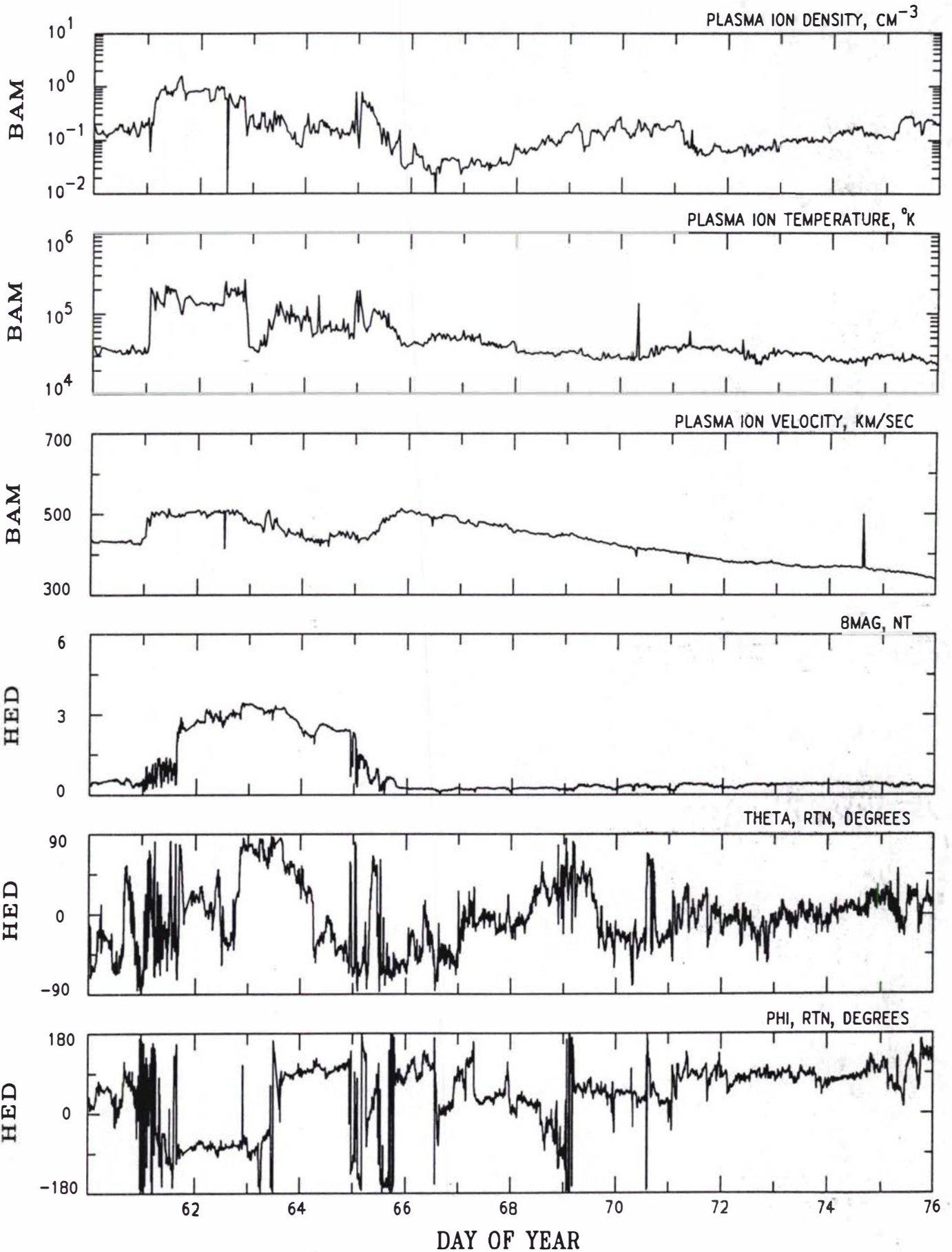


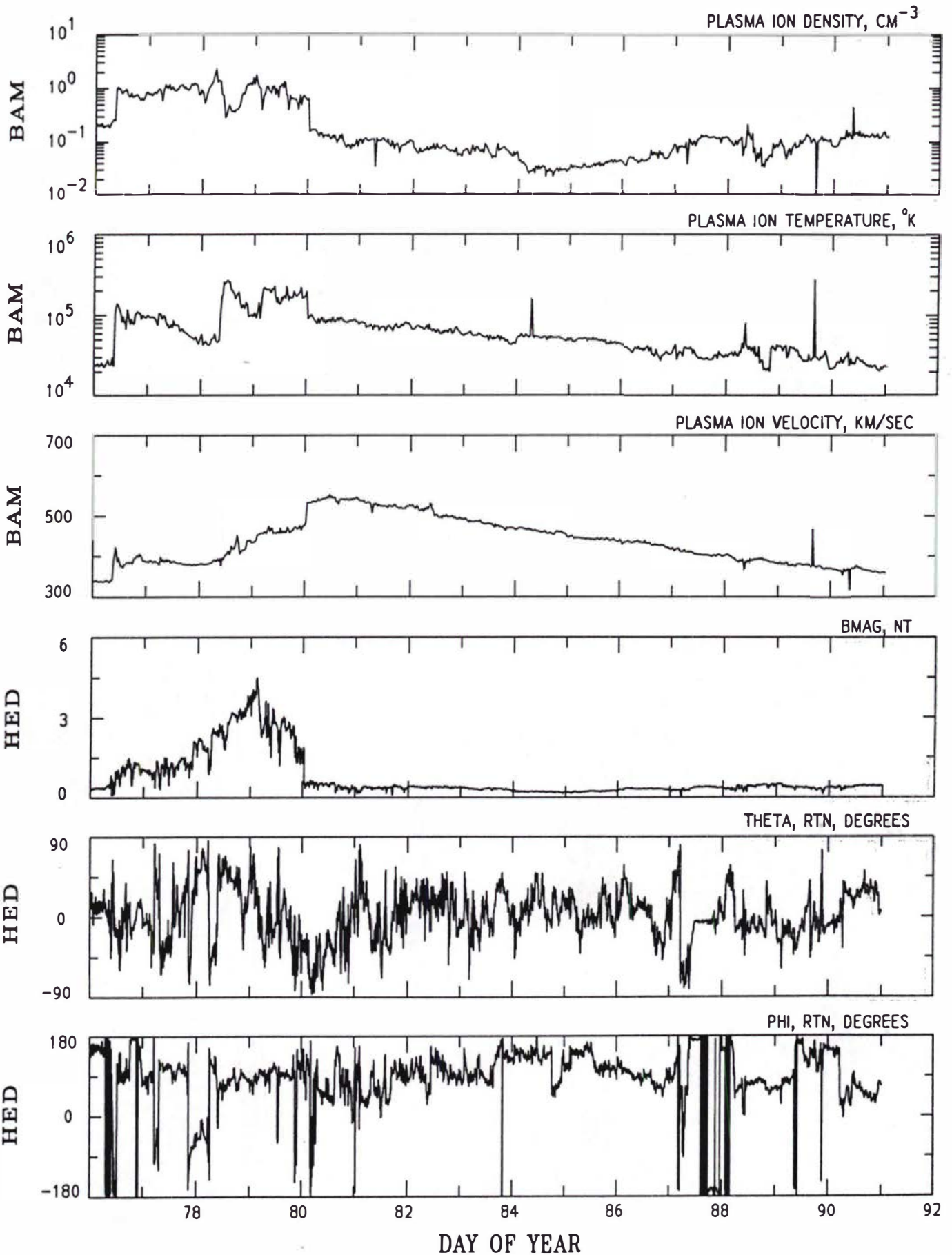
ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 060 MAR 1 00:00:00.000 - 99 076 MAR 17 00:00:00.000



ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 076 MAR 17 00:00:00.000 - 99 092 APR 2 00:00:00.000



11/12/83

11/12/83

11/12/83

11/12/83

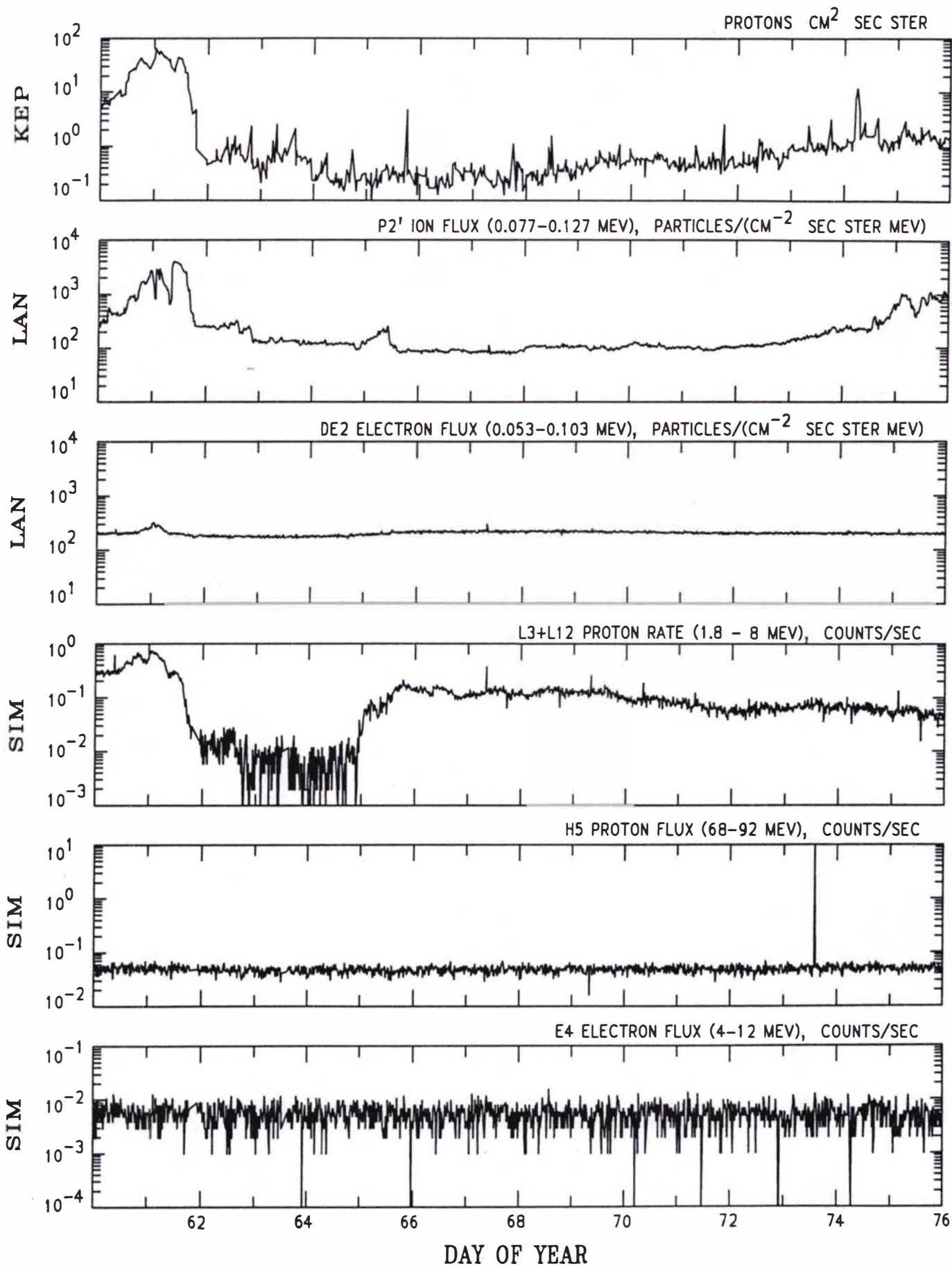
11/12/83

11/12/83

11/12/83

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

99 060 MAR 1 00:00:00.000 - 99 076 MAR 17 00:00:00.000

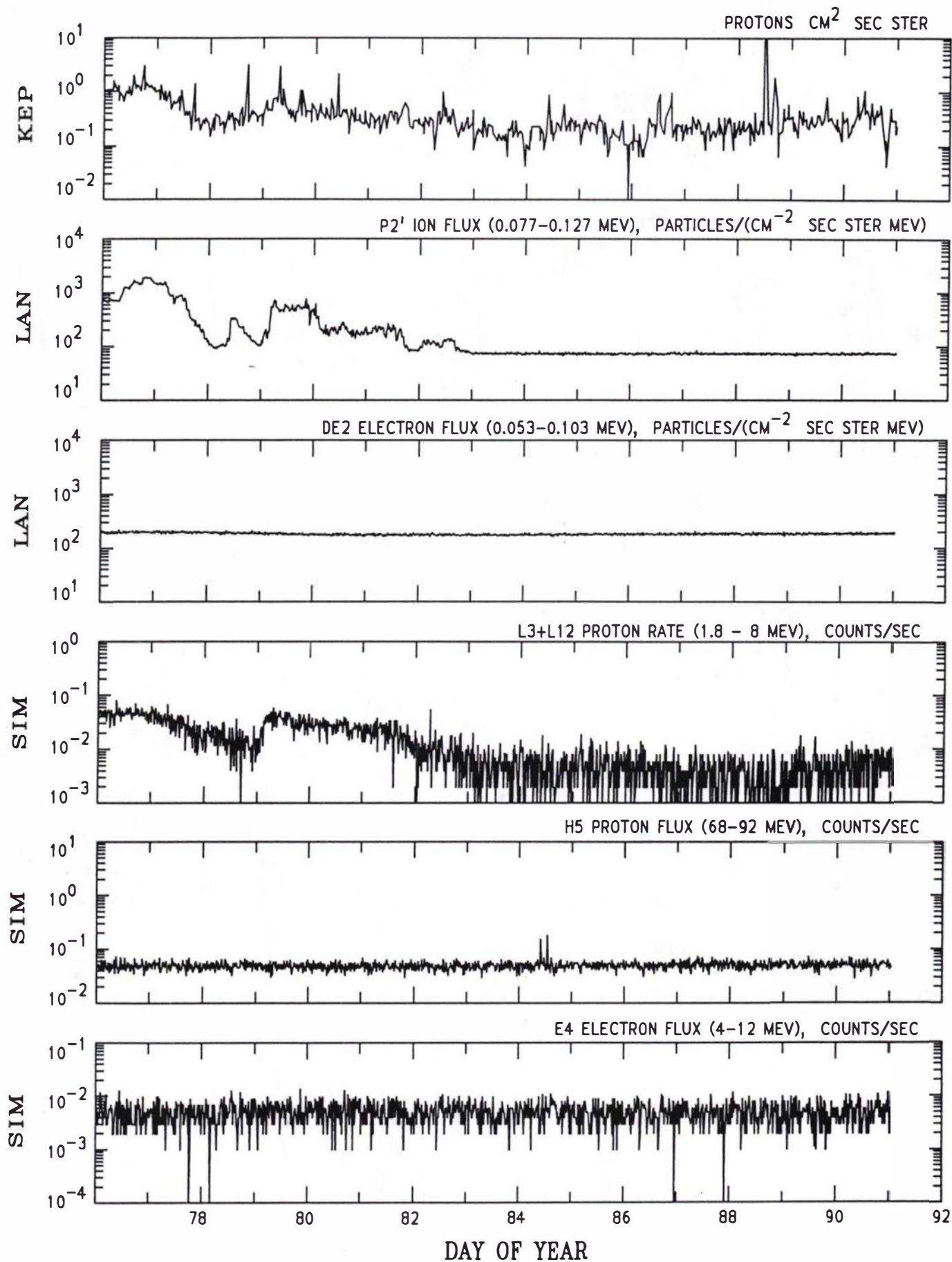


CONFIDENTIAL - EYES ONLY

02/02/2010

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

99 076 MAR 17 00:00:00.000 - 99 092 APR 2 00:00:00.000



10/10/10

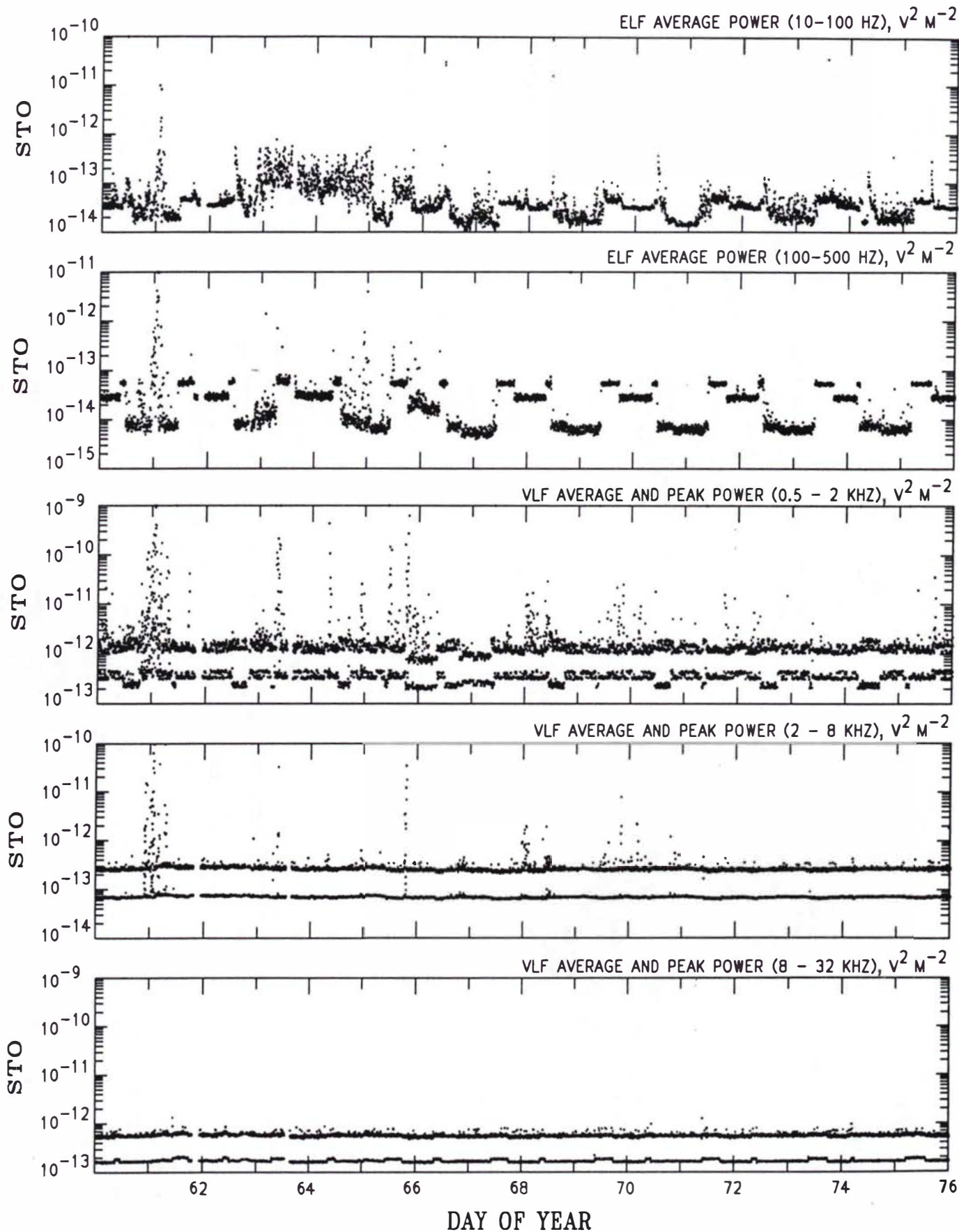
1. The first part of the paper is devoted to a discussion of the general principles of the theory of the structure of the atom. It is shown that the structure of the atom is determined by the laws of quantum mechanics, and that the laws of quantum mechanics are in agreement with the experimental facts.

2. The second part of the paper is devoted to a discussion of the application of the theory of the structure of the atom to the study of the properties of the elements of the periodic system. It is shown that the theory of the structure of the atom can be used to explain the properties of the elements, and that the properties of the elements can be used to determine the structure of the atom.

3. The third part of the paper is devoted to a discussion of the application of the theory of the structure of the atom to the study of the properties of the compounds of the elements. It is shown that the theory of the structure of the atom can be used to explain the properties of the compounds, and that the properties of the compounds can be used to determine the structure of the atom.

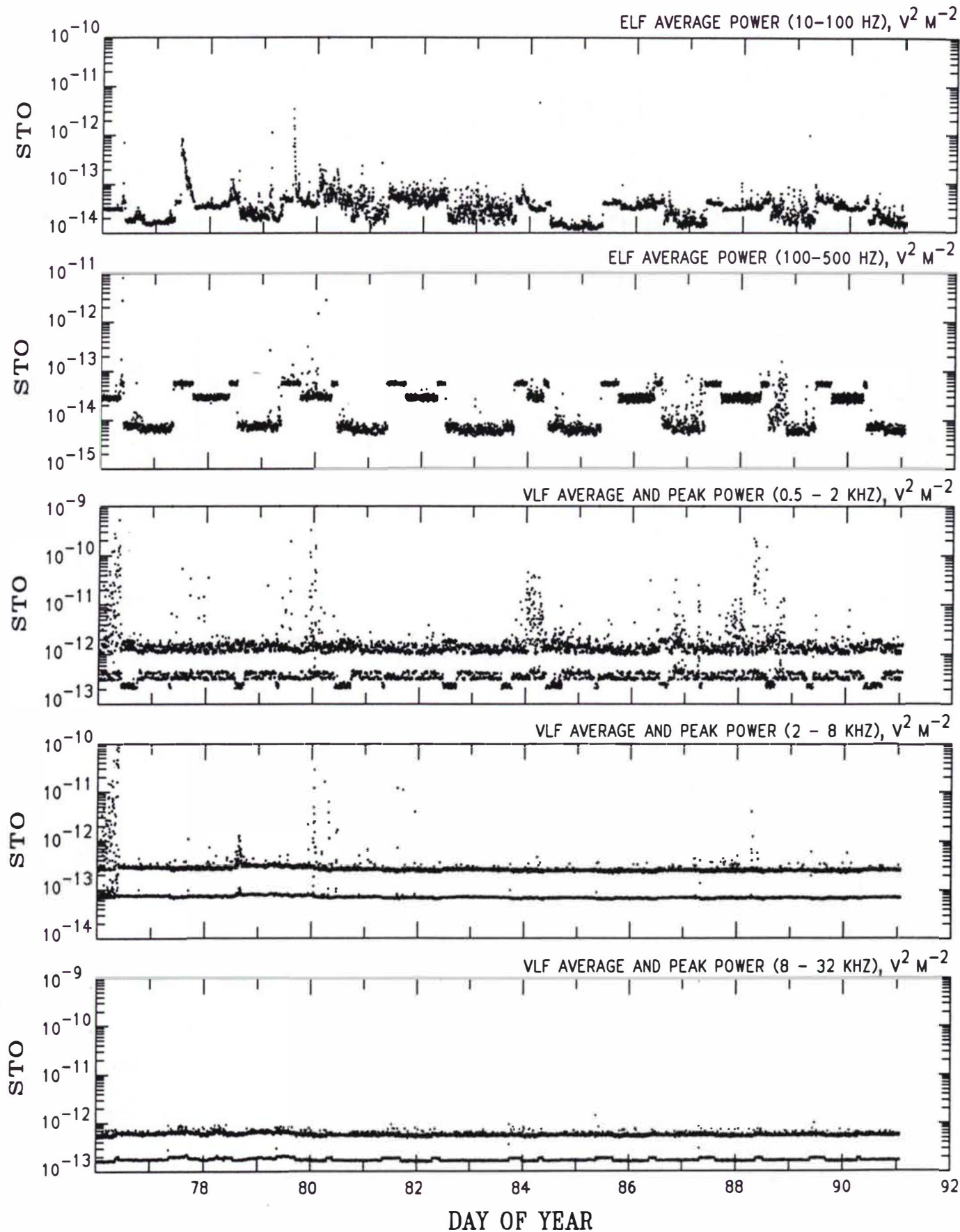
ULYSSES CDR - PLASMA WAVE

99 060 MAR 1 00:00:00.000 - 99 076 MAR 17 00:00:00.000



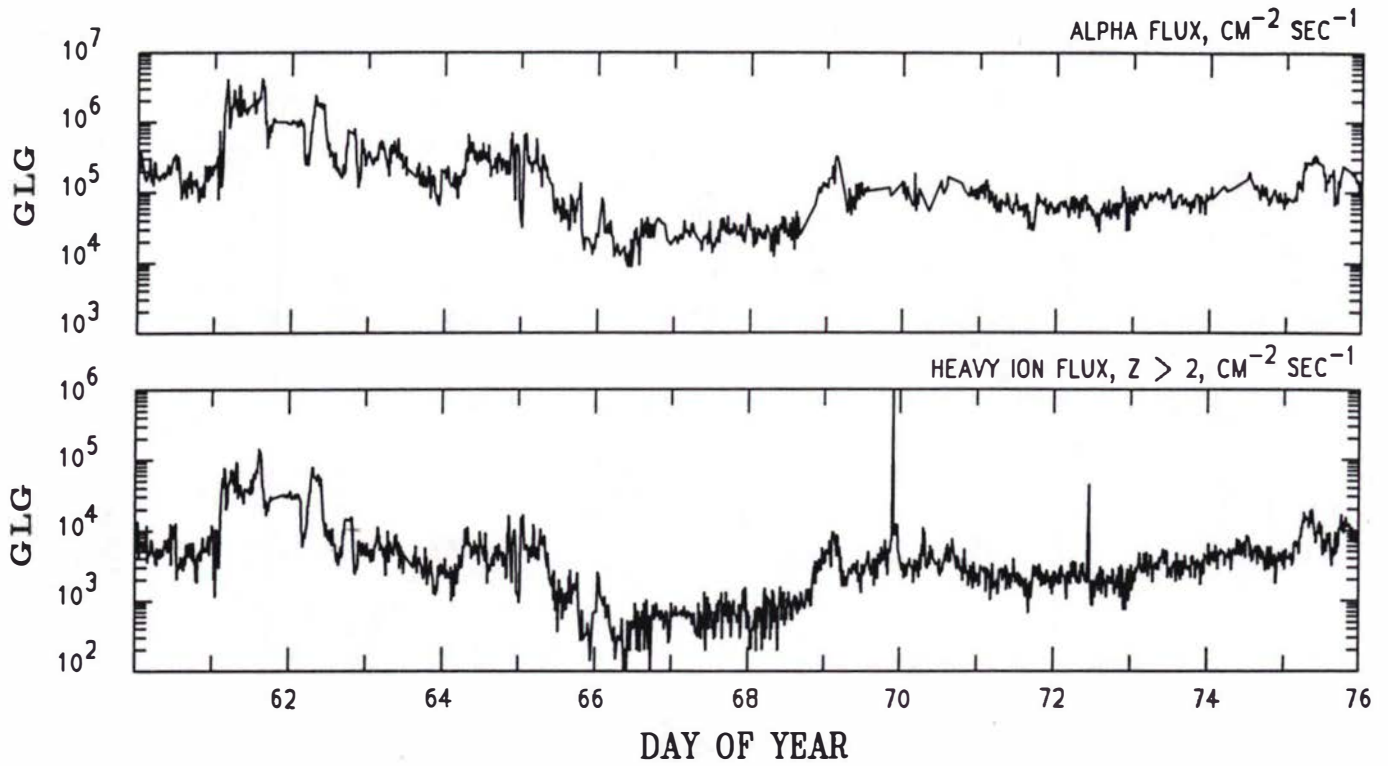
ULYSSES CDR - PLASMA WAVE

99 076 MAR 17 00:00:00.000 - 99 092 APR 2 00:00:00.000



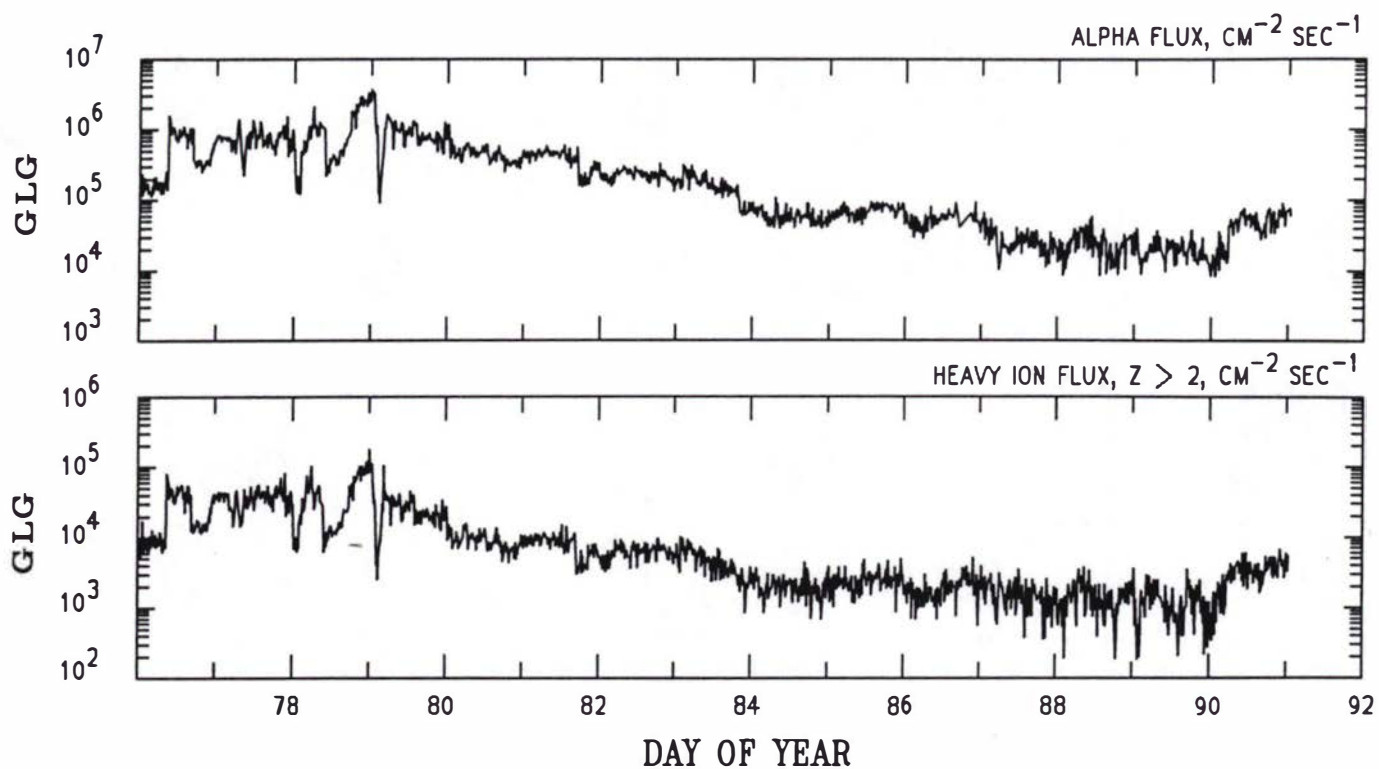
ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 060 MAR 1 00:00:00.000 - 99 076 MAR 17 00:00:00.000



ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 076 MAR 17 00:00:00.000 - 99 092 APR 2 00:00:00.000



KONUS RI

ULYSSES RT

28 / 7 / 99

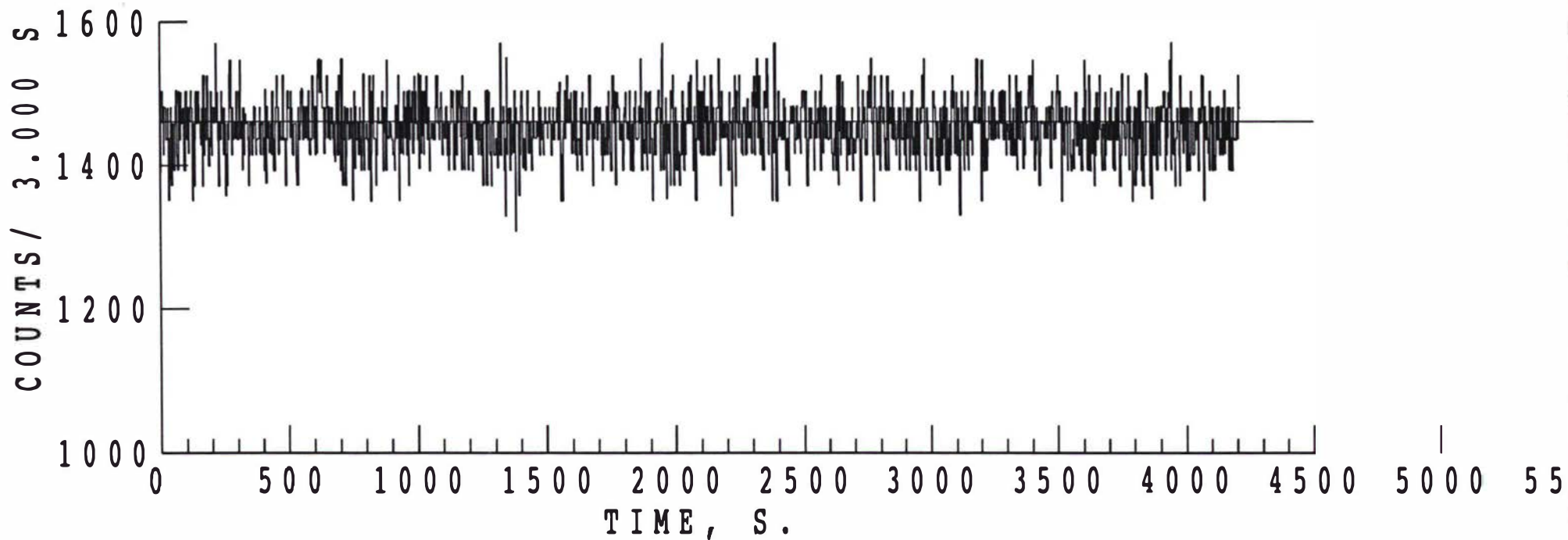
1 / 3 / 99 19800.180 s

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



From RICHARDSON@fender.msfc.nasa.gov Wed Mar 3 06:07:55 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 3 Mar 1999 8:07:40 -0600 (CST)

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

Subject: Burst Trigger Message

Mr 1 BATSE BURST TRIGGER
NO.: 7436

TIME: TJD=1238 SECONDS=55000

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT

From RICHARDSON@fender.msfc.nasa.gov Wed Mar 3 06:08:33 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 3 Mar 1999 8:08:35 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7437

TIME: TJD=1238 SECONDS=63275

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 Wed Mar 3 06:09:43 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 3 Mar 1999 8:09:37 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7438

TIME: TJD=1238 SECONDS=69054

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 Wed Mar 3 06:10:44 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 3 Mar 1999 8:10:42 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7439

TIME: TJD=1238 SECONDS=80844

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

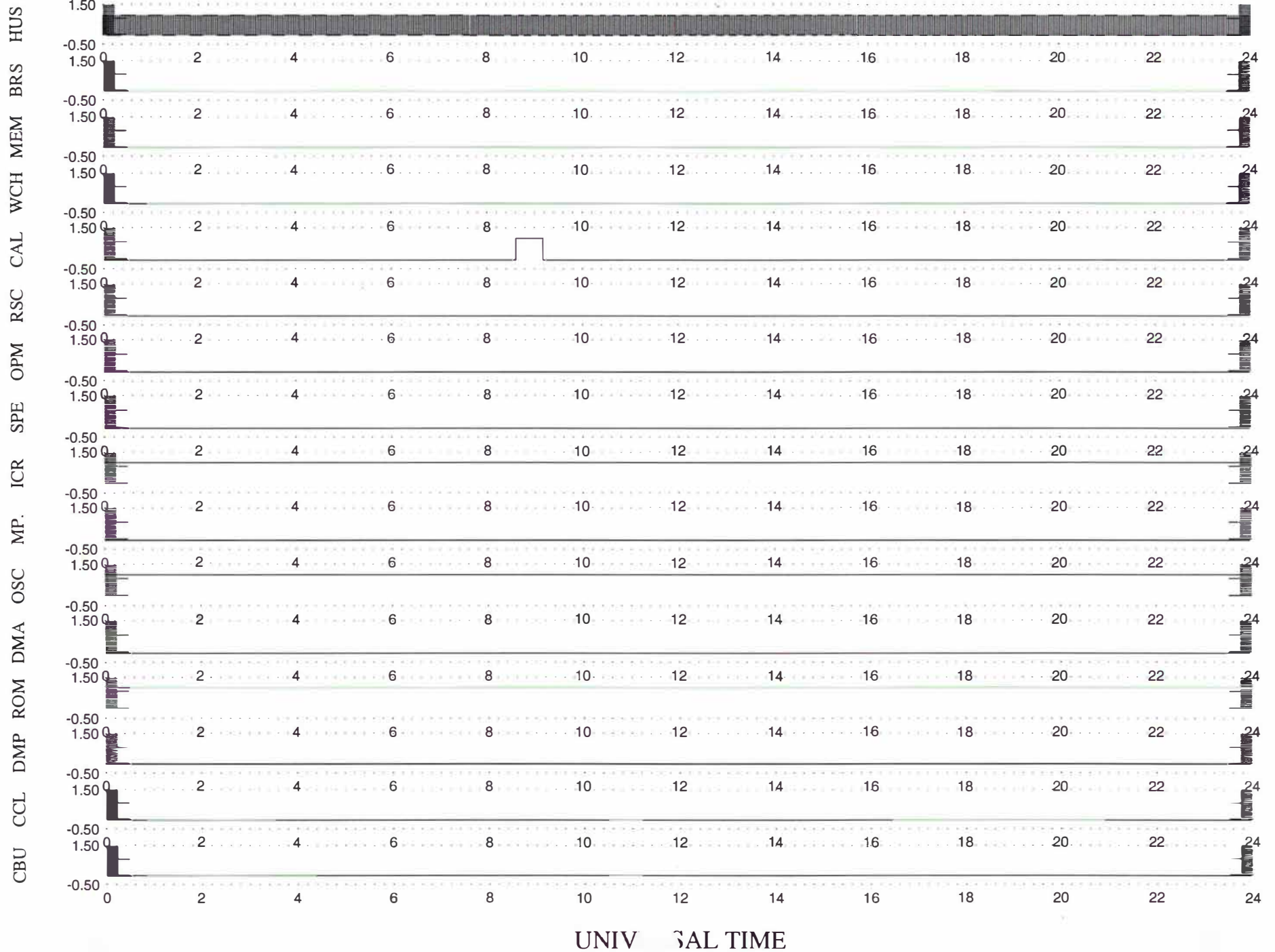
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

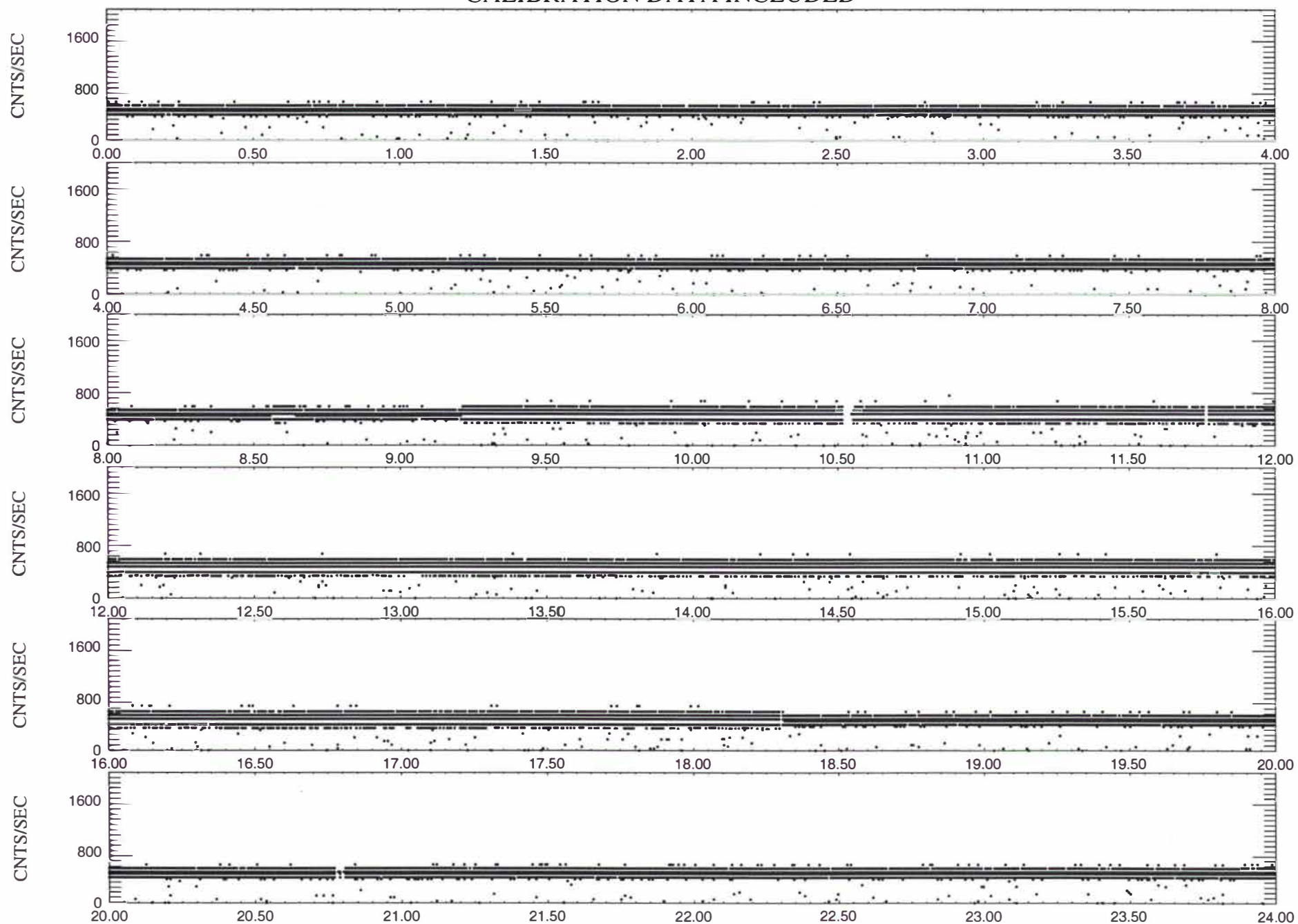
COMMENTS:

PARTICLE EVENT

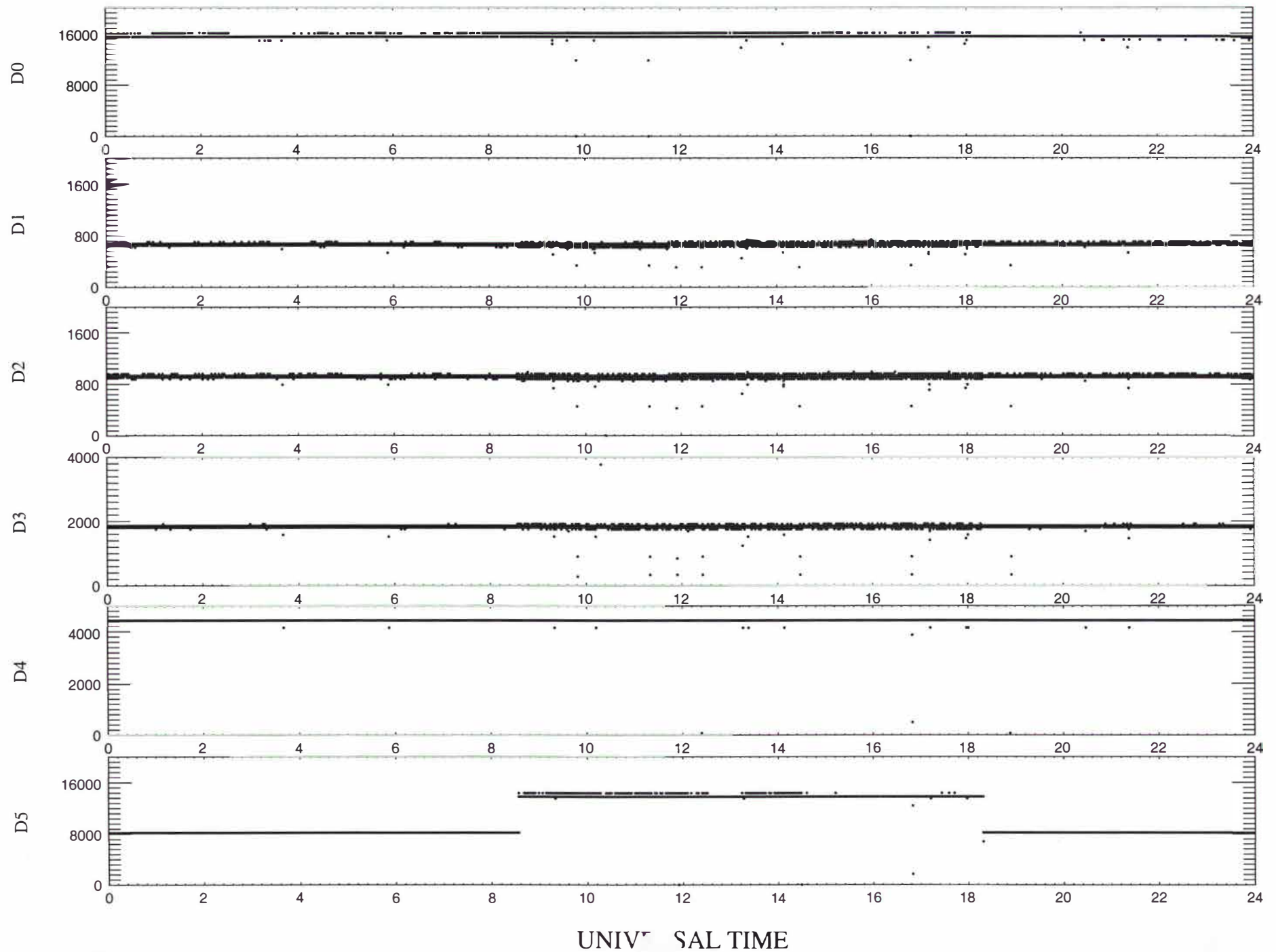
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From SAHI@fender.msfc.nasa.gov Fri Mar 5 10:13:11 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA08124; Fri, 5 Mar 1999 10:13:10 -0800
From: SAHI@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 KAA05906
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 5 Mar 1999 10:13:09 -0800 (PST)
Date: Fri, 5 Mar 1999 12:08:57 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990305120857.2020ad62@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7440
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7440
EVENT OF 1999 MAR 2 DAY OF YEAR= 61
EVENT CROSSING TIME AT BATSE : 26923. S. OR 07:28:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 256.000 66.000
BATSE PEAK COUNTING RATE: 24000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 3/ 99 IS:
RA= 154.619 DEC= -9.520 DIST= 4.144 AU
BATSE-ULYSSES DISTANCE = 619883699. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 76.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 476.07 SECS.
CROSSING TIME AT ULYSSES IS 27399. S. OR 07:36:39 +/- 406.57 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 3/ 99 IS:
RA= 218.919 DEC= -12.933 DIST= 0.898 AU
MARS-BATSE DISTANCE = 134276736. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 96.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -50.07 SECS.
CROSSING TIME AT MARS IS 26873. S. OR 07:27:52 +/- 76.51 SECONDS

BATSE BURST TRIGGER

NO.: 7440

TIME: TJD=1239 SECONDS=26923

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=116.2 AZIMUTH=305.8 ERROR=3.5 DEGREES

COMMENTS:

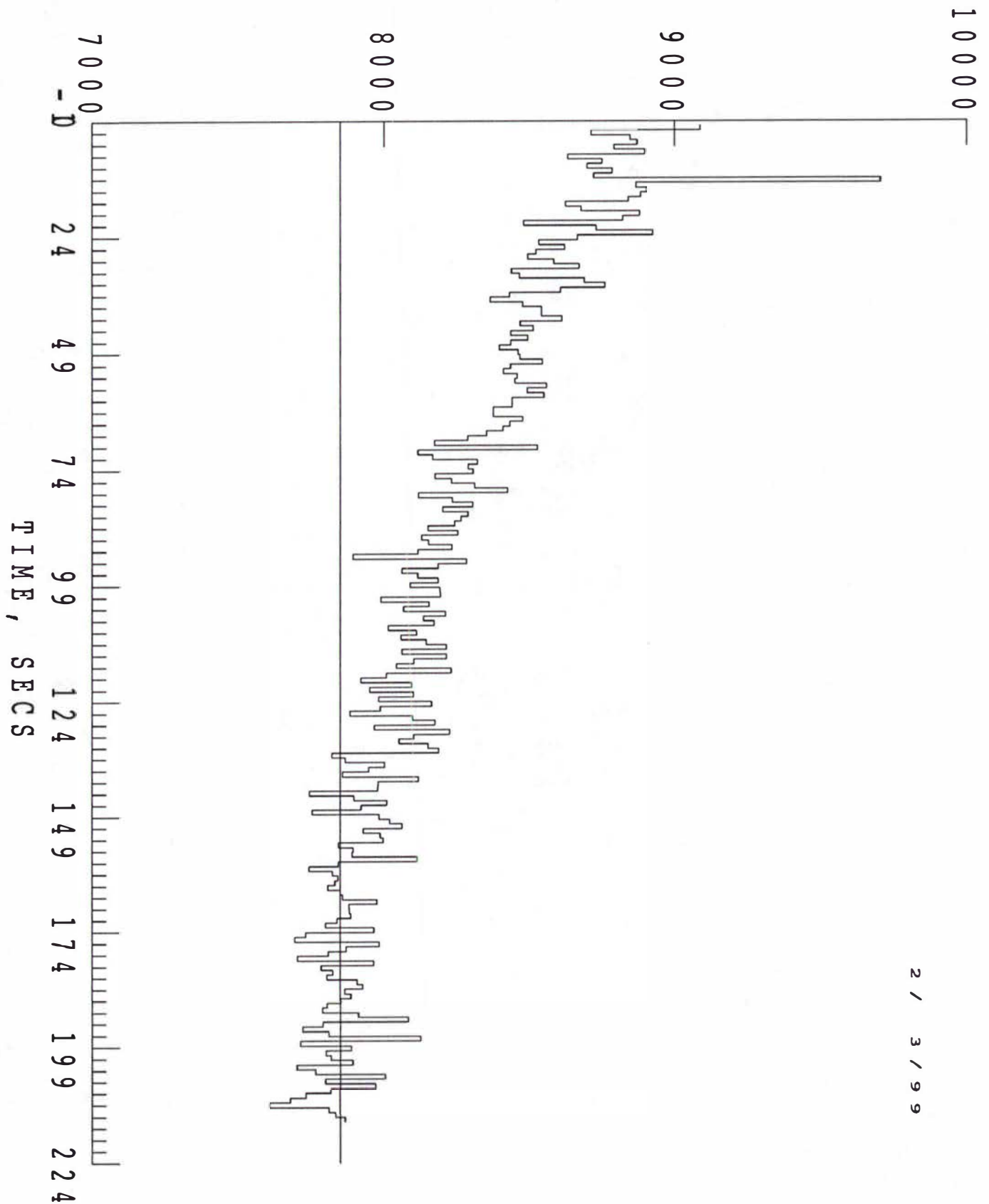
GRB. SINGLE SPIKE, DUR. 0.1 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7440	990302	11239	26923	24000	256	+66	.1

BACODINE 7440 02/03/99 26911.481

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7440

ULYSSES RT

5 / 3 / 99

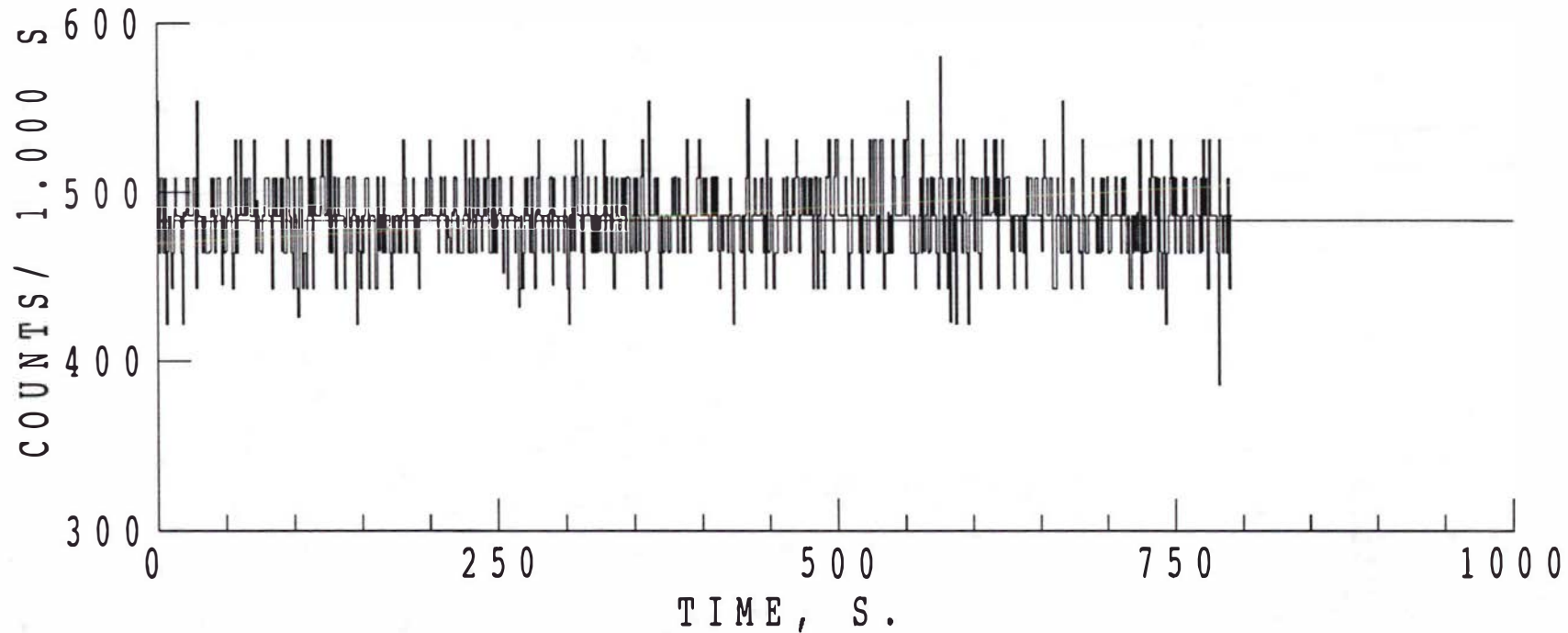
2 / 3 / 99 27000.135 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Fri Mar 5 09:34:12 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 5 Mar 1999 11:16:04 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7441

TIME: TJD=1239 SECONDS=81899

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

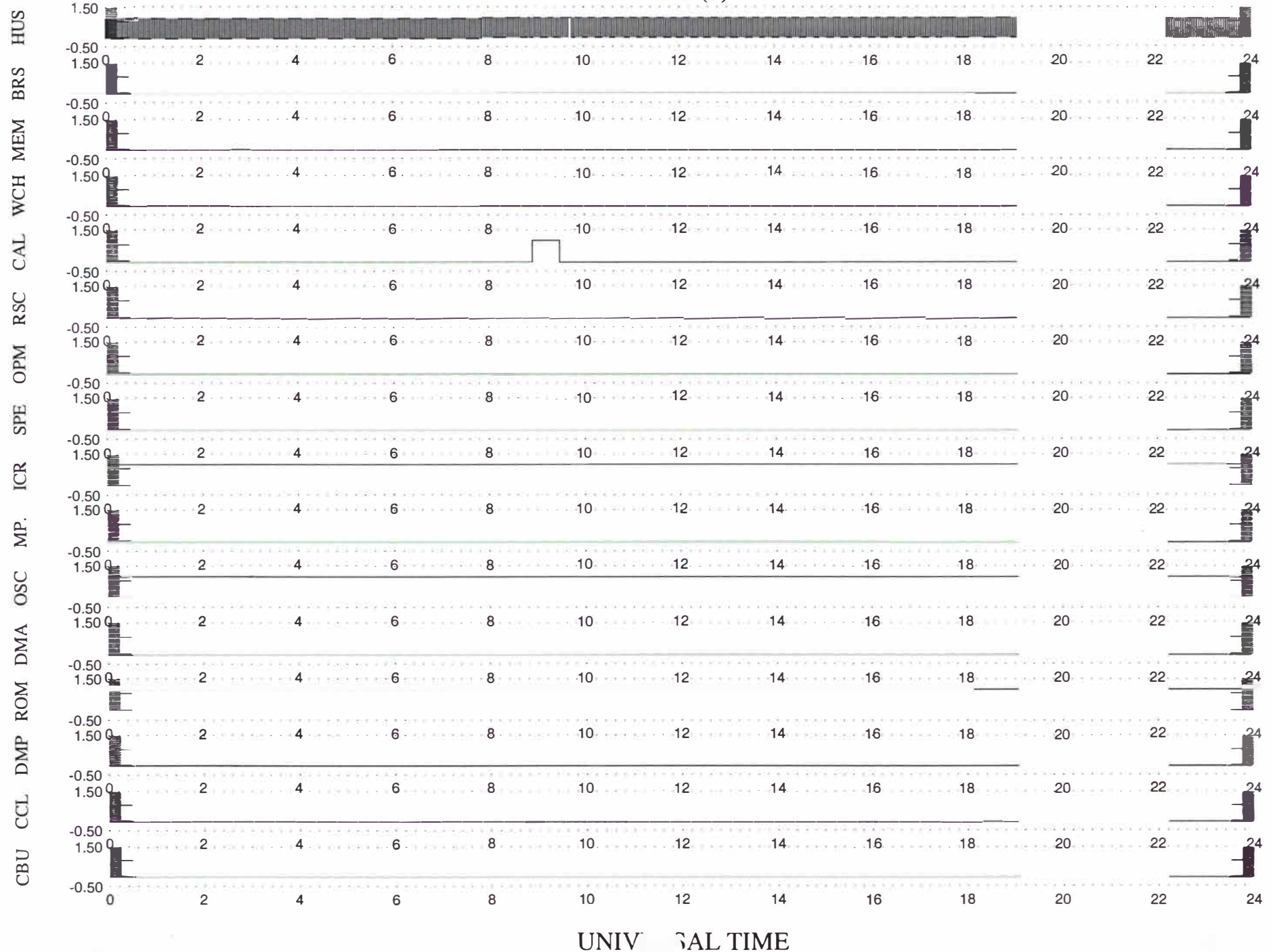
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

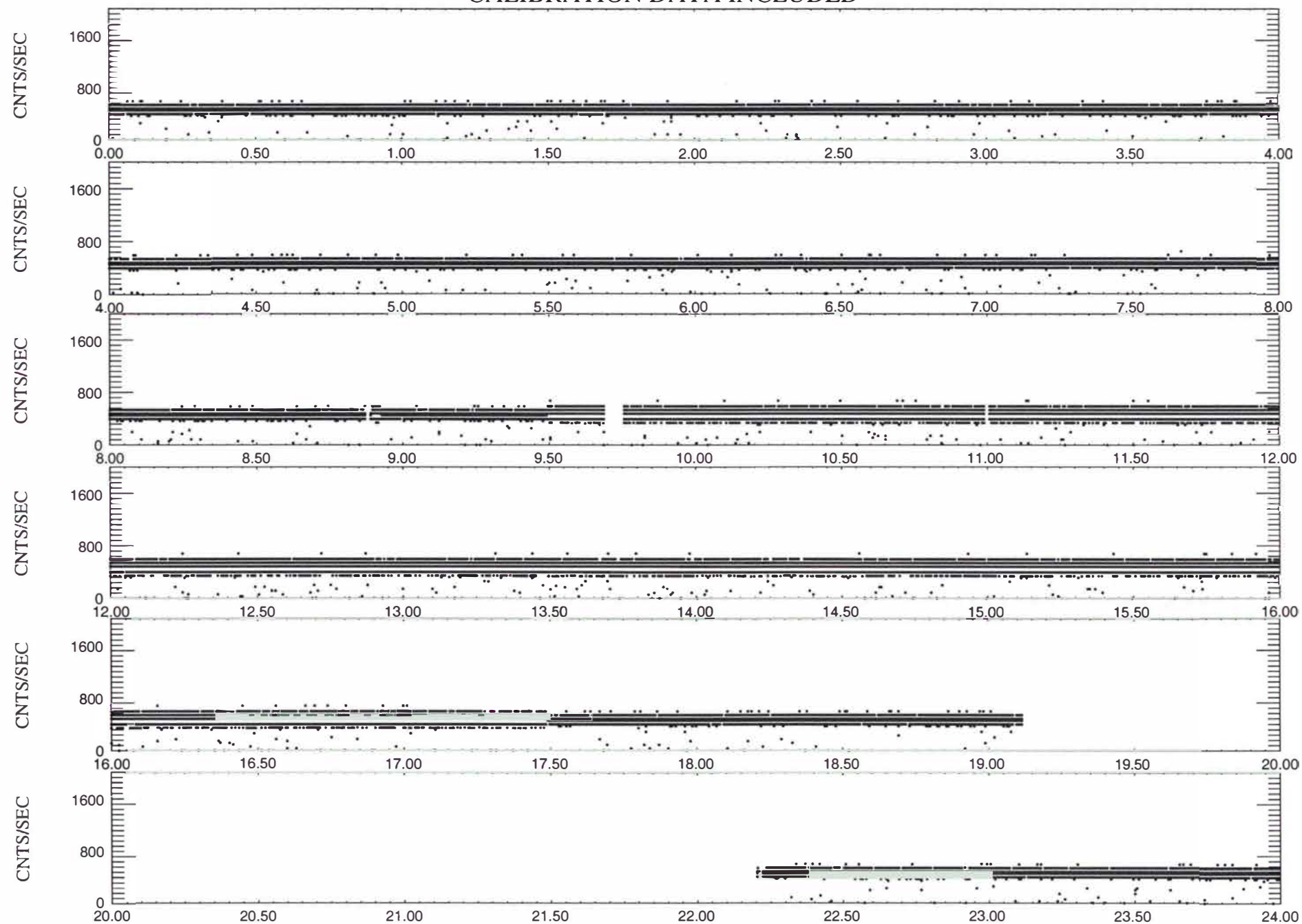
COMMENTS:

PARTICLE EVENT AFTER SAA EXIT.

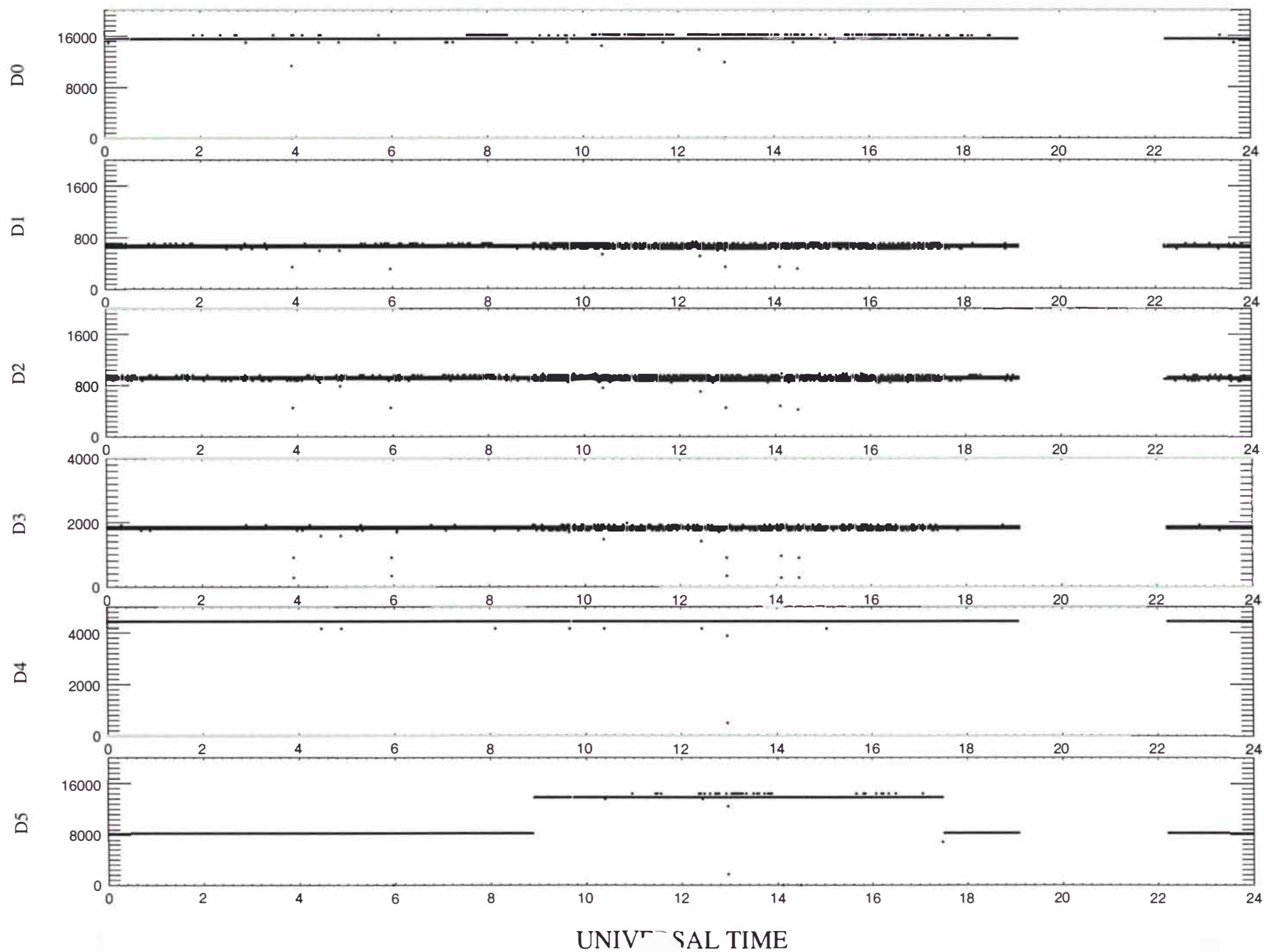
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SAHI@fender.msfc.nasa.gov Fri Mar 5 10:22:03 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA08243; Fri, 5 Mar 1999 10:22:00 -0800
From: SAHI@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 KAA06083
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 5 Mar 1999 10:21:58 -0800 (PST)
Date: Fri, 5 Mar 1999 12:20:40 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990305122040.2020ad62@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7442
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7442
EVENT OF 1999 MAR 3 DAY OF YEAR= 62
EVENT CROSSING TIME AT BATSE : 14340. S. OR 03:59:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 318.000 -17.000
BATSE PEAK COUNTING RATE: 1000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 3/ 99 IS:
RA= 154.415 DEC= -9.499 DIST= 4.142 AU
BATSE-ULYSSES DISTANCE = 619706718. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 31.07 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1770.49 SECS.
CROSSING TIME AT ULYSSES IS 16110. S. OR 04:28:30 +/- 262.13 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 3/ 99 IS:
RA= 219.090 DEC= -12.987 DIST= 0.889 AU
MARS-BATSE DISTANCE = 132939456. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.49 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 34.86 SECS.
CROSSING TIME AT MARS IS 14375. S. OR 03:59:34 +/- 77.28 SECONDS

BATSE BURST TRIGGER

NO.: 7442

TIME: TJD=1240 SECONDS=14340

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=33.9 AZIMUTH=0.6 ERROR=6.8 DEGREES

COMMENTS:

GRB> SINGLE PULSE, DUR. 30 S, RISE IS FASTER THAN FALL, STARTS AT T+7 S. NOT
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7442	990303	11240	14340	1000	318	-17	30

BATSE BURST# 7442

ULYSSES RT

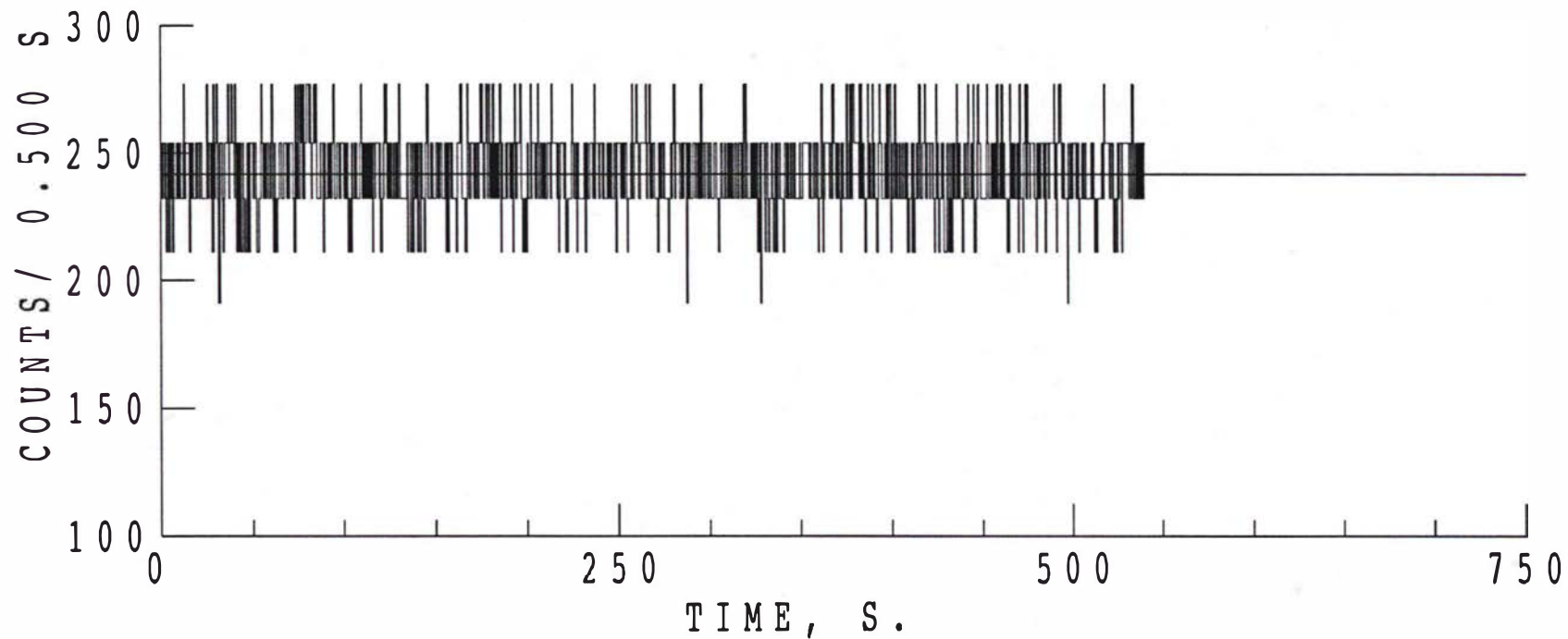
5 / 3 / 99

3 / 3 / 99 15840.399 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Fri Mar 5 10:31:39 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id KAA08465; Fri, 5 Mar 1999 10:31:33 -0800
From: SAHI@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 KAA06298
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 5 Mar 1999 10:31:31 -0800 (PST)
Date: Fri, 5 Mar 1999 12:26:18 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990305122618.2020ad62@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7443
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7443
EVENT OF 1999 MAR 3 DAY OF YEAR= 62
EVENT CROSSING TIME AT BATSE : 32569. S. OR 09:02:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 331.000 -41.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 3/ 3/ 99 IS:
RA= 154.365 DEC= -9.494 DIST= 4.142 AU
BATSE-ULYSSES DISTANCE = 619671550. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 50.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1312.31 SECS.
CROSSING TIME AT ULYSSES IS 33881. S. OR 09:24:41 +/- 347.19 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 3/ 3/ 99 IS:
RA= 219.090 DEC= -12.987 DIST= 0.889 AU
MARS-BATSE DISTANCE = 132939456. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.71 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 56.31 SECS.
CROSSING TIME AT MARS IS 32625. S. OR 09:03:45 +/- 77.22 SECONDS

BATSE BURST TRIGGER

NO.: 7443

TIME: TJD=1240 SECONDS=32569

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=23.9 AZIMUTH=55.3 ERROR=3.5 DEGREES

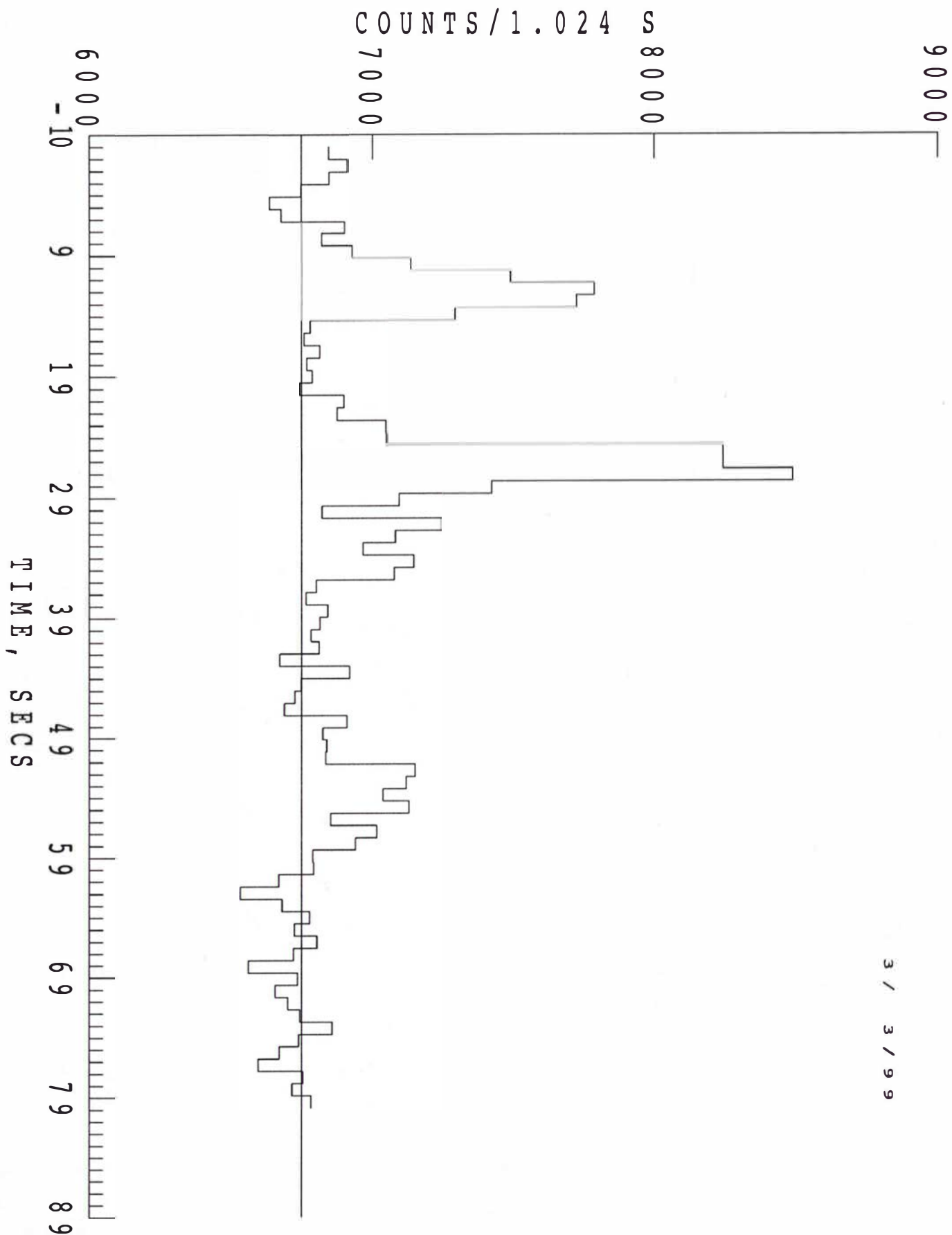
COMMENTS:

GRB. MULTIPLE PULSES, DUR. GREATER THAN OR EQUAL TO 160 S, STARTS AT T-110 S.
MAX. AT T+14 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7443	990303	11240	32569	4000	331	-41	160

BACODINE 7443 03/03/99 32556.793

25 - 100 keV



BATSE BURST# 7443

ULYSSES RT

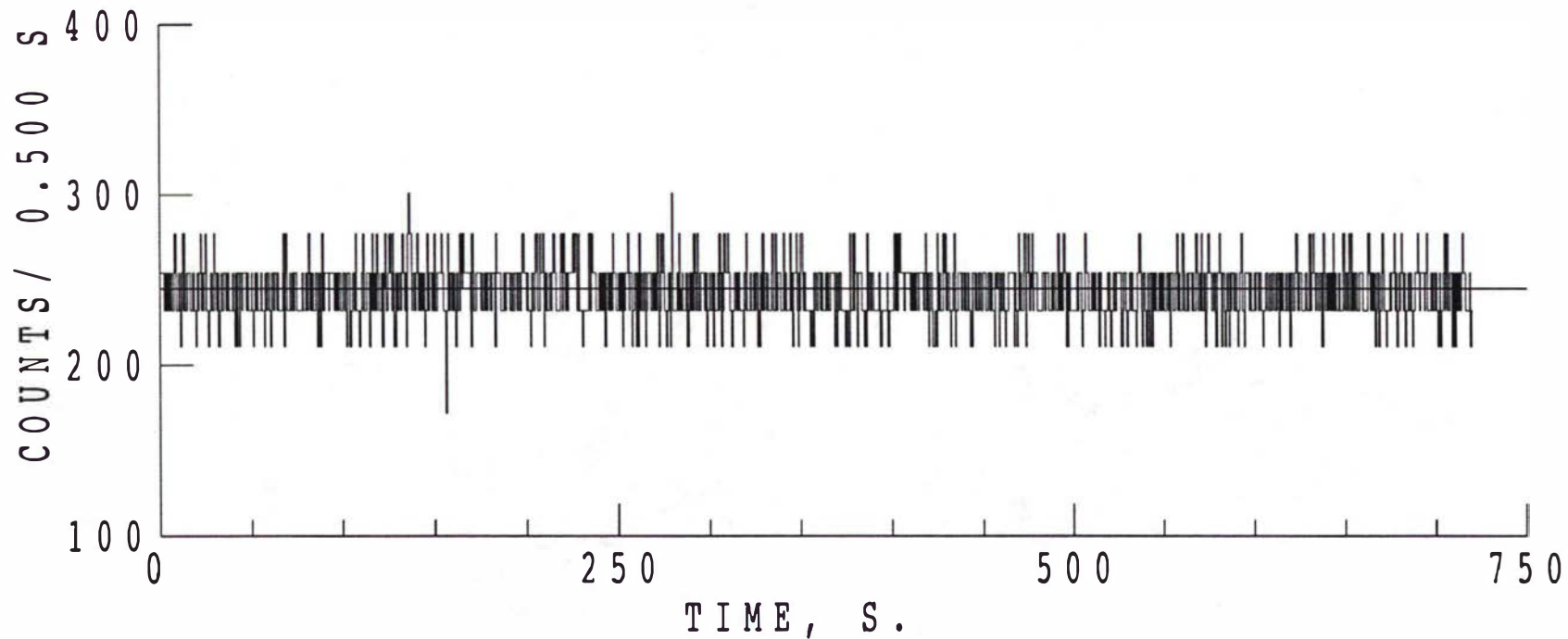
5 / 3 / 99

3 / 3 / 99 33516.078 s

0 - 0 keV

B= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Fri Mar 5 09:43:50 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 5 Mar 1999 11:27:56 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7444

TIME: TJD=1240 SECONDS=52338

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT.

From SAHI@fender.msfc.nasa.gov Fri Mar 5 09:52:37 1999

From: SAHI@fender.msfc.nasa.gov

Date: Fri, 5 Mar 1999 11:30:04 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7445

TIME: TJD=1240 SECONDS=63772

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT

JANA TAB1 19990303 74319

ULYSSES RT

05/08/05

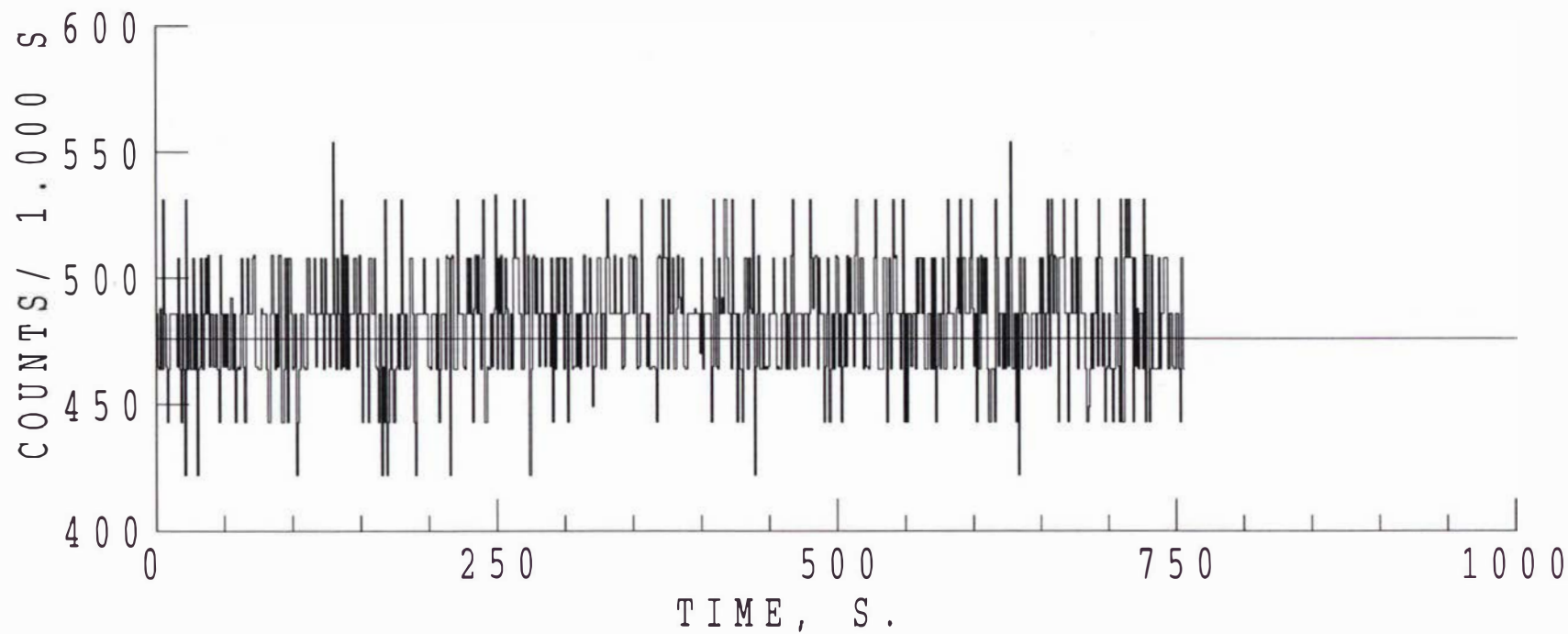
03/03/99 73944.484 s

0.500 S INTERVALS REGROUPED BY 2

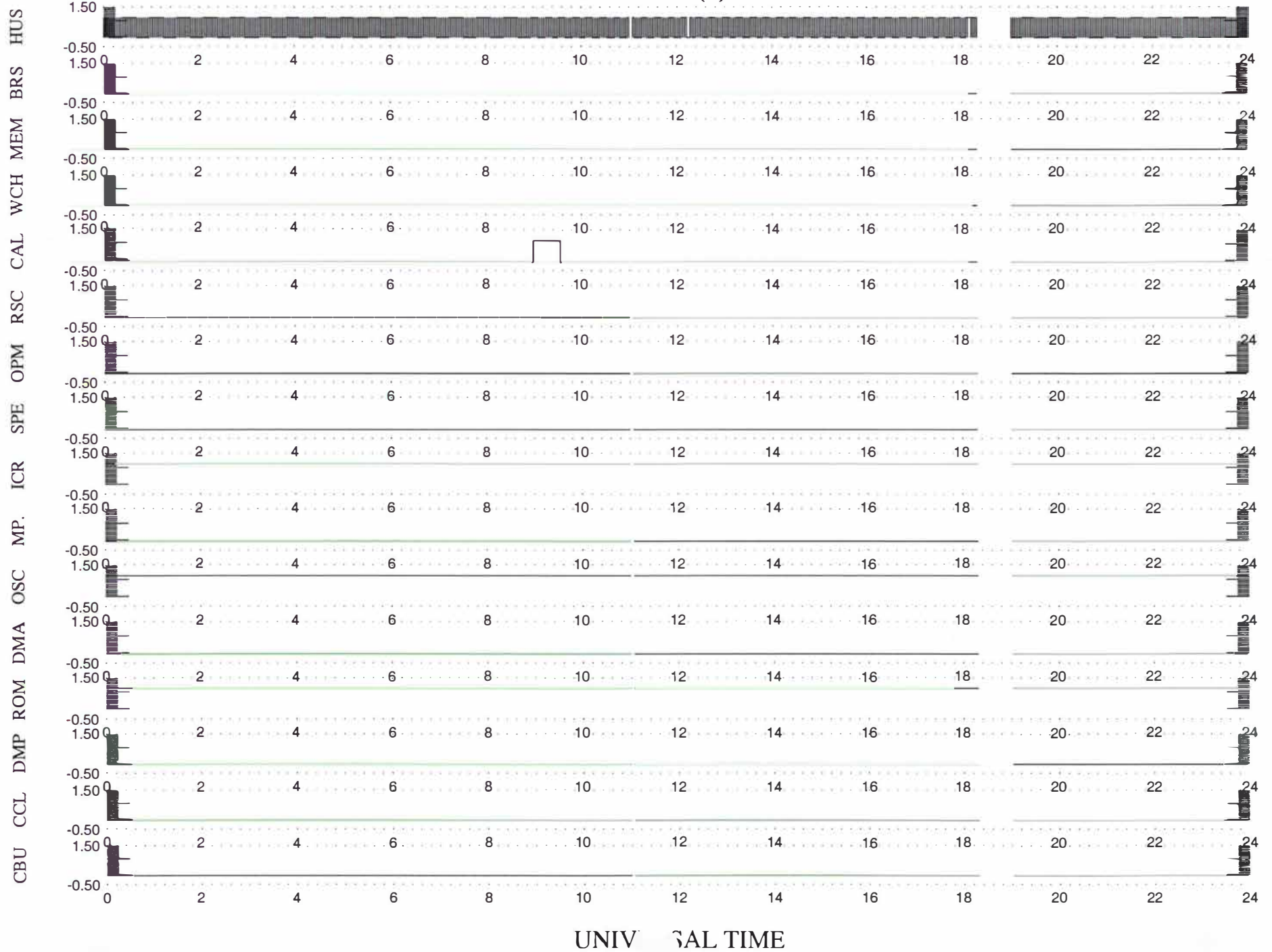
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

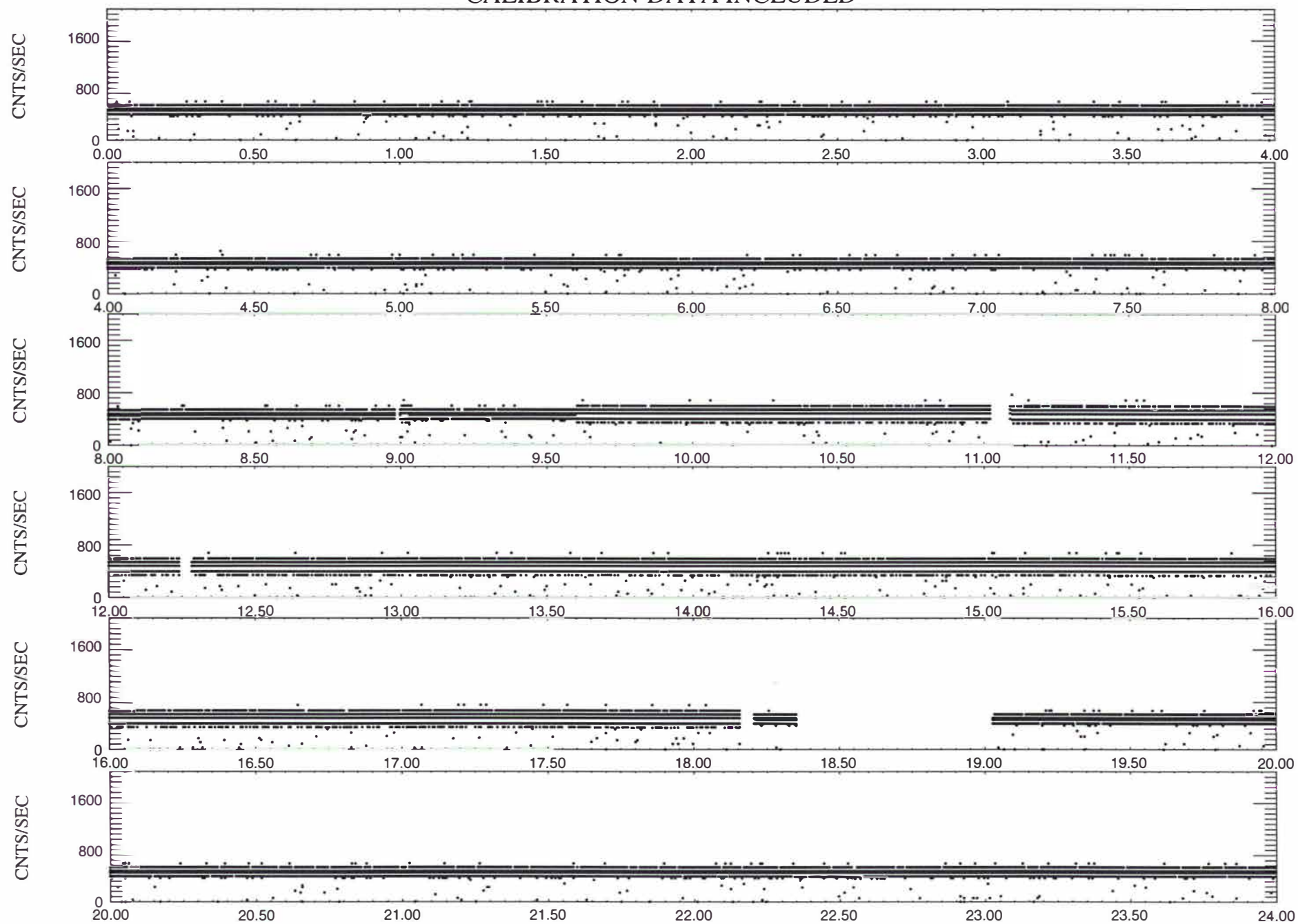
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



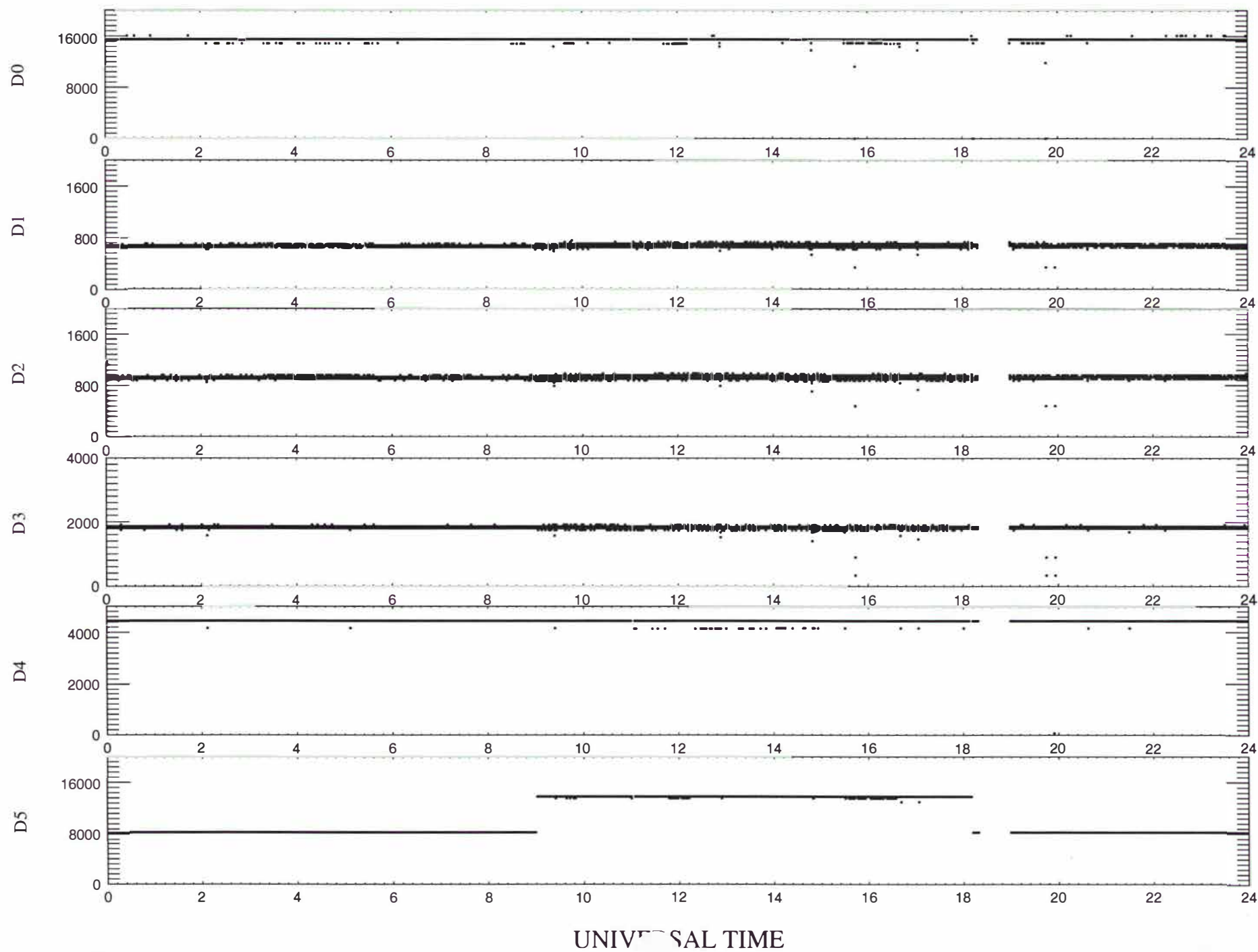
NO BURST (5)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Mon Mar 8 11:20:52 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 LAA08343; Mon, 8 Mar 1999 11:20:51 -0800
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 LAA05554
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 8 Mar 1999 11:20:47 -0800 (PST)
Date: Mon, 8 Mar 1999 13:20:45 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990308132045.2020e565@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7446
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7446
EVENT OF 1999 MAR 4 DAY OF YEAR= 63
EVENT CROSSING TIME AT BATSE : 36936. S. OR 10:15:36.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 8.000 -58.000
BATSE PEAK COUNTING RATE: 43000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 3/ 99 IS:
RA= 154.116 DEC= -9.467 DIST= 4.141 AU
BATSE-ULYSSES DISTANCE = 619519107. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.88 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 608.47 SECS.
CROSSING TIME AT ULYSSES IS 37544. S. OR 10:25:44 +/- 402.11 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 3/ 99 IS:
RA= 219.252 DEC= -13.038 DIST= 0.880 AU
MARS-BATSE DISTANCE = 131612368. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 109.76 SECS.
CROSSING TIME AT MARS IS 37046. S. OR 10:17:25 +/- 75.47 SECONDS

BATSE BURST TRIGGER

NO.: 7446

TIME: TJD=1241 SECONDS=36936

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 34.4 AZIMUTH=113.5 ERROR= 0.9 DEGREES

COMMENTS:

SINGLE SPIKE, RISE FASTER THAN DECAY, DUR. APPROX. 3 S, FOLLOWED BY
WEAKER EMISSION TO APPROX. T+20 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7446	990304	11241	36936	43000	008	-58	3

Date: 25/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

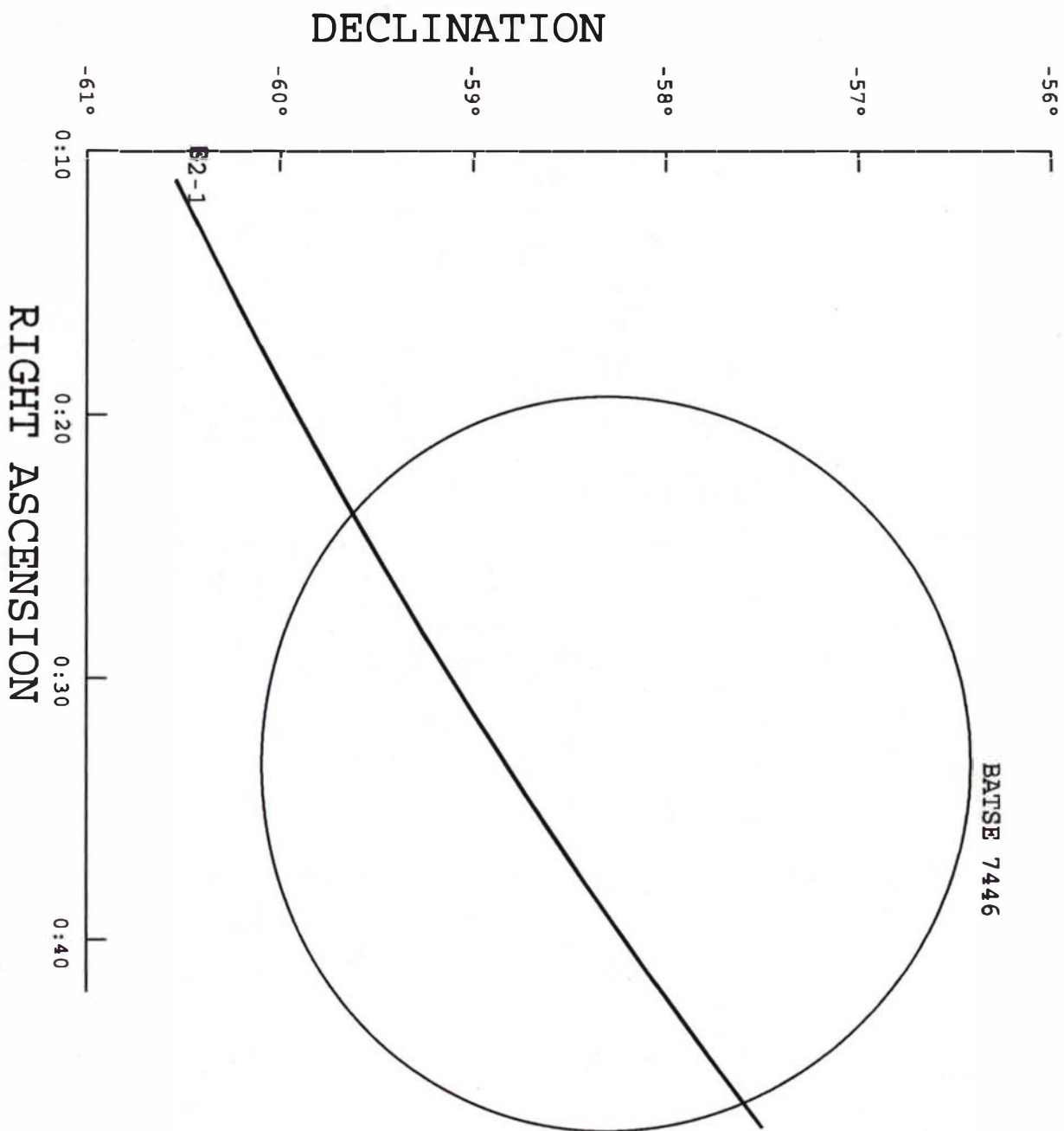
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAR 4, 1999 10:15

25 / 1 / 0



ULYSSES

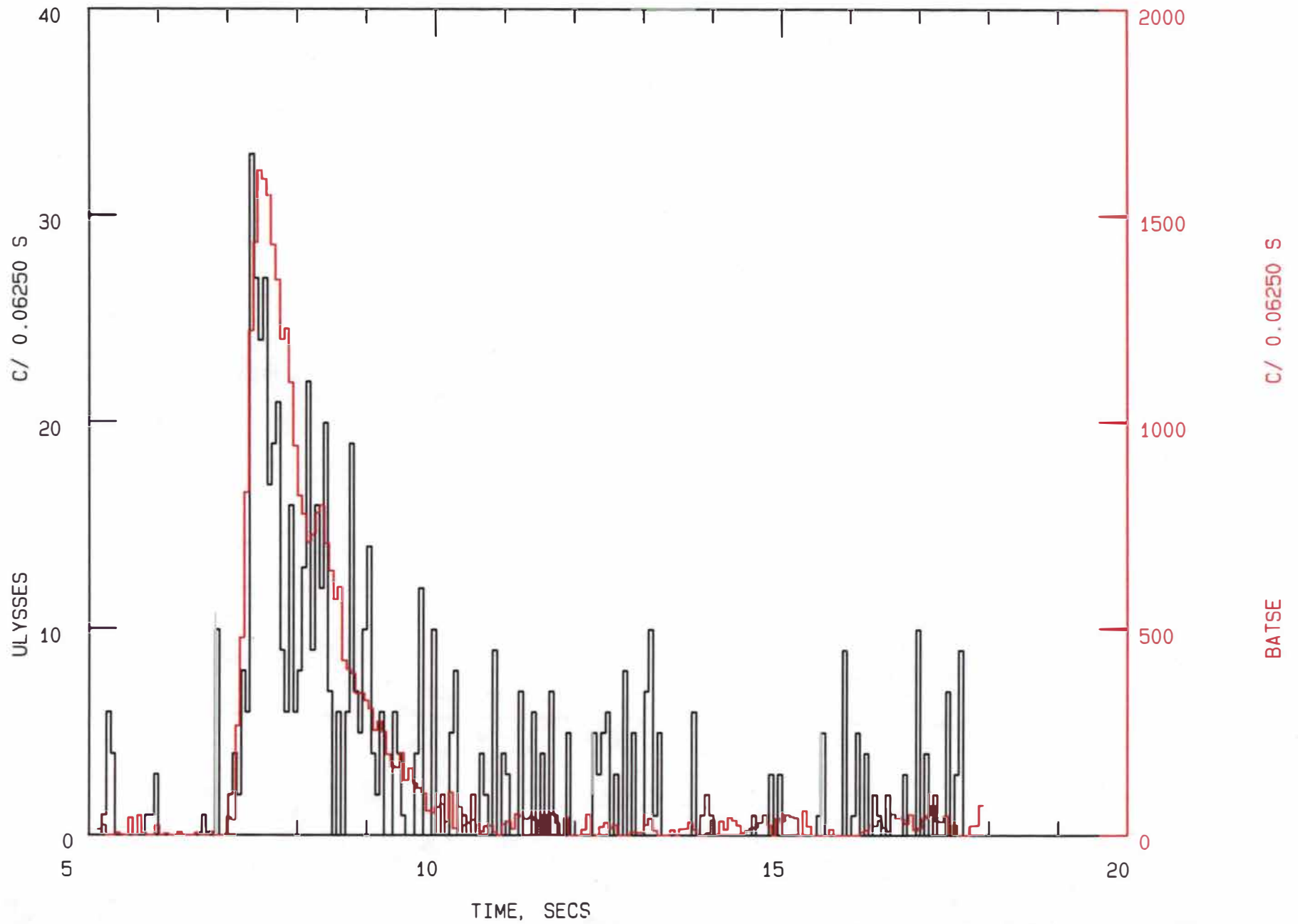
-BATSE

CORRELATION

04/03/99

37518.156

25/ 1/ 0



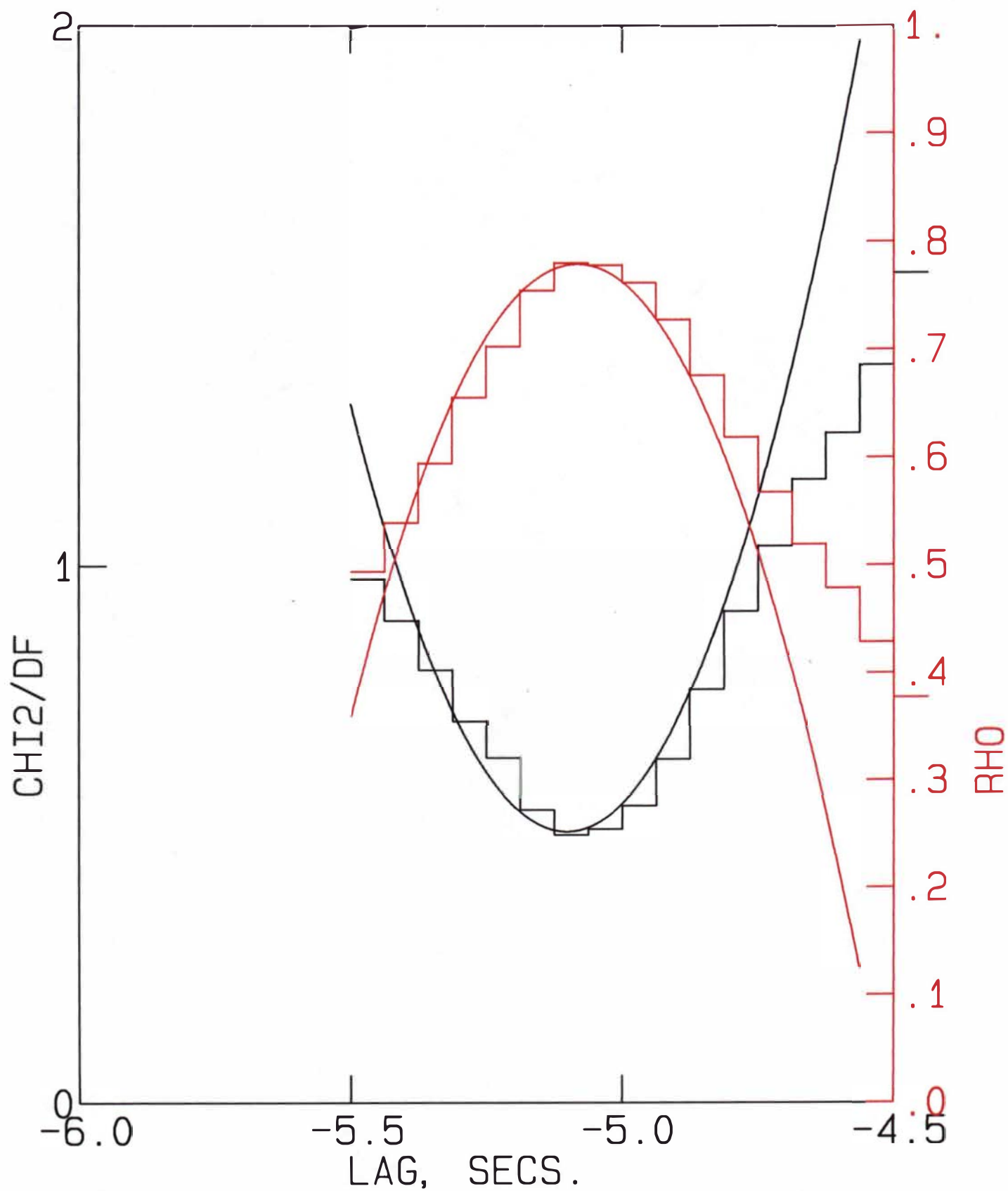
ULYSSES

-BATSE

CORRELATION

04/03/99

37518.156



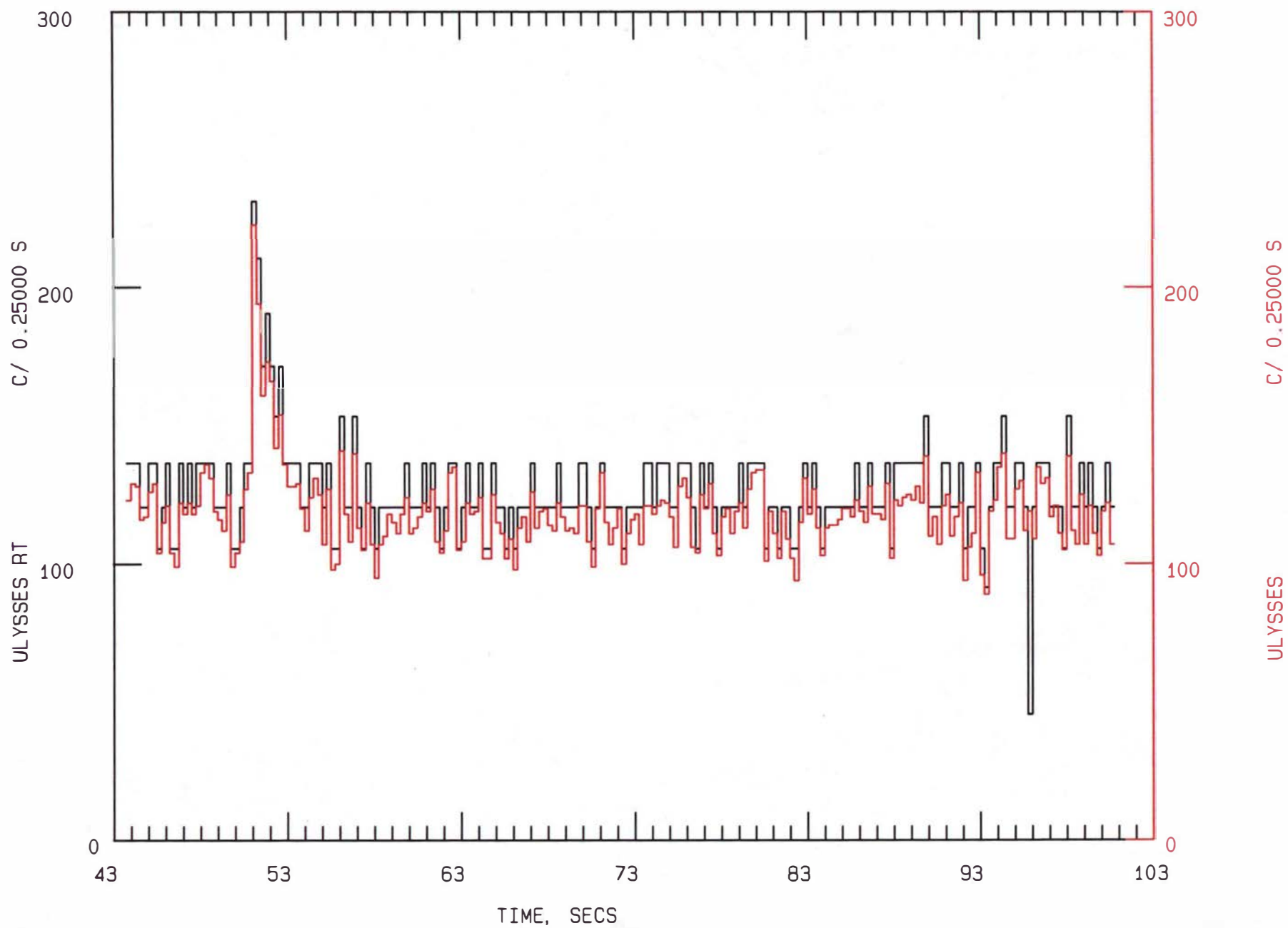
ULYSSES RT-ULYSSES

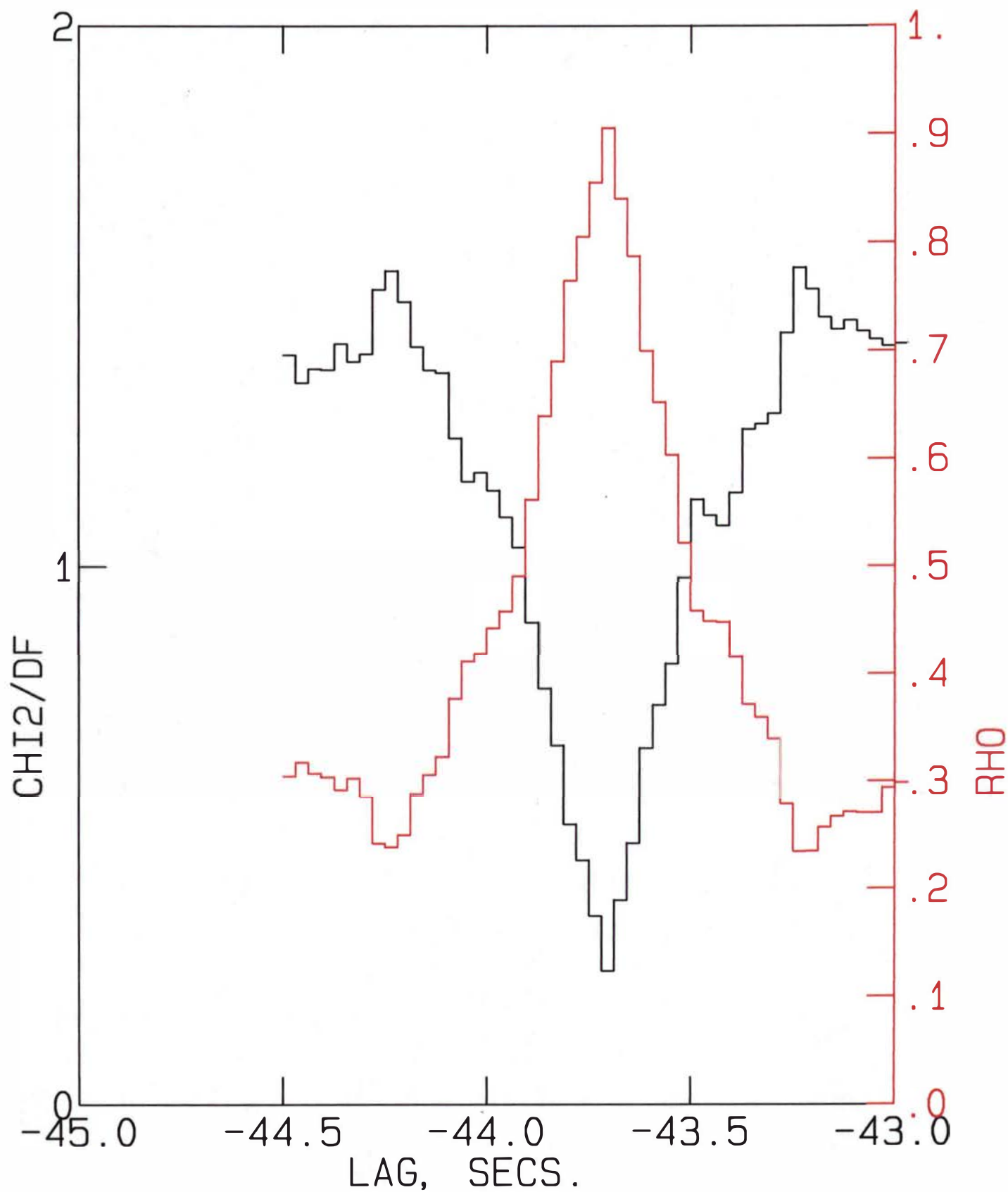
CORRELATION

4/ 3/99

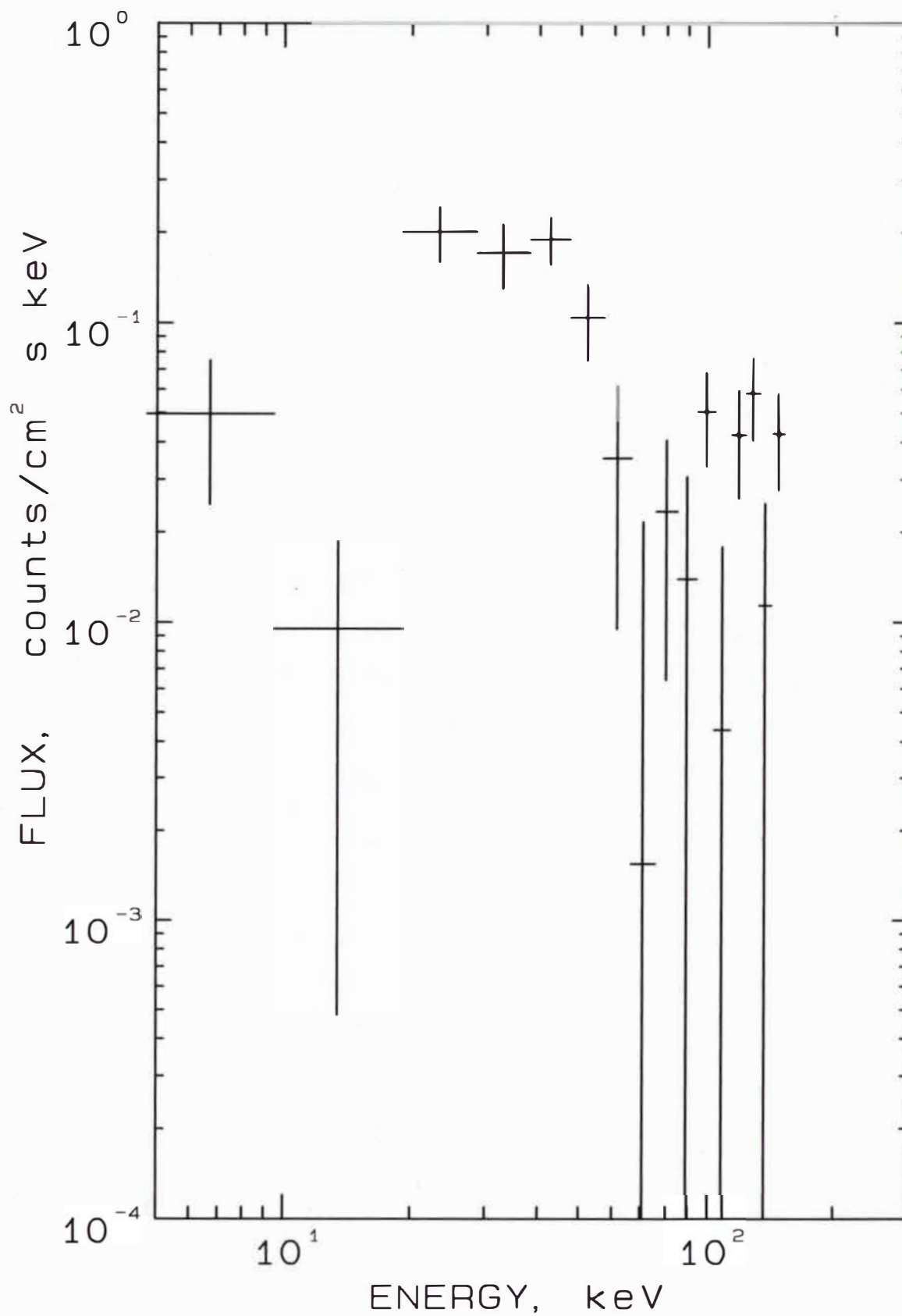
37467.042

25/ 1/ 0



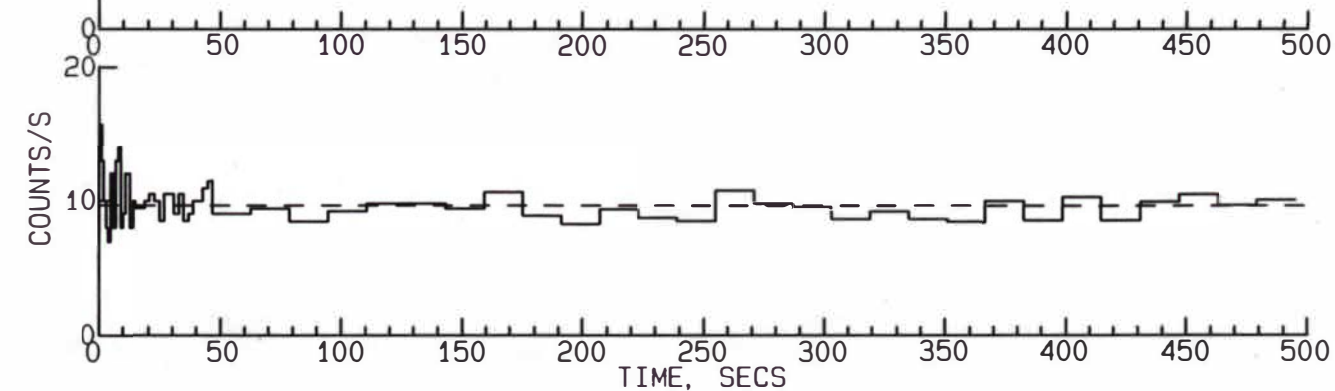


SPECTRUM INTEGRATED OVER 1.9 SECONDS, INTERVALS 2 TO 3

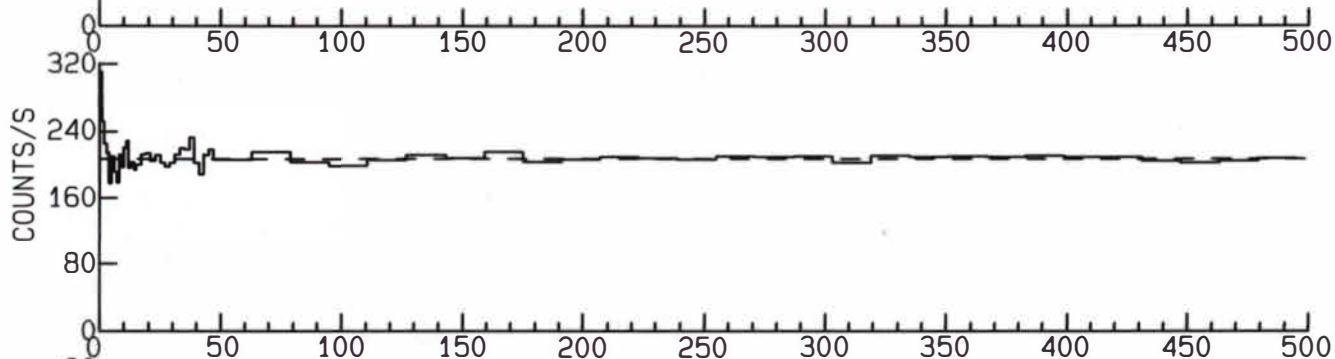


ULYSSES 04/03/99 37518.110 BURST SPECTRAL COUNT RATES

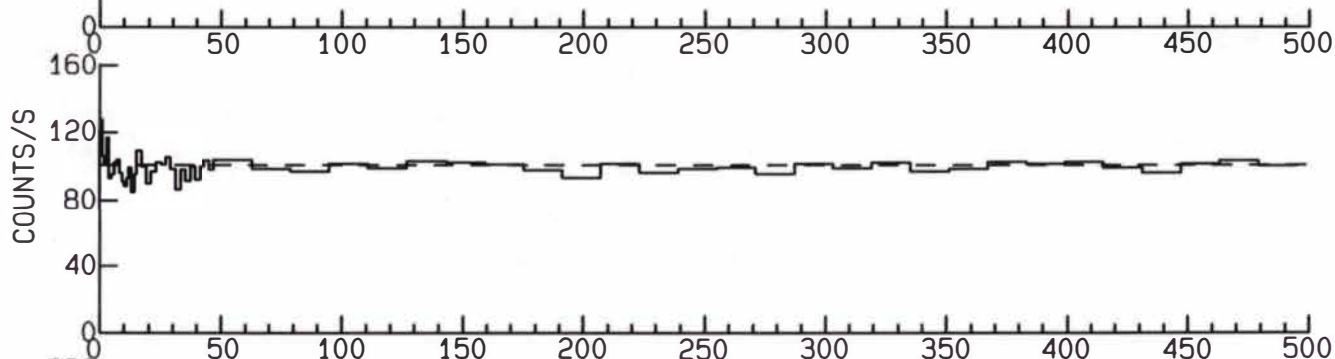
4- 18 keV



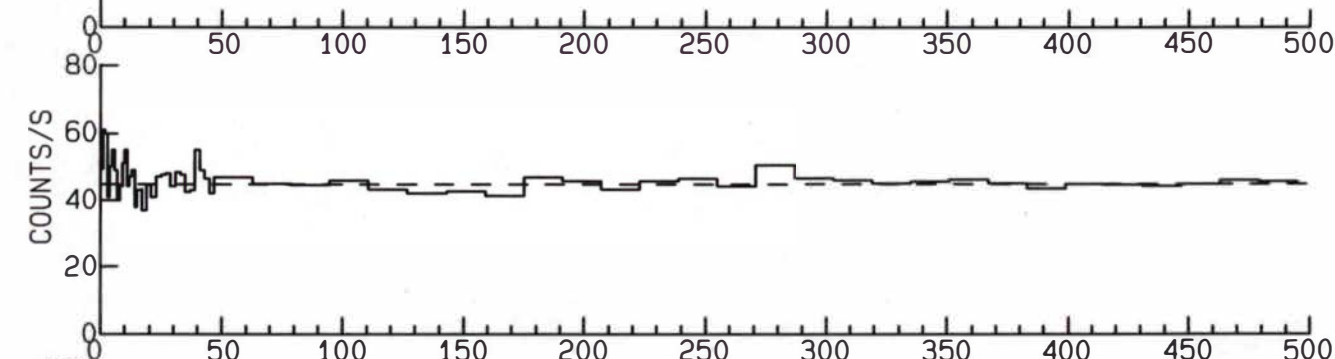
18- 47 keV



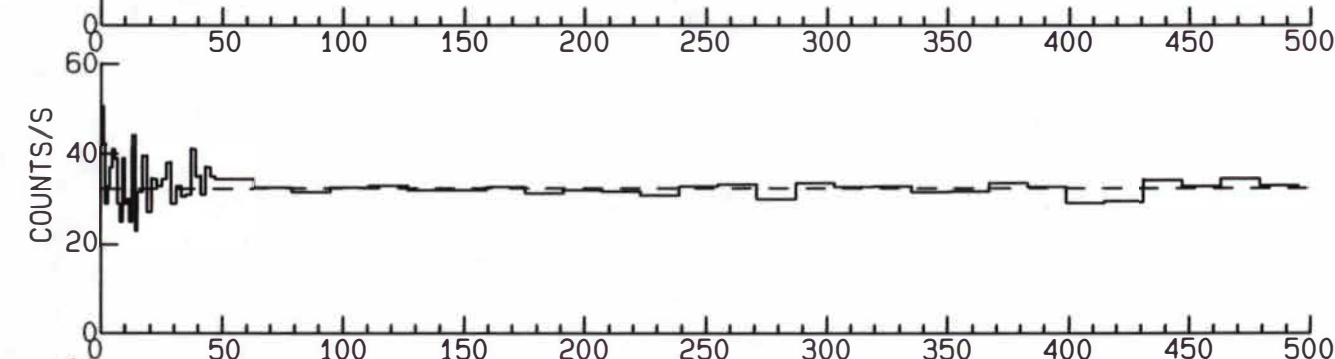
47- 75 keV



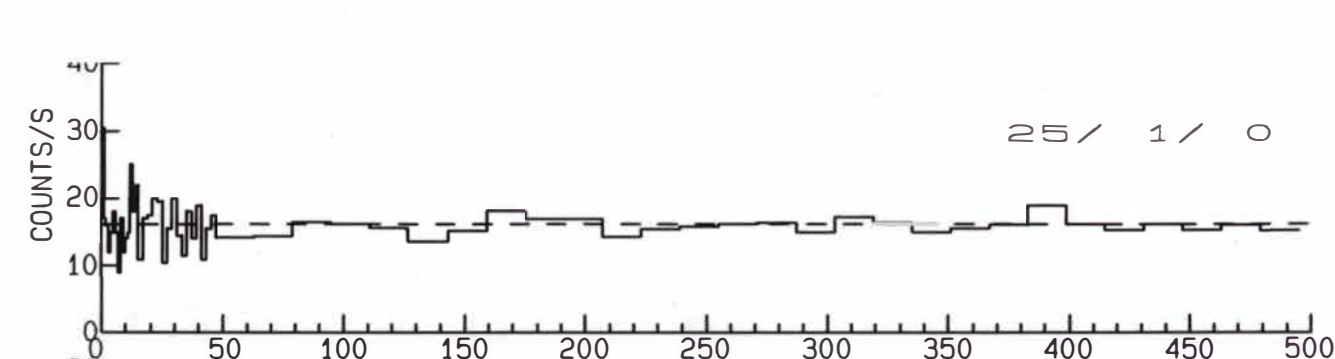
75-104 keV



104-132 keV



132-151 keV



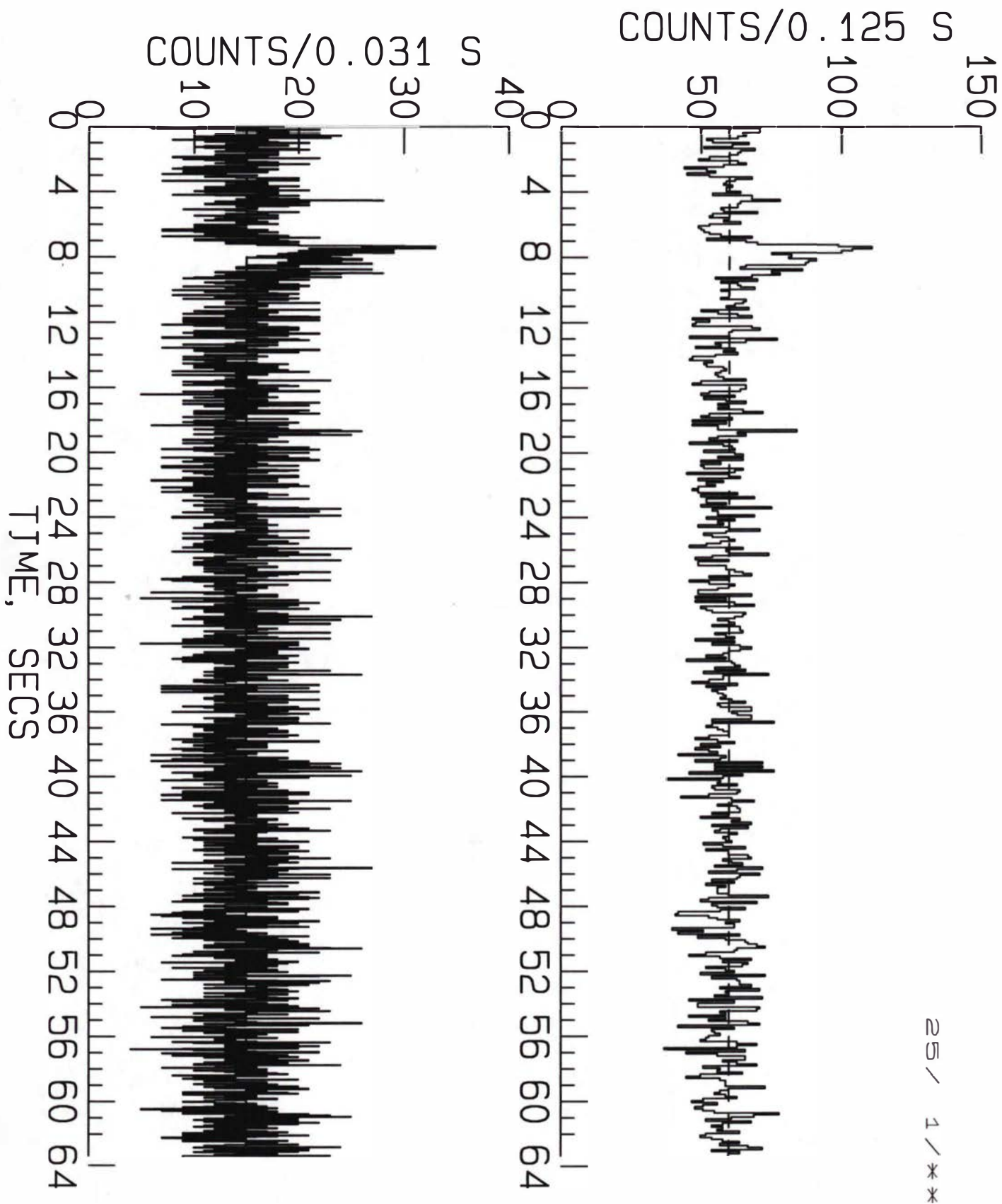
25 / 1 / 0

ULYSSES

04/03/99

Ttrig=37518.156

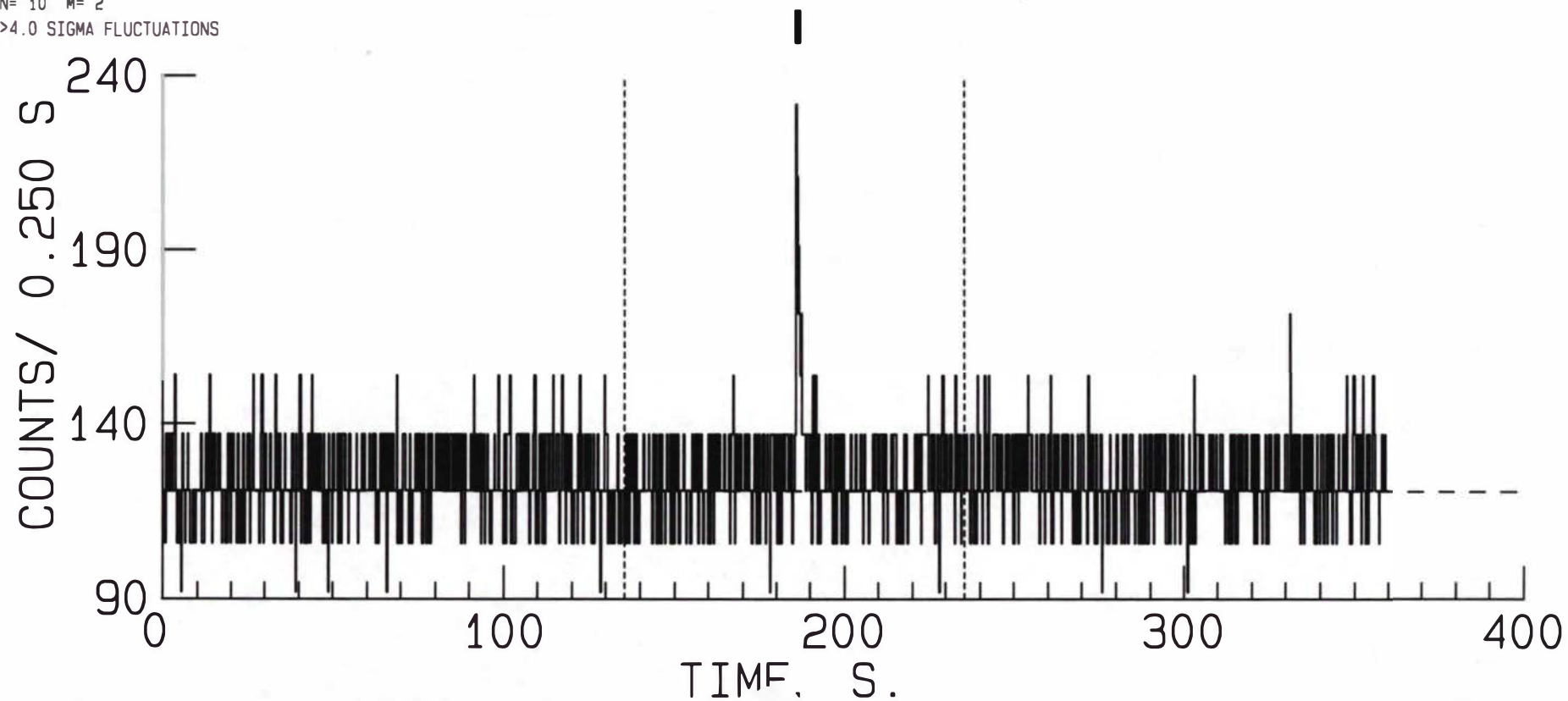
22- 152 keV



ULYSSES RT
4/ 3/99 37332.248 s
22- 152 keV

25 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



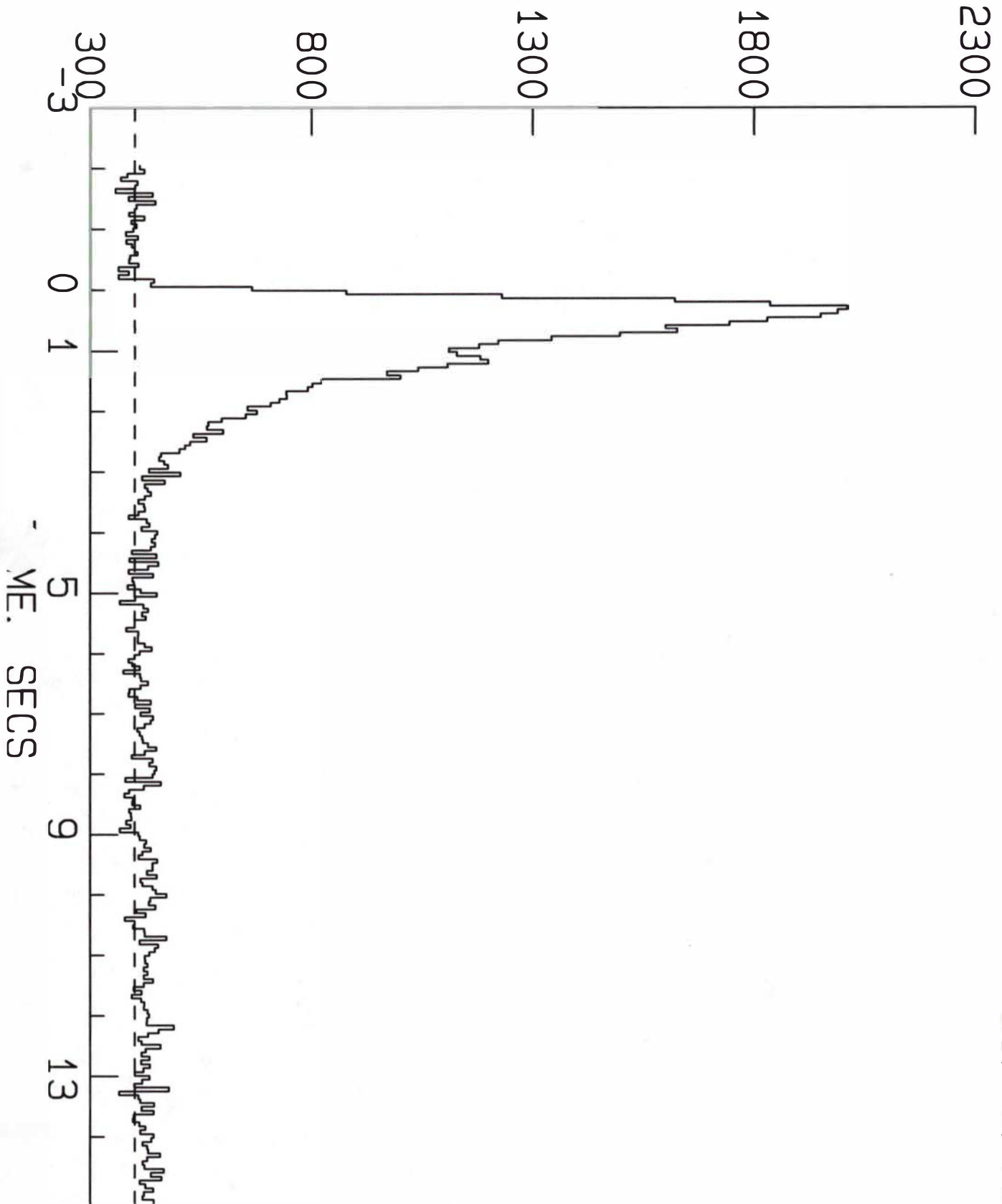
BATSE

04/03/99

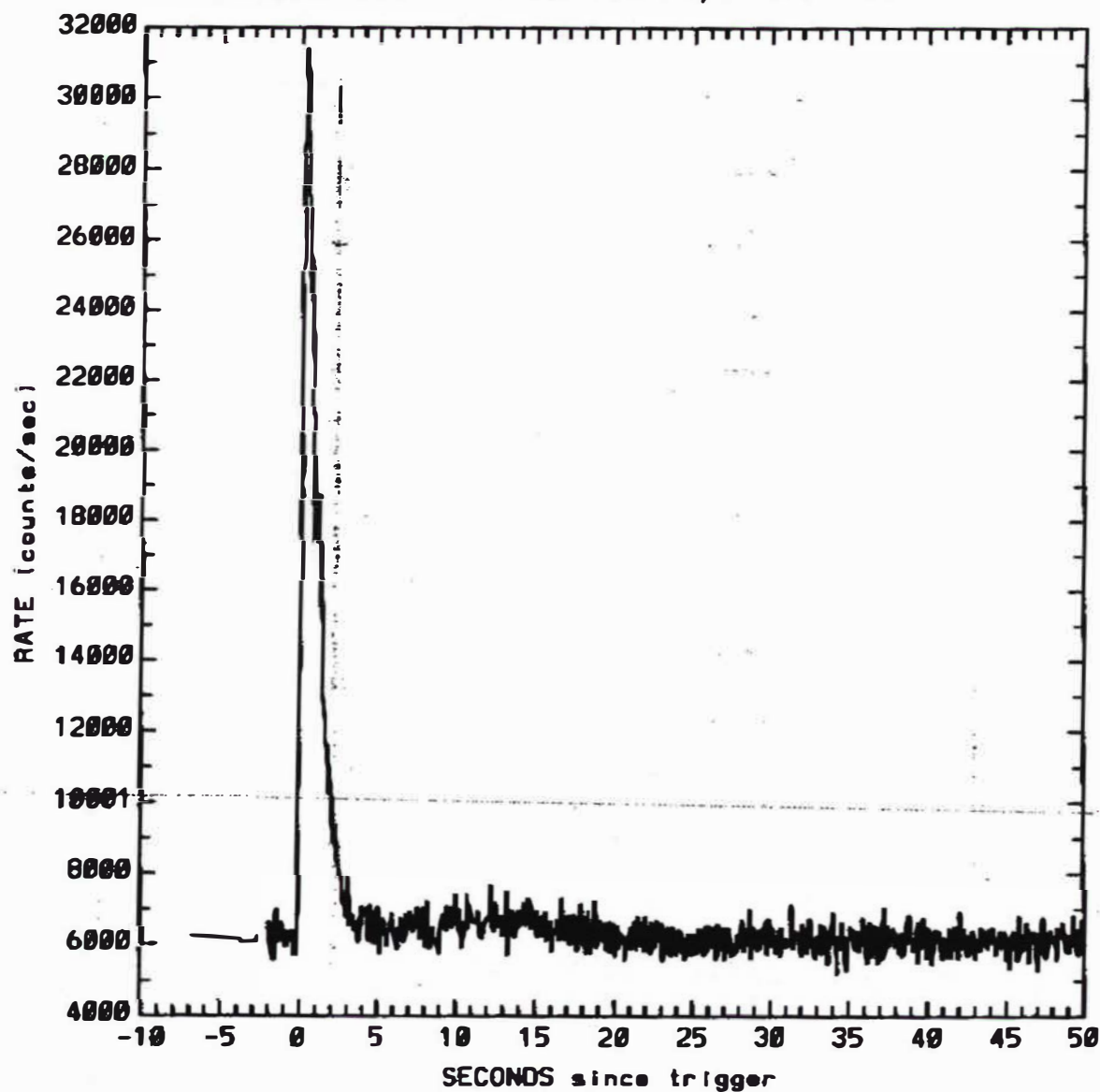
36936.121

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7446



17-MAR-1999 09:41:33

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7446

Trigger Time:
11241 / 36936.121Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors [7..8]:
---4---8Discriminators:
(1..2)Quality Mask:
BOTSP1

Date: Dec 19 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

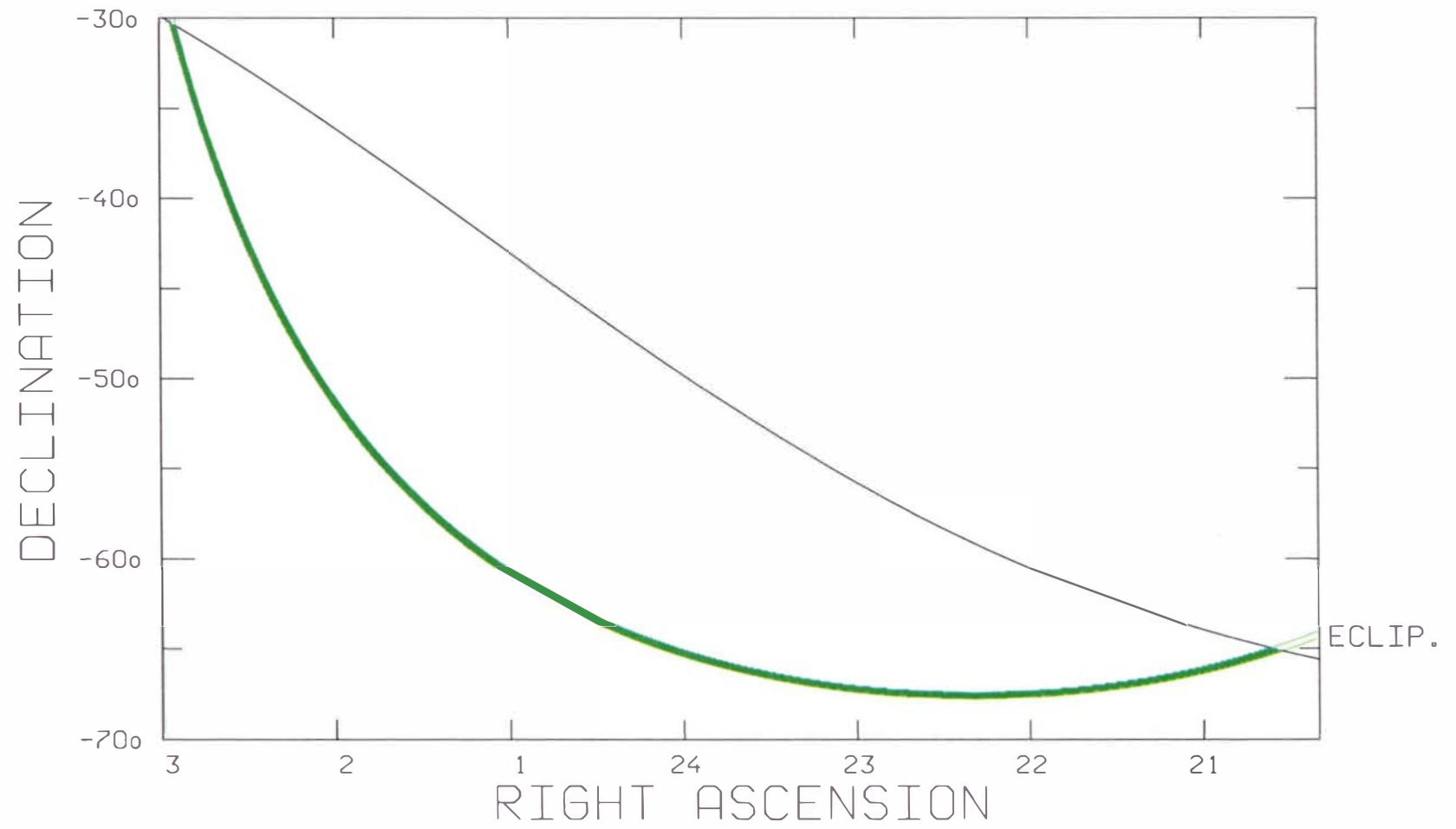
2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

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



KONUS

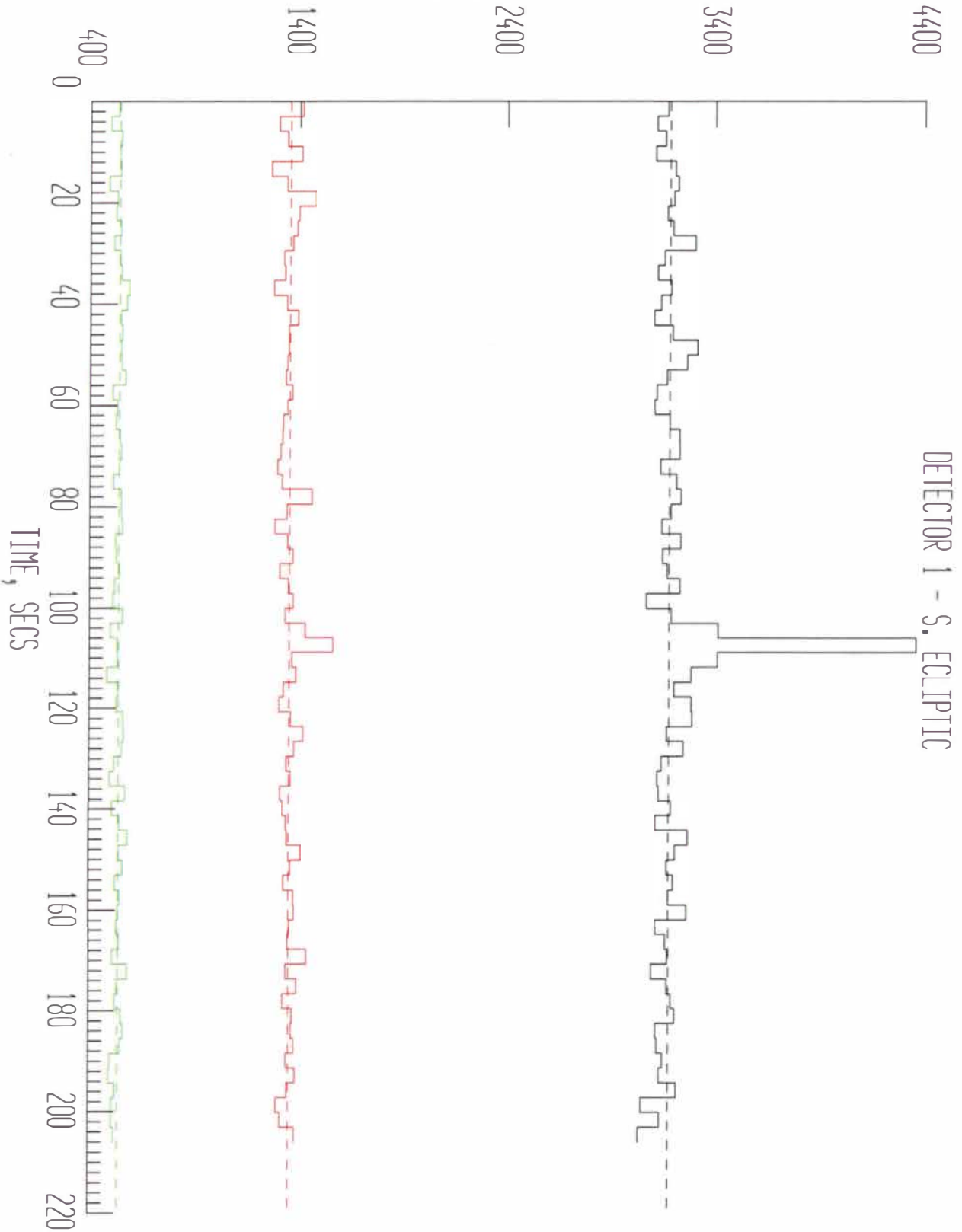
04/03/99 77176.586

10- 50 keV

50- 200 keV

200- 750 keV

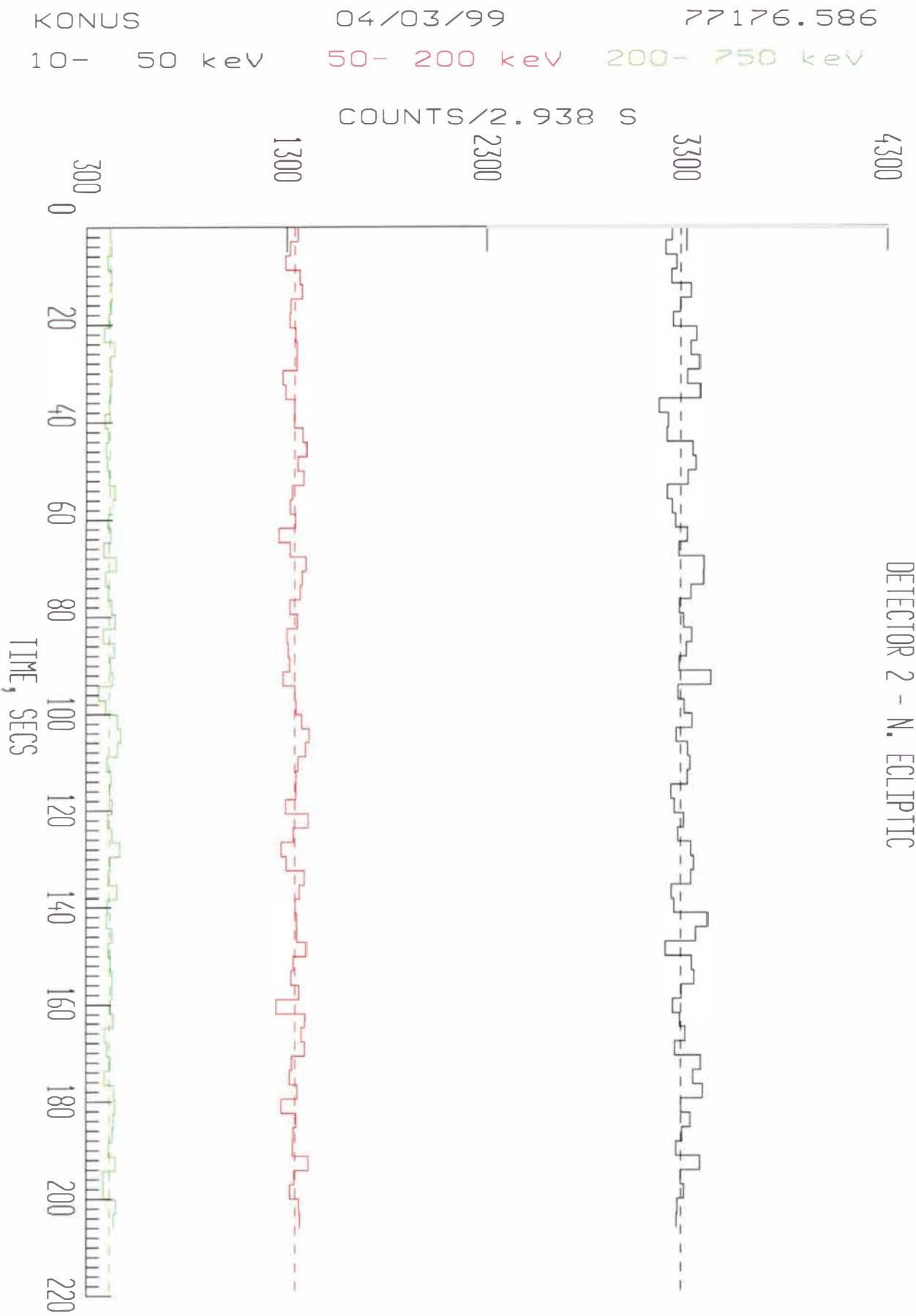
COUNTS/2.938 S



19/12/2012

19/12/2012

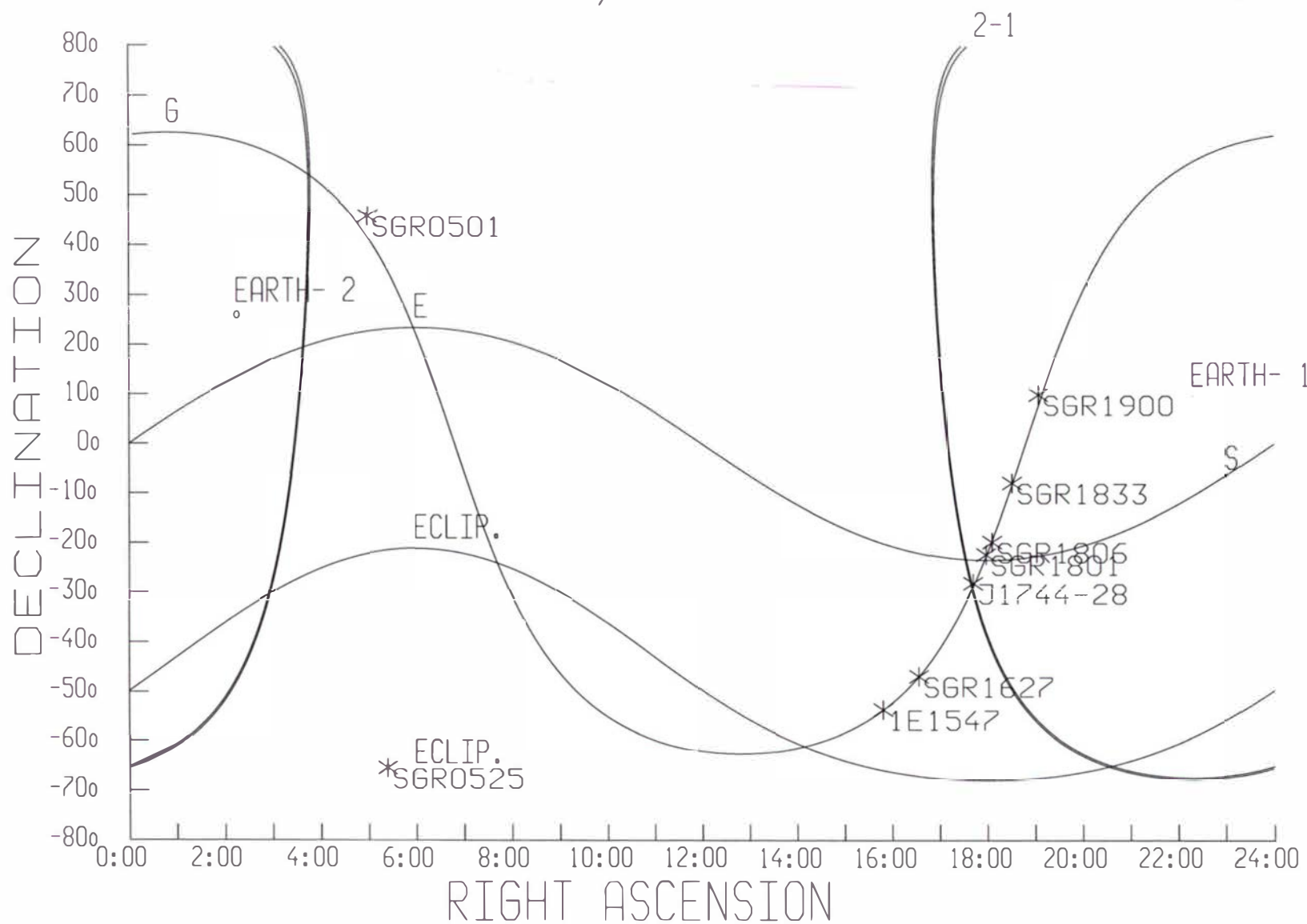
DETECTOR 2 - N. ECLIPIC



EVENT OF MAR 4, 1999 21:35

19/12/2012

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



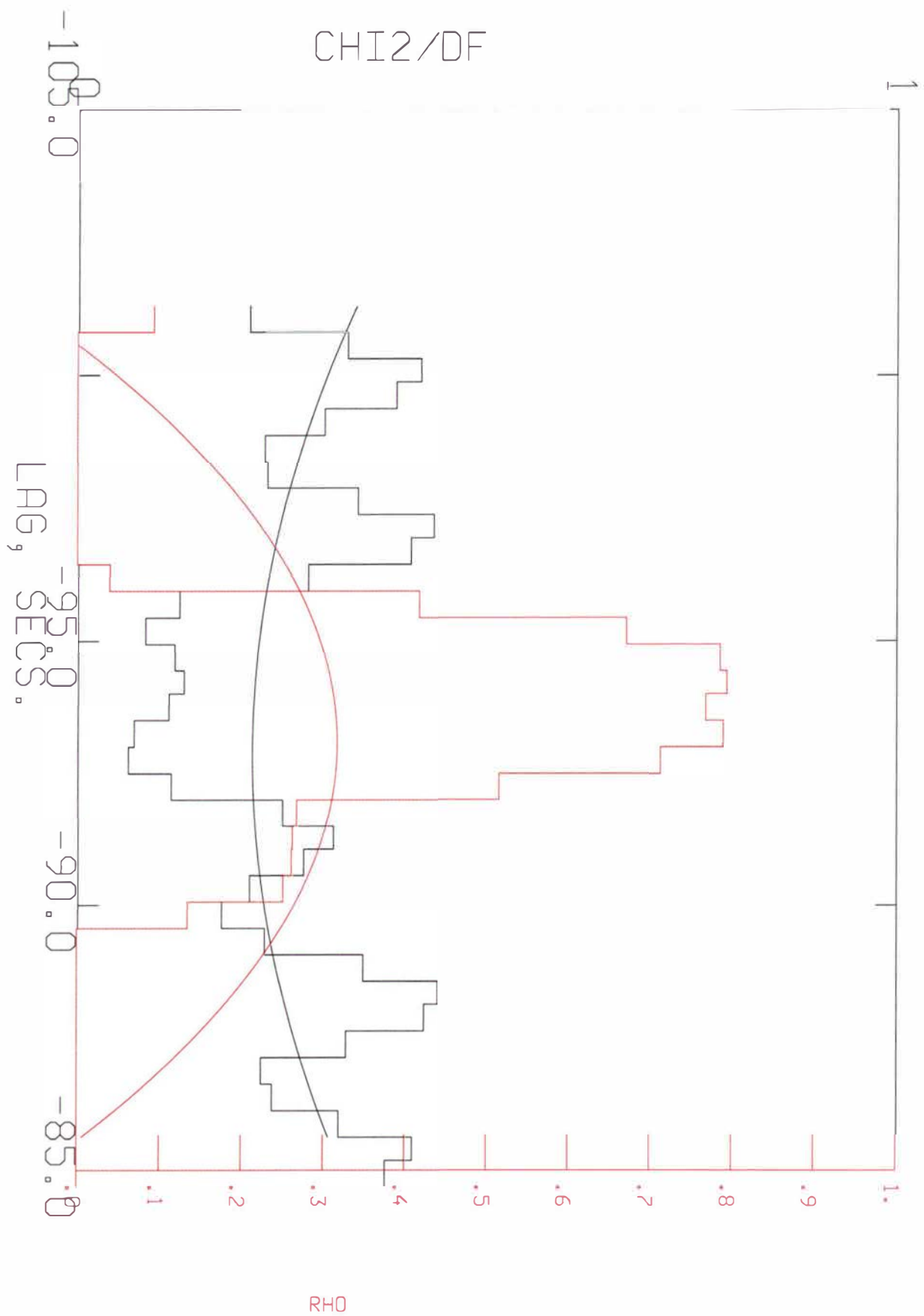
KONUS

-ULYSSES RT CORRELATION

04/03/99

77176.586

19/12/12

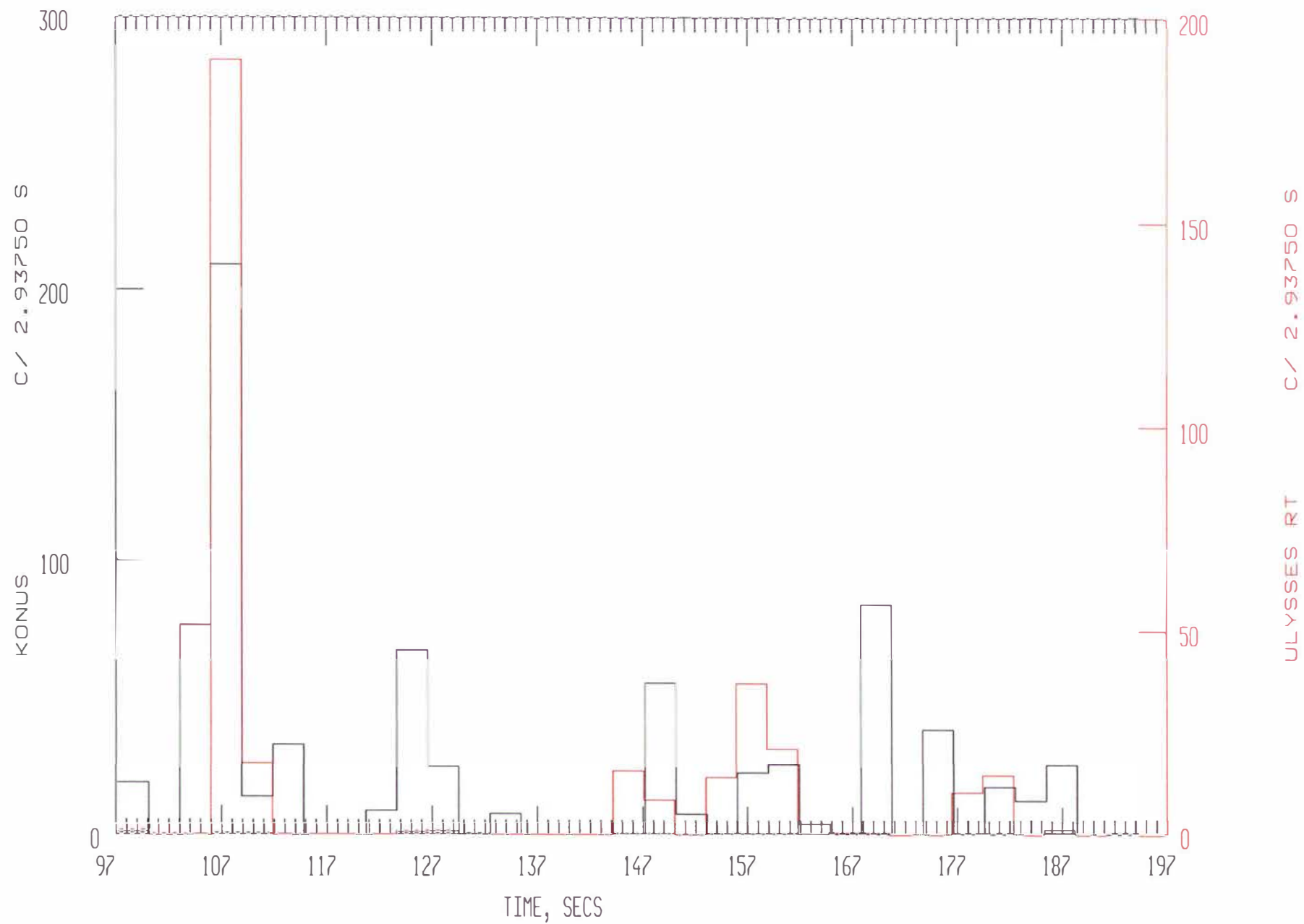


KONUS

-ULYSSES RT CORRELATION

04/03/99 77176.586

19/12/12



JANA TAB1 19990304 78115

ULYSSES RT

05/08/05

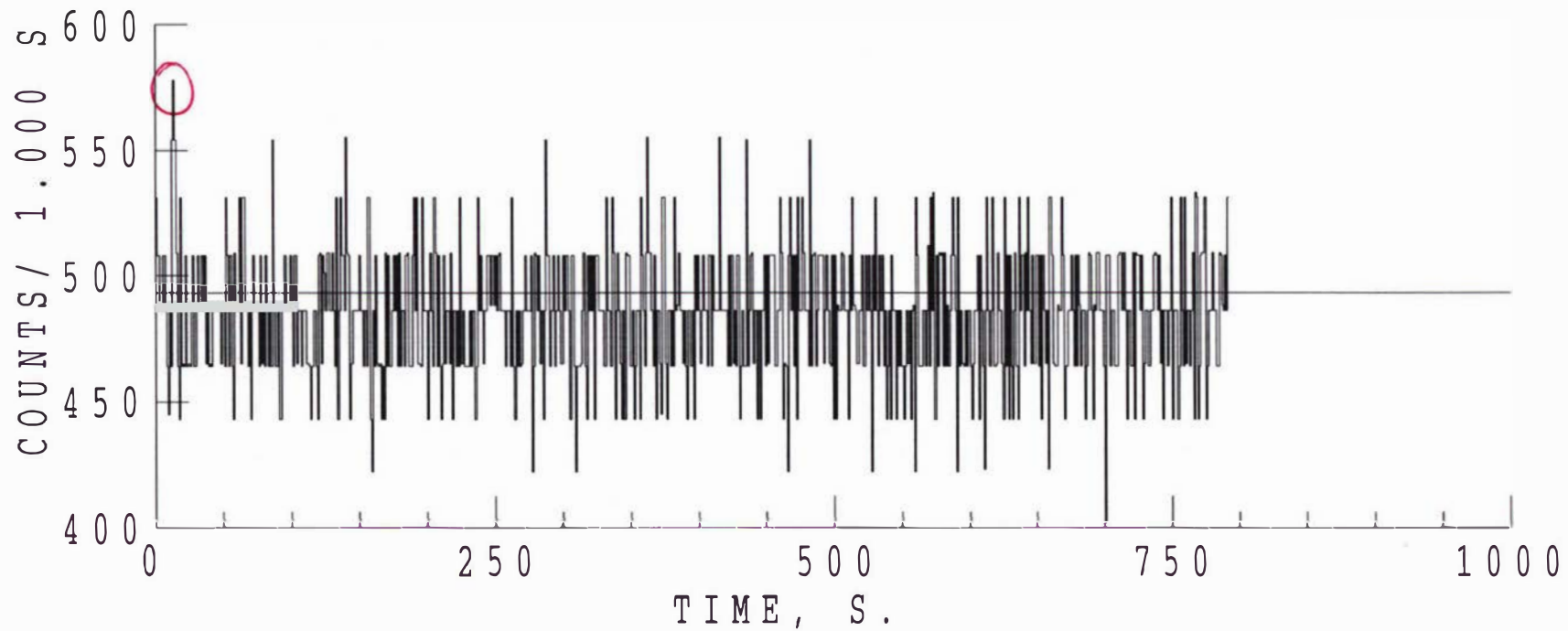
04/03/99 77724.445 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS RI

ULYSSES RT

28 / 7 / 99

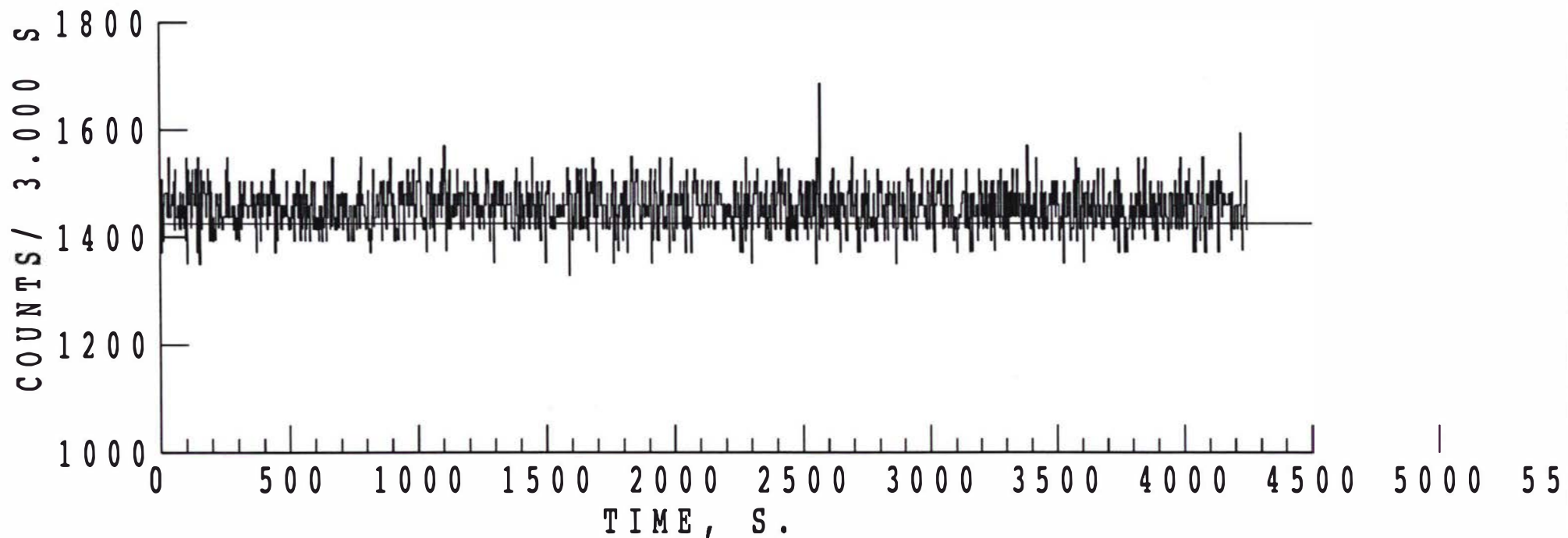
4 / 3 / 99 75168.422 s

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



From HENZE@fender.msfc.nasa.gov Mon Mar 8 11:22:59 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 LAA08628; Mon, 8 Mar 1999 11:22:54 -0800
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 LAA05607
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 8 Mar 1999 11:22:50 -0800 (PST)
Date: Mon, 8 Mar 1999 13:22:48 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990308132248.2020e565@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7447
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7447
EVENT OF 1999 MAR 4 DAY OF YEAR= 63
EVENT CROSSING TIME AT BATSE : 80913. S. OR 22:28:33.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 220.000 -27.000
BATSE PEAK COUNTING RATE: 26500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 3/ 99 IS:
RA= 153.995 DEC= -9.454 DIST= 4.141 AU
BATSE-ULYSSES DISTANCE = 619460541. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=115.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -892.60 SECS.
CROSSING TIME AT ULYSSES IS 80020. S. OR 22:13:40 +/- 359.99 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 3/ 99 IS:
RA= 219.252 DEC= -13.038 DIST= 0.880 AU
MARS-BATSE DISTANCE = 131612368. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=166.02 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -426.01 SECS.
CROSSING TIME AT MARS IS 80487. S. OR 22:21:26 +/- 11.94 SECONDS

BATSE BURST TRIGGER

NO.: 7447

TIME: TJD=1241 SECONDS=80913

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=110.4 AZIMUTH= 54.6 ERROR= 2.7 DEGREES

COMMENTS:

SINGLE SPIKE WITH SHORT TAIL, TOTAL DUR. APPROX. 0.09 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7447	990304	11241	80913	26500	220	-27	.09

BATSE BURST# 7447

ULYSSES RT

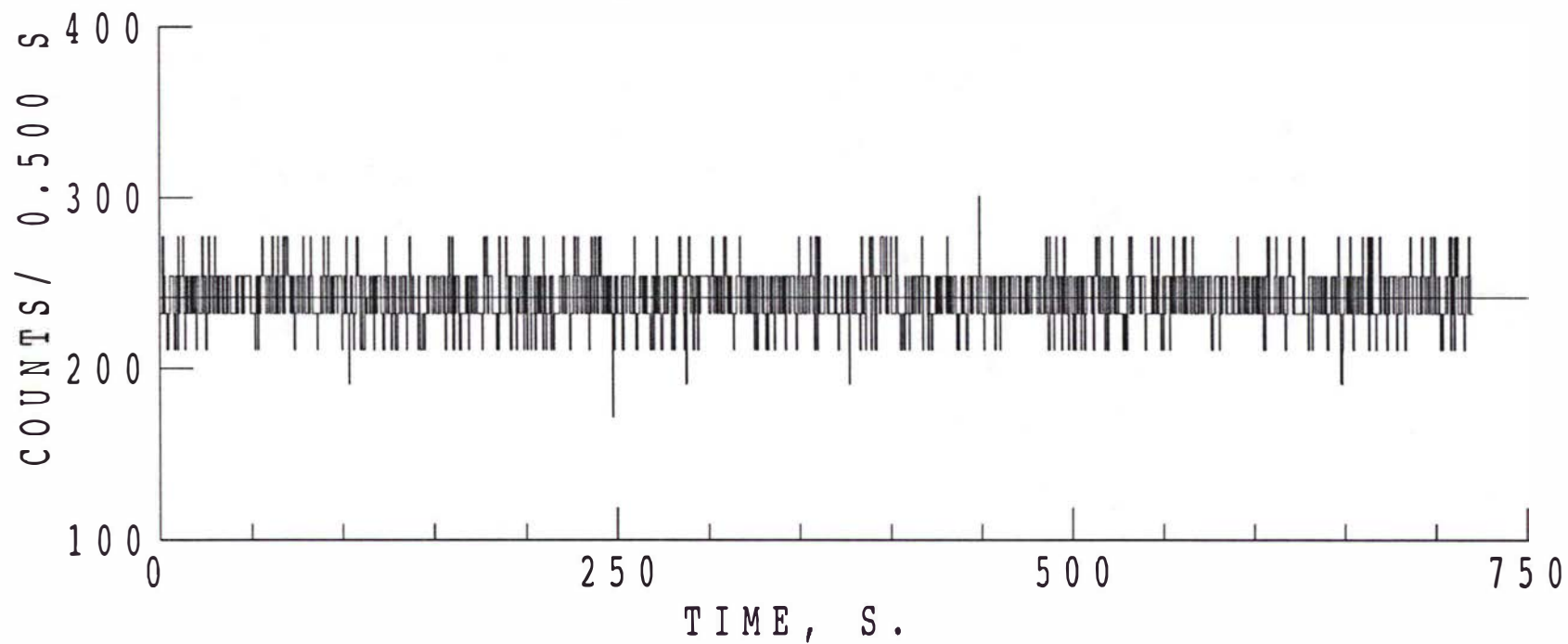
8 / 3 / 99

4 / 3 / 99 79668.461 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

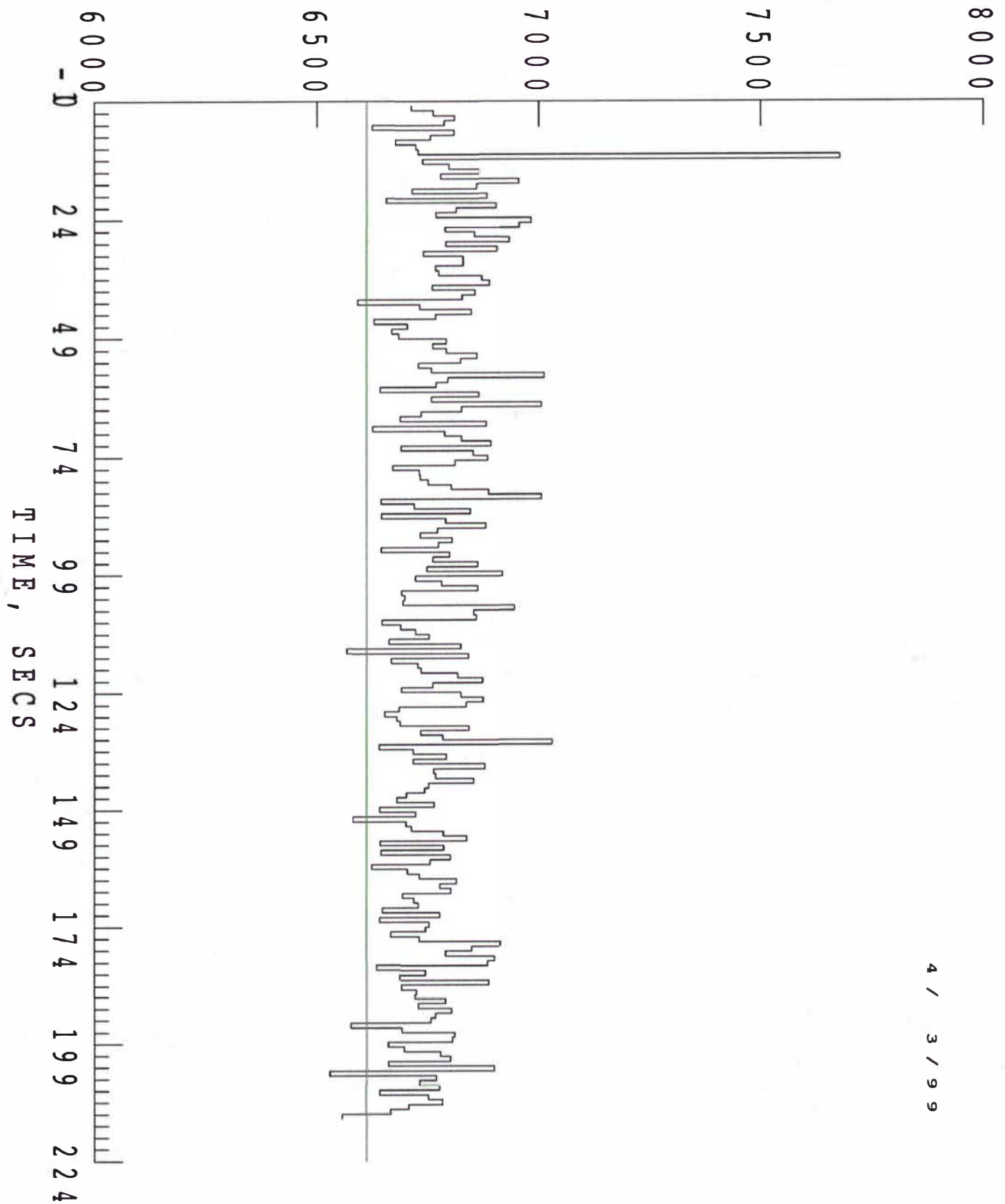
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



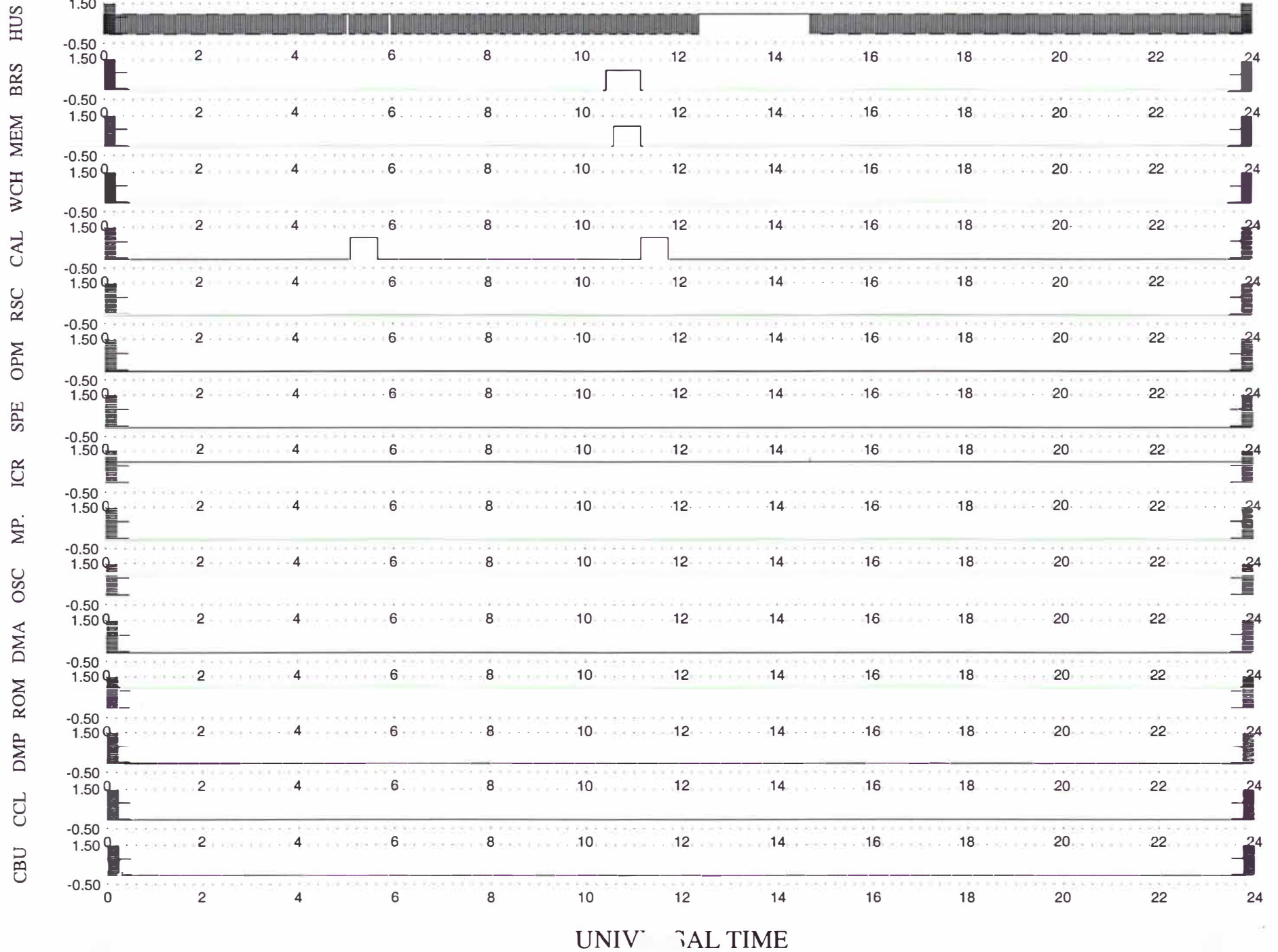
BACODINE 7447 04/03/99 80902.905

25 - 100 keV

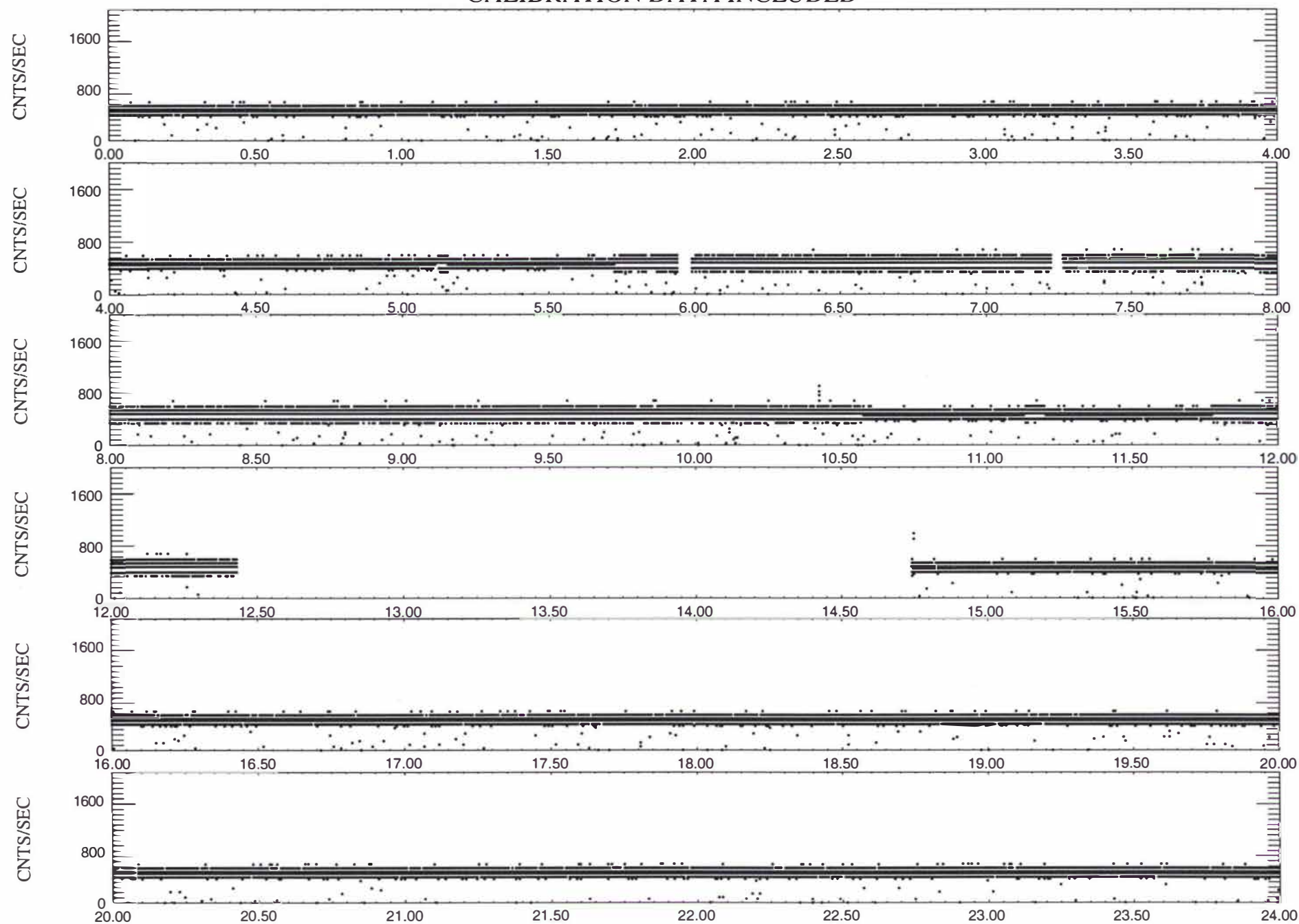
COUNTS/1.024 S



BURST NUMBER 6

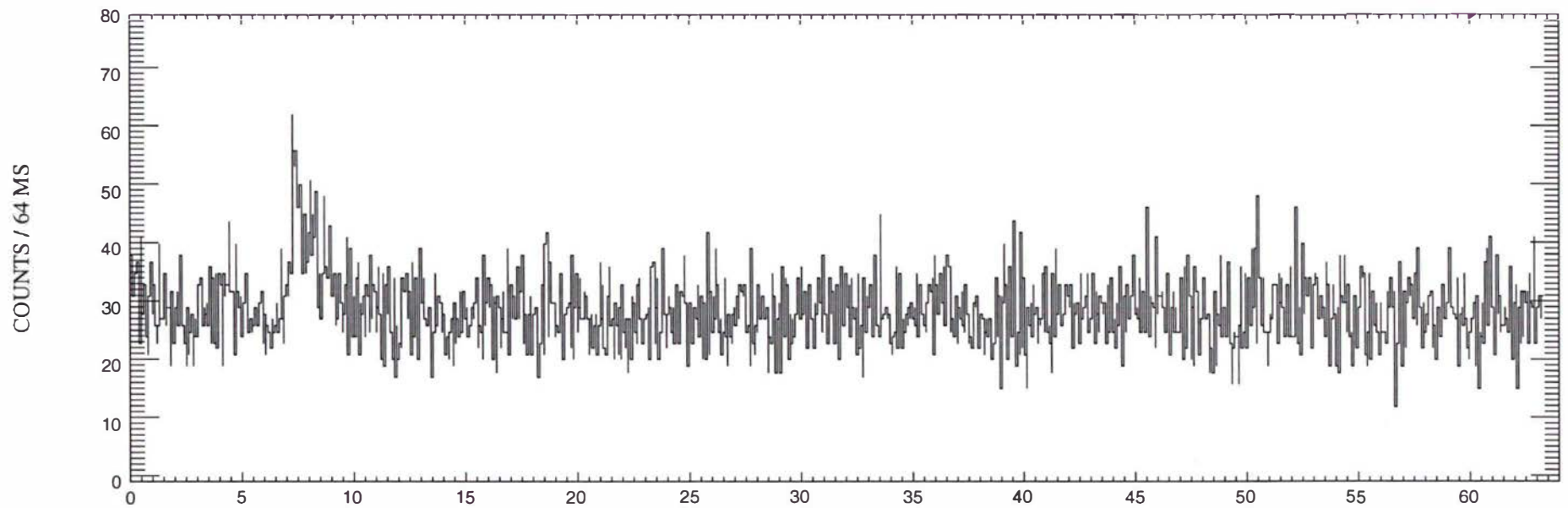


CALIBRATION DATA INCLUDED

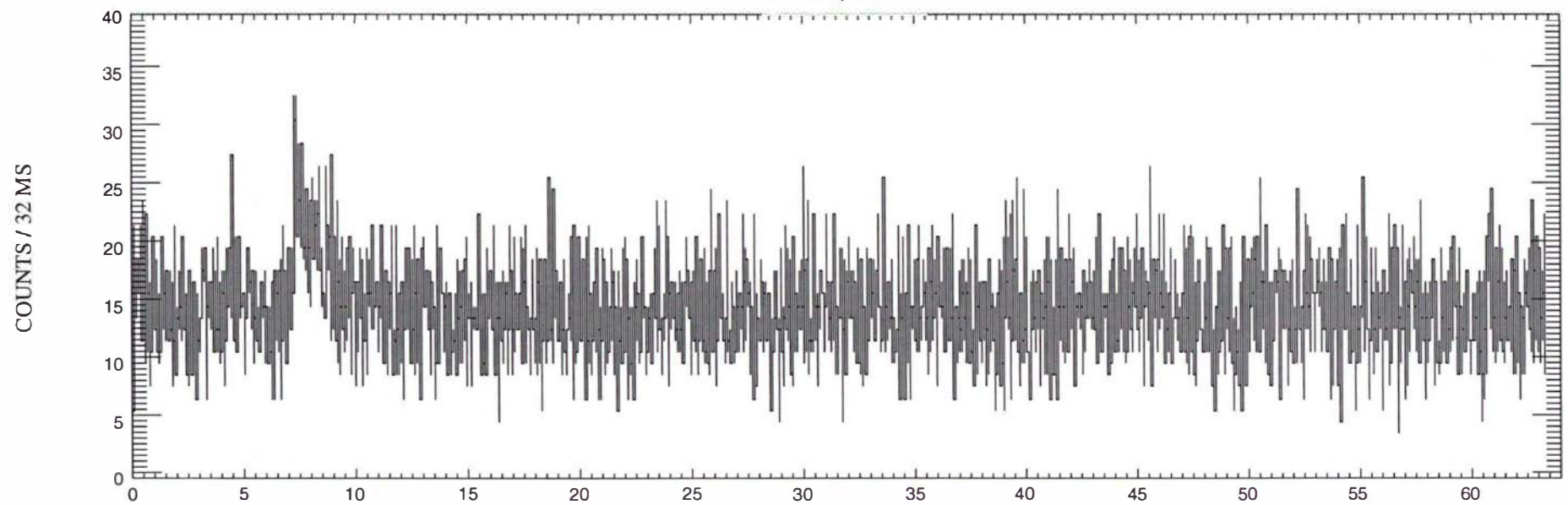


UNIVERSAL TIME

Burst Counter 6 at UT=10.421697290209 h=37518.110 s 10:25:18.110

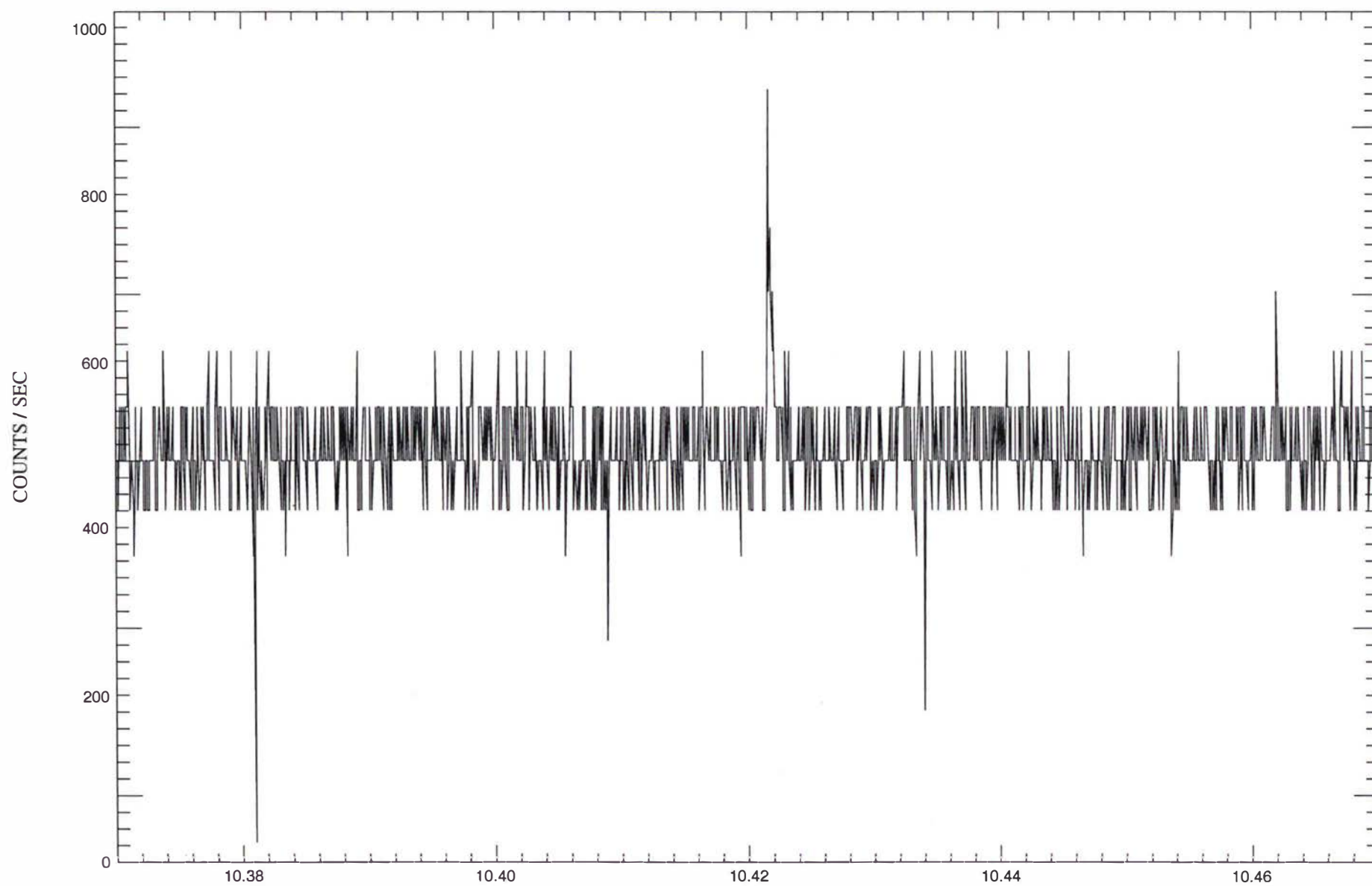


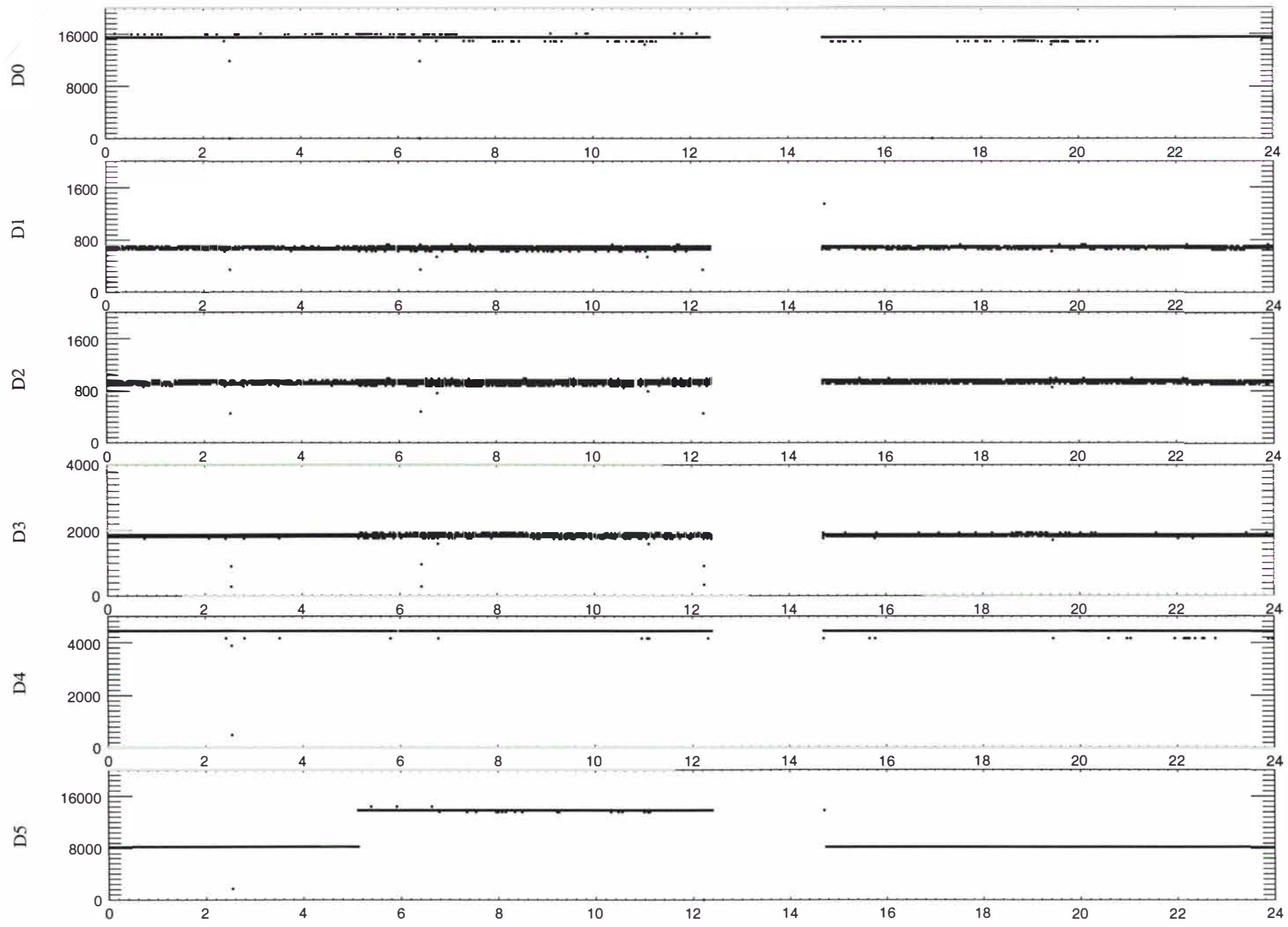
TIME, SECS



TIME, SECS

CALIBRATION DATA INCLUDED





UNIVERSAL TIME

KONUS

05/03/99

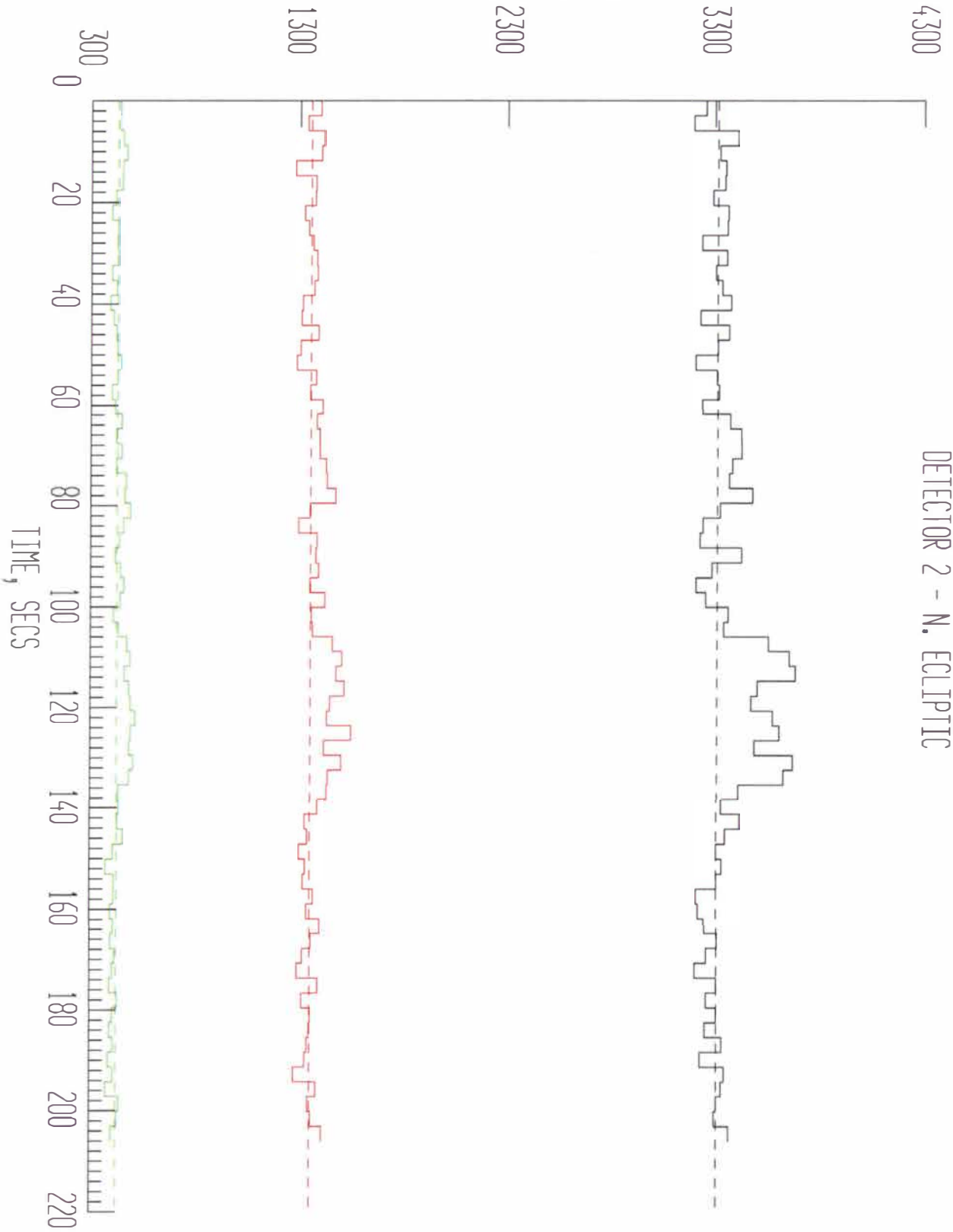
12556.287

10- 50 keV

50- 200 keV

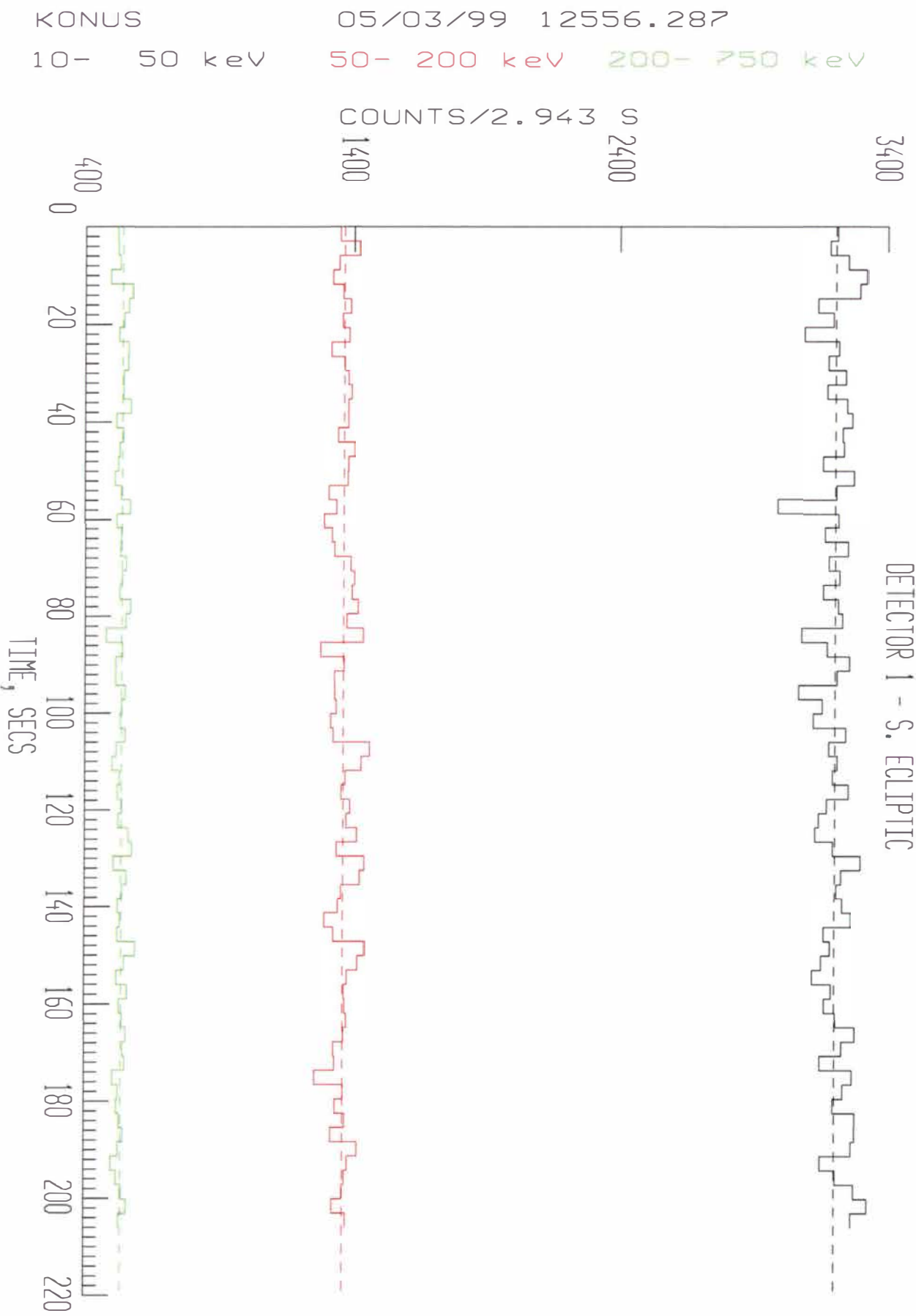
200- 750 keV

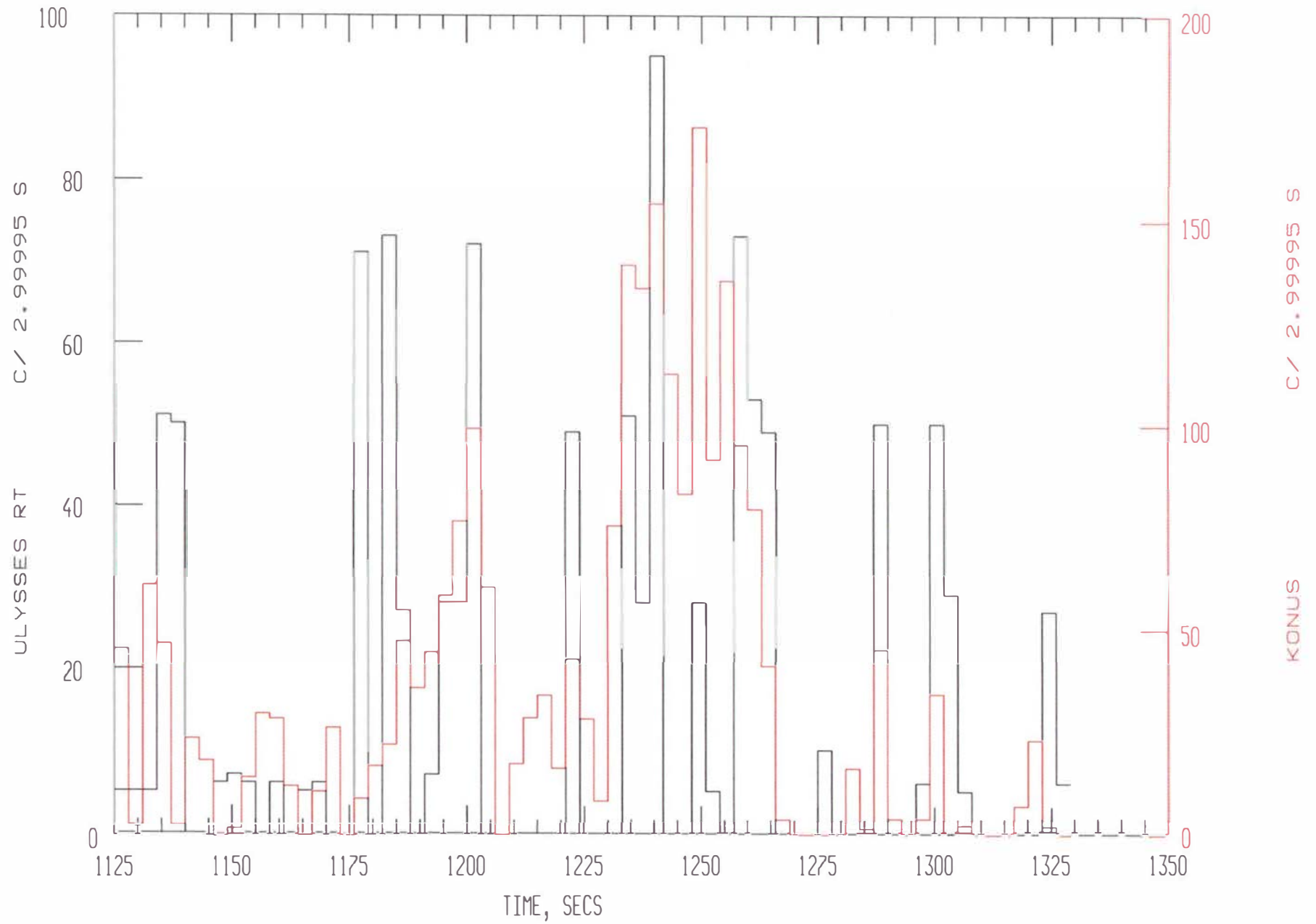
COUNTS/2.943 S

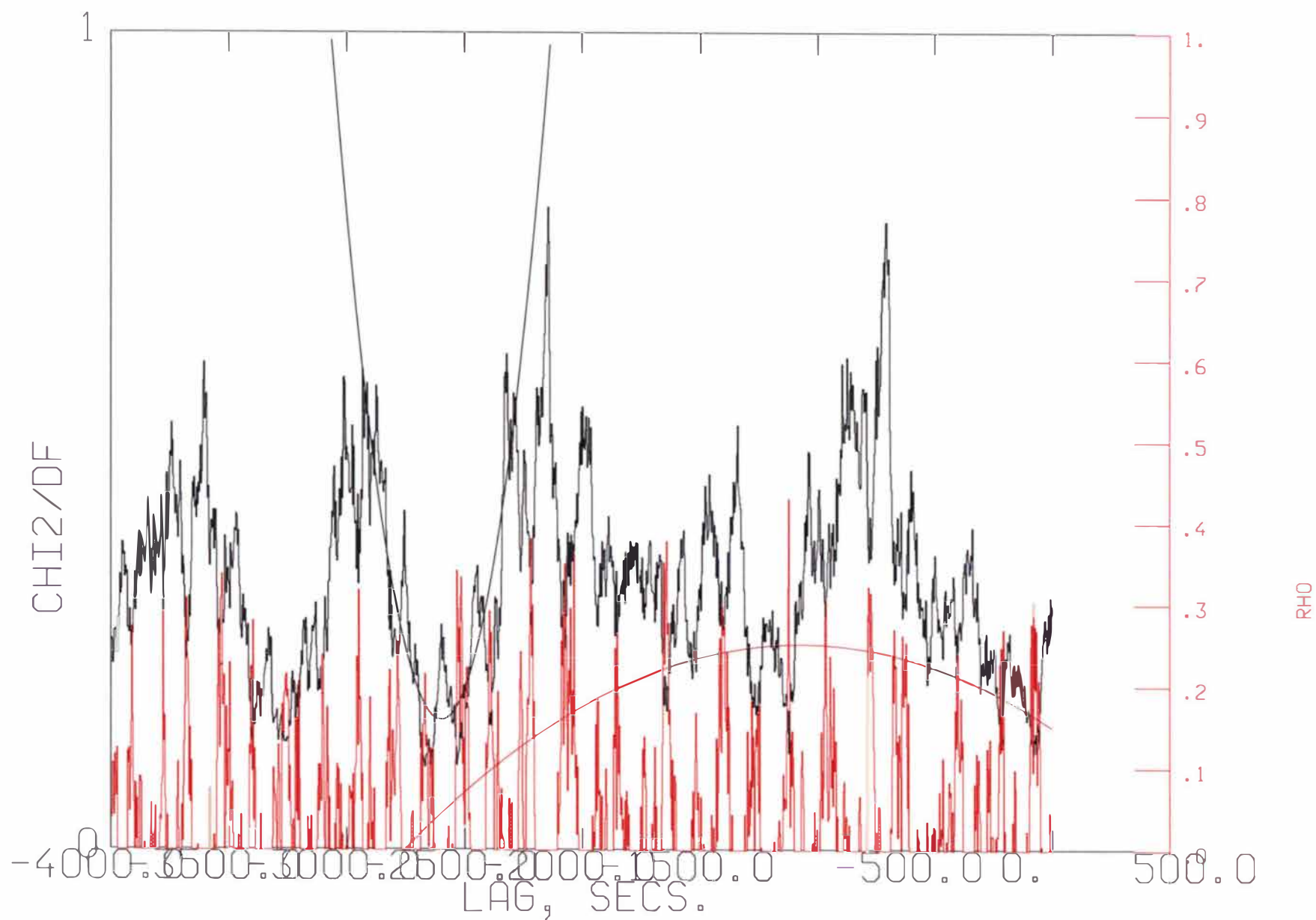


19/12/2012

DETECTOR 1 - S. ECLIPSE







KONUS RI

ULYSSES RT

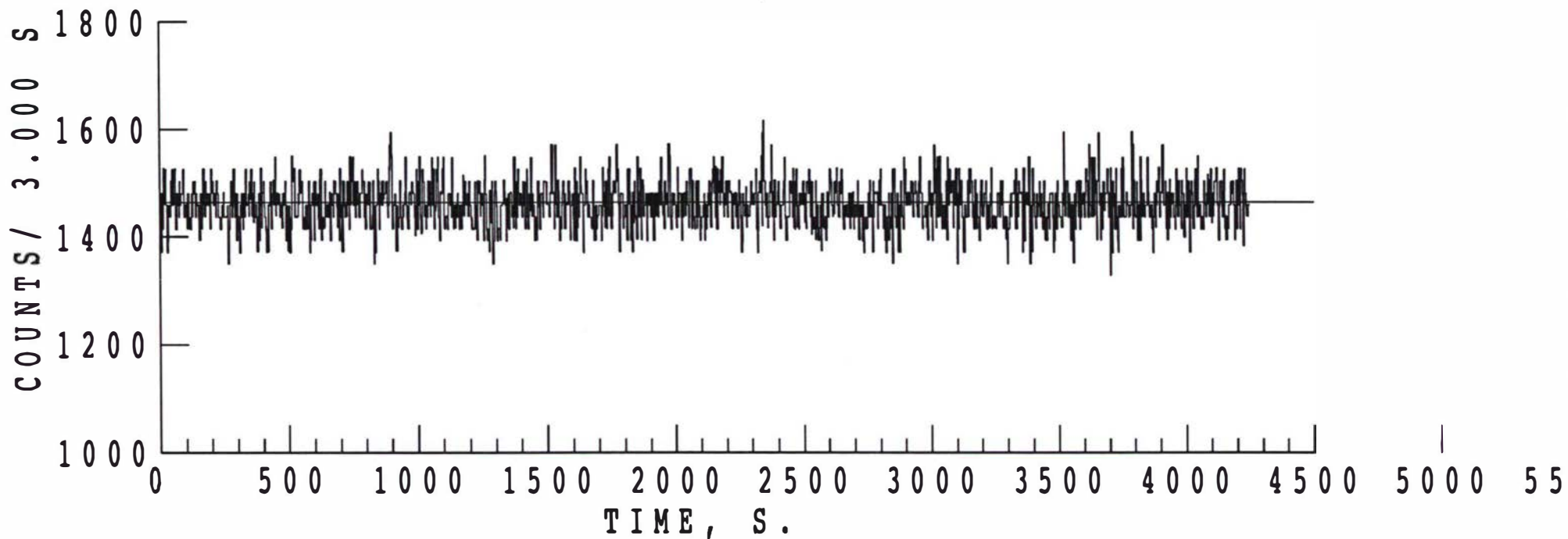
28 / 7 / 99

5 / 3 / 99 10548.145 s

0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV

N=10 M=2
>4.0 SIGMA FLUCTUATIONS



KONUS RI

ULYSSES RT

28 / 7 / 99

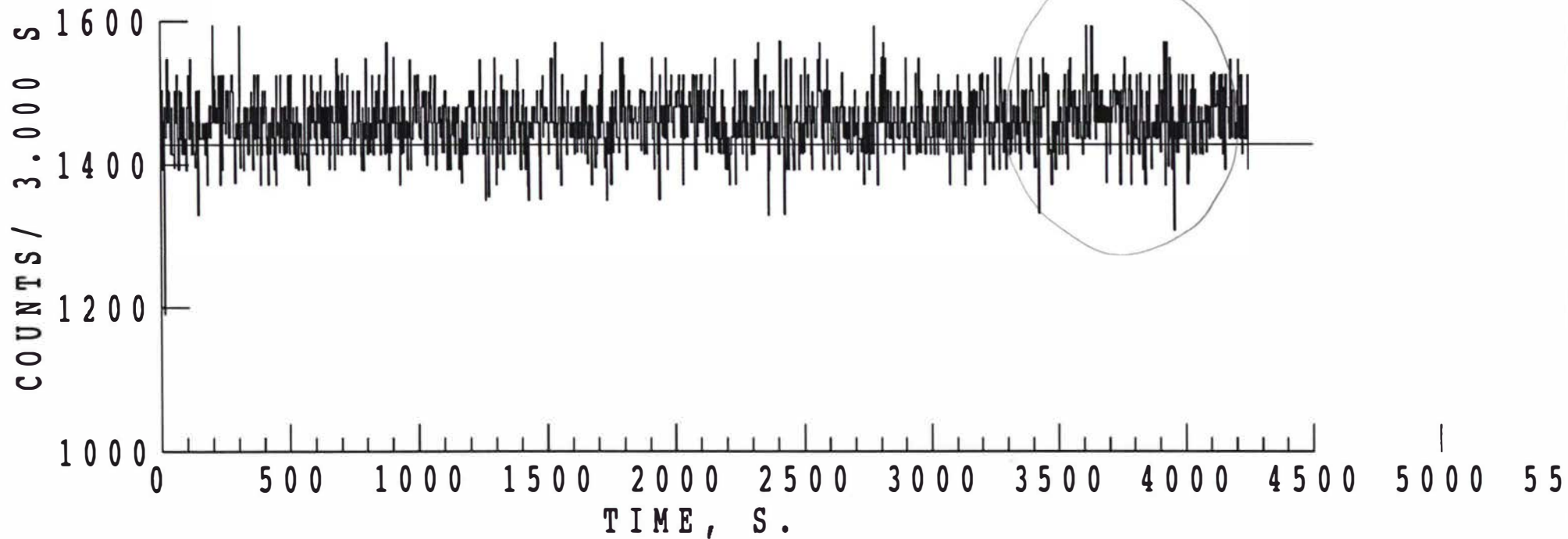
9 / 3 / 99 16956.236 s

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 RI

28 / 7 / 99

ULYSSES RT

5 / 3 / 99 32328.117 s

0.250 S INTERVALS REGROUPED BY 11

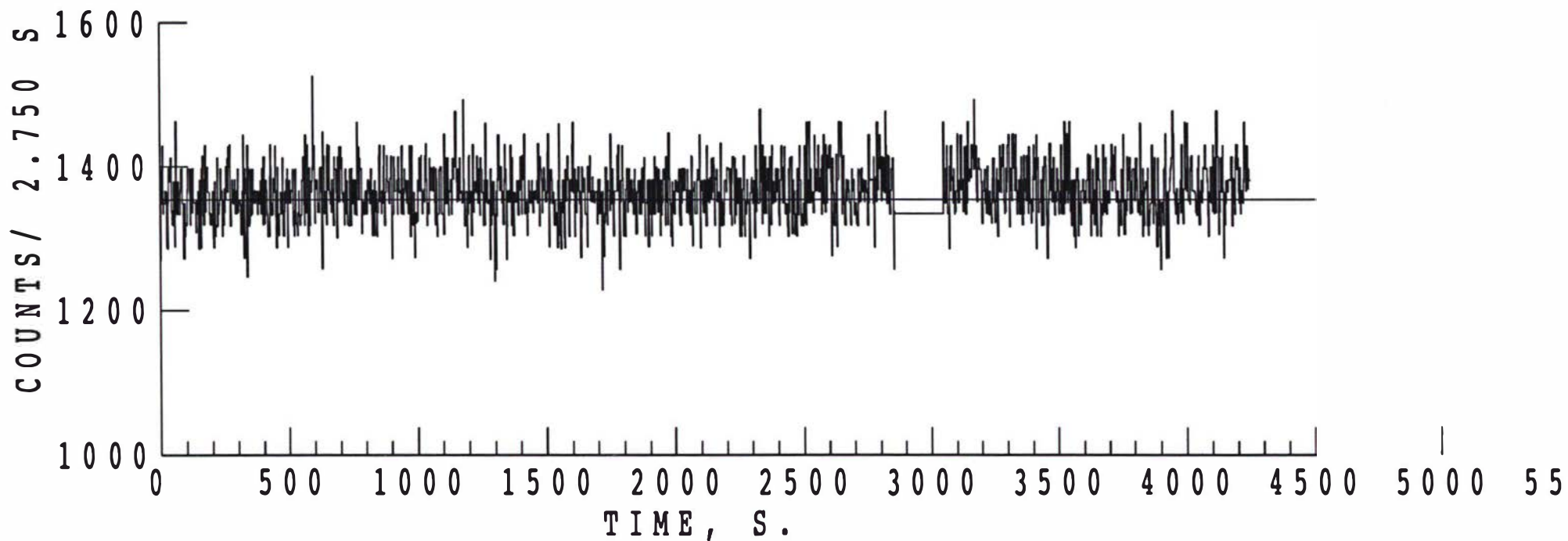
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From: RICHARDSON@fender.msfc.nasa.gov
Date: Tue, 9 Mar 1999 13:57:59 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990309135759.2020e674@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7448
Content-Type: text
Content-Length: 1135
Status: R

BATSEARCH PROGRAM

BATSE BURST # 7448
EVENT OF 1999 MAR 5 DAY OF YEAR= 64
EVENT CROSSING TIME AT BATSE : 50294. S. OR 13:58:14.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 210.000 46.000
BATSE PEAK COUNTING RATE: 2300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/ 3/ 99 IS:
RA= 153.842 DEC= -9.436 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619416599. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -544.82 SECS.
CROSSING TIME AT ULYSSES IS 49749. S. OR 13:49:09 +/- 387.75 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/ 3/ 99 IS:
A= 219.405 DEC= -13.087 DIST= 0.871 AU
MARS-BATSE DISTANCE = 130295808. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=120.31 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -219.33 SECS.
CROSSING TIME AT MARS IS 50075. S. OR 13:54:34 +/- 61.81 SECONDS

BATSE BURST TRIGGER

NO.: 7448

TIME: TJD=1242 SECONDS=50294

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=144.4 AZIMUTH=325.2 ERROR=12.5 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION APPROX. = 3 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7448	990305	11242	50294	2300	210	+46	3

BATSE BURST# 7448

ULYSSES RT

9 / 3 / 99

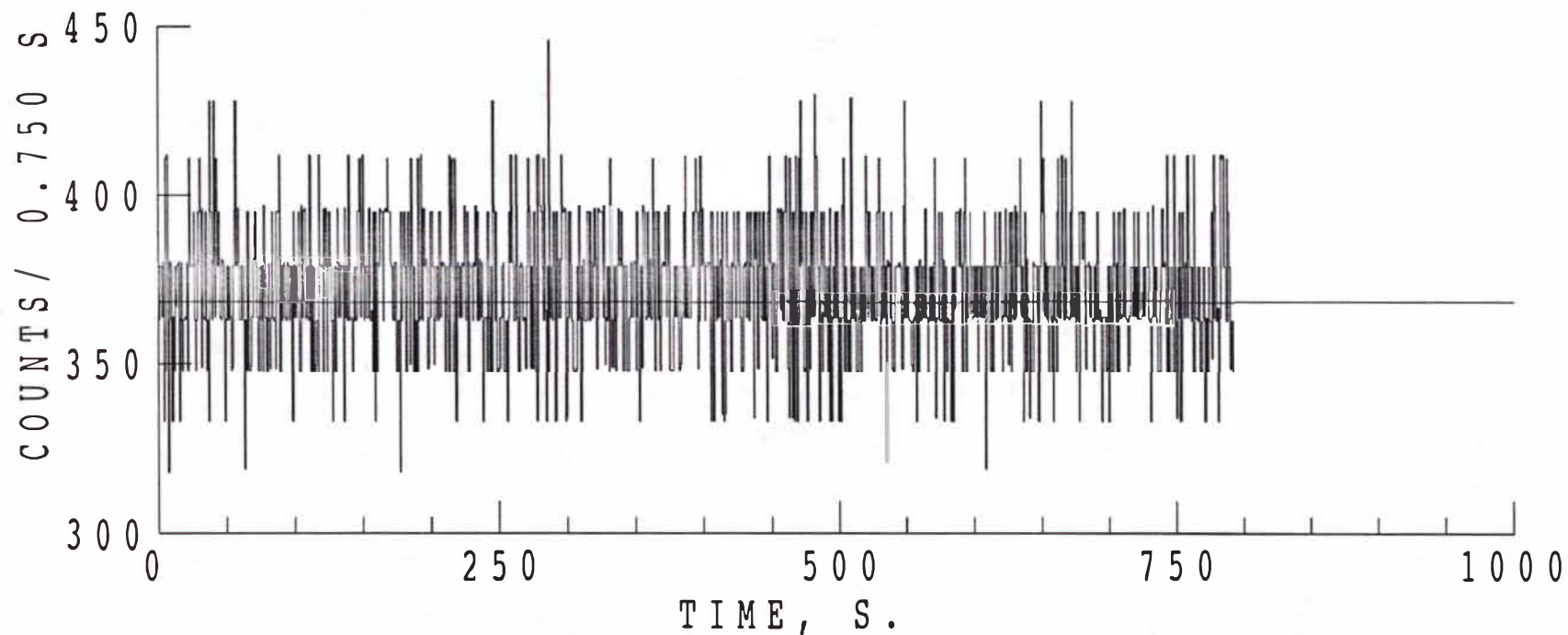
5 / 3 / 99 49356.043 s

0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Mar 9 11:57:22 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 LAA03994; Tue, 9 Mar 1999 11:57:22 -0800
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 LAA29839
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 9 Mar 1999 11:57:19 -0800 (PST)
Date: Tue, 9 Mar 1999 13:56:46 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990309135646.2020e674@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7449
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7449
EVENT OF 1999 MAR 5 DAY OF YEAR= 64
EVENT CROSSING TIME AT BATSE : 66611. S. OR 18:30:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 155.000 -50.000
BATSE PEAK COUNTING RATE: 16500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/ 3/ 99 IS:
RA= 153.798 DEC= -9.431 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619404900. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=139.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1569.18 SECS.
CROSSING TIME AT ULYSSES IS 65042. S. OR 18:04:01 +/- 259.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/ 3/ 99 IS:
RA= 219.405 DEC= -13.087 DIST= 0.871 AU
MARS-BATSE DISTANCE = 130295808. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=116.35 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -192.94 SECS.
CROSSING TIME AT MARS IS 66418. S. OR 18:26:58 +/- 64.68 SECONDS

BATSE BURST TRIGGER

NO.: 7449

TIME: TJD=1242 SECONDS=66611

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=103.2 AZIMUTH=110.8 ERROR=2.8 DEGREES

COMMENTS:

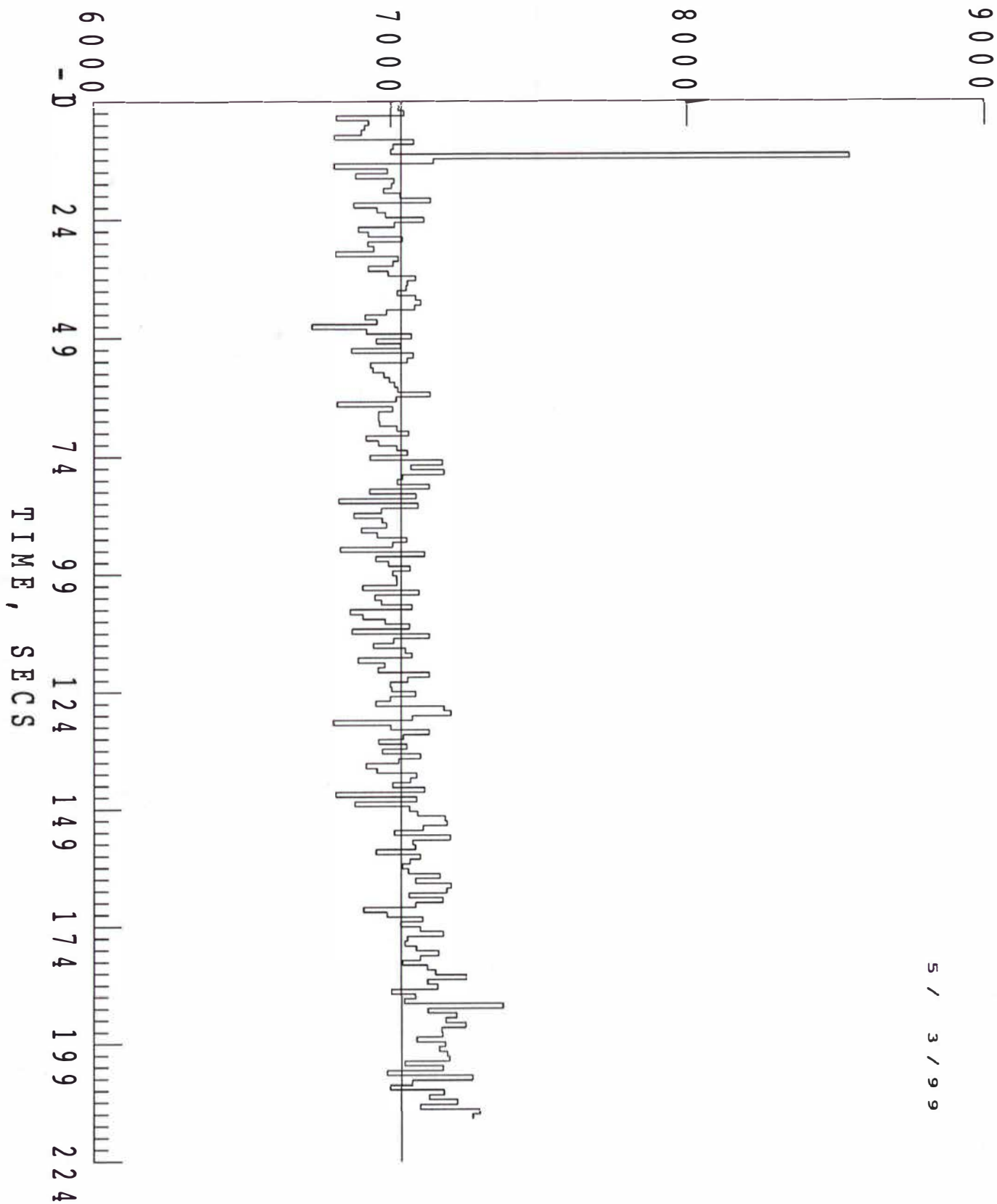
GRB. SINGLE SPIKE. DURATION APPROX. = 0.35 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7449	990305	11242	66611	16500	155	-50	.35

BACODINE 7449 05/03/99 66600.697

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7449

ULYSSES RT

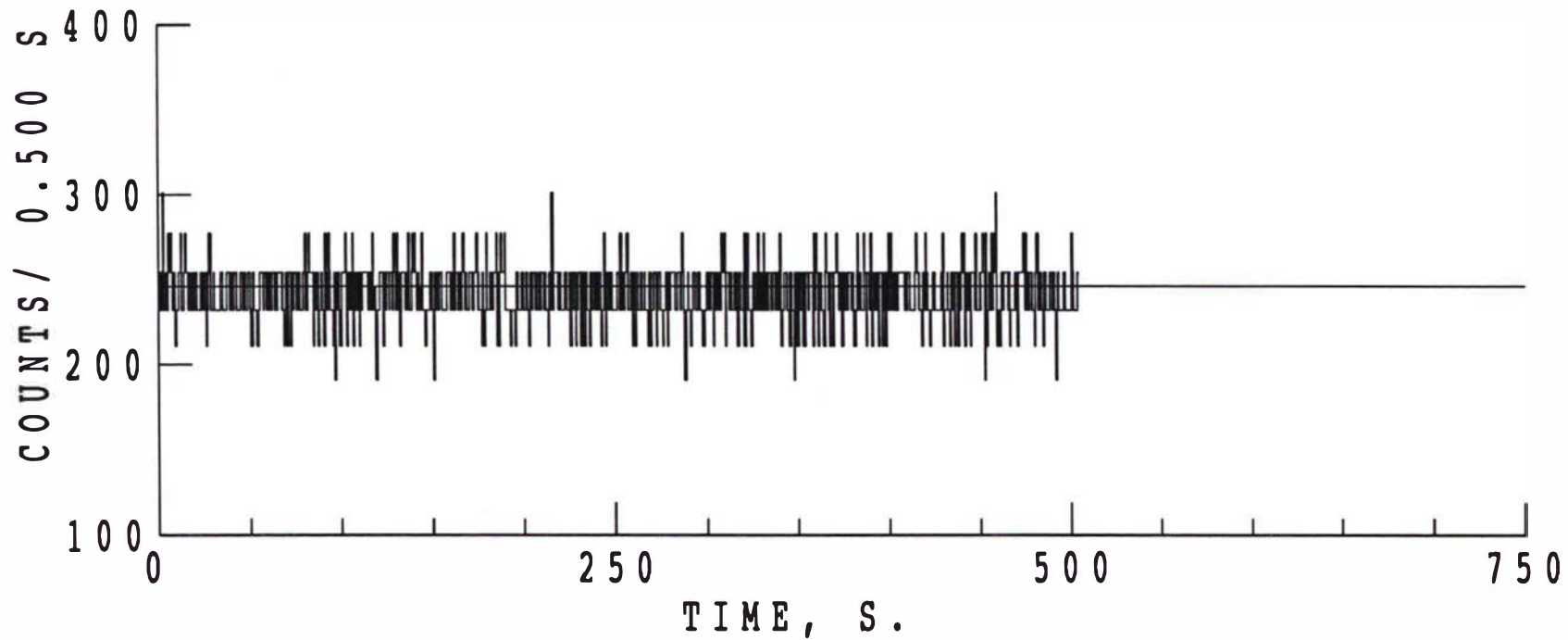
13 / 7 / 99

5 / 3 / 99 64800.199 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Tue Mar 9 11:54:35 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Tue, 9 Mar 1999 13:54:10 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7450

Mar 5

TIME: TJD=1242 SECONDS=78338

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

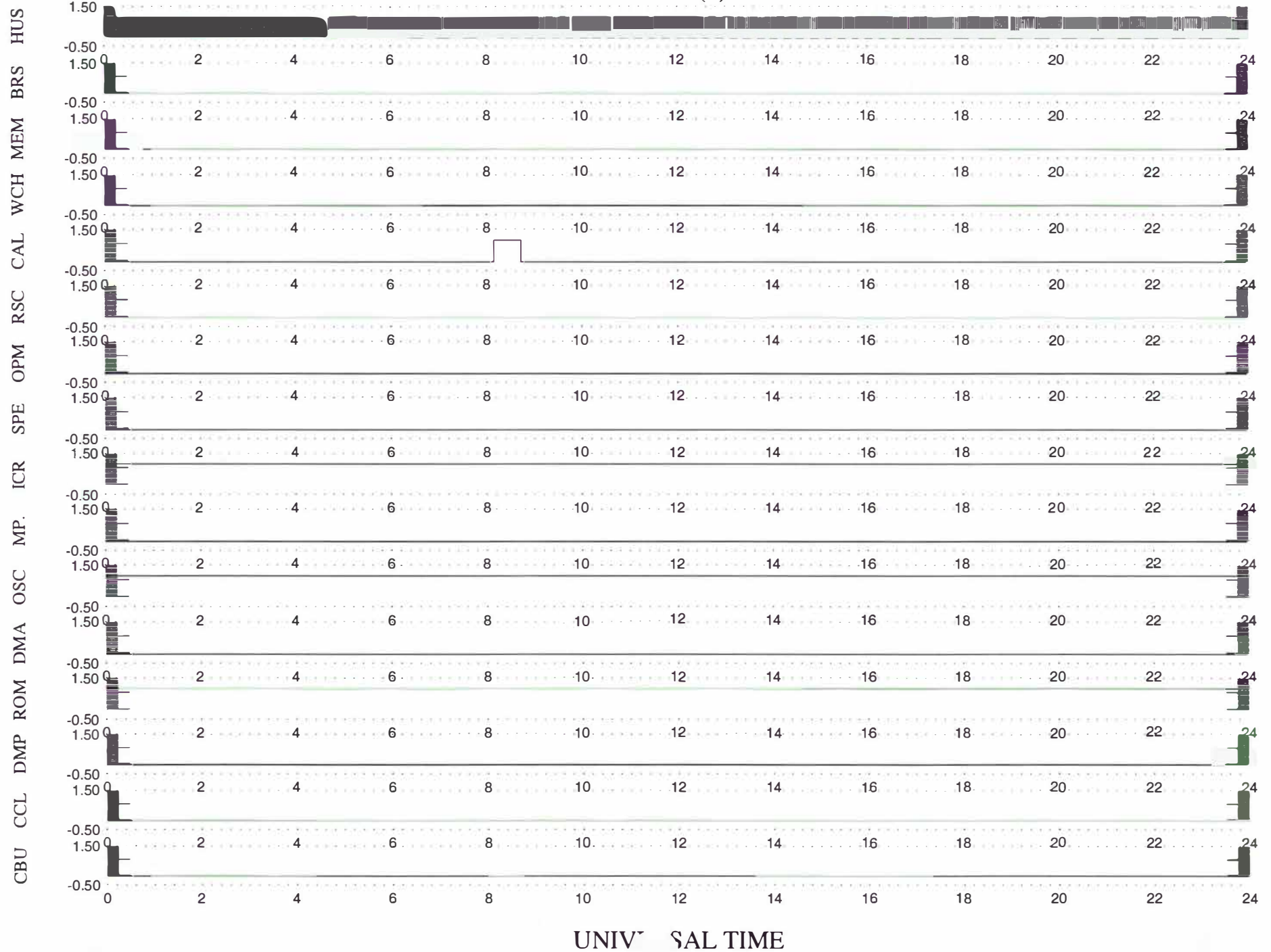
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

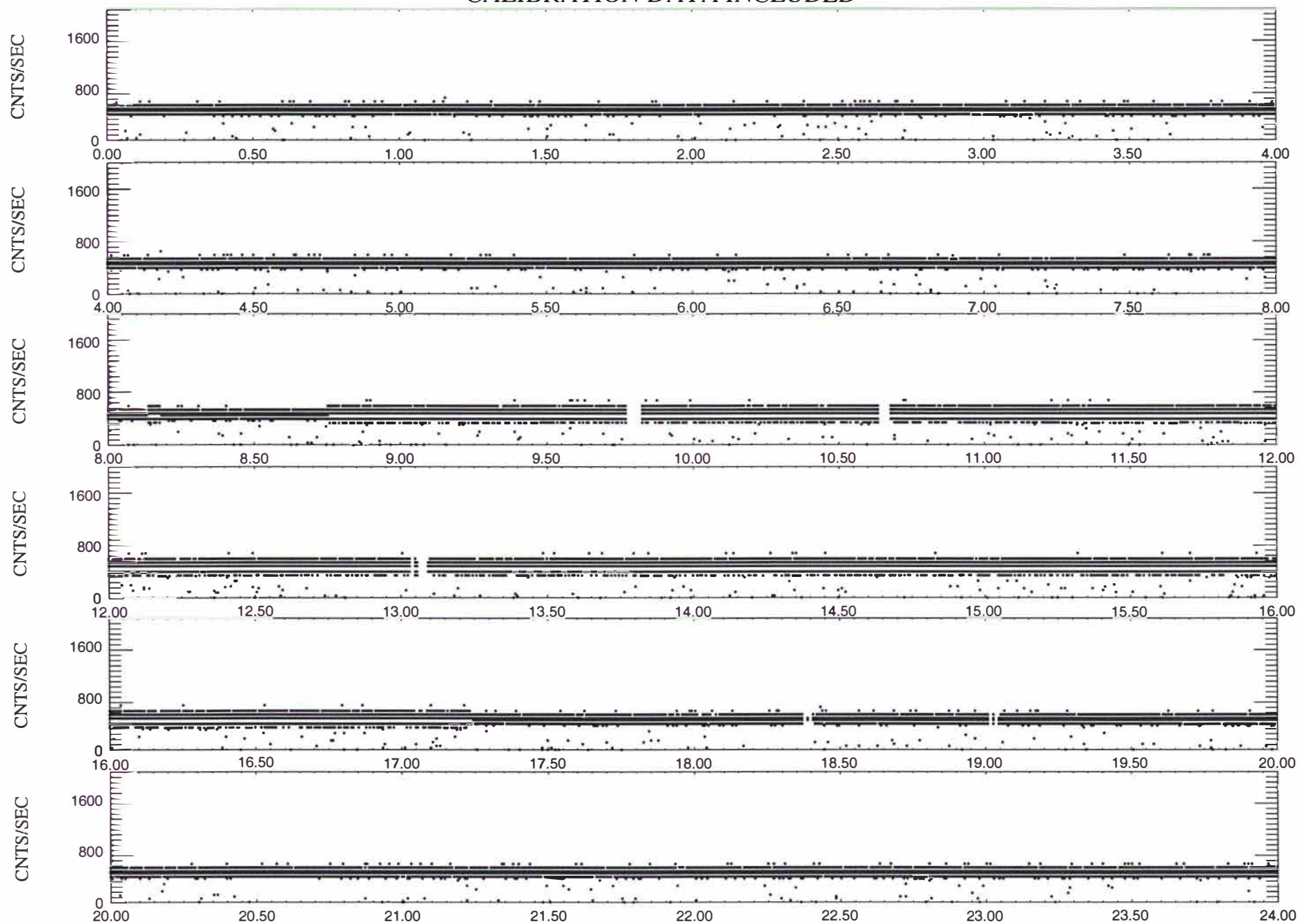
COMMENTS:

PARTICLE EVENT

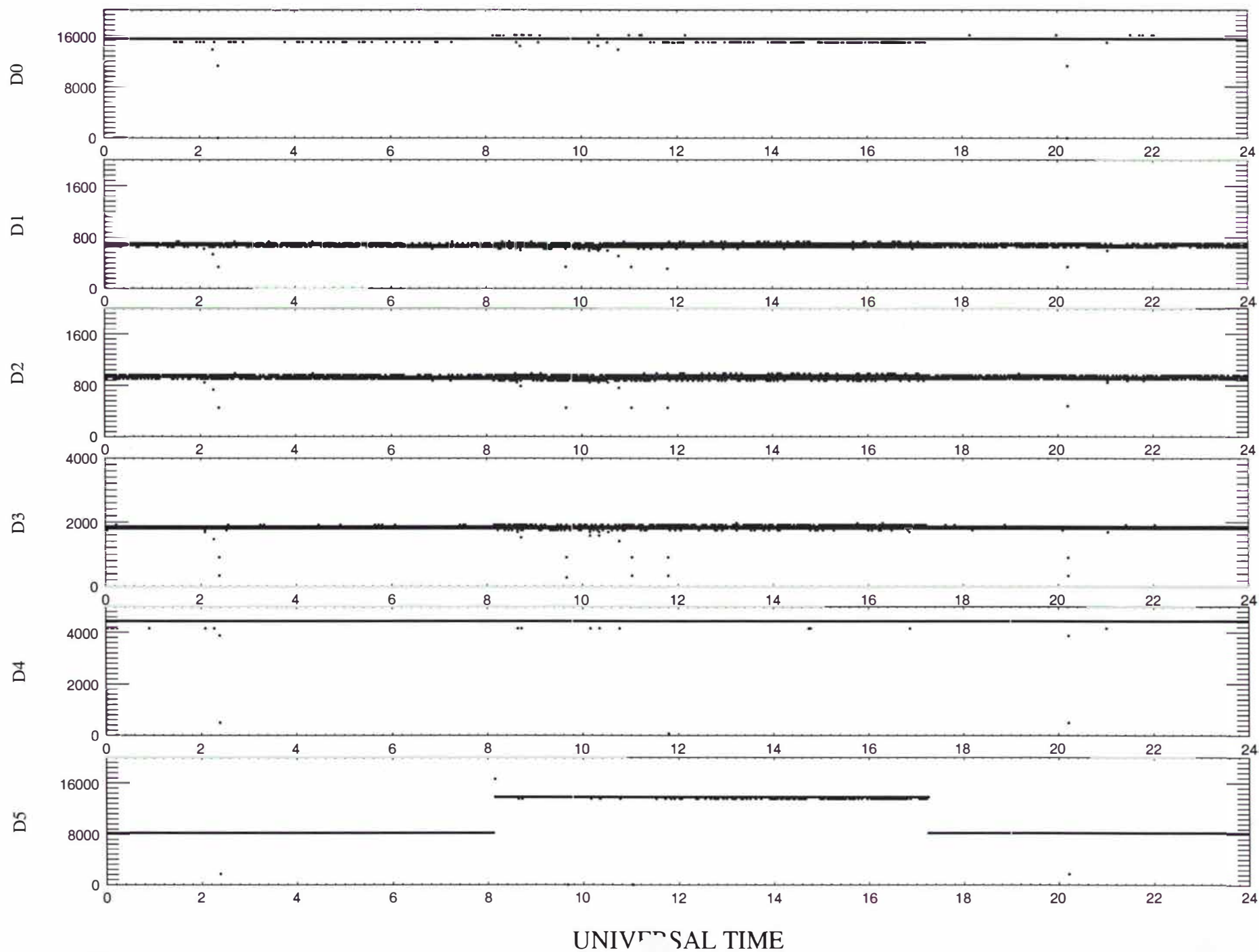
NO BURST (6)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From WOODSP@fender.msfc.nasa.gov Mon Mar 15 08:59:01 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 IAA08250; Mon, 15 Mar 1999 08:59:01 -0800
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 IAA07332
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 08:59:00 -0800 (PST)
Date: Mon, 15 Mar 1999 10:59:01 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990315105901.20210941@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7451
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7451
EVENT OF 1999 MAR 6 DAY OF YEAR= 65
EVENT CROSSING TIME AT BATSE : 43989. S. OR 12:13:09.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 283.000 17.000
BATSE PEAK COUNTING RATE: 3500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/ 3/ 99 IS:
RA= 153.623 DEC= -9.410 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619383571. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1335.35 SECS.
CROSSING TIME AT ULYSSES IS 45324. S. OR 12:35:24 +/- 343.98 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/ 3/ 99 IS:
RA= 219.548 DEC= -13.132 DIST= 0.862 AU
MARS-BATSE DISTANCE = 128990104. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -150.51 SECS.
CROSSING TIME AT MARS IS 43838. S. OR 12:10:38 +/- 67.70 SECONDS

BATSE BURST TRIGGER

NO.: 7451

TIME: TJD=1243 SECONDS=43989

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

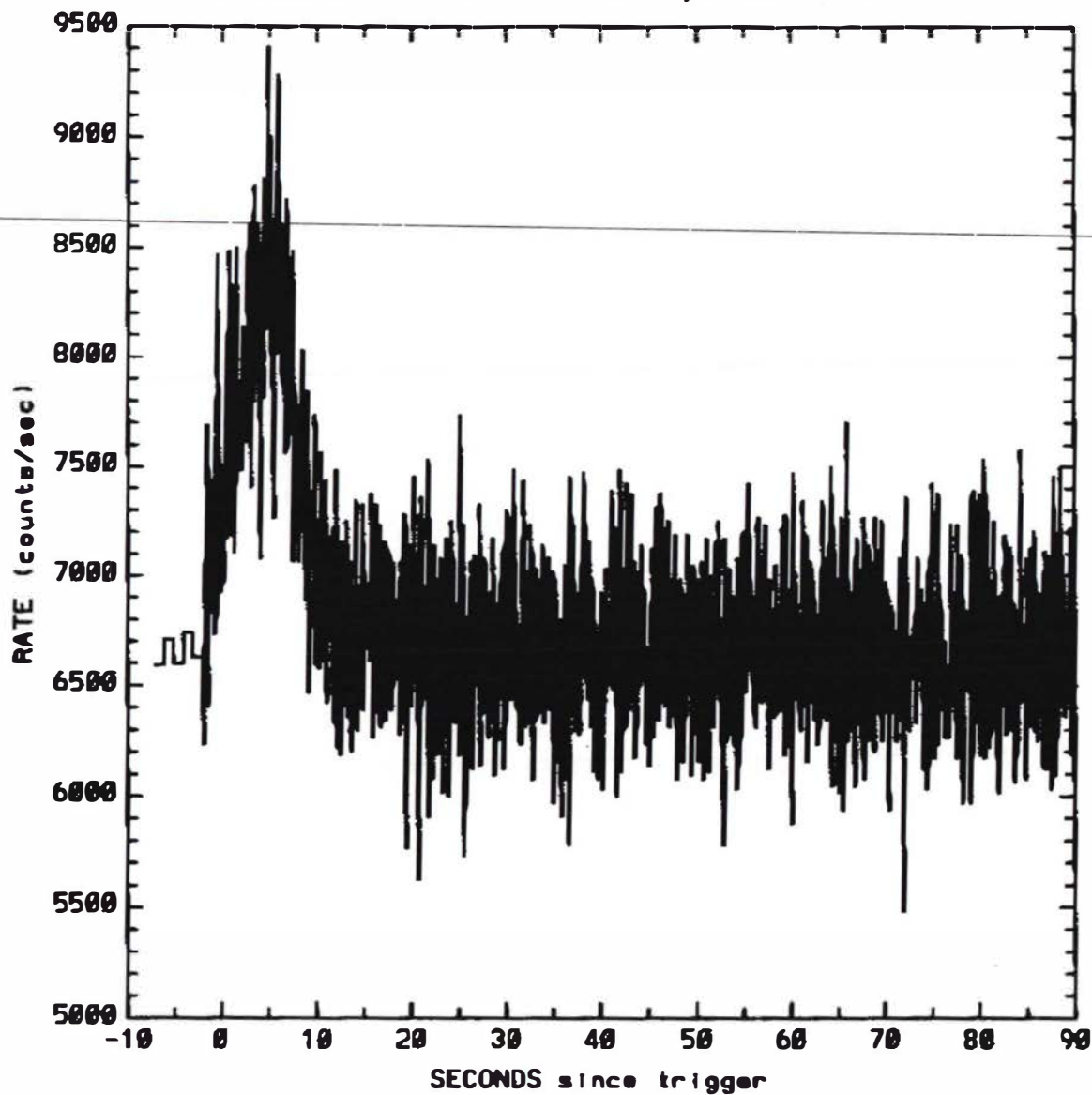
LOCATION: ZENITH=80.0 AZIMUTH=344.8 ERROR=2.3 DEGREES

COMMENTS:

GRB LASTING ABOUT 12 SEC. SINGLE PULSE WITH NO VISIBLE SUBSTRUCTURE.
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7451	990306	11243	43989	3500	283	+17	12

DISCSC Data for K. Hurley, No. 7451



29-JUL-1999 10:30:10

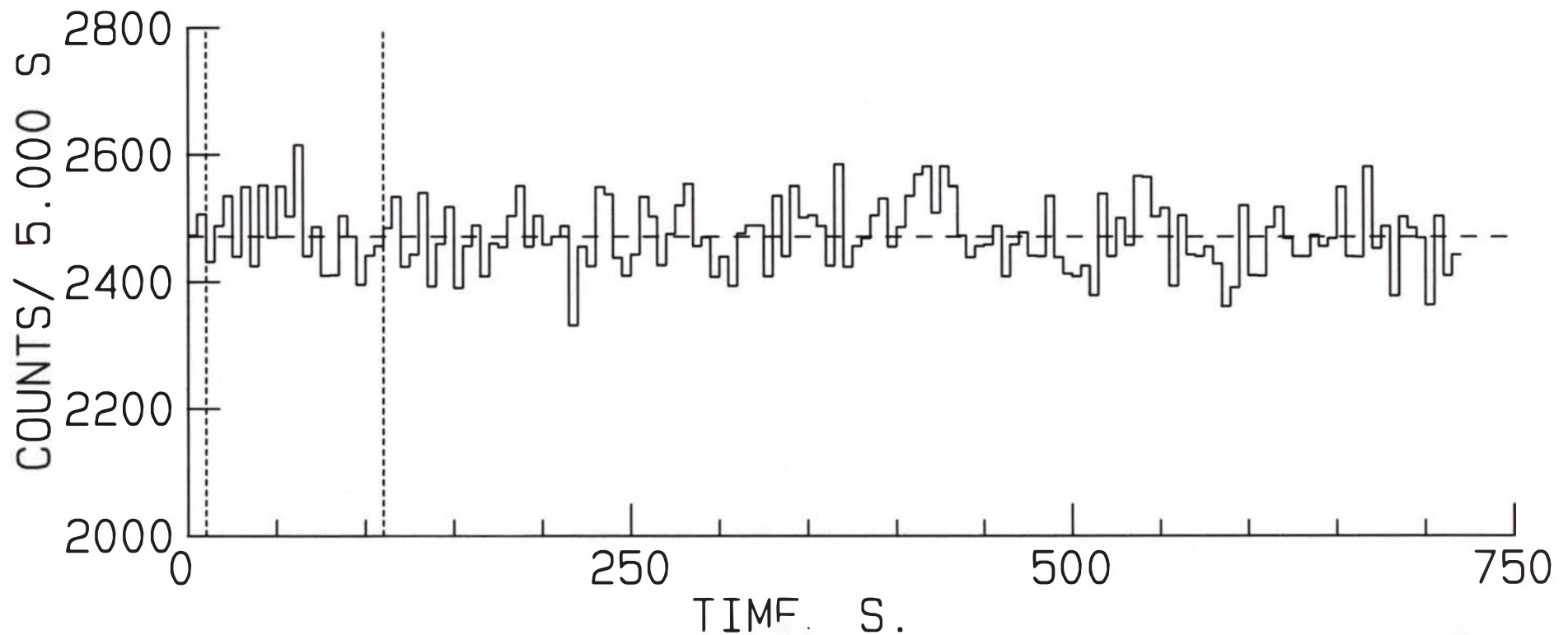
Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7451

Trigger Time:
11243.743989753Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PRED + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
----32--Discriminators:
(1, 2)Quality Mask:
B01SP1

ULYSSES RT
6/ 3/99 44964.129 s
0.250 S INTERVALS REGROUPED BY 20
22- 152 keV

2/ 8/99



From WOODSP@fender.msfc.nasa.gov Mon Mar 15 09:00:25 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 JAA08284; Mon, 15 Mar 1999 09:00:24 -0800
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 JAA07408
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 09:00:21 -0800 (PST)
Date: Mon, 15 Mar 1999 11:00:11 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990315110011.20210941@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7452
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7452
EVENT OF 1999 MAR 6 DAY OF YEAR= 65
EVENT CROSSING TIME AT BATSE : 60390. S. OR 16:46:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 315.000 13.000
BATSE PEAK COUNTING RATE: 2600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/ 3/ 99 IS:
RA= 153.578 DEC= -9.405 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619381003. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 18.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1958.48 SECS.
CROSSING TIME AT ULYSSES IS 62348. S. OR 17:19:08 +/- 193.97 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/ 3/ 99 IS:
RA= 219.548 DEC= -13.132 DIST= 0.862 AU
MARS-BATSE DISTANCE = 128990104. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.88 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 60.78 SECS.
CROSSING TIME AT MARS IS 60451. S. OR 16:47:30 +/- 74.87 SECONDS

BATSE BURST TRIGGER

NO.: 7452

TIME: TJD=1243 SECONDS=60390

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=53.7 AZIMUTH=326.7 ERROR=2.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 17 SEC. SINGLE WEAK PULSE. NOT VISIBLE
ABOVE 300 KEV. CYG X-1 RISE AT T-75 SEC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7452	990306	11243	60390	2600	315	+13	17

BATSE BURST# 7452

ULYSSES RT

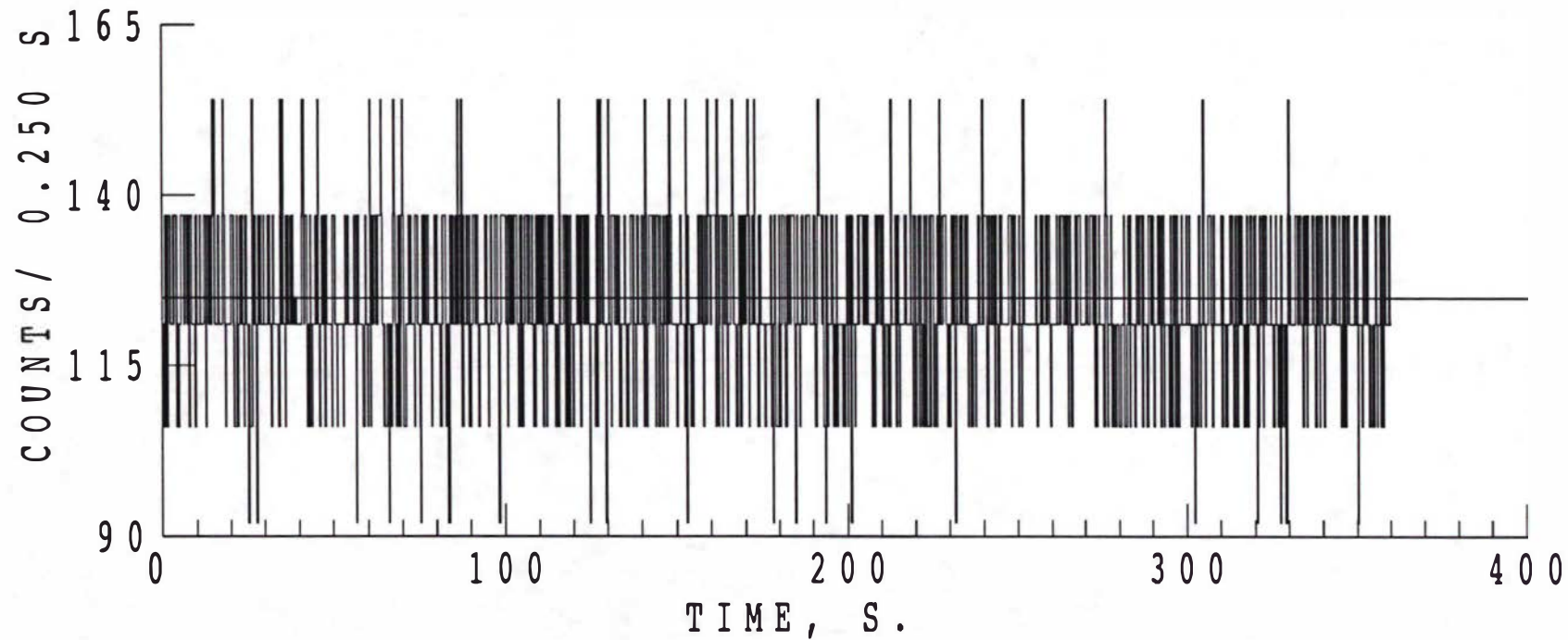
15 / 3 / 99

6 / 3 / 99 62172.055 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Tue Mar 9 11:42:30 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA03780; Tue, 9 Mar 1999 11:42:29 -0800
From: SAHI@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 LAA29484
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 9 Mar 1999 11:42:26 -0800 (PST)
Date: Tue, 9 Mar 1999 13:42:24 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990309134224.2020dc6d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7453
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7453
EVENT OF 1999 MAR 6 DAY OF YEAR= 65
EVENT CROSSING TIME AT BATSE : 71659. S. OR 19:54:19.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 276.000 -1.000
BATSE PEAK COUNTING RATE: 8000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/ 3/ 99 IS:
RA= 153.548 DEC= -9.401 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619379219. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1087.68 SECS.
CROSSING TIME AT ULYSSES IS 72747. S. OR 20:12:26 +/- 371.48 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/ 3/ 99 IS:
RA= 219.548 DEC= -13.132 DIST= 0.862 AU
MARS-BATSE DISTANCE = 128990104. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=122.82 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -233.23 SECS.
CROSSING TIME AT MARS IS 71426. S. OR 19:50:25 +/- 59.23 SECONDS

BATSE BURST TRIGGER

NO.: 7453

TIME: TJD=1243 SECONDS=71659

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=77.7 AZIMUTH=4.4 ERROR=1.7 DEGREES

COMMENTS:

GRB. SINGLE SPIKE DUR. 0.08 S. WEAKLY VISIBLE ABOVE 300 KEV. CYGX-1 RISE AT
TRIGGER TIME. OVERWRITTEN DURING TTE SO TTE AND STTE READ OUT AS #7454.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7453	990306	11243	71659	8000	276	-01	.08

BATSE BURST# 7453

ULYSSES RT

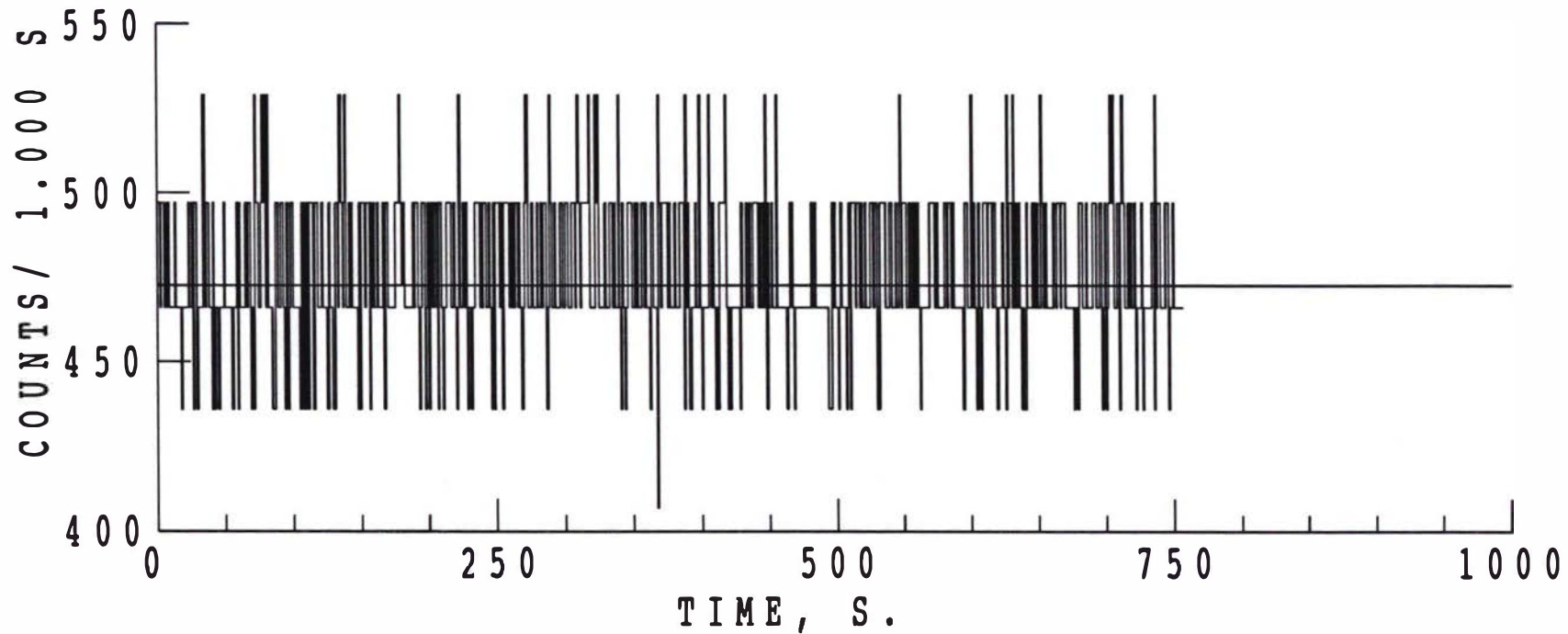
13 / 7 / 99

6 / 3 / 99 72360.148 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SAHI@fender.msfc.nasa.gov Tue Mar 9 11:01:08 1999

From: SAHI@fender.msfc.nasa.gov

Date: Tue, 9 Mar 1999 13:00:13 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7454

TIME: TJD=1243 SECONDS=72848

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

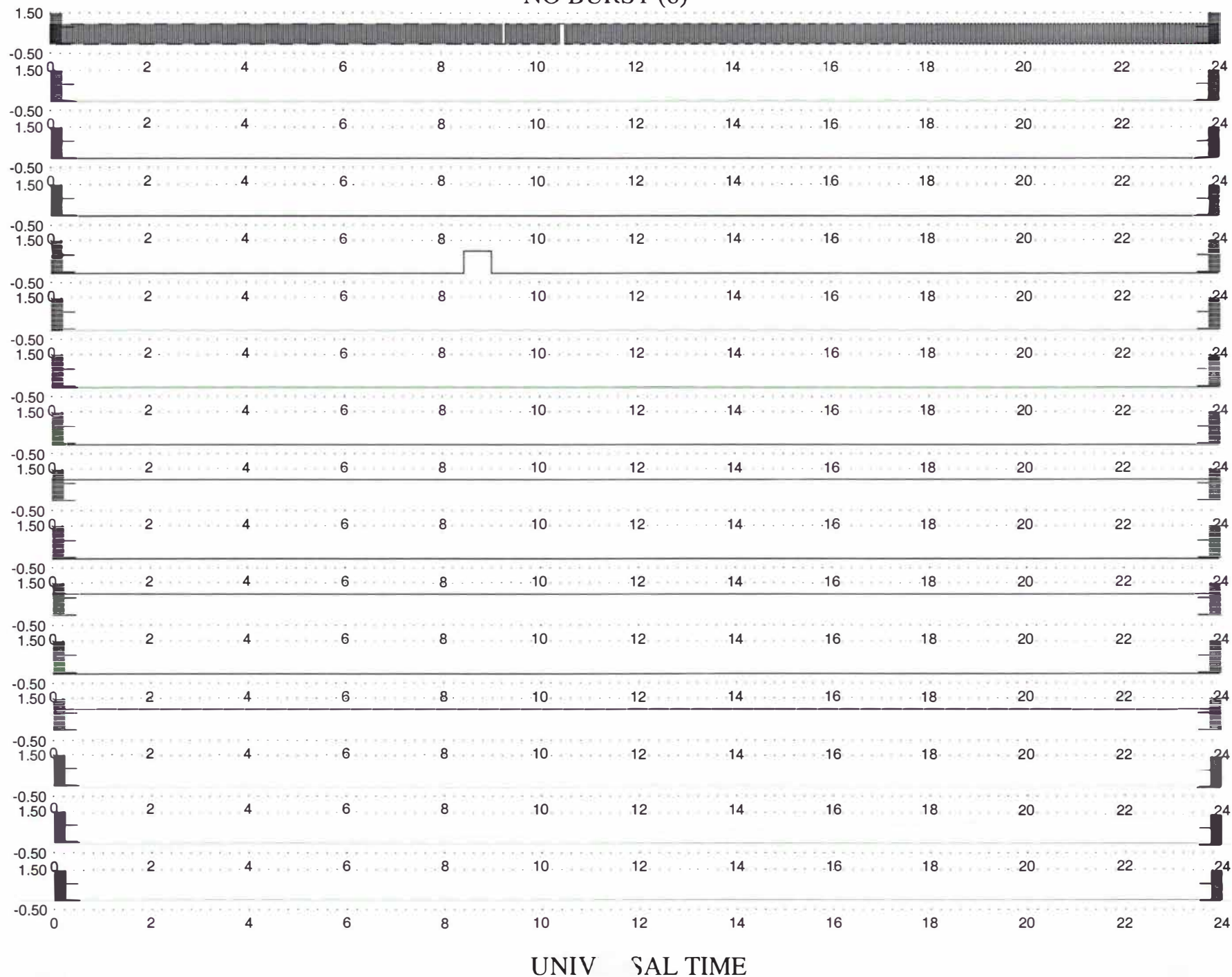
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=23.6 AZIMUTH=-3.6 ERROR=0.6 DEGREES

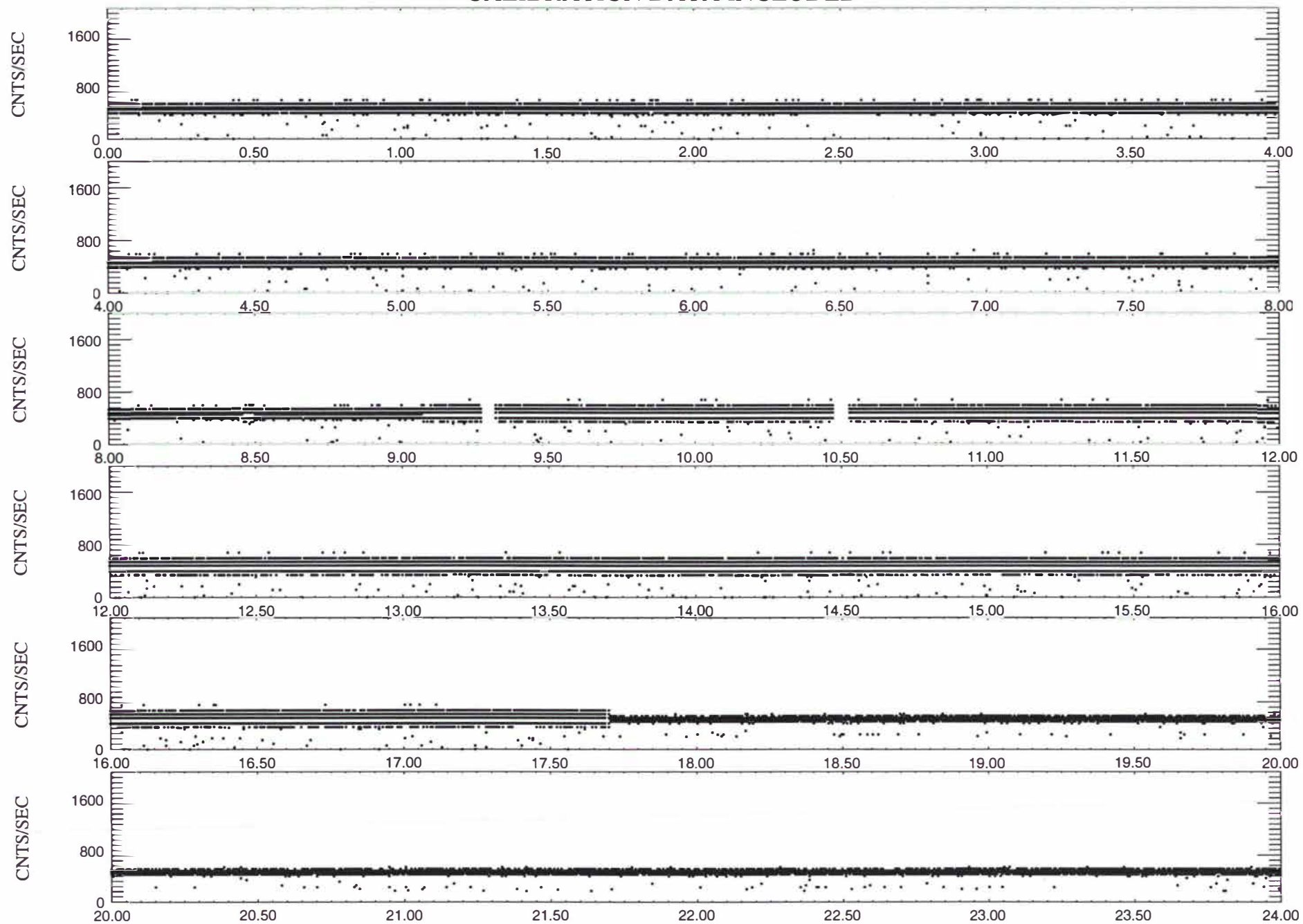
COMMENTS:

SOLAR FLARE. NO GOES OR OPTICAL ID. SINGLE PULSE WITH SUBSTRUCTURE, DUR. 70 S,
STARTS AT ~T-20 S. NOT VISIBLE ABOVE 100 KEV. OVERWROTE PREVIOUS DURING TTE SO
TTE AND STTE BELONG TO #7453.

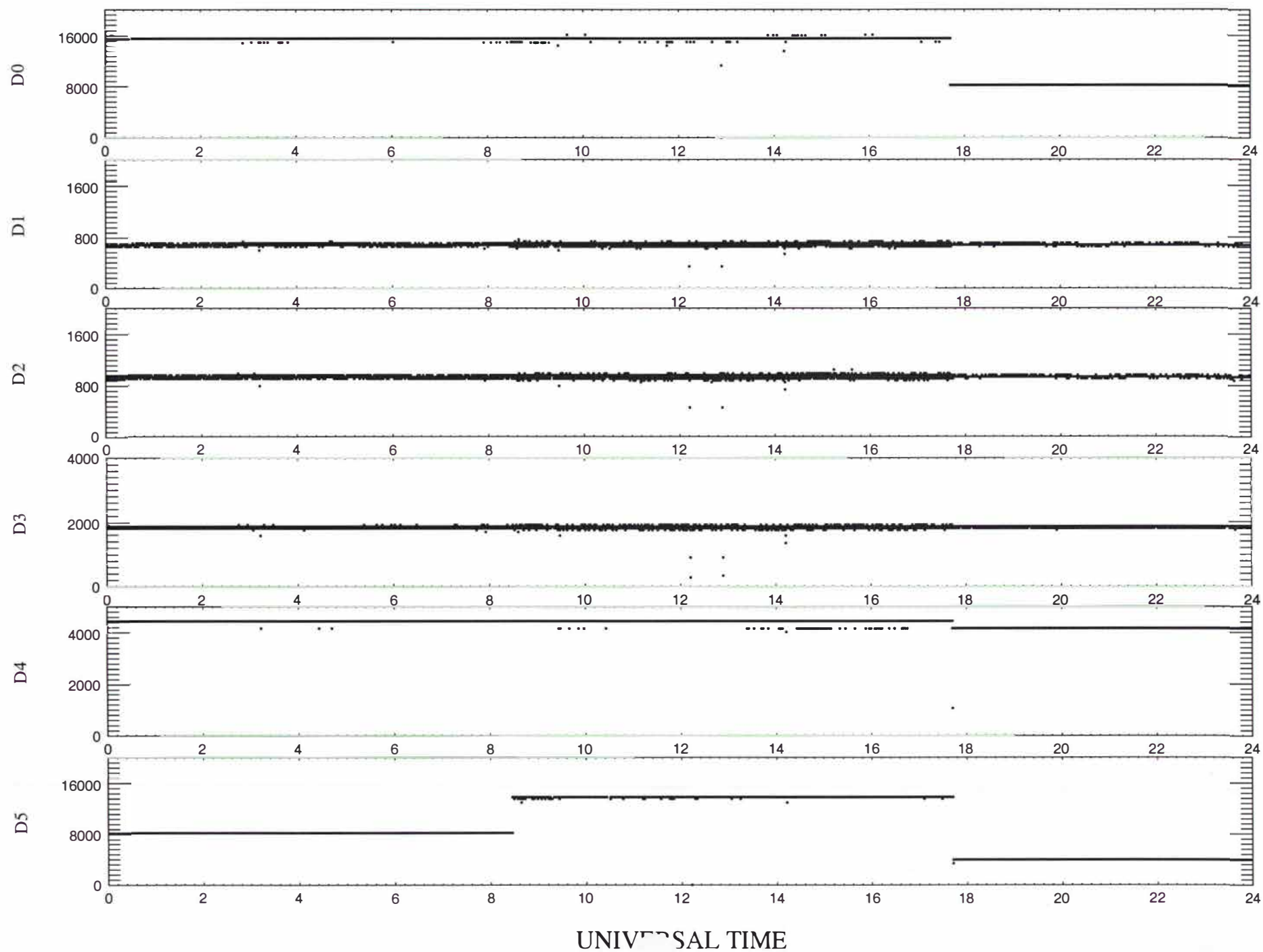
CBU CCL DMP ROM DMA OSC MP. ICR SPE OPM RSC CAL WCH MEM BRS HUS



CALIBRATION DATA INCLUDED



UNIVSAL TIME



From SAHI@fender.msfc.nasa.gov Tue Mar 9 11:45:26 1999
Return-Path: <SAHI@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA03824; Tue, 9 Mar 1999 11:45:25 -0800
From: SAHI@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 LAA29568
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 9 Mar 1999 11:45:22 -0800 (PST)
Date: Tue, 9 Mar 1999 13:45:20 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990309134520.2020dc6d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7455
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7455
EVENT OF 1999 MAR 7 DAY OF YEAR= 66
EVENT CROSSING TIME AT BATSE : 38983. S. OR 10:49:43.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 19.000 15.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 7/ 3/ 99 IS:
RA= 153.401 DEC= -9.383 DIST= 4.140 AU
BATSE-ULYSSES DISTANCE = 619394485. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 44.85 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1464.83 SECS.
CROSSING TIME AT ULYSSES IS 40448. S. OR 11:14:07 +/- 325.21 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 7/ 3/ 99 IS:
RA= 219.682 DEC= -13.175 DIST= 0.854 AU
MARS-BATSE DISTANCE = 127695592. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 20.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 399.92 SECS.
CROSSING TIME AT MARS IS 39383. S. OR 10:56:22 +/- 31.53 SECONDS

BATSE BURST TRIGGER

NO.: 7455

TIME: TJD=1244 SECONDS=38983

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=47.8 AZIMUTH=243.5 ERROR=6.6 DEGREES

COMMENTS:

GRB. SINGLE SPIKE WITH SUBSTRUCTURE, DUR.0.5 S. STARTS AT T-0.2 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7455	990307	11244	38983	6000	019	+15	.5

BATSE BURST# 7455

ULYSSES RT

9 / 3 / 99

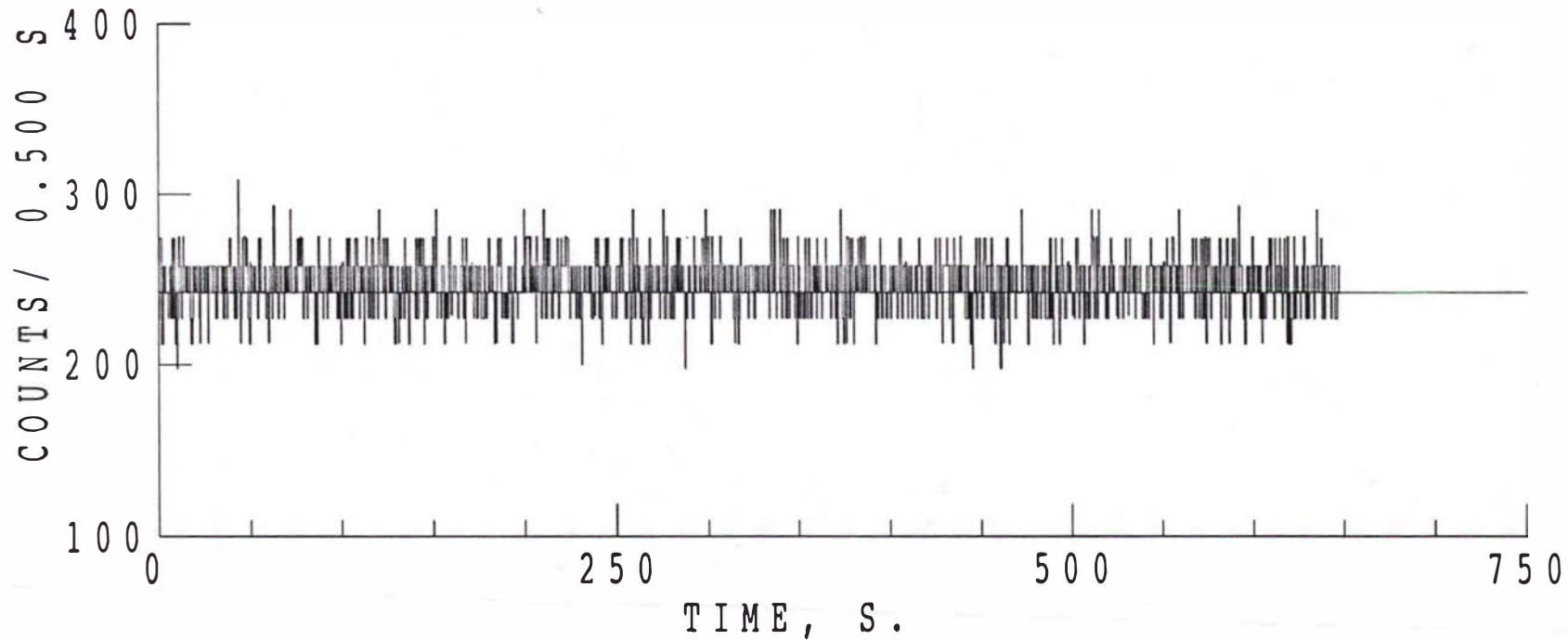
7 / 3 / 99 40140.207 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS SGR

8 / 3 / 99

ULYSSES RT

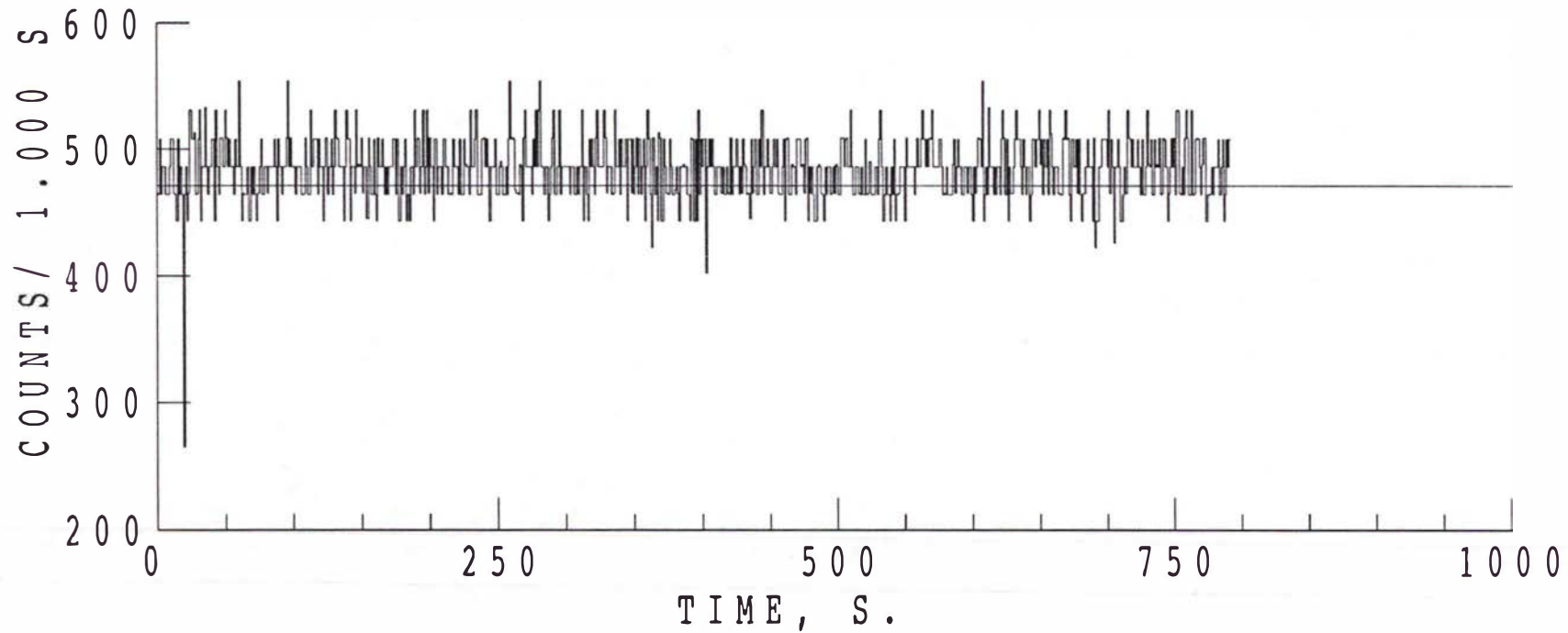
7 / 3 / 99 62424.438 s

0.500 S INTERVALS REGROUPED BY 2

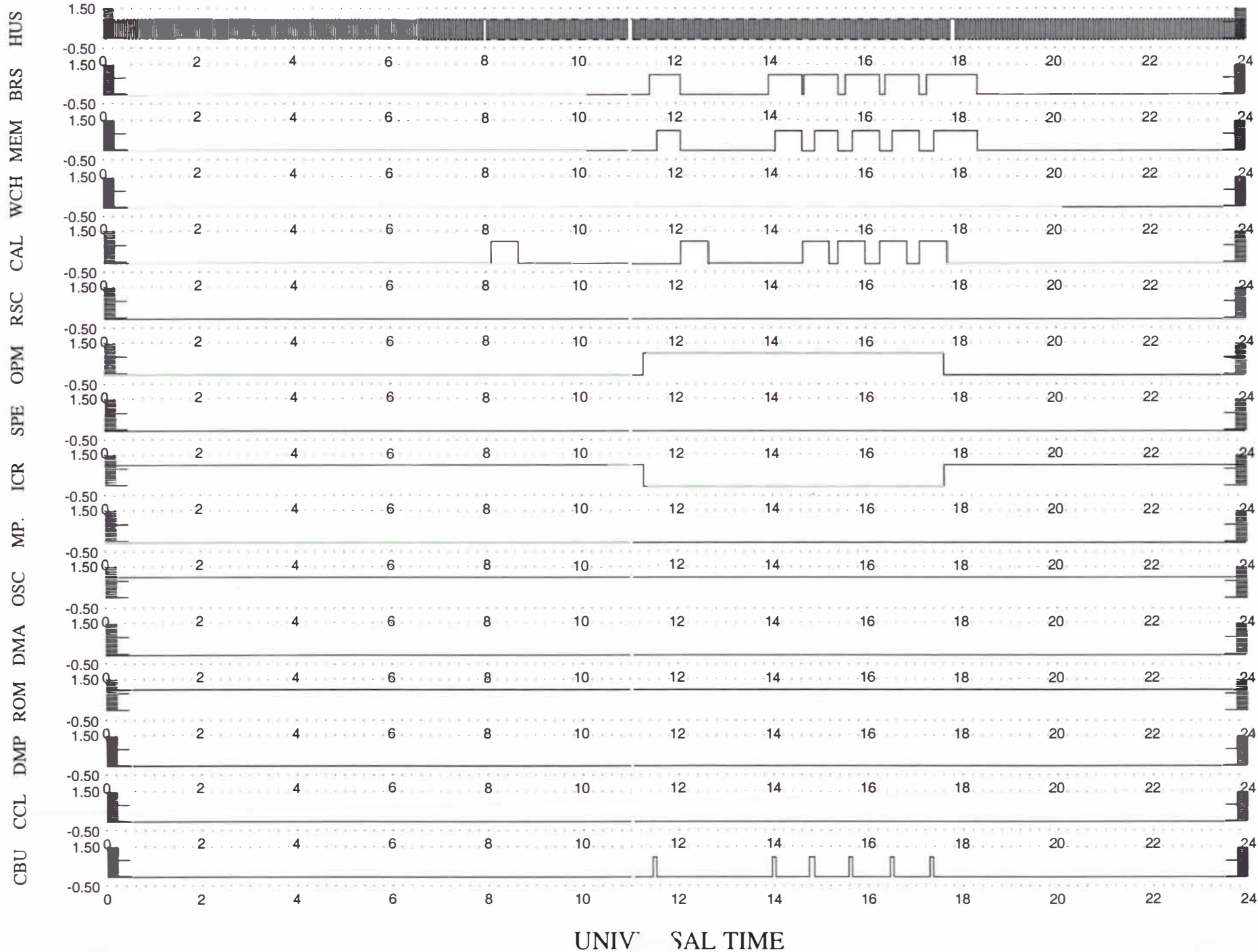
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

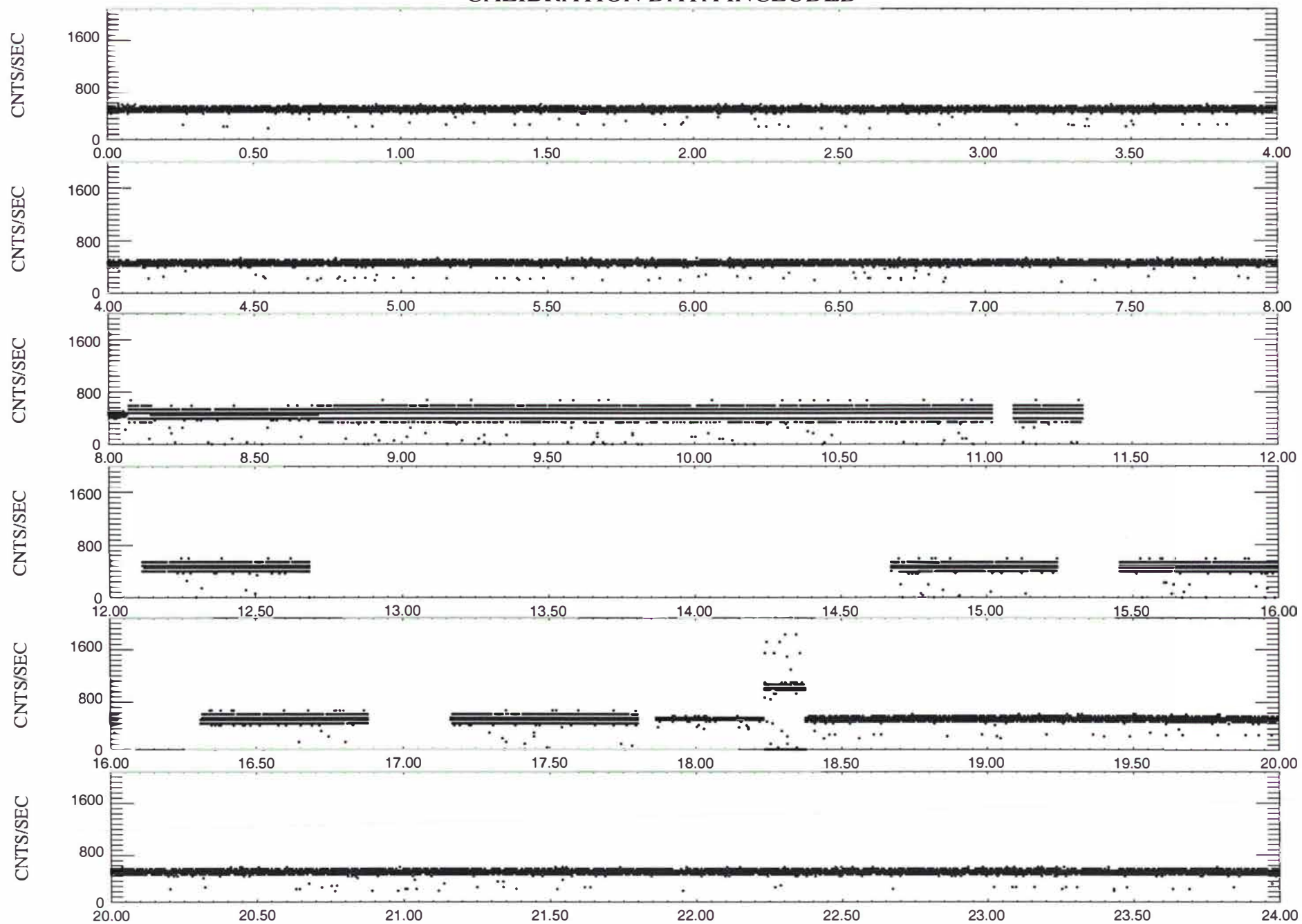
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 7 - 12

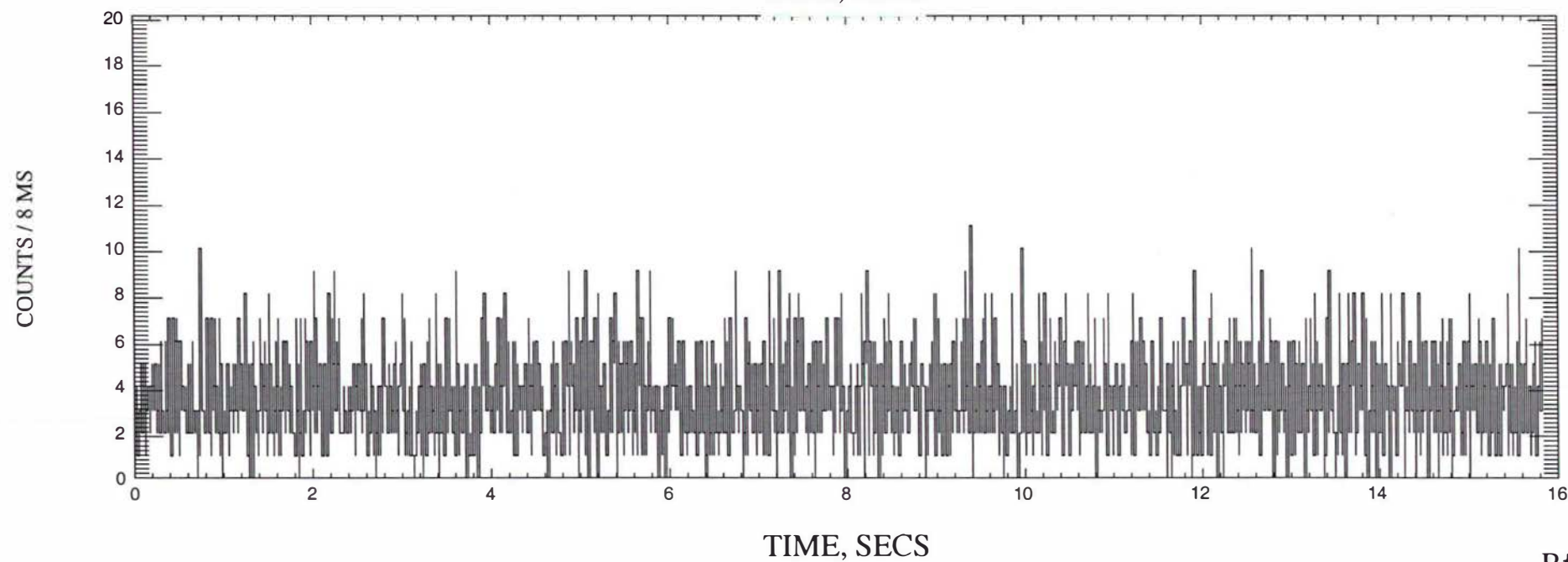
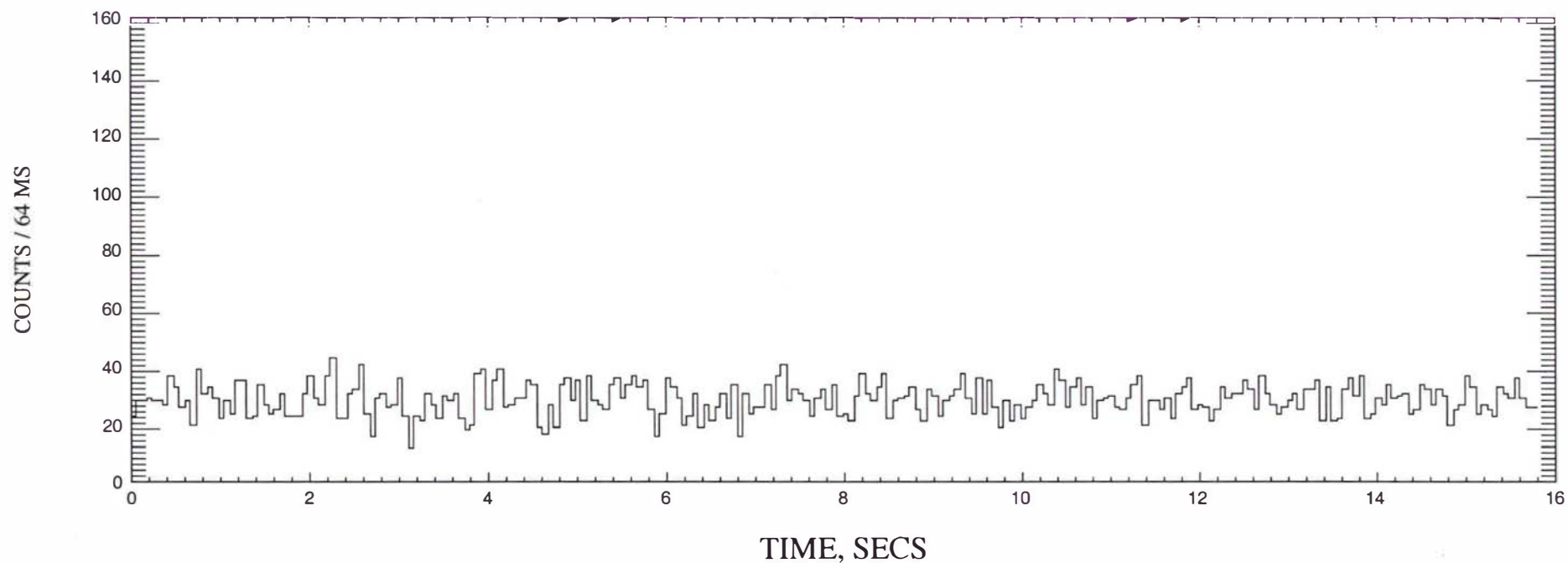


CALIBRATION DATA INCLUDED

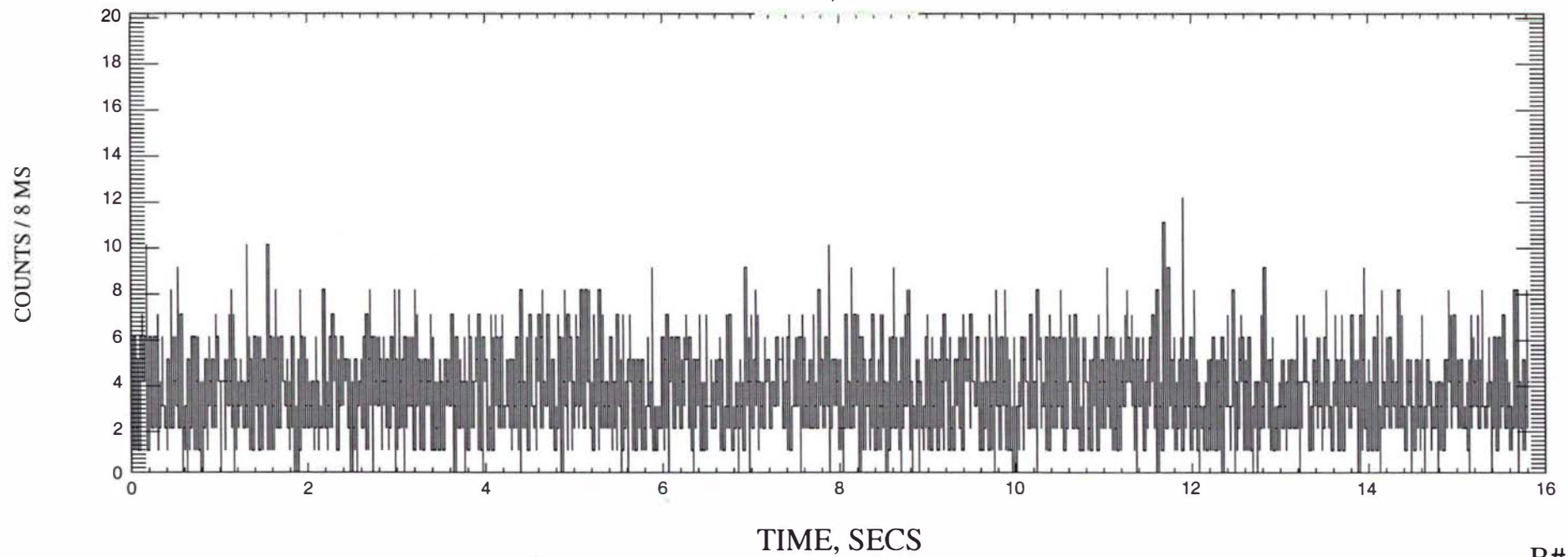
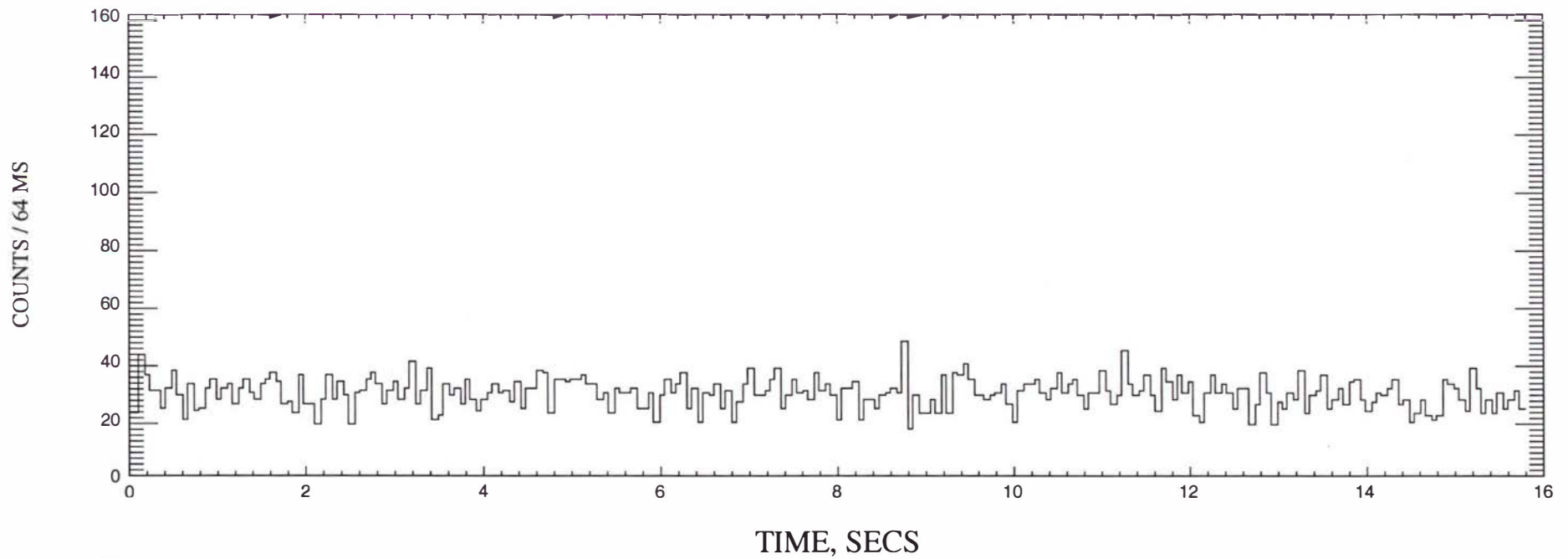


UNIVERSAL TIME

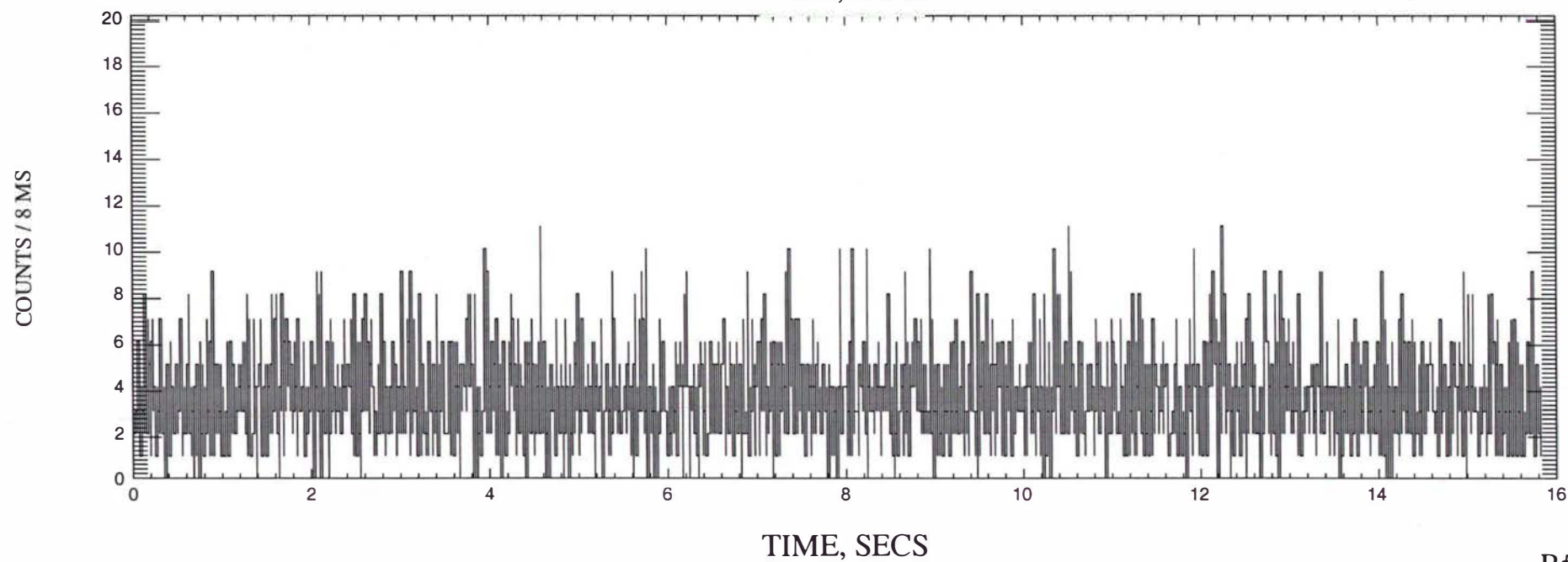
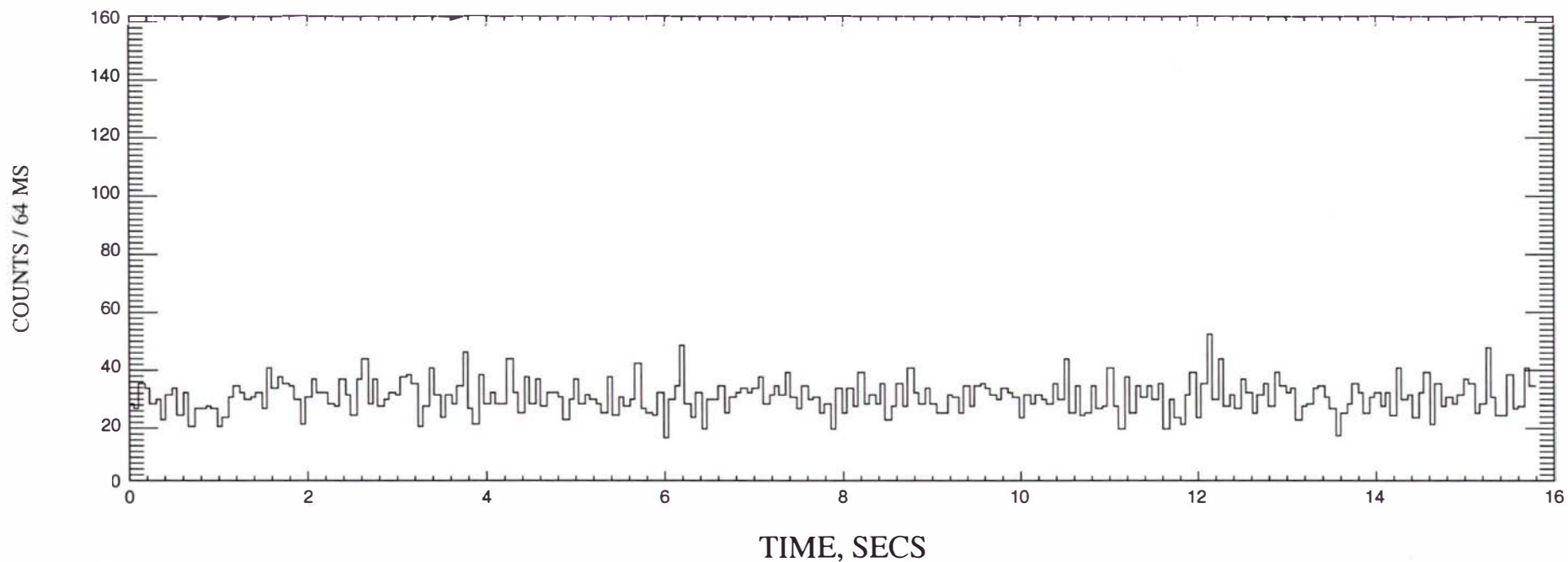
Burst Counter 7 at UT=11.411528299120 h=41081.502 s 11:24:41.502



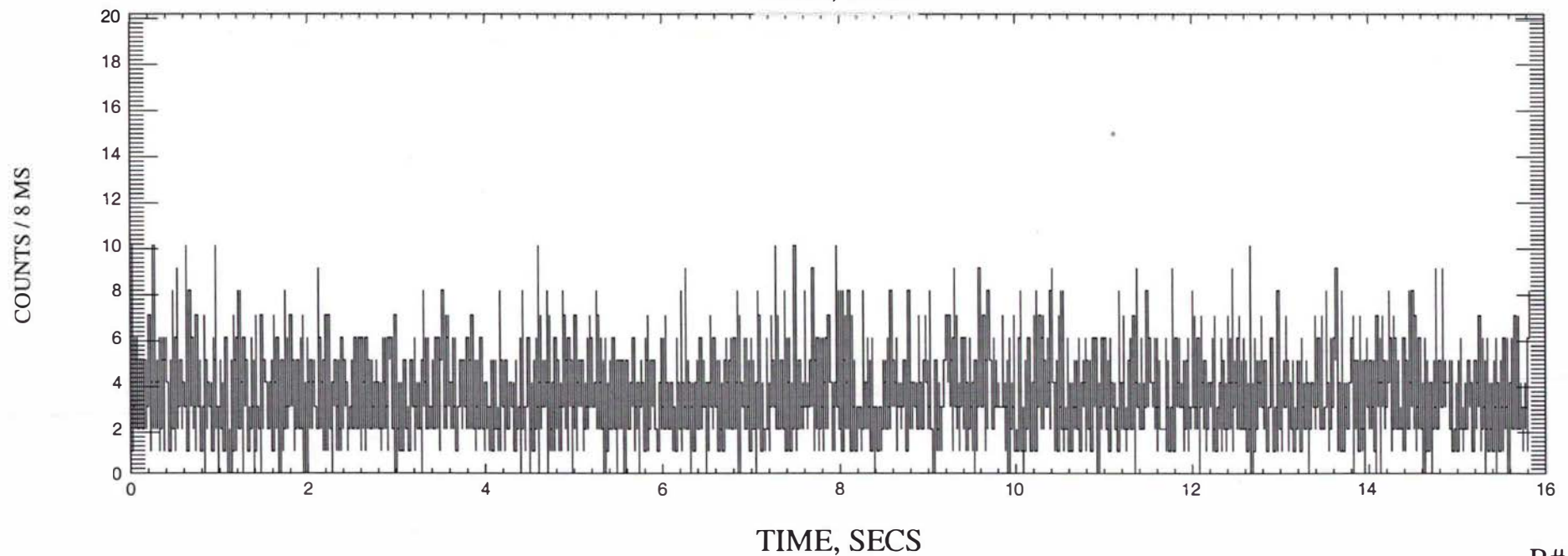
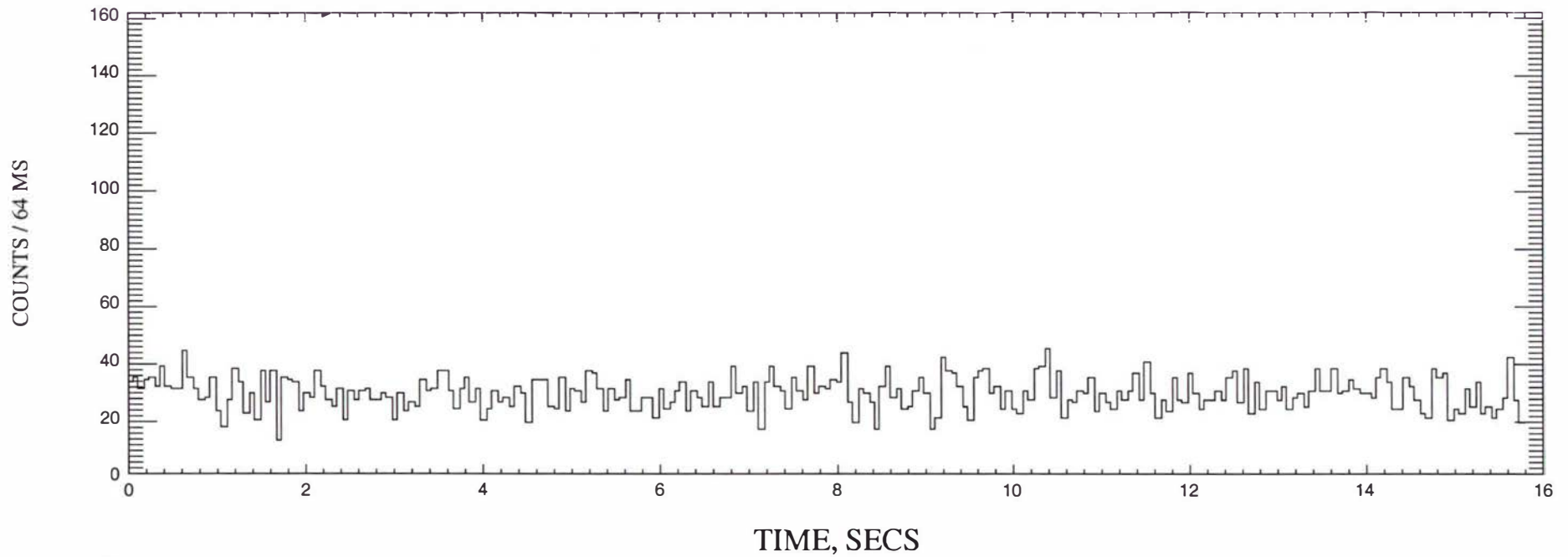
Burst Counter 8 at UT=13.911518953111 h=50081.468 s 13:54:41.468



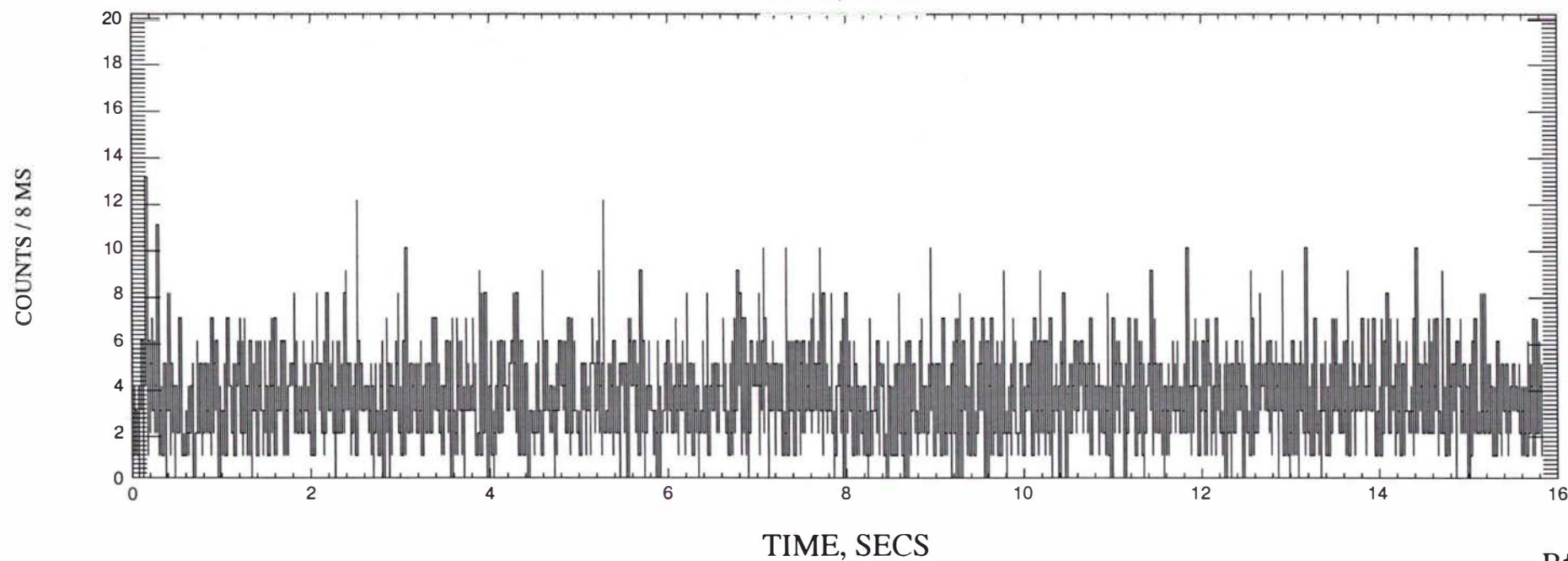
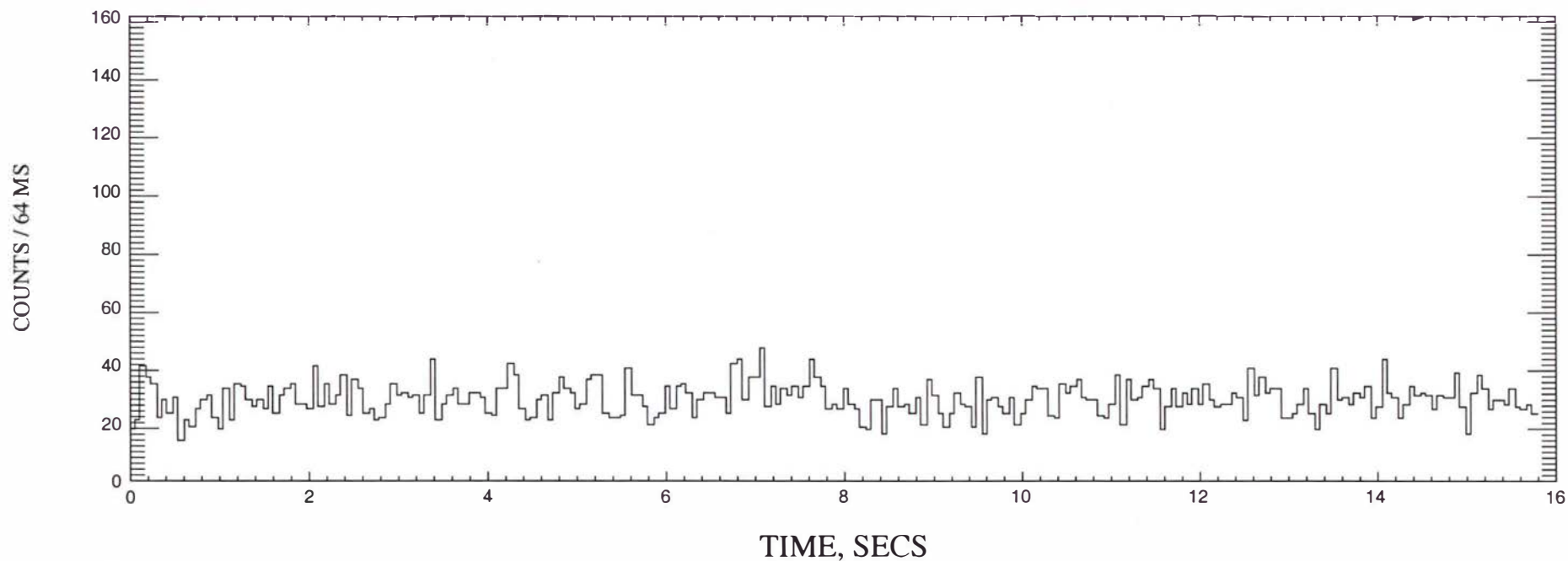
Burst Counter 9 at UT=14.744860259162 h=53081.497 s 14:44:41.497



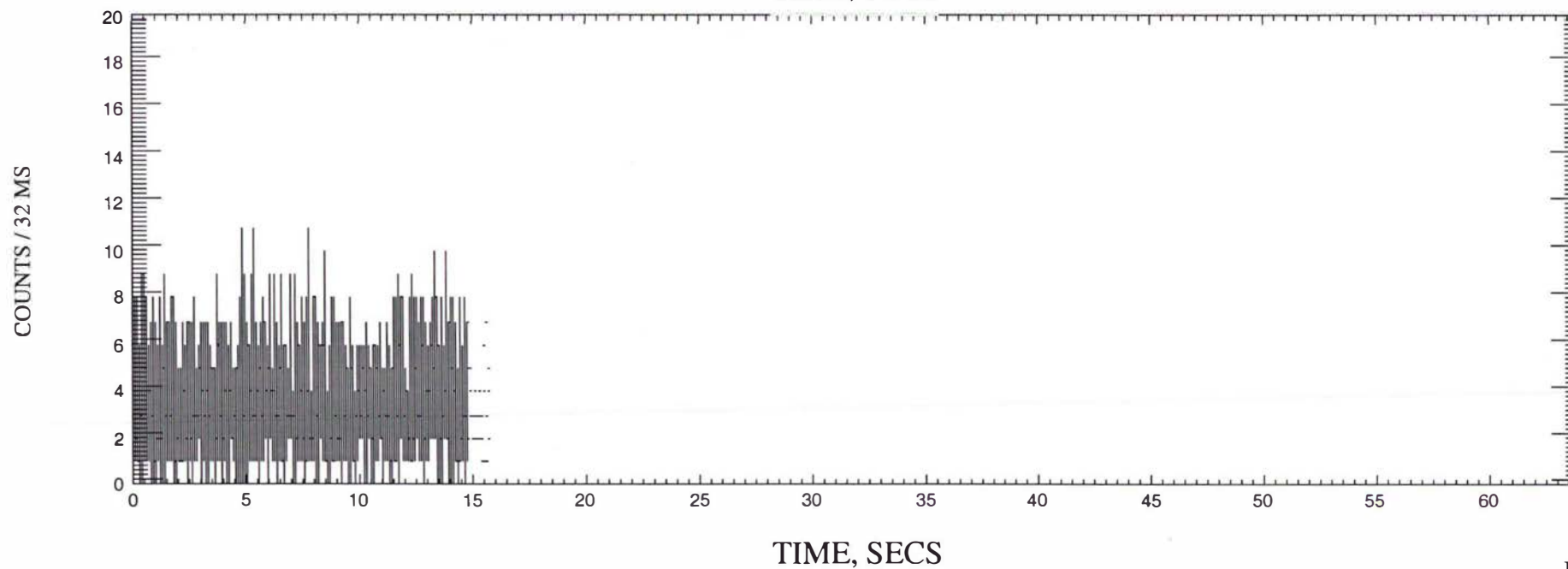
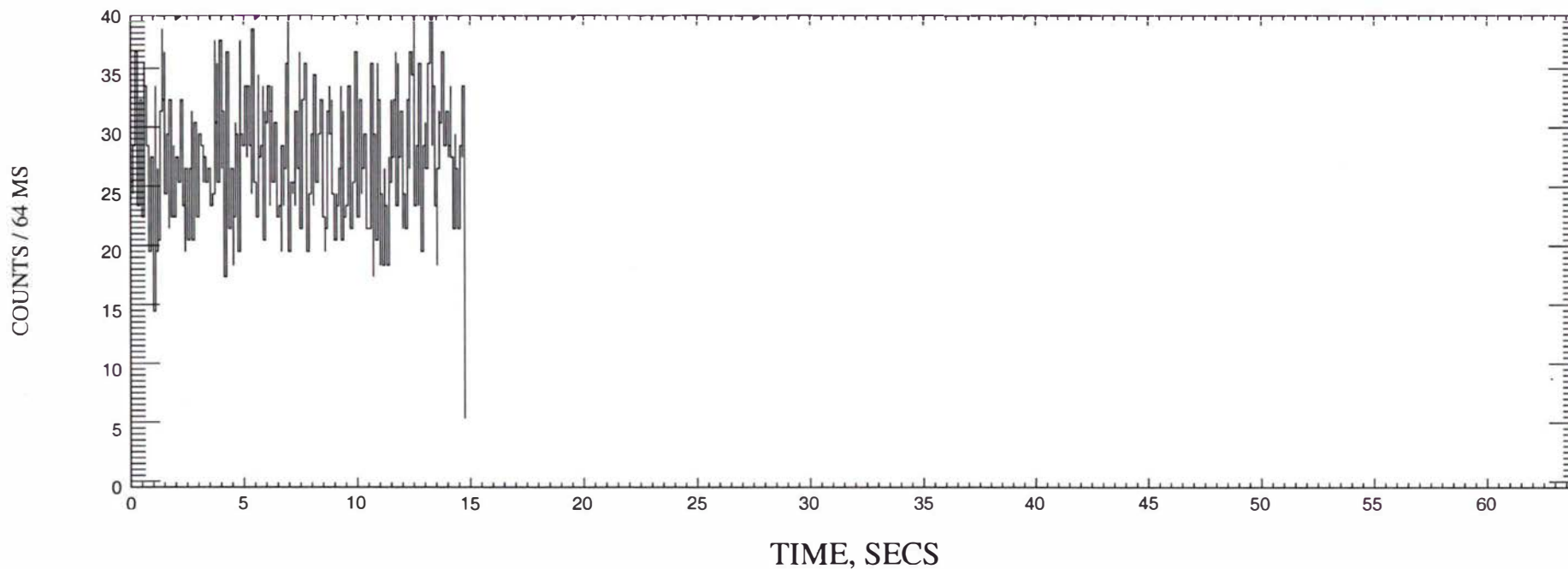
Burst Counter 10 at UT=15.578202290005 h=56081.528 s 15:34:41.528



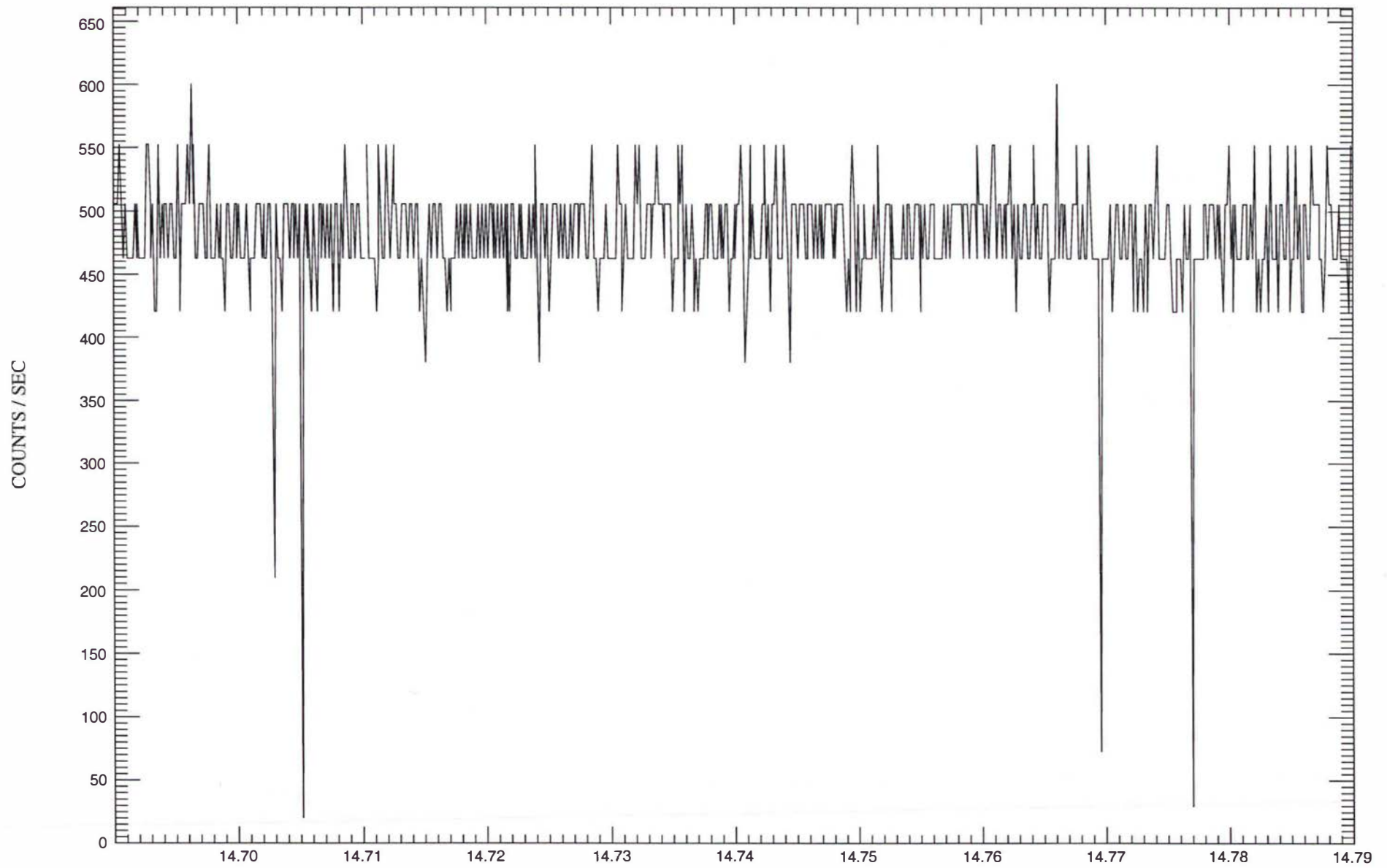
Burst Counter 11 at UT=16.411544325087 h=59081.560 s 16:24:41.560



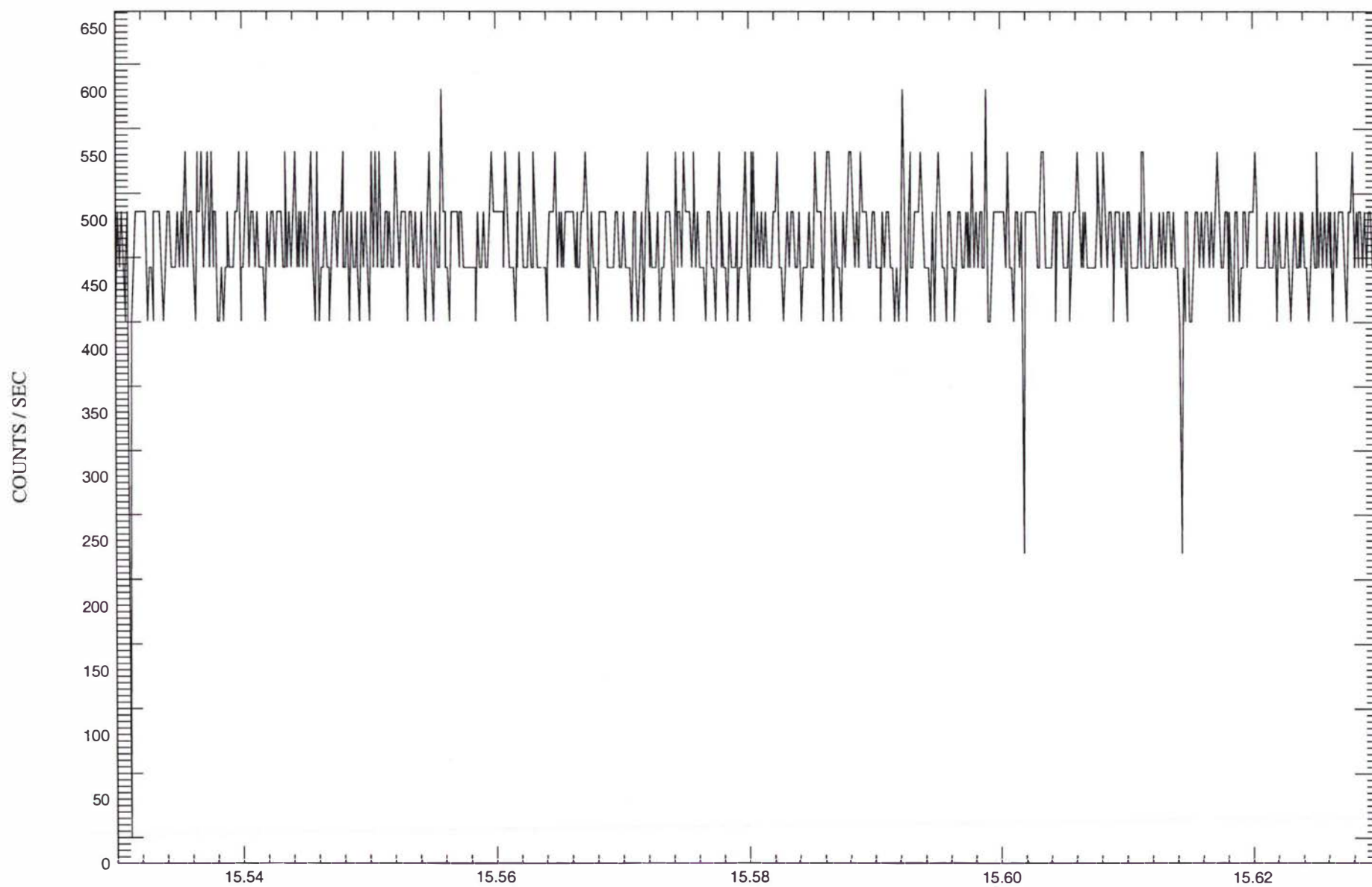
Burst Counter 12 at UT=17.244886355930 h=62081.591 s 17:14:41.591



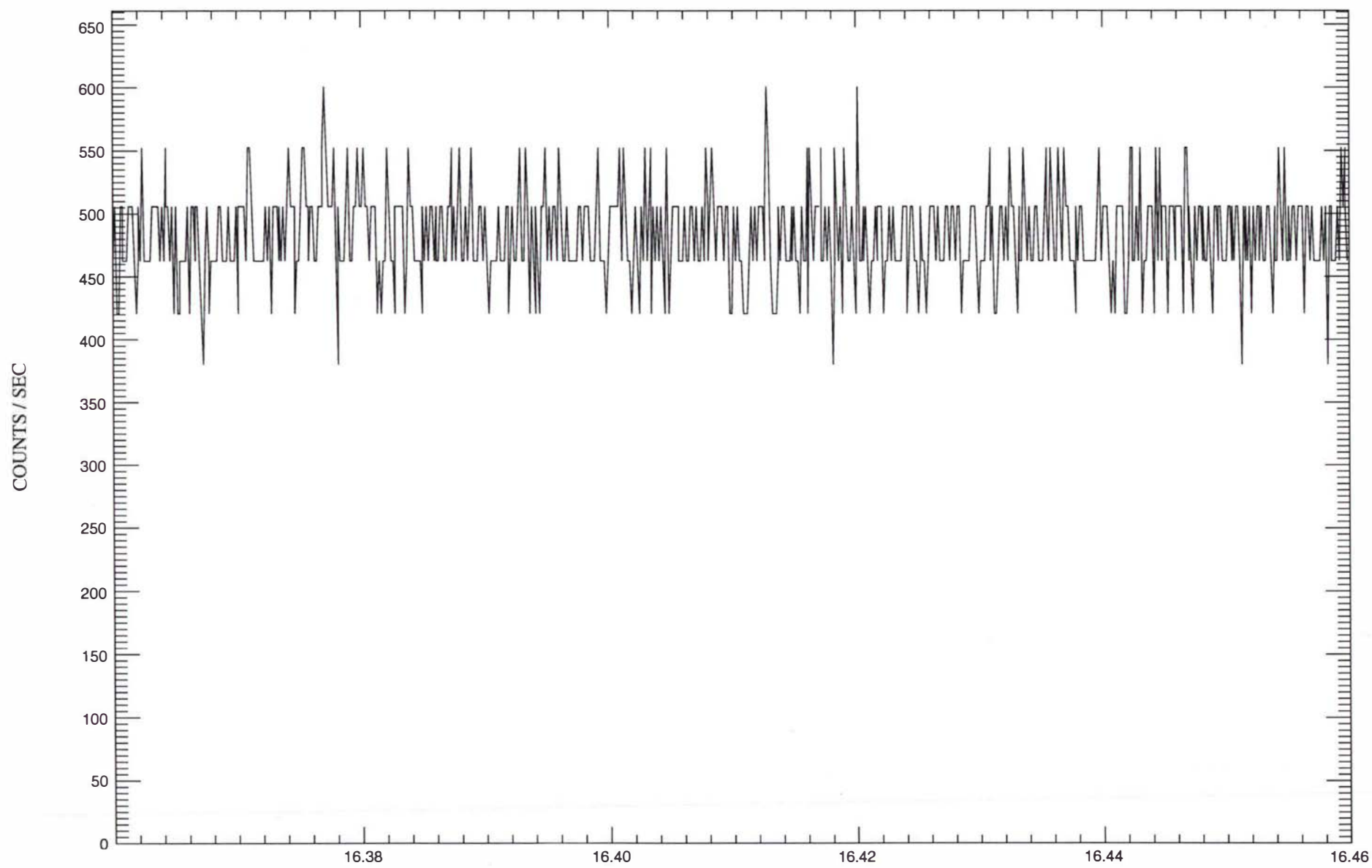
CALIBRATION DATA INCLUDED



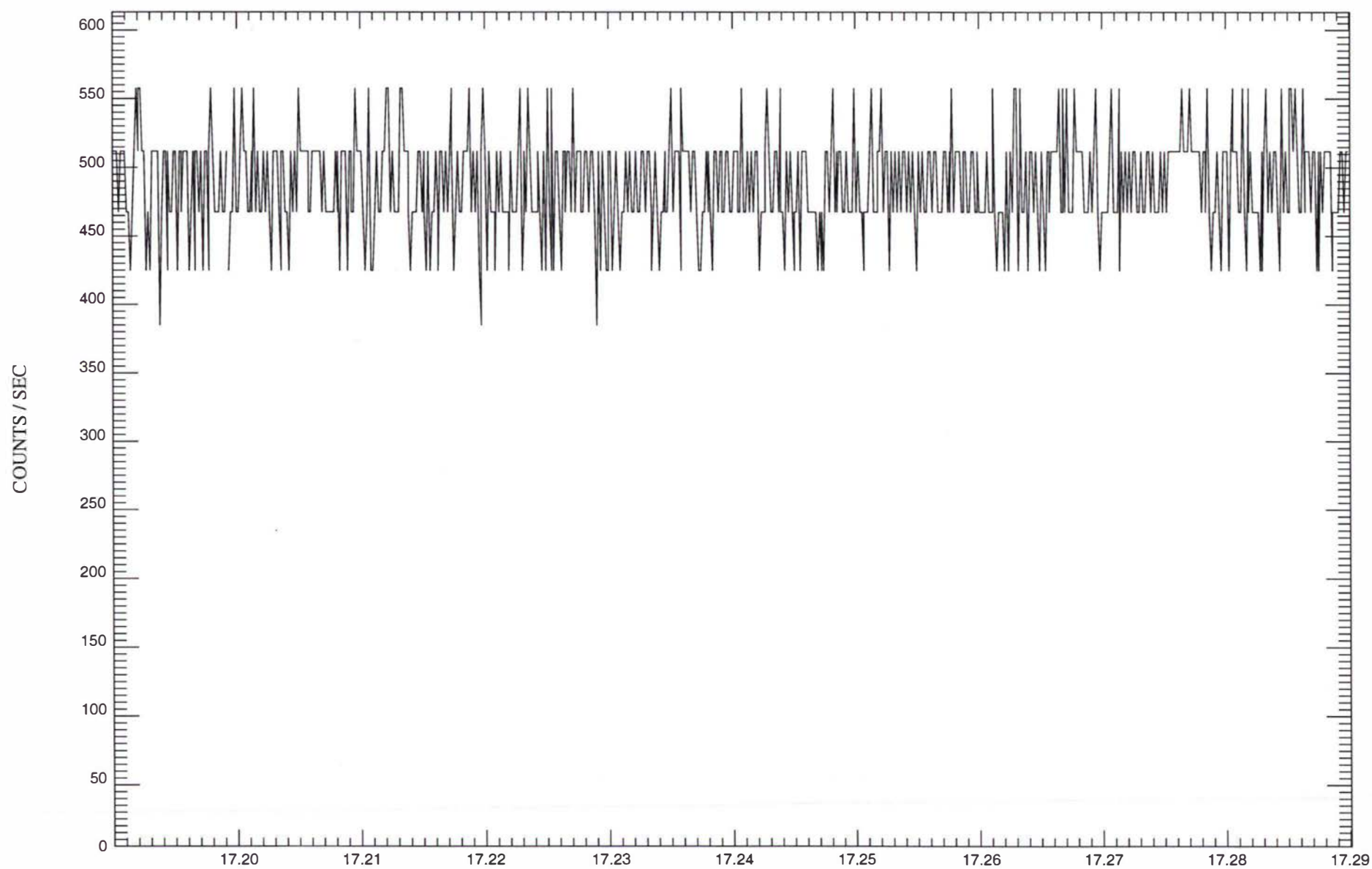
CALIBRATION DATA INCLUDED

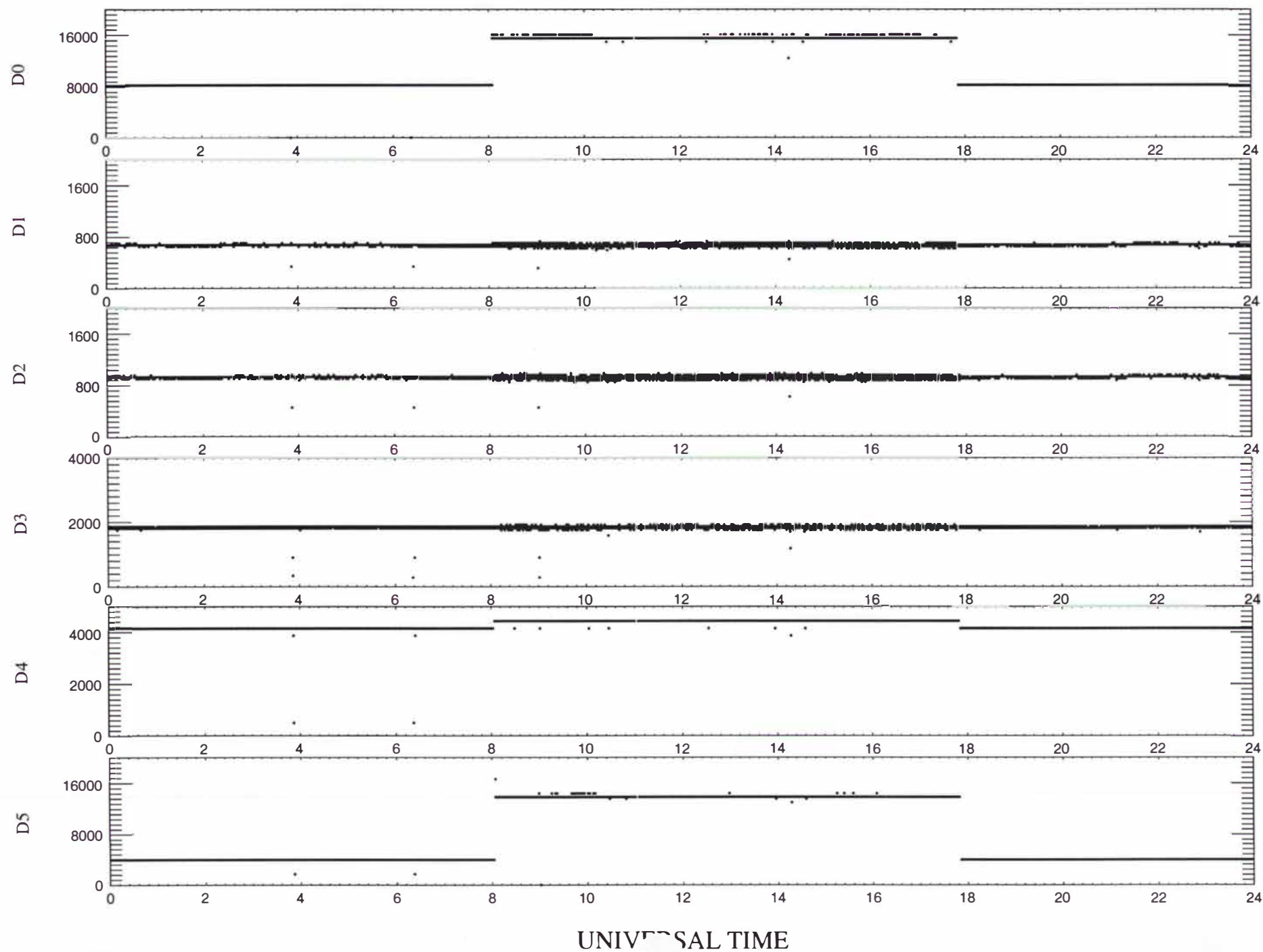


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





Date: Feb 10 2010

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data *N/A*

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

3. NEAR Data *N/A*

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

4. For Konus events *N/A*

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

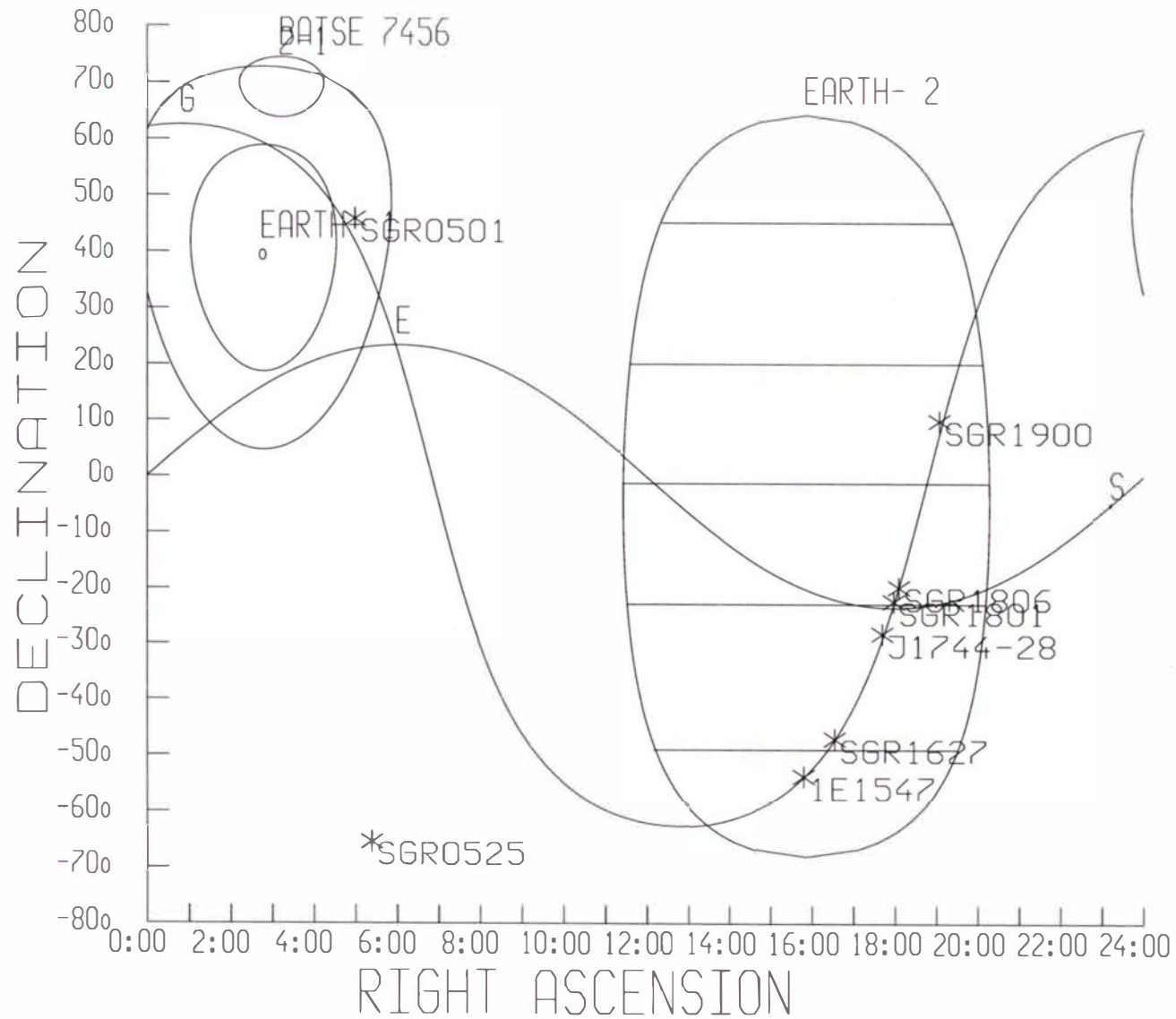
- ☐ $\Sigma 3\Delta t$'s calculated?

☒ ACCESS database updated?

EVENT OF MAR 8, 1999 3:04

10/02/2010

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

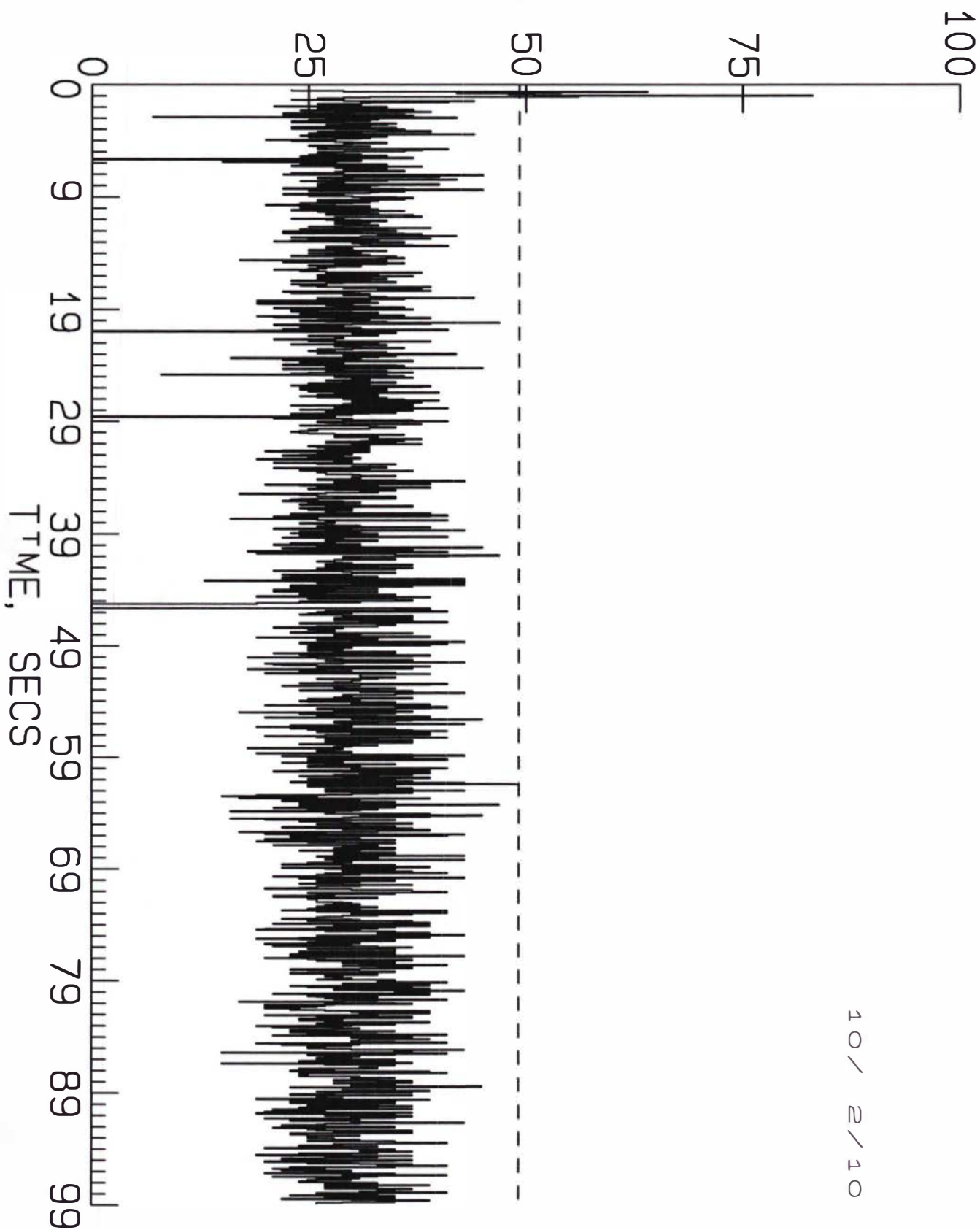


KONUS

08/03/99 11094.540

50- 200 keV

COUNTS/0.064 S

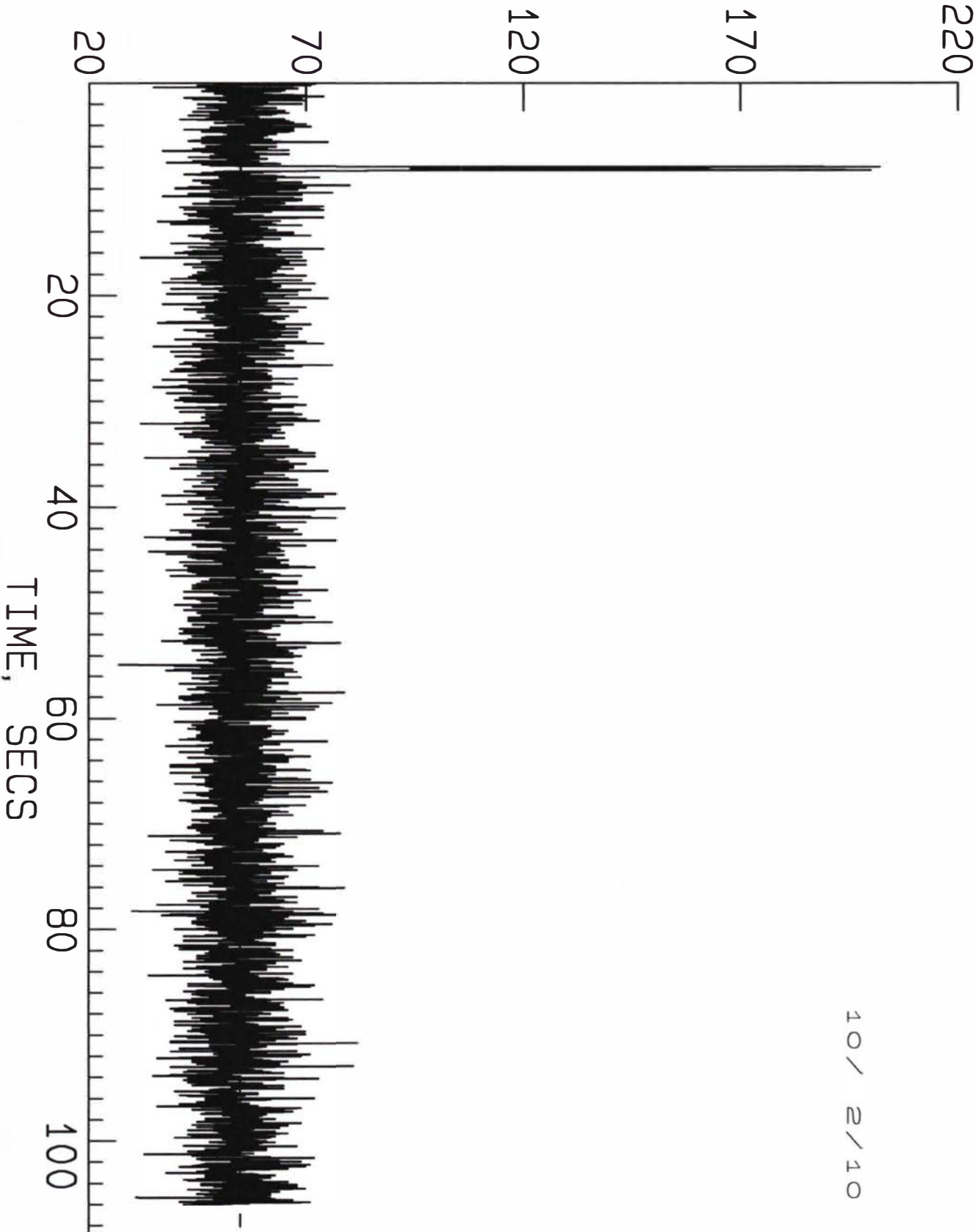


SAX GRBM

08/03/99 11085.089

40- 700 keV

COUNTS/0.031 S

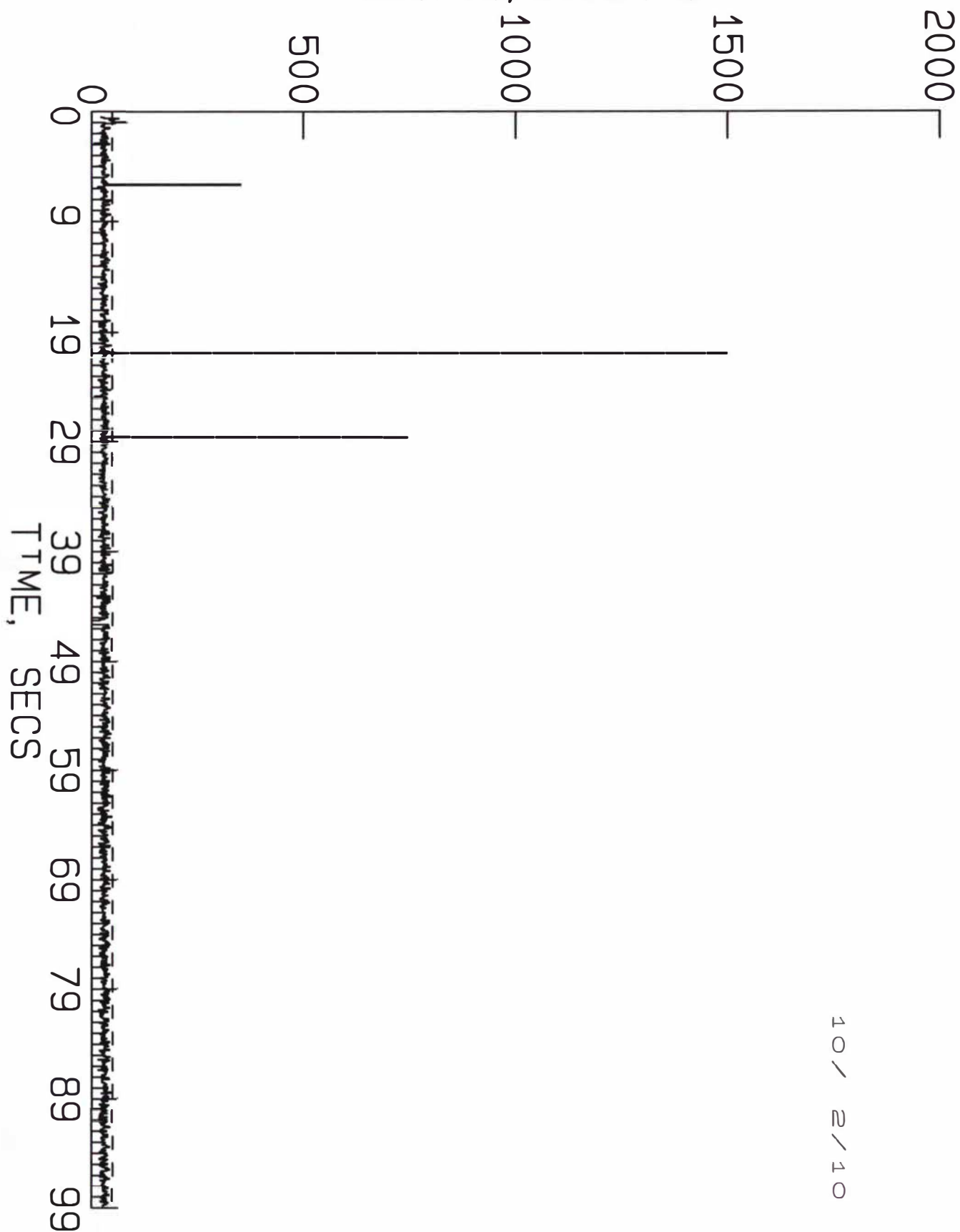


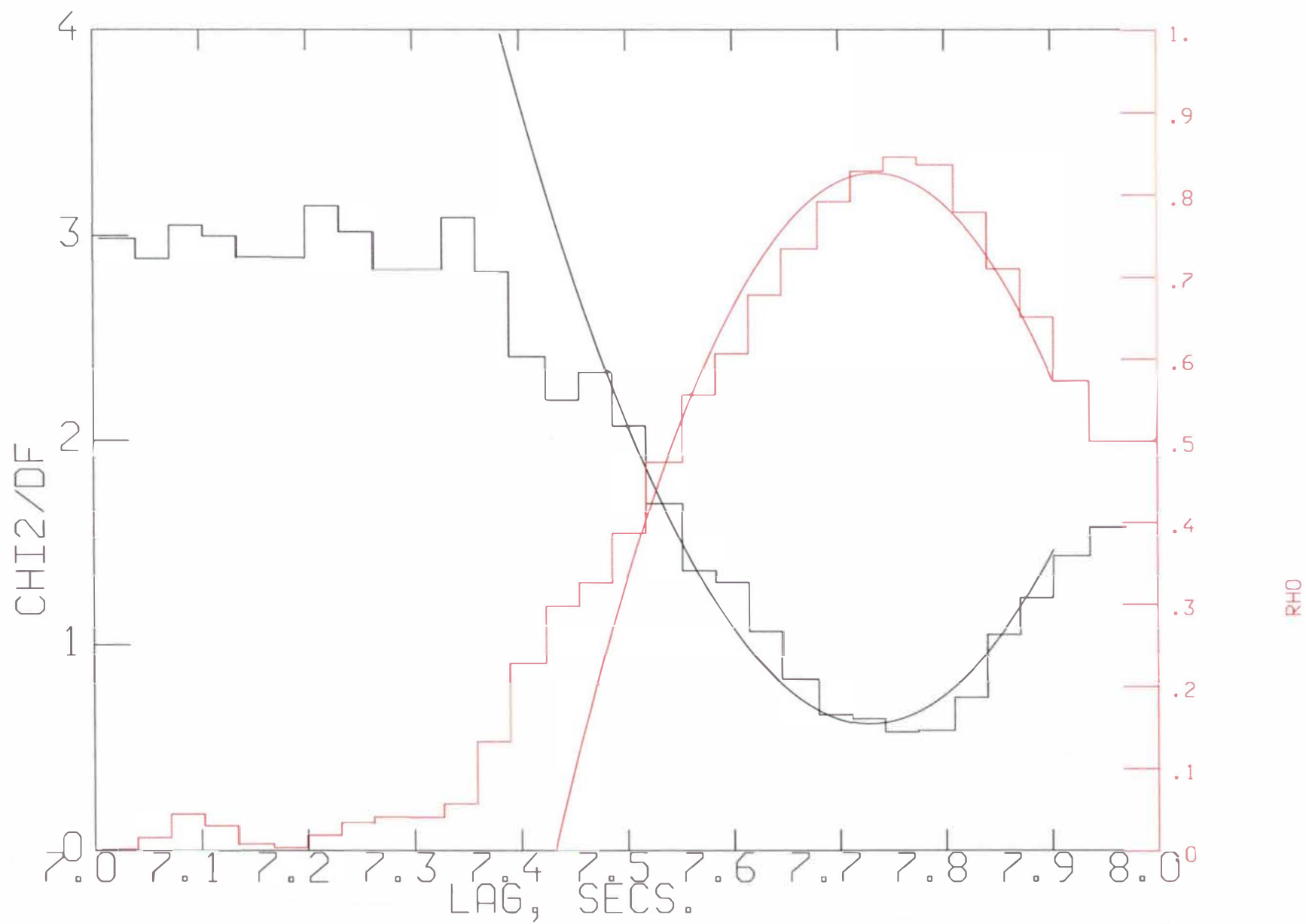
KONUS

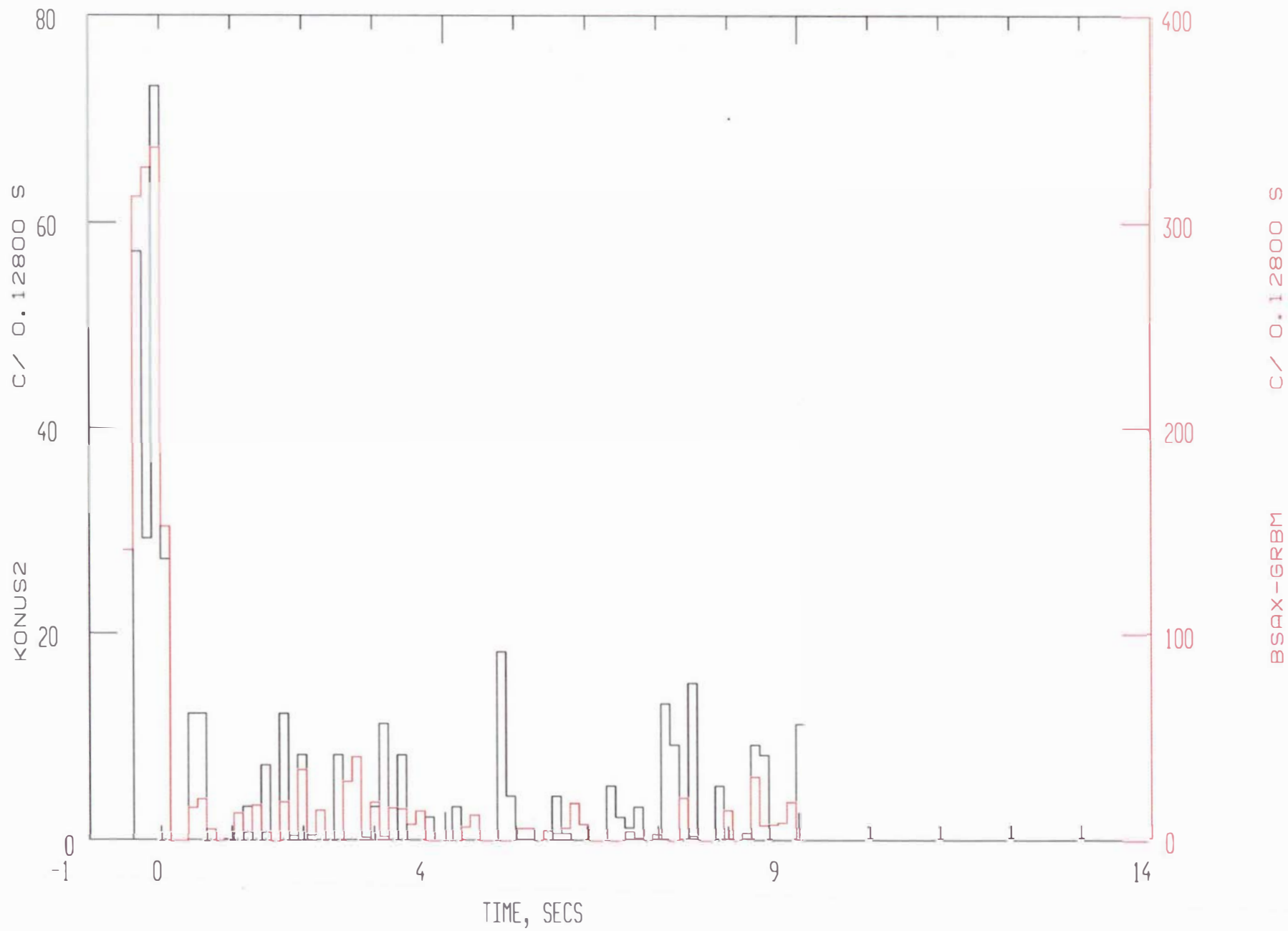
08/03/99 11094.540

50- 200 keV

COUNTS/0.064 S







From WOODSP@fender.msfc.nasa.gov Mon Mar 15 09:02:05 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 JAA08314; Mon, 15 Mar 1999 09:02:04 -0800
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 JAA07471
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 09:02:03 -0800 (PST)
Date: Mon, 15 Mar 1999 11:01:38 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990315110138.20210941@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7456
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7456
EVENT OF 1999 MAR 8 DAY OF YEAR= 67
EVENT CROSSING TIME AT BATSE : 11093. S. OR 03:04:53.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 48.000 69.000
BATSE PEAK COUNTING RATE: 26000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 3/ 99 IS:
RA= 153.242 DEC= -9.363 DIST= 4.141 AU
BATSE-ULYSSES DISTANCE = 619427156. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 75.83 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 505.89 SECS.
CROSSING TIME AT ULYSSES IS 11599. S. OR 03:13:18 +/- 405.49 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 3/ 99 IS:
RA= 219.805 DEC= -13.214 DIST= 0.845 AU
MARS-BATSE DISTANCE = 126412648. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.03 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 235.60 SECS.
CROSSING TIME AT MARS IS 11329. S. OR 03:08:48 +/- 64.29 SECONDS

BATSE BURST TRIGGER

NO.: 7456

TIME: TJD=1245 SECONDS=11093

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=102.9 AZIMUTH=261.6 ERROR=5.1 DEGREES

COMMENTS:

GRB LASTING ABOUT 0.5 SEC WITH WEAK TAIL FOR 2 SEC. SINGLE,
HARD PULSE WITH SUBSTRUCTURE. VISIBLE ABOVE 300 KEV.
PHOSPHORESCENT SPIKE AT T+45 SEC.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7456	990308	11245	11093	26000	048	+69	.5

BATSE BURST# 7456

ULYSSES RT

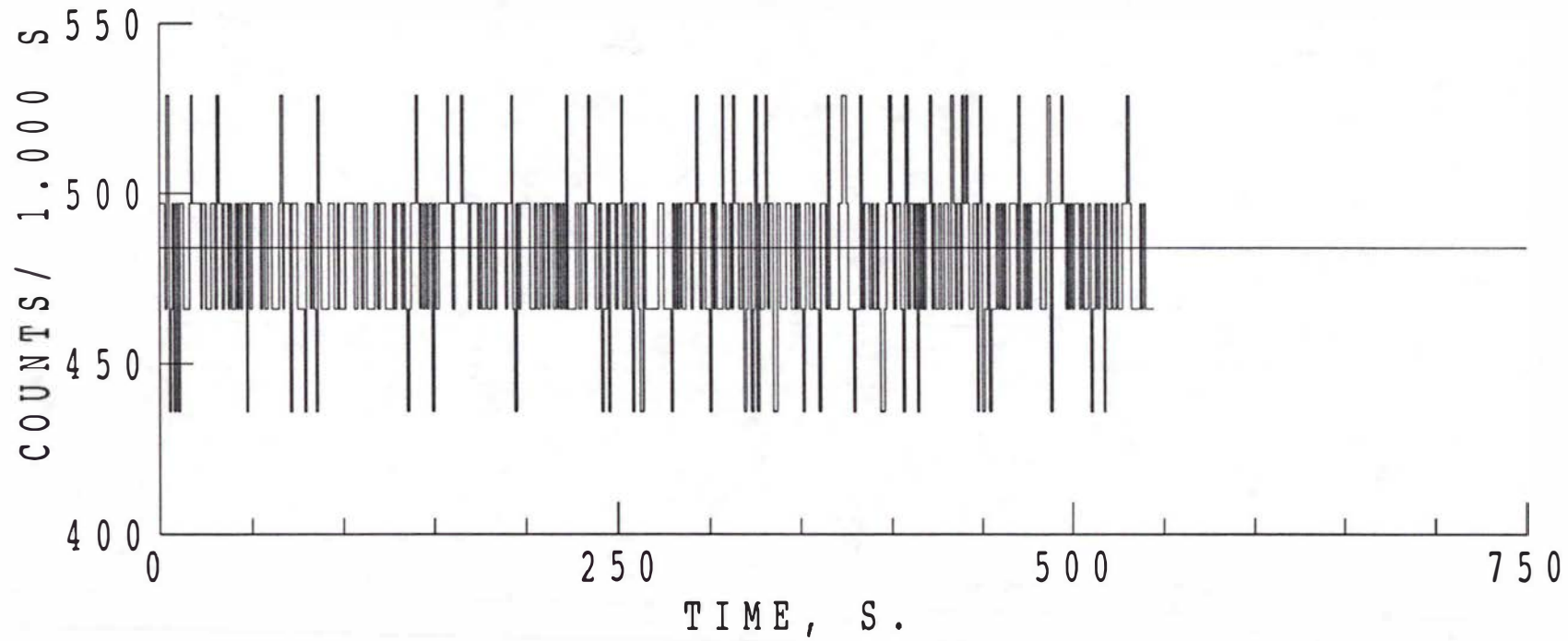
8 / 3 / 99

8 / 3 / 99 11376.298 s

0 - 0 keV

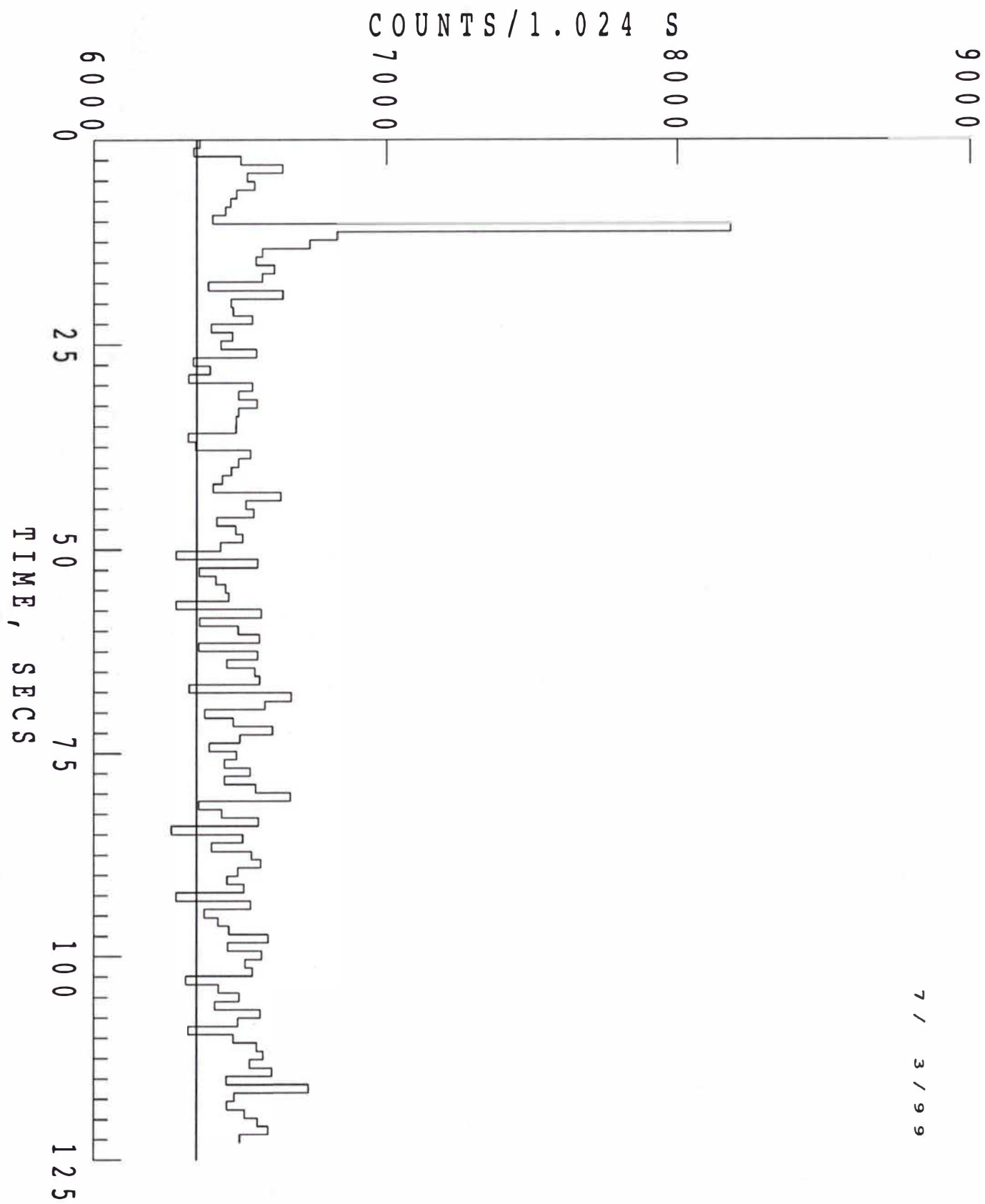
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7456 08/03/99 11082.489

25 - 100 keV



BATSE BURST# 7456

ULYSSES RT

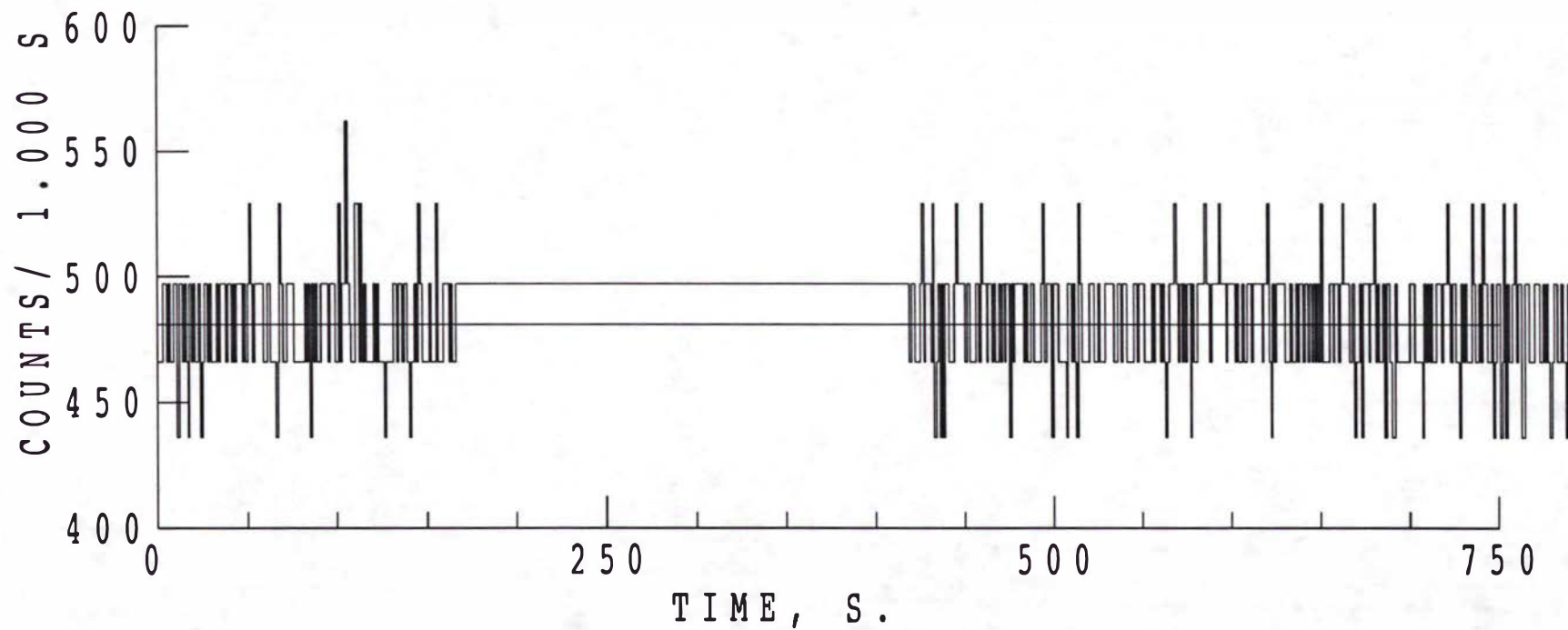
15 / 3 / 99

8 / 3 / 99 11196.290 s

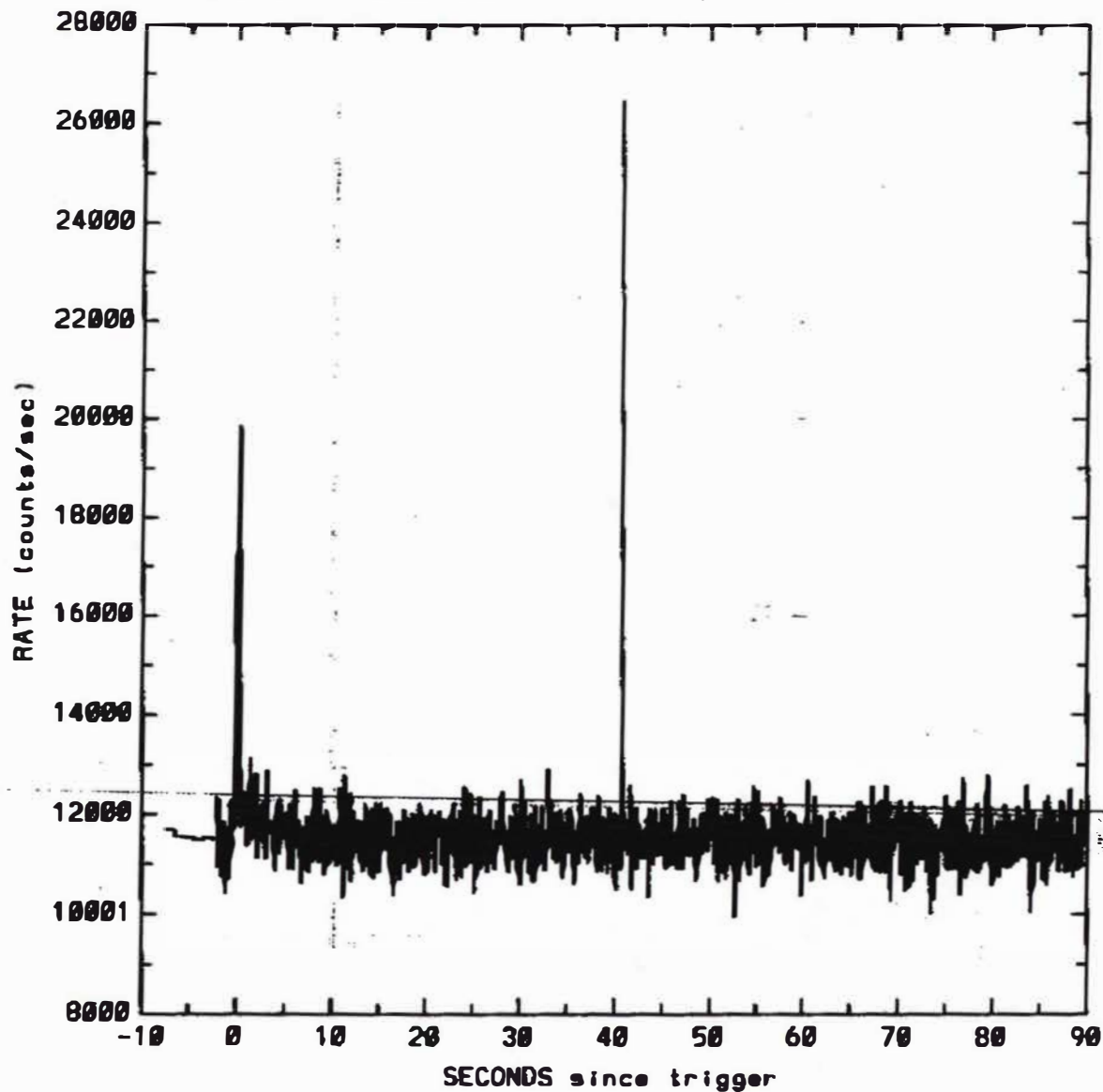
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



DISCSC Data for K. Hurley. No. 7456



17-MAR-1999 09:43:02

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

Trigger # : 7456

Trigger Time:
 11245 / 11093.049

Burst Data Type:
 DISCSC

Deadtime
 Corrected: N

Background Data
 Type: PREB + DISCLA

Minimum Integ. Time:
 0.001 seconds

Detectors (7..0):
 76--32--

Discriminators:
 (1 . 2)

Quality Mask:
 BDISP1

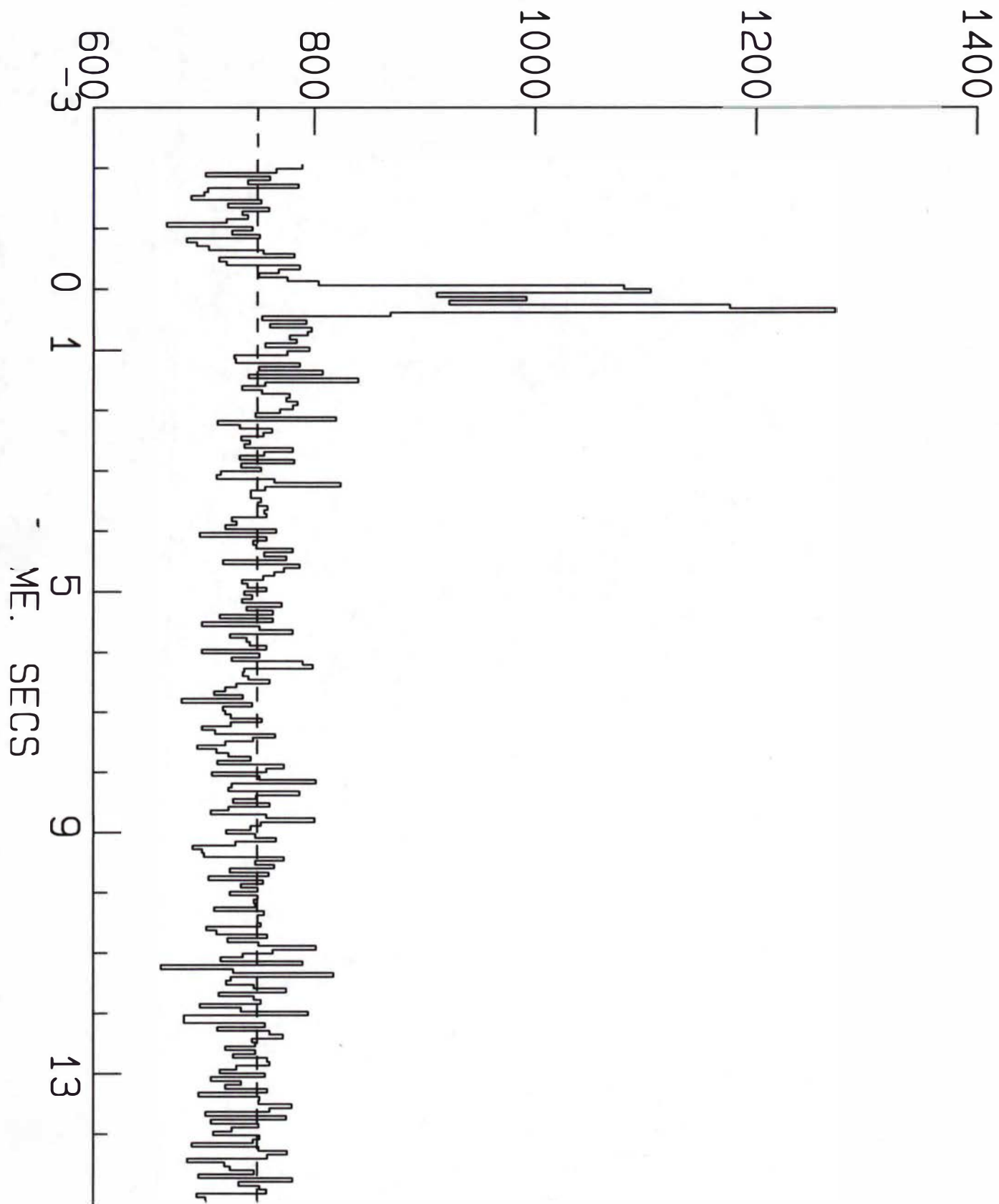
BATSE

08/03/99

11093.049

25- 100 keV

COUNTS/0.064 S



From HENZE@fender.msfc.nasa.gov Wed Mar 10 12:55:10 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 MAA01791; Wed, 10 Mar 1999 12:55:09 -0800
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 MAA24773
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 10 Mar 1999 12:55:06 -0800 (PST)
Date: Wed, 10 Mar 1999 14:55:05 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990310145505.20211a75@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7457
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7457
EVENT OF 1999 MAR 8 DAY OF YEAR= 67
EVENT CROSSING TIME AT BATSE : 18907. S. OR 05:15:07.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 189.000 4.000
BATSE PEAK COUNTING RATE: 5700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 3/ 99 IS:
RA= 153.221 DEC= -9.360 DIST= 4.141 AU
BATSE-ULYSSES DISTANCE = 619435003. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1626.48 SECS.
CROSSING TIME AT ULYSSES IS 17281. S. OR 04:48:00 +/- 246.53 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 3/ 99 IS:
RA= 219.805 DEC= -13.214 DIST= 0.845 AU
MARS-BATSE DISTANCE = 126412648. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=144.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -345.00 SECS.
CROSSING TIME AT MARS IS 18562. S. OR 05:09:21 +/- 36.85 SECONDS

BATSE BURST TRIGGER

NO.: 7457

TIME: TJD=1245 SECONDS=18907

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=152.9 AZIMUTH= 61.0 ERROR= 1.9 DEGREES

COMMENTS:

COMPLEX, SPIKY, TOTAL DUR. APPROX. 60 S.
WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7457	990308	11245	18907	5700	189	+04	60

Date: 25/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data **N/A**

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

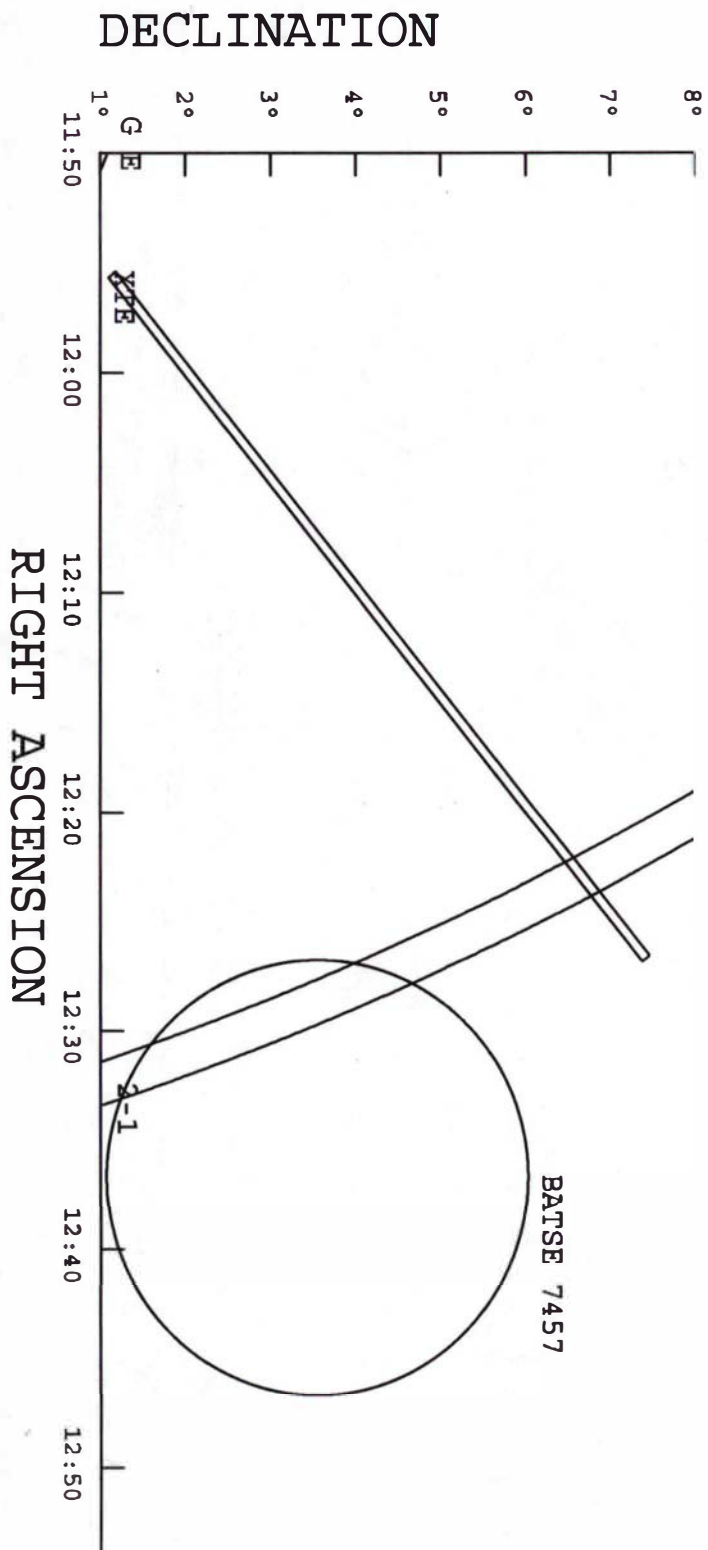
S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES



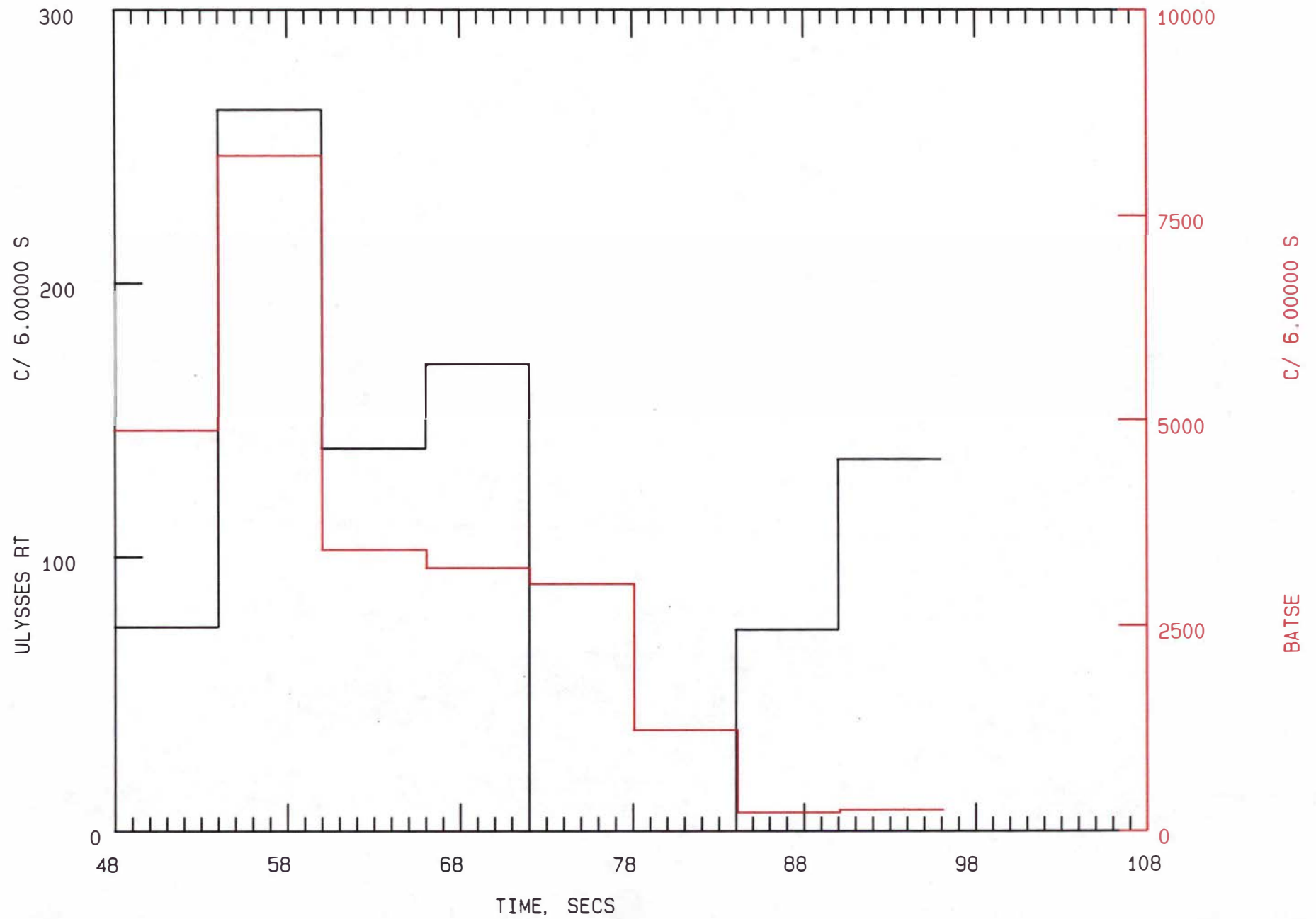
ULYSSES RT-BATSE

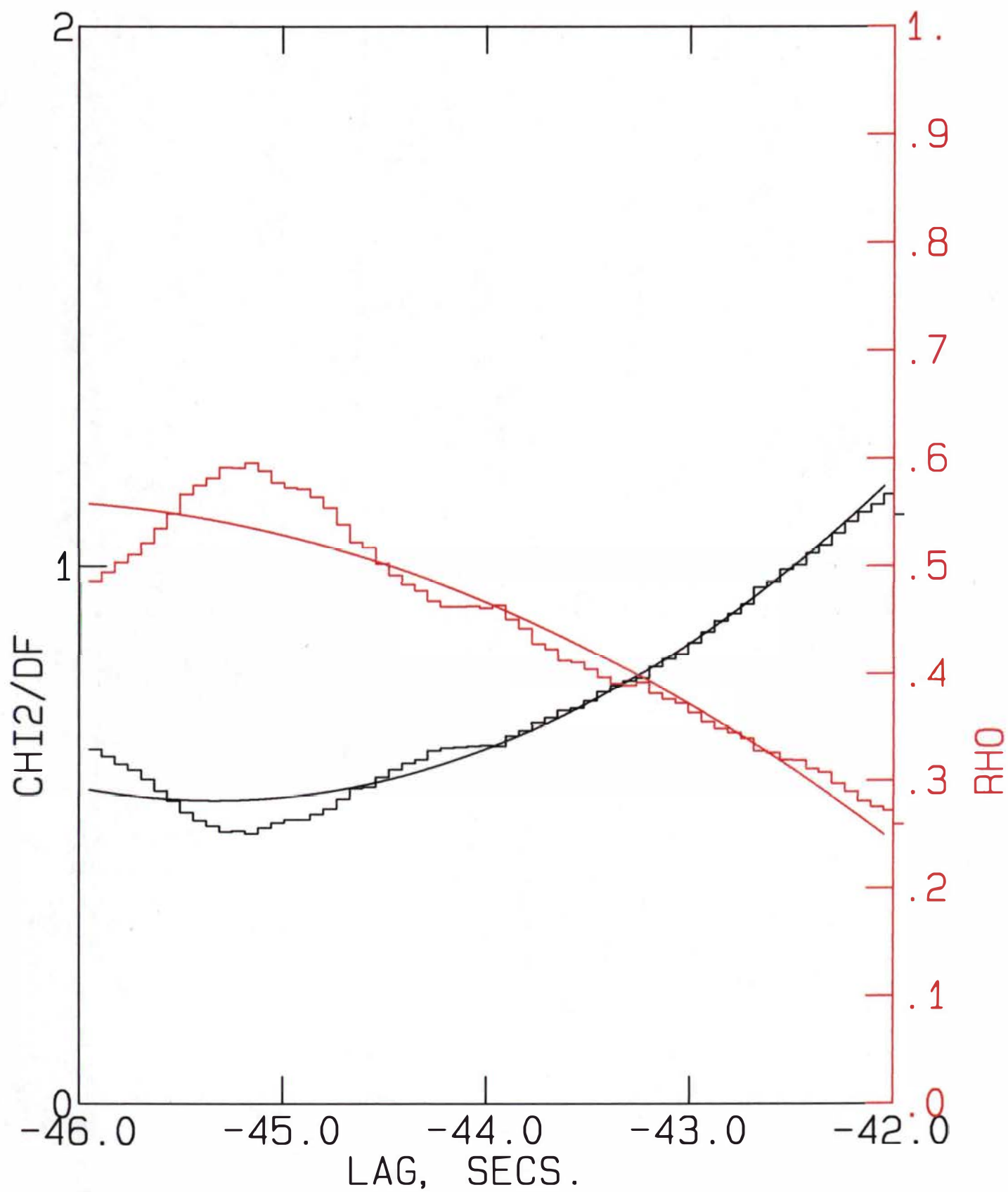
CORRELATION

8/ 3/99

17178.360

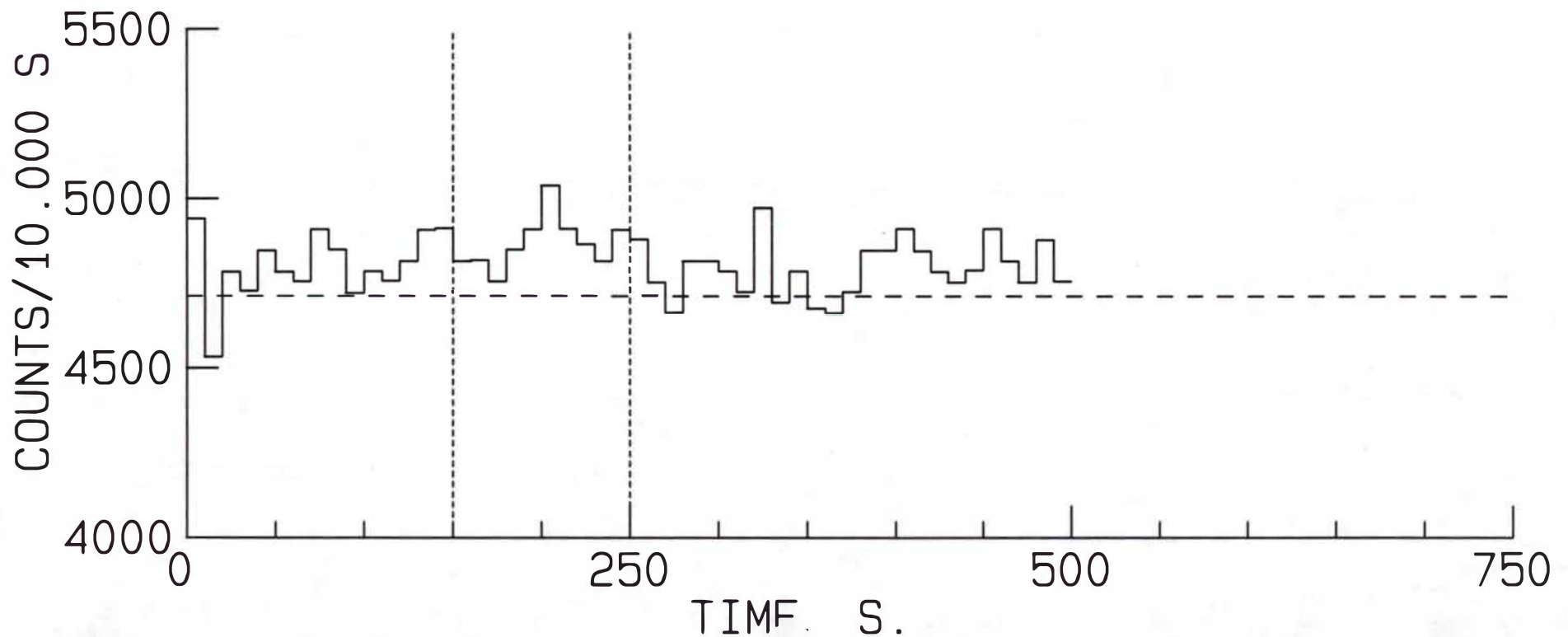
25/ 1/ 0





ULYSSES RT
8/ 3/99 17028.353 s
1.000 S INTERVALS REGROUPED BY 10
22- 150 keV

25 / 1 / 0



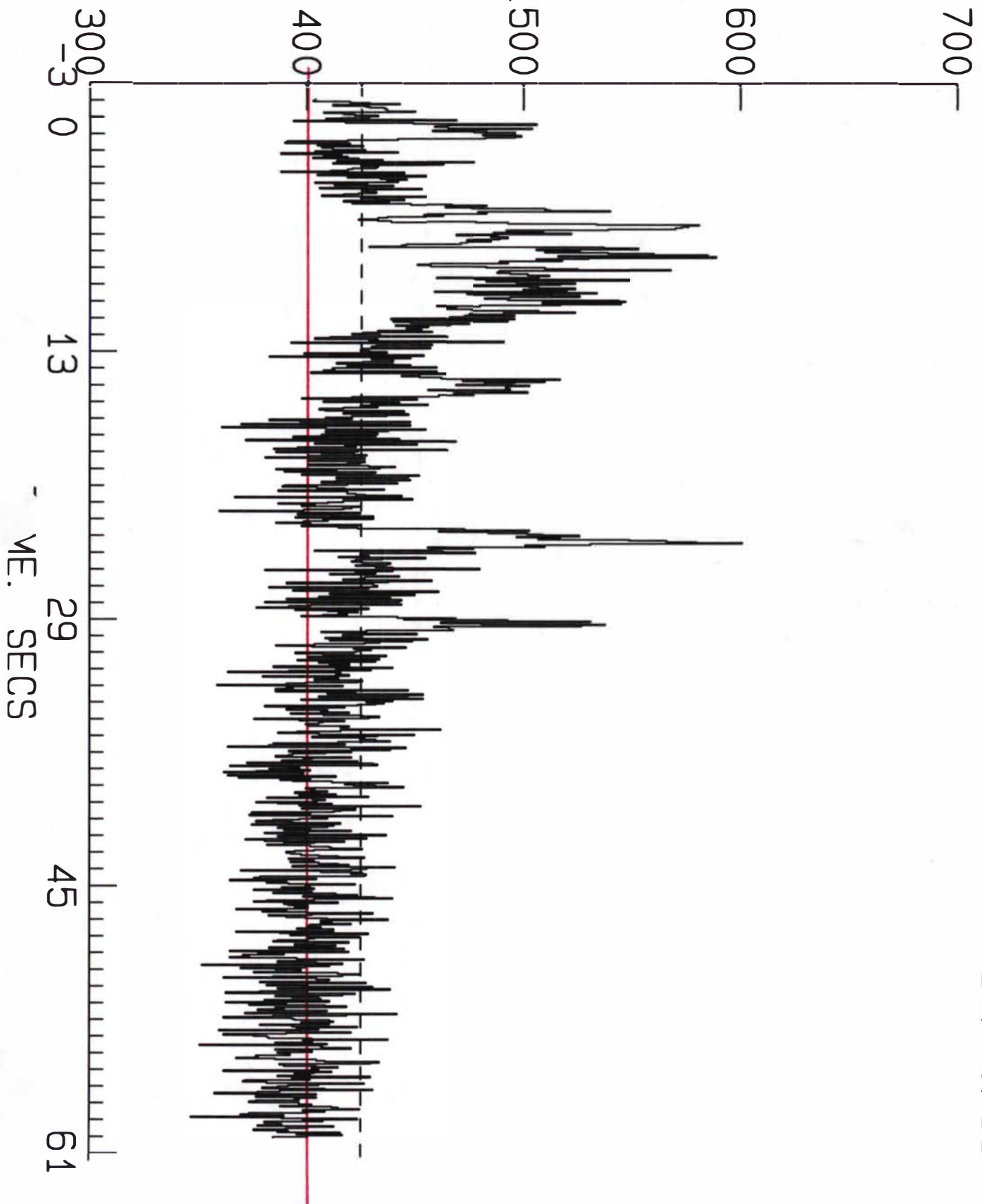
BATSE

08/03/99

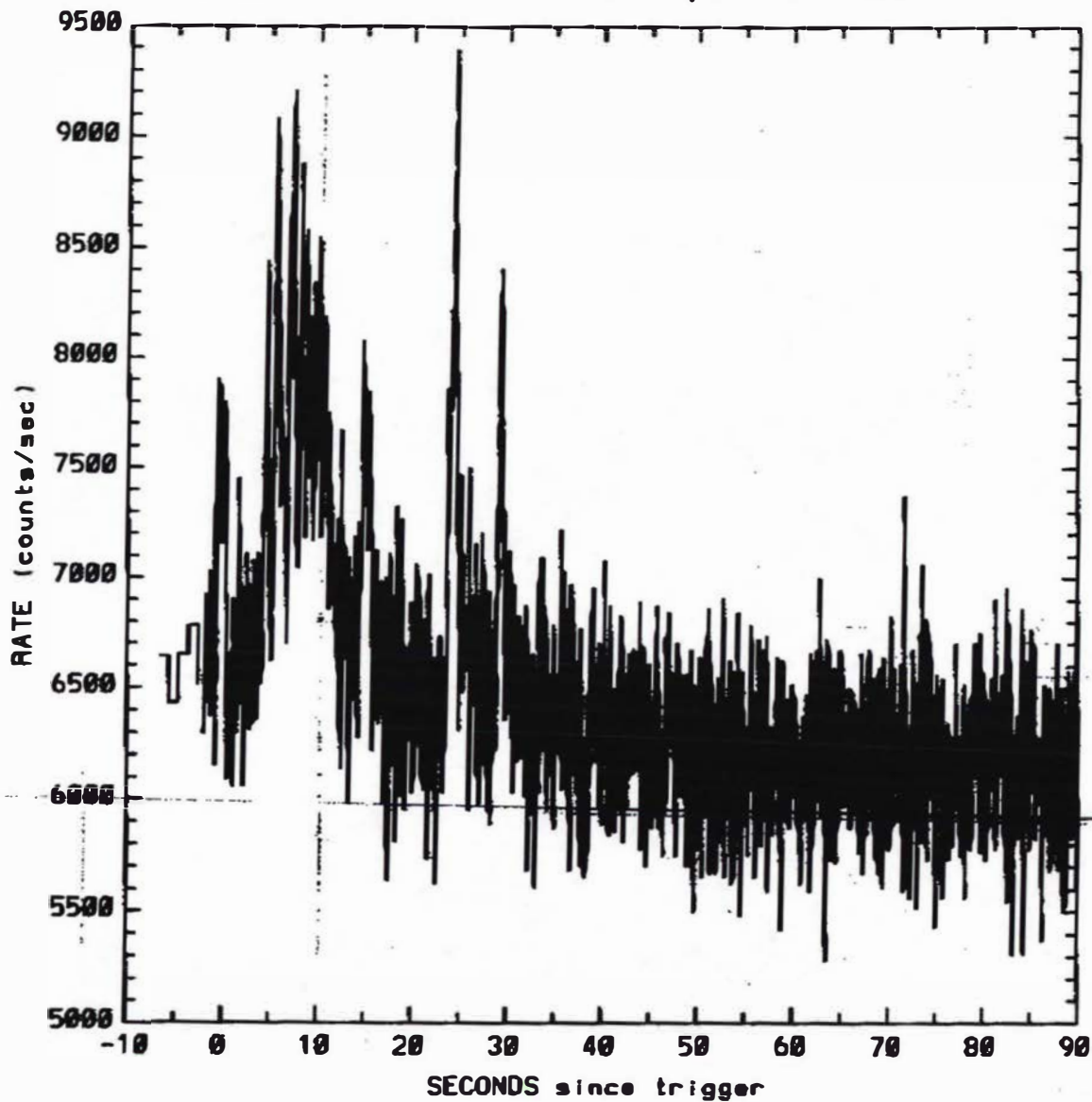
18907.385

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7457



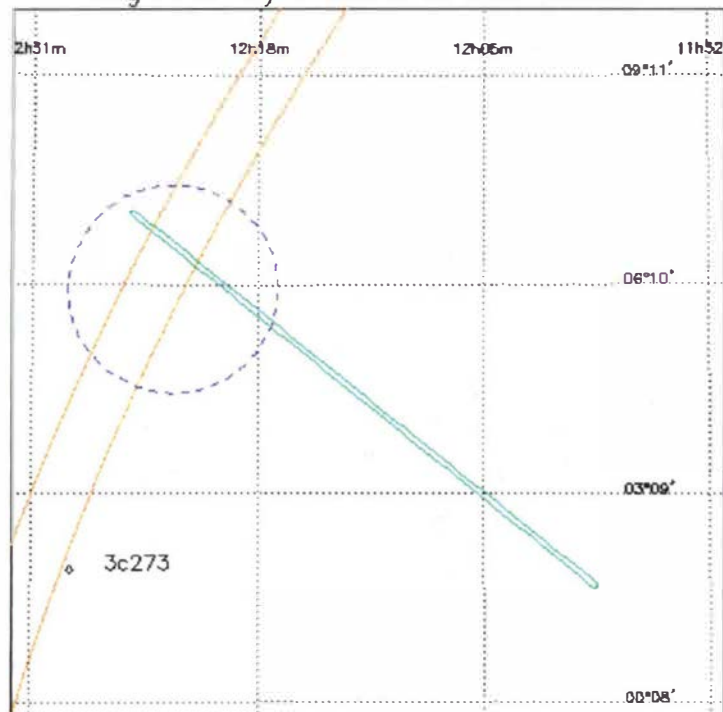
17-MAR-1999 09:43:54

Created by MDPS 80
(Burst Display)
Version 12.26

Trigger = 7457

Trigger Time:
11245 / 18987.385Burst Data Type:
DISCSCDeadtime:
Corrected: 1.2Background Data:
Type: PREB + DISCSCMinimum Integ. Time:
0.064 secondsDetectors (7..8):
--5--1-Discriminators:
(1, 2)Quality Mask:
BDISP1

Region of Sky Centered on ASM Location

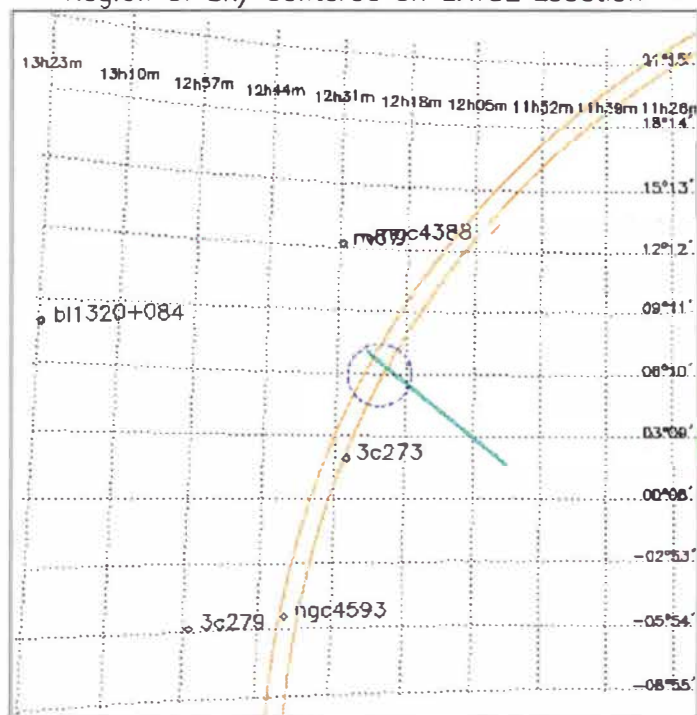


BATSE Map

(15° from center of circle with all known sources)

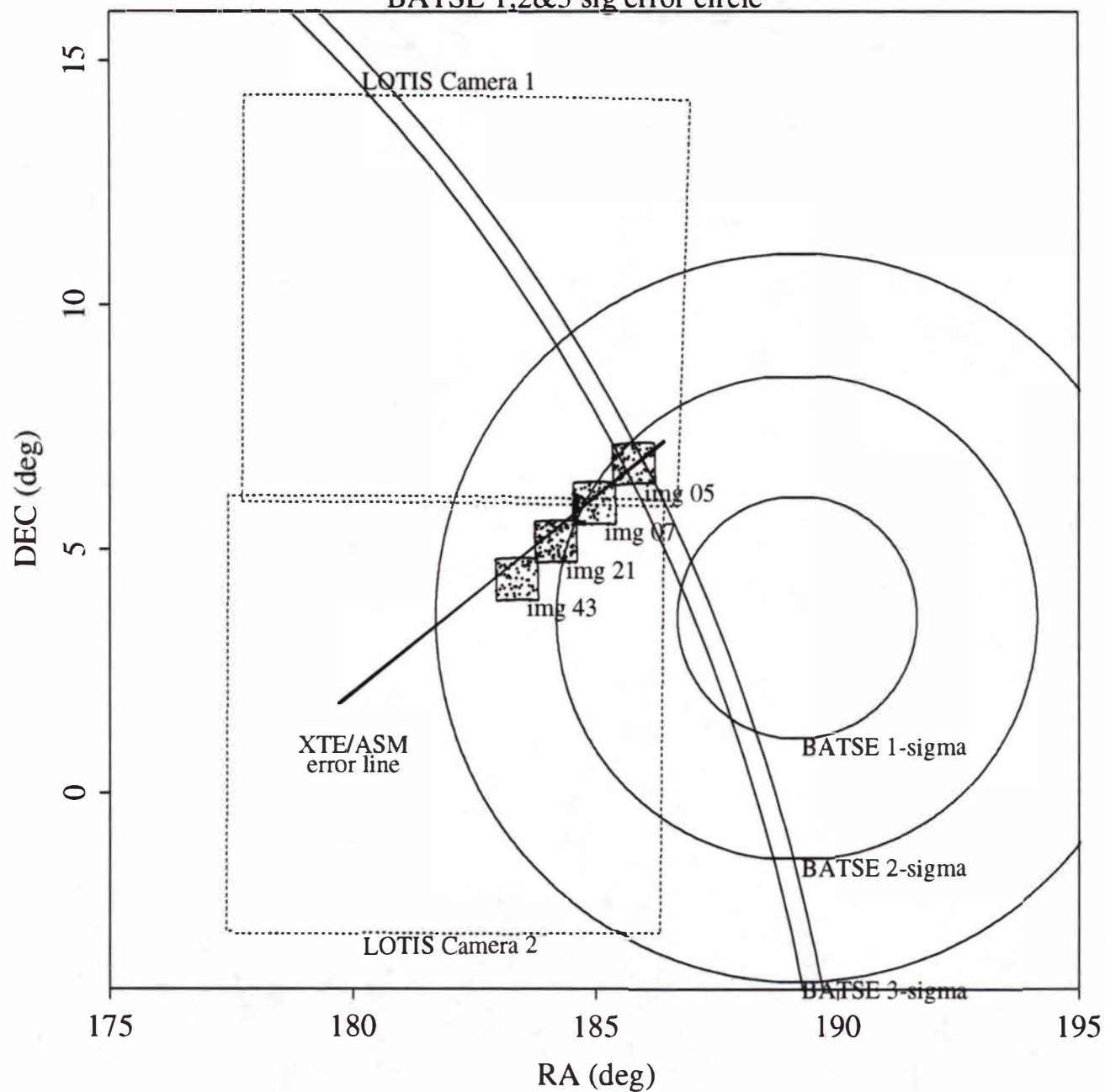
Region of Sky Centered on BATSE Location

mkn463



The BATSE circle has a radius of 1.5°

Super-LOTIS Observation of BATSE Trig 7457 Event (GRB990308)
 BATSE 1,2&3 sig error circle



From WOODSP@fender.msfc.nasa.gov Mon Mar 15 08:55:57 1999

From: WOODSP@fender.msfc.nasa.gov

Date: Mon, 15 Mar 1999 10:55:38 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7458

Mar 8

TIME: TJD=1245 SECONDS=31828

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=74 AZIMUTH=12 ERROR=6 DEGREES

COMMENTS:

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

BATSE BURST# 7458

ULYSSES RT

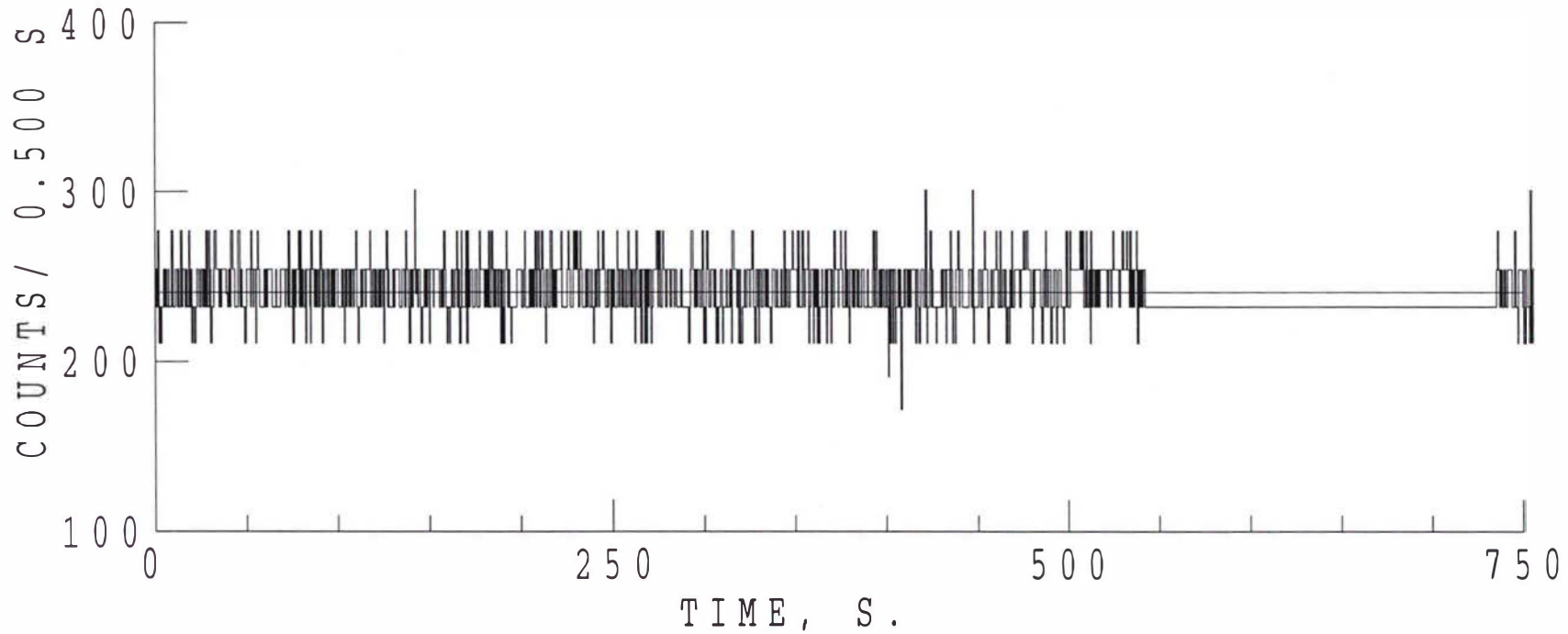
16 / 3 / 99

8 / 3 / 99 32256.012 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 Wed Mar 10 07:33:07 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 10 Mar 1999 9:32:35 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7459

TIME: TJD=1245 SECONDS=45499

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

PARTICLE EVENT OVER AUSTRALIA.

KONUS SGR

8 / 3 / 99

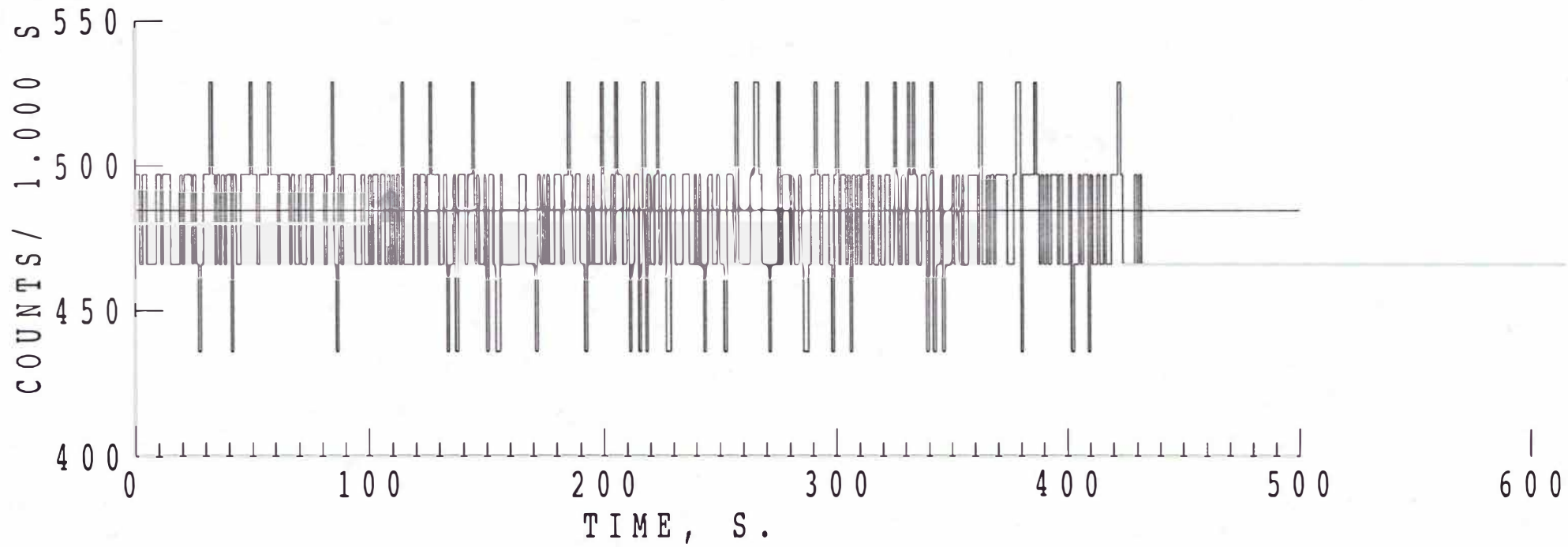
ULYSSES RT

8 / 3 / 99 11484.298 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From WOODSP@fender.msfc.nasa.gov Mon Mar 15 09:02:48 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 JAA08327; Mon, 15 Mar 1999 09:02:47 -0800
 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 JAA07497
 for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 09:02:46 -0800 (PST)
 Date: Mon, 15 Mar 1999 11:02:47 -0600 (CST)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990315110247.20210941@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7460
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7460
 EVENT OF 1999 MAR 8 DAY OF YEAR= 67
 EVENT CROSSING TIME AT BATSE : 71254. S. OR 19:47:34.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 65.000 70.000
 BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 8/ 3/ 99 IS:
 RA= 153.079 DEC= -9.341 DIST= 4.141 AU
 BATSE-ULYSSES DISTANCE = 619488576. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.88 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 291.81 SECS.
 CROSSING TIME AT ULYSSES IS 71546. S. OR 19:52:25 +/- 409.59 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 8/ 3/ 99 IS:
 RA= 219.805 DEC= -13.214 DIST= 0.845 AU
 MARS-BATSE DISTANCE = 126412648. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.93 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 217.62 SECS.
 CROSSING TIME AT MARS IS 71472. S. OR 19:51:11 +/- 66.01 SECONDS

BATSE BURST TRIGGER

NO.: 7460

TIME: TJD=1245 SECONDS=71254

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=108.2 AZIMUTH=259.2 ERROR=3.9 DEGREES

COMMENTS:

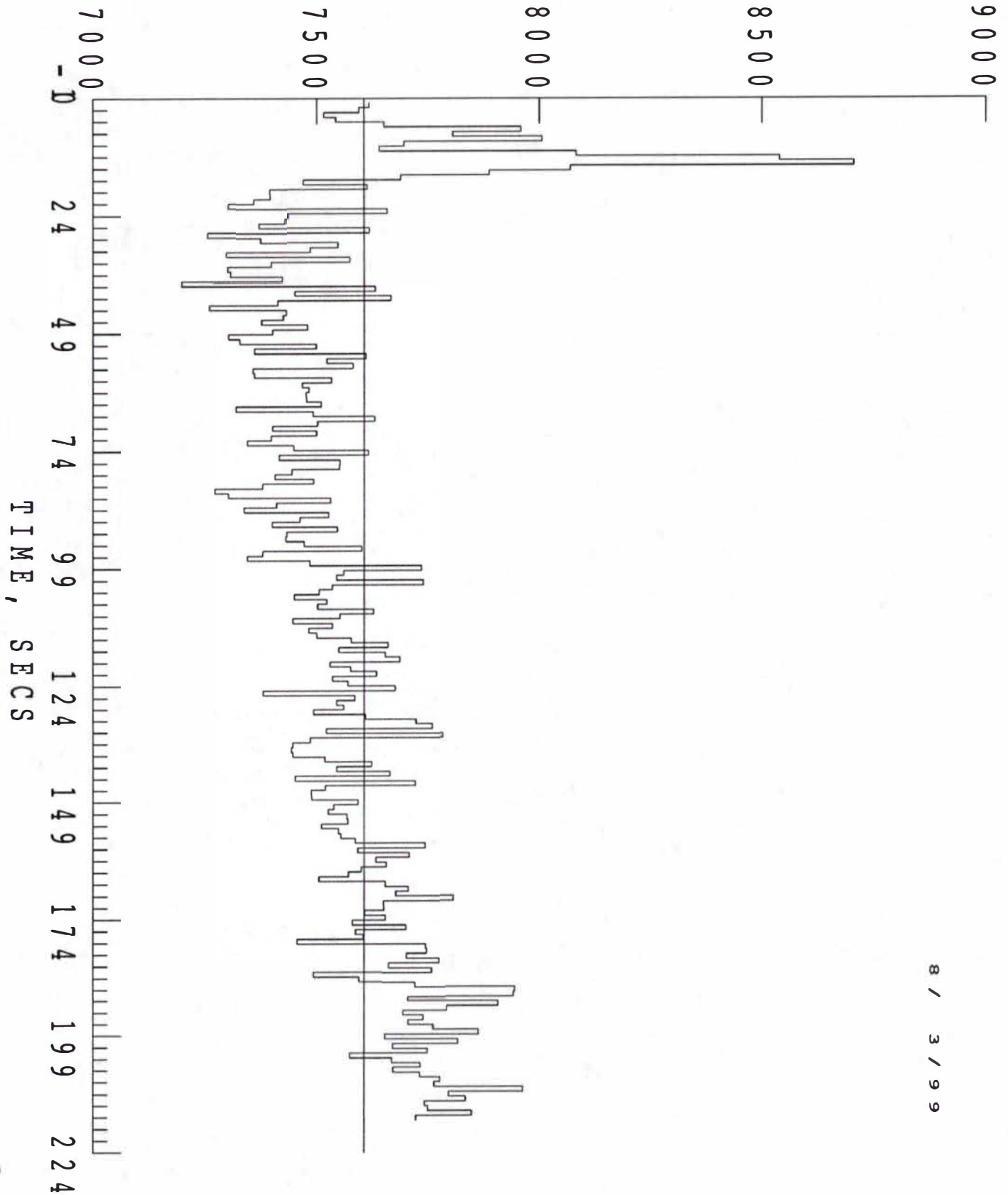
GRB LASTING ABOUT 18 SEC. SINGLE PULSE WITH SUBSTRUCTURE.
 NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7460	990308	11245	71254	3000	065	+70	18

BACODINE 7460 08/03/99 71242.489

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7460

ULYSSES RT

13 / 7 / 99

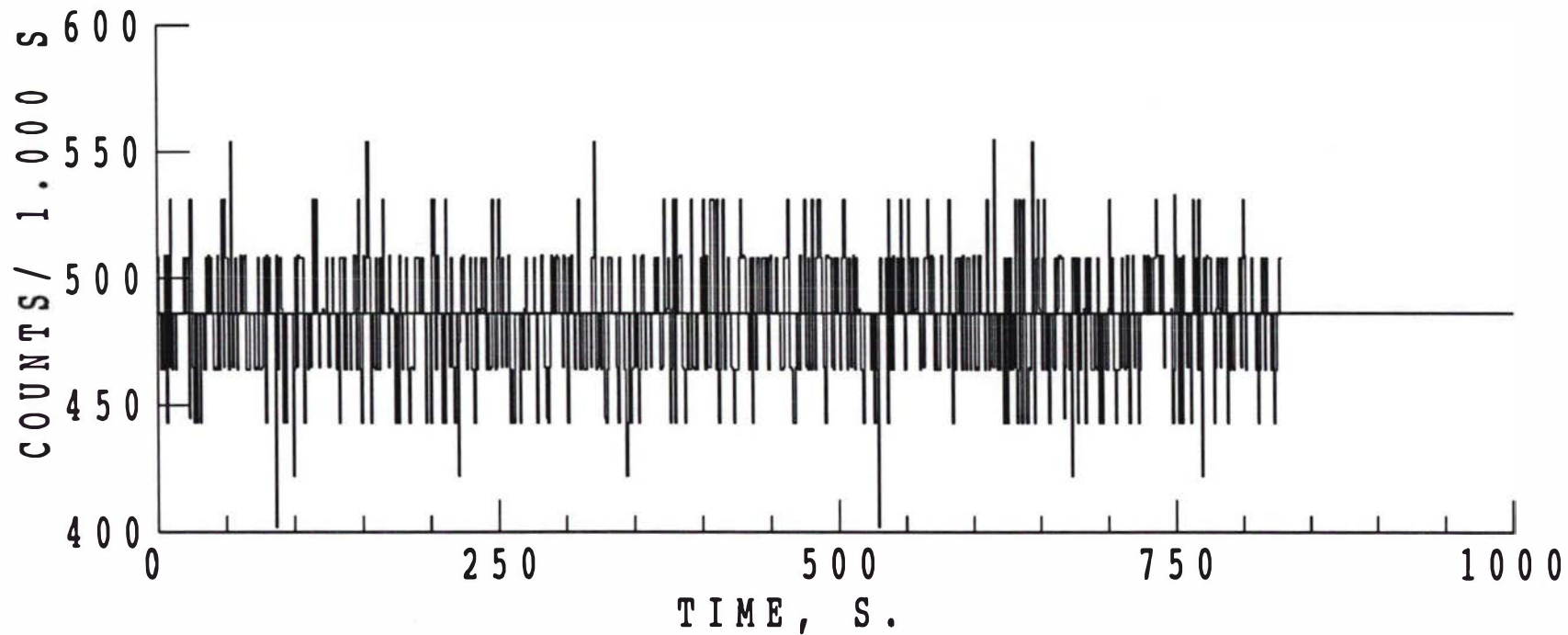
8 / 3 / 99 71136.406 s

0.500 S INTERVALS REGROUPED BY 2

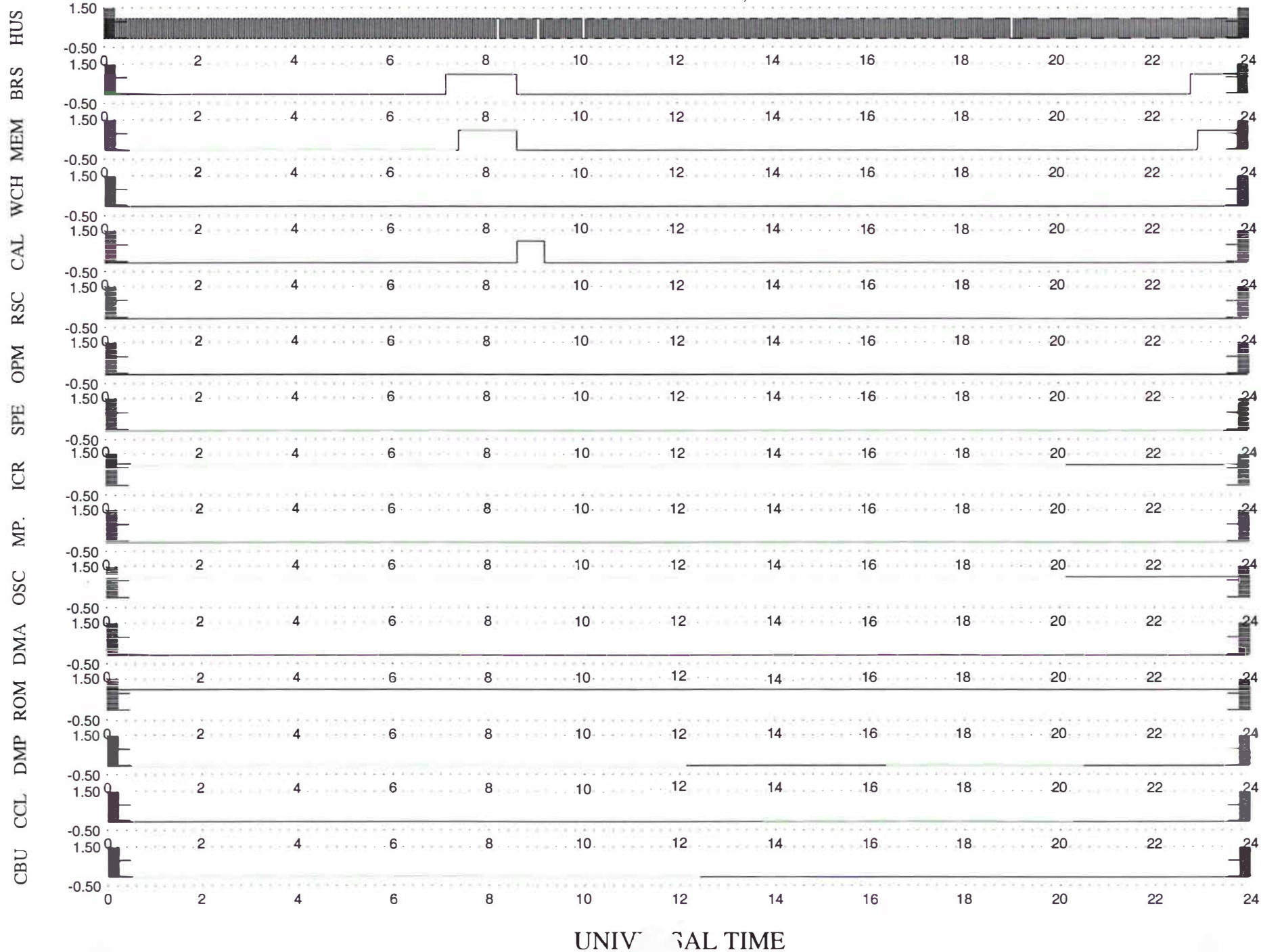
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

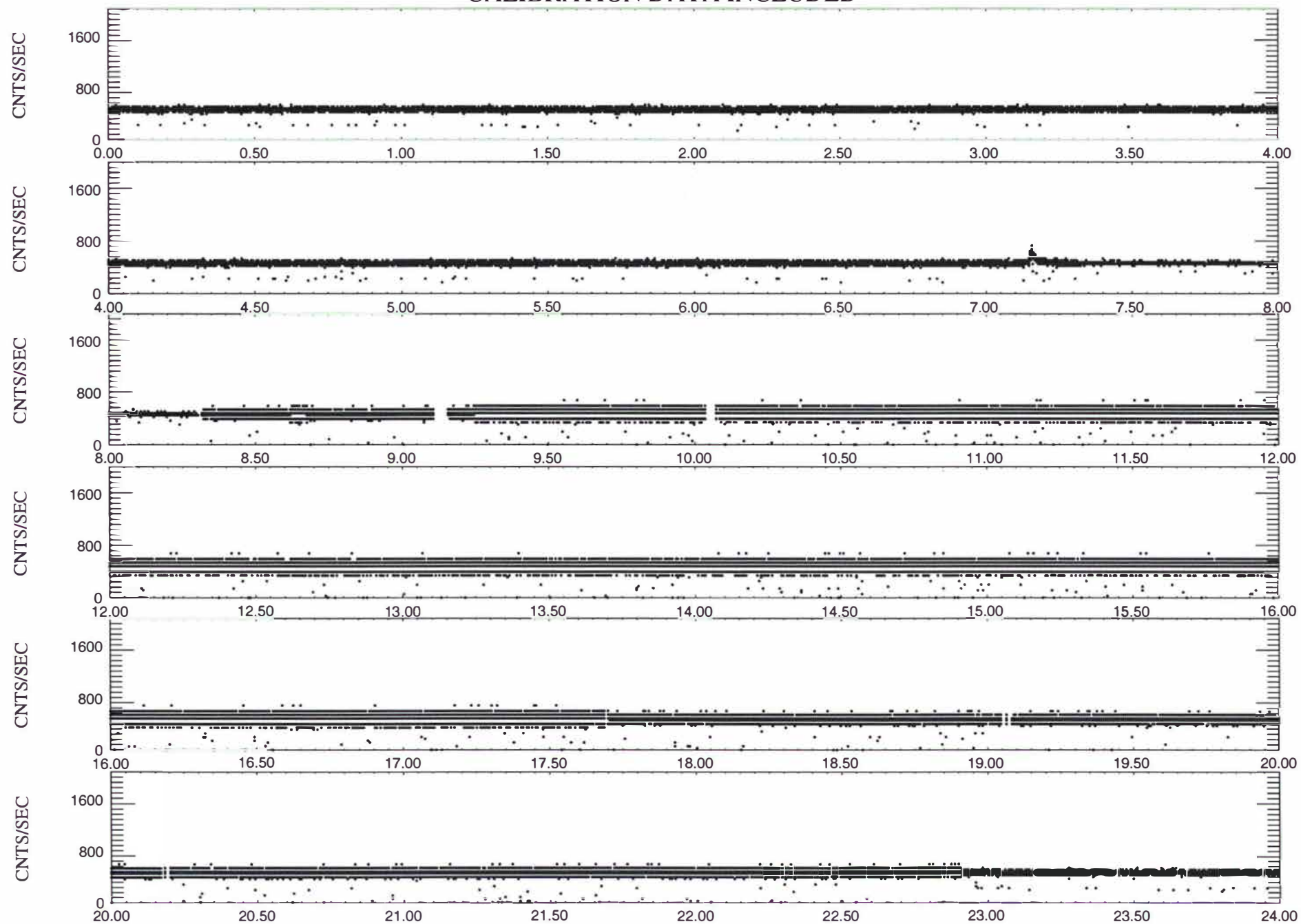
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 13, 14

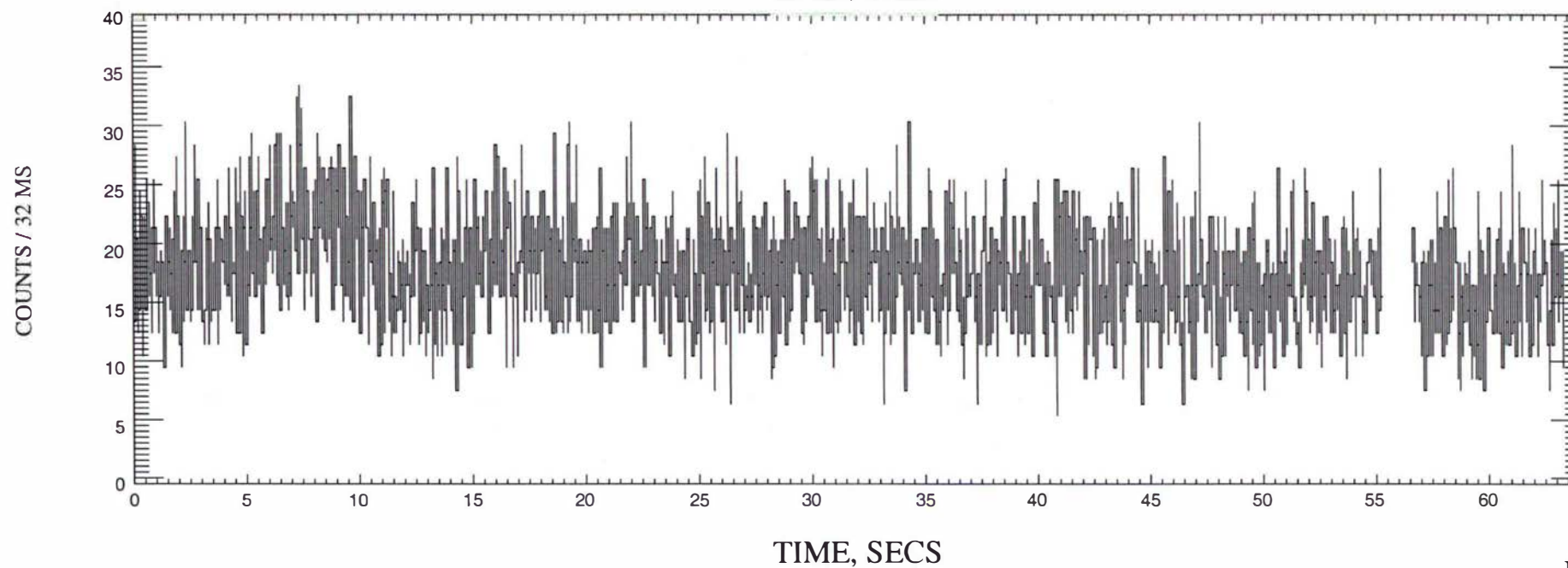
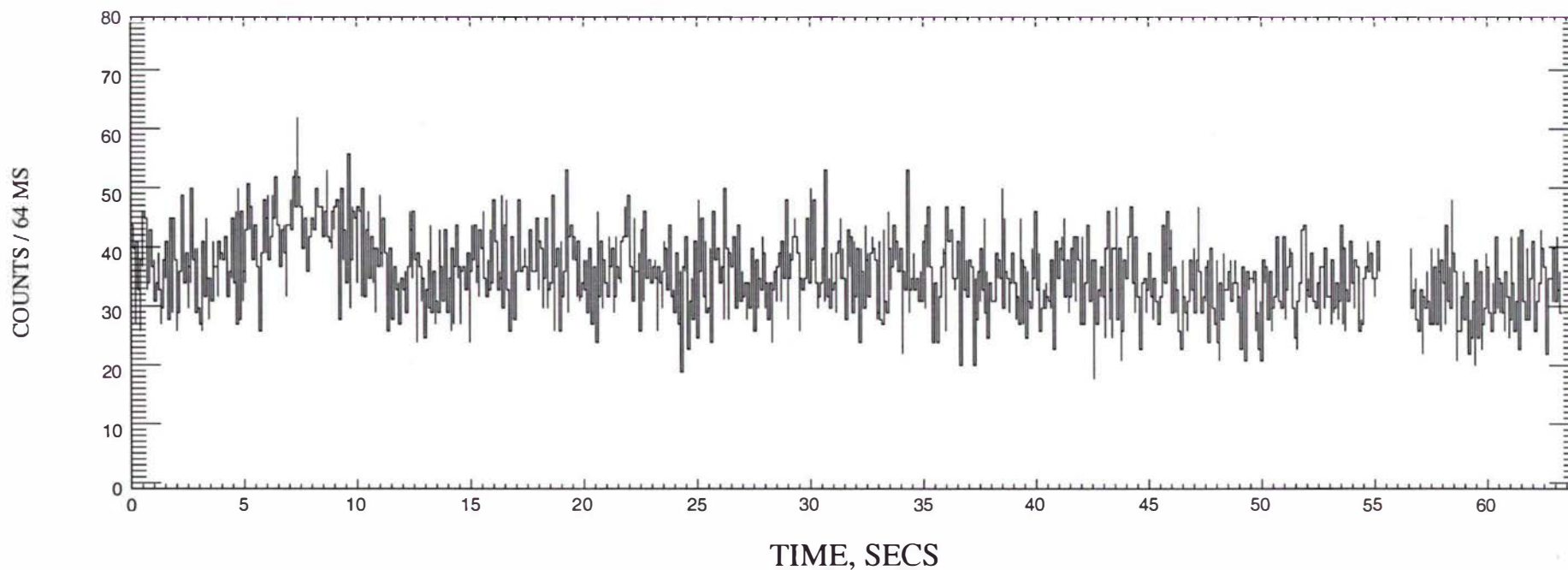


CALIBRATION DATA INCLUDED

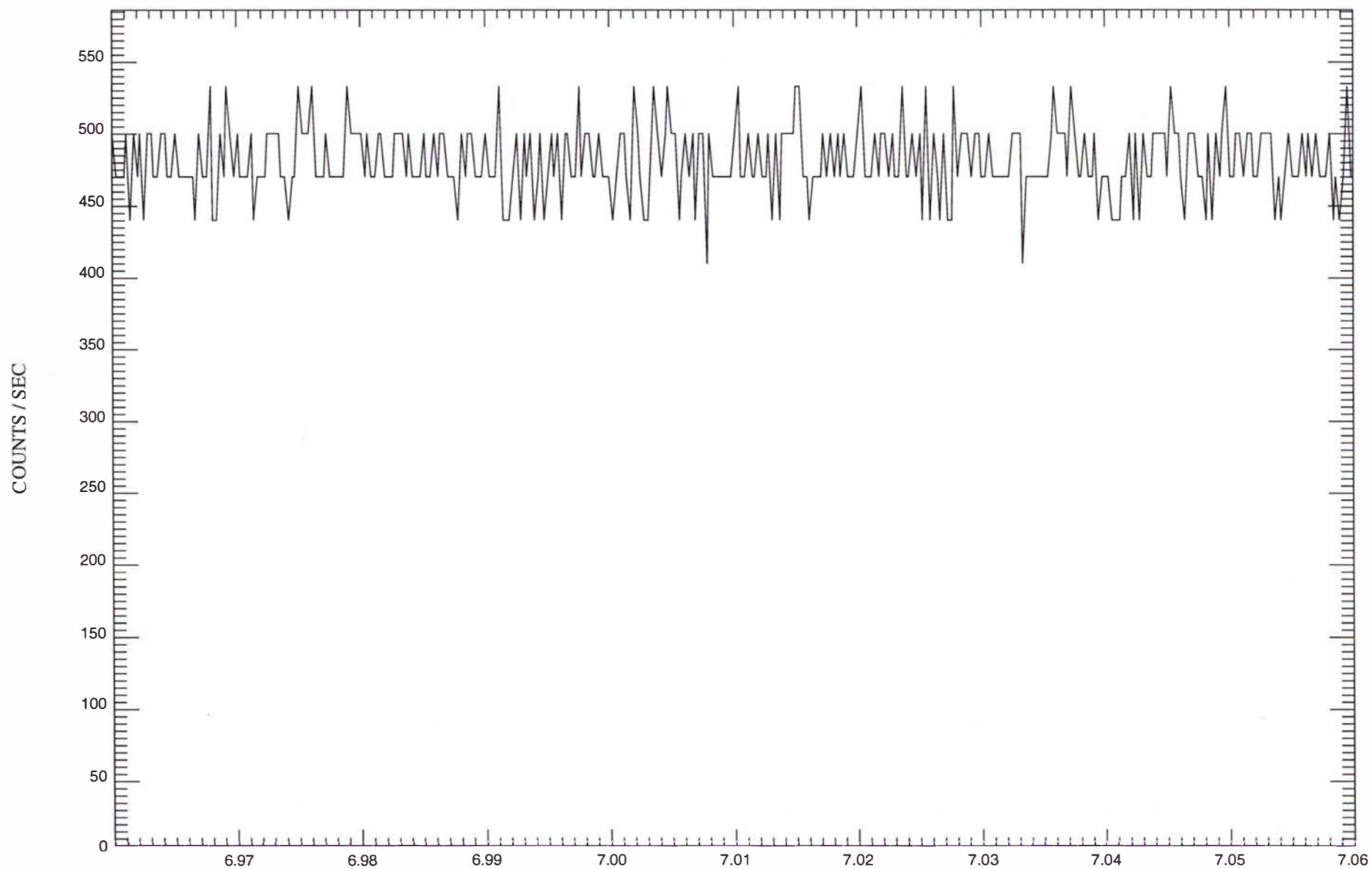


UNIVERSAL TIME

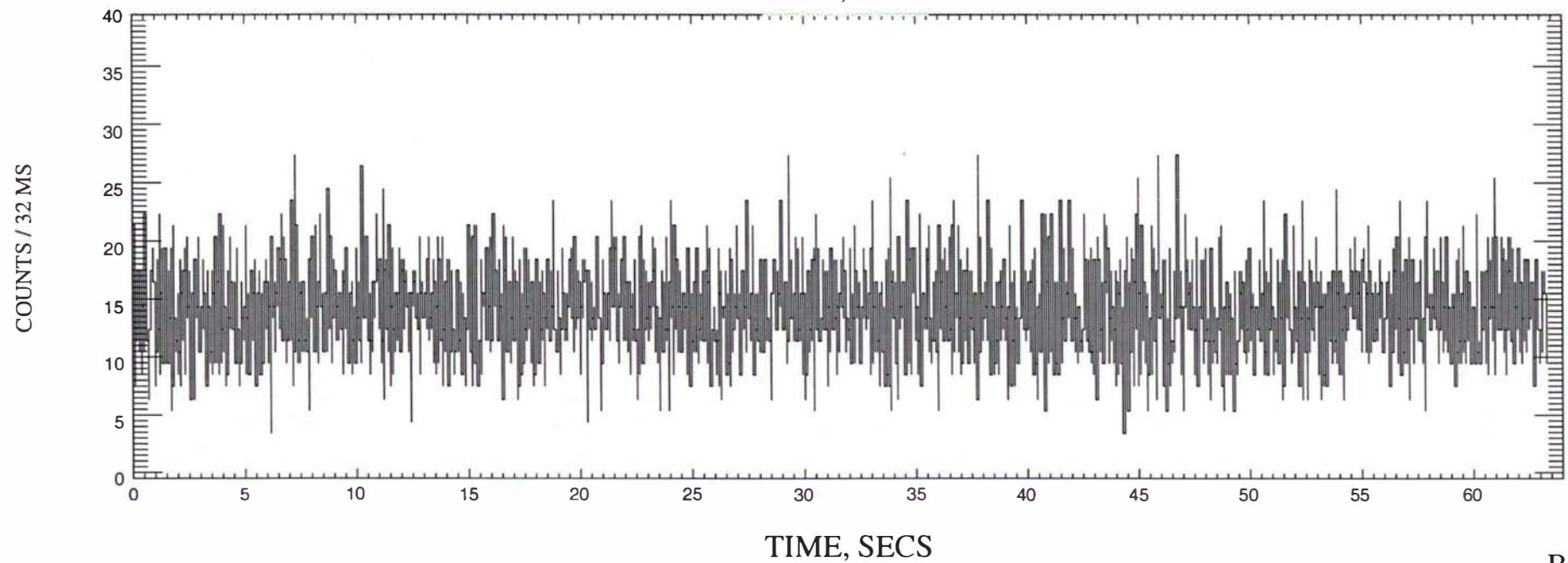
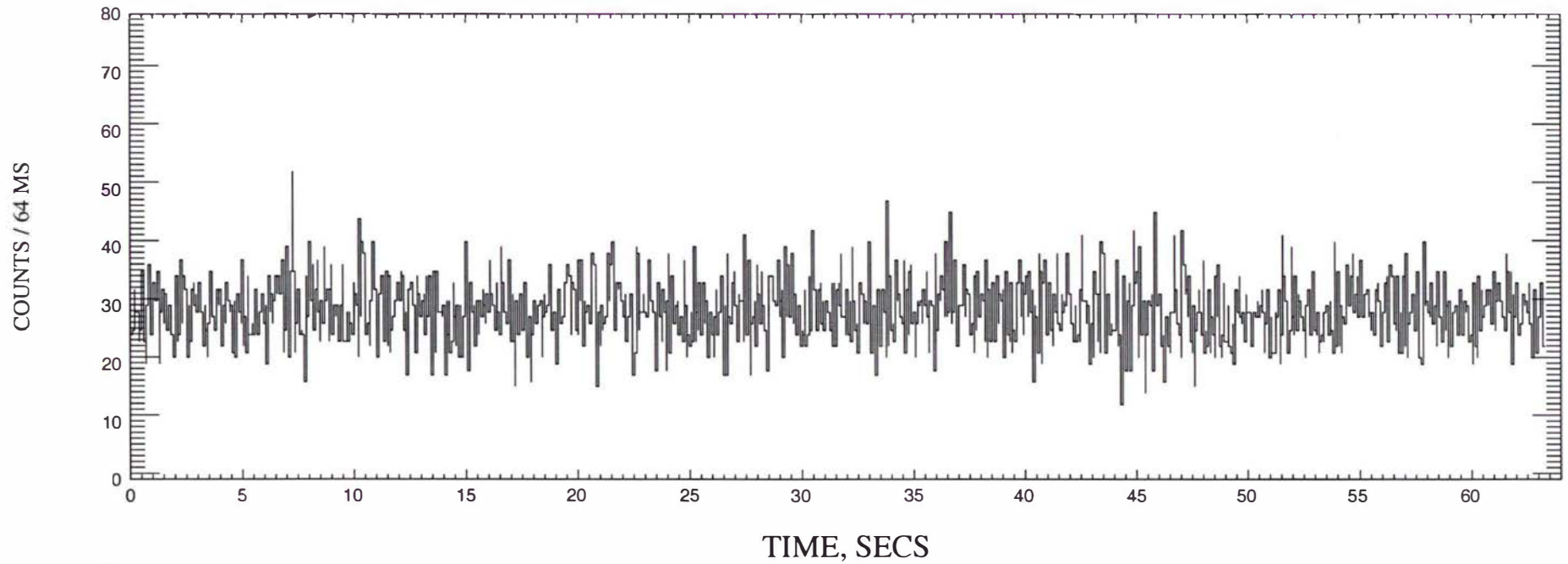
Burst Counter 13 at UT= 7.012304556105 h=25244.296 s 07:00:44.296



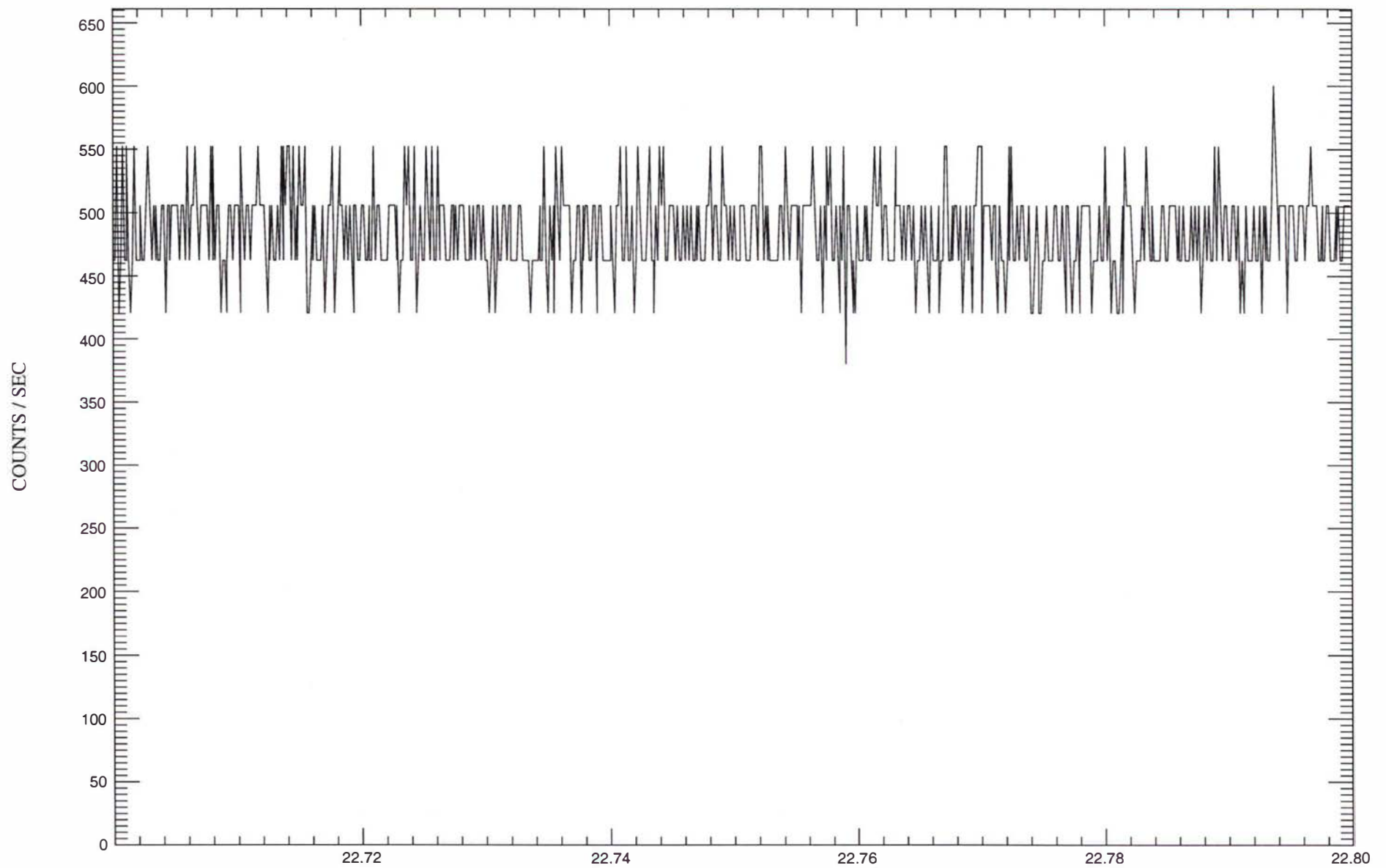
CALIBRATION DATA INCLUDED

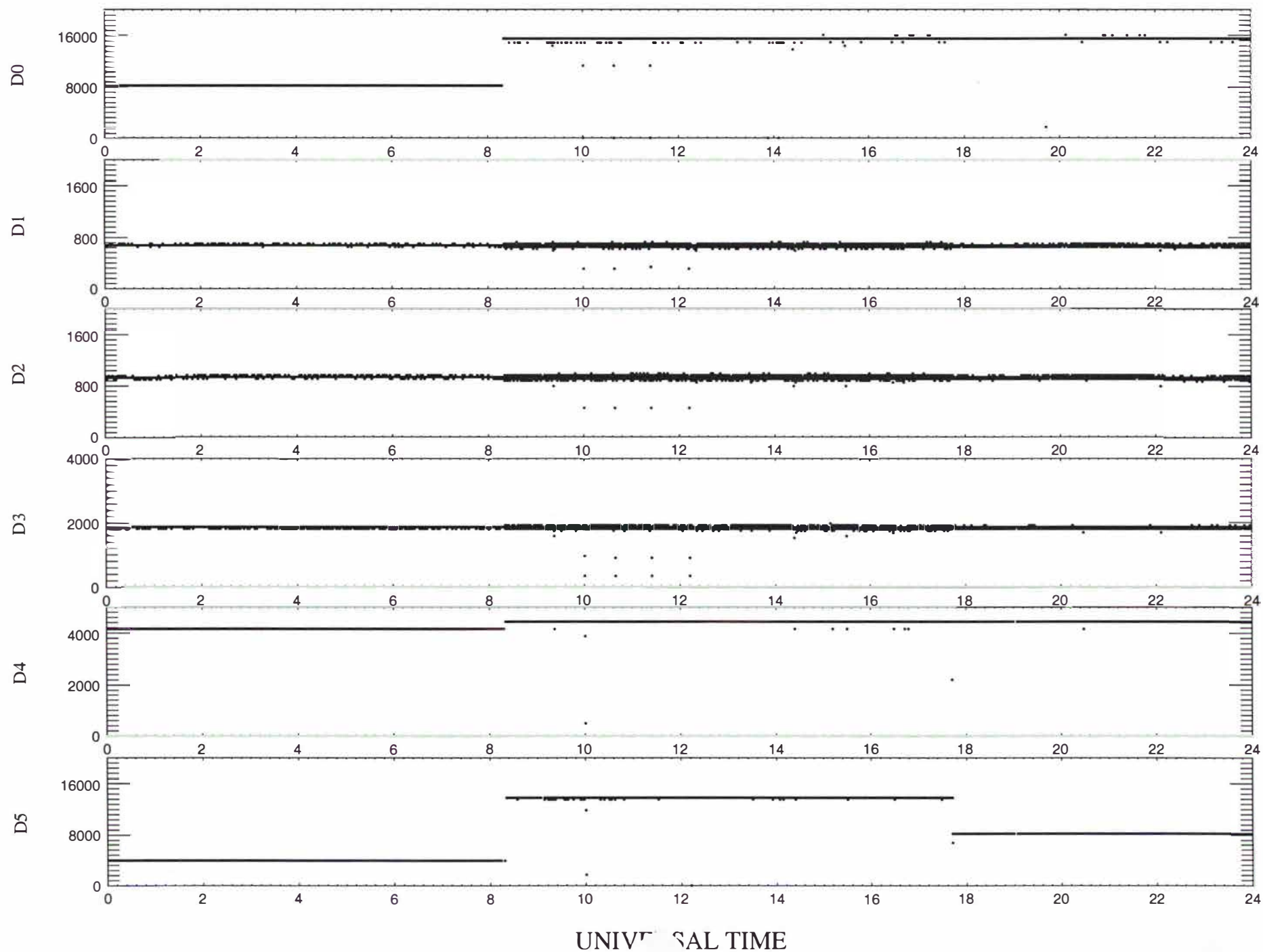


Burst Counter 14 at UT=22.748405159844 h=81894.259 s 22:44:54.259



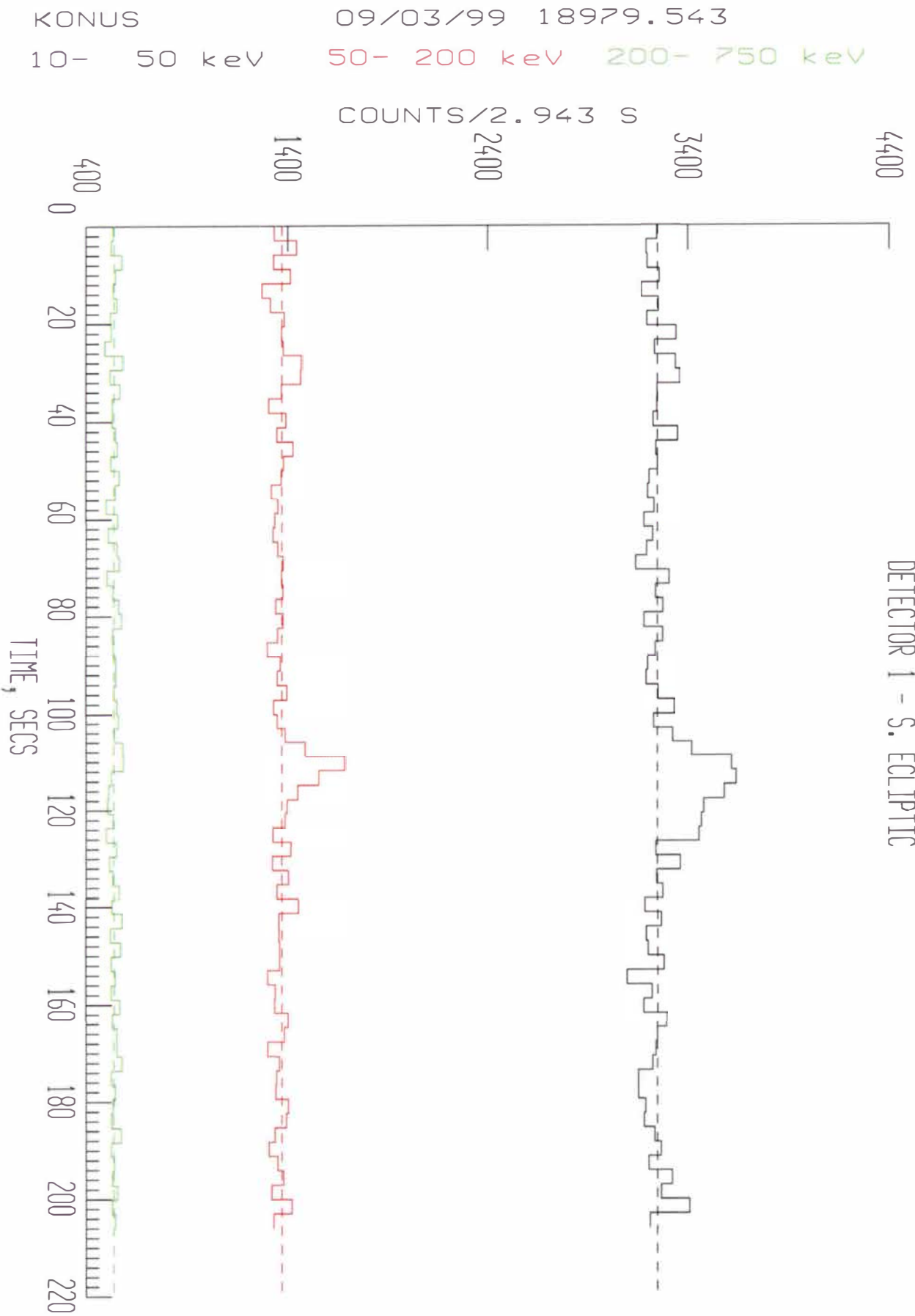
CALIBRATION DATA INCLUDED





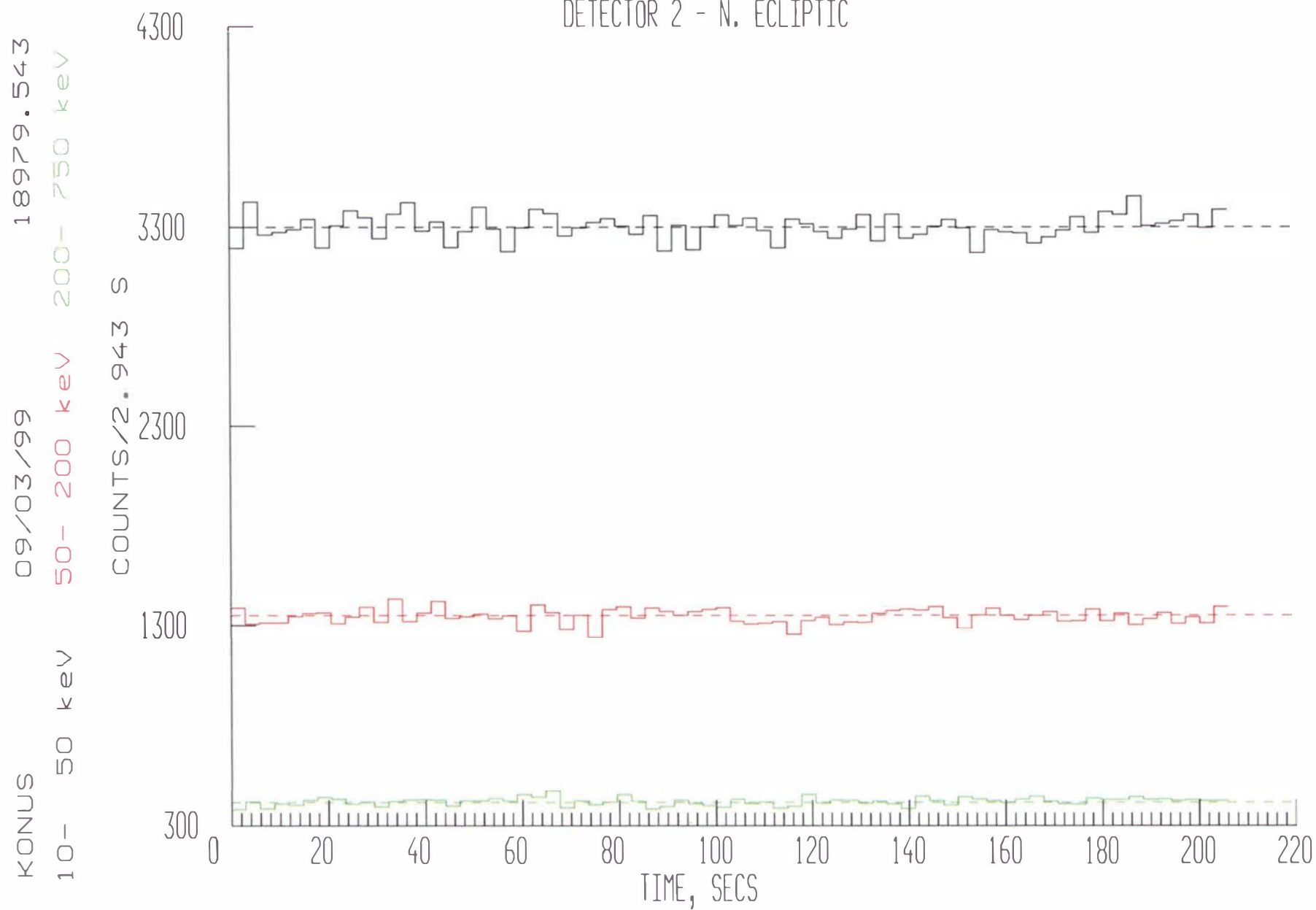
19/12/2012

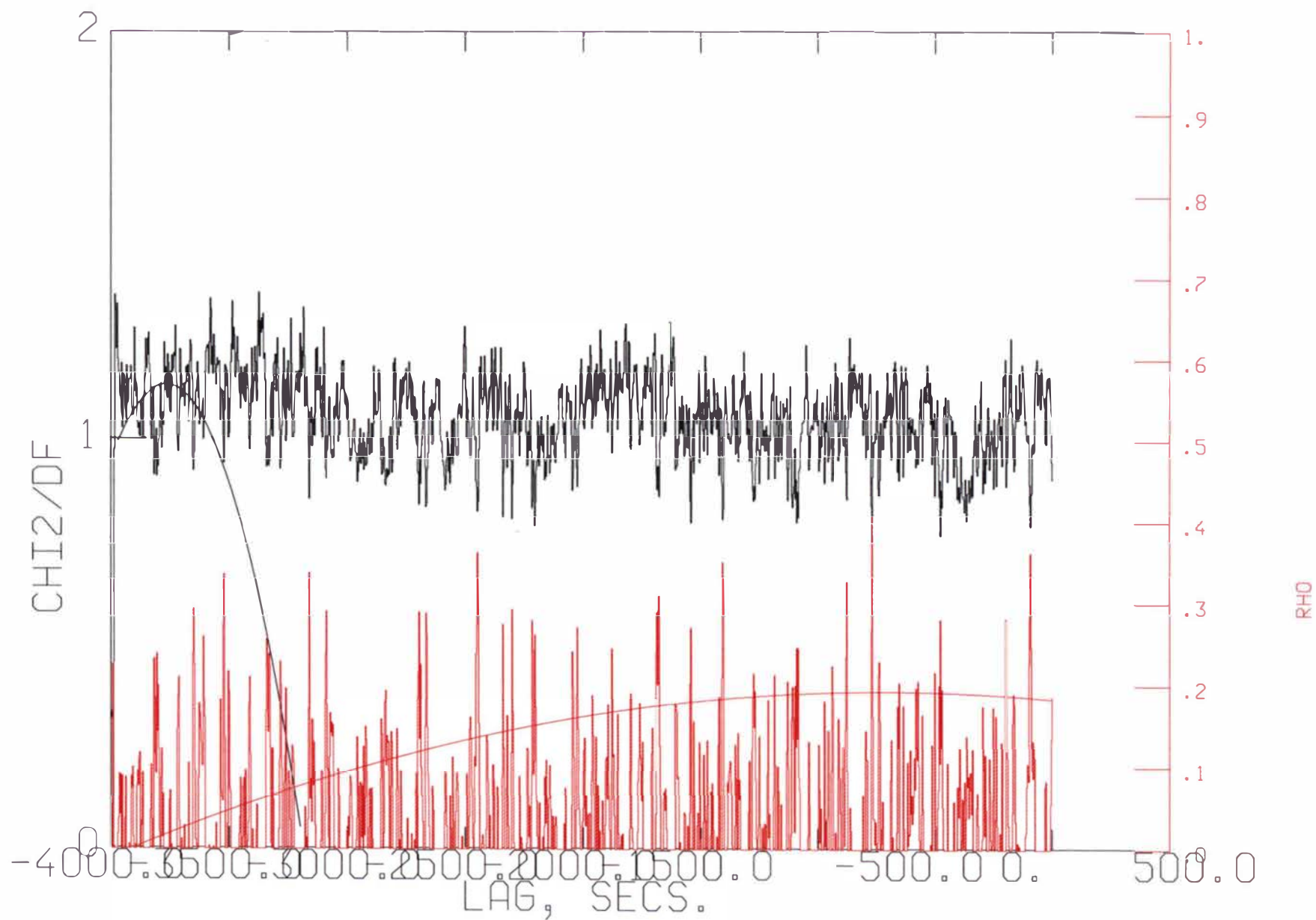
DETECTOR 1 - S. ECLIPSE

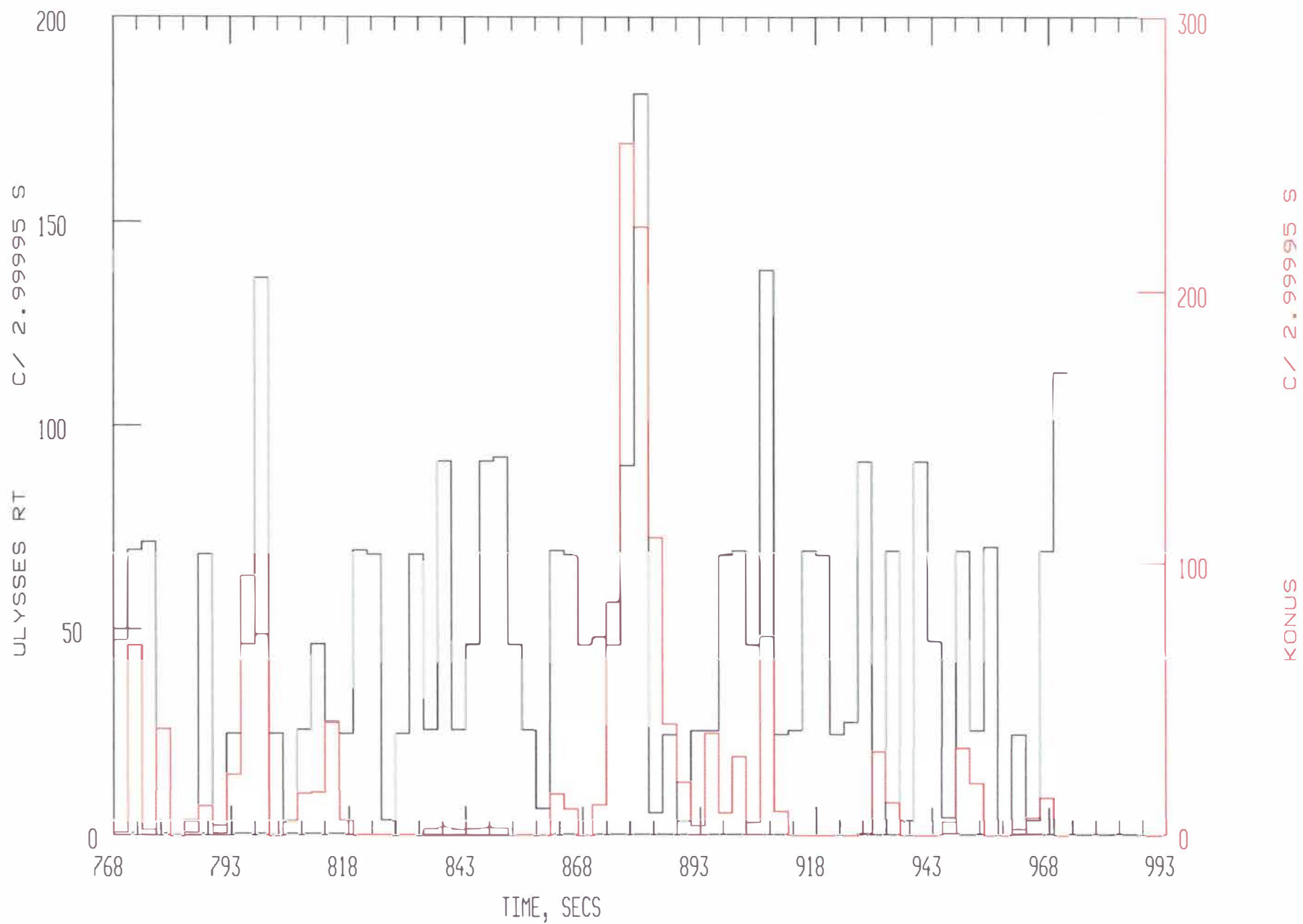


19/12/2012

DETECTOR 2 - N. ECLIPTIC







From khurley@sunspot.ssl.berkeley.edu Sat Mar 13 08:53 PST 1999

Date: Sat, 13 Mar 1999 08:59:50 -0800

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: GRB990309

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 9 1999 12:34*	weak, 32 ms long	2050

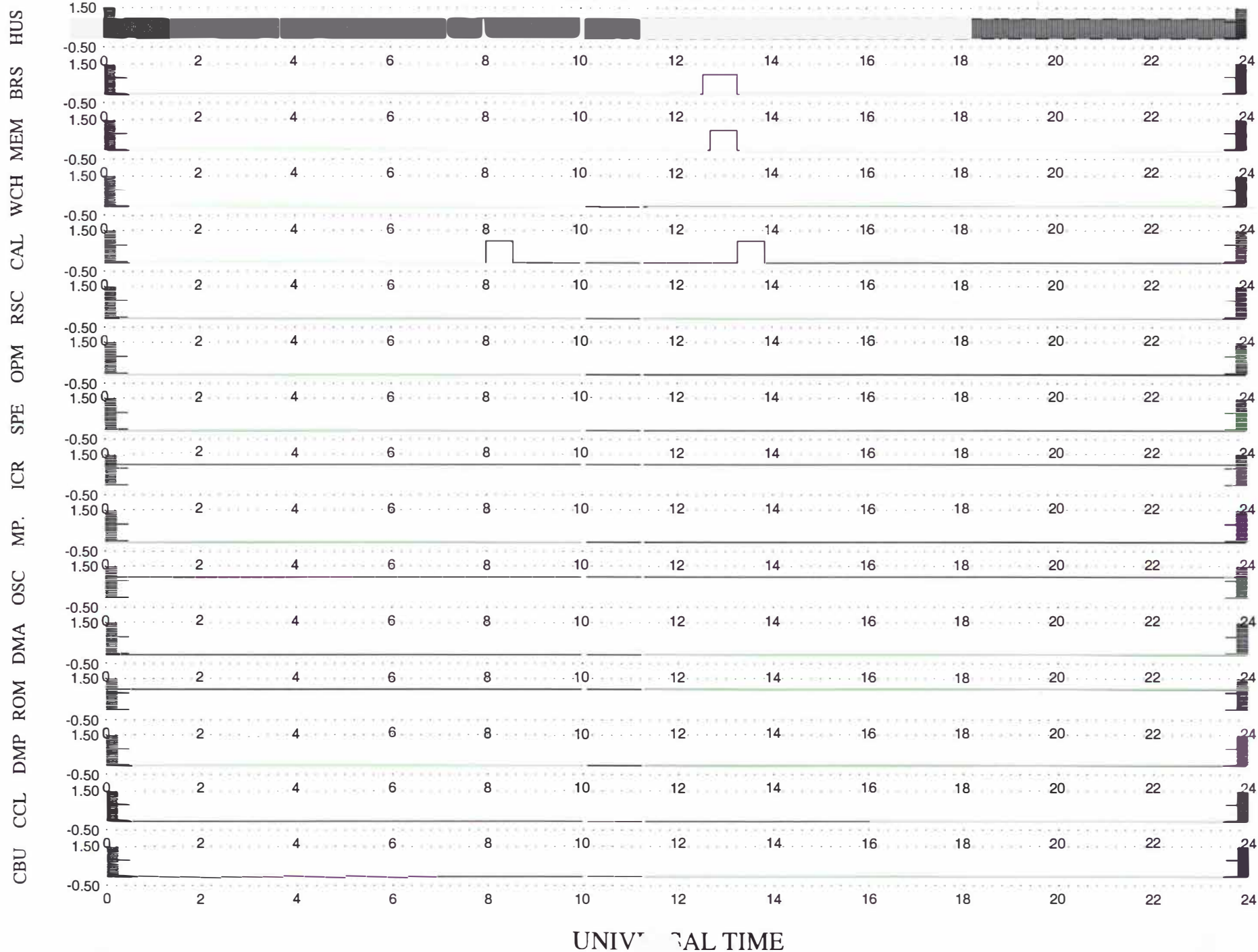
* Looks like an SGR, but it's not clear which one.

Was this event detected by anyone else?

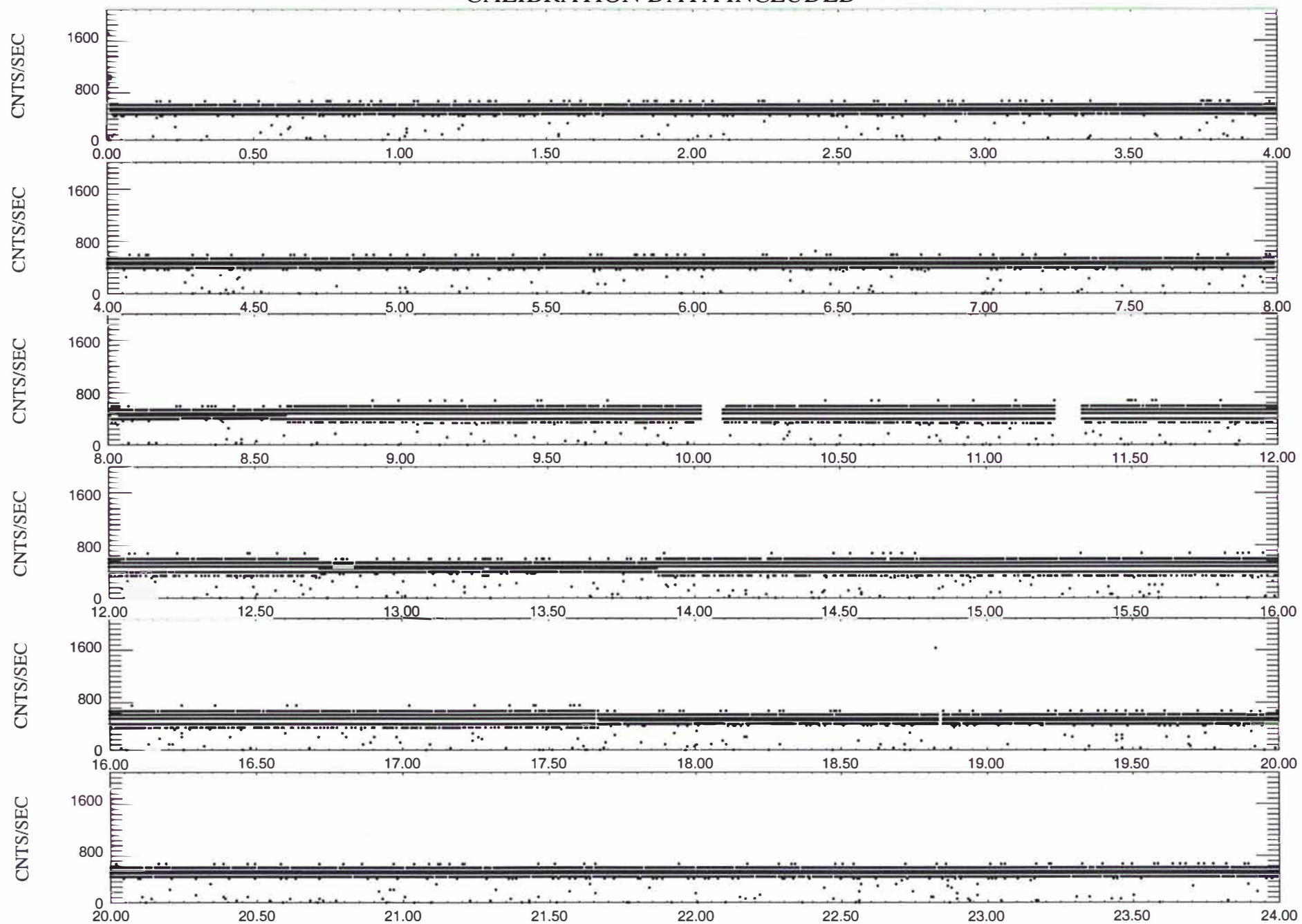
CC: ulyssesbursts alias list

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

BURST NUMBER 15

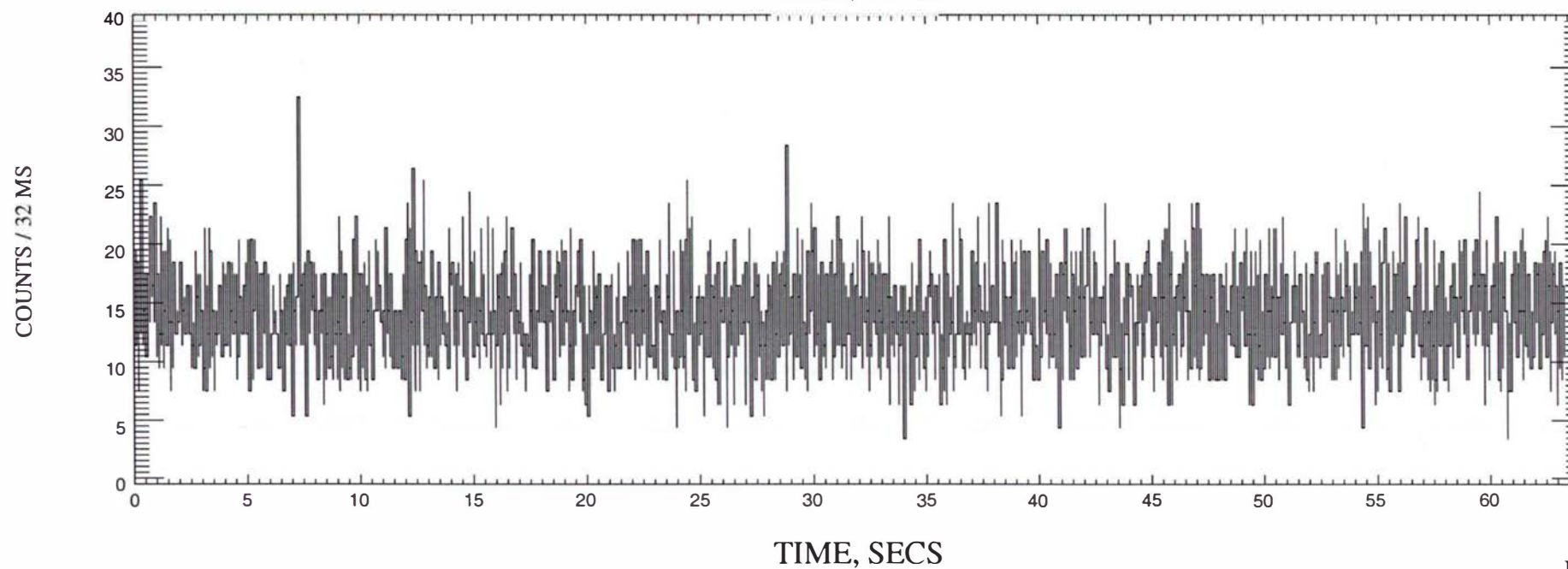
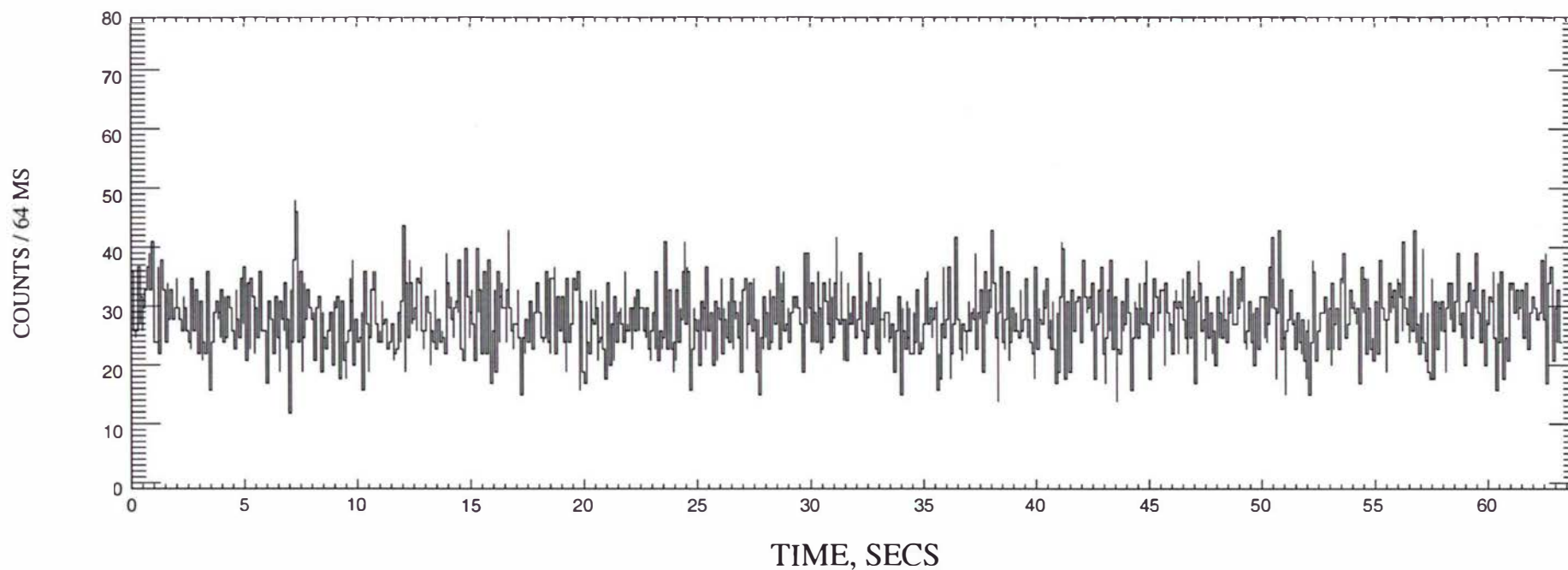


CALIBRATION DATA INCLUDED

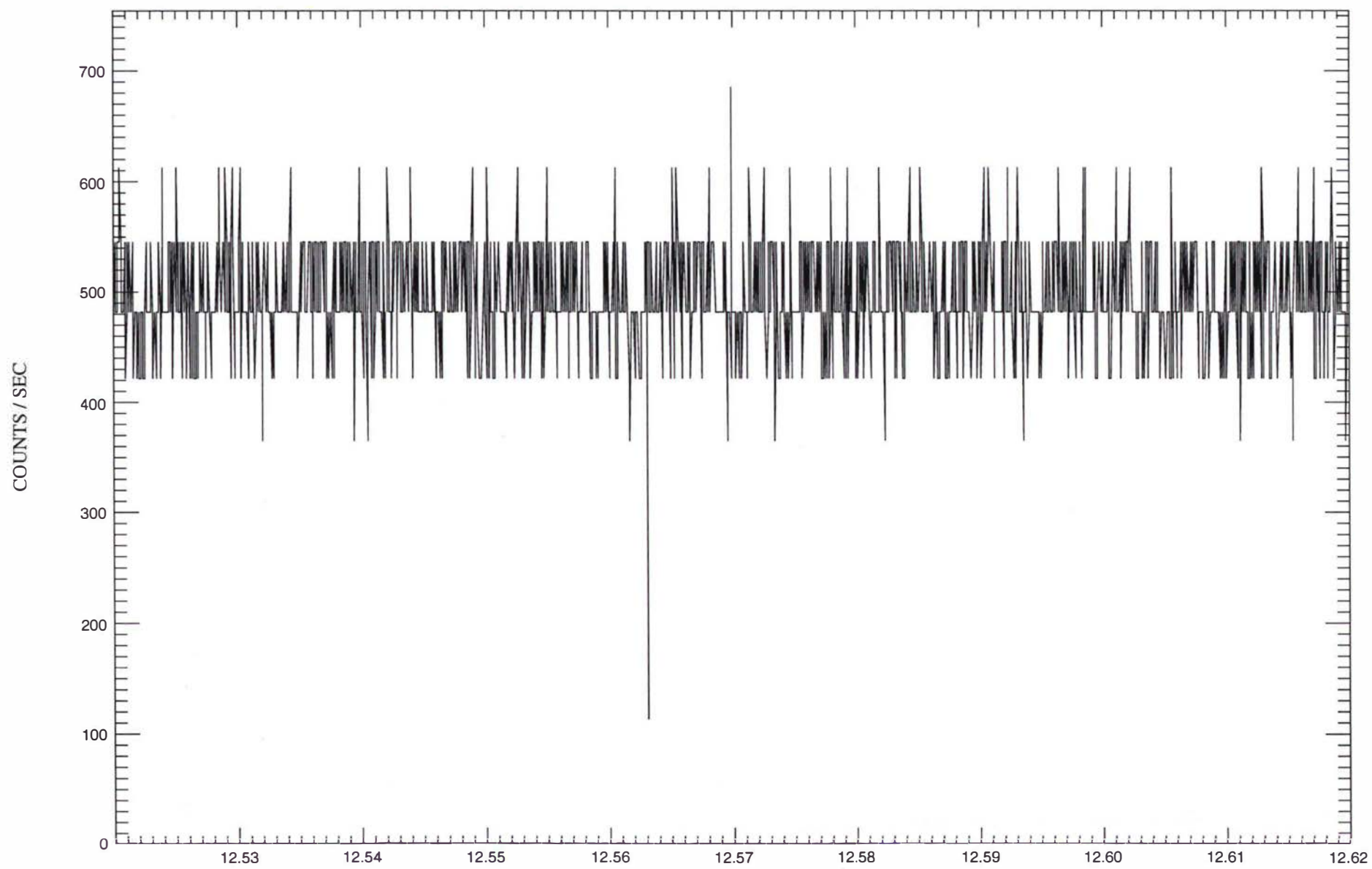


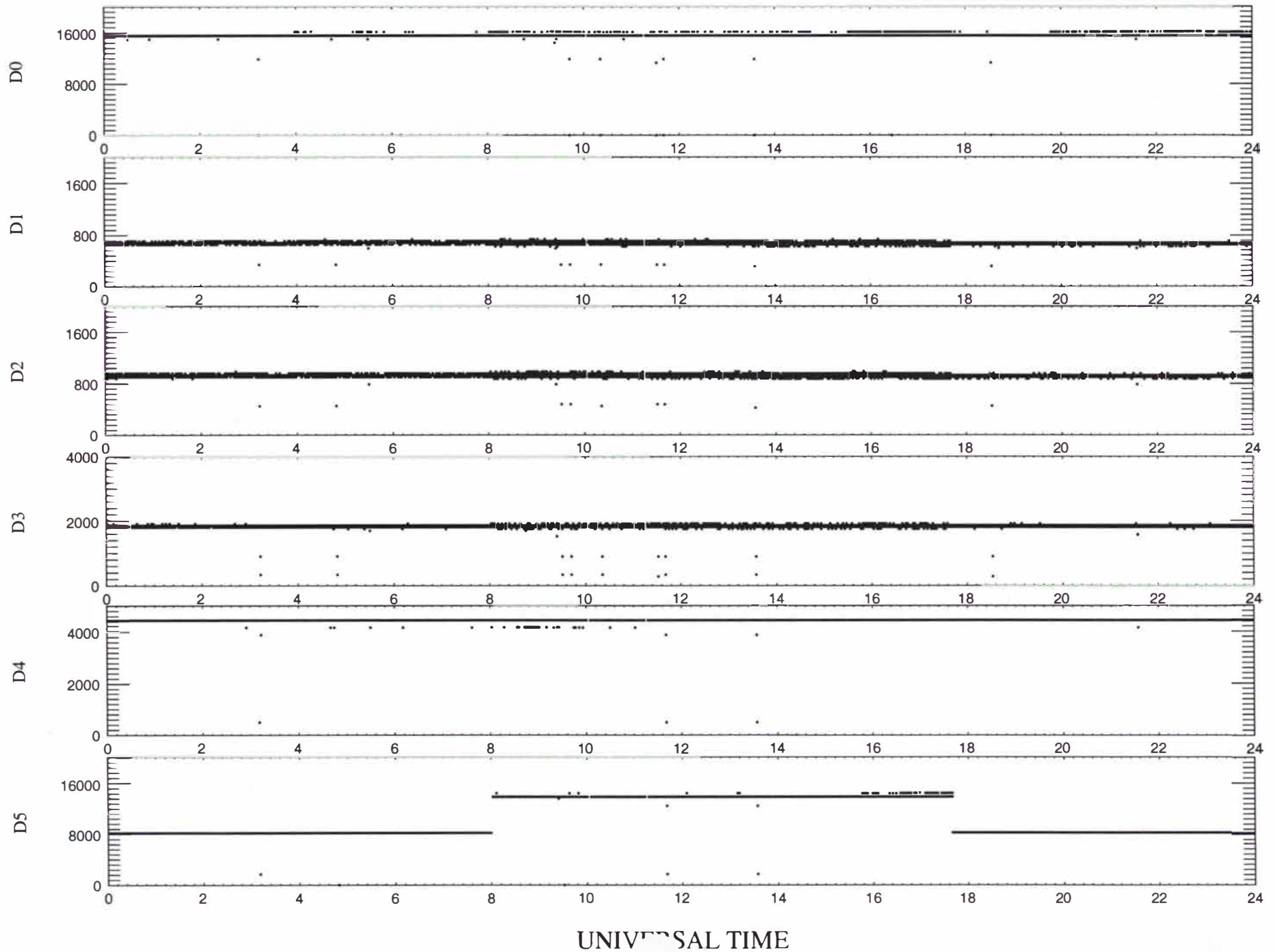
UNIVERSAL TIME

Burst Counter 15 at UT=12.570073577033 h=45252.265 s 12:34:12.265



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Fri Mar 12 09:38:03 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Fri, 12 Mar 1999 11:37:42 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7461

TIME: TJD=1247 SECONDS=12168

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

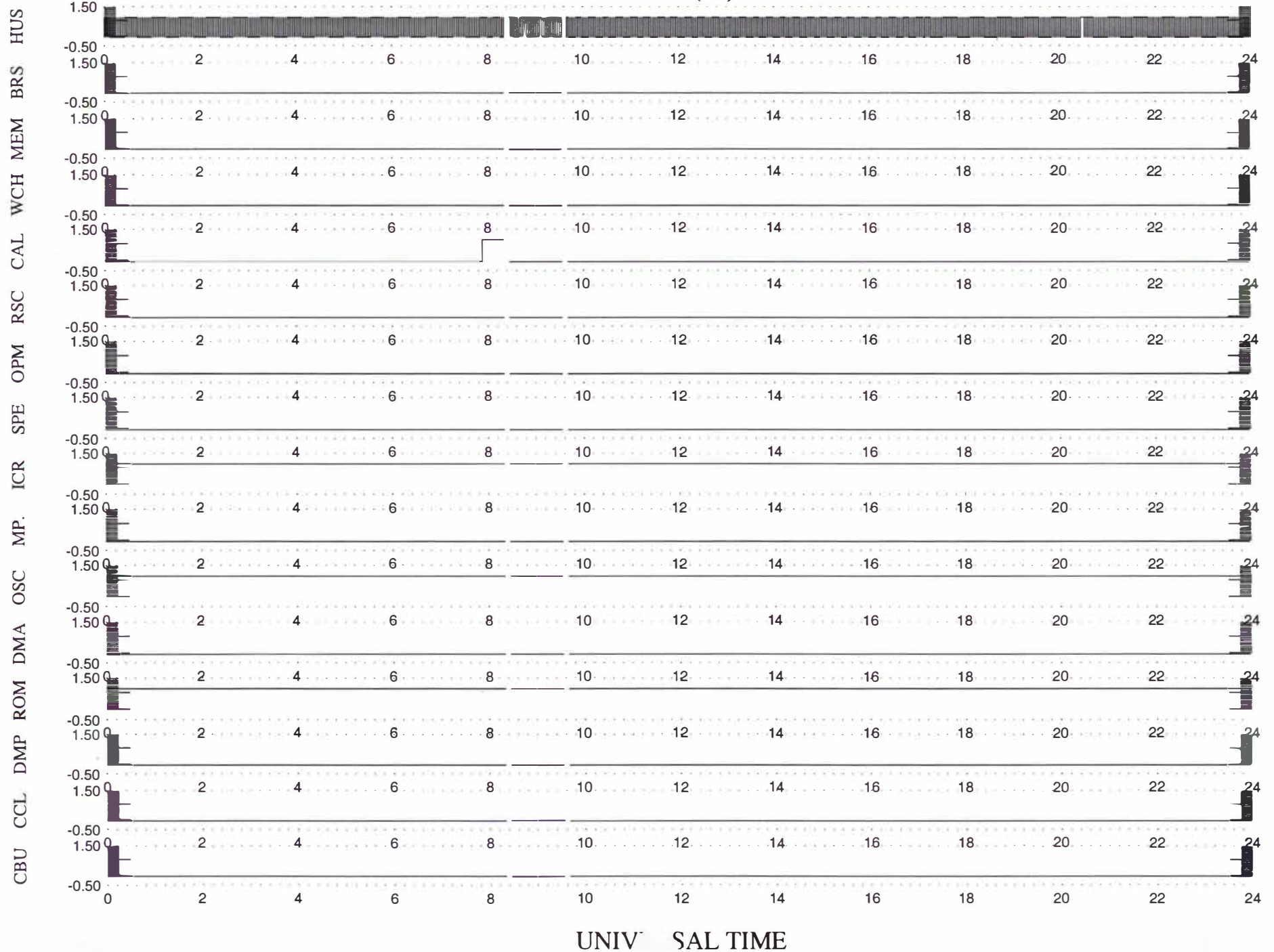
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=21.6 AZIMUTH=292.6 ERROR=0.624 DEGREES

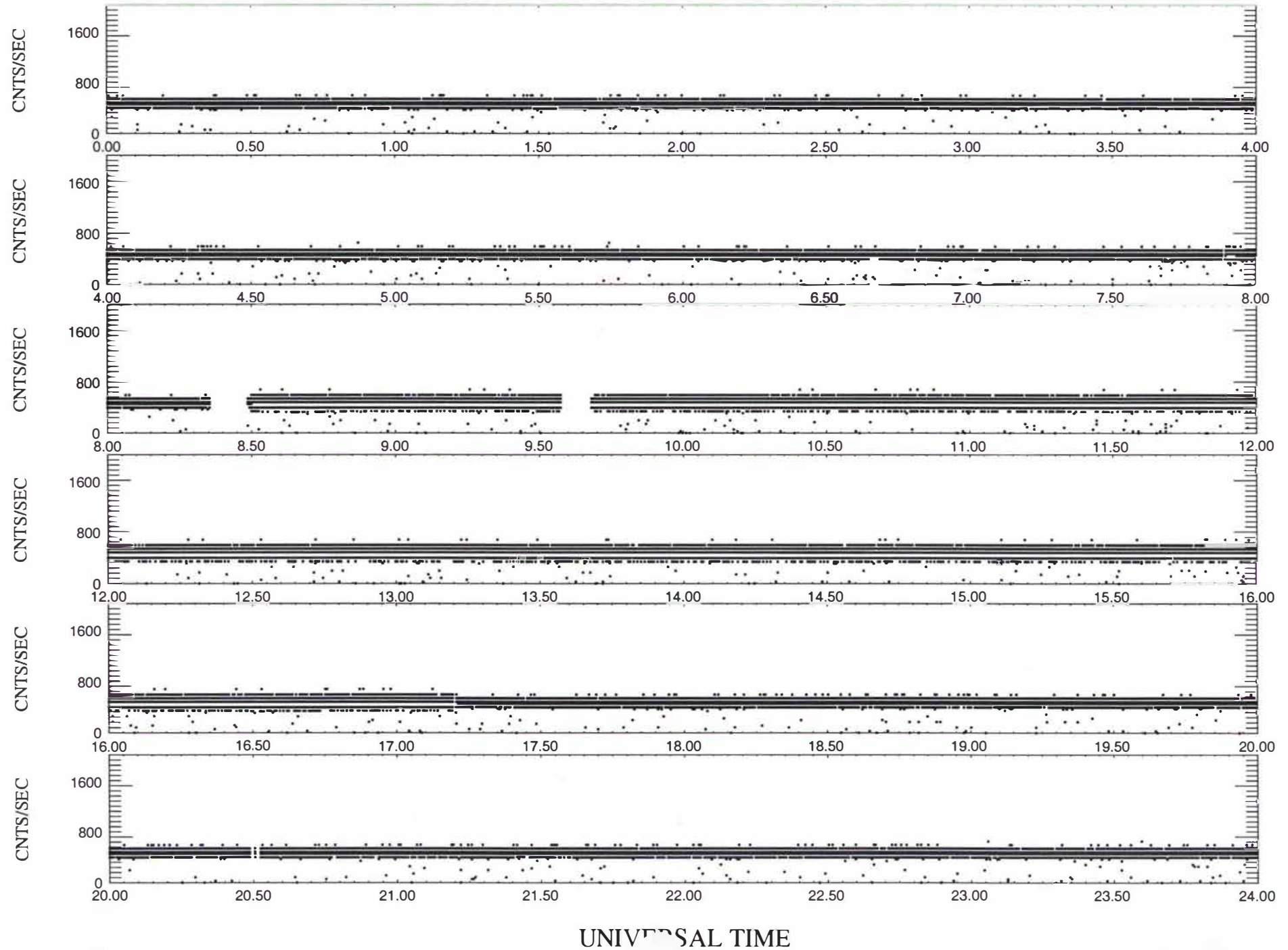
COMMENTS:

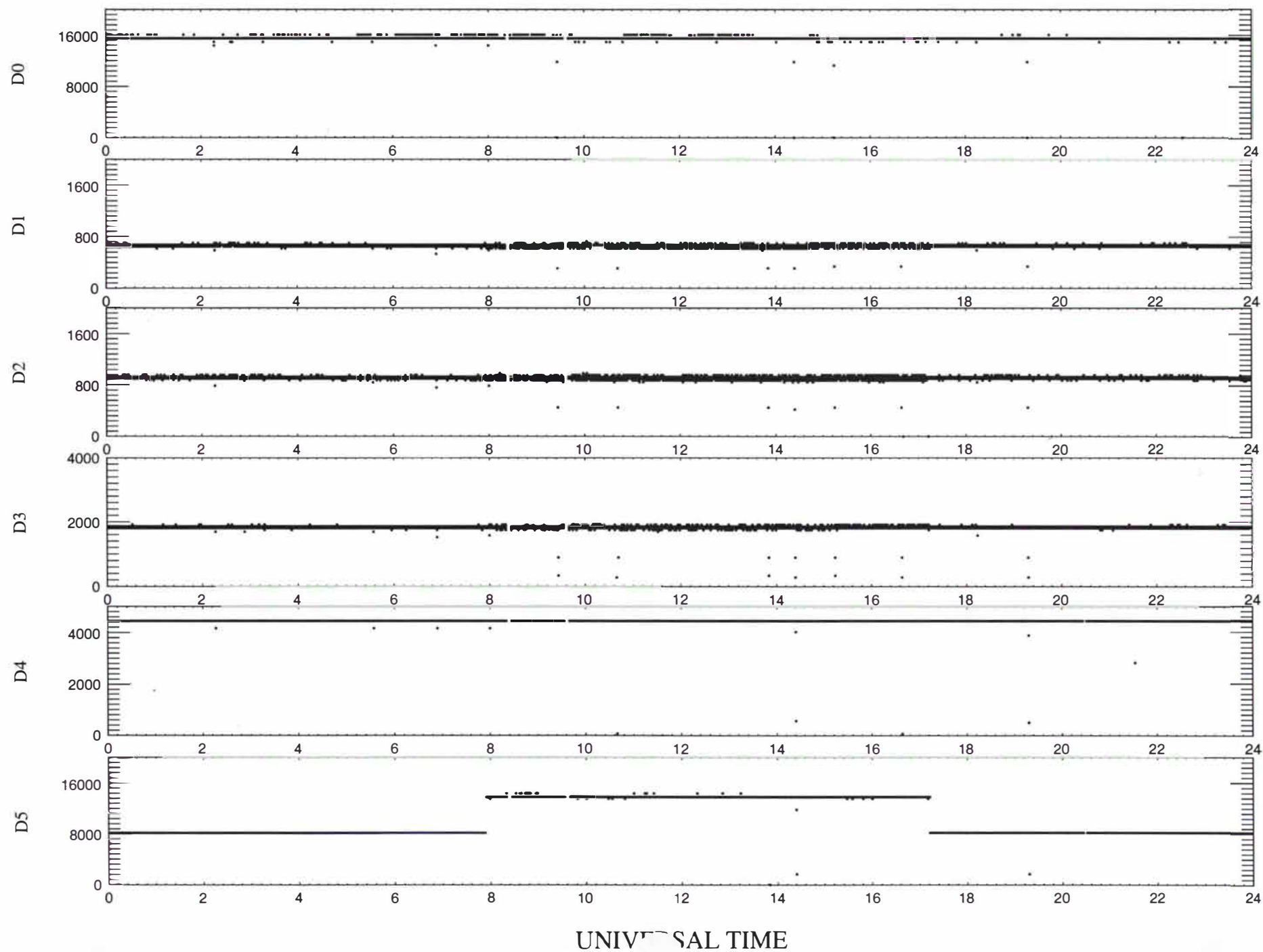
SOLAR FLARE. GOES C1.6, NO OPTICAL ID. DURATION APPROX. 110S., START AT APPROX.
T-30S. MAX AT APPROX. T+22S. VISIBLE ABOVE 100KEV.

NO BURST (15)



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Mon Mar 15 10:00:26 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Mon, 15 Mar 1999 12:00:09 -0600 (CST)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7462

TIME: TJD=1248 SECONDS=00453

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=21.7 AZIMUTH=285.7 ERROR=3.4 DEGREES

COMMENTS:

GOES C8.7, OPTICAL ID SF. COMPLEX DUR. APPROX. 210S., STARTS AT APPROX. T-38S.
, MAX AT APPROX. T+36S. VISIBLE ABOVE 100KEV.

From HENZE@fender.msfc.nasa.gov Mon Mar 15 13:22:15 1999
Date: Mon, 15 Mar 1999 15:21:57 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@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,
hspark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7463

TIME: TJD=1248 SECONDS=62221

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 23.4 AZIMUTH=284.7 ERROR= 0.4 DEGREES

COMMENTS:

GOES C2.8, OPTICAL SN FLARE. COMPLEX, TOTAL DUR. APPROX. 55 S.
NOT VISIBLE ABOVE 300 KEV.

From PETERSON@fender.msfc.nasa.gov Mon Mar 15 13:08:21 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 NAA15719; Mon, 15 Mar 1999 13:08:18 -0800
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 (8.9.2/8.9.2) with SMTP id NAA12632
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 13:08:15 -0800 (PST)
Date: Mon, 15 Mar 1999 15:08:19 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990315150819.20215a3b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7464
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7464
EVENT OF 1999 MAR 11 DAY OF YEAR= 70
EVENT CROSSING TIME AT BATSE : 79905. S. OR 22:11:45.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 44.000 19.000
BATSE PEAK COUNTING RATE: 17000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 3/ 99 IS:
RA= 152.363 DEC= -9.239 DIST= 4.145 AU
BATSE-ULYSSES DISTANCE = 620053048. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 69.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 716.21 SECS.
CROSSING TIME AT ULYSSES IS 80621. S. OR 22:23:41 +/- 397.75 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 3/ 99 IS:
RA= 220.112 DEC= -13.316 DIST= 0.820 AU
MARS-BATSE DISTANCE = 122637160. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 6.80 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 406.20 SECS.
CROSSING TIME AT MARS IS 80311. S. OR 22:18:31 +/- 14.58 SECONDS

BATSE BURST TRIGGER

NO.: 7464

TIME: TJD=1248 SECONDS=79905

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=67.0 AZIMUTH=226.1 ERROR=0.368 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 90S, STARTS AT APPROX. T-30S.
, MAX AT APPROX. T+16S. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7464	990311	11248	79905	17000	044	+19	45.0

Date: 25/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

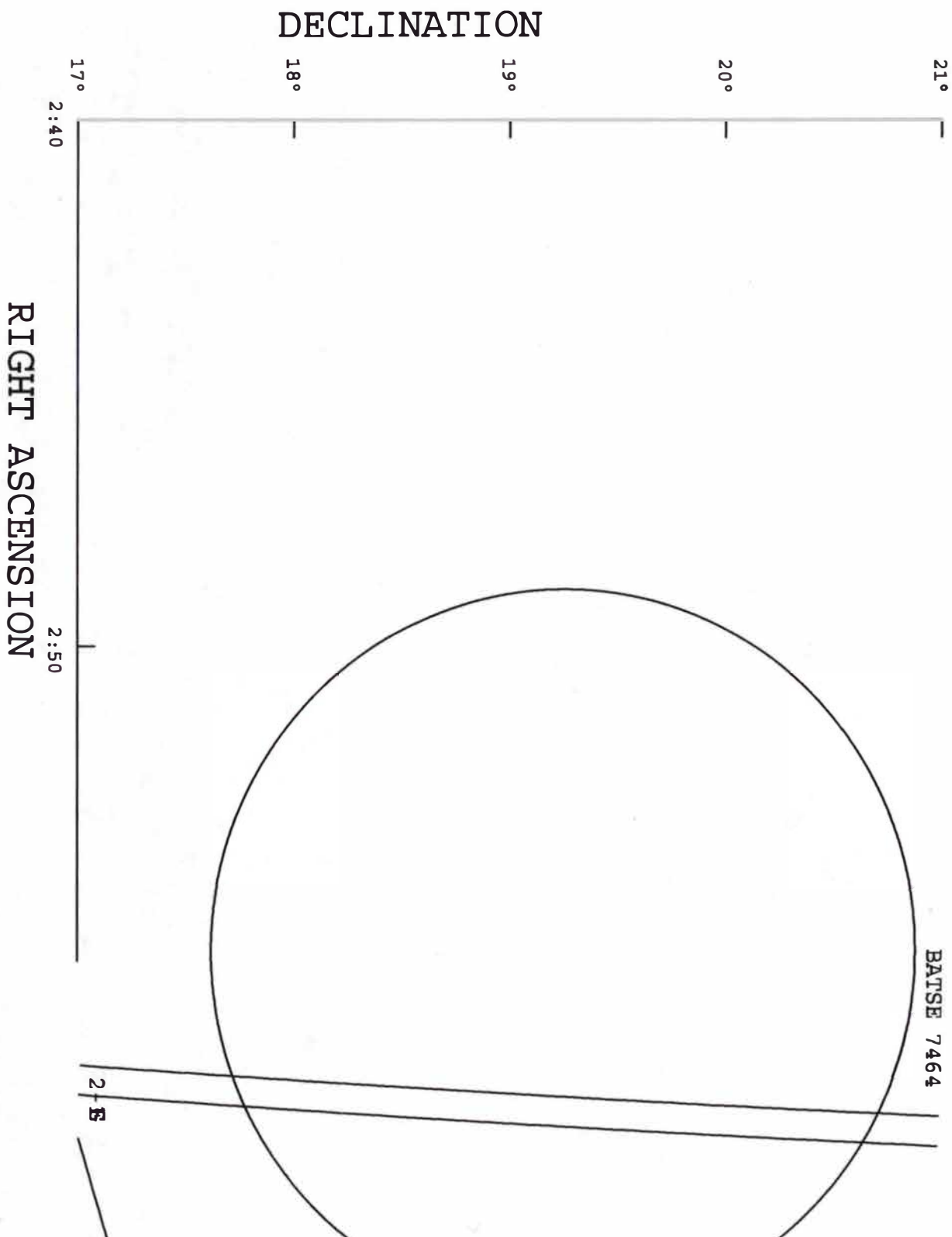
G=GALACTIC EQUATOR

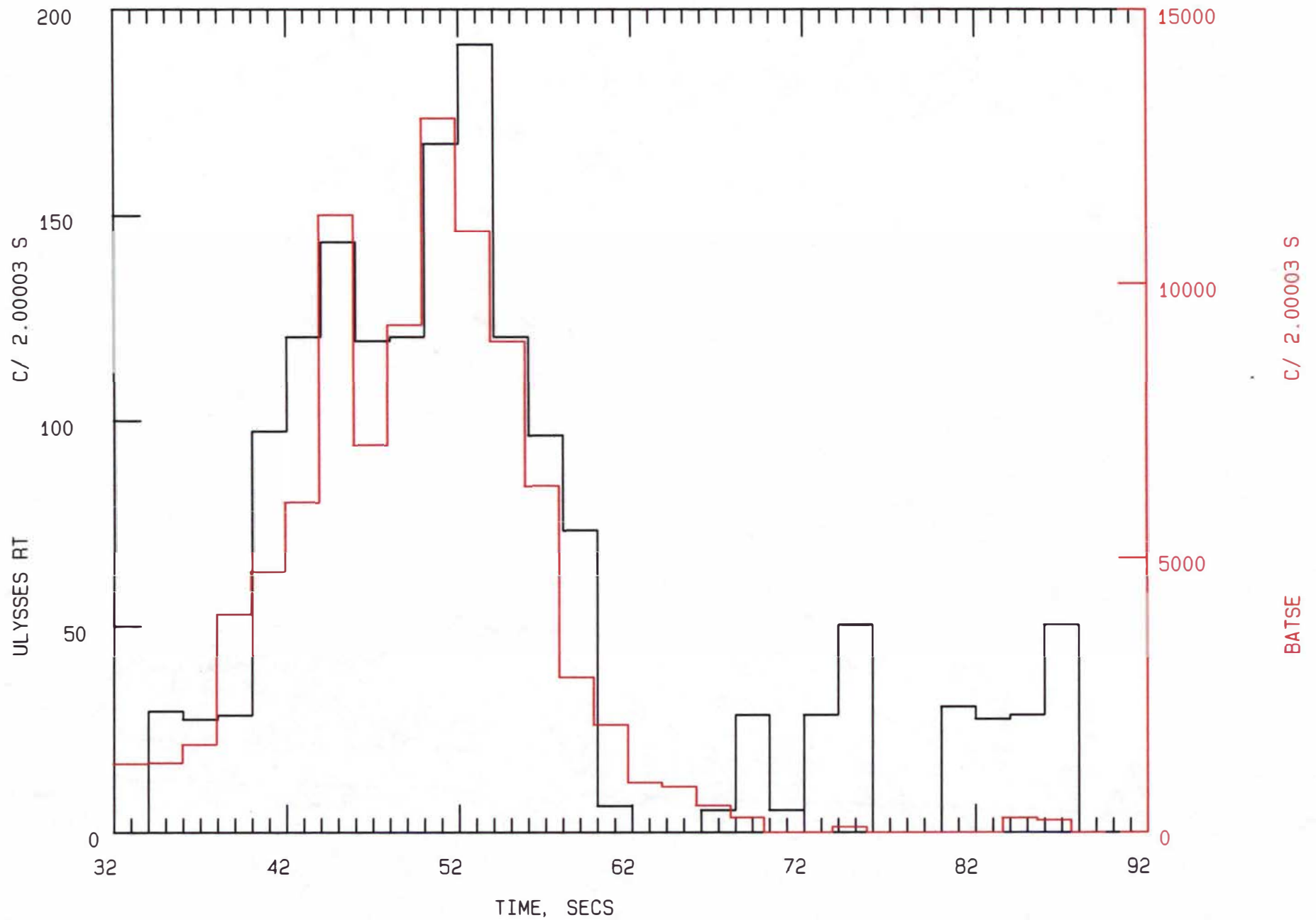
1 BATSE

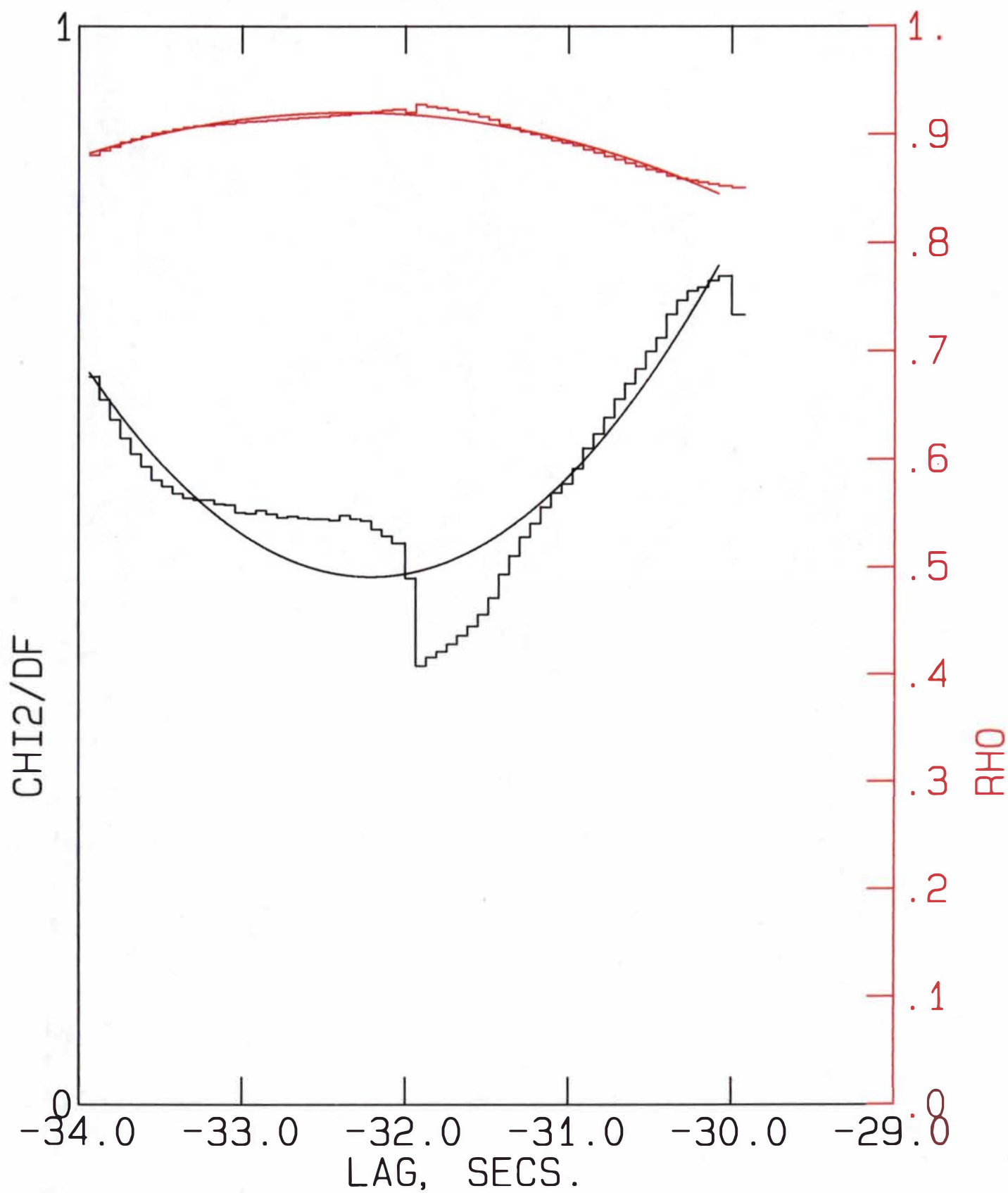
2 ULYSSES

EVENT OF MAR 11, 1999 22:11

25 / 1 / 0



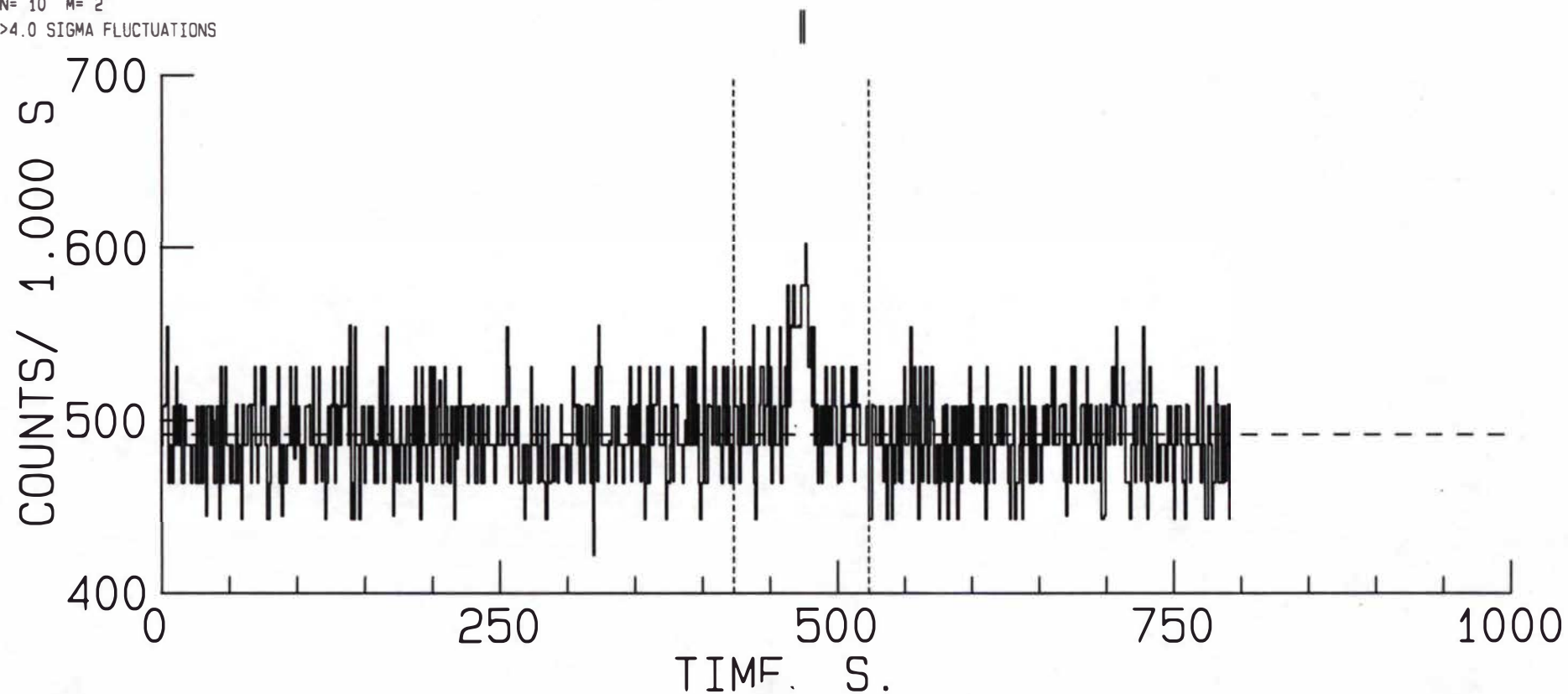




ULYSSES RT
11/ 3/99 80172.139 s
0.500 S INTERVALS REGROUPED BY 2
22- 151 keV

25 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

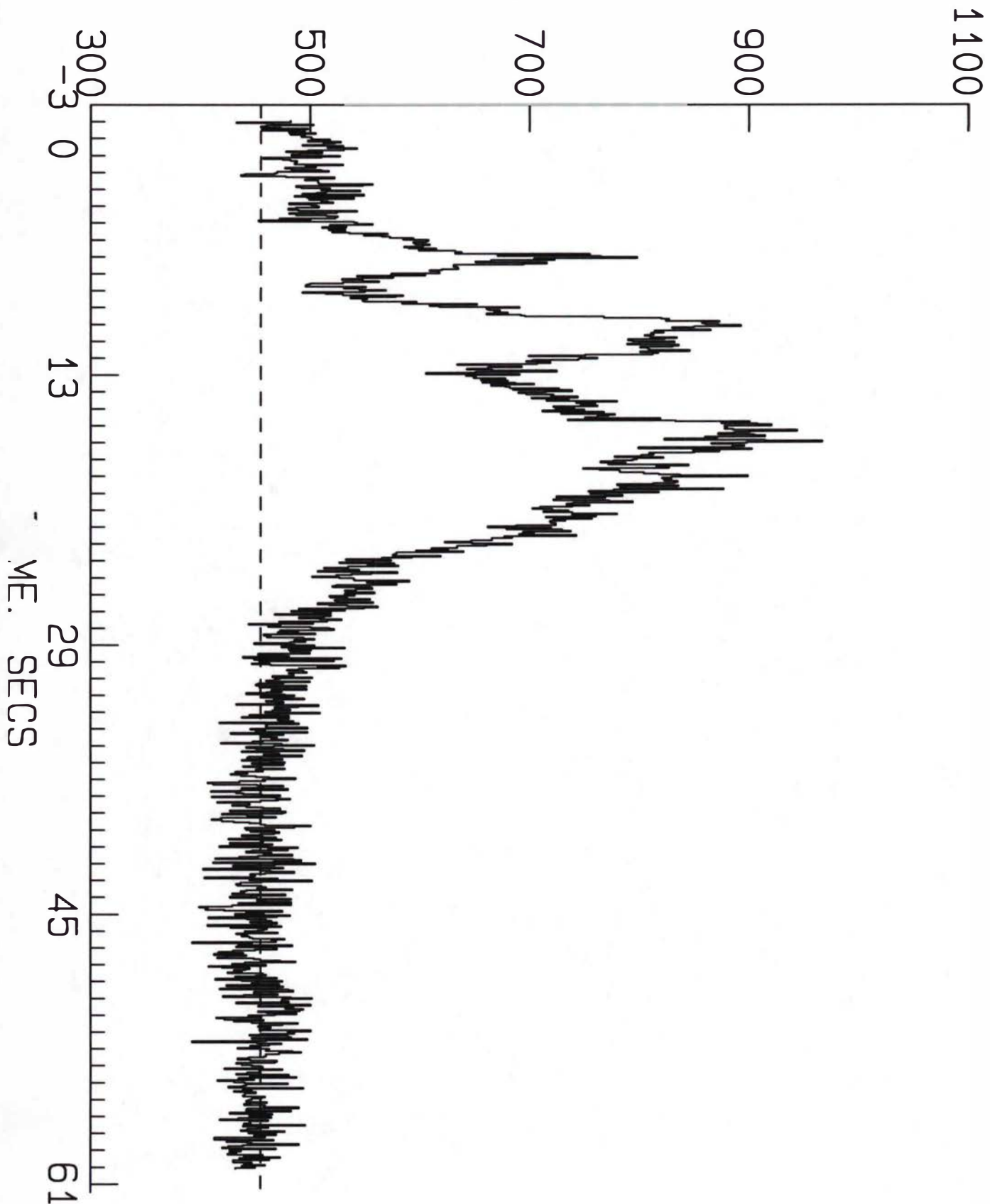
11/03/99

79905.529

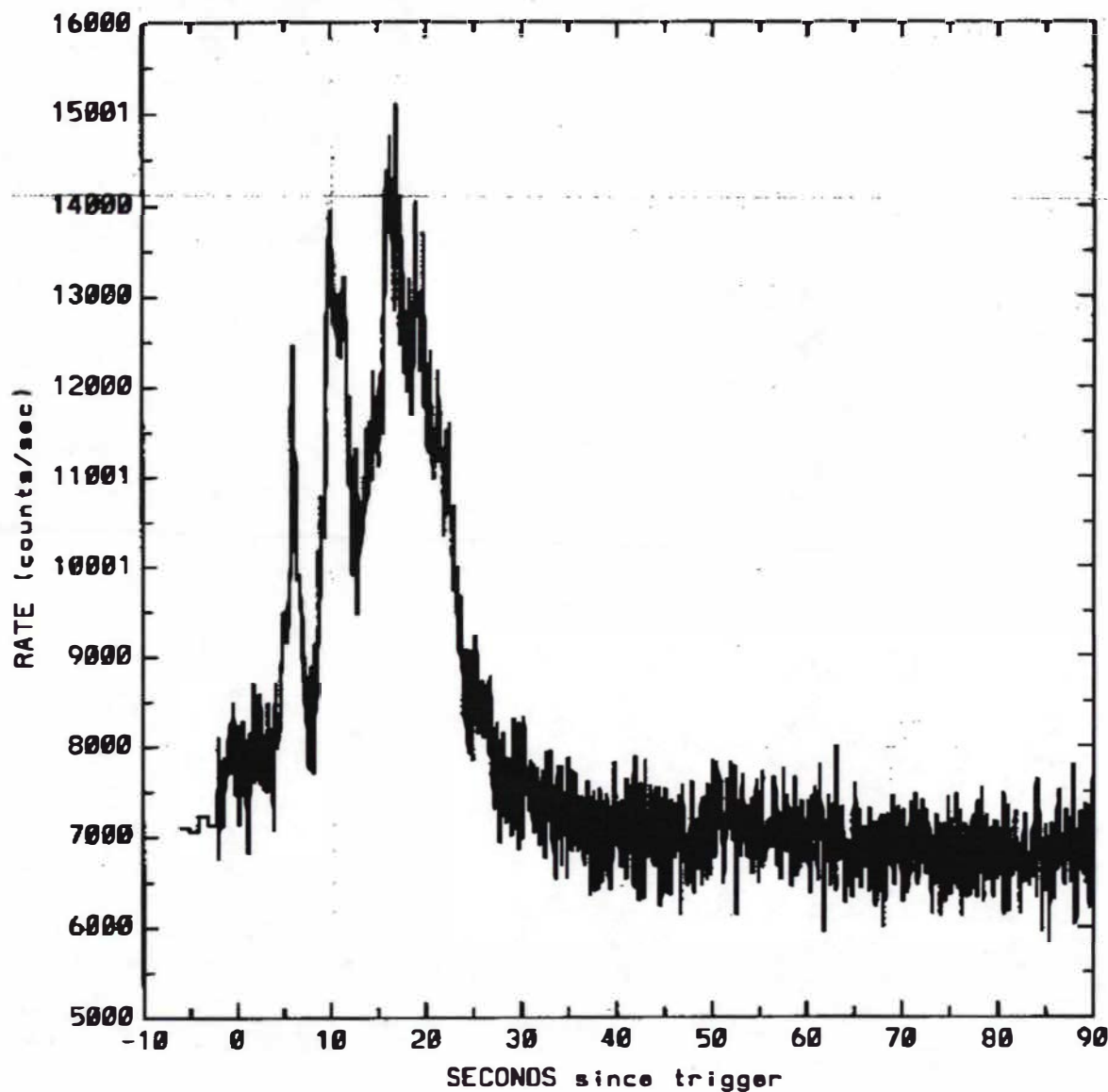
25- 100 keV

COUNTS/0.064 S

29 / 3 / 99



DISCSC Data for K. Hurley, No. 7464



24-MAR-1999 08:10:09

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7464

Trigger Time:
11248 / 79905.529

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

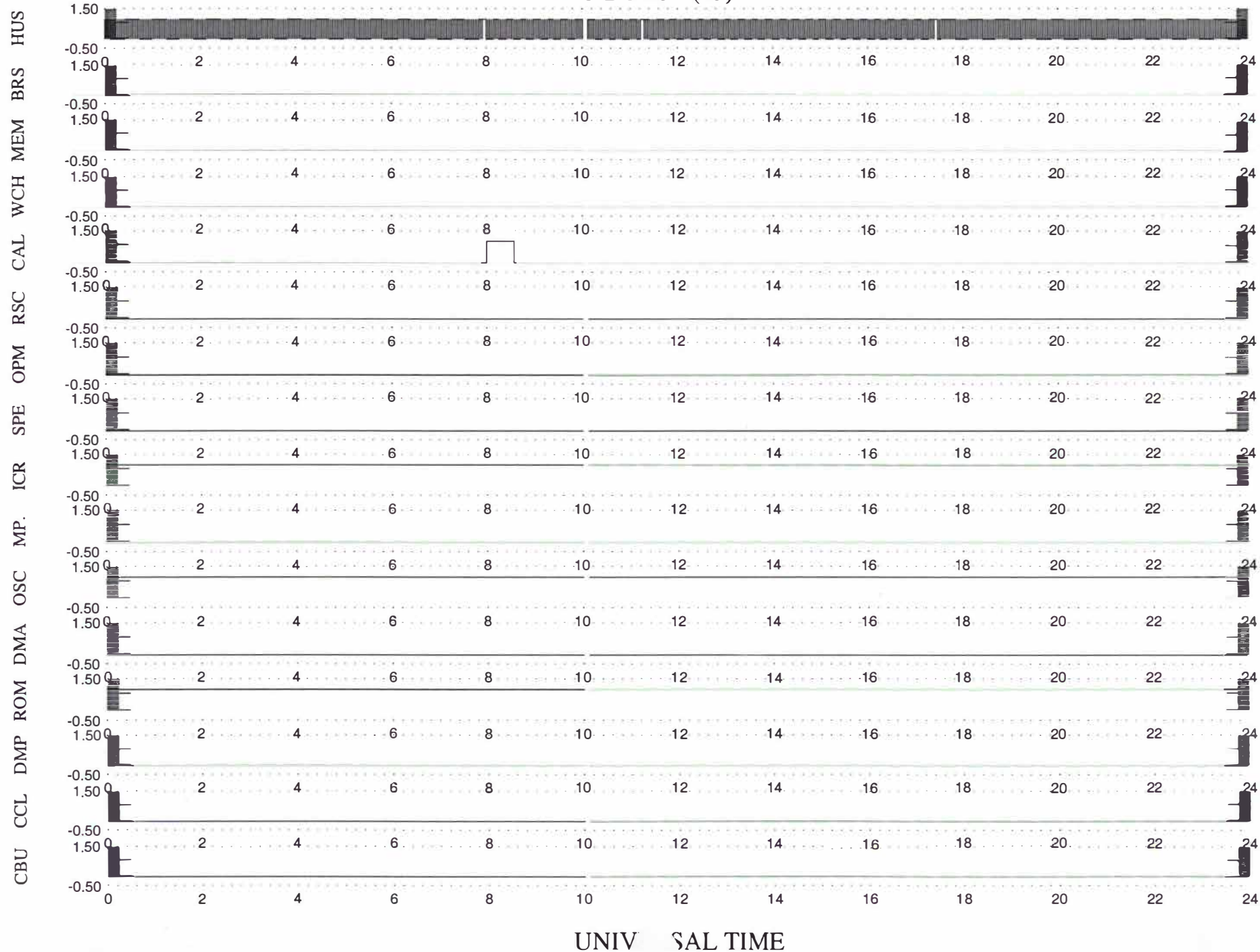
Minimum Integ. Time:
0.064 second(s)

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

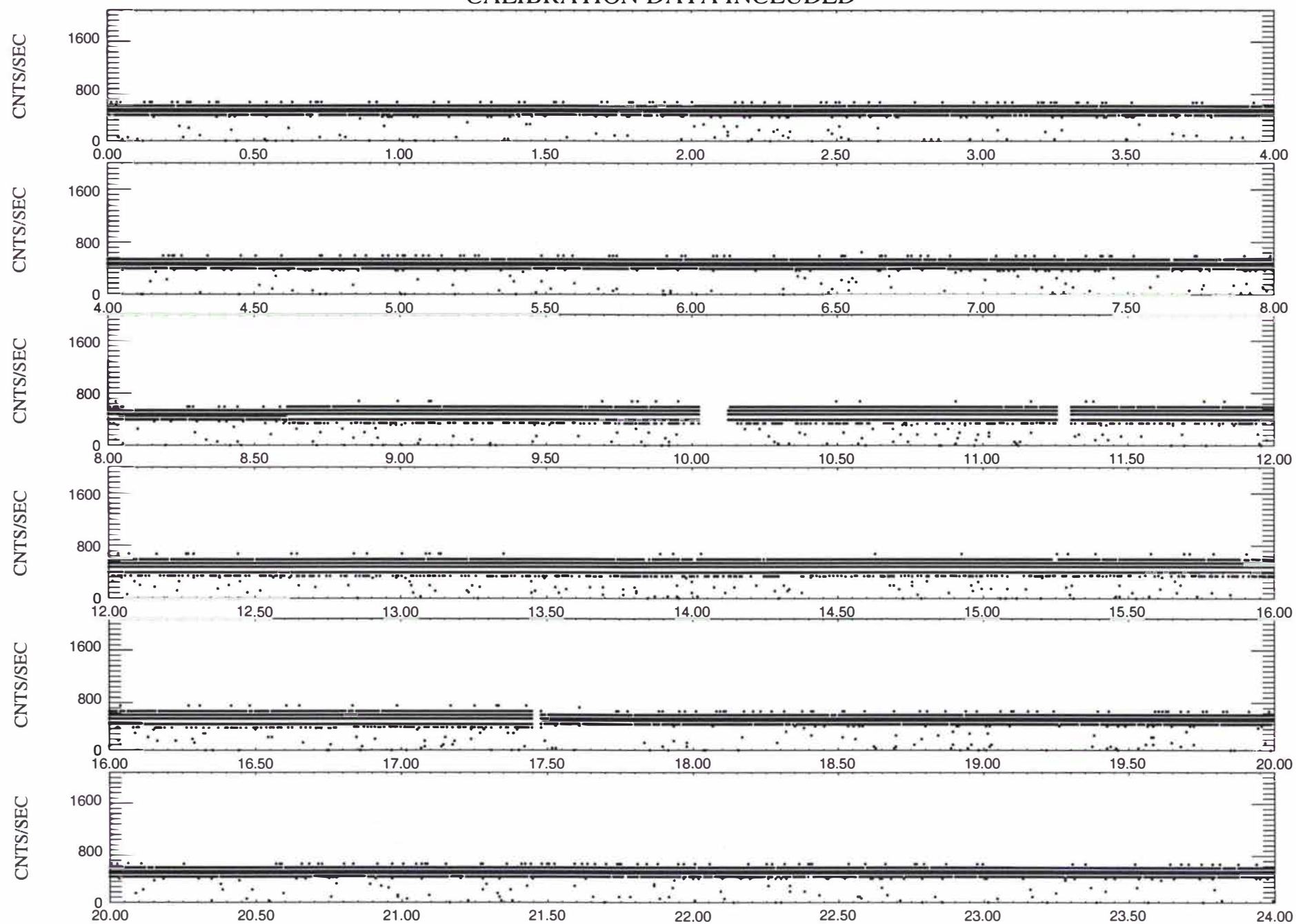
Discriminators:
(1..2)

Quality Mask:
80ISP1

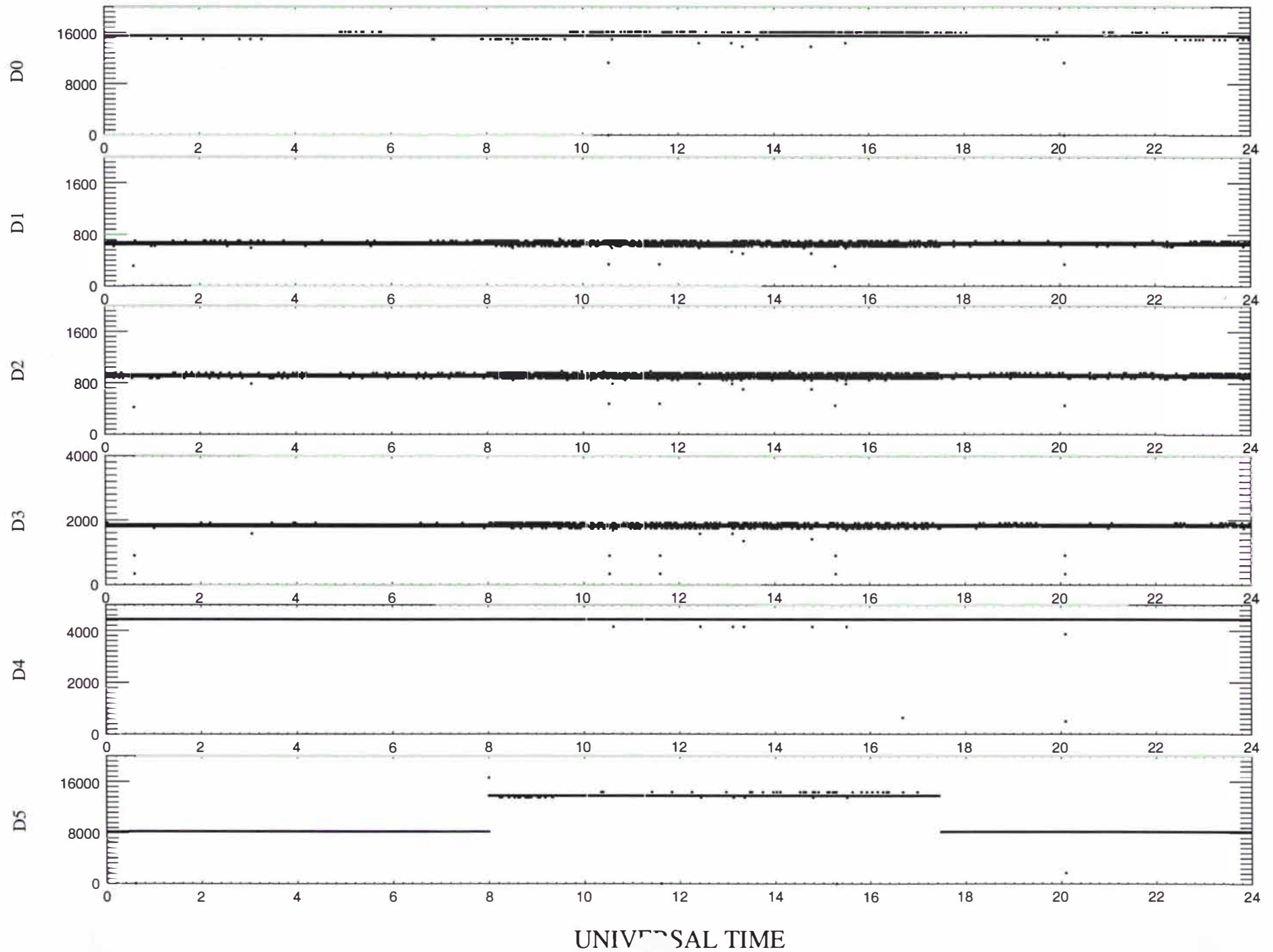
NO BURST (15)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From: SURASAK@fender.msfc.nasa.gov
Date: Tue, 16 Mar 1999 11:01:11 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990316110111.2021841a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7465
Content-Type: text
Content-Length: 1135
Status: R

BATSEARCH PROGRAM

BATSE BURST # 7465
EVENT OF 1999 MAR 12 DAY OF YEAR= 71
EVENT CROSSING TIME AT BATSE : 32626. S. OR 09:03:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 107.000 -59.000
BATSE PEAK COUNTING RATE: 3300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 12/ 3/ 99 IS:
RA= 152.260 DEC= -9.223 DIST= 4.146 AU
BATSE-ULYSSES DISTANCE = 620180452. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=119.68 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1024.47 SECS.
CROSSING TIME AT ULYSSES IS 31602. S. OR 08:46:41 +/- 346.47 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 12/ 3/ 99 IS:
A= 220.192 DEC= -13.344 DIST= 0.812 AU
MARS-BATSE DISTANCE = 121404520. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 90.03 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -0.19 SECS.
CROSSING TIME AT MARS IS 32626. S. OR 09:03:45 +/- 70.30 SECONDS

BATSE BURST TRIGGER

NO.: 7465

TIME: TJD=1249 SECONDS=32626

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=79.6 AZIMUTH=127.4 ERROR=15.57 DEGREES

COMMENTS:

GRB. SINGLE SPIKE. DURATION ABOUT 0.2 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7465	990312	11249	32626	3300	107	-59	.2

BATSE BURST# 7465

ULYSSES RT

16 / 3 / 99

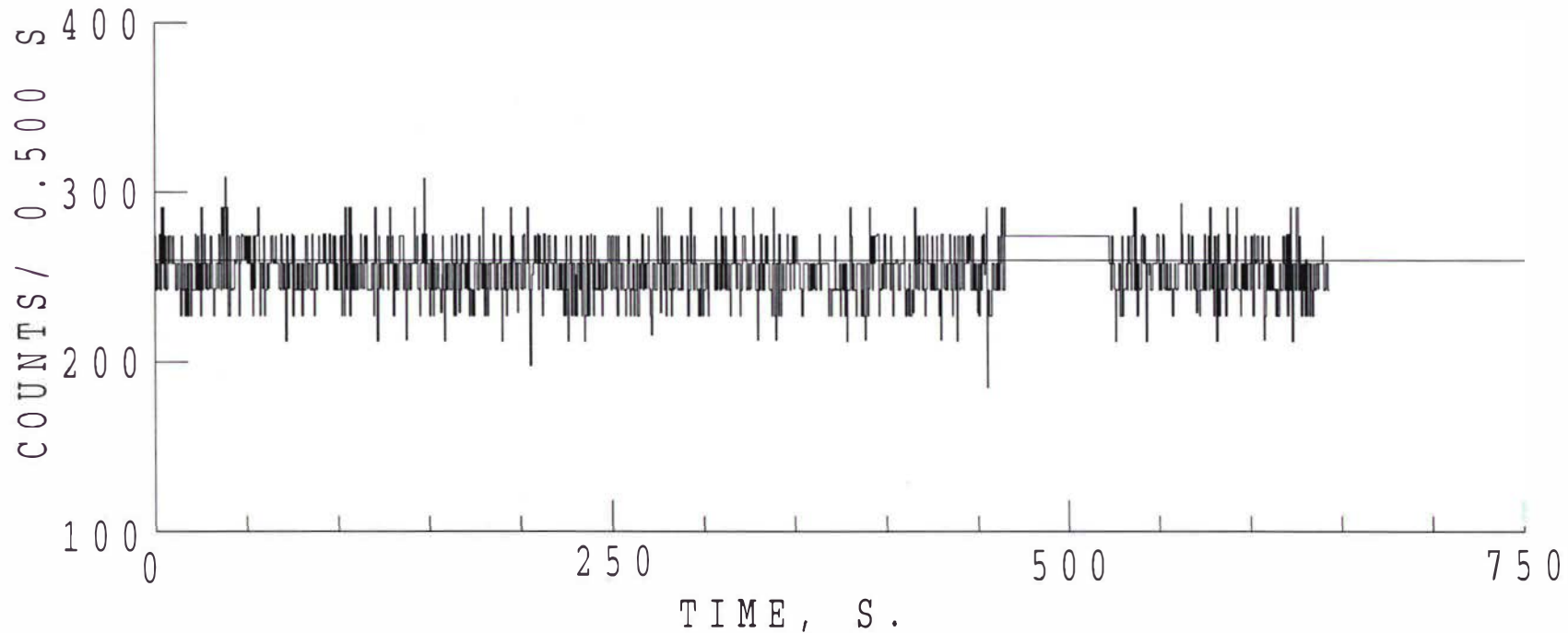
12 / 3 / 99 31248.023 s

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 SURASAK@fender.msfc.nasa.gov Tue Mar 16 08:47:47 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 16 Mar 1999 10:47:18 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7466

TIME: TJD=1249 SECONDS=37016

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=23.4 AZIMUTH=285.2 ERROR=0.24 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES, OPTICAL SF. MULTIPLE PULSE. PEAK AT ABOUT T+49S.
DURATION ABOUT 250 S. NOT VISIBLE ABOVE 300 KEV.

KONUS #954

ULYSSES RT

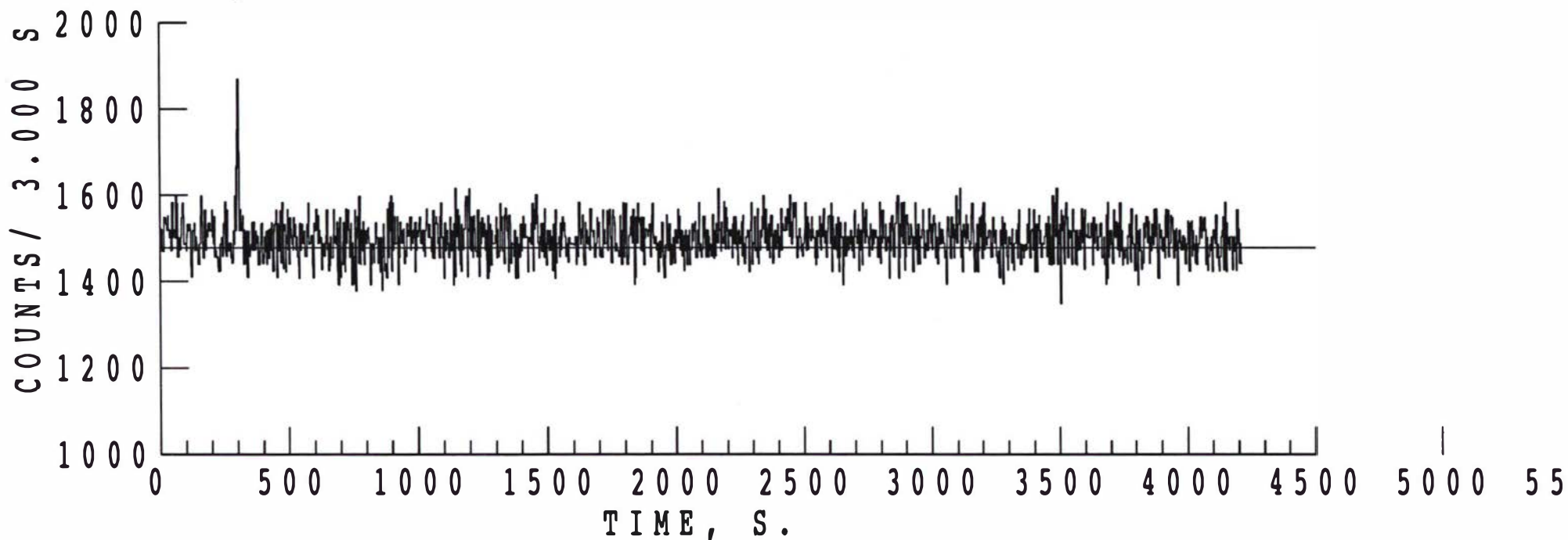
28 / 7 / 99

12 / 3 / 99 57636.043 s

0.250 S INTERVALS REGROUPED BY 12

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From SURASAK@fender.msfc.nasa.gov Tue Mar 16 08:54:20 1999

From: SURASAK@fender.msfc.nasa.gov

Date: Tue, 16 Mar 1999 10:54:04 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7467

Mar 12

TIME: TJD=1249 SECONDS=70460

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=20.7 AZIMUTH=287.4 ERROR=2.29 DEGREES

COMMENTS:

SOLAR FLARE. NO GOES, OPTICAL SF. SINGLE PULSE. DURATION ABOUT 20 S.
NOT VISIBLE ABOVE 100 KEV. THERE IS ANOTHER PULSE OCCURS AT ABOUT
T+330 S WITH DURATION ABOUT 15 S.

From khurley@sunspot.ssl.berkeley.edu Tue Mar 16 08:18 PST 1999
Date: Tue, 16 Mar 1999 08:22:35 -0800
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: GRB990312a,b

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 12 1999 08:55*	weak, 32 ms long	2070
MAR 12 1999 19:36	moderate, 2 s long	2070

*suspected to come from SGR1806-20. If so, the Earth-crossing time would have been ~830 s earlier.

Were these events detected by anyone else?

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

Date: Nov 11 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

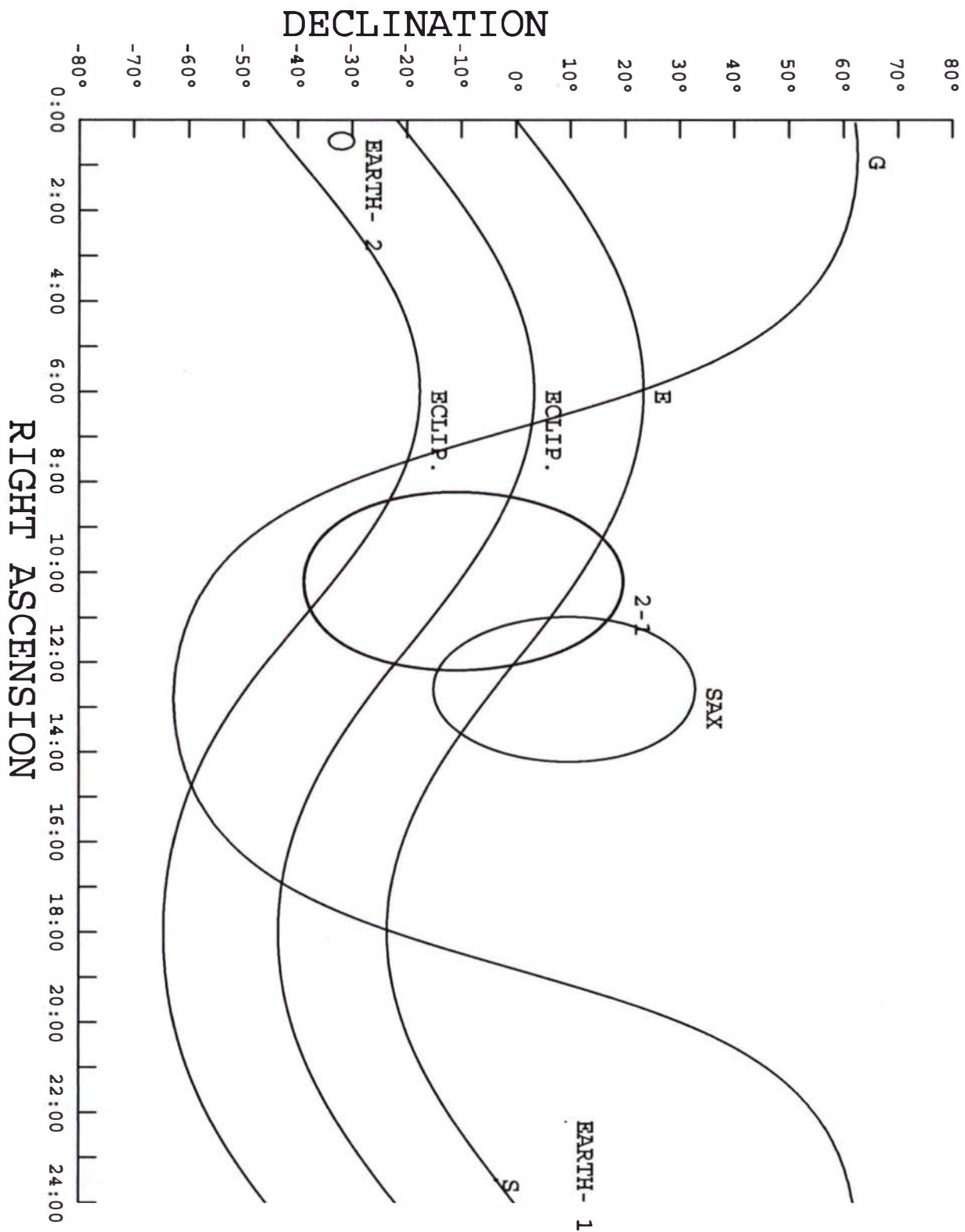
G=GALACTIC EQUATOR

1 ULYSSES

2 KONUS1

EVENT OF MAR 12, 1999 16:04

12/11/ 9



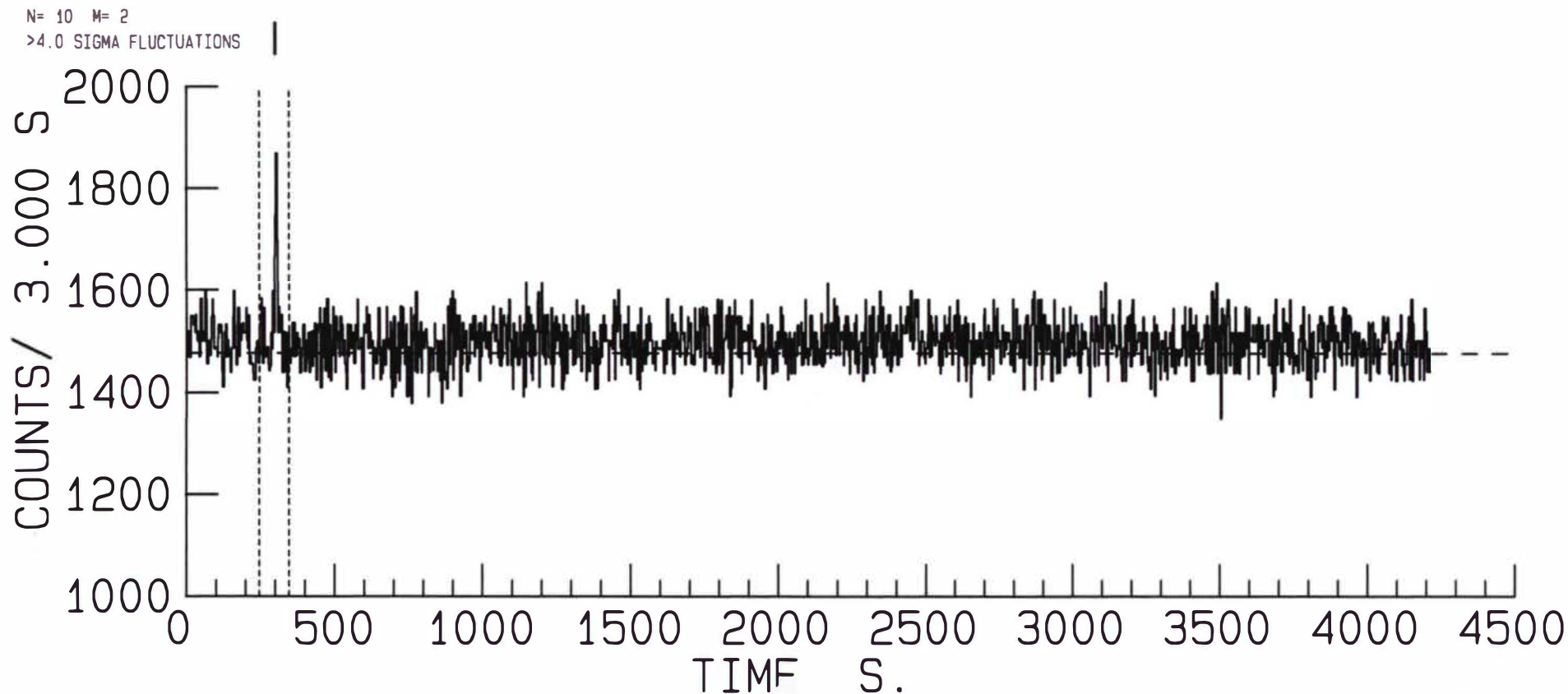
ULYSSES RT

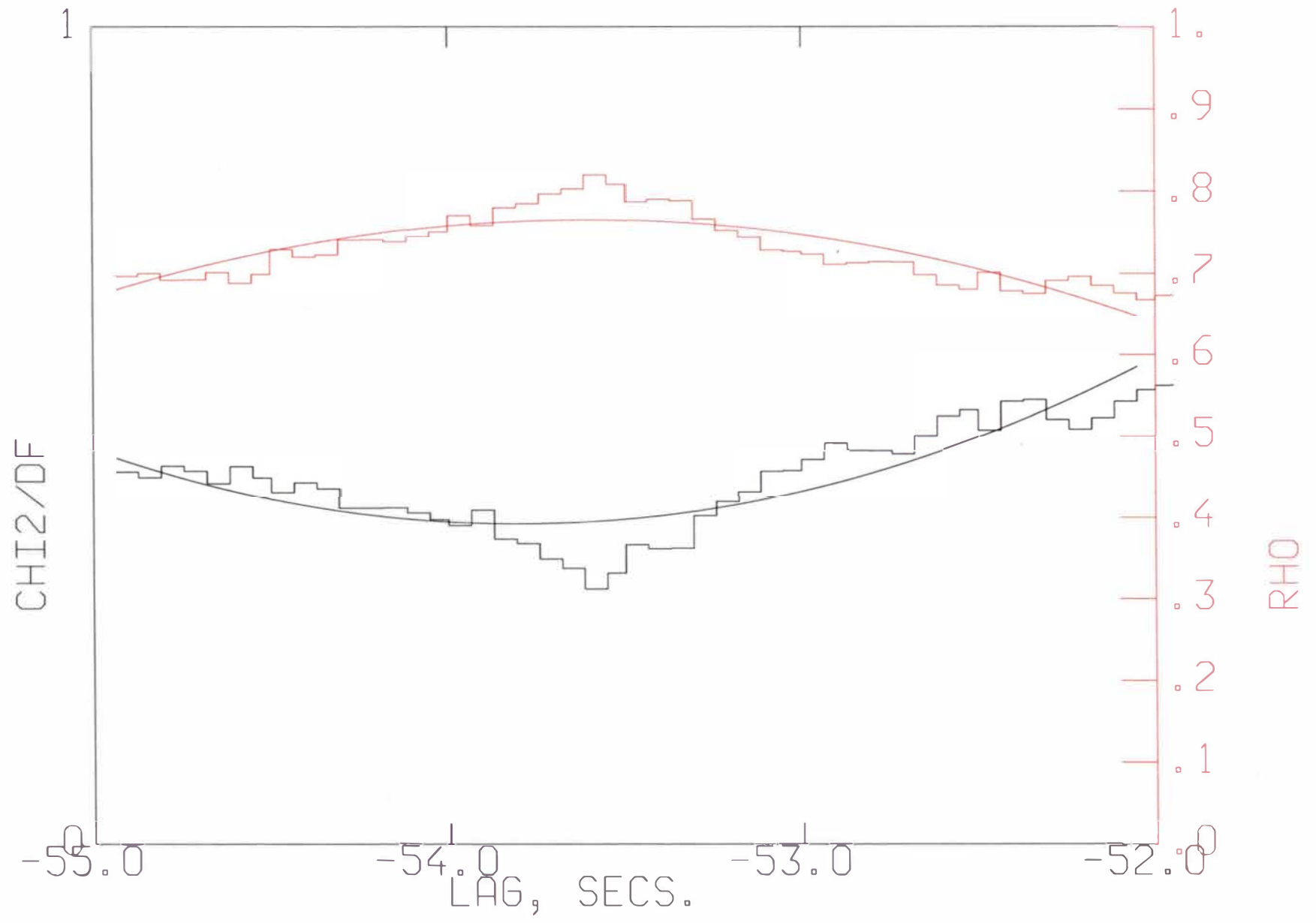
11/11/9

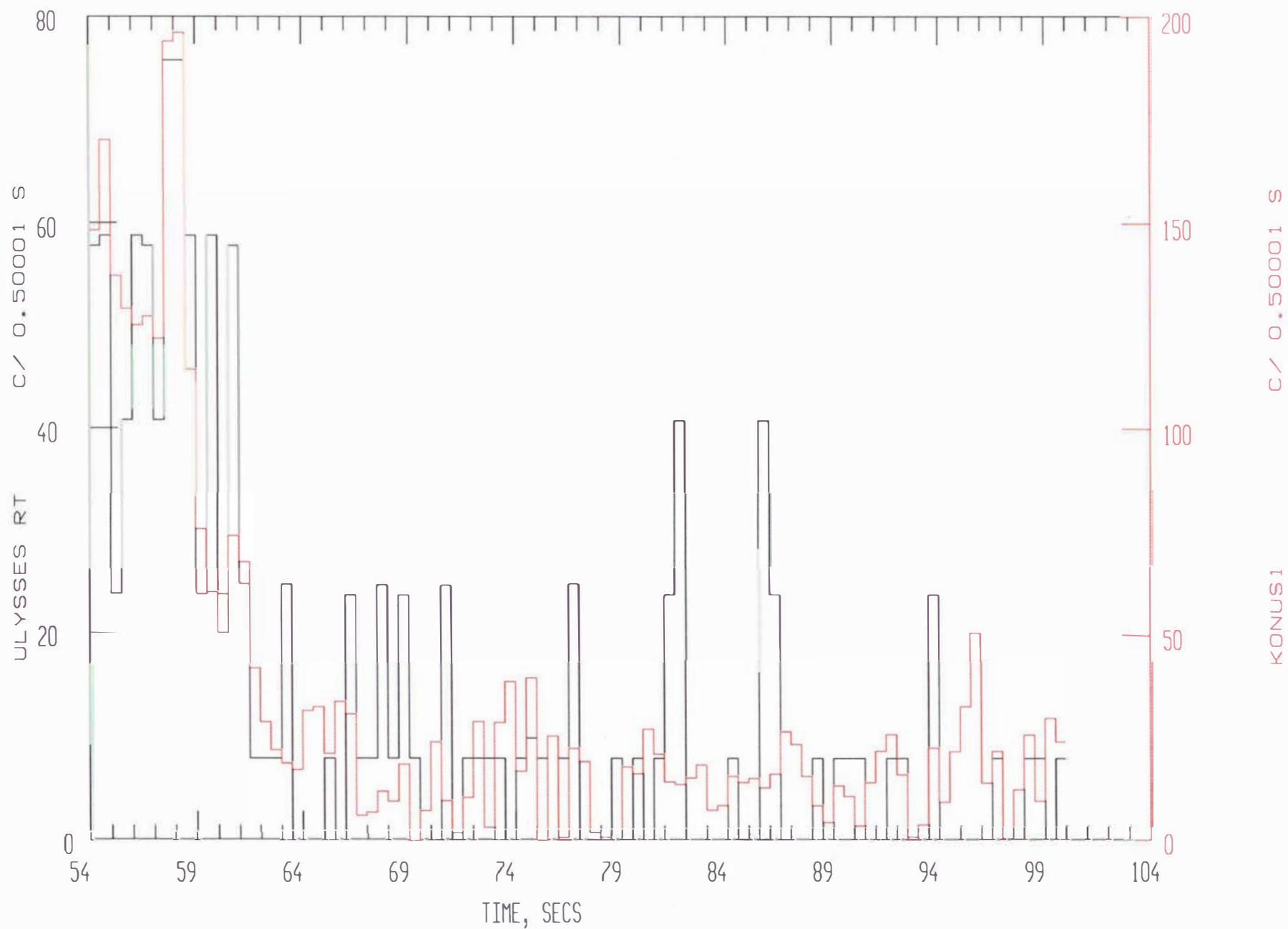
12/ 3/99 57636.043 s

0.250 S INTERVALS REGROUPED BY 12

22- 151 keV







Date: Dec 12 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

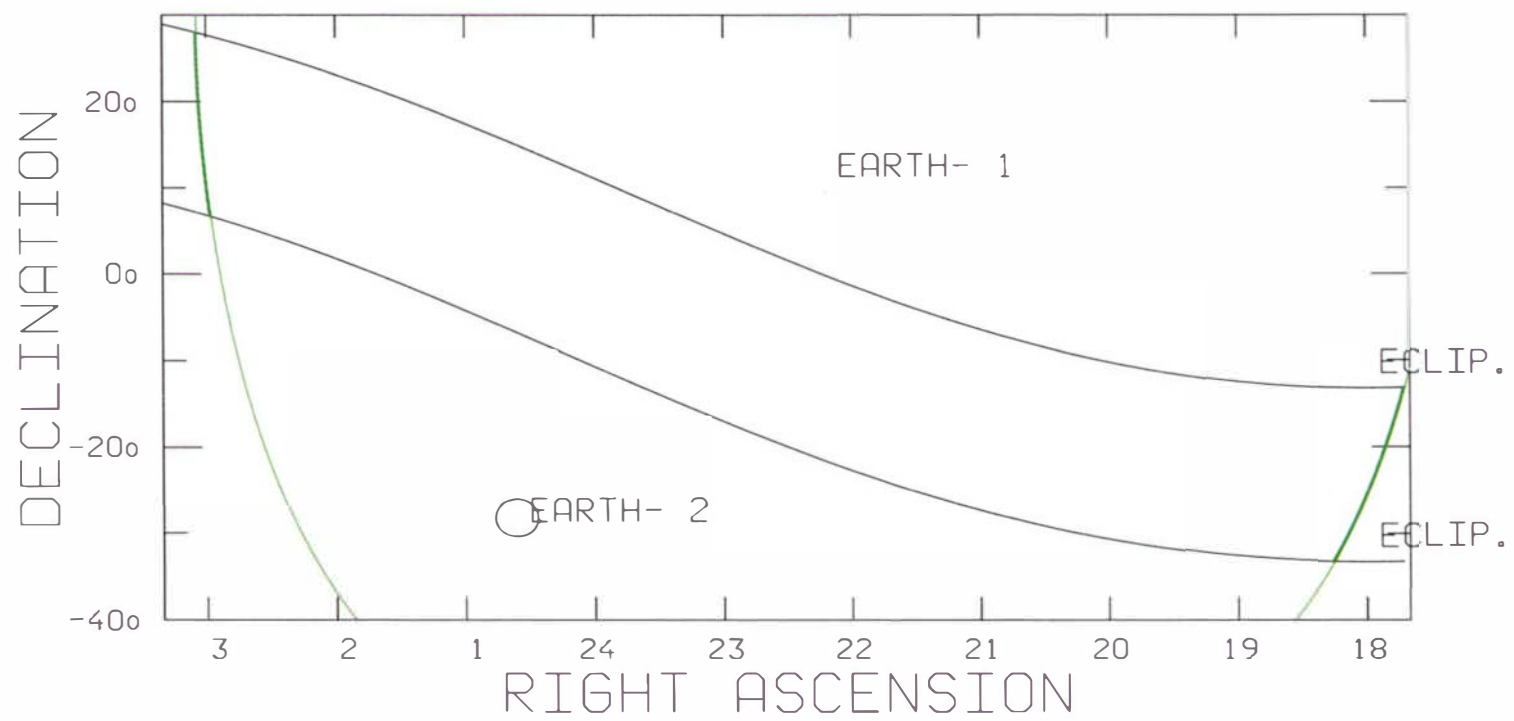
2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

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

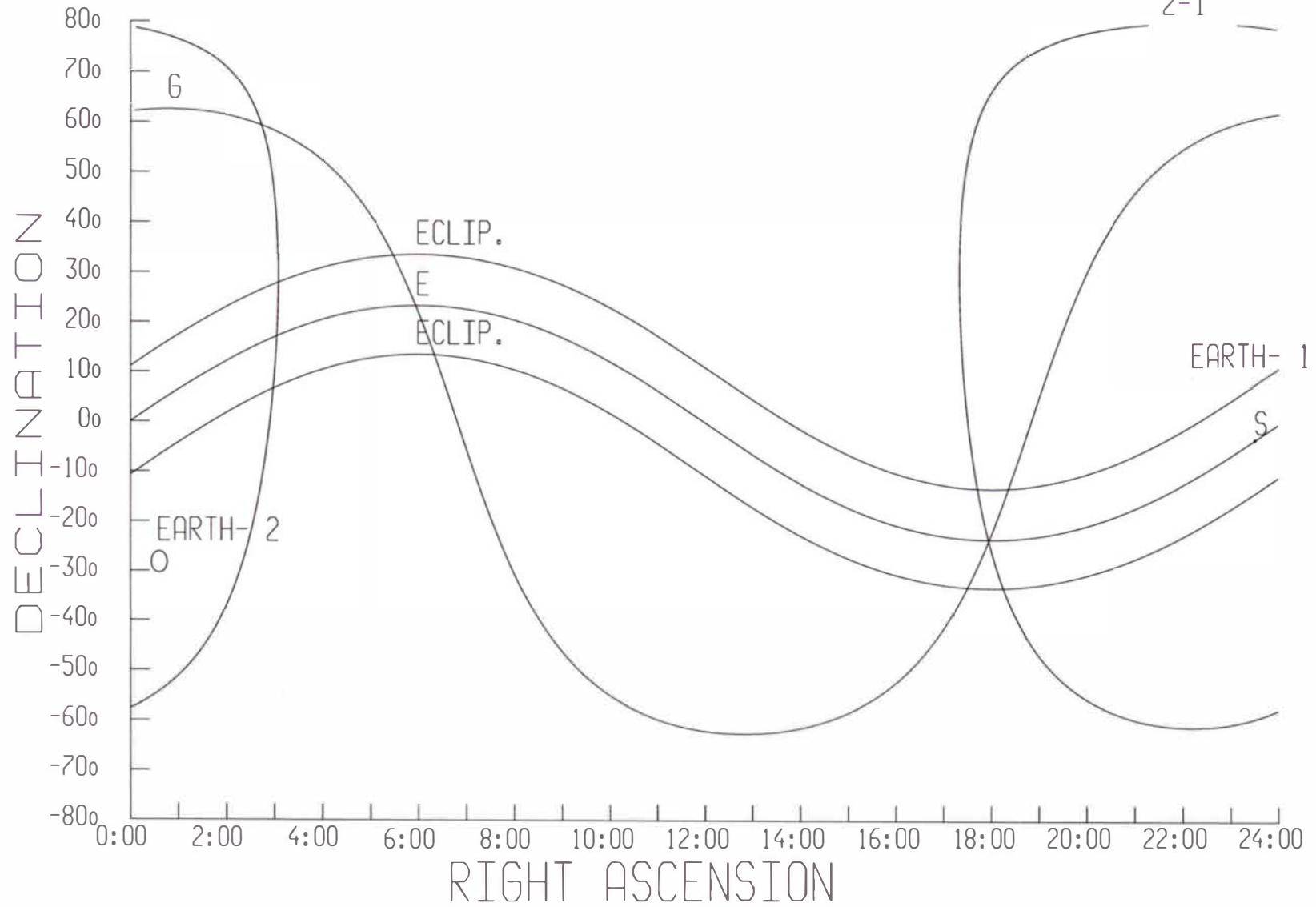


EVENT OF MAR 12, 1999 19:35

19/12/2012

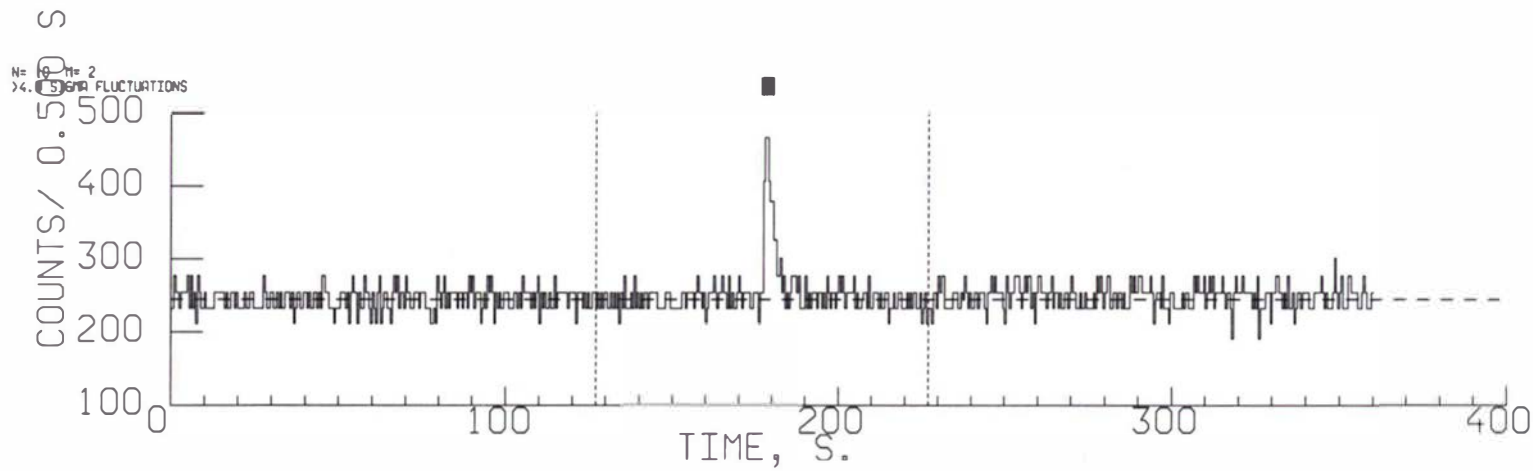
2-1

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



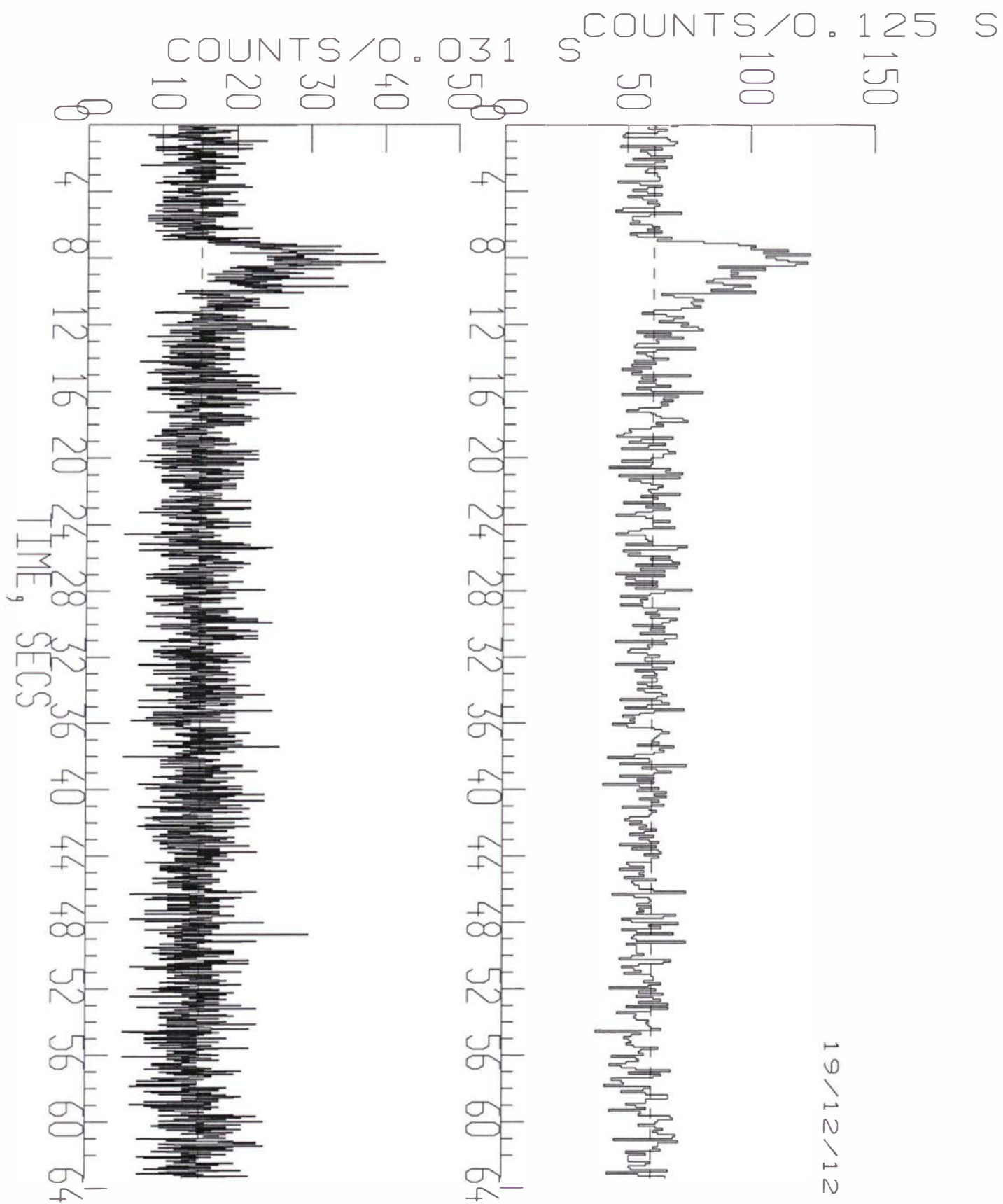
ULYSSES RT
12/ 3/99 70416.422 s
22- 151 keV

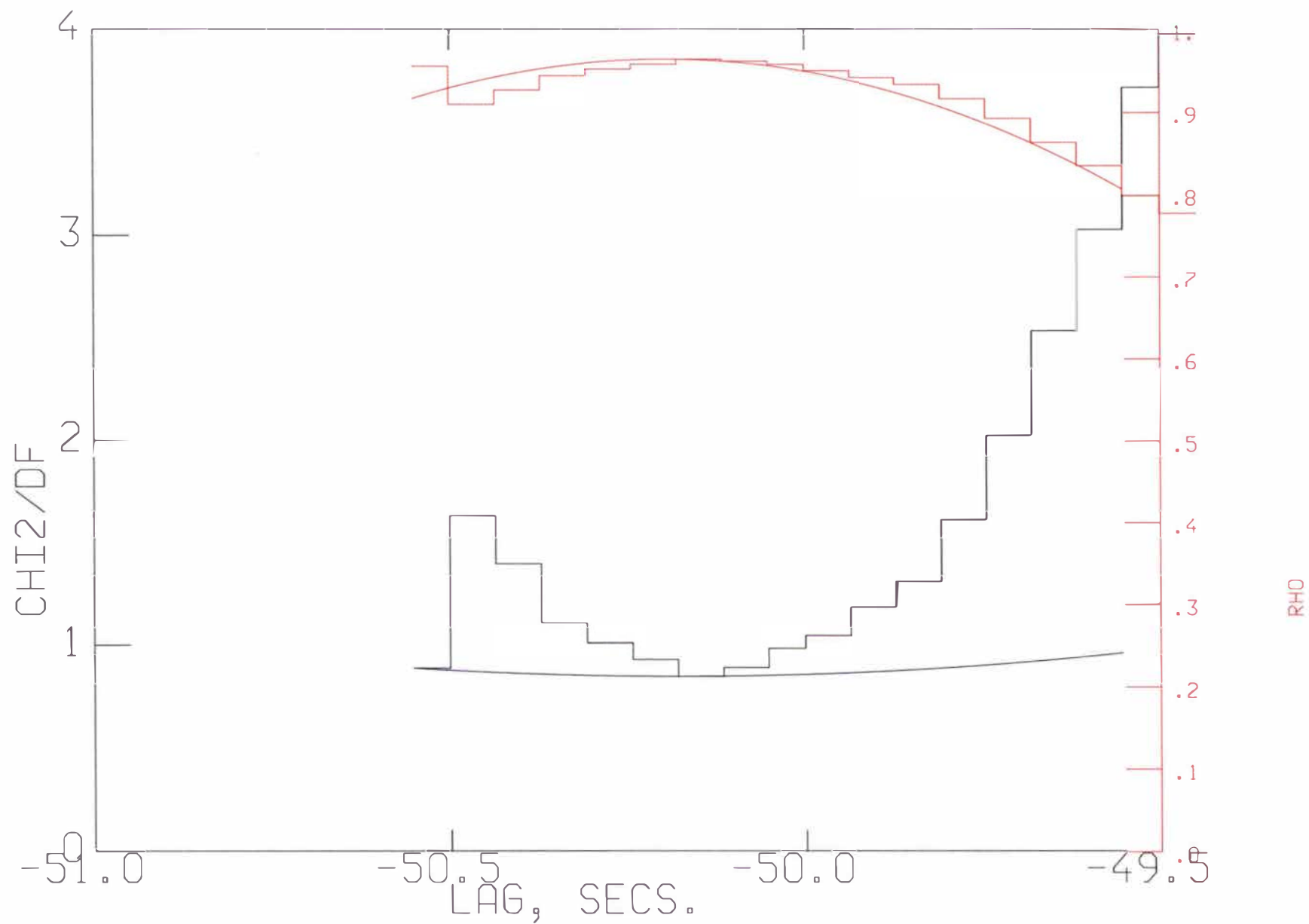
19/12/12

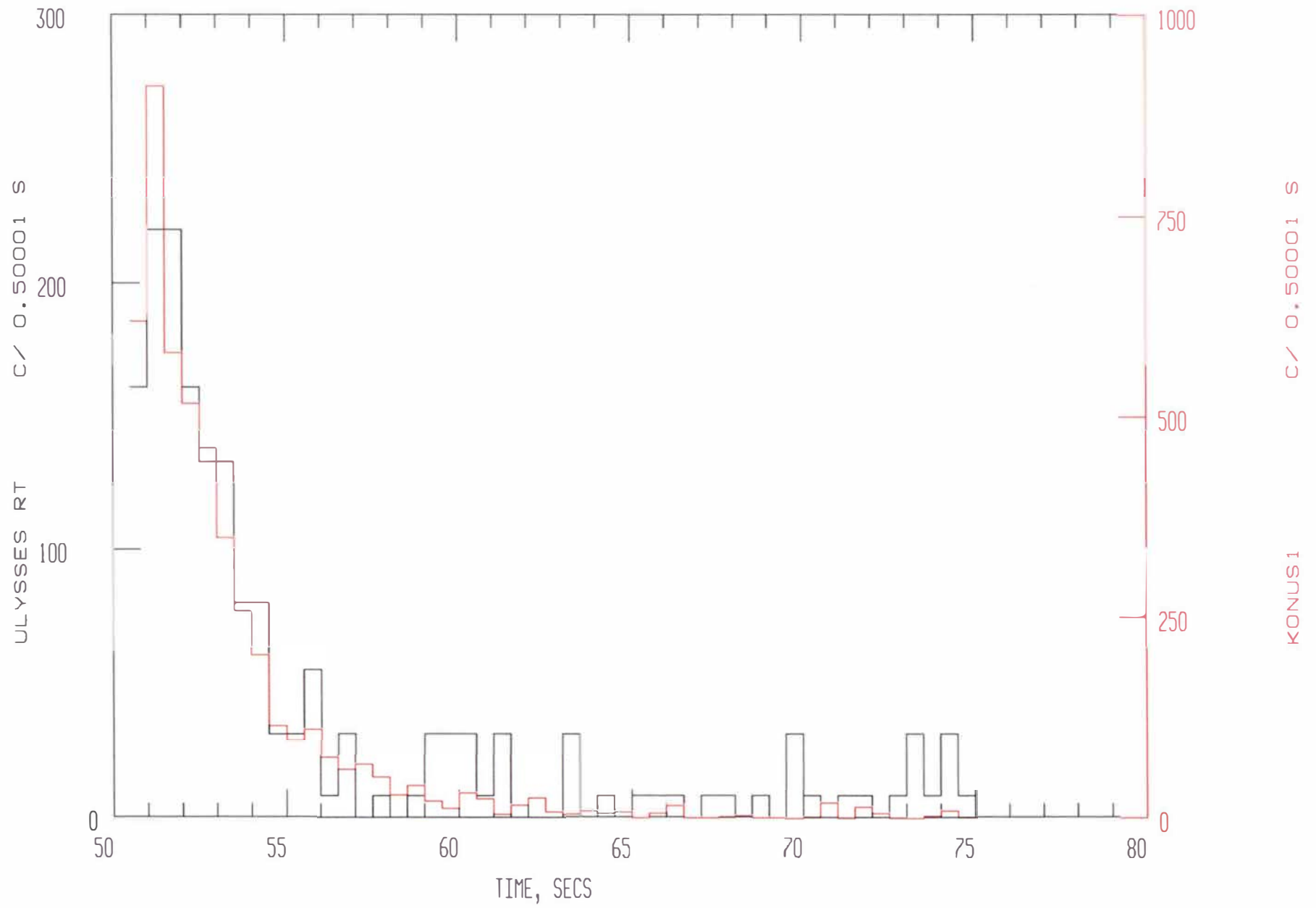


ULYSSES 12/03/99 Ttrig=69345.169

22- 151 keV







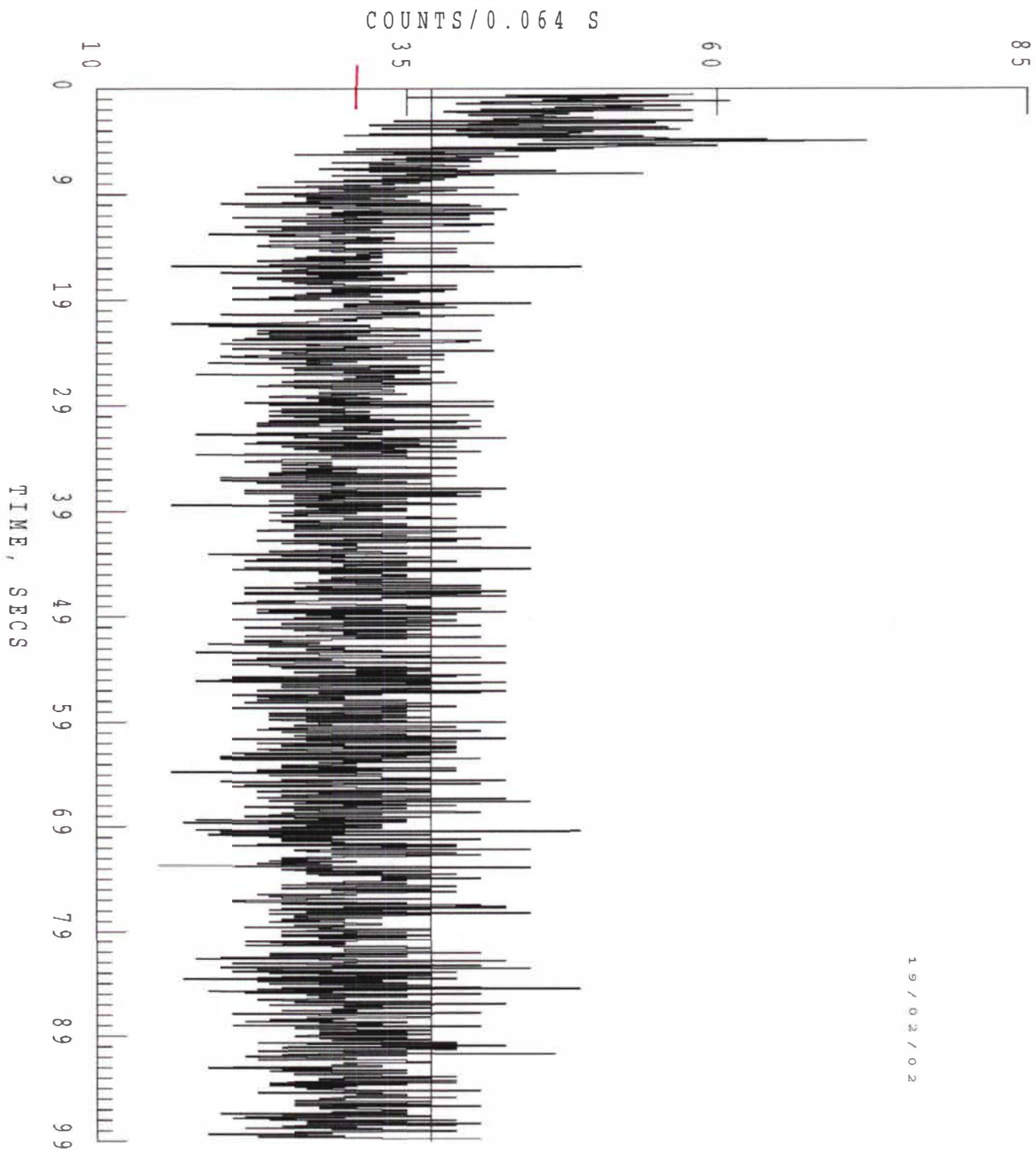
KONUS1

12/03/99

59741.631

50 - 200 keV

16:35:41



KONUS1 19990312 59741

ULYSSES RT

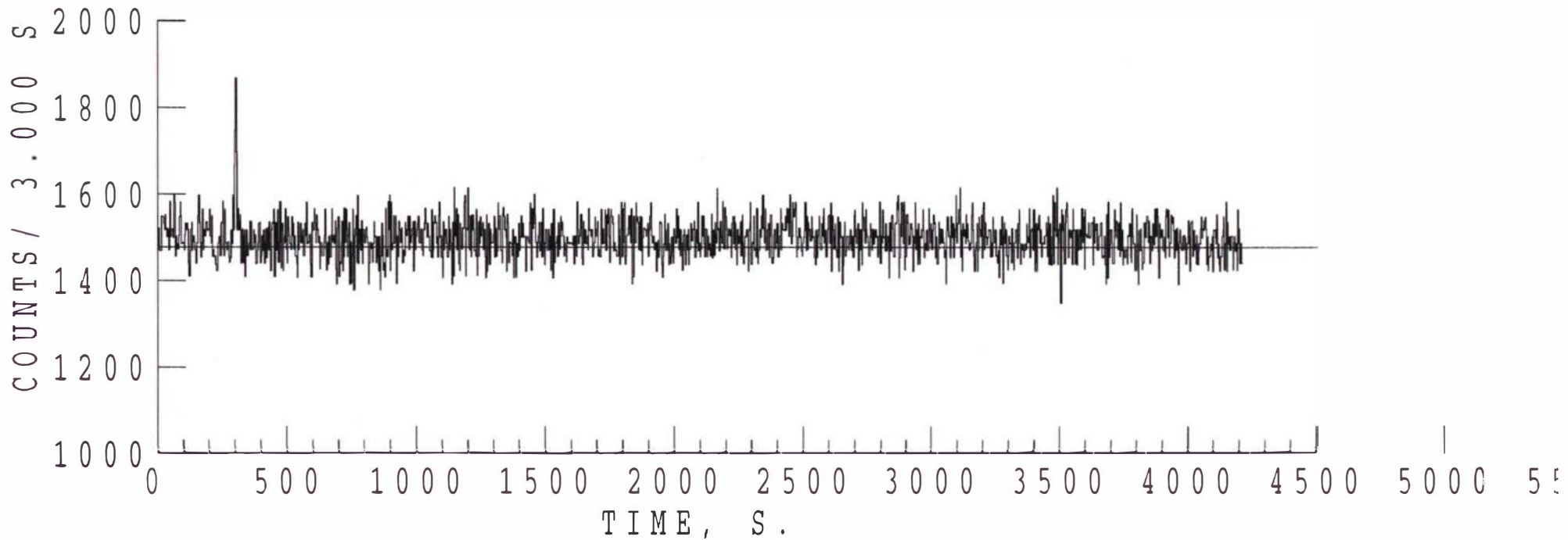
19 / 02 / 02

12 / 03 / 99 57636.043 s

0.250 S INTERVALS REGROUPED BY 12

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



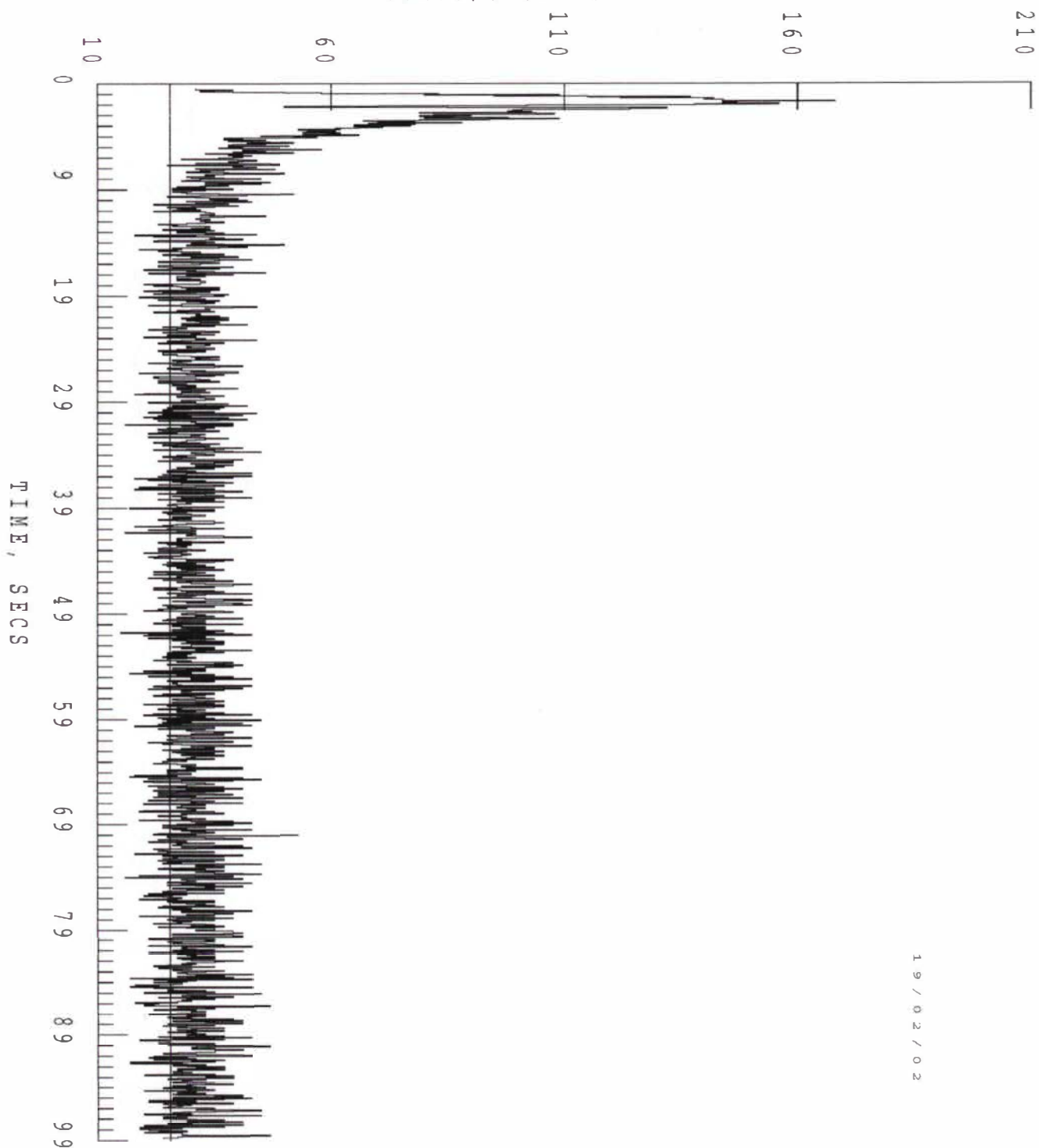
KONUS1

12/03/99

69909.518

50 - 200 keV

COUNTS/0.064 S



19/02/02

KONUS1 19990312 69909

ULYSSES RT

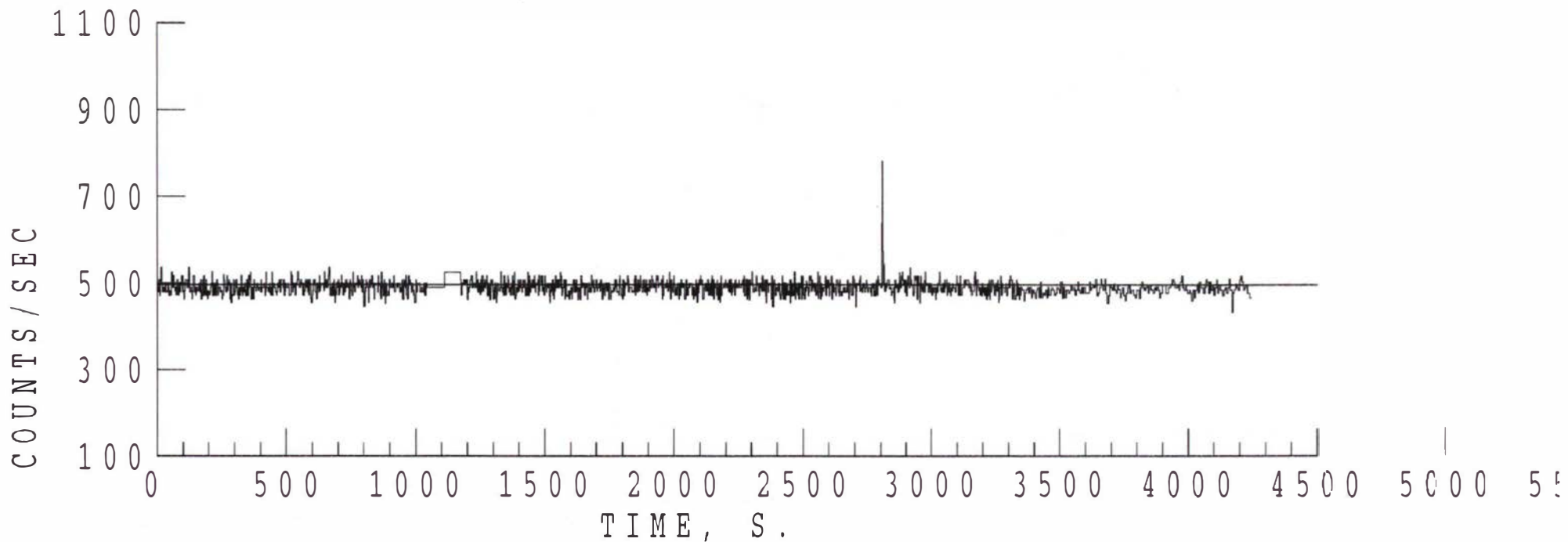
19 / 02 / 02

12 / 03 / 99 67788.391 s

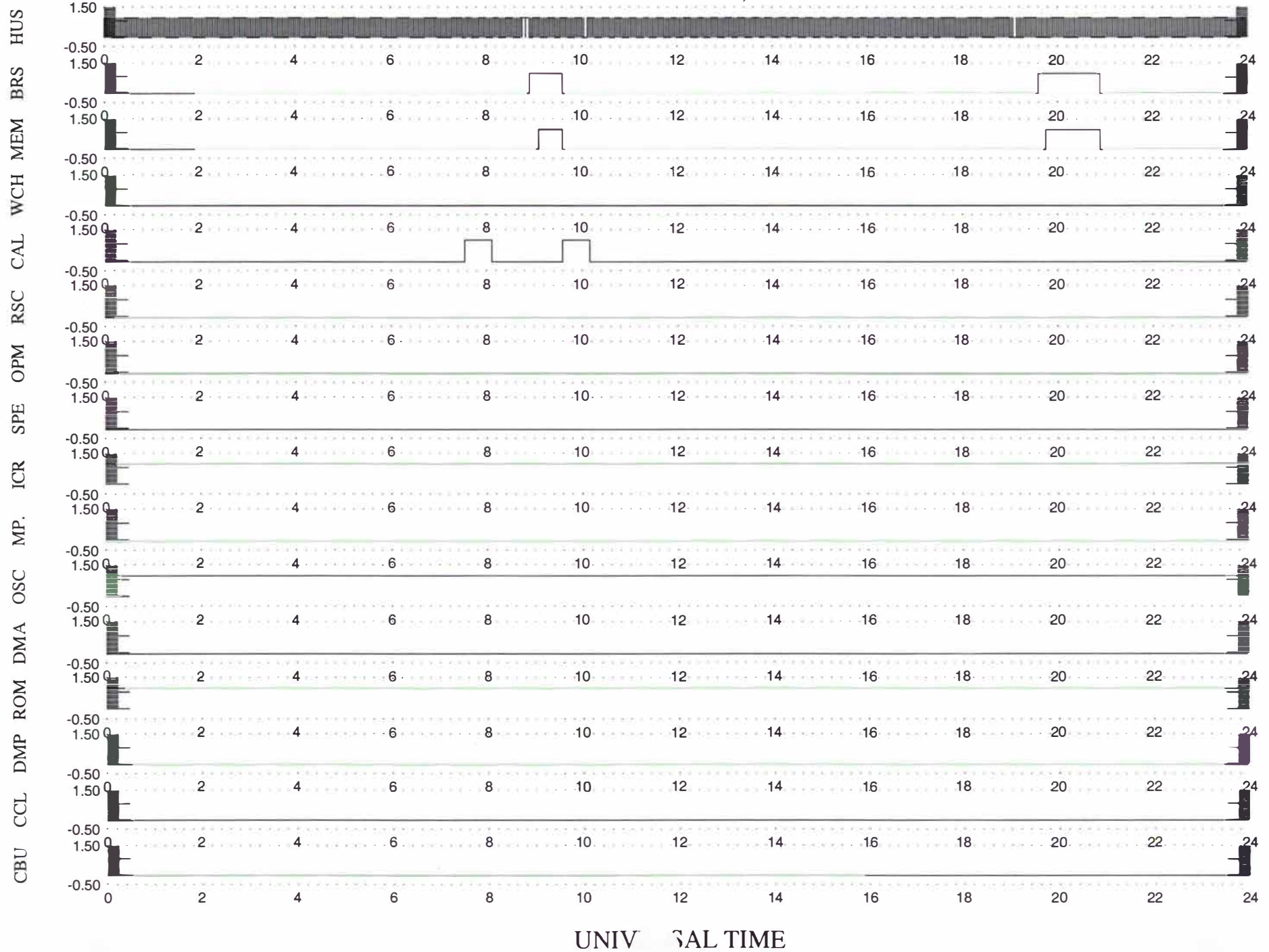
INTERVALS REGROUPED BY 5

0 - 0 keV

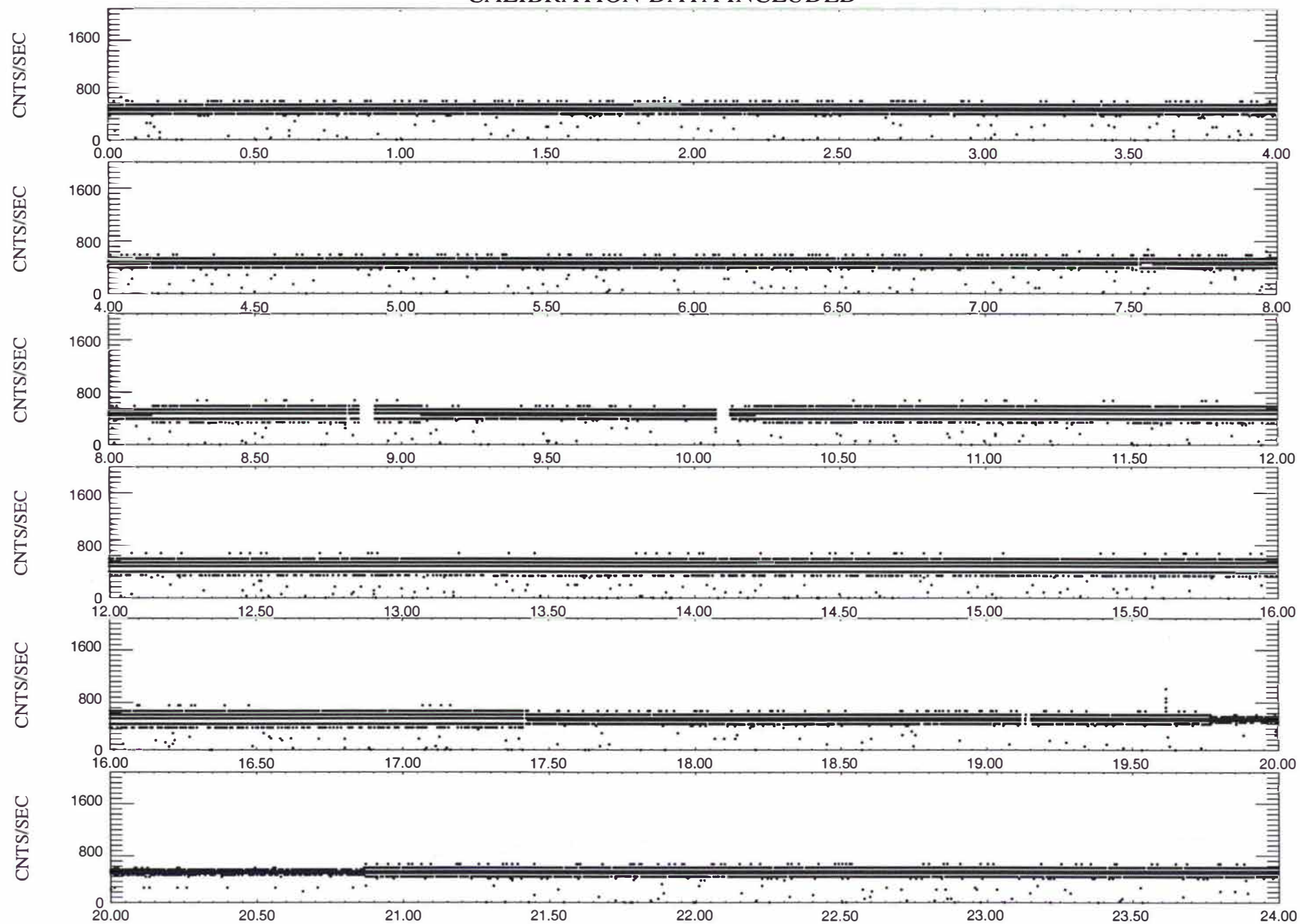
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 0, 1

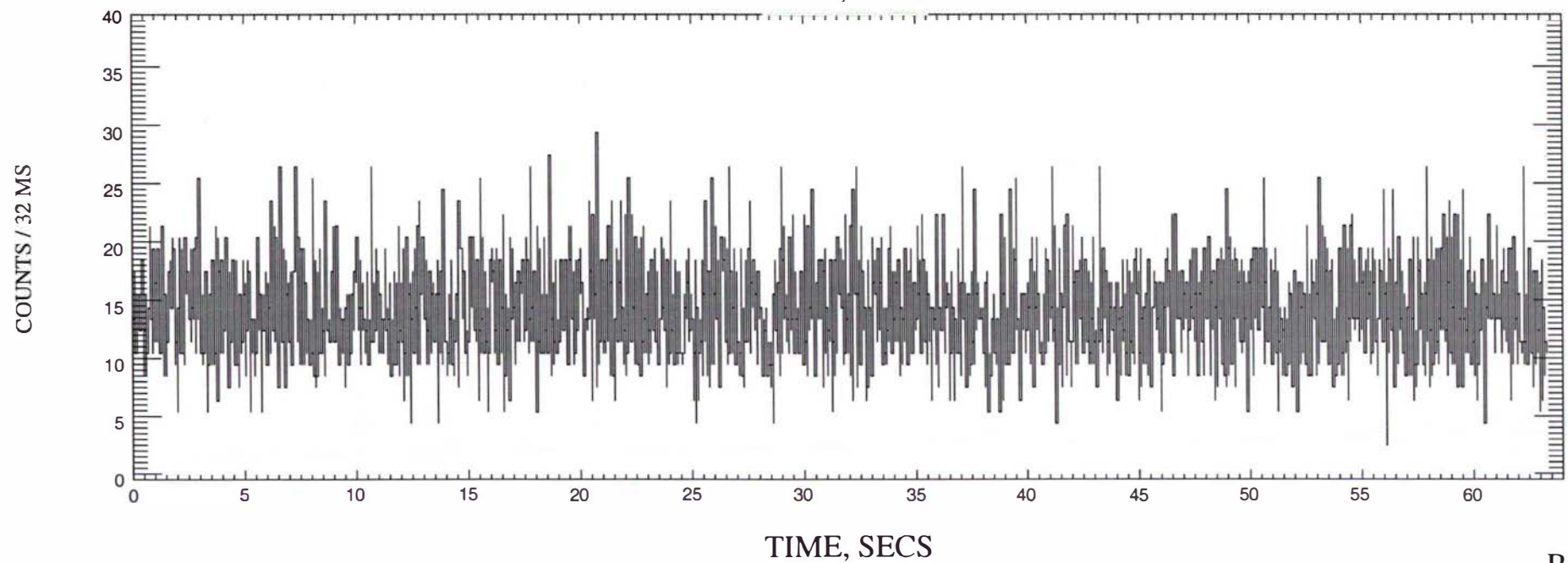
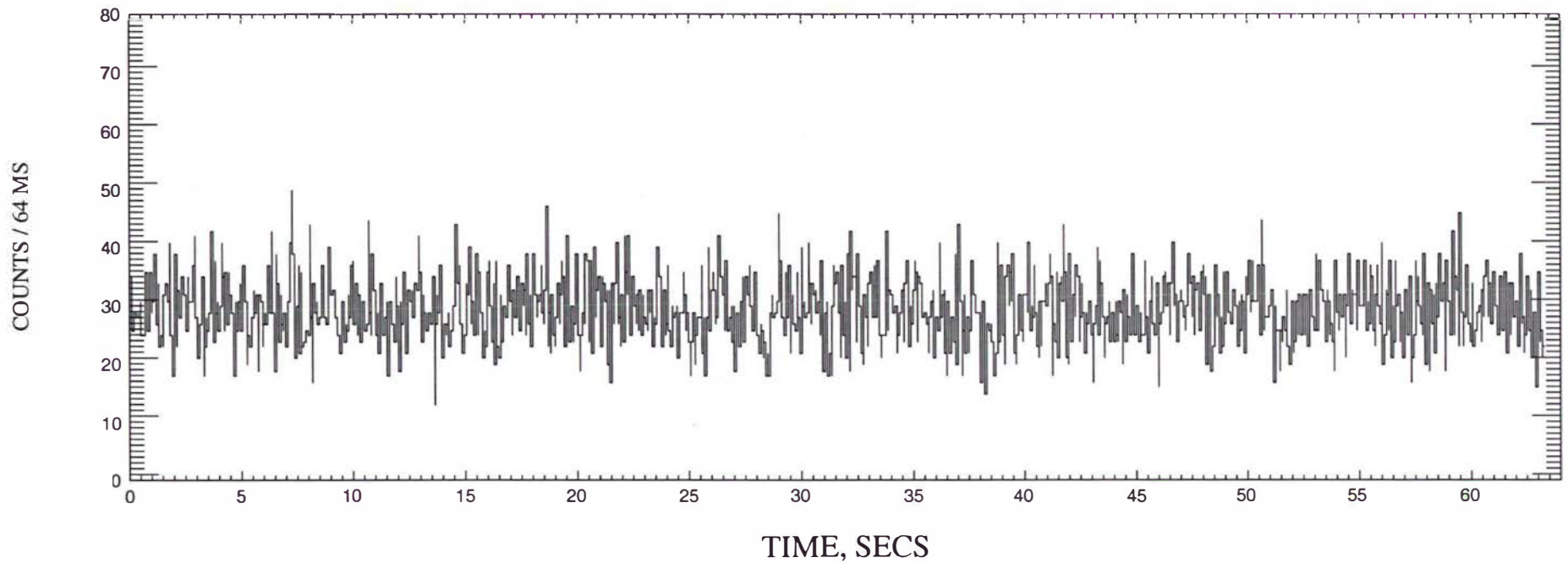


CALIBRATION DATA INCLUDED

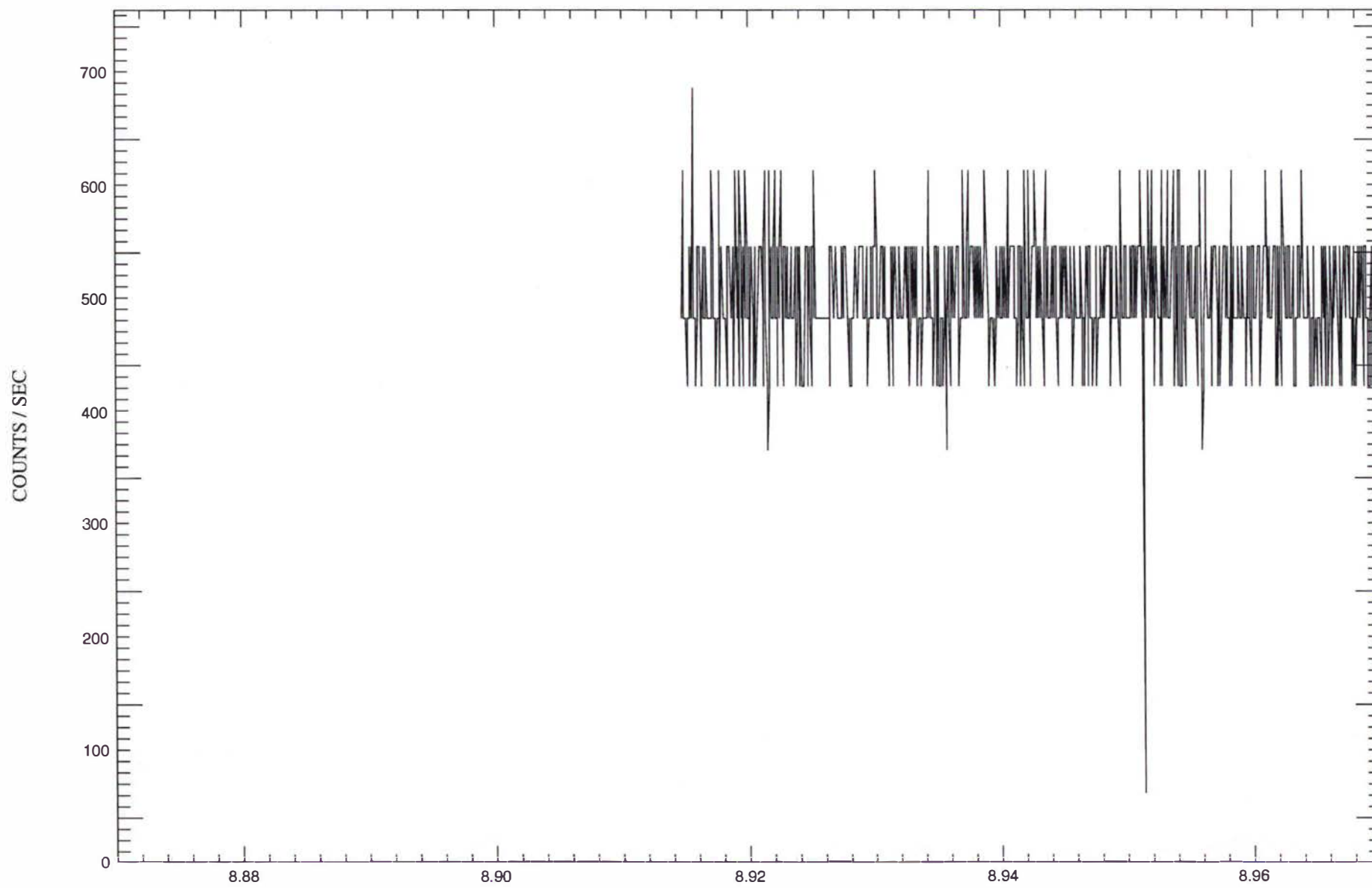


UNIVRSAL TIME

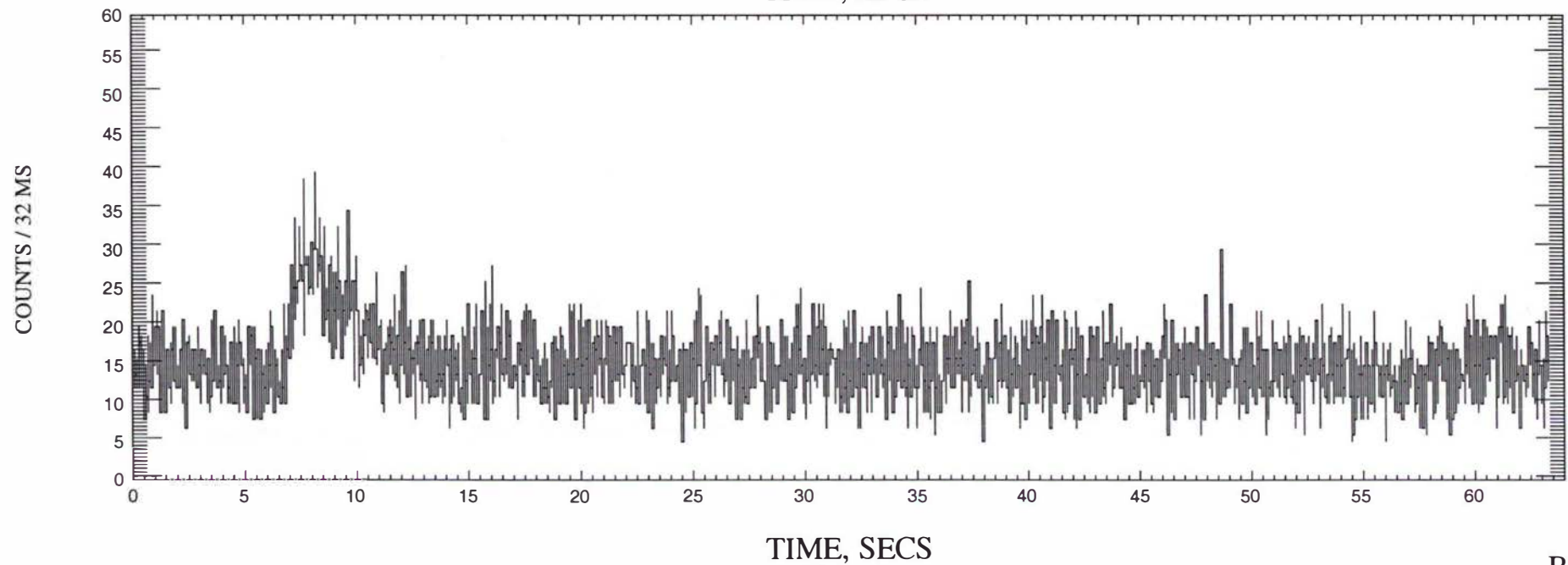
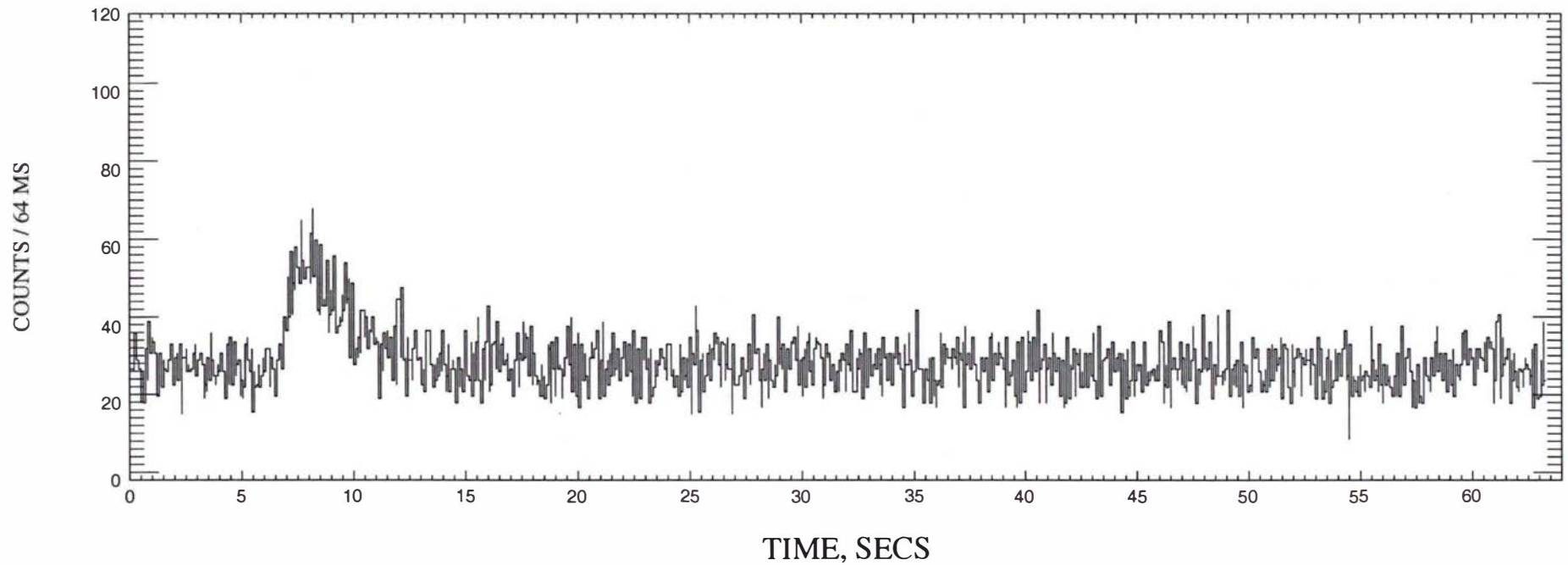
Burst Counter 0 at UT= 8.915770407783 h=32096.773 s 08:54:56.773



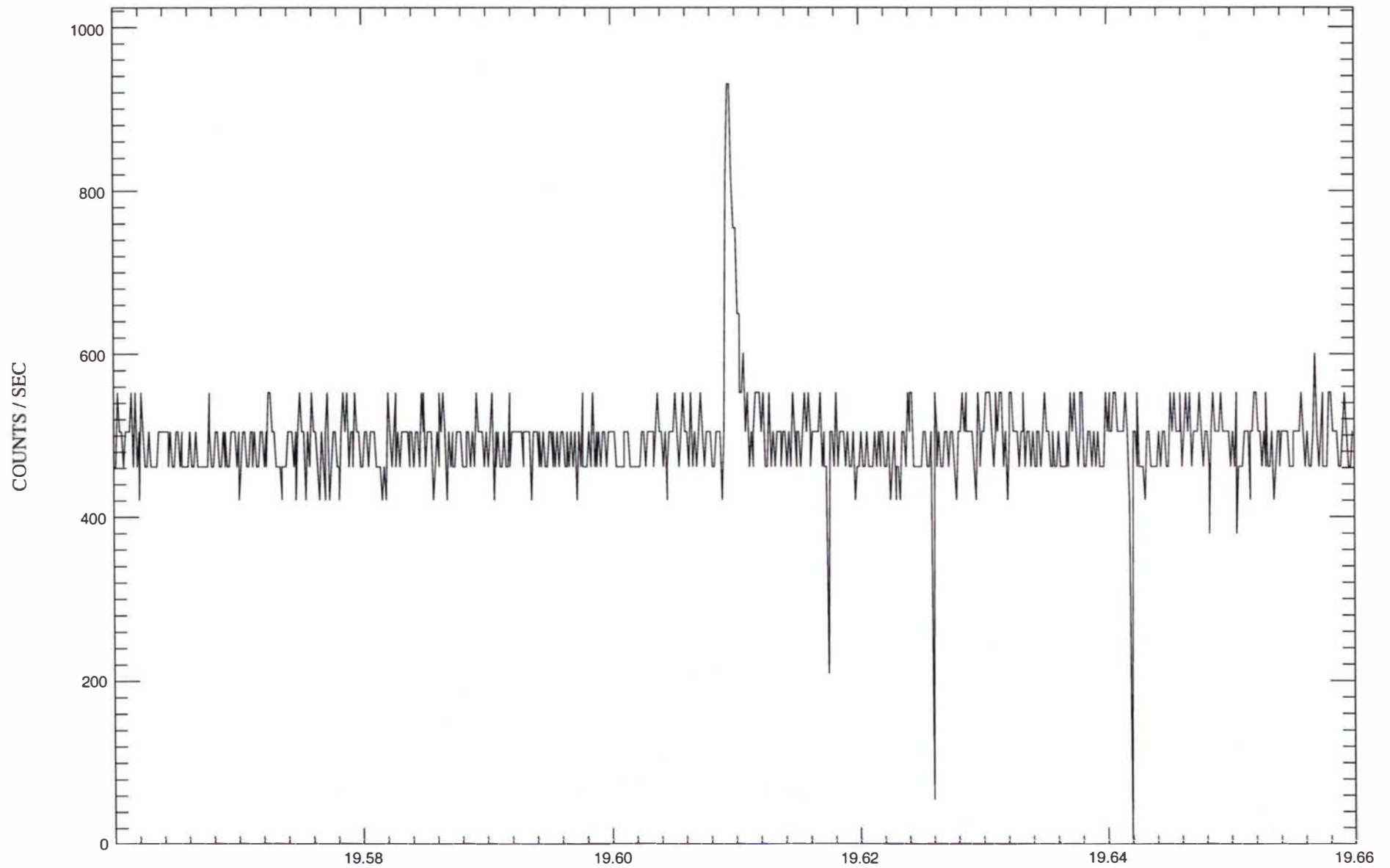
CALIBRATION DATA INCLUDED

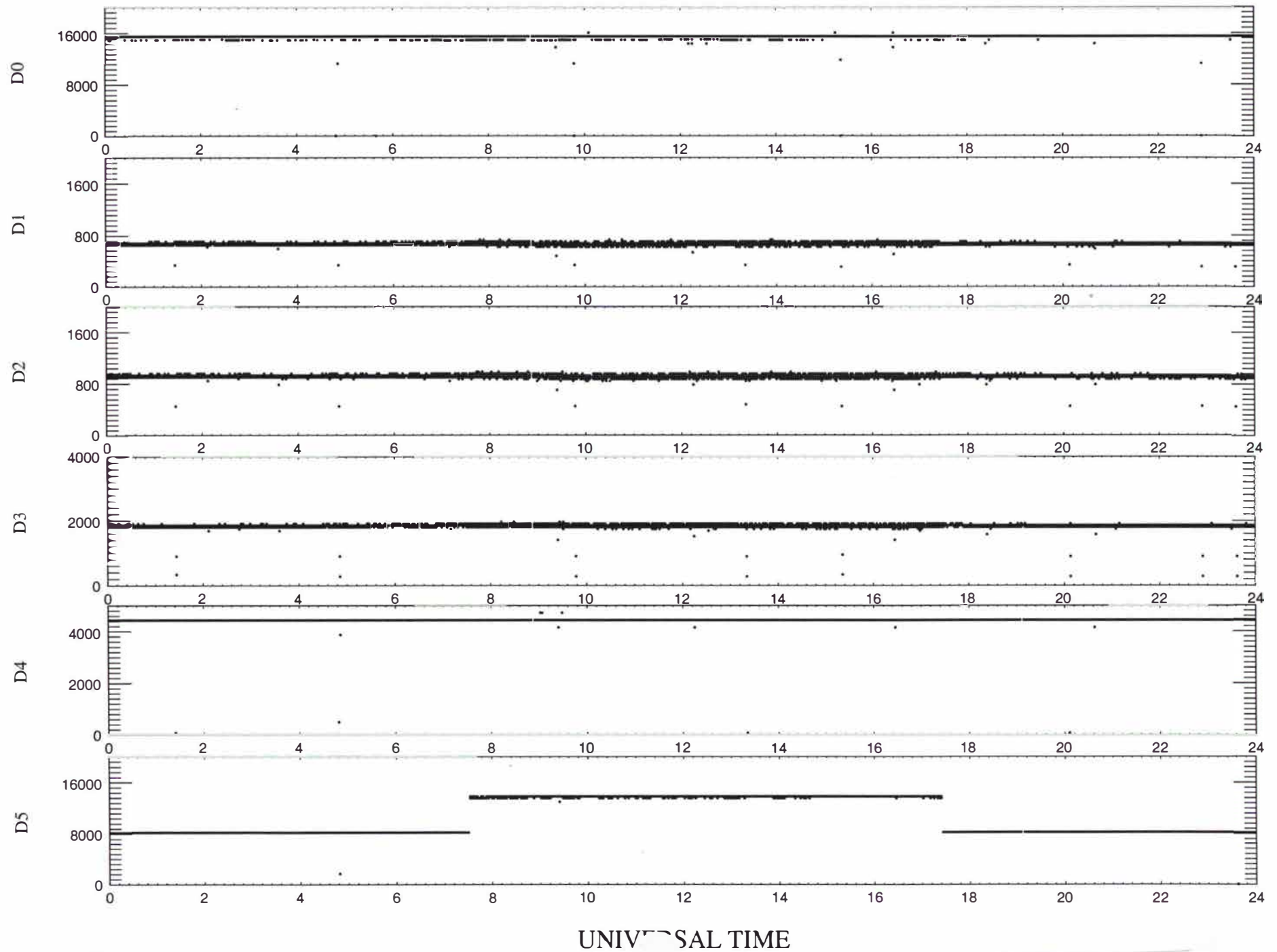


Burst Counter 1 at UT=19.609524095323 h=70594.287 s 19:36:34.287



CALIBRATION DATA INCLUDED





Date: Dec 19 2012

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

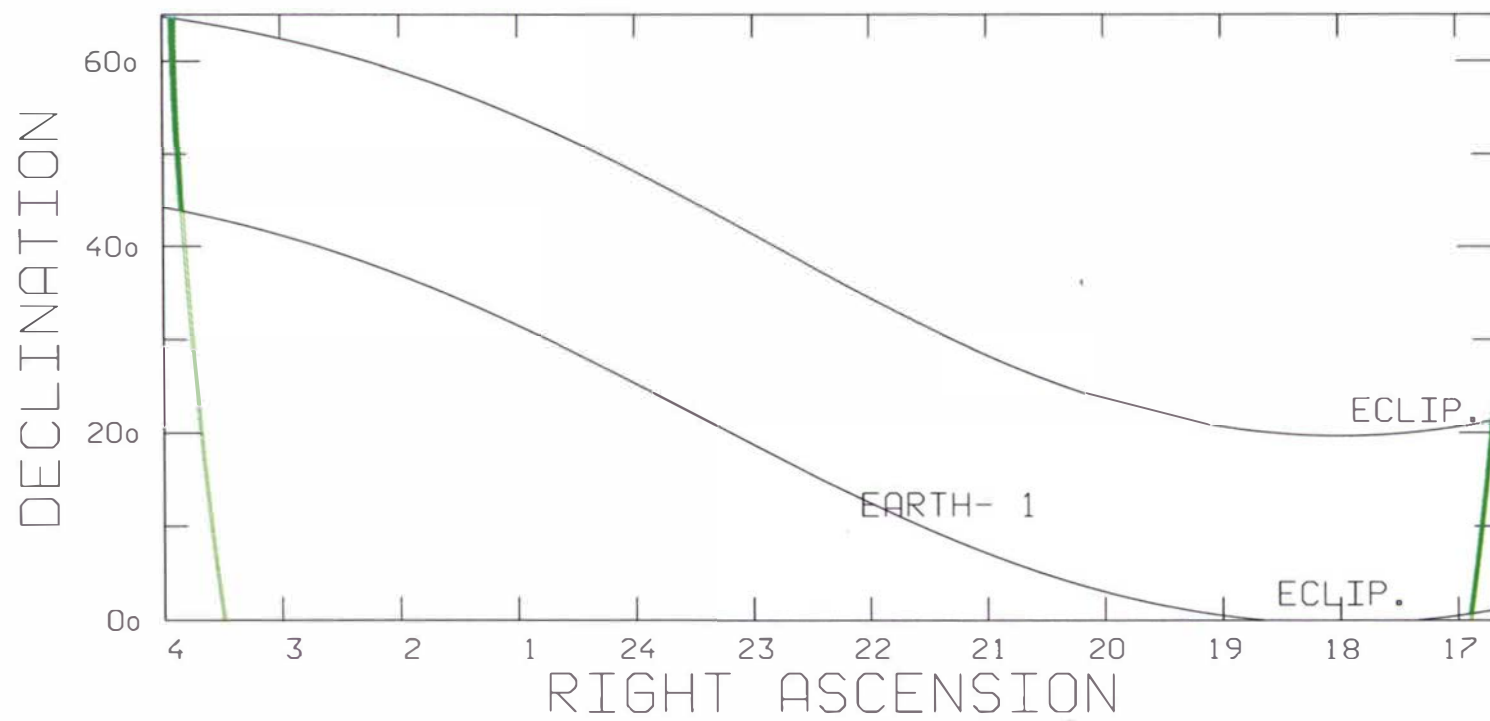
2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

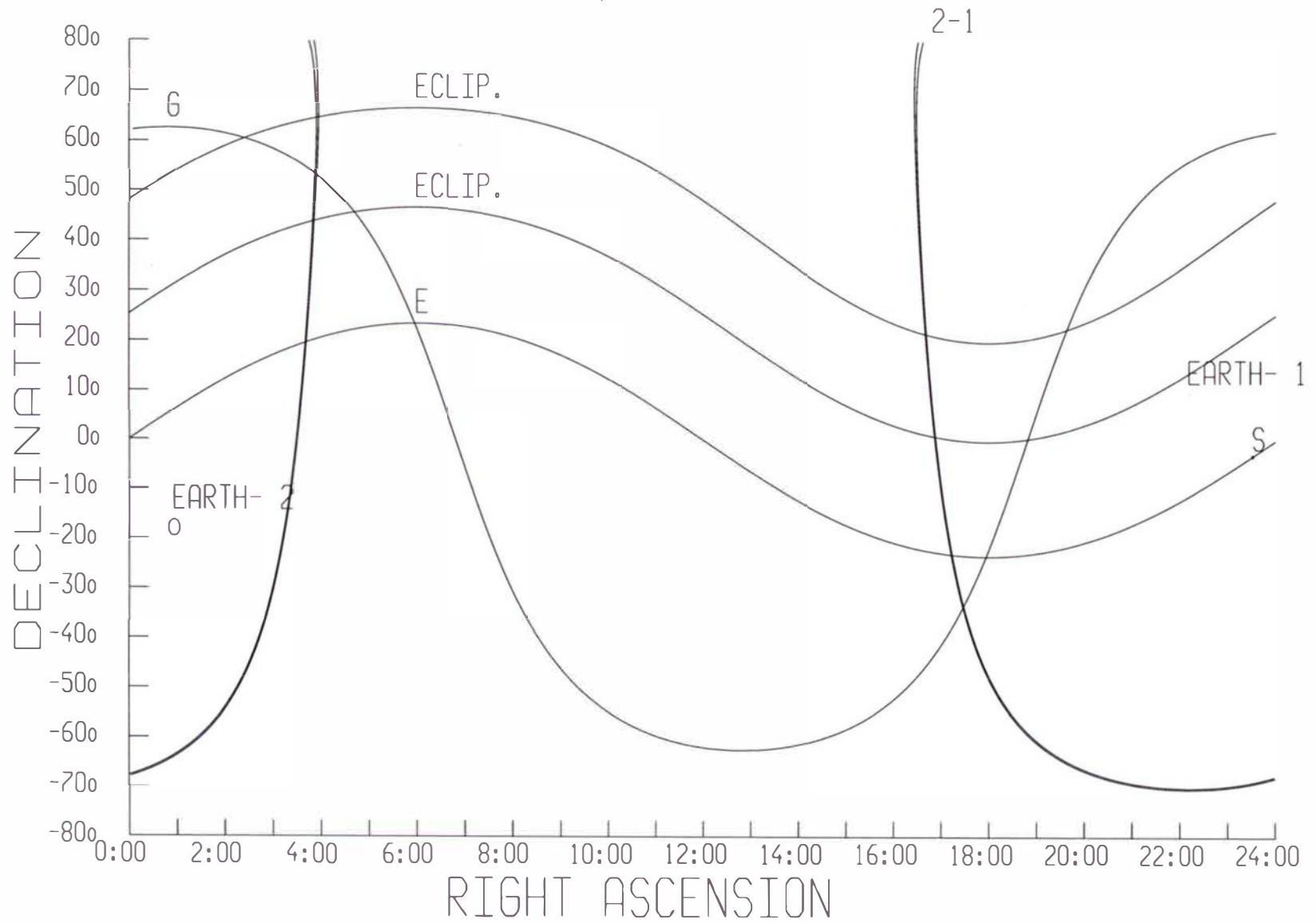
-
- ☒ ACCESS and MBL4 databases updated with identical times?



EVENT OF MAR 13, 1999 6:33

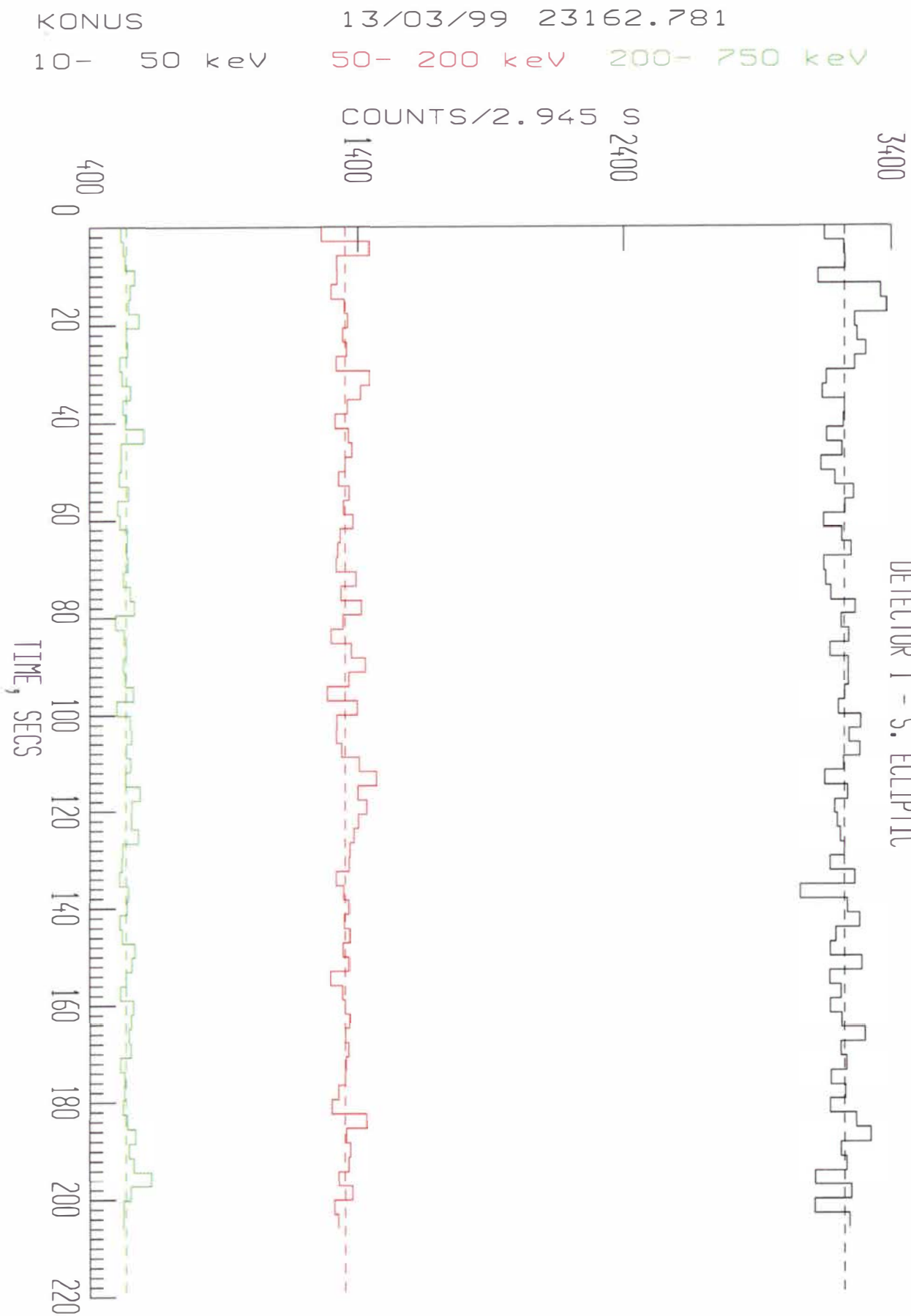
19/12/2012

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

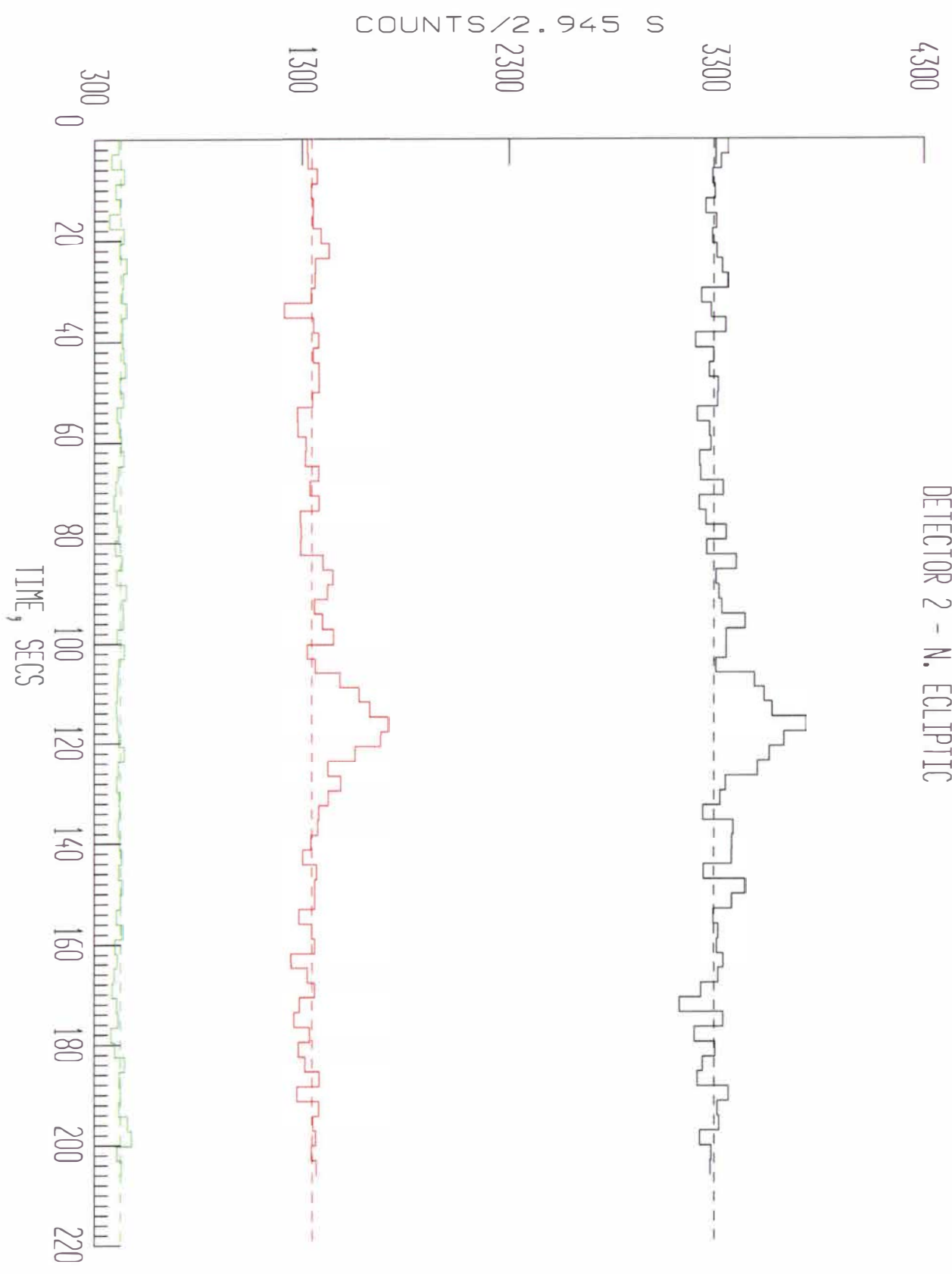


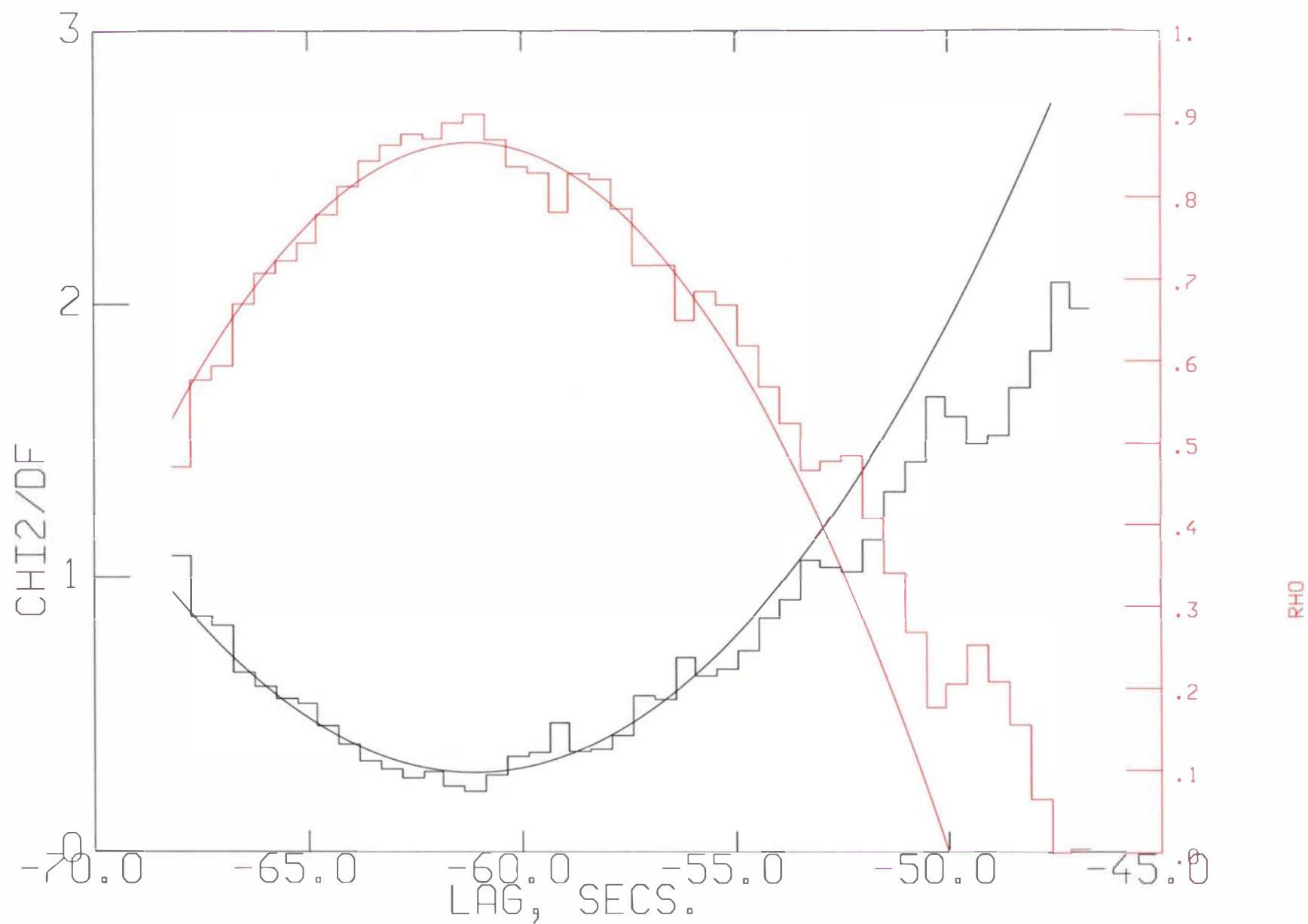
19/12/2012

DETECTOR 1 - S. ECLIPSE



KONUS 13/03/99 23162.781
10- 50 keV 50- 200 keV 200- 750 keV



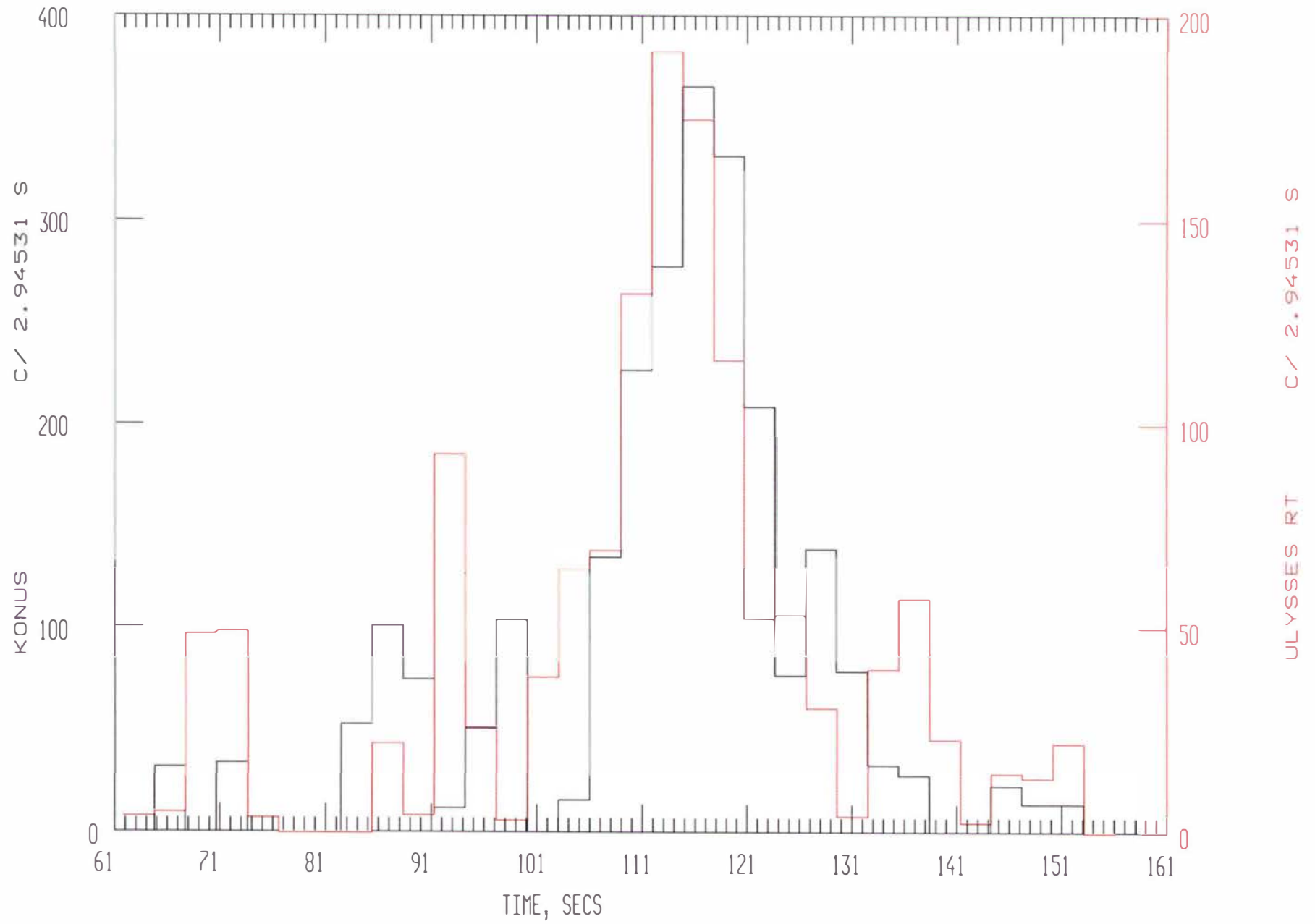


KONUS

-ULYSSES RT CORRELATION

13/03/99 23162.781

19/12/12



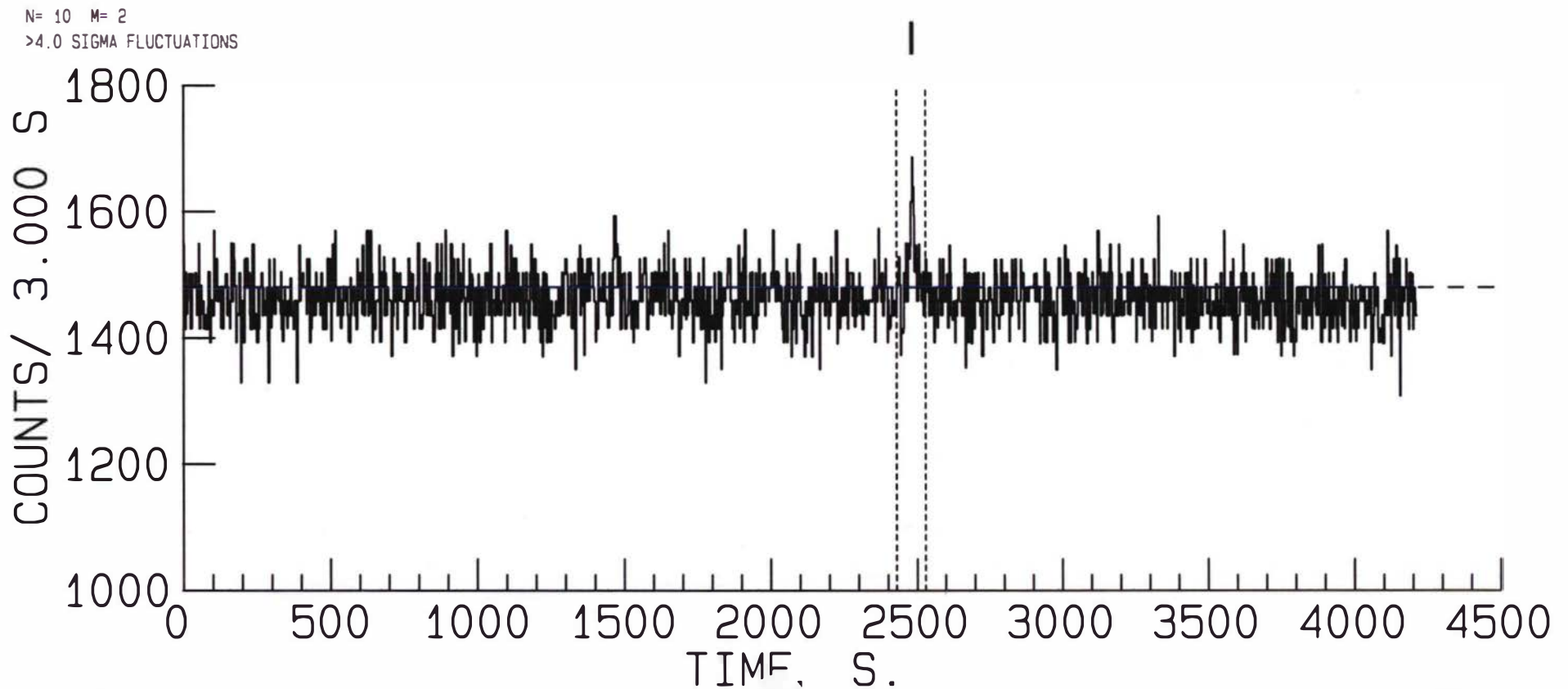
ULYSSES RT

30 / 7 / 99

13 / 3 / 99 21168.300 s

0.500 S INTERVALS REGROUPED BY 6

22- 151 keV



KONUS RI

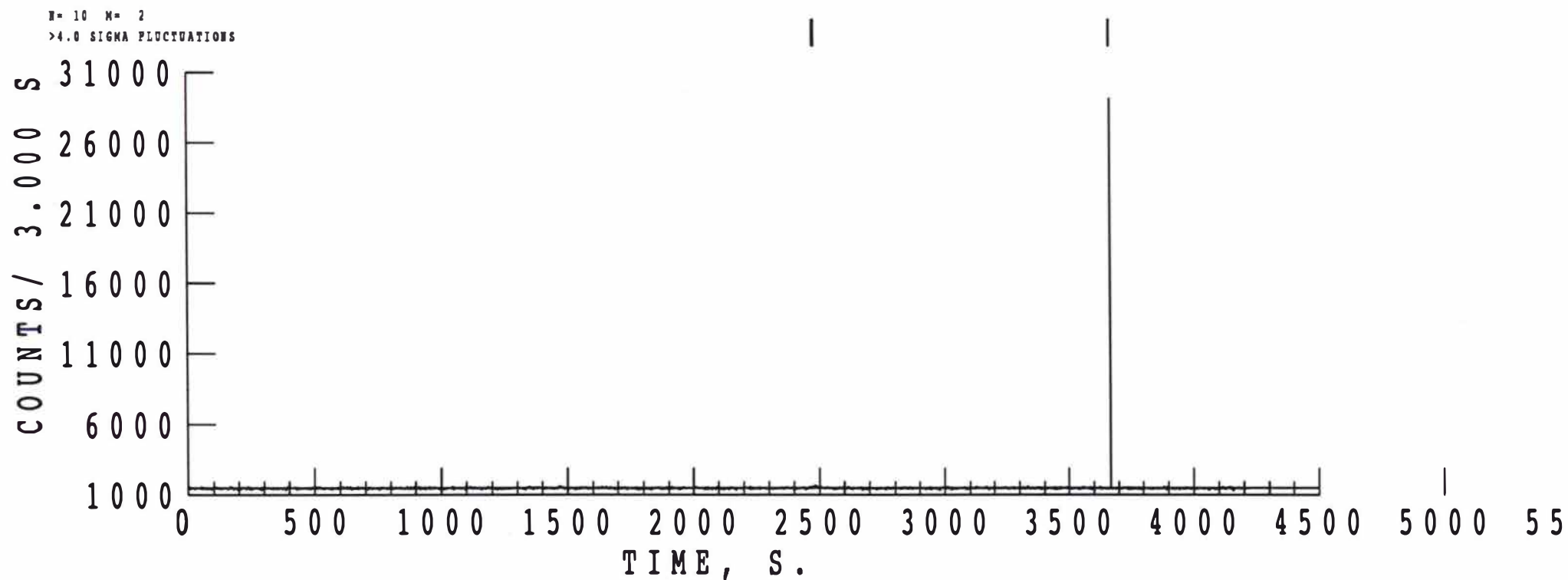
29 / 7 / 99

ULYSSES RT

13 / 3 / 99 21168.301 s

0.500 S INTERVALS REGROUPED BY 6

0 - 0 keV



KONUS 1801-23

ULYSSES RT

4 / 8 / 99

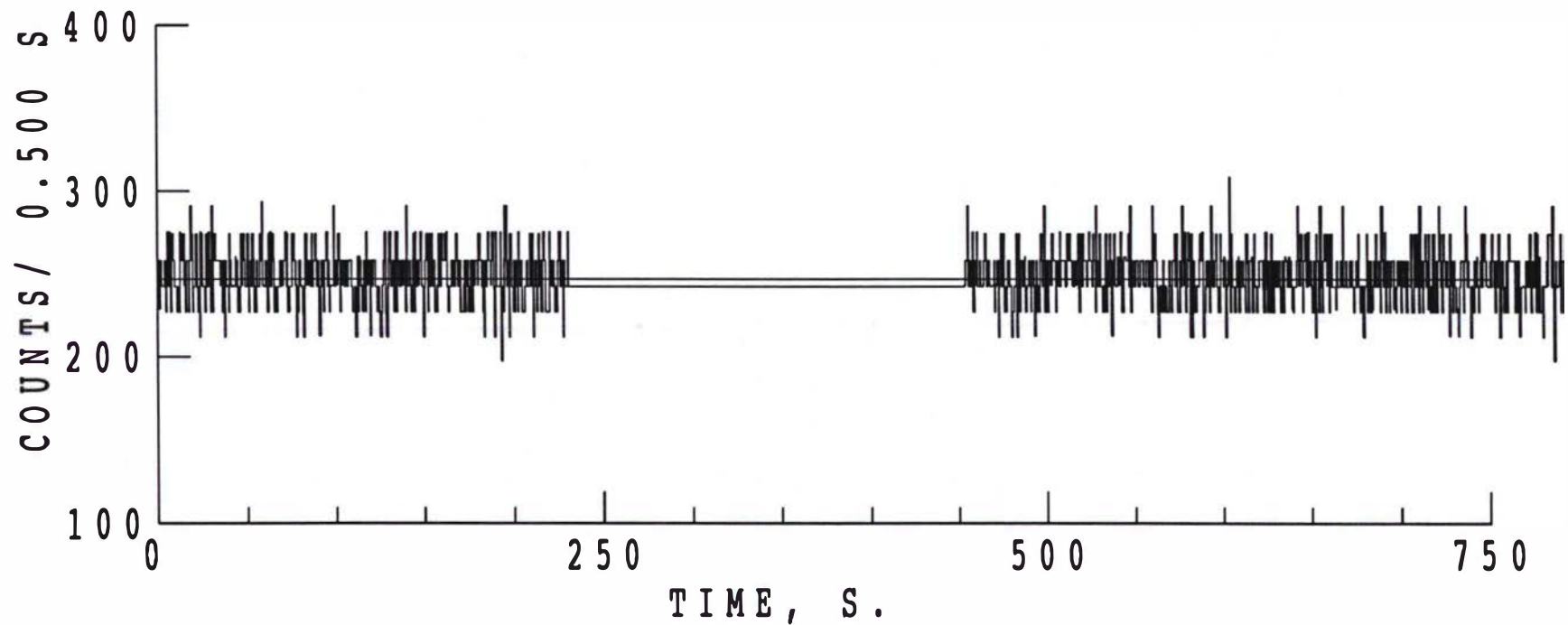
13 / 3 / 99 34056.184 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS 1627-41

ULYSSES RT

4 / 8 / 99

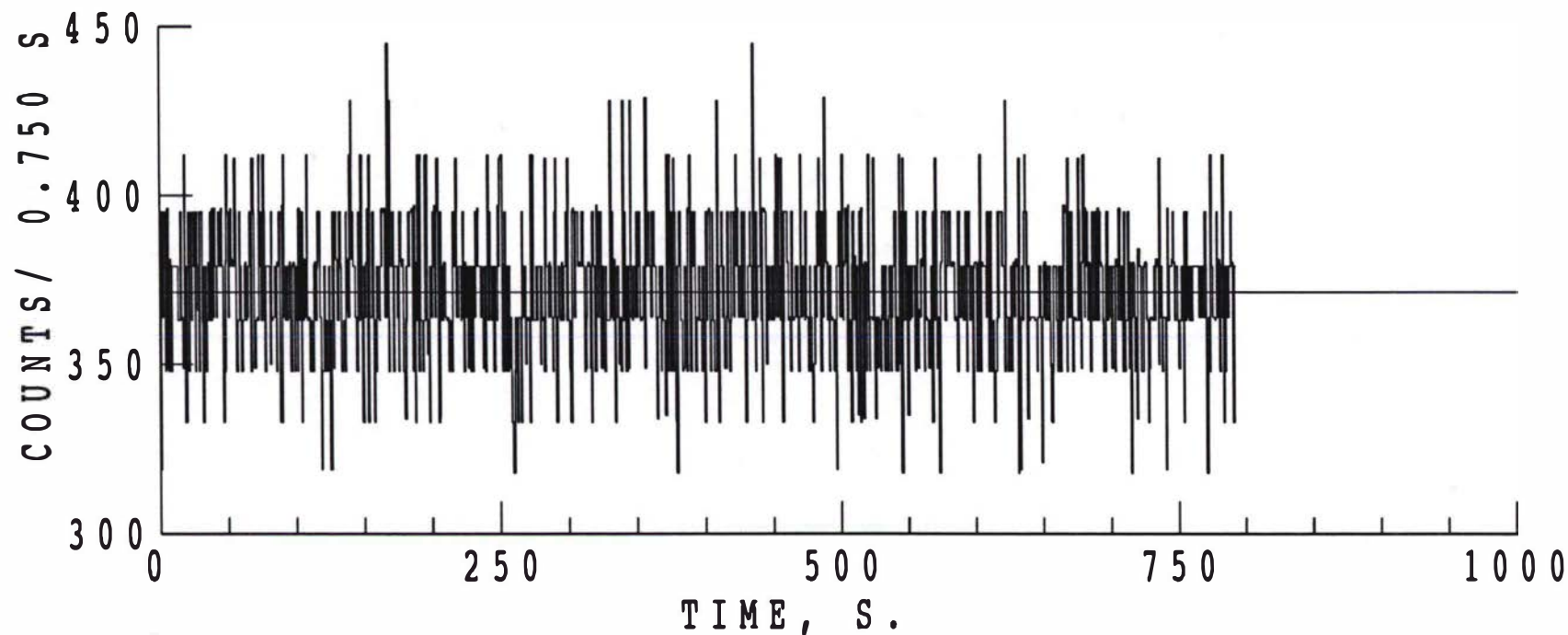
13 / 3 / 99 33228.176 s

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



KONUS 0525-66

ULYSSES RT

4 / 8 / 99

13 / 3 / 99 32760.170 s

0.250 S INTERVALS REGROUPED BY 3

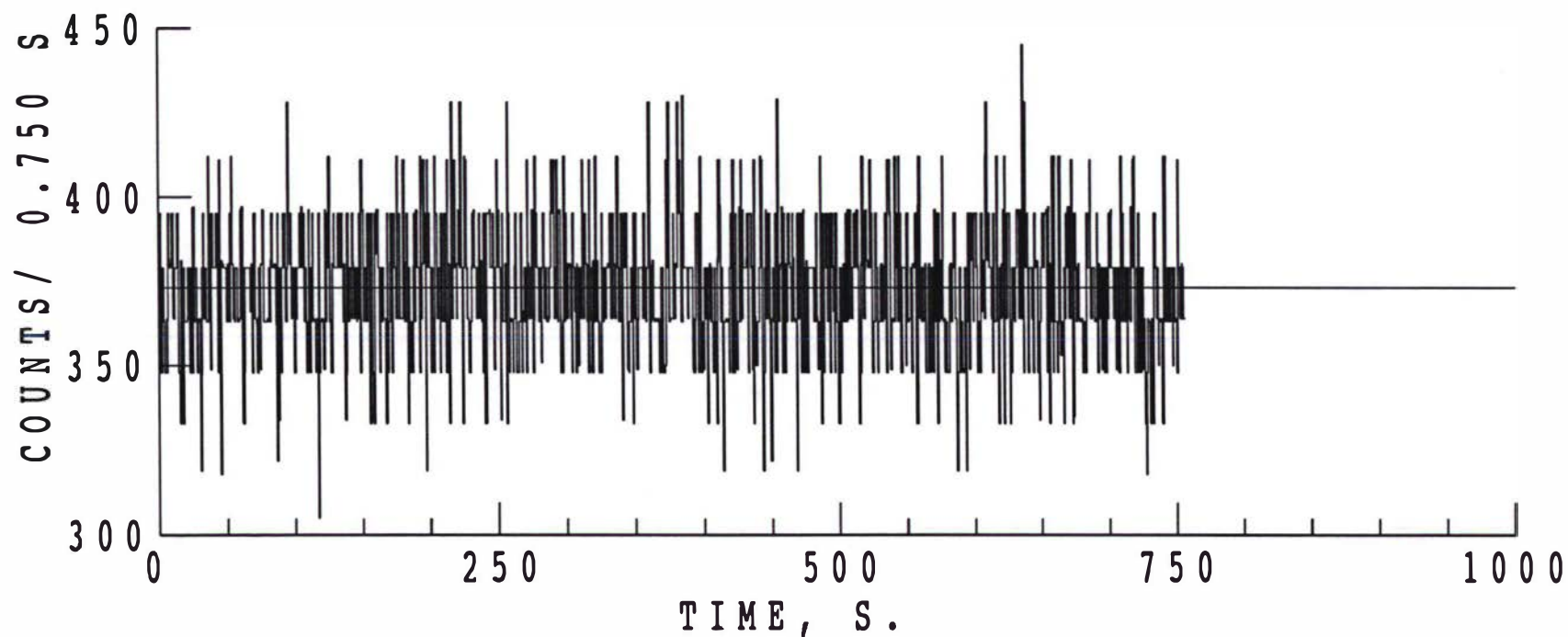
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS 1900+14

ULYSSES RT

4 / 8 / 99

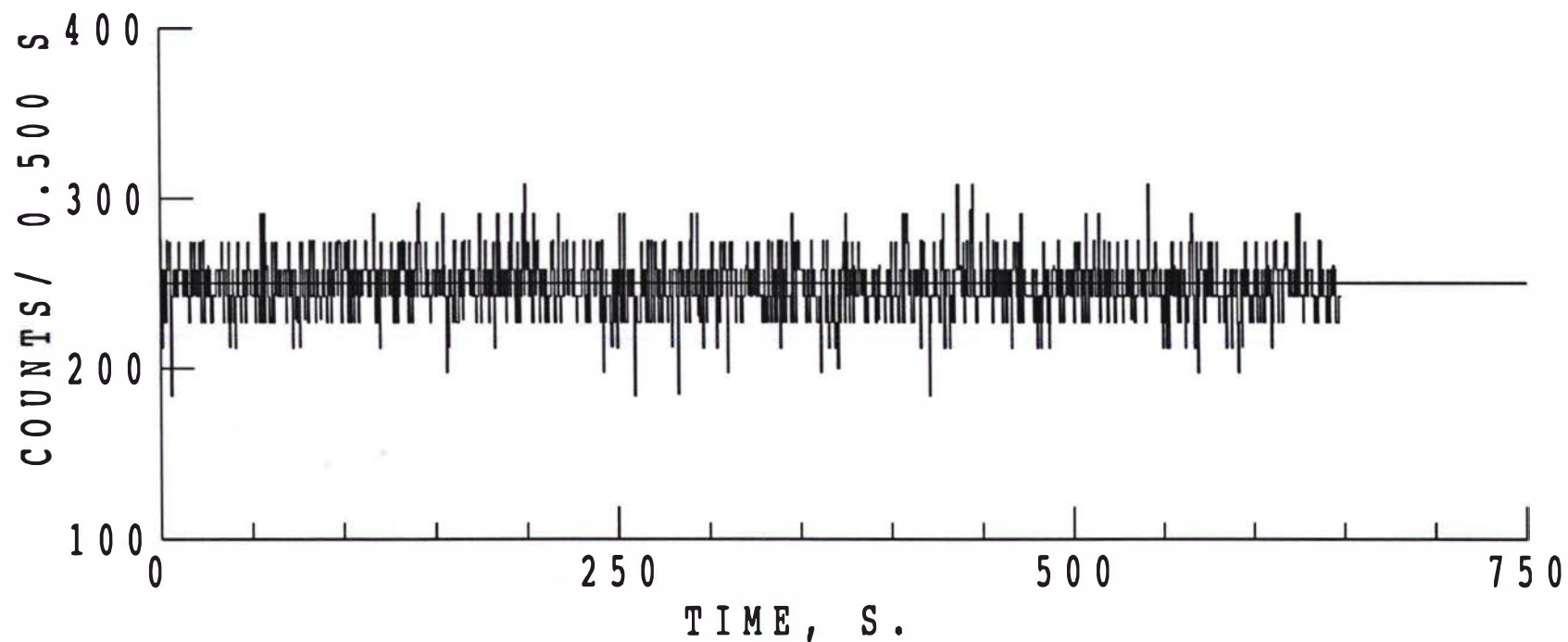
13 / 3 / 99 34848.191 s

0.250 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



KONUS SGR 1806 window

ULYSSES RT

3 / 8 / 99

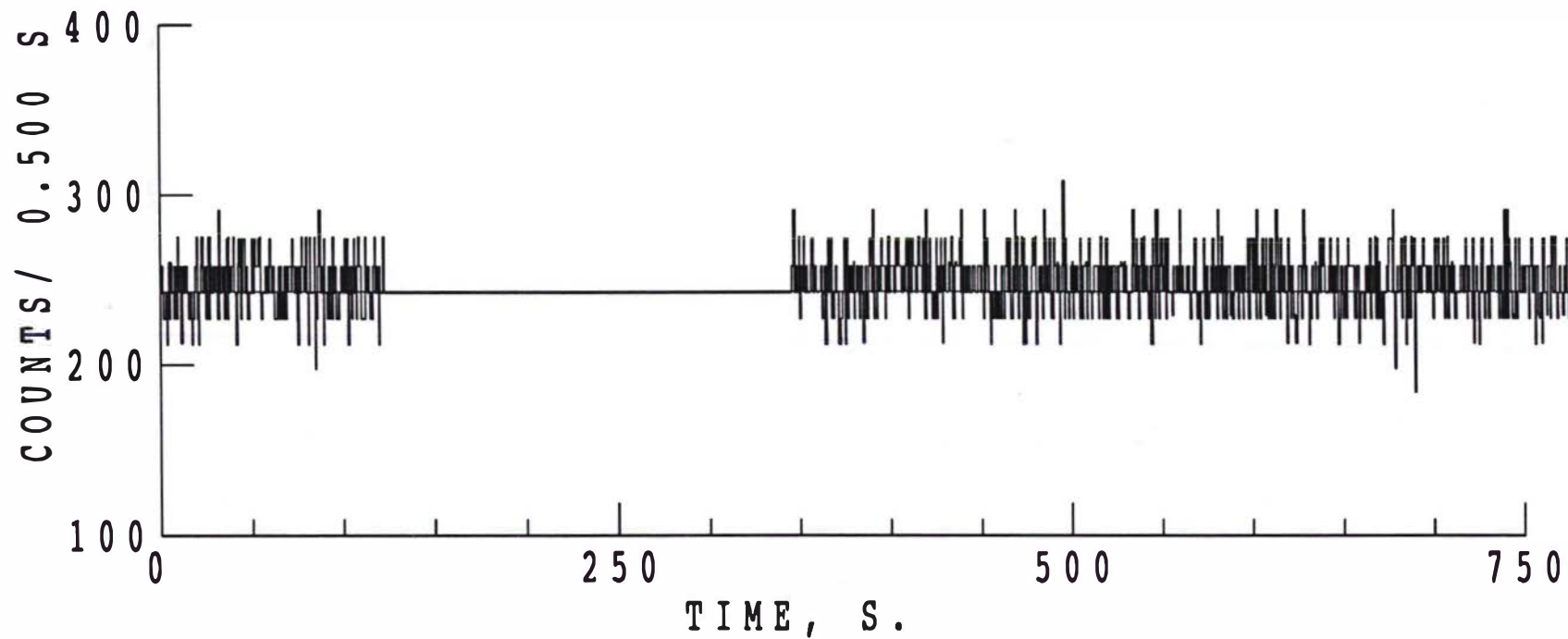
13 / 3 / 99 34164.184 s

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



Date: Jan 5 '09

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

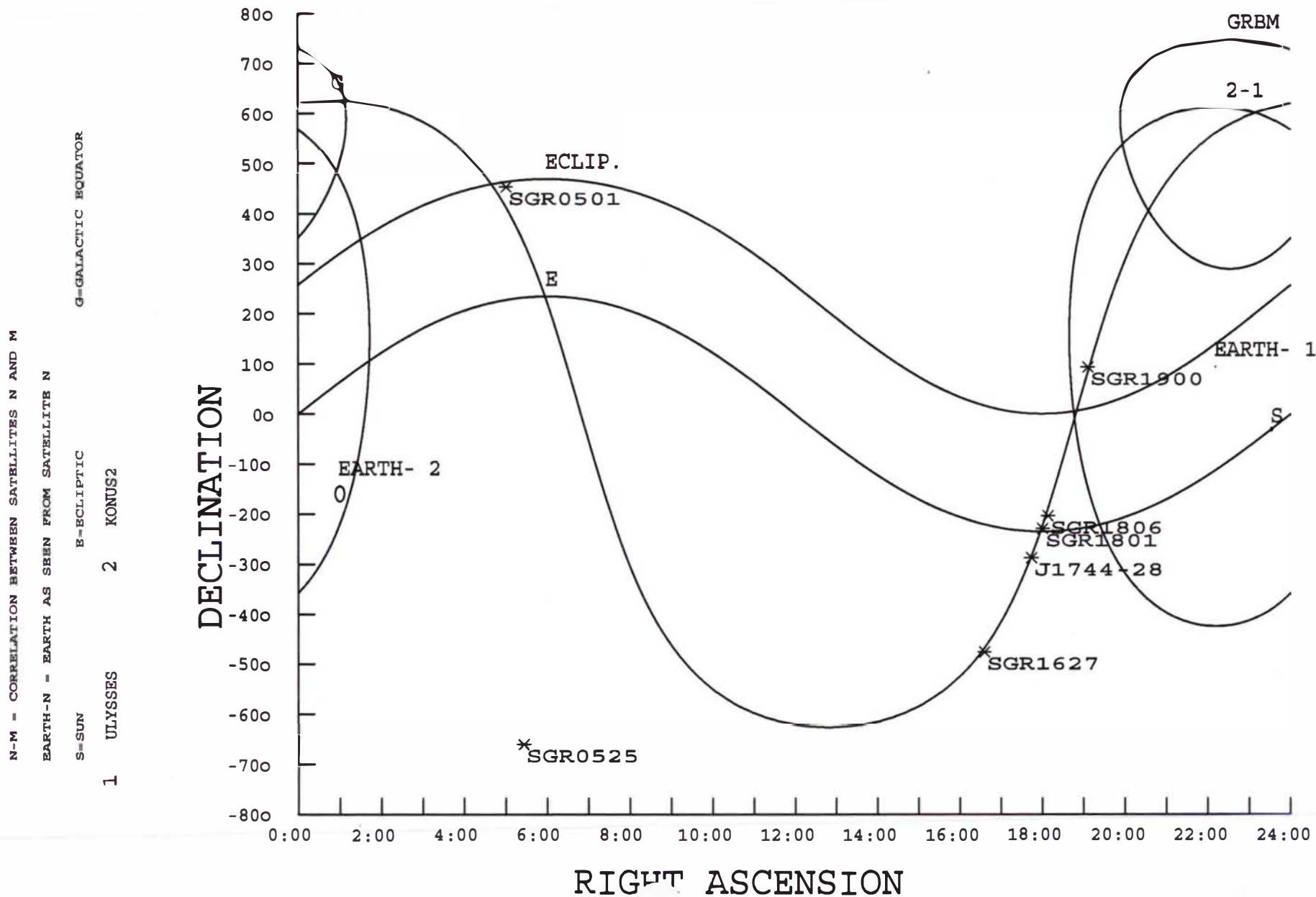
3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

EVENT OF MAR 13, 1999 9:43

18/02/2010



KONUS2

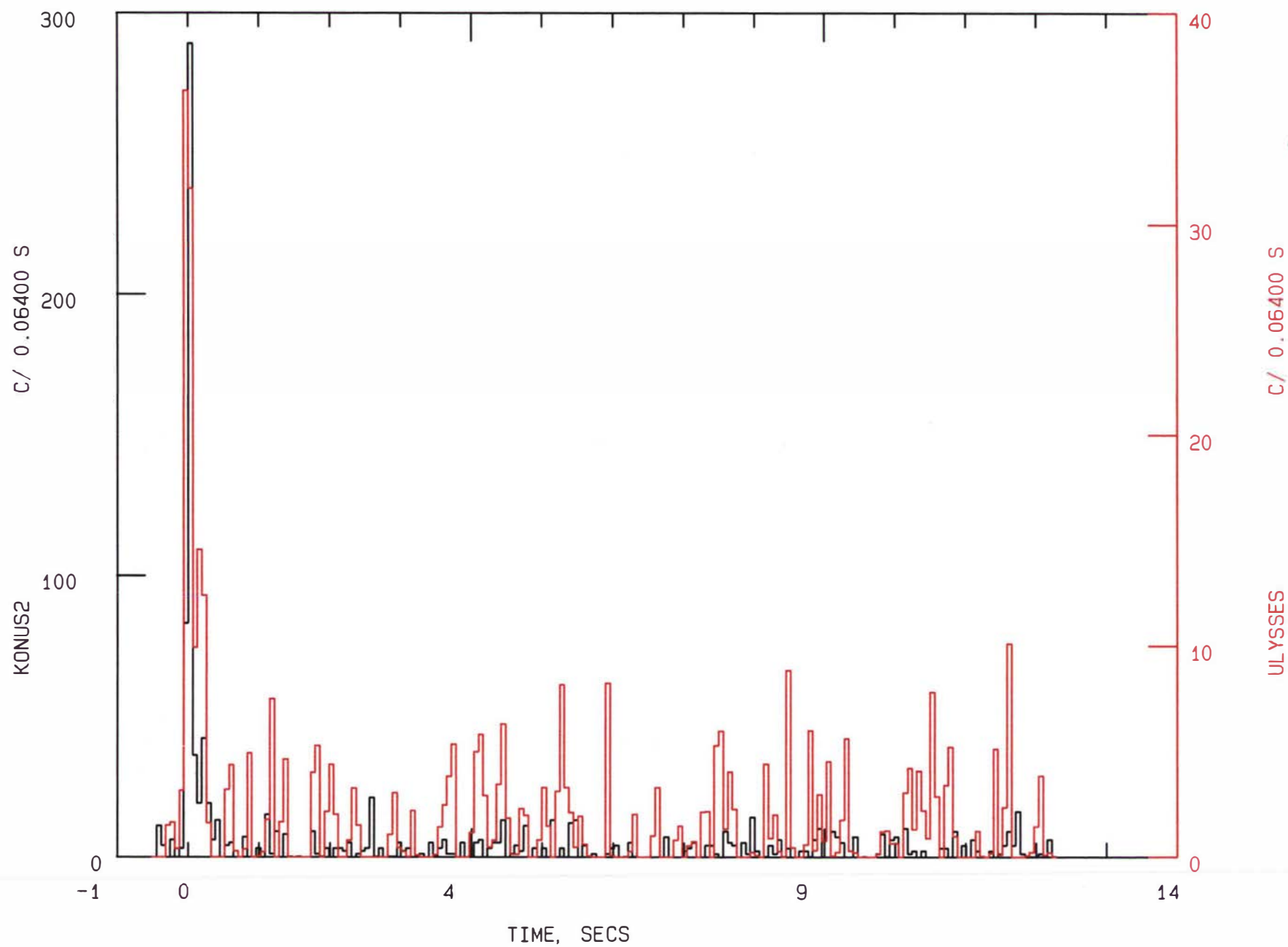
-ULYSSES

CORRELATION

13/03/99

33712.652

5/ 1/ 9



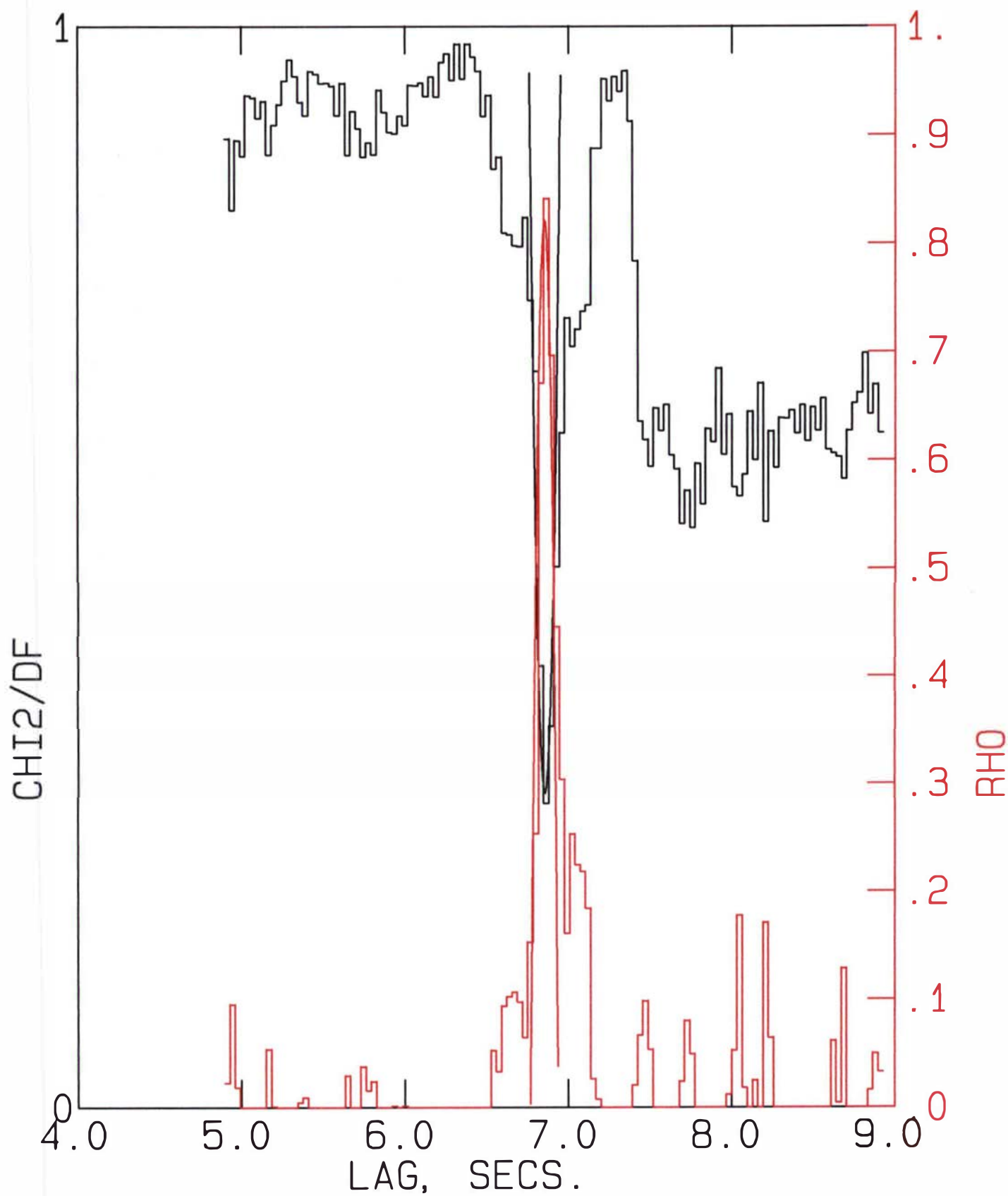
KONUS2

-ULYSSES

CORRELATION

13/03/99

33712.652

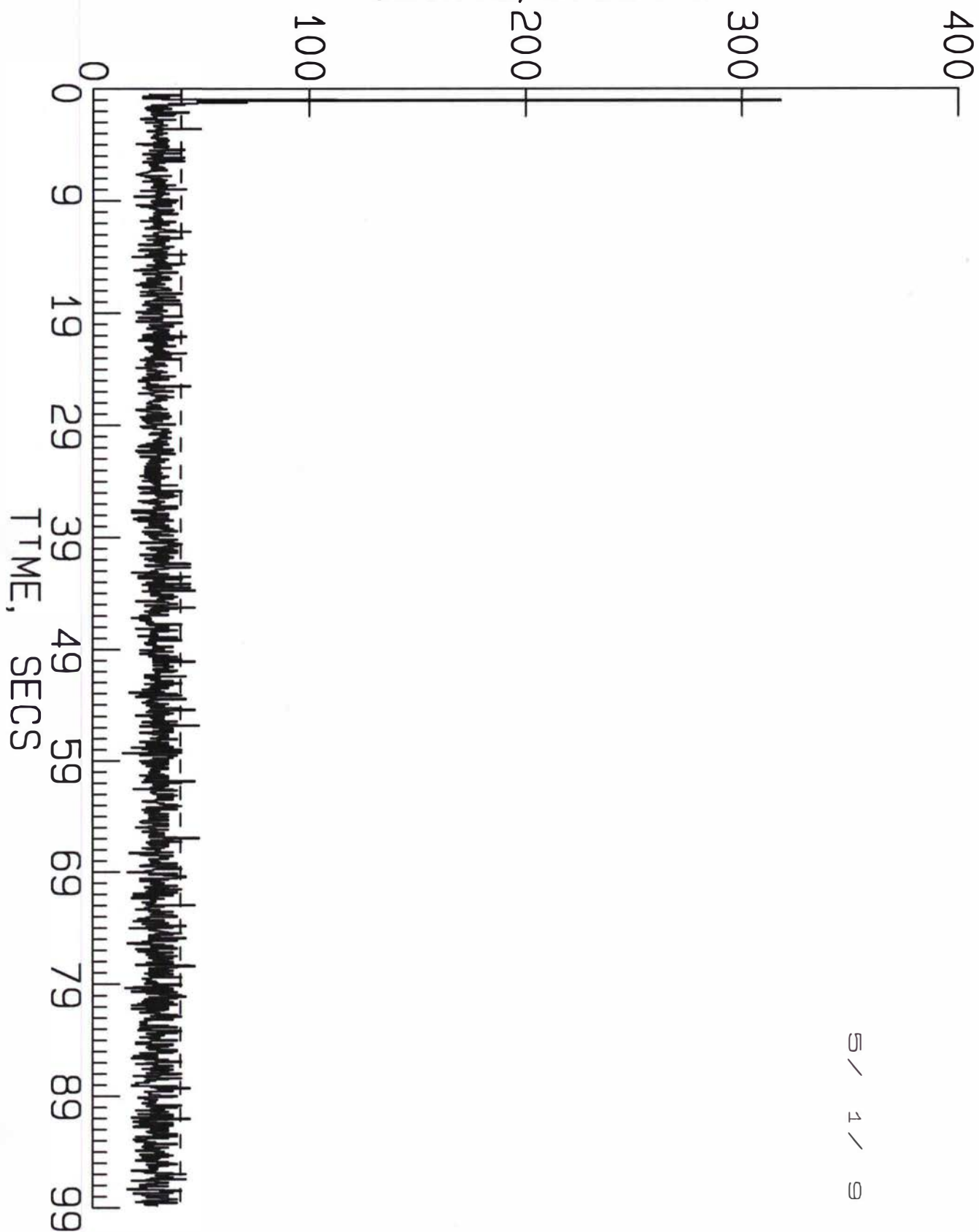


KONUS

13/03/99 33712.650

50- 200 keV

COUNTS/0.064 S



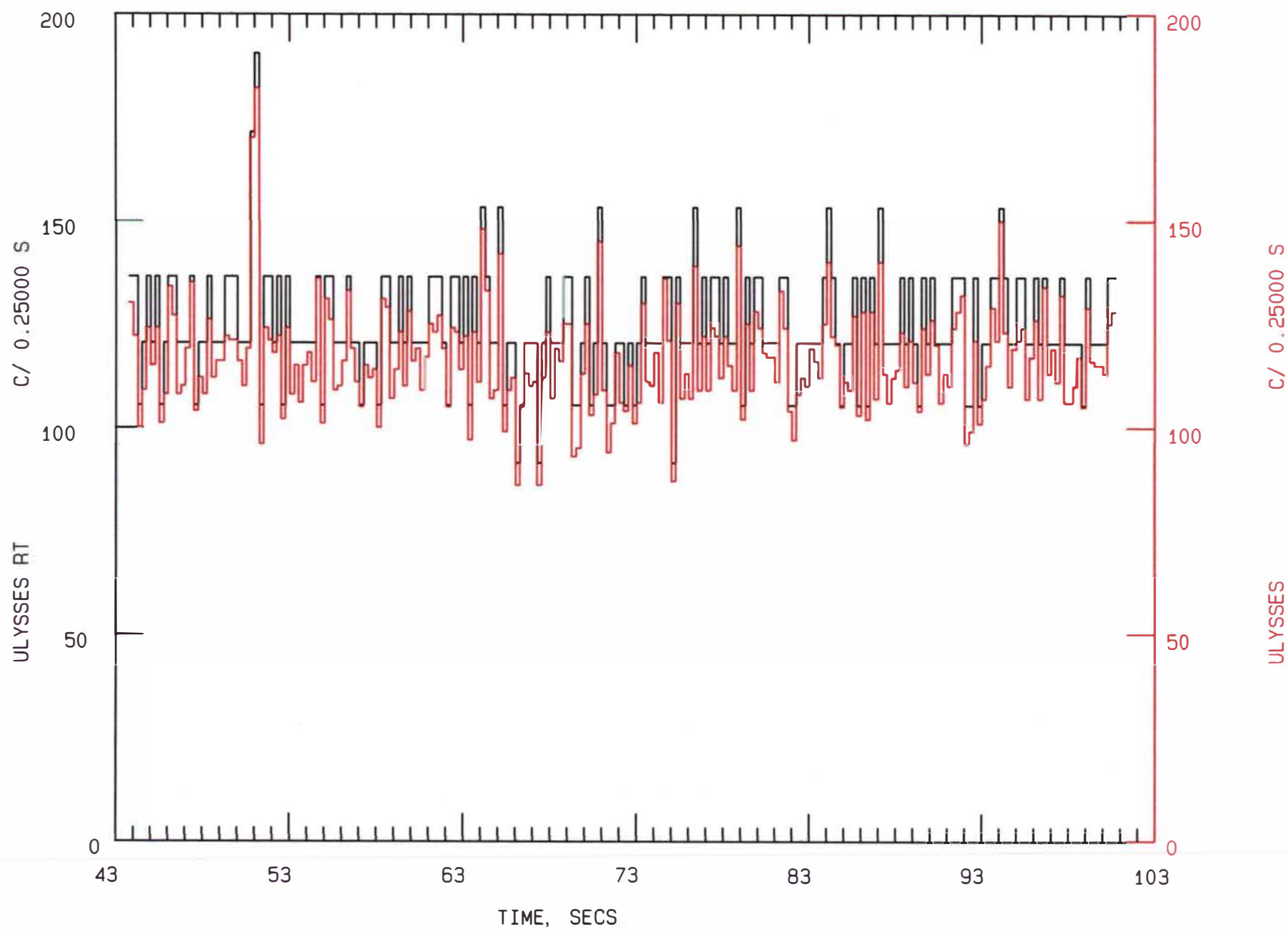
ULYSSES RT-ULYSSES

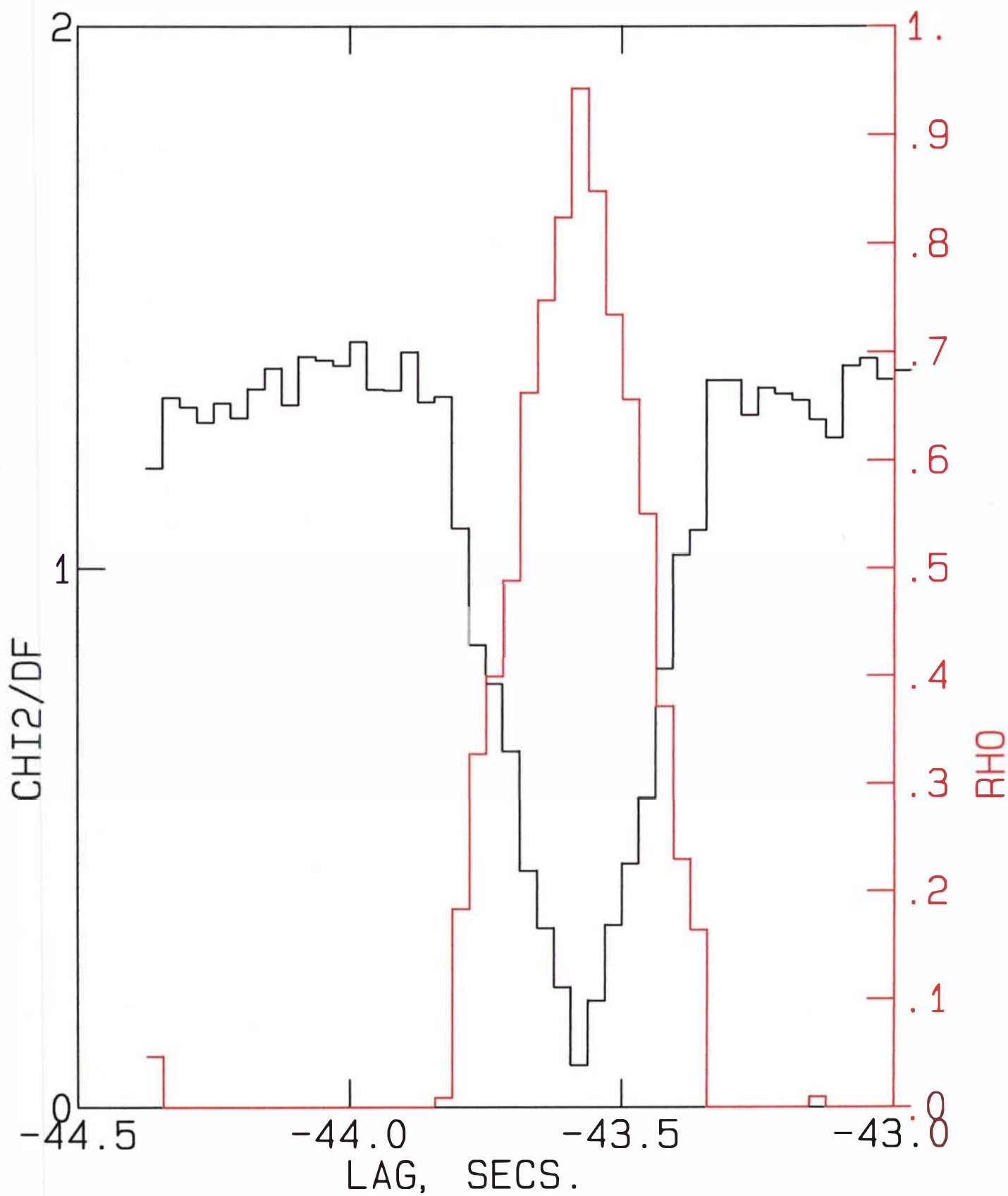
CORRELATION

13/ 3/99

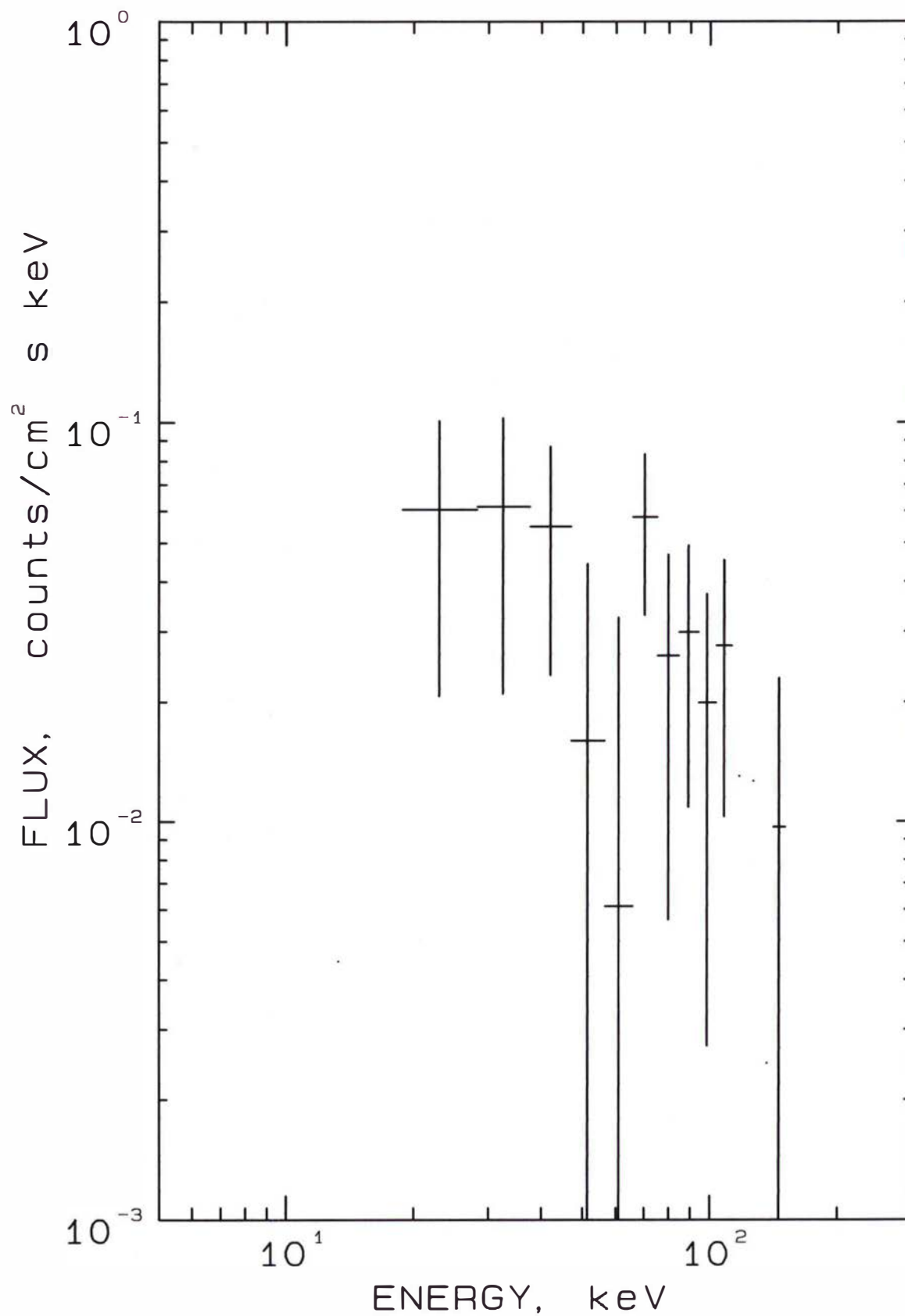
34938.197

3/ 8/99



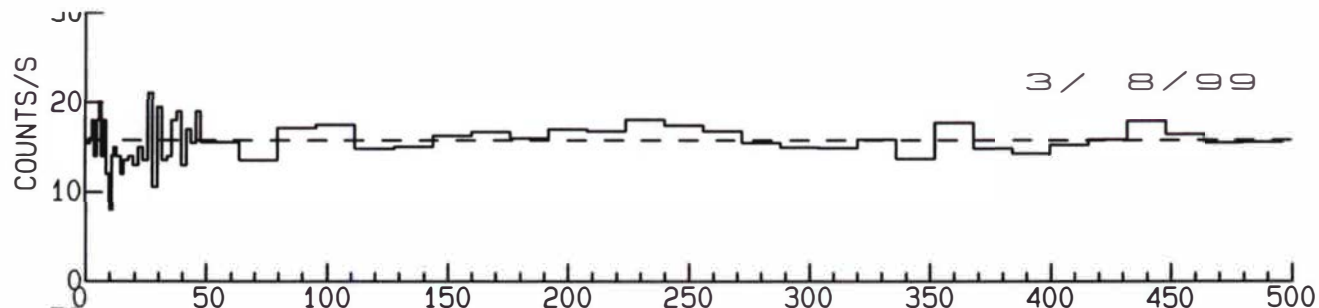


SPECTRUM INTEGRATED OVER 2.8 SECONDS, INTERVALS 2 TO 3

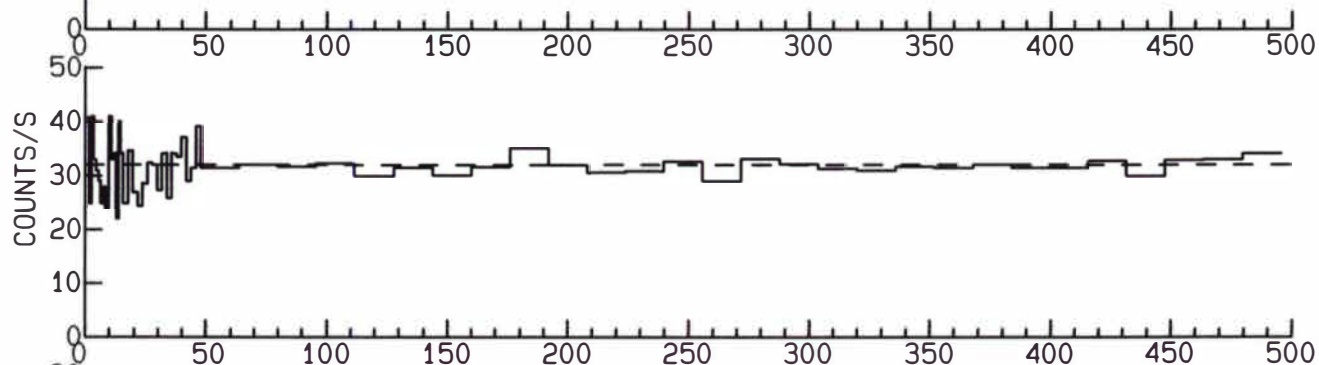


ULYSSES 13/03/99 34989.177 BURST SPECTRAL COUNT RATES

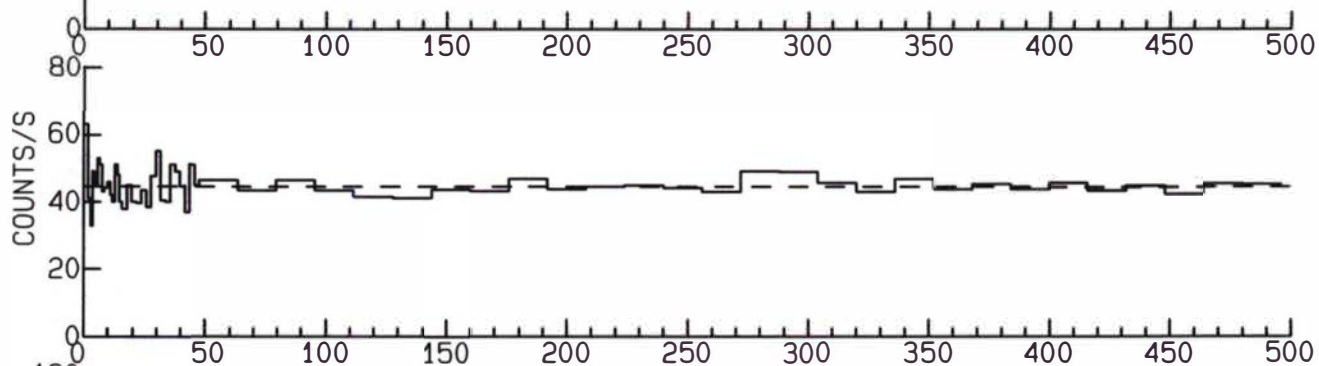
131-150 keV



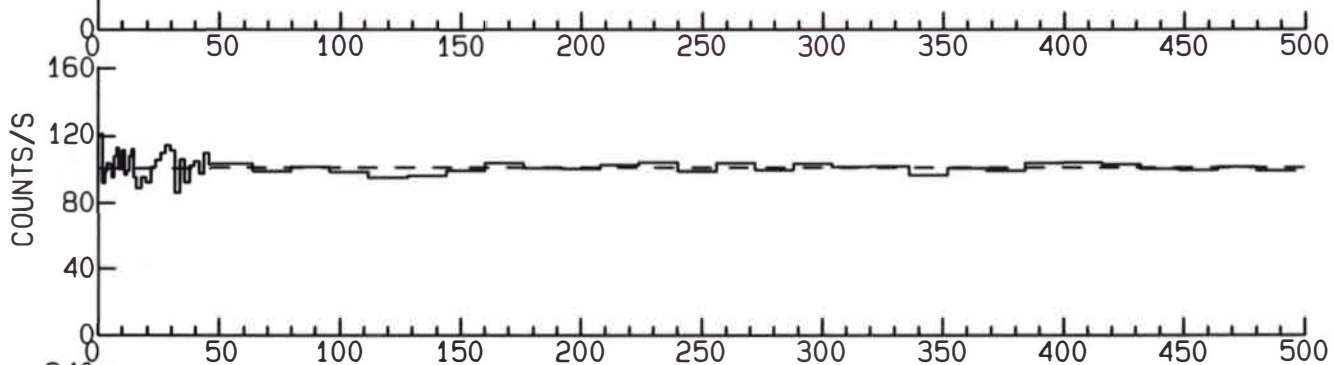
103-131 keV



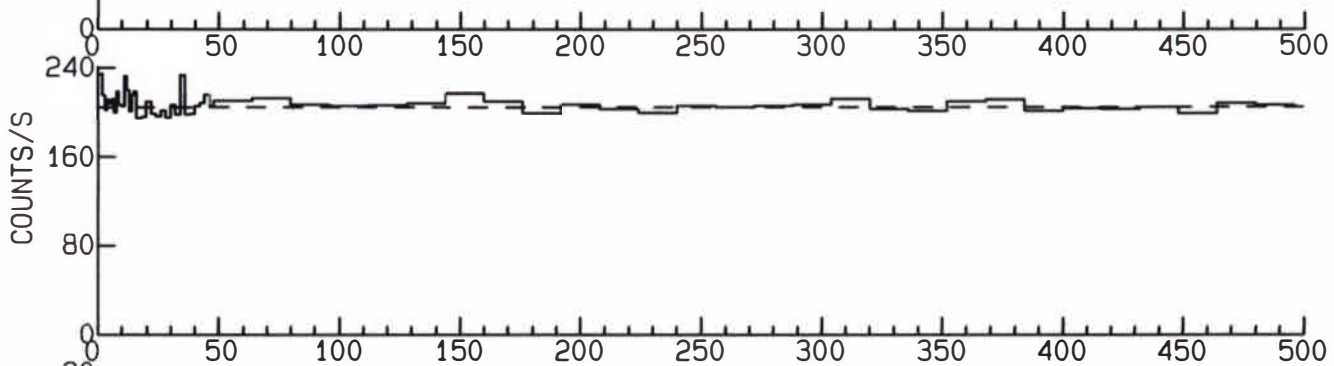
75-103 keV



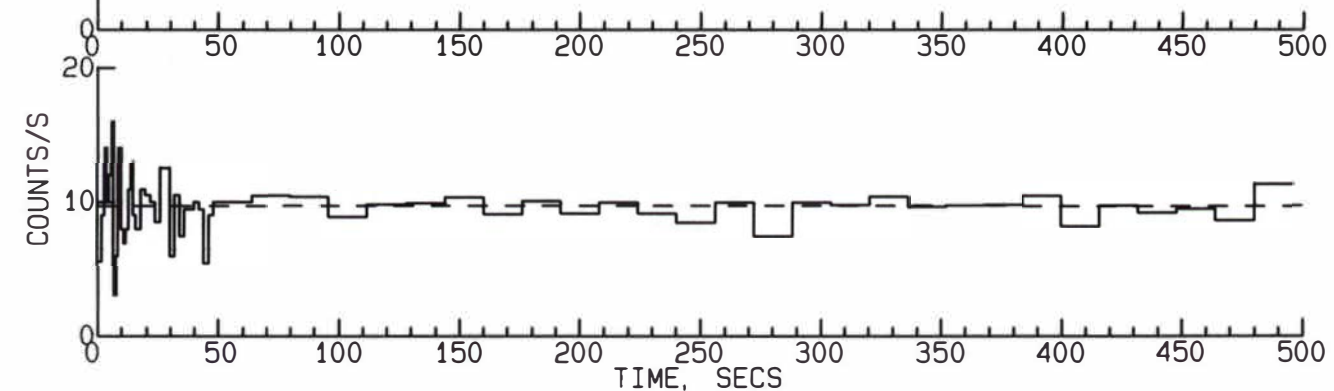
46-75 keV



18-46 keV



4-18 keV

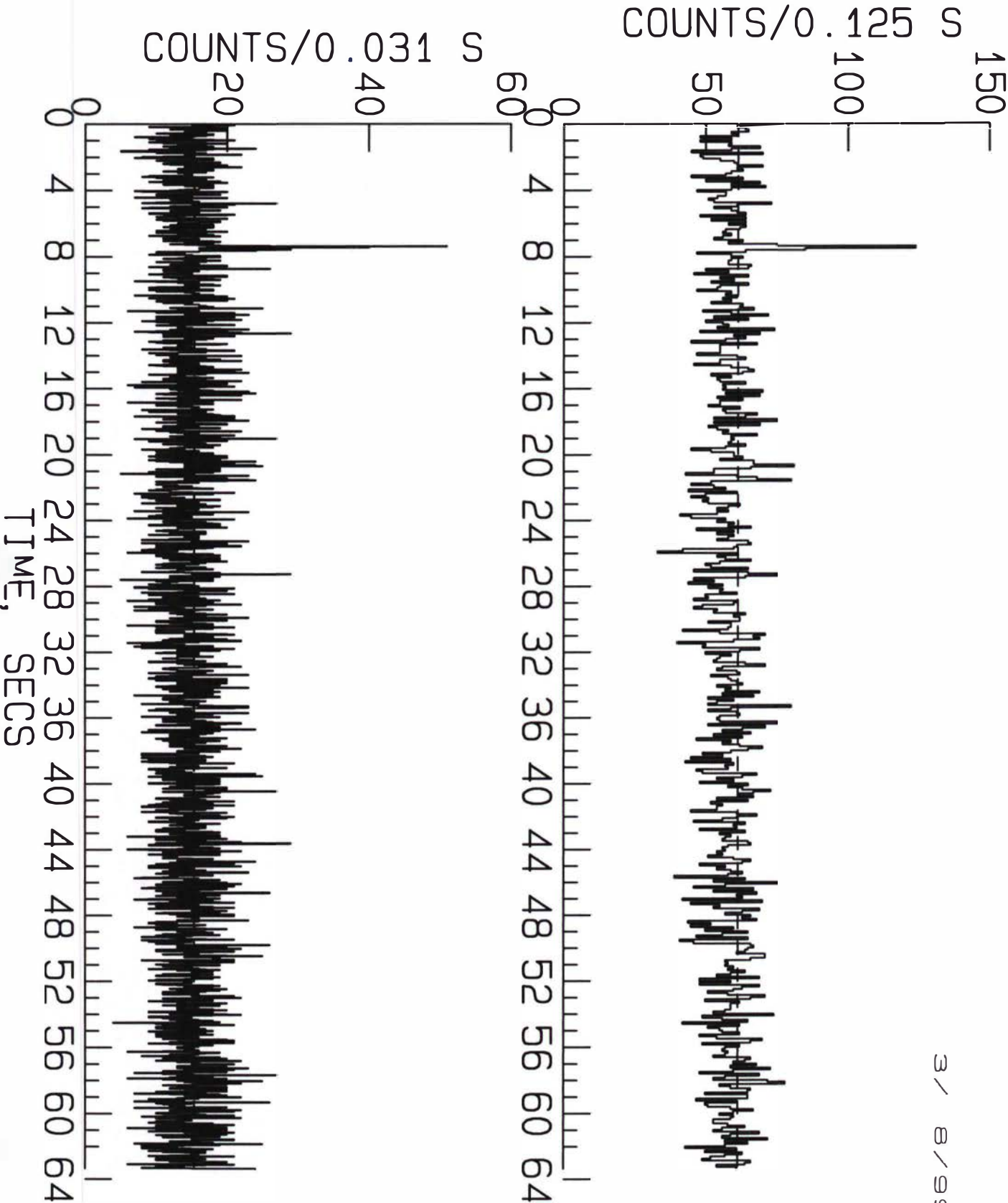


ULYSSES

13/03/99

Ttrig=34989.191

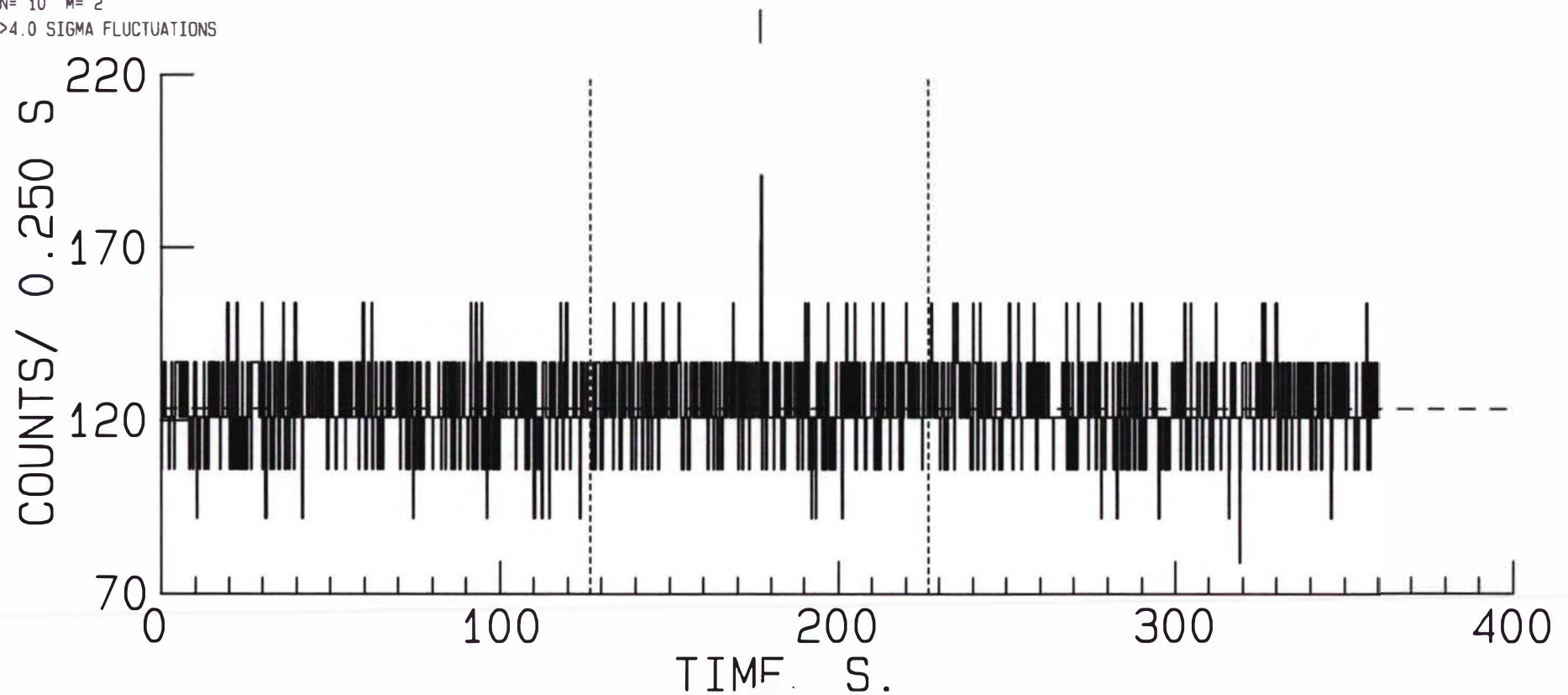
22- 151 keV



ULYSSES RT
13/ 3/99 34812.192 s
22- 151 keV

3/ 8/99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot.ssl.berkeley.edu Tue Mar 23 09:51 PST 1999
Date: Tue, 23 Mar 1999 09:49:19 -0800
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: GRB 990313, 990314, 990315, 990321

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

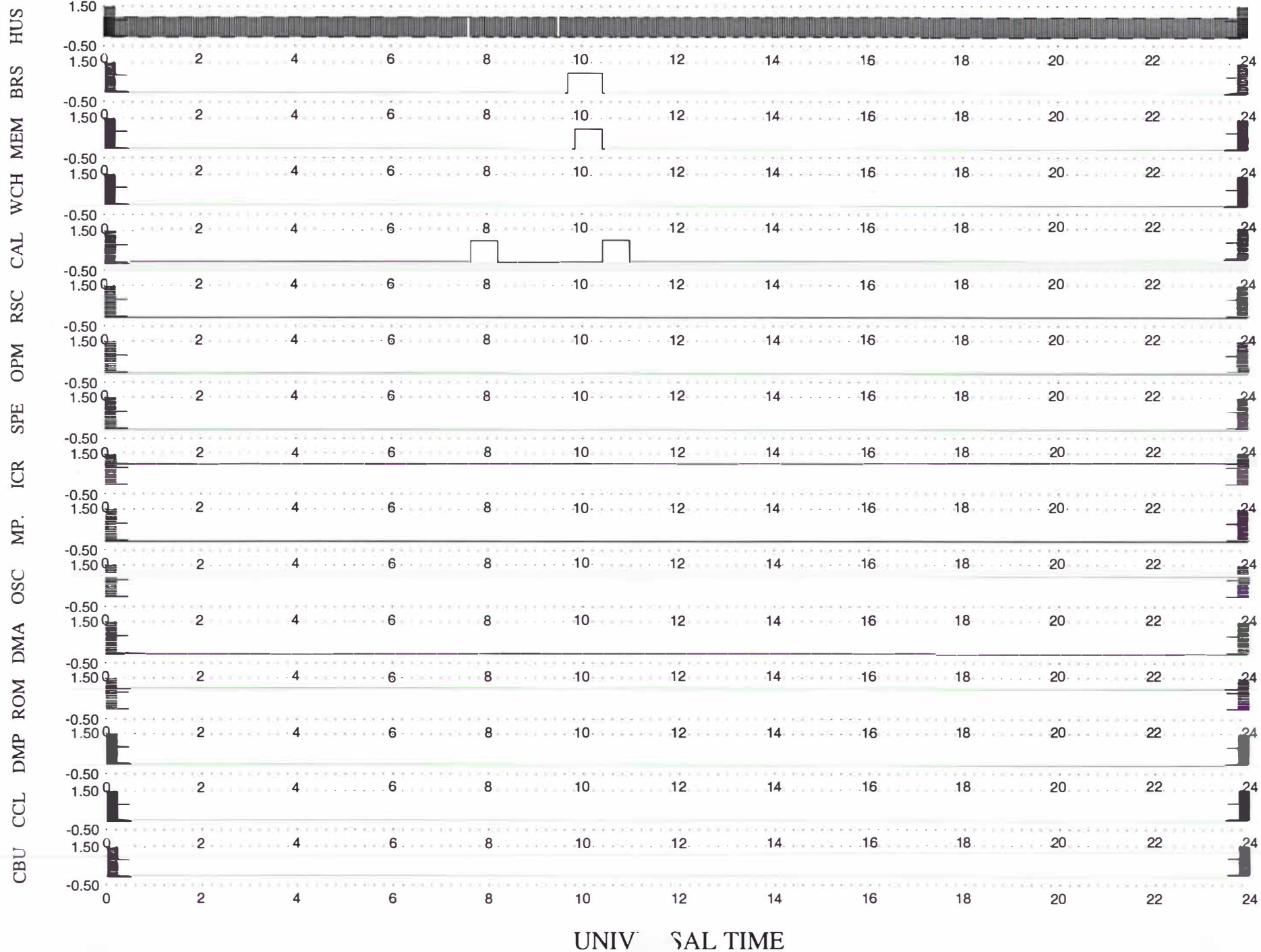
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 13 1999 09:43*	moderate, 32 ms long	2072
MAR 14 1999 05:06*	moderate, 32 ms long	2072
MAR 15 1999 12:27*	weak, 32 ms long	2072
MAR 21 1999 16:07*	weak, 32 ms long	2072

*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1465 s earlier.

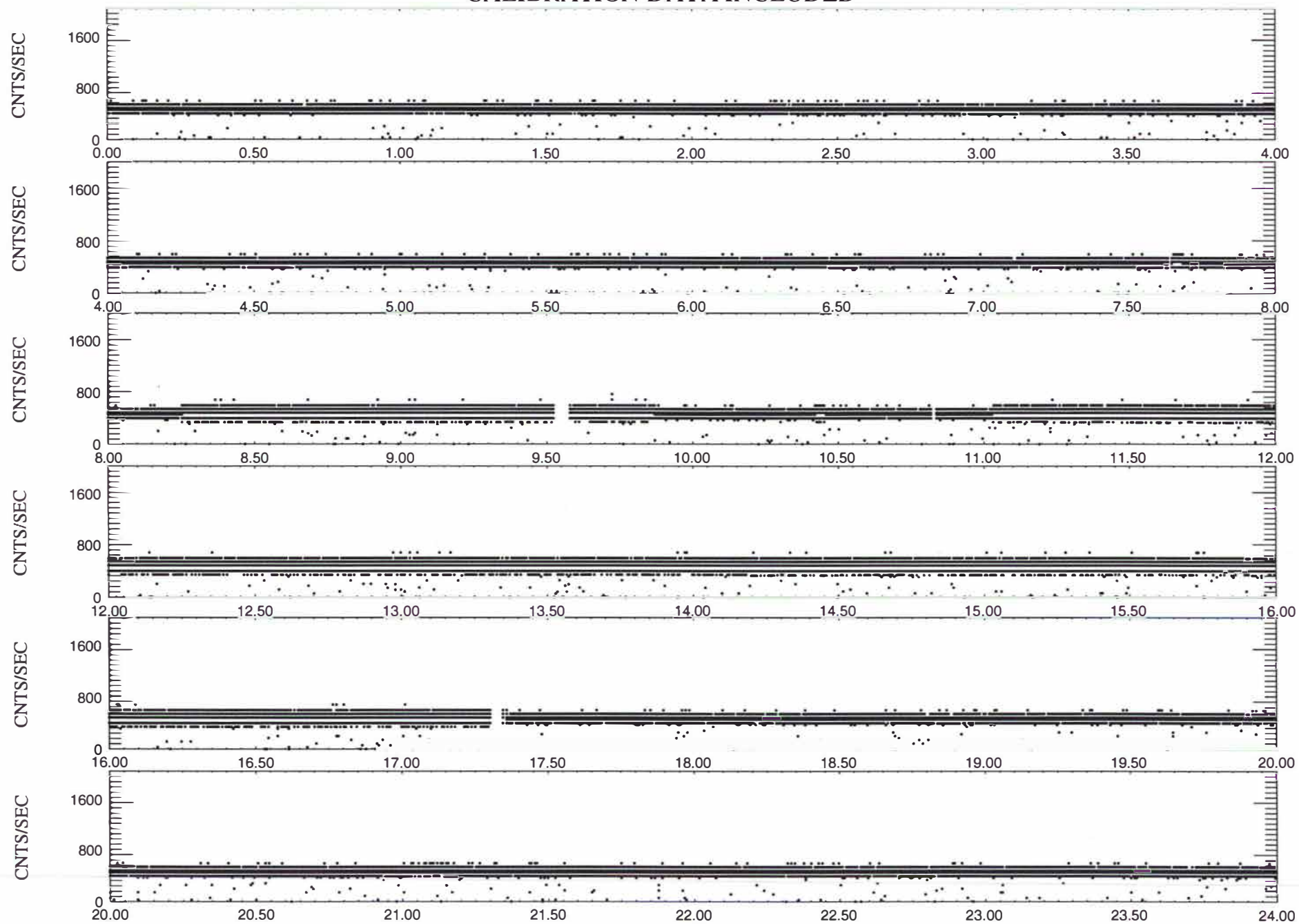
Were these events detected by anyone else?

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

BURST NUMBER 2

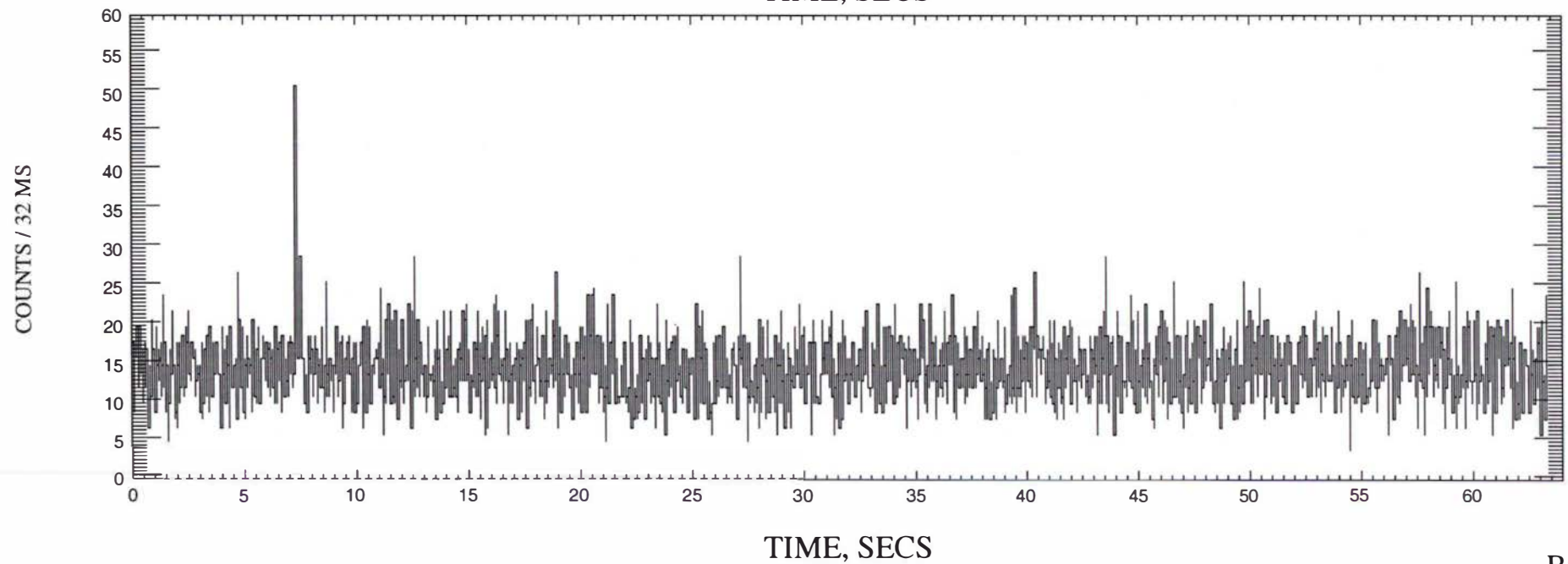
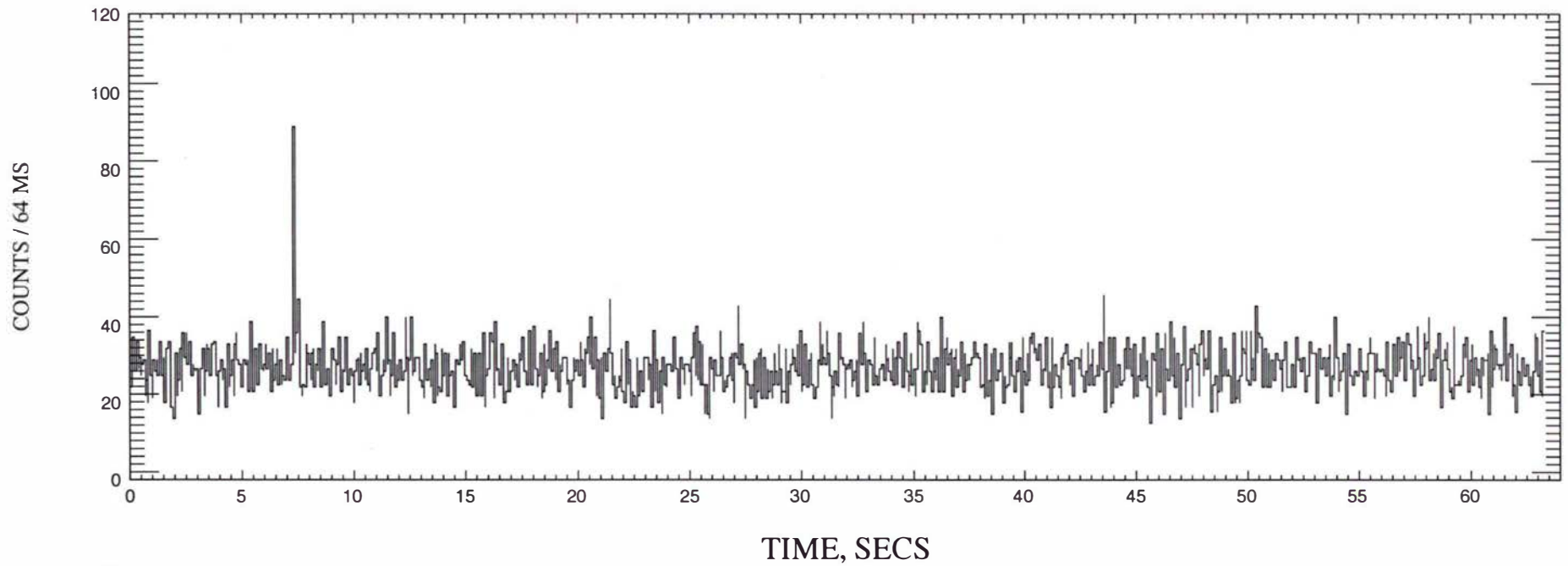


CALIBRATION DATA INCLUDED

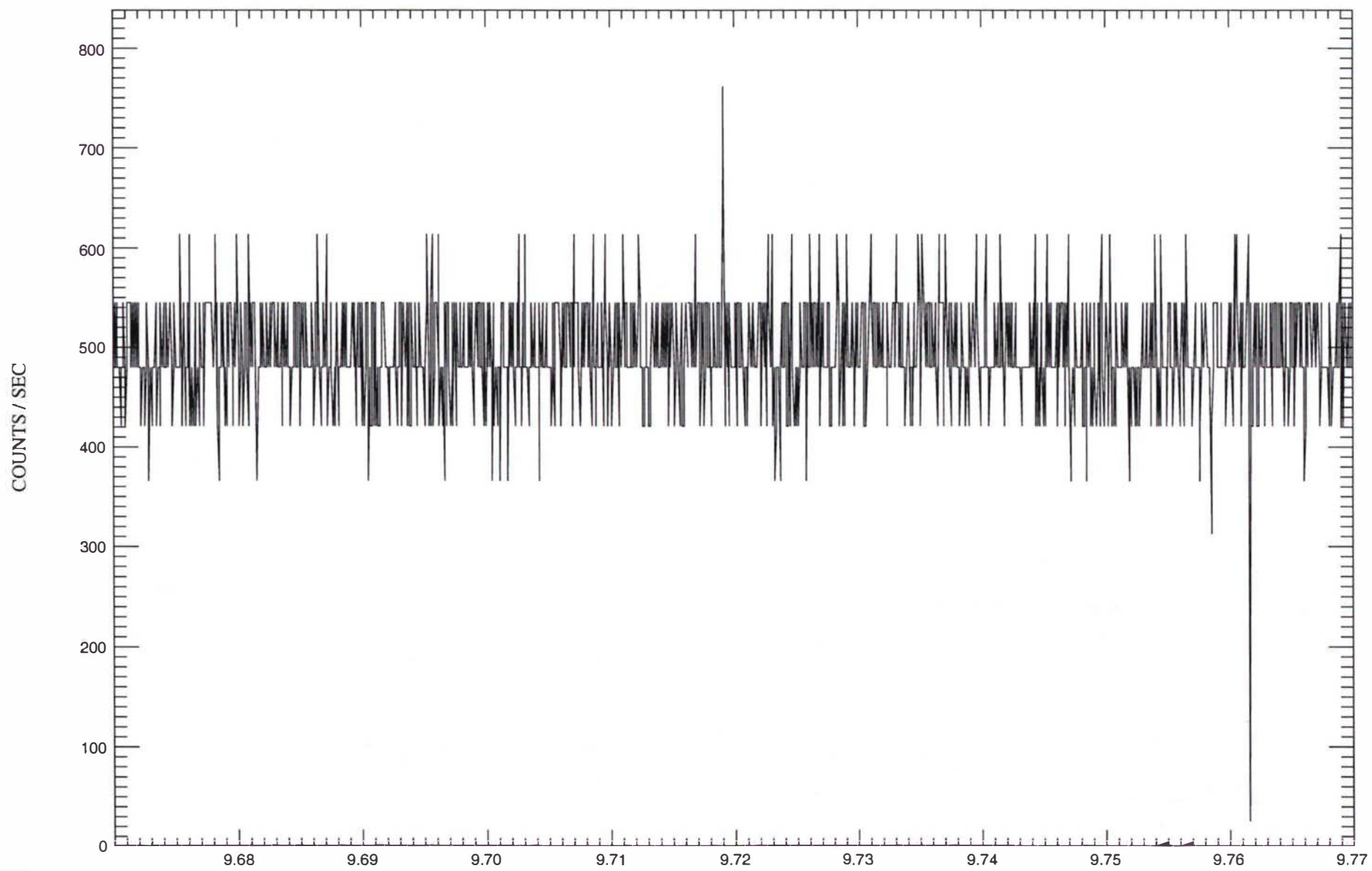


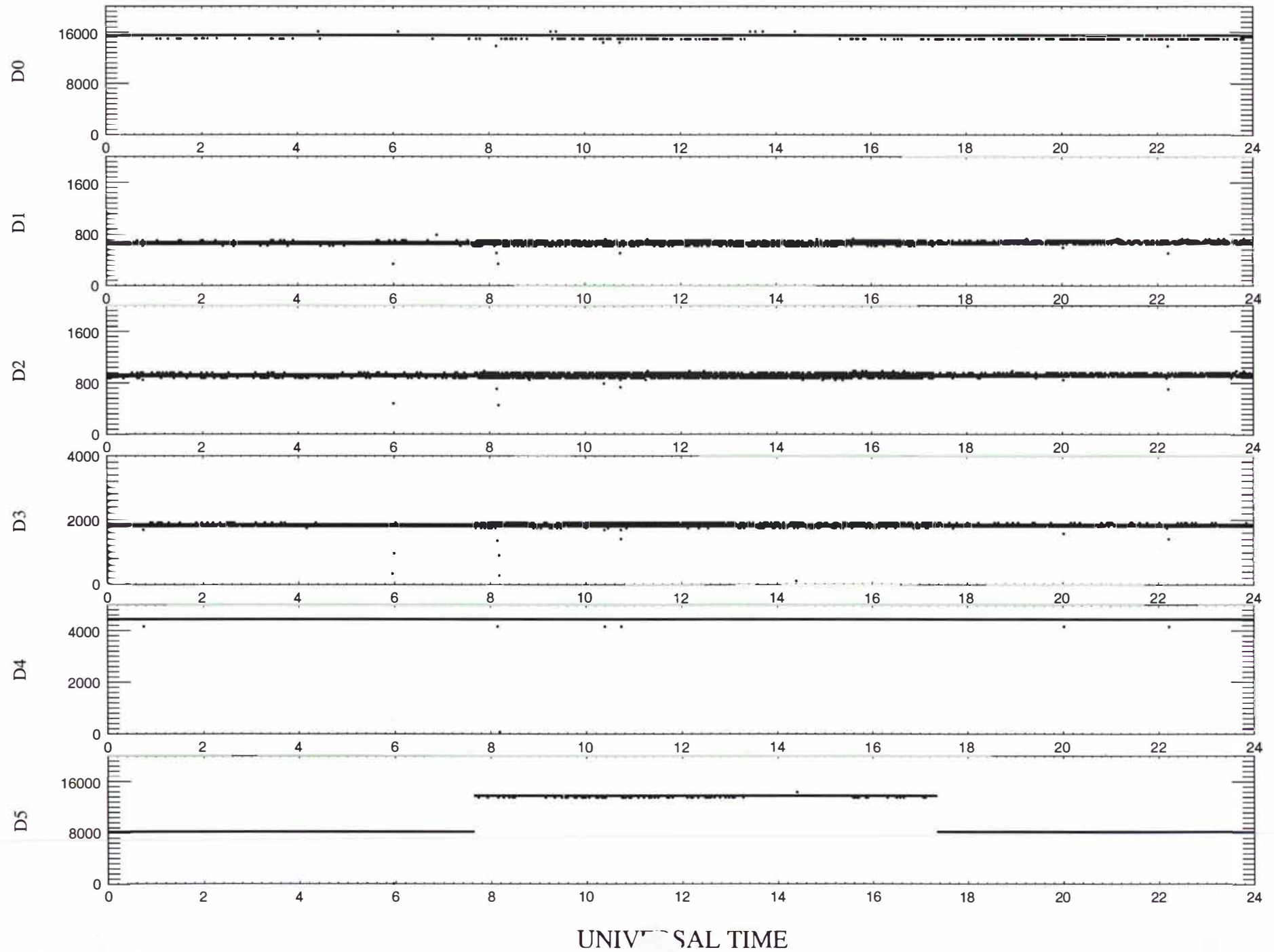
UNIVERSAL TIME

Burst Counter 2 at UT= 9.719215706719 h=34989.177 s 09:43:09.177



CALIBRATION DATA INCLUDED





From khurley@sunspot.ssl.berkeley.edu Tue Mar 23 09:51 PST 1999
Date: Tue, 23 Mar 1999 09:49:19 -0800
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: GRB 990313, 990314, 990315, 990321

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 13 1999 09:43*	moderate, 32 ms long	2072
MAR 14 1999 05:06*	moderate, 32 ms long	2072
MAR 15 1999 12:27*	weak, 32 ms long	2072
MAR 21 1999 16:07*	weak, 32 ms long	2072

*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1465 s earlier.

Were these events detected by anyone else?

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

From MEEGAN@fender.msfc.nasa.gov Mon Mar 15 12:35:12 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 MAA15125; Mon, 15 Mar 1999 12:35:11 -0800
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 MAA11975
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 15 Mar 1999 12:35:09 -0800 (PST)
Date: Mon, 15 Mar 1999 14:35:12 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990315143512.20215e03@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7469
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7469
EVENT OF 1999 MAR 14 DAY OF YEAR= 73
EVENT CROSSING TIME AT BATSE : 72312. S. OR 20:05:12.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 184.000 -13.000
BATSE PEAK COUNTING RATE: 9000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 14/ 3/ 99 IS:
RA= 151.704 DEC= -9.134 DIST= 4.151 AU
BATSE-ULYSSES DISTANCE = 621019065. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.09 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1758.49 SECS.
CROSSING TIME AT ULYSSES IS 70554. S. OR 19:35:53 +/- 213.39 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 14/ 3/ 99 IS:
RA= 220.320 DEC= -13.391 DIST= 0.795 AU
MARS-BATSE DISTANCE = 118980736. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=144.67 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -323.78 SECS.
CROSSING TIME AT MARS IS 71988. S. OR 19:59:48 +/- 34.93 SECONDS

BATSE BURST TRIGGER

NO.: 7469

TIME: TJD=1251 SECONDS=72312

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=140.0 AZIMUTH= 81.9 ERROR= 1.8 DEGREES

COMMENTS:

SEVERAL PEAKS IN 20 SECOND DURATION. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7469	990314	11251	72312	9000	184	-13	20

Date: 25/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data **N/A**

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

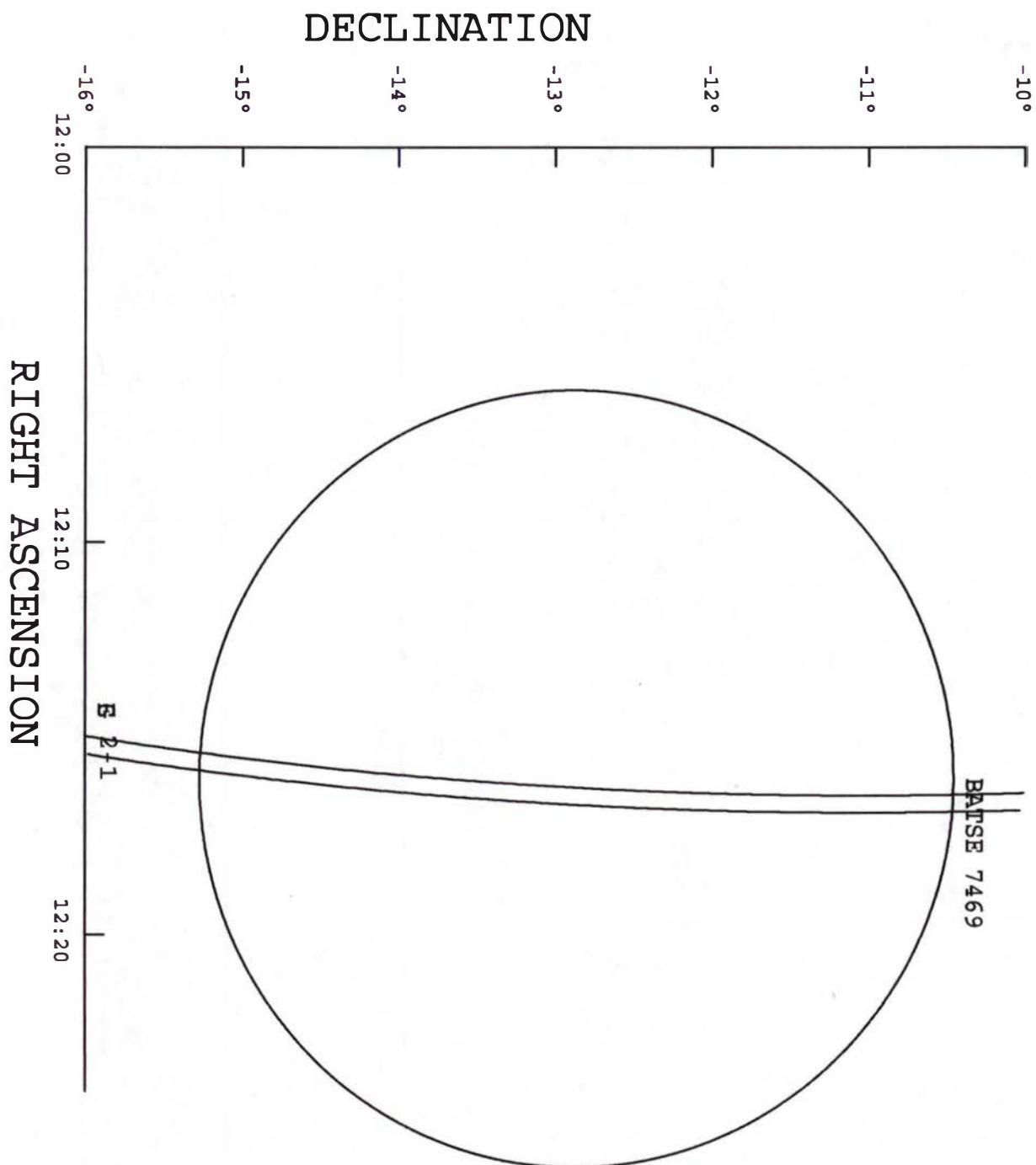
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAR 14, 1999 20:05

25 / 1 / 0



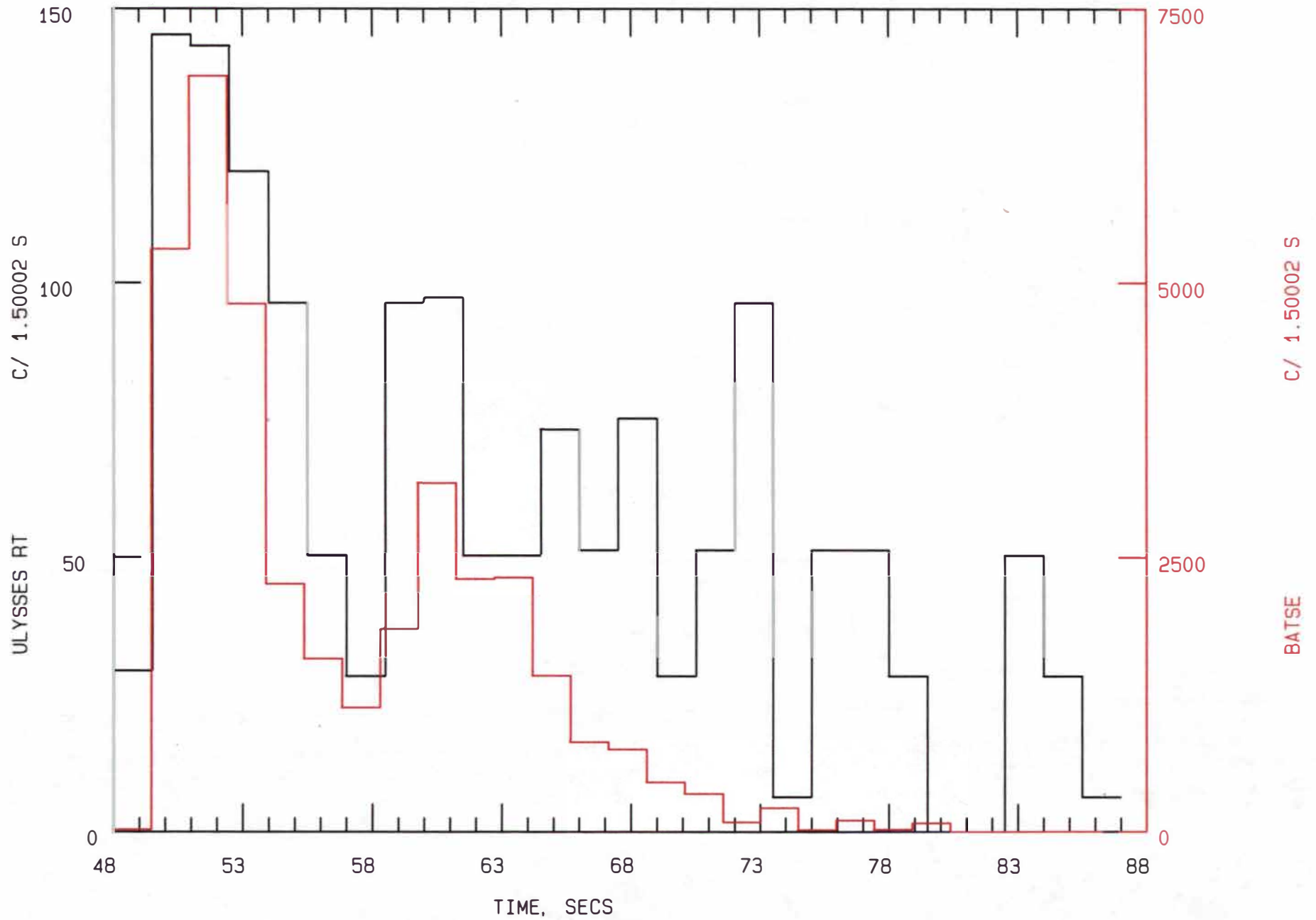
ULYSSES RT-BATSE

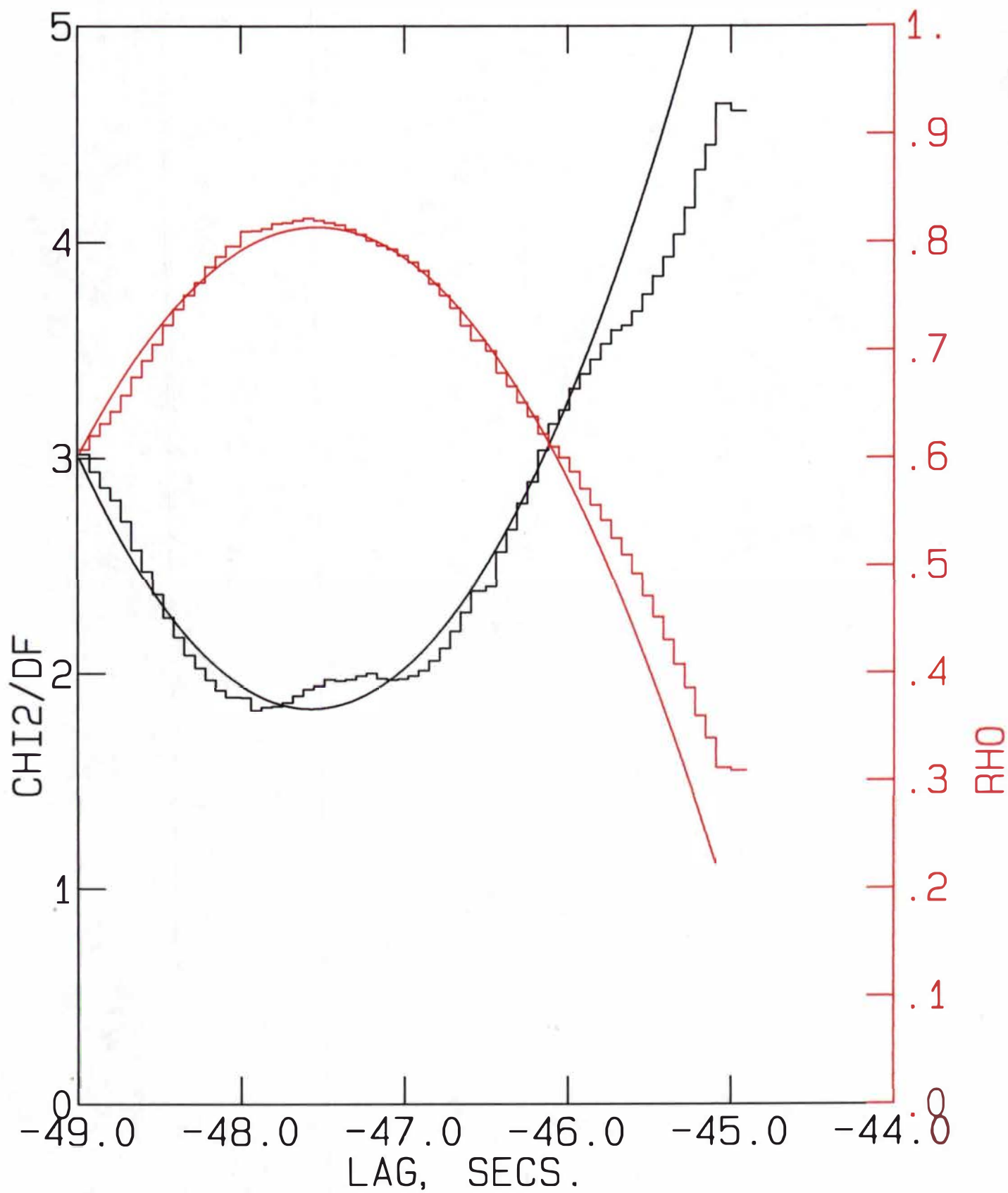
CORRELATION

14/ 3/99

70490.189

25/ 1/ 0

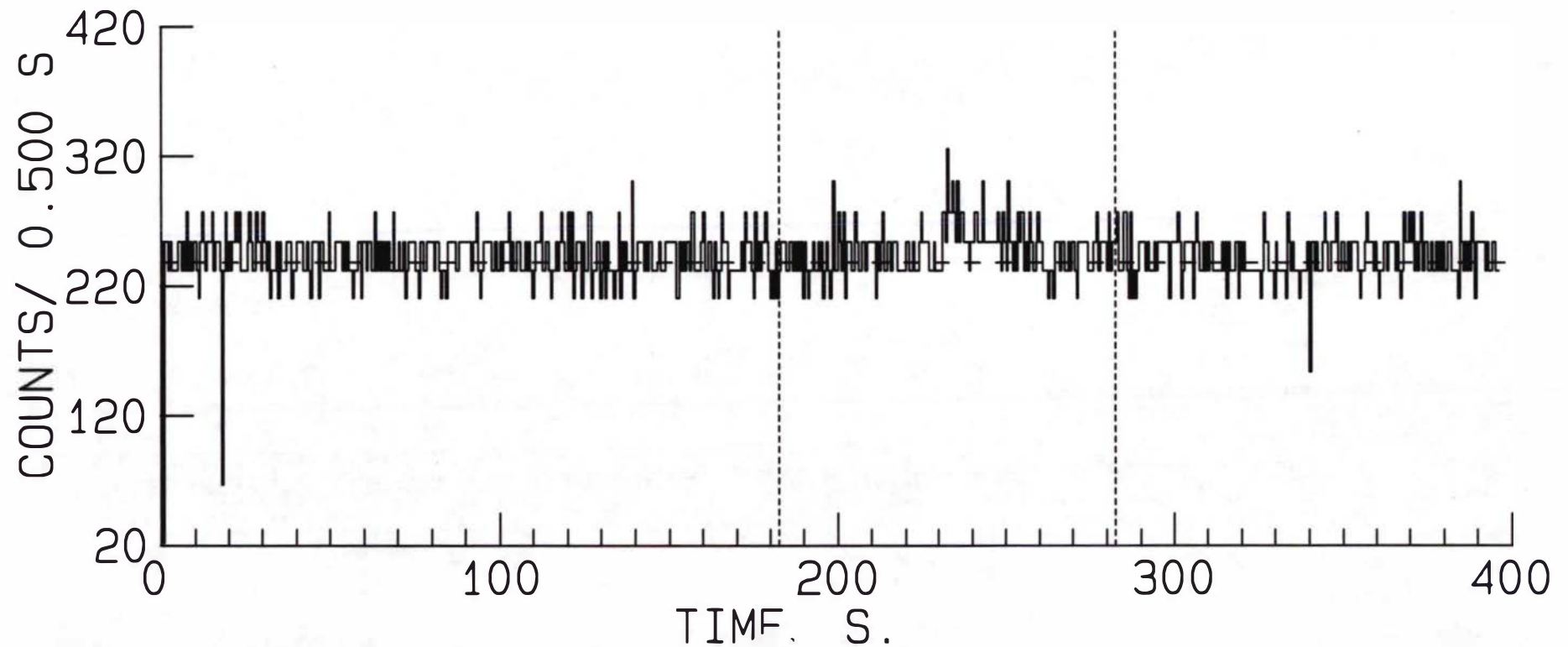




ULYSSES RT
14/ 3/99 70308.181 s
22- 150 keV

25 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



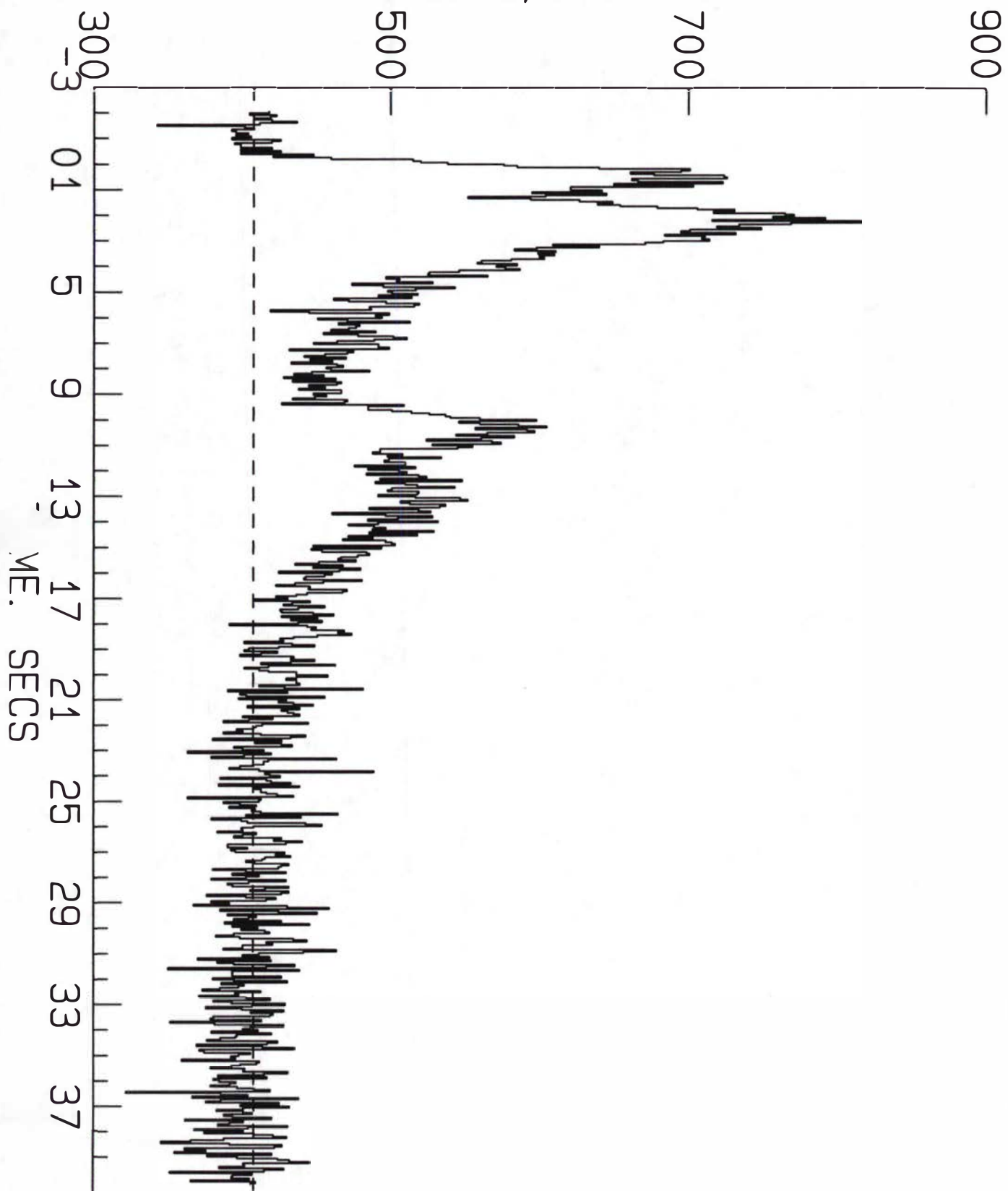
BATSE

14/03/99

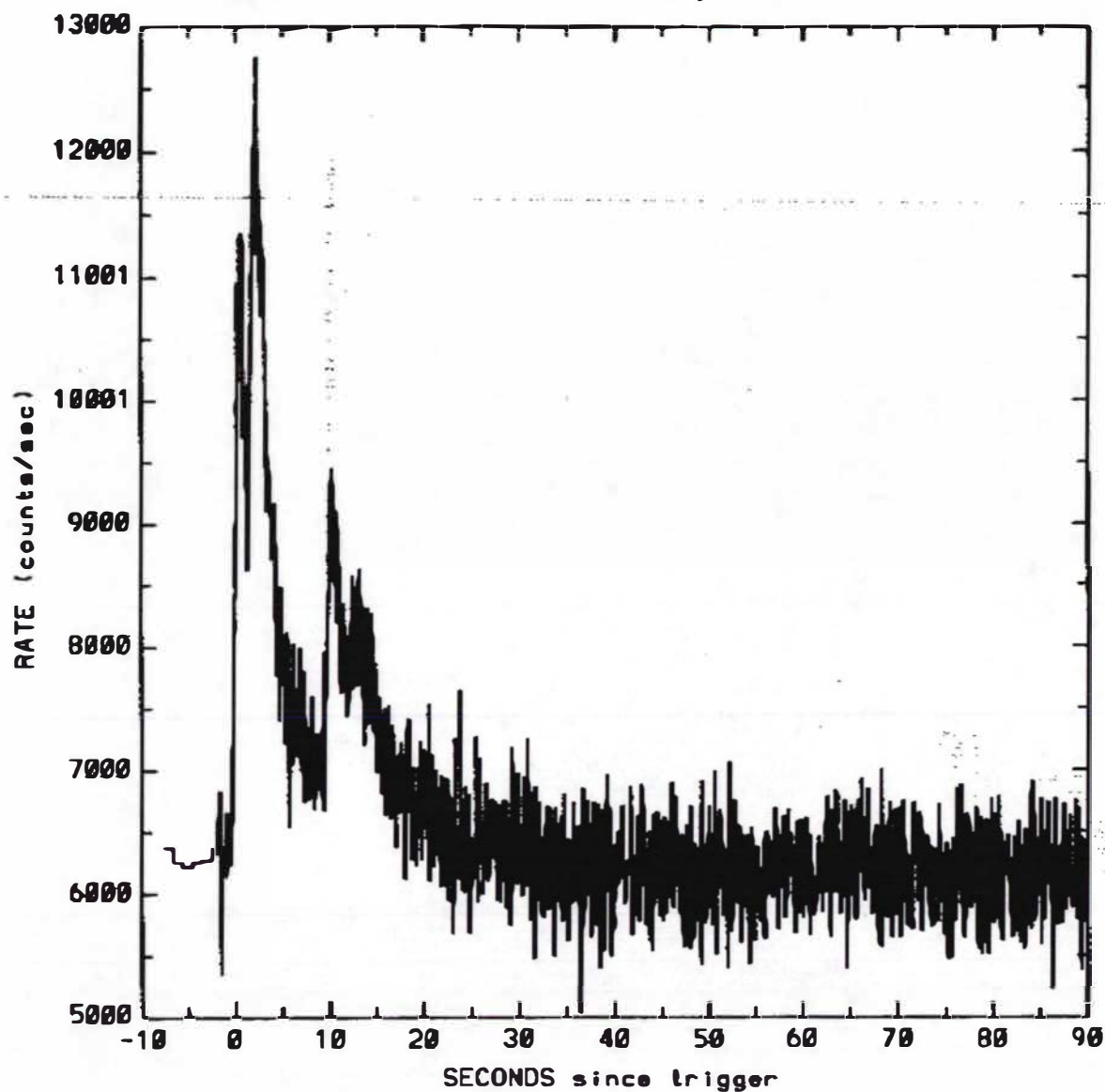
72312.057

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7469



24-MAR-1999 07:51:35

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

Trigger # . 7469

Trigger Time:
11251 / 72312.057

Burst Data Type:
DISCSC

Deadtime
Corrected. N

Background Data
Type. PREB + DISCLA

Minimum Integ. Time:
3.064 seconds

Detectors (7.0)
--5--1--

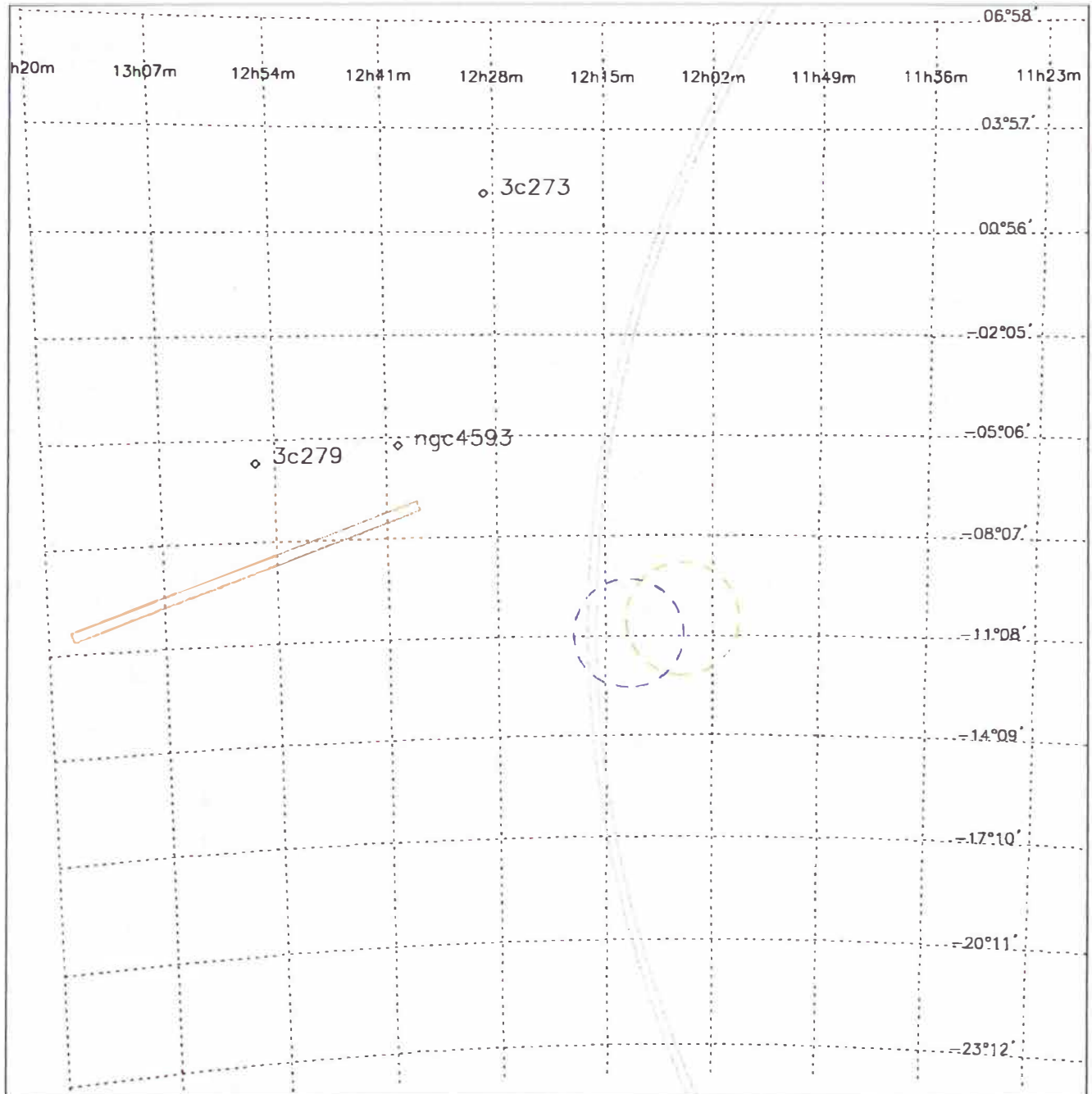
Discriminators:
(1.2)

Quality Mask:
BDISP1

m87ngc4388

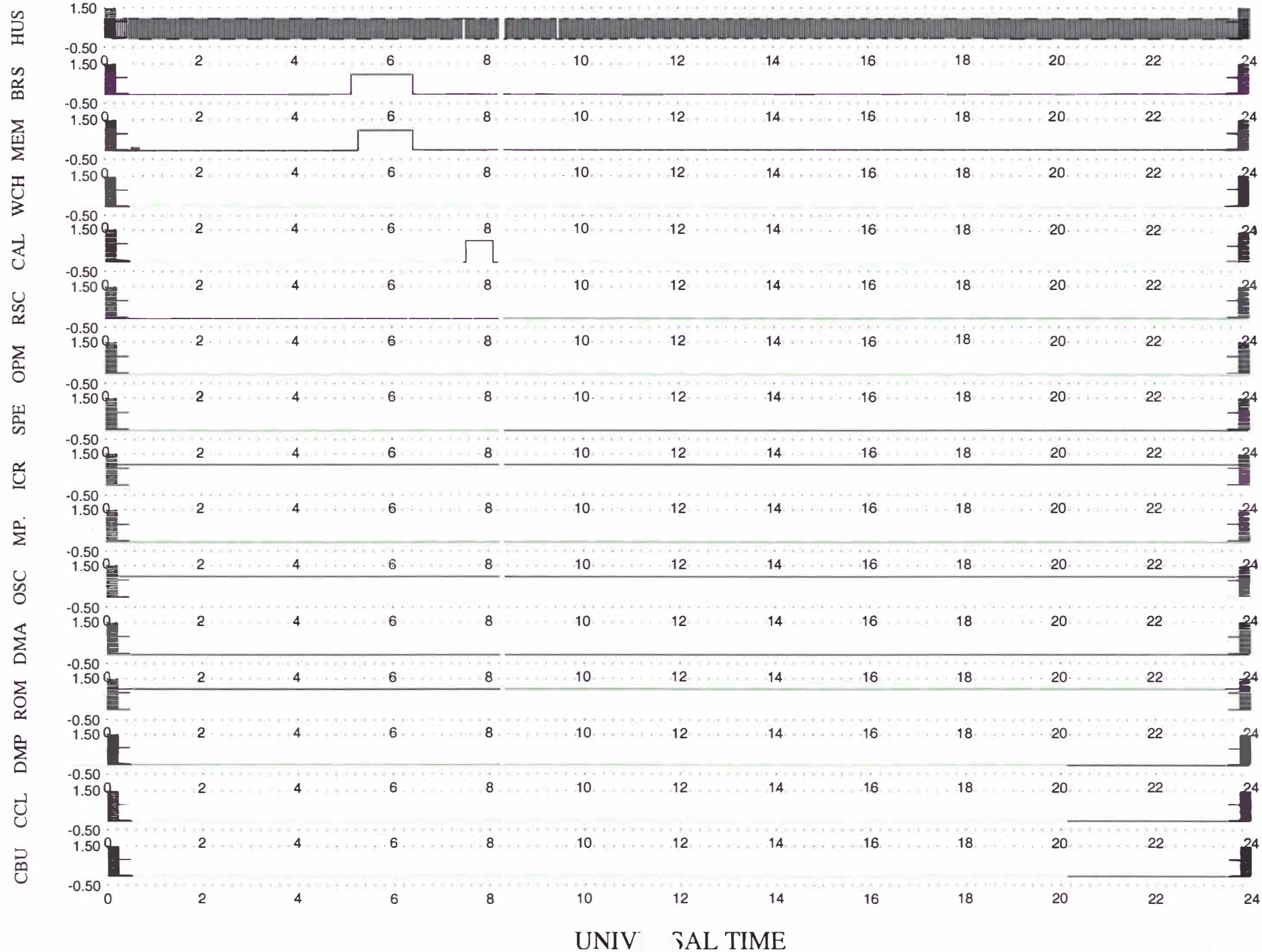
30° Region of Sky Centered on BATSE Location

b11320+084

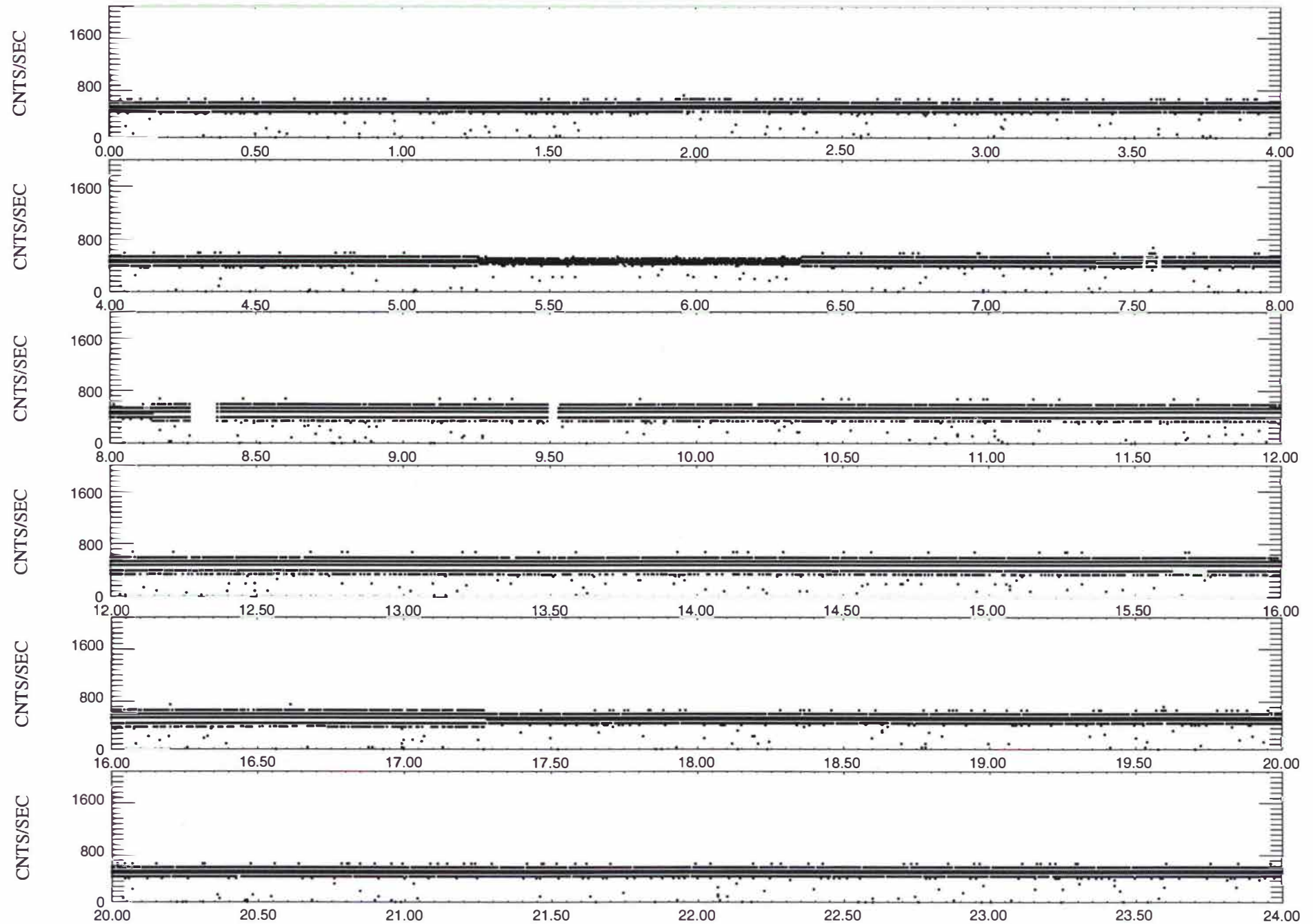


exhya

BURST NUMBER 3

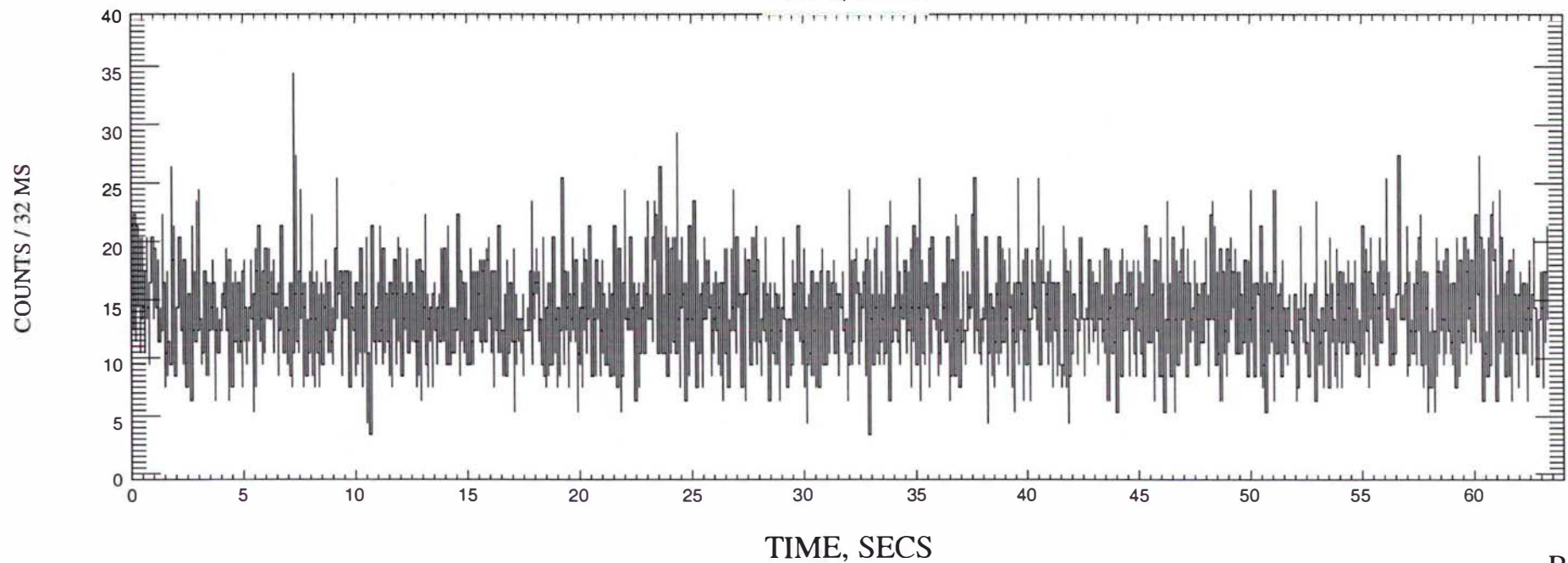
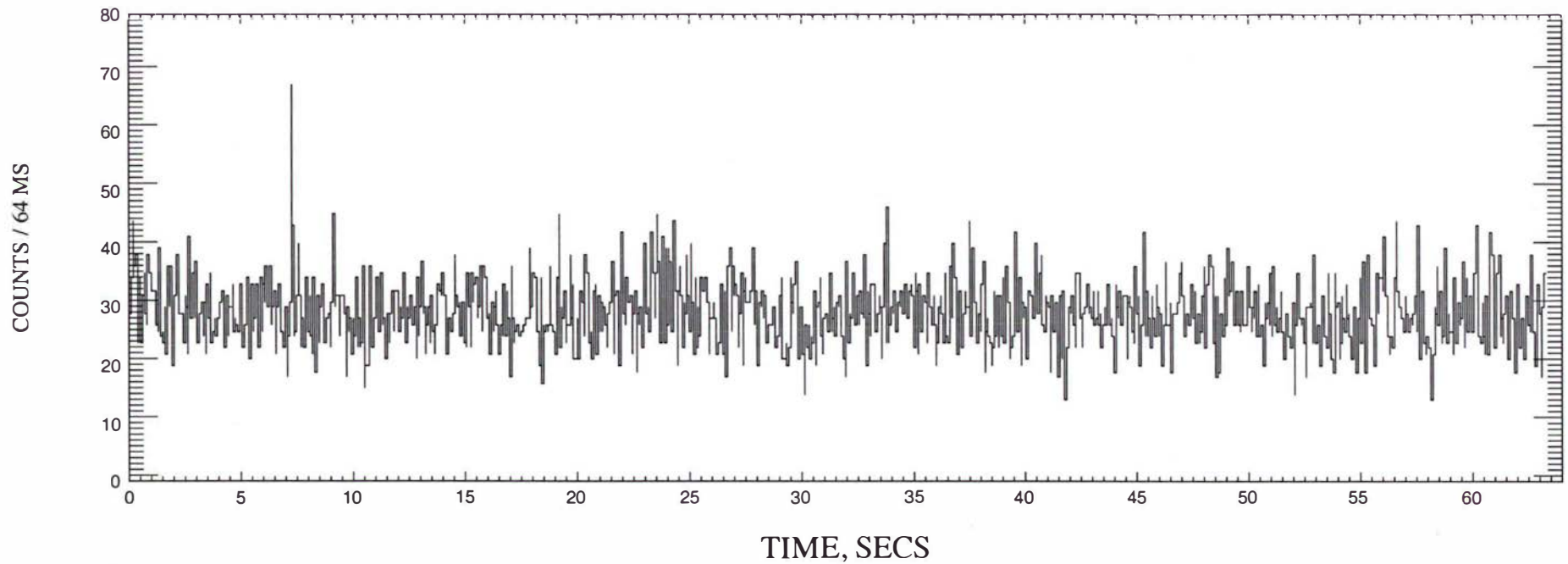


CALIBRATION DATA INCLUDED

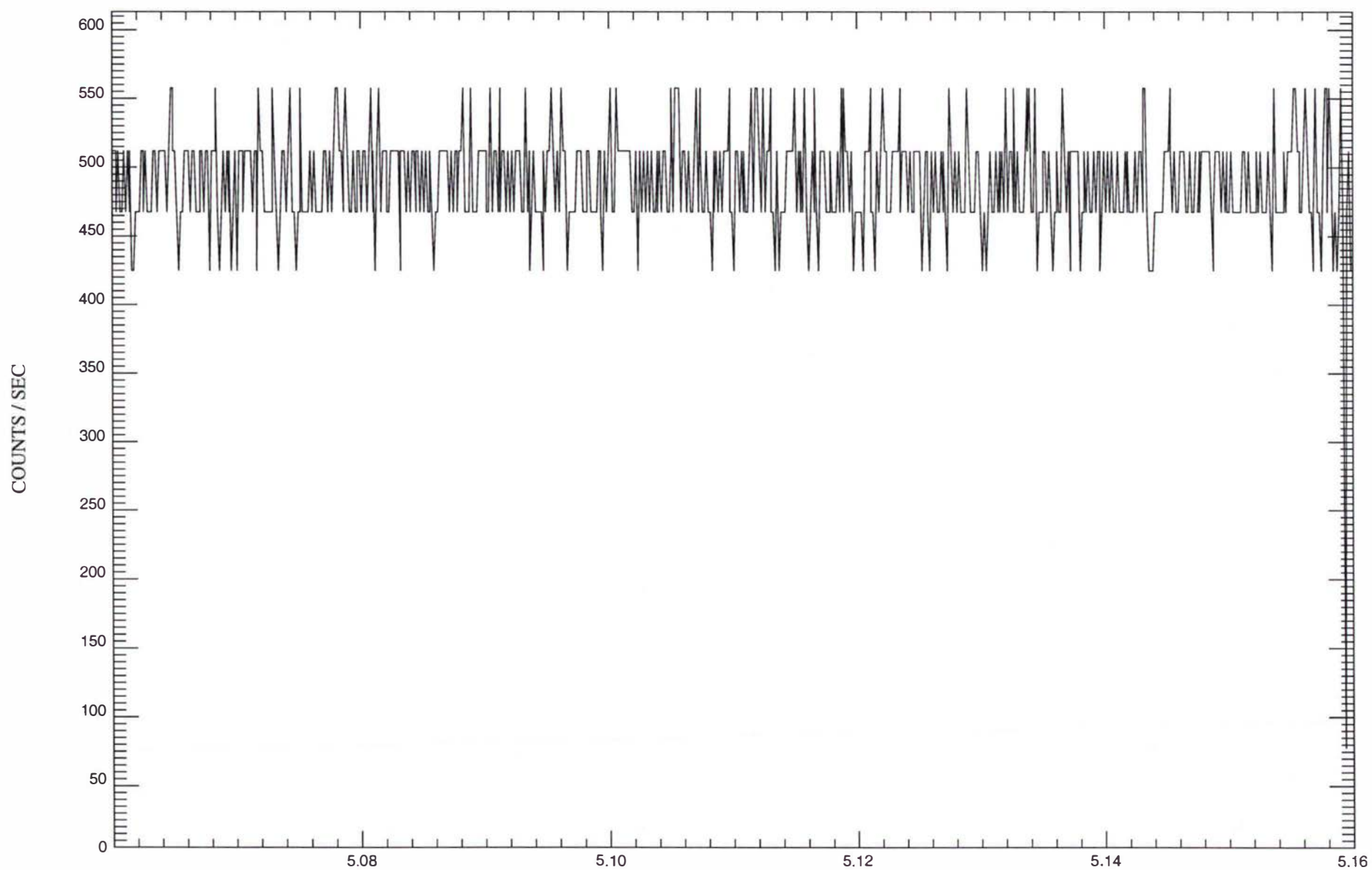


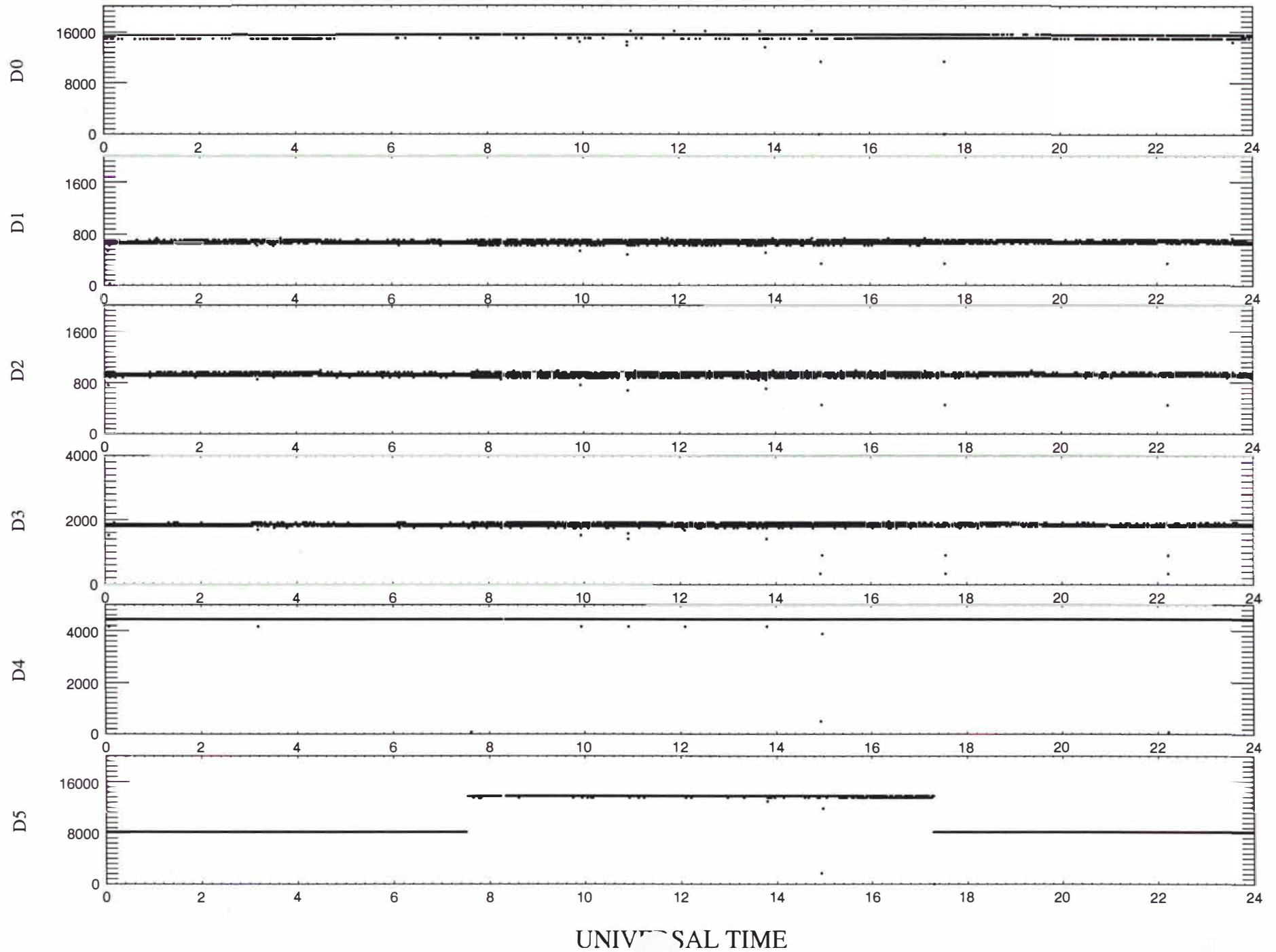
UNIVERSAL TIME

Burst Counter 3 at UT= 5.107503352695 h=18387.012 s 05:06:27.012



CALIBRATION DATA INCLUDED





From khurley@sunspot.ssl.berkeley.edu Tue Mar 23 09:51 PST 1999

Date: Tue, 23 Mar 1999 09:49:19 -0800

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: GRB 990313, 990314, 990315, 990321

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 13 1999 09:43*	moderate, 32 ms long	2072
MAR 14 1999 05:06*	moderate, 32 ms long	2072
MAR 15 1999 12:27*	weak, 32 ms long	2072
MAR 21 1999 16:07*	weak, 32 ms long	2072

*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1465 s earlier.

Were these events detected by anyone else?

CC: ulyssesbursts alias list

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

From PETERSON@fender.msfc.nasa.gov Wed Mar 17 12:25:48 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 MAA02913; Wed, 17 Mar 1999 12:25:47 -0800
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 (8.9.2/8.9.2) with SMTP id MAA28689
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 17 Mar 1999 12:25:44 -0800 (PST)
Date: Wed, 17 Mar 1999 14:25:50 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990317142550.20219b64@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7470
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7470
EVENT OF 1999 MAR 15 DAY OF YEAR= 74
EVENT CROSSING TIME AT BATSE : 587. S. OR 00:09:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 72.000 62.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/ 3/ 99 IS:
RA= 151.666 DEC= -9.128 DIST= 4.152 AU
BATSE-ULYSSES DISTANCE = 621084764. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 86.74 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 117.92 SECS.
CROSSING TIME AT ULYSSES IS 705. S. OR 00:11:44 +/- 410.89 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/ 3/ 99 IS:
RA= 220.367 DEC= -13.410 DIST= 0.787 AU
MARS-BATSE DISTANCE = 117790528. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 53.59 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 233.23 SECS.
CROSSING TIME AT MARS IS 820. S. OR 00:13:40 +/- 58.44 SECONDS

BATSE BURST TRIGGER

NO.: 7470

TIME: TJD=1252 SECONDS=00587

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=71.9 AZIMUTH=62.3 ERROR=3.87 DEGREES

COMMENTS:

GRB. MULTIPLE PULSES, TOTAL DUR. APPROX. 120S, STARTS AT APPROX. T-20S. NOT
VISIBLE ABOVE 300KEV. IN GAP.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7470	990315	11252	00587	3000	072	+62	120

BATSE BURST# 7470

ULYSSES RT

17 / 3 / 99

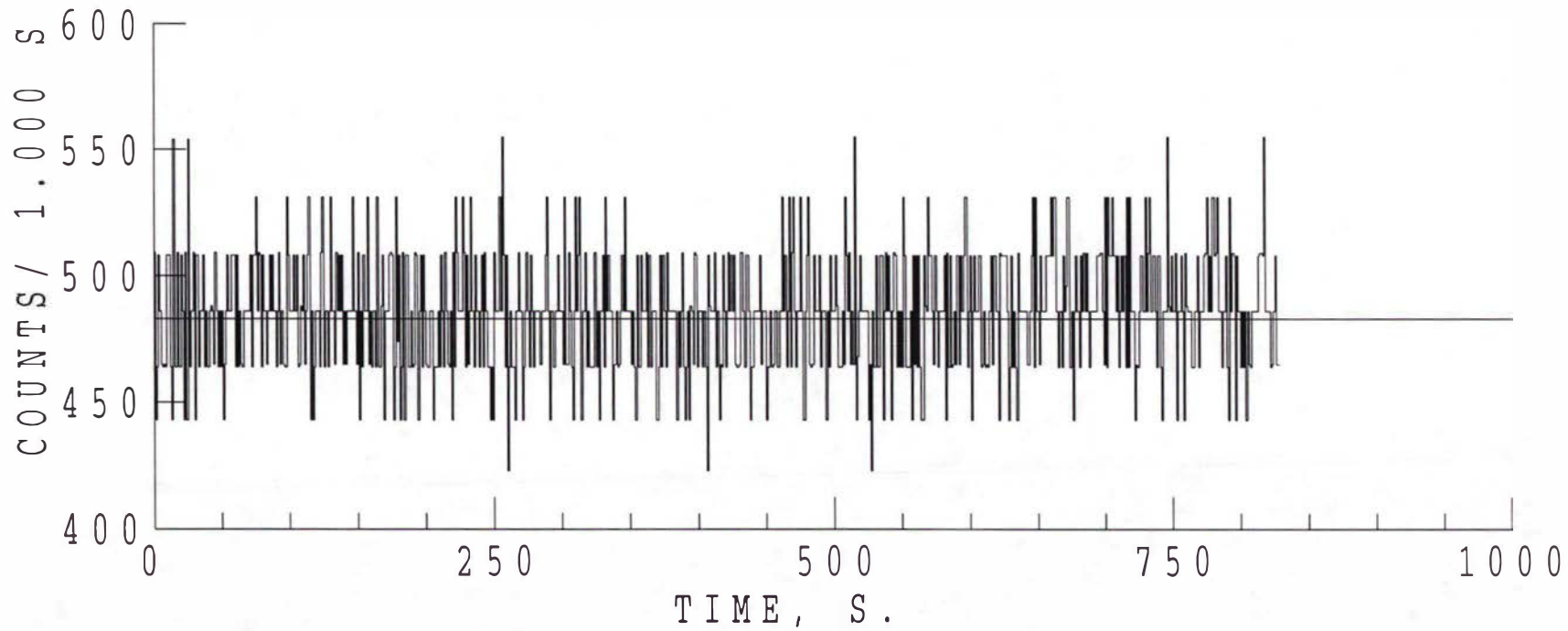
15 / 3 / 99 288.348 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Wed Mar 17 12:00:04 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 17 Mar 1999 13:59:46 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7471

TIME: TJD=1252 SECONDS=46325

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=26.1 AZIMUTH=270.8 ERROR=2.92 DEGREES

COMMENTS:

GOES C1.3, NO OPTICAL. TWO PULSES: PRECURSOR AT APPROX. T-18S, TRIGGER PULSE
DUR. APPROX. 8S. NOT VISIBLE ABOVE 100KEV. CYG X-1 SET NEAR T.

Date: Feb 10 2010

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data *N/A*

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

3. NEAR Data *N/A*

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

4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

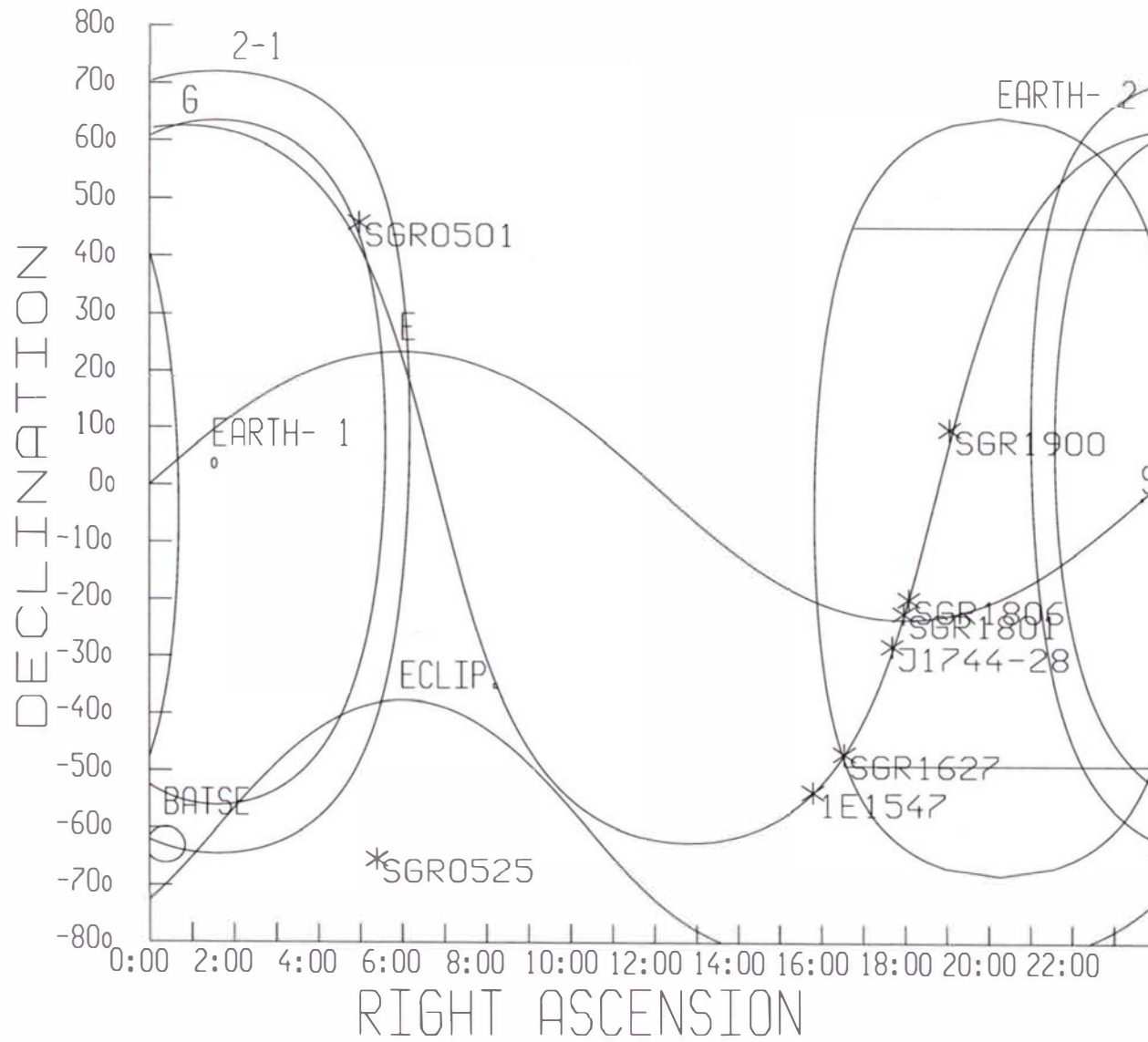
- ☐ $\Sigma 3\Delta t$'s calculated?

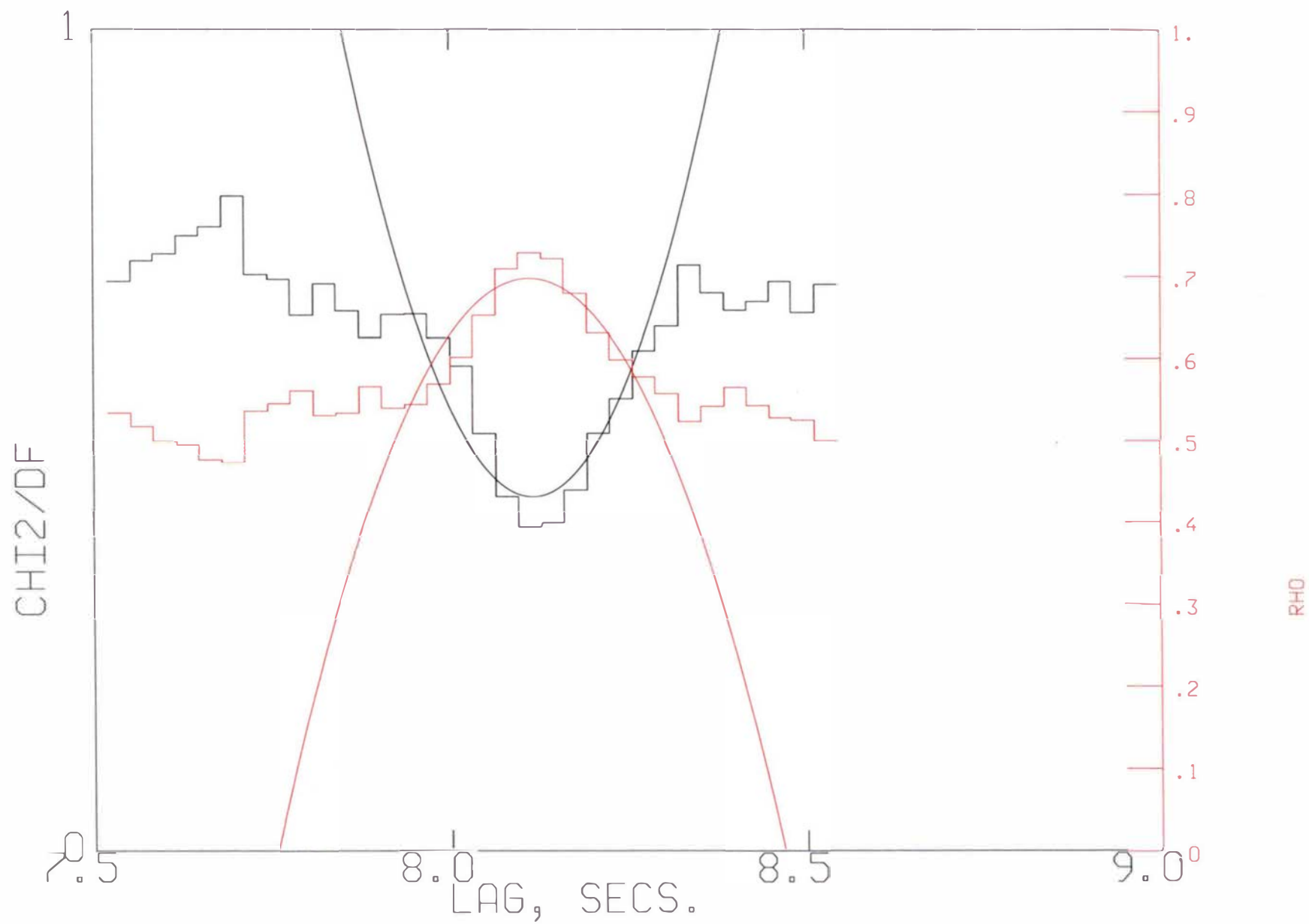
- ☒ ACCESS database updated?

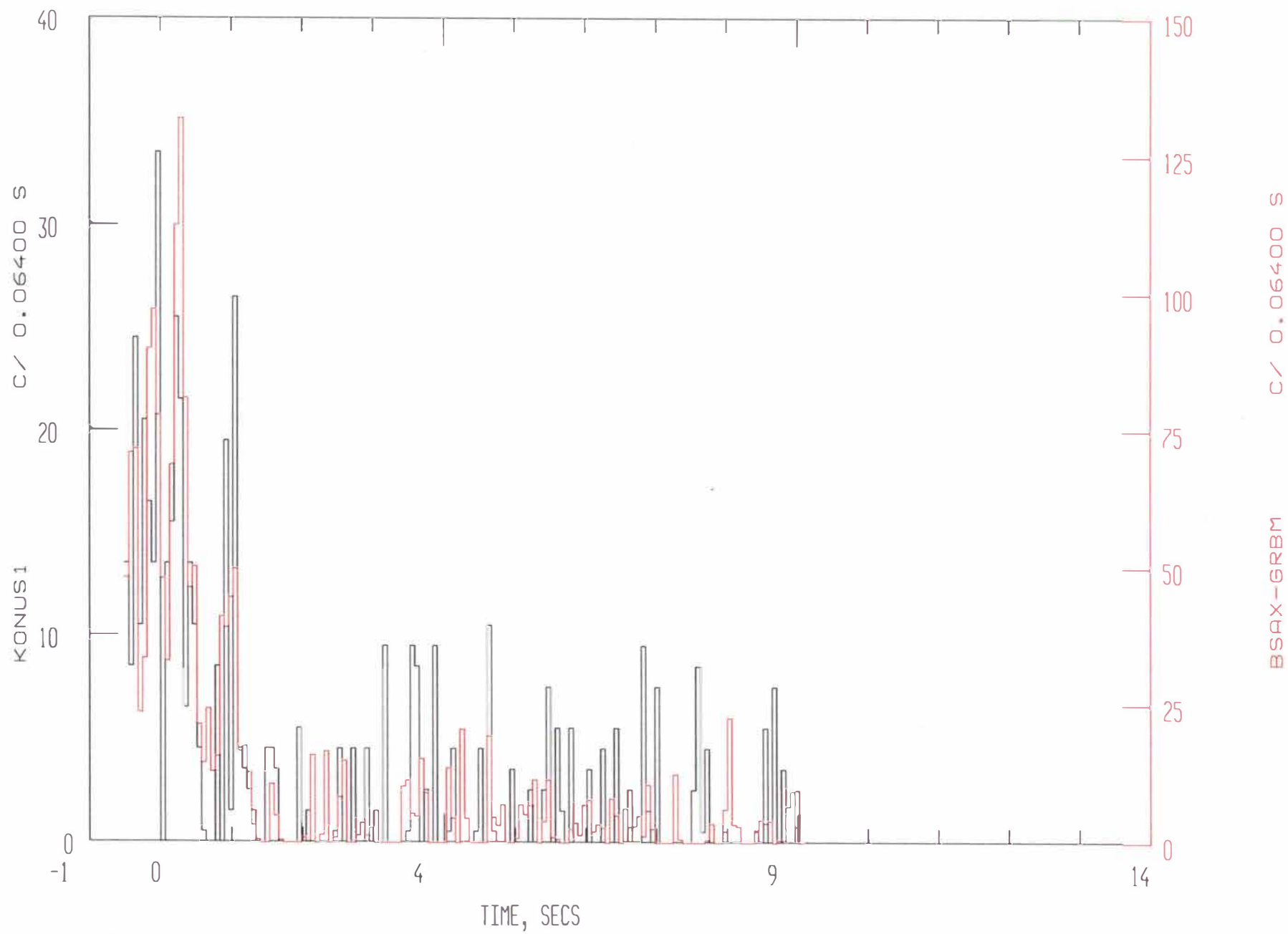
EVENT OF MAR 15, 1999 16:35

10/02/2010

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



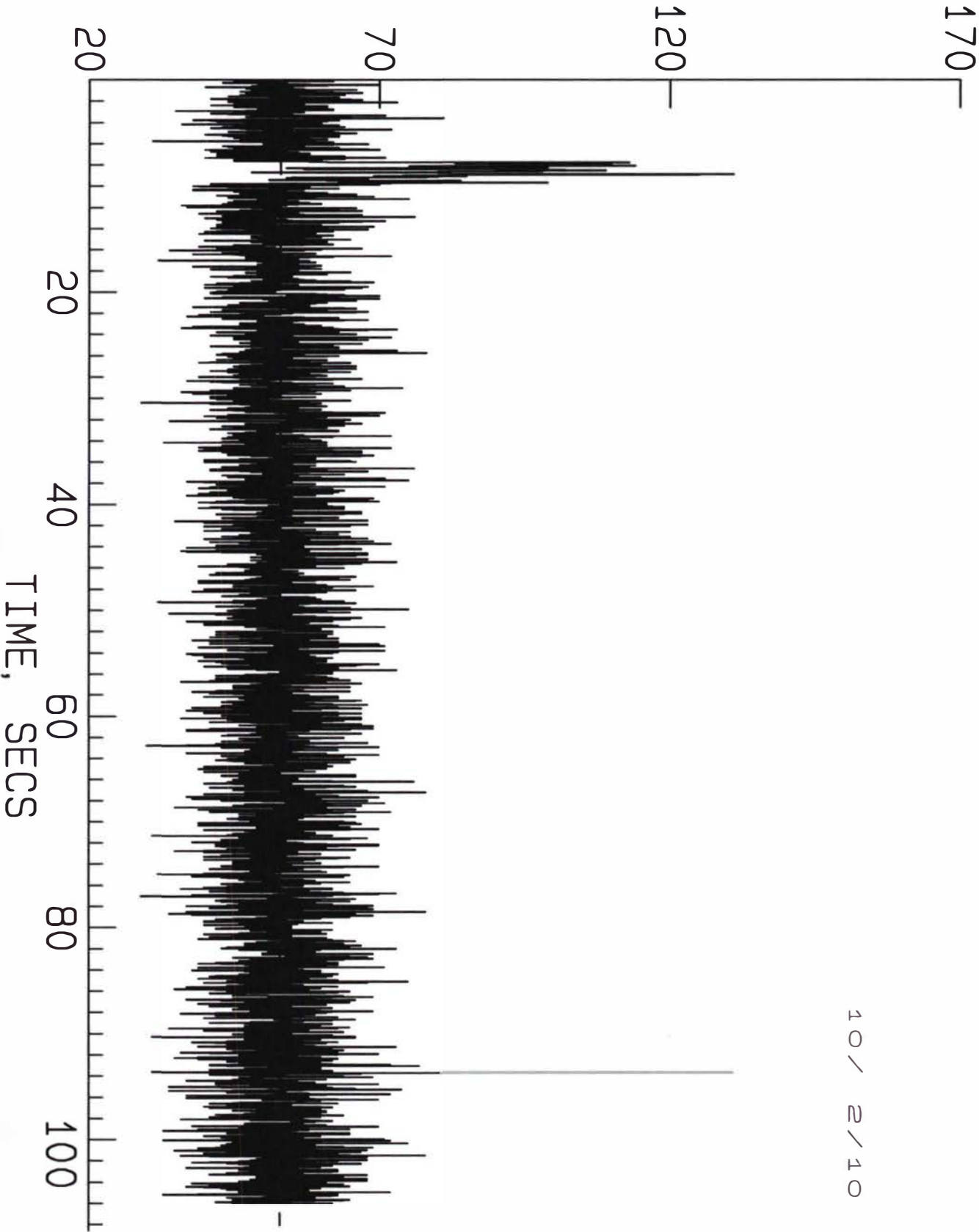




SAX GRBM

15/03/99 59722.795
40- 700 keV

COUNTS/0.031 S



KONUS

15/03/99 59731.980

50- 200 keV

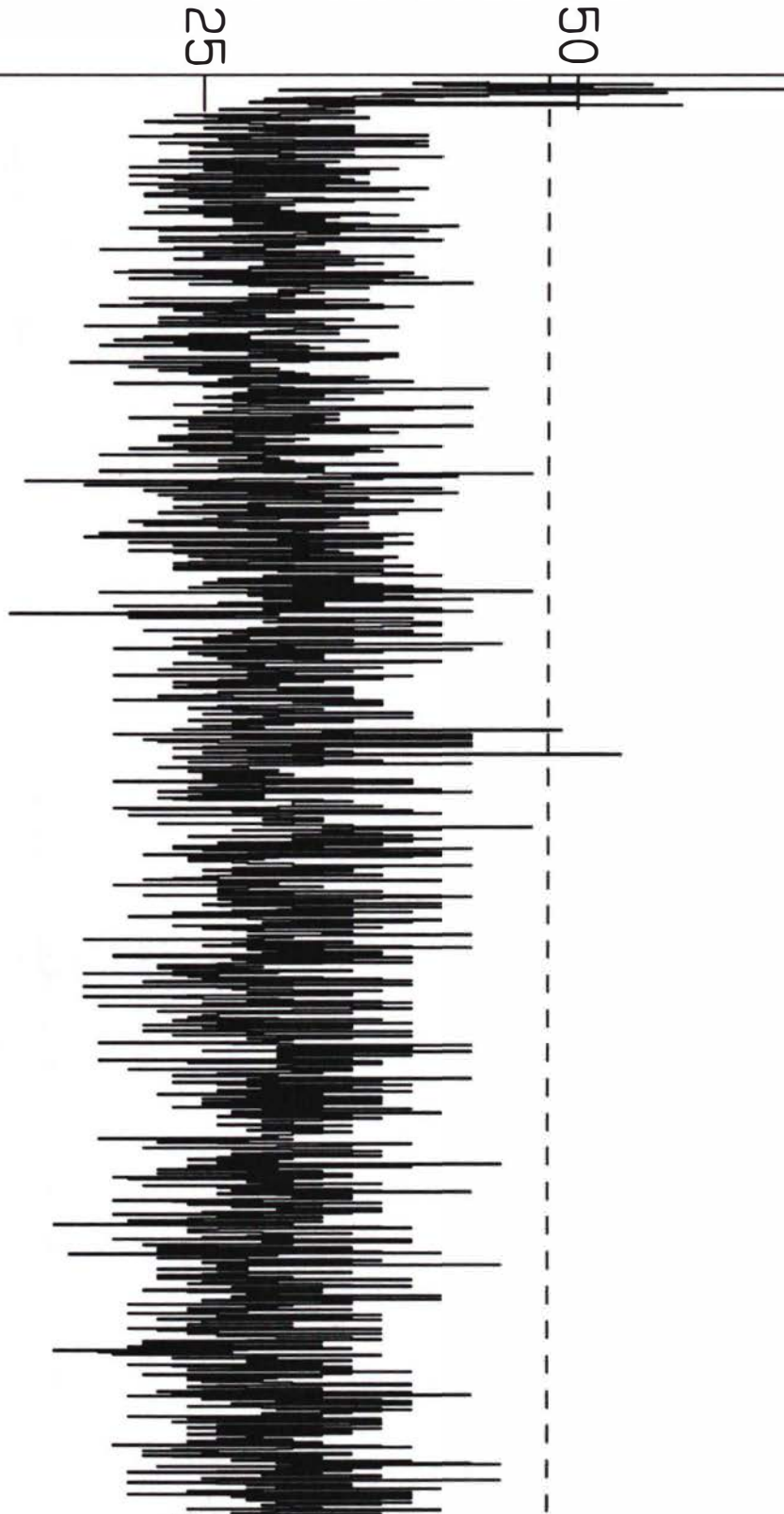
COUNTS/0.064 S

25

50

75

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



10 / 2 / 10

From PETERSON@fender.msfc.nasa.gov Wed Mar 17 12:27:48 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 MAA02957; Wed, 17 Mar 1999 12:27:47 -0800
 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 (8.9.2/8.9.2) with SMTP id MAA28754
 for <khurley@sunspot.ssl.berkeley.edu>; Wed, 17 Mar 1999 12:27:44 -0800 (PST)
 Date: Wed, 17 Mar 1999 14:27:50 -0600 (CST)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990317142750.20219b64@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7472
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7472
 EVENT OF 1999 MAR 15 DAY OF YEAR= 74
 EVENT CROSSING TIME AT BATSE : 59730. S. OR 16:35:30.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 6.000 -63.000
 BATSE PEAK COUNTING RATE: 10800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 15/ 3/ 99 IS:
 RA= 151.514 DEC= -9.102 DIST= 4.154 AU
 BATSE-ULYSSES DISTANCE = 621383086. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 76.79 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 473.72 SECS.
 CROSSING TIME AT ULYSSES IS 60204. S. OR 16:43:23 +/- 407.52 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 15/ 3/ 99 IS:
 RA= 220.367 DEC= -13.410 DIST= 0.787 AU
 MARS-BATSE DISTANCE = 117790528. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 80.92 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 62.04 SECS.
 CROSSING TIME AT MARS IS 59792. S. OR 16:36:32 +/- 68.30 SECONDS

BATSE BURST TRIGGER

NO.: 7472

TIME: TJD=1252 SECONDS=59730

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=38.3 AZIMUTH=108.4 ERROR=2.62 DEGREES

COMMENTS:

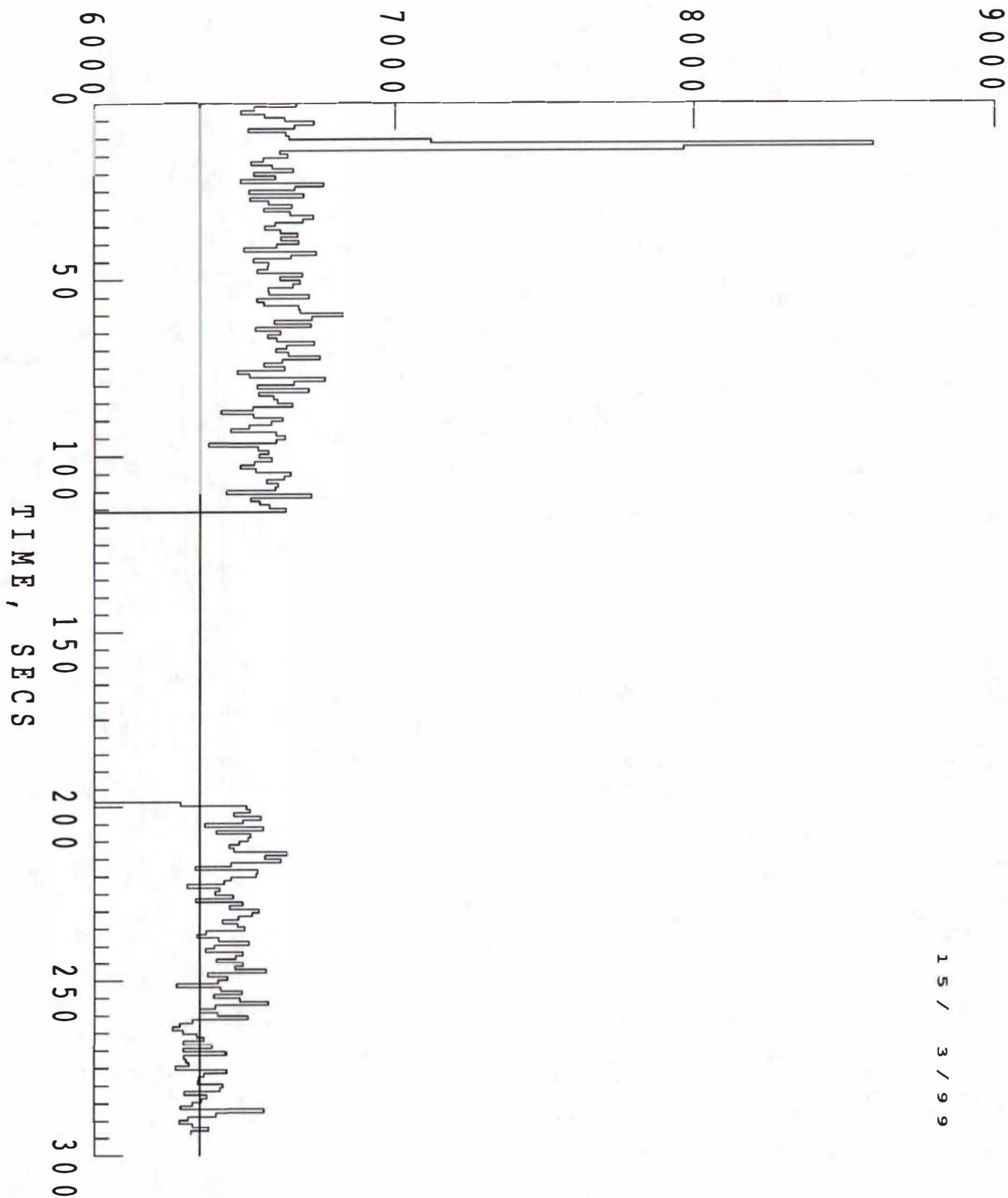
GRB. SINGLE PULSE, DURATION APPROX 5S, STARTS AT APPROX T-1S, MAX AT APPROX
 T+1S. VISBLE ABOVE 300KEV. CRAB SET AT APPROX T+120S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7472	990315	11252	59730	10800	006	-63	5

BACODINE 7472 15/03/99 59719.417

25 - 100 keV

COUNTS/1.024 S



15 / 3 / 99

BATSE BURST# 7472

ULYSSES RT

17 / 3 / 99

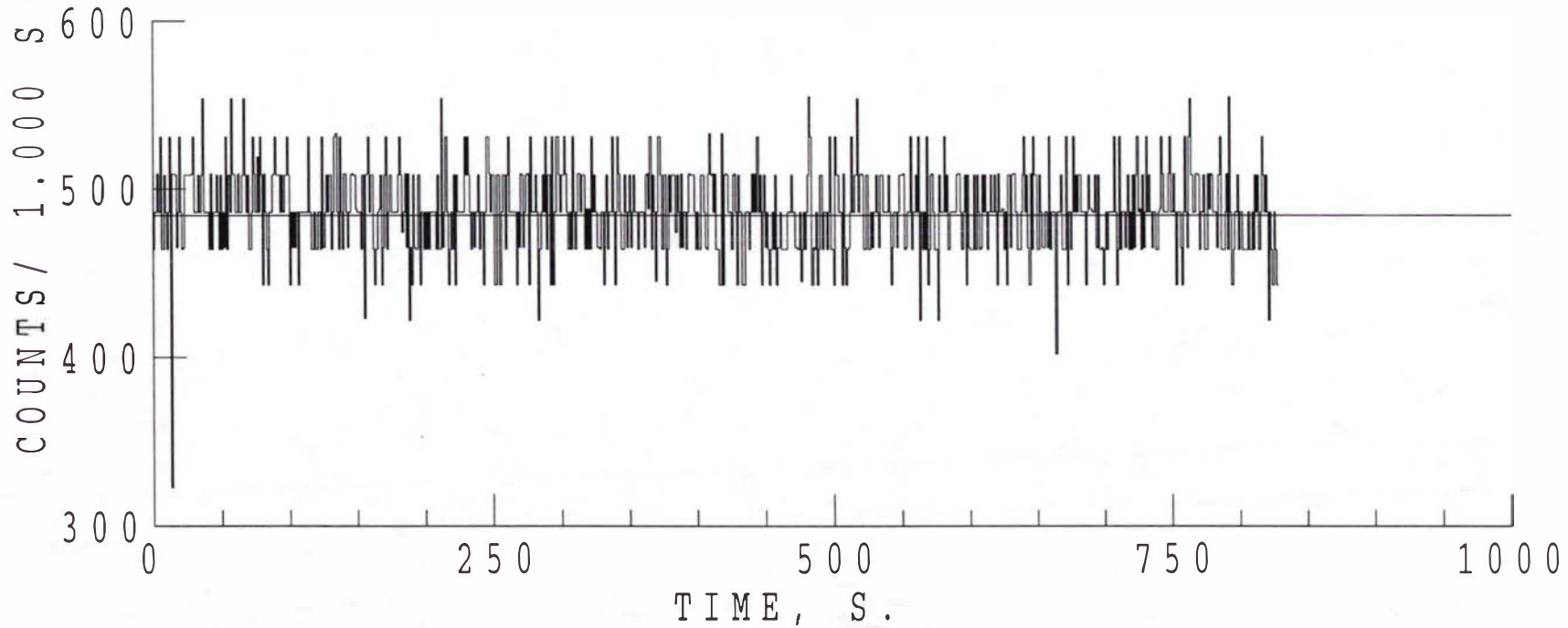
15 / 3 / 99 59796.457 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Wed Mar 17 12:08:57 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 17 Mar 1999 14:08:38 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7473

TIME: TJD=1252 SECONDS=84039

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

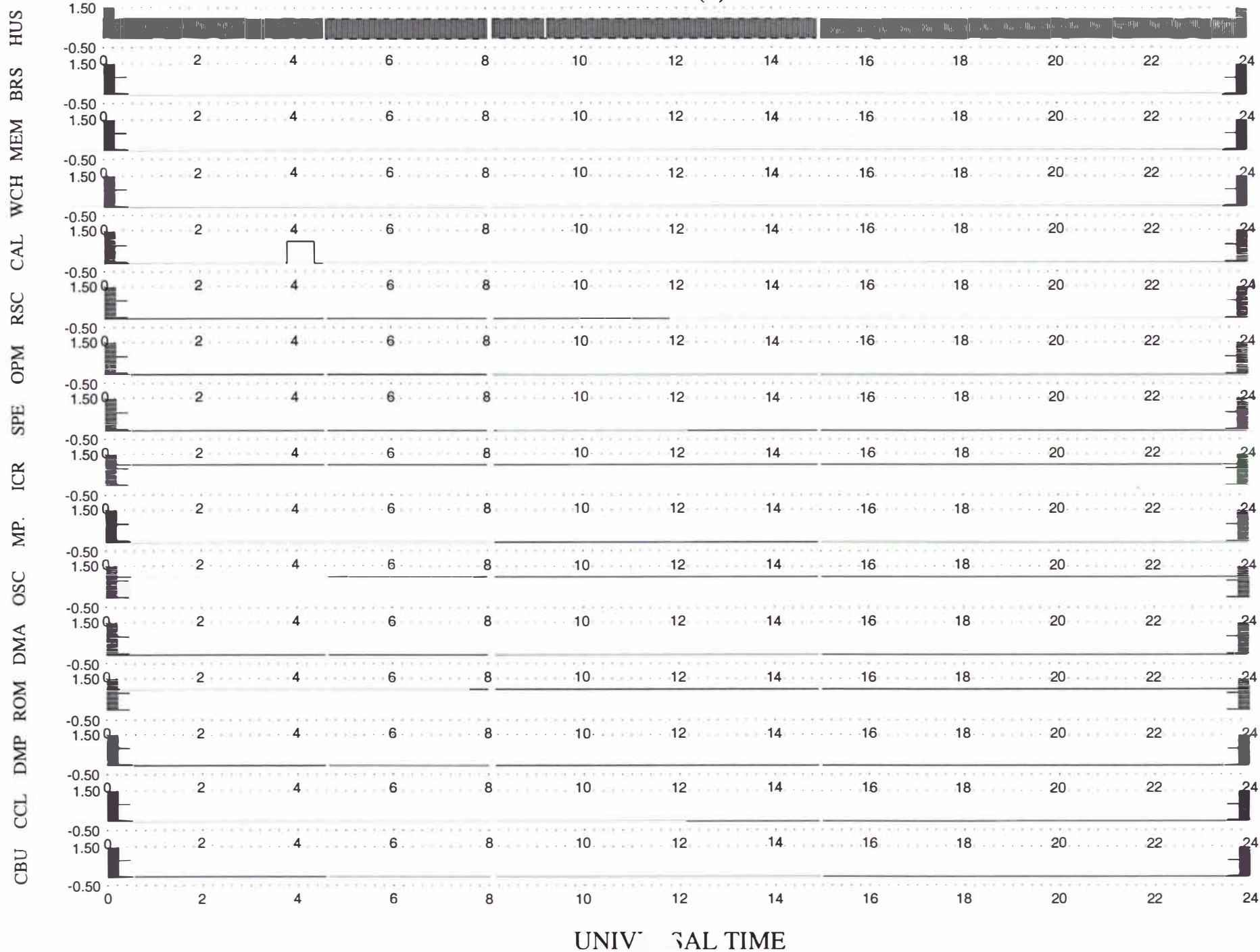
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=26.1 AZIMUTH=274.9 ERROR=0.77 DEGREES

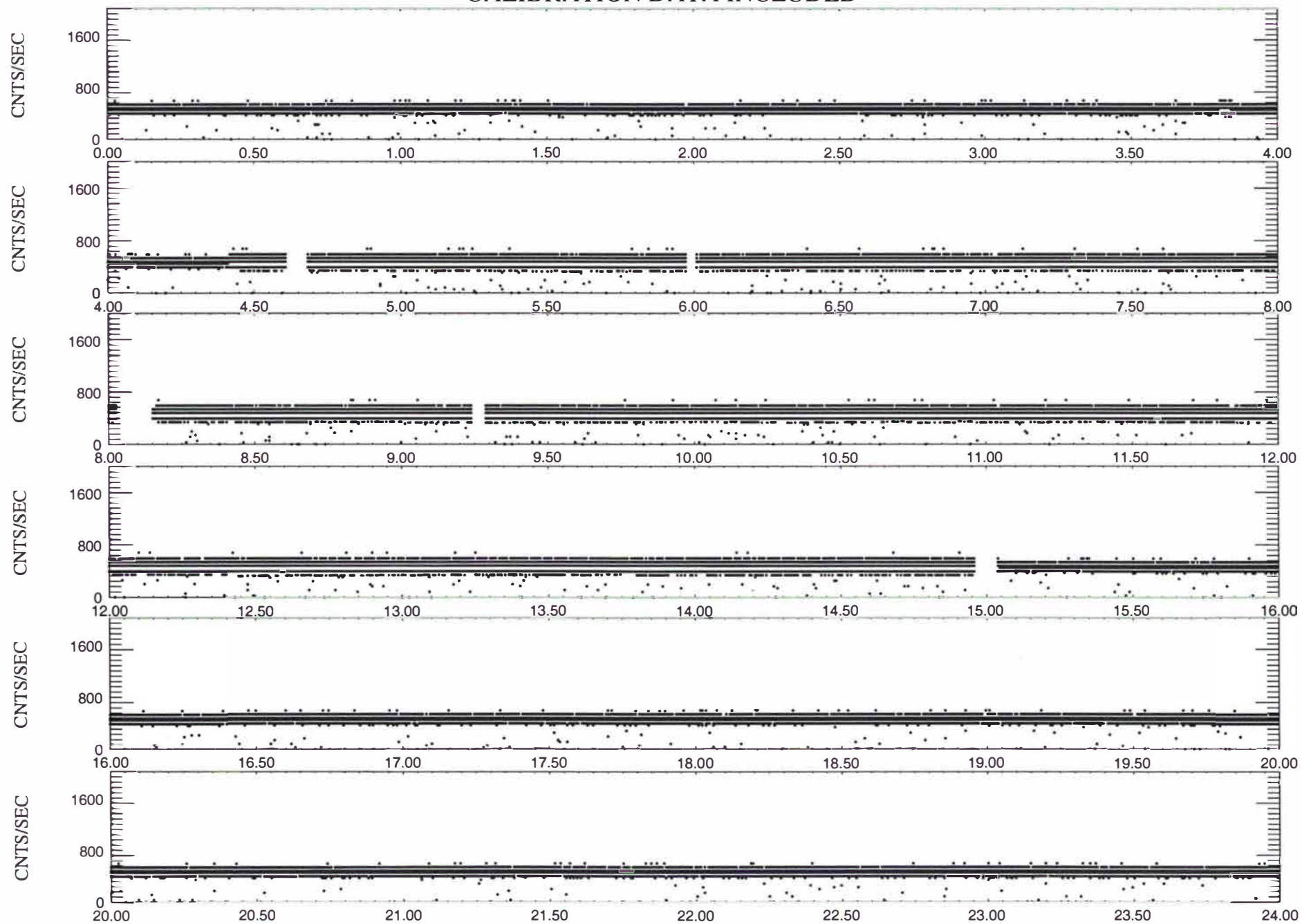
COMMENTS:

GOES C2.0, OPTICAL ID SF. TWO PULSES: PRECURSOR AT APPROX T-90S, TRIGGER PULSE
HAS SUBSTRUCTURE, DURATION APPROX 80S. NOT VISIBLE ABOVE 100KEV.

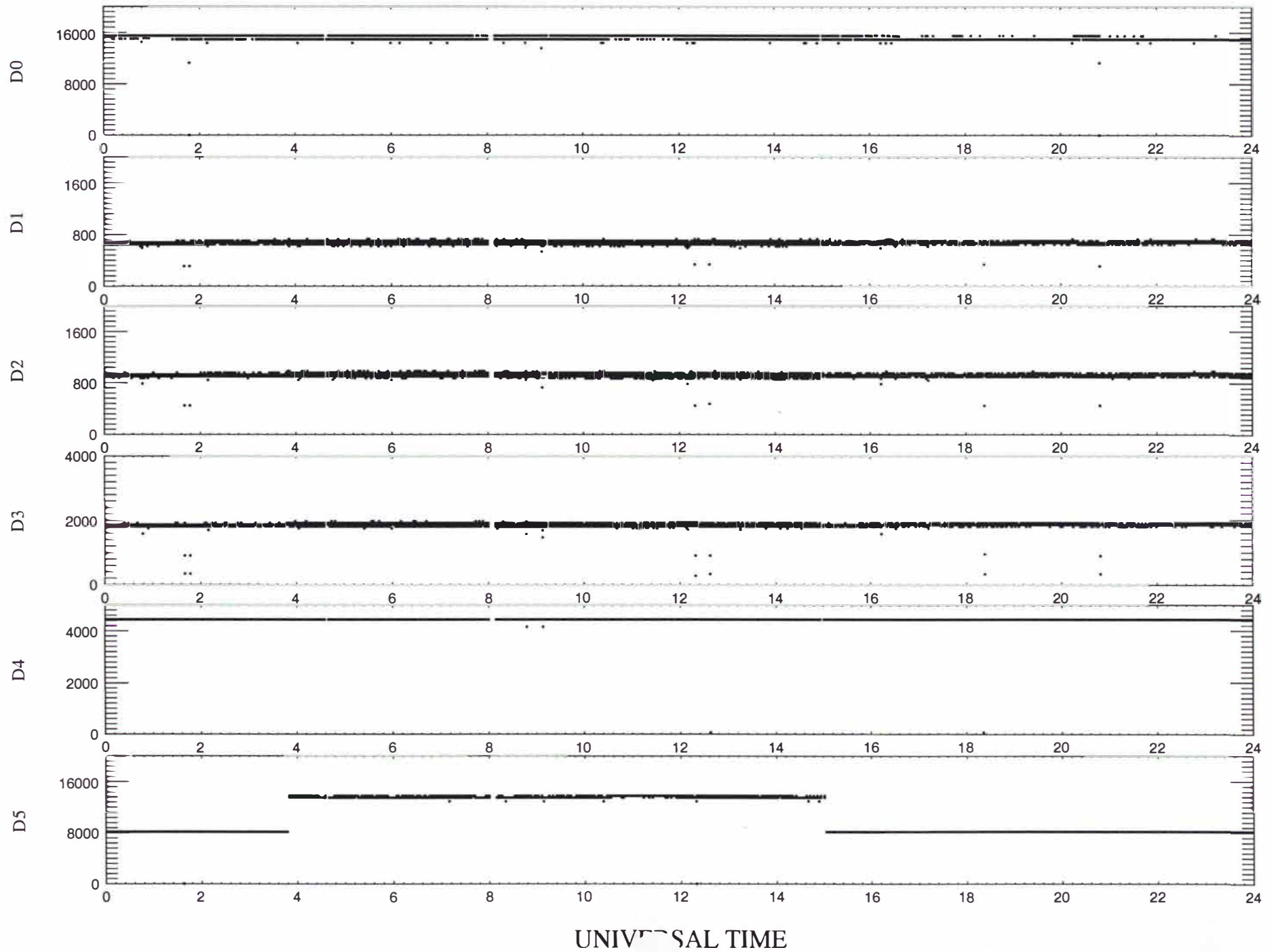
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From PETERSON@fender.msfc.nasa.gov Fri Mar 19 09:31:07 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Fri, 19 Mar 1999 8:16:14 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7474

TIME: TJD=1253 SECONDS=10204

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=23.5 AZIMUTH=275.6 ERROR=1.34 DEGREES

COMMENTS:

GOES C2.2, NO OPTICAL ID. TWO PULSES, FIRST PULSE STARTED AT APPROX T-5S., WITH
DUR APPROX 25S. SECOND PULSE HAS STRUCTURE AND STARTS AT APPROX T+100S., WITH
DUR APPROX 50S. TOTAL DUR APPROX 155S. VISIBLE ABOVE 100KEV.

From WOODSP@fender.msfc.nasa.gov Thu Mar 18 12:24:10 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 MAA19207; Thu, 18 Mar 1999 12:24:09 -0800
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 MAA21683
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 18 Mar 1999 12:24:06 -0800 (PST)
Date: Thu, 18 Mar 1999 14:24:12 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990318142412.20210941@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7475
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7475
EVENT OF 1999 MAR 16 DAY OF YEAR= 75
EVENT CROSSING TIME AT BATSE : 34839. S. OR 09:40:39.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 152.000 -4.000
BATSE PEAK COUNTING RATE: 12000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 3/ 99 IS:
RA= 151.357 DEC= -9.075 DIST= 4.156 AU
BATSE-ULYSSES DISTANCE = 621710941. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=174.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2065.55 SECS.
CROSSING TIME AT ULYSSES IS 32773. S. OR 09:06:13 +/- 50.73 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 3/ 99 IS:
RA= 220.402 DEC= -13.426 DIST= 0.780 AU
MARS-BATSE DISTANCE = 116615432. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=111.92 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -145.23 SECS.
CROSSING TIME AT MARS IS 34694. S. OR 09:38:13 +/- 60.44 SECONDS

BATSE BURST TRIGGER

NO.: 7475

TIME: TJD=1253 SECONDS=34839

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

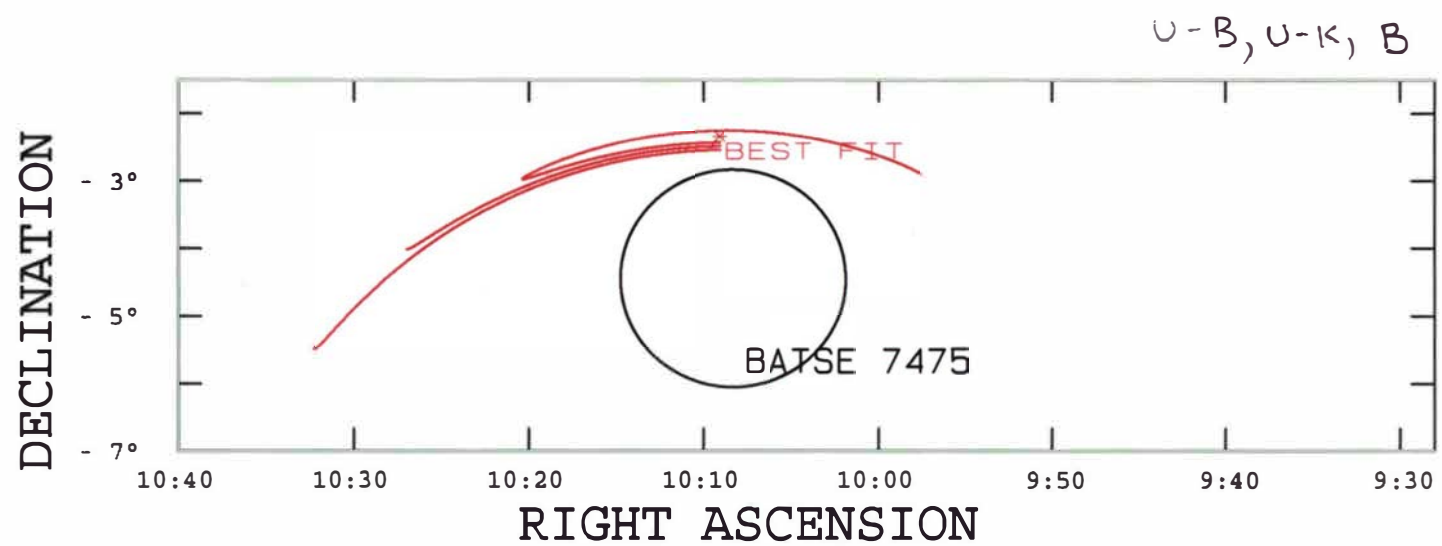
INTENSITY: COUNTS/CM2

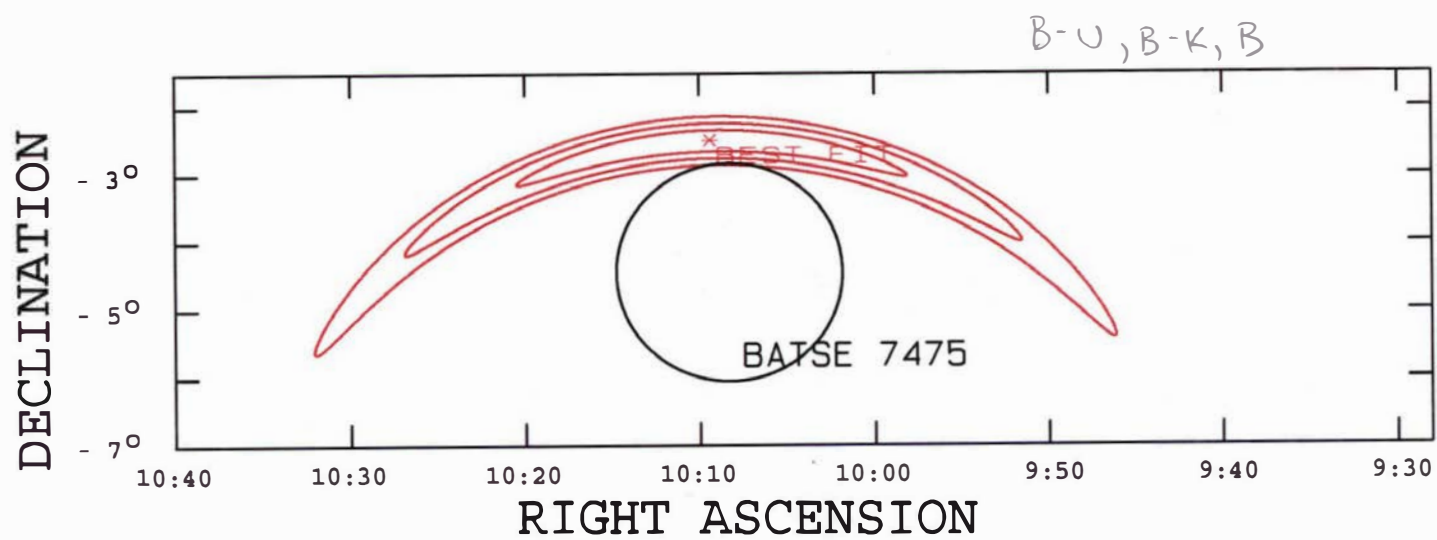
LOCATION: ZENITH=143.8 AZIMUTH=135.7 ERROR=0.3 DEGREES

COMMENTS:

GRB LASTING ABOUT 160 SEC. THREE PULSES WITH THE LAST (TRIGGERED)
PULSE BEING THE BRIGHTEST. TRIGGERED PULSE HAS SMOOTH PROFILE
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7475	990316	11253	34839	12000	152	-04	160



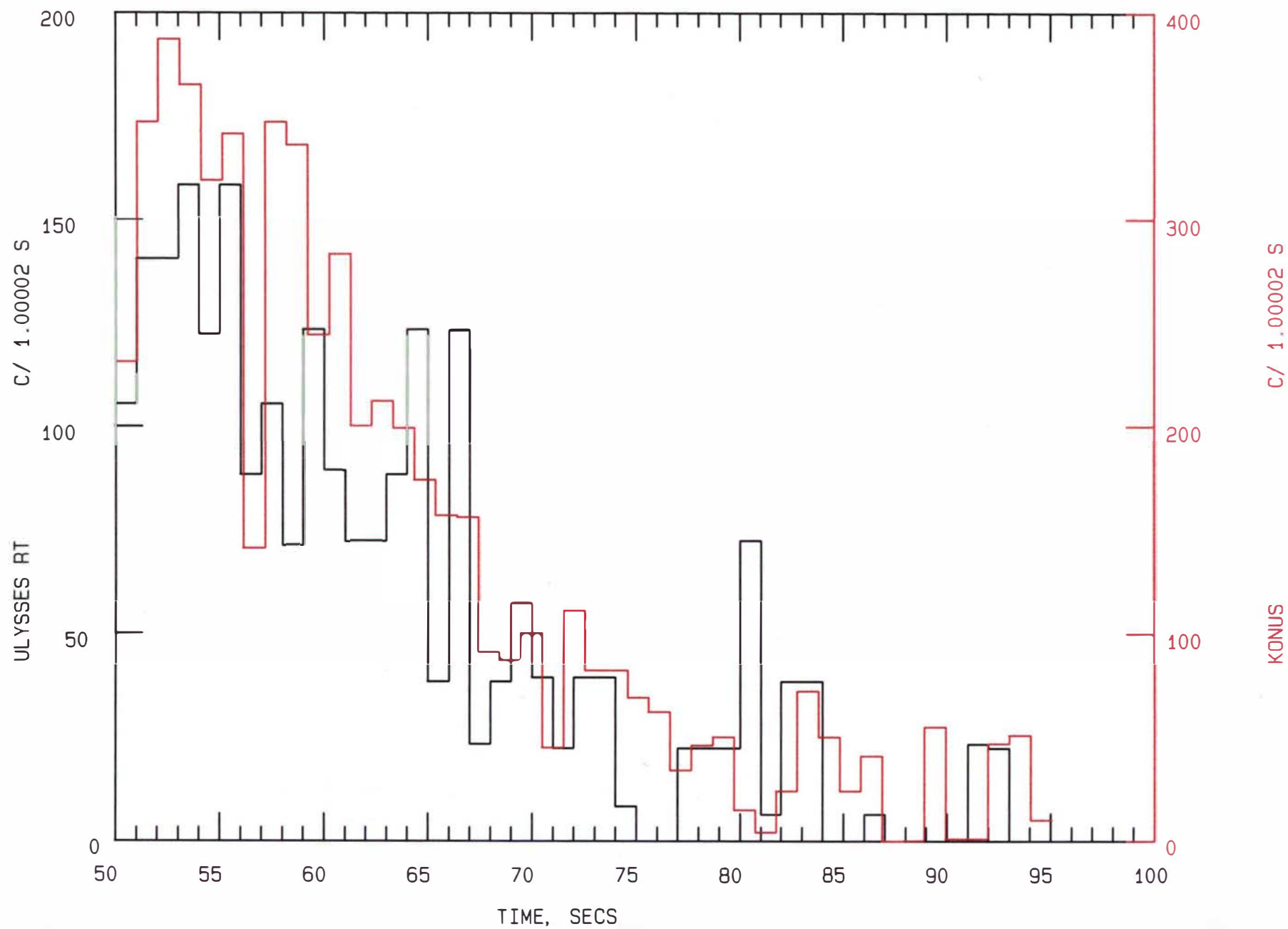


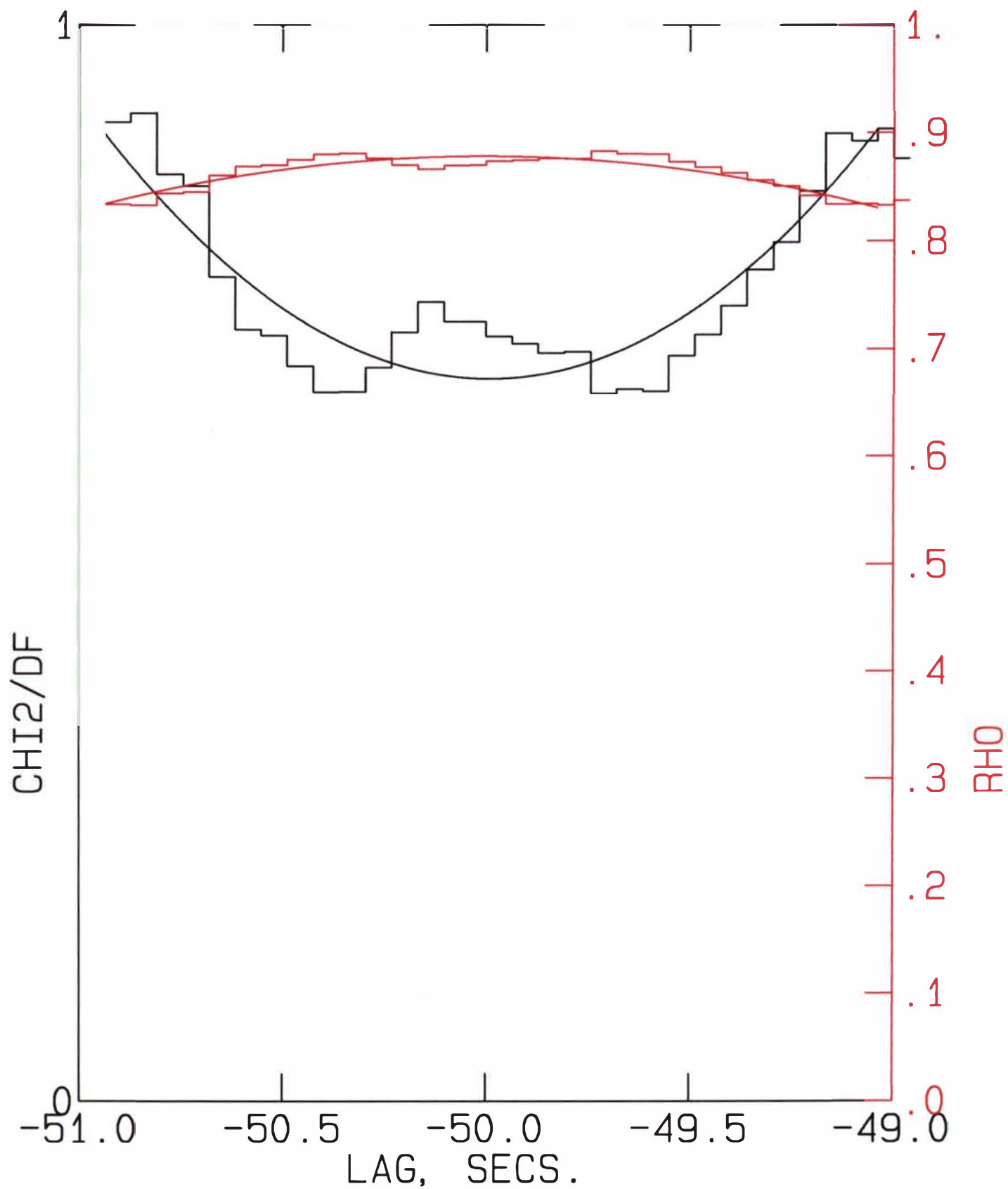
ULYSSES RT-KONUS

CORRELATION

16/ 3/99 32737.067

27/ 4/ 0





BATSE

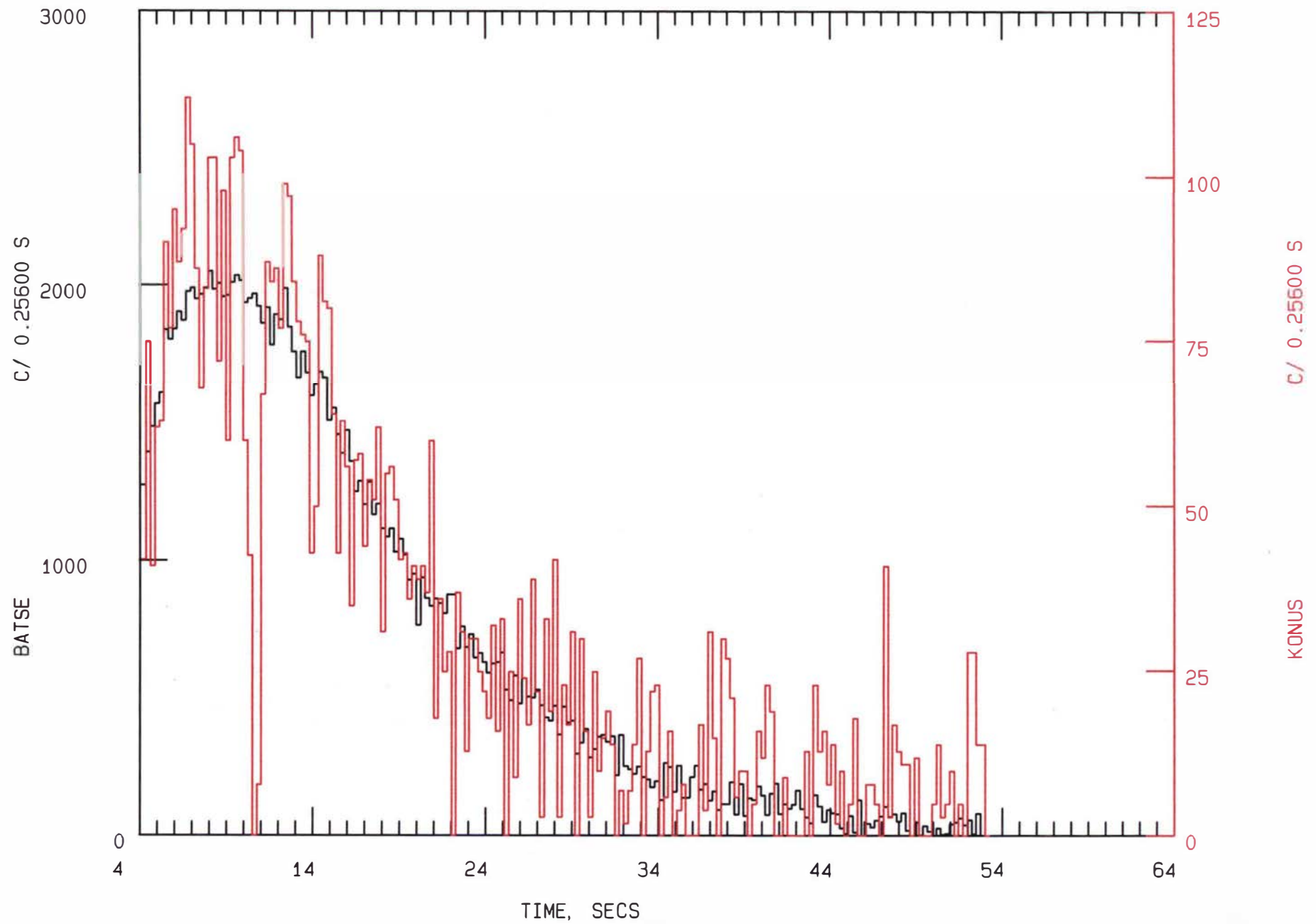
-KONUS

CORRELATION

16/ 3/99

34839.545

27/ 4/ 0



BATSE

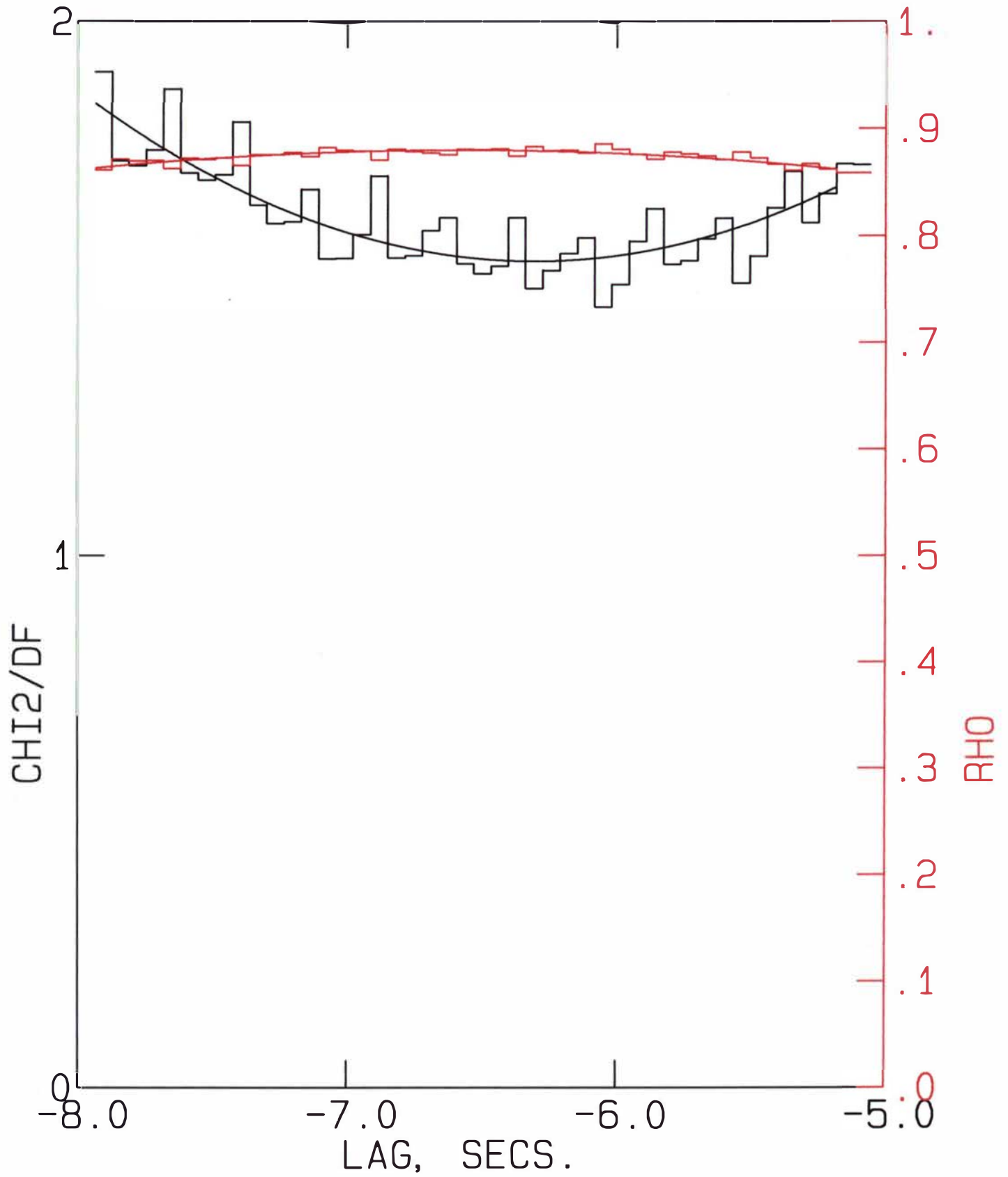
-KONUS

CORRELATION

16/ 3/99

34839.545

27/ 4/ 0



Date: 25/1/00

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

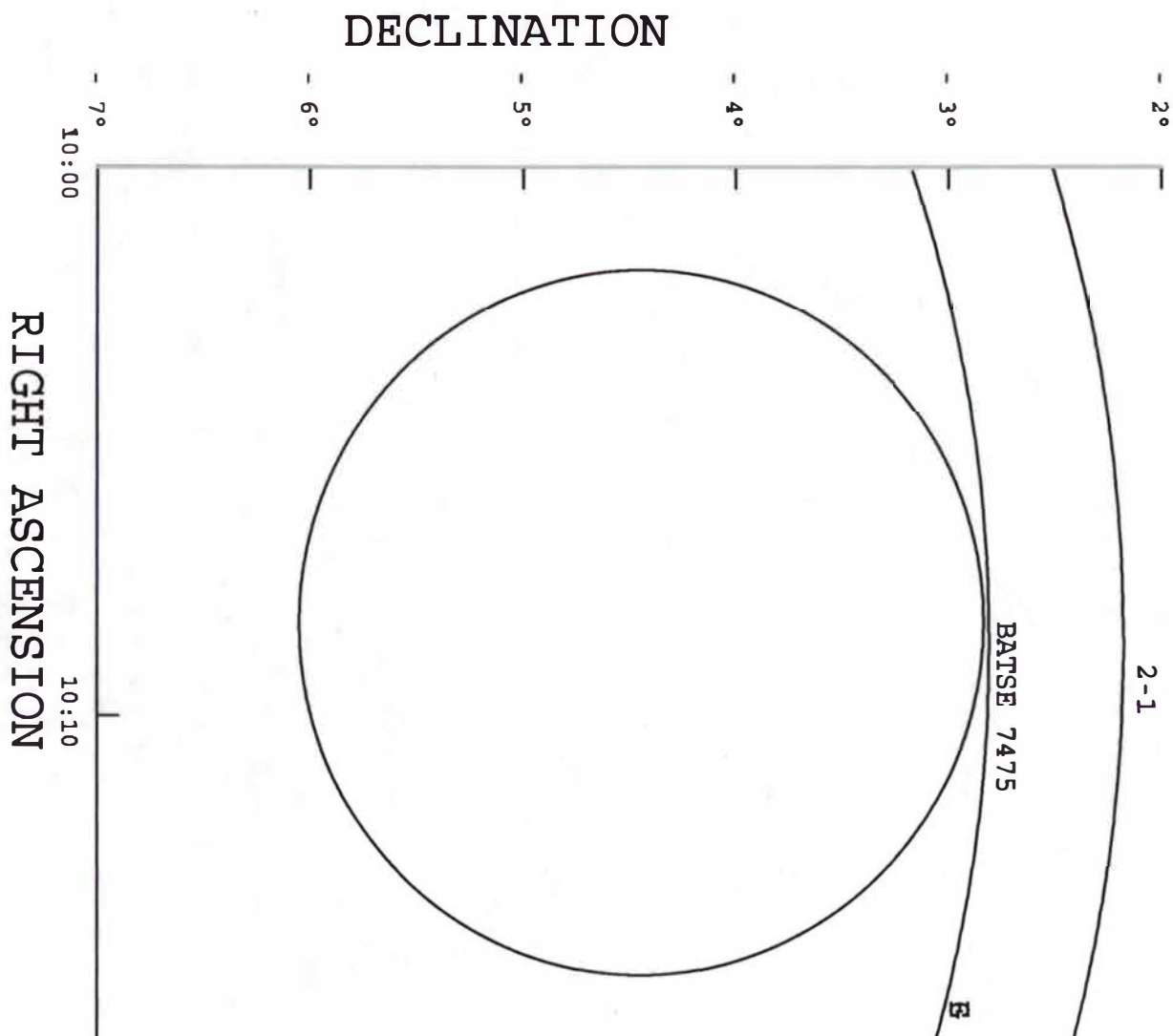
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAR 16, 1999 9:40

25 / 1 / 0



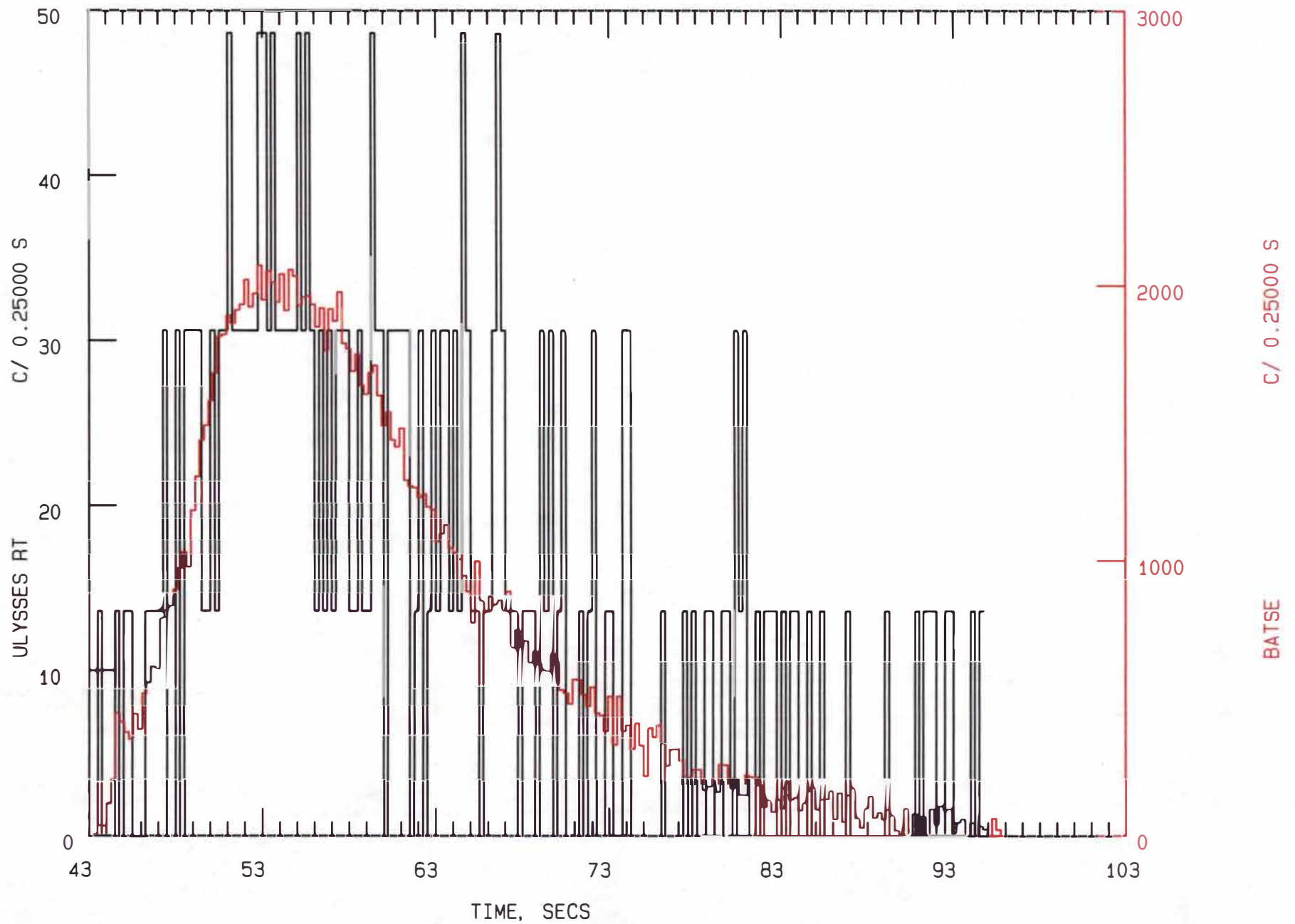
ULYSSES RT-BATSE

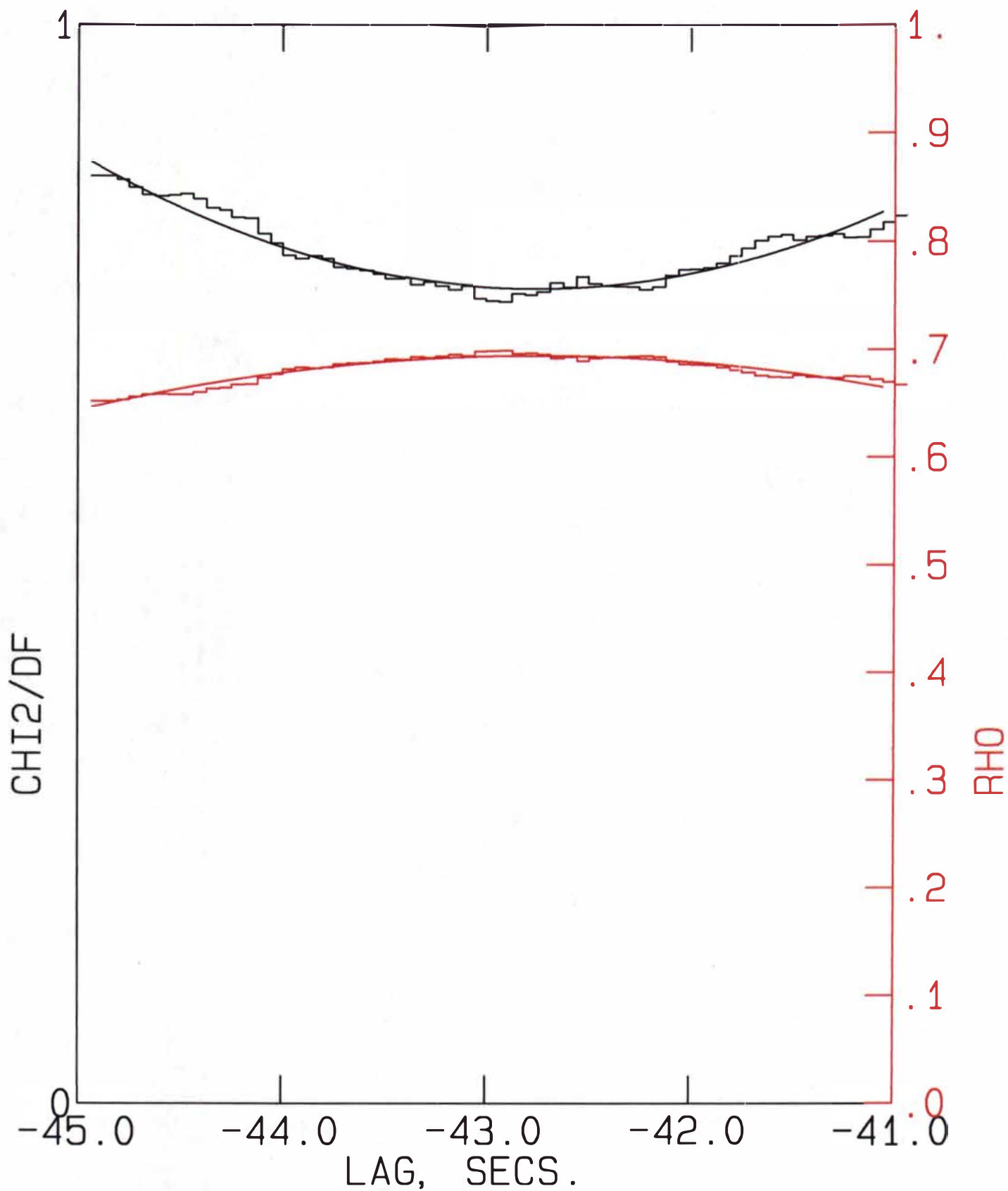
CORRELATION

16/ 3/99

32737.067

25/ 1/ 0

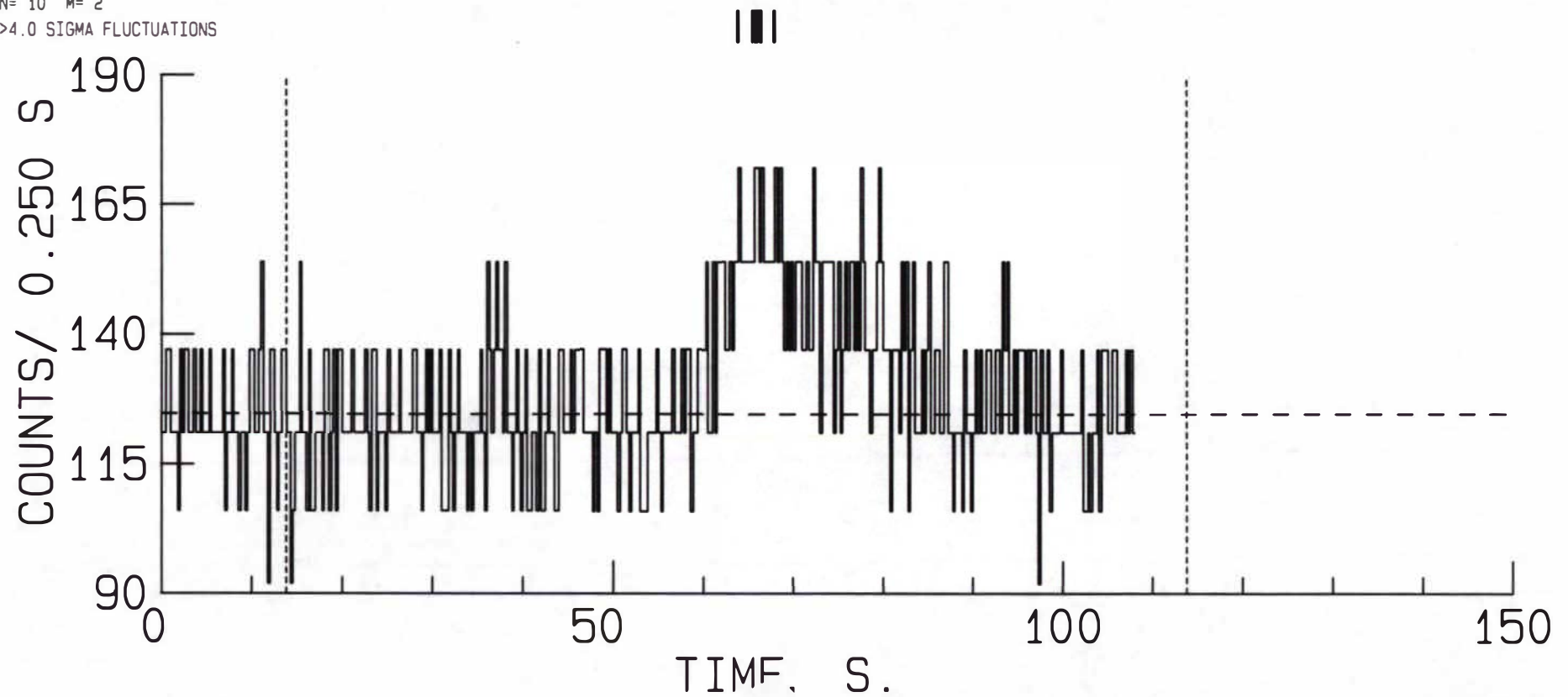




ULYSSES RT
16/ 3/99 32724.063 s
22- 150 keV

25 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

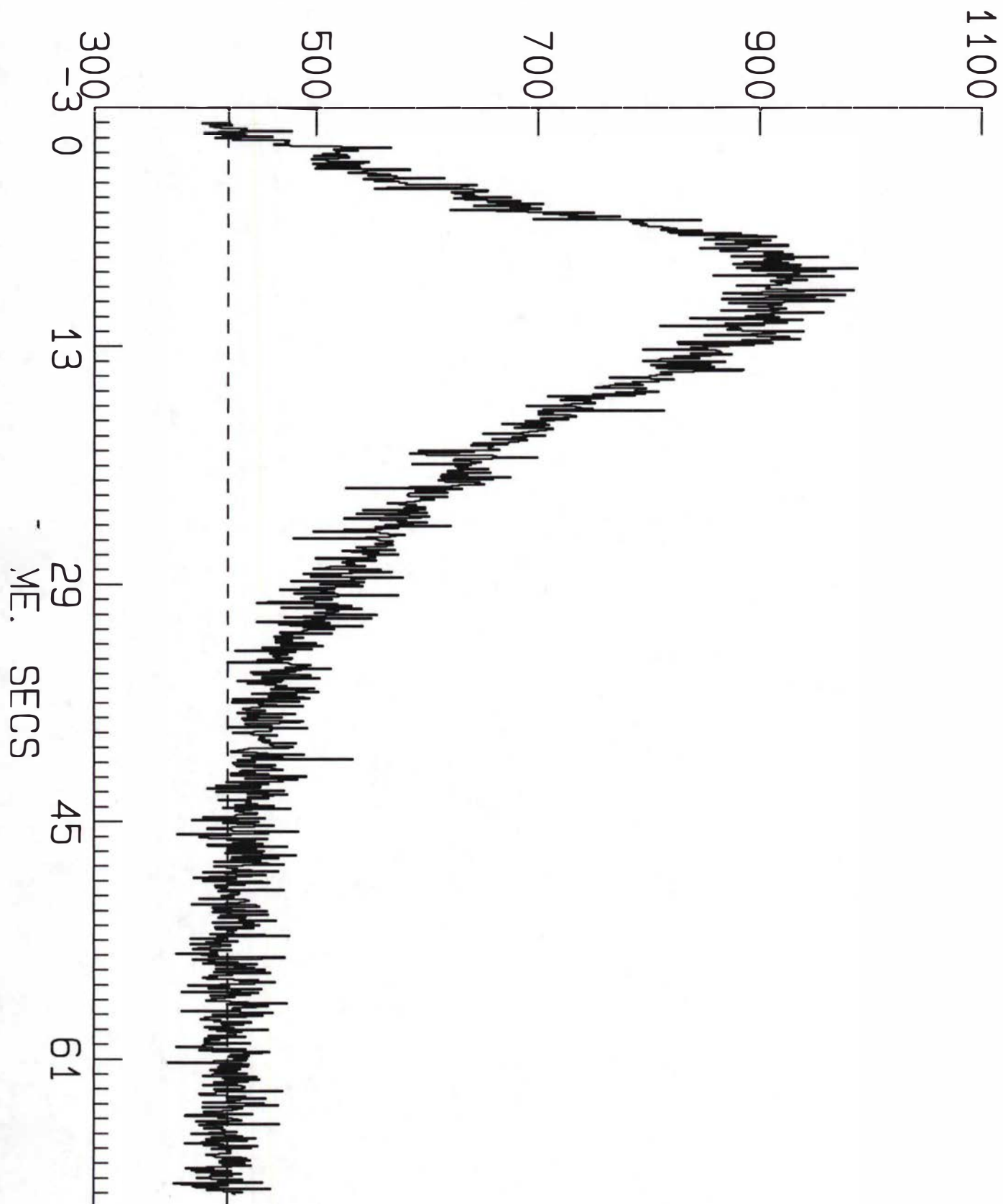
16/03/99

34839.545

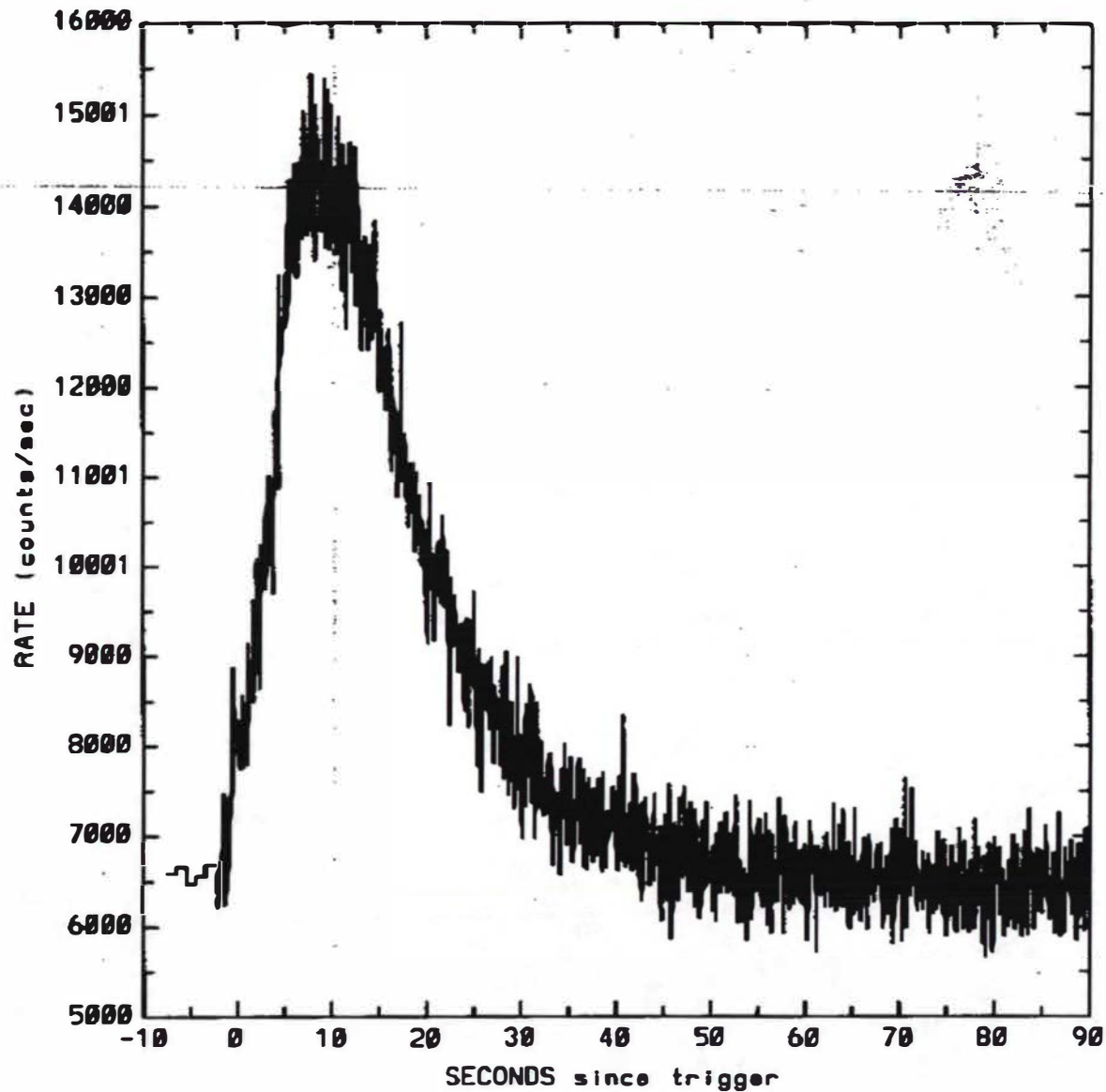
25- 100 keV

COUNTS/0.064 S

24 / 3 / 99



DISCSC Data for K. Hurley, No. 7475



19-MAR-1999 08:50.23

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

Trigger # : 7475

Trigger Time:
11253 / 34839.545

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PRED + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
[1..2]

Quality Mask:
BDSP1

From PETERSON@fender.msfc.nasa.gov Fri Mar 19 09:31:07 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Fri, 19 Mar 1999 8:21:43 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7476

TIME: TJD=1253 SECONDS=43288

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=29.4 AZIMUTH=275.3 ERROR=1.04 DEGREES

COMMENTS:

OVERWRITTEN. GOES C2.3, NO OPTICAL ID. SMOOTH SINGLE PULSE, DUR APPROX 70S. NOT
VISIBLE ABOVE 100KEV.

From WOODSP@fender.msfc.nasa.gov Thu Mar 18 12:25 PST 1999
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 MAA21726
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 18 Mar 1999 12:25:26 -0800
From: WOODSP@fender.msfc.nasa.gov
Date: Thu, 18 Mar 1999 14:25:33 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990318142533.20210941@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7477
Content-Type: text
Content-Length: 1135
Status: R

BATSEARCH PROGRAM

BATSE BURST # 7477
EVENT OF 1999 MAR 16 DAY OF YEAR= 75
EVENT CROSSING TIME AT BATSE : 44939. S. OR 12:28:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 103.000 -6.000
BATSE PEAK COUNTING RATE: 13200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 3/ 99 IS:
RA= 151.331 DEC= -9.070 DIST= 4.156 AU
BATSE-ULYSSES DISTANCE = 621767296. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=132.02 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1388.32 SECS.
CROSSING TIME AT ULYSSES IS 43551. S. OR 12:05:50 +/- 296.42 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 3/ 99 IS:
RA= 220.402 DEC= -13.426 DIST= 0.780 AU
MARS-BATSE DISTANCE = 116615432. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 65.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 163.73 SECS.
CROSSING TIME AT MARS IS 45103. S. OR 12:31:42 +/- 63.75 SECONDS

BATSE BURST TRIGGER

NO.: 7477

TIME: TJD=1253 SECONDS=44939

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=104.7 AZIMUTH=174.6 ERROR=1.6 DEGREES

COMMENTS:

GRB LASTING ABOUT 120 SEC. SPIKEY TIME PROFILE. VISIBLE ABOVE
10 KEV. CYG X-1 SET AT T+53 SEC. COINCIDENT SOLAR FLARE (B9.3)
... TIME OF BURST.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7477	990316	11253	44939	13200	103	-06	120

Date: 25/1/00

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

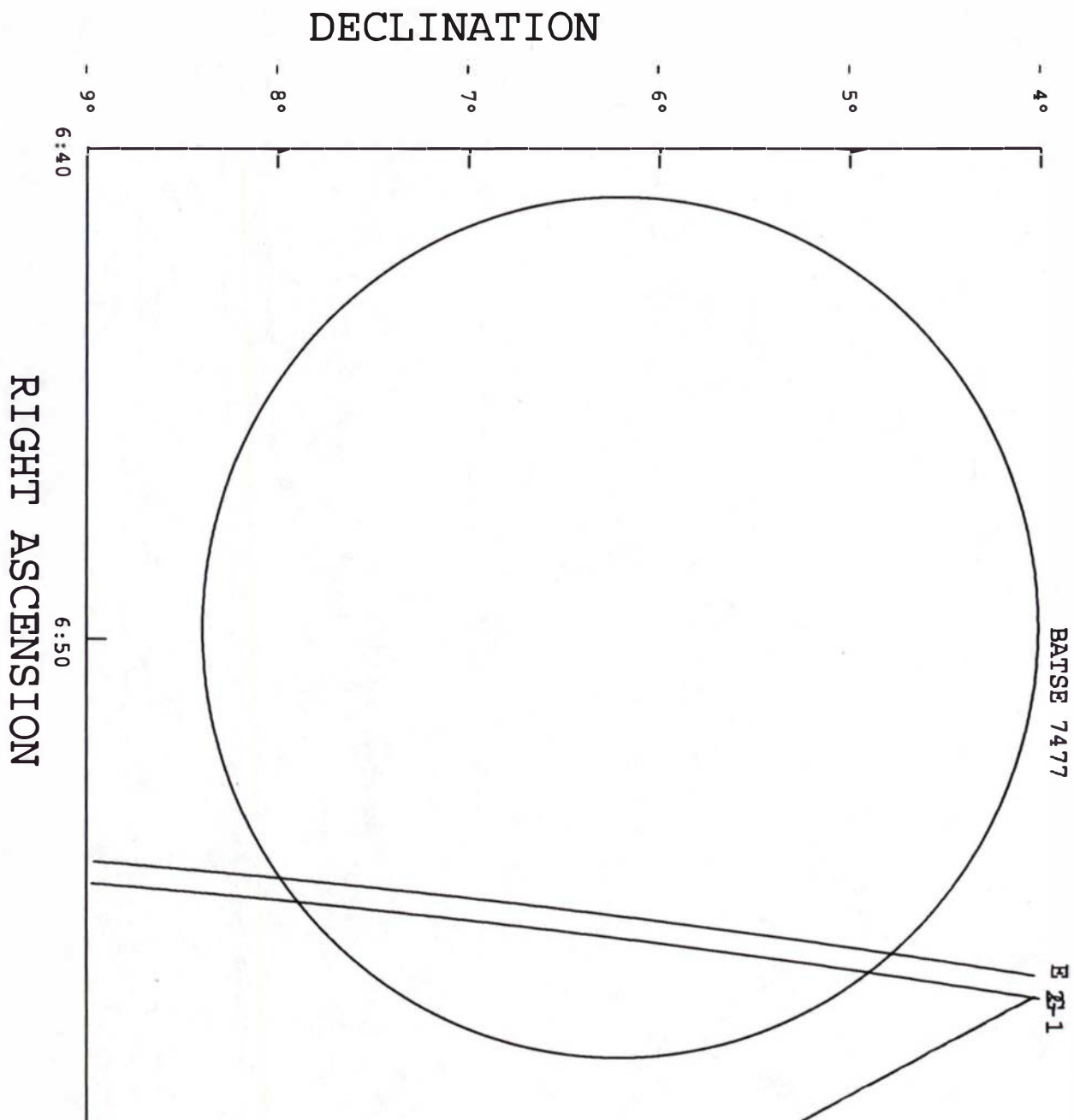
G=GALACTIC EQUATOR

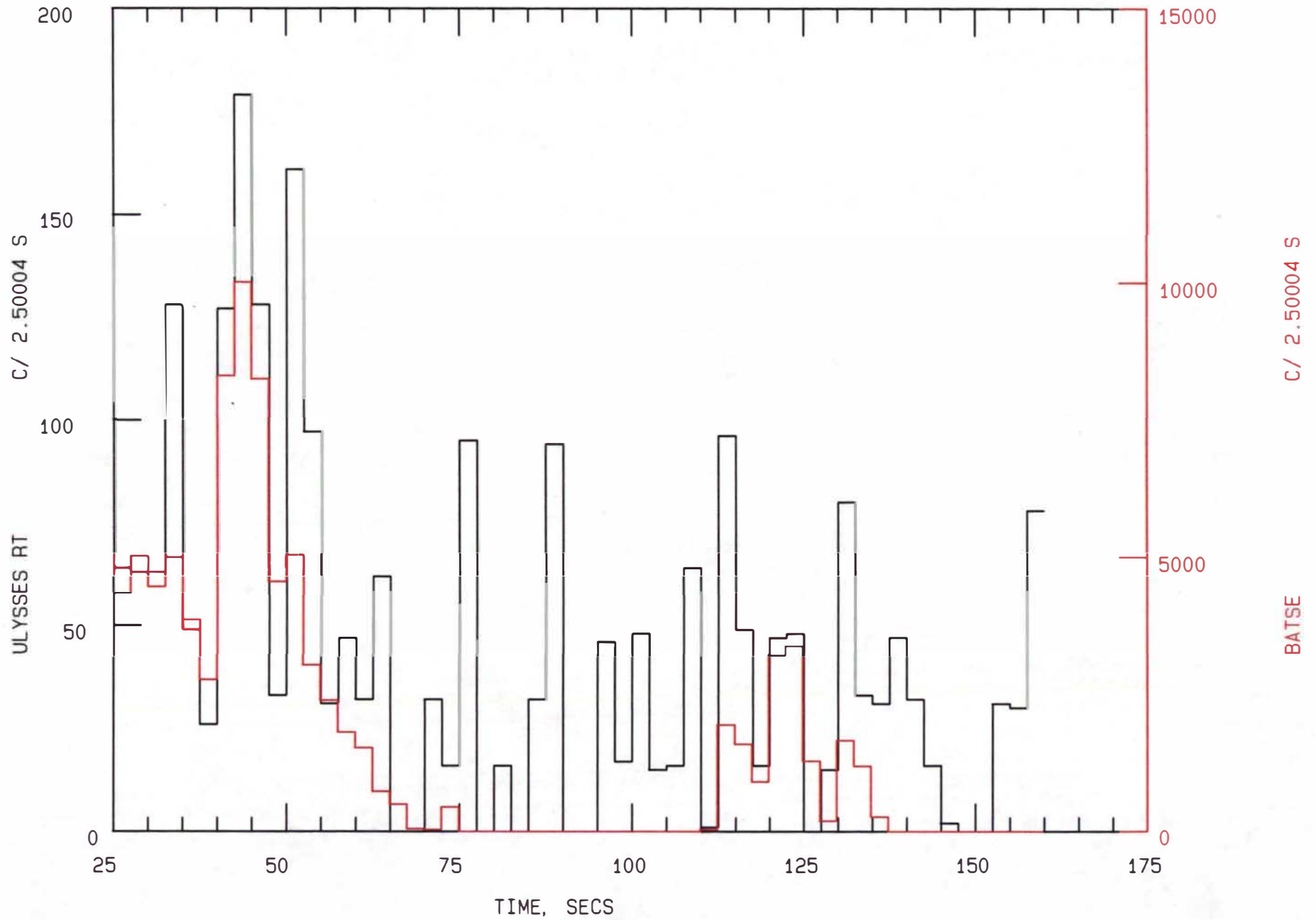
1 BATSE

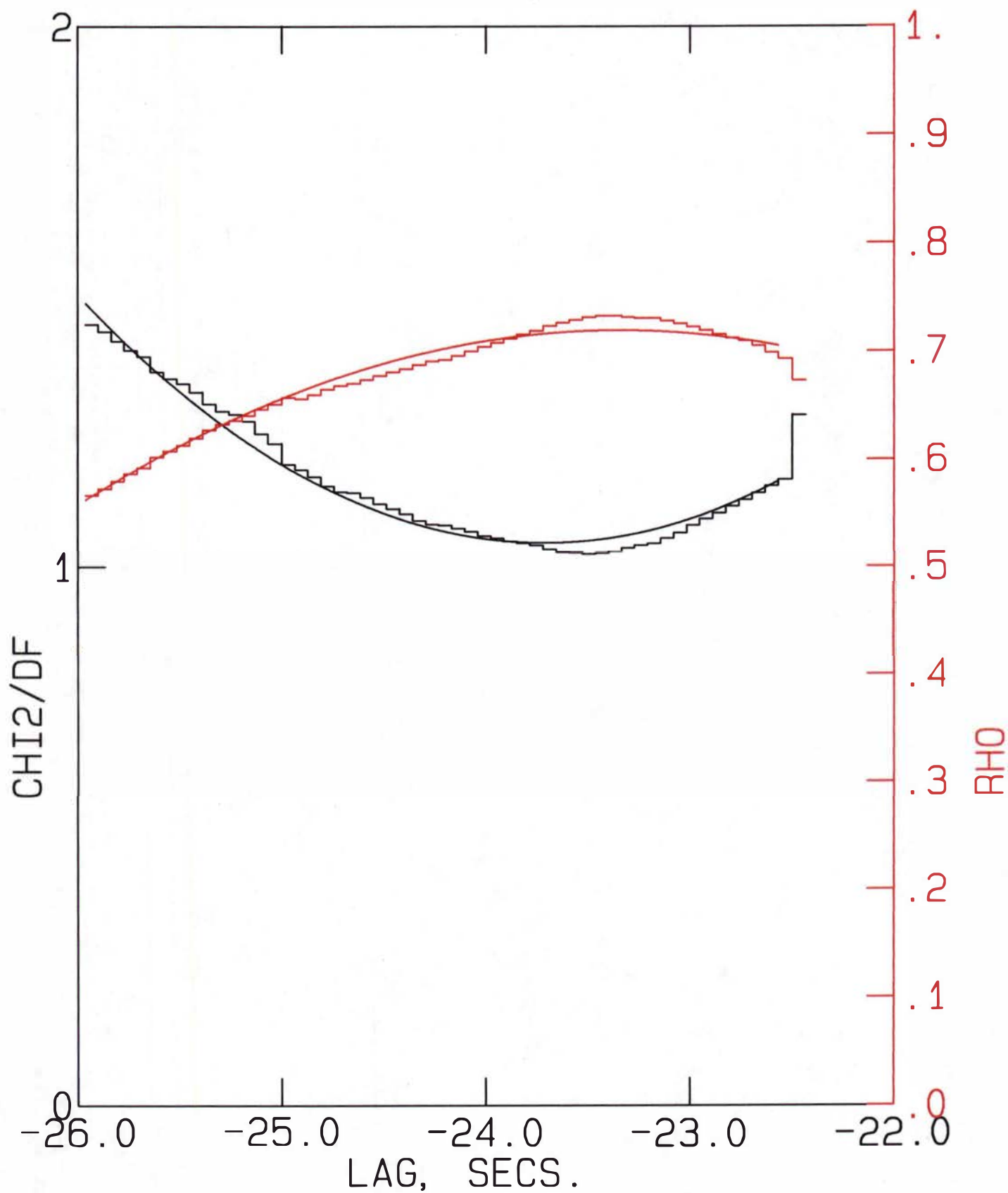
2 ULYSSES

EVENT OF MAR 16, 1999 12:28

25 / 1 / 0

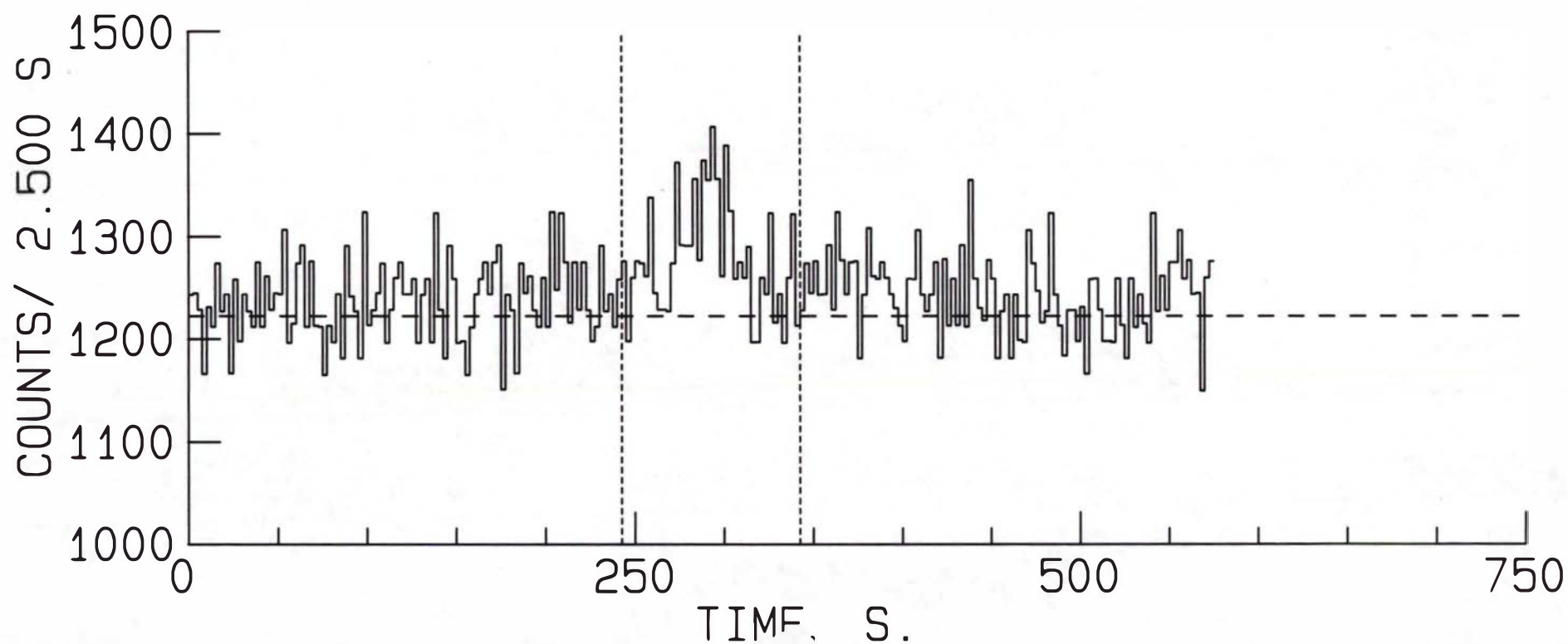






ULYSSES RT
16/ 3/99 43272.171 s
0.250 S INTERVALS REGROUPED BY 10
22- 150 keV

25 / 1 / 0



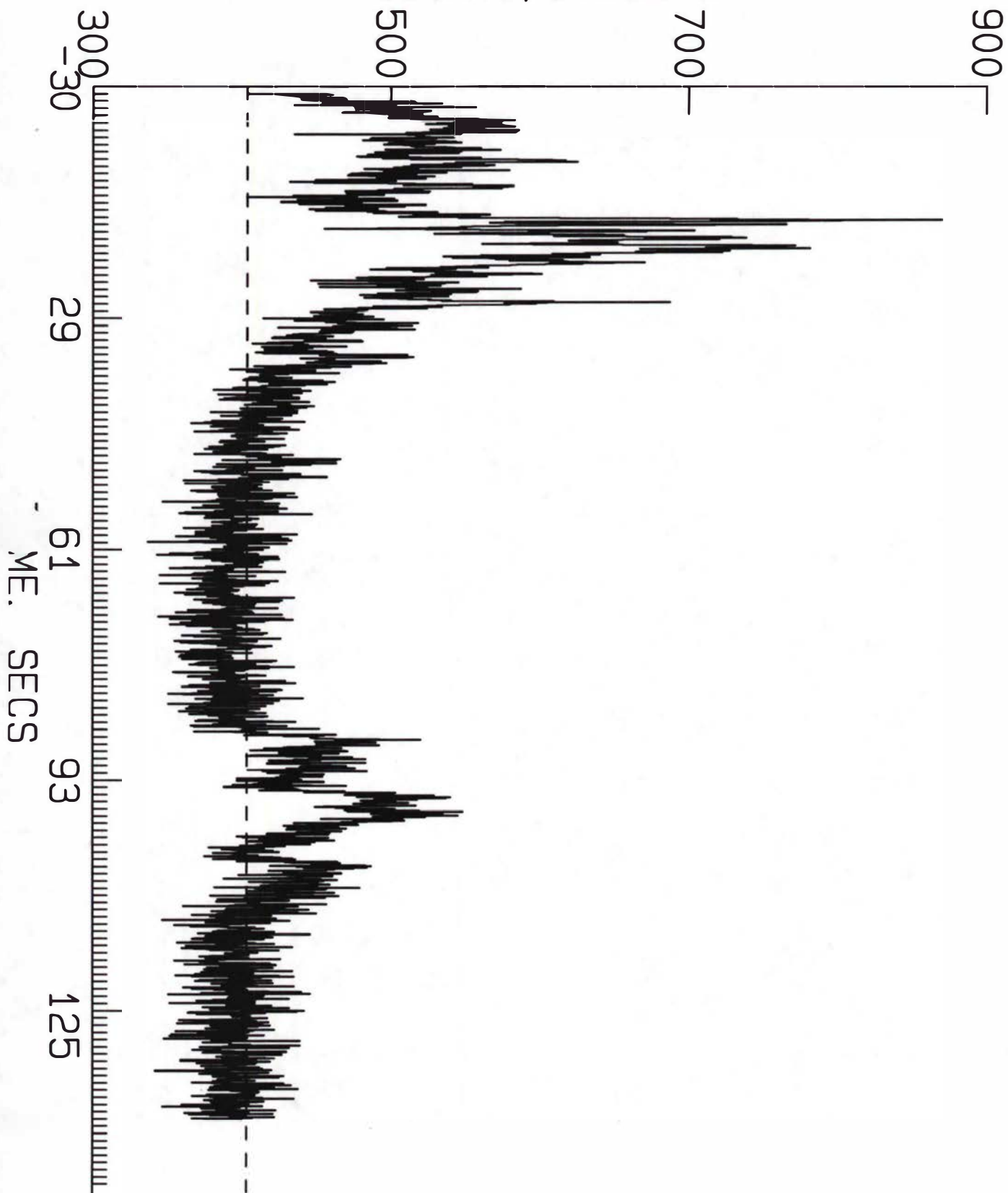
BATSE

16/03/99

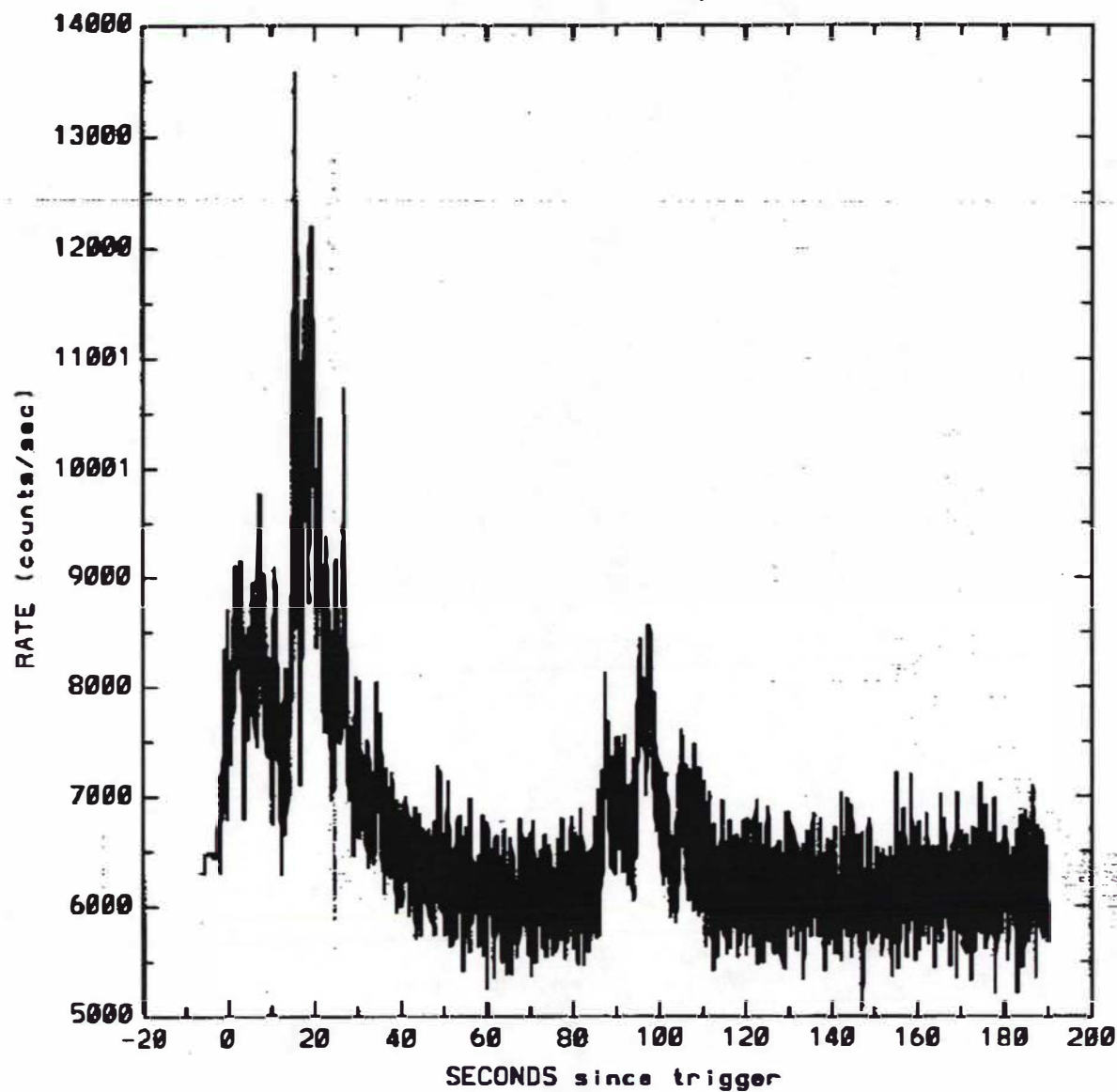
44939.513

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7477



24-MAR-1999 07:54:14

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

Trigger # : 7477

Trigger Time:
11253 / 44939.513

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.066 seconds

Detectors [7..8].

Discriminators:
(1..2)

Quality Mask:
BDISP1

JANA TAB2 19990316 63084

ULYSSES RT

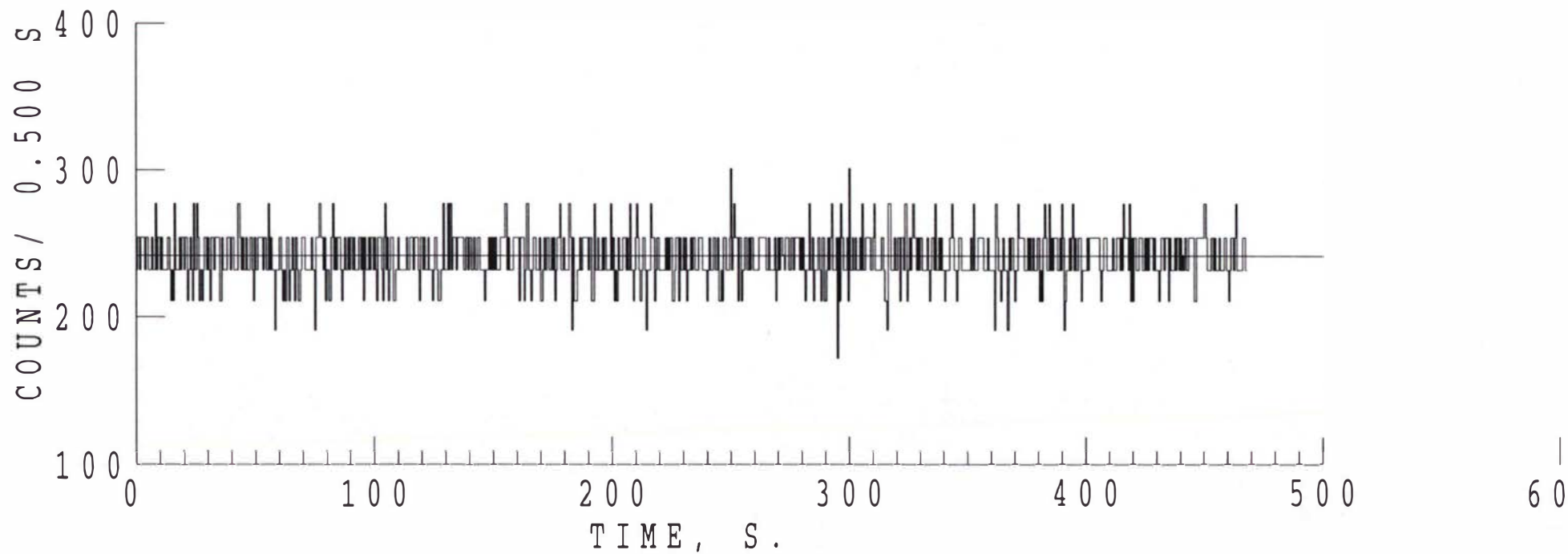
05/08/05

16/03/99 62856.367 s

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Mar 18 11:21:07 1999
Date: Thu, 18 Mar 1999 13:20:40 -0600 (CST)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7479

TIME: TJD=1253 SECONDS=77877

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

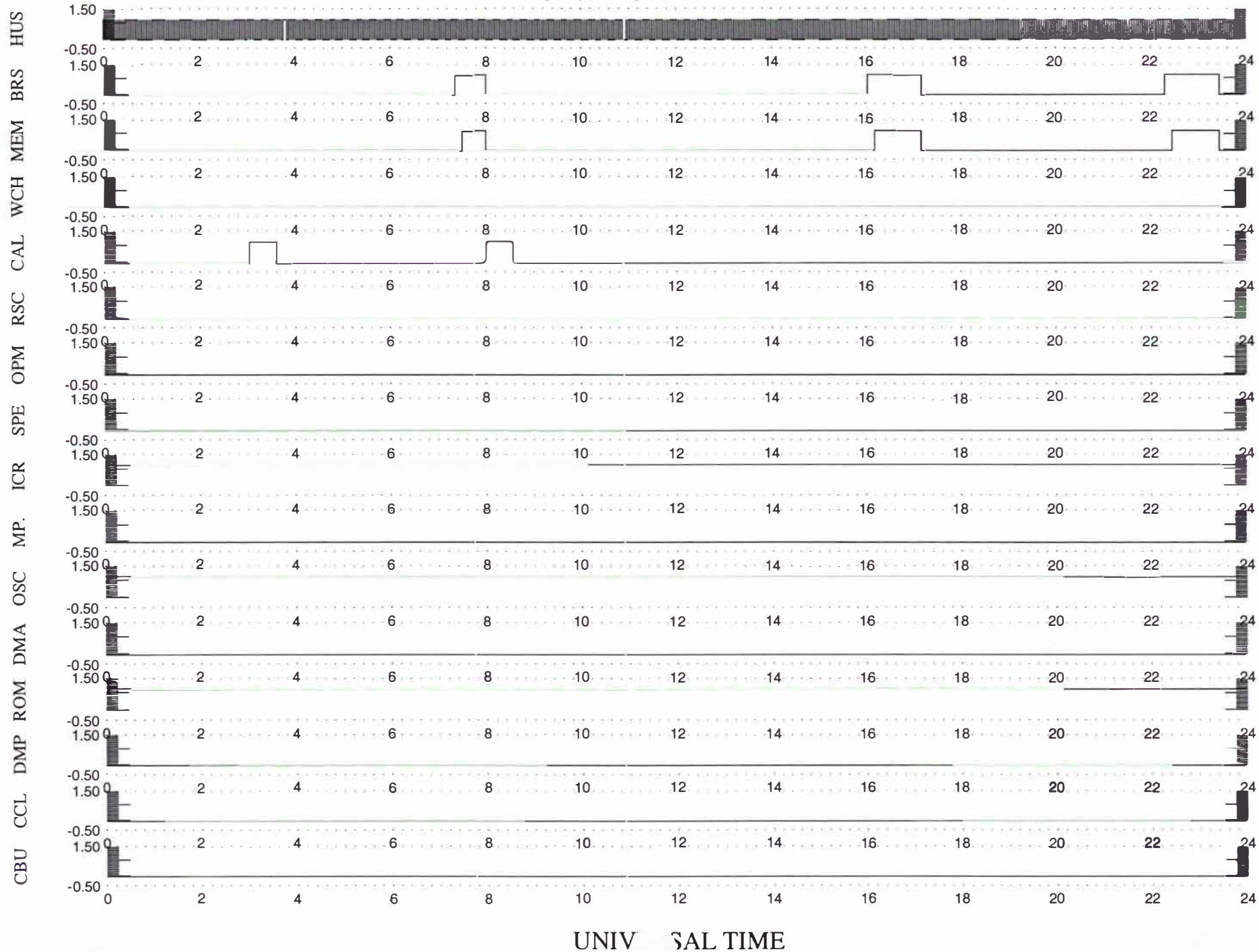
LOCATION: ZENITH=112.7 AZIMUTH=333.0 ERROR= 0.2 DEGREES

COMMENTS:

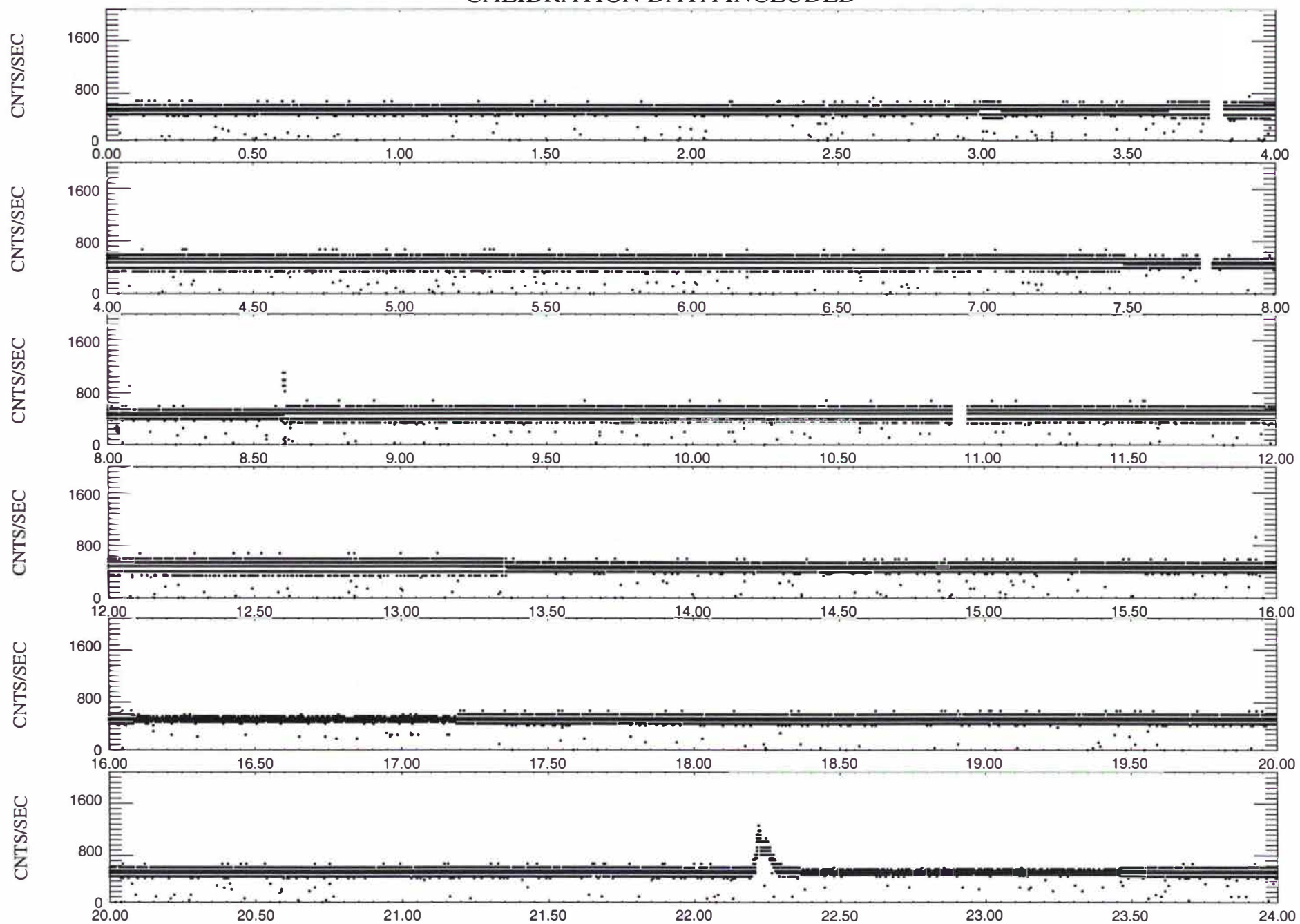
GOES M6.2, OPTICAL 2N FLARE. COMPLEX, DUR. APPROX. 350 S.
NOT VISIBLE ABOVE 300 KEV.

7478 is SGR 1900

BURST NUMBER 4 - 6

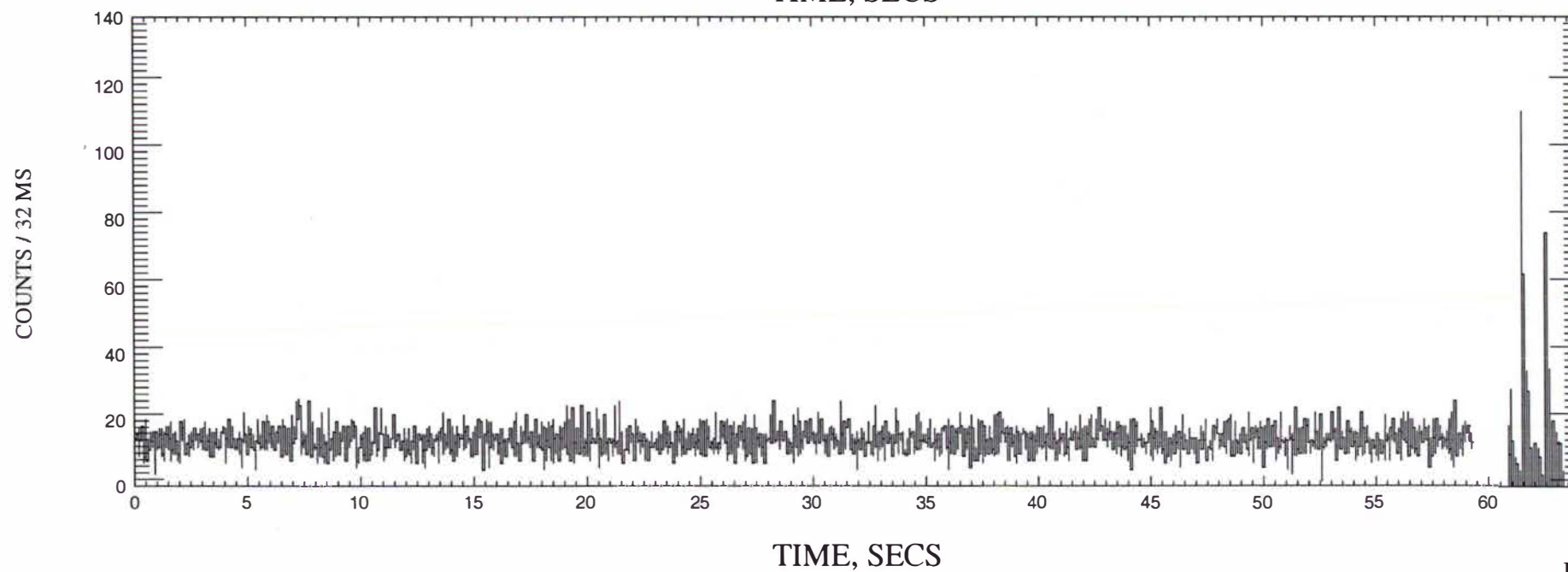
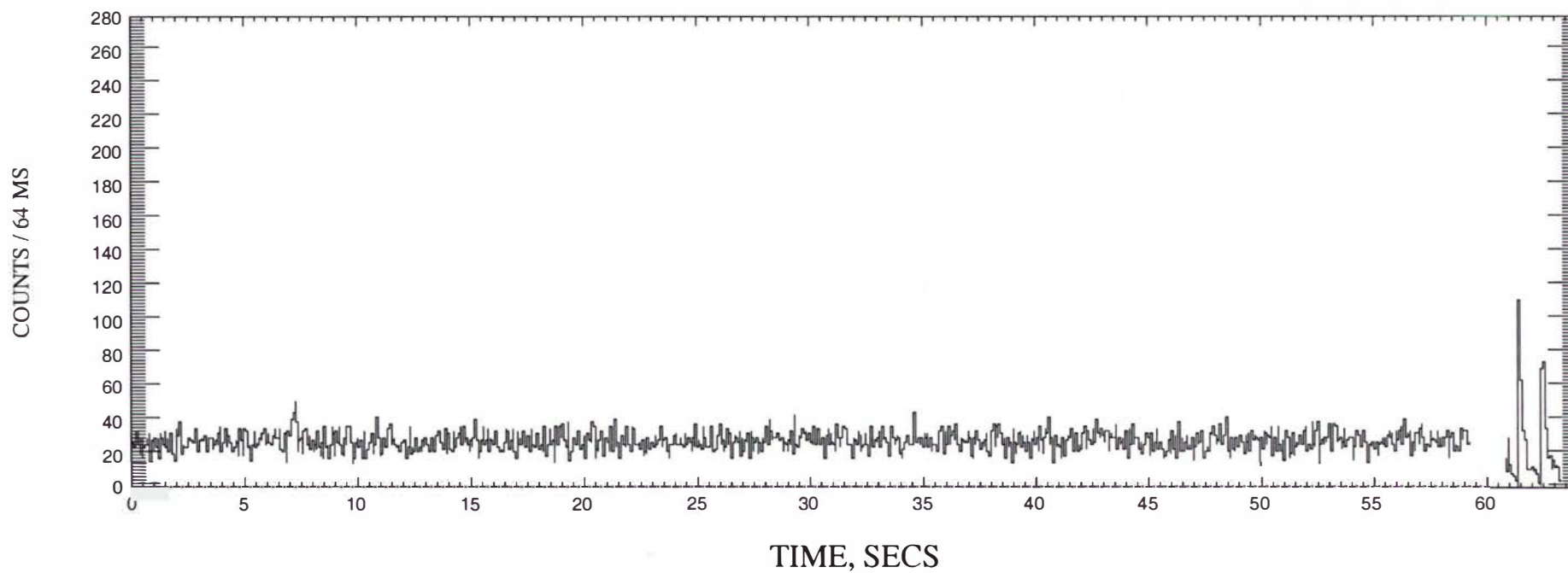


CALIBRATION DATA INCLUDED

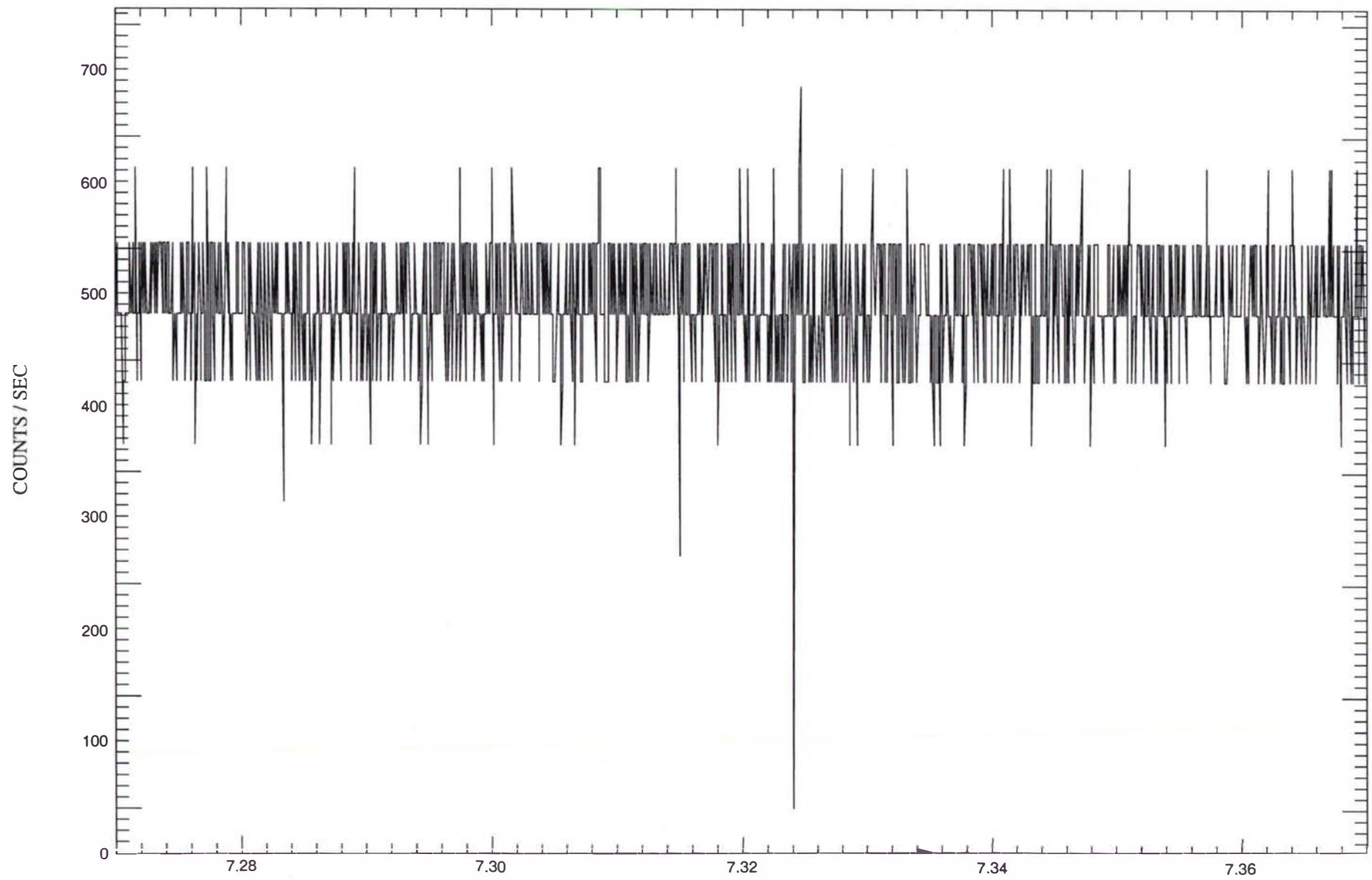


UNIV SAL TIME

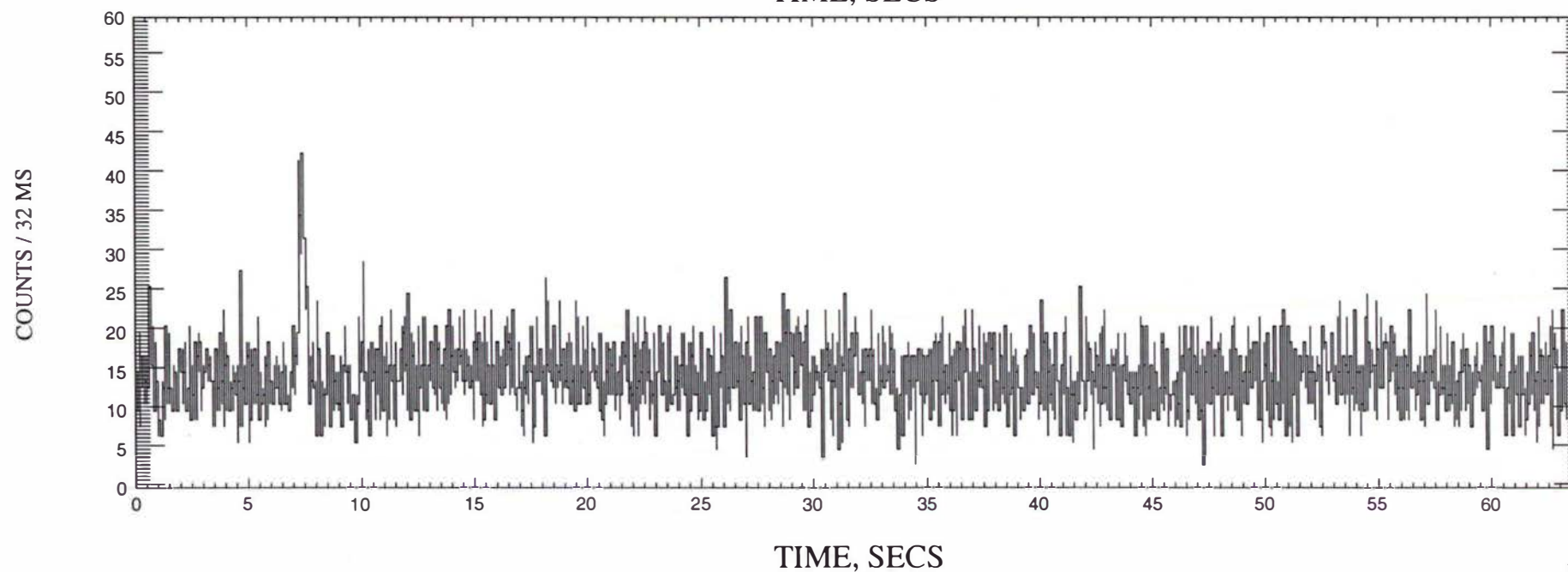
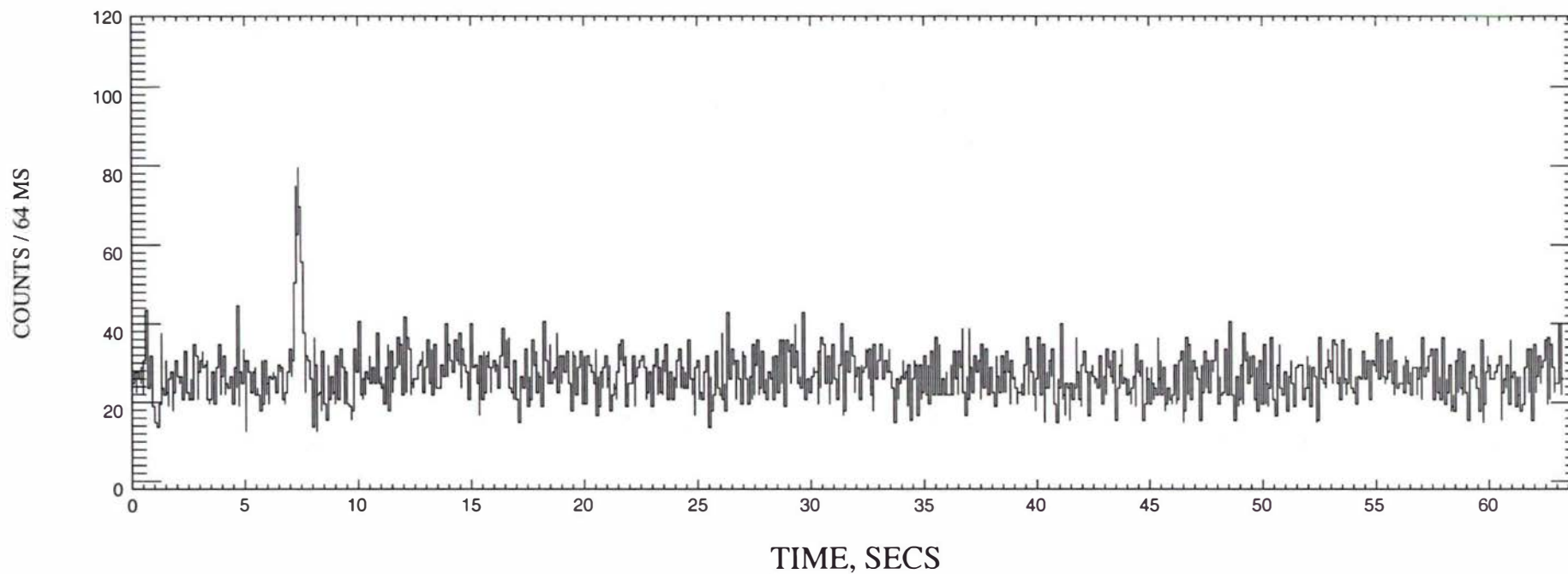
Burst Counter 4 at UT= 7.324754528470 h=26369.116 s 07:19:29.116



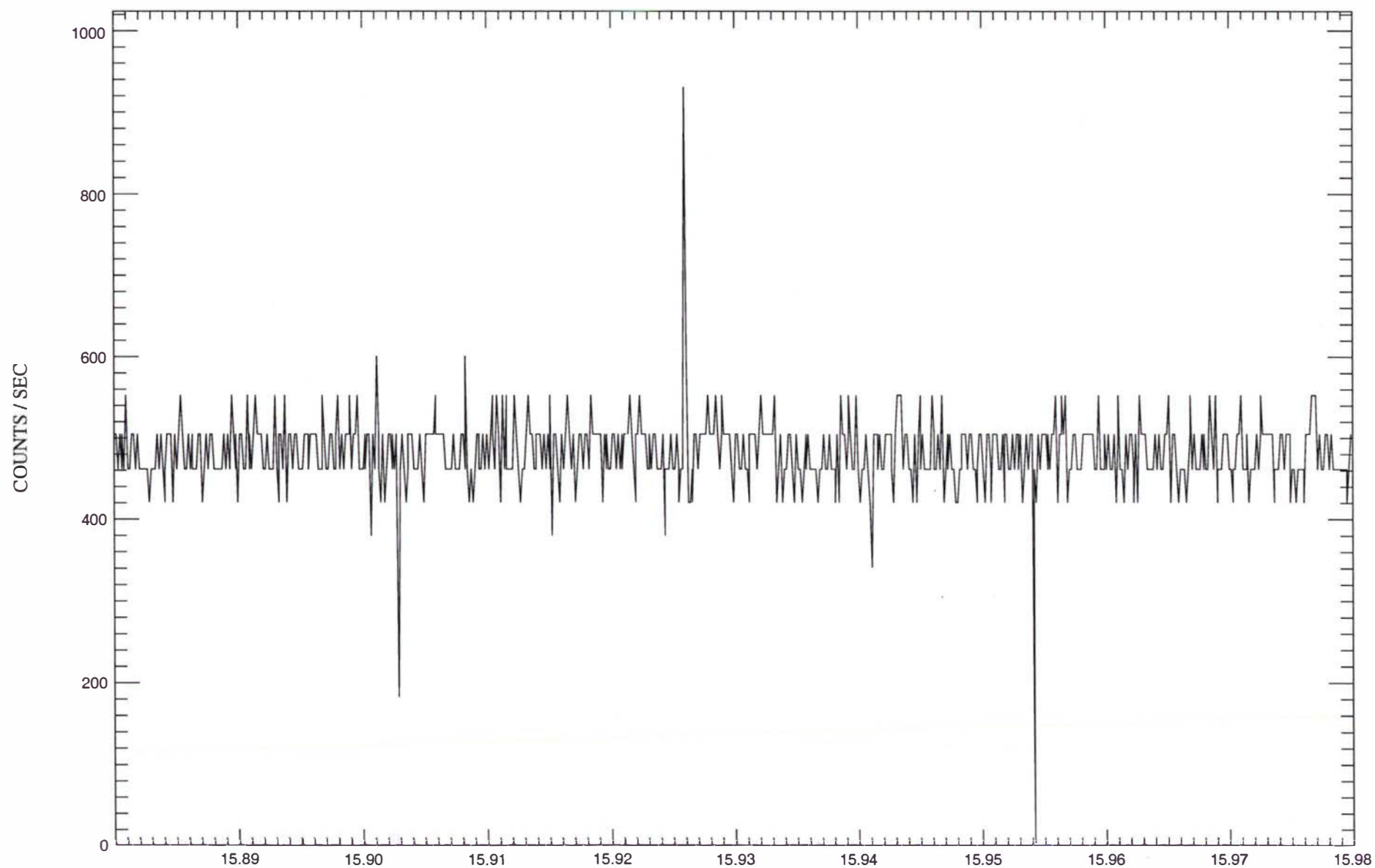
CALIBRATION DATA INCLUDED



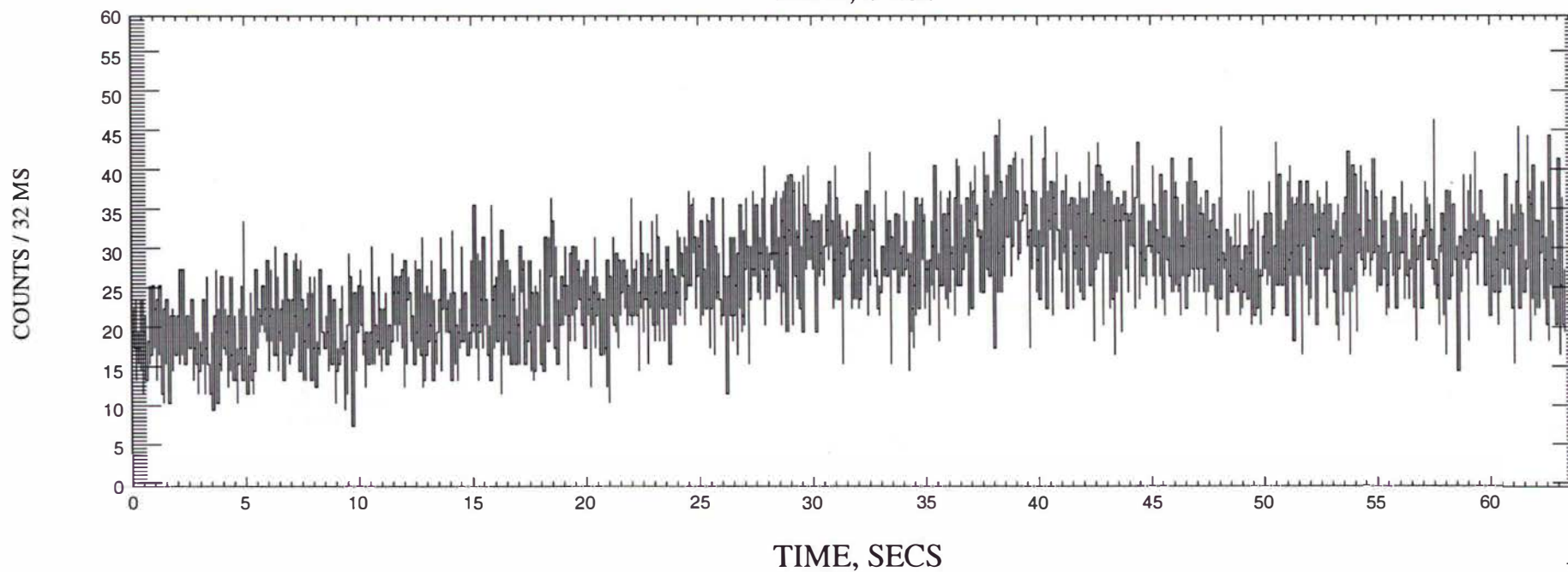
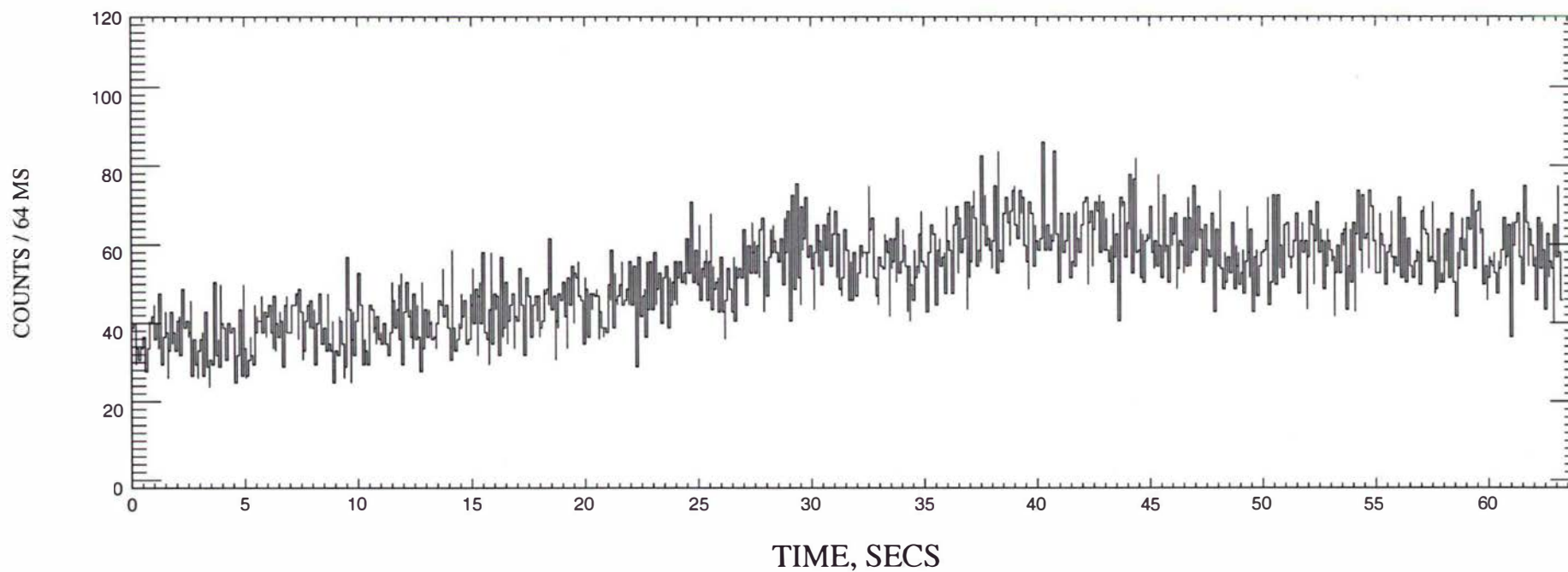
Burst Counter 5 at UT=15.926150839064 h=57334.143 s 15:55:34.143



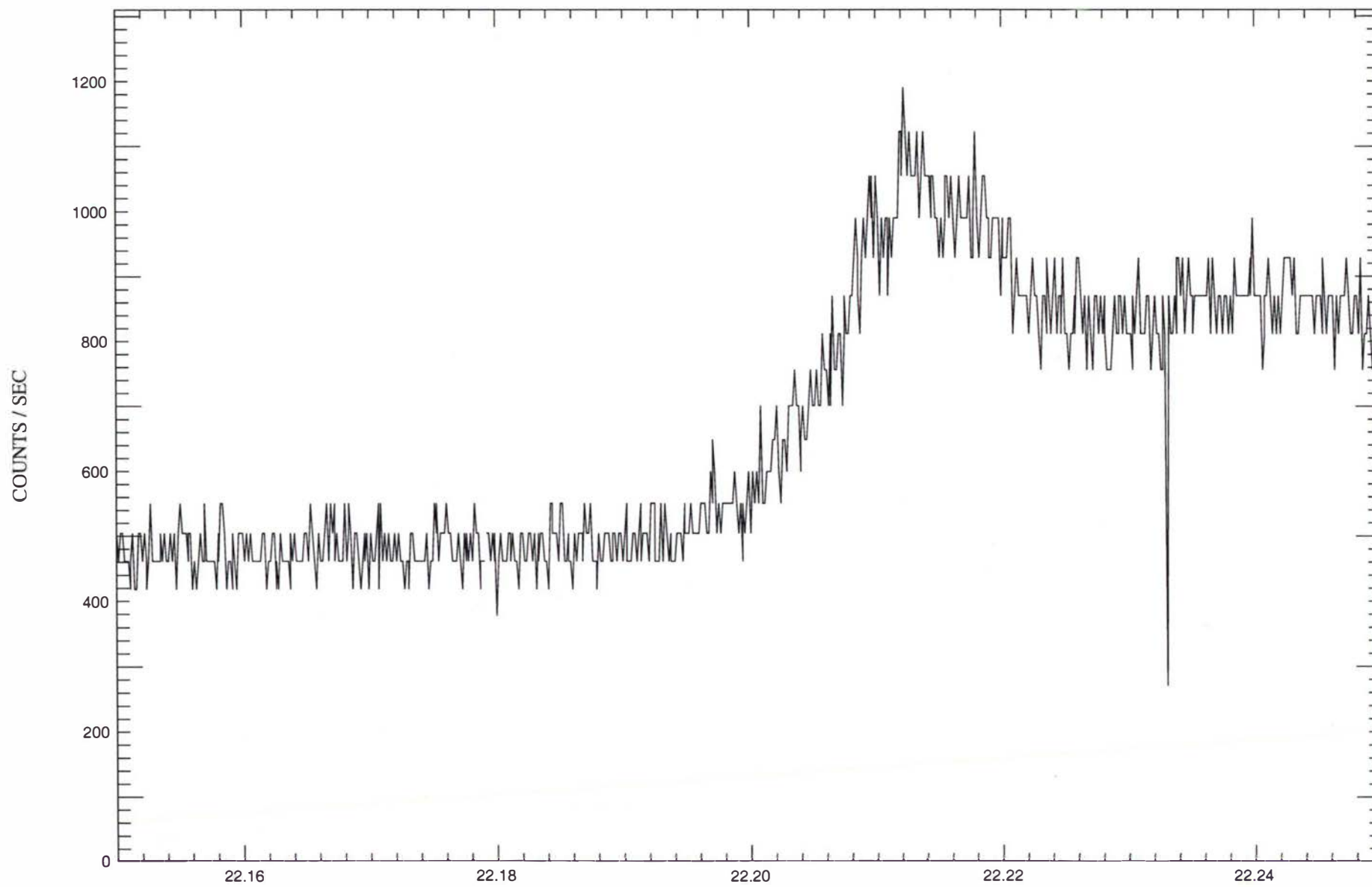
CALIBRATION DATA INCLUDED

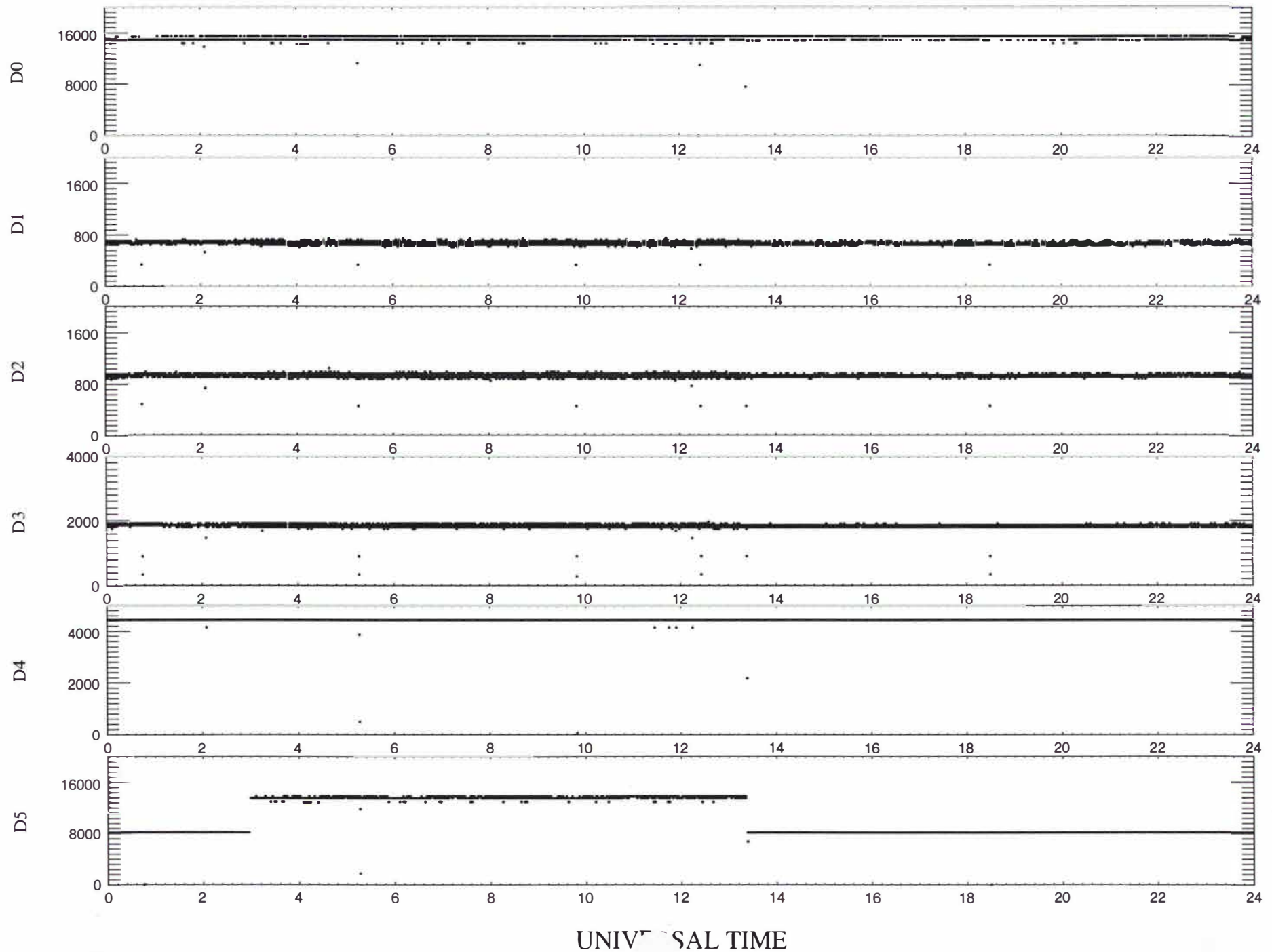


Burst Counter 6 at UT=22.203690761990 h=79933.287 s 22:12:13.287



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Fri Mar 19 09:55:50 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Fri, 19 Mar 1999 11:55:35 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7480

TIME: TJD=1254 SECONDS=35563

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.1 AZIMUTH=330.9 ERROR=0.1 DEGREES

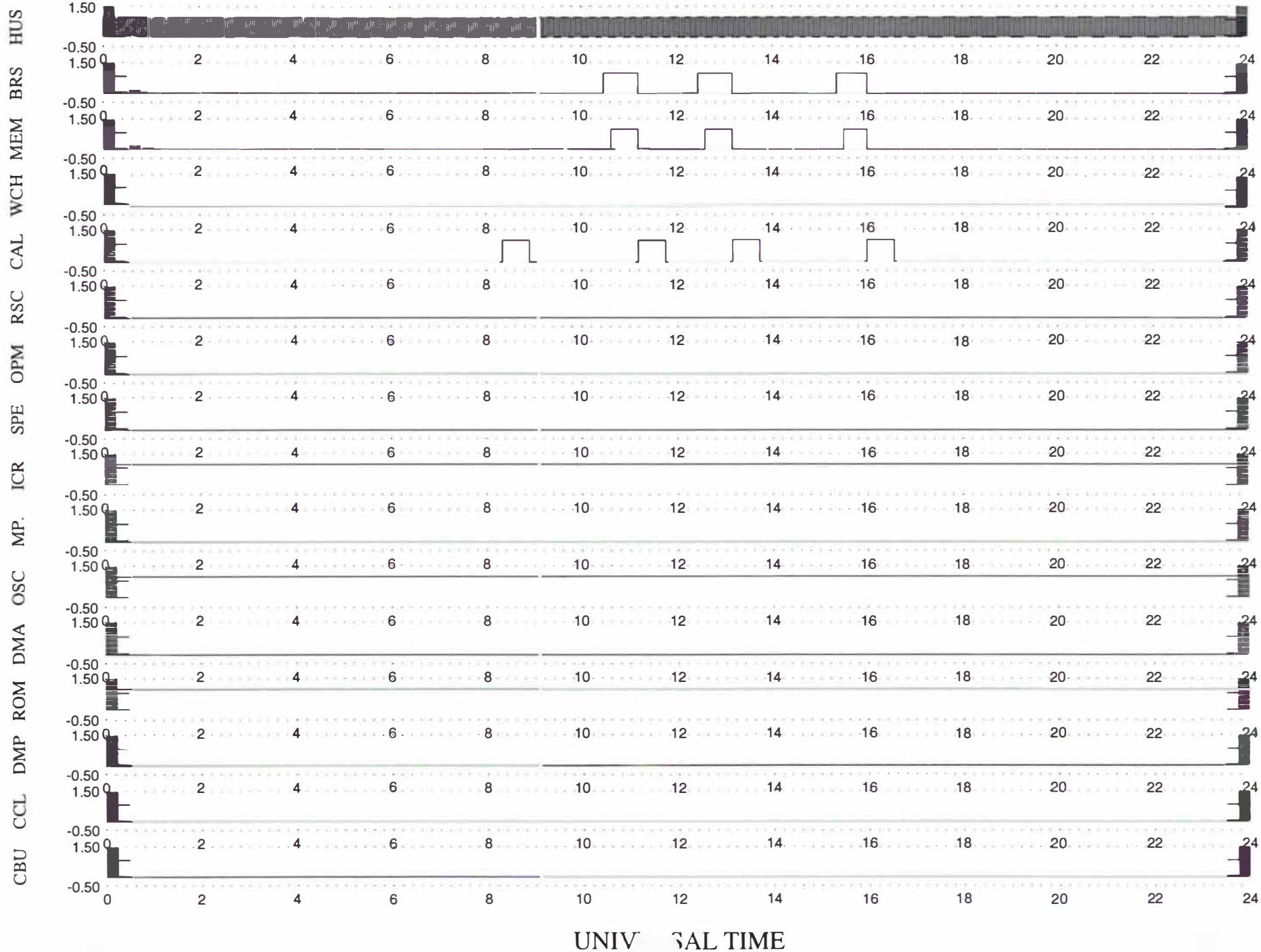
COMMENTS:

SOLAR FLARE, GOES M3.2, OPTICAL 1F

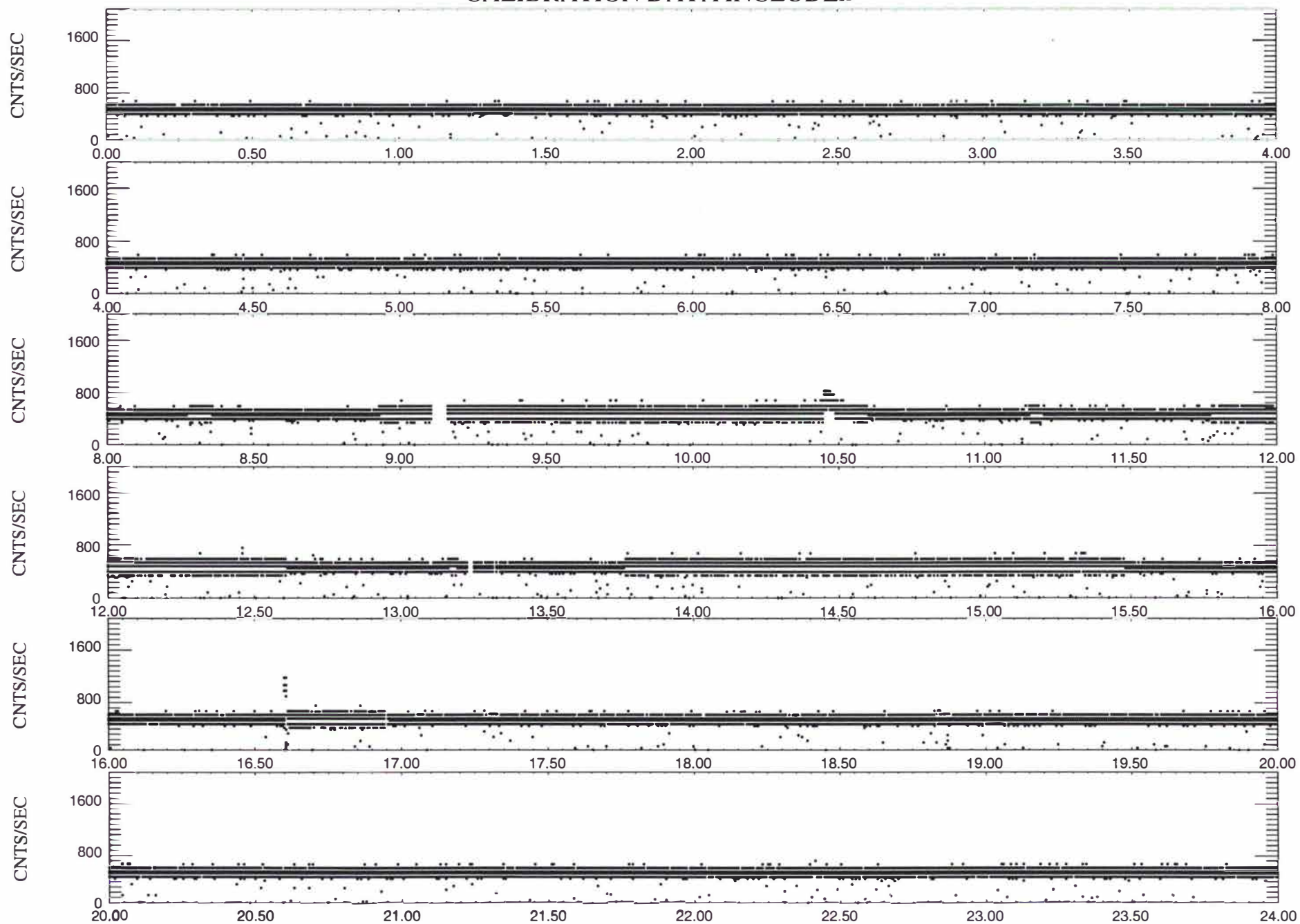
STRONG EVENT WITH LOTS OF STRUCTURE. DURATION APPROX. = 640 SEC.

VISIBLE ABOVE 100KEV.

BURST NUMBER 7 - 9

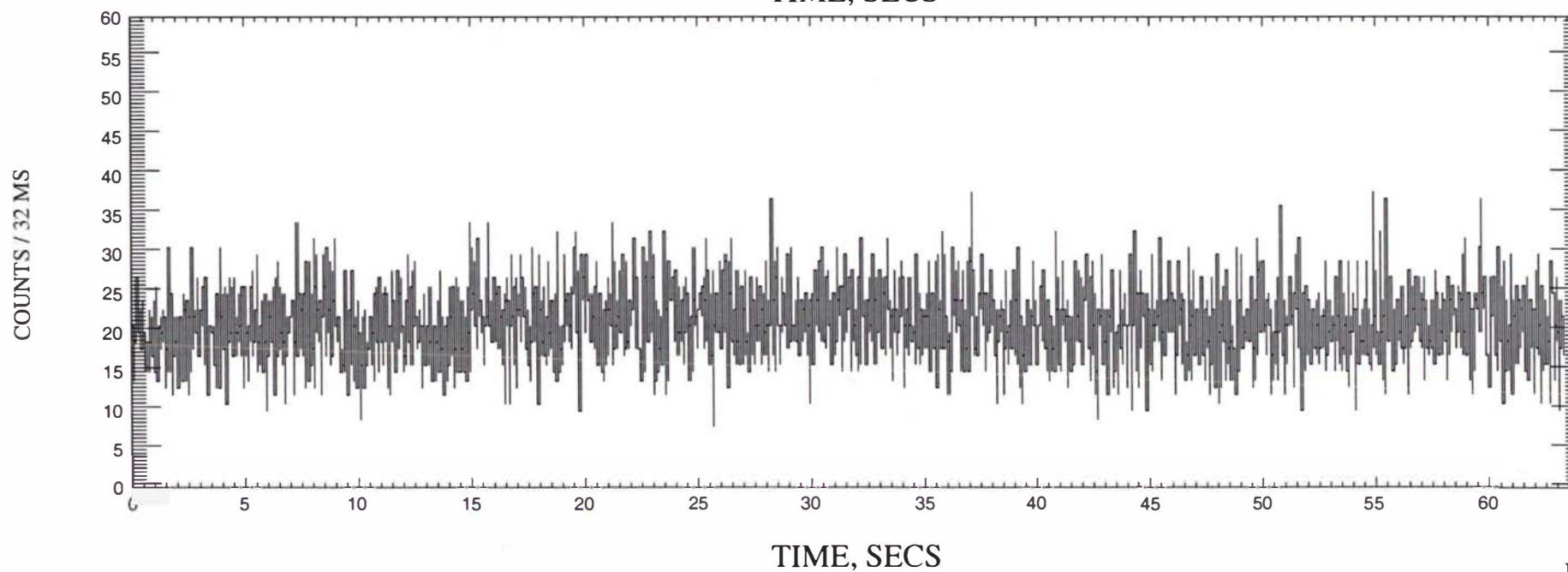
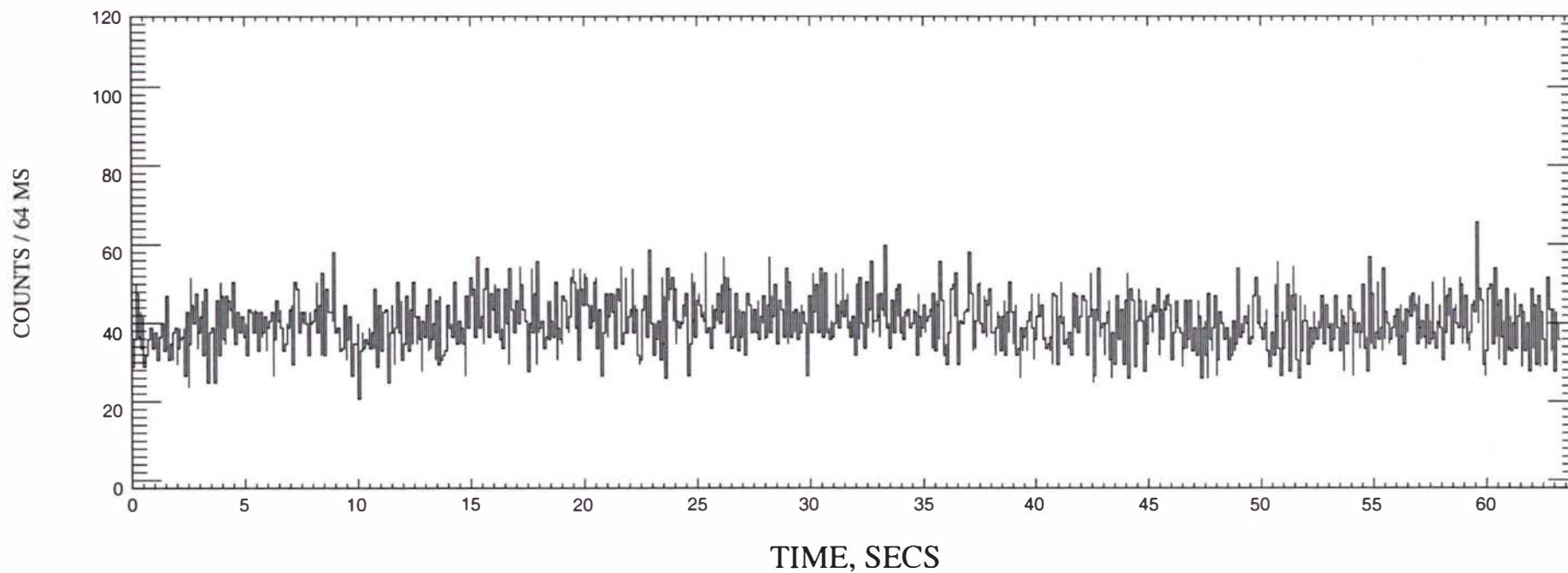


CALIBRATION DATA INCLUDED

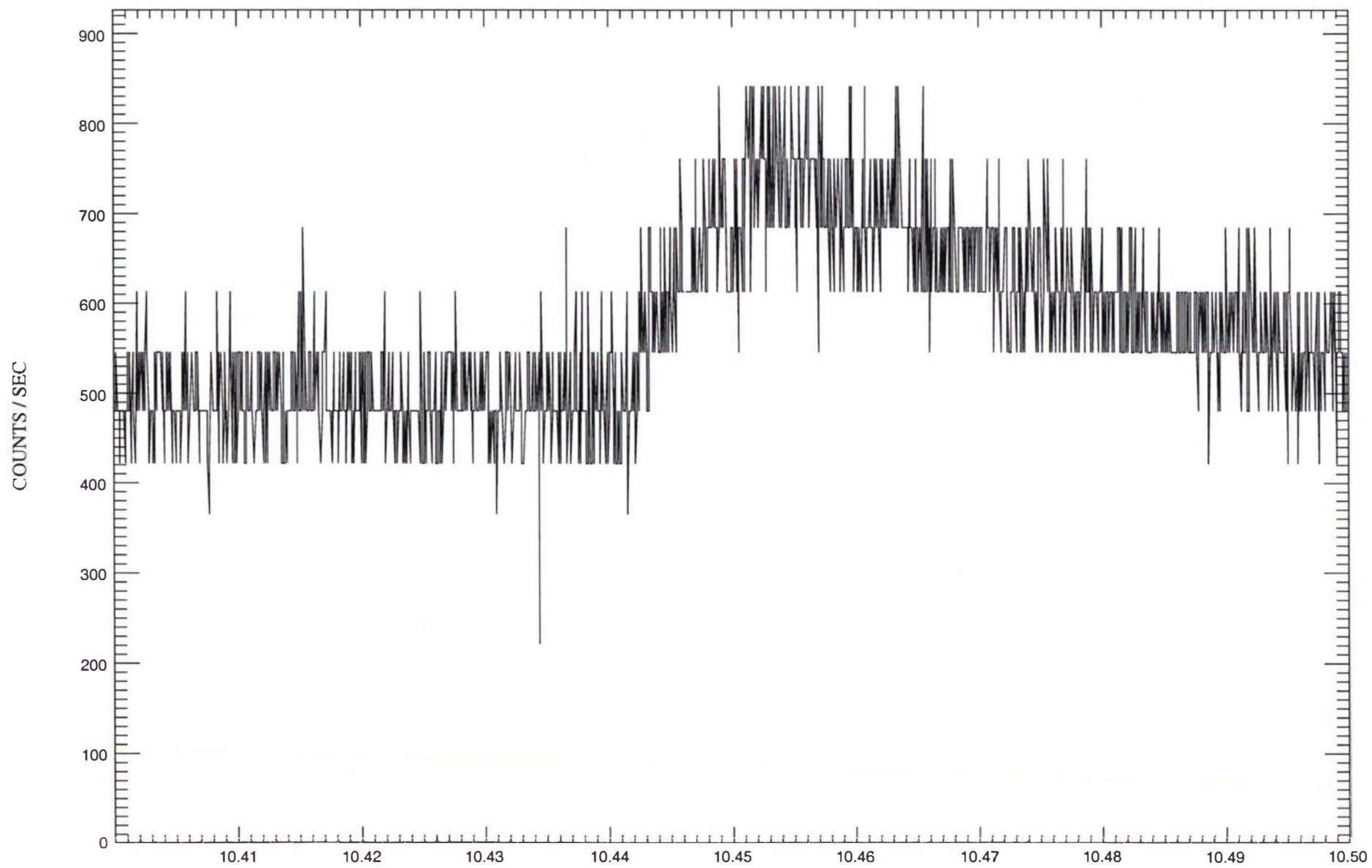


UNIVERSAL TIME

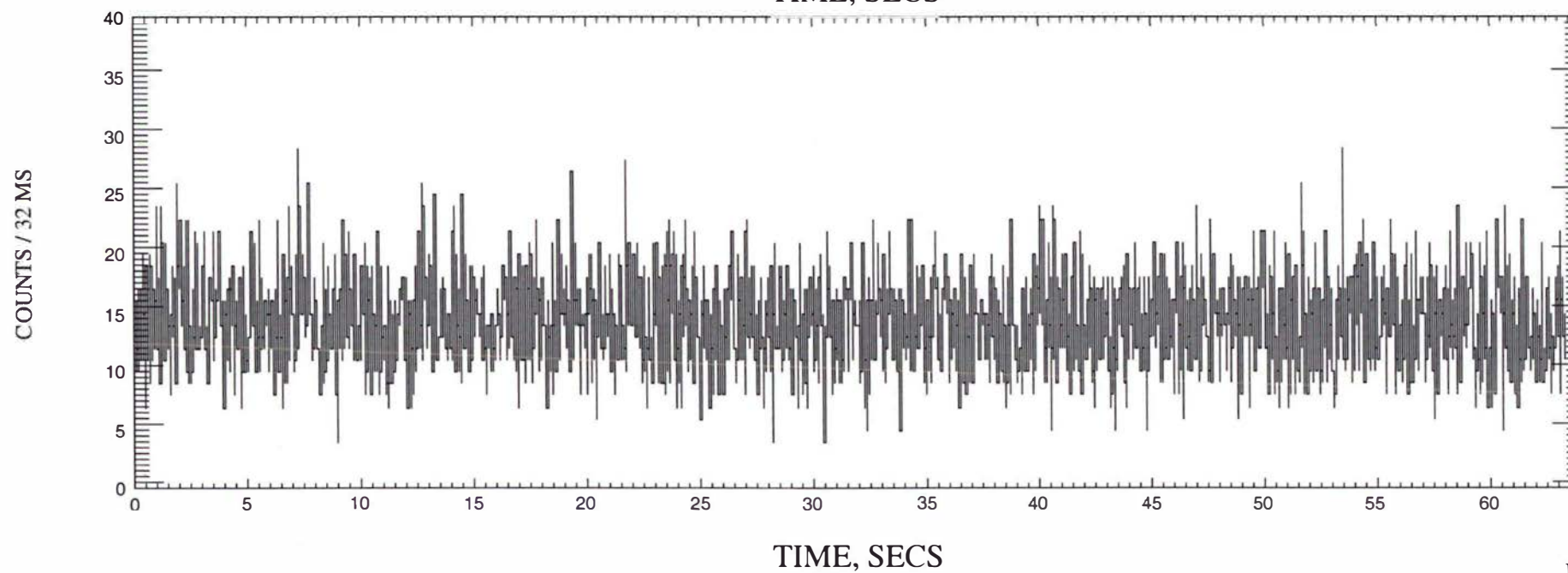
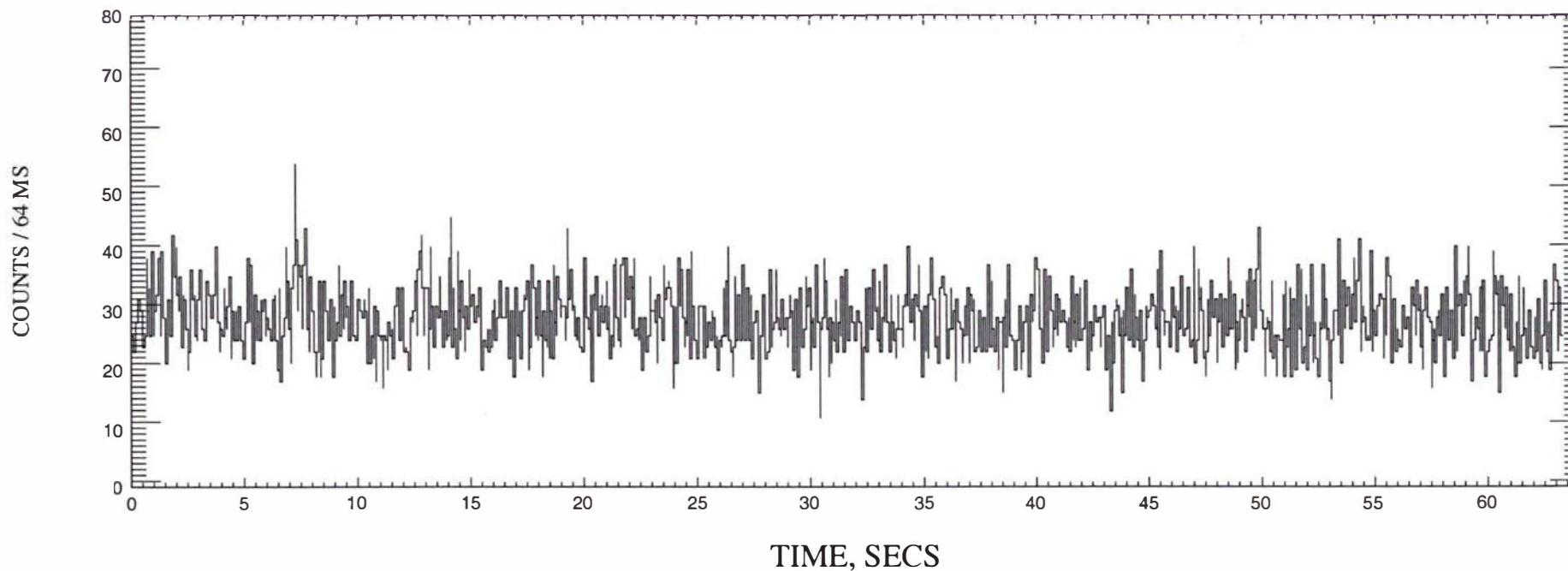
Burst Counter 7 at UT=10.449127591451 h=37616.859 s 10:26:56.859



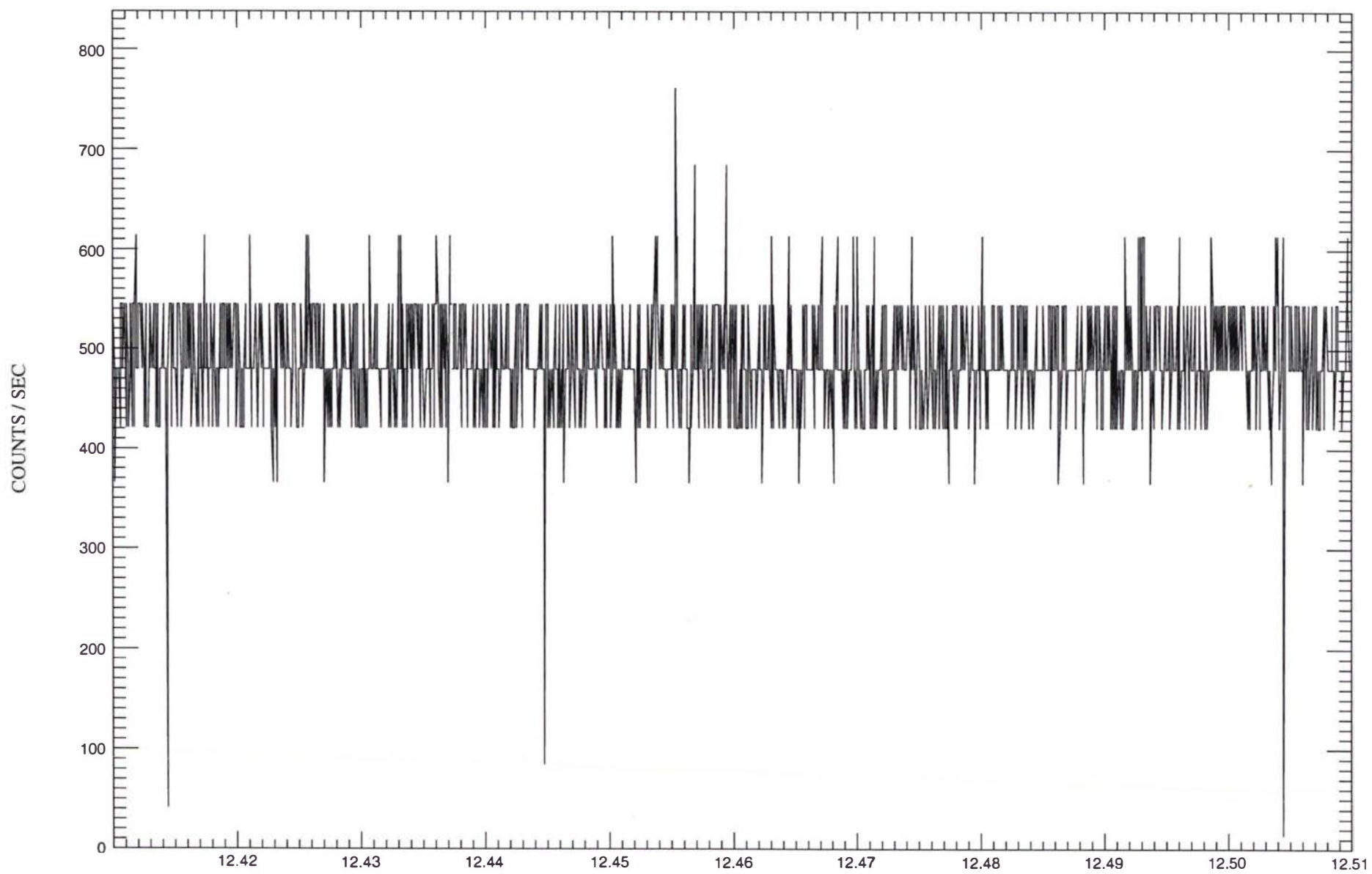
CALIBRATION DATA INCLUDED



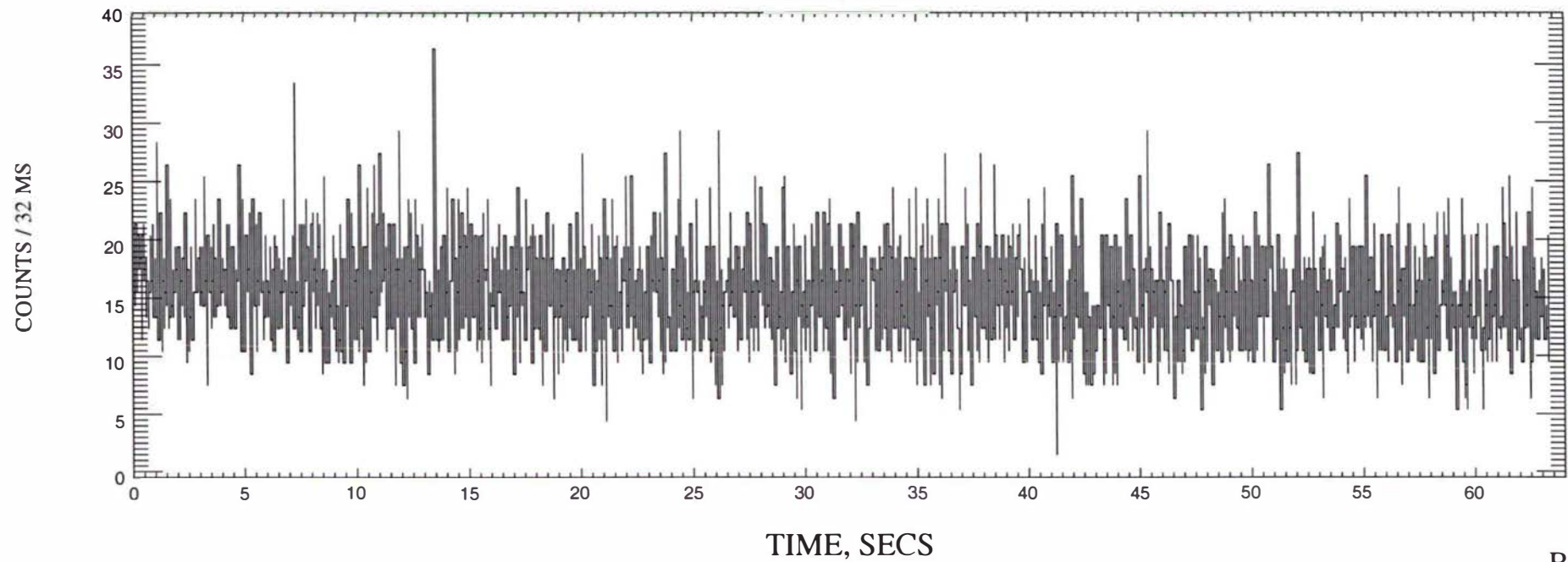
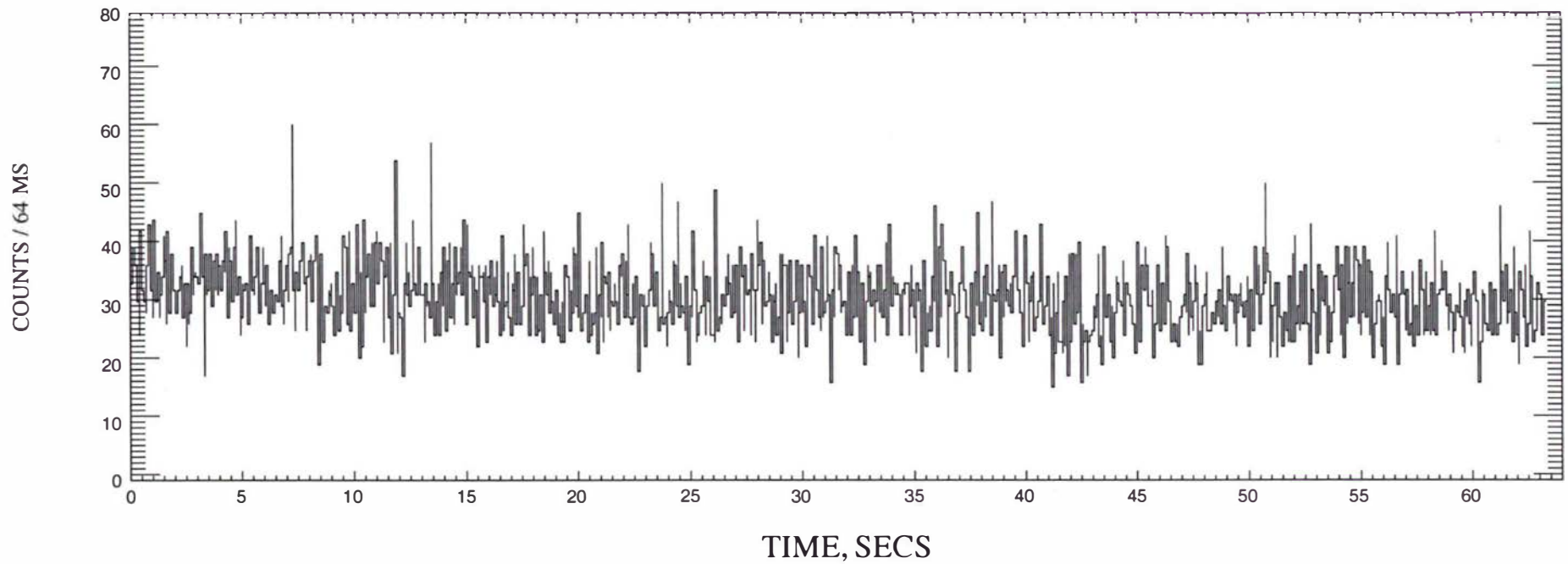
Burst Counter 8 at UT=12.455467334323 h=44839.682 s 12:27:19.682



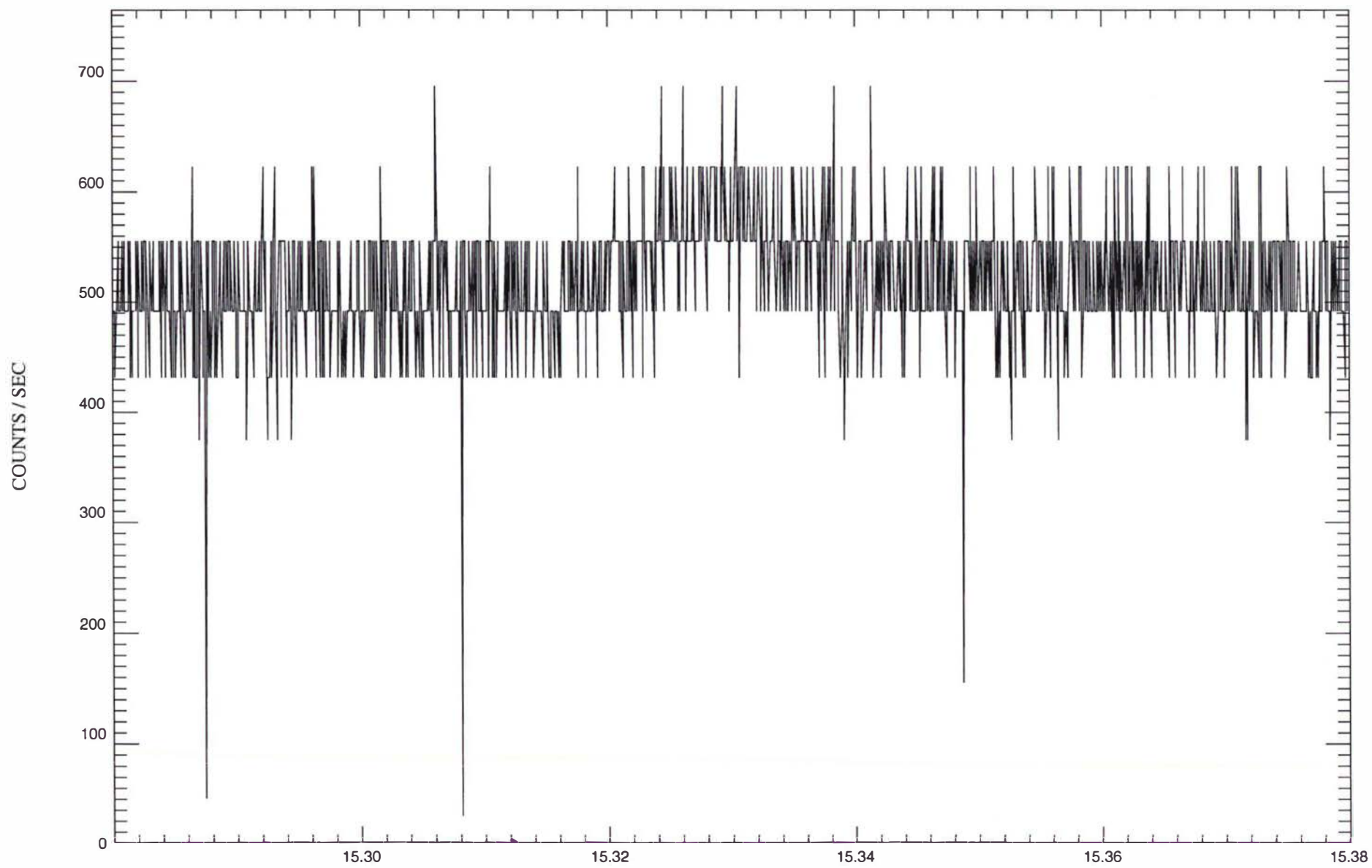
CALIBRATION DATA INCLUDED

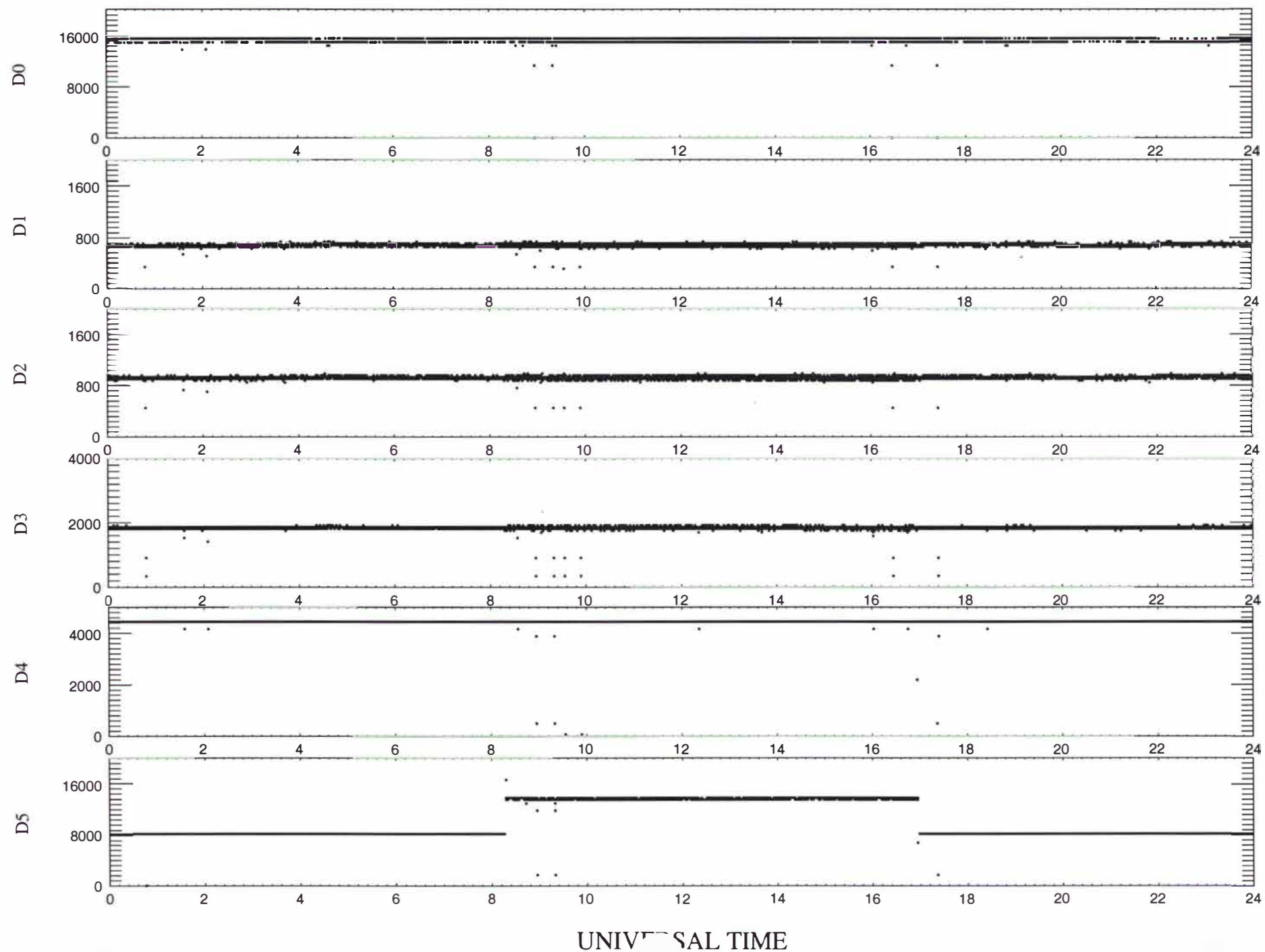


Burst Counter 9 at UT=15.329385943943 h=55185.789 s 15:19:45.789



CALIBRATION DATA INCLUDED





From: SURASAK@fender.msfc.nasa.gov
Date: Tue, 23 Mar 1999 10:49:29 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990323104929.2021fa4b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7481
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7481
EVENT OF 1999 MAR 18 DAY OF YEAR= 77
EVENT CROSSING TIME AT BATSE : 11682. S. OR 03:14:42.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 245.000 2.000
BATSE PEAK COUNTING RATE: 6700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 3/ 99 IS:
RA= 150.978 DEC= -9.007 DIST= 4.162 AU
BATSE-ULYSSES DISTANCE = 622606051. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 155.13 SECS.
CROSSING TIME AT ULYSSES IS 11837. S. OR 03:17:17 +/- 411.91 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 3/ 99 IS:
RA= 220.436 DEC= -13.448 DIST= 0.764 AU
MARS-BATSE DISTANCE = 114312488. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=151.15 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -333.99 SECS.
CROSSING TIME AT MARS IS 11348. S. OR 03:09:08 +/- 26.87 SECONDS

BATSE BURST TRIGGER

NO.: 7481

TIME: TJD=1255 SECONDS=11682

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=58.9 AZIMUTH=82.5 ERROR=3.179 DEGREES

COMMENTS:

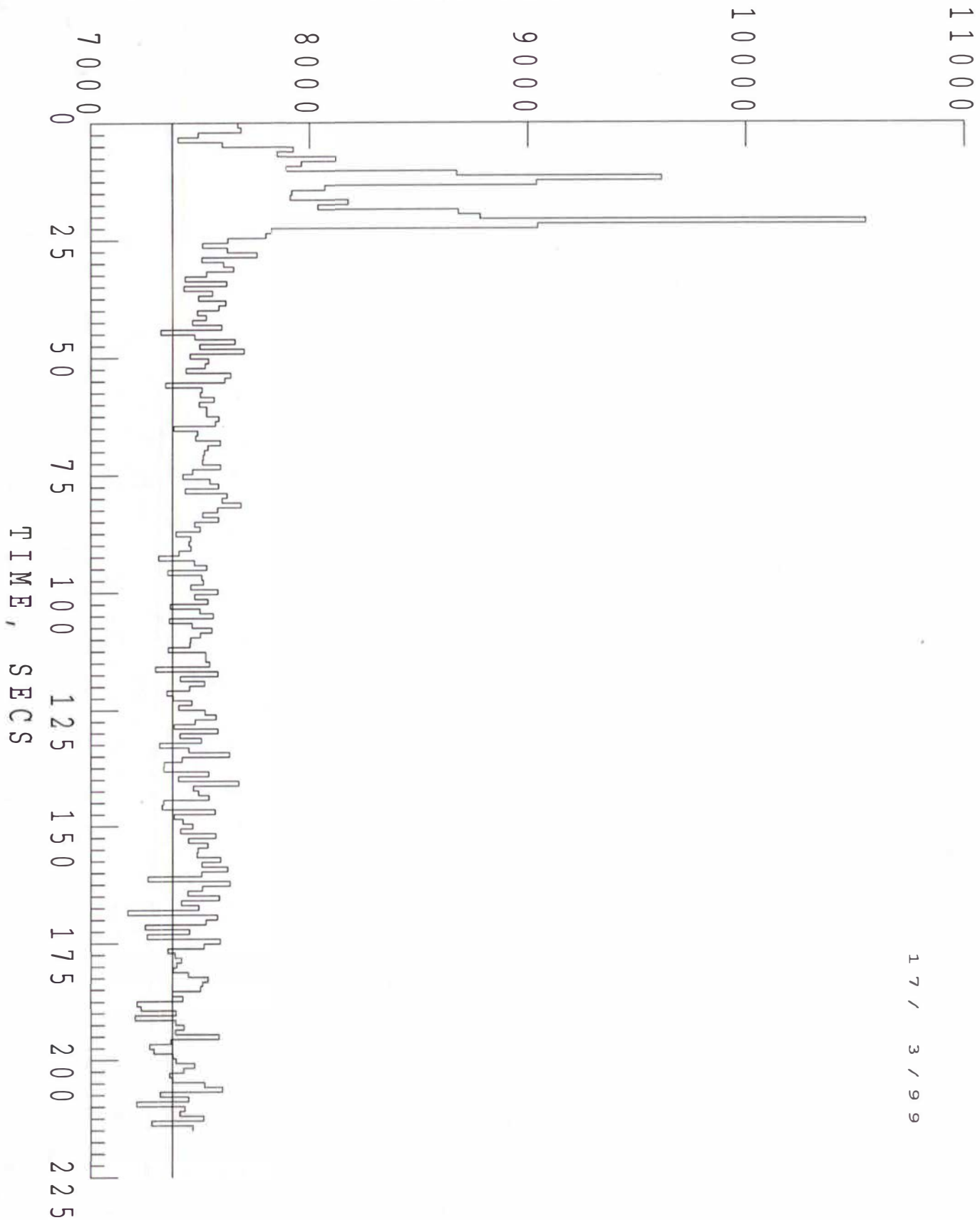
GRB. DOUBLE PULSE. DURATION ABOUT 14 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7481	990318	11255	11682	6700	245	+02	14

BACODINE 7481 18/03/99 11670.265

25 - 100 keV

COUNTS/1.024 S



BATSE BURST# 7481

ULYSSES RT

23 / 3 / 99

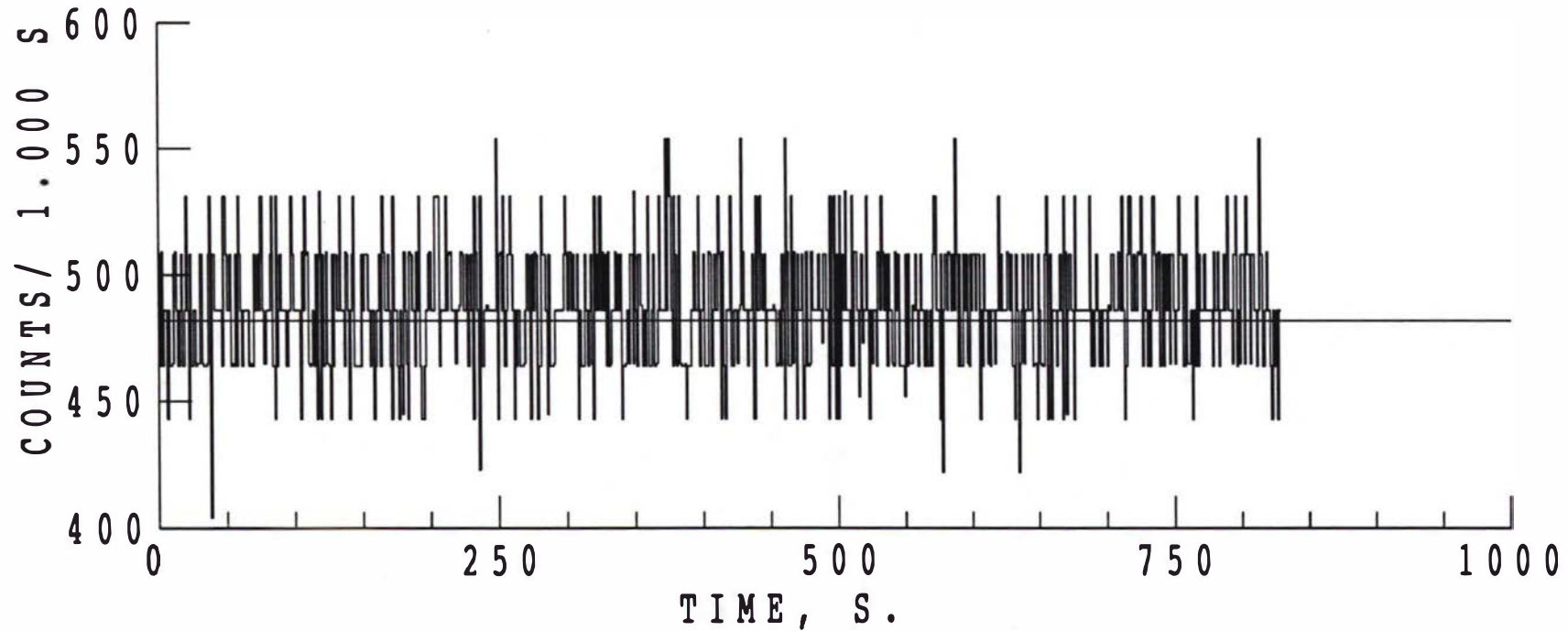
18 / 3 / 99 11412.104 s

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

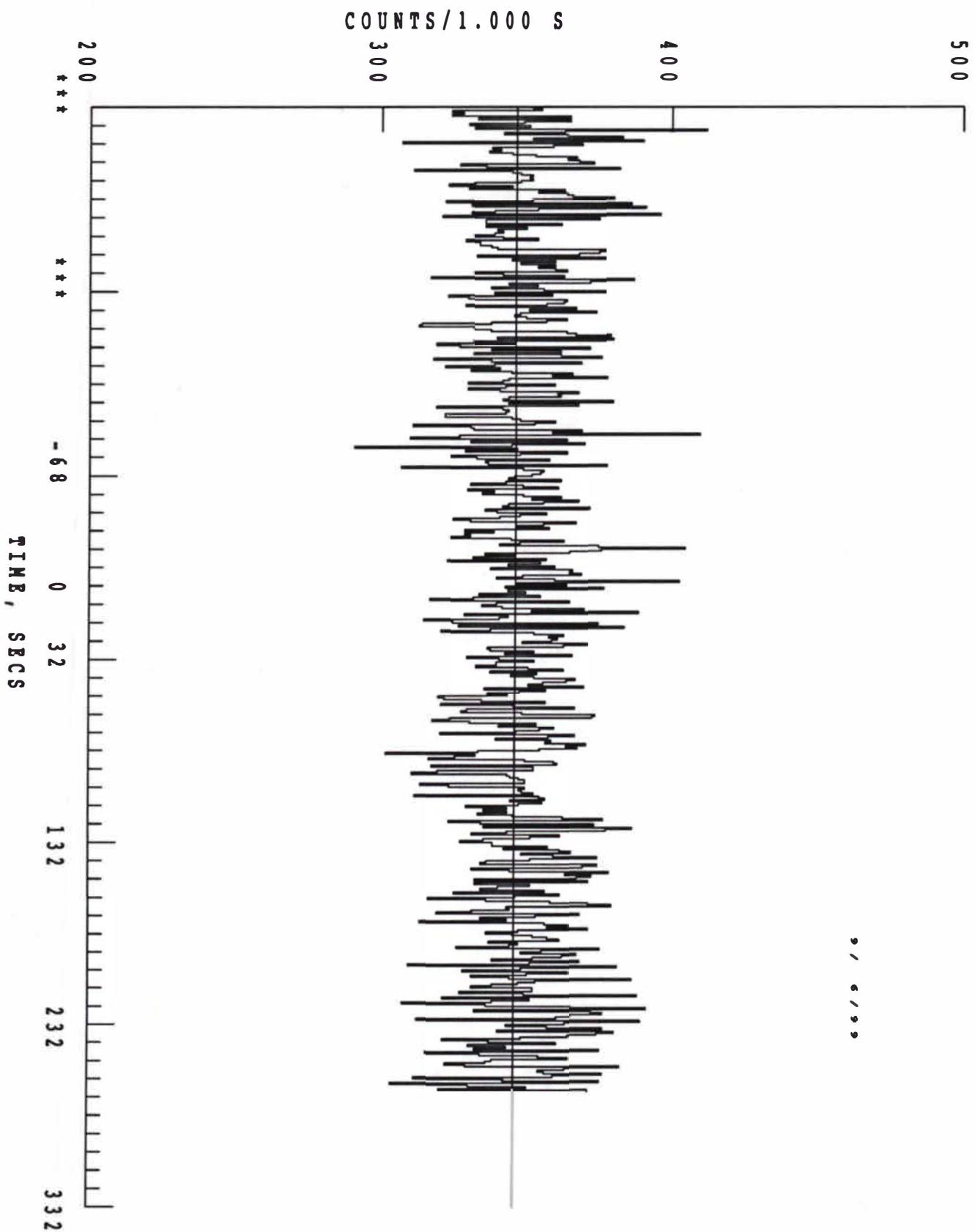


NEAR

18/03/99

12109.170

100-1000 keV



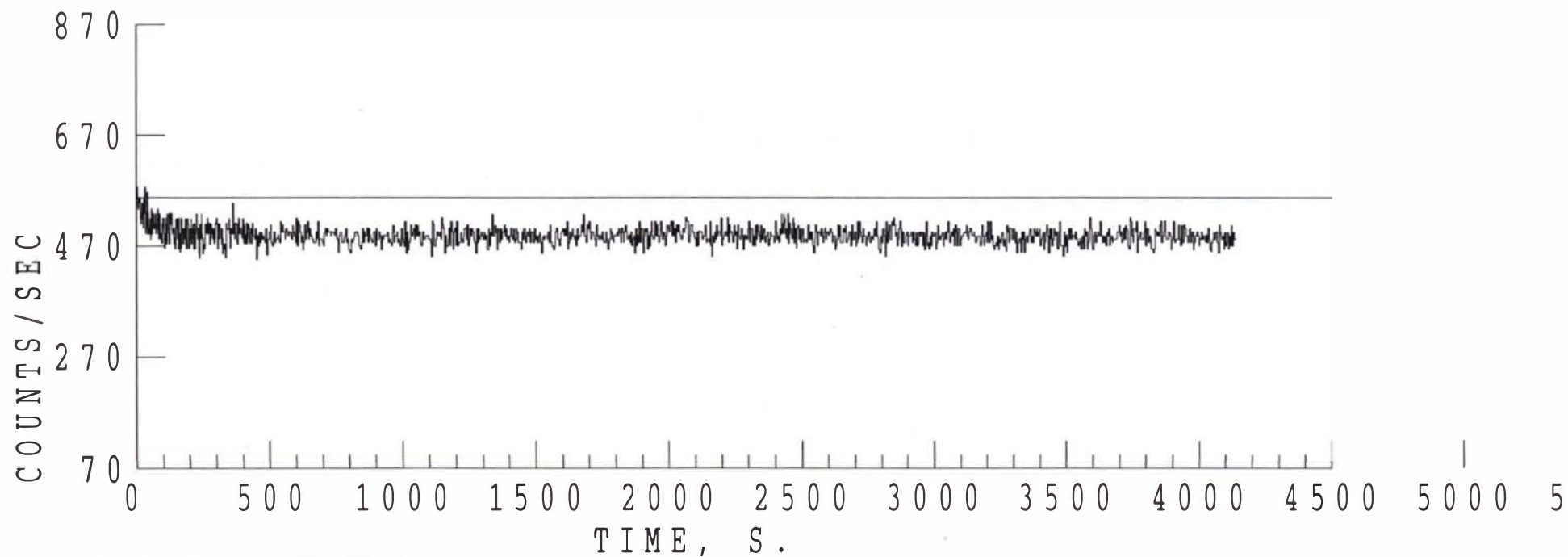
SAX GRBM
HUS DATA

19 / 07 / 05

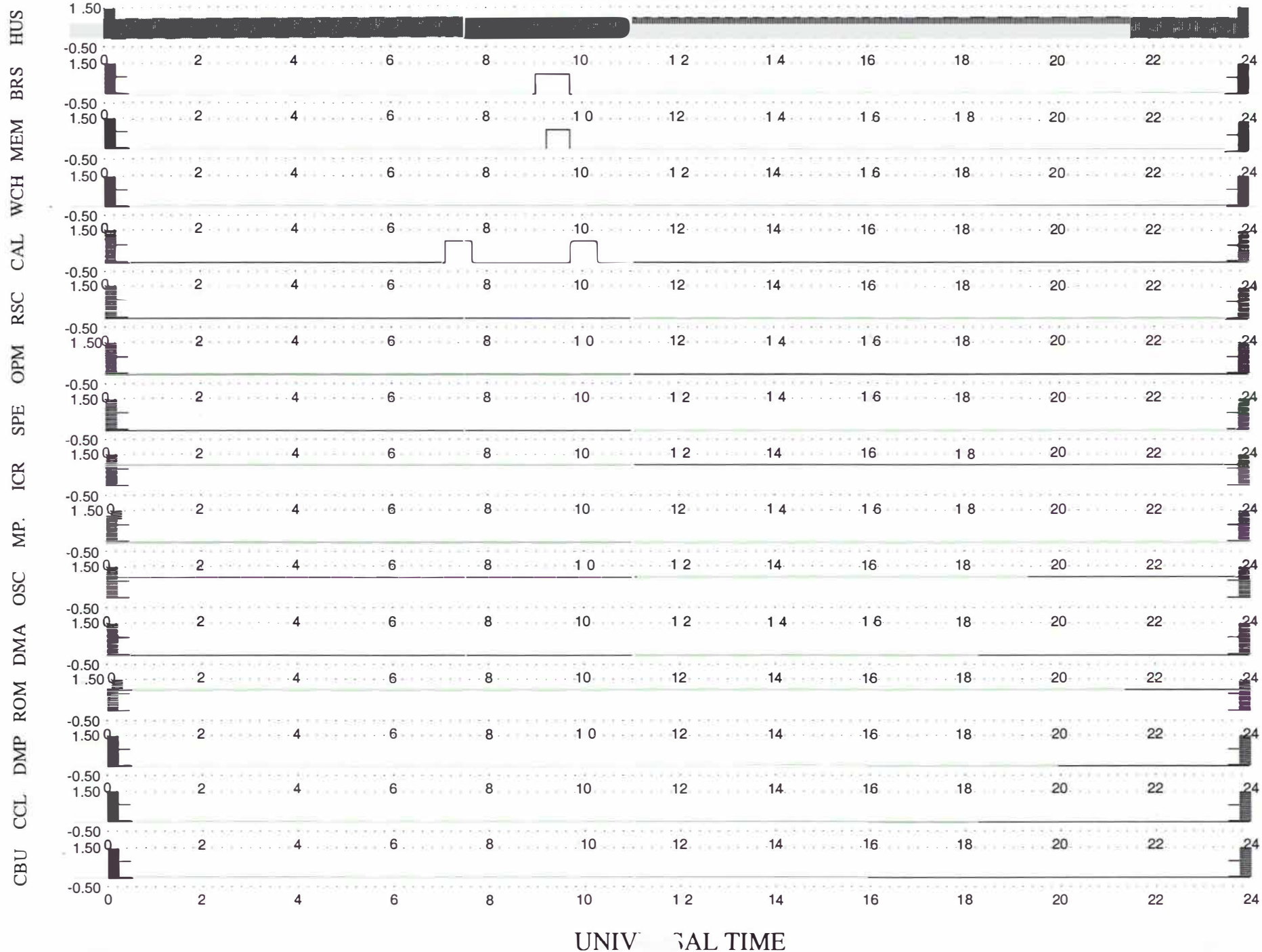
ULYSSES RT
18 / 03 / 99 32724.074 s
INTERVALS REGROUPED BY 7
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

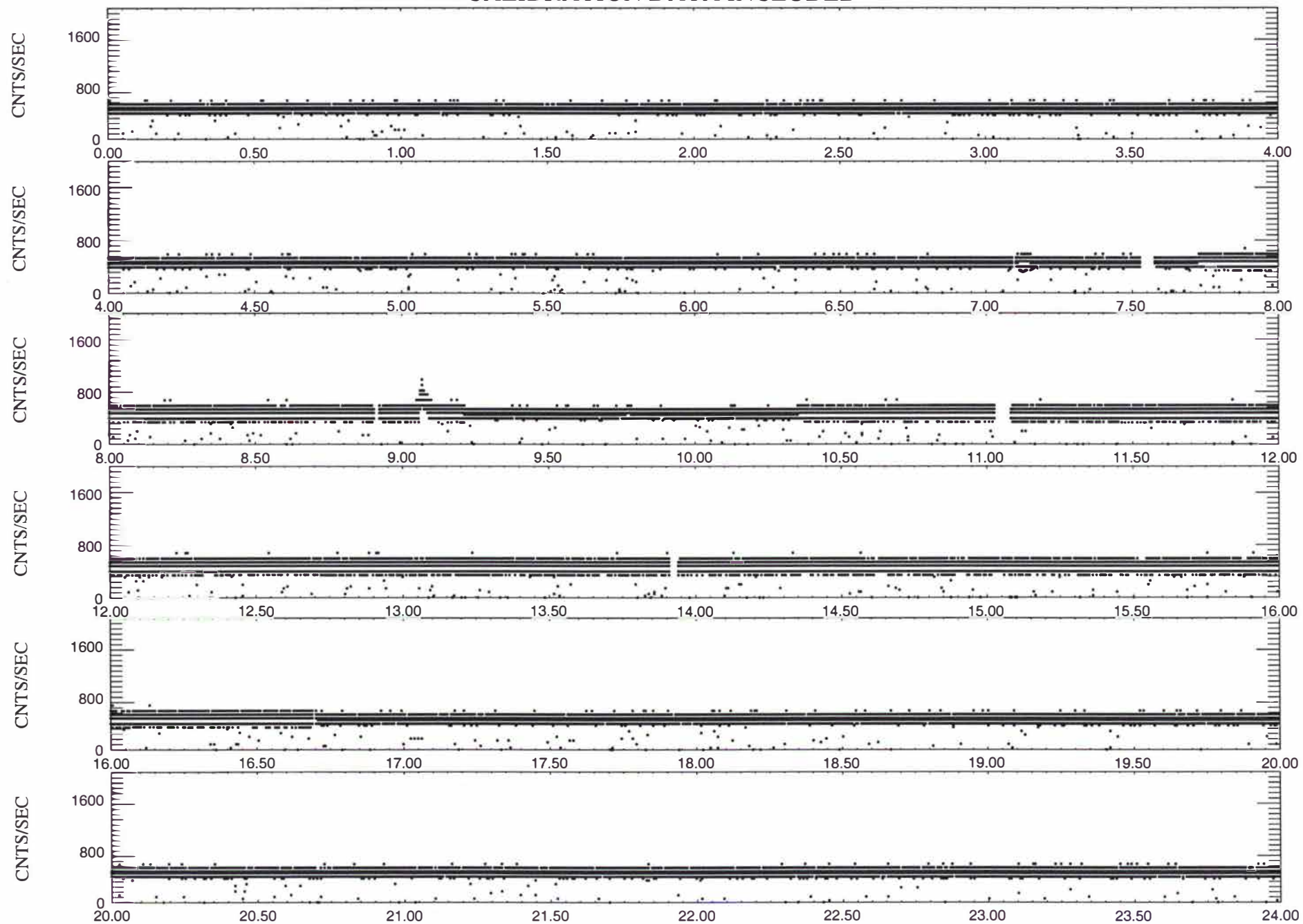
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 10

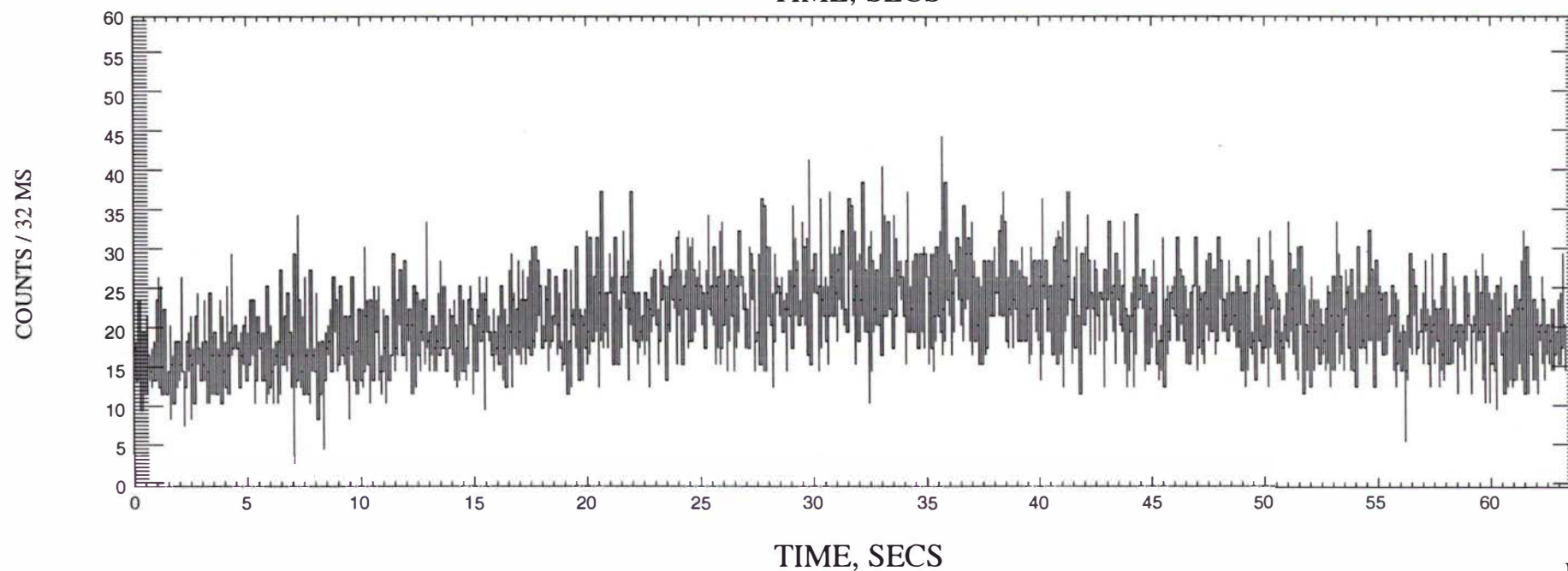
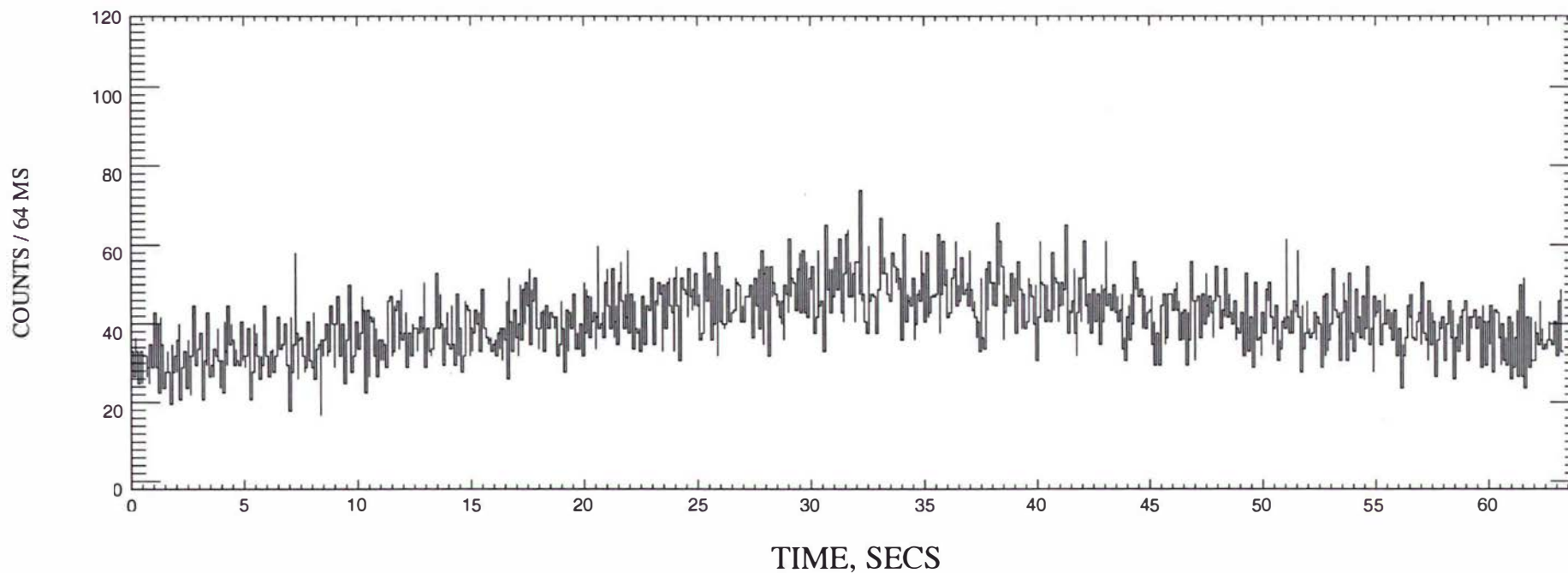


CALIBRATION DATA INCLUDED

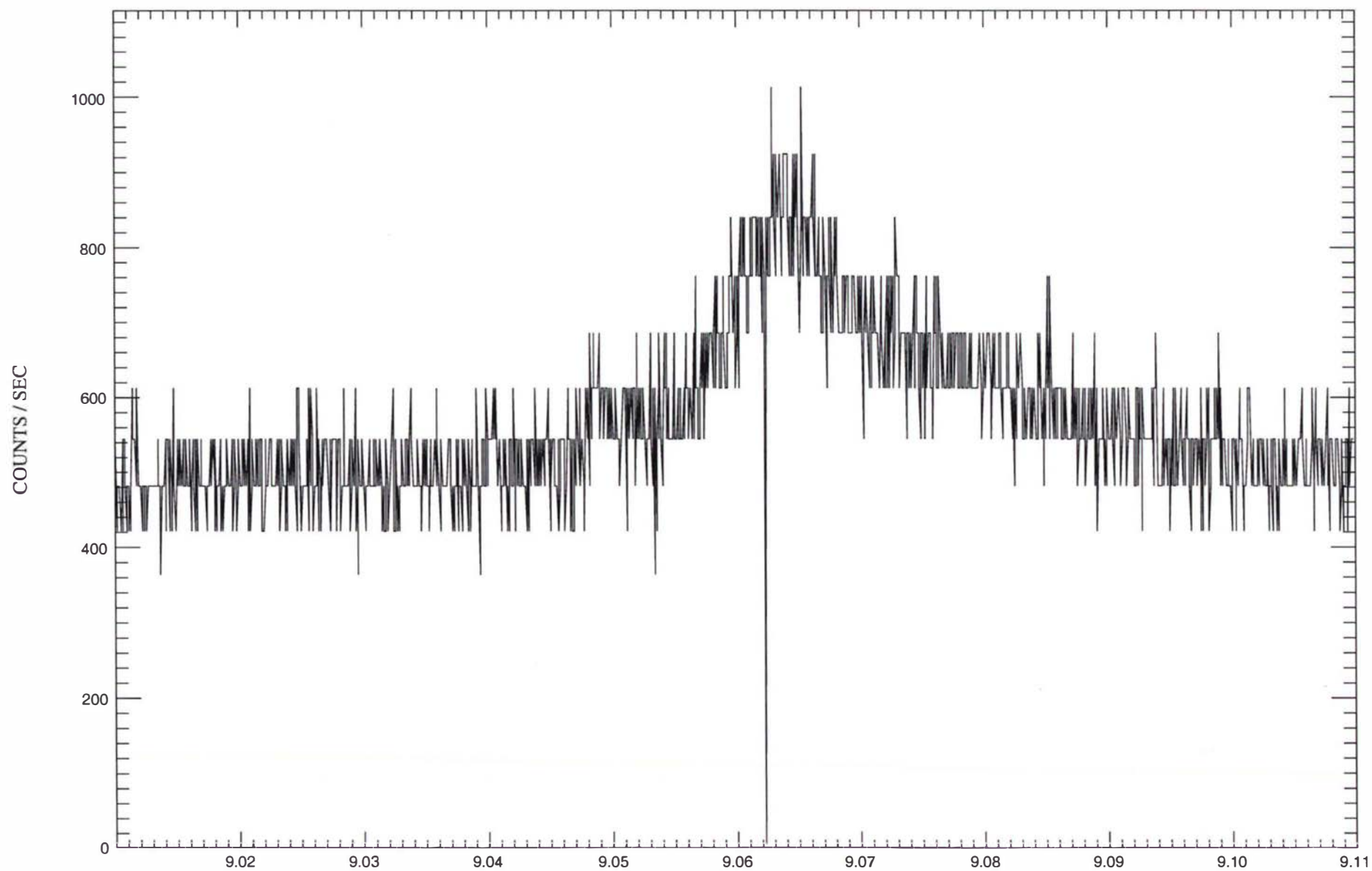


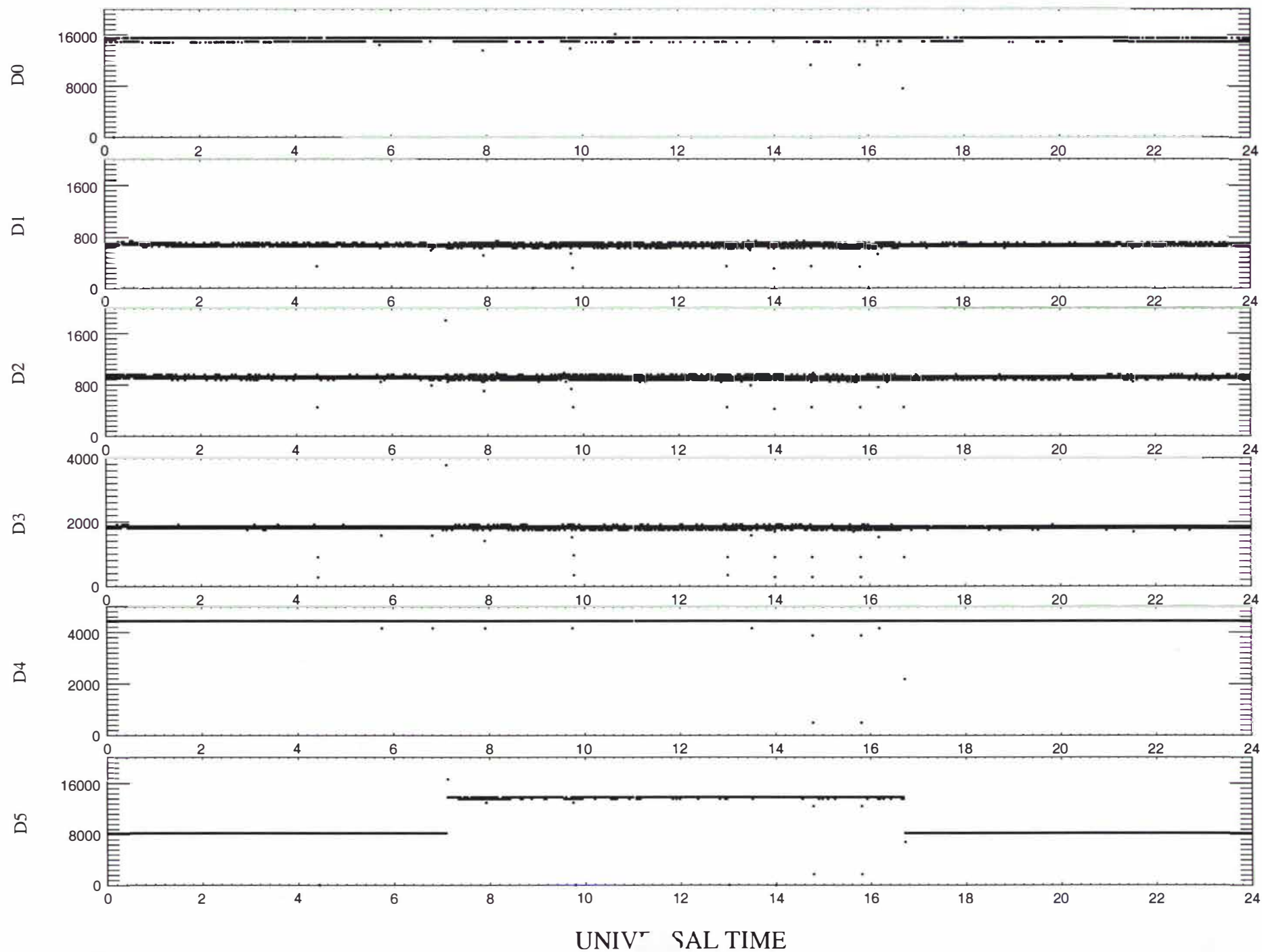
UNIV SAL TIME

Burst Counter 10 at UT= 9.056855951945 h=32604.681 s 09:03:24.681



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Mon Mar 22 09:51:03 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 JAA05308; Mon, 22 Mar 1999 09:51:01 -0800
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 (8.9.2/8.9.2) with SMTP id JAA04338
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 22 Mar 1999 09:49:40 -0800 (PST)
Date: Mon, 22 Mar 1999 11:35:08 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990322113508.2021ea22@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7484
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7484
EVENT OF 1999 MAR 19 DAY OF YEAR= 78
EVENT CROSSING TIME AT BATSE : 78046. S. OR 21:40:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 286.000 31.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 3/ 99 IS:
RA= 150.599 DEC= -8.935 DIST= 4.169 AU
BATSE-ULYSSES DISTANCE = 623667941. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 46.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1420.71 SECS.
CROSSING TIME AT ULYSSES IS 79467. S. OR 22:04:26 +/- 335.41 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 3/ 99 IS:
RA= 220.435 DEC= -13.454 DIST= 0.757 AU
MARS-BATSE DISTANCE = 113185624. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -84.95 SECS.
CROSSING TIME AT MARS IS 77961. S. OR 21:39:21 +/- 62.58 SECONDS

BATSE BURST TRIGGER

NO.: 7484

TIME: TJD=1256 SECONDS=78046

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=100.2 AZIMUTH=54.4 ERROR=0.78 DEGREES

COMMENTS:

GRB. SINGLE PULSE, IN GAP. DURATION APPROX 17S, STARTS AT APPROX T-0.5S, MAX
AT APPROX T+5S. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7484	990319	11256	78046	4000	286	+31	17

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

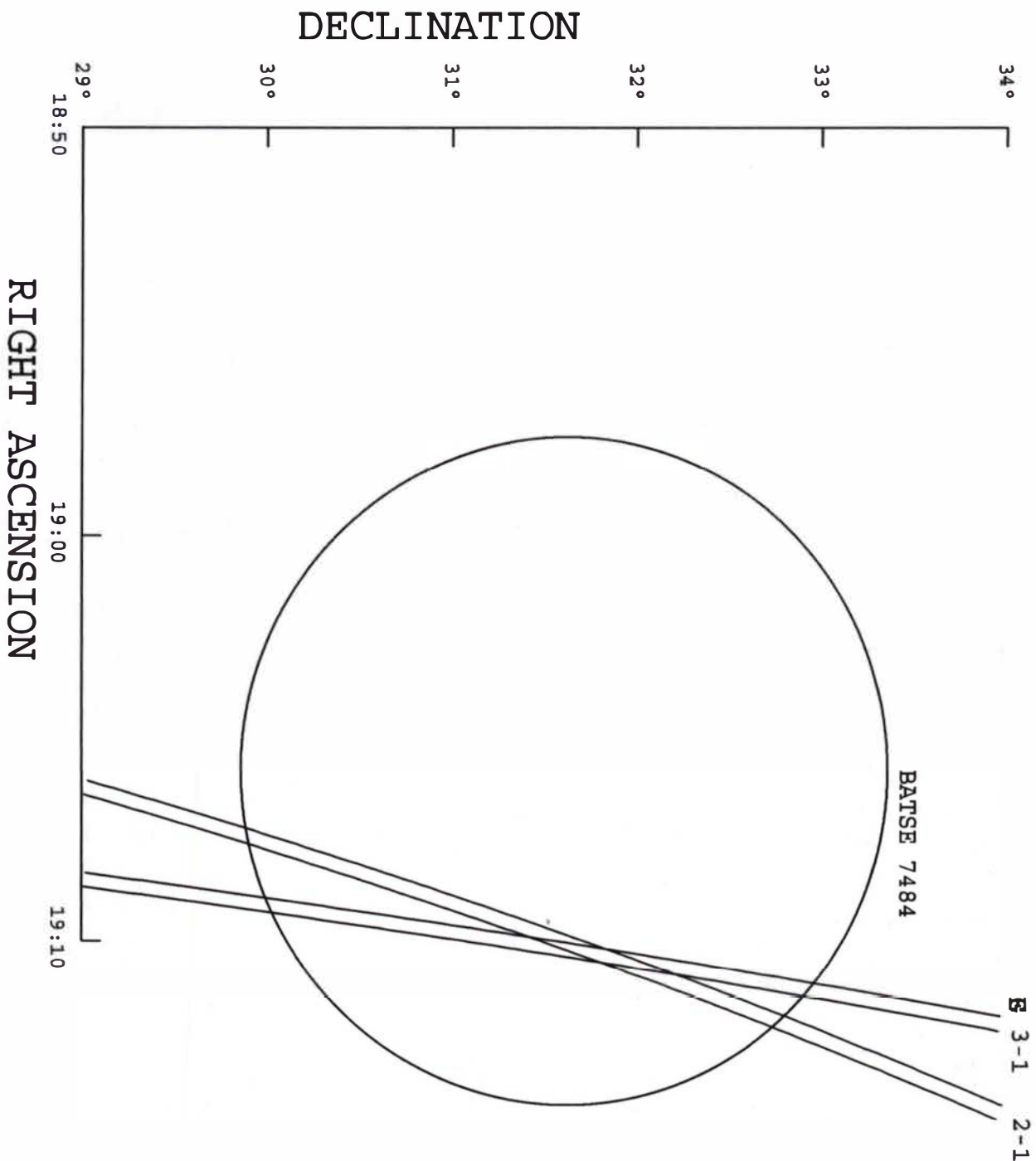
3. NEAR Data

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

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

EVENT OF MAR 19, 1999 21:40

25 / 2 / 0



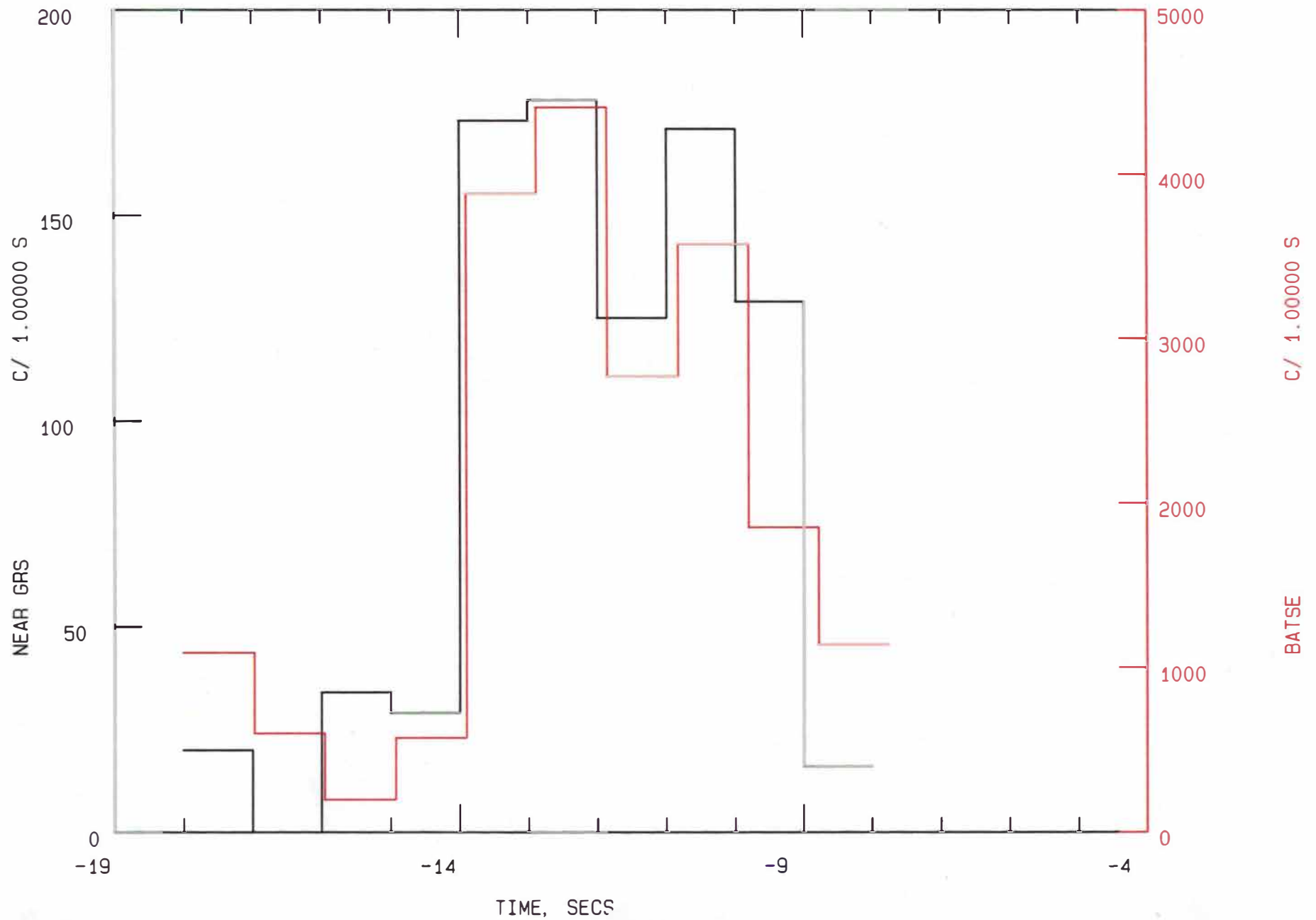
NEAR GRS -BATSE

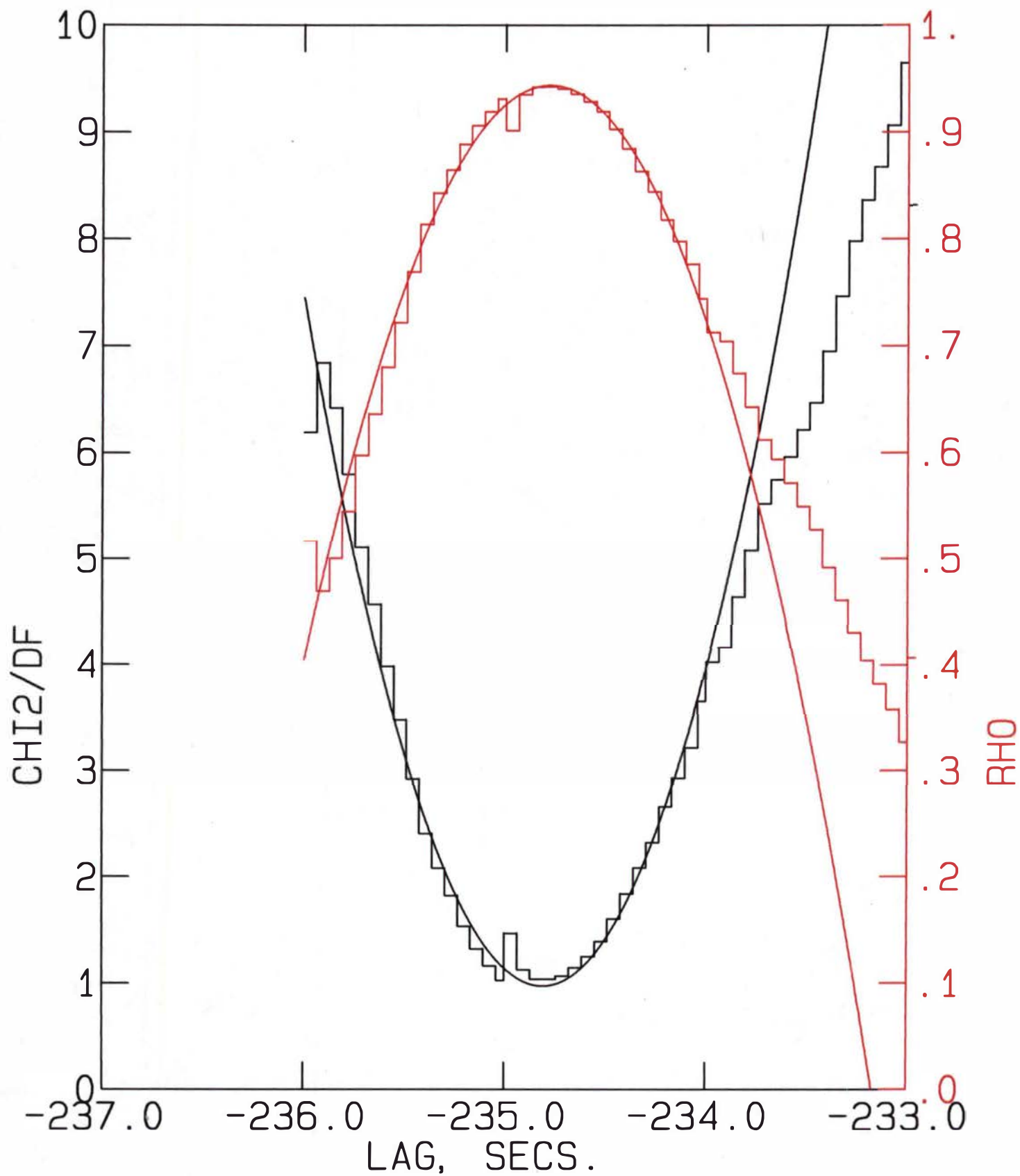
CORRELATION

19/03/99

77608.132

25/ 2/ 0





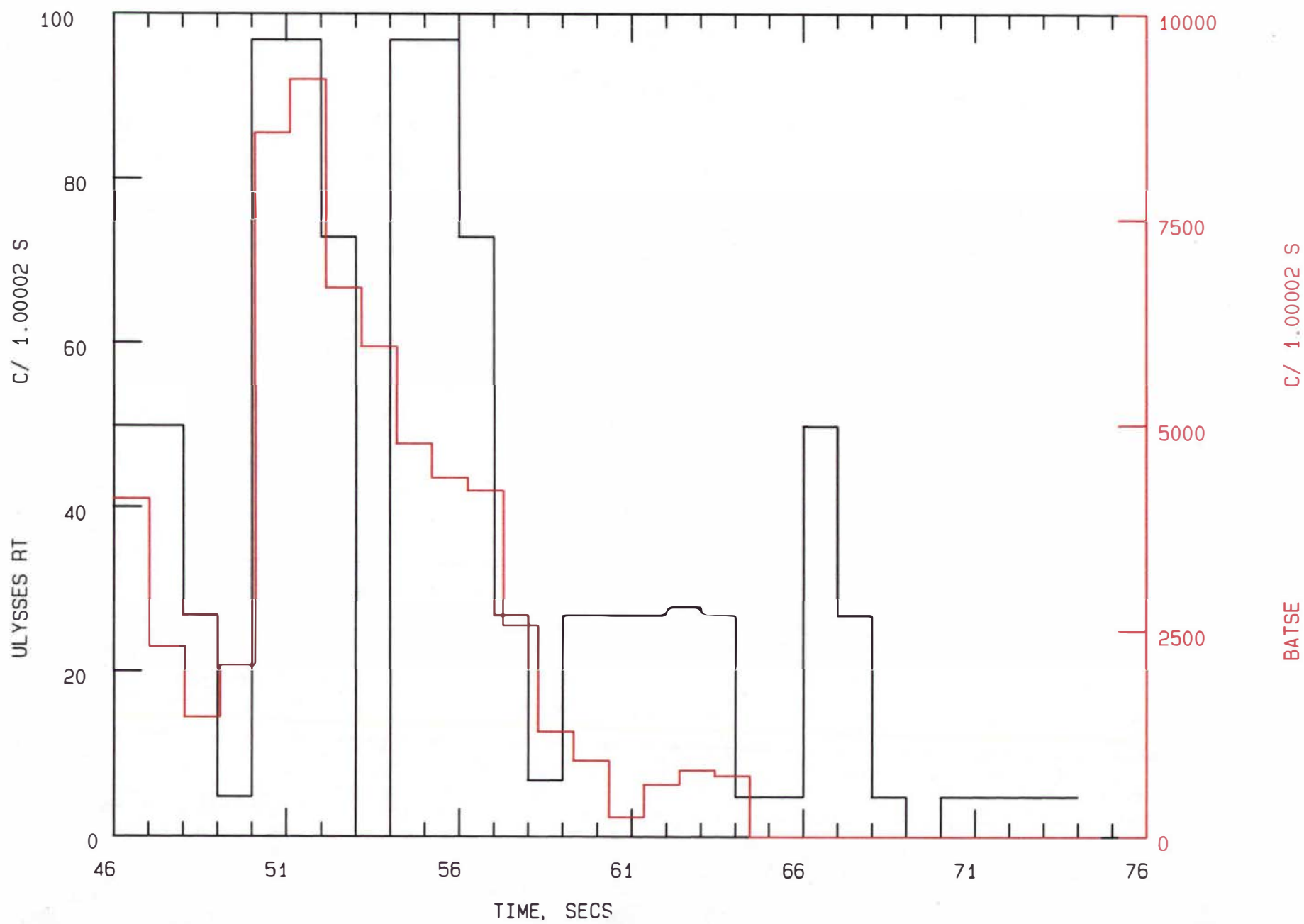
ULYSSES RT-BATSE

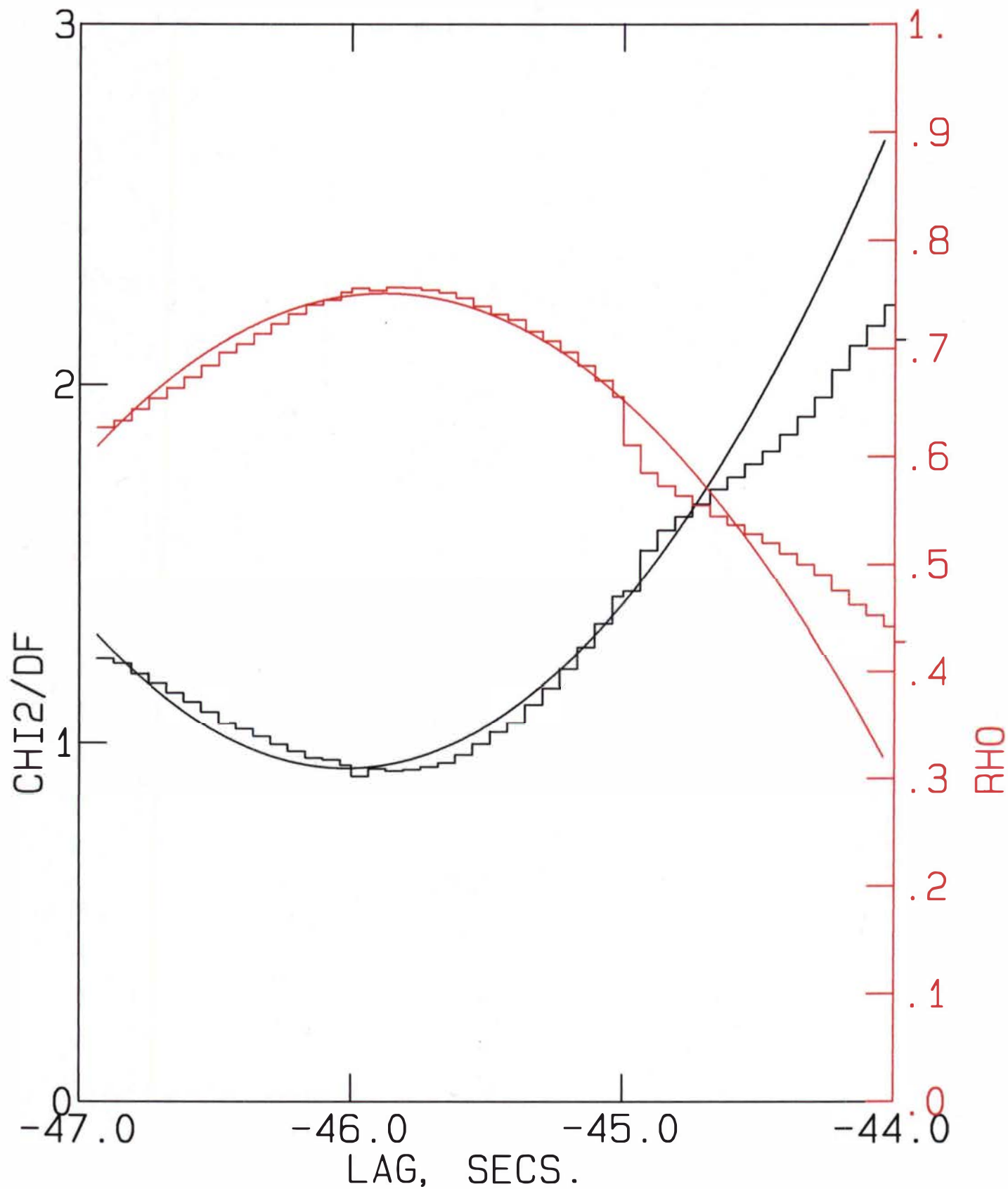
CORRELATION

19/ 3/99

79433.193

25/ 2/ 0

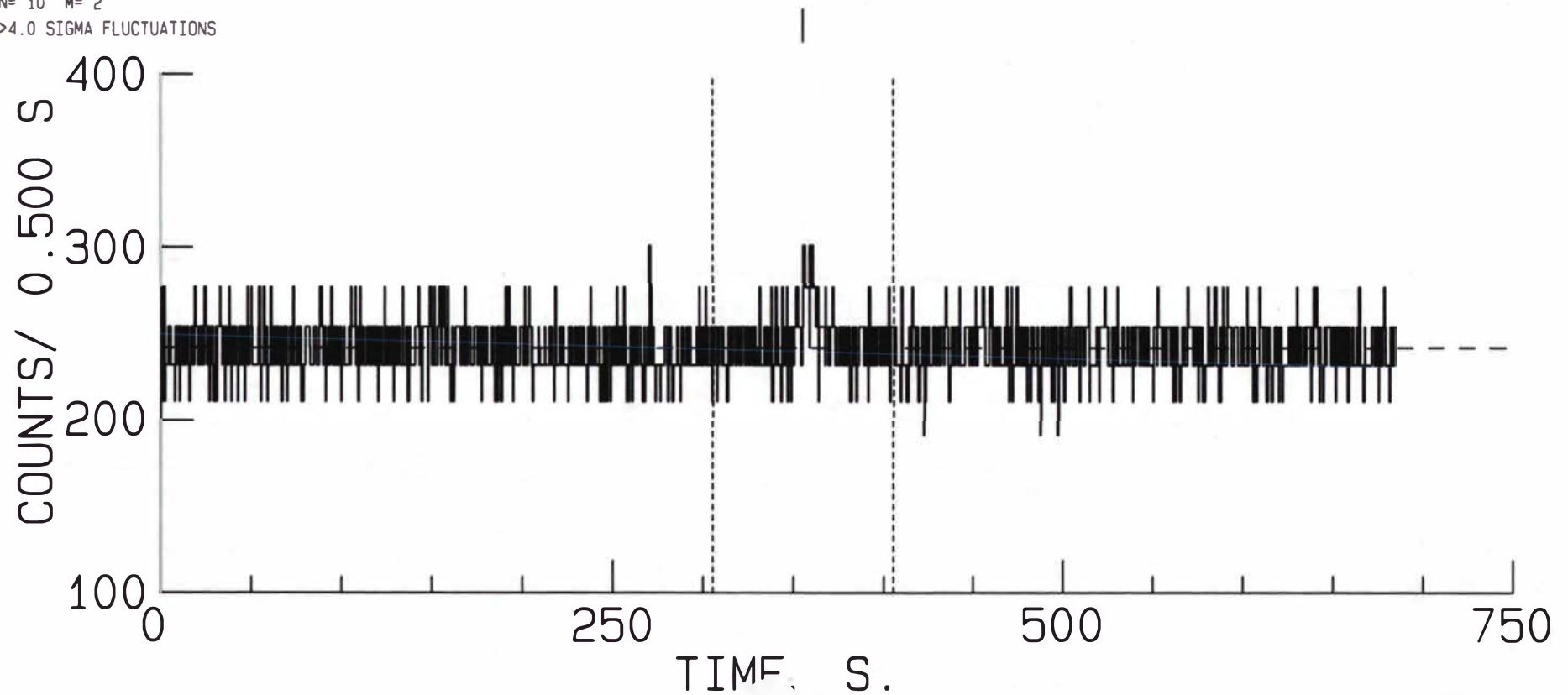




ULYSSES RT
19/ 3/99 79128.179 s
22- 150 keV

25 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



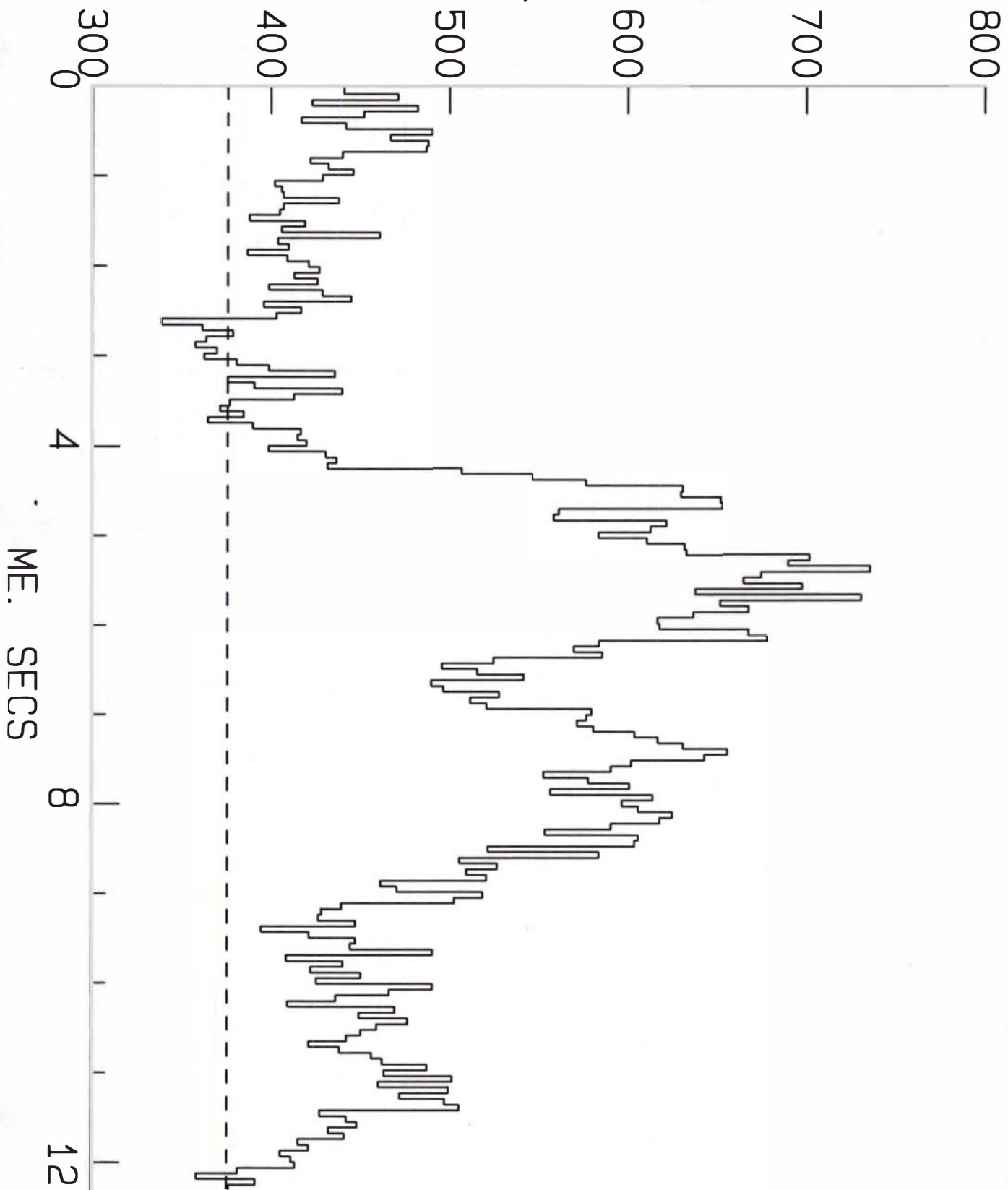
BATSE

19/03/99

78046.393

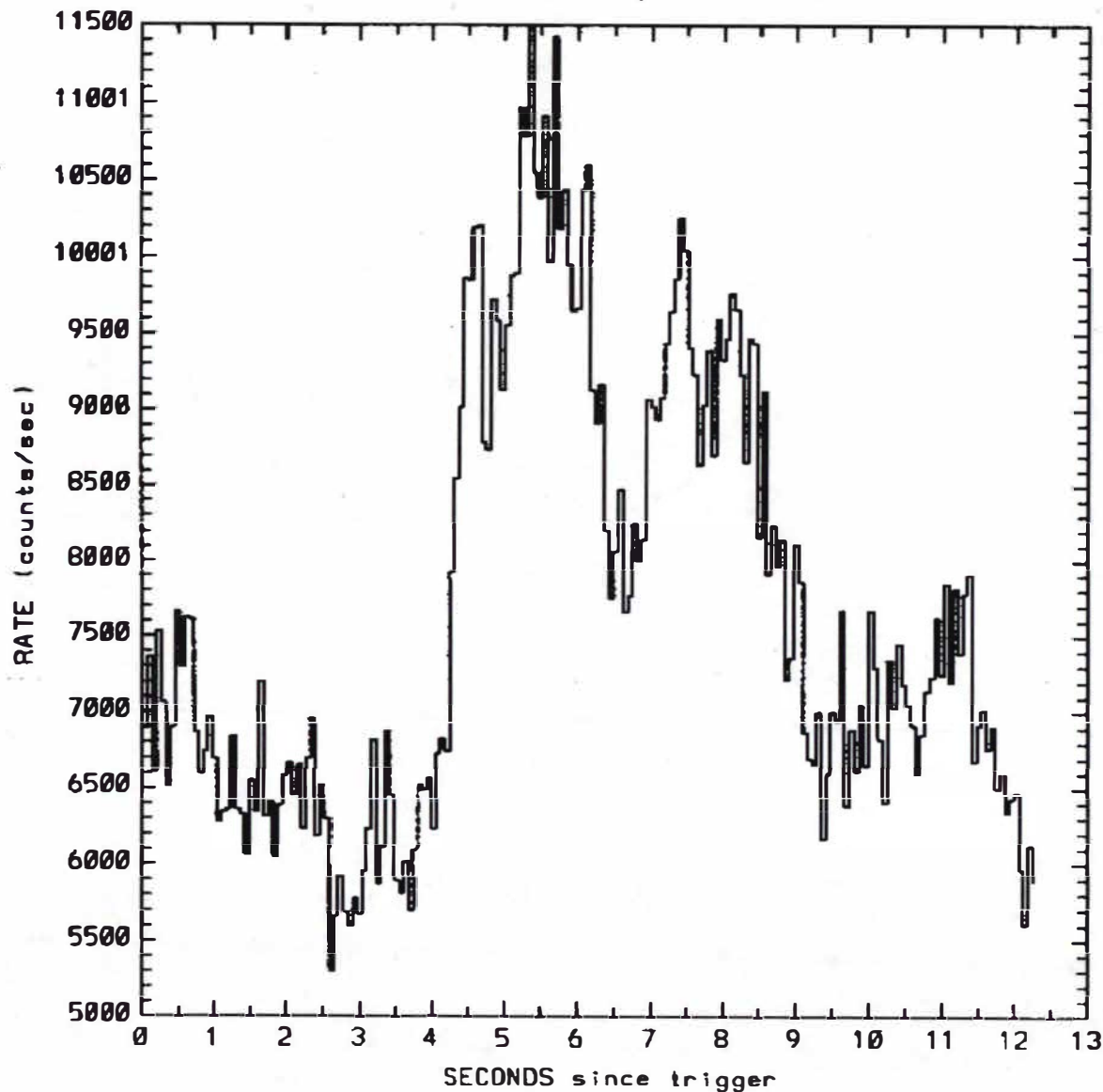
100-1000 keV

COUNTS/0.064 S



25 / 2 / 0

MER Data for K. Hurley, No. 7484



24-FEB-2000 11:45:26

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

Trigger # : 7484

Trigger Time:
11256 / 78846.393

Burst Data Type:
MER

Deadtime
Corrected: N
Background Data
Type: CDMT
Minimum Integ. Time:
0.064 second(s)

Detectors (7..8).
-----10

Channels:
(7..15)

Quality Mask:
BOTSP1

BATSE

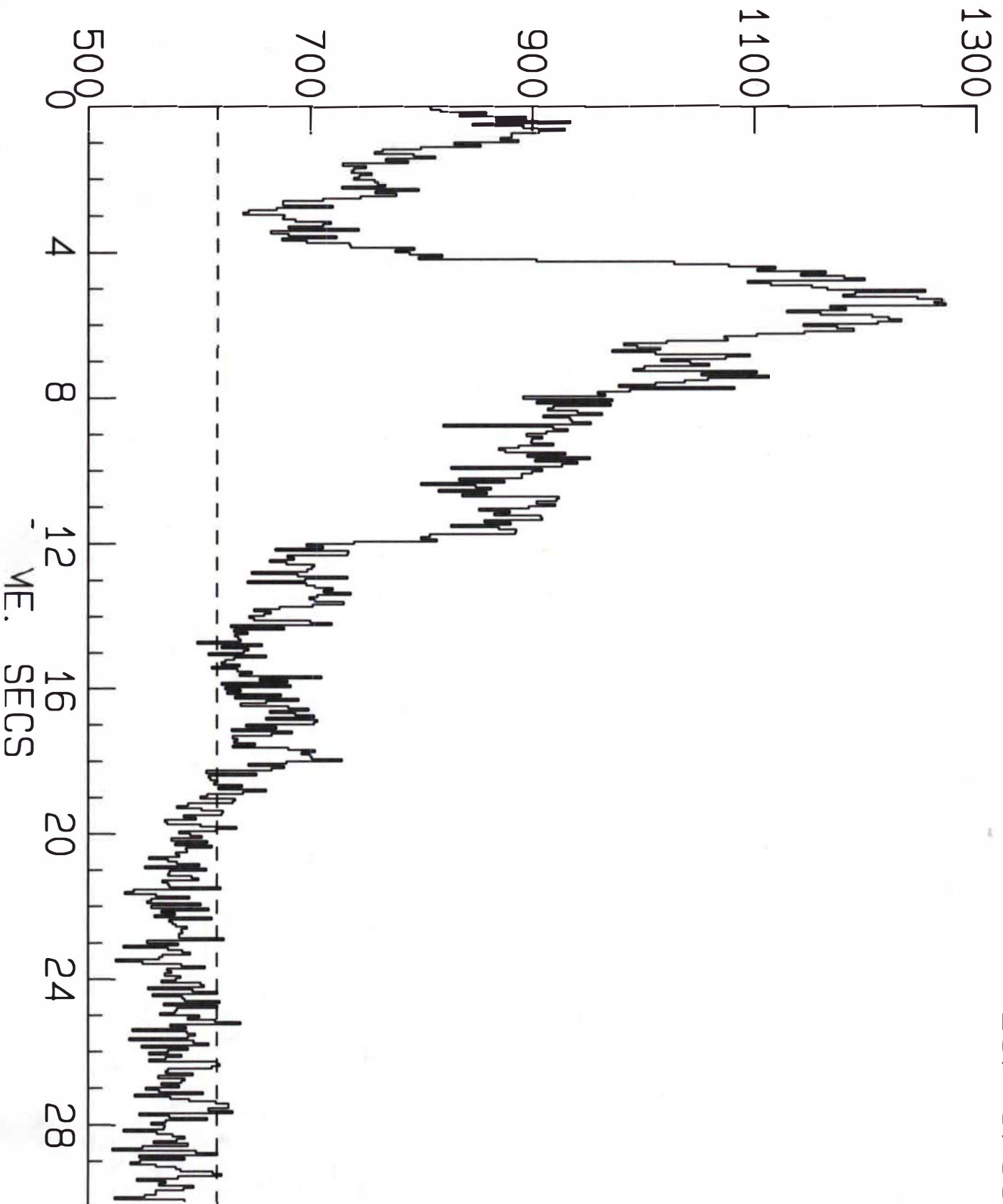
19/03/99

78046.393

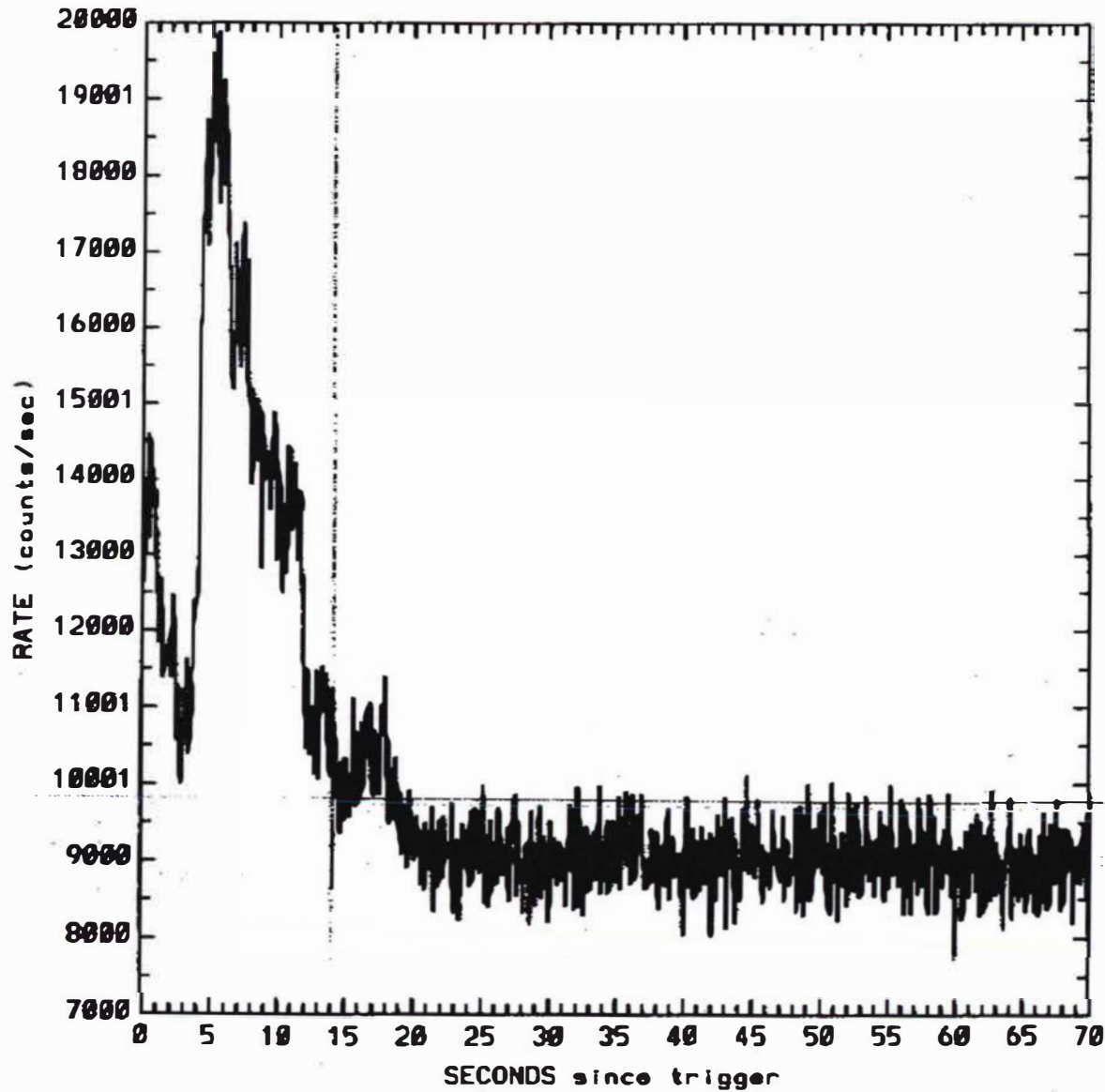
25- 100 keV

COUNTS/0.064 S

29 / 3 / 99



MER Data for K. Hurley. No. 7484



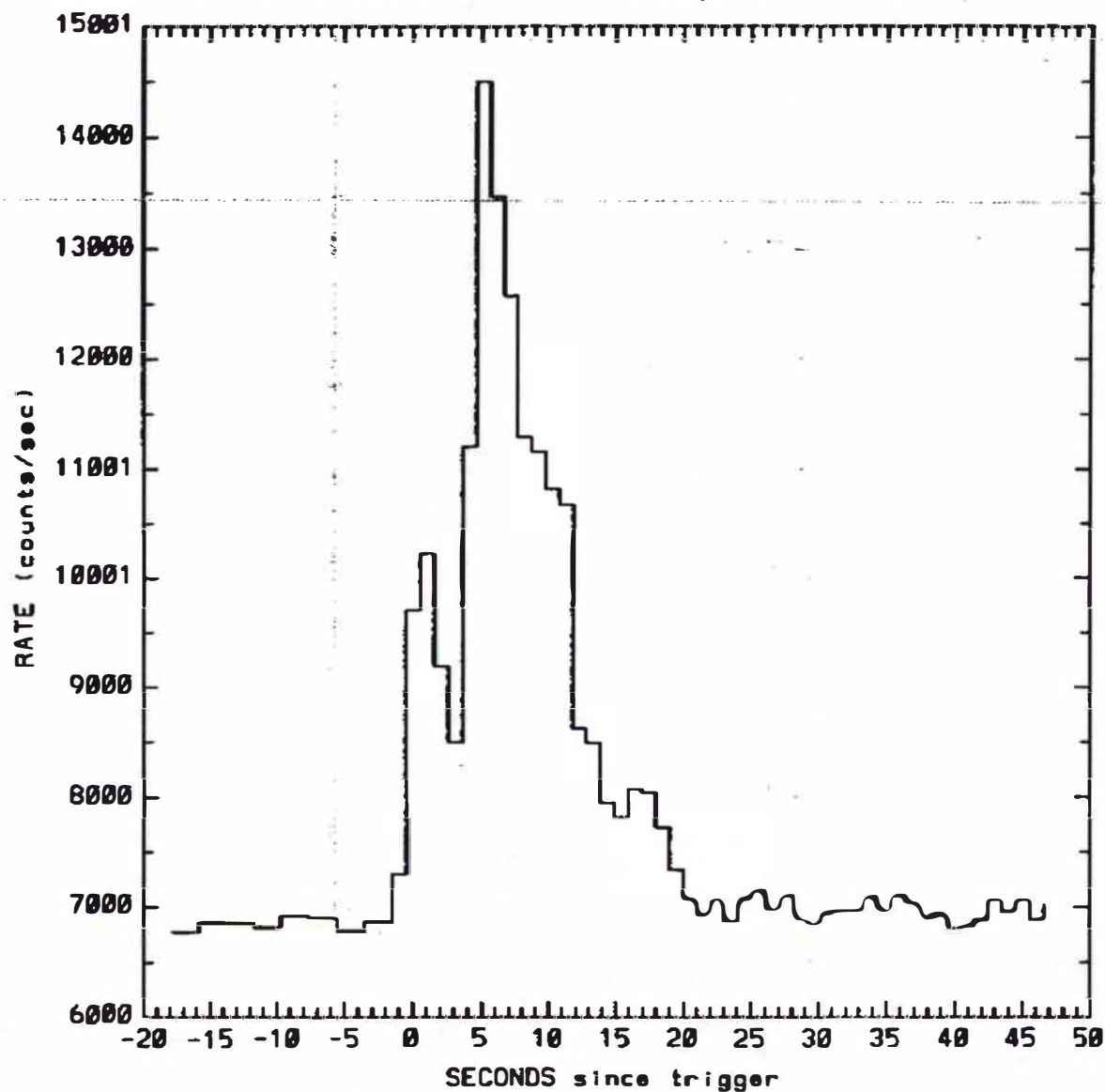
27-MAR-1999 15:03.46

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

Trigger # . 7484

Trigger Time:
11256 / 78046.393Burst Data Type:
MERDeadtime
Corrected. NBackground Data
Type: CONTMinimum Integ. Time:
0.064 secondsDetectors (7..8),
-----18Channels:
(1..7)Quality Mask:
BOTSP1

DISCLB Data for K. Hurley, No. 7484



24-MAR-1999 08:00:31

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # = 7484

Trigger Time:
11256 / 78046.393

Burst Data Type:
DISCLB

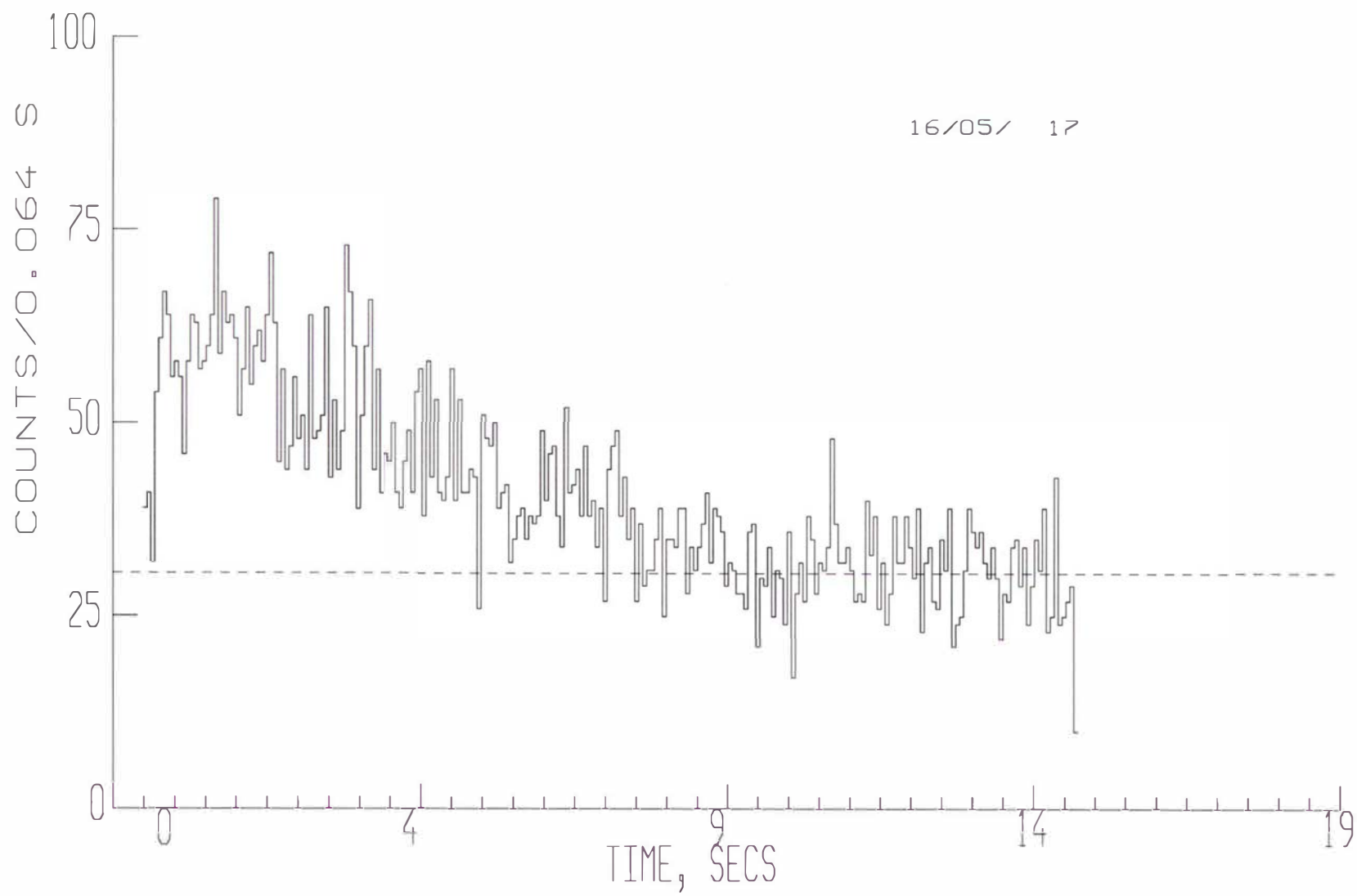
Deadtime
Corrected: N
Background Data
Type: None
Minimum Integ. Time:
1.024 seconds)

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

Discriminators.
(1, 2)

Quality Mask.
801SP1

KONUS 19/03/99 78051.001
50- 200 keV

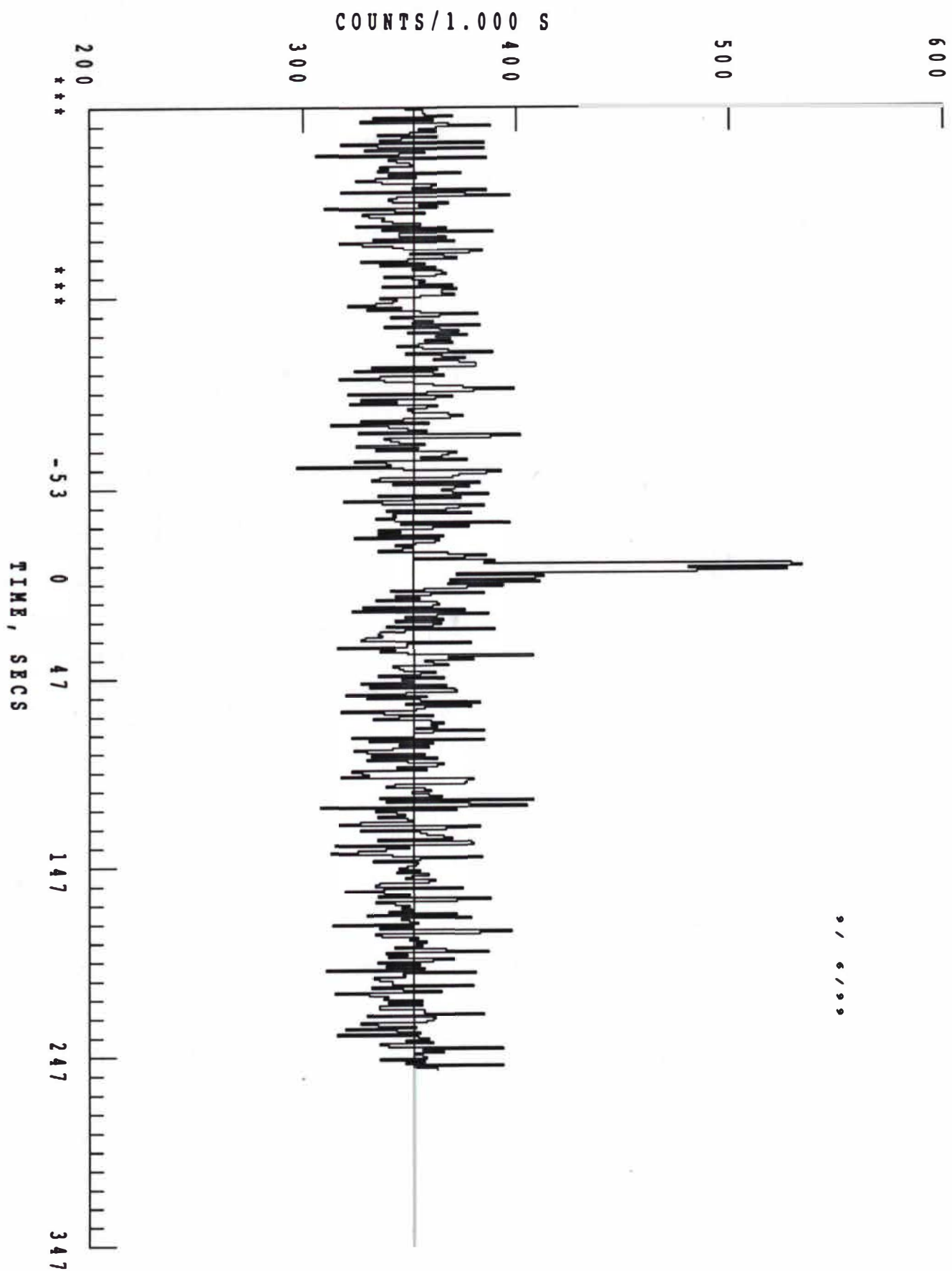


NEAR

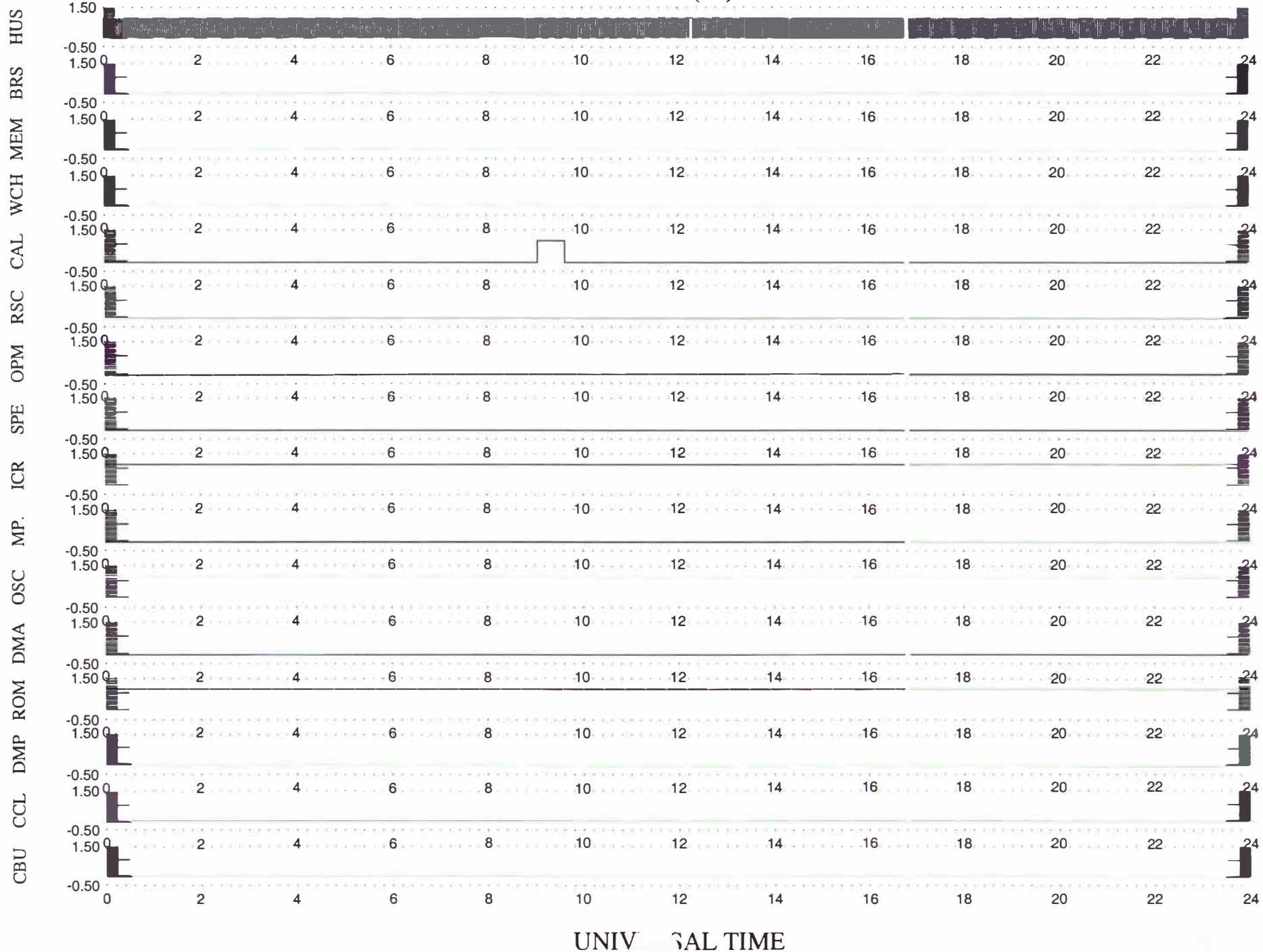
19/03/99

77608.132

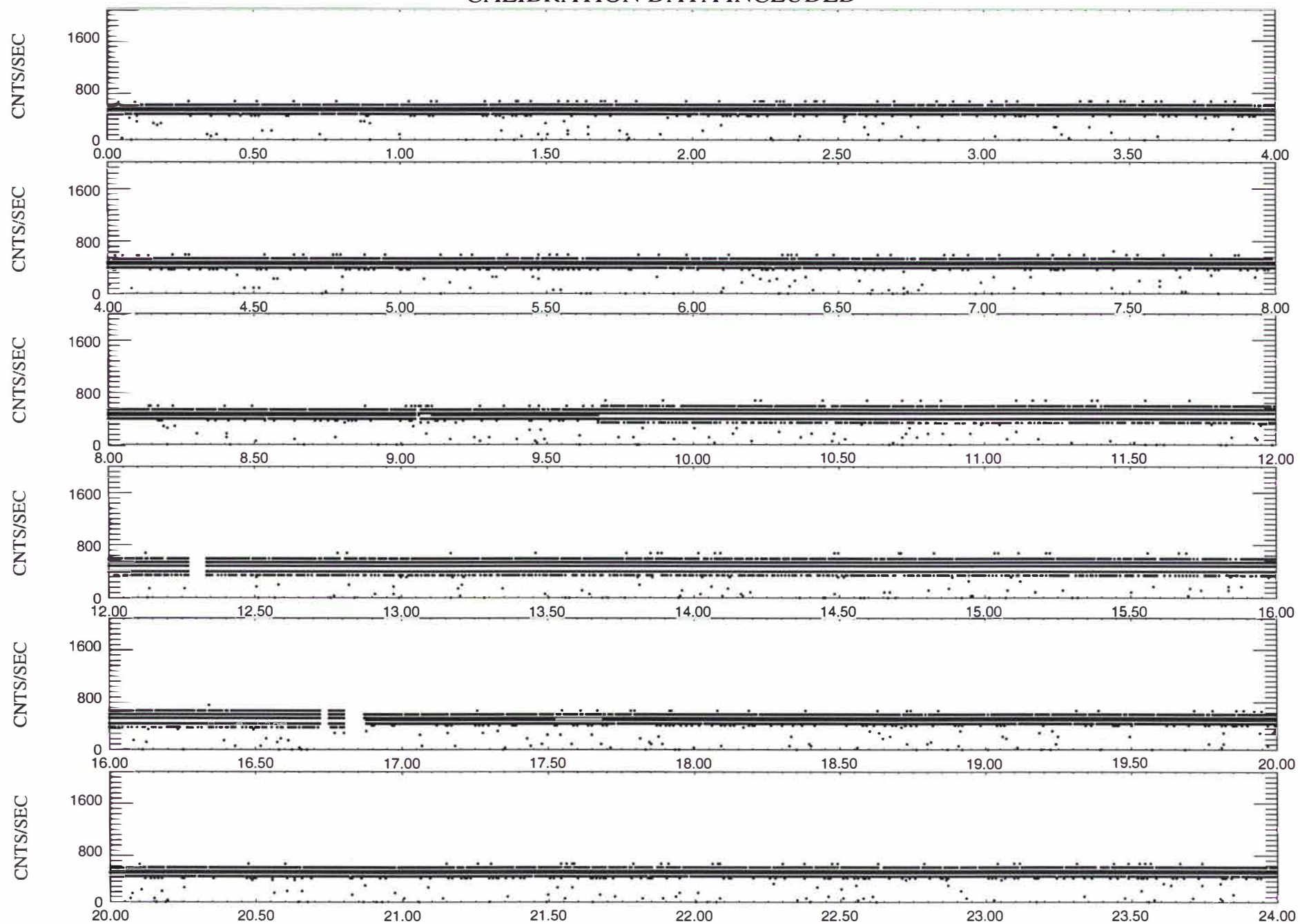
100-1000 keV



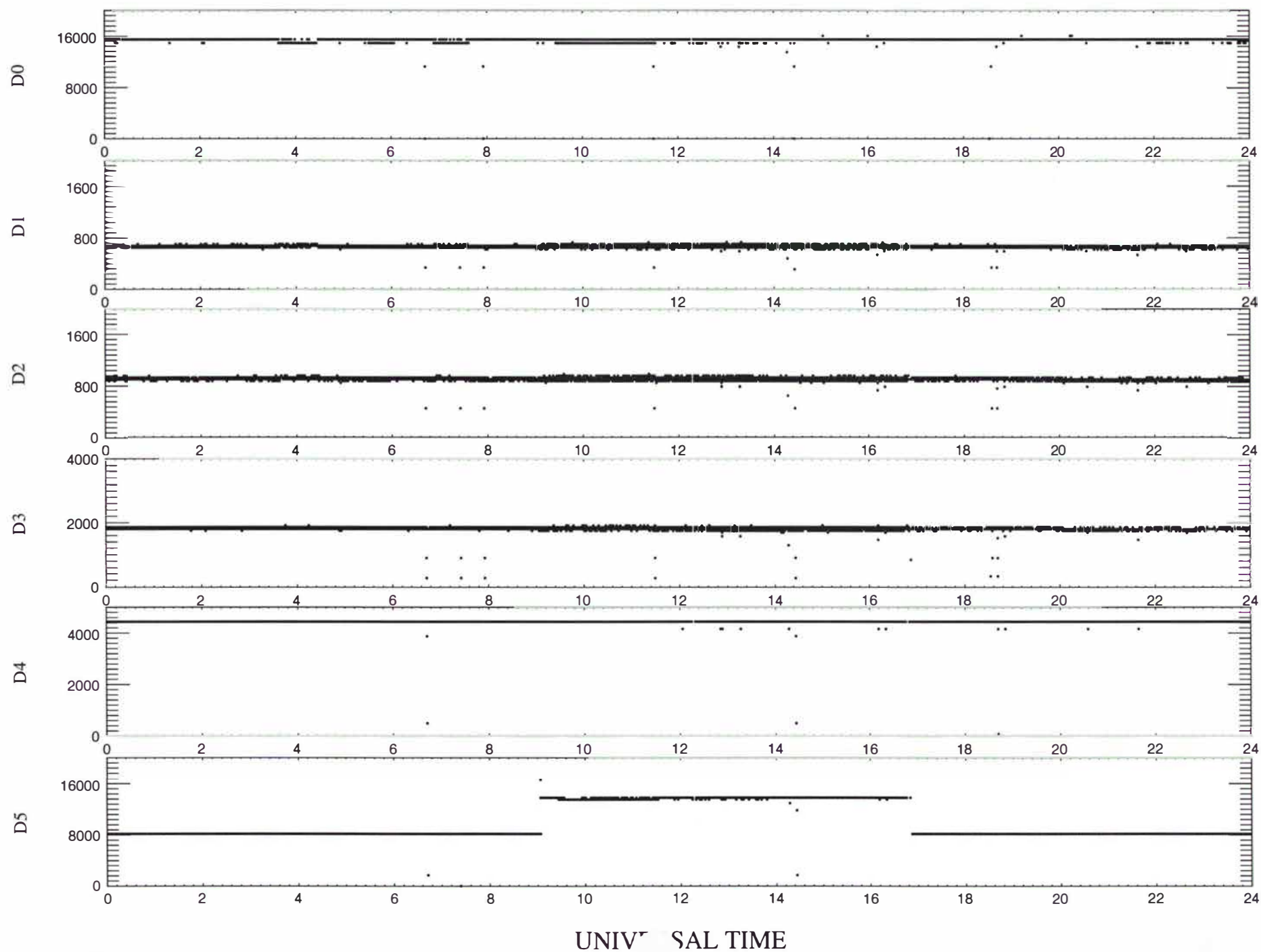
NO BURST (10)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Mon Mar 22 10:27:32 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 KAA05876; Mon, 22 Mar 1999 10:27:31 -0800
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 KAA05196
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 22 Mar 1999 10:26:10 -0800 (PST)
Date: Mon, 22 Mar 1999 12:15:26 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990322121526.2021c658@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7485
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7485
EVENT OF 1999 MAR 20 DAY OF YEAR= 79
EVENT CROSSING TIME AT BATSE : 16386. S. OR 04:33:06.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 66.000 38.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 3/ 99 IS:
RA= 150.538 DEC= -8.923 DIST= 4.170 AU
BATSE-ULYSSES DISTANCE = 623855195. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 88.77 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 44.53 SECS.
CROSSING TIME AT ULYSSES IS 16431. S. OR 04:33:50 +/- 411.88 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 3/ 99 IS:
RA= 220.421 DEC= -13.457 DIST= 0.749 AU
MARS-BATSE DISTANCE = 112075800. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 33.43 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 311.99 SECS.
CROSSING TIME AT MARS IS 16698. S. OR 04:38:17 +/- 40.50 SECONDS

BATSE BURST TRIGGER

NO.: 7485

TIME: TJD=1257 SECONDS=16386

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=159.1 AZIMUTH=241.3 ERROR=4.1 DEGREES

COMMENTS:

GRB. STRONG SINGLE PULSE WITH SECONDARY WEAKER PULSE.
TOTAL DURATION APPROX. 43 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7485	990320	11257	16386	3000	066	+38	43

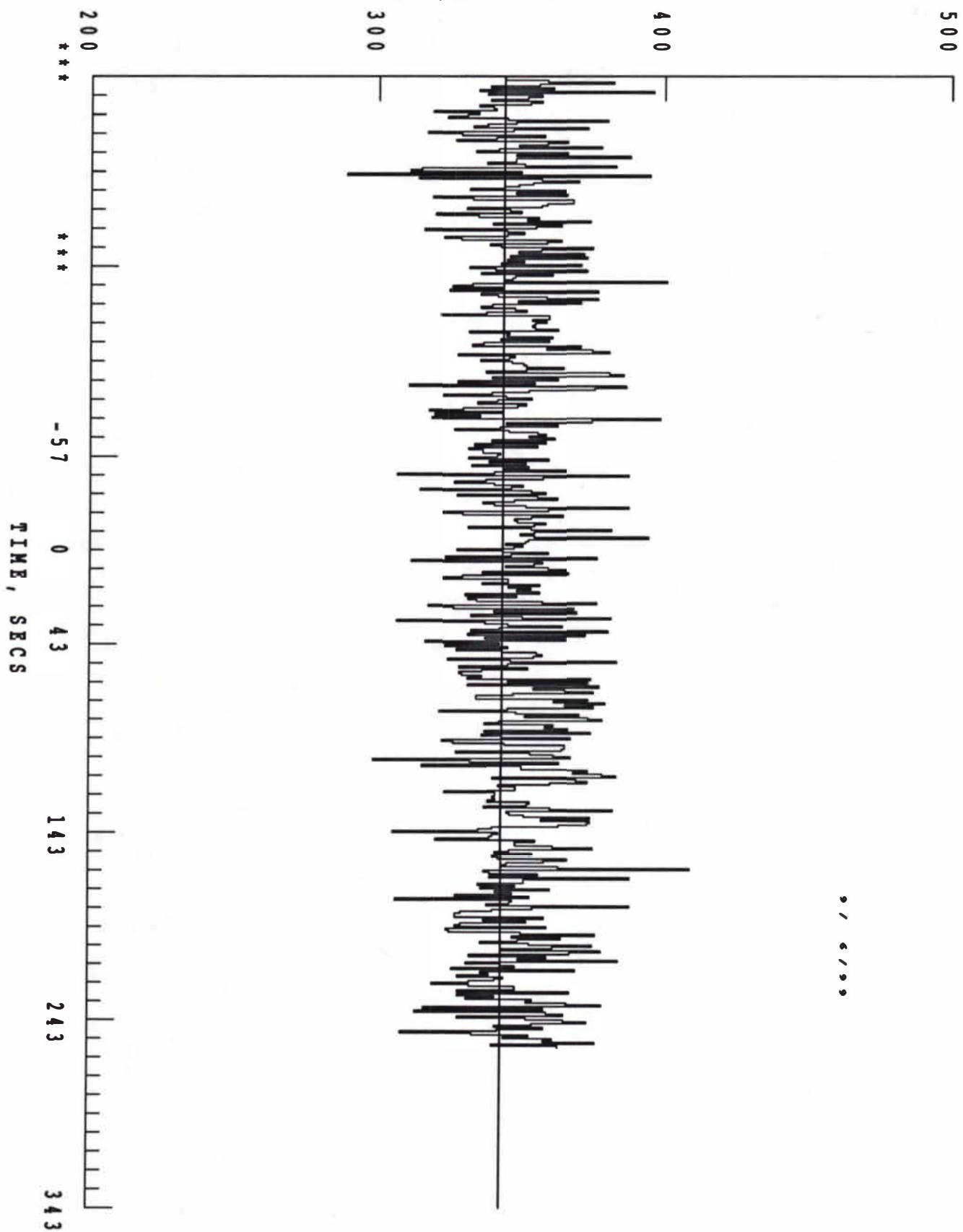
NEAR

20/03/99

15991.125

100-1000 keV

COUNTS/1.000 S



BATSE BURST# 7485

ULYSSES RT

22 / 3 / 99

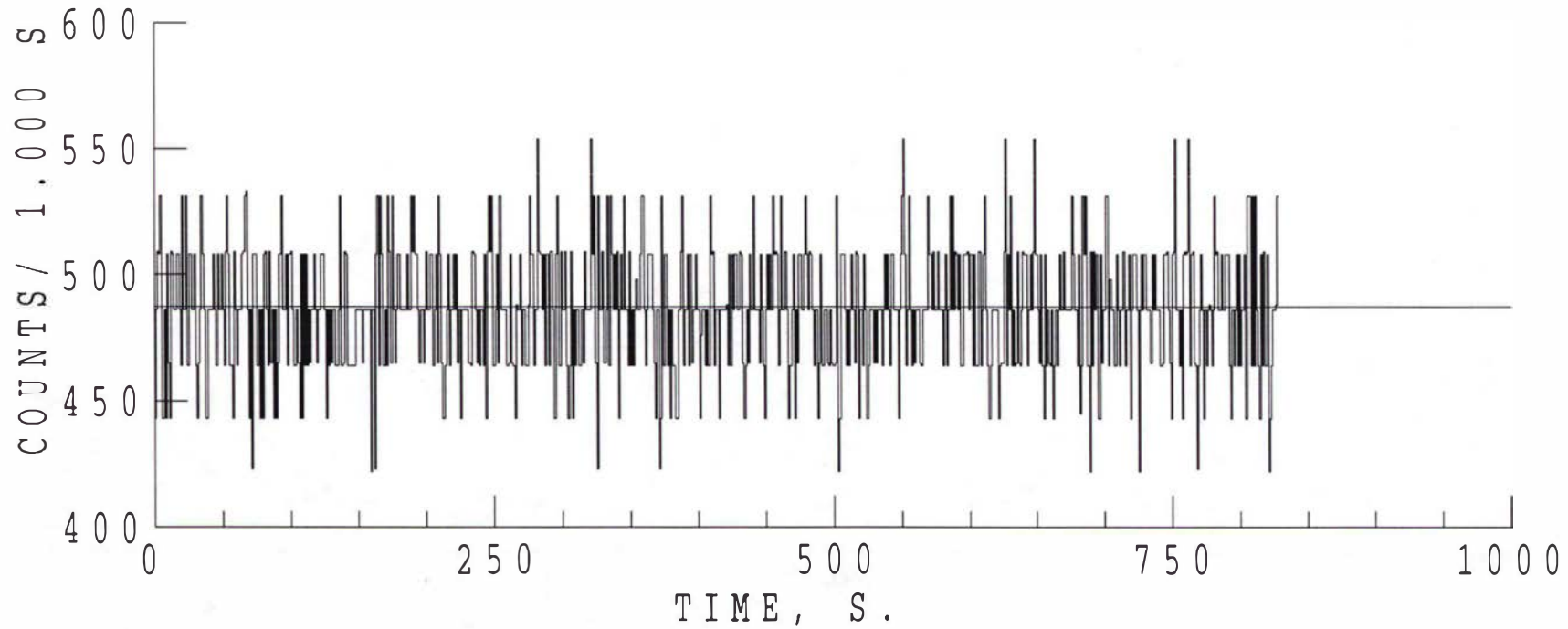
20 / 3 / 99 16020.414 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Mon Mar 22 10:34:21 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 KAA06174; Mon, 22 Mar 1999 10:34:20 -0800
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 KAA05356
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 22 Mar 1999 10:32:59 -0800 (PST)
Date: Mon, 22 Mar 1999 12:16:53 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990322121653.2021c658@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7486
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7486
EVENT OF 1999 MAR 20 DAY OF YEAR= 79
EVENT CROSSING TIME AT BATSE : 82919. S. OR 23:01:59.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 6.000 7.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 20/ 3/ 99 IS:
RA= 150.375 DEC= -8.892 DIST= 4.174 AU
BATSE-ULYSSES DISTANCE = 624369947. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 35.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1699.32 SECS.
CROSSING TIME AT ULYSSES IS 84618. S. OR 23:30:18 +/- 284.86 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 20/ 3/ 99 IS:
RA= 220.421 DEC= -13.457 DIST= 0.749 AU
MARS-BATSE DISTANCE = 112075800. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 308.29 SECS.
CROSSING TIME AT MARS IS 83227. S. OR 23:07:07 +/- 41.40 SECONDS

BATSE BURST TRIGGER

NO.: 7486

TIME: TJD=1257 SECONDS=82919

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.2 AZIMUTH=333.2 ERROR=3.0 DEGREES

COMMENTS:

GRB RISE FASTER THAN DECAY. DURATION APPROX. 25 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7486	990320	11257	82919	4000	006	+07	25

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data N/A

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

2. BATSE Data

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

3. NEAR Data

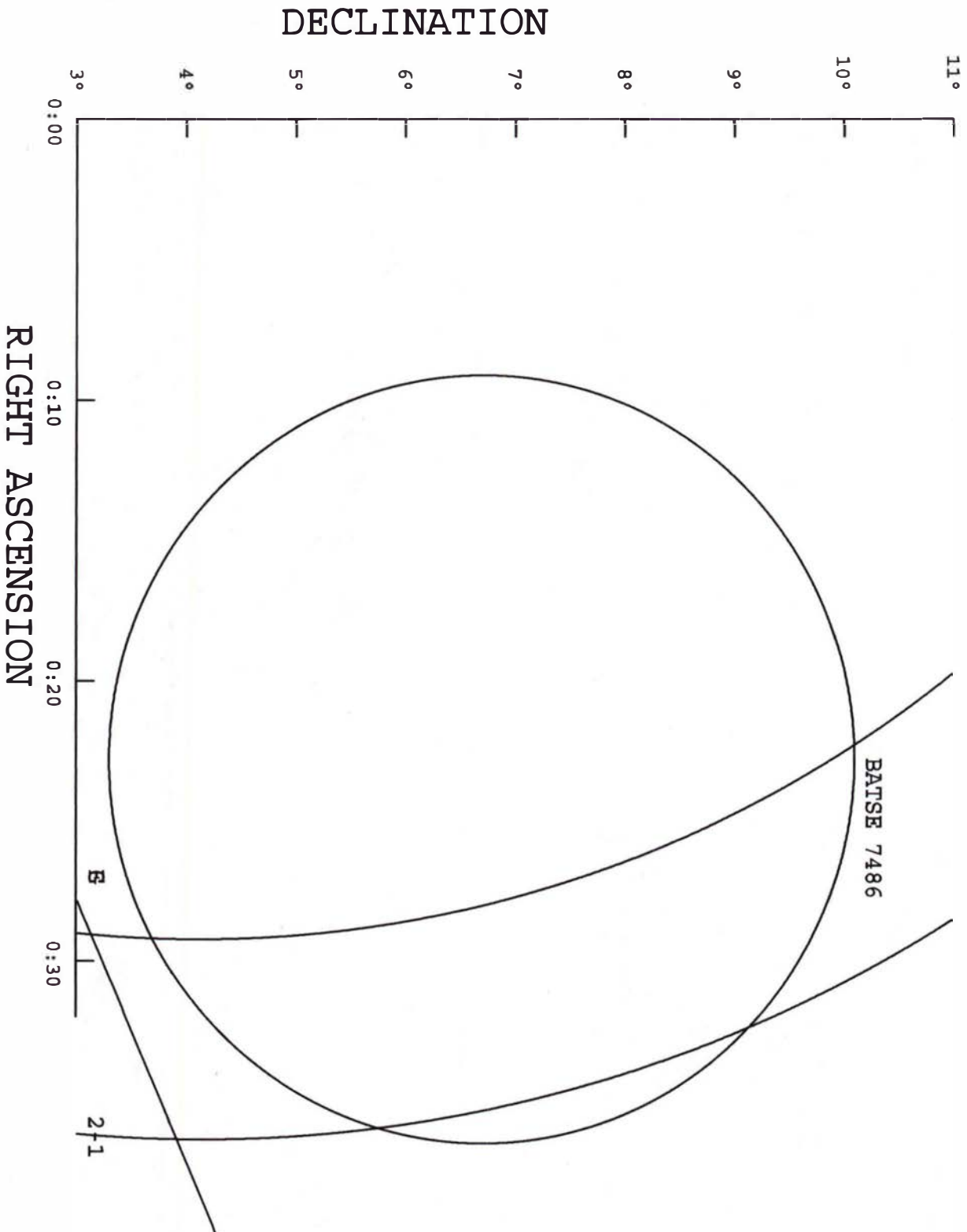
- ☒ Final, correct time used? (Files postmarked vwx@boccl, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ ~~B~~ATSE >100 keV data used for NEAR correlation?

- ☒ ~~A~~CCESS database updated?

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

EVENT OF MAR 20, 1999 23:01

25 / 2 / 0



BATSE

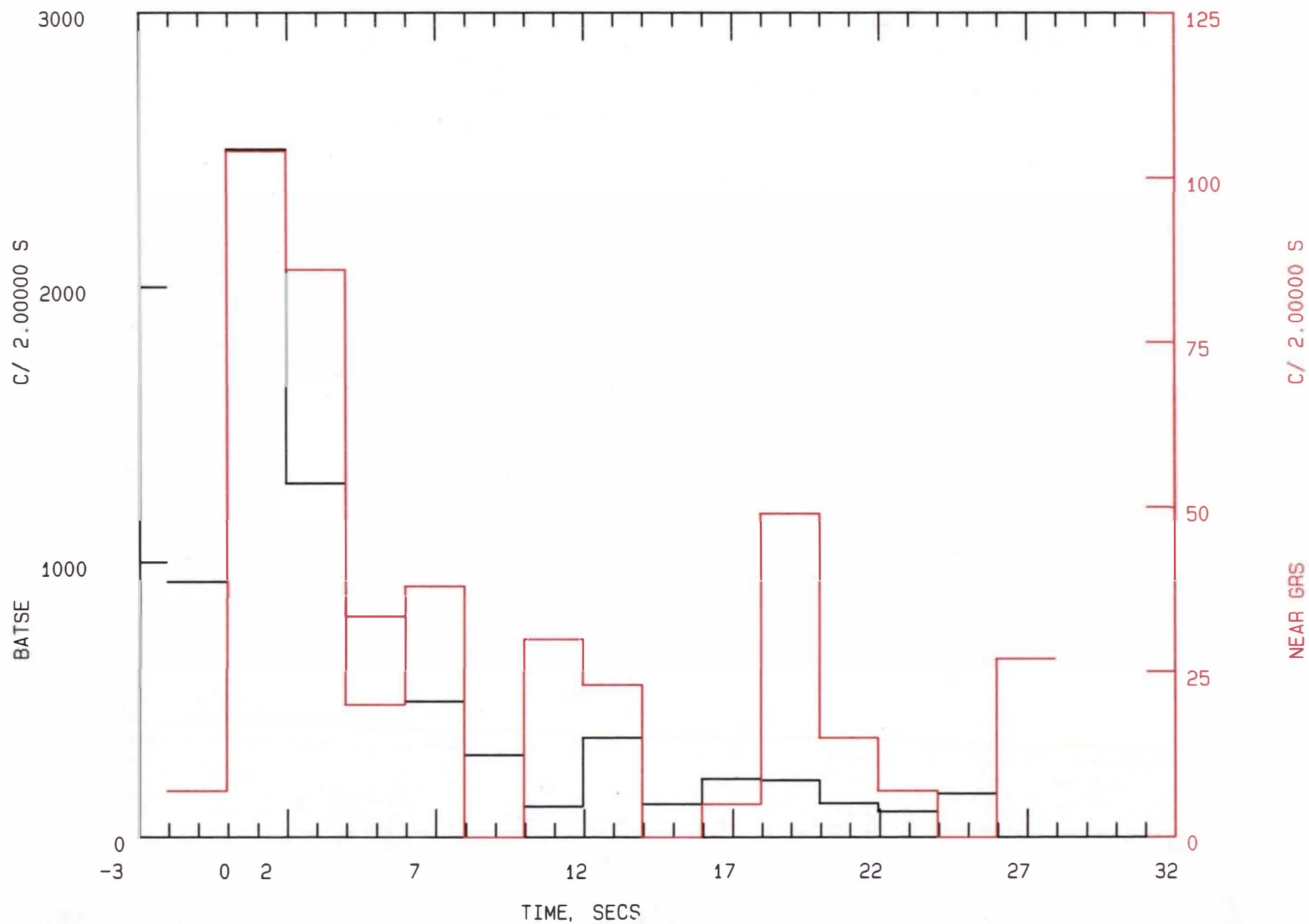
-NEAR GRS

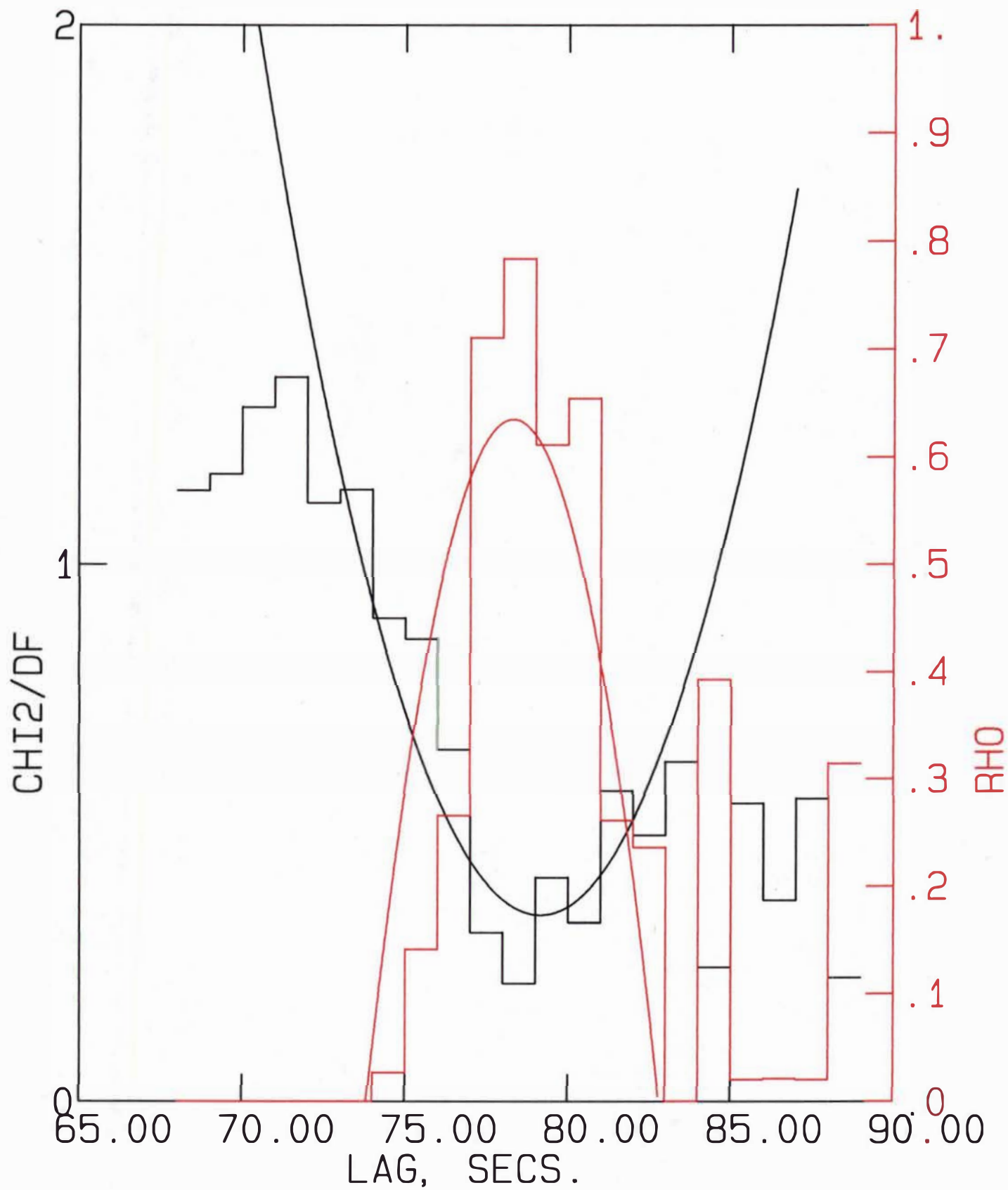
CORRELATION

20/ 3/99

82919.417

25/ 2/ 0



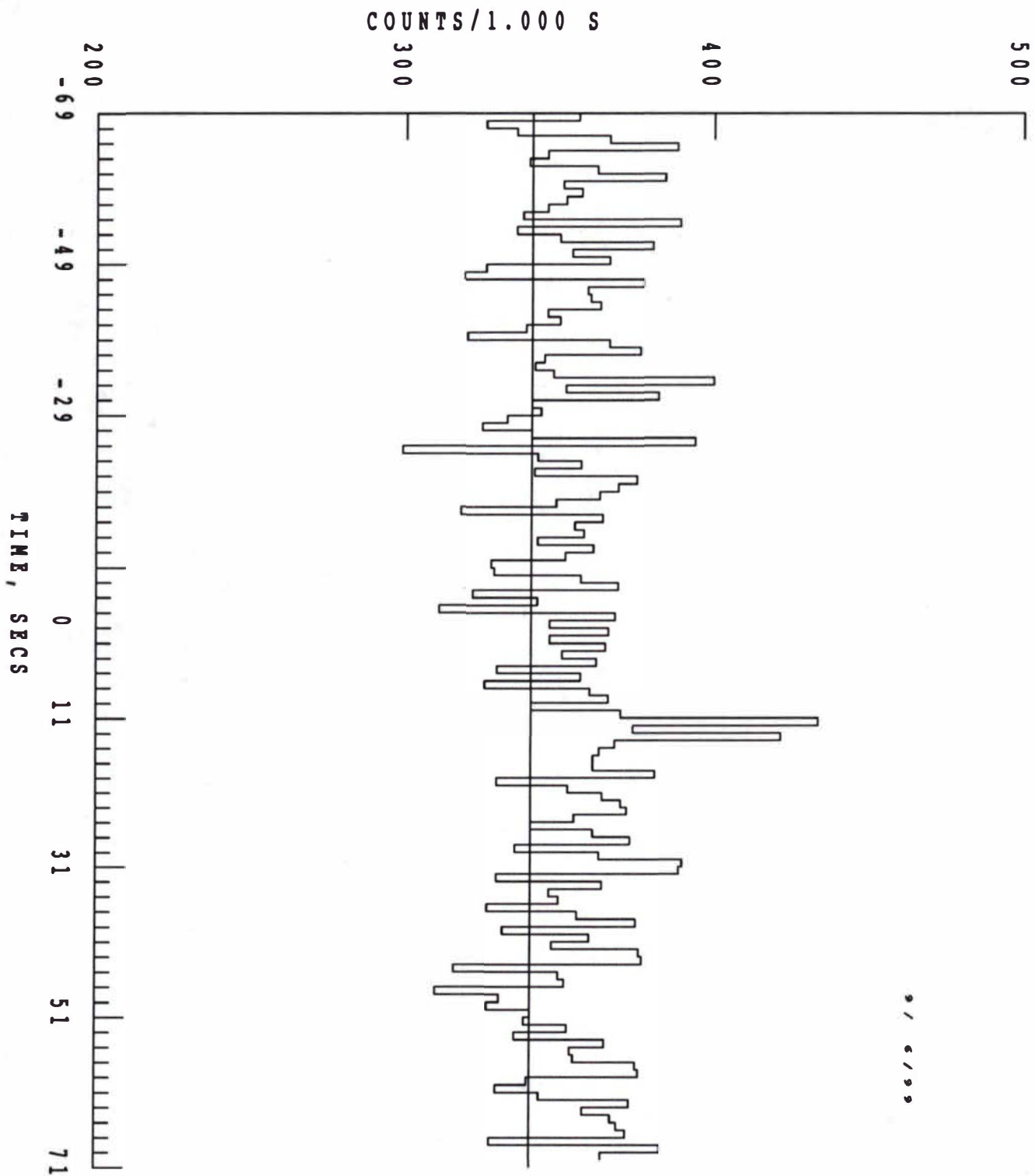


NEAR

20/03/99

81649.108

100-1000 keV



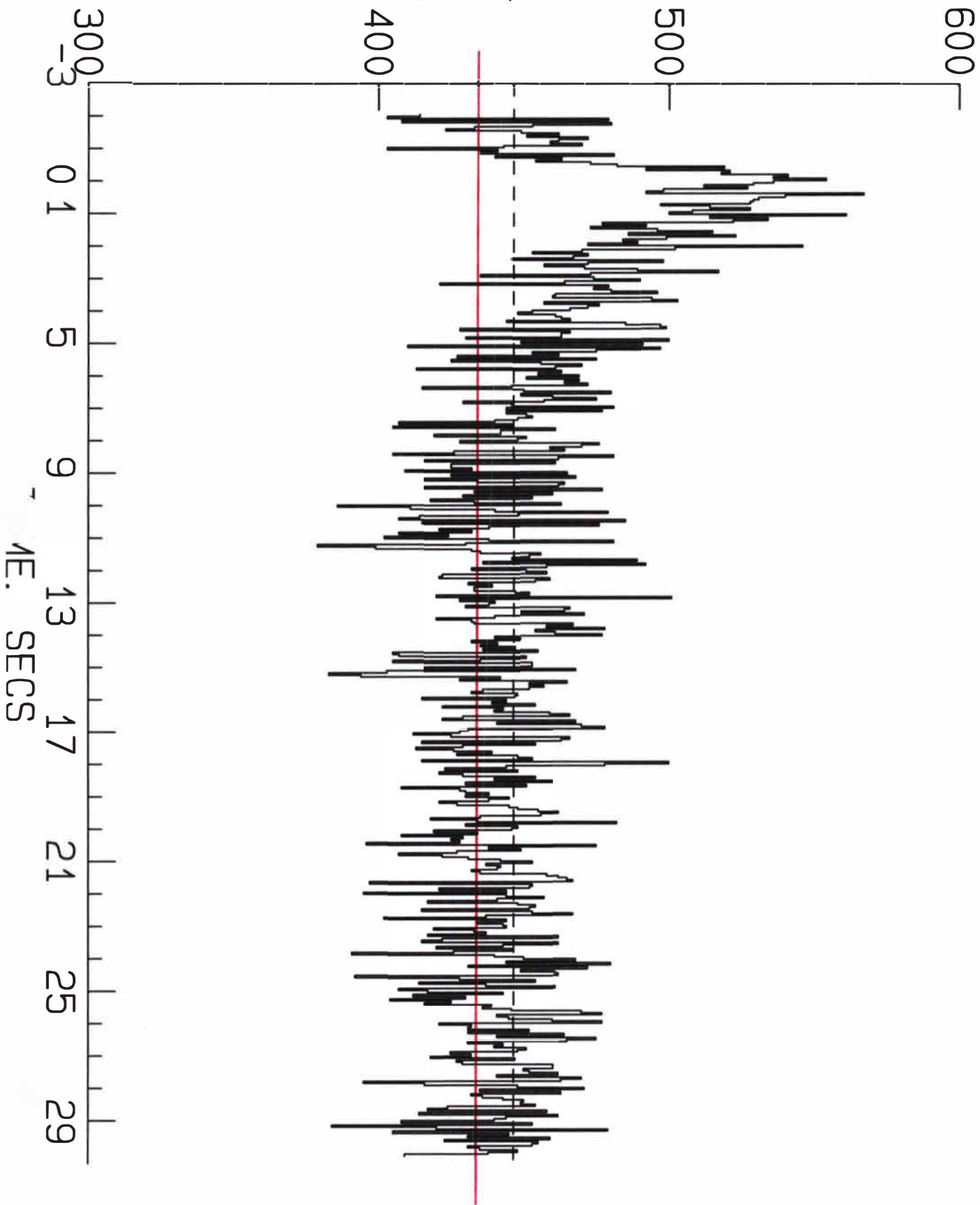
BATSE

20/03/99

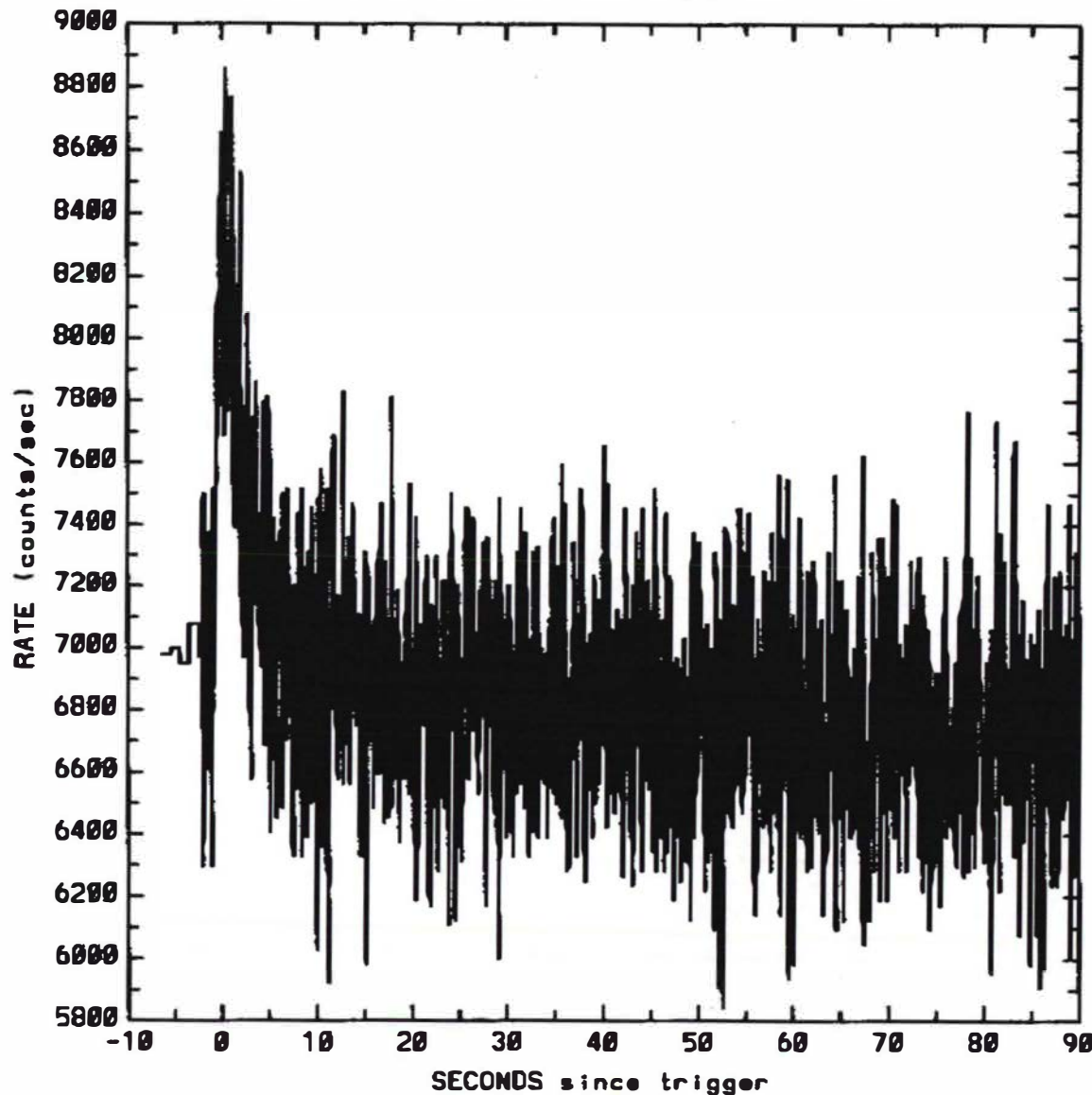
82919.417

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7486



6-AUG-1999 09:07.17

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # . 7486

Trigger Time.
11257 / 82919.417

Burst Data Type.
DISCSC

Deadtime
Corrected. N

Background Data
Type. PREB + DISCLA

Minimum Integ. Time.
0.064 second(s)

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

Discriminators.
(3 . 4)

Quality Mask.
001SP1

BATSE BURST# 7486

ULYSSES RT

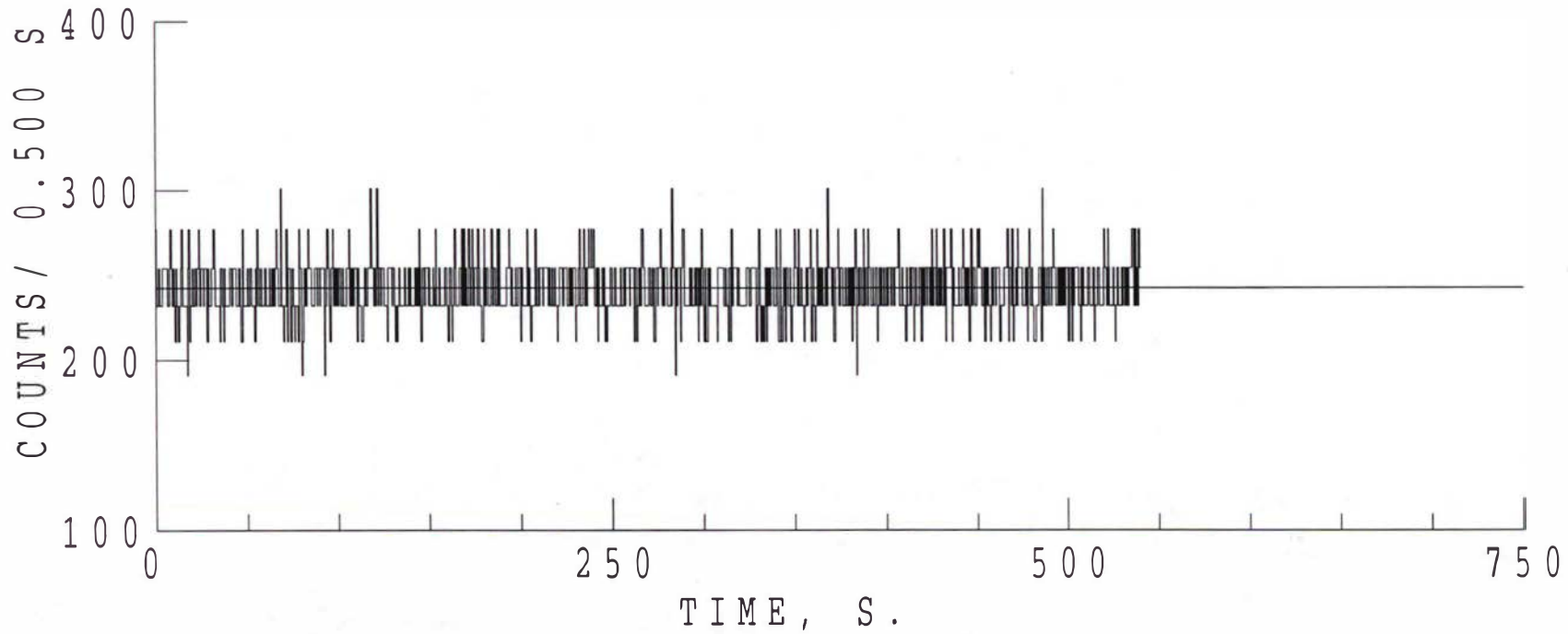
22 / 3 / 99

20 / 3 / 99 84348.109 s

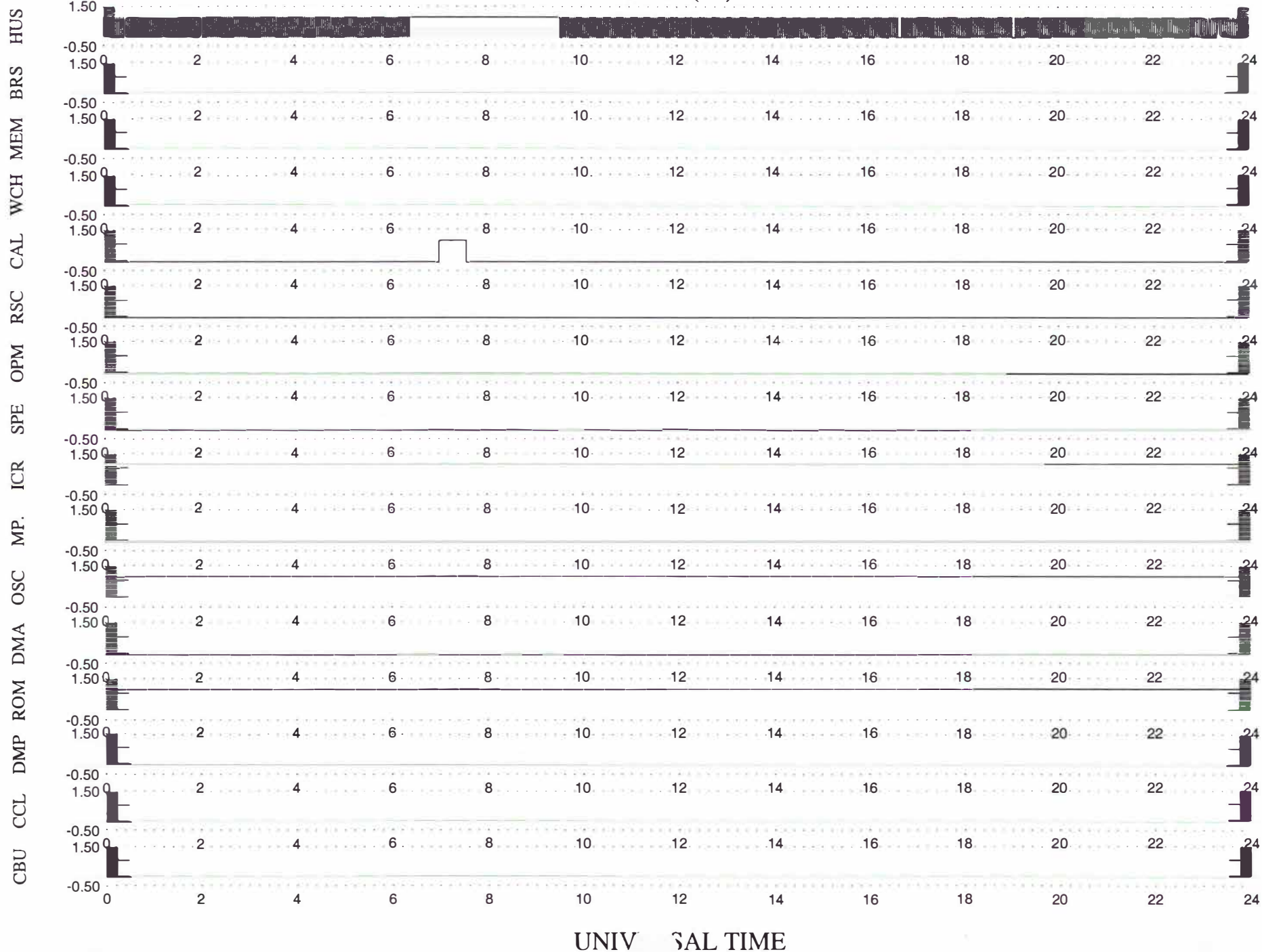
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

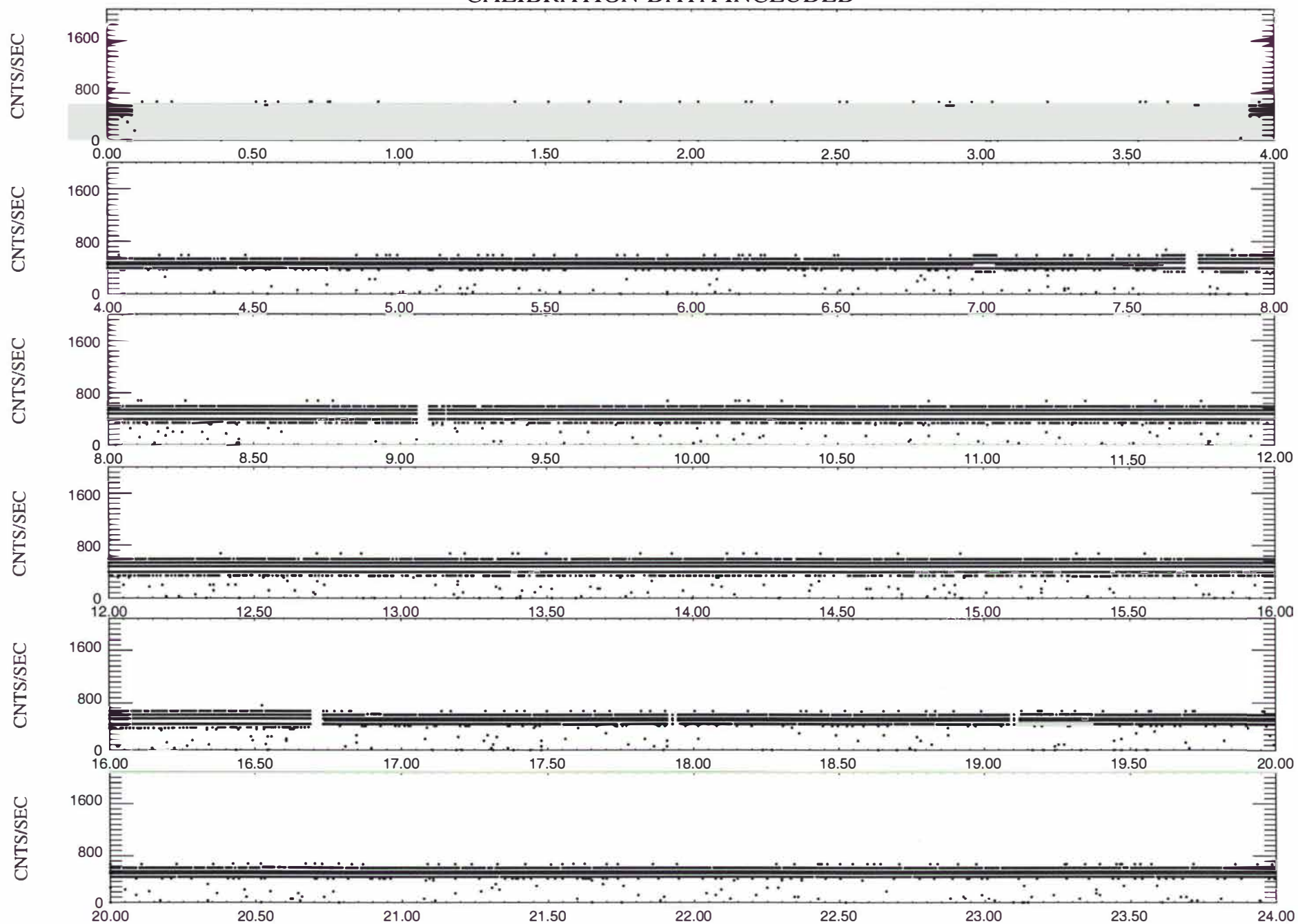
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



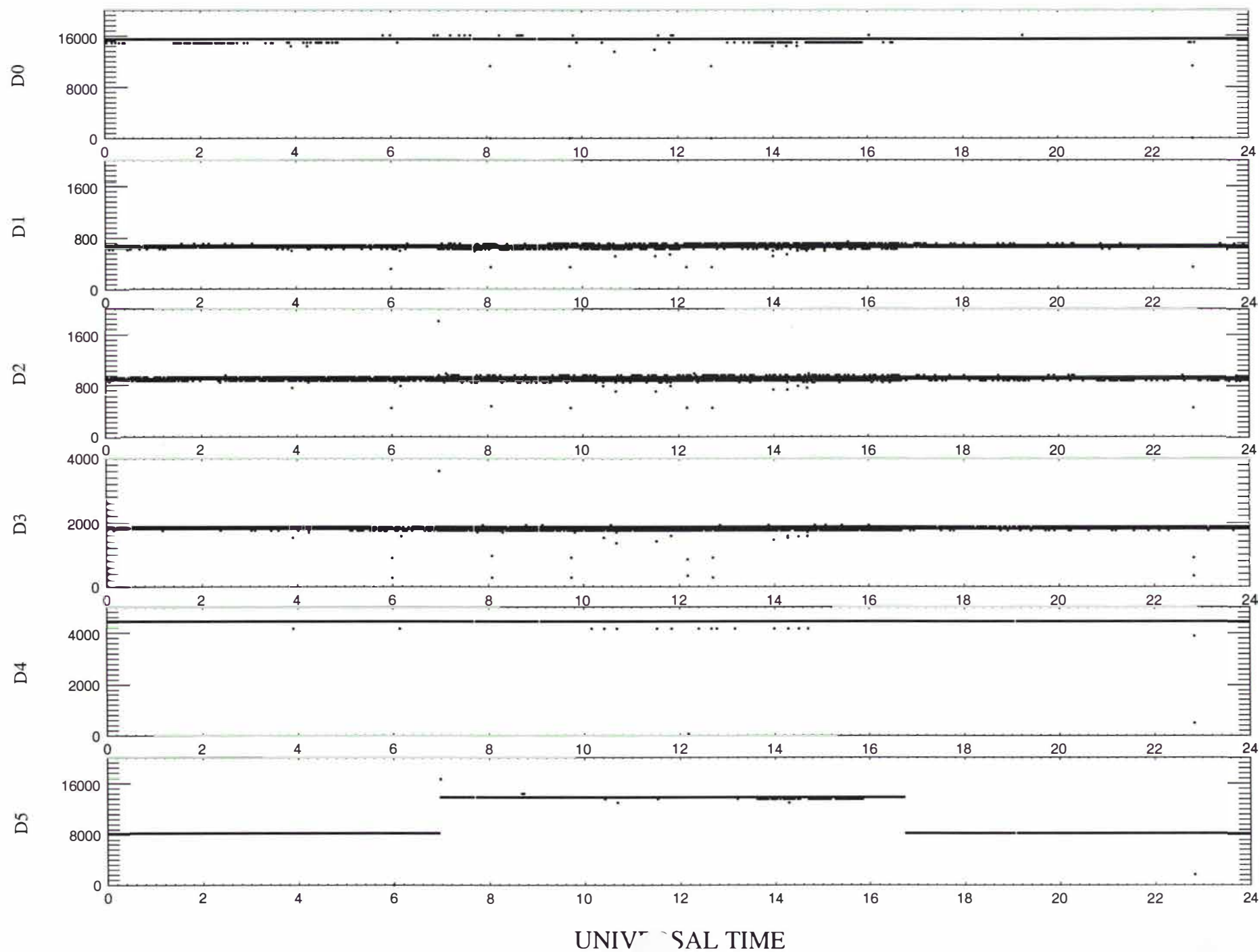
NO BURST (10)



CALIBRATION DATA INCLUDED



UNIVRSAL TIME



From khurley@sunspot.ssl.berkeley.edu Tue Mar 23 09:51 PST 1999

Date: Tue, 23 Mar 1999 09:49:19 -0800

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: GRB 990313, 990314, 990315, 990321

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAR 13 1999 09:43*	moderate, 32 ms long	2072
MAR 14 1999 05:06*	moderate, 32 ms long	2072
MAR 15 1999 12:27*	weak, 32 ms long	2072
MAR 21 1999 16:07*	weak, 32 ms long	2072

*suspected to come from SGR1900+14. If so, the Earth-crossing time would have been ~1465 s earlier.

Were these events detected by anyone else?

CC: ulyssesbursts alias list

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

Date: Jan 7 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?

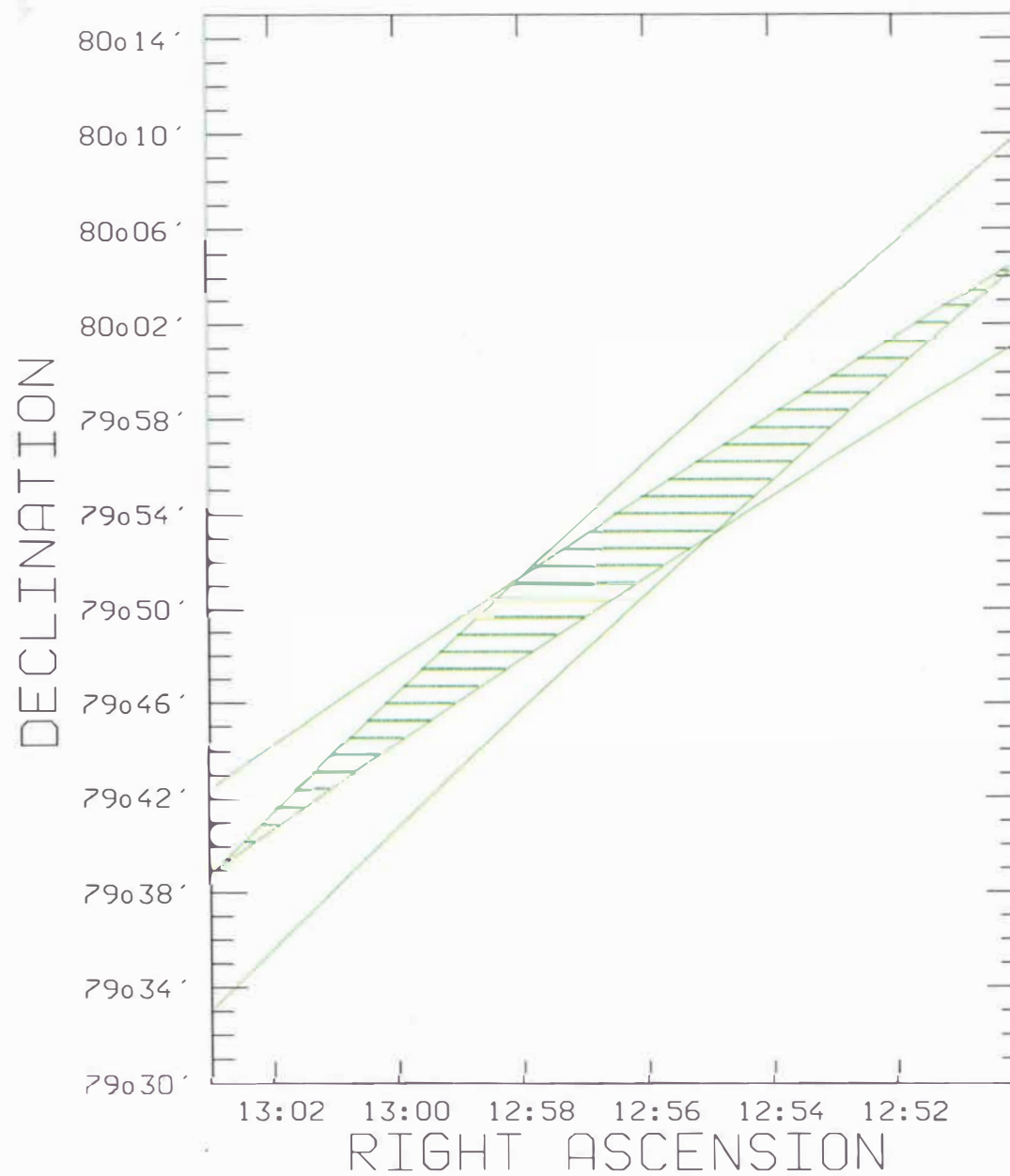
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

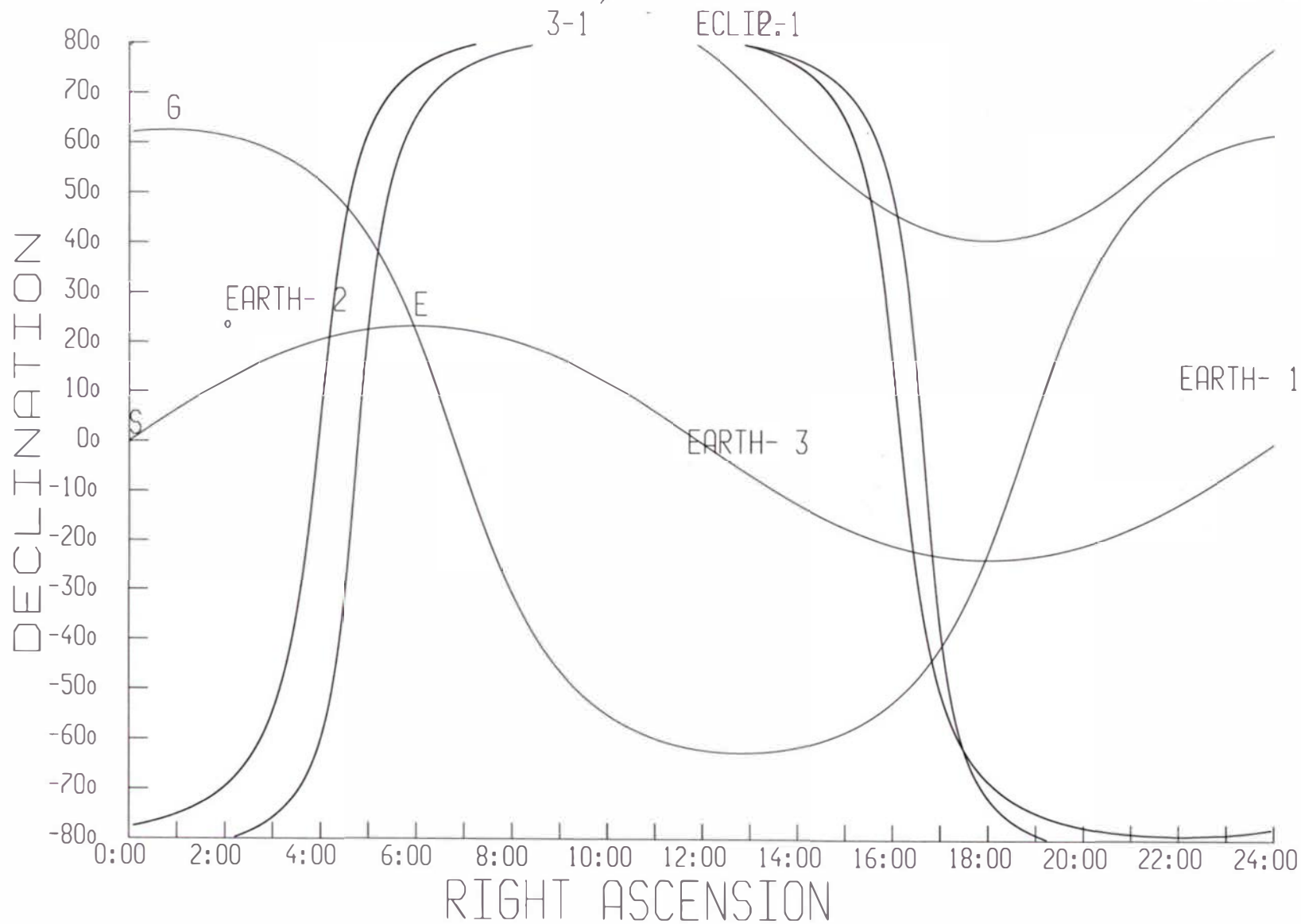
- ☒ ACCESS database updated?

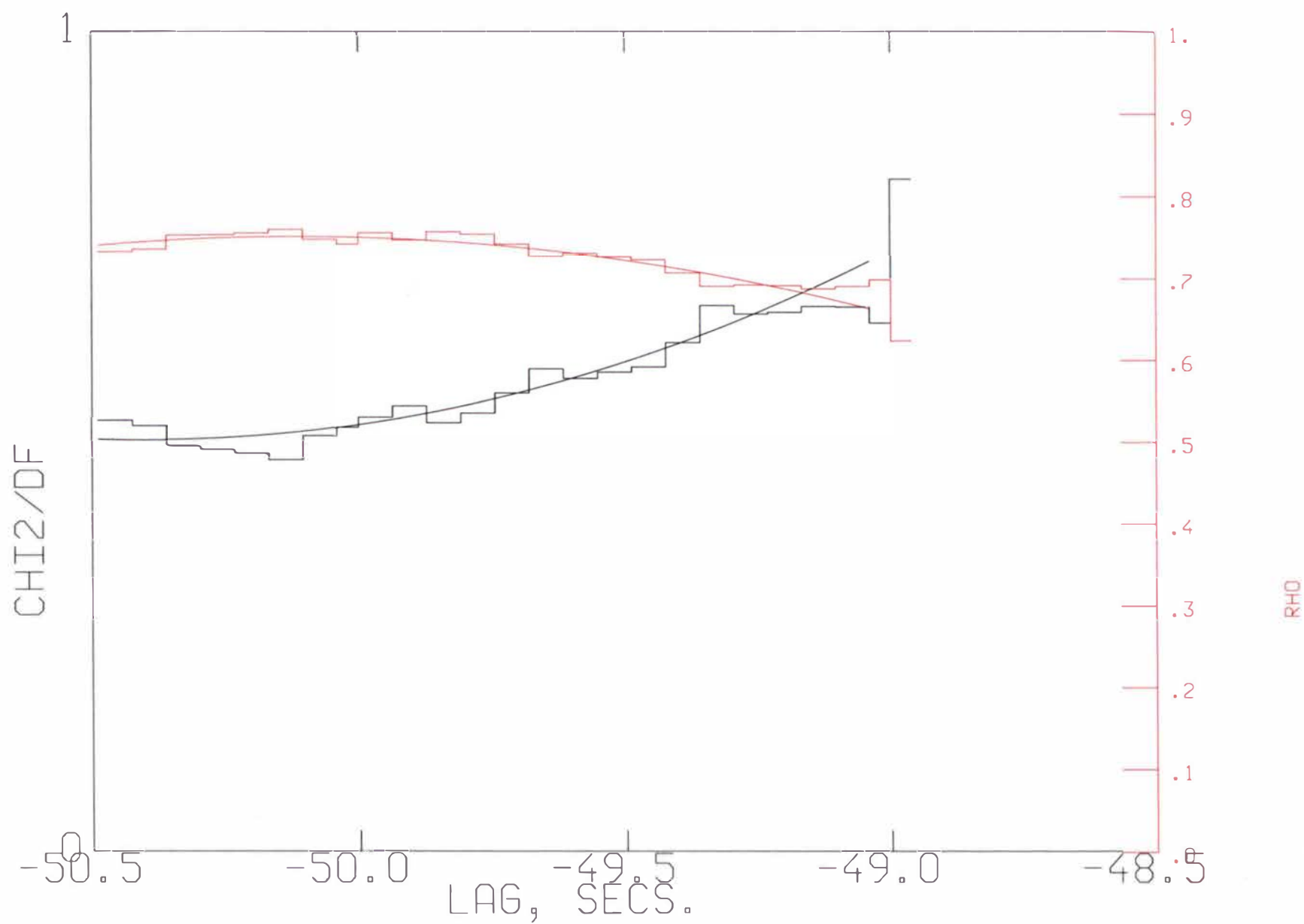


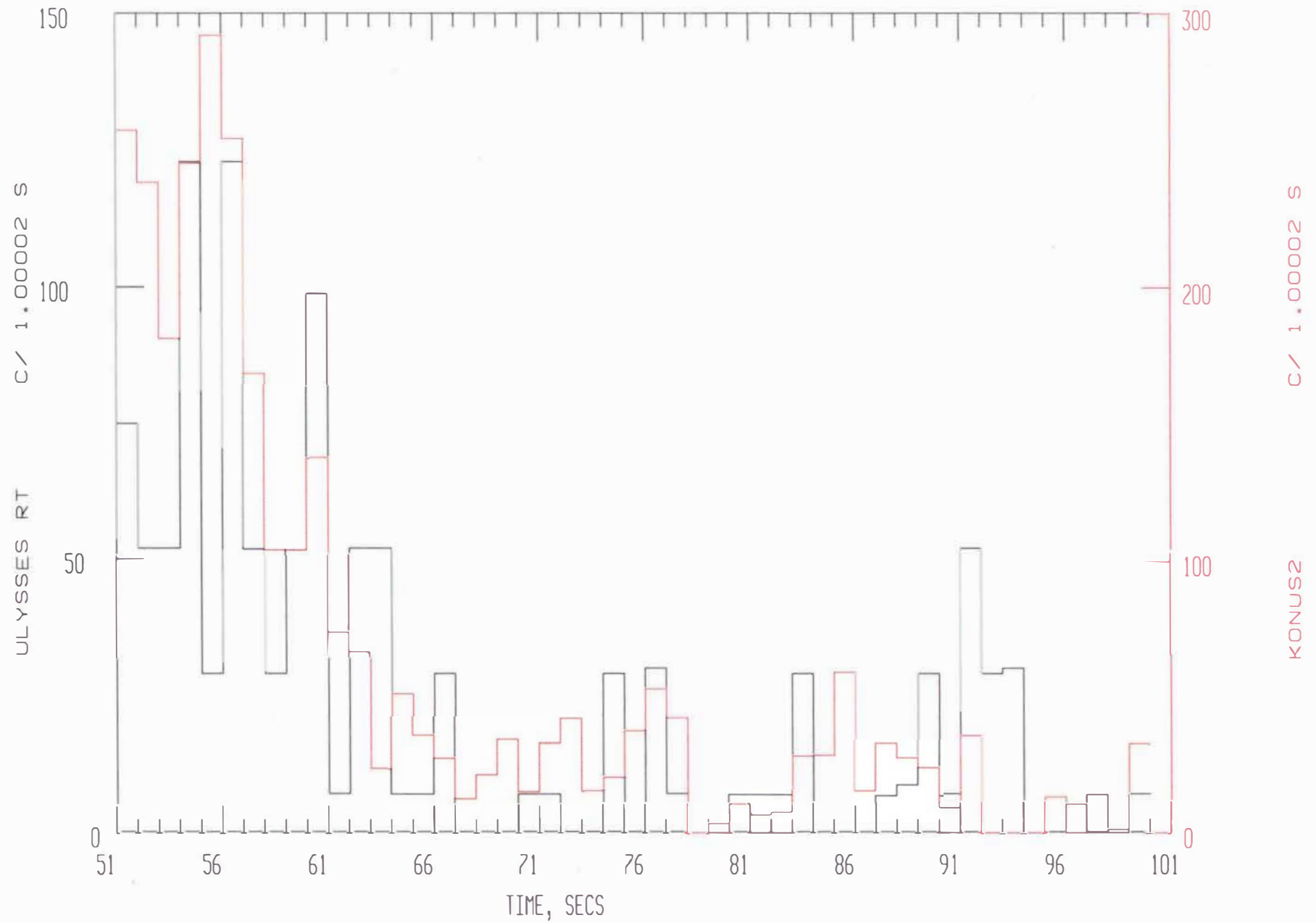
EVENT OF MAR 21, 1999 4:27

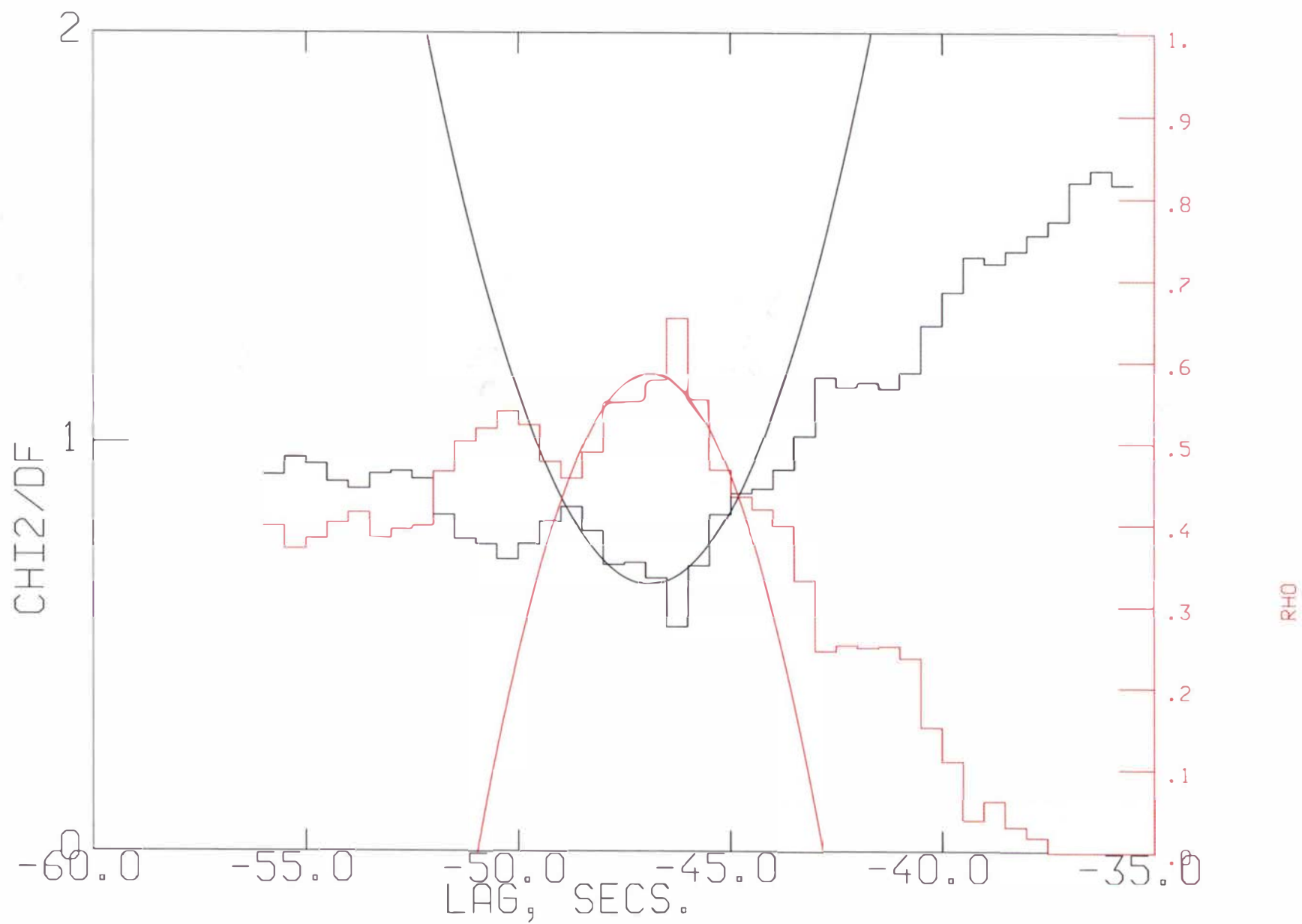
07/01/2013

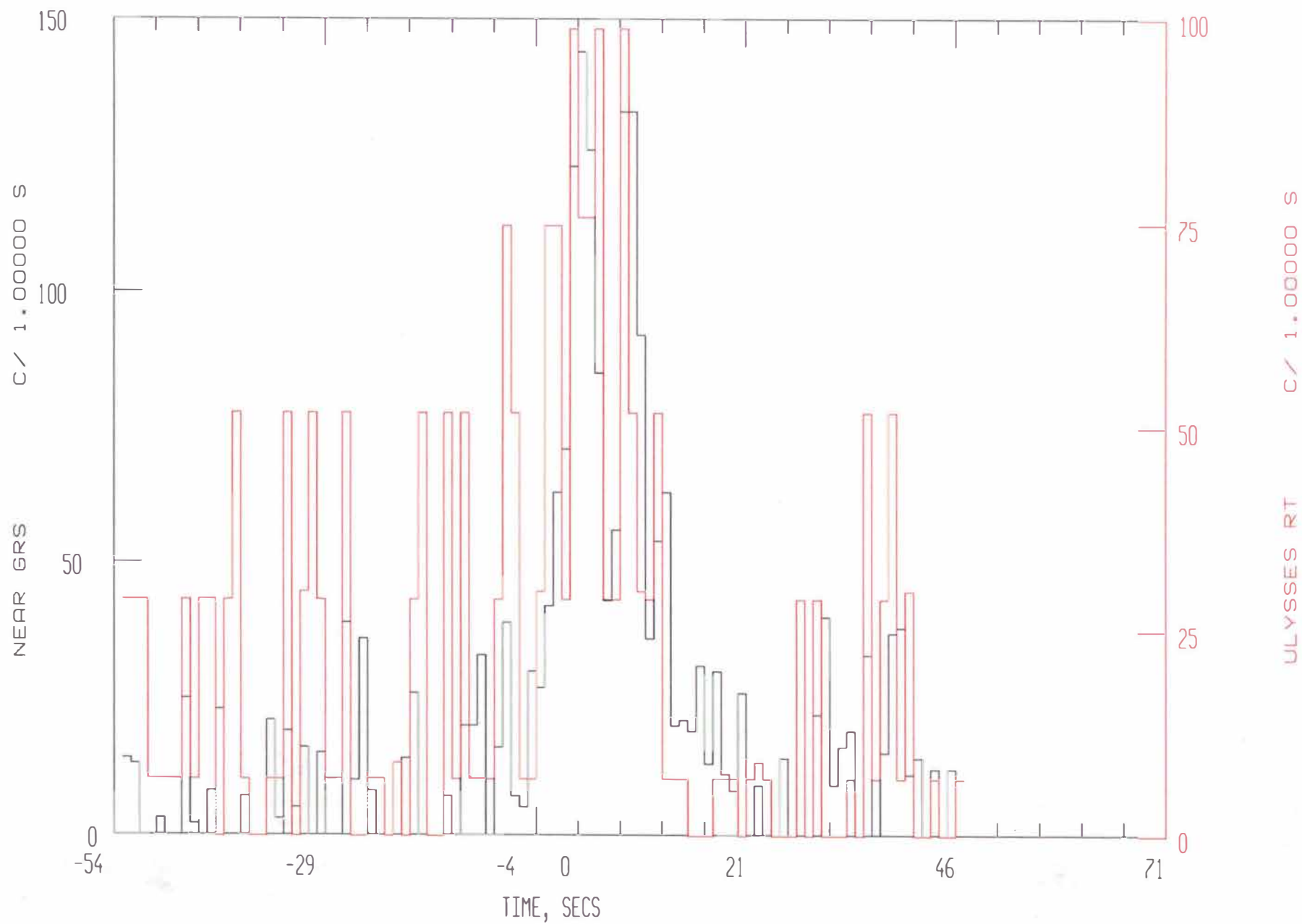
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
 1 ULYSSES 2 KONUS2 3 NEAR











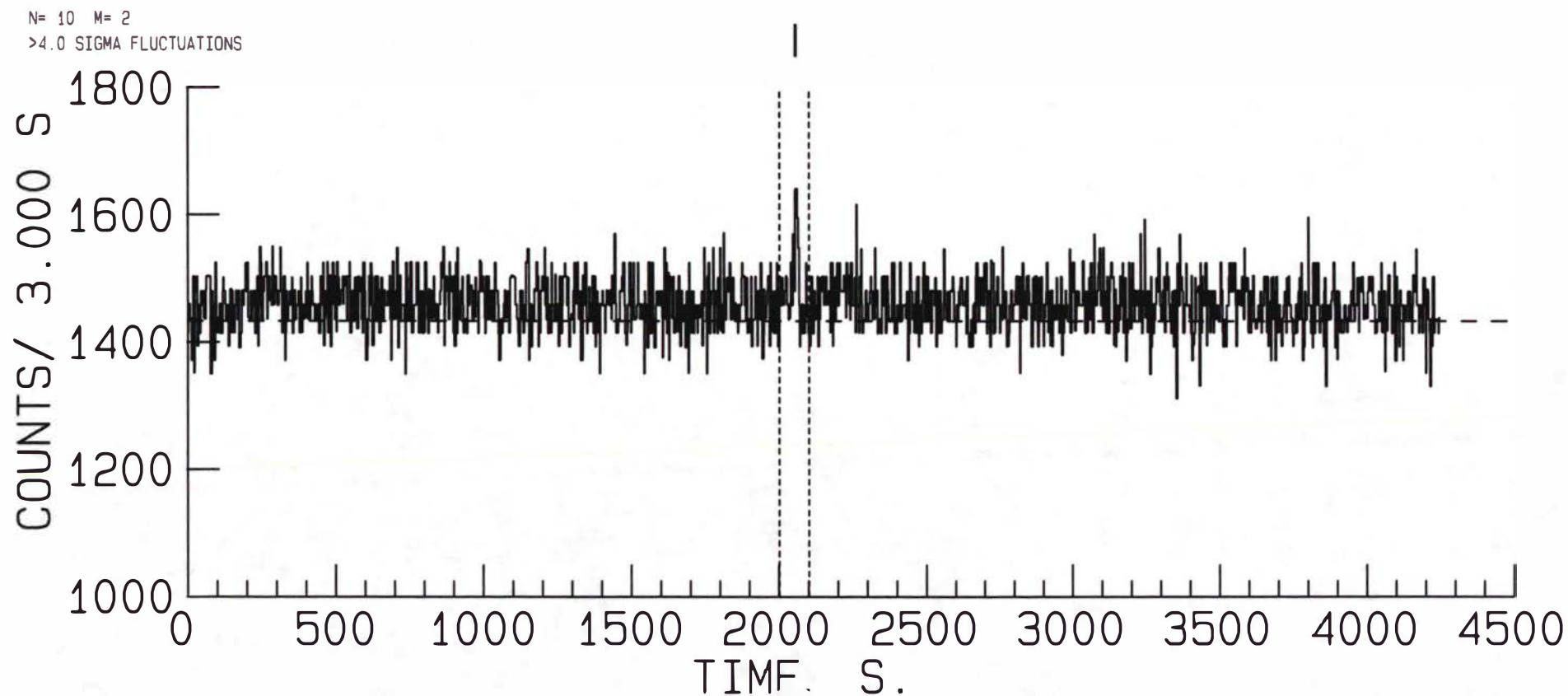
ULYSSES RT

22 / 3 / 99

21 / 3 / 99 14076.277 s

0.500 S INTERVALS REGROUPED BY 6

22- 151 keV

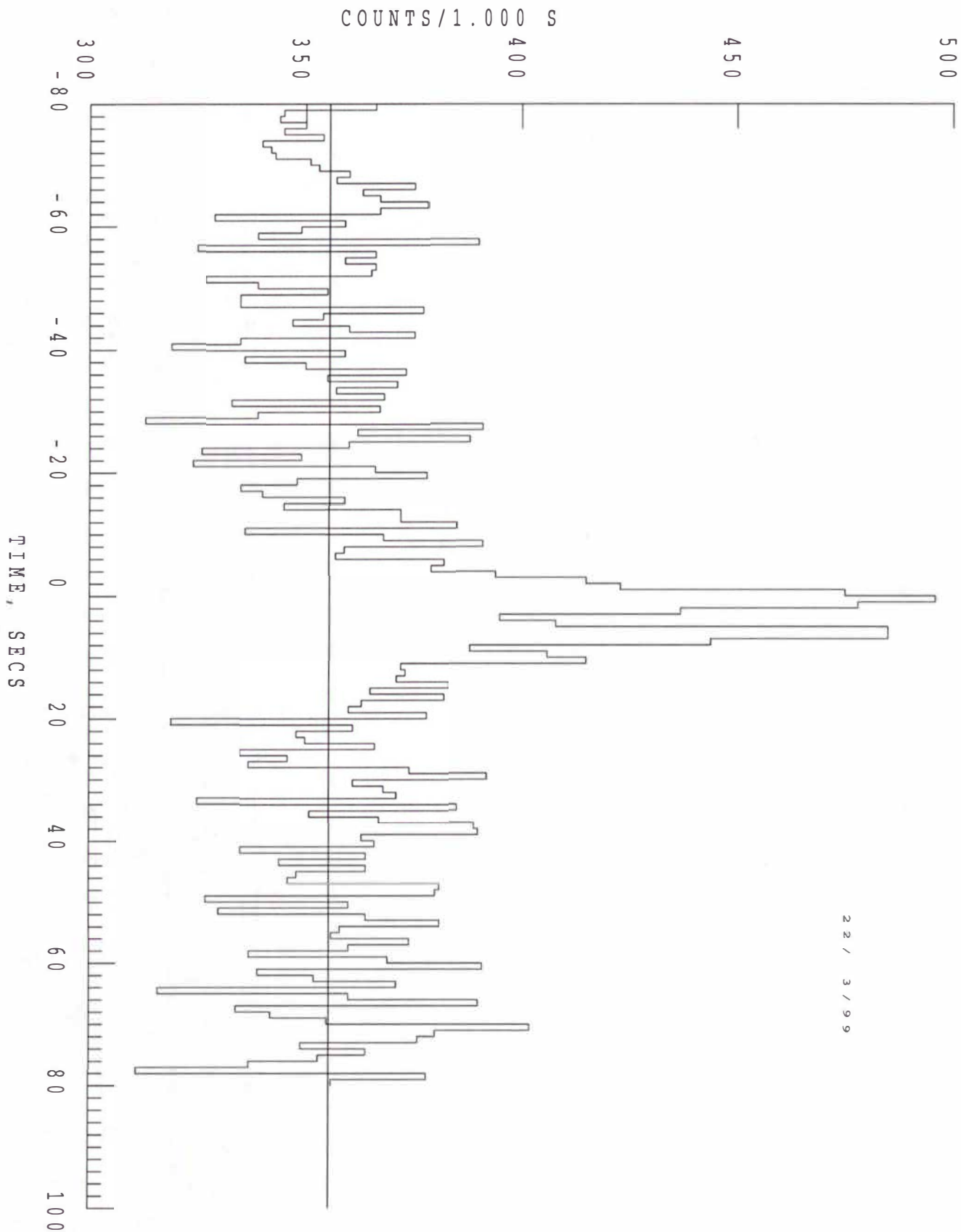


NEAR

21/03/99

16195.814

100-1000 keV



From: HENZE@fender.msfc.nasa.gov
Date: Tue, 23 Mar 1999 13:38:26 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990323133826.2021fa34@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7487
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7487
EVENT OF 1999 MAR 21 DAY OF YEAR= 80
EVENT CROSSING TIME AT BATSE : 71347. S. OR 19:49:07.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 42.000 0.000
BATSE PEAK COUNTING RATE: 4200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 21/ 3/ 99 IS:
RA= 150.194 DEC= -8.855 DIST= 4.178 AU
BATSE-ULYSSES DISTANCE = 624986352. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.03 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 643.17 SECS.
CROSSING TIME AT ULYSSES IS 71990. S. OR 19:59:50 +/- 404.05 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 21/ 3/ 99 IS:
RA= 220.396 DEC= -13.458 DIST= 0.742 AU
MARS-BATSE DISTANCE = 110983512. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 13.55 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 359.90 SECS.
CROSSING TIME AT MARS IS 71707. S. OR 19:55:06 +/- 20.53 SECONDS

BATSE BURST TRIGGER

NO.: 7487

TIME: TJD=1258 SECONDS=71347

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.2 AZIMUTH=289.3 ERROR= 2.8 DEGREES

COMMENTS:

SINGLE PULSE, DUR. APPROX. 12 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7487	990321	11258	71347	4200	042	0	12

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

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

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

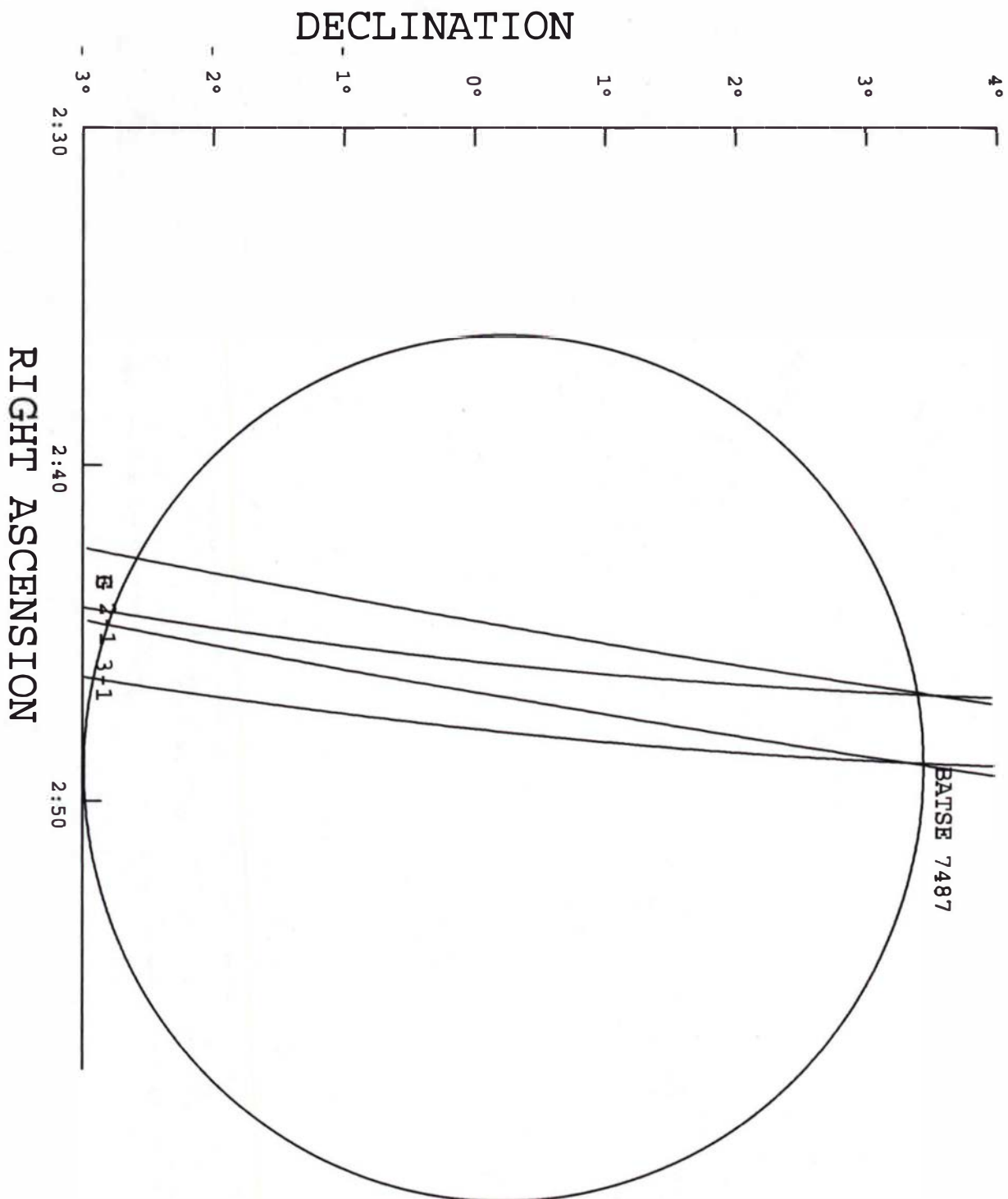
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAR 21, 1999 19:49

25 / 2 / 0



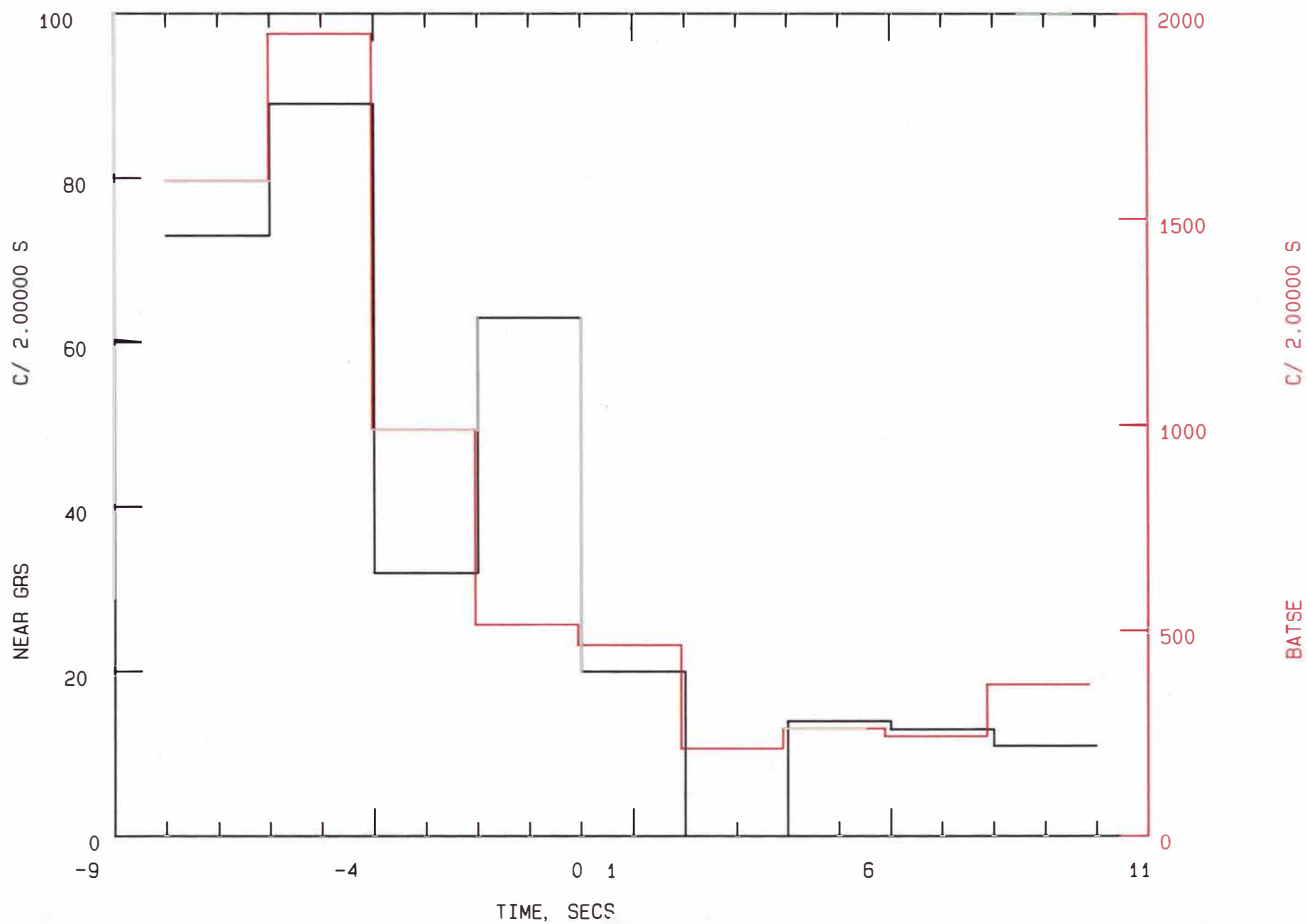
NEAR GRS -BATSE

CORRELATION

21/03/99

70449.088

25/ 2/ 0

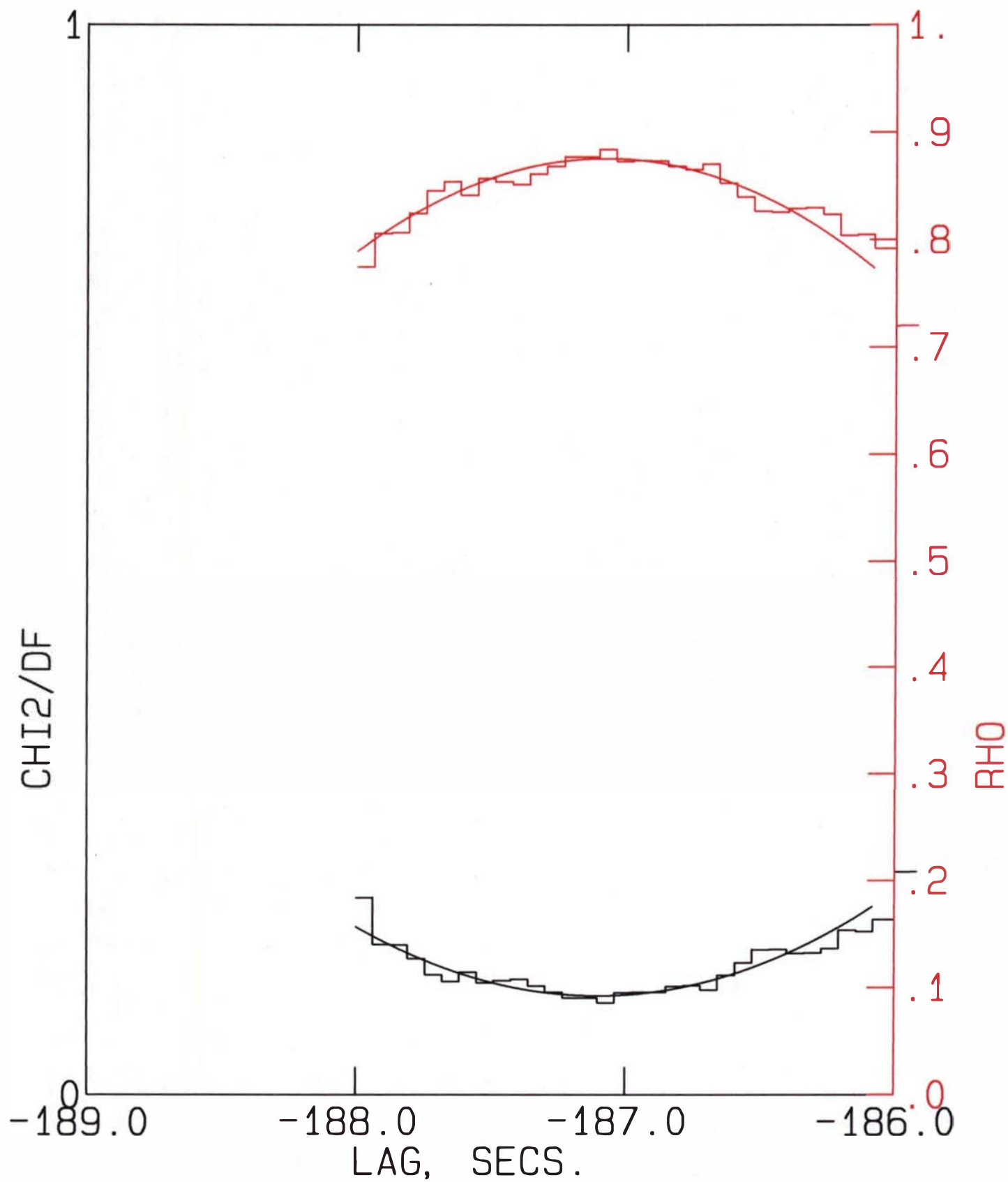


NEAR GRS -BATSE

CORRELATION

21/03/99

70449.088



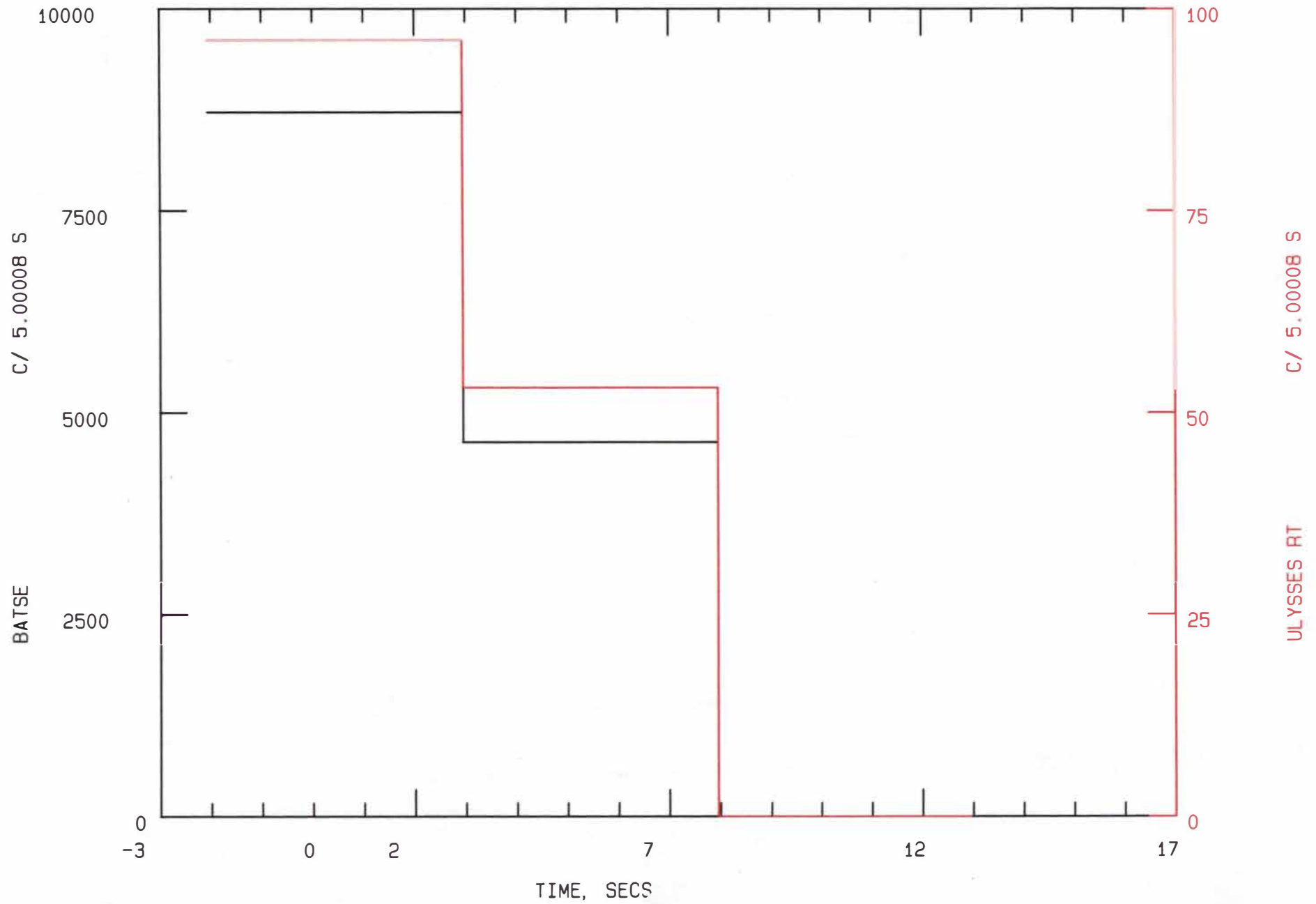
BATSE

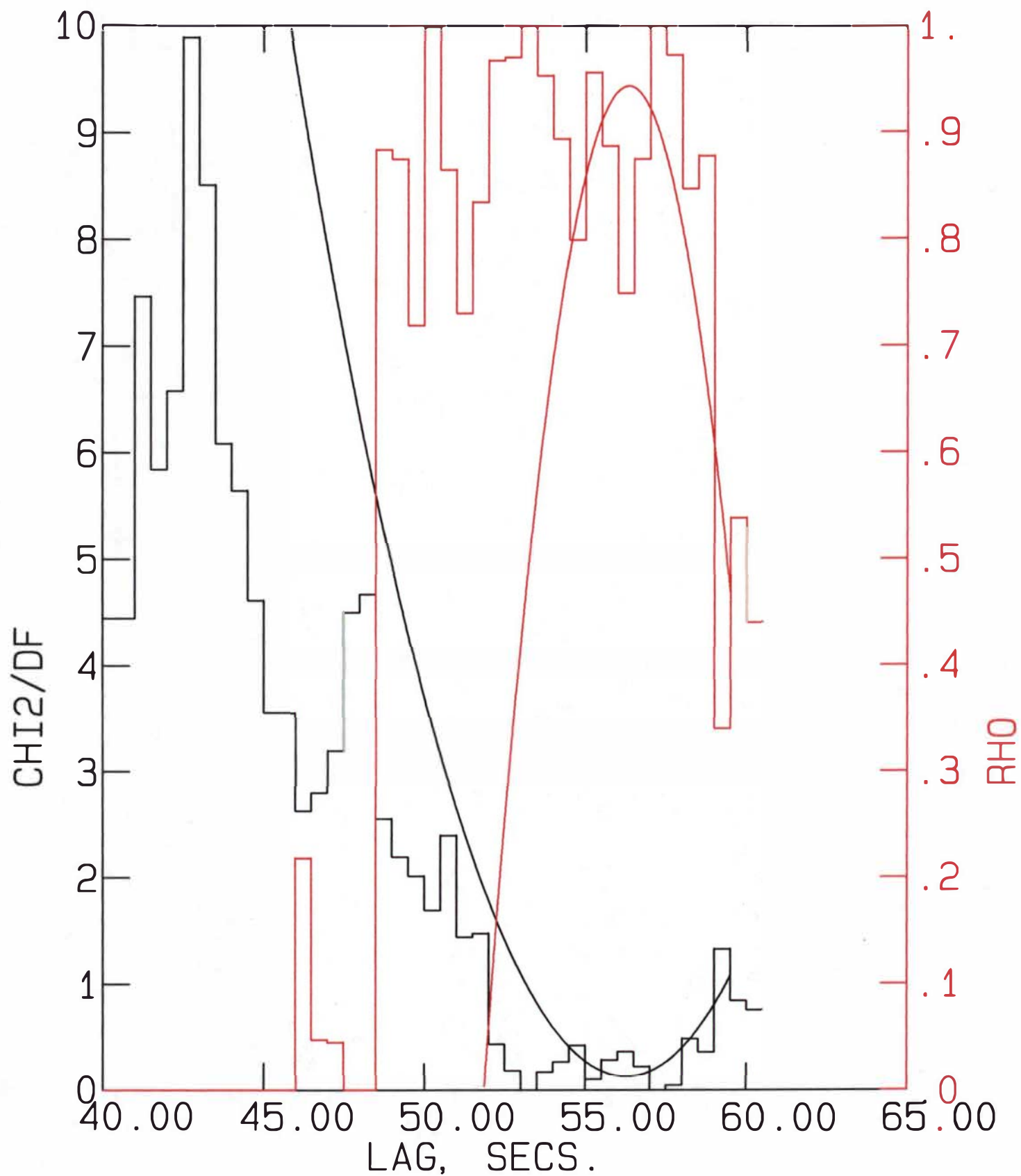
-ULYSSES RT CORRELATION

21/ 3/99

71347.705

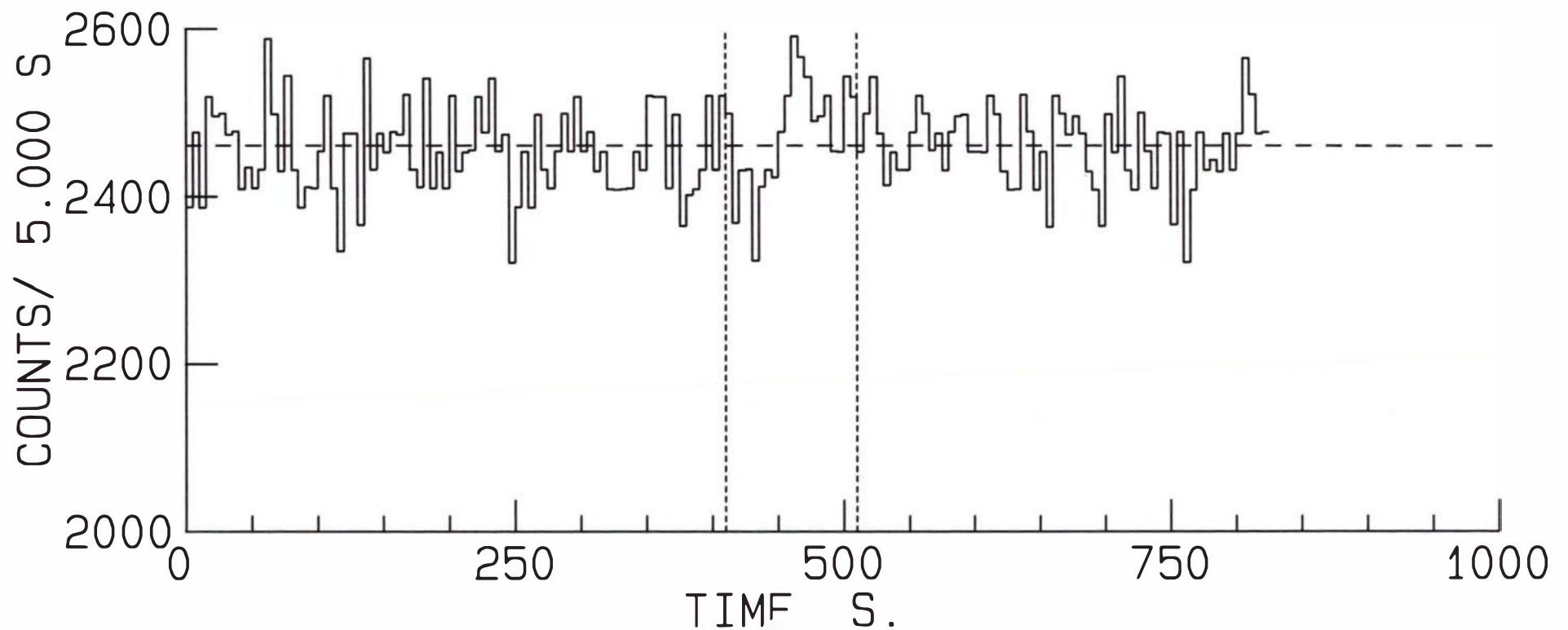
25/ 2/ 0





ULYSSES RT
21/ 3/99 71568.363 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

16/ 8/99



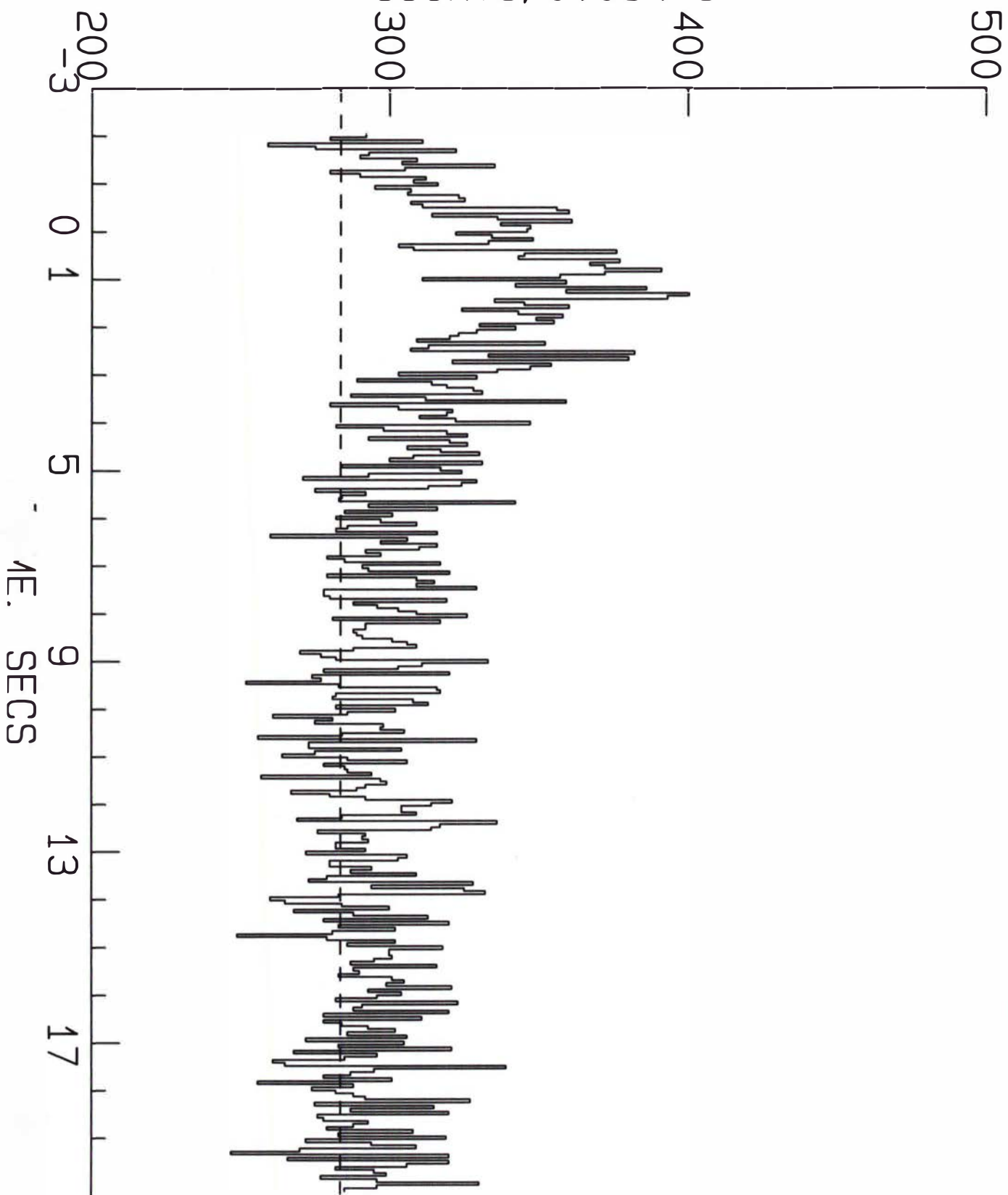
BATSE

21/03/99

71347.705

100-1000 keV

COUNTS/0.064 S



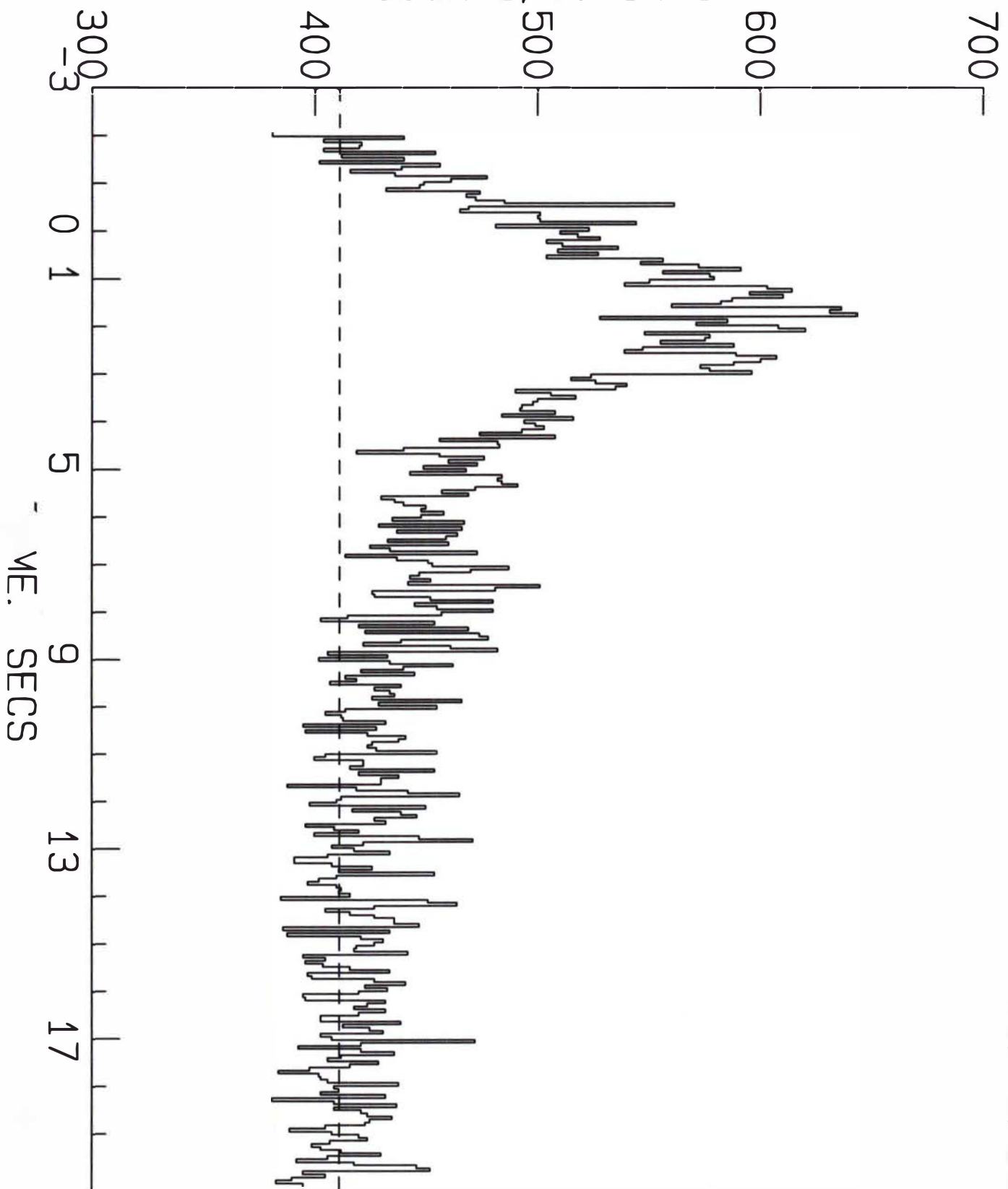
BATSE

21/03/99

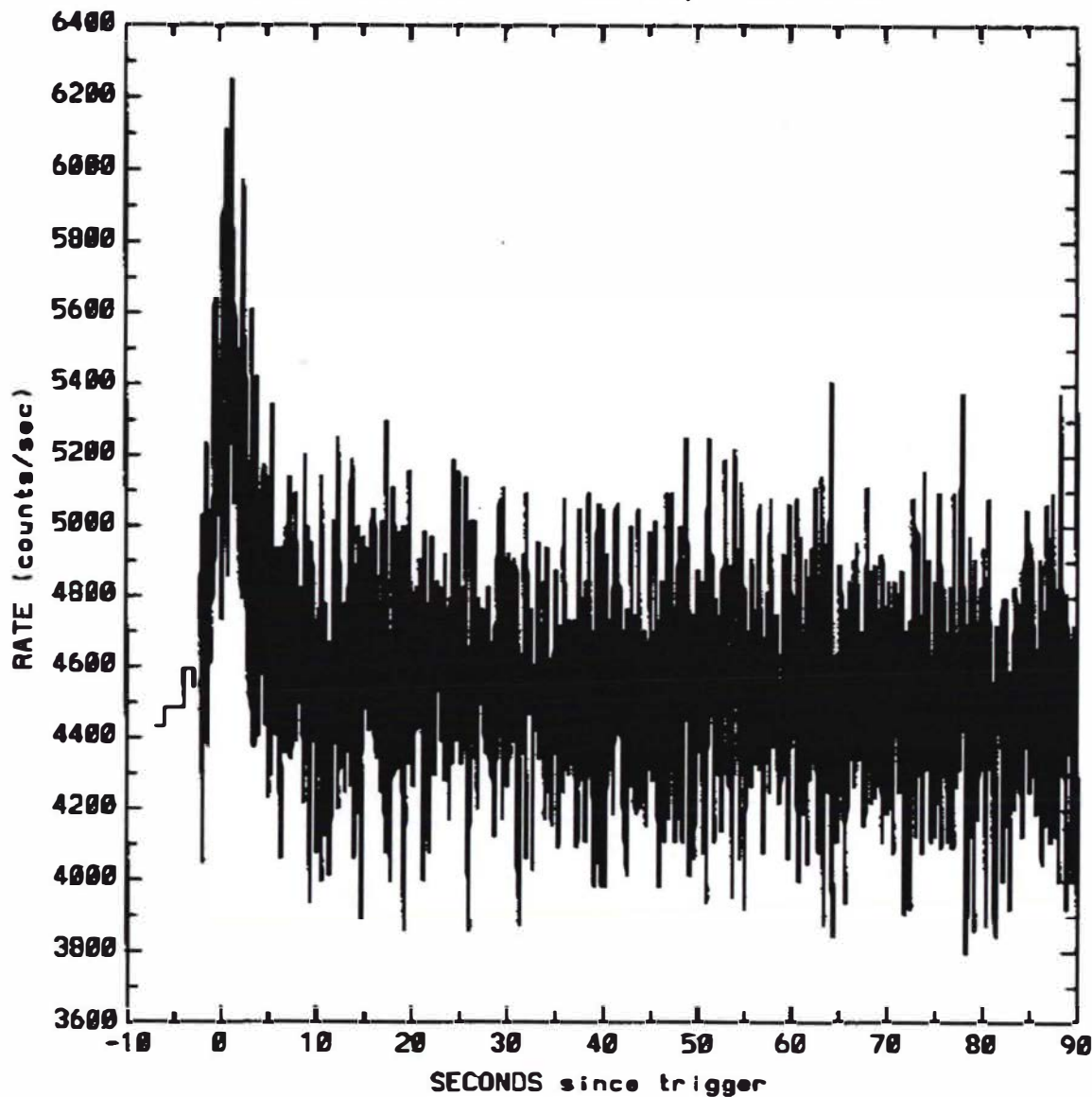
71347.705

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7487



6-AUG-1999 09:09:07

Created by MOPS BD
(Burst Display)
Version 12.20

Trigger # : 7487

Trigger Time:
11250 / 71347.705

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PRED + DISCLA

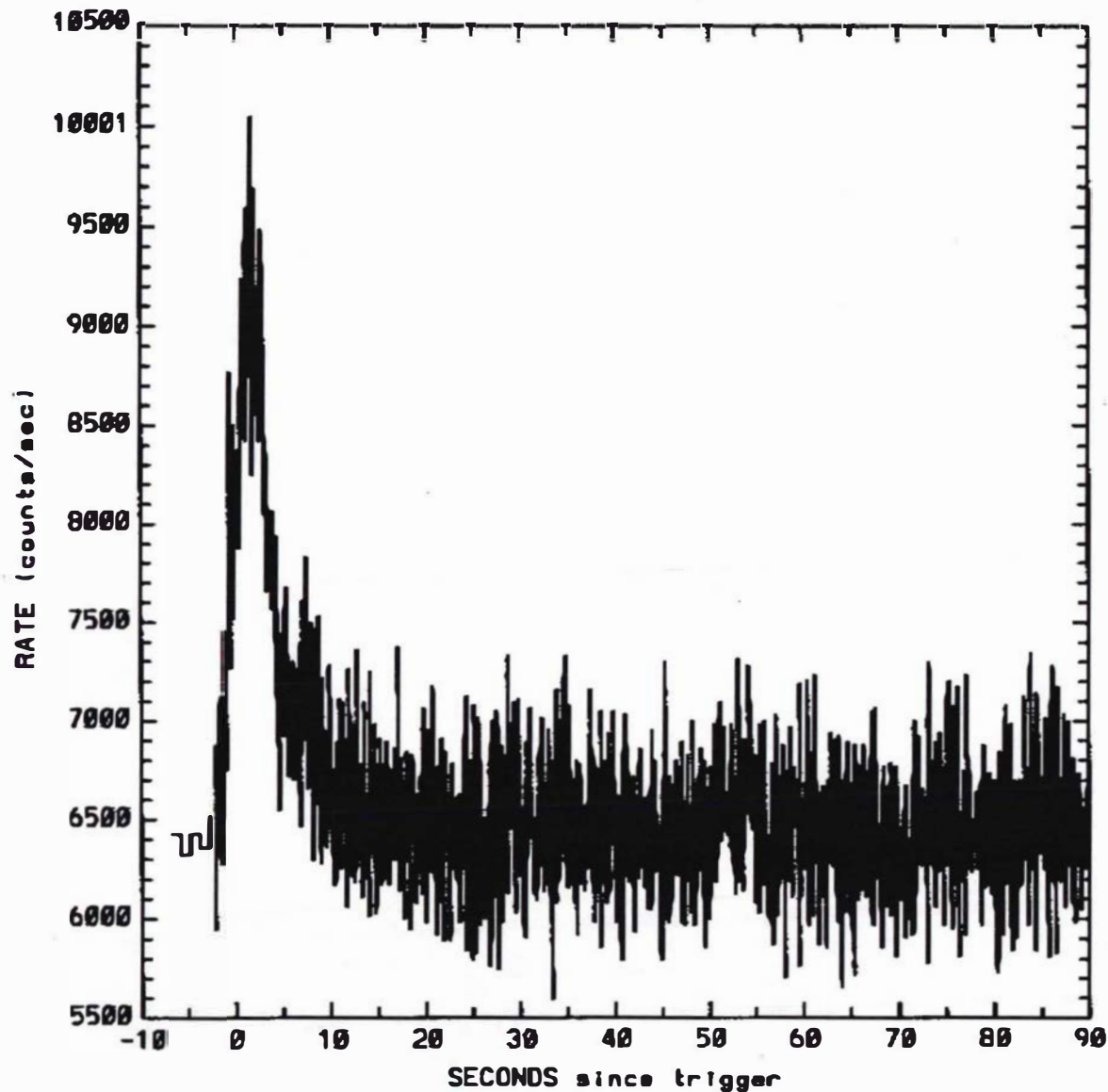
Minimum Integ. Time:
0.064 seconds

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

Discriminators:
(3 , 4)

Quality Mask:
B01SP1

DISCSC Data for K. Hurley, No. 7487



6-AUG-1999 09:10.05

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7487

Trigger Time:
11250 / 71347.705

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(1, 2)

Quality Mask:
BDISP1

BATSE BURST# 7487

ULYSSES RT

23 / 3 / 99

21 / 3 / 99 71568.367 s

0.500 S INTERVALS REGROUPED BY 2

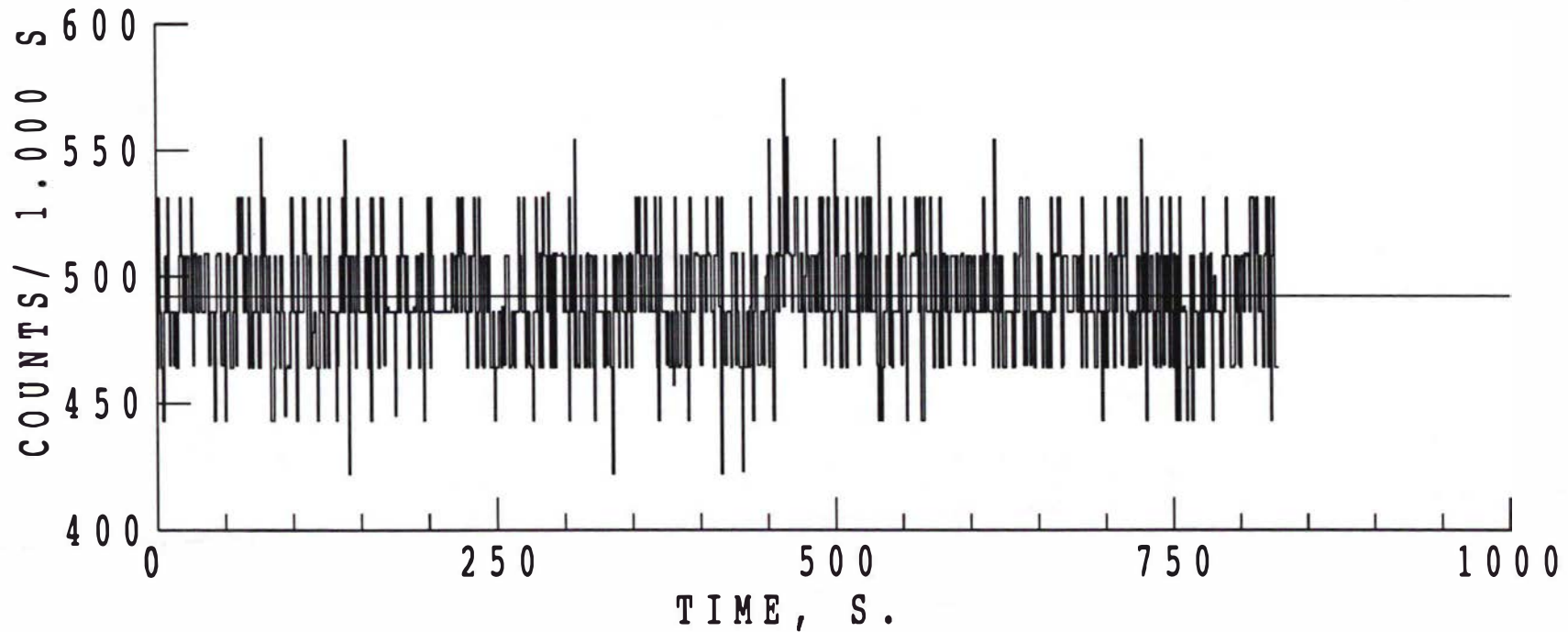
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS

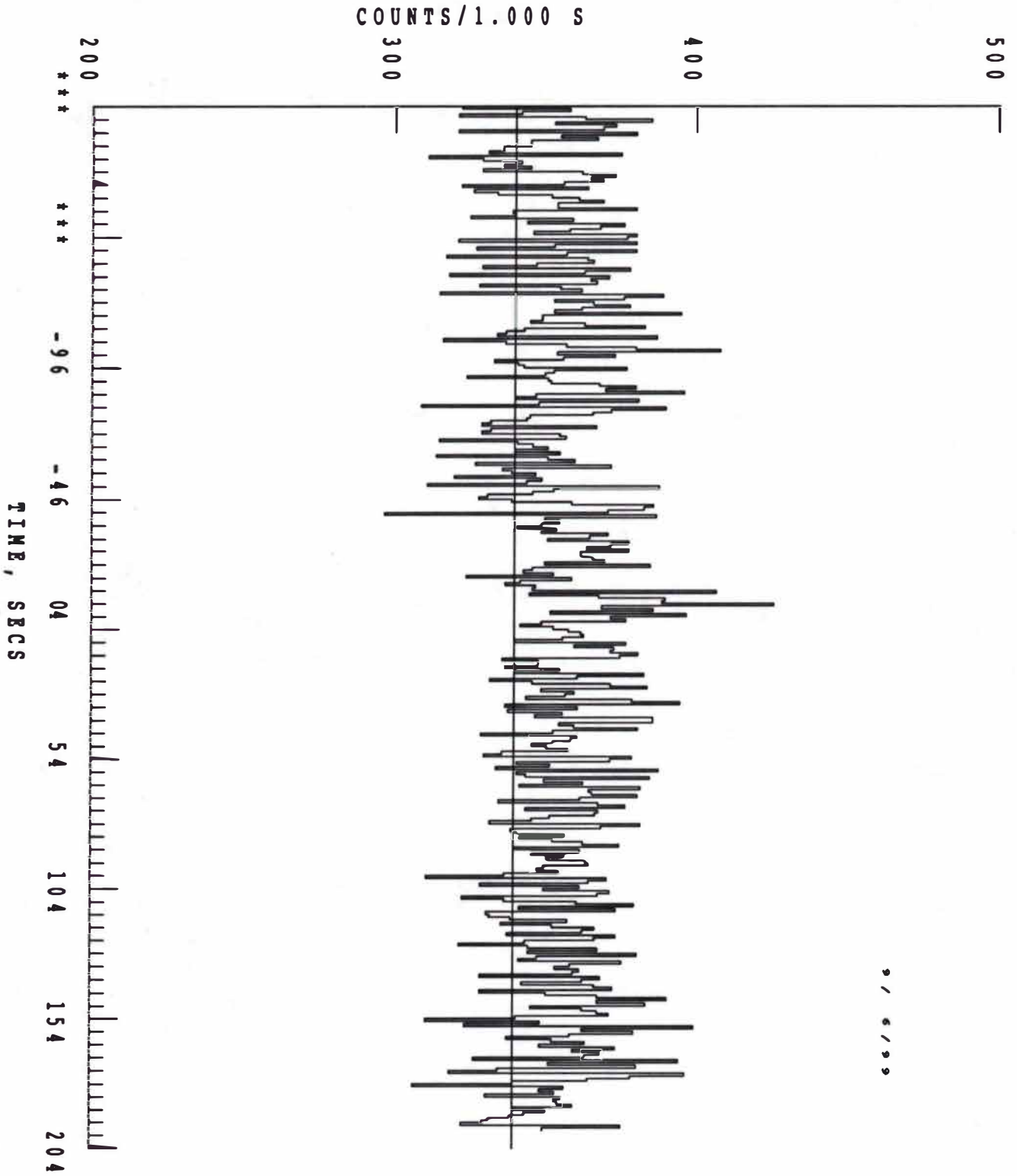


NEAR

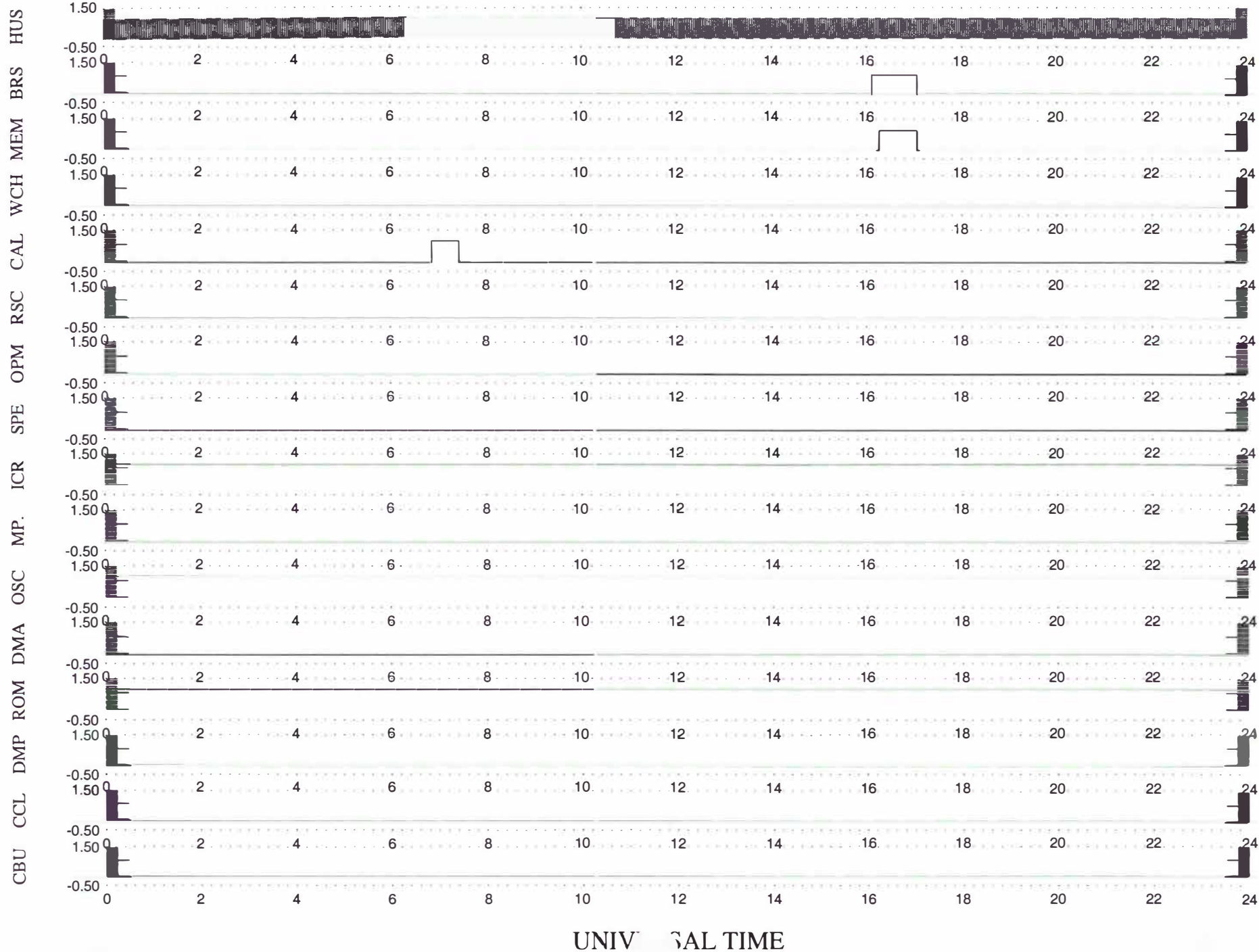
21/03/99

70449.088

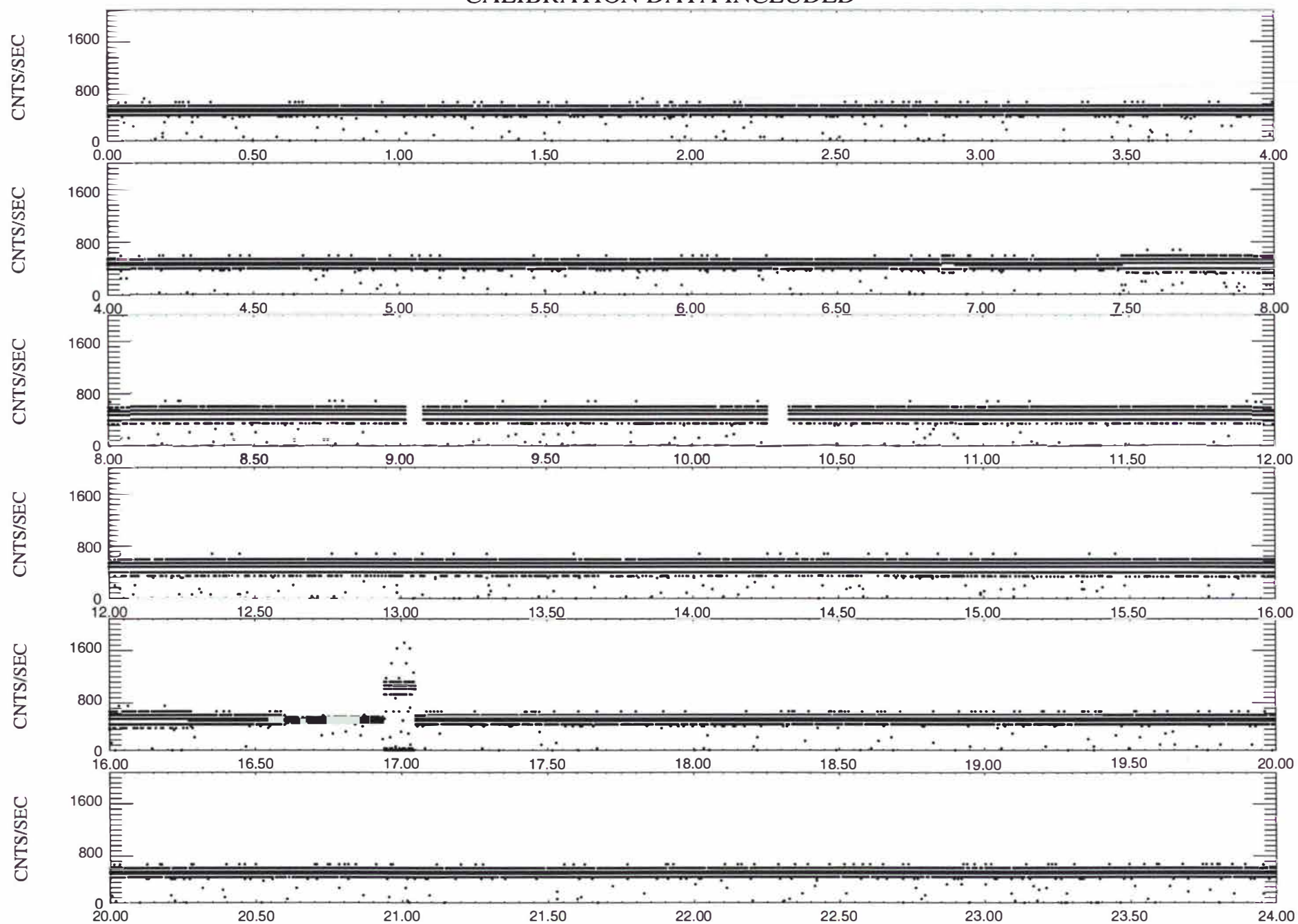
100-1000 keV



BURST NUMBER 11

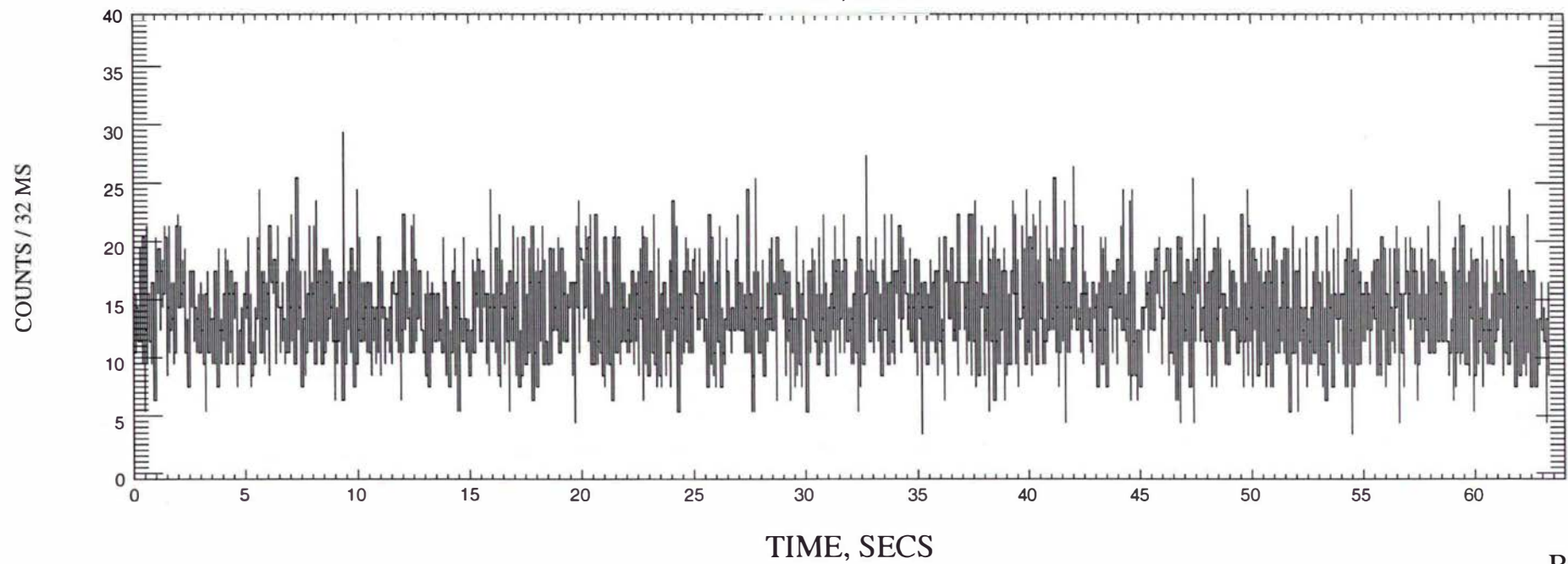
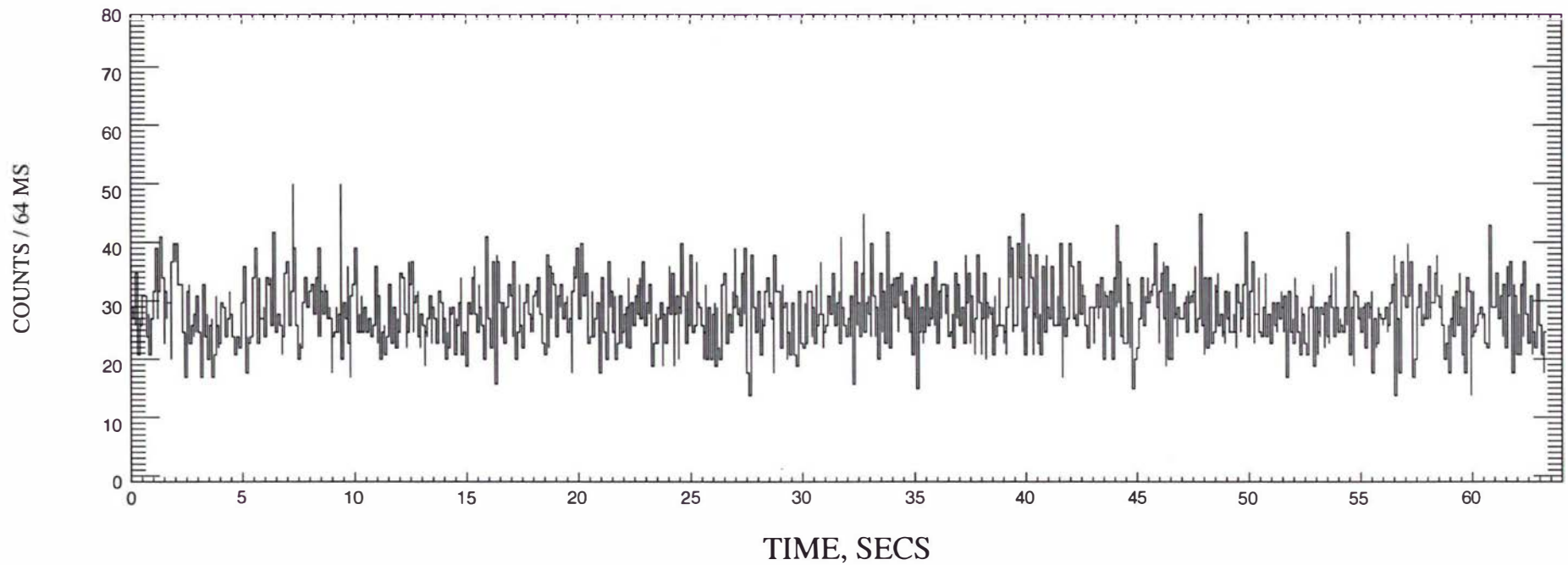


CALIBRATION DATA INCLUDED

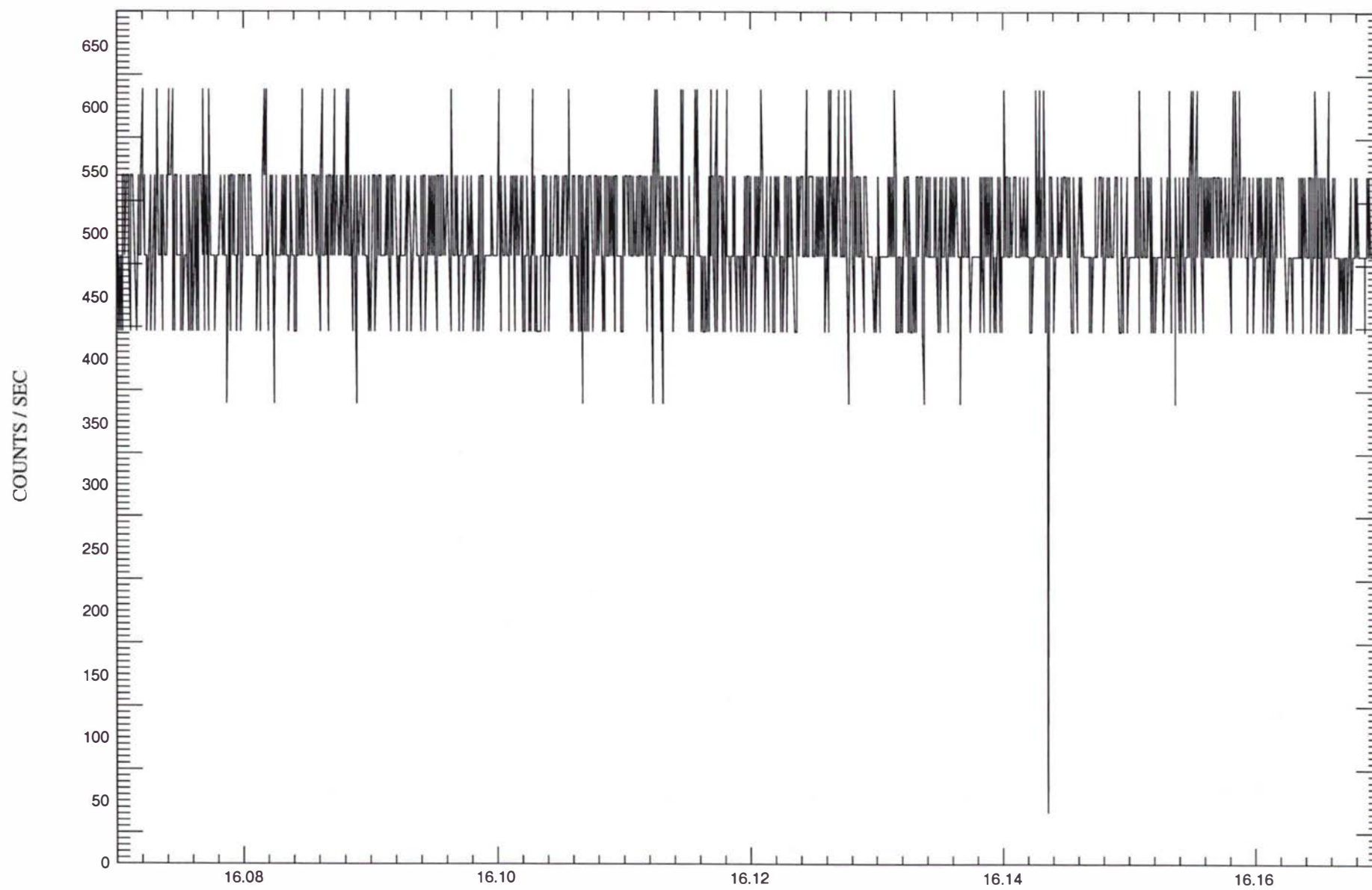


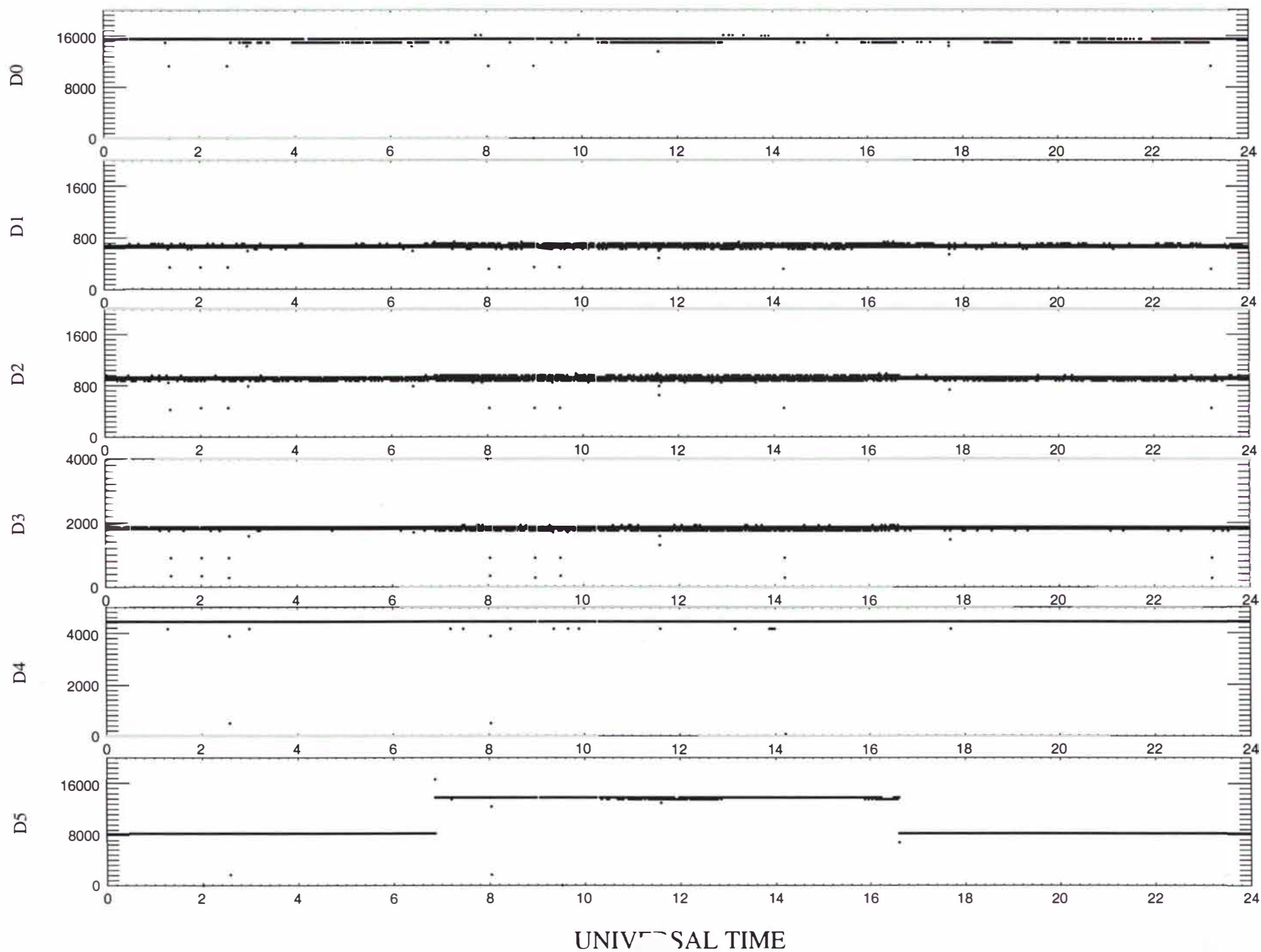
UNIV SAL TIME

Burst Counter 11 at UT=16.117455380758 h=58022.839 s 16:07:02.839



CALIBRATION DATA INCLUDED





From SURASAK@fender.msfc.nasa.gov Thu Mar 25 07:24:04 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 HAA24459; Thu, 25 Mar 1999 07:23:59 -0800
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 (8.9.2/8.9.2) with SMTP id HAA12280
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 25 Mar 1999 07:23:58 -0800 (PST)
Date: Thu, 25 Mar 1999 9:24:09 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990325092409.20222161@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7488
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7488
EVENT OF 1999 MAR 22 DAY OF YEAR= 81
EVENT CROSSING TIME AT BATSE : 14636. S. OR 04:03:56.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 13.000 -68.000
BATSE PEAK COUNTING RATE: 8800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/ 3/ 99 IS:
RA= 150.123 DEC= -8.841 DIST= 4.179 AU
BATSE-ULYSSES DISTANCE = 625238520. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.60 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 268.54 SECS.
CROSSING TIME AT ULYSSES IS 14905. S. OR 04:08:24 +/- 413.15 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/ 3/ 99 IS:
RA= 220.358 DEC= -13.454 DIST= 0.735 AU
MARS-BATSE DISTANCE = 109909208. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 39.54 SECS.
CROSSING TIME AT MARS IS 14676. S. OR 04:04:35 +/- 63.88 SECONDS

BATSE BURST TRIGGER

NO.: 7488

TIME: TJD=1259 SECONDS=14636

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 53.1 AZIMUTH=297.2 ERROR= 1.7 DEGREES

COMMENTS:

GRB, SINGLE PULSE, FRED, BURST DUR. APPROX. 11S., VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7488	990322	11259	14636	8800	013	-68	11.0

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data N/A

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

2. BATSE Data

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

3. NEAR Data

☒ ~~F~~inal, 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)

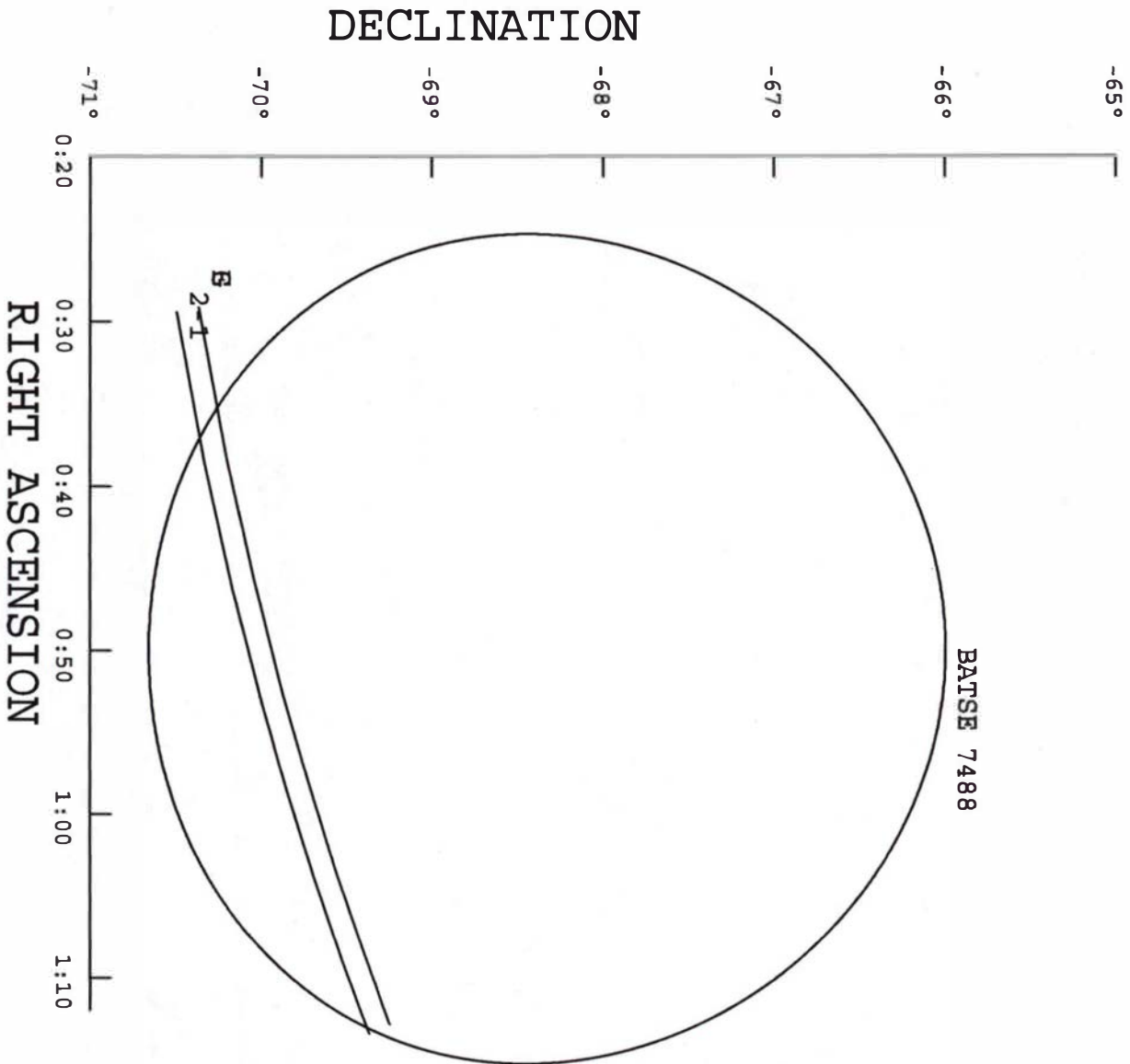
☒ ~~B~~ATSE >100 keV data used for NEAR correlation?

☒ ACCESS database updated?

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

EVENT OF MAR 22, 1999 4:03

25 / 2 / 0



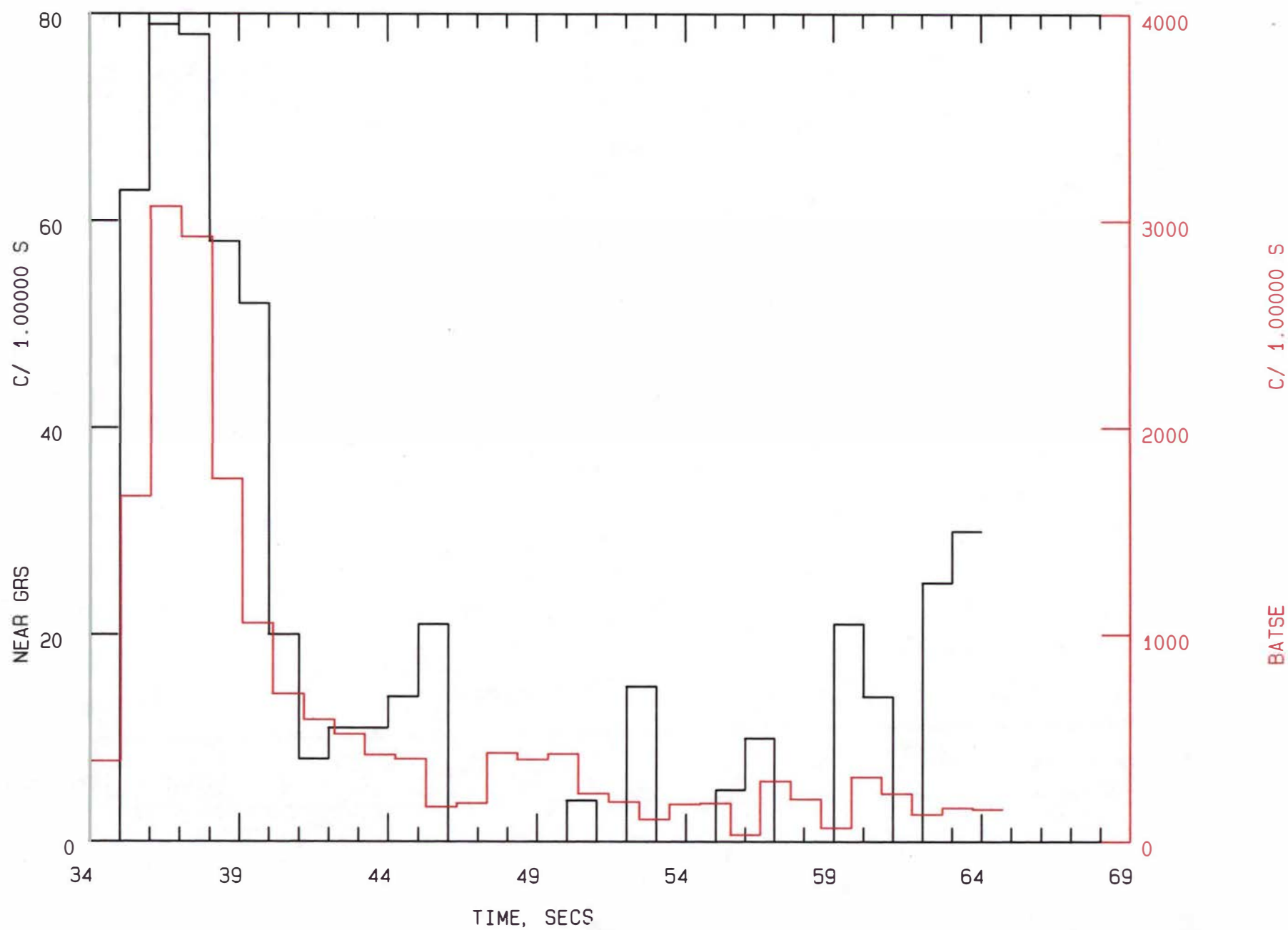
NEAR GRS -BATSE

CORRELATION

22/03/99

14271.080

25/ 2/ 0

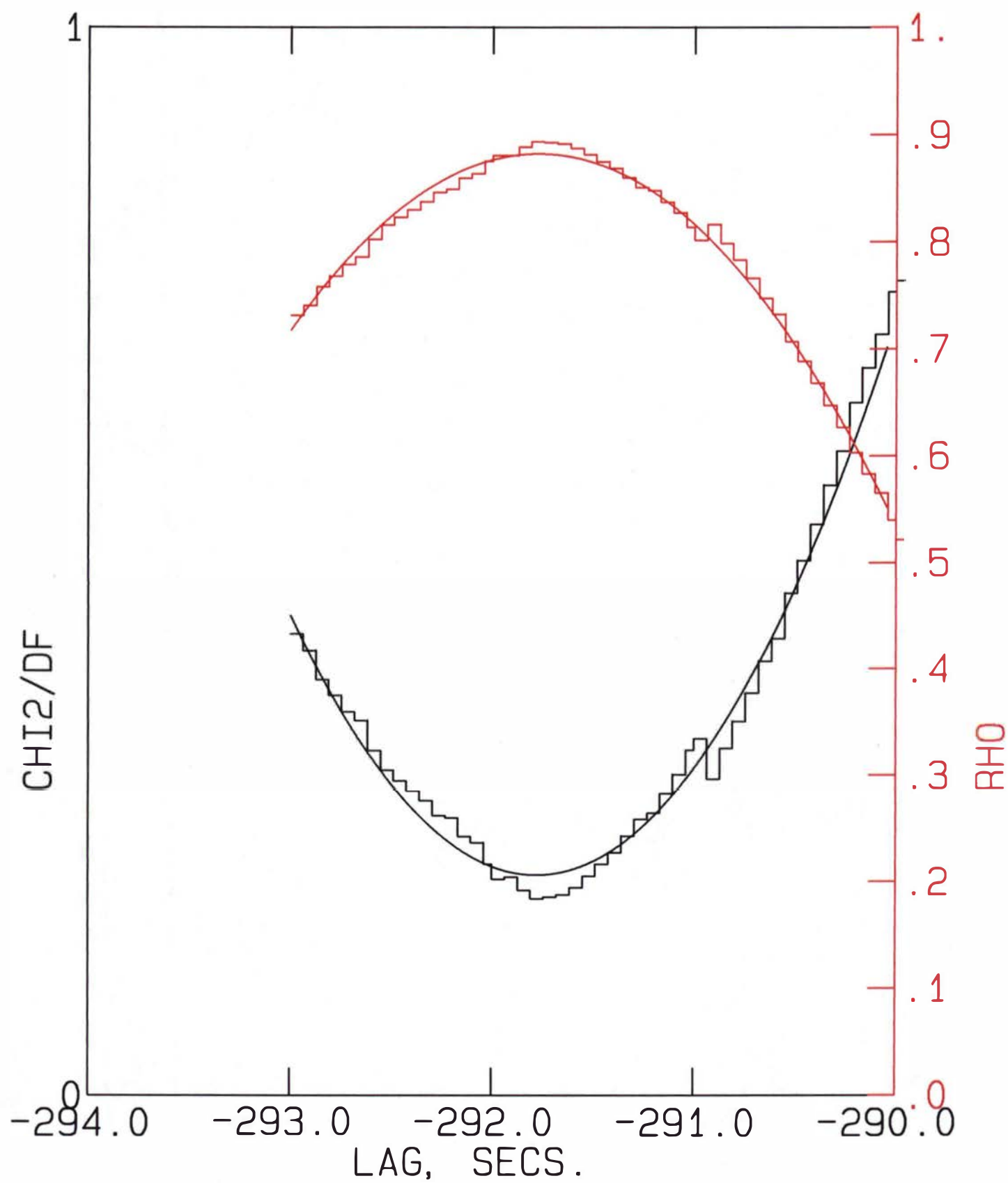


NEAR GRS -BATSE

CORRELATION

22/03/99

14271.080



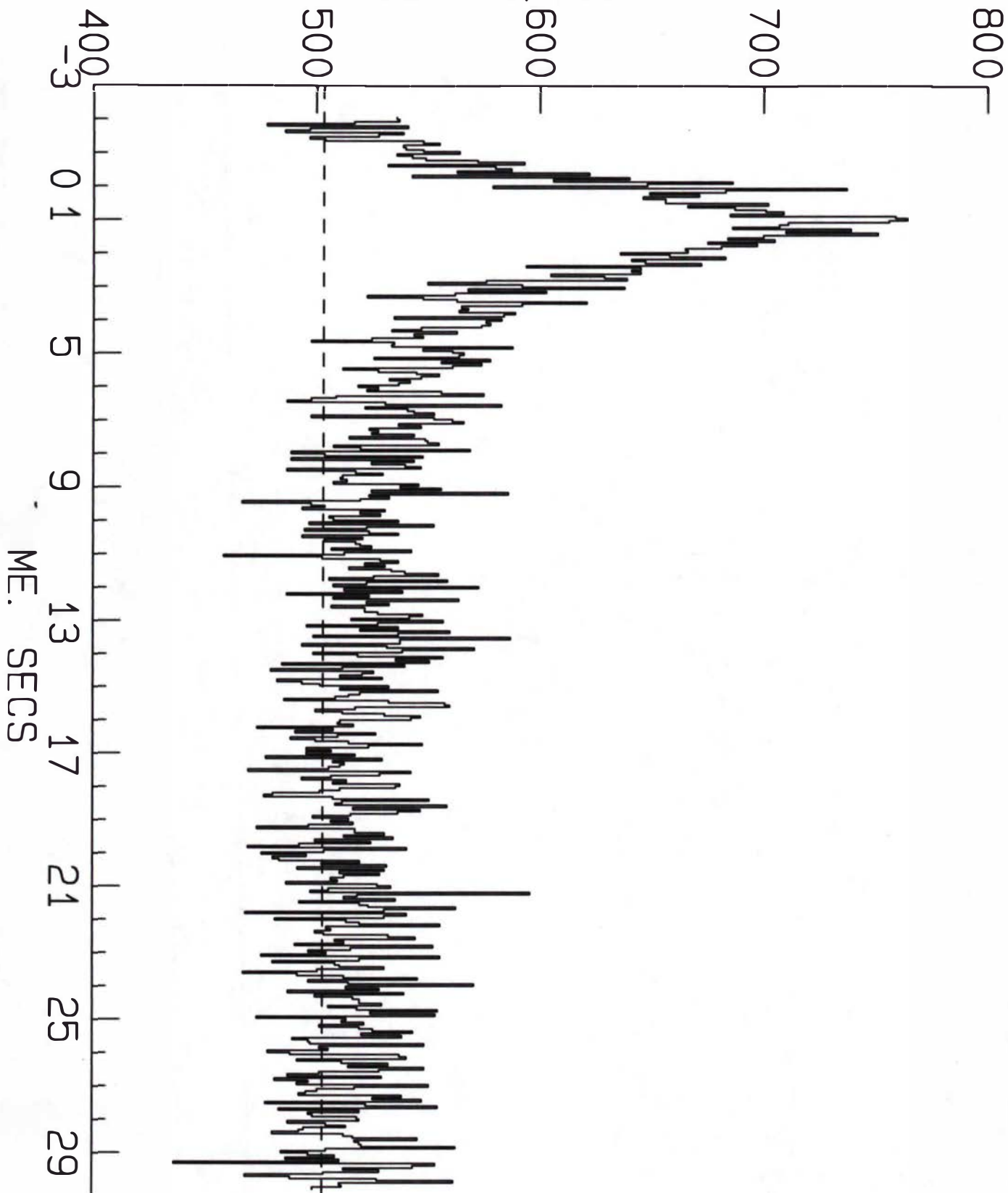
BATSE

22/03/99

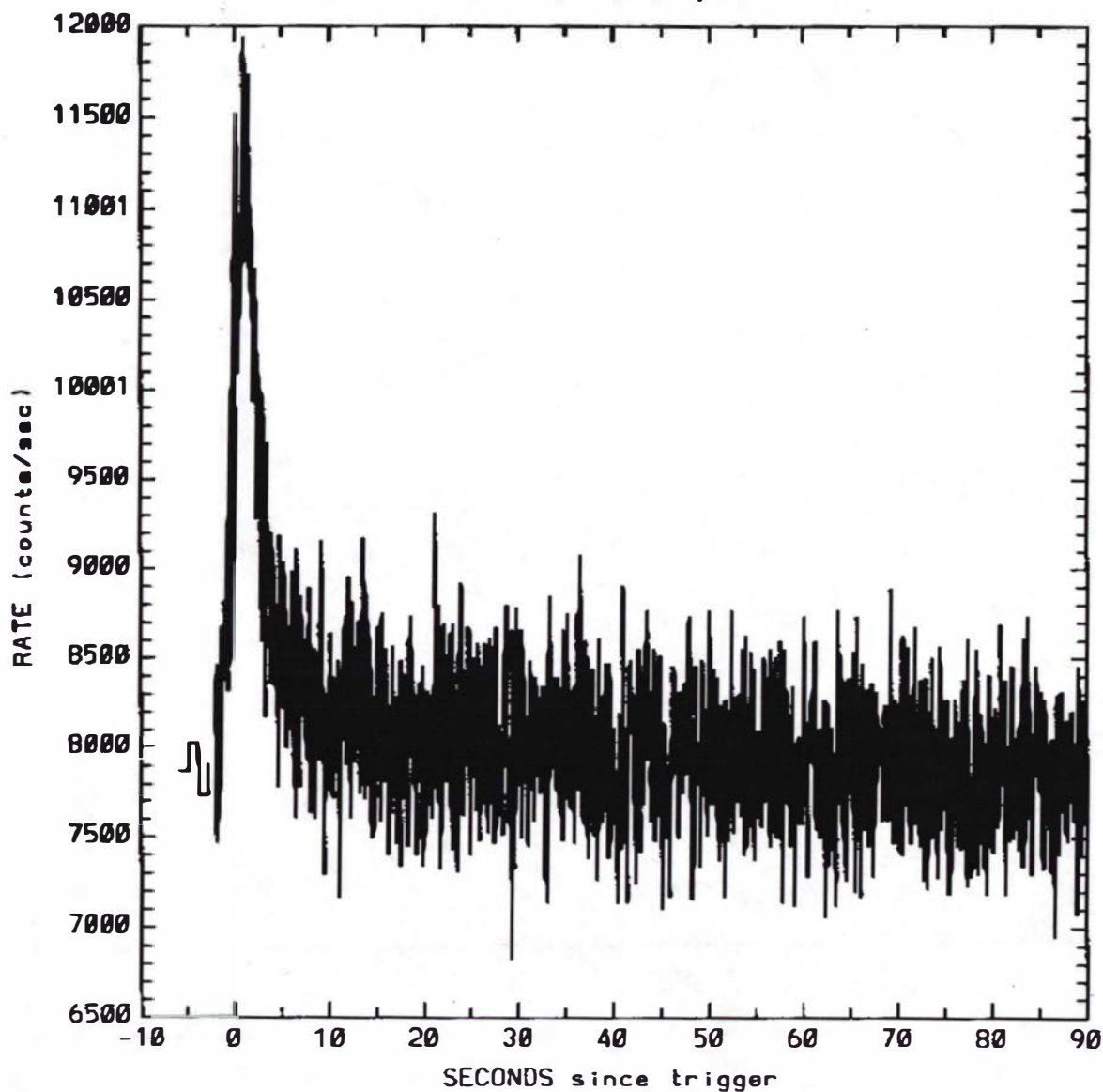
14636.537

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7488



24-FEB-2000 11:51:13

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7488

Trigger Time:
11259 / 14636.537

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

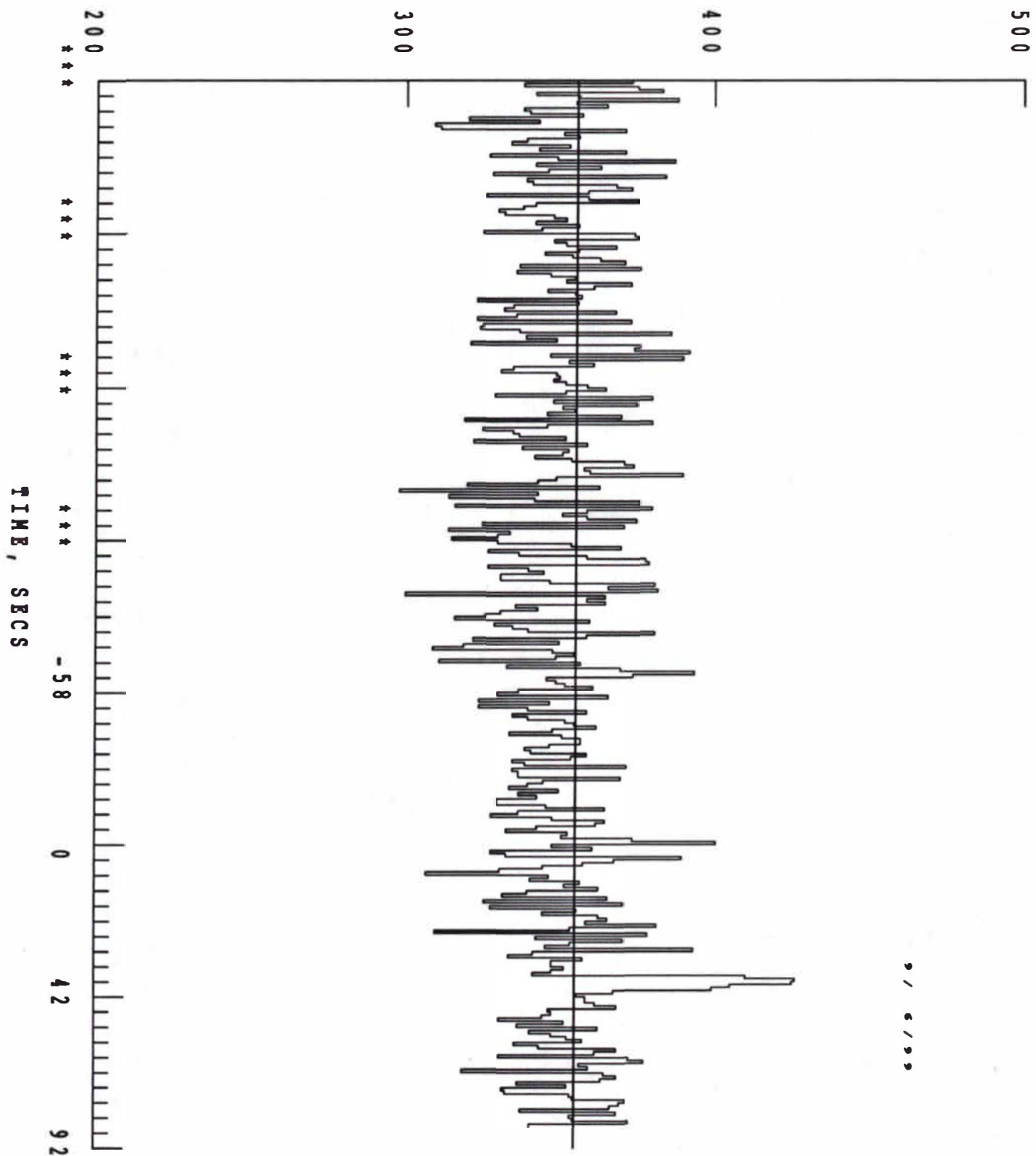
Detectors [7..8]:
-6-4-2--

Discriminators:
(3 . 4)

Quality Mask:
B0ISP1

14271.080

COUNTS/1.000 S



BATSE

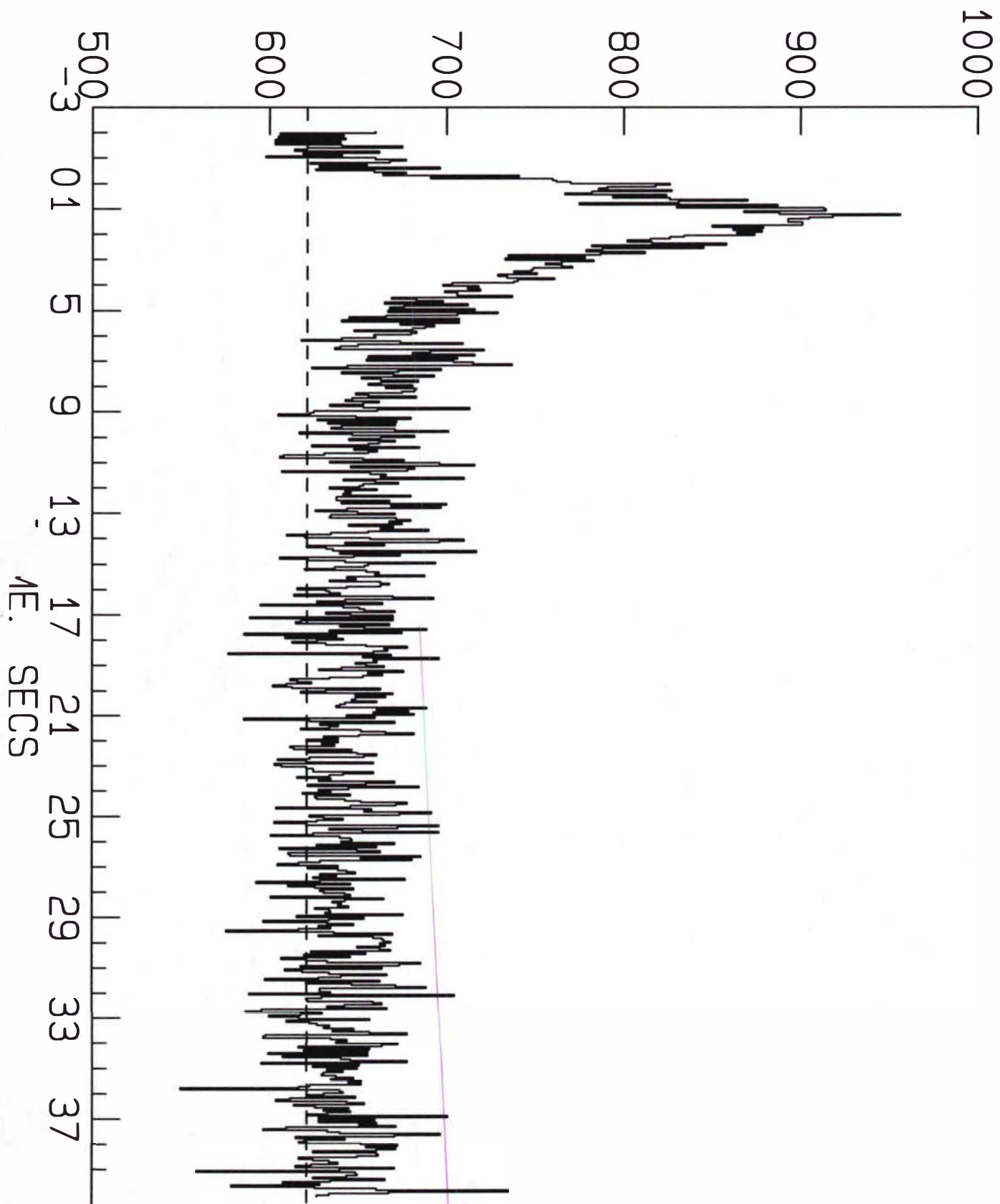
22/03/99

14636.537

25- 100 keV

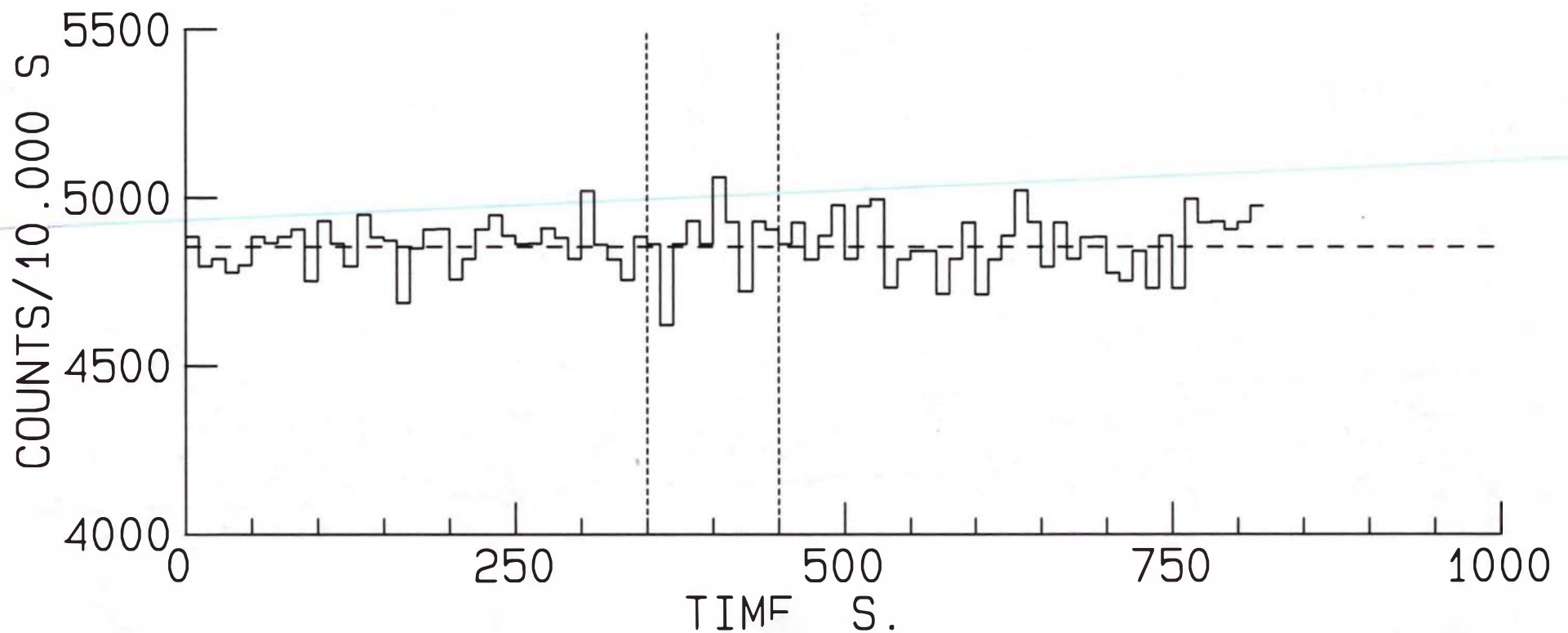
COUNTS/0.064 S

30 / 3 / 99

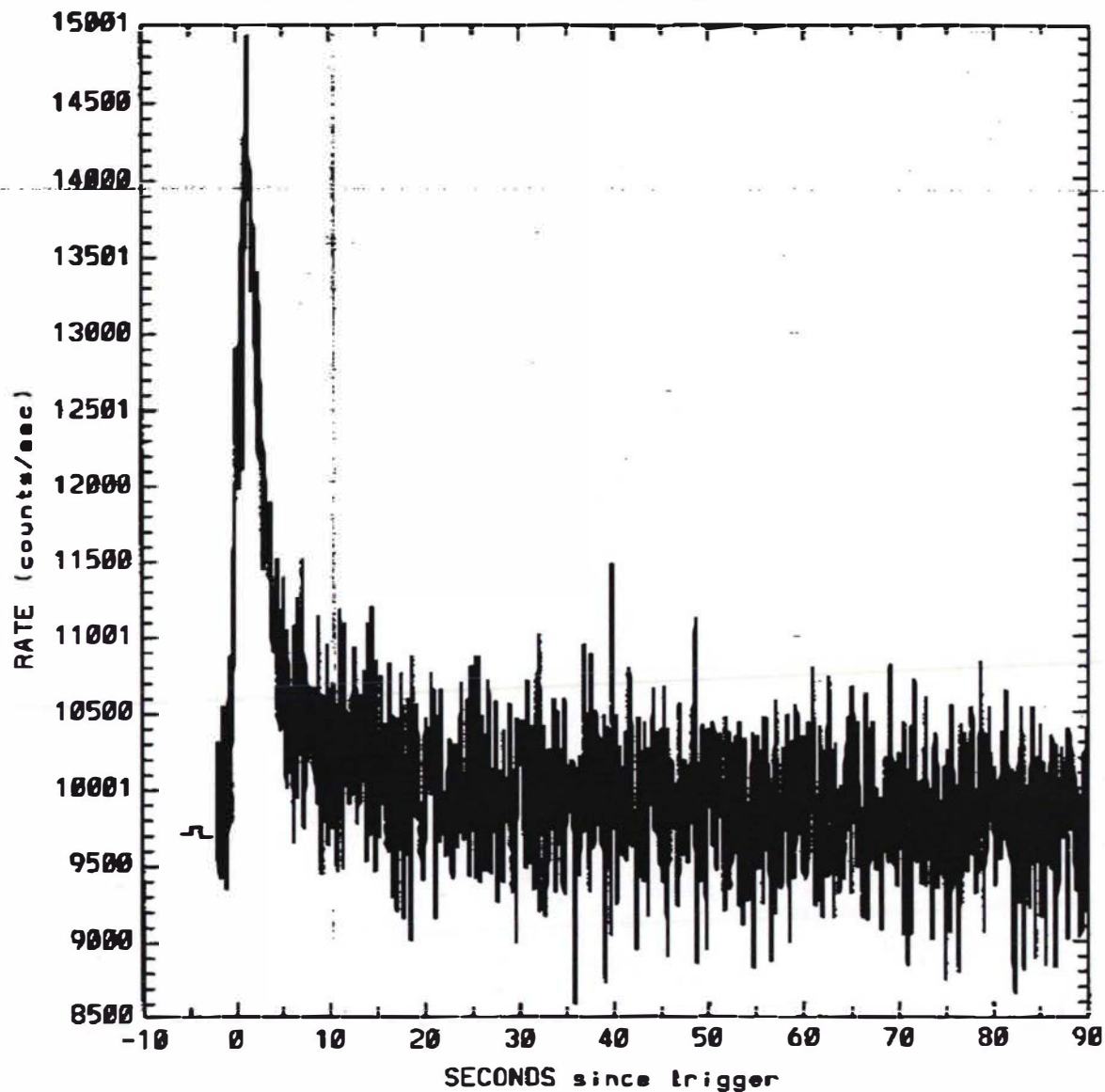


ULYSSES RT
22/ 3/99 14508.160 s
0.500 S INTERVALS REGROUPED BY 20
22- 151 keV

30 / 3 / 99



DISCSC Data for K. Hurley, No. 7488



26-MAR-1999 08:37:50

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # 7488

Trigger Time:
11259 / 14636.537

Burst Data Type:
DISCSC

Deadline
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
-6-4-2--

Discriminators:
(1, 2)

Quality Mask:
BOTSP1

BATSE BURST# 7488

ULYSSES RT

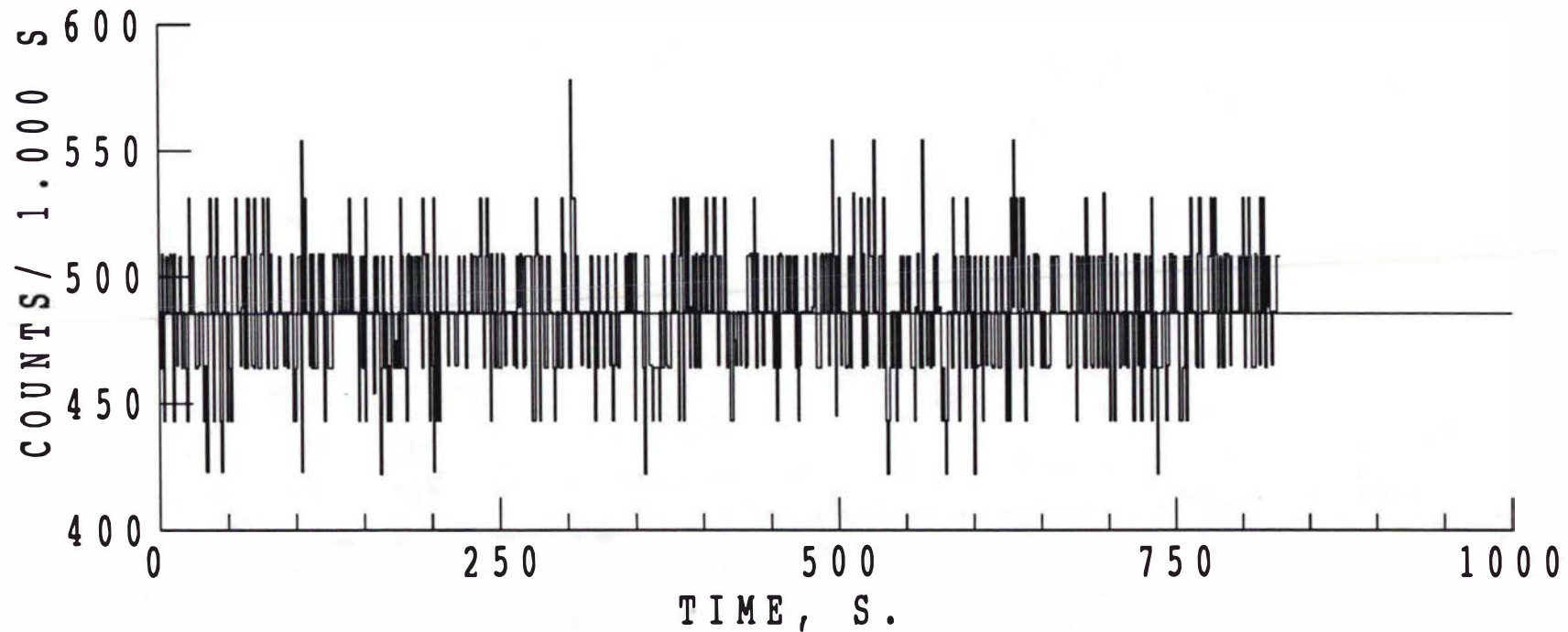
25 / 3 / 99

22 / 3 / 99 14508.160 s

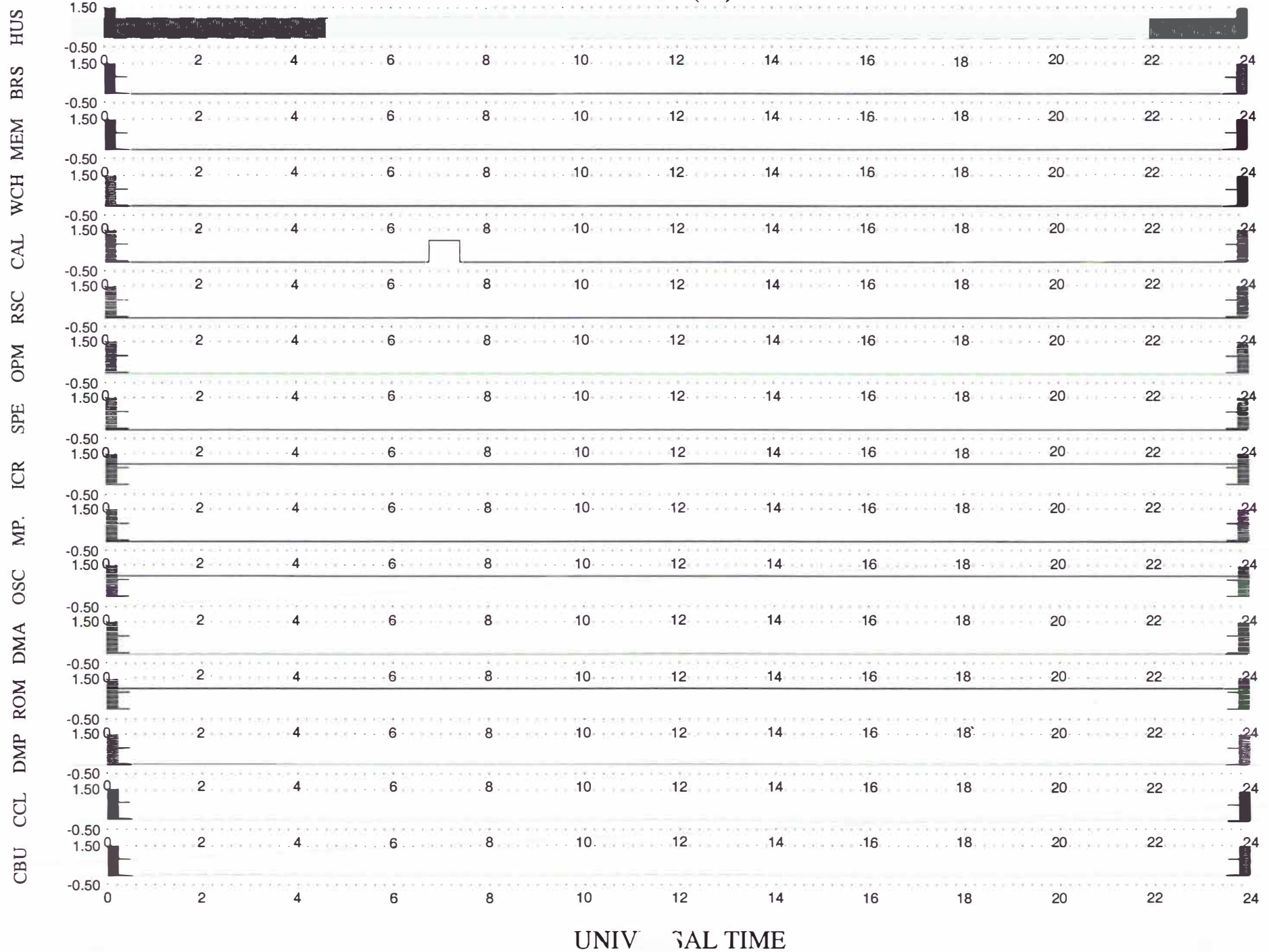
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

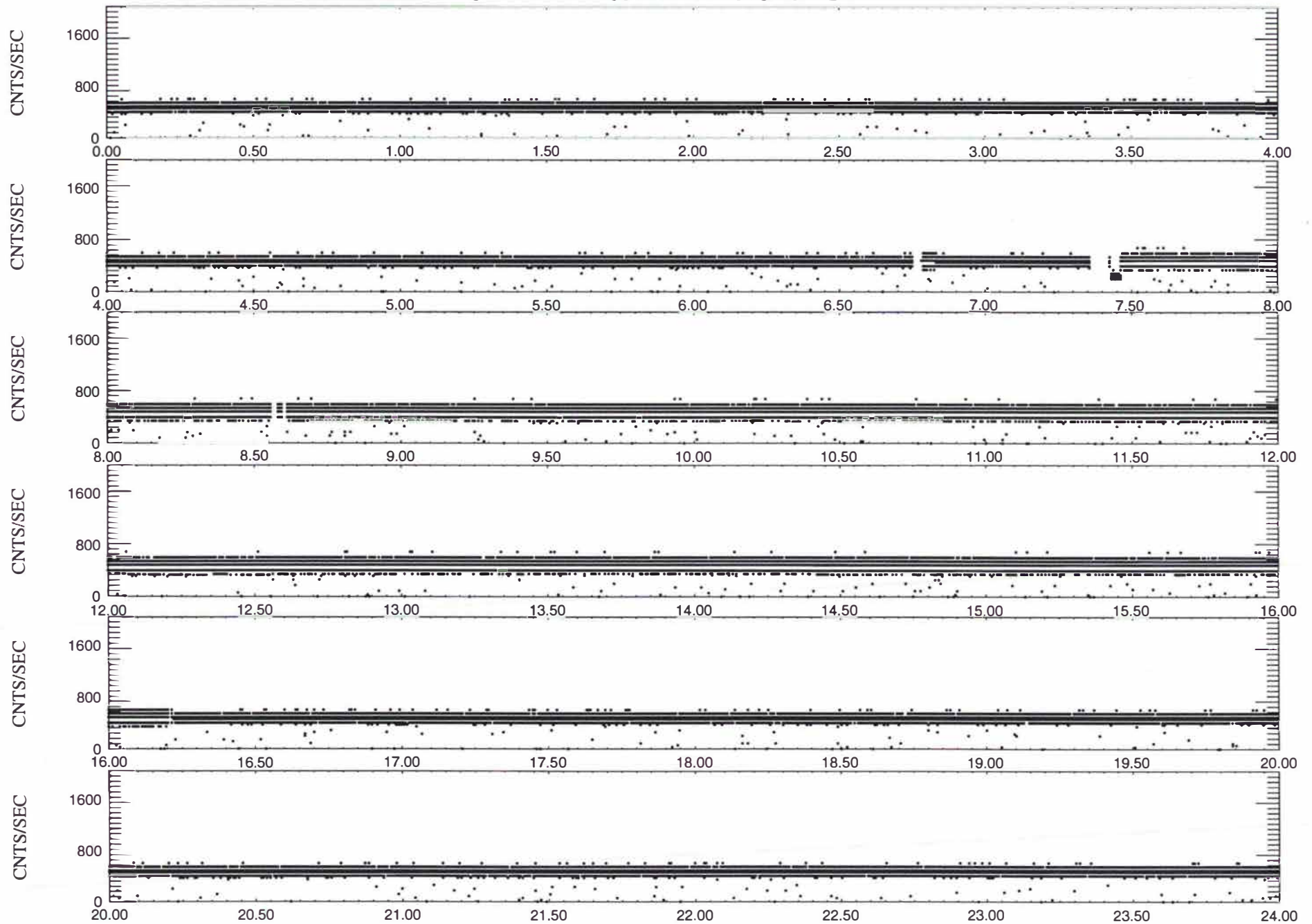
N=10 M=2
>4.0 SIGMA FLUCTUATIONS



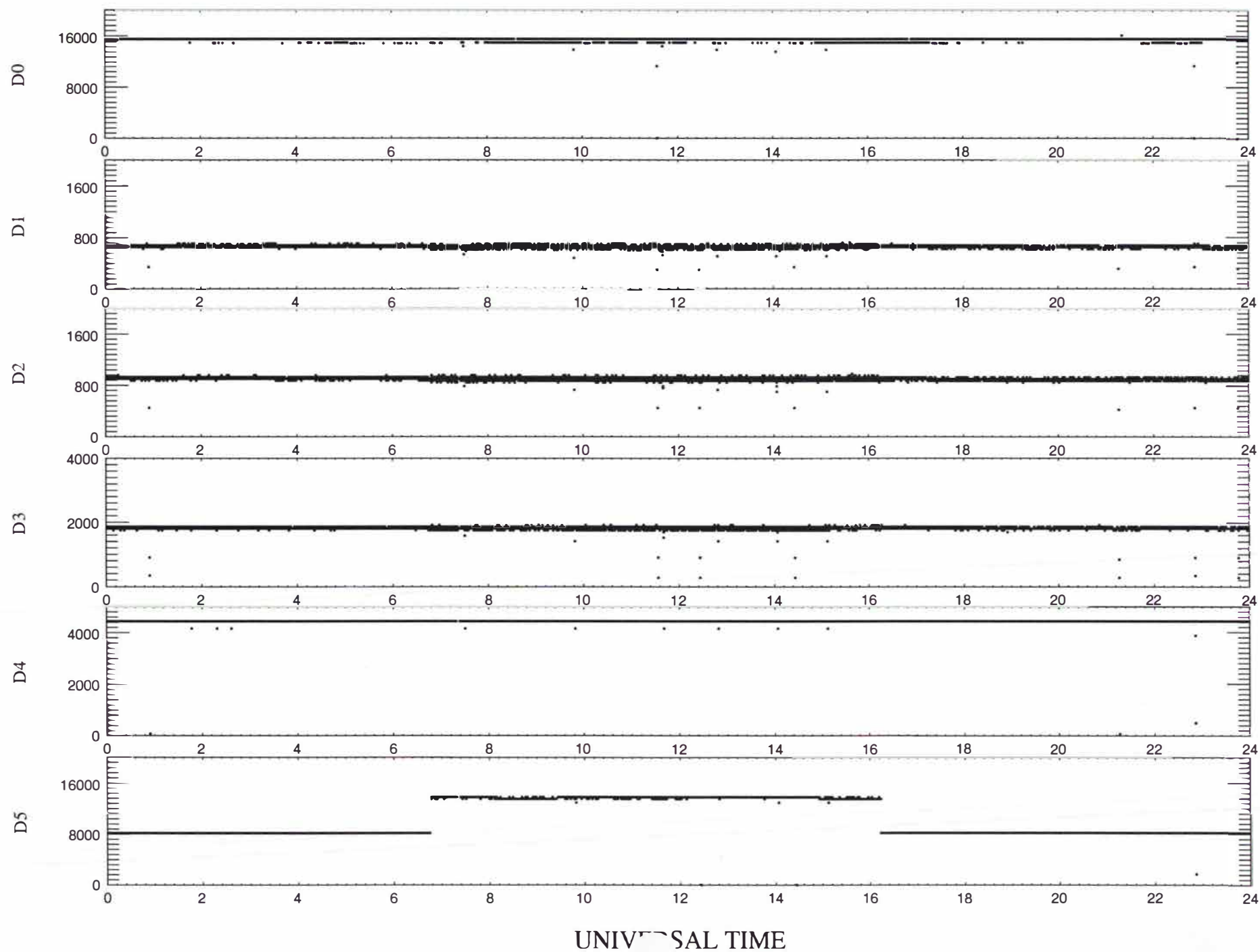
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Thu Mar 25 12:32:35 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 MAA28838; Thu, 25 Mar 1999 12:32:35 -0800
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 MAA18176
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 25 Mar 1999 12:32:31 -0800 (PST)
Date: Thu, 25 Mar 1999 14:32:45 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990325143245.2022137b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7489
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7489
EVENT OF 1999 MAR 23 DAY OF YEAR= 82
EVENT CROSSING TIME AT BATSE : 32269. S. OR 08:57:49.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 208.000 25.000
BATSE PEAK COUNTING RATE: 3300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 3/ 99 IS:
RA= 149.877 DEC= -8.790 DIST= 4.186 AU
BATSE-ULYSSES DISTANCE = 626166801. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=114.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -853.05 SECS.
CROSSING TIME AT ULYSSES IS 31416. S. OR 08:43:35 +/- 368.05 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 3/ 99 IS:
RA= 220.307 DEC= -13.448 DIST= 0.728 AU
MARS-BATSE DISTANCE = 108853352. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=139.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -277.01 SECS.
CROSSING TIME AT MARS IS 31992. S. OR 08:53:11 +/- 36.55 SECONDS

BATSE BURST TRIGGER

NO.: 7489

TIME: TJD=1260 SECONDS=32269

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 82.4 AZIMUTH=120.3 ERROR= 3.0 DEGREES

COMMENTS:

AT LEAST TWO PULSES, TOTAL DUR. APPROX. 120 S. FIRST PULSE MAX AT APPROX.
T+9 S, SECOND PULSE HAS STRUCTURE WITH MAX(ES) NEAR T+90 S.
NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7489	990323	11260	32269	3300	208	+25	120

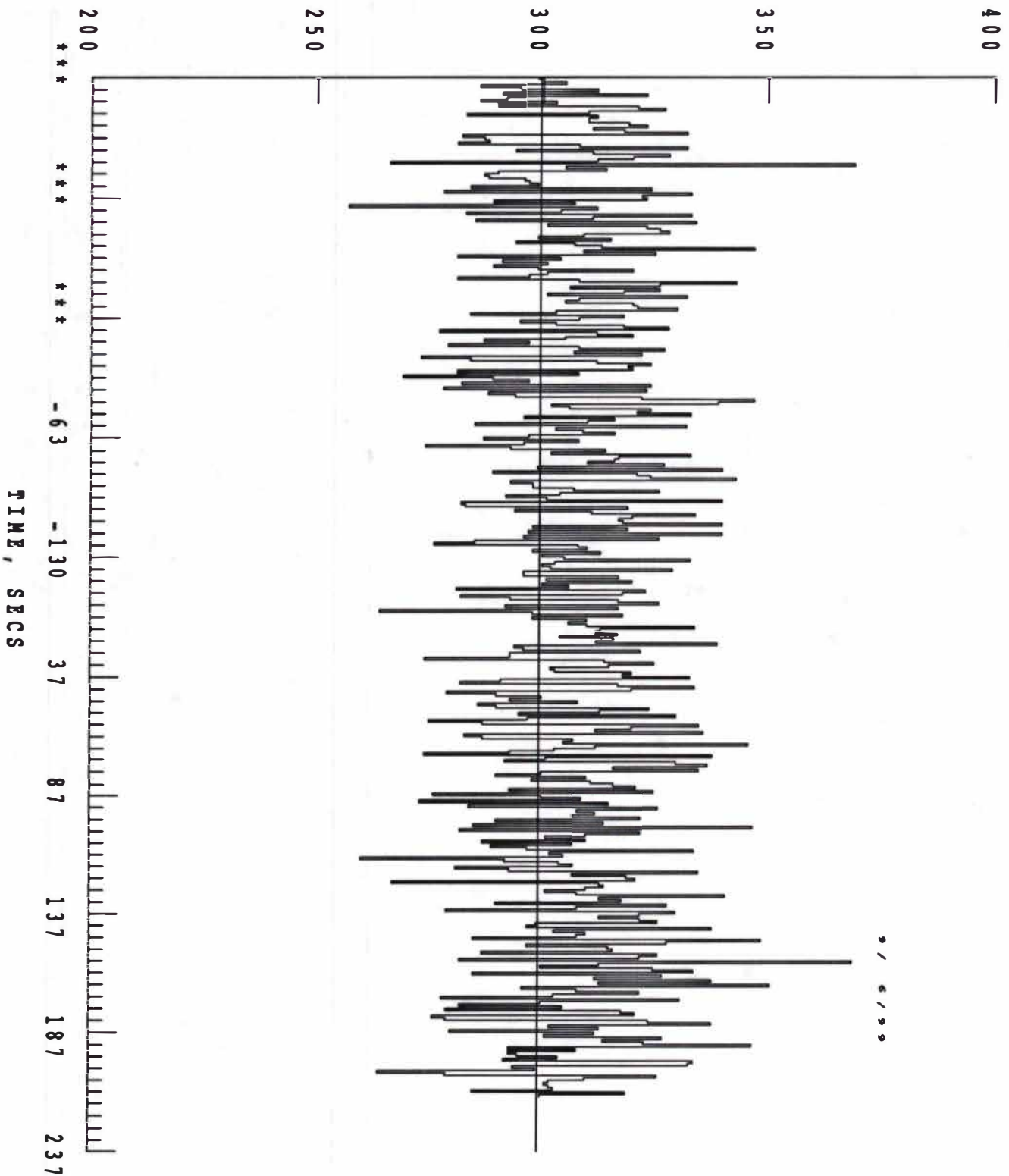
NEAR

23/03/99

33225.052

100-1000 keV

COUNTS/1.000 S



BATSE BURST# 7489

ULYSSES RT

31 / 3 / 99

23 / 3 / 99 31032.211 s

0.250 S INTERVALS REGROUPED BY 3

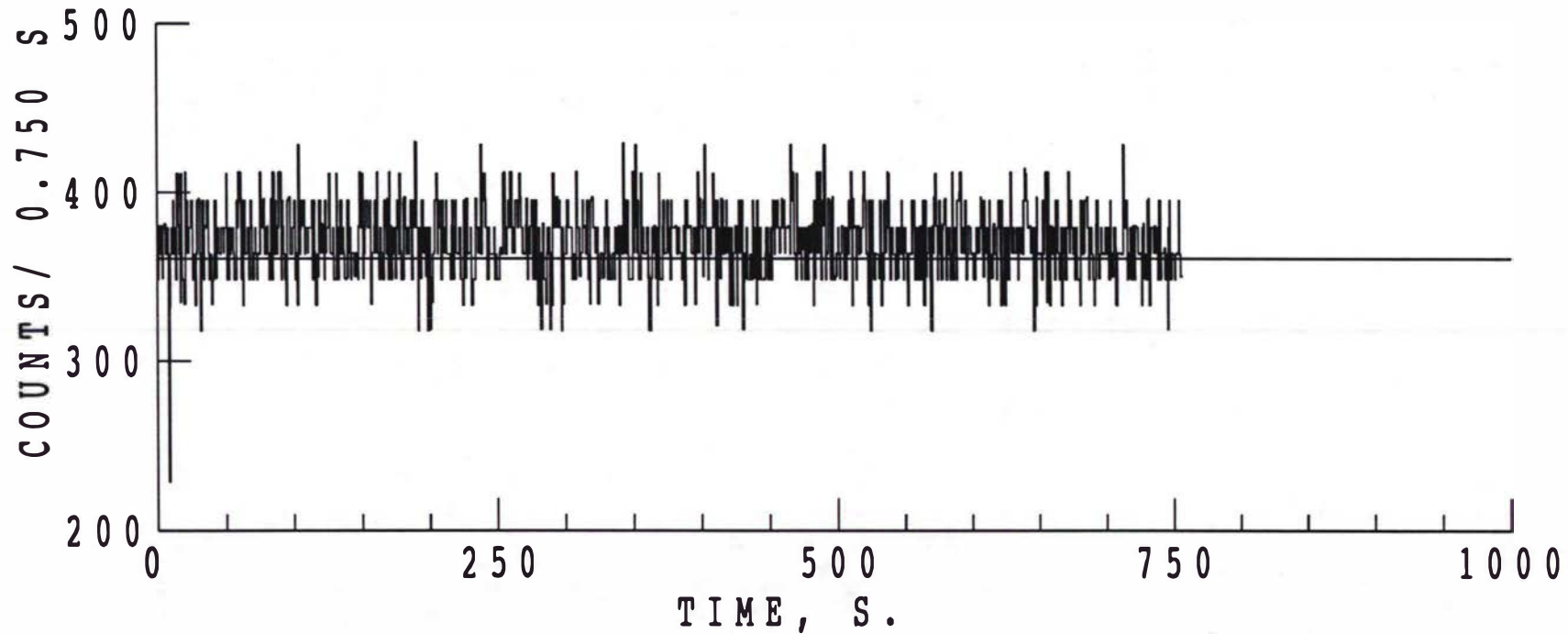
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KNEAR GRS 19990323 33225

ULYSSES RT

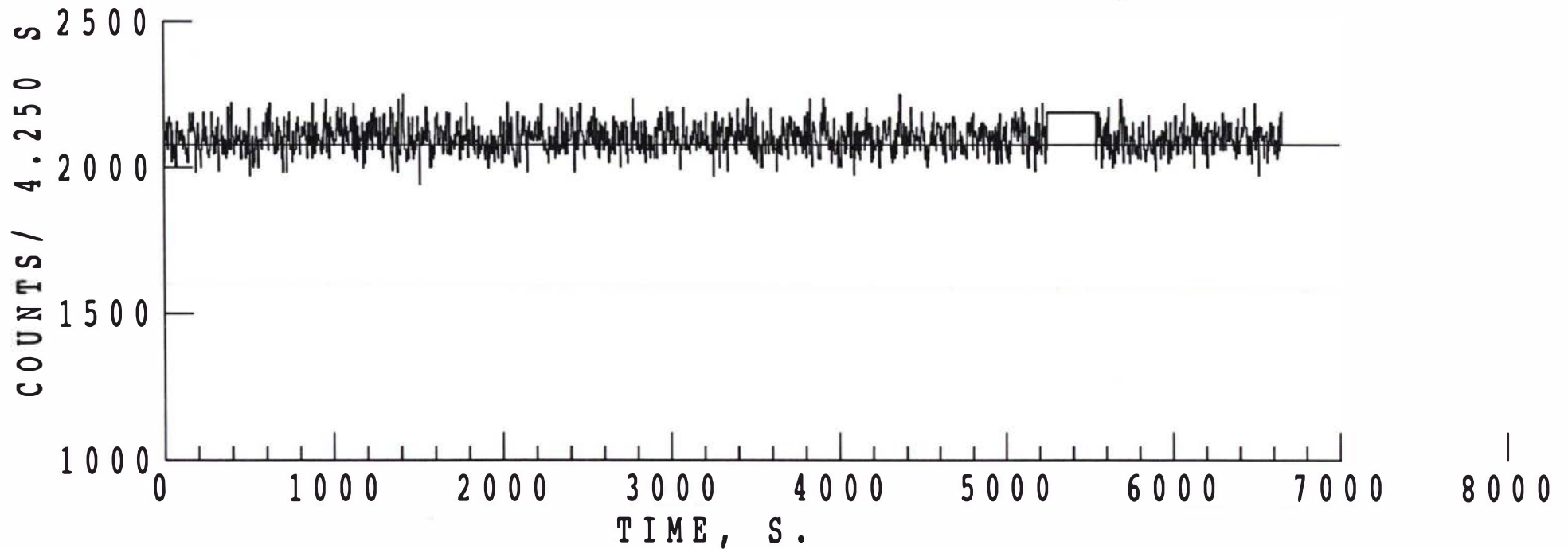
13 / 7 / 99

23 / 3 / 99 29880.199 s

0.250 S INTERVALS REGROUPED BY 17

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Mar 25 12:36:40 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 MAA28886; Thu, 25 Mar 1999 12:36:40 -0800
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 MAA18276
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 25 Mar 1999 12:36:37 -0800 (PST)
Date: Thu, 25 Mar 1999 14:36:50 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990325143650.2022137b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7490
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7490
EVENT OF 1999 MAR 23 DAY OF YEAR= 82
EVENT CROSSING TIME AT BATSE : 51803. S. OR 14:23:23.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 247.000 -26.000
BATSE PEAK COUNTING RATE: 4000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 3/ 99 IS:
RA= 149.831 DEC= -8.780 DIST= 4.187 AU
BATSE-ULYSSES DISTANCE = 626349632. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.48 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 91.81 SECS.
CROSSING TIME AT ULYSSES IS 51895. S. OR 14:24:54 +/- 413.78 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 3/ 99 IS:
RA= 220.307 DEC= -13.448 DIST= 0.728 AU
MARS-BATSE DISTANCE = 108853352. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=152.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -320.59 SECS.
CROSSING TIME AT MARS IS 51482. S. OR 14:18:02 +/- 24.73 SECONDS

BATSE BURST TRIGGER

NO.: 7490

TIME: TJD=1260 SECONDS=51803

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 32.9 AZIMUTH= 70.6 ERROR= 12.3 DEGREES

COMMENTS:

VERY SPARSE DATA. AT LEAST 2 SPIKES, TOTAL DUR. UNKNOWN, AT LEAST 1.1 S.
FIRST SPIKE DUR. APPROX. 0.2 S. SECOND SPIKE MAX AT APPROX. T+0.9 S, DUR.
APPROX. 0.07 S. NOT VISIBLE ABOVE 300 KEV.

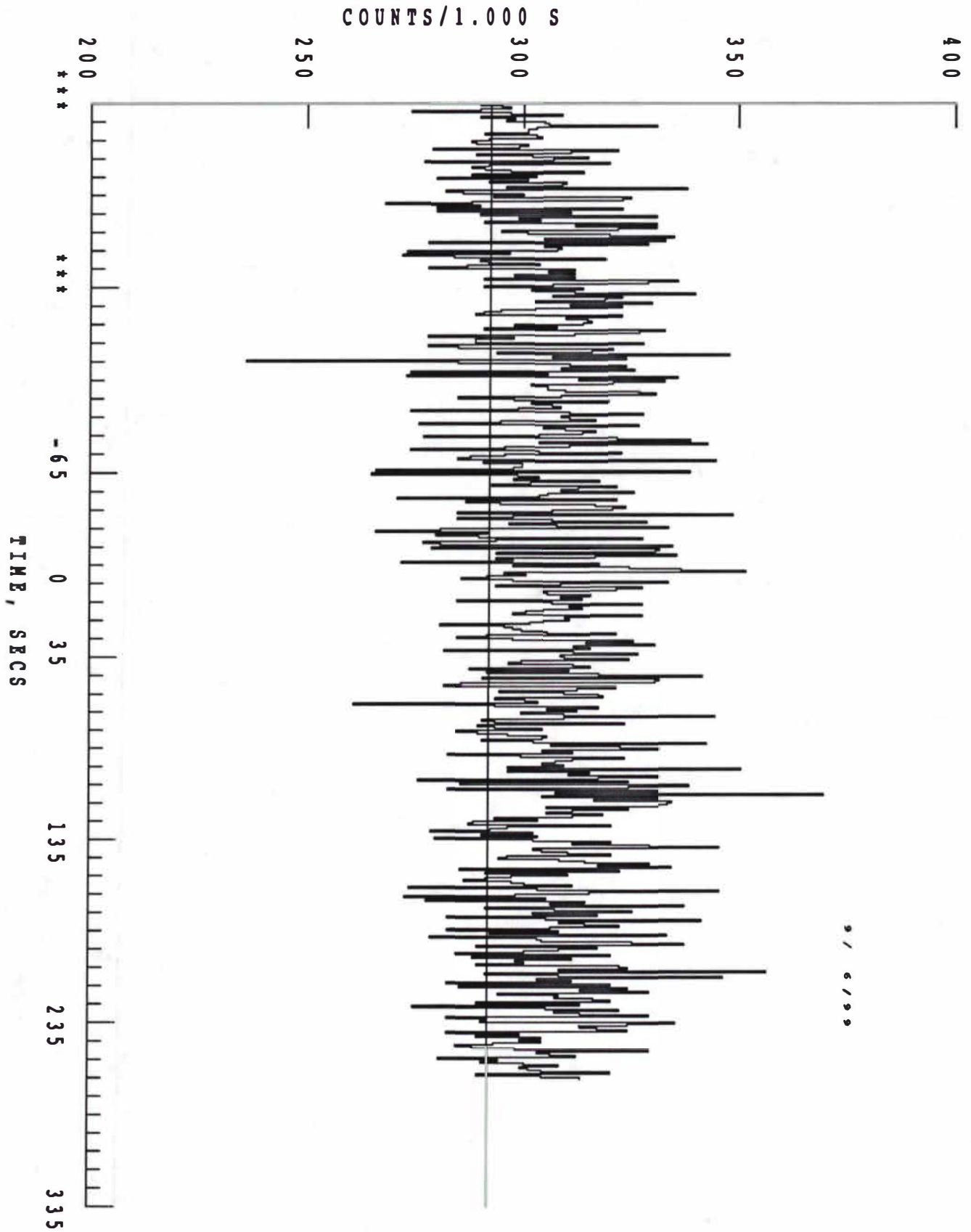
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7490	990323	11260	51803	4000	247	-26	1.1

NEAR

23/03/99

52260.047

100-1000 keV



BATSE BURST# 7490

ULYSSES RT

31 / 3 / 99

23 / 3 / 99 51480.168 s

0.250 S INTERVALS REGROUPED BY 3

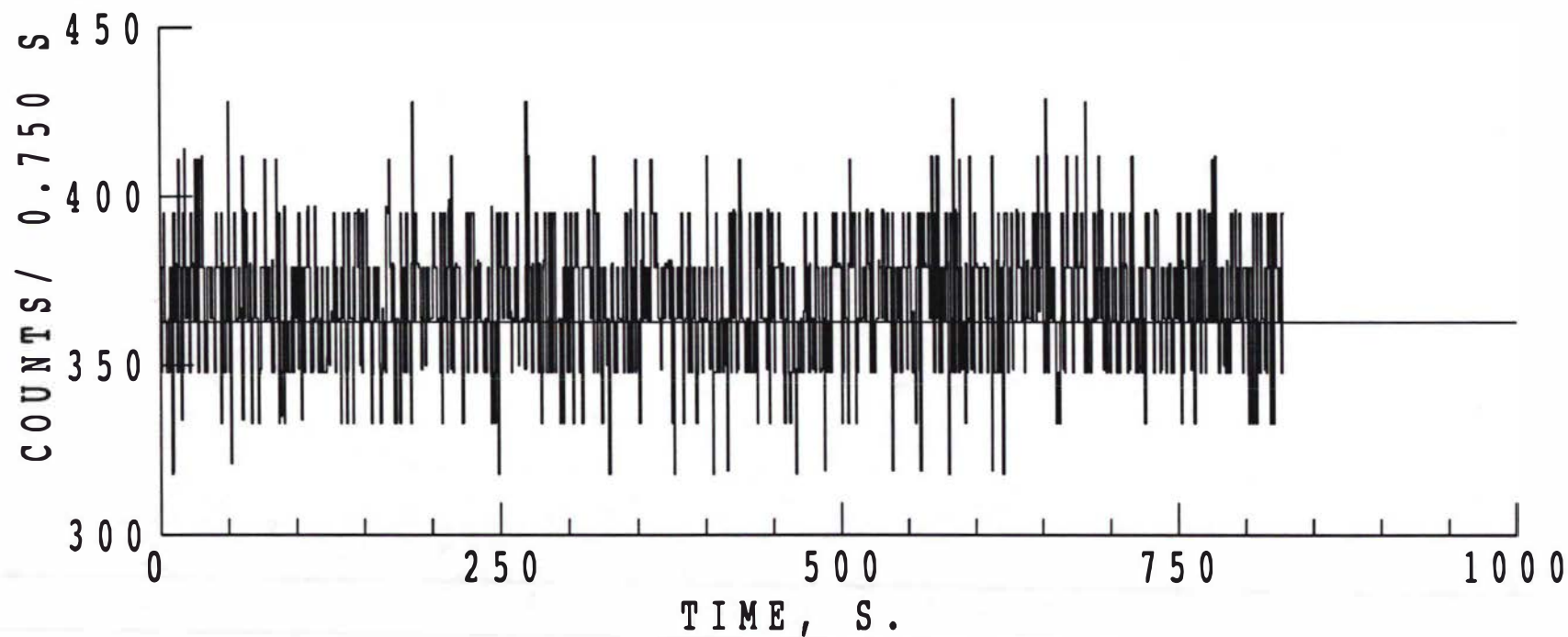
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu Mar 25 12:45:11 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 MAA29110; Thu, 25 Mar 1999 12:45:09 -0800
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 MAA18459
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 25 Mar 1999 12:45:06 -0800 (PST)
Date: Thu, 25 Mar 1999 14:38:16 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990325143816.2022137b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7491
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7491
EVENT OF 1999 MAR 23 DAY OF YEAR= 82
EVENT CROSSING TIME AT BATSE : 62977. S. OR 17:29:37.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 333.000 -77.000
BATSE PEAK COUNTING RATE: 83000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 3/ 99 IS:
RA= 149.805 DEC= -8.775 DIST= 4.188 AU
BATSE-ULYSSES DISTANCE = 626452140. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 85.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 153.25 SECS.
CROSSING TIME AT ULYSSES IS 63130. S. OR 17:32:10 +/- 414.14 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 3/ 99 IS:
RA= 220.307 DEC= -13.448 DIST= 0.728 AU
MARS-BATSE DISTANCE = 108853352. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 98.18 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -51.63 SECS.
CROSSING TIME AT MARS IS 62925. S. OR 17:28:45 +/- 61.61 SECONDS

BATSE BURST TRIGGER

NO.: 7491

TIME: TJD=1260 SECONDS=62977

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 78.4 AZIMUTH=326.7 ERROR=0.7 DEGREES

COMMENTS:

STRONG, COMPLEX, DUR. APPROX. 65 S, MAX AT APPROX. T+2.6 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7491	990323	11260	62977	83000	333	-77	65

Date: Feb 25 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?

KONUS

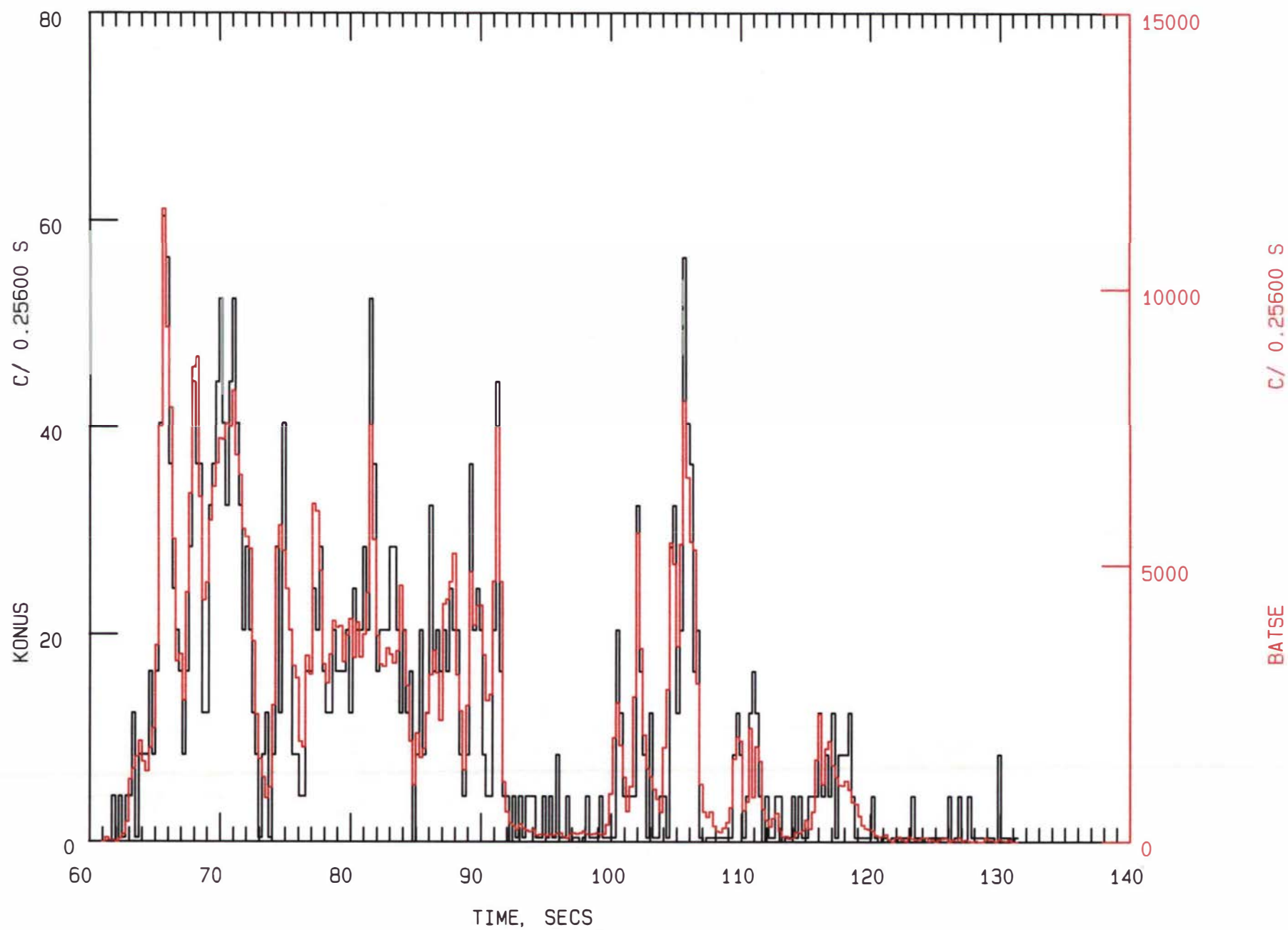
-BATSE

CORRELATION

23/03/99

62914.103

16/ 4/ 1



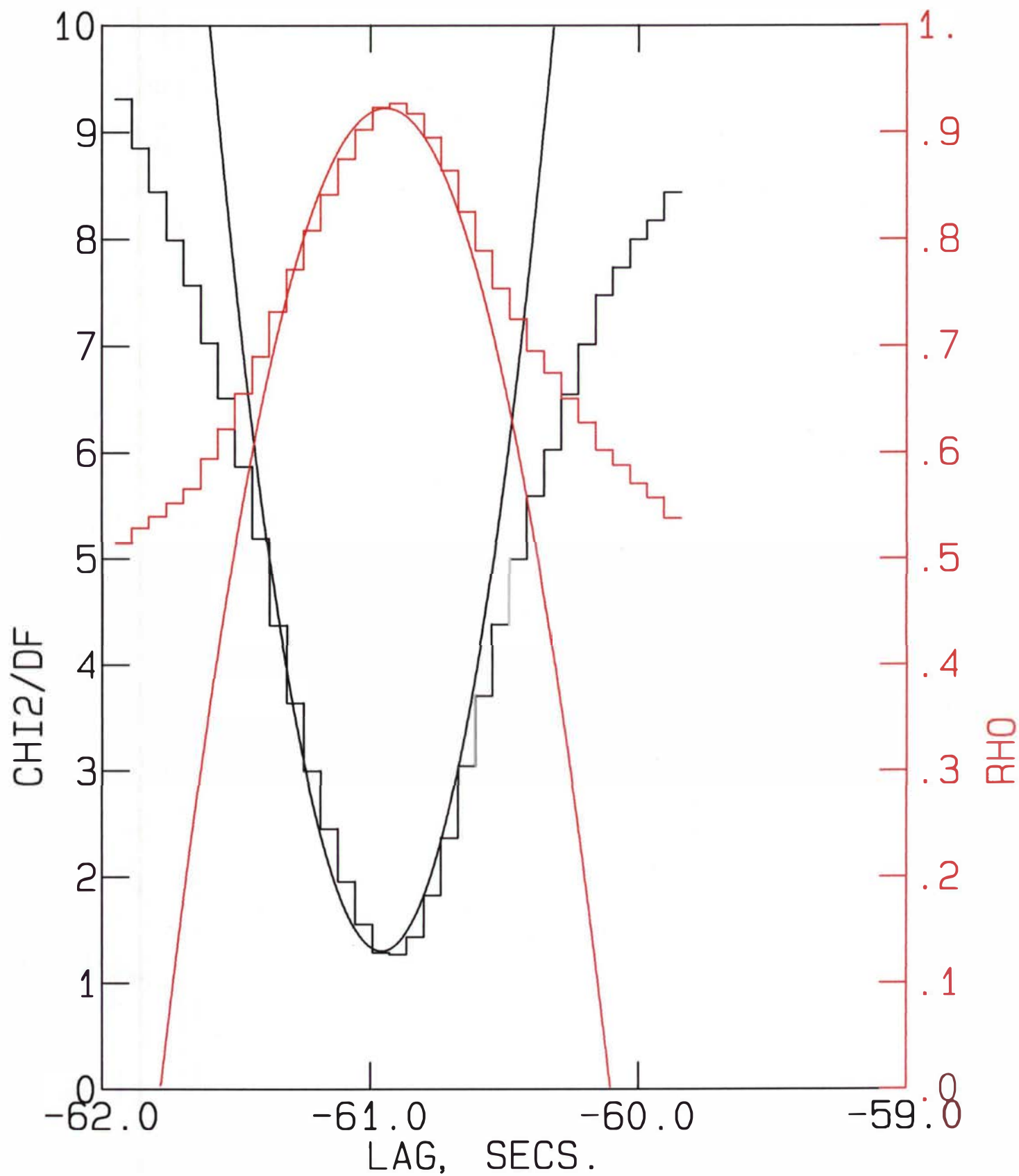
KONUS

-BATSE

CORRELATION

23/03/99

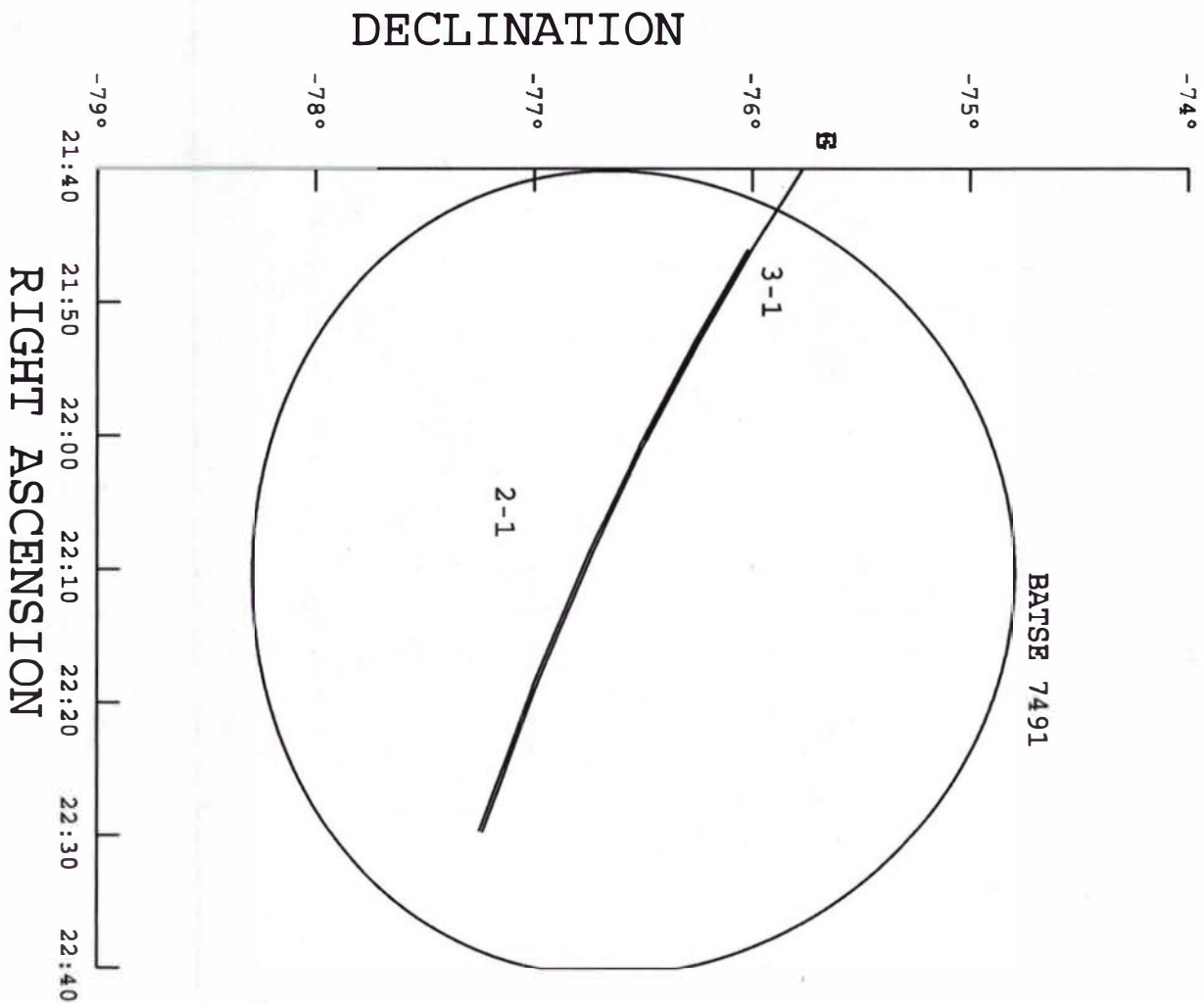
62914.103



EVENT OF MAR 23, 1999 17:29

25 / 2 / 0

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



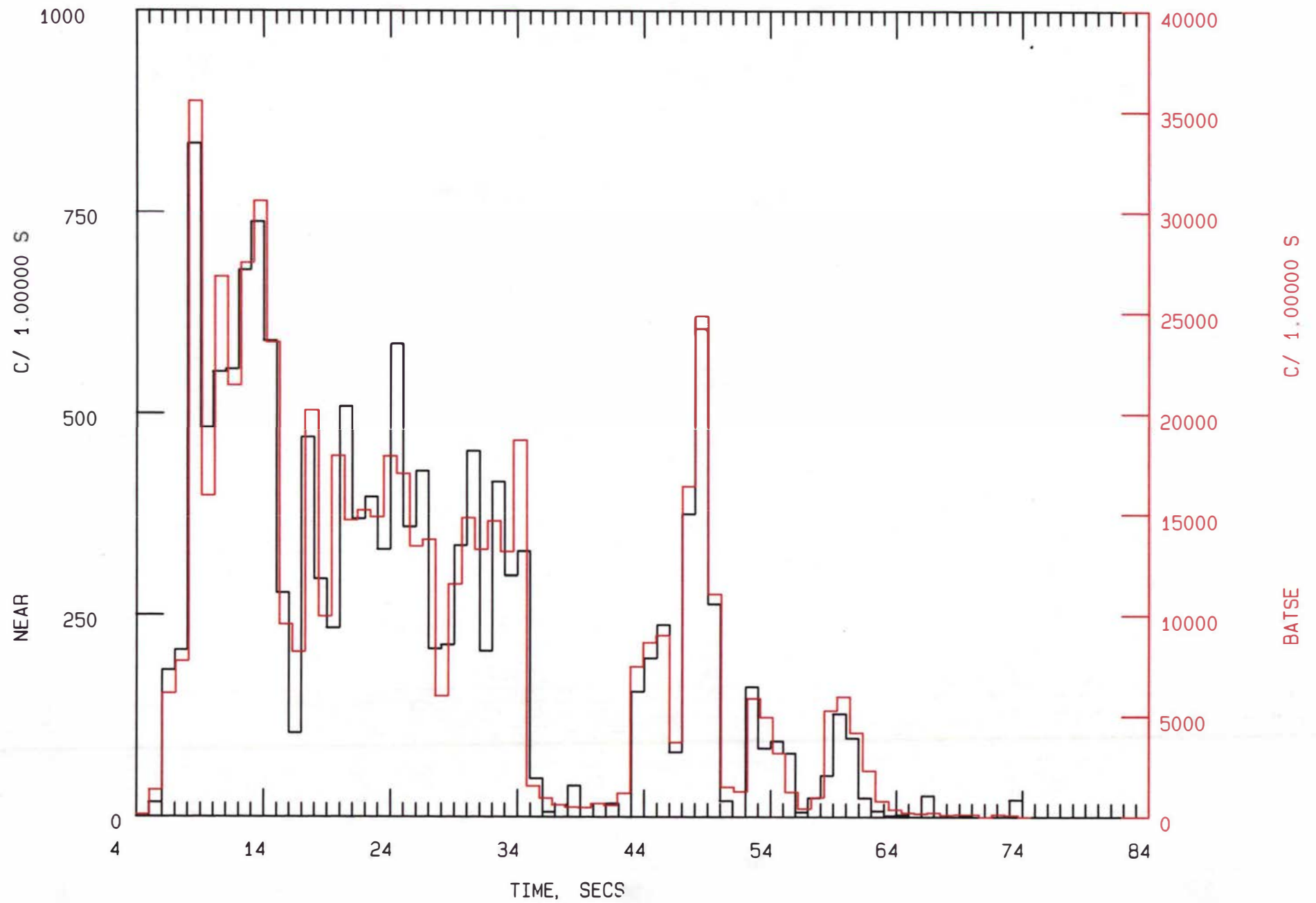
NEAR

-BATSE

CORRELATION

23/03/1999 62812.045

25/ 2/ 0

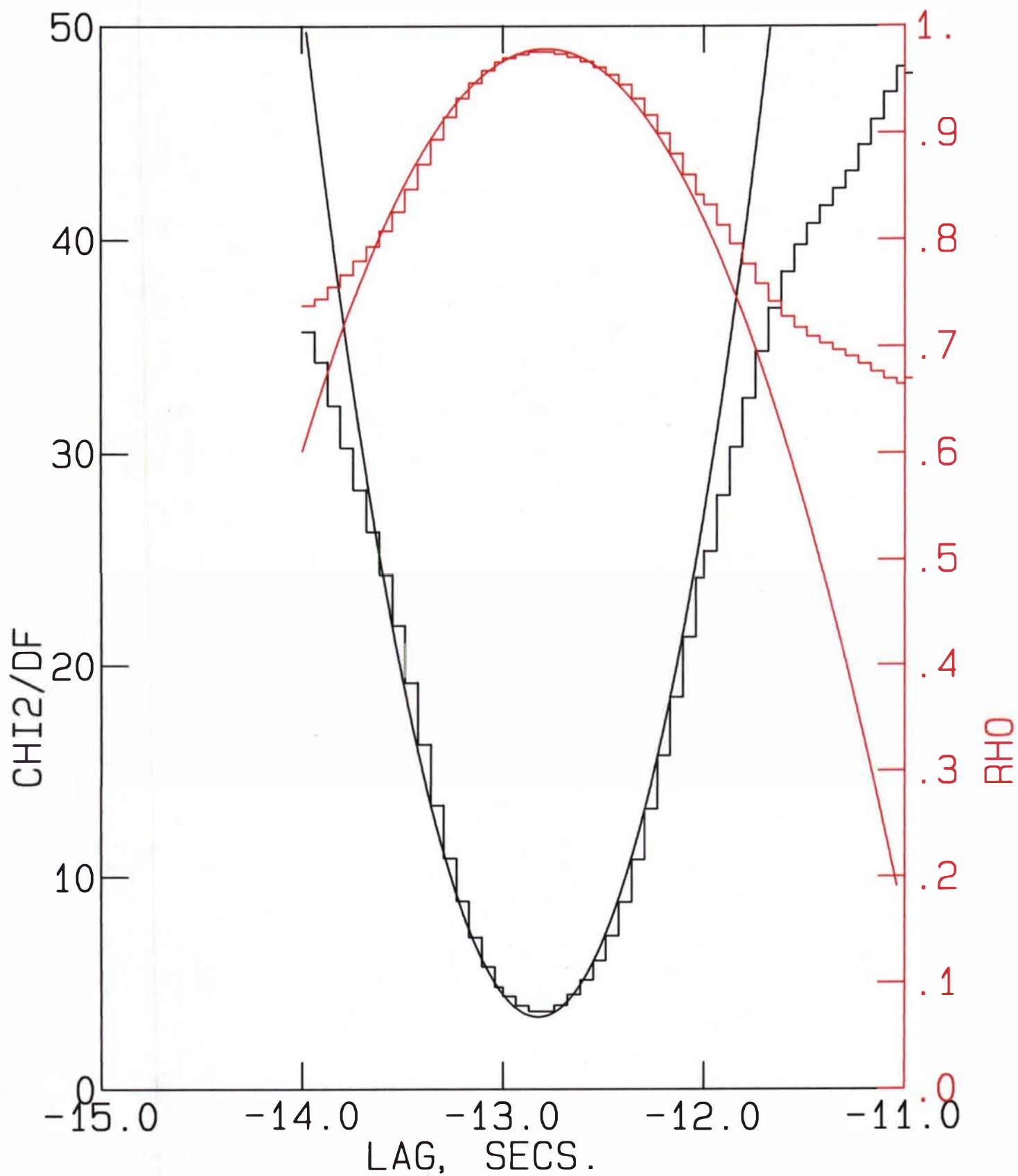


NEAR

-BATSE

CORRELATION

23/03/1999 62812.045



BATSE

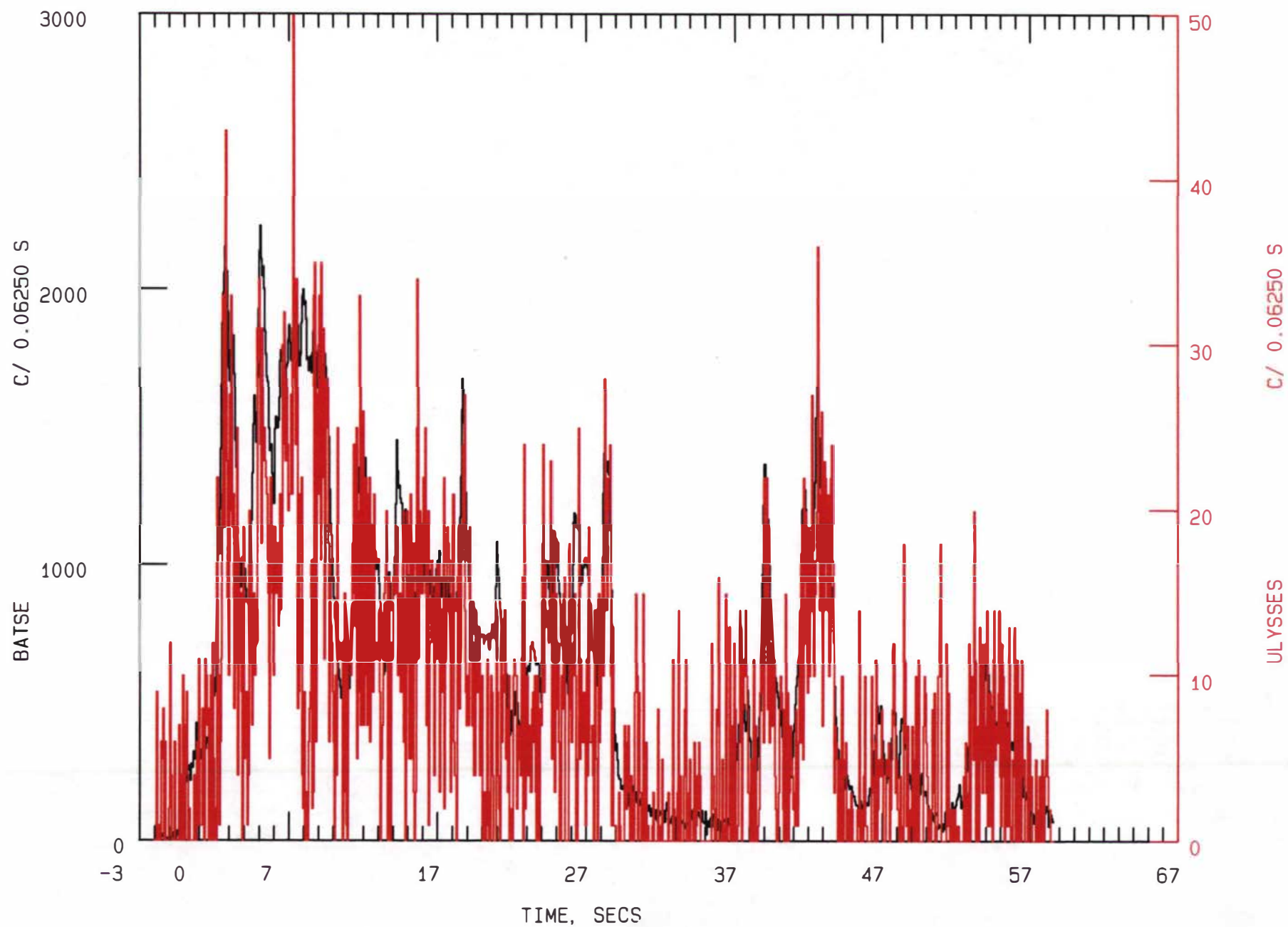
-ULYSSES

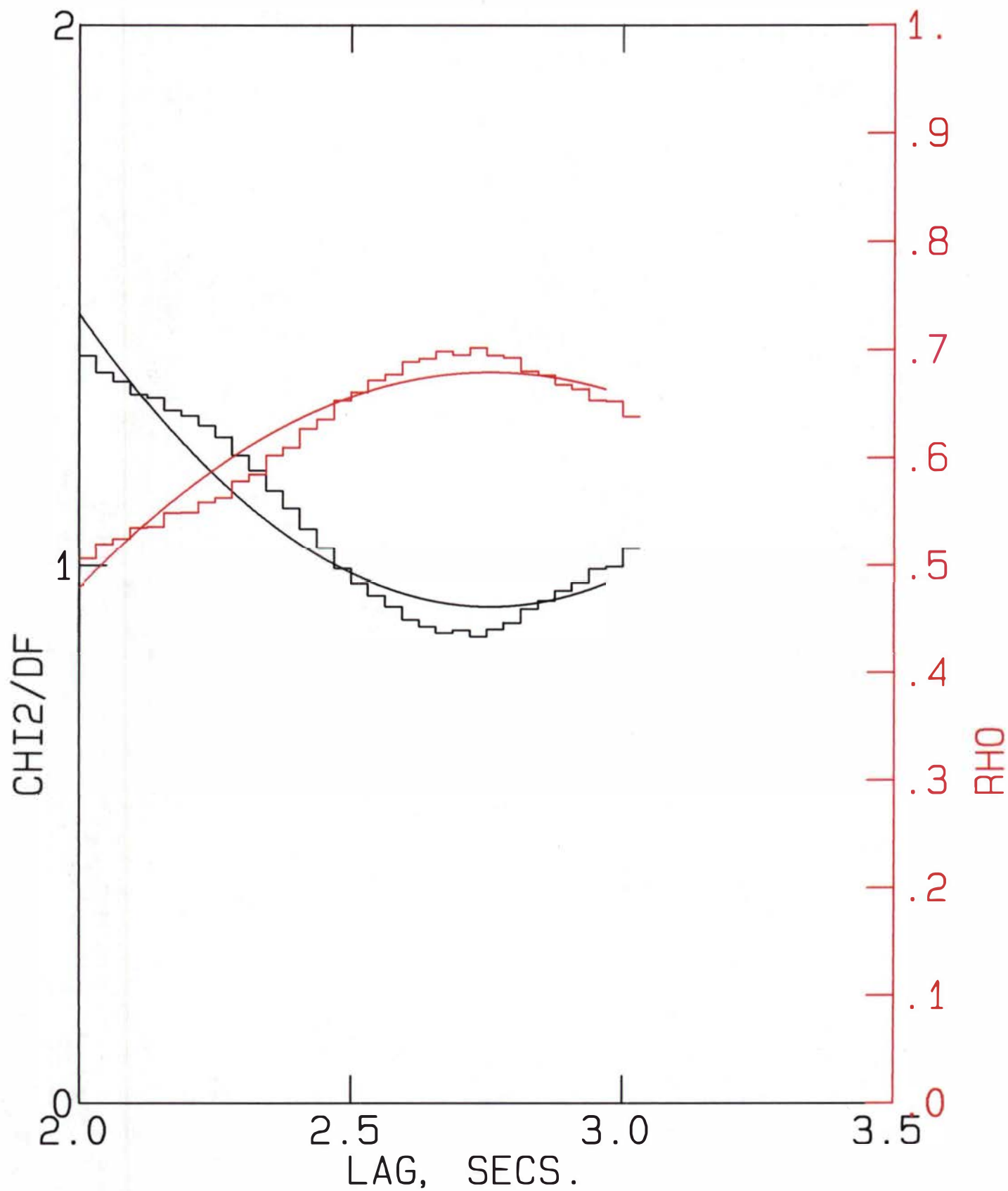
CORRELATION

23/ 3/99

62977.081

25/ 2/ 0





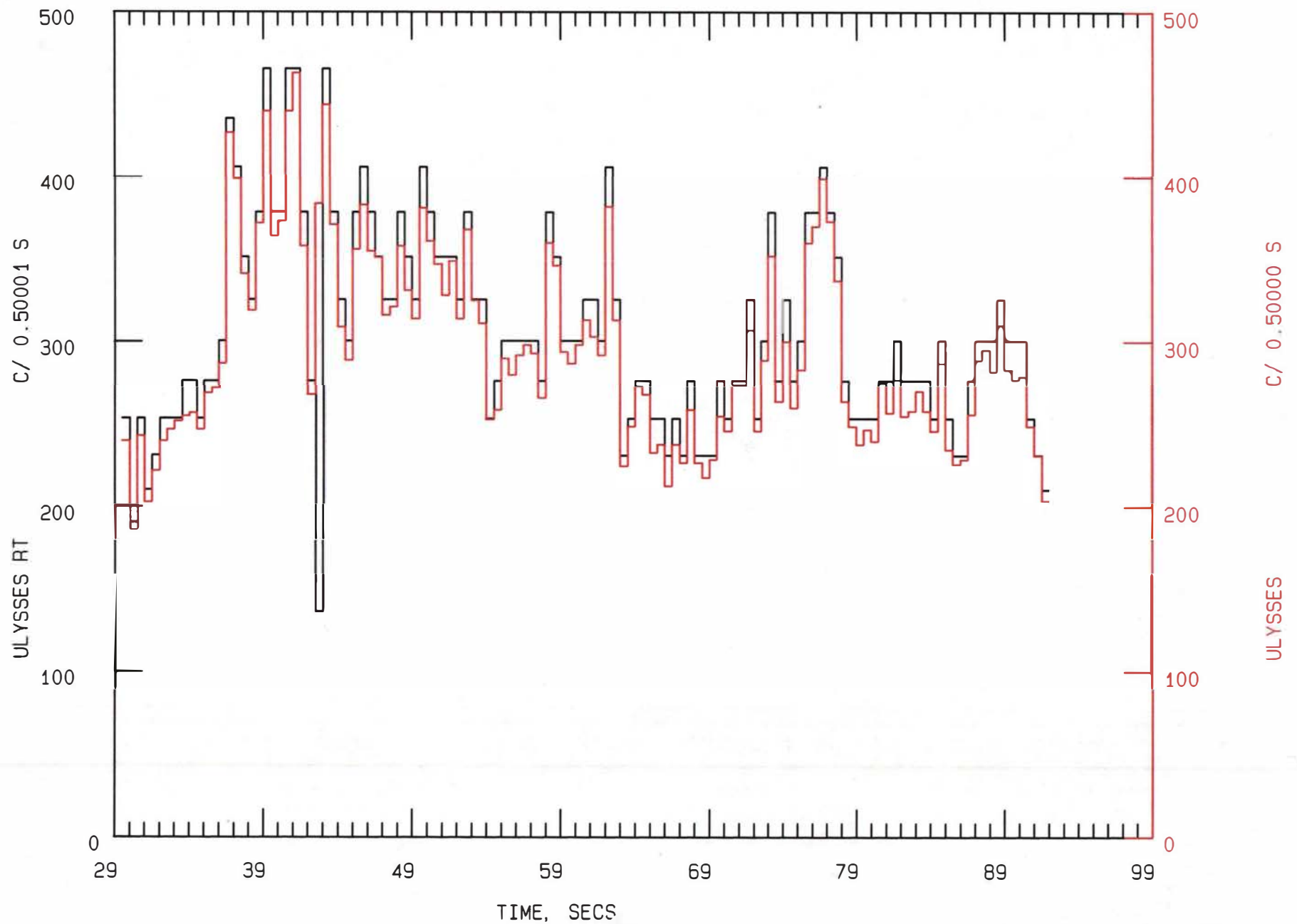
ULYSSES RT-ULYSSES

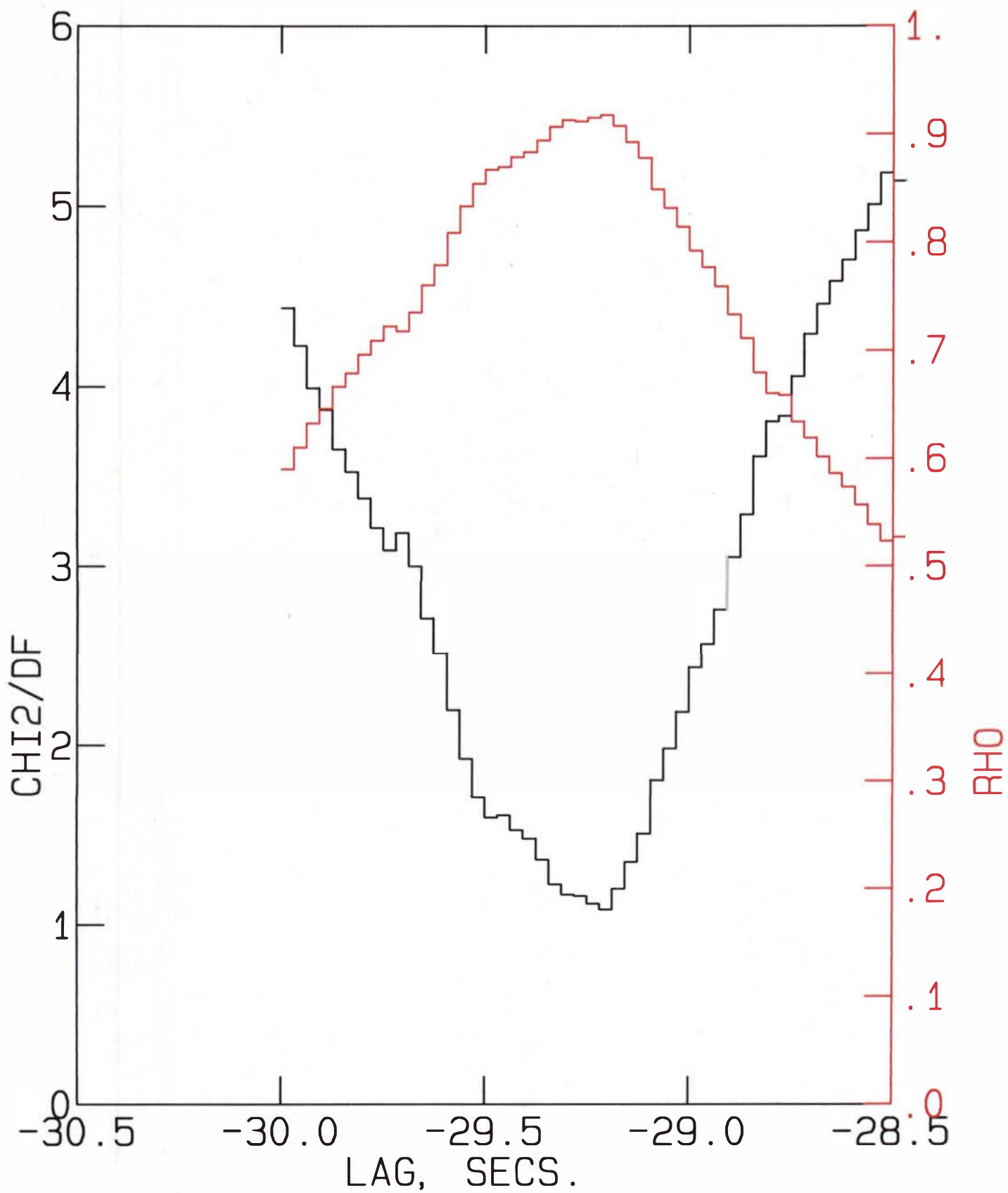
CORRELATION

23/ 3/99

63078.032

25/ 2/ 0

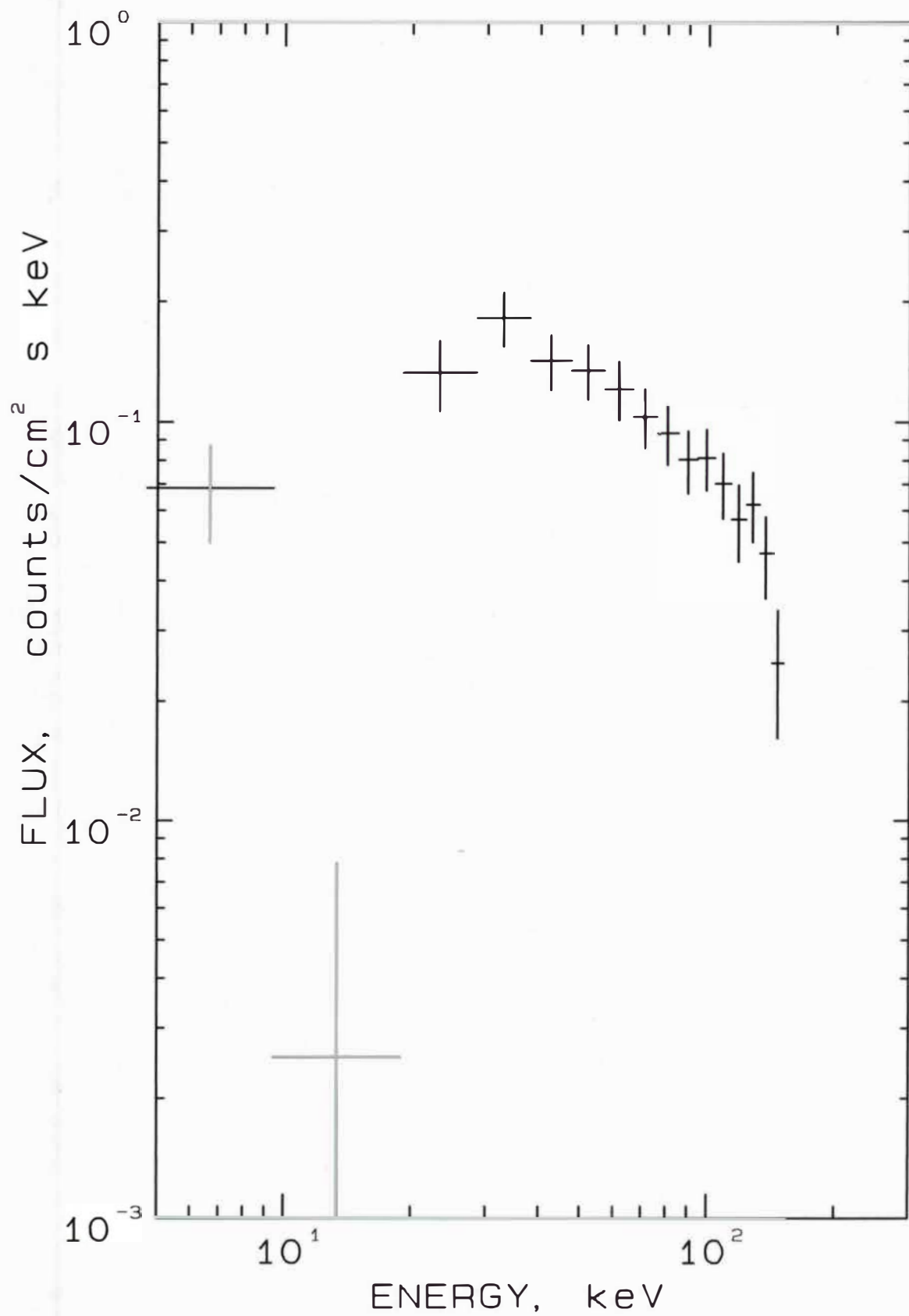




ULYSSES 23/03/99 63114.642

25/ 2/ 0

SPECTRUM INTEGRATED OVER 22.4 SECONDS, INTERVALS 2 TO 20



ULYSSES 23/03/99 63114.642 BURST SPECTRAL COUNT RATES

4- 18 keV

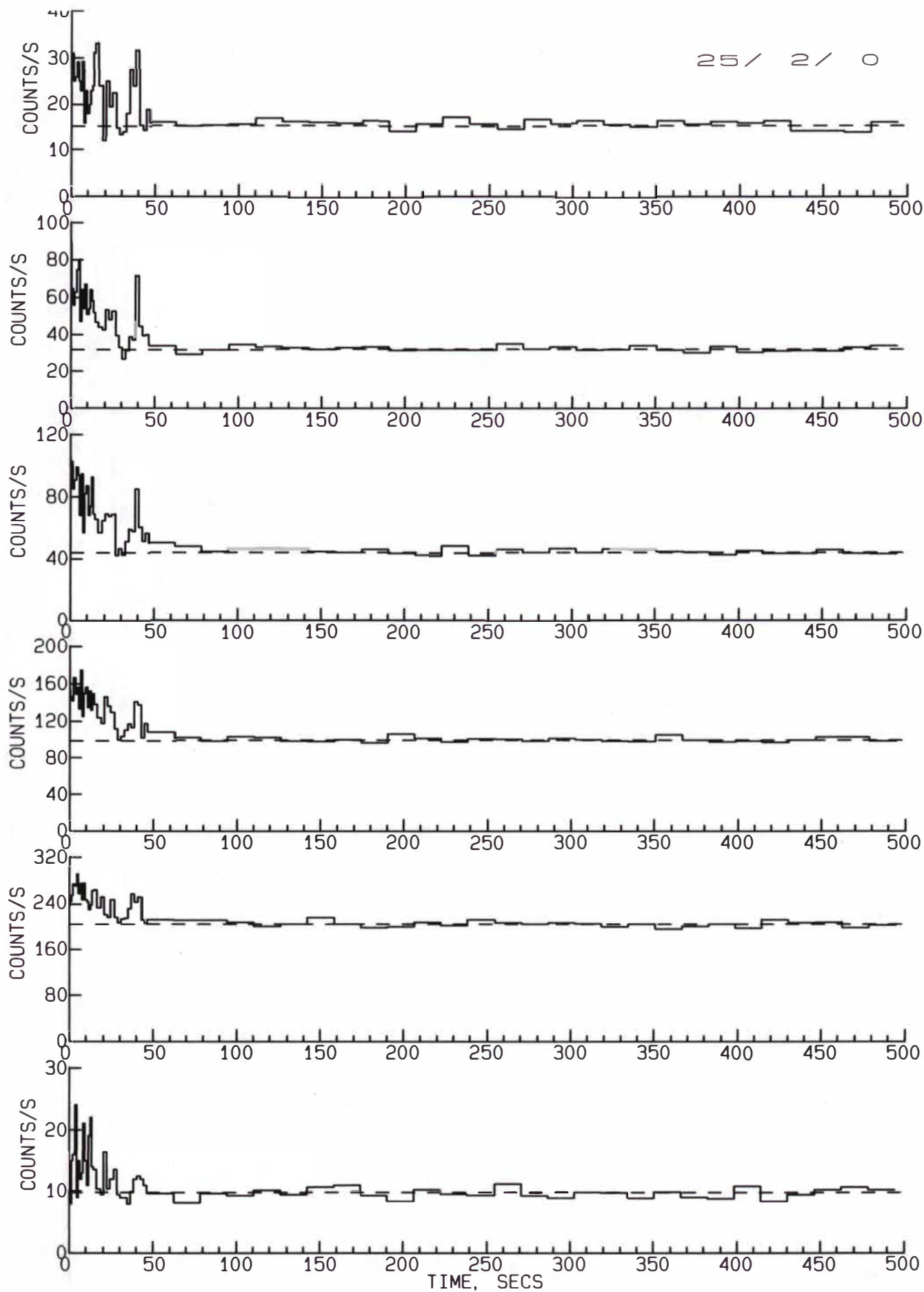
18- 47 keV

47- 75 keV

75-103 keV

103-132 keV

132-150 keV

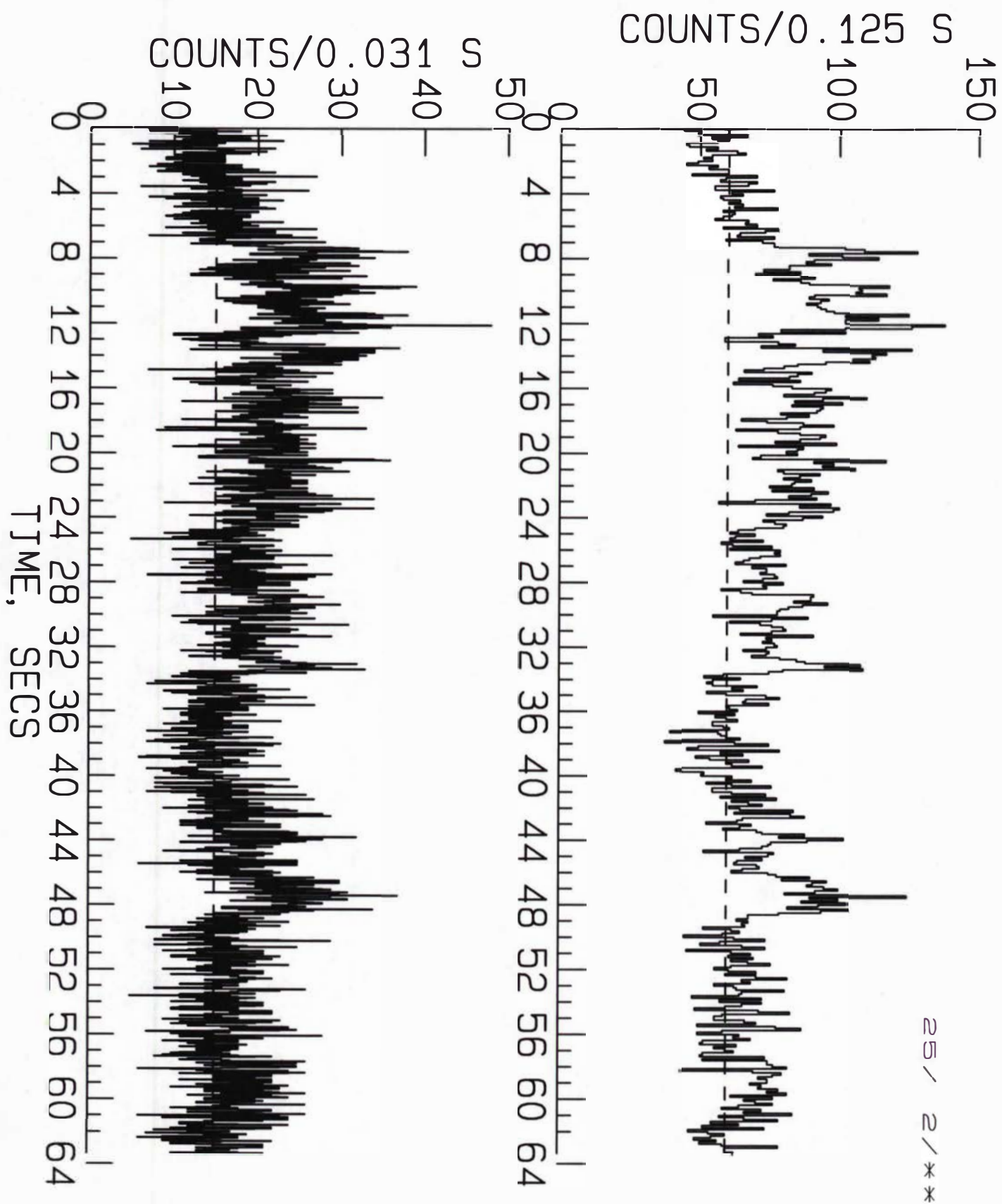


ULYSSES

23/03/99

Ttrig=63114.649

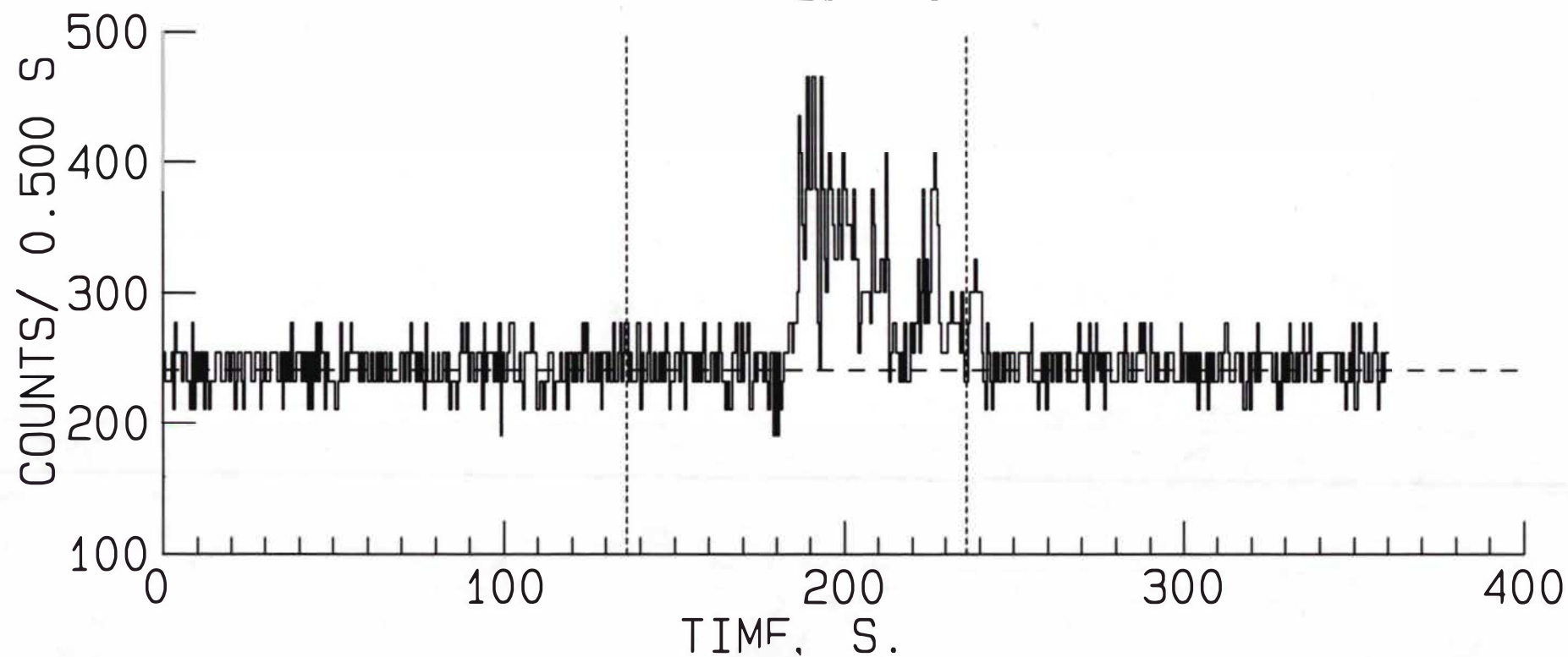
22- 151 keV



ULYSSES RT
23/ 3/99 62928.032 s
22- 151 keV

25 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



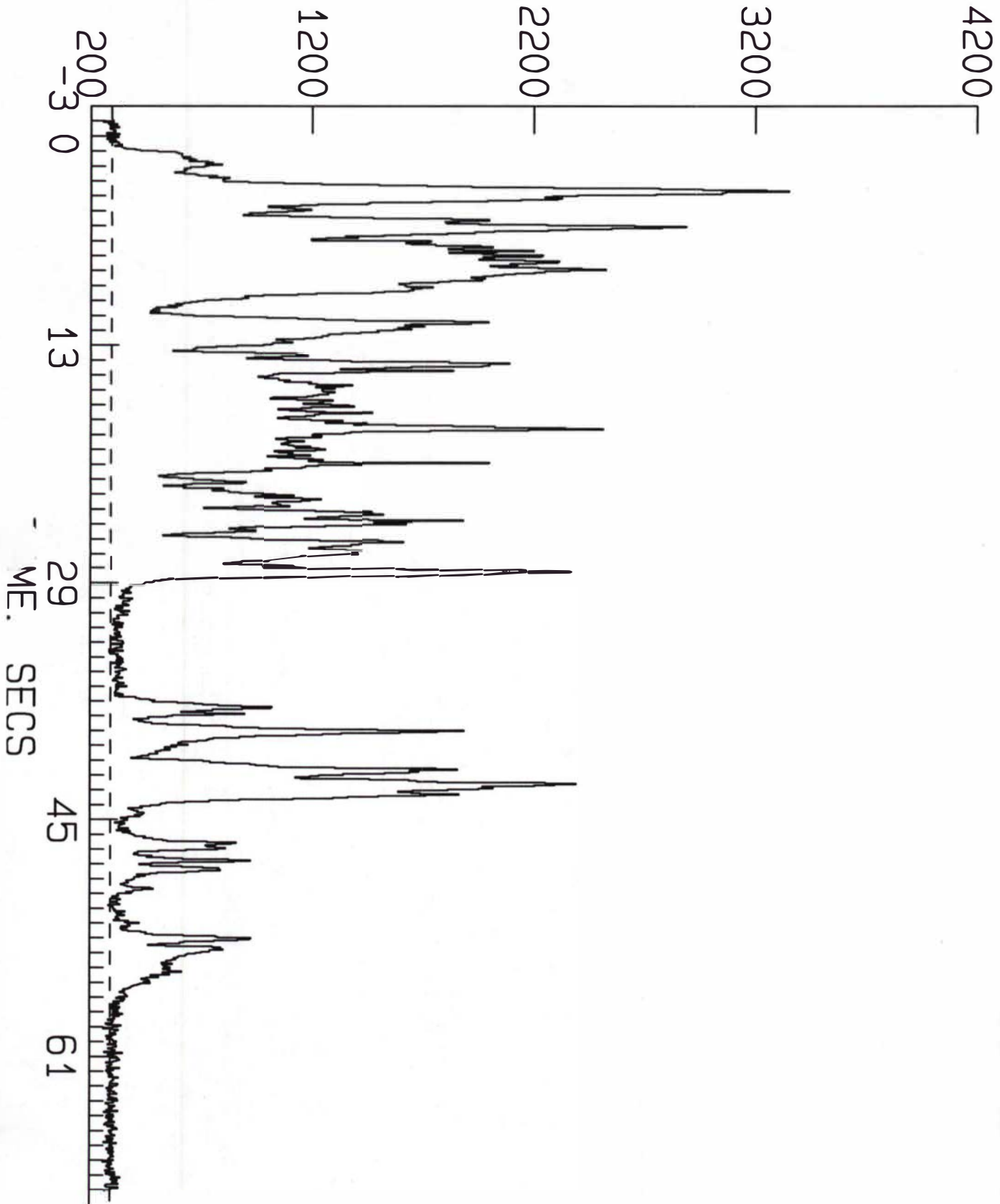
BATSE

23/03/99

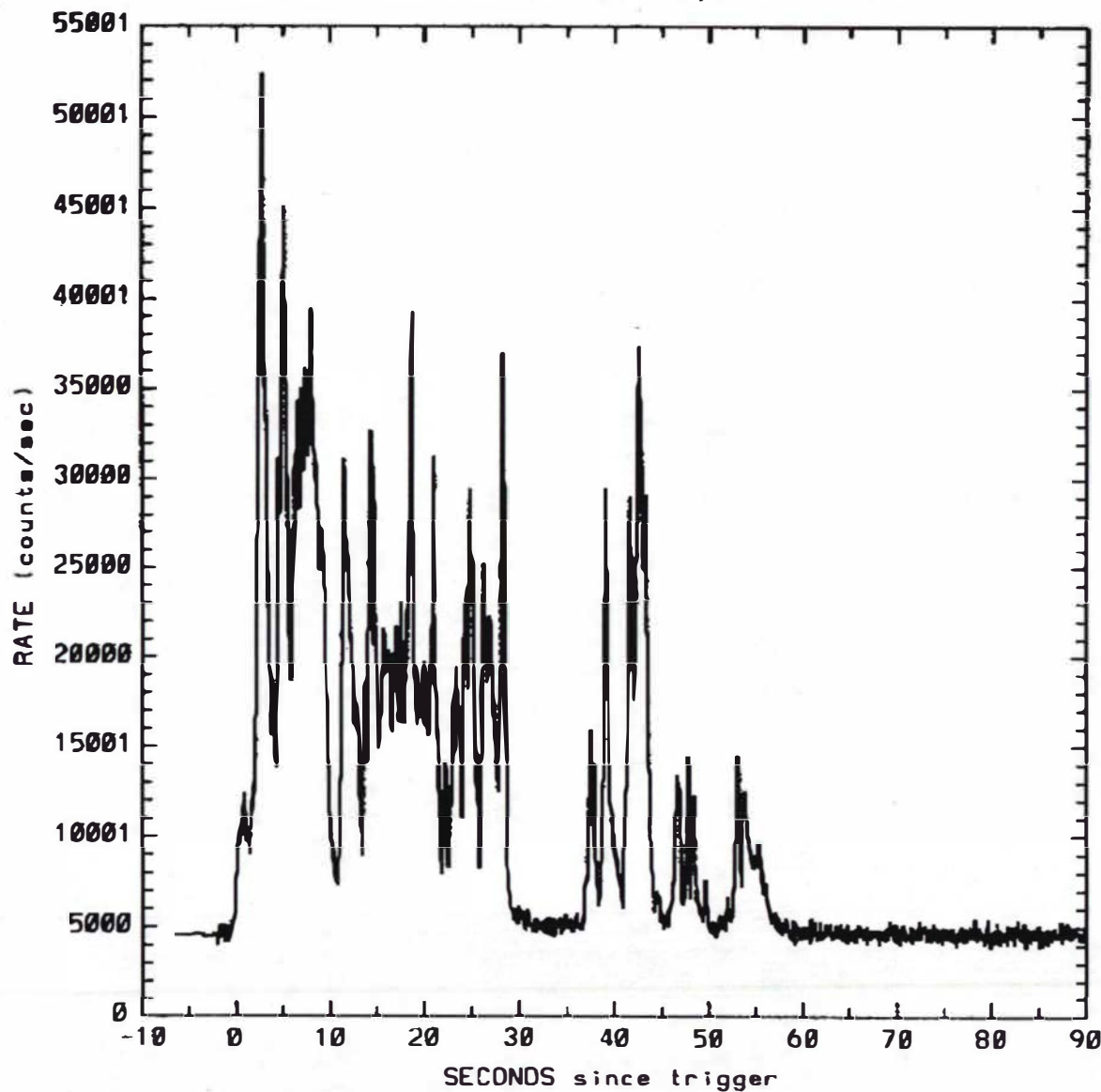
62977.081

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7491



24-FEB-2000 11:53.44

Created by MOPS 80
(Burst Display)
Version 62.26

Trigger # . 7491

Trigger Time.
11260 / 62977.001

Burst Data Type.
DISCSC

Deadtime
Corrected. N

Background Data
Type. PREB + DISCLA

Minimum Integ. Time.
0.064 seconds

Detectors [7..0].
----32--

Discriminators.
(3 . 4)

Quality Mask.
BDISP1

BATSE

23/03/99

62977.081

25- 100 keV

COUNTS/0.064 S

3300

2300

1300

300

-3

0

13

29

45

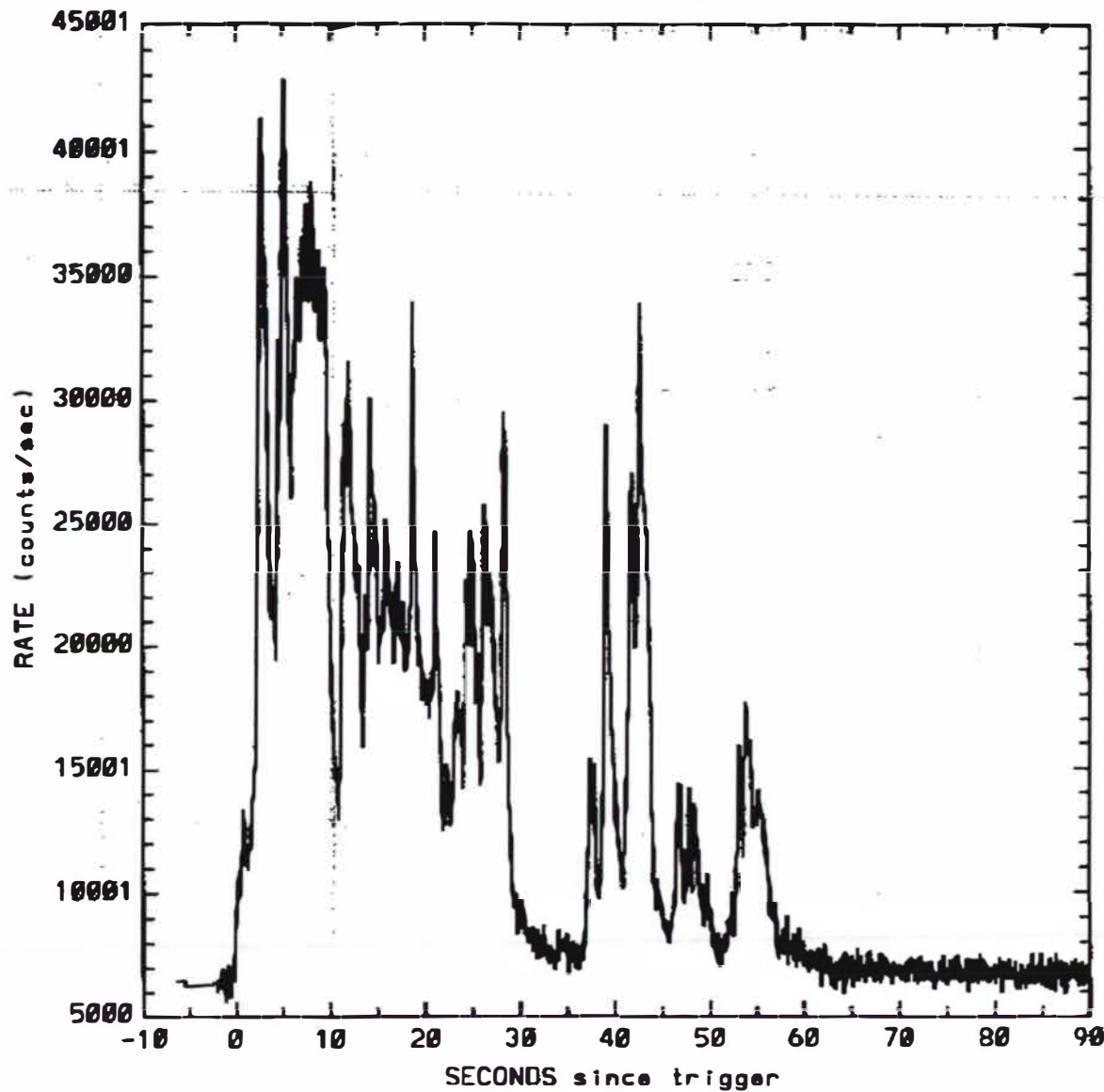
61

77

SECS

30 / 3 / 99

DISCSC Data for K. Hurley, No. 7491



26-MAR-1999 08:39:02

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7491

Trigger Time:
11260 / 62977.001

Burst Data Type:
DISCSC

Deadtime
Corrected: N

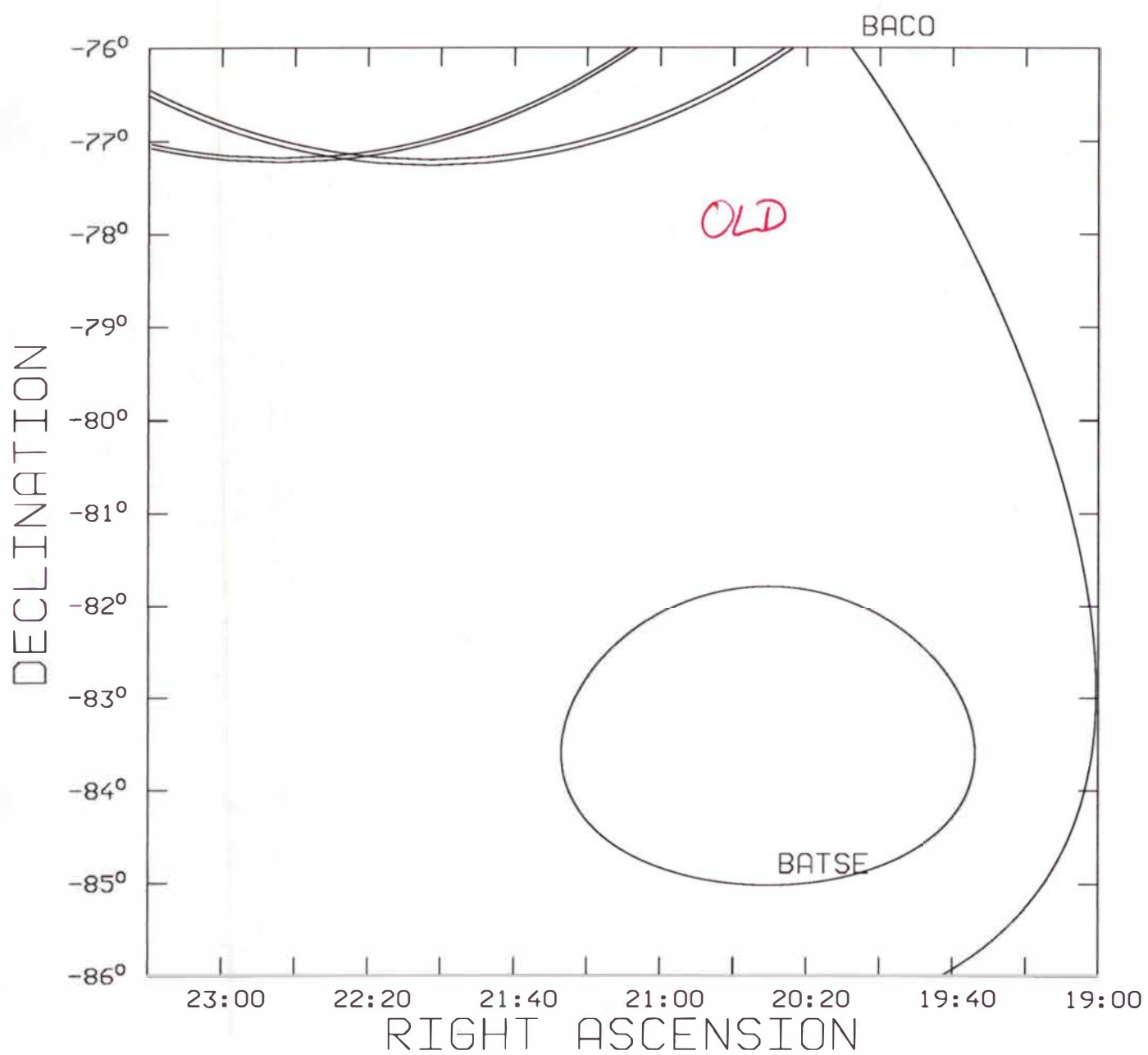
Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors (7..0).
----32--

Discriminators:
1 1 . 2 1

Quality Mask:
BDISP1



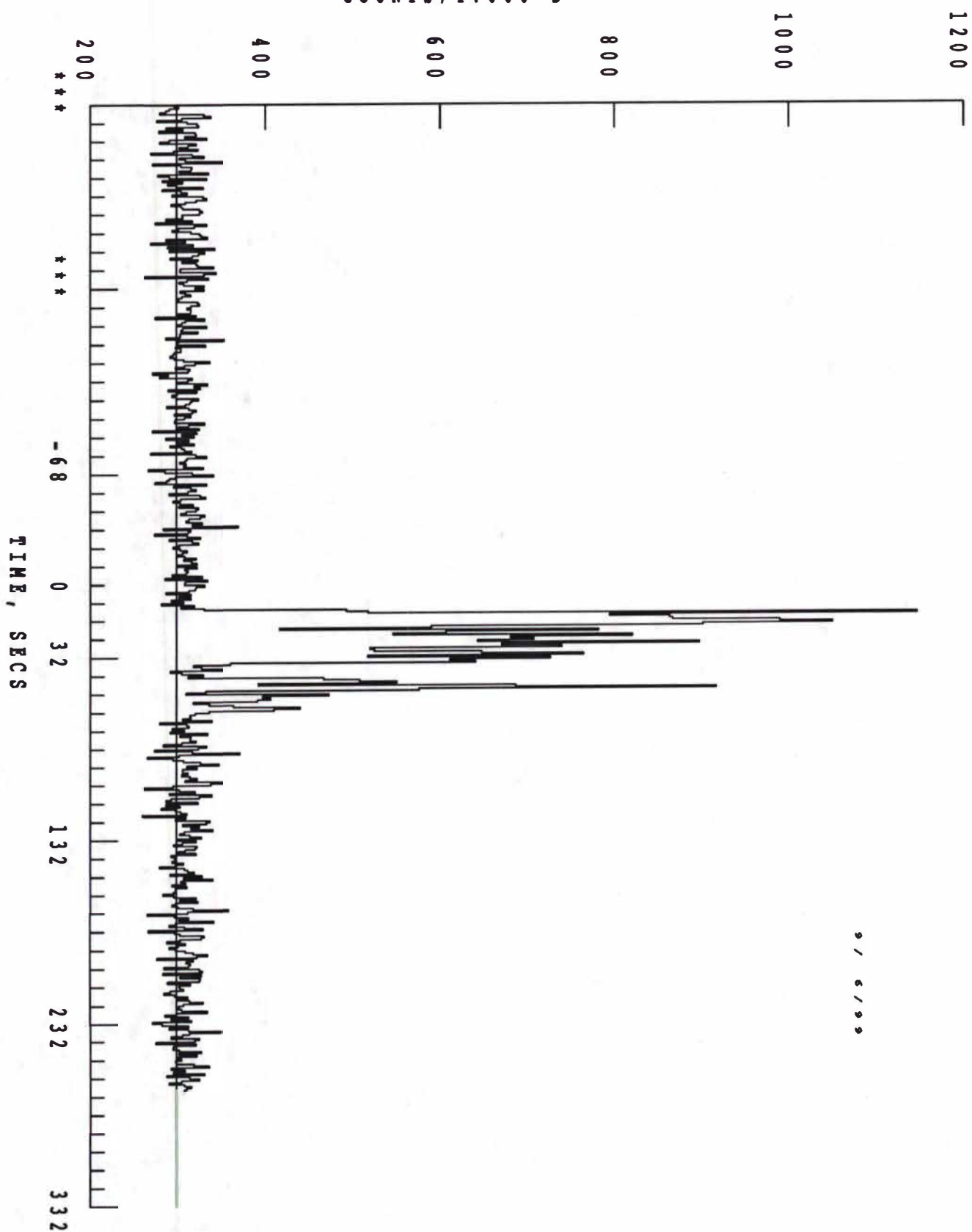
NEAR

23/03/99

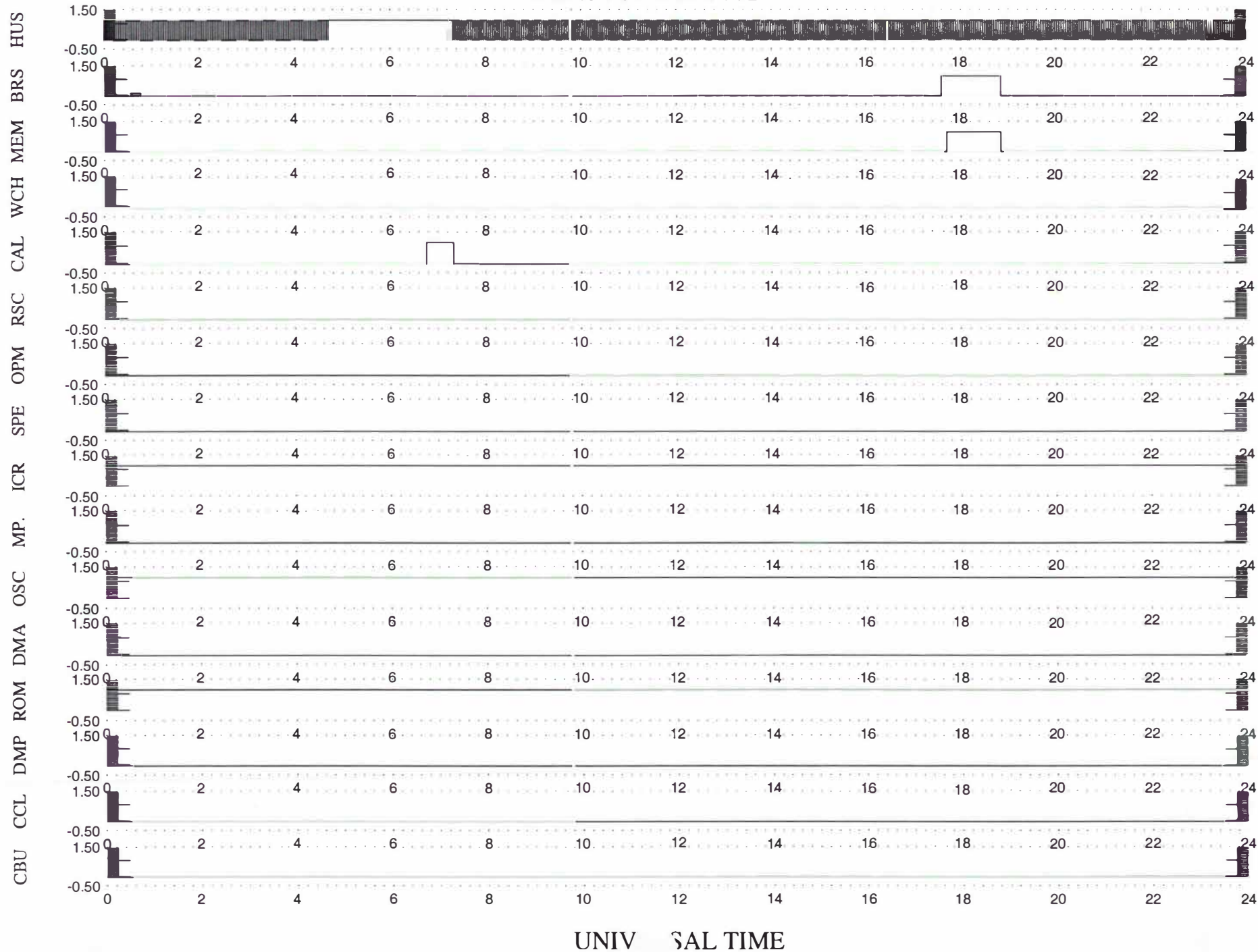
62812.045

100-1000 keV

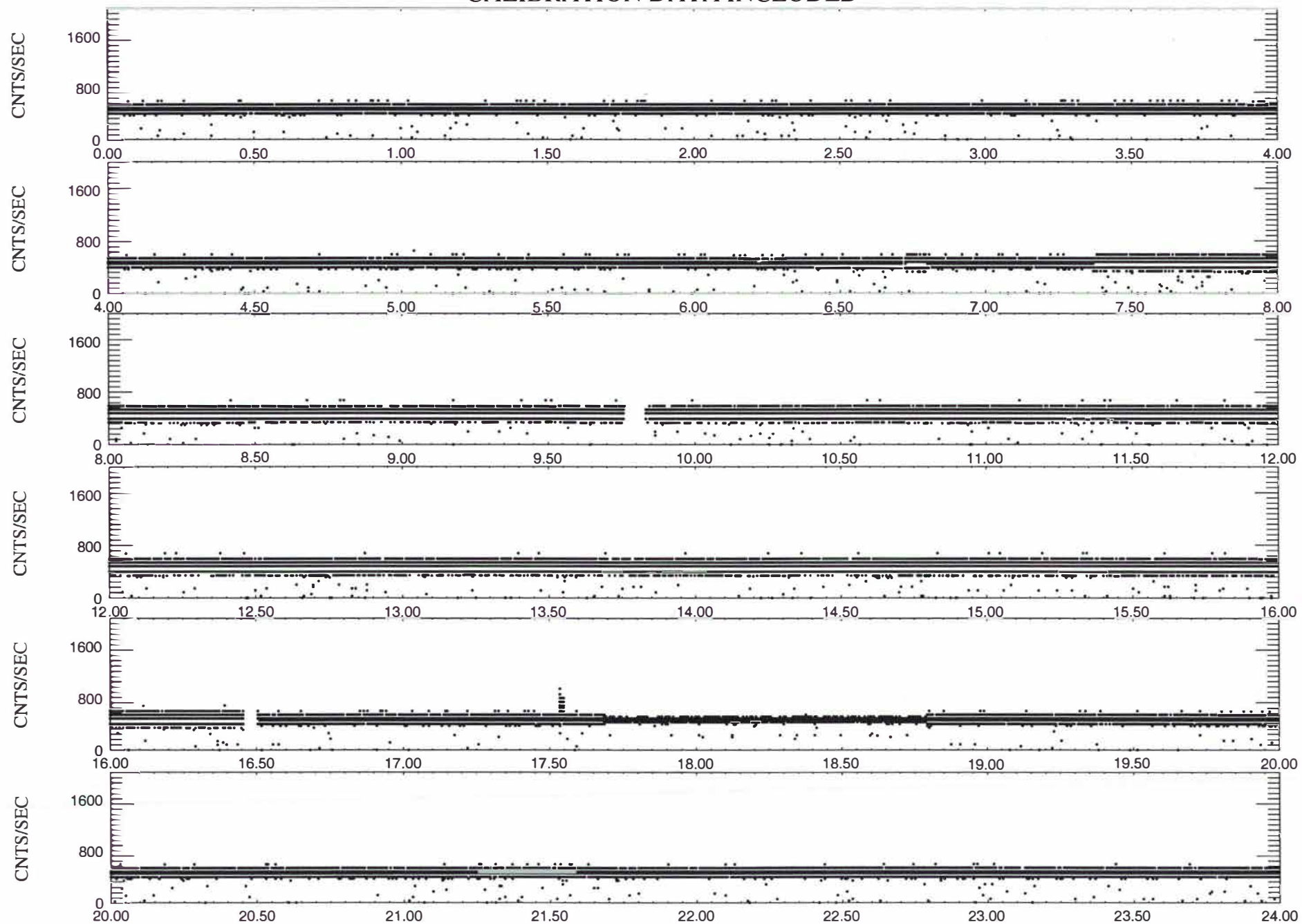
COUNTS/1.000 S



BURST NUMBER 12

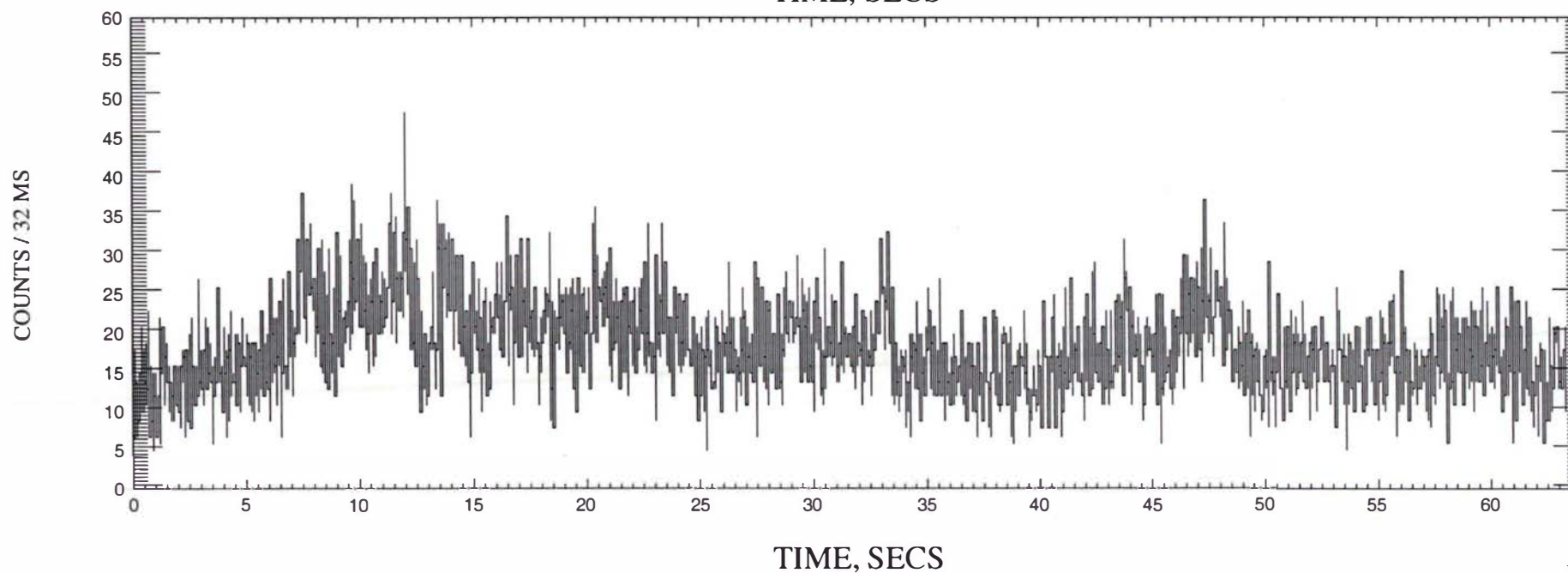
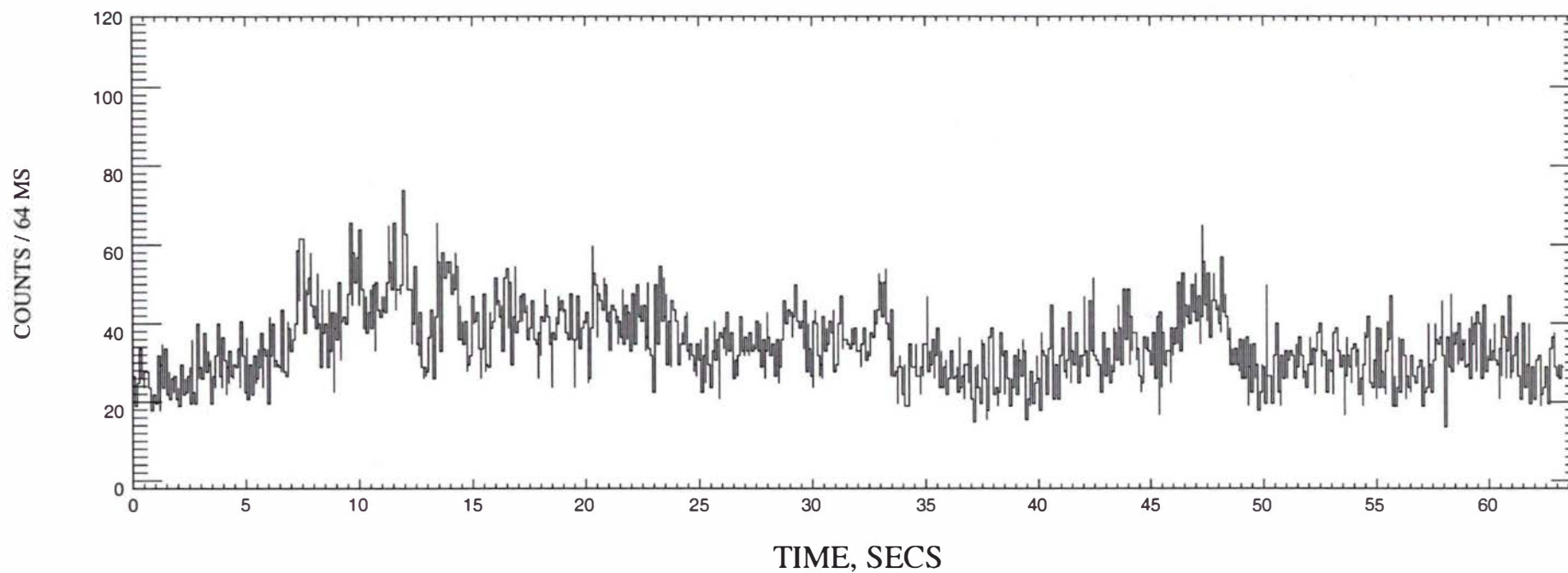


CALIBRATION DATA INCLUDED

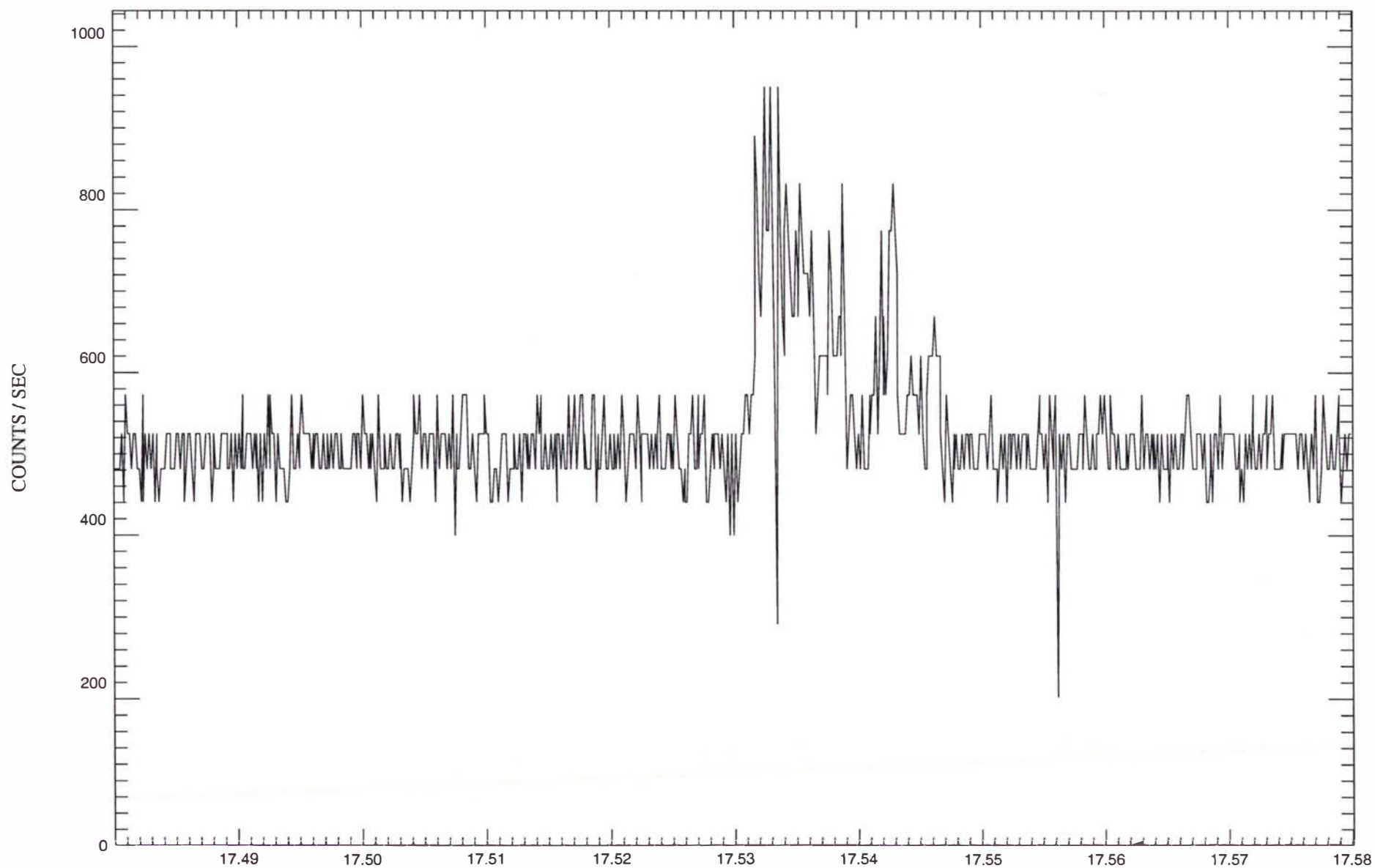


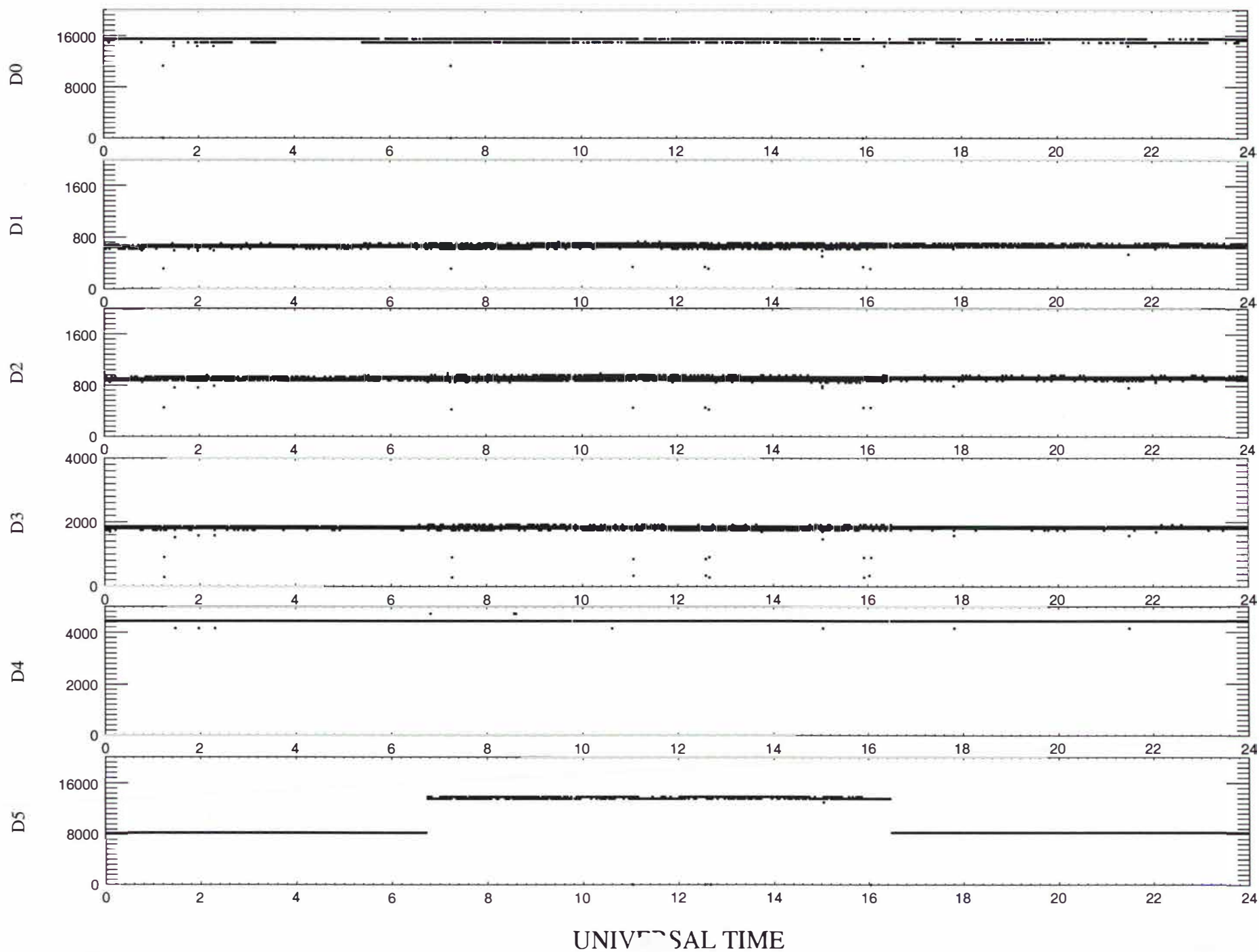
UNIV SAL TIME

Burst Counter 12 at UT=17.531845029195 h=63114.642 s 17:31:54.642

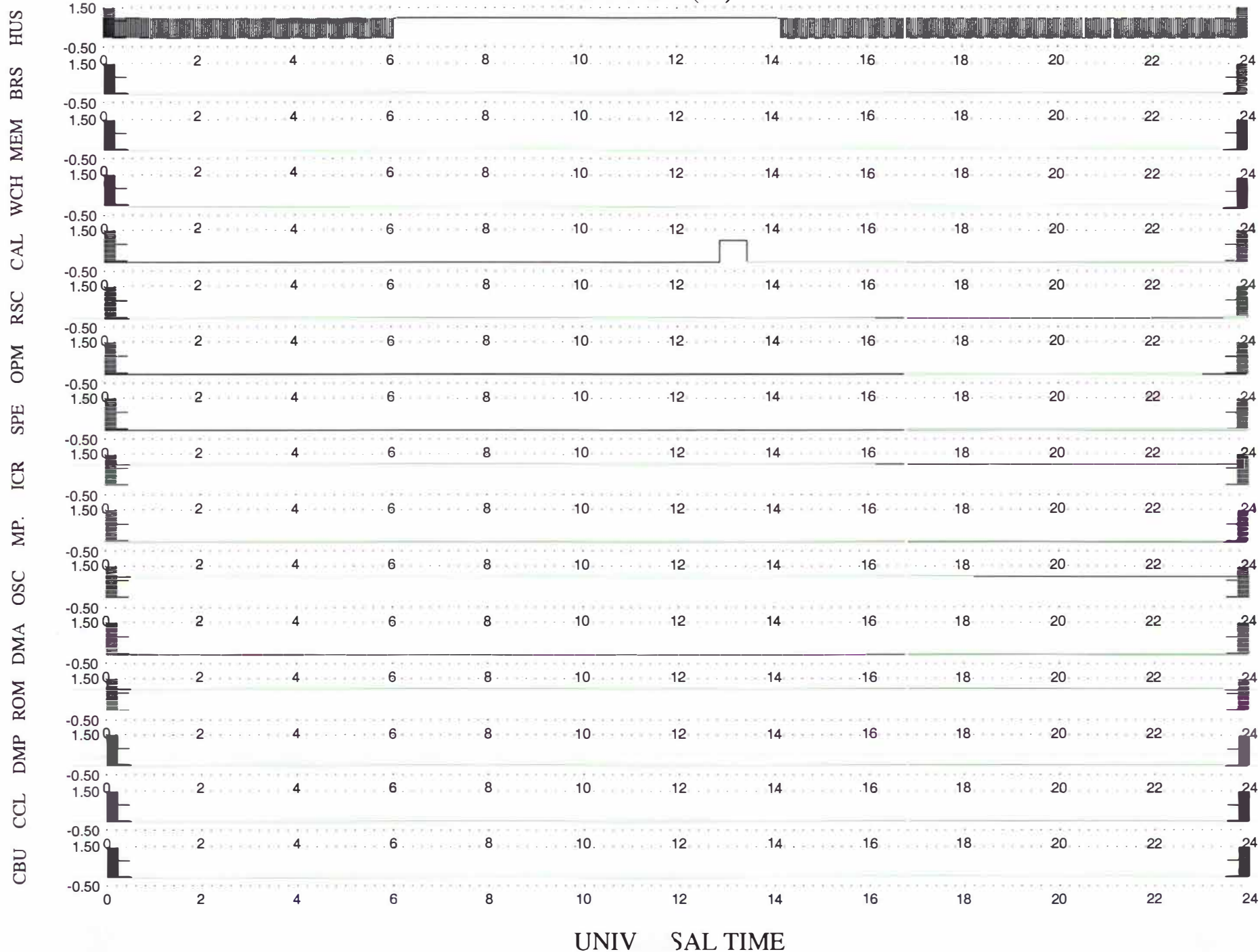


CALIBRATION DATA INCLUDED

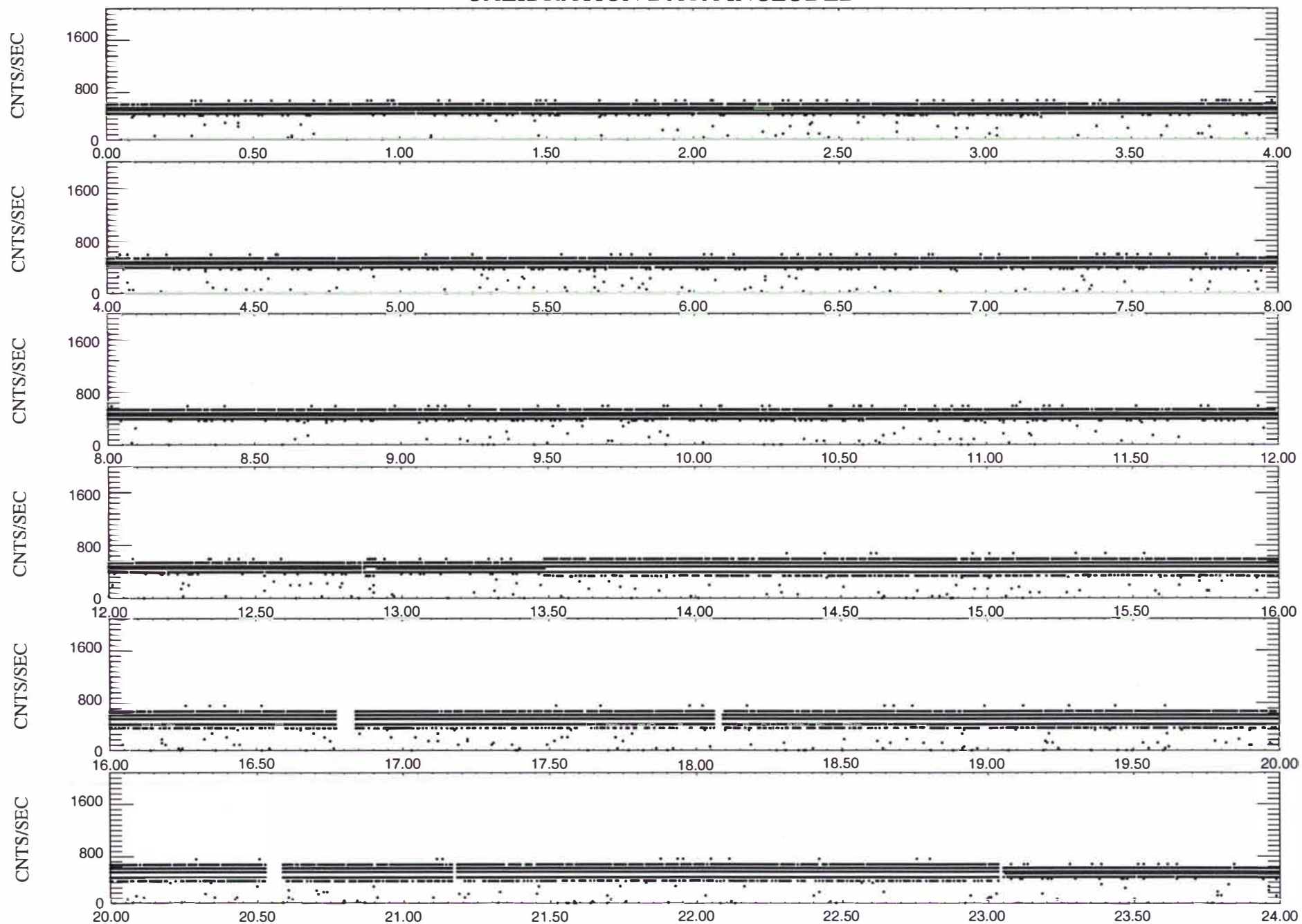




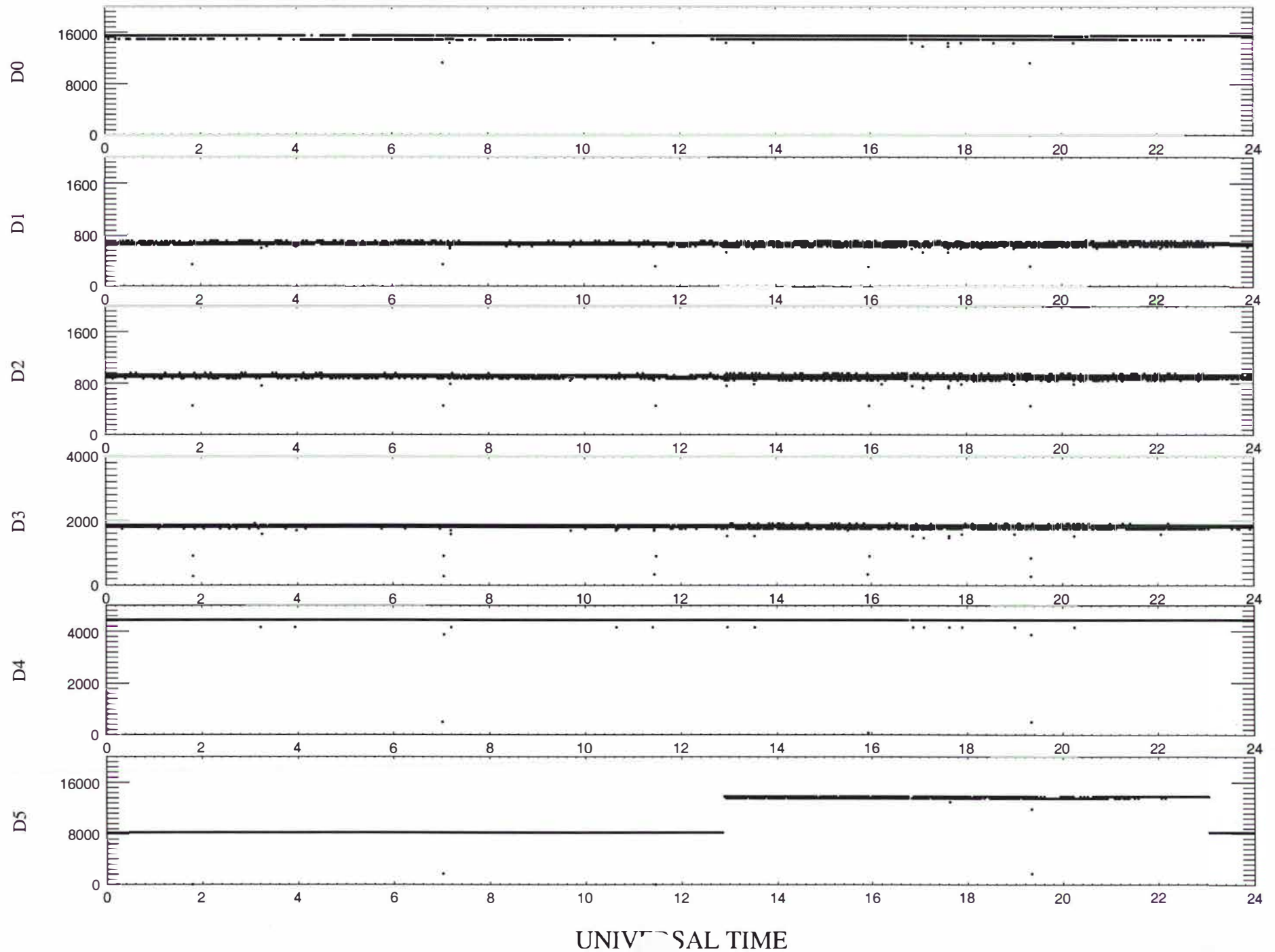
NO BURST (12)



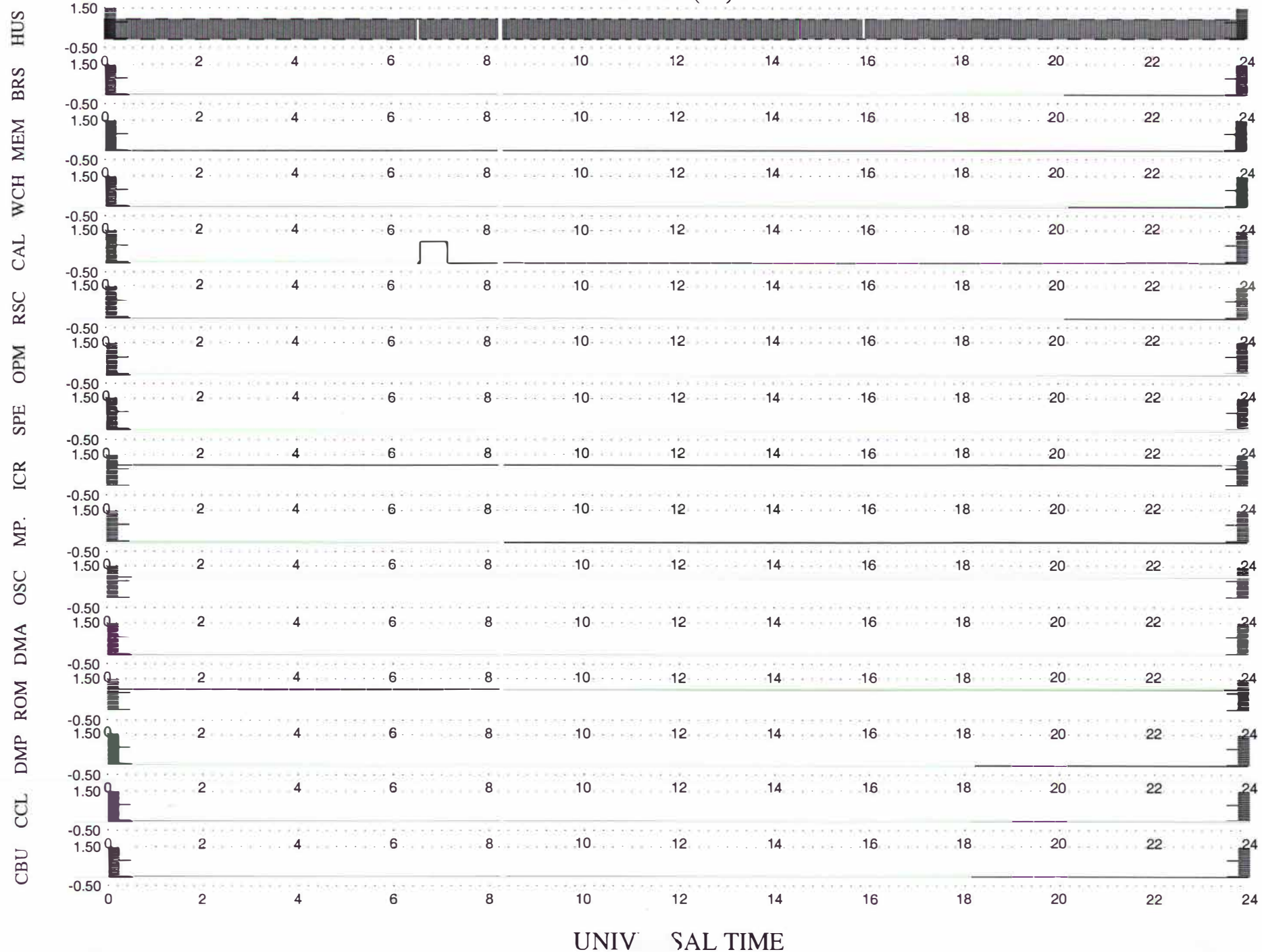
CALIBRATION DATA INCLUDED



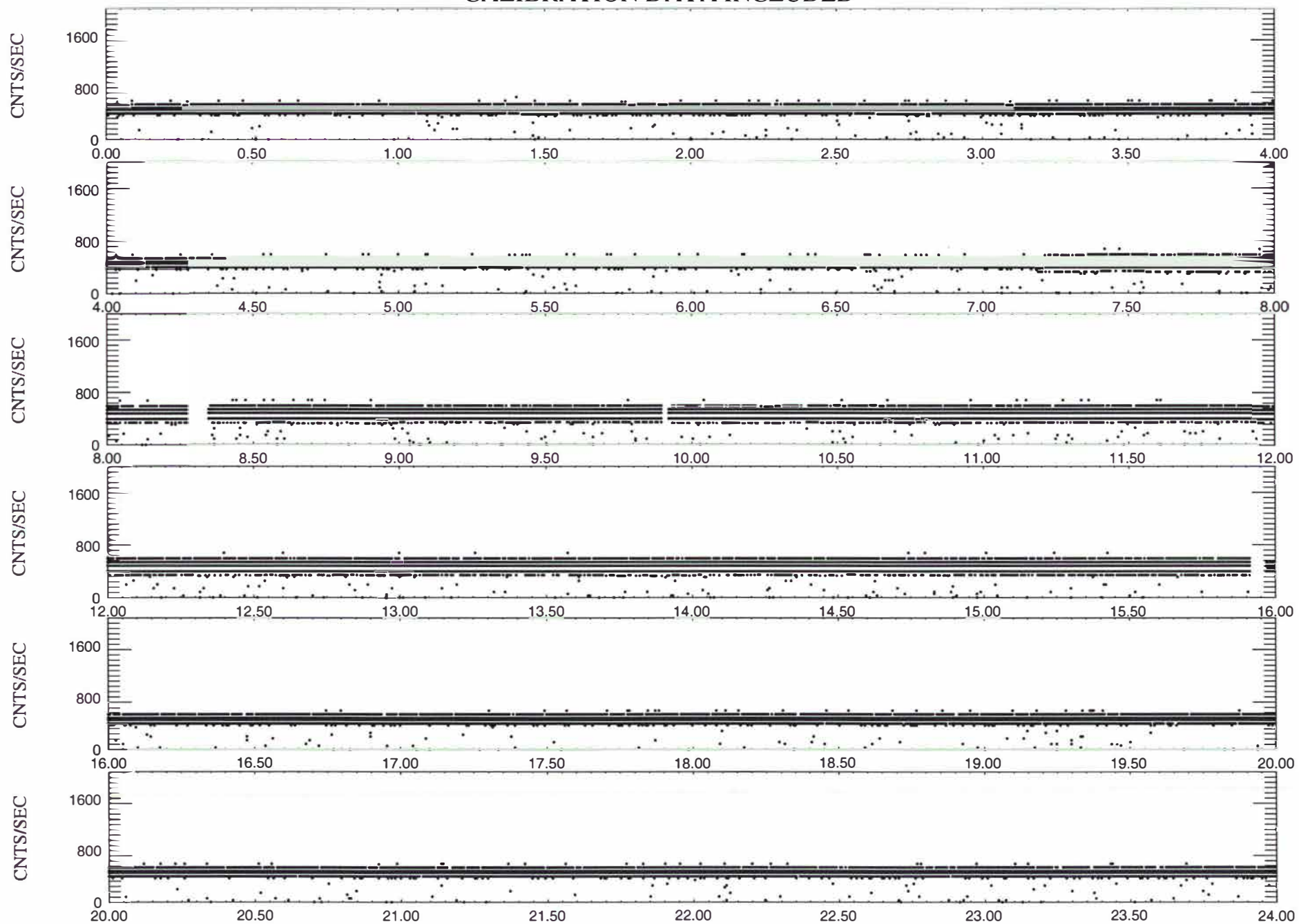
UNIV SAL TIME



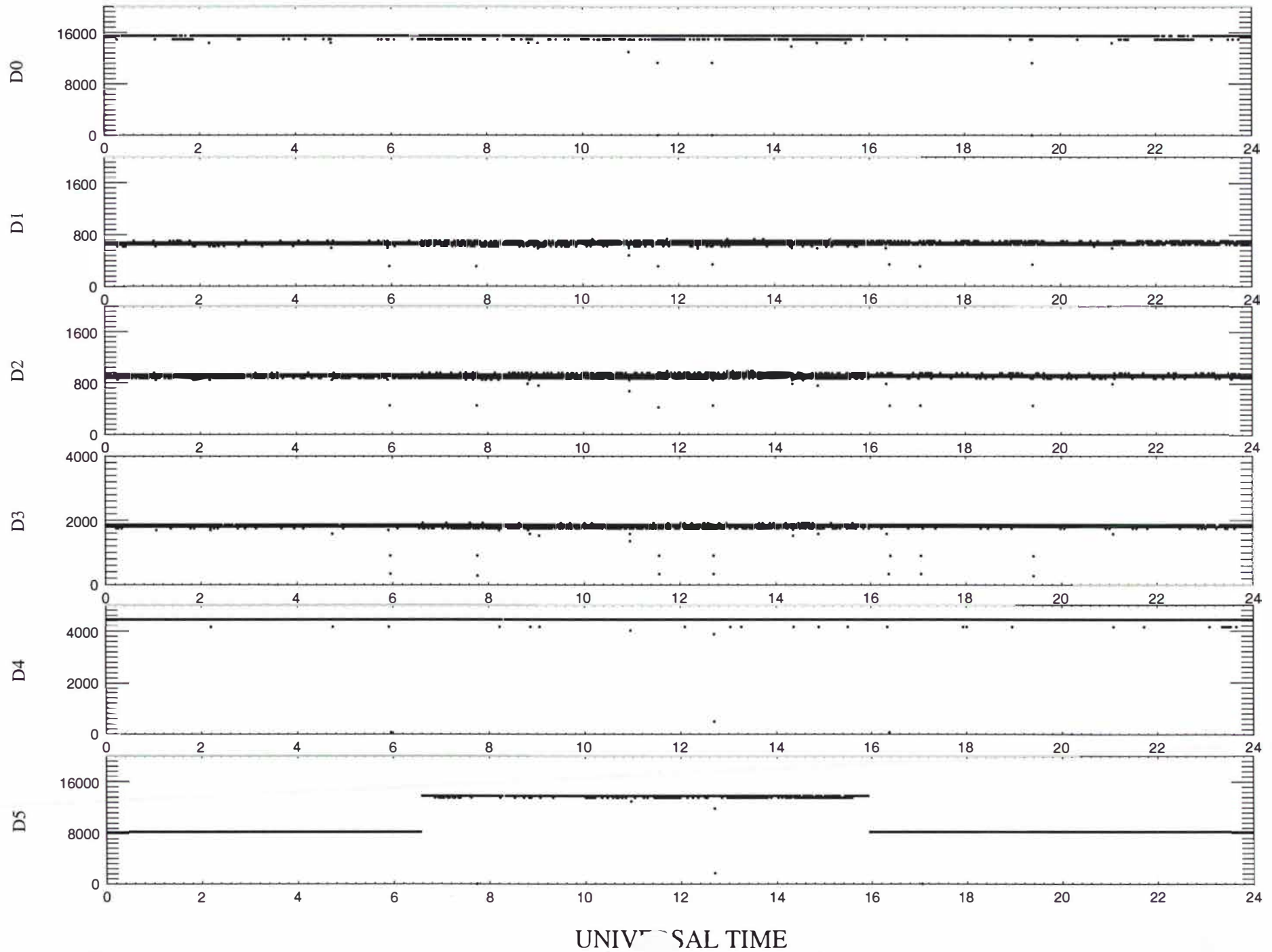
NO BURST (12)



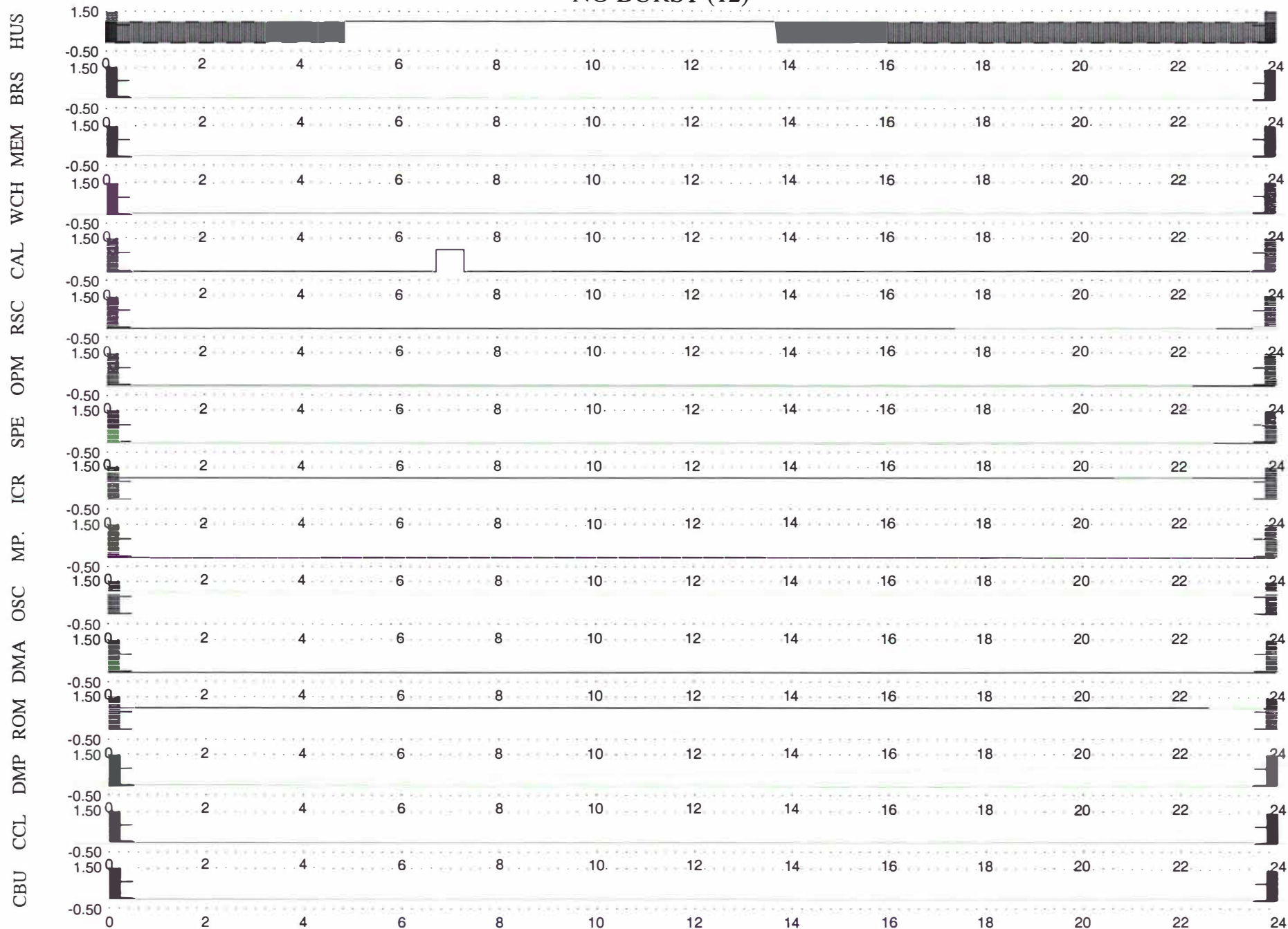
CALIBRATION DATA INCLUDED



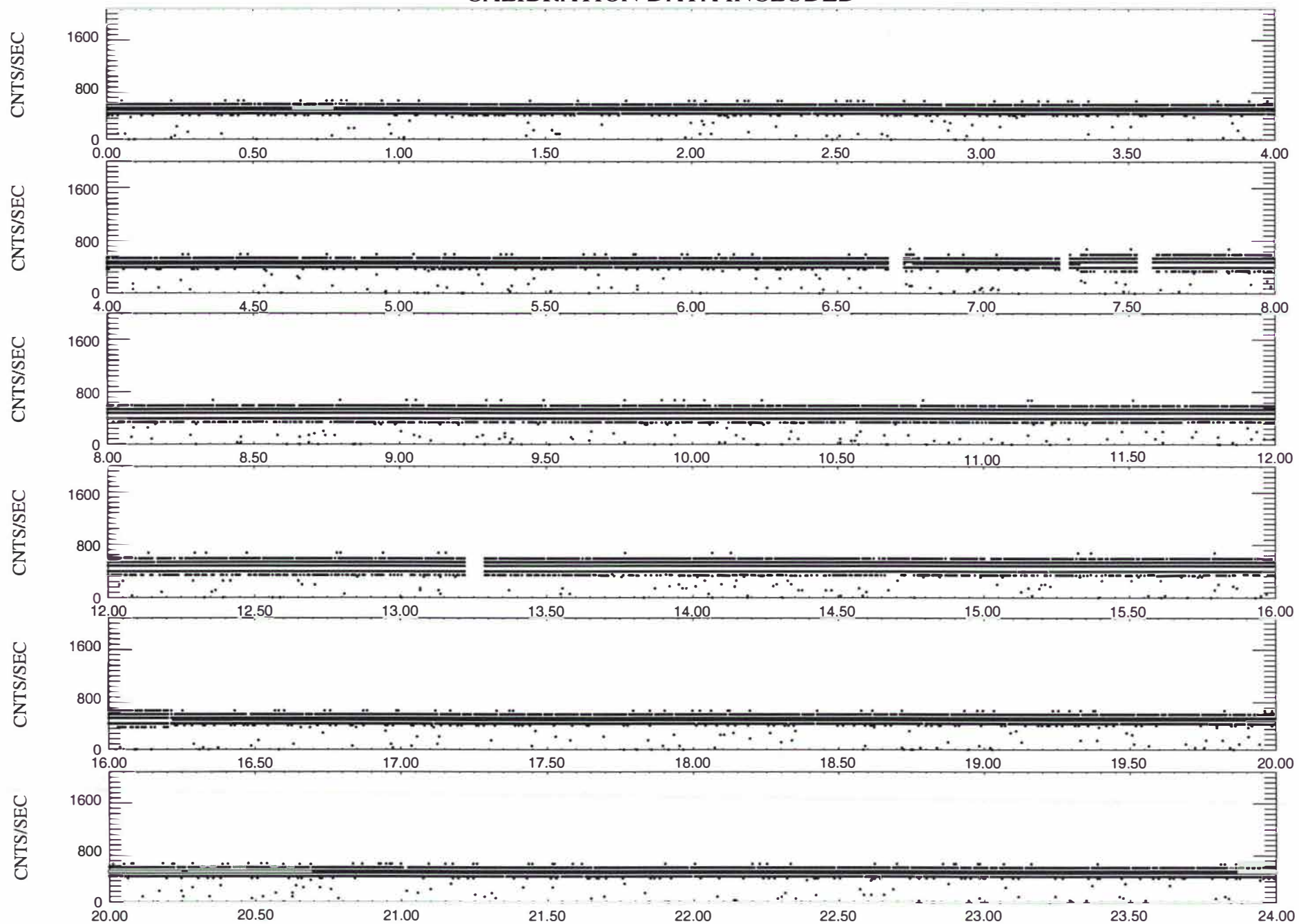
UNIV SAL TIME



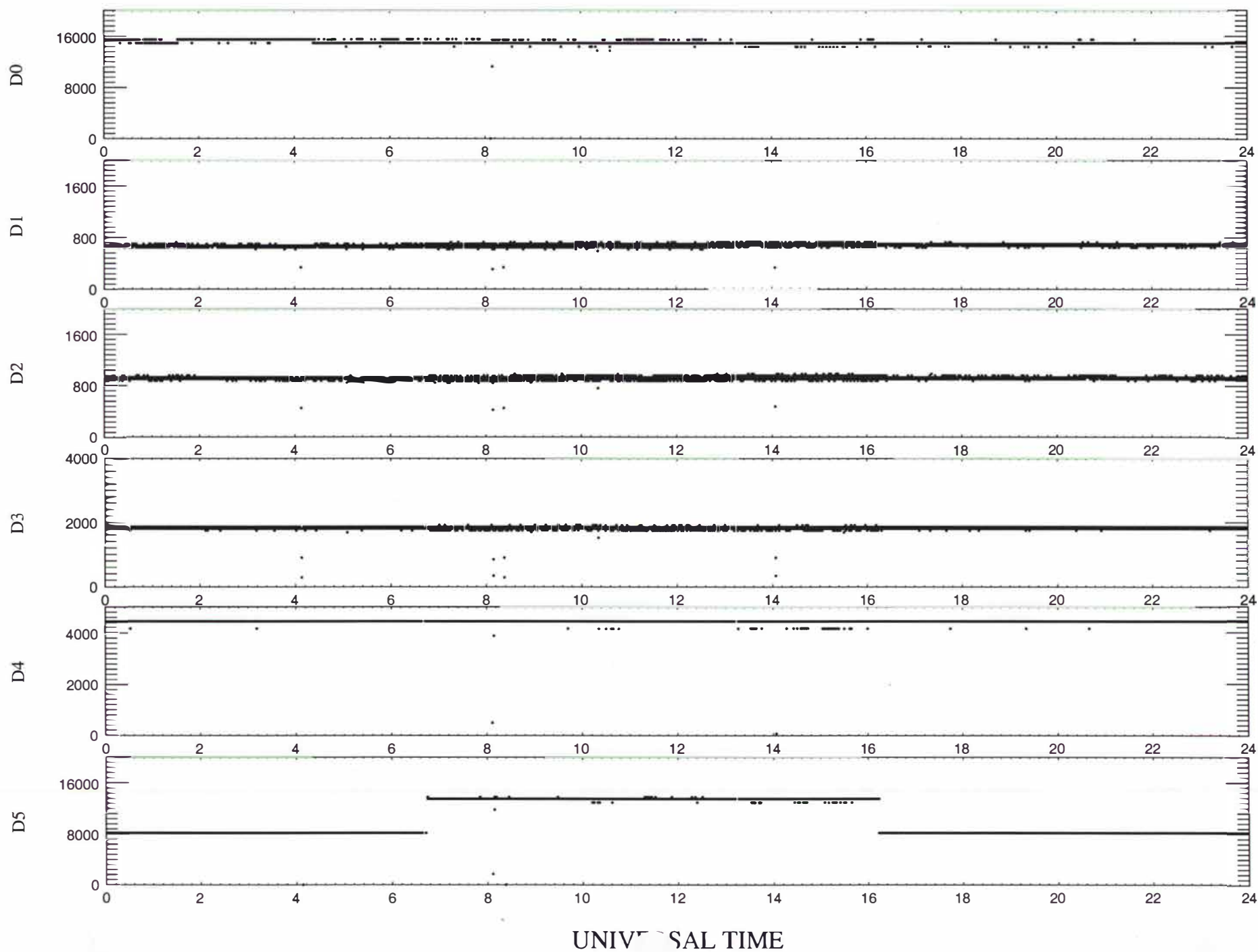
UNIV SAL TIME



CALIBRATION DATA INCLUDED



UNIV SAL TIME



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 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?

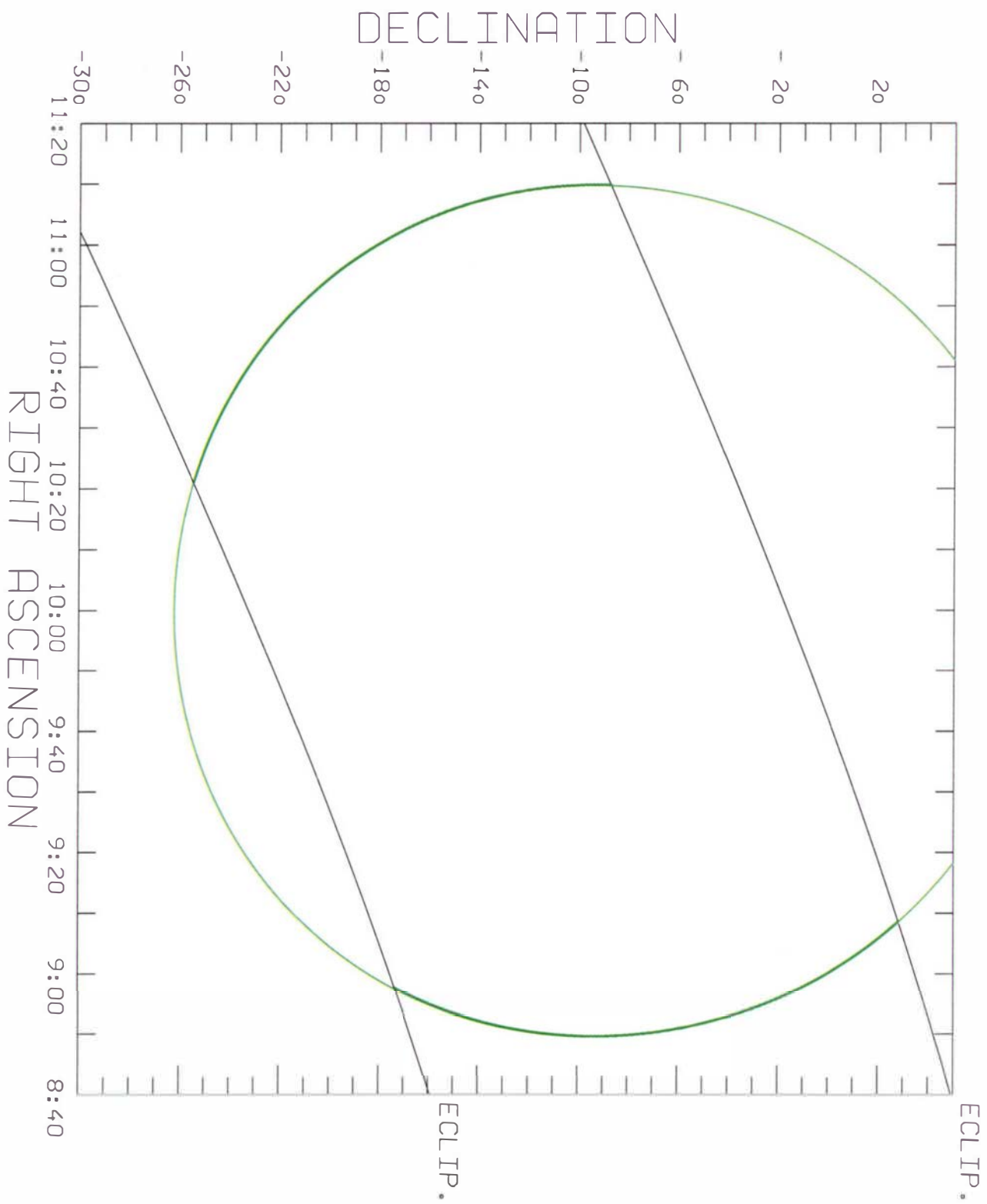
- ☒ ACCESS database updated?

K-U and K-N annuli inconsistent

Use K-U only

GRB990327 ~22910 S

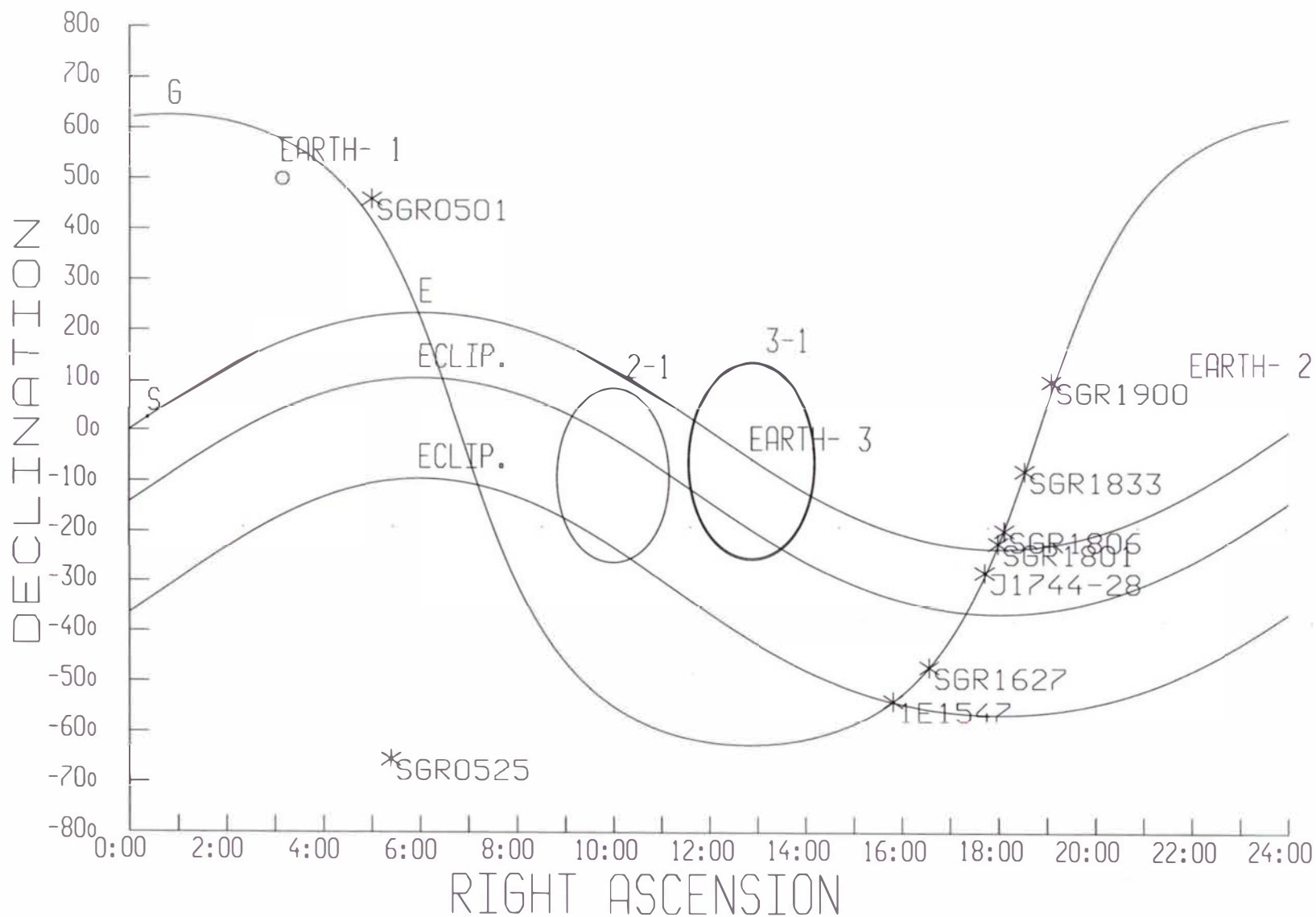
20/12/2012



EVENT OF MAR 27, 1999 6:21

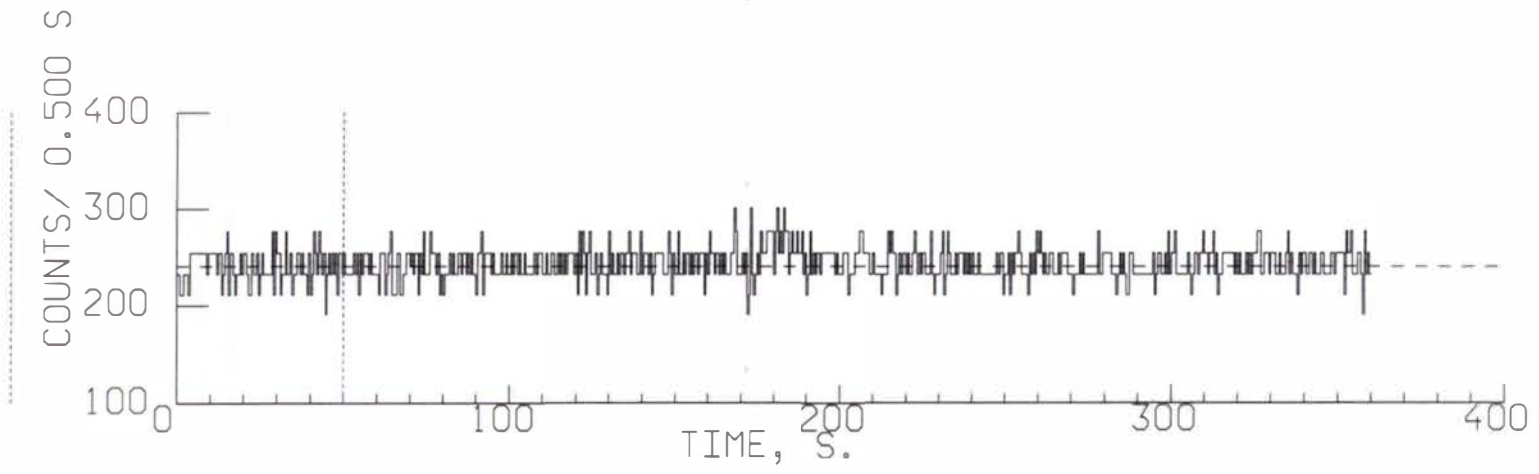
11/03/2011

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



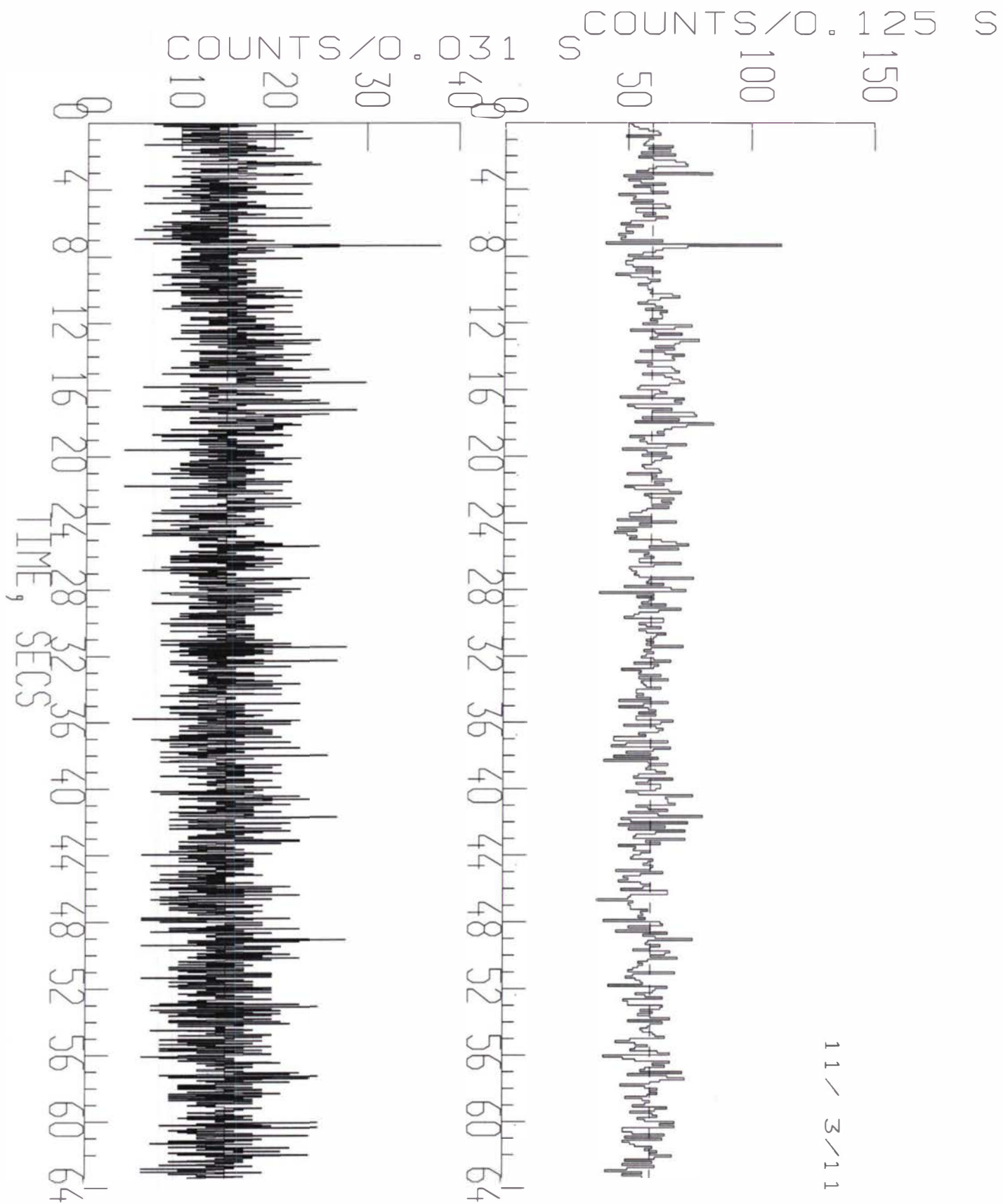
ULYSSES RT
27/ 3/99 20736.129 s
22- 150 keV

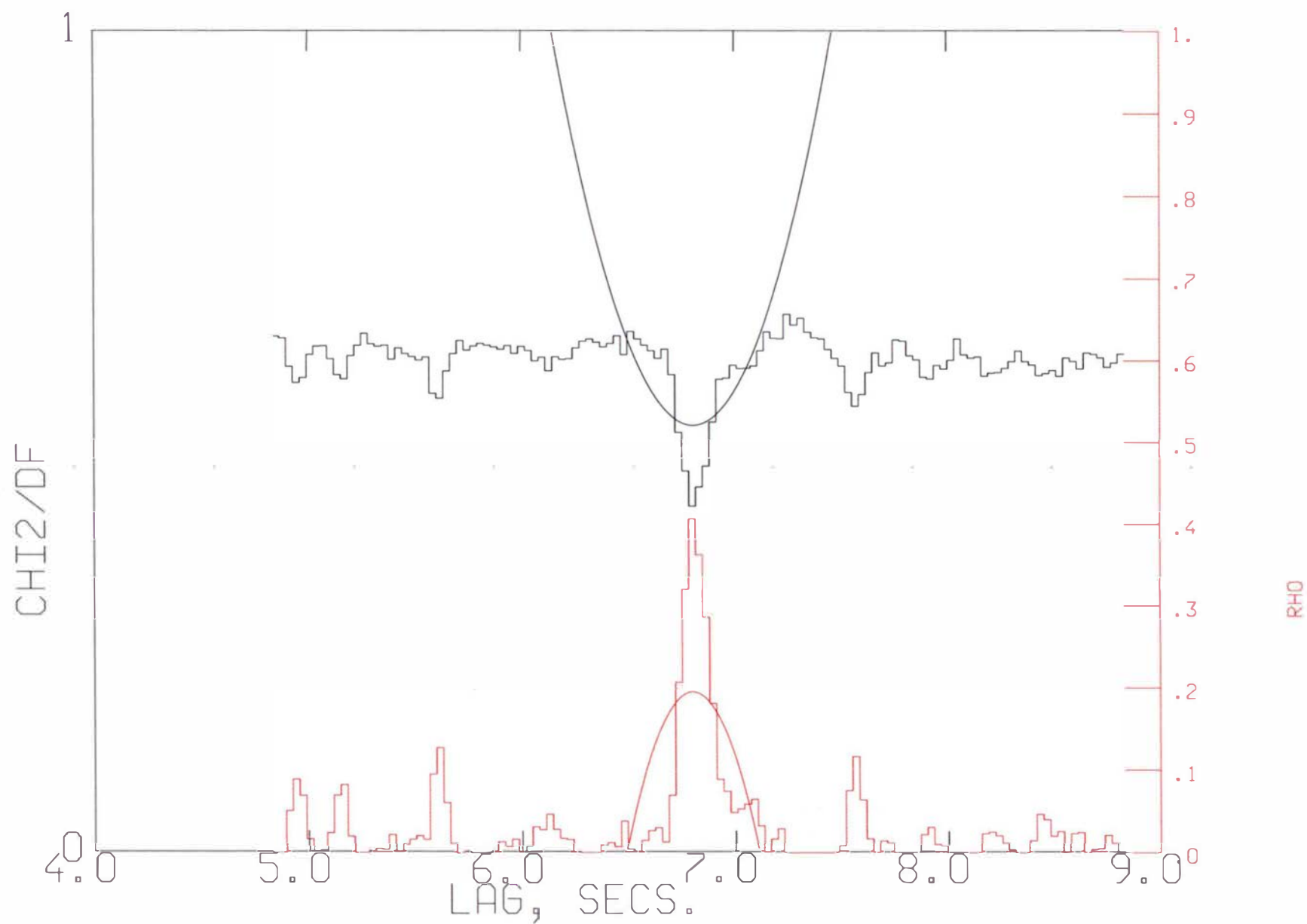
11 / 3 / 11

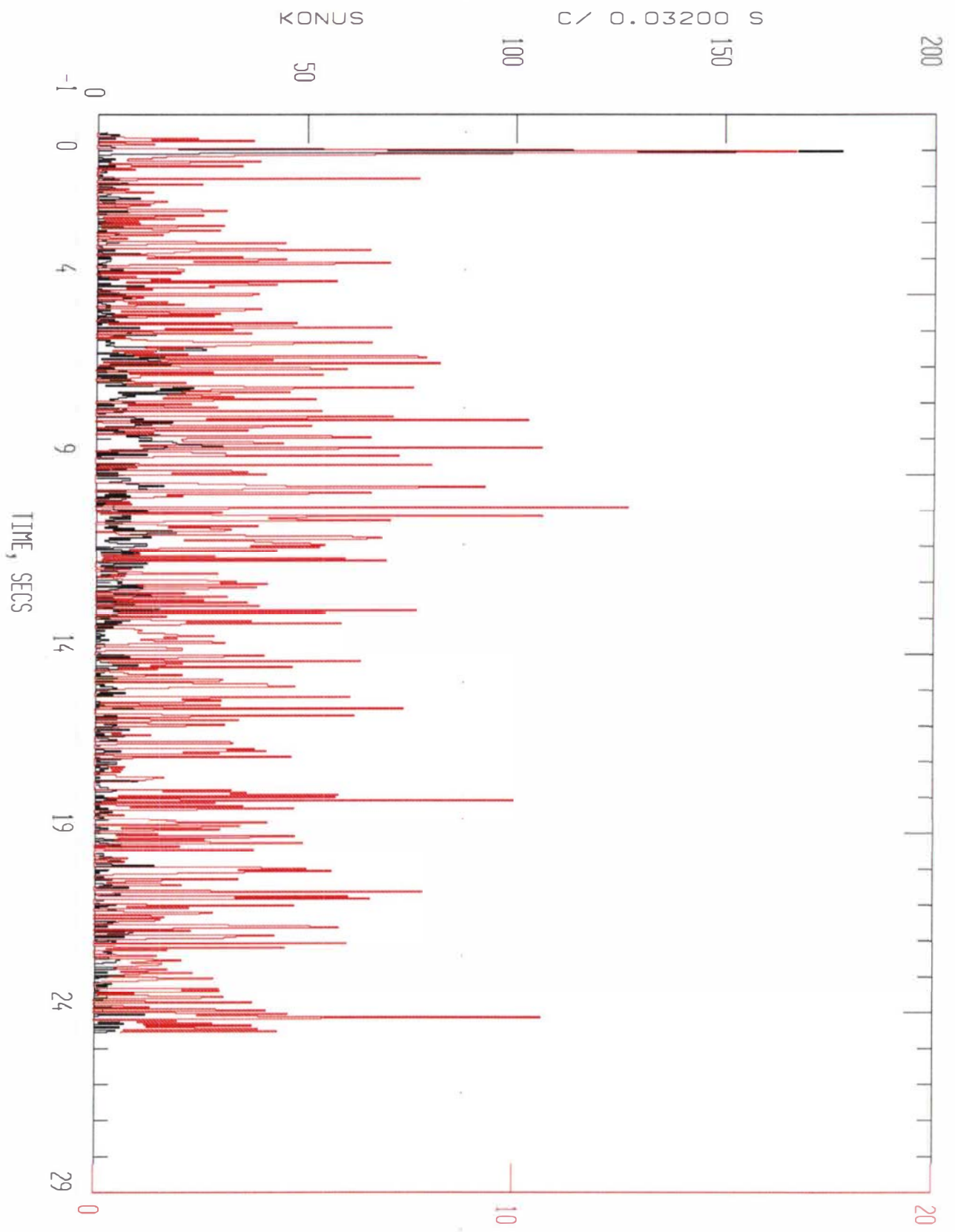


ULYSSES 27/03/99 Ttrig=20909.351

22- 150 keV







KONUS

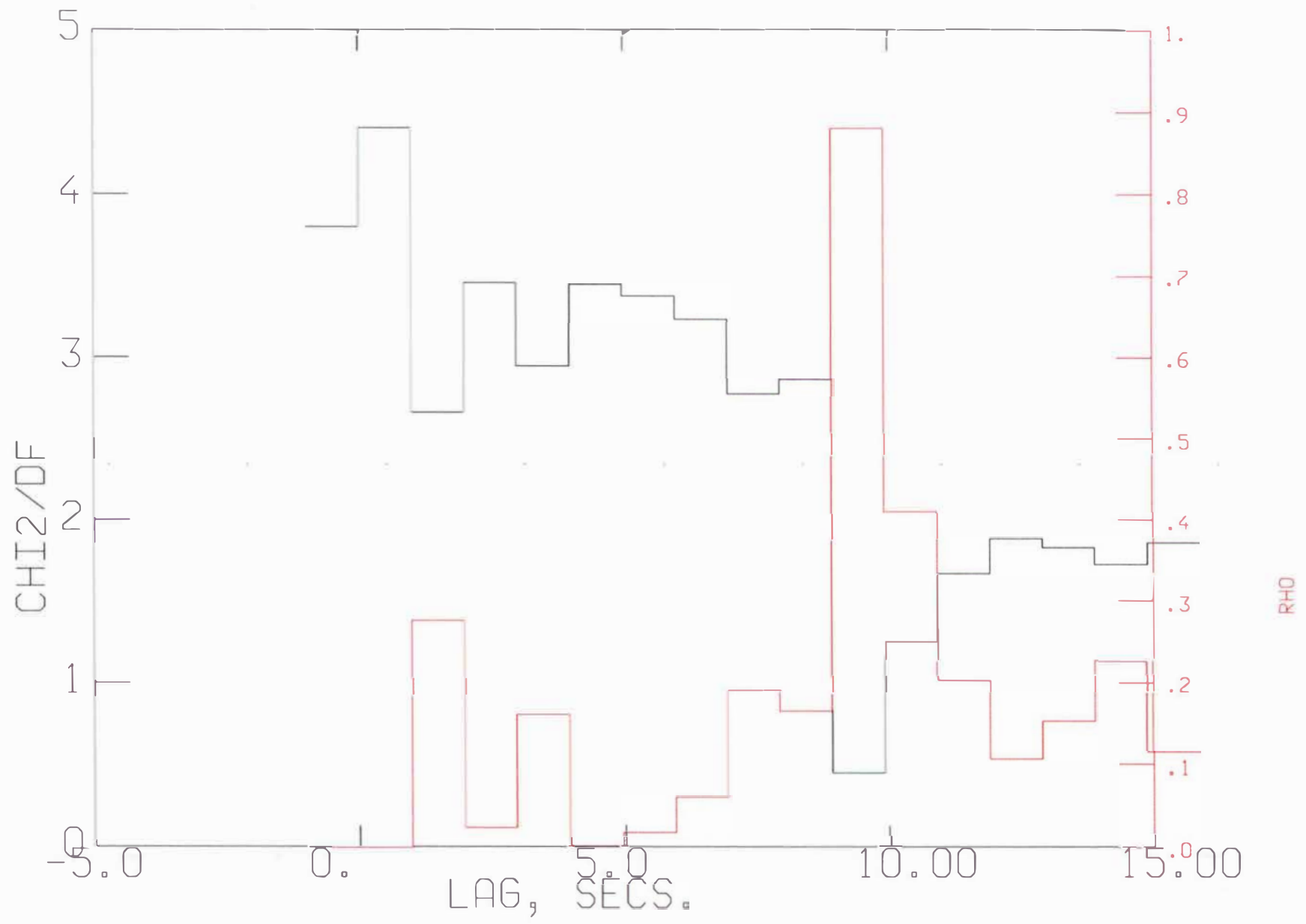
-NEAR

CORRELATION

27/03/99

22911.102

11/ 3/11



KONUS

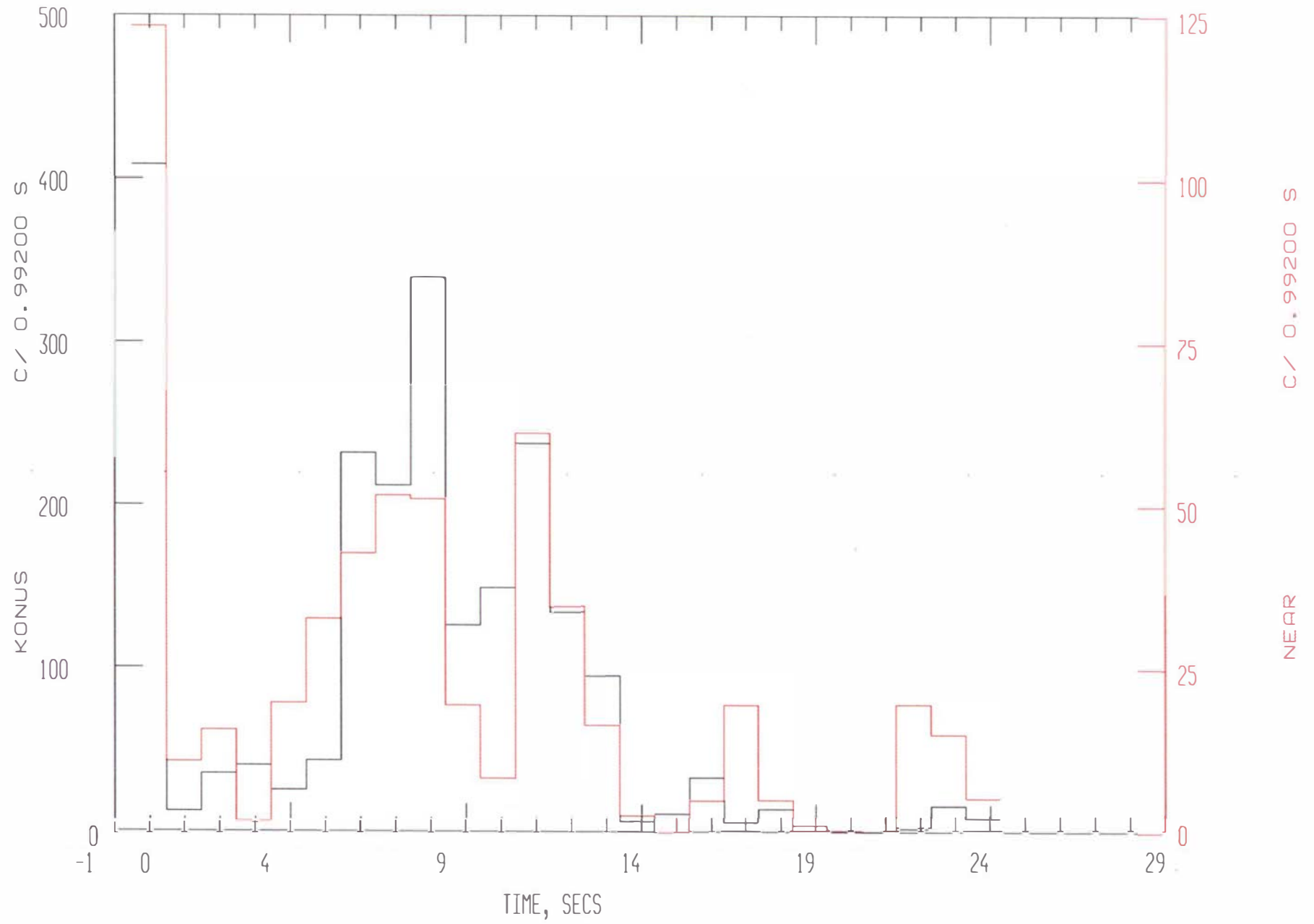
-NEAR

CORRELATION

27/03/99

22911.102

11/ 3/11

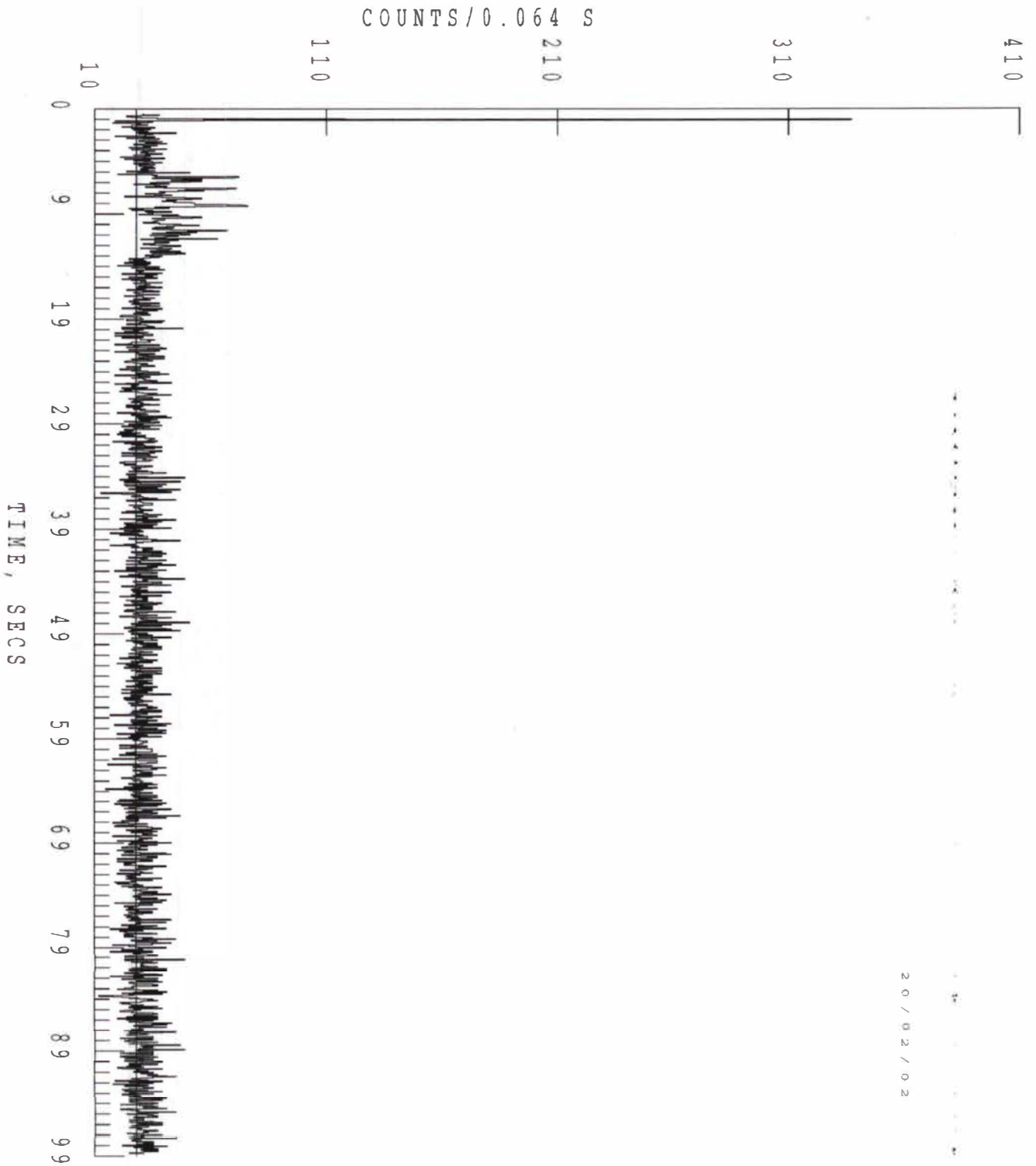


KONUS1

27/03/99

22911.102

50 - 200 keV



KONUS1 19990327 22911

ULYSSES RT

20 / 02 / 02

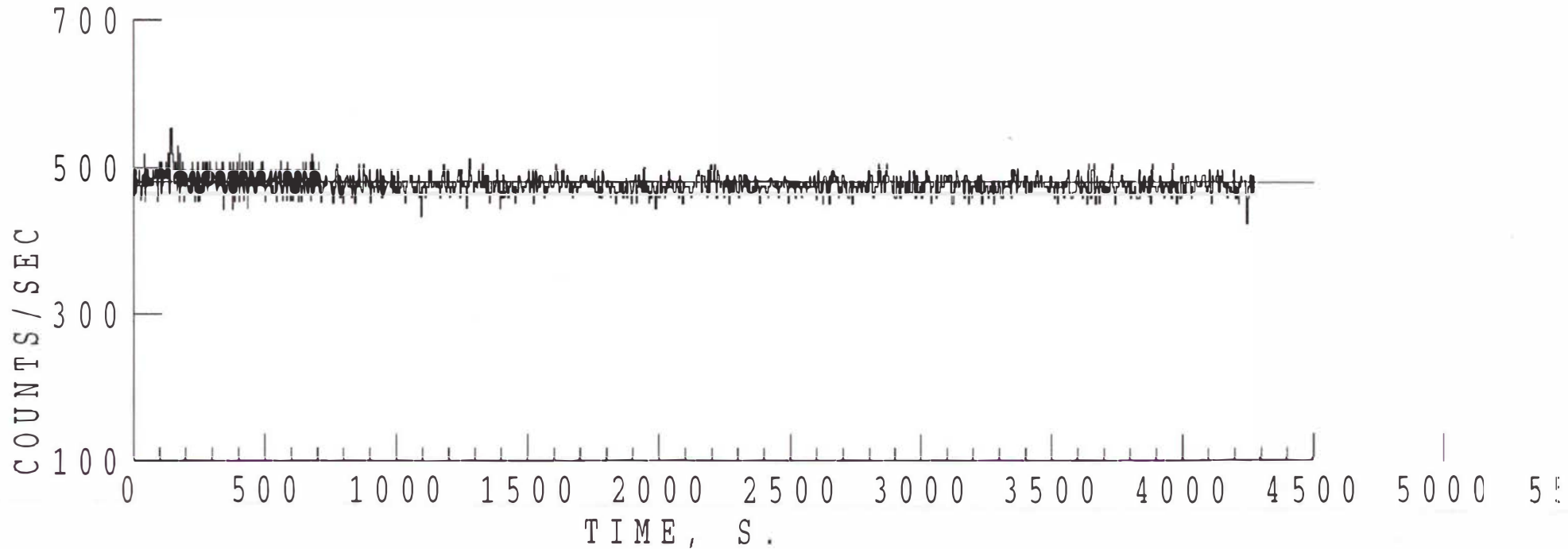
27/03/99 20772.129 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Tue Mar 30 09:41:08 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Tue, 30 Mar 1999 11:40:59 -0600 (CST)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7492

TIME: TJD=1264 SECONDS= 1939

TYPE: CYG X-1

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=87.6 AZIMUTH=83.0 ERROR=5.73 DEGREES

COMMENTS:

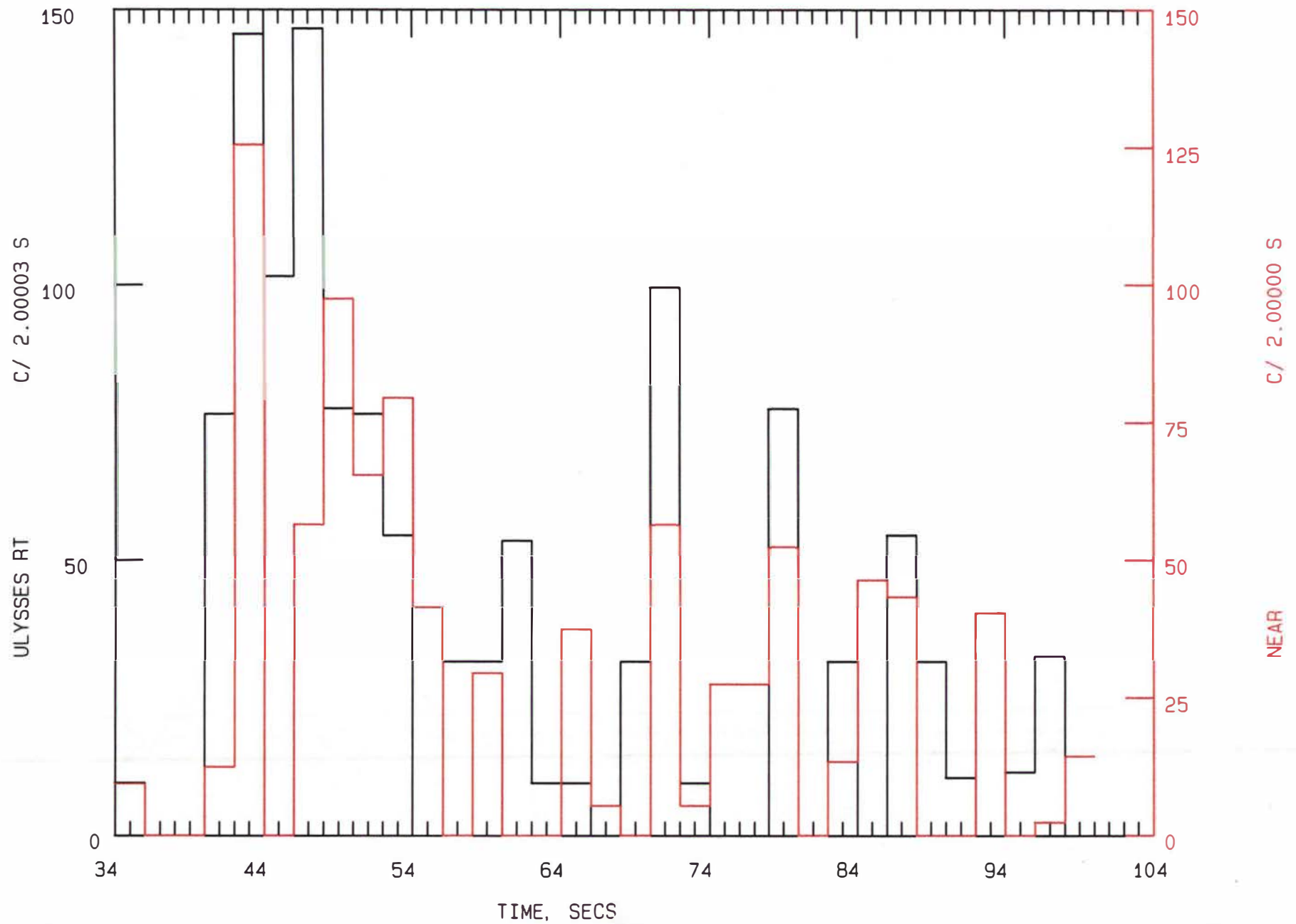
Probably Cyg X-1. Weak single pulse, dur approx 2 s, not visible above lookeV.
POSSIBLE SUCCESSOR THROUGH APPROX T+25 S. CYG X-1 SET AT T+200S.

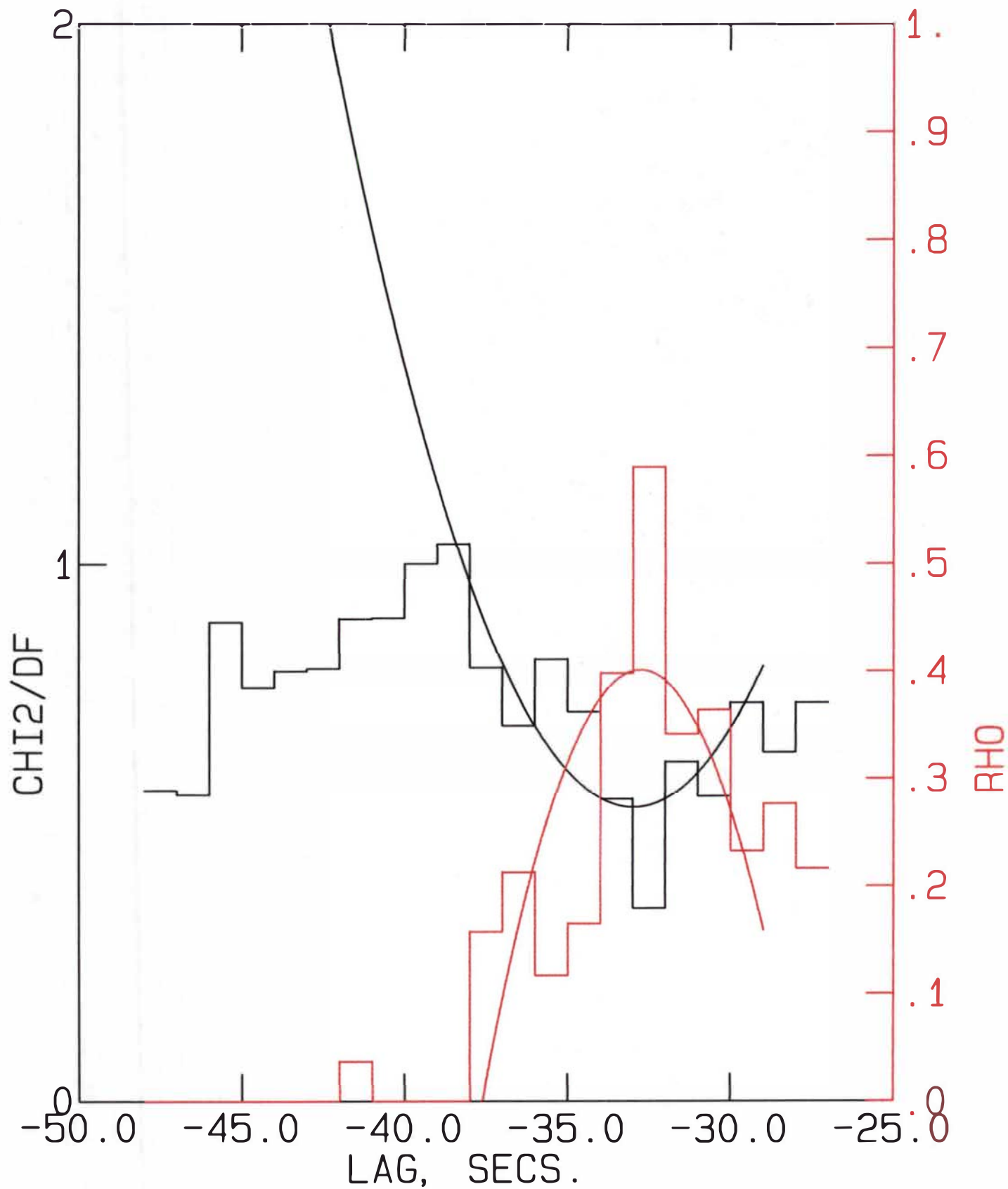
ULYSSES RT-NEAR

CORRELATION

27/ 3/99 20872.129

1/ 4/99





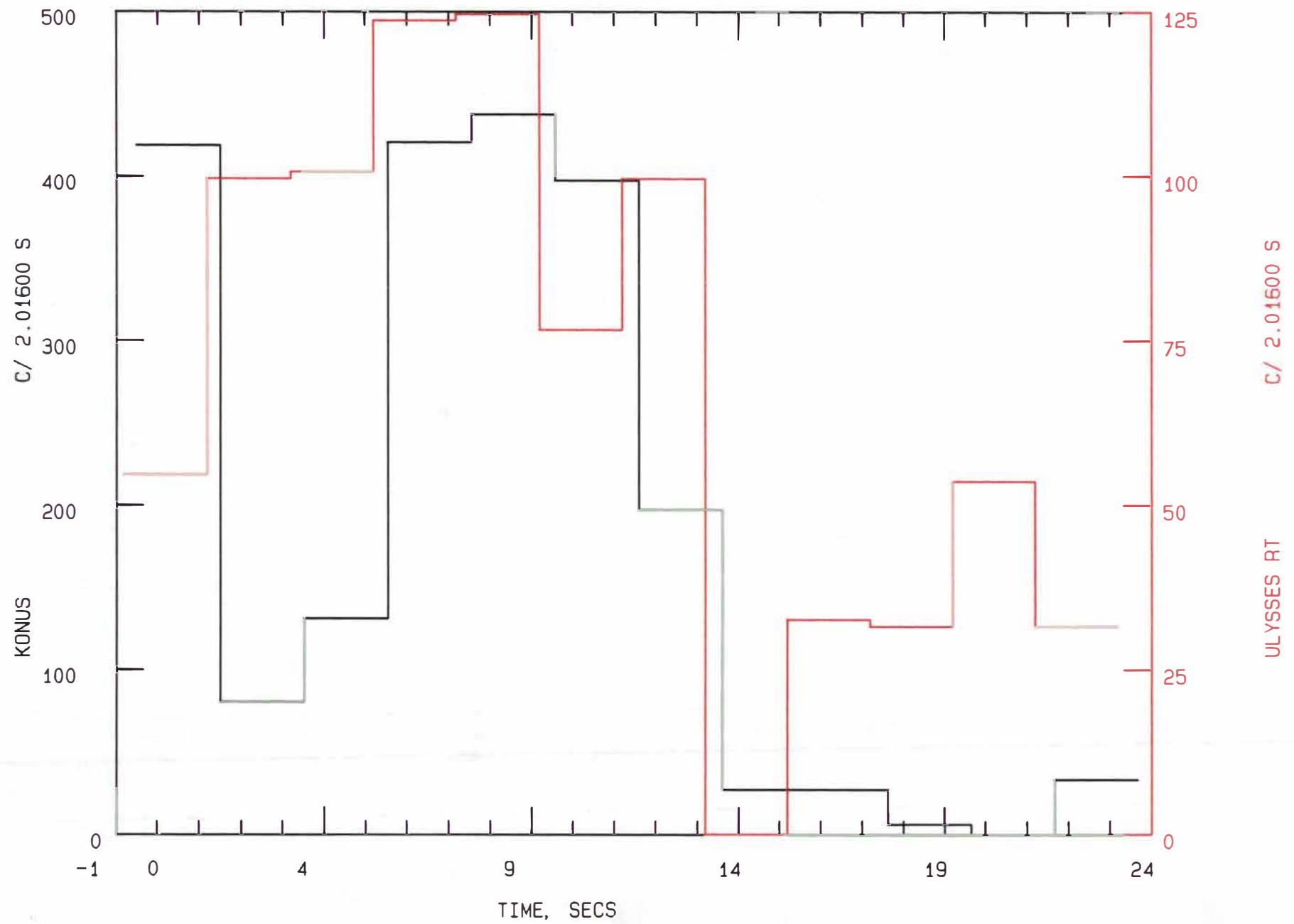
KONUS

-ULYSSES RT CORRELATION

27/03/99

22911.102

1/ 4/99

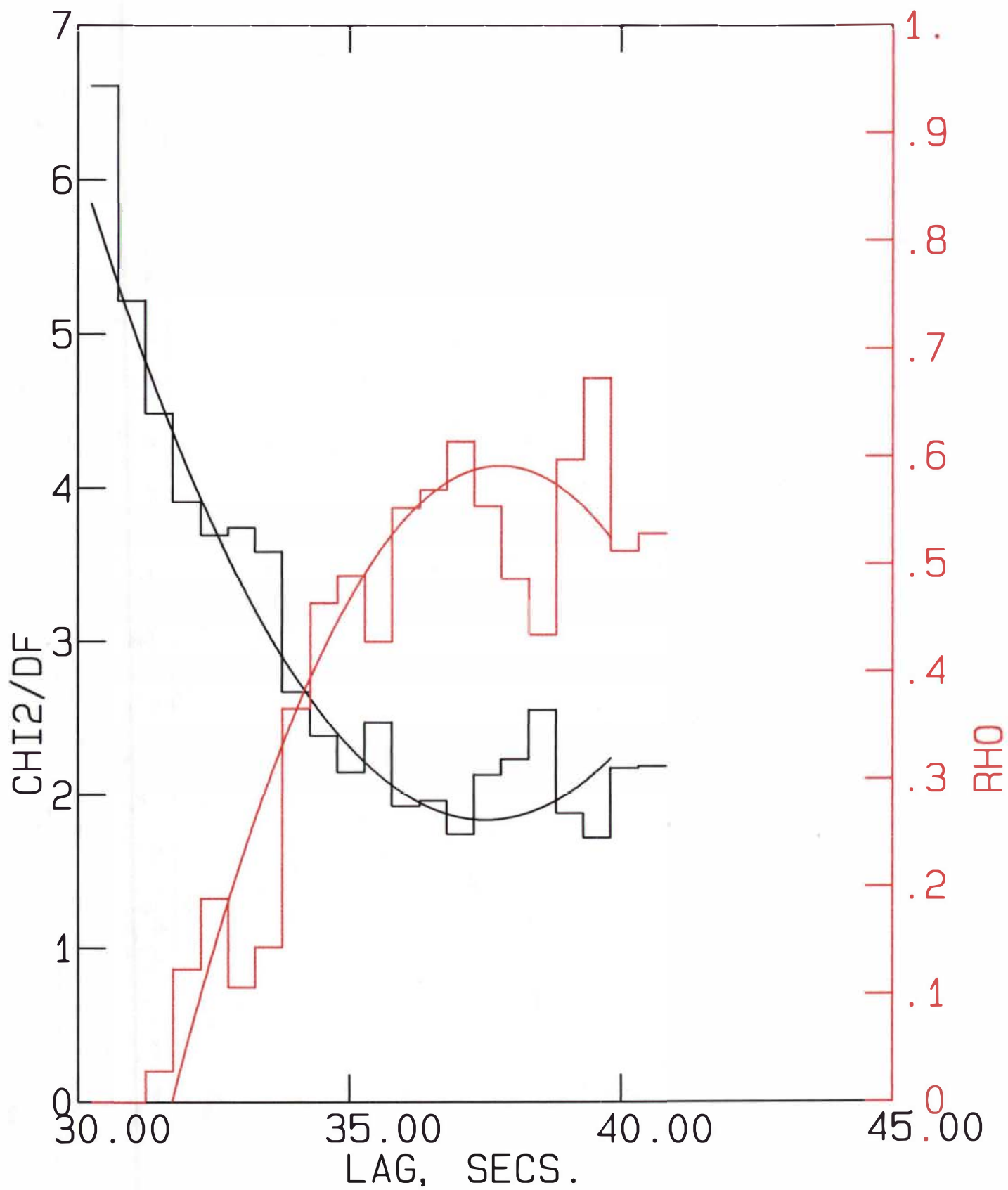


KONUS

-ULYSSES RT CORRELATION

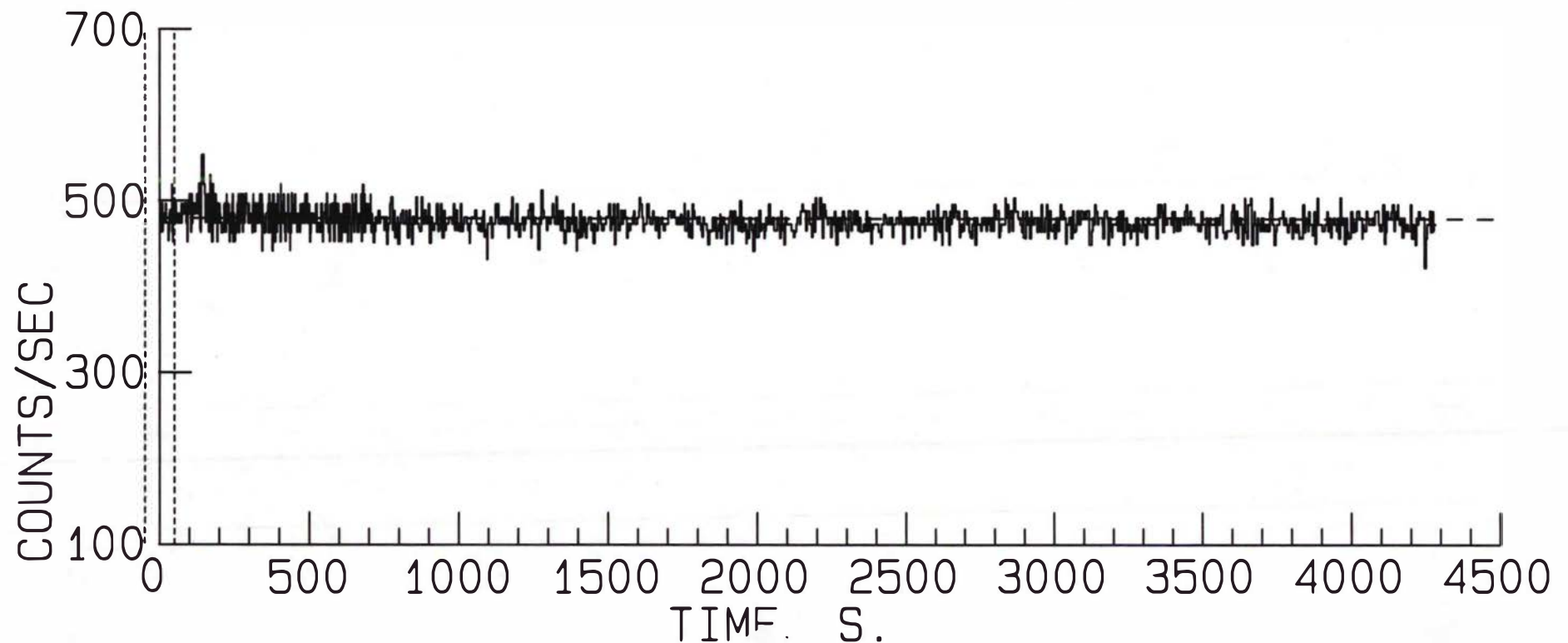
27/03/99

22911.102



ULYSSES RT
27/ 3/99 20772.129 s
INTERVALS REGROUPED BY 4
22- 151 keV

1 / 4 / 99



NEAR

ULYSSES RT

30 / 3 / 99

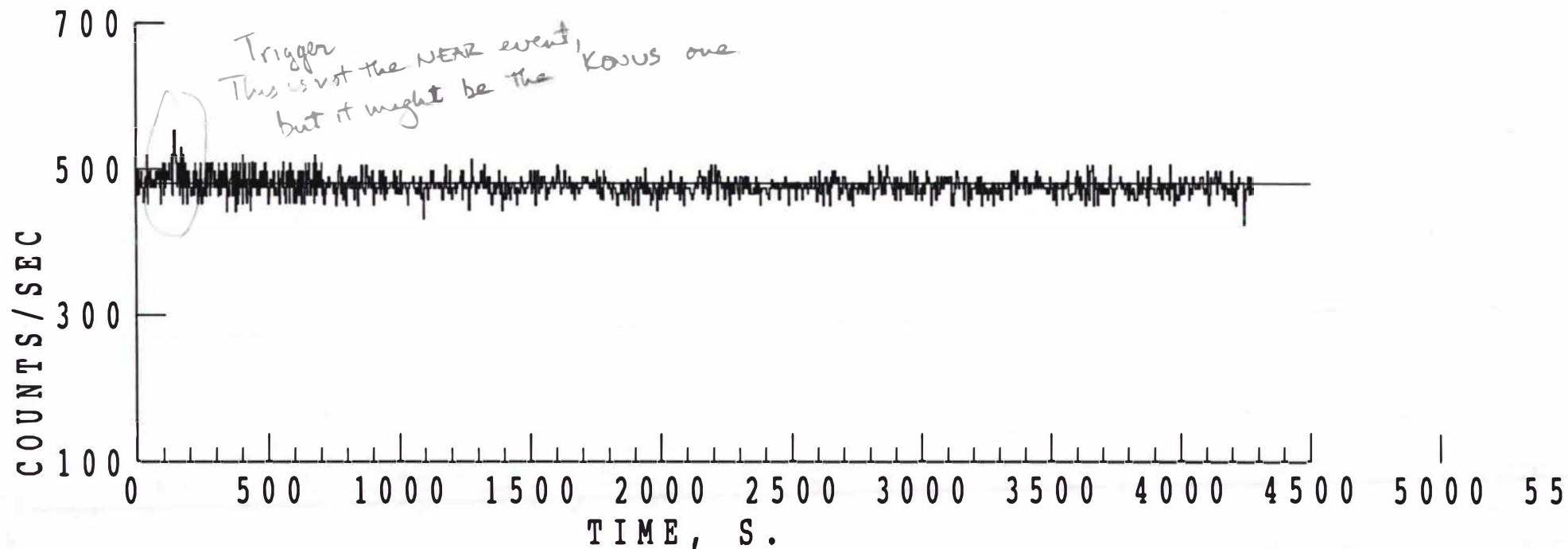
27 / 3 / 99 20772.129 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



NEAR GRB99086-1

ULYSSES RT

30 / 3 / 99

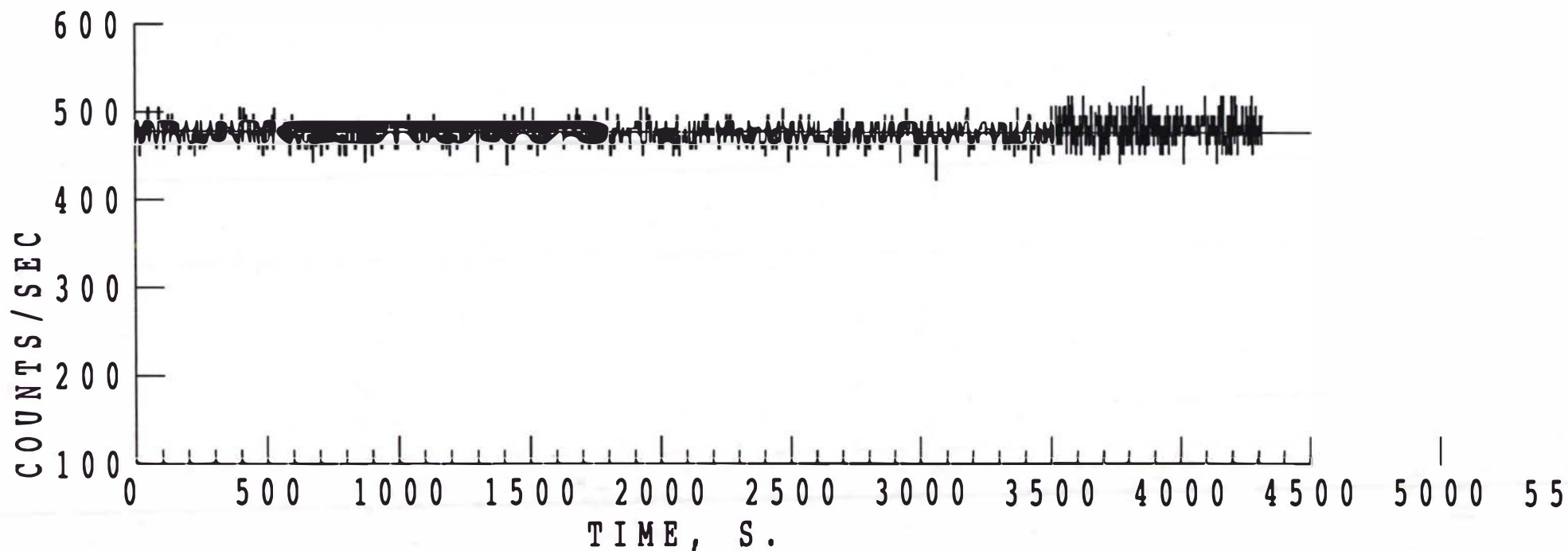
27 / 3 / 99 21960.141 s

INTERVALS REGROUPED BY 4

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

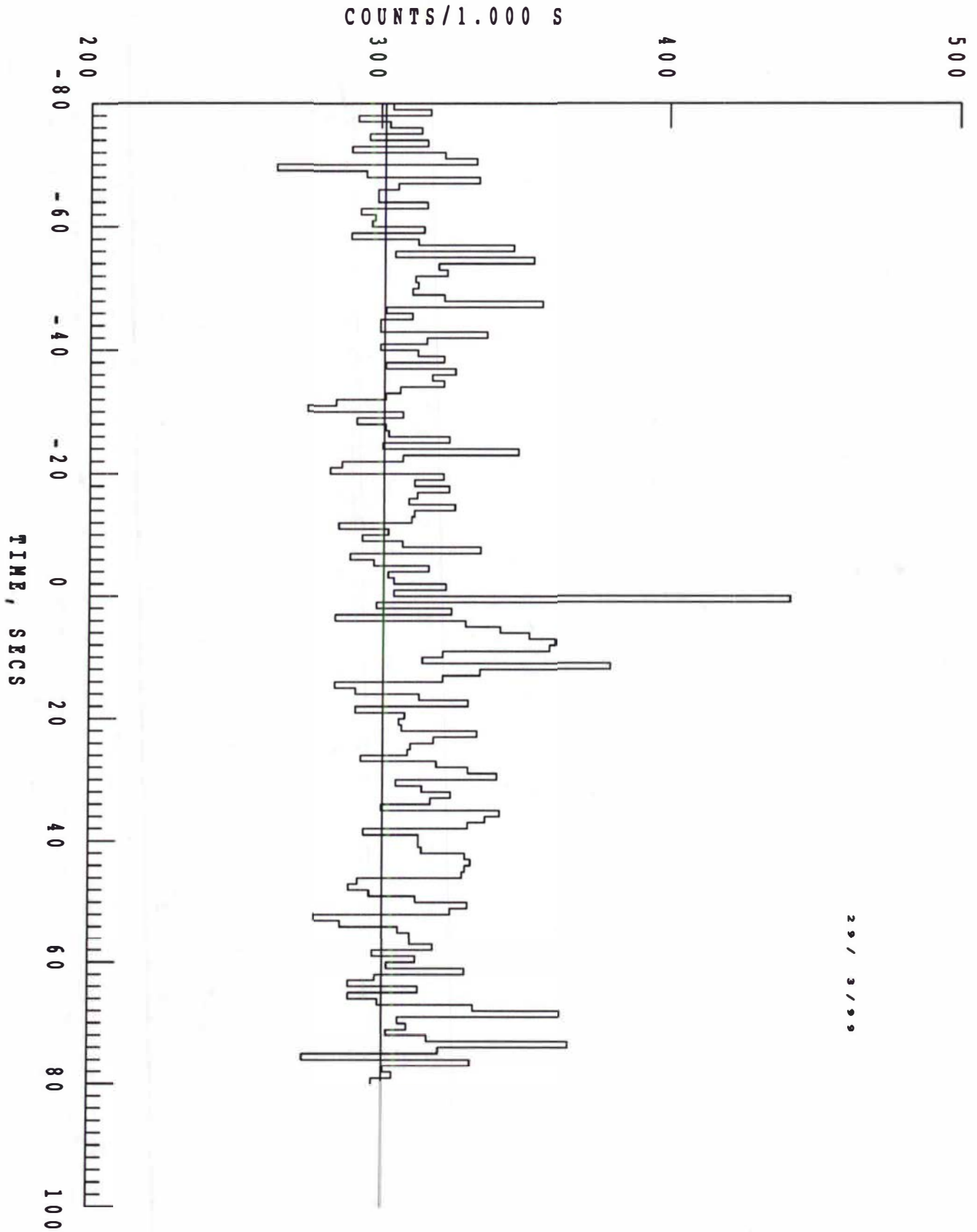


NEAR

27/03/99

24116.814

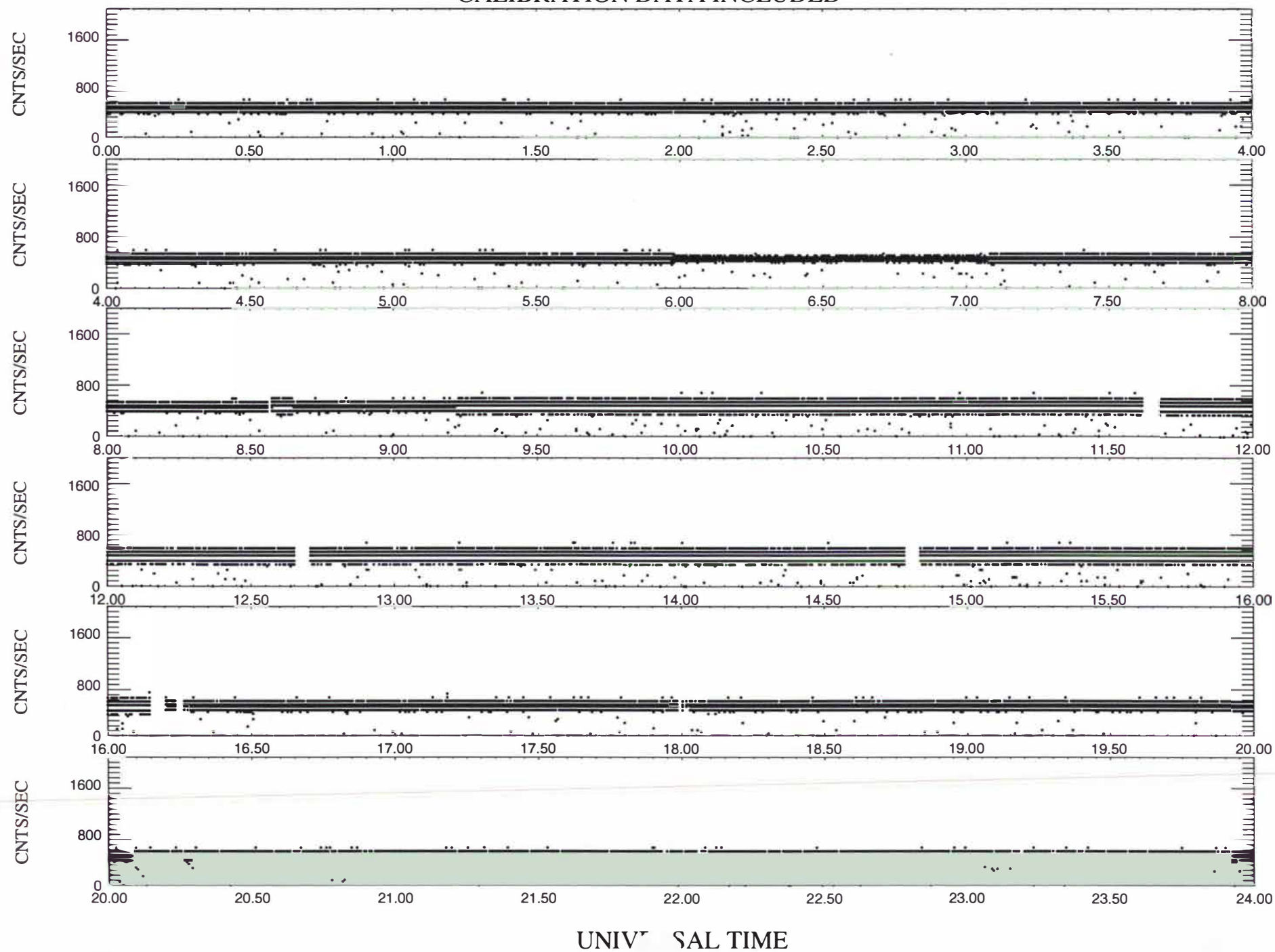
100-1000 keV



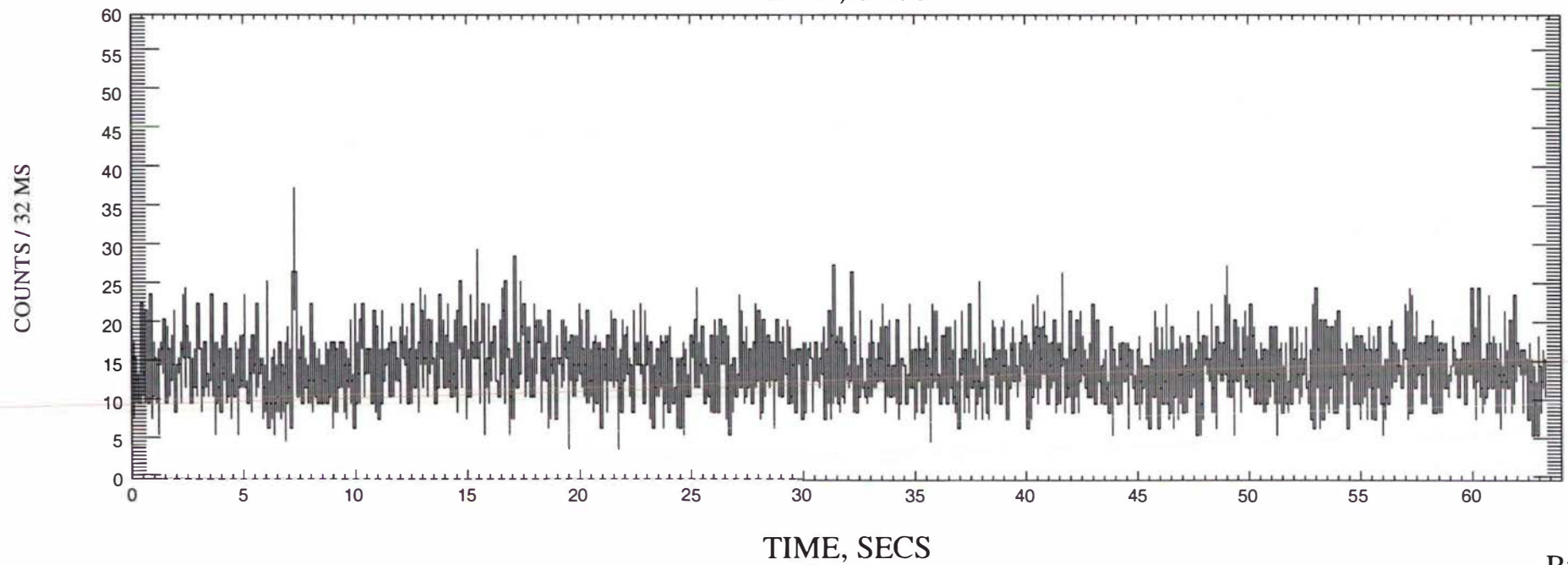
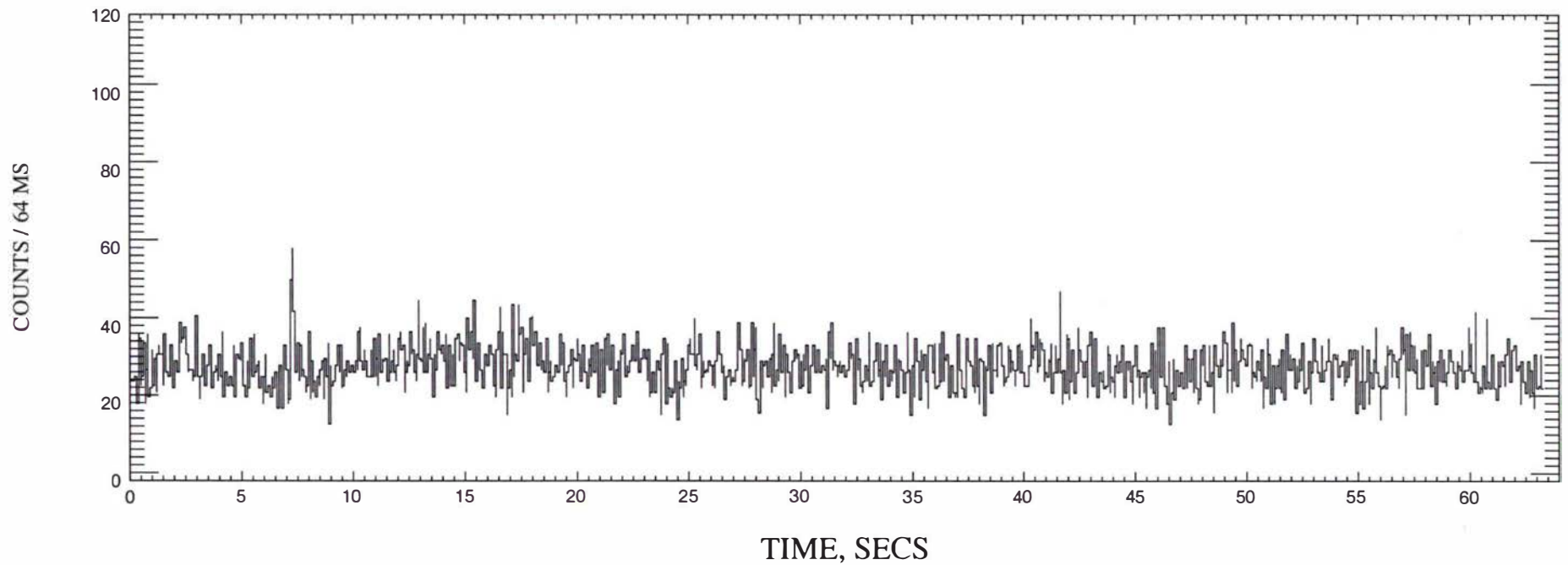
BURST NUMBER 13



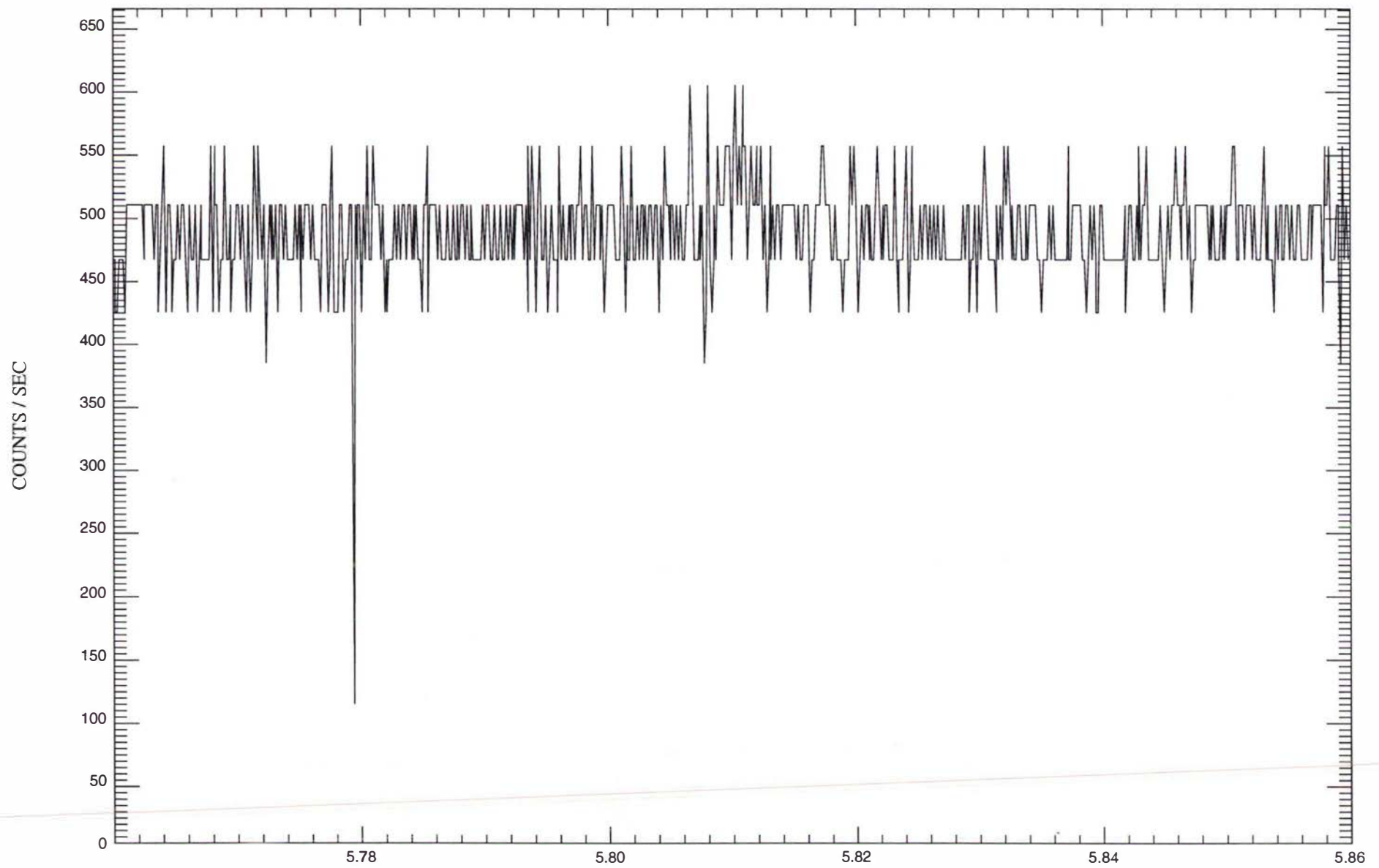
CALIBRATION DATA INCLUDED

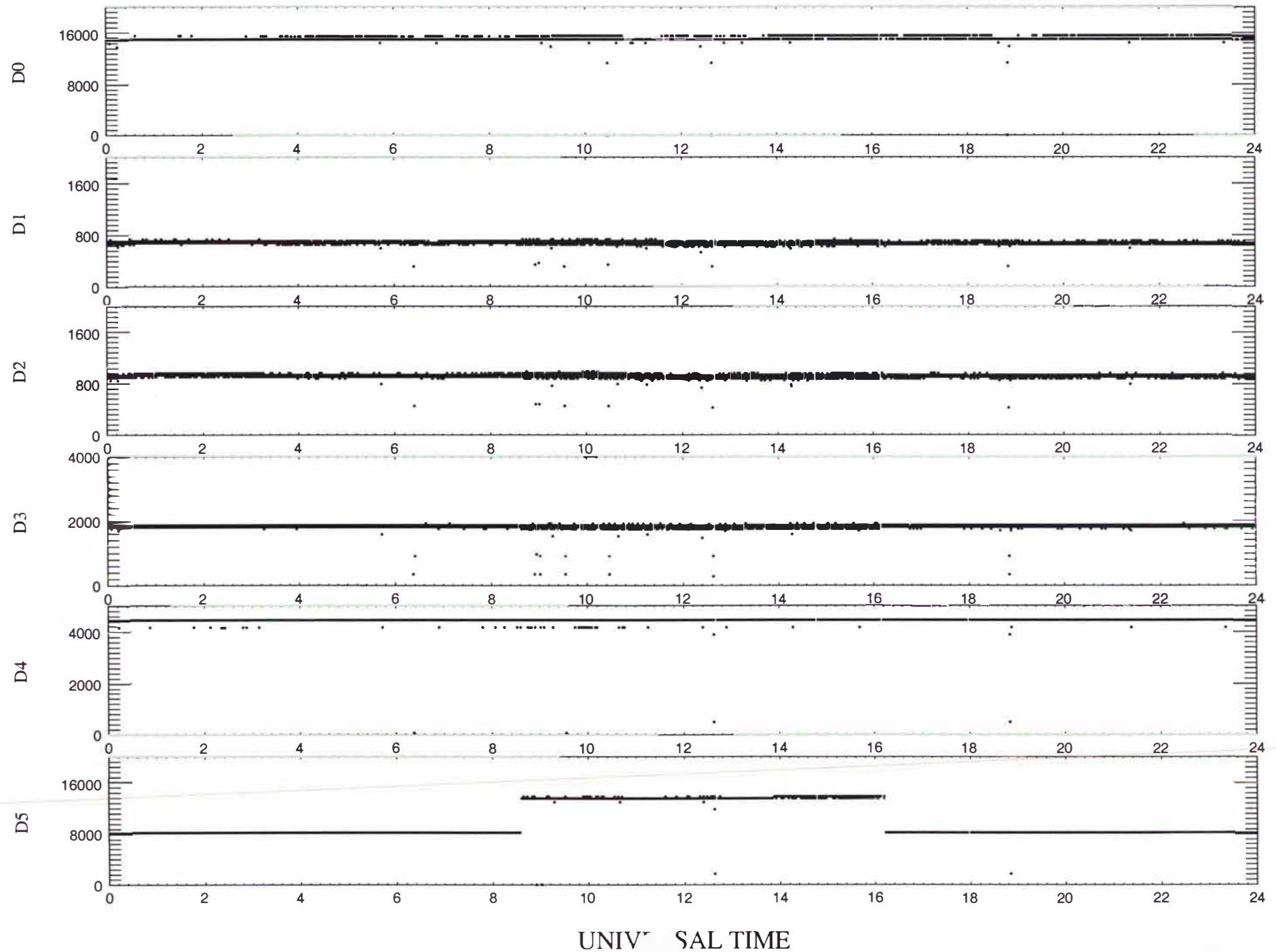


Burst Counter 13 at UT= 5.808156560262 h=20909.364 s 05:48:29.364



CALIBRATION DATA INCLUDED





From khurley@sunspot.ssl.berkeley.edu Wed Mar 31 08:34 PST 1999

Date: Wed, 31 Mar 1999 08:36:13 -0800

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

cc: 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: GRB990328

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

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

MAR 28 1999 05:48*	weak, 32 ms long	2100
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Wrong date

*Maybe an SGR. If it's 1900+14, the Earth-crossing time would have been 1565 s earlier.

Was this event detected by anyone else?

CC: ulyssesbursts alias list

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

From GOGUSE@fender.msfc.nasa.gov Tue Mar 30 14:04:12 1999
Return-Path: <GOGUSE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA19471; Tue, 30 Mar 1999 14:04:11 -0800
From: GOGUSE@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 OAA02229
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 30 Mar 1999 14:04:07 -0800 (PST)
Date: Tue, 30 Mar 1999 16:04:26 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990330160426.20228304@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7493
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7493
EVENT OF 1999 MAR 28 DAY OF YEAR= 87
EVENT CROSSING TIME AT BATSE : 12250. S. OR 03:24:10.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 150.000 -47.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 3/ 99 IS:
RA= 148.941 DEC= -8.582 DIST= 4.214 AU
BATSE-ULYSSES DISTANCE = 630441184. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.57 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1647.38 SECS.
CROSSING TIME AT ULYSSES IS 10603. S. OR 02:56:42 +/- 251.91 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 3/ 99 IS:
RA= 219.865 DEC= -13.369 DIST= 0.694 AU
MARS-BATSE DISTANCE = 103866432. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=113.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -137.72 SECS.
CROSSING TIME AT MARS IS 12112. S. OR 03:21:52 +/- 53.10 SECONDS

BATSE BURST TRIGGER

NO.: 7493

TIME: TJD=1265 SECONDS=12250

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 68.2 AZIMUTH=268.6 ERROR= 4.4 DEGREES

COMMENTS:

GRB, MULTIPLE PEAKS, DUR. APPROX. 21 SEC., NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7493	990328	11265	12250	2000	150	-47	21

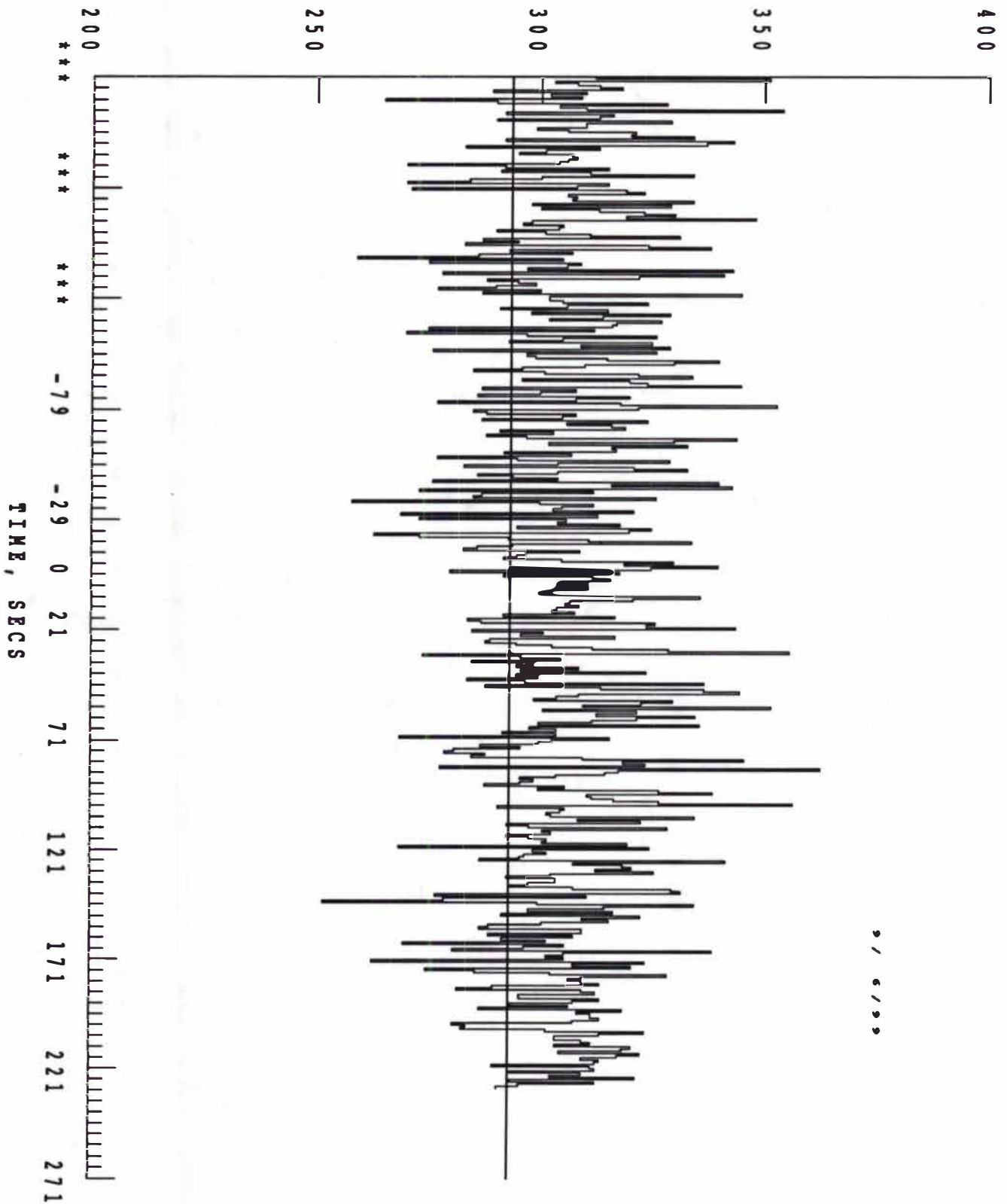
NEAR

28/03/99

13095.944

100-1000 keV

COUNTS/1.000 S



BATSE BURST# 7493

ULYSSES RT

30 / 3 / 99

28 / 3 / 99 10368.404 s

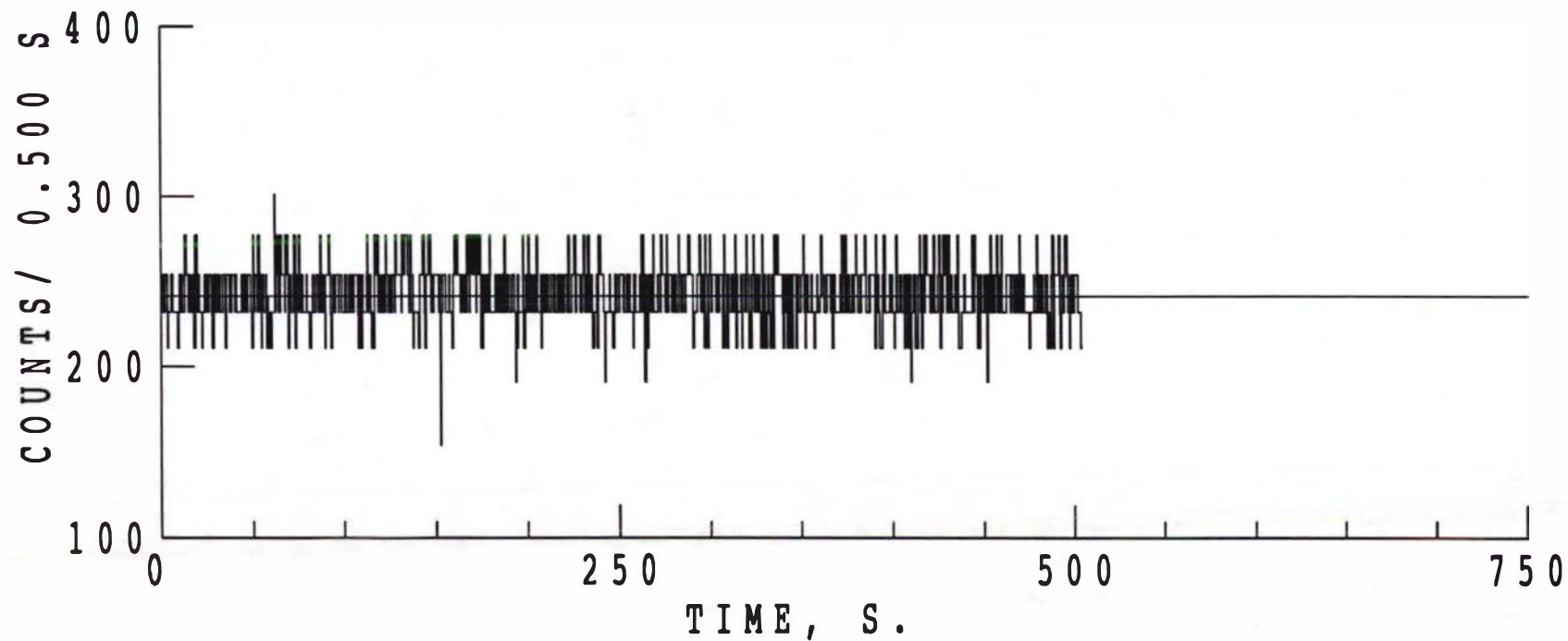
0 - 0 keV

N= 10 M= 10

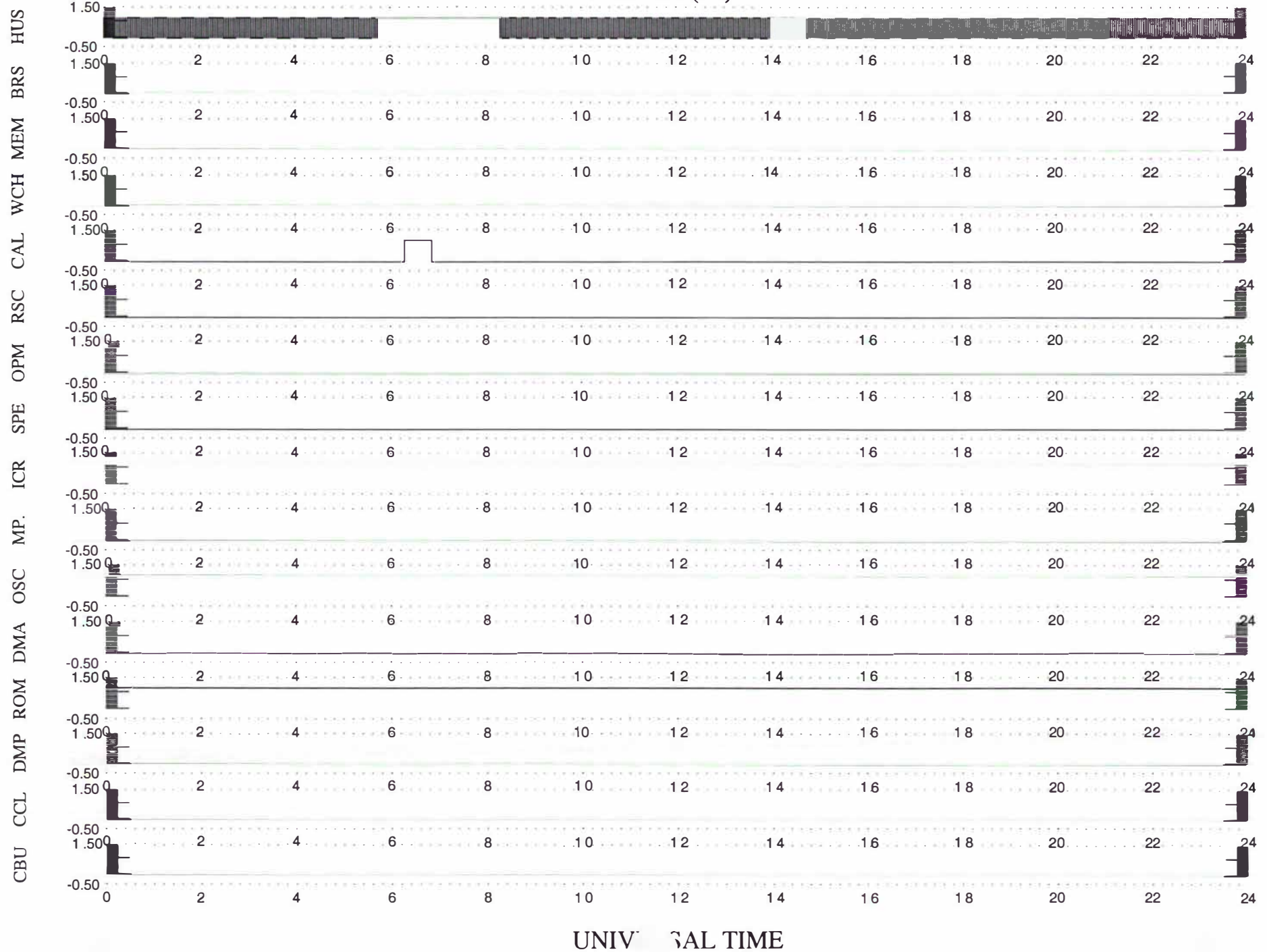
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

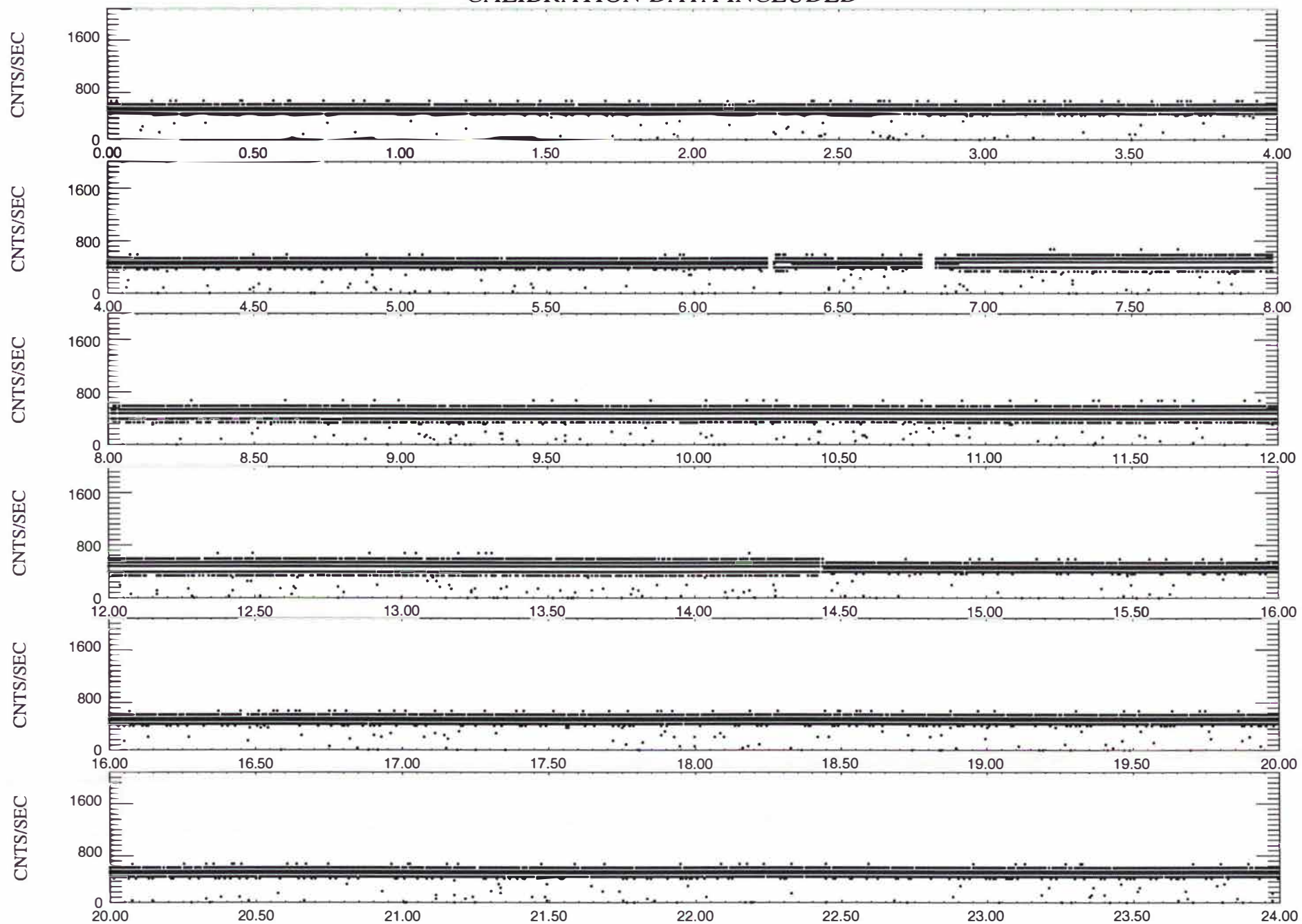
>4.0 SIGMA FLUCTUATIONS



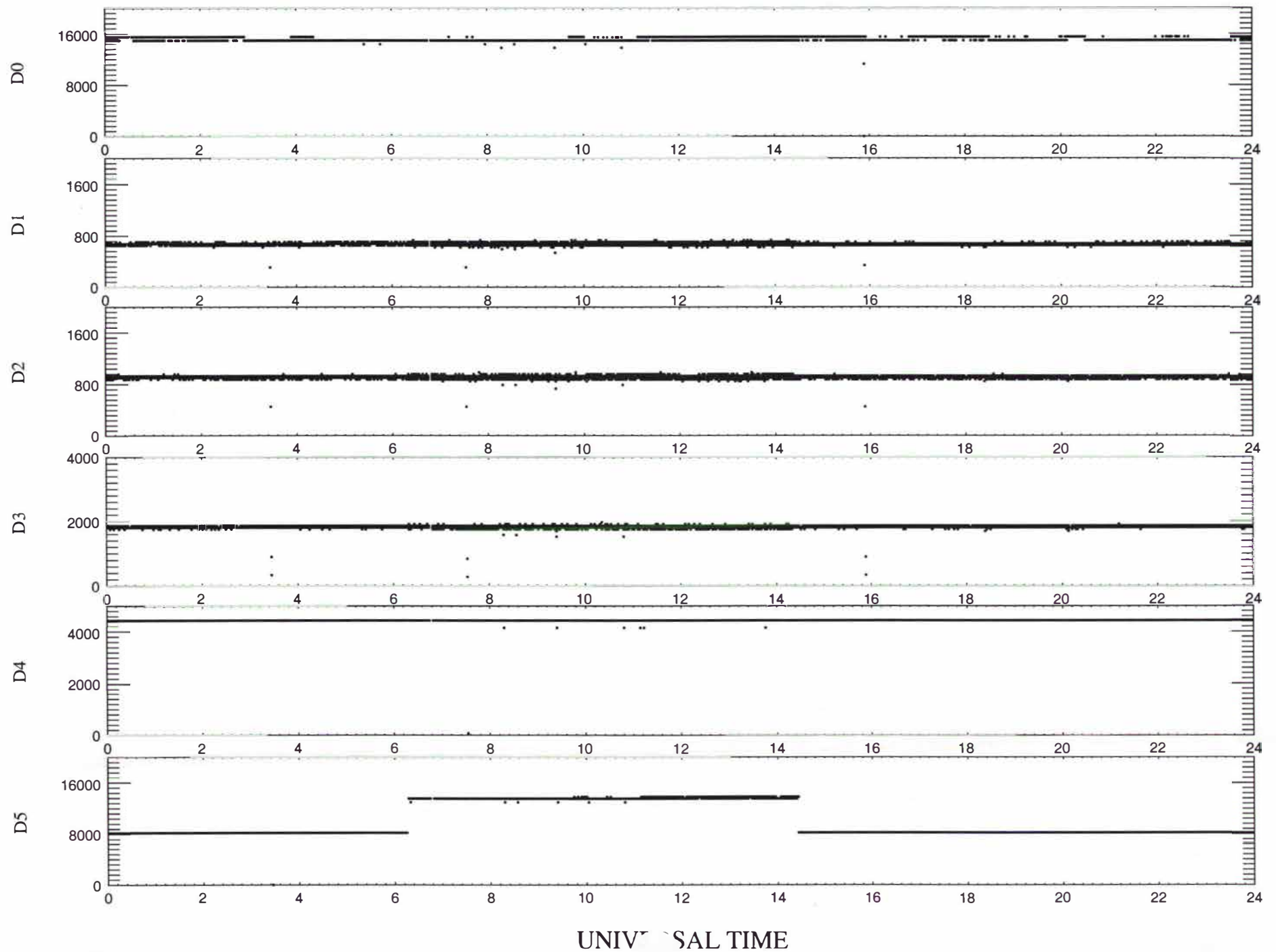
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From SURASAK@fender.msfc.nasa.gov Wed Mar 31 08:16:56 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 IAA09443; Wed, 31 Mar 1999 08:16:55 -0800
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 (8.9.2/8.9.2) with SMTP id IAA18466
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 31 Mar 1999 08:16:53 -0800 (PST)
Date: Wed, 31 Mar 1999 10:17:10 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990331101710.20228d61@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7494
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7494
EVENT OF 1999 MAR 29 DAY OF YEAR= 88
EVENT CROSSING TIME AT BATSE : 82578. S. OR 22:56:18.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 72.000 68.000
BATSE PEAK COUNTING RATE: 5250 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 29/ 3/ 99 IS:
RA= 148.603 DEC= -8.500 DIST= 4.227 AU
BATSE-ULYSSES DISTANCE = 632309515. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 87.06 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 108.01 SECS.
CROSSING TIME AT ULYSSES IS 82686. S. OR 22:58:06 +/- 417.34 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 29/ 3/ 99 IS:
RA= 219.738 DEC= -13.344 DIST= 0.688 AU
MARS-BATSE DISTANCE = 102930544. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 179.29 SECS.
CROSSING TIME AT MARS IS 82757. S. OR 22:59:17 +/- 53.56 SECONDS

BATSE BURST TRIGGER

NO.: 7494

TIME: TJD=1266 SECONDS=82578

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=124.9 AZIMUTH=145.5 ERROR=1.43 DEGREES

COMMENTS:

GRB. SINGLE PULSE. FRED. DURATION ABOUT 11 S. BARELY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7494	990329	11266	82578	5250	072	+68	11

Date: Feb 25 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data N/A

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

2. BATSE Data

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

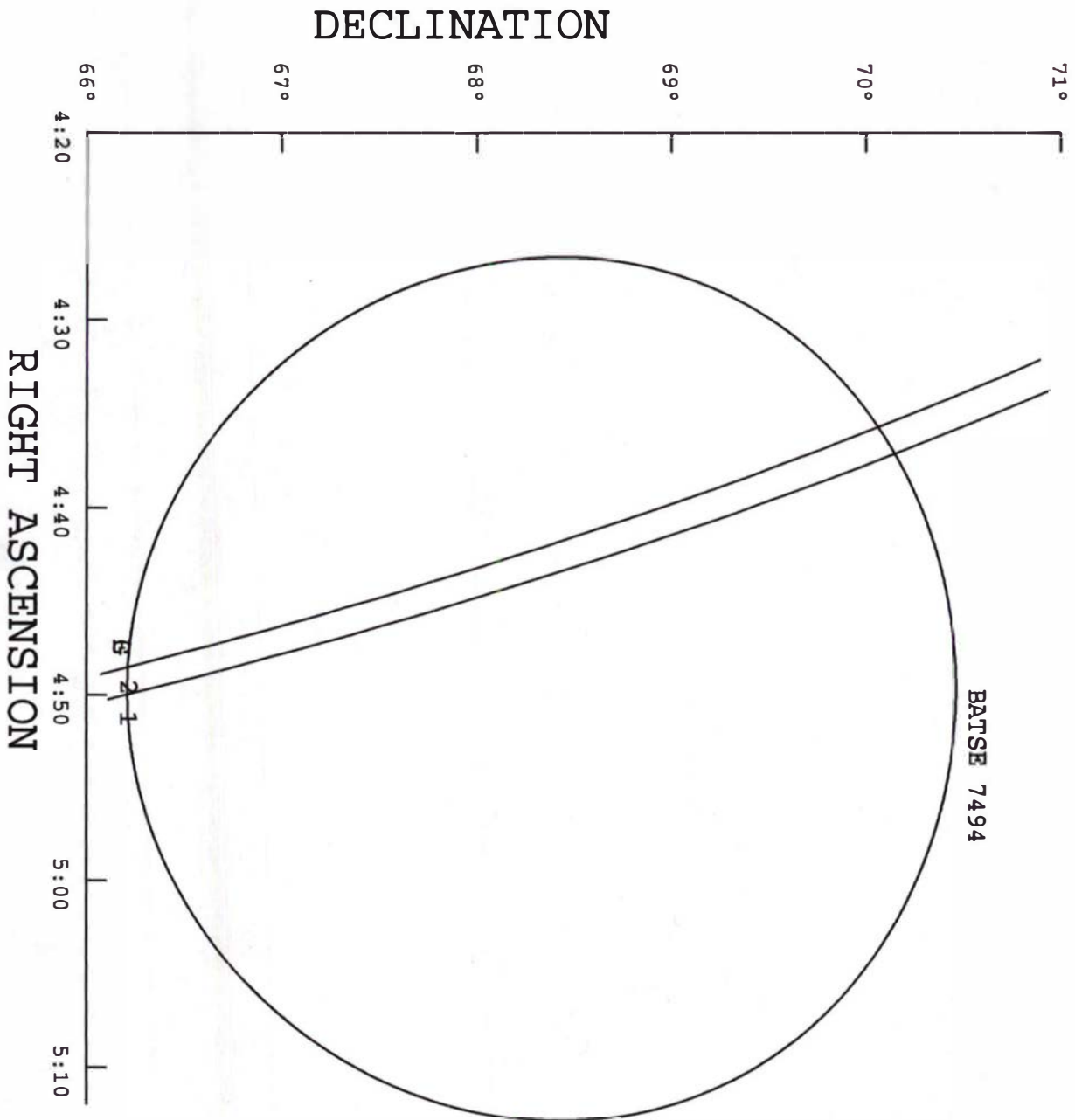
3. NEAR Data

- ☒ Final, correct time used? (Files postmarked 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 NEAR

EVENT OF MAR 29, 1999 22:56

25 / 2 / 0



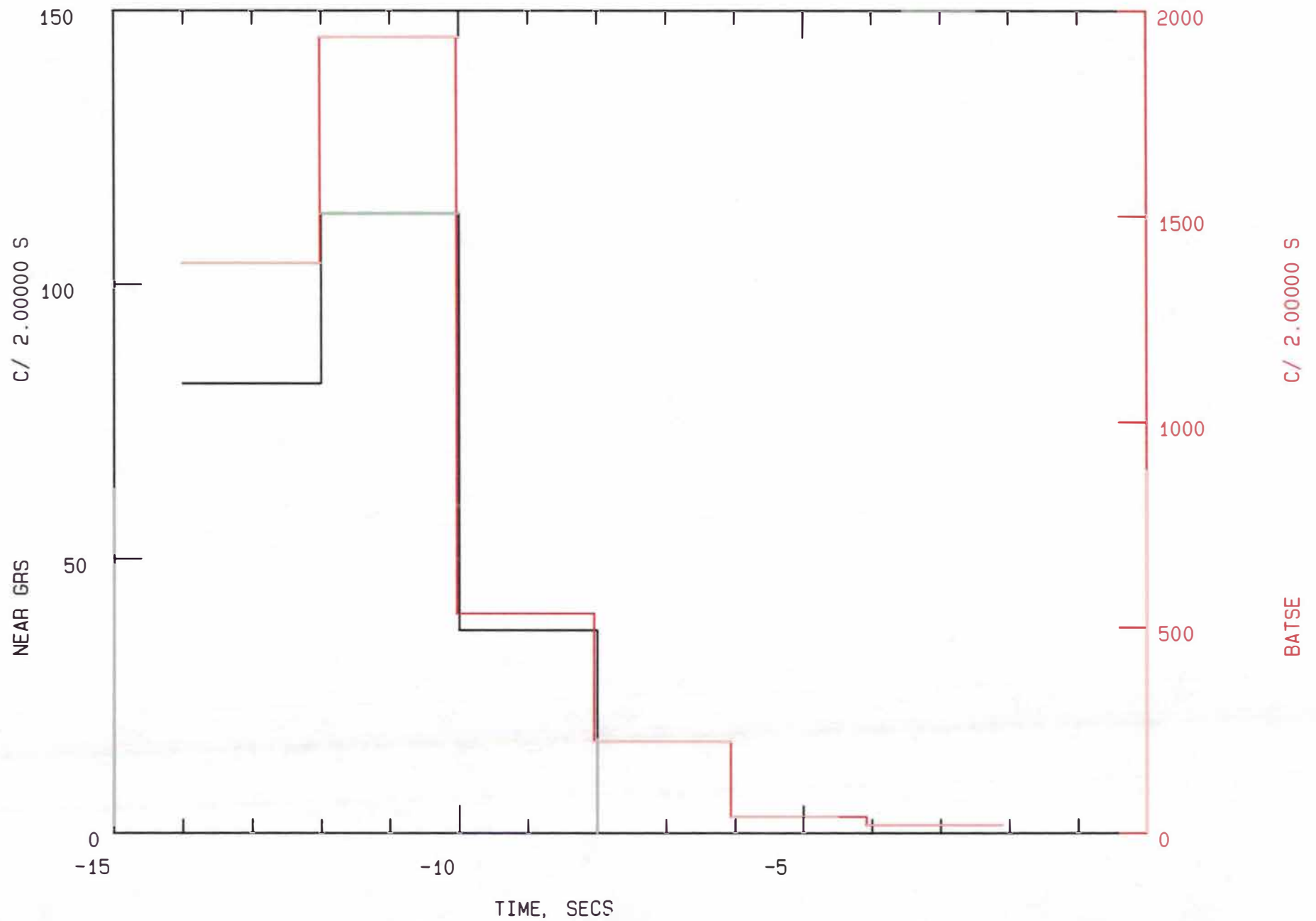
NEAR GRS -BATSE

CORRELATION

29/03/99

82287.909

25/ 2/ 0

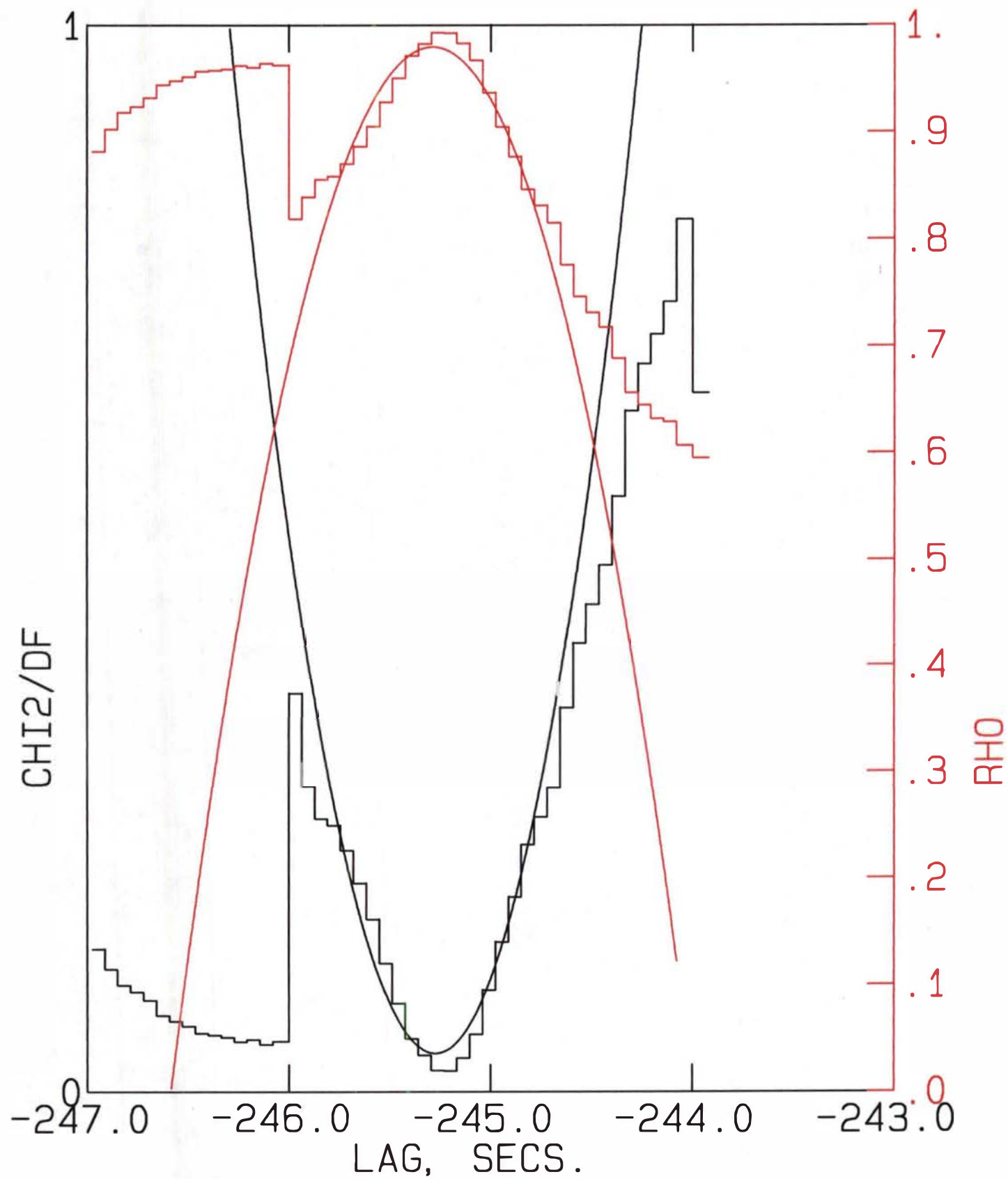


NEAR GRS -BATSE

CORRELATION

29/03/99

82287.909



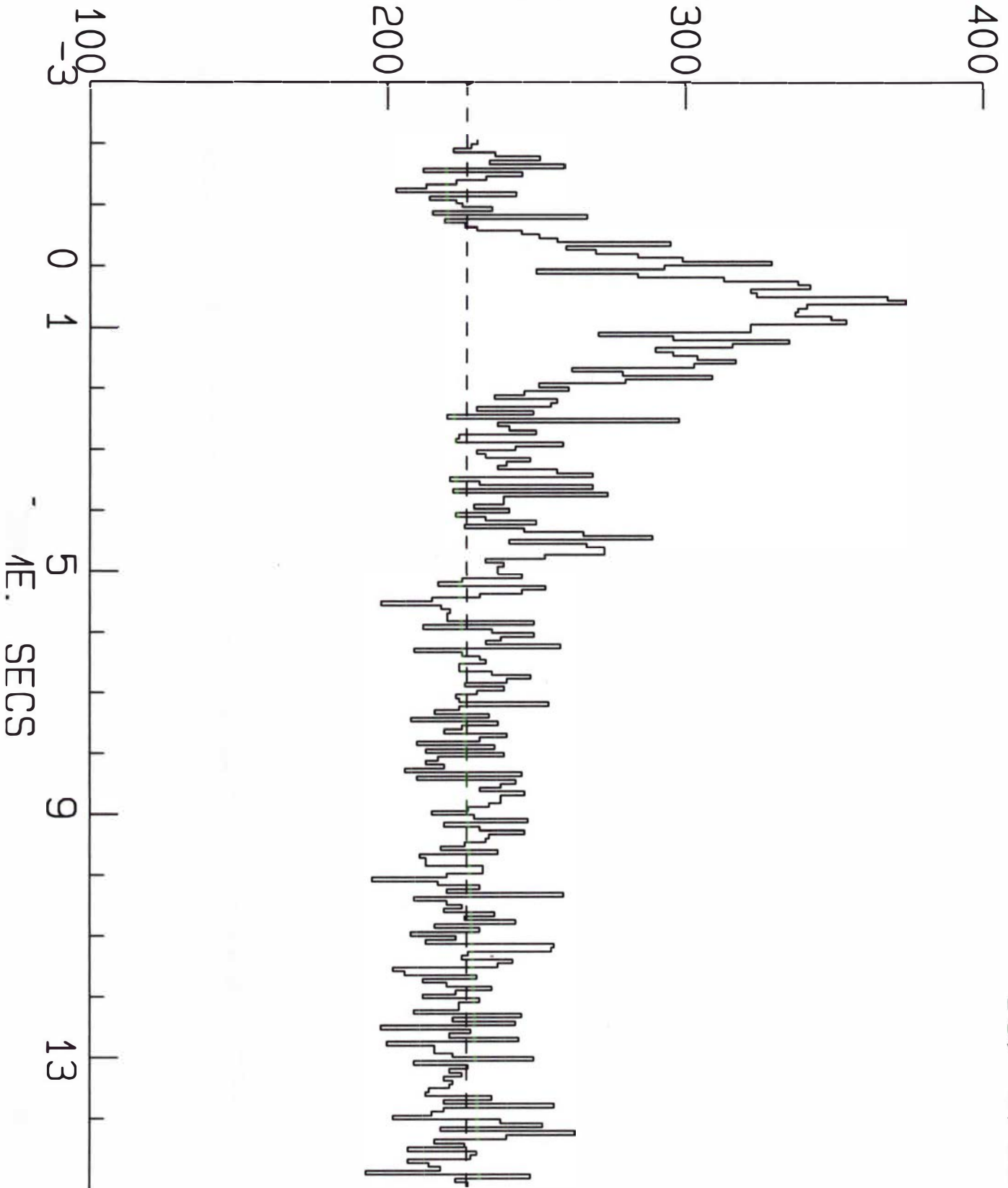
BATSE

29/03/99

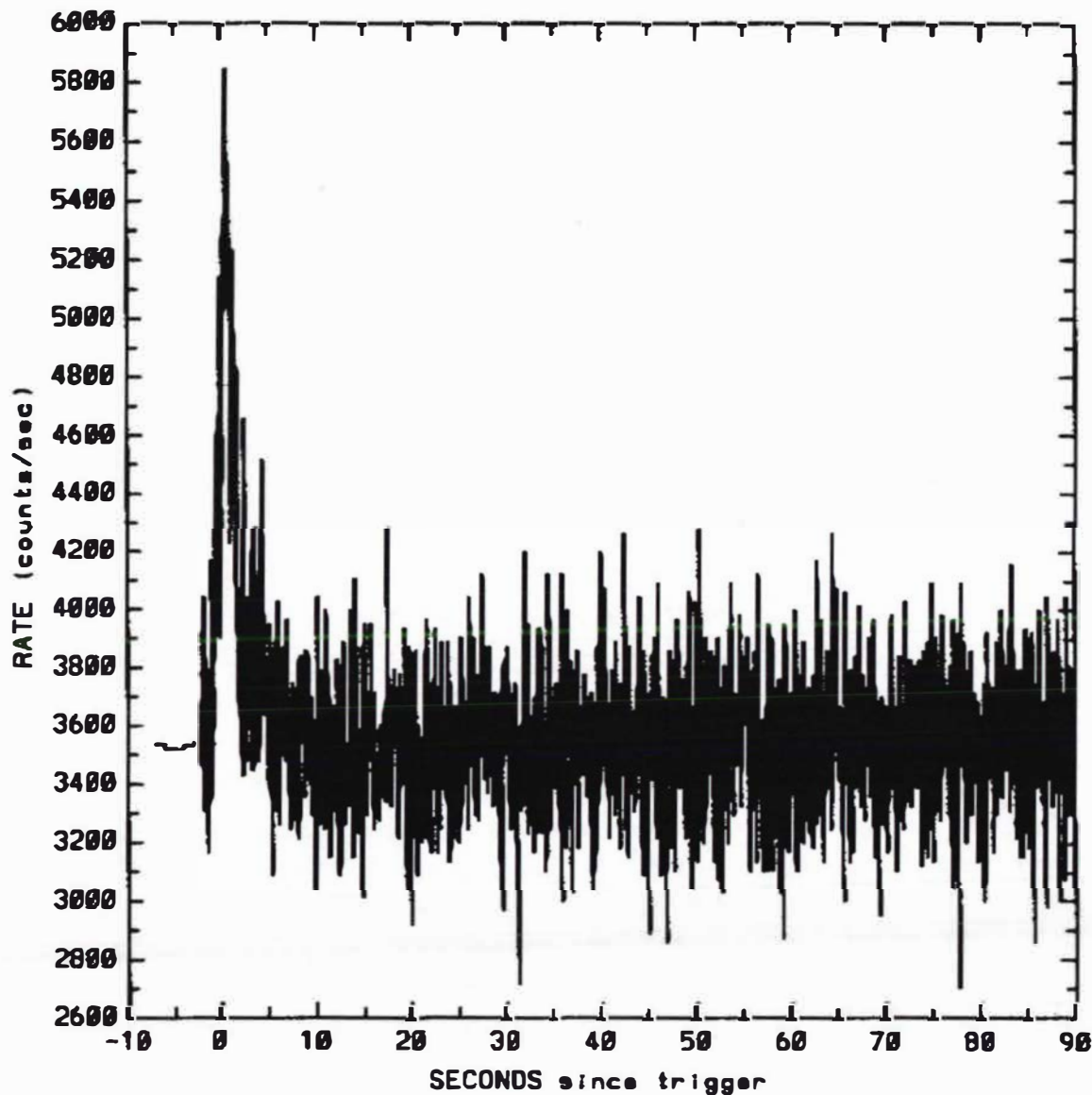
82578.937

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7494



6-AUG-1999 09:14:39

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7494

Trigger Time:
11266 / 82578.937

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

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

Discriminators:
[3 : 4]

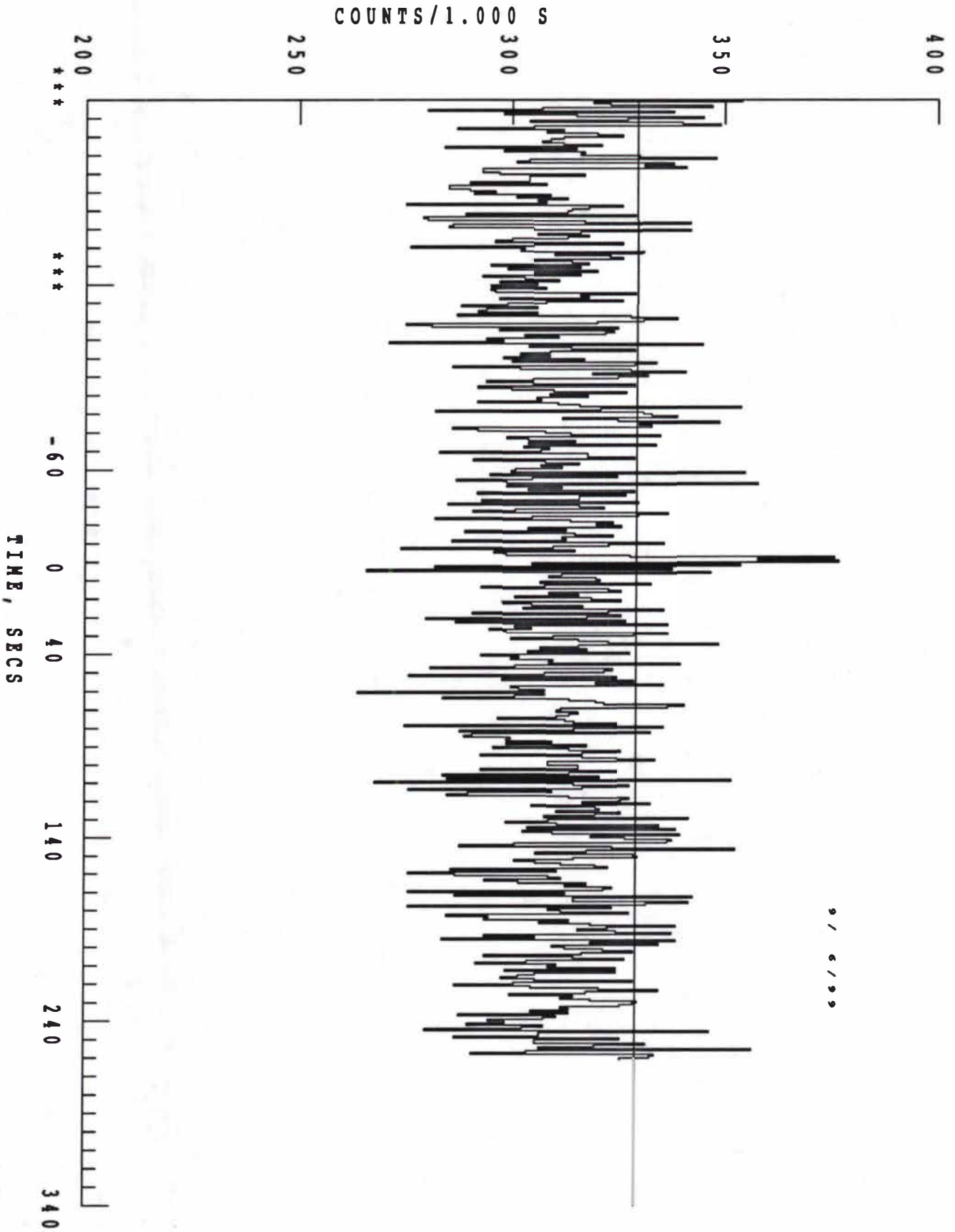
Quality Mask:
BDISP1

NEAR

29/03/99

82287.909

100-1000 keV



BATSE BURST# 7494

ULYSSES RT

31 / 3 / 99

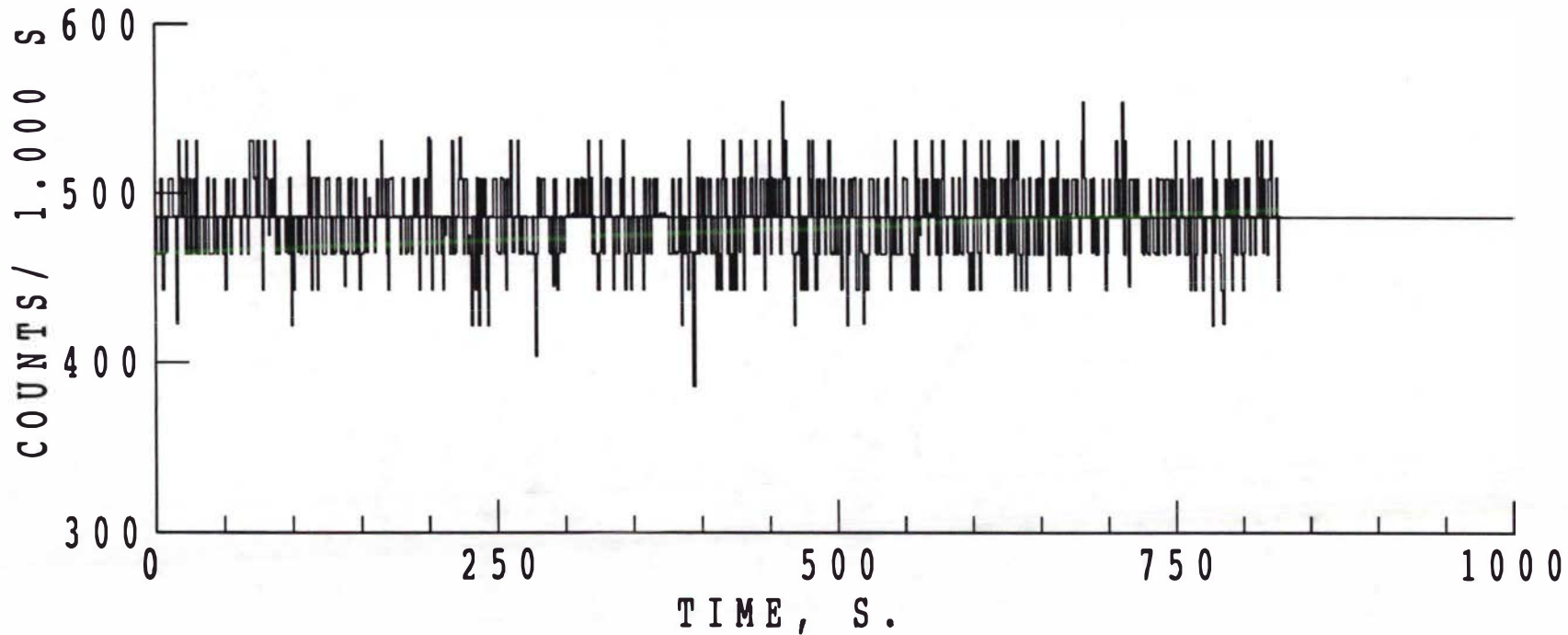
29 / 3 / 99 82260.016 s

0.500 S INTERVALS REGROUPED BY 2

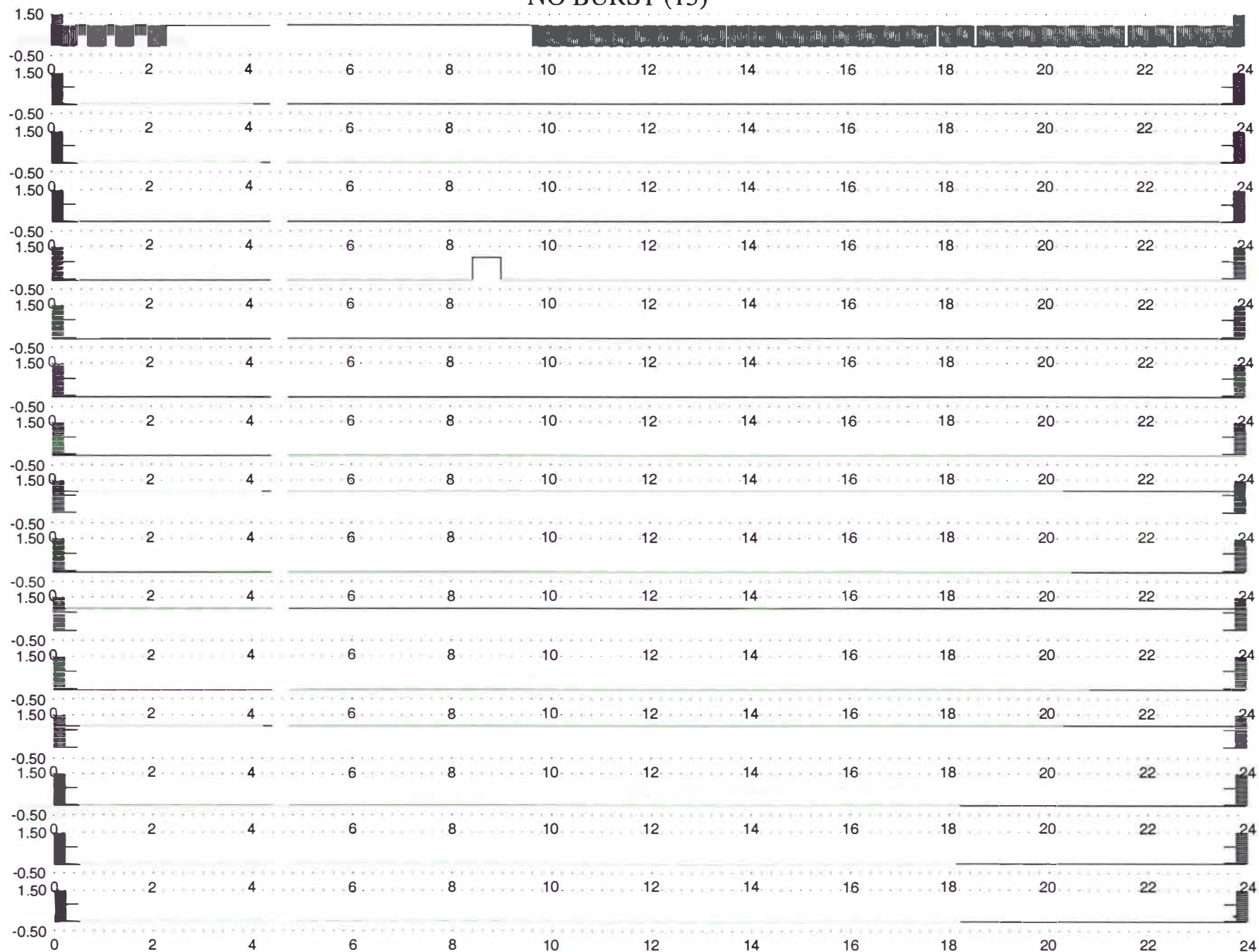
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

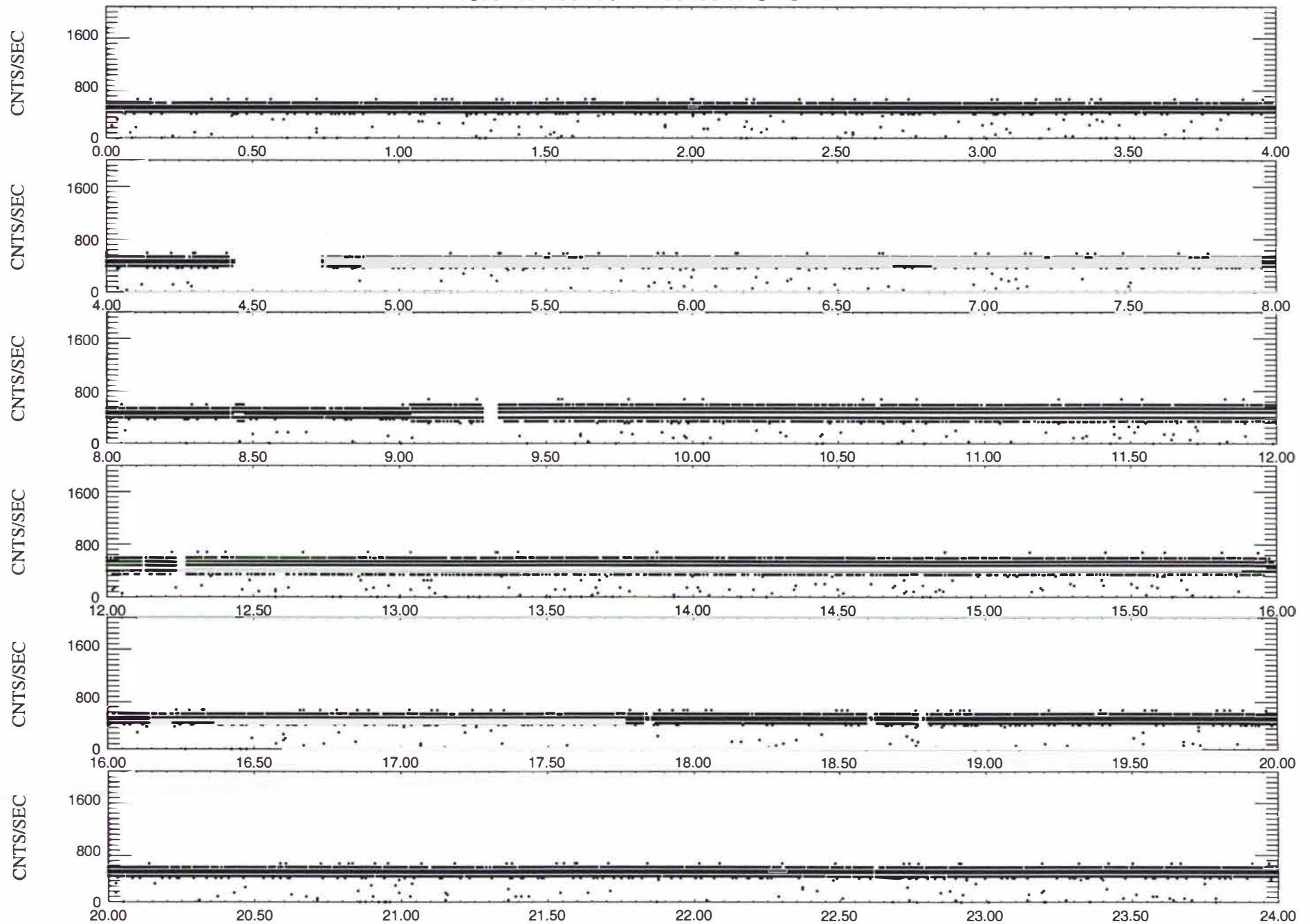


CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

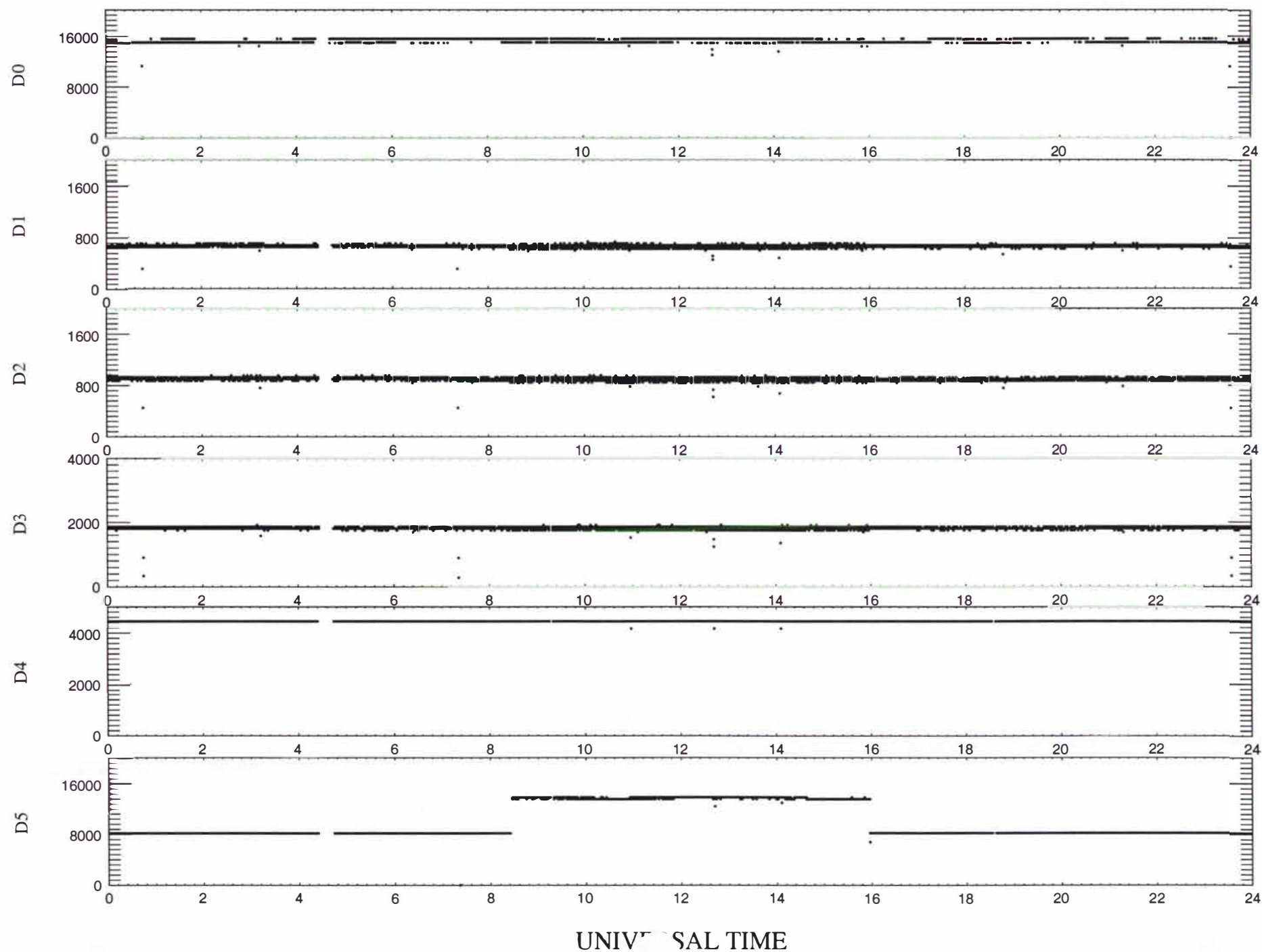


UNIV SAL TIME

CALIBRATION DATA INCLUDED



UNIV SAL TIME



From PETERSON@fender.msfc.nasa.gov Thu Apr 1 12:19:41 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 MAA18321; Thu, 1 Apr 1999 12:19:41 -0800
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 (8.9.2/8.9.2) with SMTP id MAA19346
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 1 Apr 1999 12:19:37 -0800 (PST)
Date: Thu, 1 Apr 1999 14:19:58 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990401141958.20227234@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7495
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7495
EVENT OF 1999 MAR 30 DAY OF YEAR= 89
EVENT CROSSING TIME AT BATSE : 16791. S. OR 04:39:51.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 61.000 1.000
BATSE PEAK COUNTING RATE: 3600 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 3/ 99 IS:
RA= 148.560 DEC= -8.489 DIST= 4.228 AU
BATSE-ULYSSES DISTANCE = 632568603. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 92.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -83.41 SECS.
CROSSING TIME AT ULYSSES IS 16708. S. OR 04:38:27 +/- 414.78 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 3/ 99 IS:
RA= 219.599 DEC= -13.315 DIST= 0.682 AU
MARS-BATSE DISTANCE = 102016160. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 24.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 309.63 SECS.
CROSSING TIME AT MARS IS 17101. S. OR 04:45:00 +/- 29.21 SECONDS

BATSE BURST TRIGGER

NO.: 7495

TIME: TJD=1267 SECONDS=16791

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=157.9 AZIMUTH=265.9 ERROR=9.52 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR APPROX 0.8SEC. NOT VISIBLE ABOVE 300KEV.

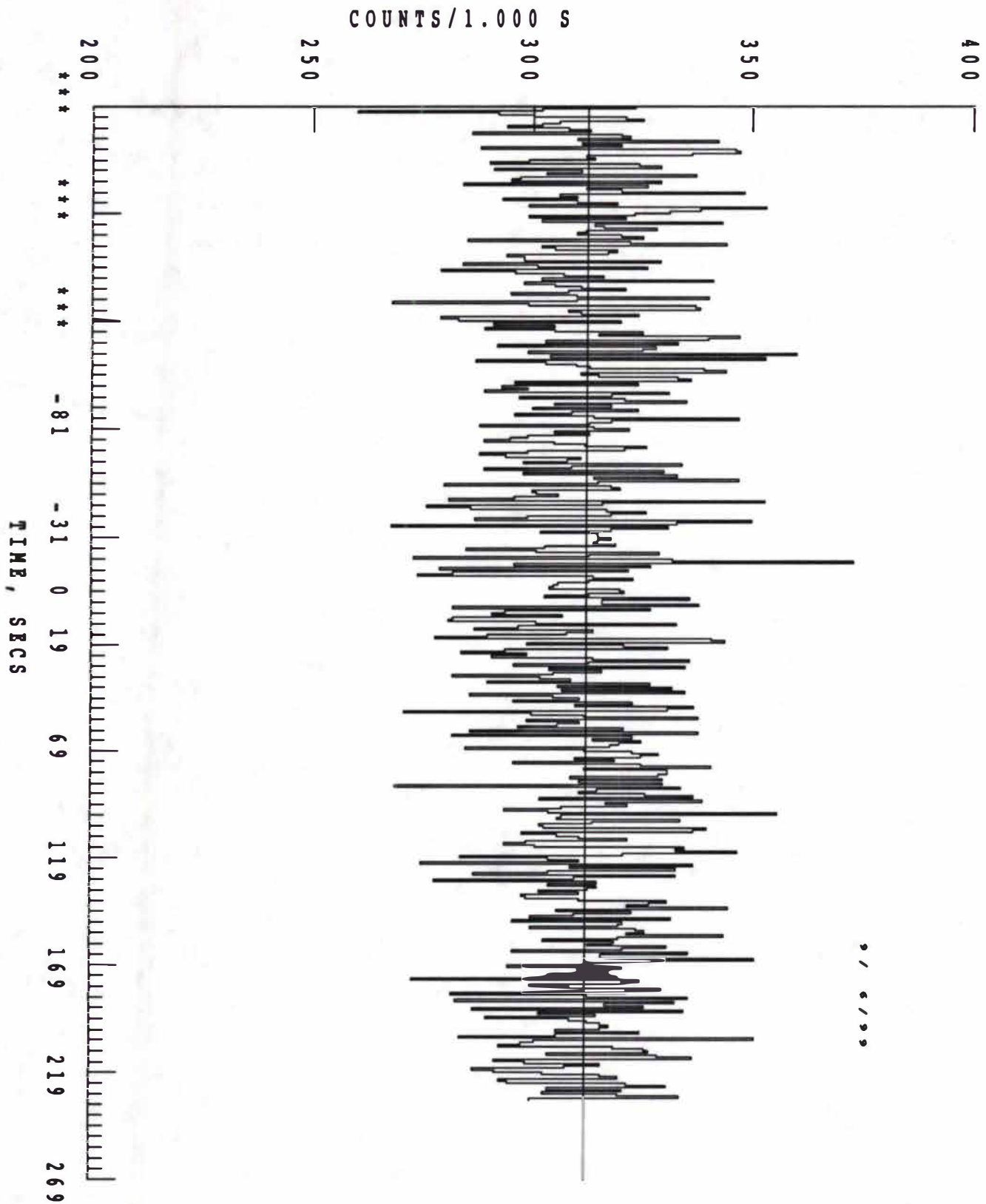
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7495	990330	11267	16791	3600	061	+01	1.0

NEAR

30/03/99

16151.904

100-1000 keV



BATSE BURST# 7495

ULYSSES RT

1 / 4 / 99

30 / 3 / 99 16308.224 s

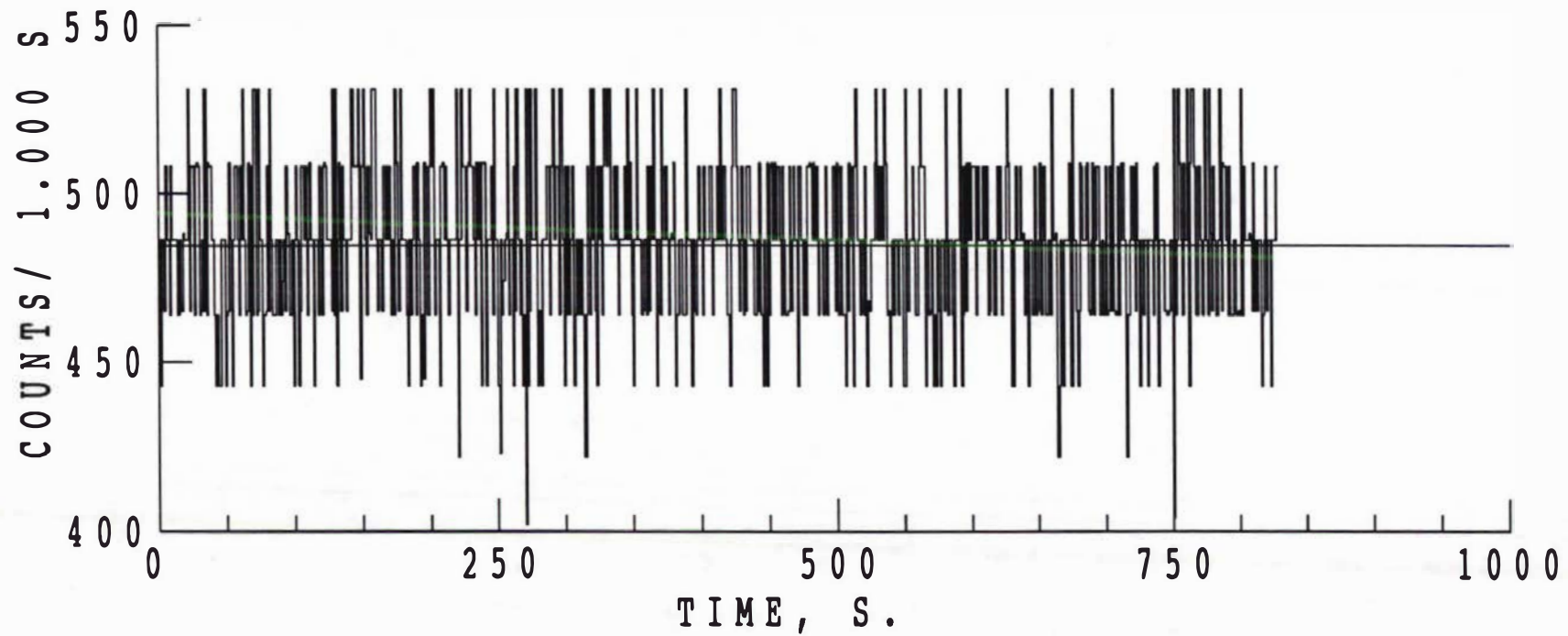
0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

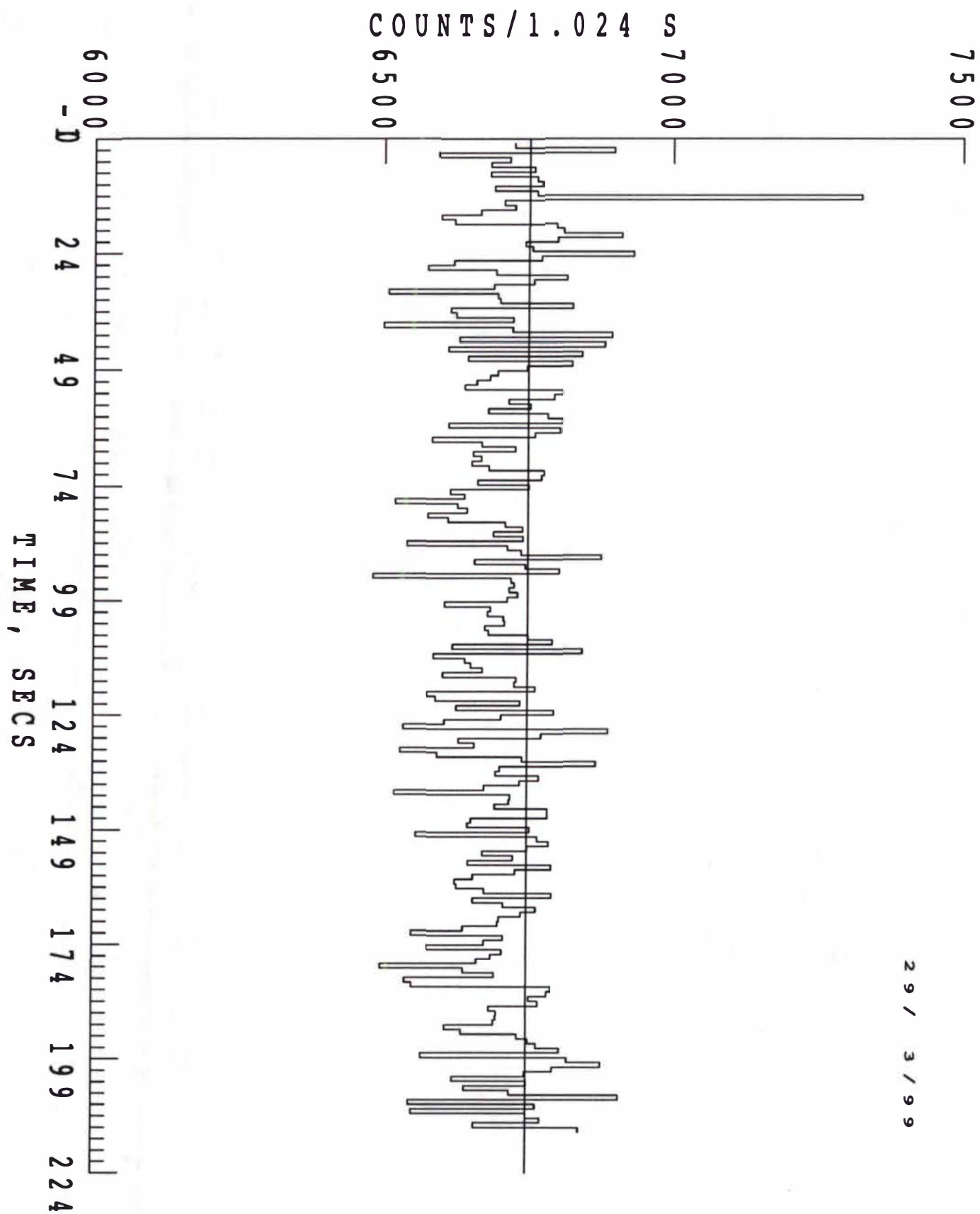
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

||

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7495 30/03/99 16780.025
25- 100 keV



From PETERSON@fender.msfc.nasa.gov Thu Apr 1 12:22:03 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 MAA18347; Thu, 1 Apr 1999 12:22:02 -0800
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 (8.9.2/8.9.2) with SMTP id MAA19407
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 1 Apr 1999 12:21:58 -0800 (PST)
Date: Thu, 1 Apr 1999 14:22:18 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990401142218.20227234@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7496
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7496
EVENT OF 1999 MAR 30 DAY OF YEAR= 89
EVENT CROSSING TIME AT BATSE : 65465. S. OR 18:11:05.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 36.000 -17.000
BATSE PEAK COUNTING RATE: 2000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 3/ 99 IS:
RA= 148.457 DEC= -8.465 DIST= 4.232 AU
BATSE-ULYSSES DISTANCE = 633181369. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 71.44 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 672.24 SECS.
CROSSING TIME AT ULYSSES IS 66137. S. OR 18:22:17 +/- 407.83 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 3/ 99 IS:
RA= 219.599 DEC= -13.315 DIST= 0.682 AU
MARS-BATSE DISTANCE = 102016160. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 30.52 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 293.14 SECS.
CROSSING TIME AT MARS IS 65758. S. OR 18:15:58 +/- 34.46 SECONDS

BATSE BURST TRIGGER

NO.: 7496

TIME: TJD=1267 SECONDS=65465

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=29.0 AZIMUTH=219.4 ERROR=7.61 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR APPROX 2.5S, STARTS AT APPROX T-1S, MAX AT APPROX T+0.2
SEC. NOT VISIBLE ABOVE 300 KEV. CRAB RISE AT APPROX T+10S.

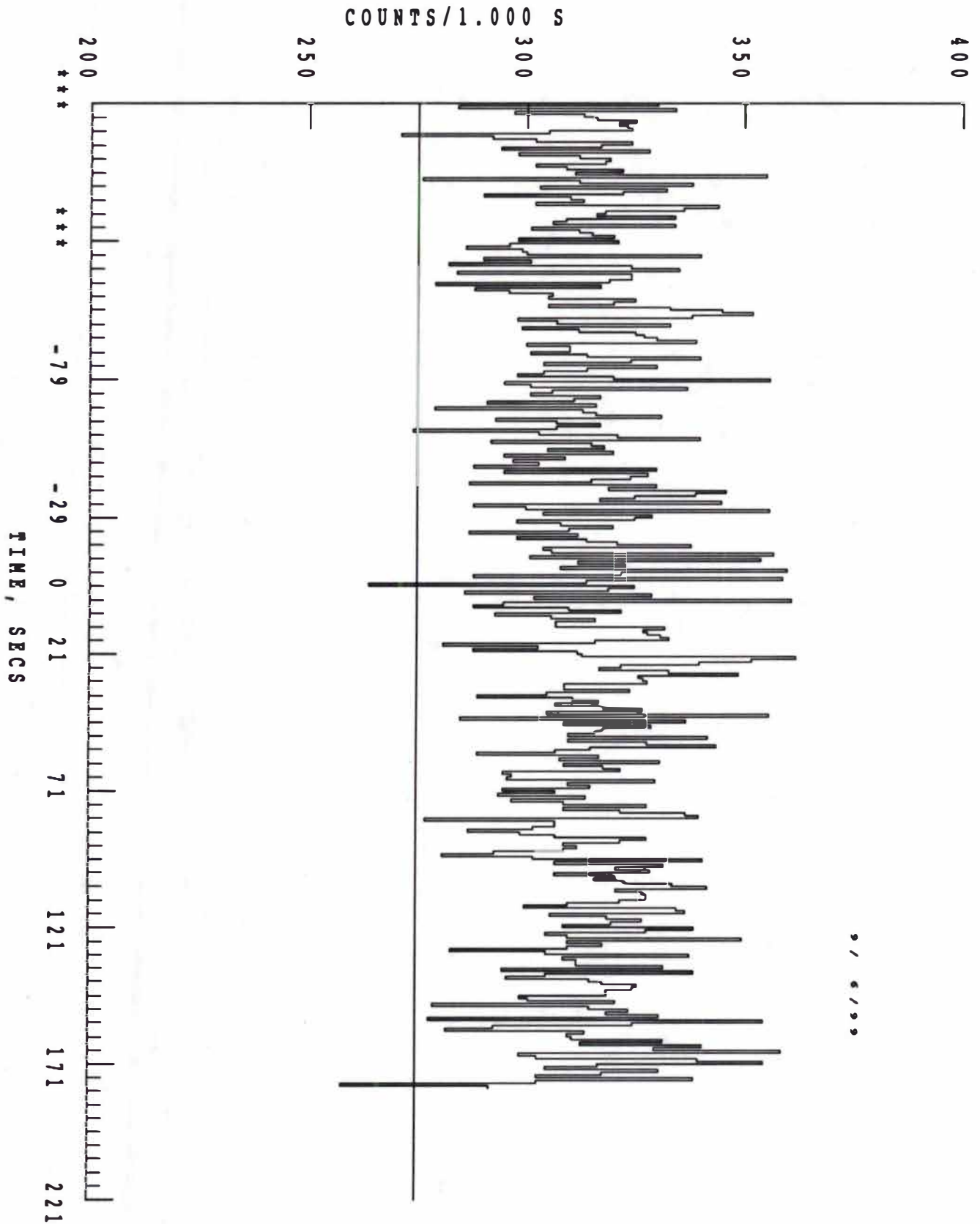
BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7496	990330	11267	65465	2000	036	-17	2.5

NEAR

30/03/99

64498.892

100-1000 keV



BATSE BURST# 7496

ULYSSES RT

1 / 4 / 99

30 / 3 / 99 65736.234 s

0.500 S INTERVALS REGROUPED BY 2

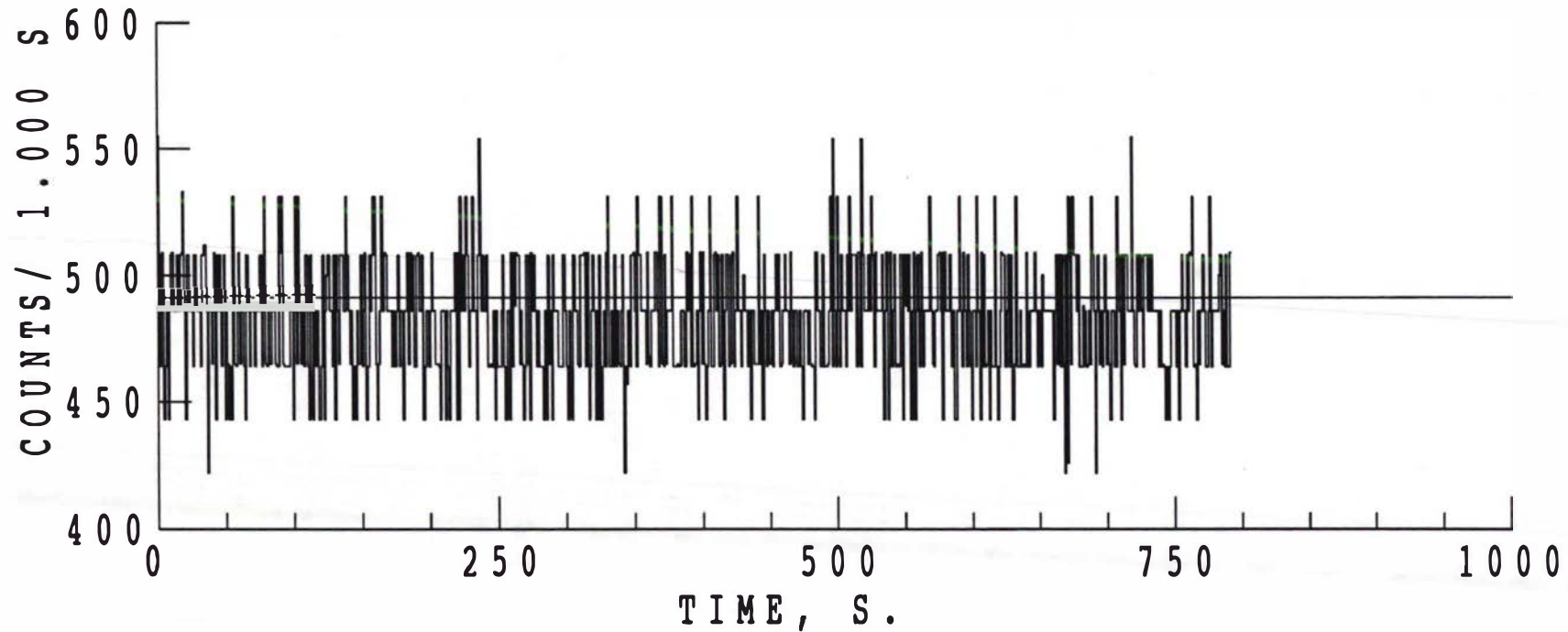
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Thu Apr 1 12:23:51 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 MAA18383; Thu, 1 Apr 1999 12:23:50 -0800
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 (8.9.2/8.9.2) with SMTP id MAA19461
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 1 Apr 1999 12:23:47 -0800 (PST)
Date: Thu, 1 Apr 1999 14:24:07 -0600 (CST)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990401142407.20227234@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7497
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7497
EVENT OF 1999 MAR 30 DAY OF YEAR= 89
EVENT CROSSING TIME AT BATSE : 69967. S. OR 19:26:07.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 158.000 33.000
BATSE PEAK COUNTING RATE: 6500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 3/ 99 IS:
RA= 148.447 DEC= -8.462 DIST= 4.233 AU
BATSE-ULYSSES DISTANCE = 633239008. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=137.55 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1558.61 SECS.
CROSSING TIME AT ULYSSES IS 68408. S. OR 19:00:08 +/- 273.84 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 3/ 99 IS:
RA= 219.599 DEC= -13.315 DIST= 0.682 AU
MARS-BATSE DISTANCE = 102016160. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -89.41 SECS.
CROSSING TIME AT MARS IS 69878. S. OR 19:24:37 +/- 55.65 SECONDS

BATSE BURST TRIGGER

NO.: 7497

TIME: TJD=1267 SECONDS=69697

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=132.6 AZIMUTH=307.2 ERROR=1.64 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR APPROX 40S, STARTS AT APPROX T-5S,
MAX AT APPROX T+18S. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7497	990330	11267	69967	6500	158	+33	40

Date: Feb 25-00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data *N/A*

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

2. BATSE Data

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

3. NEAR Data

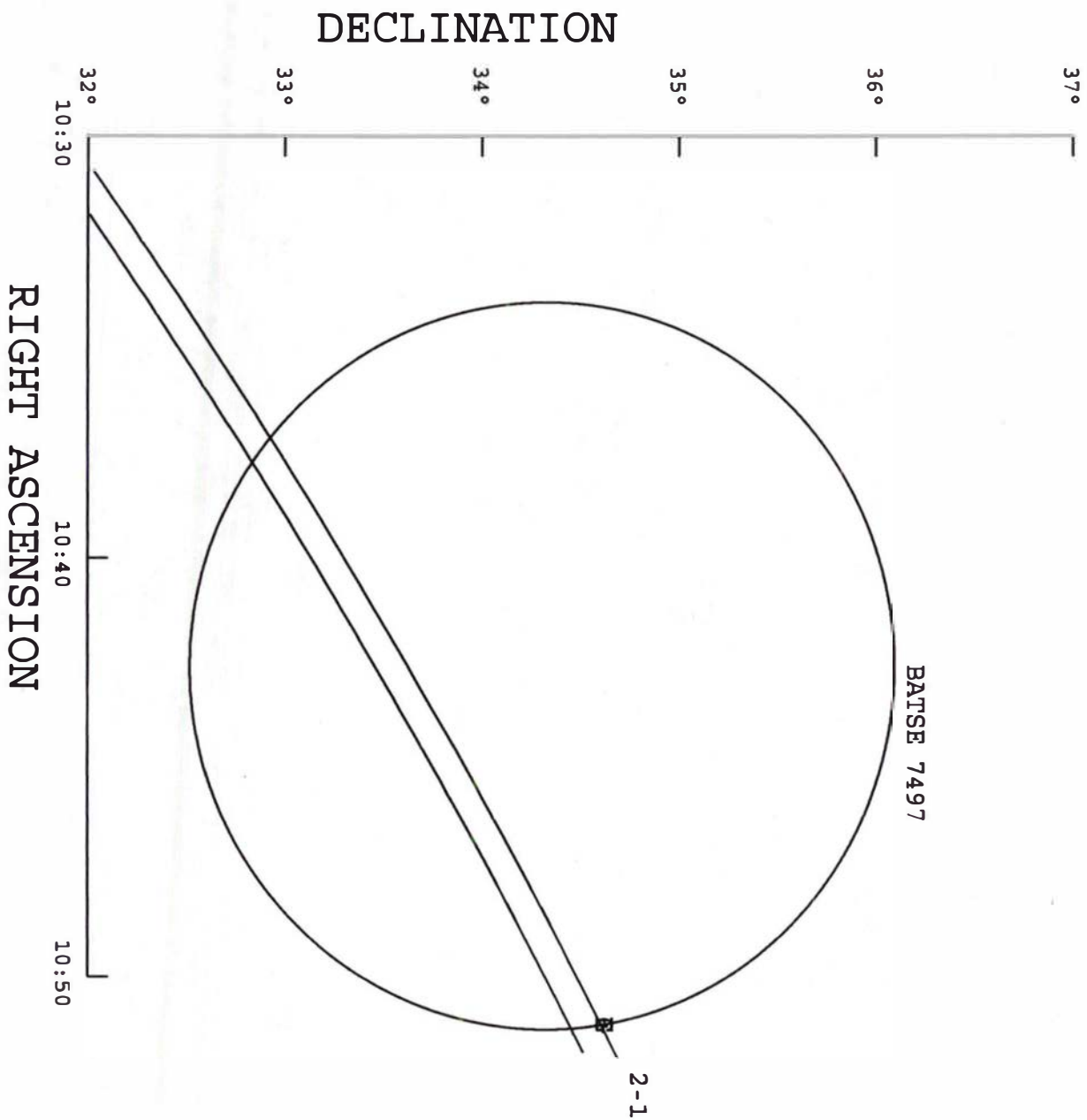
- ☒ ~~F~~inal, correct time used? (Files postmarked vwx@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ ~~B~~ATSE >100 keV data used for NEAR correlation?

- ☒ ~~A~~CCESS database updated?

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

EVENT OF MAR 30, 1999 19:26

25 / 2 / 0



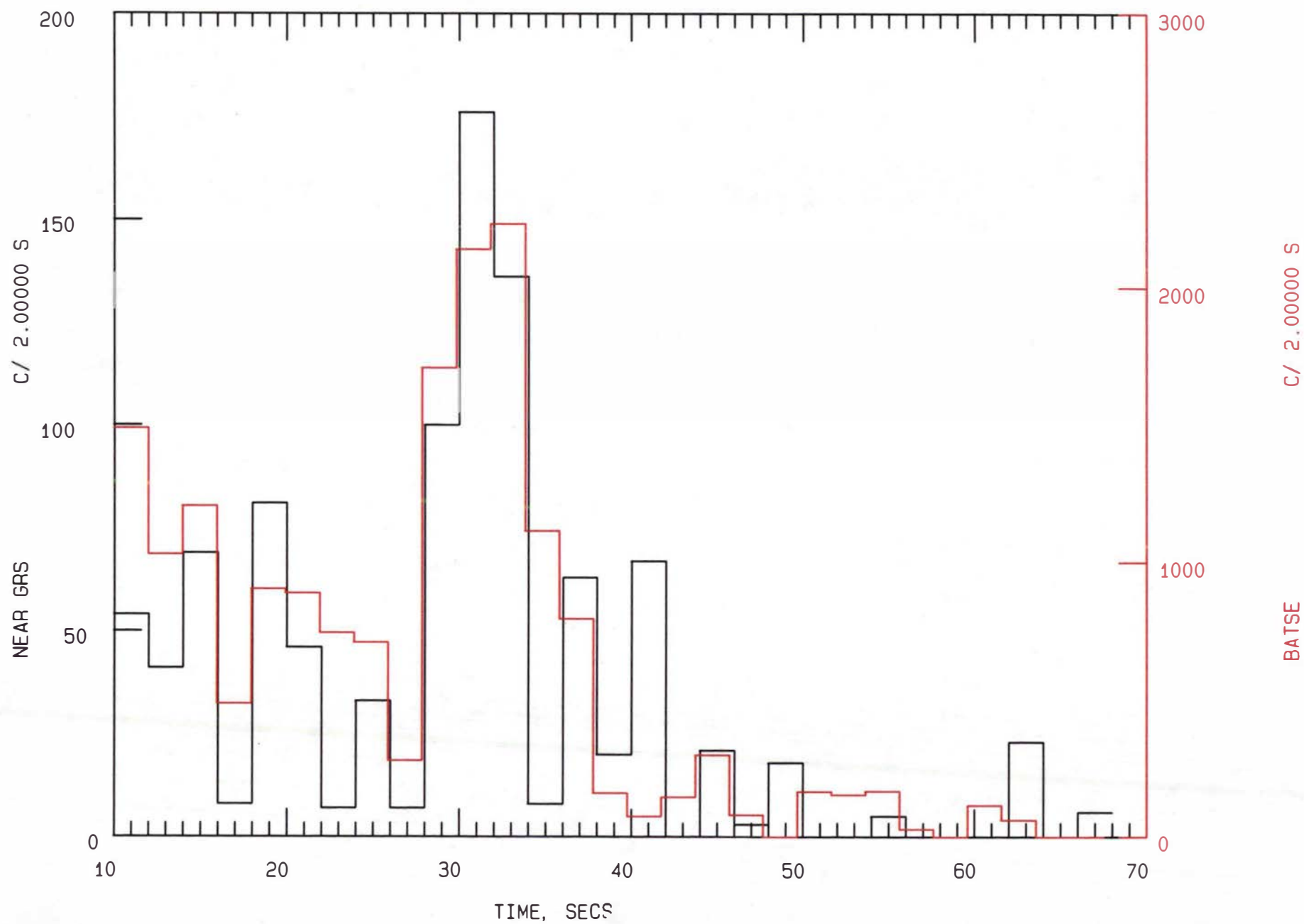
NEAR GRS -BATSE

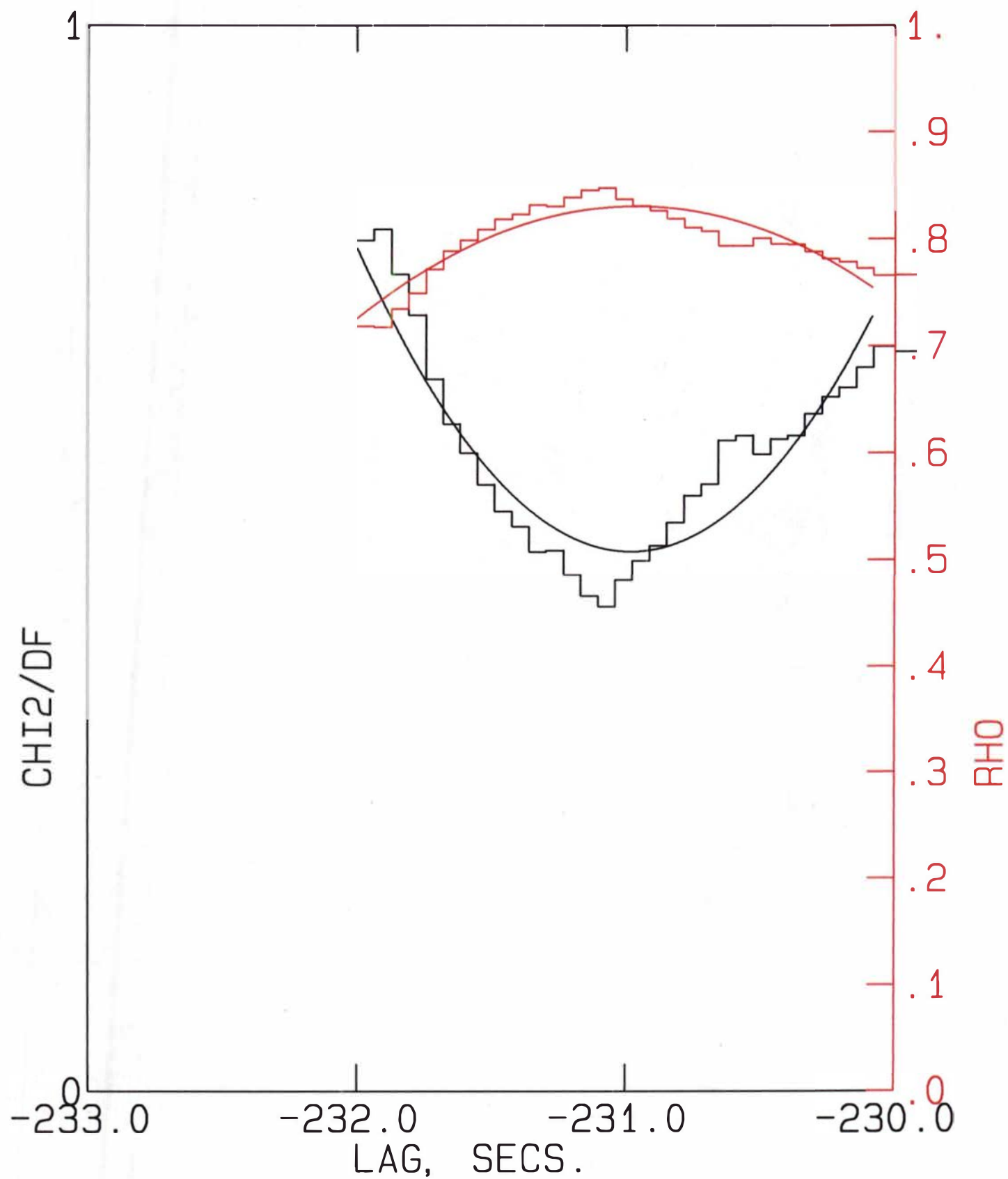
CORRELATION

30/03/99

70851.890

25/ 2/ 0





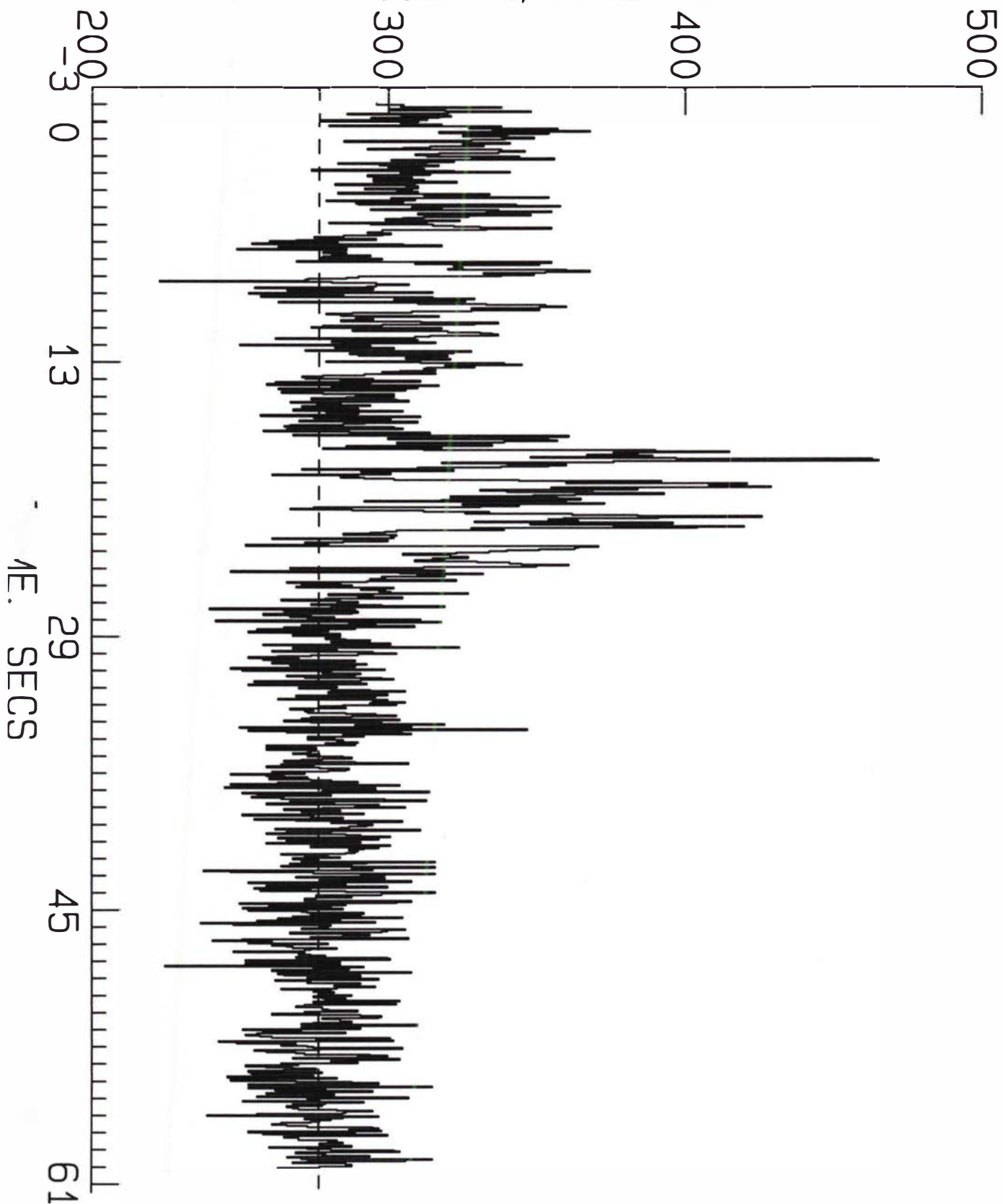
BATSE

30/03/99

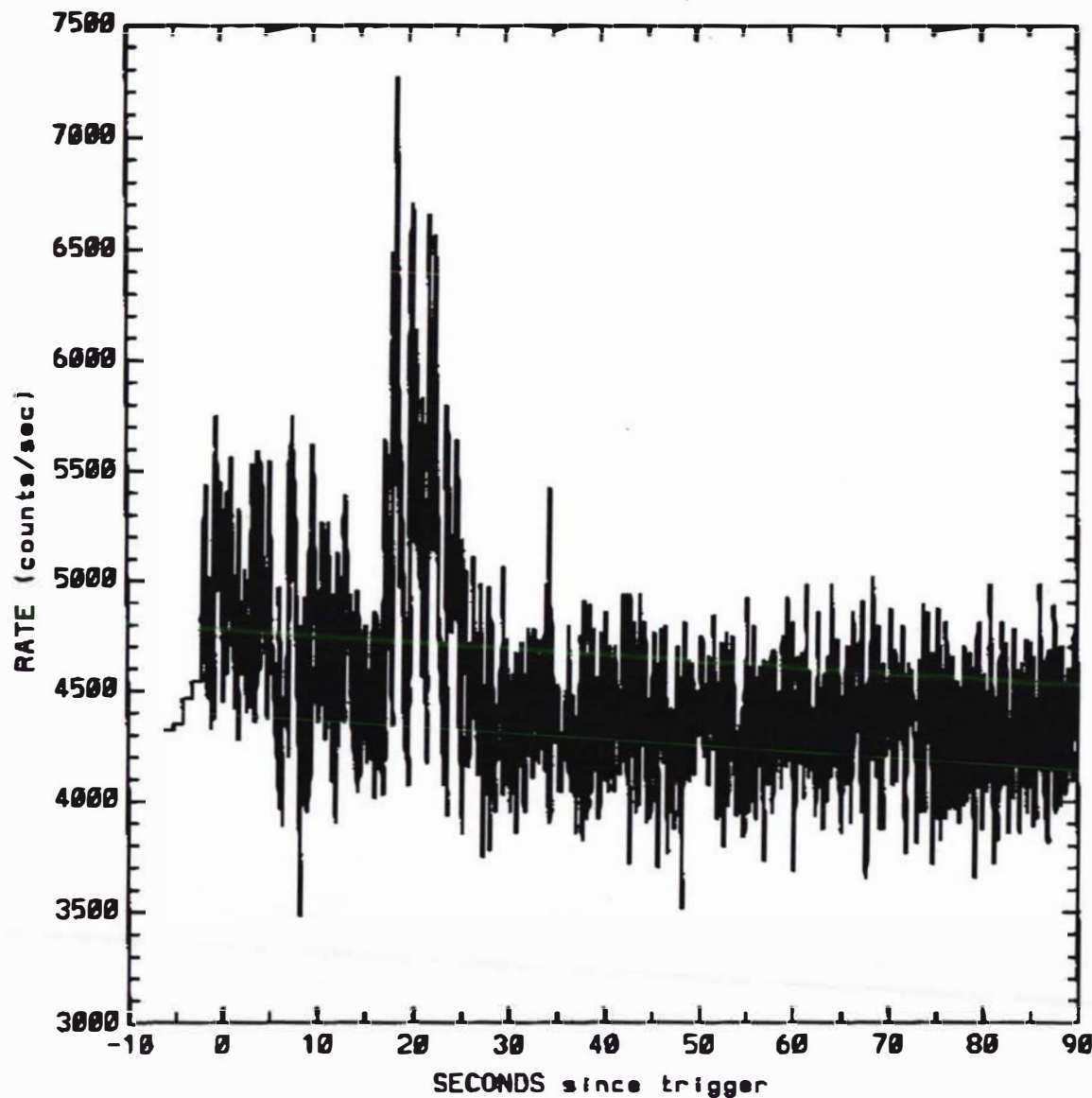
69967.609

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7497



8-AUG-1999 09:15:49

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

Trigger # : 7497

Trigger Time:
11267 / 69967.609

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

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

Discriminators:
(3 . 4)

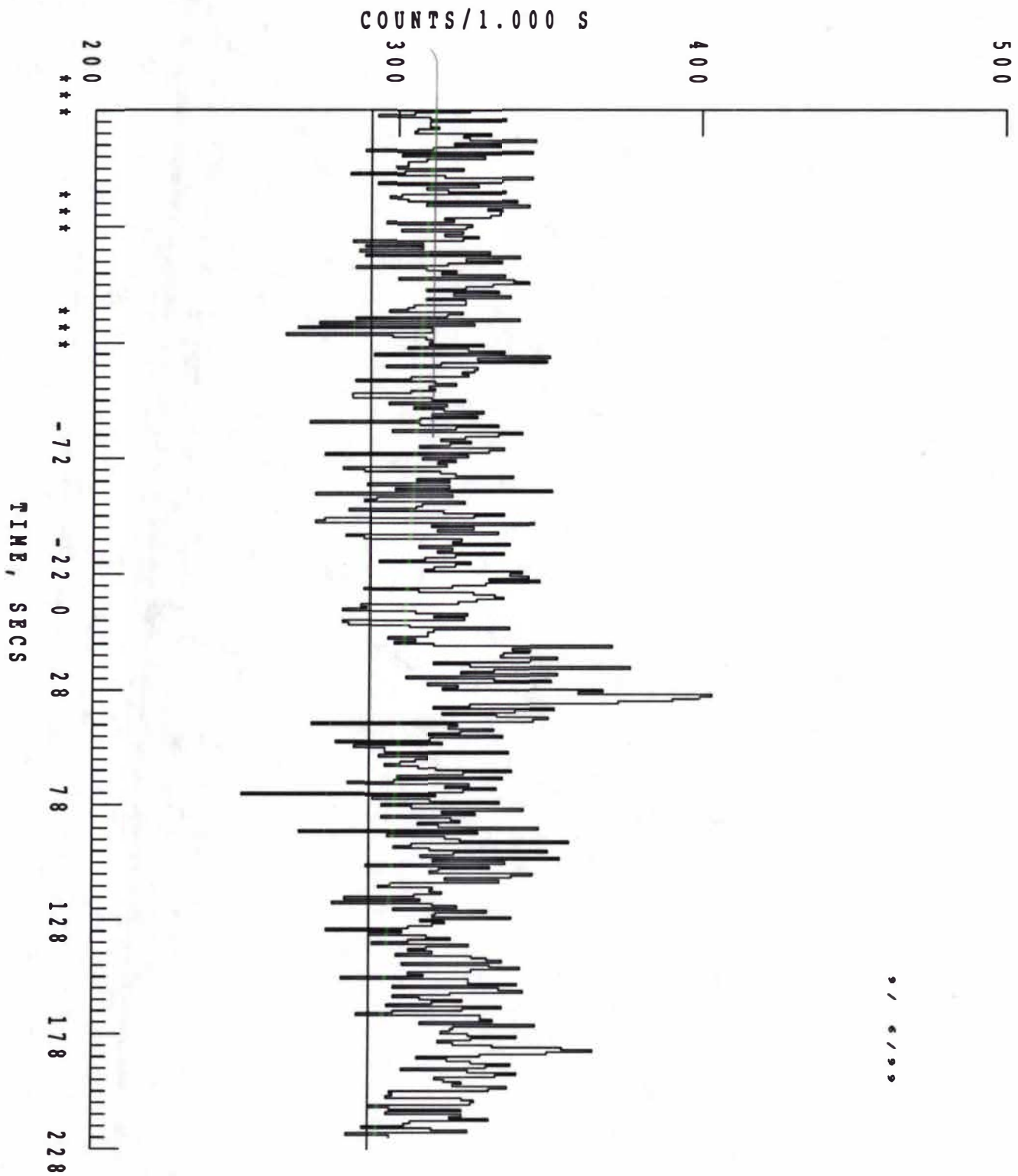
Quality Mask:
BDISP1

NEAR

30/03/99

70851.890

100-1000 keV



BATSE BURST# 7497

ULYSSES RT

1 / 4 / 99

30 / 3 / 99 68148.250 s

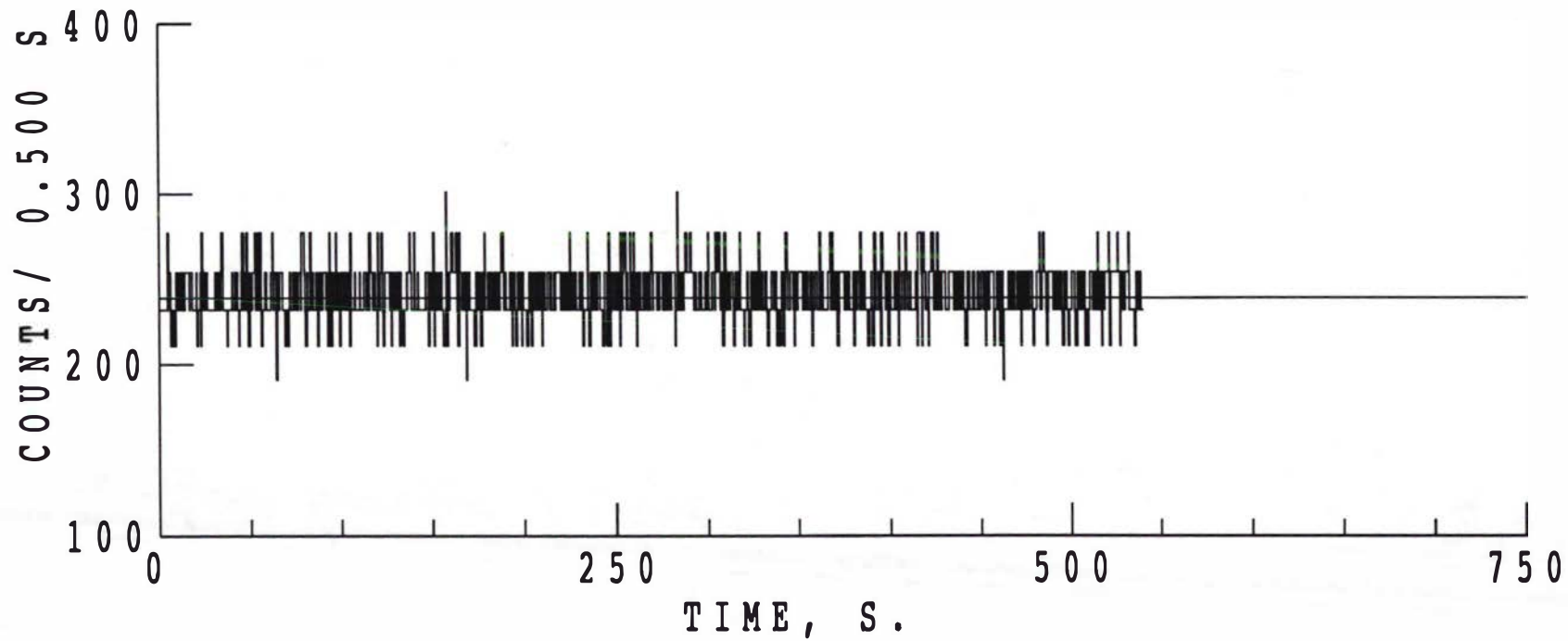
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS RI

29 / 7 / 99

ULYSSES RT

30 / 3 / 99 71676.289 s

0.500 S INTERVALS REGROUPED BY 6

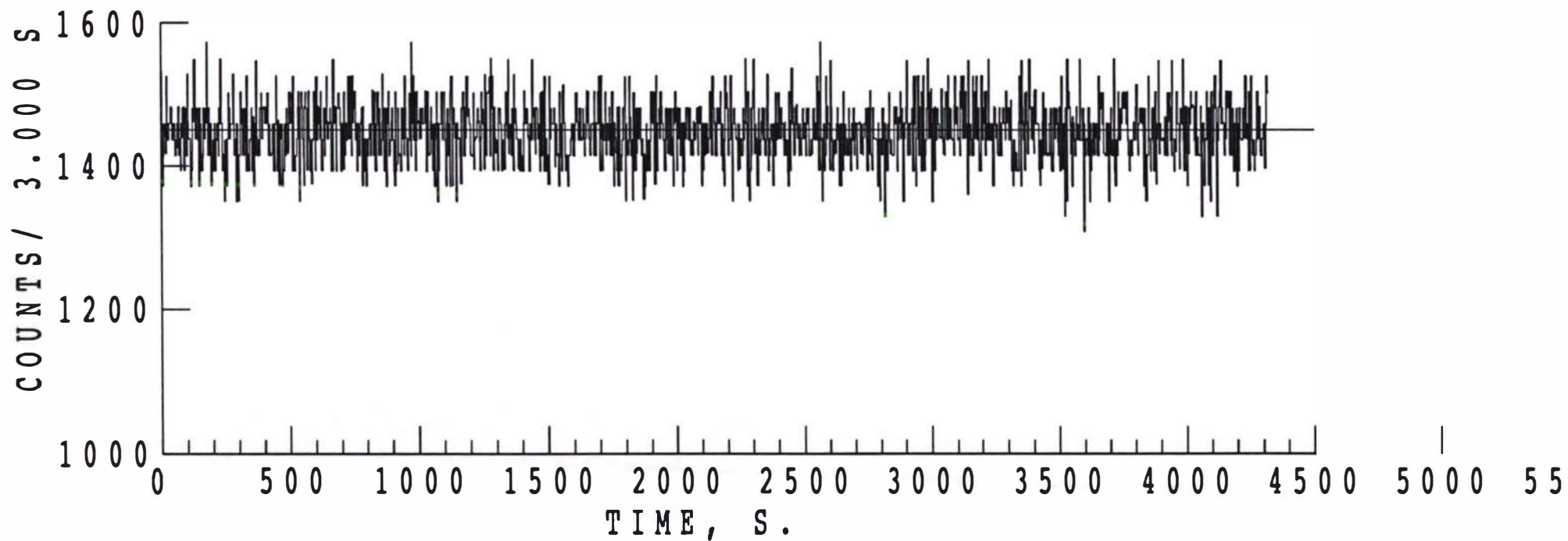
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

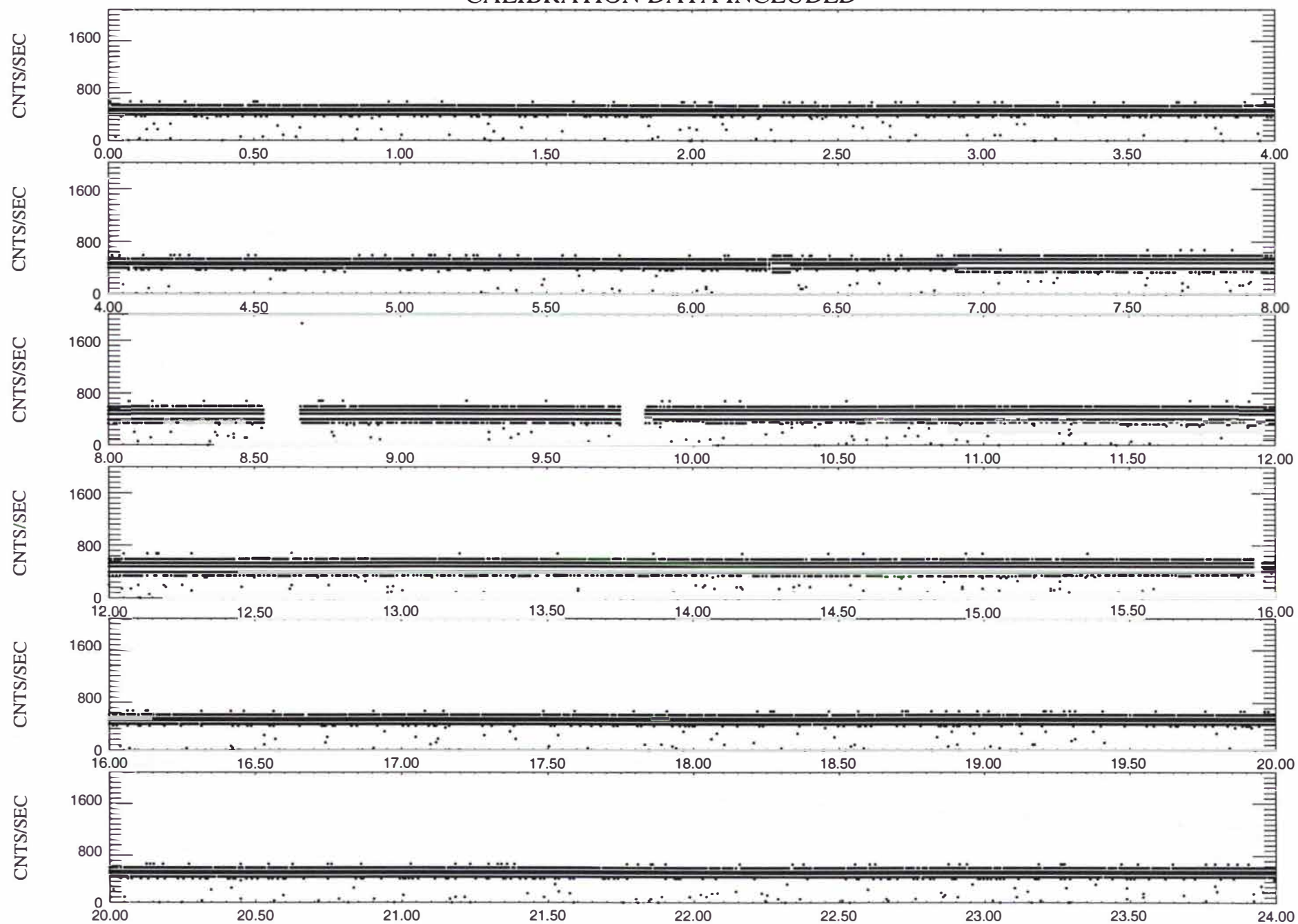
>4.0 SIGMA FLUCTUATIONS



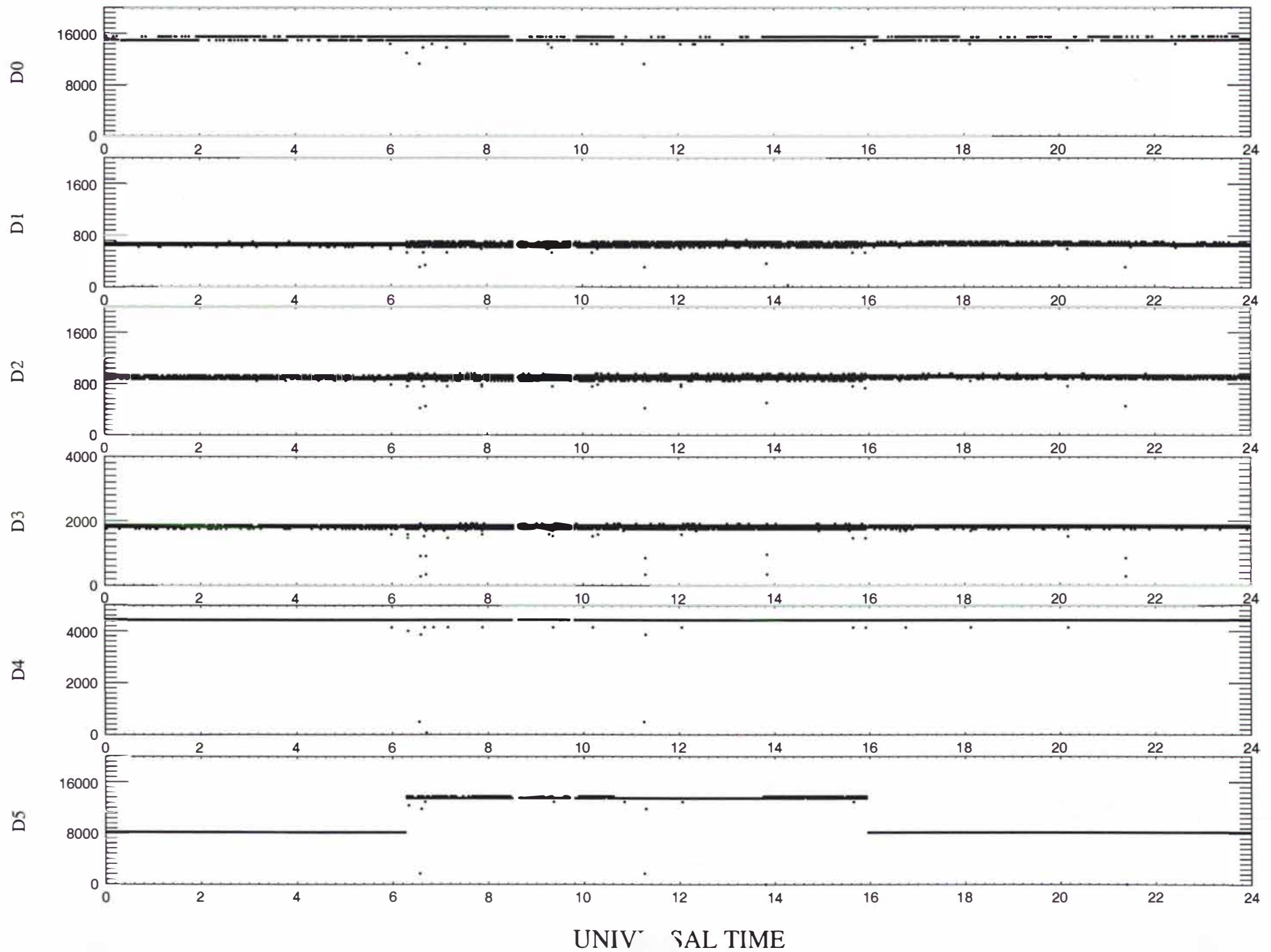
CBU	CCL	DMP	ROM	DMA	OSC	MP.	ICR	SPE	OPM	RSC	CAL	WCH	MEM	BRS	HUS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From MEEGAN@fender.msfc.nasa.gov Fri Apr 2 09:18:29 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 JAA14690; Fri, 2 Apr 1999 09:18:28 -0800
 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 JAA09659
 for <khurley@sunspot.ssl.berkeley.edu>; Fri, 2 Apr 1999 09:18:27 -0800 (PST)
 Date: Fri, 2 Apr 1999 11:18:45 -0600 (CST)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990402111845.20227b74@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7498
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7498
 EVENT OF 1999 MAR 31 DAY OF YEAR= 90
 EVENT CROSSING TIME AT BATSE : 18801. S. OR 05:13:21.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 3.000 19.000
 BATSE PEAK COUNTING RATE: 4200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 31/ 3/ 99 IS:
 RA= 148.320 DEC= -8.431 DIST= 4.238 AU
 BATSE-ULYSSES DISTANCE = 634030254. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 35.23 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1727.61 SECS.
 CROSSING TIME AT ULYSSES IS 20529. S. OR 05:42:08 +/- 288.03 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 31/ 3/ 99 IS:
 RA= 219.447 DEC= -13.283 DIST= 0.676 AU
 MARS-BATSE DISTANCE = 101123696. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 35.41 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 274.92 SECS.
 CROSSING TIME AT MARS IS 19076. S. OR 05:17:55 +/- 38.11 SECONDS

BATSE BURST TRIGGER

NO.: 7498

TIME: TJD=1268 SECONDS=18801

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 20.7 AZIMUTH= 13.3 ERROR= 2.3 DEGREES

COMMENTS:

FRED, 15 S LONG. NOT VISIBLE ABOVE 300 KEV. CRAB RISE AT T-15S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7498	990331	11268	18801	4200	003	+19	15

Date: Feb 25 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, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *No - disclb data*

- ☒ 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

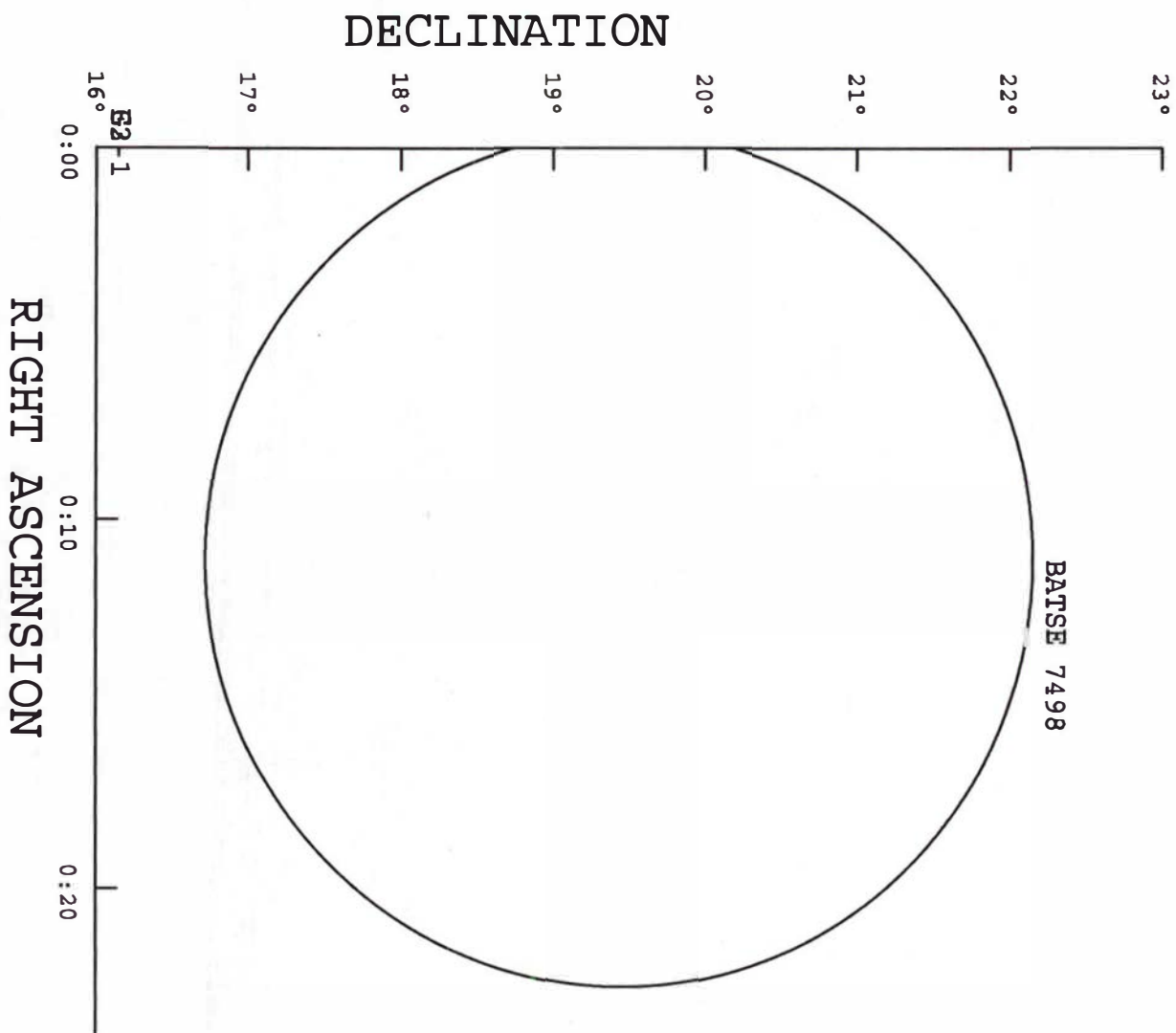
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAR 31, 1999 5:13

25 / 2 / 0



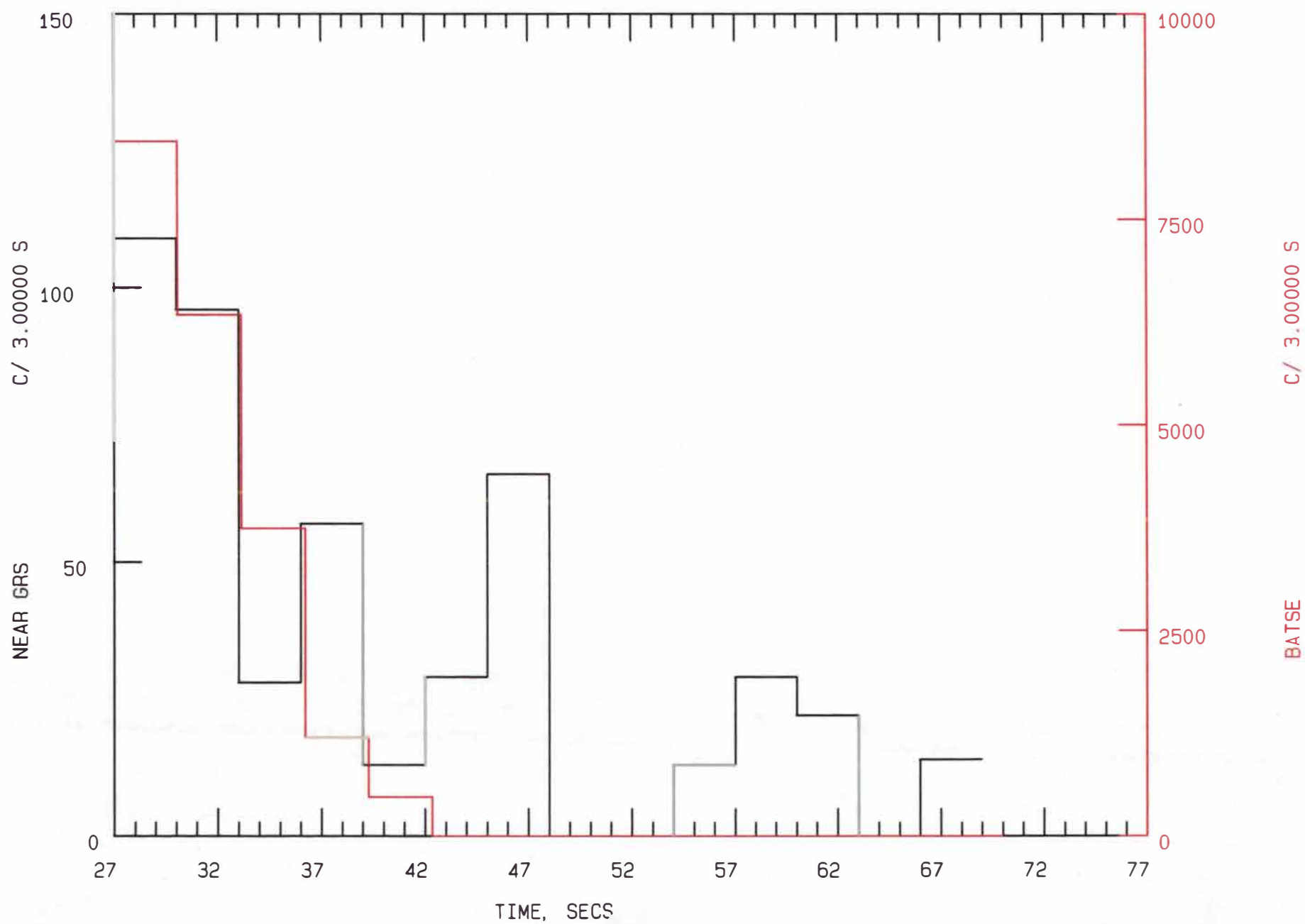
NEAR GRS -BATSE

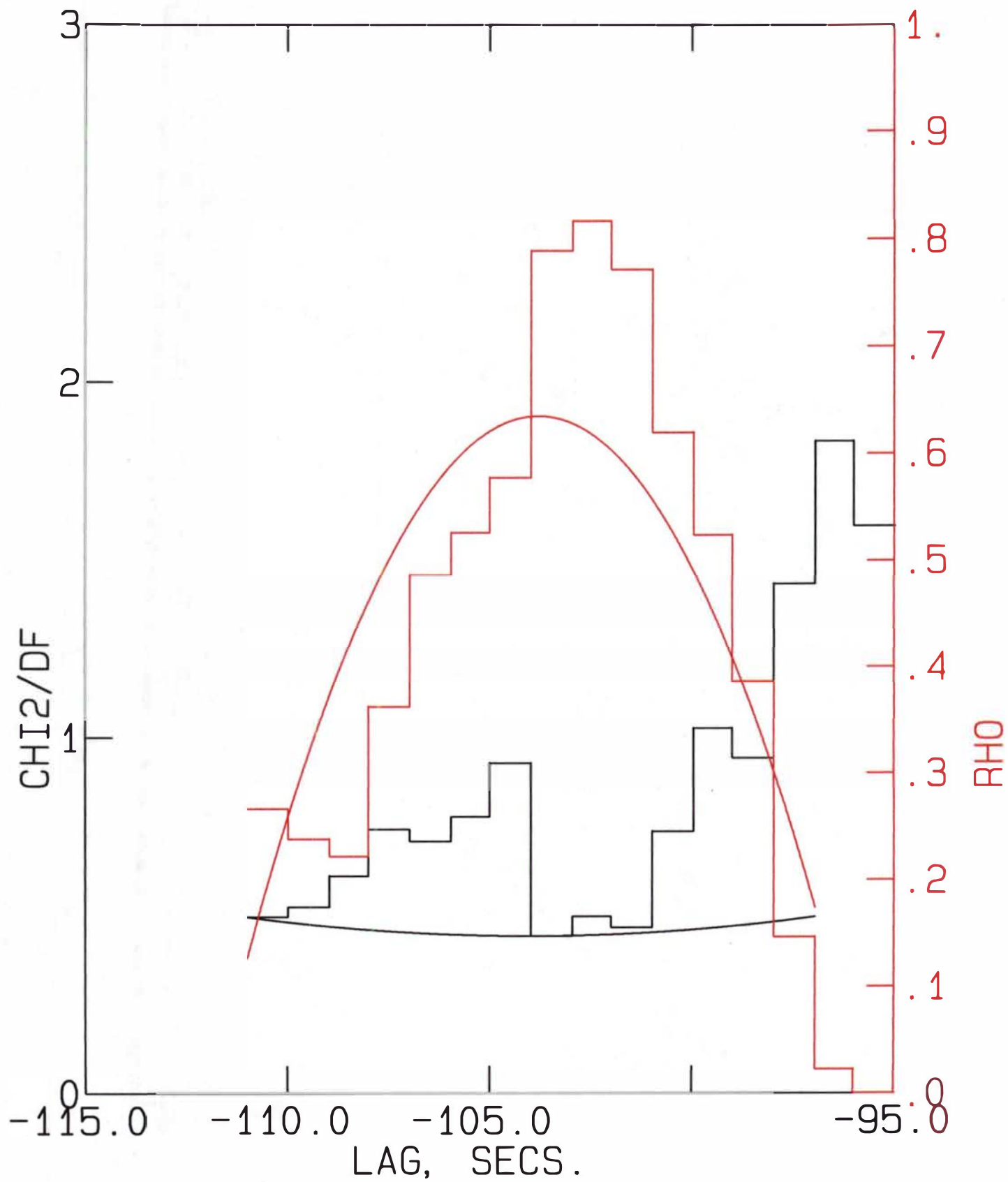
CORRELATION

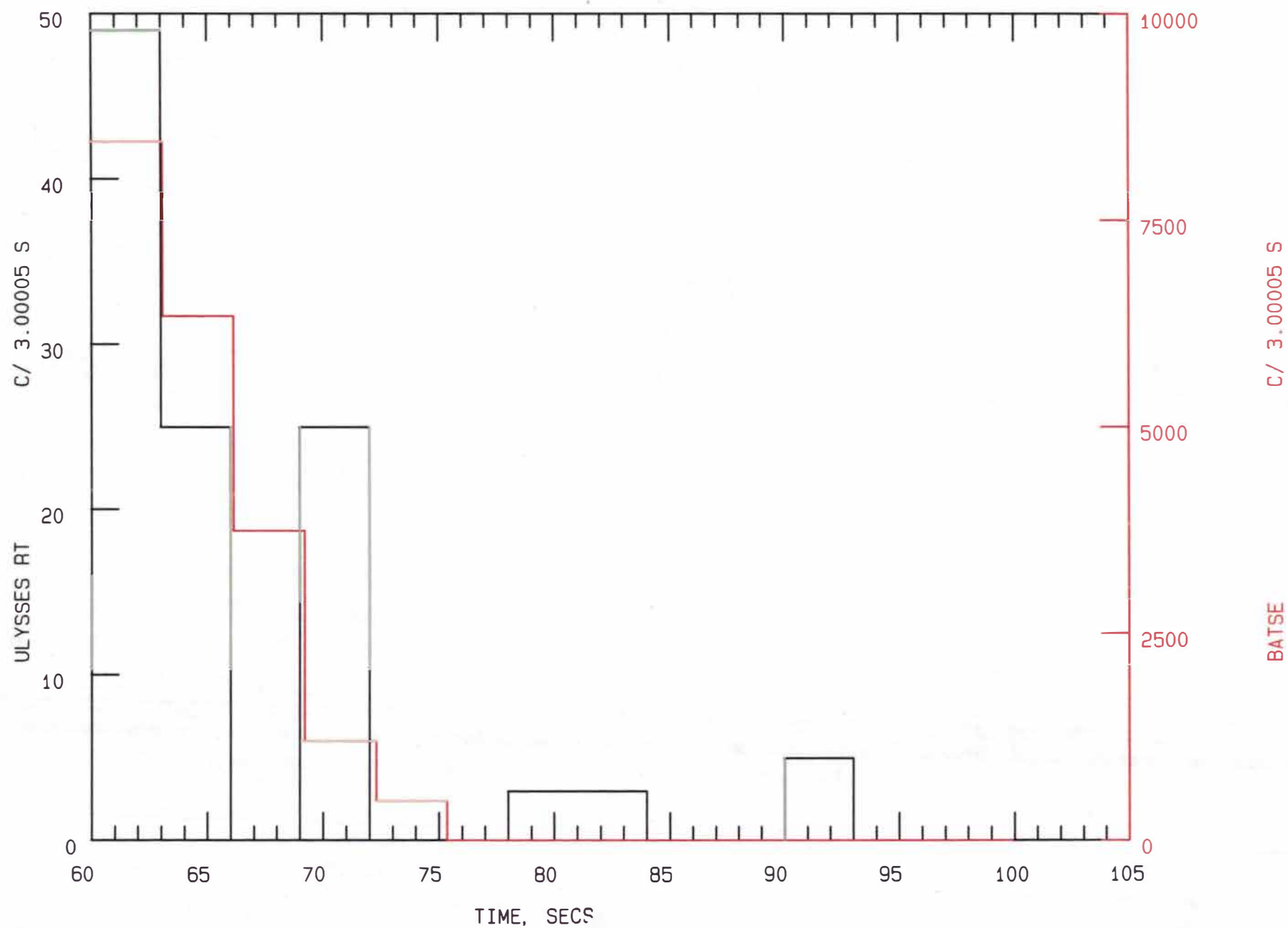
31/03/99

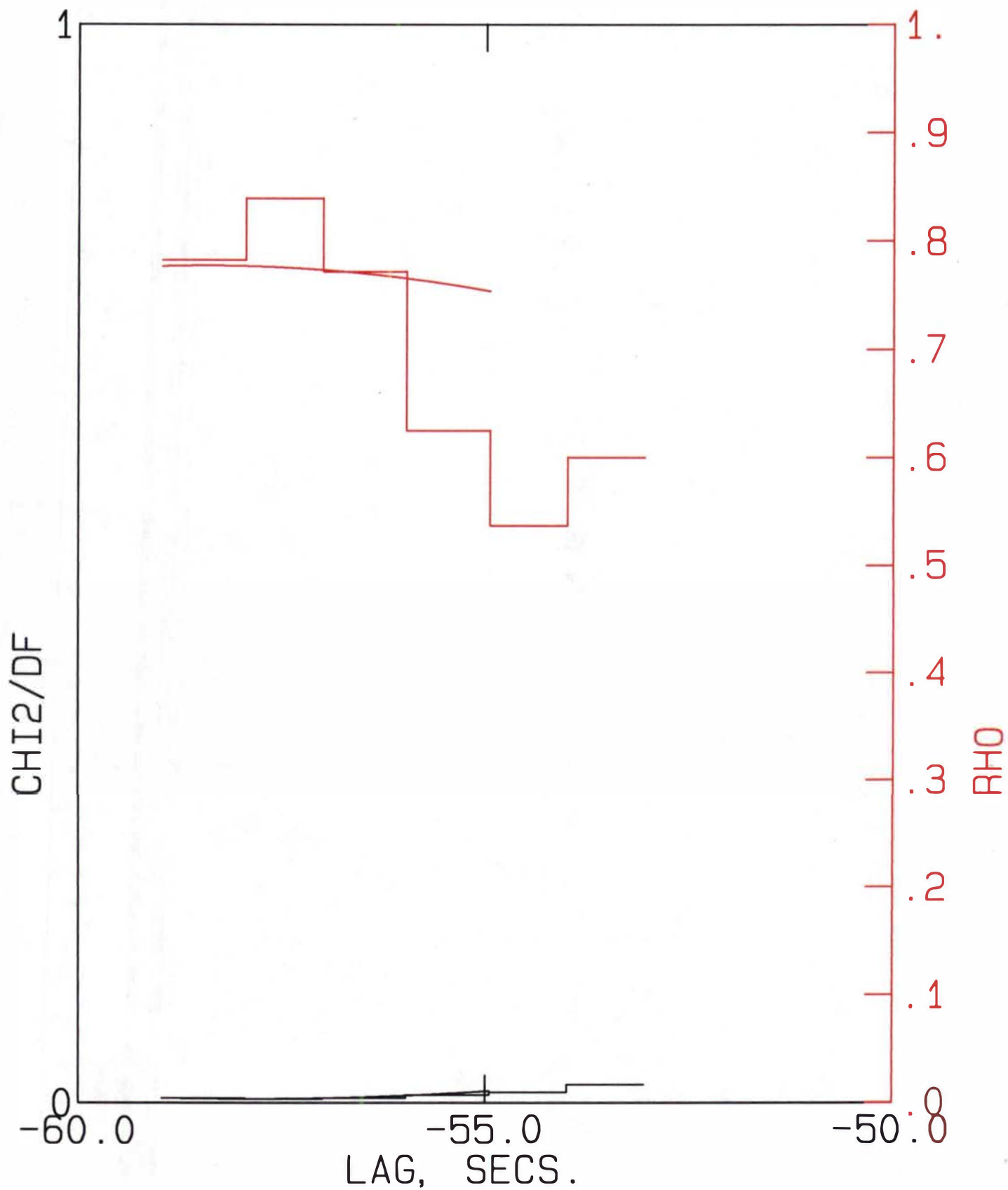
17558.882

25/ 2/ 0



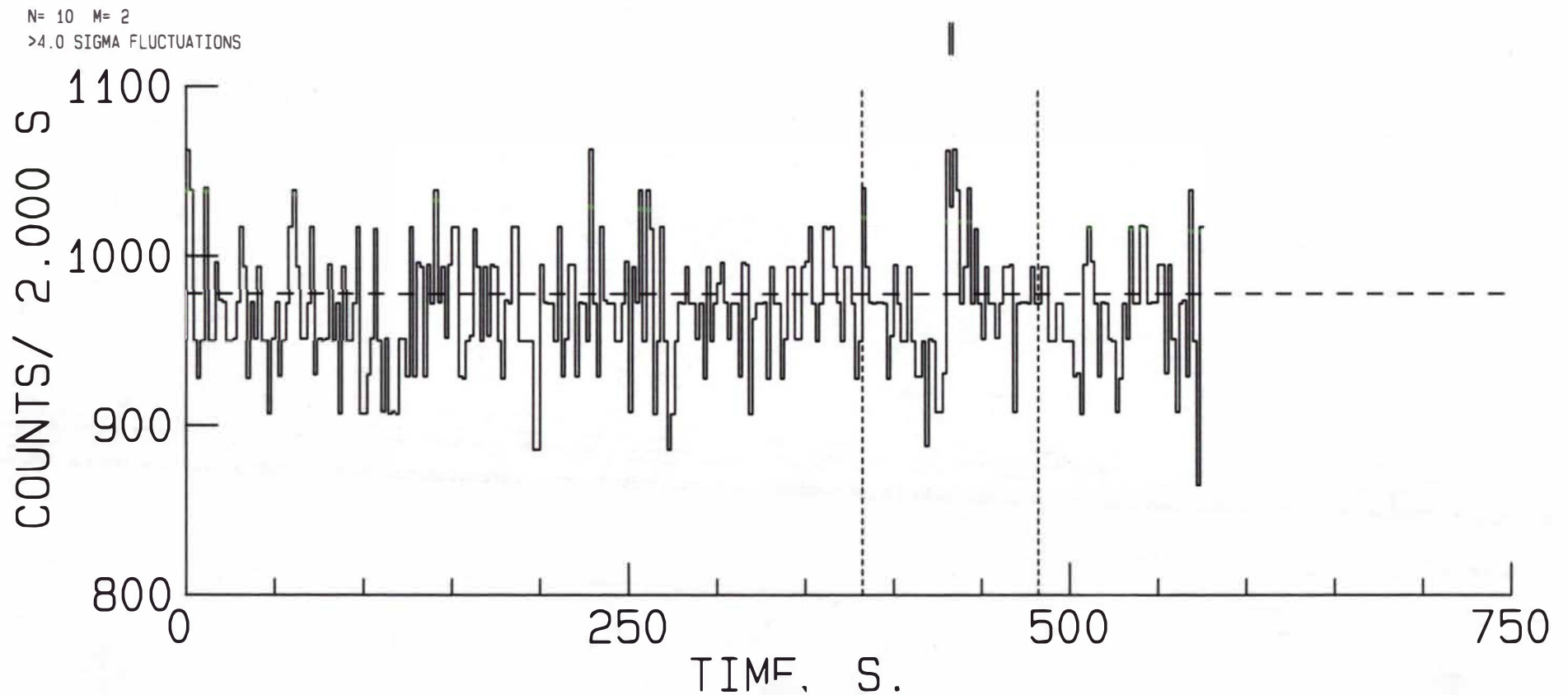






ULYSSES RT
31/ 3/99 20232.147 s
0.500 S INTERVALS REGROUPED BY 4
22- 151 keV

25/ 2/ 0

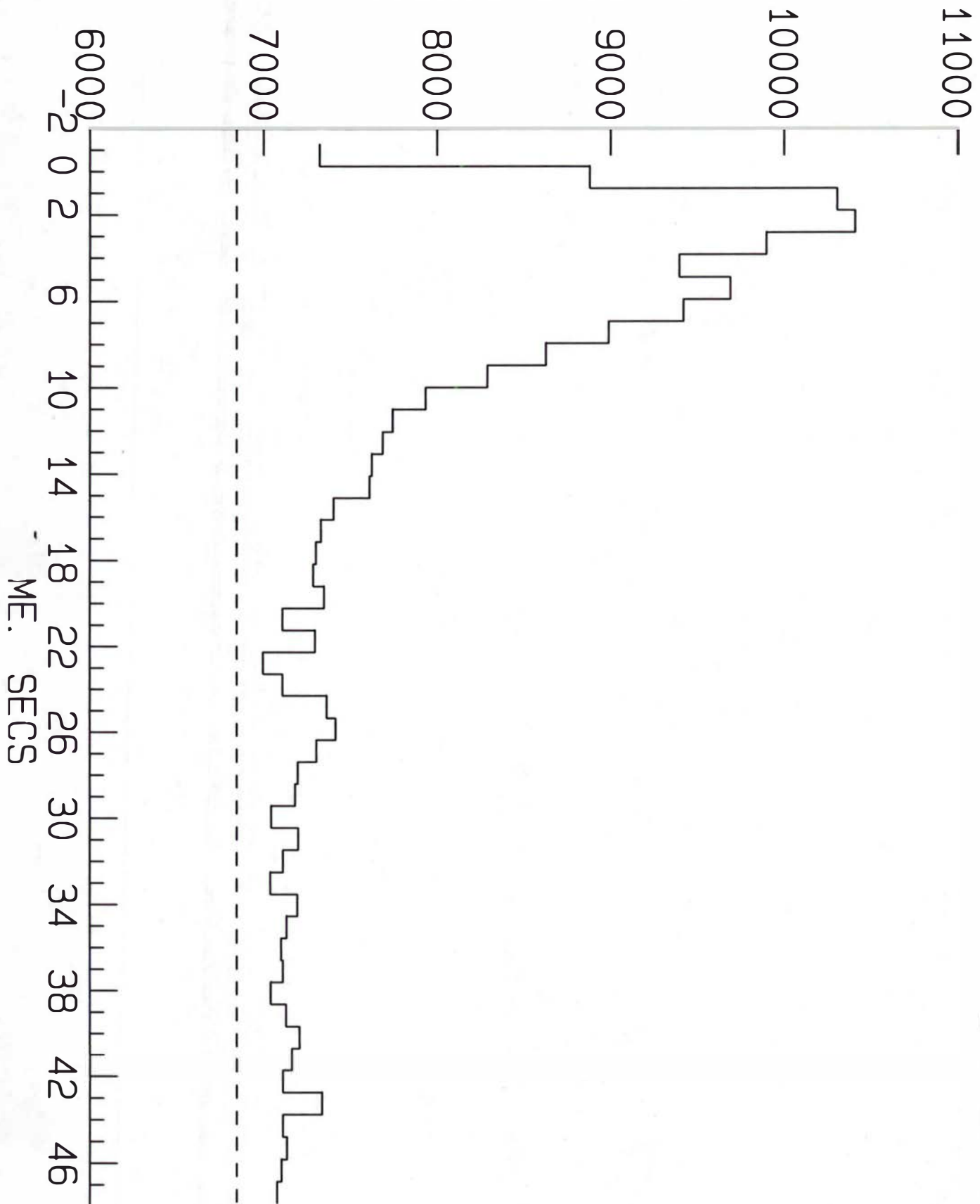


BATSE

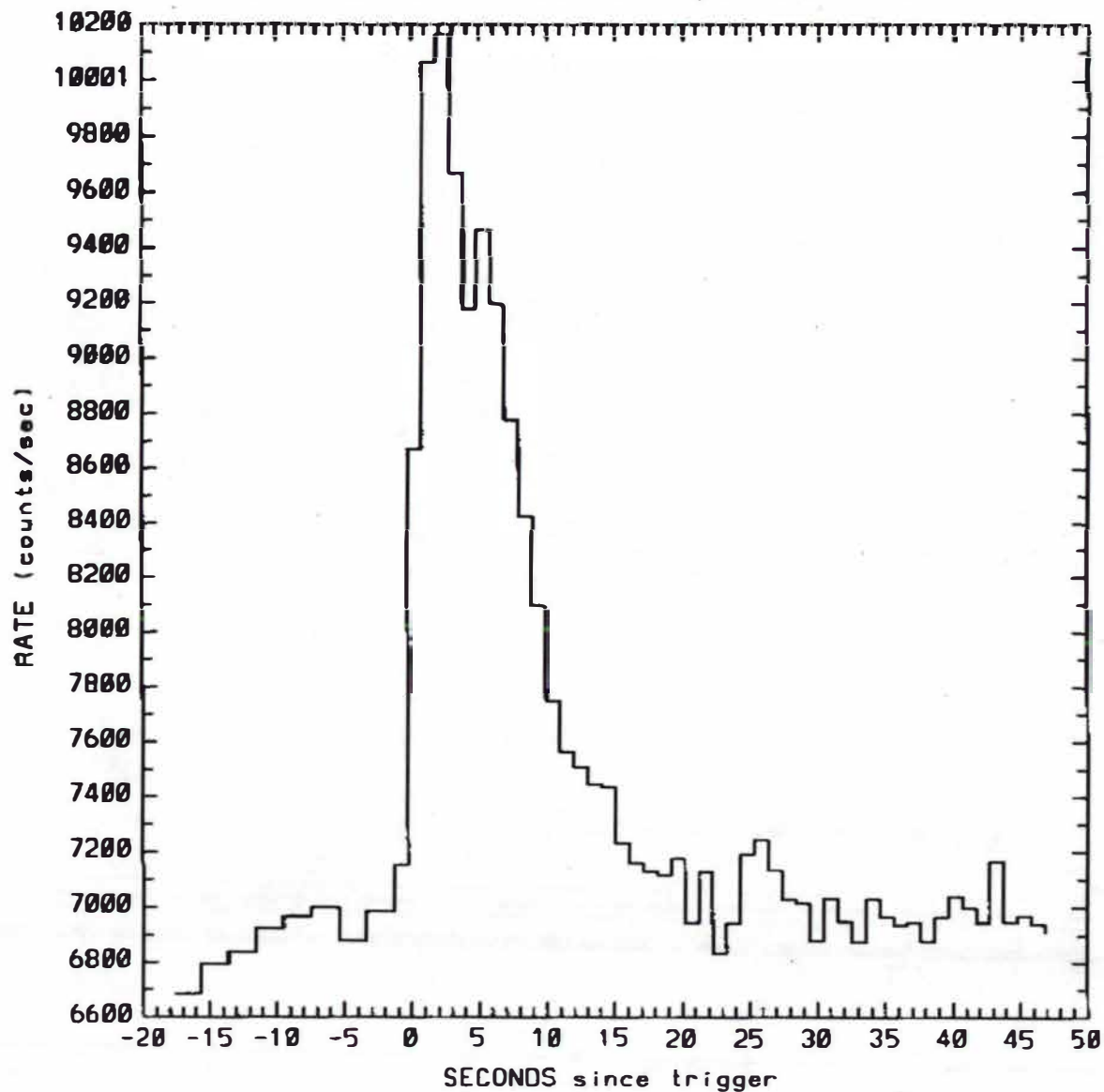
31/03/99

18801.657

25- 100 keV
COUNTS/1.024 S



DISCLB Data for K. Hurley, No. 7498



24-FEB-2000 12:01:20

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7498

Trigger Time:
11268 / 18801.657

Burst Data Type:
DISCLB

Deadtime
Corrected: N

Background Data
Type: None

Minimum Integ. Time:
1.024 seconds

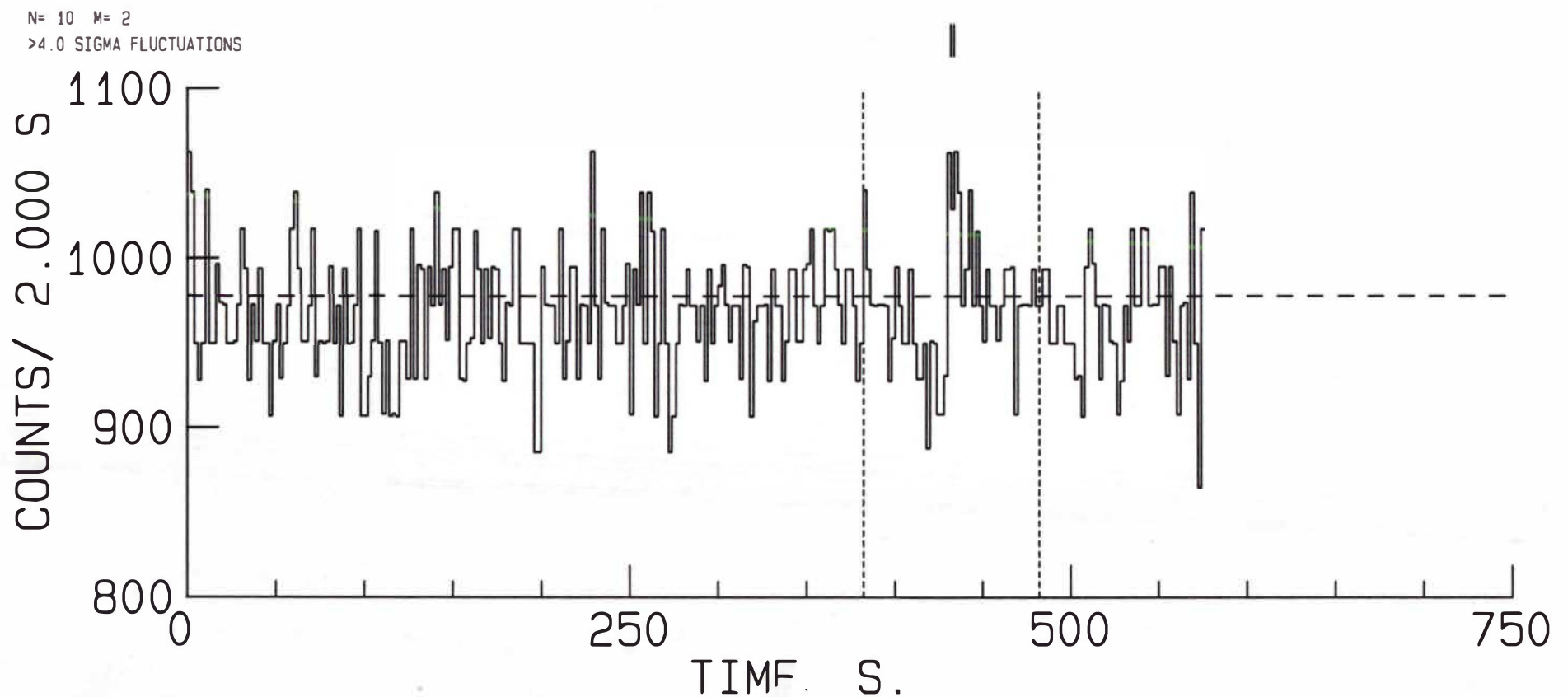
Detectors [7..0]:
-----2-B

Discriminators:
[1 , 2]

Quality Mask:
B0ISP1

ULYSSES RT
31/ 3/99 20232.148 s
0.500 S INTERVALS REGROUPED BY 4
22- 151 keV

11 / 4 / 99

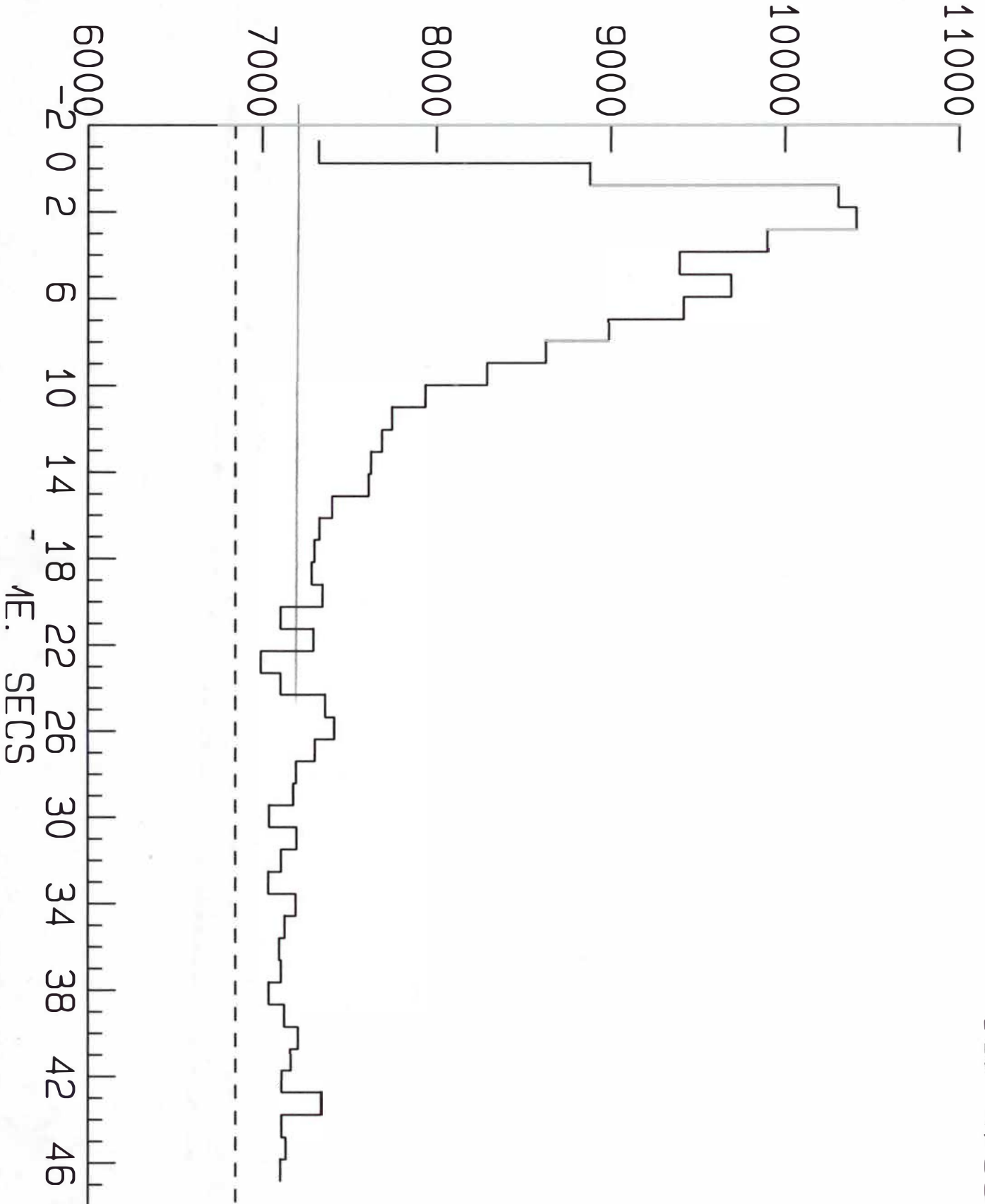


BATSE

31/03/99

18801.657

25- 100 keV
COUNTS/1.024 S

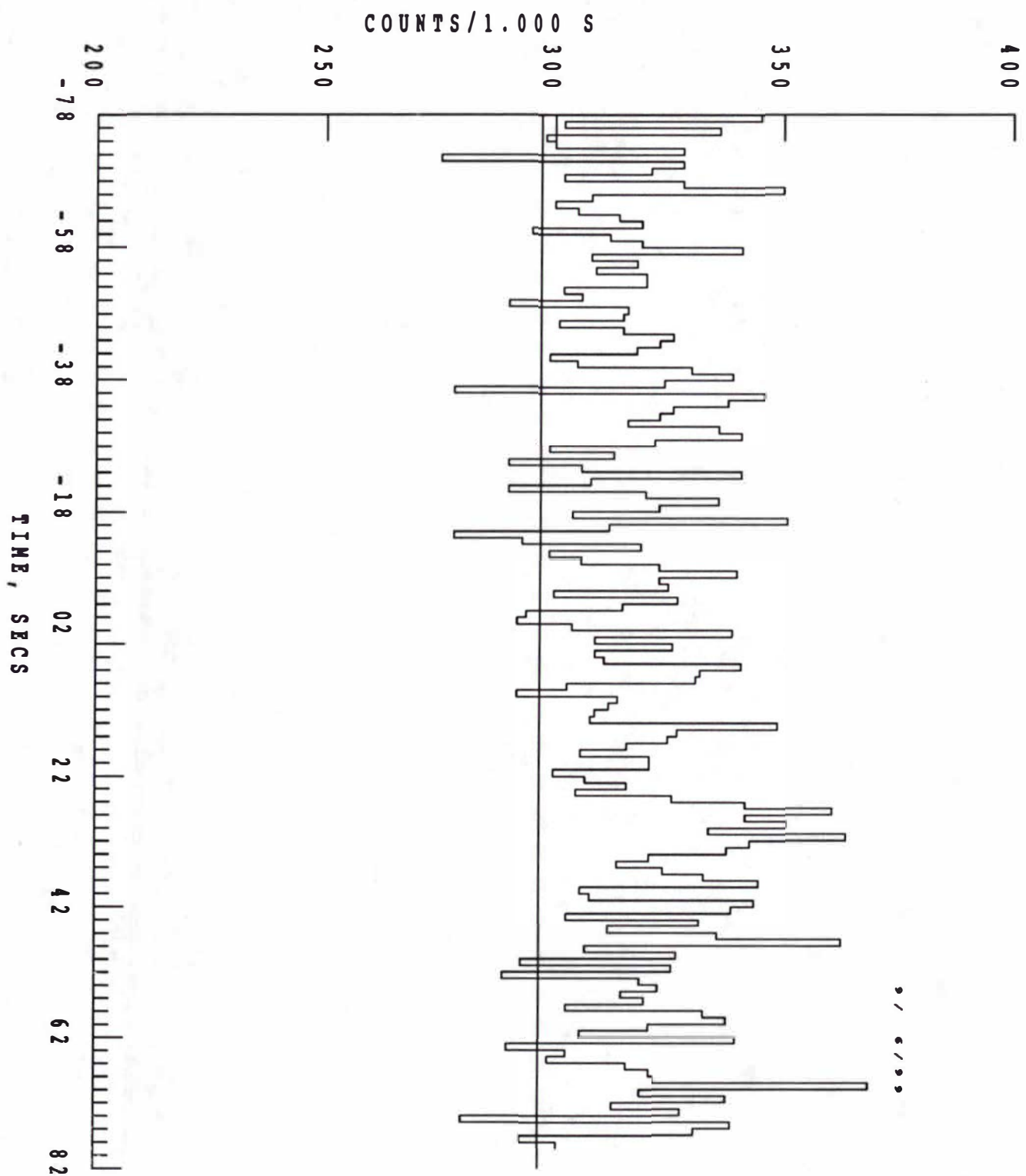


NEAR

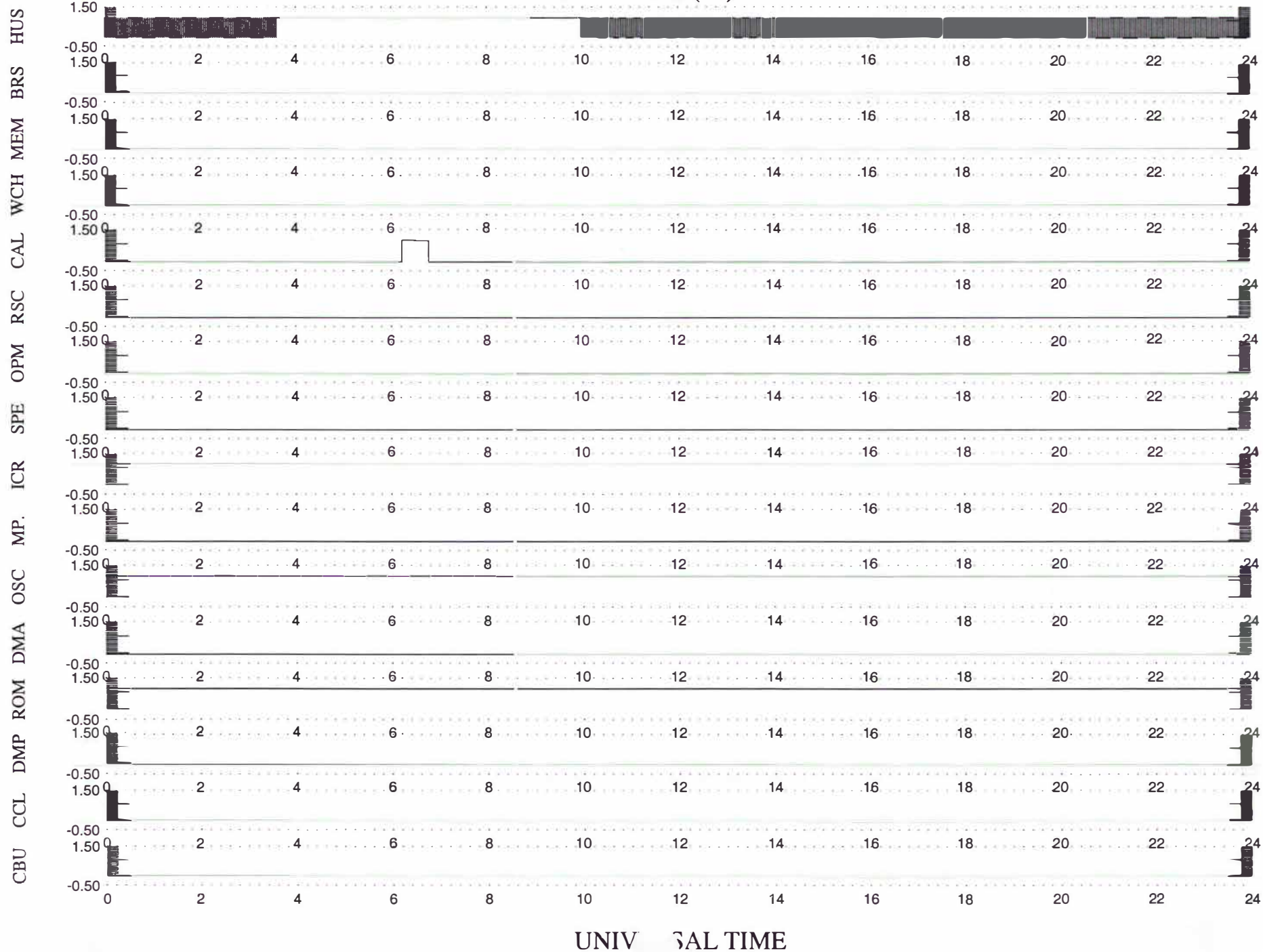
31/03/99

17558.882

100-1000 keV



NO BURST (13)



1000

1000

1000

1000

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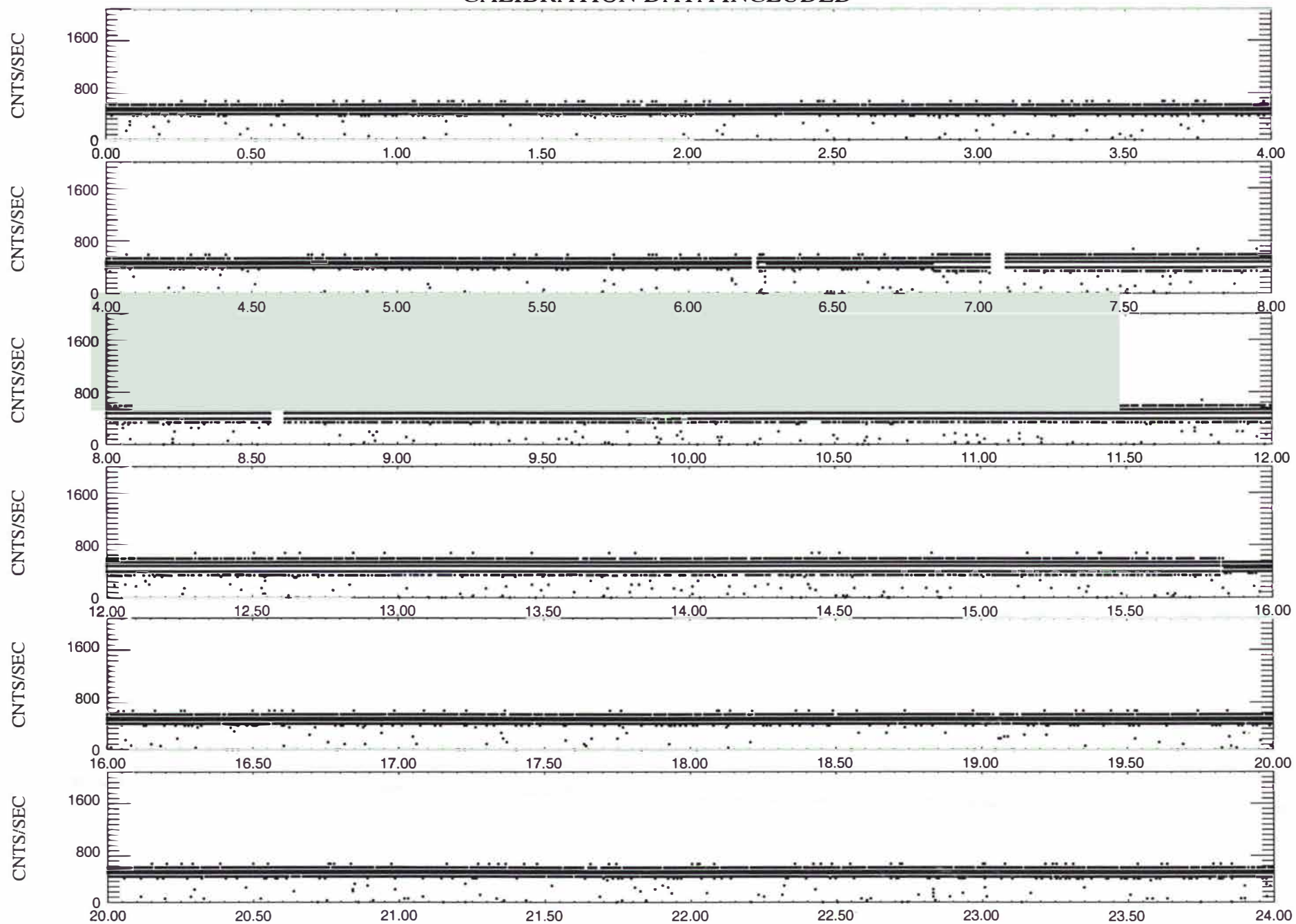
1000

1000

1000

1000

CALIBRATION DATA INCLUDED



UNIVERSAL TIME

