1999 12:31:11 -0500 (CDT)
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7505

TIME: TJD=1271 SECONDS=82944

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

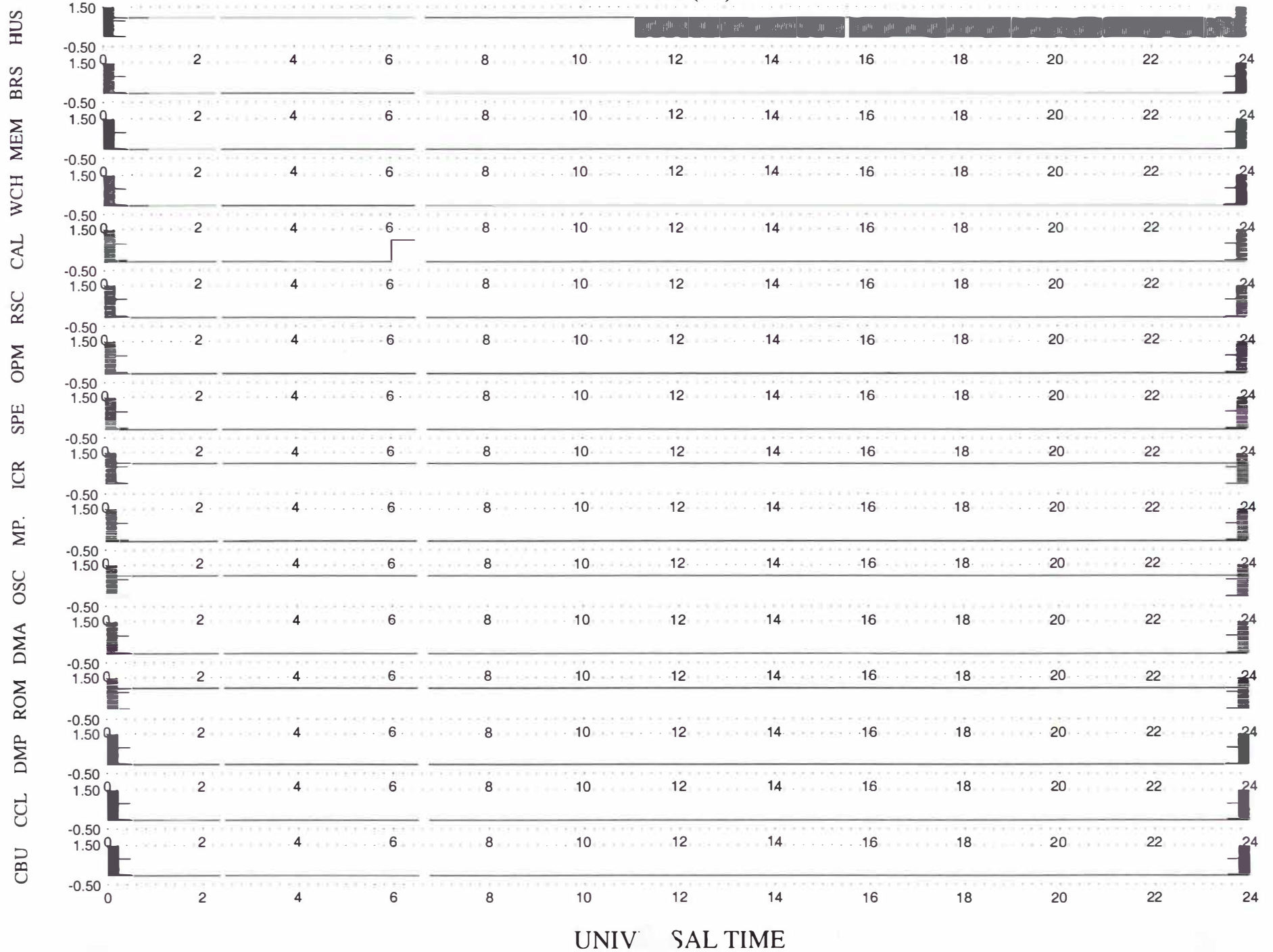
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.8 AZIMUTH=337.9 ERROR= DEGREES

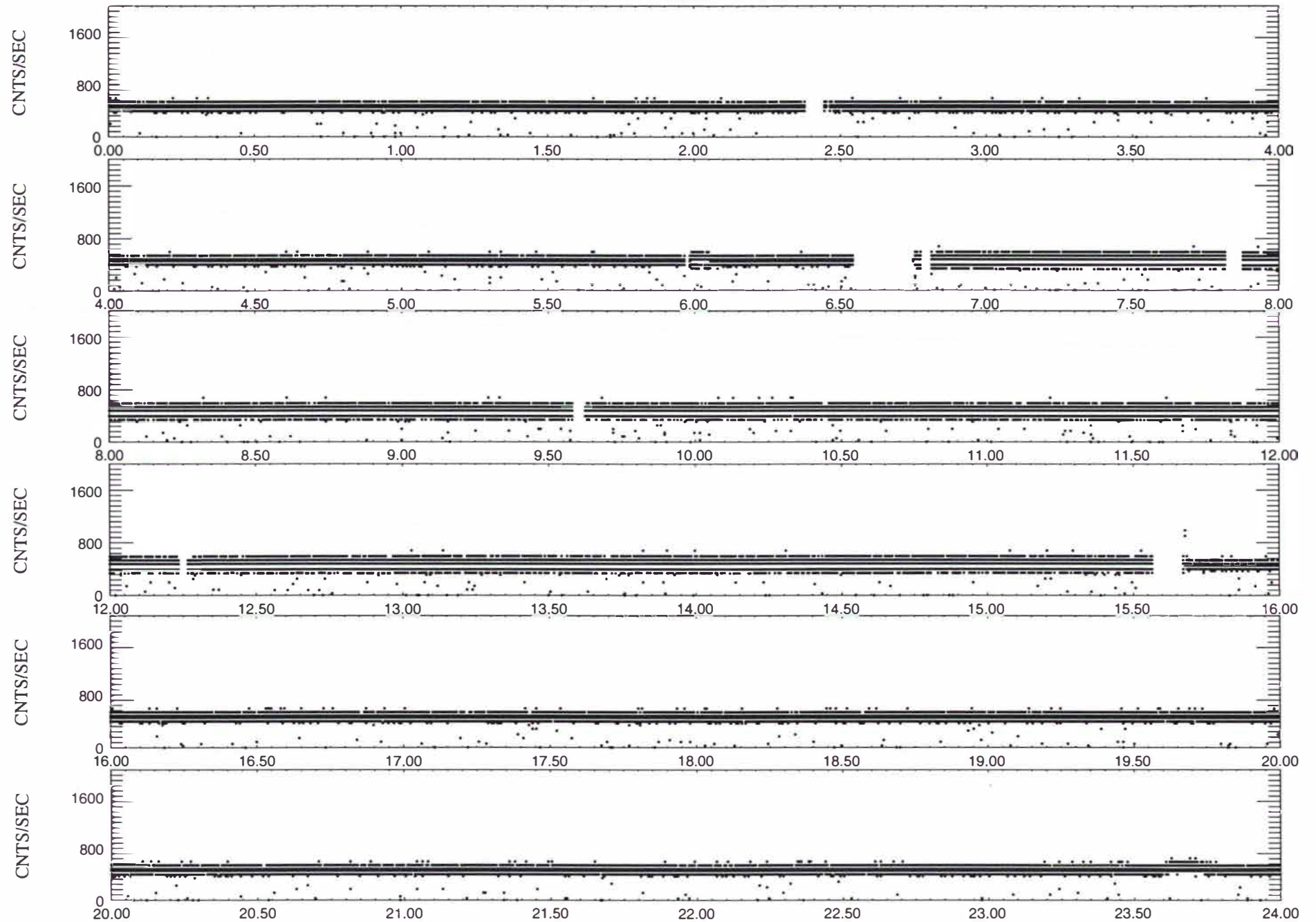
COMMENTS:

M4.3 FLARE, AT LEAST 250 S LONG. NOT VISIBLE ABOVE 300 KEV.

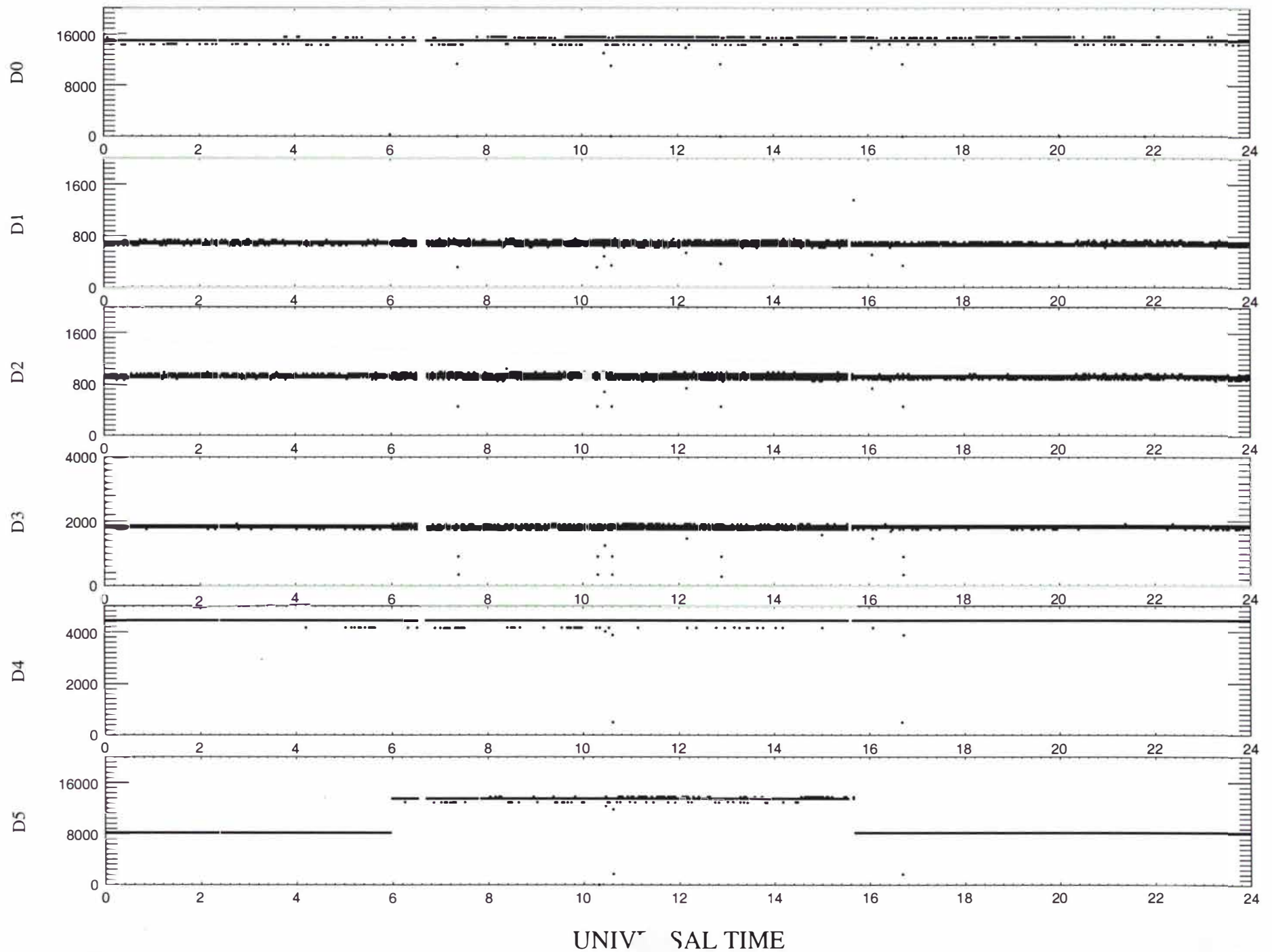
NO BURST (15)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From PETERSON@fender.msfc.nasa.gov Wed Apr 7 11:11:19 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 7 Apr 1999 12:37:36 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7506

TIME: TJD=1272 SECONDS= 9795

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=4.5 AZIMUTH=323.9 ERROR=1.633 DEGREES

COMMENTS:

NO GOES, NO OPTICAL. SINGLE PULSE WITH SUBSTRUCTURE. DUR APPROX 50S, STARTS AT
APPROX T-5S, MAX AT APPROX T+4S. VISIBLE ABOVE 100 KEV.

From PETERSON@fender.msfc.nasa.gov Wed Apr 7 10:54:06 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 7 Apr 1999 12:33:25 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
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.: 7507

TIME: TJD=1272 SECONDS=19231

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=5.8 AZIMUTH=307.5 ERROR=0.107 DEGREES

COMMENTS:

GOES M5.4, OPTICAL 1F. COMPLEX, DUR APPROX 300S, MAX AT APPROX T+55S. VISIBLE
ABOVE 300 KEV.

KONUS 19990404 19244

ULYSSES RT

5 / 4 / 99

4 / 4 / 99 17064.062 s

INTERVALS REGROUPED BY 7

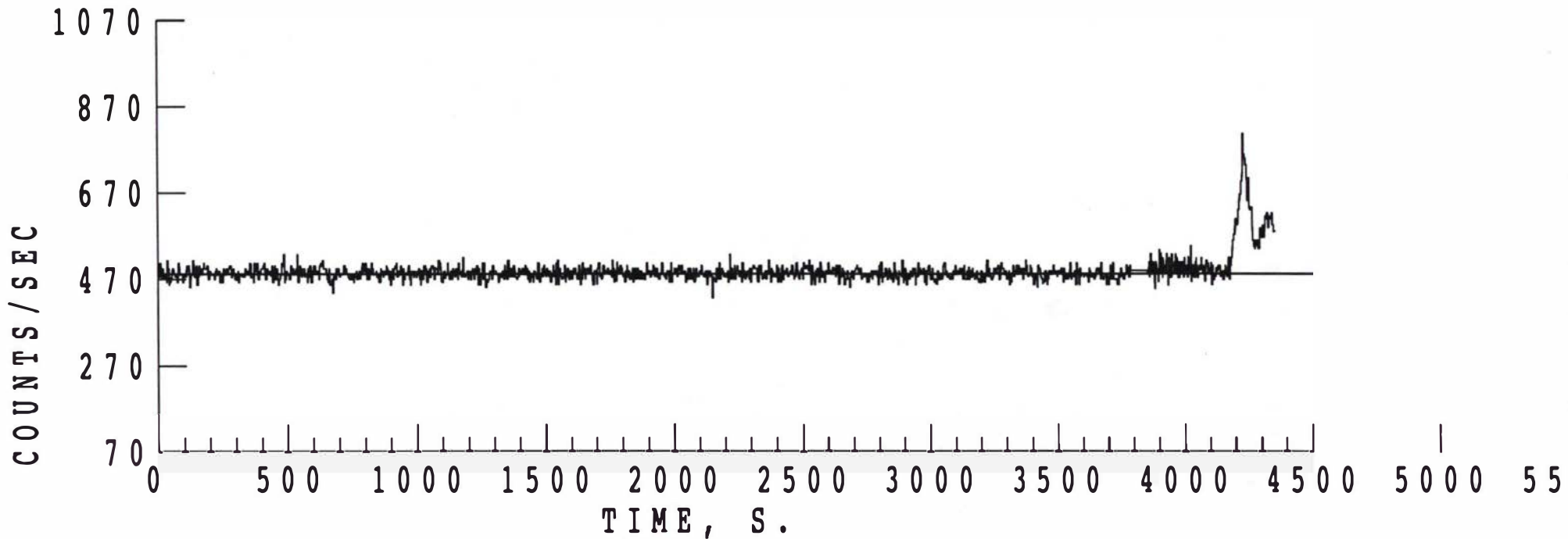
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS

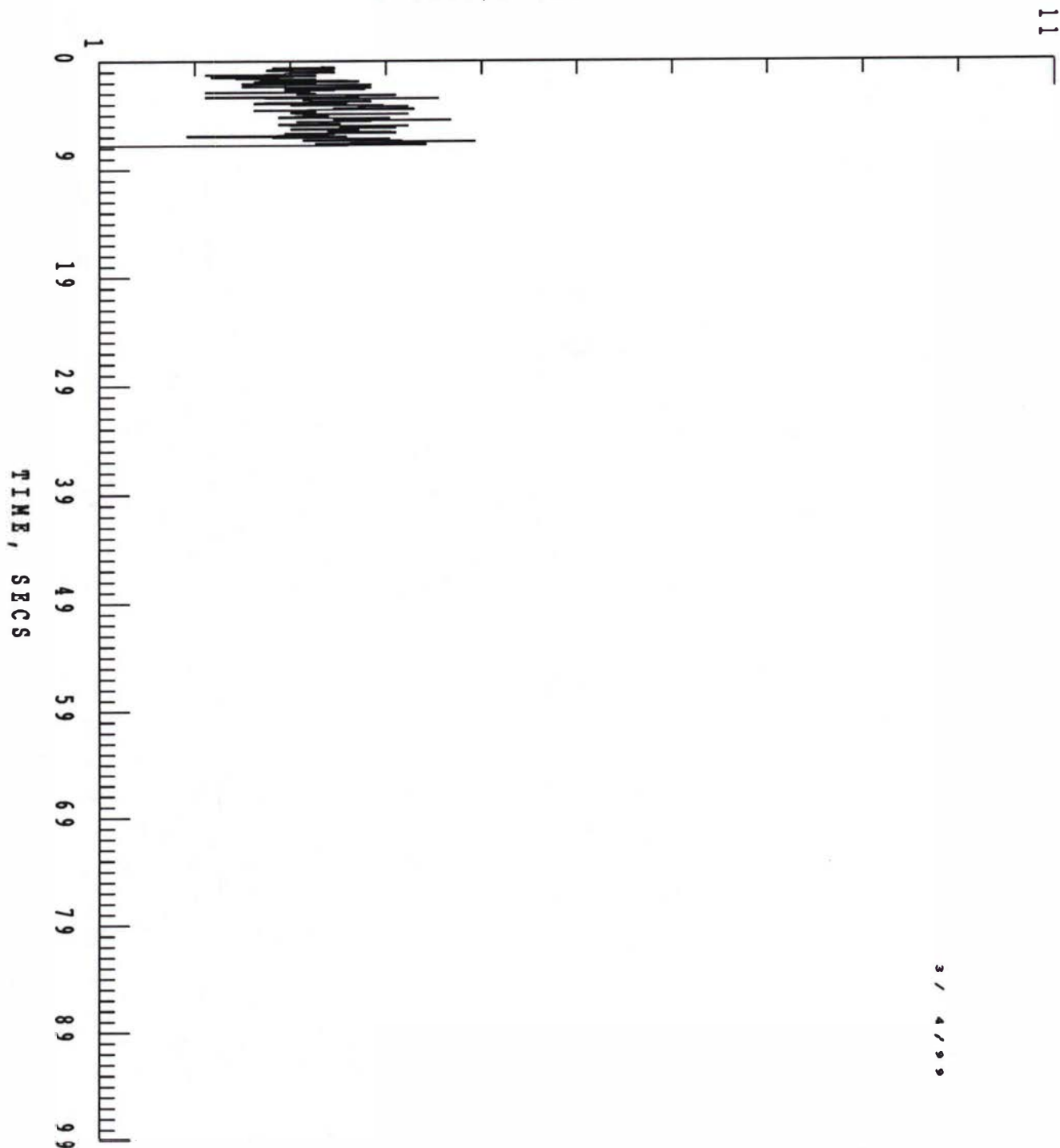
04/04/99

19244.502

50 - 200 keV

Solar? BATSE 7507

COUNTS/0.064 S



3 / 4 / 9 9

From WOODSP@fender.msfc.nasa.gov Wed Apr 7 12:16:48 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA20713; Wed, 7 Apr 1999 12:16:48 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id MAA29941
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 7 Apr 1999 12:16:45 -0700 (PDT)
Date: Wed, 7 Apr 1999 14:09:56 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990407140956.2021fb4b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7508
Content-Length: 1135
X-Lines: 26
Status: RO

Too weak/short

BATSEARCH PROGRAM

BATSE BURST # 7508
EVENT OF 1999 APR 4 DAY OF YEAR= 94
EVENT CROSSING TIME AT BATSE : 40039. S. OR 11:07:19.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 301.000 -47.000
BATSE PEAK COUNTING RATE: 11000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 4/ 99 IS:
RA= 147.644 DEC= -8.253 DIST= 4.270 AU
BATSE-ULYSSES DISTANCE = 638759183. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 60.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1061.68 SECS.
CROSSING TIME AT ULYSSES IS 41101. S. OR 11:25:00 +/- 386.85 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 4/ 99 IS:
RA= 218.715 DEC= -13.124 DIST= 0.654 AU
MARS-BATSE DISTANCE = 97781944. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -83.25 SECS.
CROSSING TIME AT MARS IS 39956. S. OR 11:05:55 +/- 53.49 SECONDS

BATSE BURST TRIGGER

NO.: 7508

TIME: TJD=1272 SECONDS=40039

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=77.8 AZIMUTH=126.3 ERROR=7 DEGREES

COMMENTS:

GRB LASTING ABOUT 0.023 SEC. SINGLE PULSE WITH SOME SUBSTRUCTURE.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7508	990404	11272	40039	11000	301	-47	.023

BATSE BURST# 7508

ULYSSES RT

7 / 4 / 99

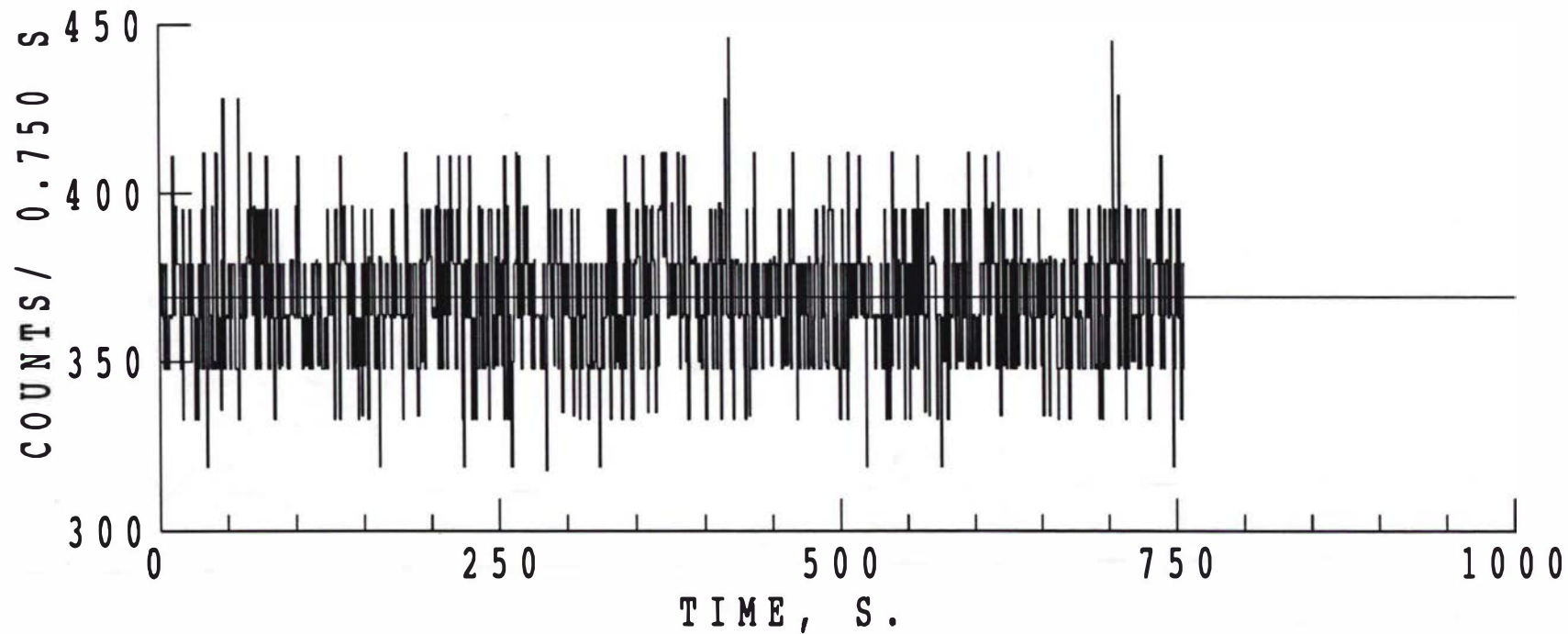
4 / 4 / 99 40716.055 s

0.250 S INTERVALS REGROUPED BY 3

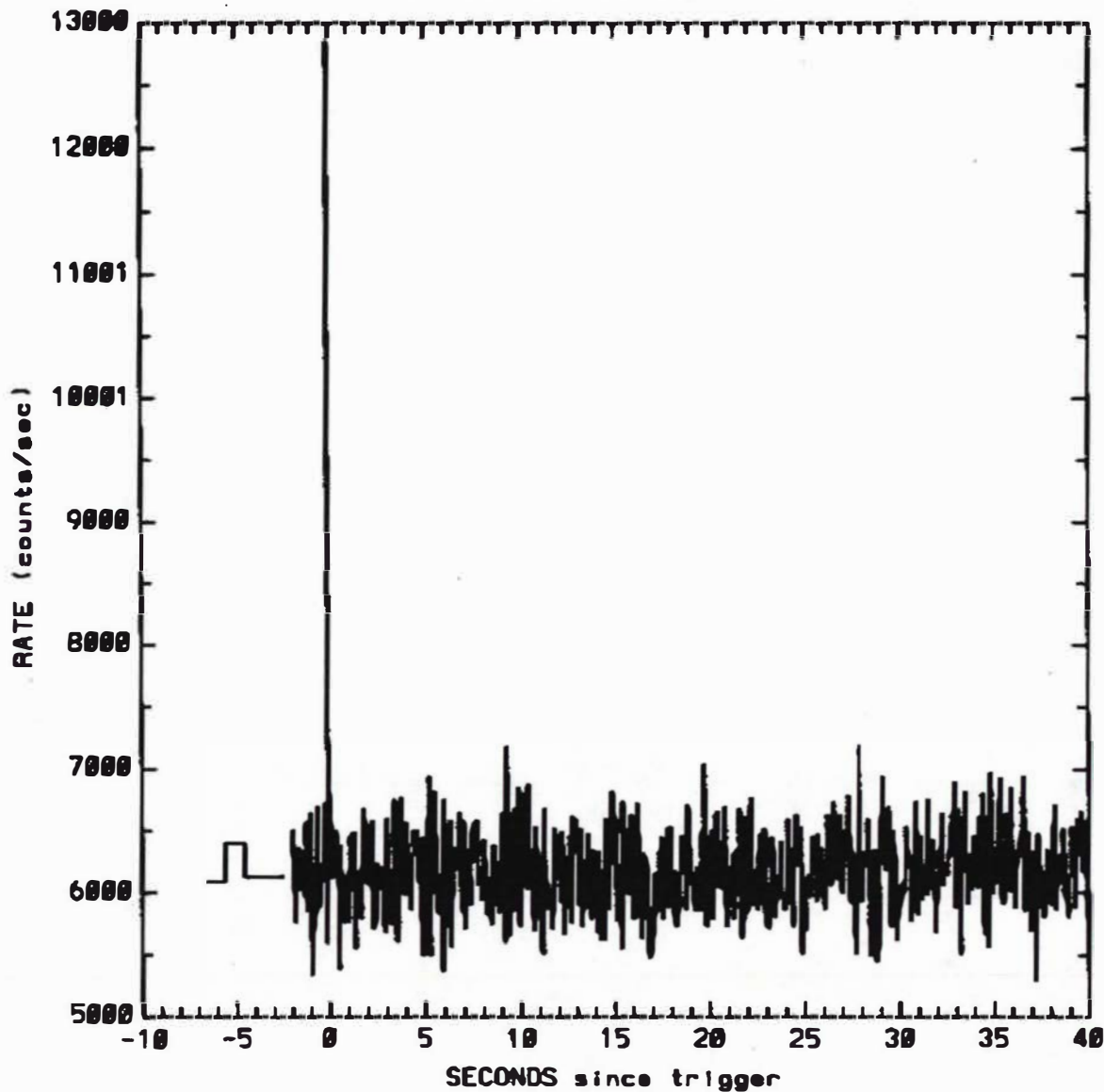
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



DISCSC Data for K. Hurley, No. 7508



13-APR-1999 10:10:43

Created by MOPS 90
(Burst Display)
Version 12.26

Trigger # : 7508

Trigger Time:
11272 / 48839.609

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

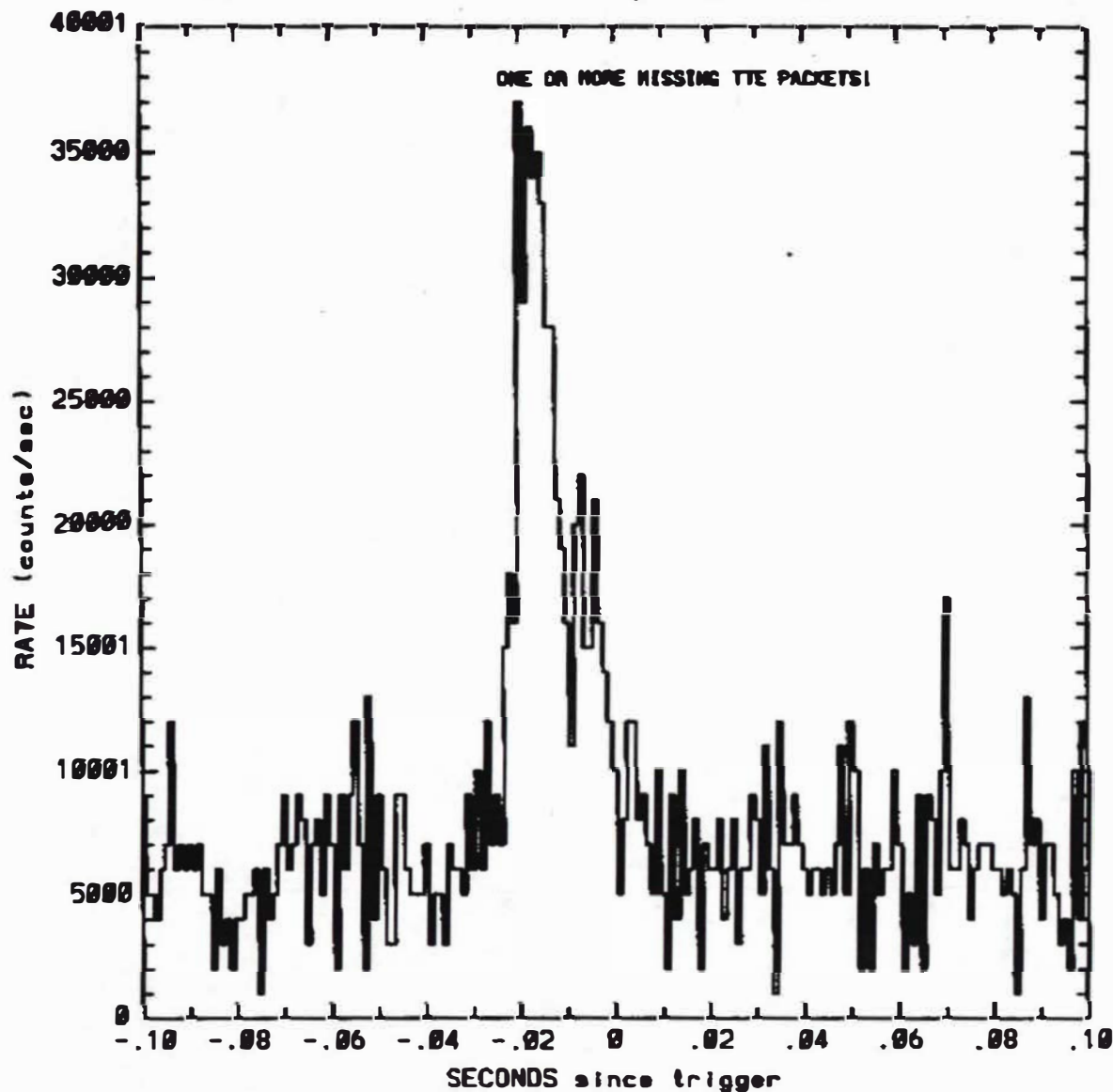
Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(1 . 2)

Quality Mask:
80ISP1

TTE Data for K. Hurley, No. 7508



13-APR-1999 18:22:38

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7508

Trigger Time:
11272 / 48839.689

Burst Data Type:
TTE

Multiple Events
Ignored: 39

Deadtime
Corrected: N

Background Data
Type: DISCLA

Minimum Integ. Time:
8.001000 seconds

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

Discriminators:
(1..2)

Quality Mask:
BDISP1

From WOODSP@fender.msfc.nasa.gov Wed Apr 7 12:17:03 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA20759; Wed, 7 Apr 1999 12:17:02 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id MAA29958
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 7 Apr 1999 12:16:59 -0700 (PDT)
Date: Wed, 7 Apr 1999 14:10:49 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990407141049.2021fb4b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7509
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7509
EVENT OF 1999 APR 4 DAY OF YEAR= 94
EVENT CROSSING TIME AT BATSE : 70533. S. OR 19:35:33.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 306.000 -72.000
BATSE PEAK COUNTING RATE: 3200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 4/ 99 IS:
RA= 147.585 DEC= -8.237 DIST= 4.273 AU
BATSE-ULYSSES DISTANCE = 639209021. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 315.83 SECS.
CROSSING TIME AT ULYSSES IS 70849. S. OR 19:40:48 +/- 420.89 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 4/ 99 IS:
RA= 218.715 DEC= -13.124 DIST= 0.654 AU
MARS-BATSE DISTANCE = 97781944. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -75.08 SECS.
CROSSING TIME AT MARS IS 70458. S. OR 19:34:17 +/- 53.97 SECONDS

BATSE BURST TRIGGER

NO.: 7509

TIME: TJD=1272 SECONDS=70533

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

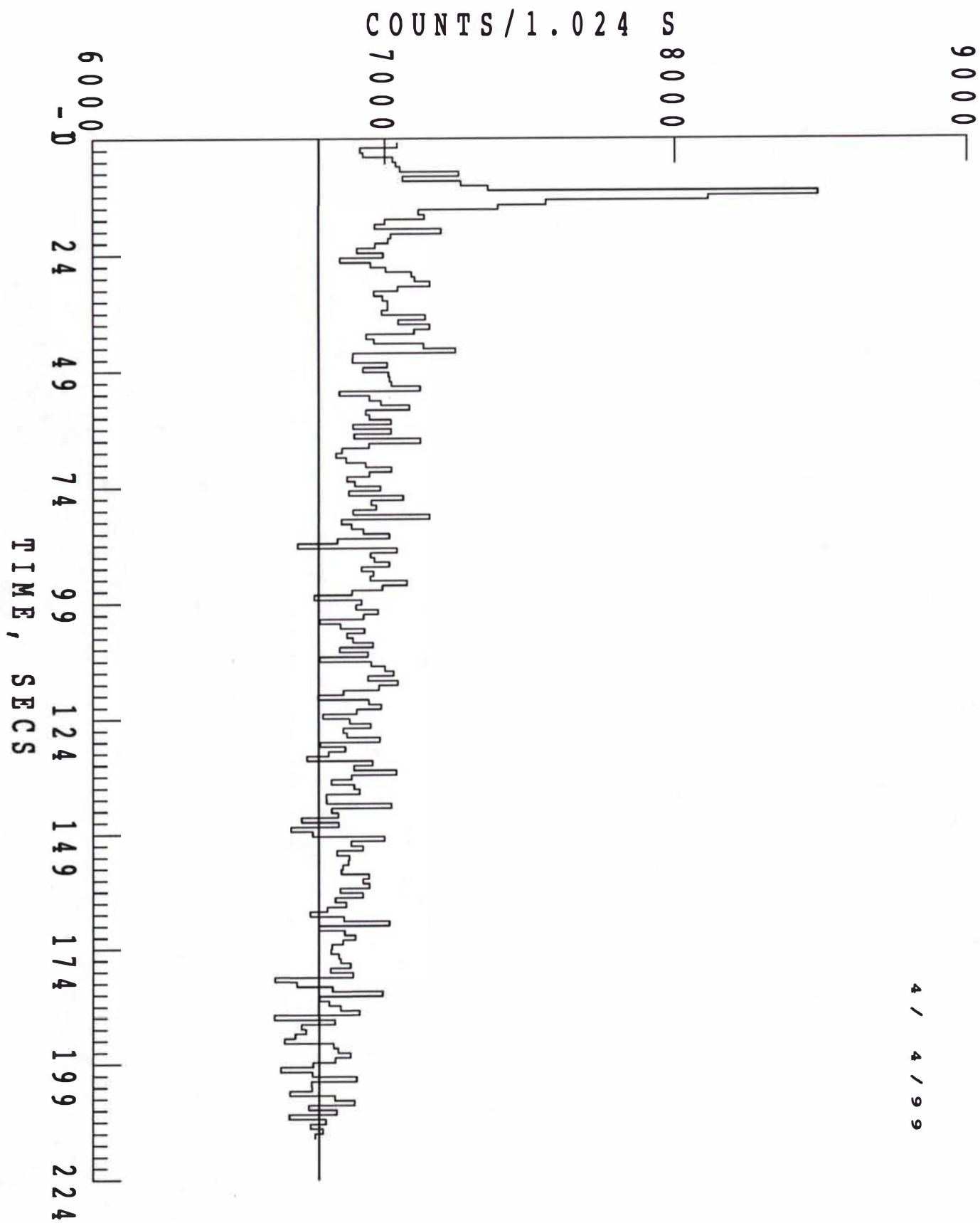
LOCATION: ZENITH=83.9 AZIMUTH=151.0 ERROR=8 DEGREES

COMMENTS:

GRB LASTING ABOUT 3 SEC. SINGLE PULSE. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7509	990404	11272	70533	3200	306	-72	3

BACODINE 7509 04/04/99 70522.617
25 - 100 keV



BATSE BURST# 7509

ULYSSES RT

7 / 4 / 99

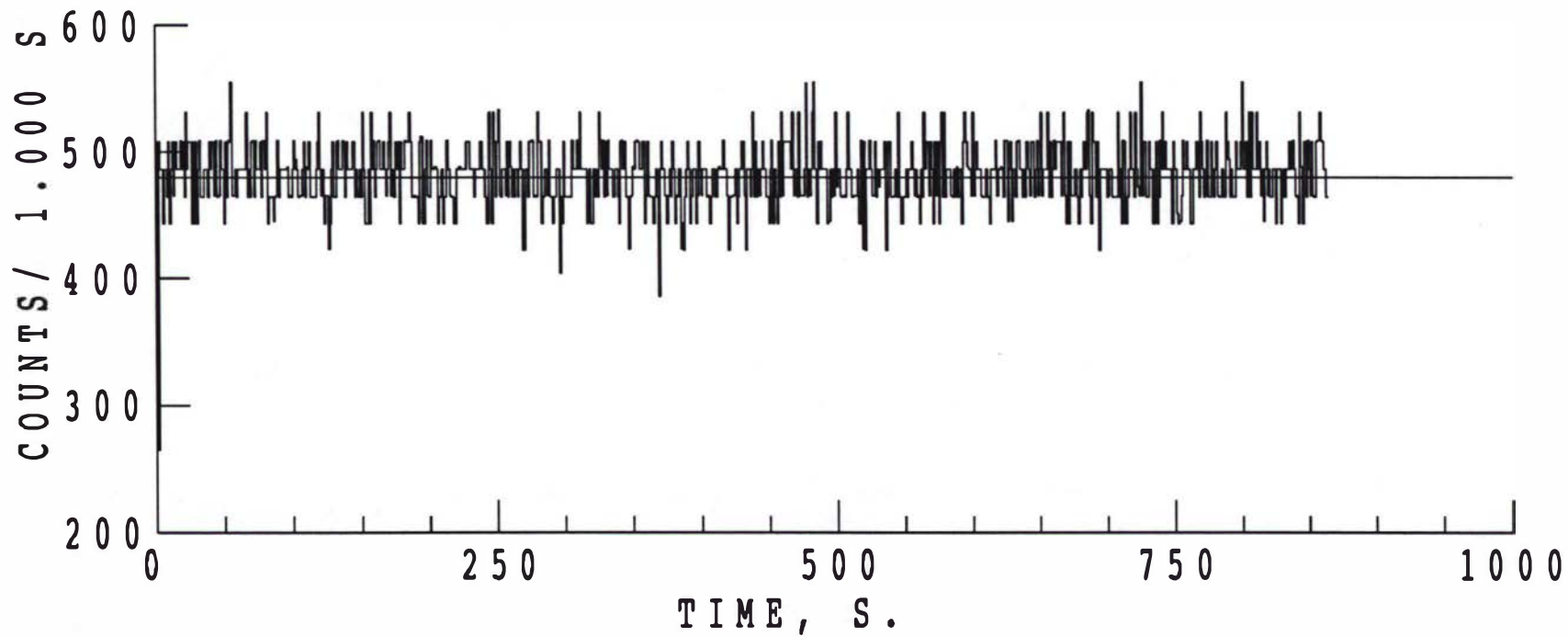
4 / 4 / 99 70416.102 s

0.500 S INTERVALS REGROUPED BY 2

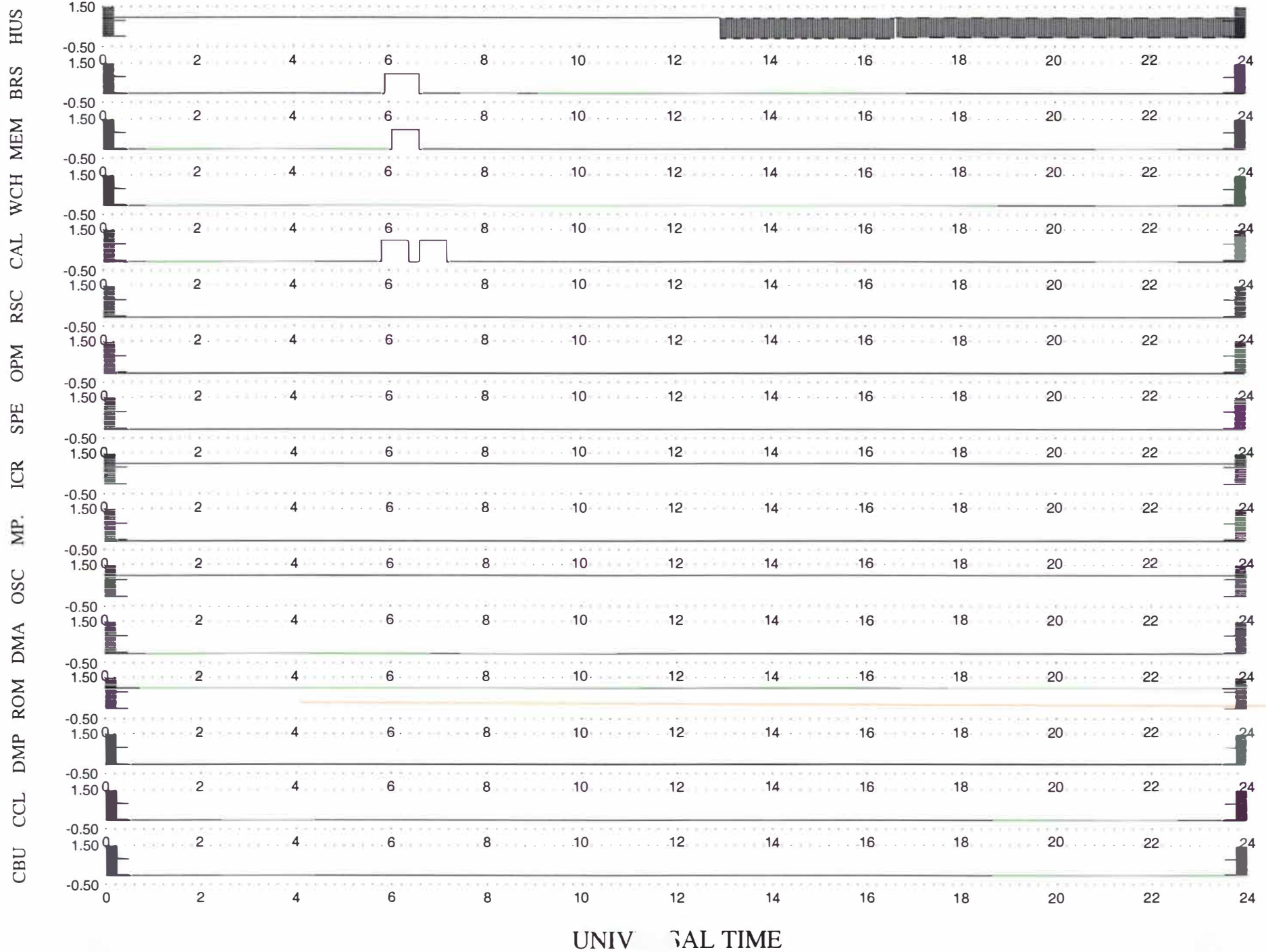
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

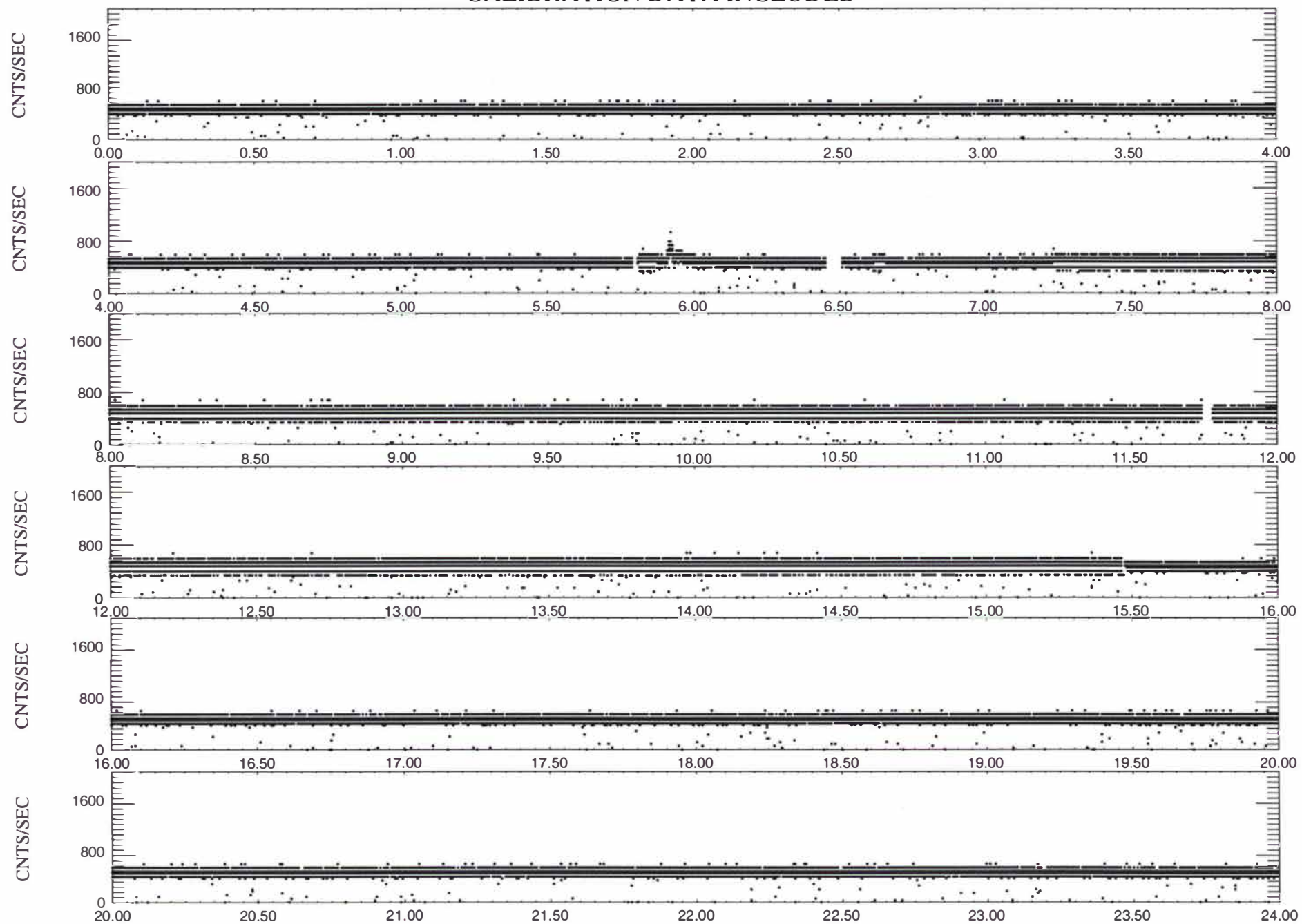
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 0

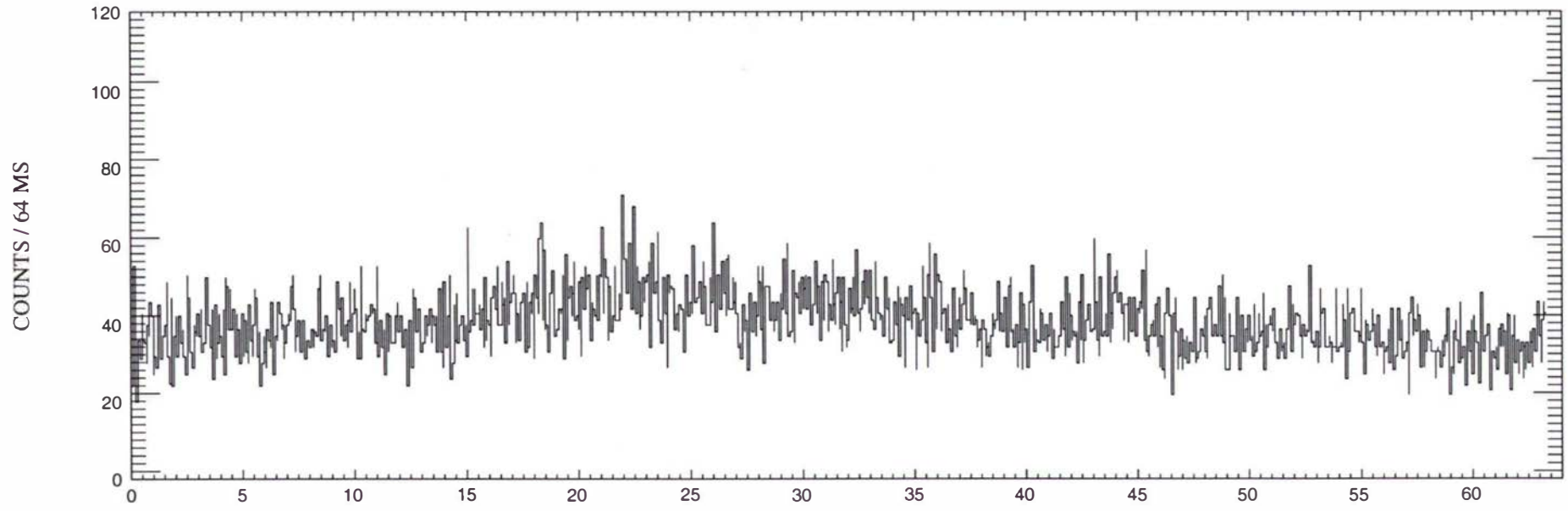


CALIBRATION DATA INCLUDED

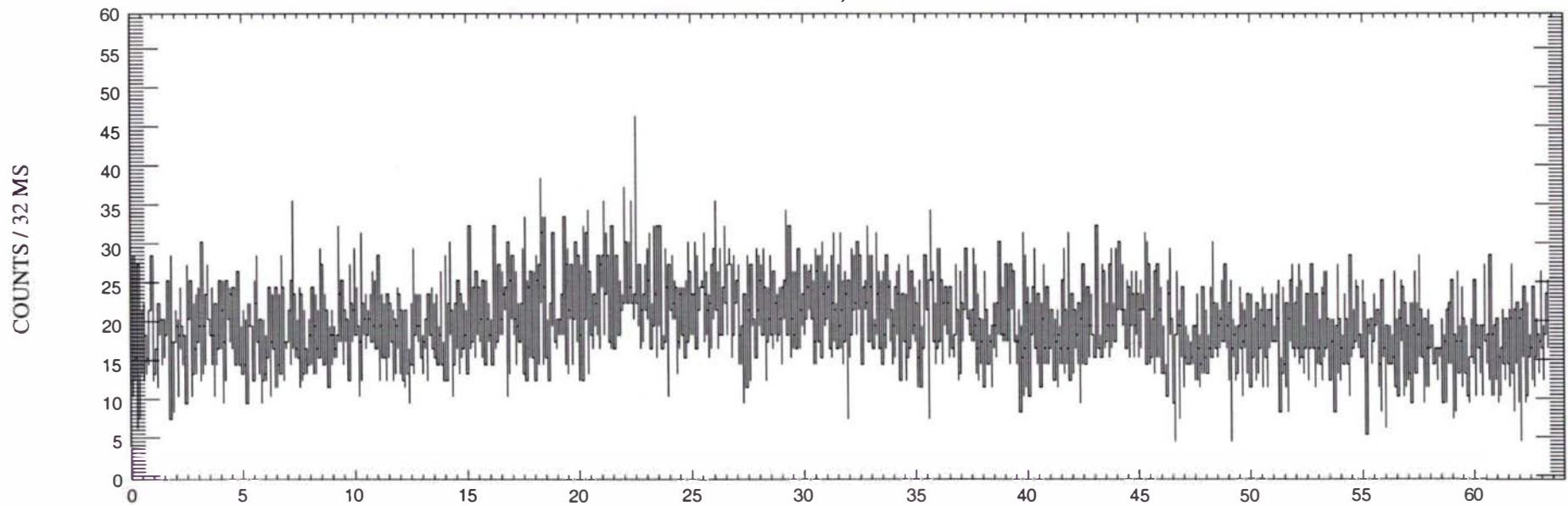


UNIV SAL TIME

Burst Counter 0 at UT= 5.910964775085 h=21279.473 s 05:54:39.473

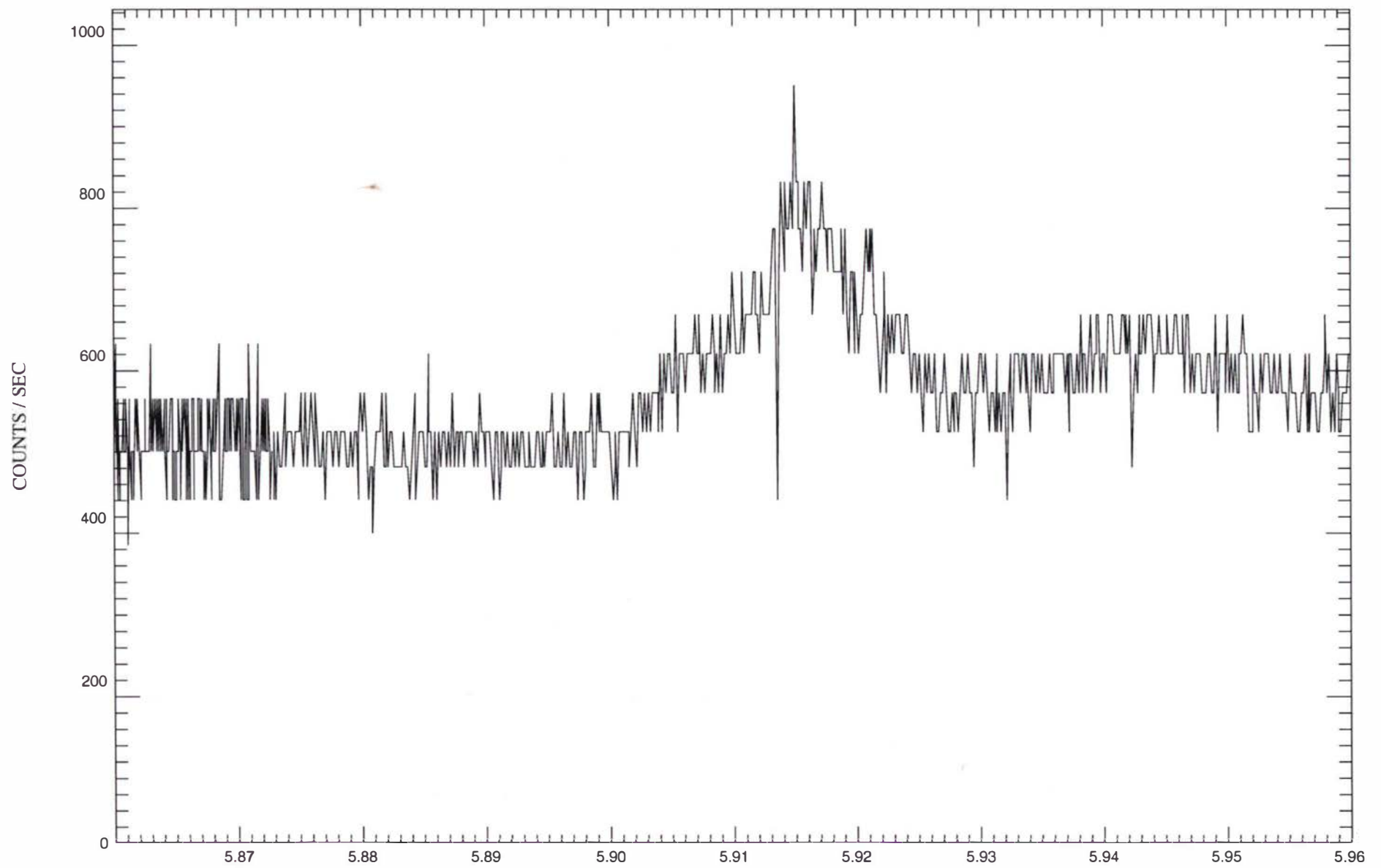


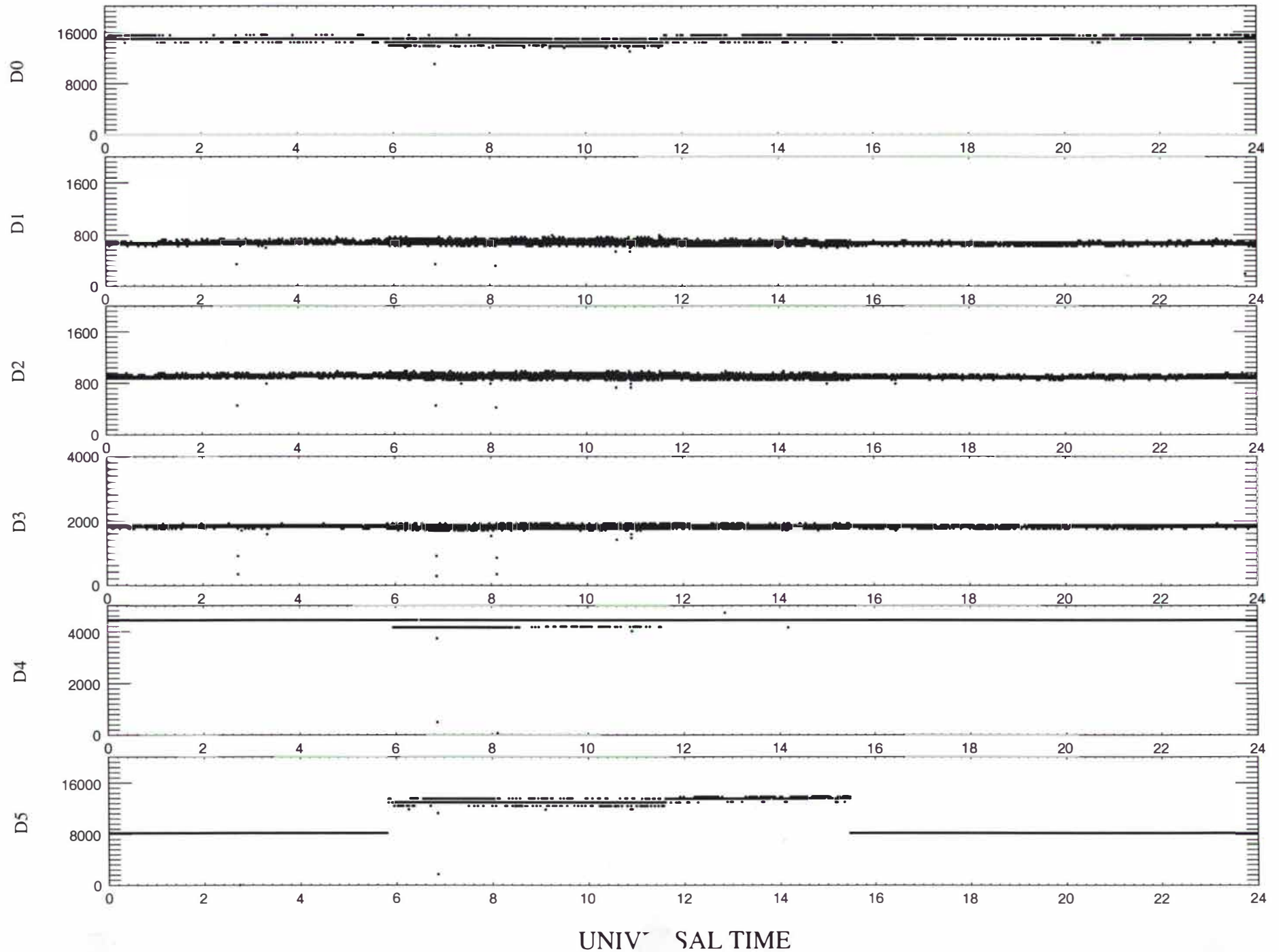
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





From khurley@sunspot.ssl.berkeley.edu Fri Apr 9 08:11 PDT 1999

Date: Fri, 9 Apr 1999 08:12:01 -0700

From: khurley@ssl.berkeley.edu (Kevin Hurley)

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

Subject: GRB990405A,B

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
APR 5 1999 02:33	weak, 1 s long	2150
APR 5 1999 08:48*	moderate, 64 ms long	2150

*looks like an SGR, but which one? *SGR 1900 - detected by SAX GRBM*

Were these events detected by anyone else?

CC: ulyssesbursts alias list

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

Date: Jan 8 '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. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

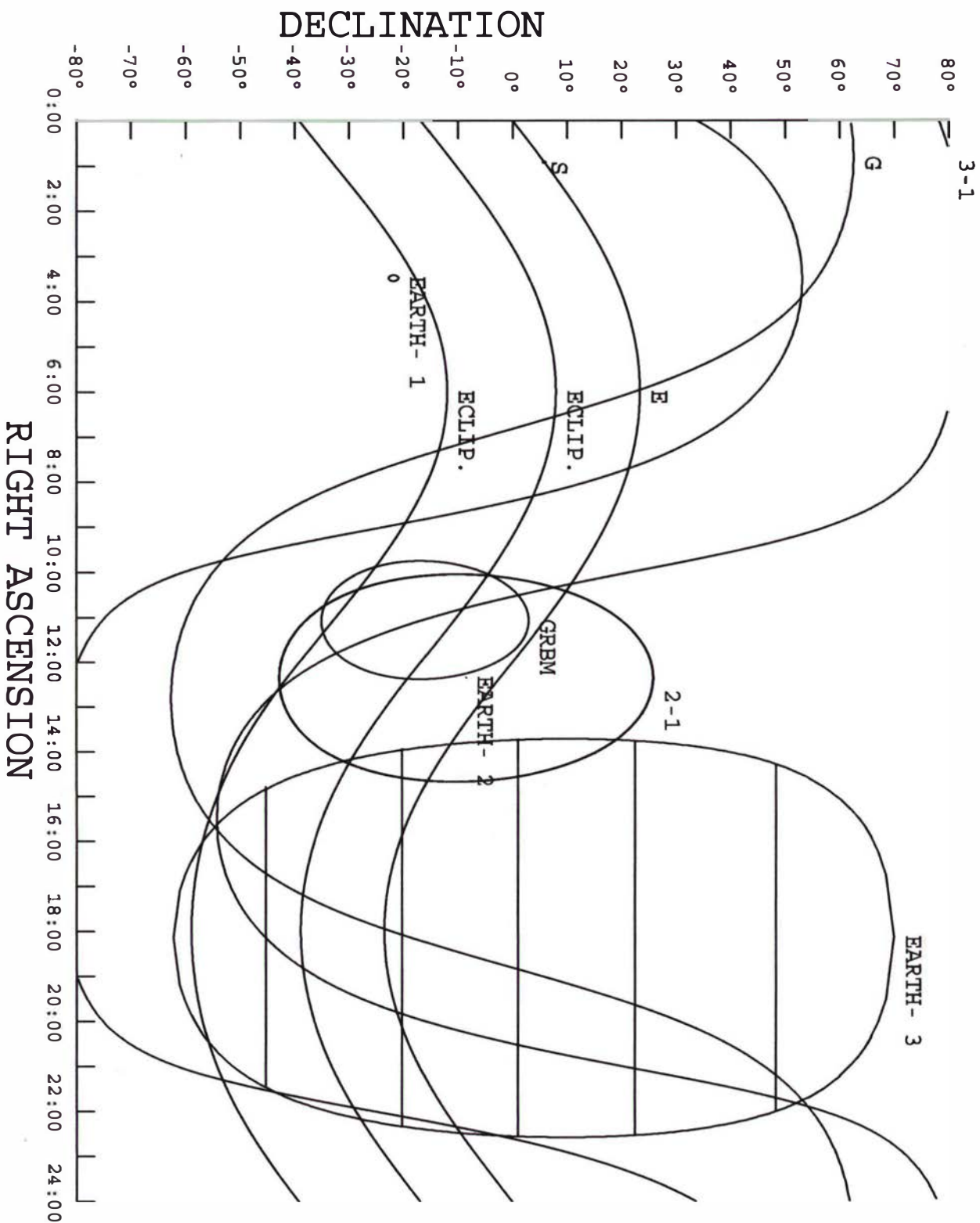
1 KONUS1

2 NEAR

3 SAX

EVENT OF APR 5, 1999 3:08

8 / 1/10



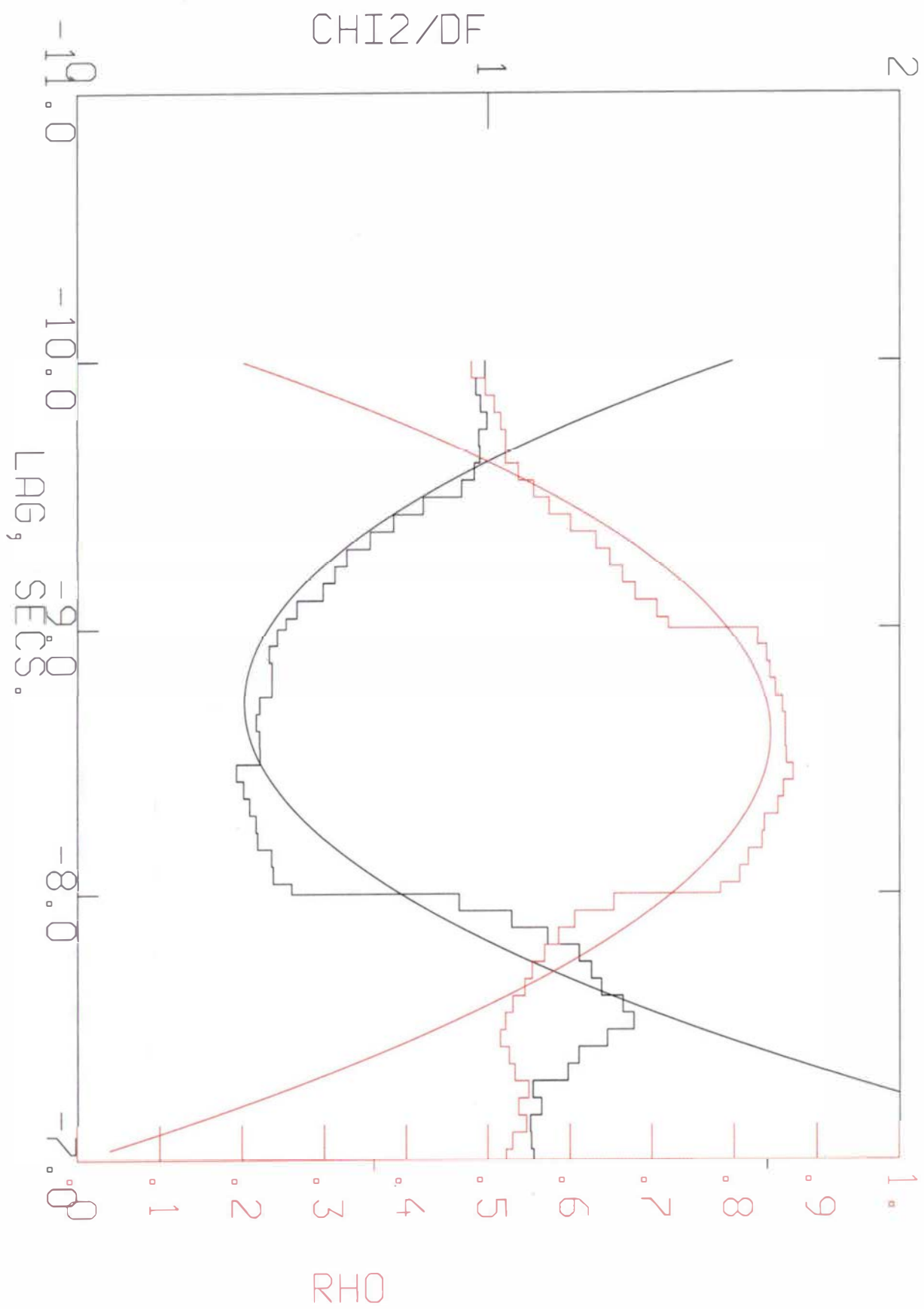
NEAR

-KONUS1

CORRELATION

05/04/1999 12353.772

8 / 1/10



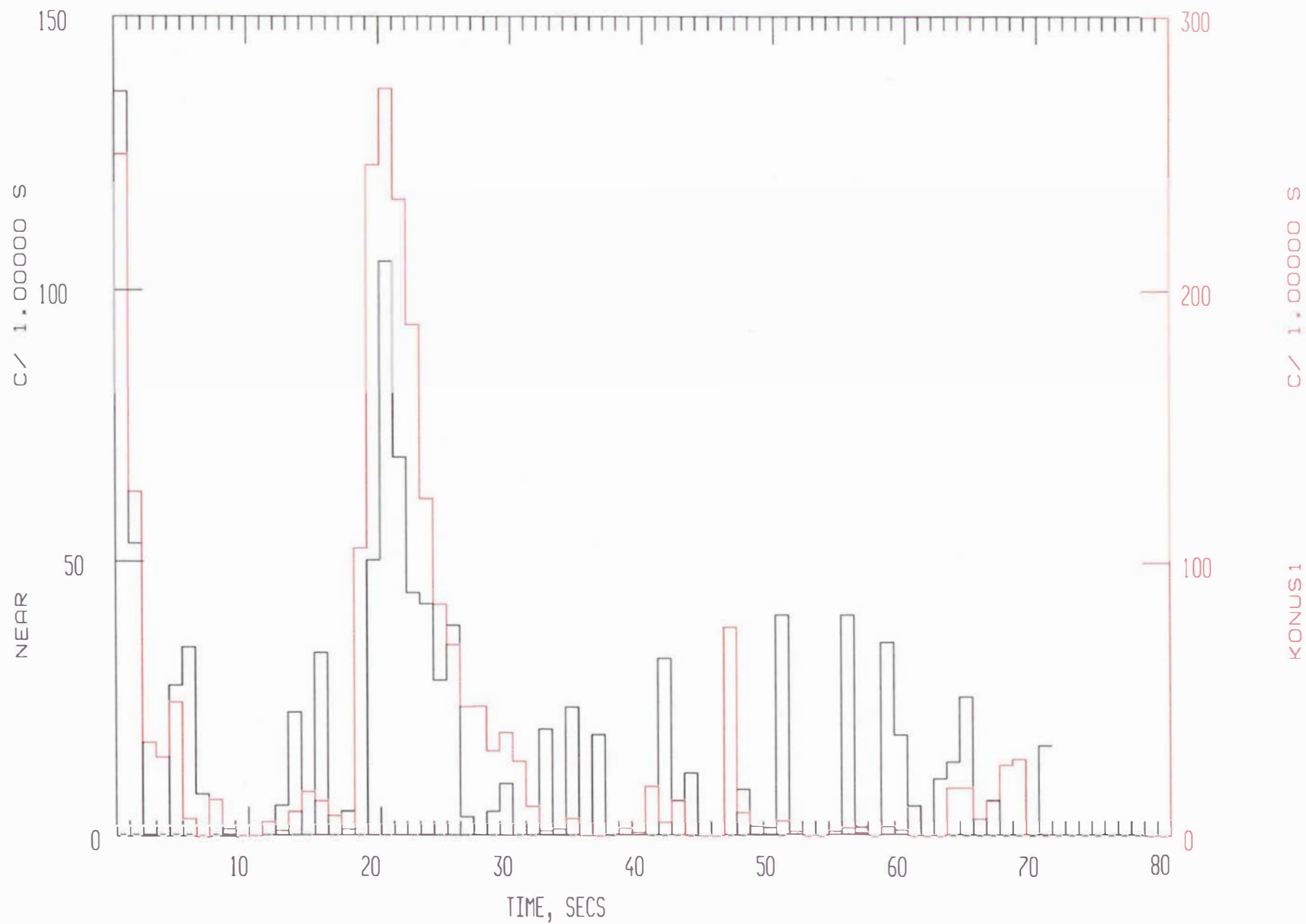
NEAR

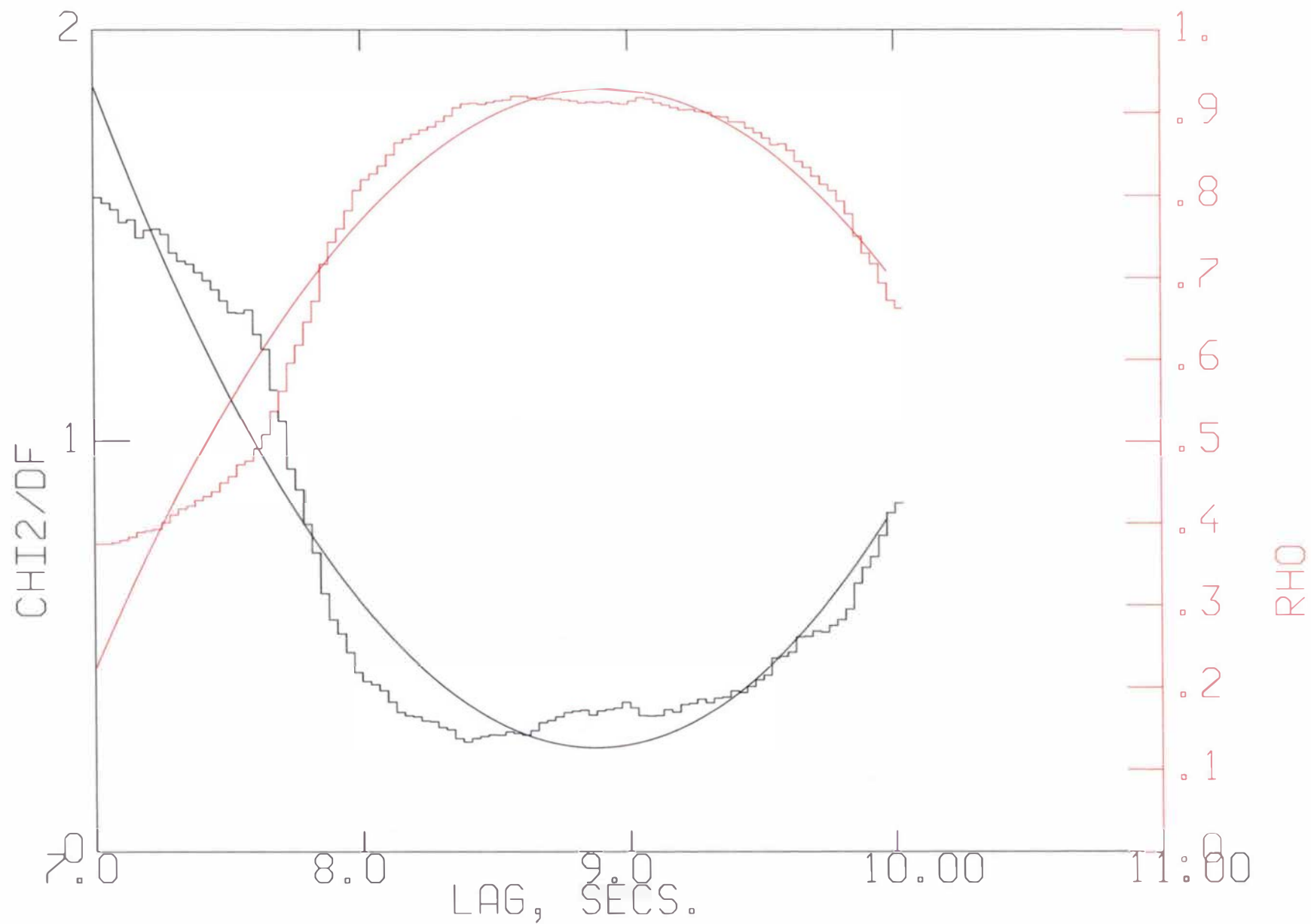
-KONUS1

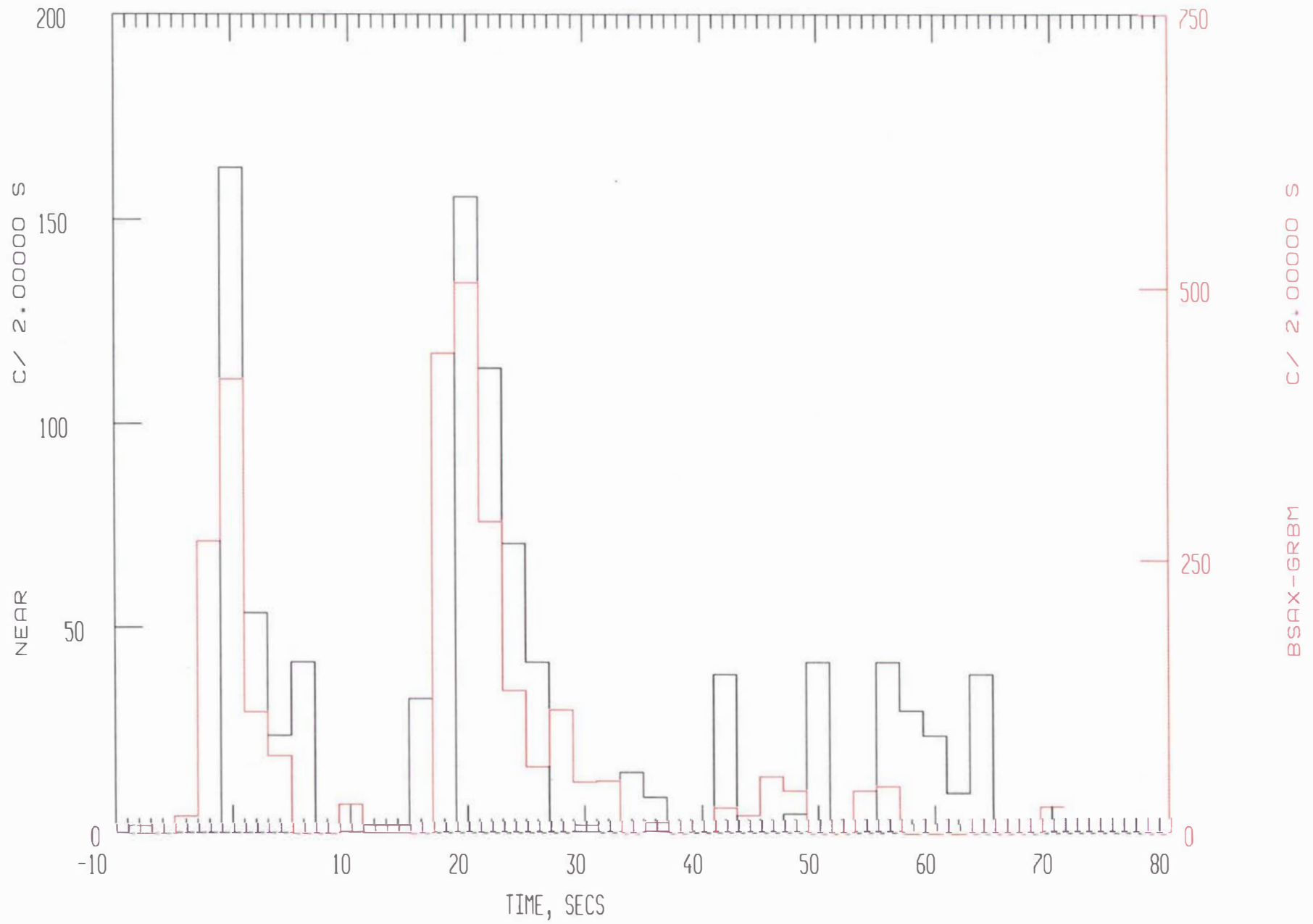
CORRELATION

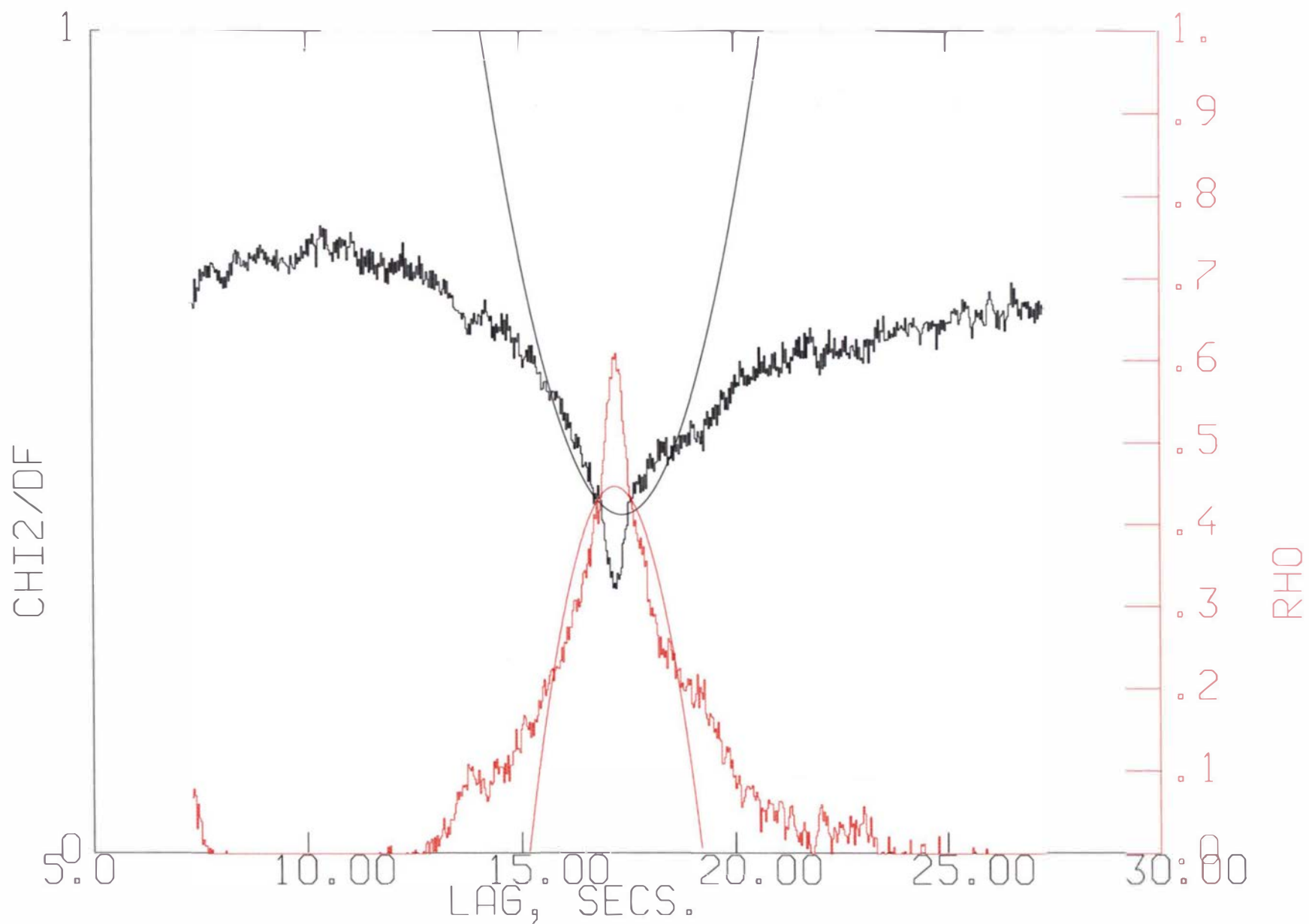
05/04/1999 12353.772

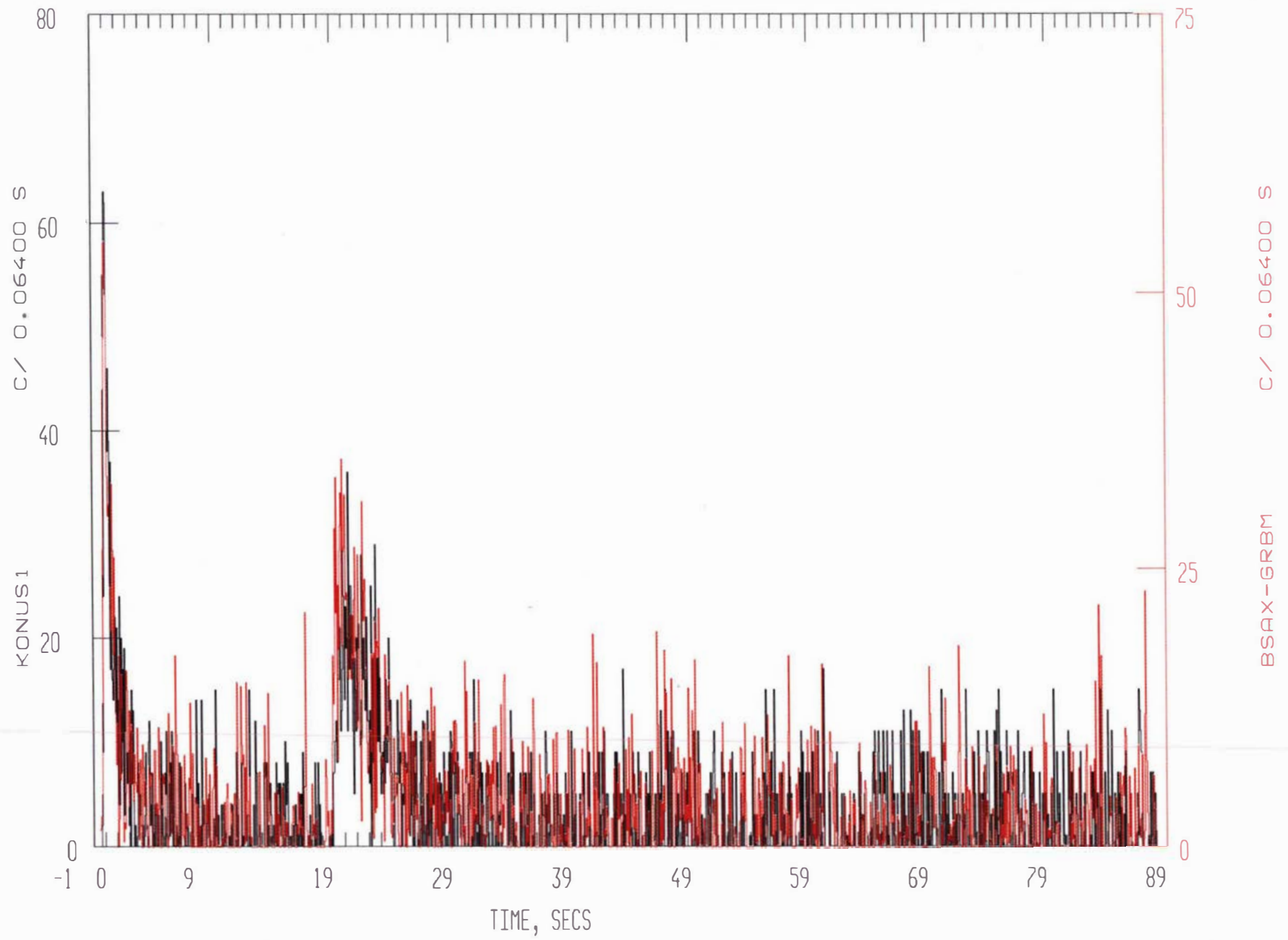
8/ 1/10









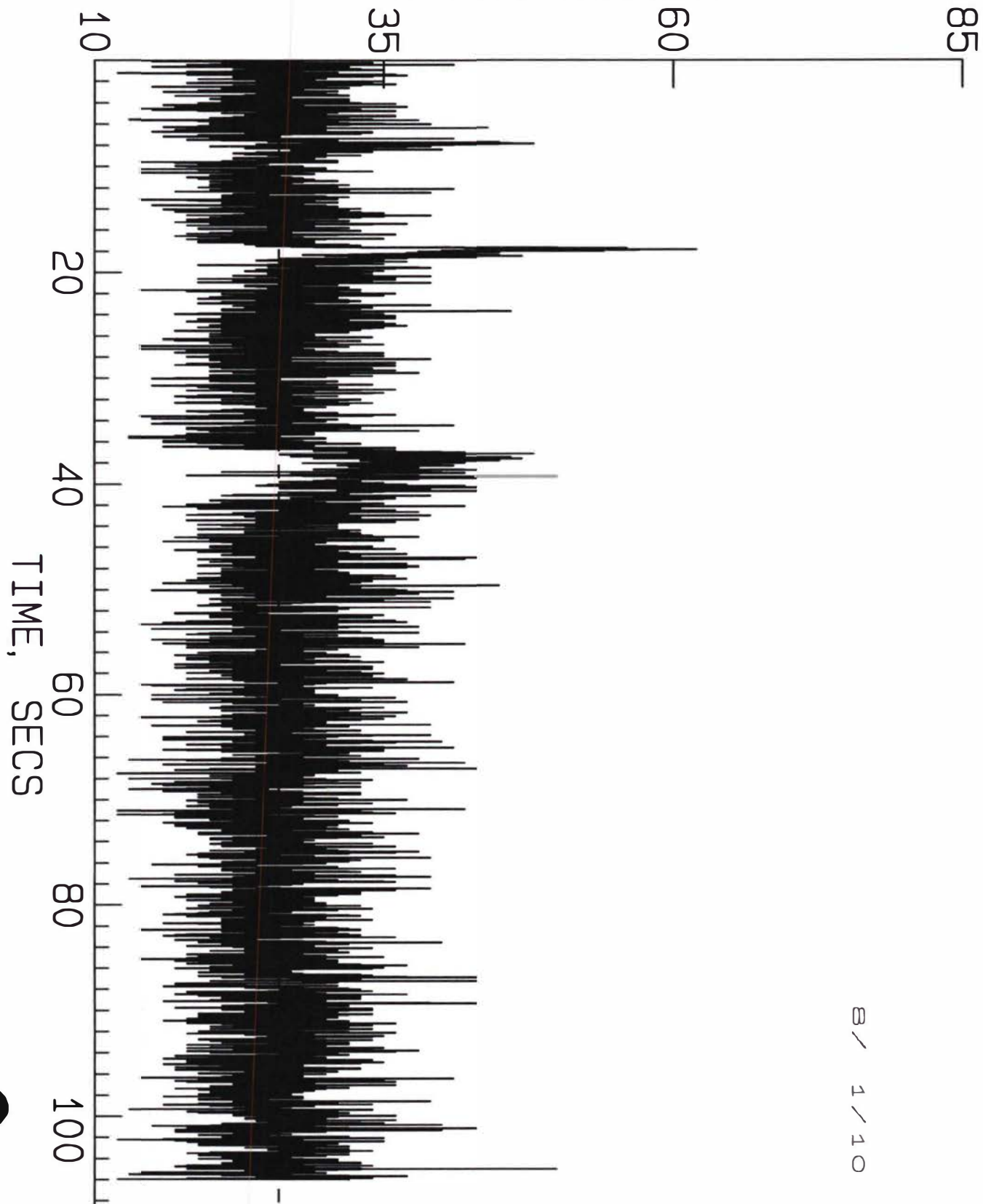


SAX GRBM

05/04/99 11292.068

40- 700 keV

COUNTS/0.031 S

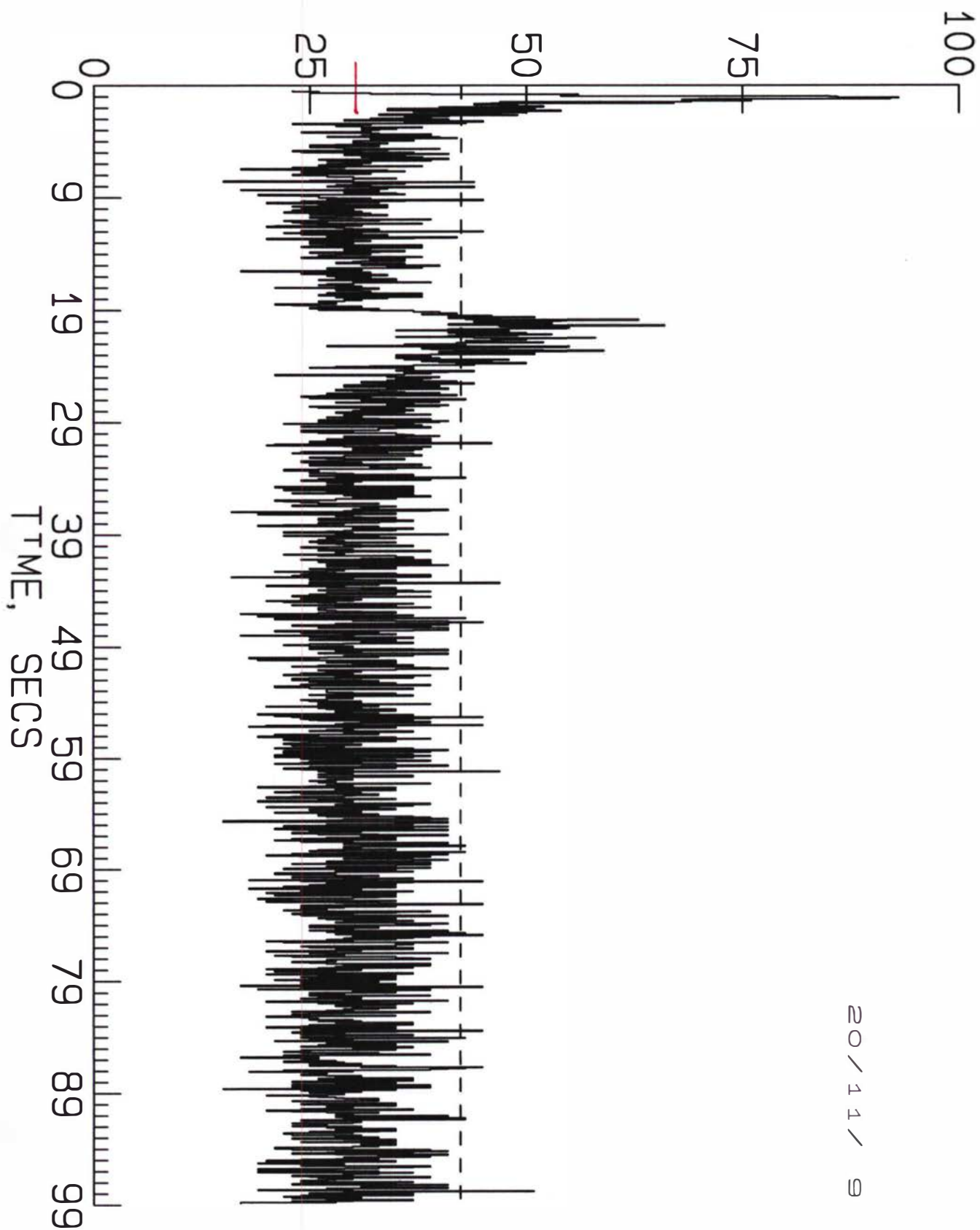


KONUS

05/04/99 11309.809

50- 200 keV

COUNTS/0.064 S

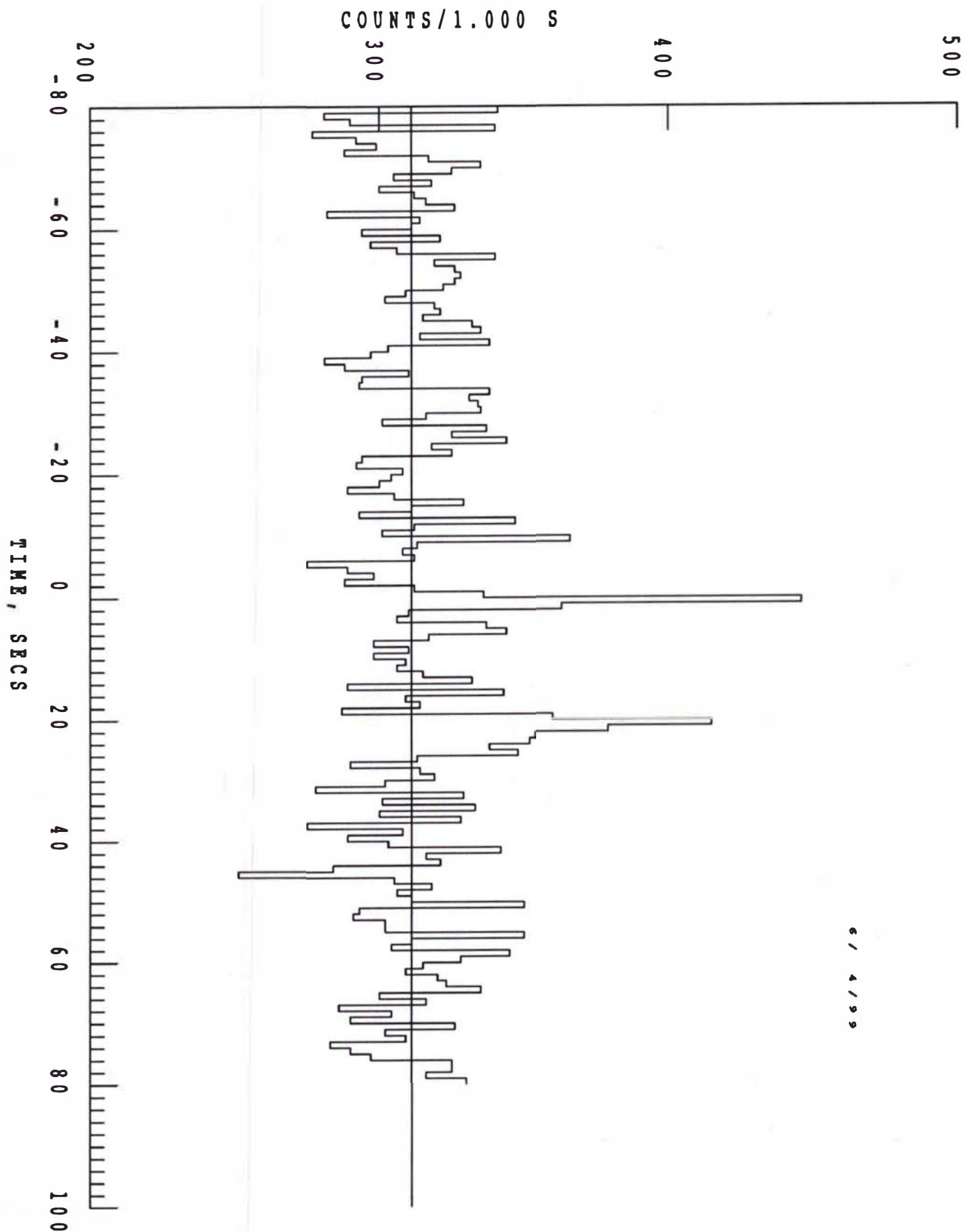


NEAR

05/04/99

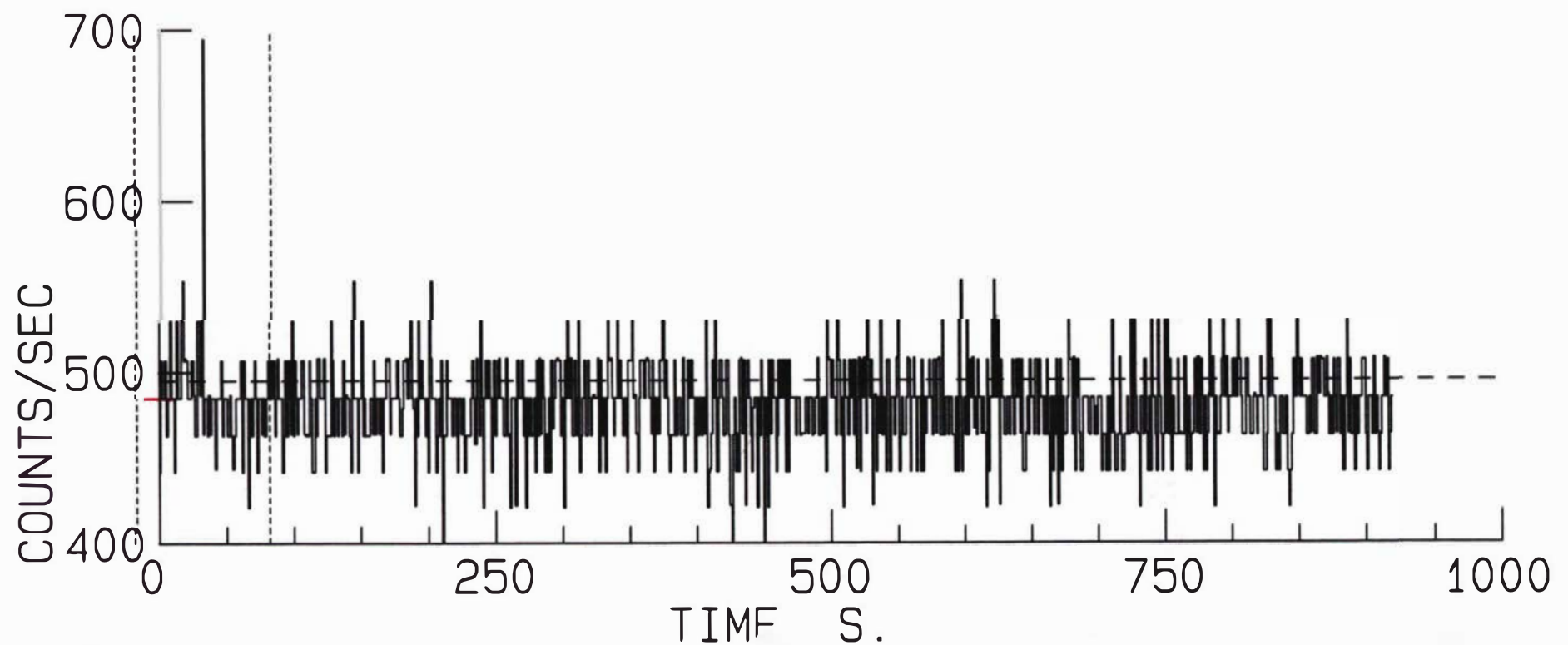
12354.814

100-1000 keV



ULYSSES RT
5/ 4/99 12823.896 s
INTERVALS REGROUPED BY 2
22- 151 keV

12/11/9



NEAR GRB99095-1

ULYSSES RT

6 / 4 / 99

5 / 4 / 99 10188.867 s

INTERVALS REGROUPED BY 5

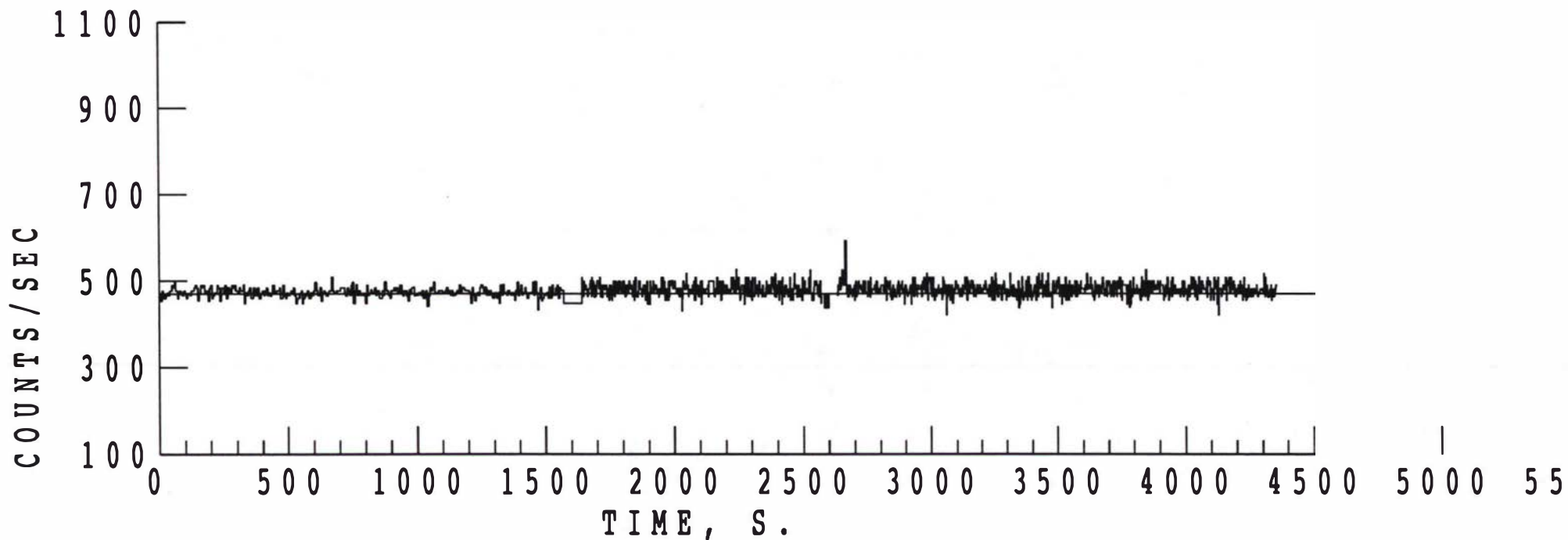
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



K O N U S

U L Y S S E S R T

1 2 / 0 2 / 0 0

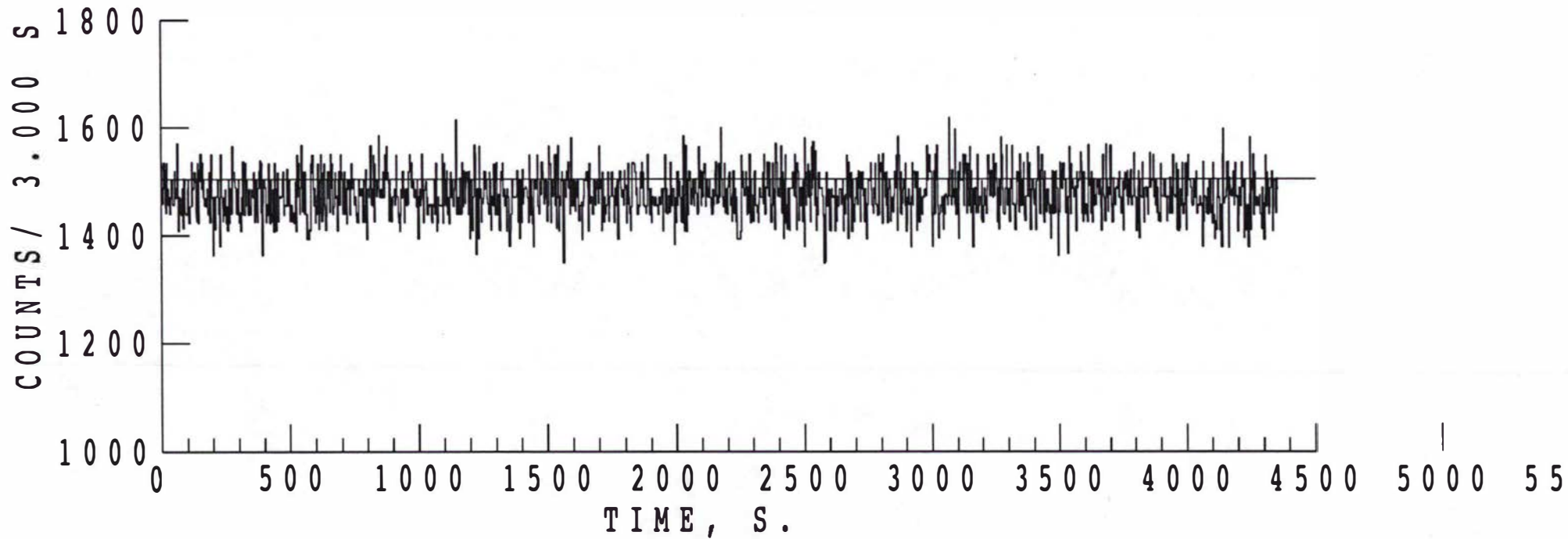
0 5 / 0 4 / 9 9 4 3 4 8 8 . 2 0 7 s

0 . 2 5 0 S I N T E R V A L S R E G R O U P E D B Y 1 2

0 - 0 k e V

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Wed Apr 7 10:39:29 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 7 Apr 1999 12:29:21 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7510

TIME: TJD=1273 SECONDS=69060

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=5.6 AZIMUTH=331.7 ERROR=0.243 DEGREES

COMMENTS:

GOES C2.9, OPTICAL SF. SINGLE PULSE WITH SPIKEY SUBSTRUCTURE. DUR APPROX 75S,
STARTS AT APPROX T-7S, MAX AT APPROX T+44S. VISIBLE ABOVE 100 KEV.

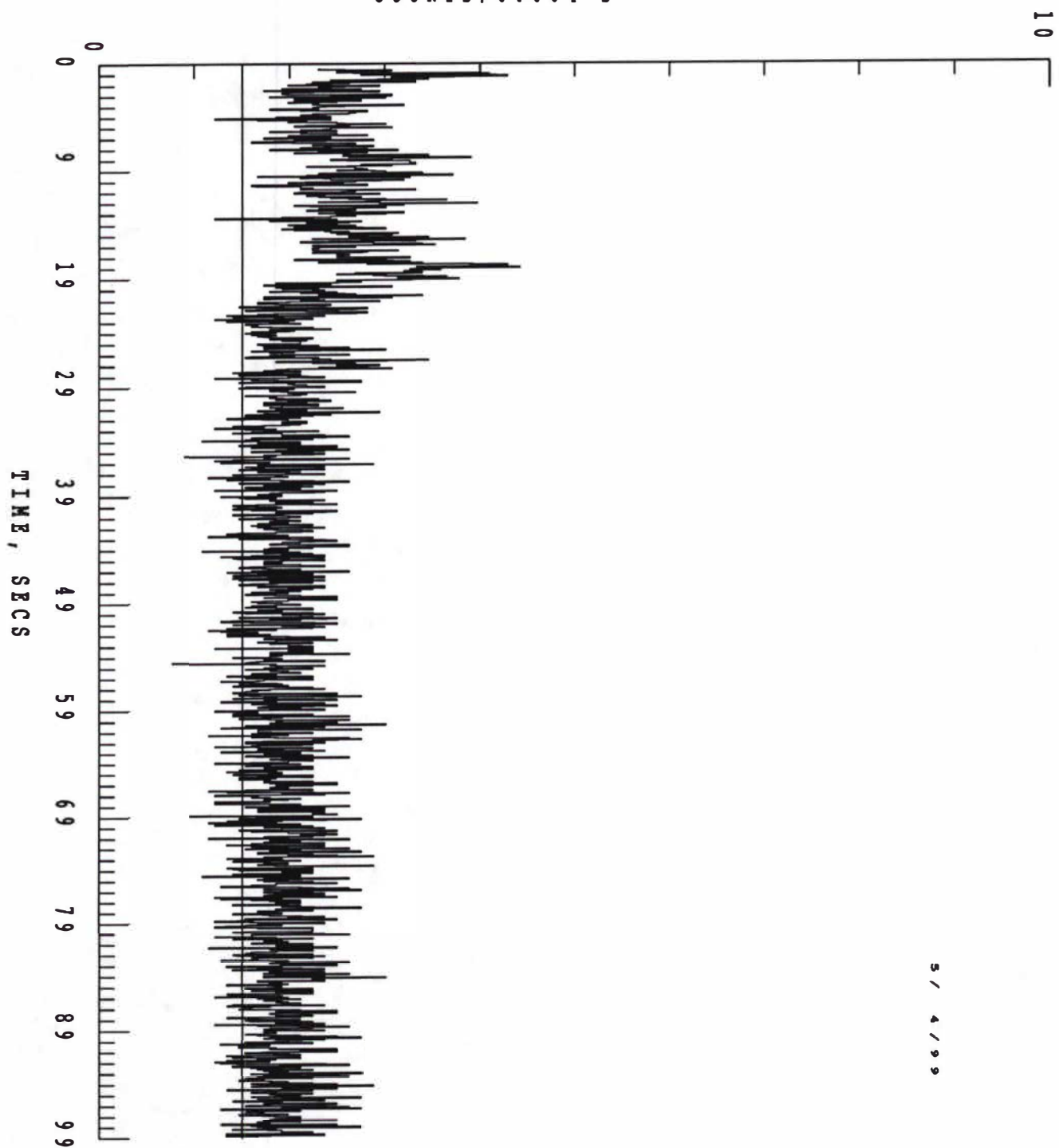
KONUS

05/04/99

69086.307

50 - 200 keV

COUNTS/0.064 S



5 / 4 / 9 9

KONUS 19990405 69086

ULYSSES RT

7 / 4 / 99

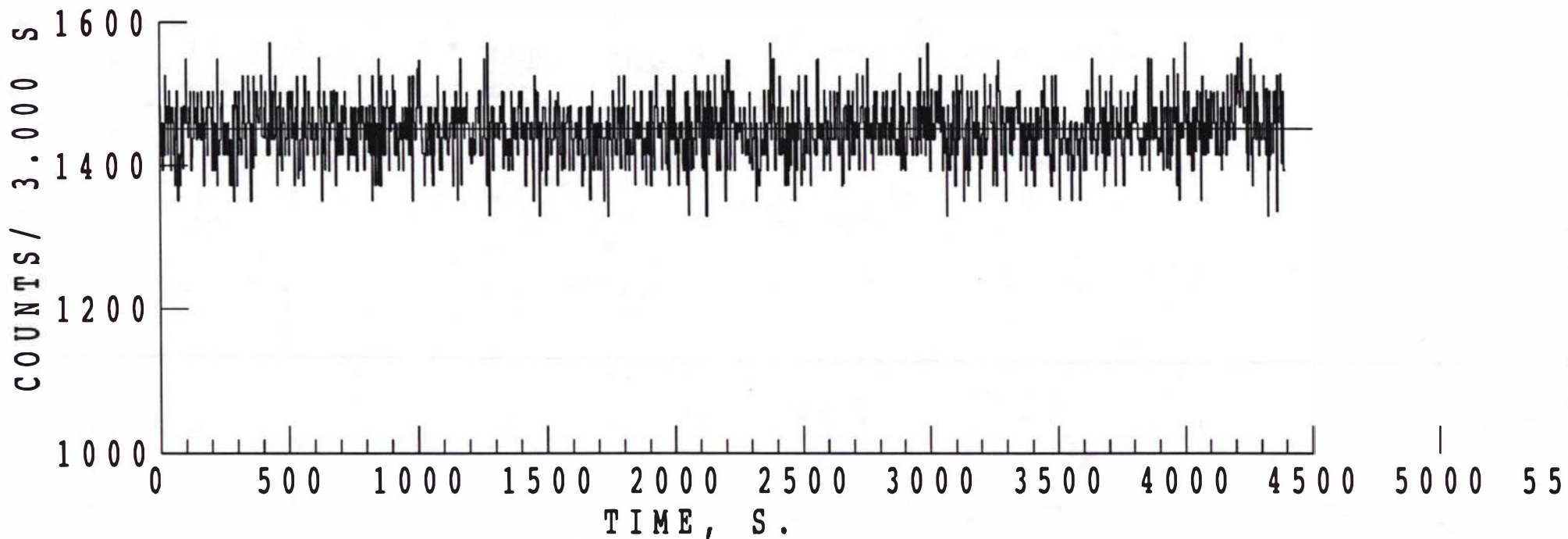
5 / 4 / 99 66888.445 s

0.500 S INTERVALS REGROUPED BY 6

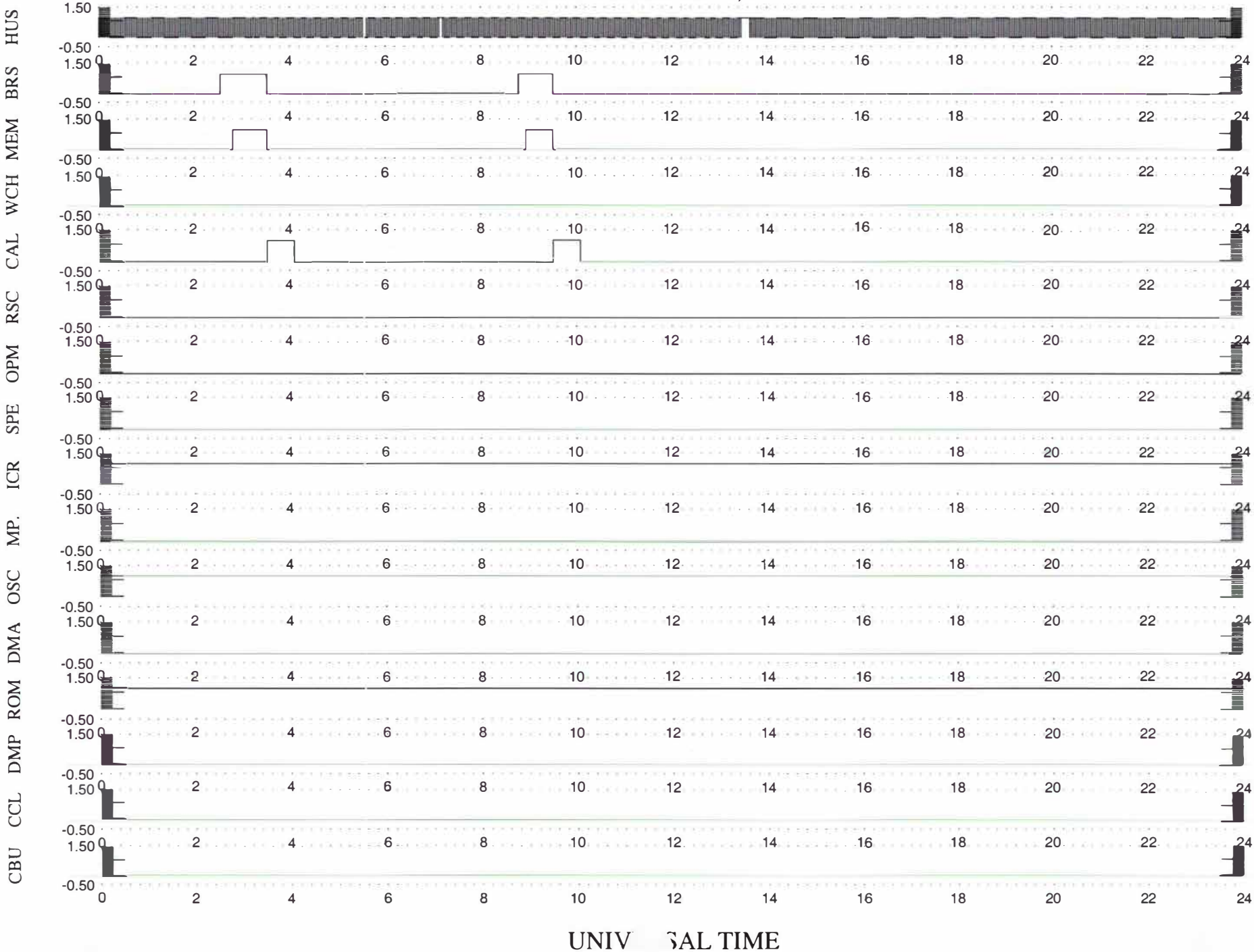
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

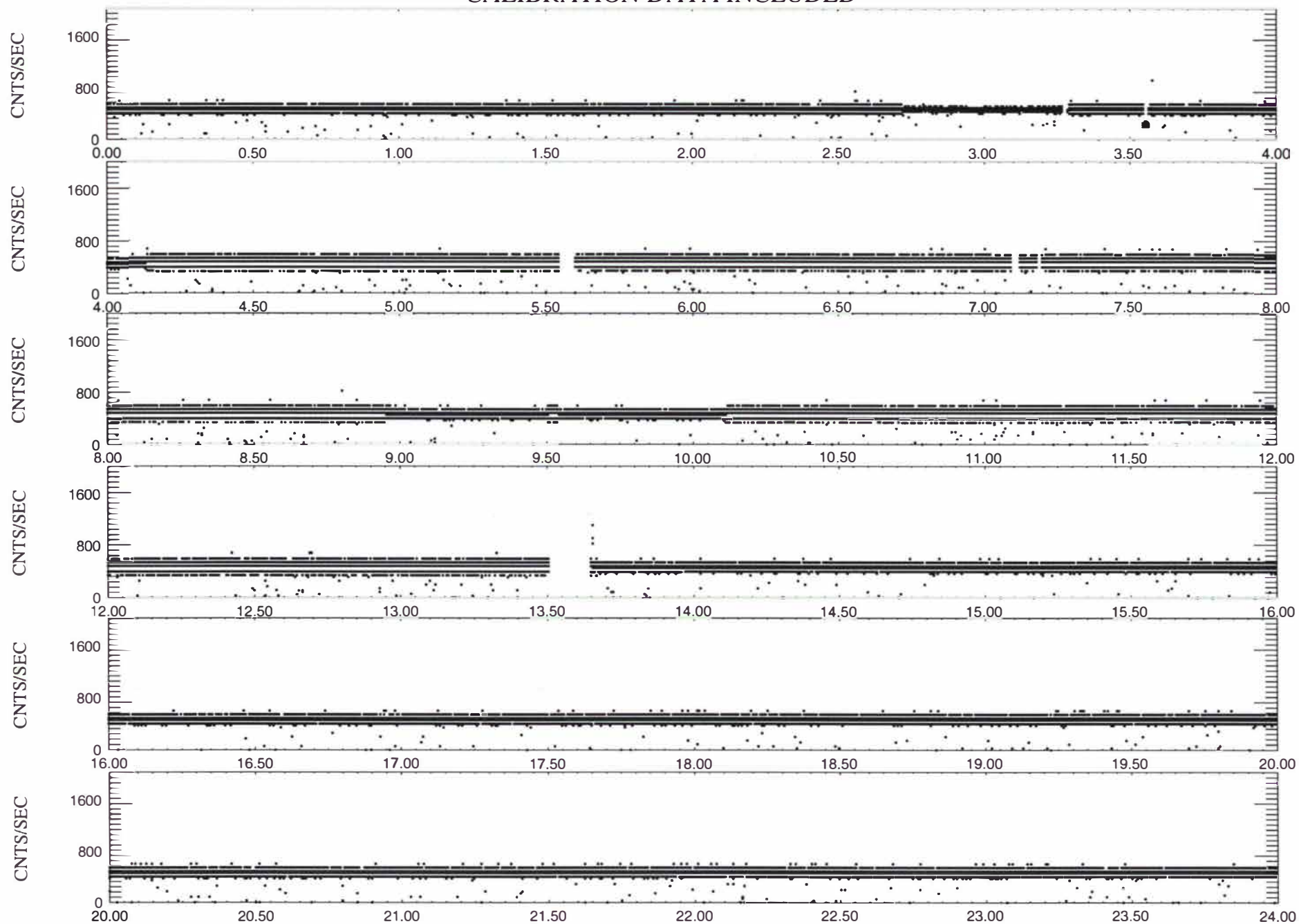
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 1, 2

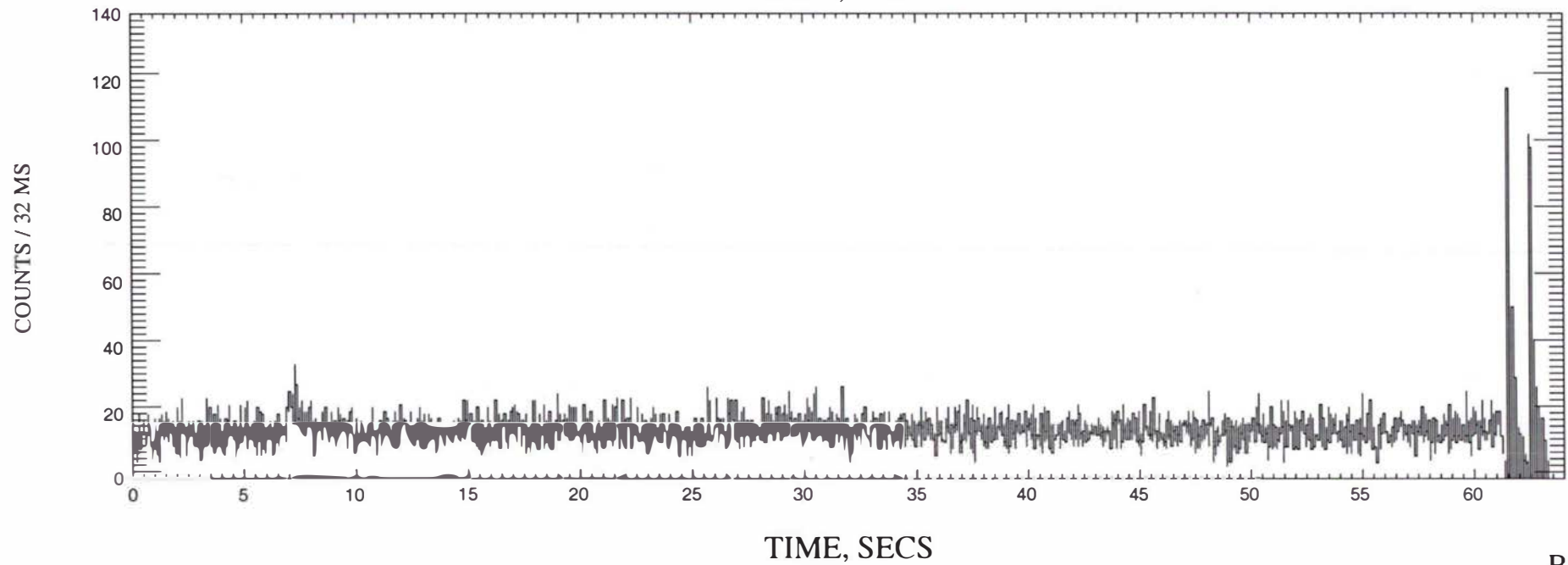
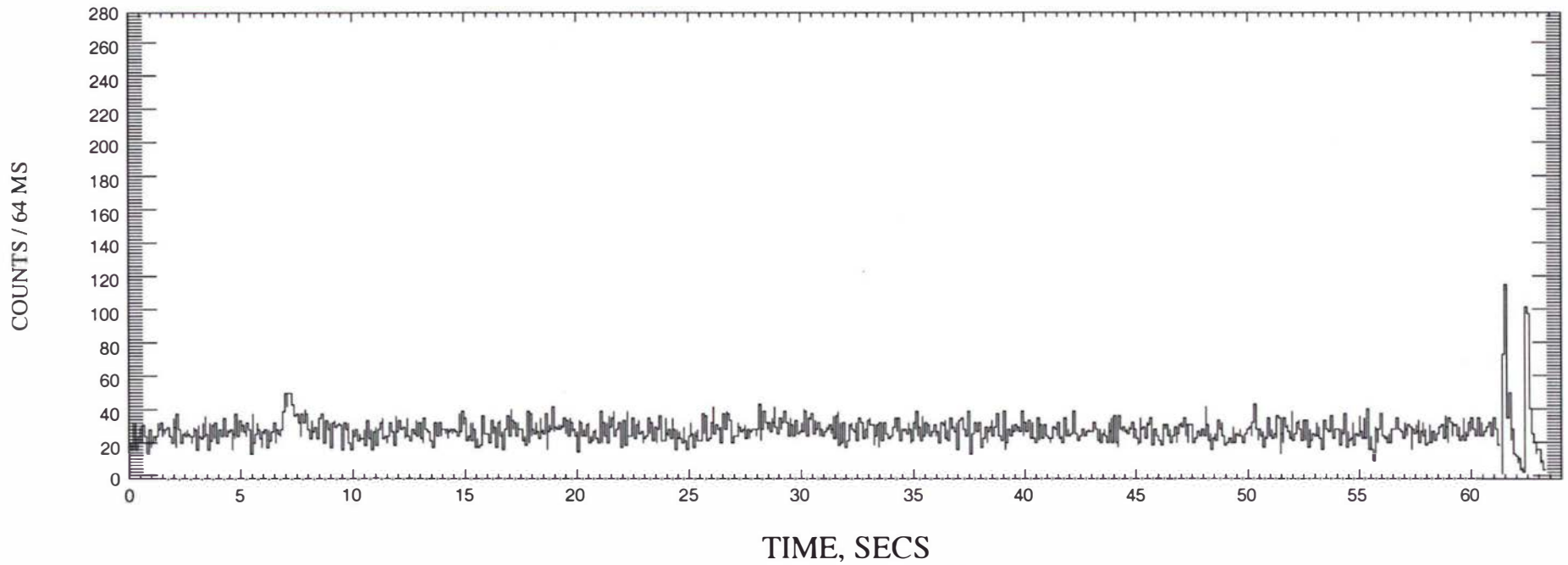


CALIBRATION DATA INCLUDED

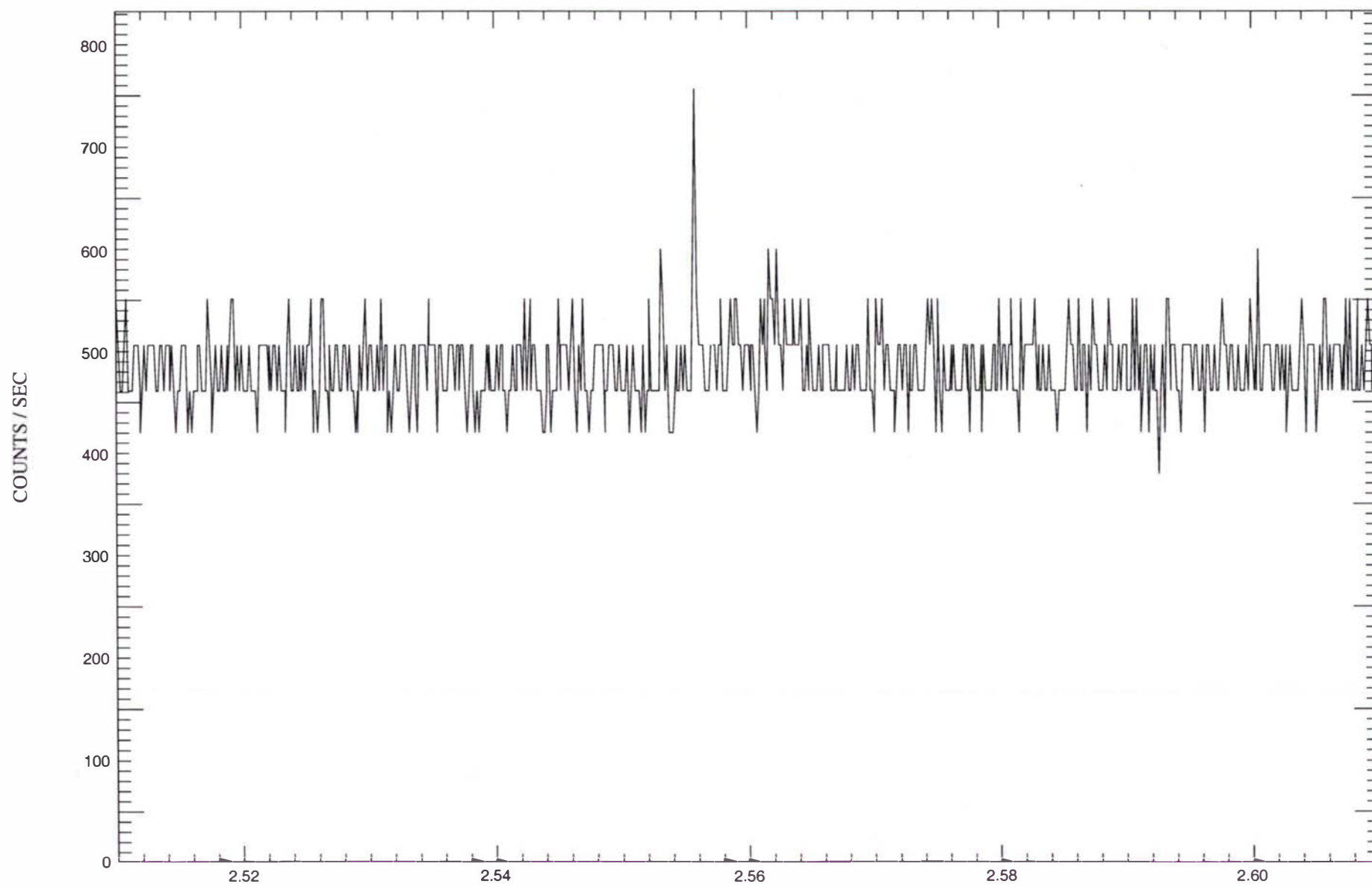


UNIV SAL TIME

Burst Counter 1 at UT= 2.555995517307 h= 9201.584 s 02:33:21.584

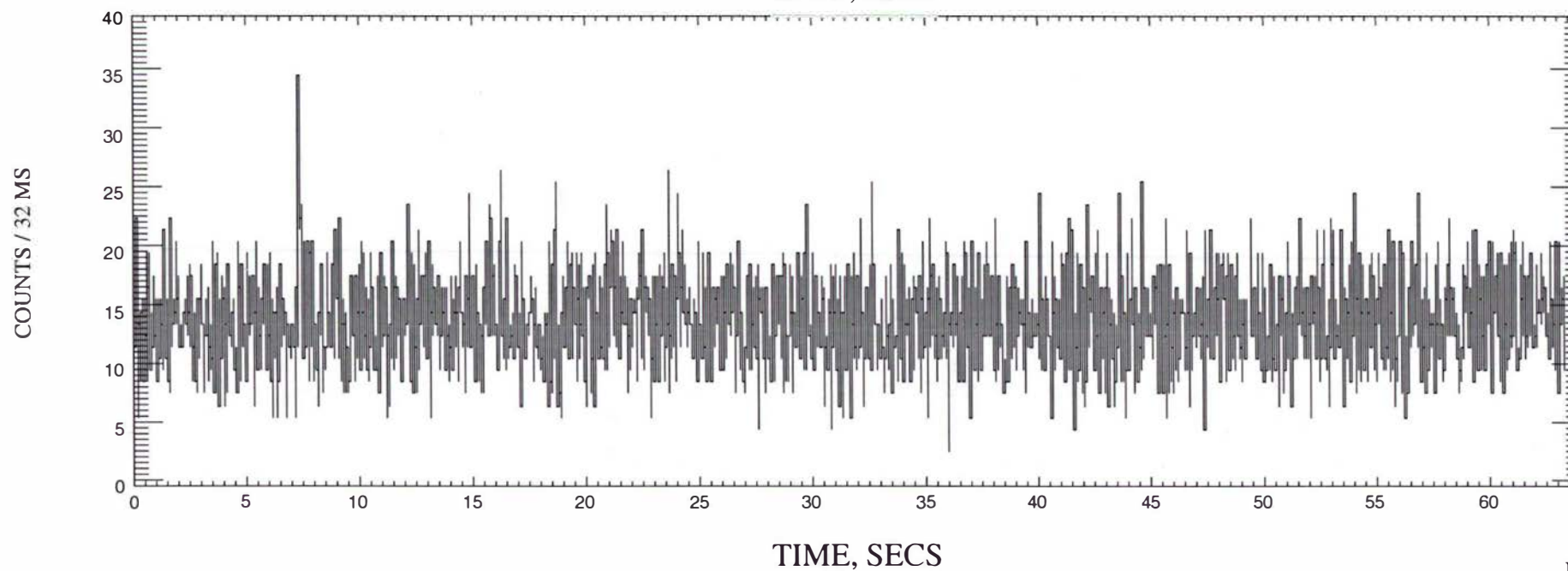
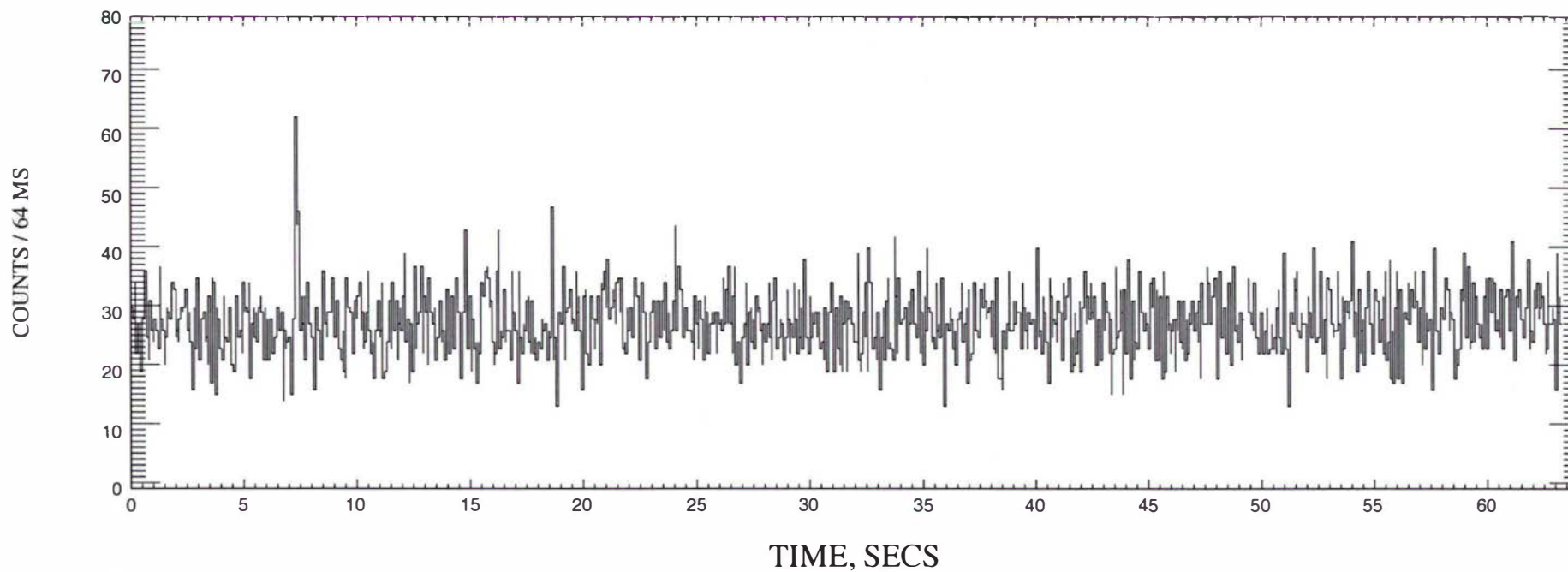


CALIBRATION DATA INCLUDED

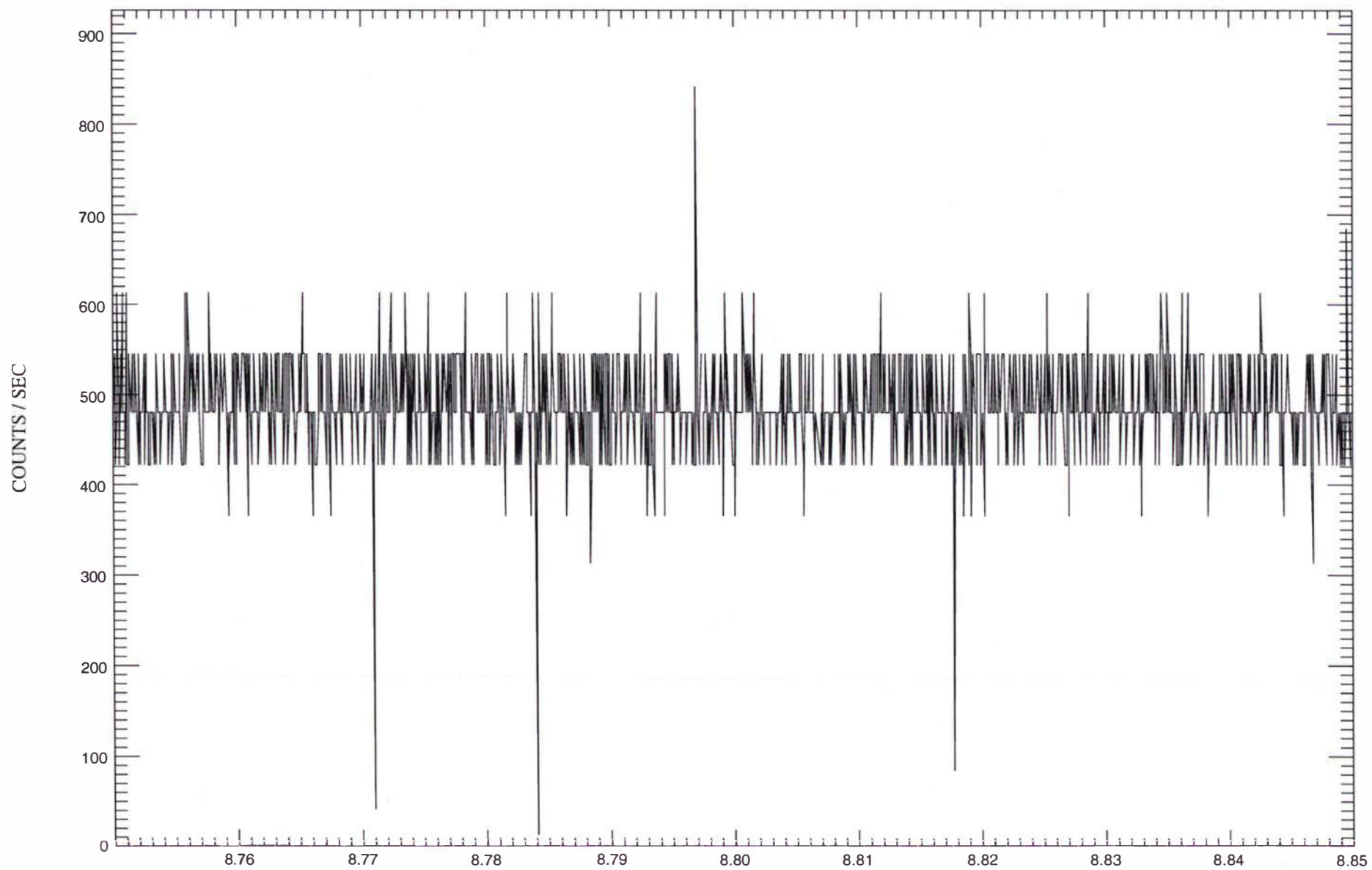


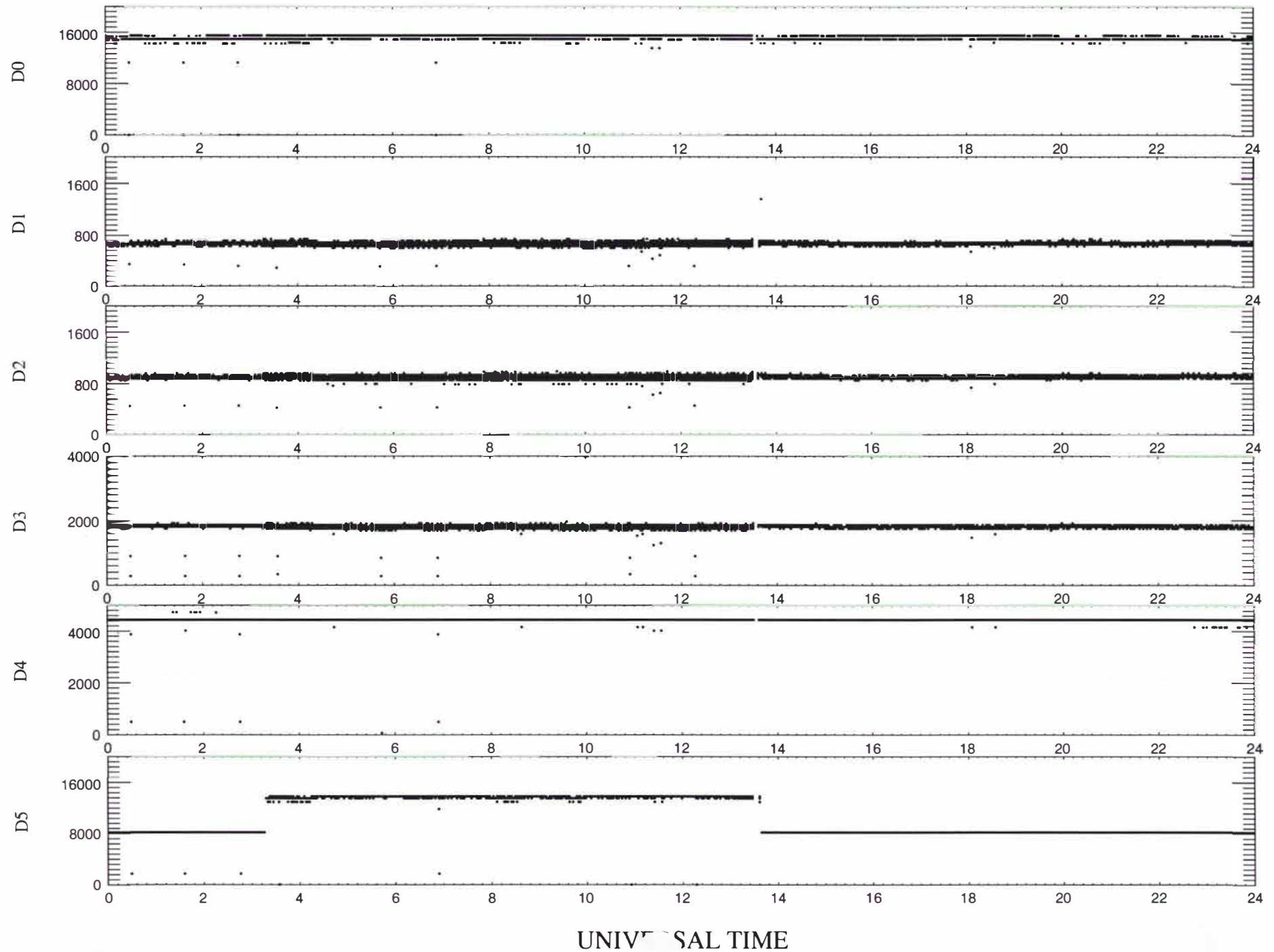
Burst Counter 2 at UT= 8.797070723640 h=31669.455 s 08:47:49.455

SGR 1900 + 14



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Thu Apr 8 11:26:10 1999
Date: Thu, 8 Apr 1999 13:25:25 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7511

TIME: TJD=1274 SECONDS=34592

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

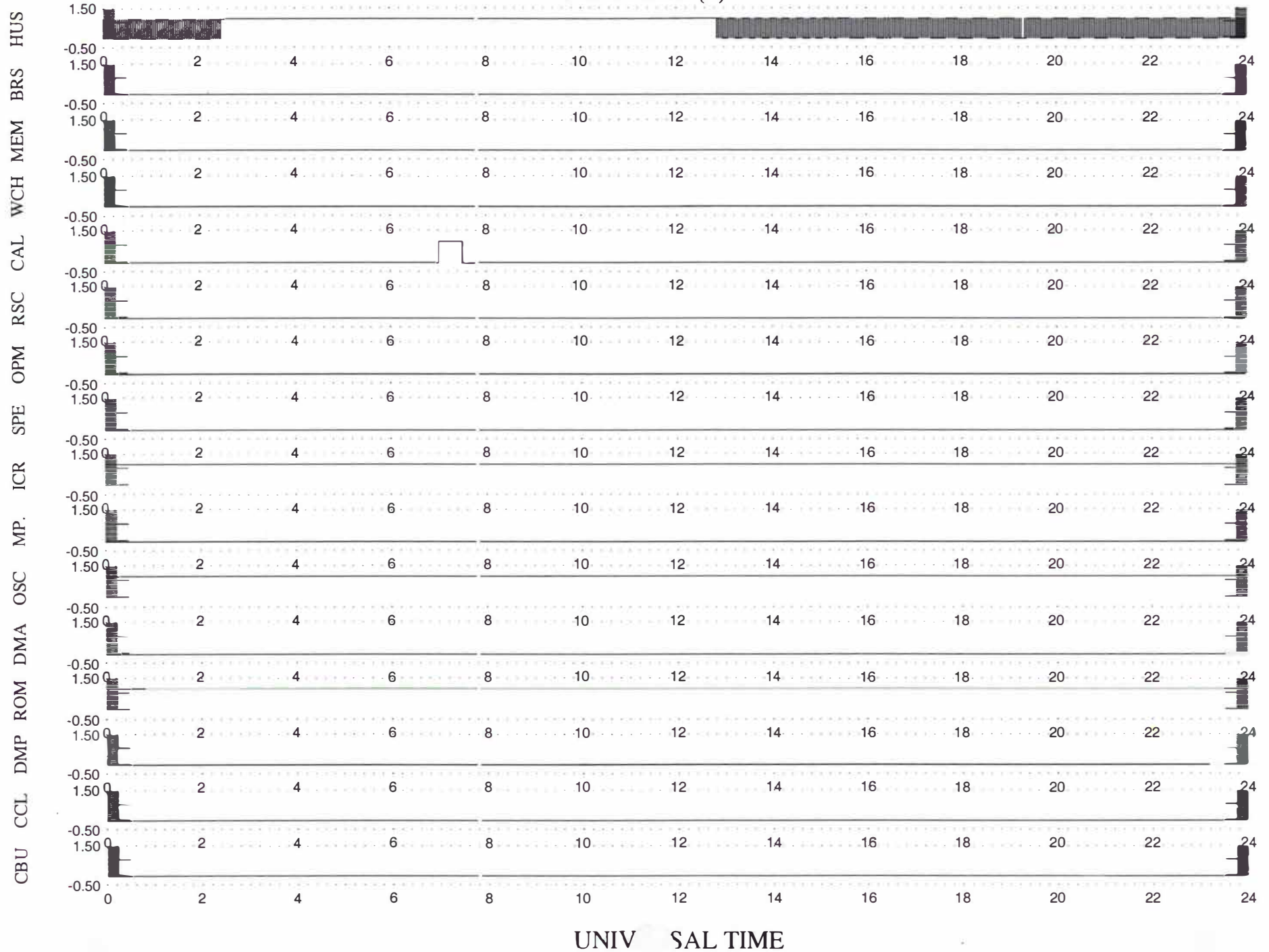
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 6.9 AZIMUTH=316.3 ERROR= 1.1 DEGREES

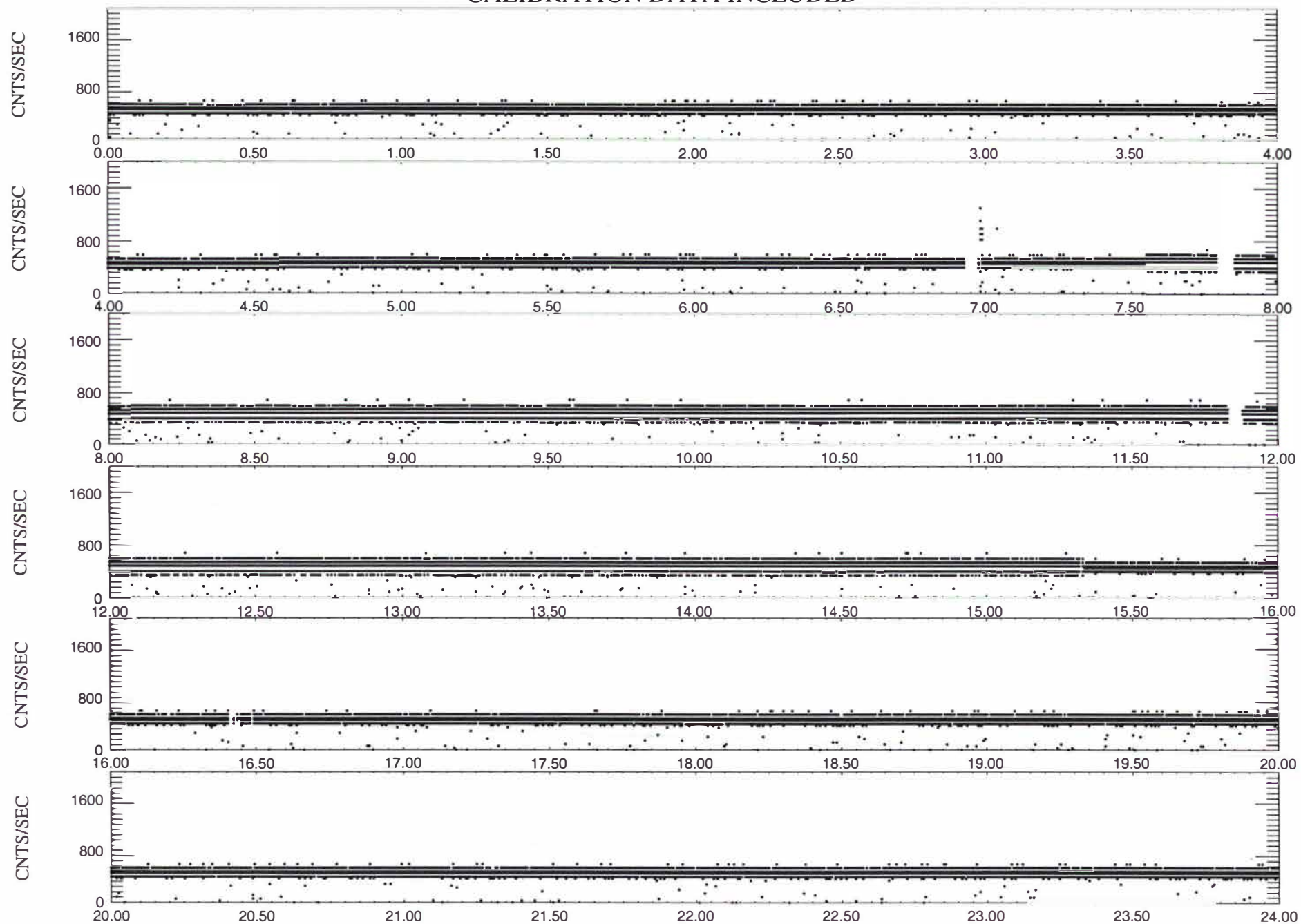
COMMENTS:

SOLAR FLARE BUT NO GOES OR OPTICAL IDENT. TRIGGERED DURING DATA GAP.
SINGLE PULSE WITH SUBSTRUCTURE, DUR. ~13 S. WEAKLY VISIBLE ABOVE 100 KEV.

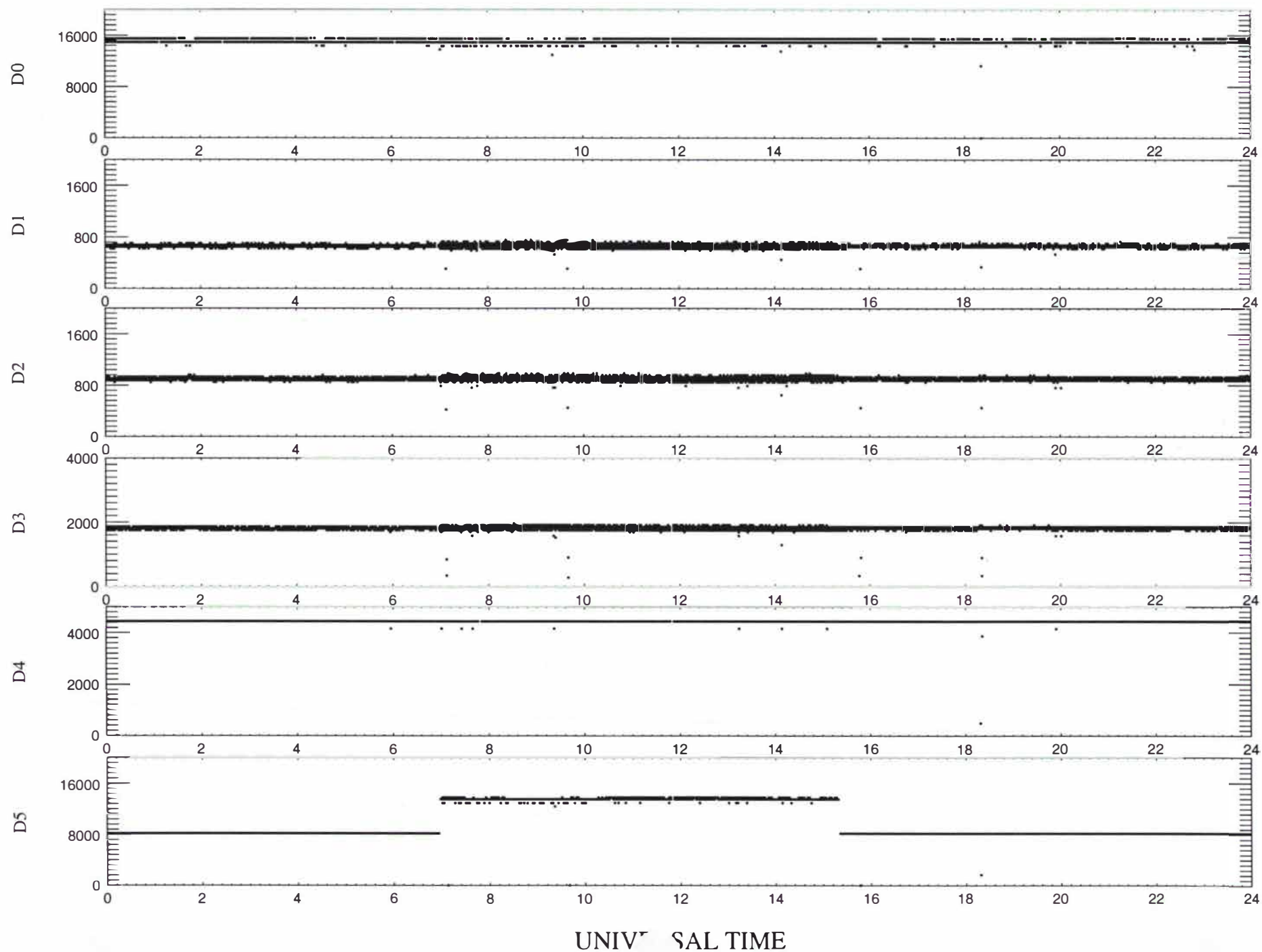
NO BURST (2)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From GOGUSE@fender.msfc.nasa.gov Fri Apr 9 10:51:55 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Fri, 9 Apr 1999 12:51:21 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7512

TIME: TJD=1275 SECONDS=16516

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=92.8 AZIMUTH=356.8 ERROR= 0.7 DEGREES

COMMENTS:

GOES C1.1, NO OPTICAL, MULTI PEAKED, DUR. APPROX. 31 SEC. VISIBLE ABOVE 100 KEV

From HENZE@fender.msfc.nasa.gov Fri Apr 9 16:06:46 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id QAA01514; Fri, 9 Apr 1999 16:06:46 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id QAA29818
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 9 Apr 1999 16:06:42 -0700 (PDT)
Date: Fri, 9 Apr 1999 18:06:39 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990409180639.20231333@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7513
Content-Length: 1122
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7513
EVENT OF 1999 APR 7 DAY OF YEAR= 97
EVENT CROSSING TIME AT BATSE : 86340. S. OR 23:59:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 267.000 49.000
BATSE PEAK COUNTING RATE: 7000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
POSITION OF ULYSSES ON 7/ 4/ 99 IS:
RA= 147.083 DEC= -8.096 DIST= 4.301 AU
BATSE-ULYSSES DISTANCE = 643461016. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 64.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 923.43 SECS.
CROSSING TIME AT ULYSSES IS 87263. S. OR 24:14:23 +/- 400.41 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 7/ 4/ 99 IS:
RA= 218.039 DEC= -12.972 DIST= 0.639 AU
MARS-BATSE DISTANCE = 95527872. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.50 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -79.77 SECS.
CROSSING TIME AT MARS IS 86260. S. OR 23:57:40 +/- 52.35 SECONDS

BATSE BURST TRIGGER

NO.: 7513

TIME: TJD=1275 SECONDS=86340

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 41.3 AZIMUTH= 98.4 ERROR= 1.6 DEGREES

COMMENTS:

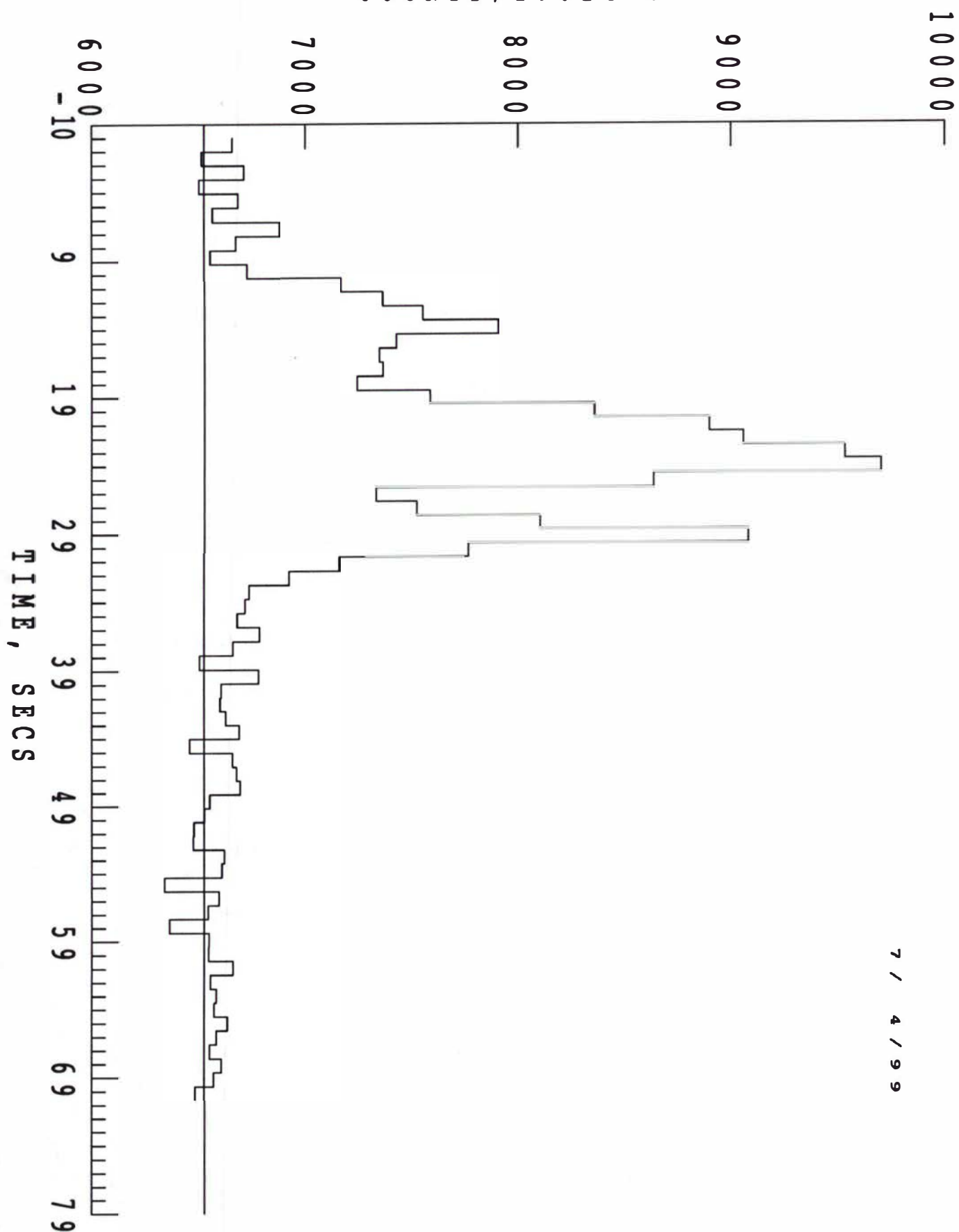
THREE PULSES, TOTAL DUR. APPROX. 160 S. FIRST TWO PULSES ARE STRONGER, WITH
SUBSTRUCTURE. FIRST HAS MAX AT APPROX. T+12 S. SECOND HAS MAX AT APPROX. T+95 S
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7513	990407	11275	86340	7000	267	+49	100

BACODINE 7513 07/04/99 86328.057

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7513

ULYSSES RT

9 / 4 / 99

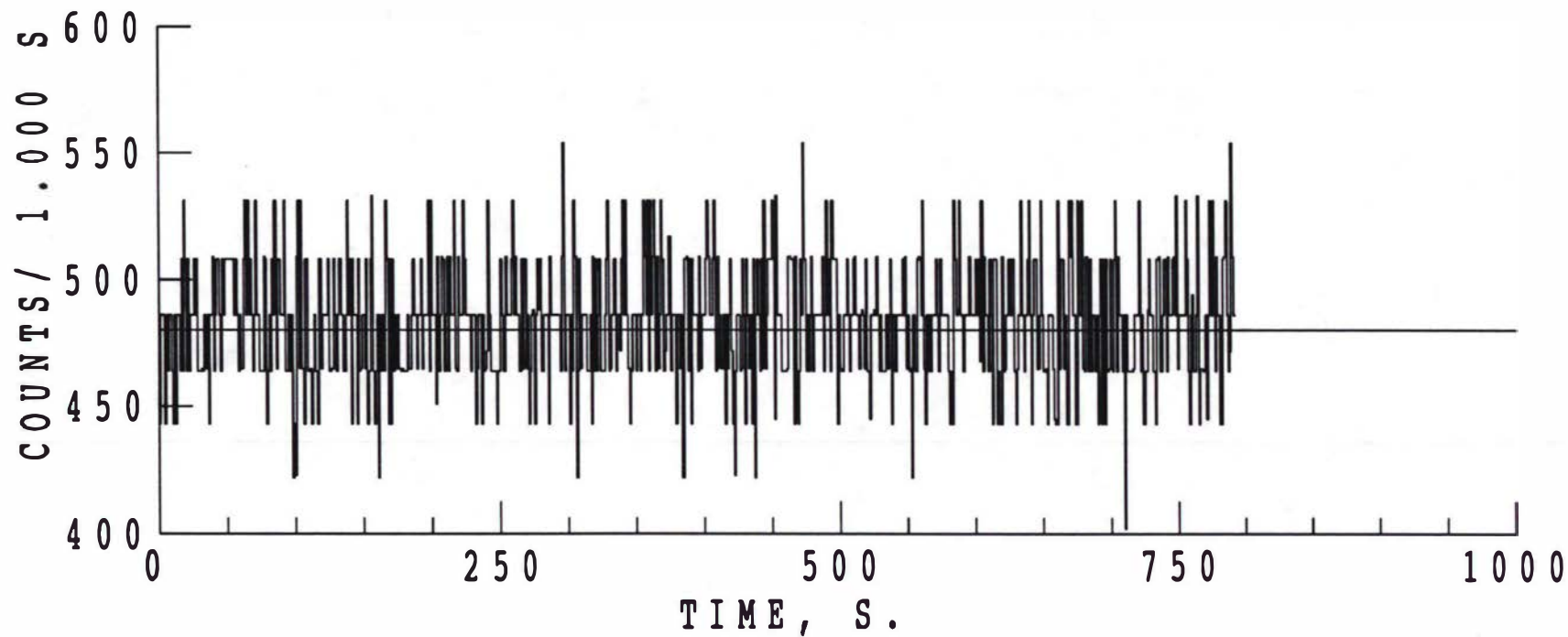
9 / 4 / 99 468.272 s

0.500 S INTERVALS REGROUPED BY 2

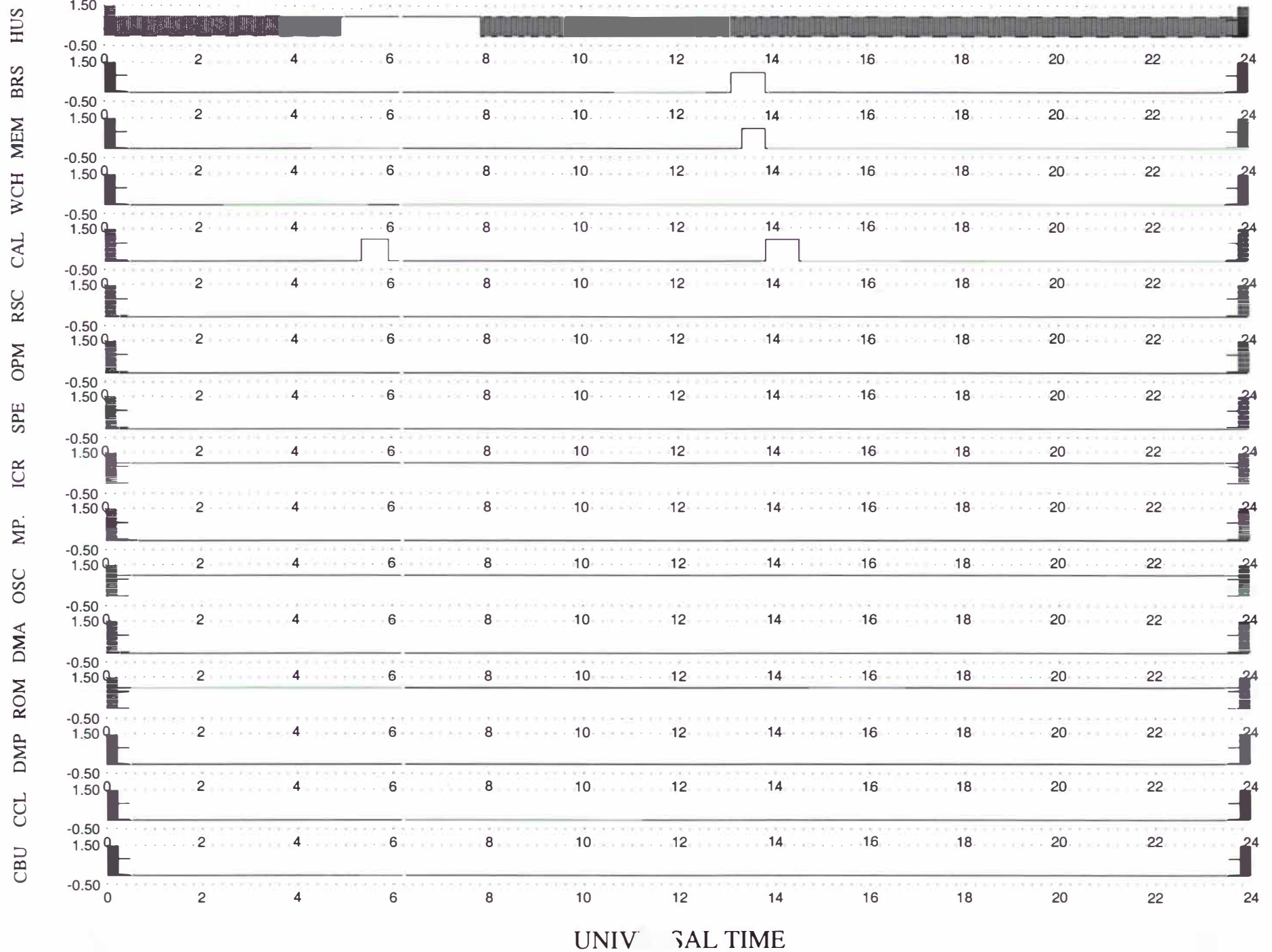
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

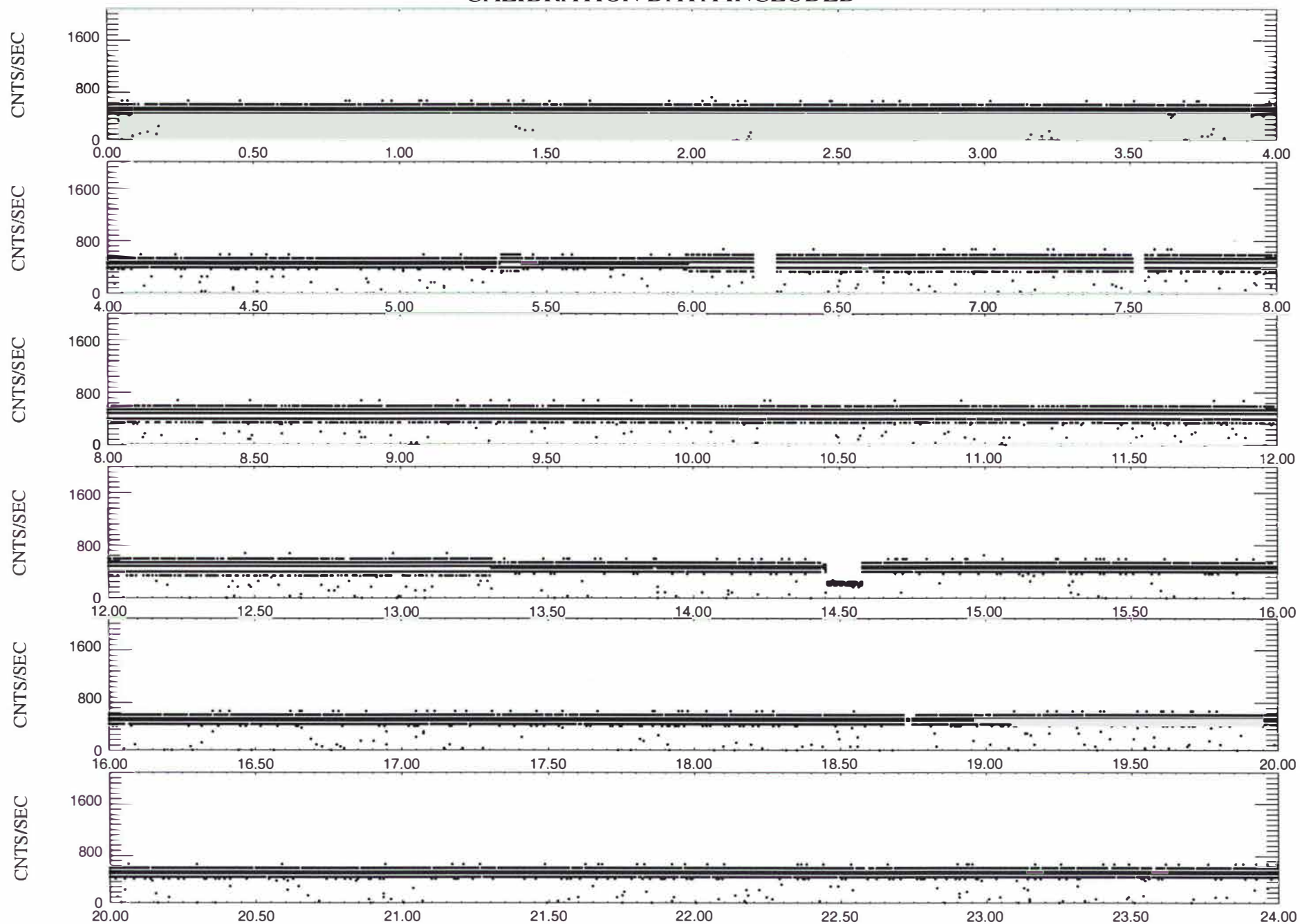
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 3

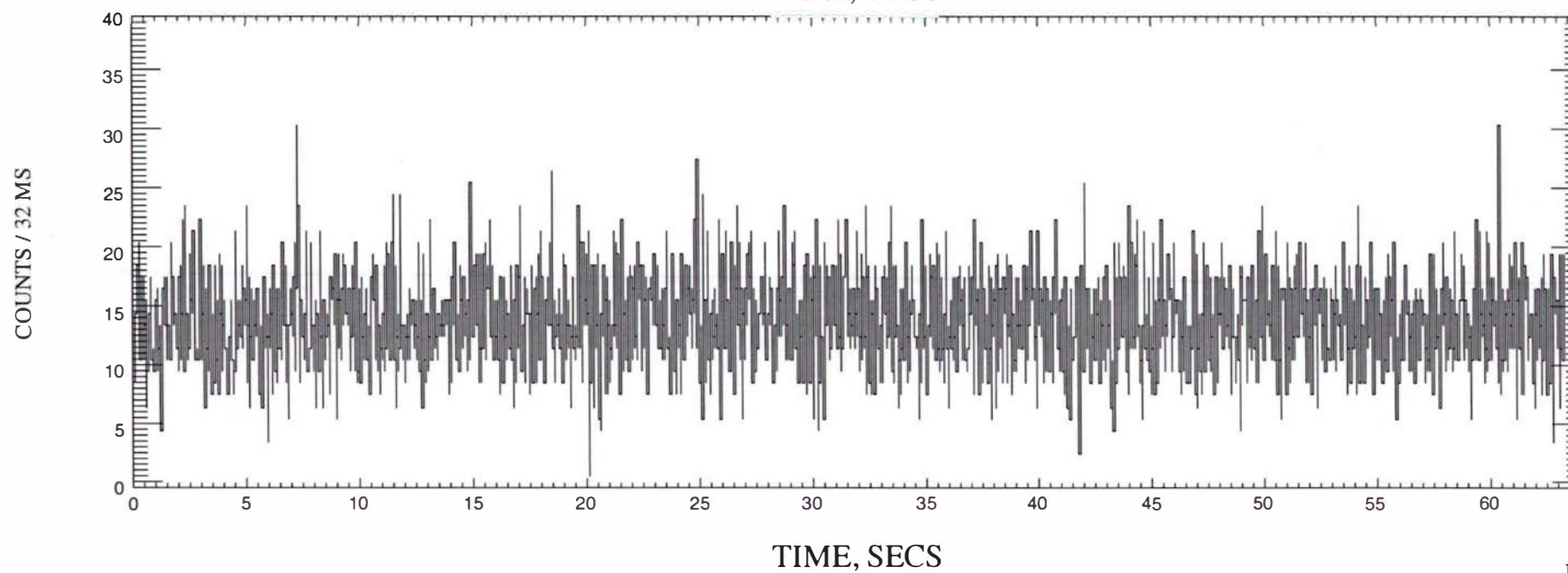
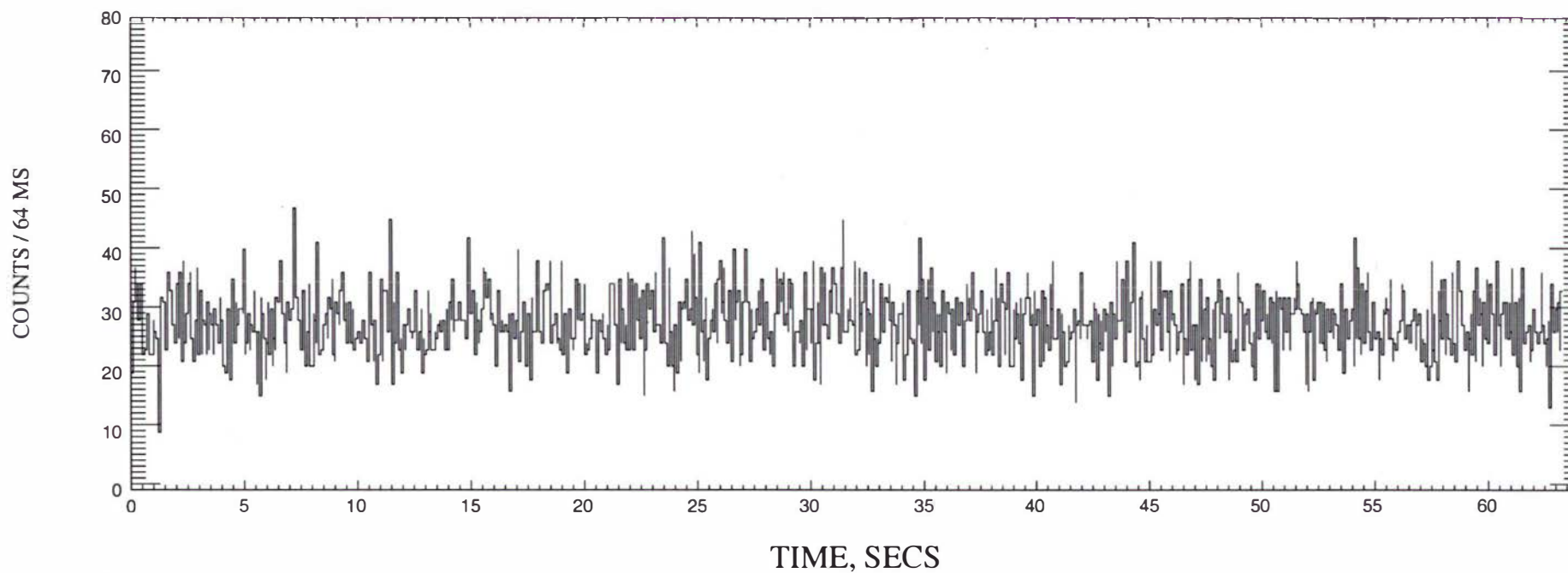


CALIBRATION DATA INCLUDED

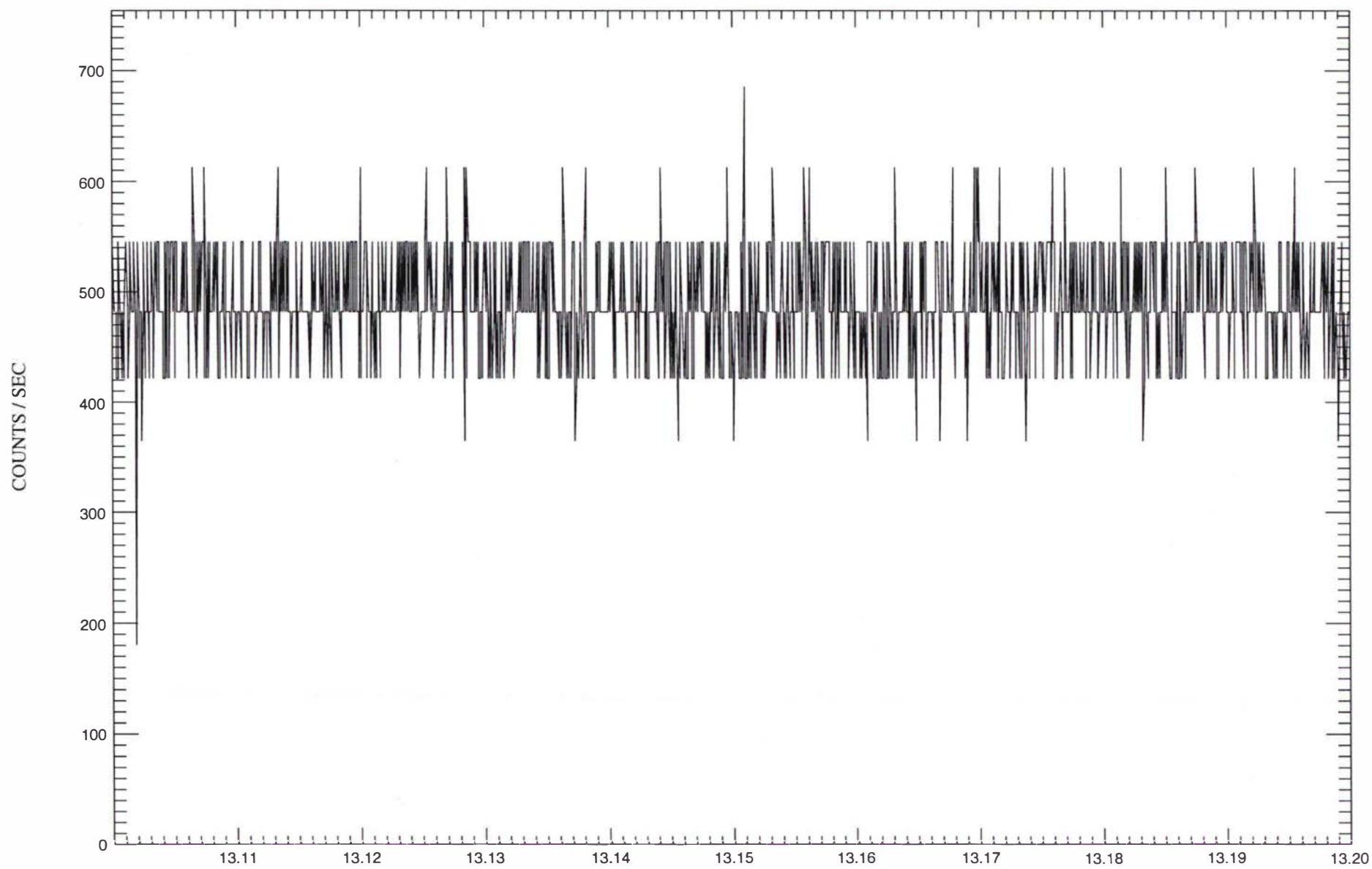


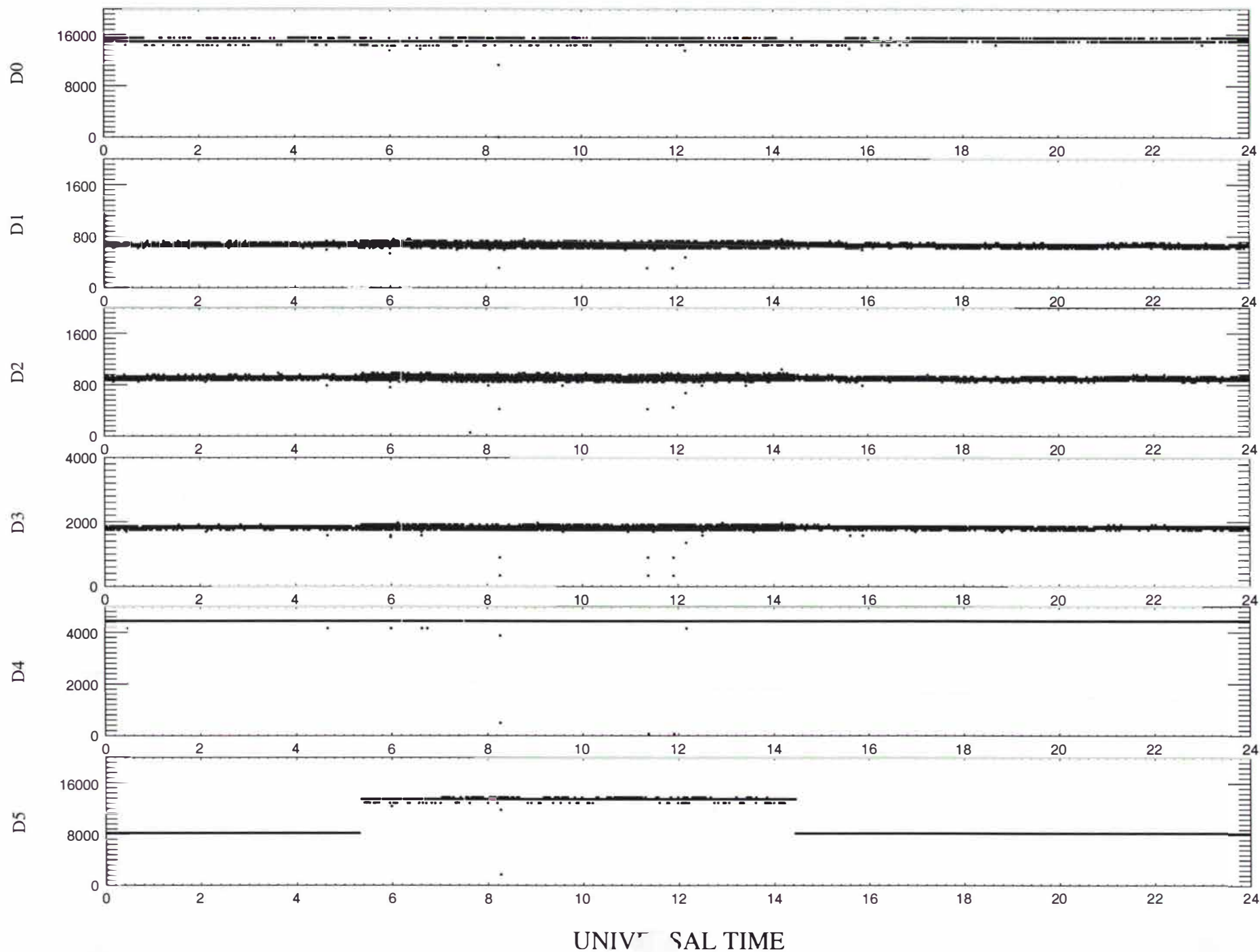
UNIV SAL TIME

Burst Counter 3 at UT=13.151072688633 h=47343.862 s 13:09:03.862



CALIBRATION DATA INCLUDED





 BATSEARCH PROGRAM

BATSE BURST # 7514
 EVENT OF 1999 APR 8 DAY OF YEAR= 98
 EVENT CROSSING TIME AT BATSE : 34471. S. OR 09:34:31.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 259.000 5.000
 BATSE PEAK COUNTING RATE: 7300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 8/ 4/ 99 IS:
 RA= 147.023 DEC= -8.078 DIST= 4.305 AU
 BATSE-ULYSSES DISTANCE = 644022910. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 67.58 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 819.25 SECS.
 CROSSING TIME AT ULYSSES IS 35290. S. OR 09:48:10 +/- 407.22 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 8/ 4/ 99 IS:
 RA= 217.790 DEC= -12.916 DIST= 0.634 AU
 MARS-BATSE DISTANCE = 94827056. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=135.32 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -224.89 SECS.
 CROSSING TIME AT MARS IS 34246. S. OR 09:30:46 +/- 35.20 SECONDS

BATSE BURST TRIGGER

.. 7514

TIME: TJD=1276 SECONDS=34471

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 25.6 AZIMUTH=182.4 ERROR= 10.1 DEGREES

COMMENTS:

DOUBLE SPIKE, TOTAL DUR. APPROX. 0.18 S. FIRST MAX AT APPROX. T-0.02 S.
 SECOND, STRONGER MAX AT APPROX. T+0.08 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7514	990408	11276	34471	7300	259	+05	.18

BATSE BURST# 7514

ULYSSES RT

14 / 4 / 99

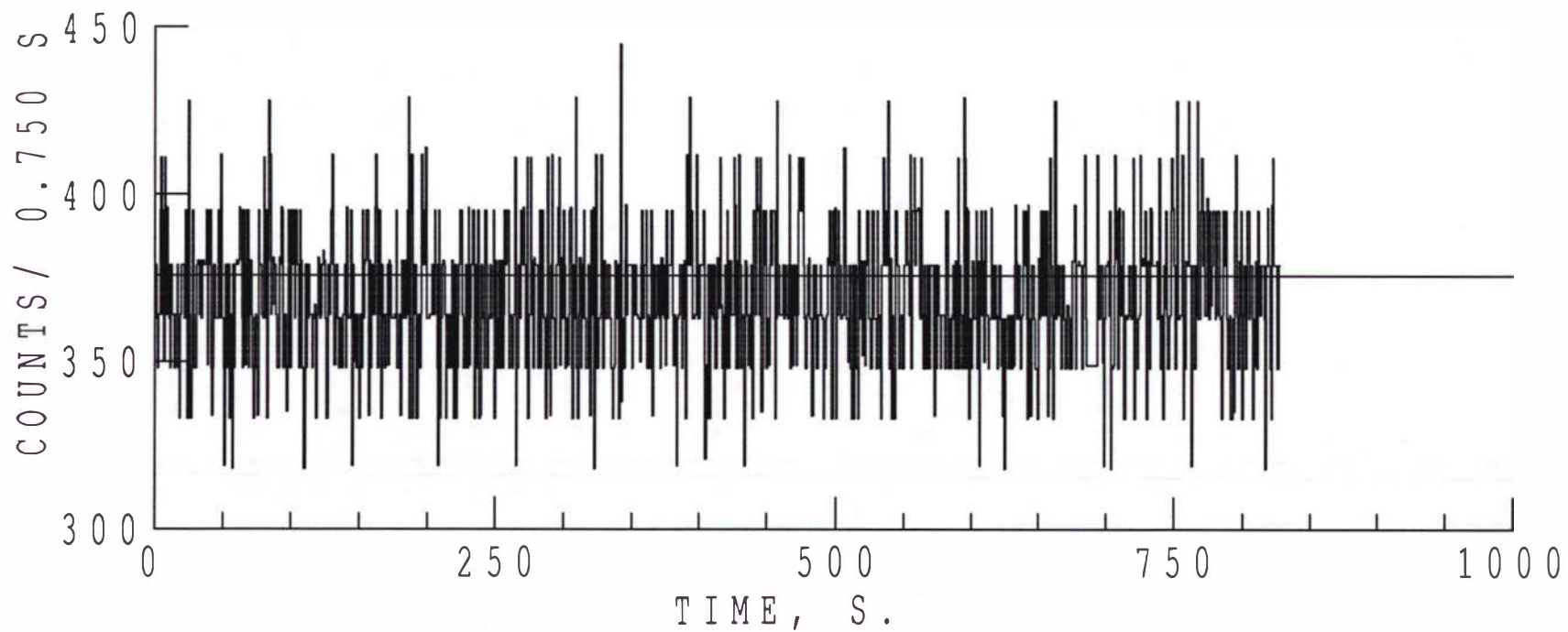
8 / 4 / 99 34884.246 s

0.250 S INTERVALS REGROUPED BY 3

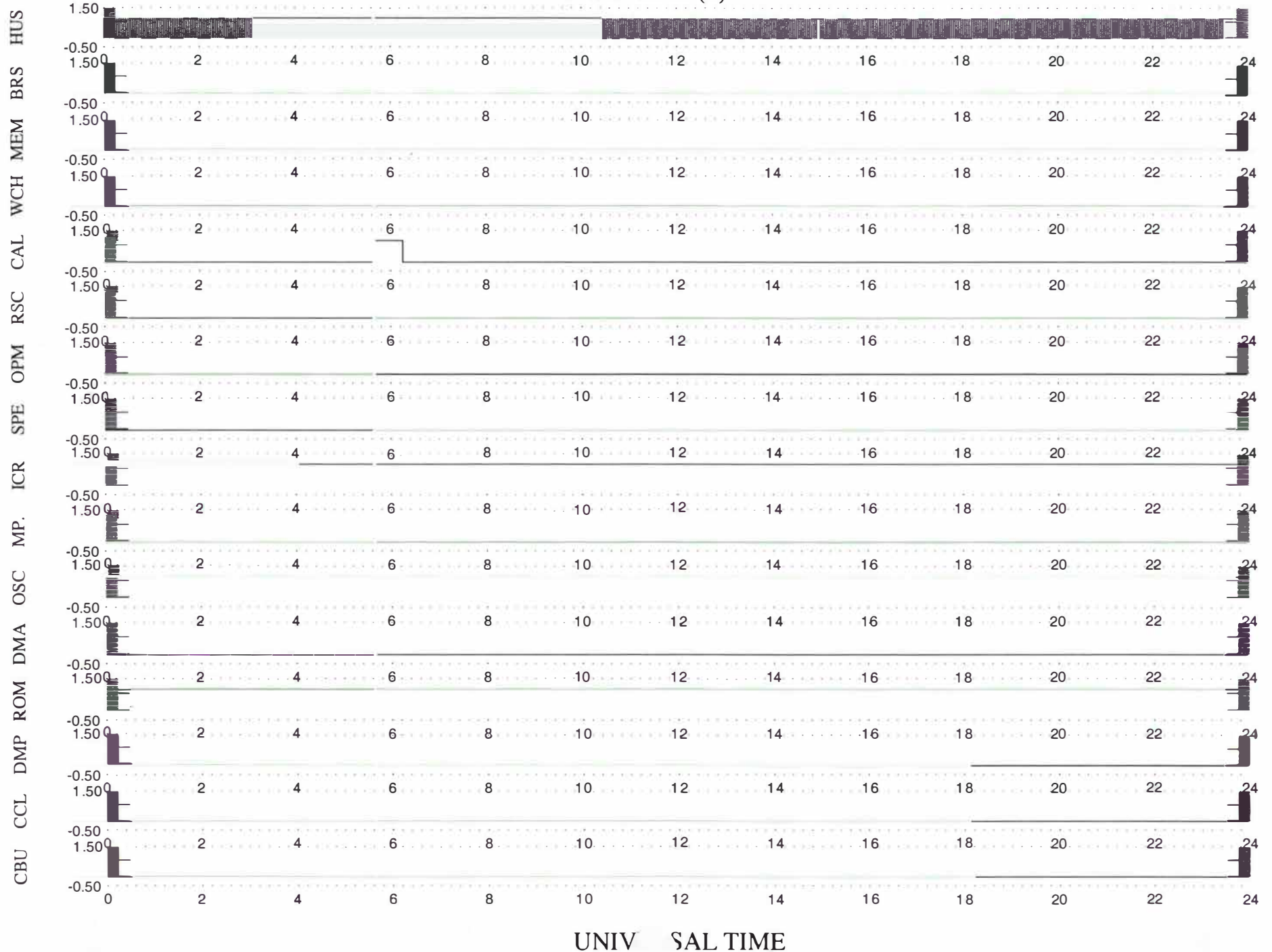
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

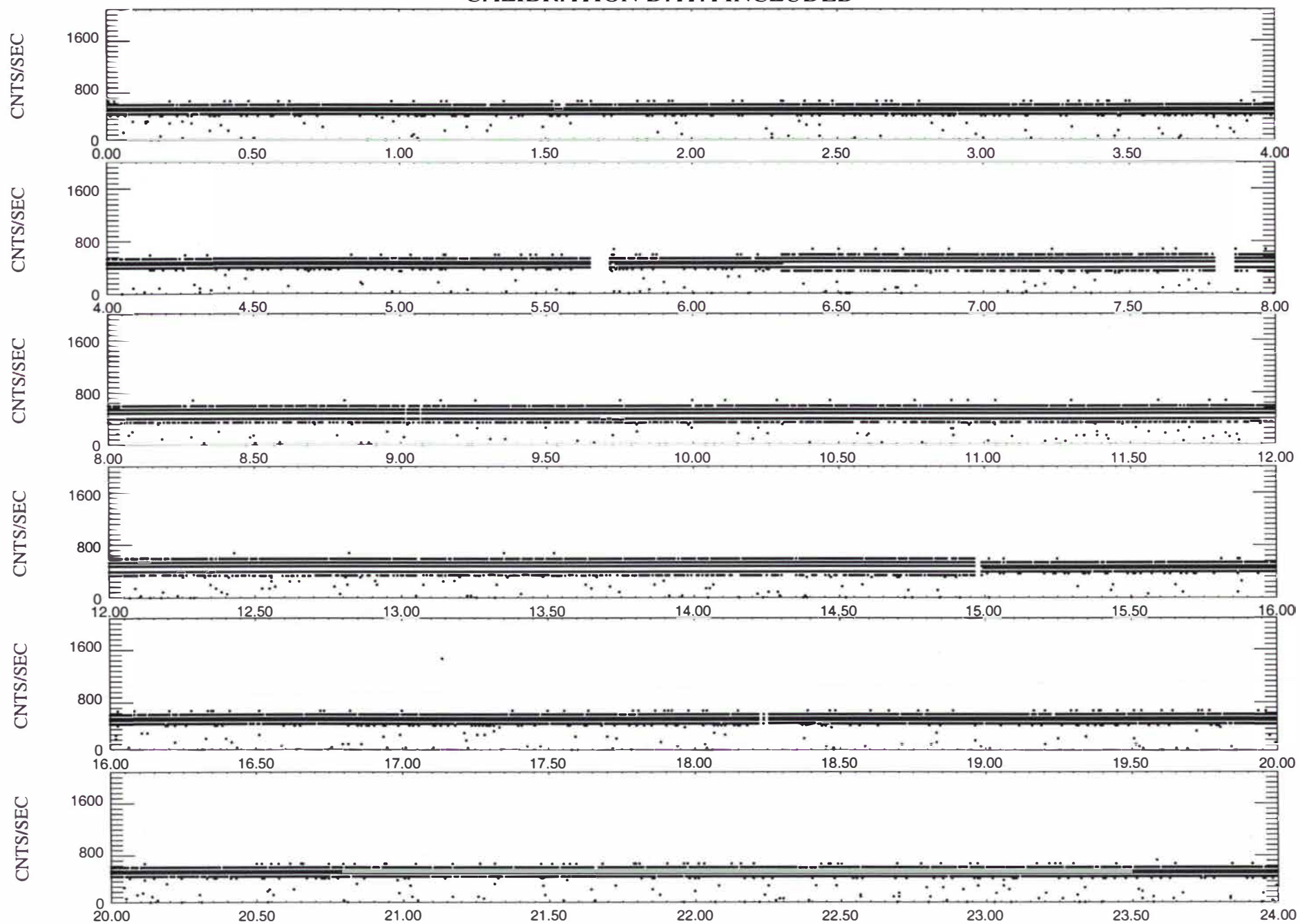
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



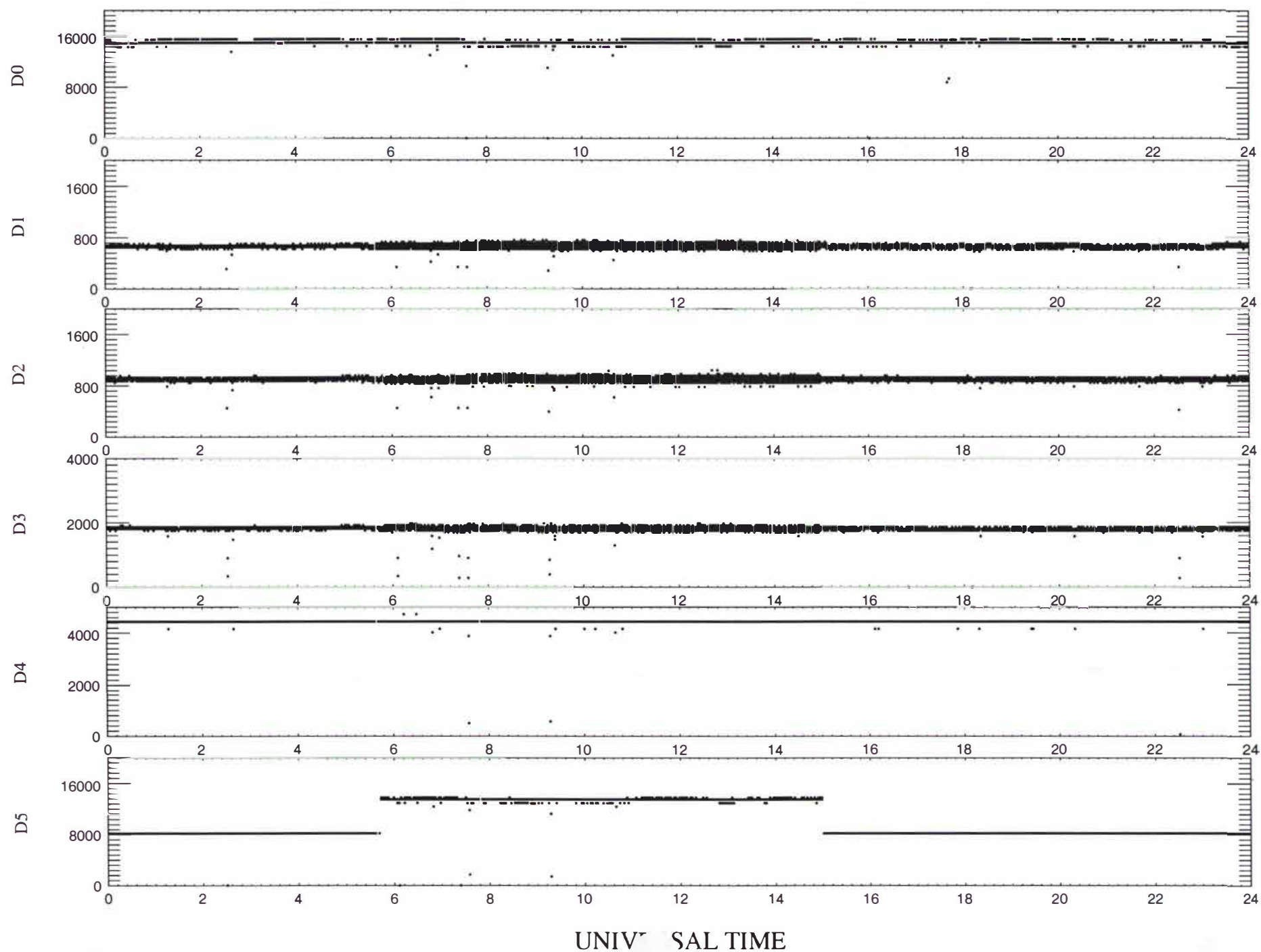
NO BURST (3)



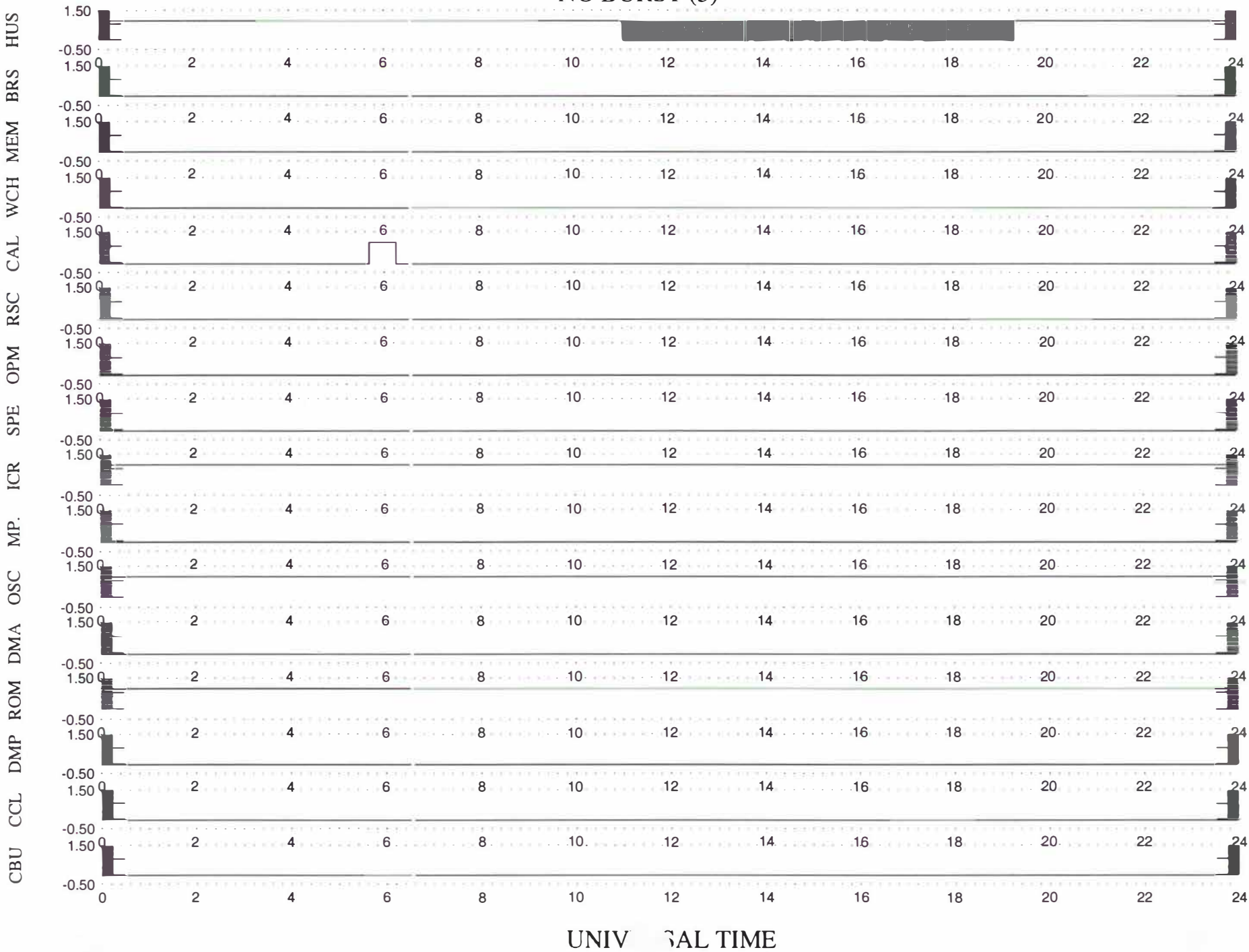
CALIBRATION DATA INCLUDED



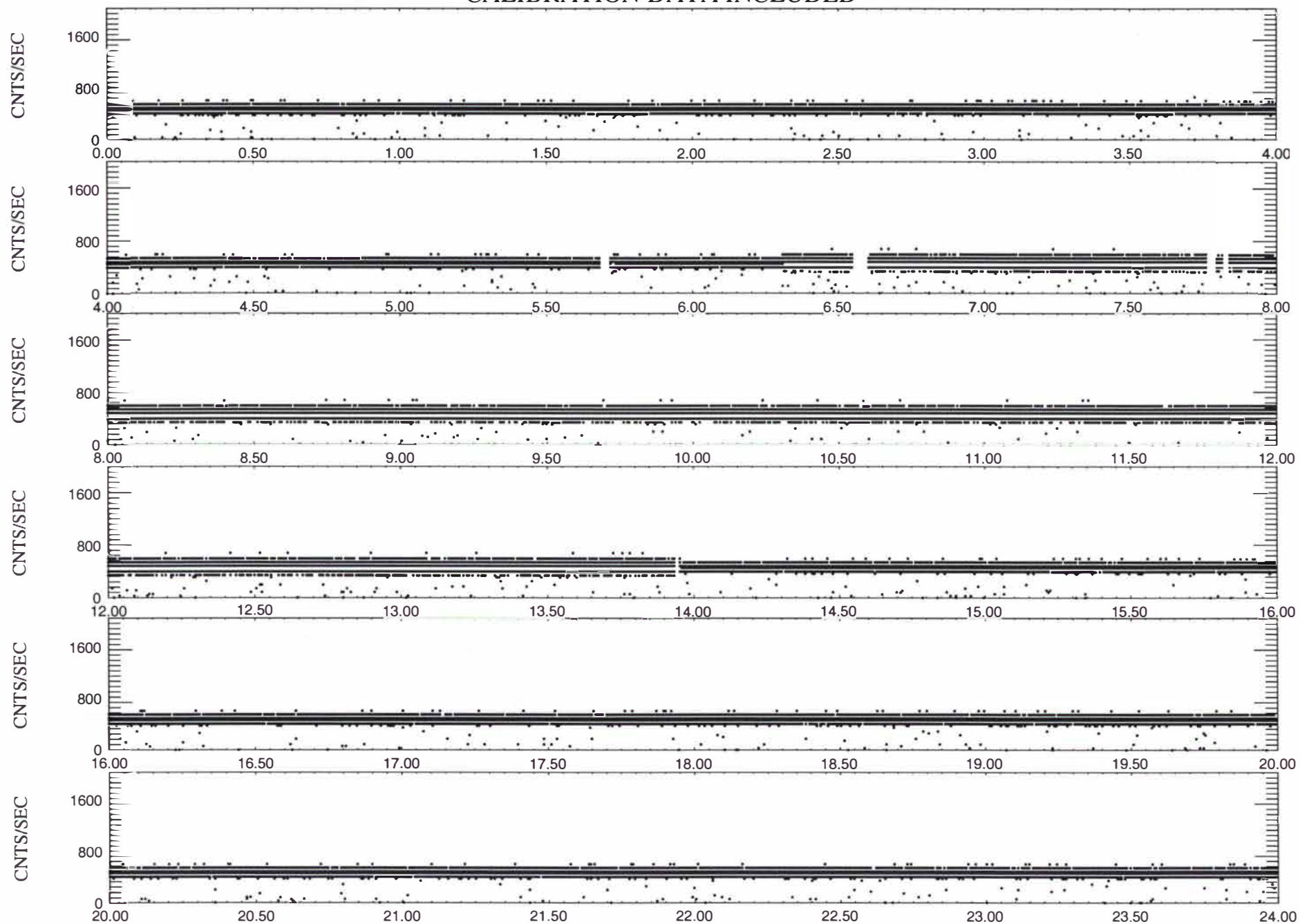
UNIV SAL TIME



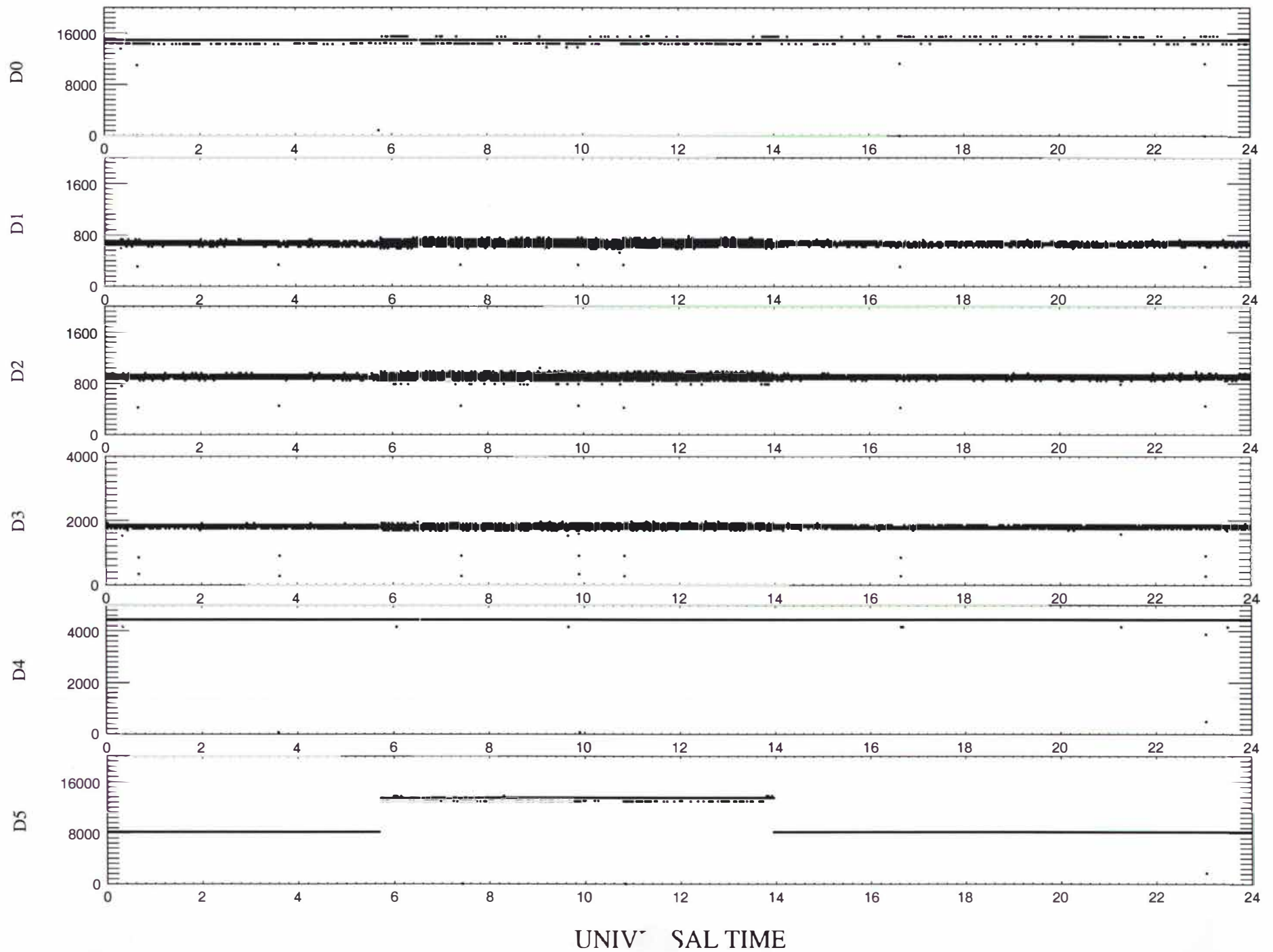
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



KONUS

ULYSSES RT

12 / 02 / 00

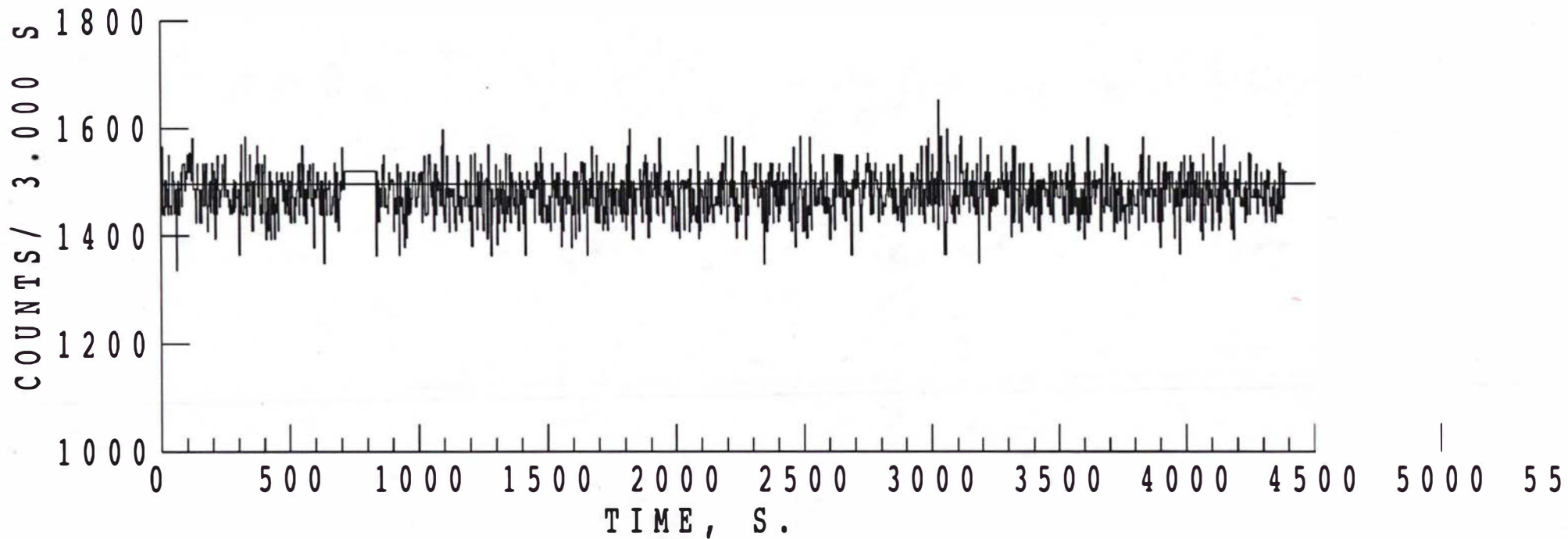
10/04/99 31140.207 s

0.250 S INTERVALS REGROUPED BY 12

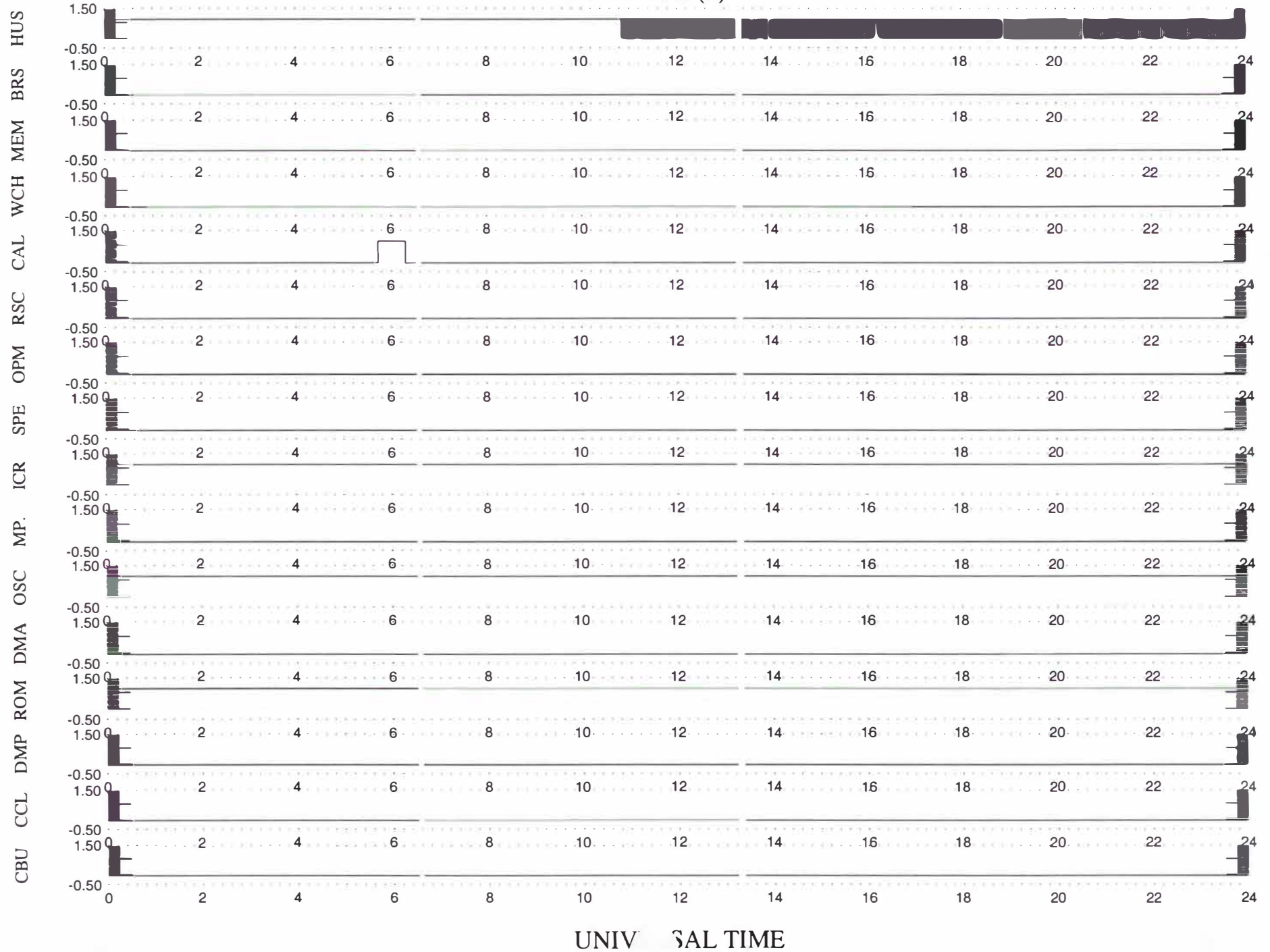
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

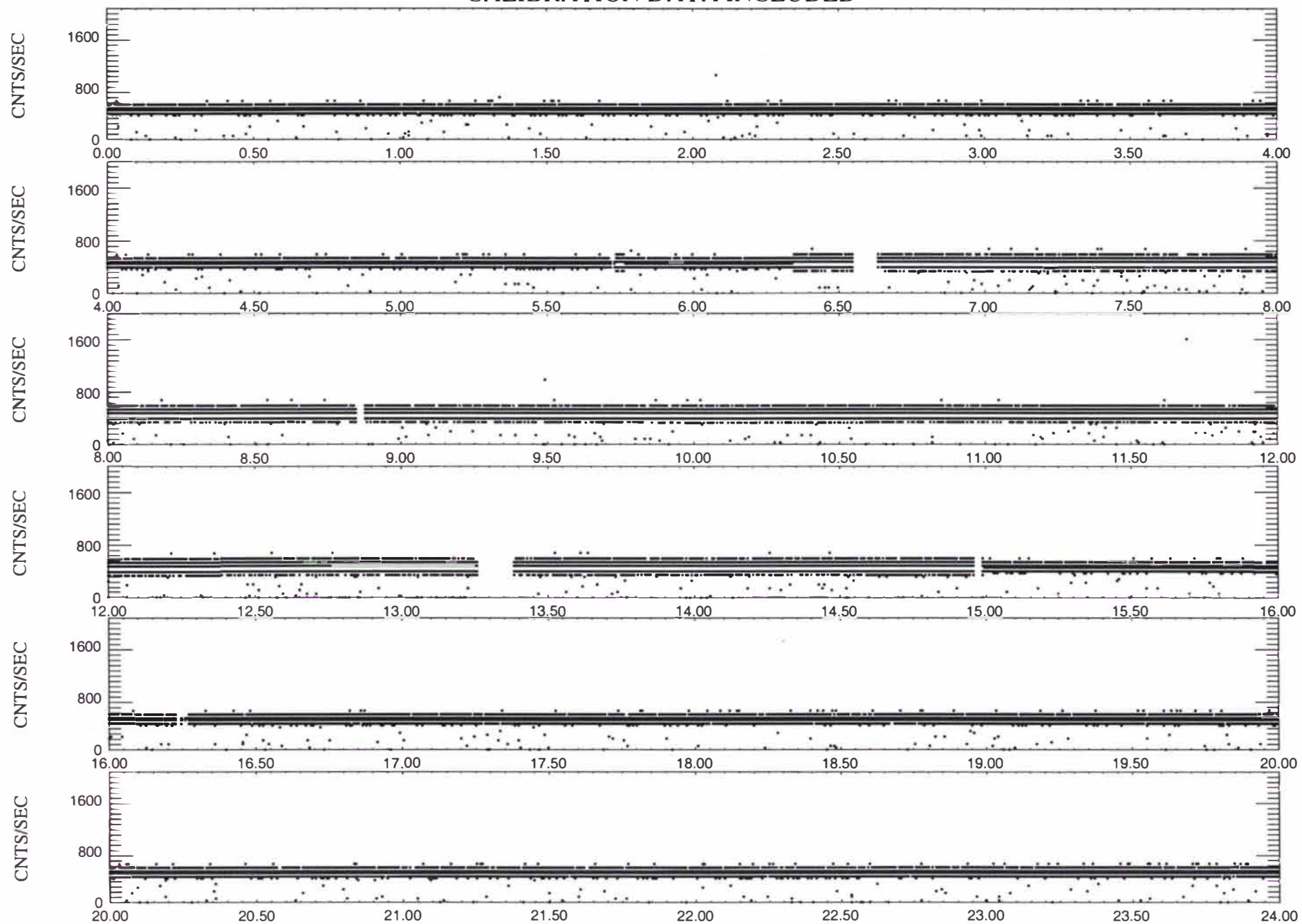
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



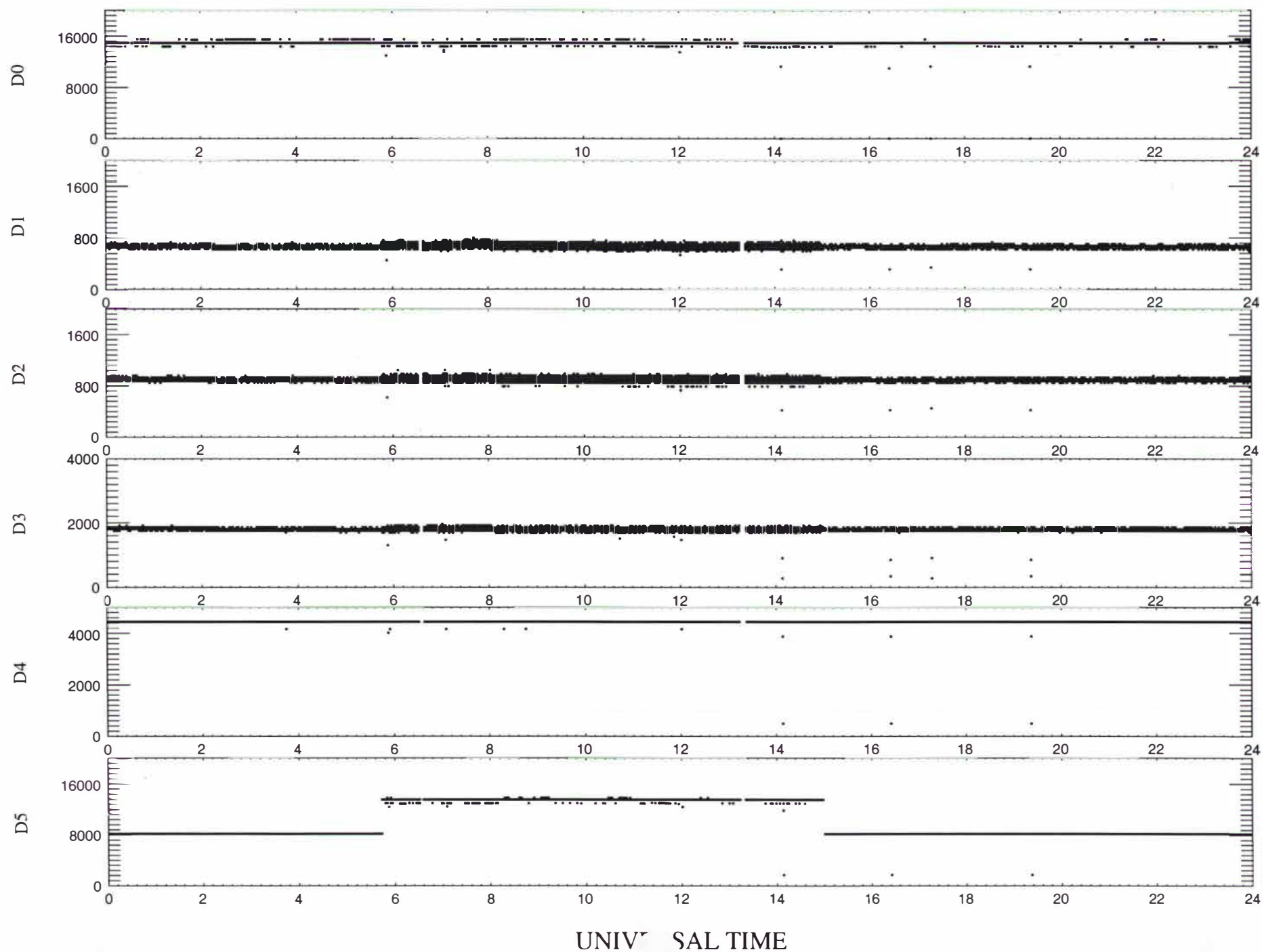
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From WOODSP@fender.msfc.nasa.gov Wed Apr 14 07:56:47 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA14548; Wed, 14 Apr 1999 07:56:46 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id HAA07053
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 14 Apr 1999 07:56:44 -0700 (PDT)
Date: Wed, 14 Apr 1999 9:56:40 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990414095640.2020023d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7515
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7515
EVENT OF 1999 APR 11 DAY OF YEAR=101
EVENT CROSSING TIME AT BATSE : 15931. S. OR 04:25:31.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 330.000 -83.000
BATSE PEAK COUNTING RATE: 11400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 4/ 99 IS:
RA= 146.617 DEC= -7.957 DIST= 4.332 AU
BATSE-ULYSSES DISTANCE = 648043270. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 90.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -36.55 SECS.
CROSSING TIME AT ULYSSES IS 15894. S. OR 04:24:54 +/- 424.69 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 4/ 99 IS:
RA= 216.977 DEC= -12.729 DIST= 0.621 AU
MARS-BATSE DISTANCE = 92882760. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -53.35 SECS.
CROSSING TIME AT MARS IS 15878. S. OR 04:24:37 +/- 52.18 SECONDS

BATSE BURST TRIGGER

NO.: 7515

TIME: TJD=1279 SECONDS=15931

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=95.7 AZIMUTH=266.3 ERROR=0.5 DEGREES

COMMENTS:

GRB LASTING ABOUT 380 SEC. SINGLE PULSE WITH LITTLE SUBSTRUCTURE
LASTING ABOUT 50 SEC. SOFTER POST-CURSOR AT T+270 SEC. VISIBLE
ABOVE 300 KEV. 4U 1700-377 SET IN MOD 6 APPROXIMATELY COINCIDENT
WITH END OF BURST.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7515	990411	11279	15931	11400	330	-83	380

Date: 27/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

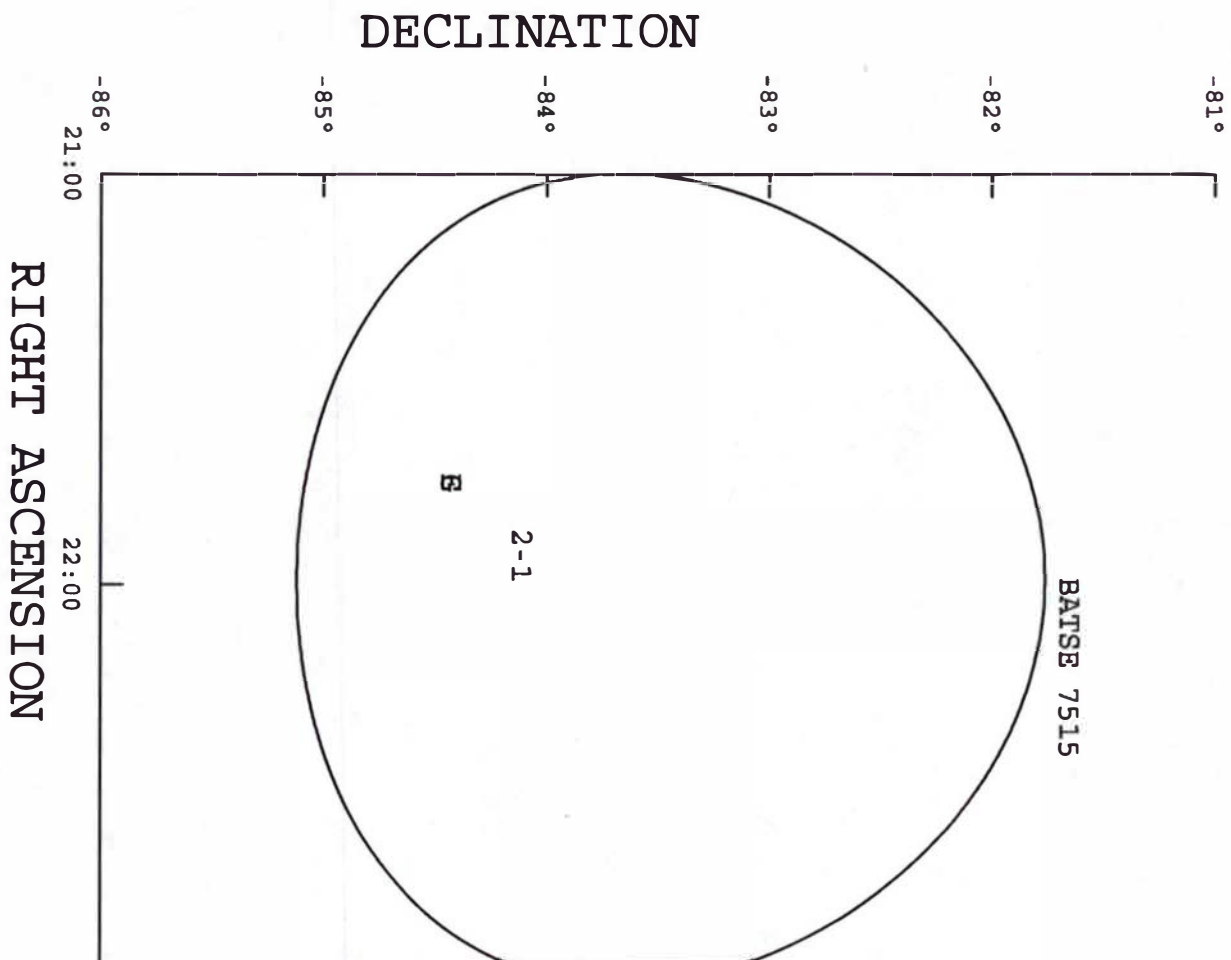
G=GALACTIC EQUATOR

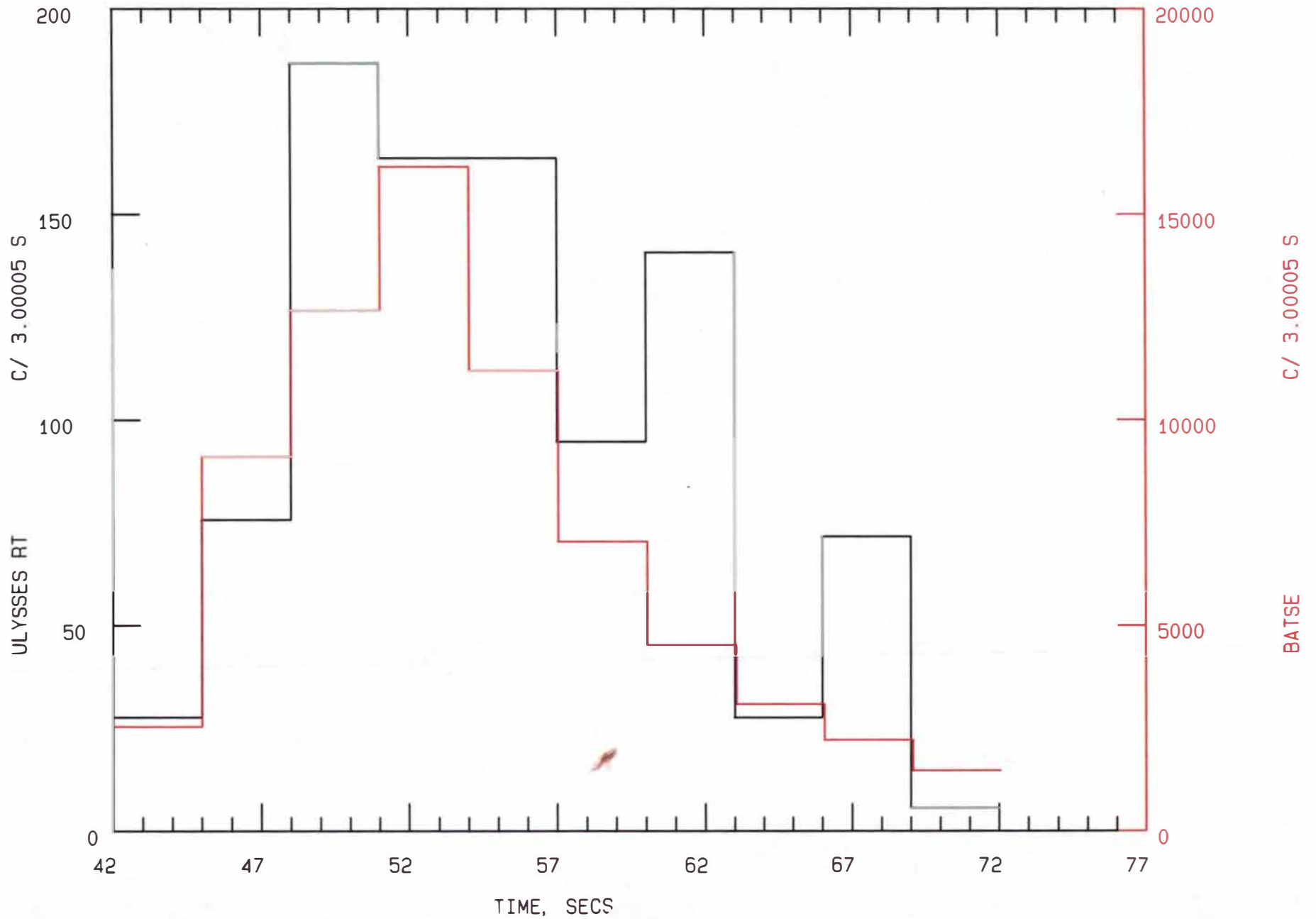
1 BATSE

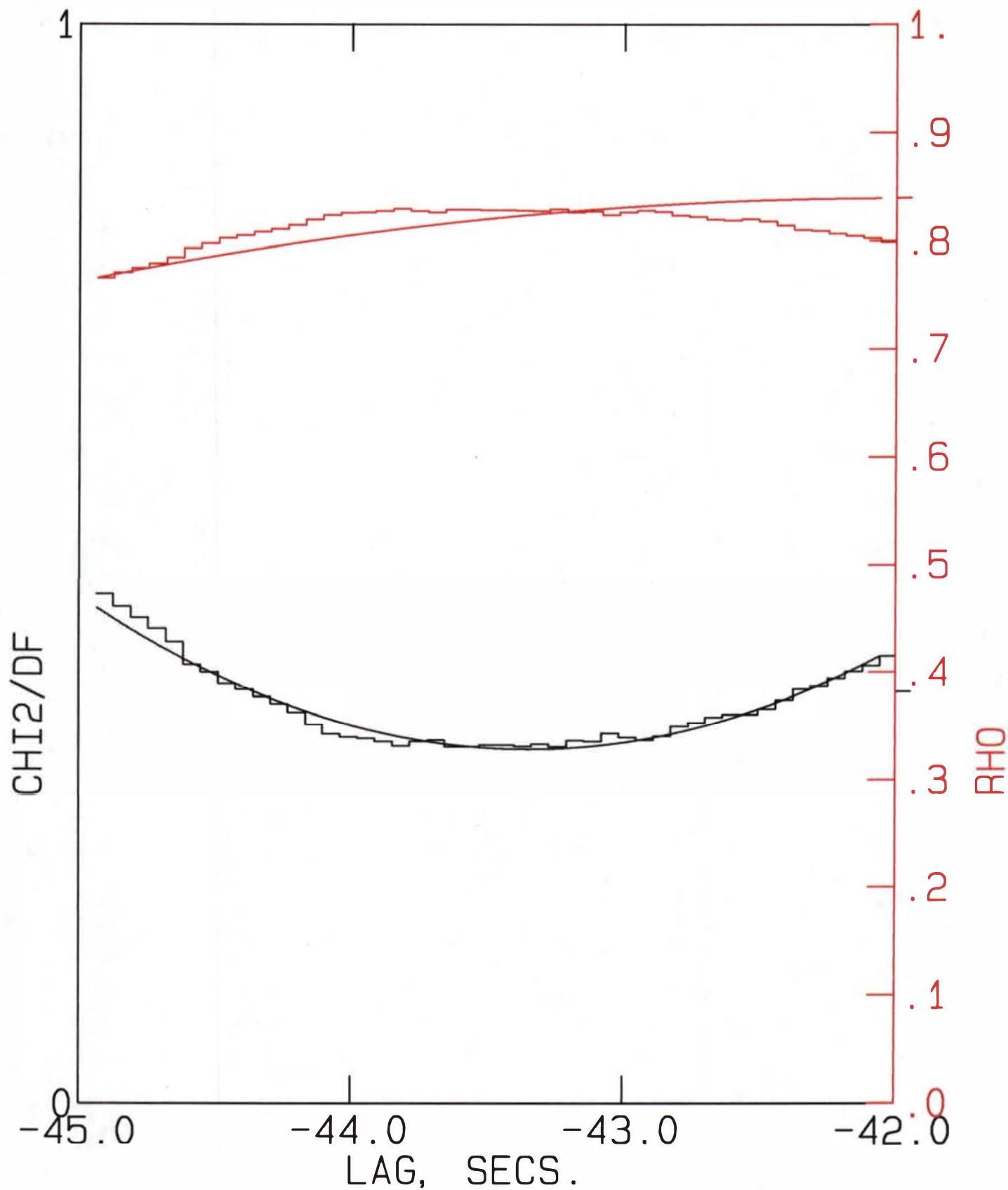
2 ULYSSES

EVENT OF APR 11, 1999 4:25

26 / 1 / 0



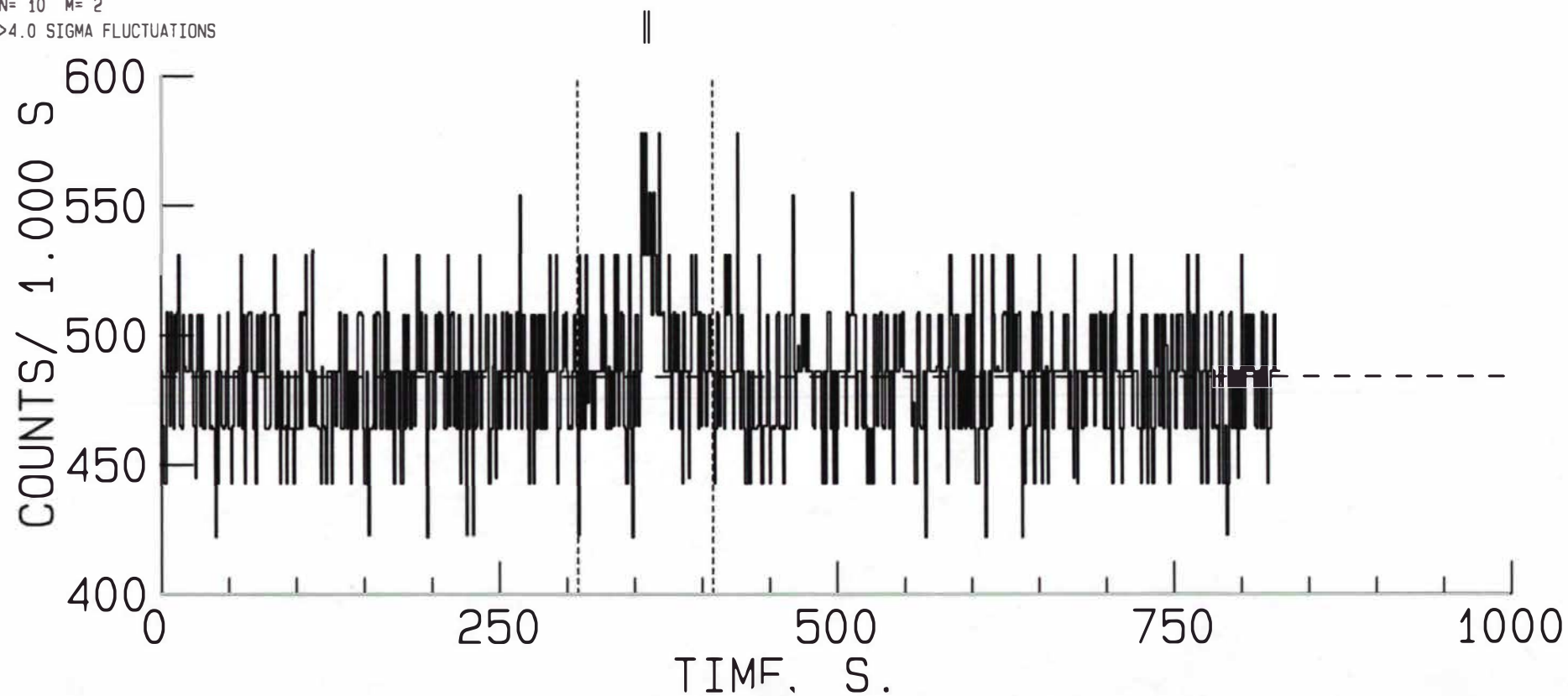




ULYSSES RT
11/ 4/99 15480.172 s
0.500 S INTERVALS REGROUPED BY 2
22- 151 keV

26 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

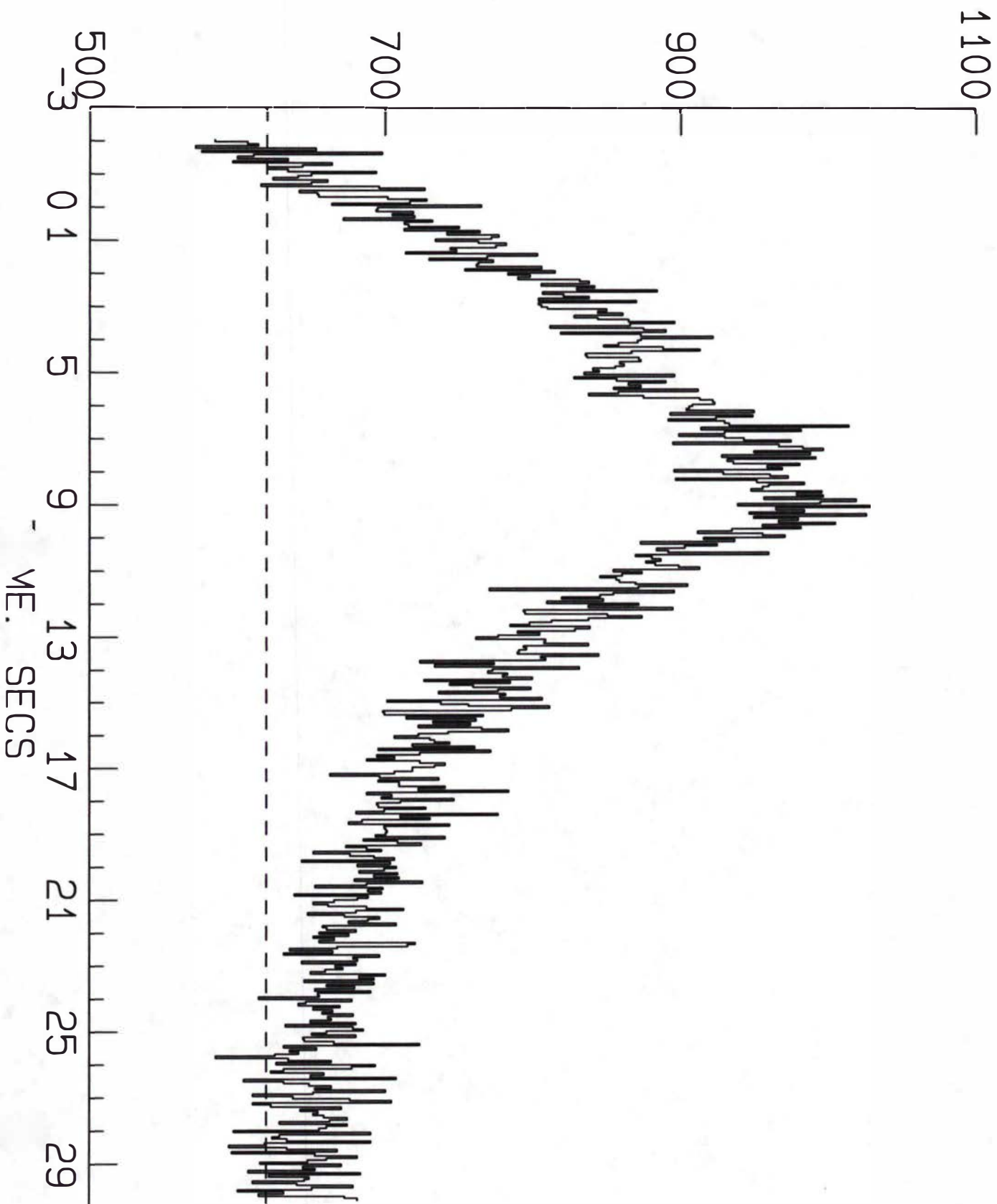
11/04/99

15931.897

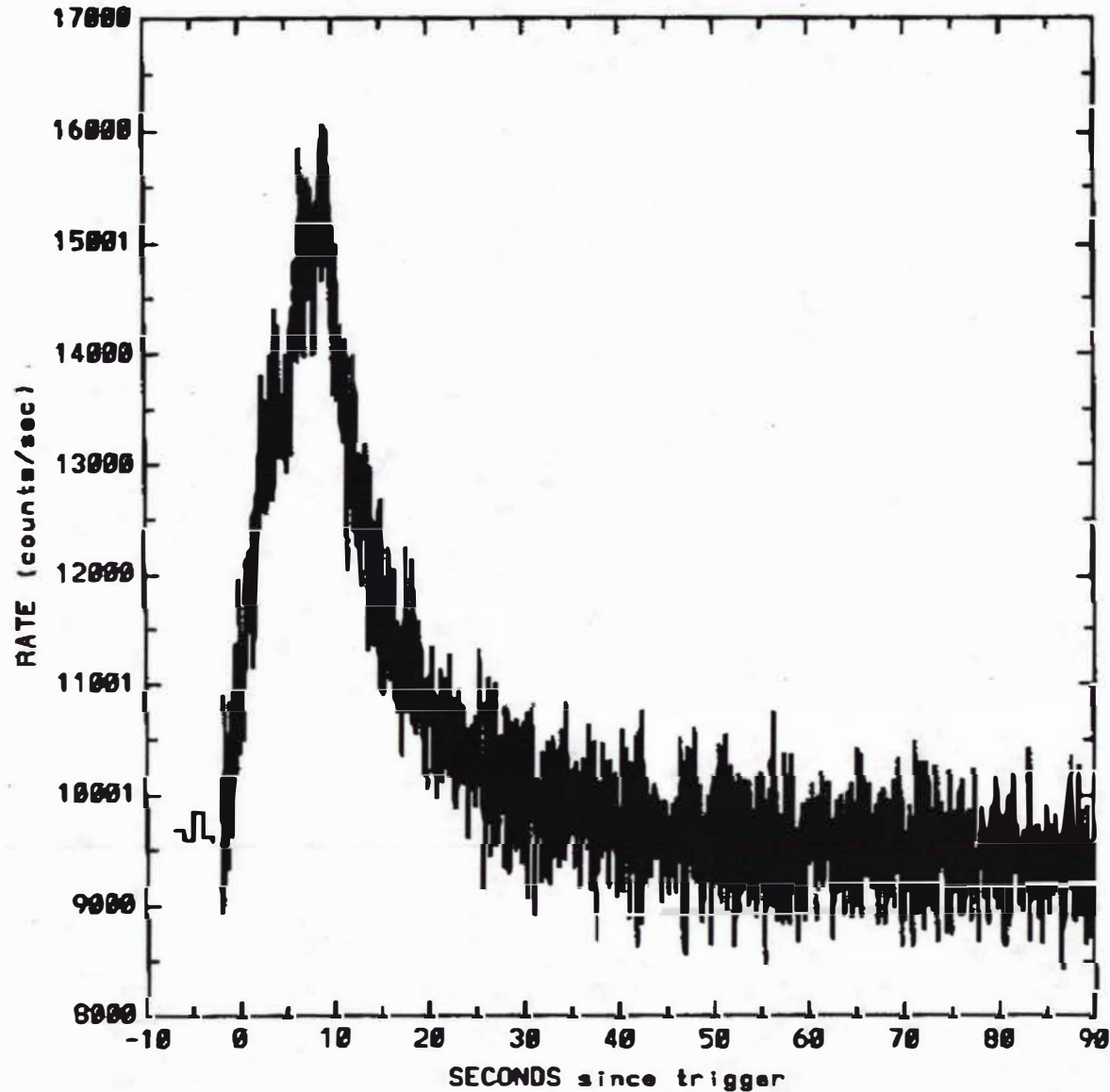
25- 100 keV

COUNTS/0.064 S

1 / 5 / 99



DISCSC Data for K. Hurley, No. 7515



29-APR-1999 09:47:12

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7515

Trigger Time:
11279 / 15931.097

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors [7..8]:
76--3---

Discriminators:
[1..2]

Quality Mask:
B0ISP1

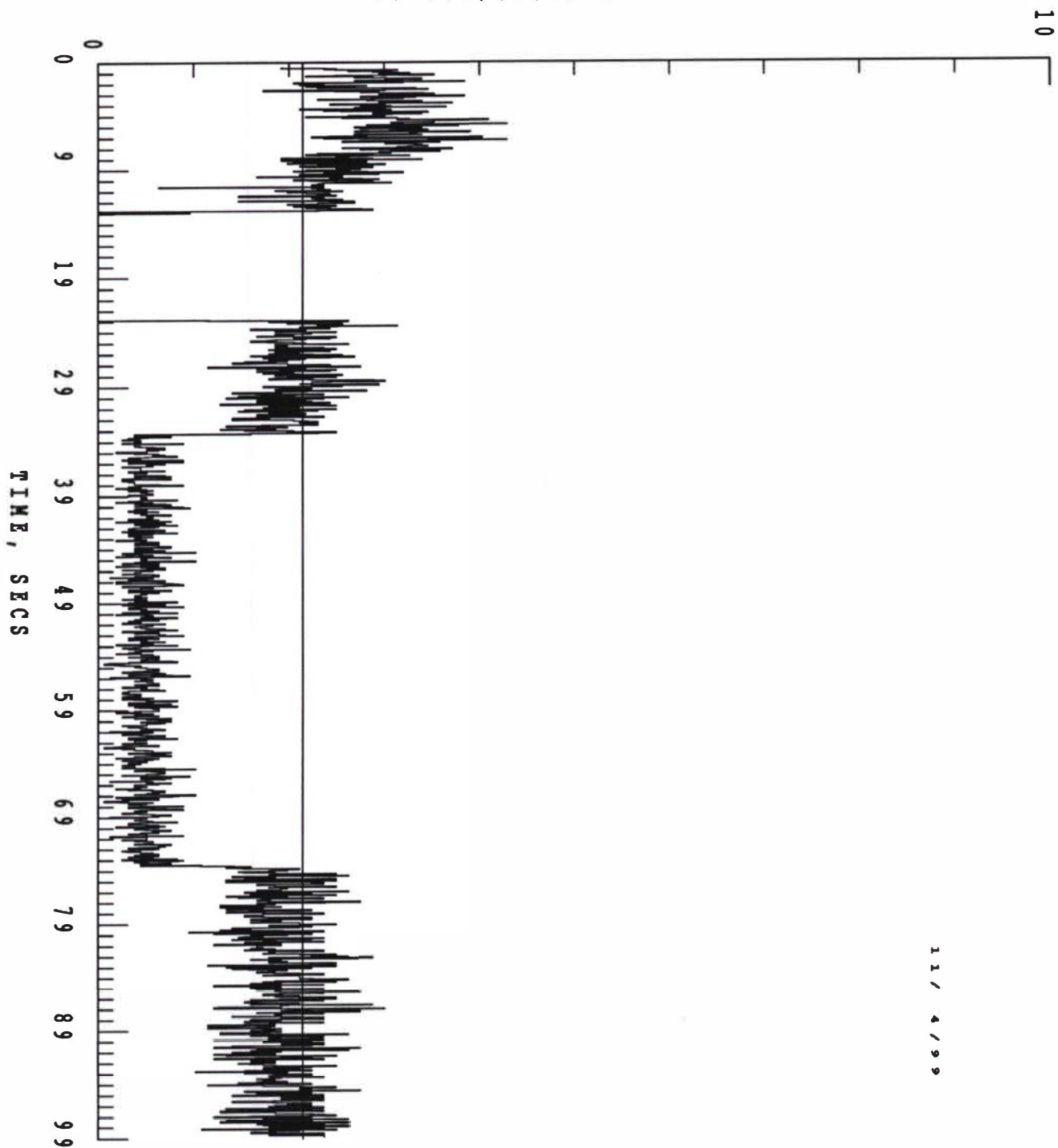
KONUS

11/04/99

15935.579

50 - 200 keV

COUNTS/0.064 S



From WOODSP@fender.msfc.nasa.gov Wed Apr 14 07:57:45 1999
Return-Path: <WOODSP@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA14570; Wed, 14 Apr 1999 07:57:45 -0700
From: WOODSP@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id HAA07143
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 14 Apr 1999 07:57:43 -0700 (PDT)
Date: Wed, 14 Apr 1999 9:57:32 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990414095732.2020023d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7516
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7516
EVENT OF 1999 APR 11 DAY OF YEAR=101
EVENT CROSSING TIME AT BATSE : 61969. S. OR 17:12:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 51.000 -68.000
BATSE PEAK COUNTING RATE: 3400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 4/ 99 IS:
RA= 146.543 DEC= -7.934 DIST= 4.337 AU
BATSE-ULYSSES DISTANCE = 648840009. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 95.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -199.40 SECS.
CROSSING TIME AT ULYSSES IS 61770. S. OR 17:09:29 +/- 421.13 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 4/ 99 IS:
RA= 216.977 DEC= -12.729 DIST= 0.621 AU
MARS-BATSE DISTANCE = 92882760. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.36 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 46.54 SECS.
CROSSING TIME AT MARS IS 62016. S. OR 17:13:35 +/- 53.89 SECONDS

BATSE BURST TRIGGER

NO.: 7516

TIME: TJD=1279 SECONDS=61969

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=113.0 AZIMUTH=280.8 ERROR=15 DEGREES

COMMENTS:

GRB LASTING ABOUT 0.25 SEC. SINGLE WEAK PULSE. NOT VISIBLE
ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7516	990411	11279	61969	3400	051	-68	.25

BATSE BURST# 7516

ULYSSES RT

12 / 8 / 99

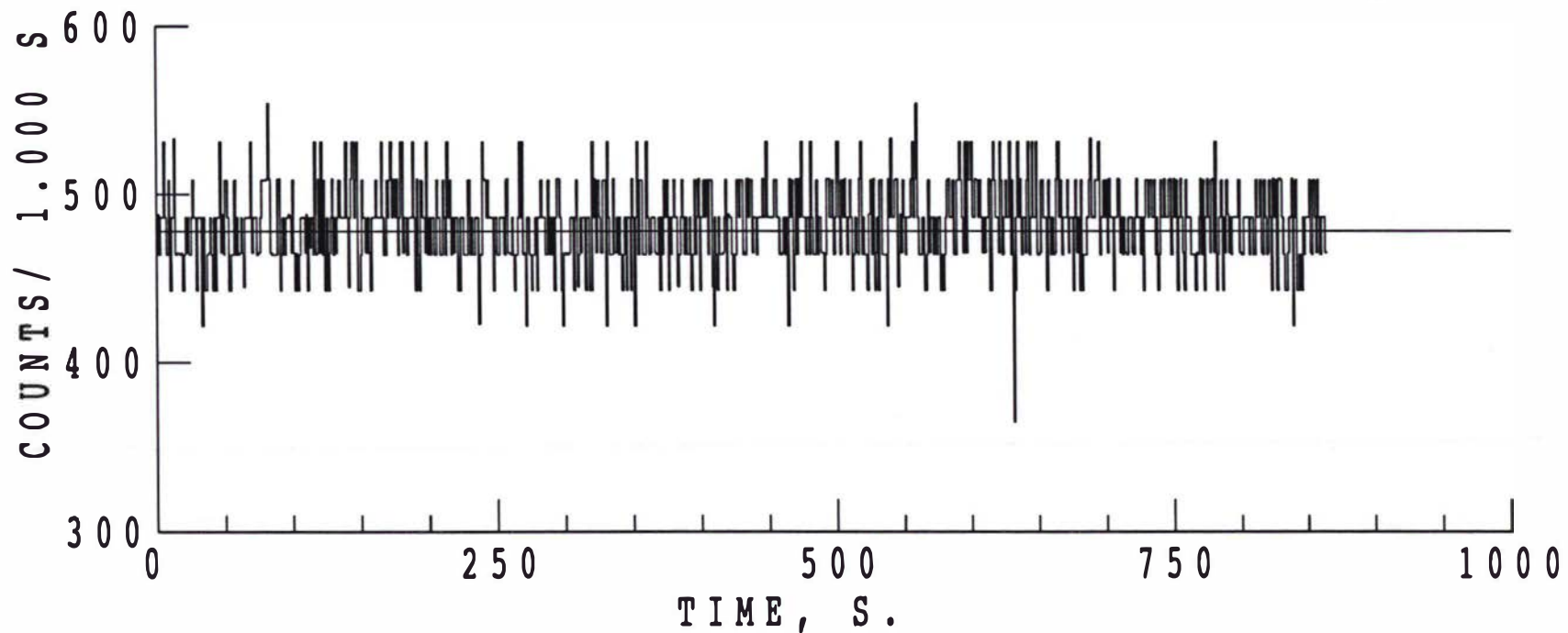
11 / 4 / 99 61344.137 s

0.500 S INTERVALS REGROUPED BY 2

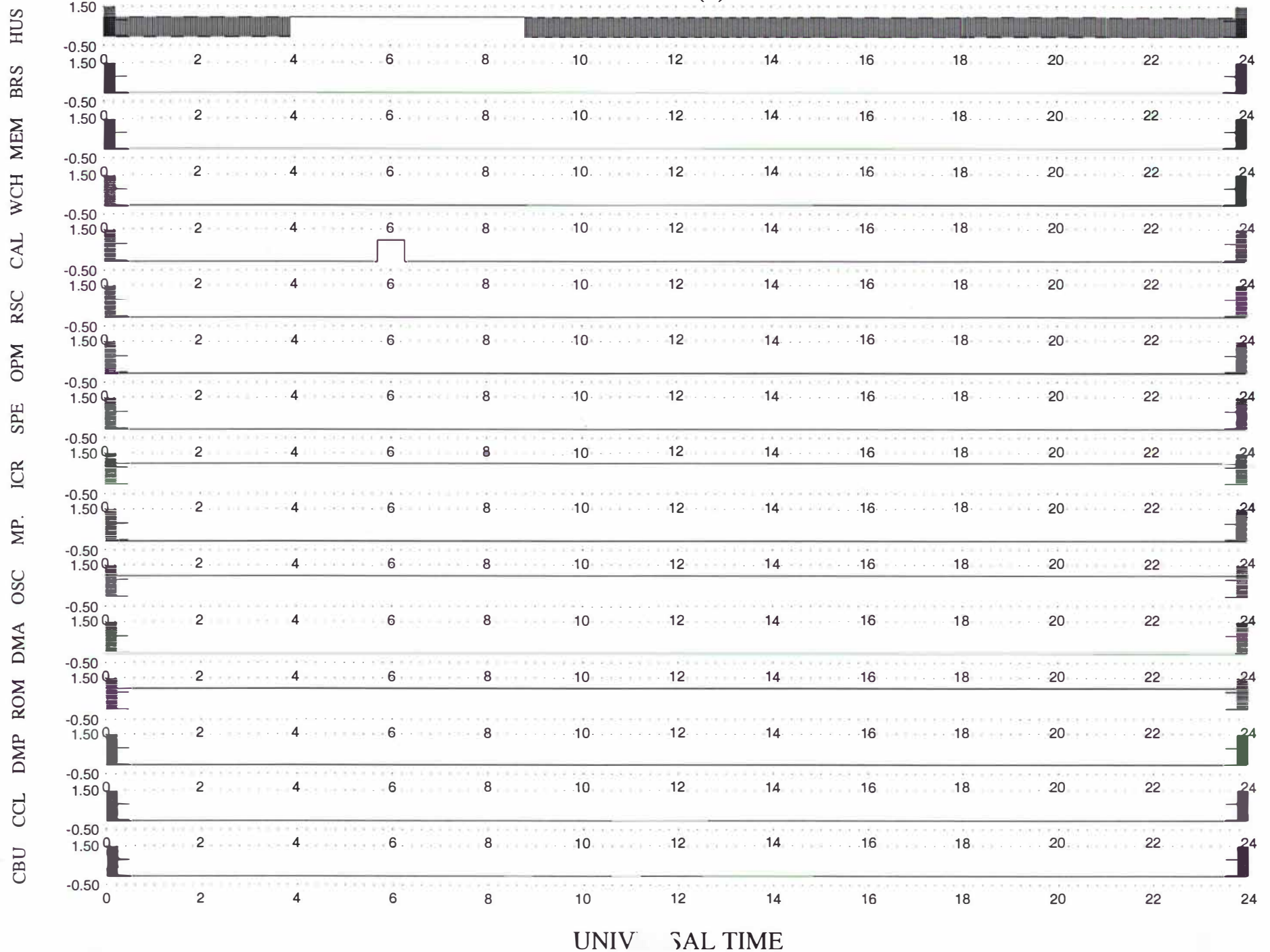
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

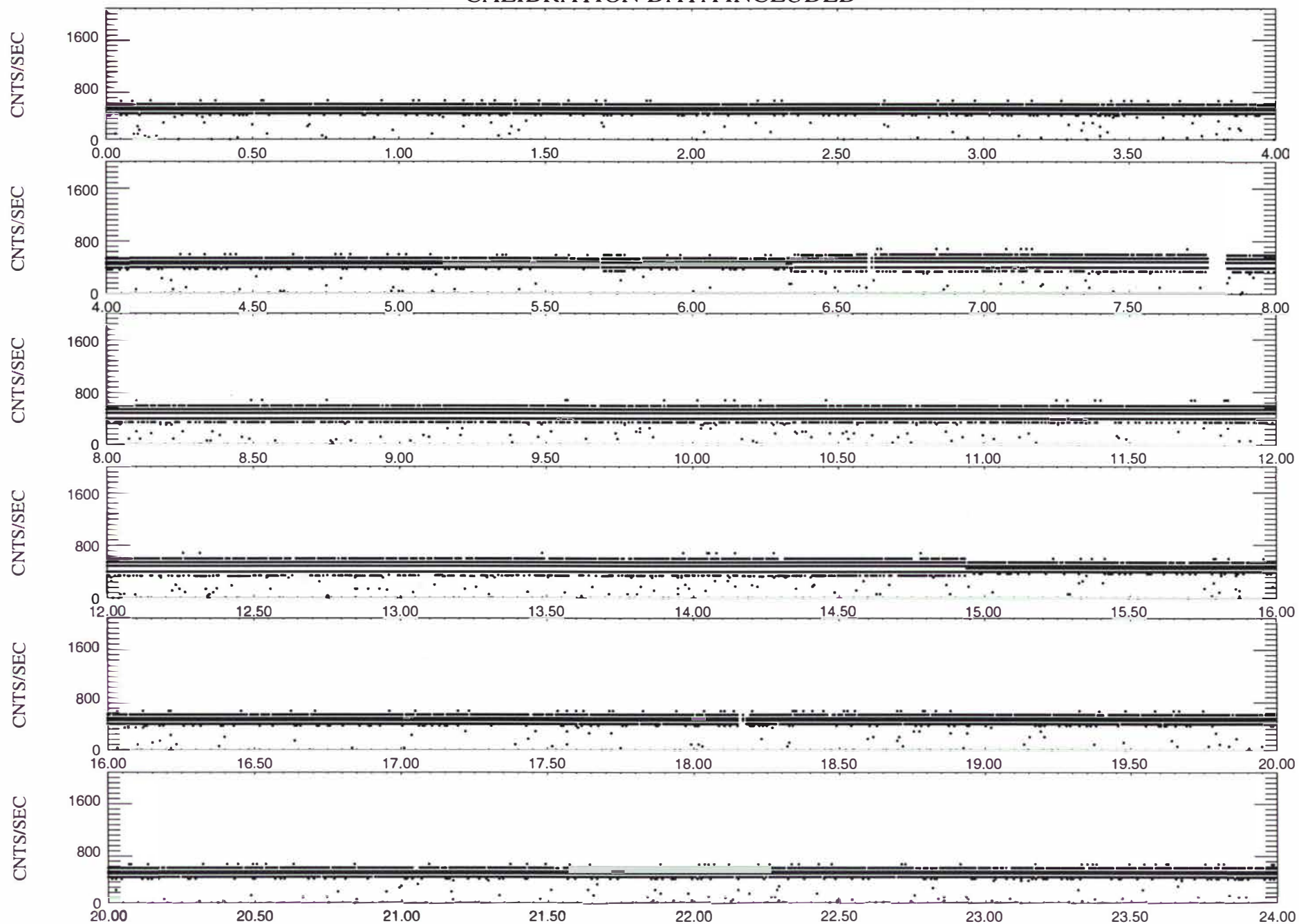
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



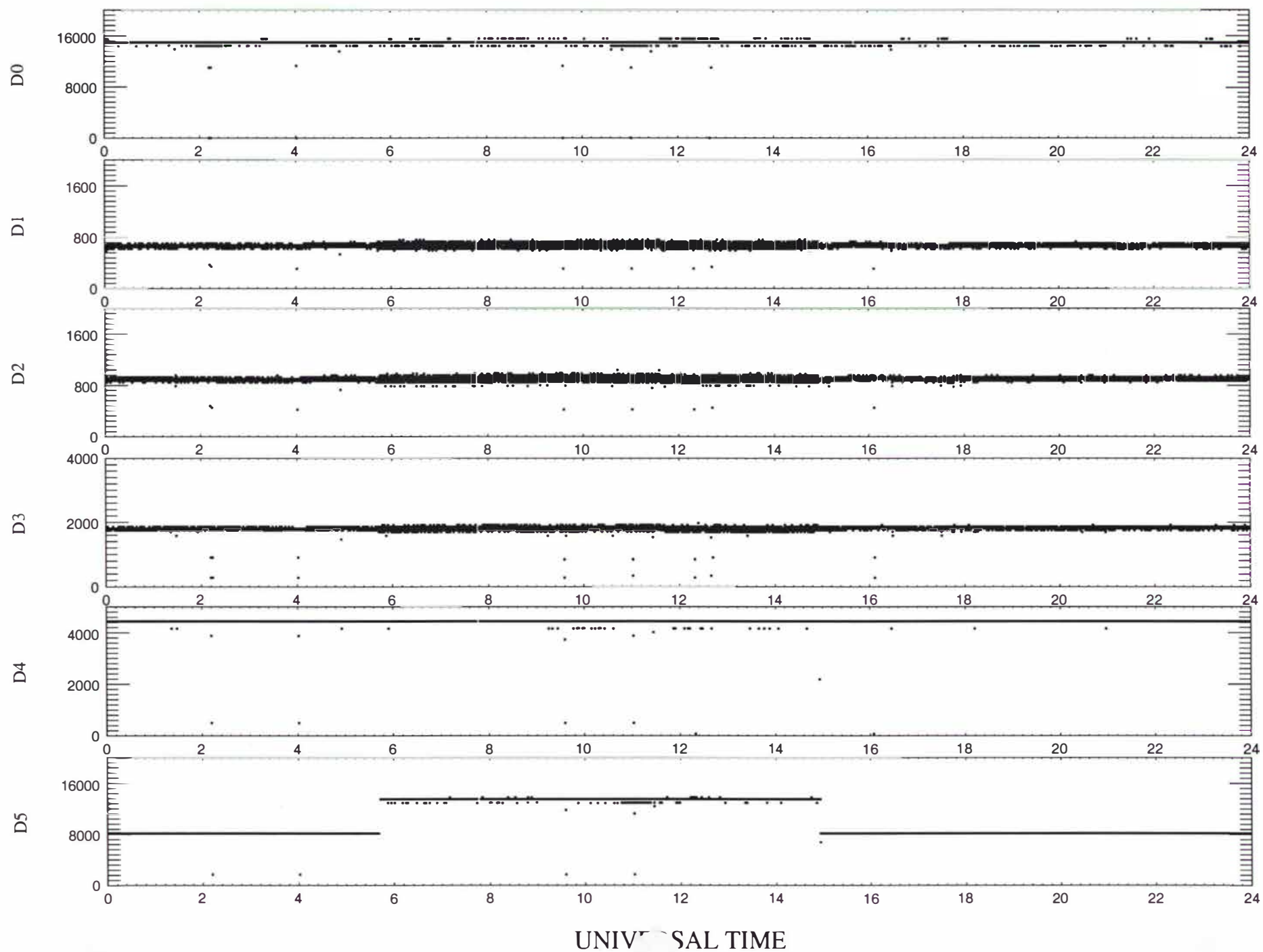
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



SAX G2BM
HUS DATA

ULYSSES RT

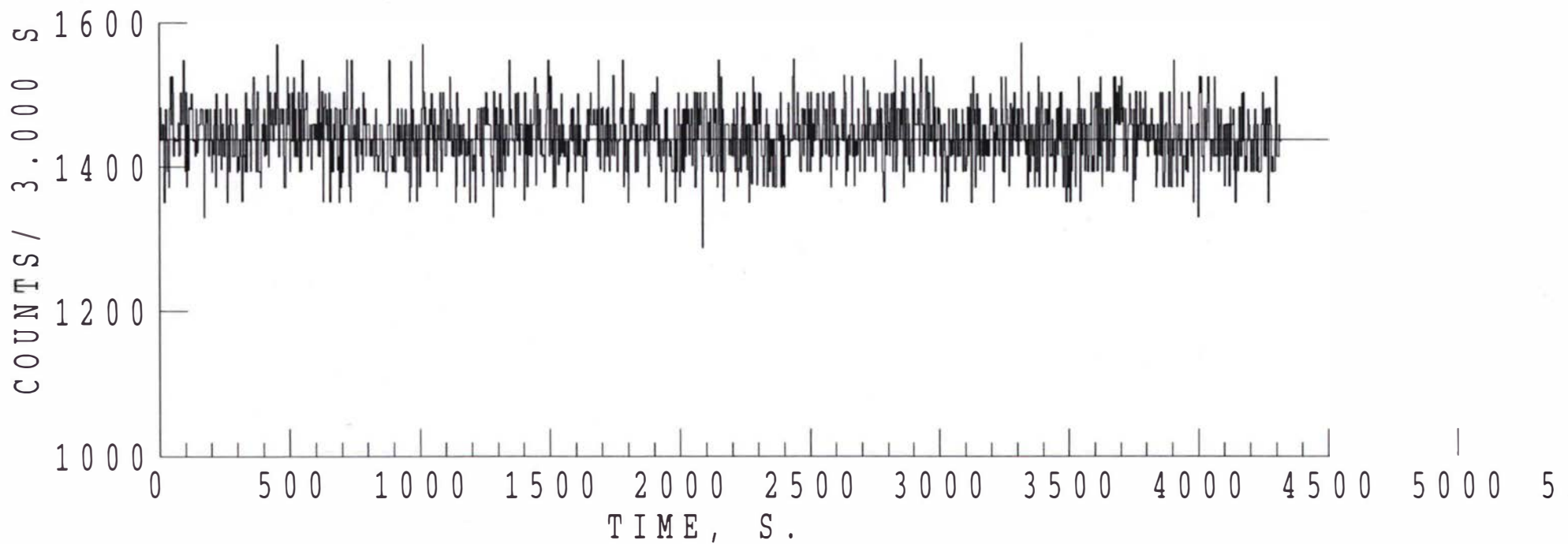
19 / 07 / 05

12 / 04 / 99 4356.437 s

0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



 BATSEARCH PROGRAM

BATSE BURST # 7517
 EVENT OF 1999 APR 12 DAY OF YEAR=102
 EVENT CROSSING TIME AT BATSE : 39750. S. OR 11:02:30.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 136.000 -58.000
 BATSE PEAK COUNTING RATE: 2400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 12/ 4/ 99 IS:
 RA= 146.442 DEC= -7.902 DIST= 4.345 AU
 BATSE-ULYSSES DISTANCE = 649966172. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=129.26 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1371.90 SECS.
 CROSSING TIME AT ULYSSES IS 38378. S. OR 10:39:38 +/- 320.63 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 12/ 4/ 99 IS:
 RA= 216.685 DEC= -12.661 DIST= 0.617 AU
 MARS-BATSE DISTANCE = 92288872. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.64 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -82.98 SECS.
 CROSSING TIME AT MARS IS 39667. S. OR 11:01:07 +/- 50.21 SECONDS

BATSE BURST TRIGGER

.: 7517

TIME: TJD=1280 SECONDS=39750

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=126.1 AZIMUTH=241.3 ERROR=9.79 DEGREES

COMMENTS:

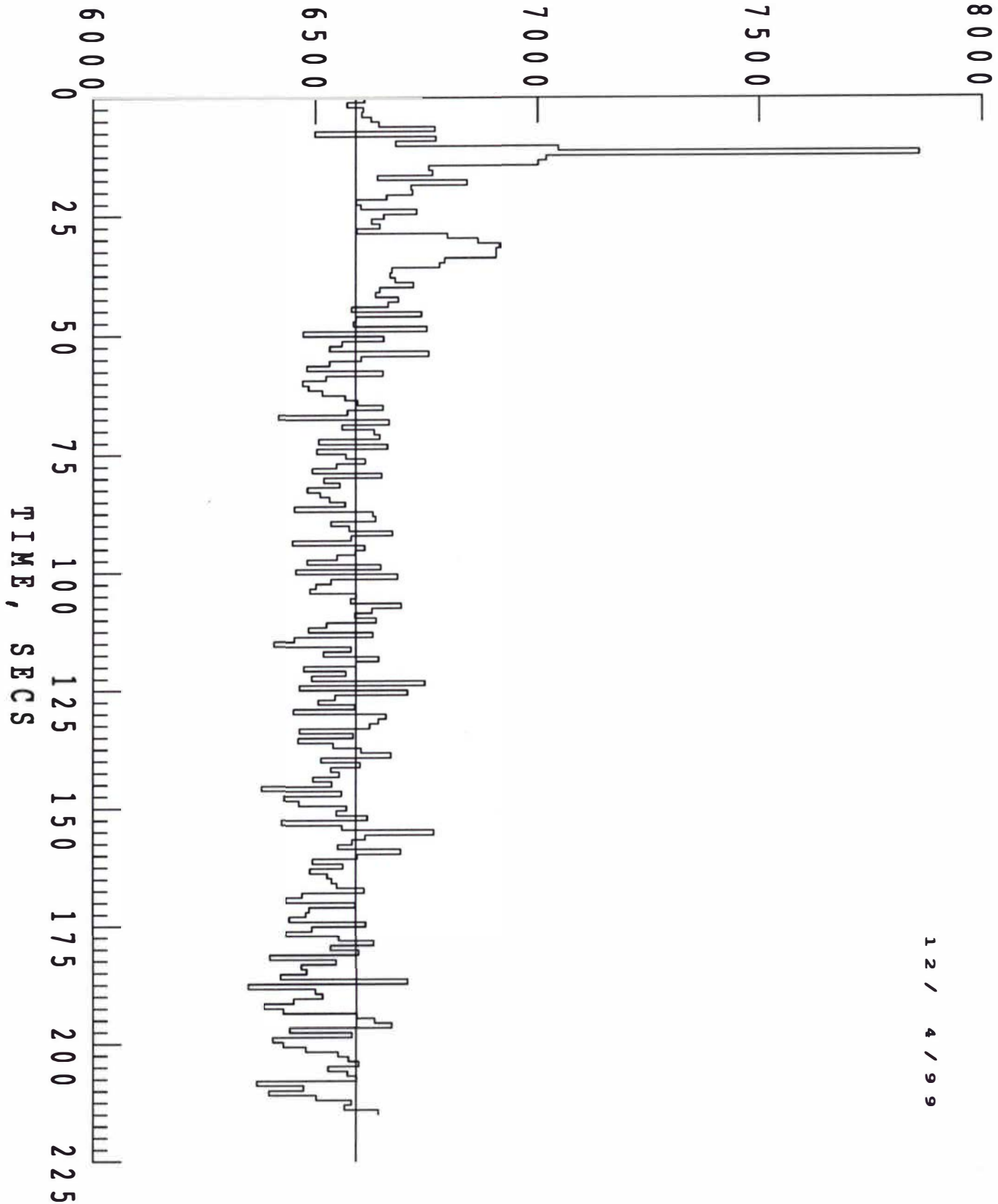
GRB. DOUBLE PULSE, DUR APPROX 50S, STARTS AT APPROX T-1 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7517	990412	11280	39750	2400	136	-58	50

BACODINE 7517 12/04/99 39739.129

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7517

ULYSSES RT

15 / 4 / 99

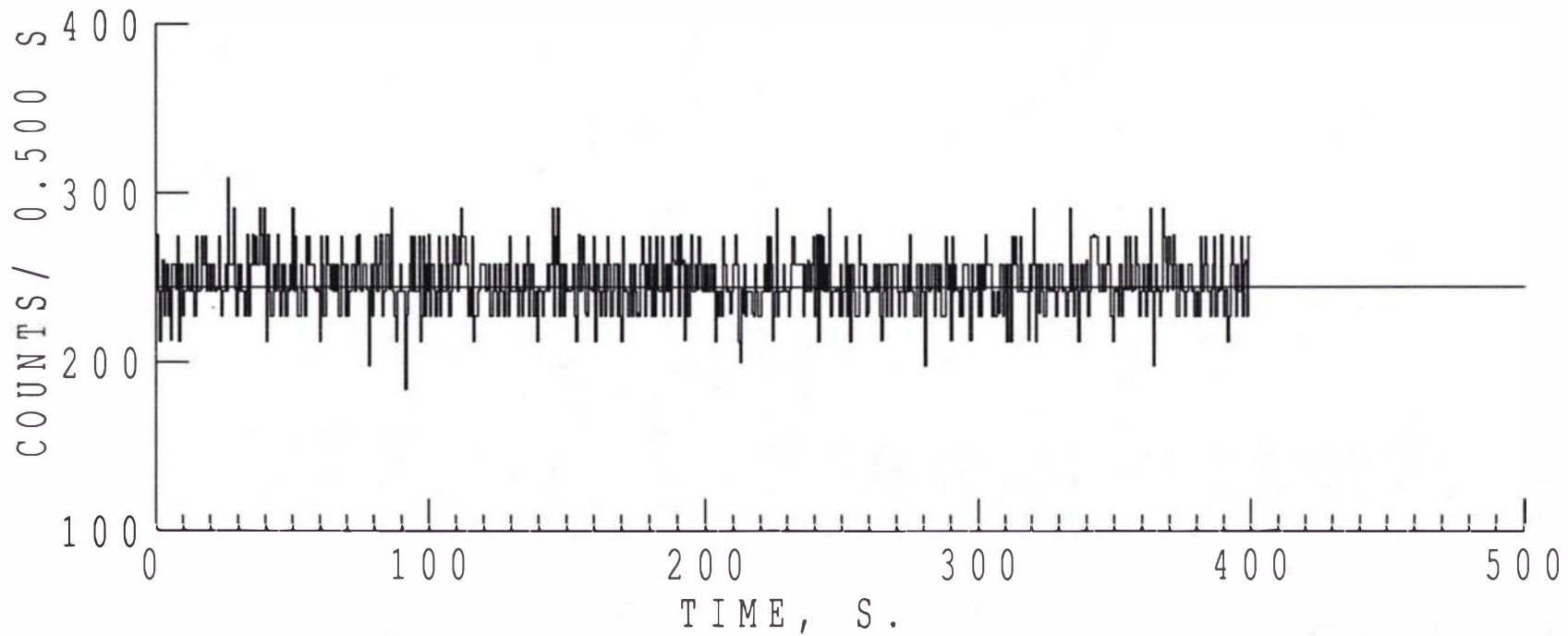
12 / 4 / 99 38300.531 s

0.250 S INTERVALS REGROUPED BY 2

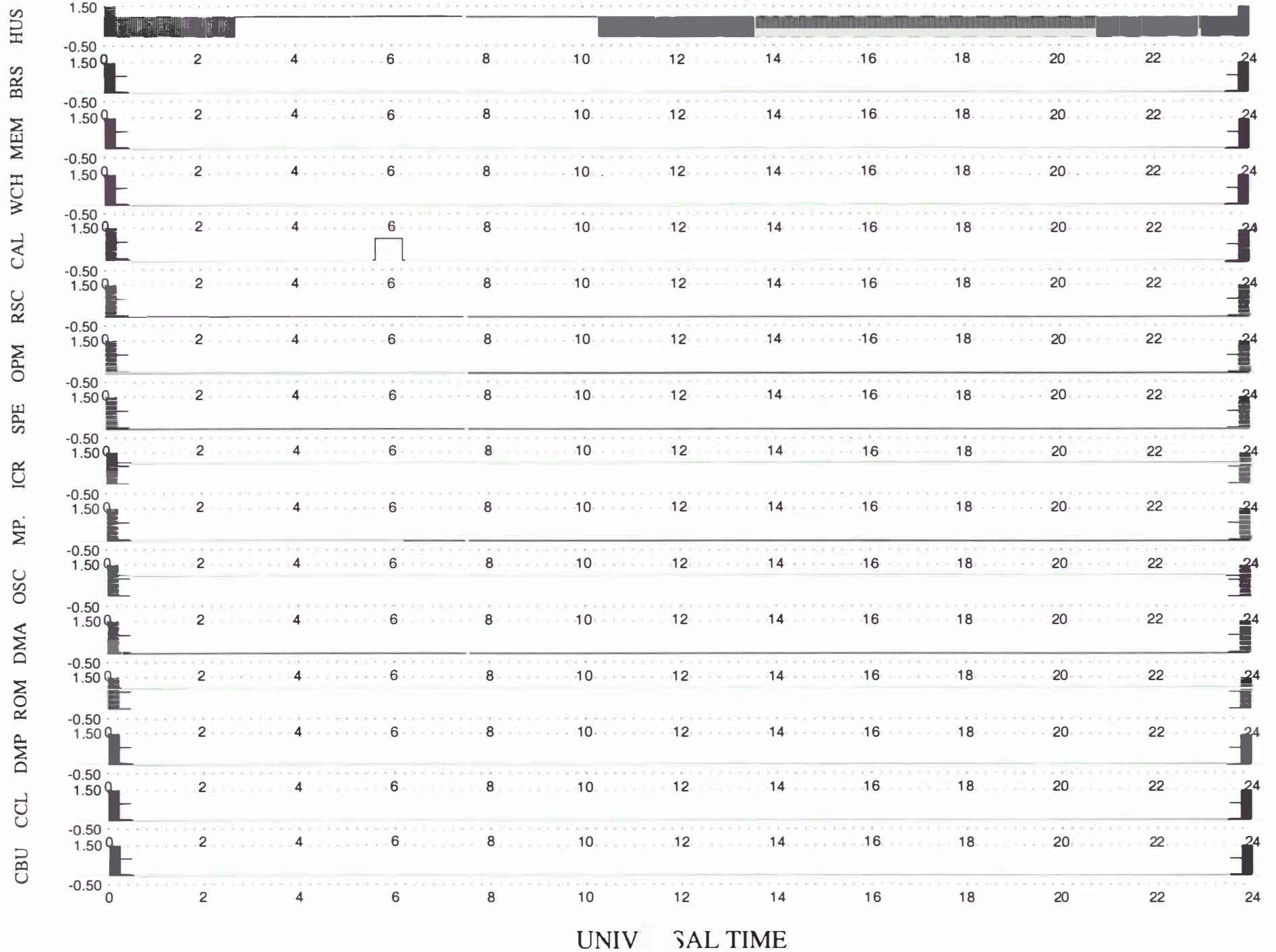
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

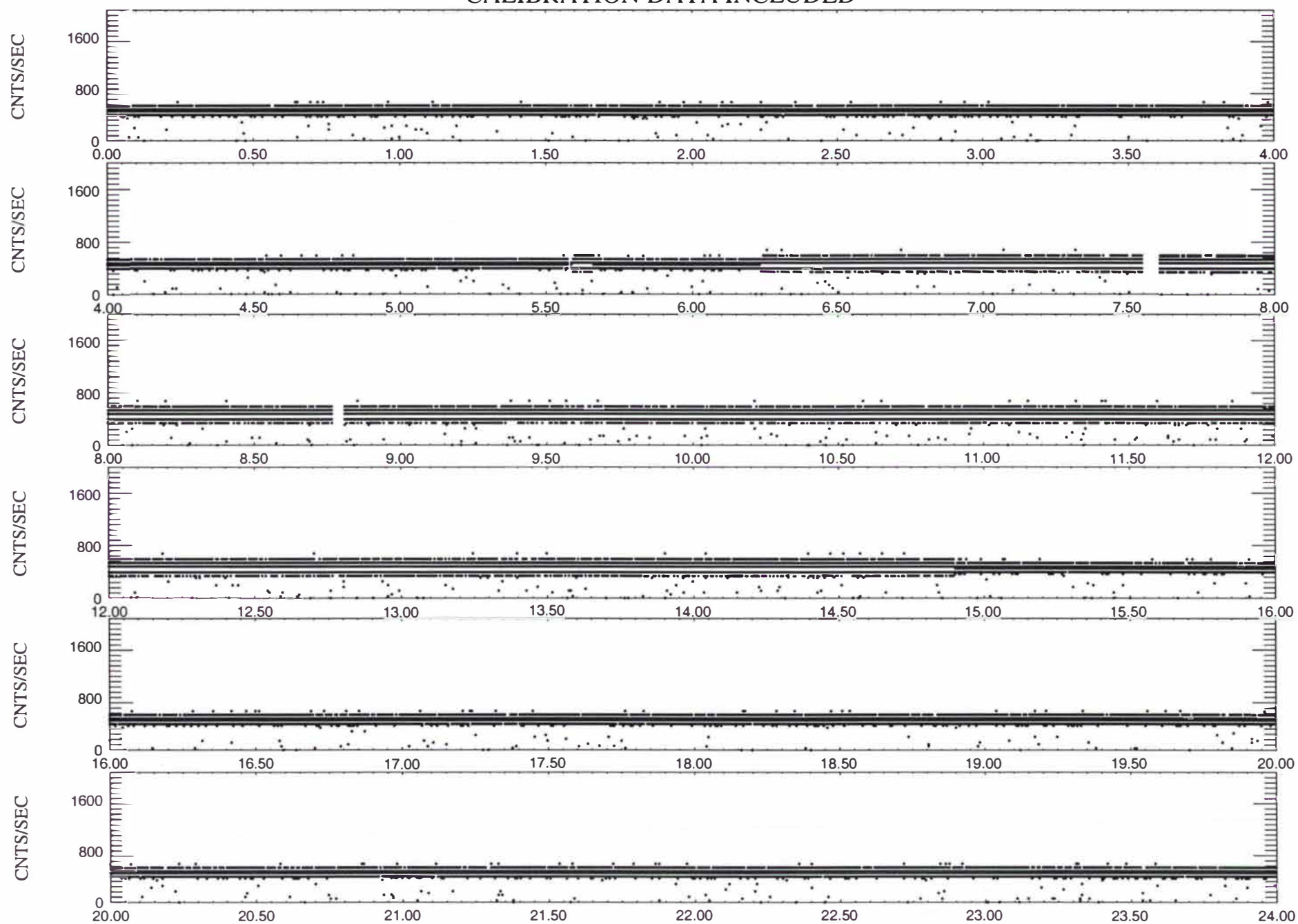
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



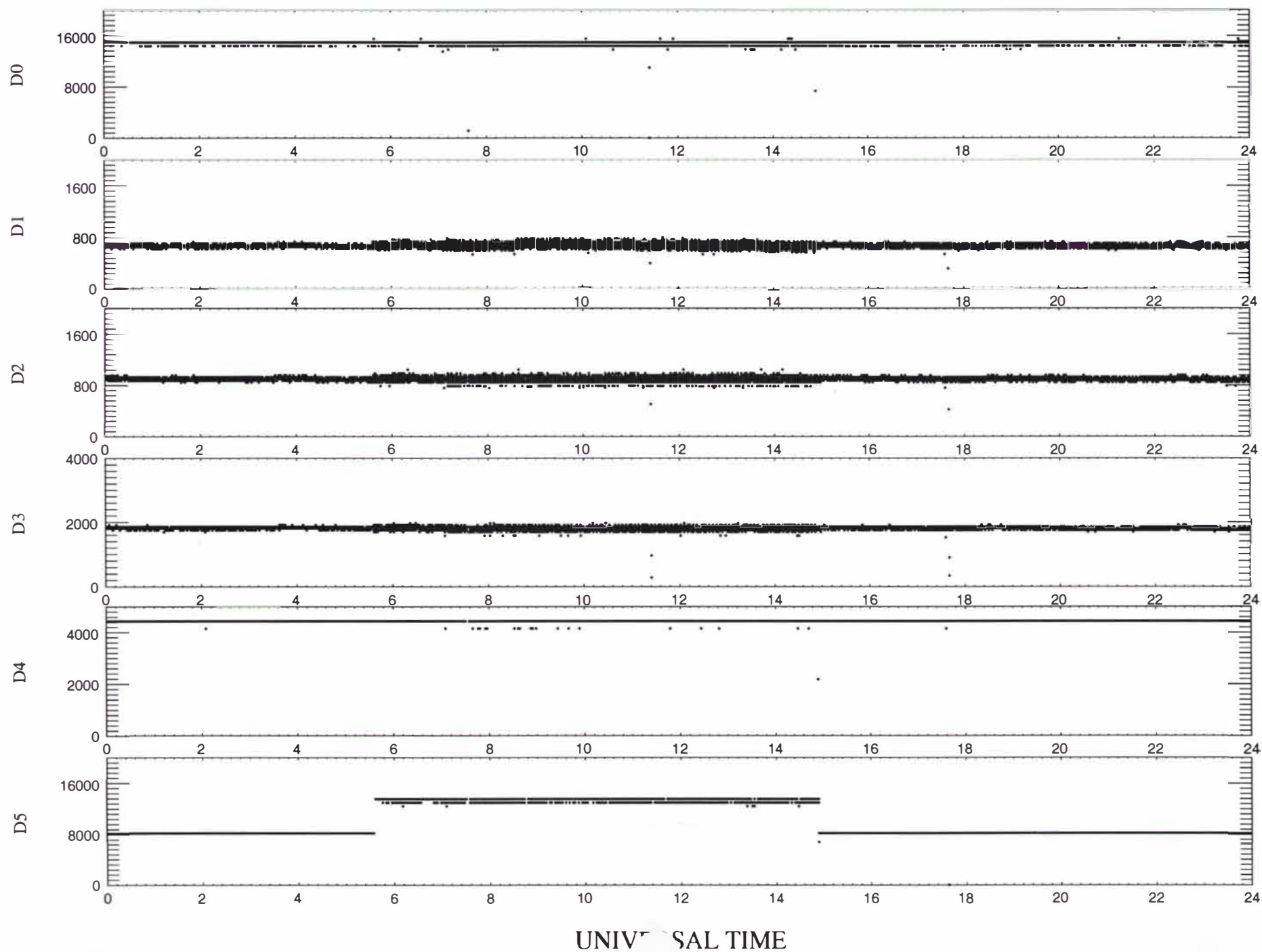
BURST NUMBER 6, 3



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Thu Apr 15 12:29:57 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id MAA10181; Thu, 15 Apr 1999 12:29:56 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.2/8.9.2) with SMTP id MAA04427
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 15 Apr 1999 12:29:47 -0700 (PDT)
Date: Thu, 15 Apr 1999 14:18:45 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990415141845.20201453@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7518
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7518
EVENT OF 1999 APR 13 DAY OF YEAR=103
EVENT CROSSING TIME AT BATSE : 28448. S. OR 07:54:08.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 180.000 -18.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 4/ 99 IS:
RA= 146.326 DEC= -7.865 DIST= 4.354 AU
BATSE-ULYSSES DISTANCE = 651300347. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=145.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1795.16 SECS.
CROSSING TIME AT ULYSSES IS 26653. S. OR 07:24:12 +/- 235.17 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 4/ 99 IS:
RA= 216.383 DEC= -12.590 DIST= 0.613 AU
MARS-BATSE DISTANCE = 91722784. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=144.55 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -249.23 SECS.
CROSSING TIME AT MARS IS 28199. S. OR 07:49:58 +/- 27.02 SECONDS

BATSE BURST TRIGGER

NO.: 7518

TIME: TJD=1281 SECONDS=28448

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=106.3 AZIMUTH=187.9 ERROR= 1.0 DEGREES

COMMENTS:

DOUBLE PULSE, DUR. APPROX. 15 S, MAX AT APPROX. T+3 S.
VISIBLE ABOVE 300 KEV. HV OFF (SAA) AT APPROX. T+43 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7518	990413	11281	28448	10000	180	-18	15

Date: 26/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

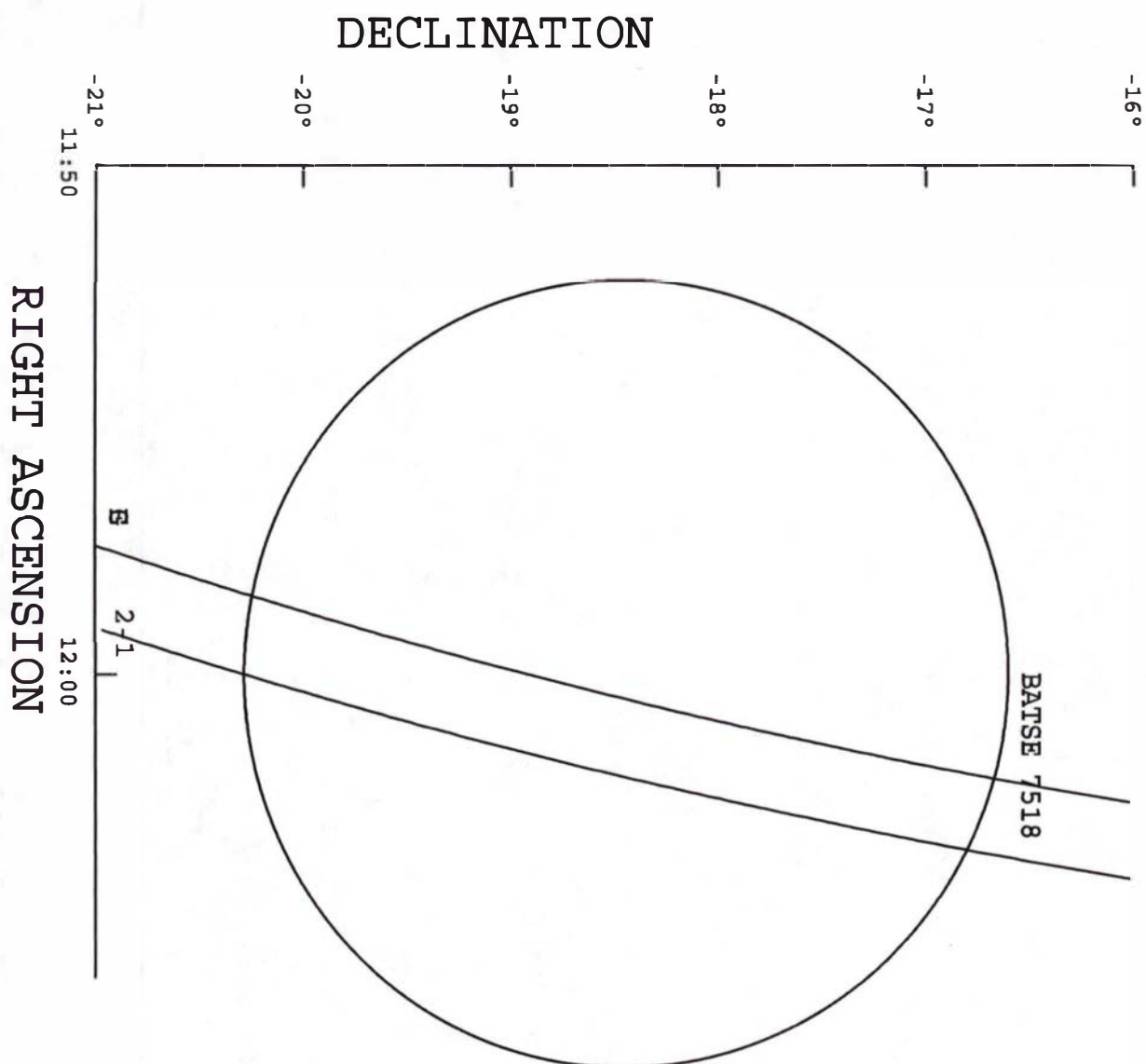
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF APR 13, 1999 7:54

26 / 1 / 0



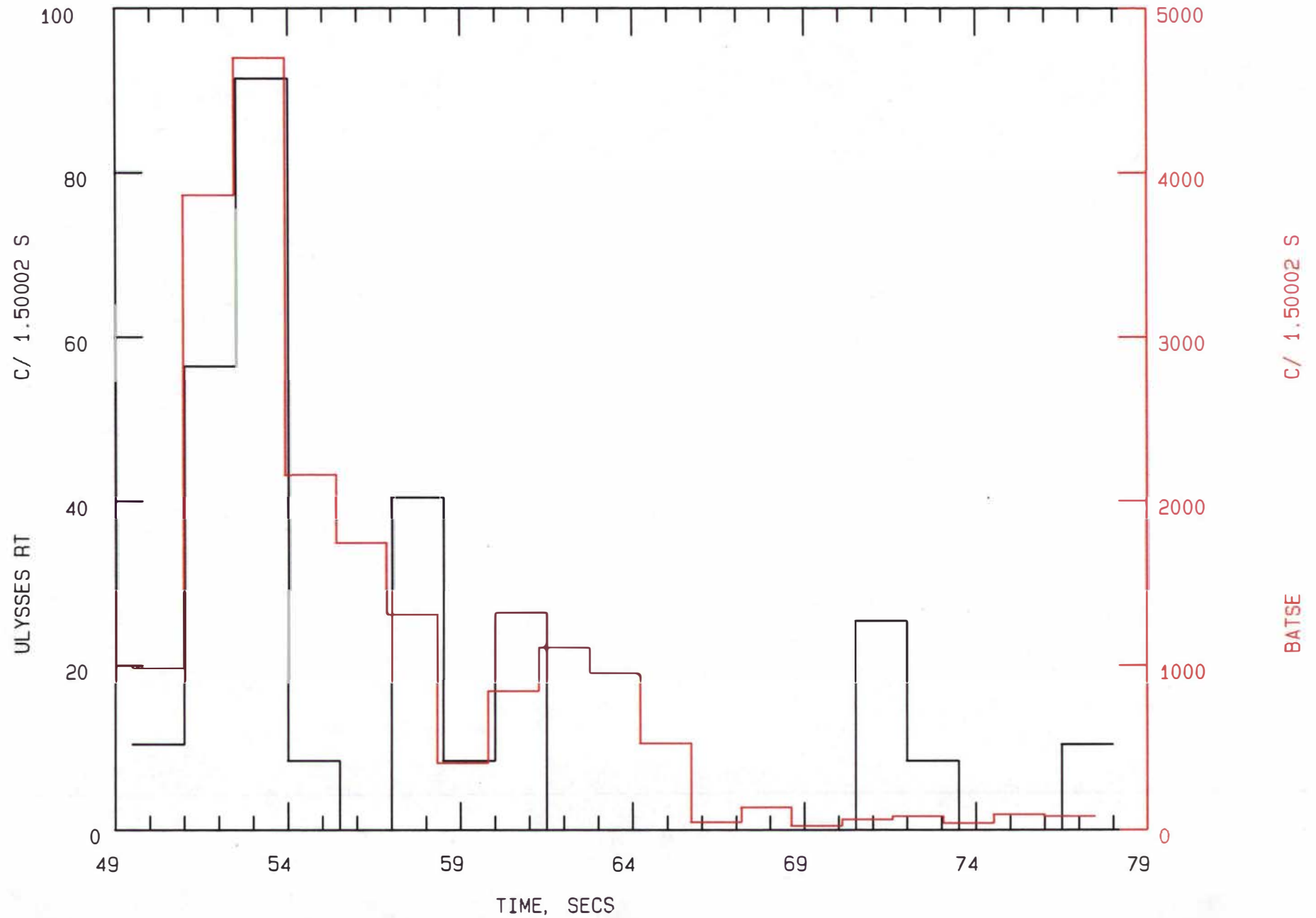
ULYSSES RT-BATSE

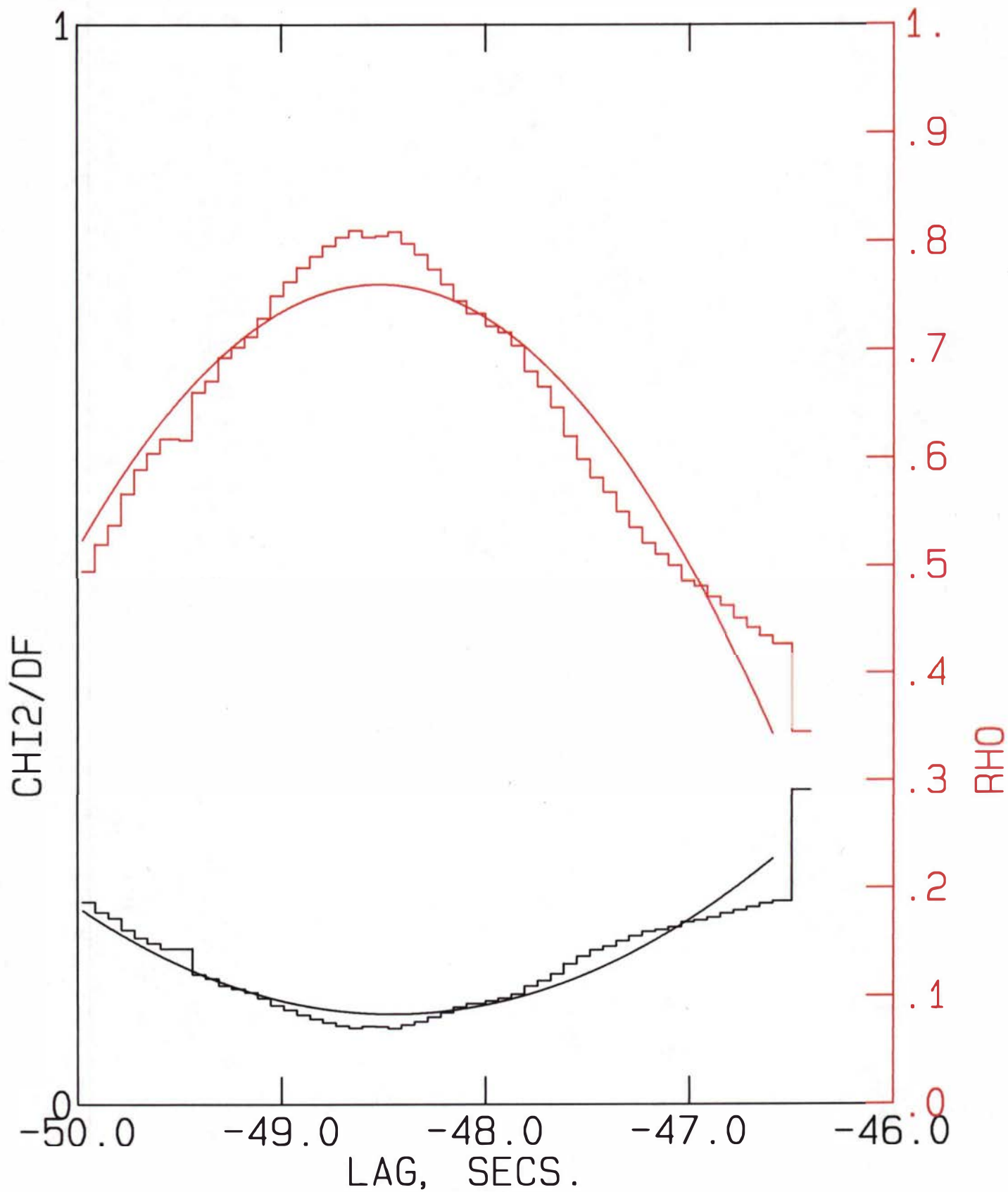
CORRELATION

13/ 4/99

26598.008

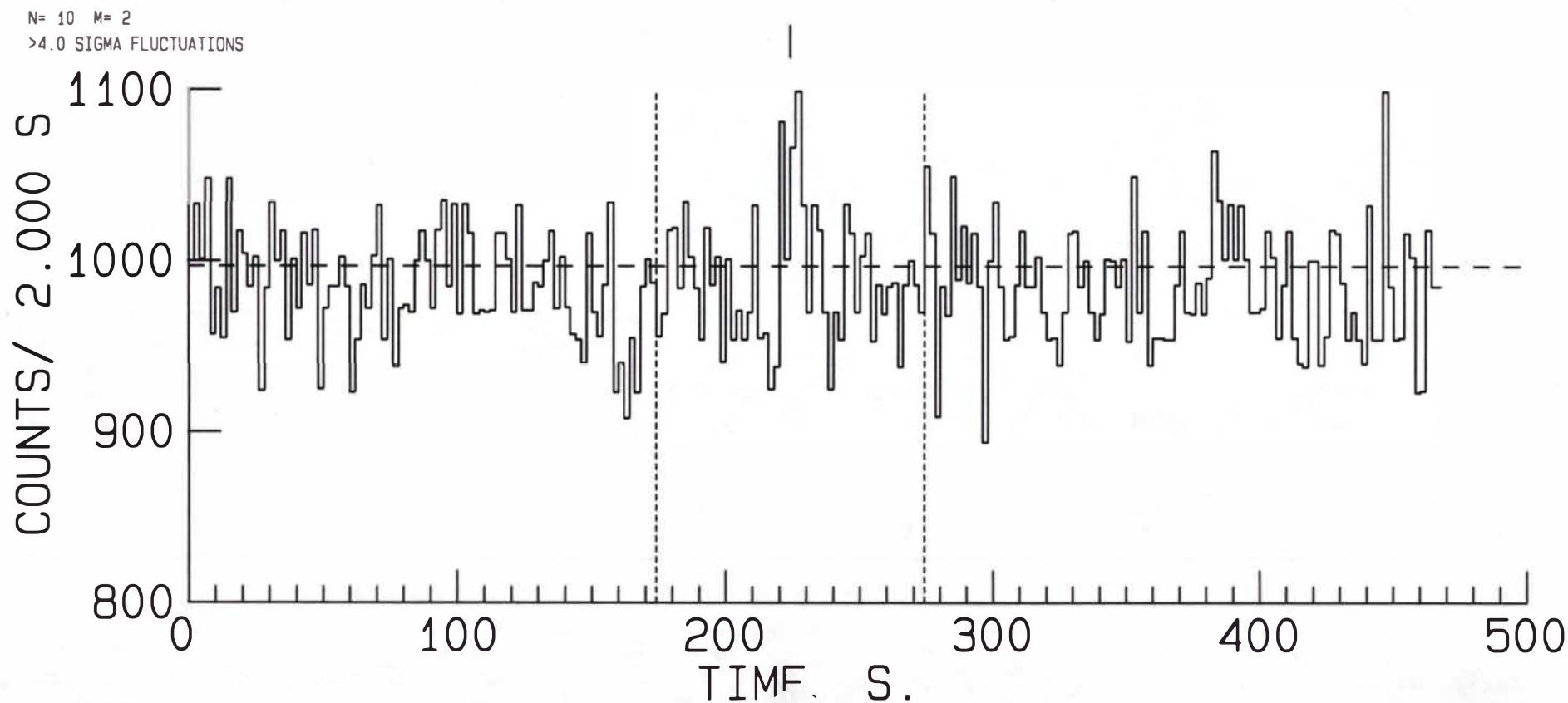
26/ 1/ 0





ULYSSES RT
13/ 4/99 26424.036 s
0.250 S INTERVALS REGROUPED BY 8
22- 149 keV

26 / 1 / 0



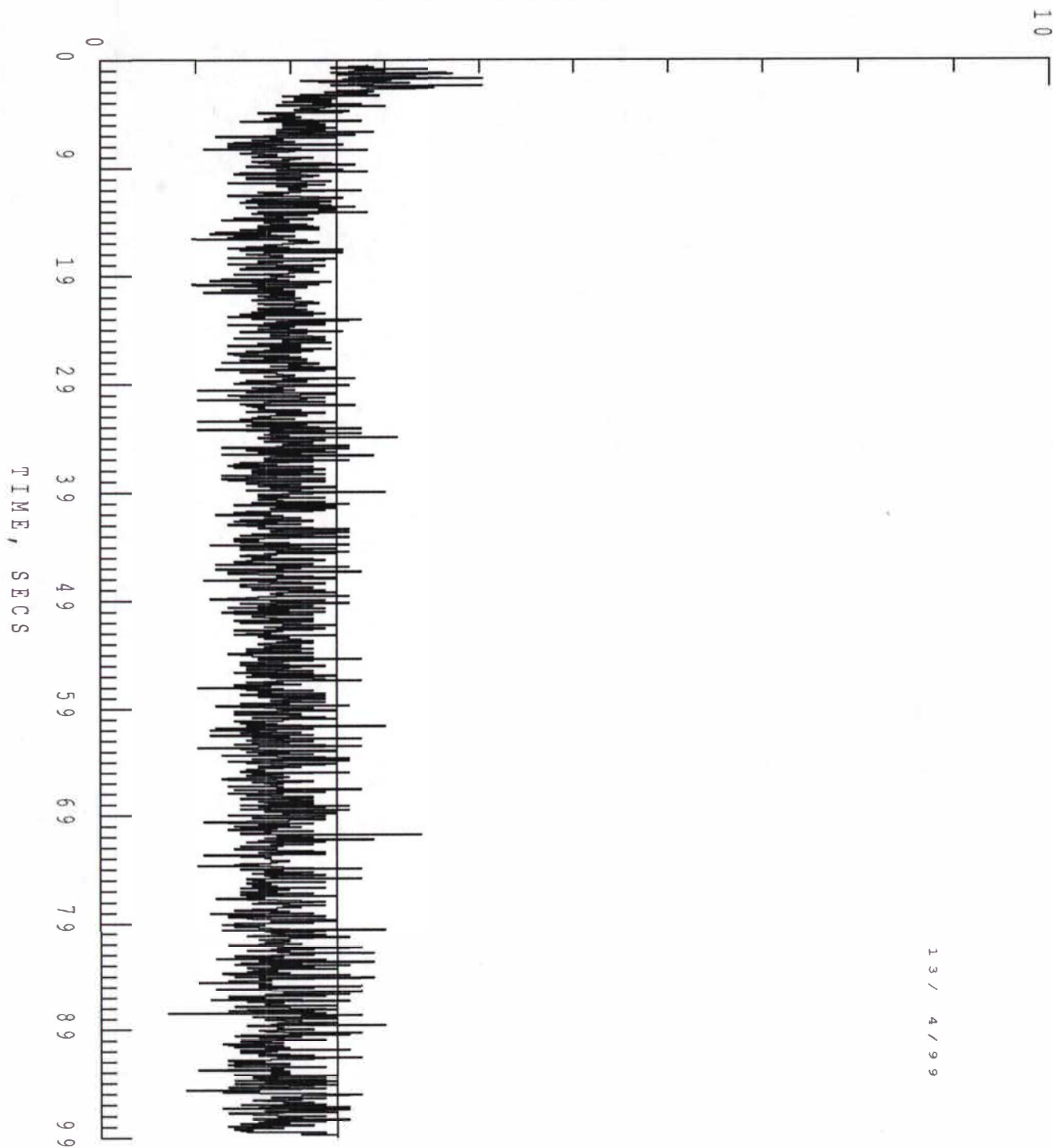
KONUS

13/04/99

28450.716

50 - 200 keV

COUNTS/0.064 S



13 / 4 / 99

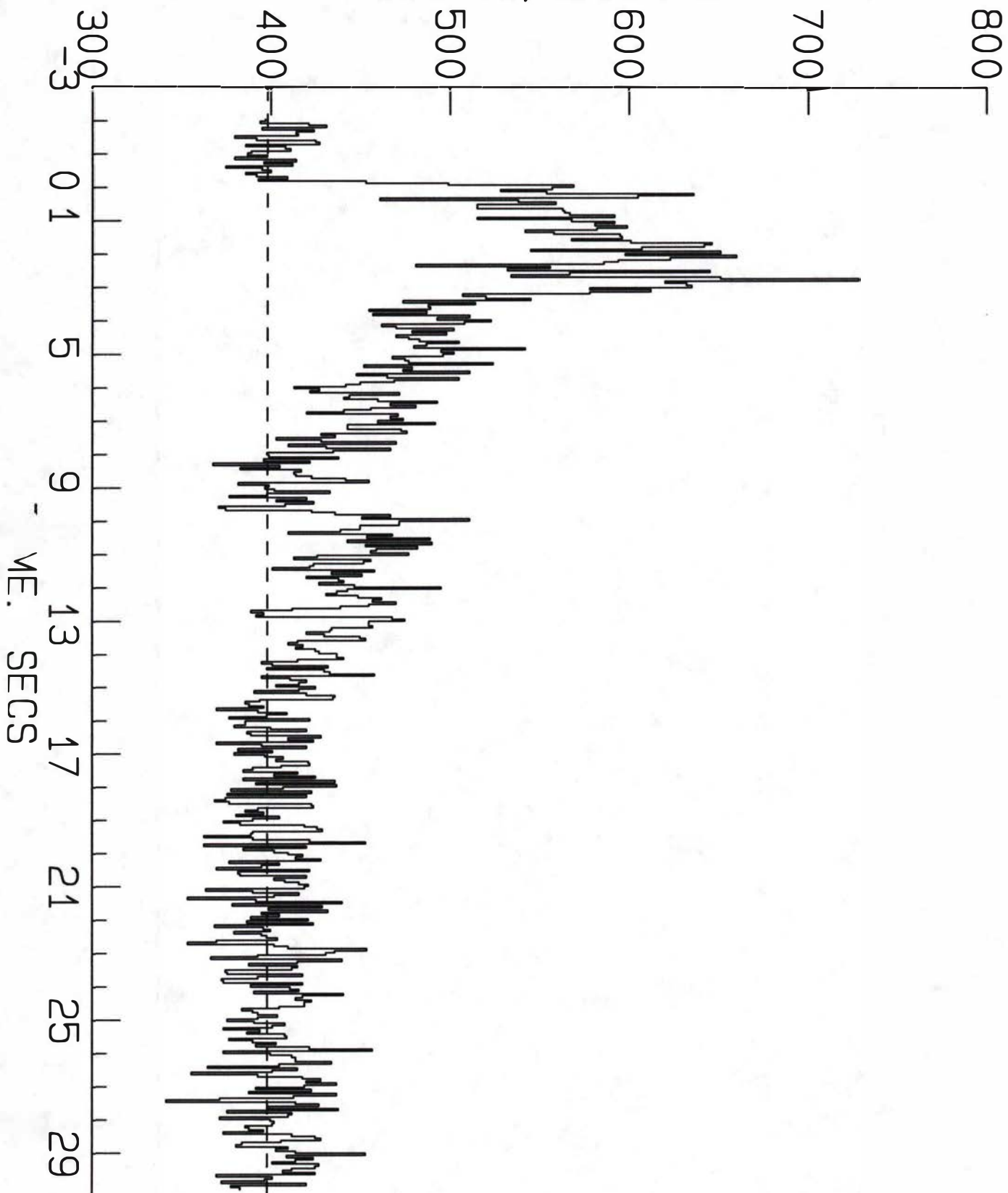
BATSE

13/04/99

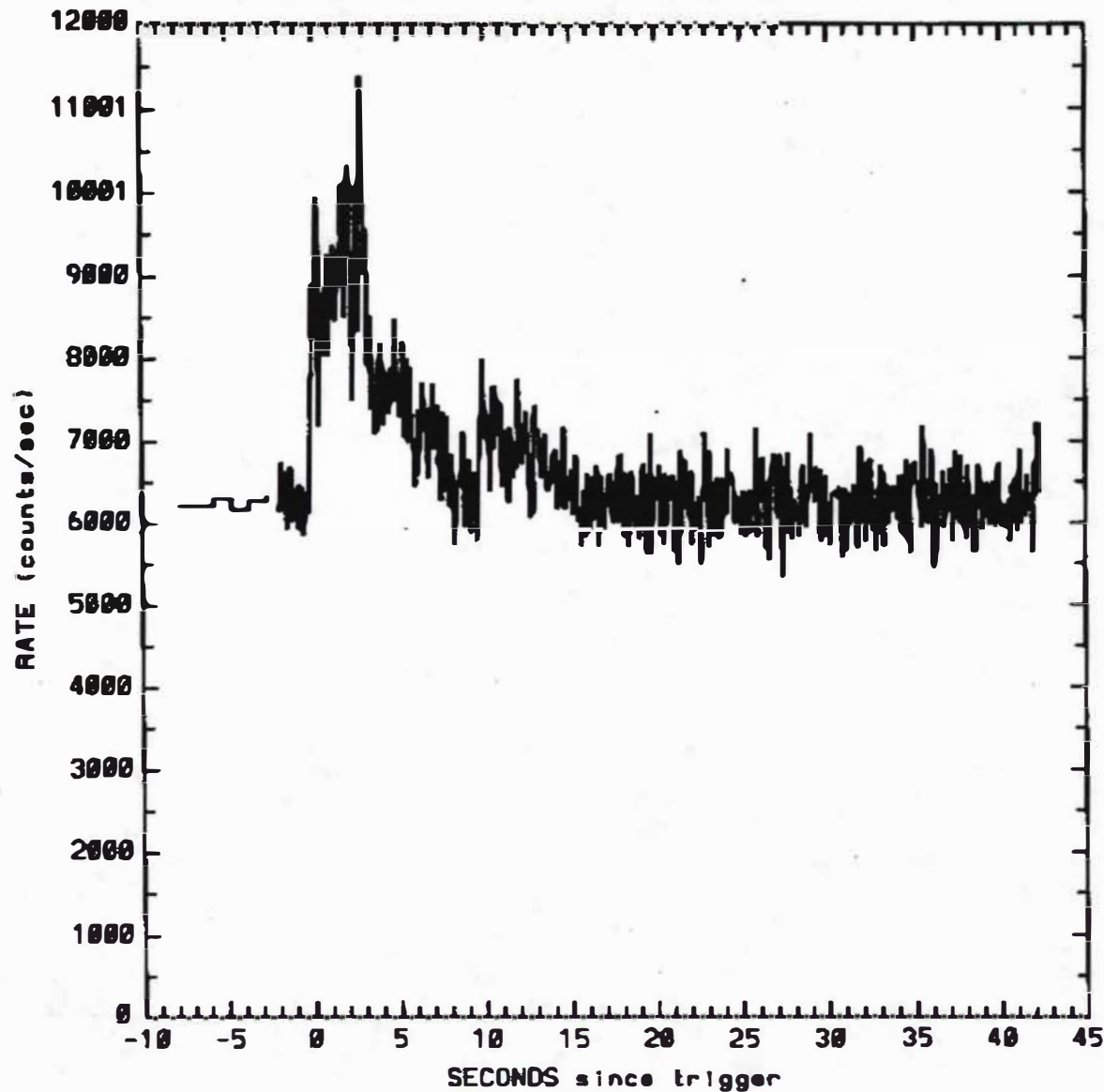
28448.121

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7518



29-APR-1999 09:46:01

Created by NOPS BD
(Burst Display)
Version 12.20

Trigger # : 7518

Trigger Time:
11201 / 20400.121Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PWEB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..0):
7-5-----Discriminators:
1 1 . 2 1Quality Mask:
001SP1

JANA TAB2 19990413 33850

ULYSSES RT

05/08/05

13/04/99 33480.109 s

0.250 S INTERVALS REGROUPED BY 2

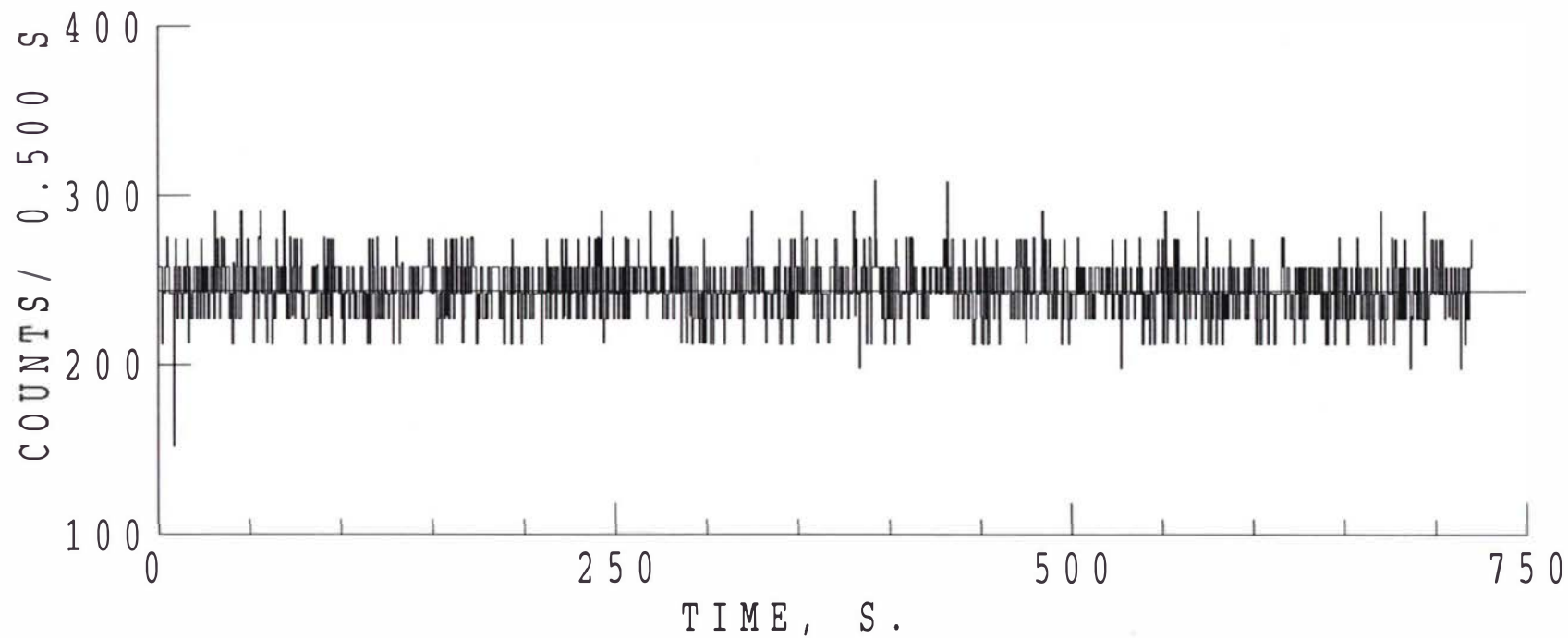
0 - 0 keV

N= 10 M= 10

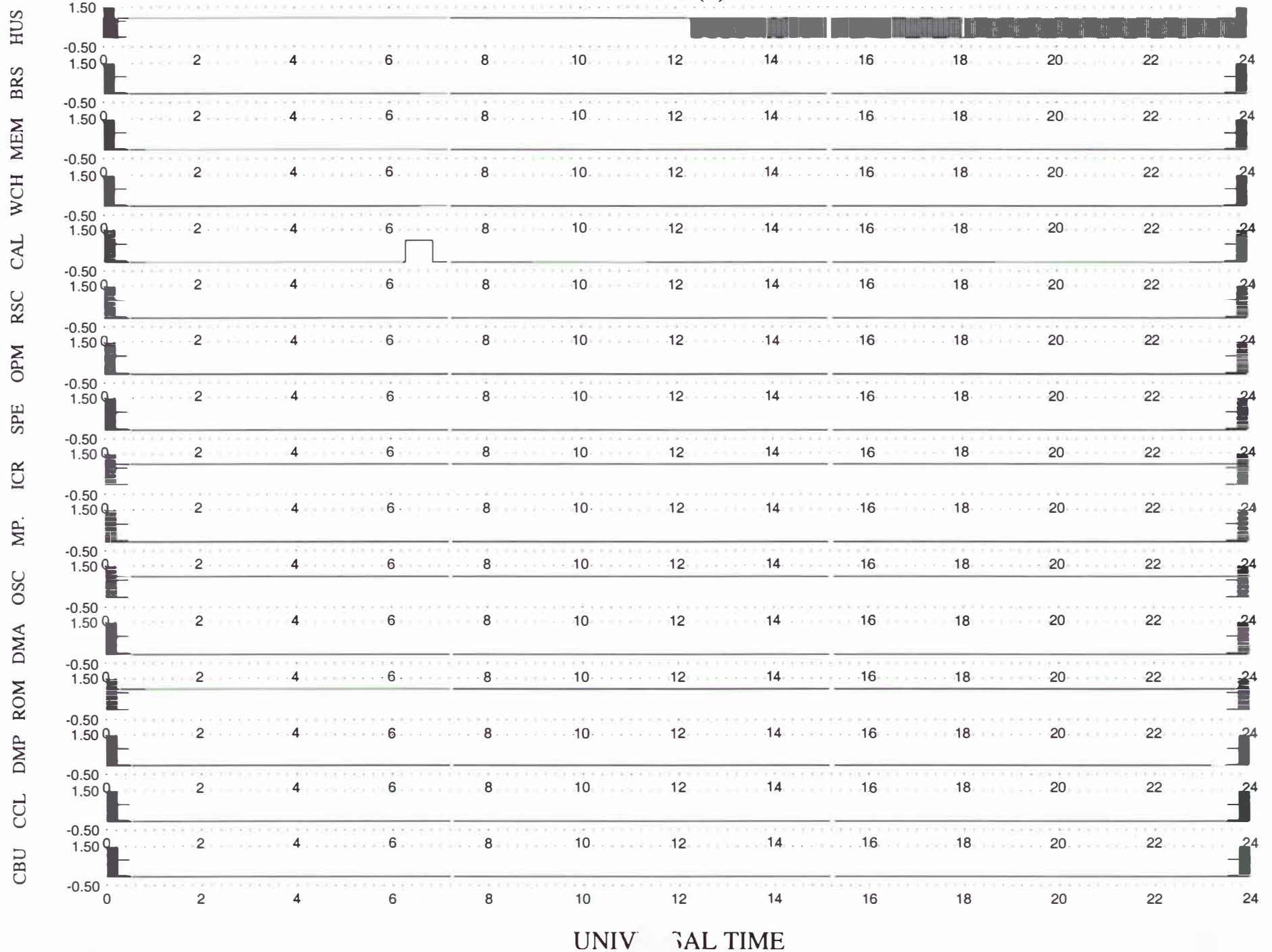
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

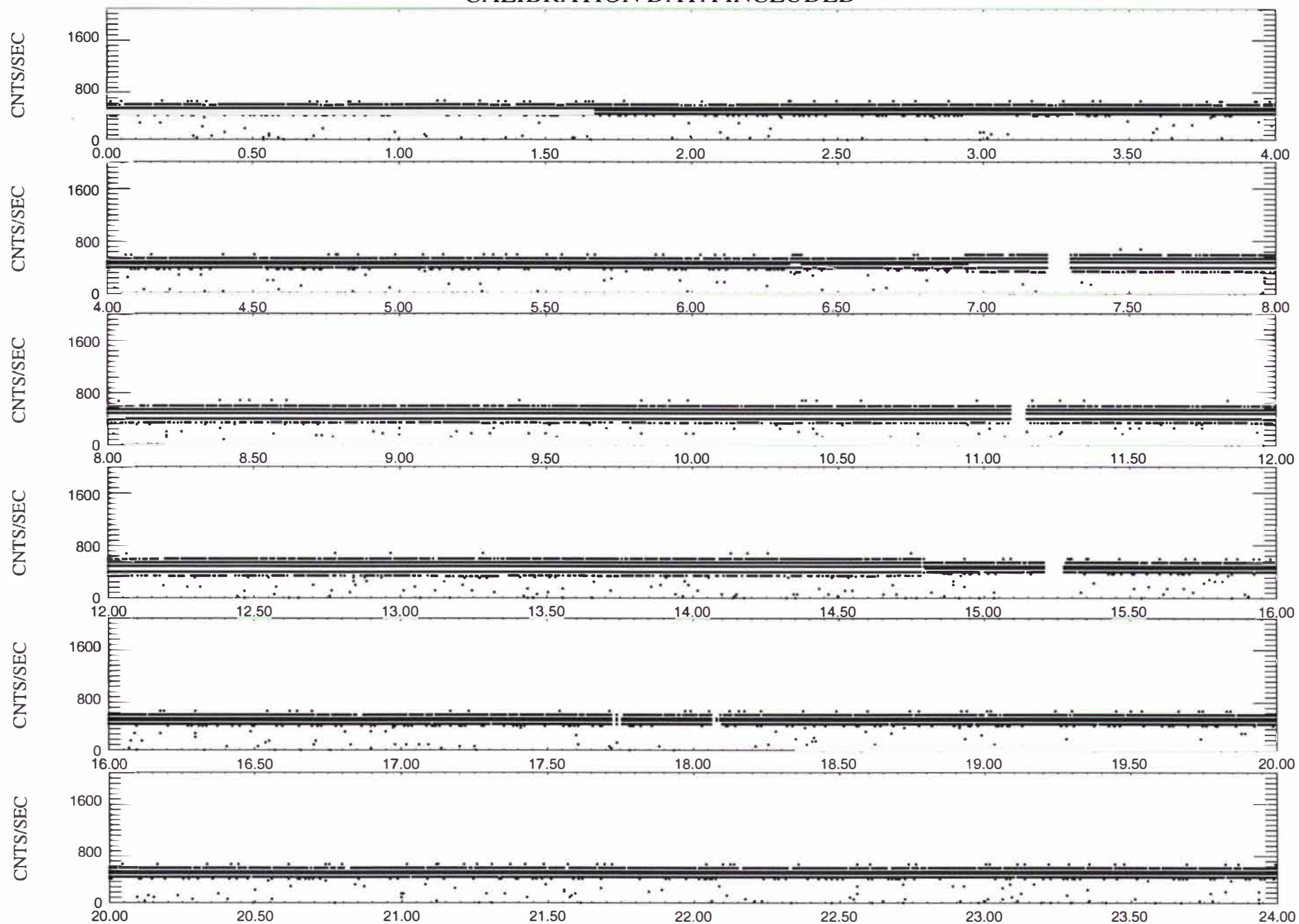
>4.0 SIGMA FLUCTUATIONS



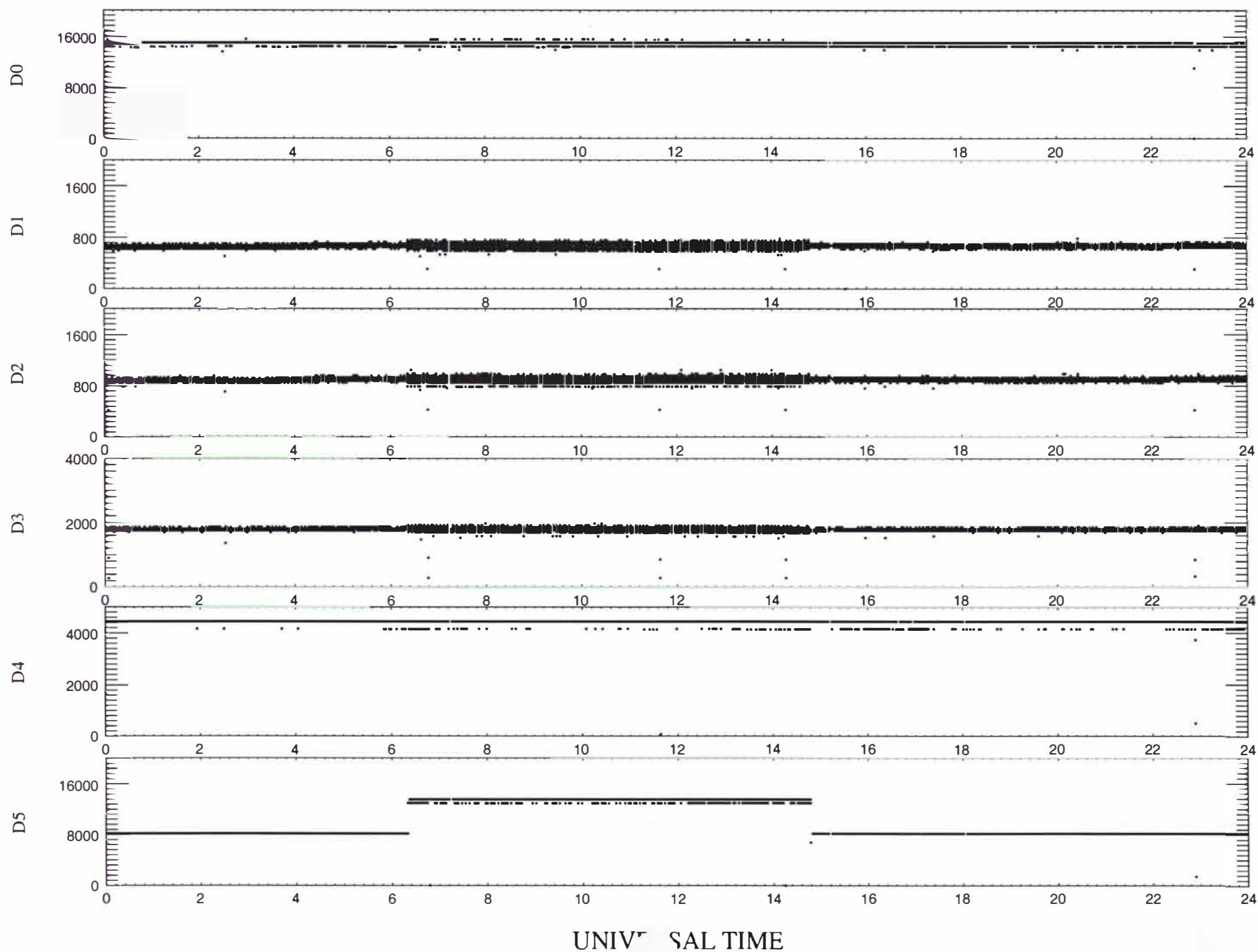
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



Date: 15 Jan 2013

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

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

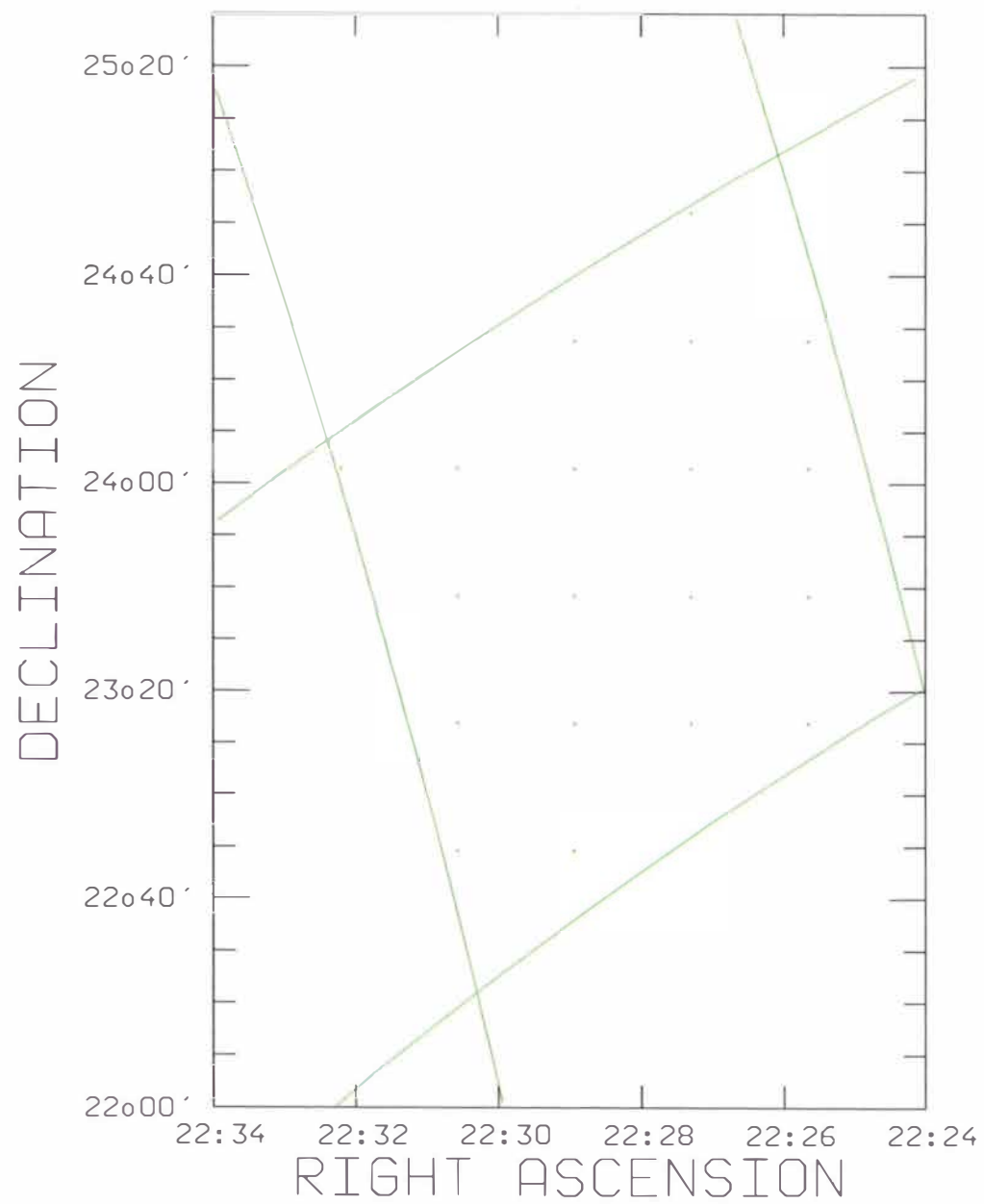
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

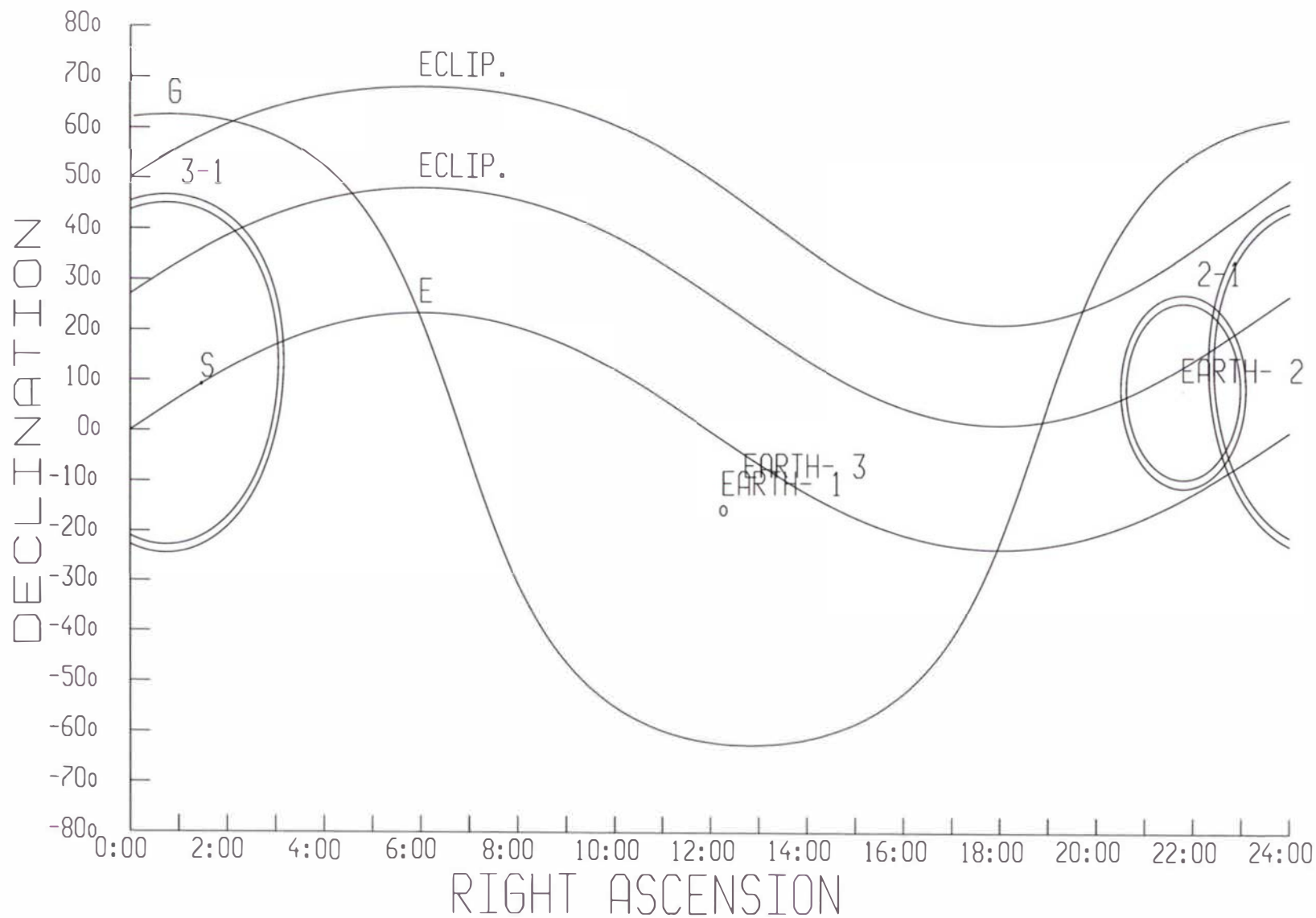
- ☒ ACCESS database updated?

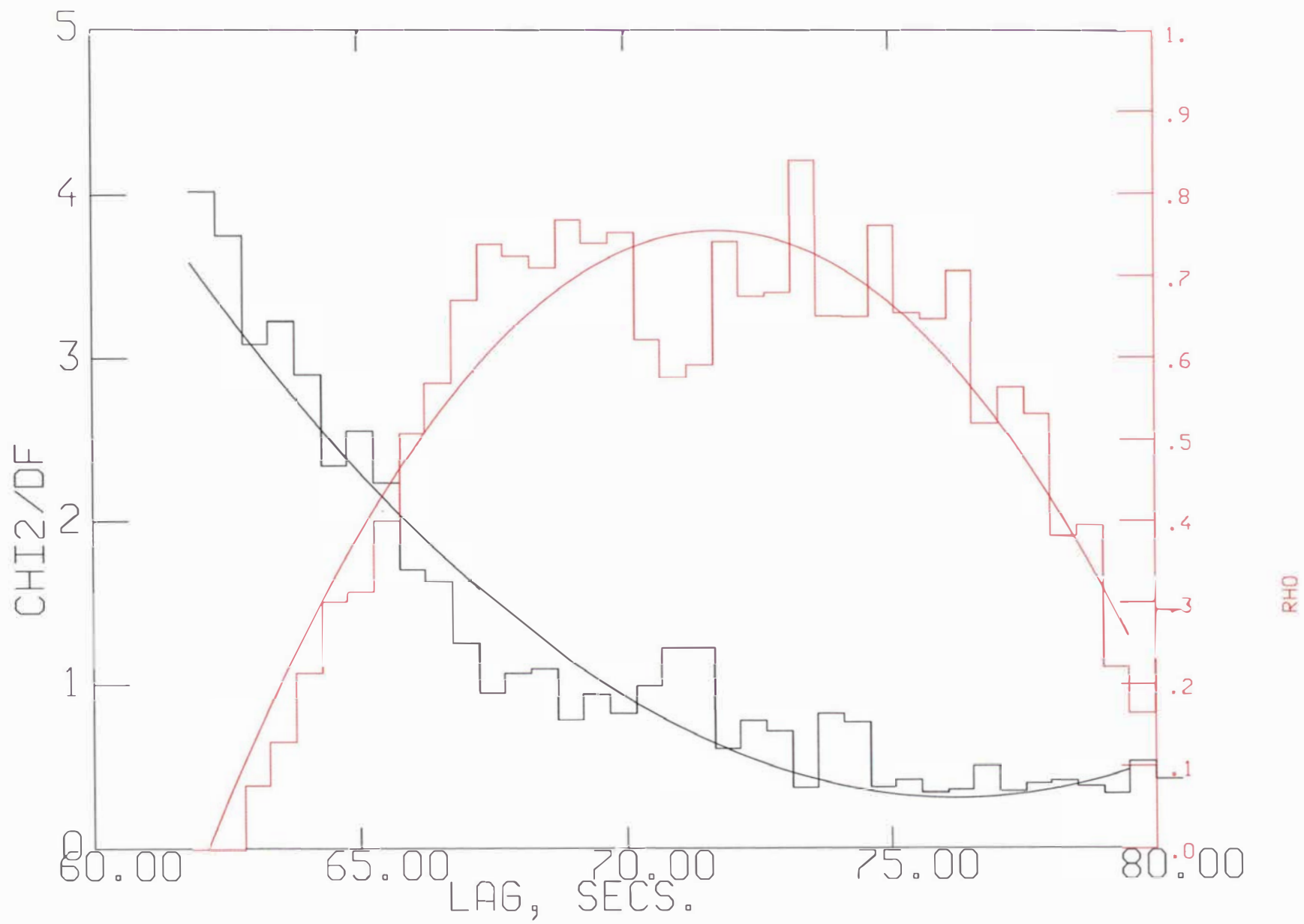


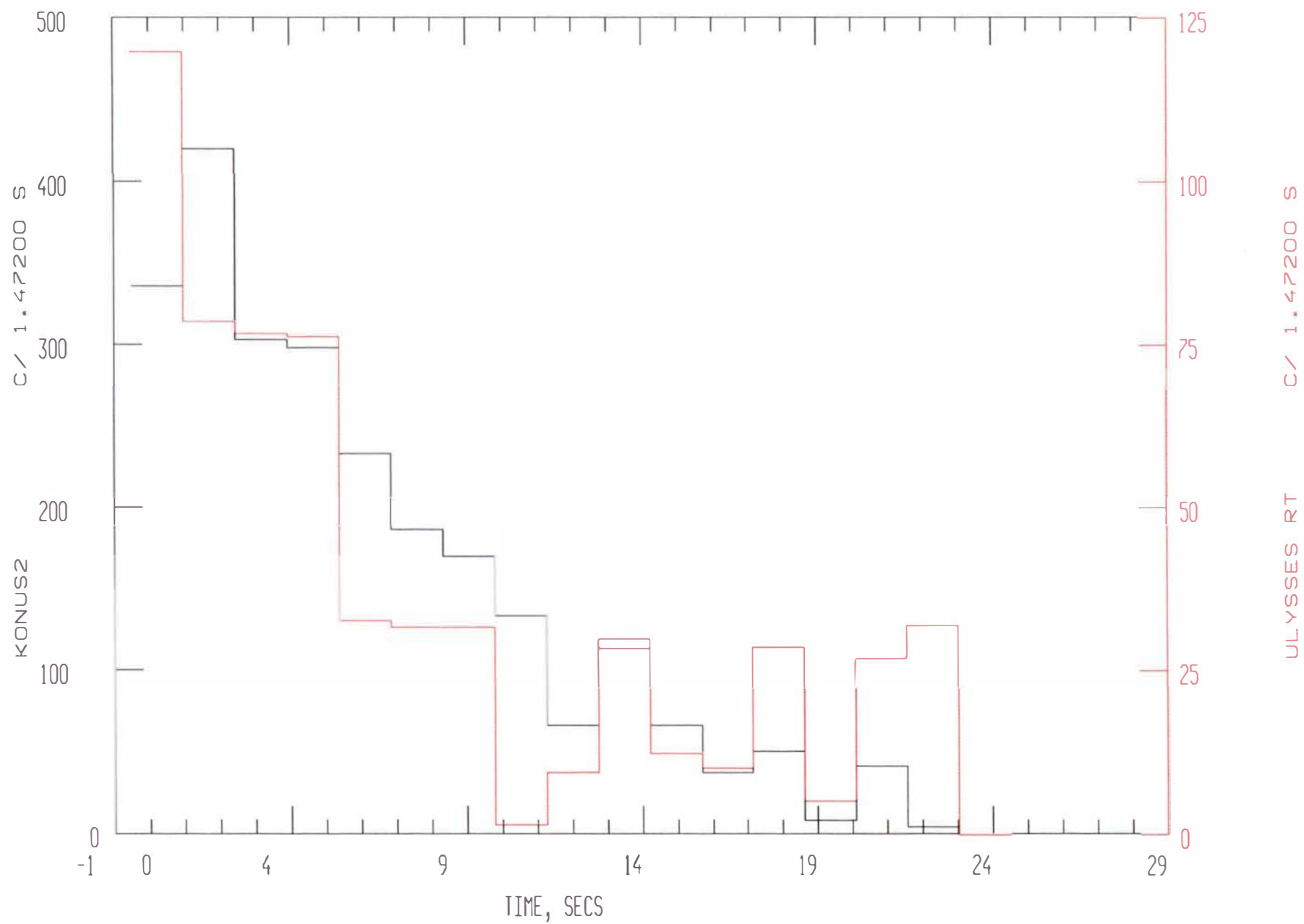
EVENT OF APR 14, 1999 4:00

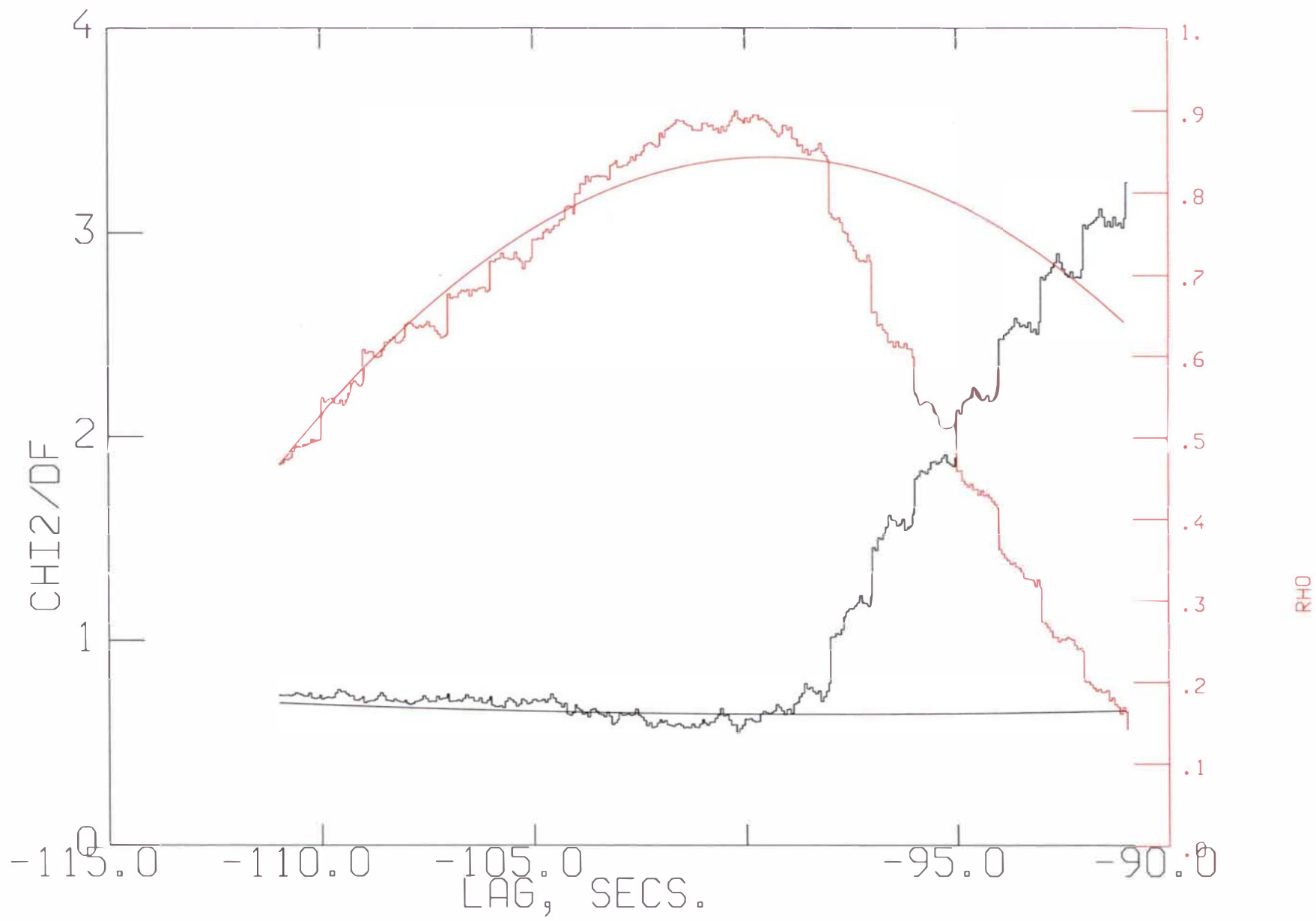
15/01/2013

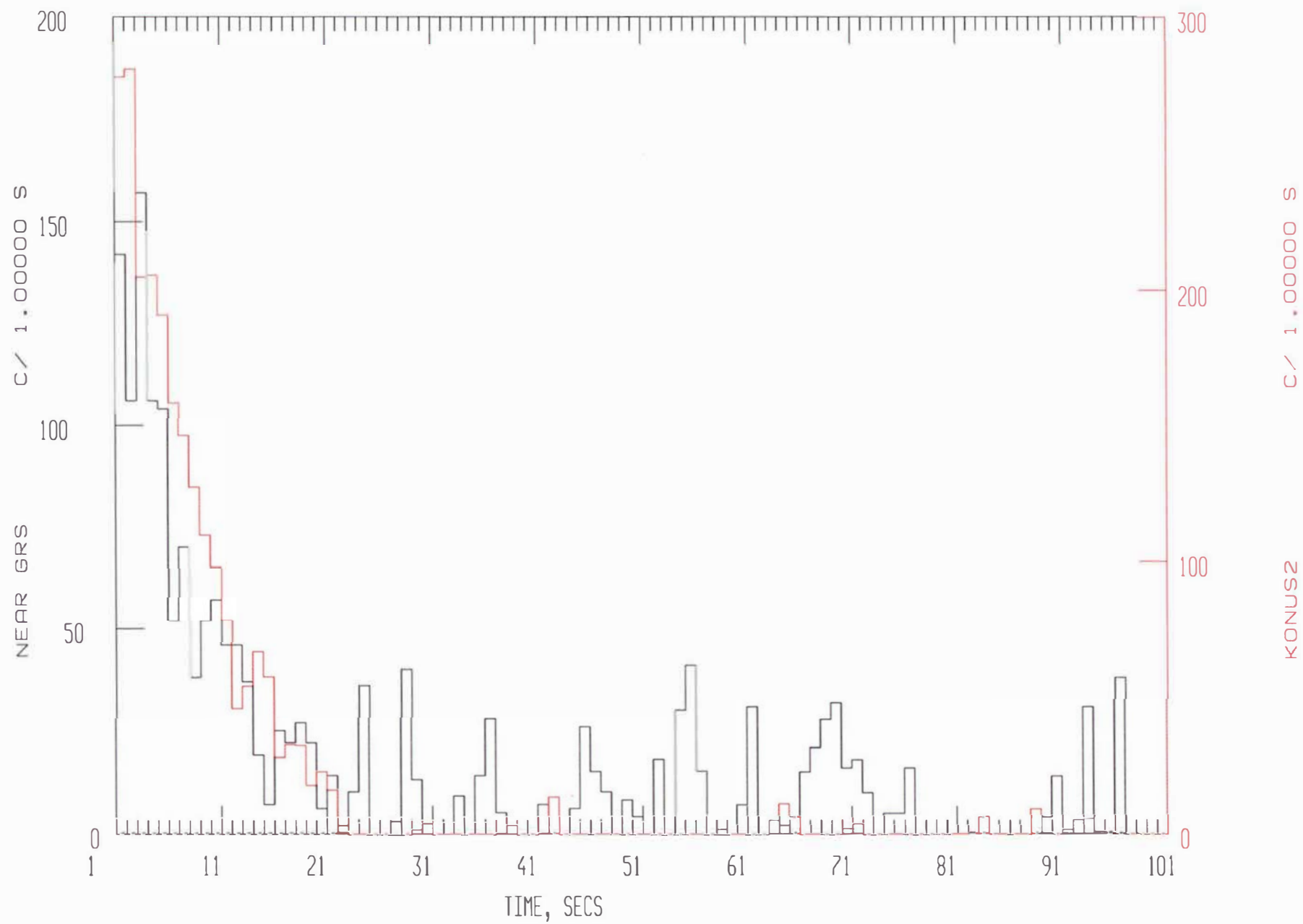
N-M = CORRELATION BETWEEN SATELLITES N AND M
EARTH-N = EARTH AS SEEN FROM SATELLITE N
S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
1 KONUS2 2 ULYSSES 3 NEAR









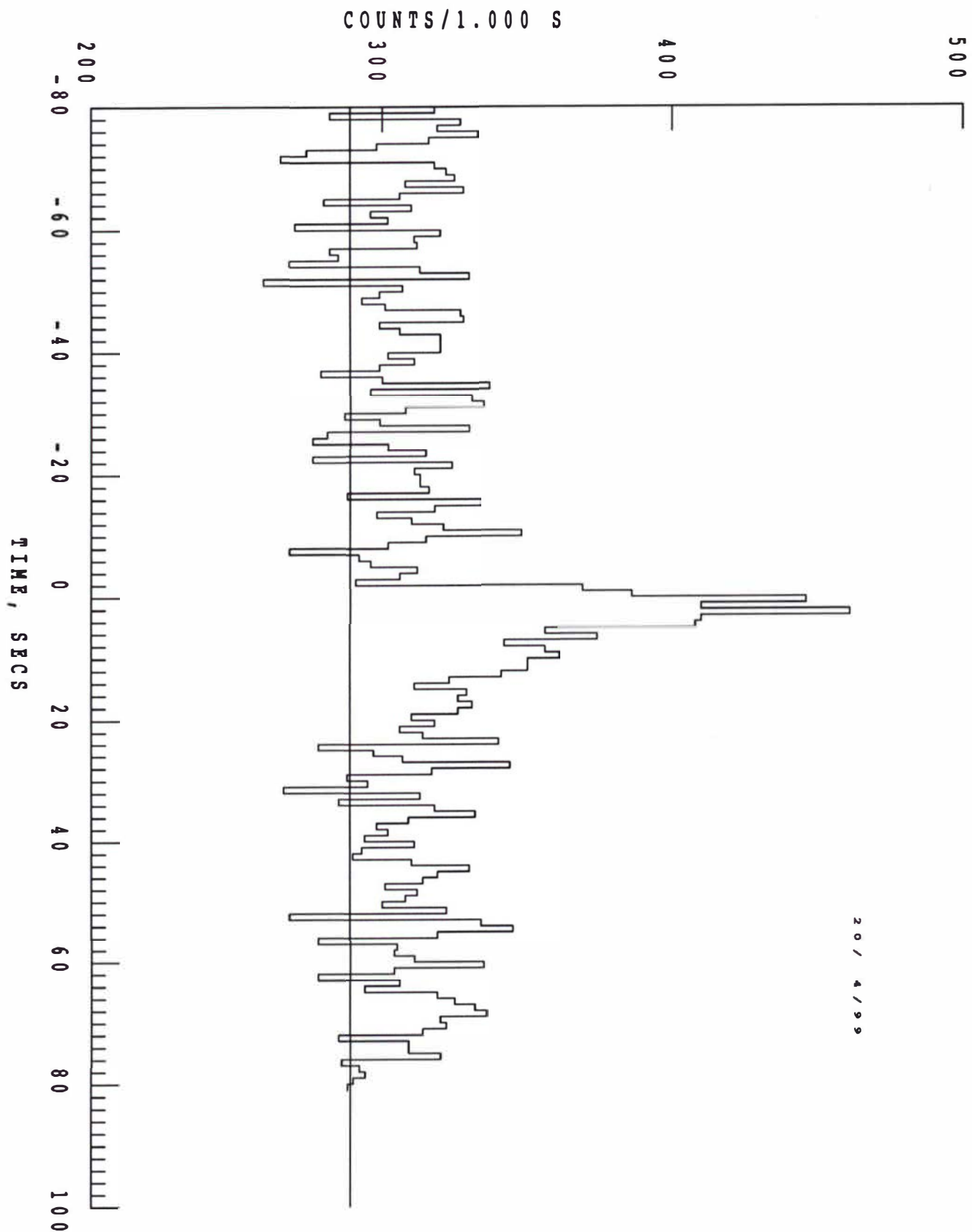


NEAR

14/04/99

13401.814

100-1000 keV

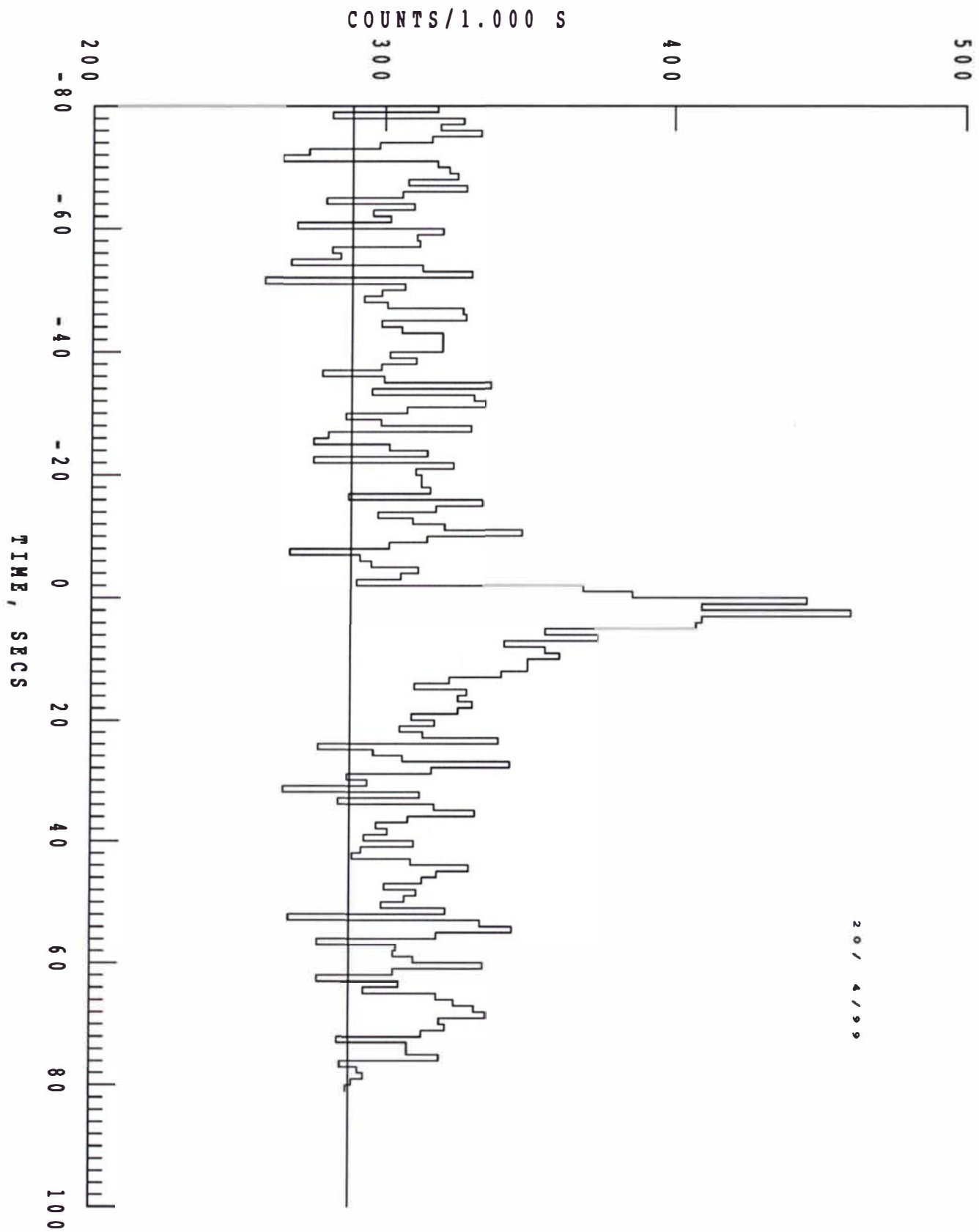


NEAR

14/04/99

13400.577

100-1000 keV



KNEAR GRS 19990414 13400

ULYSSES RT

20 / 4 / 99

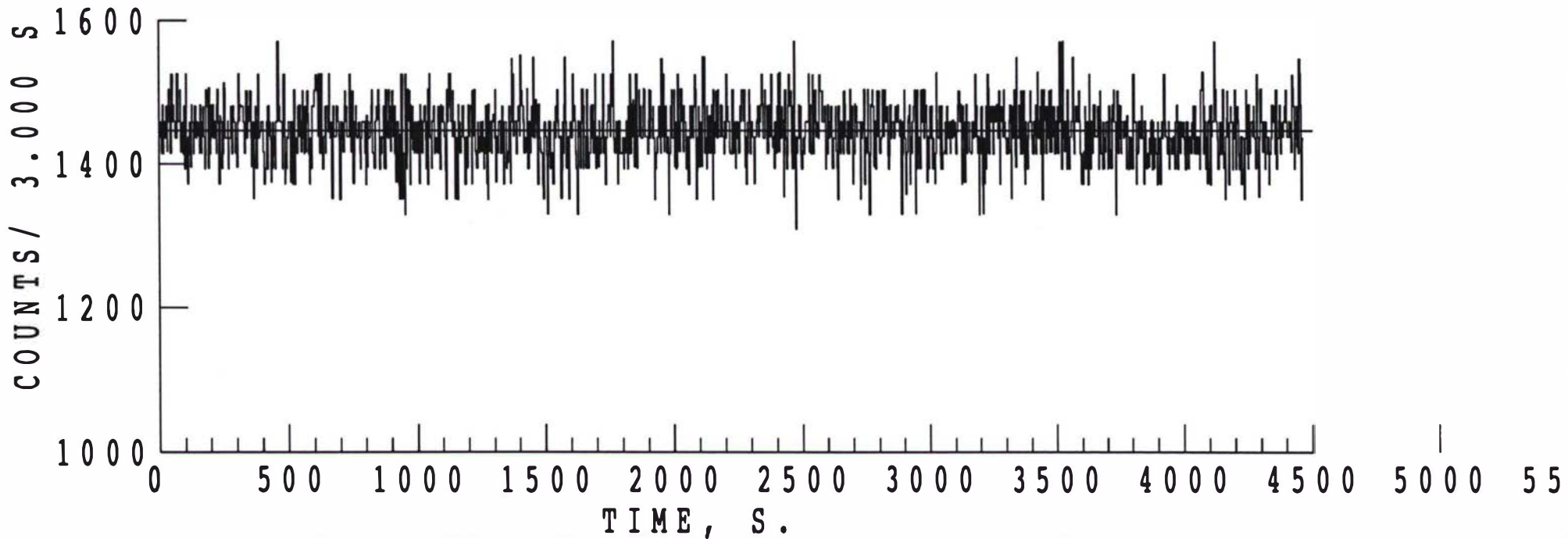
14 / 4 / 99 11160.255 s

0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



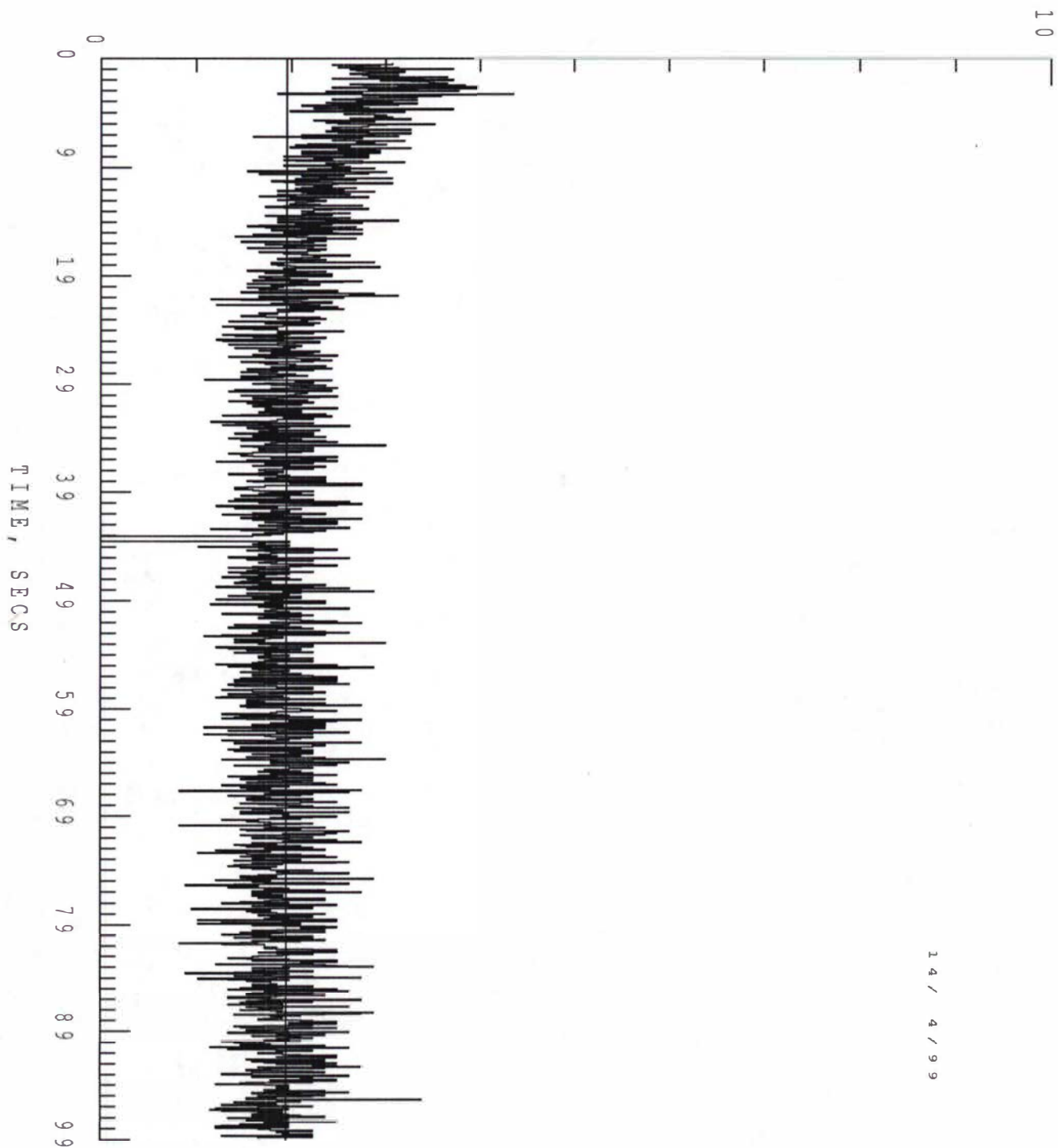
KONUS

14/04/99

14423.403

50 - 200 keV

COUNTS/0.064 S



KONUS 19990414 14423

ULYSSES RT

15 / 4 / 99

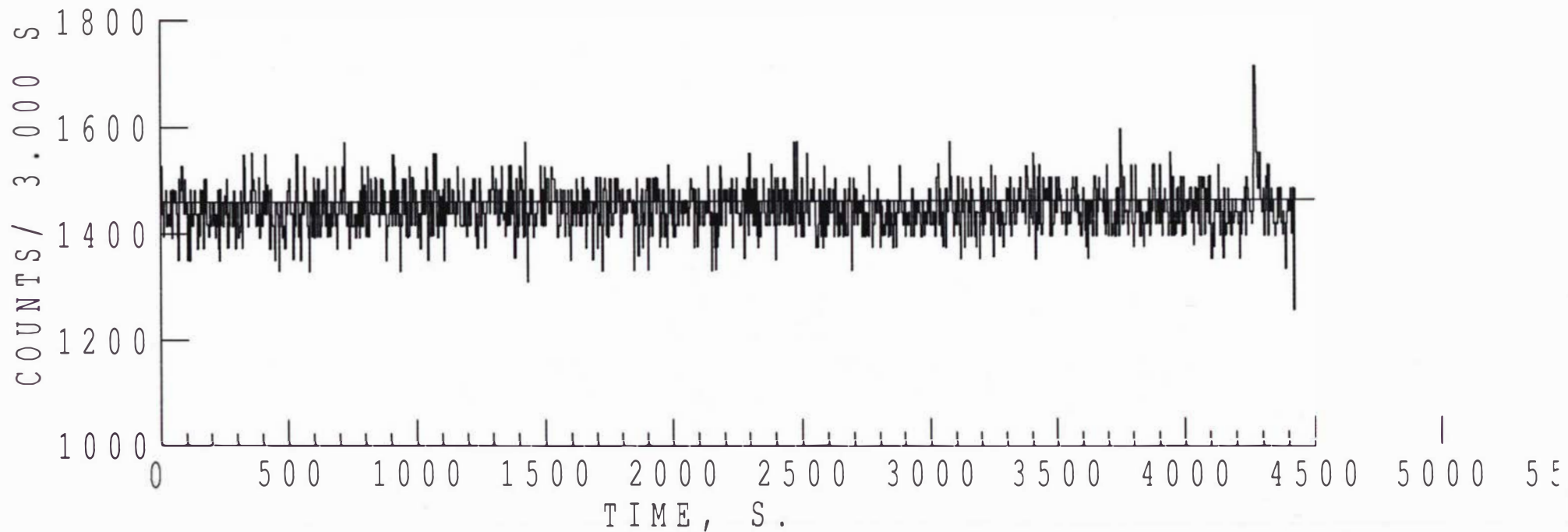
14 / 4 / 99 12204.265 s

0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Fri Apr 16 10:59:05 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA01274; Fri, 16 Apr 1999 10:59:04 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA06657
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 16 Apr 1999 10:56:57 -0700 (PDT)
Date: Fri, 16 Apr 1999 12:58:59 -0500 (CDT)
To: khurley@sunspot.ssl
Message-Id: <990416125859.20202a38@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7519
Content-Length: 1135
X-Lines: 26
Status: RO

*Look at this one again -
it's pretty weak*

BATSEARCH PROGRAM

BATSE BURST # 7519
EVENT OF 1999 APR 14 DAY OF YEAR=104
EVENT CROSSING TIME AT BATSE : 66721. S. OR 18:32:01.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 239.000 -46.000
BATSE PEAK COUNTING RATE: 9000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/ 4/ 99 IS:
RA= 146.138 DEC= -7.805 DIST= 4.369 AU
BATSE-ULYSSES DISTANCE = 653562874. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.63 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -138.04 SECS.
CROSSING TIME AT ULYSSES IS 66583. S. OR 18:29:42 +/- 425.64 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/ 4/ 99 IS:
RA= 216.073 DEC= -12.518 DIST= 0.610 AU
MARS-BATSE DISTANCE = 91184896. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -237.39 SECS.
CROSSING TIME AT MARS IS 66484. S. OR 18:28:03 +/- 29.41 SECONDS

BATSE BURST TRIGGER

NO.: 7519

TIME: TJD=1282 SECONDS=66721

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=69.0 AZIMUTH=225.7 ERROR=1.3 DEGREES

COMMENTS:

GRB. MULTIPLE PEAKS WITH STRUCTURE. DURATION APPROX. = 20 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7519	990414	11282	66721	9000	239	-46	20

Date: 26/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

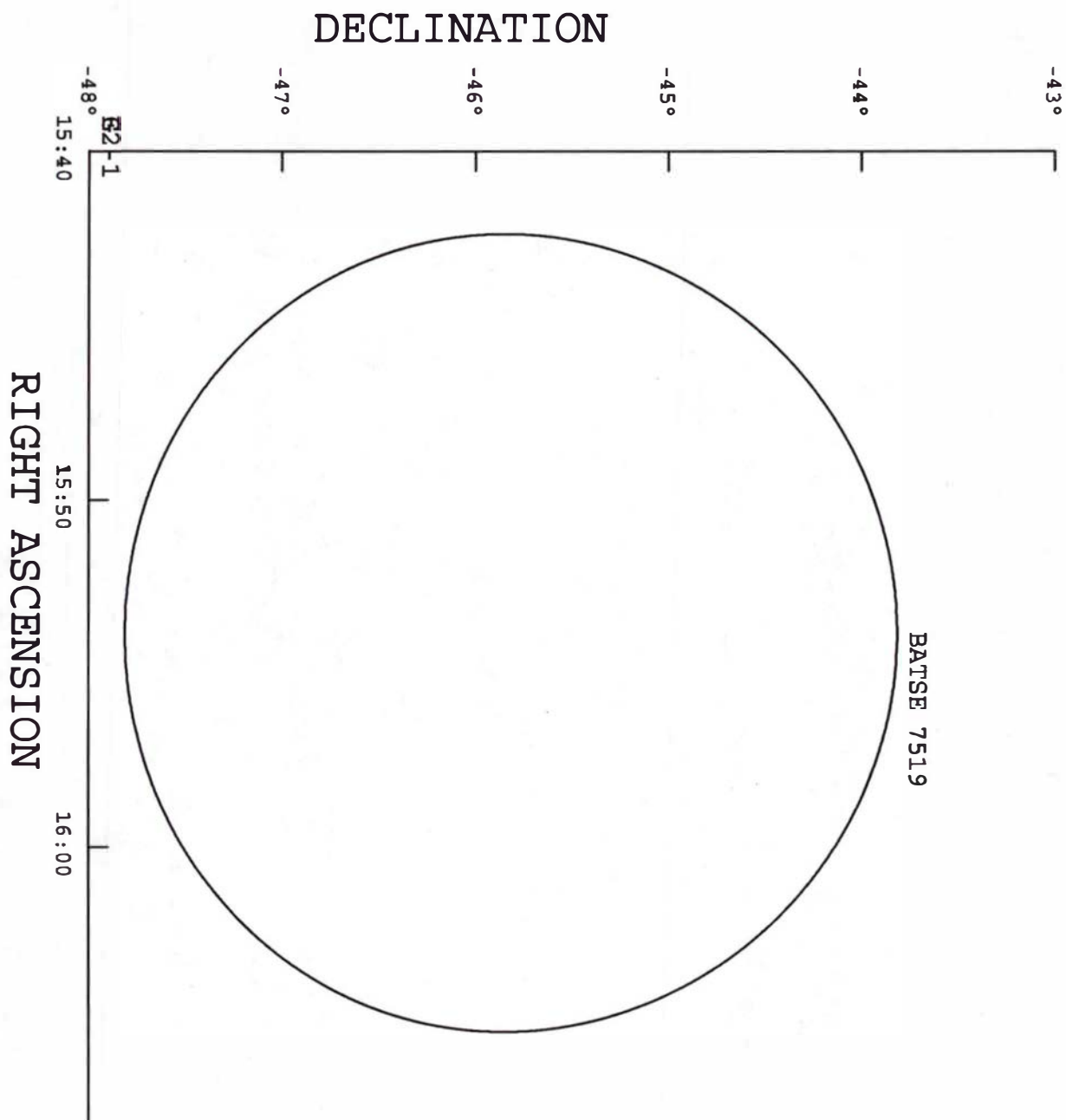
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF APR 14, 1999 18:32

26 / 1 / 0



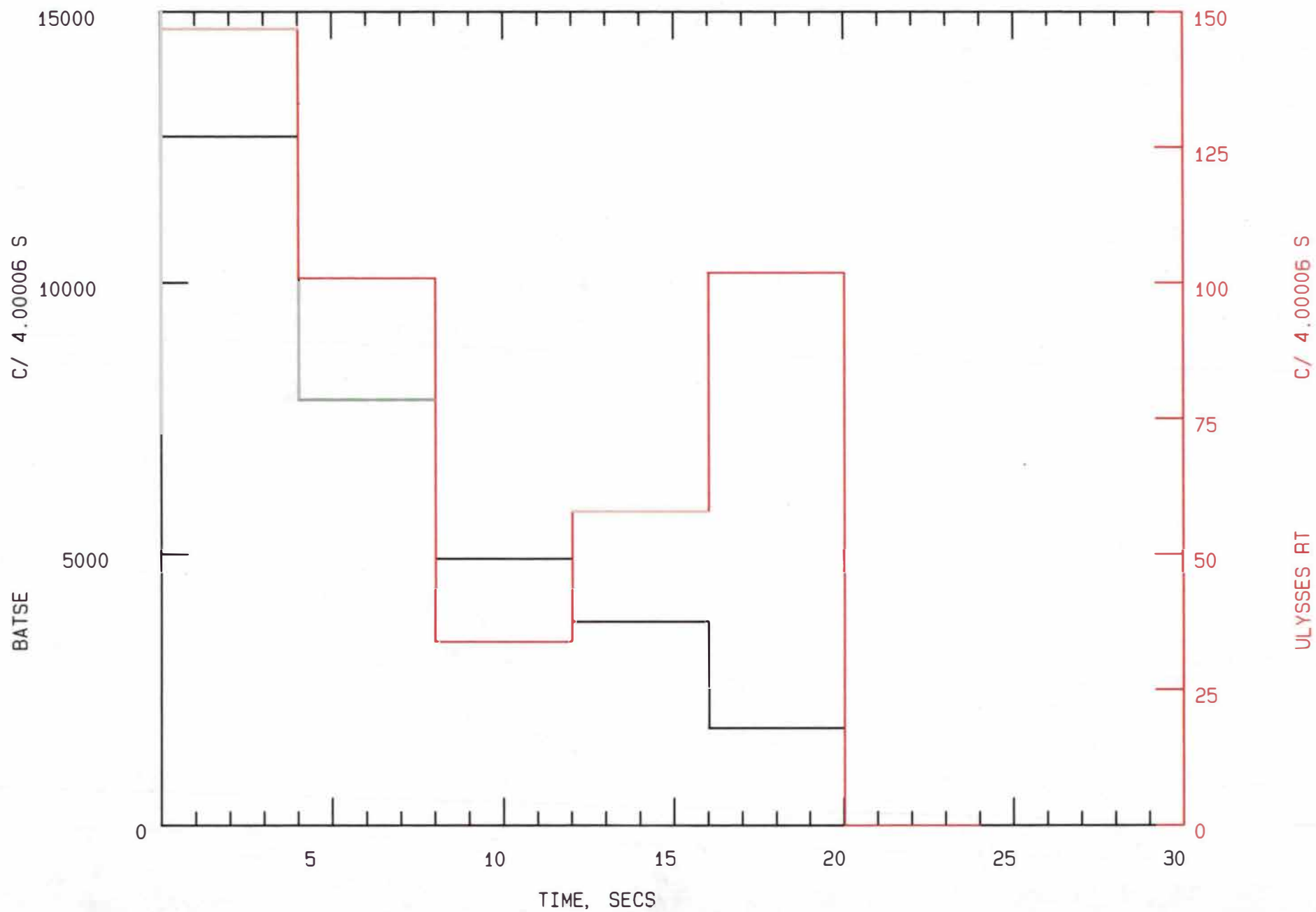
BATSE

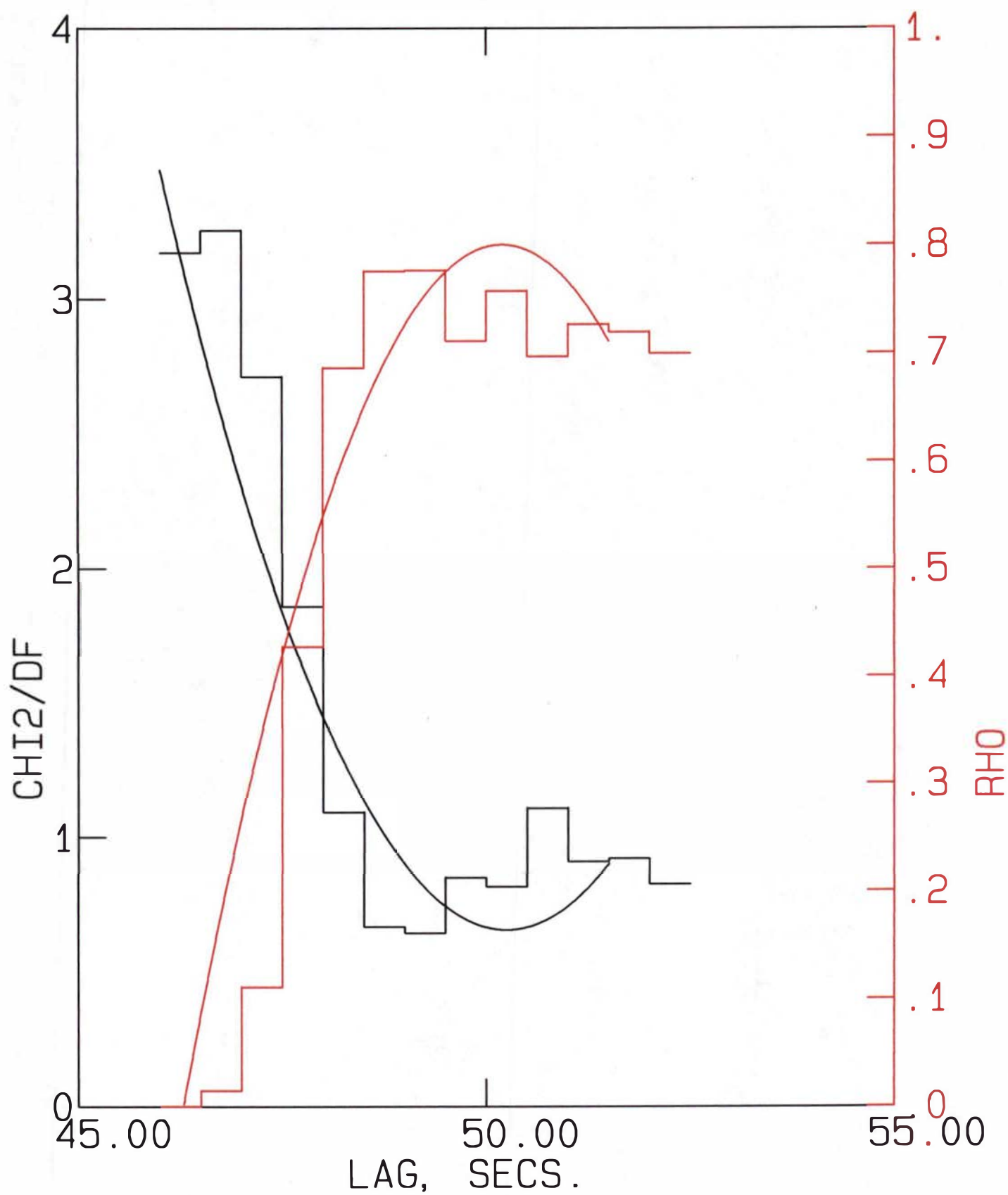
-ULYSSES RT CORRELATION

14/ 4/99

66721.145

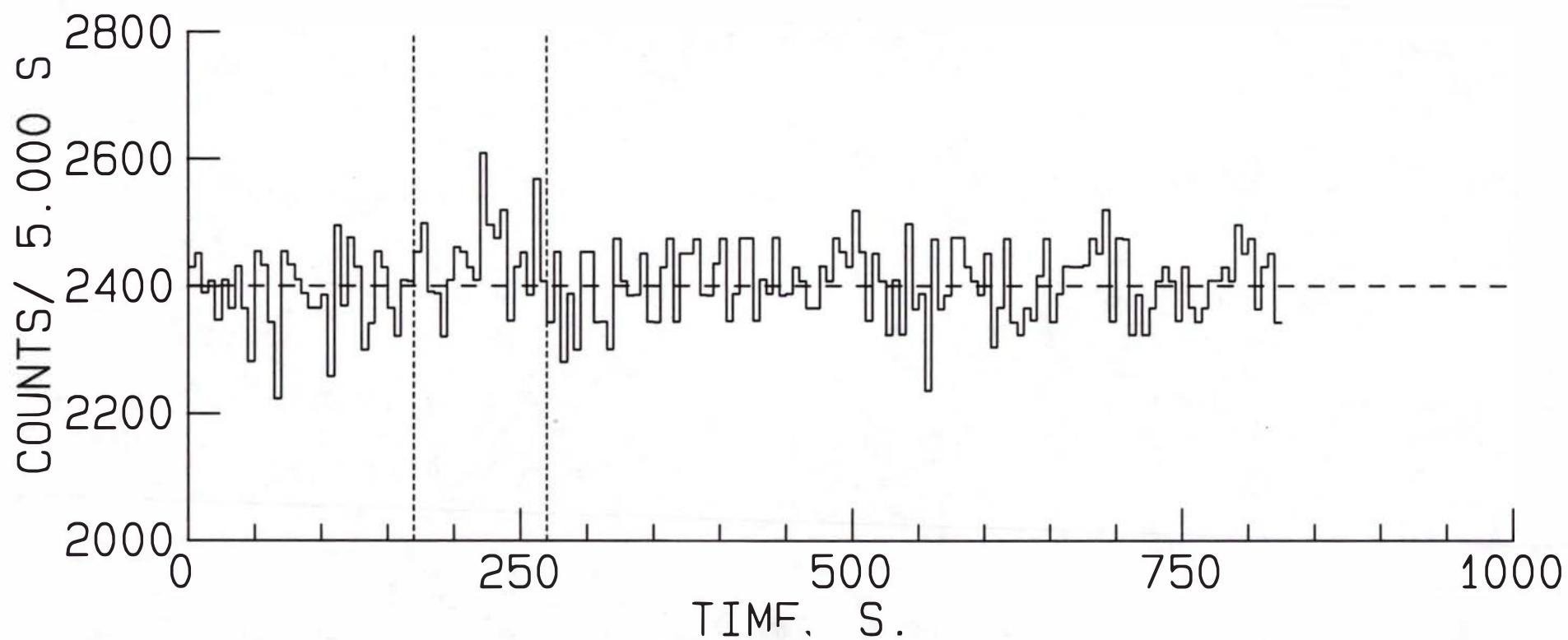
26/ 1/ 0





ULYSSES RT
14/ 4/99 66168.312 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

26 / 1 / 0



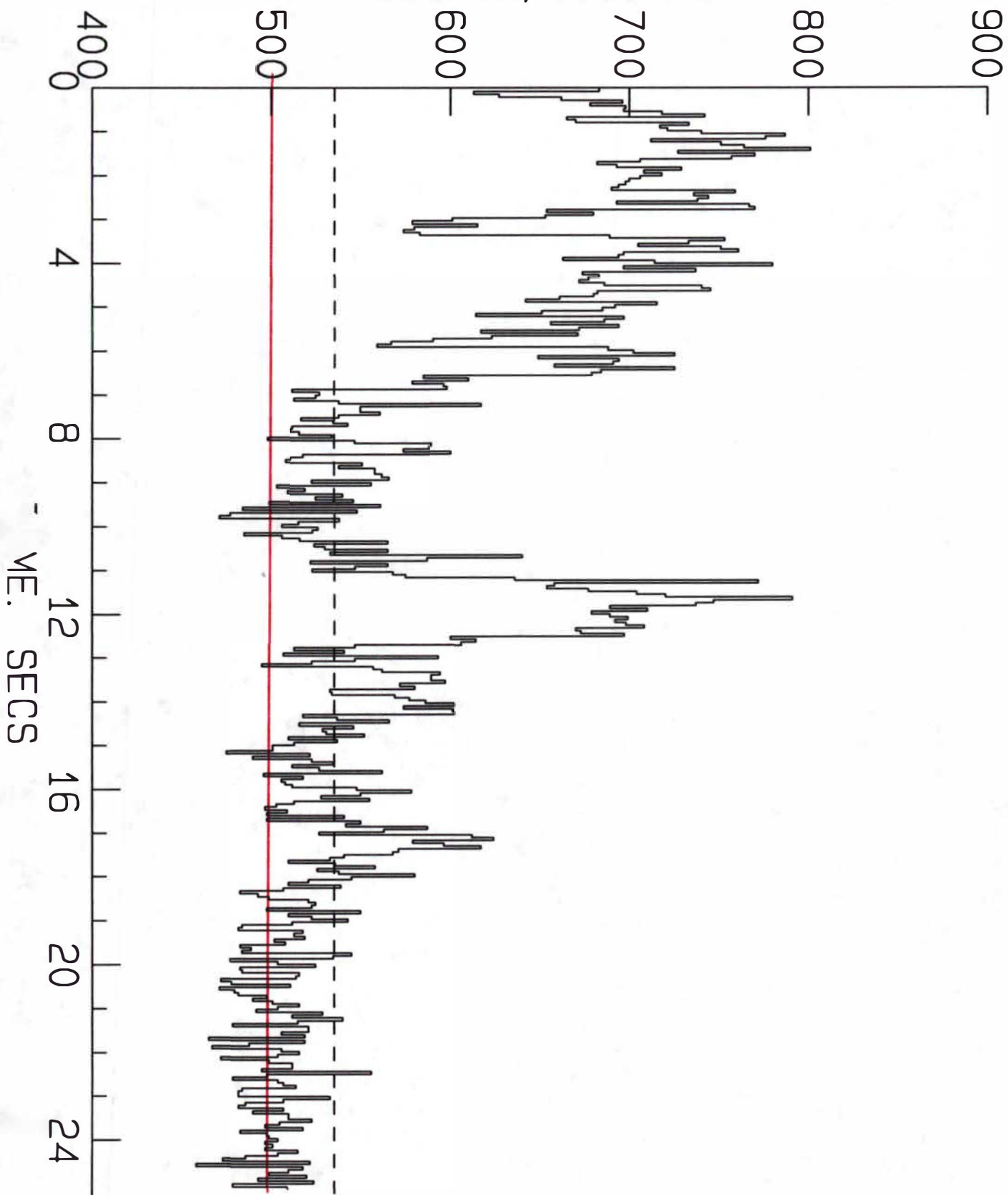
BATSE

14/04/99

66721.145

25- 100 keV

COUNTS/0.064 S



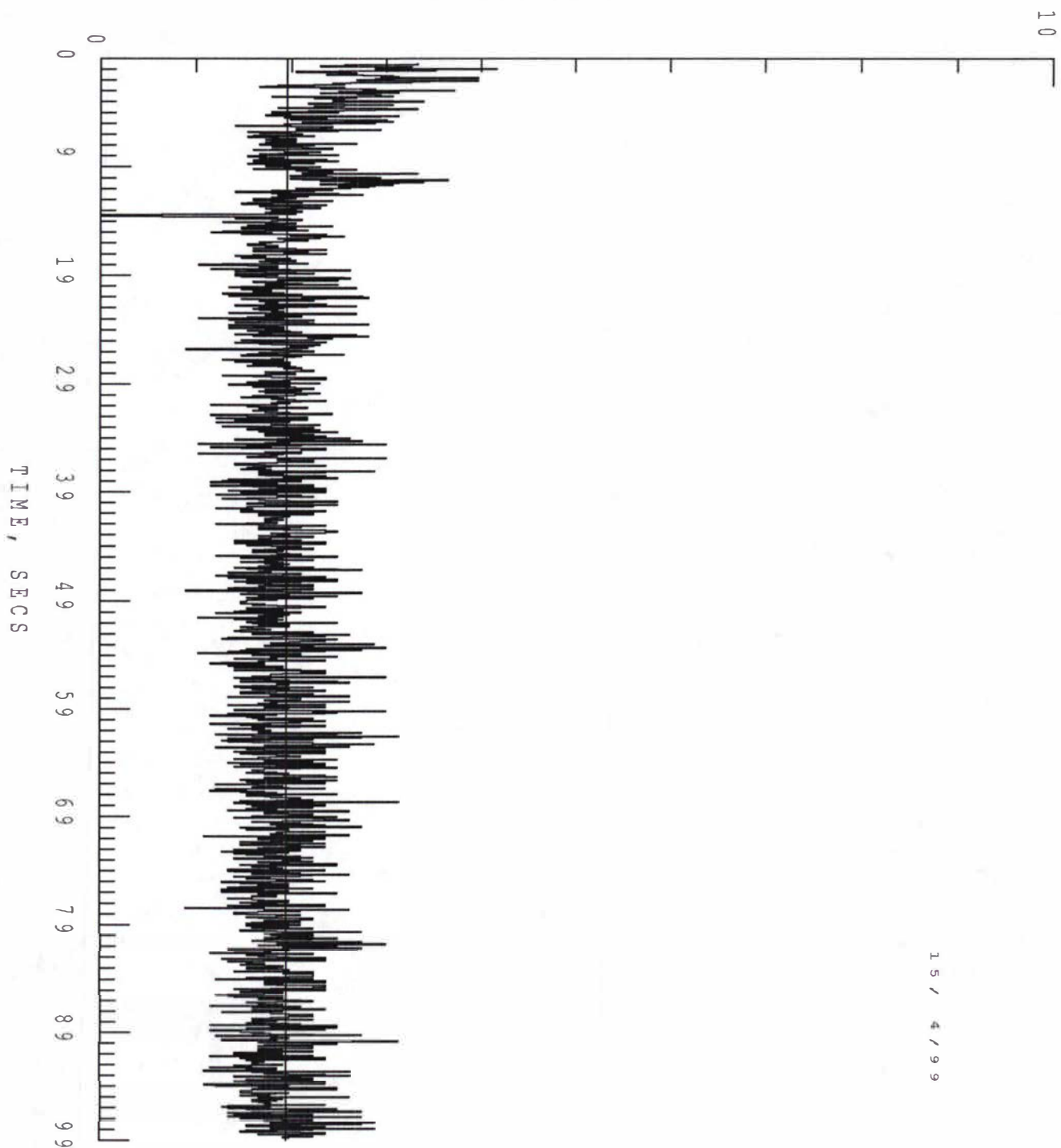
KONUS

14/04/99

66723.520

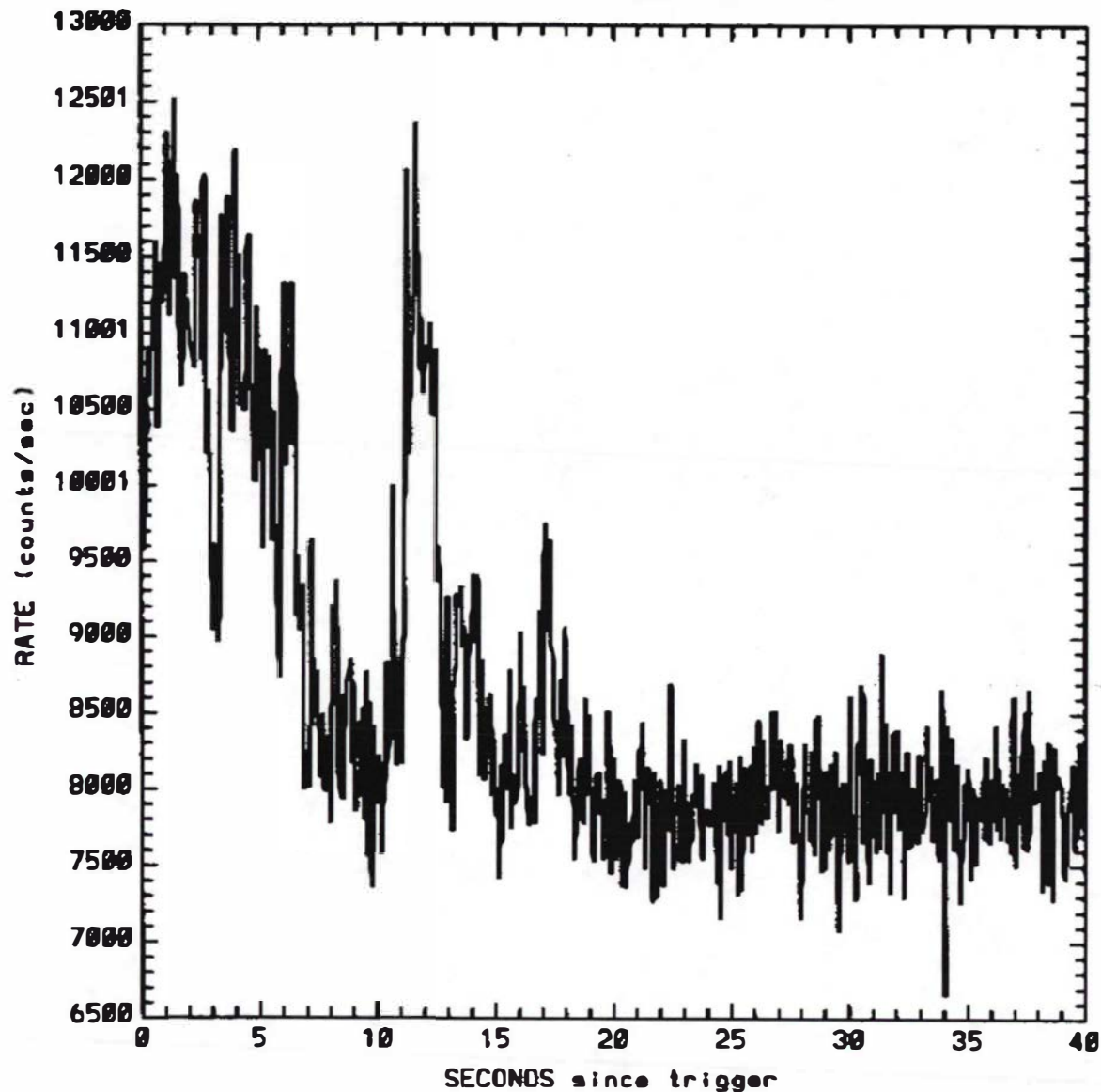
50- 200 keV

COUNTS/0.064 S



15 / 4 / 99

MER Data for K. Hurley, No. 7519



28-APR-1999 18:07:25

Created by NOPS BD
(Burst Display)
Version 12.26

Trigger # : 7519

Trigger Time:
11282 / 66721.145

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

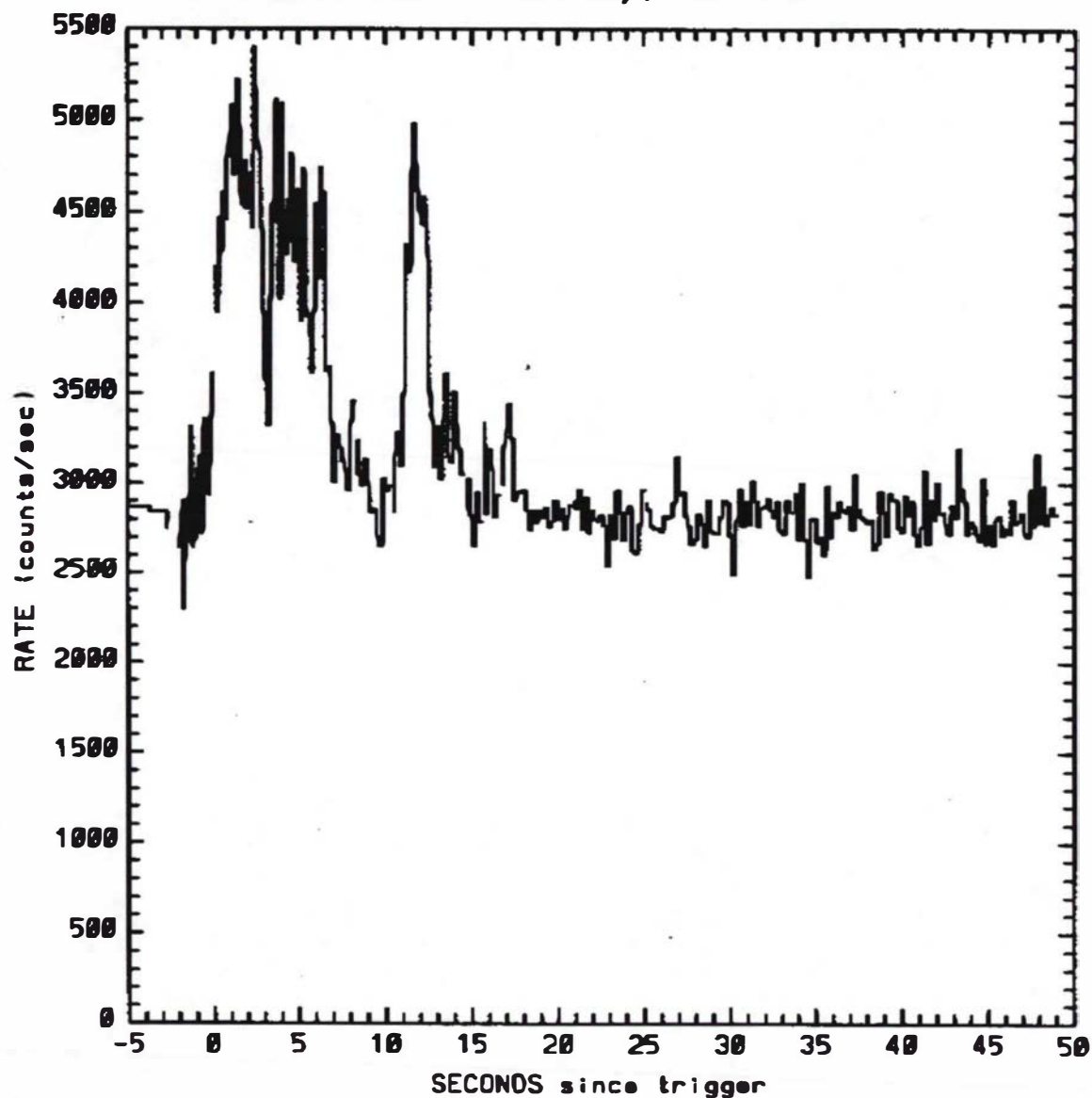
Minimum Integ. Time:
0.064 seconds

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

Channels:
[0..6]

Quality Mask:
BDISP1

TTS Data for K. Hurley, No. 7519



28-APR-1999 18:00:25

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7519

Trigger Time:
11282 / 66721.145

Burst Data Type:
TTS

Time Corrected: Y

Maximum Time Error:
0.04973 second(s)

Deadtime
Corrected: N

Background Data
Type: PPEB + DISCLA

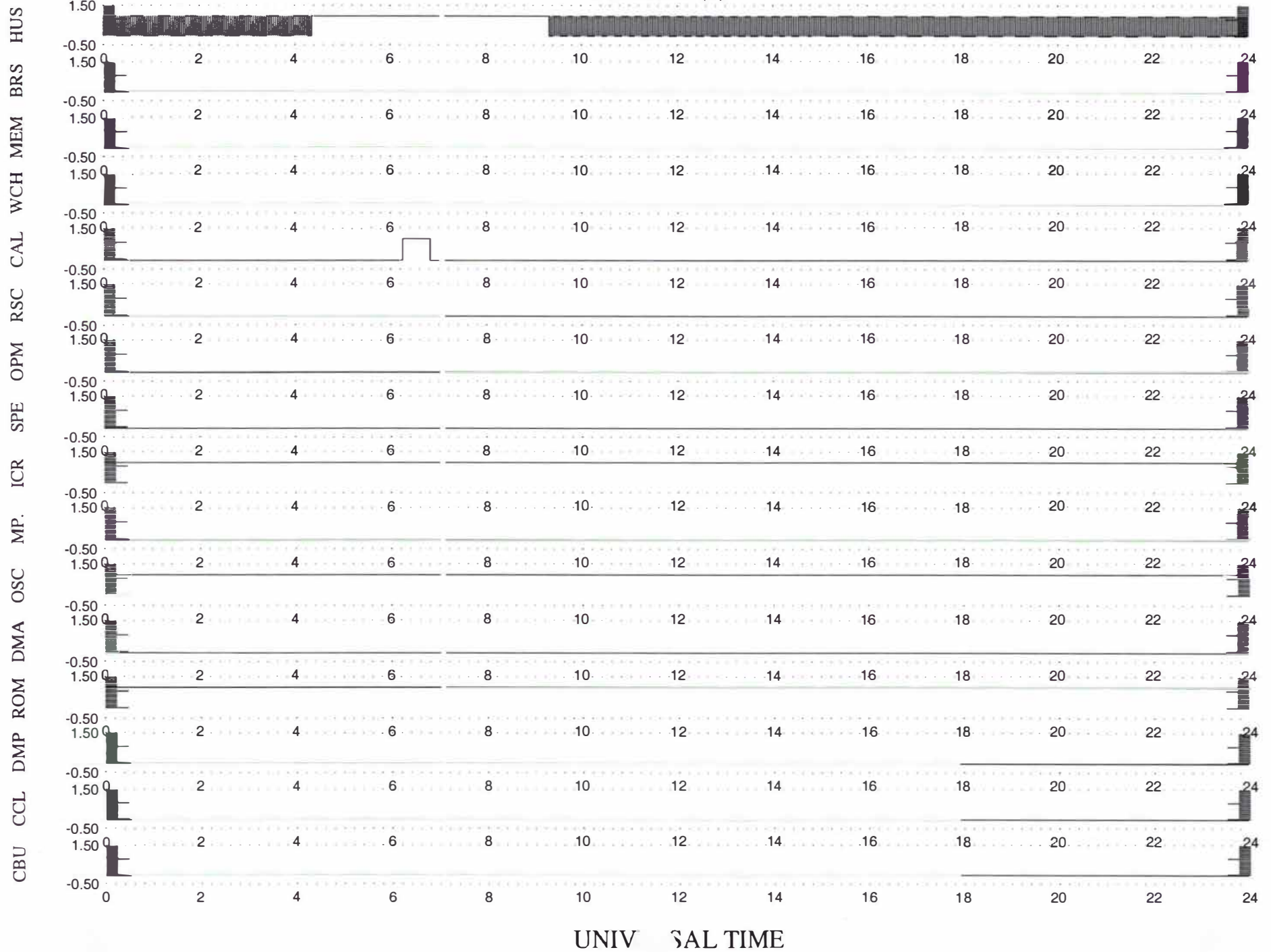
Bin Count: 8

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

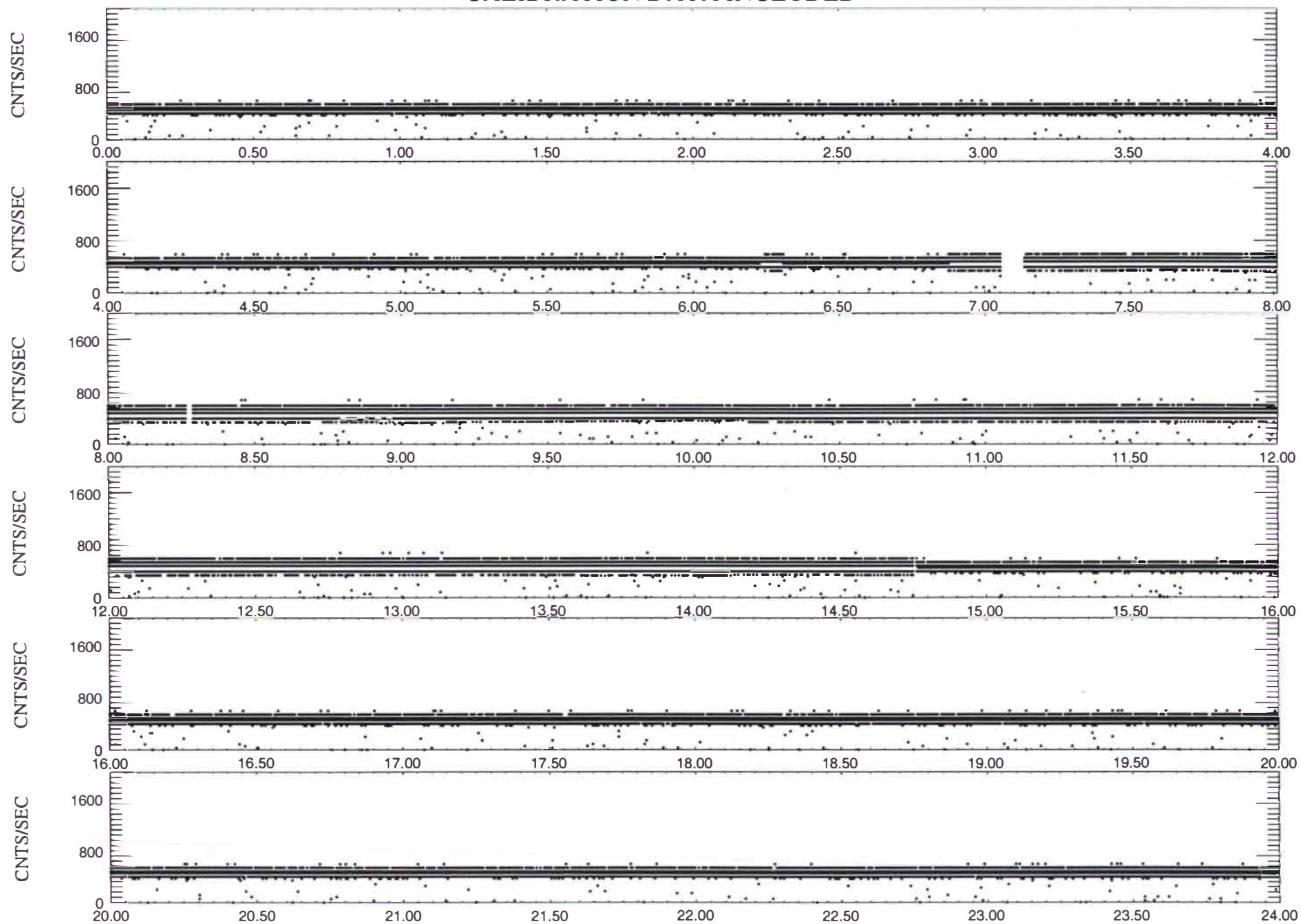
Discriminators:
(2 , 2)

Quality Mask:
80ISP1

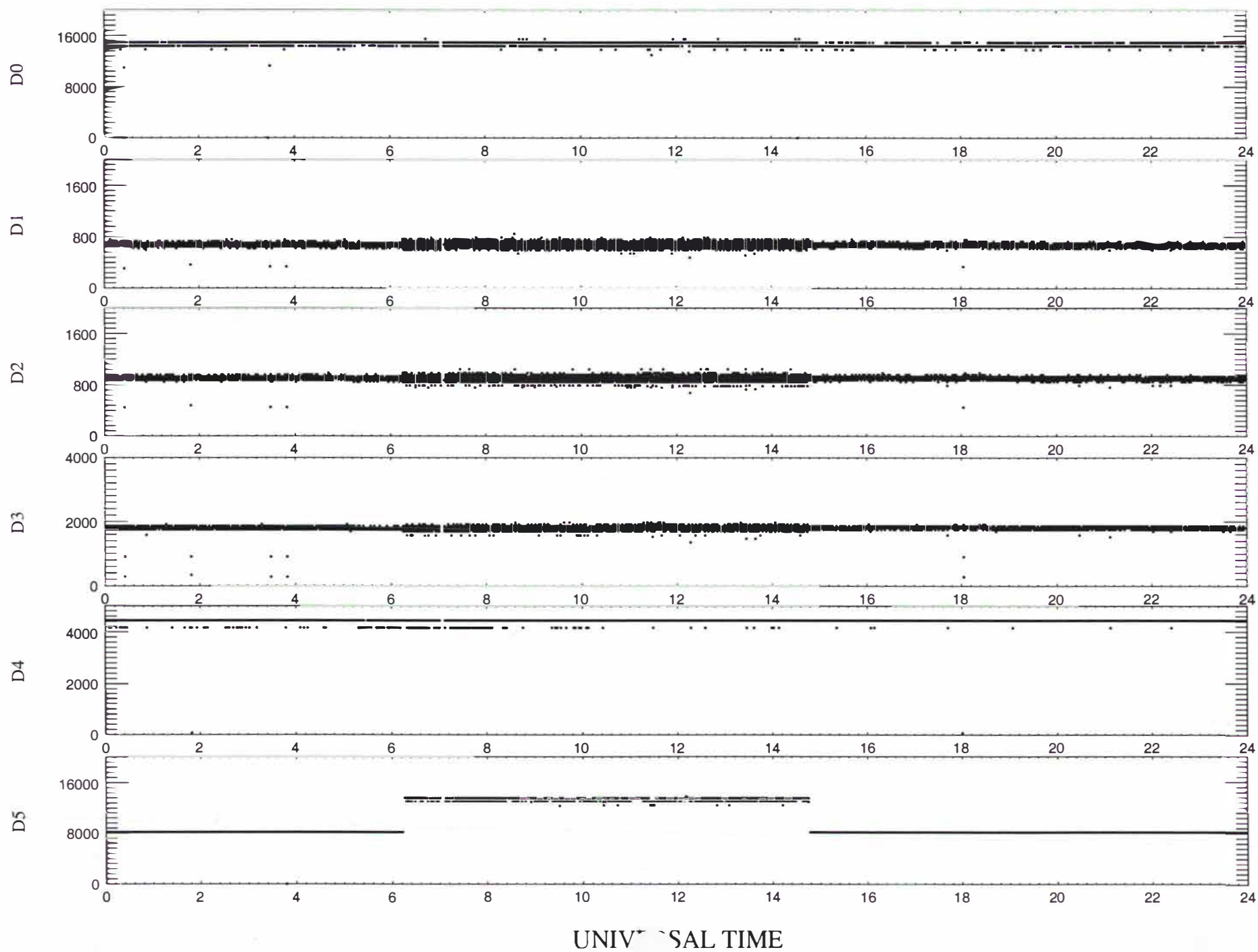
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



Date: Jan 5 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data *N/A*

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

3. NEAR Data

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

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

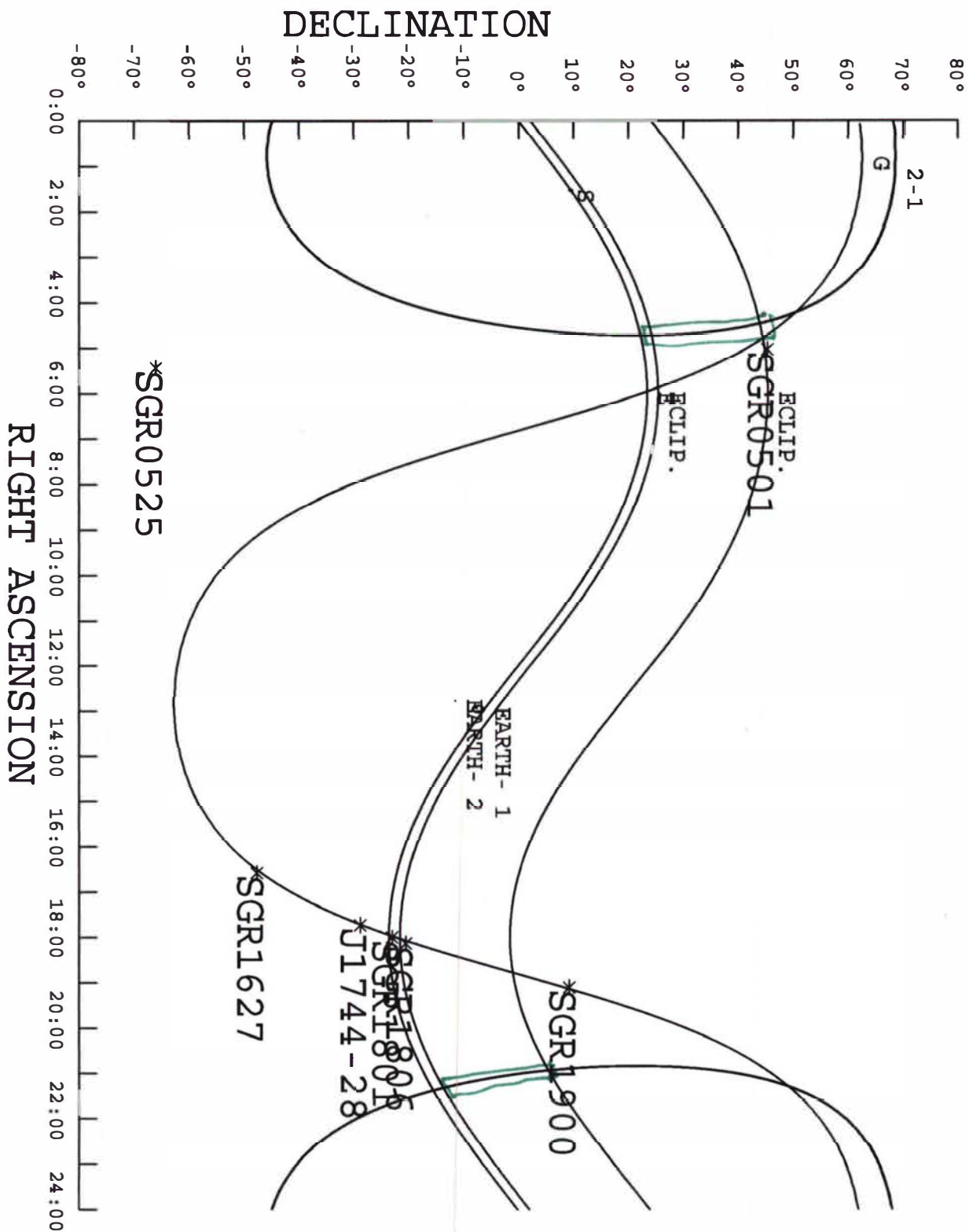
G=GALACTIC EQUATOR

1 KONUS2

2 NEAR

EVENT OF APR 15, 1999 0:38

5 / 1 / 9



KONUS2

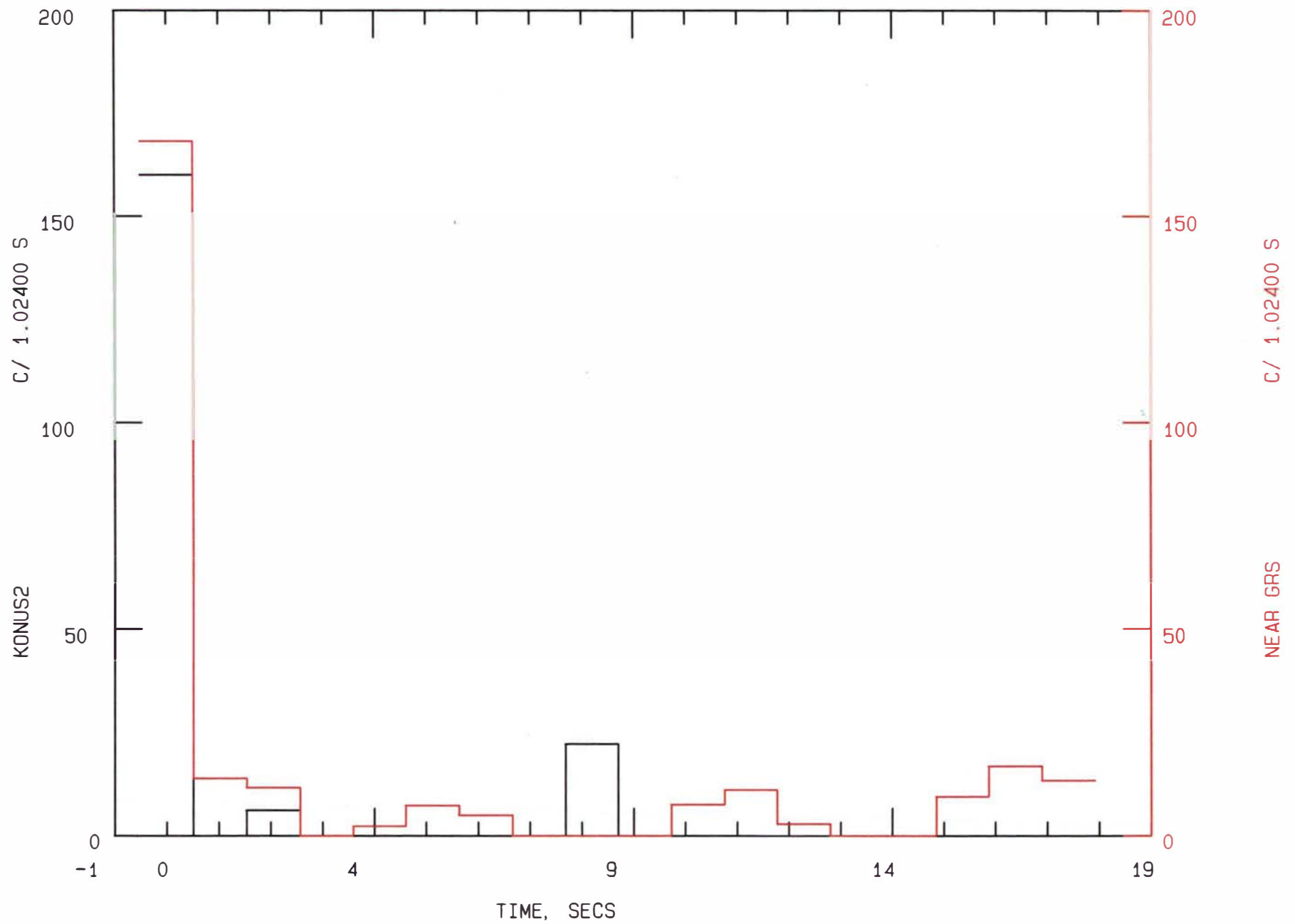
-NEAR GRS

CORRELATION

15/04/99

2297.309

5/ 1/ 9



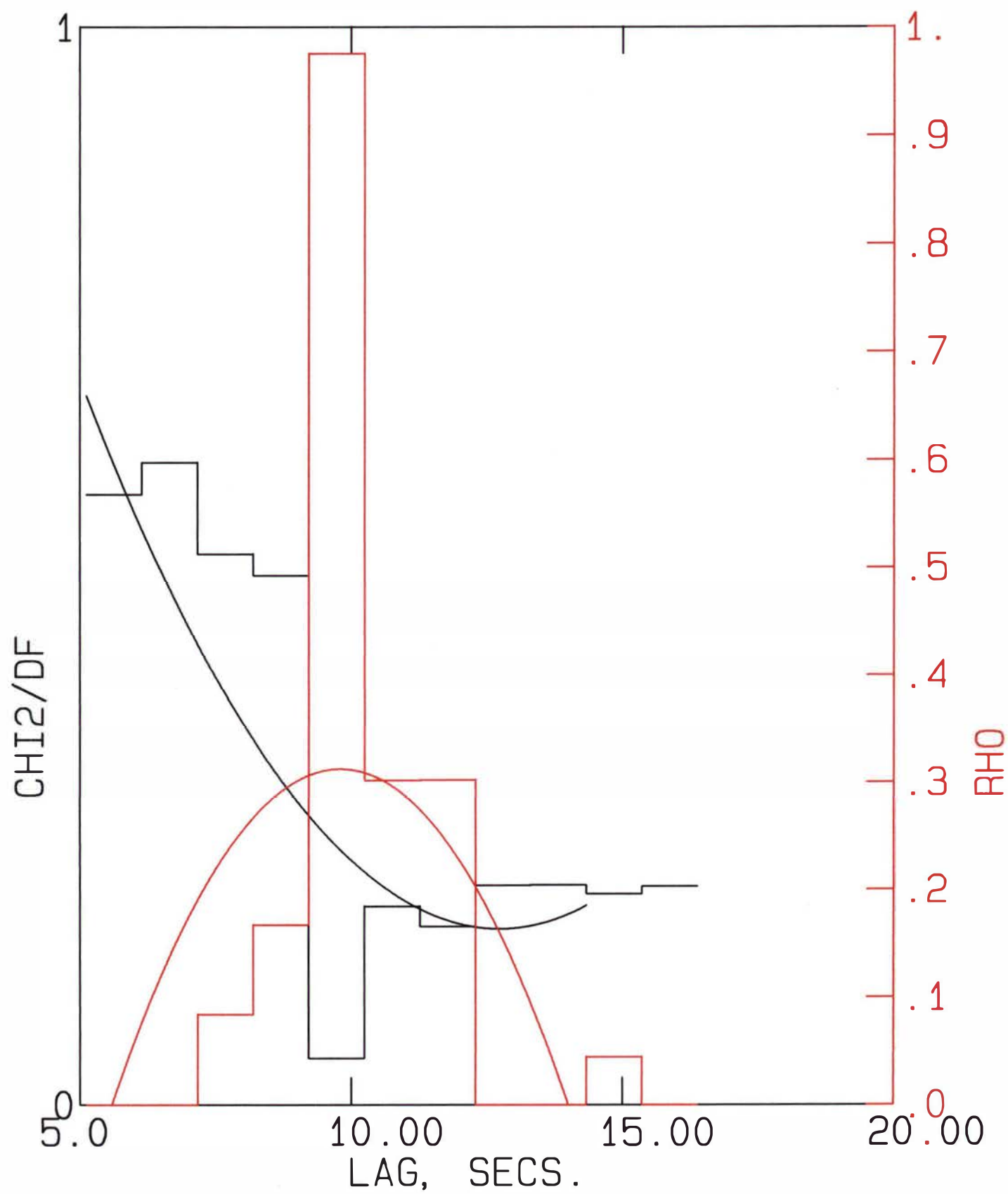
KONUS2

-NEAR GRS

CORRELATION

15/04/99

2297.309

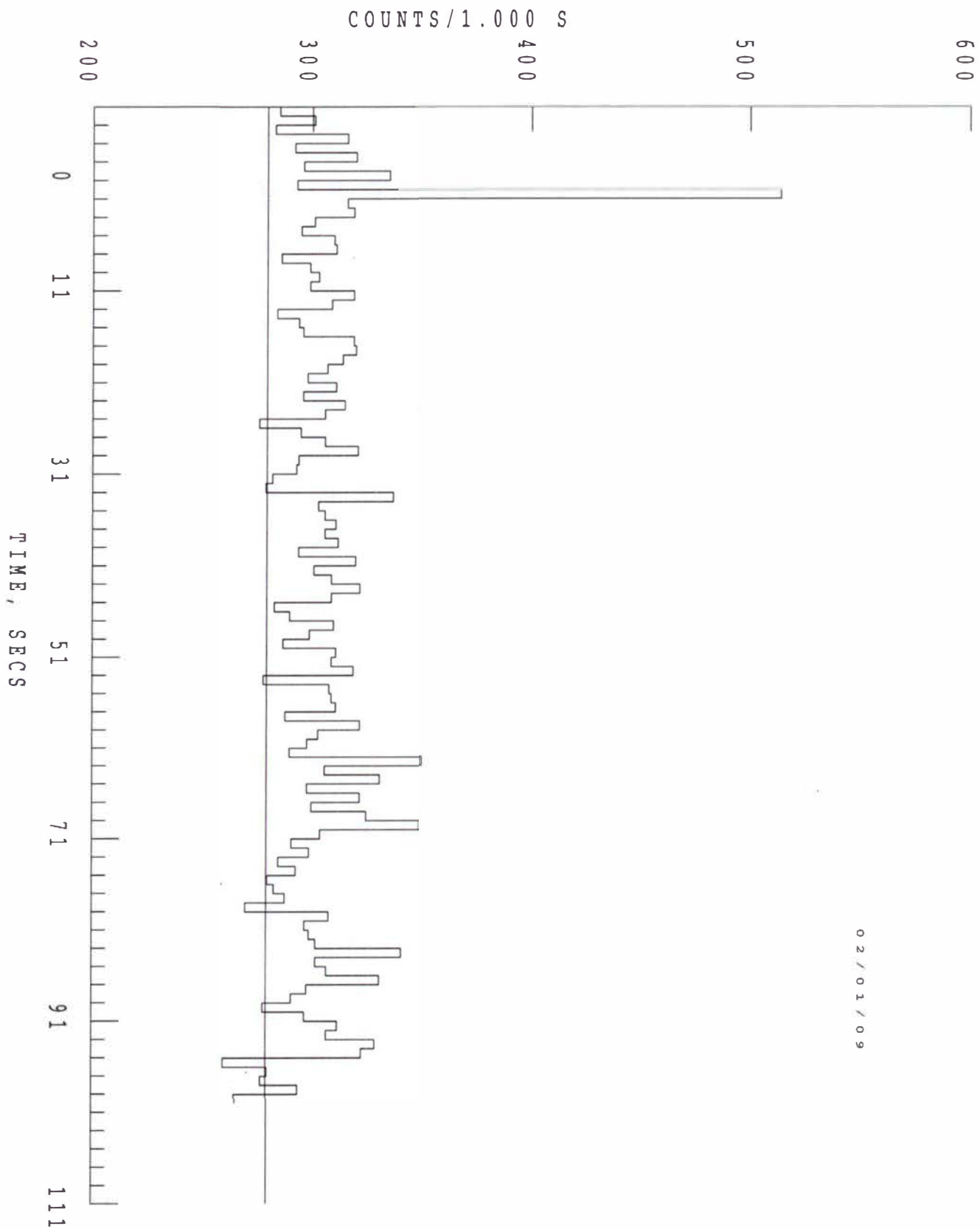


NEAR

15/04/99

1624.558

100-1000 keV

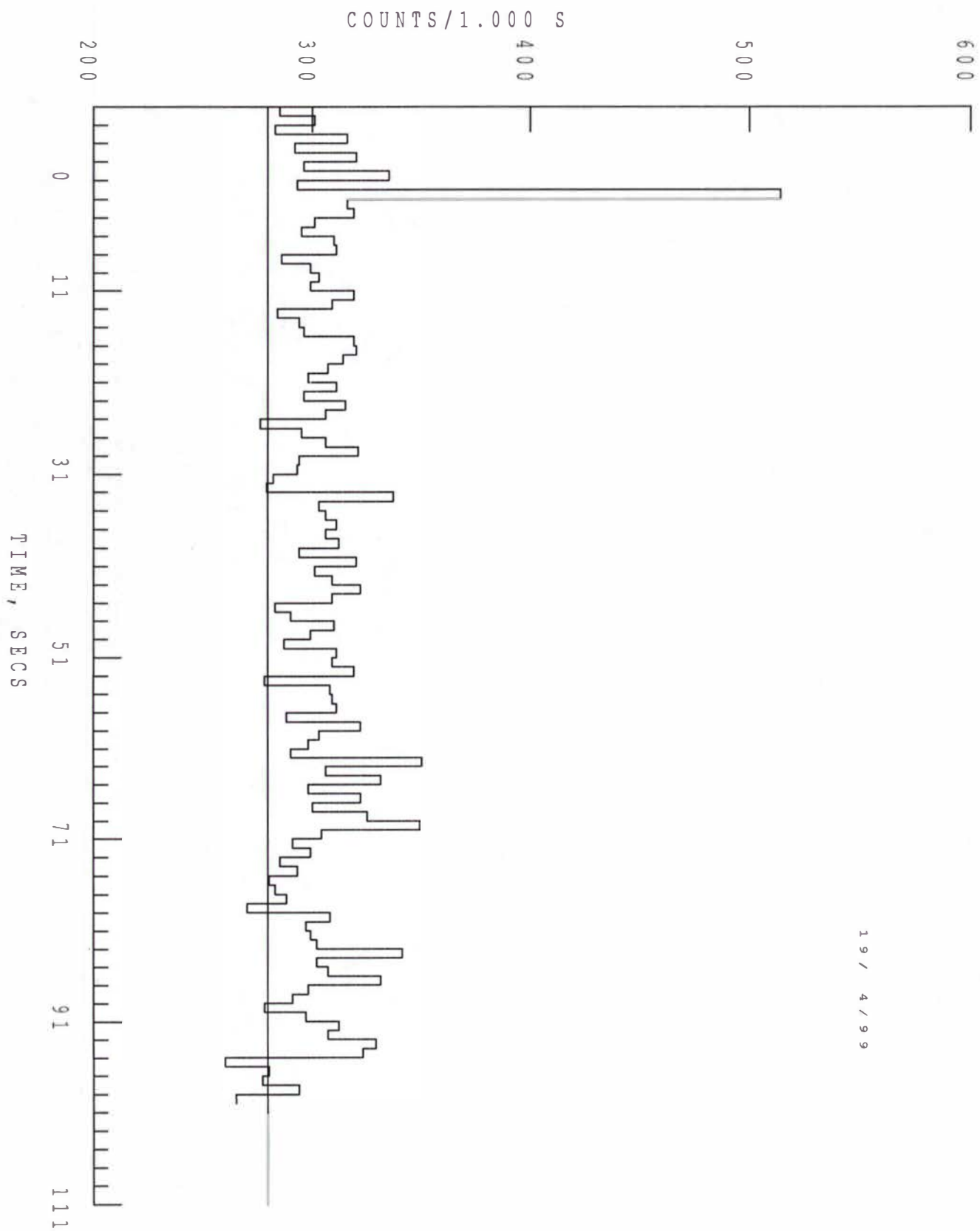


NEAR

15/04/ 9

1624.558

100-1000 keV



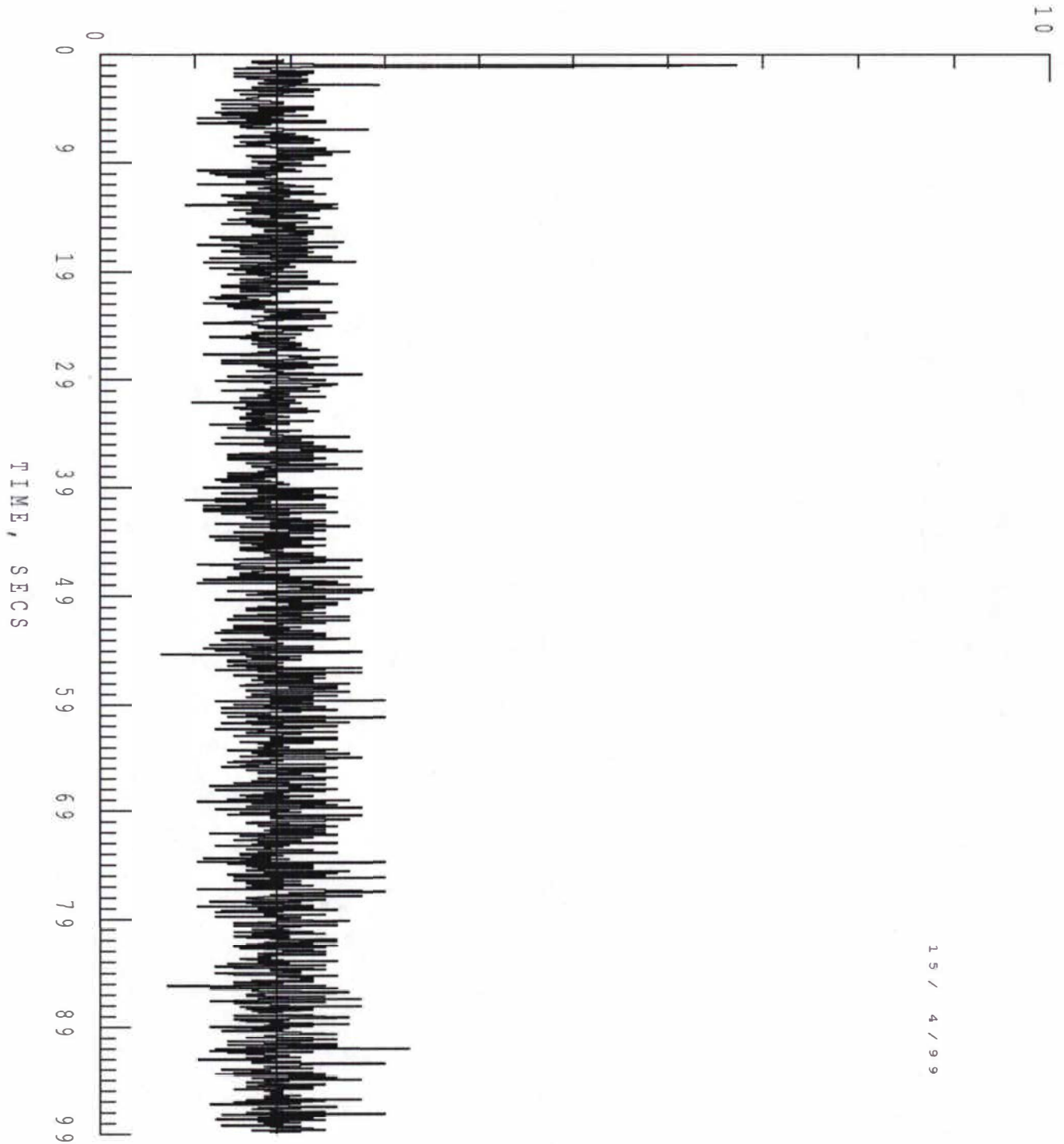
KONUS

15/04/99

2297.309

50 - 200 keV

COUNTS/0.064 S



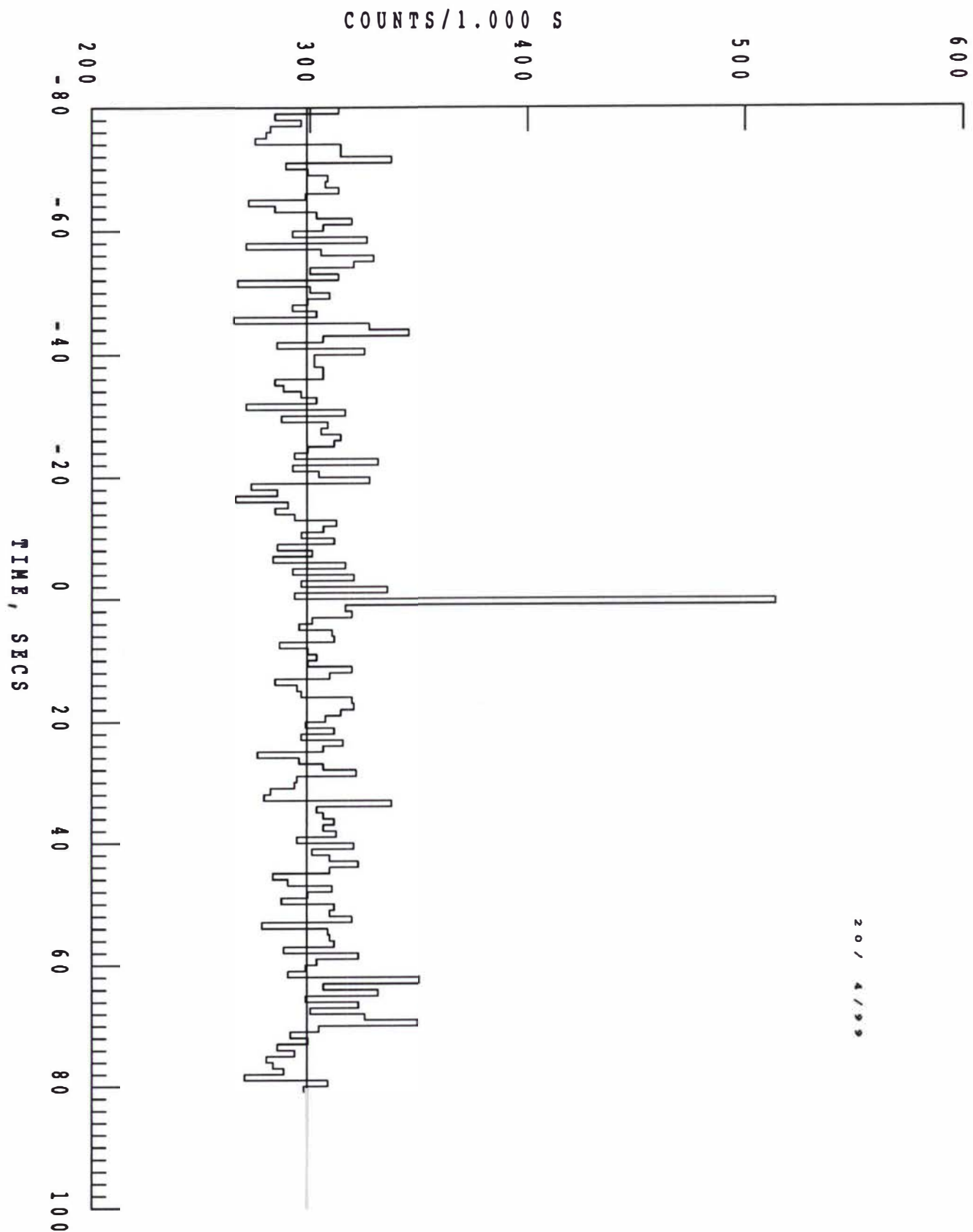
15 / 4 / 99

NEAR

15/04/99

1625.814

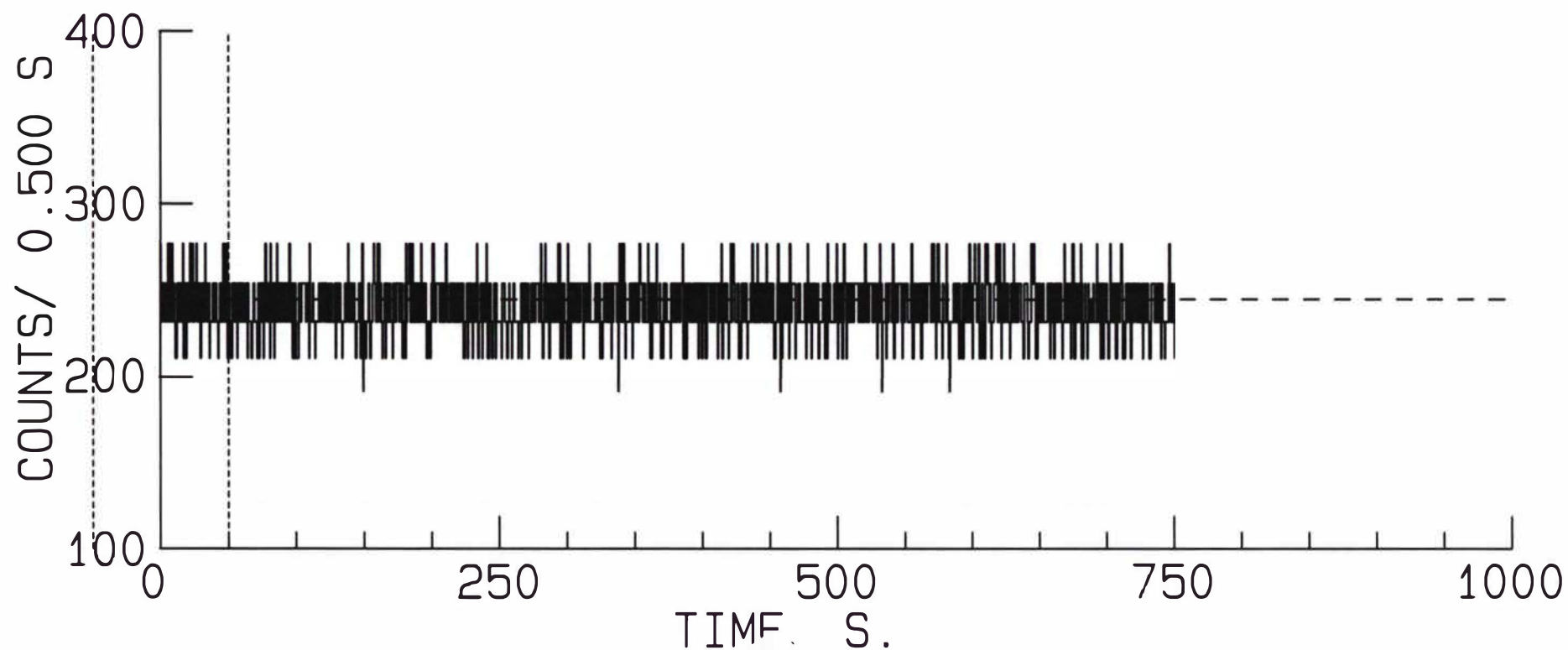
100-1000 keV



20 / 4 / 99

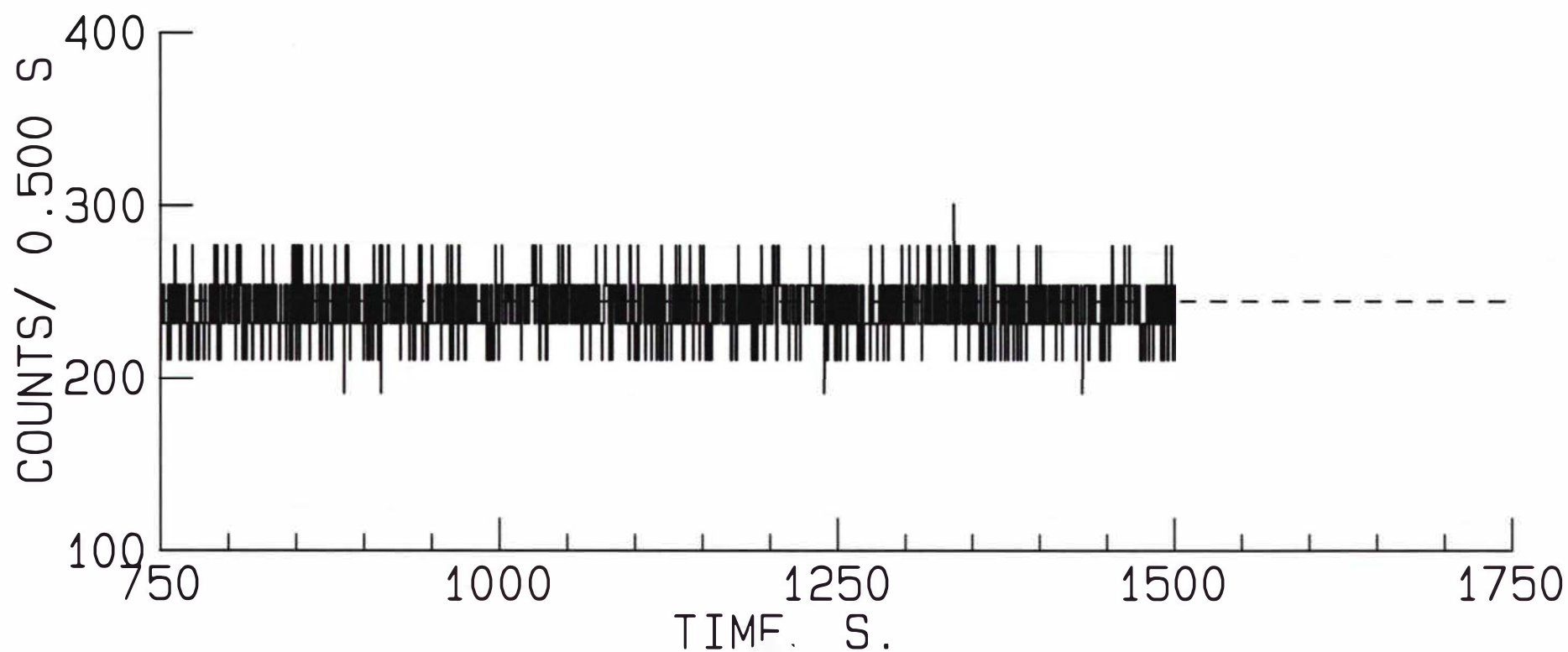
ULYSSES RT
15/ 4/99 72.020 s (KOVUS window)
22- 151 keV

21 / 4 / 99



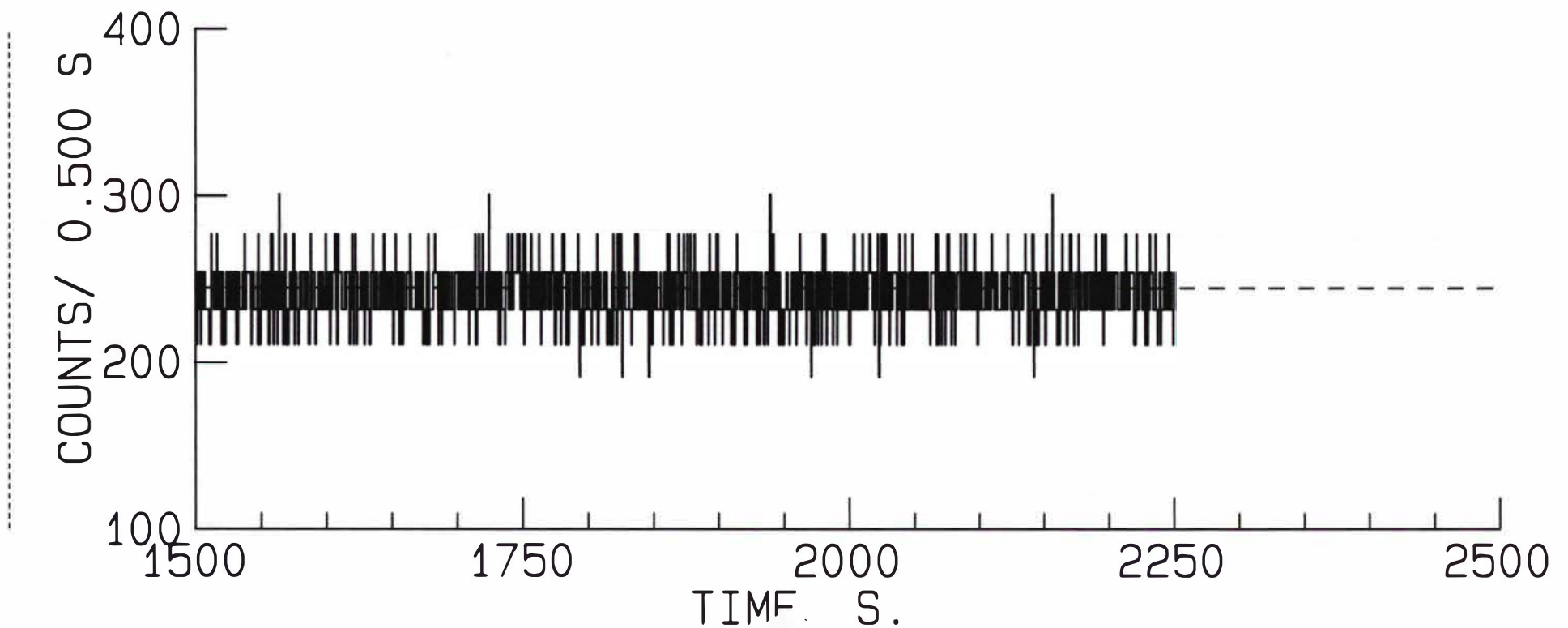
ULYSSES RT
15/ 4/99 72.020 s
22- 151 keV

21 / 4 / 99



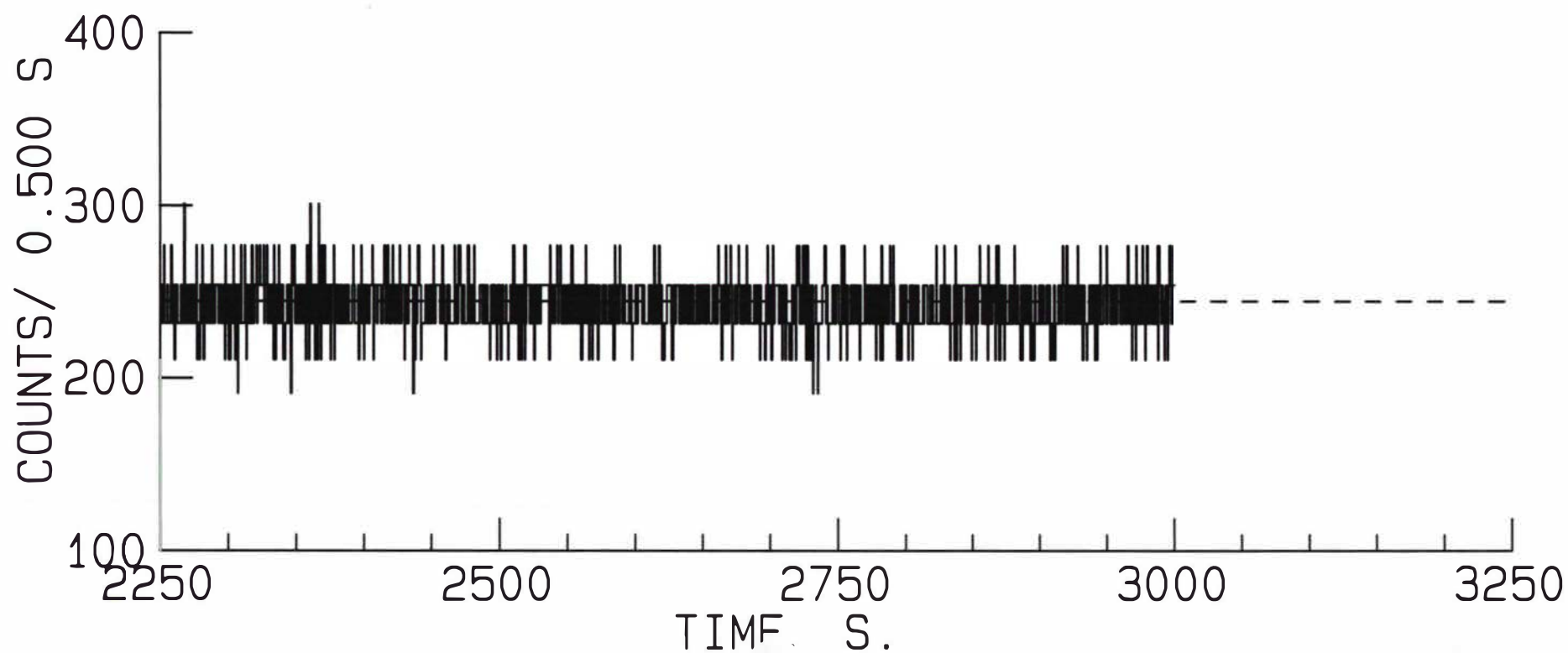
ULYSSES RT
15/ 4/99 72.020 s
22- 151 keV

21 / 4 / 99



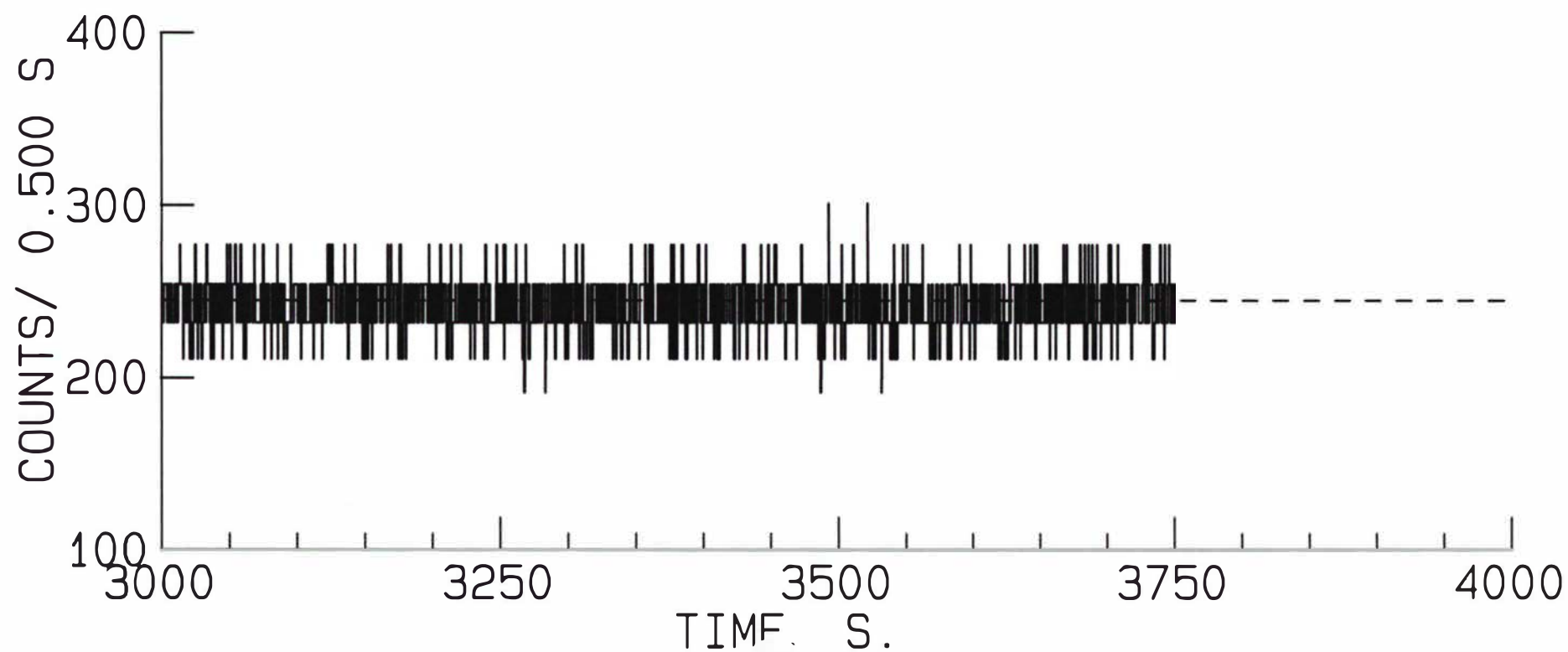
ULYSSES RT
15/ 4/99 72.020 s
22- 151 keV

21 / 4 / 99



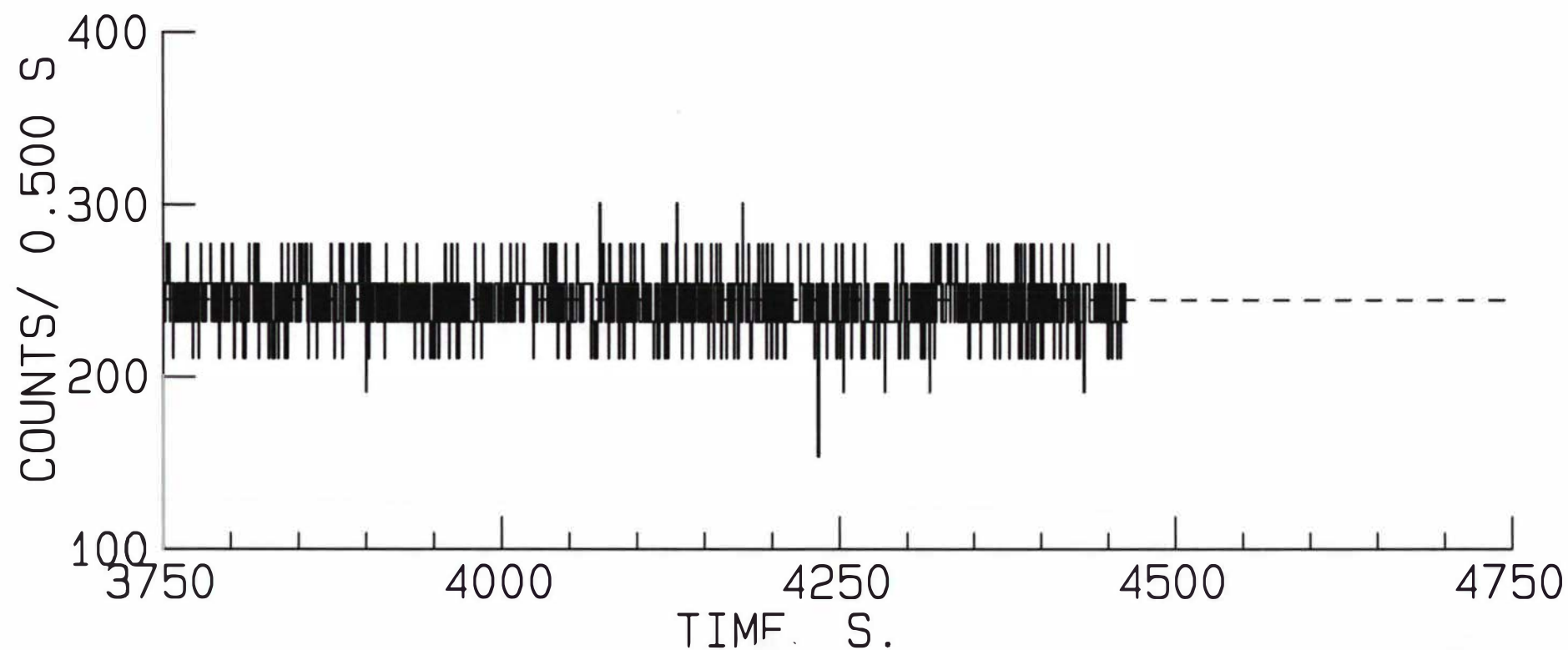
ULYSSES RT
15/ 4/99 72.020 s
22- 151 keV

21 / 4 / 99



ULYSSES RT
15/ 4/99 72.020 s
22- 151 keV

21 / 4/99



From PETERSON@fender.msfc.nasa.gov Mon Apr 19 09:56:34 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA21124; Mon, 19 Apr 1999 09:56:33 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA01412
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 19 Apr 1999 09:54:22 -0700 (PDT)
Date: Mon, 19 Apr 1999 11:56:33 -0500 (CDT)
To: khurley@sunspot.ssl
Message-Id: <990419115633.2020551f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7520
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7520
EVENT OF 1999 APR 15 DAY OF YEAR=105
EVENT CROSSING TIME AT BATSE : 10870. S. OR 03:01:10.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 72.000 -4.000
BATSE PEAK COUNTING RATE: 7500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/ 4/ 99 IS:
RA= 146.093 DEC= -7.790 DIST= 4.372 AU
BATSE-ULYSSES DISTANCE = 654125421. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.28 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -611.66 SECS.
CROSSING TIME AT ULYSSES IS 10258. S. OR 02:50:58 +/- 404.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/ 4/ 99 IS:
RA= 215.753 DEC= -12.442 DIST= 0.606 AU
MARS-BATSE DISTANCE = 90675552. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 39.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 233.07 SECS.
CROSSING TIME AT MARS IS 11103. S. OR 03:05:03 +/- 37.01 SECONDS

BATSE BURST TRIGGER

NO.: 7520

TIME: TJD=1283 SECONDS=10870

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=147.6 AZIMUTH=357.1 ERROR=0.946 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 75 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7520	990415	11283	10870	7500	072	-04	75

Date: 26/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

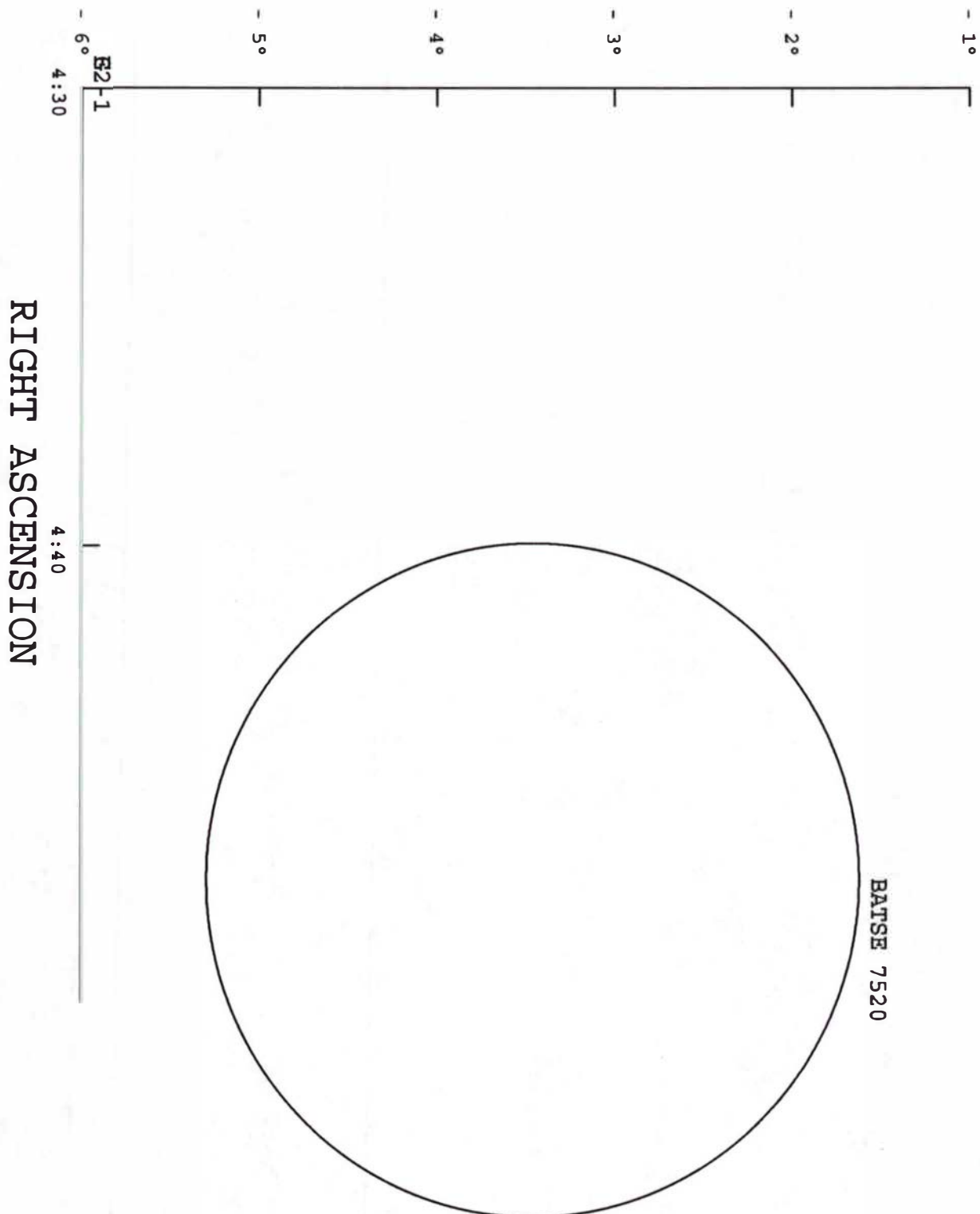
1 BATSE

2 ULYSSES

EVENT OF APR 15, 1999 3:01

26 / 1 / 0

DECLINATION



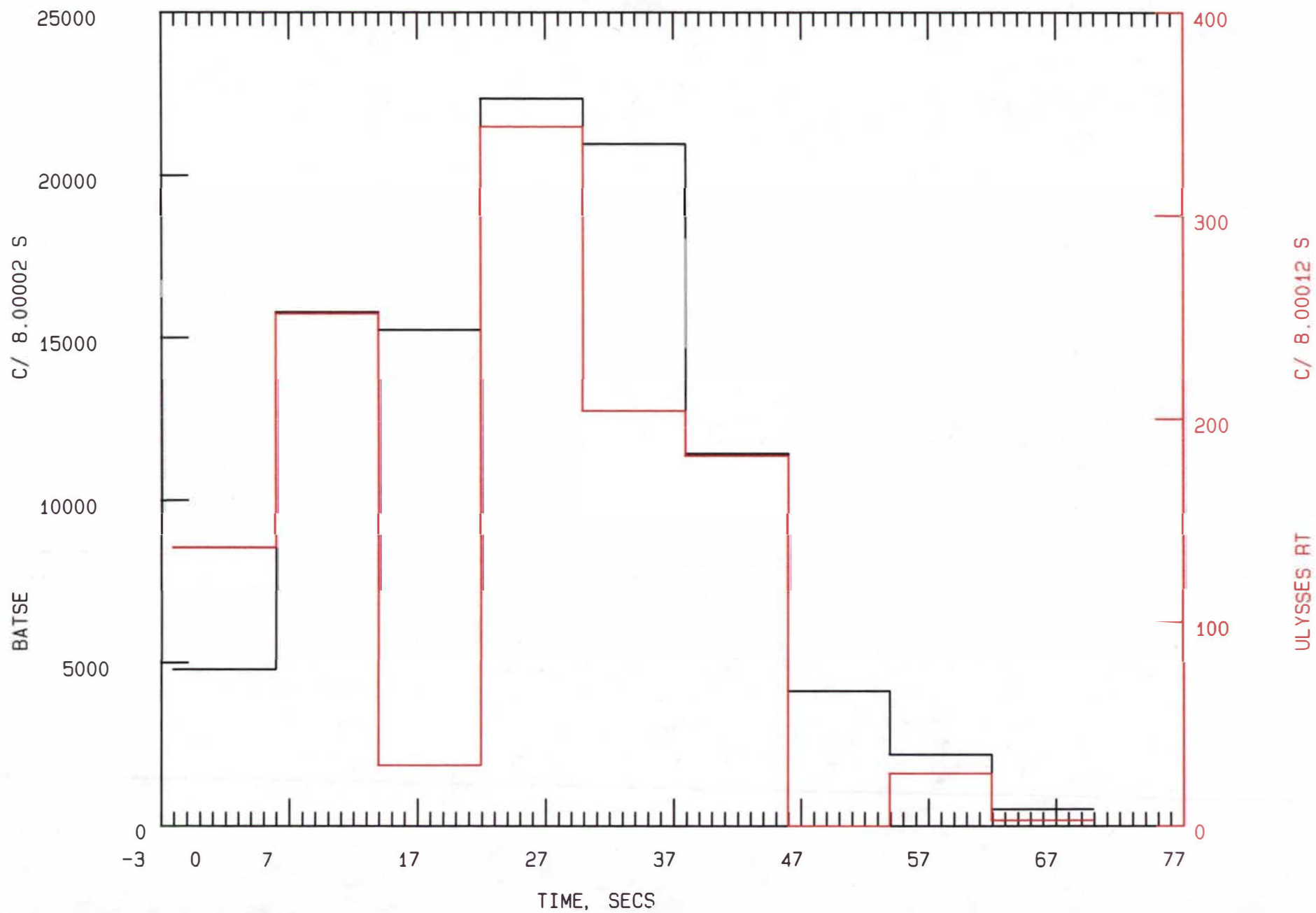
BATSE

-ULYSSES RT CORRELATION

15/ 4/99

10870.521

26/ 1/ 0

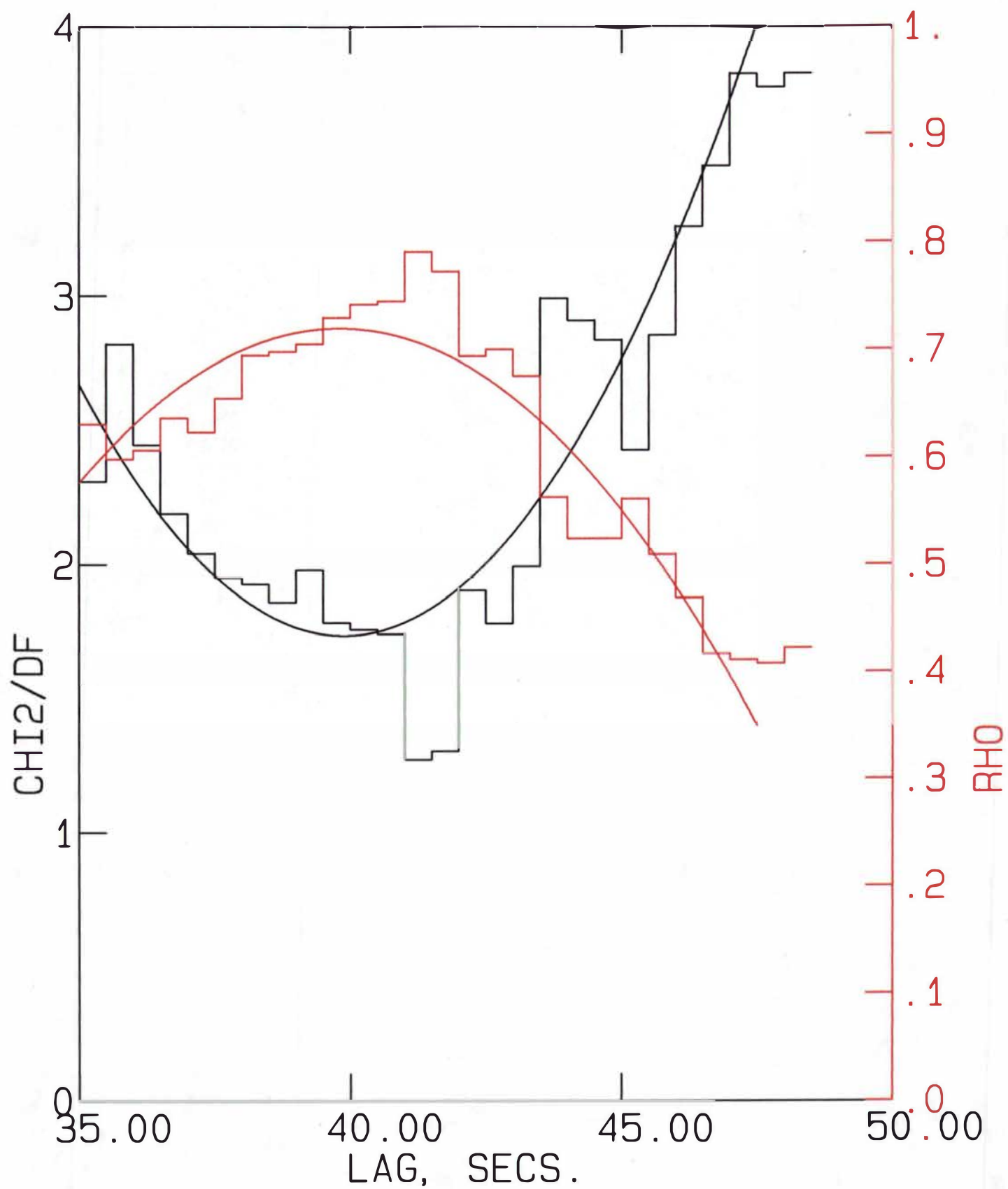


BATSE

-ULYSSES RT CORRELATION

15/ 4/99

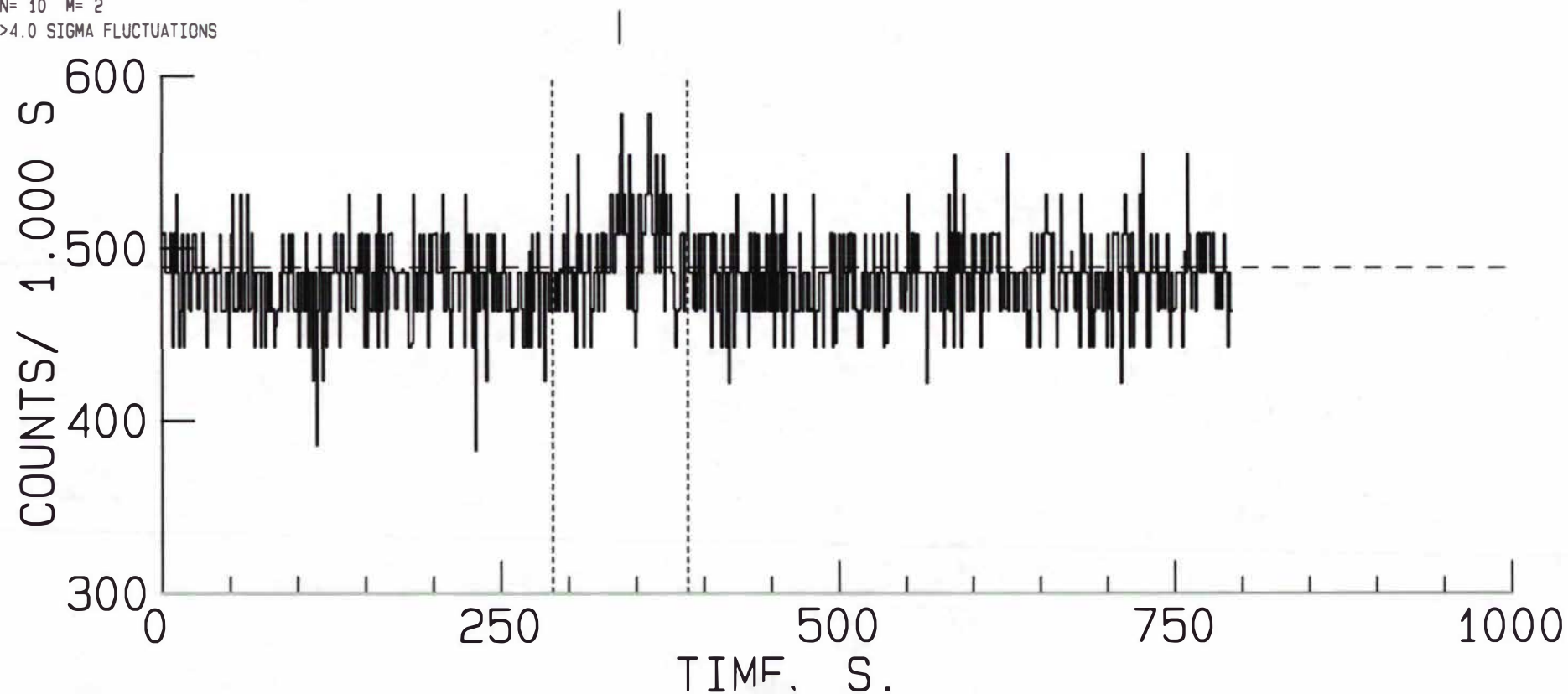
10870.521



ULYSSES RT
15/ 4/99 9864.118 s
0.500 S INTERVALS REGROUPED BY 2
22- 150 keV

26 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



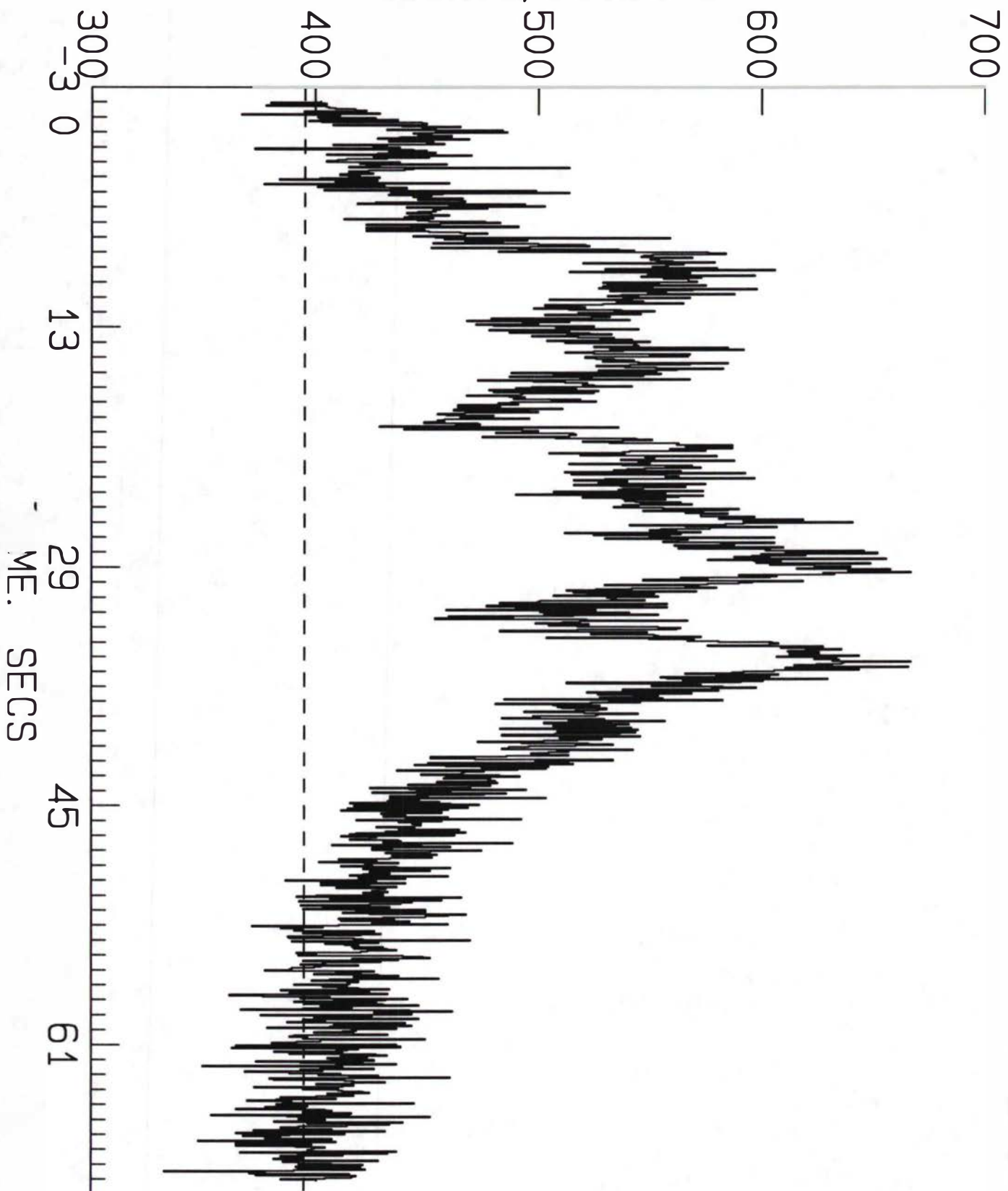
BATSE

15/04/99

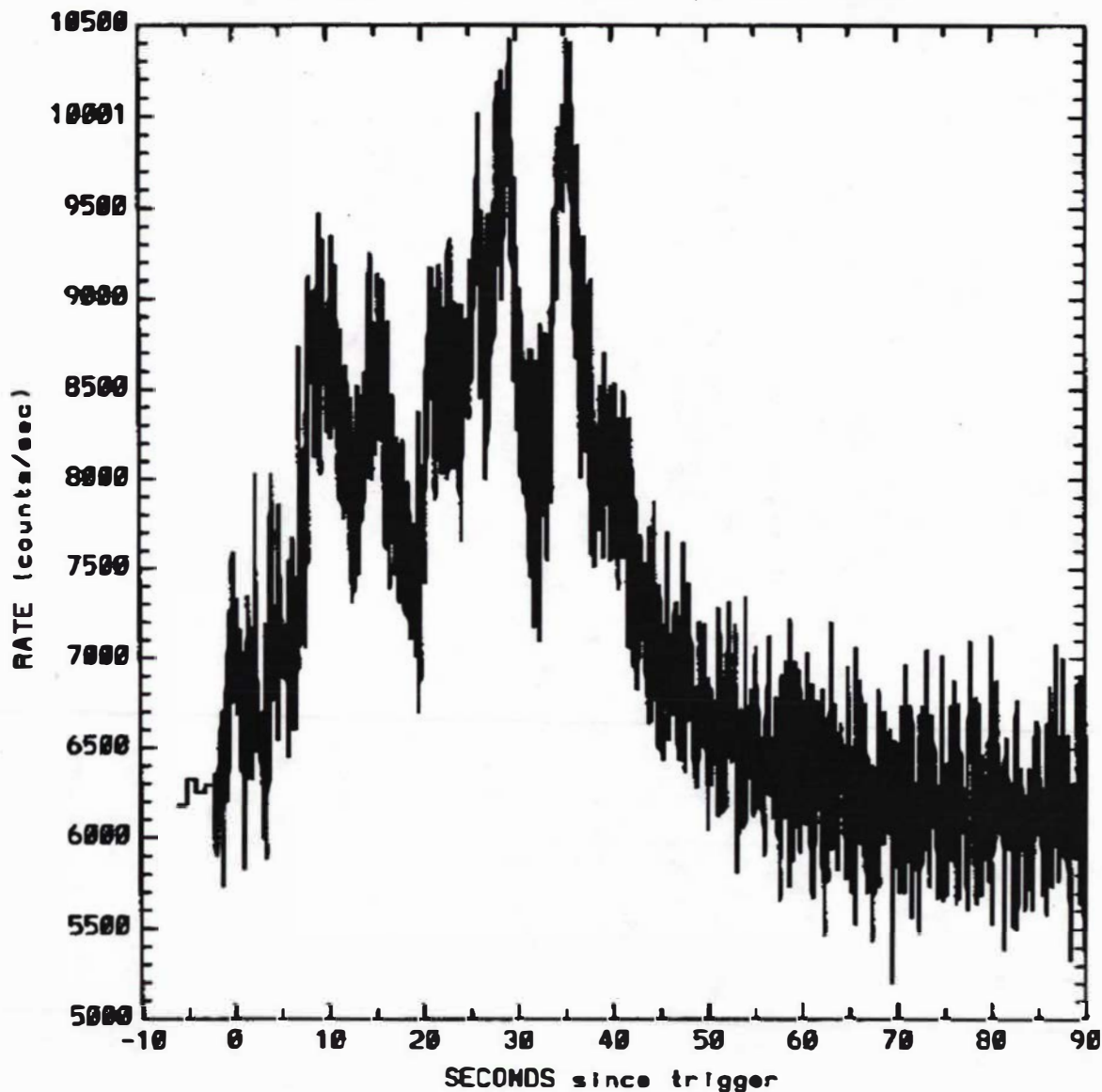
10870.521

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7520



20-APR-1999 10:00:47

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # . 7520

Trigger Time:
11203 / 10070.521

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: FREE + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
----3-1-

Discriminators:
[1 . 2]

Quality Mask:
001SP1

Date: Jan 8 2013

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 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?

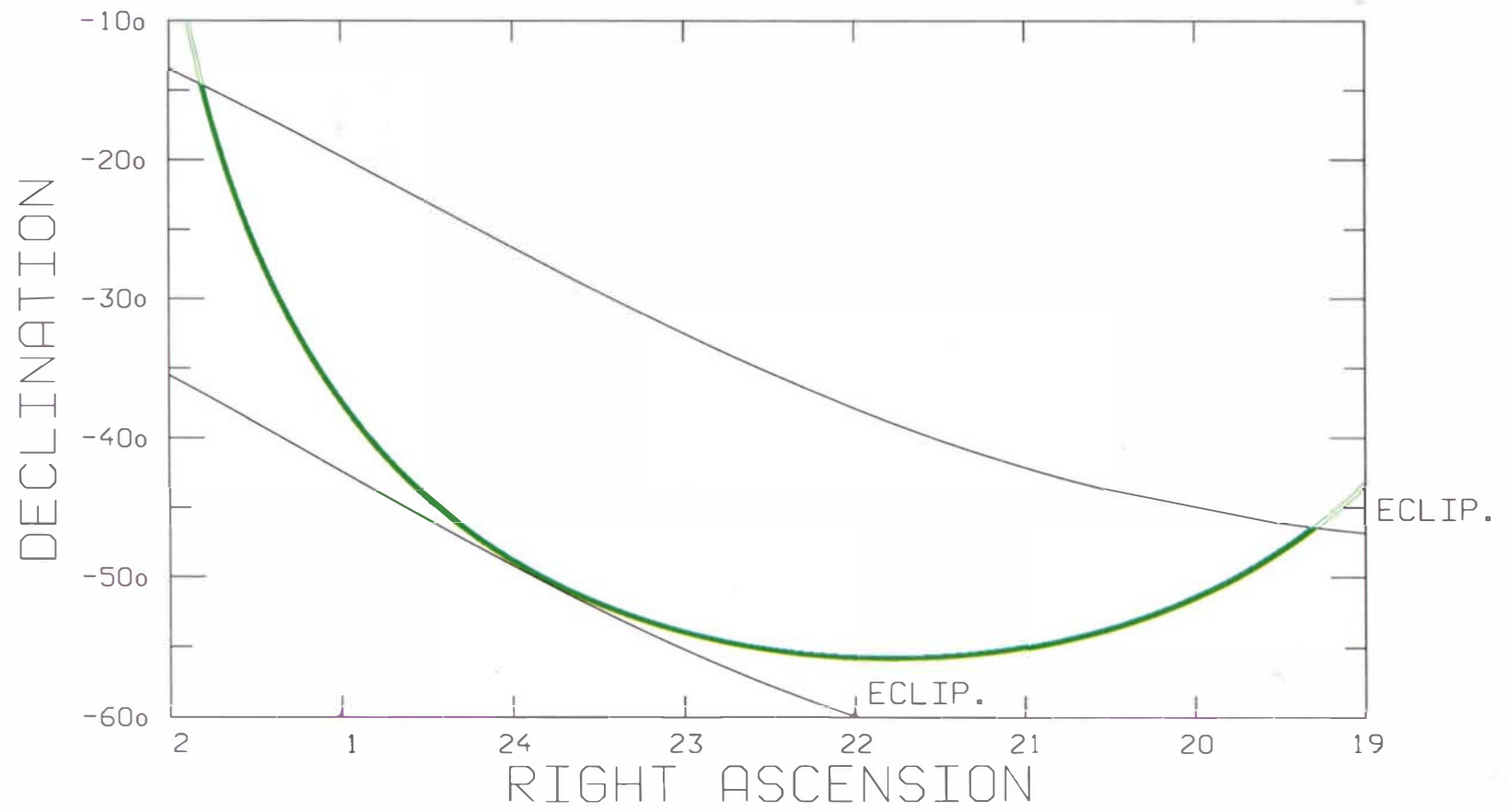
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

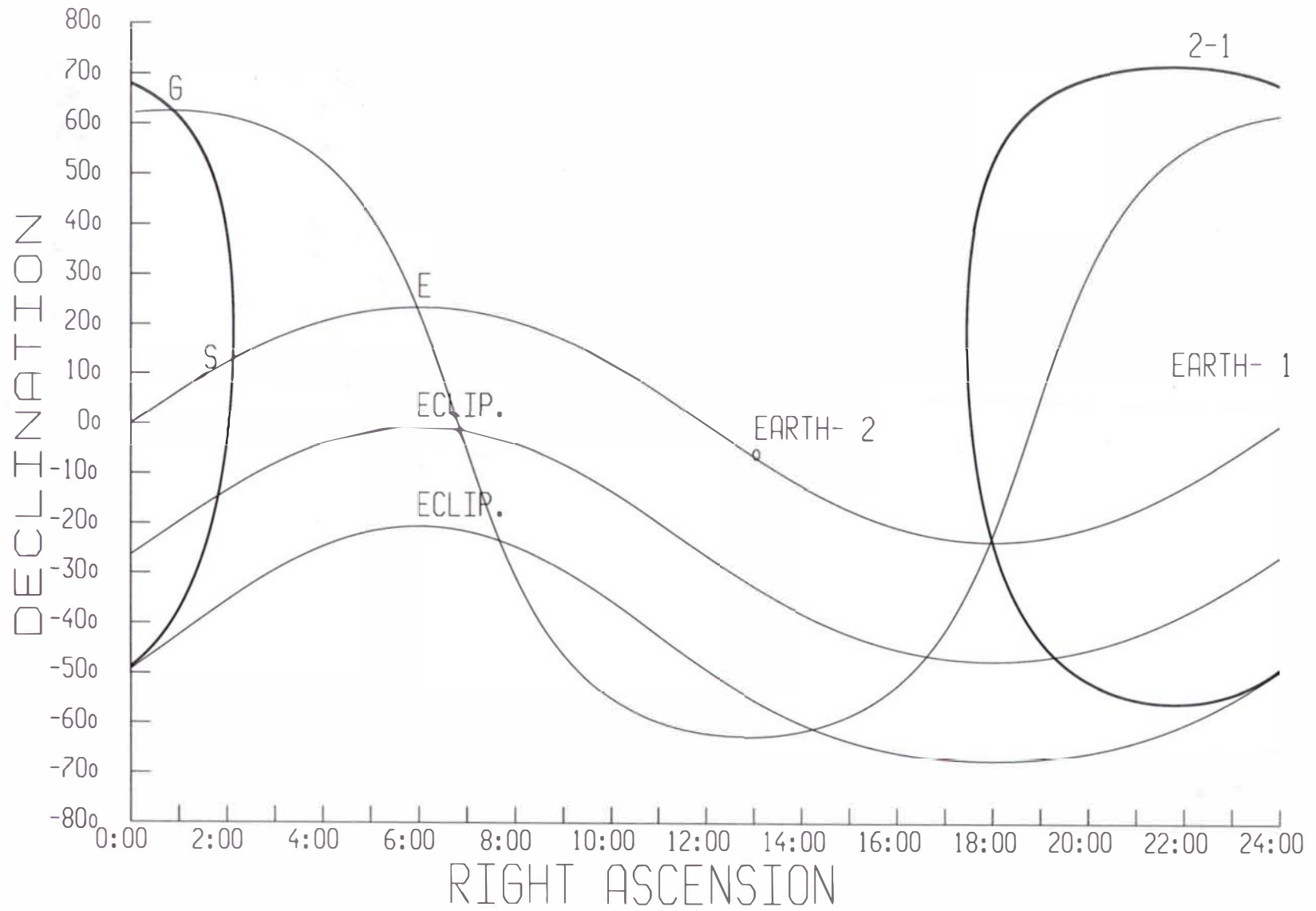
- ☒ ACCESS database updated?



EVENT OF APR 15, 1999 3:56

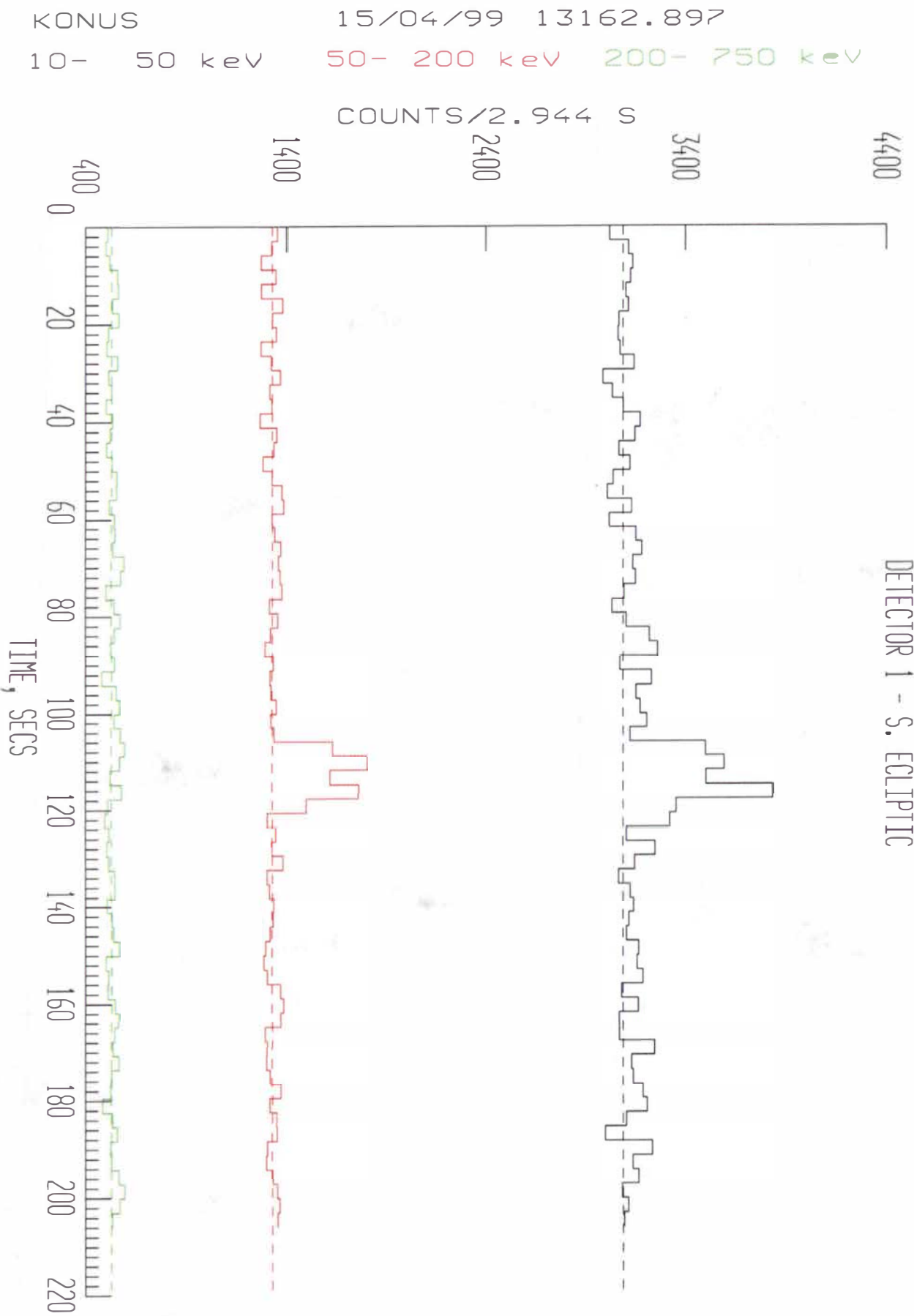
08/01/2013

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

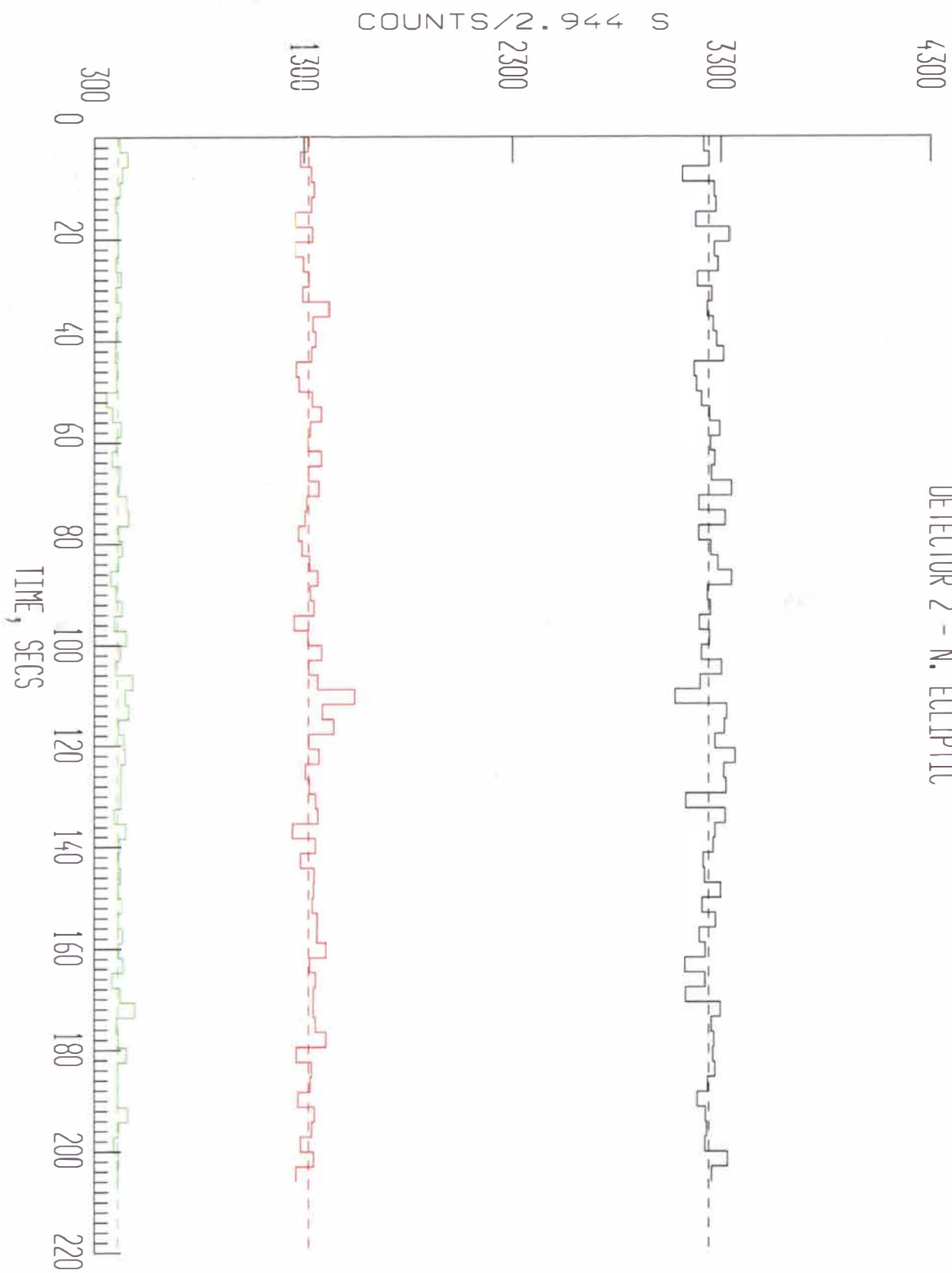


08/01/2013

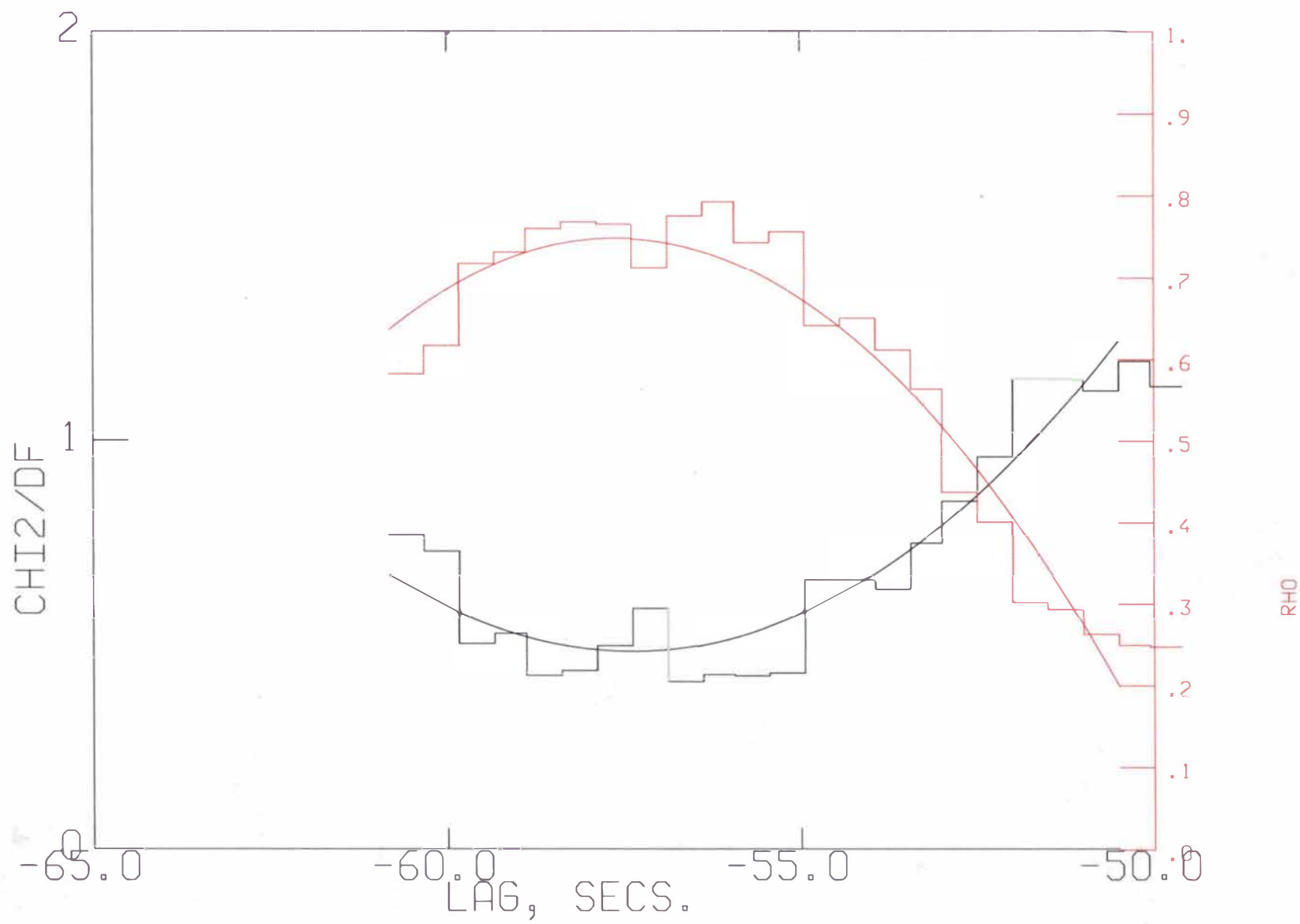
DETECTOR 1 - S. ECLIPSE

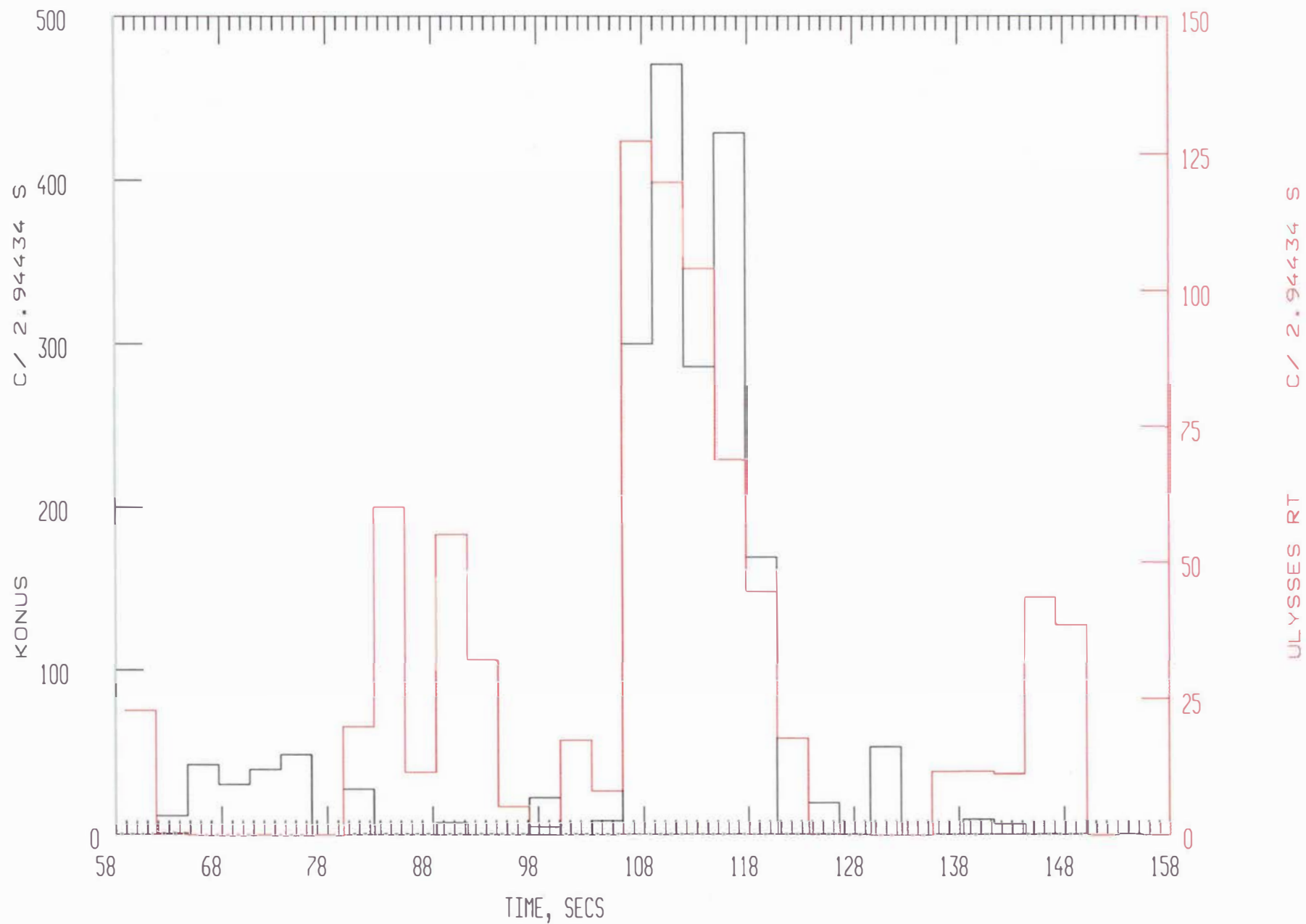


KONUS 15/04/99 13162.897
10- 50 keV 50- 200 keV 200- 750 keV



08/01/2013





KONUS

ULYSSES RT

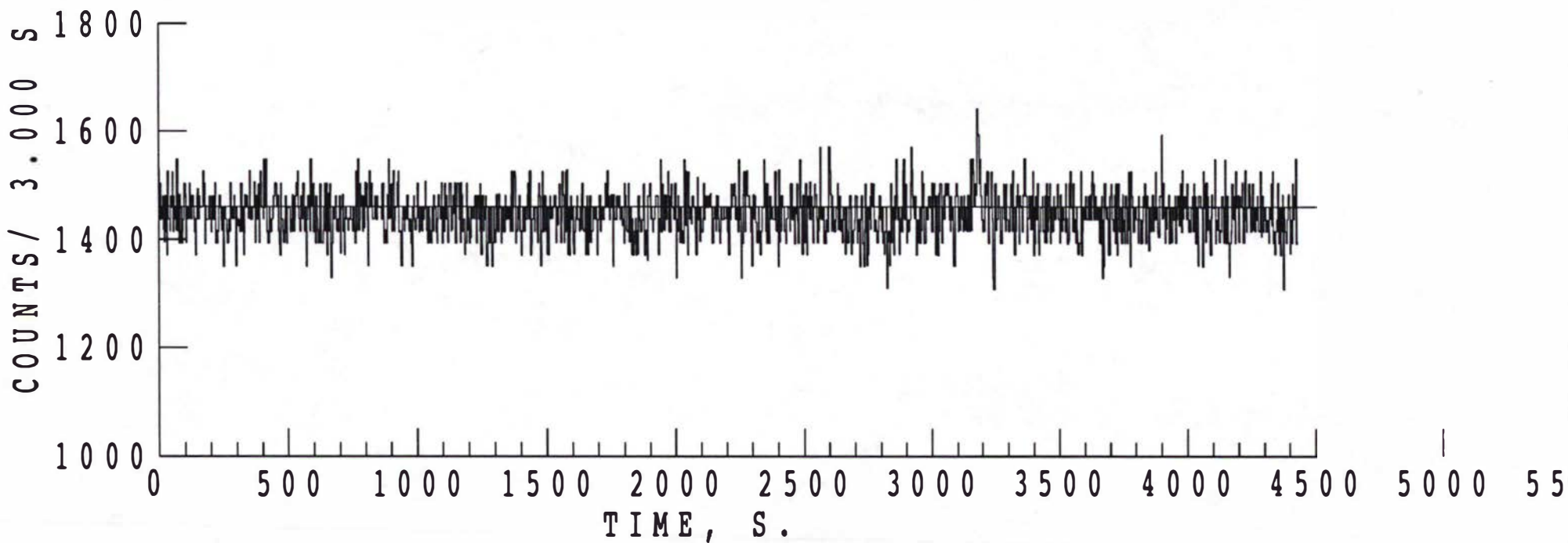
12 / 02 / 00

15 / 04 / 99 11052.129 s

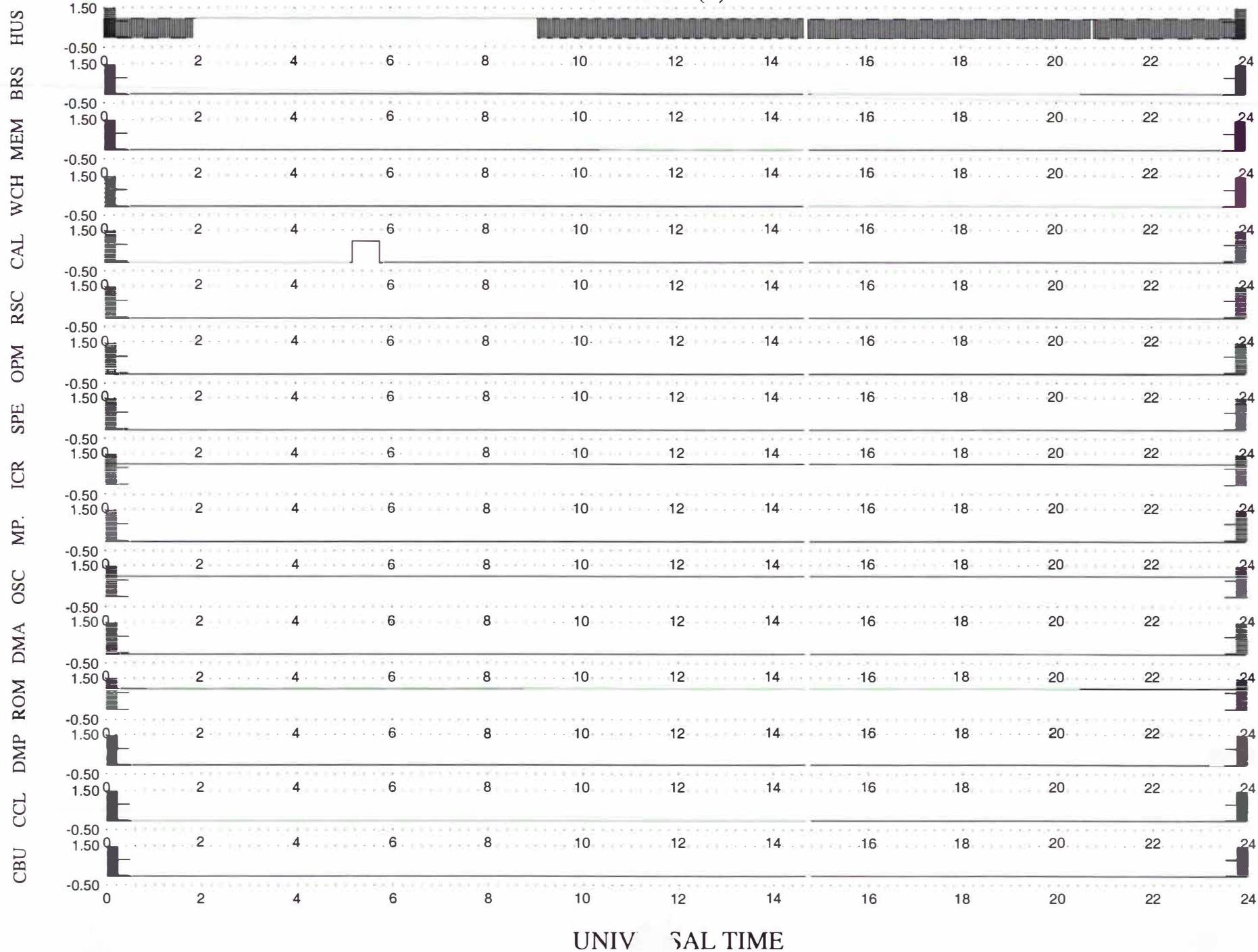
0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV

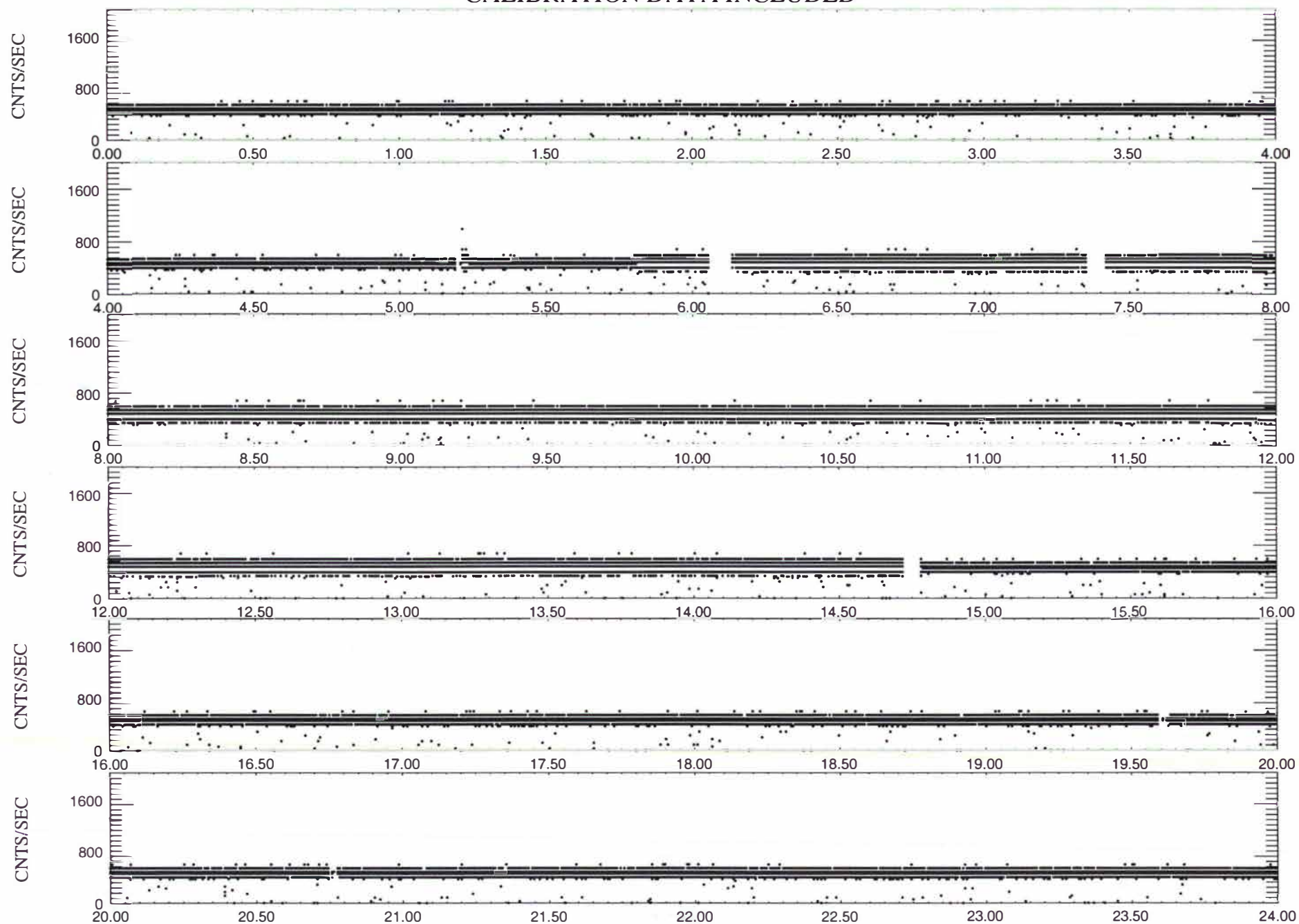
M= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



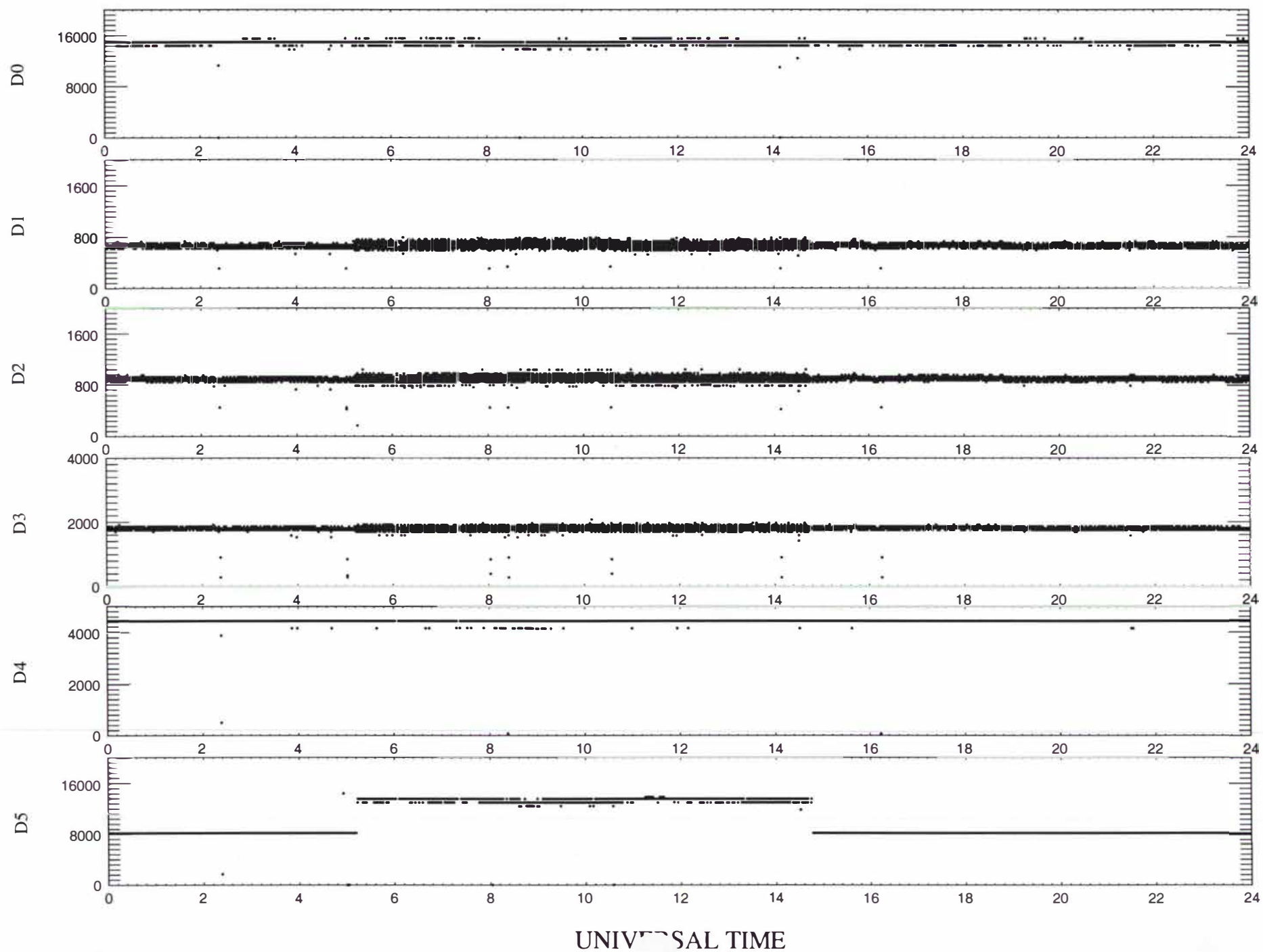
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIV. TIME



From SURASAK@fender.msfc.nasa.gov Tue Apr 20 13:49:23 1999
Return-Path: <SURASAK@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA20160; Tue, 20 Apr 1999 13:49:23 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id NAA16606
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 20 Apr 1999 13:47:10 -0700 (PDT)
Date: Tue, 20 Apr 1999 15:49:24 -0500 (CDT)
To: khurley@sunspot.ssl
Message-Id: <990420154924.20206d63@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7521
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7521
EVENT OF 1999 APR 16 DAY OF YEAR=106
EVENT CROSSING TIME AT BATSE : 61520. S. OR 17:05:20.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 111.000 -38.000
BATSE PEAK COUNTING RATE: 2250 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 4/ 99 IS:
RA= 145.899 DEC= -7.725 DIST= 4.390 AU
BATSE-ULYSSES DISTANCE = 656694616. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=136.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1584.12 SECS.
CROSSING TIME AT ULYSSES IS 59936. S. OR 16:38:55 +/- 288.60 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 4/ 99 IS:
RA= 215.426 DEC= -12.365 DIST= 0.603 AU
MARS-BATSE DISTANCE = 90195072. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 86.56 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 18.03 SECS.
CROSSING TIME AT MARS IS 61538. S. OR 17:05:38 +/- 52.41 SECONDS

BATSE BURST TRIGGER

NO.: 7521

TIME: TJD=1284 SECONDS=65120

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=151 AZIMUTH=245.6 ERROR=6.96 DEGREES

COMMENTS:

GRB. SINGLE PULSE. DURATION ABOUT 6 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7521	990416	11284	61520	2250	111	-38	6

BATSE BURST# 7521

ULYSSES RT

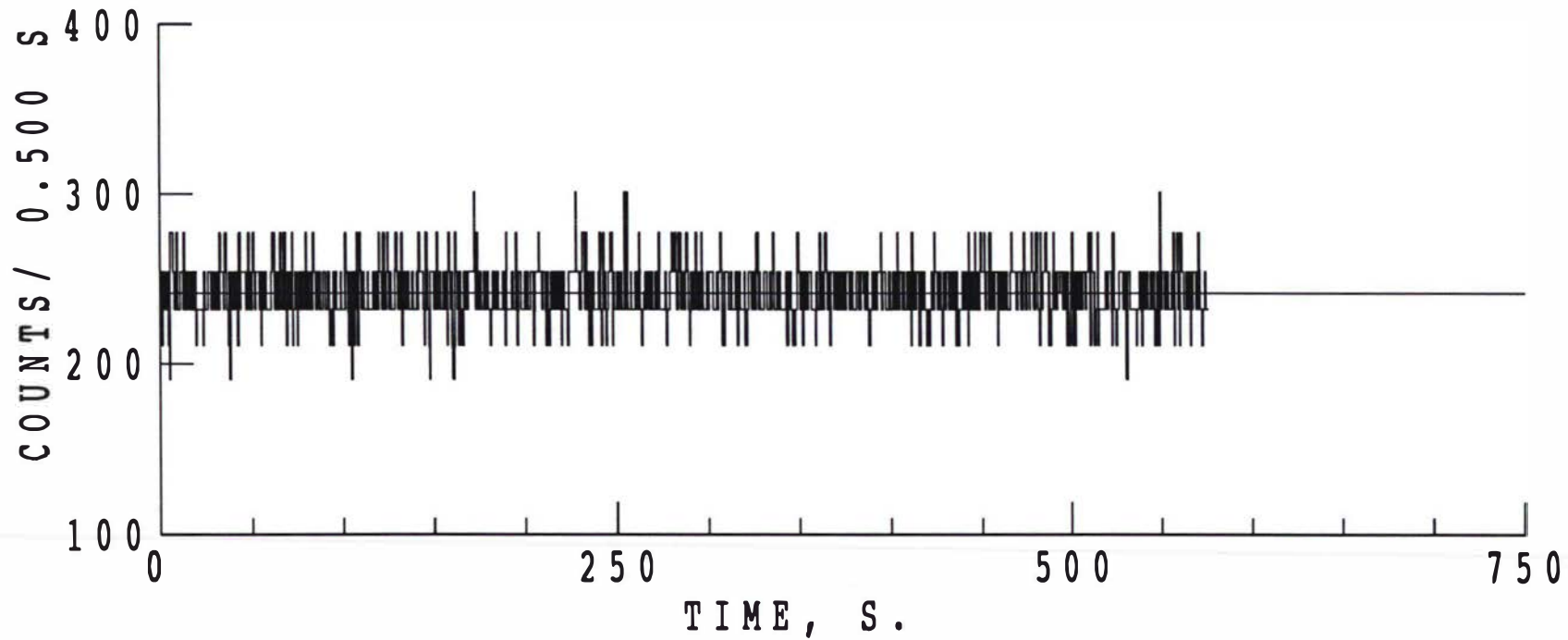
20 / 4 / 99

16 / 4 / 99 59652.496 s

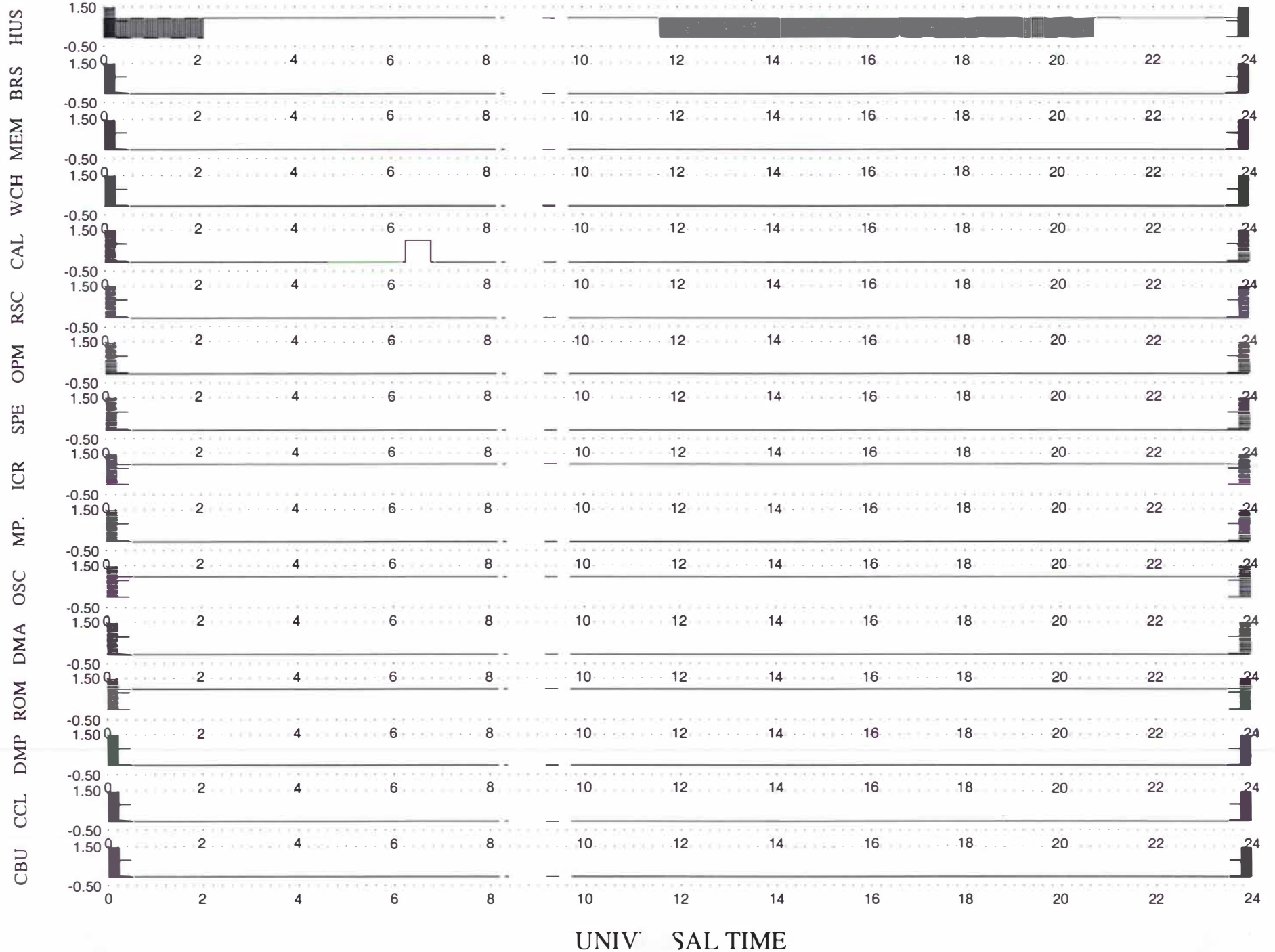
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

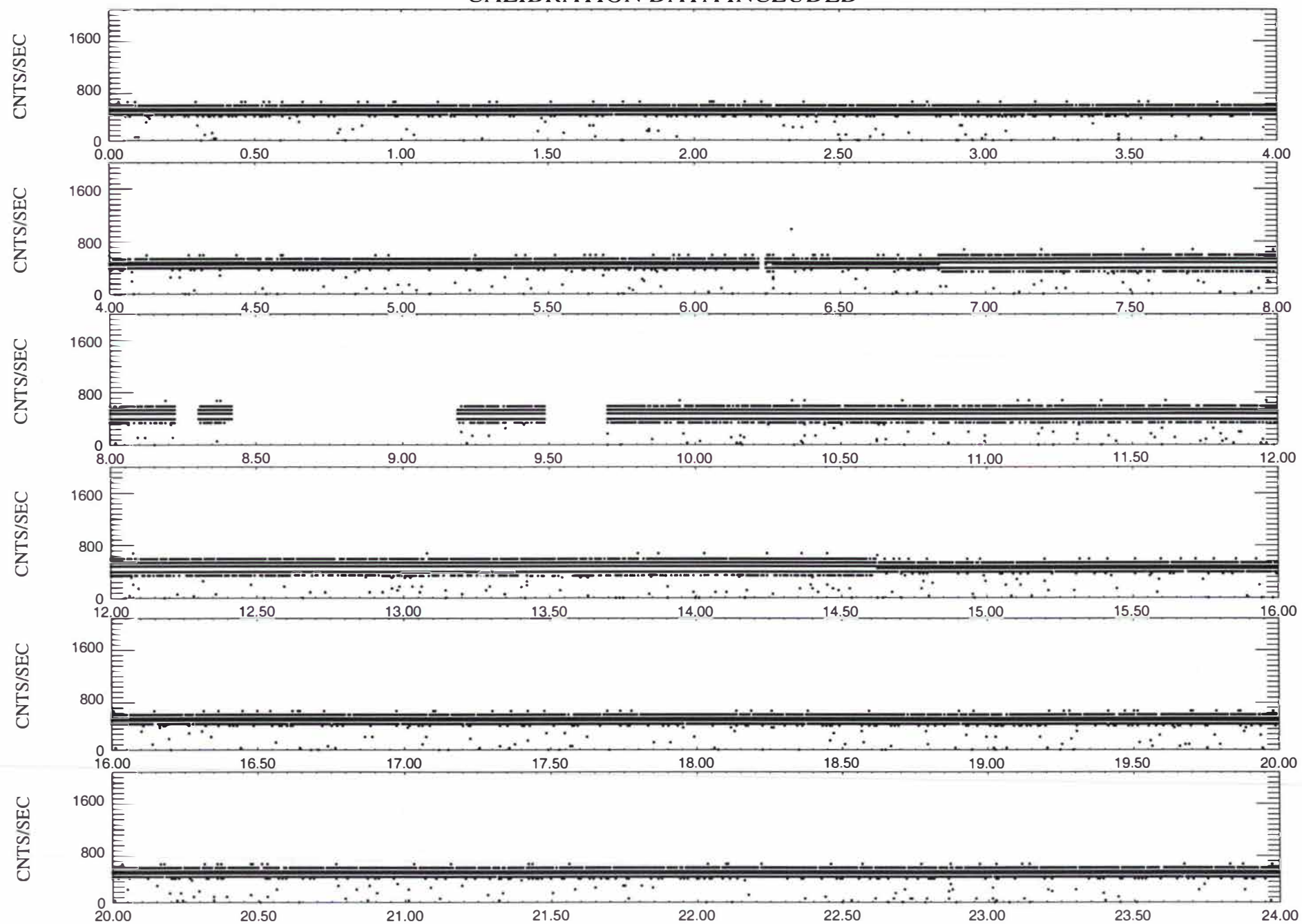
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



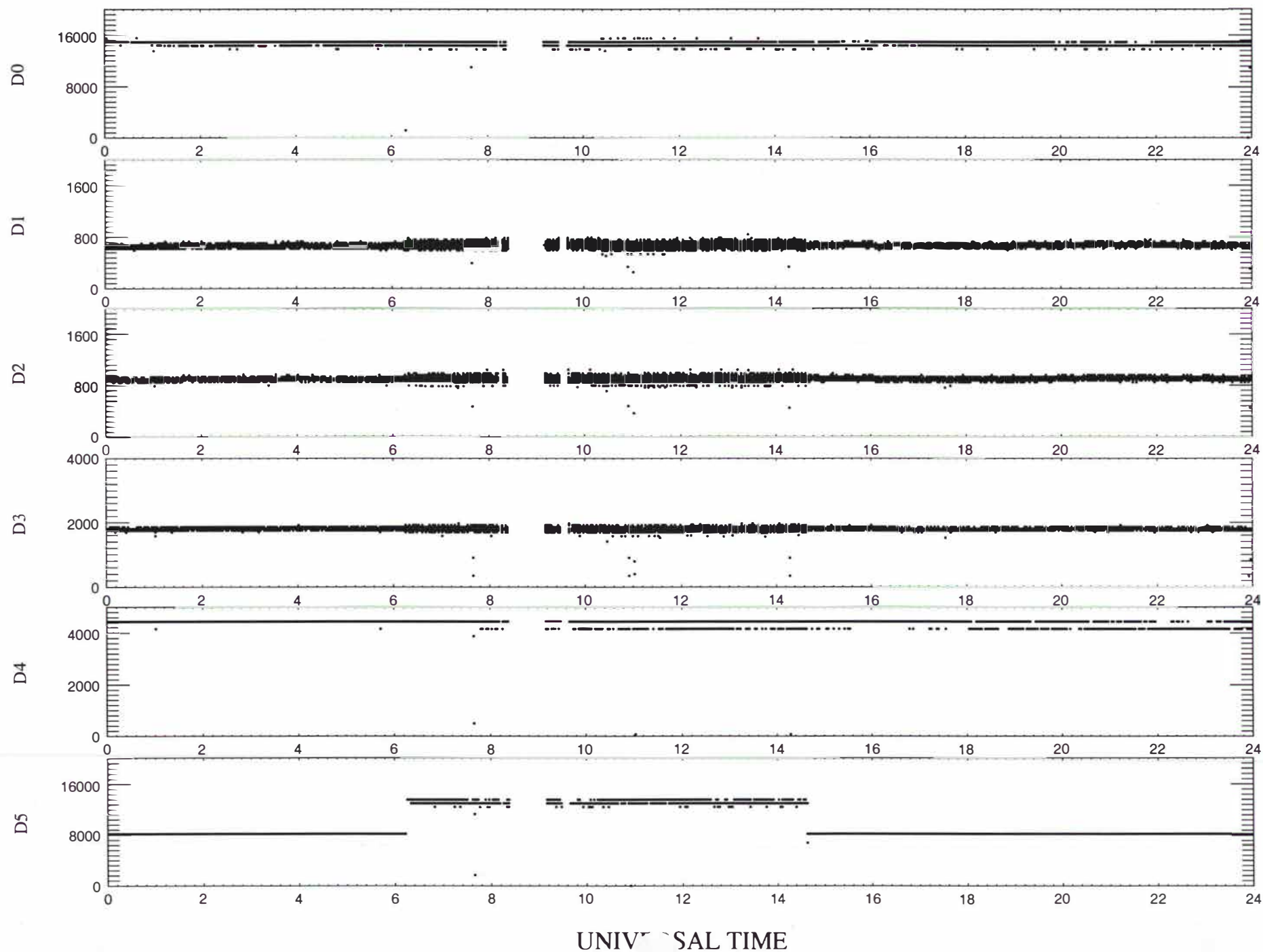
BURST NUMBER 12, 3



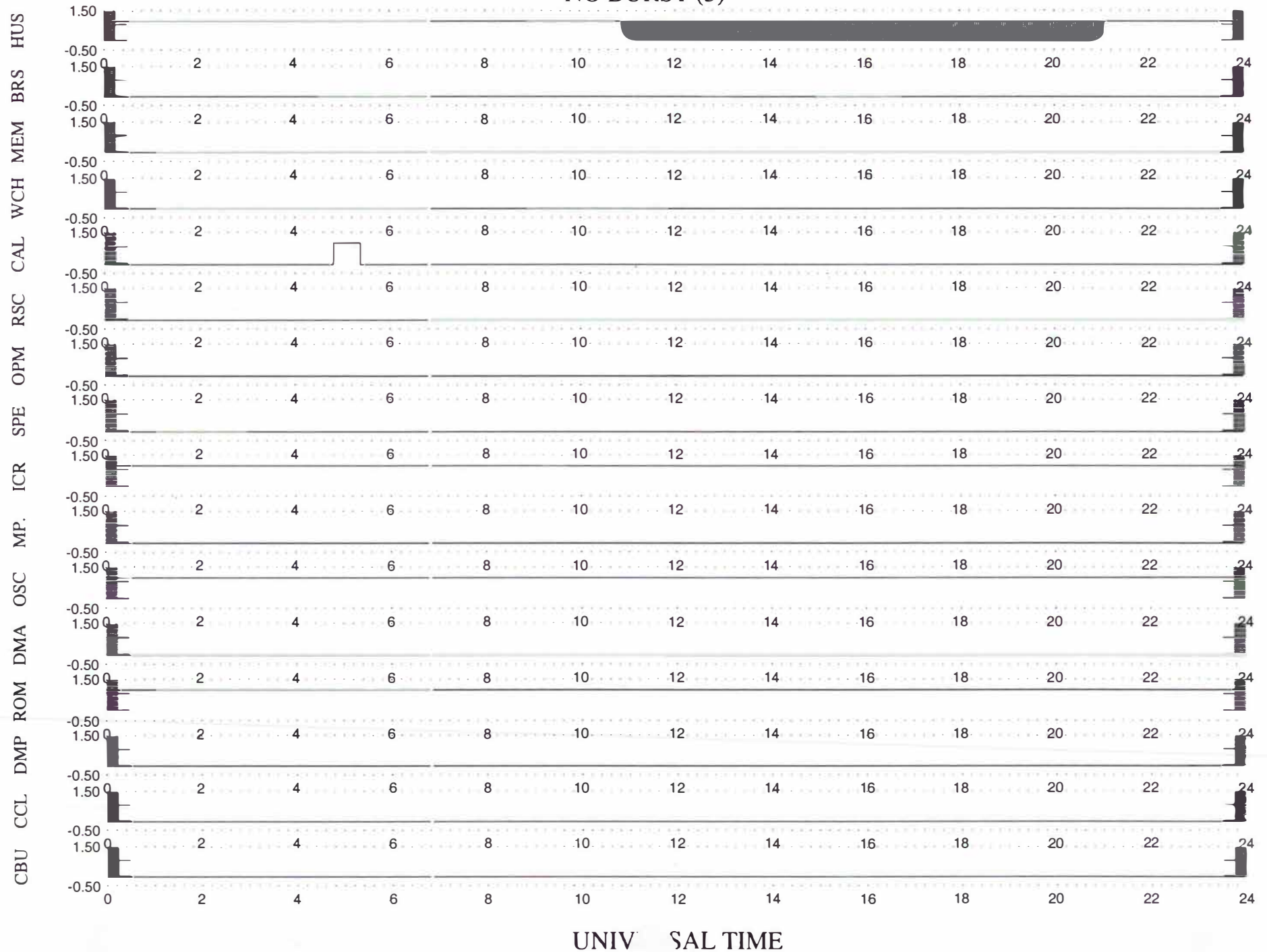
CALIBRATION DATA INCLUDED



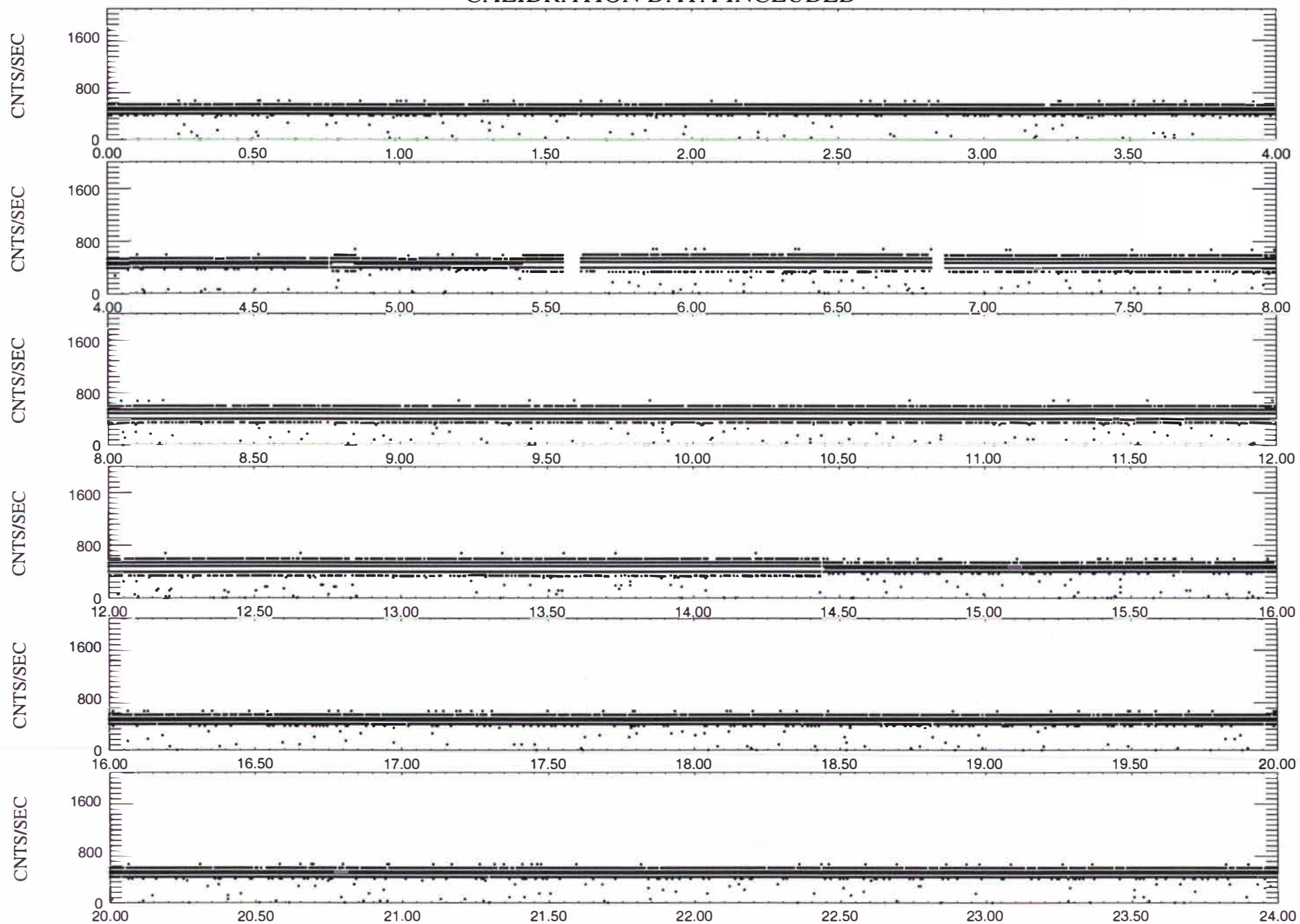
UNIVERSAL TIME



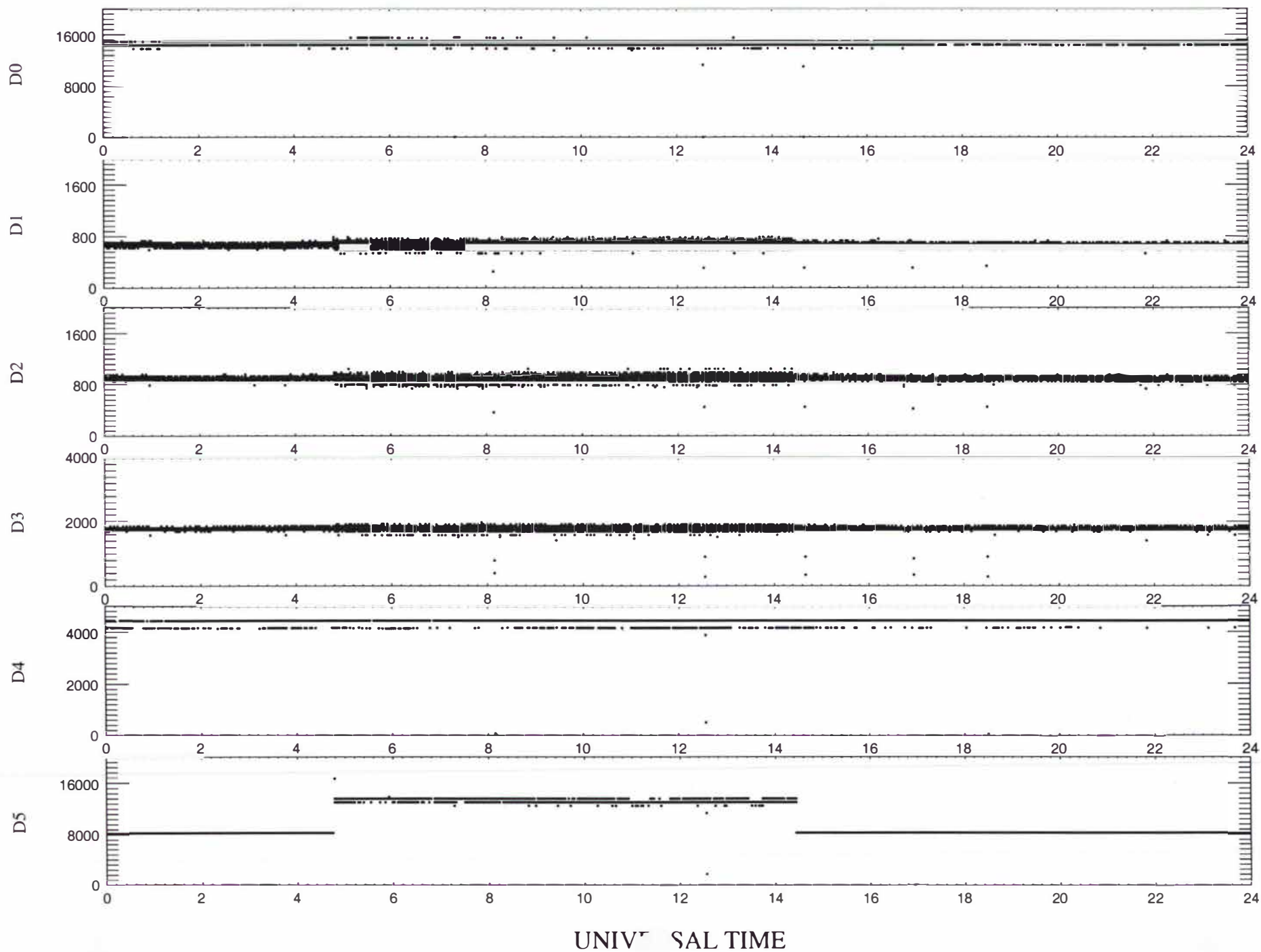
NO BURST (3)



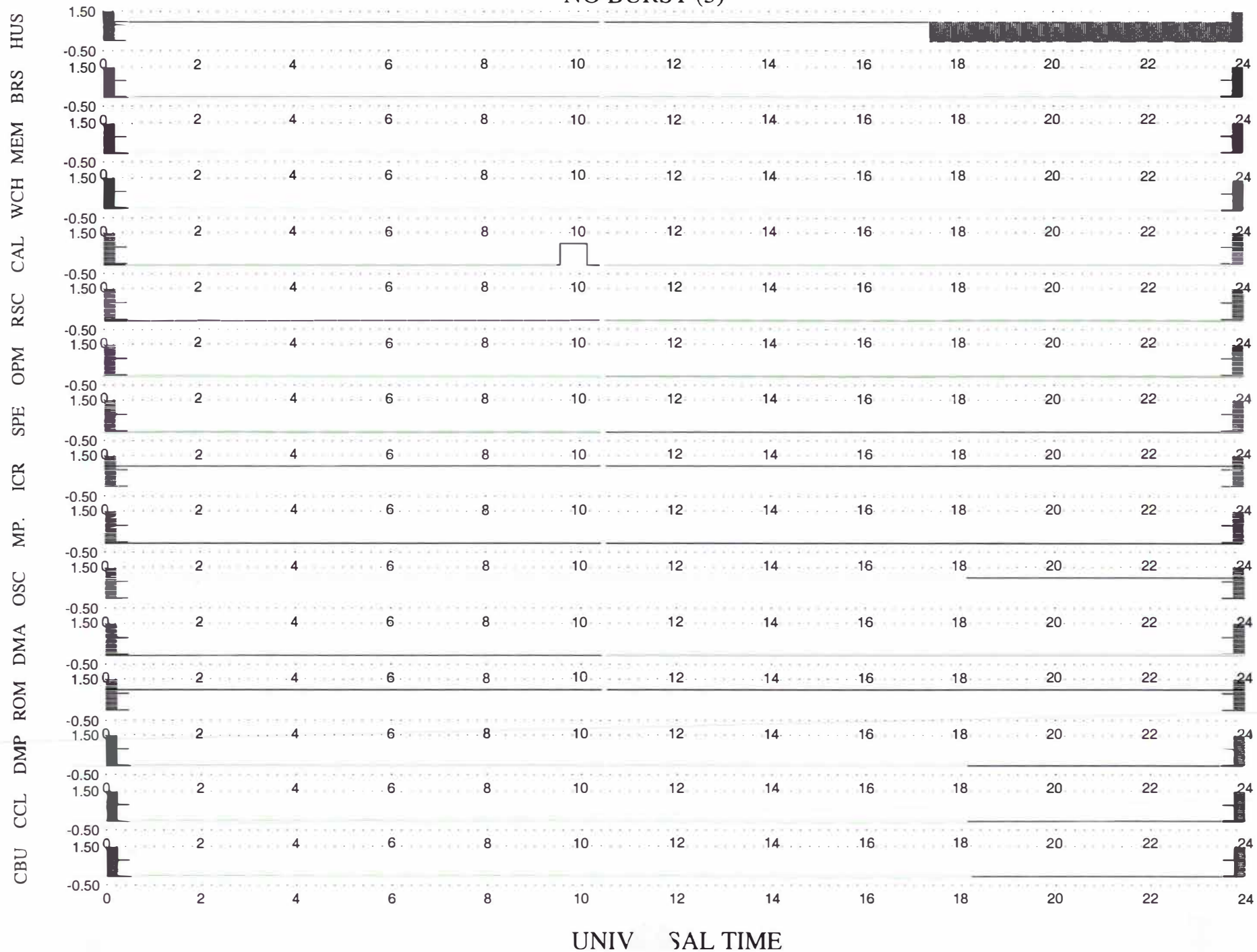
CALIBRATION DATA INCLUDED



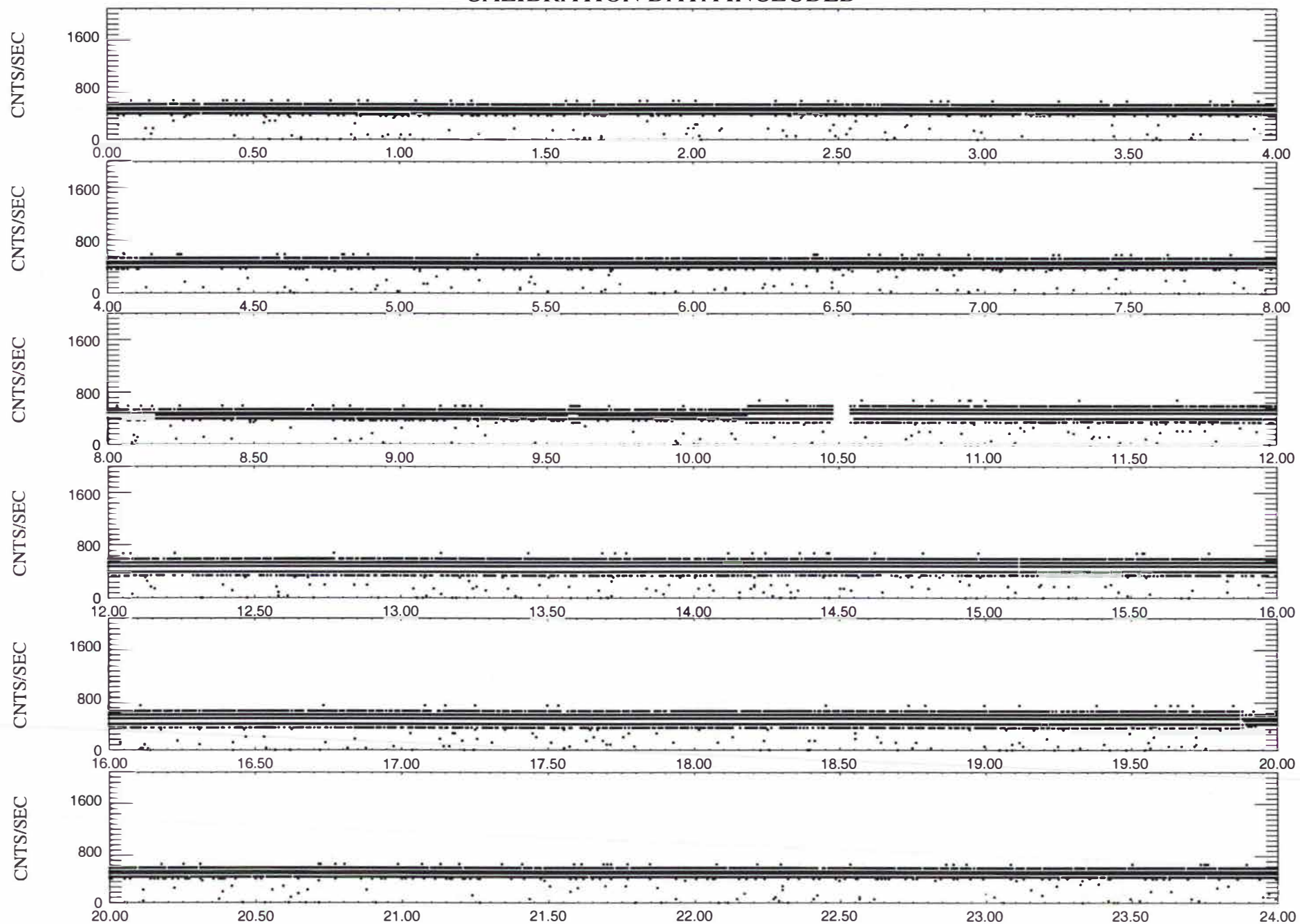
UNIV SAL TIME



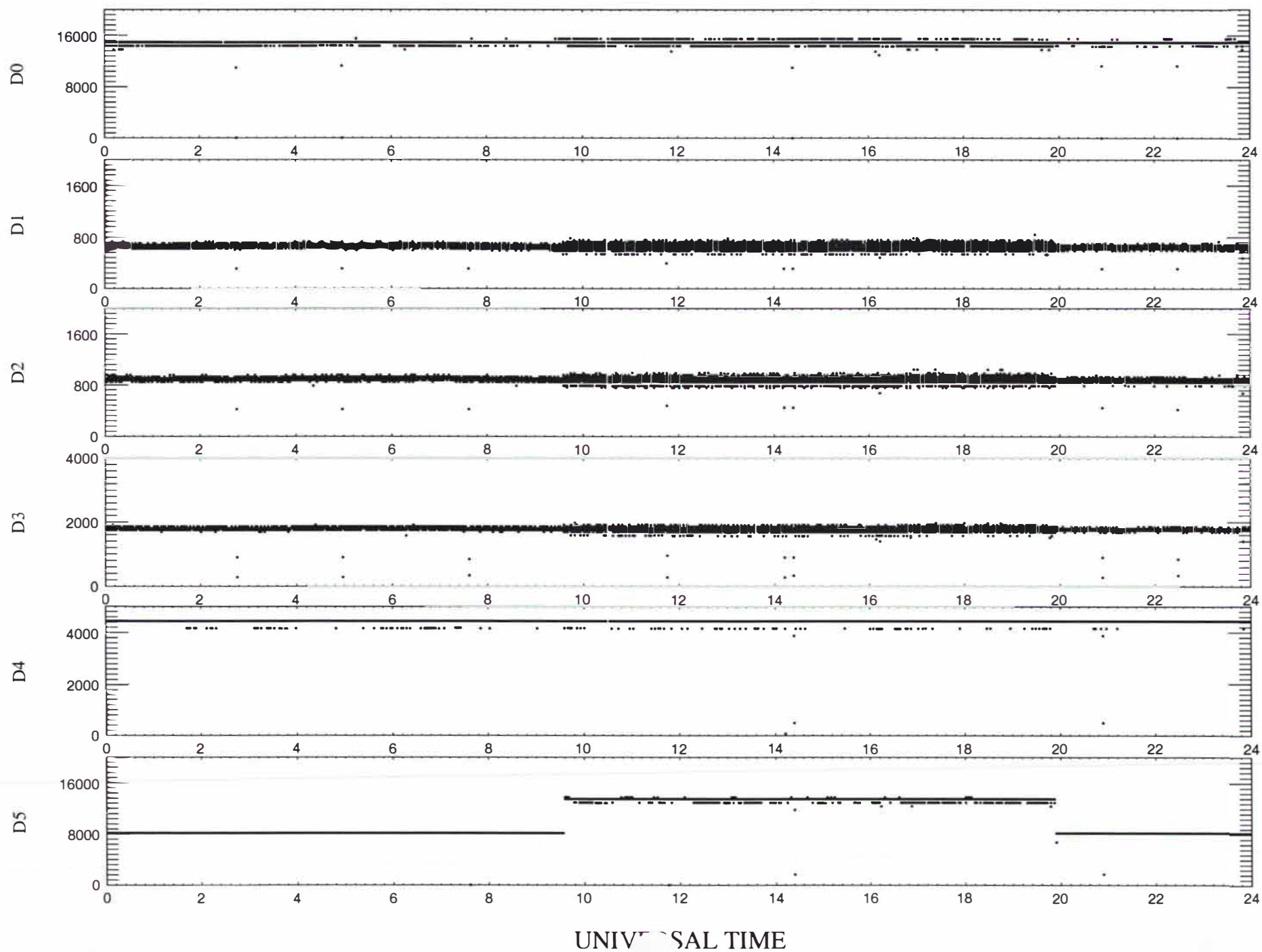
NO BURST (3)



CALIBRATION DATA INCLUDED

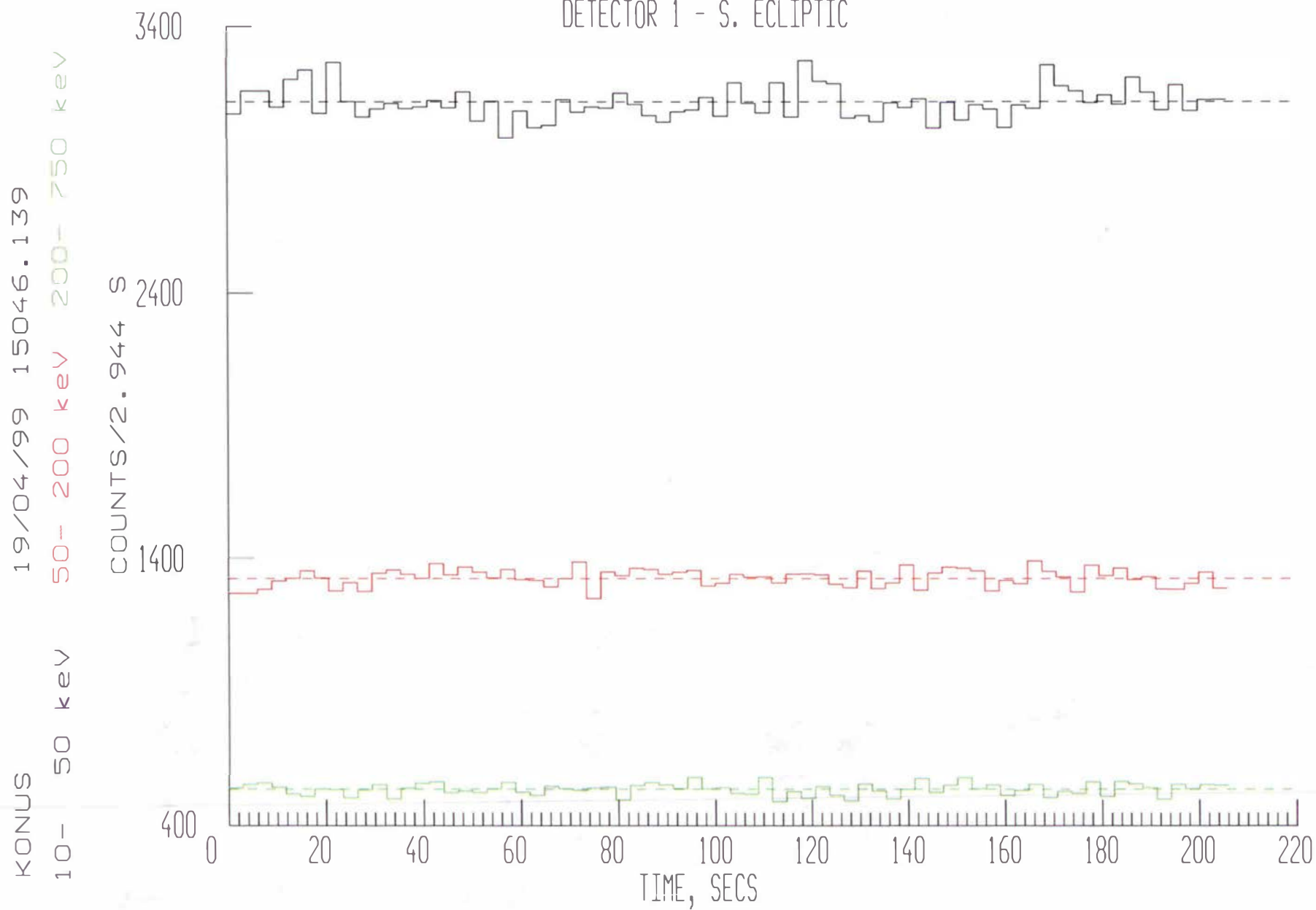


UNIVERSAL TIME



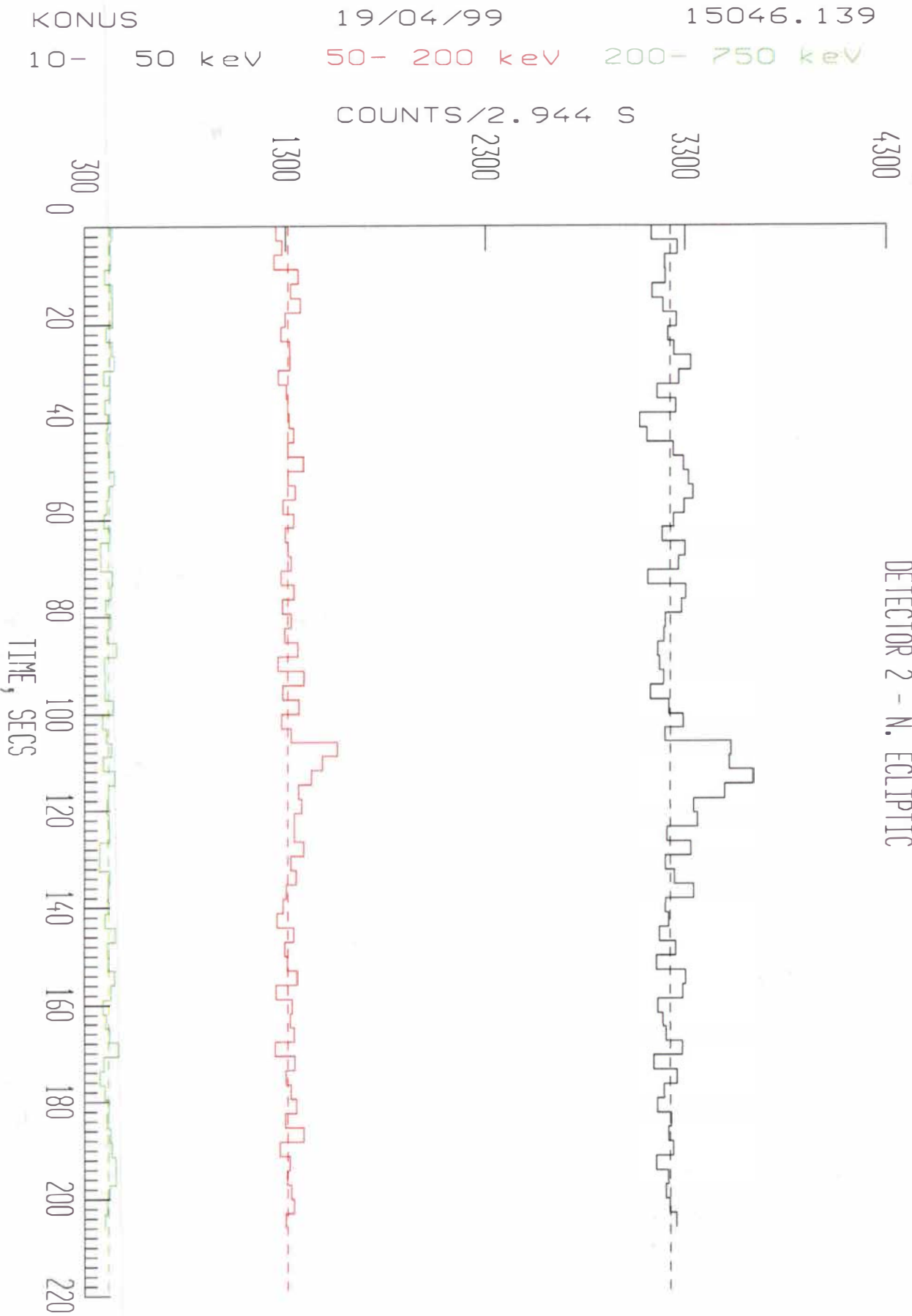
08/01/2013

DETECTOR 1 - S. ECLIPTIC



08/01/2013

DETECTOR 2 - N. ECLIPSE



konus 19990419 17288

ULYSSES RT

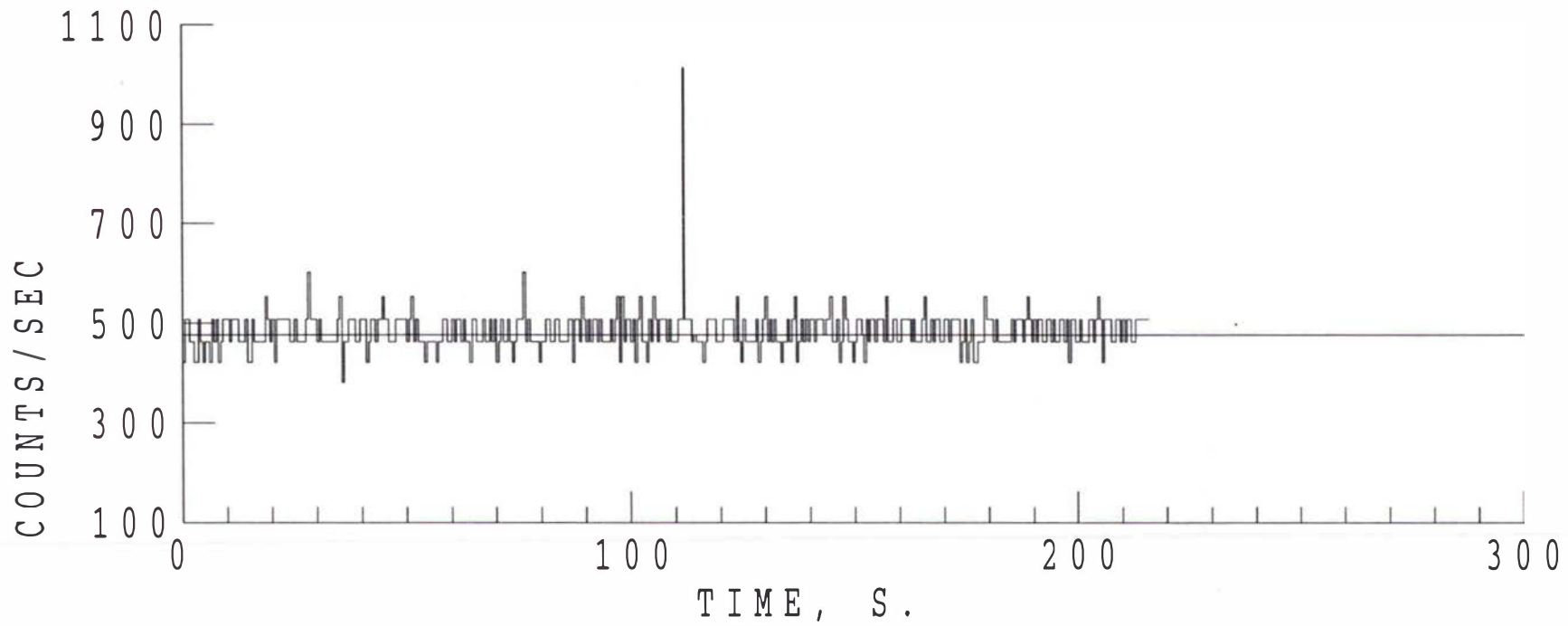
08/01/13

19/04/99 17172.191 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS

12 / 02 / 00

ULYSSES RT

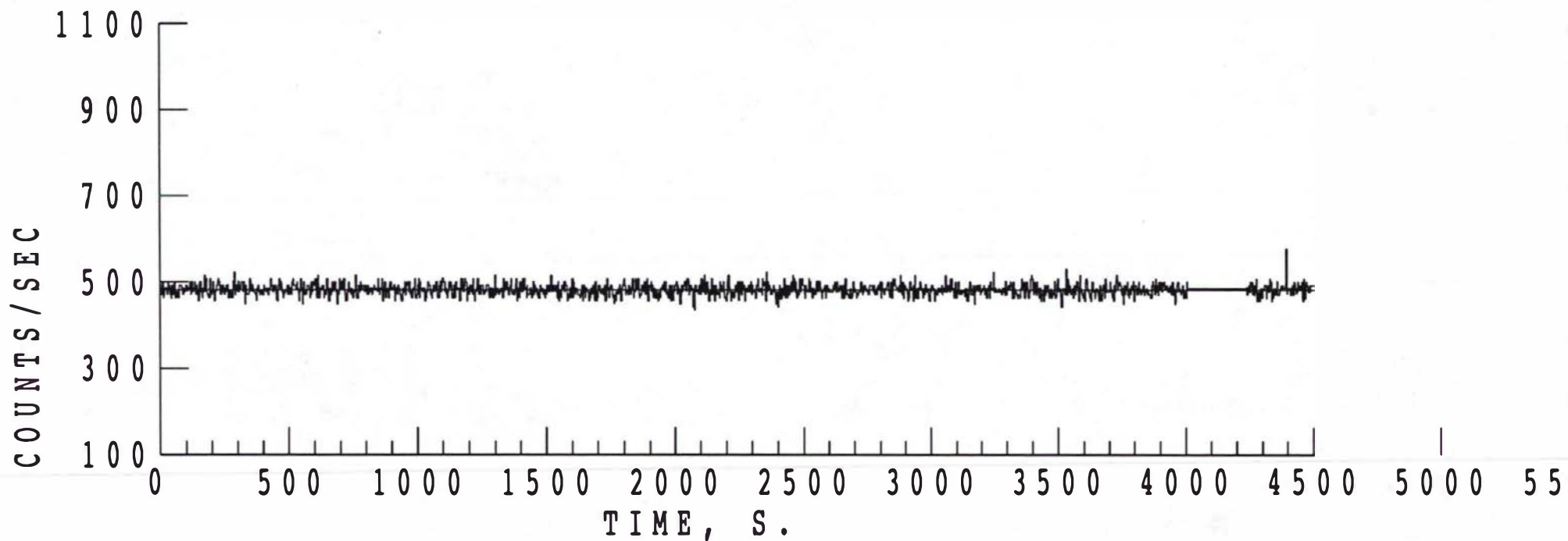
19/04/99 12888.150 s

INTERVALS REGROUPED BY 6

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: 15 Jan 2013

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 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?

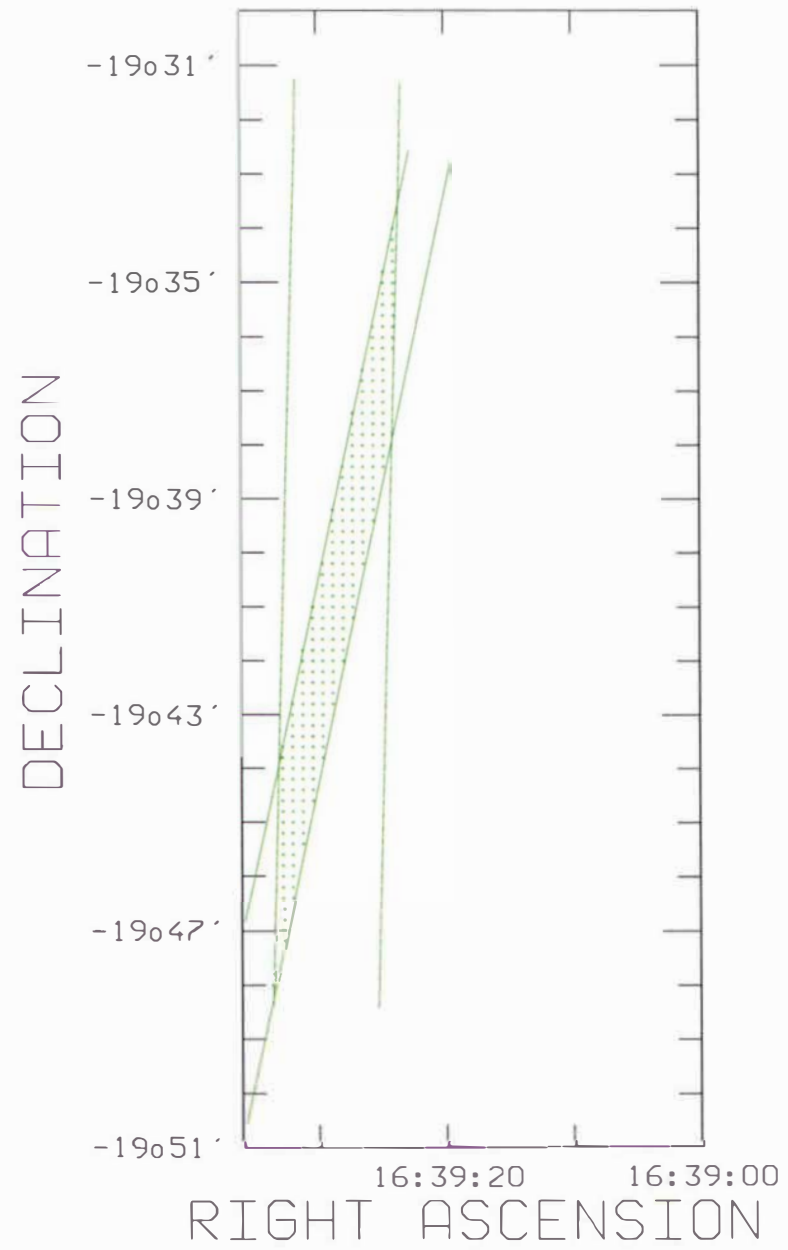
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

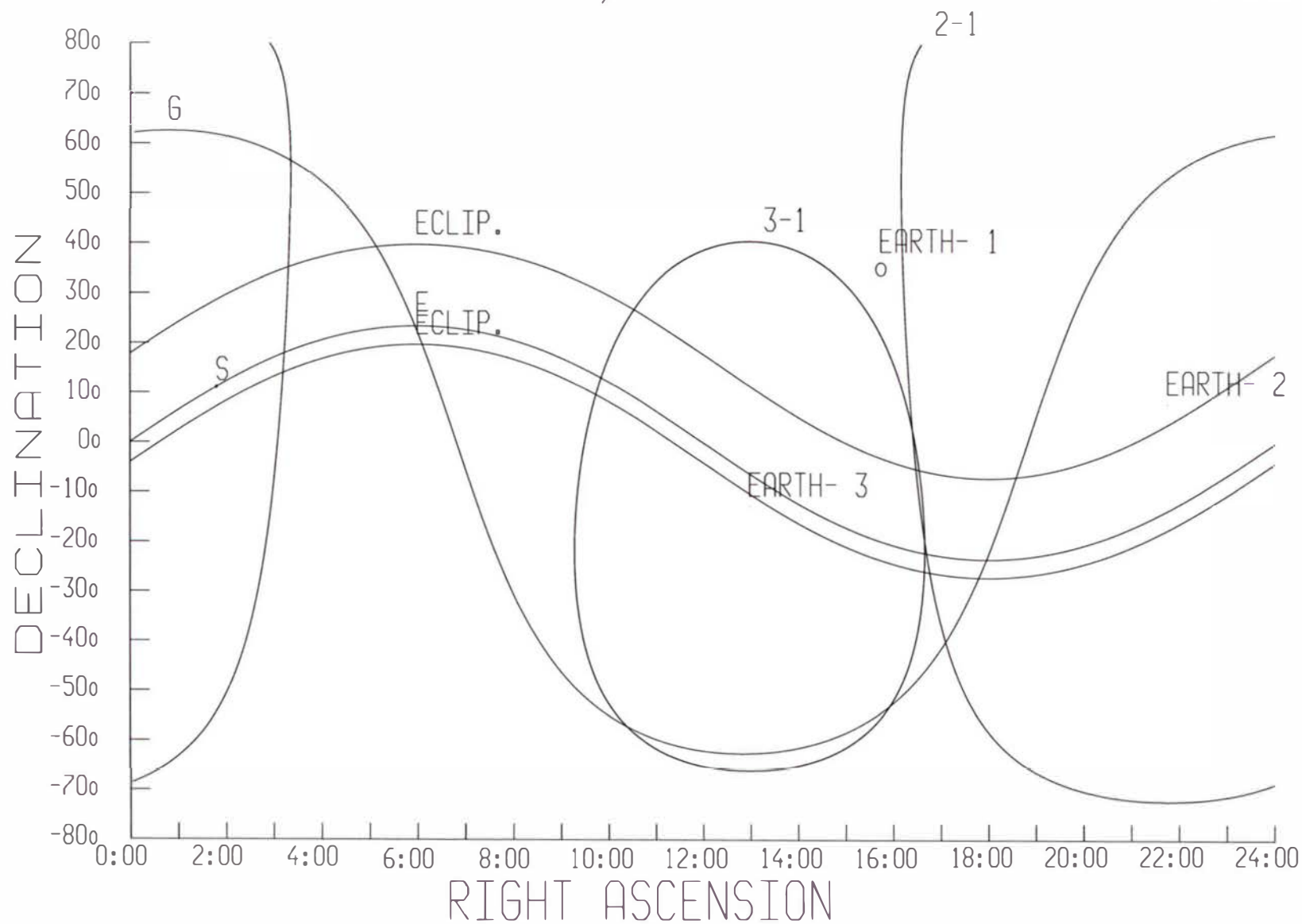
- ☒ ACCESS database updated?



EVENT OF APR 19, 1999 12:55

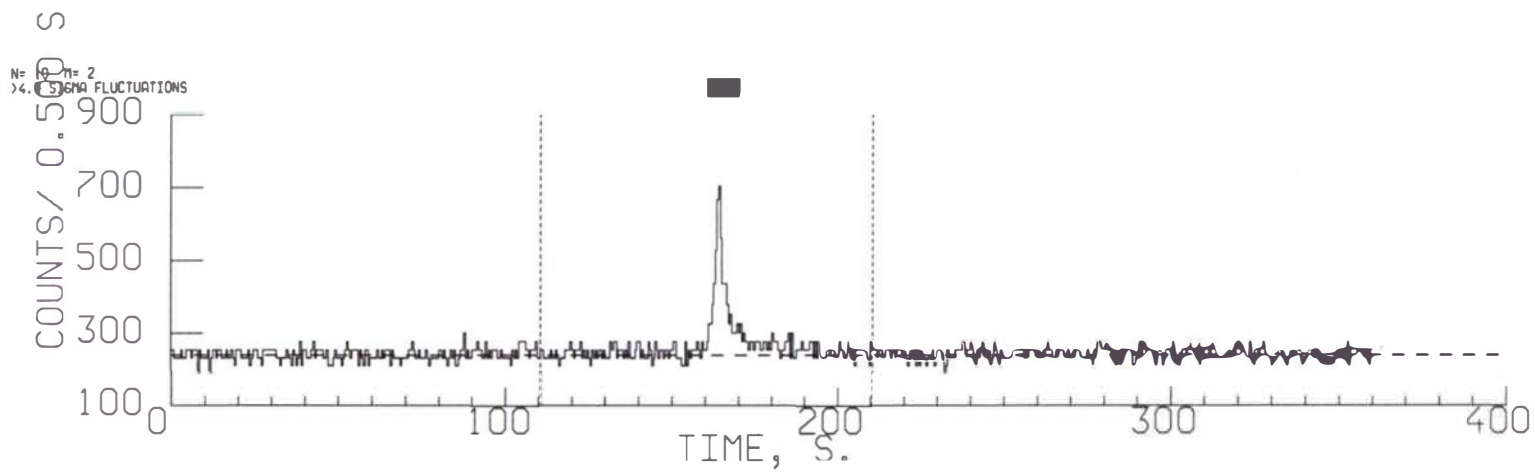
15/01/2013

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 ULYSSES 3 NEAR



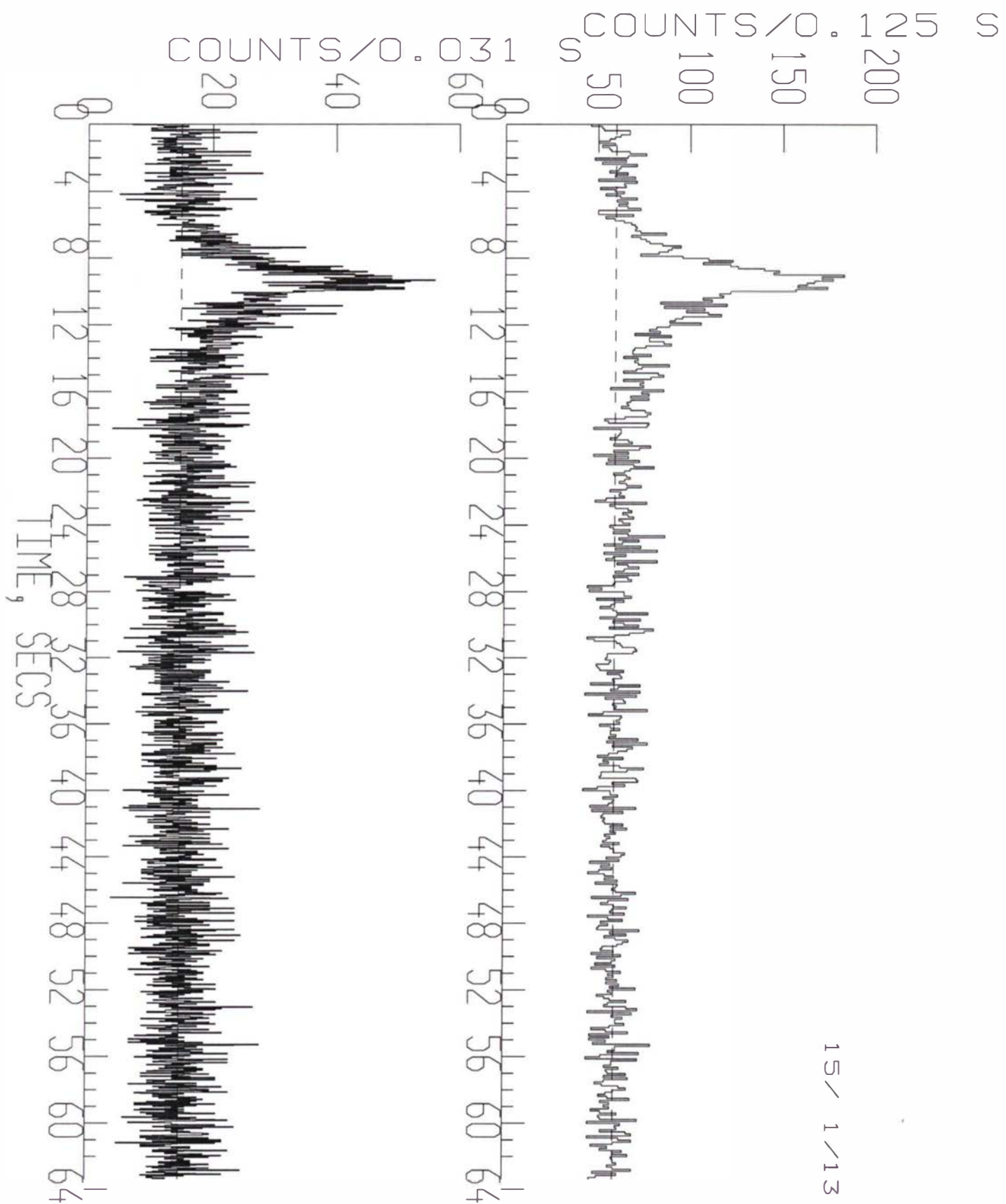
ULYSSES RT
19/ 4/99 46728.492 s
22- 152 keV

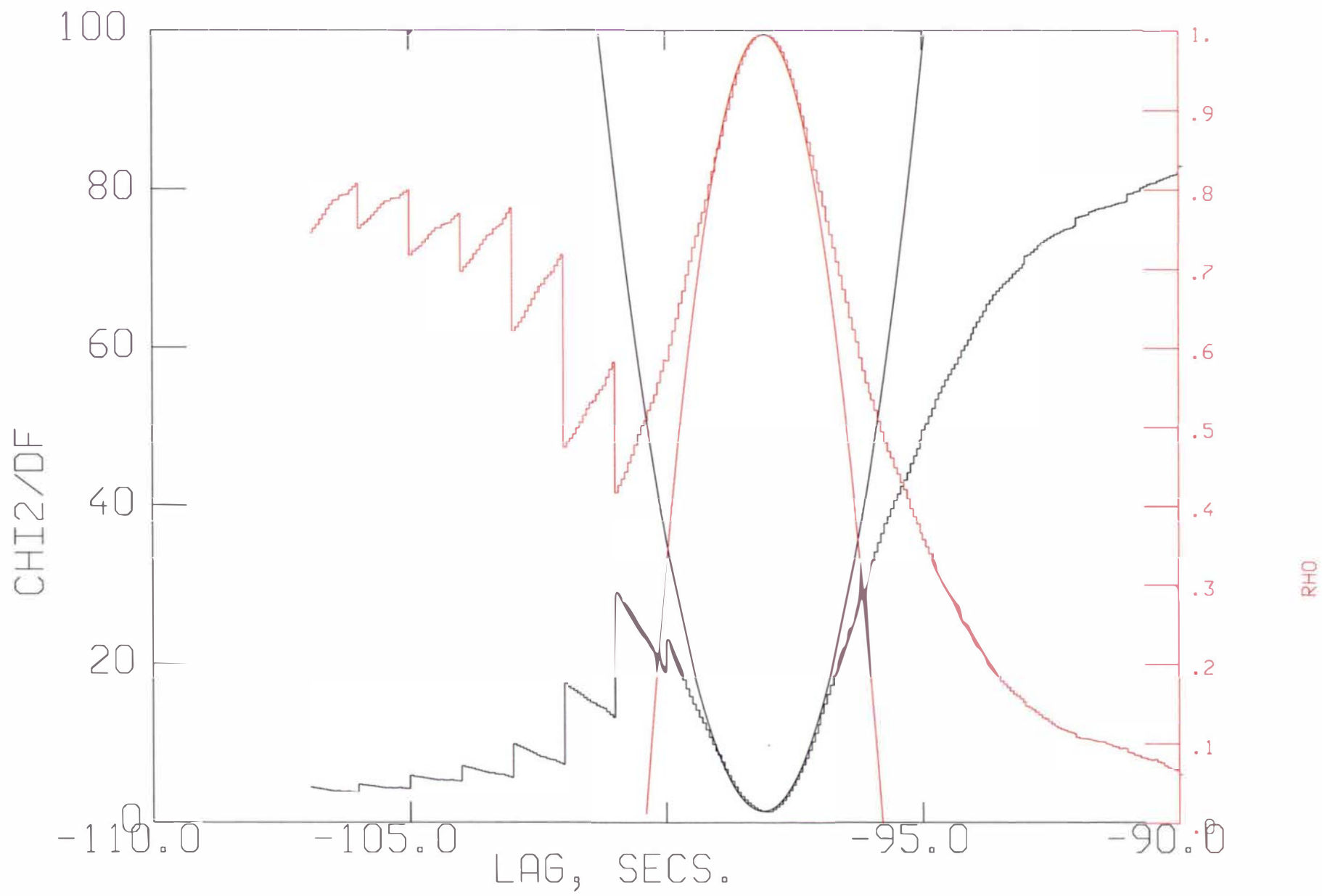
15/ 1/13

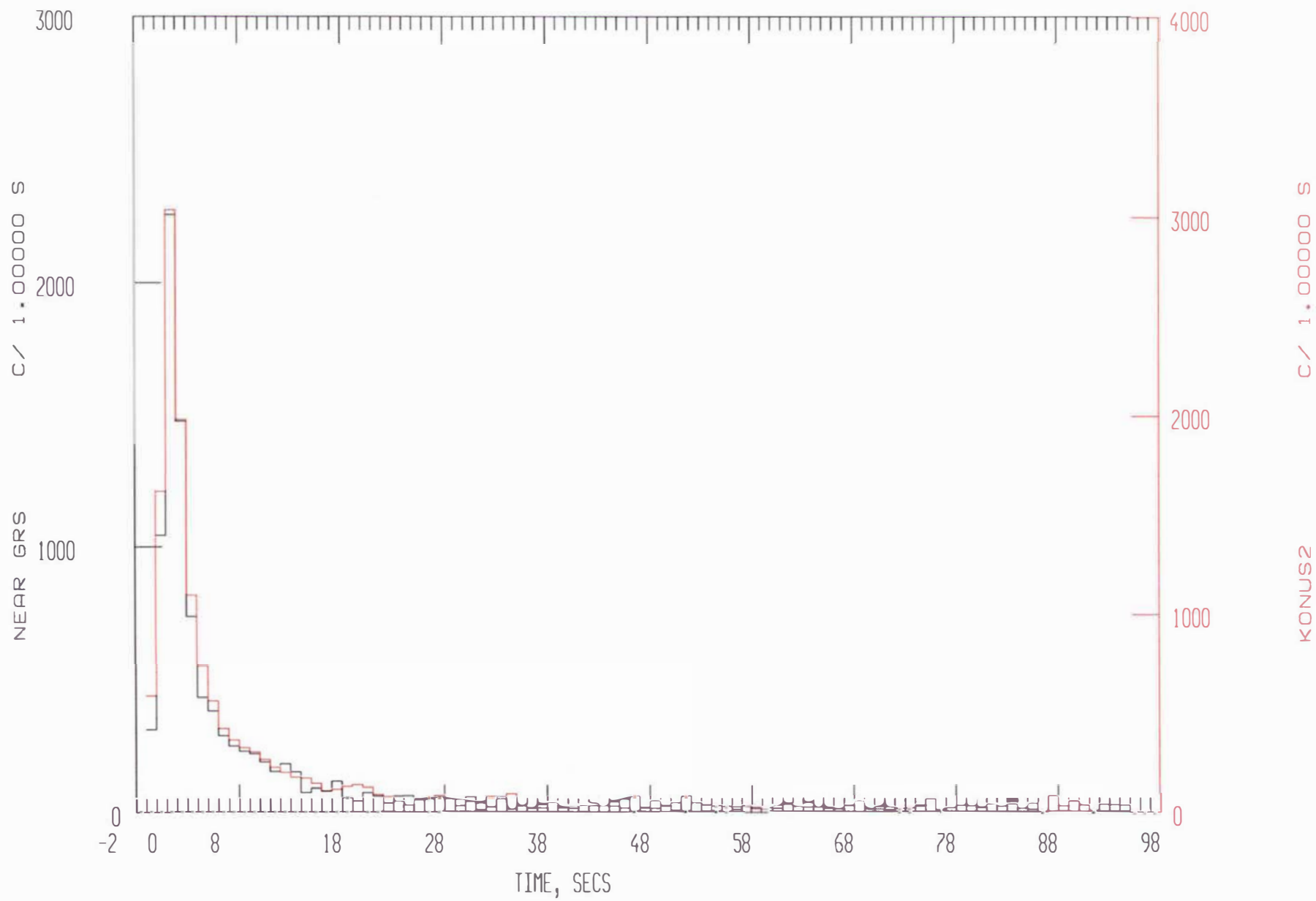


ULYSSES 19/04/99 Ttr ig=46570.569

22- 152 keV







KNEAR GRS 19990419 47250

ULYSSES RT

20 / 4 / 99

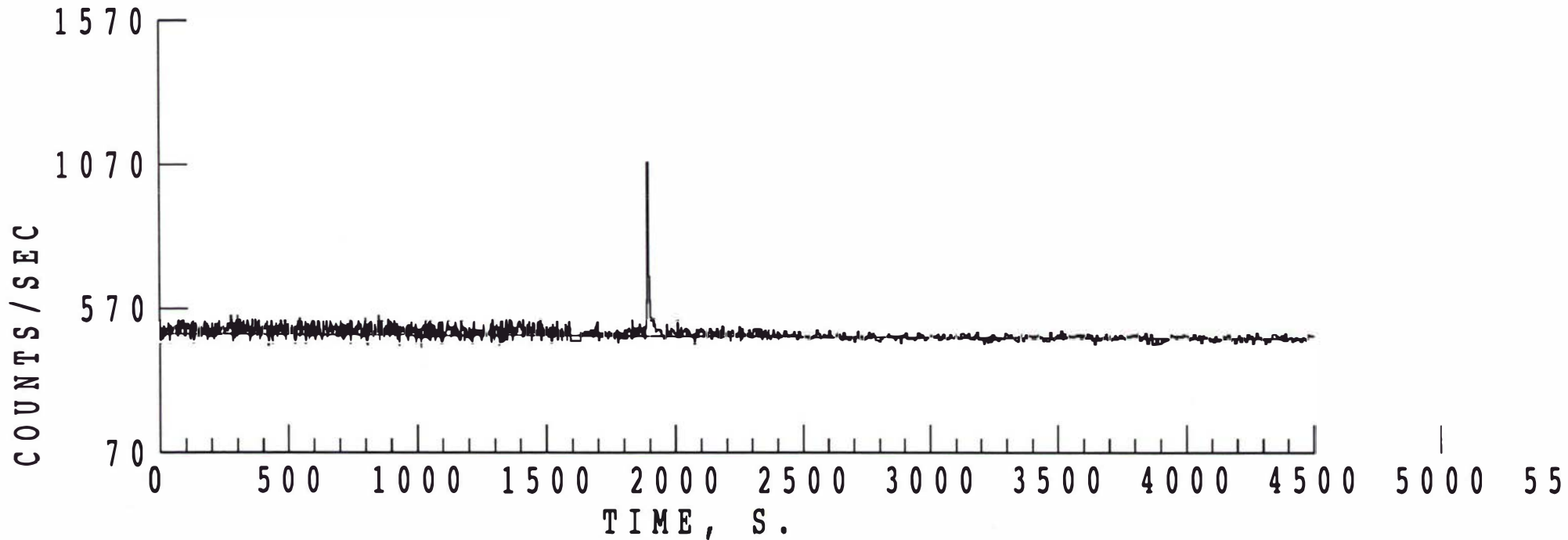
19 / 4 / 99 45000.223 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



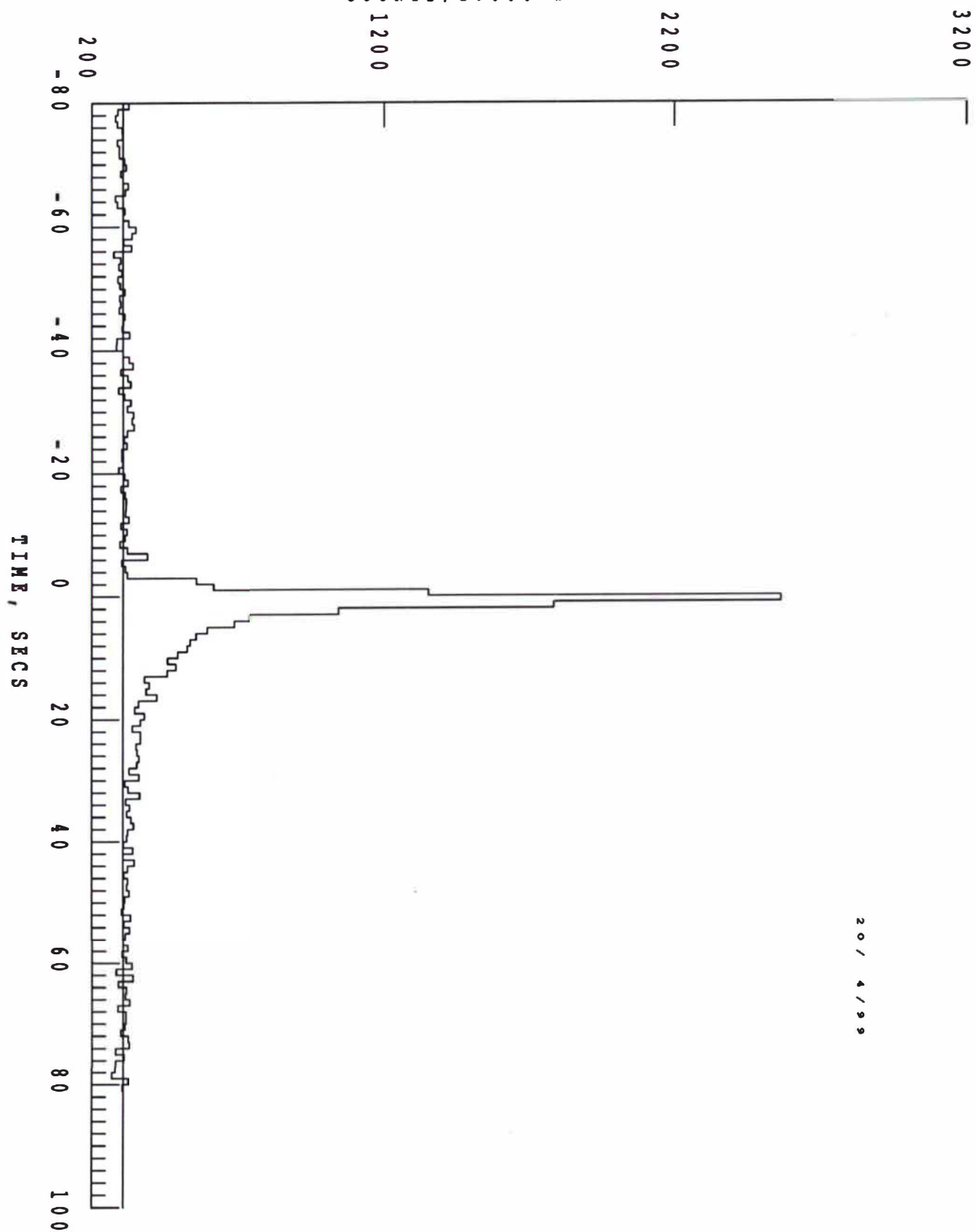
NEAR

19/04/99

47250.458

100-1000 keV

COUNTS/1.000 S



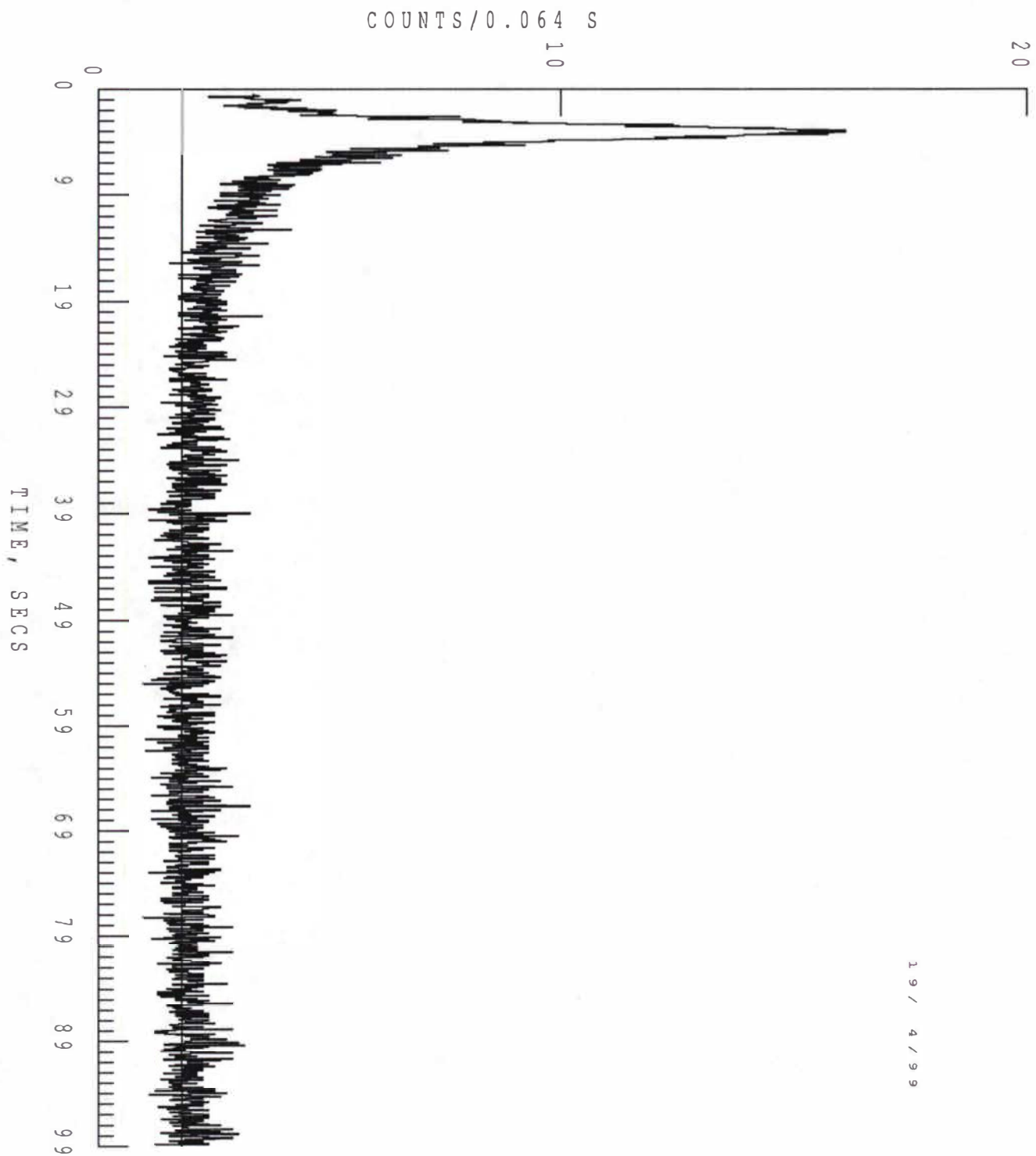
20 / 4 / 99

KONUS

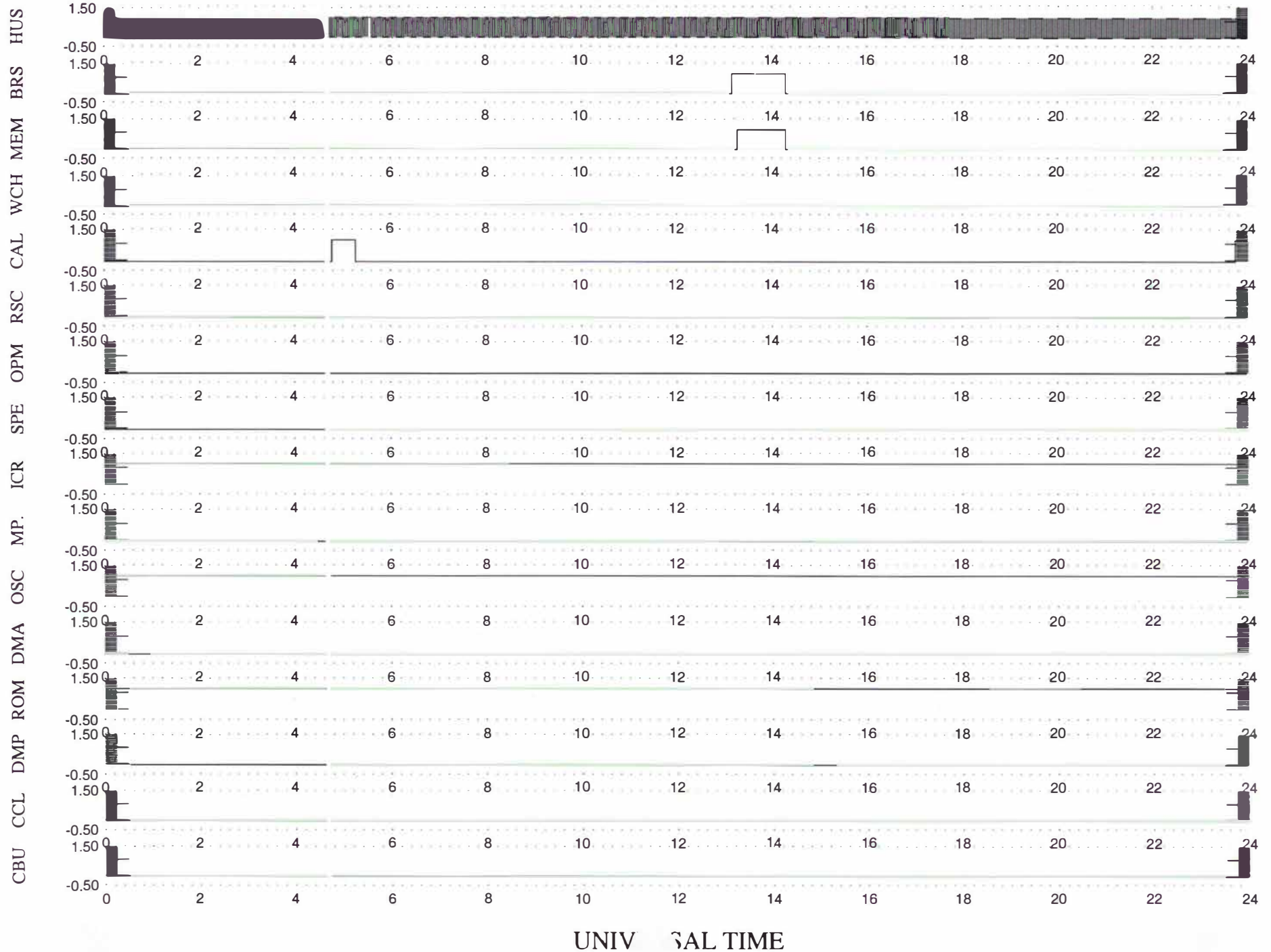
19/04/99

46510.342

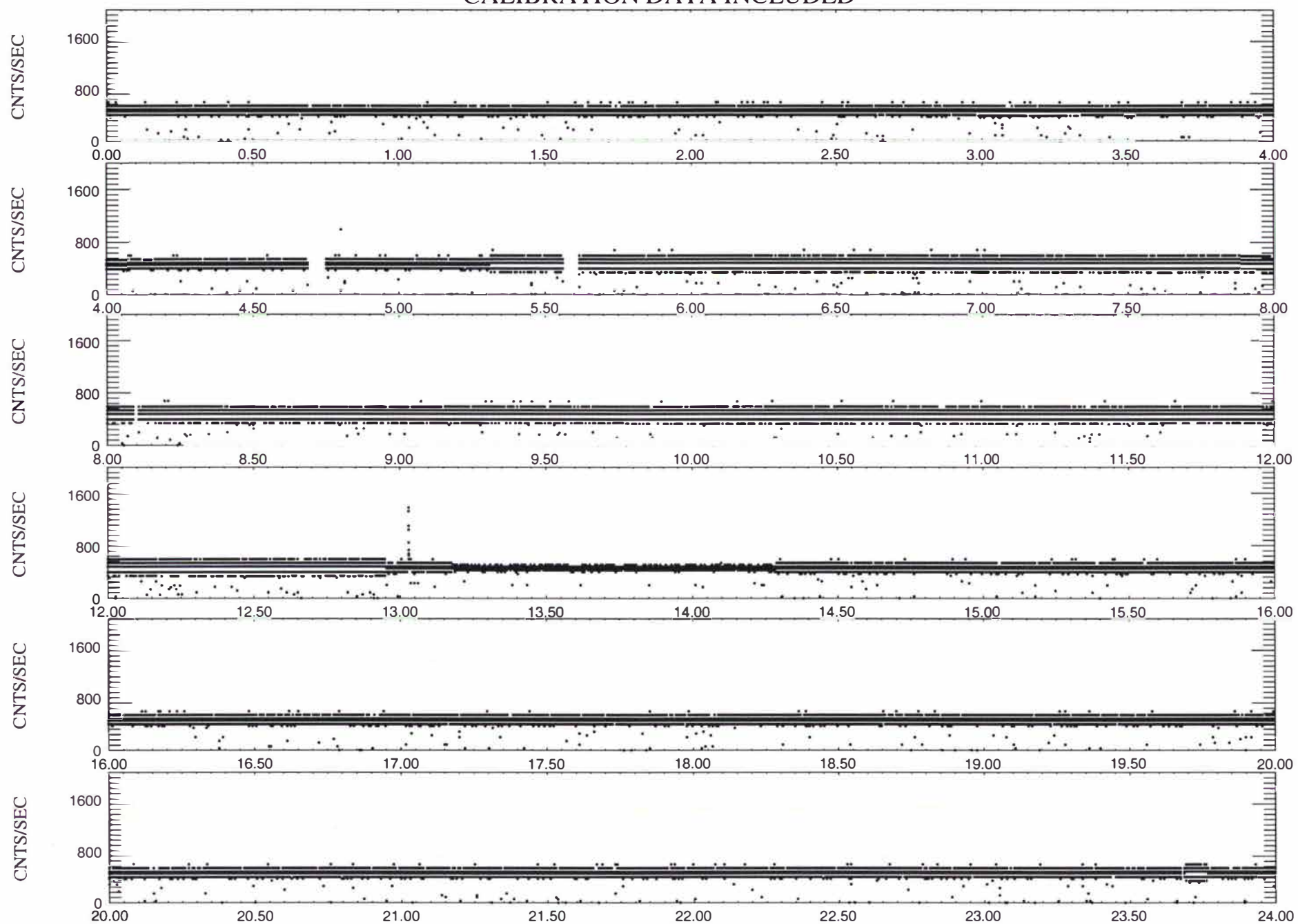
50- 200 keV



BURST NUMBER 4

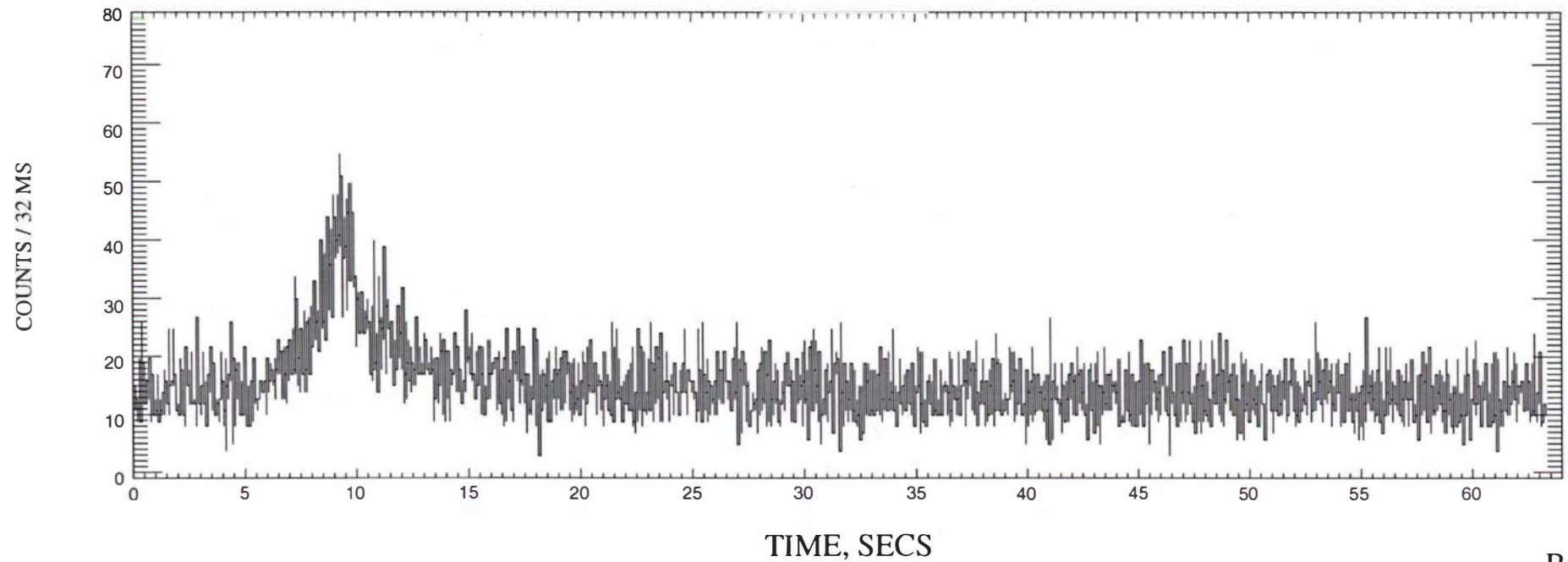
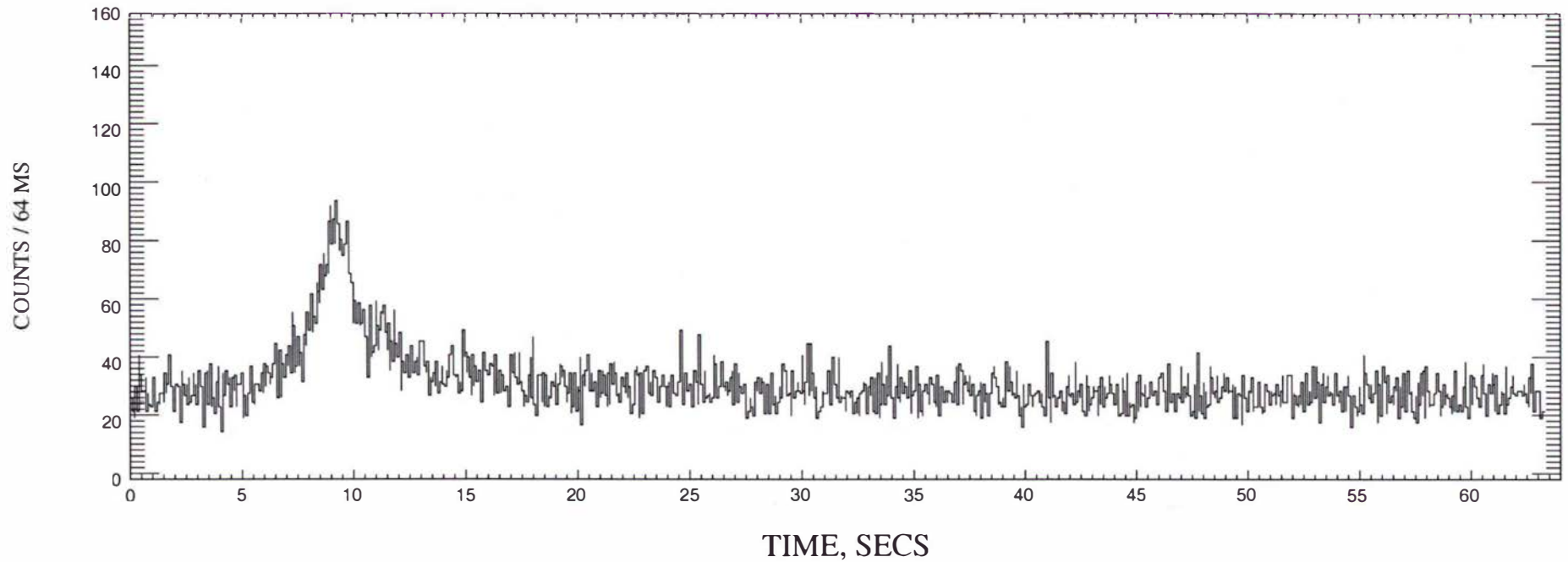


CALIBRATION DATA INCLUDED

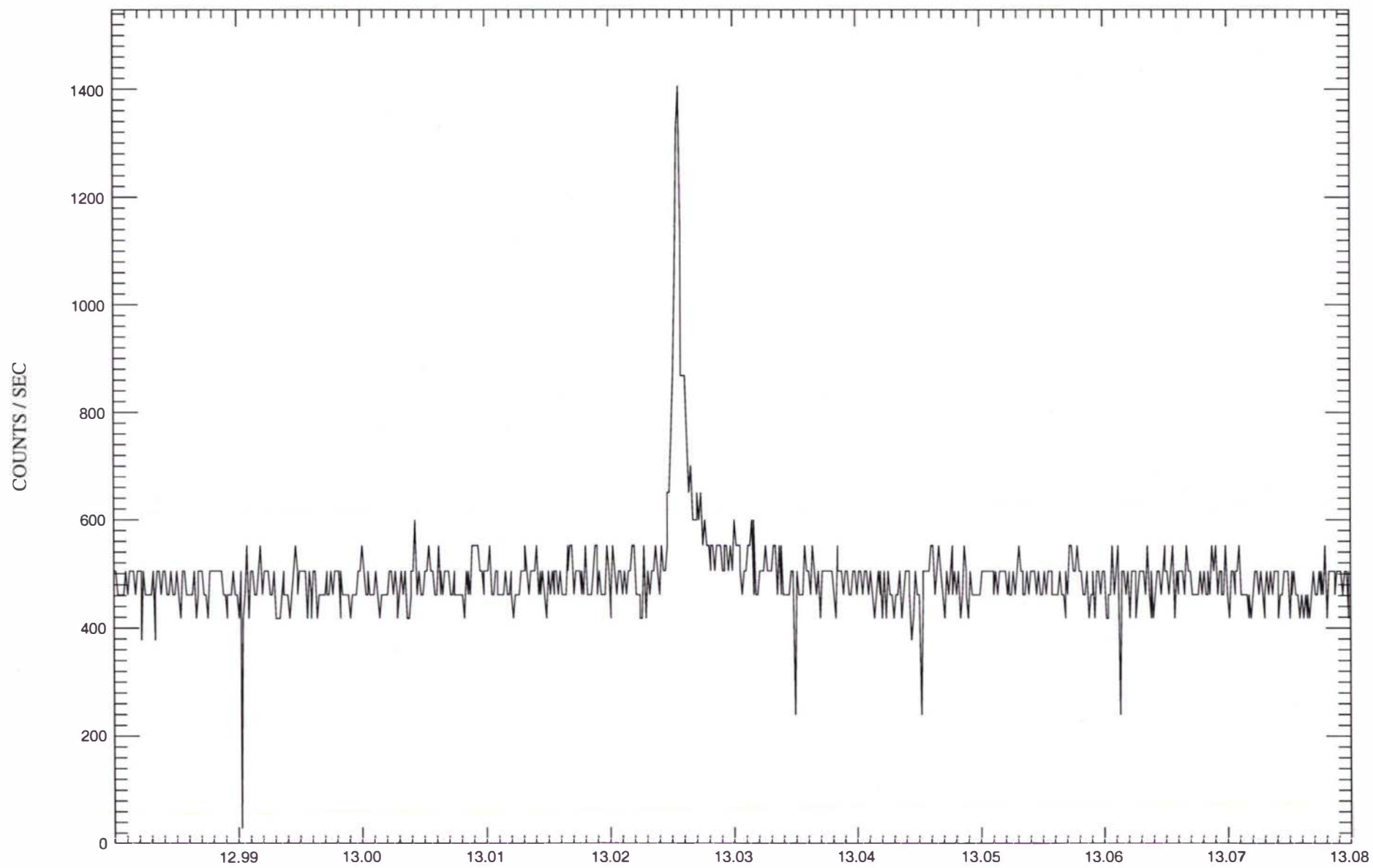


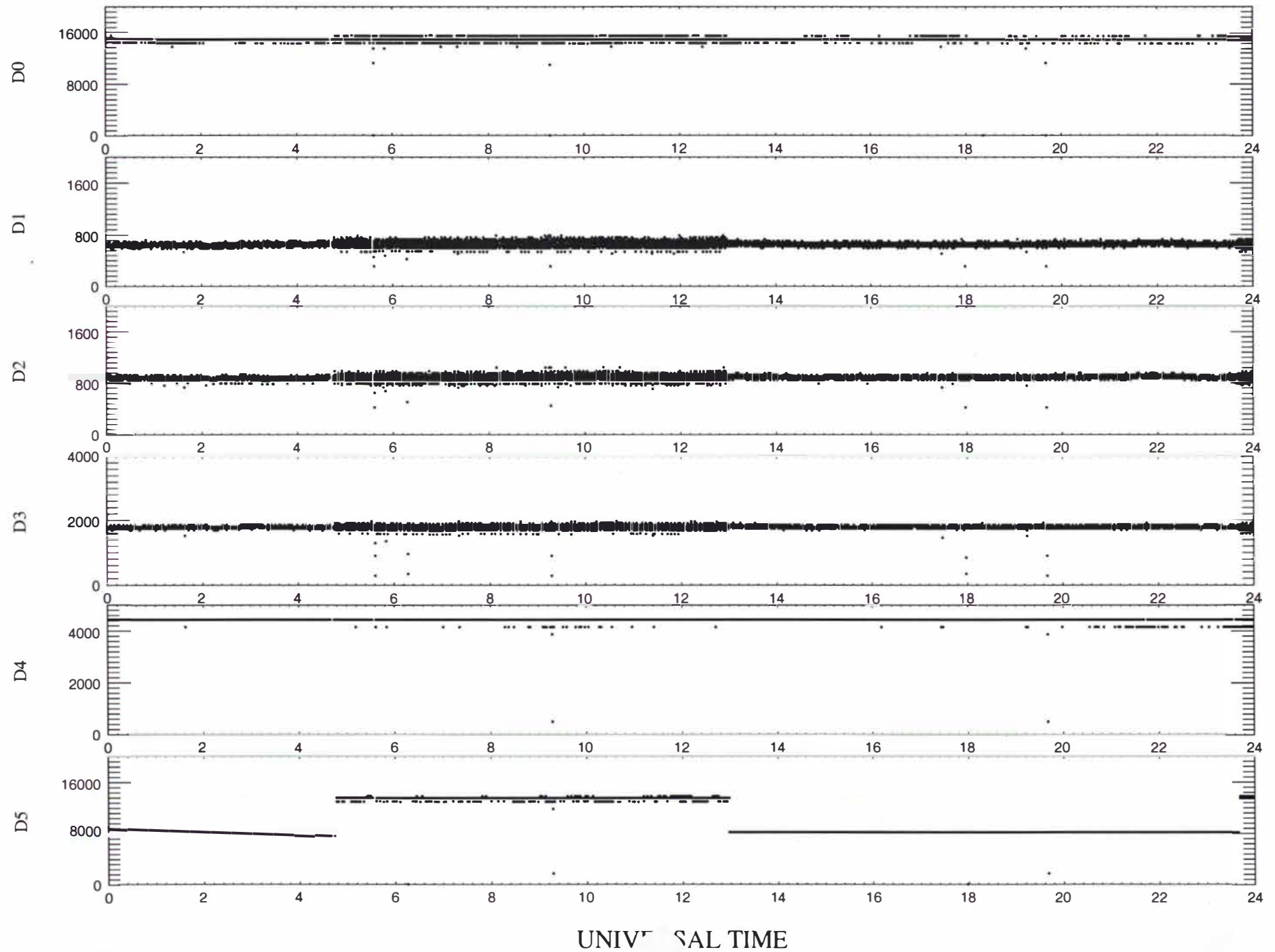
UNIVERSAL TIME

Burst Counter 4 at UT=13.025167278714 h=46890.602 s 13:01:30.602



CALIBRATION DATA INCLUDED





Date: 16 Jan 2013

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?

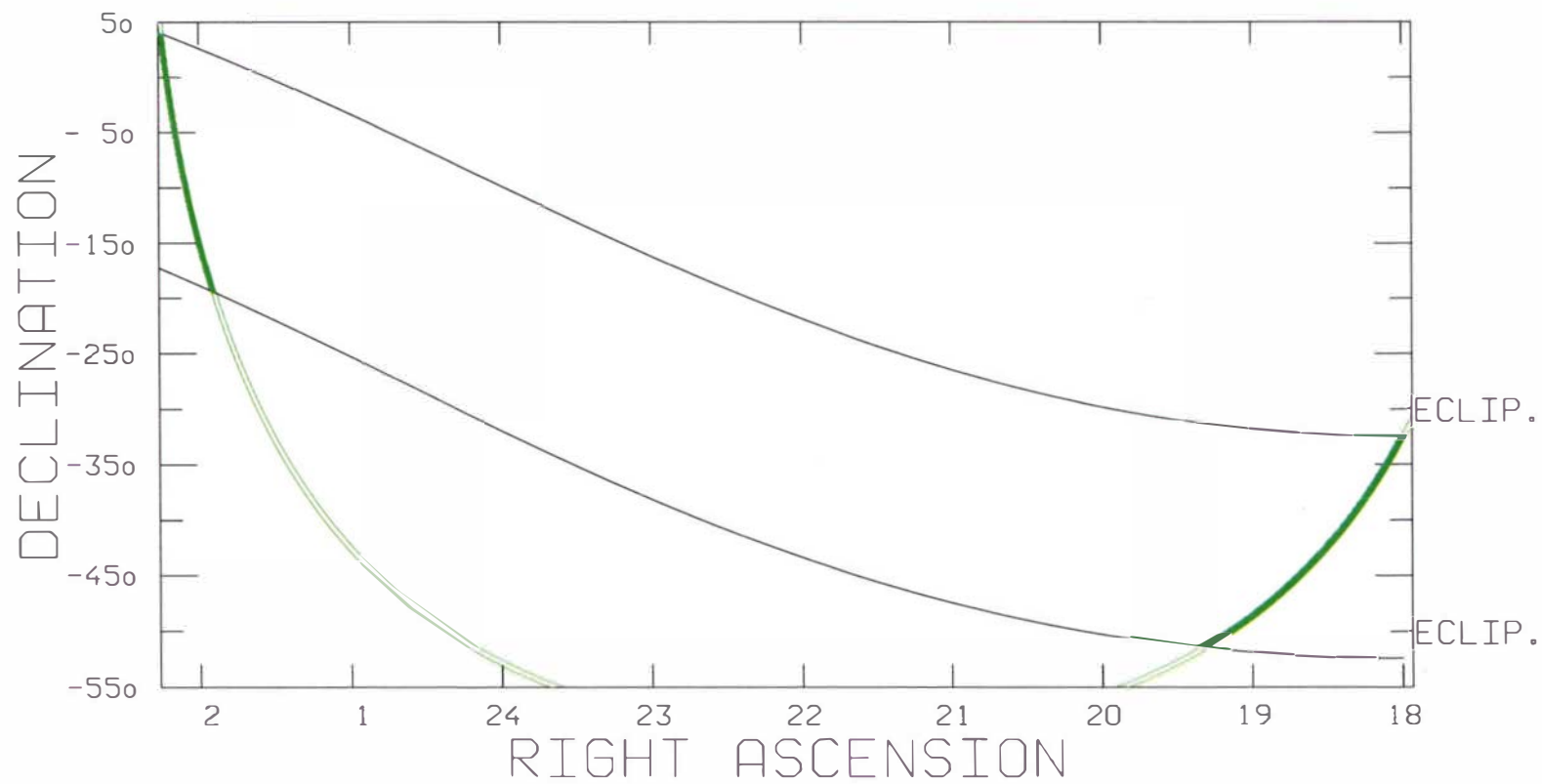
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

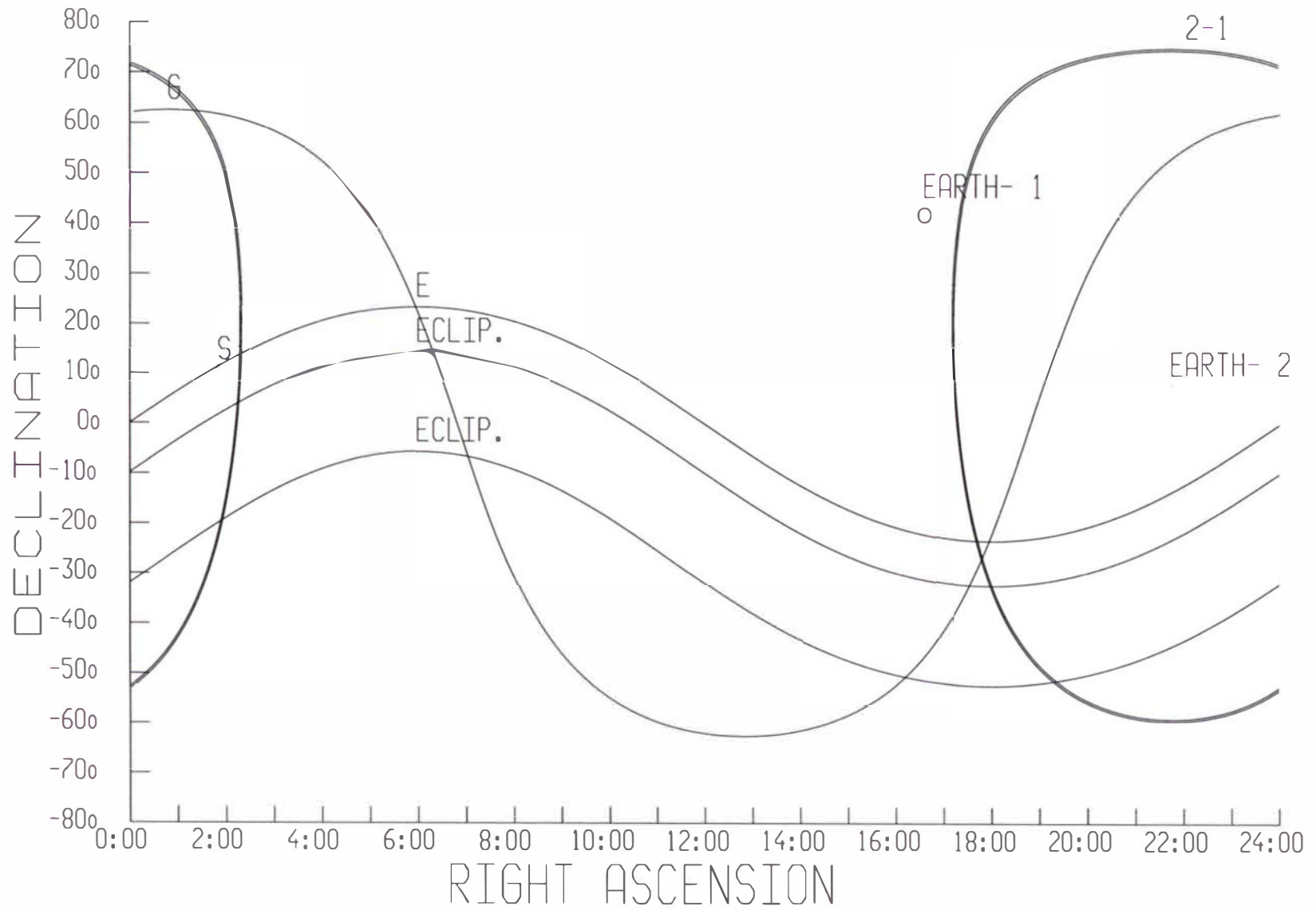
- ☒ ACCESS database updated?

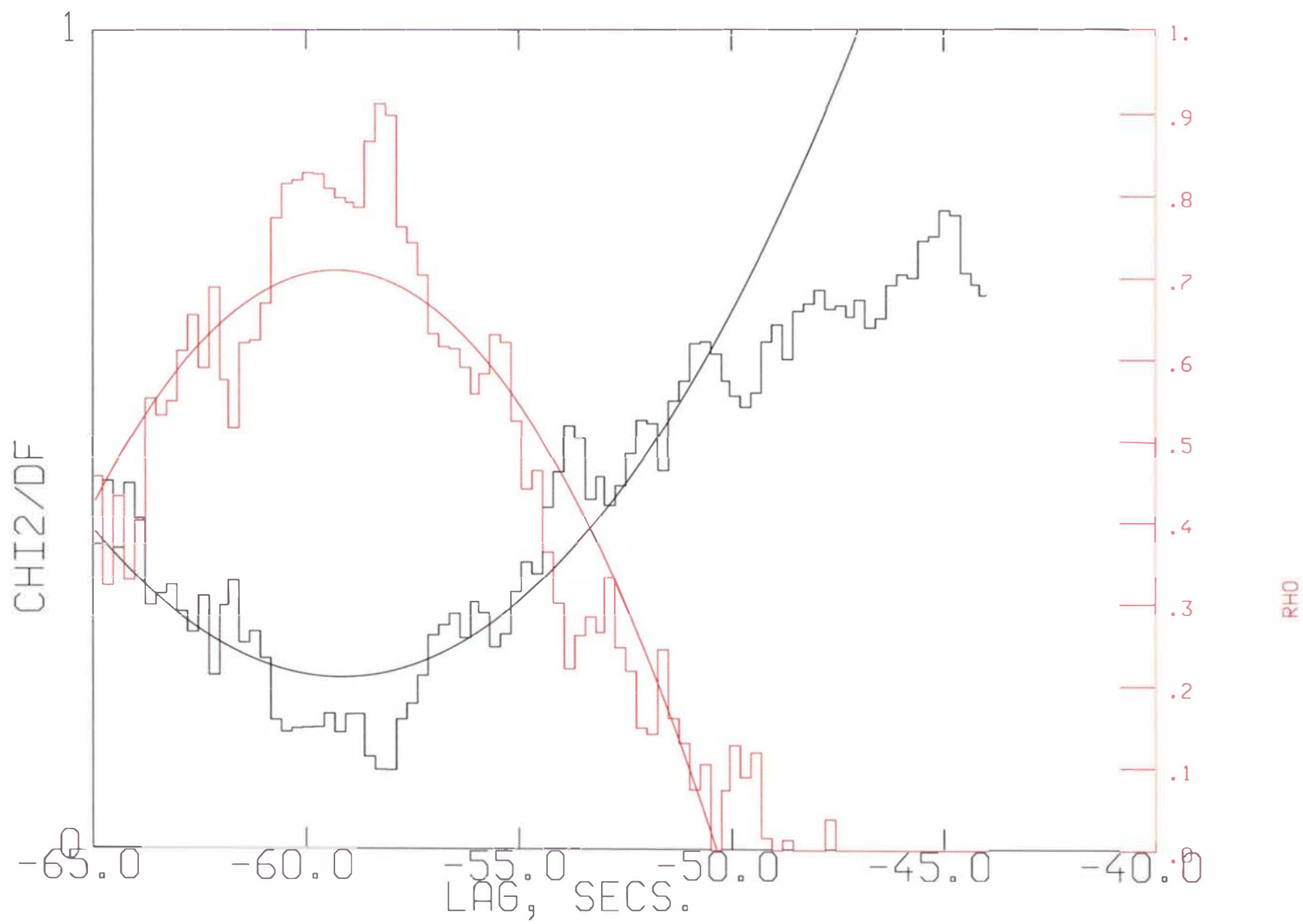


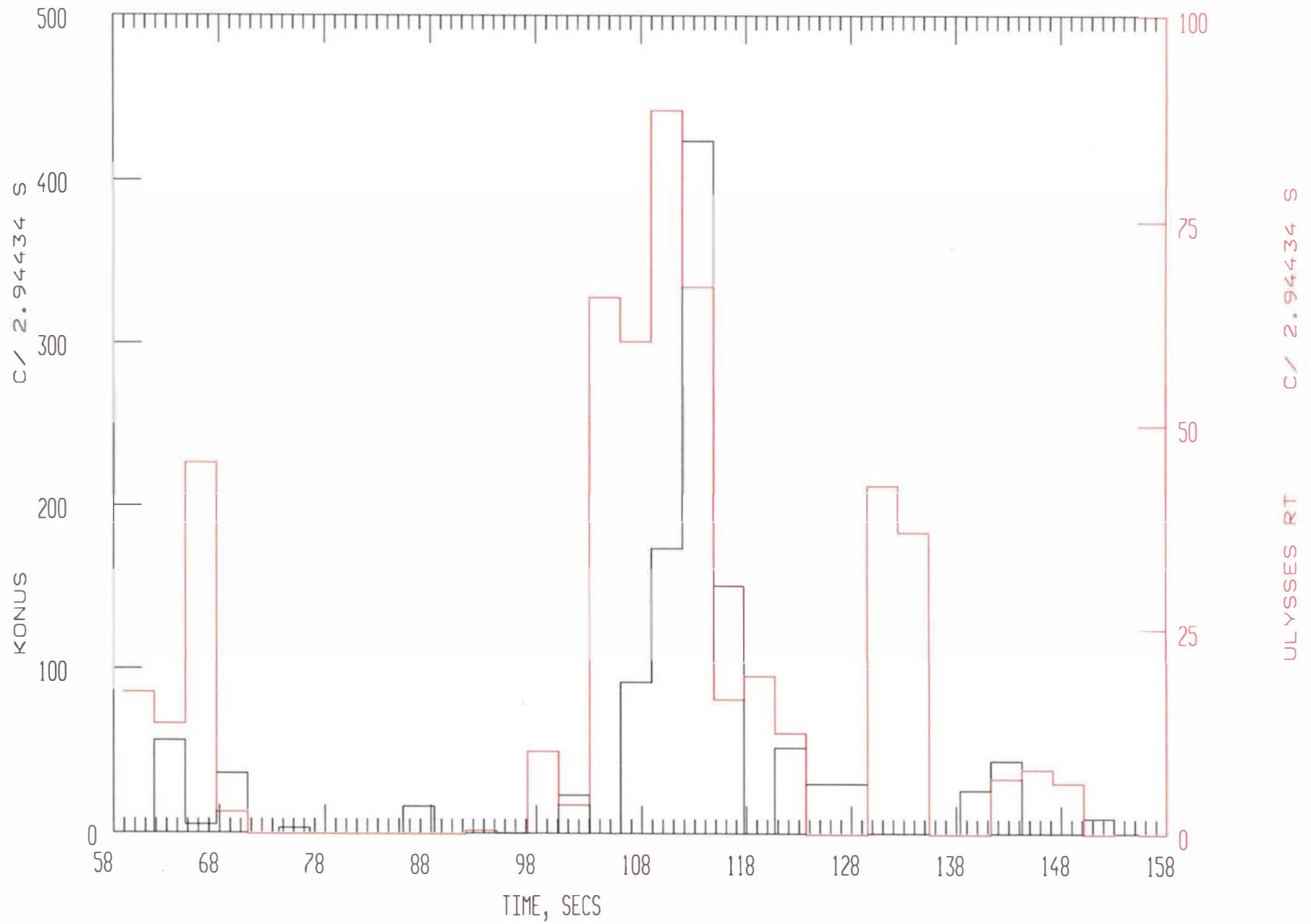
EVENT OF APR 20, 1999 4:19

16/01/2013

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

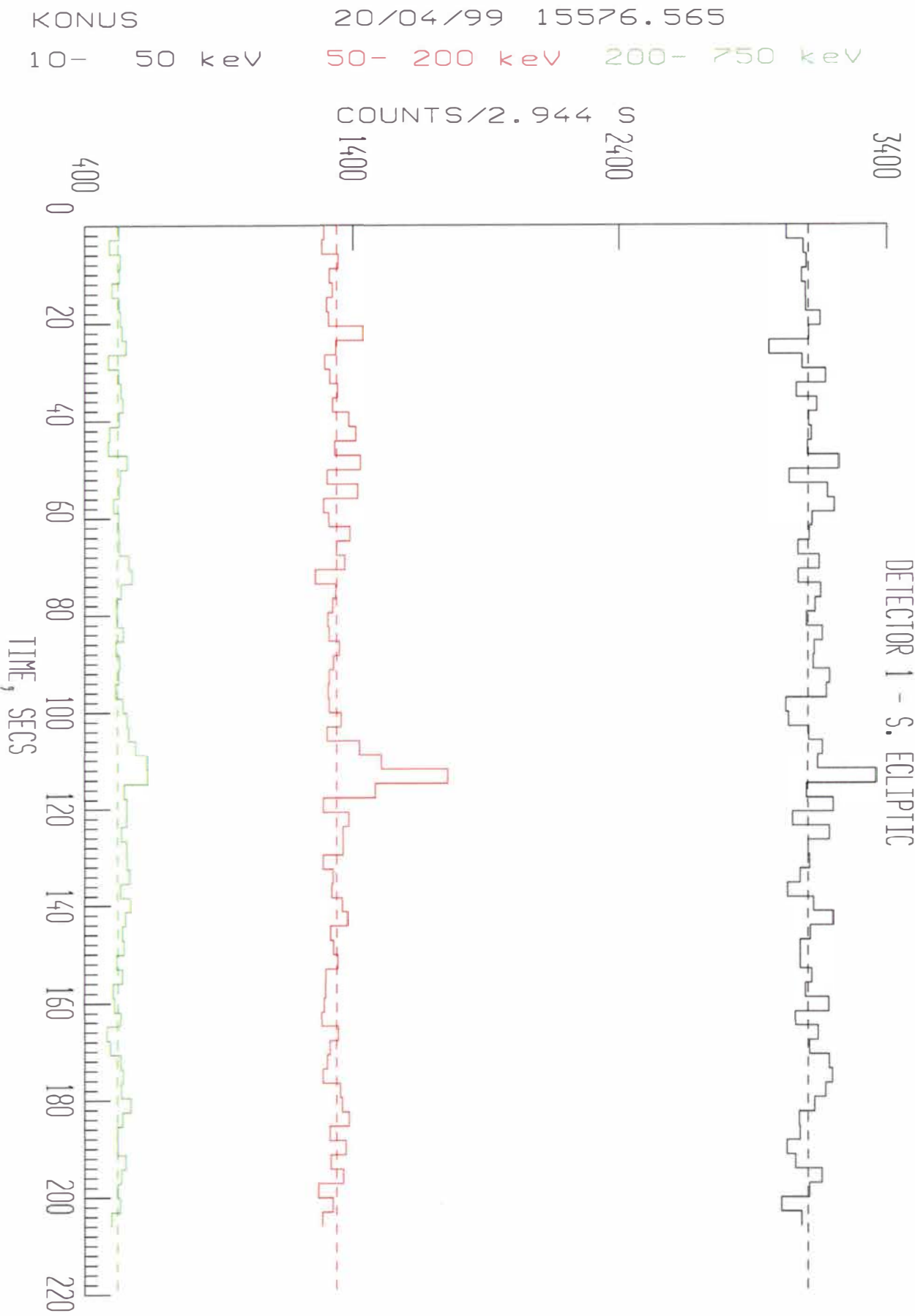






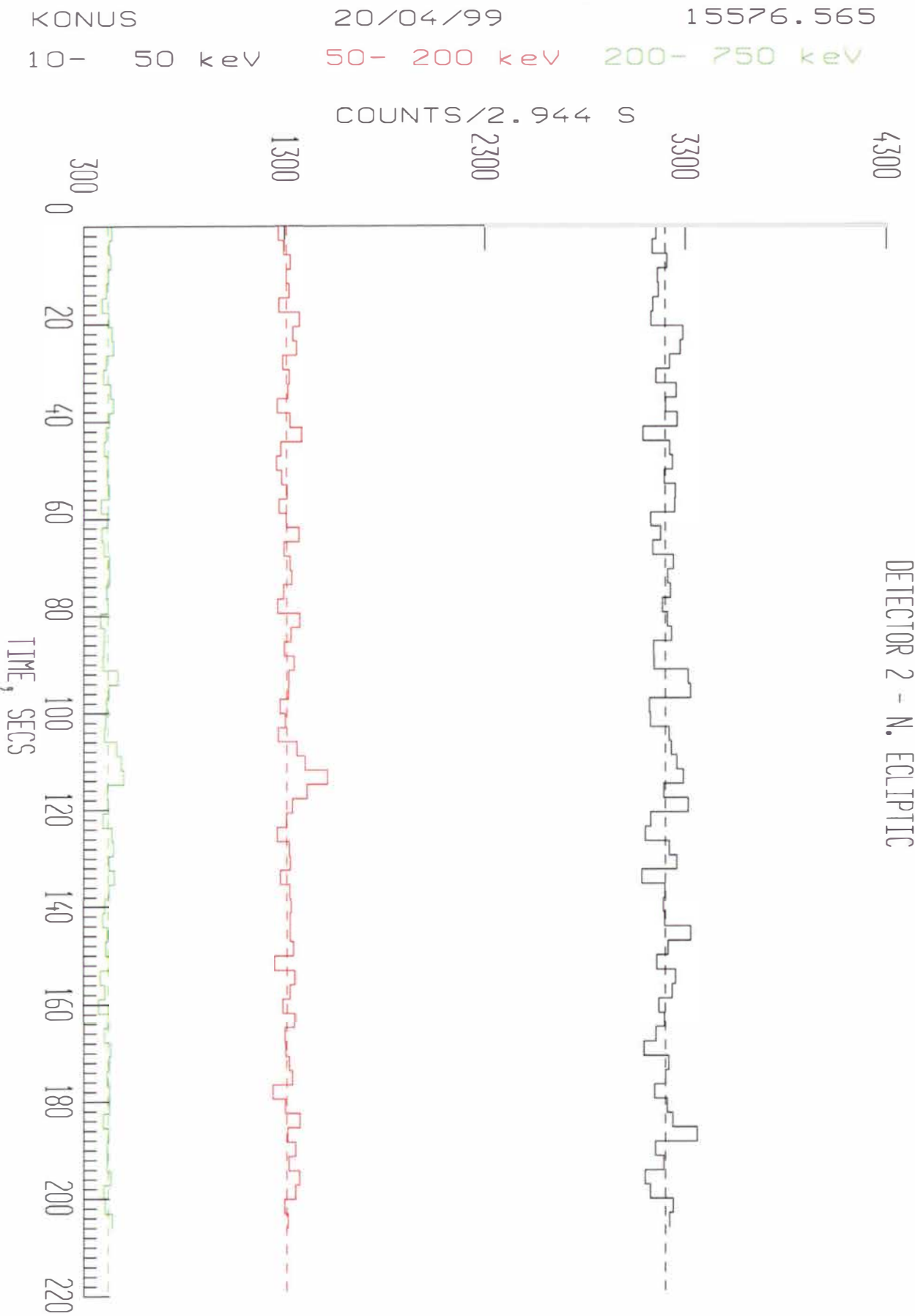
15/01/2013

DETECTOR 1 - S. ECLIPSE



15/01/2013

DETECTOR 2 - N. ECLIPIC



KONUS

ULYSSES RT

12 / 02 / 00

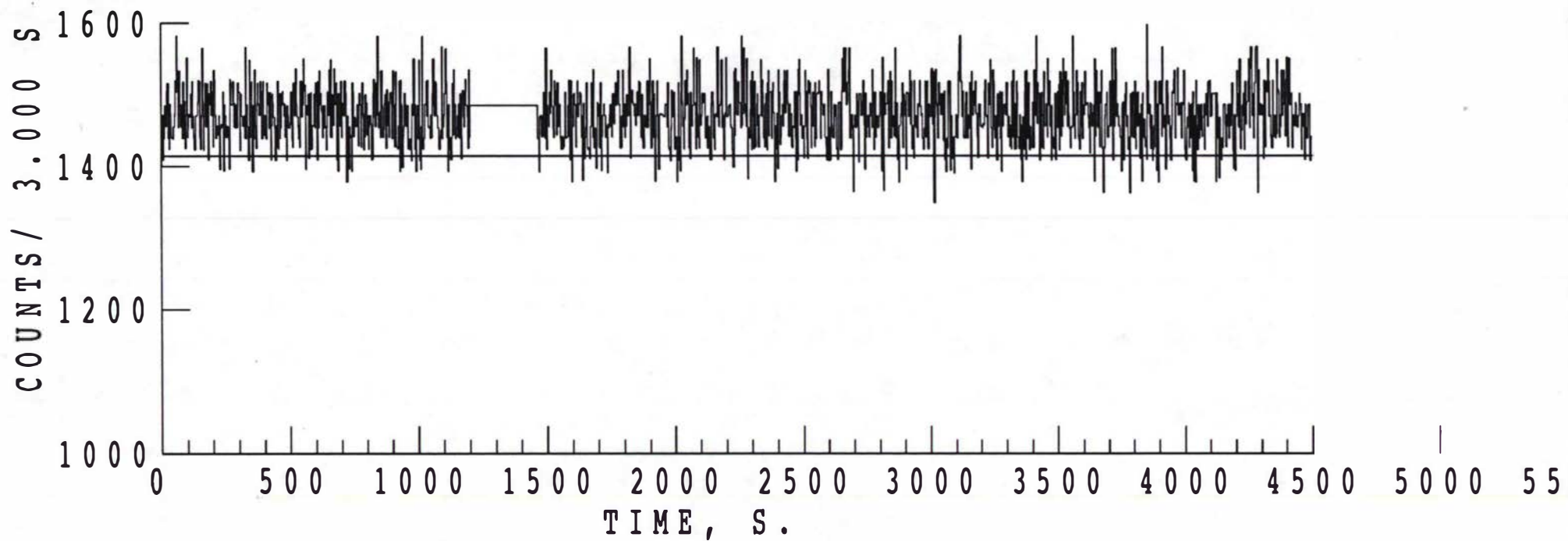
20 / 04 / 99 13428.029 s

0.250 S INTERVALS REGROUPED BY 12

0 - 0 keV

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Apr 22 15:56:42 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id PAA03324; Thu, 22 Apr 1999 15:56:42 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id PAA12697
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 22 Apr 1999 15:54:26 -0700 (PDT)
Date: Thu, 22 Apr 1999 22:57:22 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990422225722.20200137@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7522
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7522
EVENT OF 1999 APR 20 DAY OF YEAR=110
EVENT CROSSING TIME AT BATSE : 55426. S. OR 15:23:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 35.000 -13.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 4/ 99 IS:
RA= 145.462 DEC= -7.571 DIST= 4.434 AU
BATSE-ULYSSES DISTANCE = 663307071. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.06 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 681.50 SECS.
CROSSING TIME AT ULYSSES IS 56108. S. OR 15:35:07 +/- 425.81 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 4/ 99 IS:
RA= 214.046 DEC= -12.037 DIST= 0.592 AU
MARS-BATSE DISTANCE = 88566816. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 25.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 267.63 SECS.
CROSSING TIME AT MARS IS 55694. S. OR 15:28:13 +/- 25.78 SECONDS

BATSE BURST TRIGGER

NO.: 7522

TIME: TJD=1288 SECONDS=55426

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=112.4 AZIMUTH=337.9 ERROR= 4.4 DEGREES

COMMENTS:

MULTIPLE PULSES, TOTAL DUR. APPROX. 85 S, MAX AT APPROX. T+34 S.
MARGINALLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7522	990420	11288	55426	5000	035	-13	85

BATSE BURST# 7522

ULYSSES RT

22 / 4 / 99

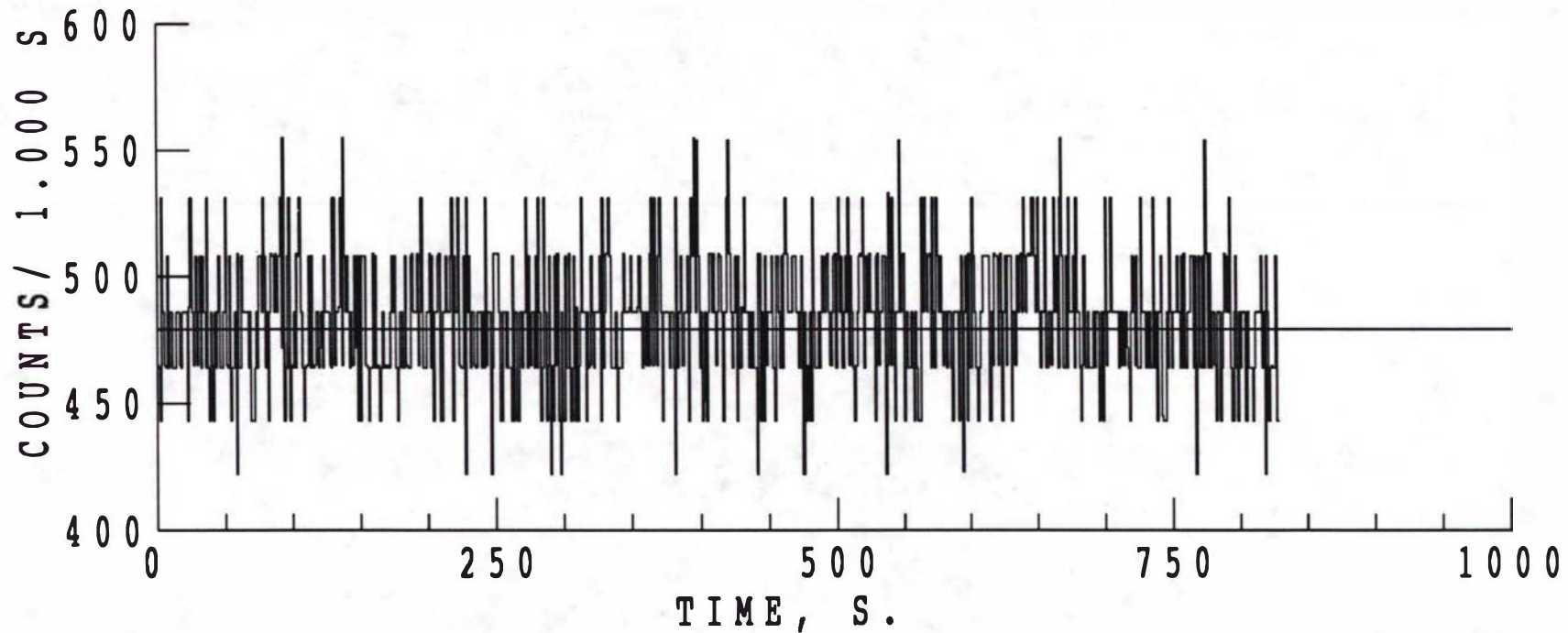
20 / 4 / 99 55692.461 s

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

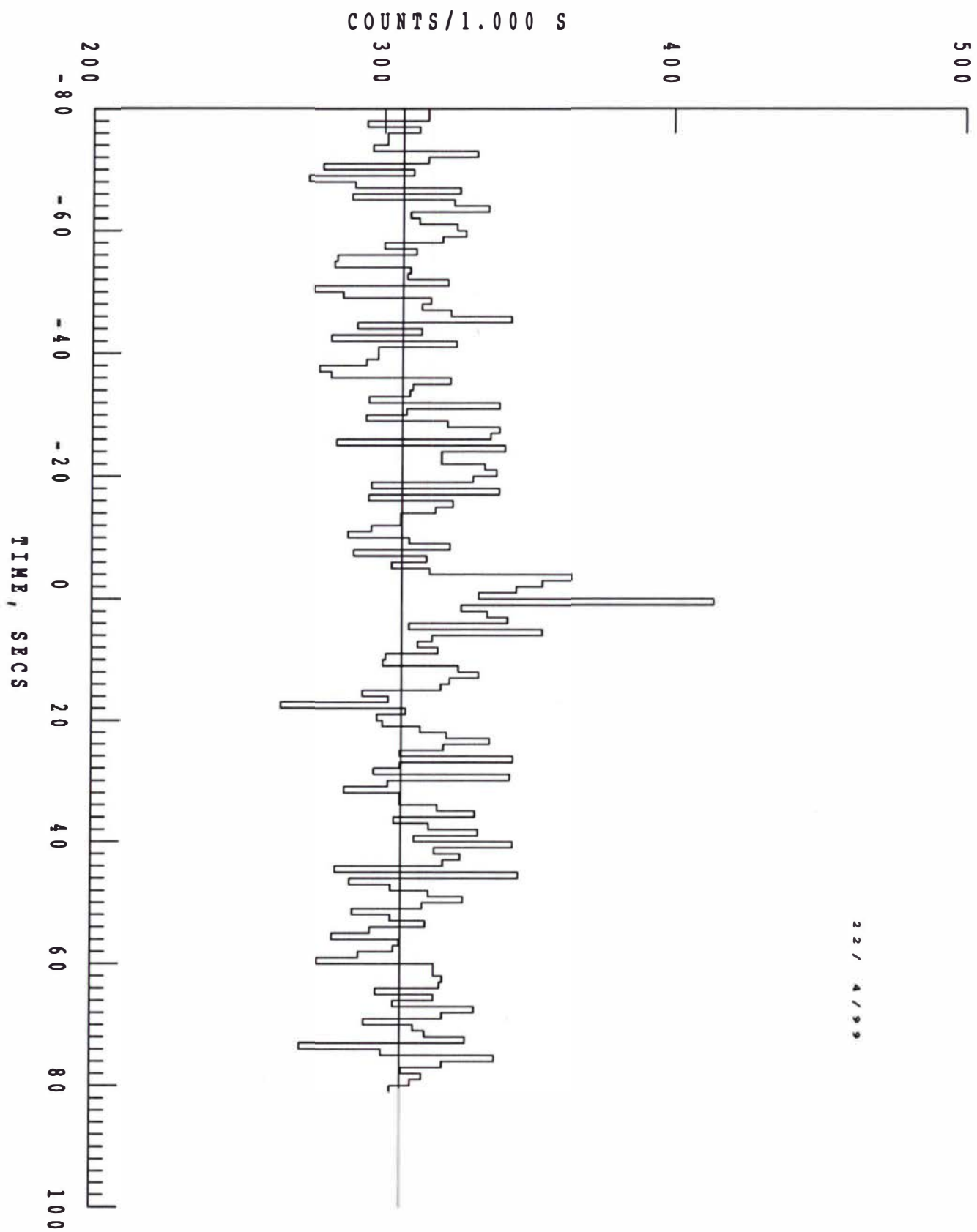


NEAR

20/04/99

63142.431

100-1000 keV



KNEAR GRS 19990420 63142

ULYSSES RT

22 / 4 / 99

20 / 4 / 99 60876.012 s

0.500 S INTERVALS REGROUPED BY 7

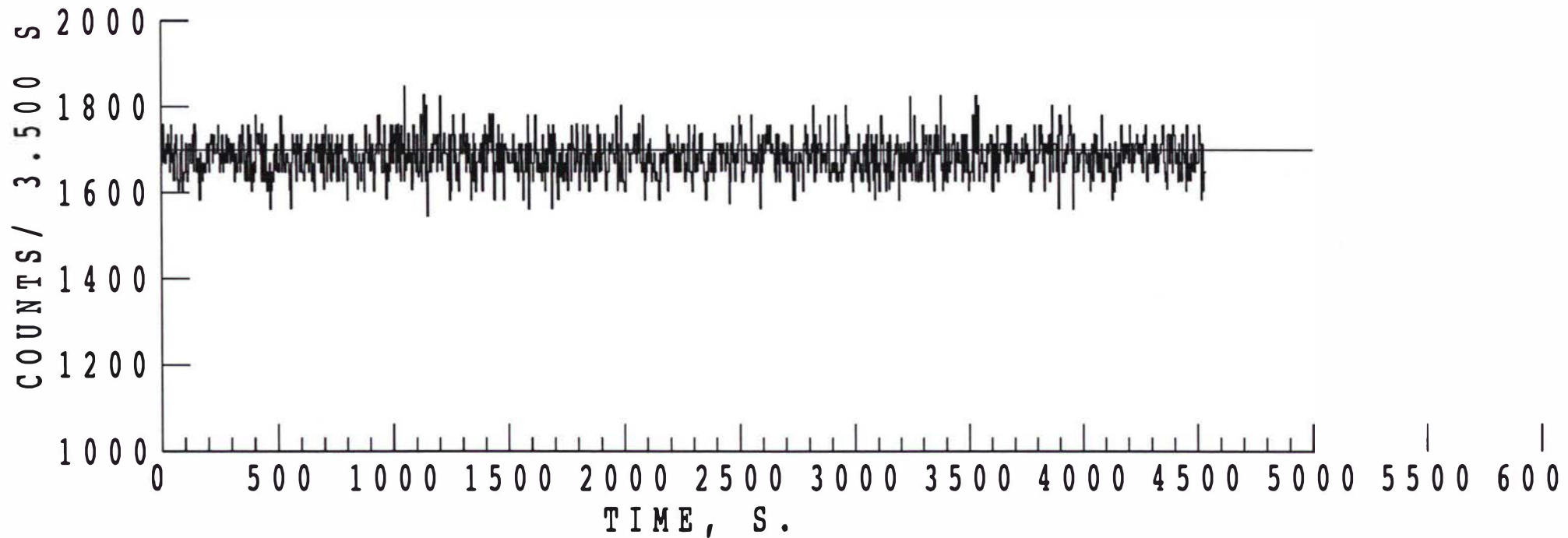
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Apr 22 15:58:07 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id PAA03394; Thu, 22 Apr 1999 15:58:06 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id PAA12741
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 22 Apr 1999 15:55:51 -0700 (PDT)
Date: Thu, 22 Apr 1999 22:58:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990422225847.20200137@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7523
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

*Reclassified as Cys X-1 by
Briggs 2001*

BATSE BURST # 7523
EVENT OF 1999 APR 20 DAY OF YEAR=110
EVENT CROSSING TIME AT BATSE : 83462. S. OR 23:11:02.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 305.000 26.000
BATSE PEAK COUNTING RATE: 2300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 4/ 99 IS:
RA= 145.428 DEC= -7.558 DIST= 4.438 AU
BATSE-ULYSSES DISTANCE = 663868690. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 26.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1976.63 SECS.
CROSSING TIME AT ULYSSES IS 85439. S. OR 23:43:58 +/- 253.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 4/ 99 IS:
RA= 214.046 DEC= -12.037 DIST= 0.592 AU
MARS-BATSE DISTANCE = 88566816. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.91 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 31.33 SECS.
CROSSING TIME AT MARS IS 83493. S. OR 23:11:33 +/- 51.48 SECONDS

BATSE BURST TRIGGER

NO.: 7523

TIME: TJD=1288 SECONDS=83462

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 26.1 AZIMUTH= 26.5 ERROR= 2.7 DEGREES

COMMENTS:

DOUBLE PULSE, FIRST MUCH STRONGER, TOTAL DUR. APPROX. 75 S, STARTS AT APPROX.
T-15 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7523	990420	11288	83462	2300	305	+26	75

BATSE BURST# 7523

ULYSSES RT

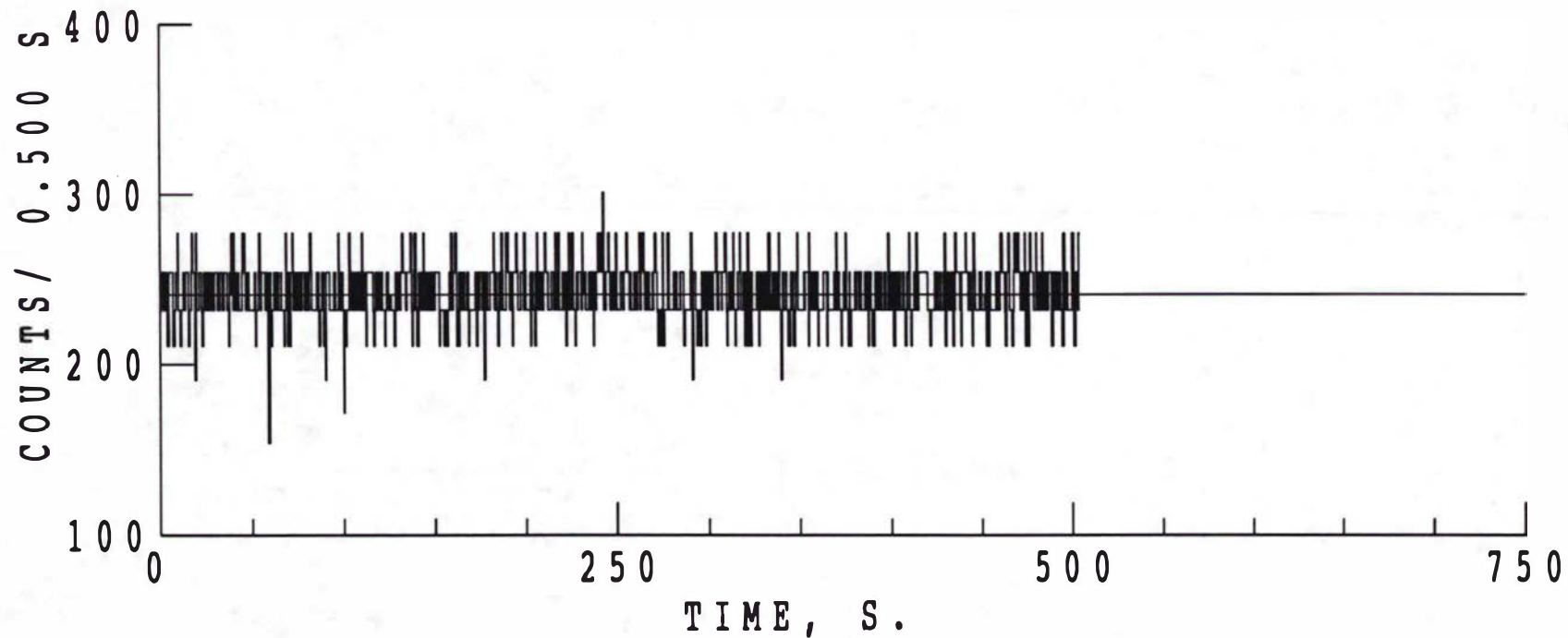
22 / 4 / 99

20 / 4 / 99 85176.258 s

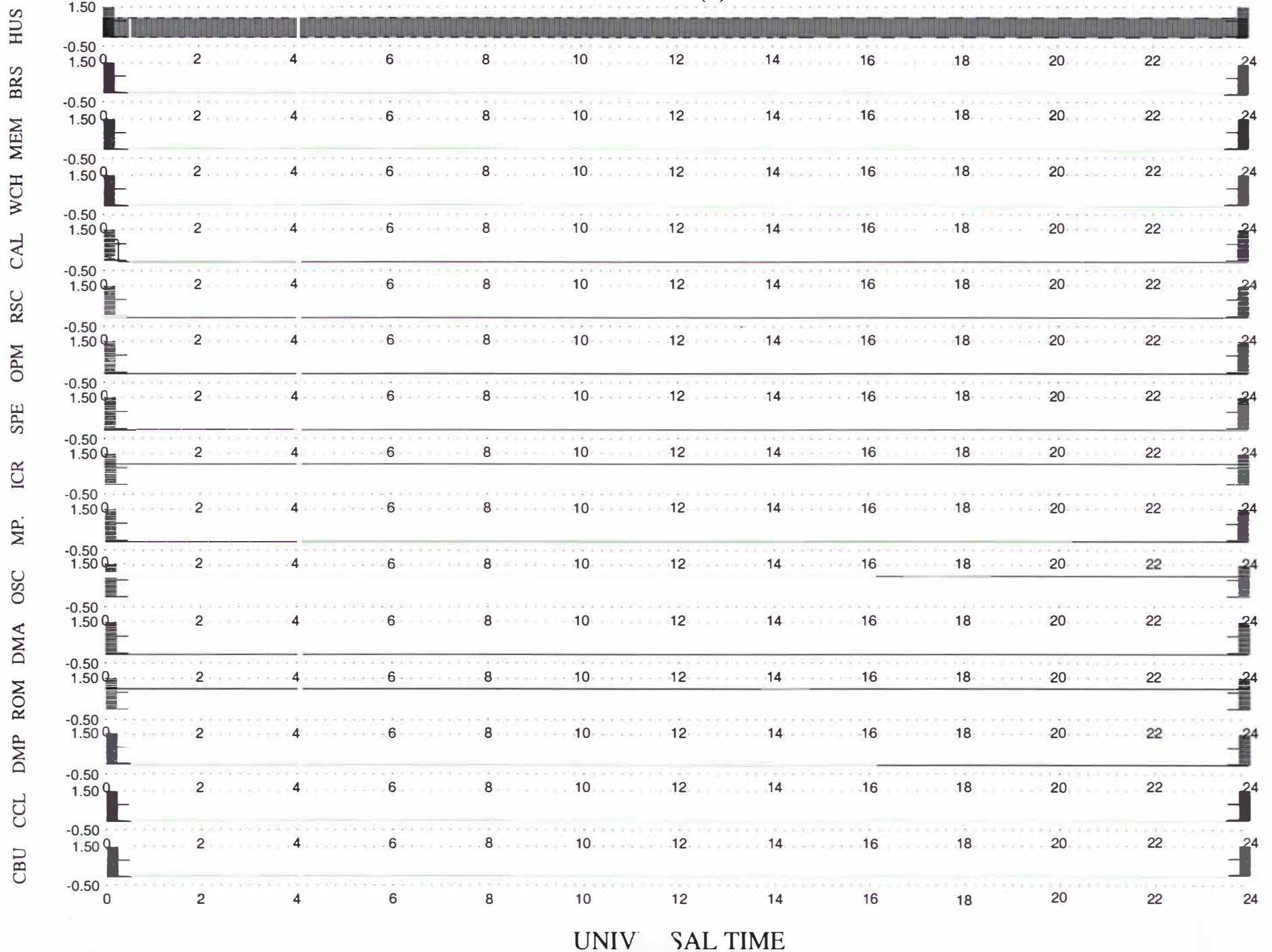
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

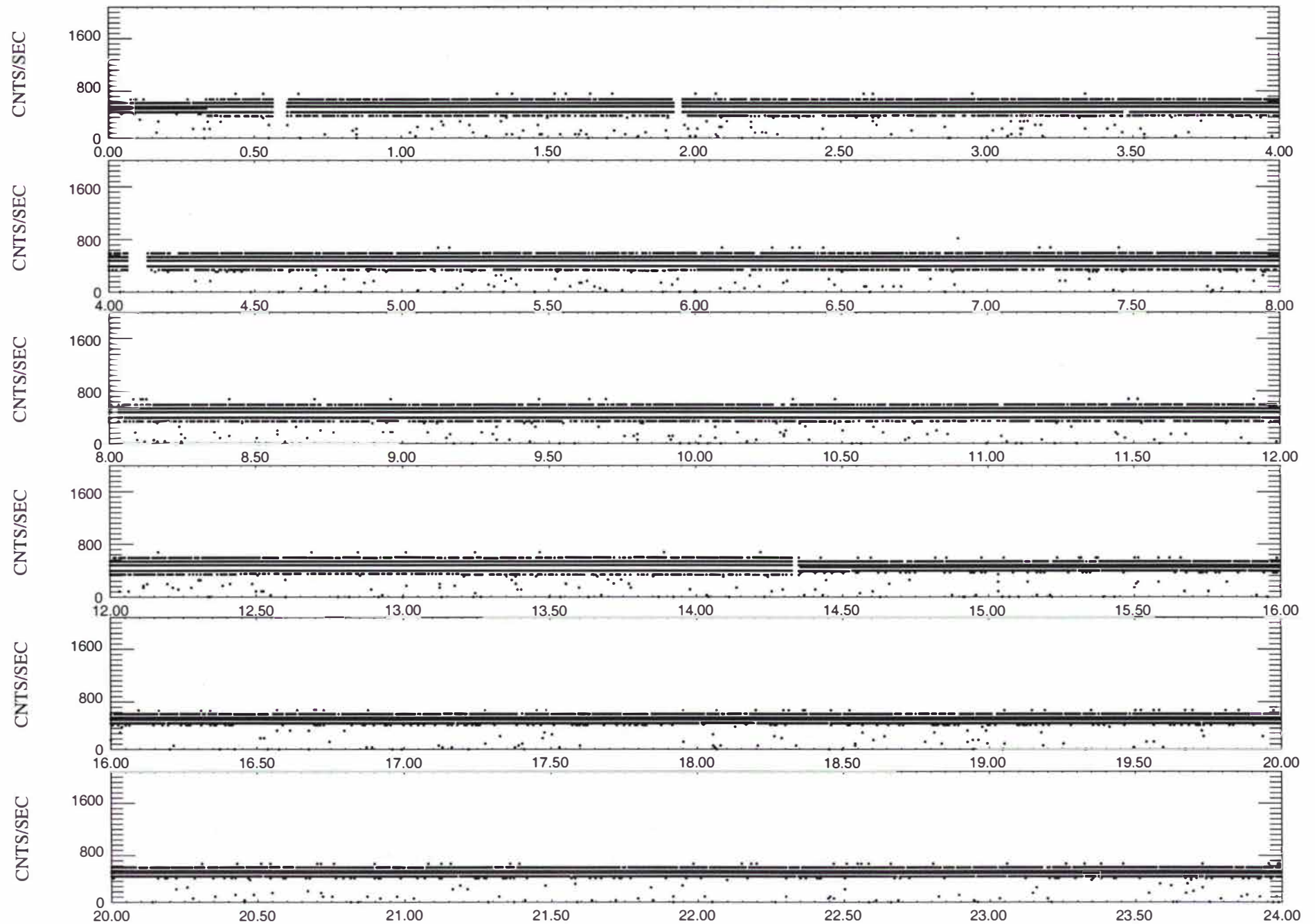
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



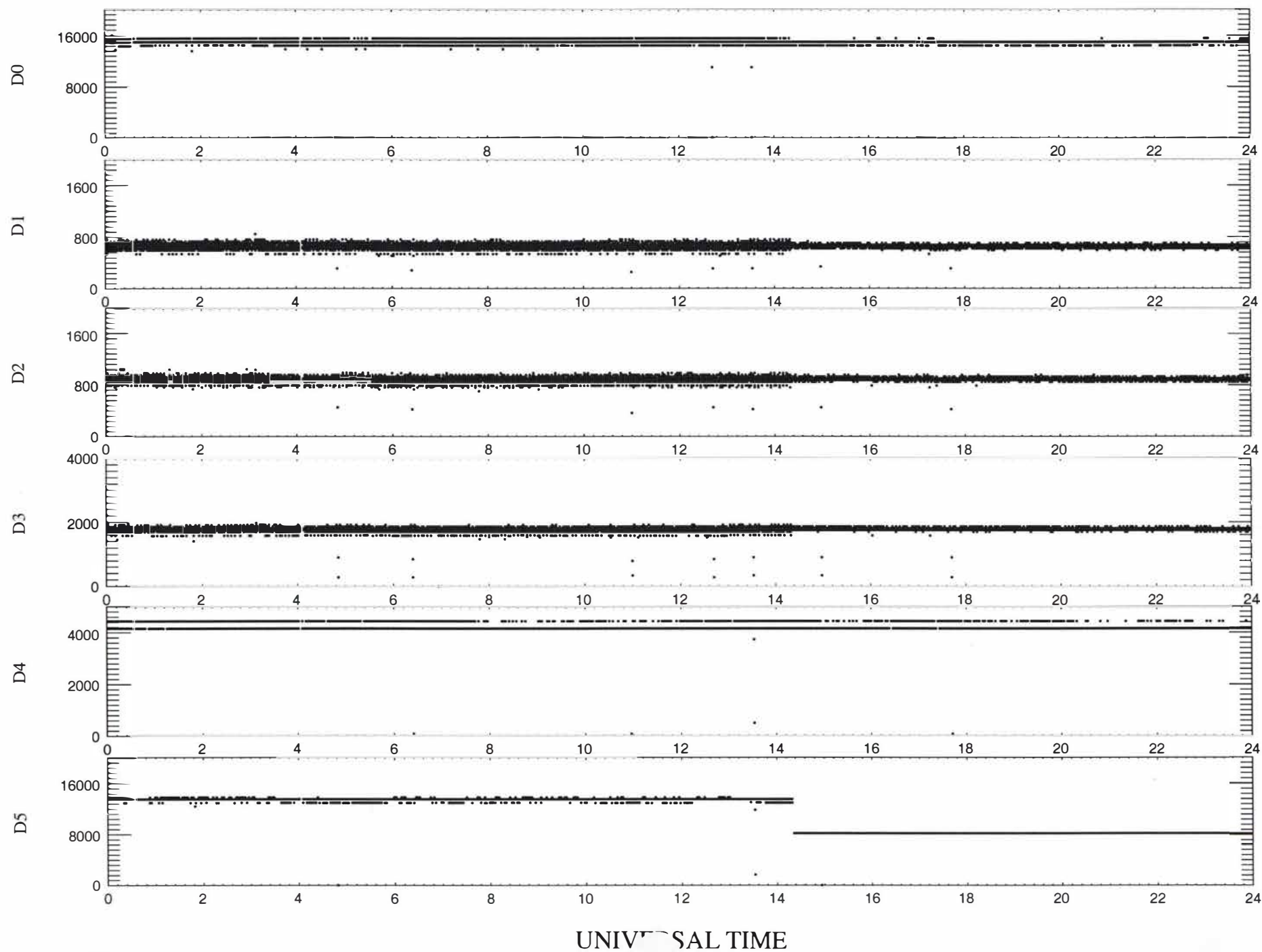
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From GOGUSE@fender.msfc.nasa.gov Sun Apr 25 17:26:41 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Sun, 25 Apr 1999 19:27:03 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7524

21st

TIME: TJD=1289 SECONDS=54982

TYPE: OTHER

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 31.5 AZIMUTH= 46.1 ERROR= 4.3 DEGREES

COMMENTS:

CYGX-1 OUTBURST, STARTS AT APP. T-11S., DUR. APP. 28S., UNTRIGGERED

STRONGER EVENT: STARTS AT APP. T-441S., DUR APP. 158S.

From GOGUSE@fender.msfc.nasa.gov Sun Apr 25 17:55:57 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Sun, 25 Apr 1999 19:56:18 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7525

TIME: TJD=1289 SECONDS=63120

TYPE: OTHER SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 21.1 AZIMUTH= 51.5 ERROR= 1.5 DEGREES

COMMENTS:

CYGX-1 OUTBURST, DUR. APP. 950S.

KONUS

21/04/99

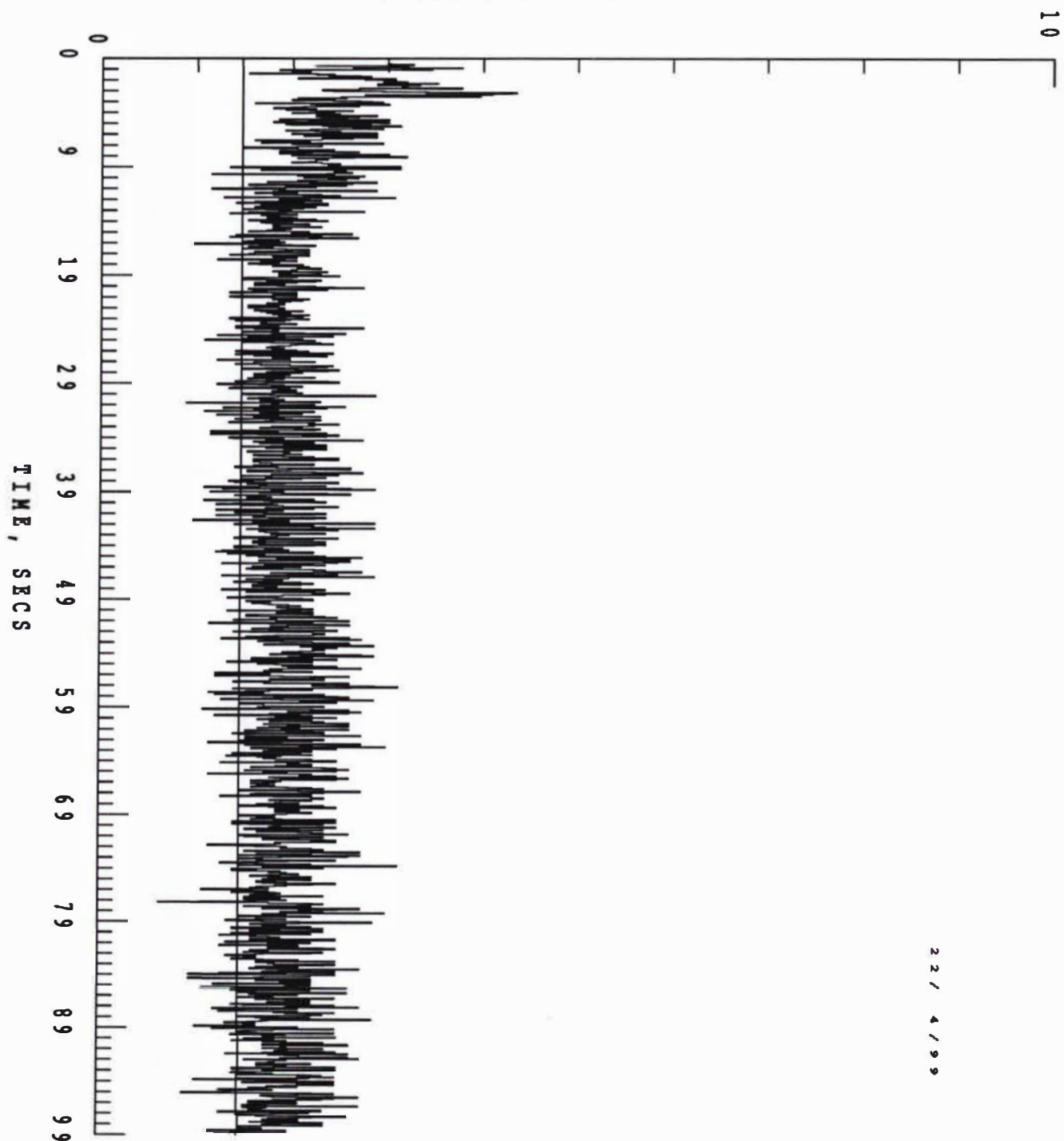
59523.618

50 - 200 keV

Not on Konus

GRB host - prob. solar

COUNTS/0.064 S



KONUS2 19990421 59523

ULYSSES RT

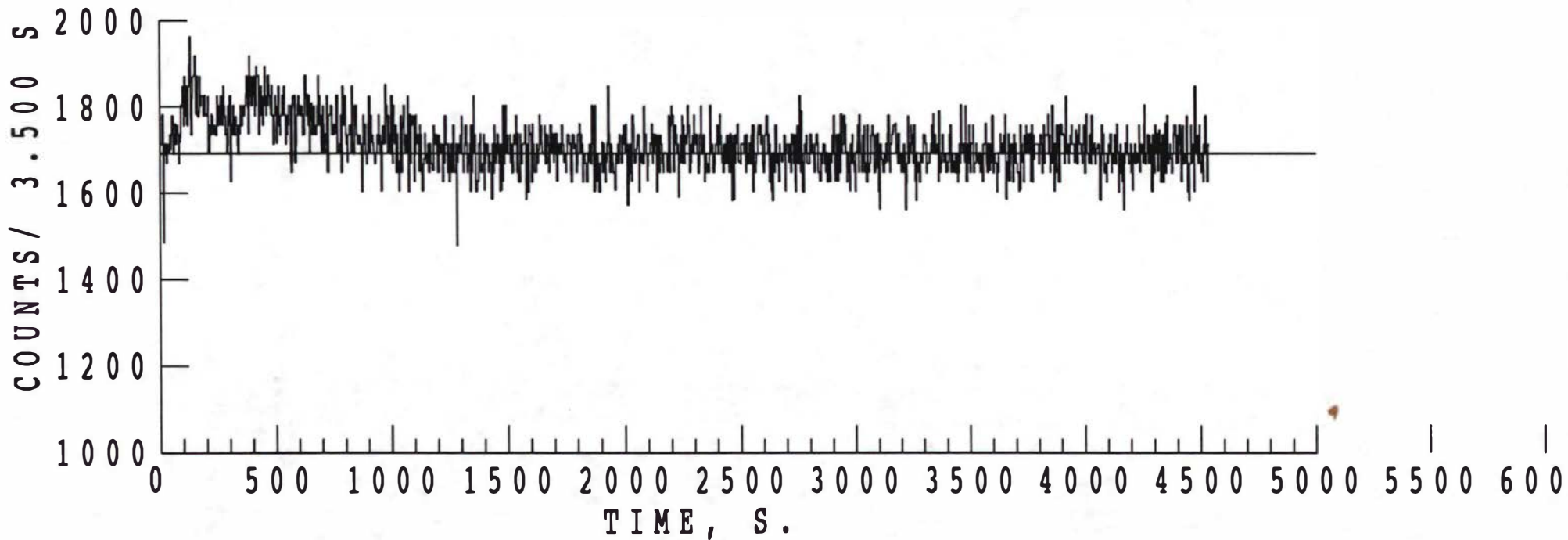
22 / 4 / 99

21 / 4 / 99 57240.352 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N=10 M=2
>4.0 SIGMA FLUCTUATIONS



KONUS

21/04/99

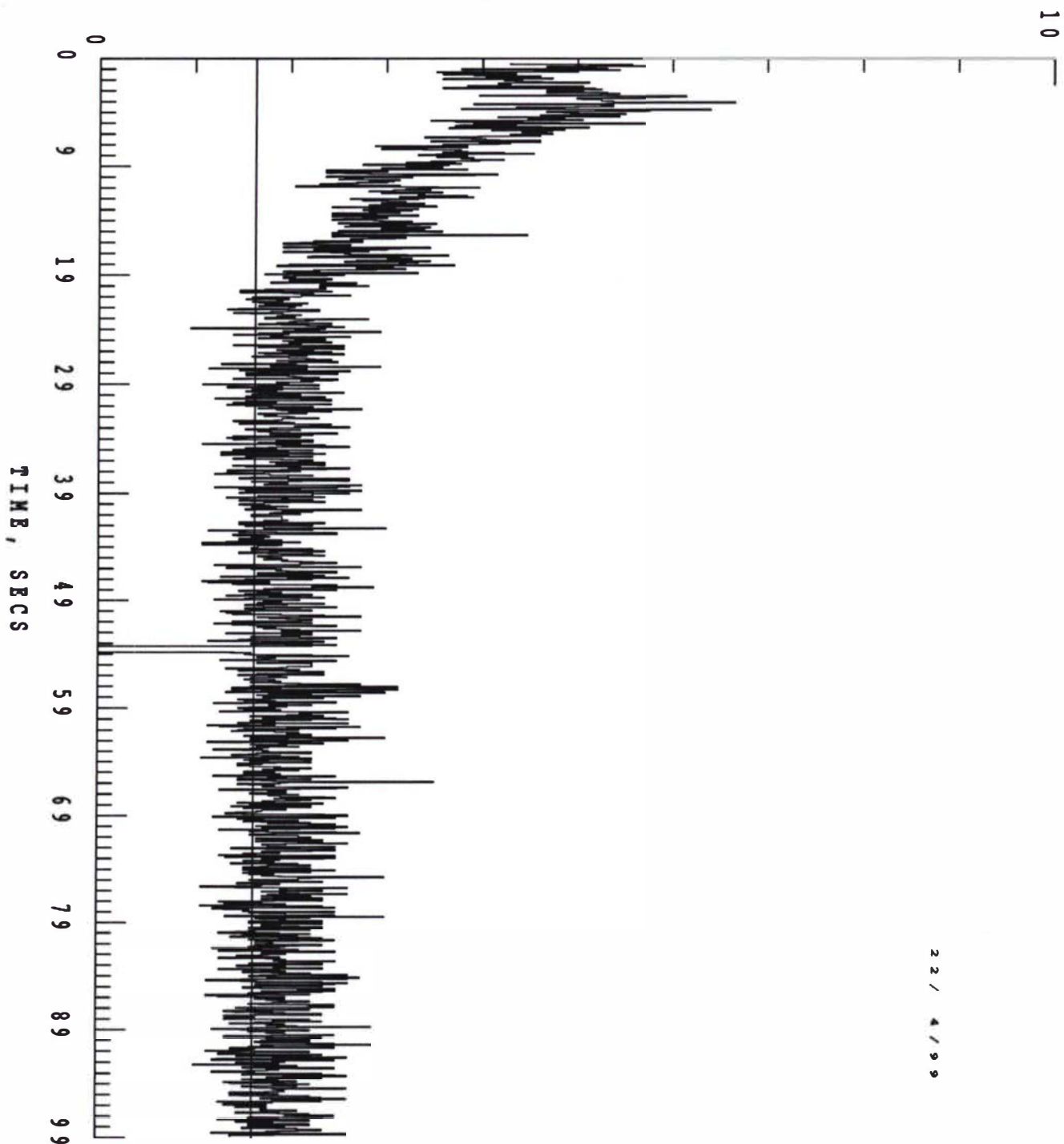
63408.943

50 - 200 keV

Not on KONUS GRB list.

Prob. solar

COUNTS/0.064 S



KONUS1 19990421 63408

ULYSSES RT

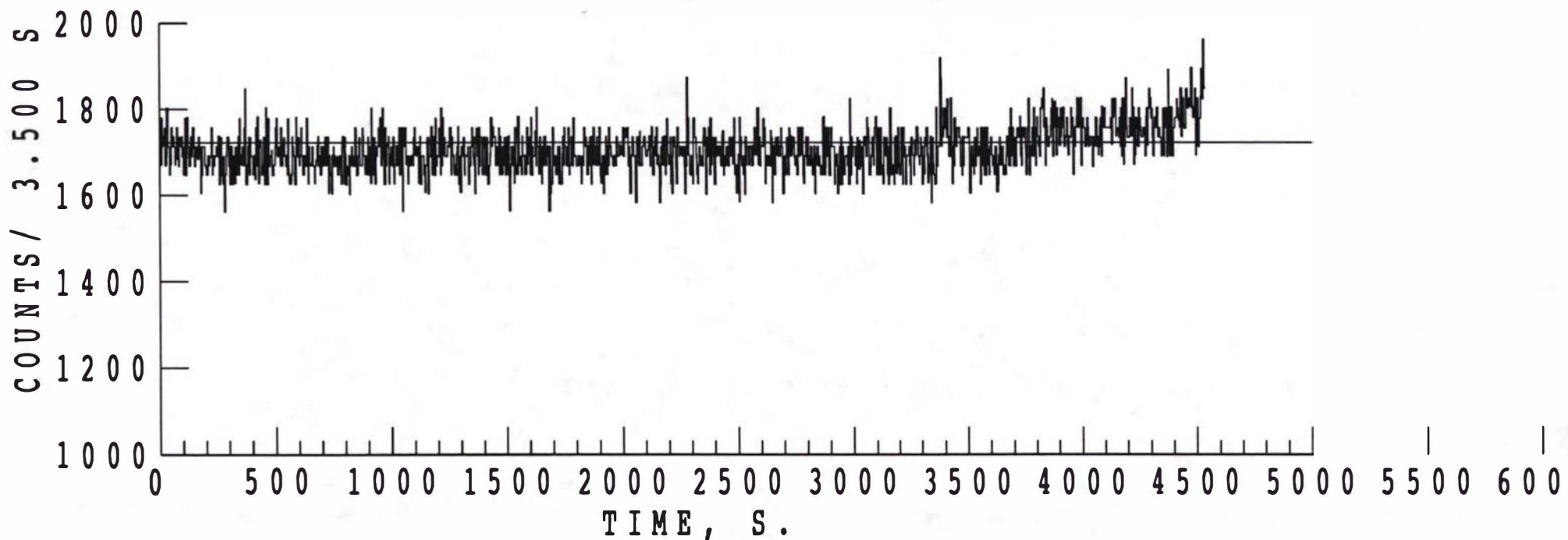
22 / 4 / 99

21 / 4 / 99 61128.383 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

W= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



BATSE time corrected 9/26

Date: June 18 2002

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

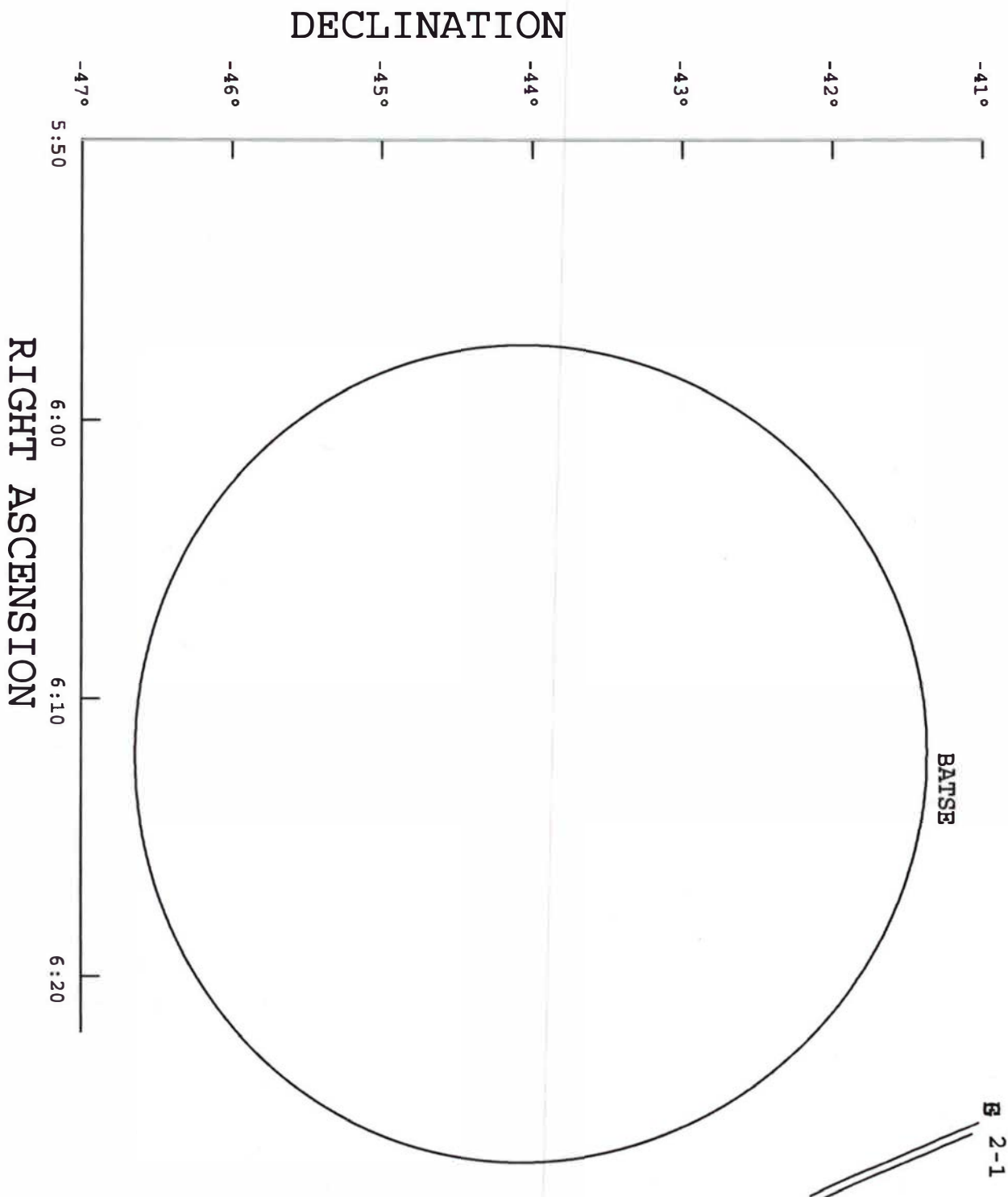
3. NEAR Data

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

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

EVENT OF APR 21, 1999 18:16

18 / 6 / 2



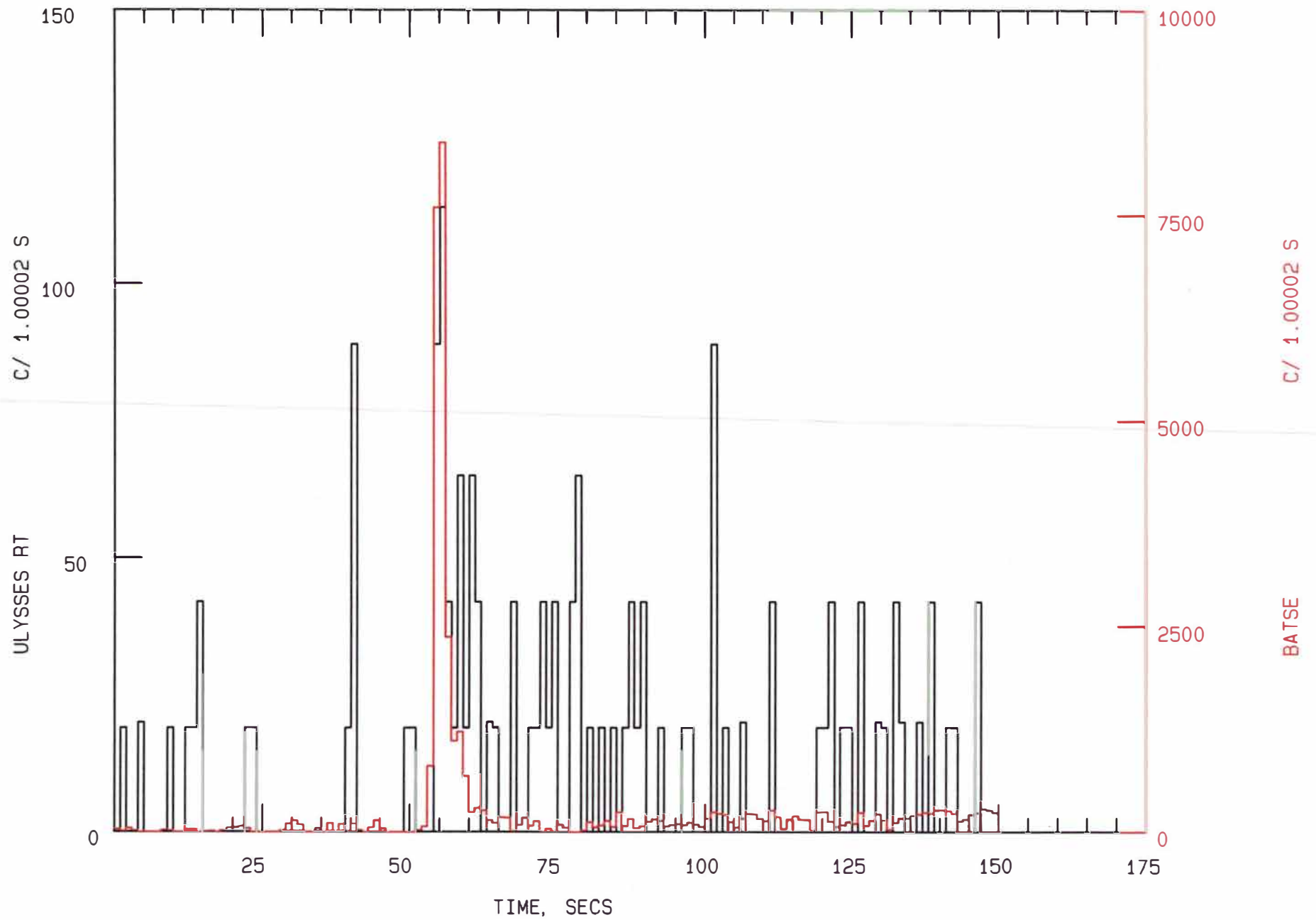
ULYSSES RT-BATSE

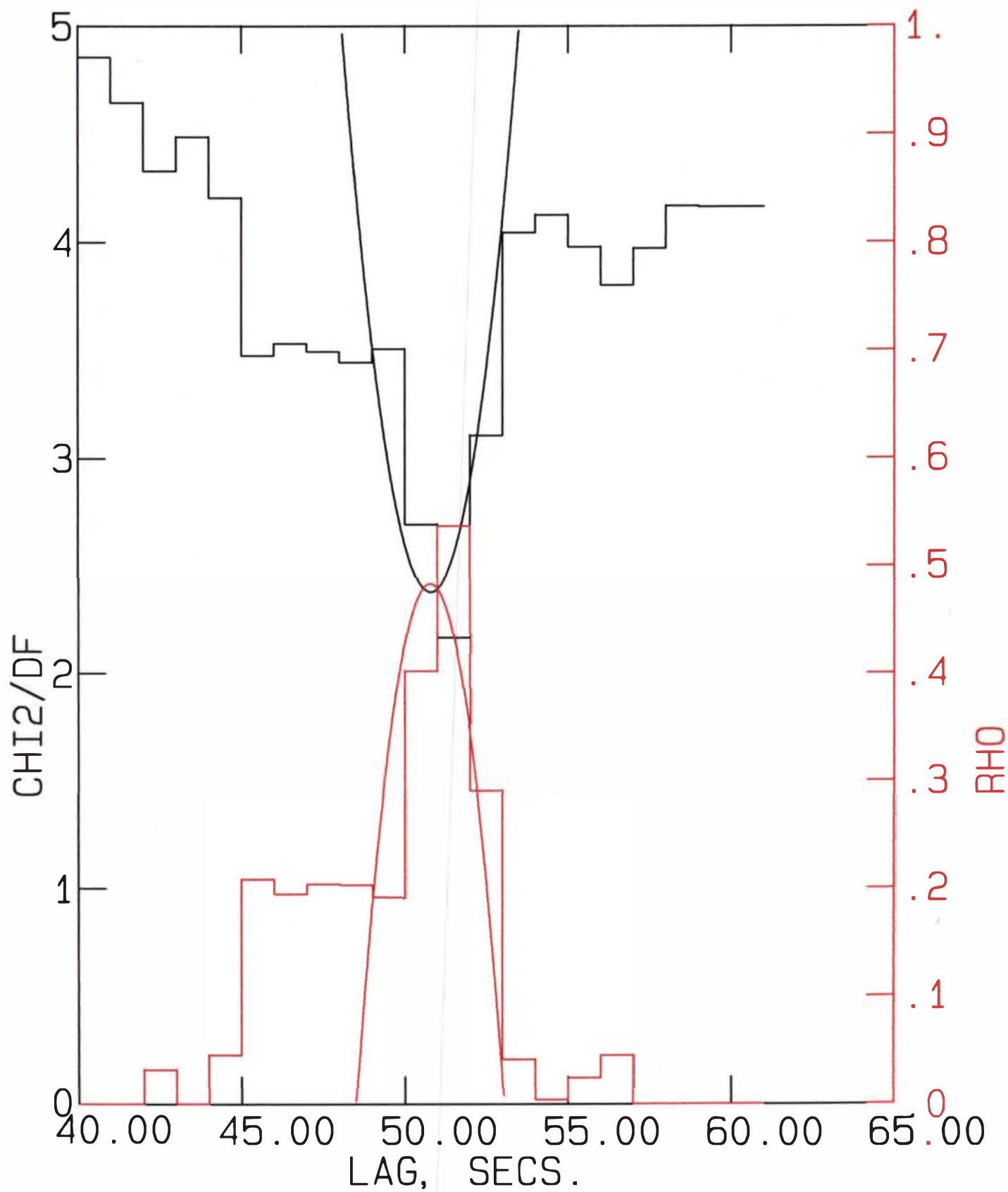
CORRELATION

21/ 4/99

64454.382

18/ 6/ 2

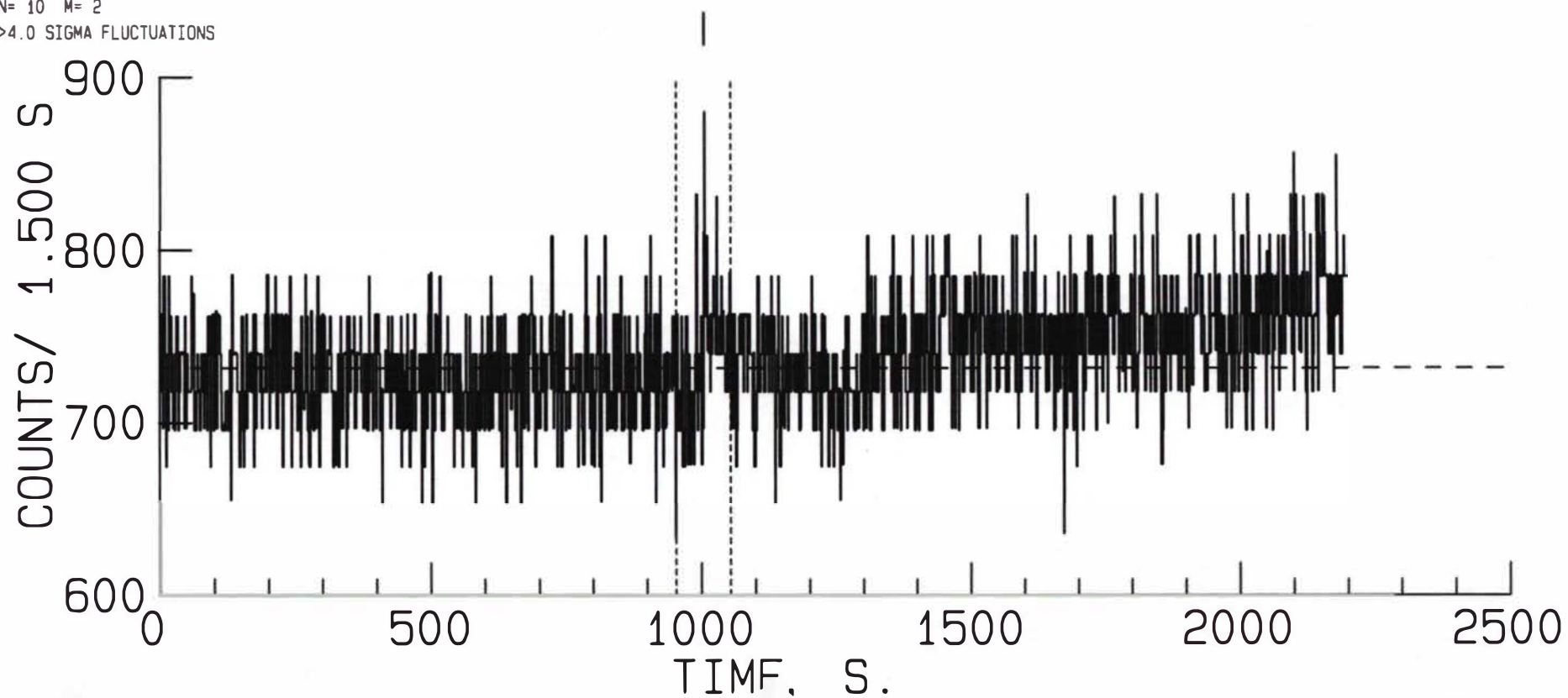




ULYSSES RT
21/ 4/99 63504.406 s
0.500 S INTERVALS REGROUPED BY 3
22- 150 keV

18/ 6/ 2

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

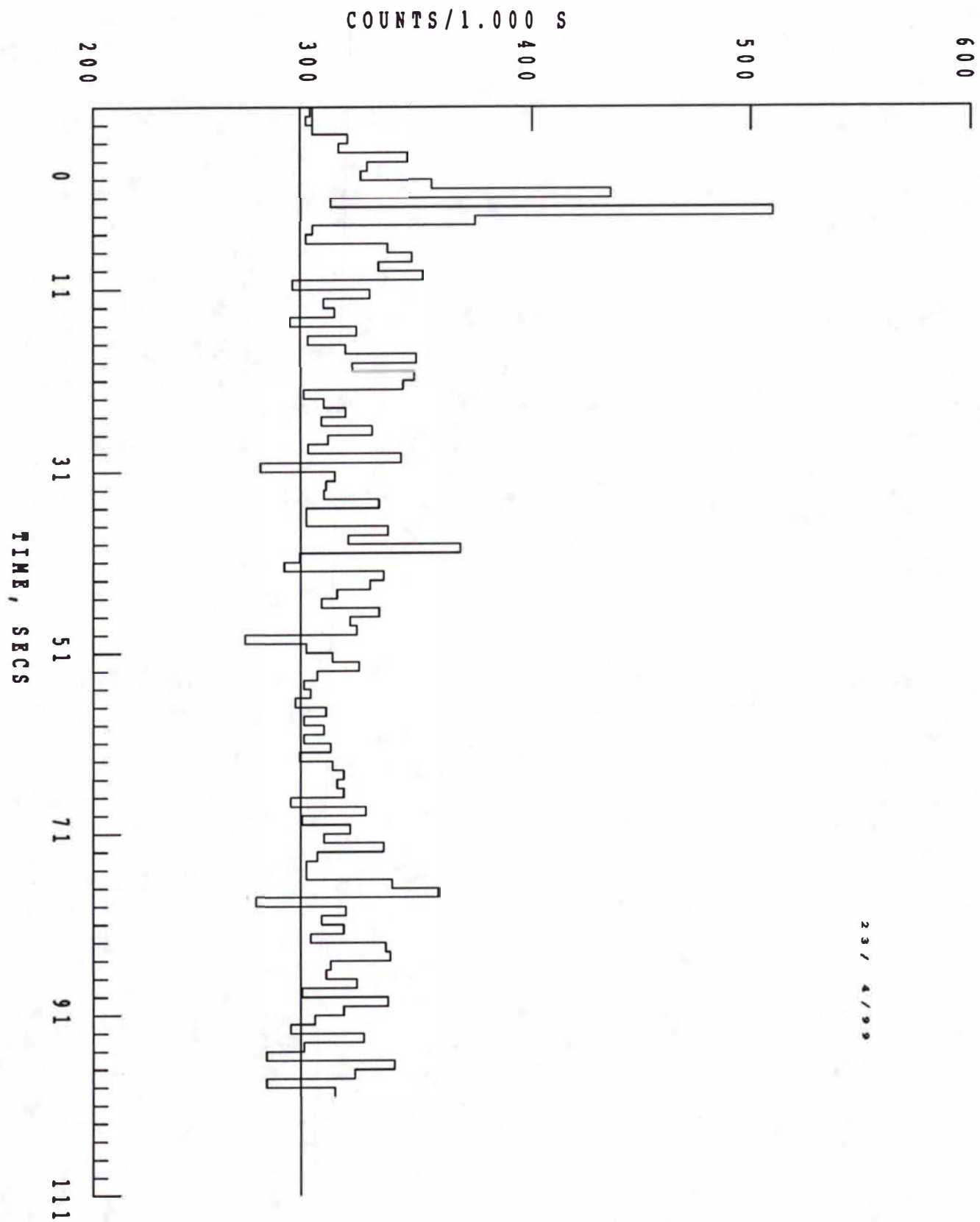


NEAR

21/04/ 9

69518.408

100-1000 keV



GCN NEAR 19990421 69518

ULYSSES RT

23 / 4 / 99

21 / 4 / 99 67248.445 s

0.500 S INTERVALS REGROUPED BY 7

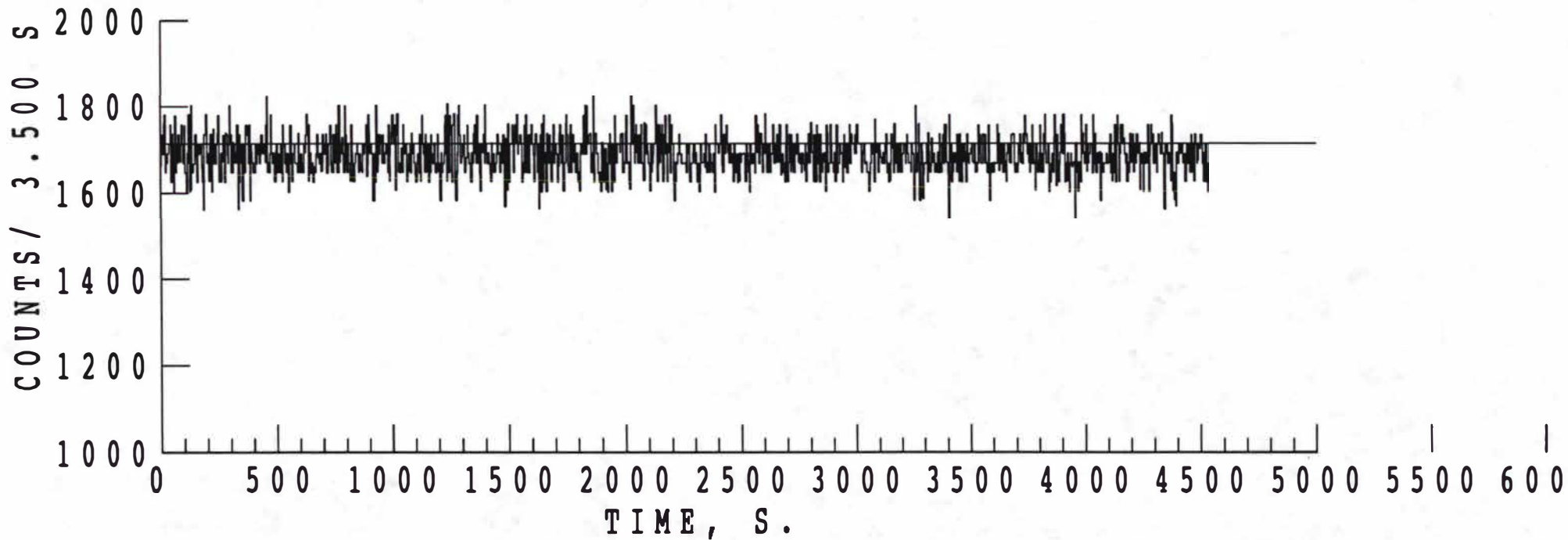
0 - 0 keV

N= 10 M= 10

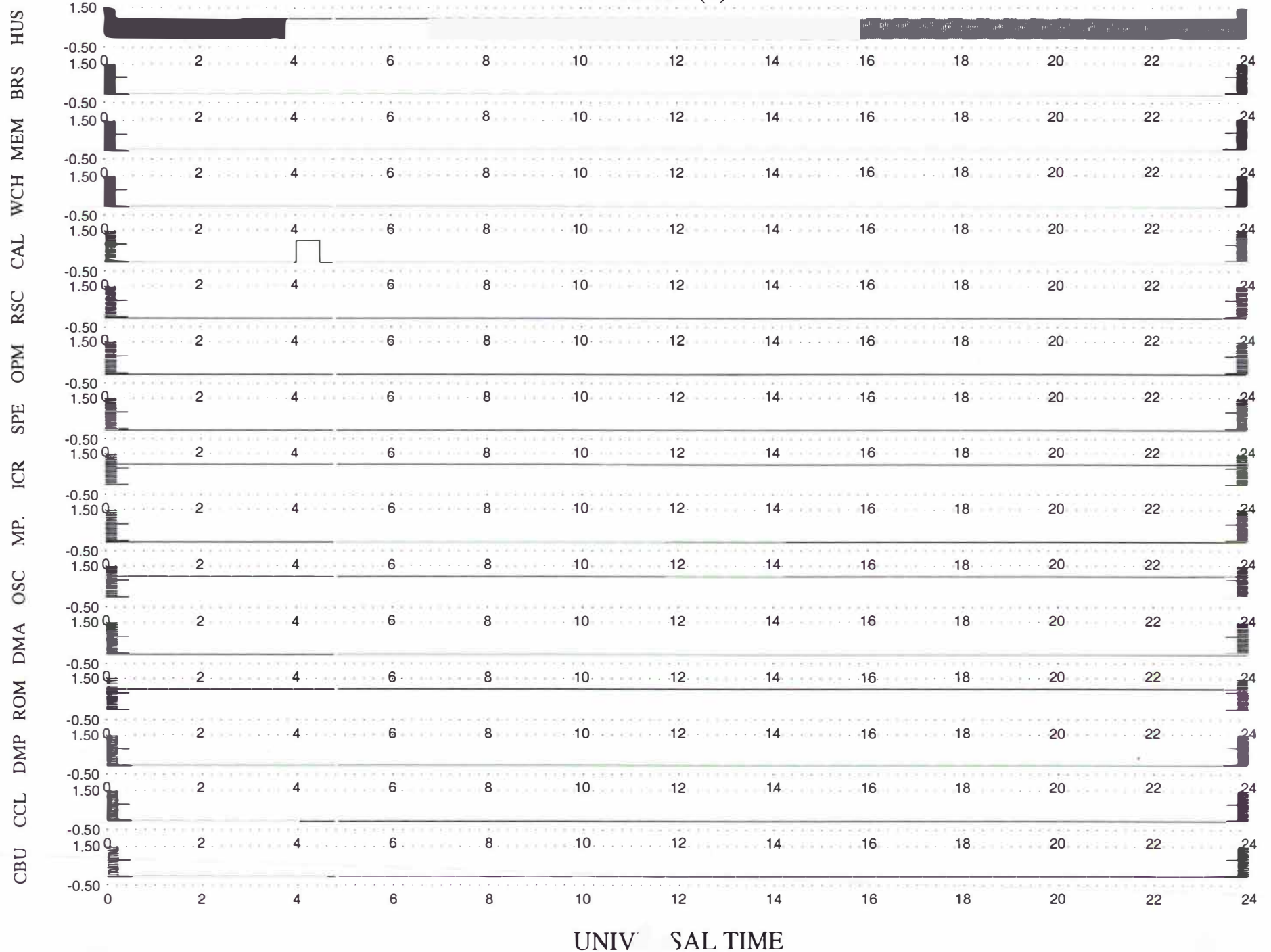
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

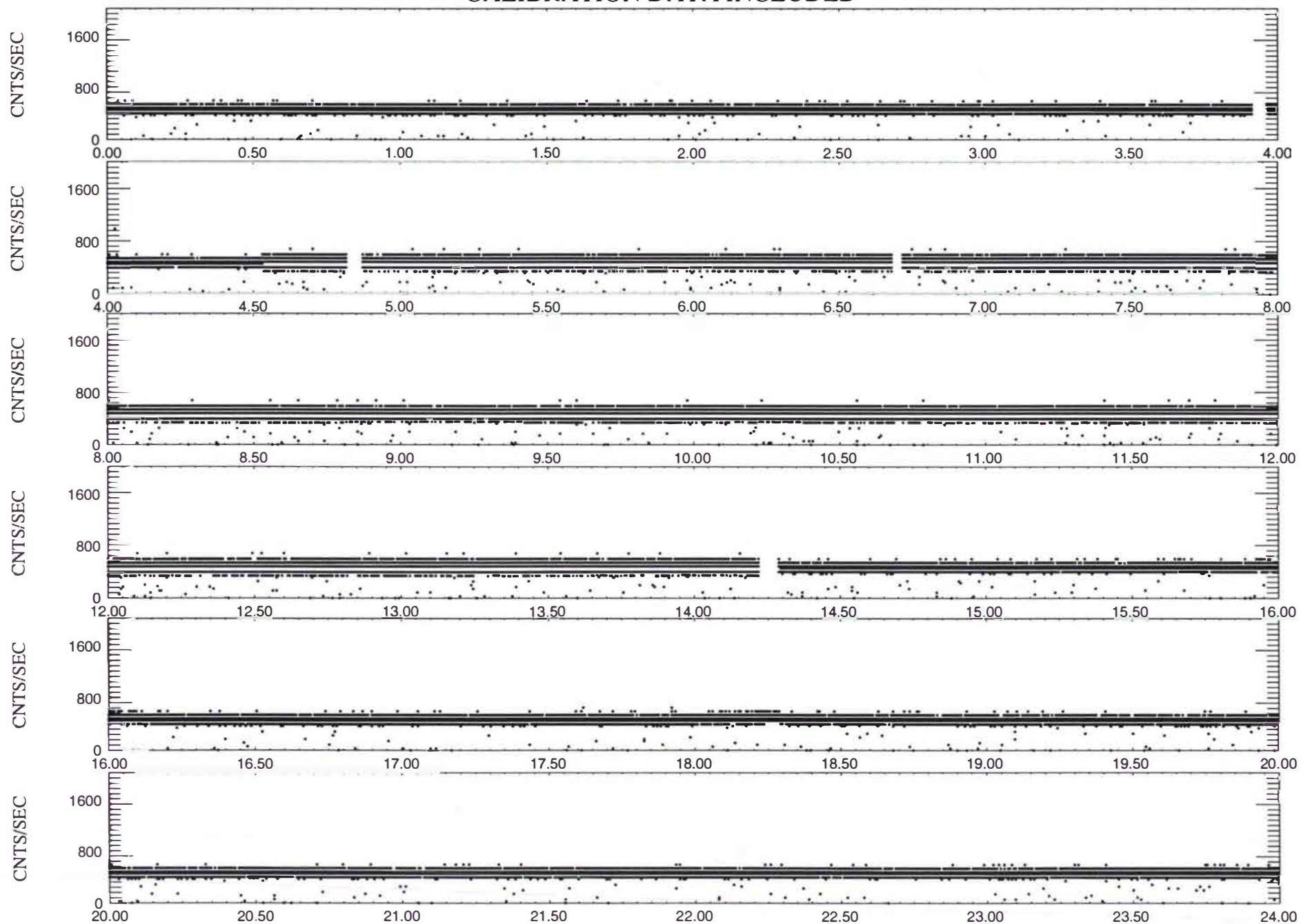
>4.0 SIGMA FLUCTUATIONS



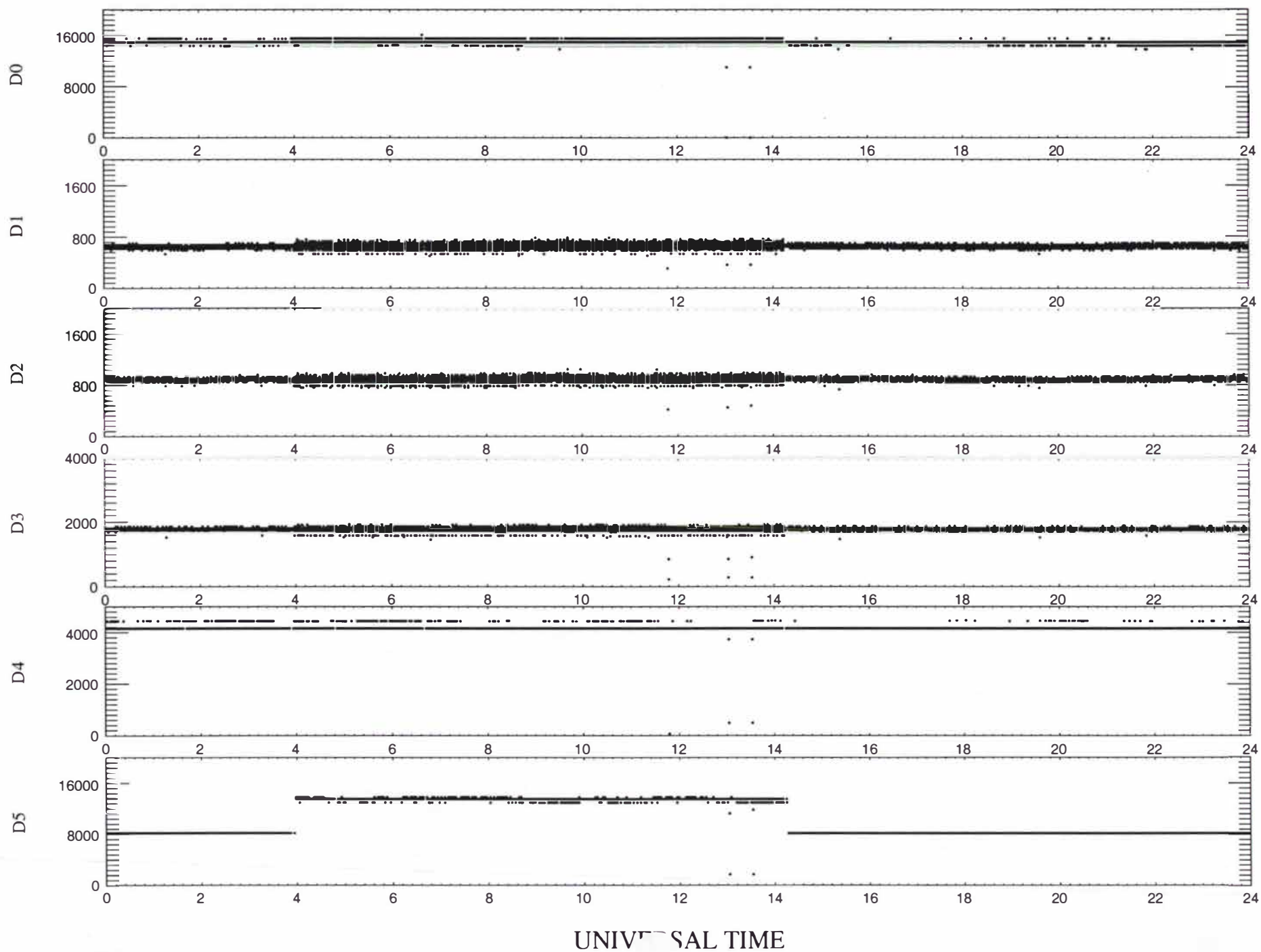
NO BURST (4)



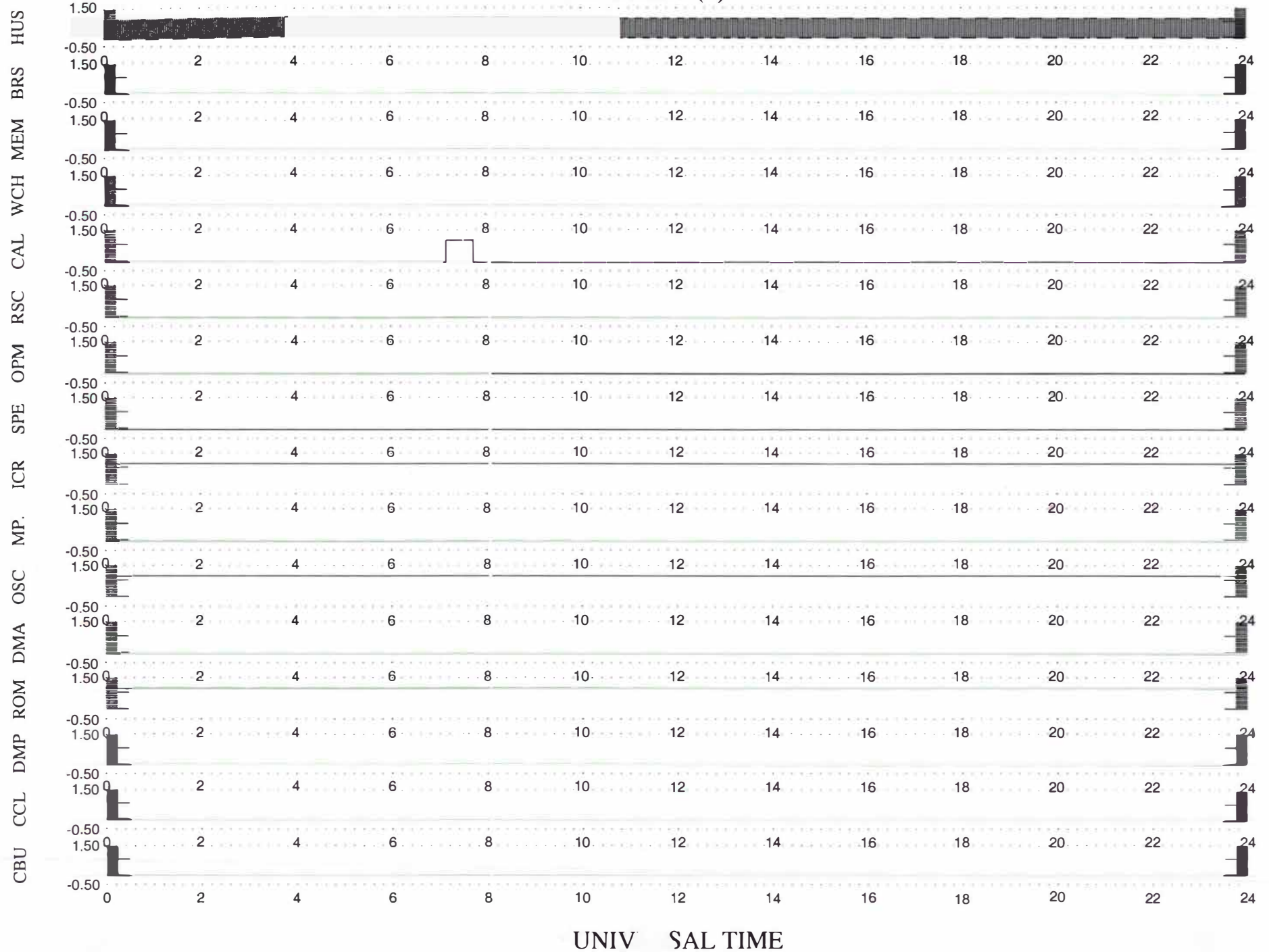
CALIBRATION DATA INCLUDED



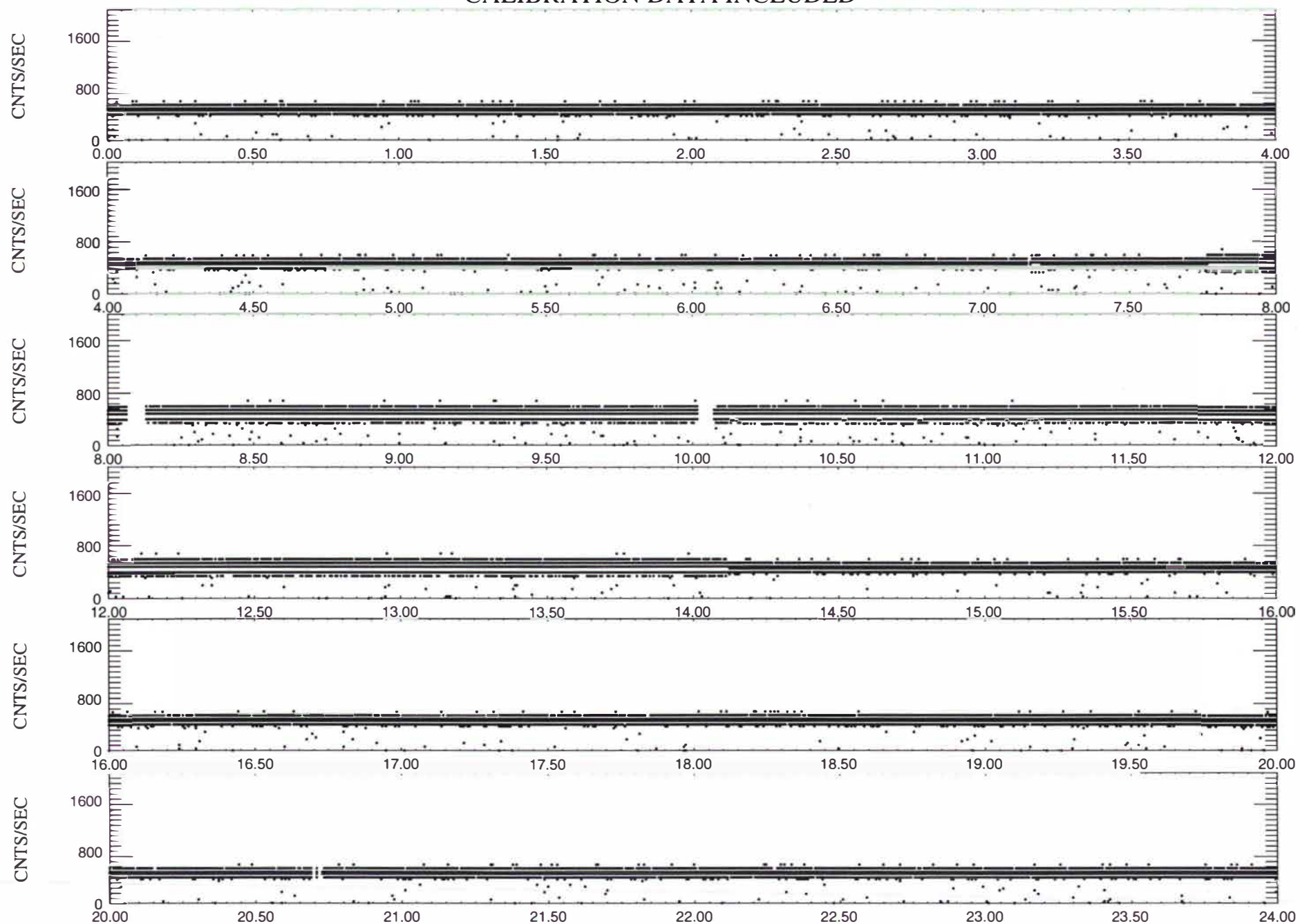
UNIV SAL TIME



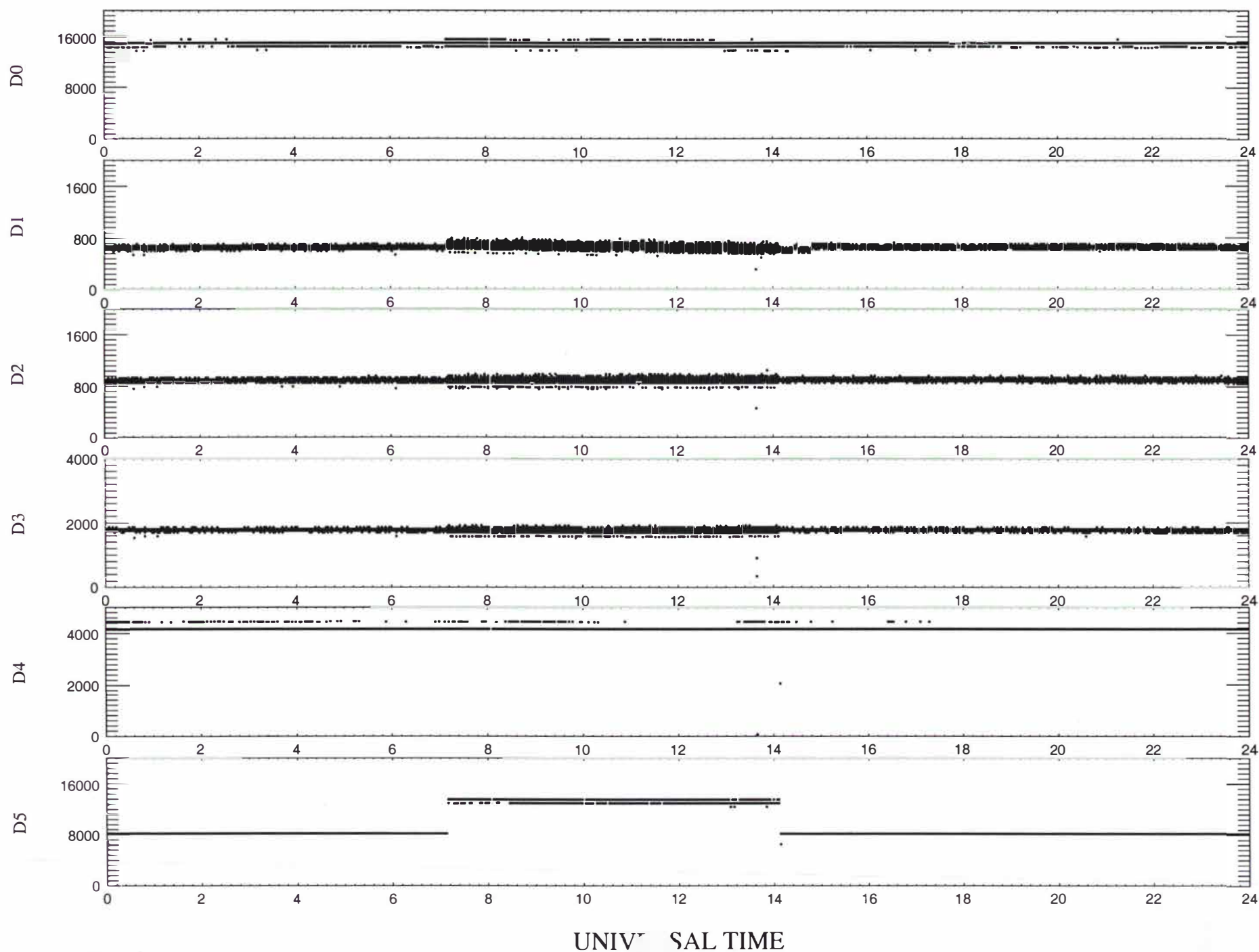
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Mon Apr 26 10:59:02 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA21747; Mon, 26 Apr 1999 10:59:02 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA15757
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 26 Apr 1999 10:56:40 -0700 (PDT)
Date: Mon, 26 Apr 1999 12:59:45 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990426125945.20204102@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7526
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7526
EVENT OF 1999 APR 23 DAY OF YEAR=113
EVENT CROSSING TIME AT BATSE : 8466. S. OR 02:21:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 111.000 -58.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 4/ 99 IS:
RA= 145.218 DEC= -7.479 DIST= 4.463 AU
BATSE-ULYSSES DISTANCE = 667611272. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=123.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1213.34 SECS.
CROSSING TIME AT ULYSSES IS 7253. S. OR 02:00:52 +/- 355.77 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 4/ 99 IS:
RA= 212.957 DEC= -11.776 DIST= 0.586 AU
MARS-BATSE DISTANCE = 87658368. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 93.76 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -19.18 SECS.
CROSSING TIME AT MARS IS 8447. S. OR 02:20:46 +/- 50.36 SECONDS

BATSE BURST TRIGGER

NO.: 7526

TIME: TJD=1291 SECONDS=8466

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=131.8 AZIMUTH=248.9 ERROR=13.2 DEGREES

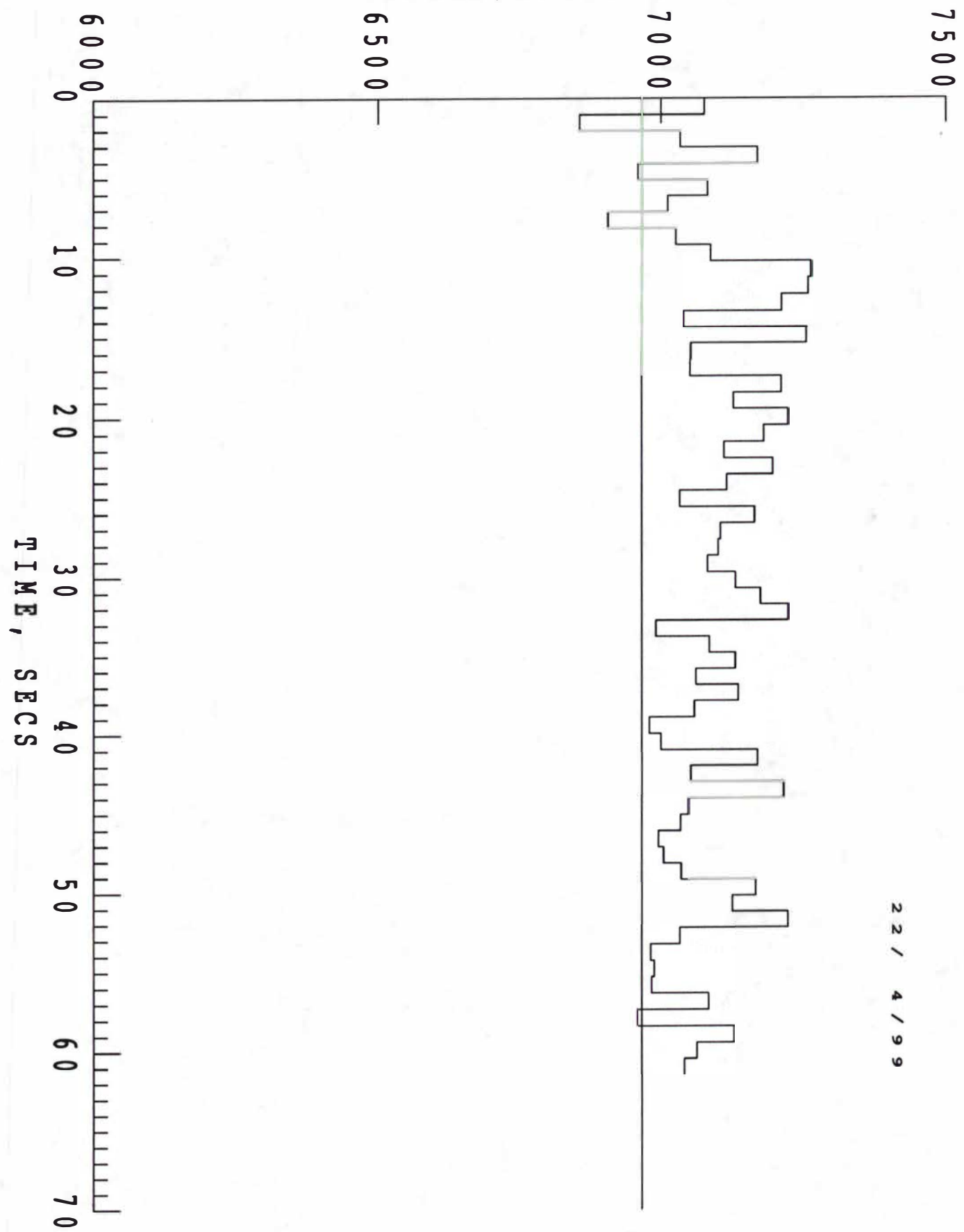
COMMENTS:

GRB. WEAK SINGLE PULSE. DURATION APPROX. = 2 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7526	990423	11291	08466	2000	111	-58	2

BACODINE 7526 23/04/99 8454.905
25- 100 keV

COUNTS/1.024 S



22 / 4 / 99

BATSE BURST# 7526

ULYSSES RT

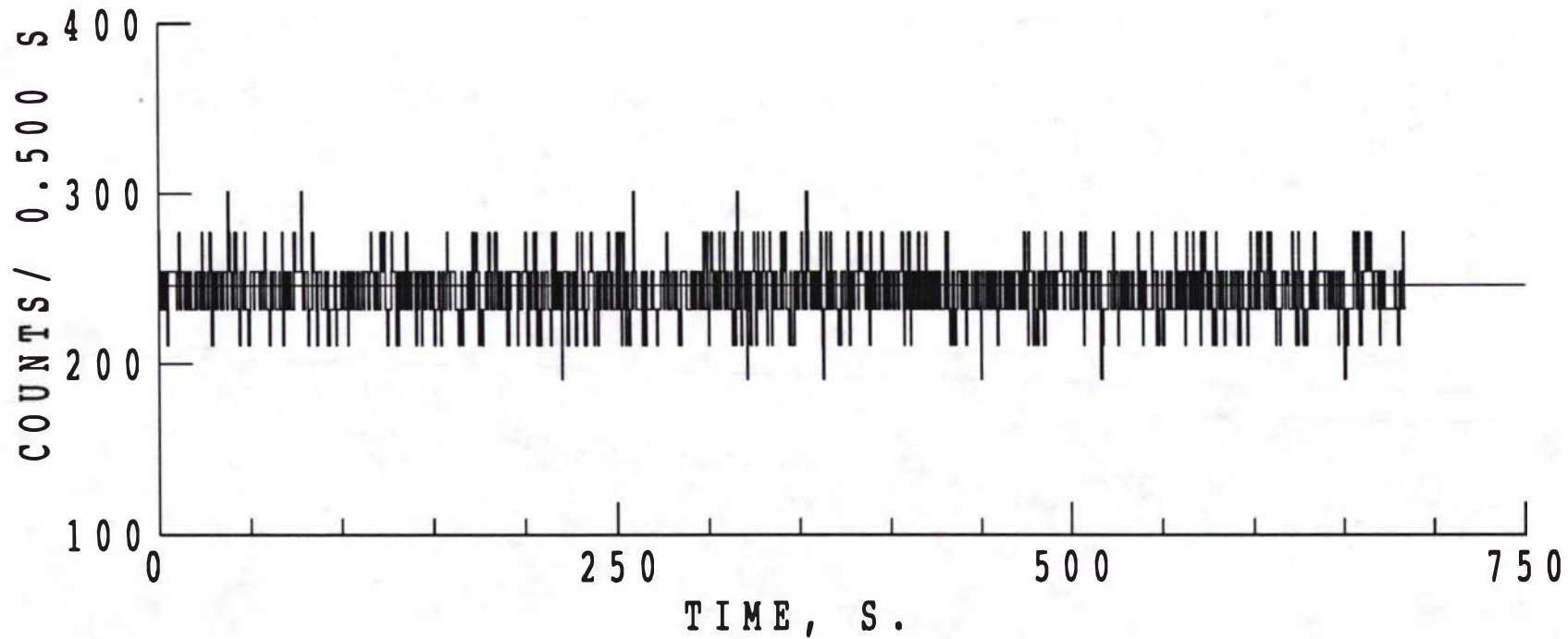
26 / 4 / 99

23 / 4 / 99 6912.087 s

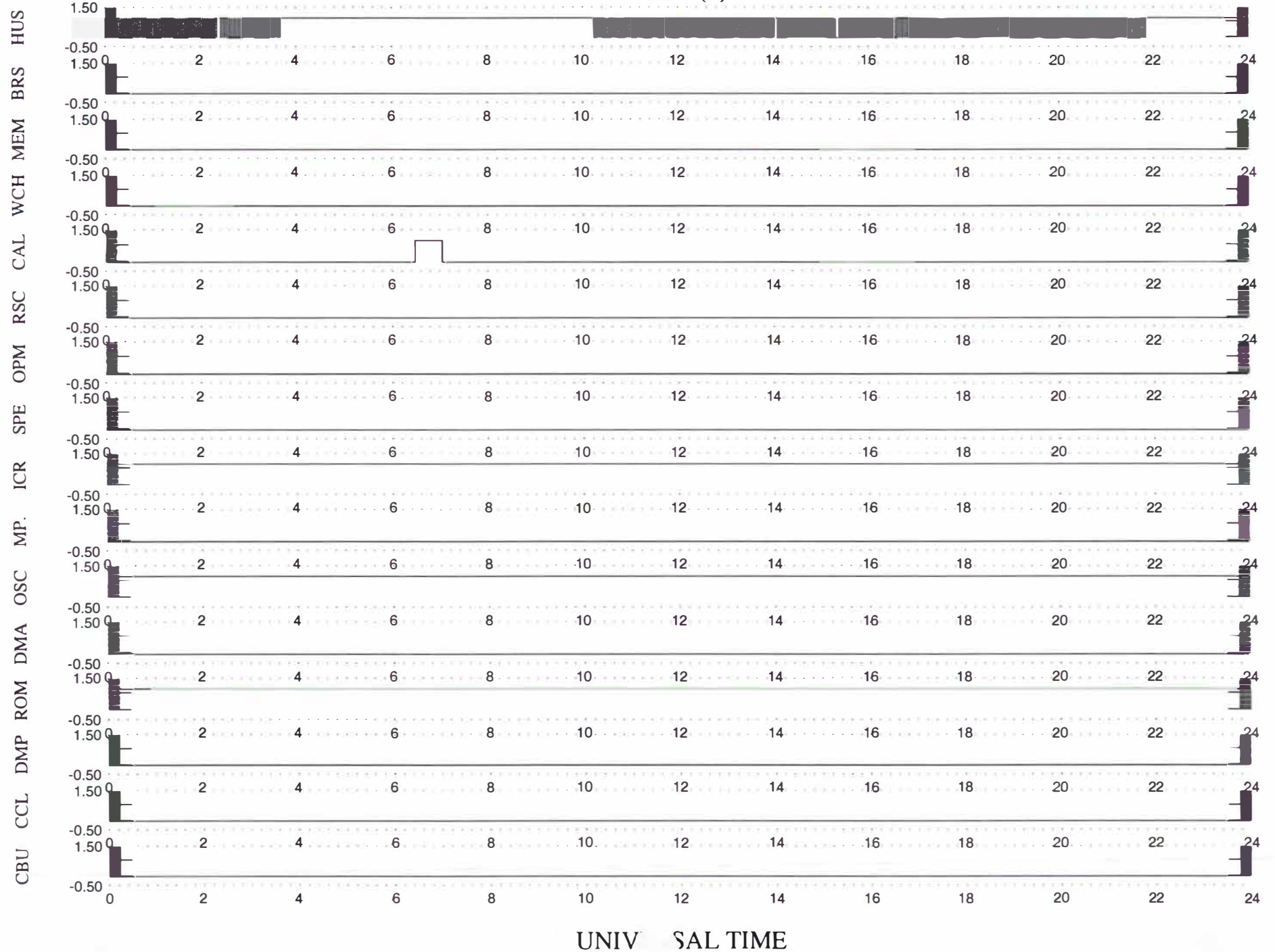
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

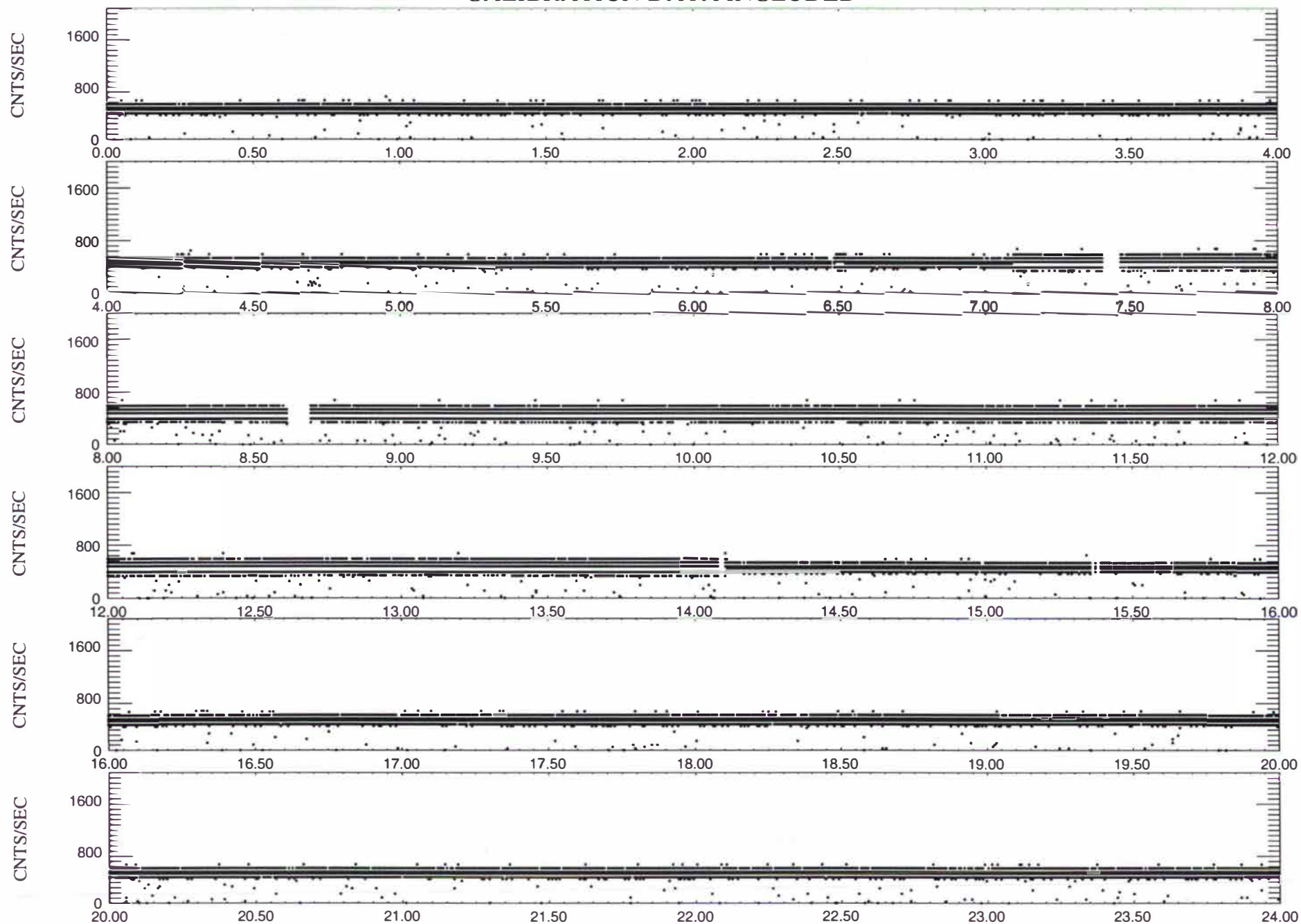
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



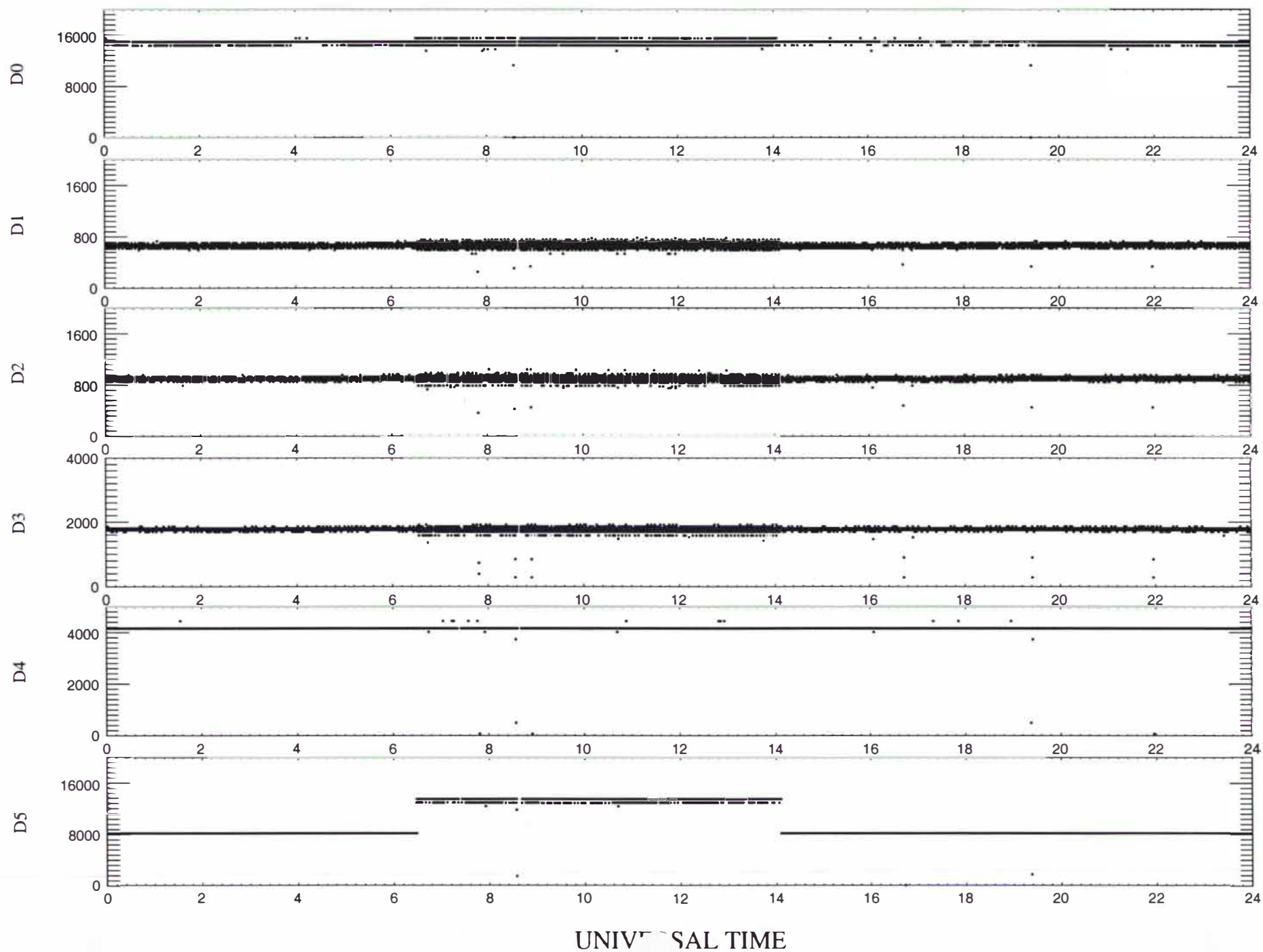
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIV. TIME



From PETERSON@fender.msfc.nasa.gov Mon Apr 26 10:08:16 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA20900; Mon, 26 Apr 1999 10:08:16 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA15060
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 26 Apr 1999 10:05:54 -0700 (PDT)
Date: Mon, 26 Apr 1999 12:08:59 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990426120859.20204167@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7527
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7527
EVENT OF 1999 APR 24 DAY OF YEAR=114
EVENT CROSSING TIME AT BATSE : 11551. S. OR 03:12:31.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 89.000 -60.000
BATSE PEAK COUNTING RATE: 41000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 24/ 4/ 99 IS:
RA= 145.122 DEC= -7.442 DIST= 4.475 AU
BATSE-ULYSSES DISTANCE = 669461698. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -867.64 SECS.
CROSSING TIME AT ULYSSES IS 10683. S. OR 02:58:03 +/- 394.06 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 24/ 4/ 99 IS:
RA= 212.588 DEC= -11.687 DIST= 0.584 AU
MARS-BATSE DISTANCE = 87415472. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 27.83 SECS.
CROSSING TIME AT MARS IS 11579. S. OR 03:12:58 +/- 50.82 SECONDS

BATSE BURST TRIGGER

NO.: 7527

TIME: TJD=1292 SECONDS=11551

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=128.1 AZIMUTH=263.4 ERROR=0.485 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 30 S, STARTS AT APPROX.
T-0.5 S, MAX AT APPROX. T+6.5 S. VISIBLE ABOVE 300 KEV. SUCCESSOR MAX AT APPROX.
T+250 S, DUR. APPROX. 30 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7527	990424	11292	11551	41000	089	-60	30

Date: Feb 28 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

- Sheets OK*
- ☒ 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?

KONUS

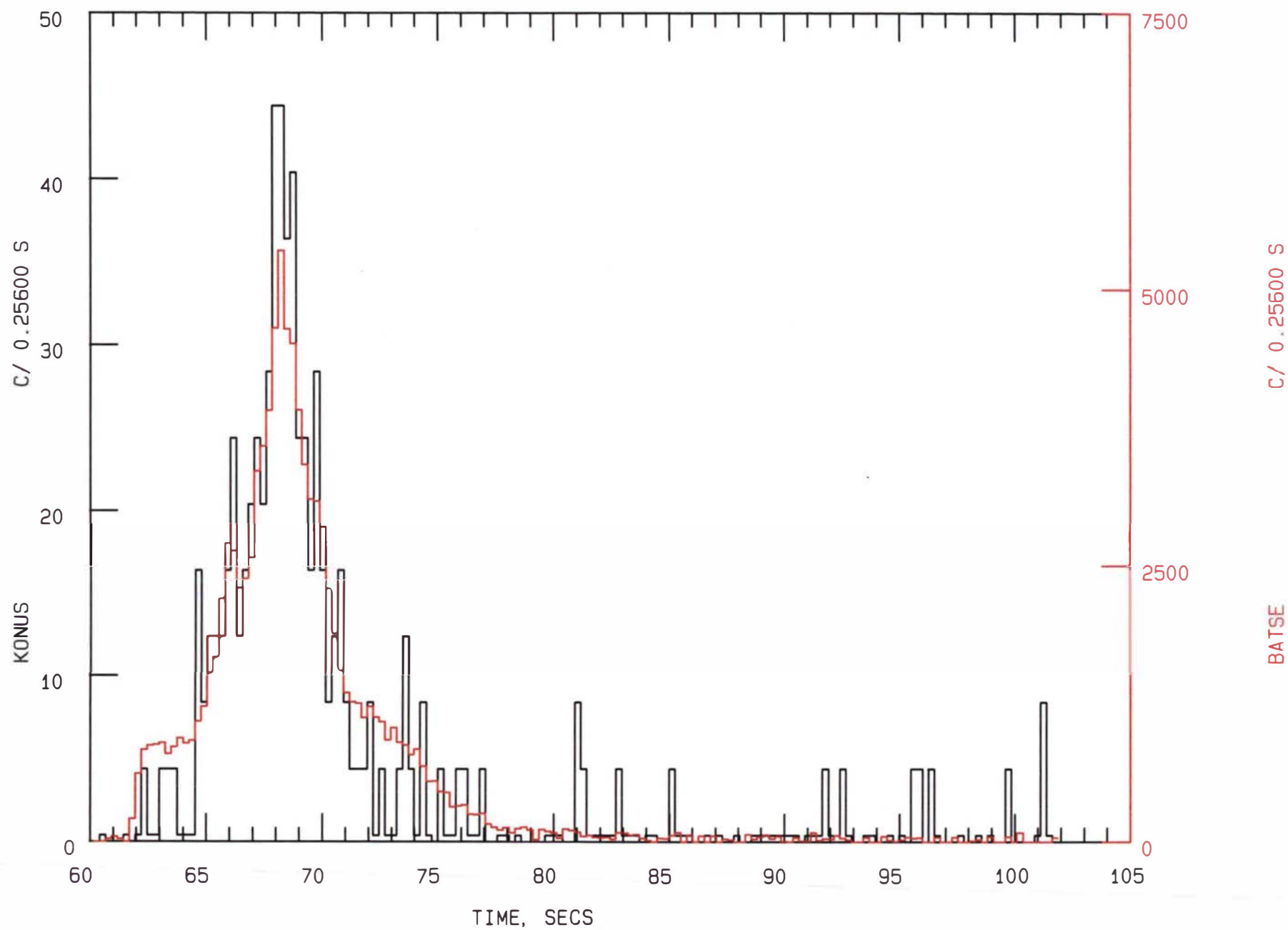
-BATSE

CORRELATION

24/04/99

11489.819

16/ 4/ 1



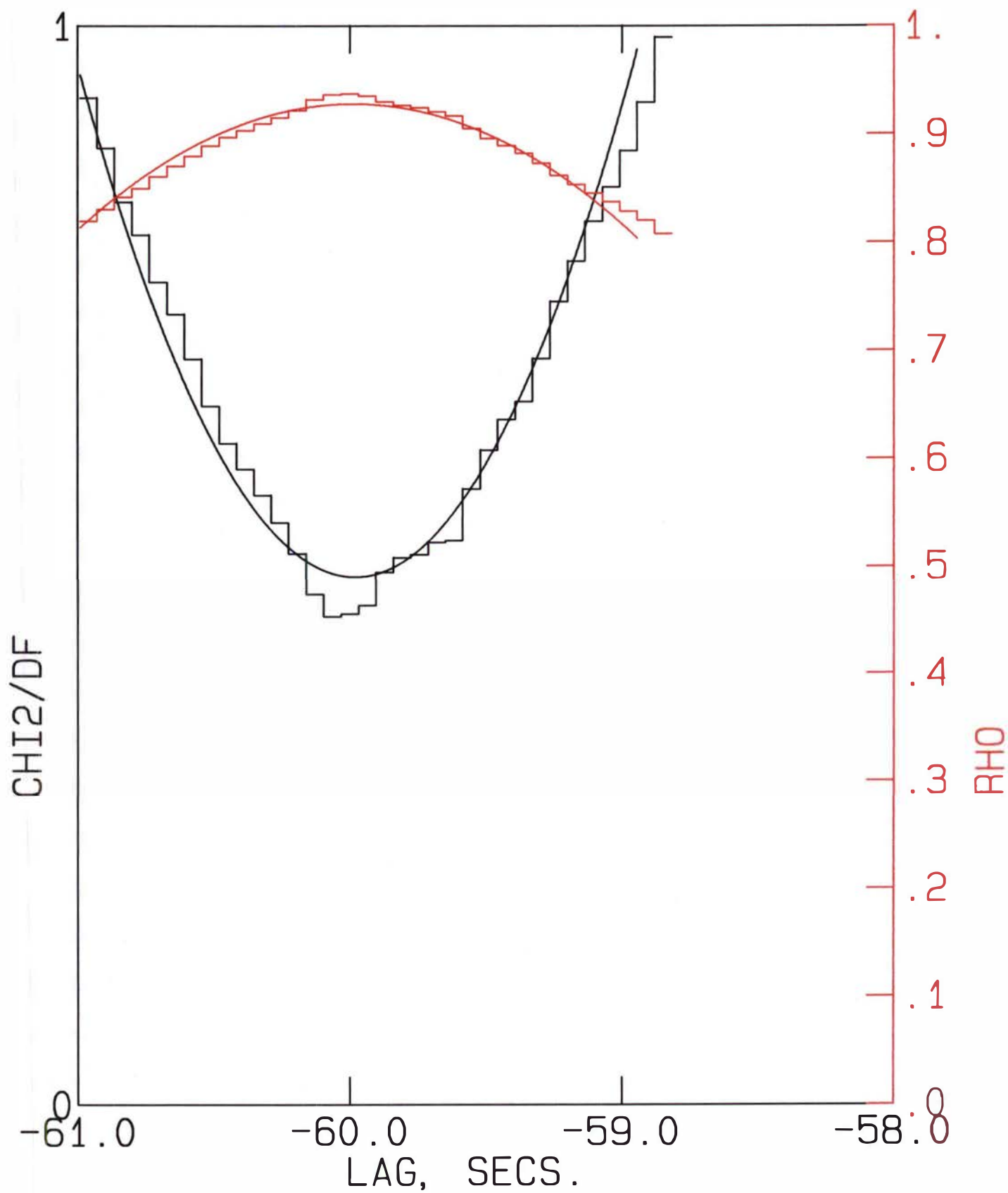
KONUS

-BATSE

CORRELATION

24/04/99

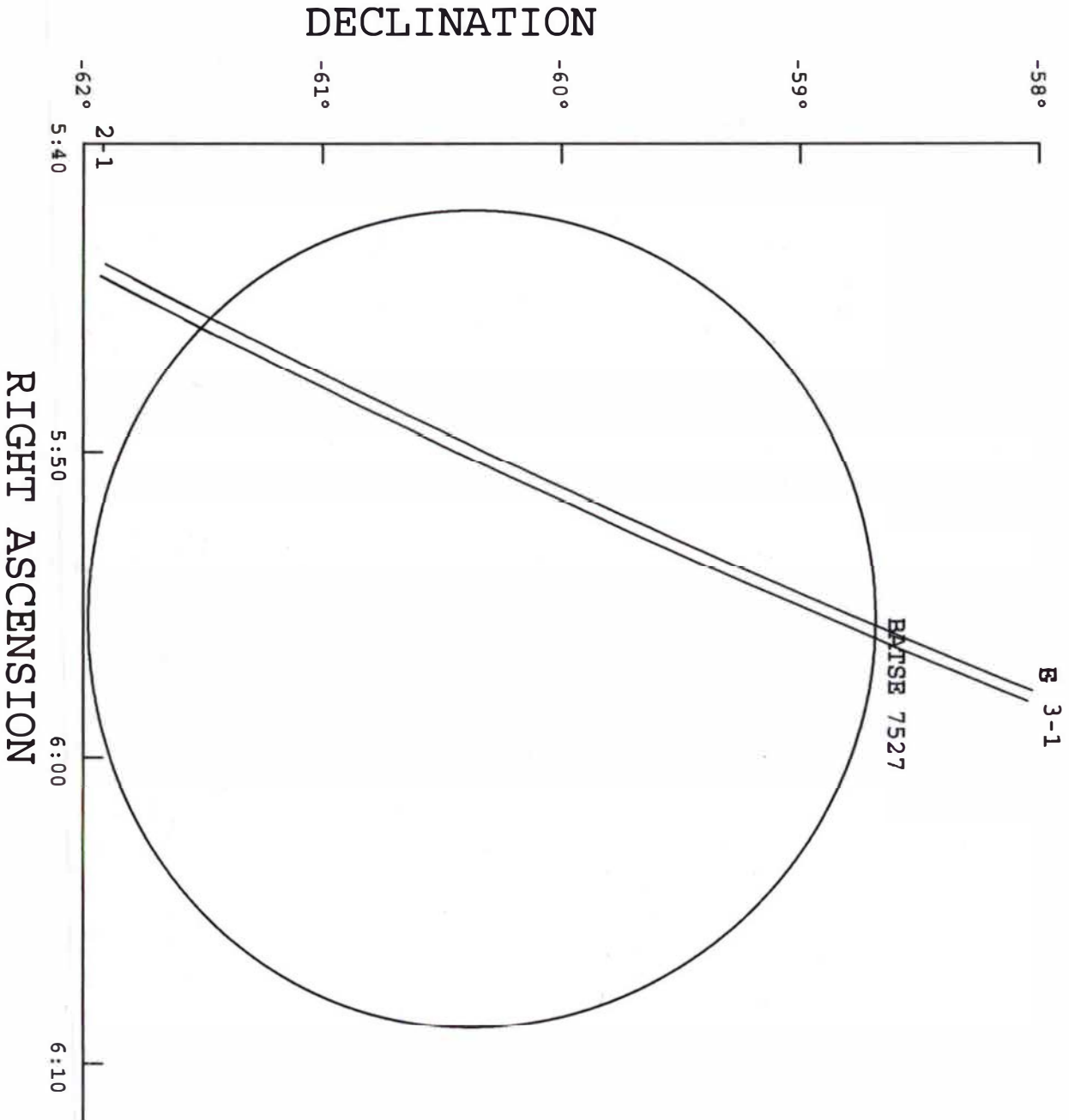
11489.819



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 APR 24, 1999 3:12

28 / 2 / 0



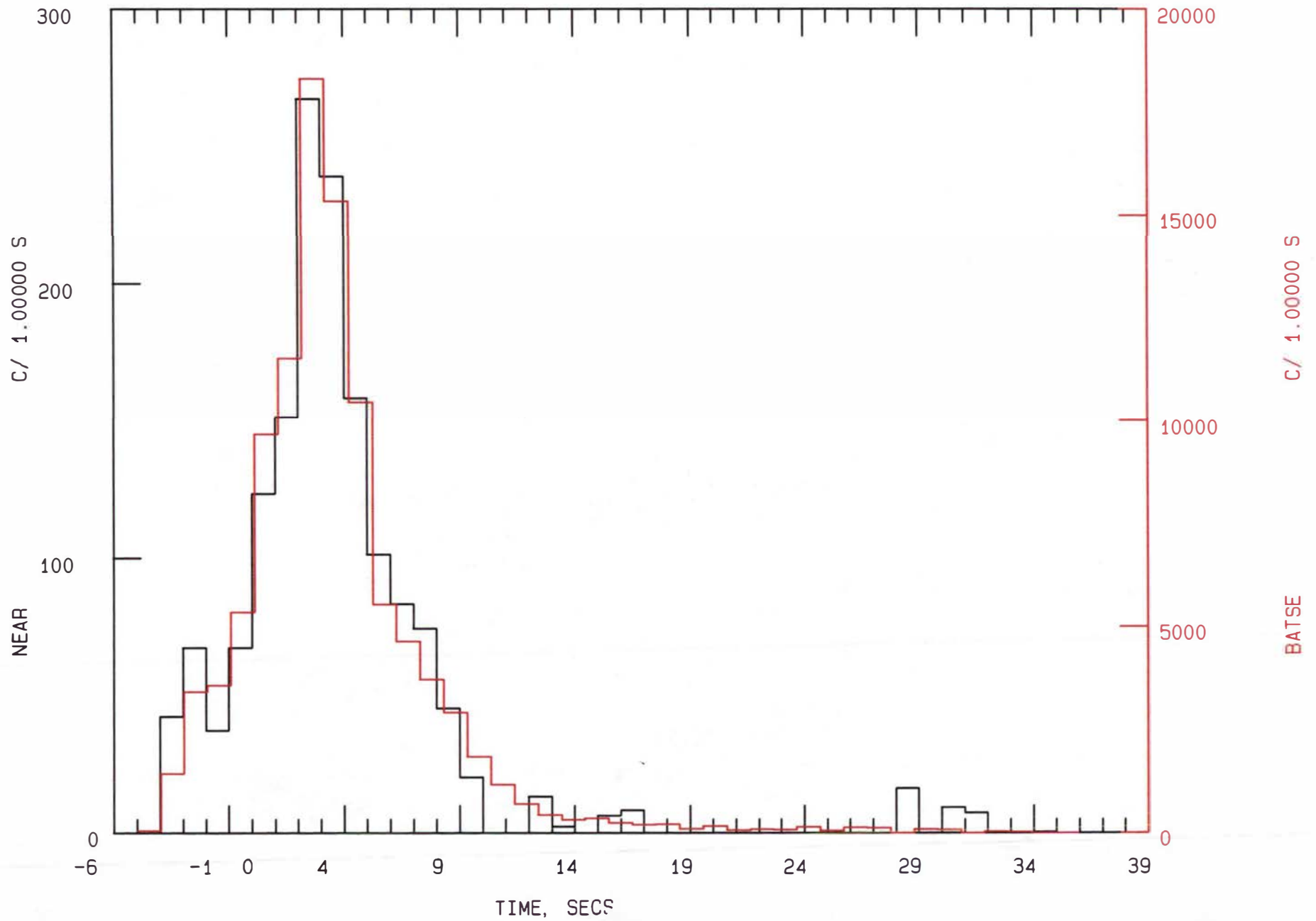
NEAR

-BATSE

CORRELATION

24/04/1999 11612.356

28/ 2/ 0

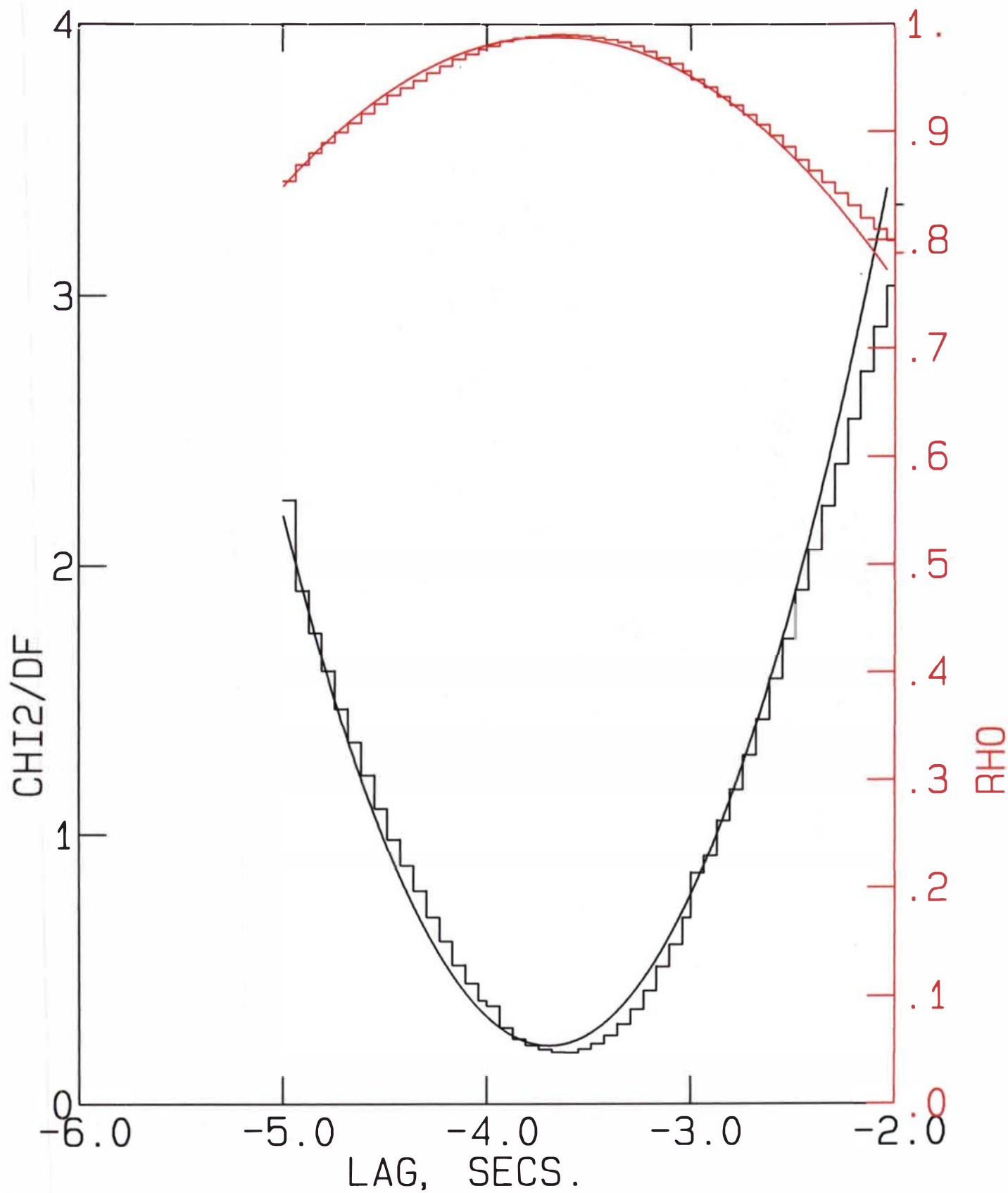


NEAR

-BATSE

CORRELATION

24/04/1999 11612.356



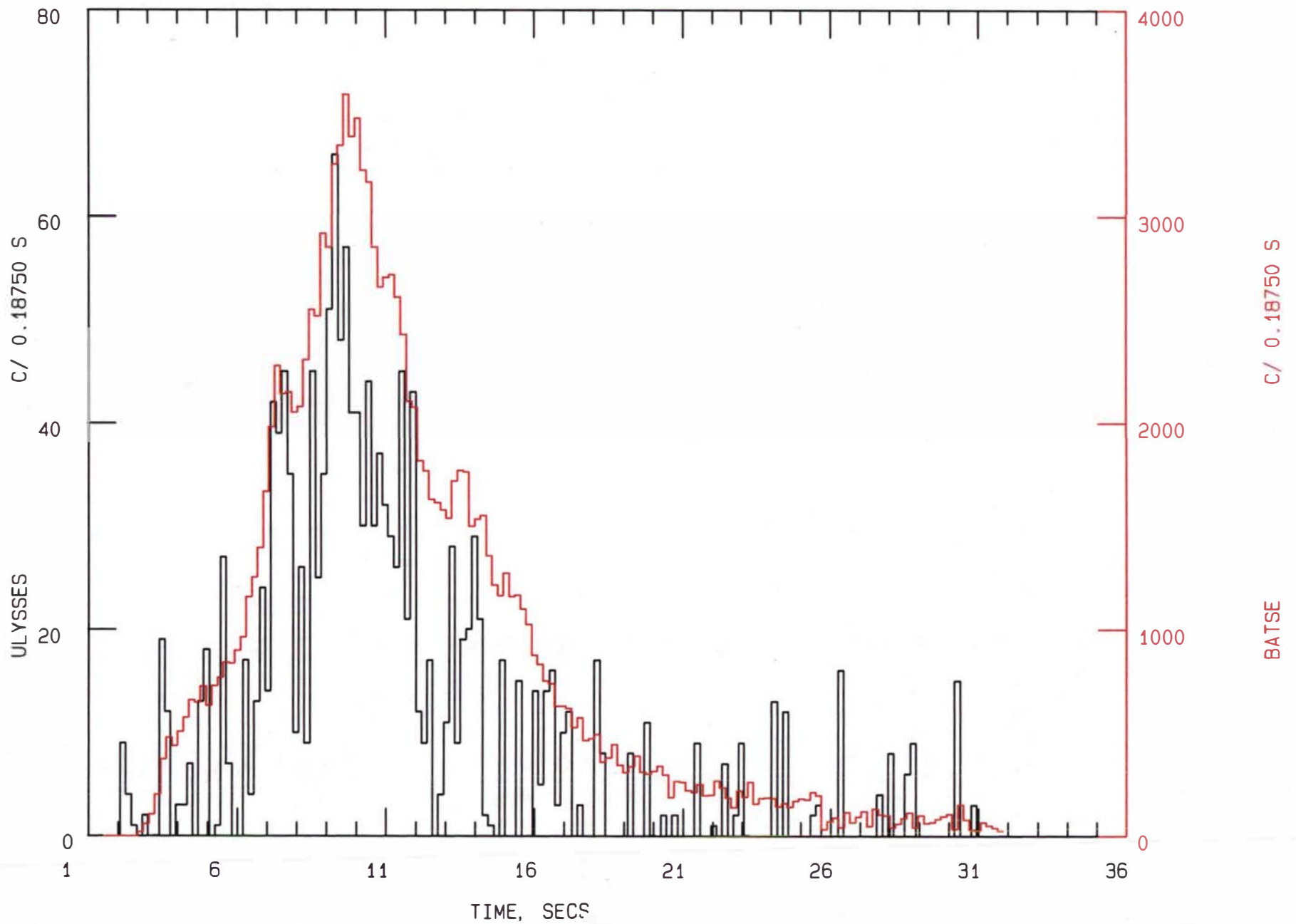
ULYSSES -BATSE

CORRELATION

24/04/99

10865.084

28/ 2/ 0



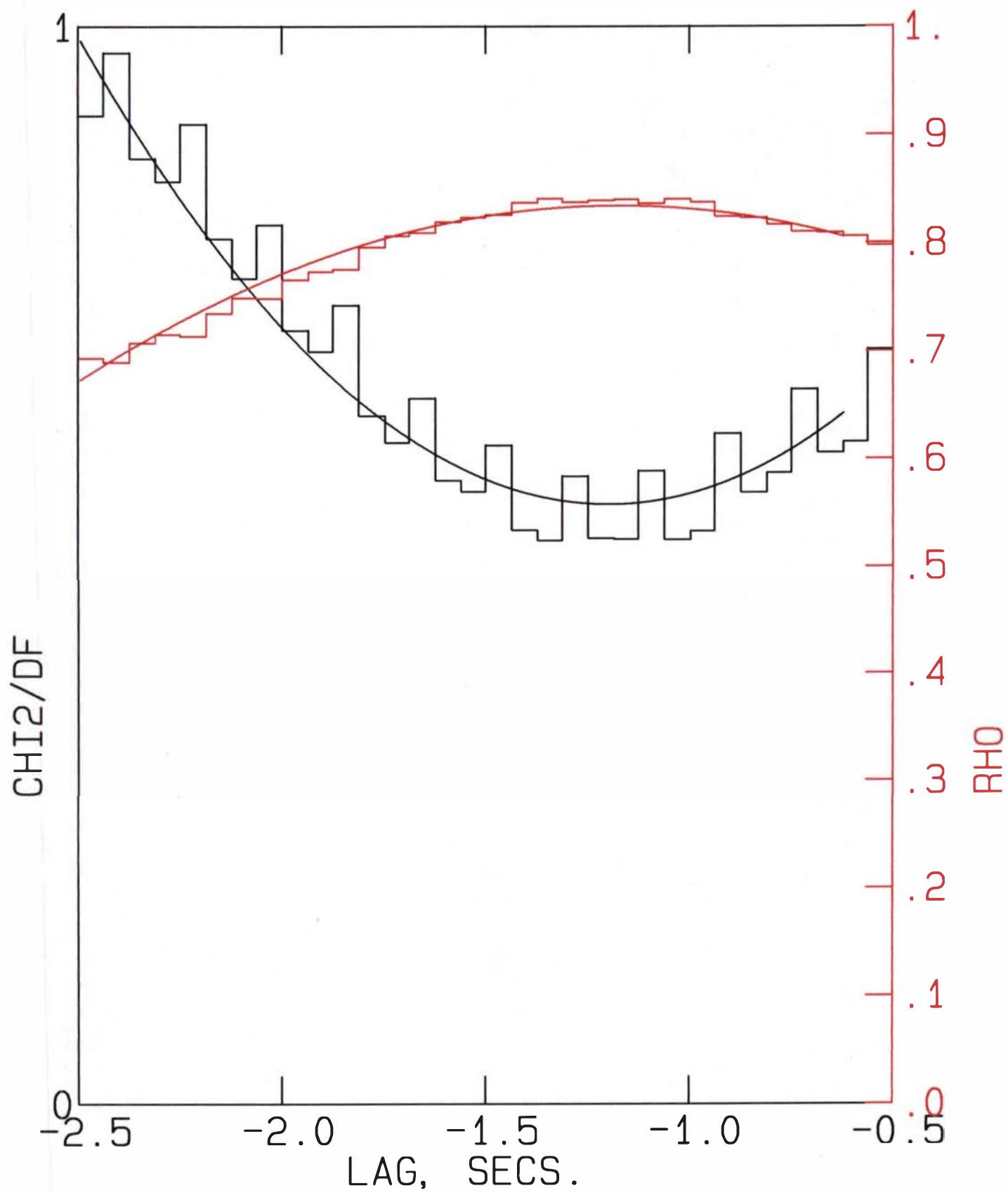
ULYSSES

-BATSE

CORRELATION

24/04/99

10865.084



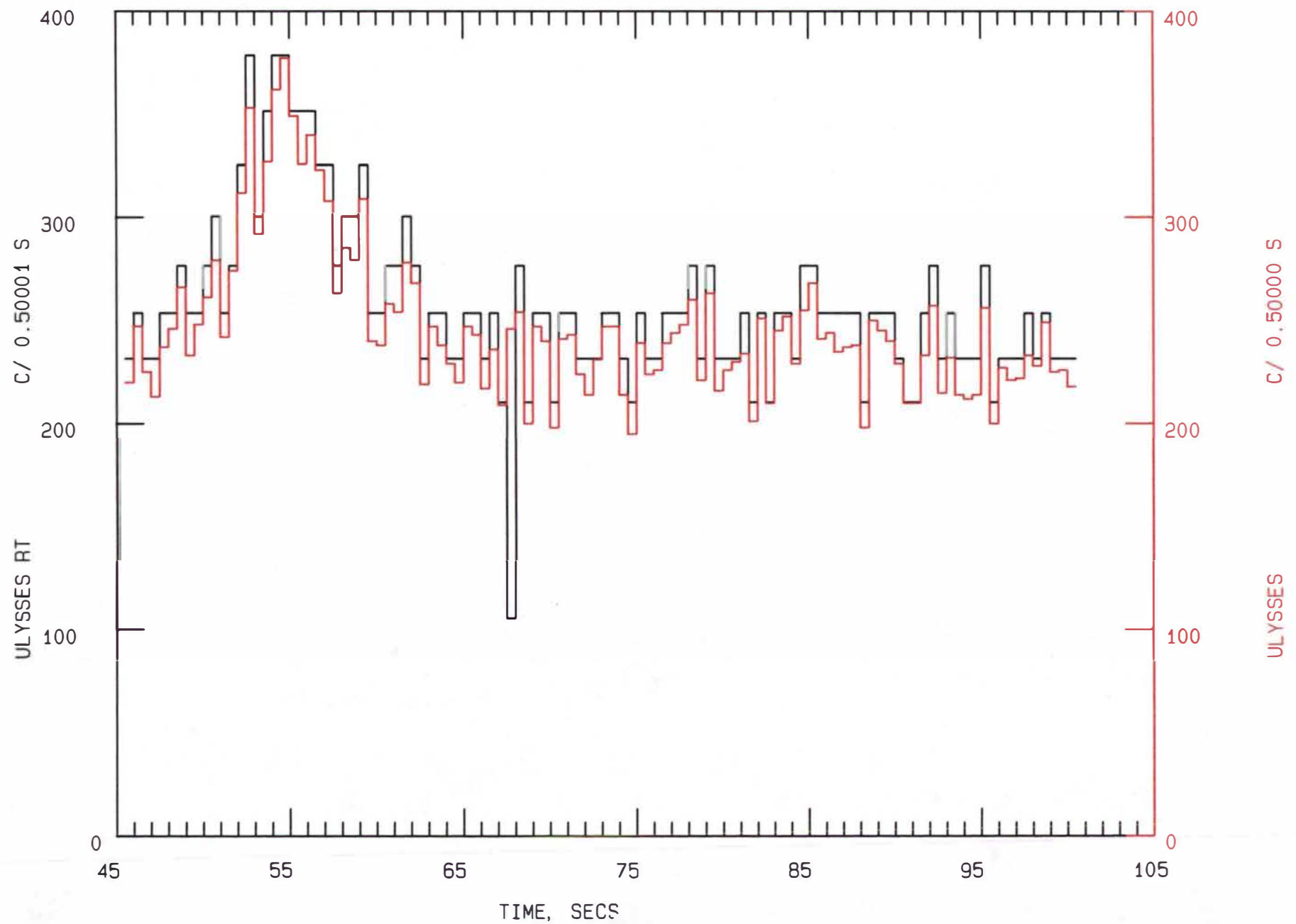
ULYSSES RT-ULYSSES

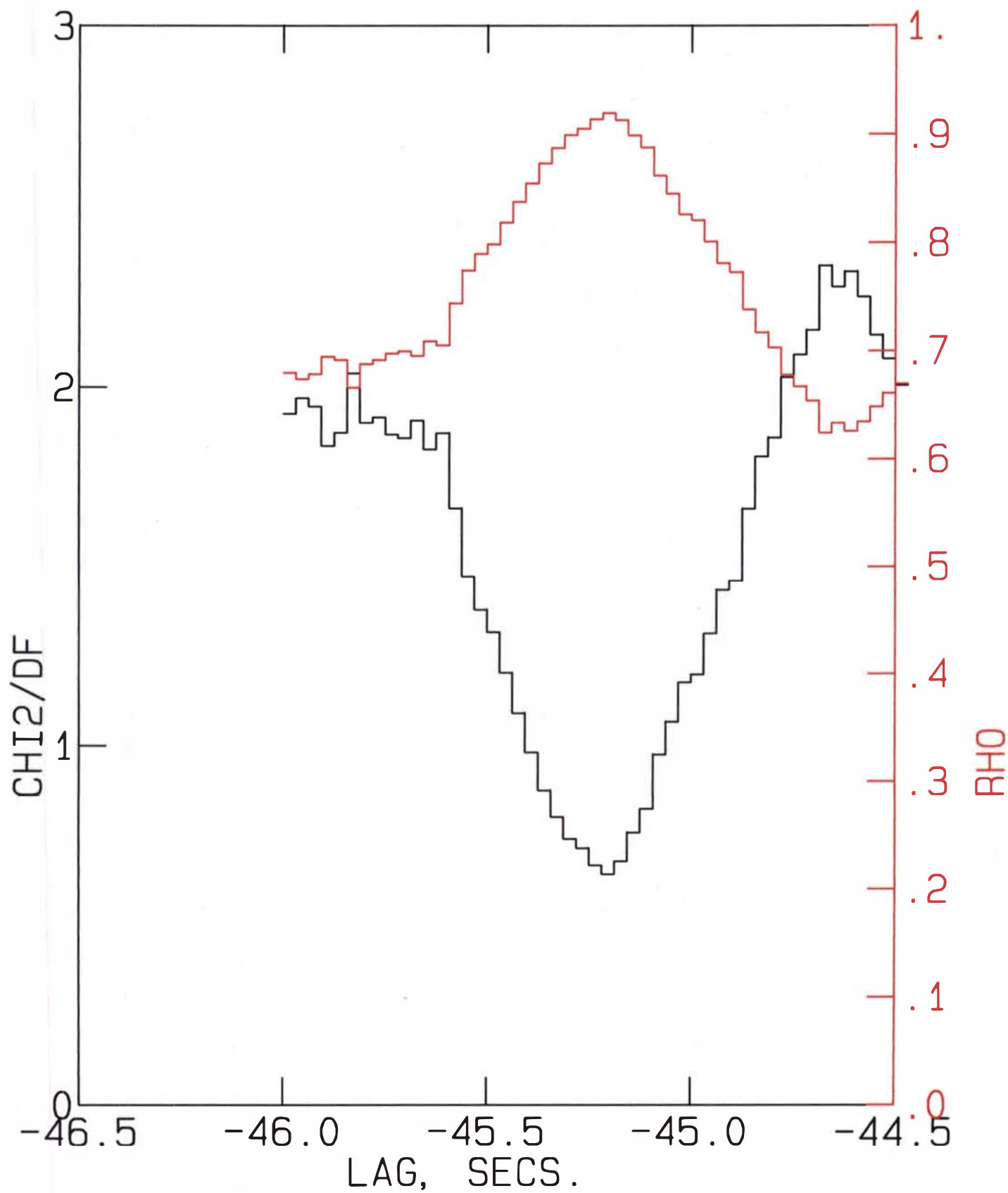
CORRELATION

24/ 4/99

10812.454

28/ 2/ 0

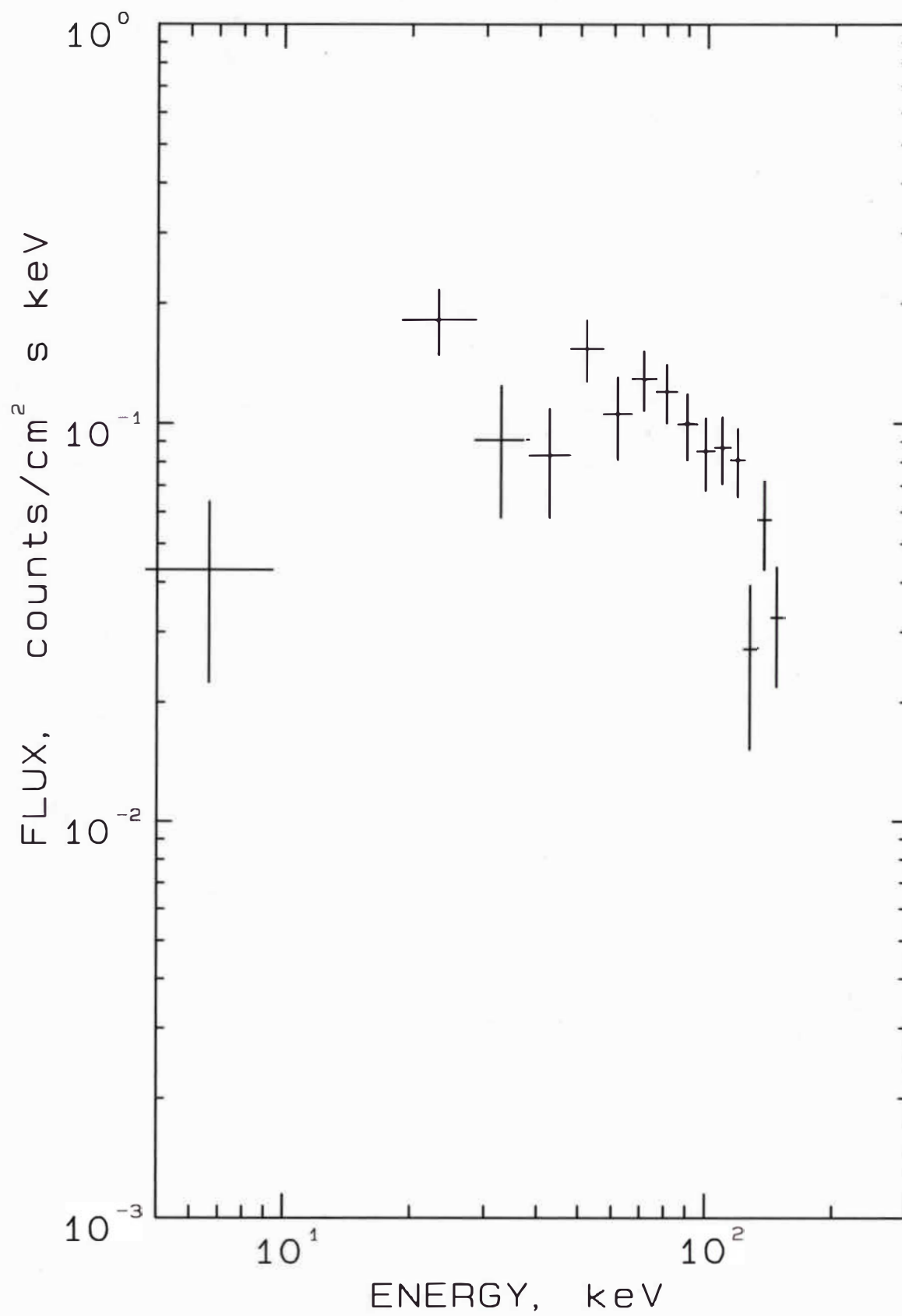




ULYSSES 24/04/99 10865.457

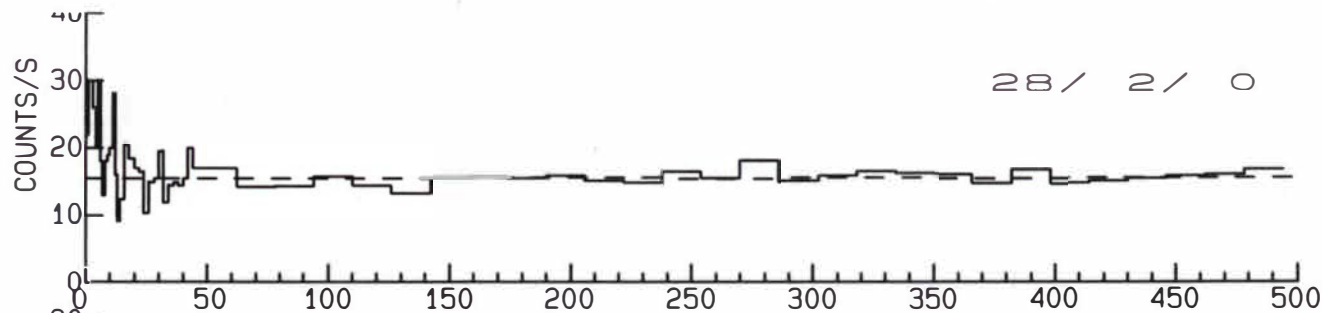
28/ 2/ 0

SPECTRUM INTEGRATED OVER 4.0 SECONDS, INTERVALS 2 TO 5

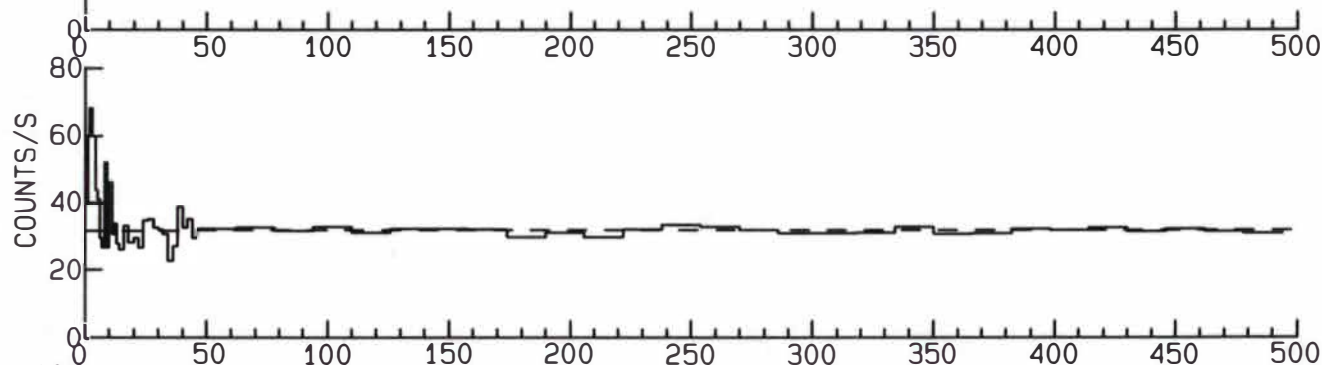


ULYSSES 24/04/99 10865.457 BURST SPECTRAL COUNT RATES

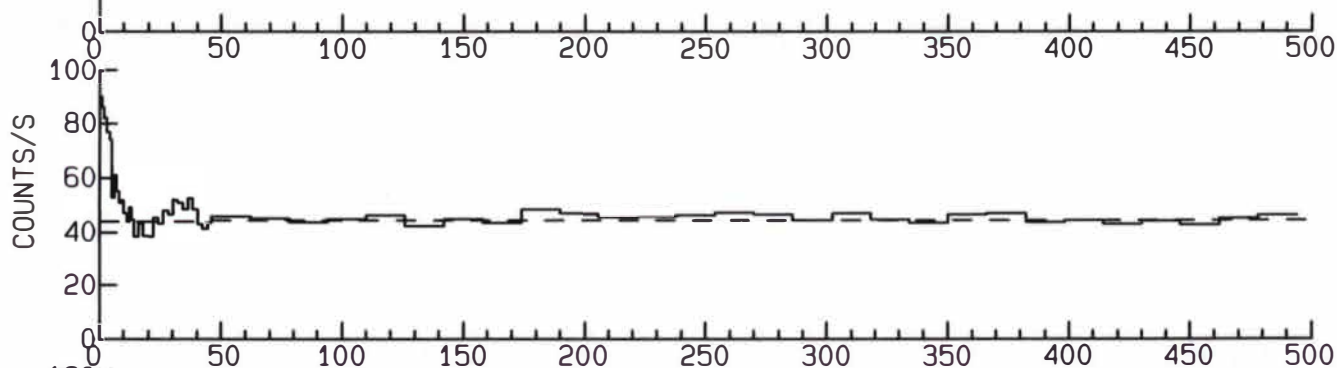
131-150 keV



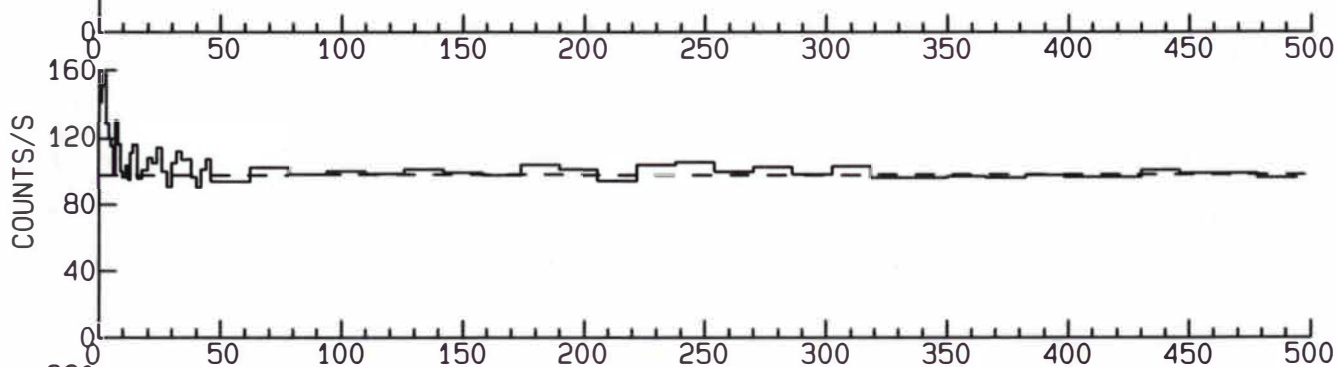
103-131 keV



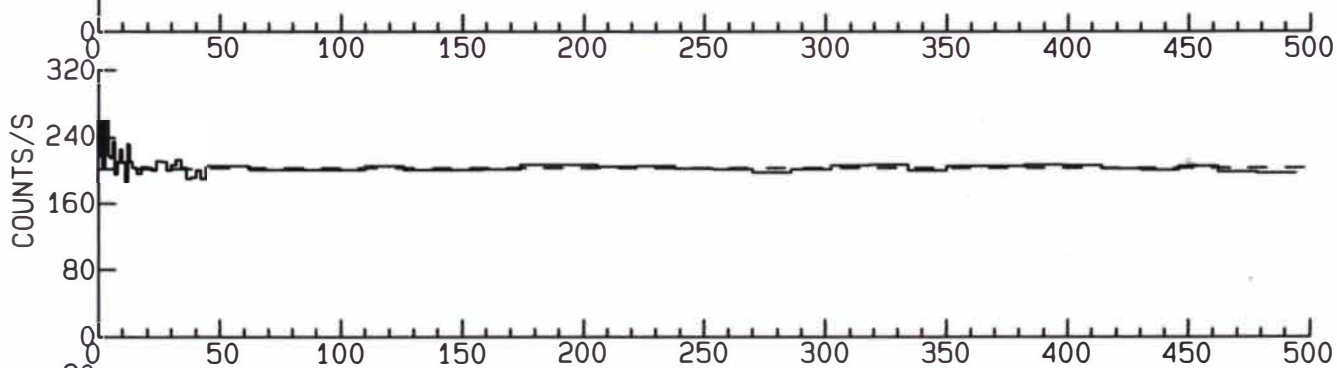
75-103 keV



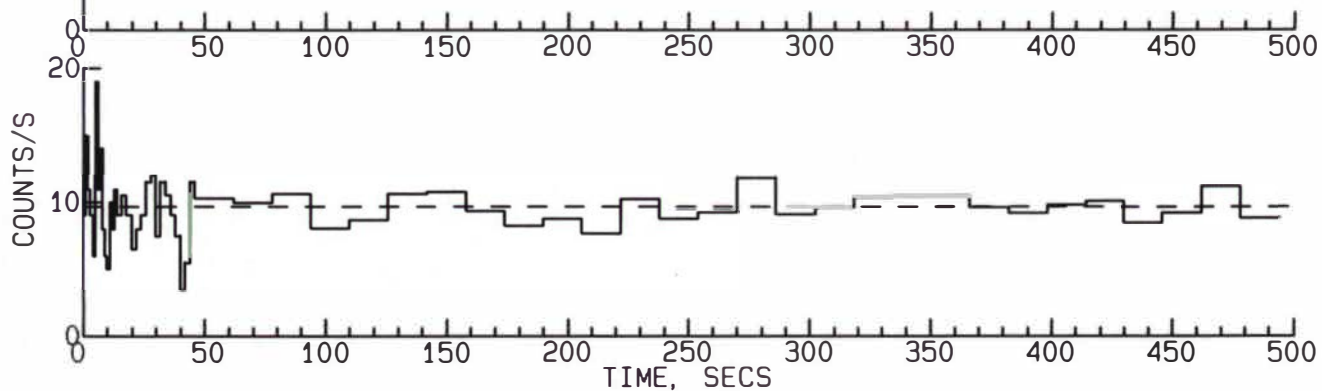
47-75 keV



18-47 keV



4-18 keV

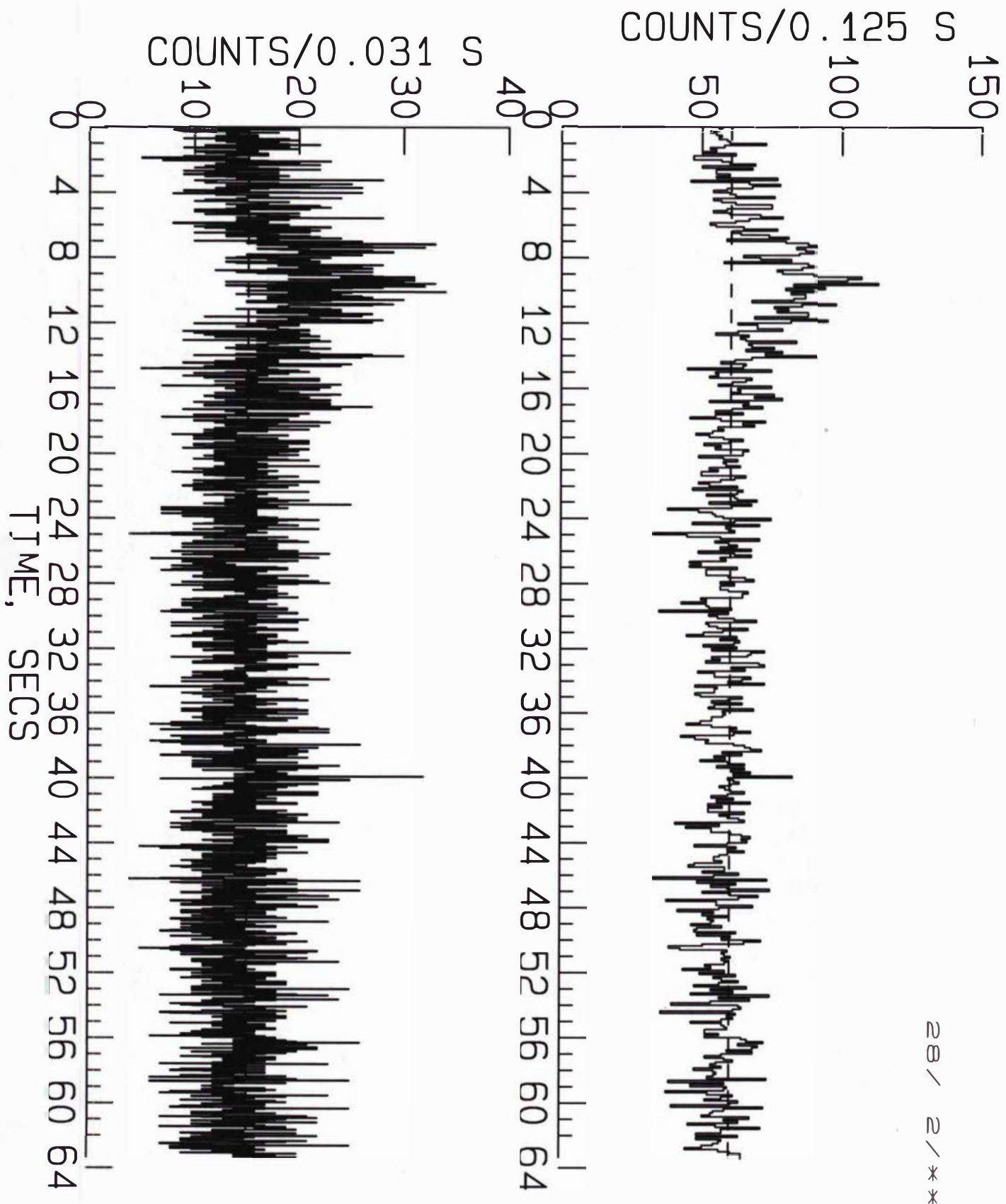


ULYSSES

24/04/99

Ttrig=10865.084

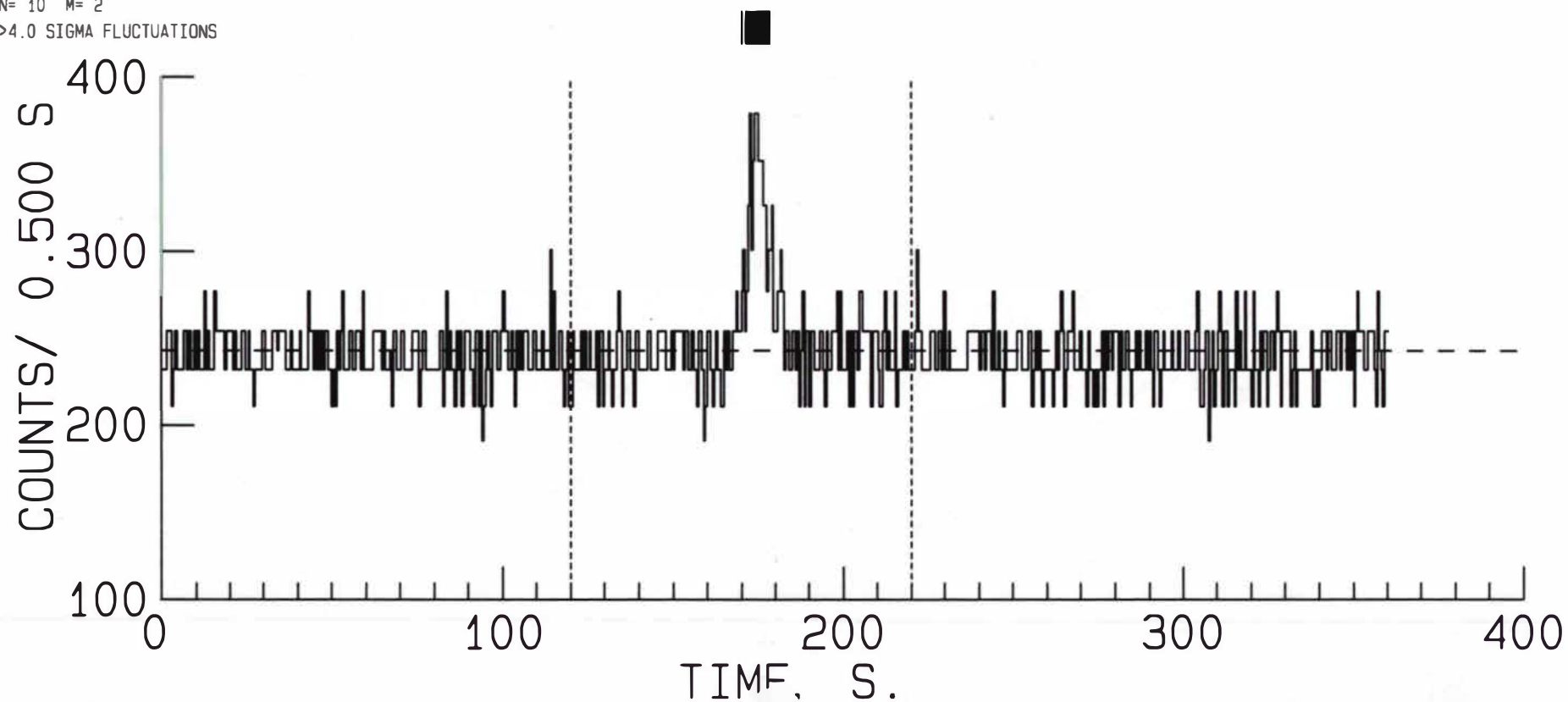
22- 150 keV



ULYSSES RT
24/ 4/99 10692.456 s
22- 150 keV

28/ 2/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



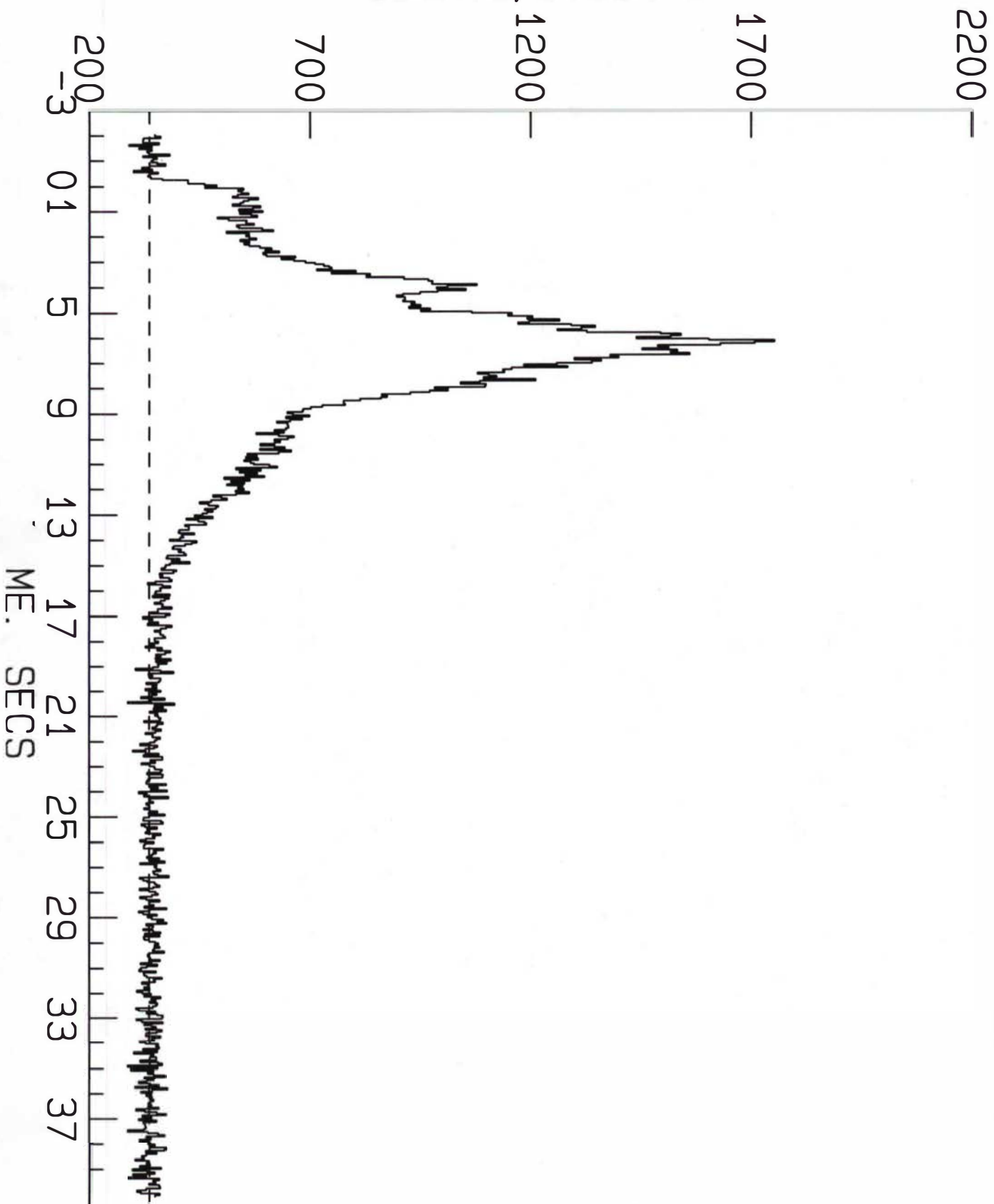
BATSE

24/04/99

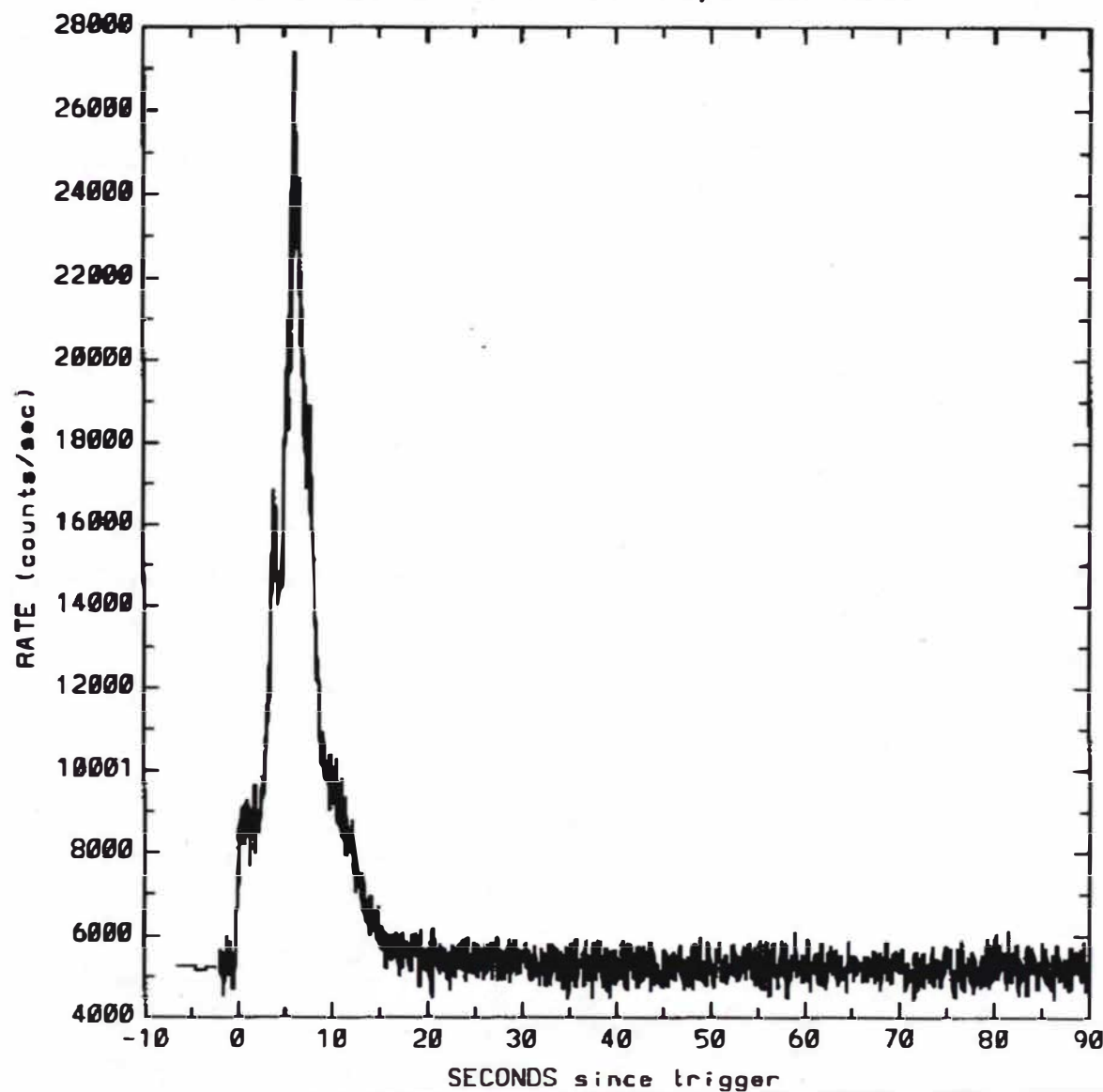
11551.929

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7527



24-FEB-2000 12:15:21

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7527

Trigger Time:
11292 / 11551.929

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..01.
7---3---

Discriminators:
(3 : 4)

Quality Mask:
BDISP1

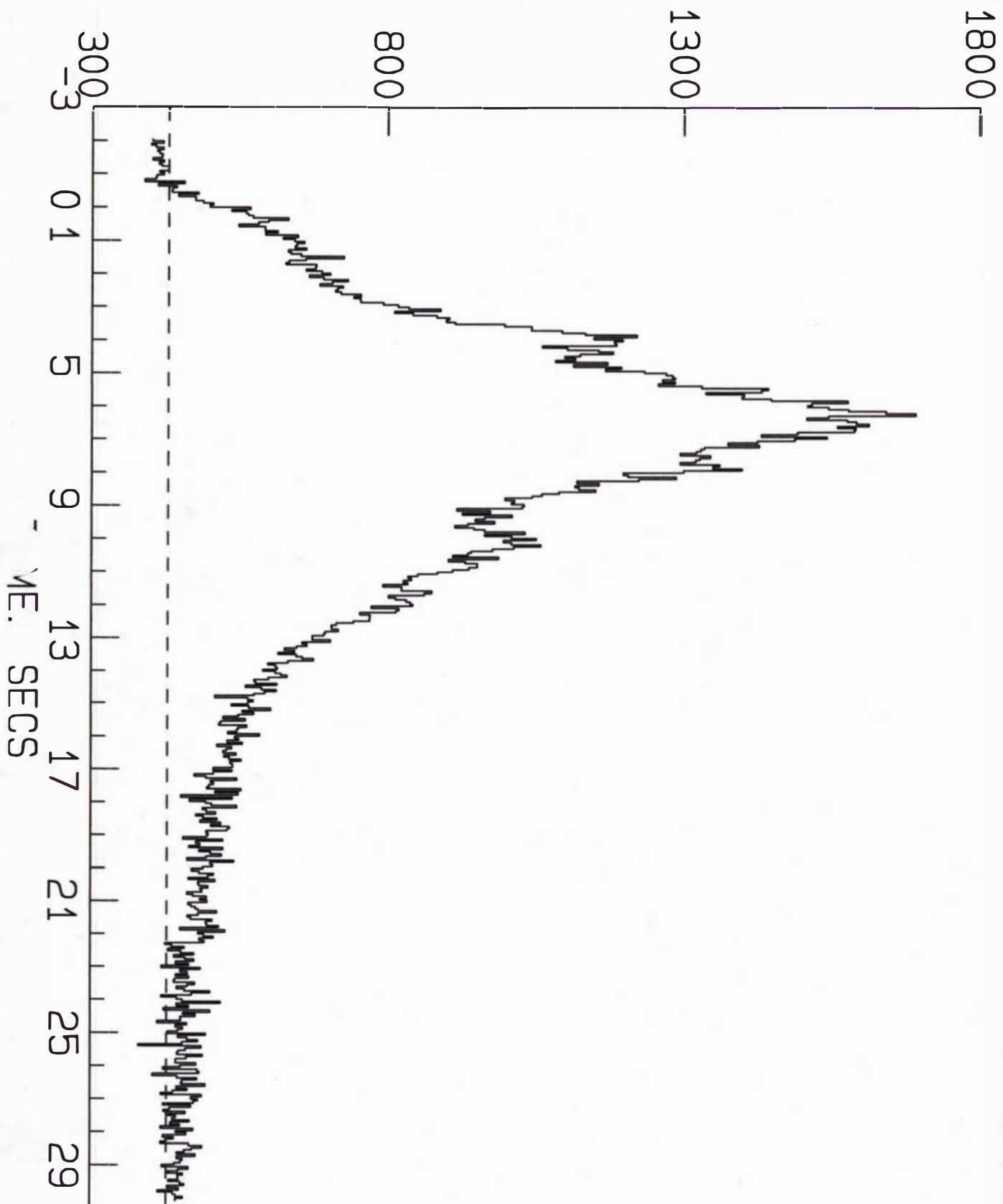
BATSE

24/04/99

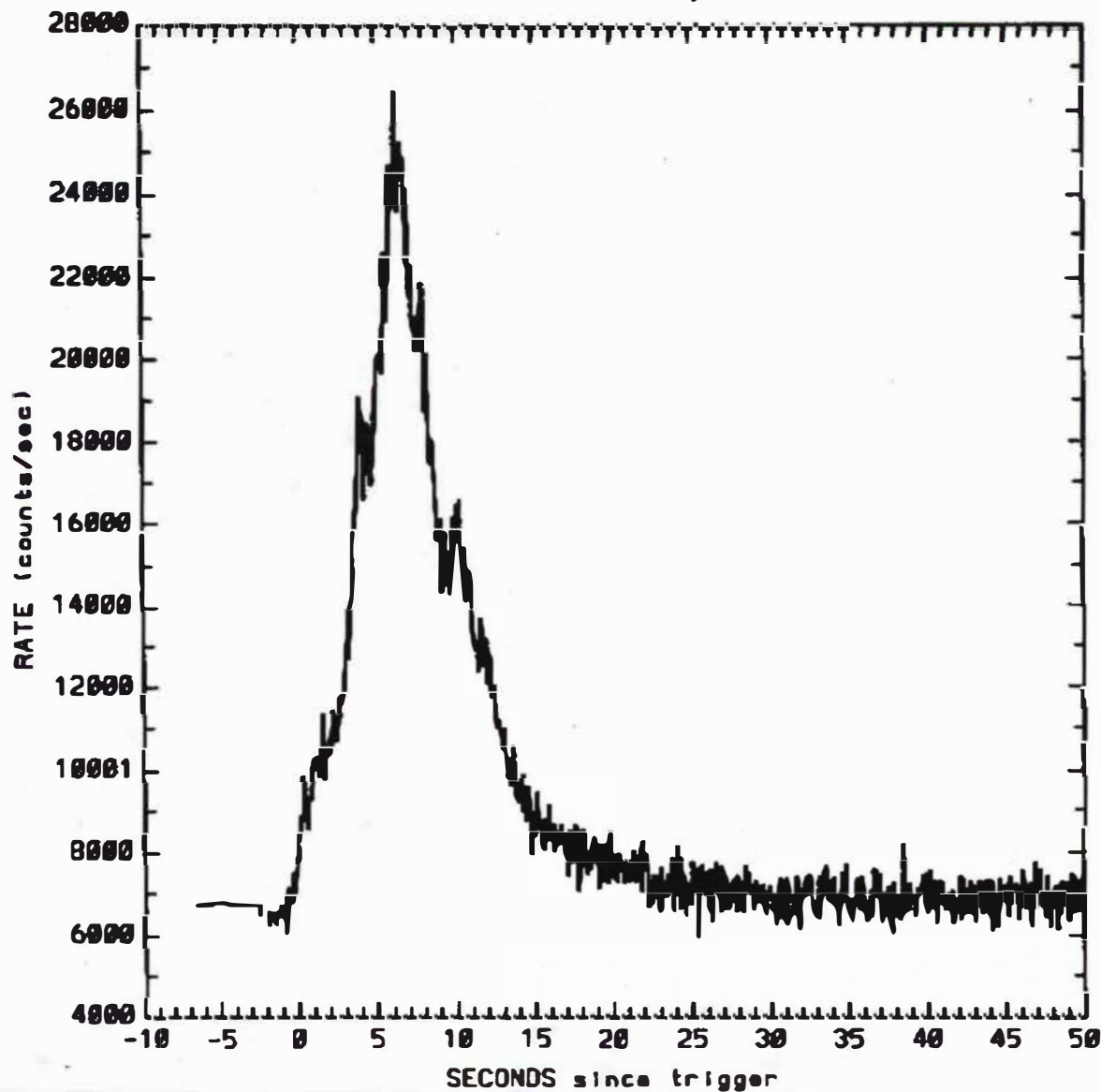
11551.929

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7527



20-APR-1999 09:43:10

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger = . 7527

Trigger Time:
11202 / 11551.929

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(1..2)

Quality Mask:
B0ISP1

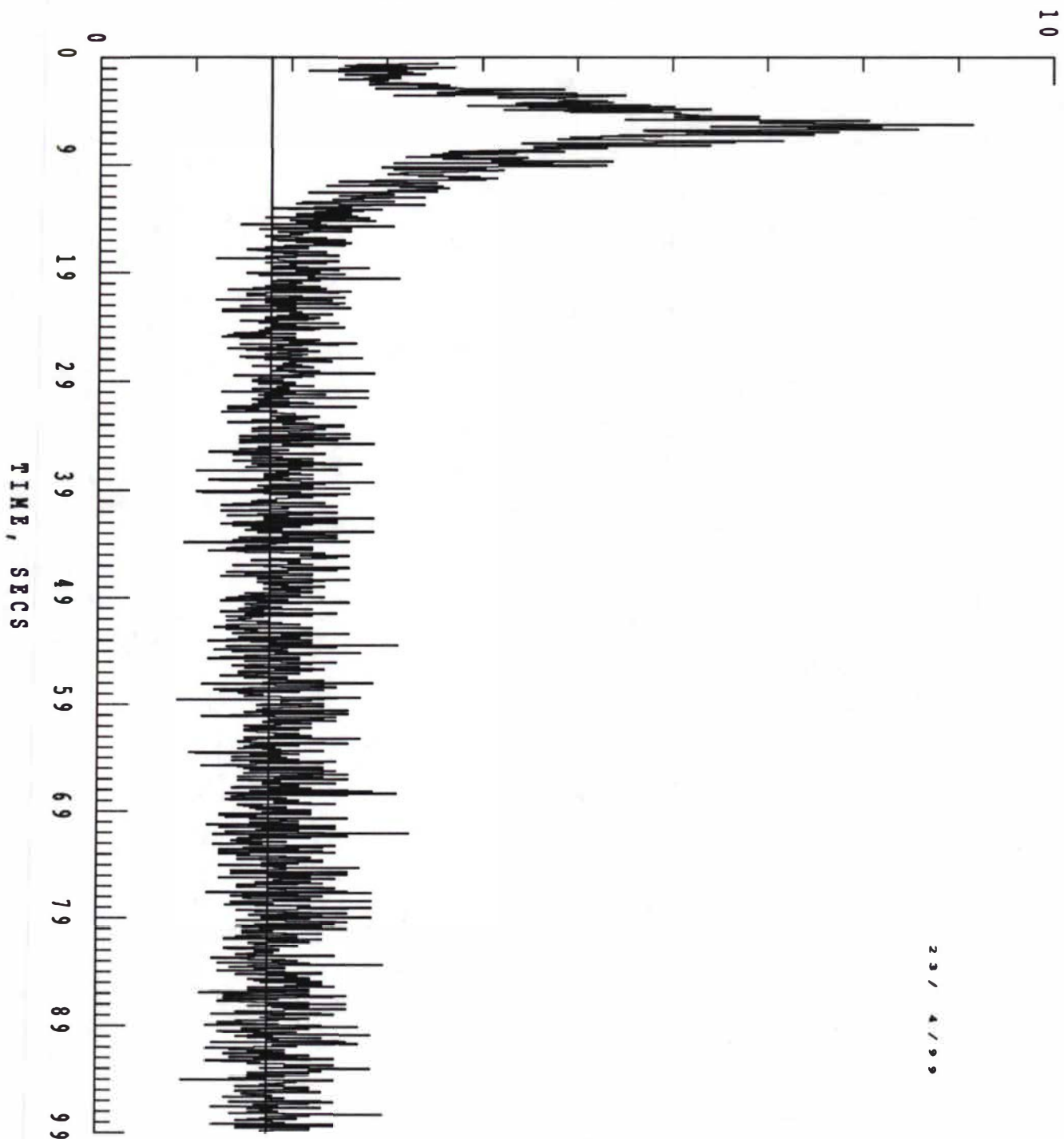
KONUS

24/04/99

11553.482

50 - 200 keV

COUNTS/0.064 S

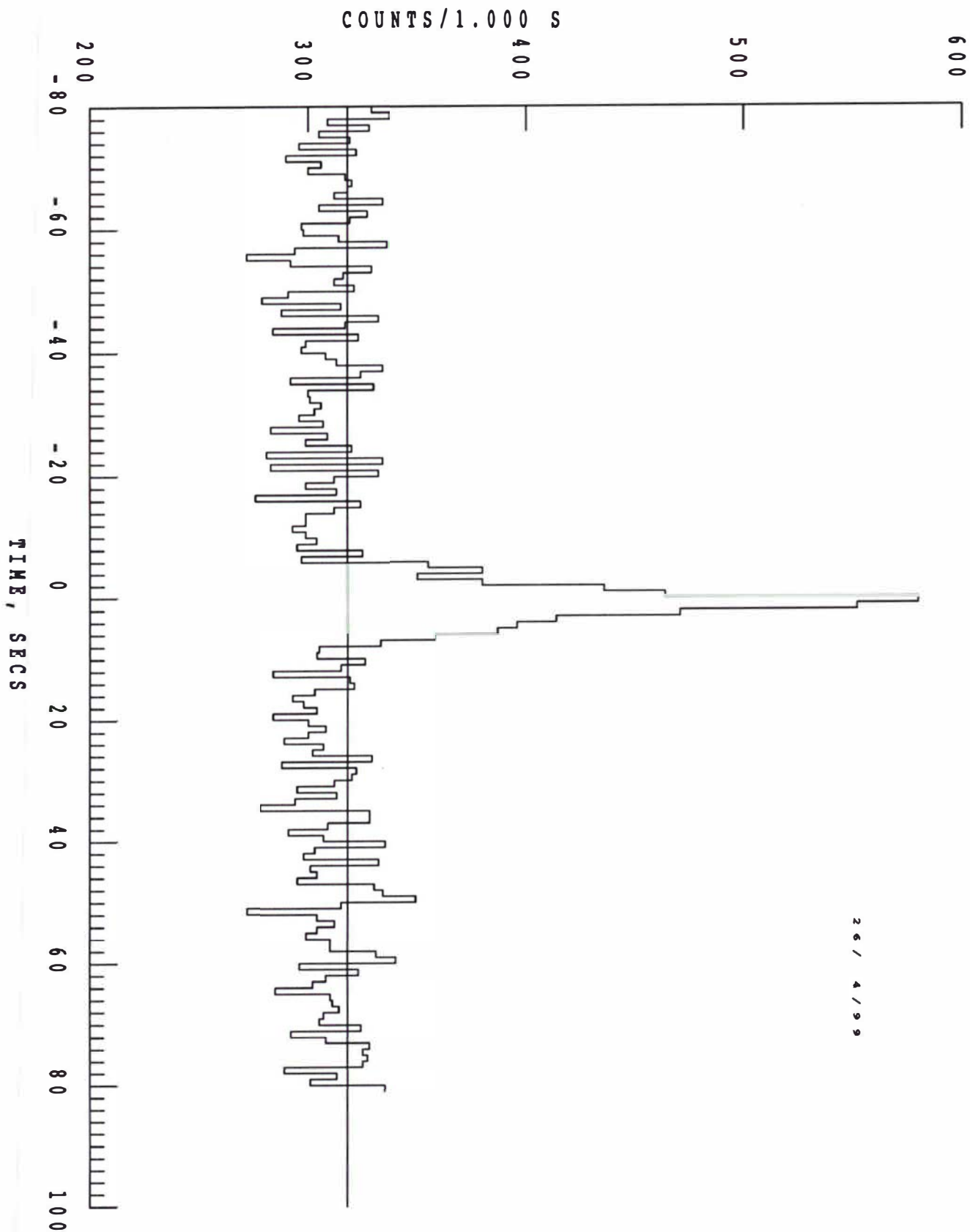


NEAR

24/04/99

11614.356

100-1000 keV



Date: Mar 14 2011

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 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

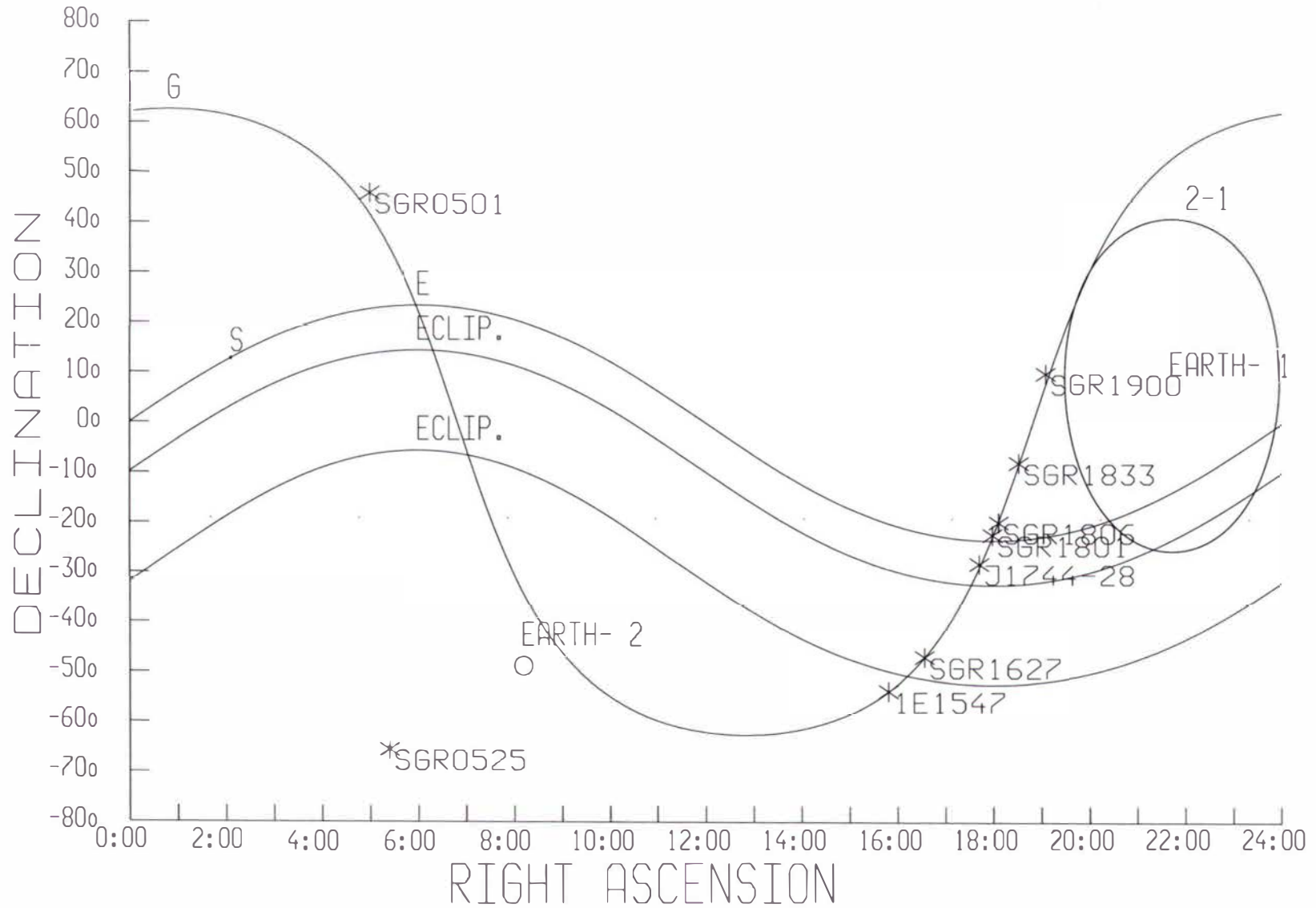
- ☐ $\Sigma 3\Delta t$'s calculated?

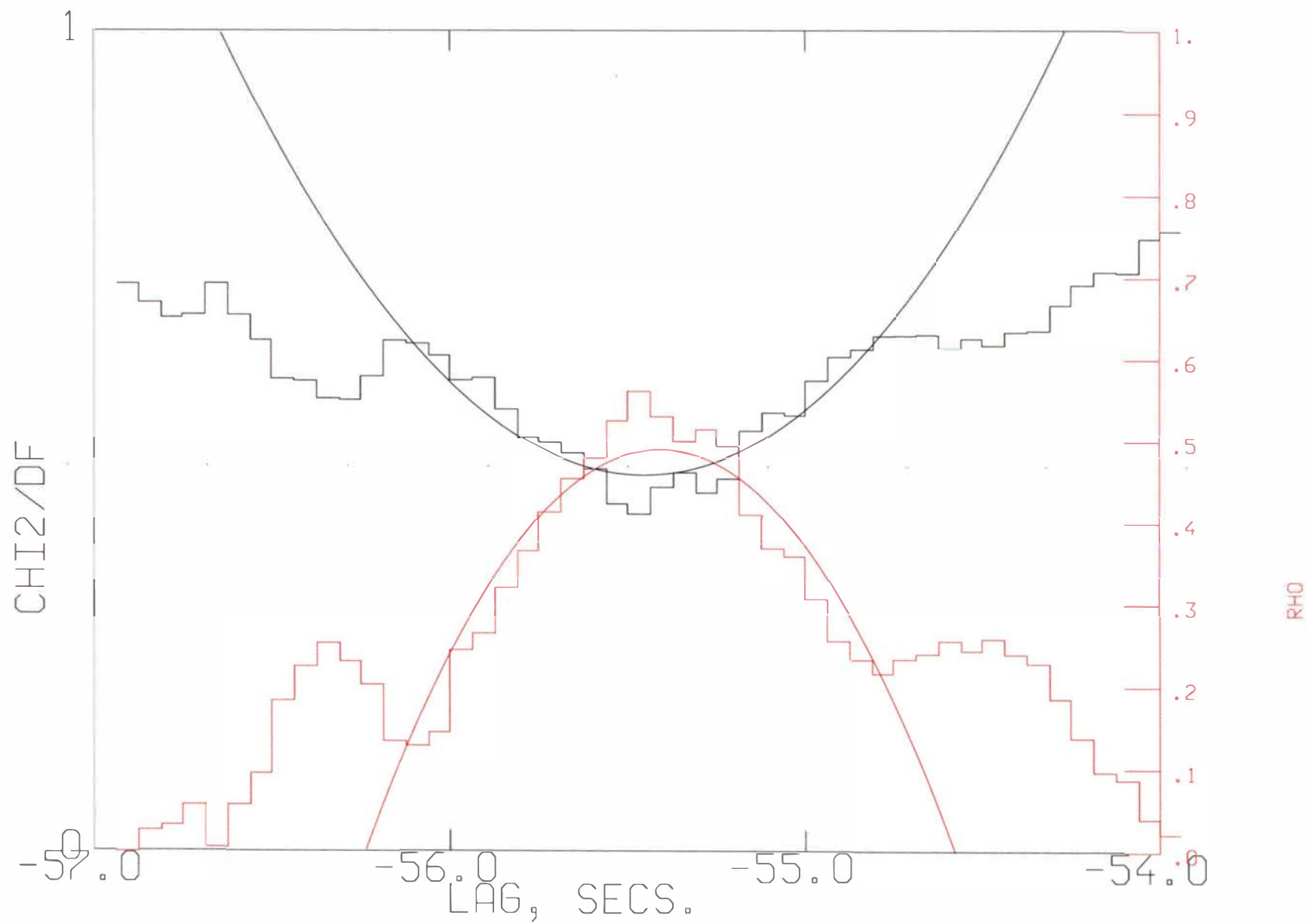
- ☒ ACCESS database updated?

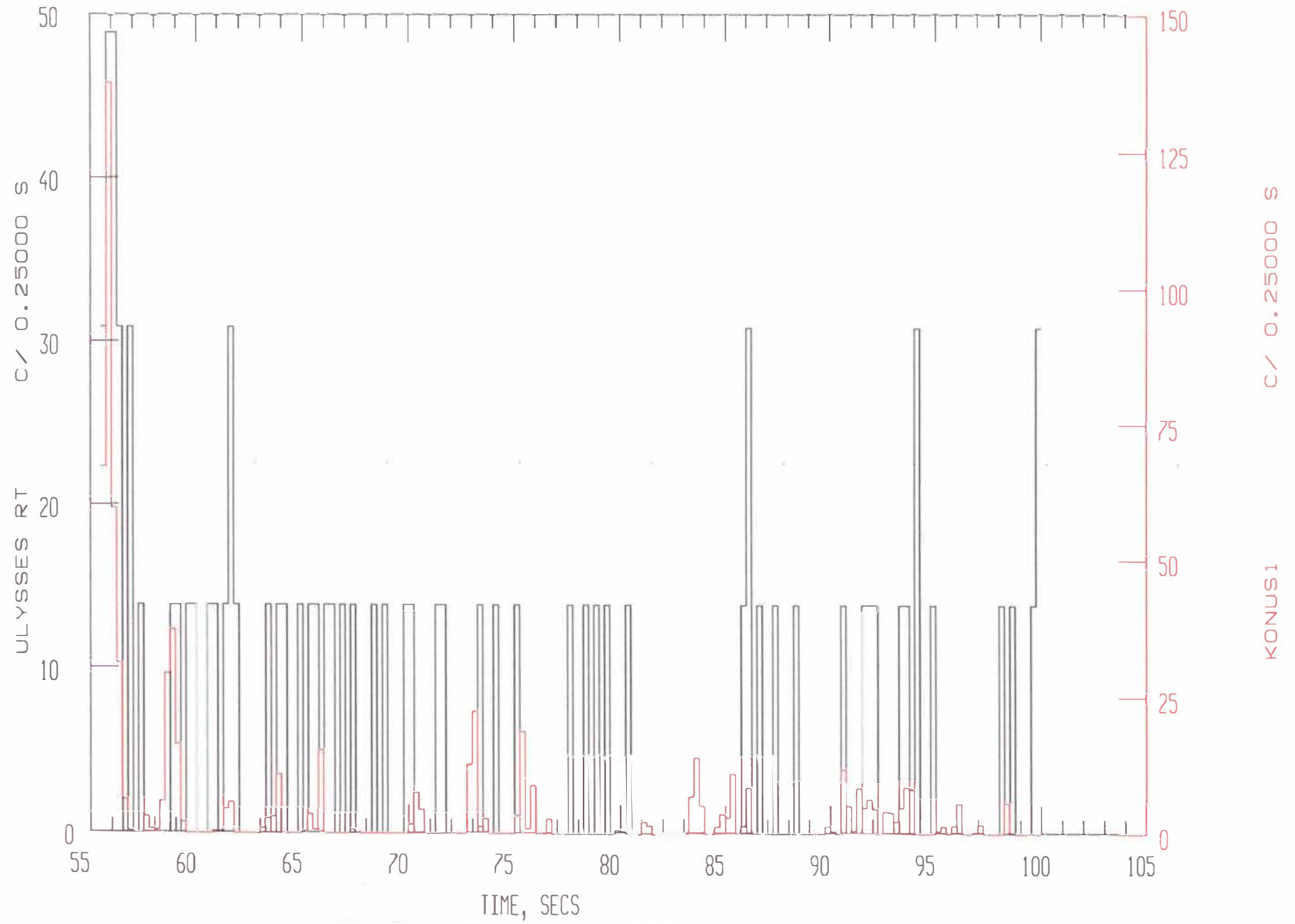
EVENT OF APR 24, 1999 7:25

14/03/2011

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

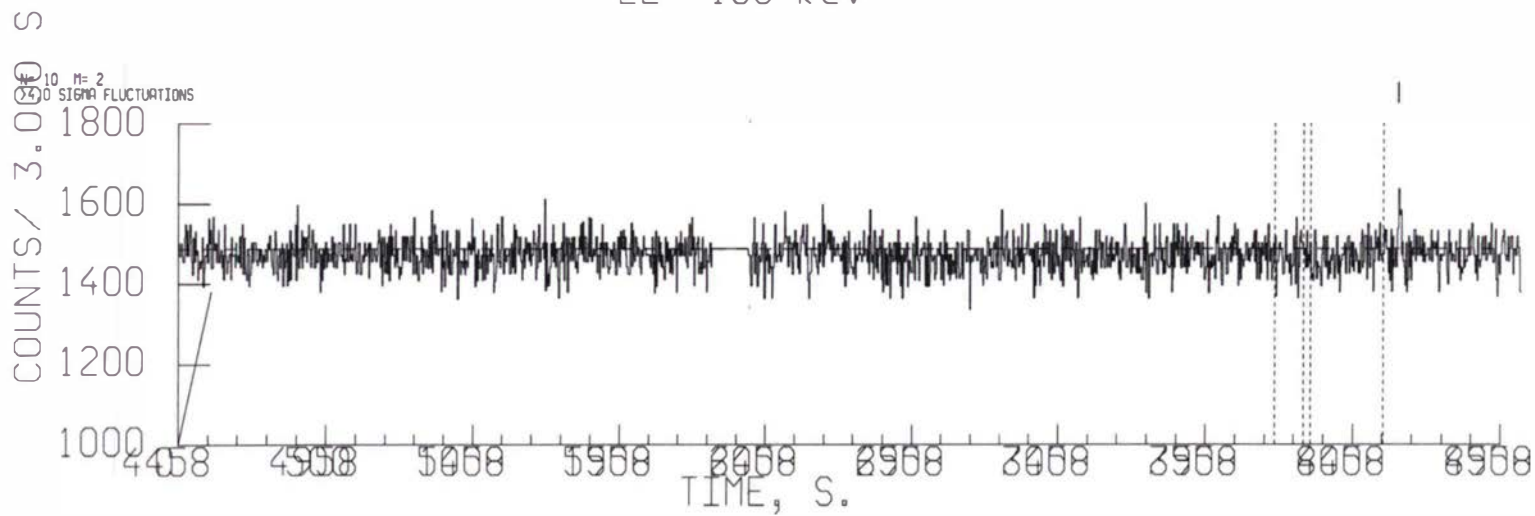






ULYSSES RT
24/ 4/99 22608.080 s
0.250 S INTERVALS REGROUPED BY 12
22- 150 keV

14 / 3 / 11



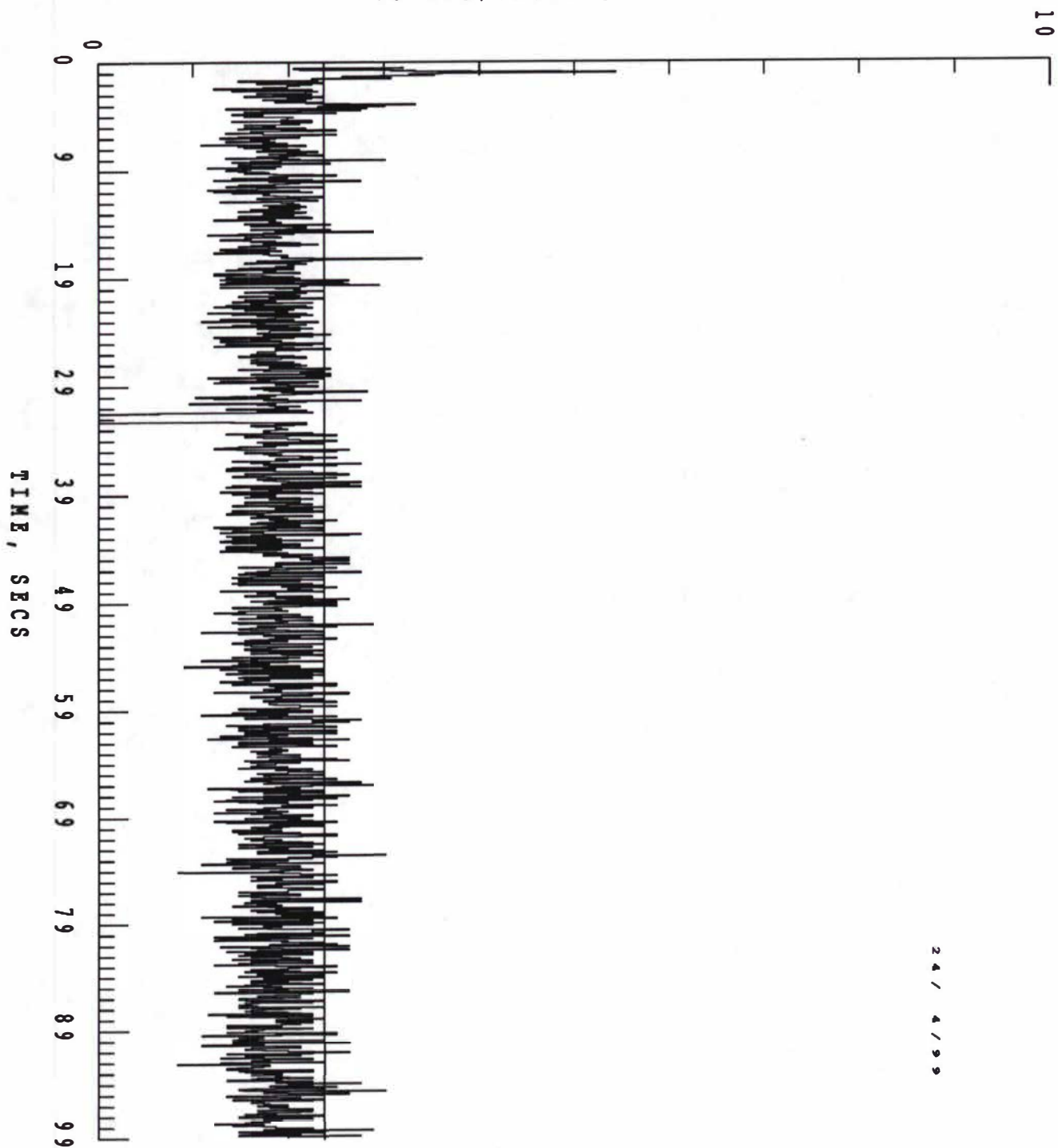
KONUS

24/04/99

24902.498

50 - 200 keV

COUNTS/0.064 S



24 / 4 / 99

From PETERSON@fender.msfc.nasa.gov Mon Apr 26 10:06:40 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA20882; Mon, 26 Apr 1999 10:06:39 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA15024
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 26 Apr 1999 10:04:17 -0700 (PDT)
Date: Mon, 26 Apr 1999 12:07:20 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990426120720.20204167@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7528
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7528
EVENT OF 1999 APR 24 DAY OF YEAR=114
EVENT CROSSING TIME AT BATSE : 29774. S. OR 08:16:14.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 158.000 12.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 24/ 4/ 99 IS:
RA= 145.103 DEC= -7.435 DIST= 4.478 AU
BATSE-ULYSSES DISTANCE = 669843268. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=156.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2052.37 SECS.
CROSSING TIME AT ULYSSES IS 27722. S. OR 07:42:01 +/- 172.18 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 24/ 4/ 99 IS:
RA= 212.588 DEC= -11.687 DIST= 0.584 AU
MARS-BATSE DISTANCE = 87415472. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=120.86 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -149.56 SECS.
CROSSING TIME AT MARS IS 29624. S. OR 08:13:44 +/- 41.19 SECONDS

BATSE BURST TRIGGER

NO.: 7528

TIME: TJD=1292 SECONDS=29774

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=122.1 AZIMUTH=143.3 ERROR=2.126 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 70 S, STARTS AT APPROX. T-50 S
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7528	990424	11292	29774	2500	158	+12	70

BATSE BURST# 7528

ULYSSES RT

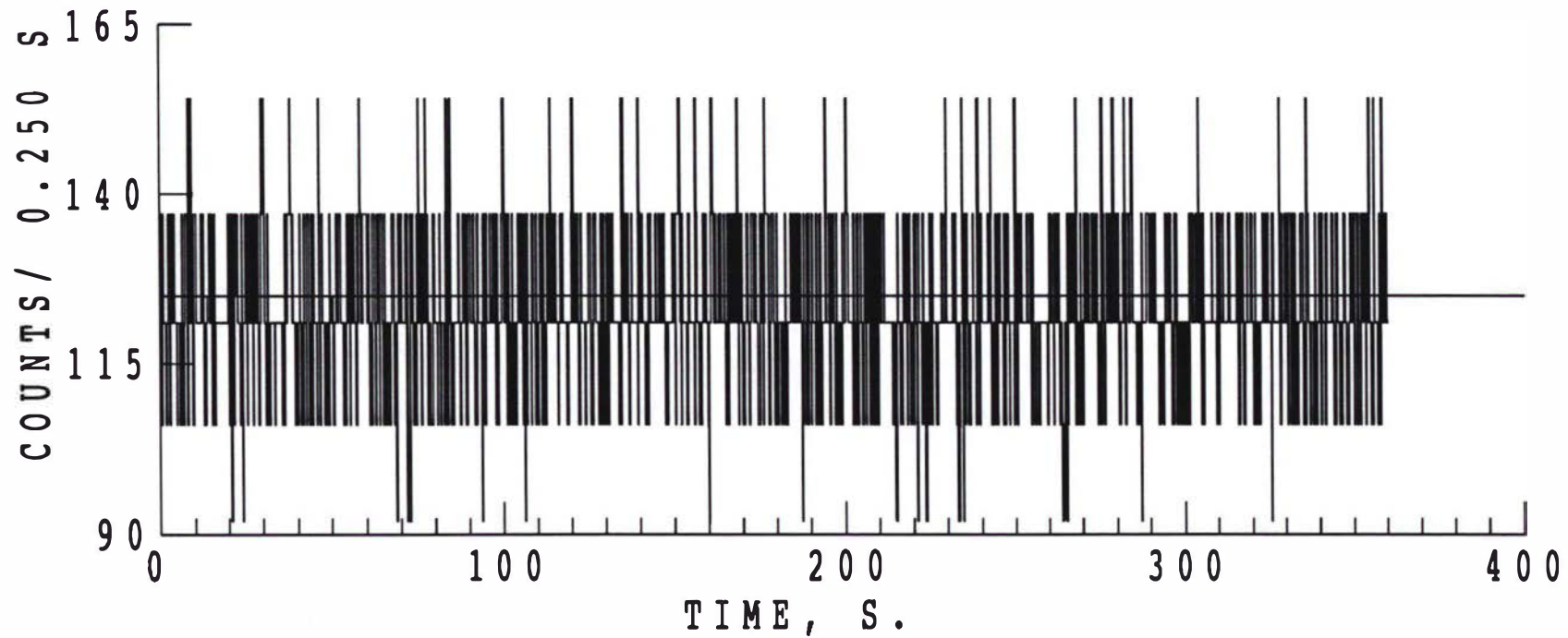
26 / 4 / 99

24 / 4 / 99 27540.129 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Mon Apr 26 10:05:04 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA20853; Mon, 26 Apr 1999 10:05:04 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA14990
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 26 Apr 1999 10:02:42 -0700 (PDT)
Date: Mon, 26 Apr 1999 12:05:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990426120547.20204167@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7529
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7529
EVENT OF 1999 APR 24 DAY OF YEAR=114
EVENT CROSSING TIME AT BATSE : 79762. S. OR 22:09:22.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 84.000 37.000
BATSE PEAK COUNTING RATE: 19000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 24/ 4/ 99 IS:
RA= 145.052 DEC= -7.415 DIST= 4.485 AU
BATSE-ULYSSES DISTANCE = 670887681. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=107.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -684.01 SECS.
CROSSING TIME AT ULYSSES IS 79078. S. OR 21:57:57 +/- 409.54 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 24/ 4/ 99 IS:
RA= 212.588 DEC= -11.687 DIST= 0.584 AU
MARS-BATSE DISTANCE = 87415472. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 52.43 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 177.78 SECS.
CROSSING TIME AT MARS IS 79940. S. OR 22:12:19 +/- 42.83 SECONDS

BATSE BURST TRIGGER

NO.: 7529

TIME: TJD=1292 SECONDS=79762

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=130.1 AZIMUTH=53.2 ERROR=0.676 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. APPROX. 6 S, STARTS AT APPROX. T+1 S. VISIBLE ABOVE
300 KEV. WEAK PRECURSOR AT APPROX. T-2 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7529	990424	11292	79762	19000	084	+37	6

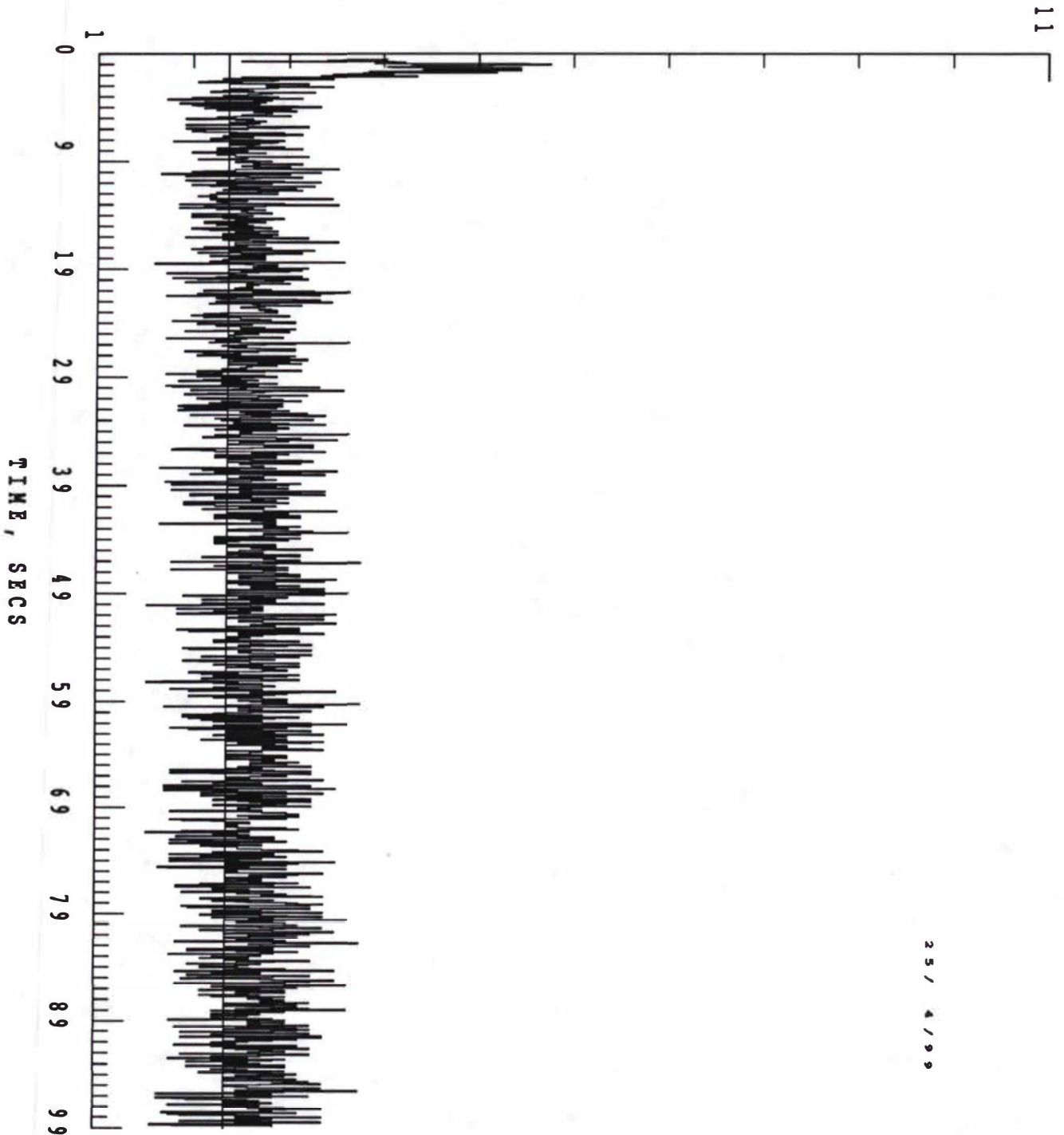
KONUS

24/04/99

79763.433

50 - 200 keV

COUNTS/0.064 S



Date: Feb 28 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vwx@boccl, from from Teresa Sheets,
 OK ~~Glenn~~ 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

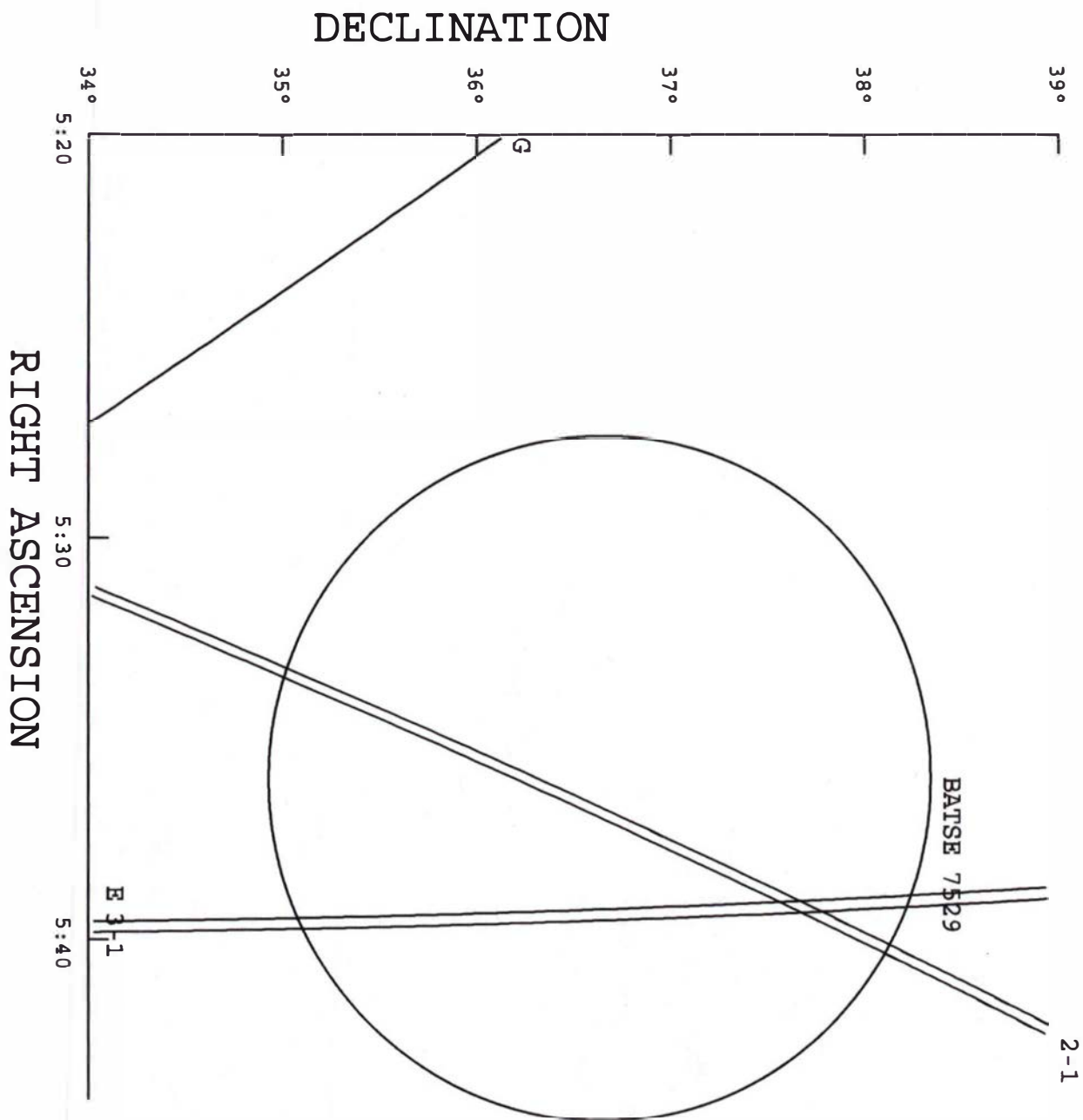
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF APR 24, 1999 22:09

28 / 2 / 0



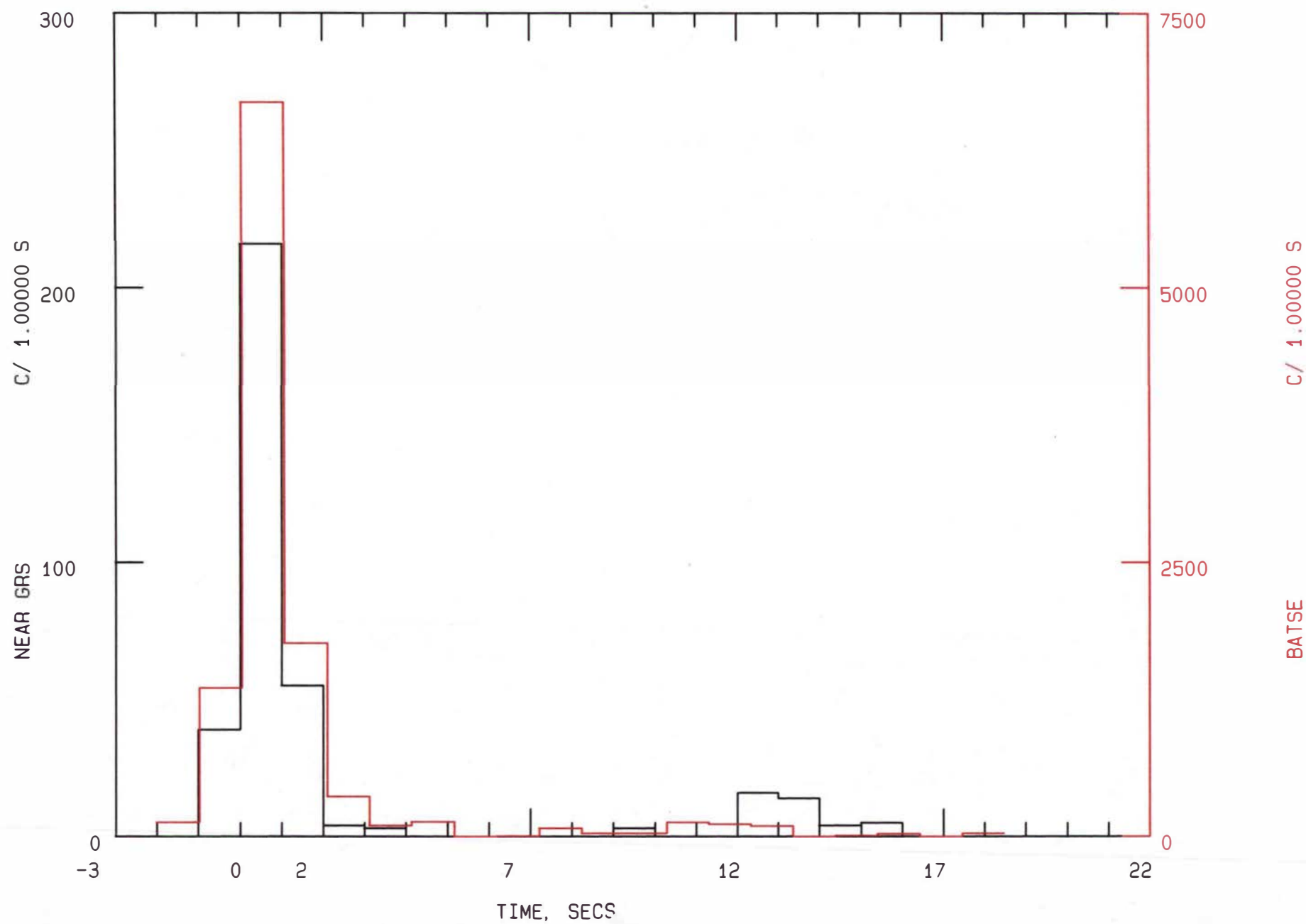
NEAR GRS -BATSE

CORRELATION

24/04/99

79205.339

28/ 2/ 0

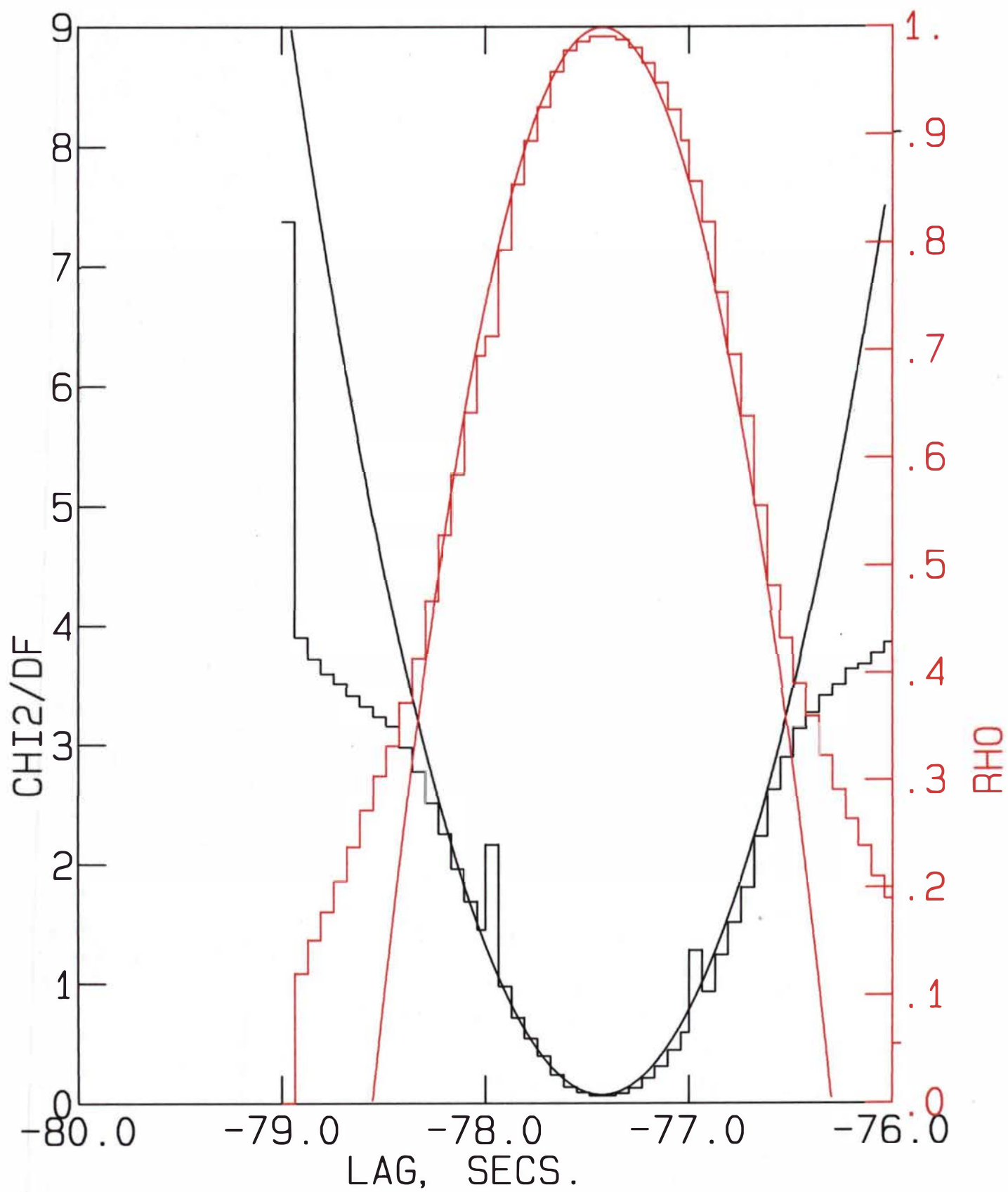


NEAR GRS -BATSE

CORRELATION

24/04/99

79205.339



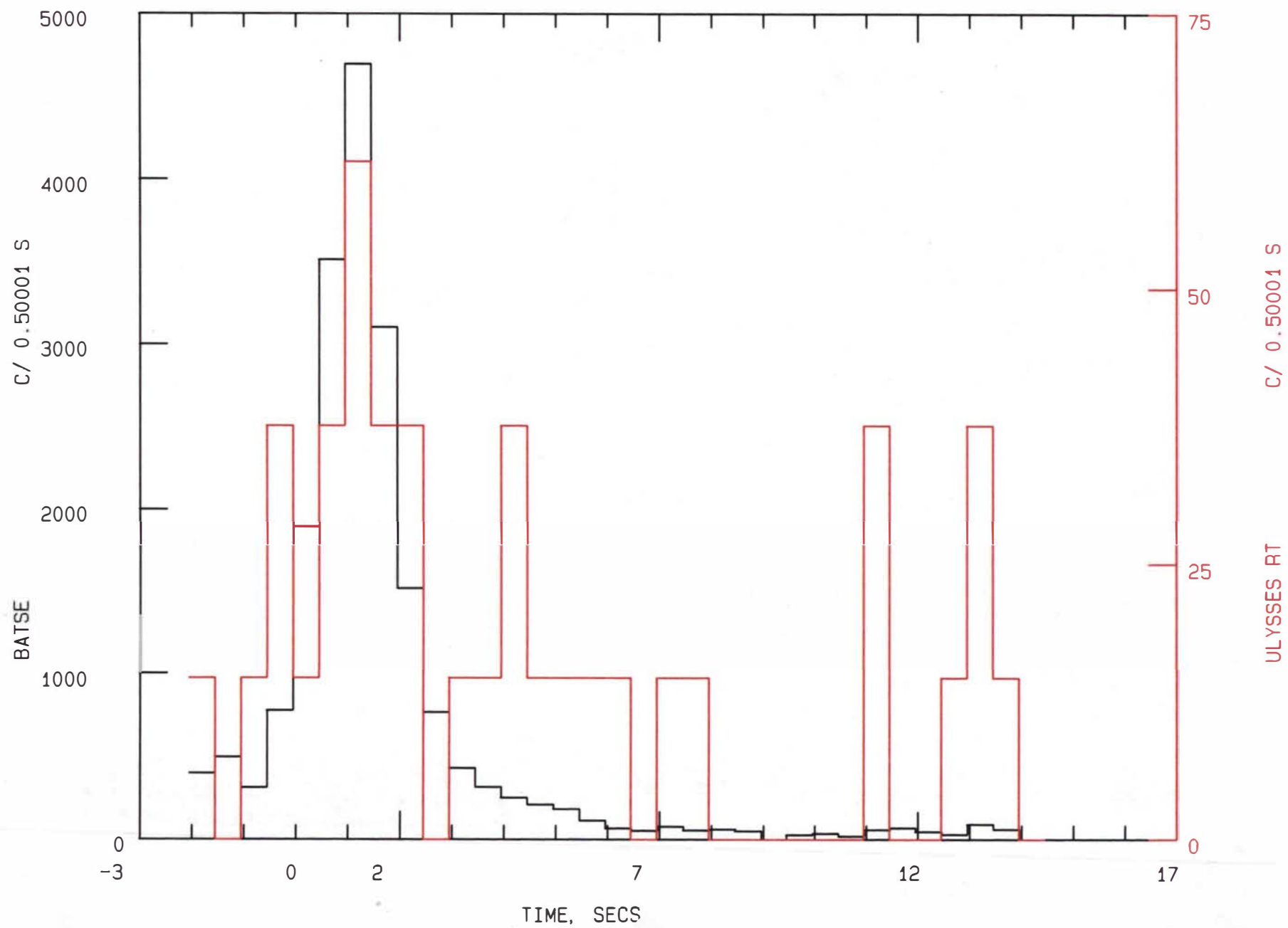
BATSE

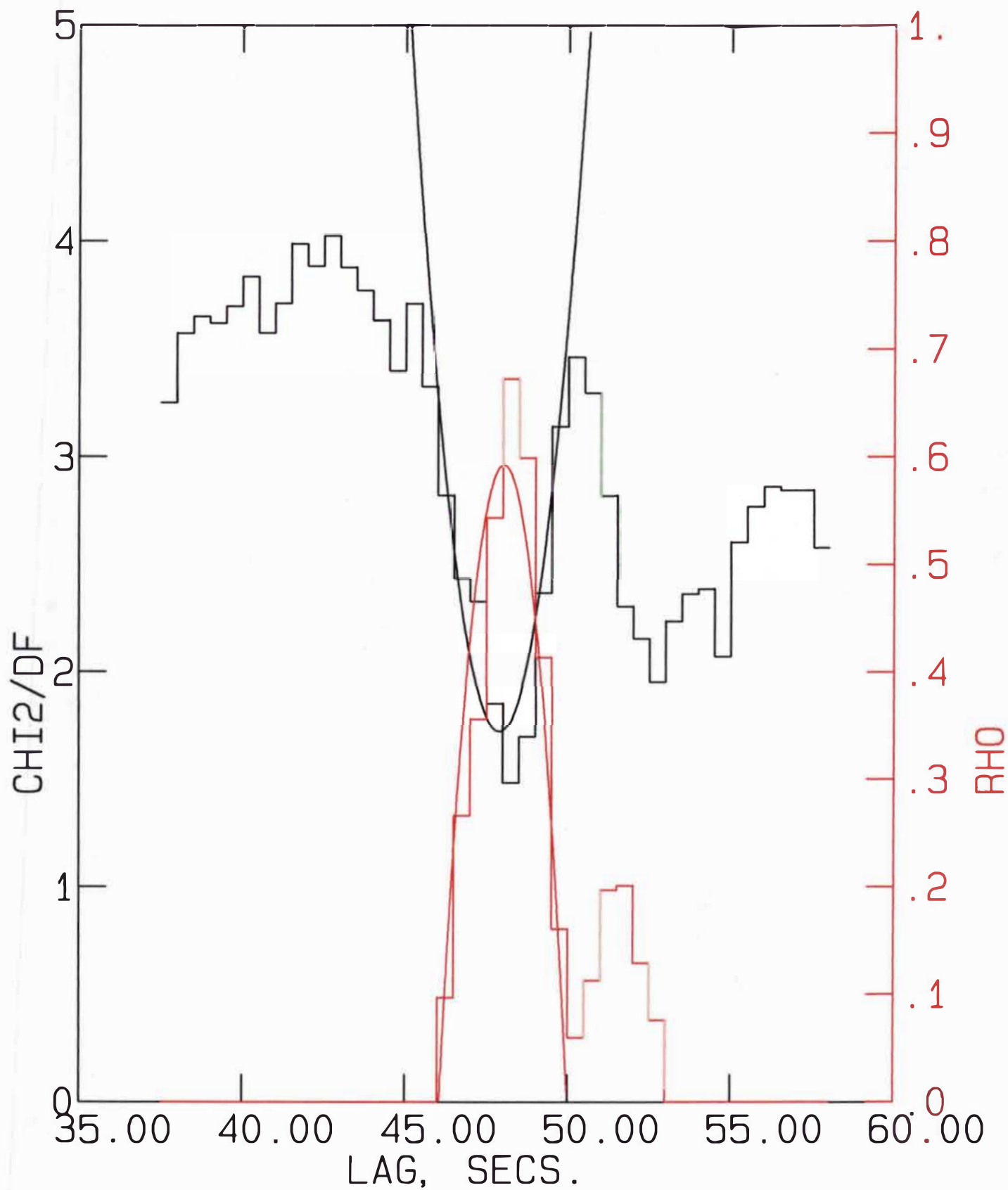
-ULYSSES RT CORRELATION

24/ 4/99

79762.681

28/ 2/ 0

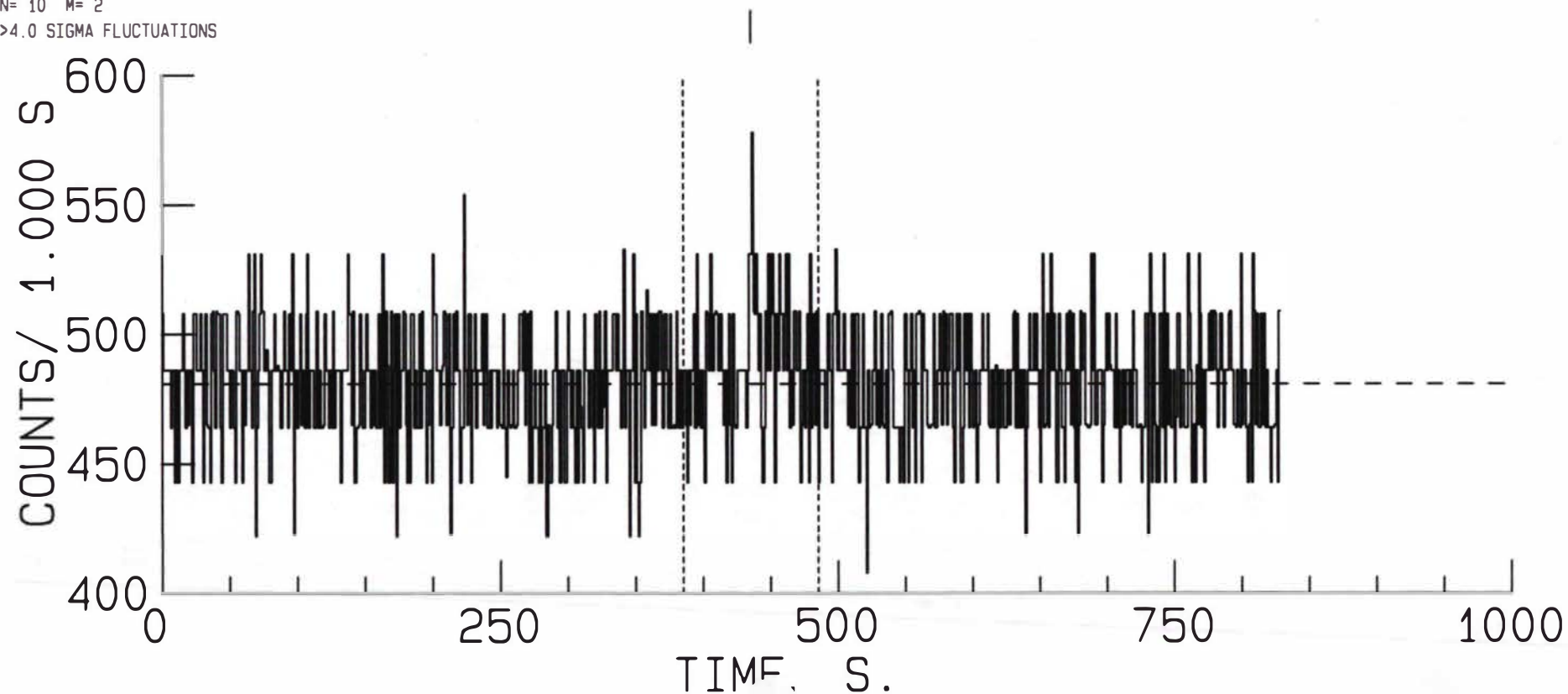




ULYSSES RT
24/ 4/99 78660.141 s
0.500 S INTERVALS REGROUPED BY 2
22- 150 keV

28/ 2/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



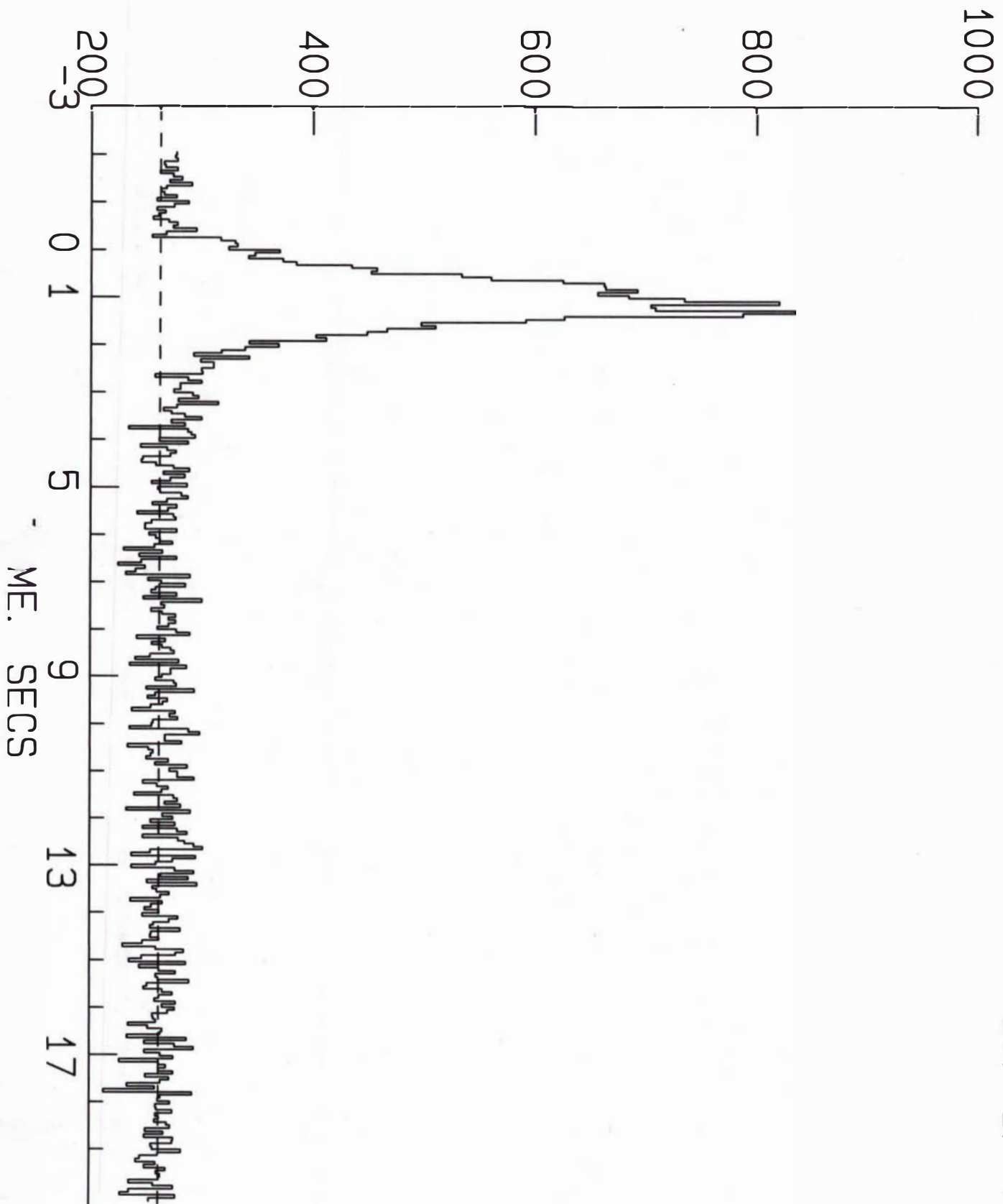
BATSE

24/04/99

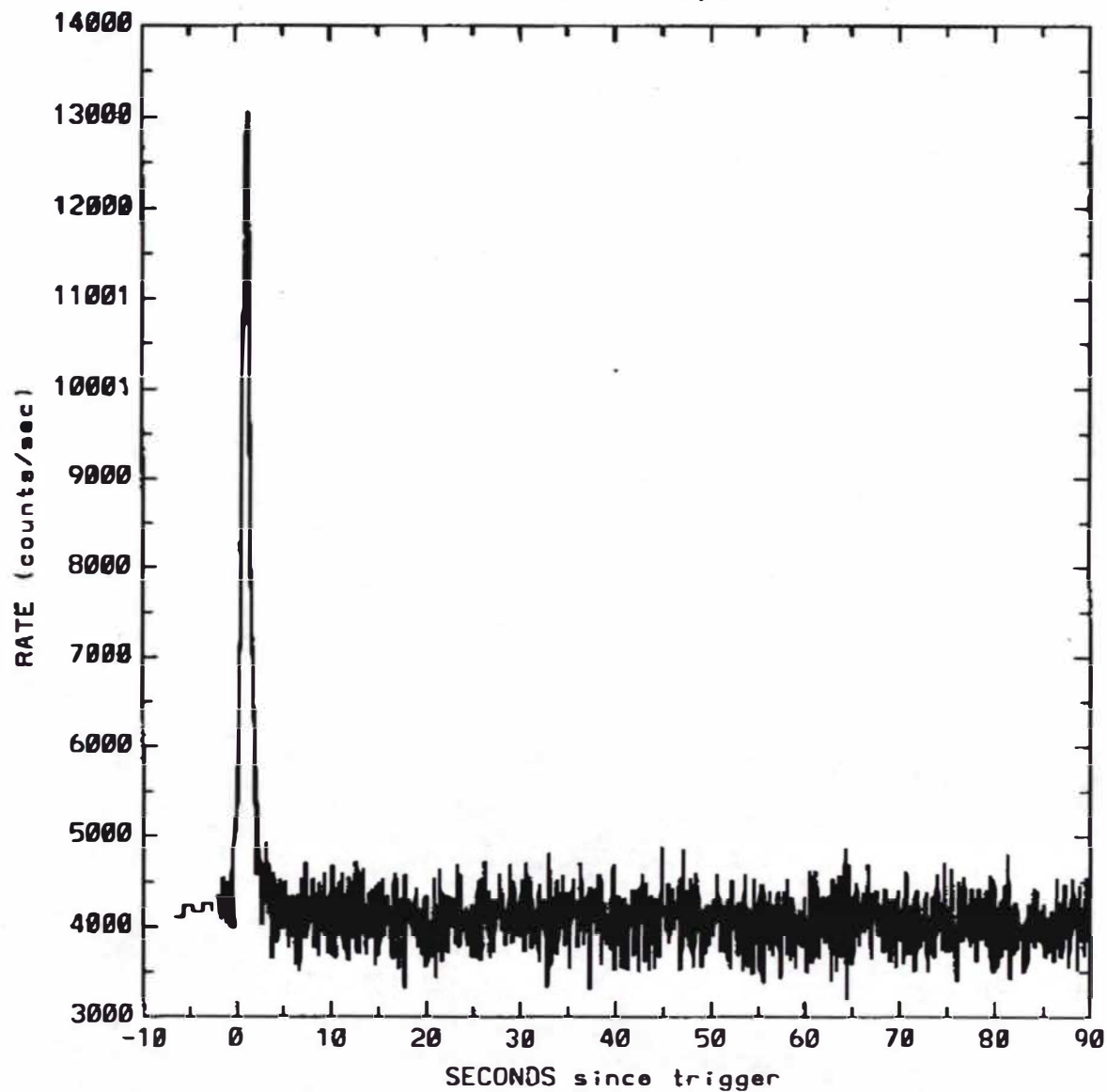
79762.681

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7529



24-FEB-2000 12:16:47

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

Trigger # , 7529

Trigger Time:
11292 / 79762.681

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..8).
--5--1-

Discriminators:
(3 . 4)

Quality Mask:
80ISP1

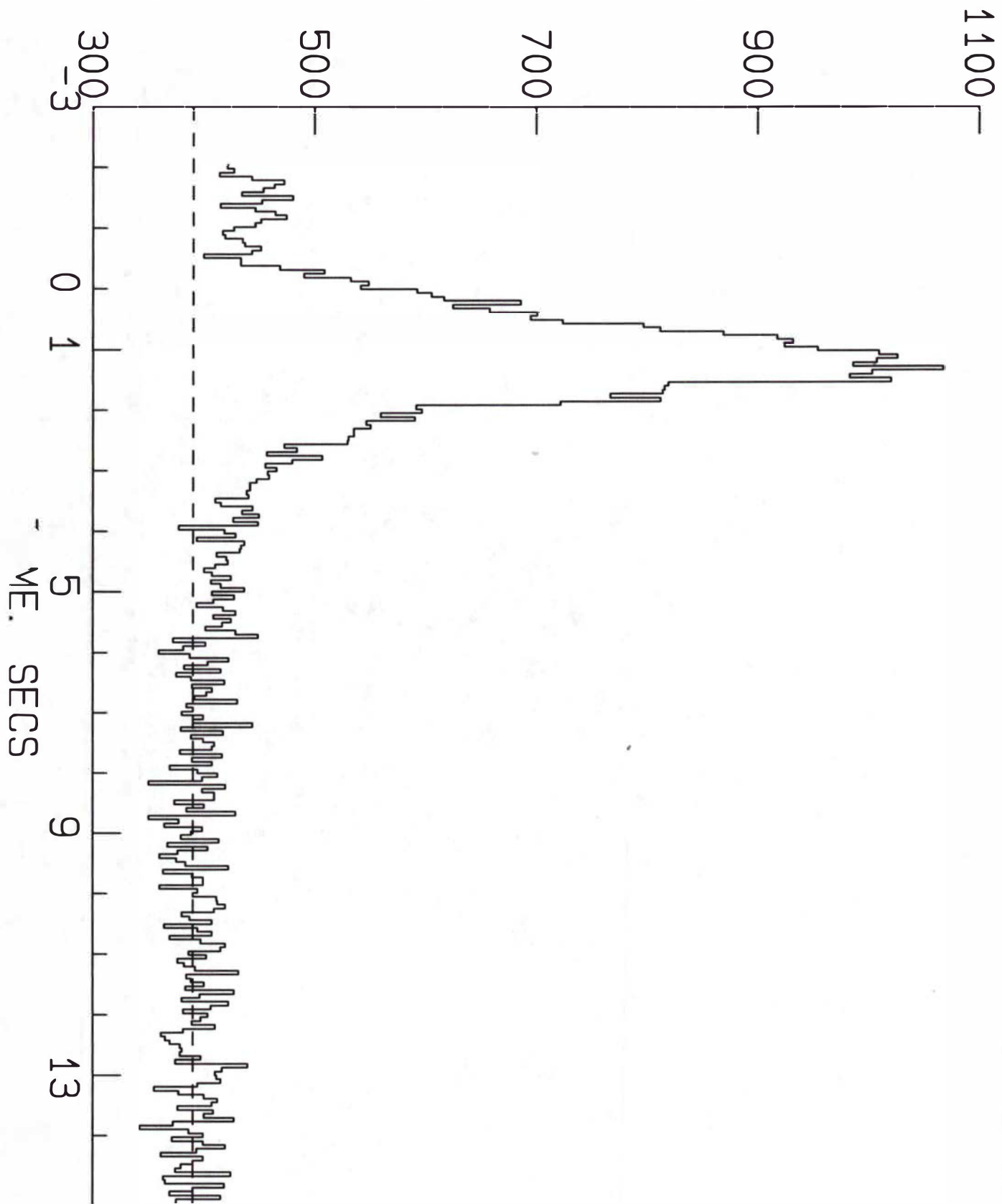
BATSE

24/04/99

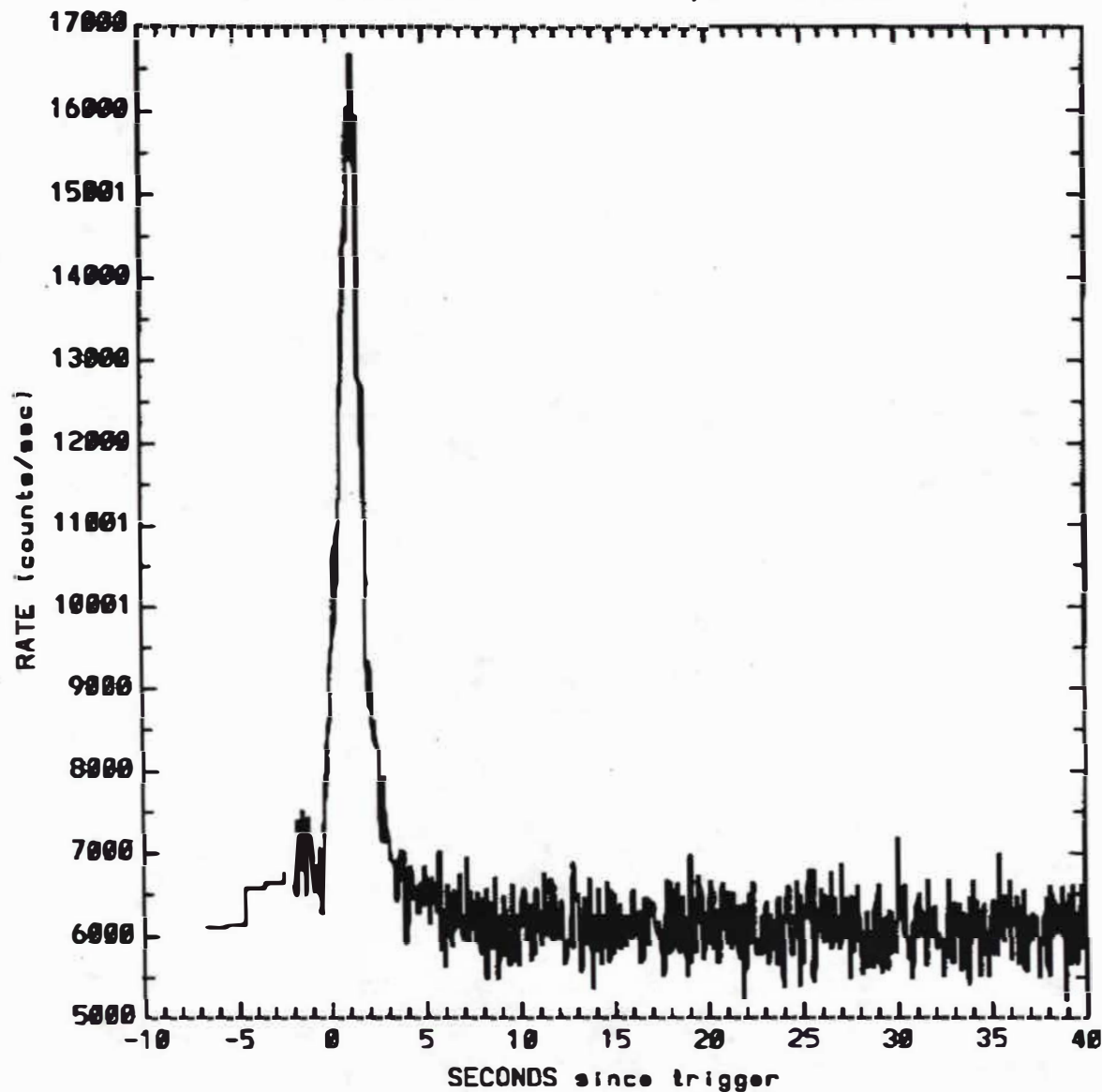
79762.681

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7529



29-APR-1999 09:41:38

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7529

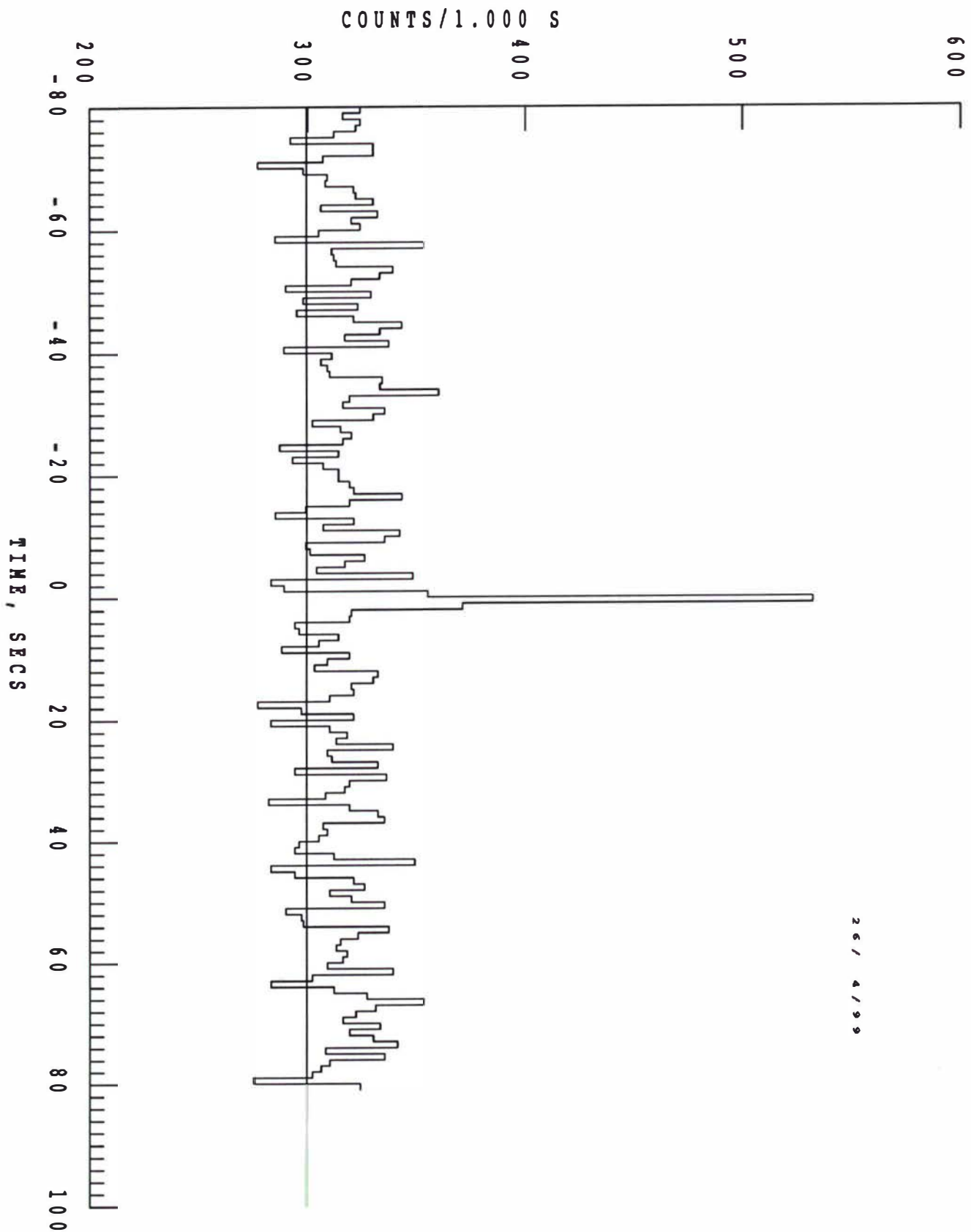
Trigger Time:
11292 / 79762.681Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors (7..8):
--5--1-Discriminators:
(1, 2)Quality Mask:
BOISP1

NEAR

24/04/99

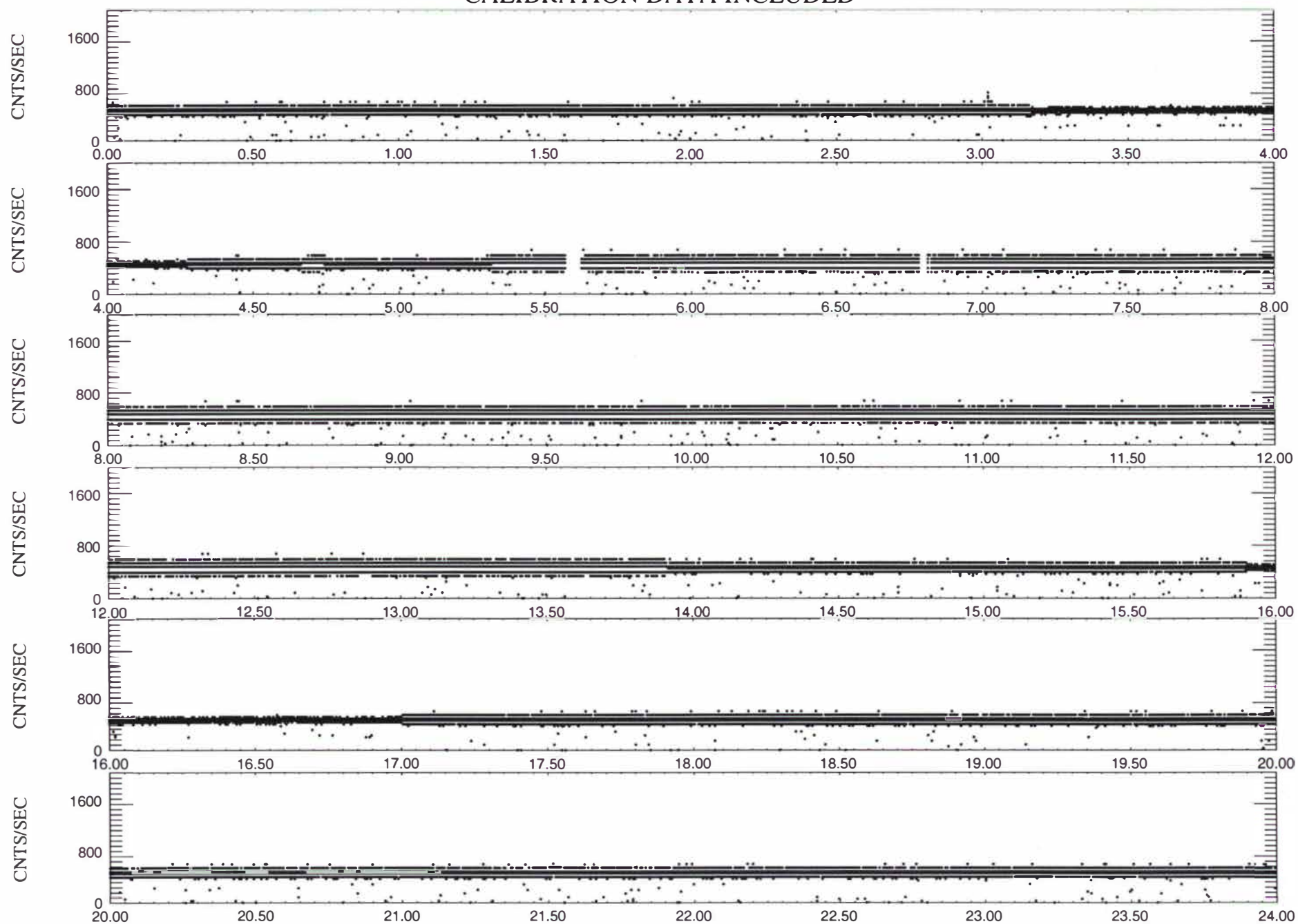
79205.339

100-1000 keV



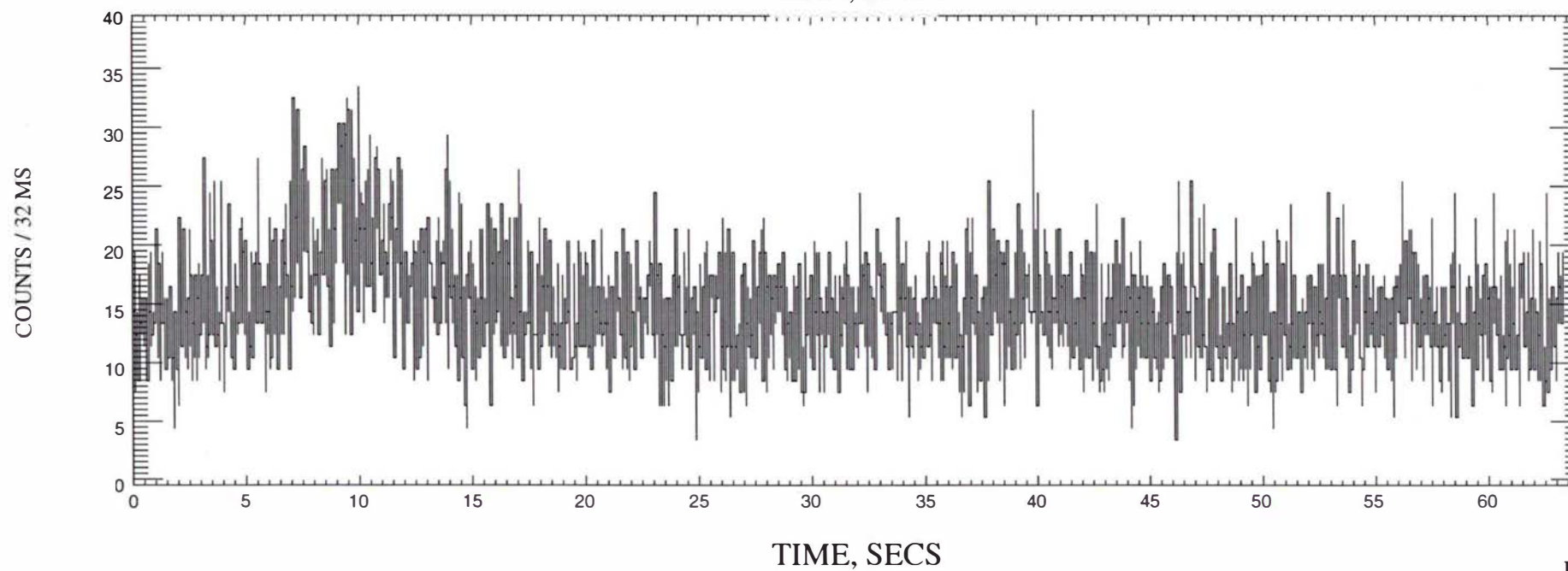
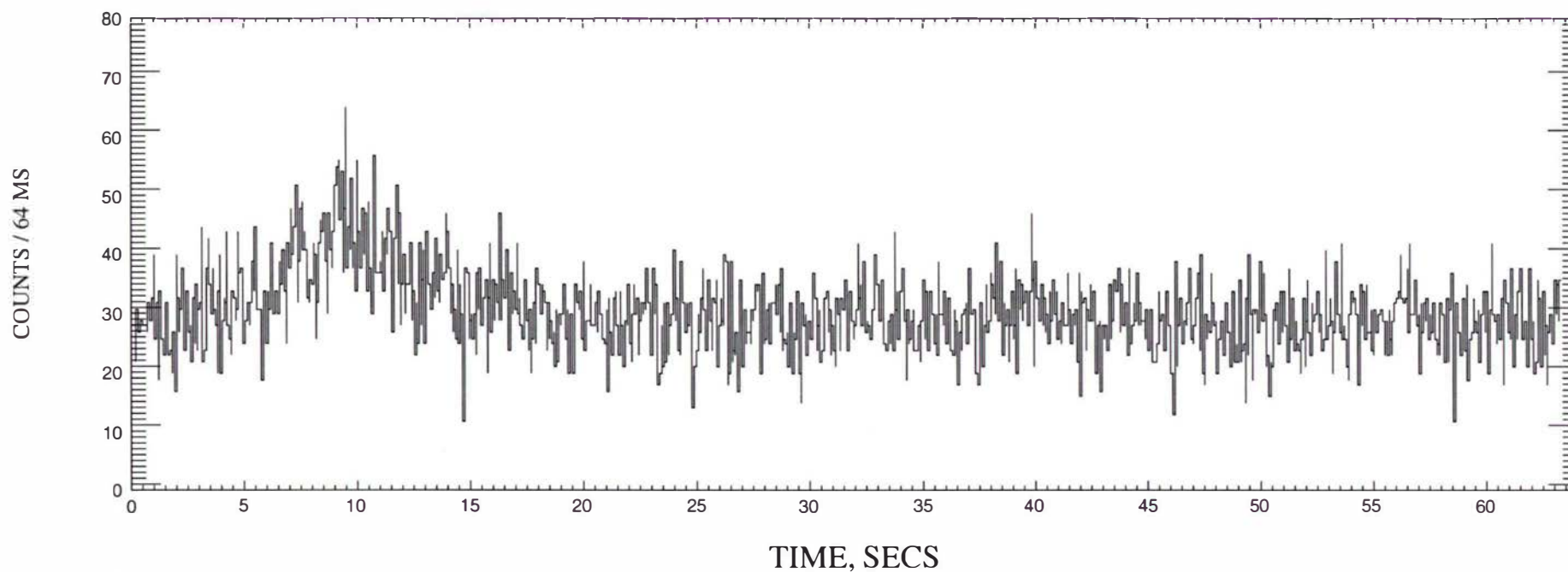
26 / 4 / 99

CALIBRATION DATA INCLUDED

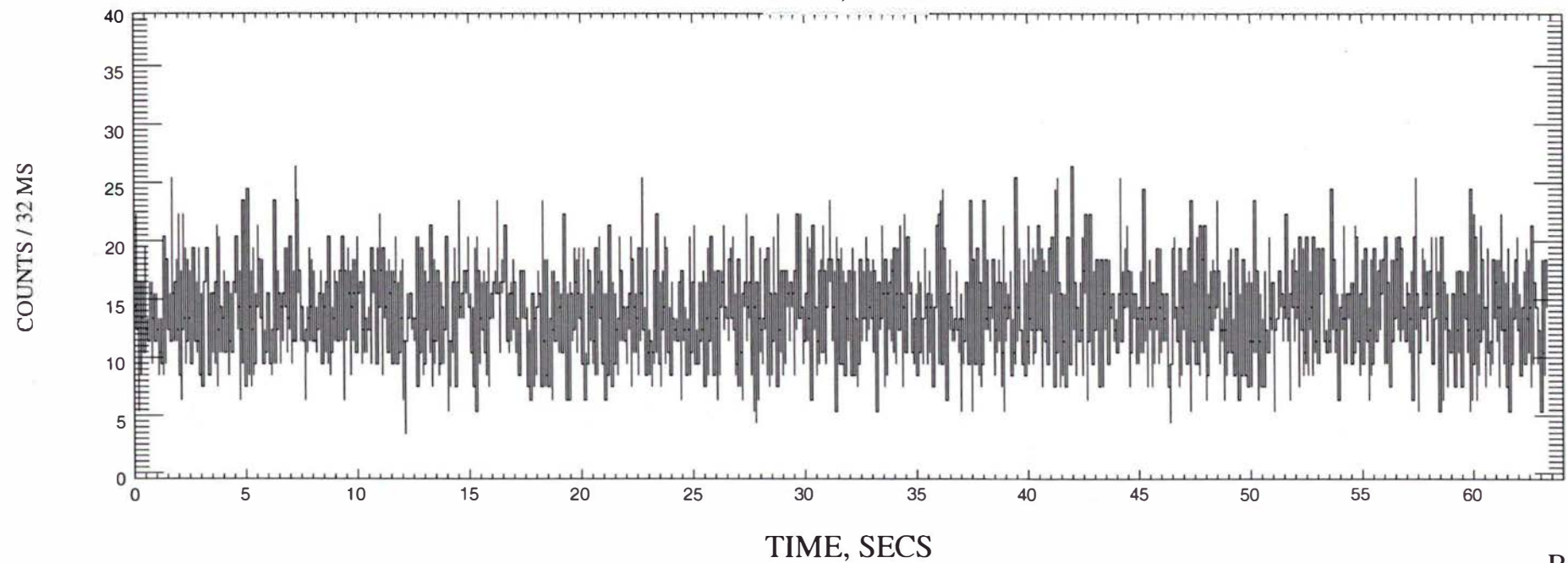
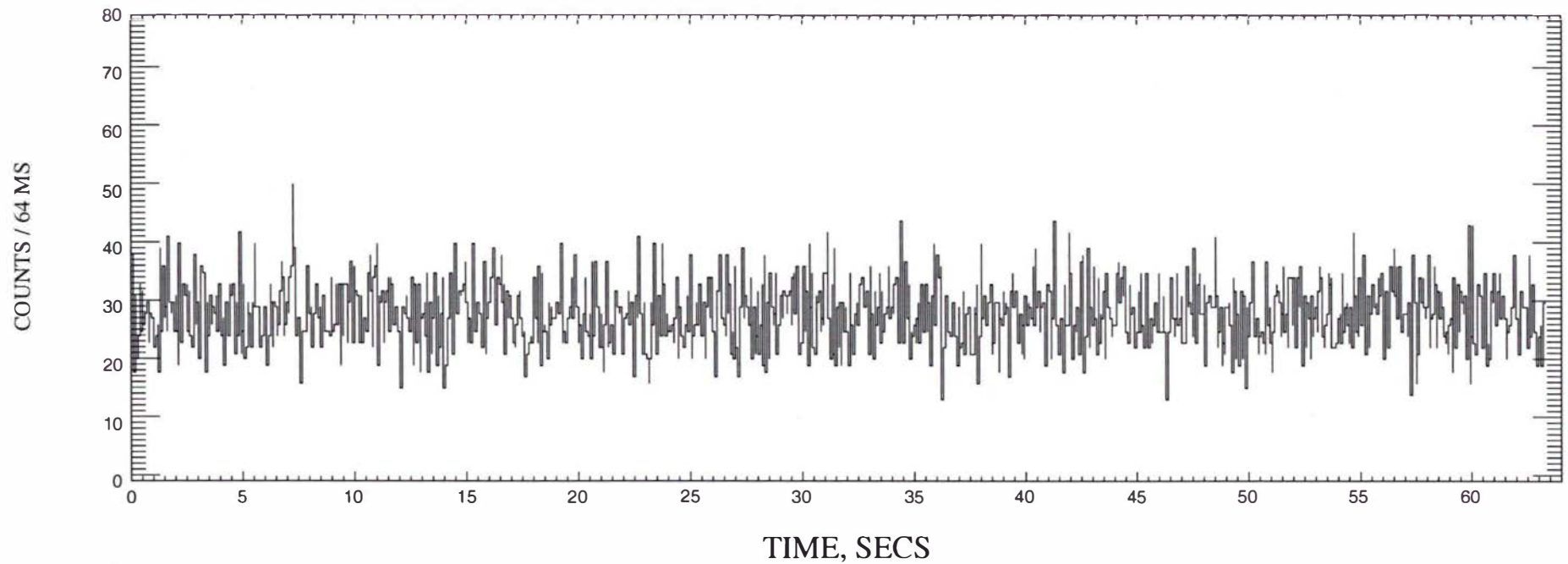


UNIV SAL TIME

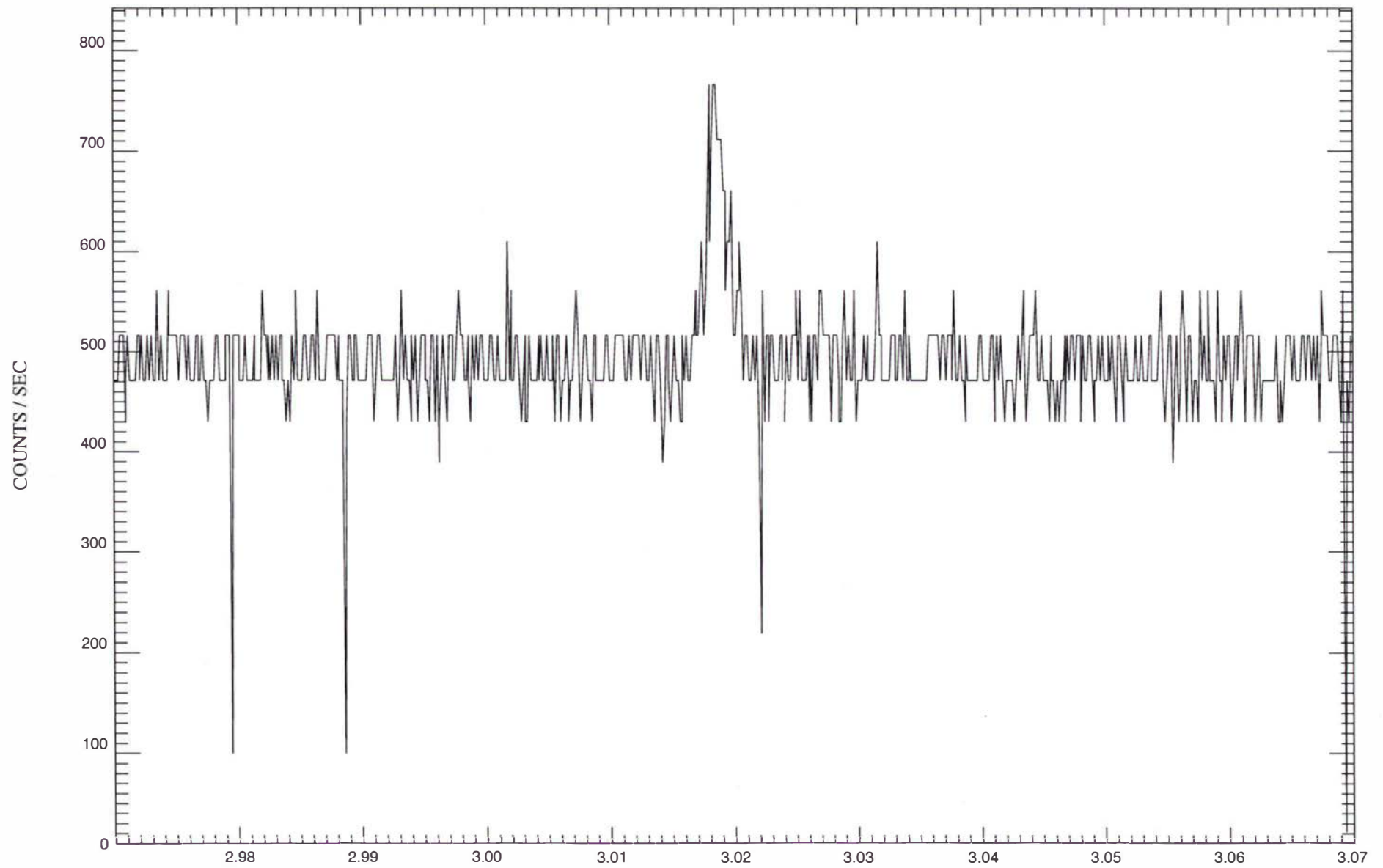
Burst Counter 5 at UT= 3.018078269958 h=10865.082 s 03:01:05.082



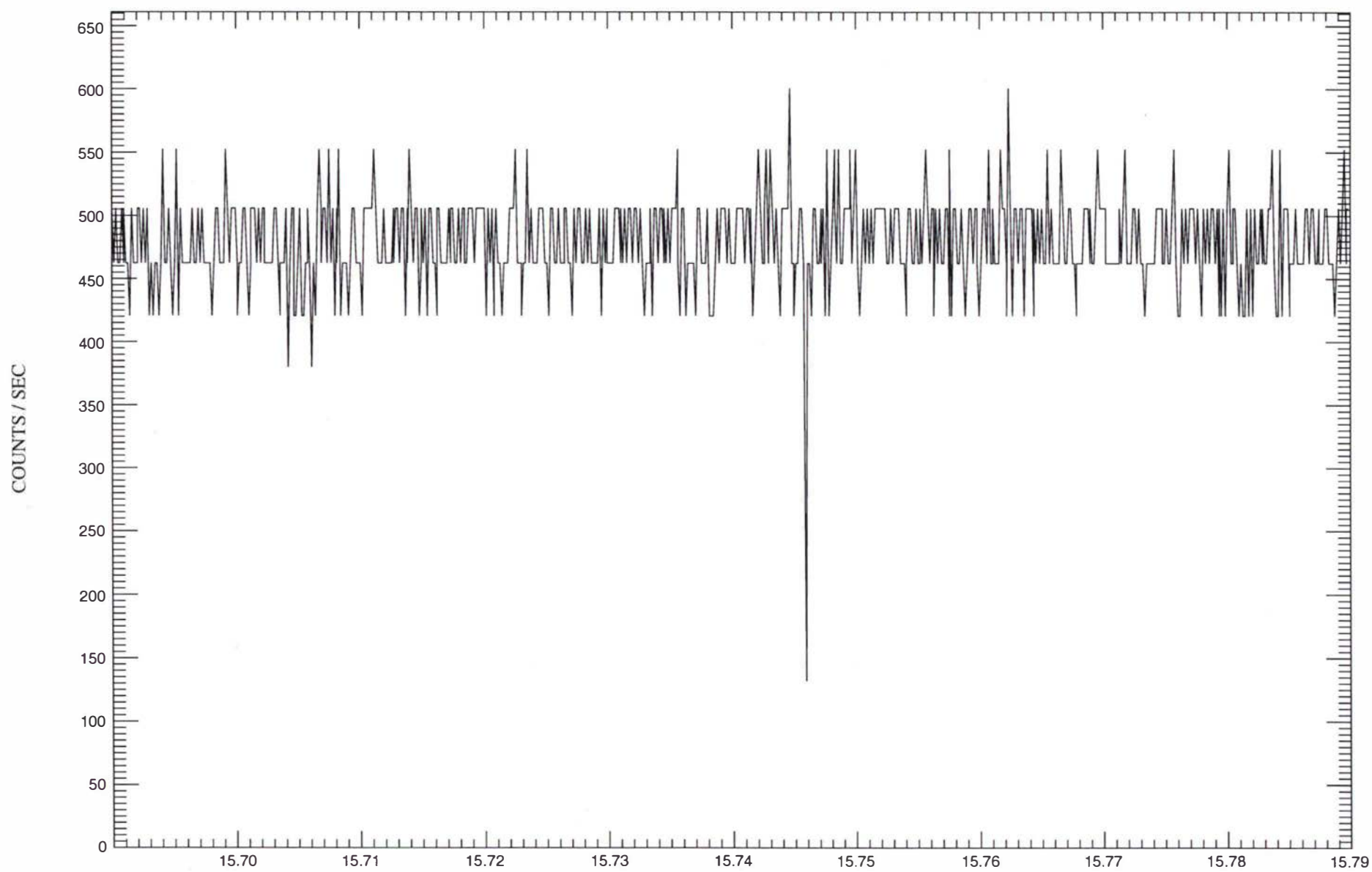
Burst Counter 6 at UT=15.742232424418 h=56672.037 s 15:44:32.037

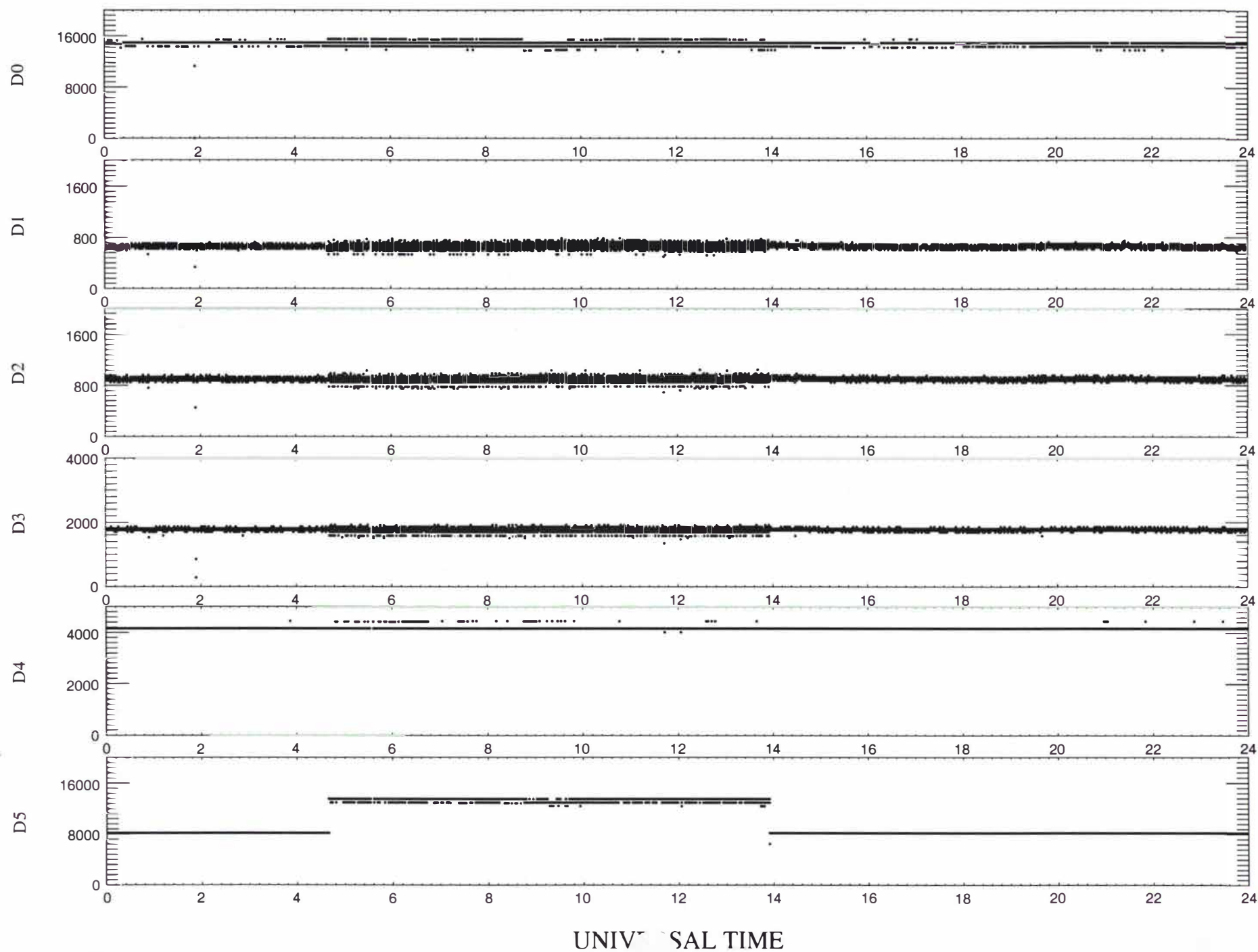


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Wed Apr 28 09:31:57 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA05353; Wed, 28 Apr 1999 09:31:56 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA08923
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 28 Apr 1999 09:29:32 -0700 (PDT)
Date: Wed, 28 Apr 1999 11:32:41 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990428113241.20206152@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7530
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7530
EVENT OF 1999 APR 25 DAY OF YEAR=115
EVENT CROSSING TIME AT BATSE : 8366. S. OR 02:19:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 333.000 -7.000
BATSE PEAK COUNTING RATE: 39000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/ 4/ 99 IS:
RA= 145.037 DEC= -7.409 DIST= 4.487 AU
BATSE-ULYSSES DISTANCE = 671200627. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 16.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2147.21 SECS.
CROSSING TIME AT ULYSSES IS 10513. S. OR 02:55:13 +/- 192.70 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/ 4/ 99 IS:
RA= 212.216 DEC= -11.598 DIST= 0.583 AU
MARS-BATSE DISTANCE = 87202496. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 61.76 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 137.62 SECS.
CROSSING TIME AT MARS IS 8504. S. OR 02:21:43 +/- 46.58 SECONDS

BATSE BURST TRIGGER

NO.: 7530

TIME: TJD=1293 SECONDS= 8366

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=51.5 AZIMUTH=326.5 ERROR=0.468 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 3 S, STARTS AT APPROX. T-0.5 S
MAX AT APPROX. T+1.1 S. WEAKLY VISIBLE ABOVE 300 KEV. CYG X-1 RISE AT APPROX.
170 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7530	990425	11293	08366	39000	333	-07	3

Date: Feb 28 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

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

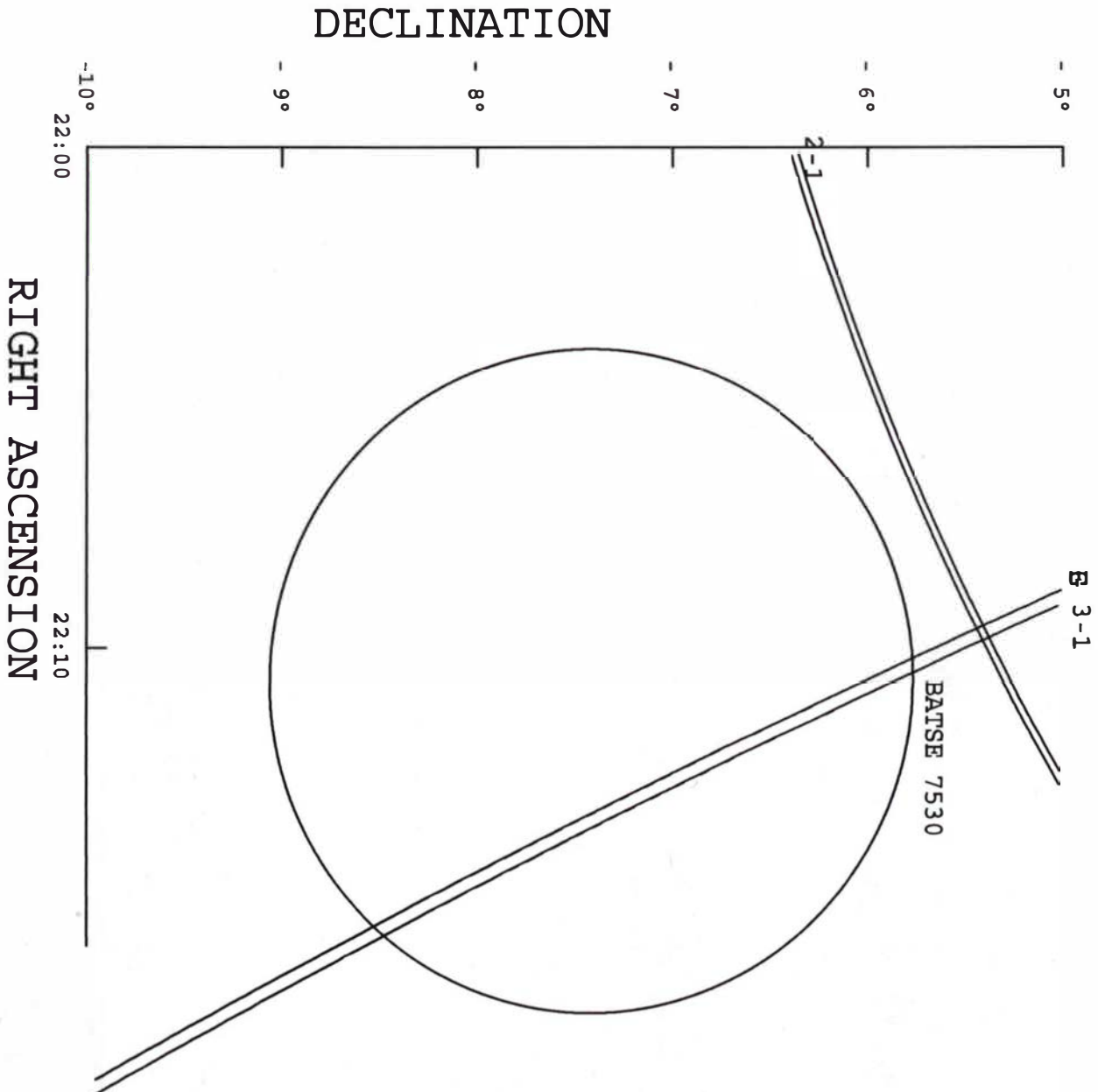
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF APR 25, 1999 2:19

28 / 2 / 0



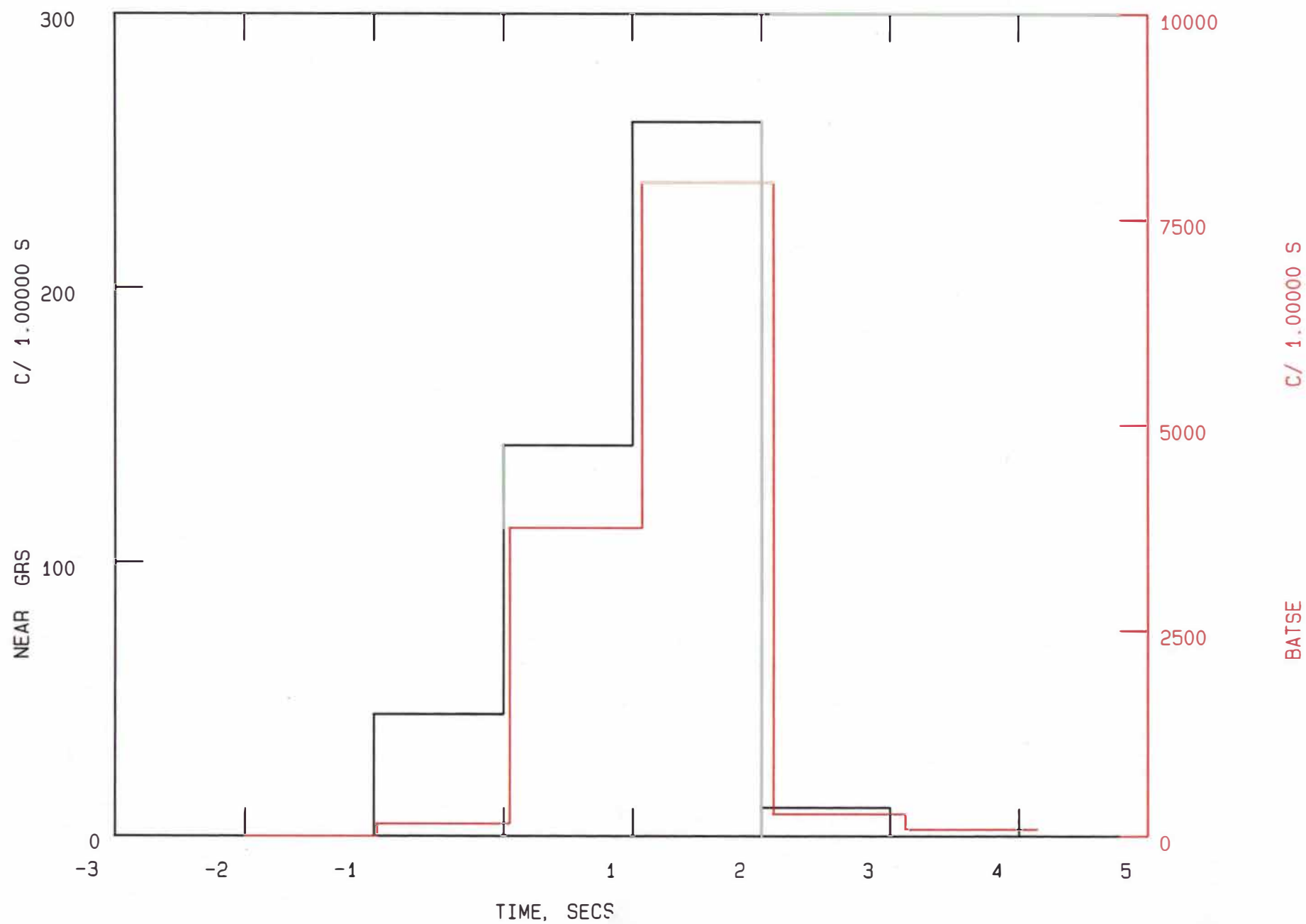
NEAR GRS -BATSE

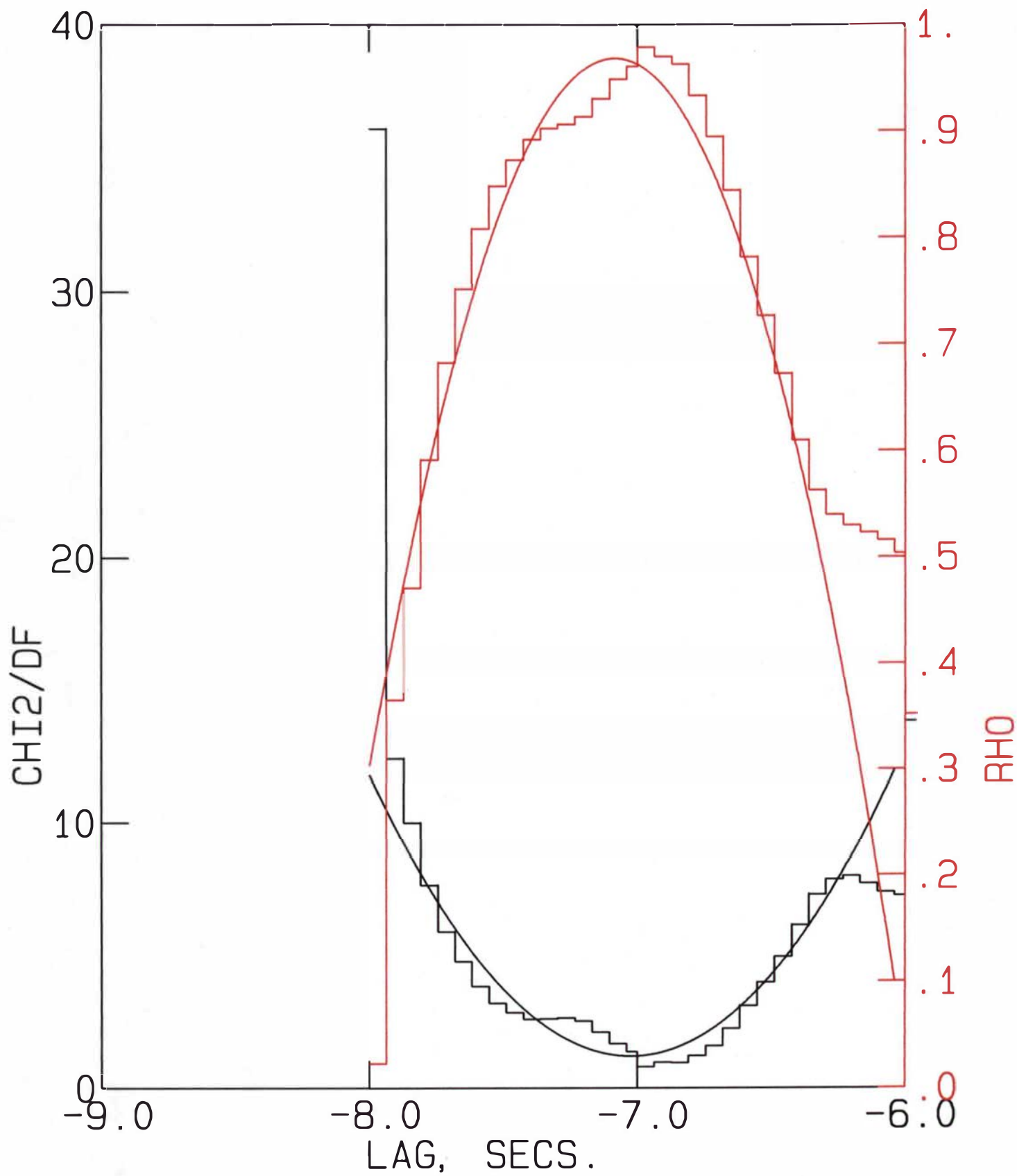
CORRELATION

25/04/99

7575.335

28/ 2/ 0





BATSE

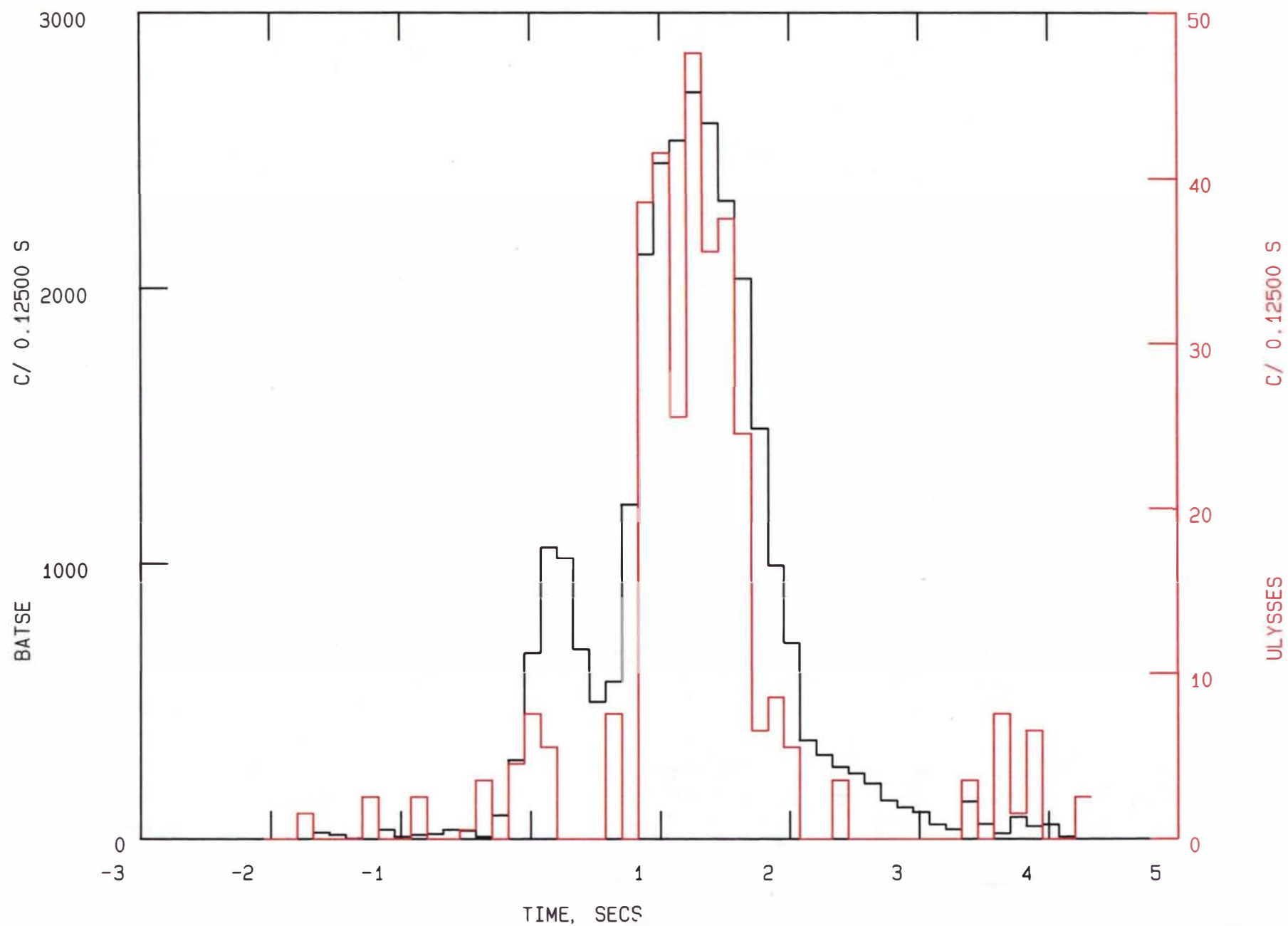
-ULYSSES

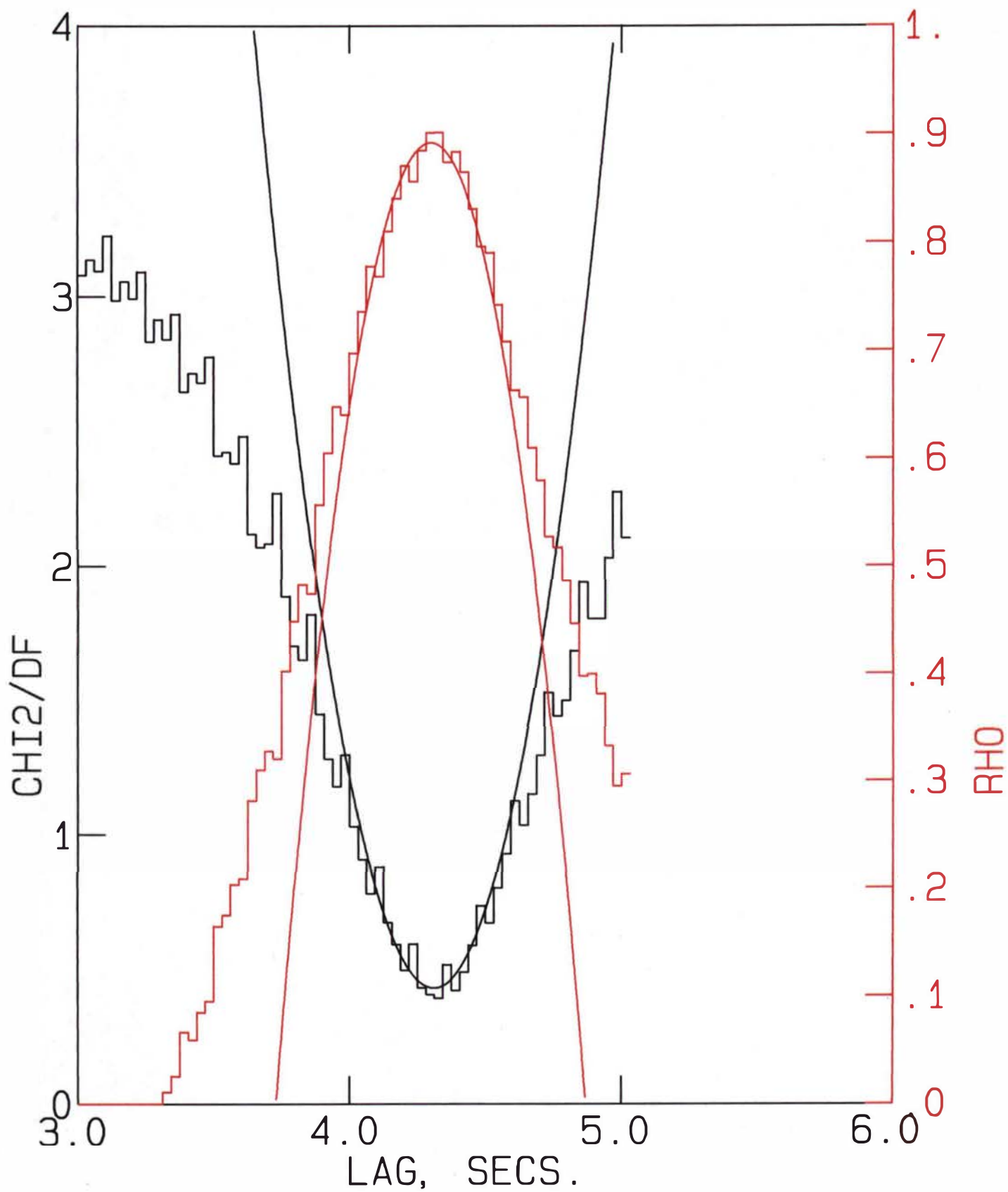
CORRELATION

25/ 4/99

8366.969

28/ 2/ 0





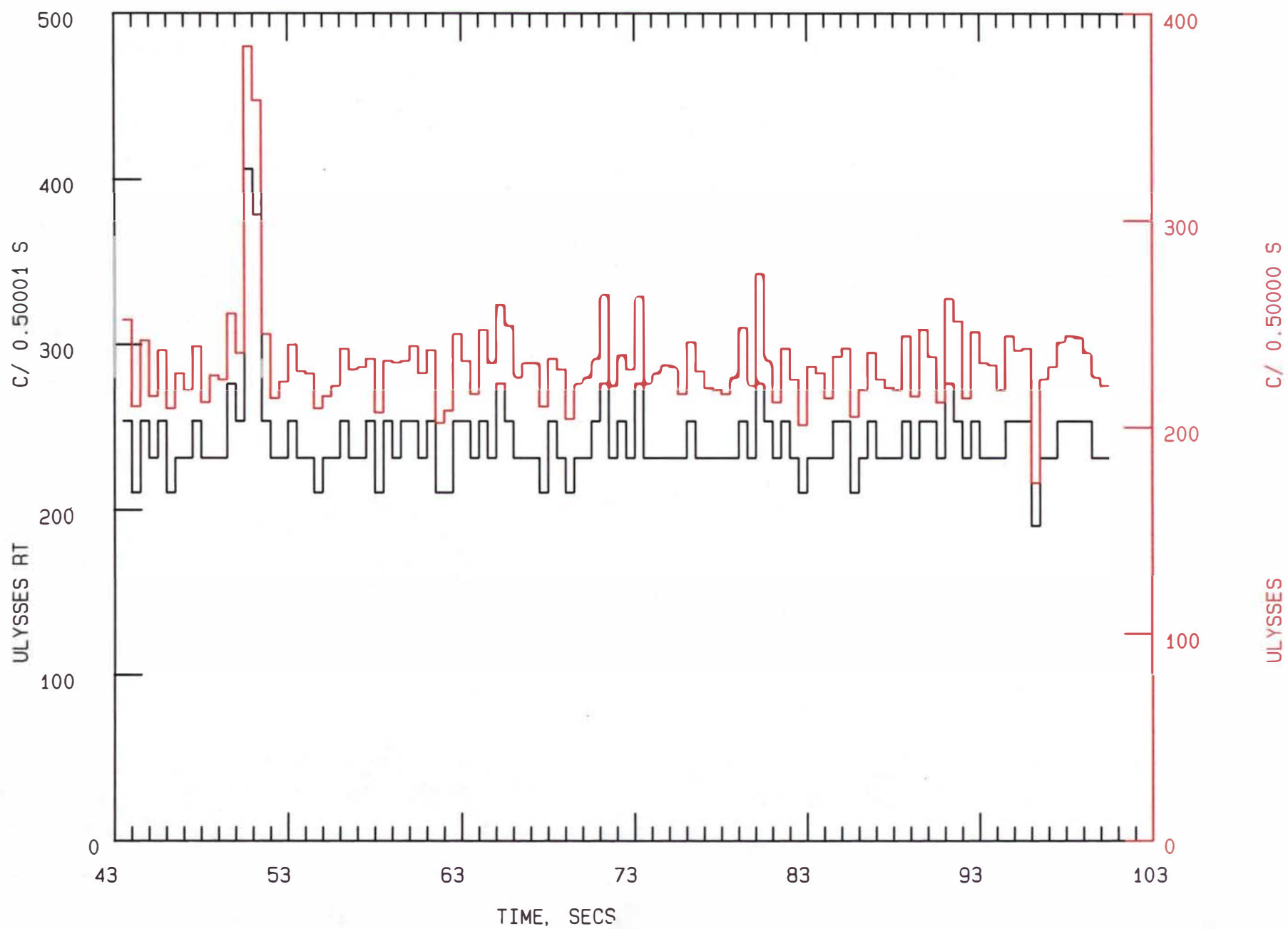
ULYSSES RT-ULYSSES

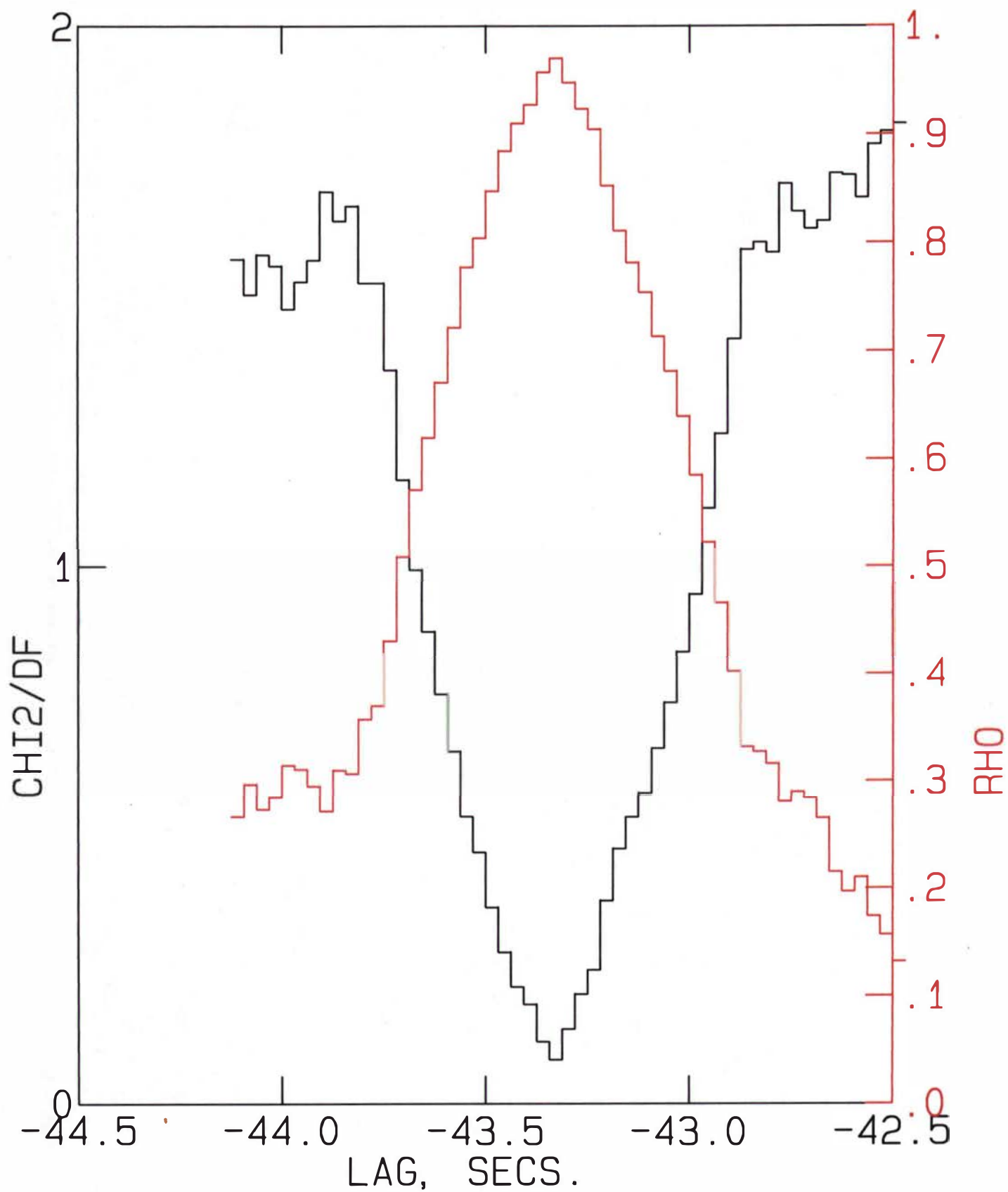
CORRELATION

25/ 4/99

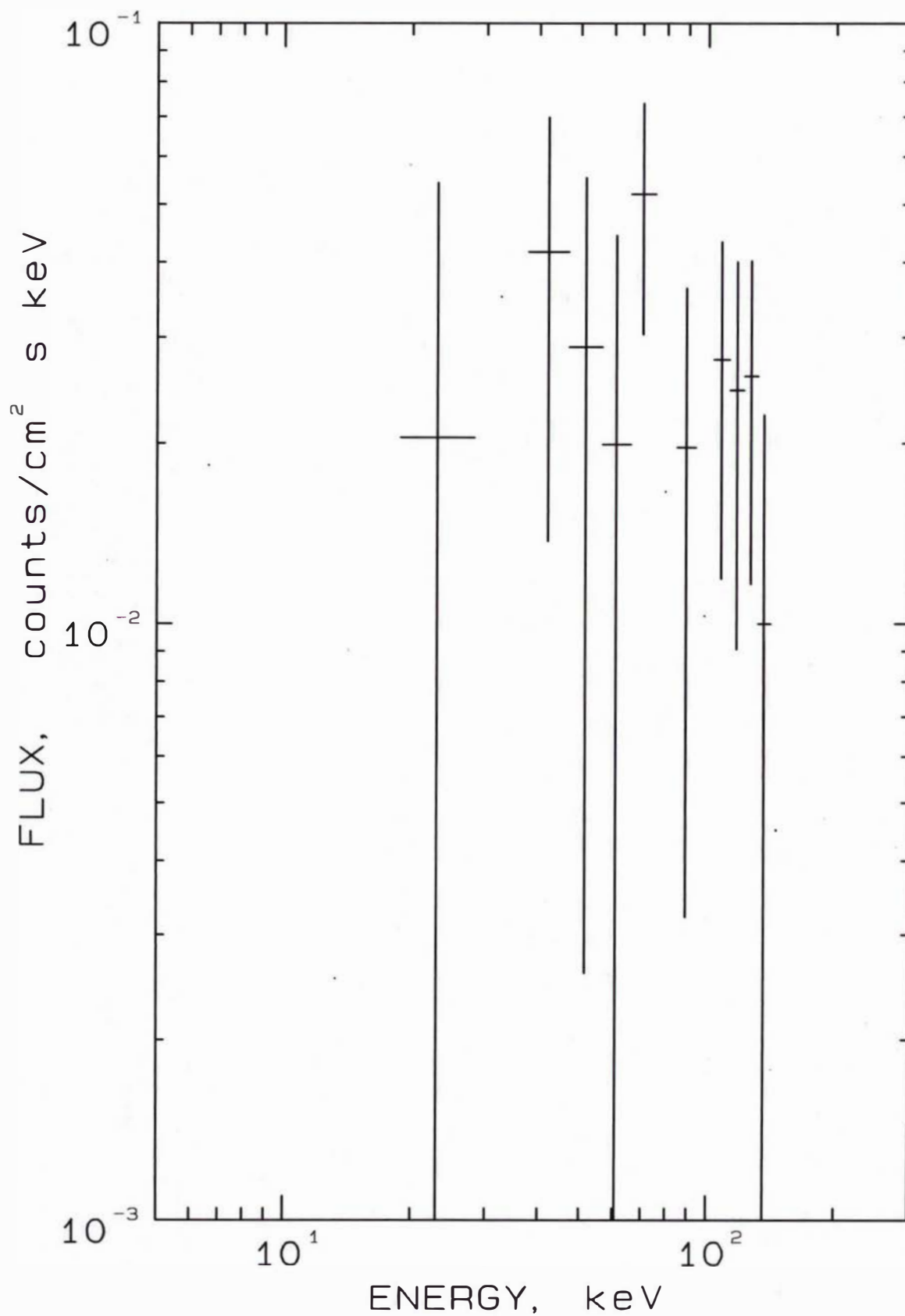
10477.326

28/ 2/ 0

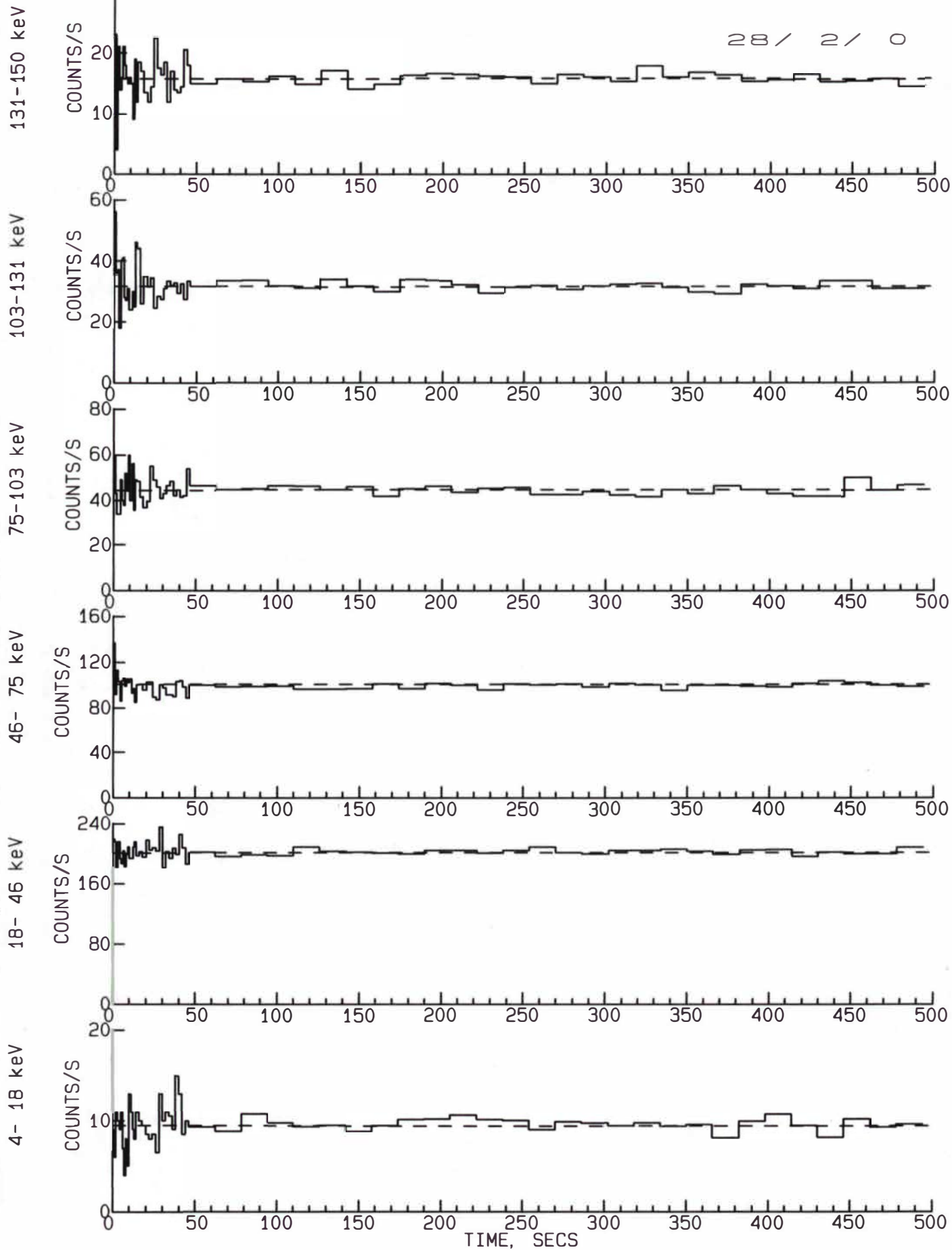




SPECTRUM INTEGRATED OVER 3.0 SECONDS, INTERVALS 2 TO 4



ULYSSES 25/04/99 10528.328 BURST SPECTRAL COUNT RATES

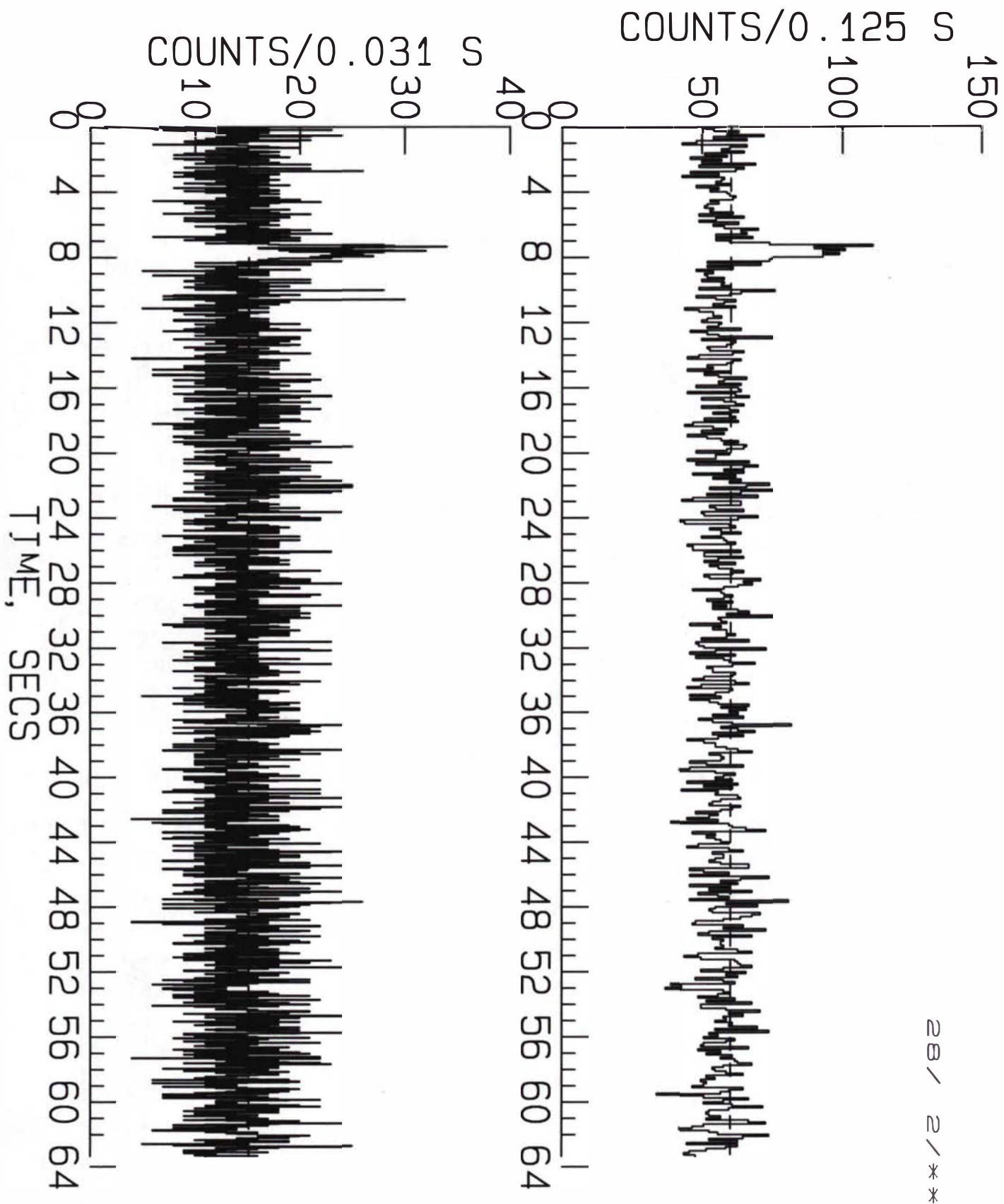


ULYSSES

25/04/99

Ttrig=10528.067

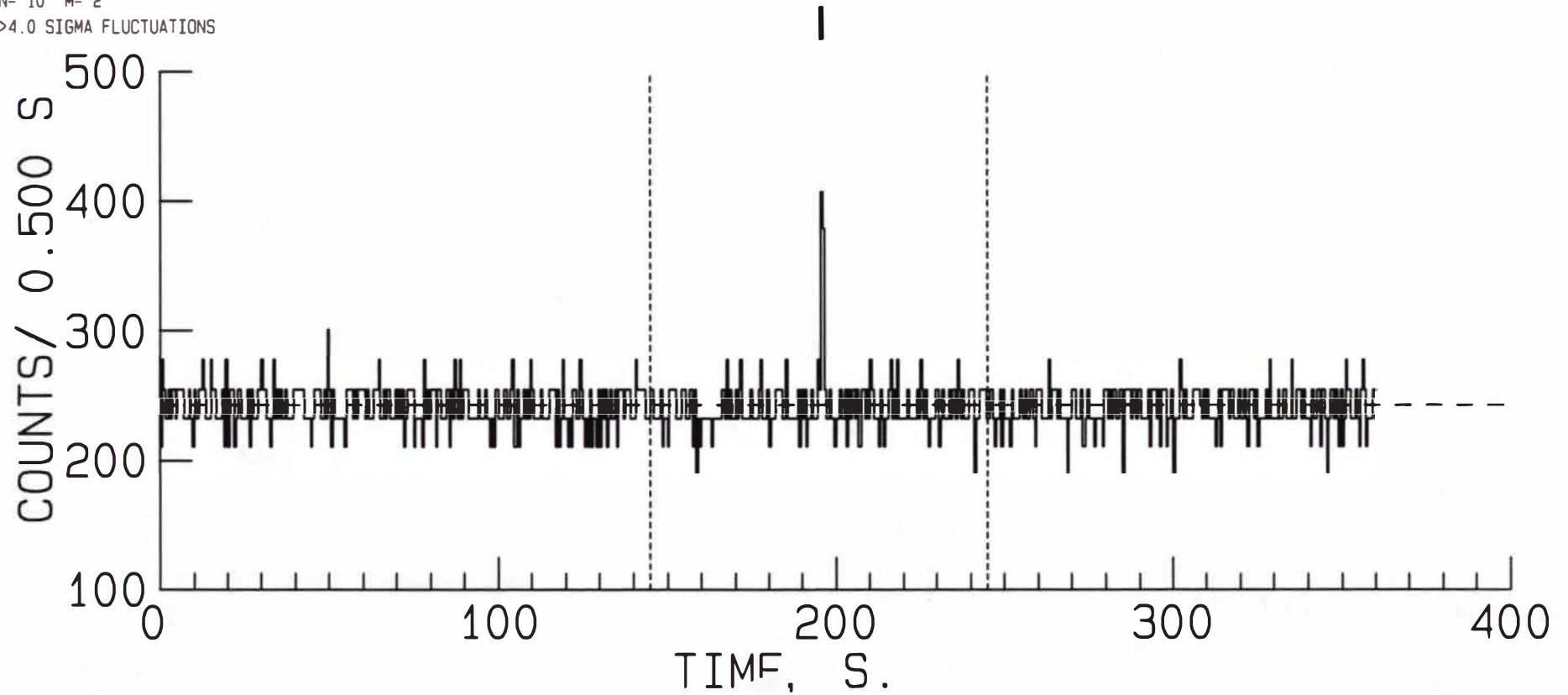
22- 150 keV



ULYSSES RT
25/ 4/99 10332.328 s
22- 150 keV

28 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



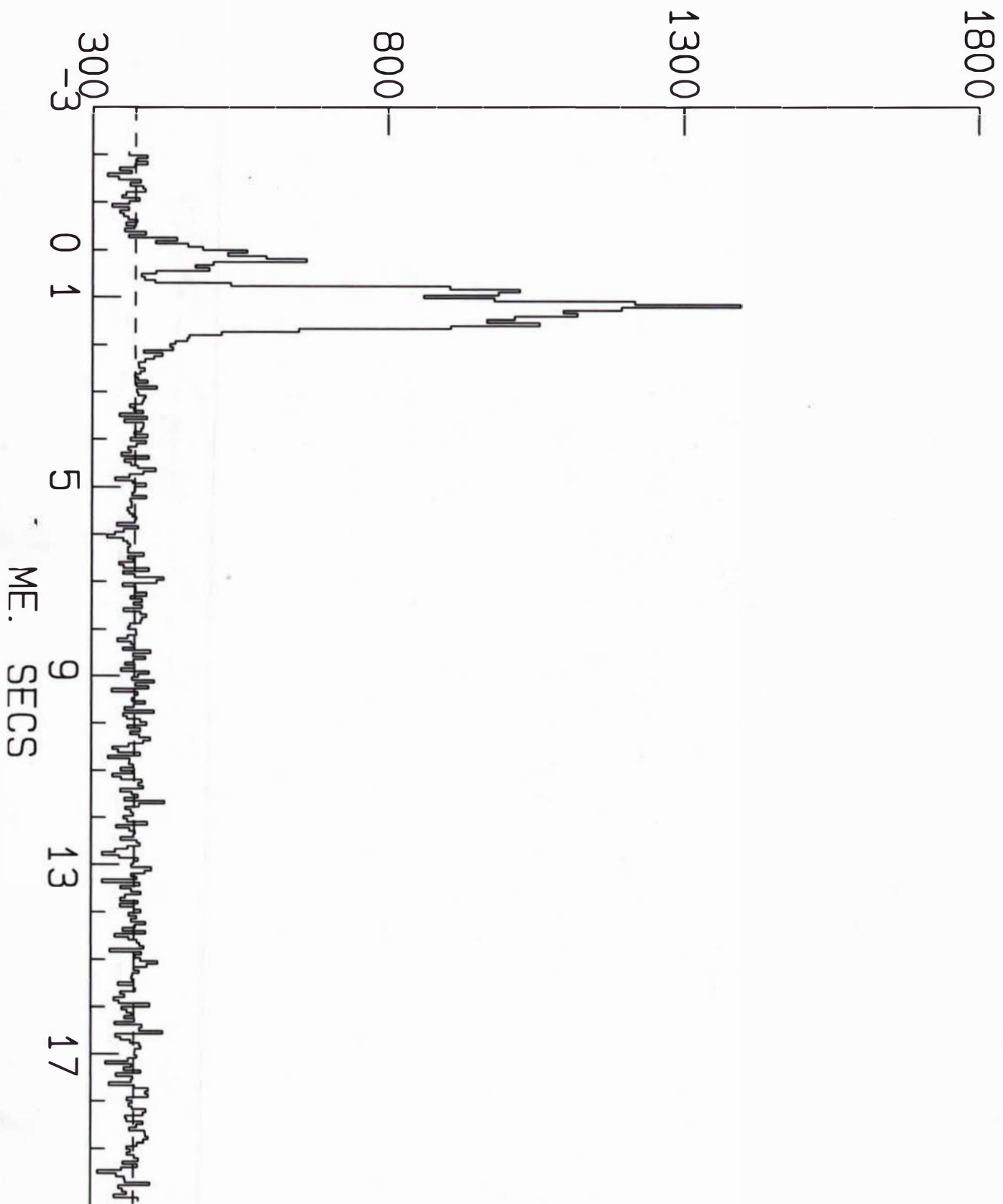
BATSE

25/04/99

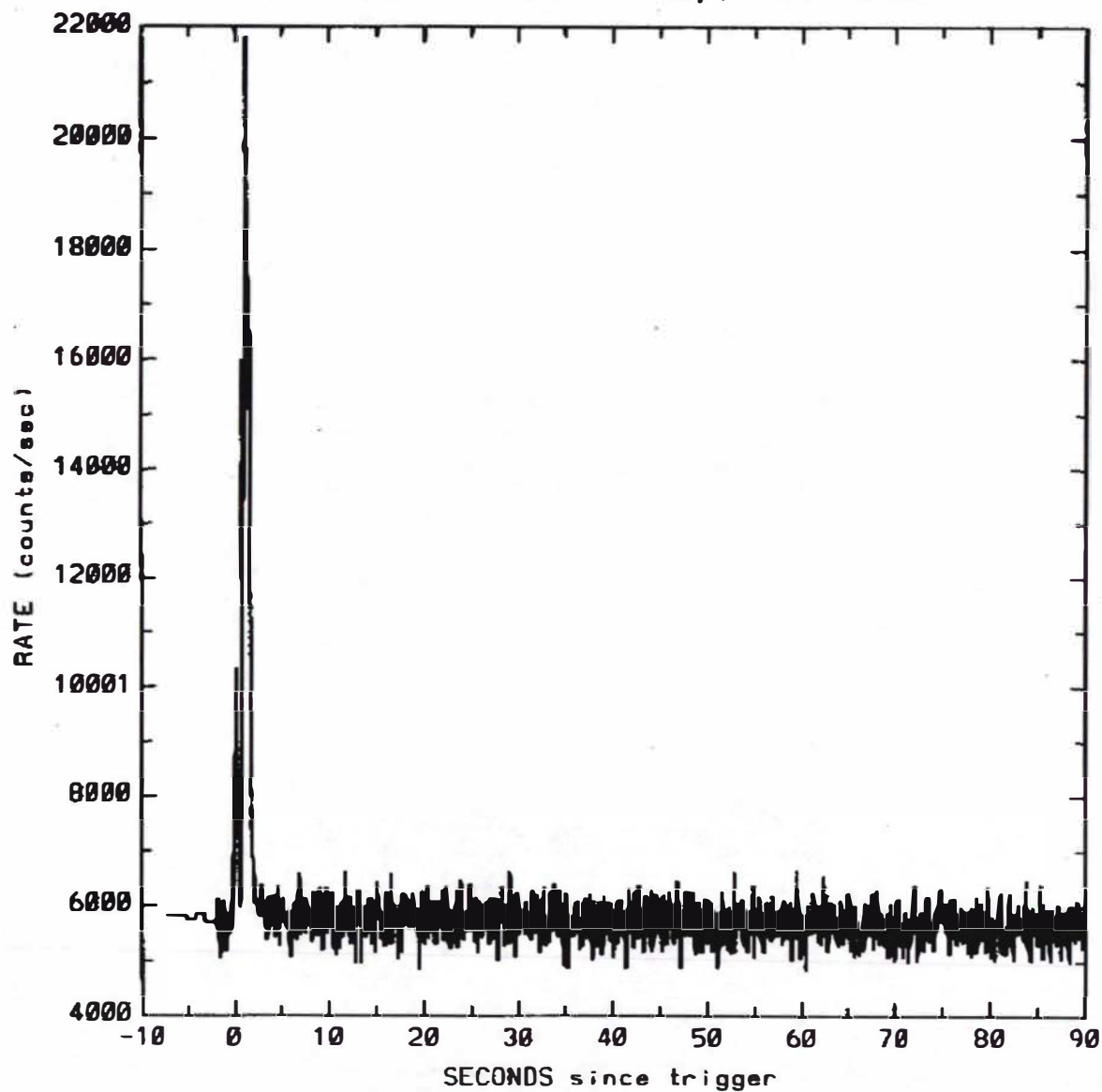
8366.969

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7530



24-FEB-2000 12:18:06

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7530

Trigger Time:
11293 / 8366.969

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(3 . 4)

Quality Mask:
BDISP1

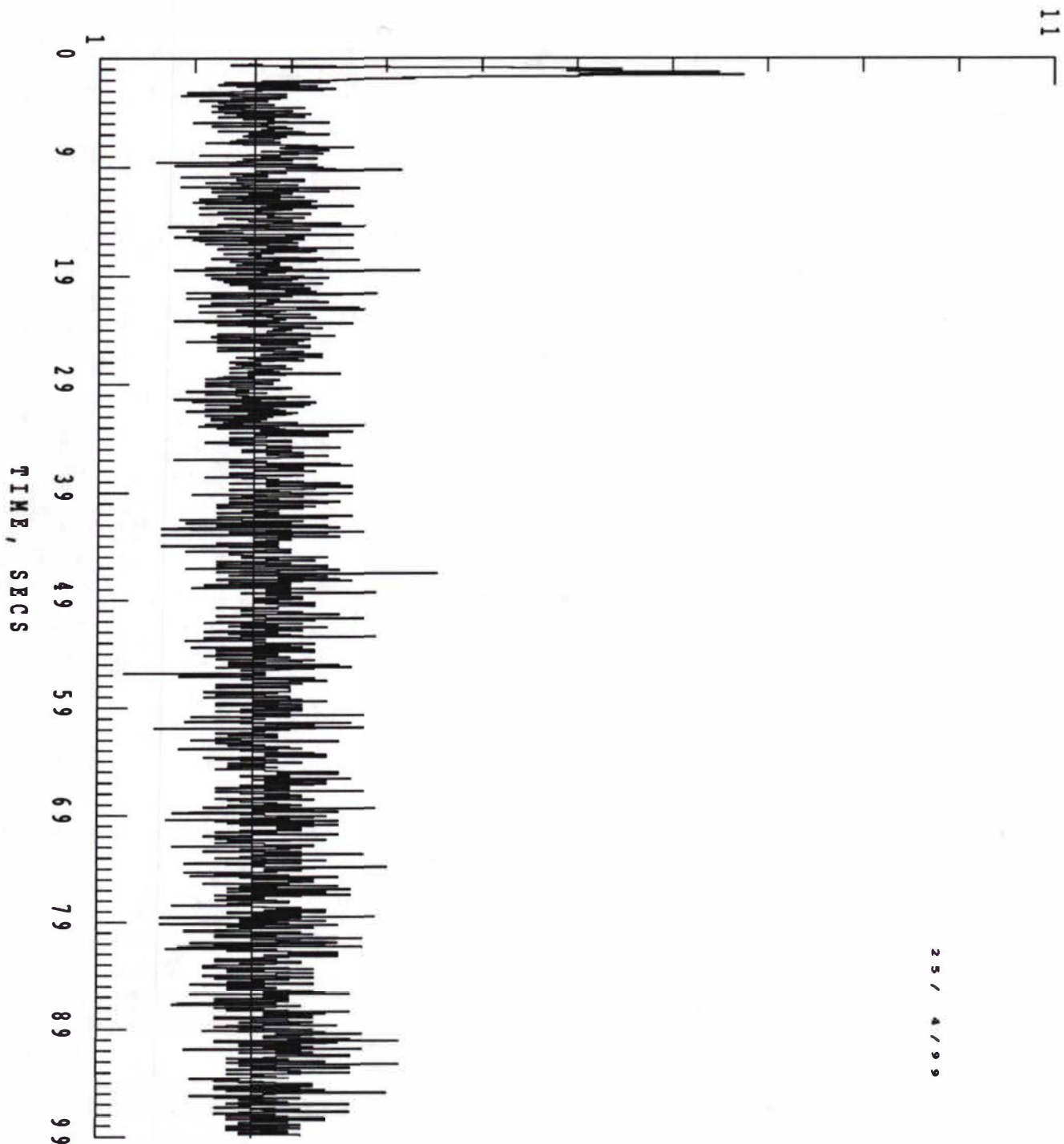
KONUS

25/04/99

8367.323

50- 200 keV

COUNTS/0.064 S



25 / 4 / 99

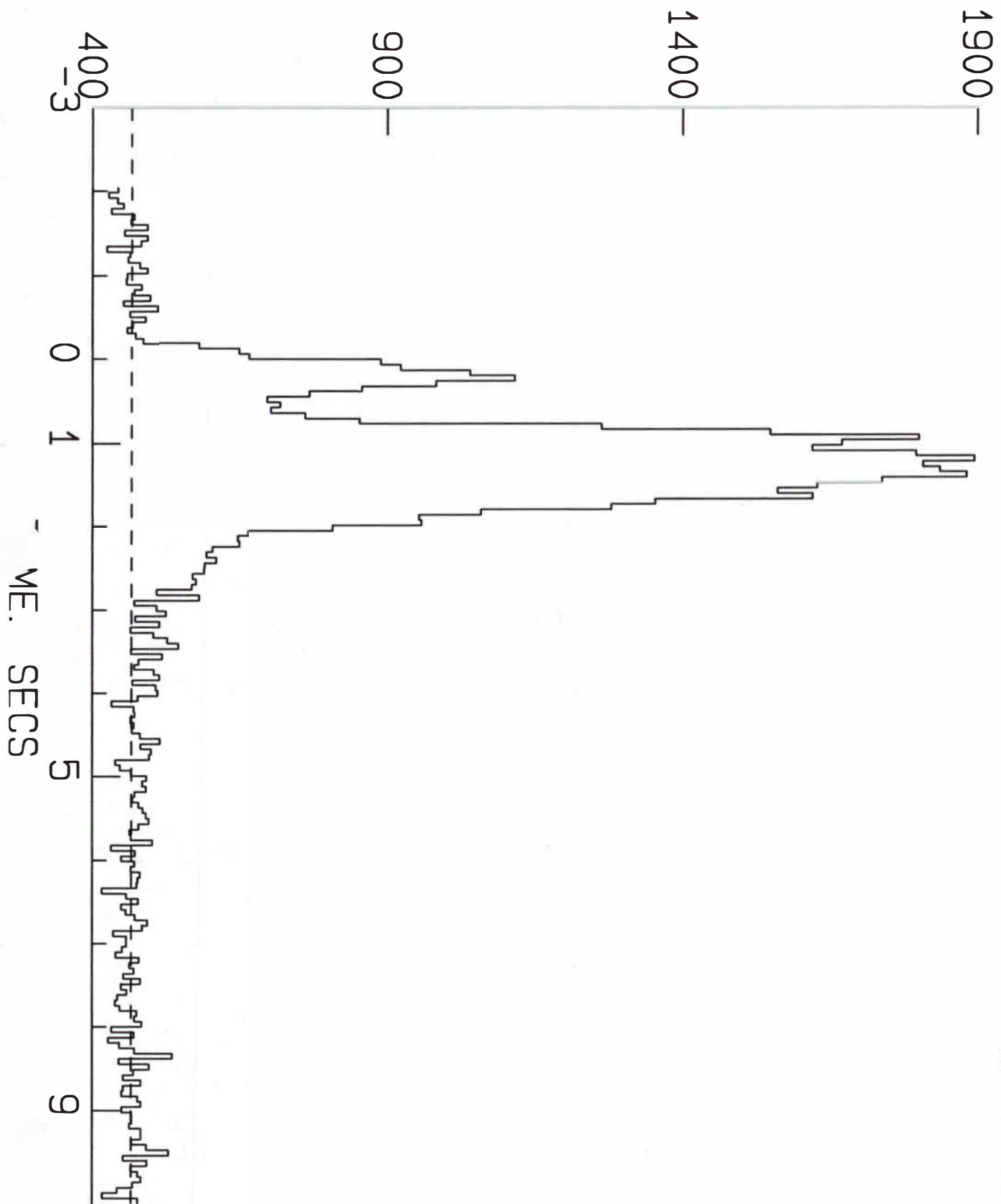
BATSE

25/04/99

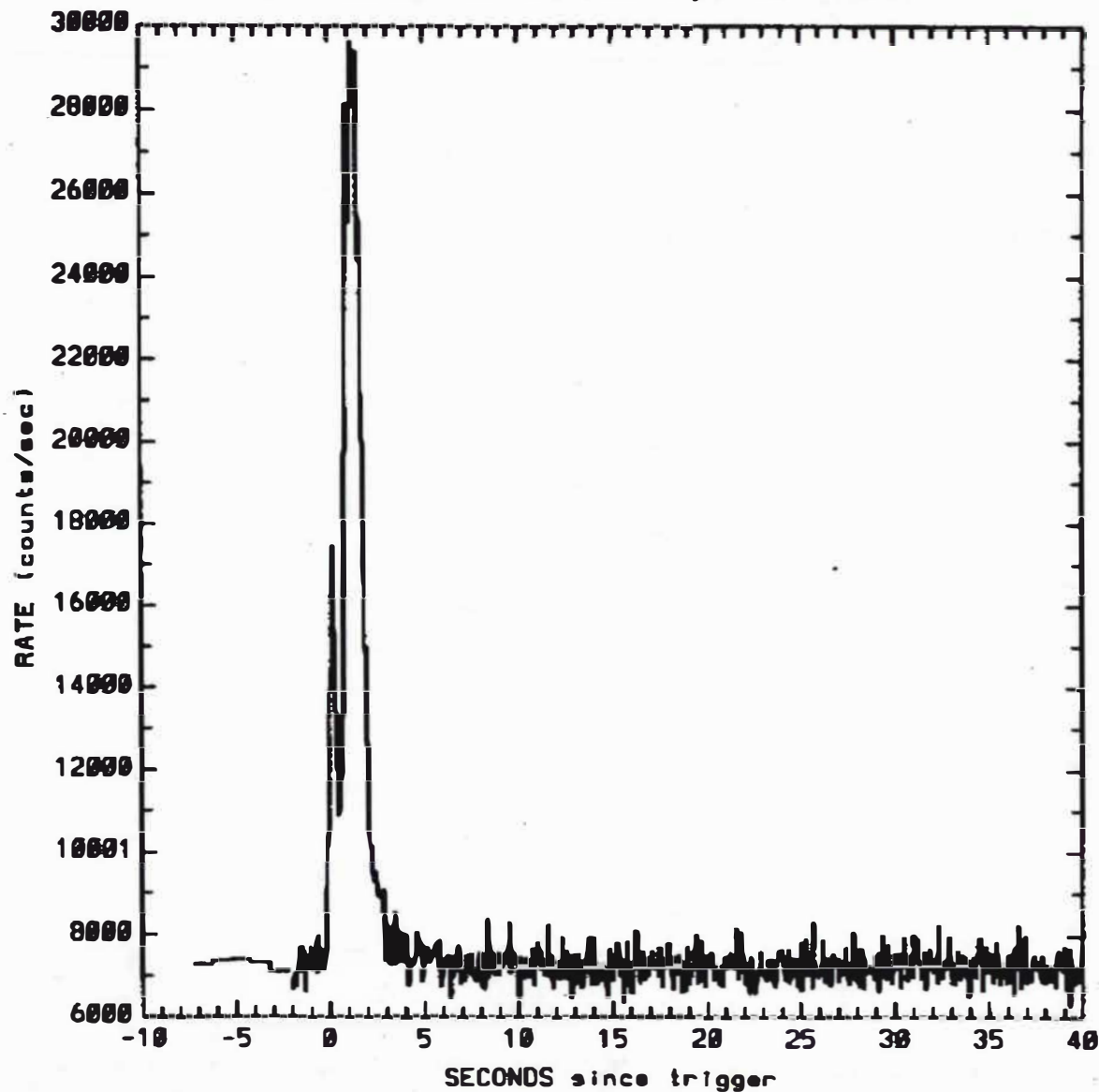
8366.969

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley. No. 7530



29-APR-1999 09:48.06

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger = . 7530

Trigger Time:
11293 / 0346.969

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..2)

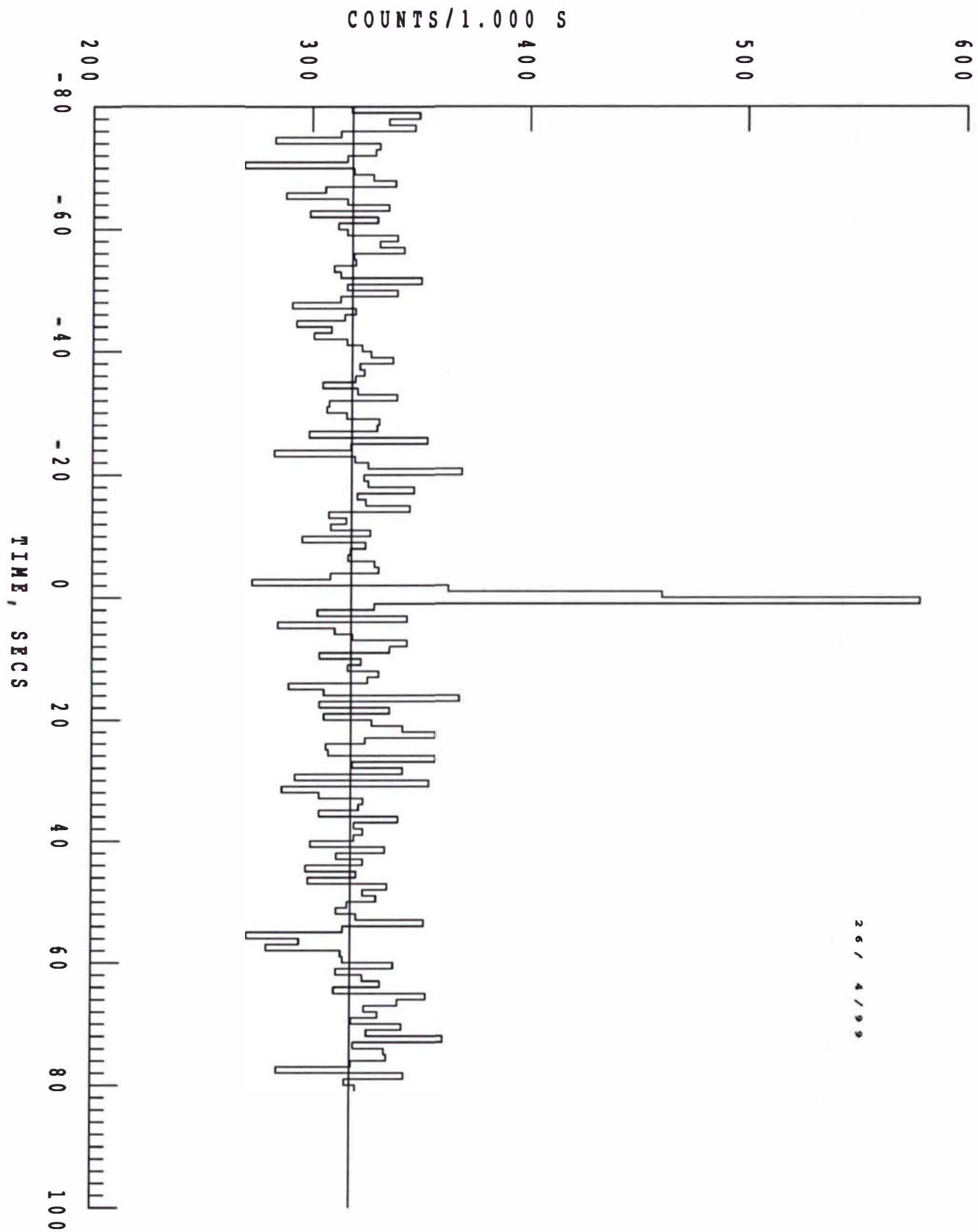
Quality Mask:
BDISP1

NEAR

25/04/99

7576.335

100-1000 keV



BATSE BURST TRIGGER

NO.: 7531

Apr 25

RI

ME: TJD=1293 SECONDS=31638

TYPE: BURST

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 34.4 AZIMUTH=228.7 ERROR= 6.6 DEGREES

COMMENTS:

STRONG SINGLE SPIKE, DUR. PROBABLY APPROX. 0.1 S. NOT VISIBLE ABOVE 300 KEV.
DATA PARTIALLY CORRUPTED.

BATSE BURST TRIGGER

NO.: 7531

TIME: TJD=1293 SECONDS=31638

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

CATION: ZENITH= 34.4 AZIMUTH=228.7 ERROR= 6.6 DEGREES

COMMENTS:

REVISED MESSAGE. EVENT RECLASSIFIED AS SGR 1806-20 BECAUSE OF LOCATION AND
SOFT SPECTRUM. STRONG SINGLE SPIKE, DUR. PROBABLY APPROX. 0.1 S.
NOT VISIBLE ABOVE 300 KEV. DATA PARTIALLY CORRUPTED.

272.2 -20.4

From PETERSON@fender.msfc.nasa.gov Wed Apr 28 09:33:24 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA05372; Wed, 28 Apr 1999 09:33:23 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA08963
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 28 Apr 1999 09:30:59 -0700 (PDT)
Date: Wed, 28 Apr 1999 11:34:08 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990428113408.20206152@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7532
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7532
EVENT OF 1999 APR 25 DAY OF YEAR=115
EVENT CROSSING TIME AT BATSE : 39150. S. OR 10:52:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 59.000 -42.000
BATSE PEAK COUNTING RATE: 2300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/ 4/ 99 IS:
RA= 145.006 DEC= -7.396 DIST= 4.491 AU
BATSE-ULYSSES DISTANCE = 671849275. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 97.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -308.05 SECS.
CROSSING TIME AT ULYSSES IS 38842. S. OR 10:47:21 +/- 430.71 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/ 4/ 99 IS:
RA= 212.216 DEC= -11.598 DIST= 0.583 AU
MARS-BATSE DISTANCE = 87202496. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.98 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 149.90 SECS.
CROSSING TIME AT MARS IS 39300. S. OR 10:54:59 +/- 45.55 SECONDS

BATSE BURST TRIGGER

NO.: 7532

TIME: TJD=1293 SECONDS=39150

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=128.9 AZIMUTH=296.5 ERROR=6.146 DEGREES

COMMENTS:

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

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7532	990425	11293	39150	2300	059	-42	15

BATSE BURST# 7532

ULYSSES RT

28 / 4 / 99

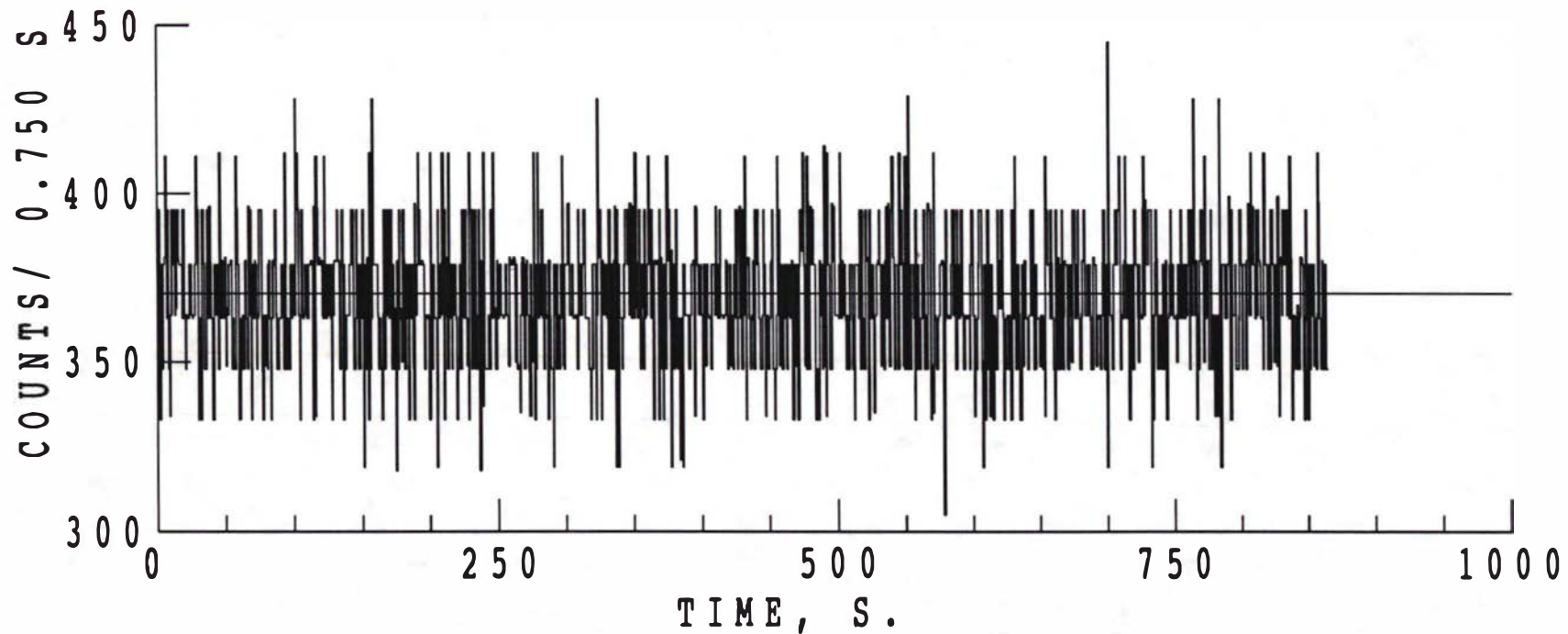
25 / 4 / 99 38412.113 s

0.250 S INTERVALS REGROUPED BY 3

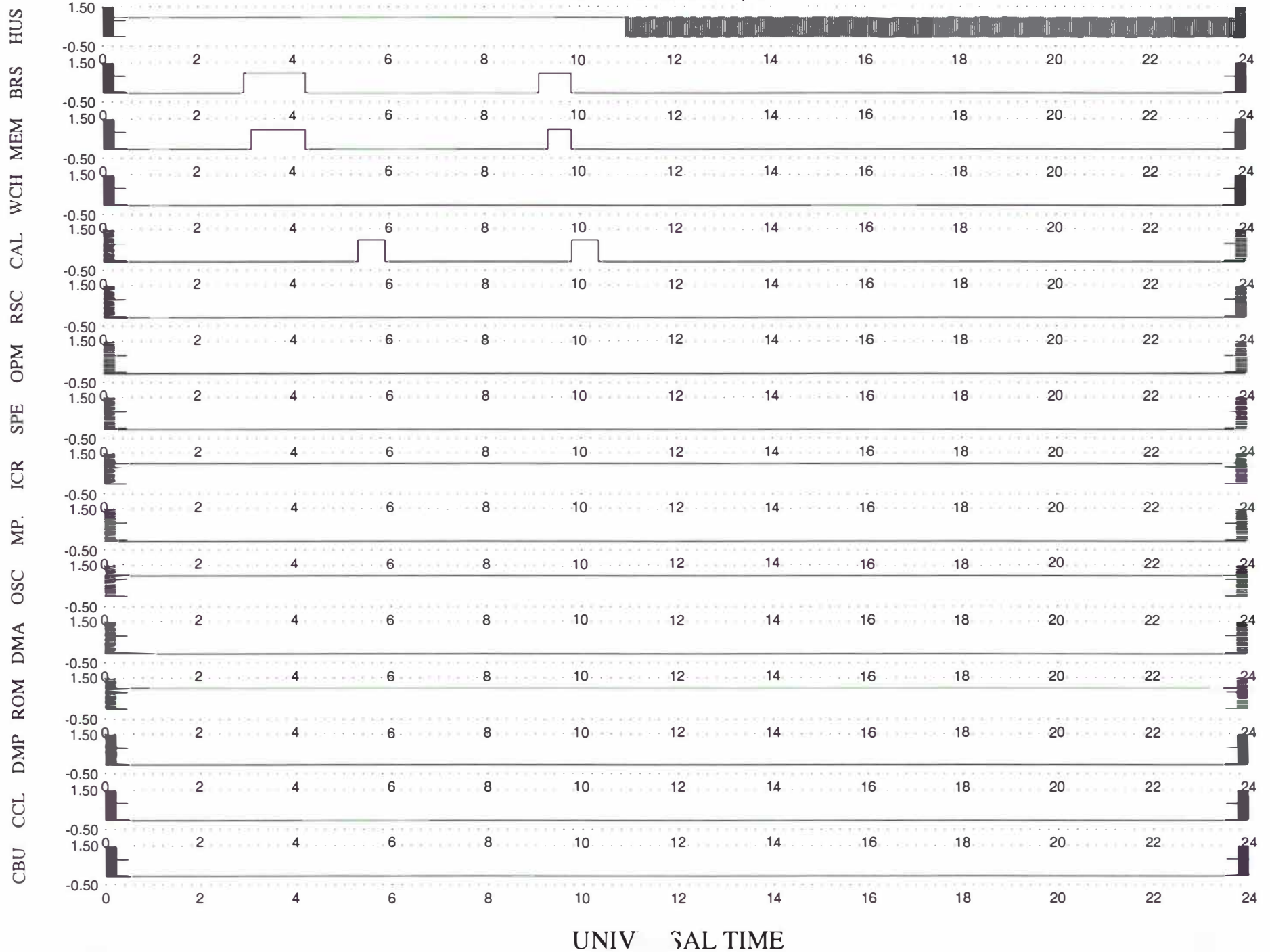
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

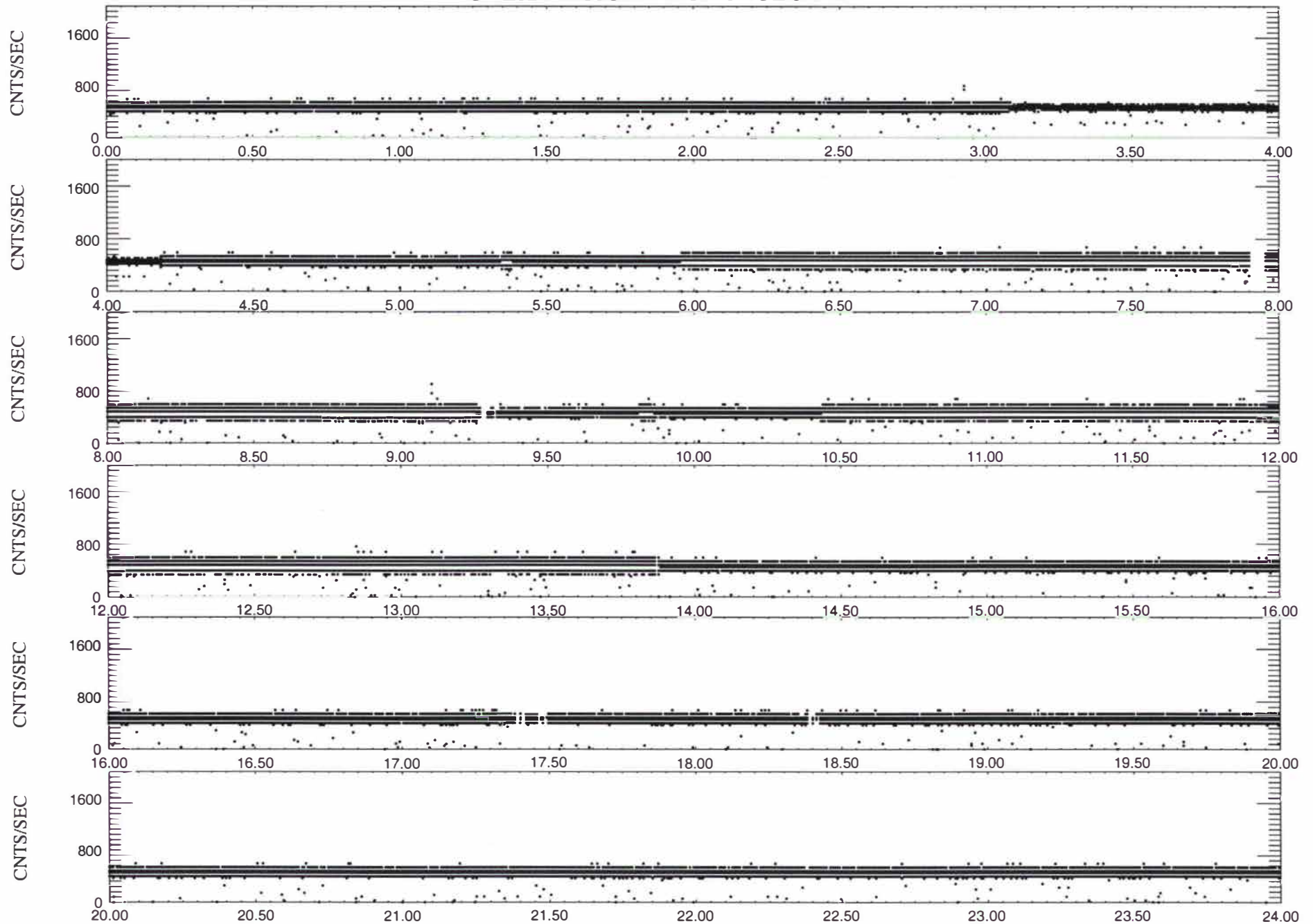
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 7, 8

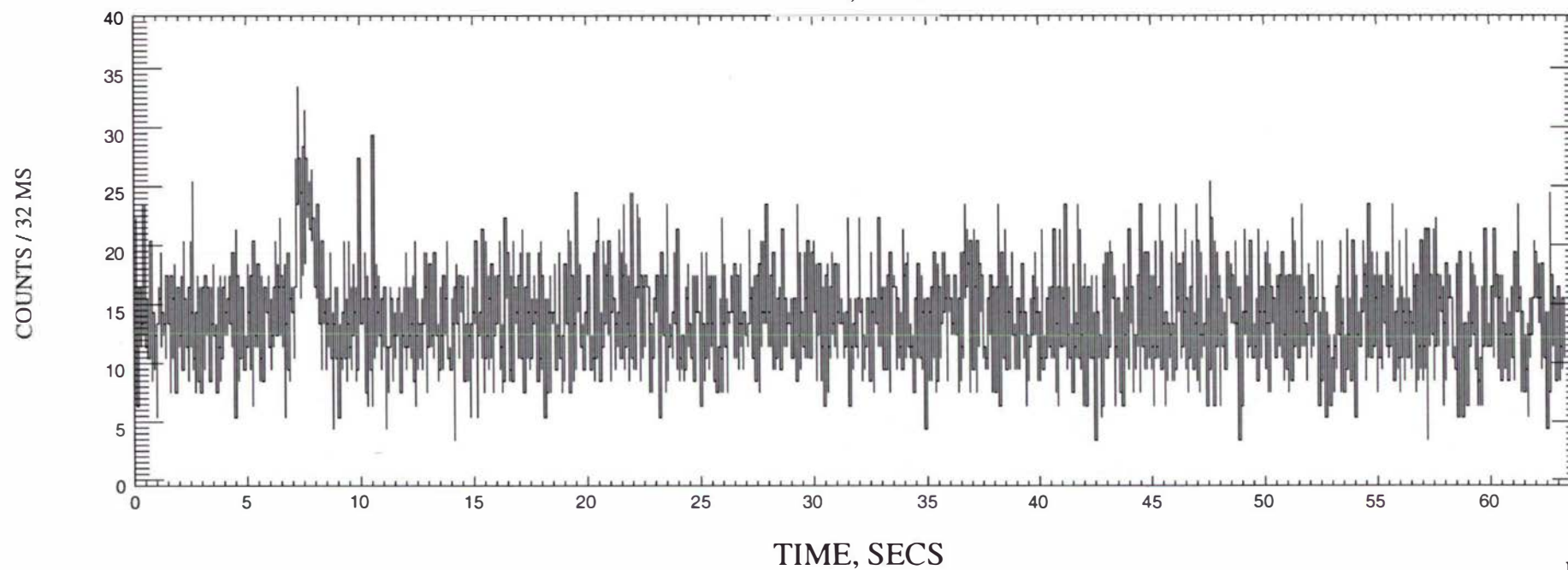
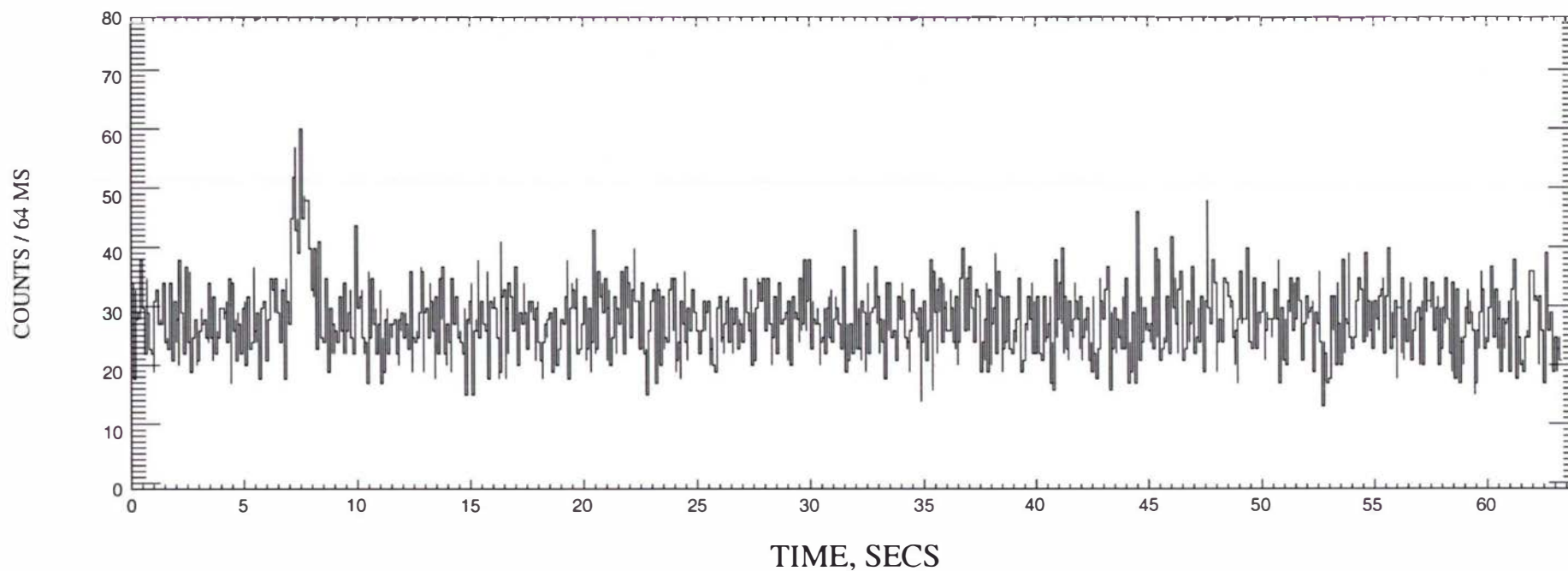


CALIBRATION DATA INCLUDED

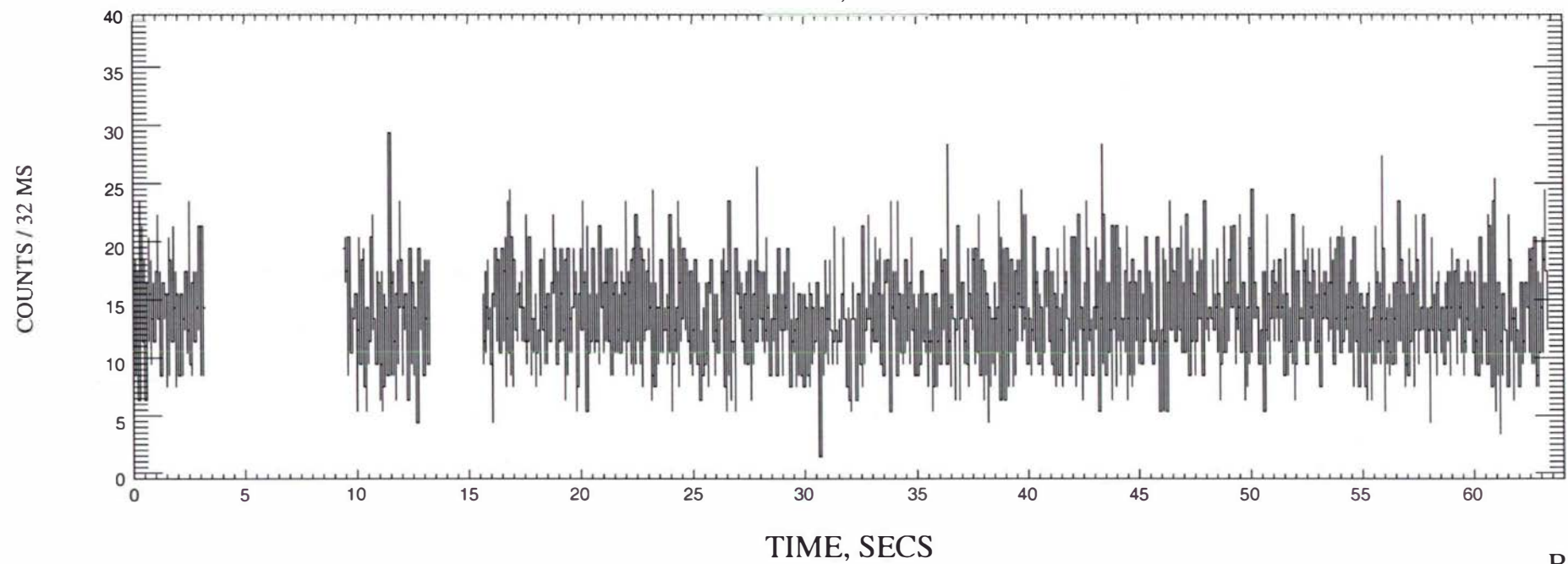
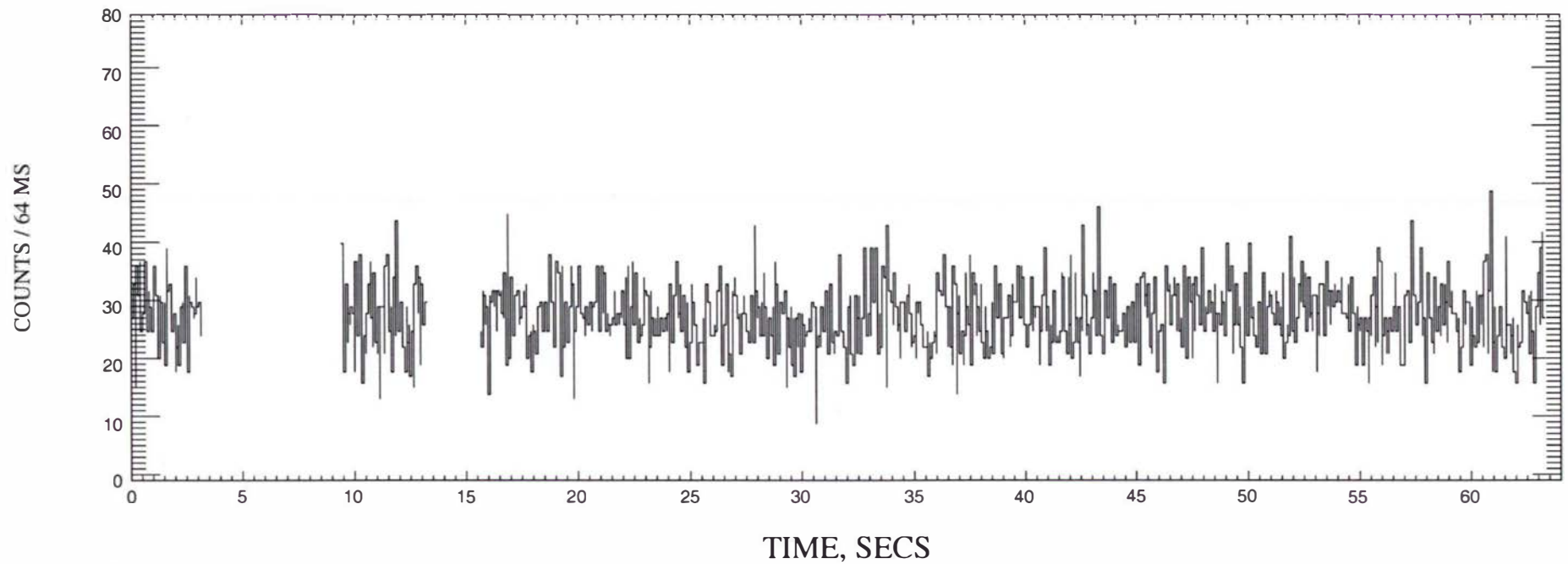


UNIVERSAL TIME

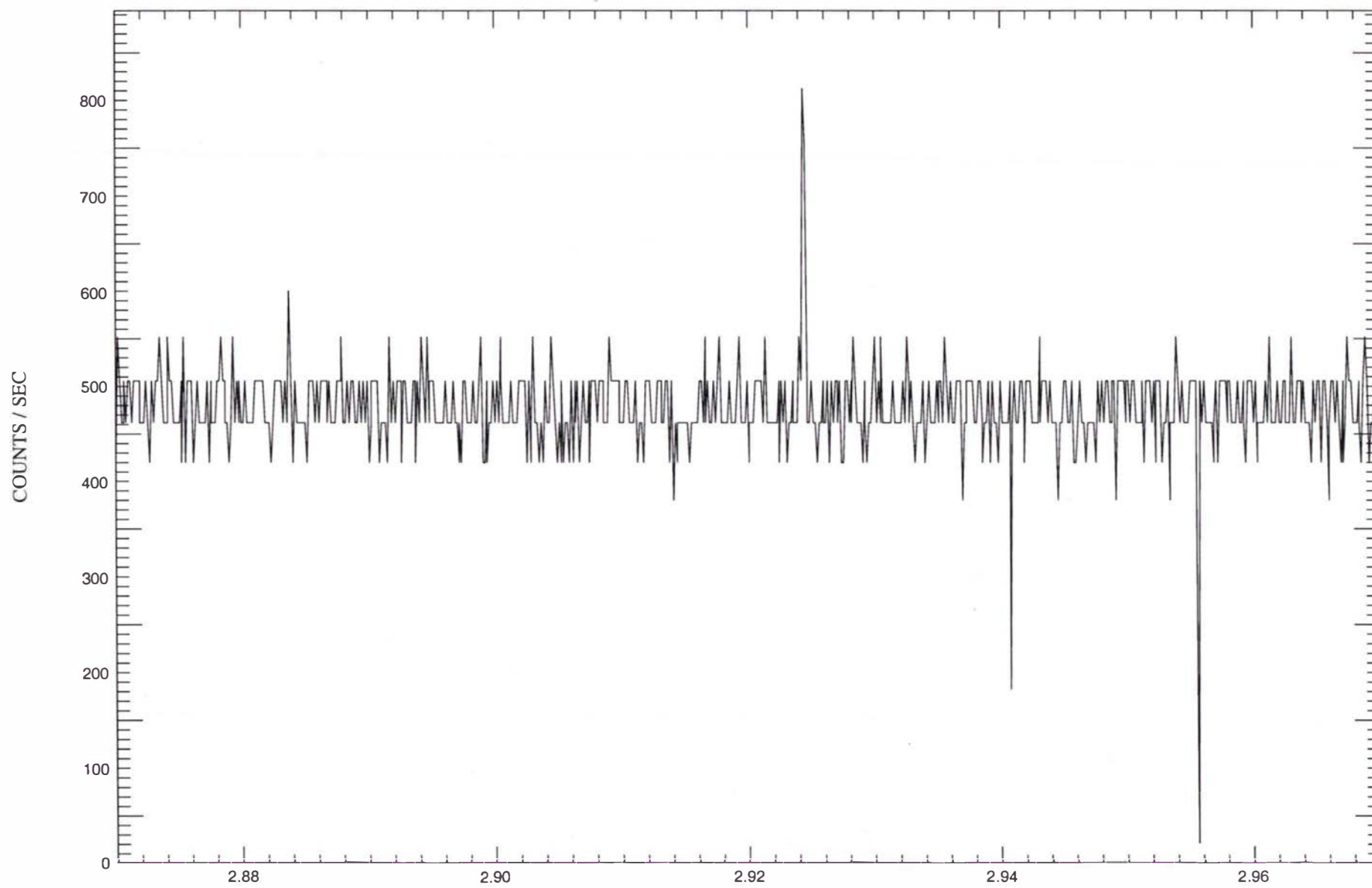
Burst Counter 7 at UT= 2.924461780124 h=10528.062 s 02:55:28.062



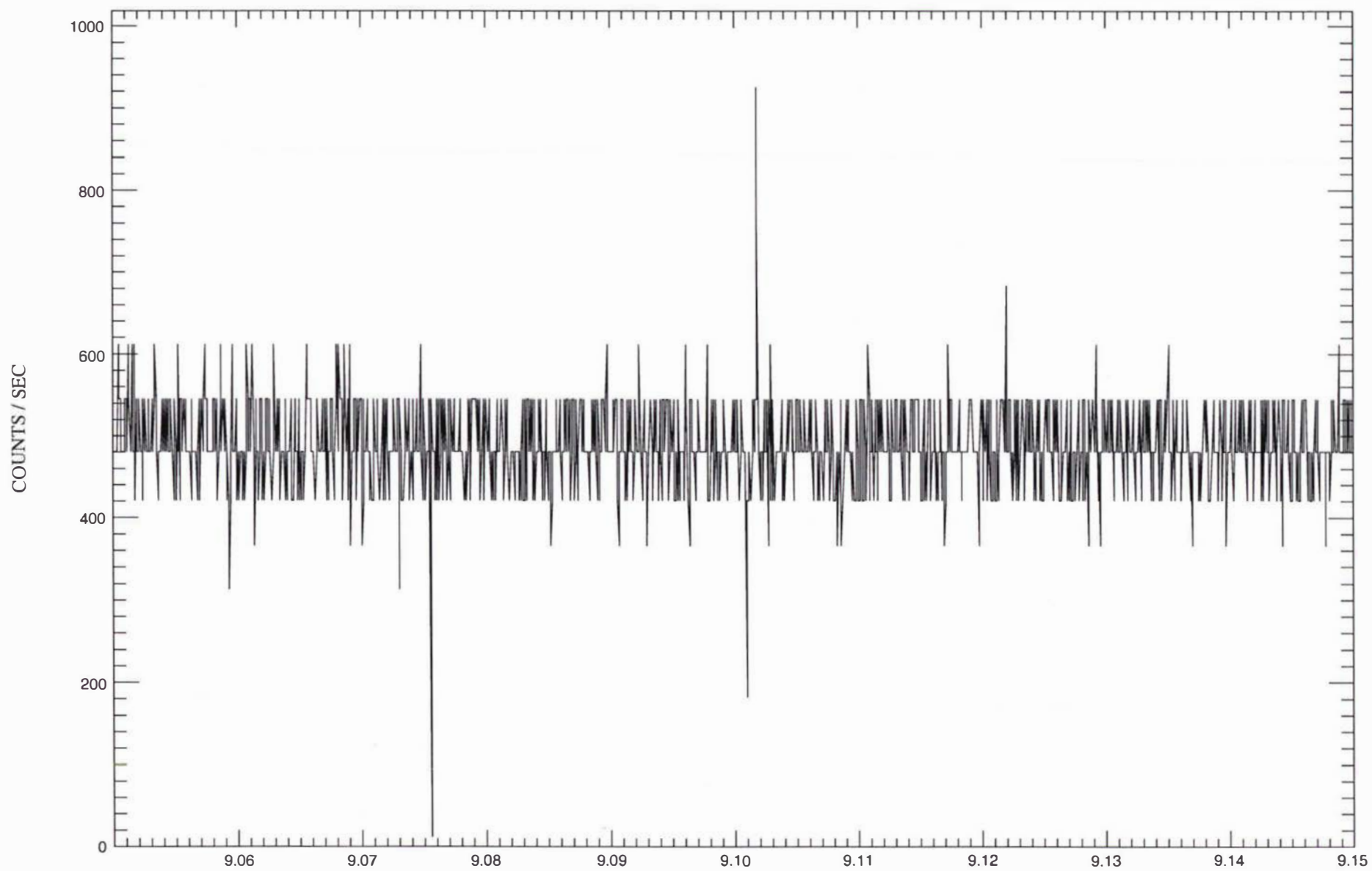
Burst Counter 8 at UT= 9.101952641805 h=32767.030 s 09:06:07.030

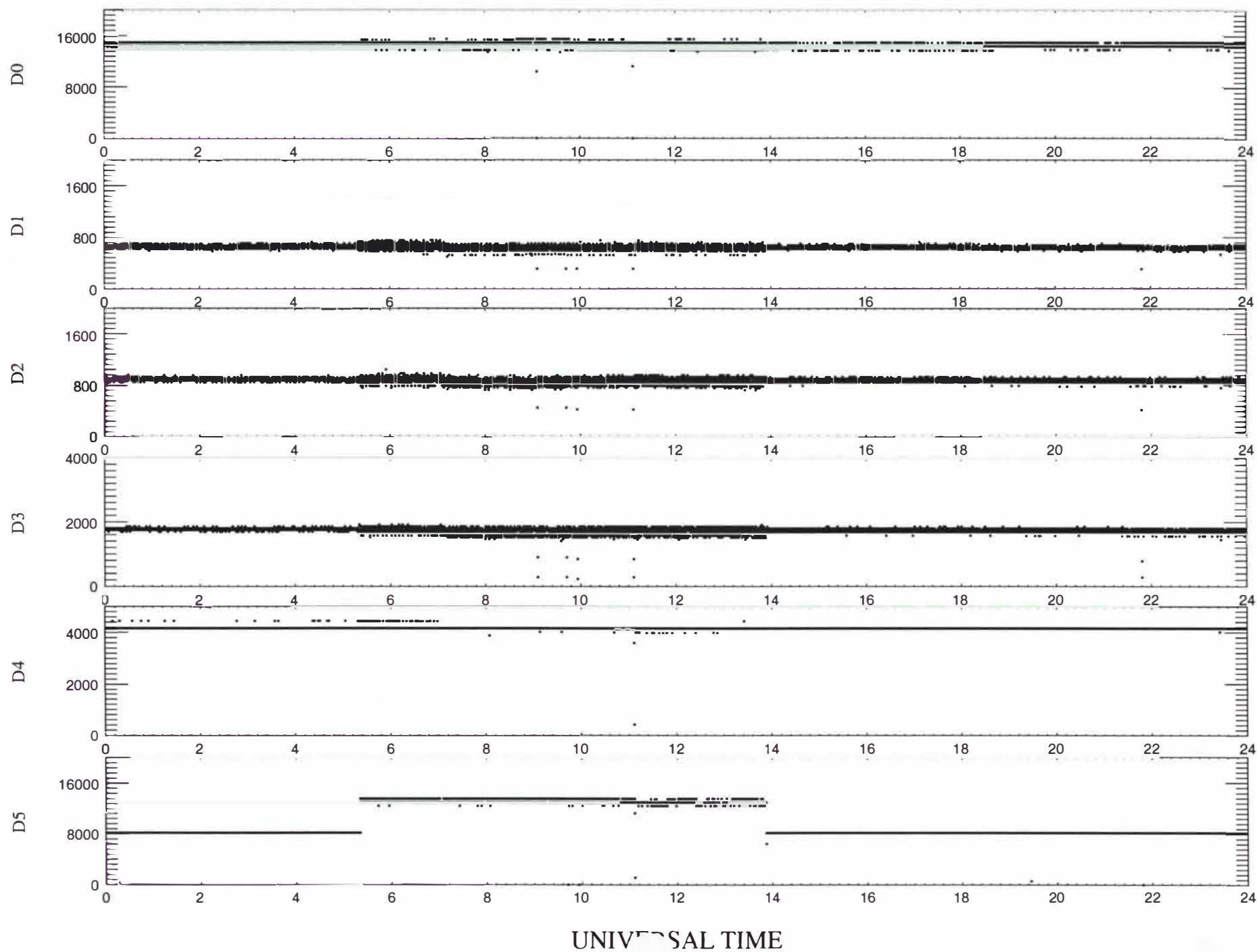


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





From khurley@sunspot.ssl.berkeley.edu Thu Apr 29 18:38 PDT 1999

Date: Thu, 29 Apr 1999 18:46:06 -0700

From: khurley@ssl.berkeley.edu (Kevin Hurley)

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

Subject: GRB990426

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
APR 26 1999 08:31*	moderate, 32 ms long	2300

*Possibly SGR1806-20; if so, Earth-crossing is 400 s earlier.

Was this event detected by anyone else?

CC: ulyssesbursts alias list

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

From PETERSON@fender.msfc.nasa.gov Wed Apr 28 09:35:01 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA05391; Wed, 28 Apr 1999 09:35:00 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA08996
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 28 Apr 1999 09:32:36 -0700 (PDT)
Date: Wed, 28 Apr 1999 11:35:46 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990428113546.20206152@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7533
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7533
EVENT OF 1999 APR 26 DAY OF YEAR=116
EVENT CROSSING TIME AT BATSE : 34124. S. OR 09:28:44.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 263.000 -22.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 26/ 4/ 99 IS:
RA= 144.928 DEC= -7.364 DIST= 4.502 AU
BATSE-ULYSSES DISTANCE = 673568516. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 67.37 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 864.36 SECS.
CROSSING TIME AT ULYSSES IS 34988. S. OR 09:43:08 +/- 423.18 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 26/ 4/ 99 IS:
RA= 211.843 DEC= -11.509 DIST= 0.582 AU
MARS-BATSE DISTANCE = 87019384. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=130.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -187.10 SECS.
CROSSING TIME AT MARS IS 33937. S. OR 09:25:36 +/- 35.69 SECONDS

BATSE BURST TRIGGER

NO.: 7533

TIME: TJD=1294 SECONDS=34124

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=38 AZIMUTH=221.8 ERROR=3.1 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. APPROX. 10 S, STARTS AT T-2 S. NOT VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7533	990426	11294	34124	4000	263	-22	10

BATSE BURST# 7533

ULYSSES RT

28 / 4 / 99

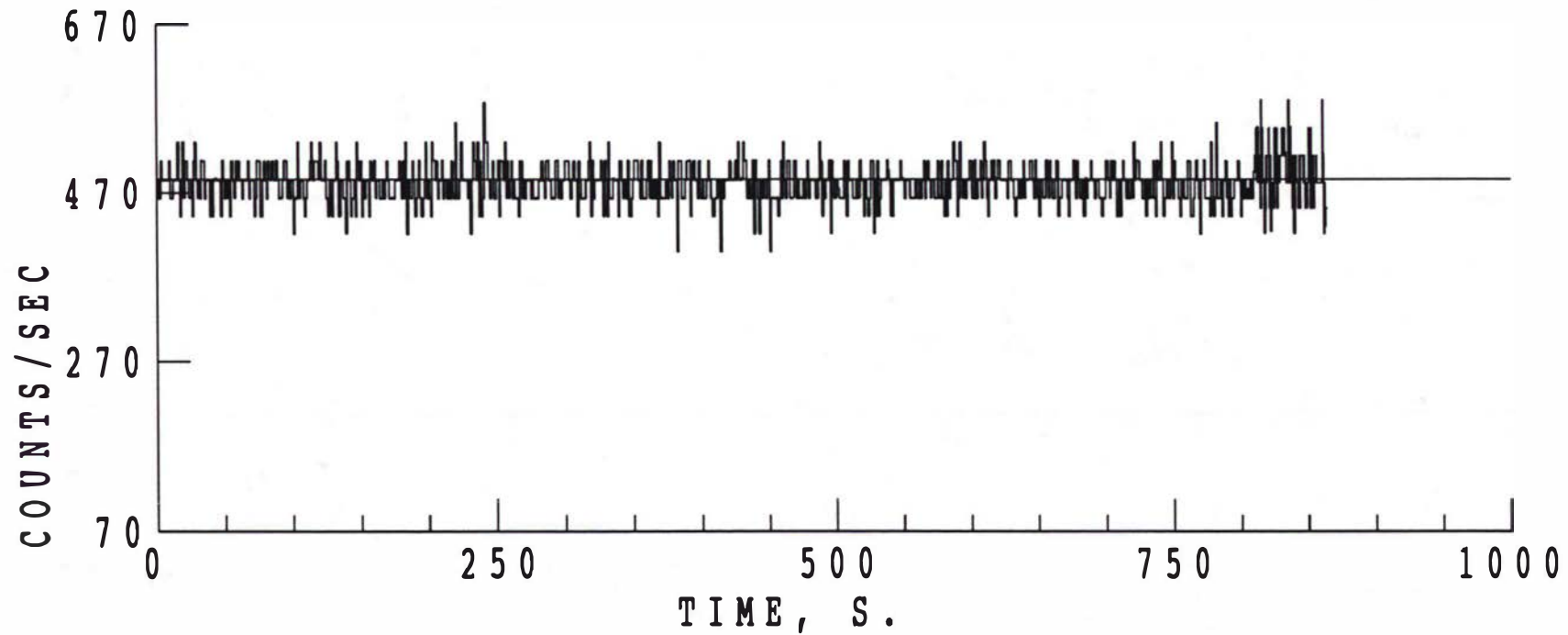
26 / 4 / 99 34560.445 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

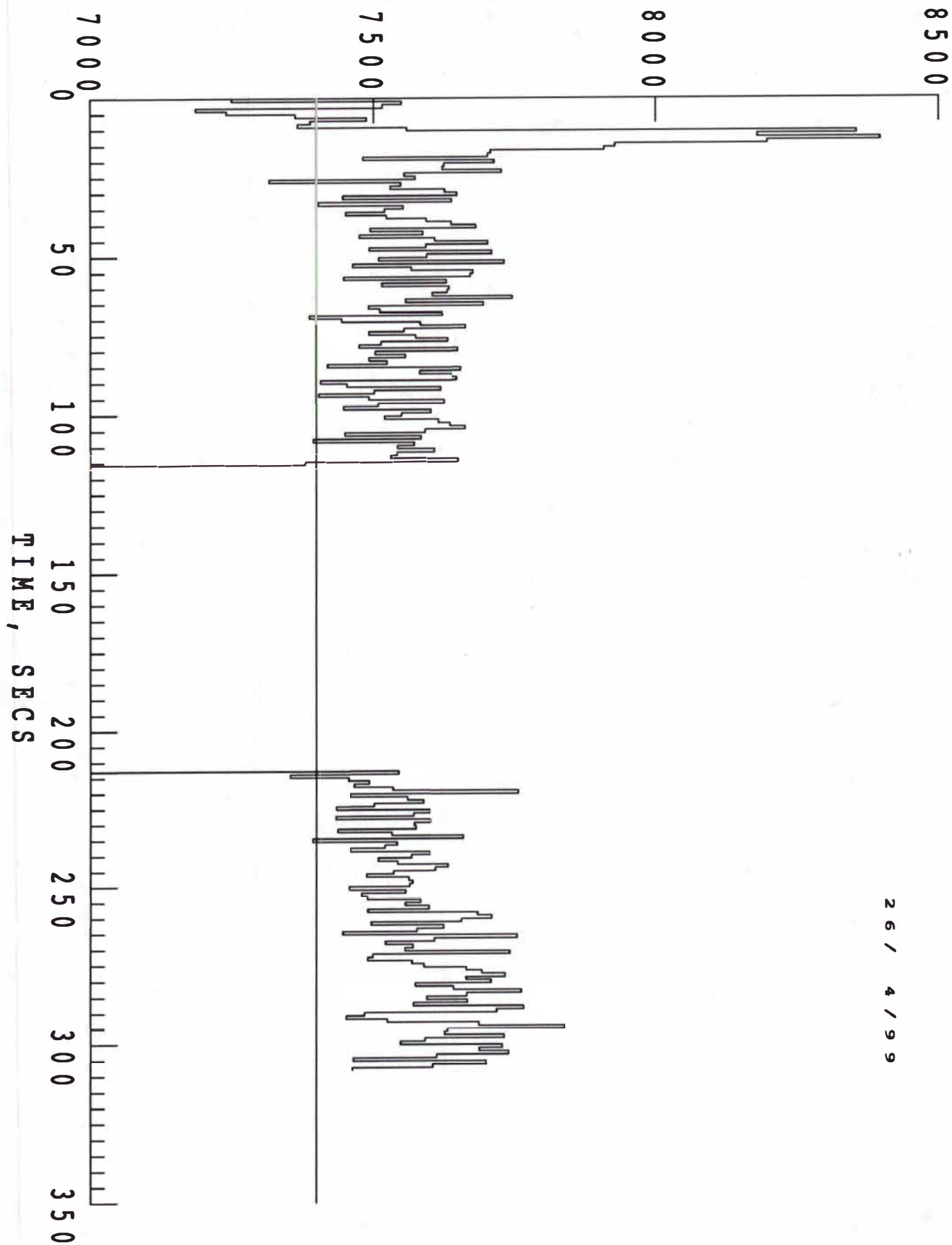
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7533 26/04/99 34113.273

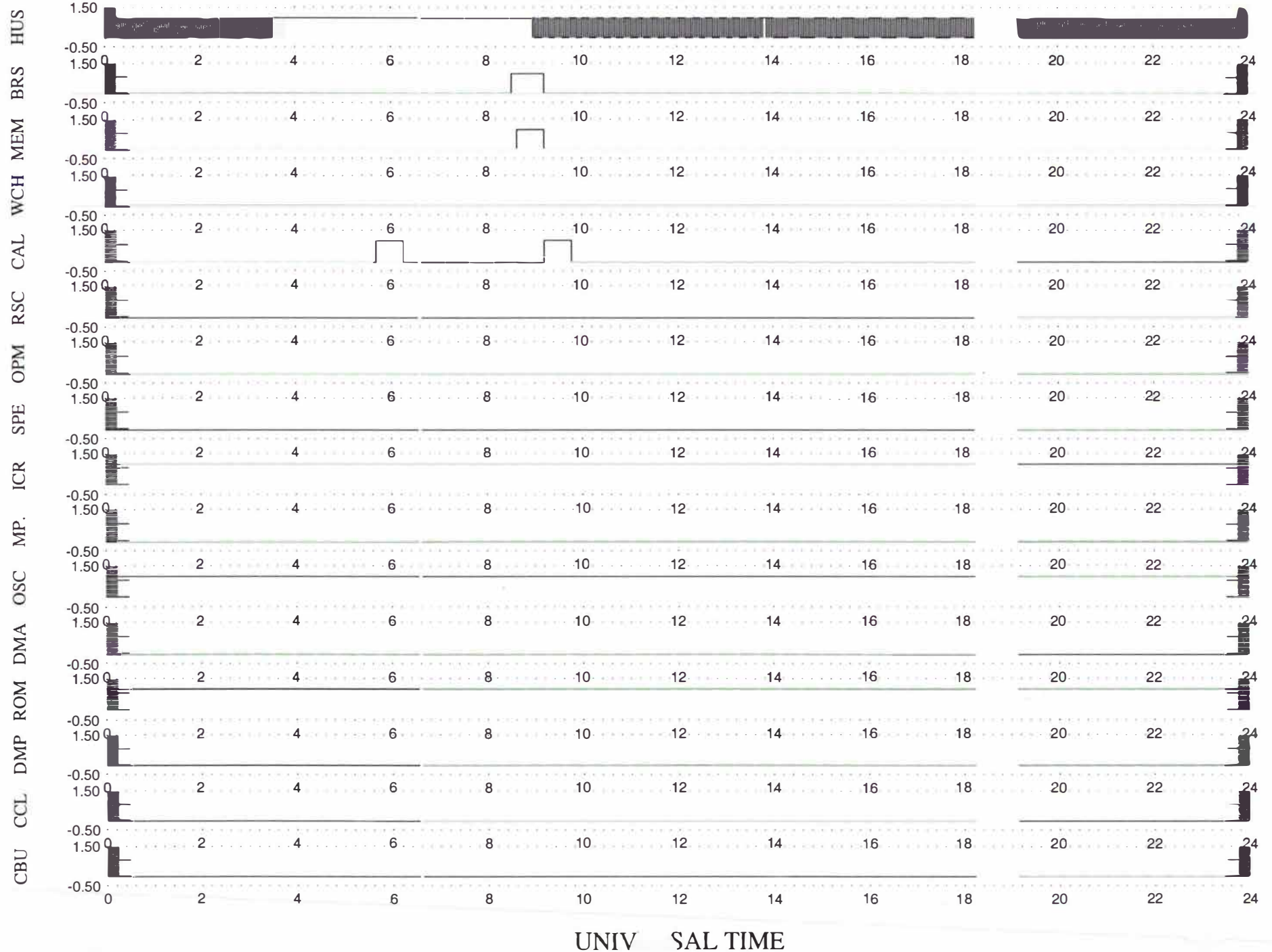
25- 100 keV

COUNTS/1.024 S

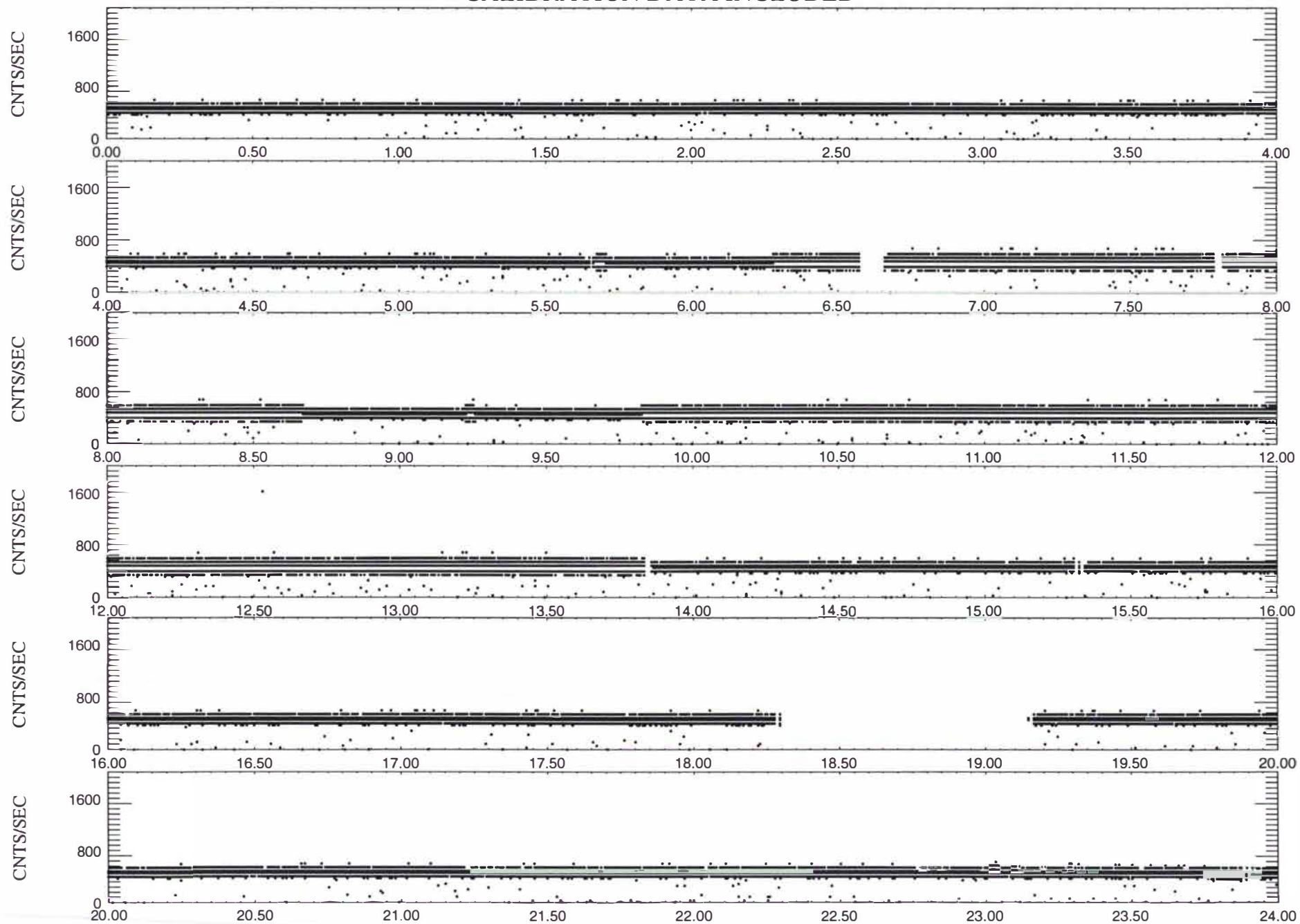


26 / 4 / 99

BURST NUMBER 9

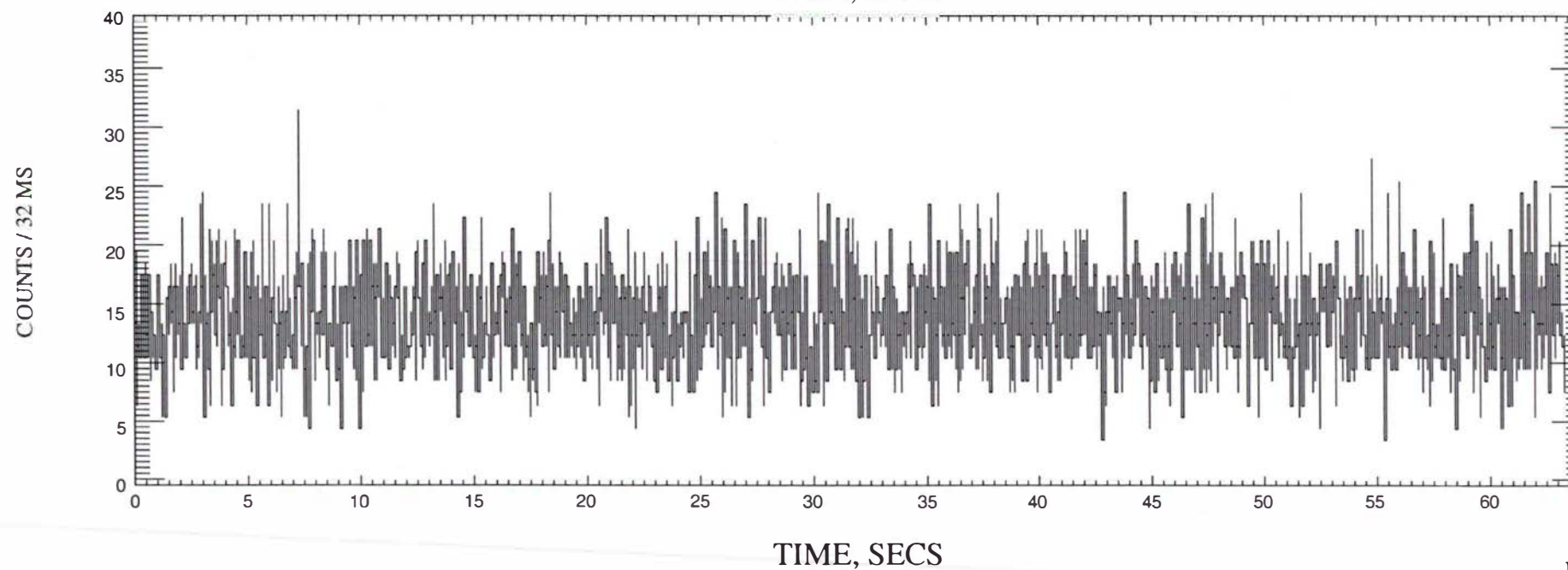
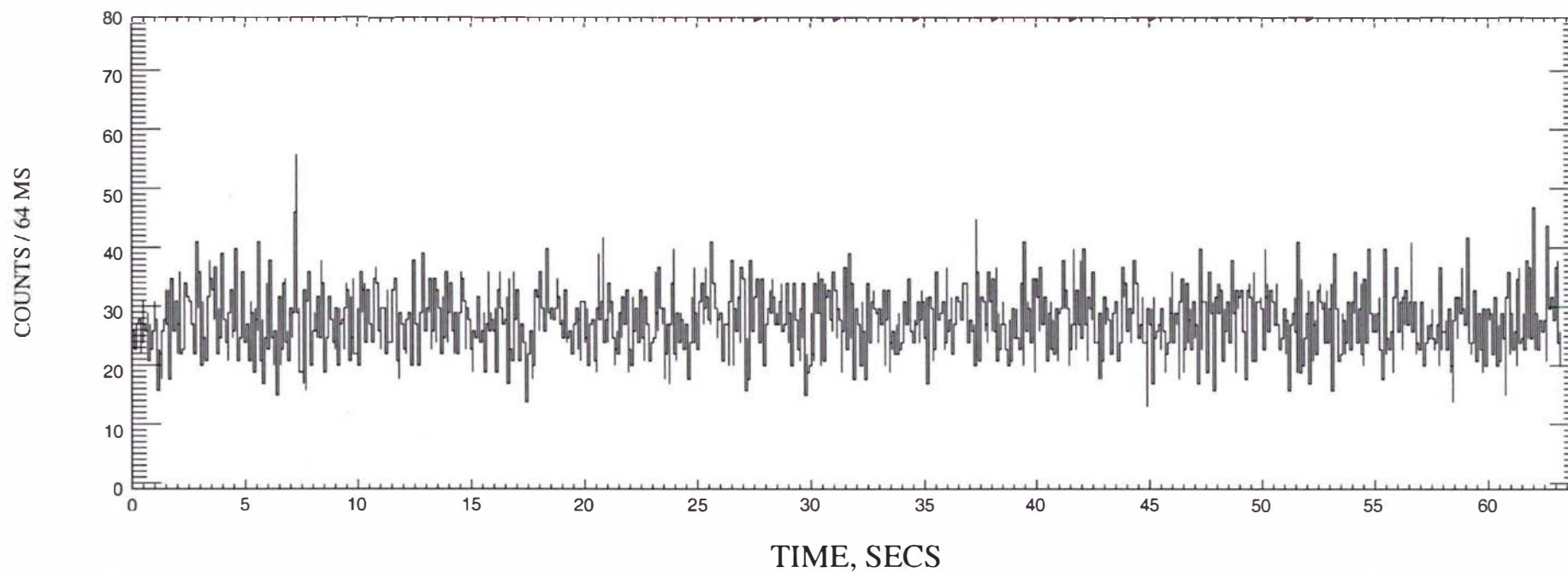


CALIBRATION DATA INCLUDED

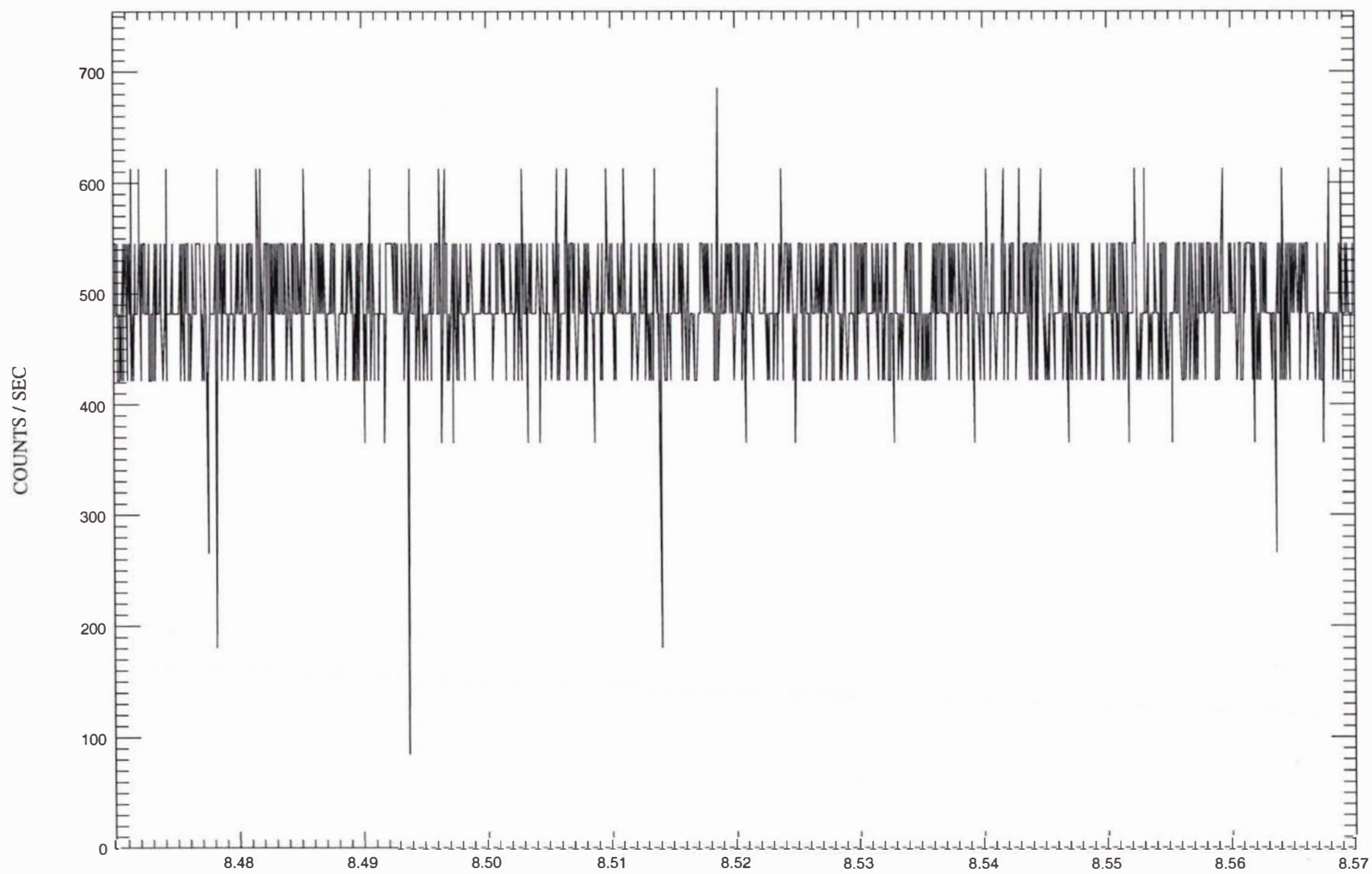


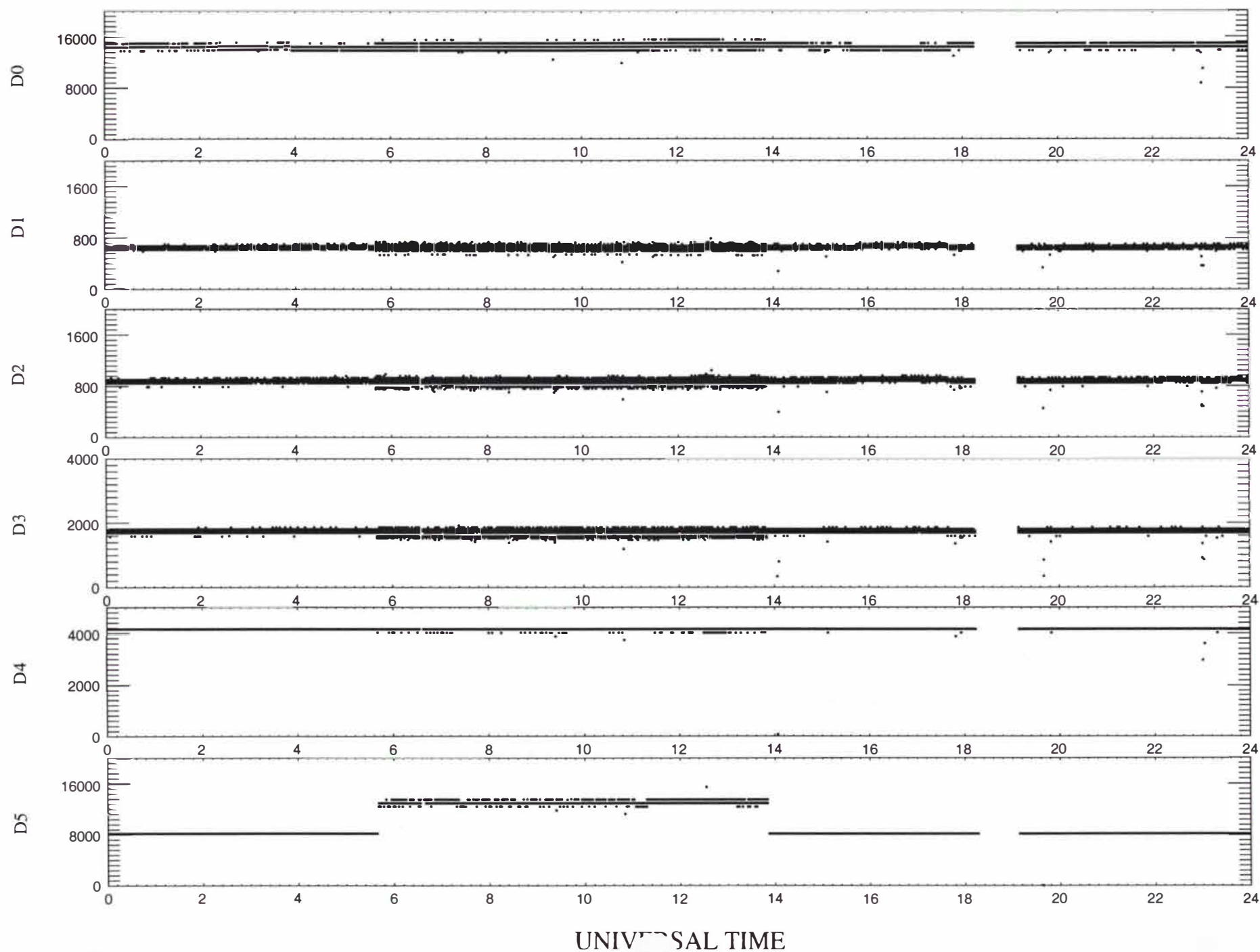
UNIVERSAL TIME

Burst Counter 9 at UT= 8.518753763835 h=30667.514 s 08:31:07.514



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Thu Apr 29 13:25:33 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id NAA29657; Thu, 29 Apr 1999 13:25:33 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id NAA00848
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 29 Apr 1999 13:23:06 -0700 (PDT)
Date: Thu, 29 Apr 1999 15:26:07 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990429152607.20206e46@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7534
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7534
EVENT OF 1999 APR 27 DAY OF YEAR=117
EVENT CROSSING TIME AT BATSE : 56637. S. OR 15:43:57.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 354.000 -19.000
BATSE PEAK COUNTING RATE: 40000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 4/ 99 IS:
RA= 144.828 DEC= -7.323 DIST= 4.518 AU
BATSE-ULYSSES DISTANCE = 675892177. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.98 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1752.58 SECS.
CROSSING TIME AT ULYSSES IS 58390. S. OR 16:13:09 +/- 322.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 4/ 99 IS:
RA= 211.470 DEC= -11.419 DIST= 0.581 AU
MARS-BATSE DISTANCE = 86866016. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 47.85 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 194.46 SECS.
CROSSING TIME AT MARS IS 56831. S. OR 15:47:11 +/- 40.25 SECONDS

BATSE BURST TRIGGER

NO.: 7534

TIME: TJD=1295 SECONDS=56637

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 53.8 AZIMUTH= 97.5 ERROR= 0.6 DEGREES

COMMENTS:

MULTIPLE PULSES, TOTAL DUR. GREATER THAN 165 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7534	990427	11295	56637	40000	354	-19	165

Date: Feb 28 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

- checking*
OK
- ☒ 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

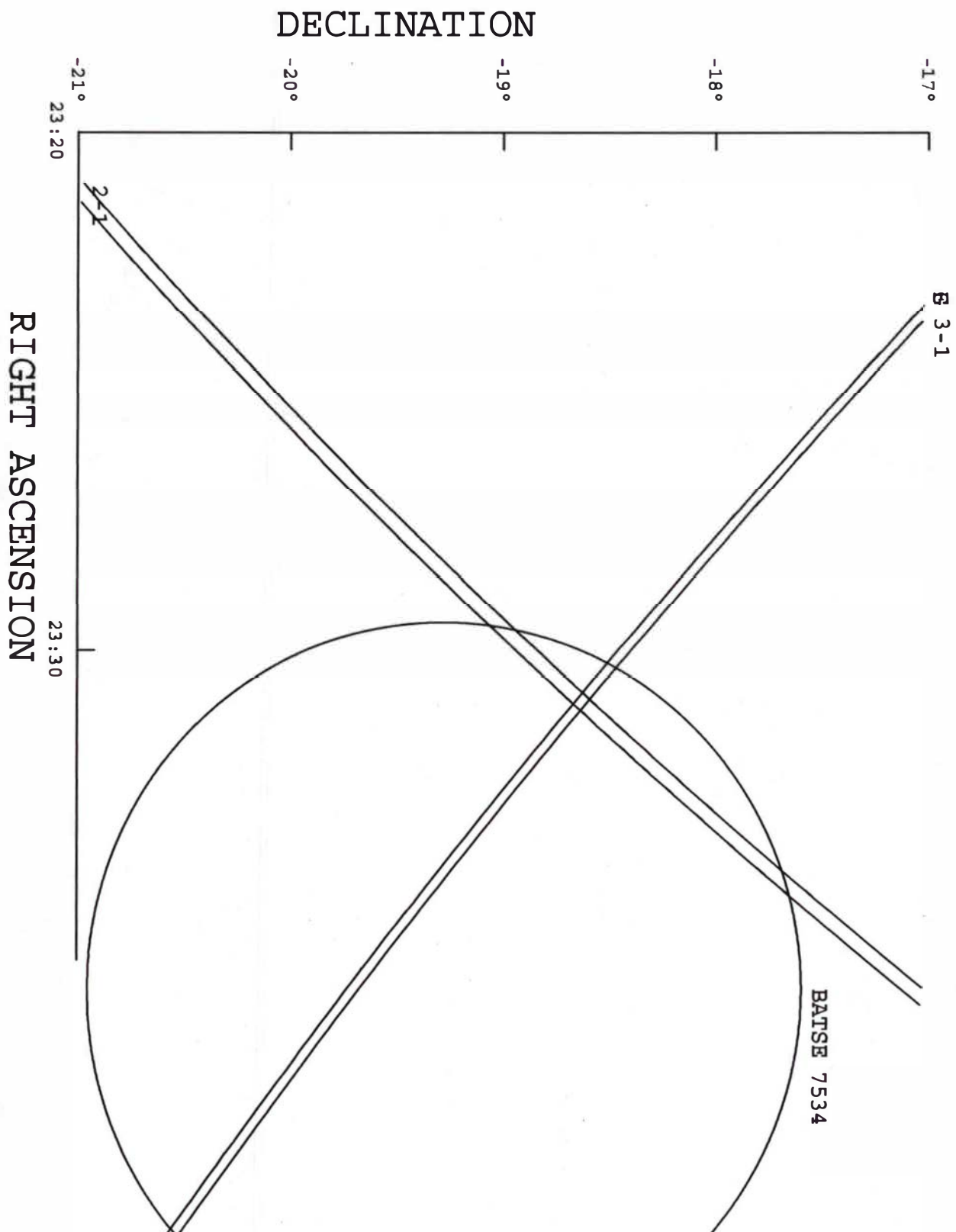
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF APR 27, 1999 15:43

28 / 2 / 0



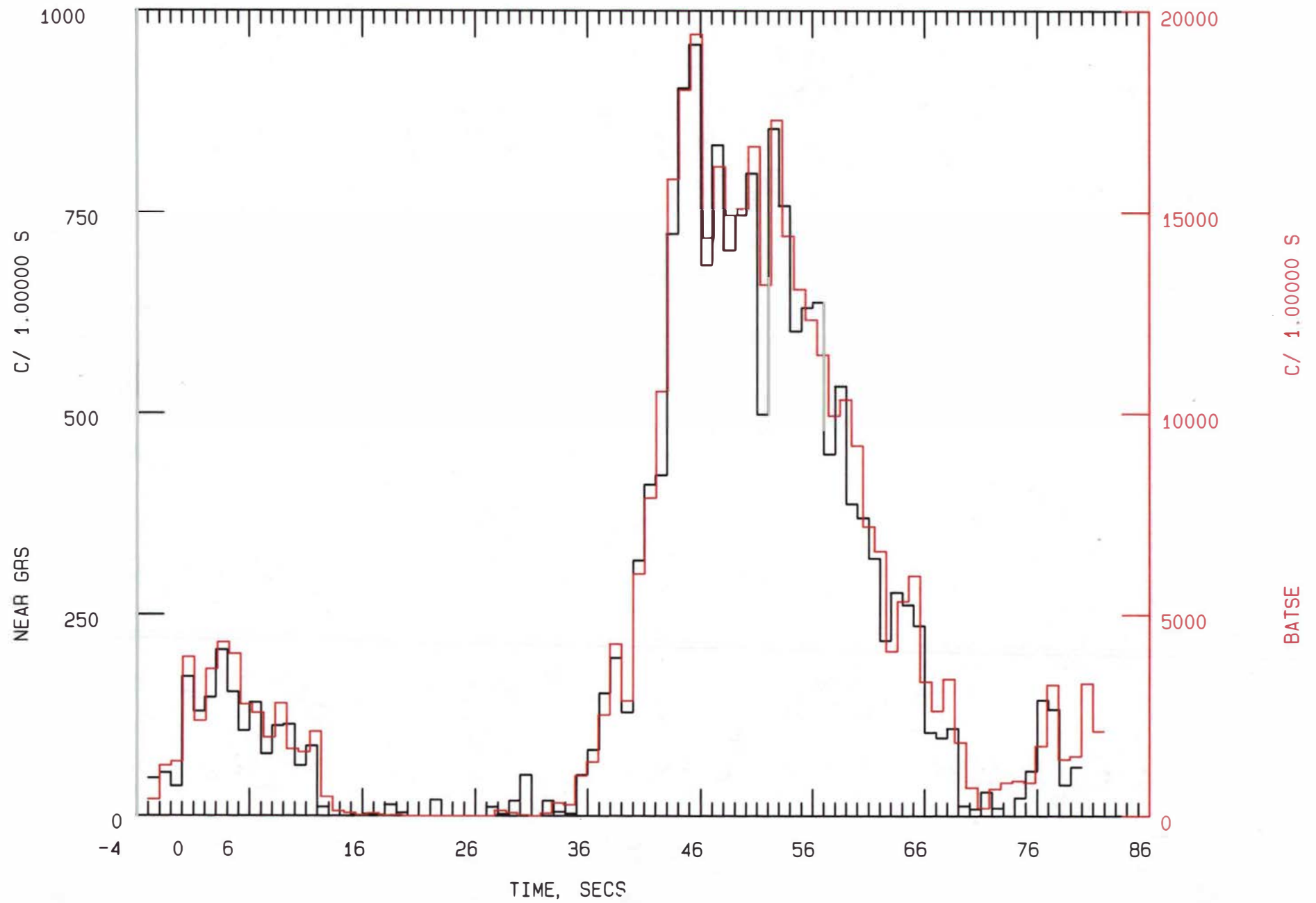
NEAR GRS -BATSE

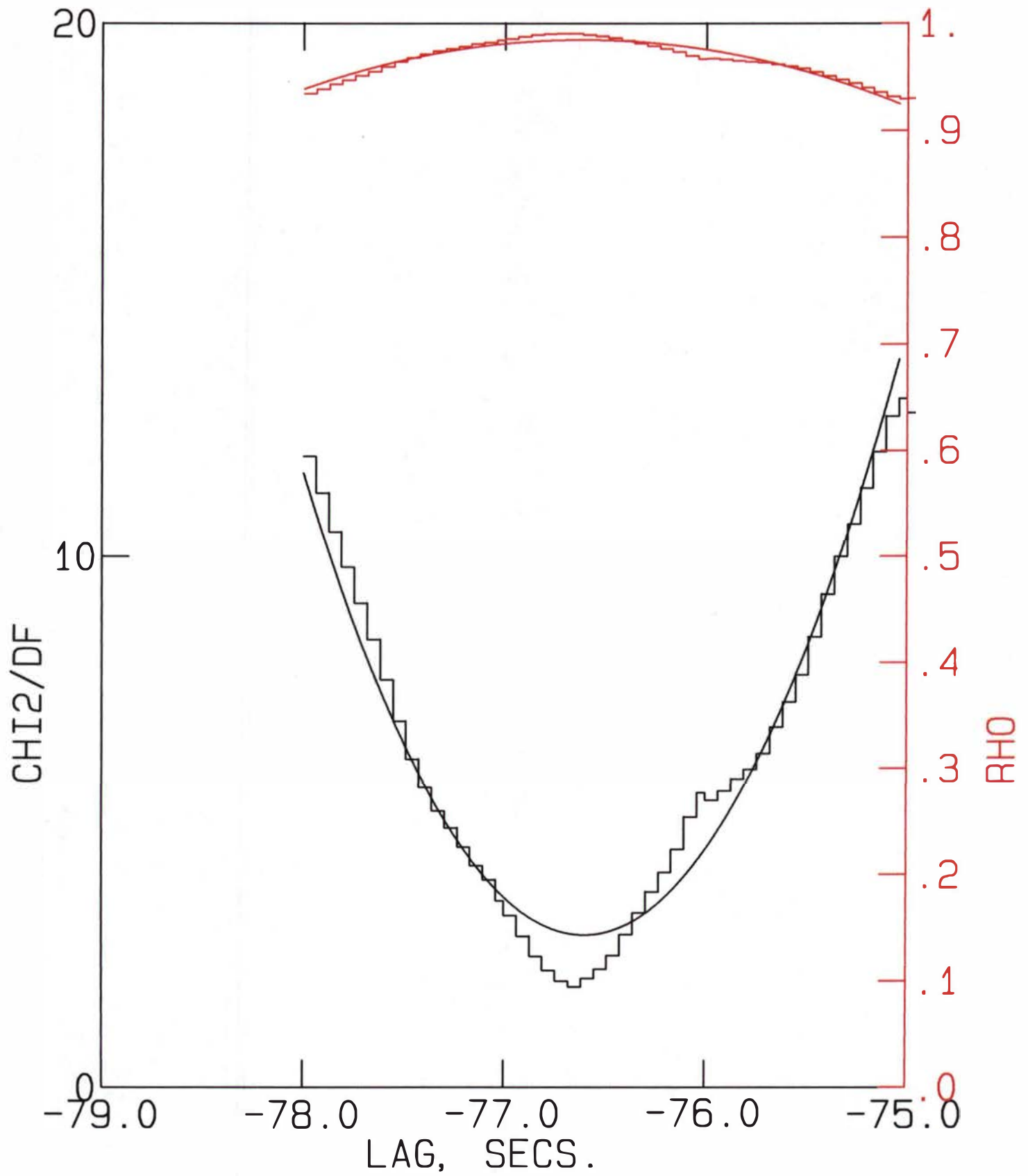
CORRELATION

27/04/99

55753.278

28/ 2/ 0





ULYSSES

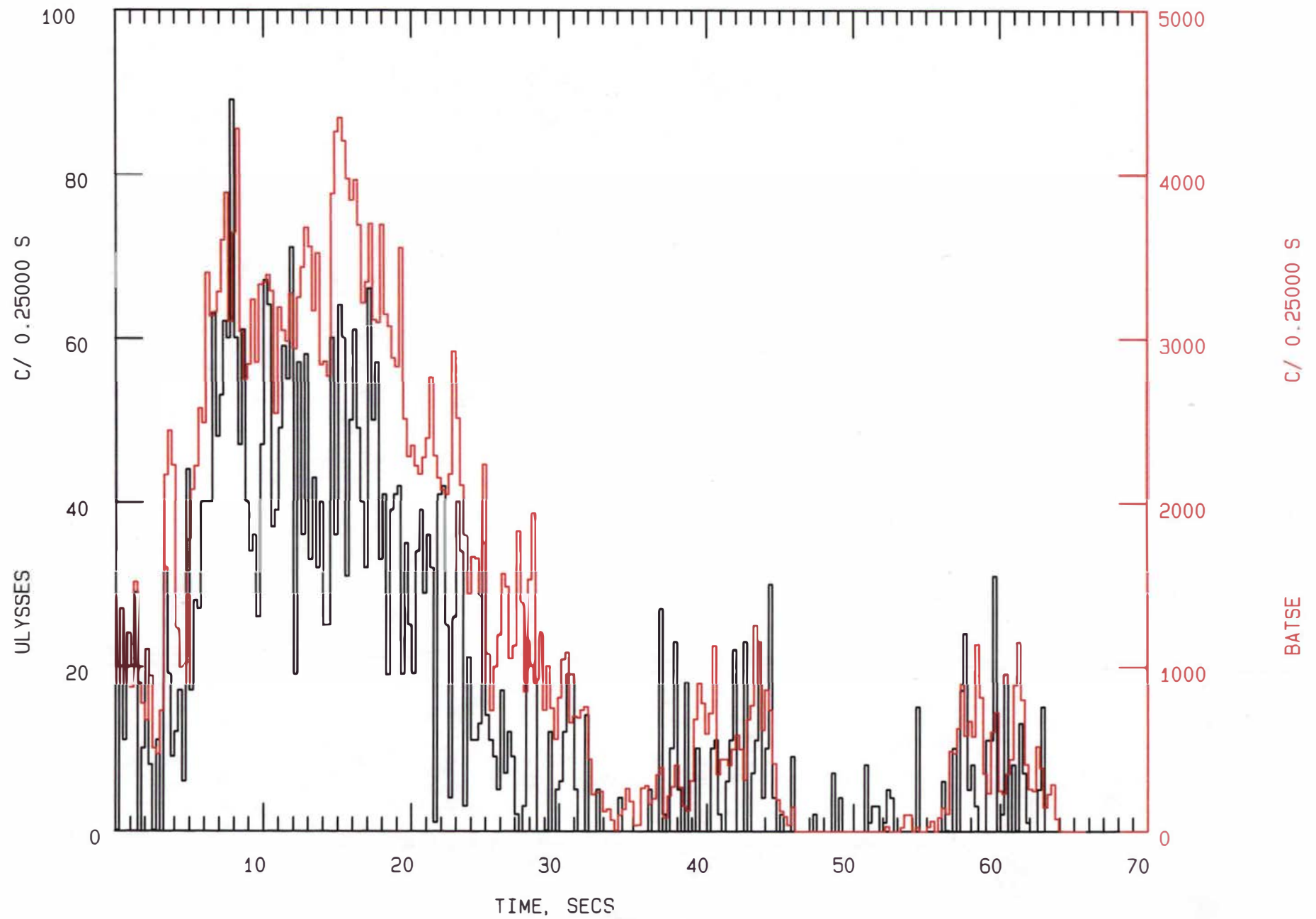
-BATSE

CORRELATION

27/04/99

58468.680

28/ 2/ 0



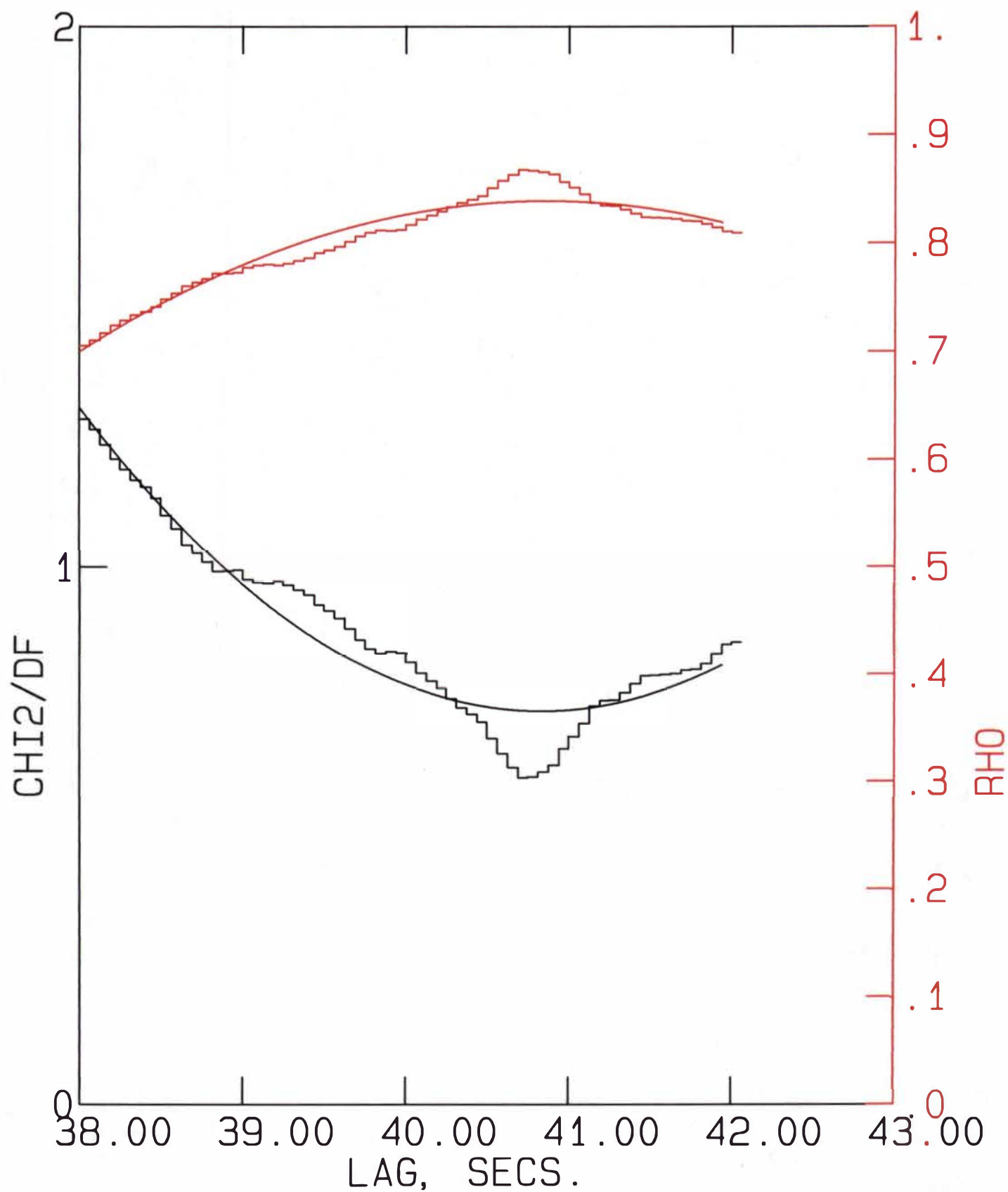
ULYSSES

-BATSE

CORRELATION

27/04/99

58468.680



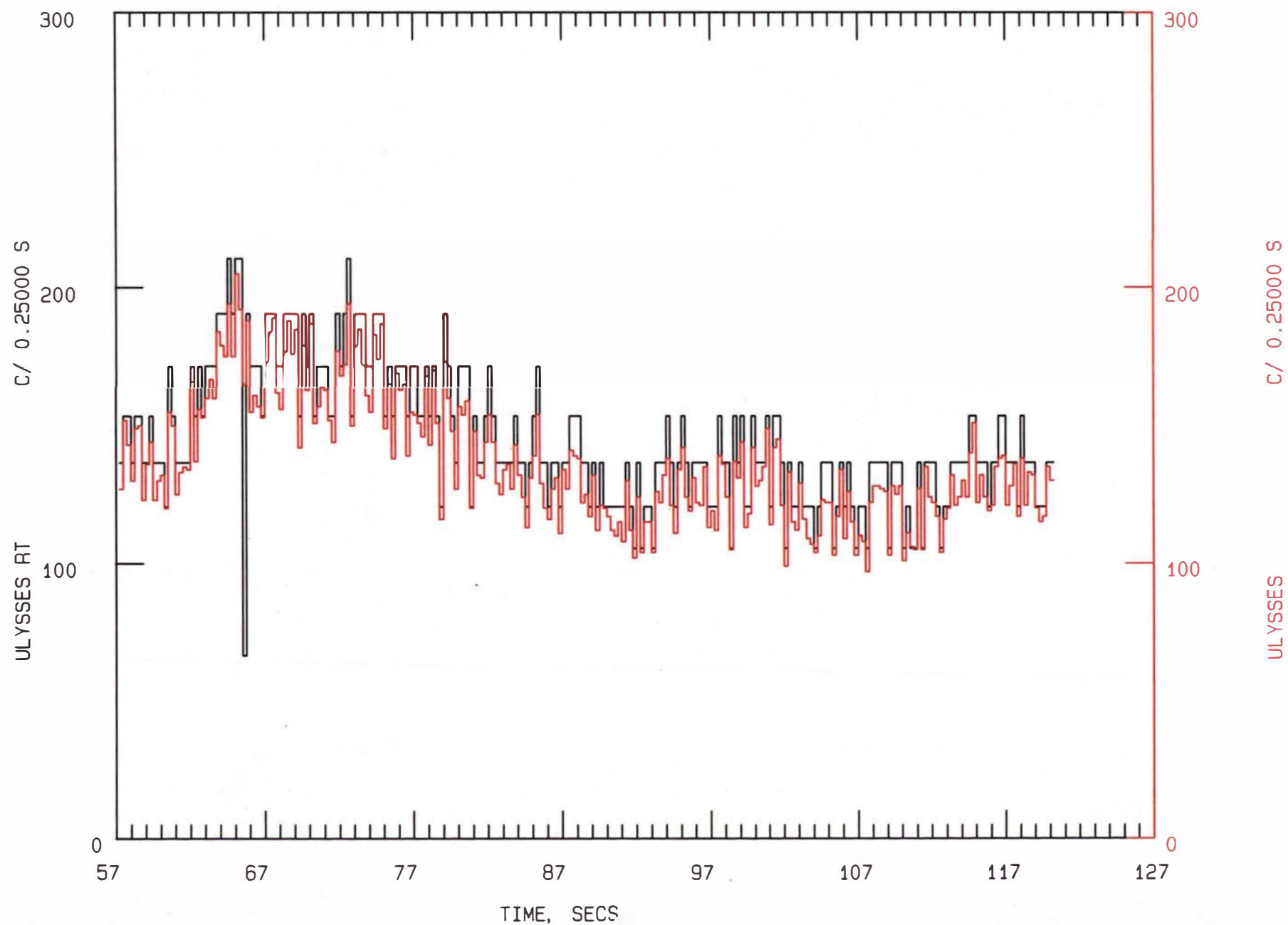
ULYSSES RT-ULYSSES

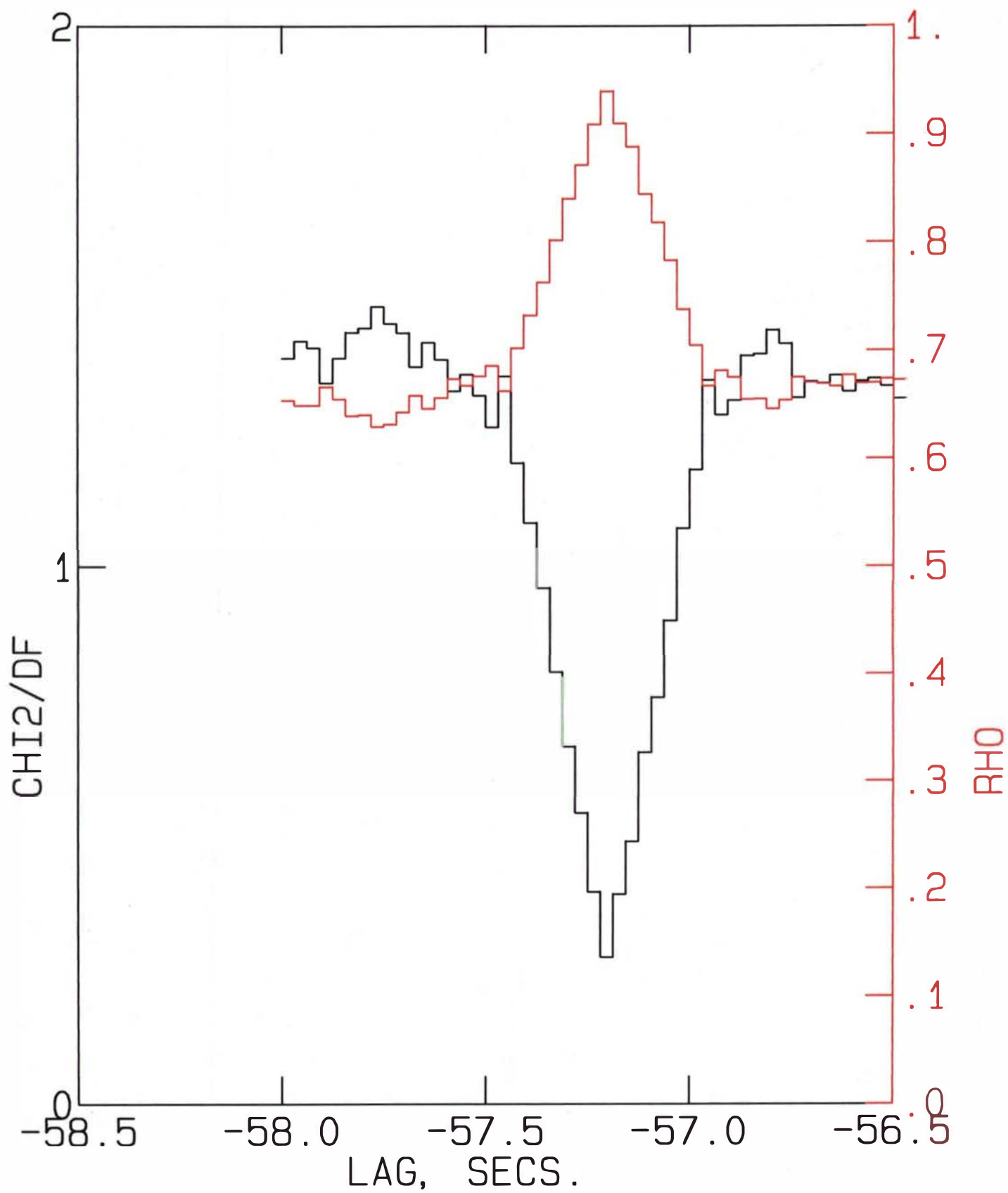
CORRELATION

27/ 4/99

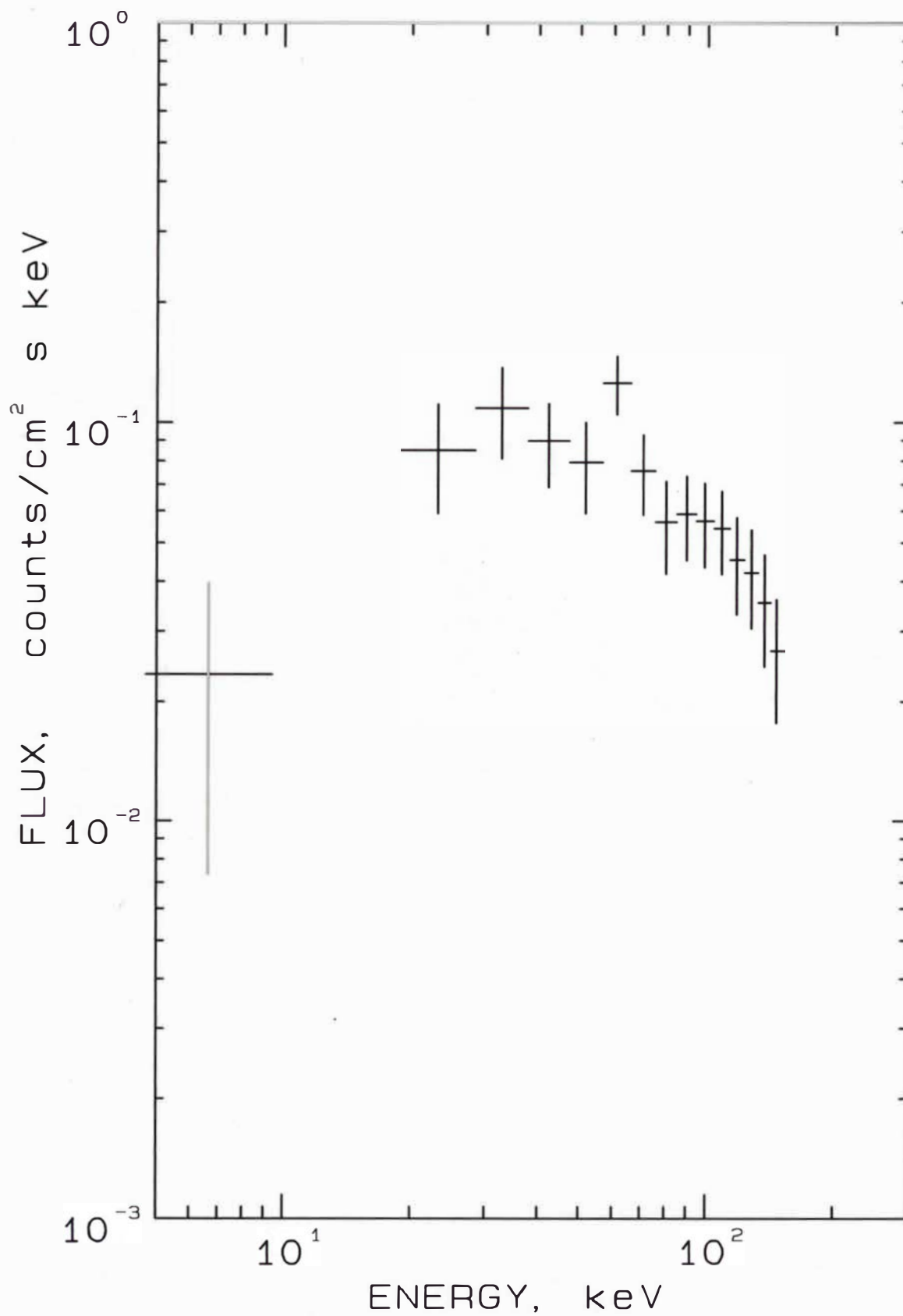
58404.054

28/ 2/ 0





SPECTRUM INTEGRATED OVER 22.9 SECONDS, INTERVALS 2 TO 20



ULYSSES 27/04/99 58468.676 BURST SPECTRAL COUNT RATES

4- 18 keV

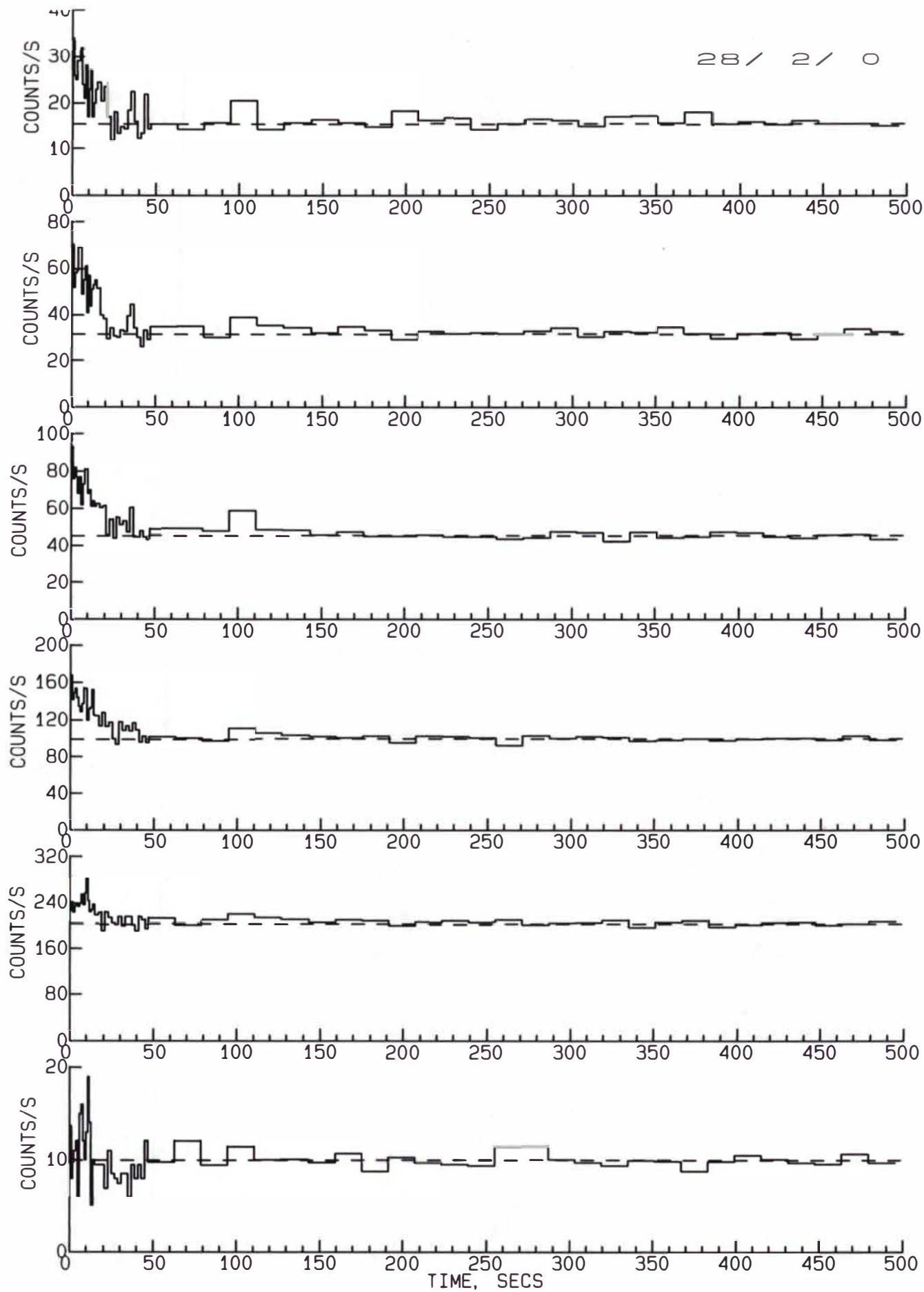
18- 47 keV

47- 75 keV

75-103 keV

103-131 keV

131-150 keV

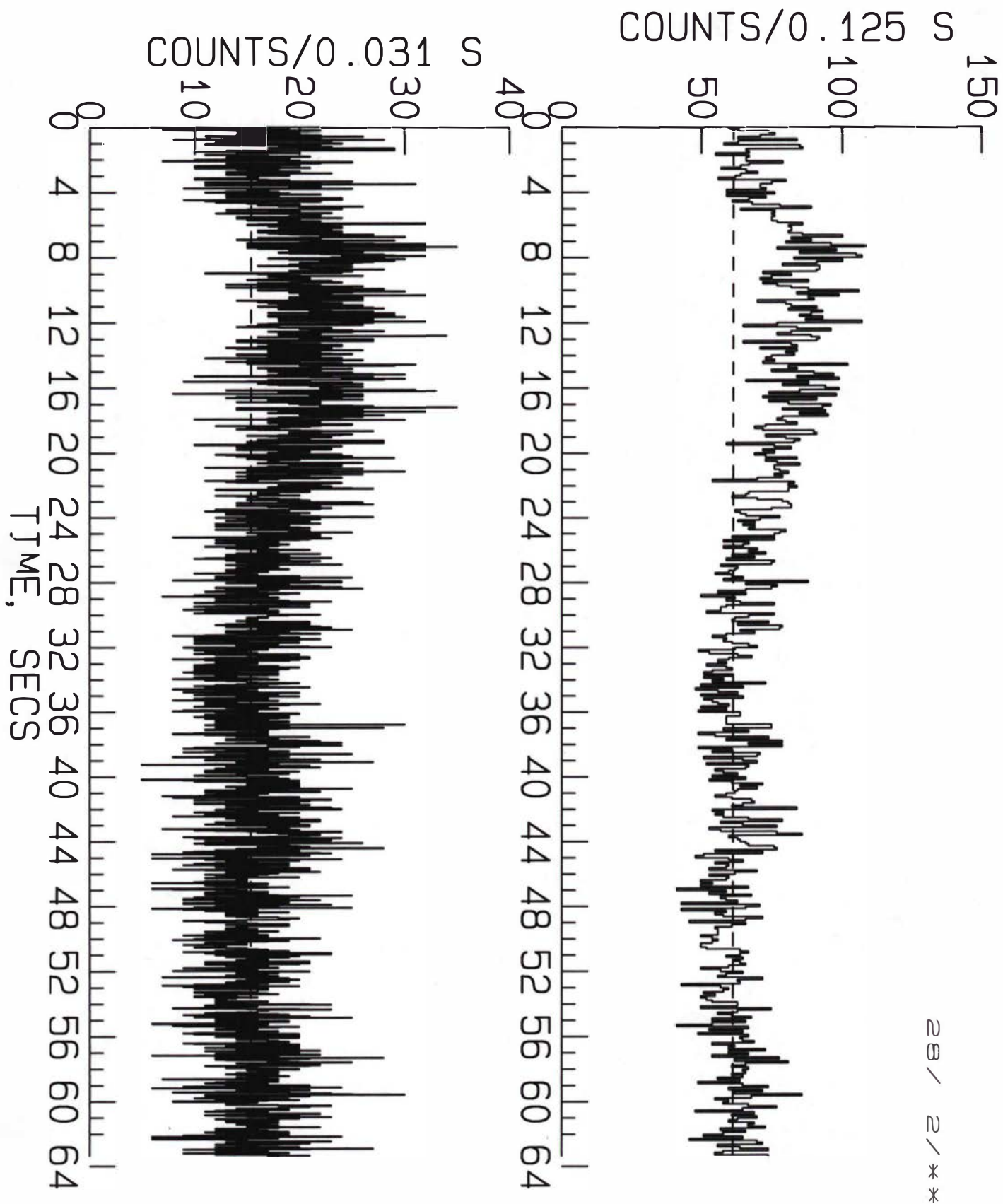


ULYSSES

27/04/99

Ttrig=58468.680

22- 151 keV

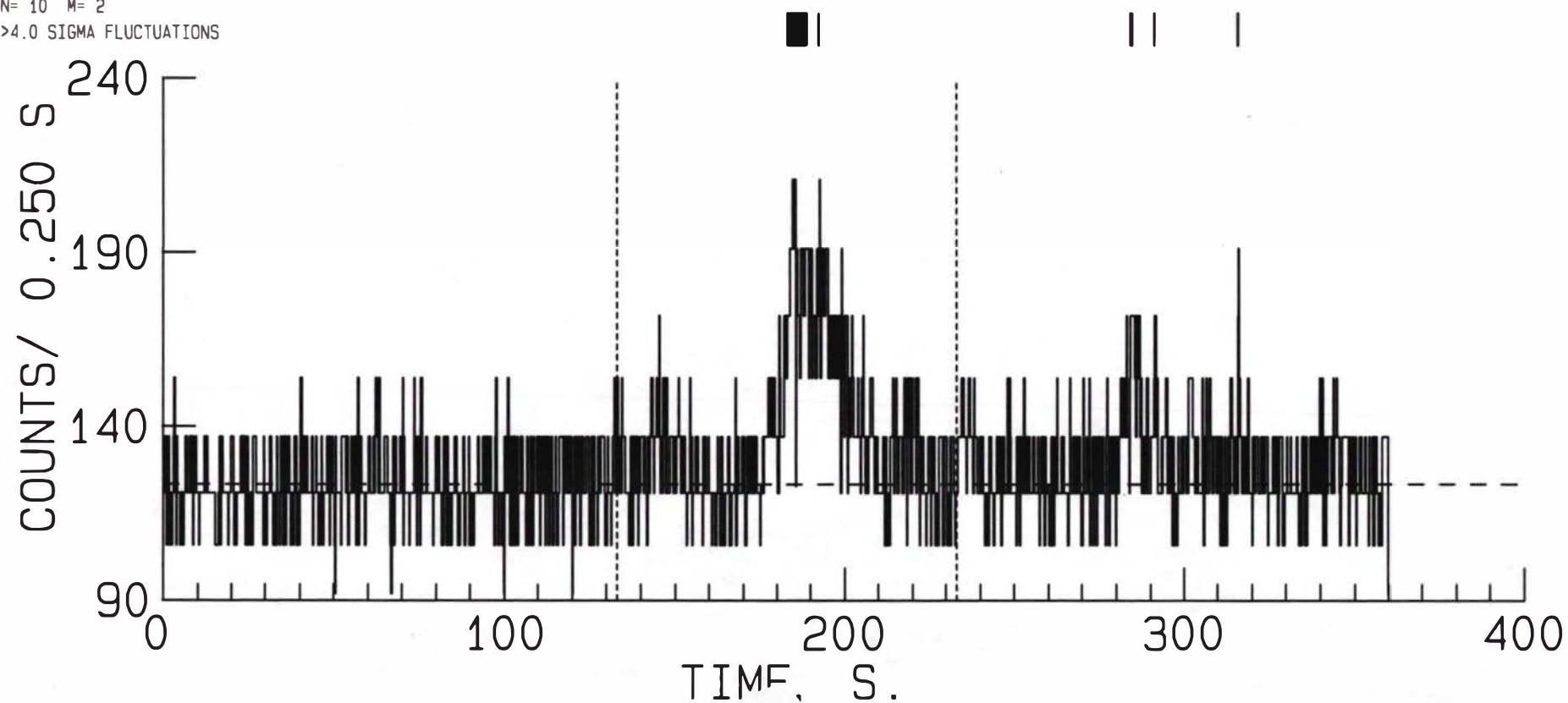


28 / 2 / **

ULYSSES RT
27/ 4/99 58284.055 s
22- 151 keV

28/ 2/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



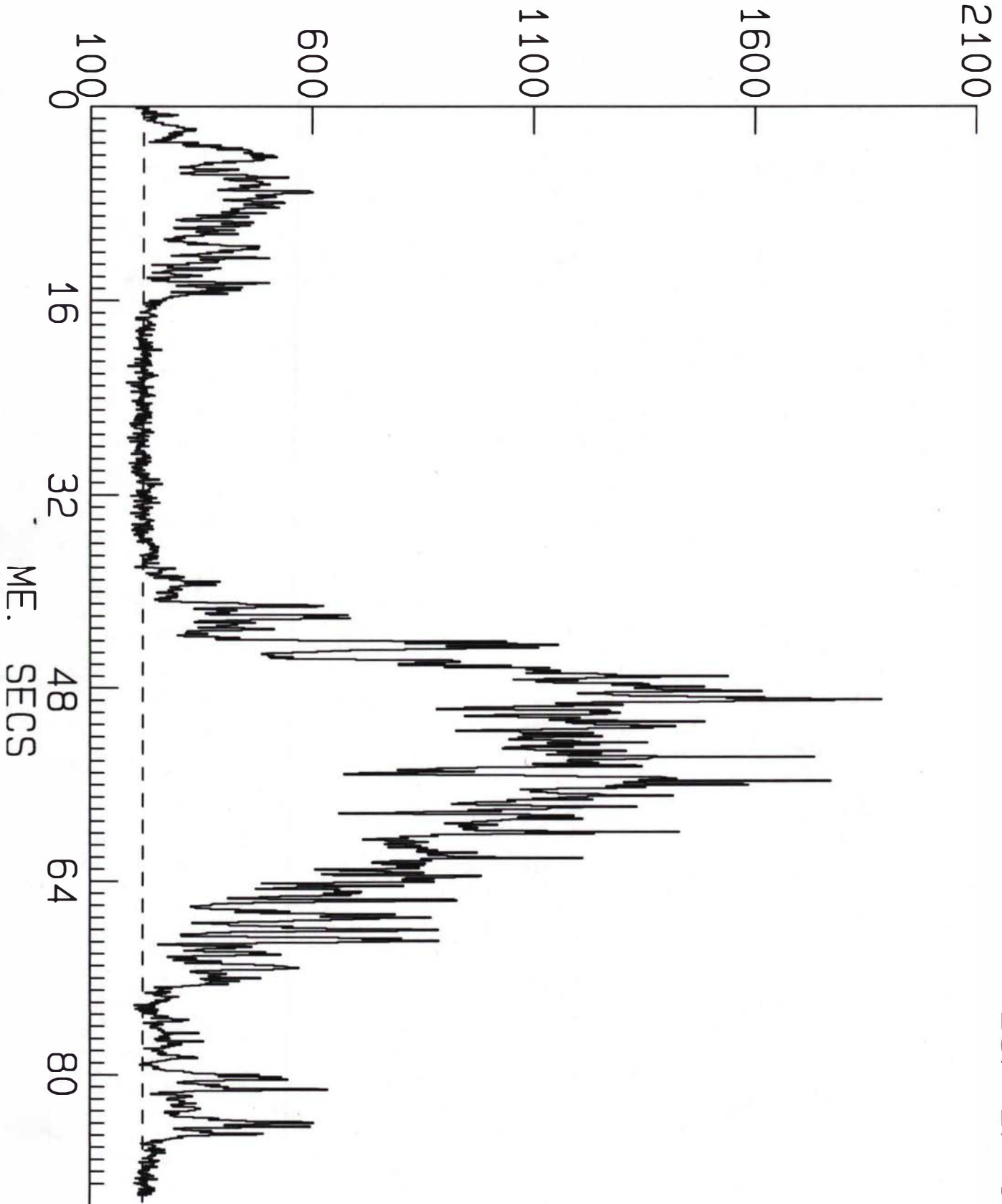
BATSE

27/04/99

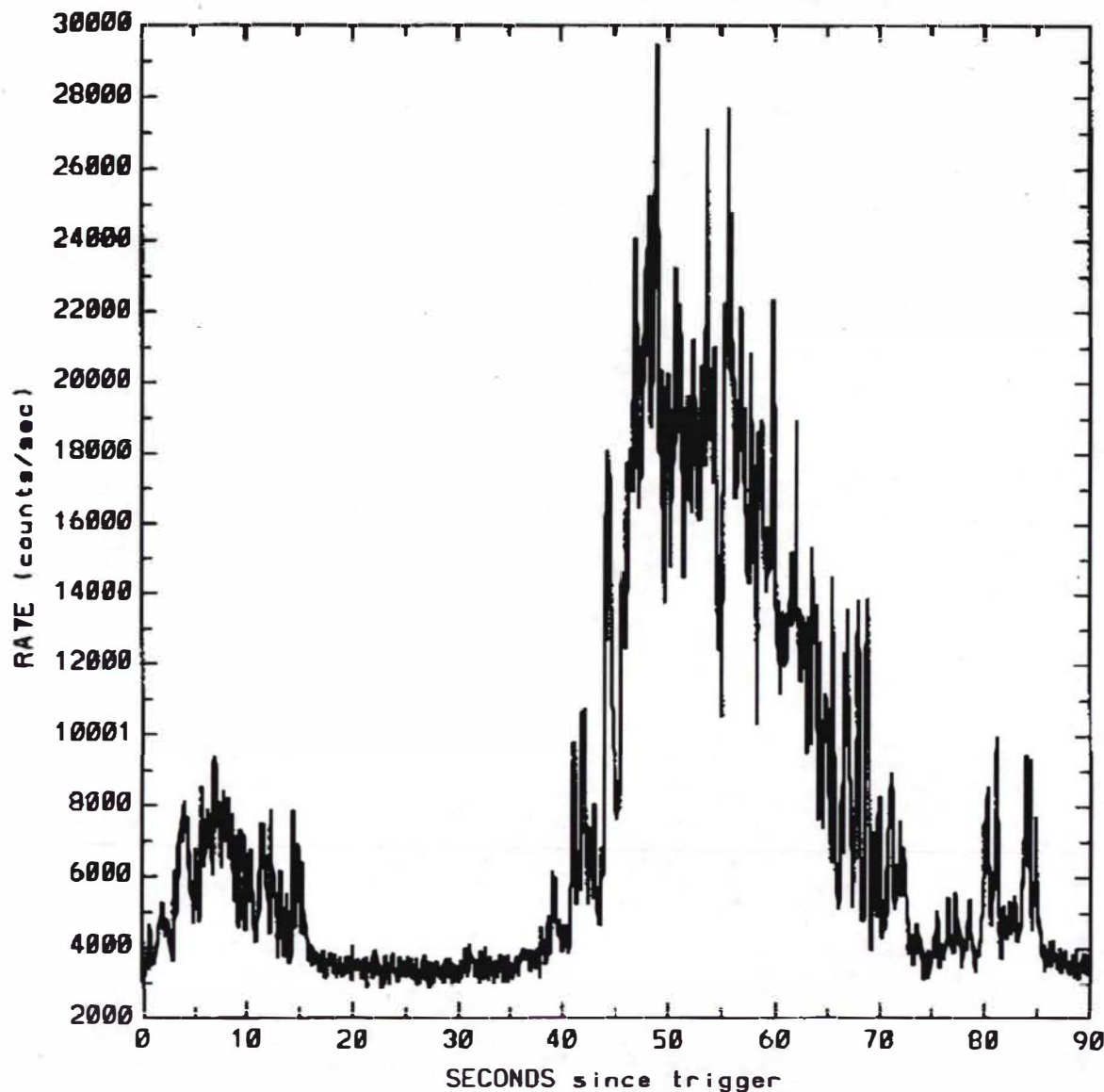
56637.177

100-1000 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7534



24-FEB-2000 12:21:16

Created by HOPS BD
(Burst Display)
Version 12.26

Trigger # : 7534

Trigger Time:
11295 / 56637.177

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

Minimum Integ. Time:
0.864 seconds

Detectors [7..0]:
---4---8

Channels:
[7..15]

Quality Mask:
BDISP1

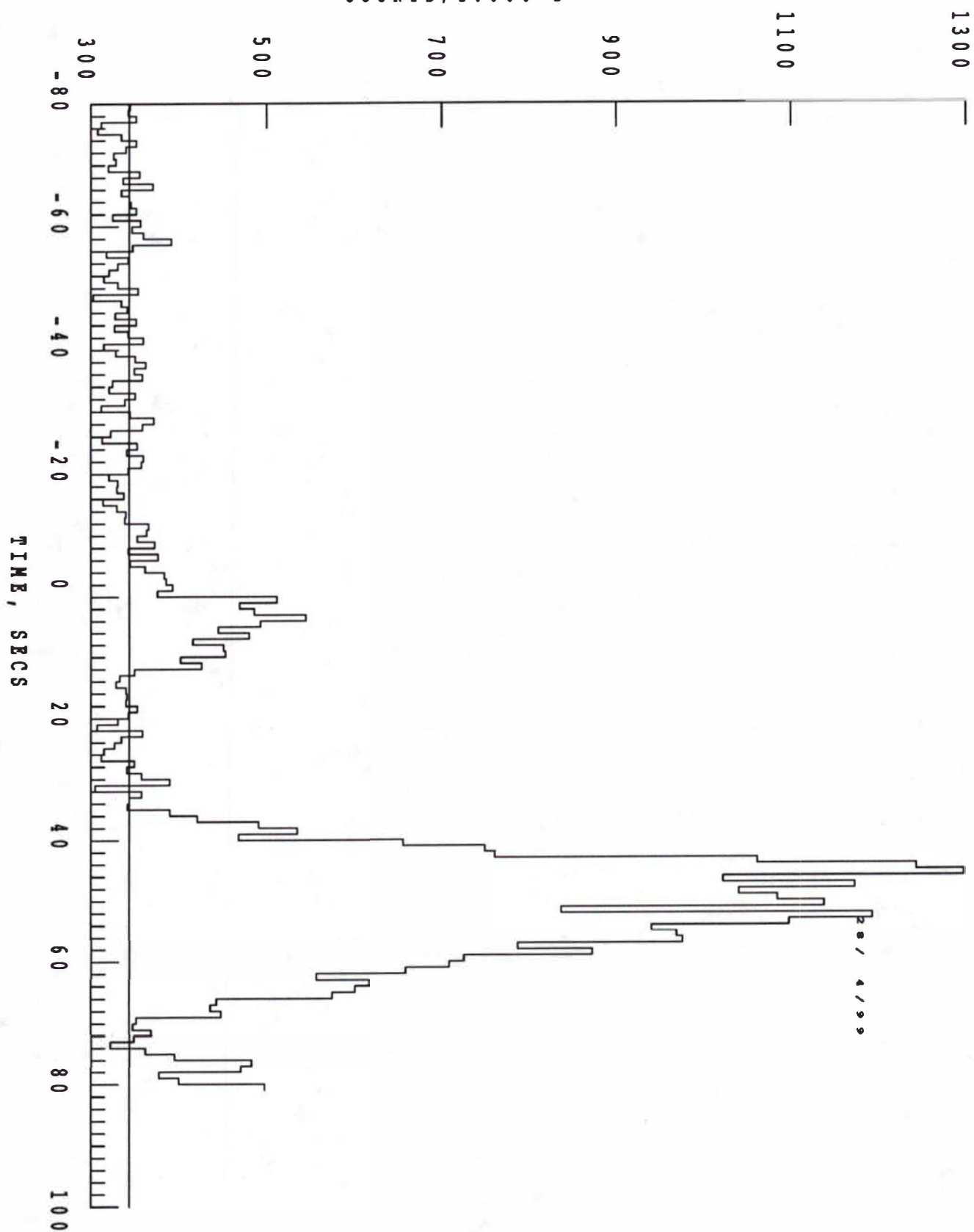
NEAR

27/04/99

55753.278

100-1000 keV

COUNTS/1.000 S



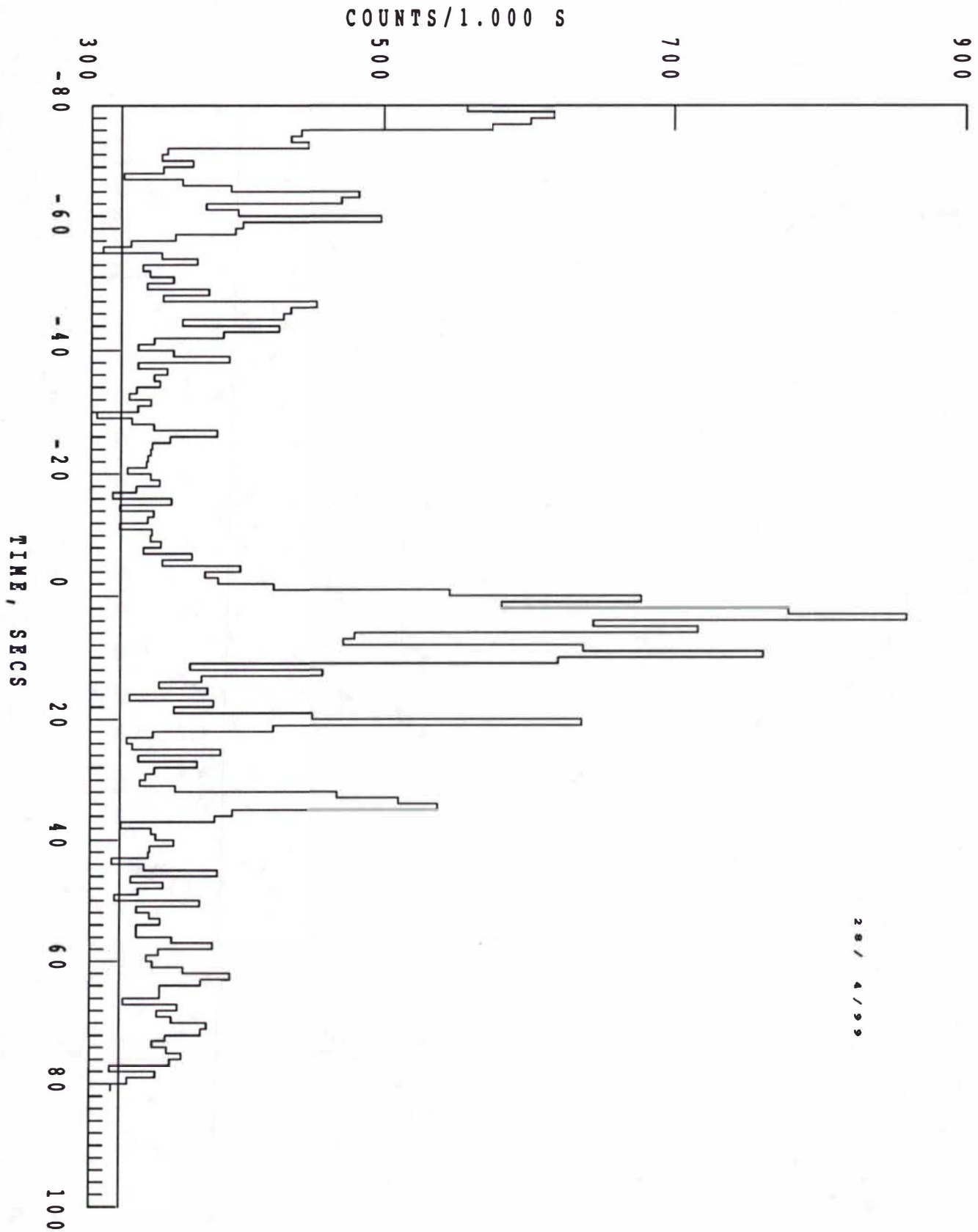
28 / 4 / 99

NEAR

27/04/99

55895.278

100-1000 keV



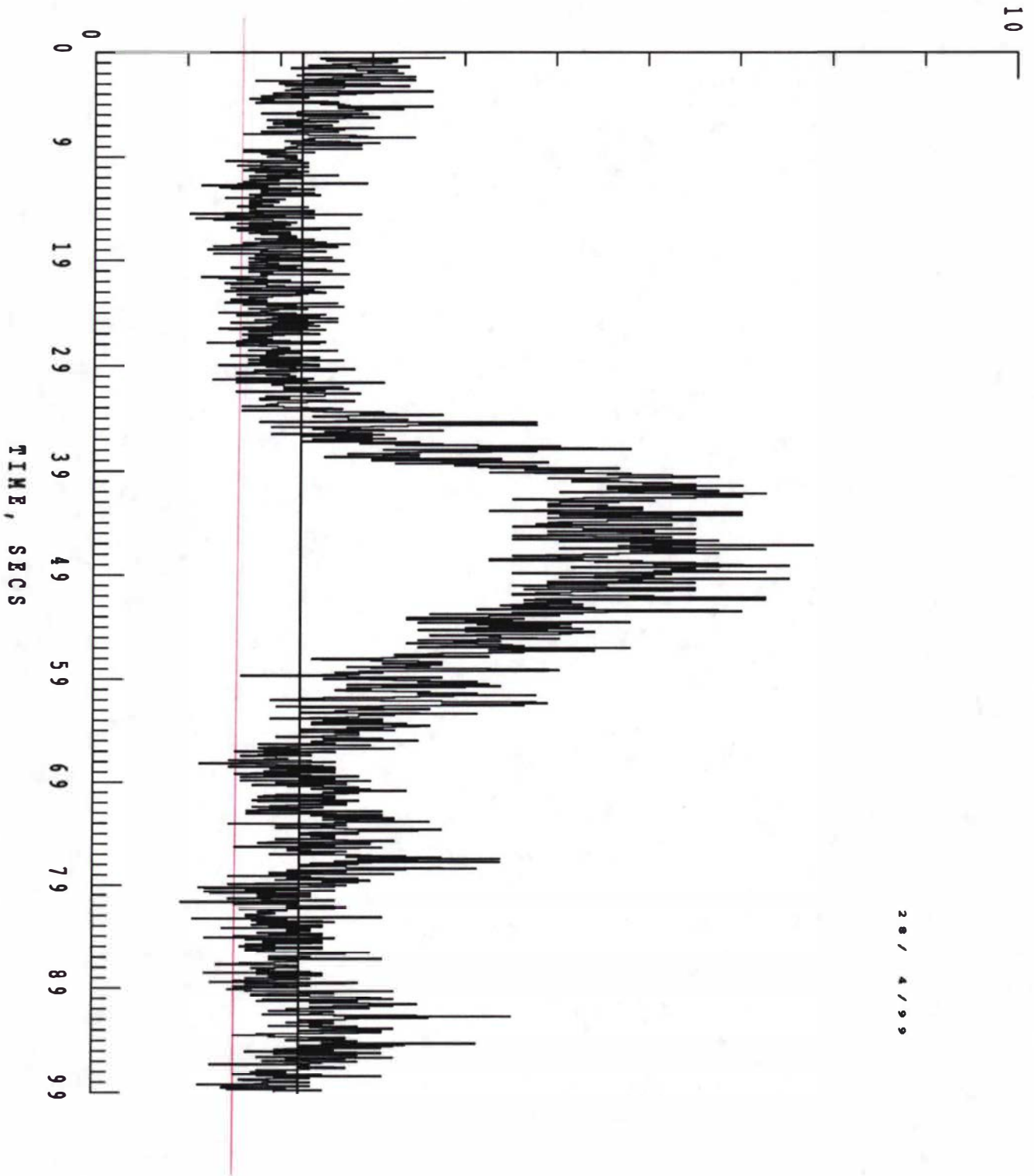
KONUS

27/04/99

56643.786

50 - 200 keV

COUNTS/0.064 S



28 / 4 / 99

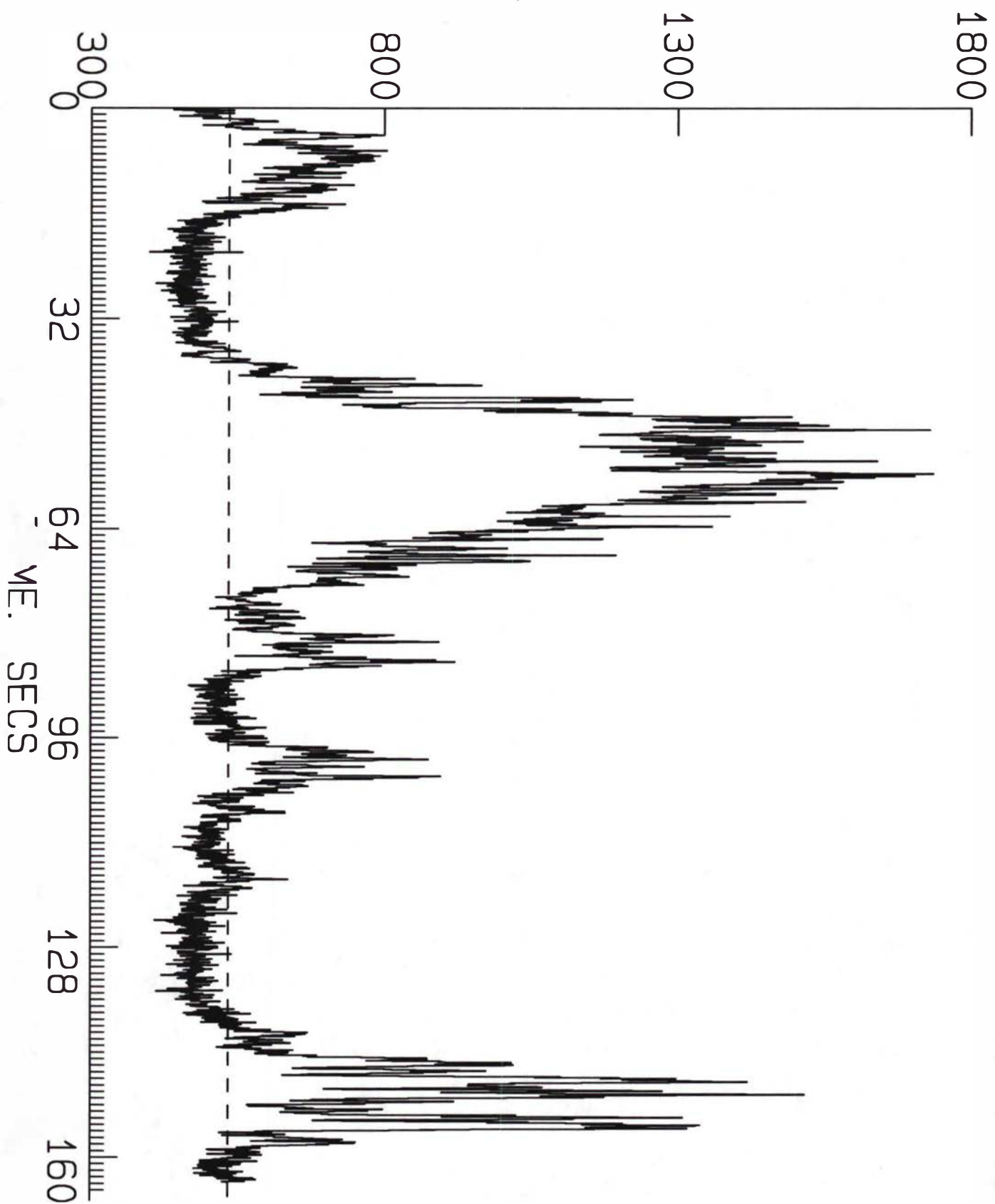
BATSE

27/04/99

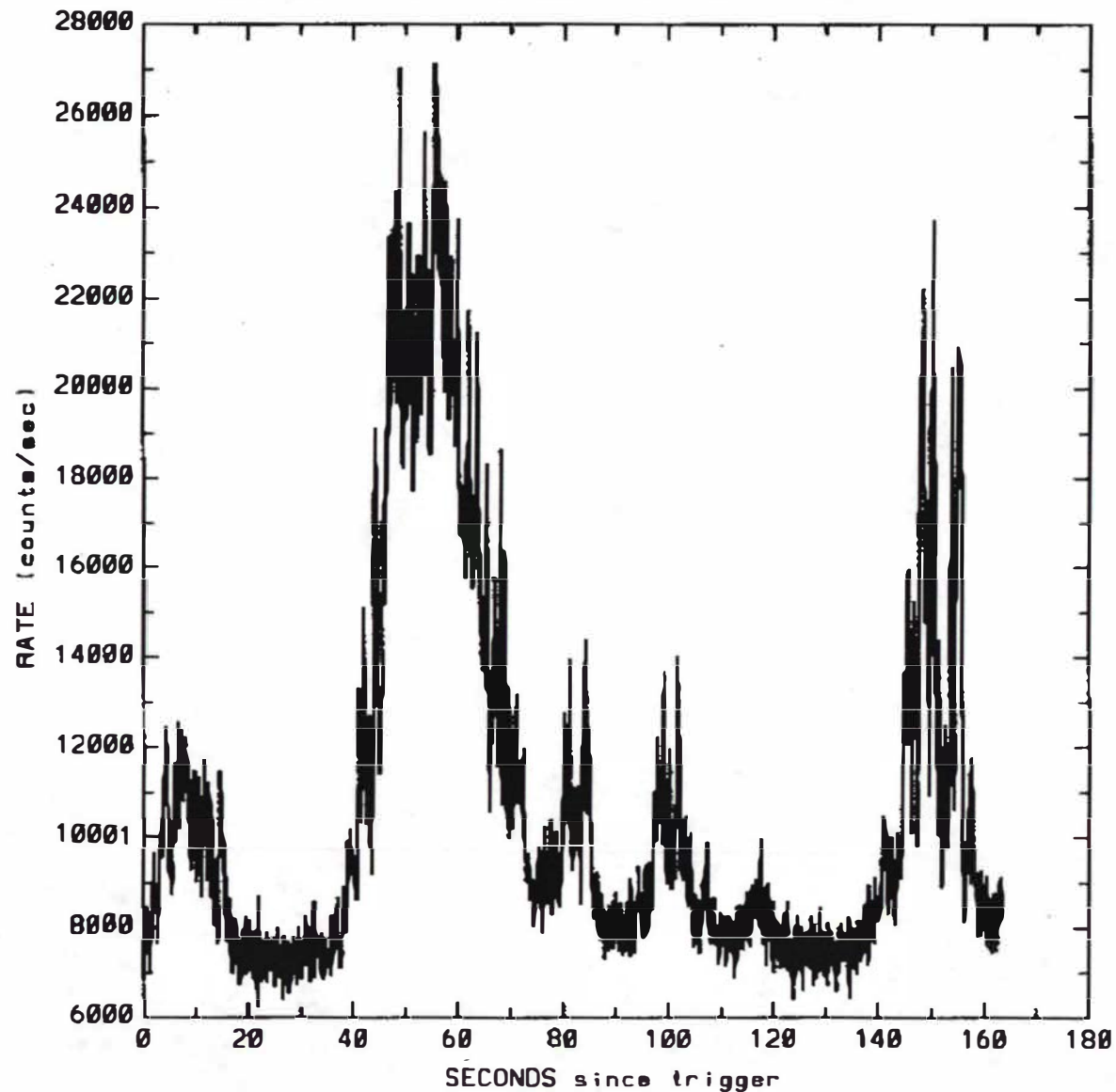
56637.177

25- 100 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7534



5-MAY-1999 14.04.17

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

Trigger # : 7534

Trigger Time:
11295 / 56637.177

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

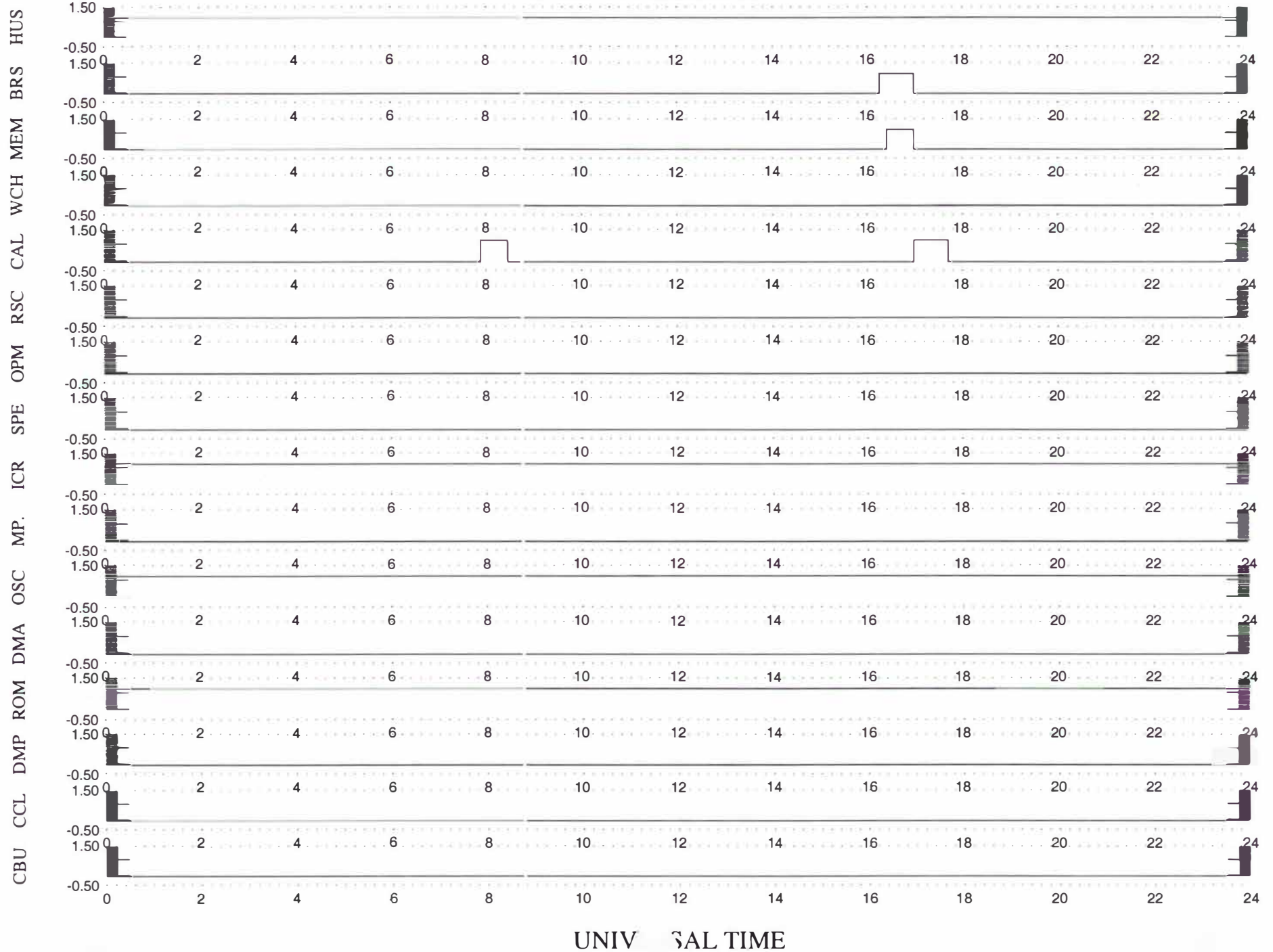
Minimum Integ. Time:
0.064 seconds

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

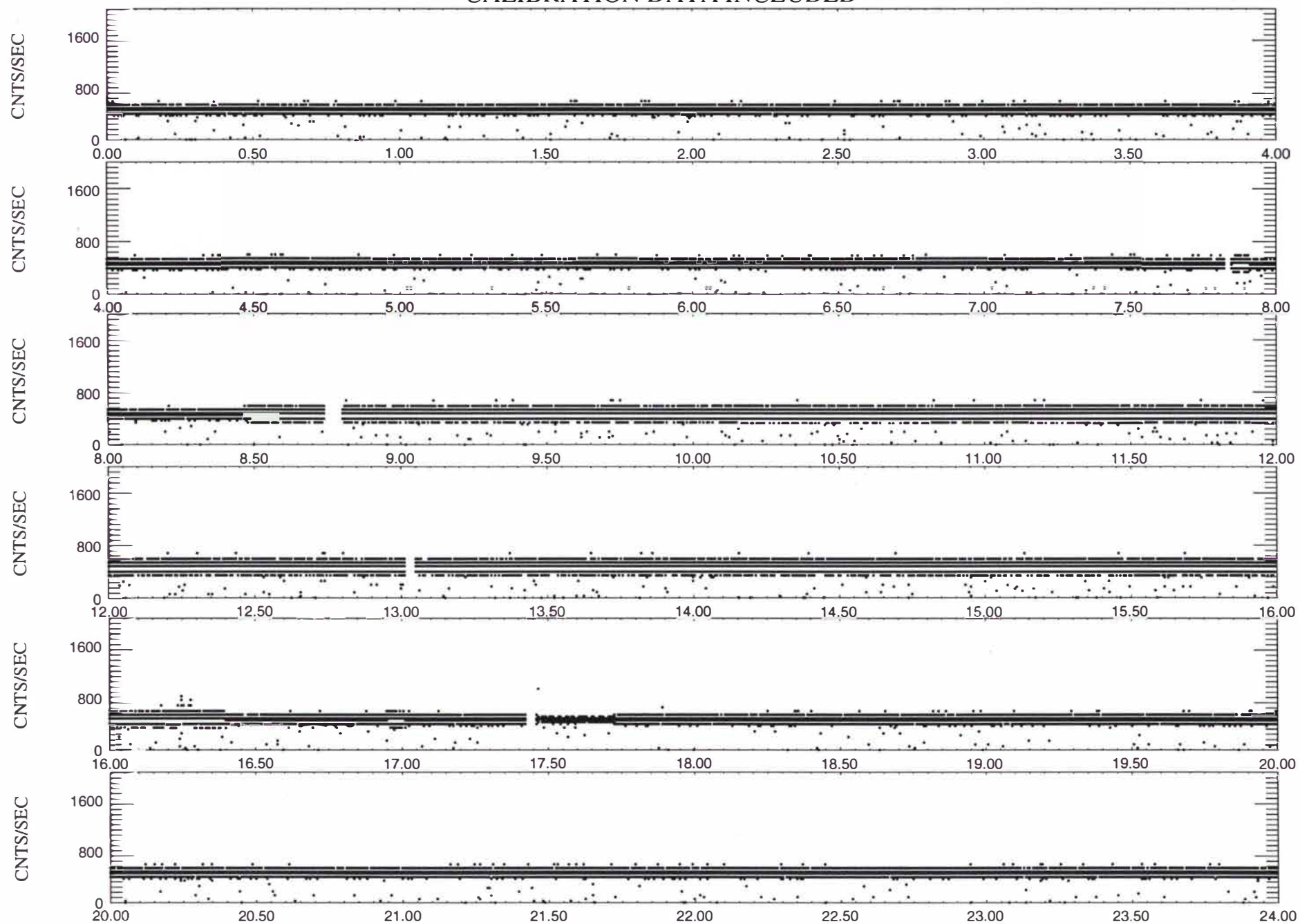
Channels:
(0..6)

Quality Mask:
BDISP1

BURST NUMBER 10

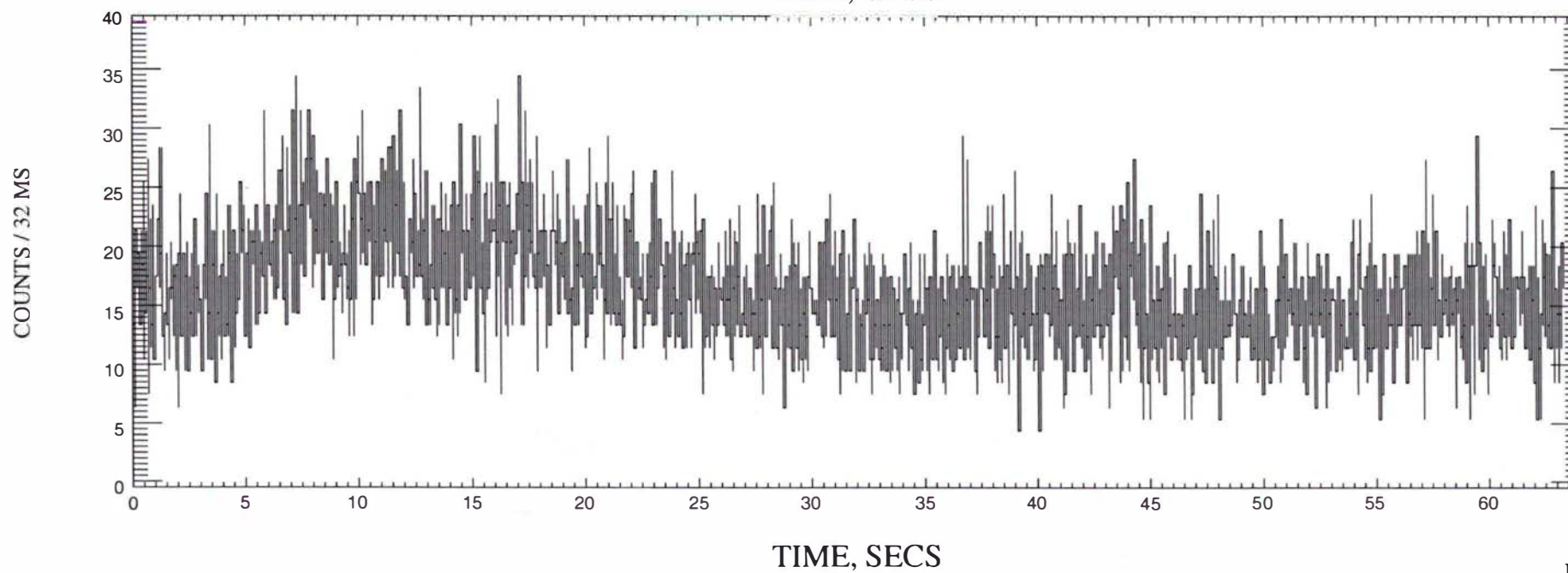
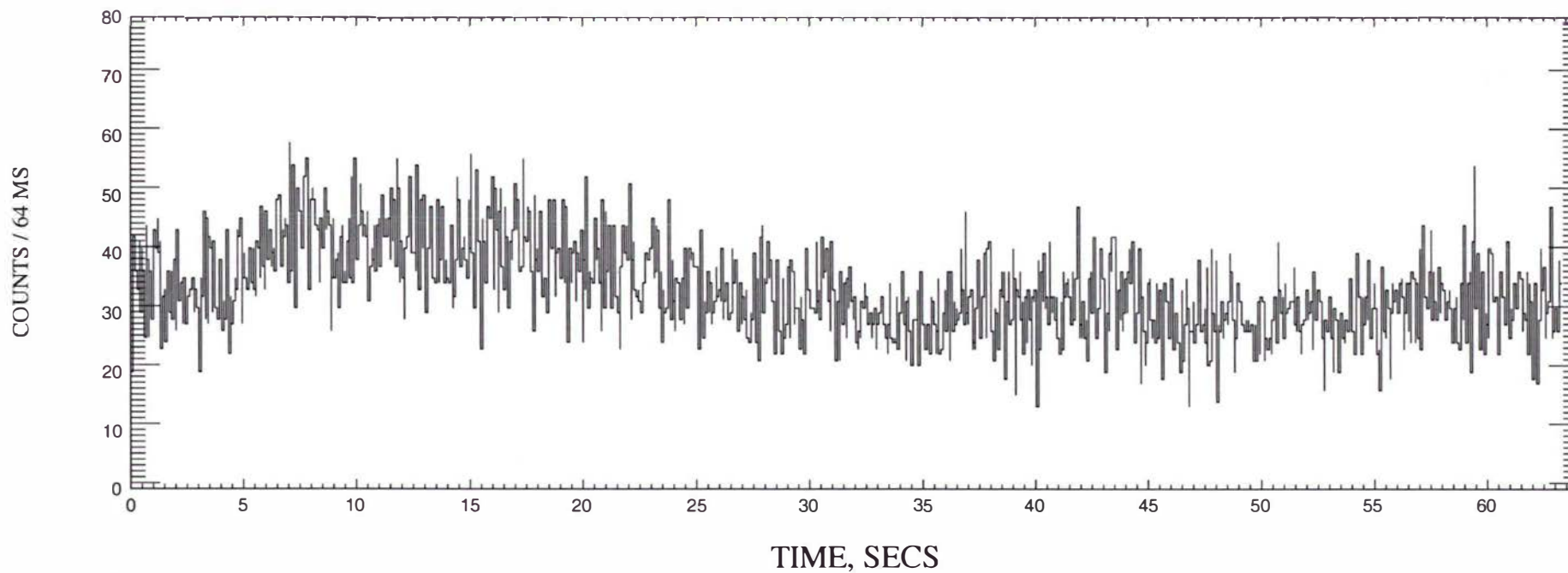


CALIBRATION DATA INCLUDED

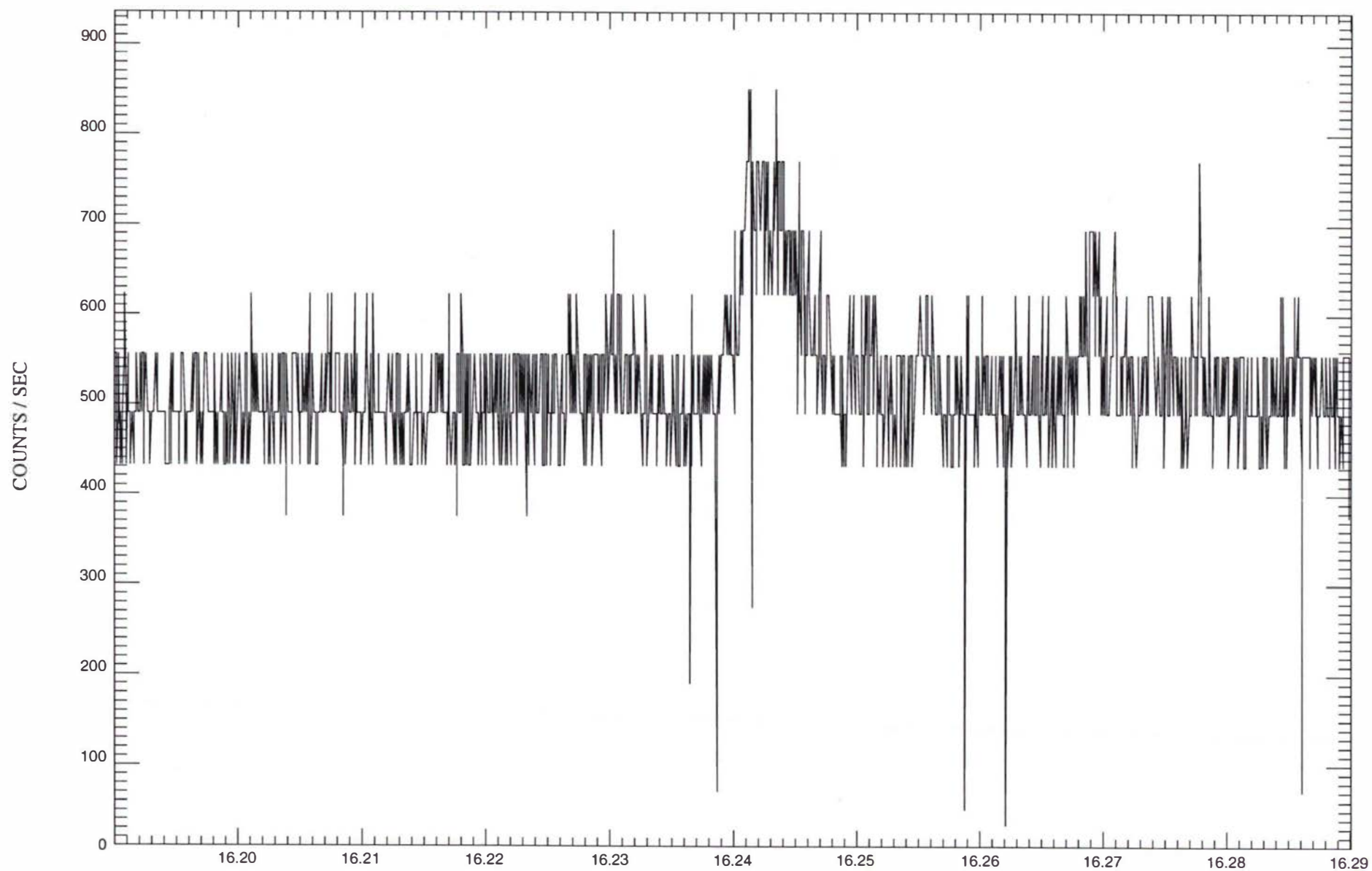


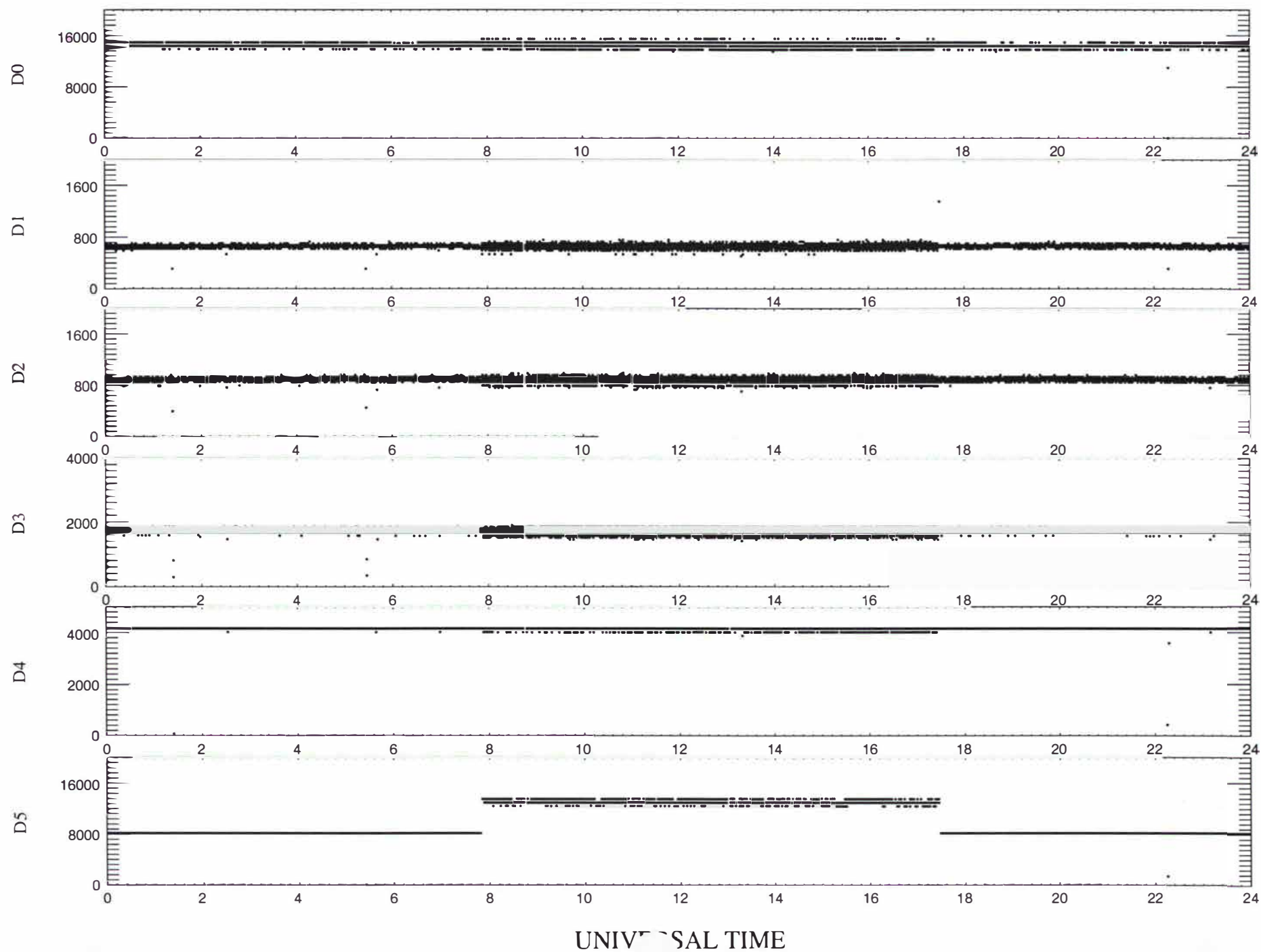
UNIVERSAL TIME

Burst Counter 10 at UT=16.241298811171 h=58468.676 s 16:14:28.676



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Thu Apr 29 10:46:17 1999
Return-Path: <RICHARDSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA27359; Thu, 29 Apr 1999 10:46:16 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id KAA23173
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 29 Apr 1999 10:43:51 -0700 (PDT)
Date: Thu, 29 Apr 1999 12:45:47 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990429124547.20207e2d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7535
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7535
EVENT OF 1999 APR 28 DAY OF YEAR=118
EVENT CROSSING TIME AT BATSE : 33900. S. OR 09:25:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 133.000 -15.000
BATSE PEAK COUNTING RATE: 1800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 4/ 99 IS:
RA= 144.772 DEC= -7.300 DIST= 4.527 AU
BATSE-ULYSSES DISTANCE = 677258168. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=166.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2193.19 SECS.
CROSSING TIME AT ULYSSES IS 31707. S. OR 08:48:26 +/- 110.73 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 4/ 99 IS:
RA= 211.096 DEC= -11.330 DIST= 0.580 AU
MARS-BATSE DISTANCE = 86742288. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=104.25 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -71.24 SECS.
CROSSING TIME AT MARS IS 33829. S. OR 09:23:48 +/- 47.61 SECONDS

BATSE BURST TRIGGER

NO.: 7535

TIME: TJD=1296 SECONDS=33900

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=96.4 AZIMUTH=229.3 ERROR=10.0 DEGREES

COMMENTS:

GRB. WEAK SINGLE PULSE. DURATION APPROX. = 10 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7535	990428	11296	33900	1800	133	-15	10

BATSE BURST# 7535

ULYSSES RT

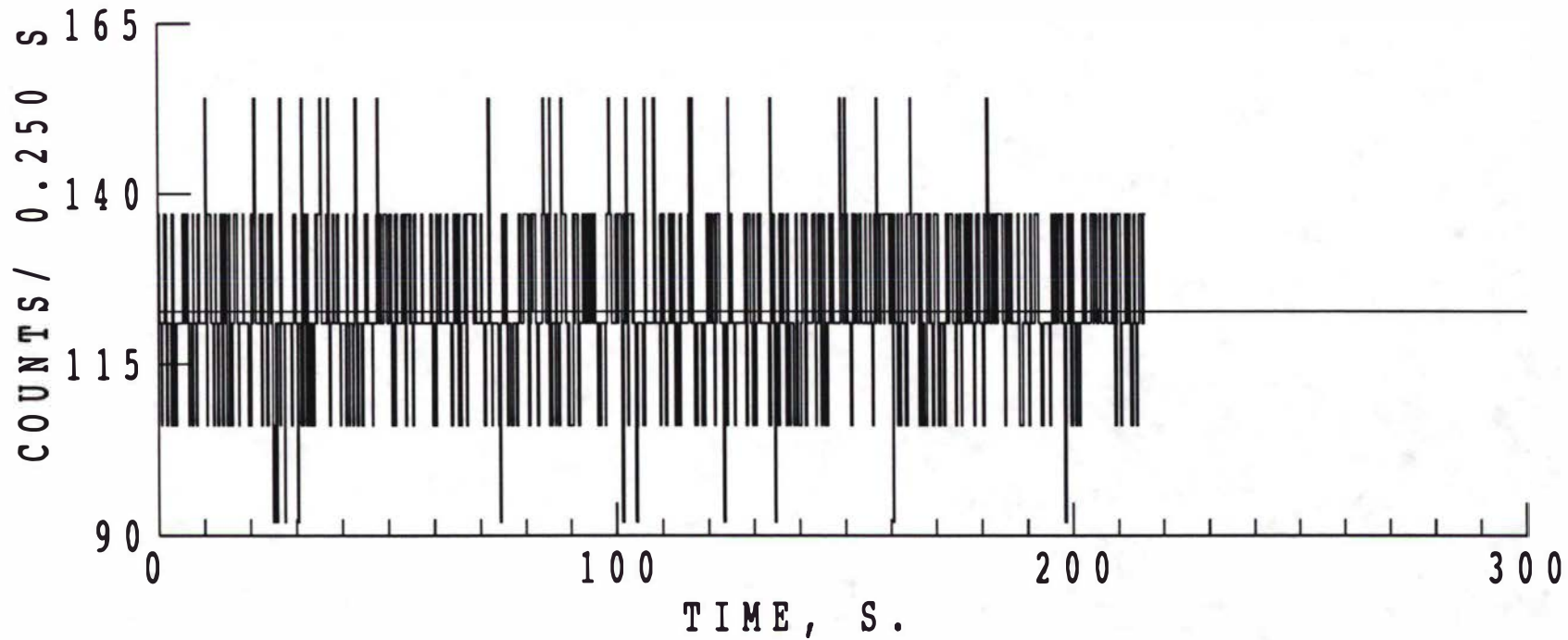
29 / 4 / 99

28 / 4 / 99 31608.160 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

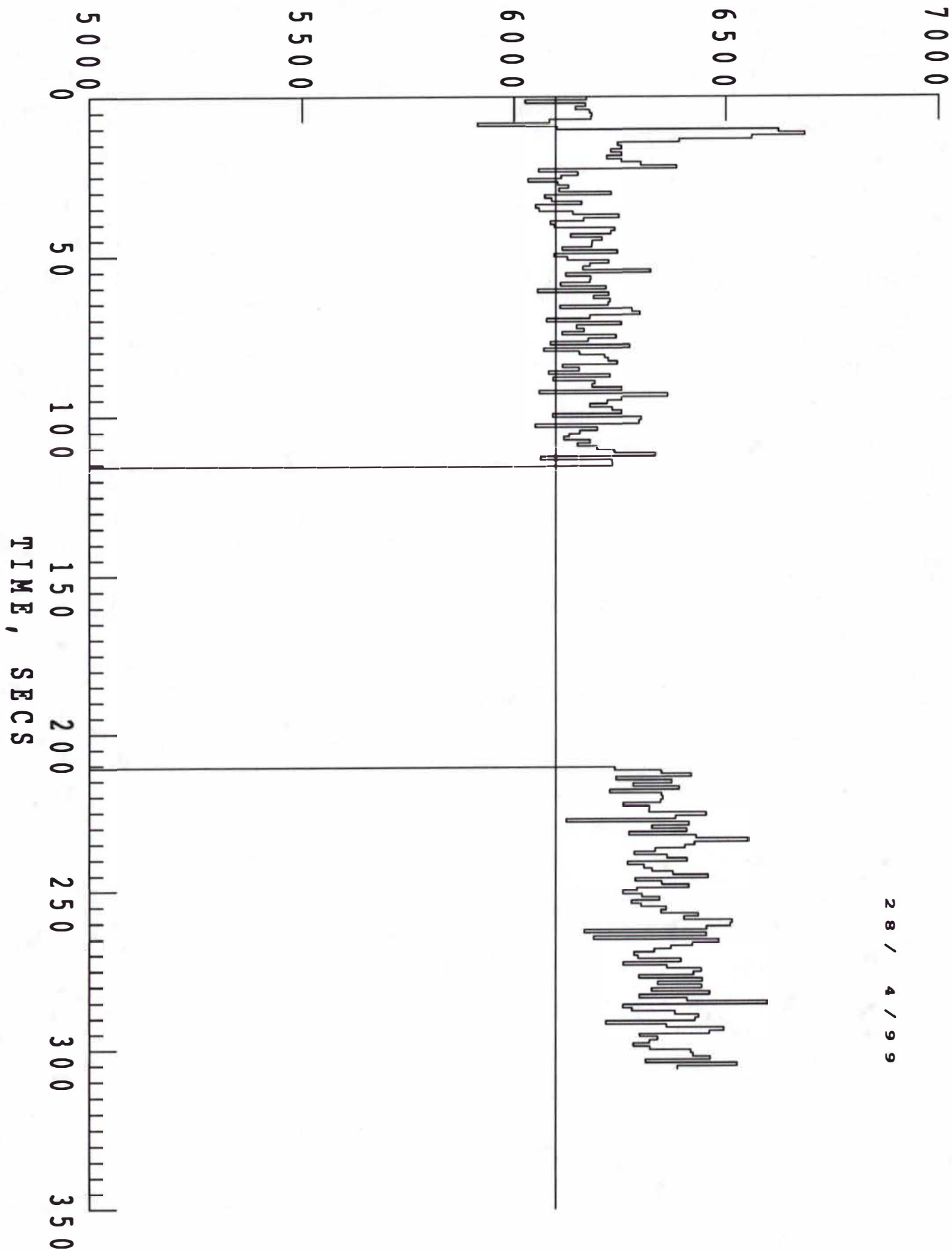
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7535 28/04/99 33887.993

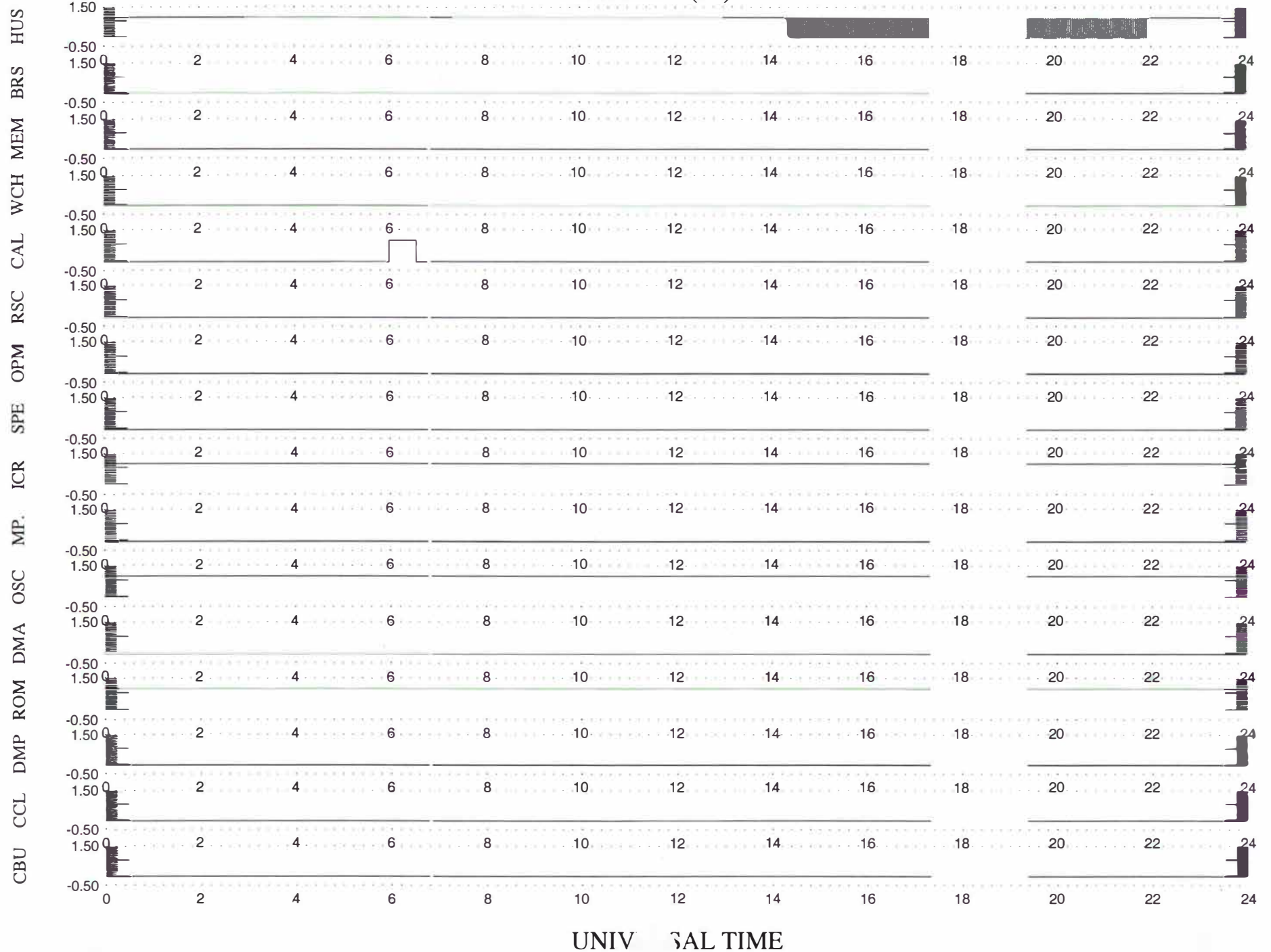
25- 100 keV

COUNTS/1.024 S

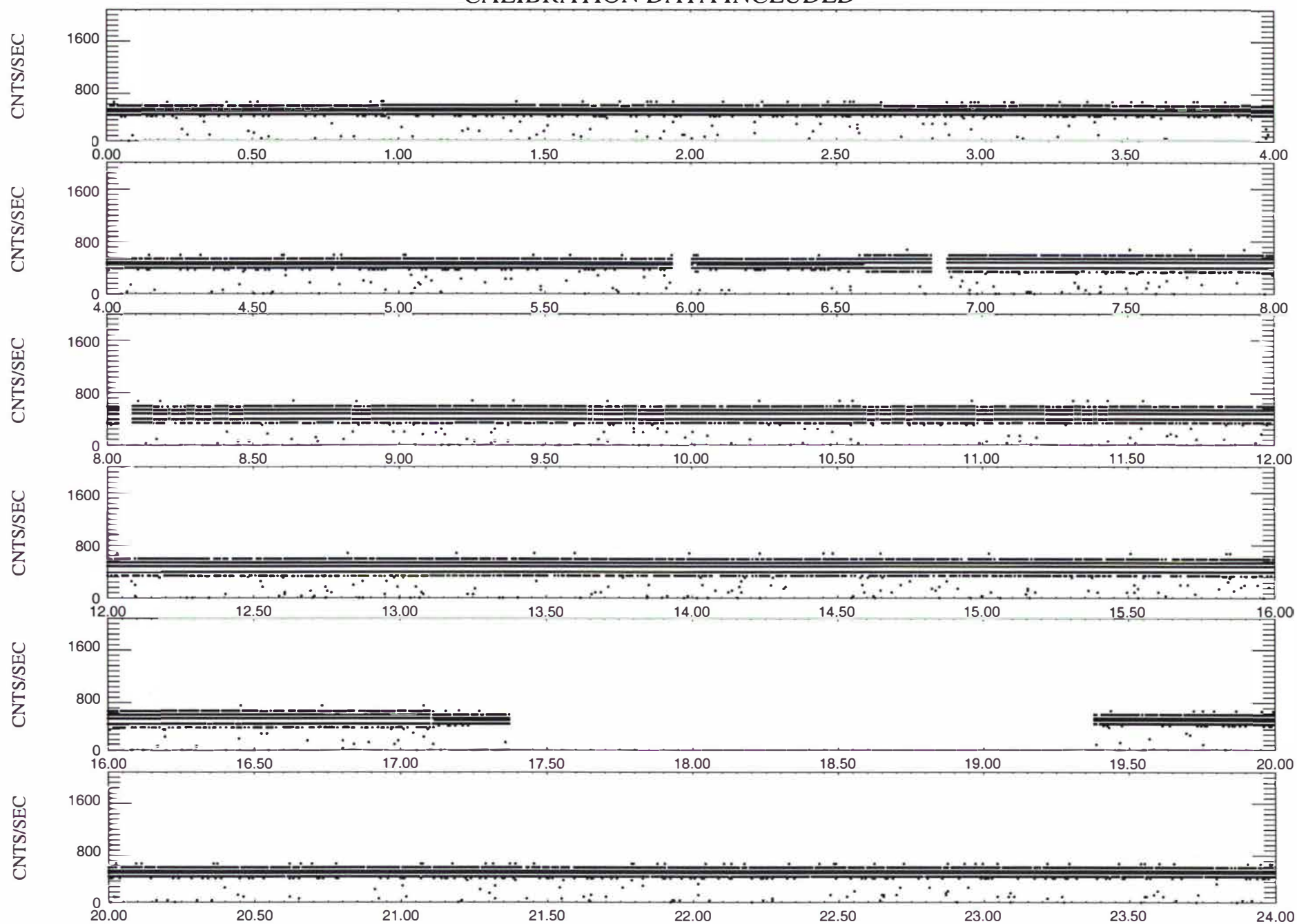


28 / 4 / 99

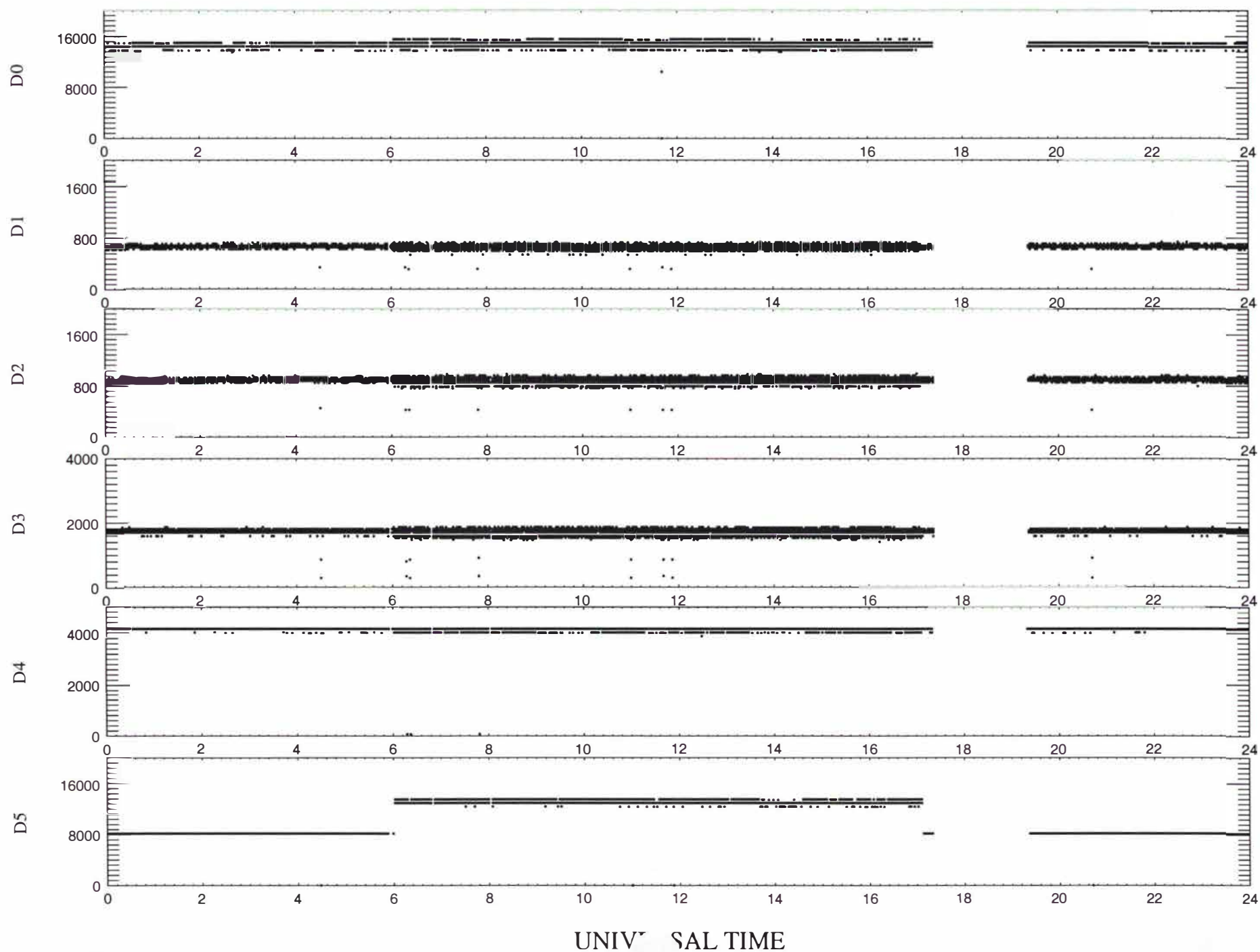
NO BURST (10)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From WOODSP@fender.msfc.nasa.gov Mon May 3 12:36:26 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 3 May 1999 14:36:46 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7536

29th
TIME: TJD=1297 SECONDS=35554

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=108.1 AZIMUTH=57.6 ERROR=7 DEGREES

COMMENTS:

SGR 1900+14. DOUBLE PULSE LASTING ABOUT 0.13 SEC. NOT VISIBLE
ABOVE 100 KEV.

BATSE BURST# 7536

ULYSSES RT

5 / 5 / 99

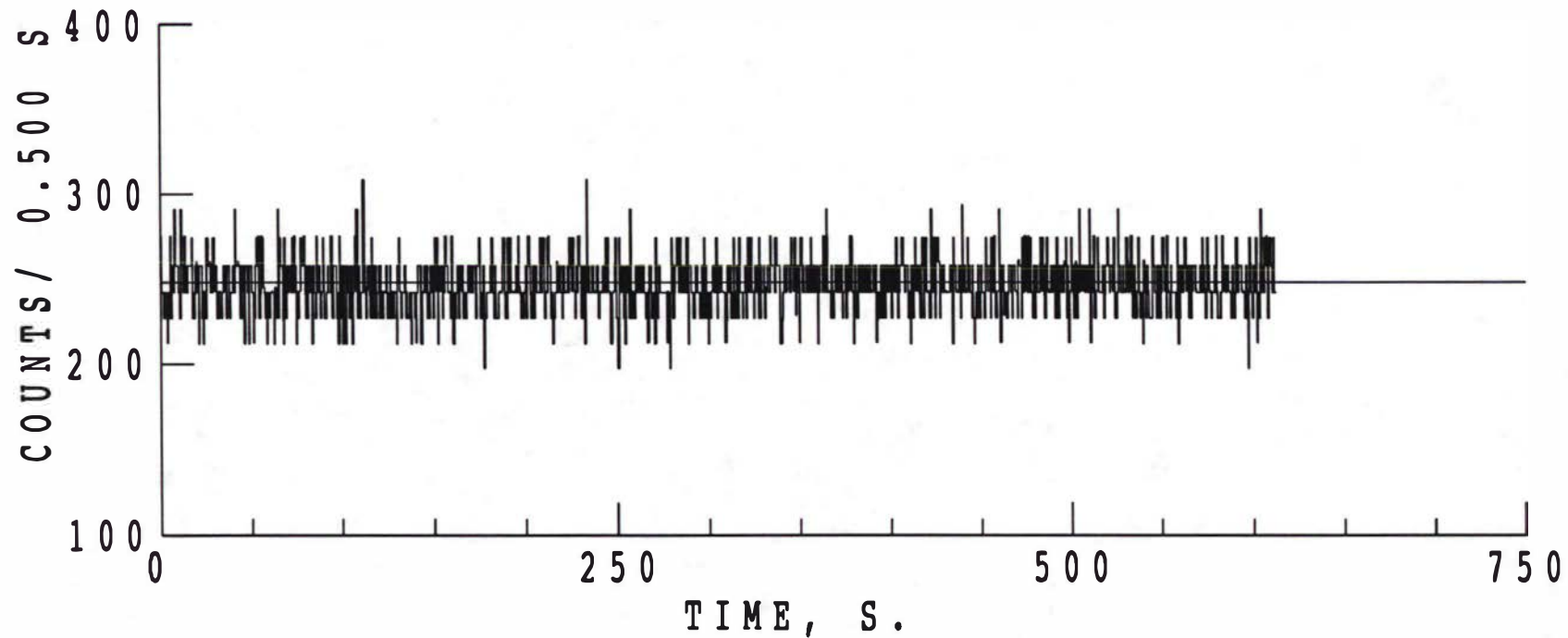
29 / 4 / 99 37044.090 s

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



From HENZE@fender.msfc.nasa.gov Fri Apr 30 13:48:45 1999
Date: Fri, 30 Apr 1999 15:49:04 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsA2.estec.esa.nl,
cline@lhevX.gsfc.nasa.gov, barthelmy@lhevX.gsfc.nasa.gov,
bacodine@lhevwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lhevX.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7538

TIME: TJD=1297 SECONDS=71399

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

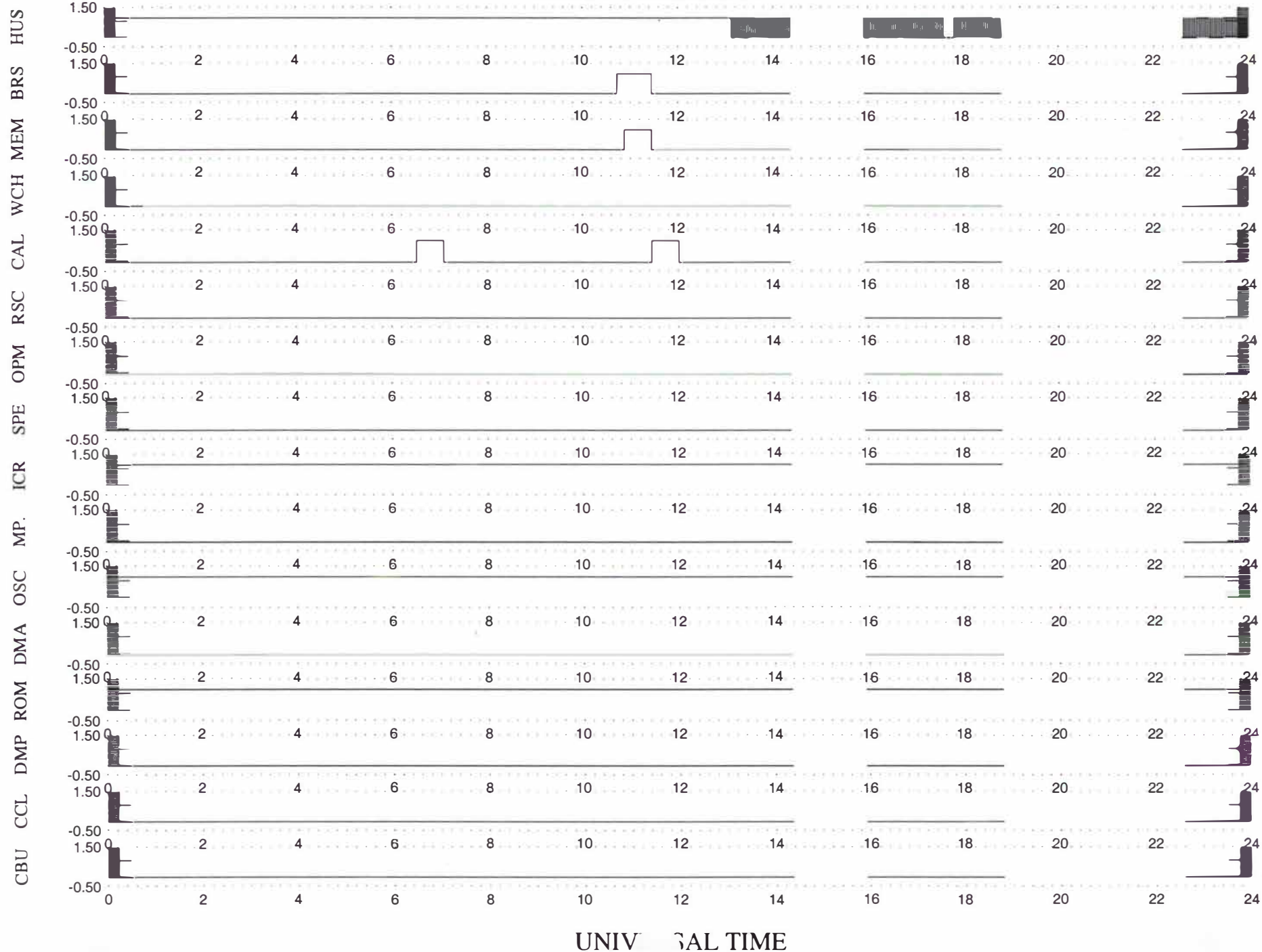
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.8 AZIMUTH= 5.4 ERROR= 0.1 DEGREES

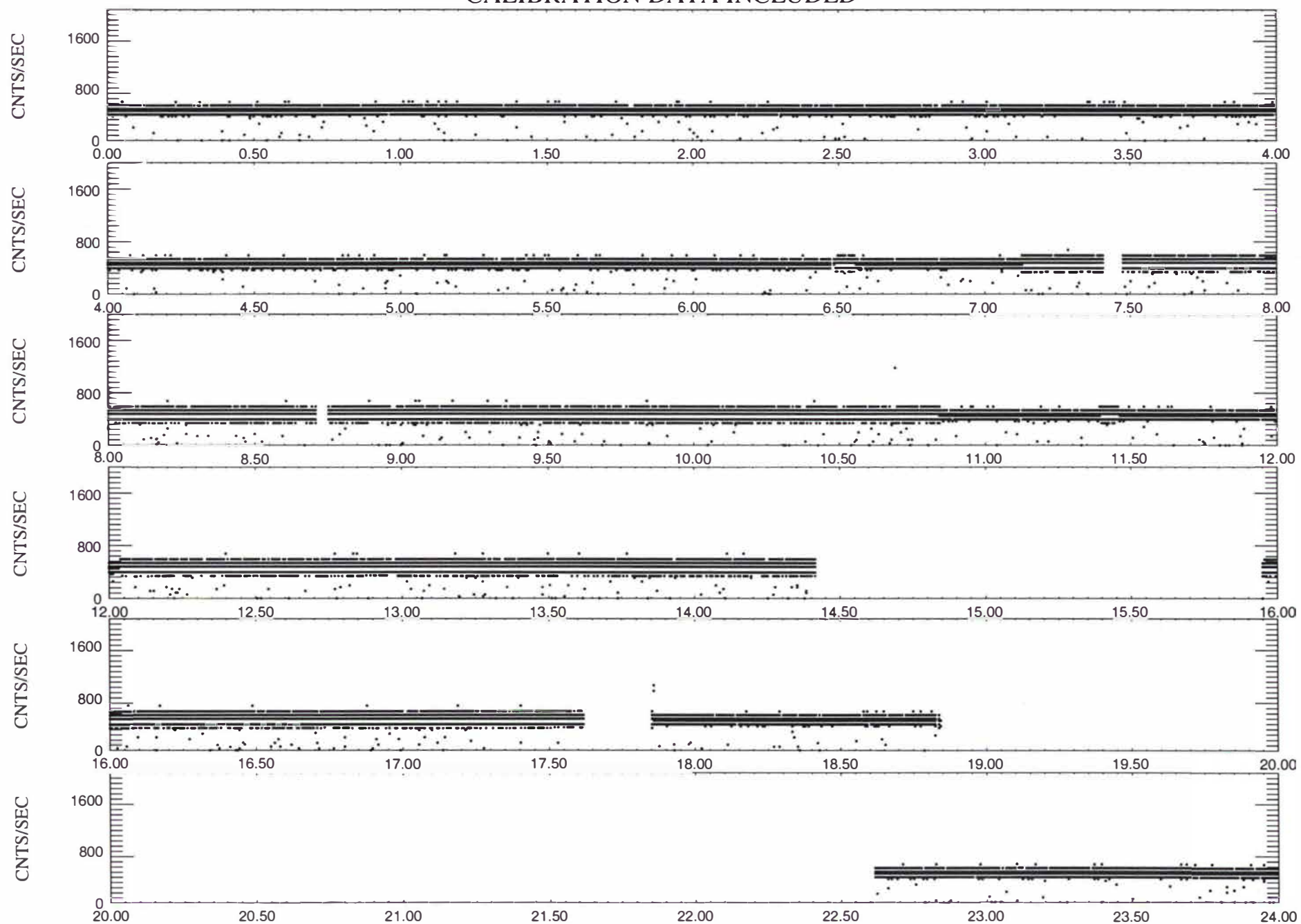
COMMENTS:

SOLAR FLARE: GOES M1.1, OPTICAL 1B. COMPLEX, TOTAL DUR. APPROX. 400 S.,
STARTS AT APPROX. T-110 S. WEAKLY VISIBLE ABOVE 100 KEV.

BURST NUMBER 11

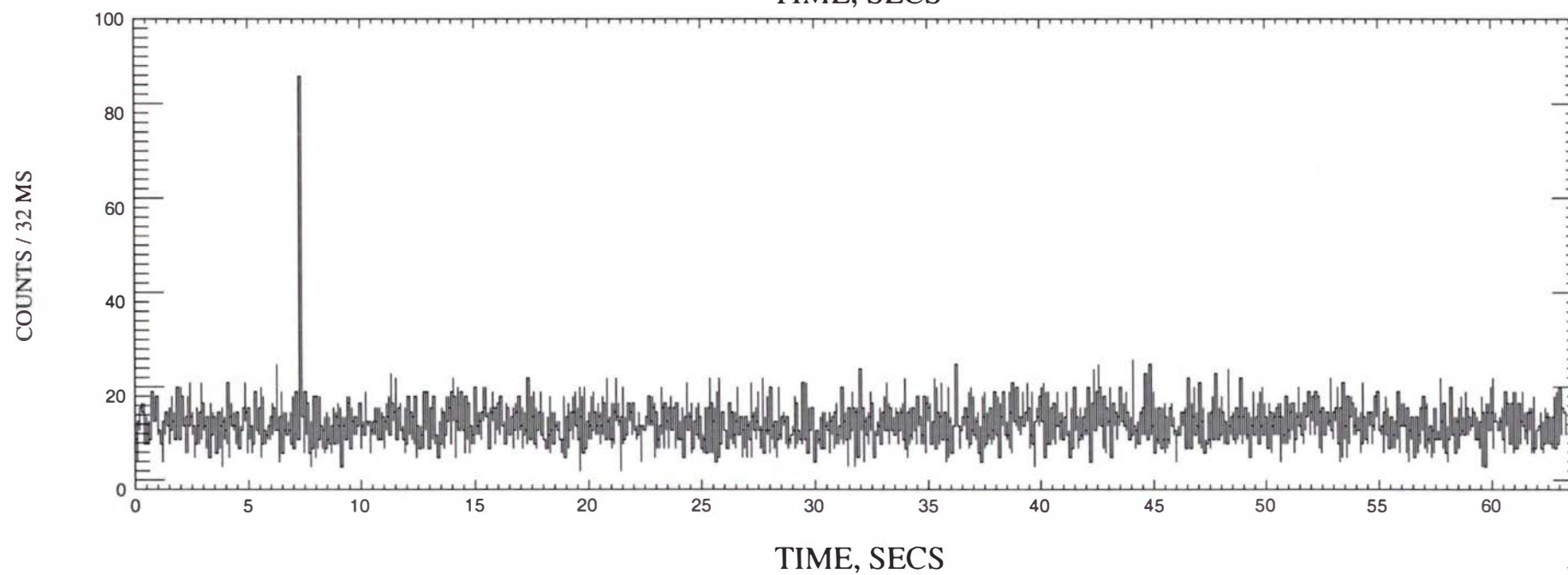
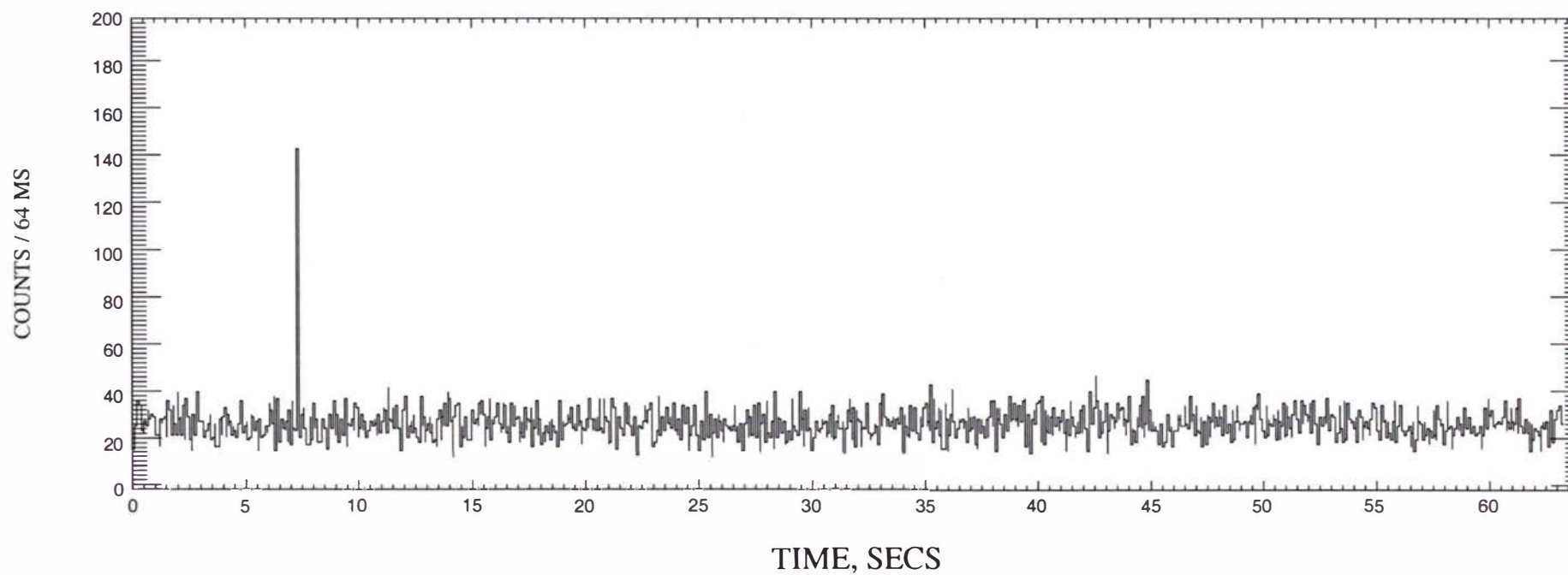


CALIBRATION DATA INCLUDED

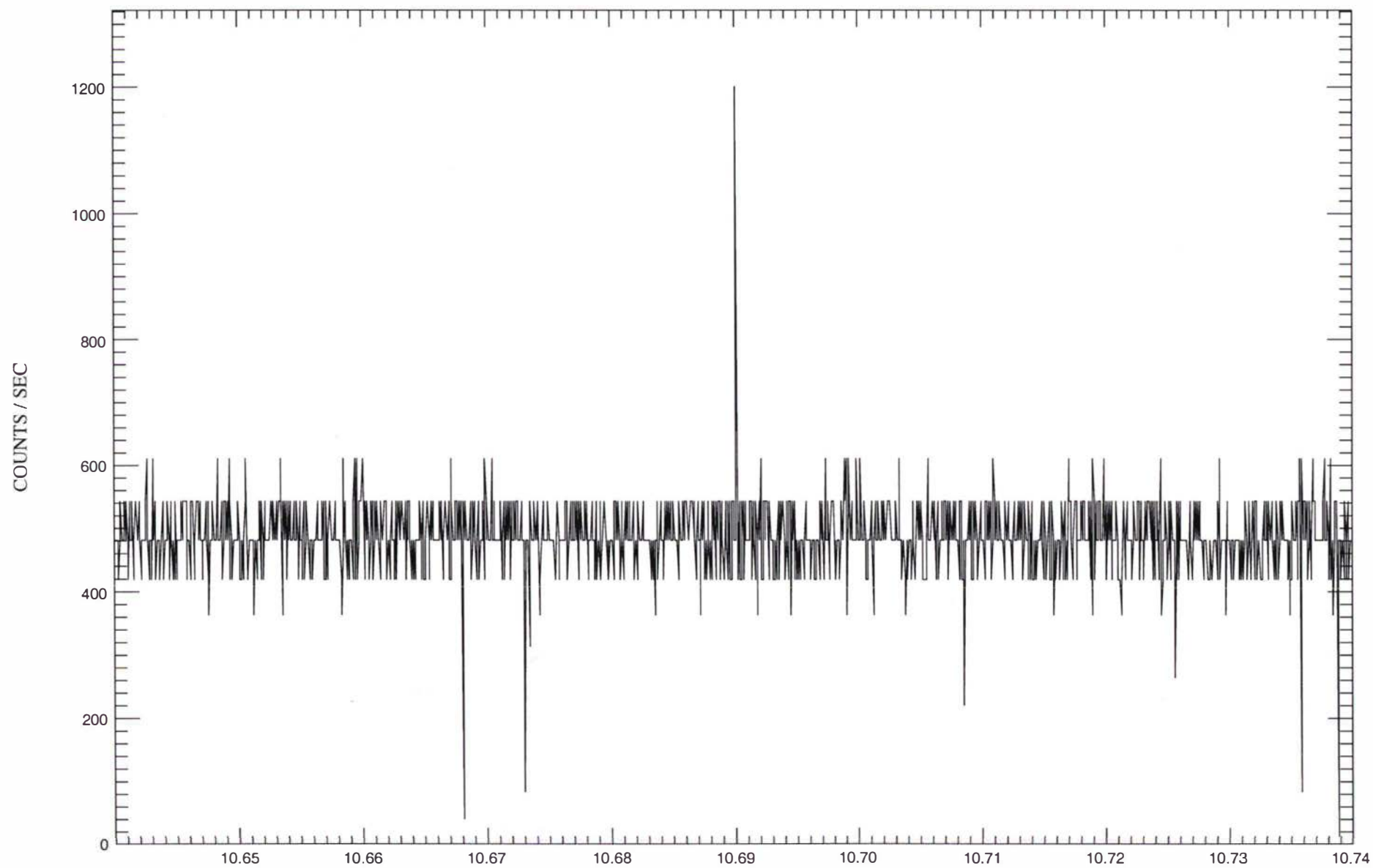


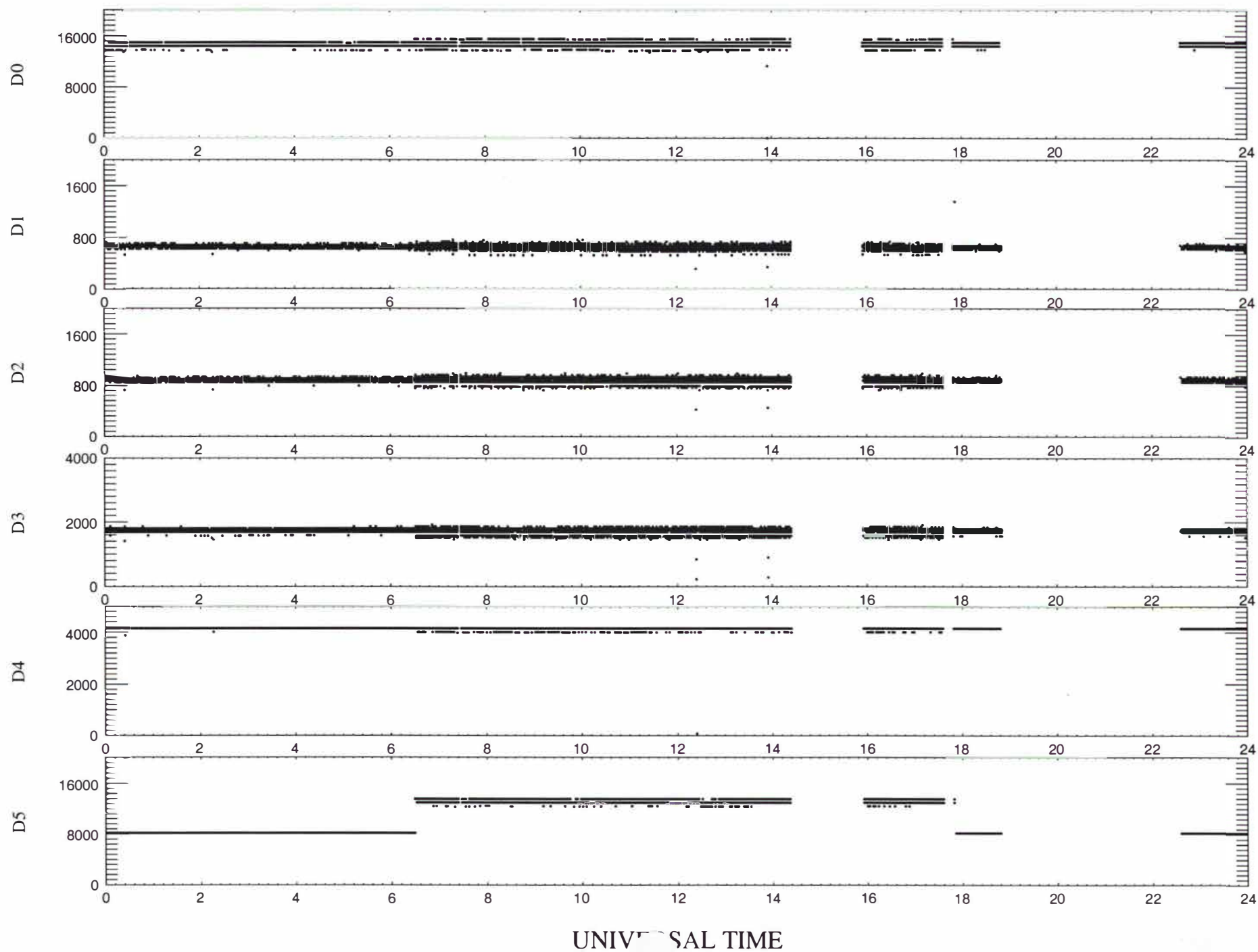
UNIVERSAL TIME

Burst Counter 11 at UT=10.690256373088 h=38484.923 s 10:41:24.923



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Mon May 3 16:02:43 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id QAA22929; Mon, 3 May 1999 16:02:42 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id QAA03760
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 3 May 1999 16:00:10 -0700 (PDT)
Date: Mon, 3 May 1999 18:03:33 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990503180333.2020c05e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7539
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7539
EVENT OF 1999 APR 30 DAY OF YEAR=120
EVENT CROSSING TIME AT BATSE : 25915. S. OR 07:11:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 299.000 70.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 4/ 99 IS:
RA= 144.643 DEC= -7.243 DIST= 4.550 AU
BATSE-ULYSSES DISTANCE = 680677960. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 64.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 963.48 SECS.
CROSSING TIME AT ULYSSES IS 26878. S. OR 07:27:58 +/- 421.57 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 4/ 99 IS:
RA= 210.353 DEC= -11.152 DIST= 0.579 AU
MARS-BATSE DISTANCE = 86583112. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 79.99 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 50.20 SECS.
CROSSING TIME AT MARS IS 25965. S. OR 07:12:45 +/- 50.14 SECONDS

BATSE BURST TRIGGER

NO.: 7539

TIME: TJD=1298 SECONDS=25915

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 83.0 AZIMUTH=353.7 ERROR= 3.2 DEGREES

COMMENTS:

SINGLE PULSE, DUR. APPROX. 5 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7539	990430	11298	25915	3500	299	+70	5

BATSE BURST# 7539

ULYSSES RT

3 / 5 / 99

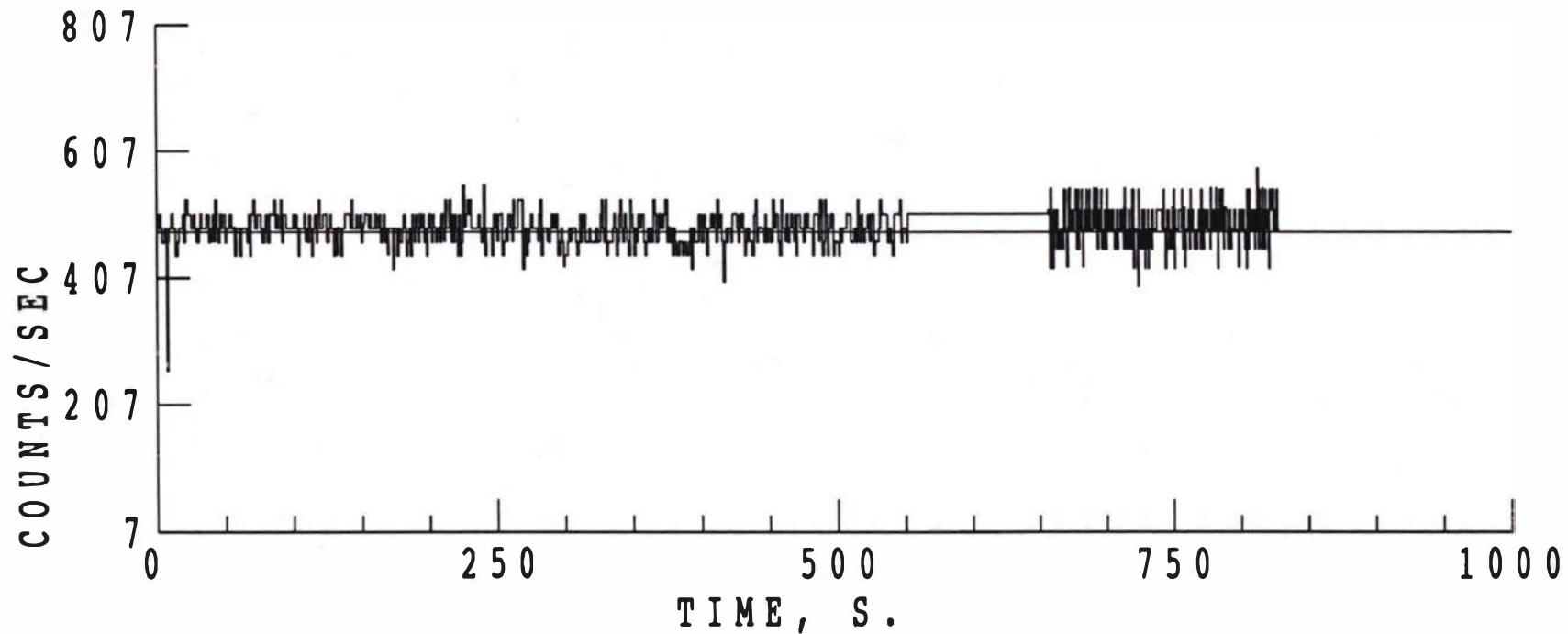
30 / 4 / 99 26460.352 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATION

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Mon May 3 15:58:05 1999
Date: Mon, 3 May 1999 17:58:37 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hspark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7540

TIME: TJD=1298 SECONDS=44141

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.5 AZIMUTH=350.4 ERROR= 0.5 DEGREES

COMMENTS:

GOES C8.2, OPTICAL SF SOLAR FLARE. COMPLEX, DUR. APPROX. 550 S.
NOT VISIBLE ABOVE 300 KEV.

50
20
20

120021

THE WOODS 800 49 130 New York 20 100 100

NO BURST (11)

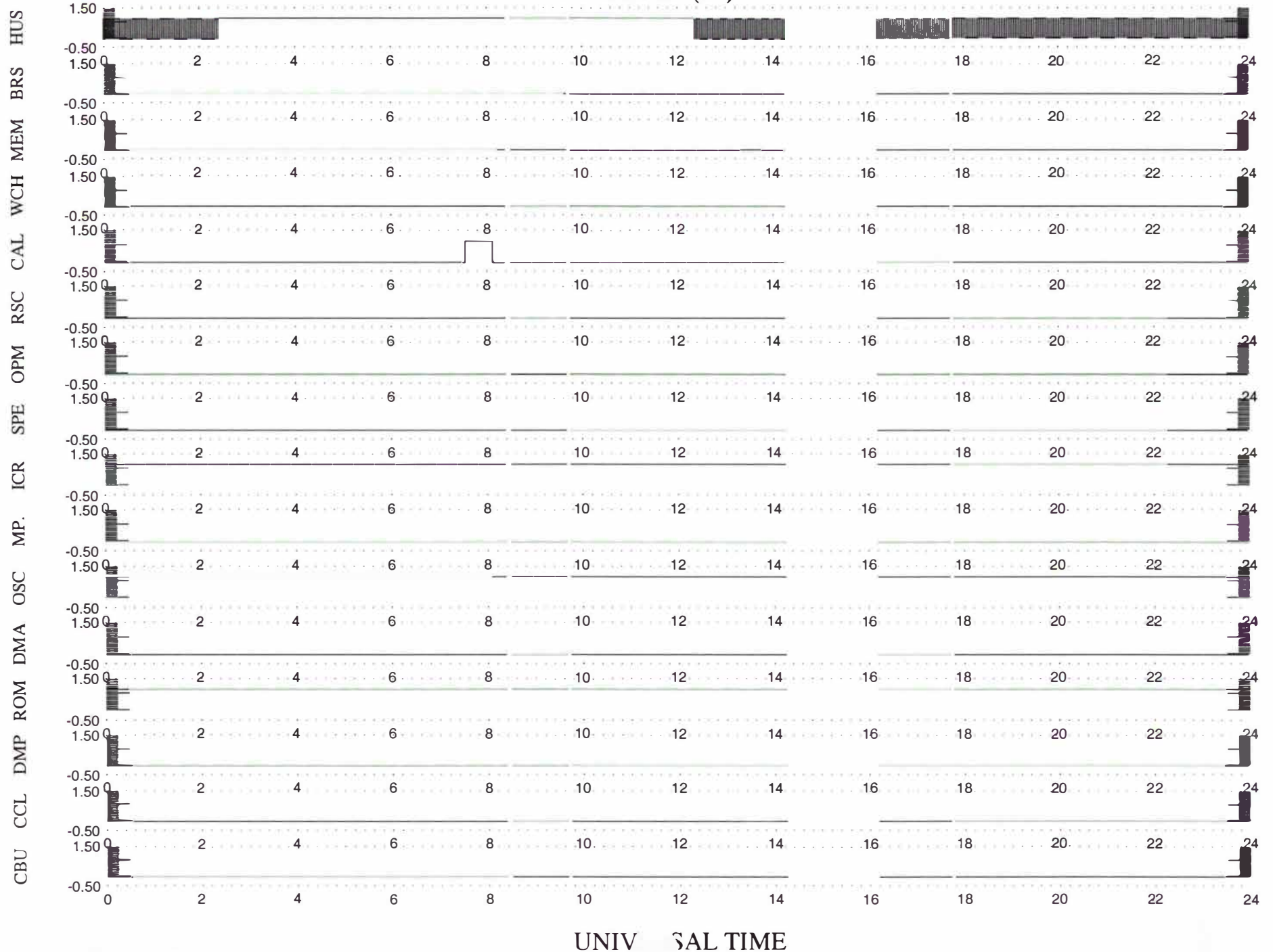
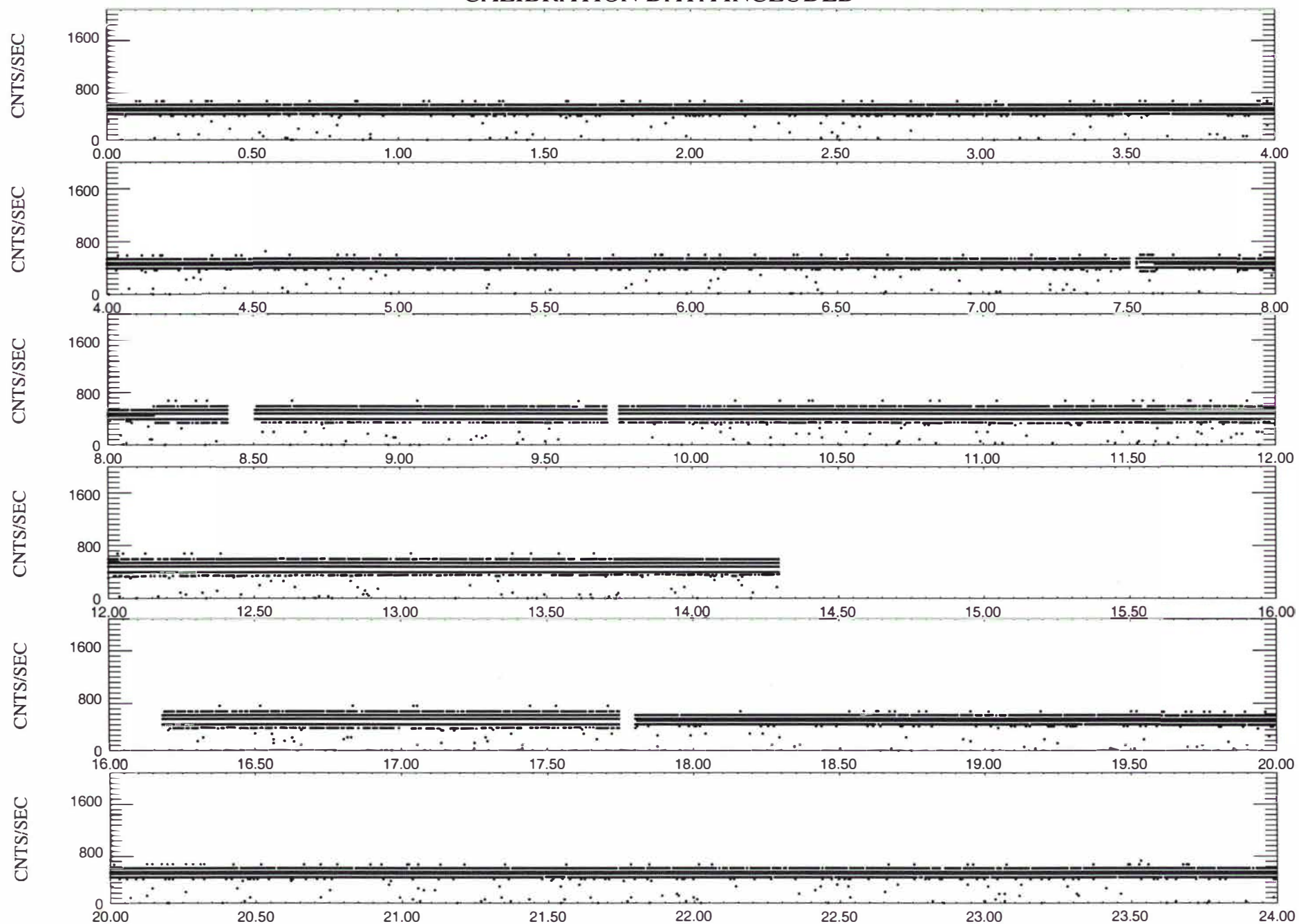


Fig 11
Fig 12
Fig 13

UNIVERSITY OF CALIFORNIA

DEPT. OF CHEMISTRY

CALIBRATION DATA INCLUDED



UNIV* SAL TIME

407566 *Chrysomelidae* 100 49.137°N 4.202°W 151.8 7.0 81564

NOTES ON THE

and

2120

