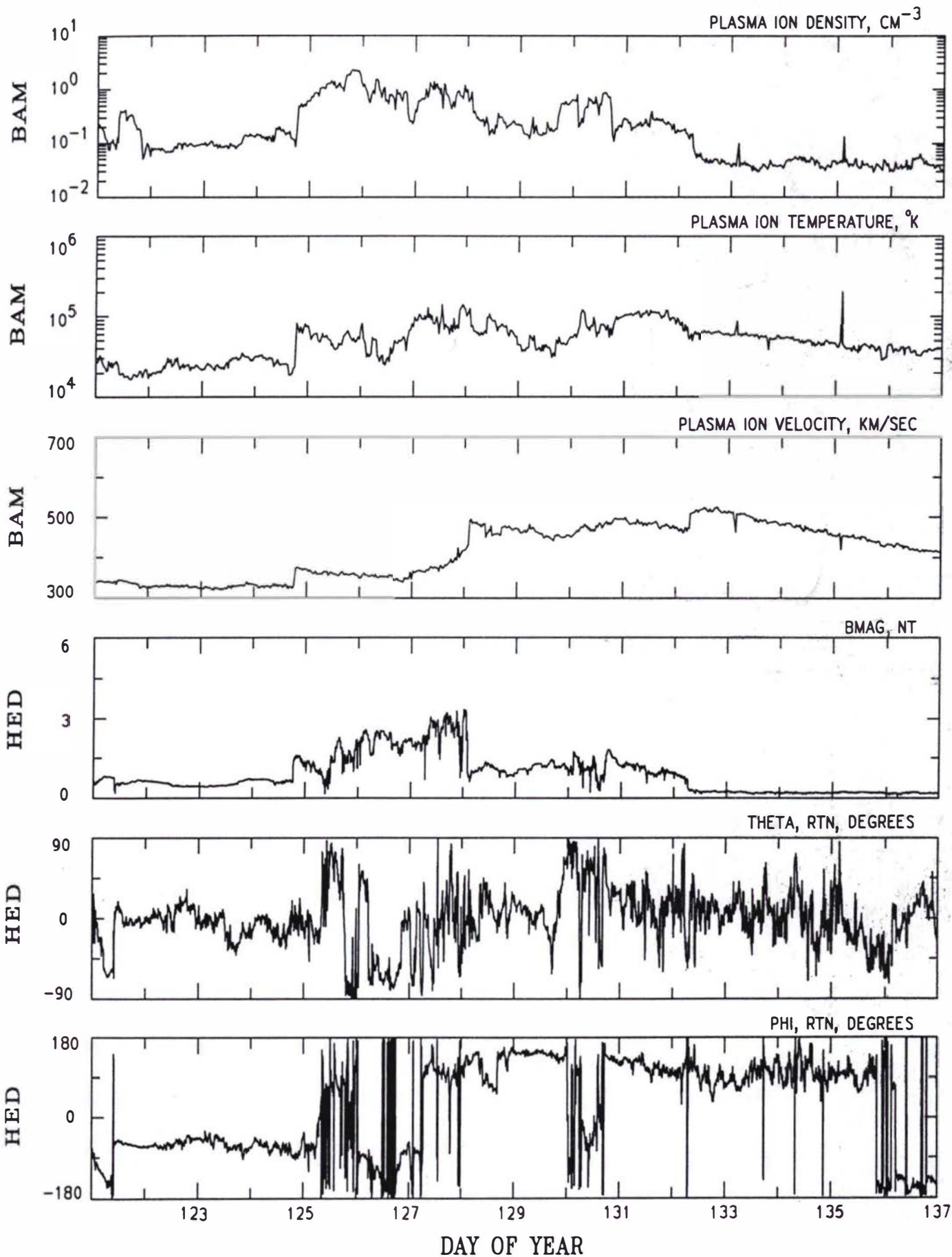


ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 121 MAY 1 00:00:00.000 - 99 137 MAY 17 00:00:00.000



THESE TWO PAGES

ARE

THE



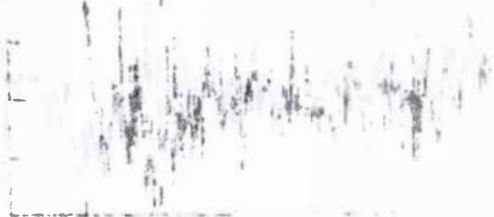
THE



THE



THE

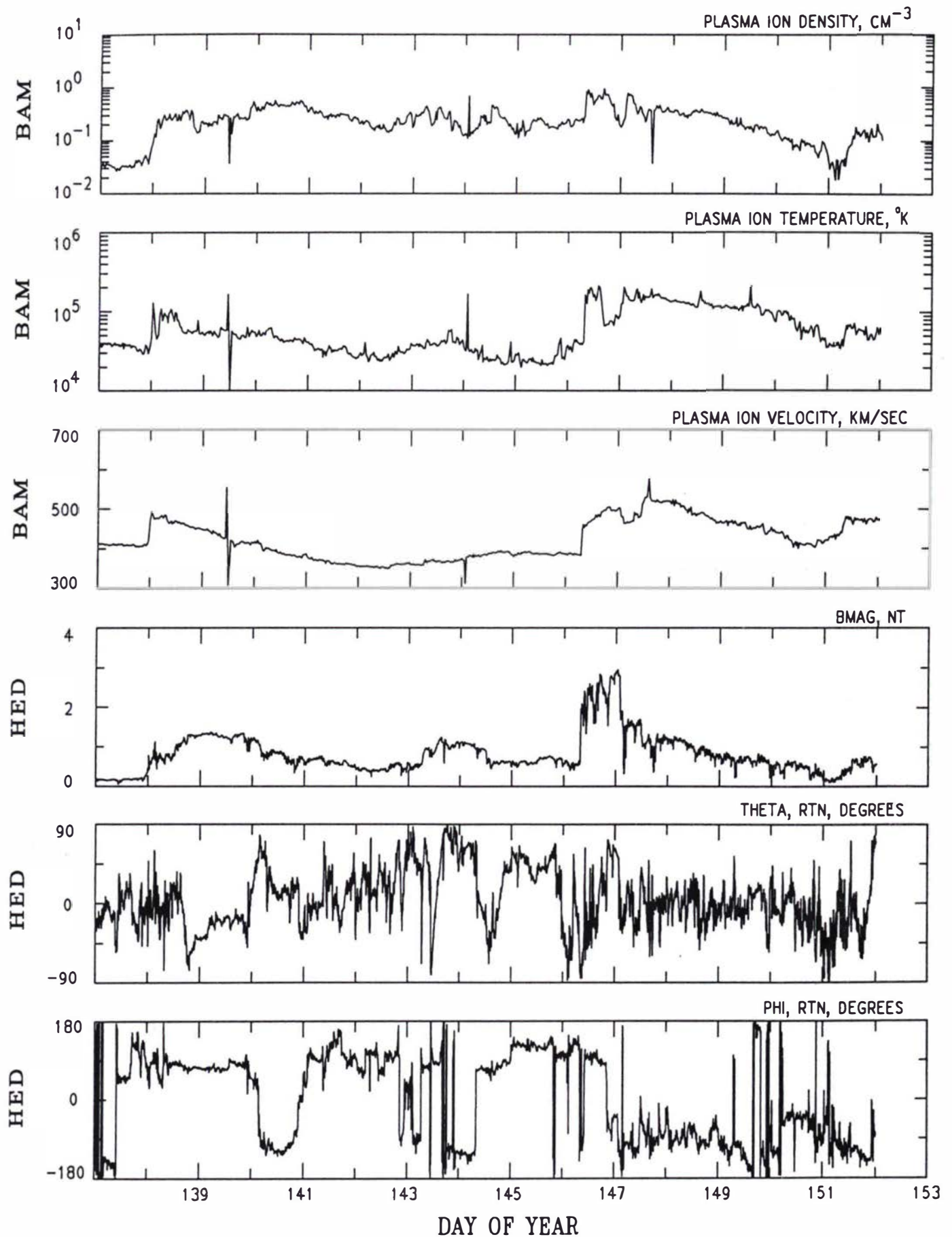


THE



ULYSSES CDR - SOLAR WIND PLASMA AND MAGNETIC FIELD

99 137 MAY 17 00:00:00.000 - 99 153 JUN 2 00:00:00.000



1000 (1000) 1000

1000

1000

1000

1000

1000

1000

1000

1000

1000

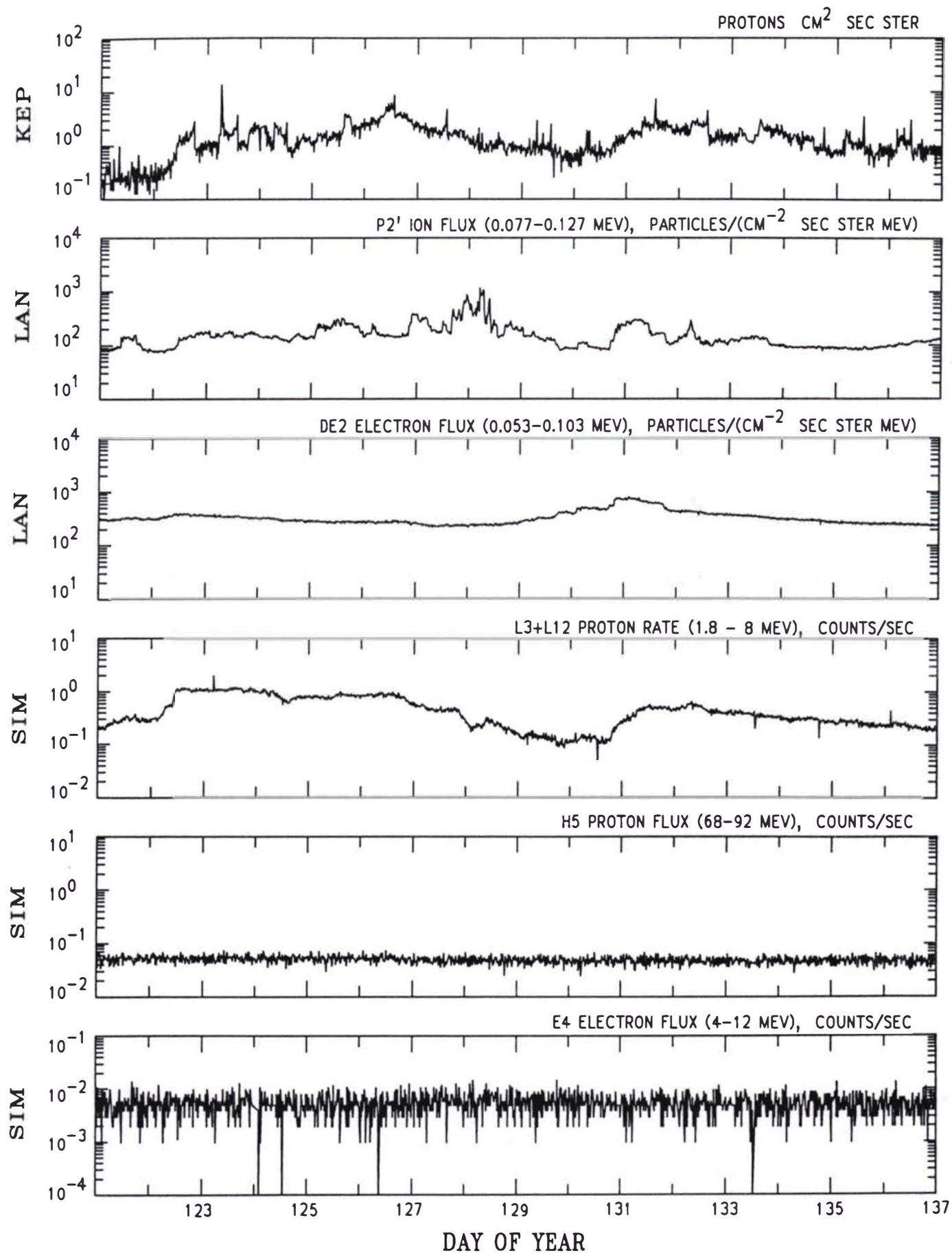
1000

1000

1000

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

99 121 MAY 1 00:00:00.000 - 99 137 MAY 17 00:00:00.000



Page 30

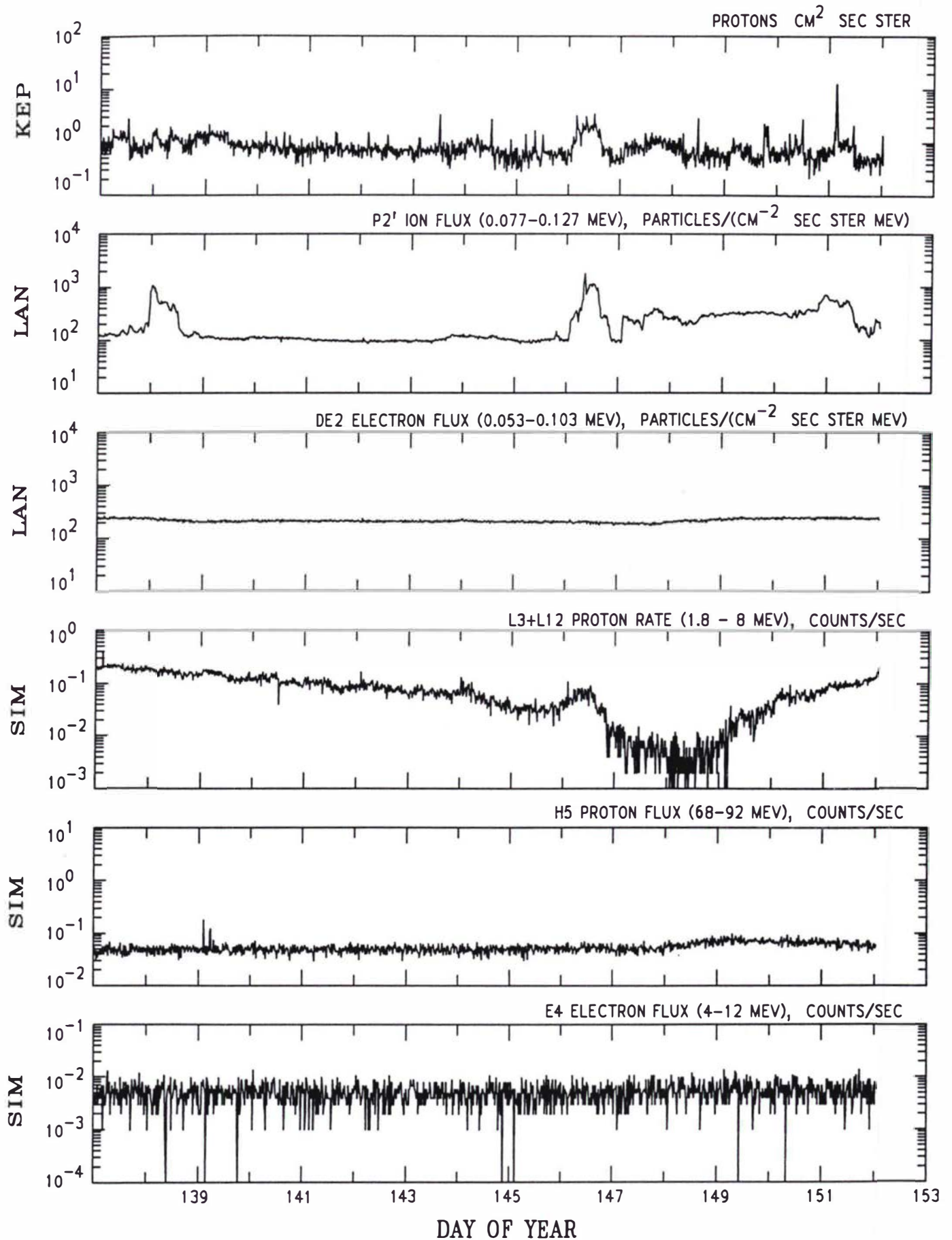
Page 30

Page 30

Page 30

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

99 137 MAY 17 00:00:00.000 - 99 153 JUN 2 00:00:00.000



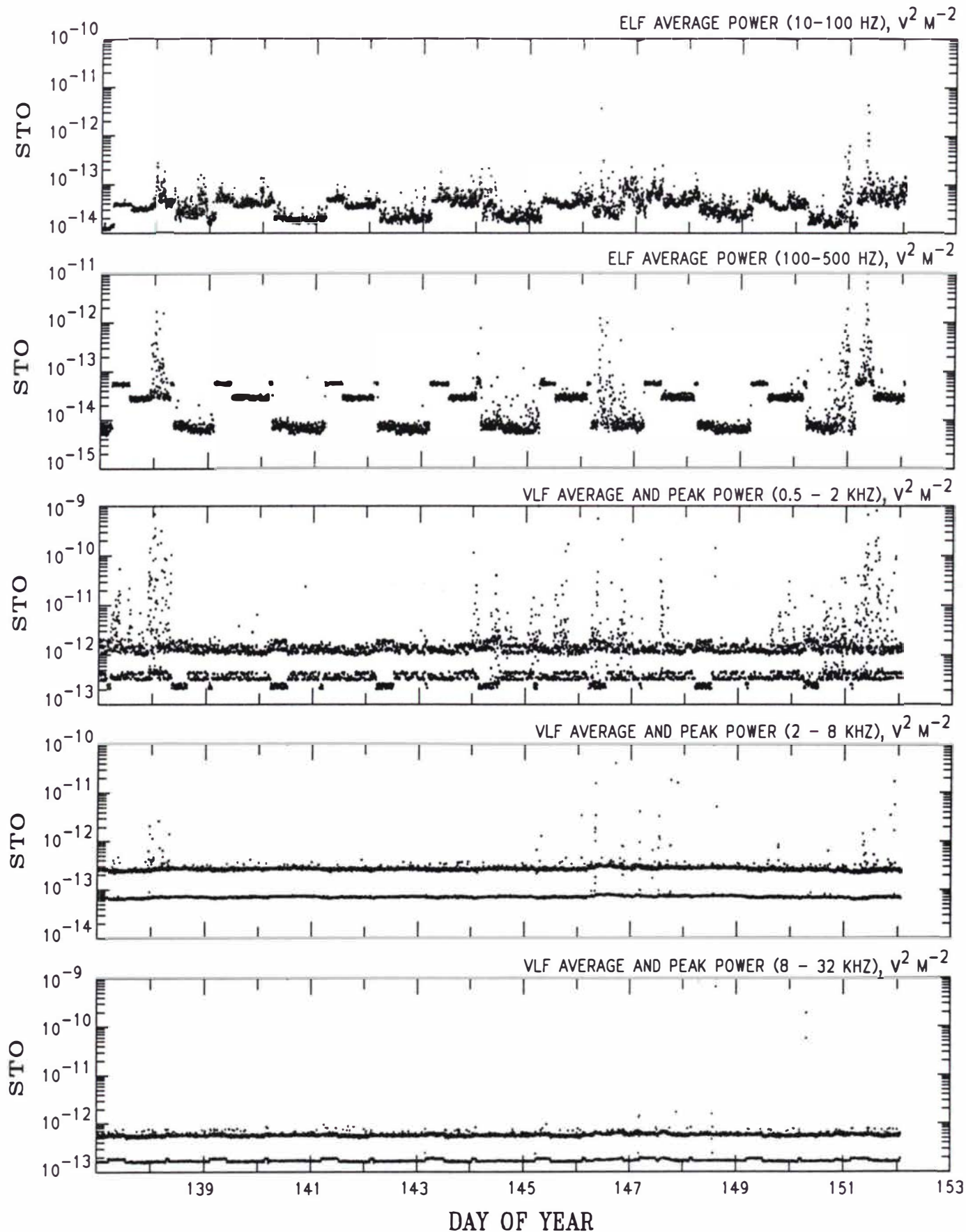
ULYSSES CDR - PLASMA WAVE

99 121 MAY 1 00:00:00.000 - 99 137 MAY 17 00:00:00.000



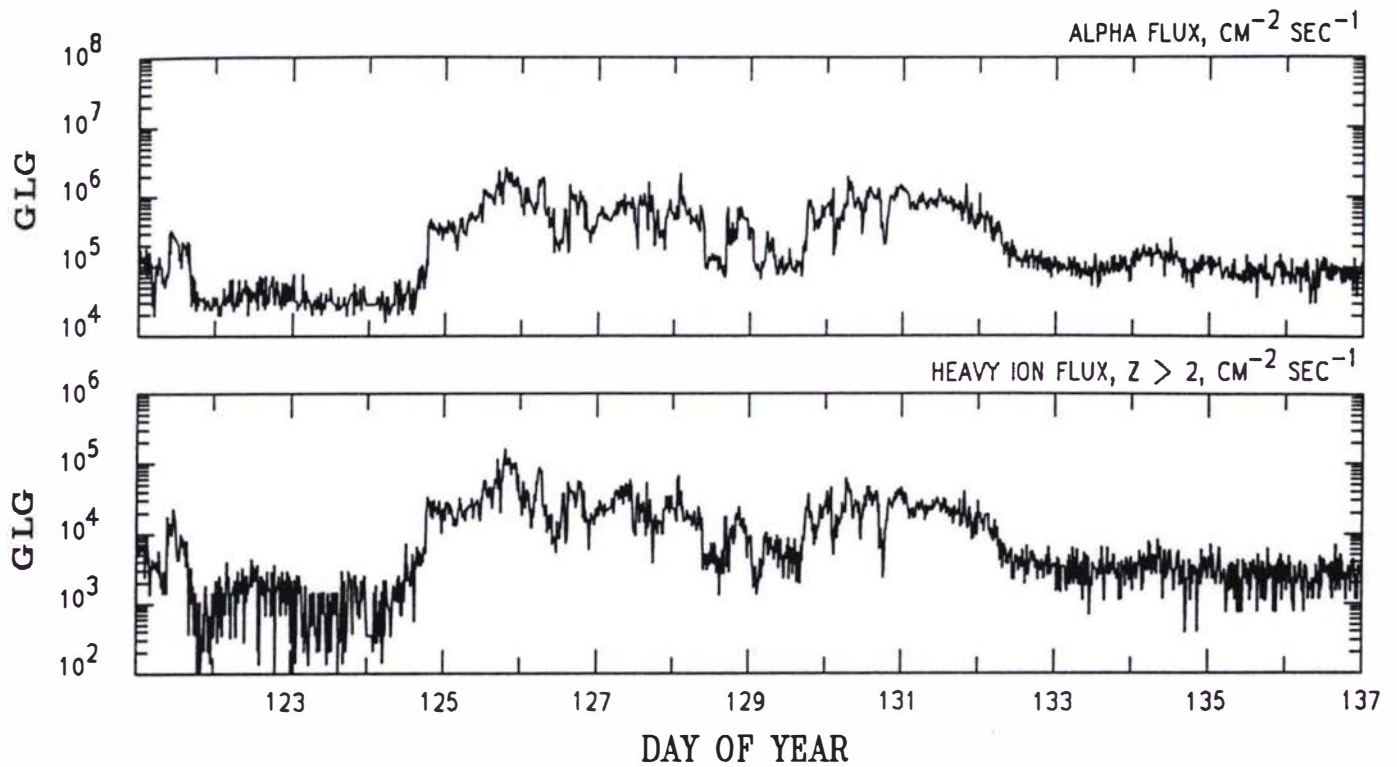
ULYSSES CDR - PLASMA WAVE

99 137 MAY 17 00:00:00.000 - 99 153 JUN 2 00:00:00.000



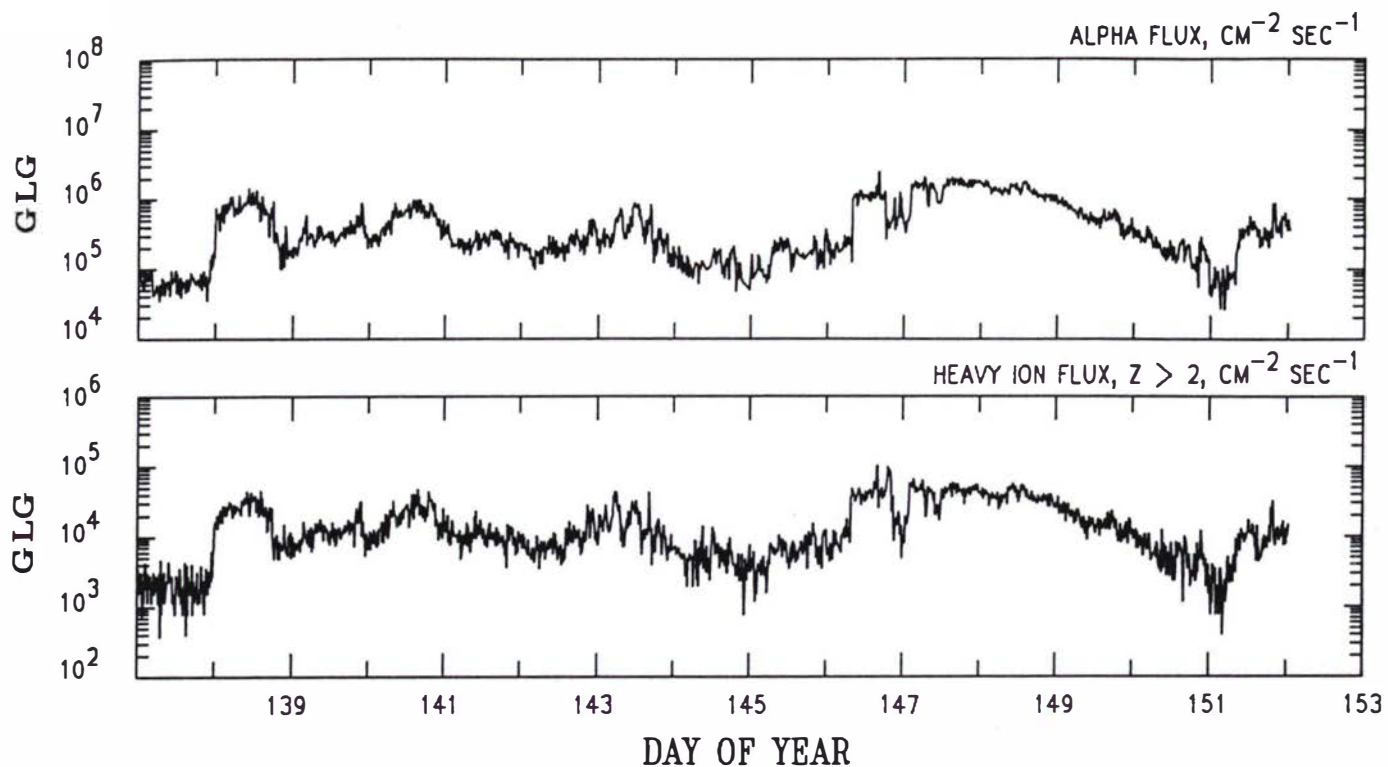
ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 121 MAY 1 00:00:00.000 - 99 137 MAY 17 00:00:00.000

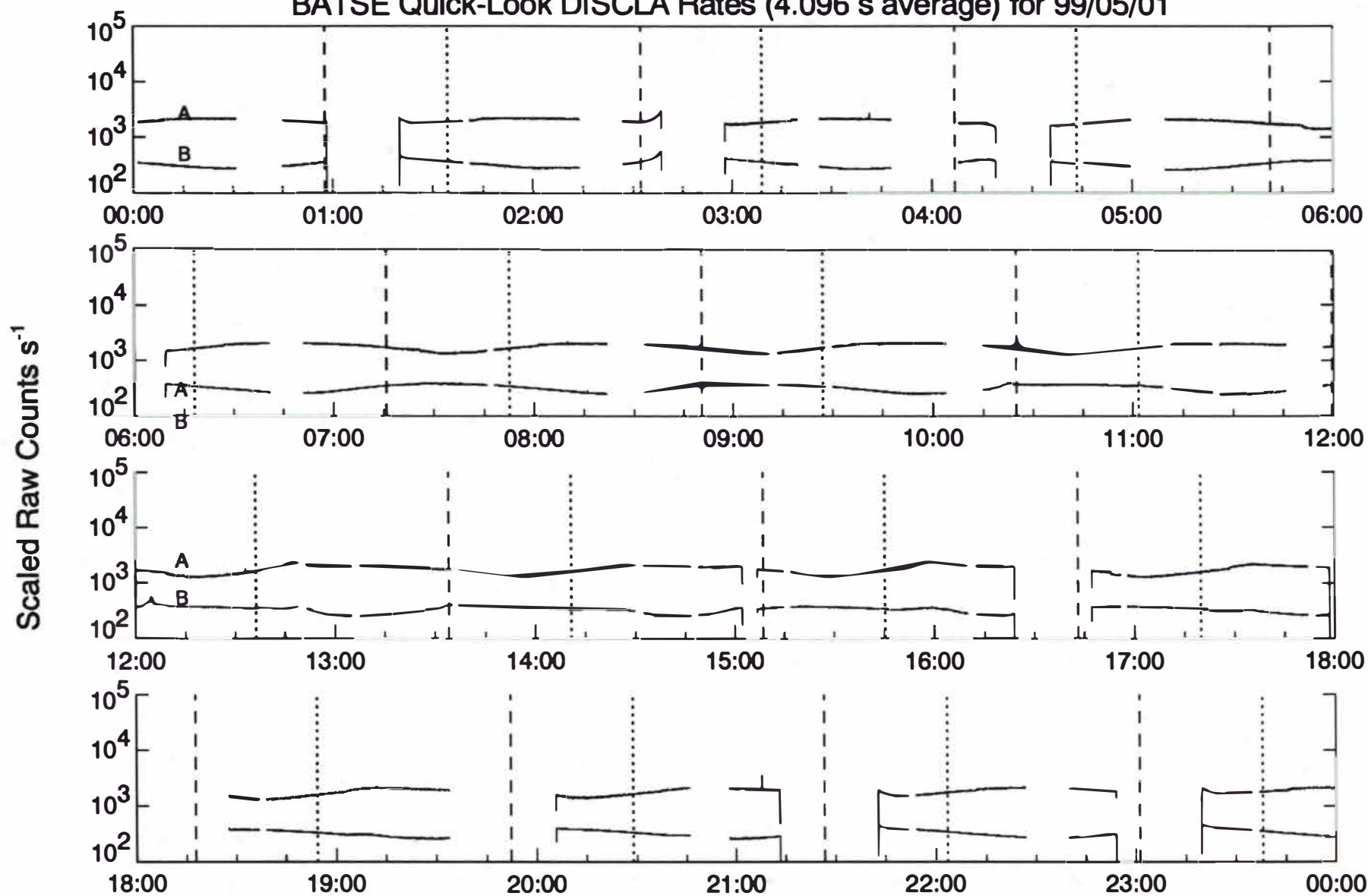


ULYSSES CDR - SOLAR WIND ION COMPOSITION

99 137 MAY 17 00:00:00.000 - 99 153 JUN 2 00:00:00.000



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



Current Time: 99/05/05, 1007 EDT

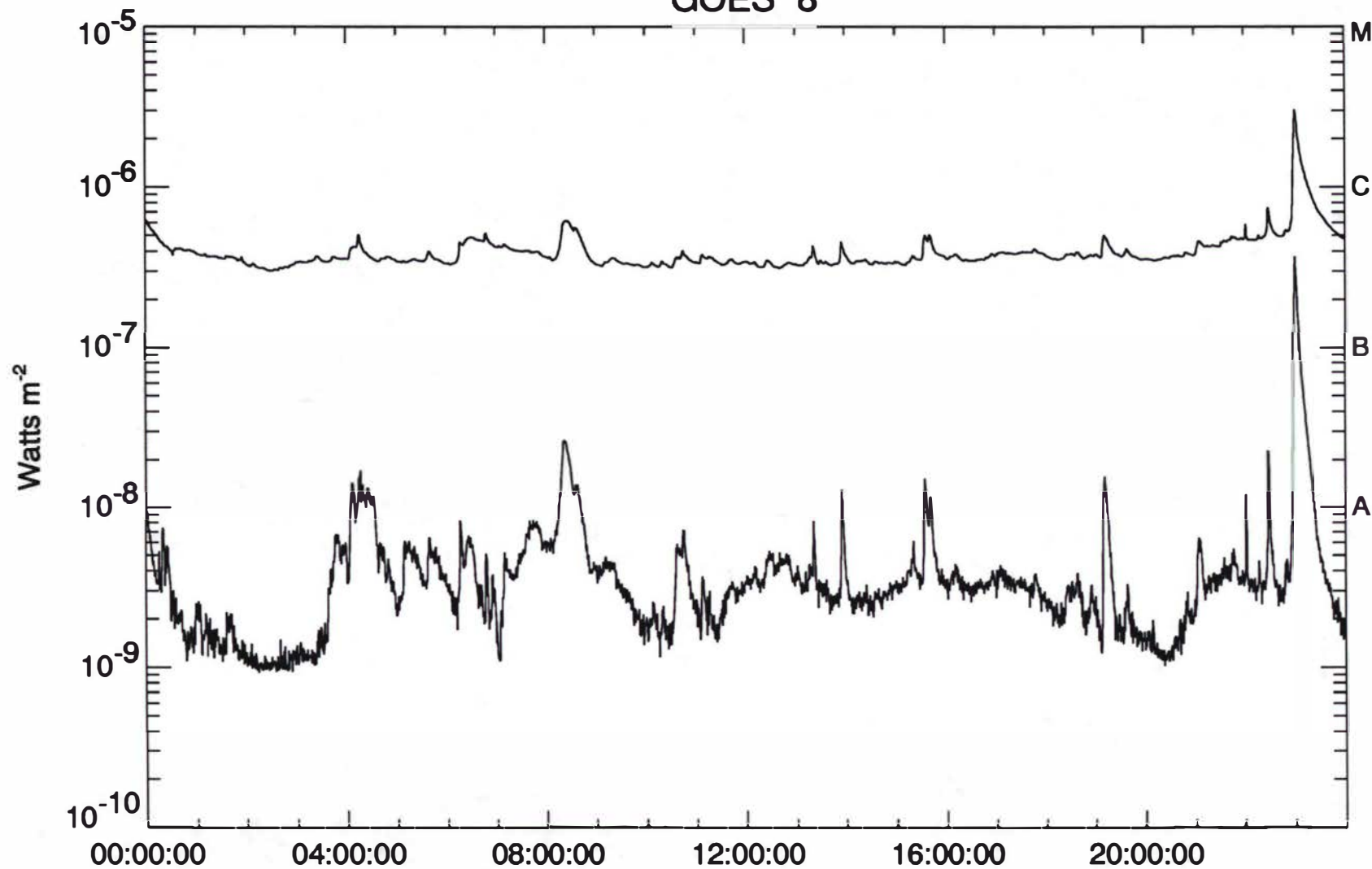
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



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

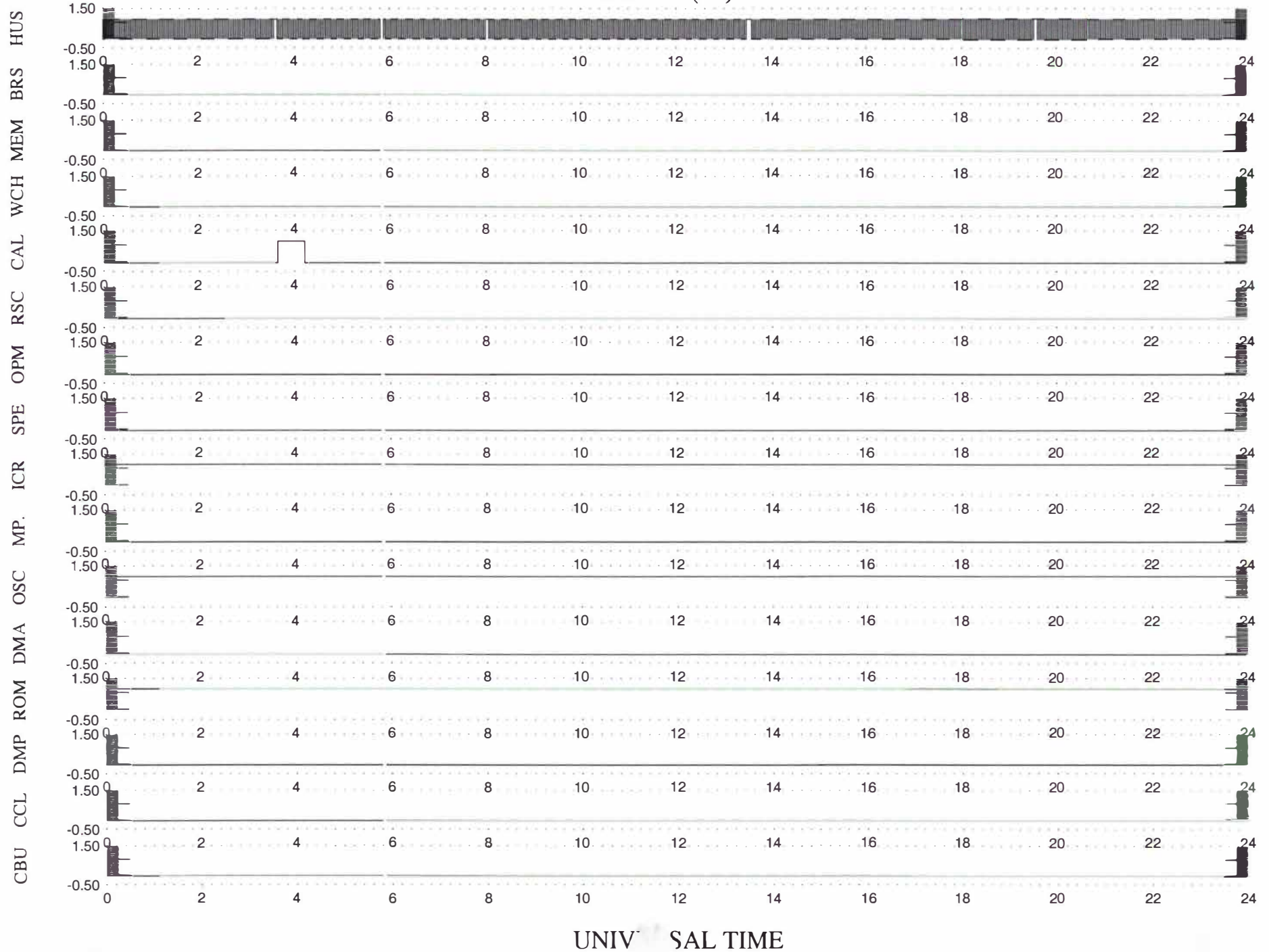
Plot created: 99/05/05, 1006

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

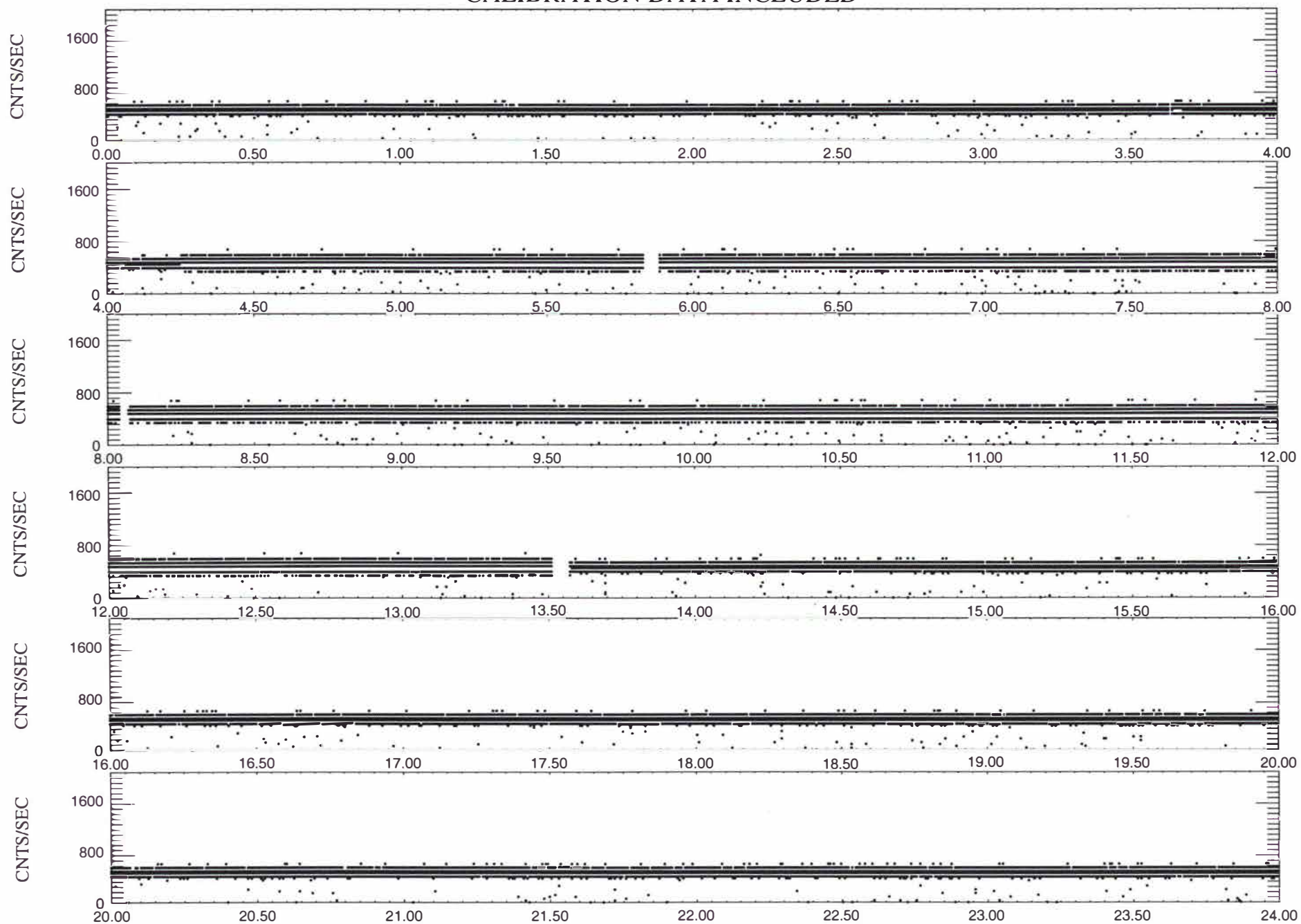
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

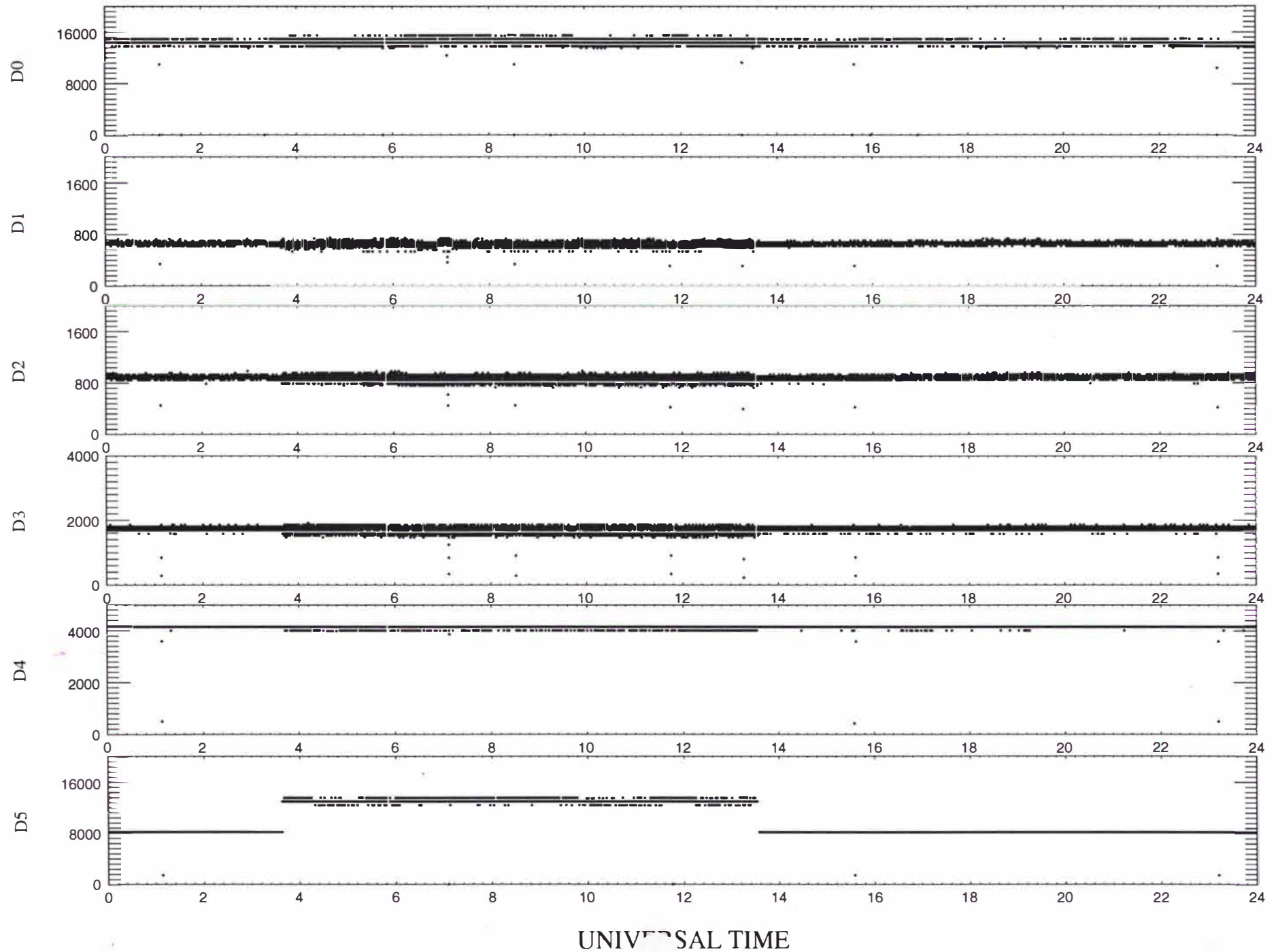
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



Date: May 14 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events **N/A**

- ☐ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

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

-
- ☒ ACCESS and MBL4 databases updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

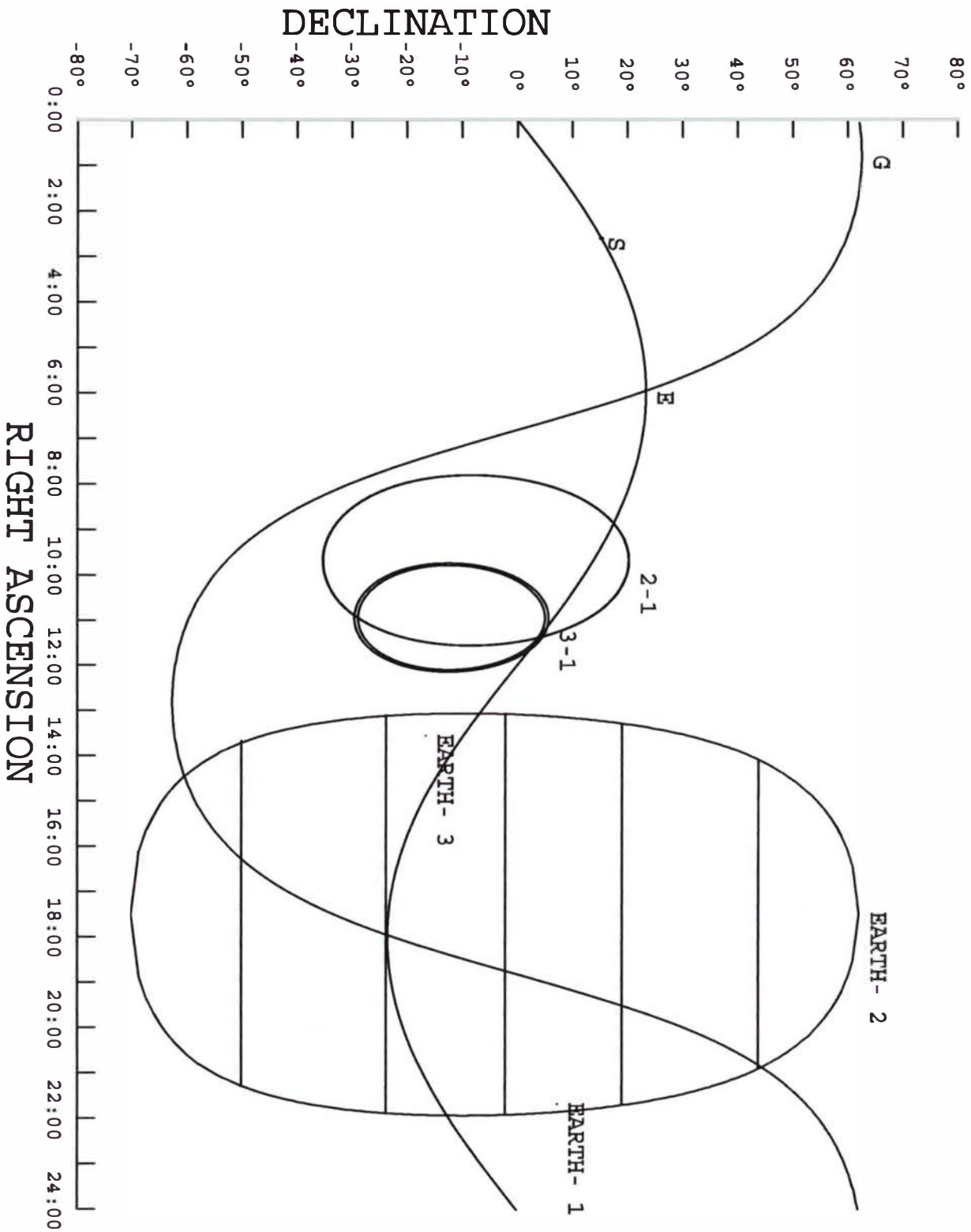
1 ULYSSES

2 SAX

3 NEAR

EVENT OF MAY 2, 1999 8:41

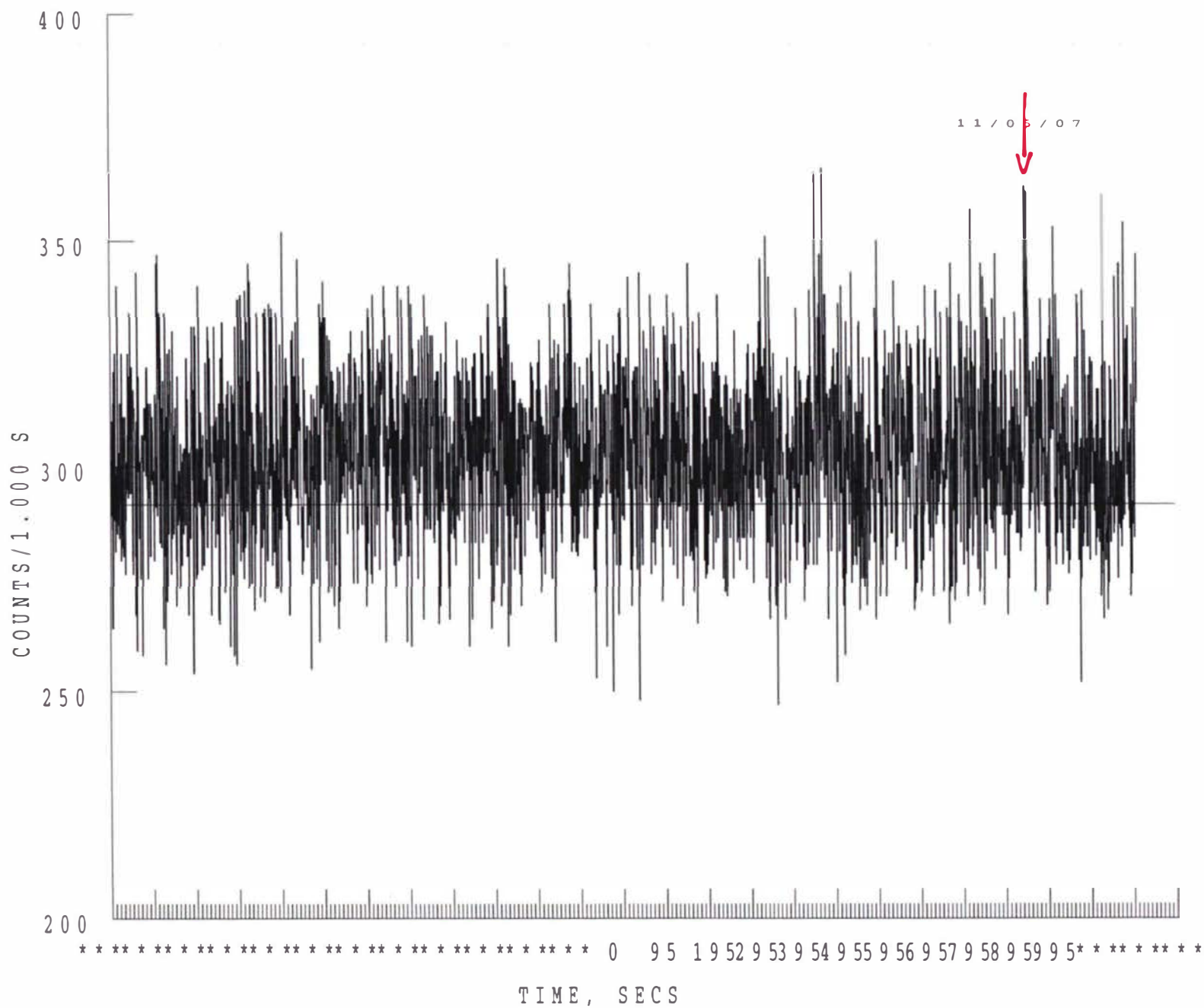
14 / 5 / 7

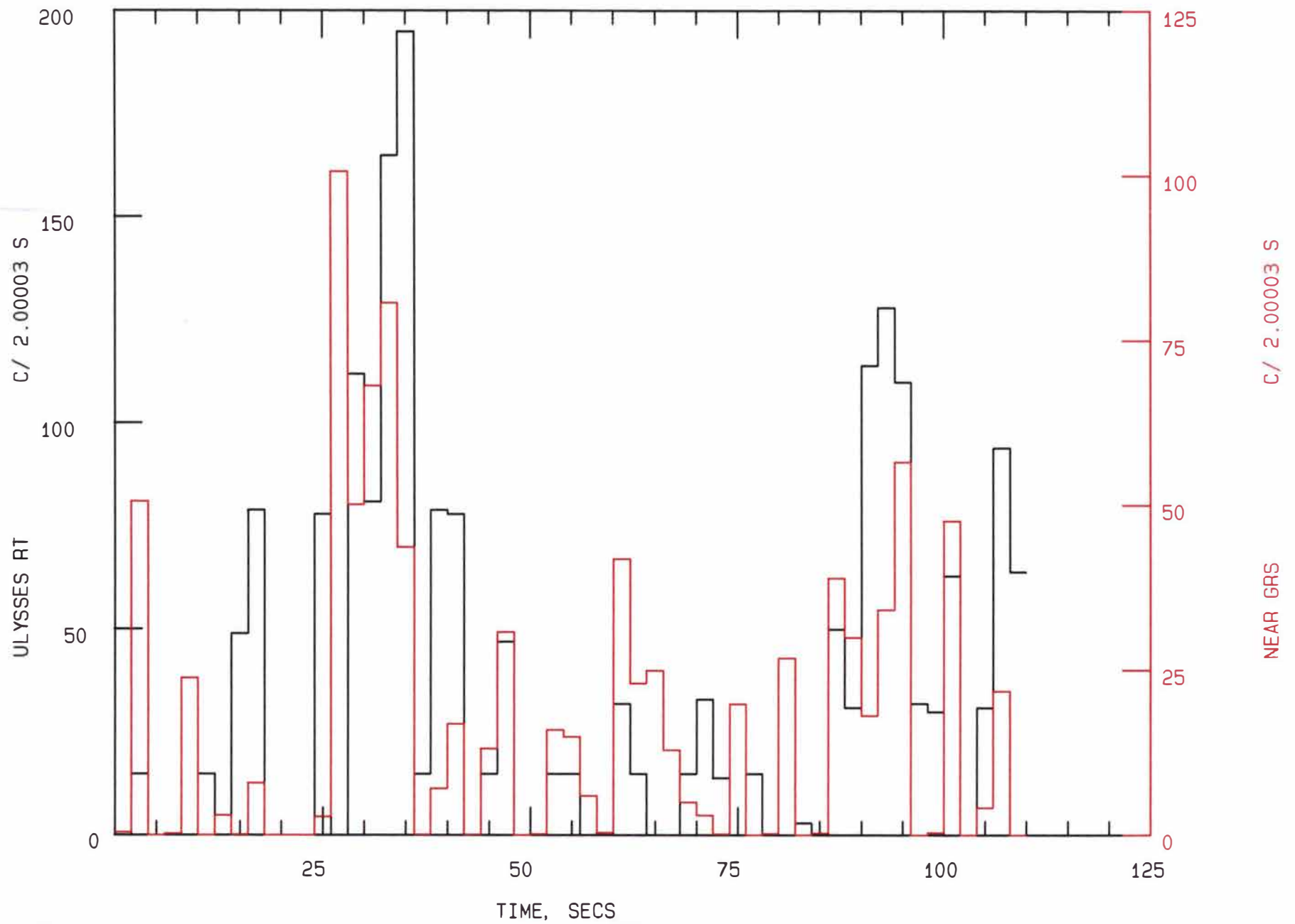


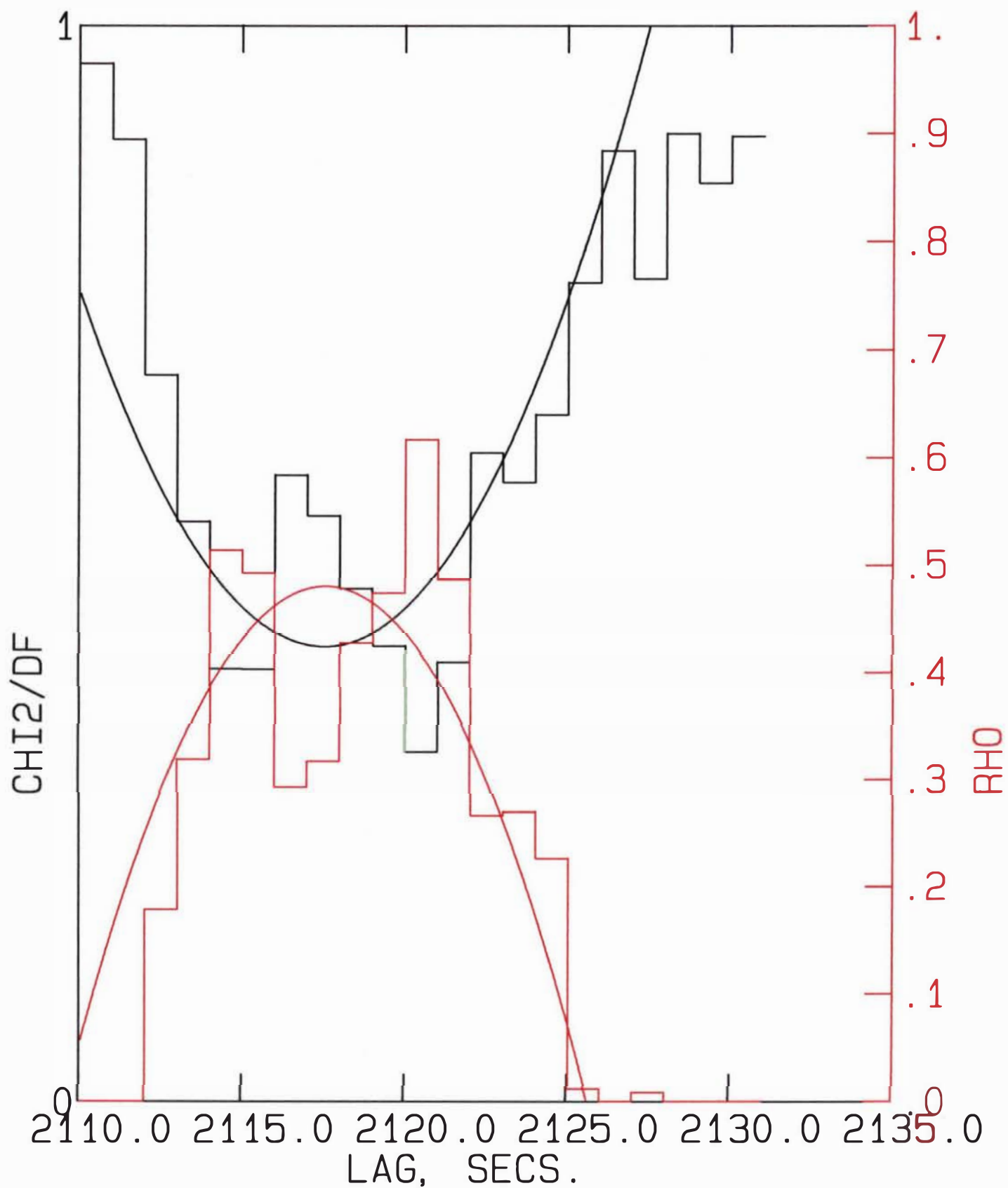
02/05/99 33341.173

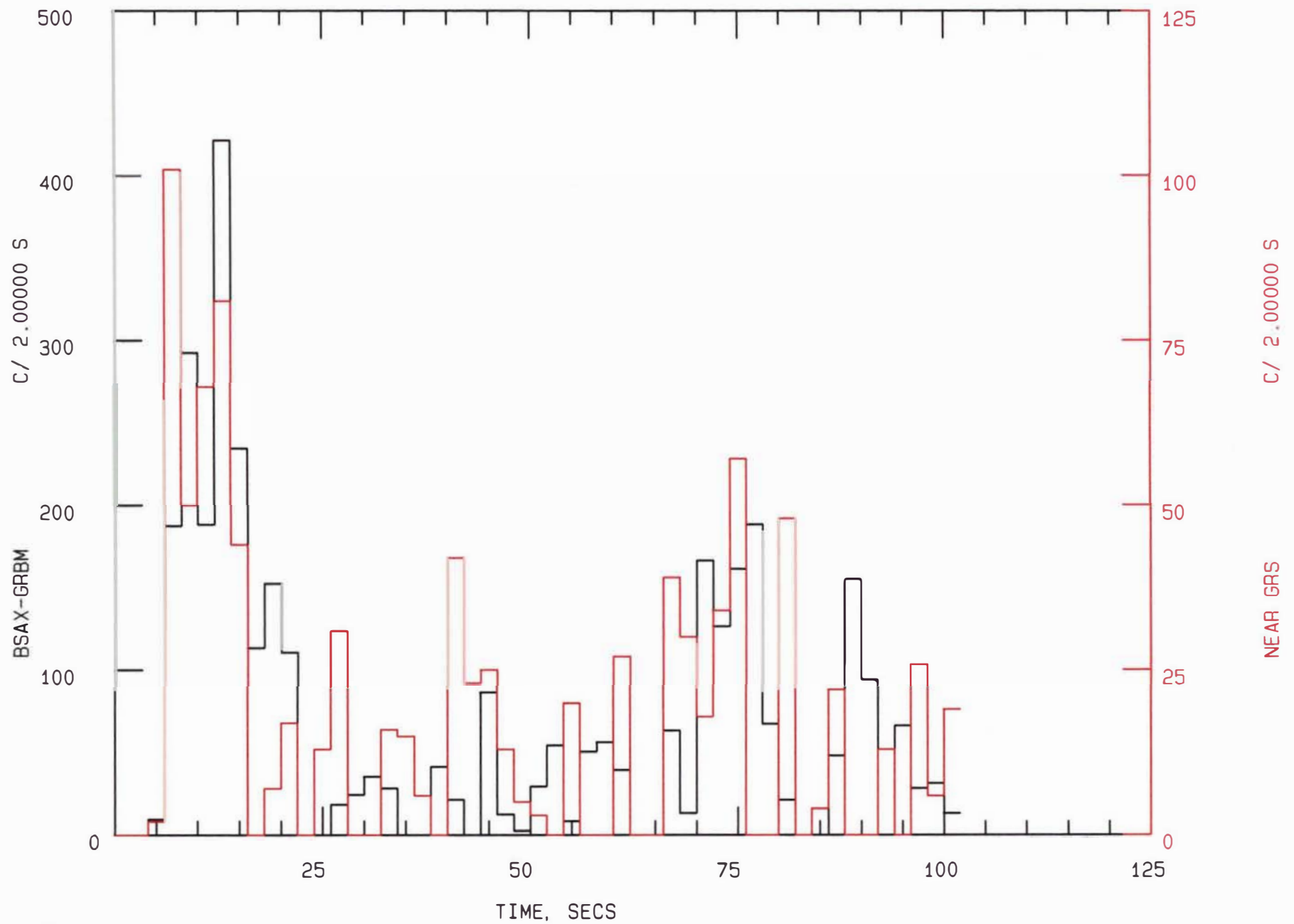
100-1000 keV

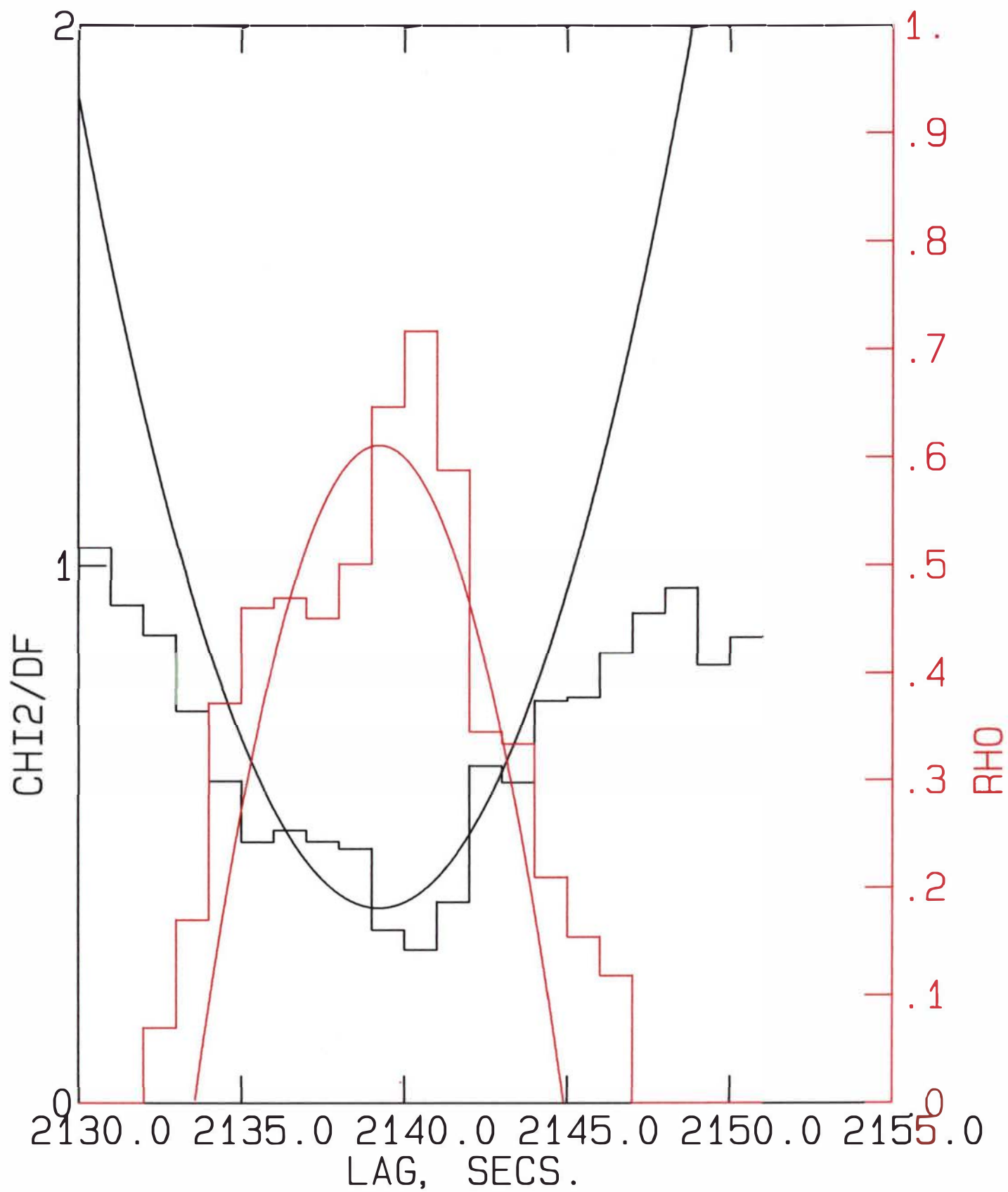
NEAR

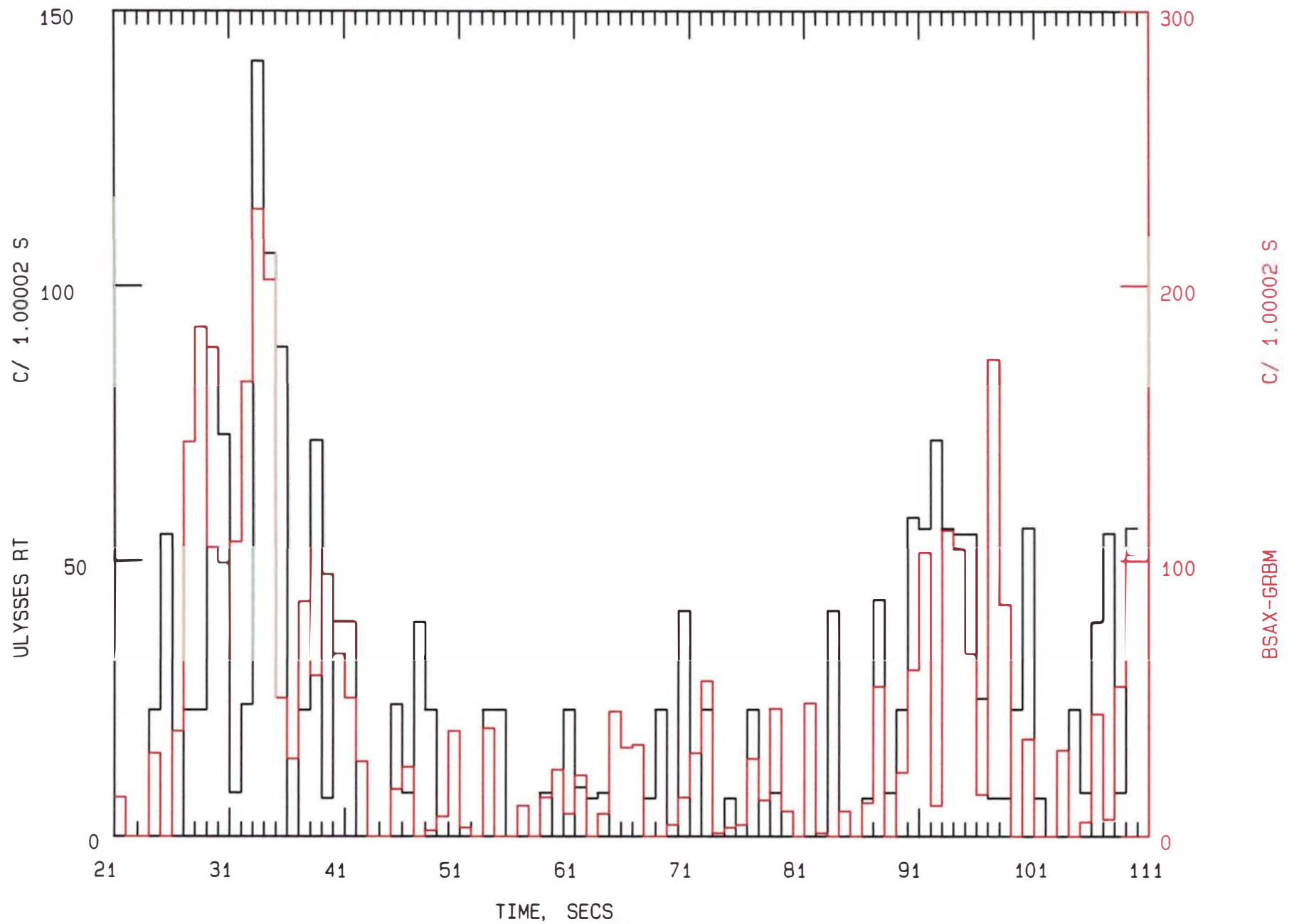


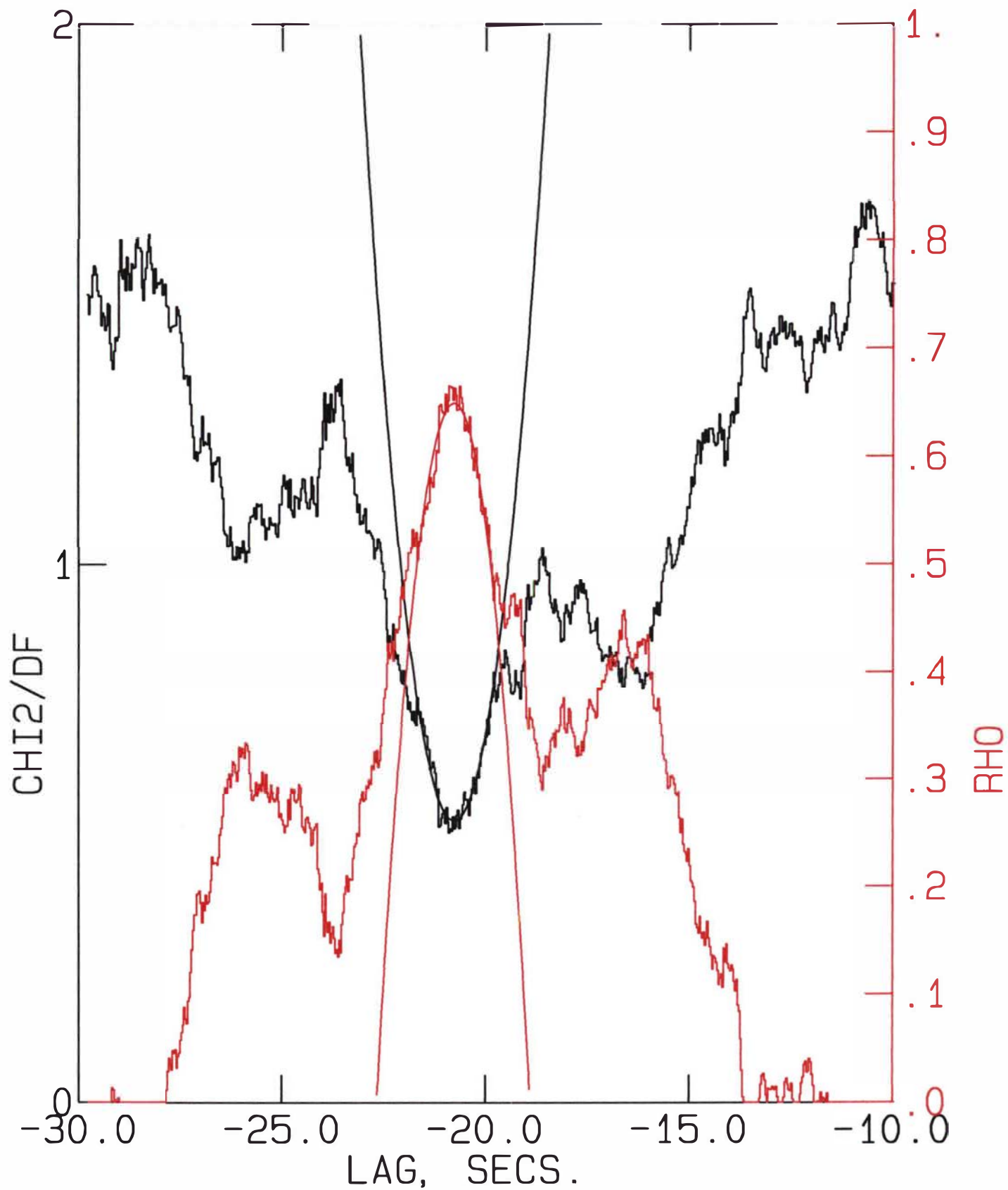






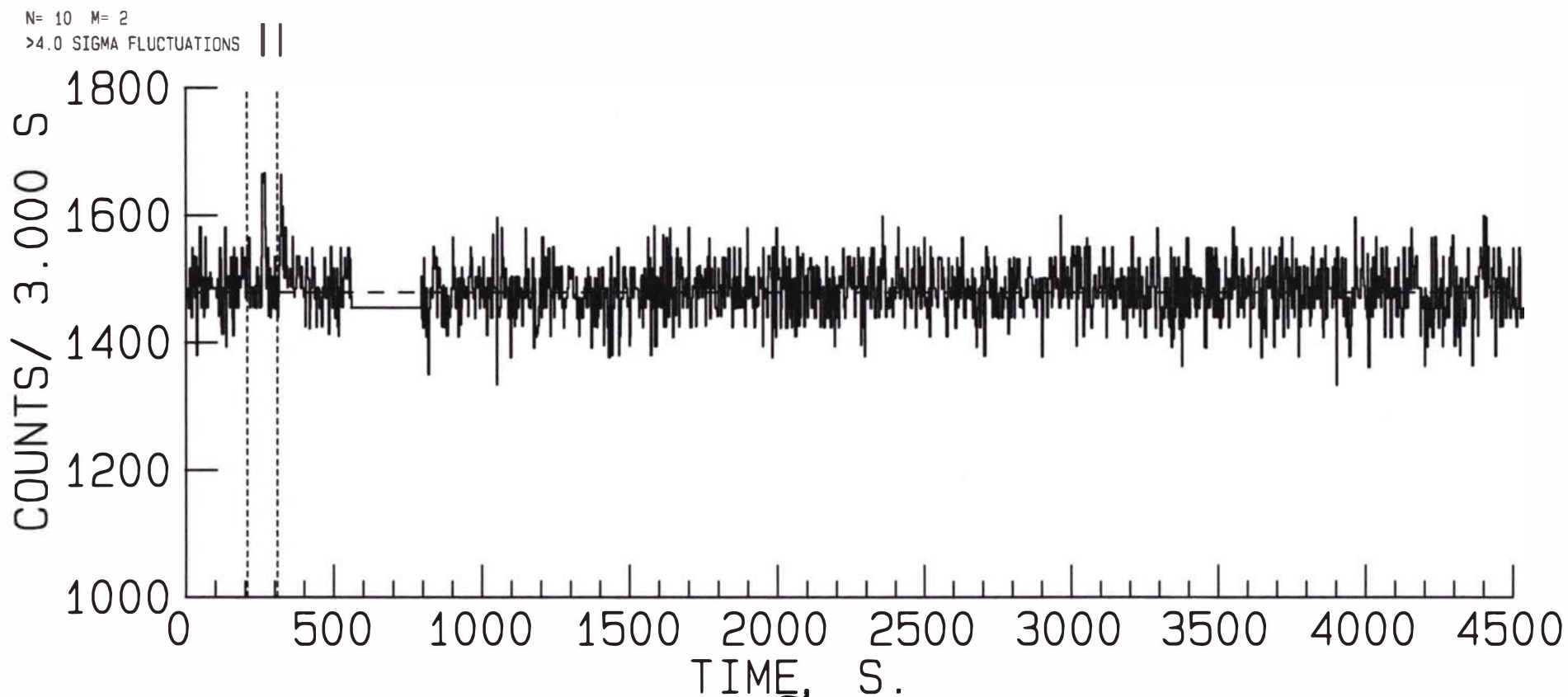






ULYSSES RT
2/ 5/99 31068.145 s
0.250 S INTERVALS REGROUPED BY 12
22- 151 keV

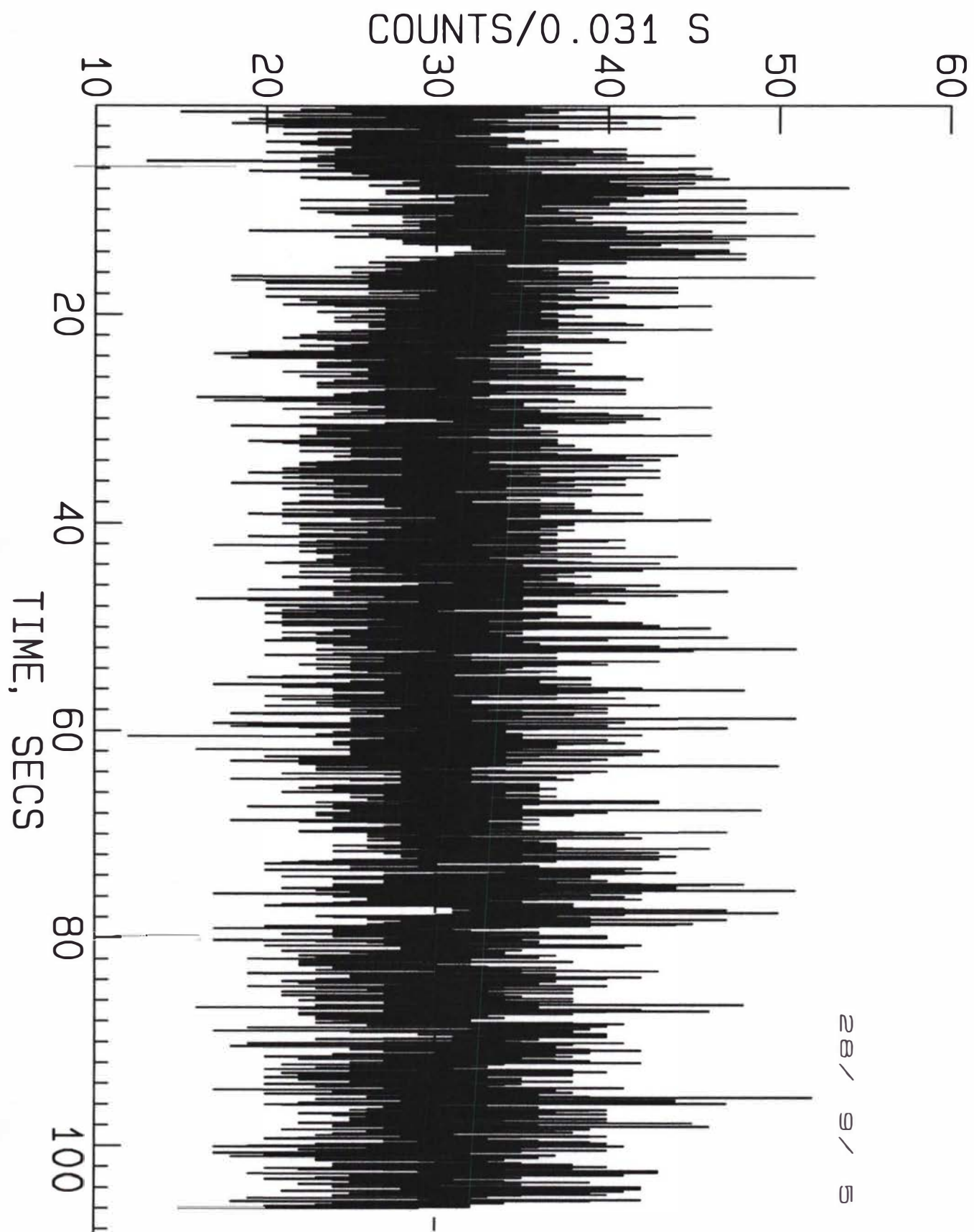
14 / 5 / 7



SAX GRBM

02/05/99 33333.890

40- 700 keV



From PETERSON@fender.msfc.nasa.gov Wed May 5 06:32:21 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 GAA29074; Wed, 5 May 1999 06:32:20 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id GAA09948
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 5 May 1999 06:29:44 -0700 (PDT)
Date: Wed, 5 May 1999 8:33:08 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990505083308.2020ea68@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7541
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7541
EVENT OF 1999 MAY 2 DAY OF YEAR=122
EVENT CROSSING TIME AT BATSE : 79762. S. OR 22:09:22.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 82.000 41.000
BATSE PEAK COUNTING RATE: 1400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 2/ 5/ 99 IS:
RA= 144.474 DEC= -7.165 DIST= 4.585 AU
BATSE-ULYSSES DISTANCE = 685848523. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -604.51 SECS.
CROSSING TIME AT ULYSSES IS 79157. S. OR 21:59:17 +/- 423.89 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 2/ 5/ 99 IS:
RA= 209.617 DEC= -10.977 DIST= 0.578 AU
MARS-BATSE DISTANCE = 86540440. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 54.75 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 166.61 SECS.
CROSSING TIME AT MARS IS 79929. S. OR 22:12:08 +/- 43.46 SECONDS

BATSE BURST TRIGGER

NO.: 7541

TIME: TJD=1300 SECONDS=79762

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=48.4 AZIMUTH=289.9 ERROR=13.1 DEGREES

COMMENTS:

GRB. SINGLE WEAK PULSE, DUR. APPROX. 3 S, STARTS AT APPROX. T-1.5 S. NOT VISIBLE
ABOVE 300 KEV. TRIGGERED IN GAP.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7541	990502	11300	79762	1400	082	+41	3

BATSE BURST# 7541

ULYSSES RT

5 / 5 / 99

2 / 5 / 99 78732.125 s

0.500 S INTERVALS REGROUPED BY 2

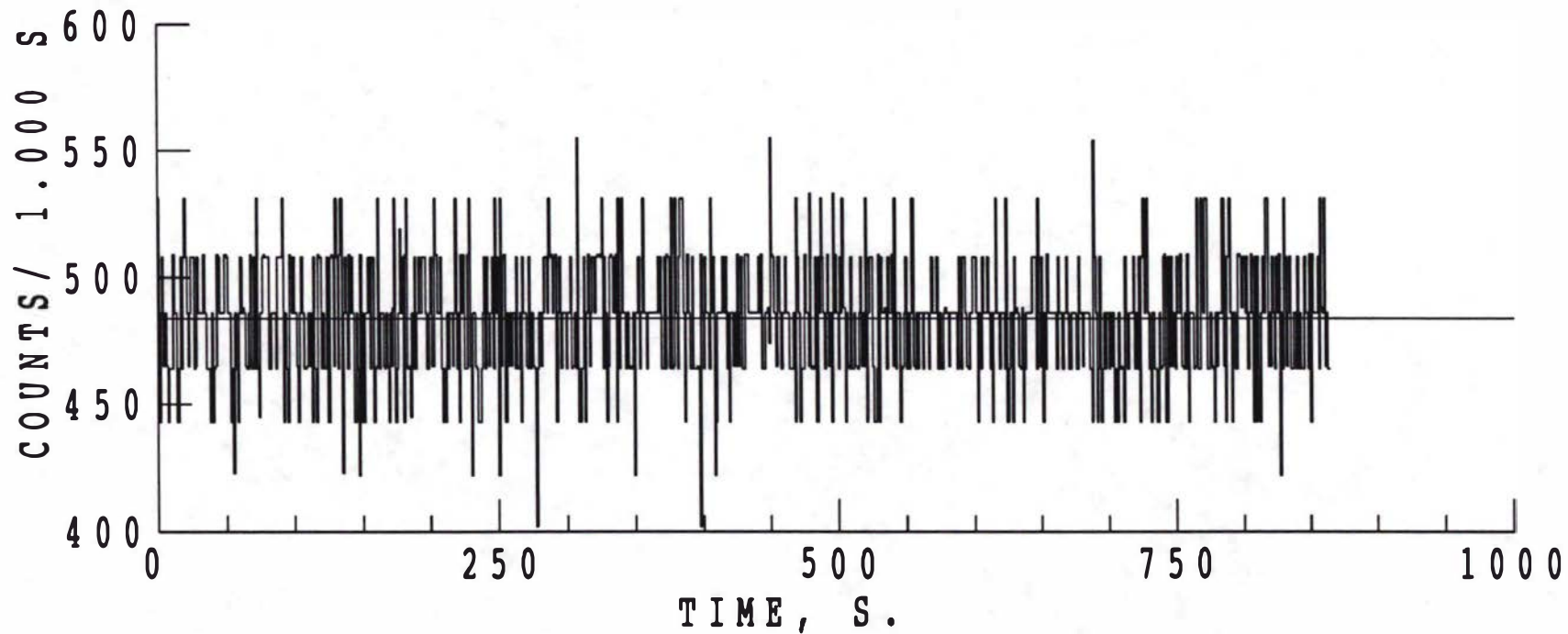
0 - 0 keV

N= 10 M= 10

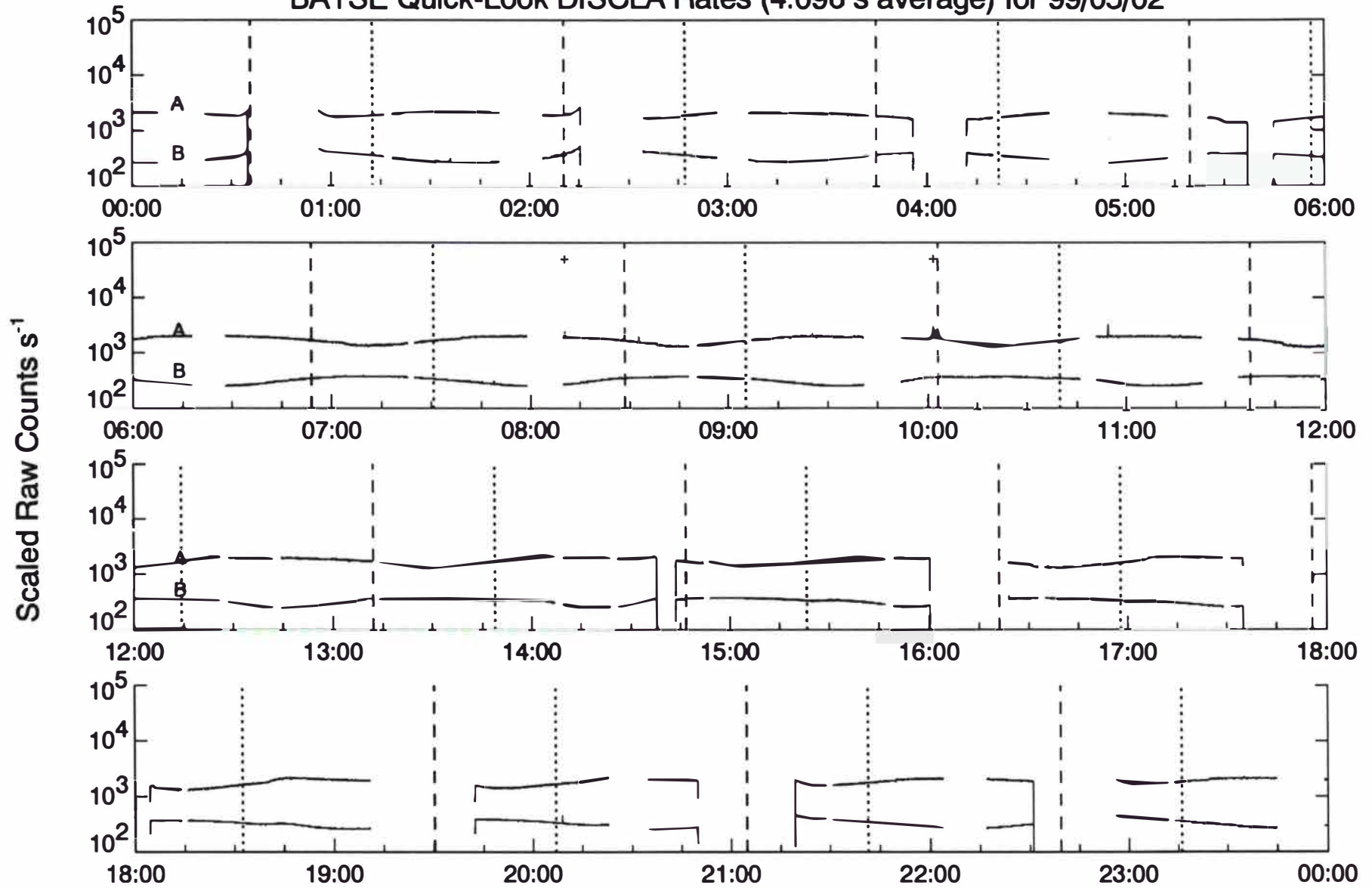
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/02

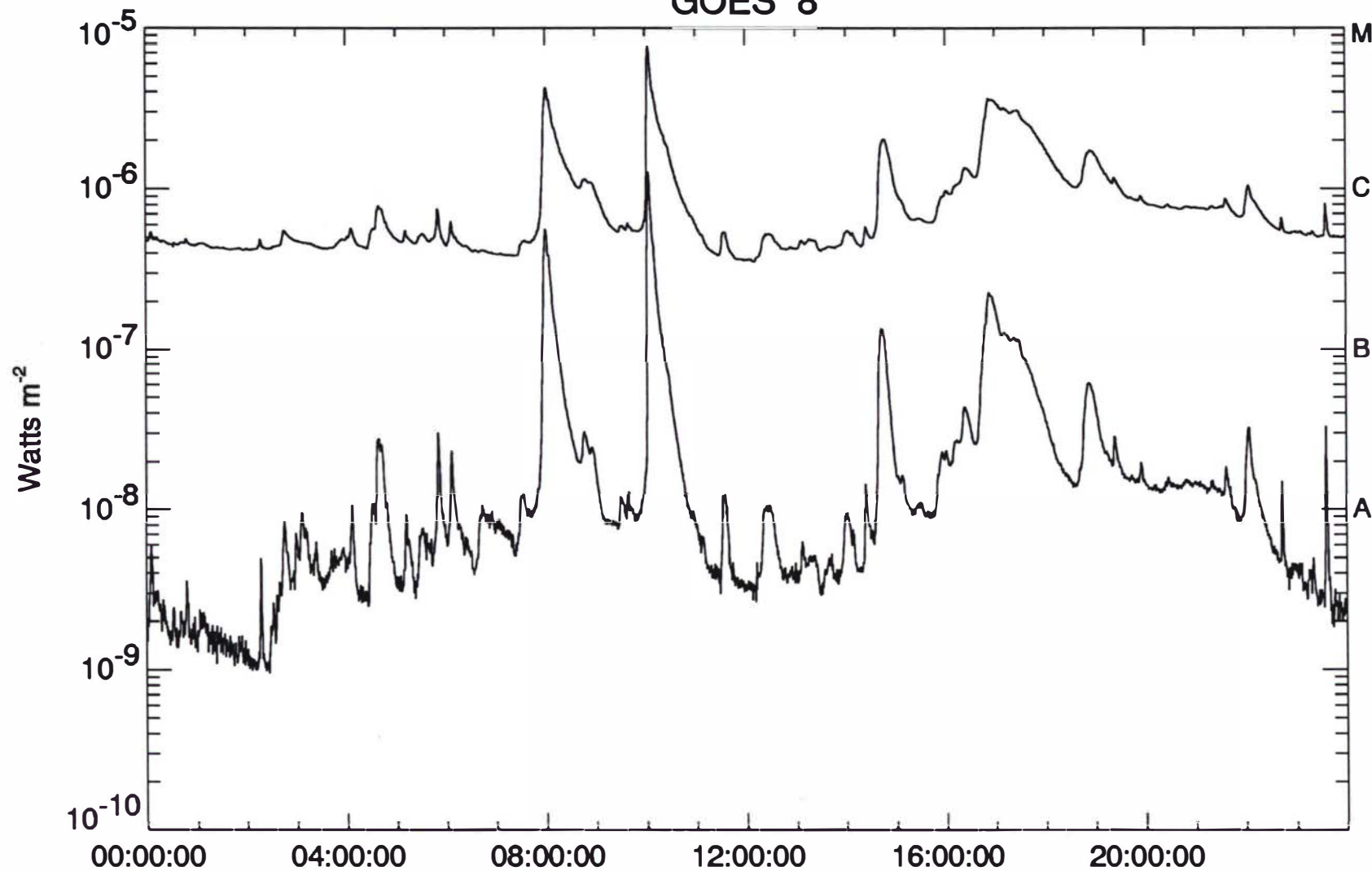


Current Time: 99/05/06, 1007 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/05/02, 0000:00

Plot created: 99/05/06, 1006

Channel

1 (1.0 - 8.0 Angstroms)

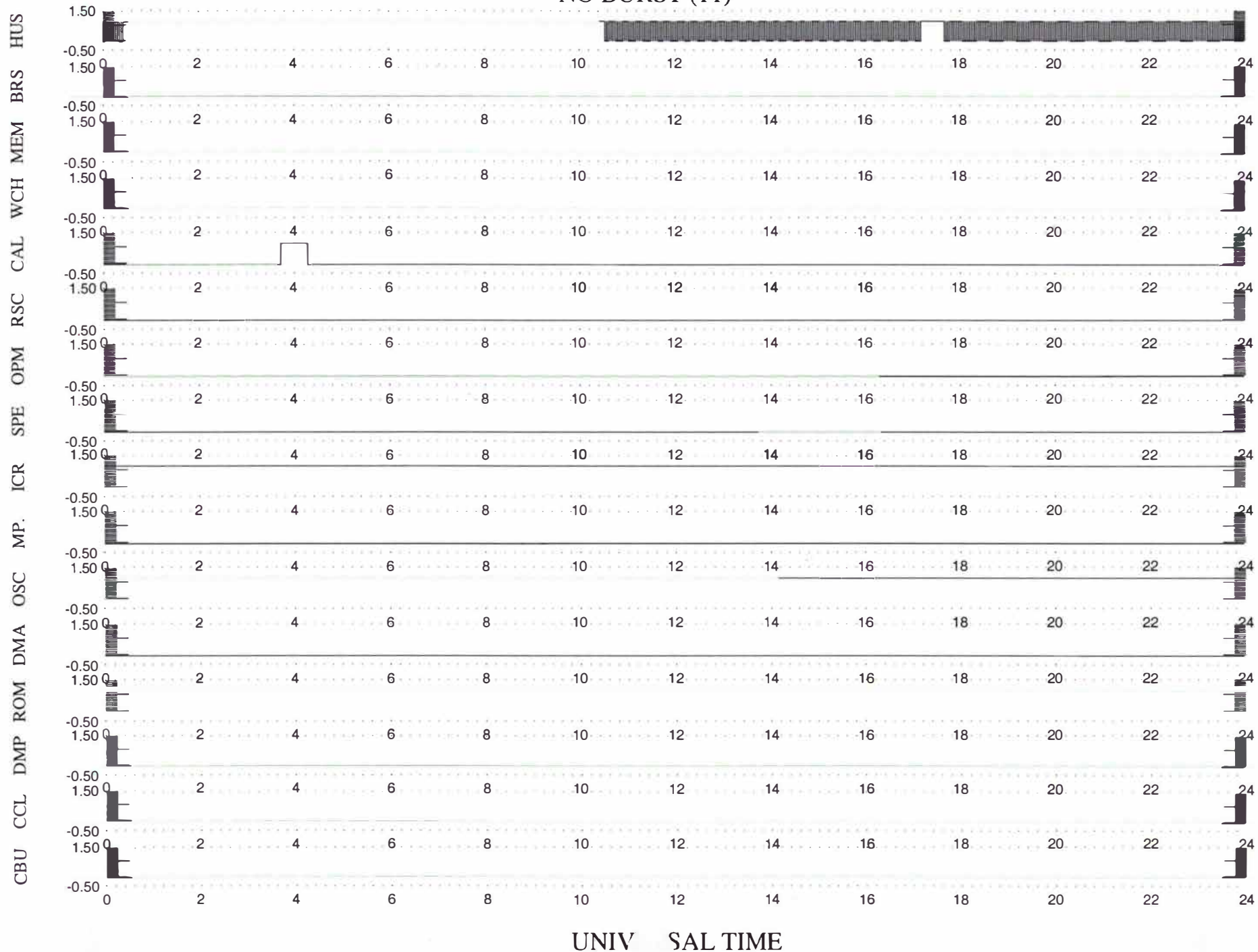
Background not subtracted

2 (0.5 - 4.0 Angstroms)

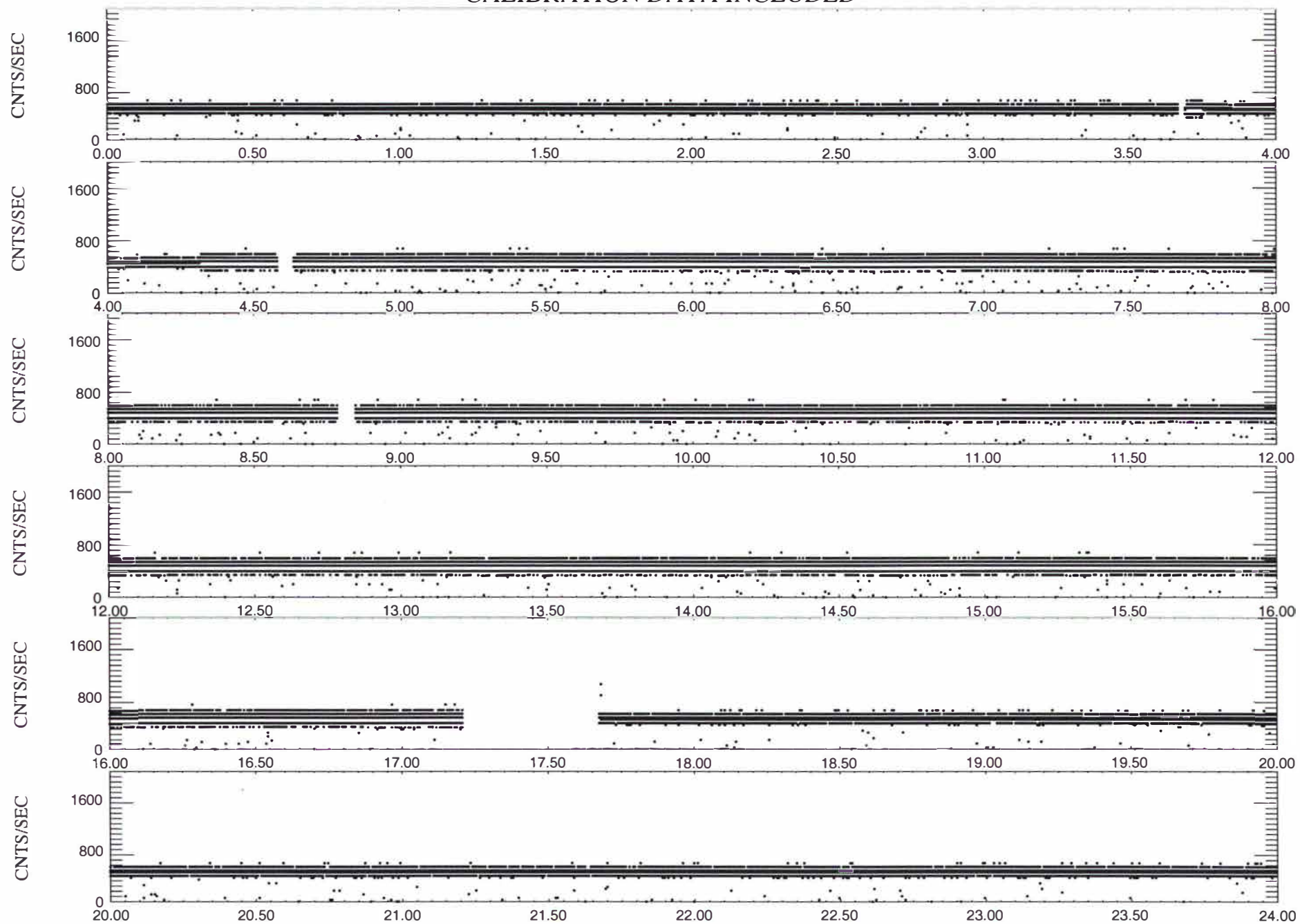
Background not subtracted

Sample average = 10

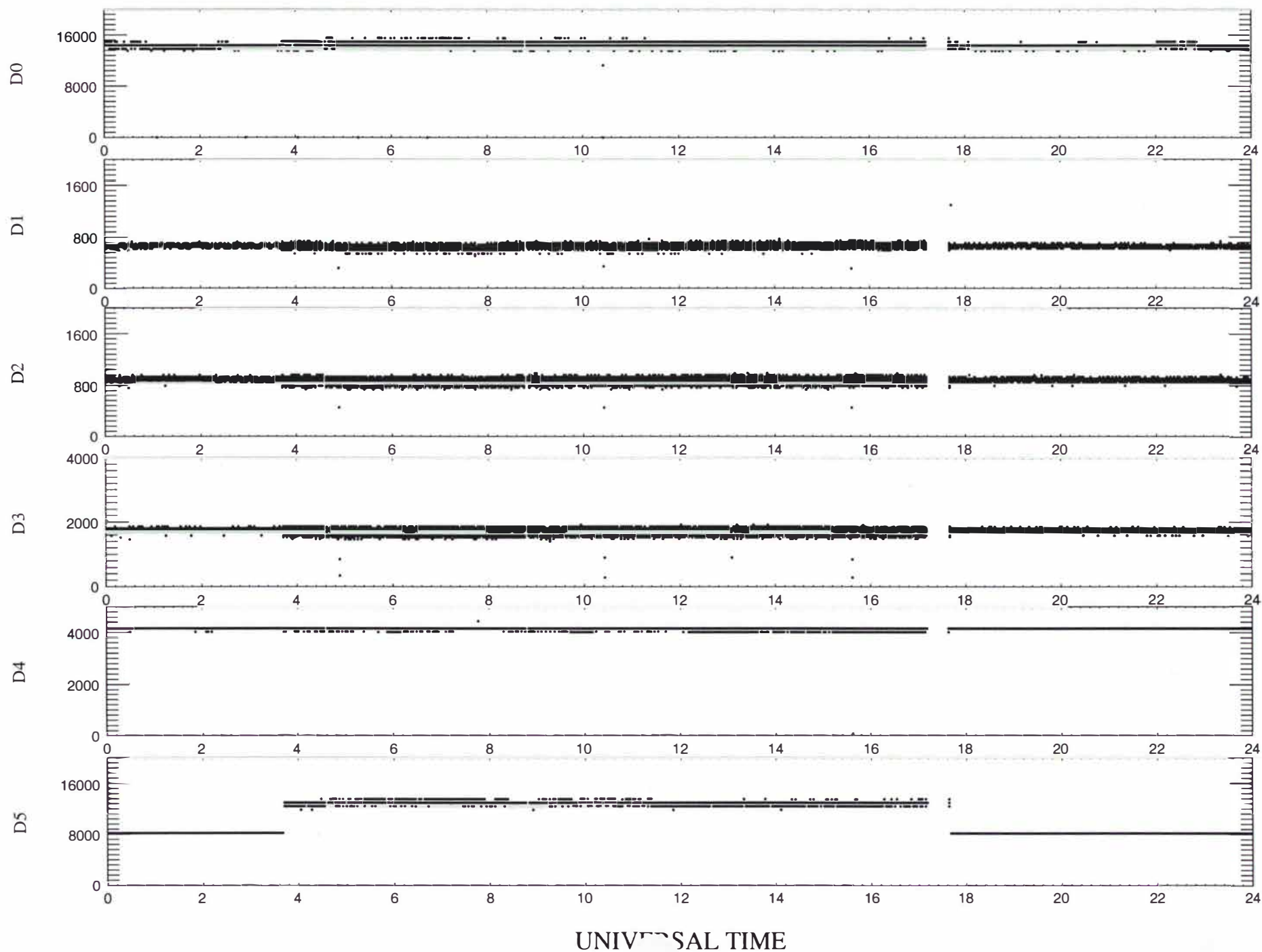
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME

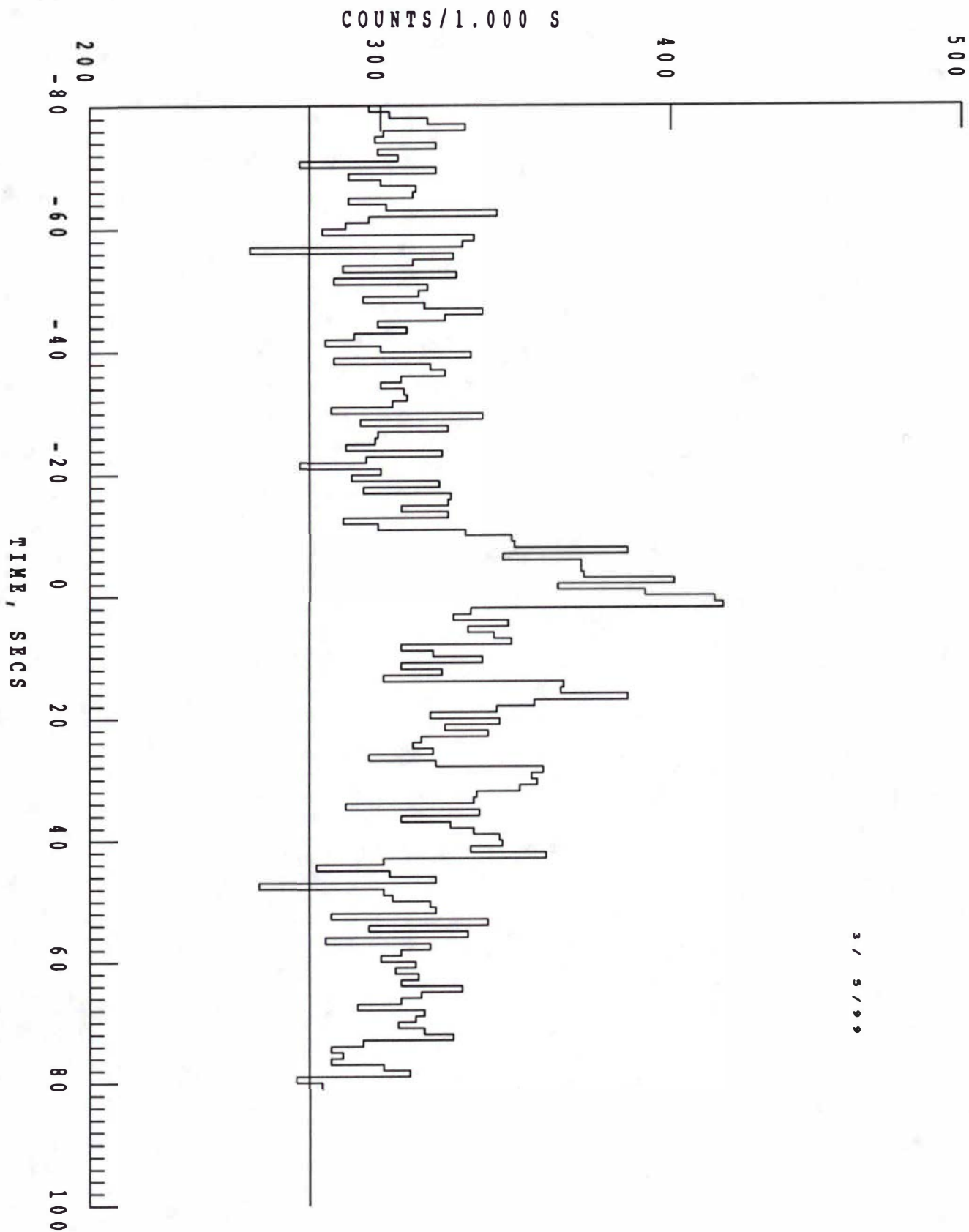


NEAR

03/05/99

19085.154

100-1000 keV



KNEAR GRS 19990503 19085

ULYSSES RT

16 / 9 / 99

3 / 5 / 99 15948.362 s

INTERVALS REGROUPED BY 11

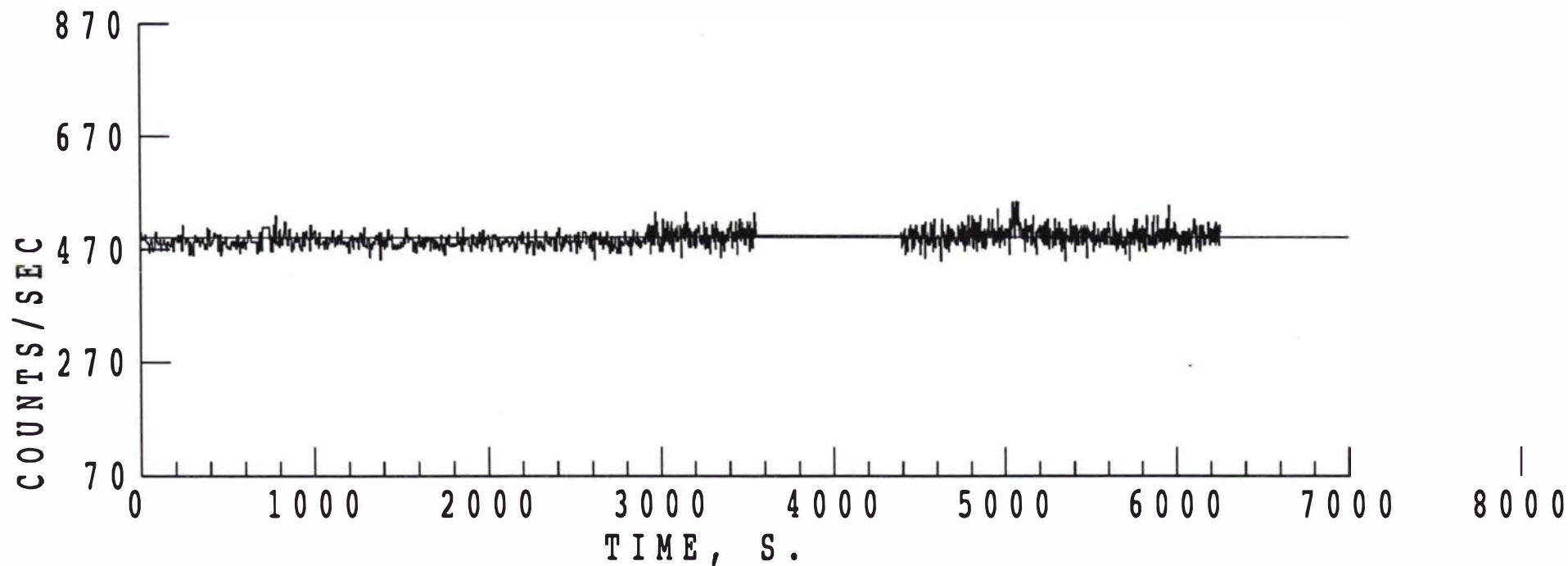
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From RICHARDSON@fender.msfc.nasa.gov Thu May 6 06:23:01 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 6 May 1999 8:23:25 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7542

TIME: TJD=1301^{May 3}SECONDS=20639

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

SOLAR FLARE. GOES M4.4, OPTICAL 2N.

LONG, STRONG, WITH LOTS OF STRUCTURE. DURATION AT LEAST 800 SEC AND POSSIBLY
AS LONG AS 1800 SEC. VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Thu May 6 06:24:54 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Thu, 6 May 1999 8:25:23 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7543

TIME: TJD=1301 SECONDS=28037

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=6.3 AZIMUTH=315.5 ERROR=0.8 DEGREES

COMMENTS:

SOLAR FLARE, NO GOES, NO OPTICAL.

SINGLE PULSE. DURATION APPROX. = 45 SEC. NOT VISIBLE ABOVE 100KEV.

From HENZE@fender.msfc.nasa.gov Tue May 4 13:33:27 1999
Date: Tue, 4 May 1999 15:33:53 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@ests2.esa.nl,
cline@heavx.gsfc.nasa.gov, barthelmy@heavx.gsfc.nasa.gov,
bacodine@heavwww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@heavx.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.: 7544

TIME: TJD=1301 SECONDS=48752

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT WEST OF NORTH AMERICA.

From HENZE@fender.msfc.nasa.gov Tue May 4 13:21:06 1999
Date: Tue, 4 May 1999 15:21:31 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@compTEL.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7545

TIME: TJD=1301 SECONDS=60583

TYPE: PARTICL SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:
PARTICLE EVENT, WEST OF NORTH AMERICA.

From GOGUSE@fender.msfc.nasa.gov Thu May 6 08:28:13 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Thu, 6 May 1999 10:28:17 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7546

TIME: TJD=1301 SECONDS=83399

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.0 AZIMUTH=325.6 ERROR= 1.5 DEGREES

COMMENTS:

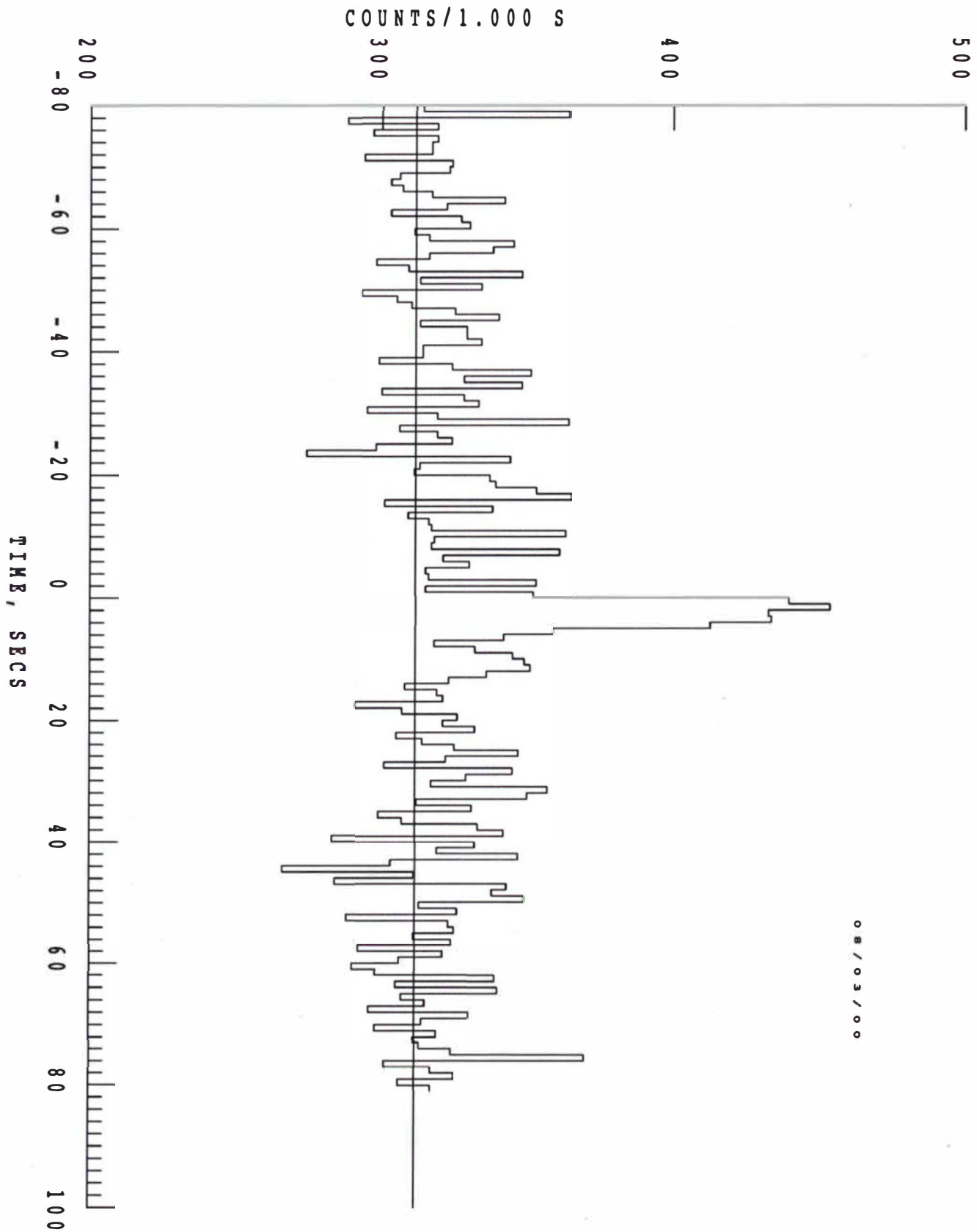
GOES M1.9, NO OPTICAL, DUR. APP. 140 S., VISIBLE ABOVE 300 KEV

NEAR

03/05/99

83646.133

100-1000 keV



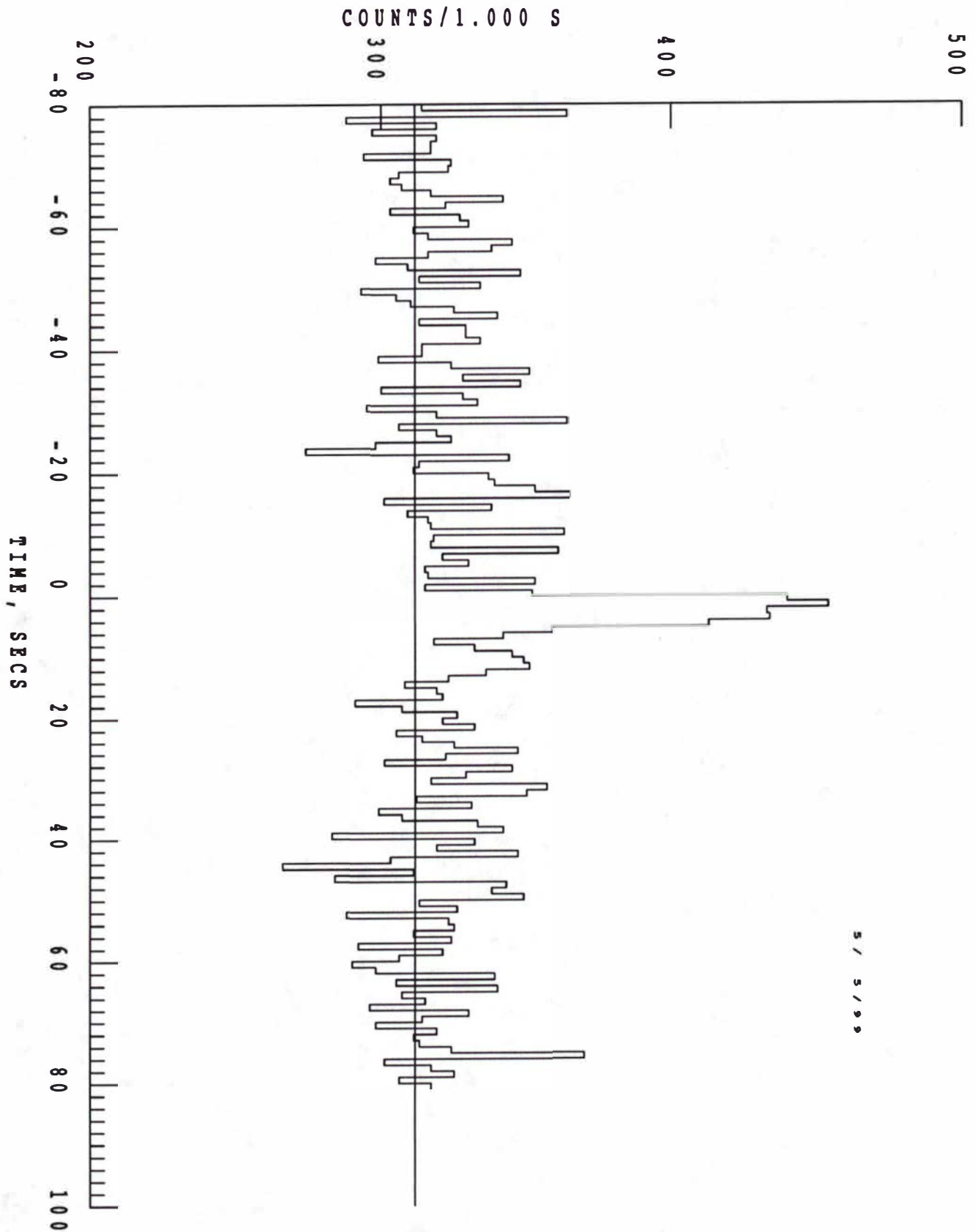
NEAR

03/05/99

83646.138

Solar?

100-1000 keV



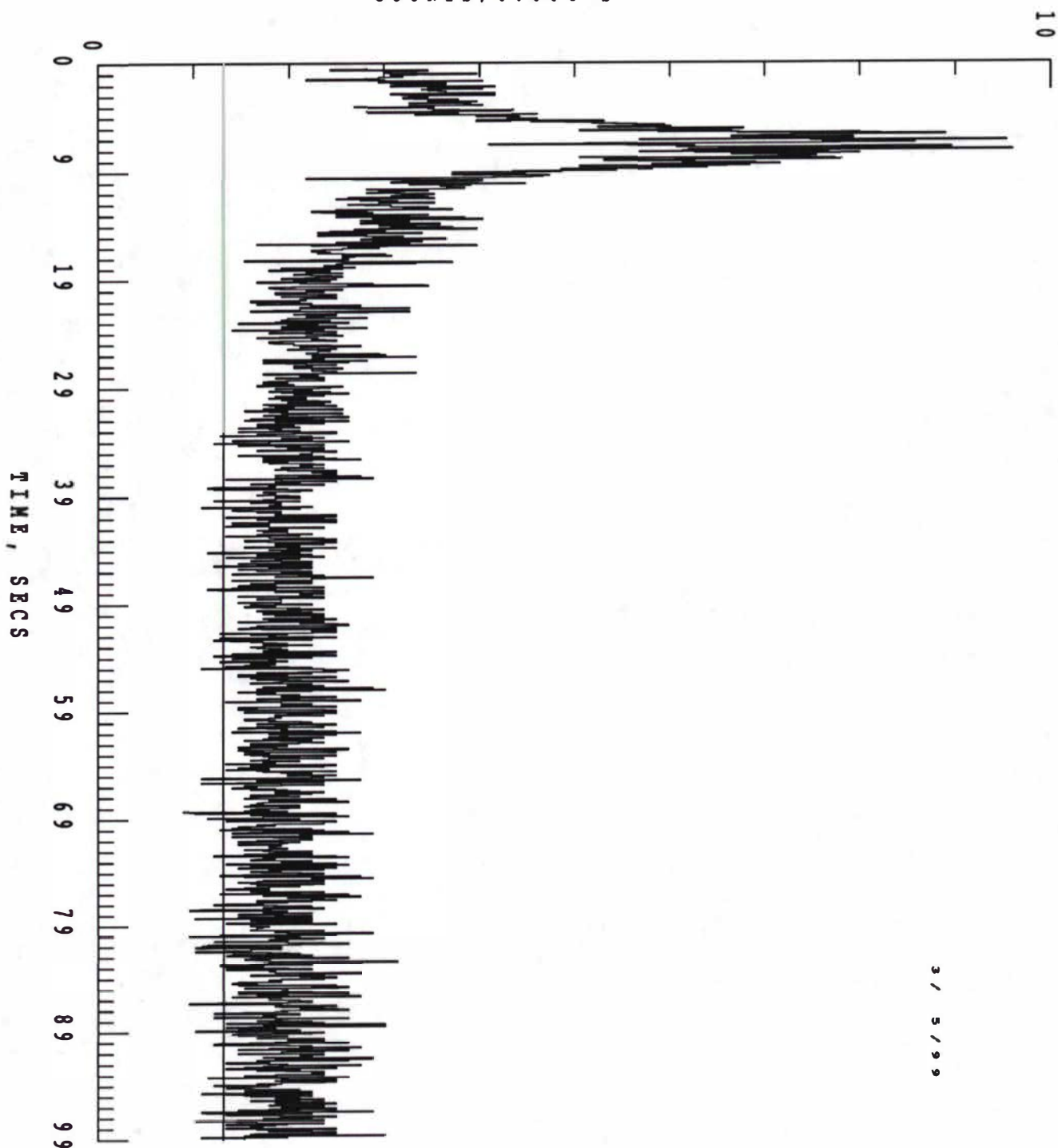
KONUS

03/05/99

83413.180

50 - 200 keV

COUNTS/0.064 S



3 / 5 / 9 9

KNEAR GRS 19990503 83646

ULYSSES RT

16 / 9 / 99

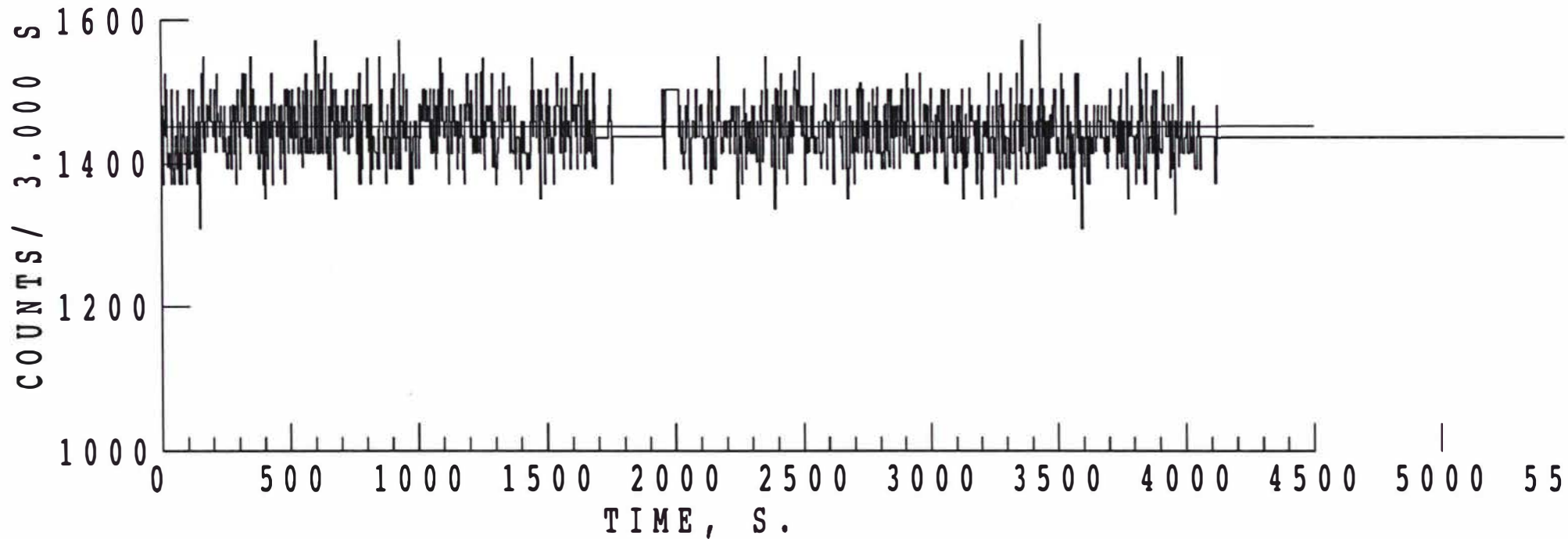
3 / 5 / 99 80496.016 s

0.500 S INTERVALS REGROUPED BY 6

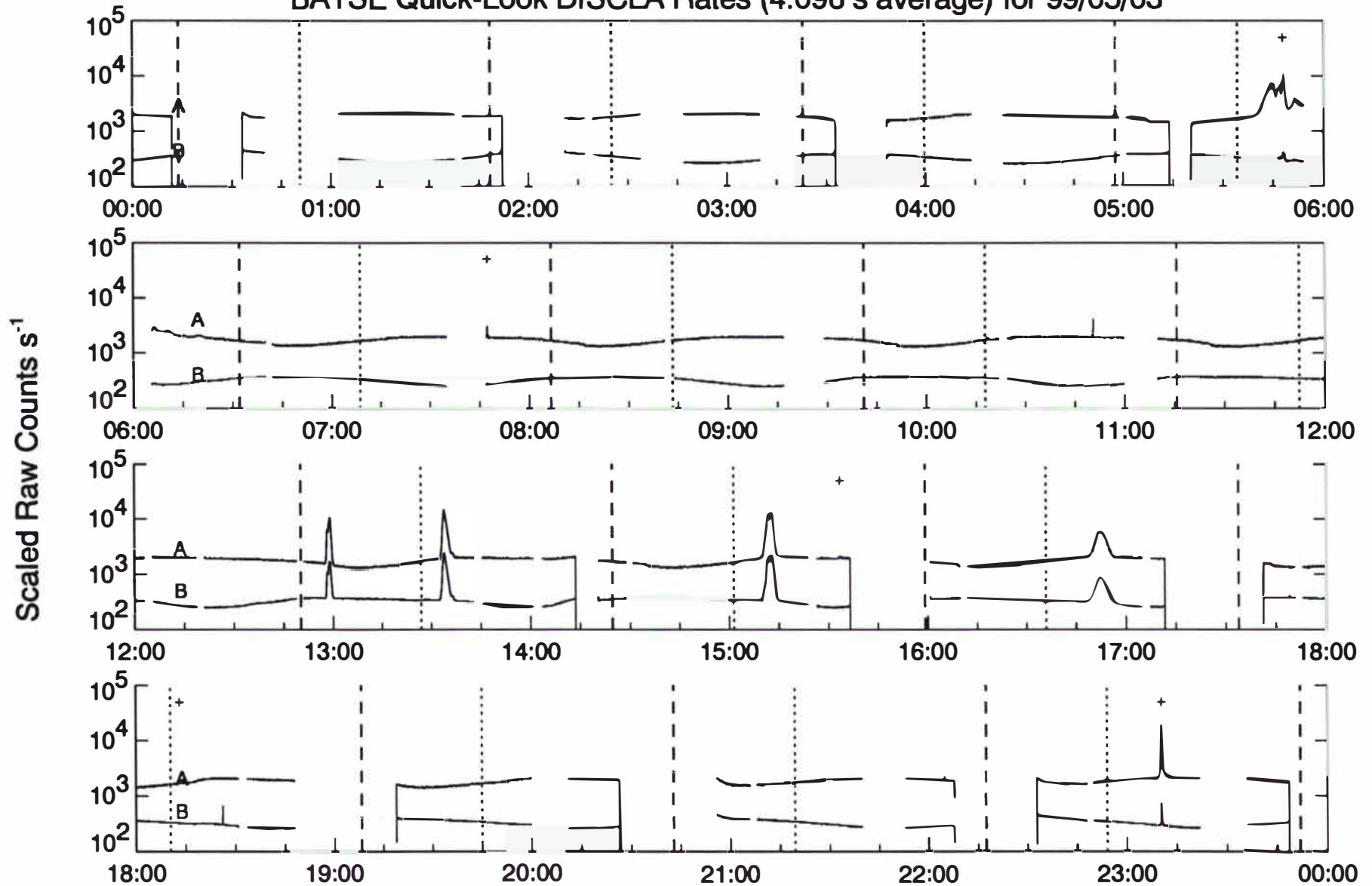
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/03



Current Time: 99/05/07, 1007 EDT

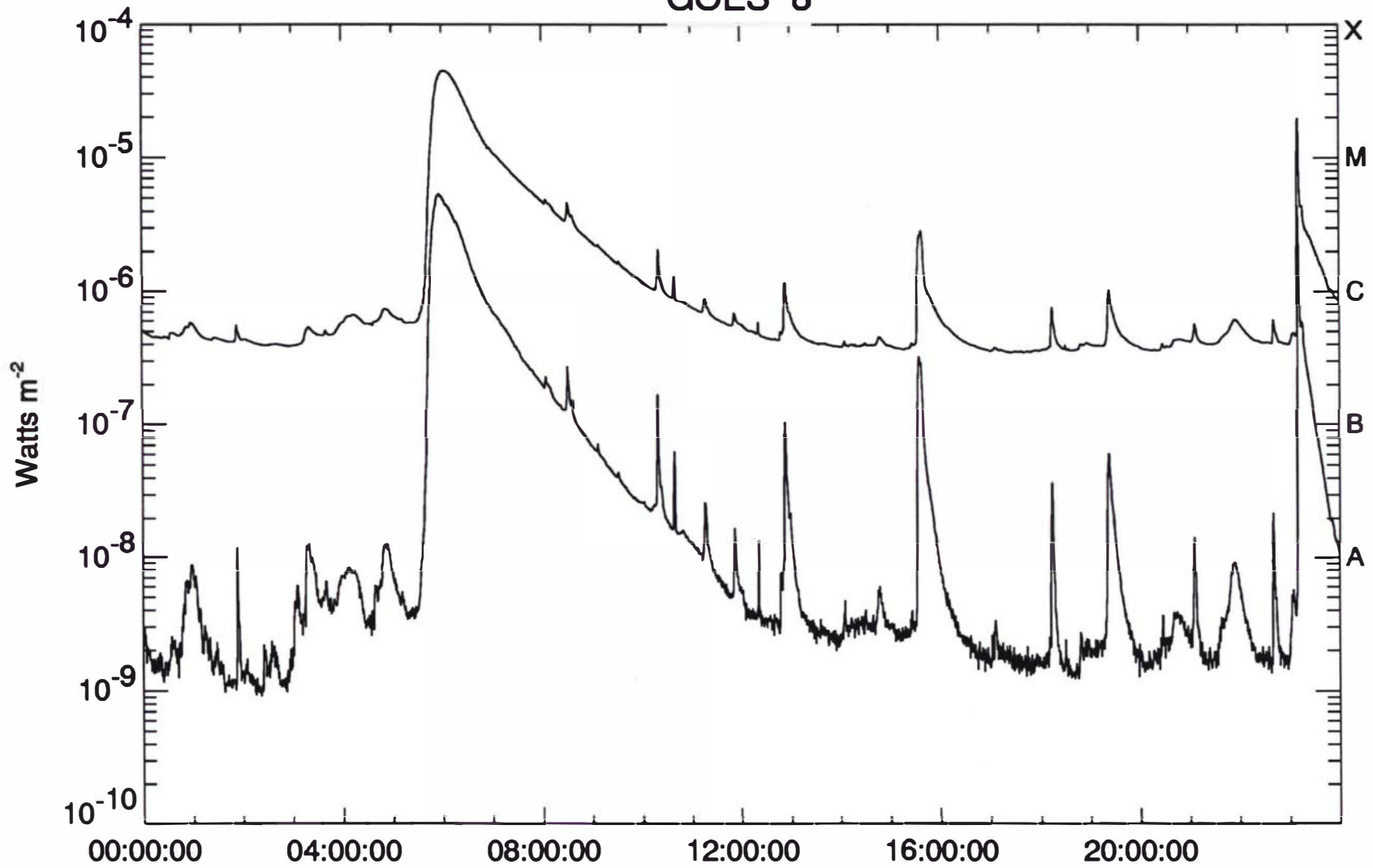
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/05/03, 0000:00

Plot created: 99/05/07, 1006

Channel

1 (1.0 - 8.0 Angstroms)

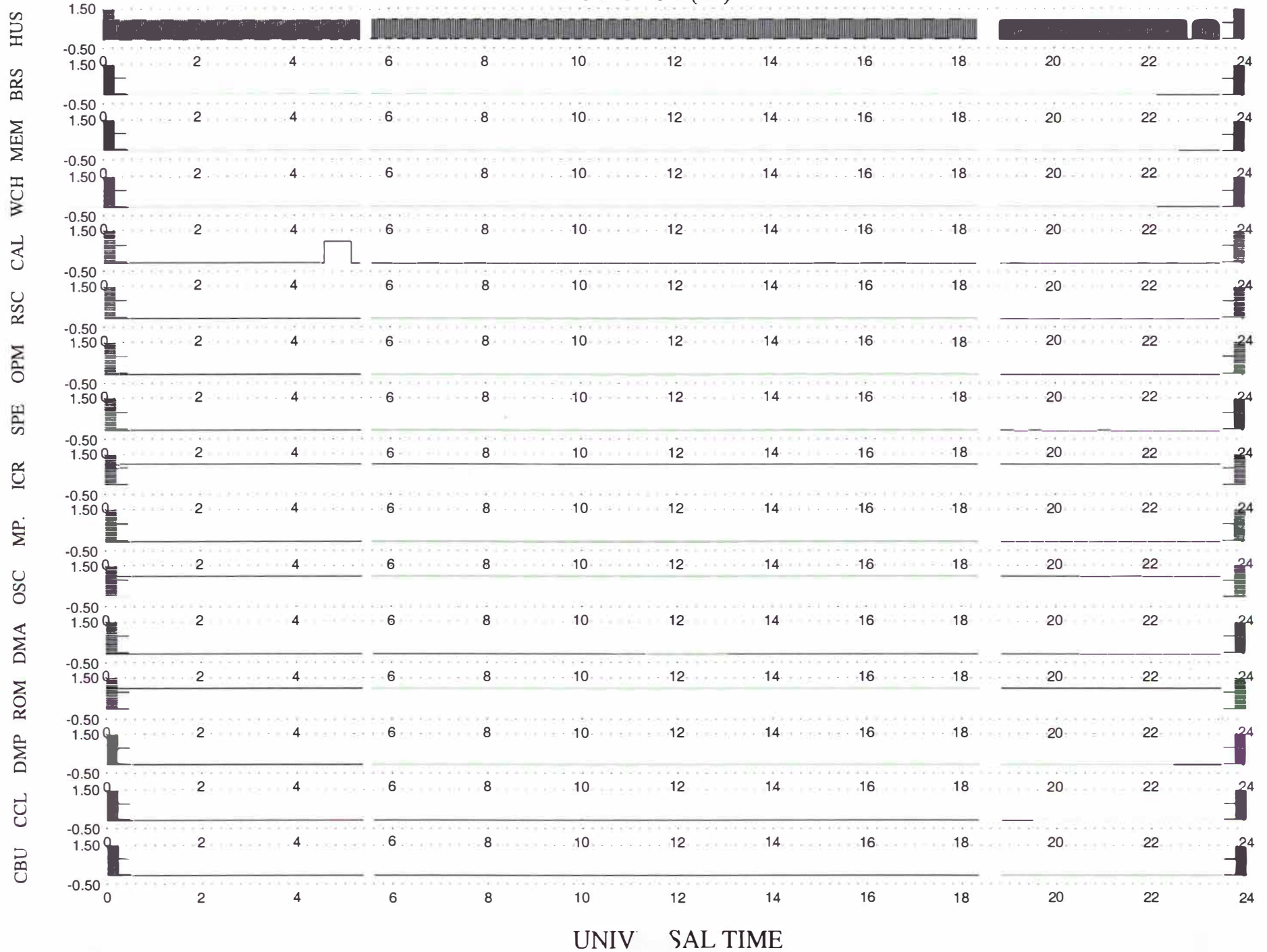
Background not subtracted

2 (0.5 - 4.0 Angstroms)

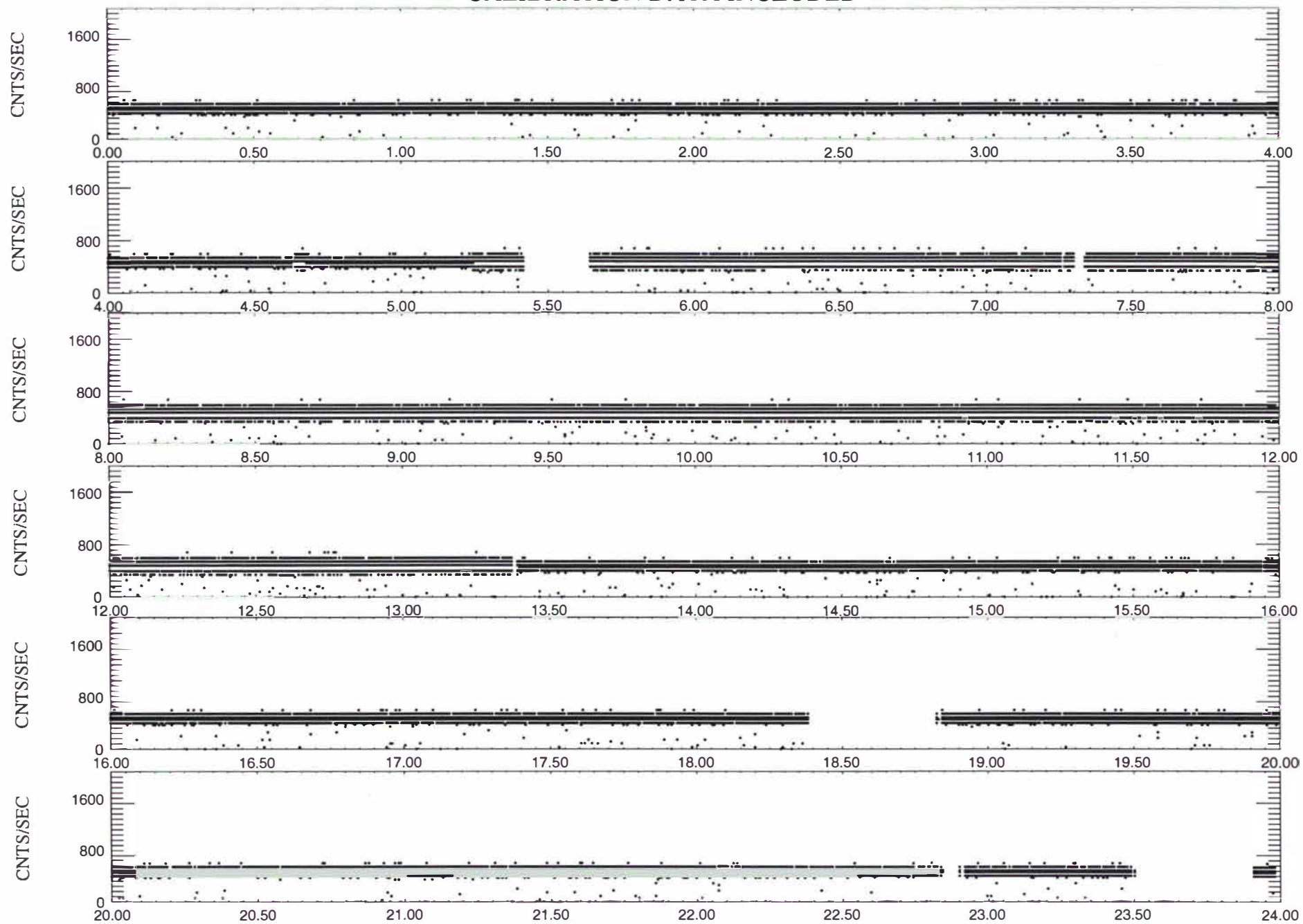
Background not subtracted

Sample average = 10

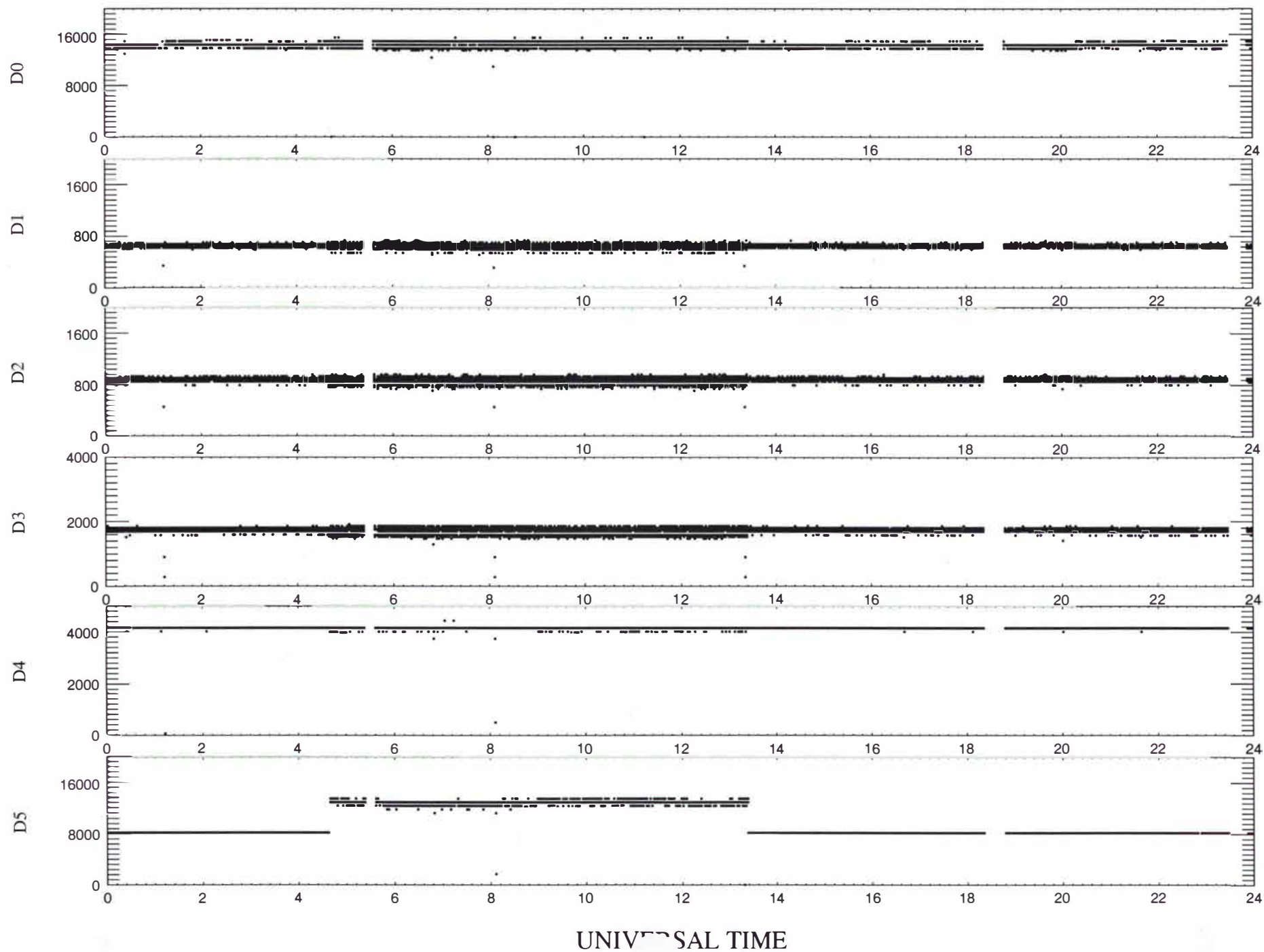
NO BURST (11)



CALIBRATION DATA INCLUDED



UNIVSAL TIME



04/05/99 40931.122
100-1000 keV

GRB/ Stem cell

From SURASAK@fender.msfc.nasa.gov Fri May 7 14:28:35 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 OAA26553; Fri, 7 May 1999 14:28:34 -0700
From: SURASAK@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id OAA13568
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 7 May 1999 14:25:56 -0700 (PDT)
Date: Fri, 7 May 1999 16:29:29 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990507162929.20211058@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7547
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7547
EVENT OF 1999 MAY 4 DAY OF YEAR=124
EVENT CROSSING TIME AT BATSE : 43907. S. OR 12:11:47.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 55.000 -19.000
BATSE PEAK COUNTING RATE: 21300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 4/ 5/ 99 IS:
RA= 144.388 DEC= -7.123 DIST= 4.605 AU
BATSE-ULYSSES DISTANCE = 688911784. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 92.89 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -115.81 SECS.
CROSSING TIME AT ULYSSES IS 43791. S. OR 12:09:51 +/- 446.70 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 4/ 5/ 99 IS:
RA= 208.896 DEC= -10.807 DIST= 0.579 AU
MARS-BATSE DISTANCE = 86612544. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 39.38 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 223.32 SECS.
CROSSING TIME AT MARS IS 44130. S. OR 12:15:30 +/- 35.21 SECONDS

BATSE BURST TRIGGER

NO.: 7547

TIME: TJD=1302 SECONDS=43907

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

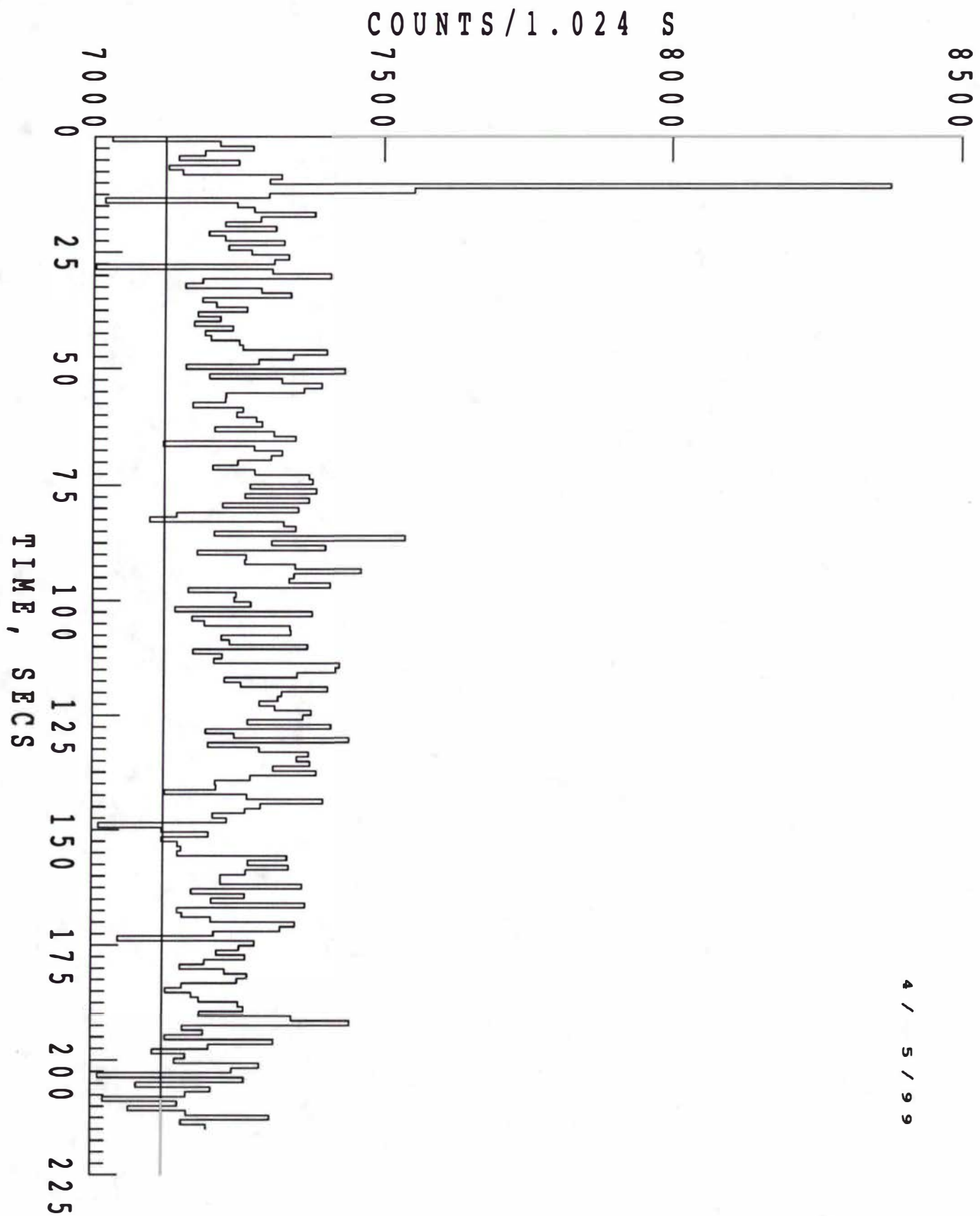
LOCATION: ZENITH=34.2 AZIMUTH=180.5 ERROR=3.88 DEGREES

COMMENTS:

GRB. SINGLE F.R.E.D. SPIKE. DURATION ABOUT 0.3 S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7547	990504	11302	43907	21300	055	-19	.3

BACODINE 7547 04/05/99 43896.569
25- 100 keV



BATSE BURST# 7547

ULYSSES RT

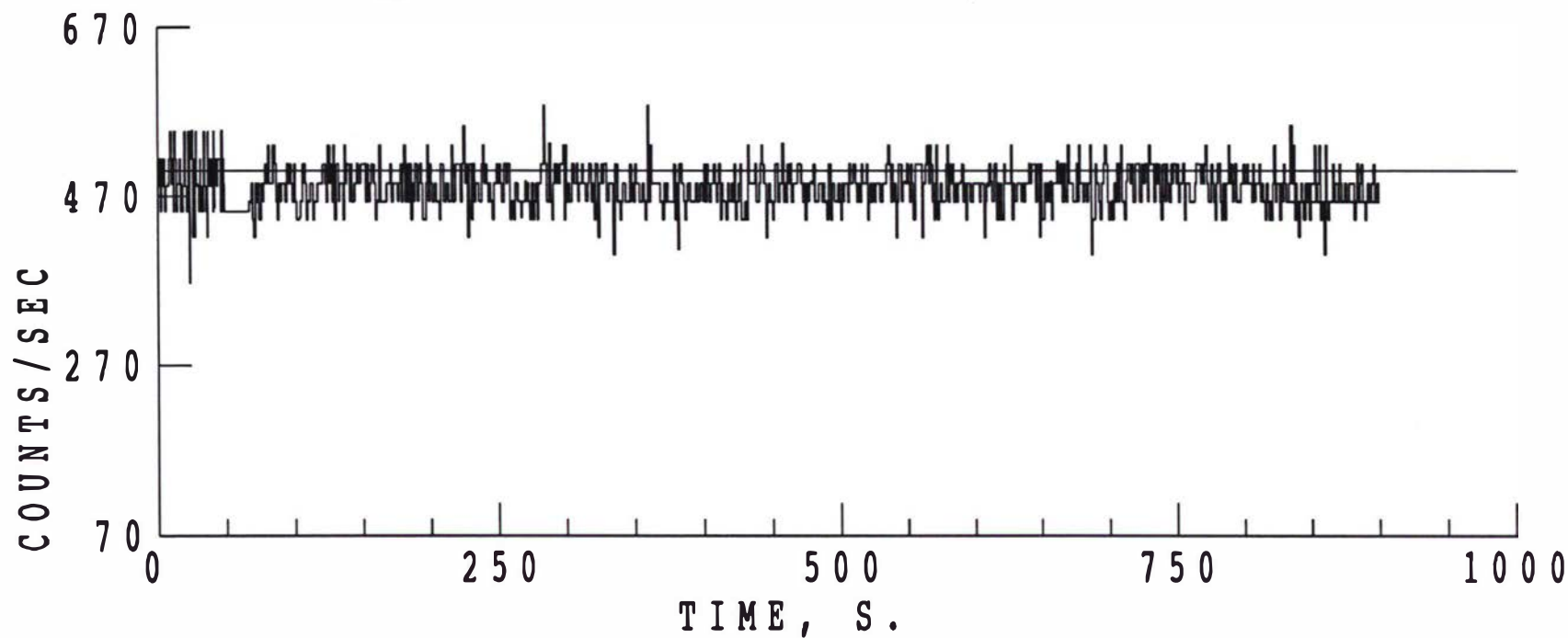
7 / 5 / 99

4 / 5 / 99 43344.012 s

INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: May 23 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data N/A

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

2. For Konus events

- ☐ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

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

3. For INTEGRAL events

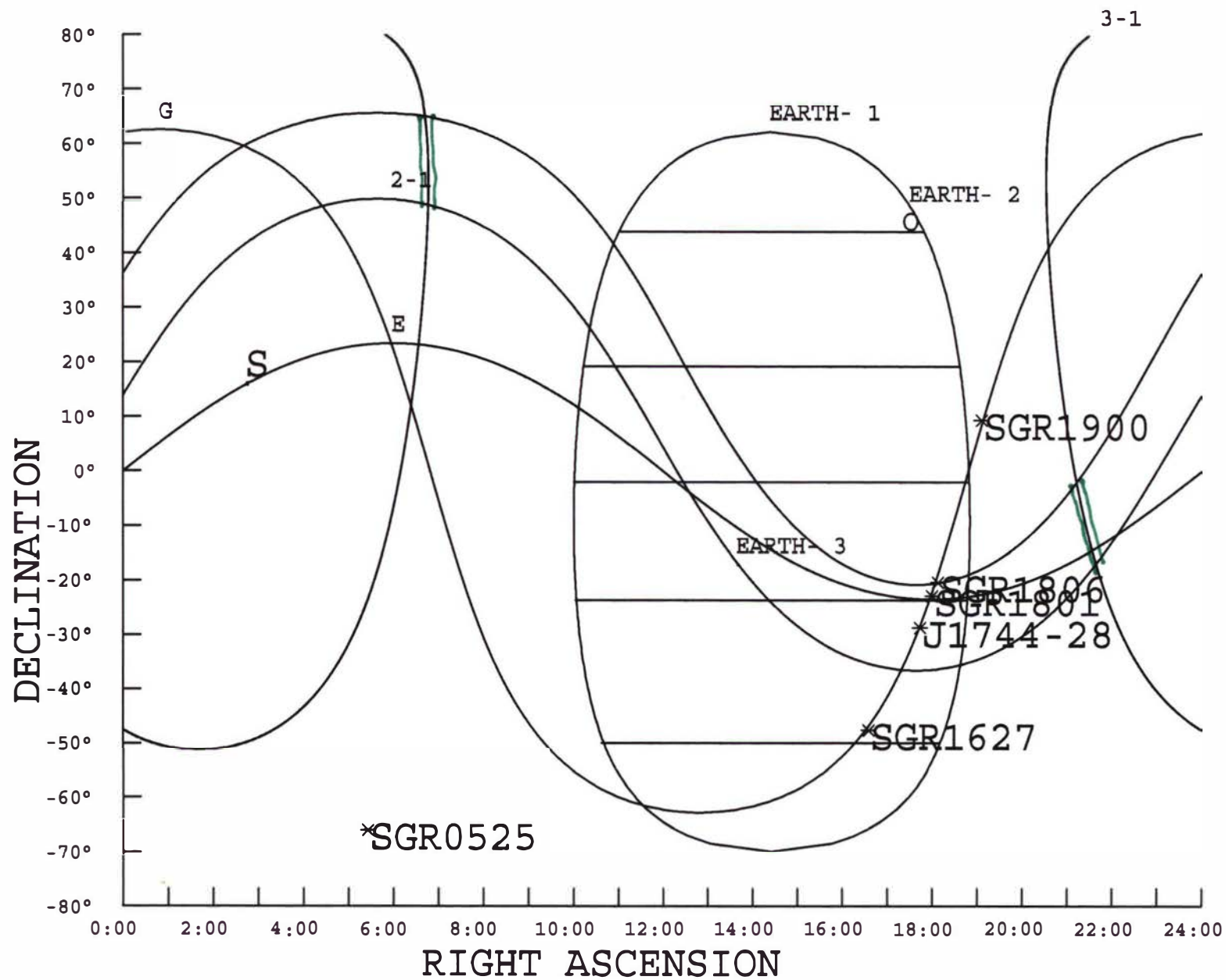
- ☐ INTEGRAL SPI-ACS website checked for bursts that weren't transmitted automatically?
- ☐ 125 ms added to INTEGRAL SPI-ACS time for bursts prior to April 2 2004 11:00 UT?
- ☐ Updated ephemeris used for bursts prior to September 30, 2003?

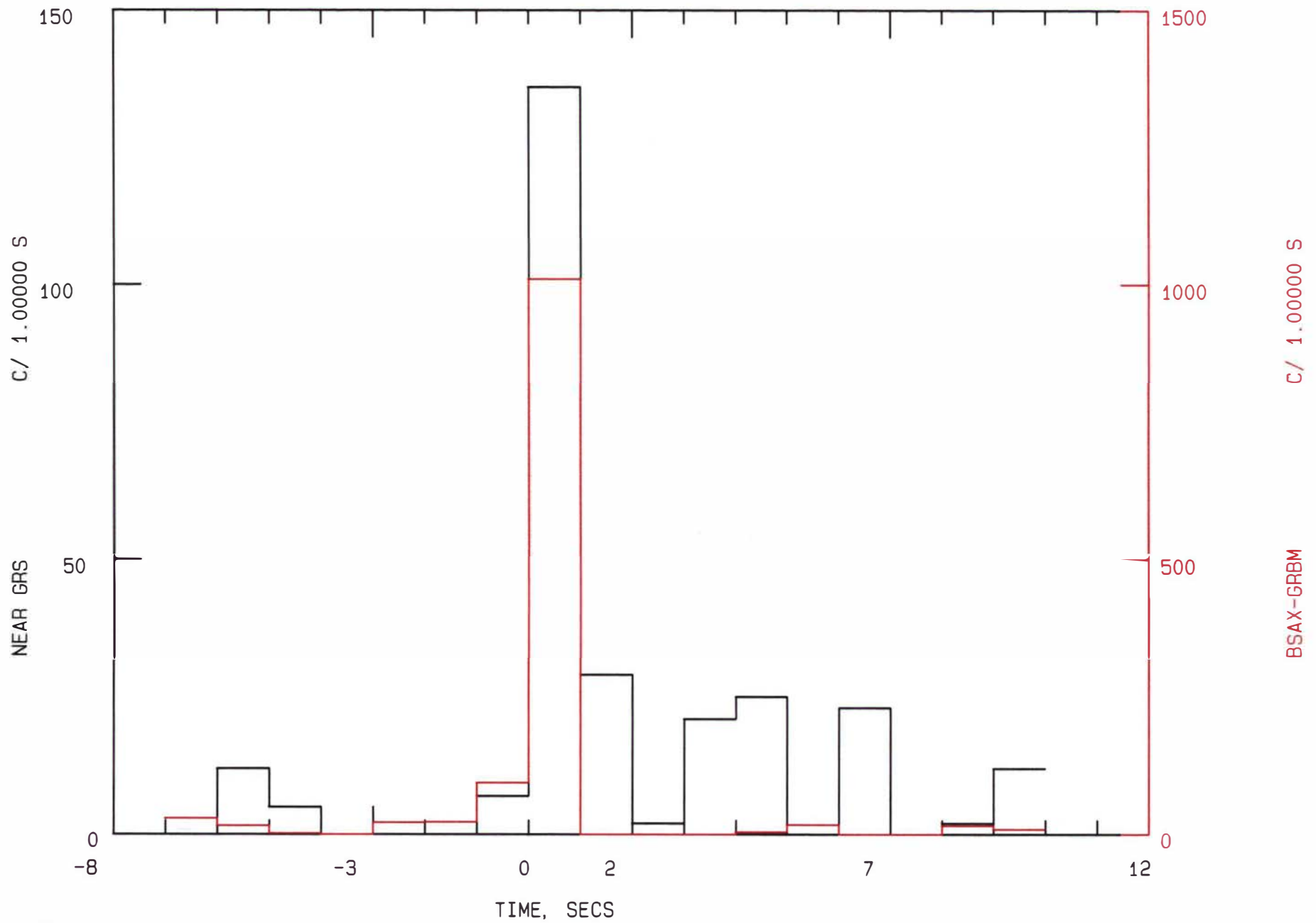
-
- ☒ ACCESS and MBL4 databases updated?

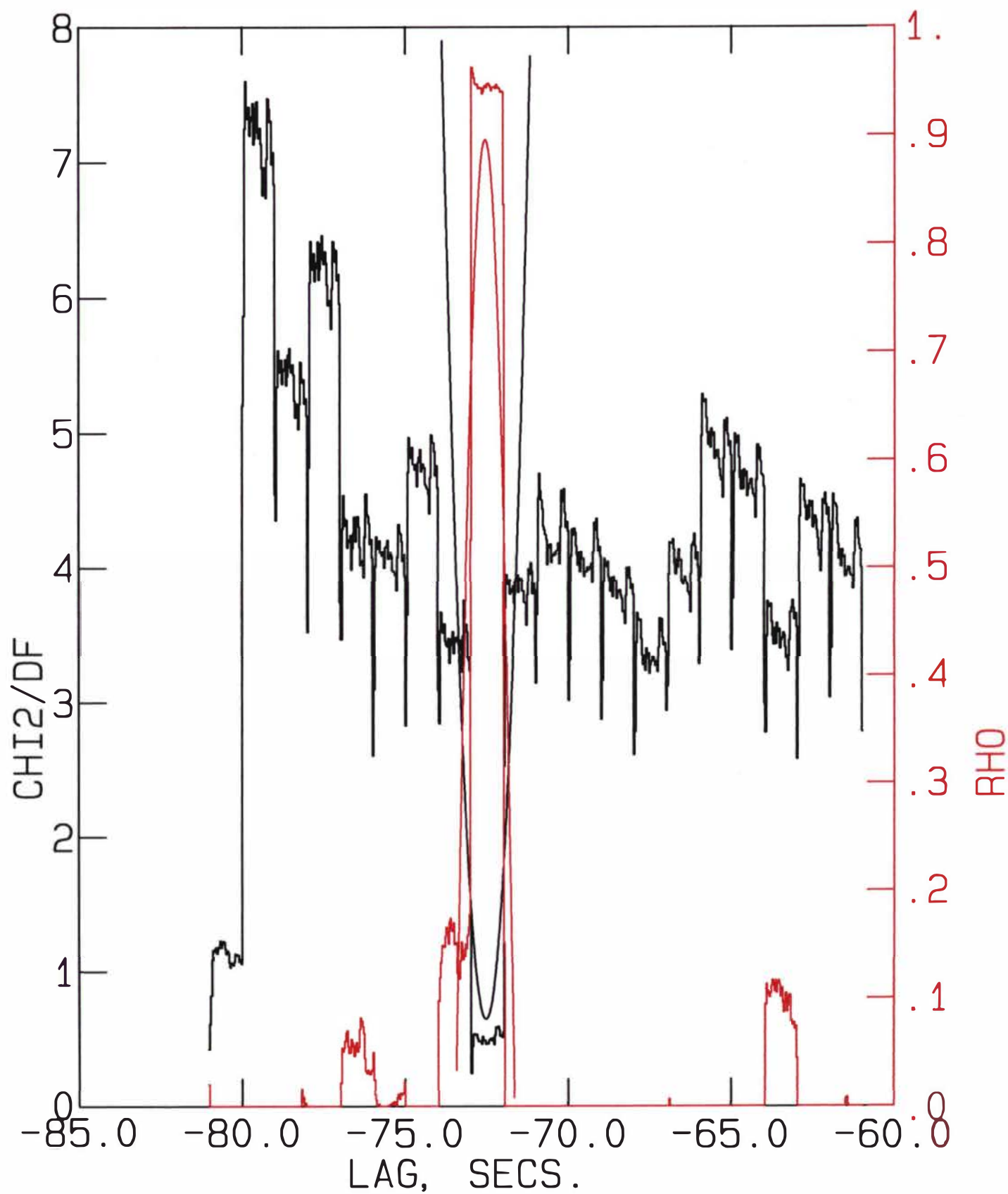
EVENT OF MAY 4, 1999 18:46

22/ 5/ 7

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







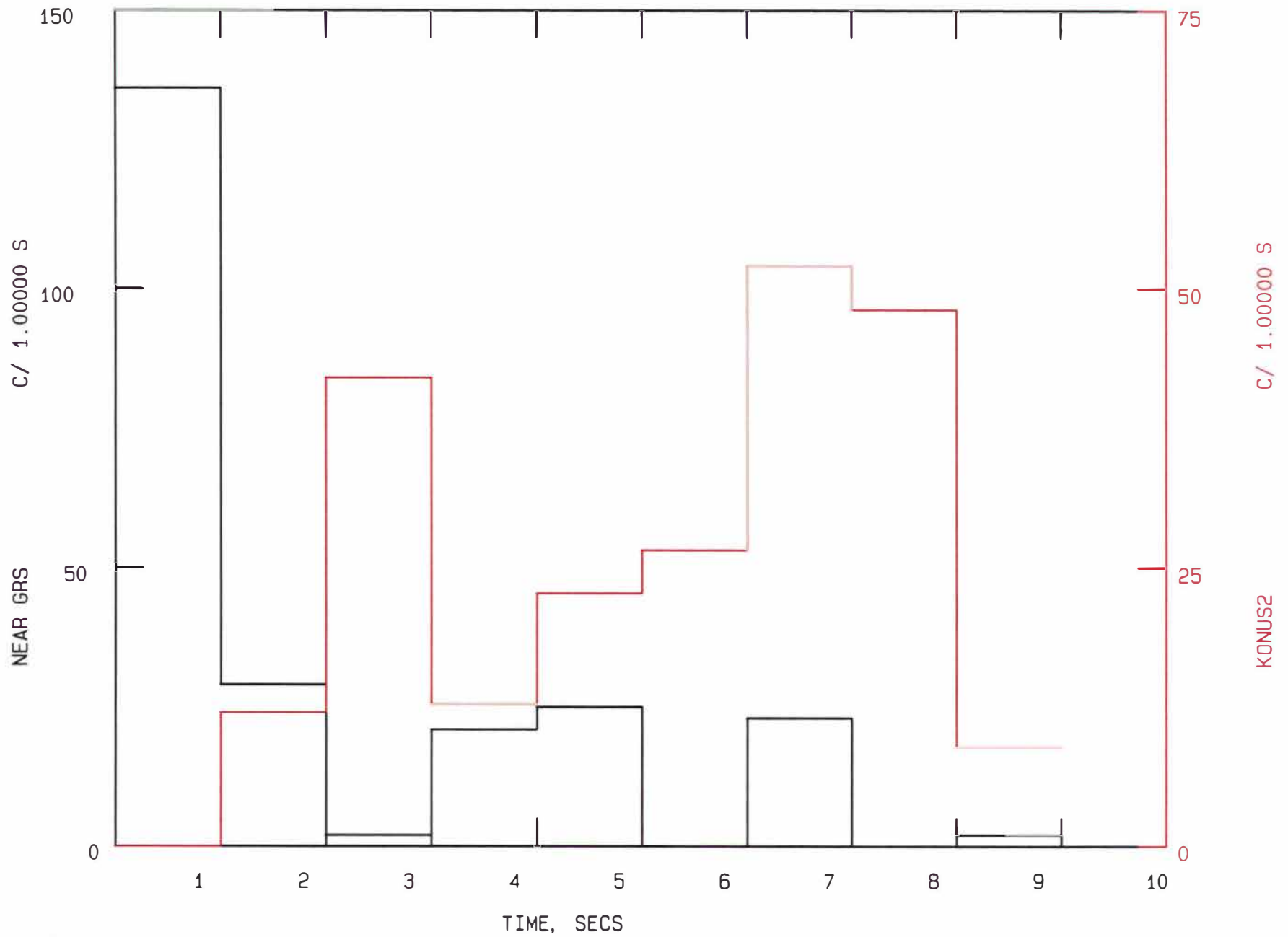
NEAR GRS -KONUS2

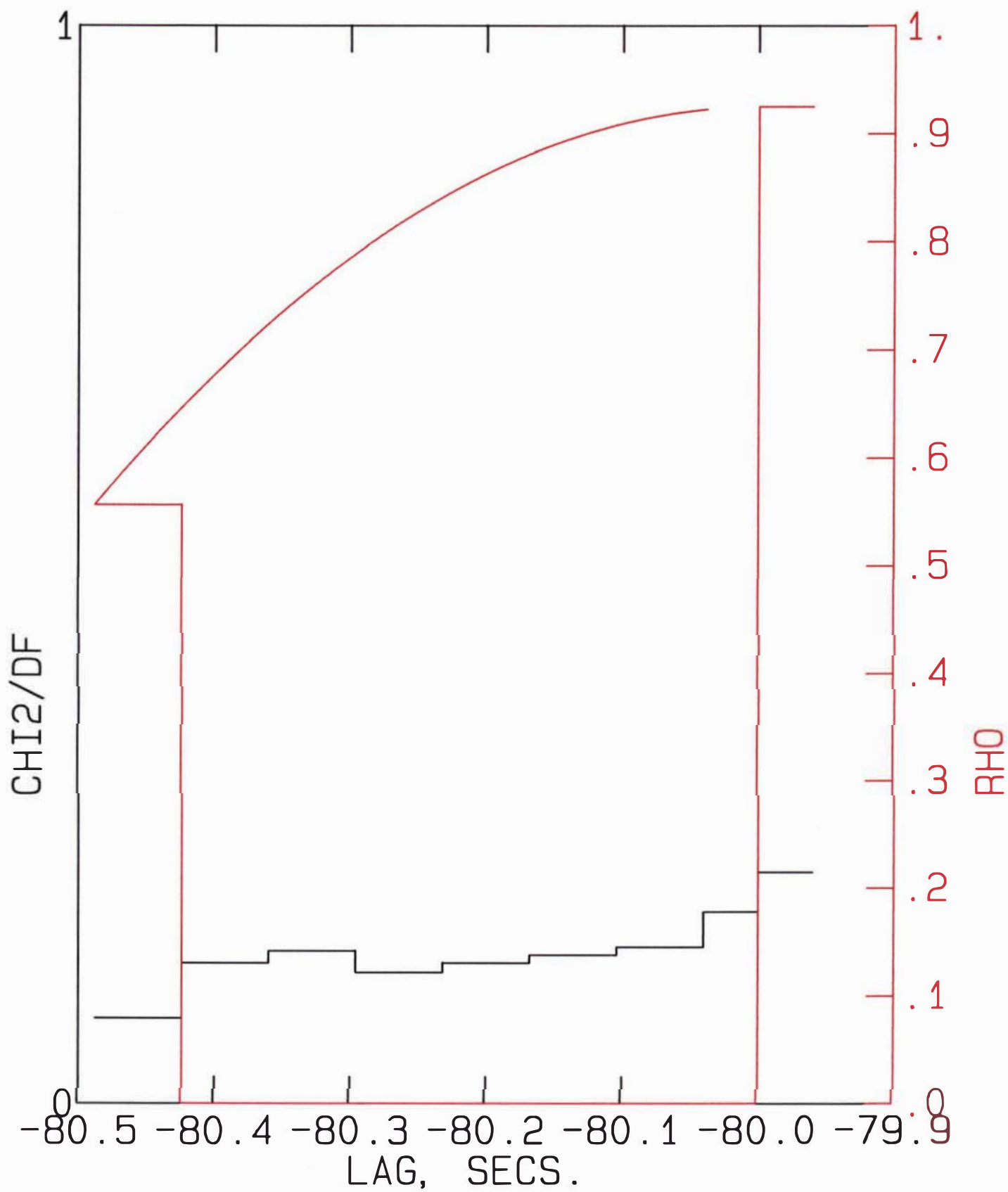
CORRELATION

04/05/99

67144.115

22/ 5/ 7





KONUS2

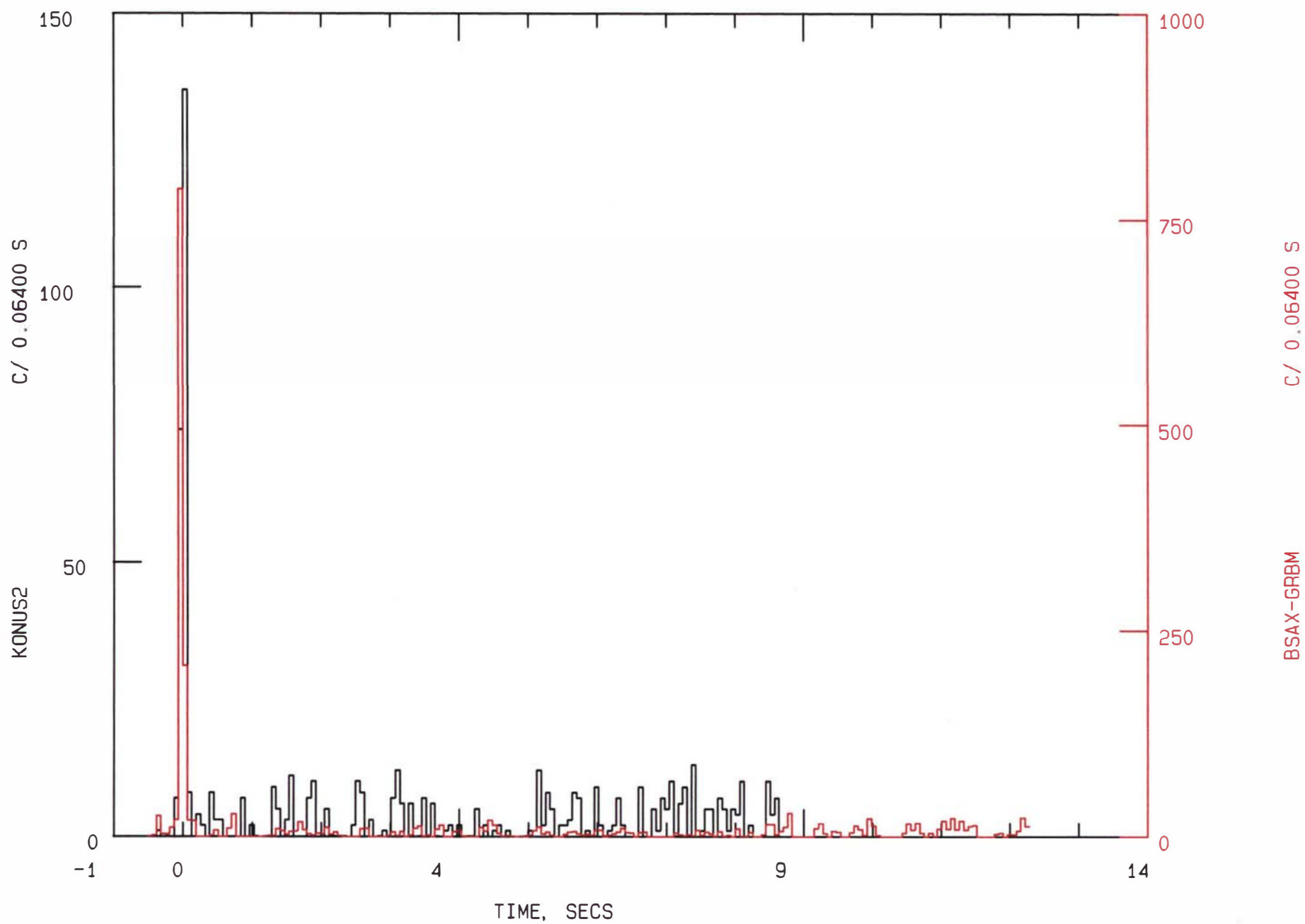
-BSAX-GRBM

CORRELATION

04/05/99

67586.484

22/ 5/ 7



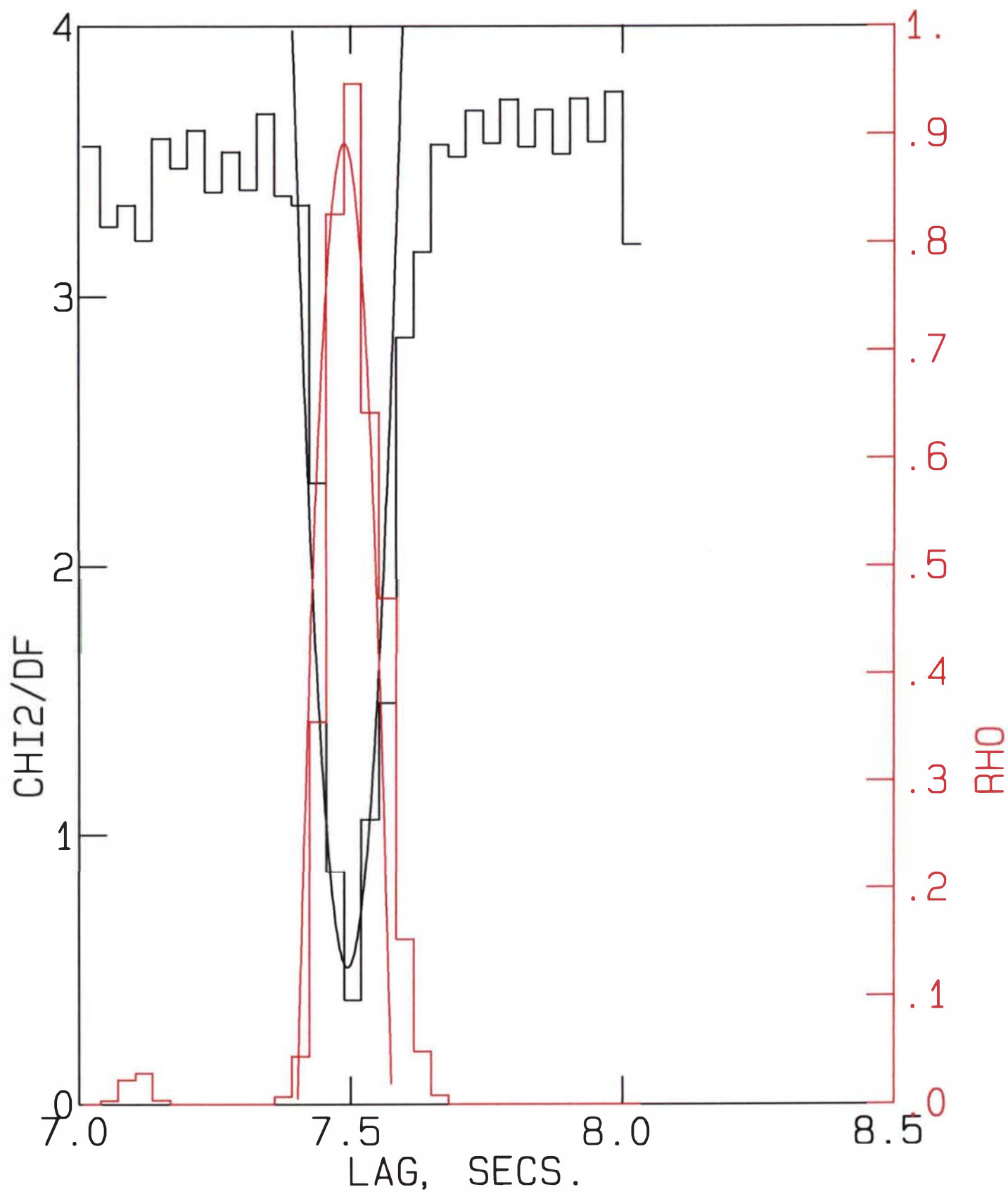
KONUS2

-BSAX-GRBM

CORRELATION

04/05/99

67586.484

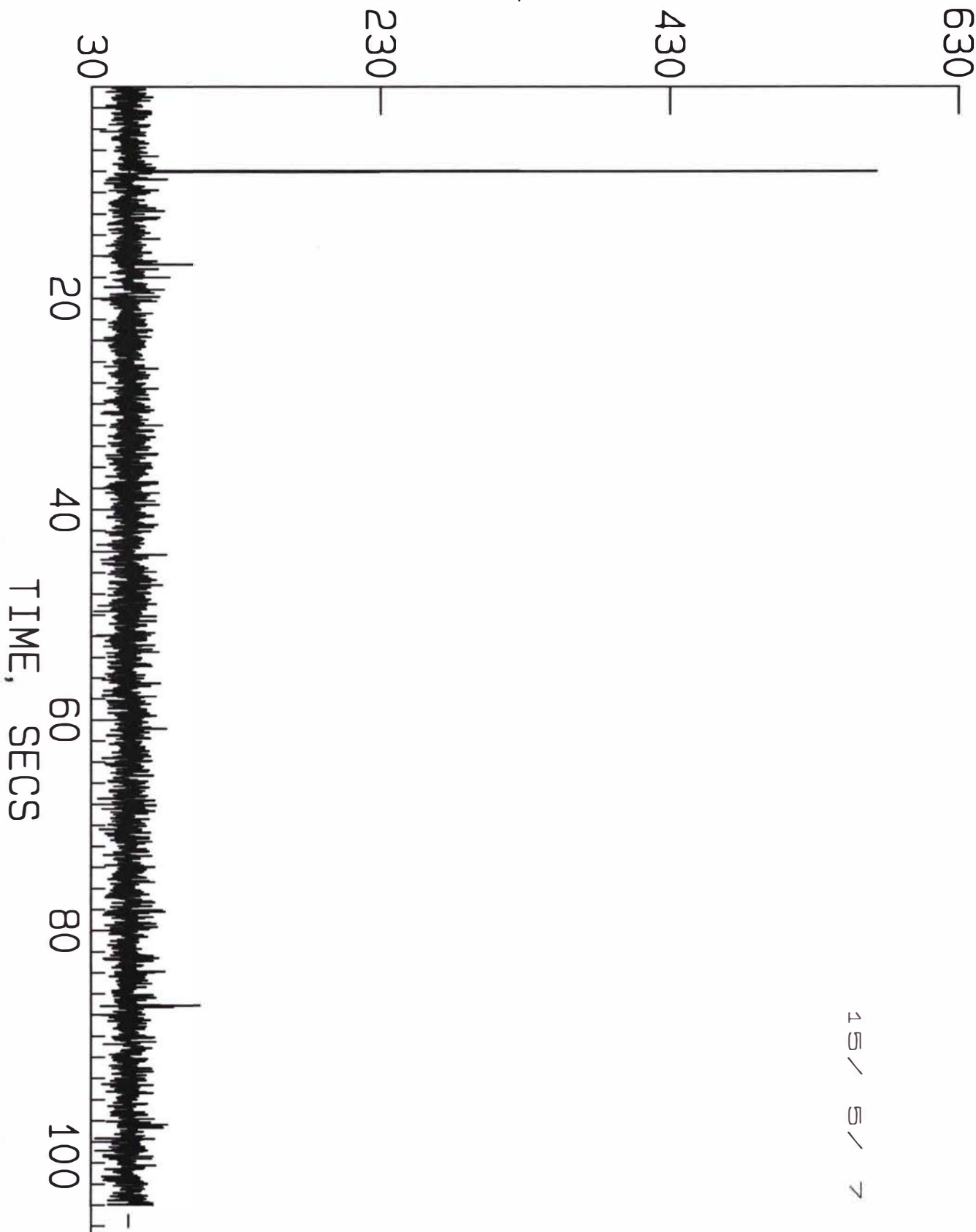


SAX GRBM

04/05/99 67578.289

40- 700 keV

COUNTS/0.031 S



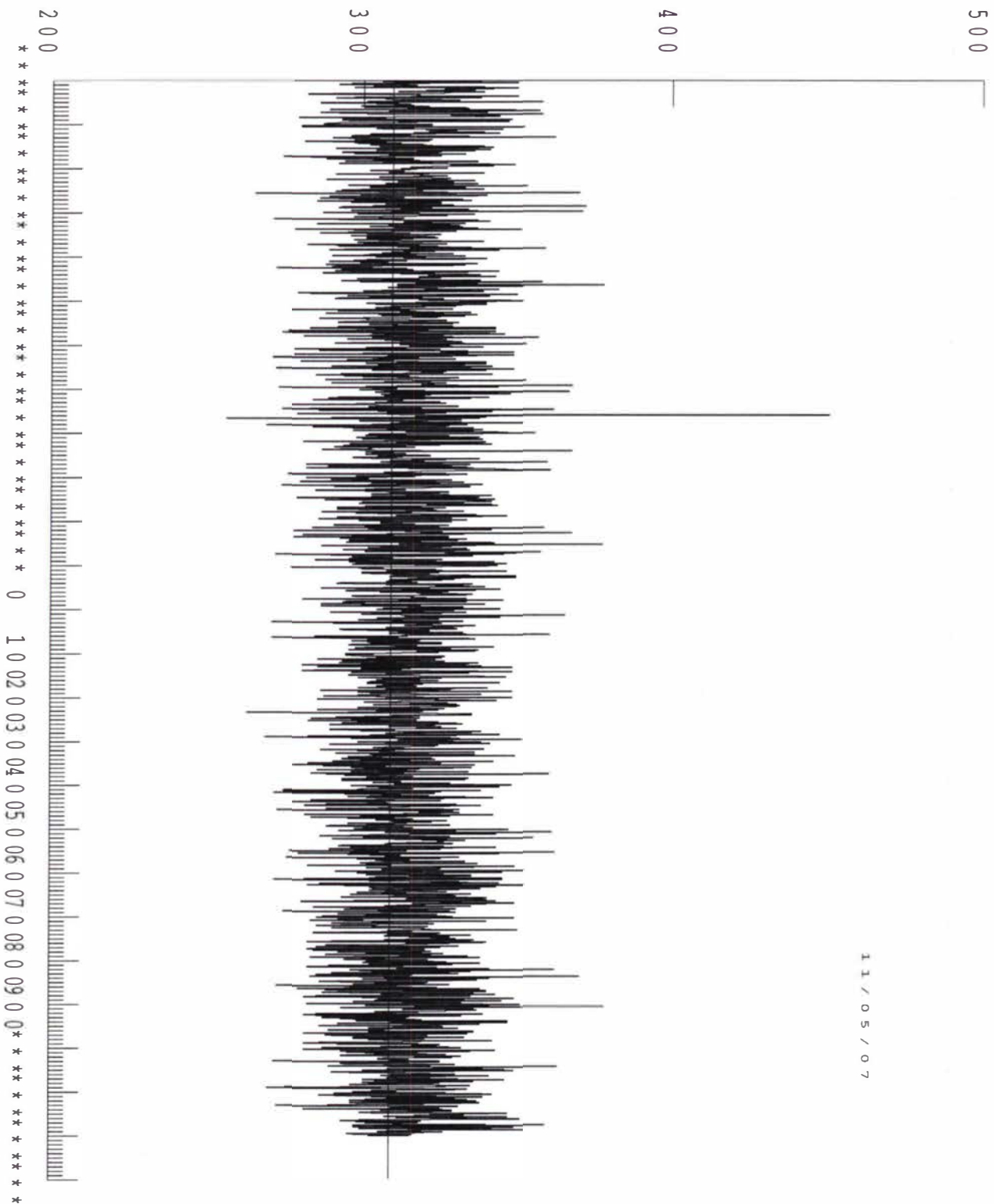
NEAR

04/05/99

67585.115

100-1000 keV

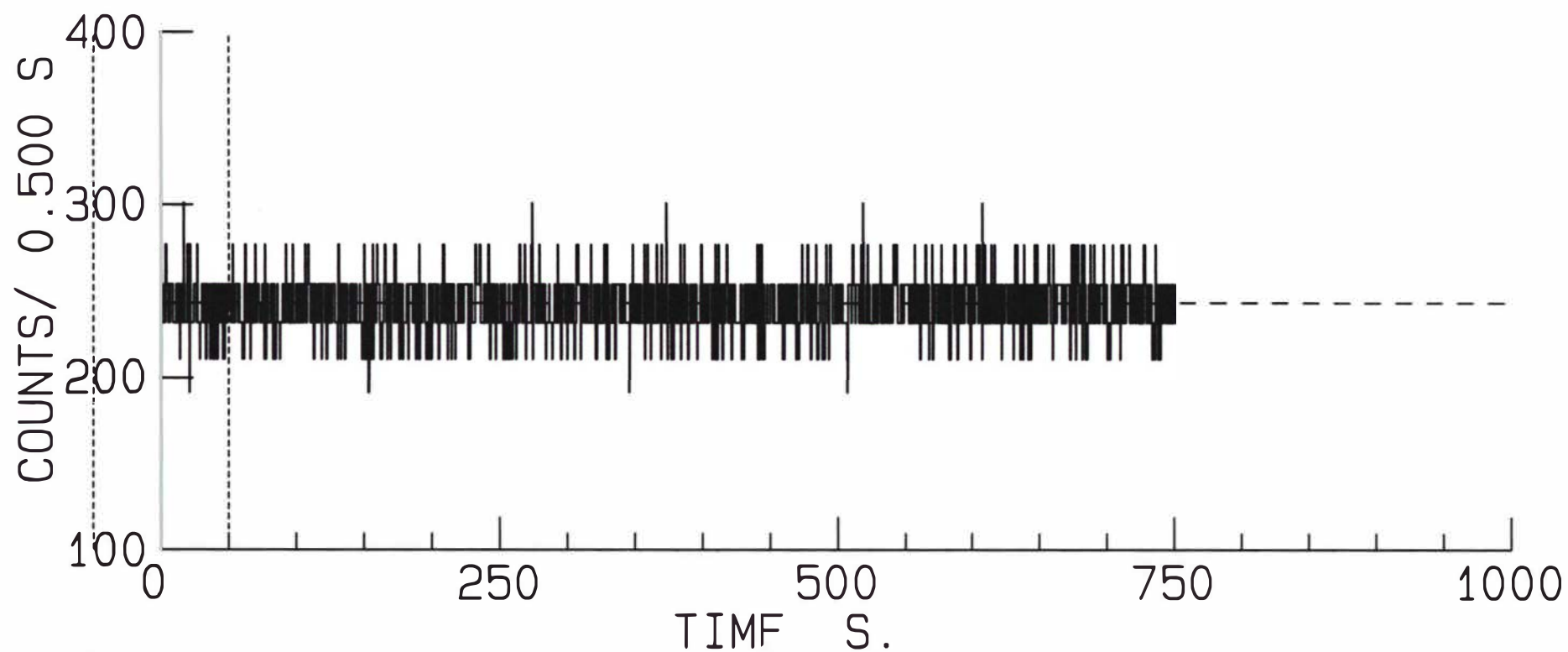
COUNTS/1.000 S



11/05/07

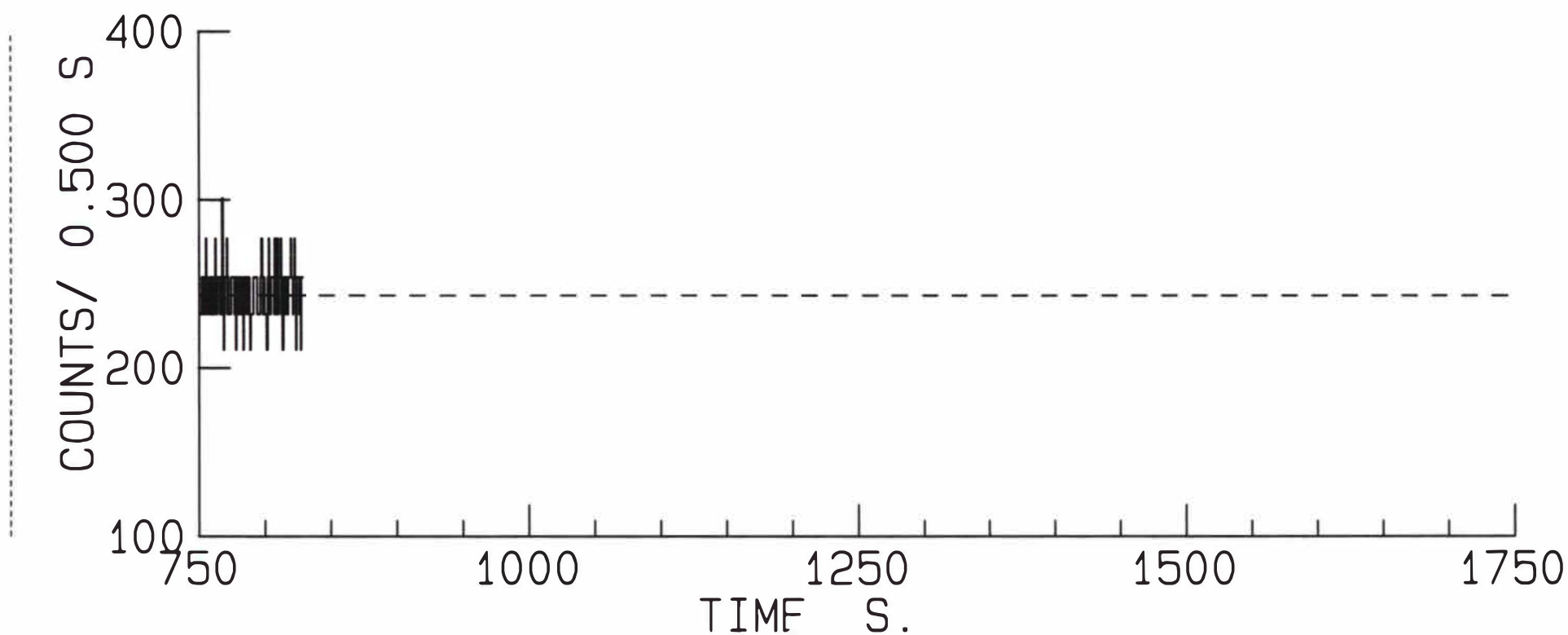
ULYSSES RT
4/ 5/99 66492.250 s
22- 150 keV

23/ 5/ 7



ULYSSES RT
4/ 5/99 66492.250 s
22- 150 keV

23/ 5/ 7



s a x 1 9 9 9 0 5 0 4 6 9 7 7 8

U L Y S S E S R T

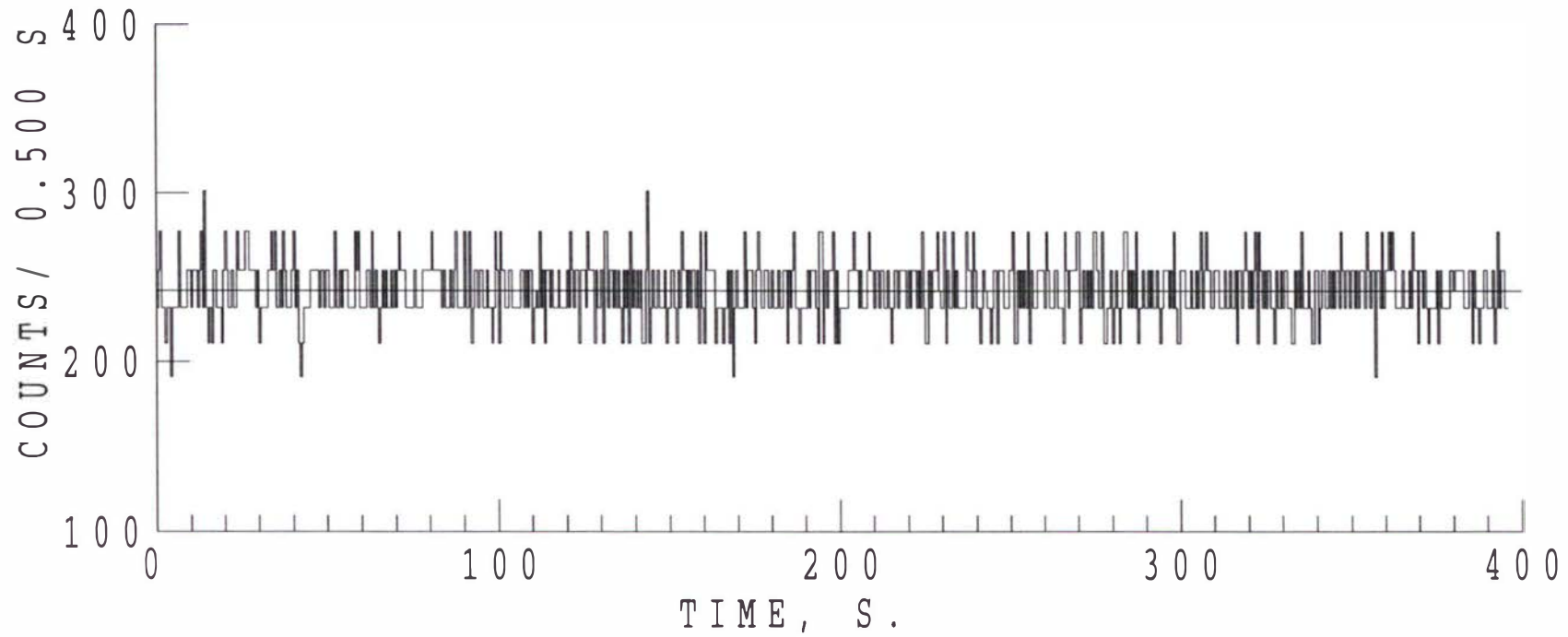
2 2 / 0 5 / 0 7

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

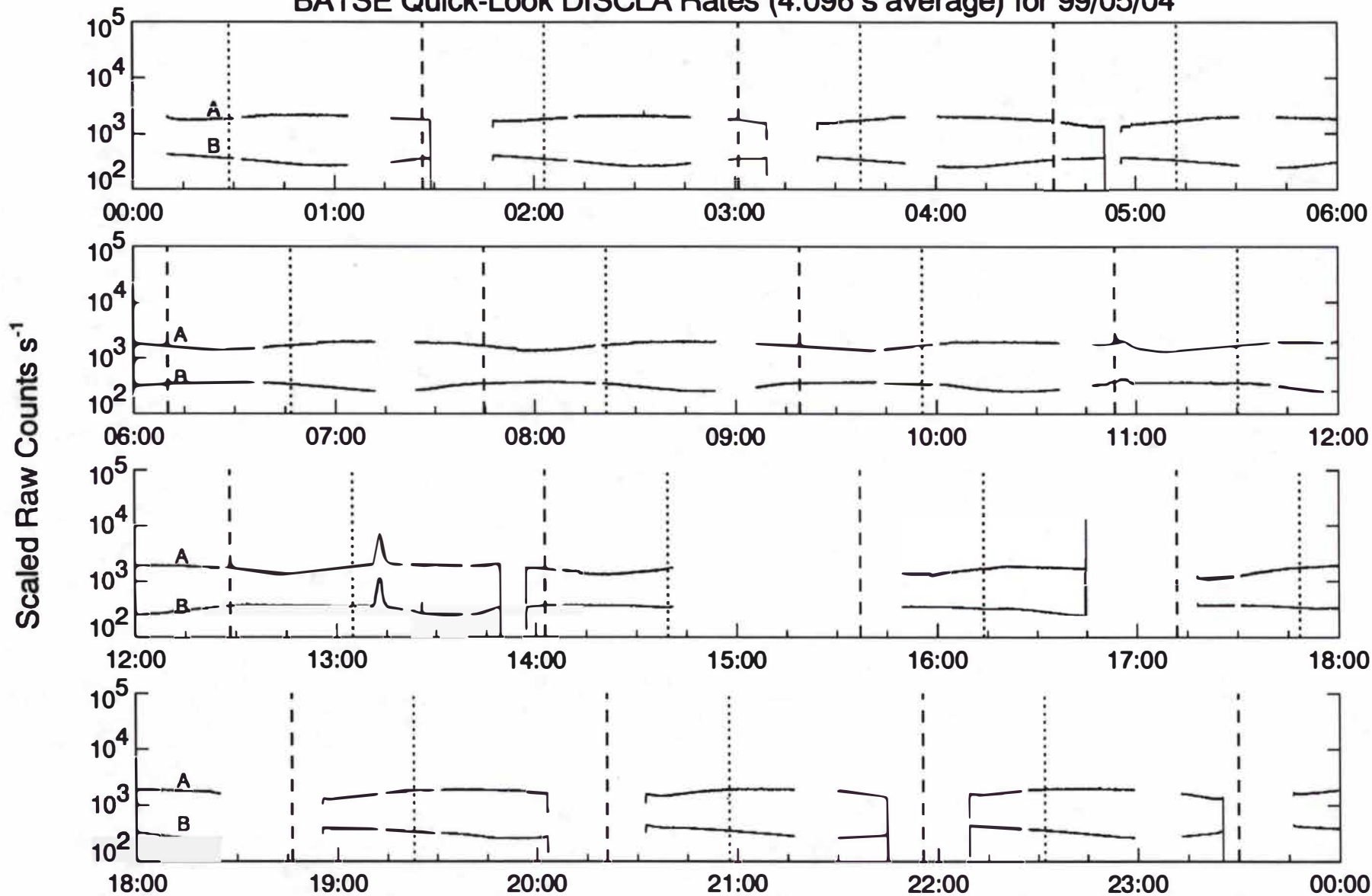
0 - 0 k e V

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/04



Current Time: 99/05/08, 1007 EDT

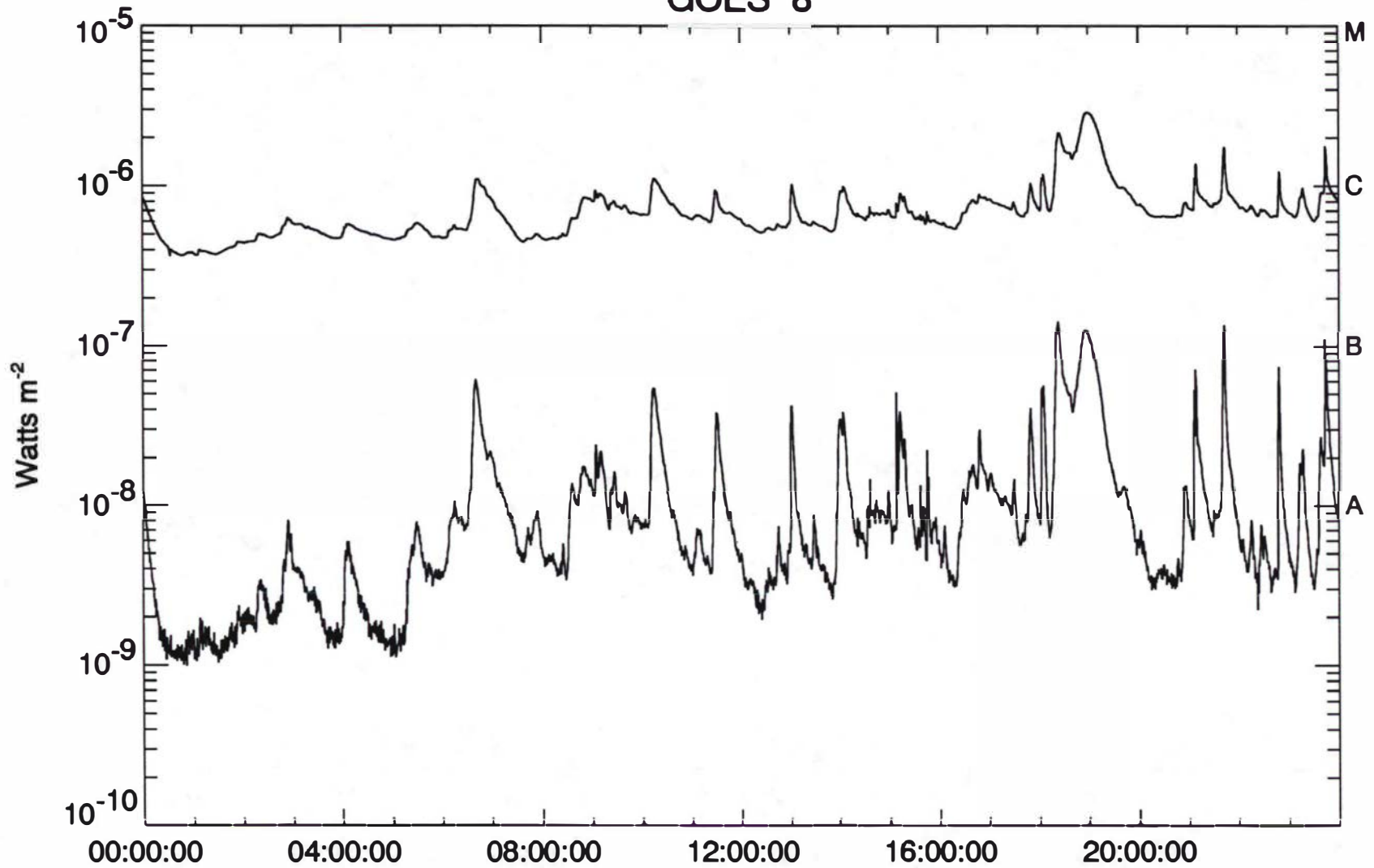
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/05/04, 0000:00

Plot created: 99/05/08, 1006

Channel 1 (1.0 - 8.0 Angstroms)

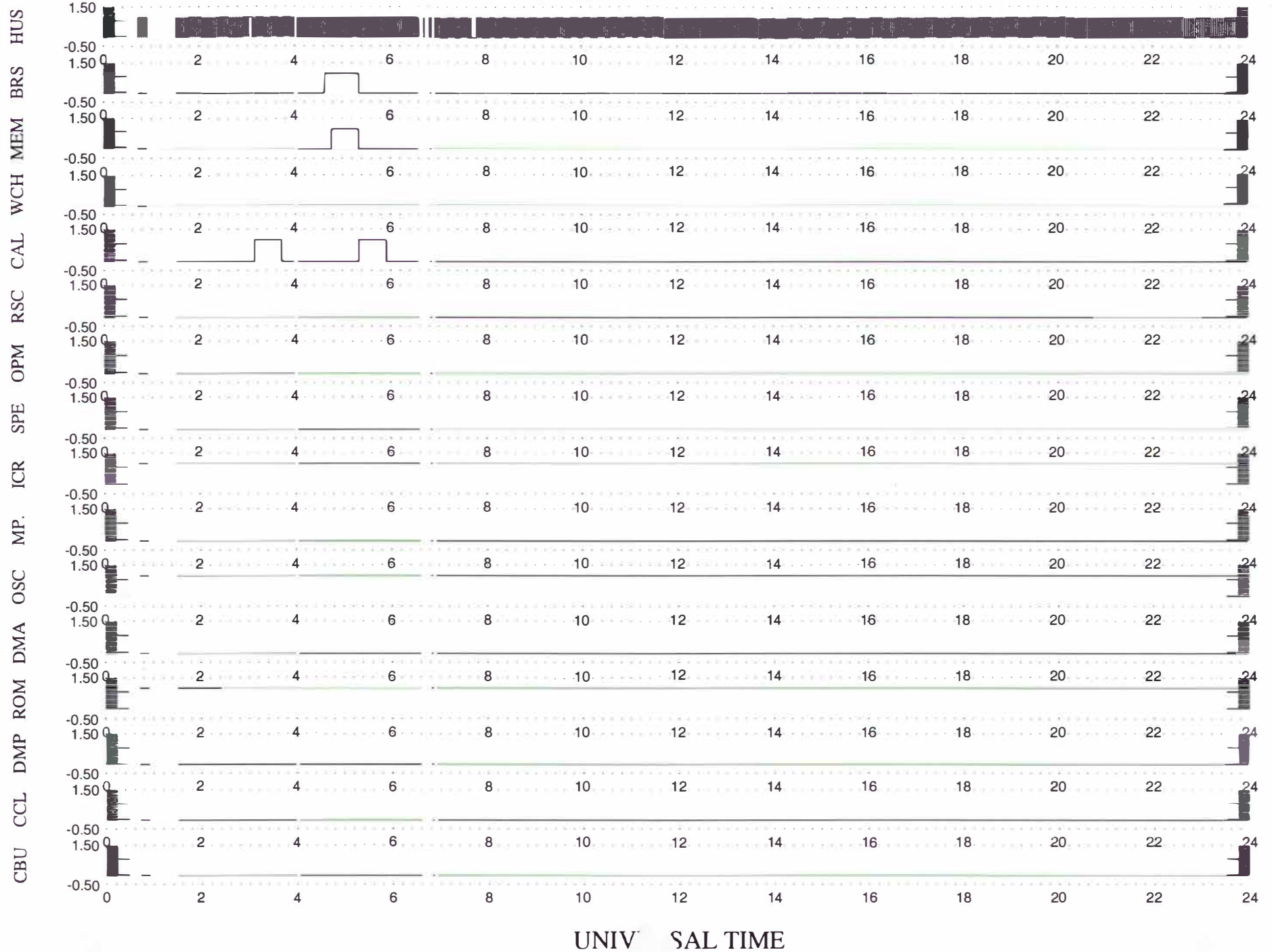
Background not subtracted

Channel 2 (0.5 - 4.0 Angstroms)

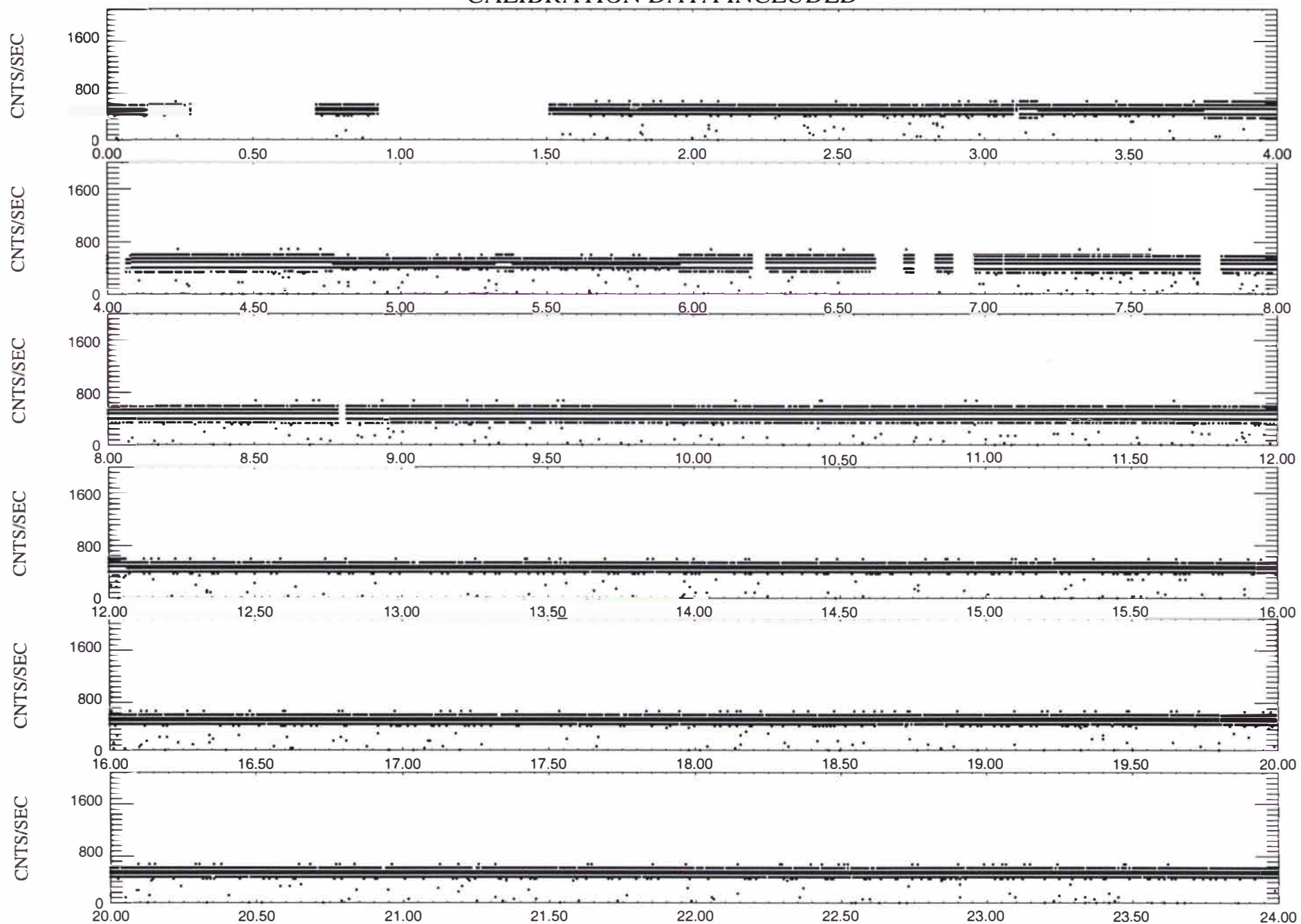
Background not subtracted

Sample average = 10

BURST NUMBER 12

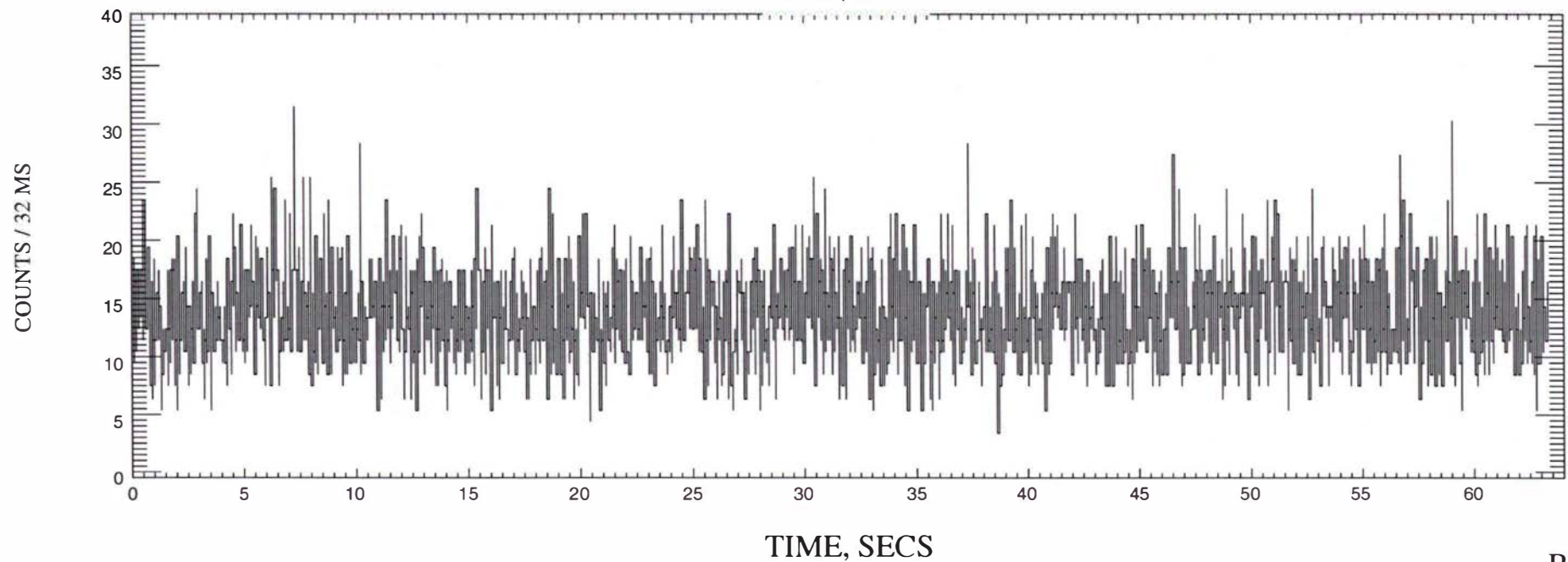
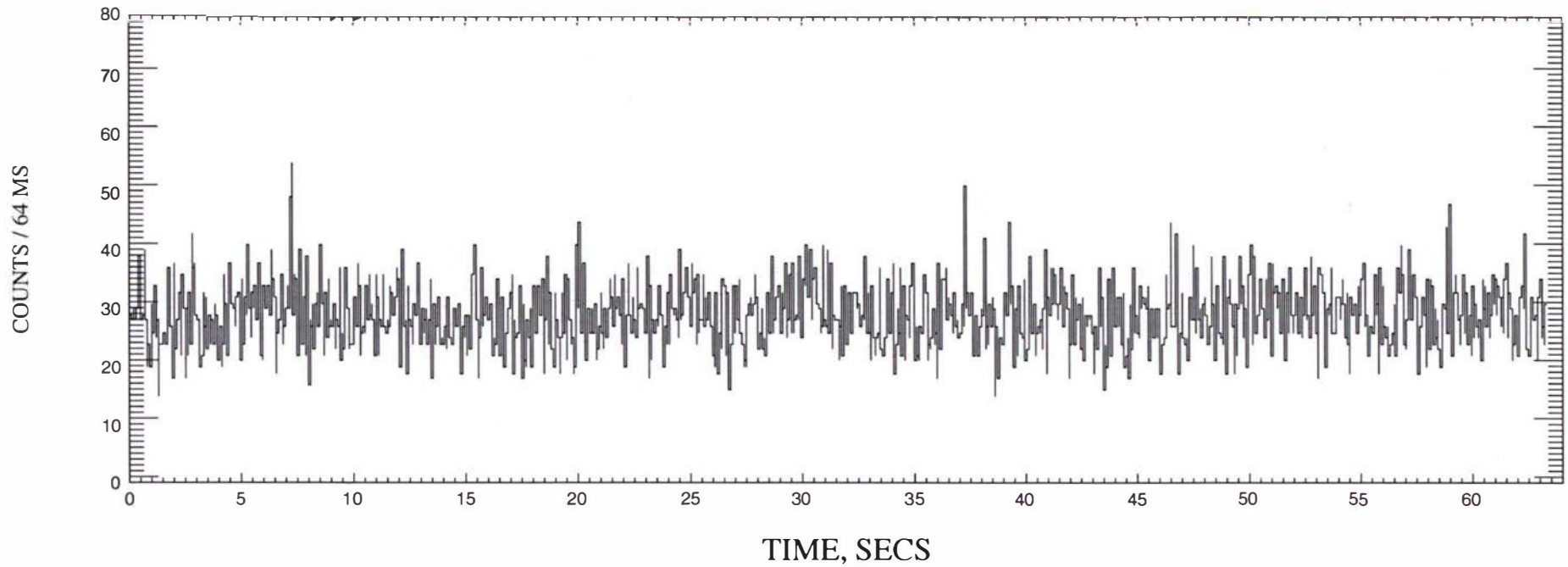


CALIBRATION DATA INCLUDED

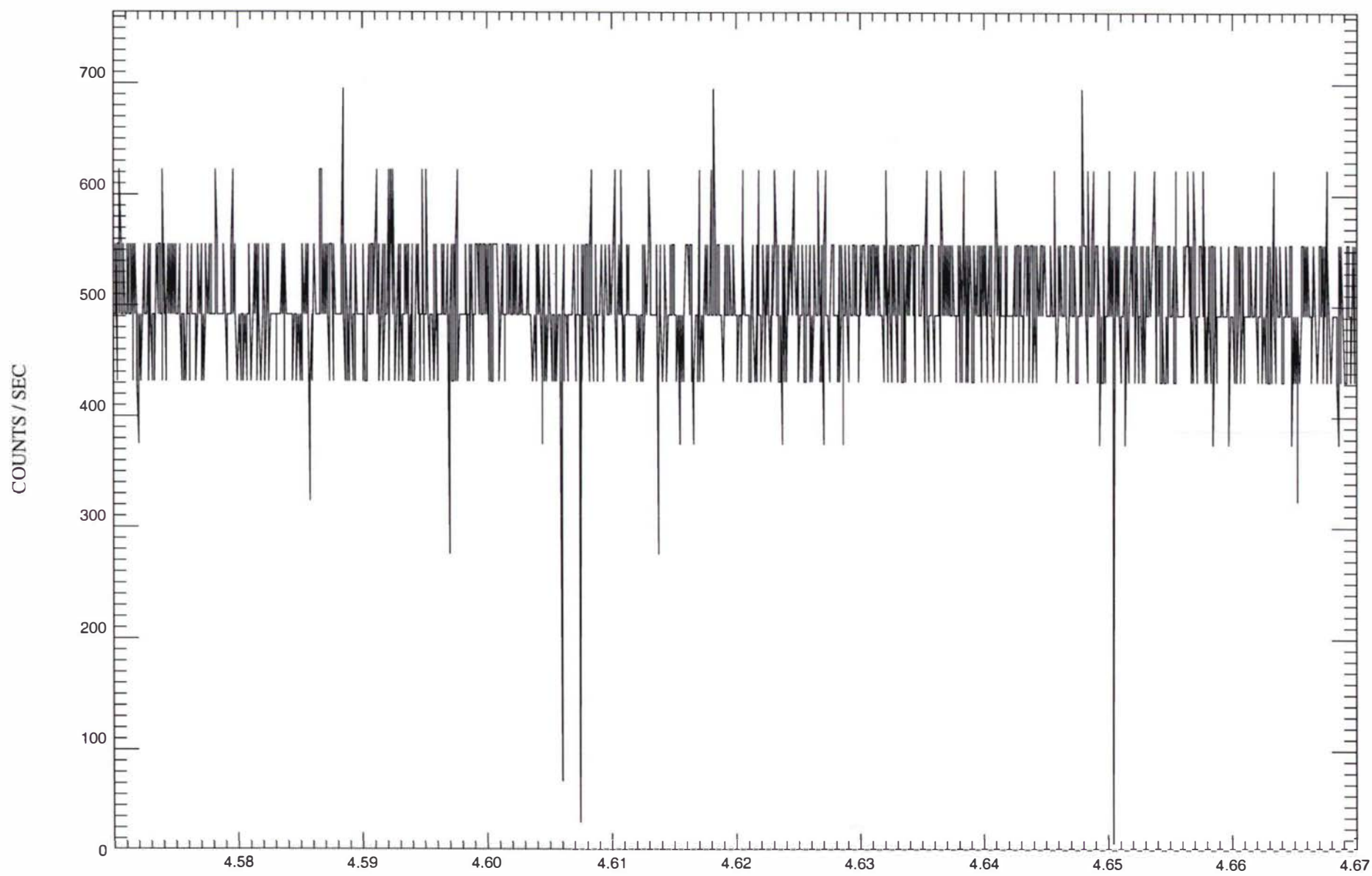


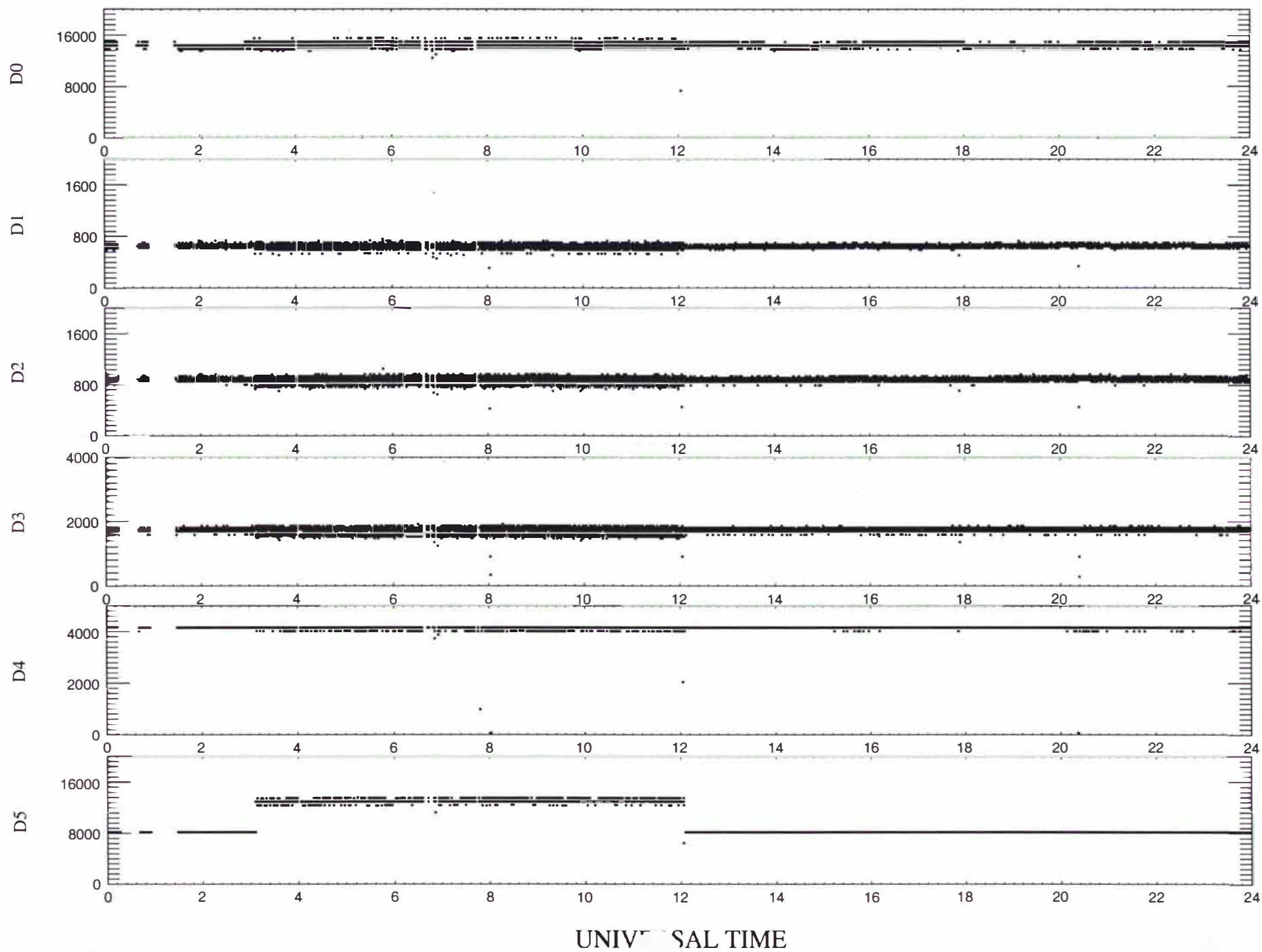
UNIVERSAL TIME

Burst Counter 12 at UT= 4.618363956875 h=16626.110 s 04:37:06.110



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Mon May 10 09:40:59 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 JAA16126; Mon, 10 May 1999 09:40:58 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA00714
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 10 May 1999 09:38:15 -0700 (PDT)
Date: Mon, 10 May 1999 11:41:54 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990510114154.20213d4b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7548
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7548
EVENT OF 1999 MAY 5 DAY OF YEAR=125
EVENT CROSSING TIME AT BATSE : 28267. S. OR 07:51:07.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 228.000 -48.000
BATSE PEAK COUNTING RATE: 10500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 5/ 5/ 99 IS:
RA= 144.347 DEC= -7.102 DIST= 4.616 AU
BATSE-ULYSSES DISTANCE = 690503264. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 99.51 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -380.68 SECS.
CROSSING TIME AT ULYSSES IS 27886. S. OR 07:44:46 +/- 438.60 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 5/ 5/ 99 IS:
RA= 208.543 DEC= -10.724 DIST= 0.579 AU
MARS-BATSE DISTANCE = 86691024. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=139.30 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -219.24 SECS.
CROSSING TIME AT MARS IS 28048. S. OR 07:47:27 +/- 29.41 SECONDS

BATSE BURST TRIGGER

NO.: 7548

TIME: TJD=1303 SECONDS=28267

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=145.6 AZIMUTH=149.5 ERROR=1.028 DEGREES

COMMENTS:

GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 25 S, MAT AT APPROX. T+4 S.
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7548	990505	11303	28267	10500	228	-48	25

Date: 27/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data N/A

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

- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

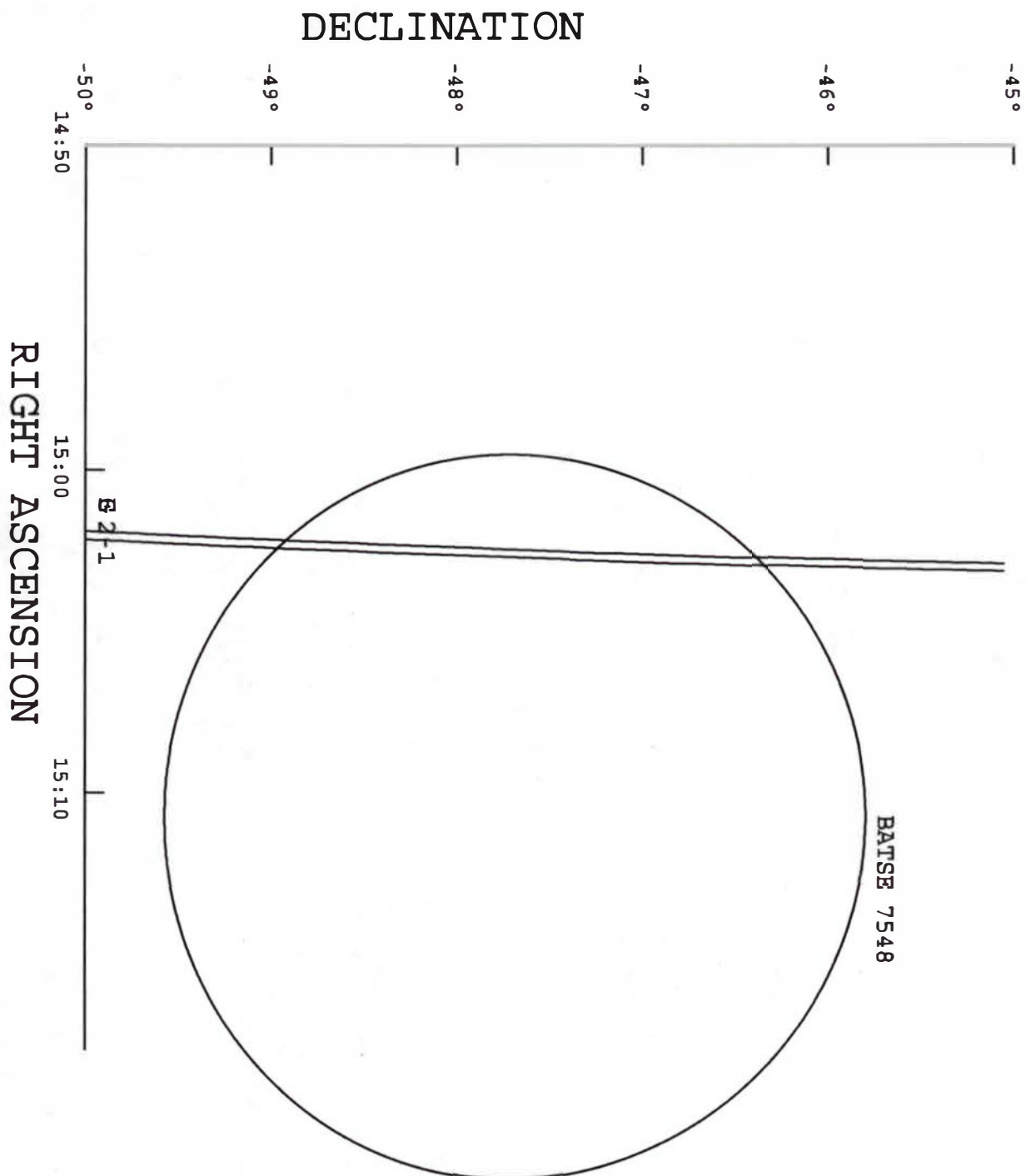
G=GALACTIC EQUATOR

1 BATSE

2 ULYSSES

EVENT OF MAY 5, 1999 7:51

27 / 1 / 0

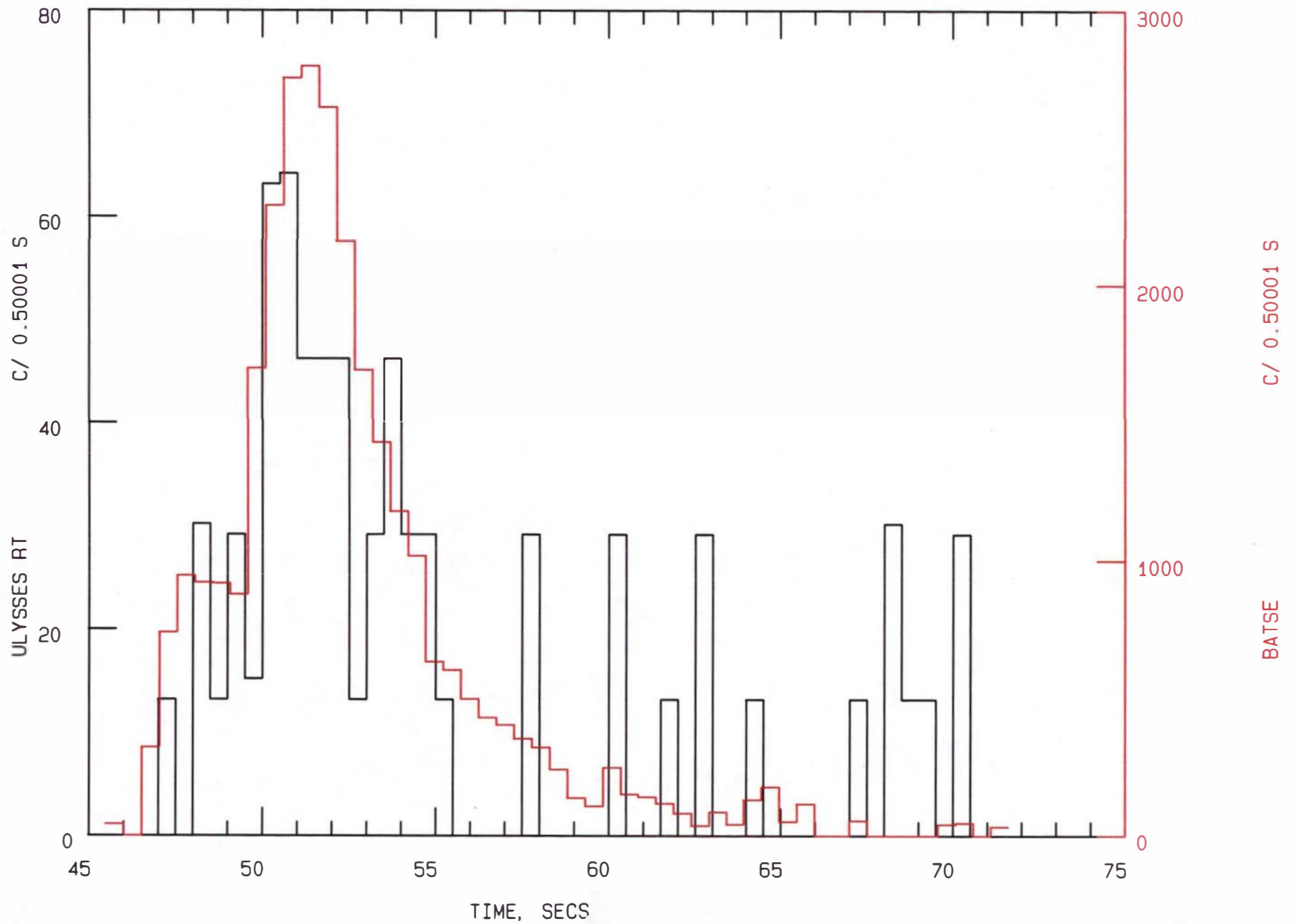


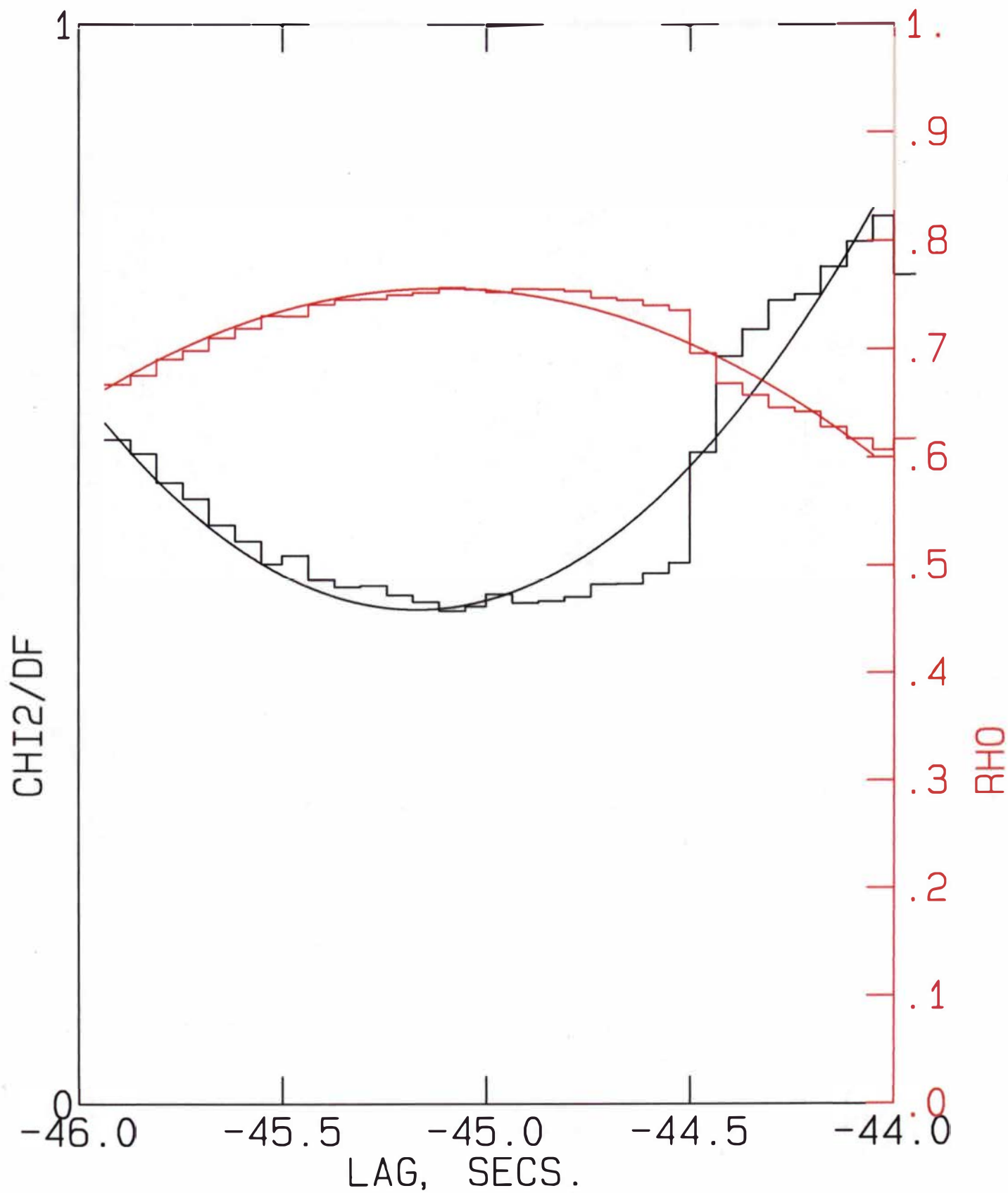
ULYSSES RT-BATSE

CORRELATION

5/ 5/99 27753.221

27/ 1/ 0

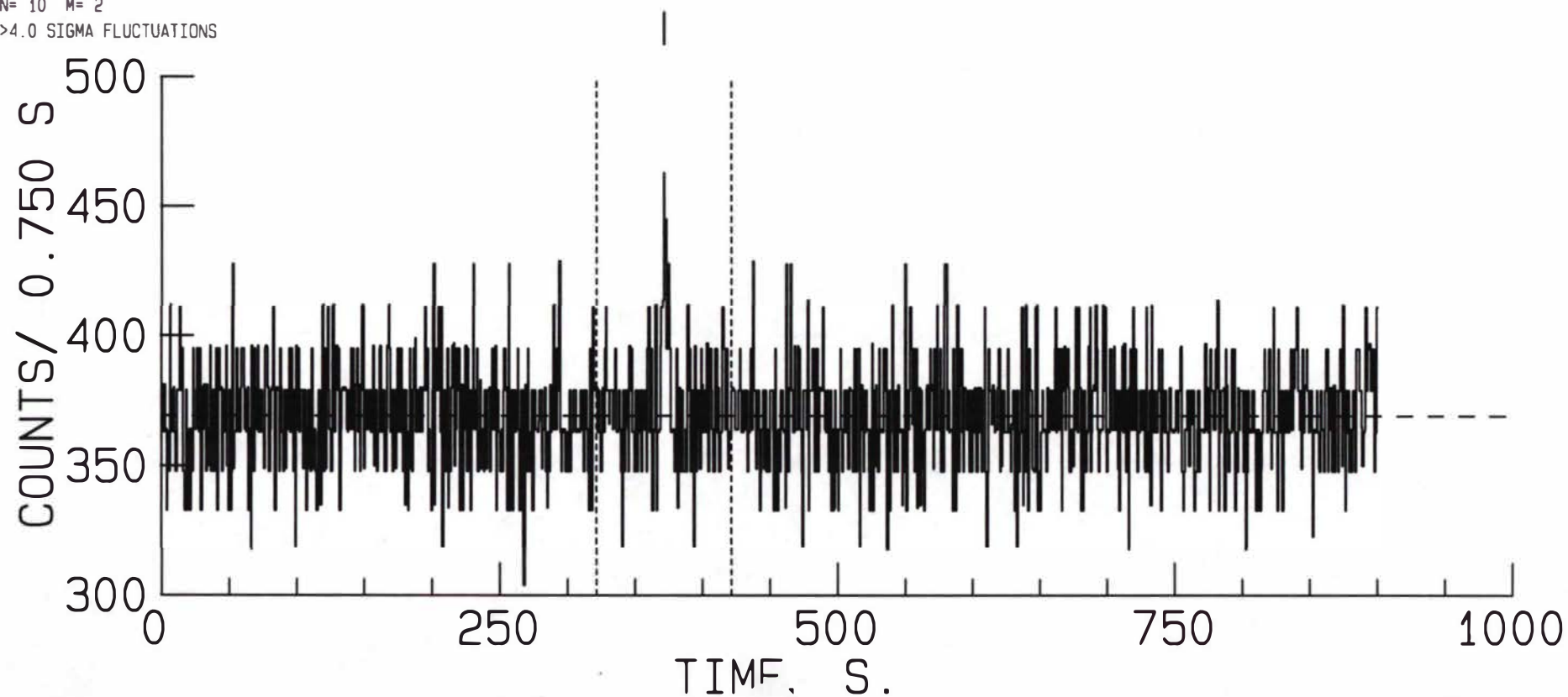




ULYSSES RT
5/ 5/99 27432.226 s
0.250 S INTERVALS REGROUPED BY 3
22- 150 keV

27 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



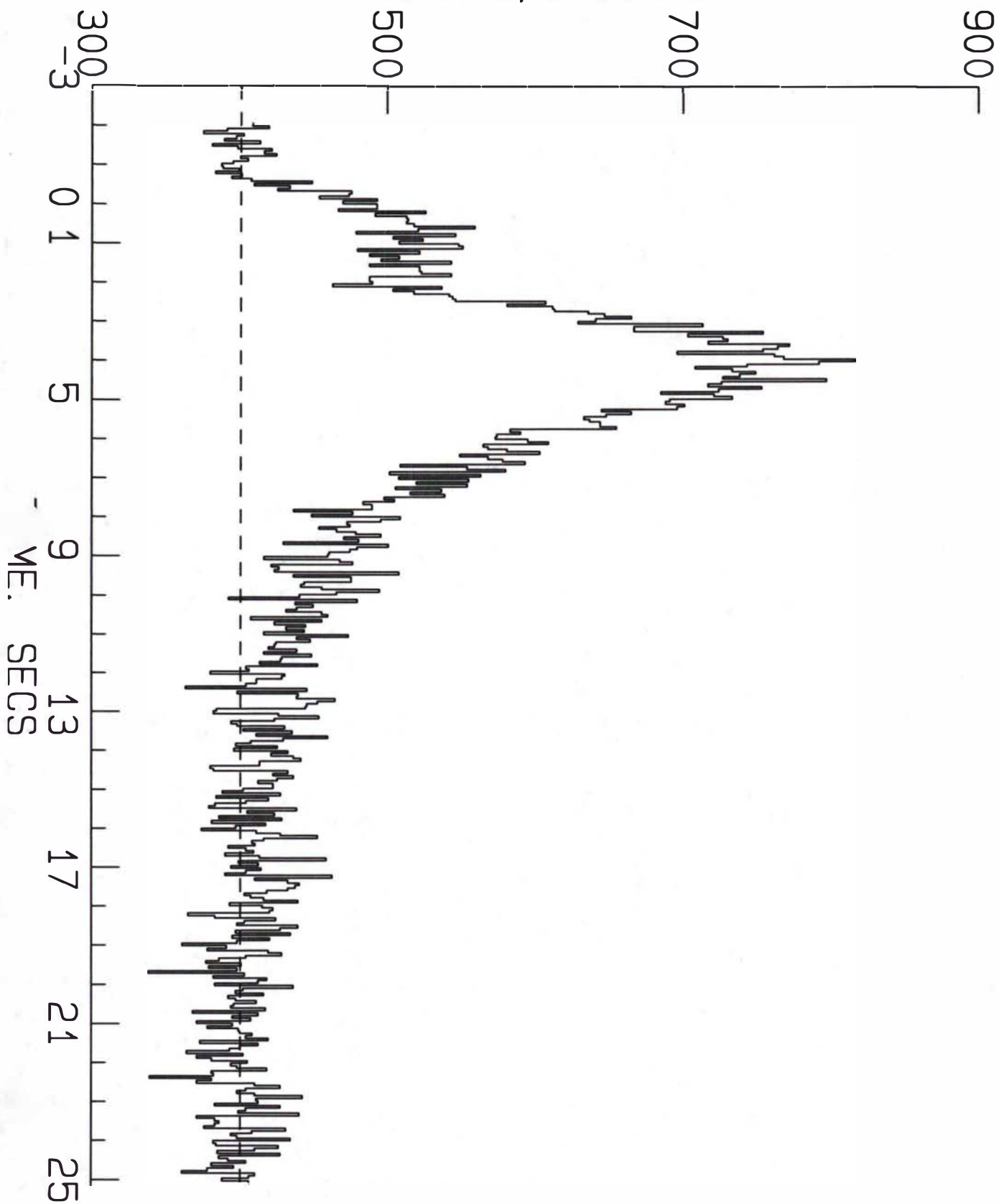
BATSE

05/05/99

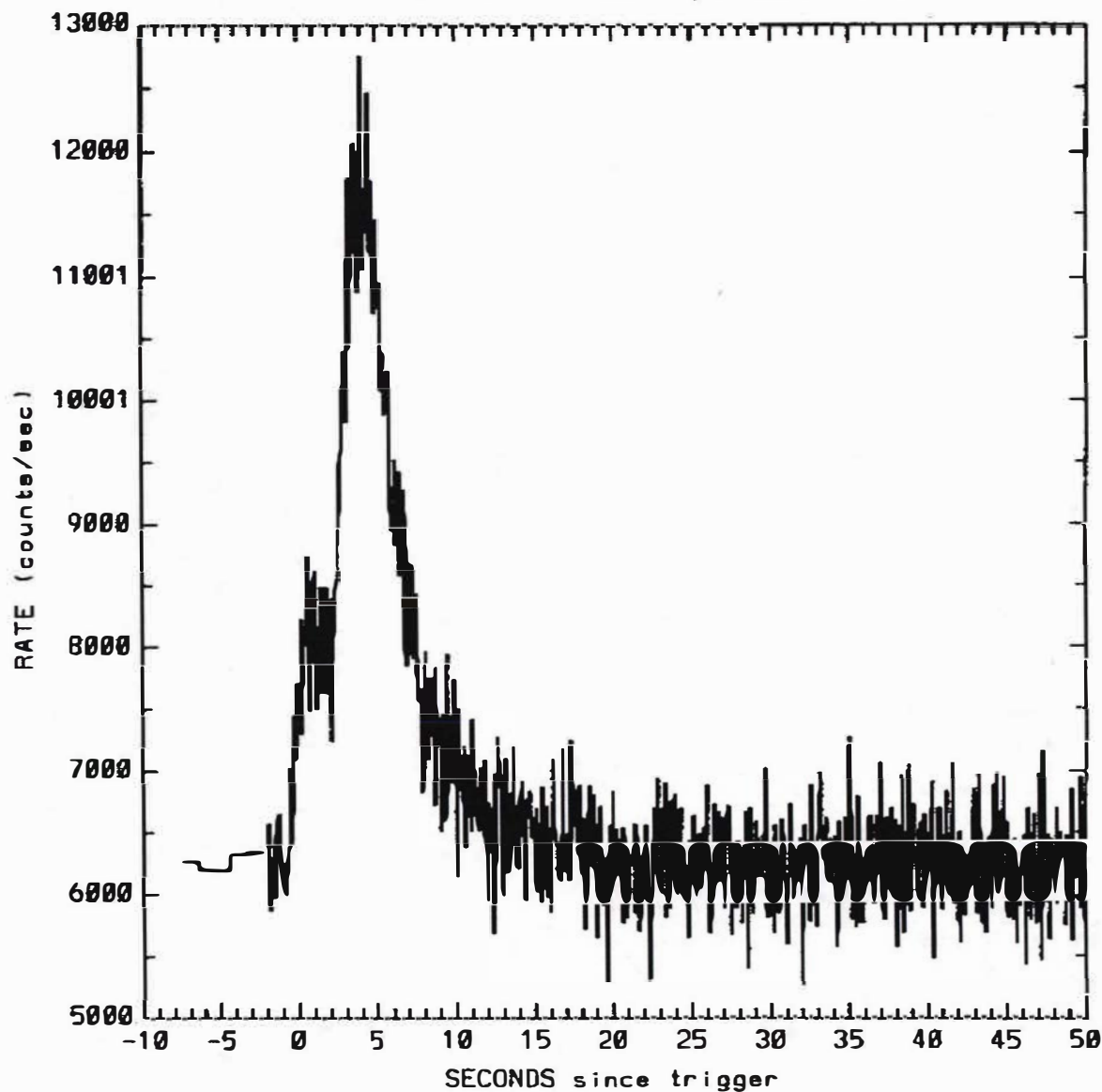
28267.513

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7548



14-MAY-1999 09.12.48

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # . 7548

Trigger Time:
11303 / 28267.513

Burst Data Type:
DISCSC

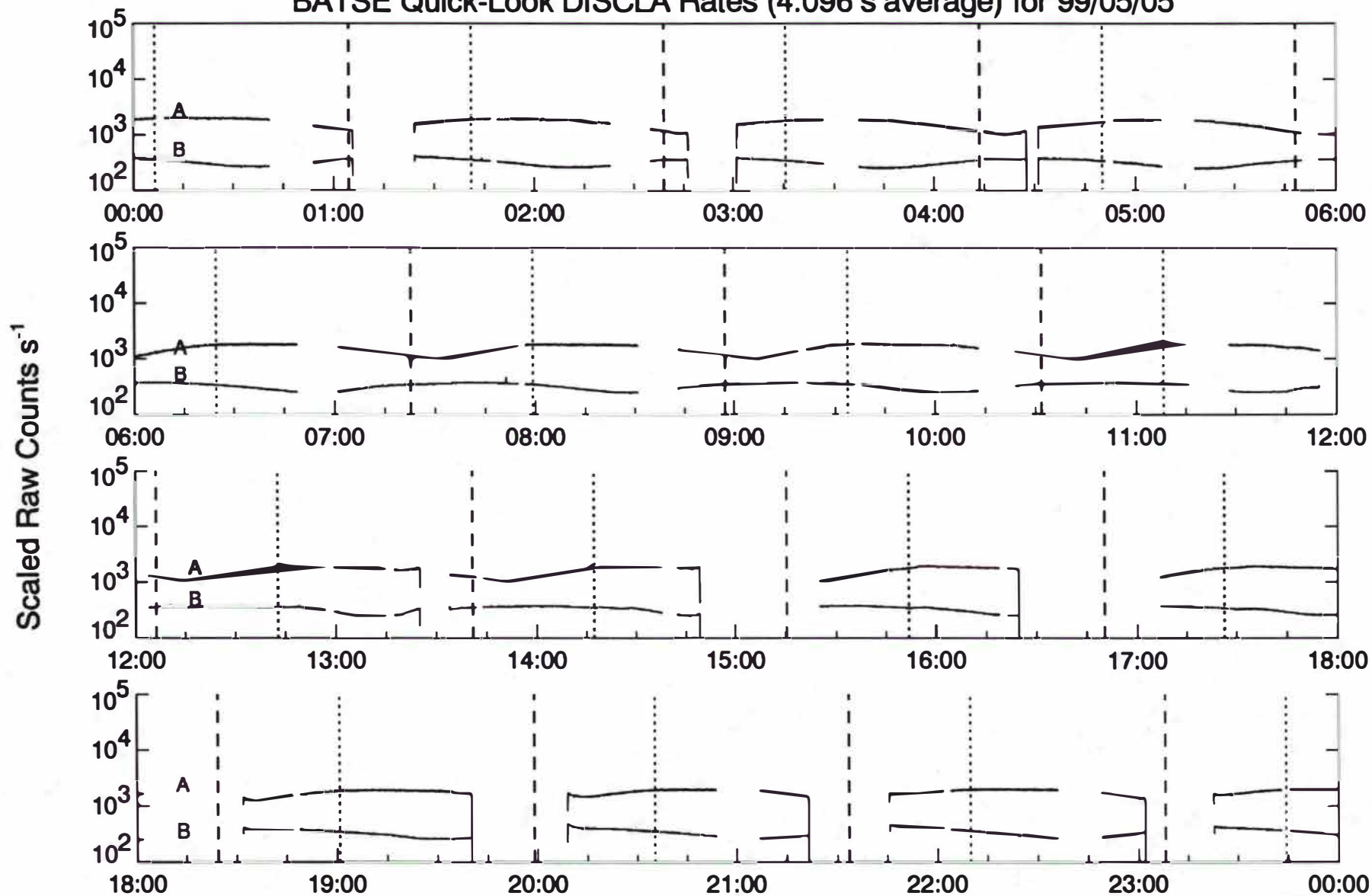
Deadtime
Corrected. N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
11 . 21

Quality Mask:
B0ISP1

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



Current Time: 99/05/09, 1007 EDT

A: Channel 0 Most Sunward LAD

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

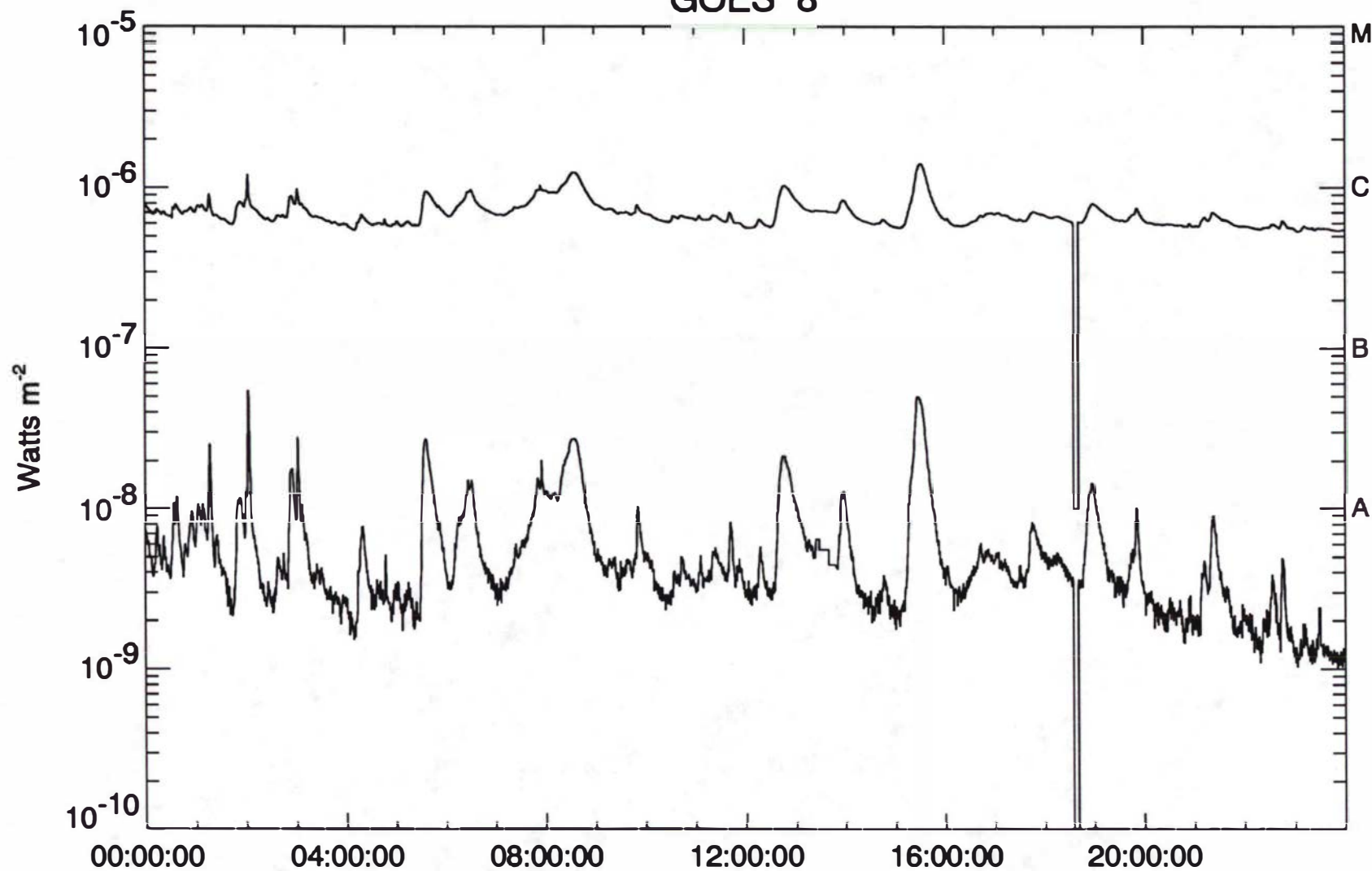
Dotted line: Day entry

Dashed line: Night entry

* Solar Burst Trigger

+ Solar Flare

GOES 8



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

Plot created: 99/05/09, 1006

Channel

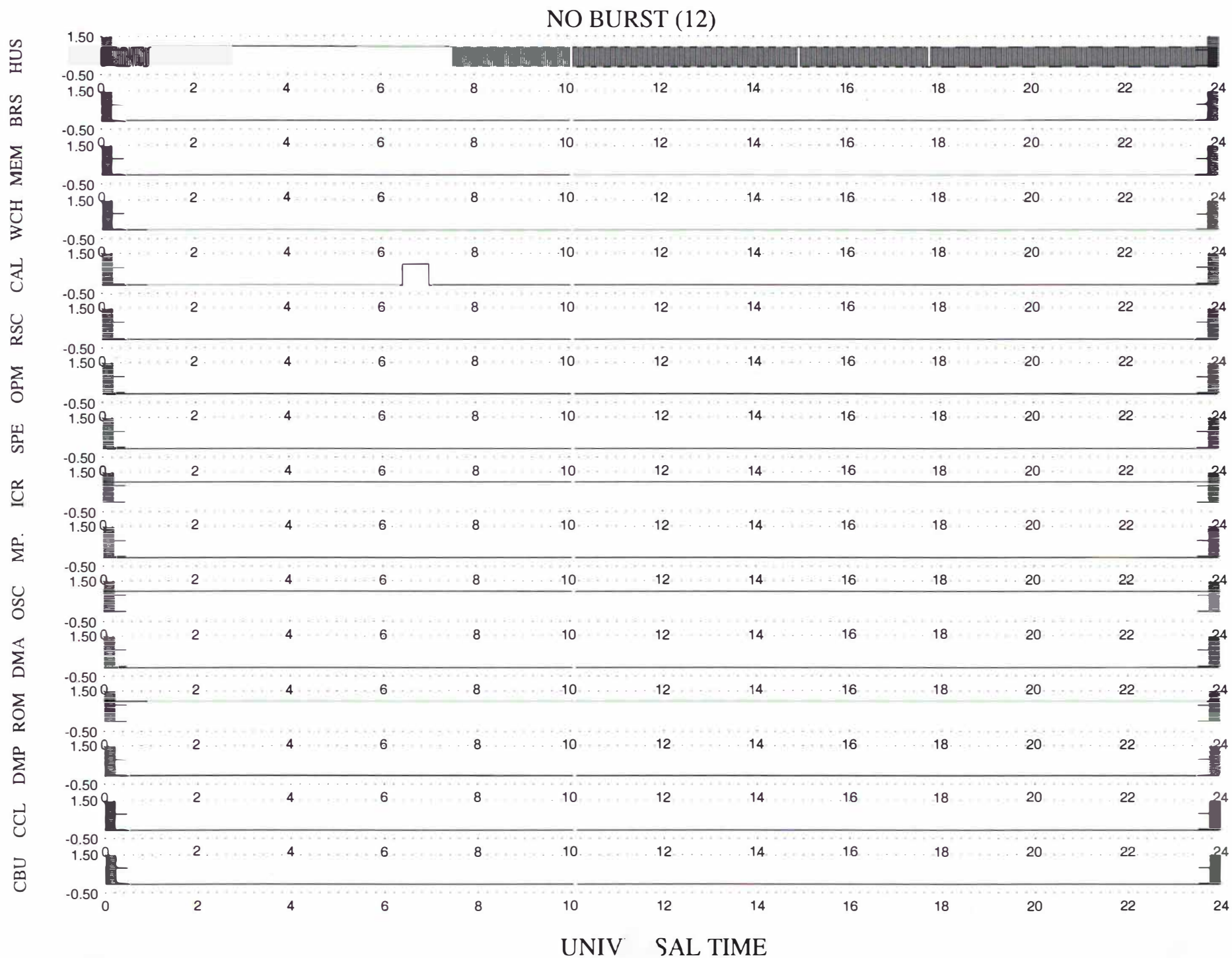
1 (1.0 - 8.0 Angstroms)

Background not subtracted

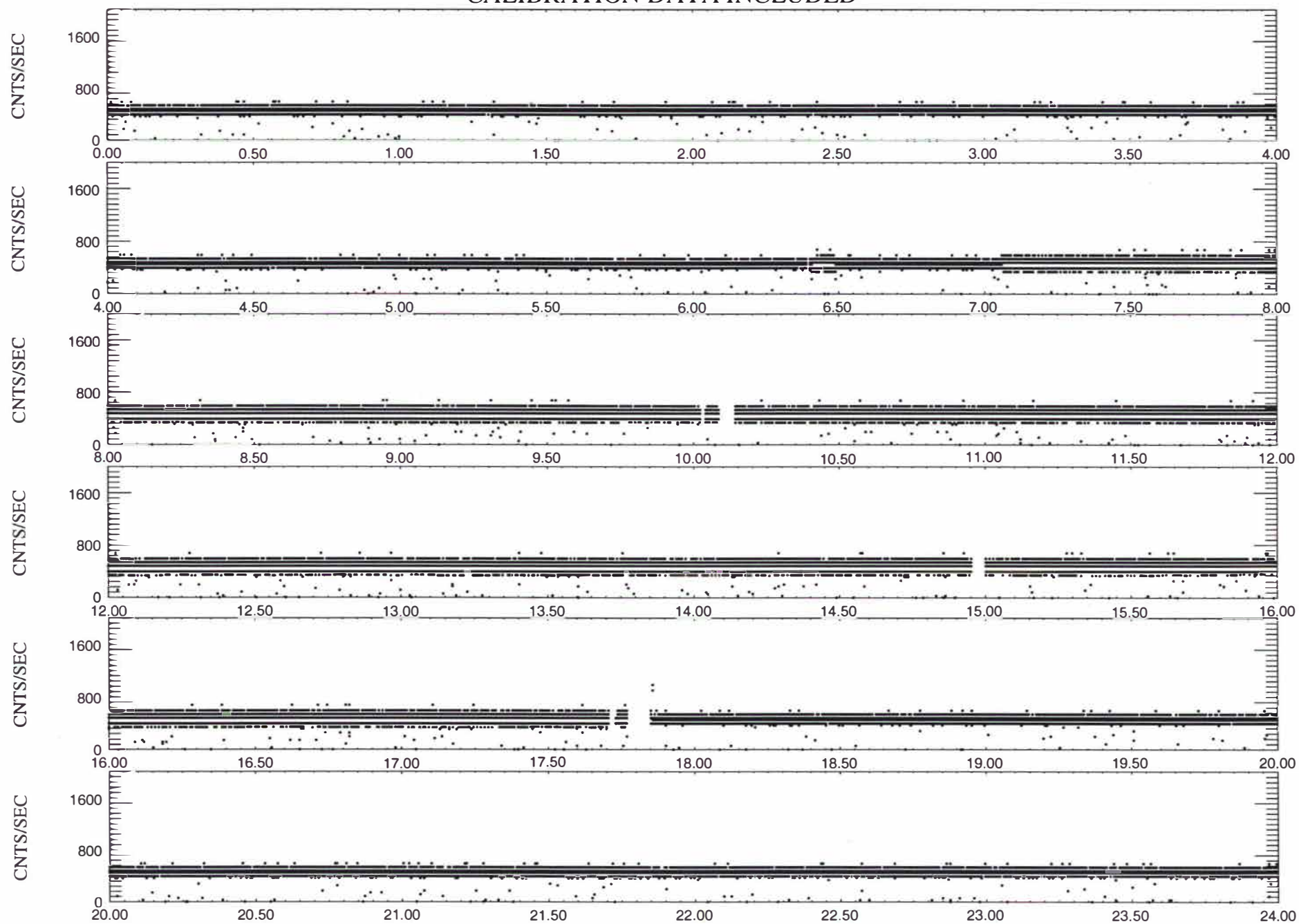
2 (0.5 - 4.0 Angstroms)

Background not subtracted

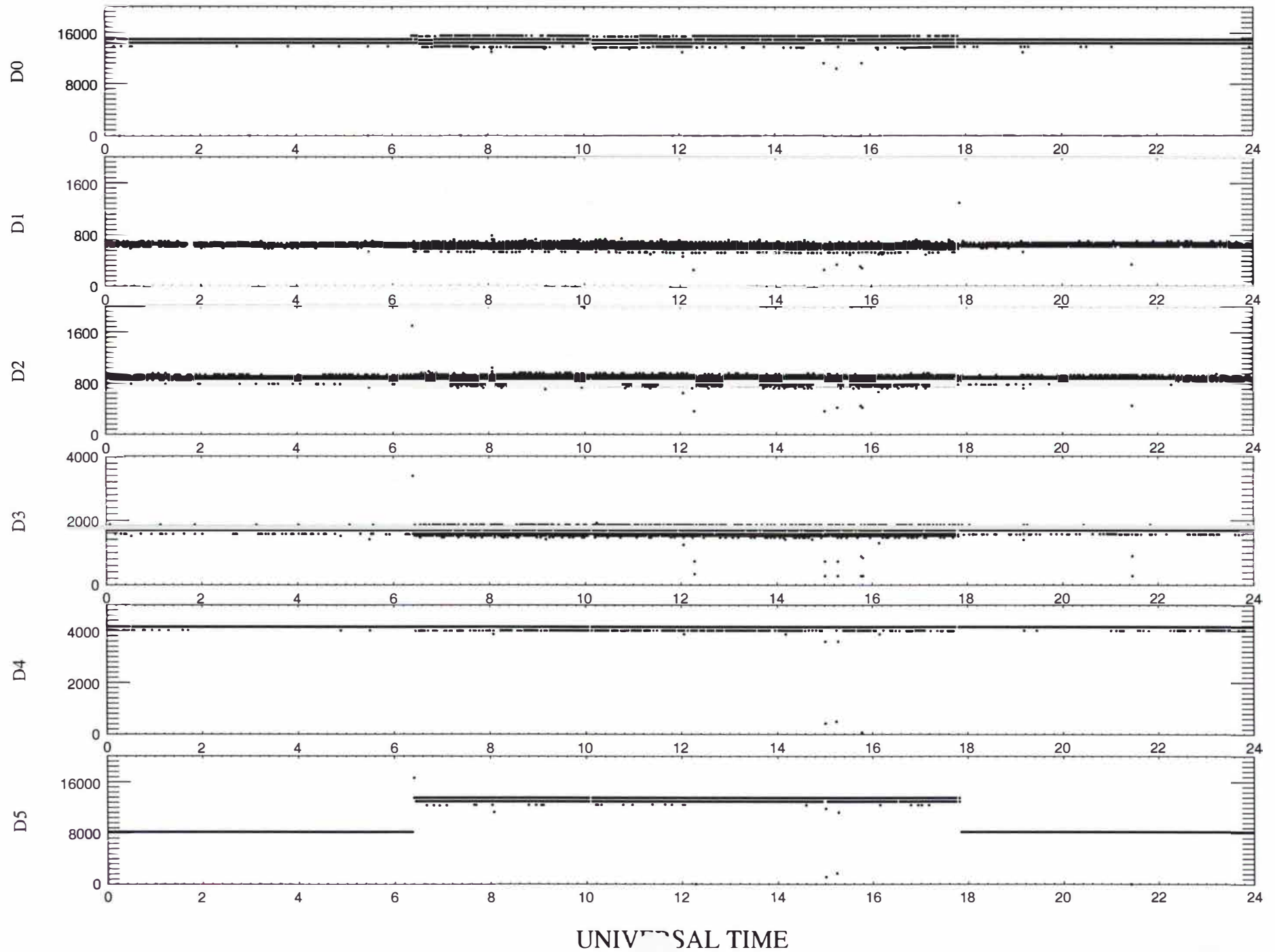
Sample average = 10



CALIBRATION DATA INCLUDED



UNIVERSAL TIME

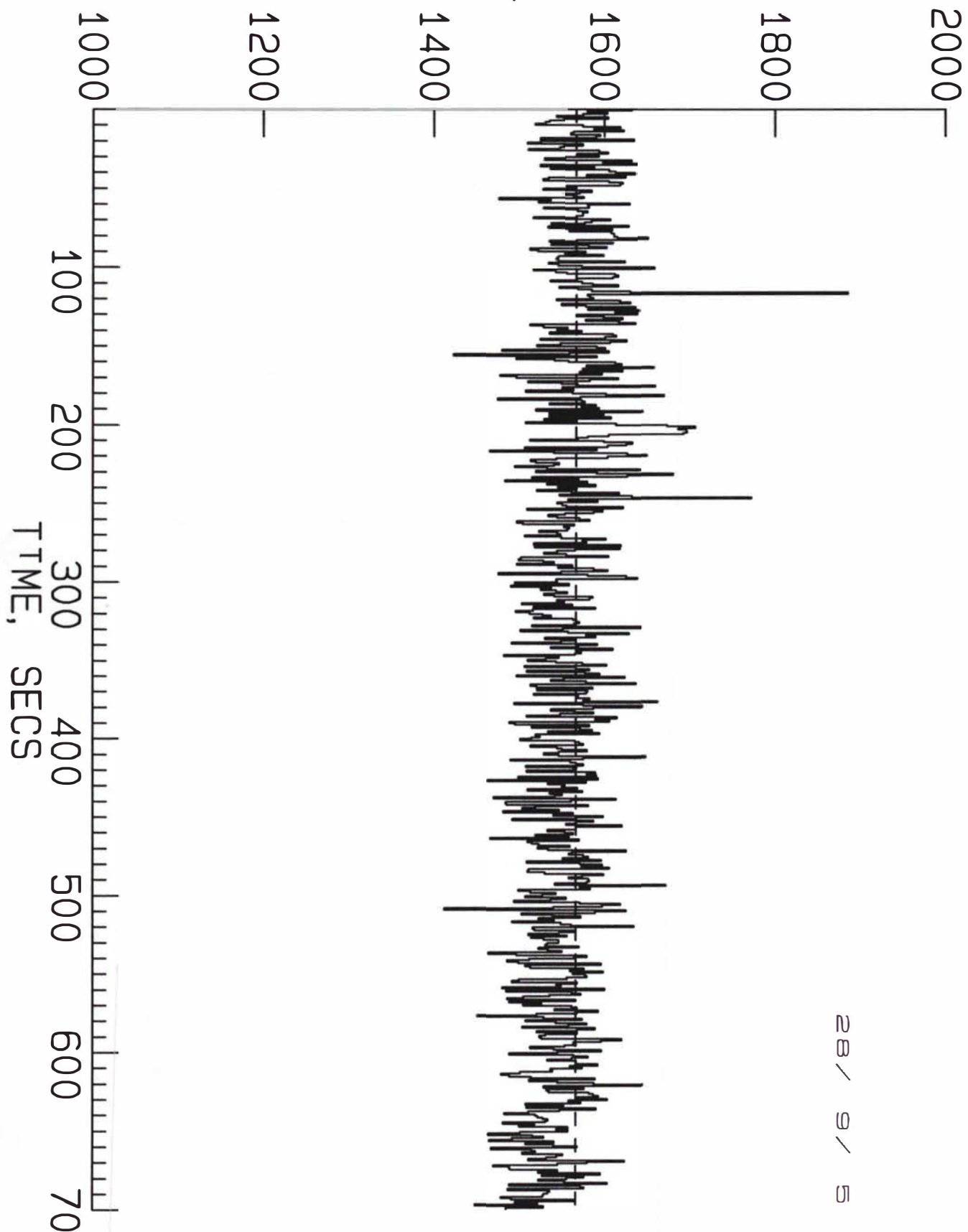


SAX GRBM

06/05/99 69851.442

40- 700 keV

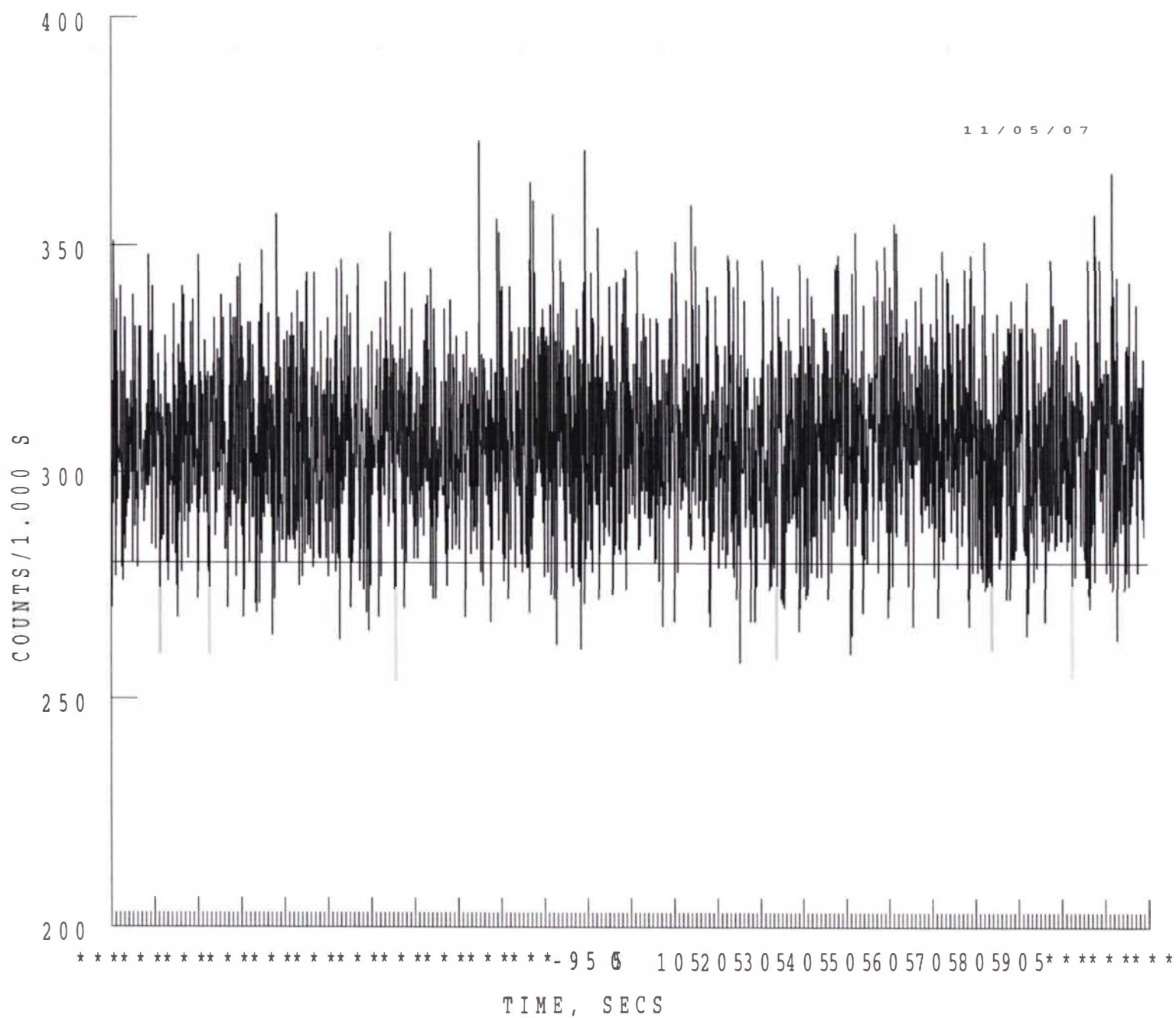
COUNTS/1.000 S



06/05/99 70050.069

100-1000 keV

NEAR



GRBM 19990506 69099

ULYSSES RT

14 / 05 / 07

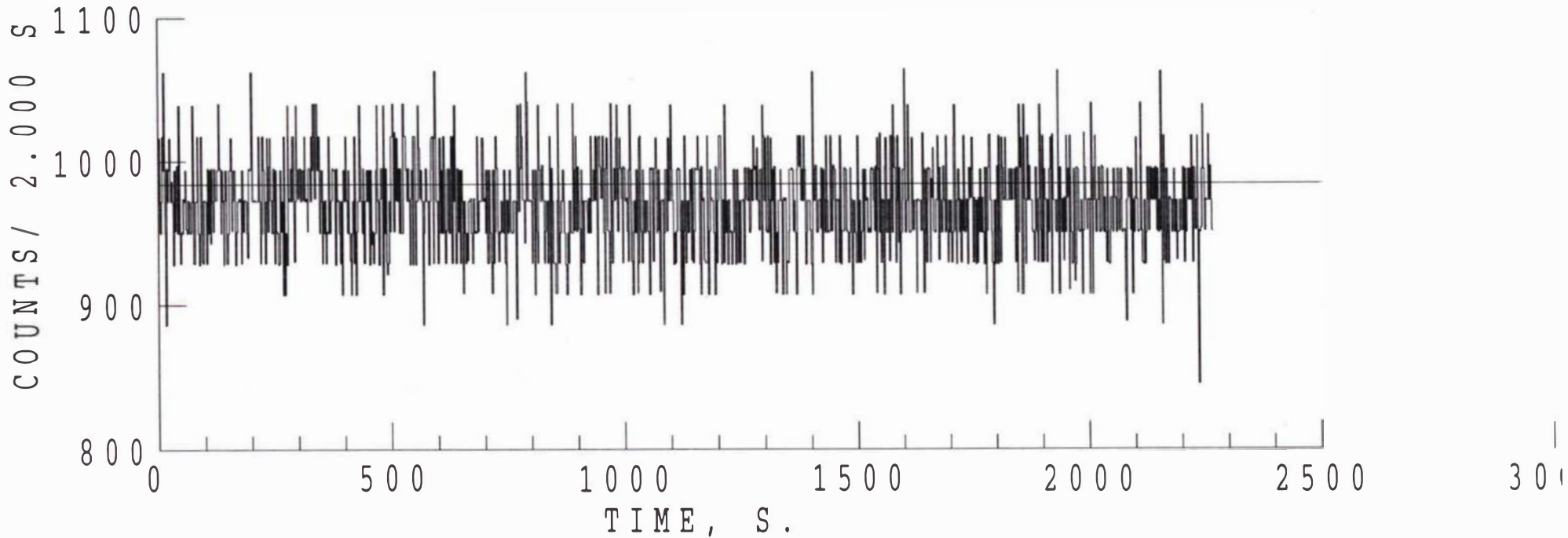
06/05/99 67968.008 s

0.500 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 MEEGAN@fender.msfc.nasa.gov Fri May 7 09:56:08 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 JAA19871; Fri, 7 May 1999 09:56:07 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA10046
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 7 May 1999 09:53:29 -0700 (PDT)
Date: Fri, 7 May 1999 11:57:01 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990507115701.20211370@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7549
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7549
EVENT OF 1999 MAY 6 DAY OF YEAR=126
EVENT CROSSING TIME AT BATSE : 41010. S. OR 11:23:30.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 179.000 -26.000
BATSE PEAK COUNTING RATE: 80000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/ 5/ 99 IS:
RA= 144.294 DEC= -7.074 DIST= 4.631 AU
BATSE-ULYSSES DISTANCE = 692743534. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=141.93 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1819.13 SECS.
CROSSING TIME AT ULYSSES IS 39191. S. OR 10:53:10 +/- 269.76 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/ 5/ 99 IS:
RA= 208.195 DEC= -10.643 DIST= 0.580 AU
MARS-BATSE DISTANCE = 86797416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=148.44 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -246.70 SECS.
CROSSING TIME AT MARS IS 40763. S. OR 11:19:23 +/- 22.56 SECONDS

BATSE BURST TRIGGER

NO.: 7549

TIME: TJD=1304 SECONDS=41010

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=134.3 AZIMUTH=217.7 ERROR= DEGREES

COMMENTS:

INTENSE, MULTYPEAKED BURST LASTING 150 S. SEEN ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7549	990506	11304	41010	80000	179	-26	150

Date: Feb 29 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 vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☒ BATSE >100 keV data used for NEAR correlation?
- ☒ ACCESS database updated?

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

1 BATSE

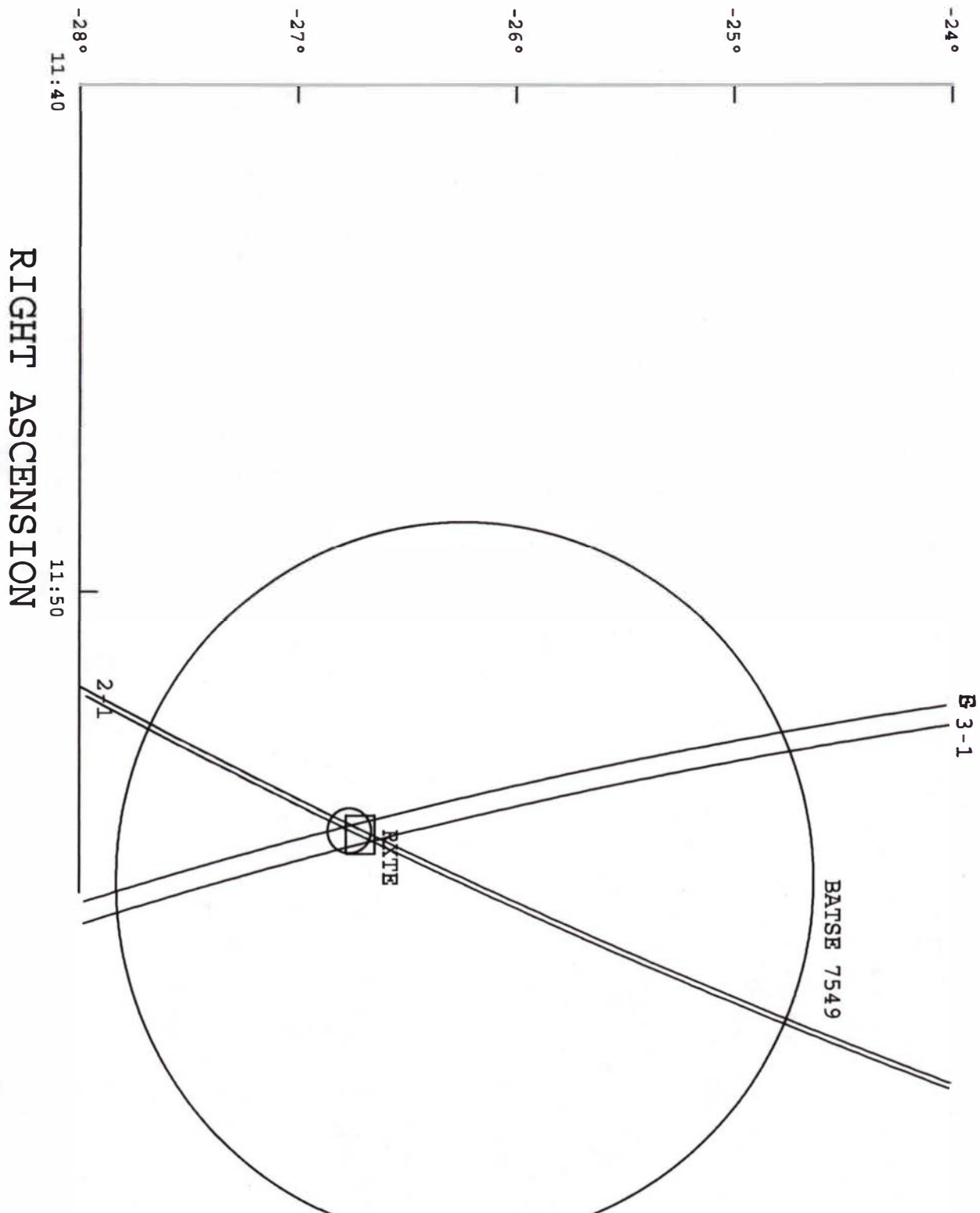
2 ULYSSES

3 NEAR

DECLINATION

EVENT OF MAY 6, 1999 11:23

29 / 2 / 0



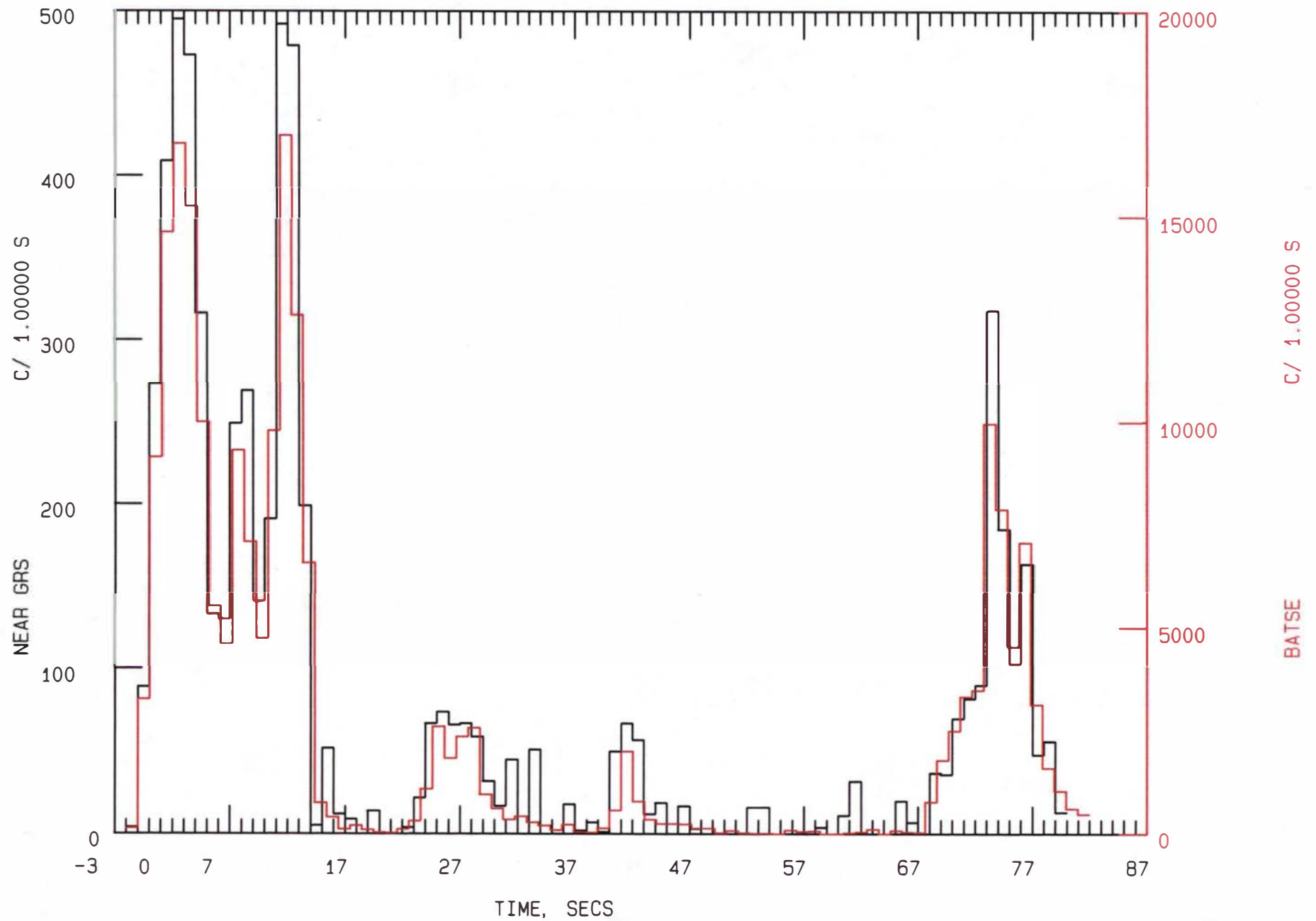
NEAR GRS -BATSE

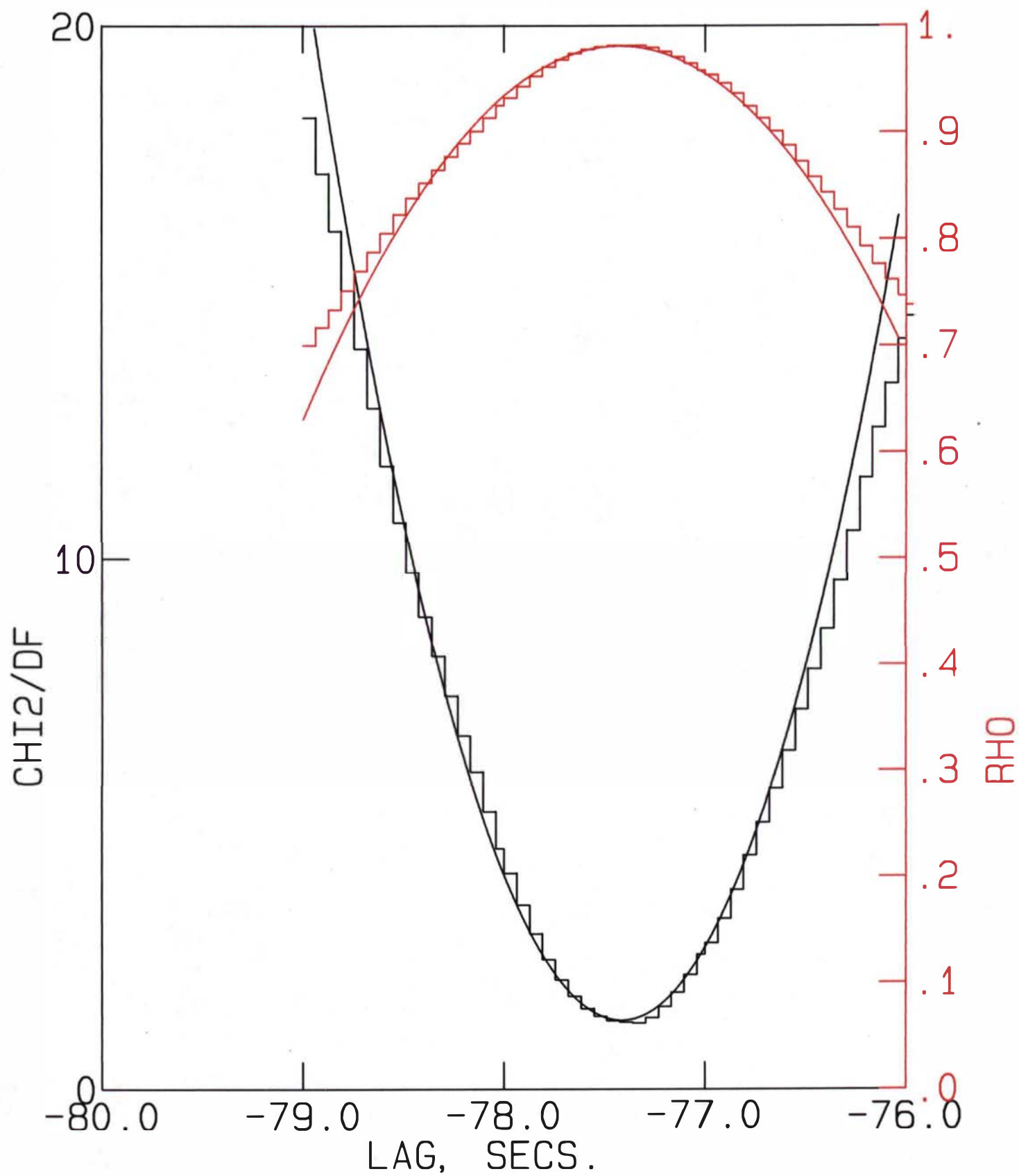
CORRELATION

06/05/99

42077.082

29/ 2/ 0





BATSE

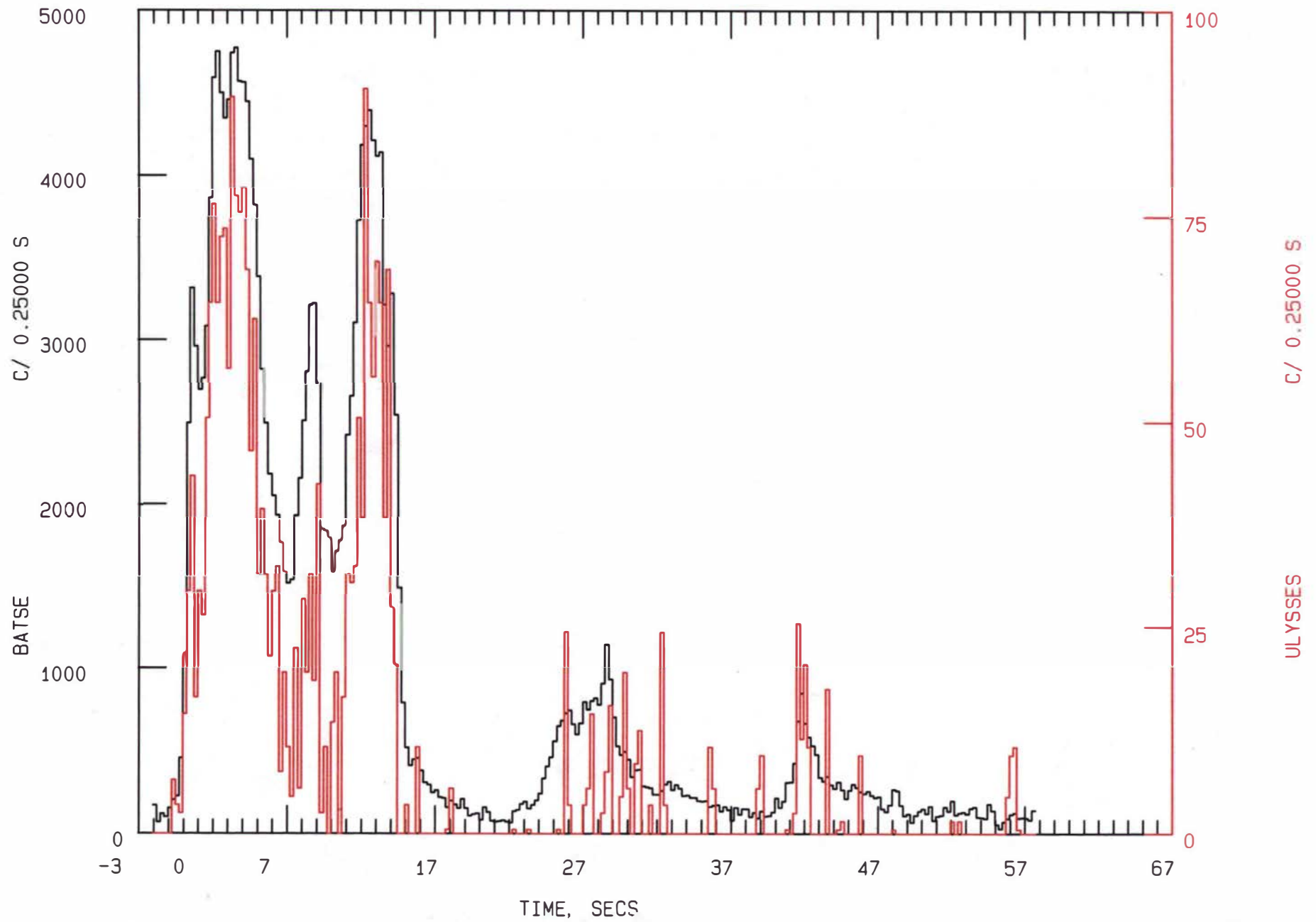
-ULYSSES

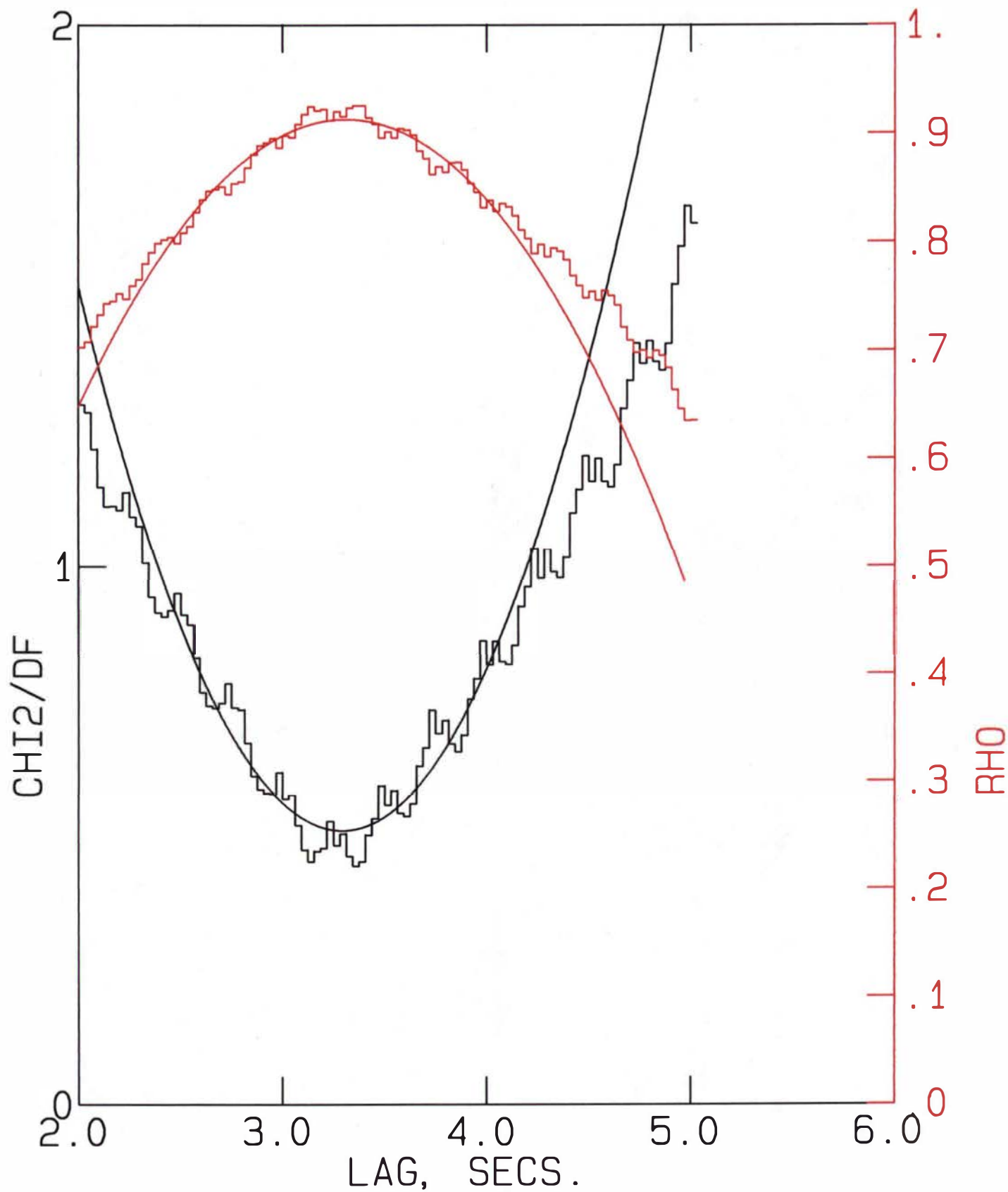
CORRELATION

6/ 5/99

41010.937

29/ 2/ 0





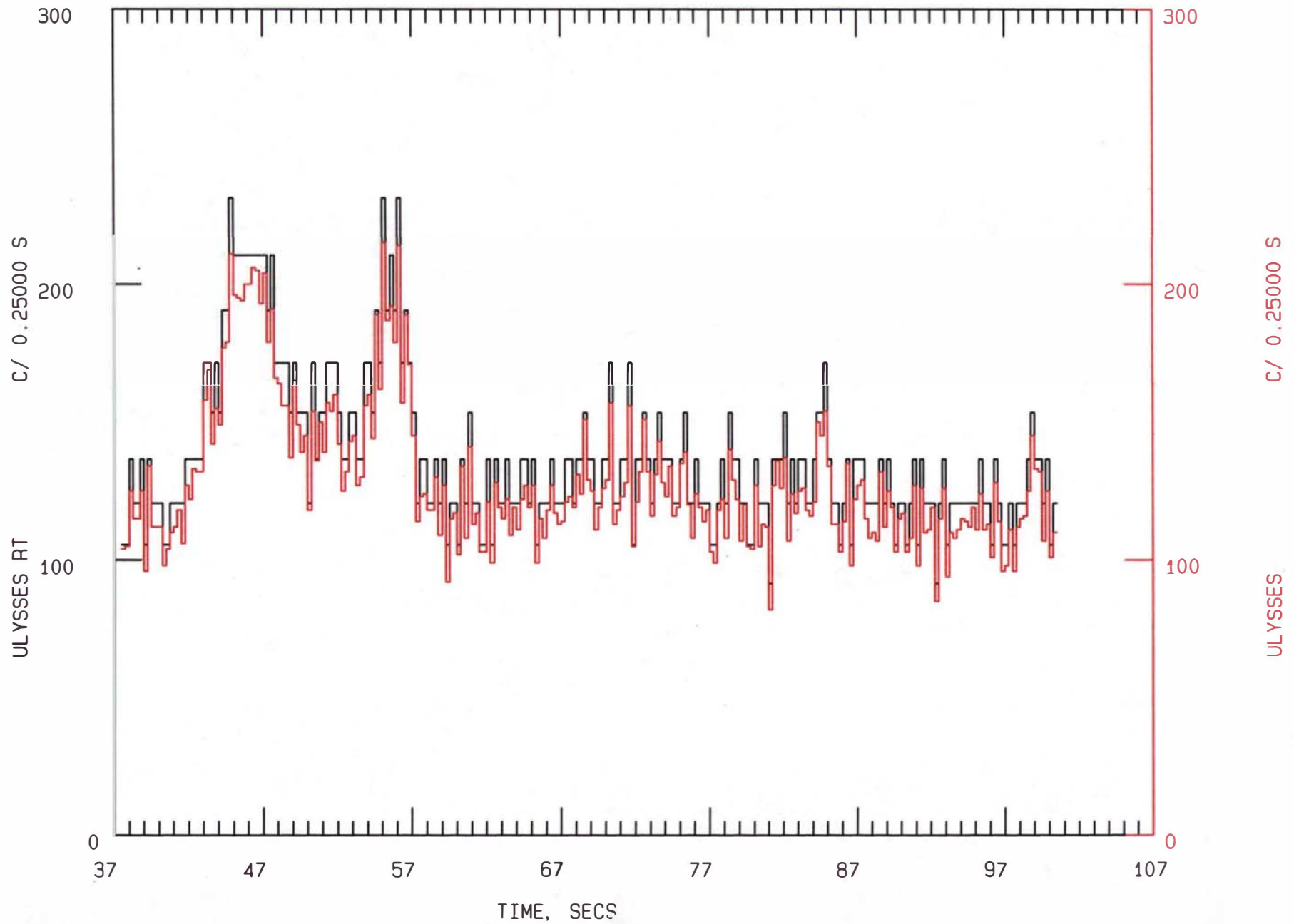
ULYSSES RT-ULYSSES

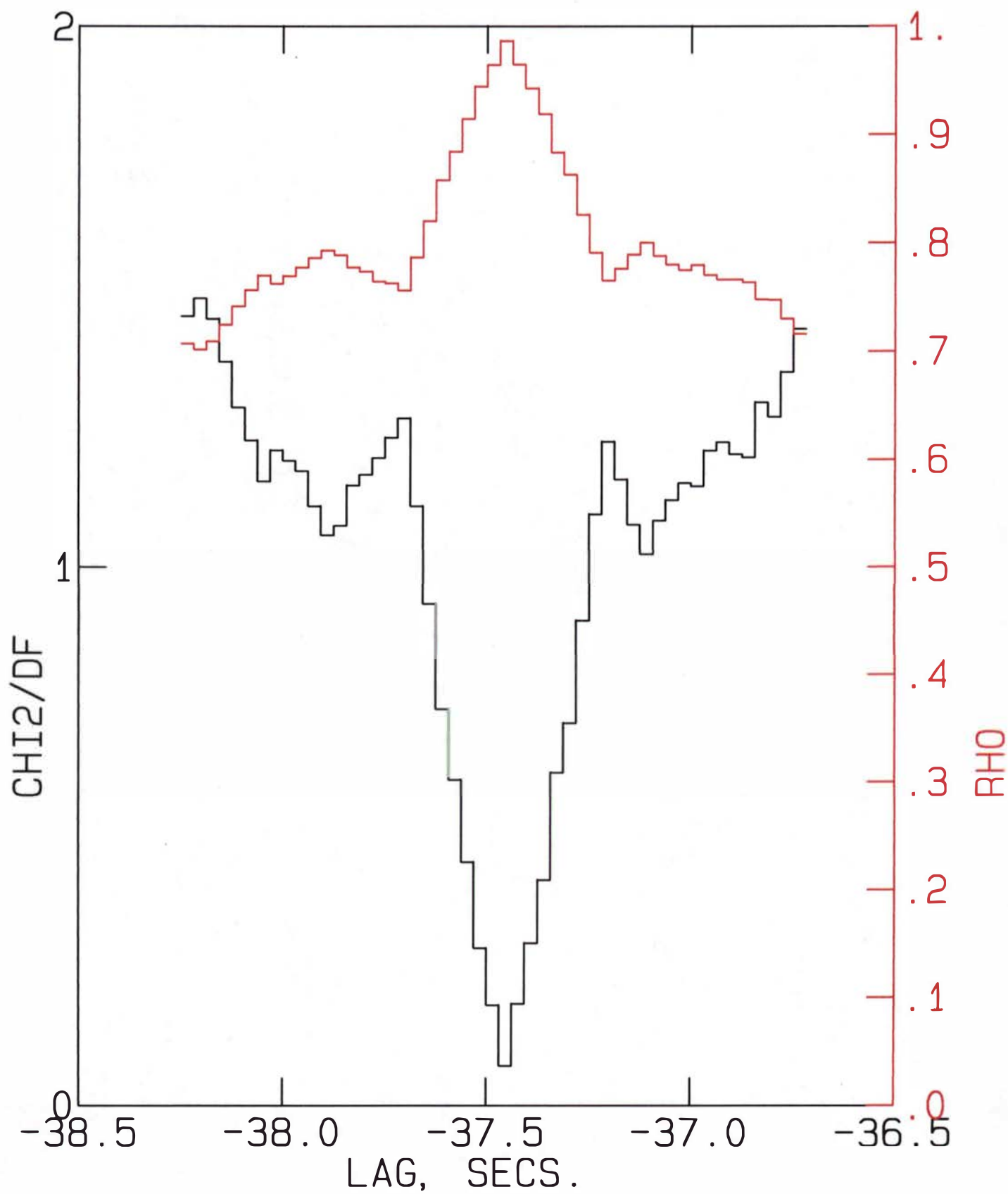
CORRELATION

6/ 5/99

39138.218

29/ 2/ 0

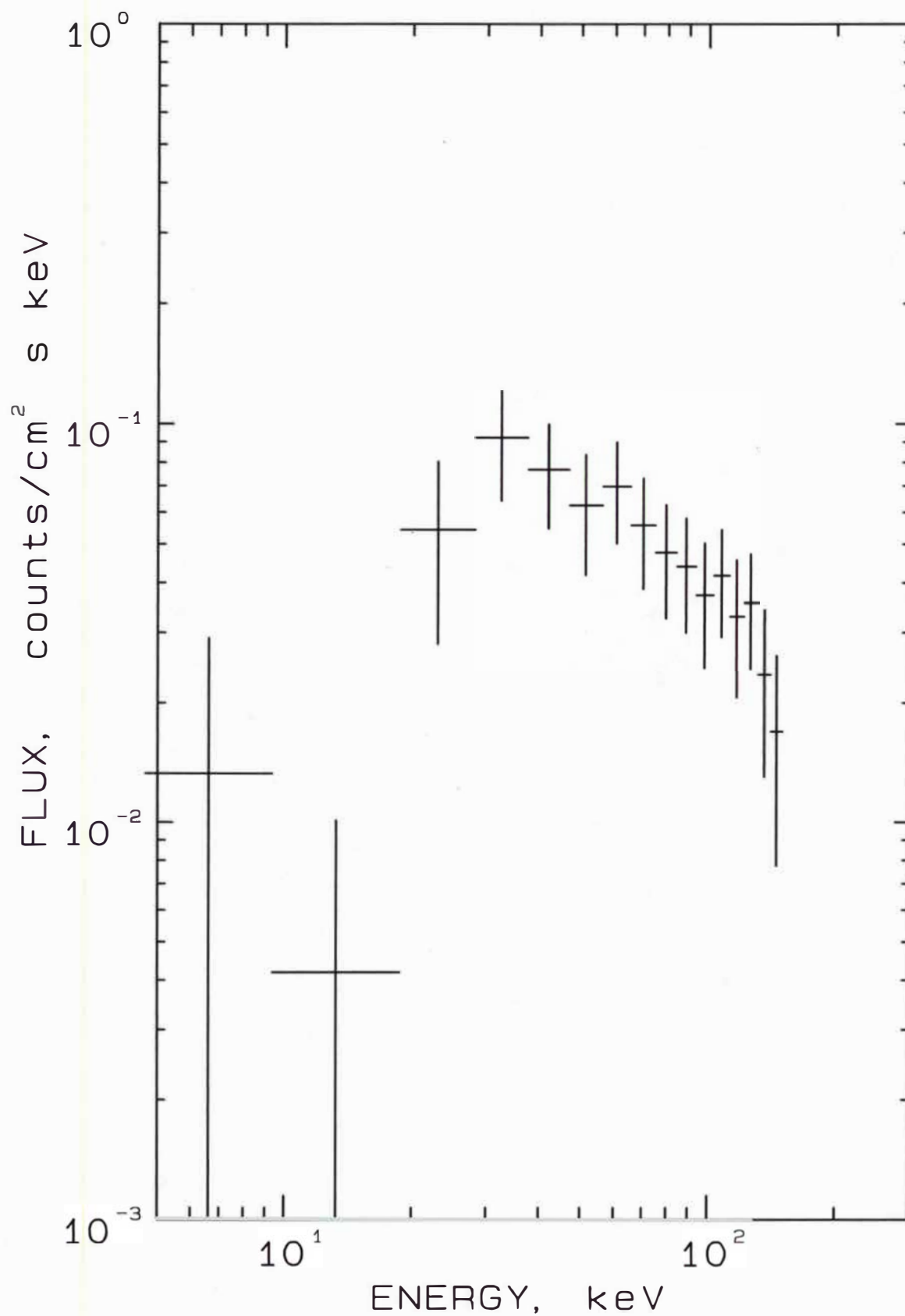




ULYSSES 06/05/99 39183.082

29/ 2/ 0

SPECTRUM INTEGRATED OVER 22.1 SECONDS, INTERVALS 2 TO 20



ULYSSES 06/05/99 39183.082 BURST SPECTRAL COUNT RATES

4- 18 keV

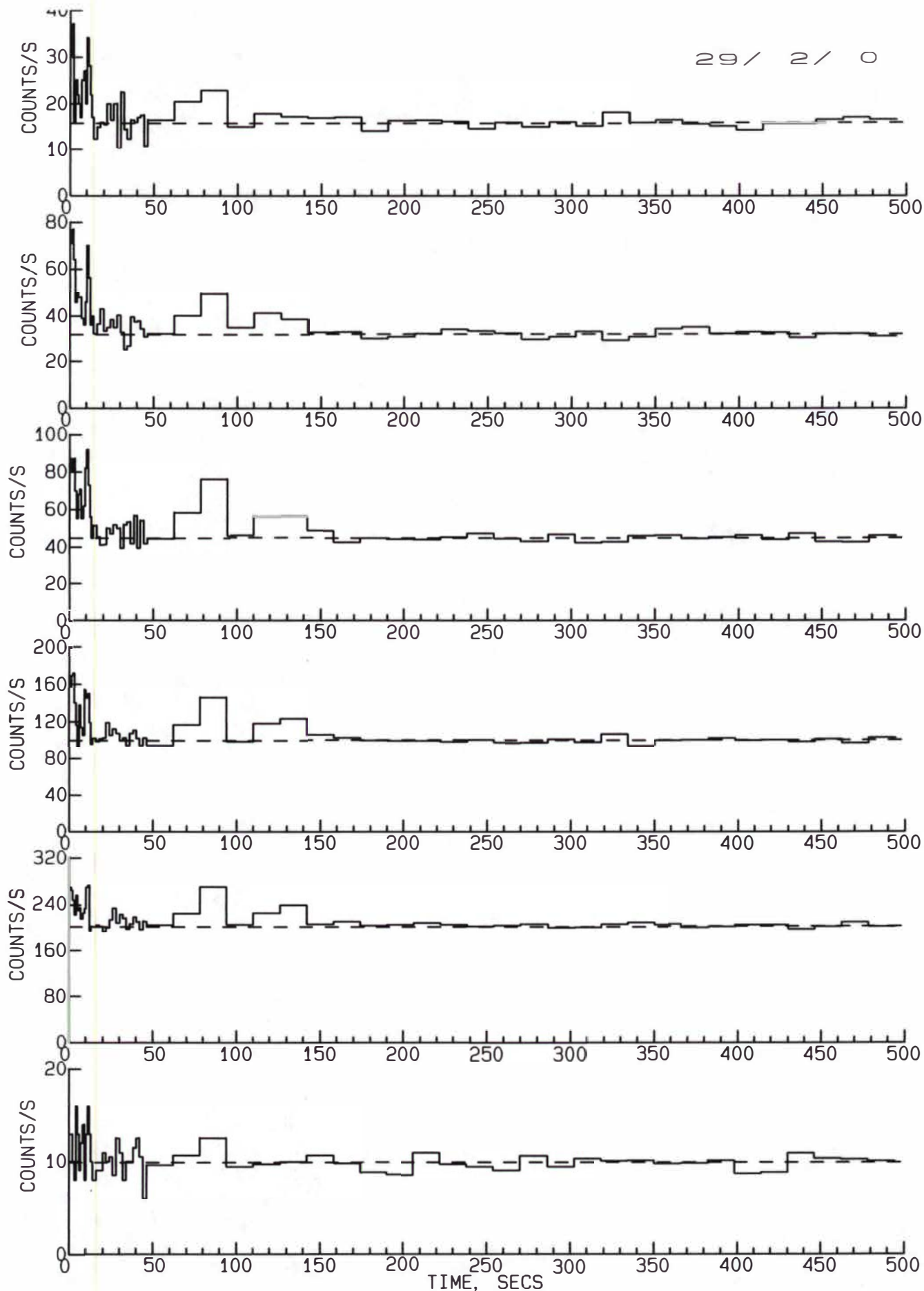
18- 46 keV

46- 74 keV

74-103 keV

103-131 keV

131-149 keV

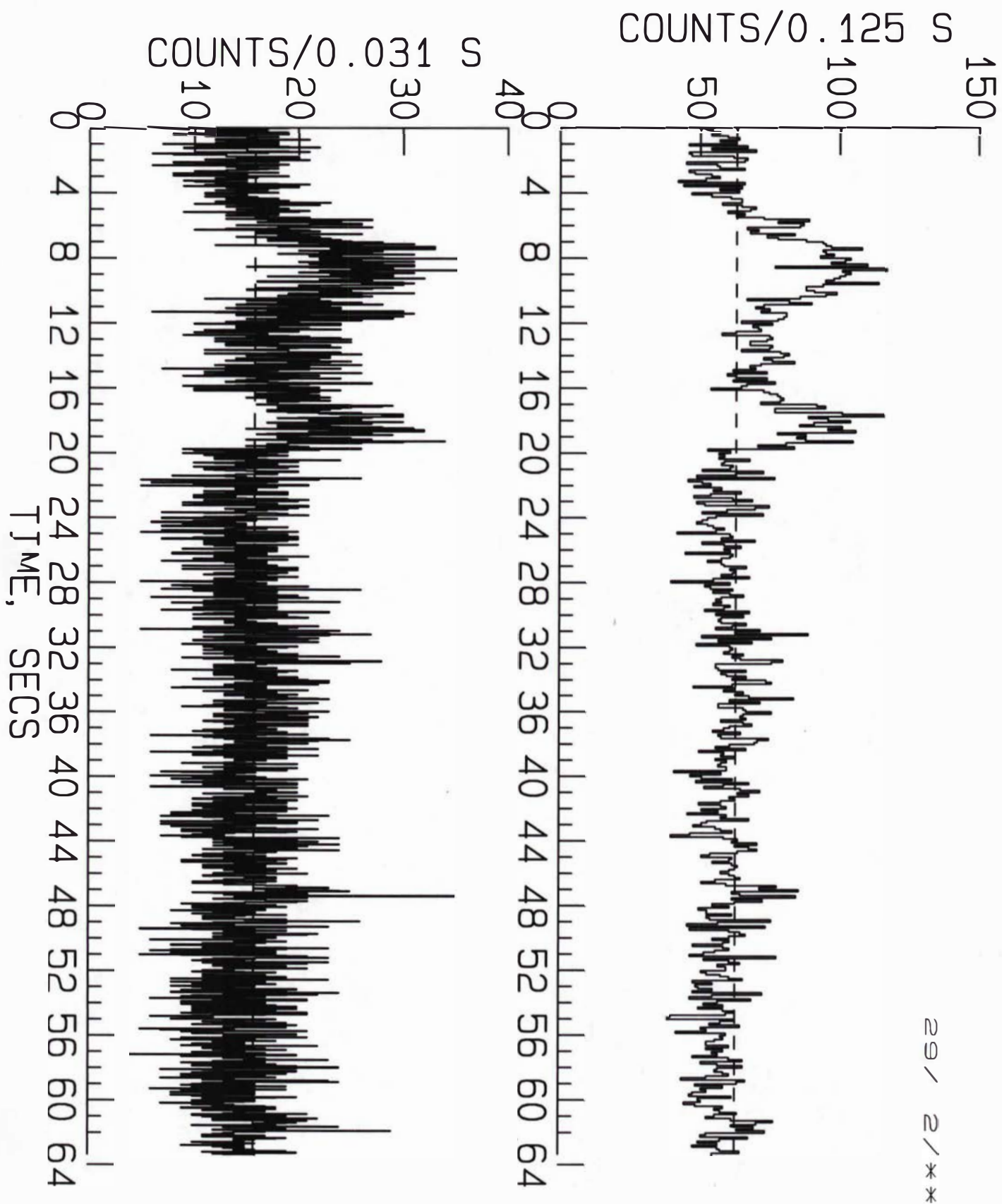


ULYSSES

06/05/99

Ttrig=39183.086

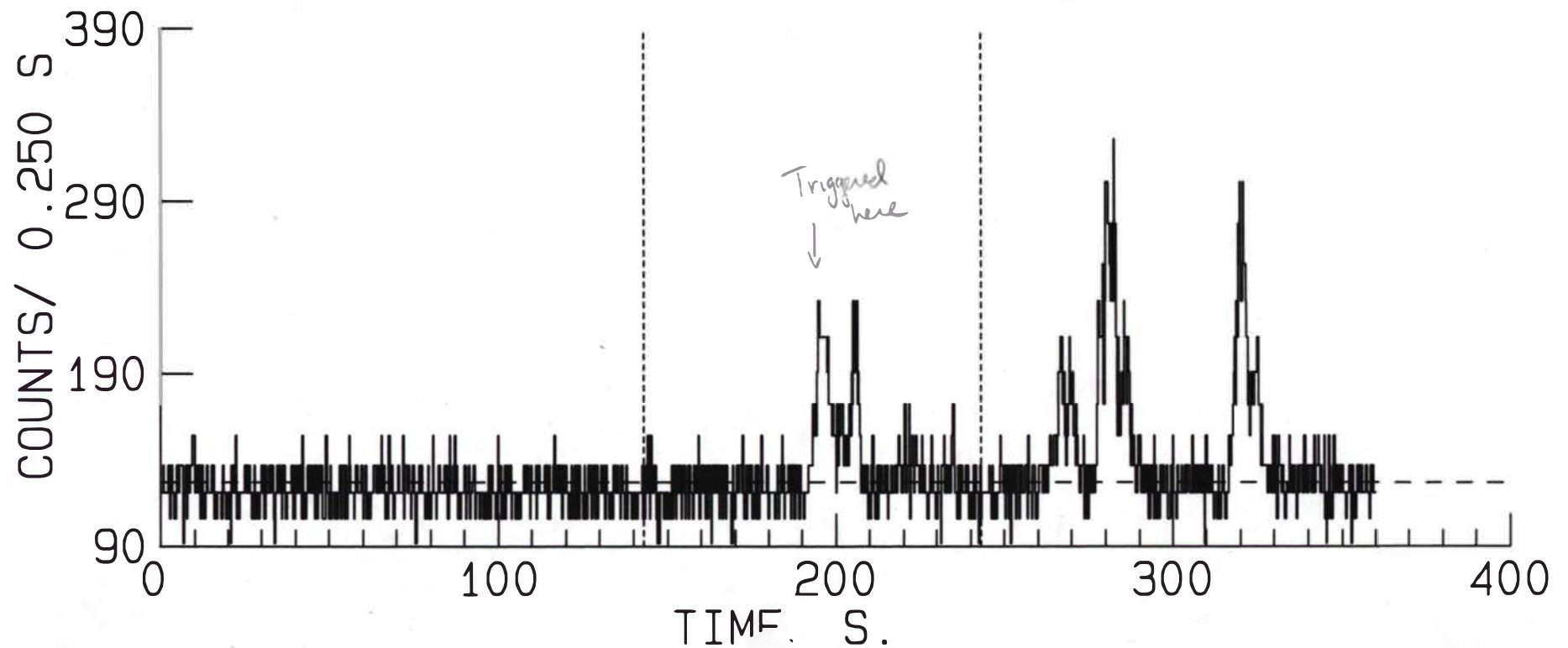
22- 150 keV



ULYSSES RT
6/ 5/99 38988.215 s
22- 150 keV

29 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

06/05/99

41010.937

100-1000 keV

COUNTS/0.064 S

3200

2200

1200

200
-30

13

29

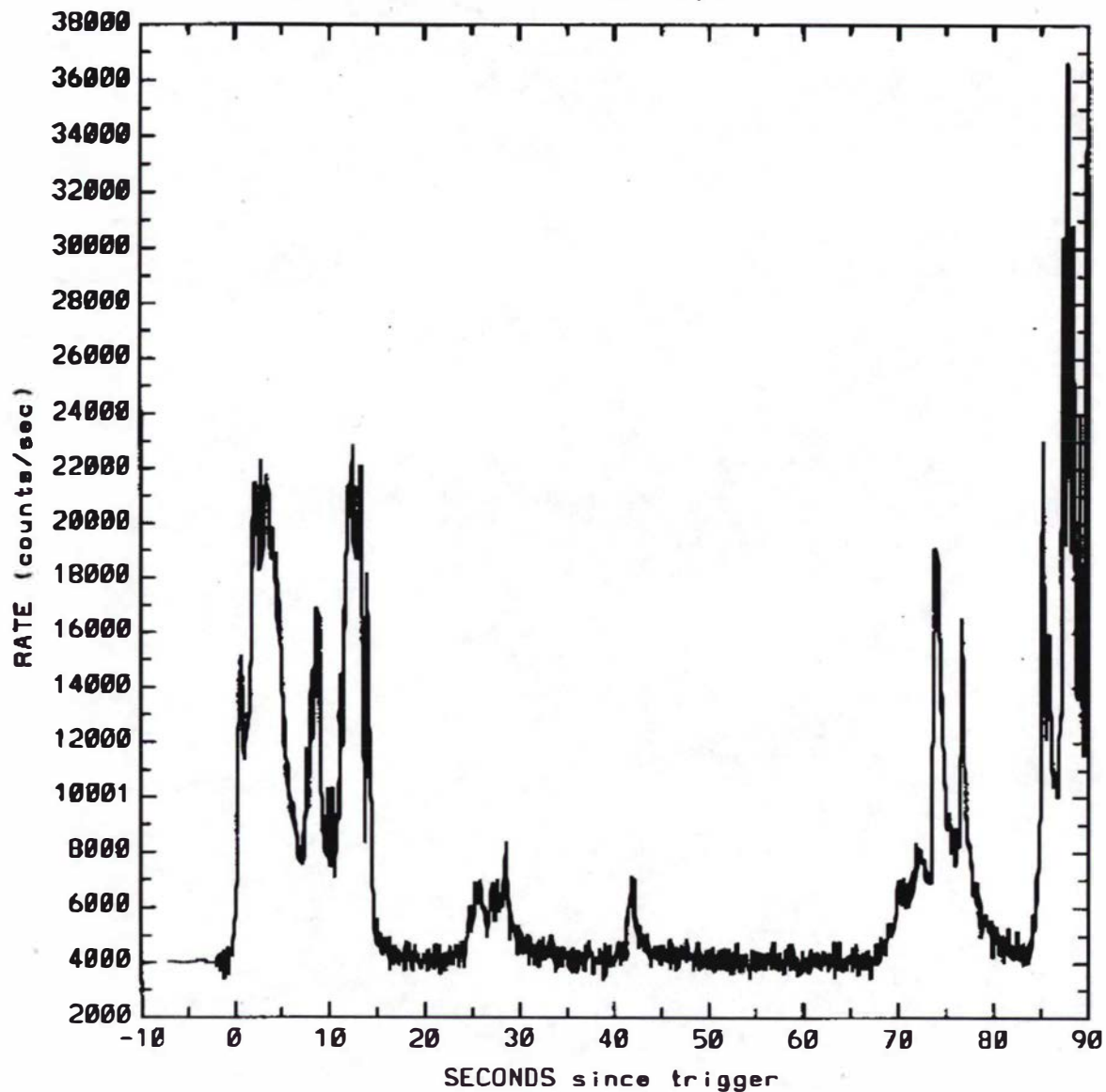
45

61

77

ME. SECS

DISCSC Data for K. Hurley, No. 7549



24-FEB-2000 12:24:11

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7549

Trigger Time:
11384 / 41010.937

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
7-5----

Discriminators:
1 3 . 4 1

Quality Mask:
BDISP1

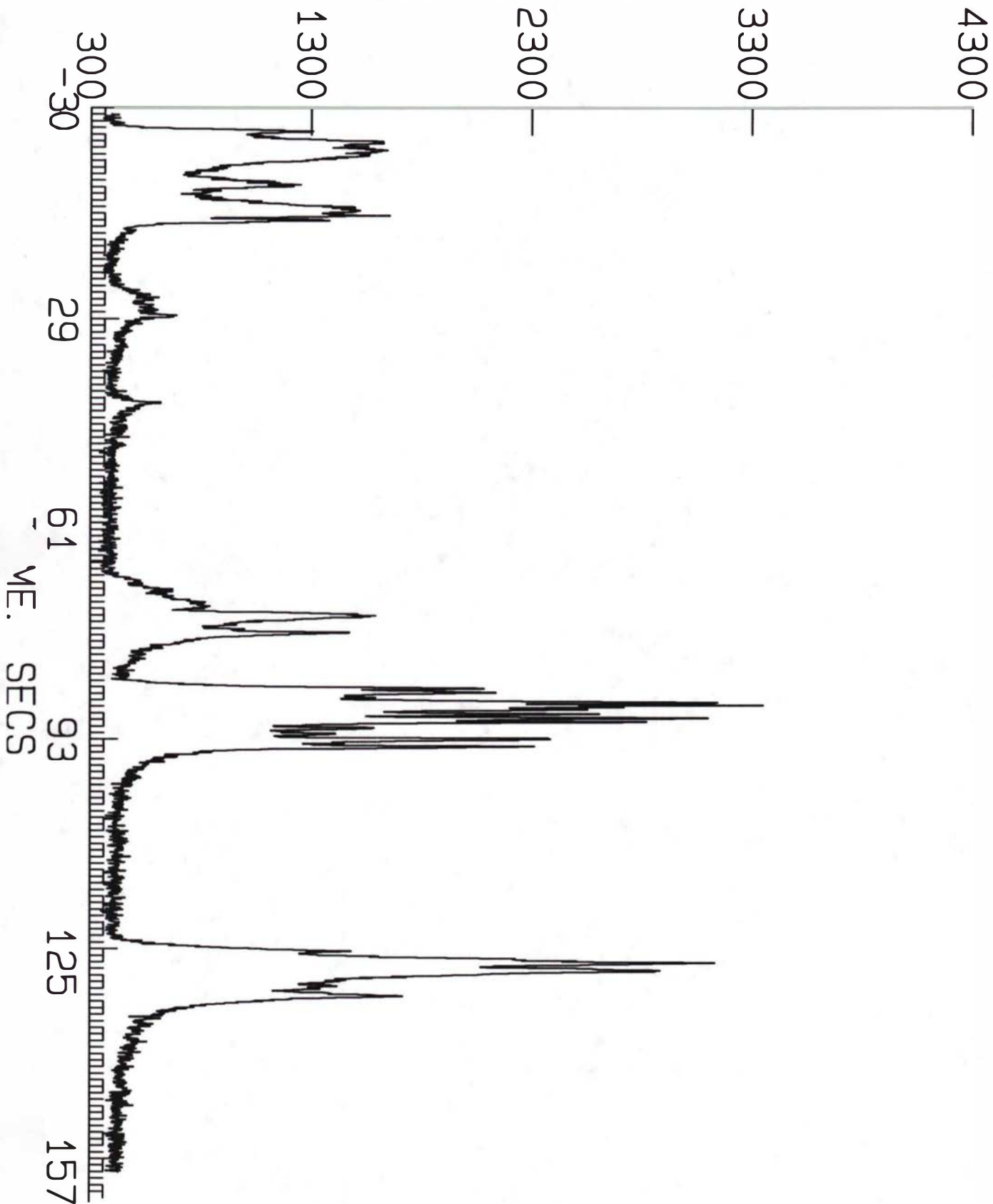
BATSE

06/05/99

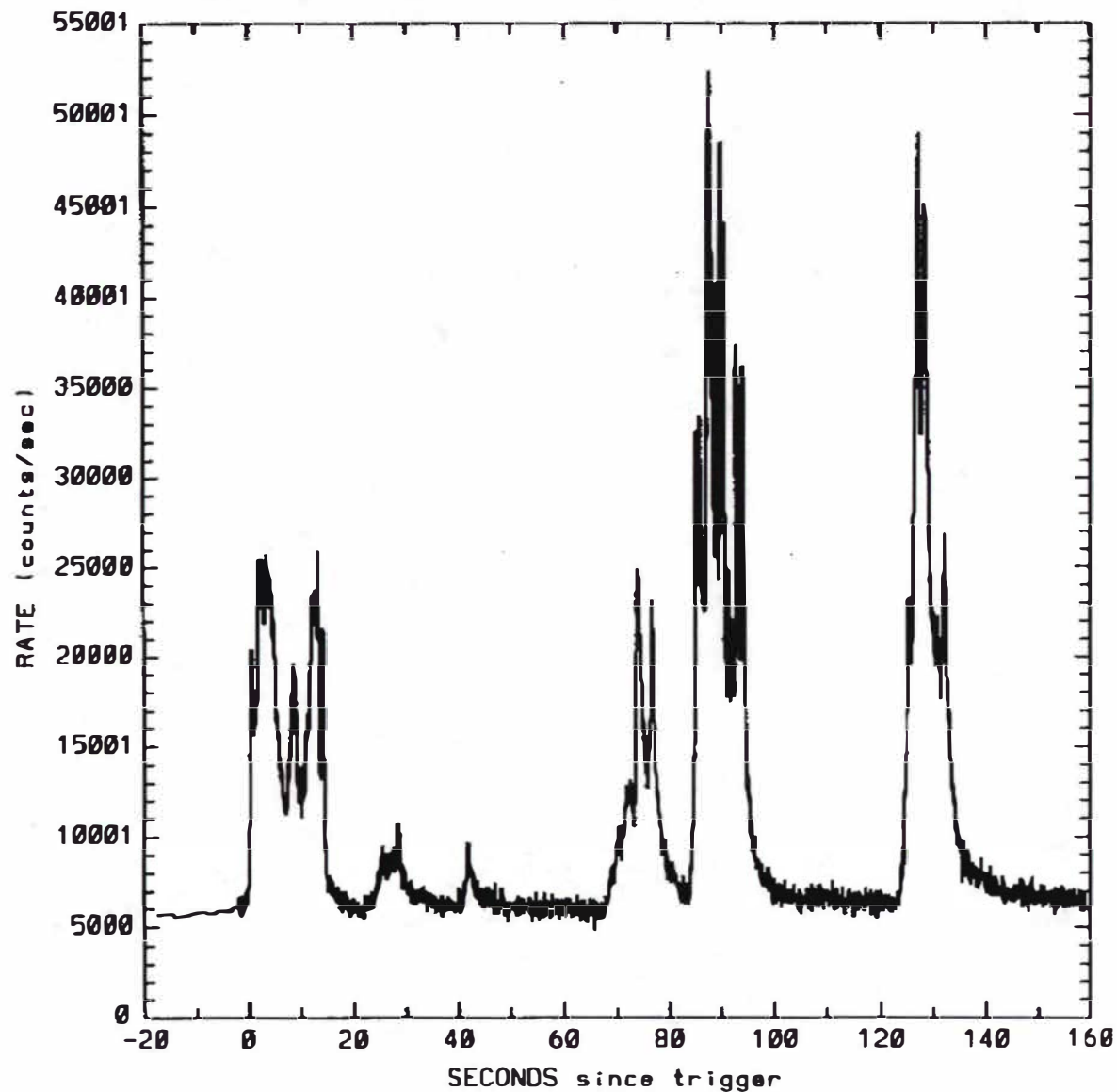
41010.937

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7549



7-MAY-1999 10:20:55

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

Trigger # : 7549

Trigger Time:
11384 / 41010.937

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
(1..2)

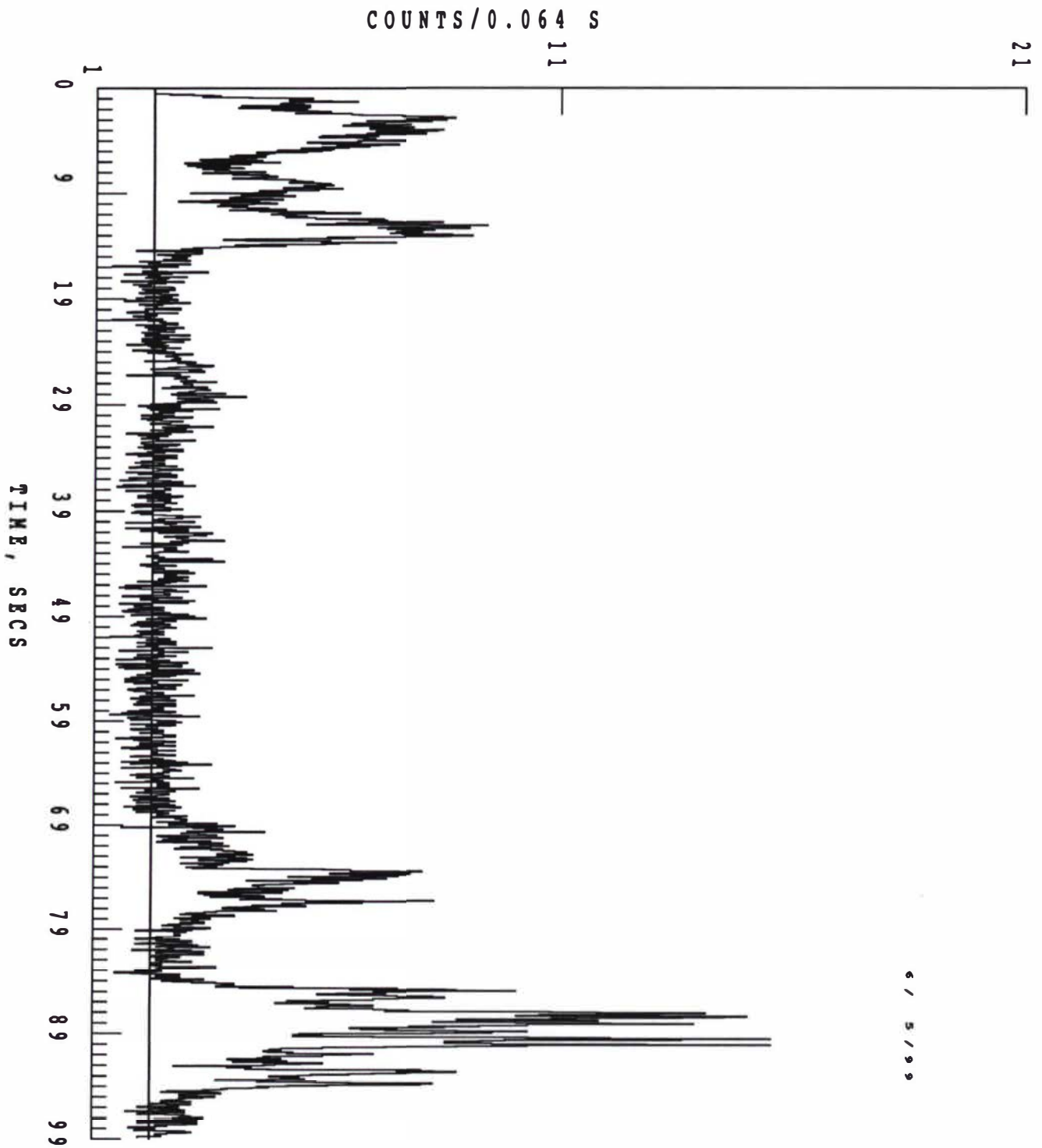
Quality Mask:
80ISP1

KONUS

06/05/99

41010.813

50 - 200 keV



6 / 5 / 9 9

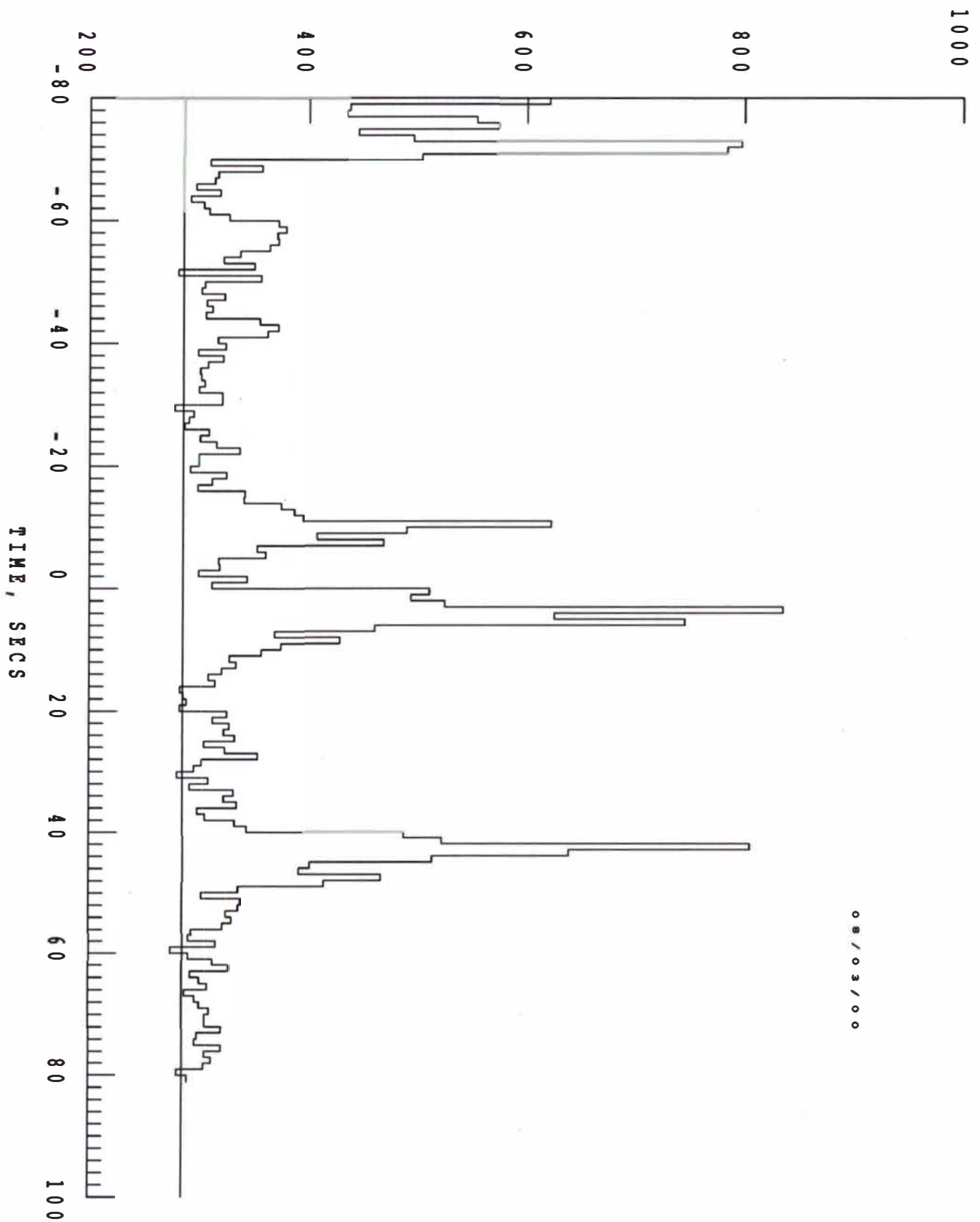
NEAR

06/05/99

42161.076

100-1000 keV

COUNTS/1.000 S



08/03/00

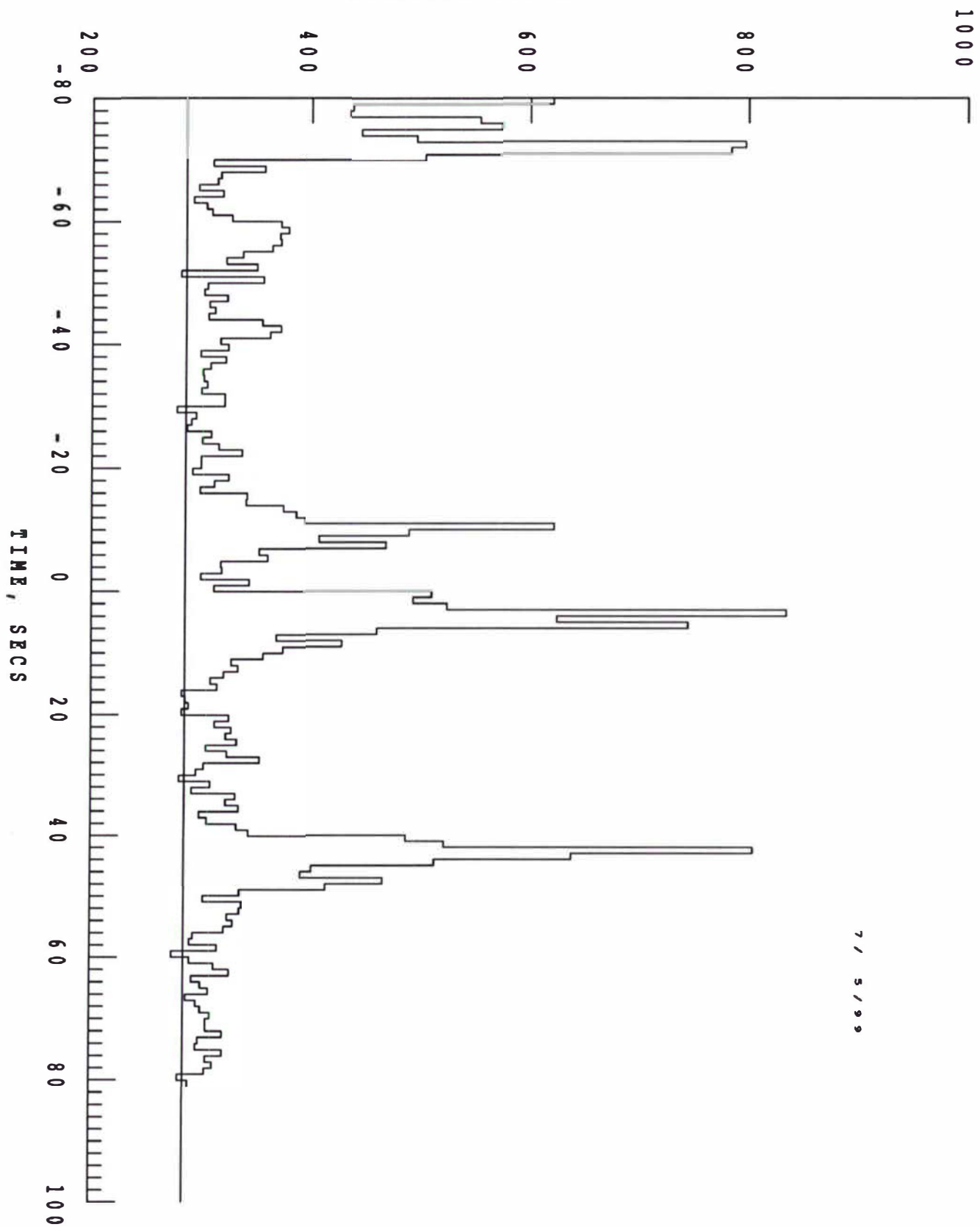
NEAR

06/05/99

42161.082

100-1000 keV

COUNTS/1.000 S



7 / 5 / 9 9

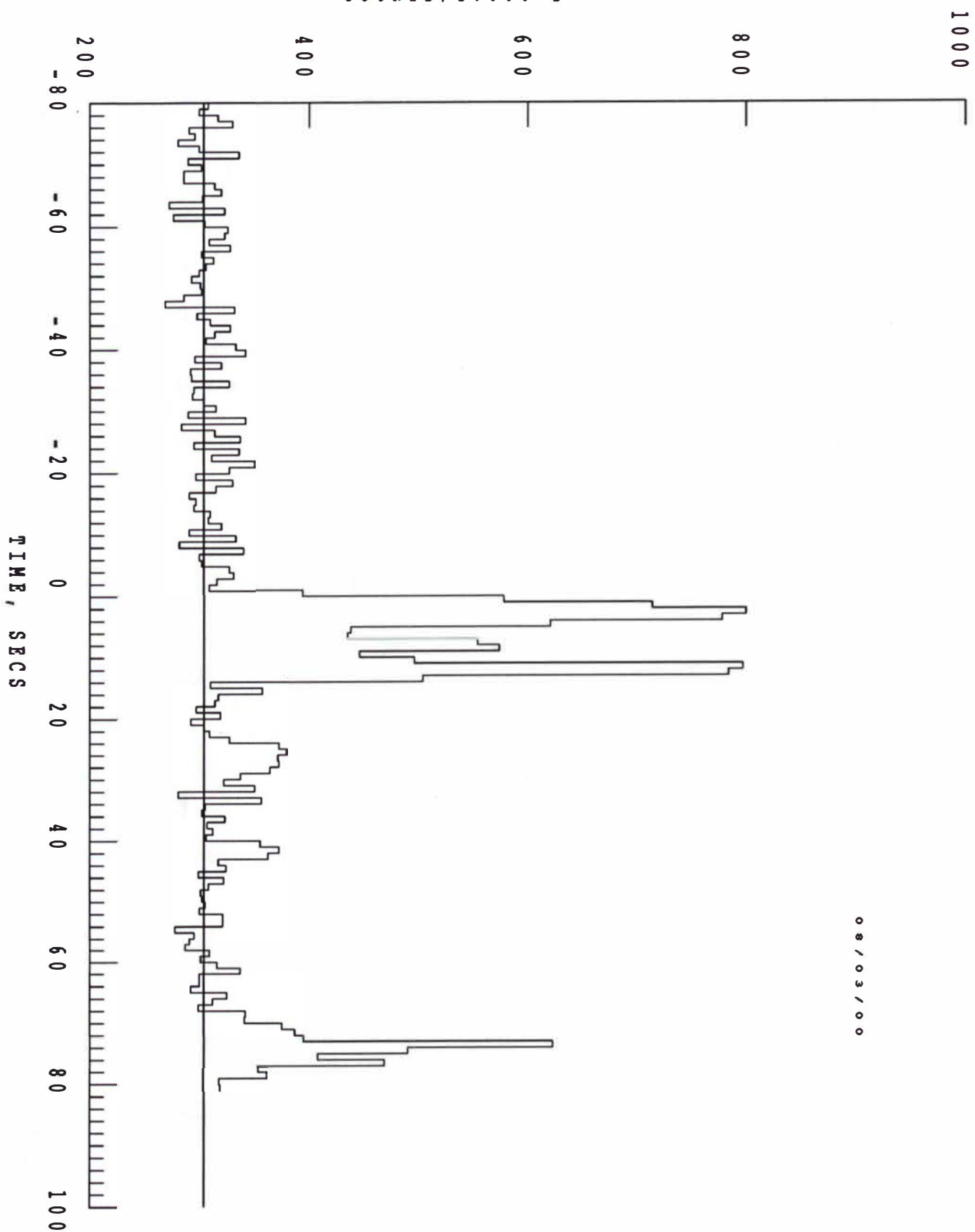
NEAR

06/05/99

42077.076

100-1000 keV

COUNTS/1.000 S



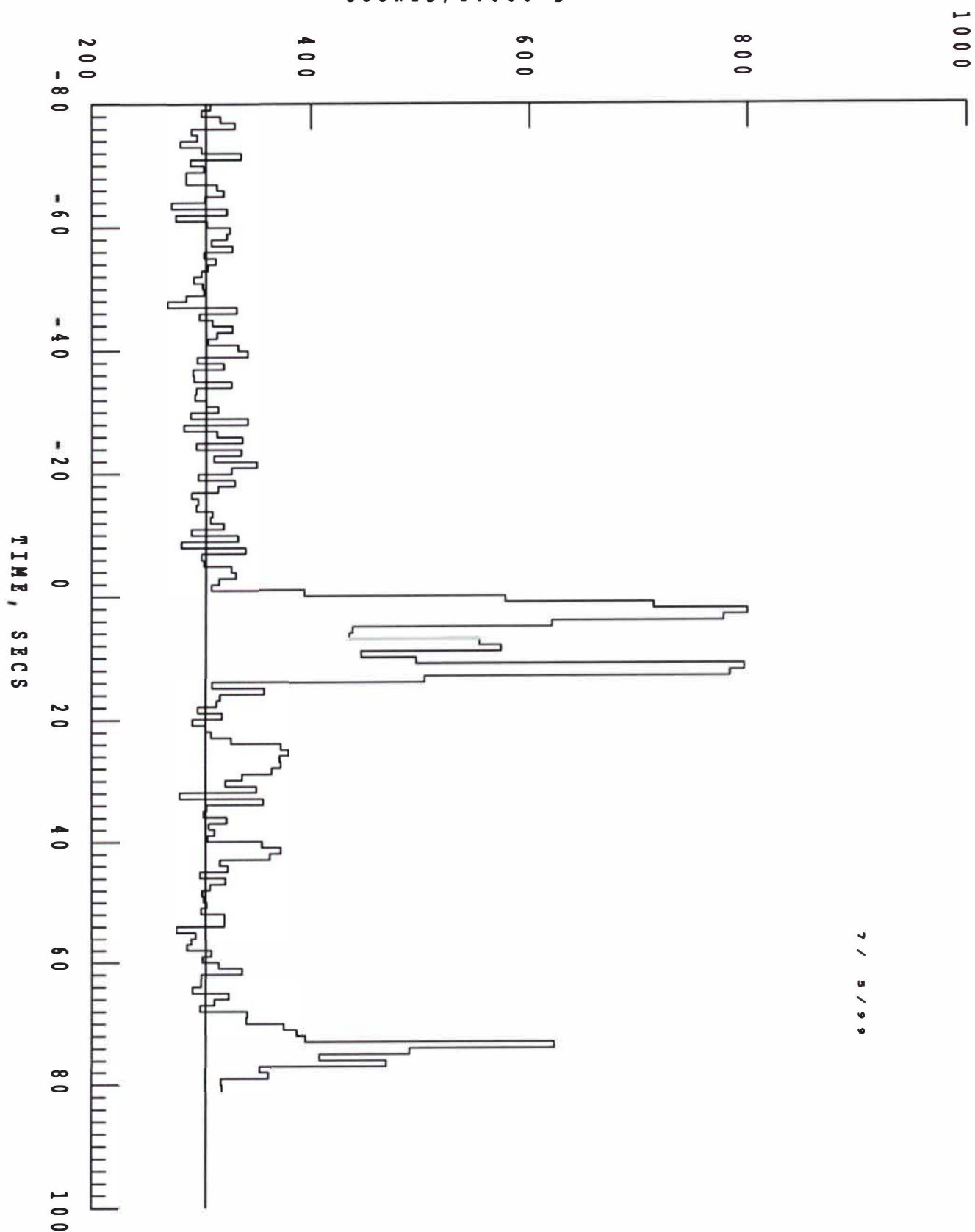
NEAR

06/05/99

42077.082

100-1000 keV

COUNTS/1.000 S



JANA TAB2 19990506 41052

ULYSSES RT

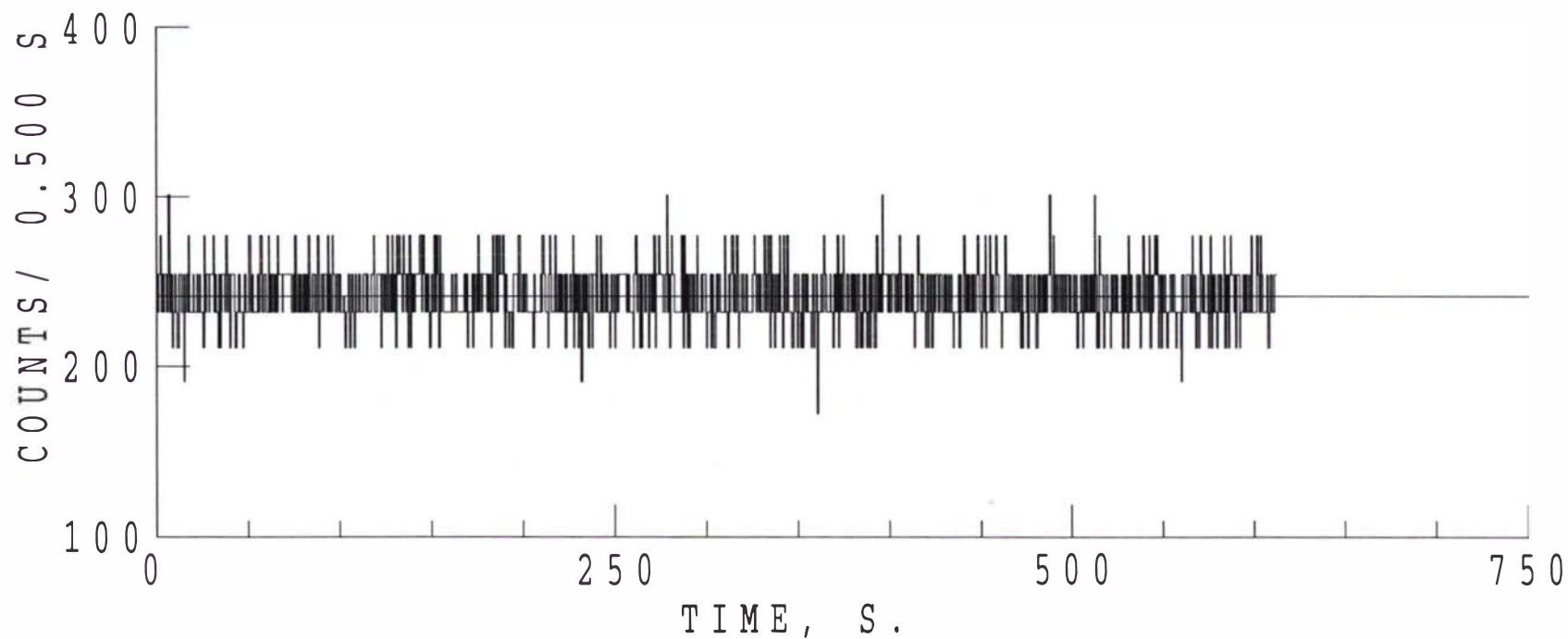
05/08/05

06/05/99 40752.230 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 Tue May 11 14:38:26 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 OAA21185; Tue, 11 May 1999 14:38:25 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id OAA15327
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 11 May 1999 14:35:41 -0700 (PDT)
Date: Tue, 11 May 1999 16:39:12 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990511163912.20214e58@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7550
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7550
EVENT OF 1999 MAY 6 DAY OF YEAR=126
EVENT CROSSING TIME AT BATSE : 86035. S. OR 23:53:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 140.000 3.000
BATSE PEAK COUNTING RATE: 10000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 6/ 5/ 99 IS:
RA= 144.271 DEC= -7.062 DIST= 4.637 AU
BATSE-ULYSSES DISTANCE = 693769044. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=169.07 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-2272.20 SECS.
CROSSING TIME AT ULYSSES IS 83763. S. OR 23:16:02 +/- 91.66 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 6/ 5/ 99 IS:
RA= 208.195 DEC= -10.643 DIST= 0.580 AU
MARS-BATSE DISTANCE = 86797416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -102.75 SECS.
CROSSING TIME AT MARS IS 85932. S. OR 23:52:12 +/- 45.43 SECONDS

BATSE BURST TRIGGER

NO.: 7550

TIME: TJD=1304 SECONDS=86035

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 93.5 AZIMUTH=245.2 ERROR= 1.2 DEGREES

COMMENTS:

SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 12 S.
WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7550	990506	11304	86035	10000	140	+03	12

Date: 27/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

N/A

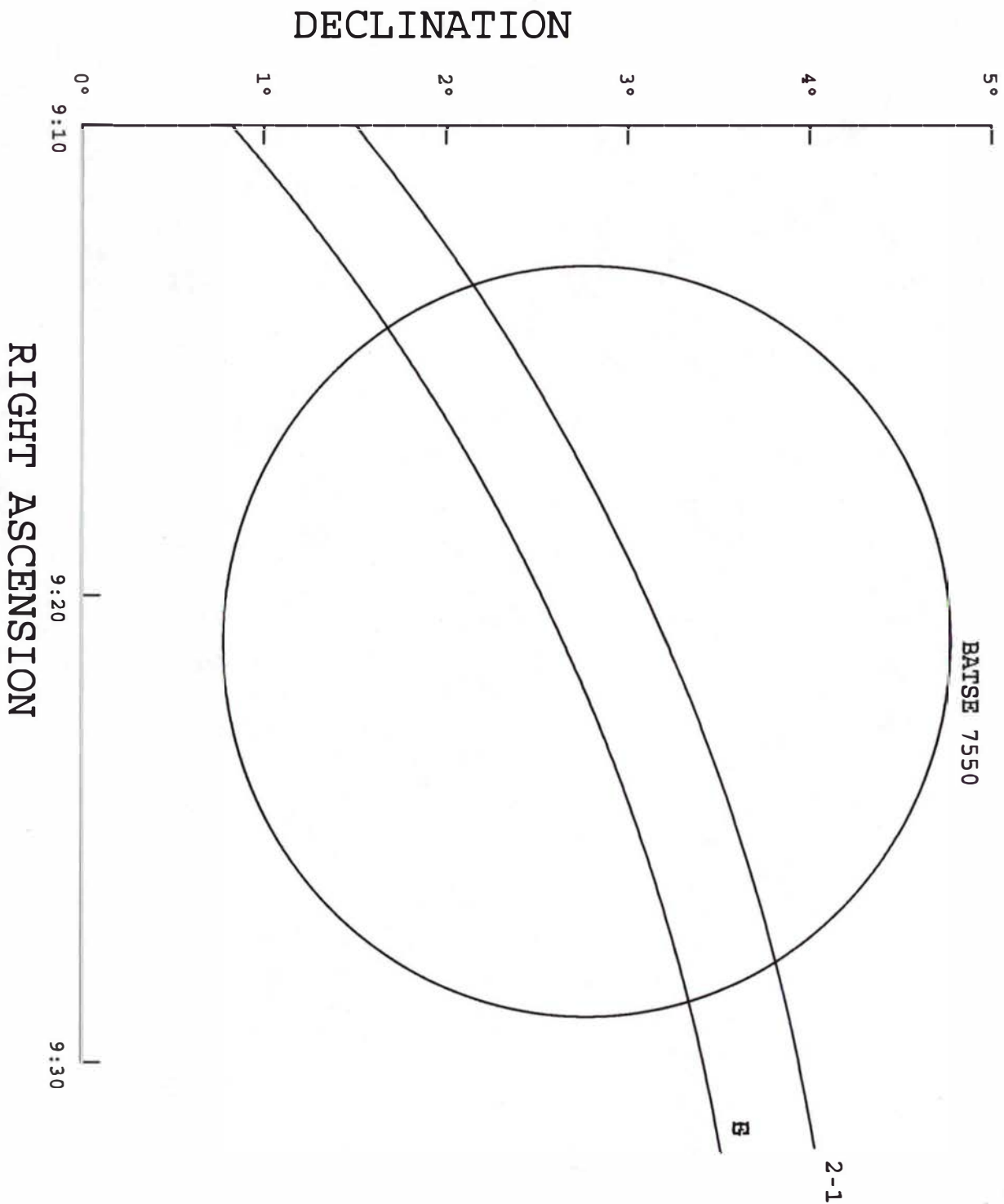
- ☐ Final, correct time used? (Files on website have the correct time)
- ☐ BATSE >100 keV data used for NEAR correlation?

- ☒ ACCESS database updated?

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

EVENT OF MAY 6, 1999 23:53

27 / 1 / 0



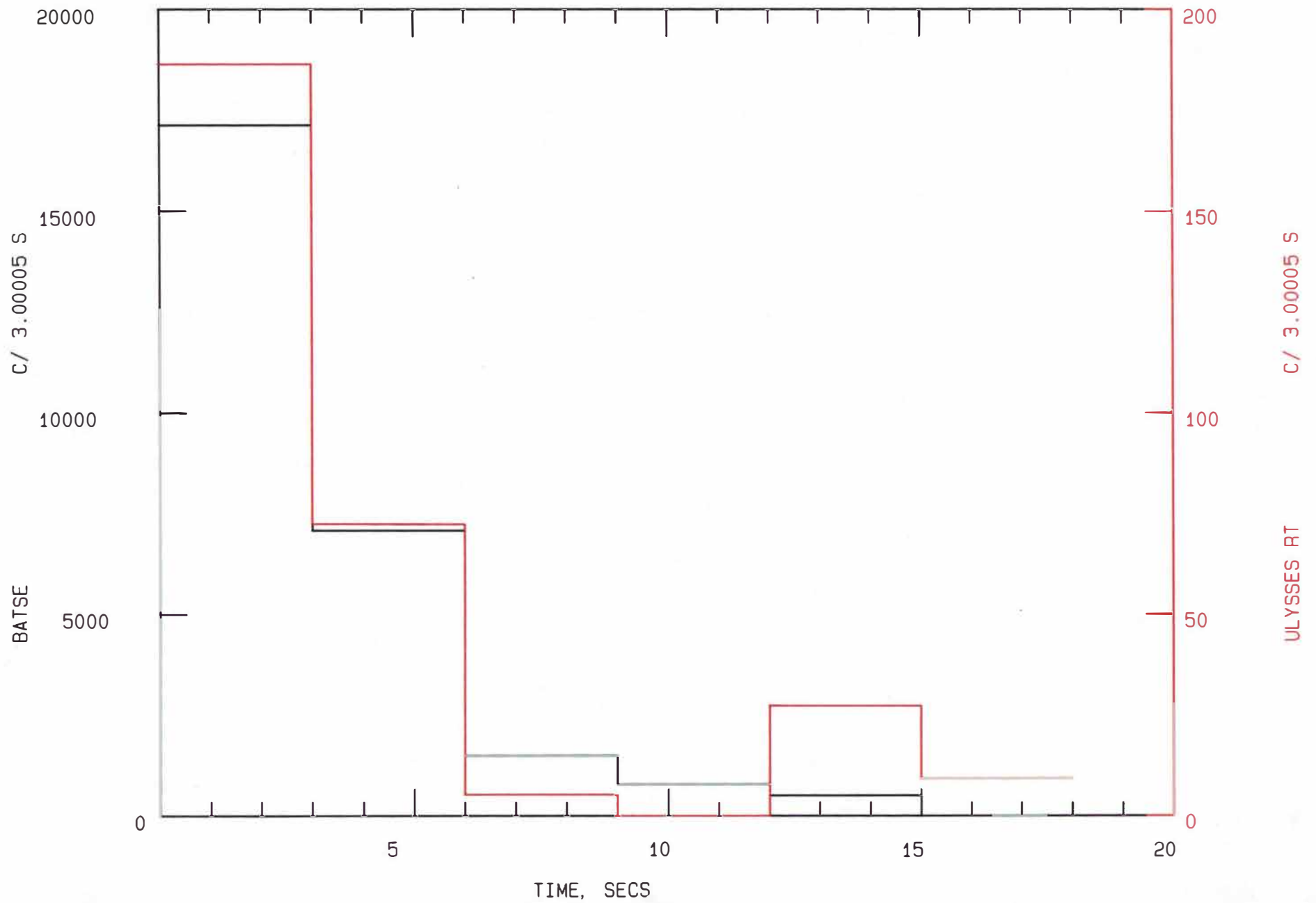
BATSE

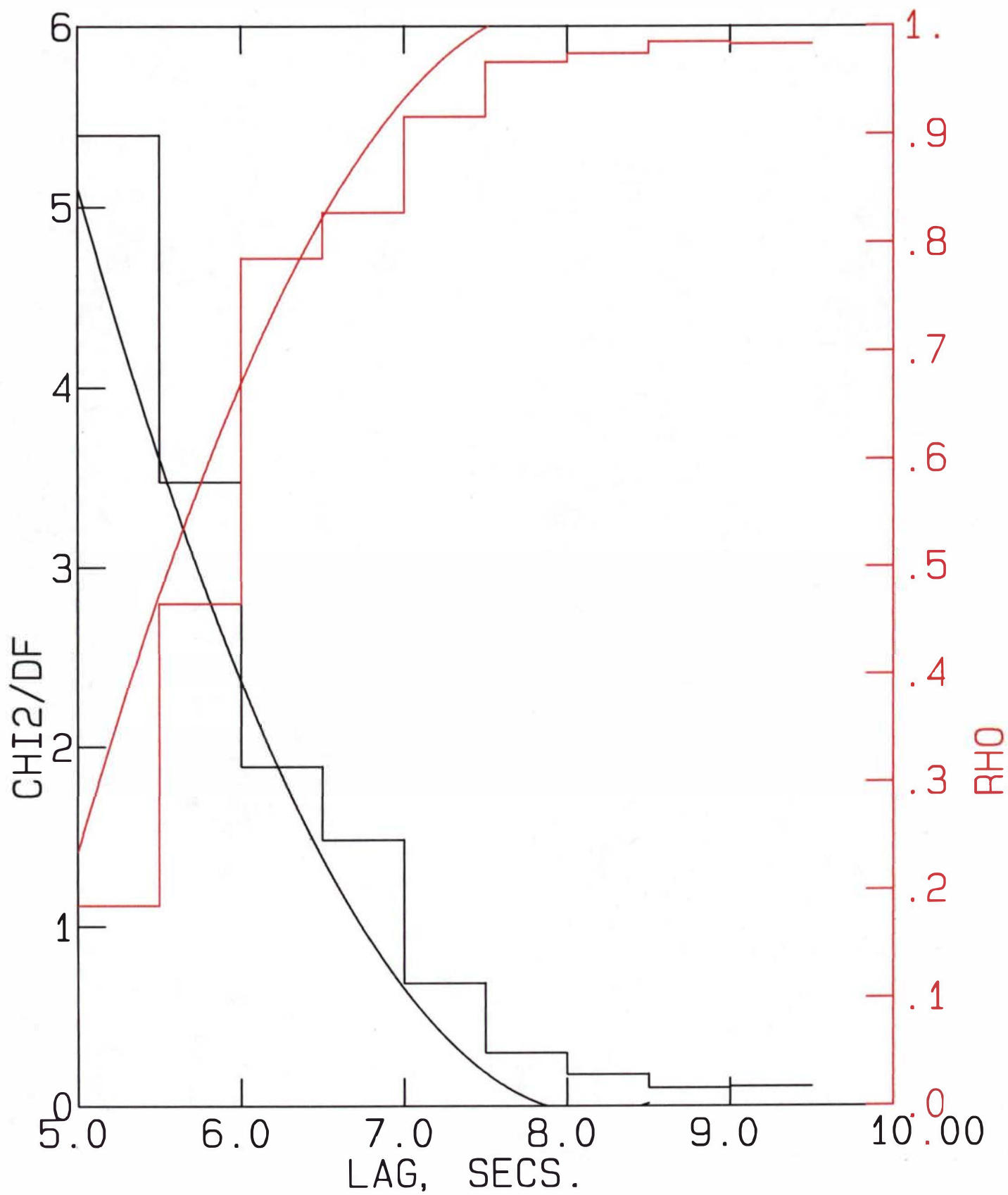
-ULYSSES RT CORRELATION

6/ 5/99

86035.961

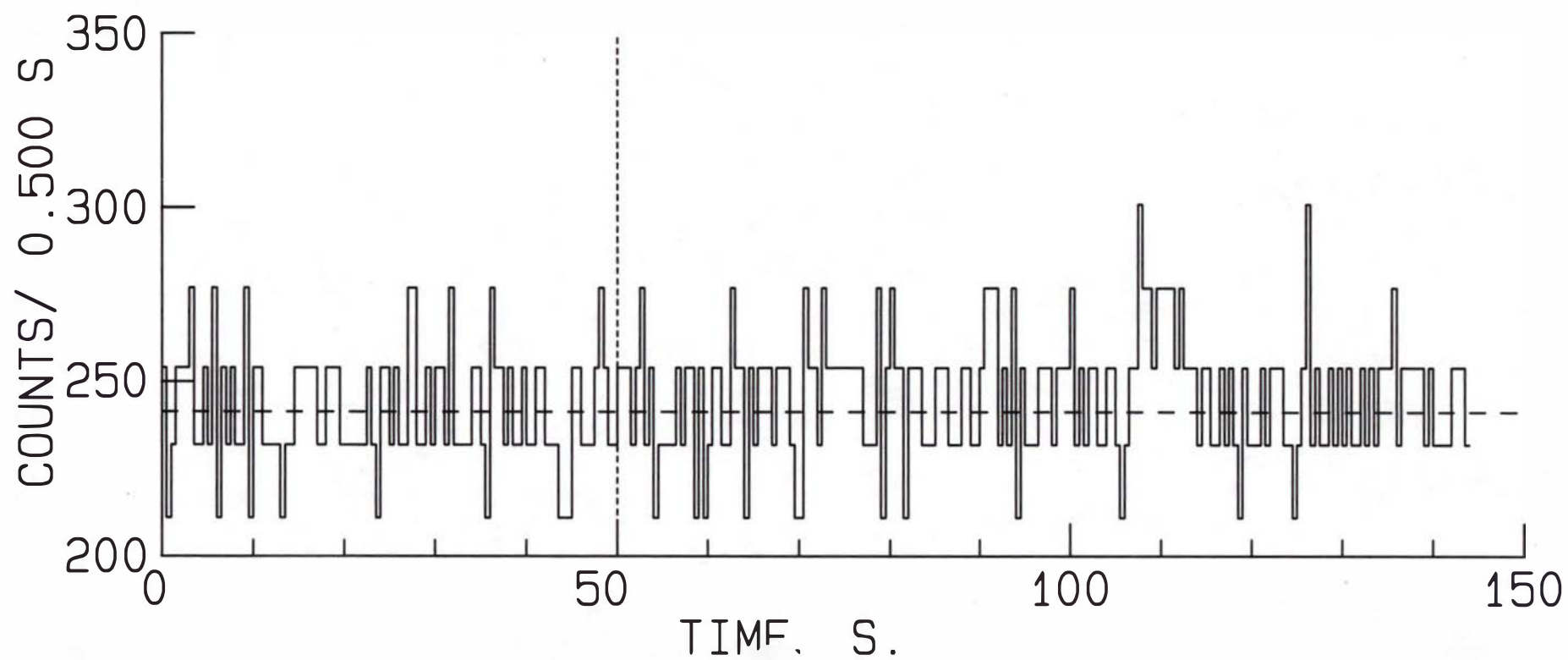
27/ 1/ 0





ULYSSES RT
6/ 5/99 83664.166 s
22- 150 keV

27 / 1 / 0



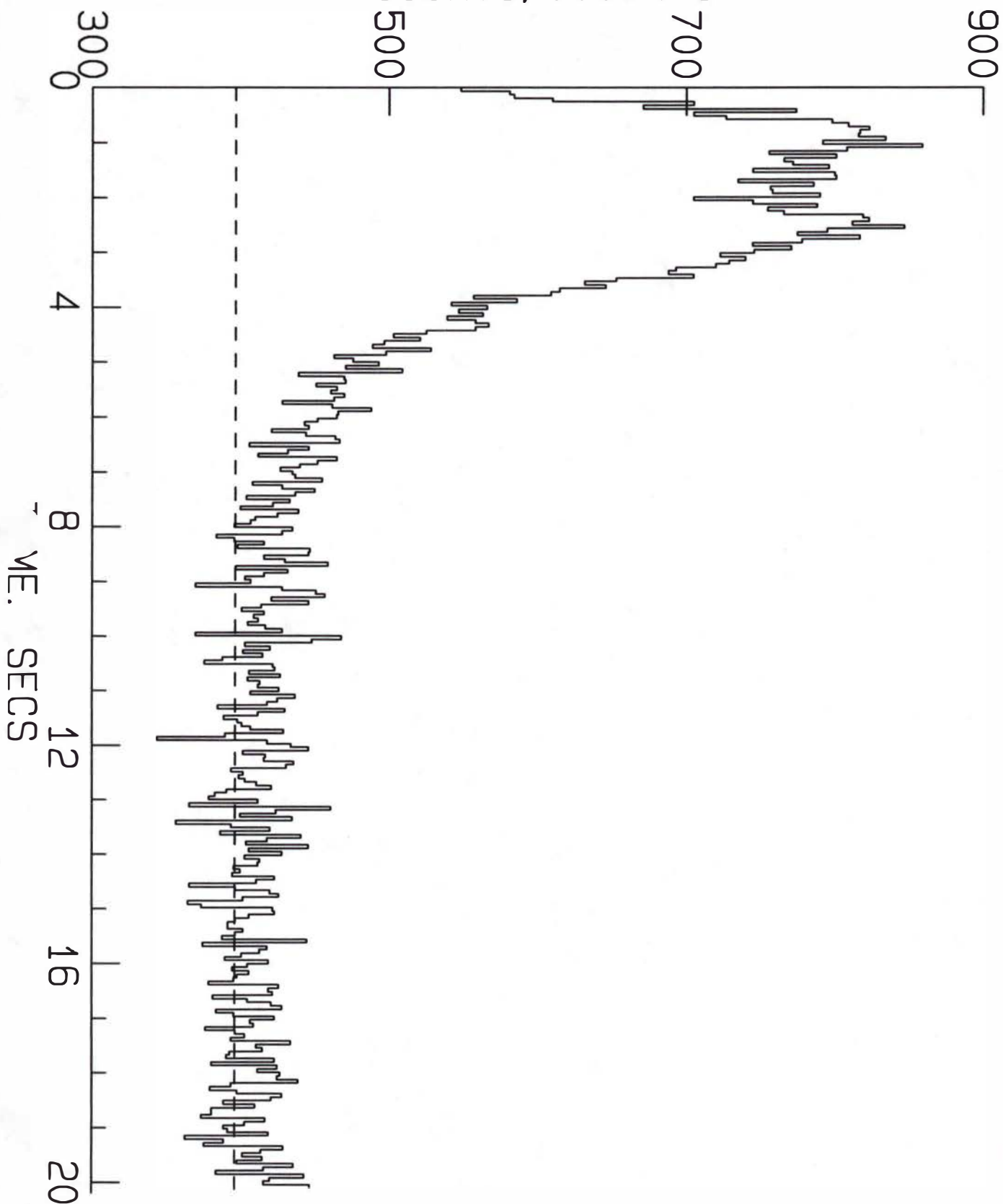
BATSE

06/05/99

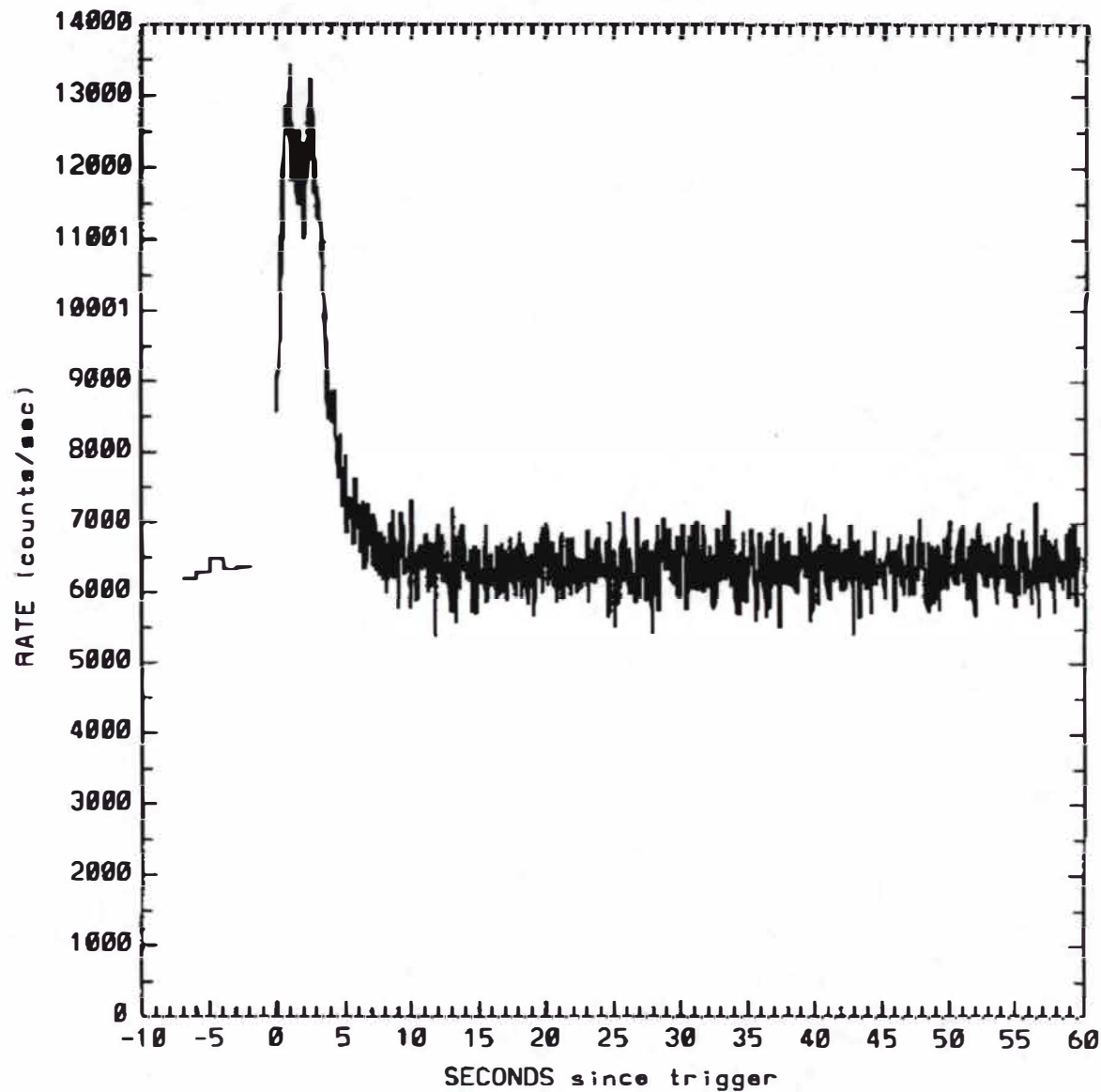
86035.961

25- 100 keV

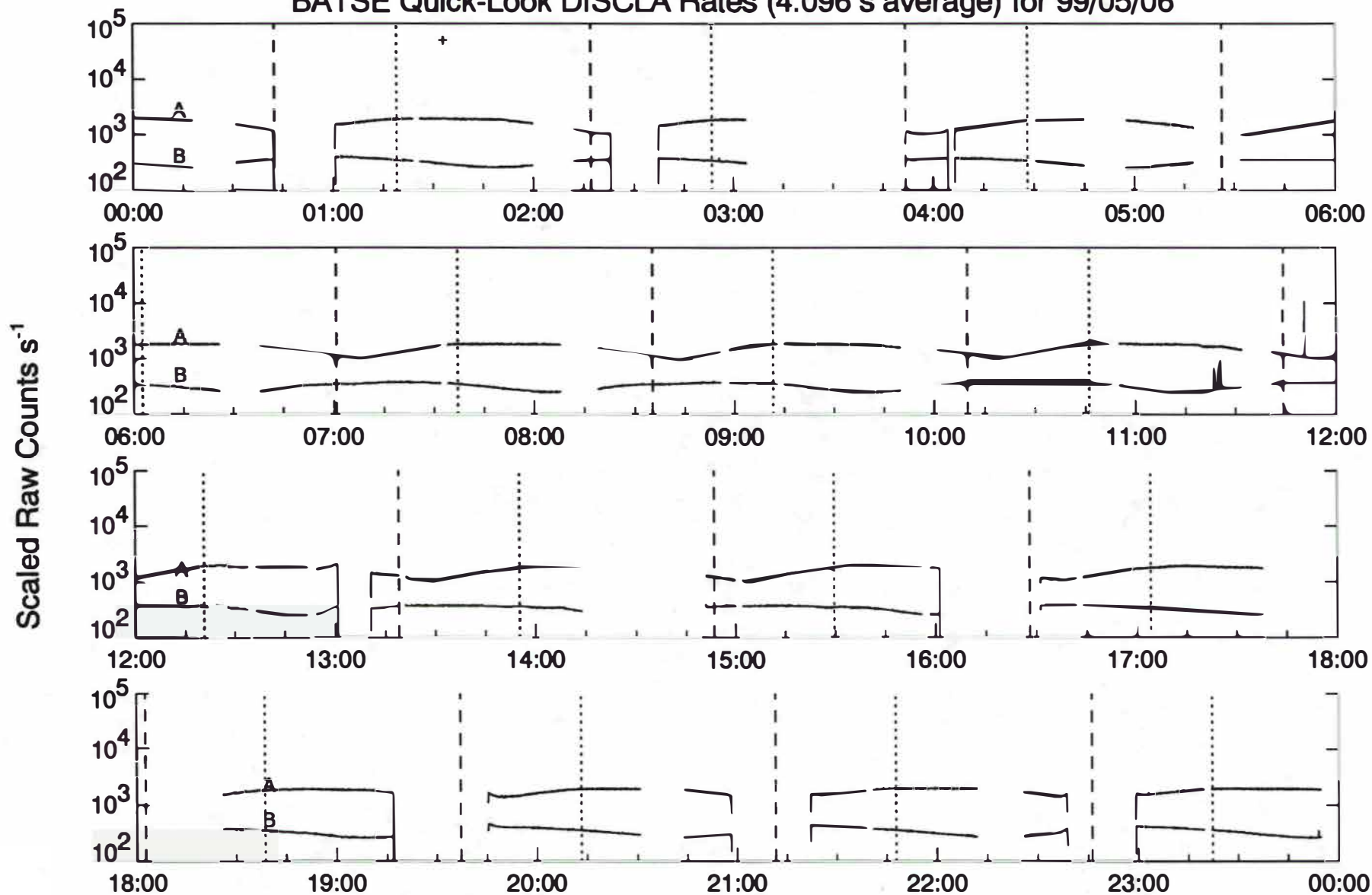
COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7550



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/06



Current Time: 99/05/10, 1007 EDT

A: Channel 0 Most Sunward LAD

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

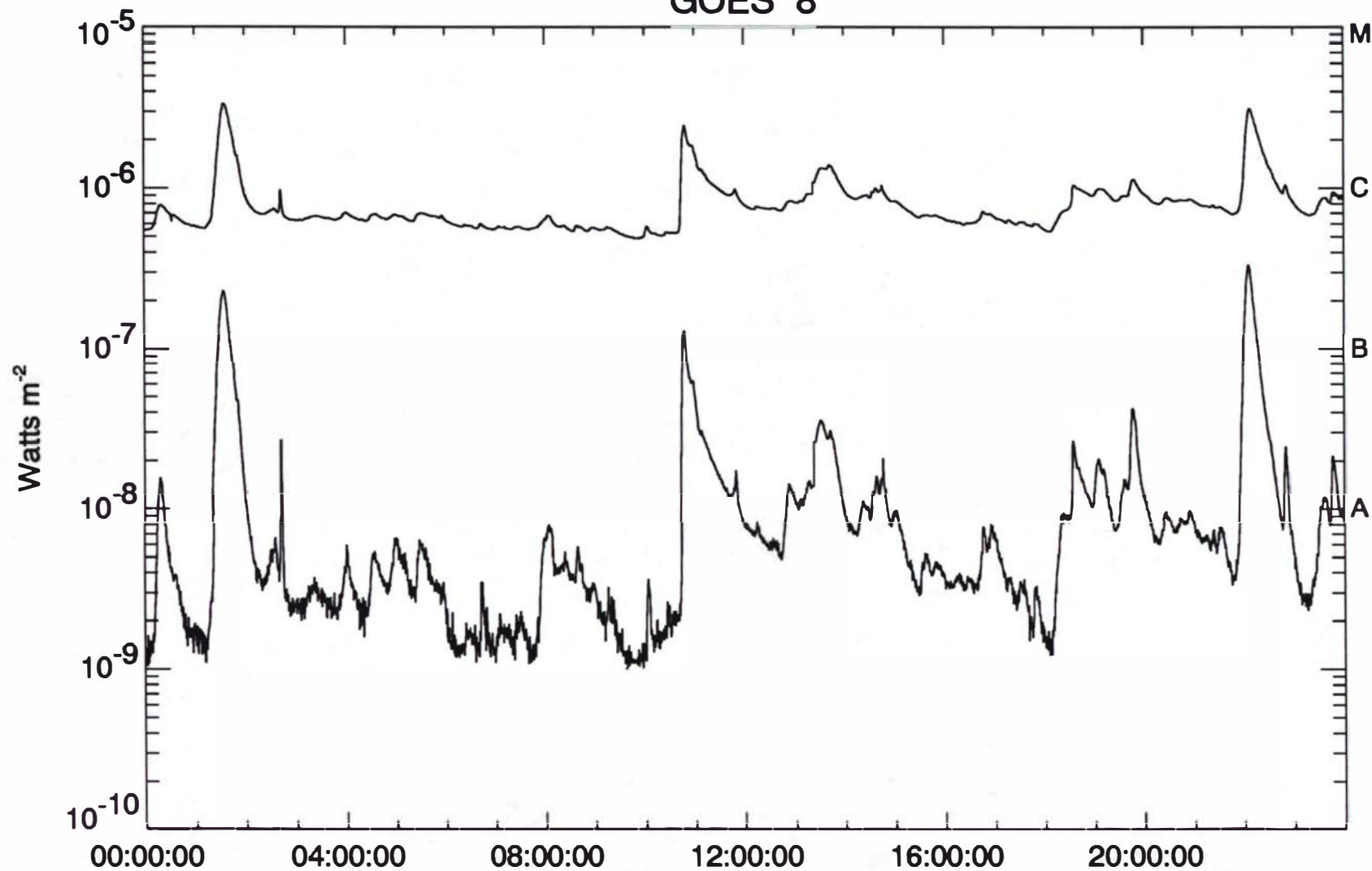
Dotted line: Day entry

Dashed line: Night entry

* Solar Burst Trigger

+ Solar Flare

GOES 8



Data Start: 99/05/06, 0000:00

Plot created: 99/05/10, 1006

Channel

1 (1.0 - 8.0 Angstroms)

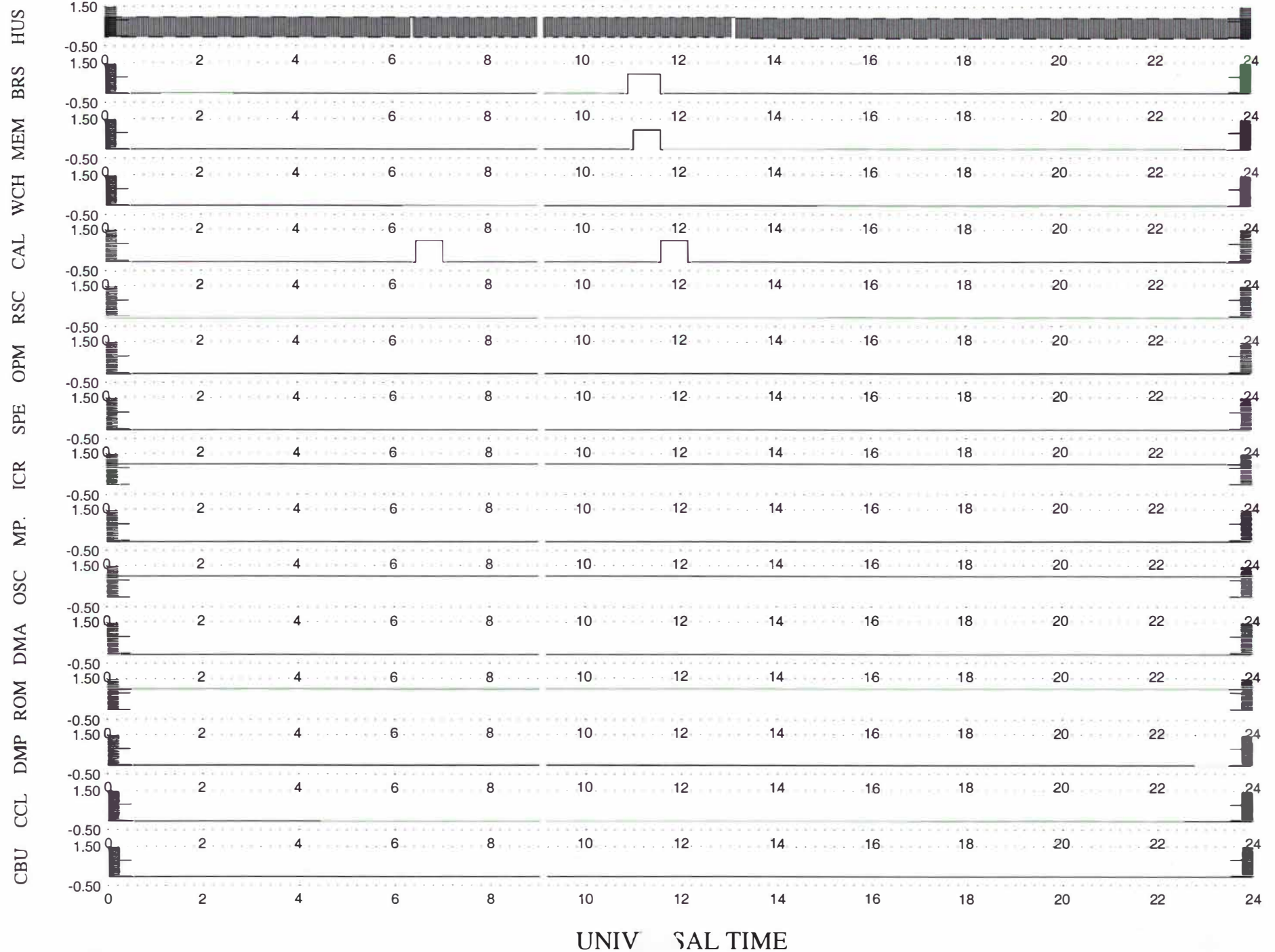
Background not subtracted

2 (0.5 - 4.0 Angstroms)

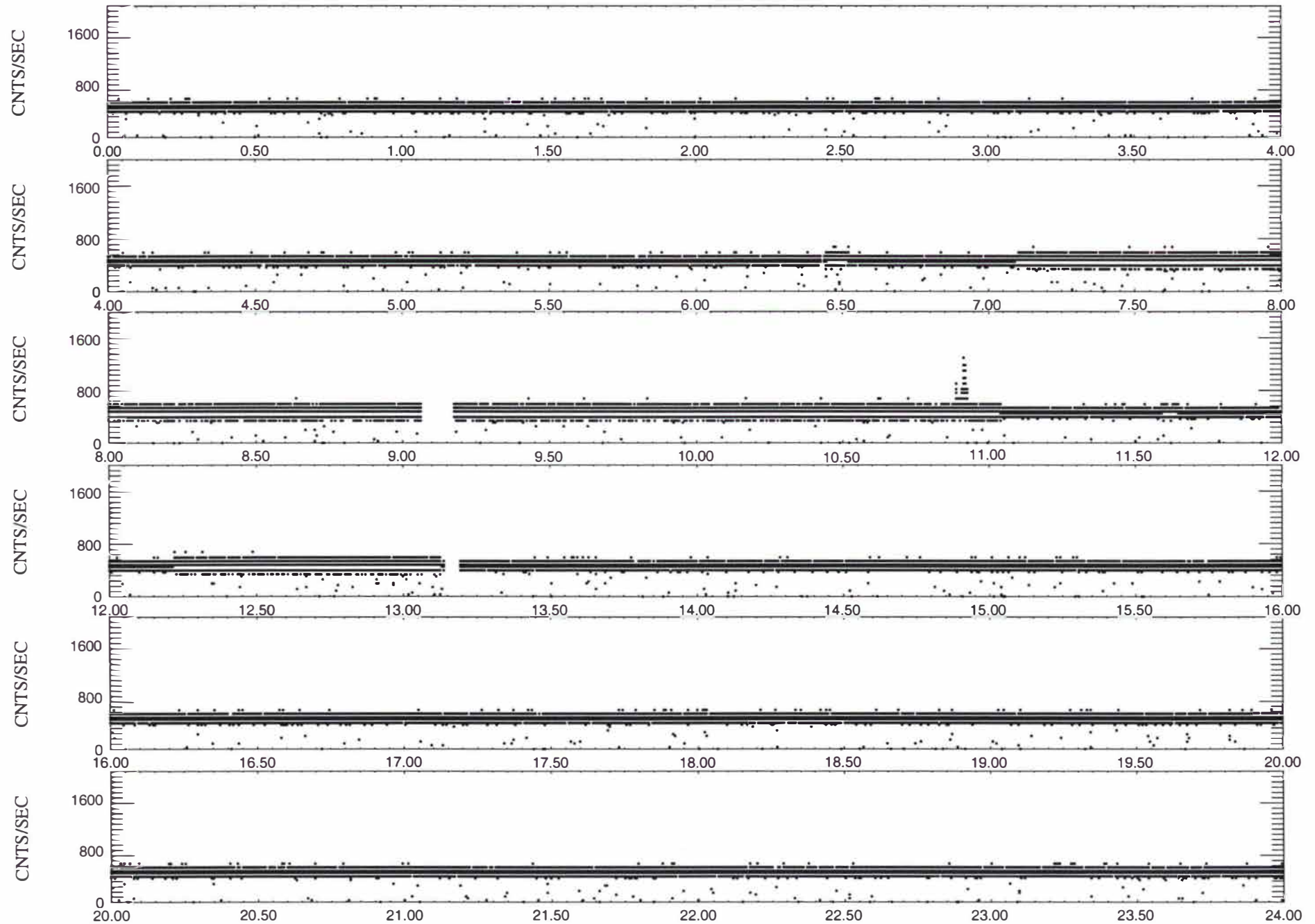
Background not subtracted

Sample average = 10

BURST NUMBER 13

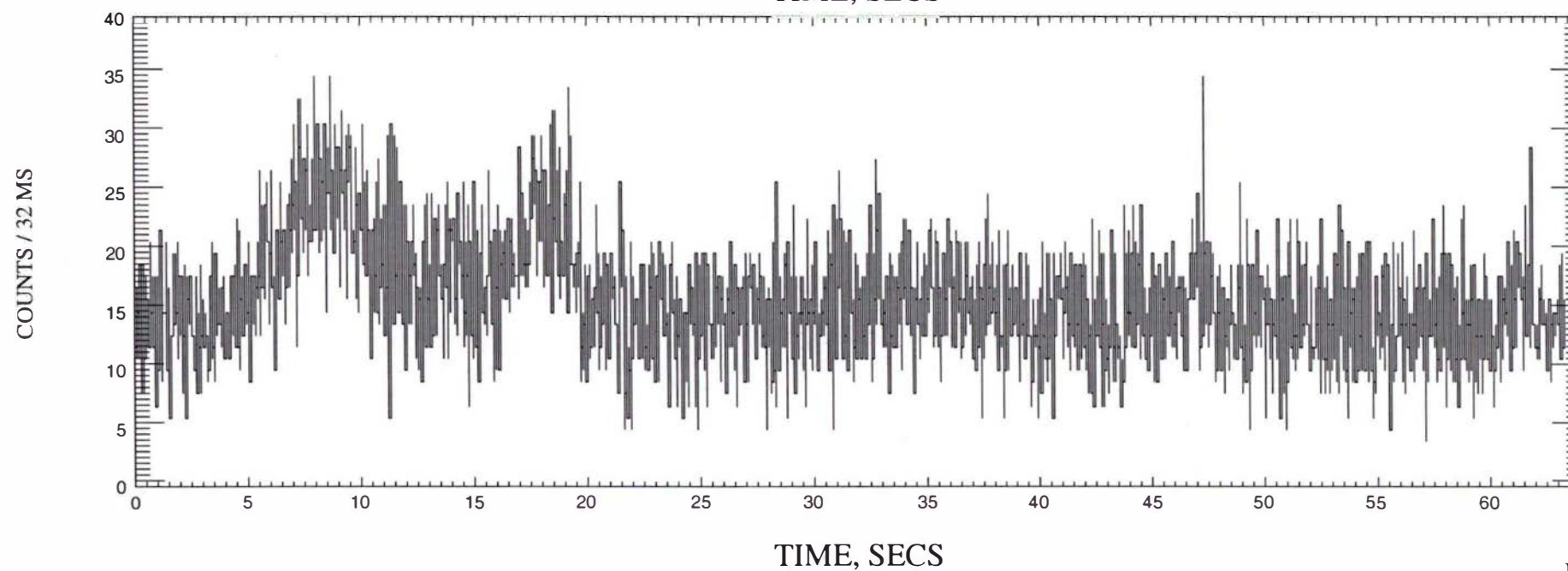
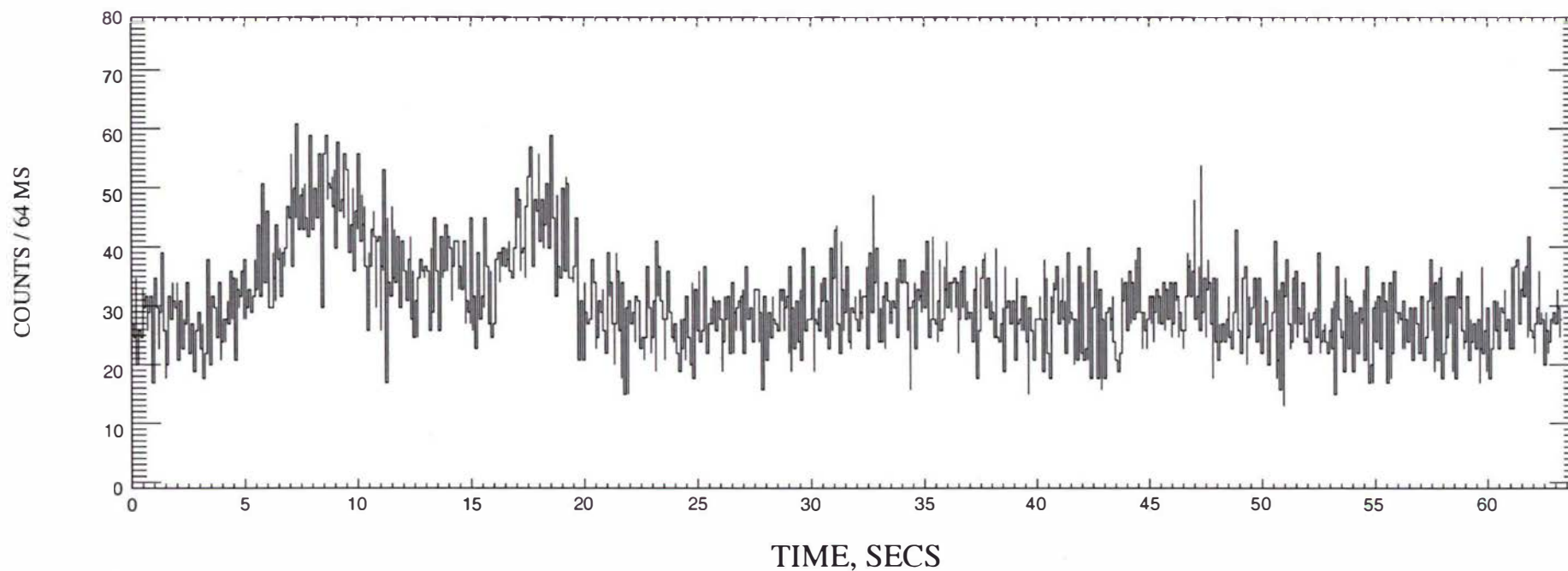


CALIBRATION DATA INCLUDED

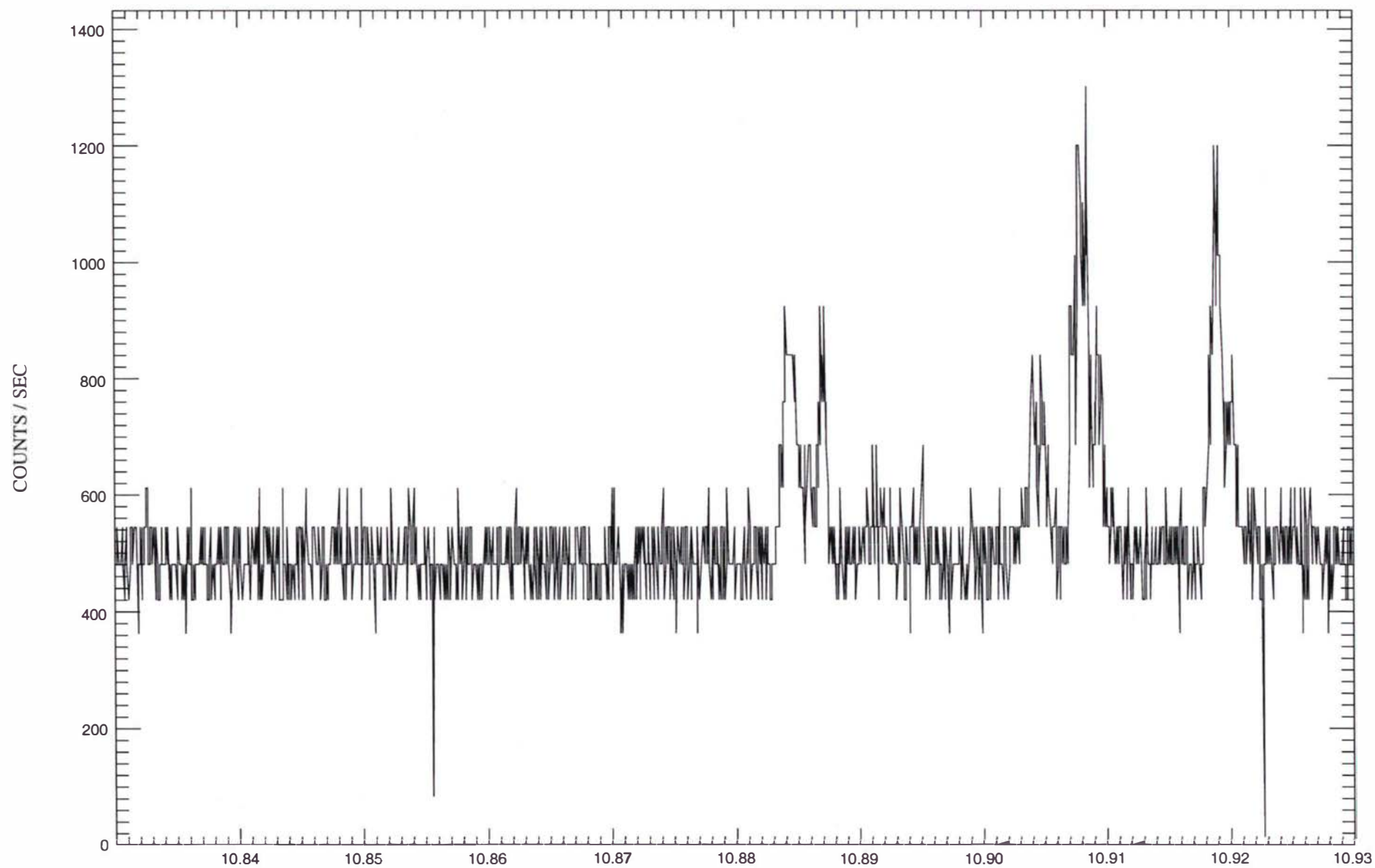


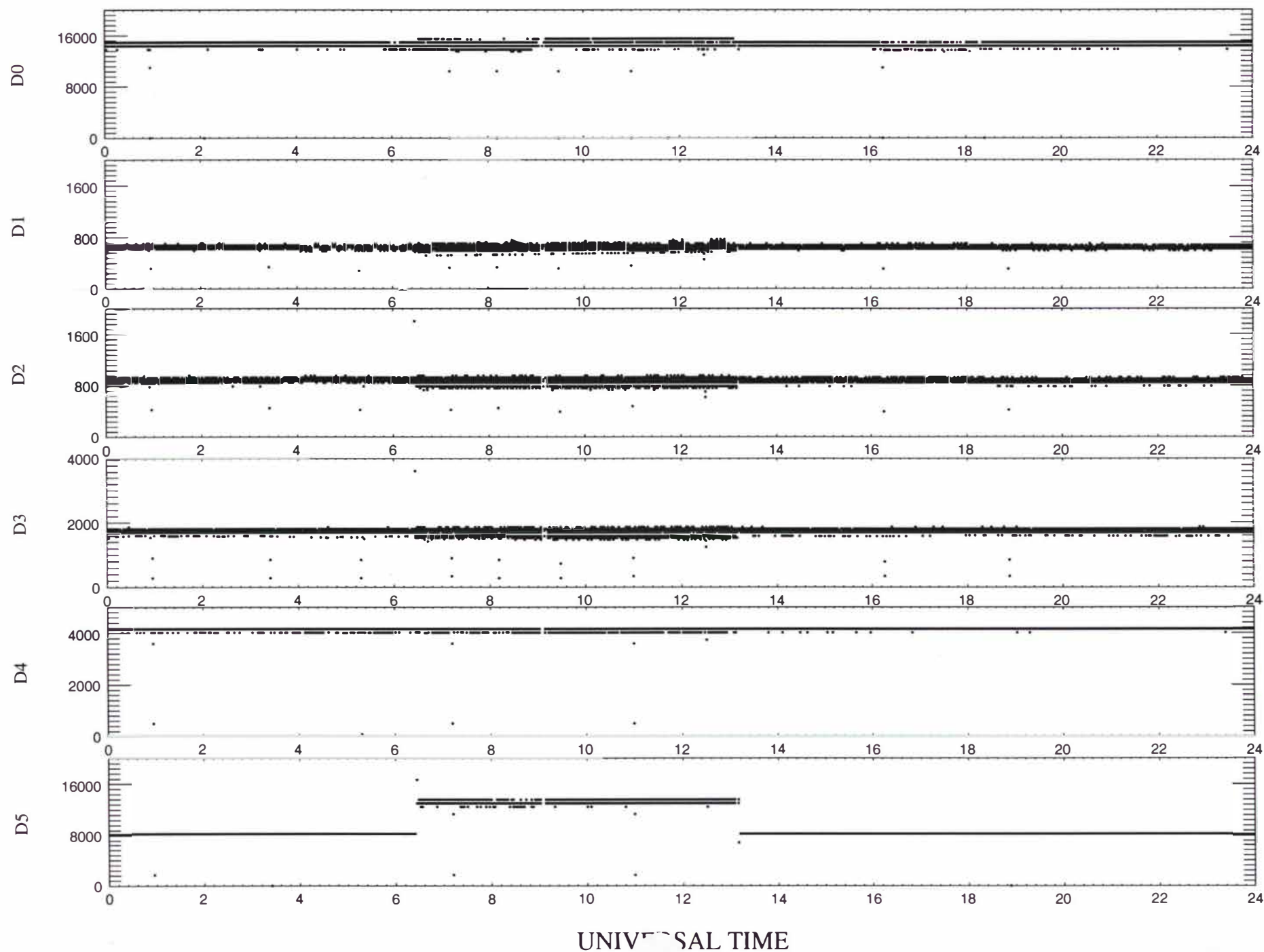
UNIVERSAL TIME

Burst Counter 13 at UT=10.884189503988 h=39183.082 s 10:53:03.082



CALIBRATION DATA INCLUDED





From GOGUSE@fender.msfc.nasa.gov Wed May 12 07:48:12 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 HAA04640; Wed, 12 May 1999 07:48:11 -0700
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 (8.9.3/8.9.2) with SMTP id HAA22050
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 07:45:25 -0700 (PDT)
Date: Wed, 12 May 1999 9:49:09 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990512094909.20216d21@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7551
Content-Length: 1135
X-Lines: 26
Status: RO

*Time histories don't match.
High X². Too weak*

BATSEARCH PROGRAM

BATSE BURST # 7551
EVENT OF 1999 MAY 7 DAY OF YEAR=127
EVENT CROSSING TIME AT BATSE : 9137. S. OR 02:32:17.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 13.000 -24.000
BATSE PEAK COUNTING RATE: 7700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 7/ 5/ 99 IS:
RA= 144.267 DEC= -7.060 DIST= 4.639 AU
BATSE-ULYSSES DISTANCE = 693982549. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 56.77 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1268.52 SECS.
CROSSING TIME AT ULYSSES IS 10406. S. OR 02:53:25 +/- 405.45 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 7/ 5/ 99 IS:
RA= 207.853 DEC= -10.564 DIST= 0.581 AU
MARS-BATSE DISTANCE = 86931416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 37.49 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 230.09 SECS.
CROSSING TIME AT MARS IS 9367. S. OR 02:36:07 +/- 34.13 SECONDS

BATSE BURST TRIGGER

NO.: 7551

TIME: TJD=1305 SECONDS= 9137

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

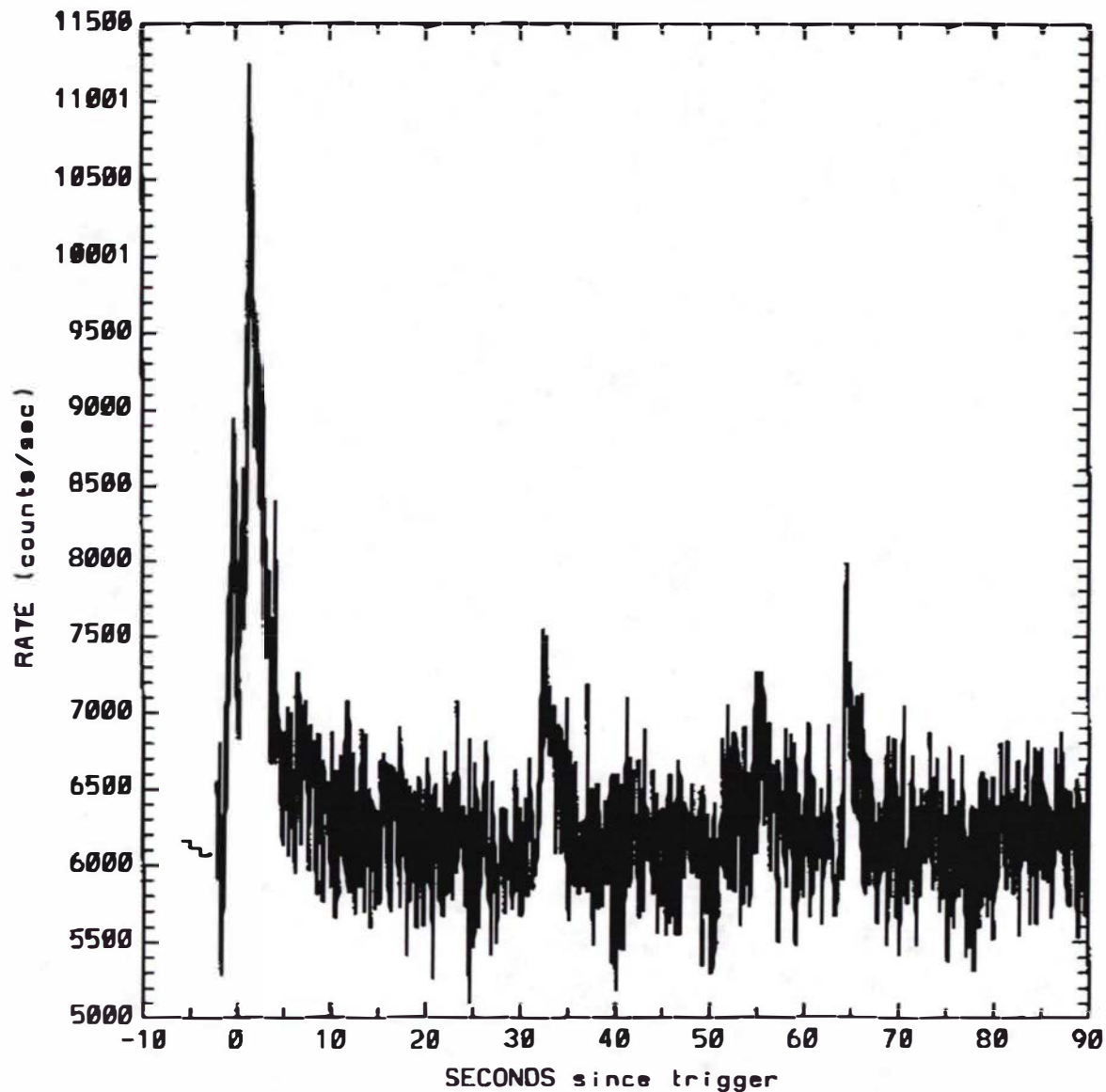
LOCATION: ZENITH= 49.5 AZIMUTH=111.3 ERROR= 3.7 DEGREES

COMMENTS:

GRB, MULTI PEAKED, DUR. APP. 70 SEC., NOT VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7551	990507	11305	09137	7700	013	-24	70

DISCSC Data for K. Hurley, No. 7551



14-MAY-1999 09:19:29

Created by MOPS BD
(Burst Display)
Version 12.26

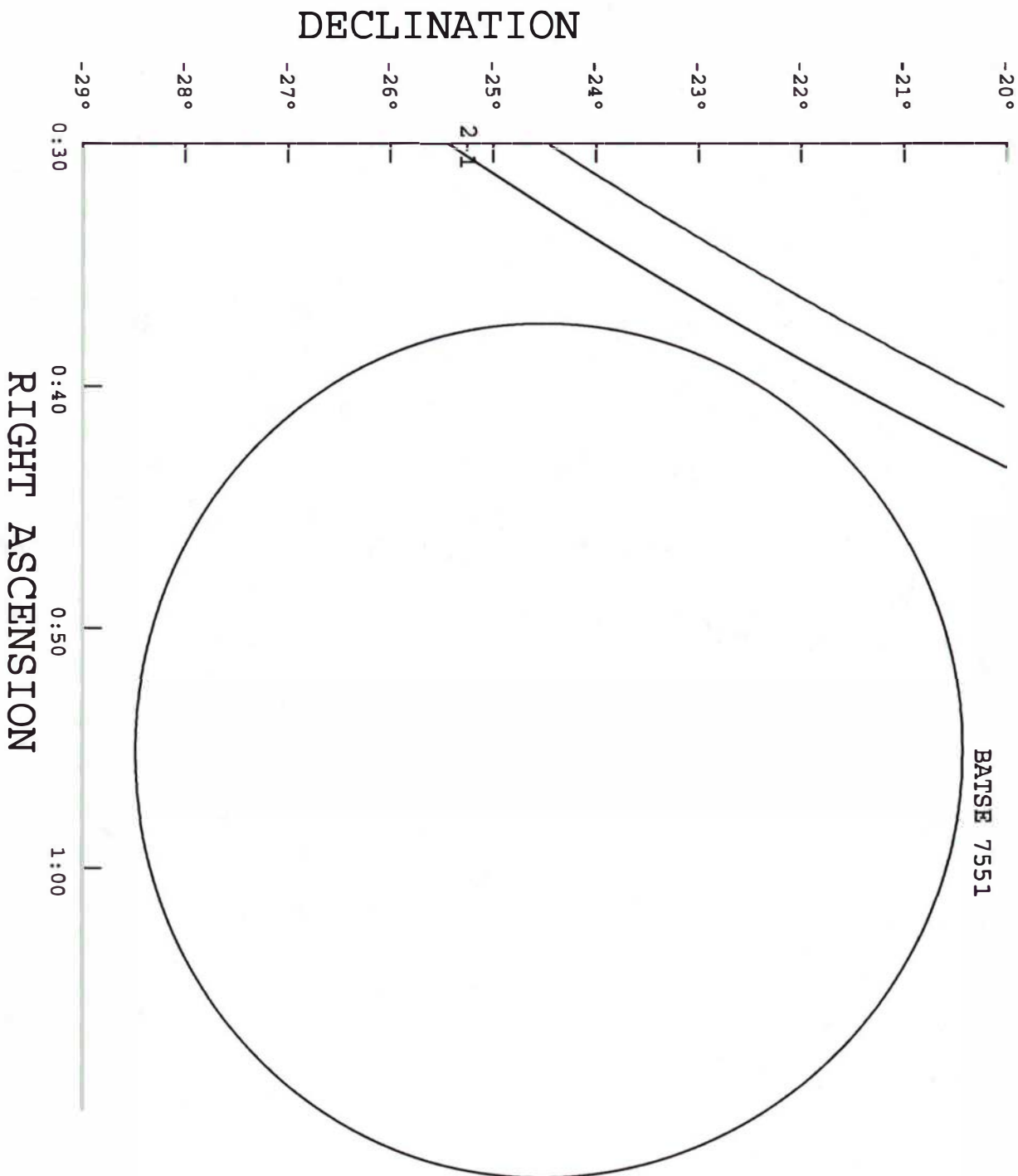
Trigger # : 7551

Trigger Time:
11385 / 9137.657Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 second(s)Detectors [7..8].
---4---8Discriminators:
1 1 . 2 1Quality Mask:
BDISP1

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

EVENT OF MAY 7, 1999 2:54

21 / 5/99



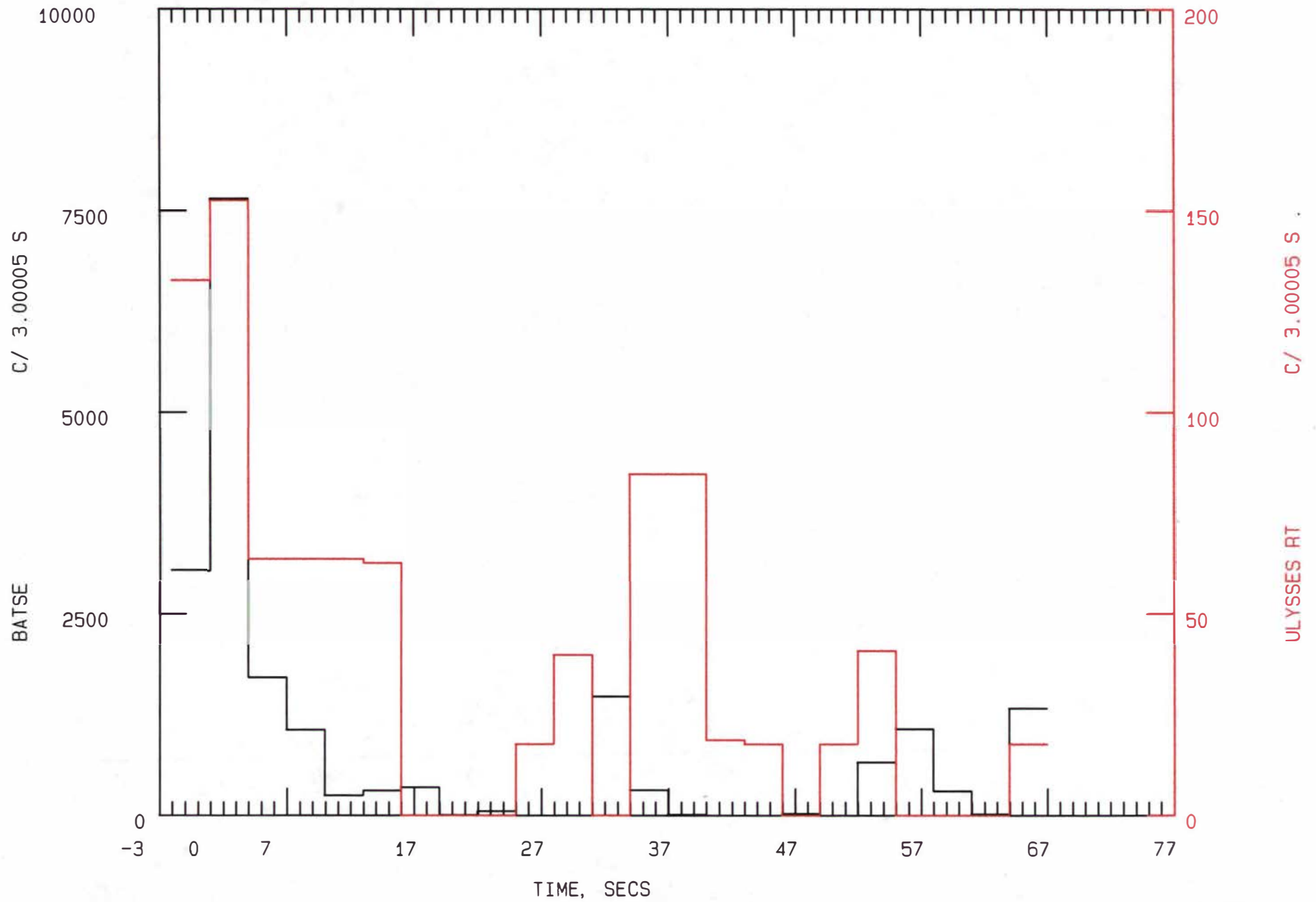
BATSE

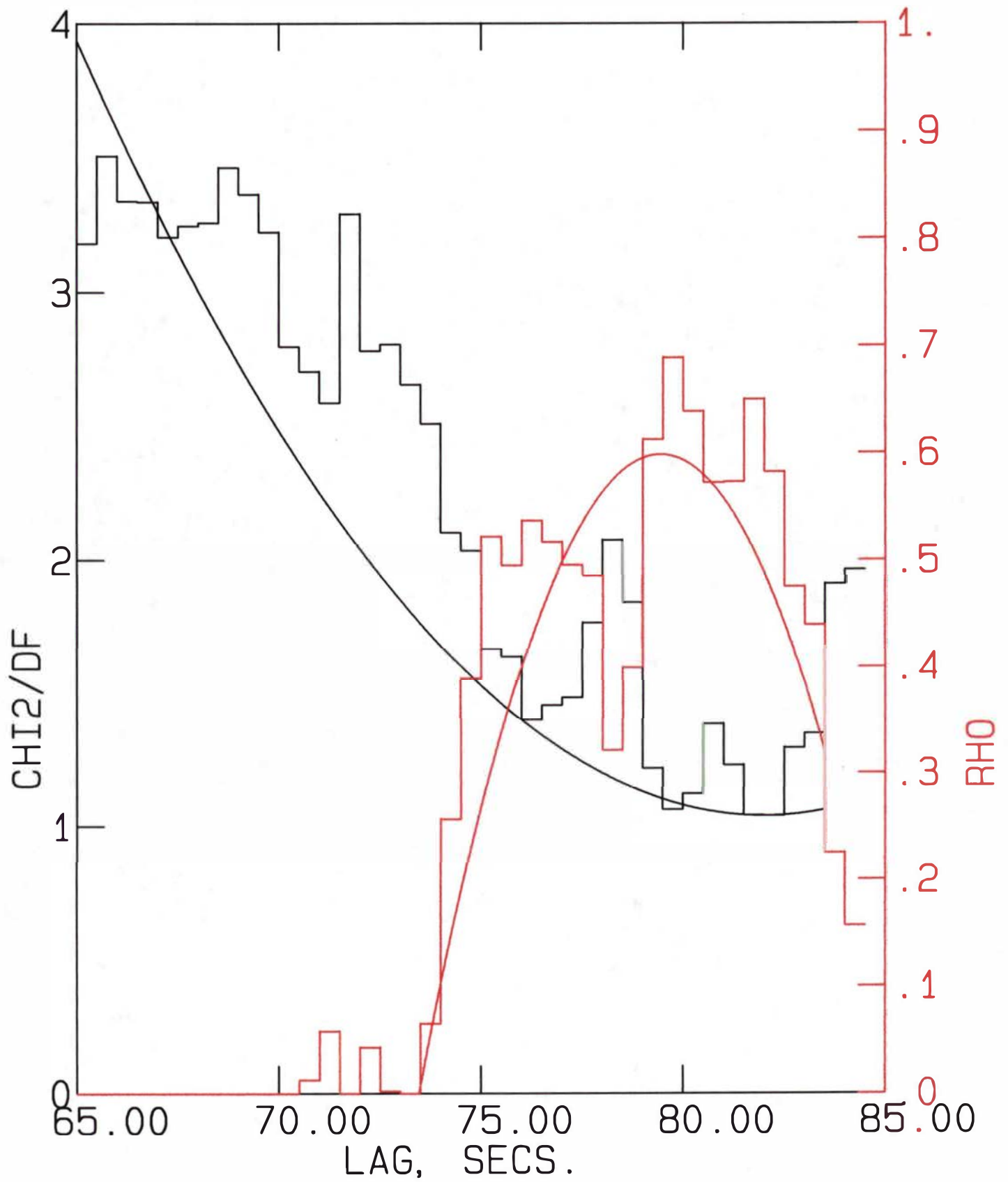
-ULYSSES RT CORRELATION

7/ 5/99

9137.657

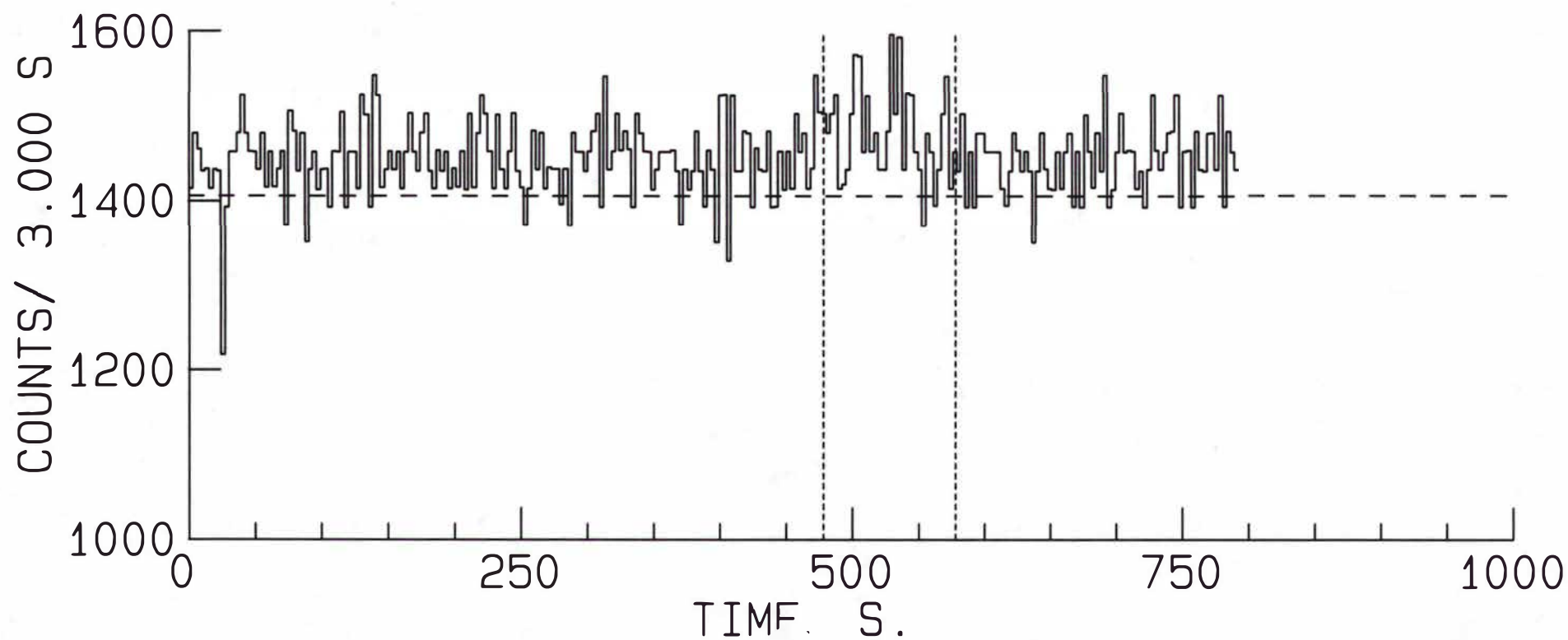
21/ 5/99





ULYSSES RT
7/ 5/99 10008.296 s
0.500 S INTERVALS REGROUPED BY 6
22- 150 keV

21 / 5 / 99



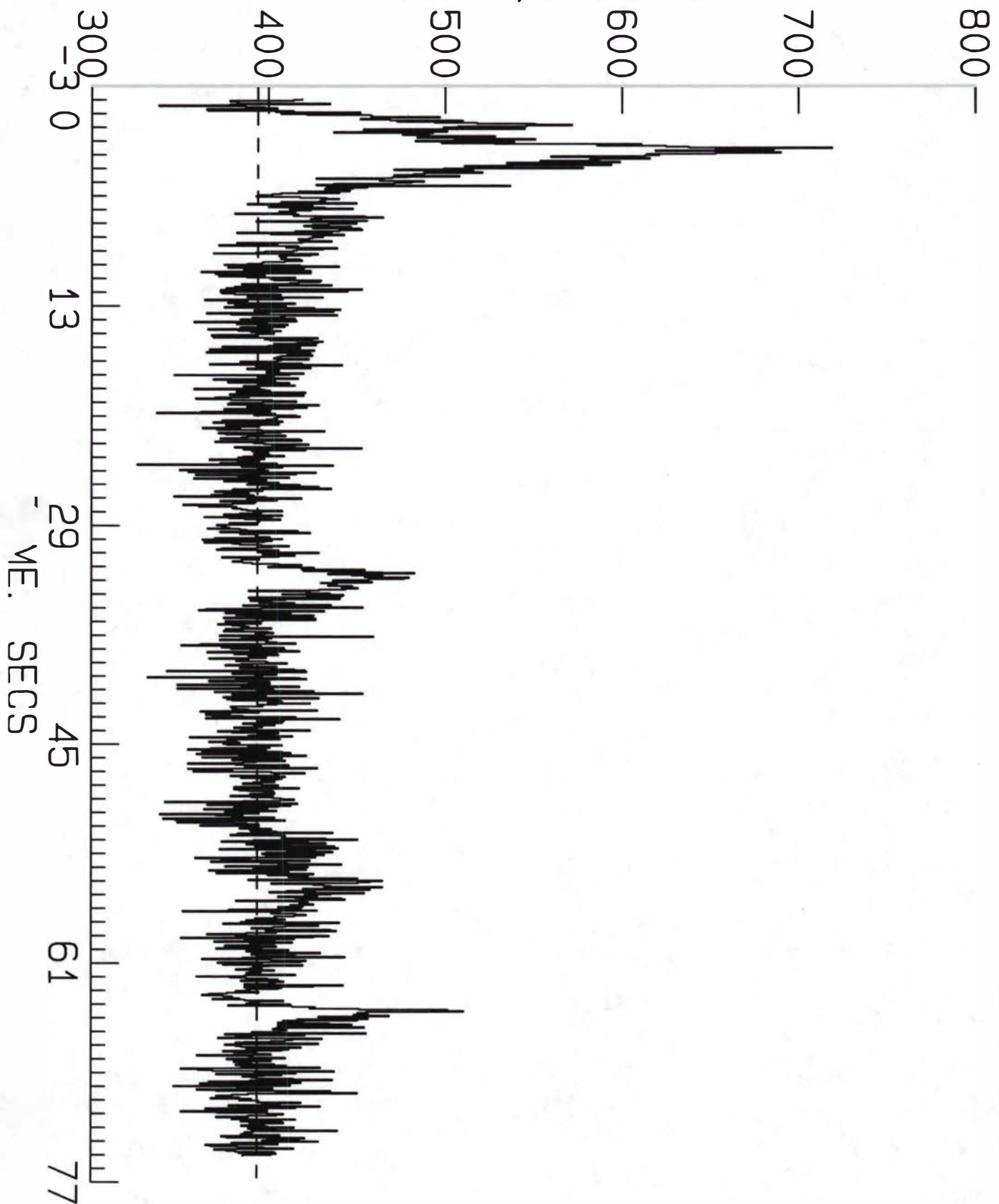
BATSE

07/05/99

9137.657

25- 100 keV

COUNTS/0.064 S



KONUS

07/05/99

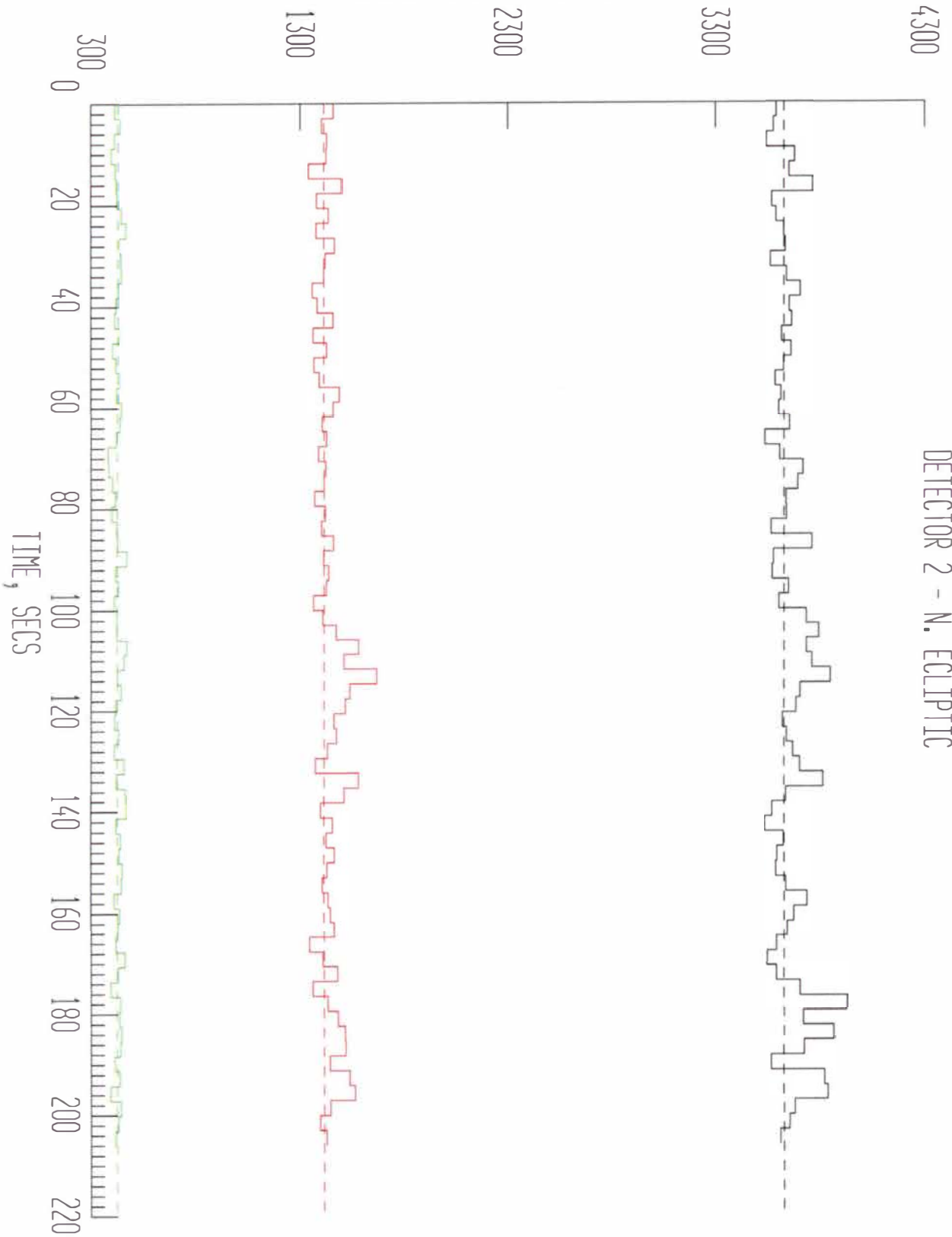
12124.133

10- 50 keV

50- 200 keV

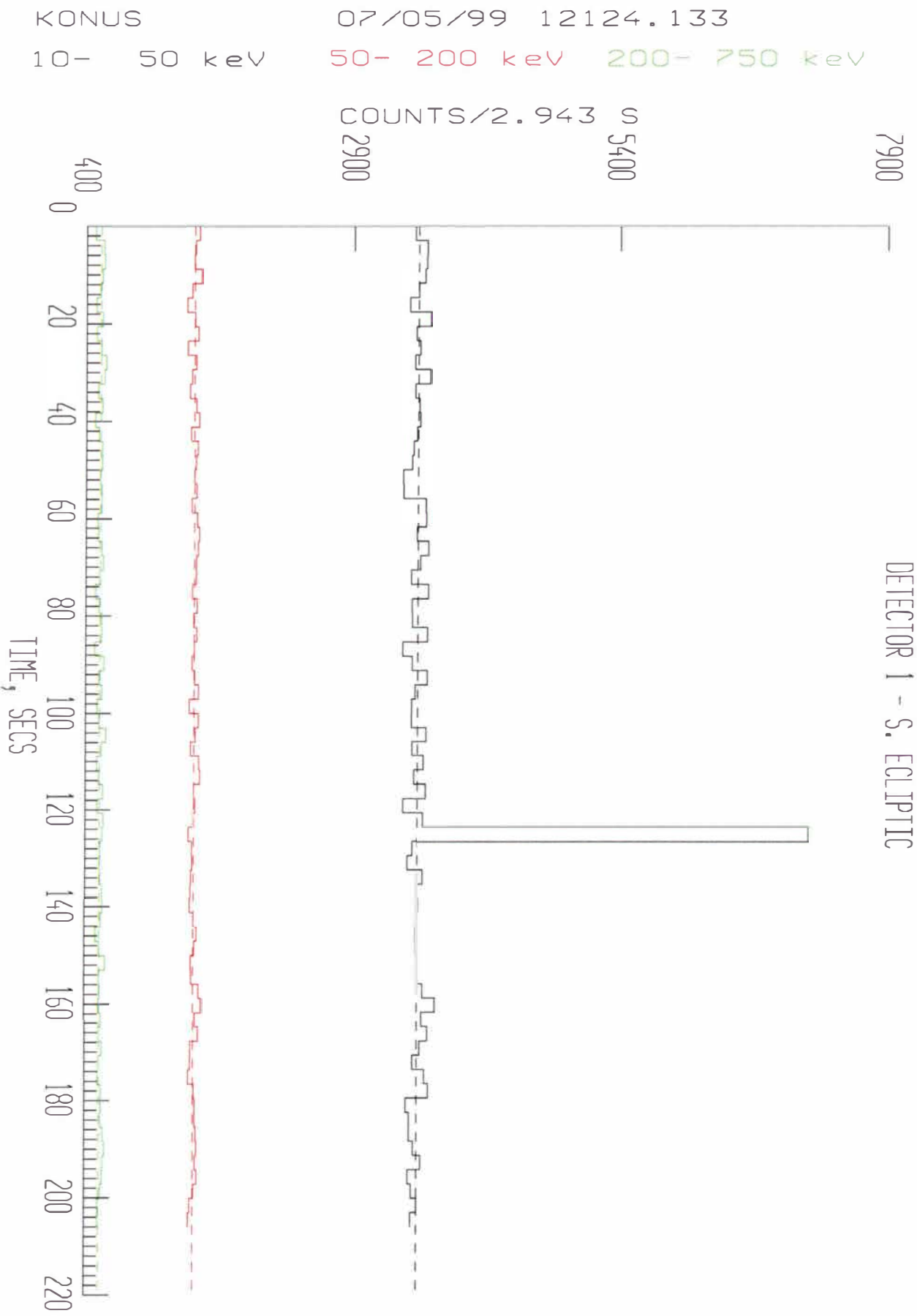
200- 750 keV

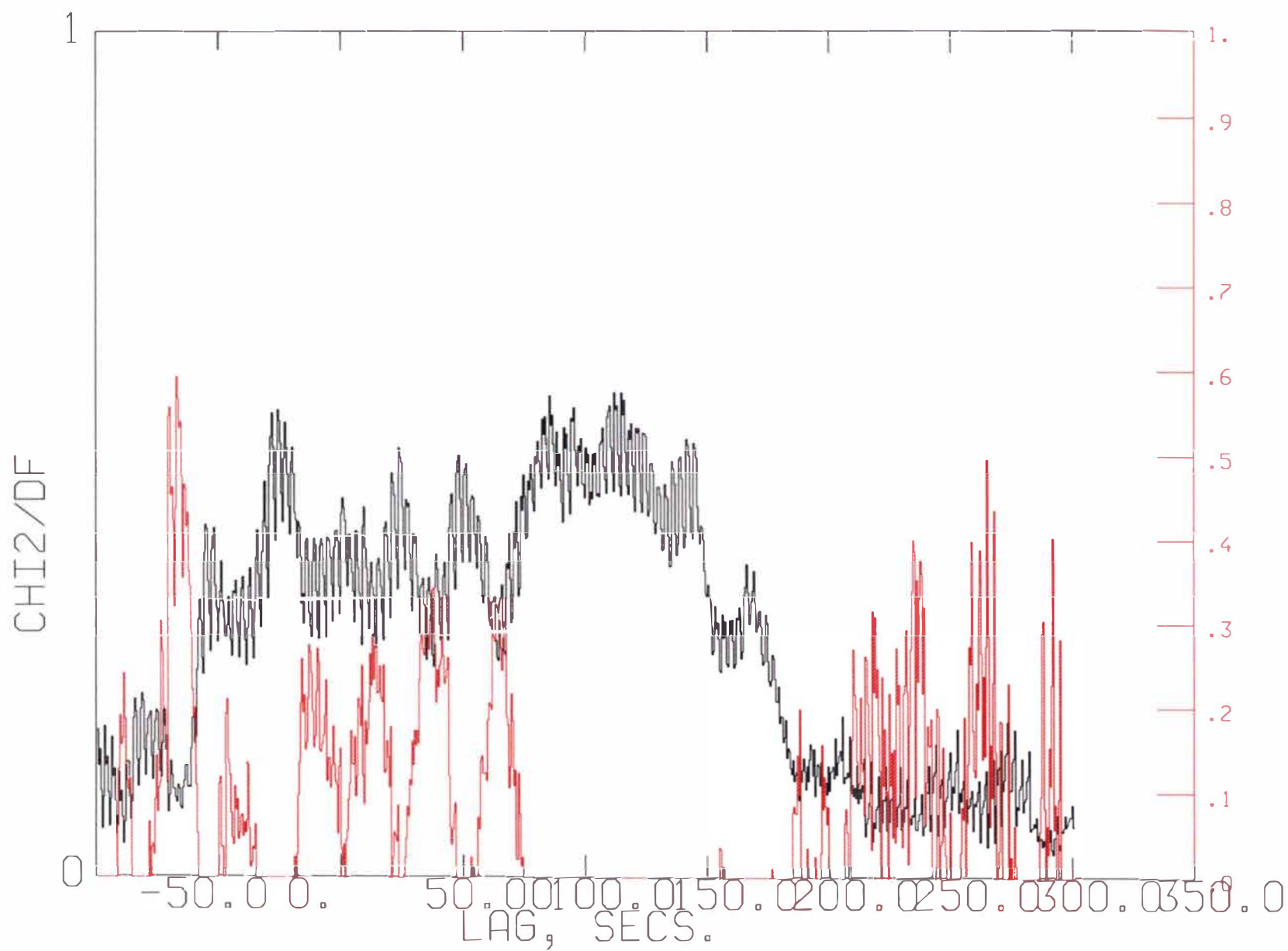
COUNTS/2.943 S

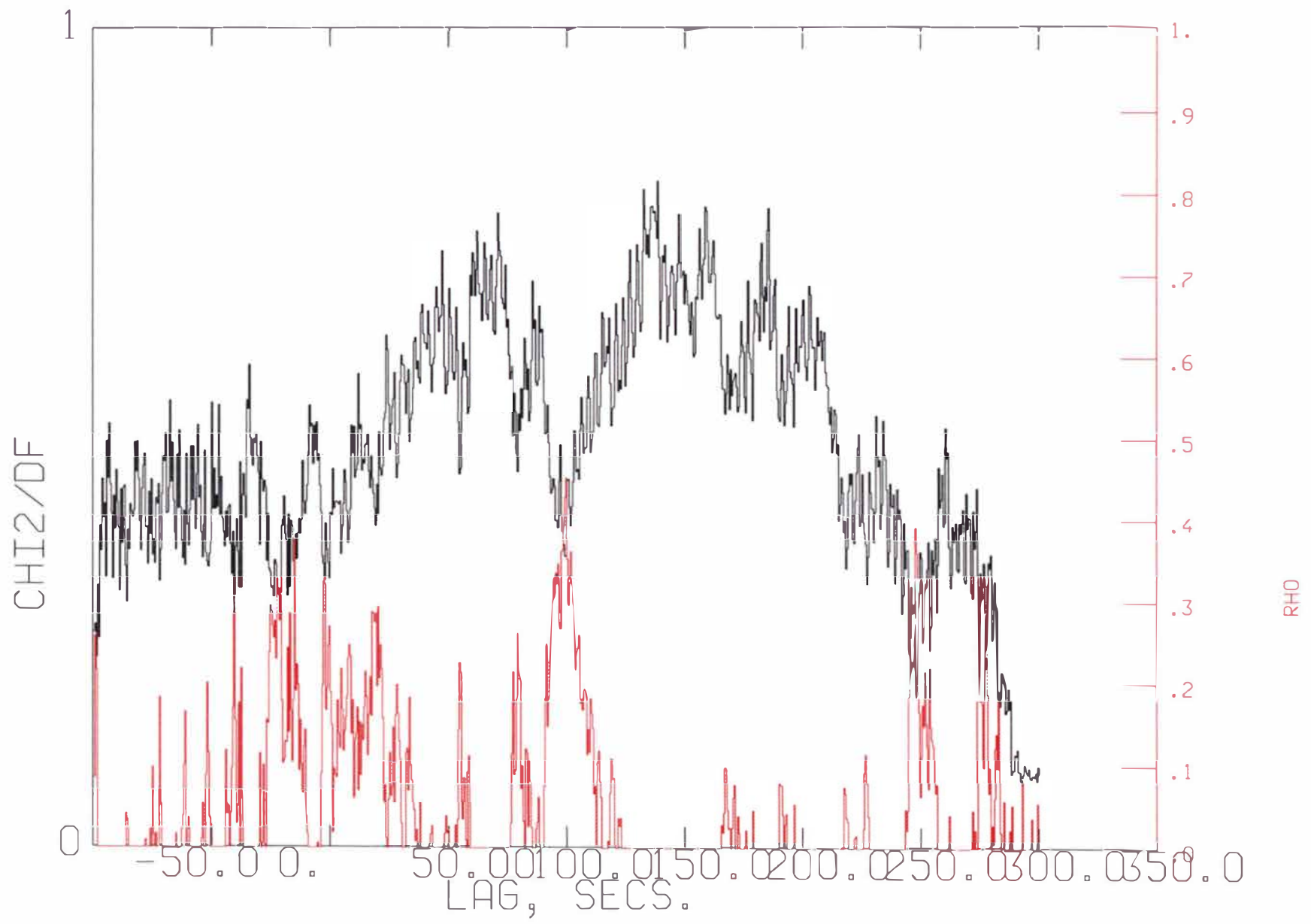


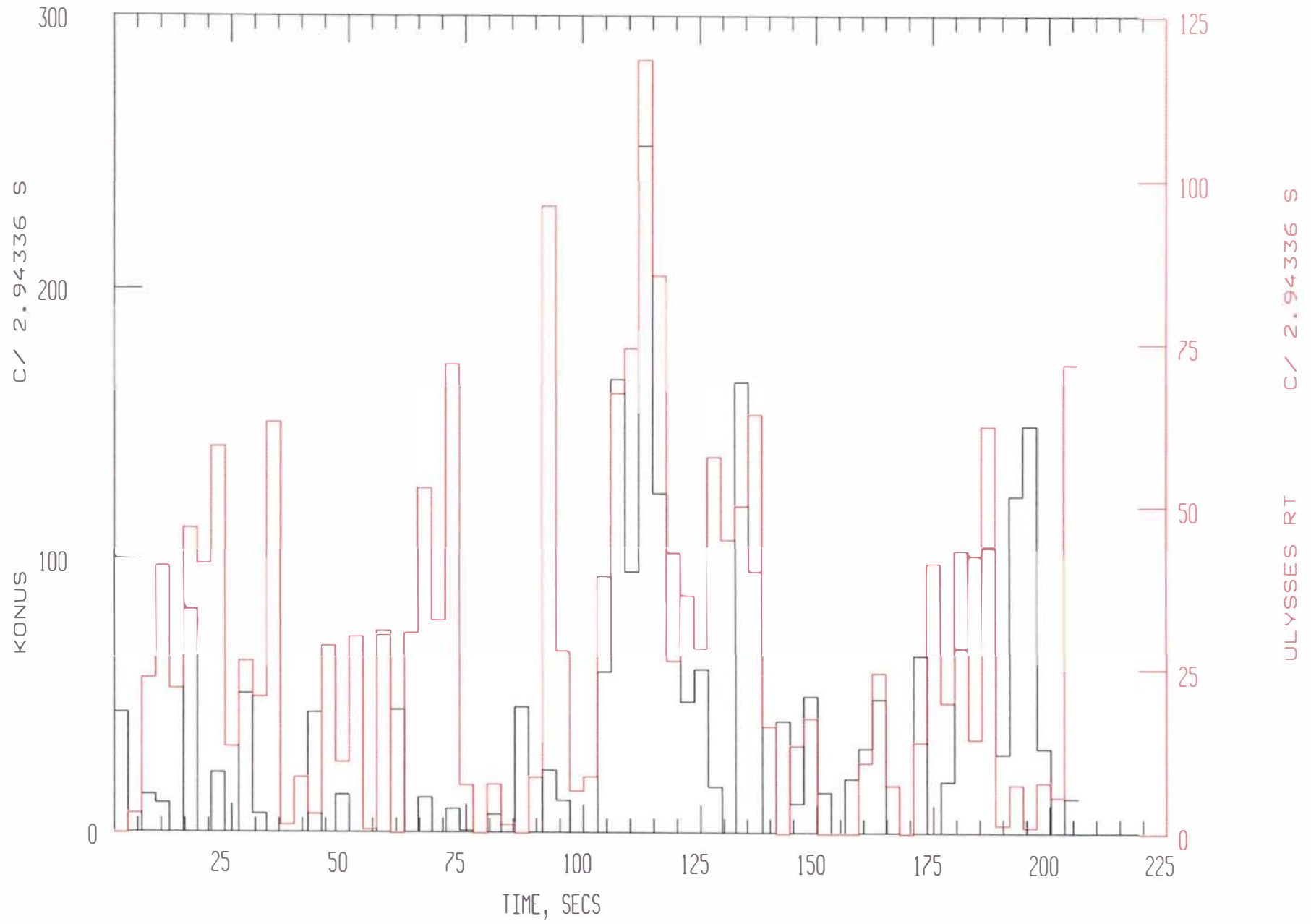
17/01/2013

DETECTOR 1 - S. ECLIPSE









KONUS RI

3 / 11 / 99

ULYSSES RT

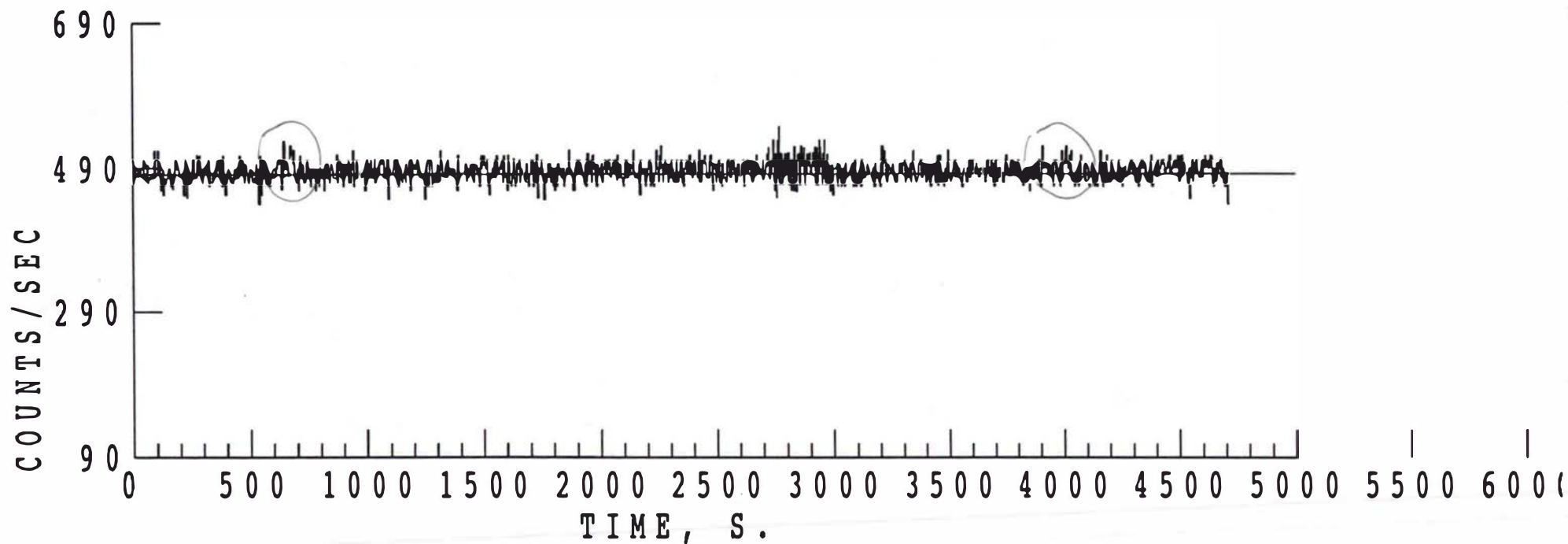
7 / 5 / 99 9864.290 s

INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From GOGUSE@fender.msfc.nasa.gov Wed May 12 08:00:59 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 IAA04837; Wed, 12 May 1999 08:00:59 -0700
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 (8.9.3/8.9.2) with SMTP id HAA22188
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 07:58:12 -0700 (PDT)
Date: Wed, 12 May 1999 9:50:46 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990512095046.20216d21@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7552
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7552
EVENT OF 1999 MAY 7 DAY OF YEAR=127
EVENT CROSSING TIME AT BATSE : 71334. S. OR 19:48:54.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 138.000 66.000
BATSE PEAK COUNTING RATE: 3400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 7/ 5/ 99 IS:
RA= 144.237 DEC= -7.043 DIST= 4.648 AU
BATSE-ULYSSES DISTANCE = 695400757. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.81 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -670.98 SECS.
CROSSING TIME AT ULYSSES IS 70663. S. OR 19:37:43 +/- 425.31 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 7/ 5/ 99 IS:
RA= 207.853 DEC= -10.564 DIST= 0.581 AU
MARS-BATSE DISTANCE = 86931416. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 88.29 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 8.63 SECS.
CROSSING TIME AT MARS IS 71343. S. OR 19:49:02 +/- 50.45 SECONDS

BATSE BURST TRIGGER

NO.: 7552

TIME: TJD=1305 SECONDS=71334

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 78.4 AZIMUTH=306.9 ERROR= 6.1 DEGREES

COMMENTS:

GRB, MULTI PEAKED, DUR. APP. 13 SEC., NOT VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7552	990507	11305	71334	3400	138	+66	13

BATSE BURST# 7552

ULYSSES RT

12 / 5 / 99

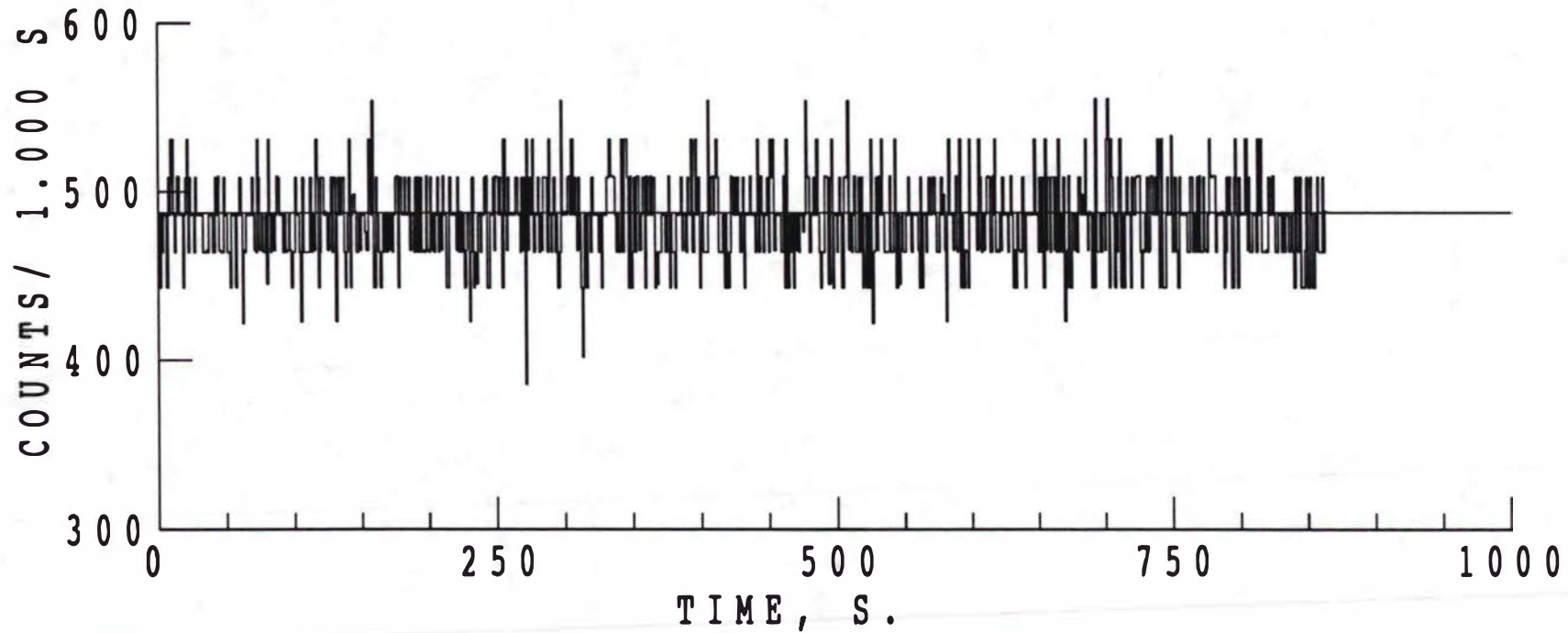
7 / 5 / 99 70236.398 s

0.500 S INTERVALS REGROUPED BY 2

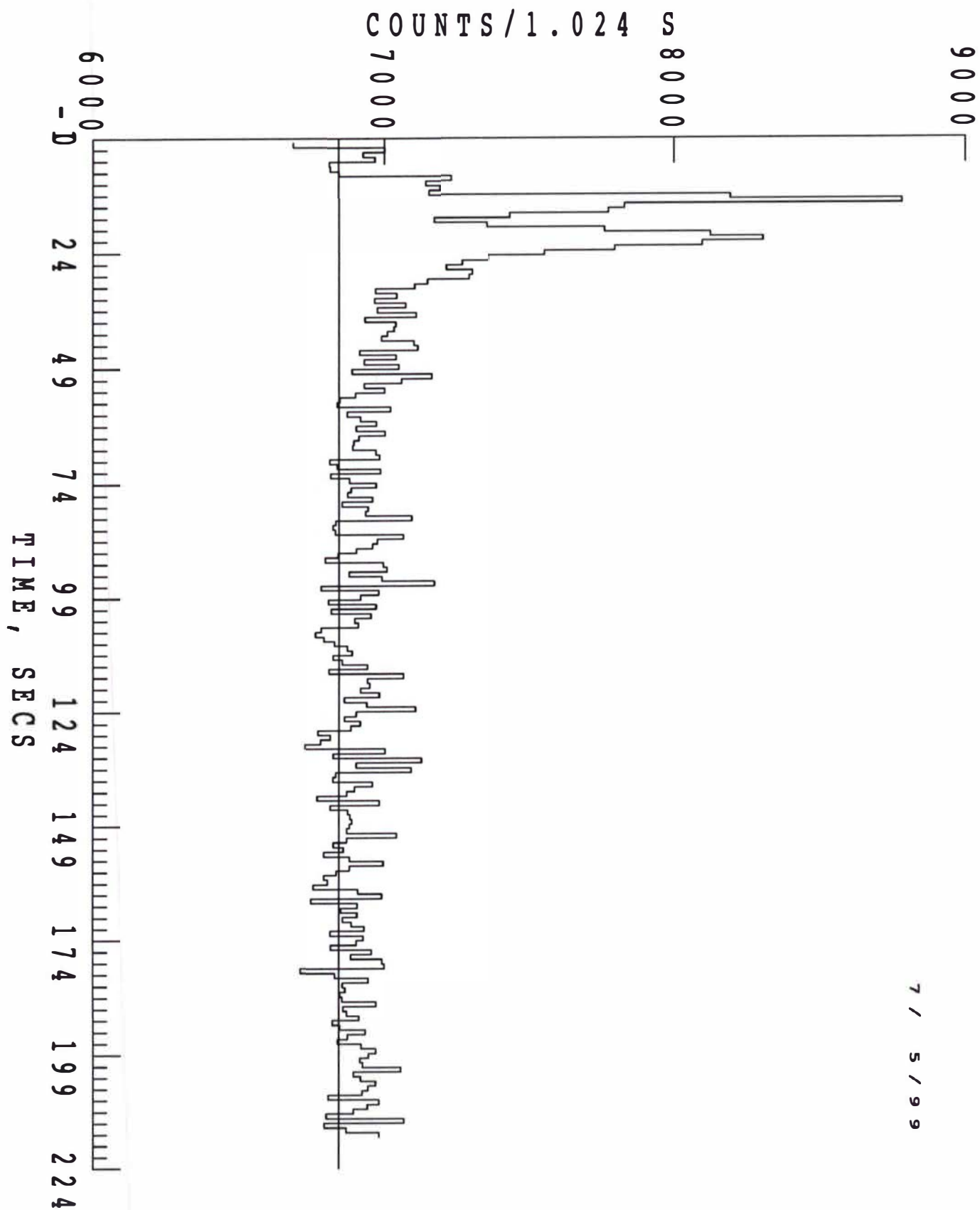
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

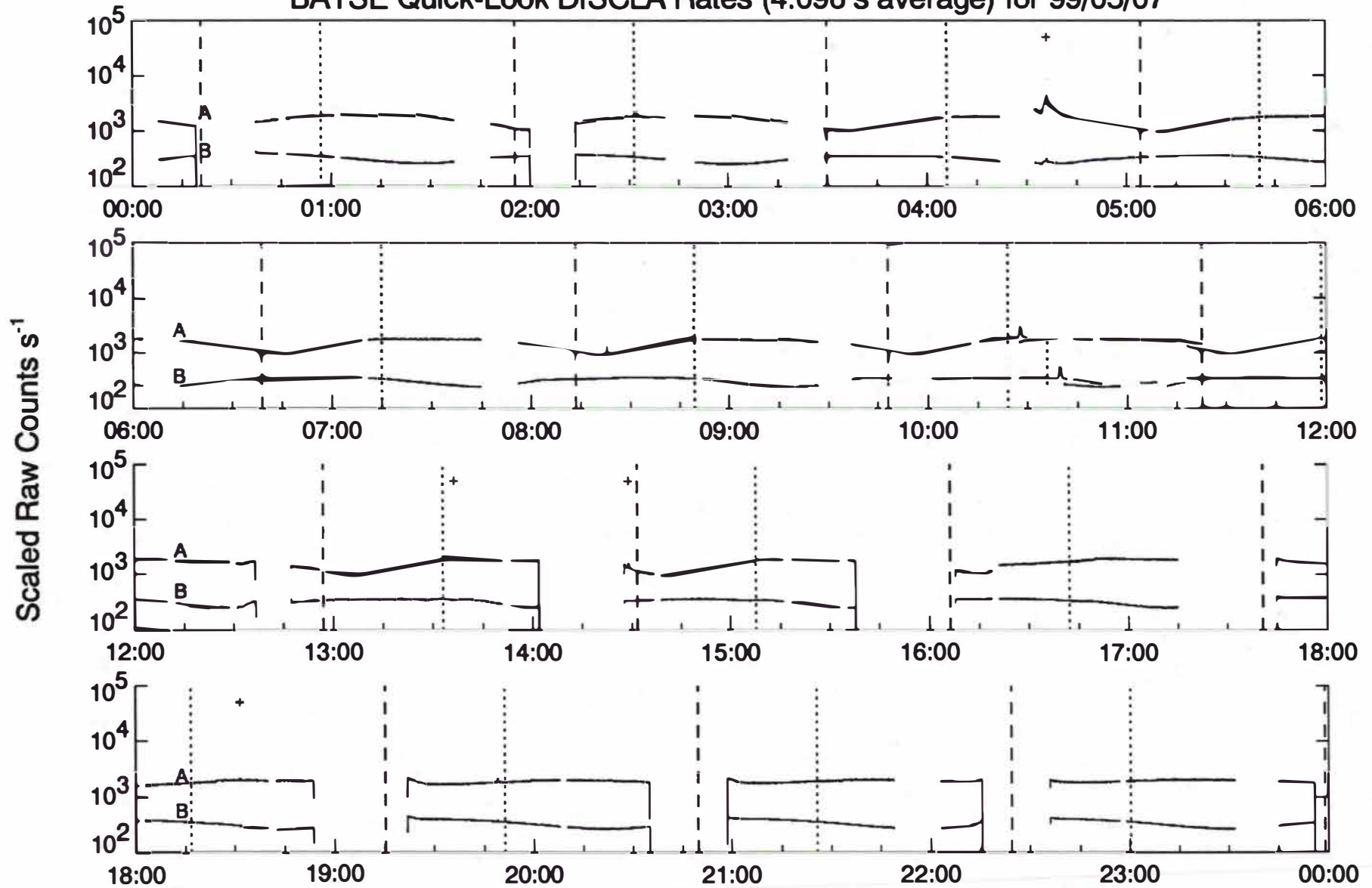
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BACODINE 7552 07/05/99 71322.361
25- 100 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/07

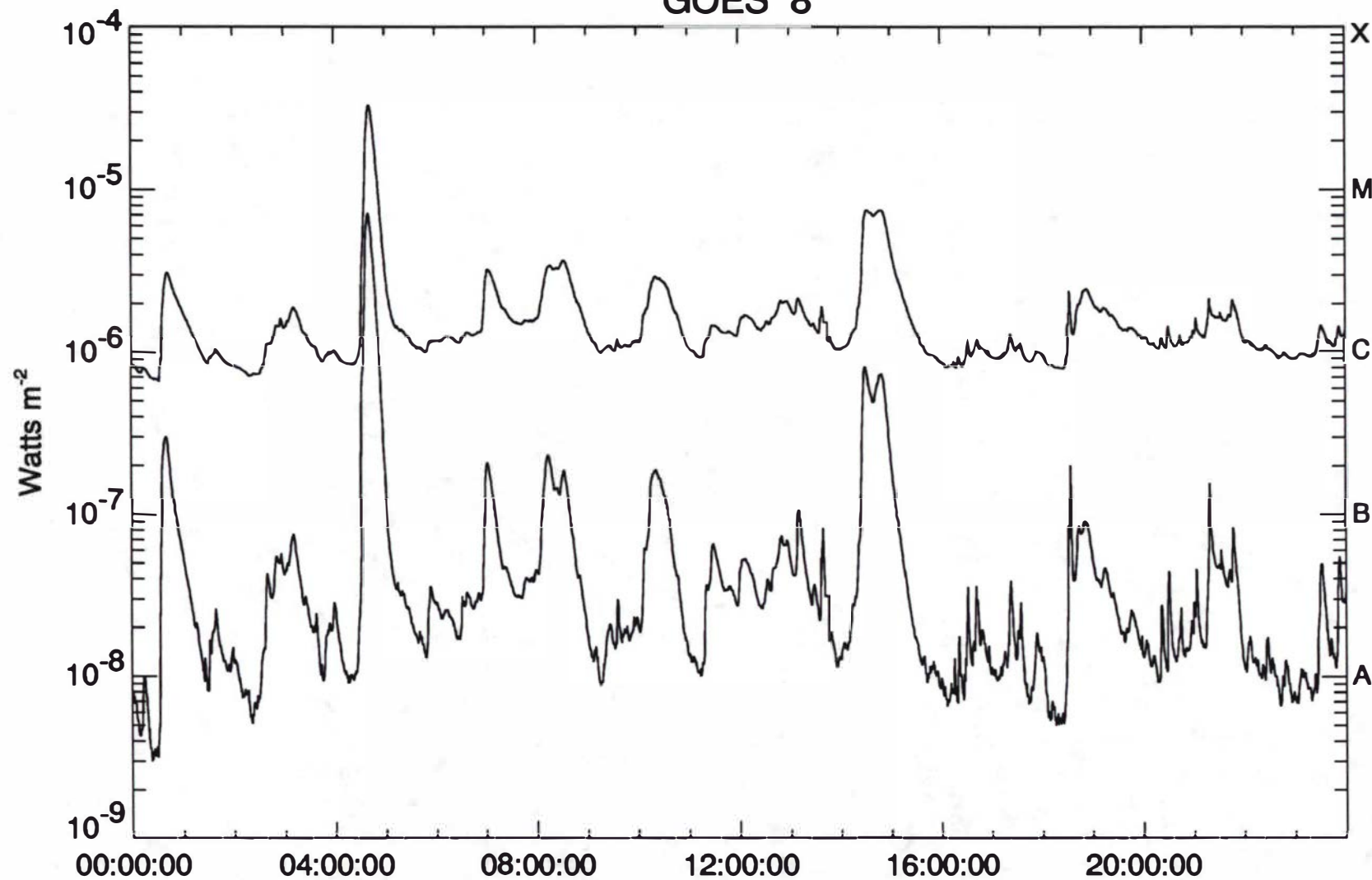


Current Time: 99/05/11, 1007 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/07, 0000:00

Plot created: 99/05/11, 1006

Channel

1 (1.0 - 8.0 Angstroms)

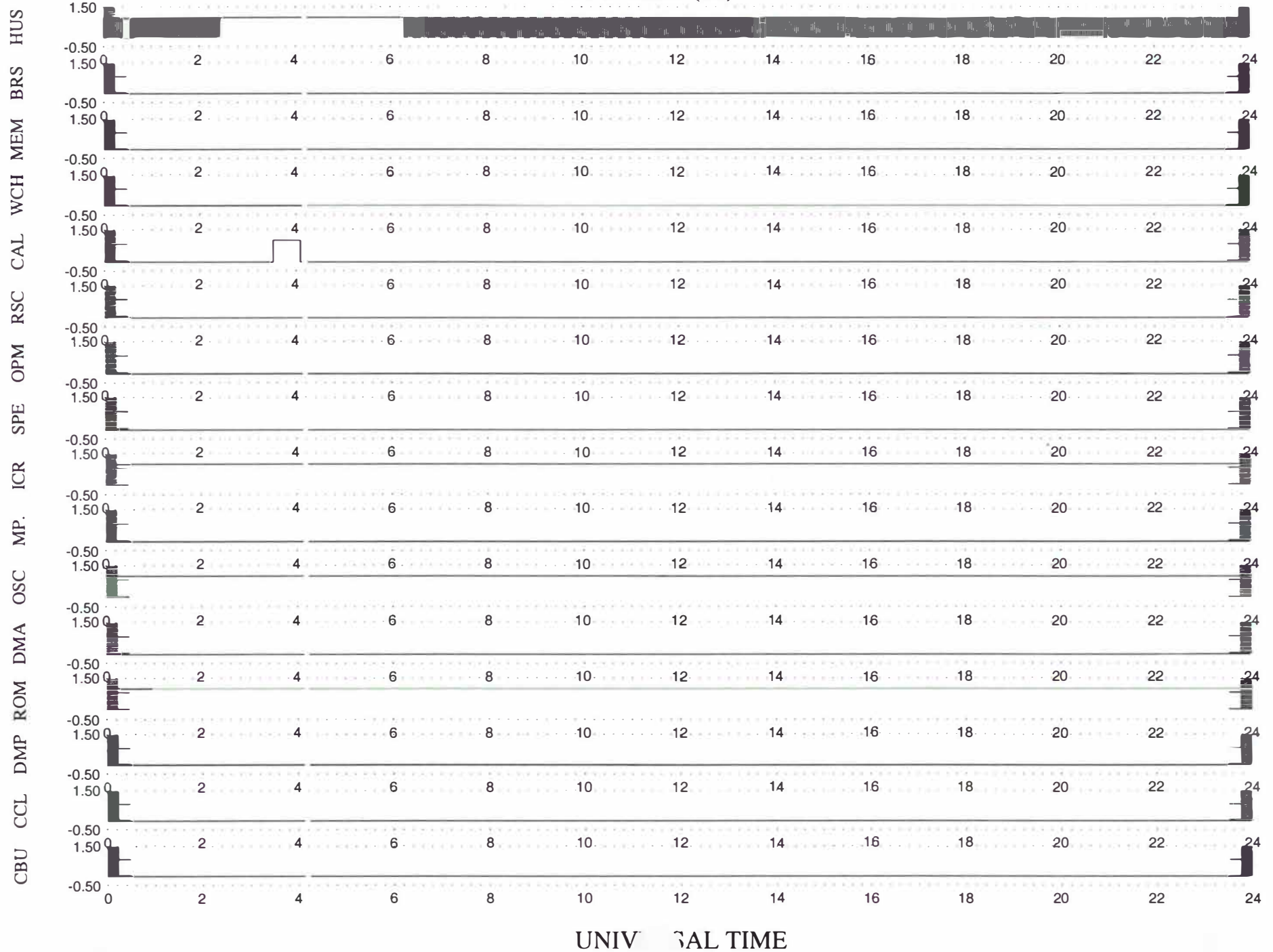
Background not subtracted

2 (0.5 - 4.0 Angstroms)

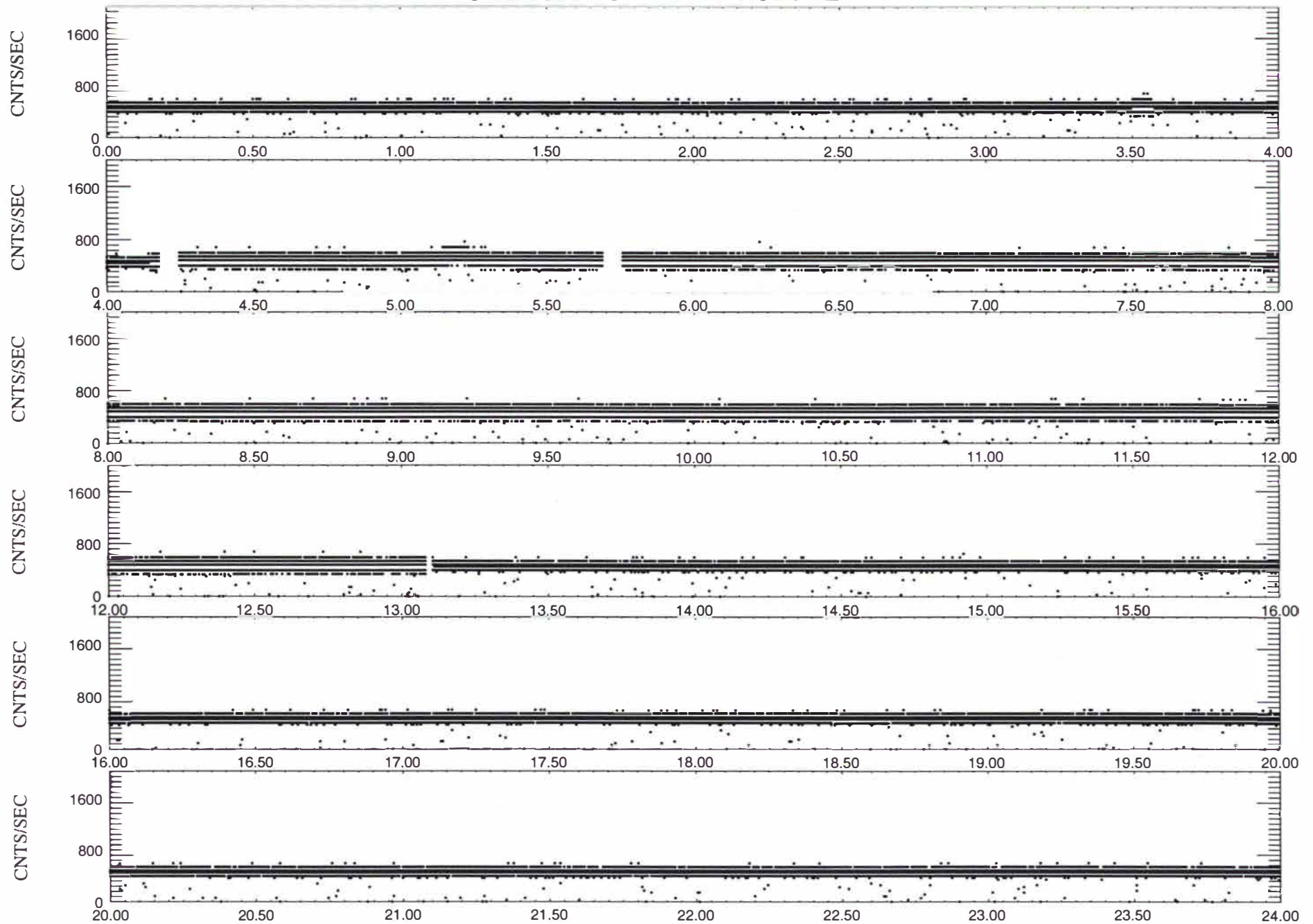
Background not subtracted

Sample average = 10

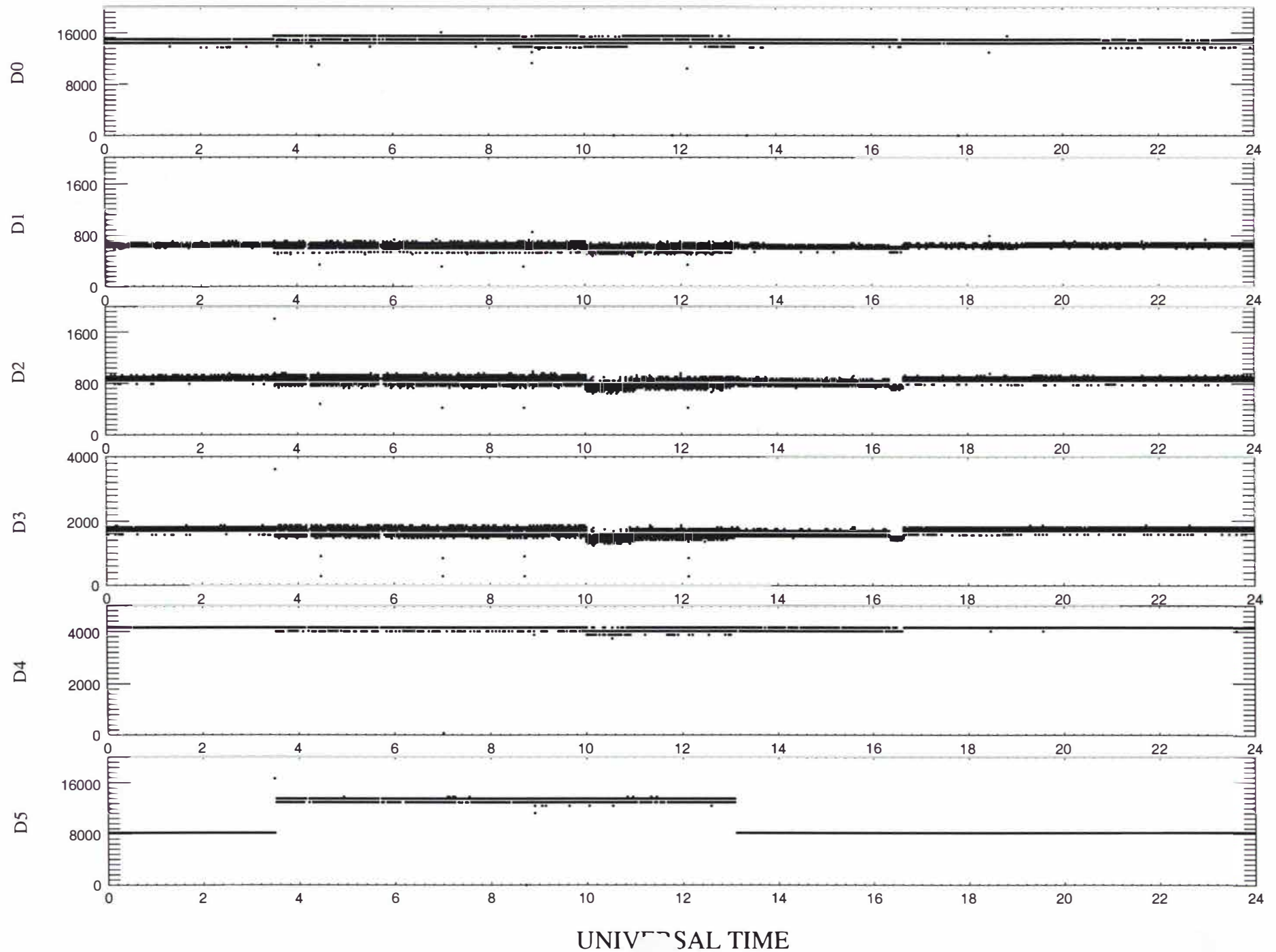
NO BURST (13)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME

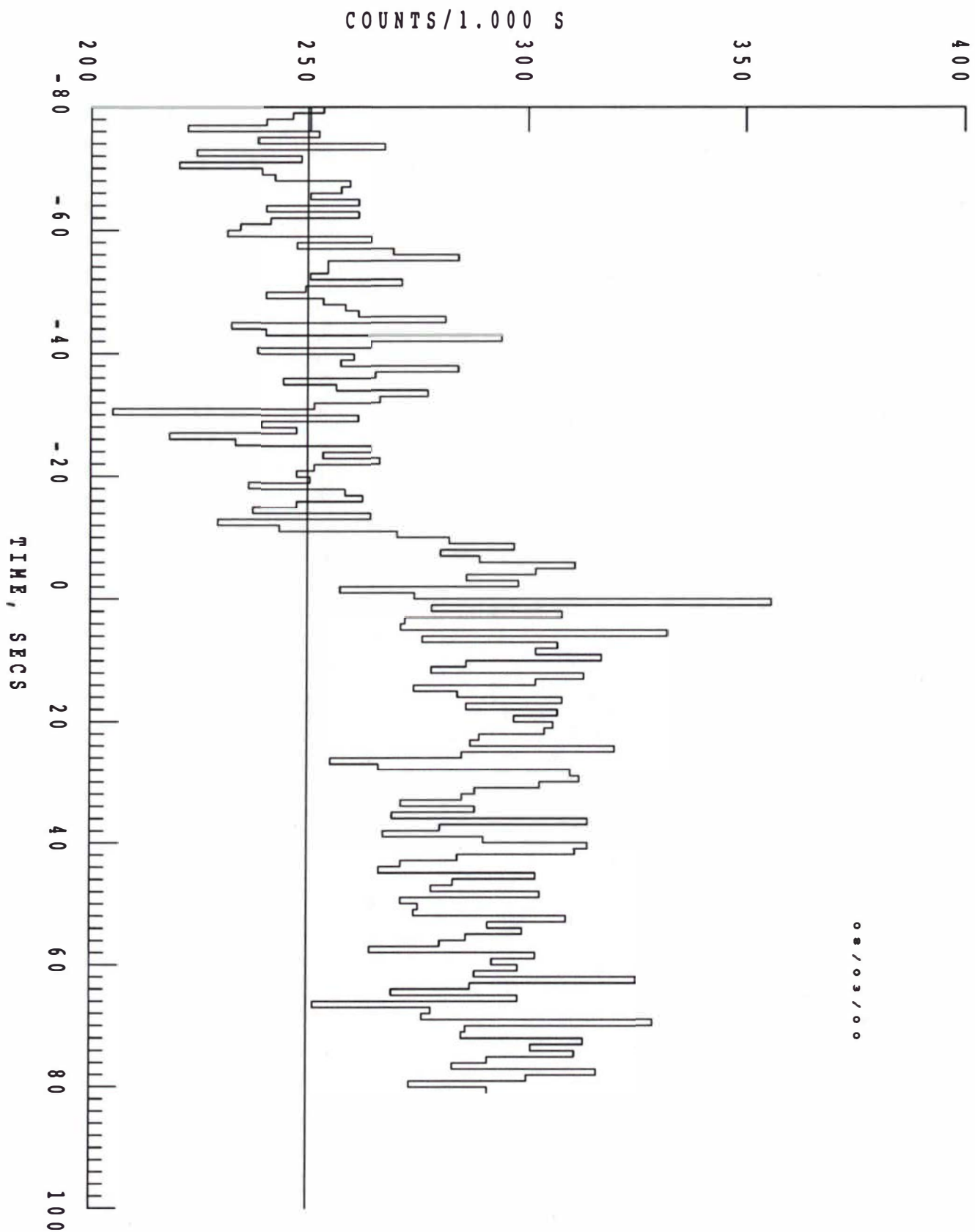


NEAR

08/05/99

1816.042

100-1000 keV

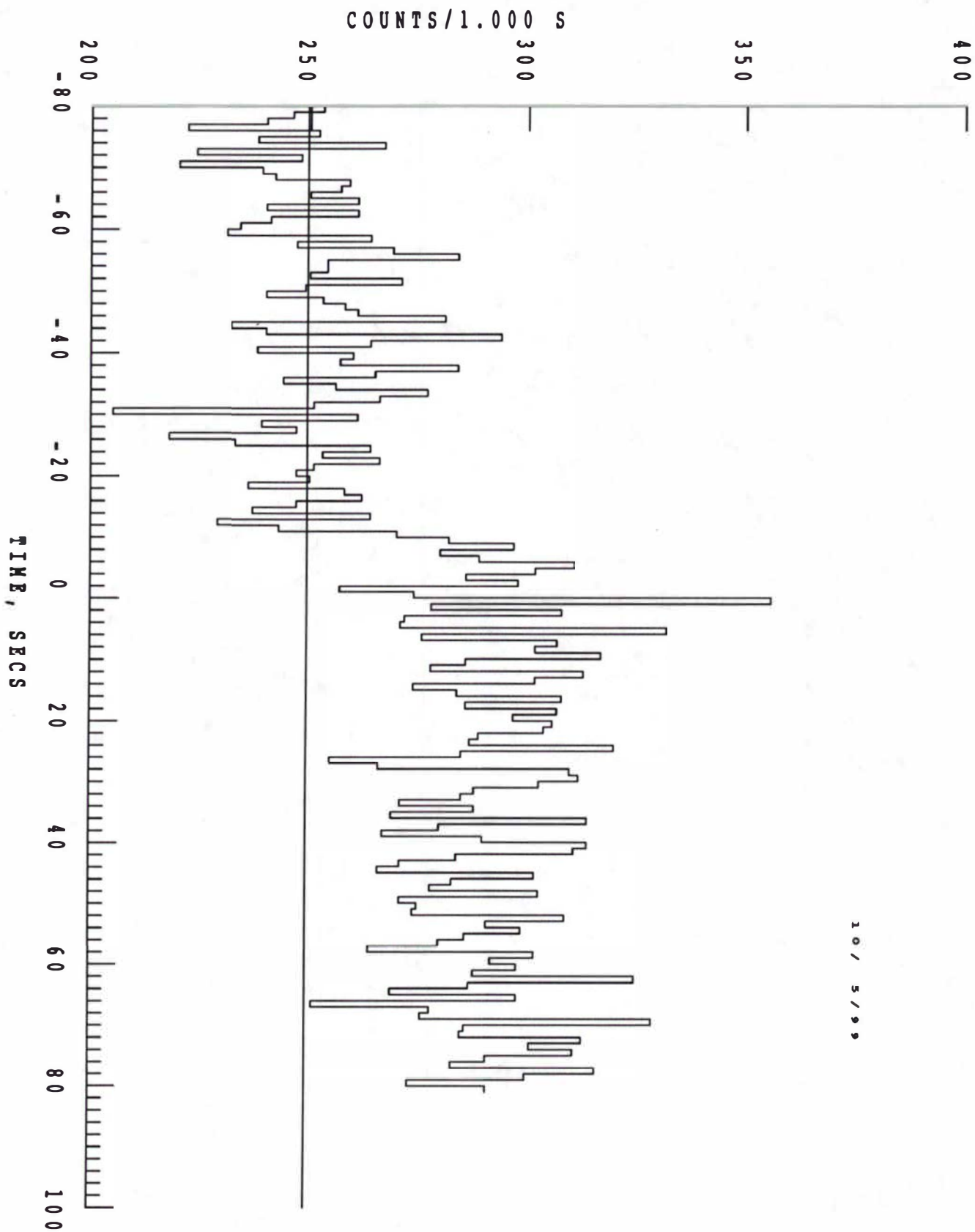


NEAR

08/05/99

1816.048

100-1000 keV



KNEAR GRS 19990508 01816

ULYSSES RT

10 / 5 / 99

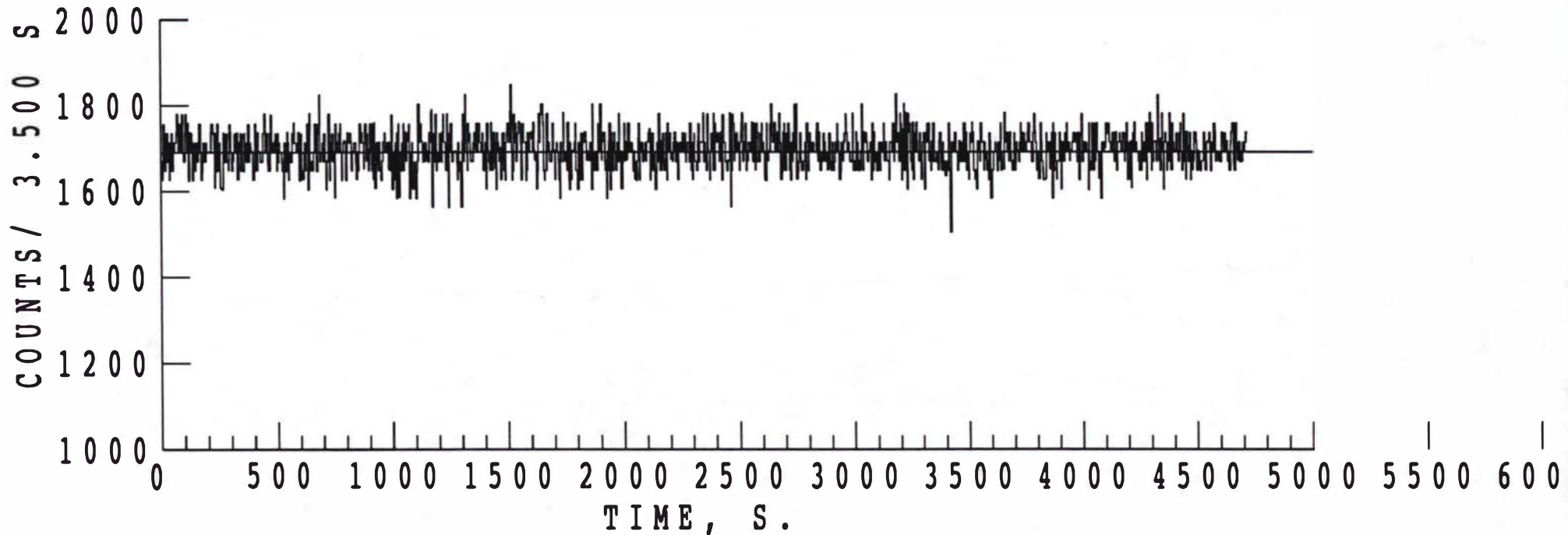
7 / 5 / 99 85860.055 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

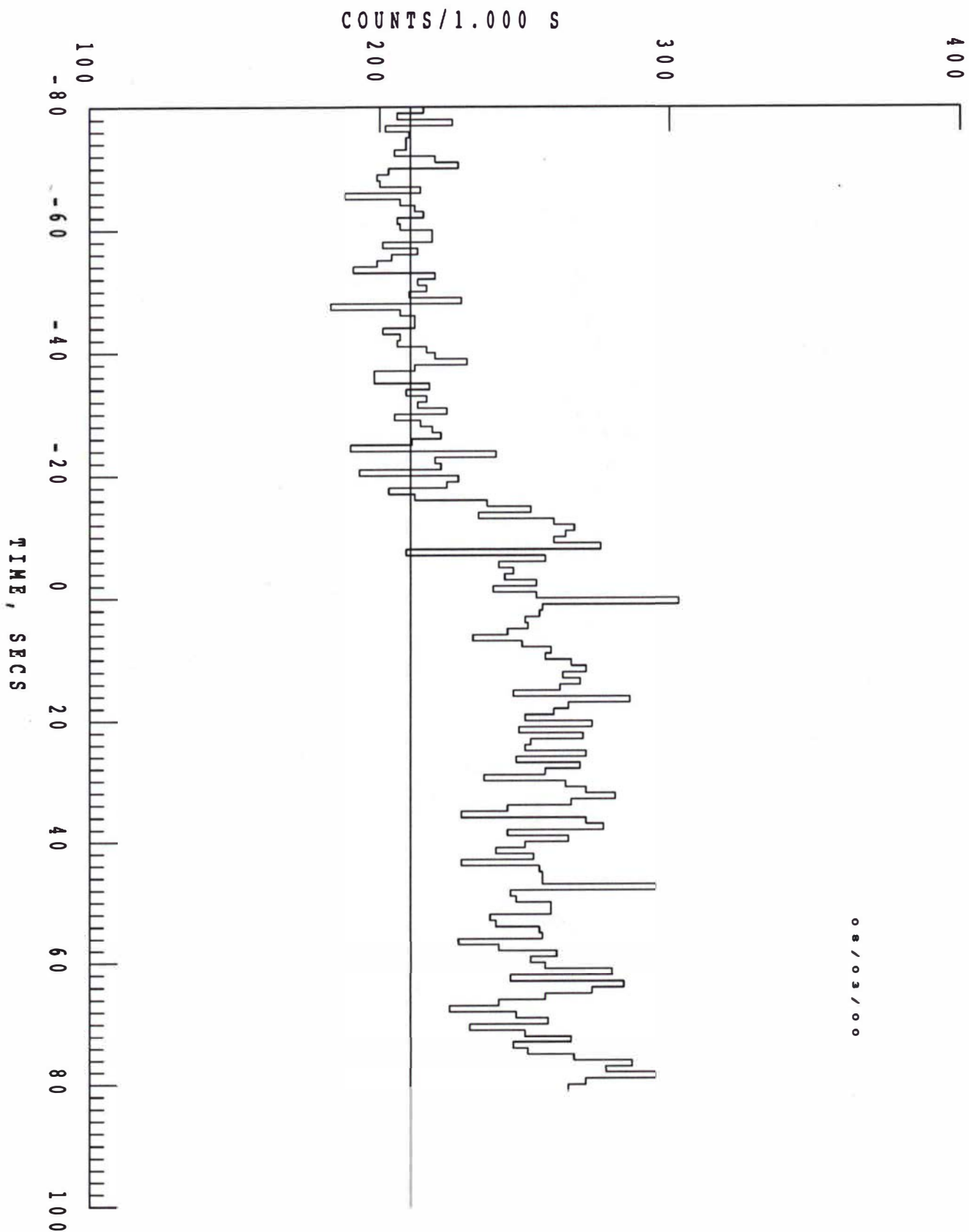


NEAR

08/05/99

7041.041

100-1000 keV

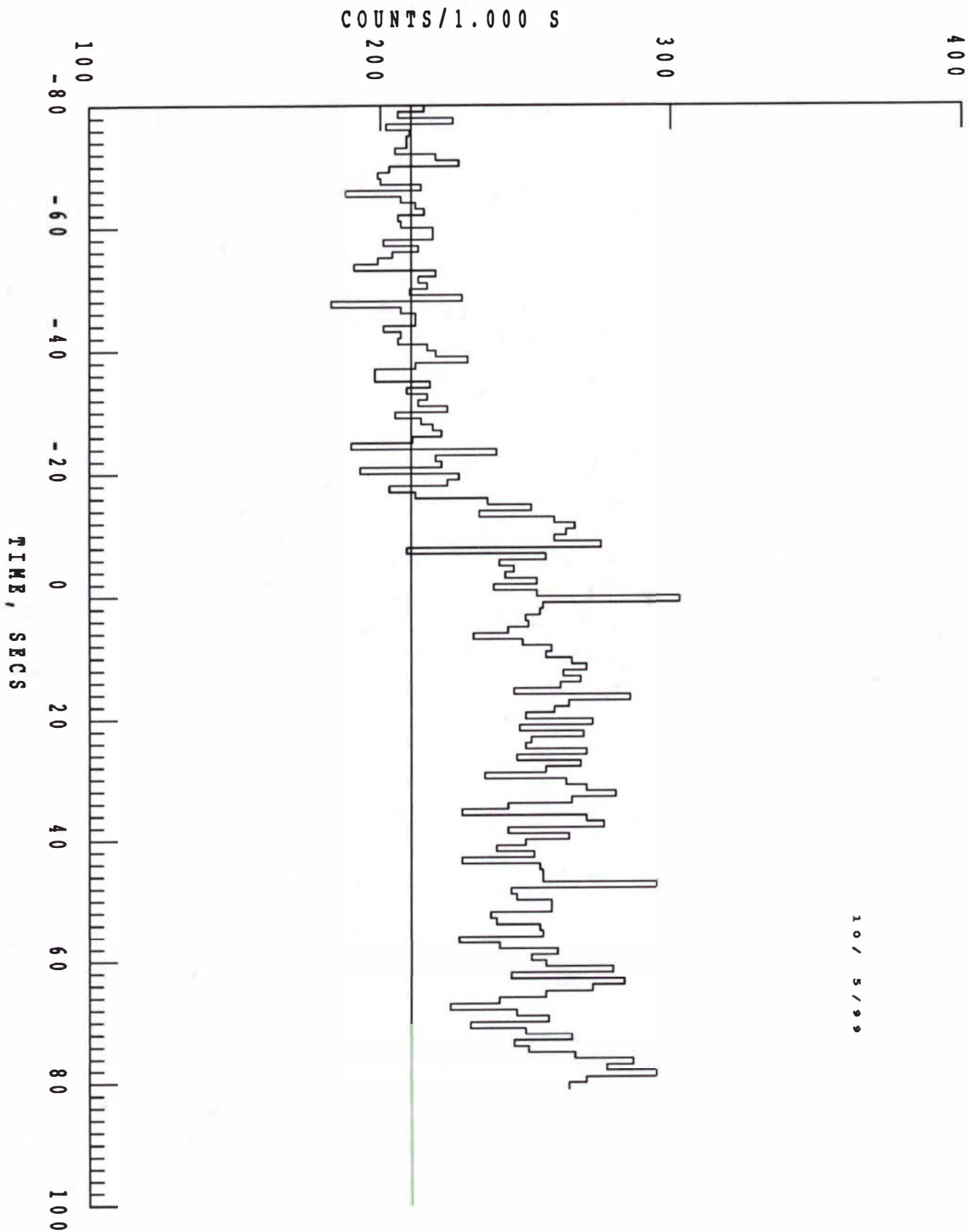


NEAR

08/05/99

7041.046

100-1000 keV



KNEAR GRS 19990508 07041

ULYSSES RT

10 / 5 / 99

8 / 5 / 99 4680.110 s

0.500 S INTERVALS REGROUPED BY 7

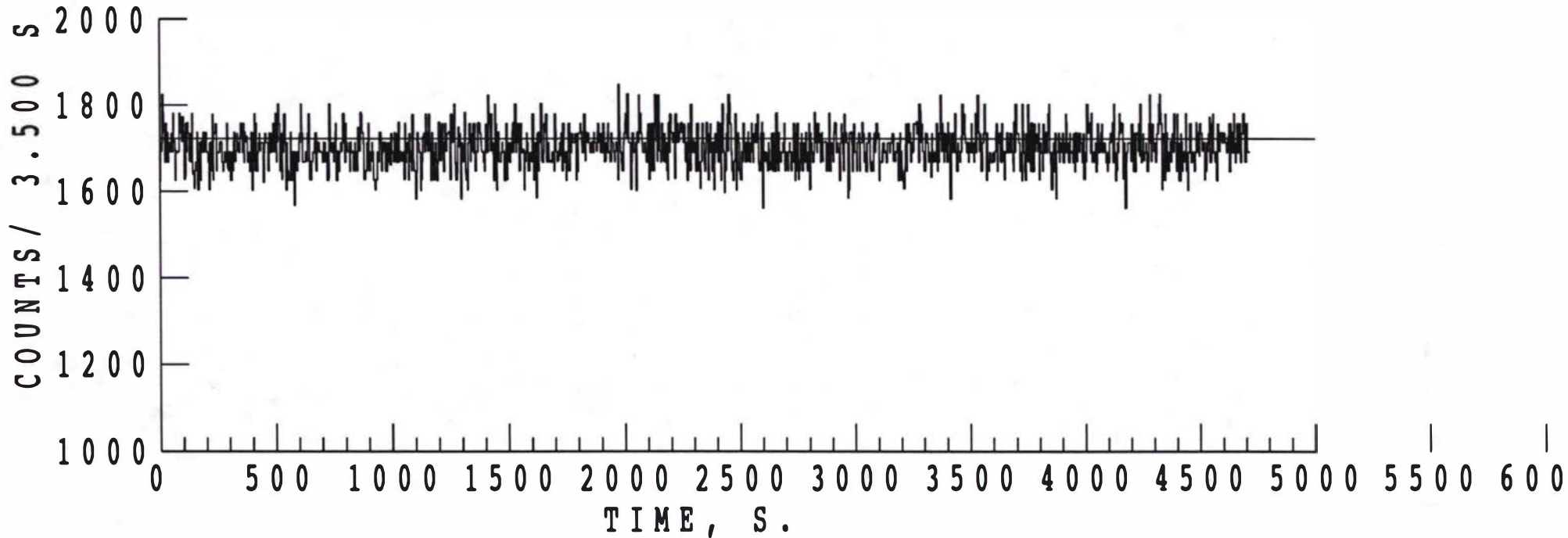
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS

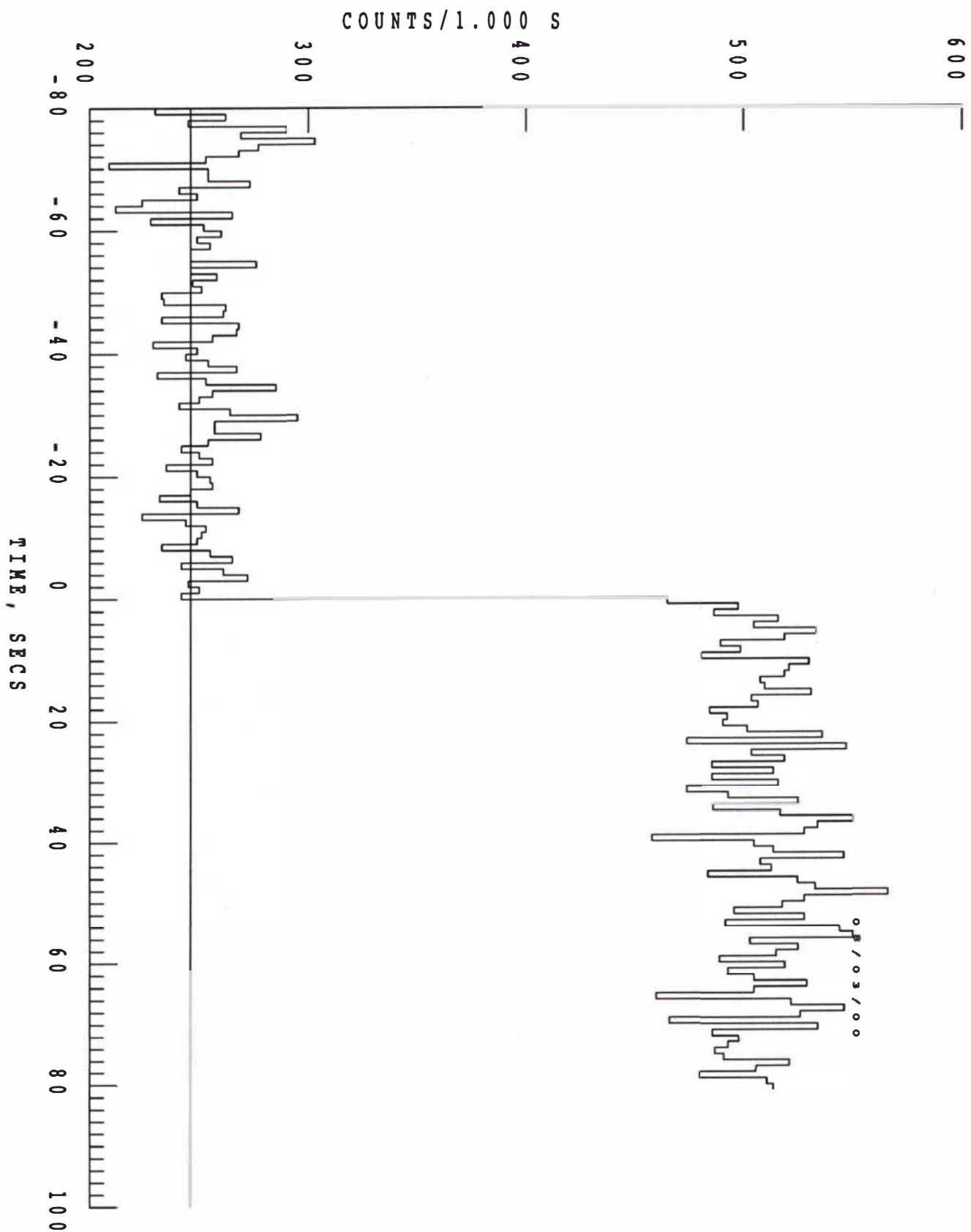


NEAR

08/05/99

7204.041

100-1000 keV

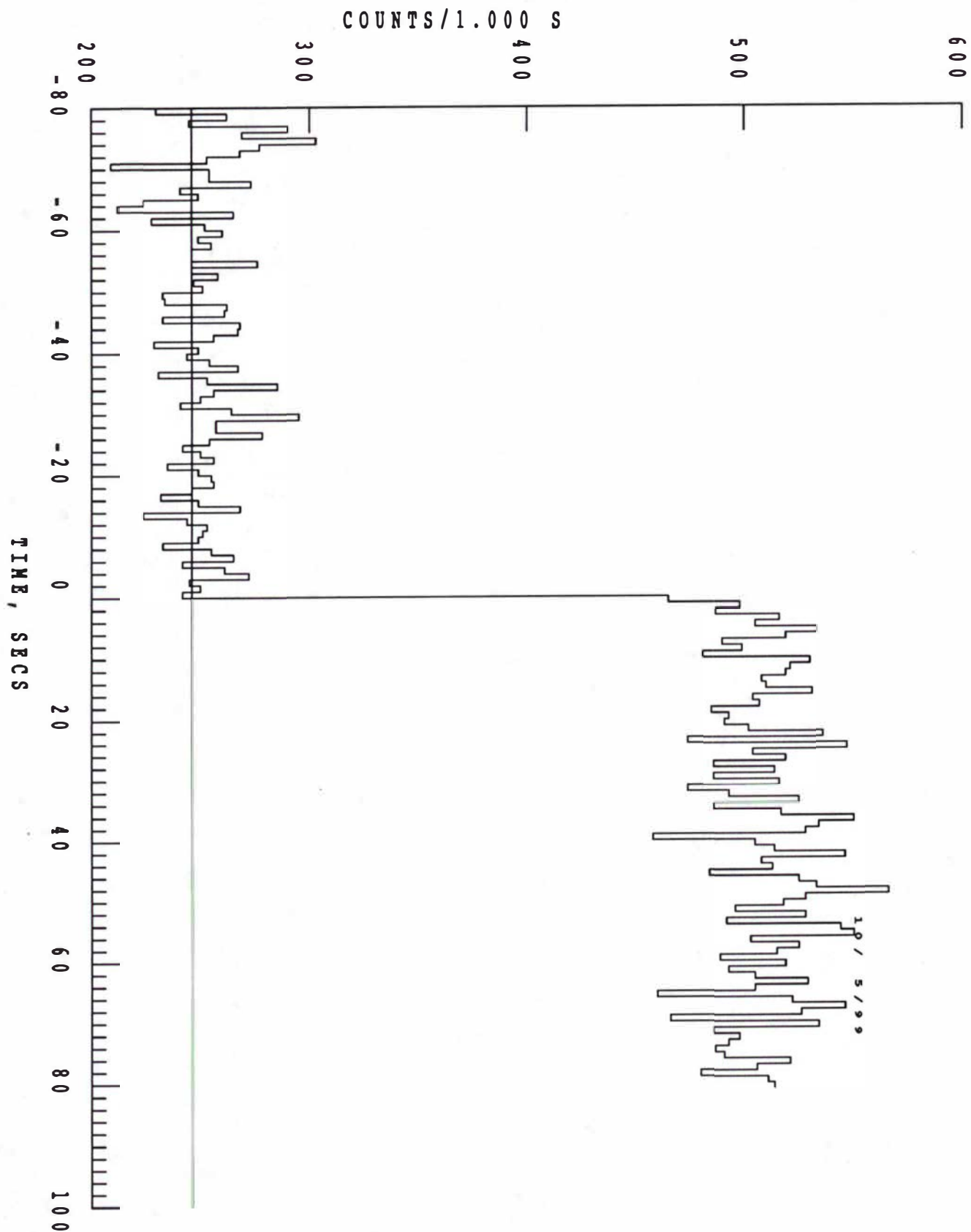


NEAR

08/05/99

7204.046

100-1000 keV



KNEAR GRS 19990508 07204

ULYSSES RT

10 / 5 / 99

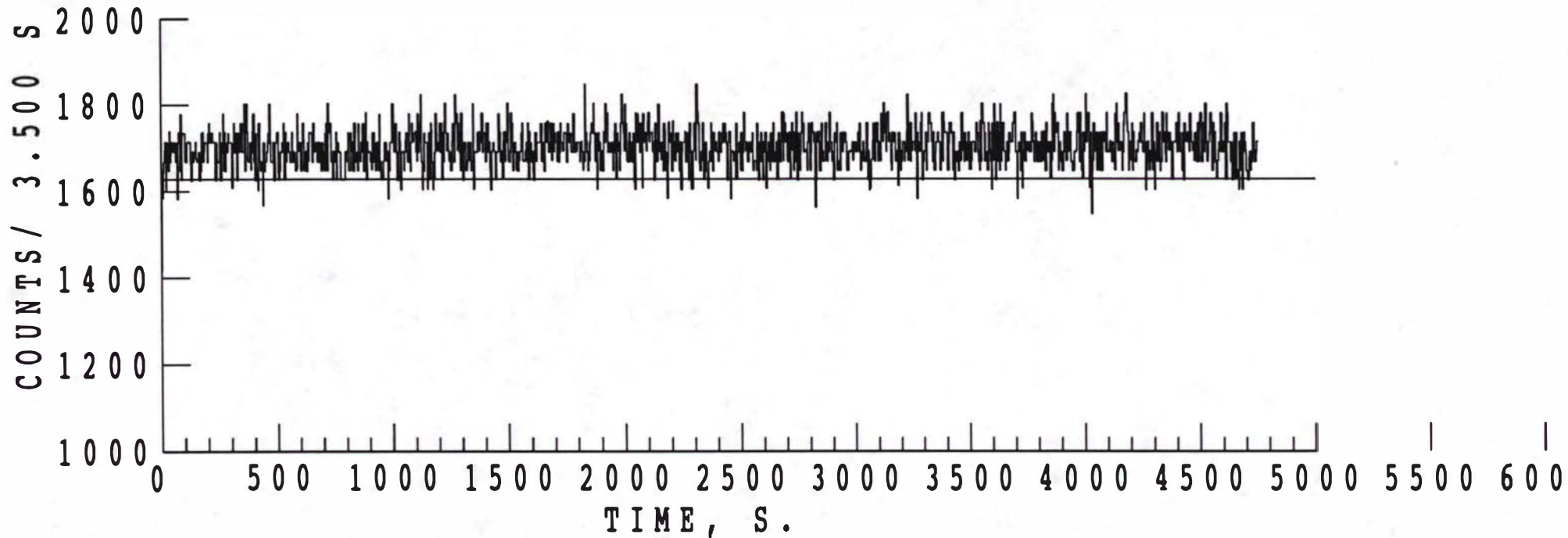
8 / 5 / 99 4824.115 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Wed May 12 07:44:09 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 HAA04549; Wed, 12 May 1999 07:44:09 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id HAA21979
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 07:41:23 -0700 (PDT)
Date: Wed, 12 May 1999 9:45:07 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990512094507.2021694a@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7553
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

SOLAR!

BATSE BURST # 7553
EVENT OF 1999 MAY 8 DAY OF YEAR=128
EVENT CROSSING TIME AT BATSE : 39034. S. OR 10:50:34.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 49.000 18.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 8/ 5/ 99 IS:
RA= 144.213 DEC= -7.029 DIST= 4.657 AU
BATSE-ULYSSES DISTANCE = 696631355. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.90 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 287.17 SECS.
CROSSING TIME AT ULYSSES IS 39321. S. OR 10:55:21 +/- 454.70 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 8/ 5/ 99 IS:
RA= 207.518 DEC= -10.487 DIST= 0.582 AU
MARS-BATSE DISTANCE = 87092696. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 22.11 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 269.14 SECS.
CROSSING TIME AT MARS IS 39303. S. OR 10:55:03 +/- 23.07 SECONDS

BATSE BURST TRIGGER

NO.: 7553

TIME: TJD=1306 SECONDS=39034

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

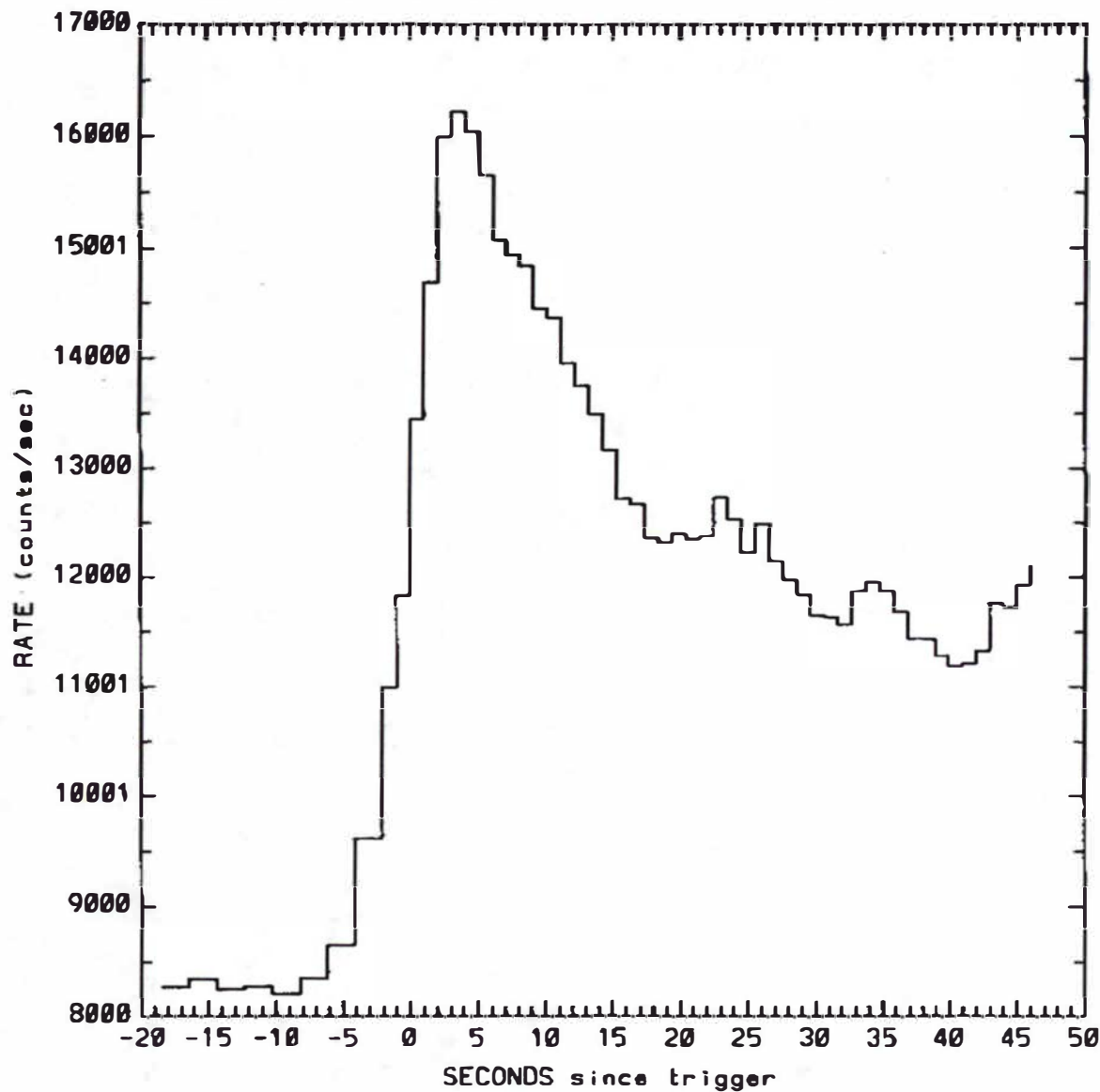
LOCATION: ZENITH=5.5 AZIMUTH=304 ERROR=0.975 DEGREES

COMMENTS:

GOES, M1.6, OPTICAL SF. COMPLEX DUR. APPROX. 1100 S, STARTS AT APPROX. T-760 S,
MAX AT APPROX. T+3.5 S. VISIBLE ABOVE 100 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7553	990508	11306	39034	5000	049	+18	1100

DISCLB Data for K. Hurley, No. 7553



14-MAY-1999 09:26:45

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

Trigger # : 7553

Trigger Time:
11306 / 39034.617

Burst Data Type:
DISCLB

Deadtime
Corrected: N

Background Data
Type: None

Minimum Integ. Time:
1.024 second(s)

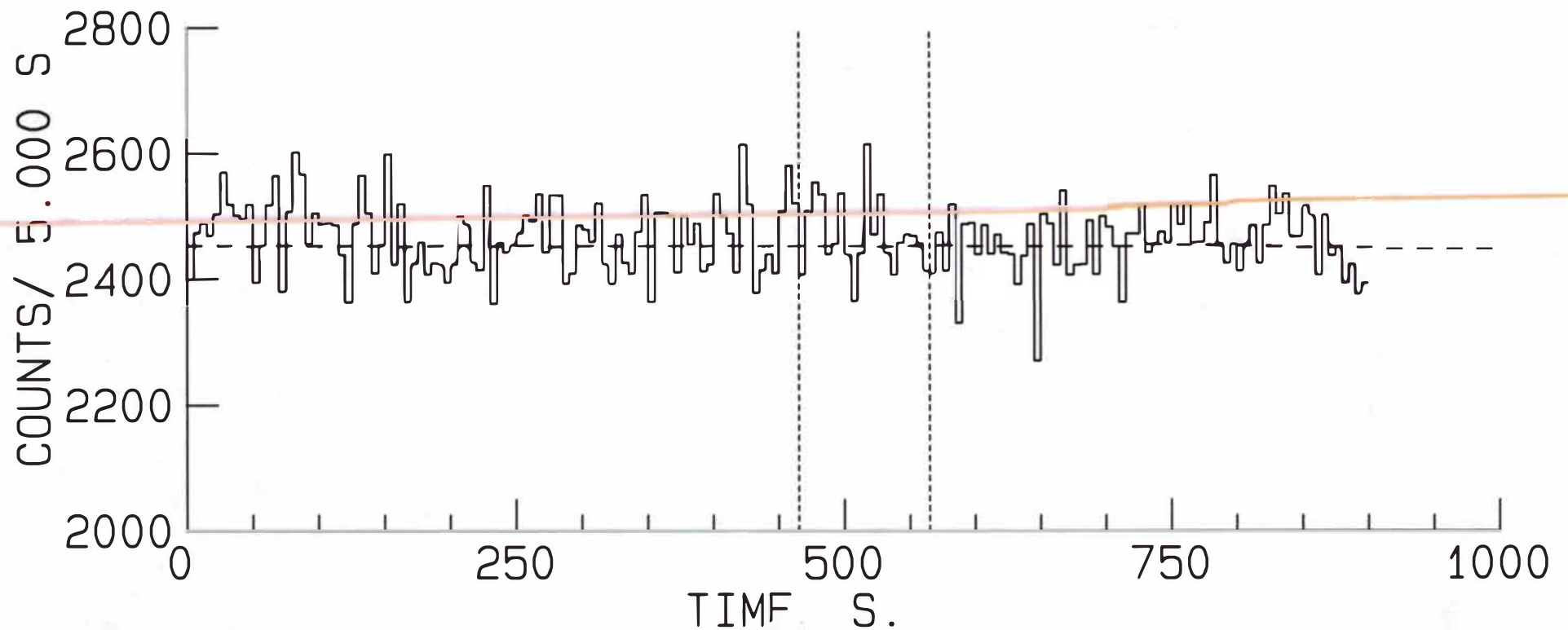
Detectors (7..0):
-----2-d

Discriminators:
1 1 . 2 1

Quality Mask:
BDISP1

ULYSSES RT
8/ 5/99 38880.208 s
0.250 S INTERVALS REGROUPED BY 20
22- 150 keV

21 / 5 / 99



BATSE

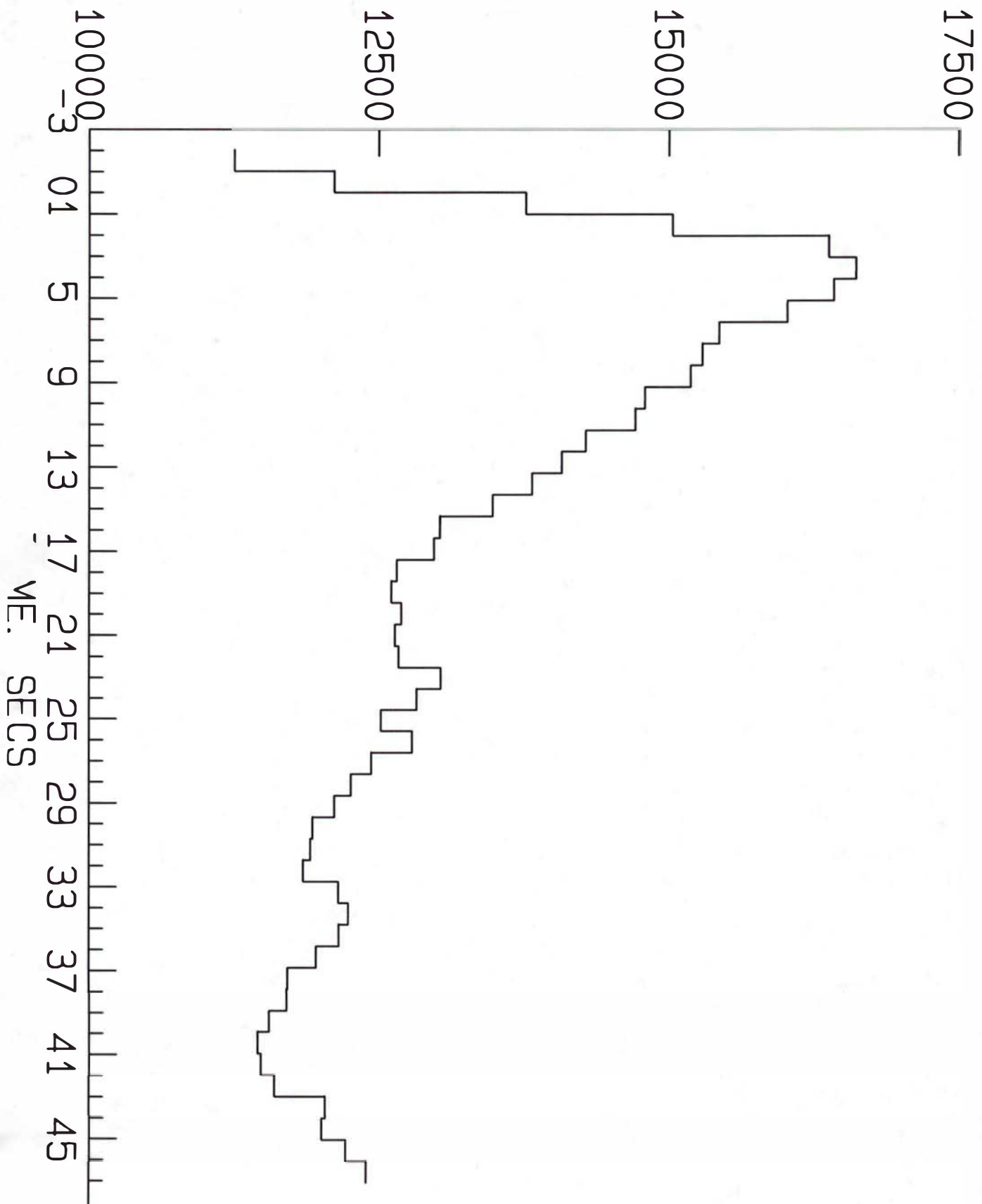
08/05/99

39034.617

25- 100 keV

COUNTS/1.024 S

21 / 5 / 99



From PETERSON@fender.msfc.nasa.gov Wed May 12 07:46:23 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 HAA04609; Wed, 12 May 1999 07:46:23 -0700
 From: PETERSON@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
 by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id HAA22009
 for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 07:43:36 -0700 (PDT)
 Date: Wed, 12 May 1999 9:47:21 -0500 (CDT)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990512094721.2021694a@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7554
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7554
 EVENT OF 1999 MAY 8 DAY OF YEAR=128
 EVENT CROSSING TIME AT BATSE : 63195. S. OR 17:33:15.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 227.000 76.000
 BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 8/ 5/ 99 IS:
 RA= 144.203 DEC= -7.023 DIST= 4.660 AU
 BATSE-ULYSSES DISTANCE = 697186910. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.92 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= 205.88 SECS.
 CROSSING TIME AT ULYSSES IS 63401. S. OR 17:36:40 +/- 455.30 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 8/ 5/ 99 IS:
 RA= 207.518 DEC= -10.487 DIST= 0.582 AU
 MARS-BATSE DISTANCE = 87092696. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 92.73 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -13.84 SECS.
 CROSSING TIME AT MARS IS 63181. S. OR 17:33:01 +/- 50.17 SECONDS

BATSE BURST TRIGGER

NO.: 7554

TIME: TJD=1306 SECONDS=63195

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

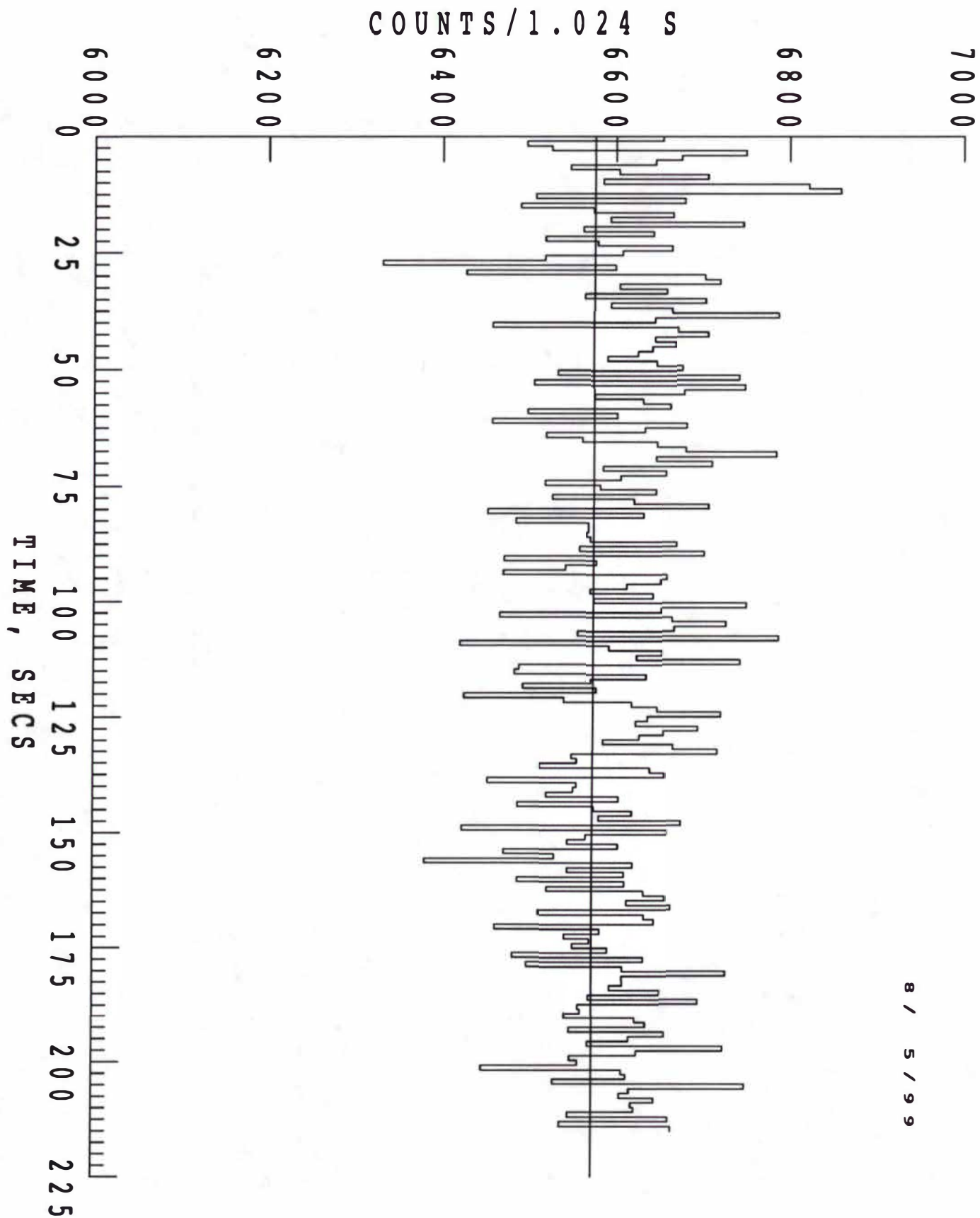
LOCATION: ZENITH=90.6 AZIMUTH=331.8 ERROR=10.75 DEGREES

COMMENTS:

GRB. WEAKLY SINGLE SPIKE, DUR. APPROX. 0.7 S, MAX AT APPROX. T-0.4 S. NOT
 VISIBLE ABOVE 300 KEV. CYG X-1 RISE AND CRAB SET AT APPROX. T+190 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7554	990508	11306	63195	2500	227	+76	.7

BACODINE 7554 08/05/99 63184.633
25- 100 keV



BATSE BURST# 7554

ULYSSES RT

12 / 5 / 99

8 / 5 / 99 62928.199 s

0.500 S INTERVALS REGROUPED BY 2

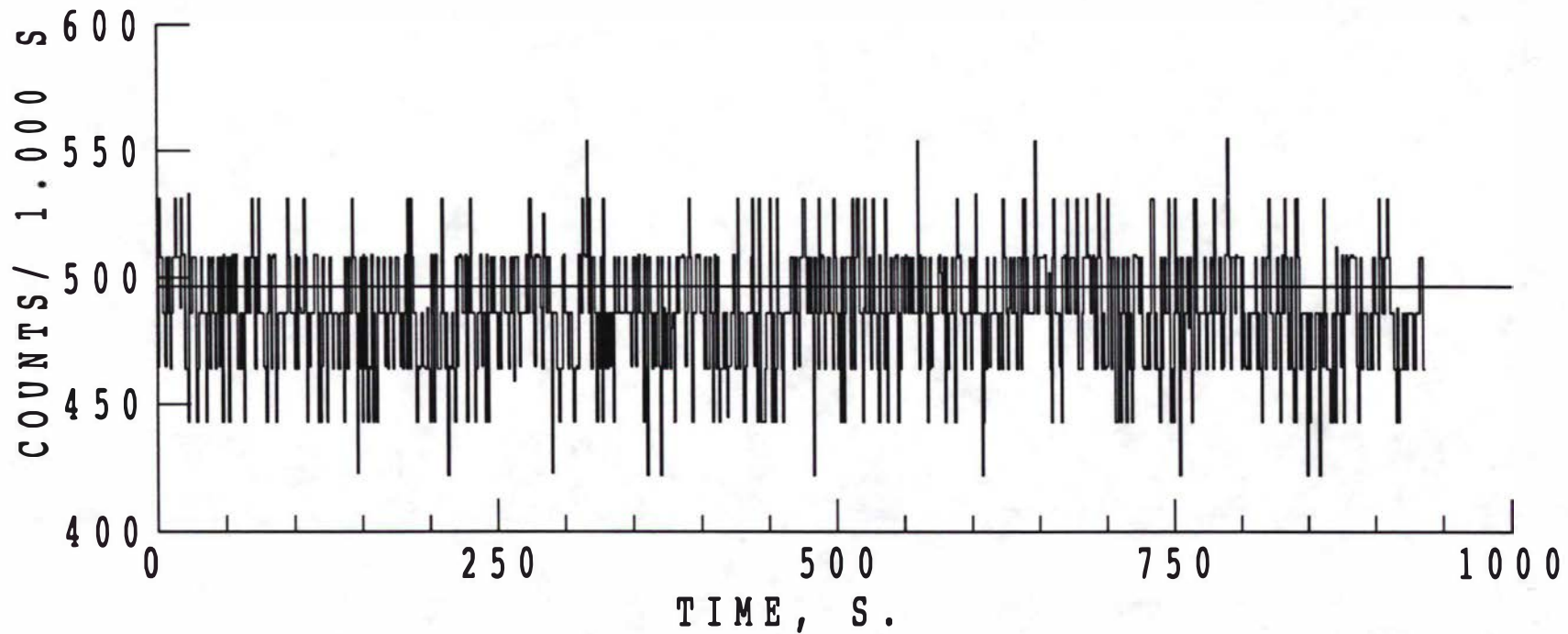
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot.ssl.berkeley.edu Tue May 11 08:53 PDT 1999

Date: Tue, 11 May 1999 09:01:50 -0700

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

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

Subject: GRB990508A,B

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 8 1999 03:09*	weak, 64 ms long	2325
MAY 8 1999 15:39*	weak, 64 ms long	2325

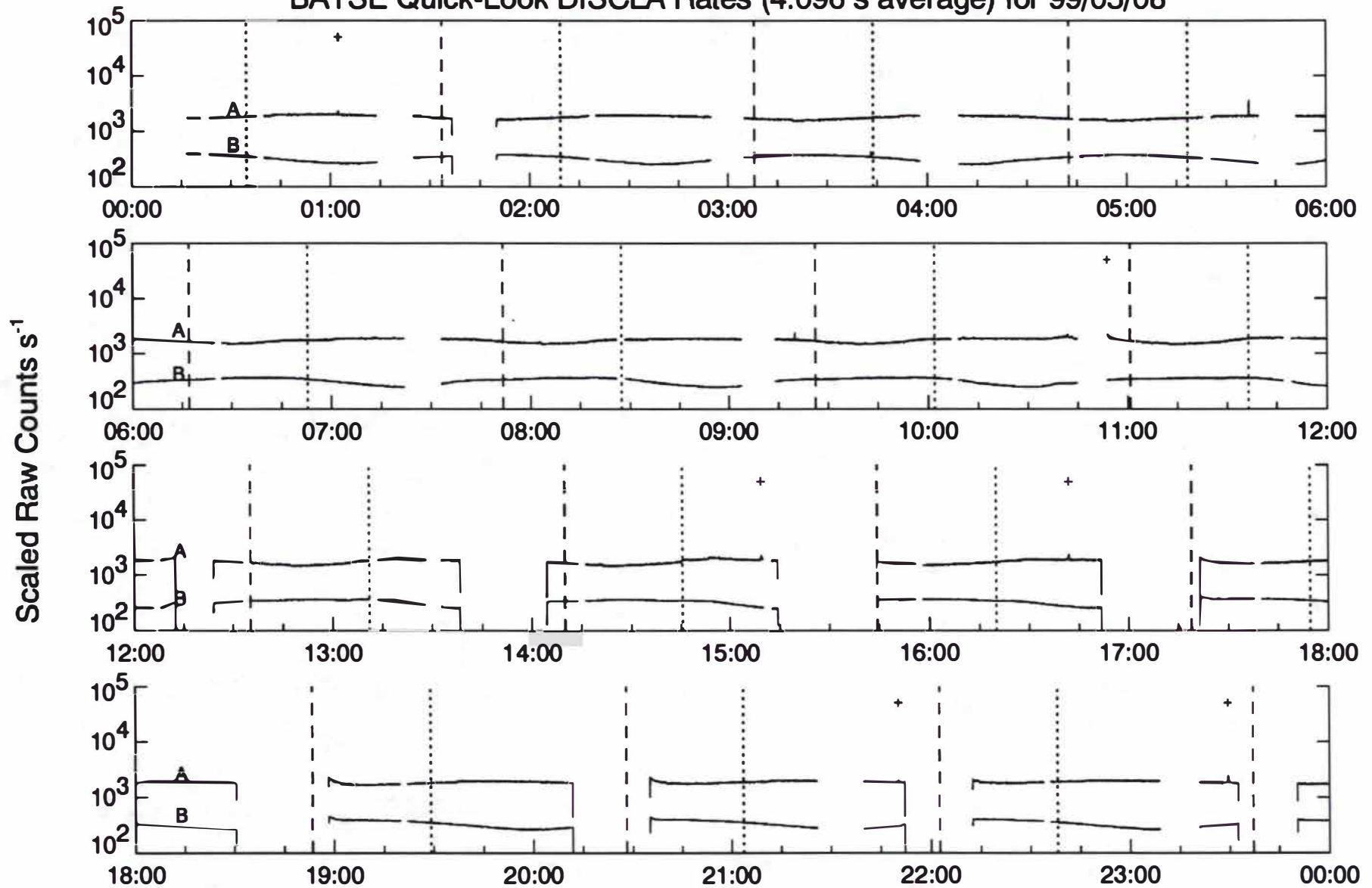
*looks like an SGR, but which one?

Were these events detected by anyone else?

CC: ~~ulysses~~bursts alias list

(~~barthe~~lmy, butterworth, cline, frontera, kouveliotou, kurczyski, marar, tee

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/08

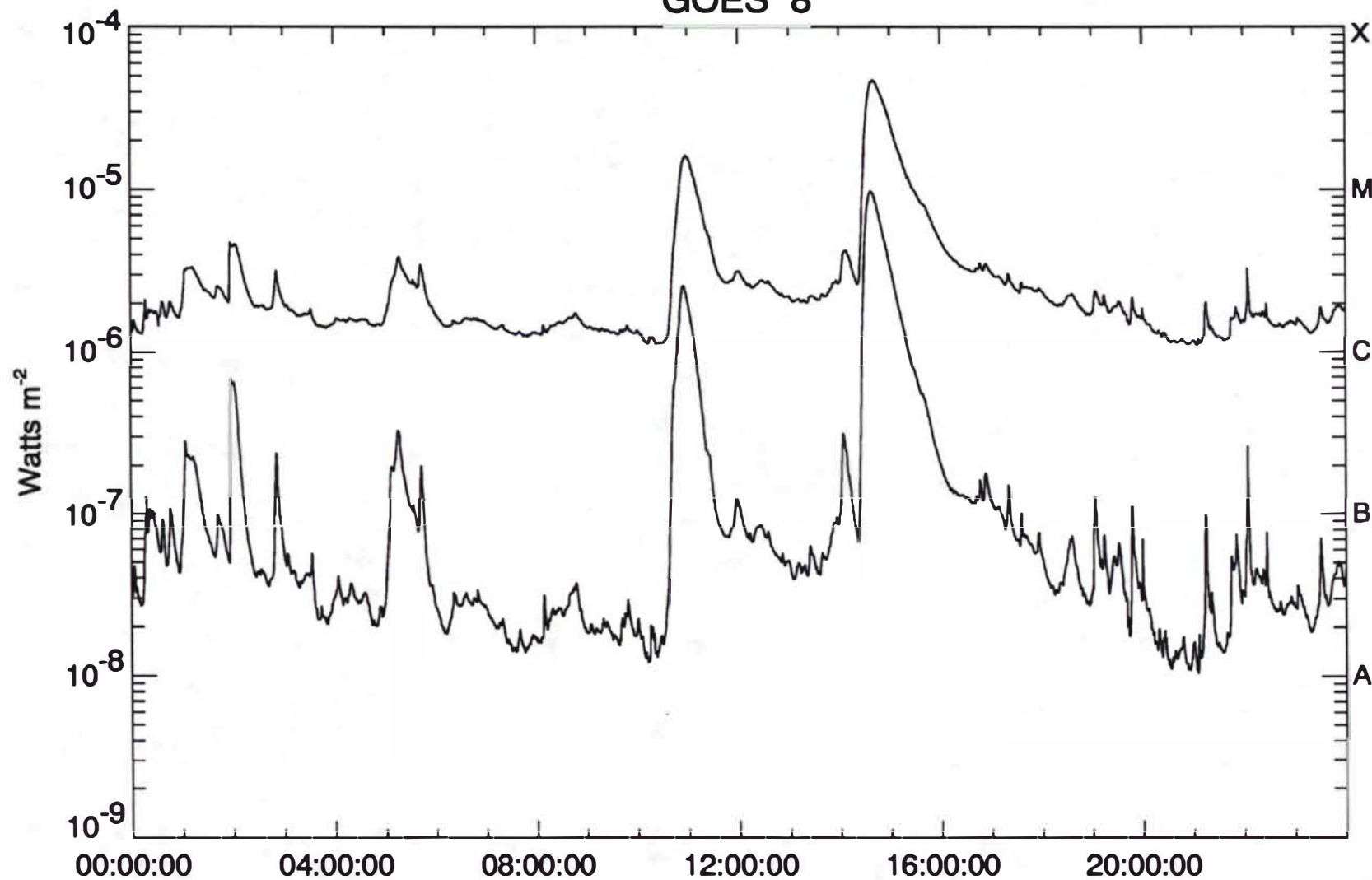


Current Time: 99/05/12, 1007 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/08, 0000:00

Plot created: 99/05/12, 1006

Channel

1 (1.0 - 8.0 Angstroms)

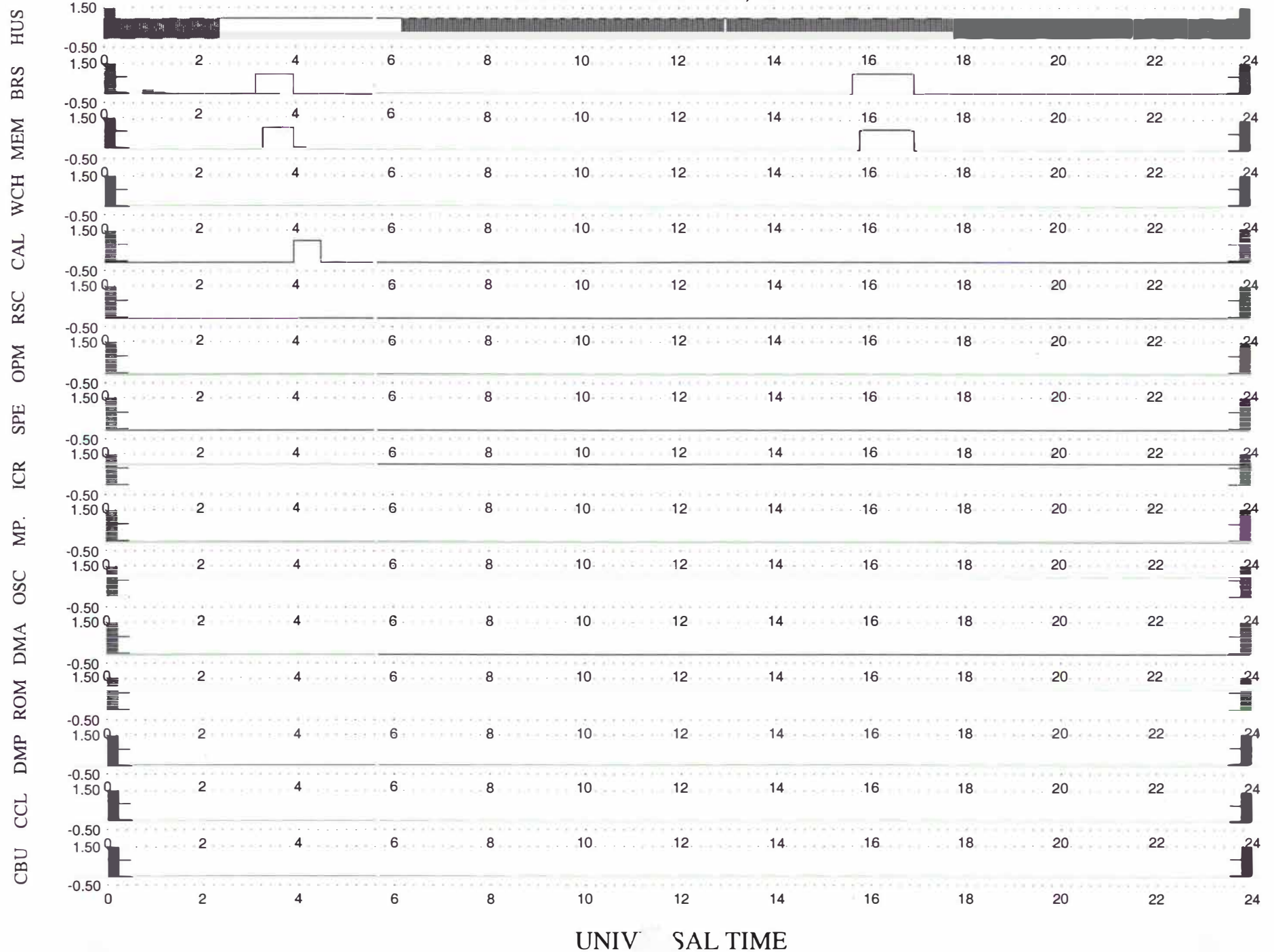
Background not subtracted

2 (0.5 - 4.0 Angstroms)

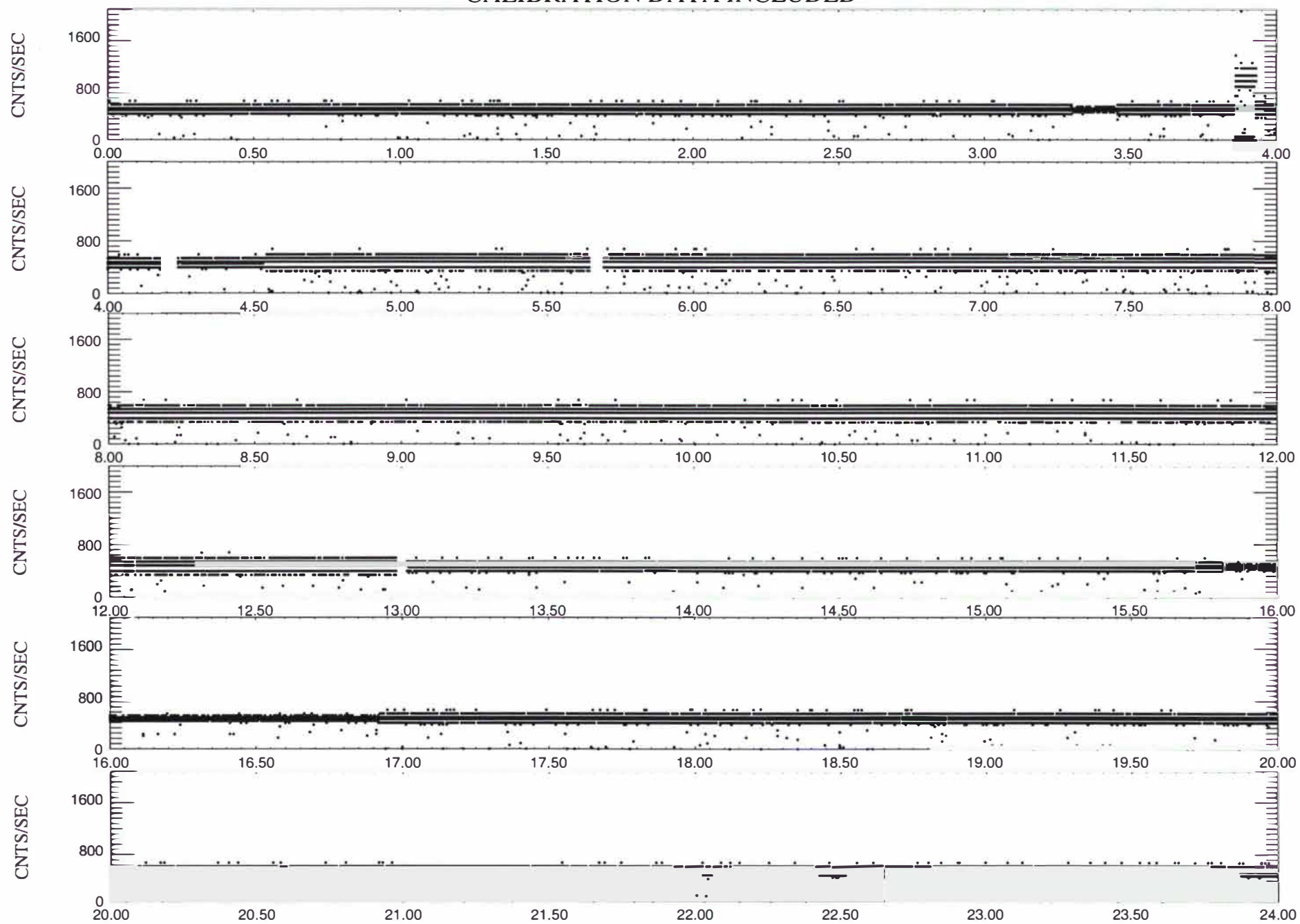
Background not subtracted

Sample average = 10

BURST NUMBER 14, 15

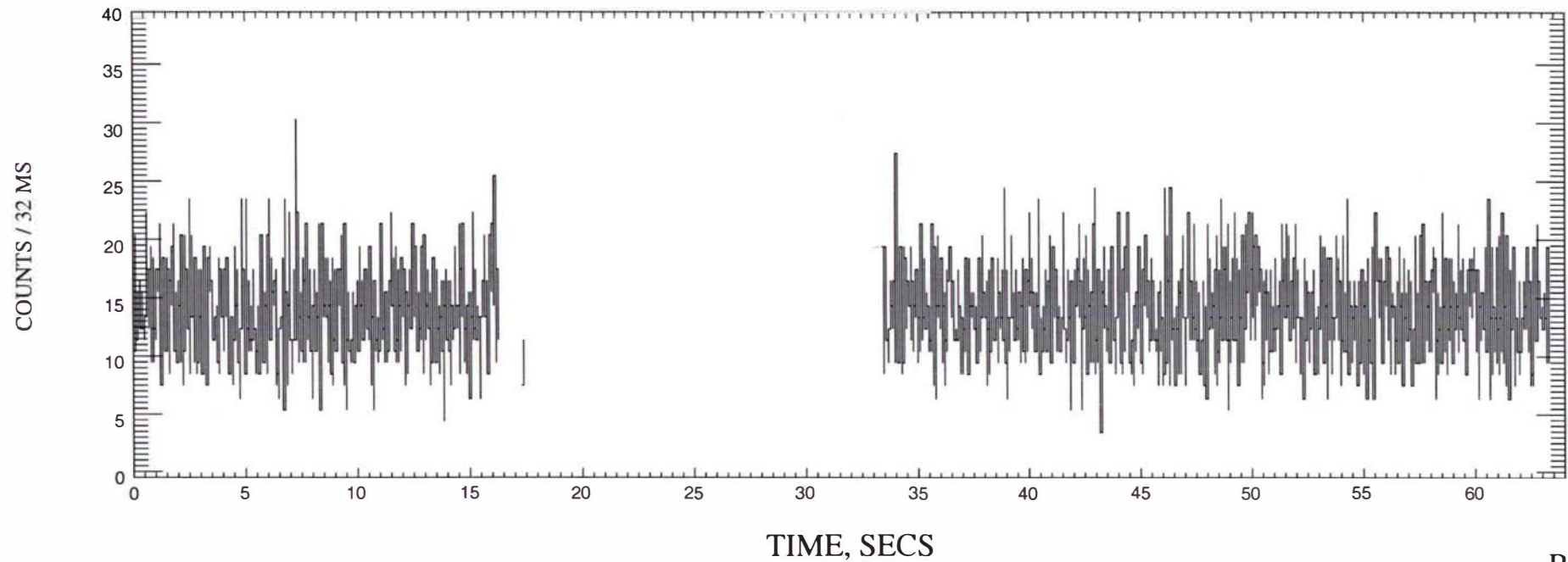
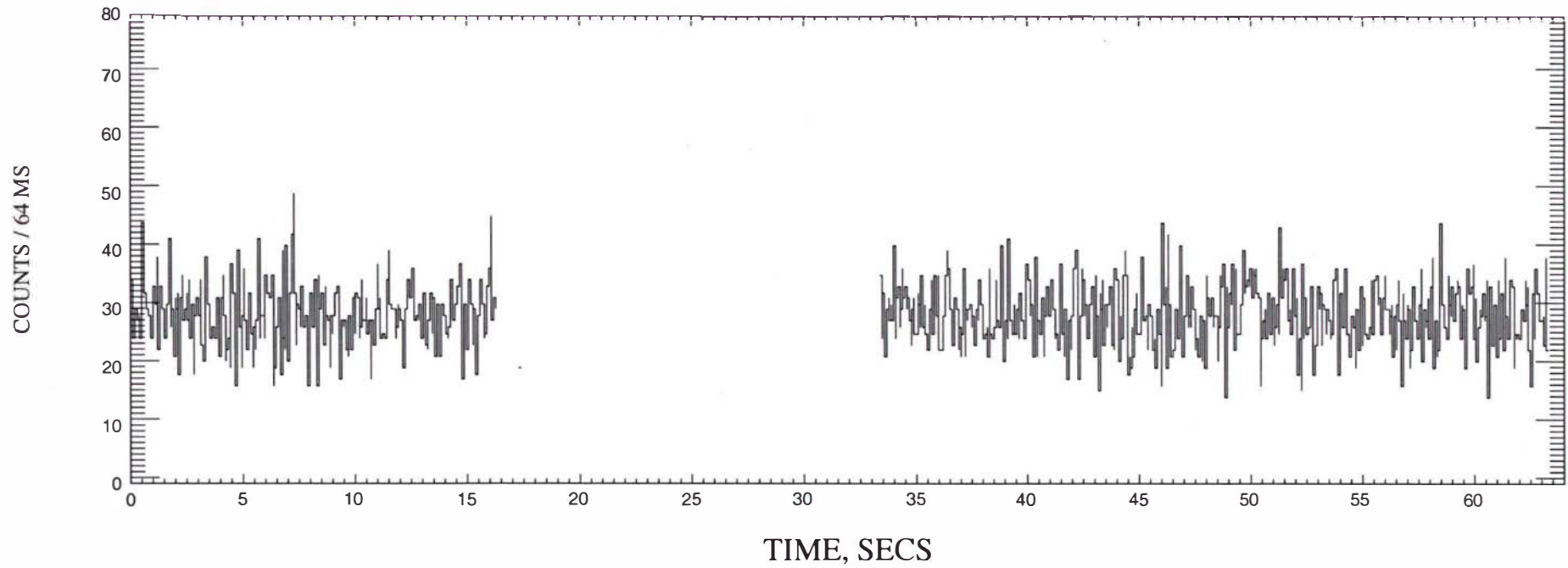


CALIBRATION DATA INCLUDED

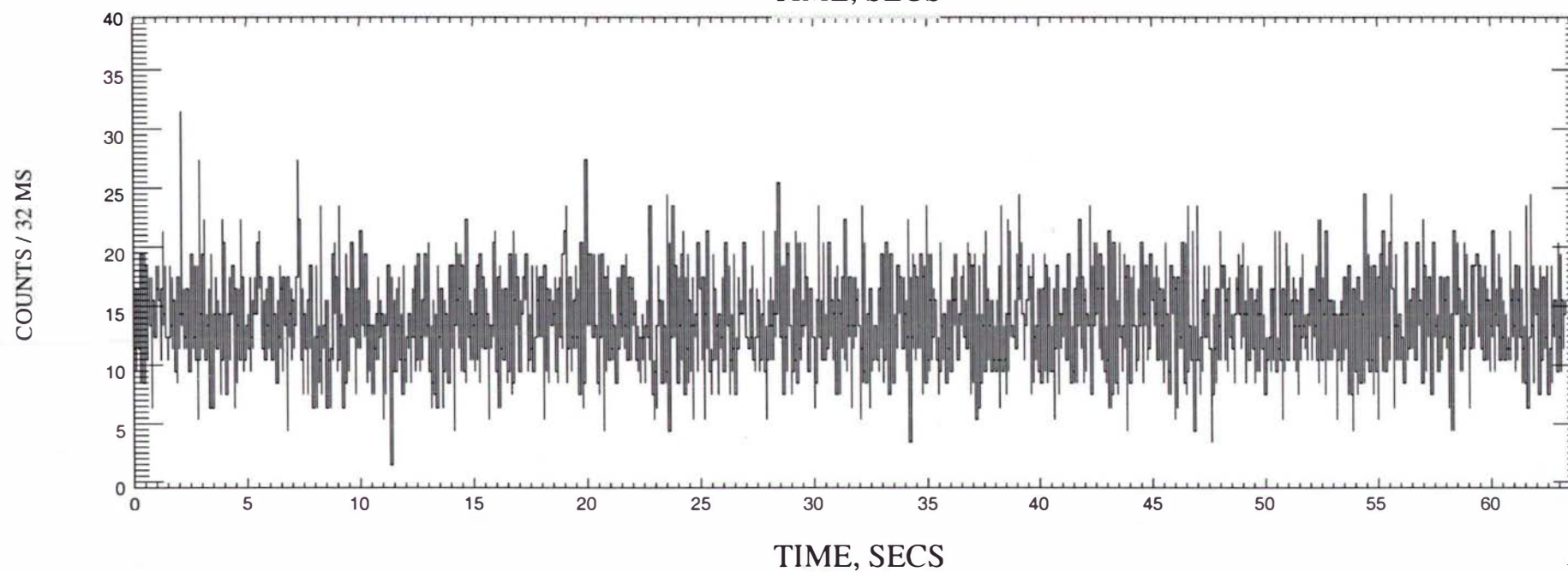
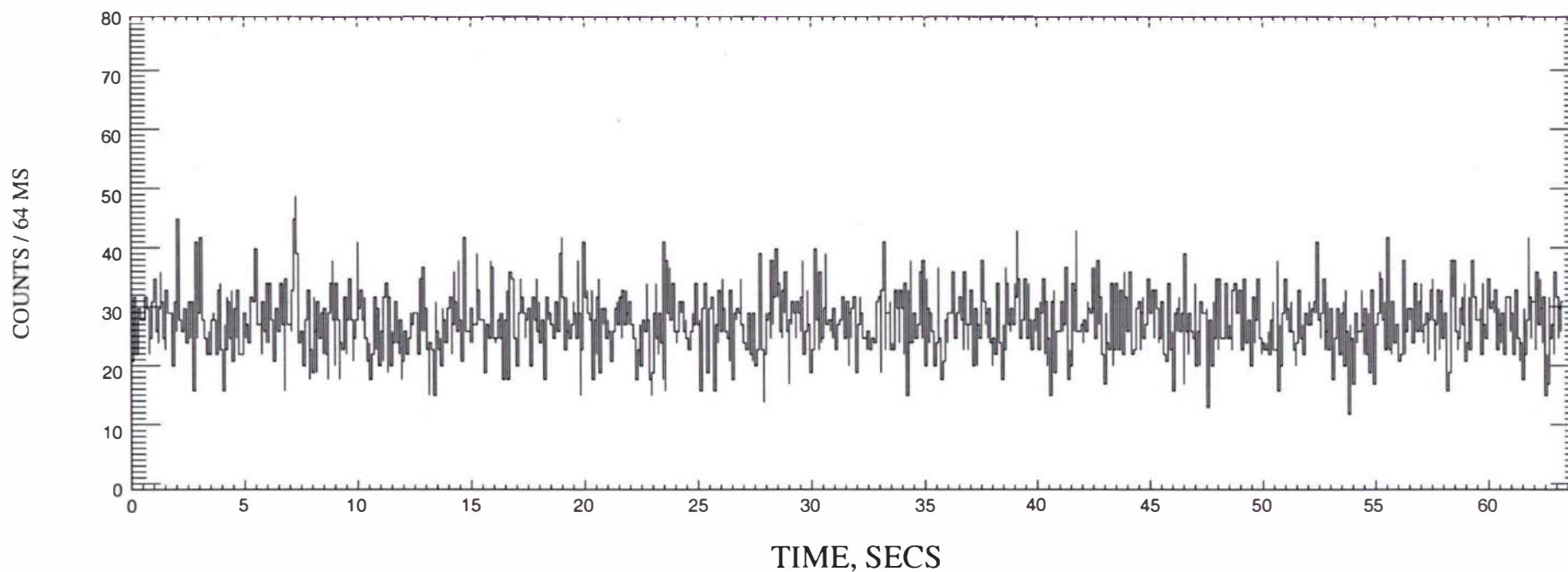


UNIVERSAL TIME

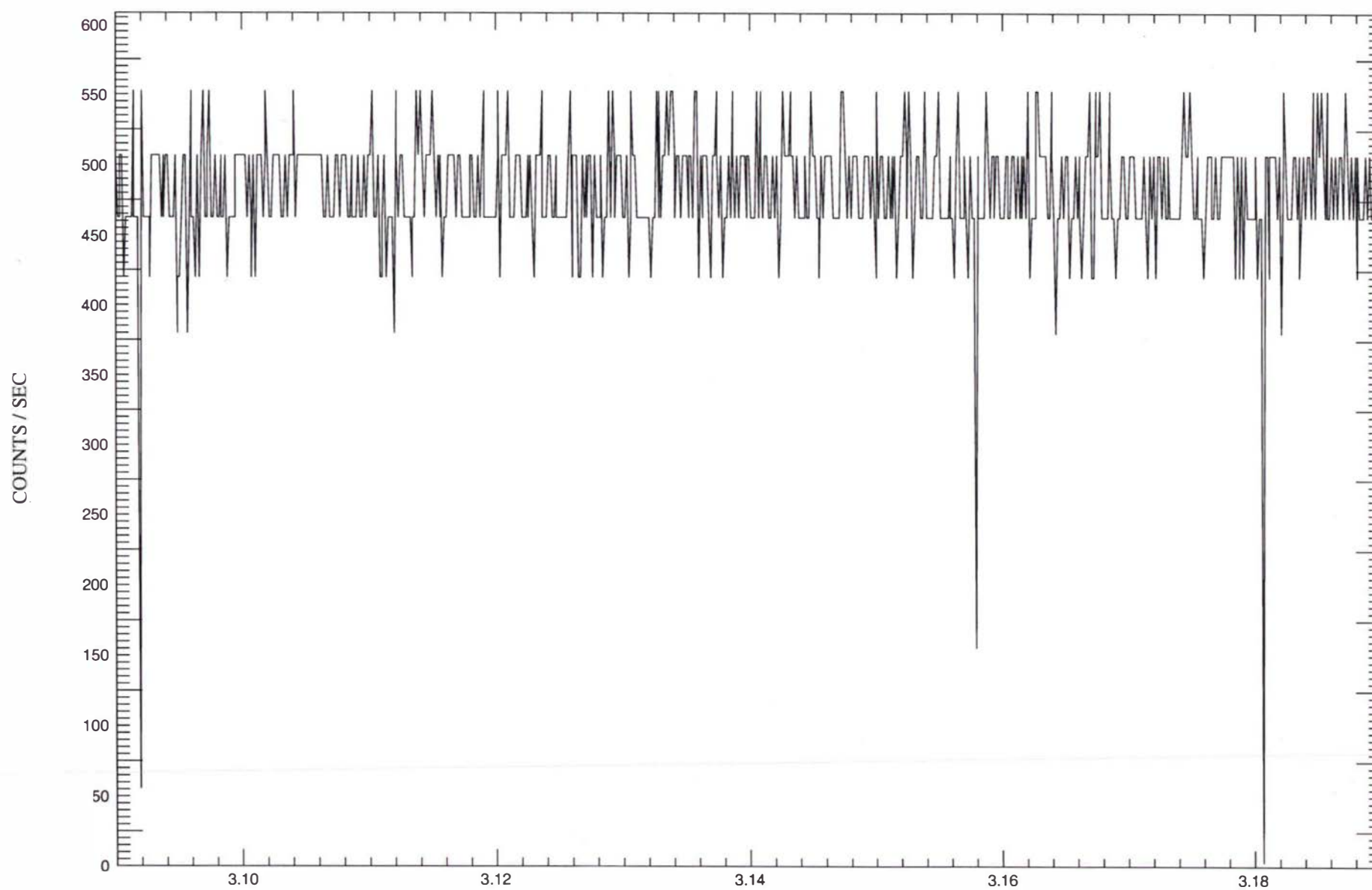
Burst Counter 14 at UT= 3.144975573222 h=11321.912 s 03:08:41.912



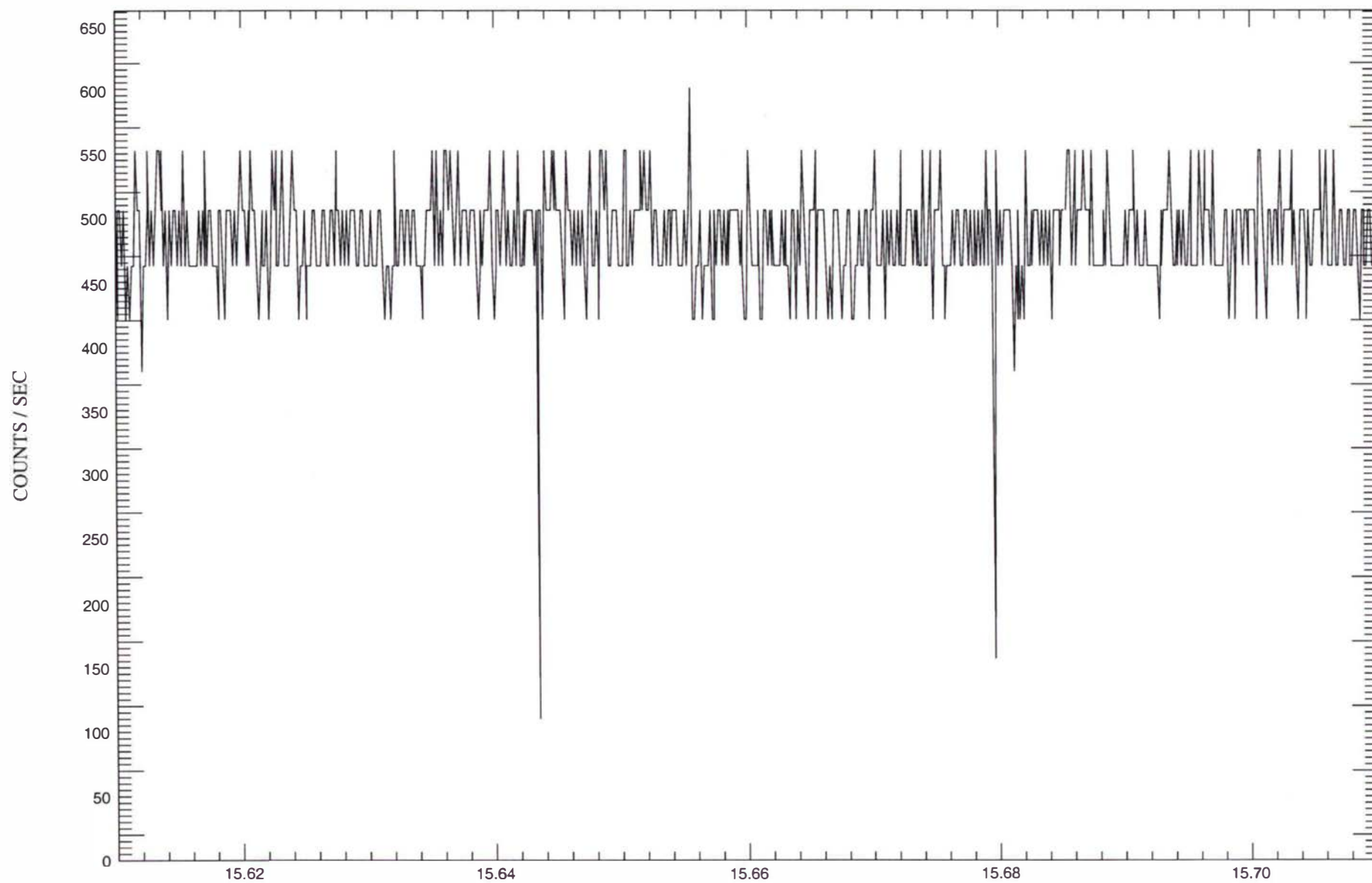
Burst Counter 15 at UT=15.655694414775 h=56360.500 s 15:39:20.500

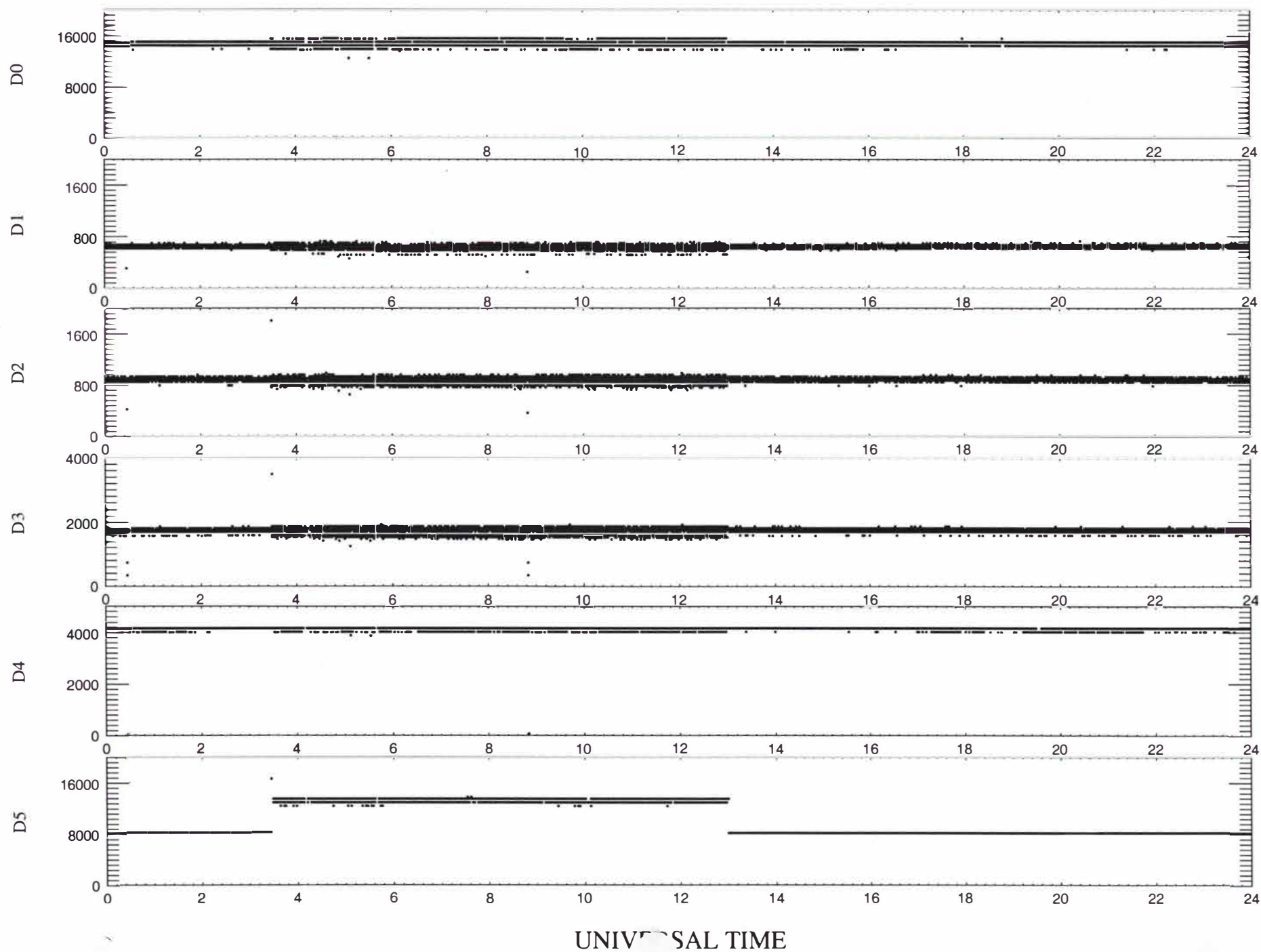


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





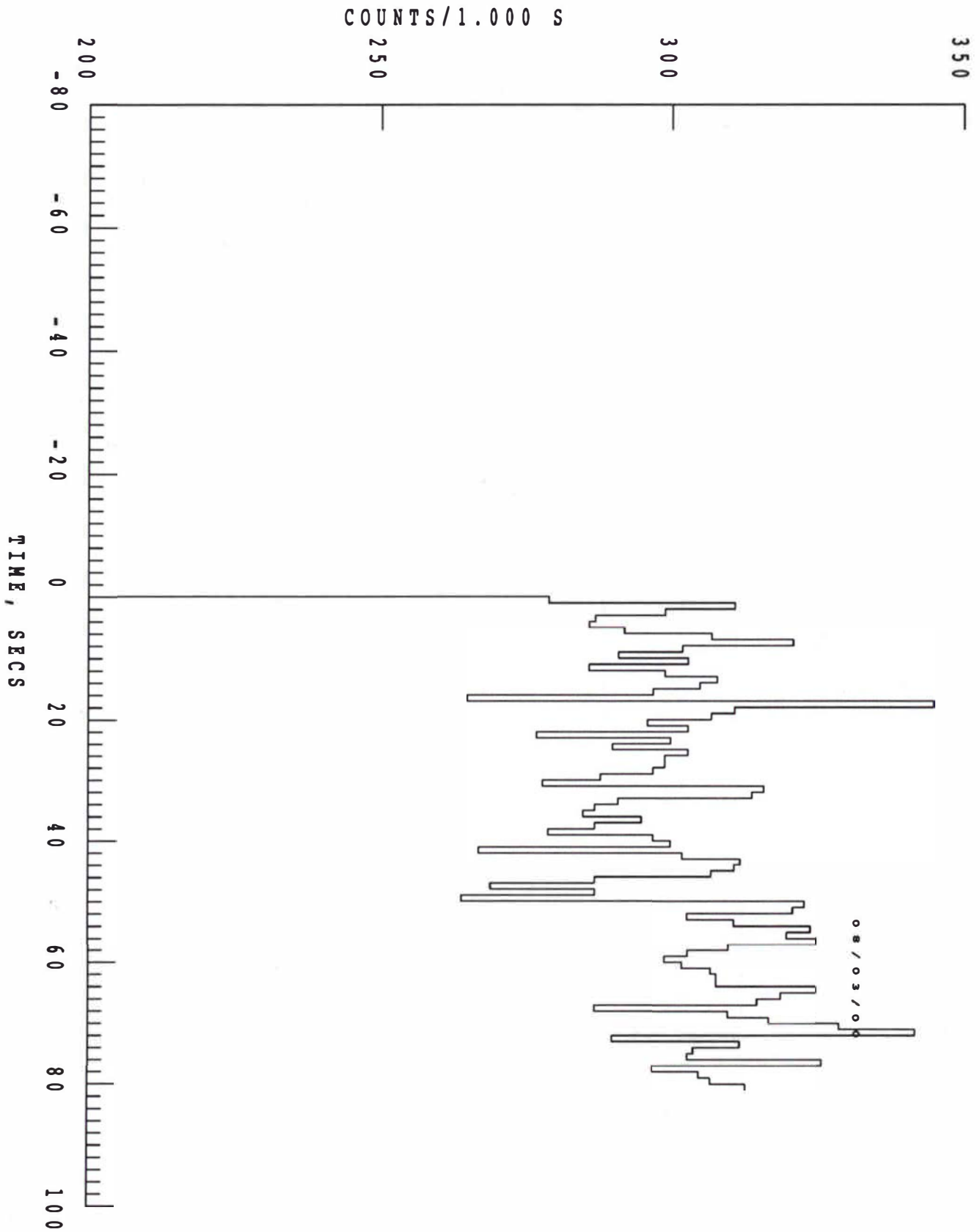


NEAR

09/05/99

4.020

100-1000 keV

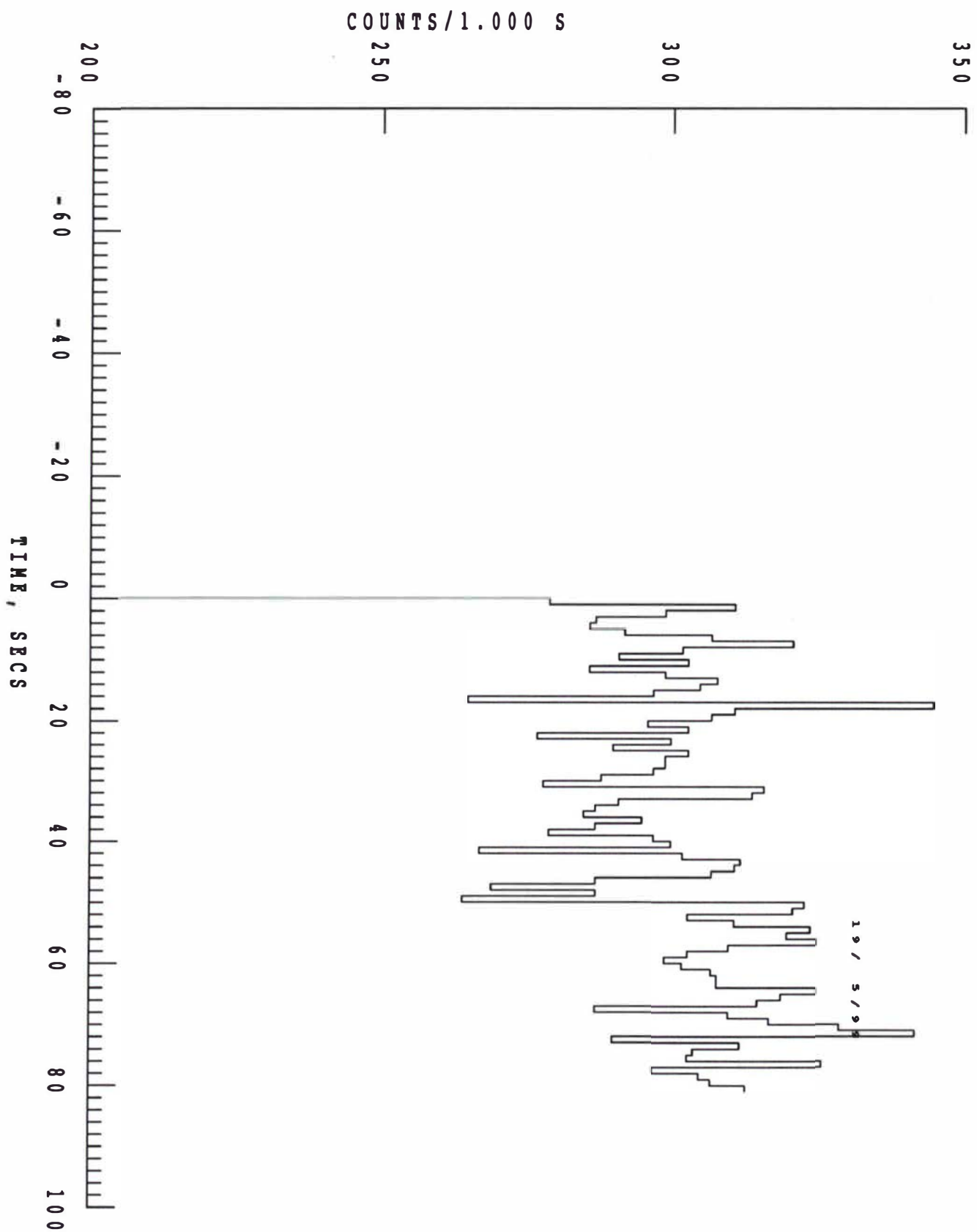


NEAR

09/05/99

4.026

100-1000 keV



KNEAR GRS 19990509 00004

ULYSSES RT

19 / 5 / 99

8 / 5 / 99 83304.406 s

0.500 S INTERVALS REGROUPED BY 9

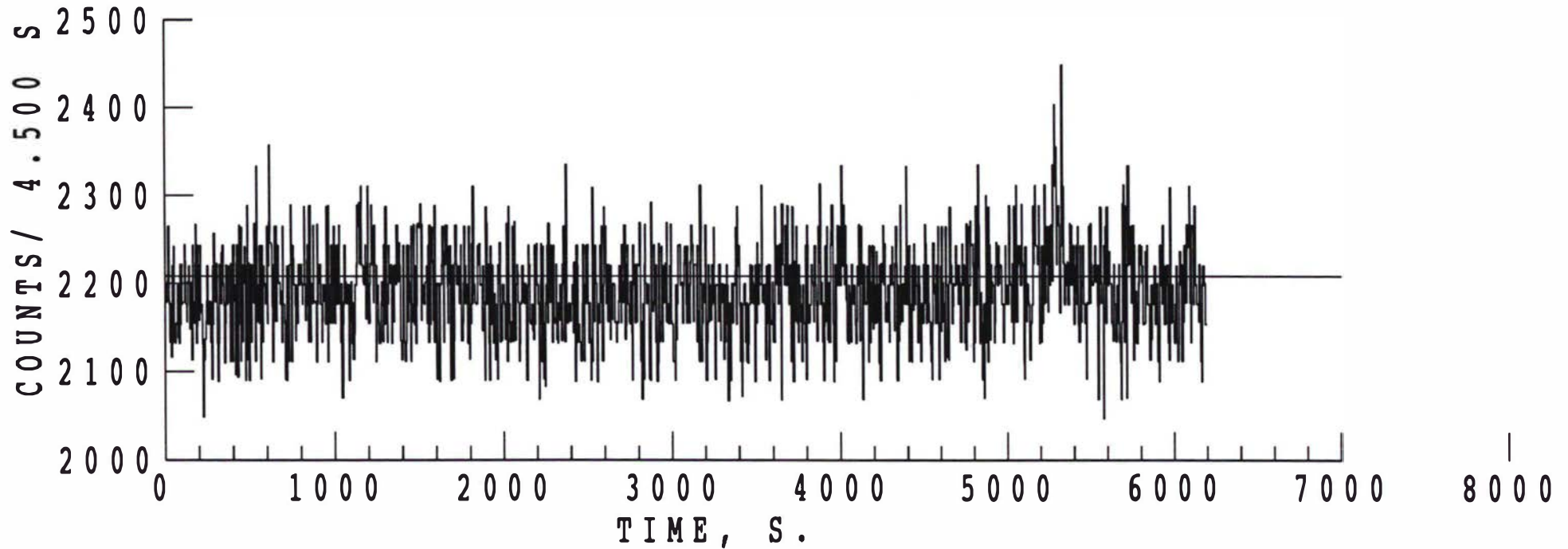
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



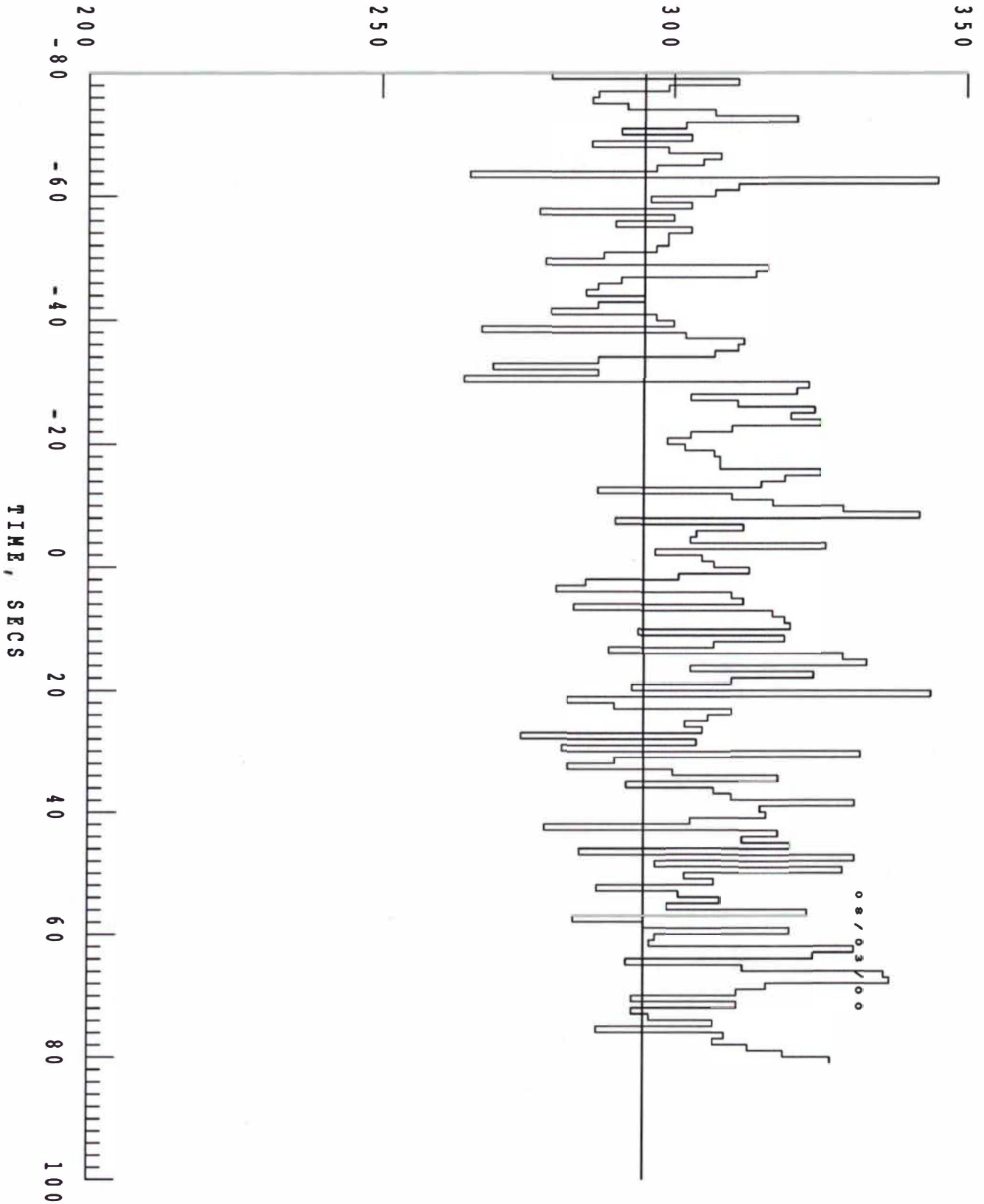
NEAR

09/05/99

84.020

100-1000 keV

COUNTS/1.000 S

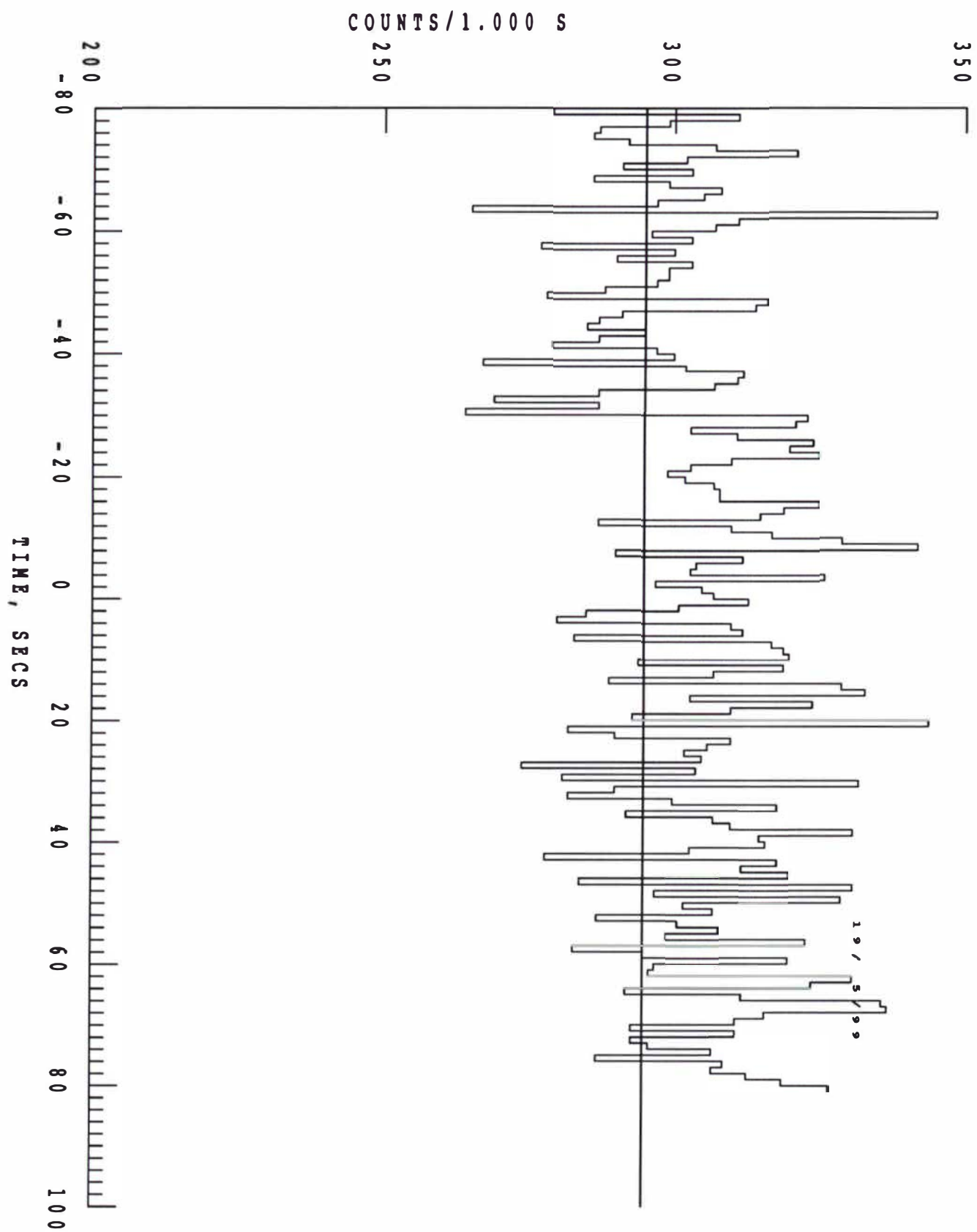


NEAR

09/05/99

84.026

100-1000 keV



KNEAR GRS 19990509 00084

ULYSSES RT

19 / 5 / 99

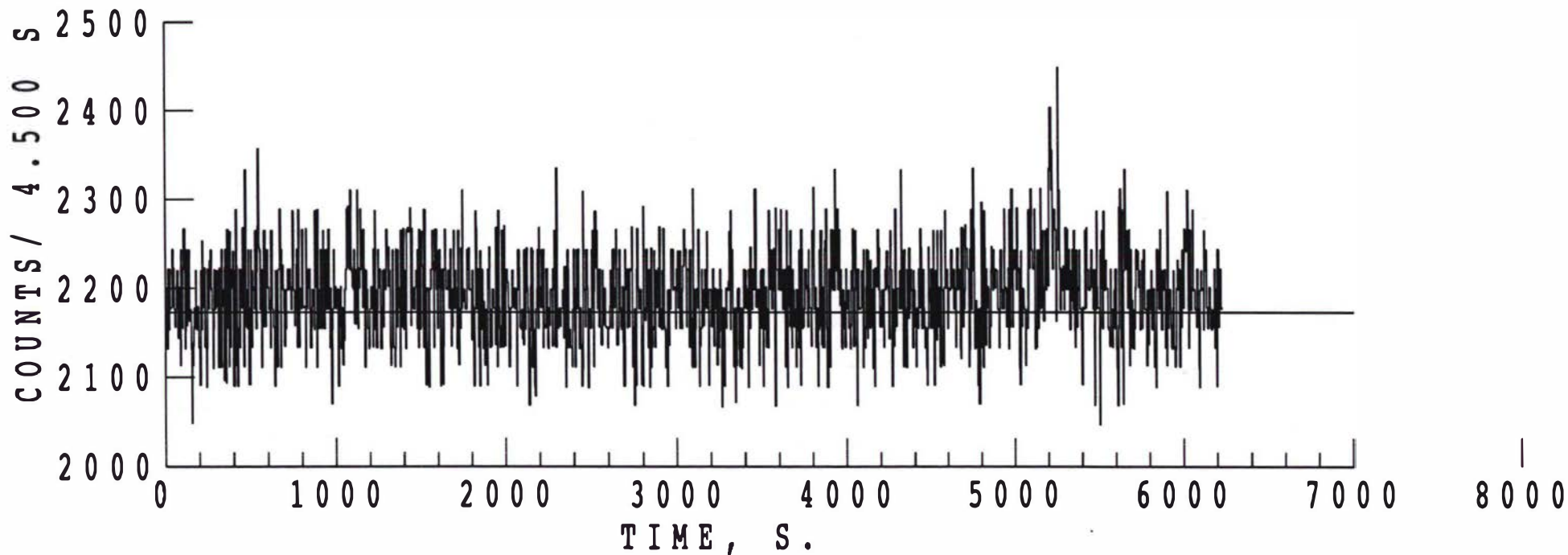
8 / 5 / 99 83376.406 s

0.500 S INTERVALS REGROUPED BY 9

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Wed May 12 16:13:08 1999
Date: Wed, 12 May 1999 18:13:45 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmattes@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7555

TIME: TJD=1307 SECONDS=15053

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= AZIMUTH= ERROR= DEGREES

COMMENTS:

LOST TRIGGER DURING GAP CAUSED BY GRO ANTENNA PROBLEM. NO BURST-TYPE FILES
EXIST, BUT SOME INFORMATION AVAILABLE FROM HOUSEKEEPING DATA AND ONE-KILOBIT
(OBC) DATA ALLOWING LOCATION. BELIEVED TO BE SOLAR FLARE BUT NO GOES OR
OPTICAL IDENT.

From HENZE@fender.msfc.nasa.gov Tue May 11 14:43:26 1999
Date: Tue, 11 May 1999 16:44:08 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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,
hspark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7556

TIME: TJD=1307 SECONDS=58227

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.2 AZIMUTH=341.7 ERROR= 0.3 DEGREES

COMMENTS:

GOES C5.1, OPTICAL SF SOLAR FLARE. MULTYPEAKED, TOTAL DUR. APPROX. 270 S,
STARTS AT APPROX. T-135 S. MARGINALLY VISIBLE ABOVE 100 KEV.

From HENZE@fender.msfc.nasa.gov Tue May 11 14:52:41 1999
Date: Tue, 11 May 1999 16:53:10 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lhea-www.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, 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.: 7557

TIME: TJD=1307 SECONDS=64582

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.7 AZIMUTH=334.9 ERROR= 0.1 DEGREES

COMMENTS:

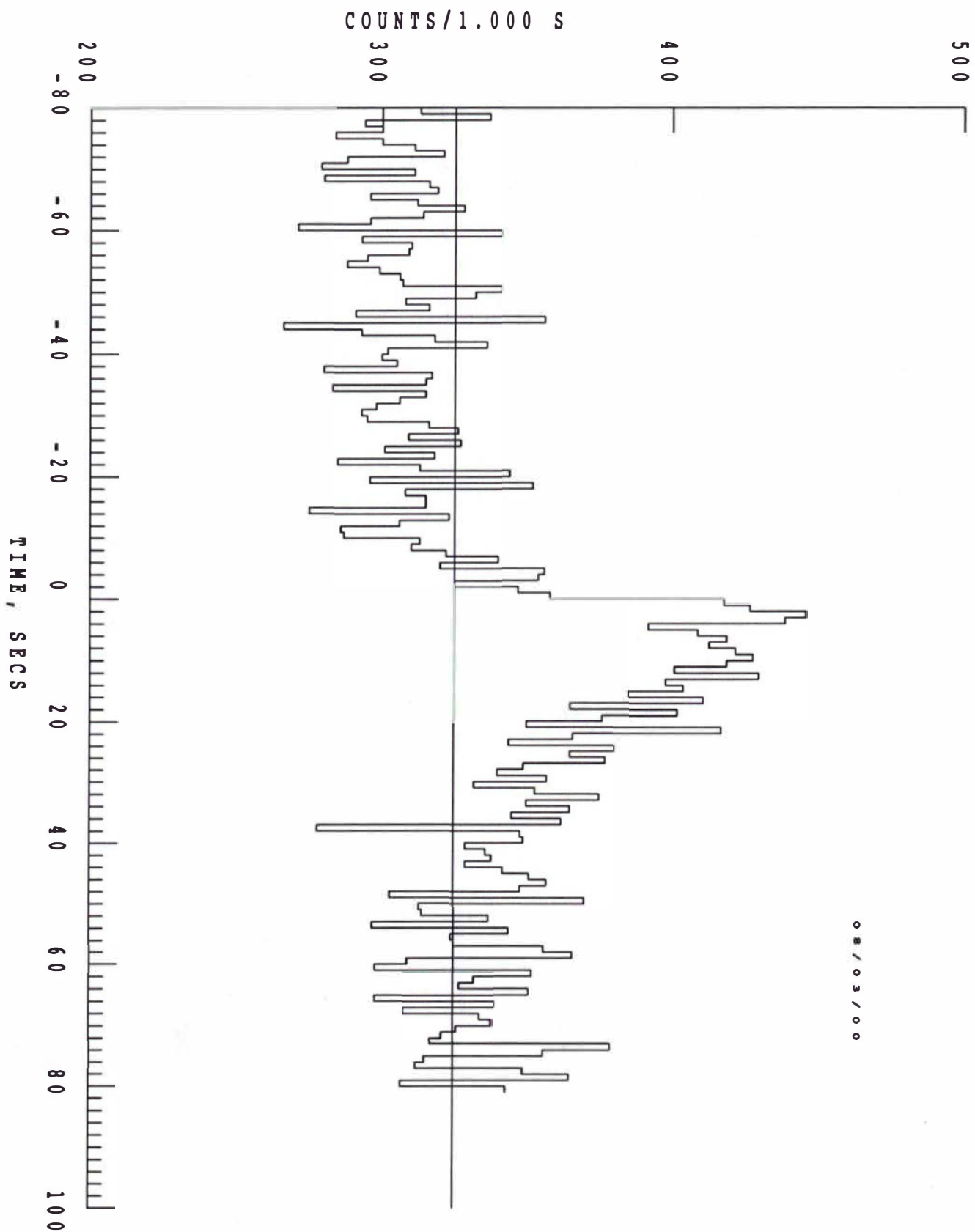
GOES M7.6, OPTICAL SF SOLAR FLARE. SINGLE MAIN PULSE WITH STRUCTURE, DUR. APPROX
300 S, STARTS AT APPROX. T-38 S, MAX AT APPROX. T+90 S. MARGINALLY VISIBLE
ABOVE 300 KEV. FOLLOWED BY EXTENDED EMISSION TO MORE THAN T+661 S.
HV OFF (SAA) AT T+661 S.

NEAR

09/05/99

64875.003

100-1000 keV



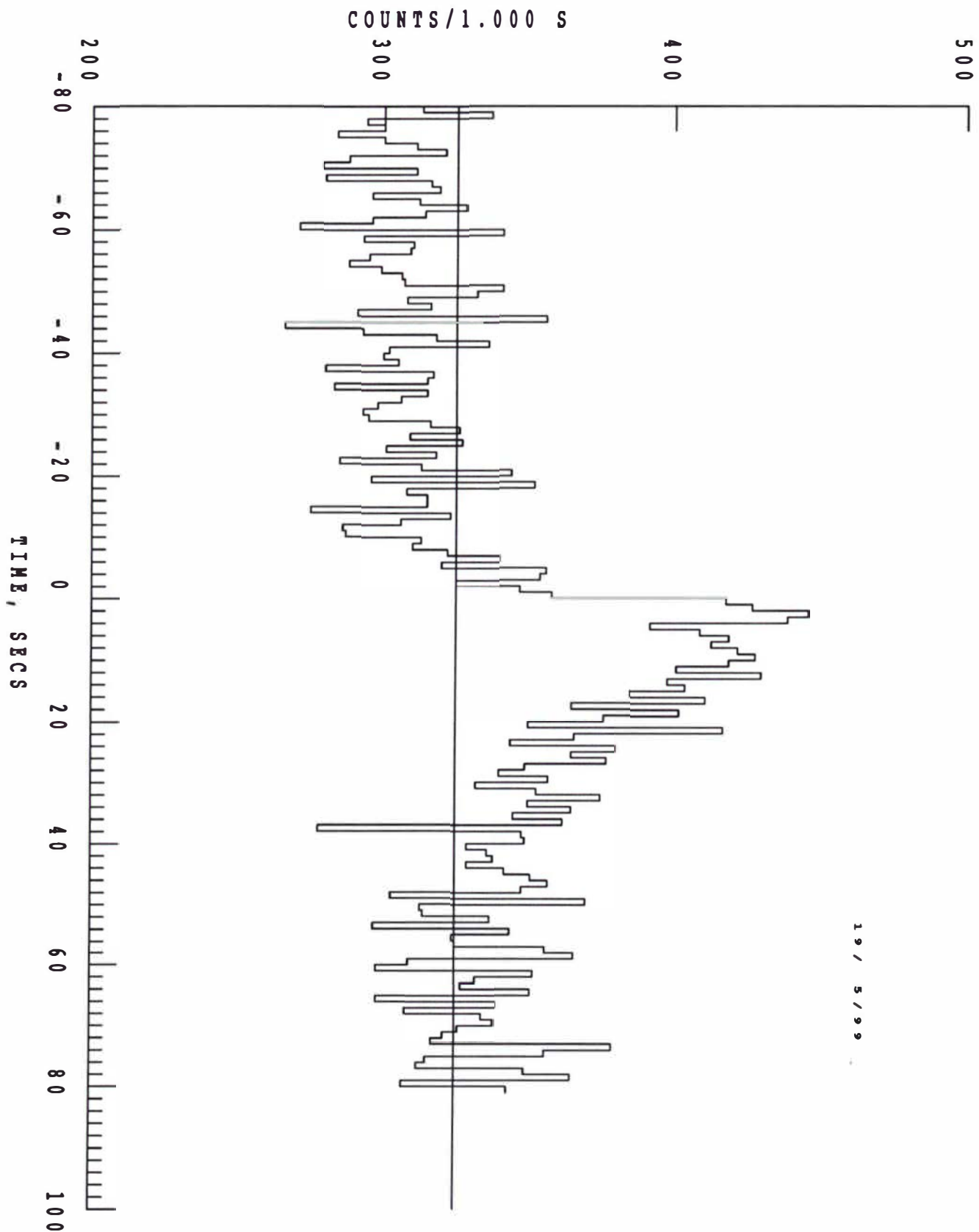
NEAR

09/05/99

64875.009

100-1000 keV

Solar



19 / 5 / 99

KNEAR GRS 19990509 64875

ULYSSES RT

19 / 5 / 99

9 / 5 / 99 63764.586 s

0.500 S INTERVALS REGROUPED BY 6

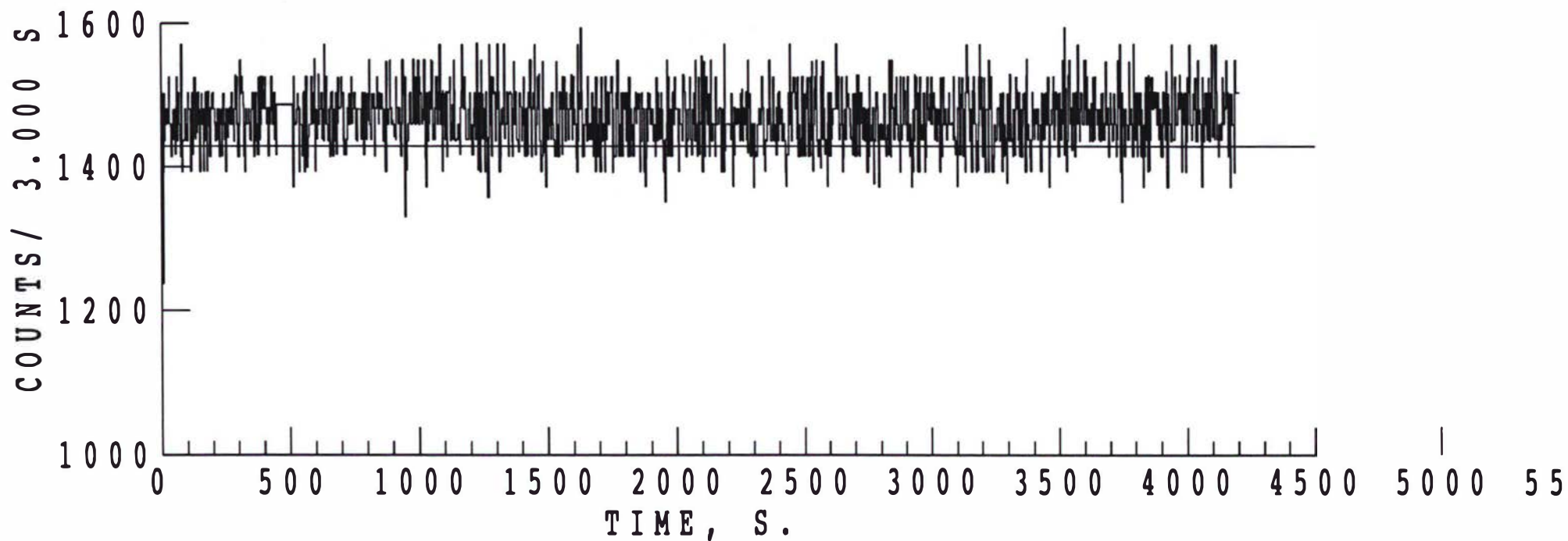
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



KONUS

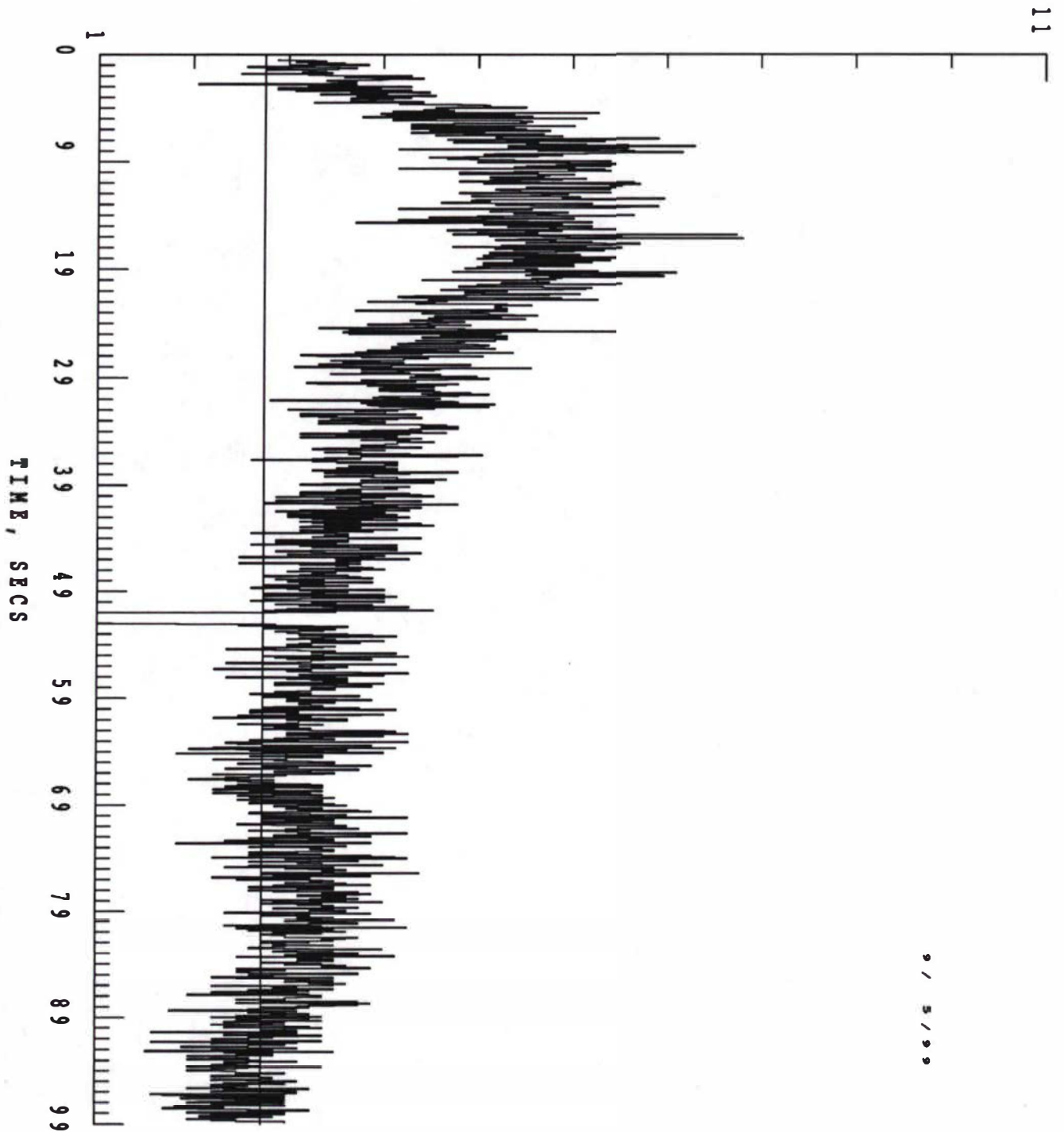
09/05/99

64651.918

50 - 200 keV

Solar

COUNTS/0.064 S



KONUS2 19990509 64651

ULYSSES RT

16 / 9 / 99

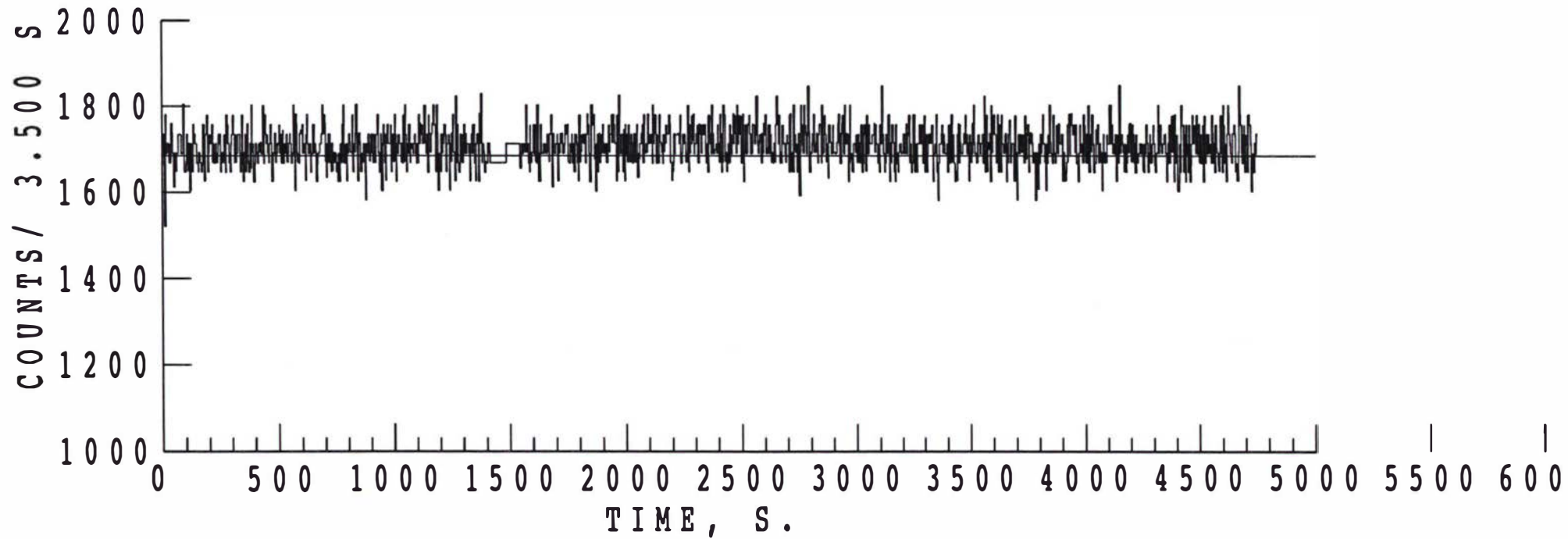
9 / 5 / 99 62280.062 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: July 15 '03

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 ? *N/A*
- ☐ Error circle position and radius from public catalog used? *N/A*
- ☐ If MER data were used, is a 30 ms systematic error included? *N/A*

3. NEAR Data

- ☐ Final, correct time used? (Files postmarked vw@boccc1, 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?

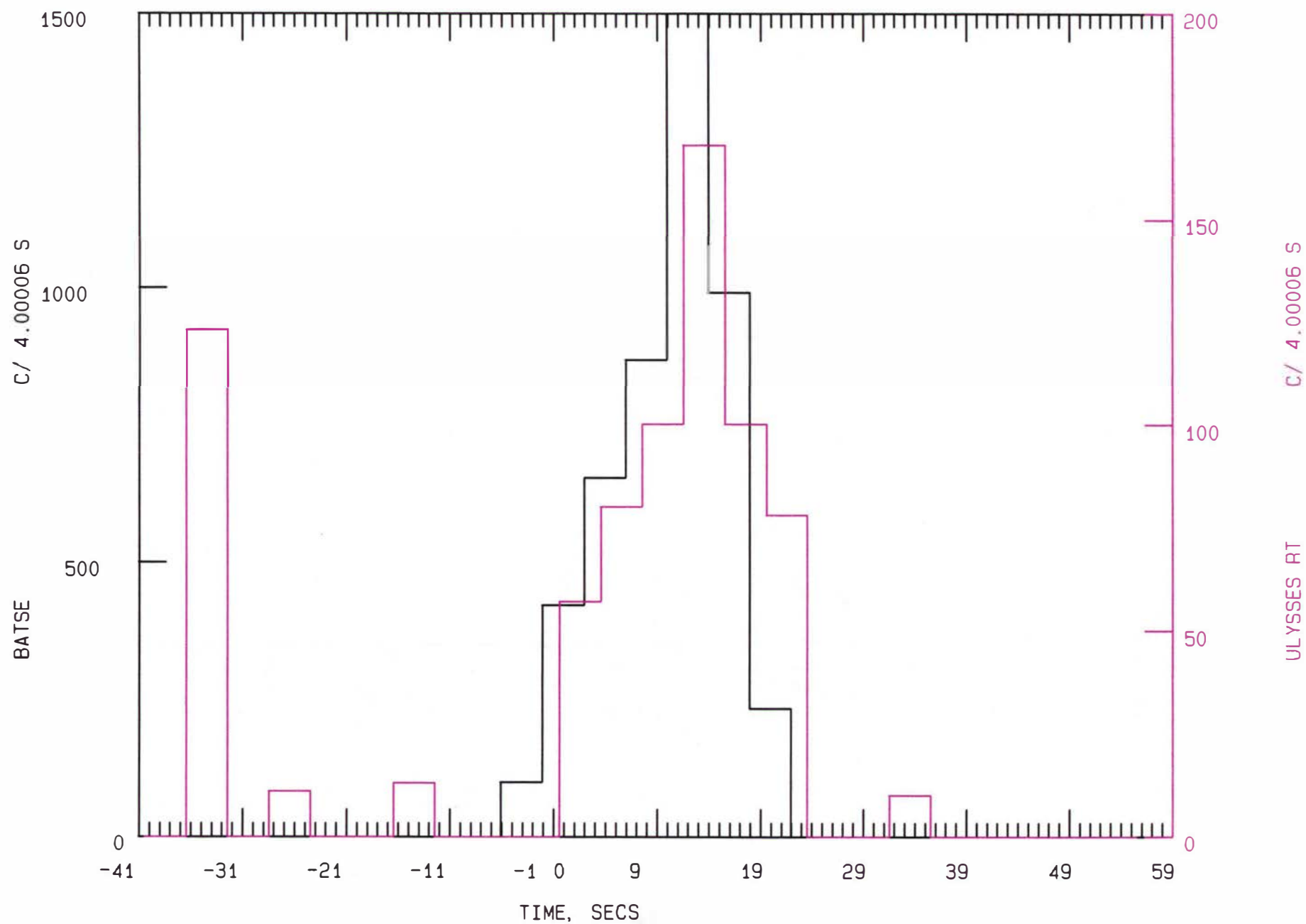
BATSE

-ULYSSES RT CORRELATION

09/05/99

74344.697

15/ 7/ 3

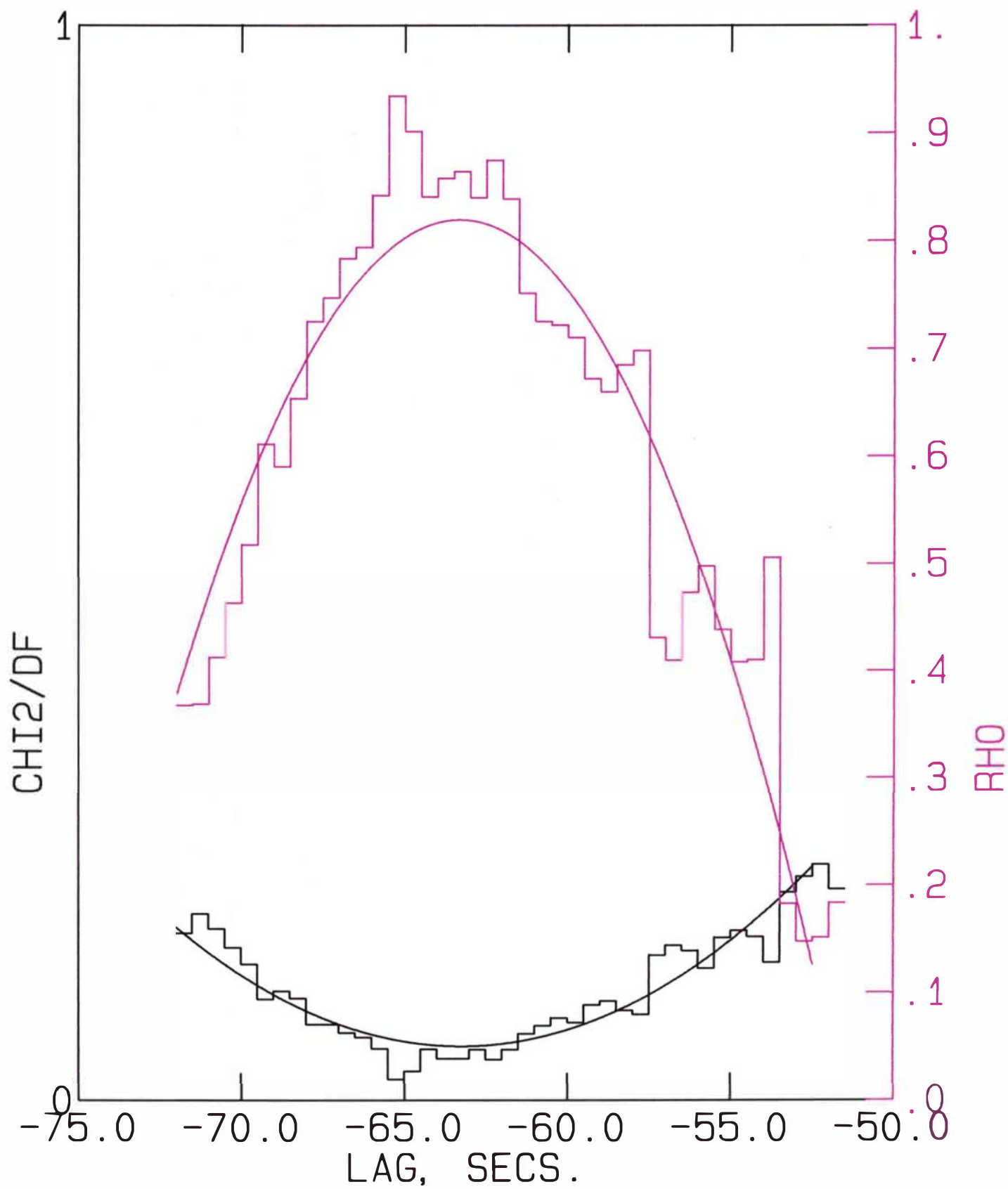


BATSE

-ULYSSES RT CORRELATION

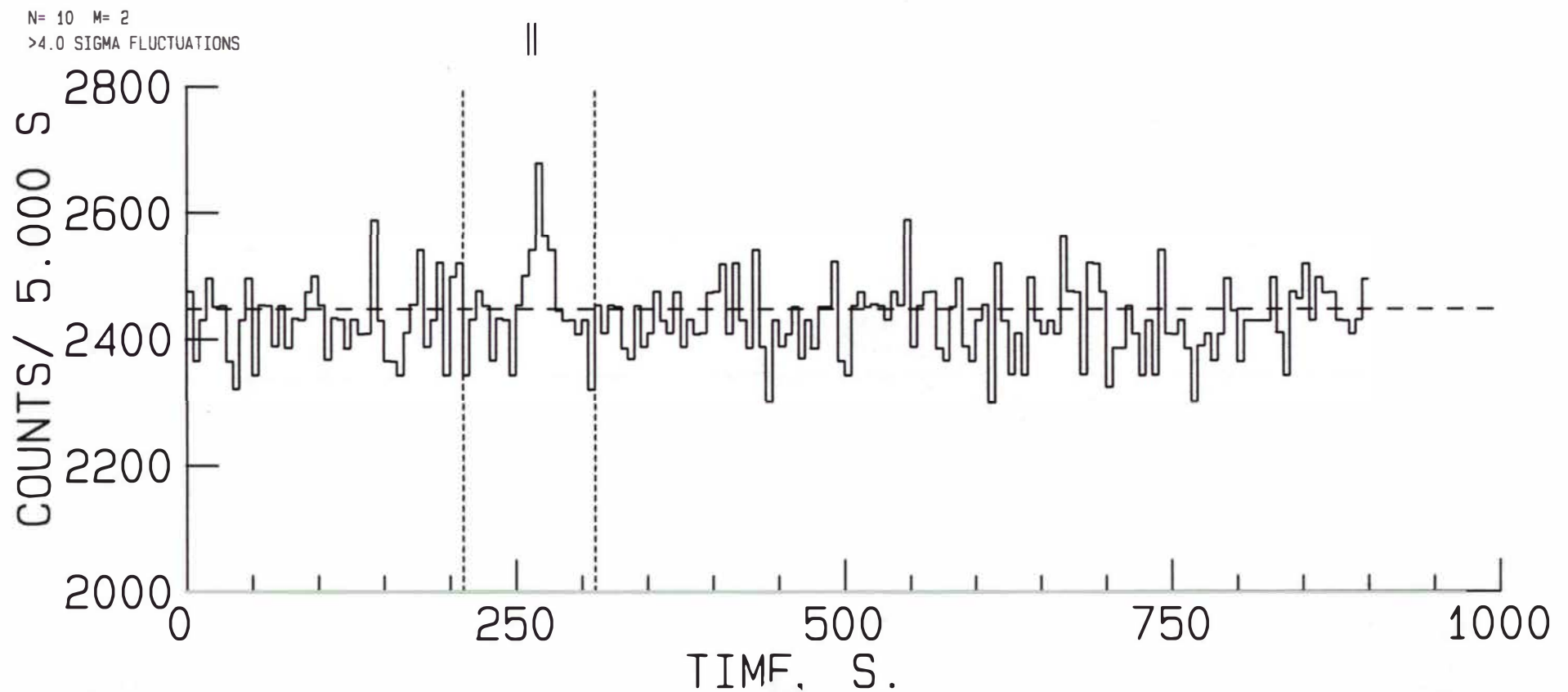
09/05/99

74344.697

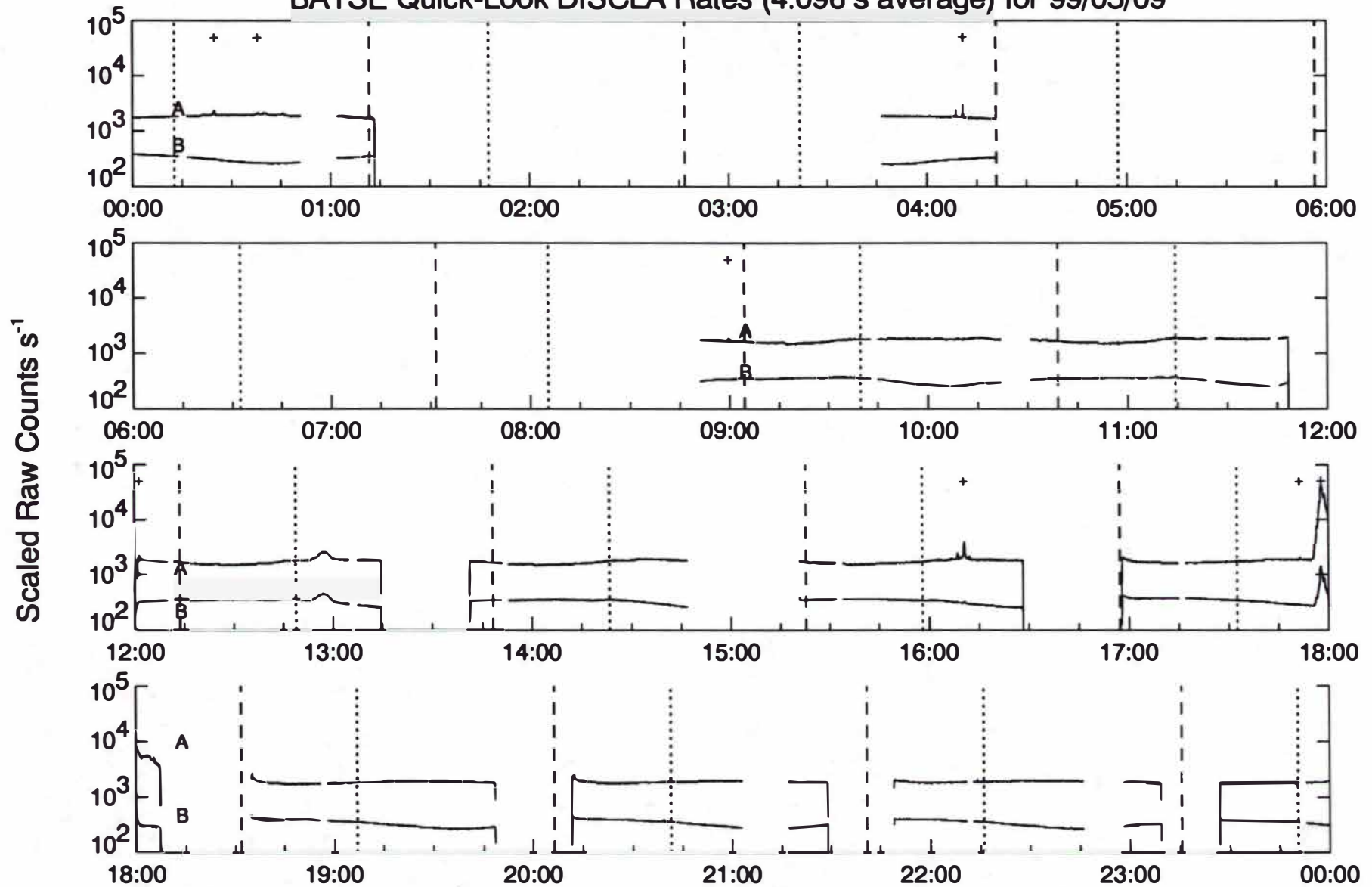


ULYSSES RT
9/ 5/99 73764.188 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

15/ 7/ 3



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/09

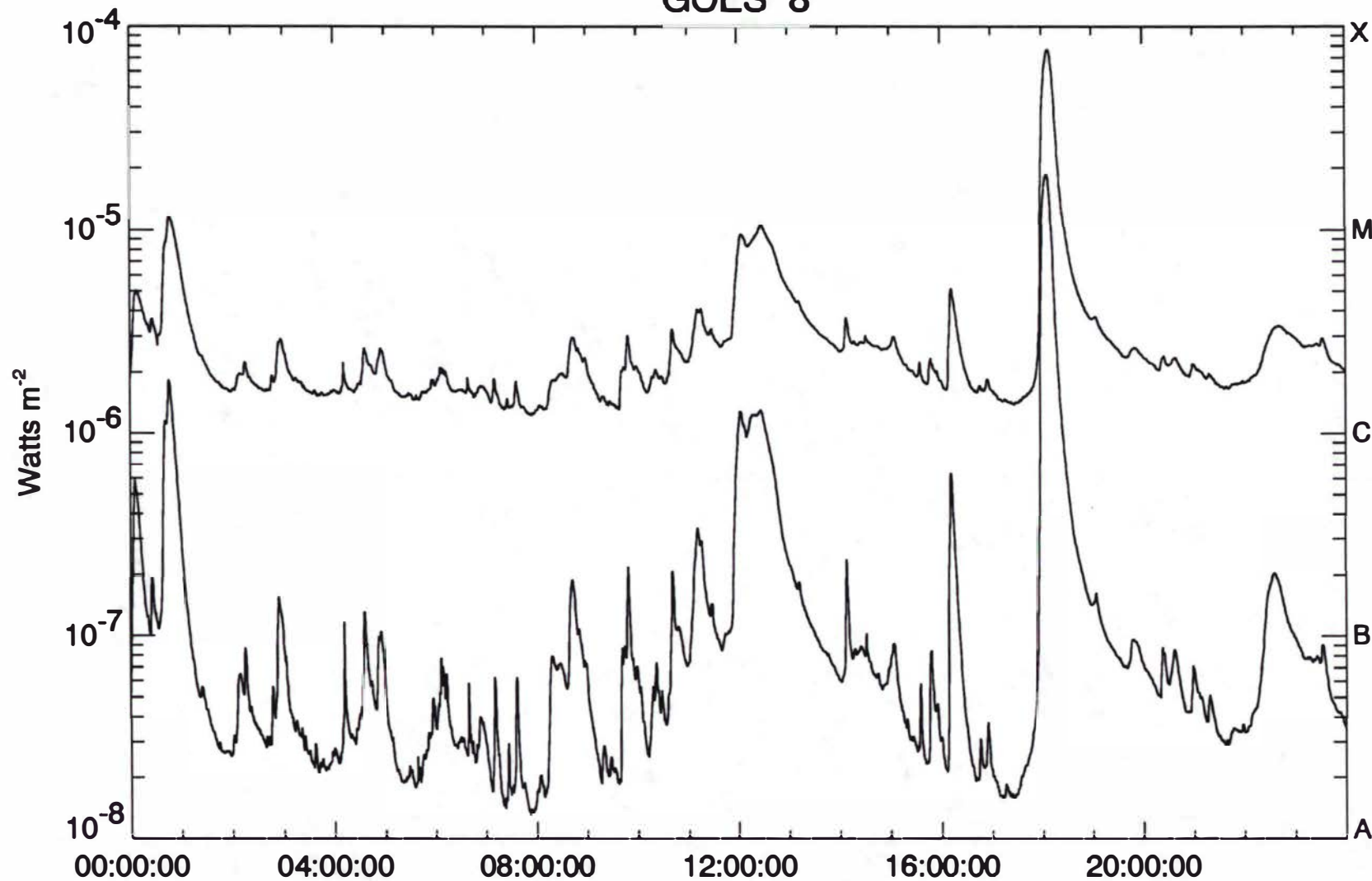


Current Time: 99/05/13, 1007 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/05/09, 0000:00

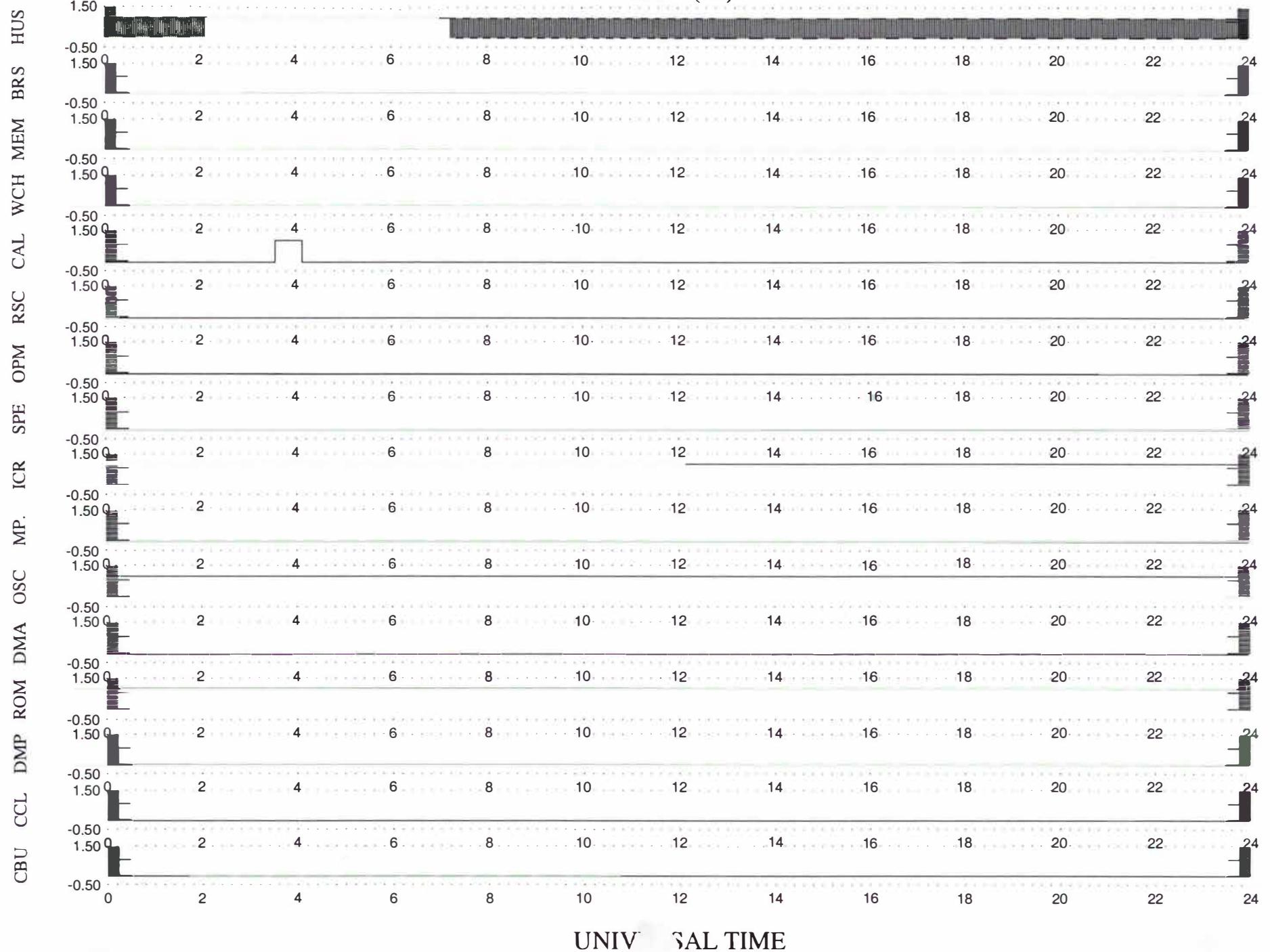
Plot created: 99/05/13, 1006

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

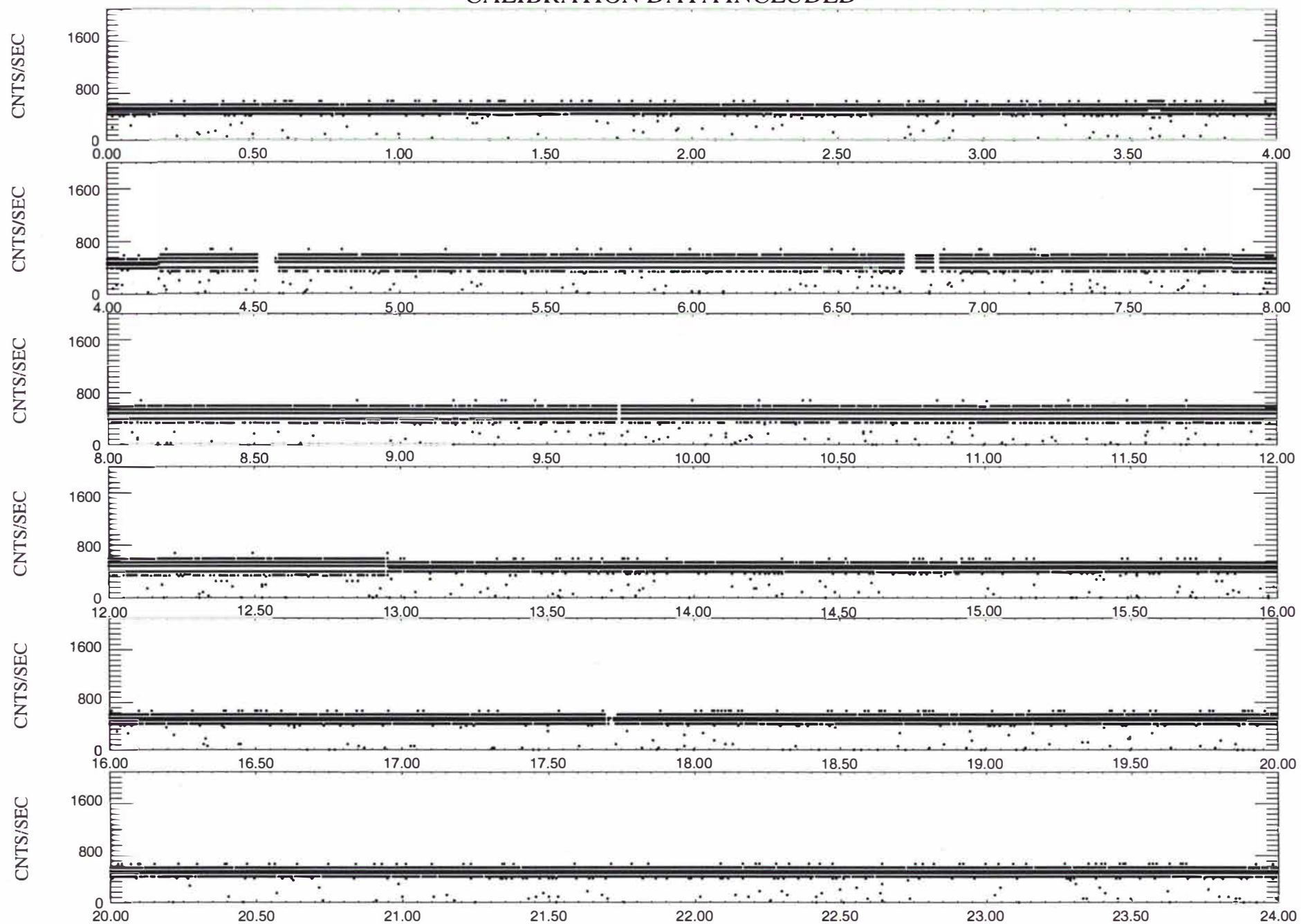
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

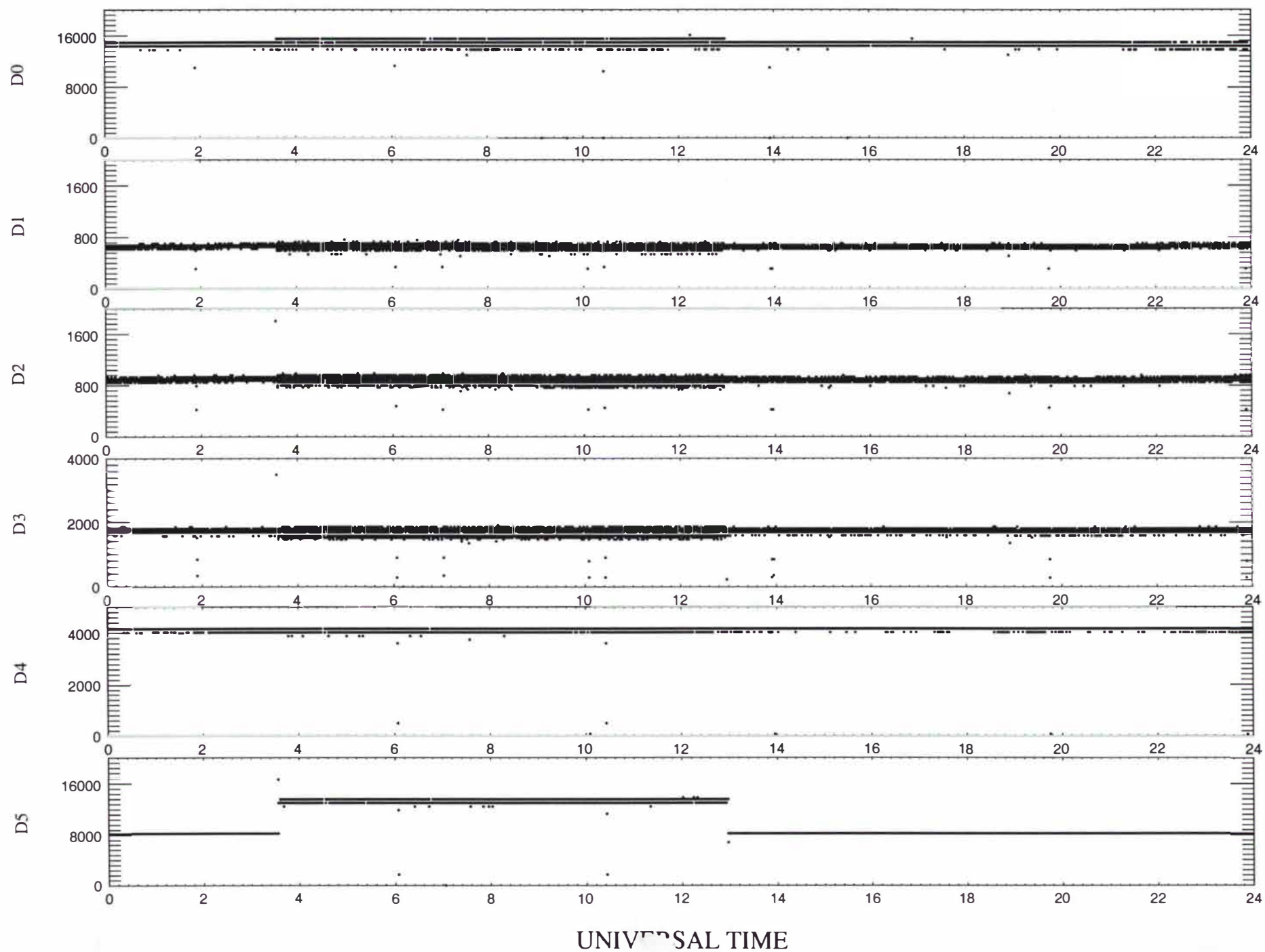
NO BURST (15)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From HENZE@fender.msfc.nasa.gov Wed May 12 09:45:48 1999
Date: Wed, 12 May 1999 11:46:26 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7558

TIME: TJD=1308 SECONDS=19579

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 5.4 AZIMUTH=322.9 ERROR= 0.1 DEGREES

COMMENTS:

GOES M2.5, OPTICAL 2N SOLAR FLARE. MAIN EVENT COMPLEX, DUR. APPROX. 300 S.,
STARTS AT APPROX. T-80 S, MAX AT APPROX. T+29 S. NOT VISIBLE ABOVE 300 KEV.
SUCCESSOR EVENT FROM APPROX. T+420 S TO T+450 S.

From RICHARDSON@fender.msfc.nasa.gov Wed May 12 11:45:30 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 LAA09649; Wed, 12 May 1999 11:45:30 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA24679
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 11:42:44 -0700 (PDT)
Date: Wed, 12 May 1999 13:46:14 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990512134614.20216c3d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7559
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7559
EVENT OF 1999 MAY 10 DAY OF YEAR=130
EVENT CROSSING TIME AT BATSE : 23091. S. OR 06:24:51.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 11.000 -67.000
BATSE PEAK COUNTING RATE: 6800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 10/ 5/ 99 IS:
RA= 144.152 DEC= -6.992 DIST= 4.681 AU
BATSE-ULYSSES DISTANCE = 700225061. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 81.19 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 357.83 SECS.
CROSSING TIME AT ULYSSES IS 23449. S. OR 06:30:48 +/- 456.16 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 10/ 5/ 99 IS:
RA= 206.870 DEC= -10.341 DIST= 0.585 AU
MARS-BATSE DISTANCE = 87495672. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 78.20 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 59.68 SECS.
CROSSING TIME AT MARS IS 23151. S. OR 06:25:50 +/- 50.51 SECONDS

BATSE BURST TRIGGER

NO.: 7559

TIME: TJD=1308 SECONDS=23091

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

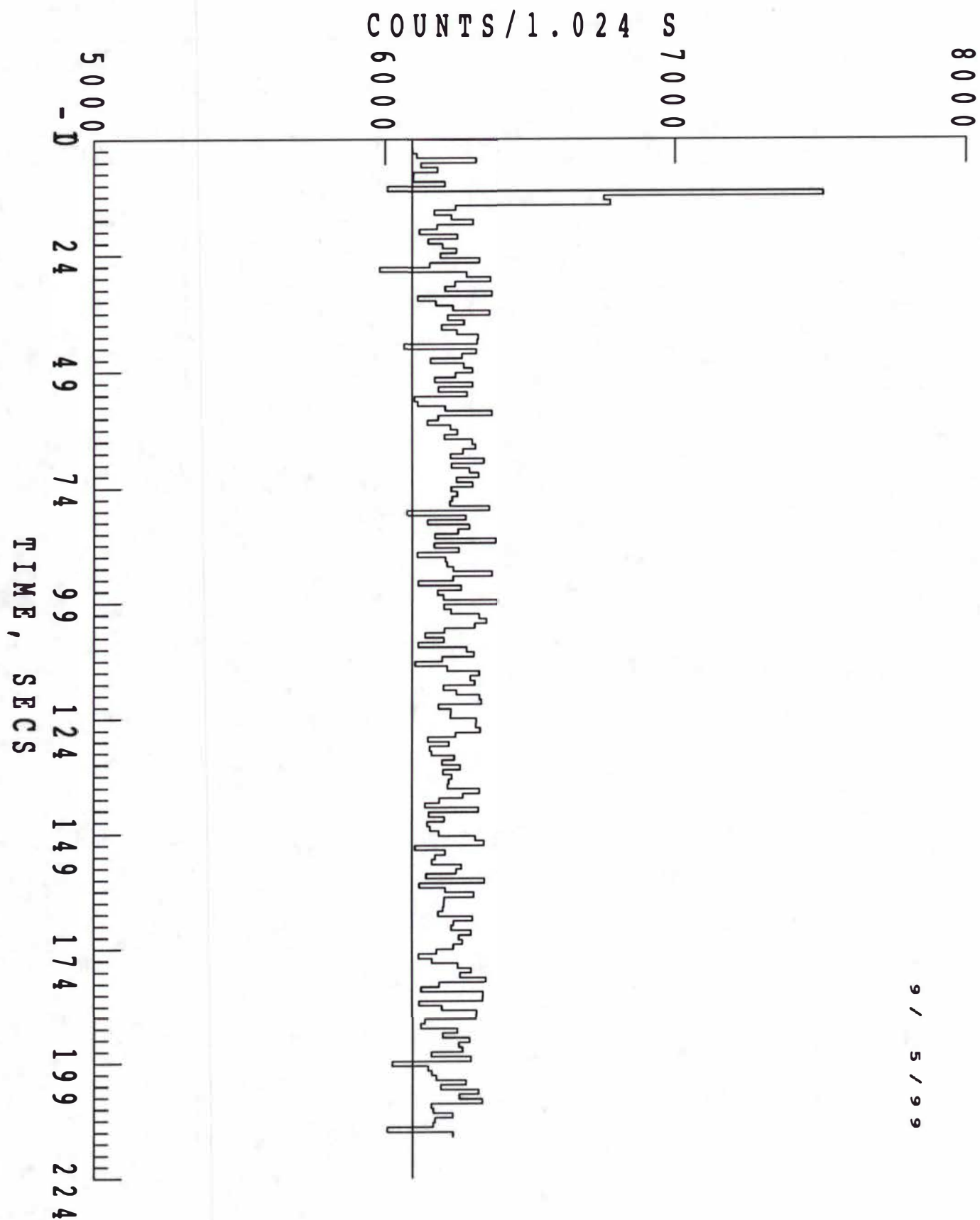
LOCATION: ZENITH=84.6 AZIMUTH=138.6 ERROR=9.3 DEGREES

COMMENTS:

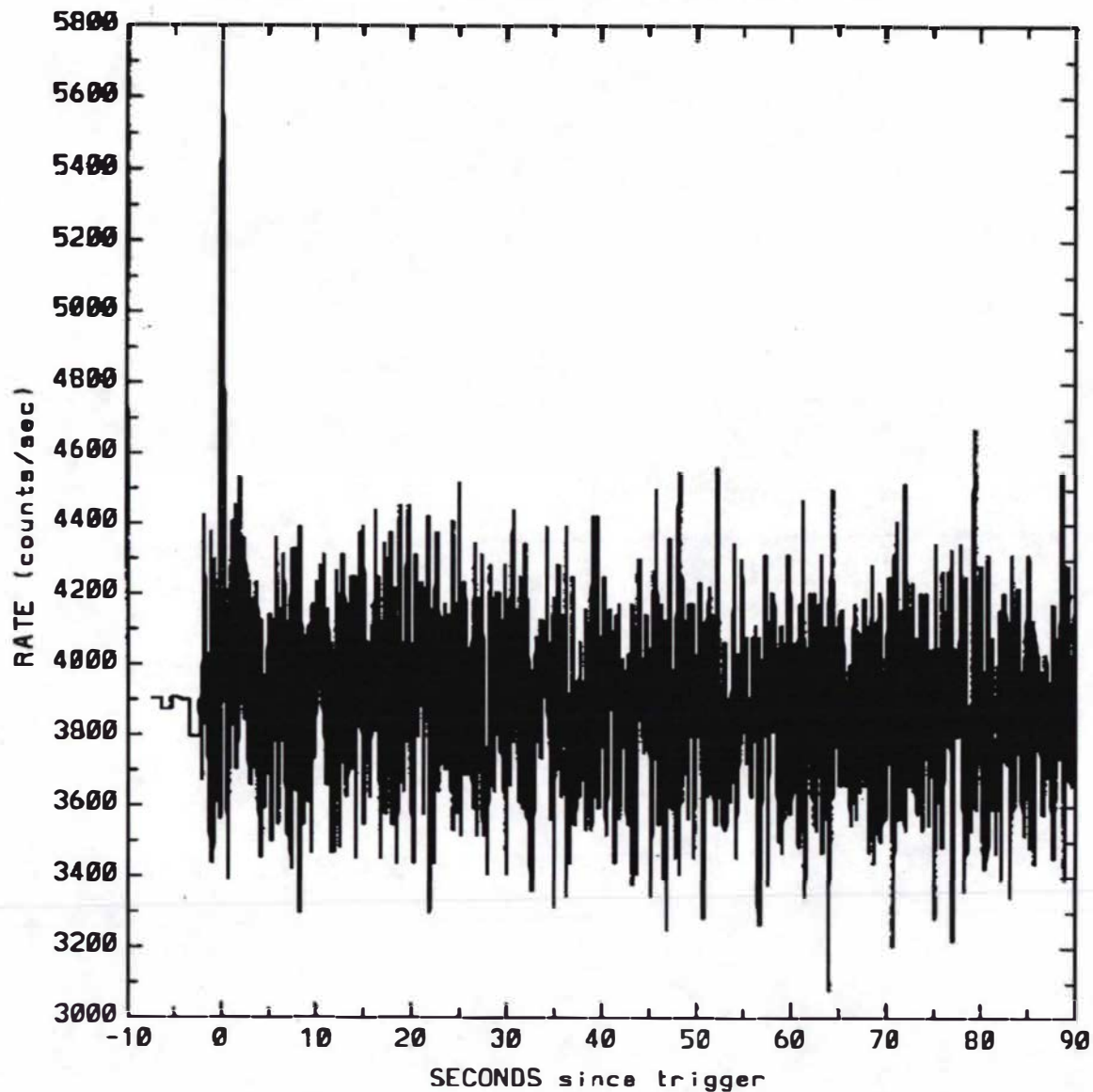
GRB. SHORT EVENT. MULTIPLE PEAKS. DURATION APPROX. = 4 SEC.
NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7559	990510	11308	23091	6800	011	-67	4

BACODINE 7559 10/05/99 23080.697
25- 100 keV



DISCSC Data for K. Hurley, No. 7559



24-FEB-2000 12:29:27

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # : 7559

Trigger Time:
11300 / 23091.129

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..0):
--54--

Discriminators:
(3 . 4)

Quality Mask:
801SP1

BATSE BURST# 7559

ULYSSES RT

12 / 5 / 99

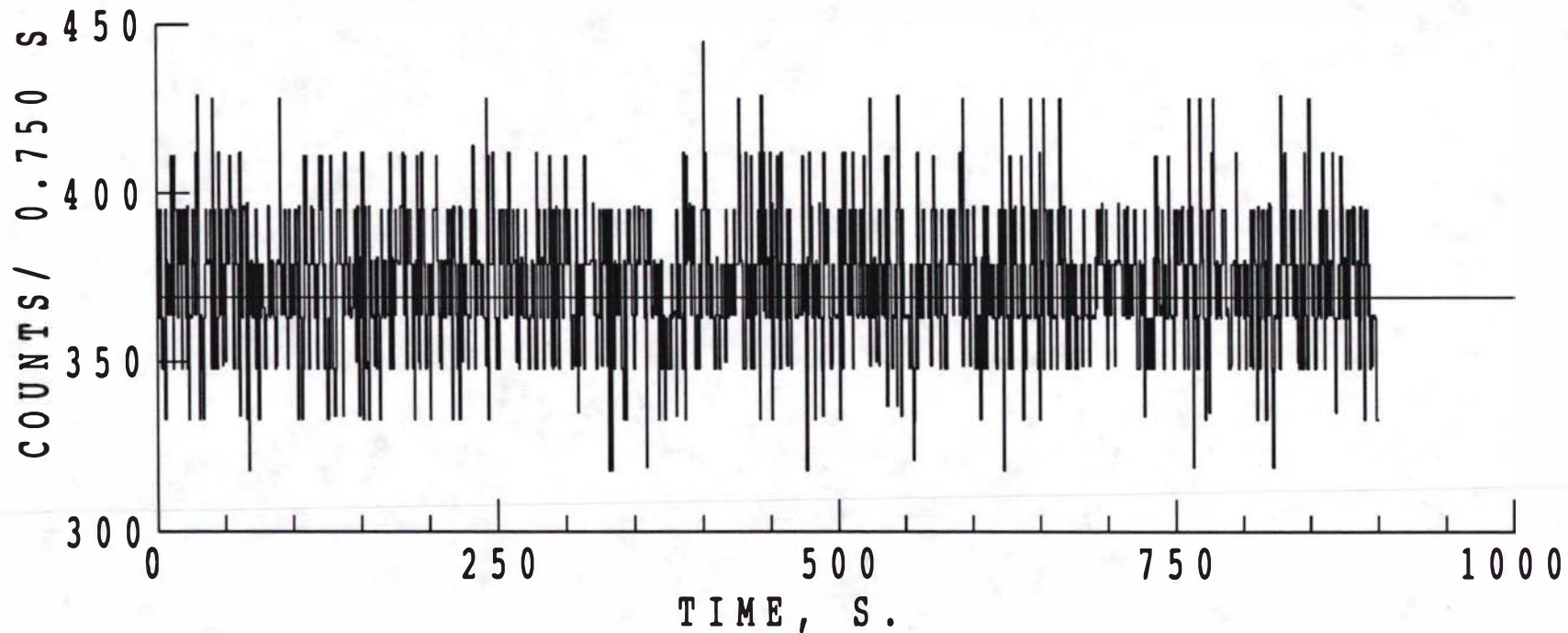
10 / 5 / 99 23004.045 s

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 Wed May 12 11:46:48 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 LAA09666; Wed, 12 May 1999 11:46:48 -0700
 From: RICHARDSON@fender.msfc.nasa.gov
 Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
 by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA24722
 for <khurley@sunspot.ssl.berkeley.edu>; Wed, 12 May 1999 11:44:02 -0700 (PDT)
 Date: Wed, 12 May 1999 13:47:46 -0500 (CDT)
 To: khurley@sunspot.ssl.berkeley.edu
 Message-Id: <990512134746.20216c3d@fender.msfc.nasa.gov>
 Subject: Crossing Windows for BATSE Burst 7560
 Content-Length: 1135
 X-Lines: 26
 Status: RO

 BATSEARCH PROGRAM

BATSE BURST # 7560
 EVENT OF 1999 MAY 10 DAY OF YEAR=130
 EVENT CROSSING TIME AT BATSE : 31746. S. OR 08:49:06.0
 COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
 BURST ARRIVAL DIRECTION: 208.000 -80.000
 BATSE PEAK COUNTING RATE: 42000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
 INTERPOLATED POSITION OF ULYSSES ON 10/ 5/ 99 IS:
 RA= 144.149 DEC= -6.990 DIST= 4.682 AU
 BATSE-ULYSSES DISTANCE = 700424085. KM.
 ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=101.29 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -457.46 SECS.
 CROSSING TIME AT ULYSSES IS 31289. S. OR 08:41:28 +/- 440.83 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
 POSITION OF MARS ON 10/ 5/ 99 IS:
 RA= 206.870 DEC= -10.341 DIST= 0.585 AU
 MARS-BATSE DISTANCE = 87495672. KM.
 ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=110.34 DEG.
 LIGHT TRAVEL TIME ALONG PROJECTED PATH= -101.44 SECS.
 CROSSING TIME AT MARS IS 31645. S. OR 08:47:24 +/- 45.97 SECONDS

BATSE BURST TRIGGER

NO.: 7560

TIME: TJD=1308 SECONDS=31746

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=112.6 AZIMUTH=154.9 ERROR=0.6 DEGREES

COMMENTS:

GRB. STRONG WITH LOTS OF STRUCTURE. DURATION APPROX. = 130 SEC.
 VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7560	990510	11308	31746	42000	208	-80	130

Date: Mar 6 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

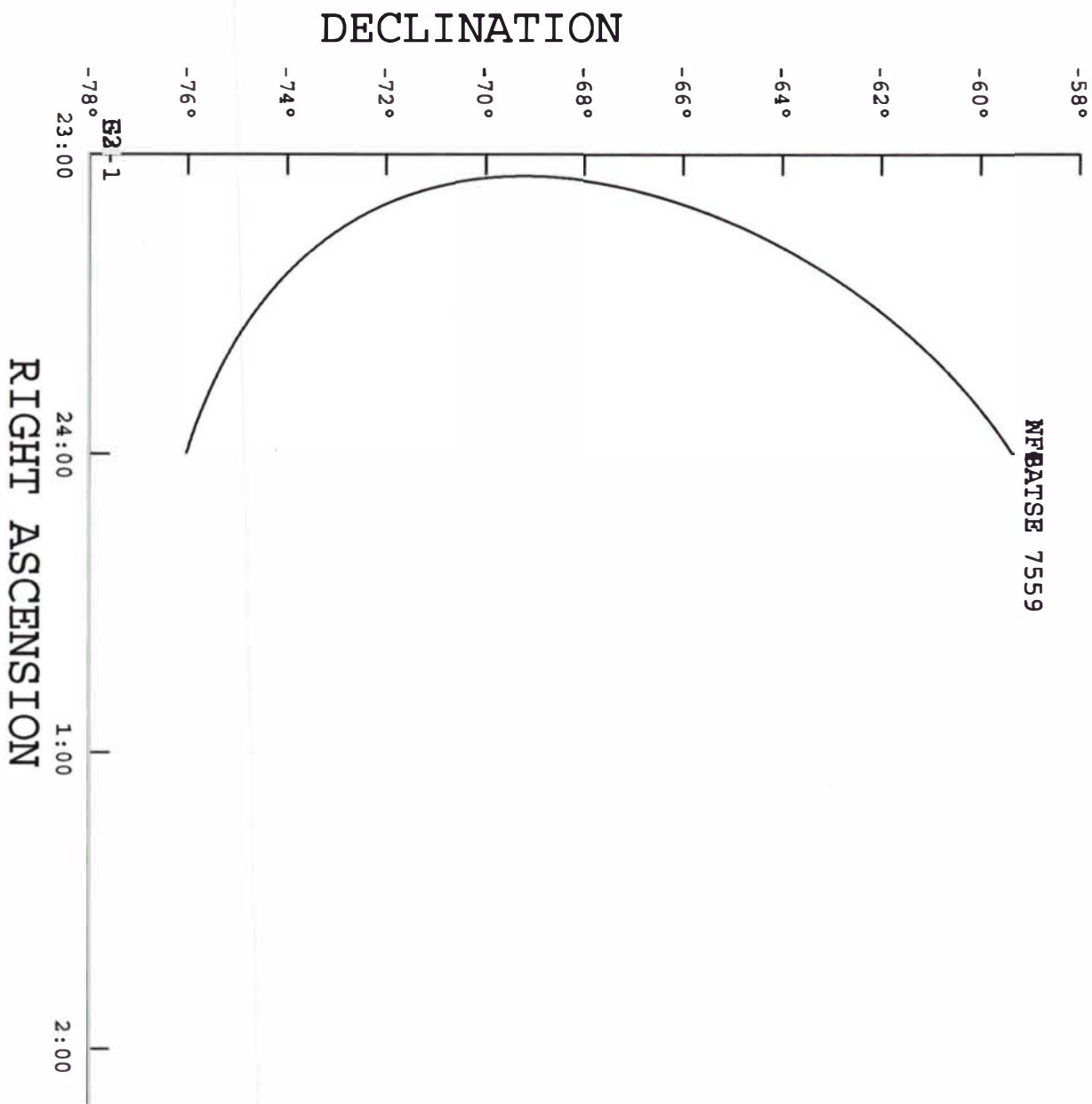
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAY 10, 1999 8:49

6 / 3 / 0



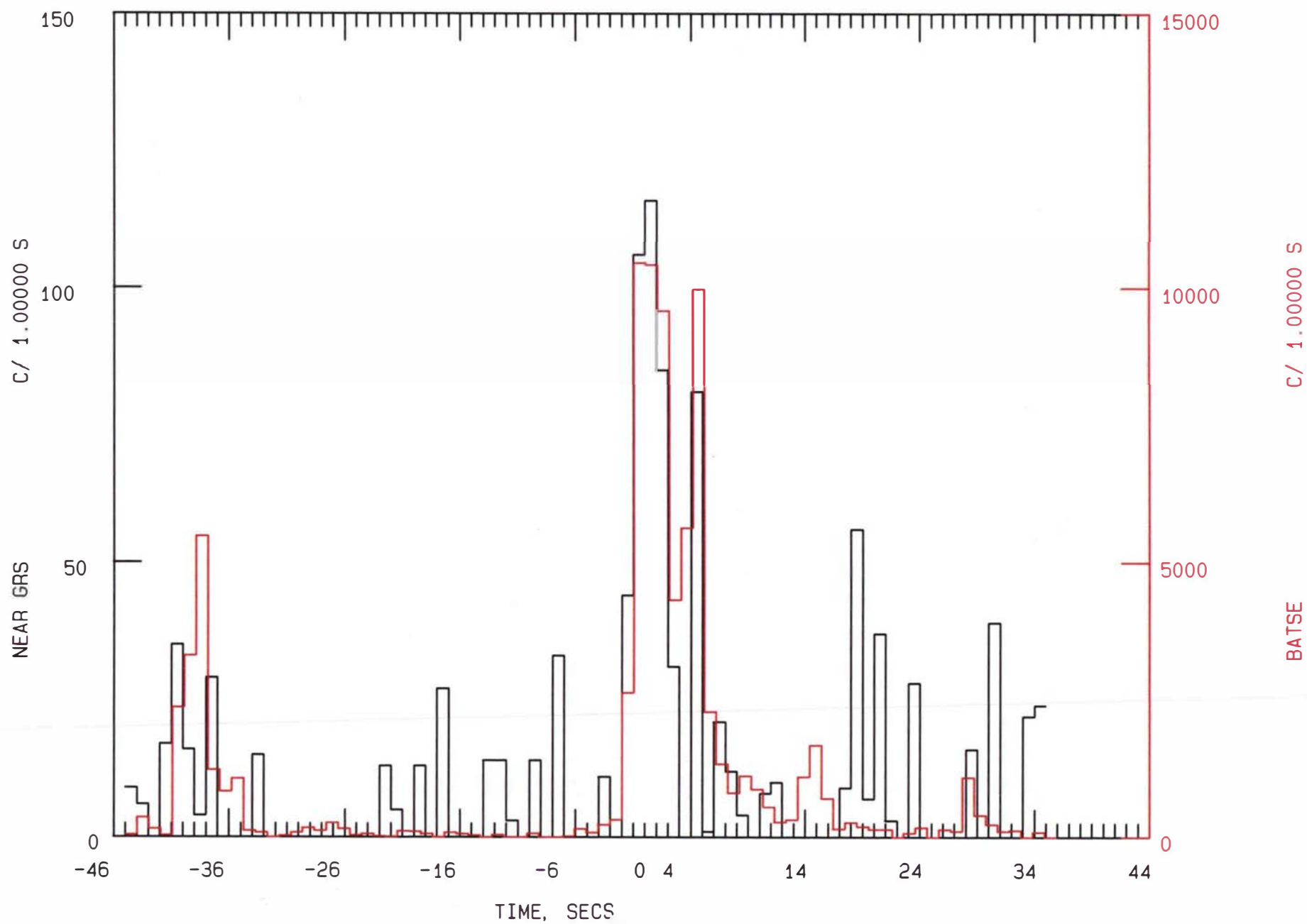
NEAR GRS -BATSE

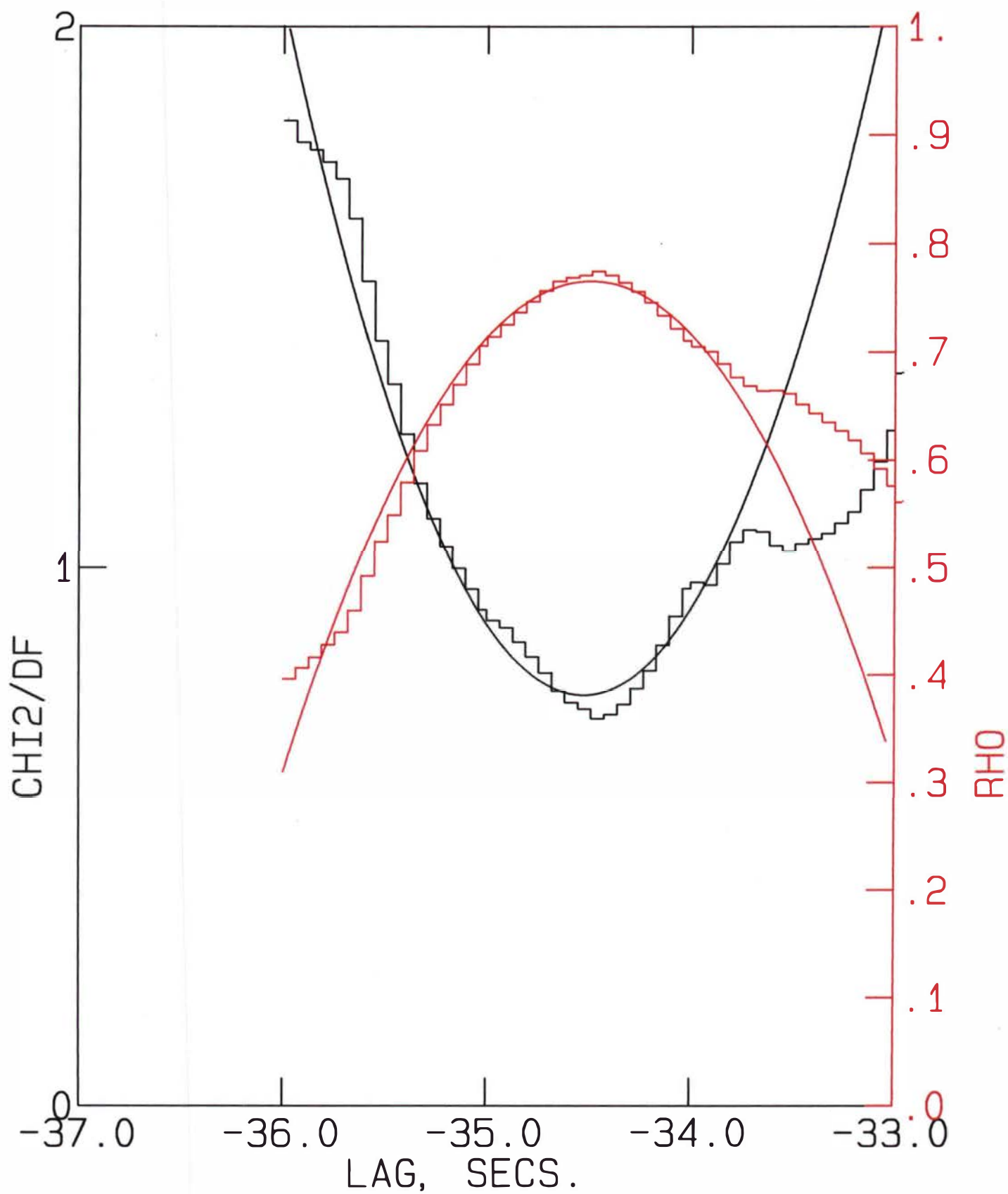
CORRELATION

10/05/99

32349.996

6/ 3/ 0





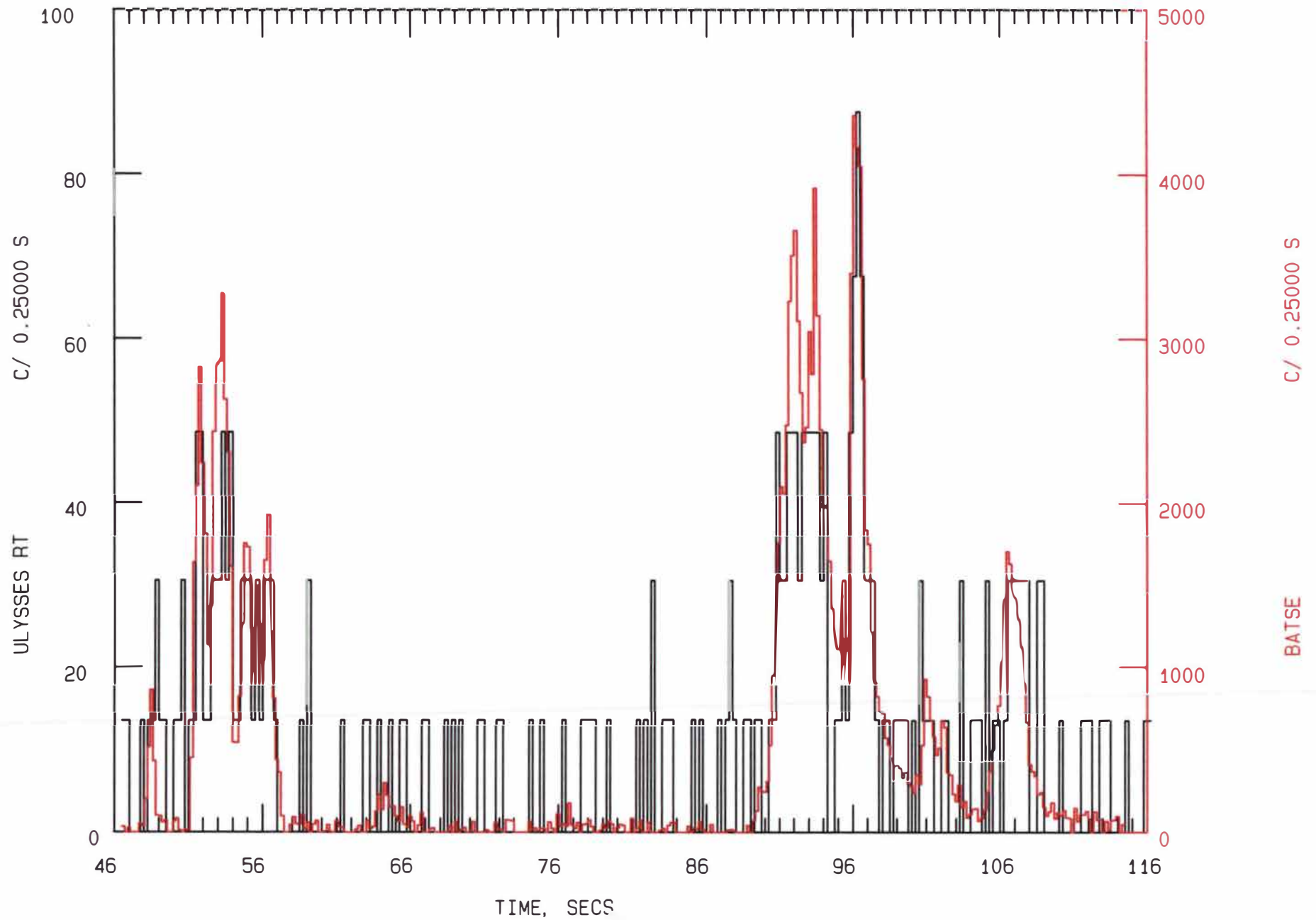
ULYSSES RT-BATSE

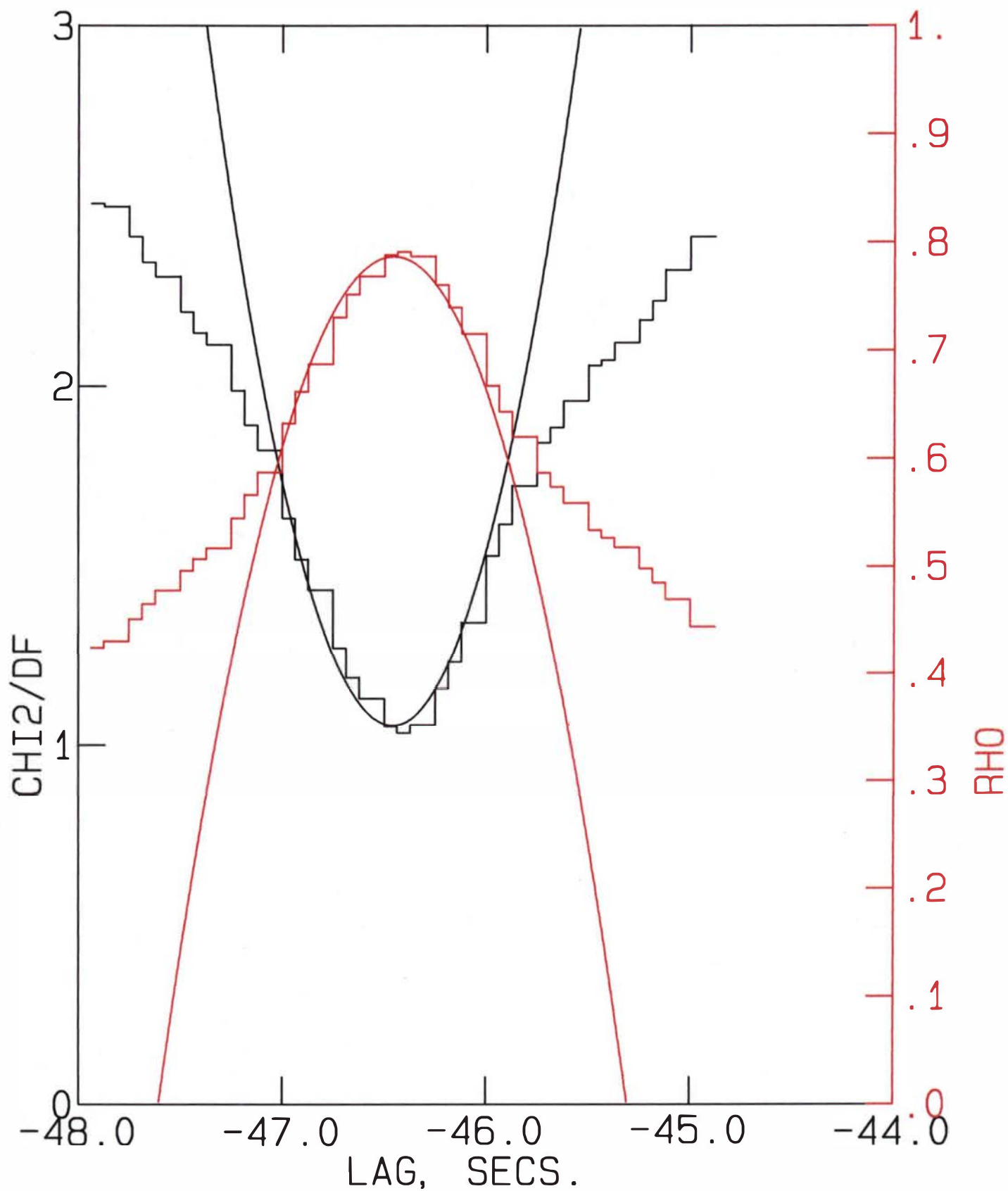
CORRELATION

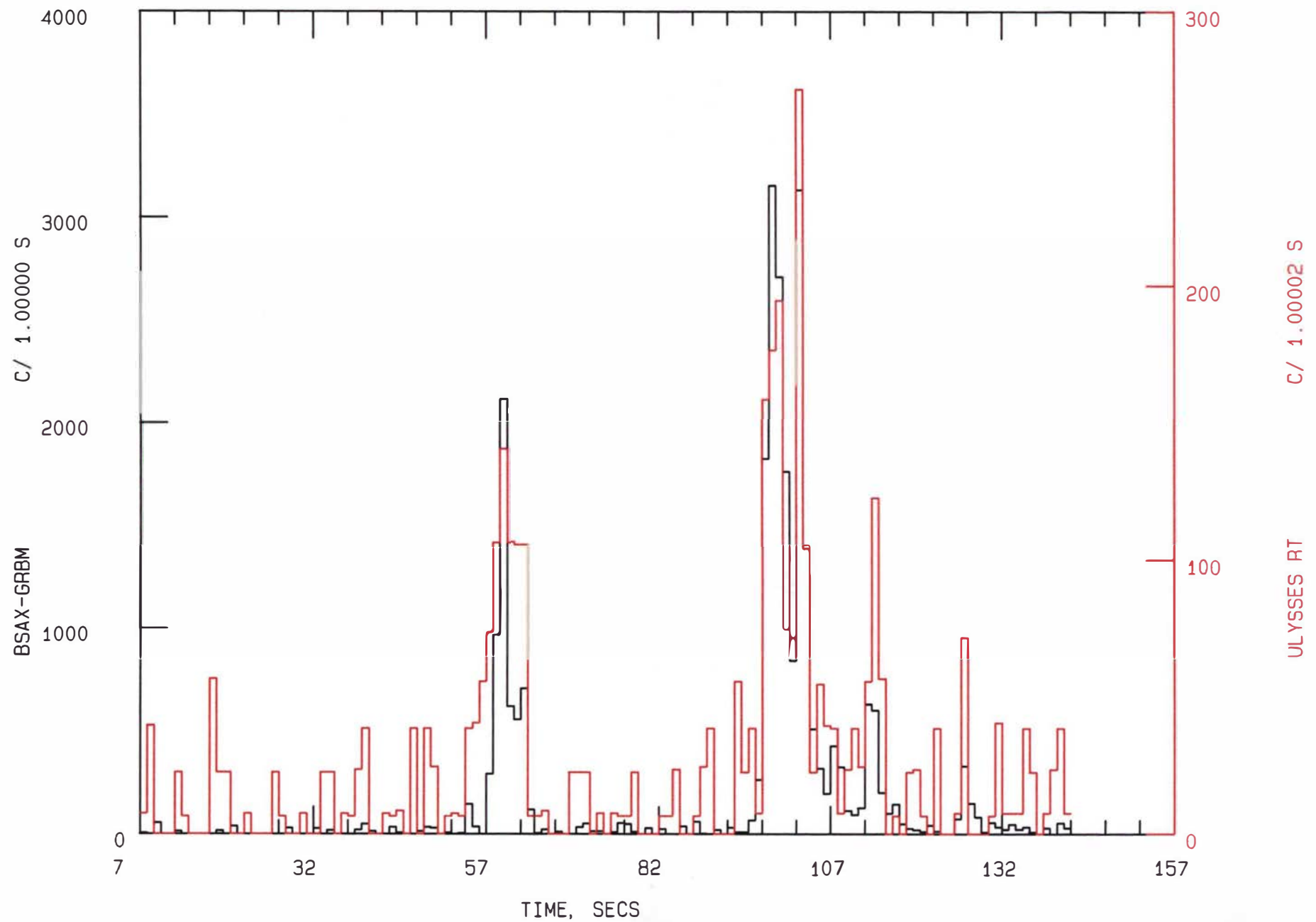
10/ 5/99

31216.132

6/ 3/ 0





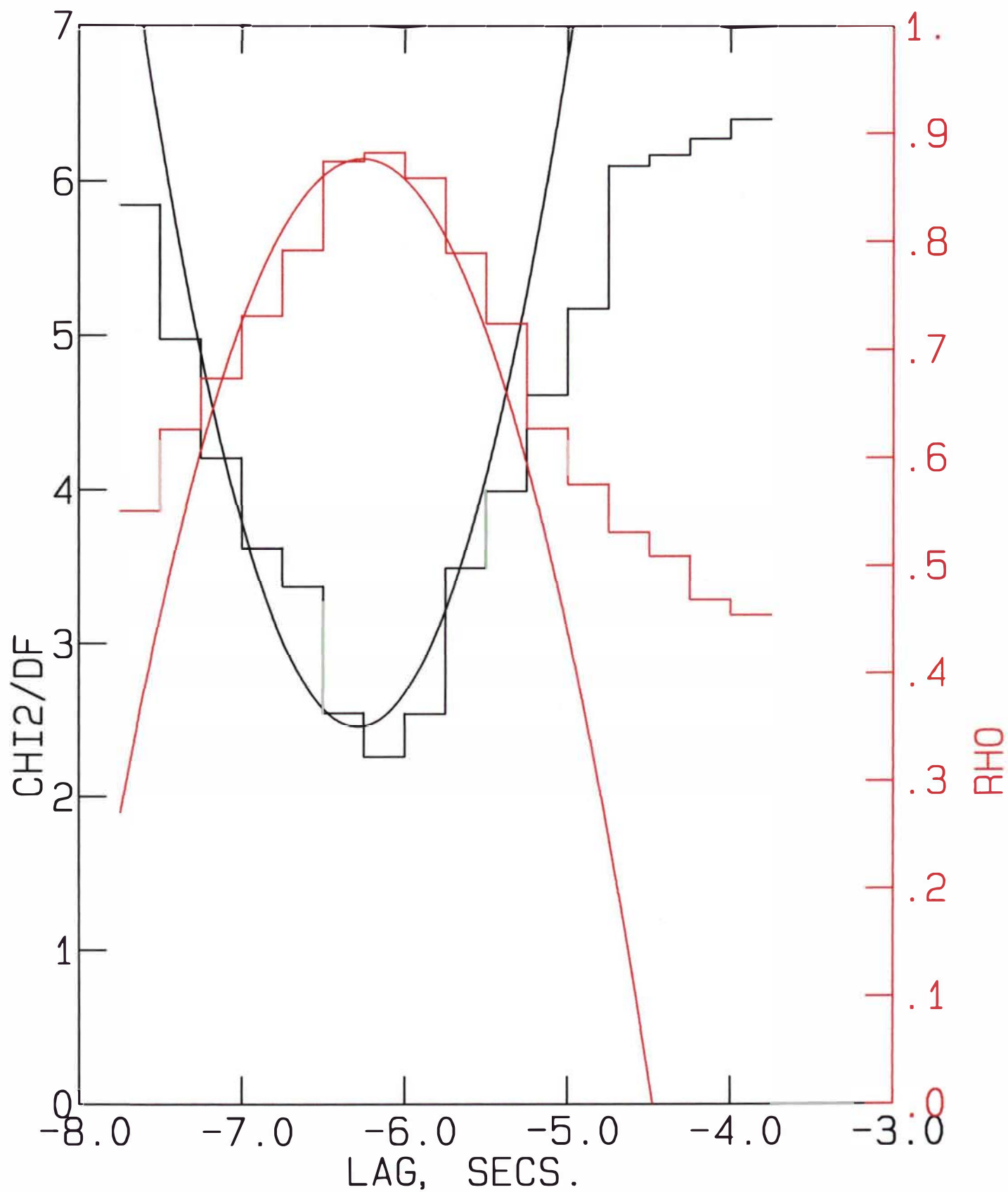


12/10/99

BSAX-GRBM -ULYSSES RT CORRELATION

10/05/99

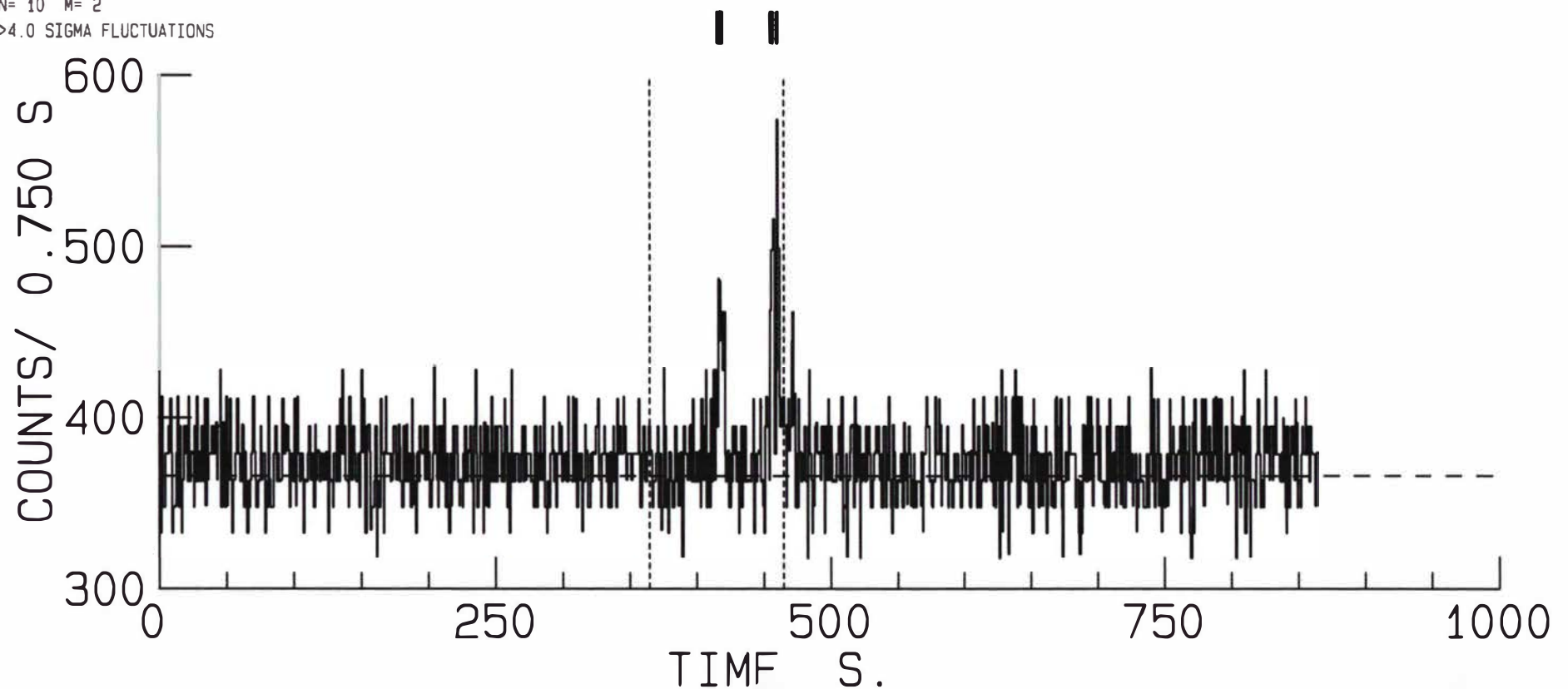
31691.329



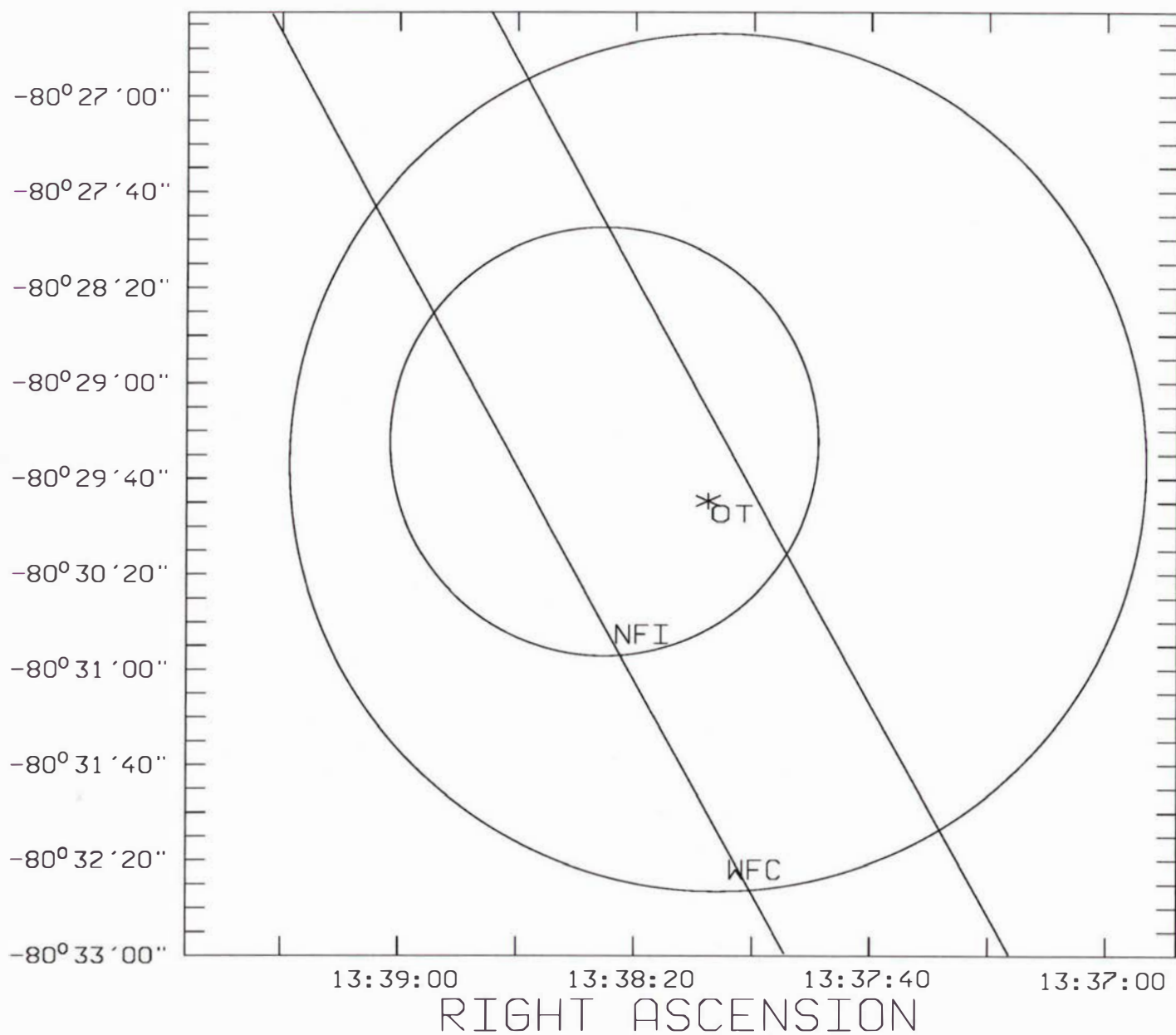
ULYSSES RT
10/ 5/99 30852.121 s
0.250 S INTERVALS REGROUPED BY 3
22- 151 keV

12/10/99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



DECLINATION



Final U. data

DECLINATION

-80° 27 '00"
-80° 27 '40"
-80° 28 '20"
-80° 29 '00"
-80° 29 '40"
-80° 30 '20"
-80° 31 '00"
-80° 31 '40"
-80° 32 '20"
-80° 33 '00"

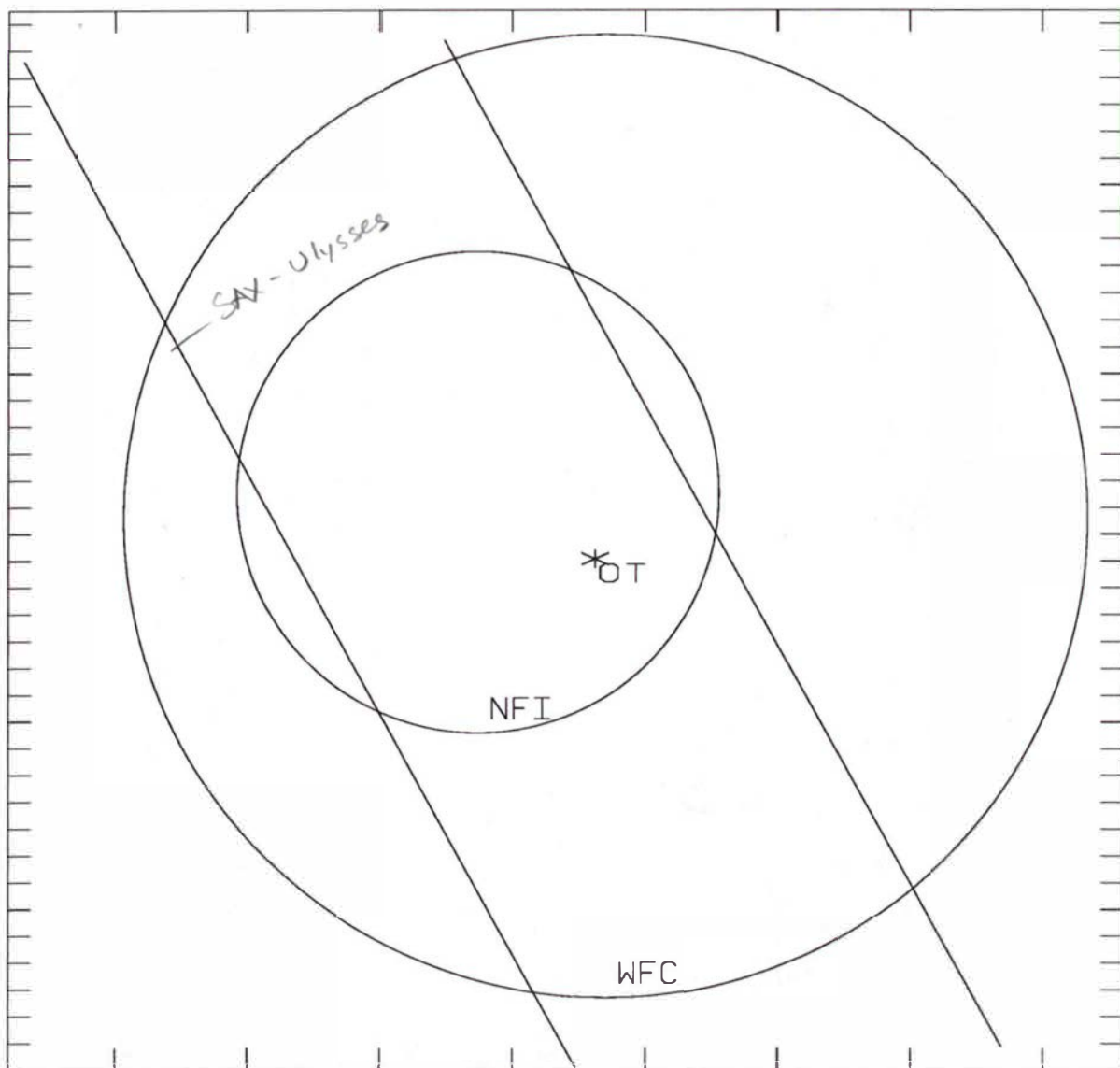
13:39:00

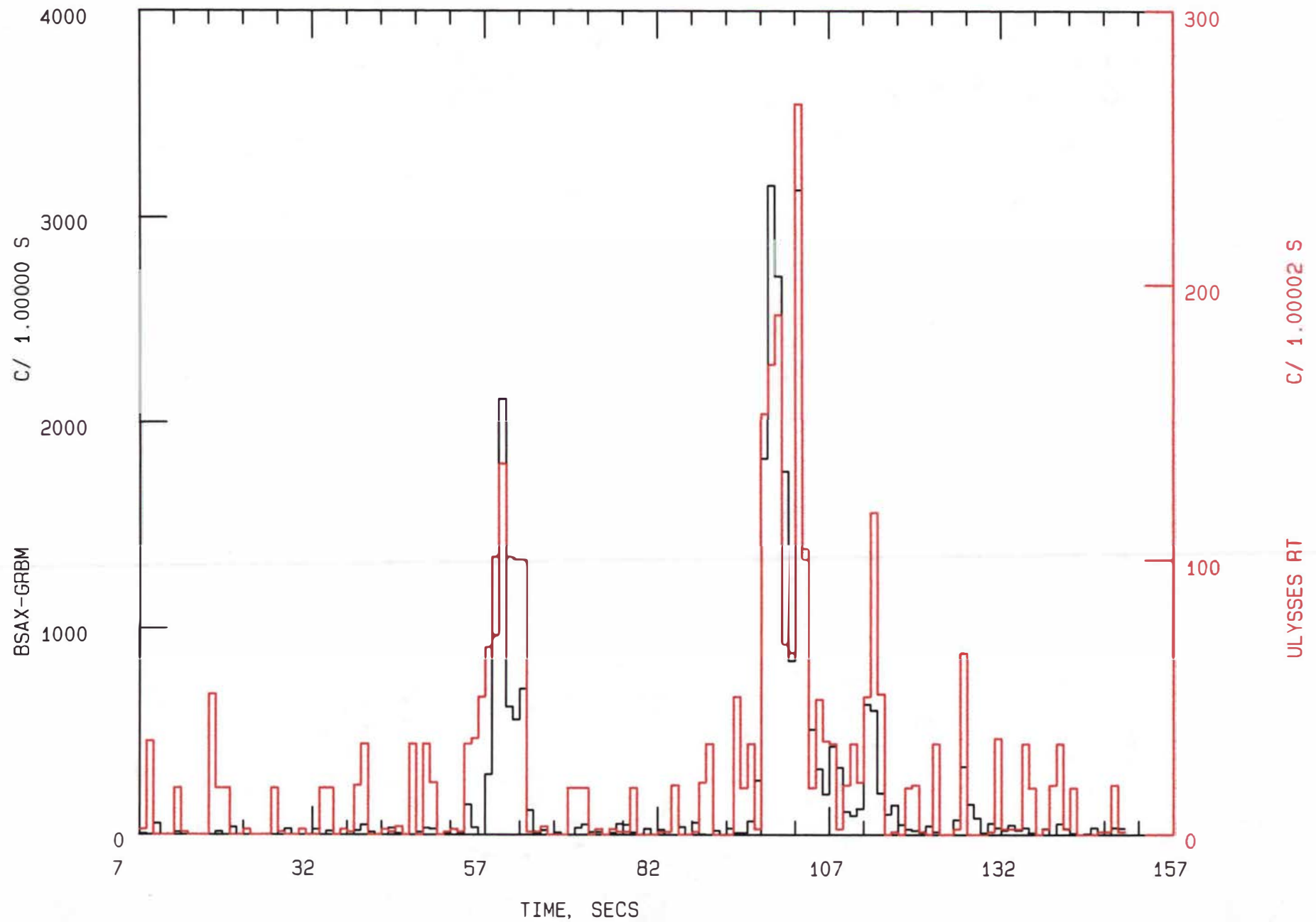
13:38:20

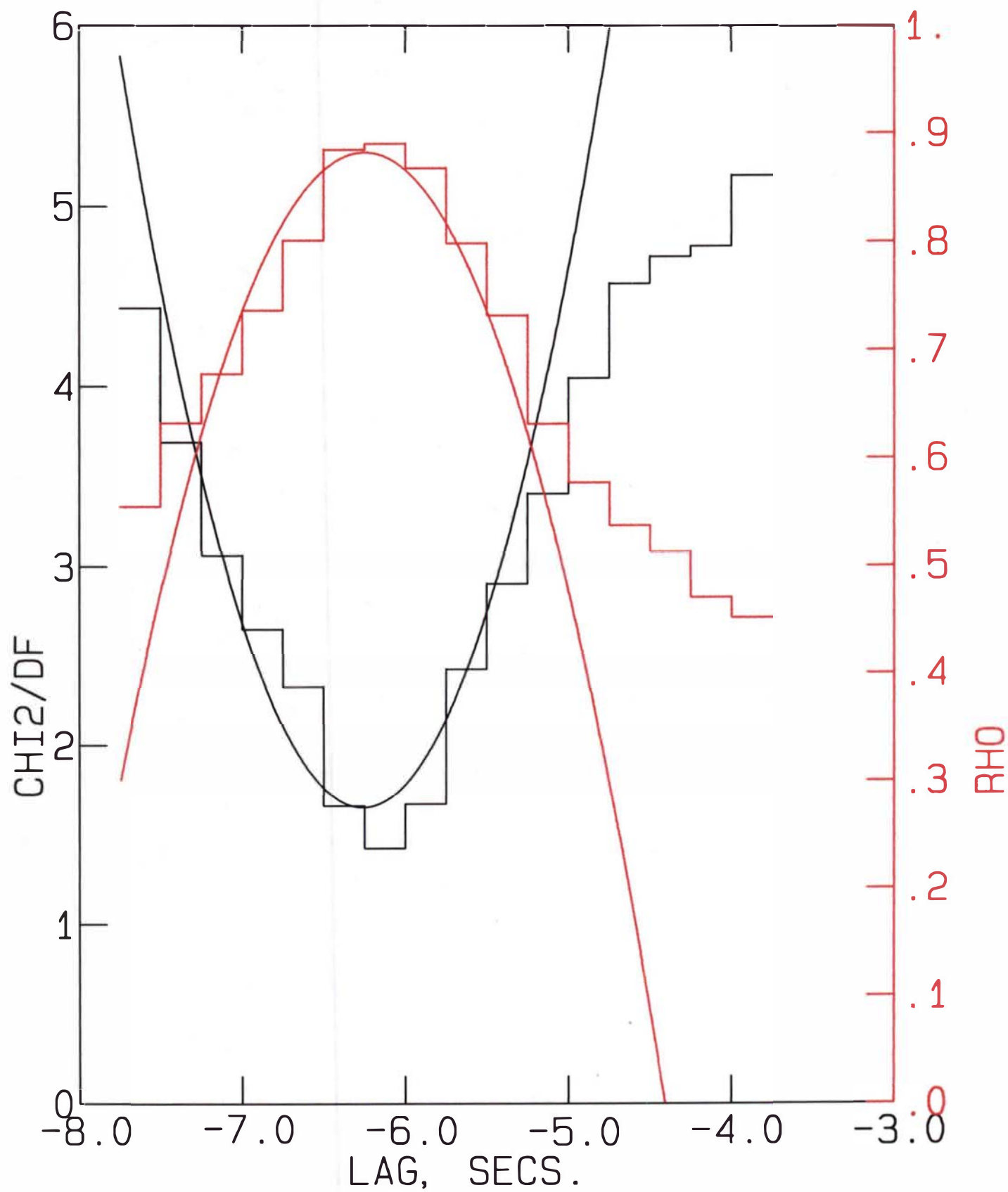
13:37:40

13:37:00

RIGHT ASCENSION







S A X

ULYSSES RT

1 0 / 5 / 9 9

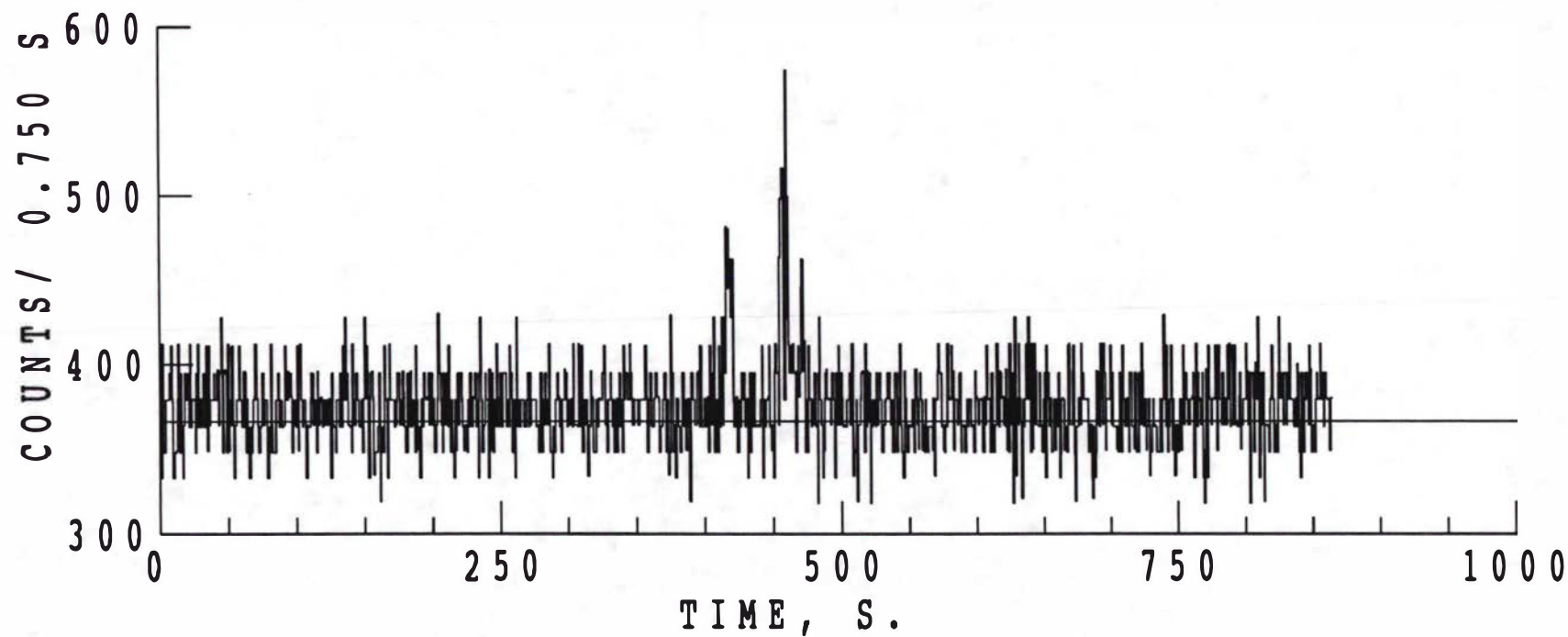
10 / 5 / 99 30852.123 s

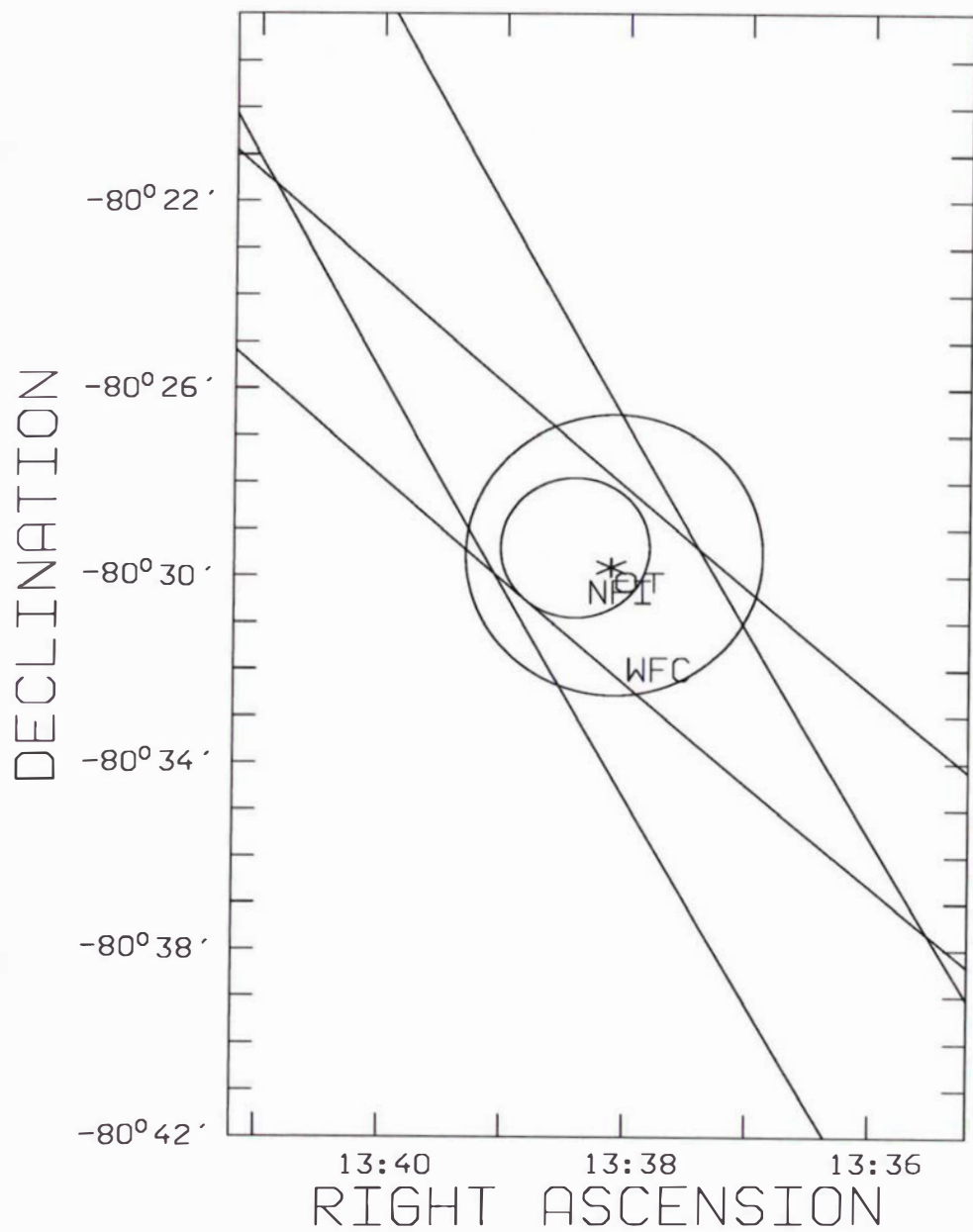
0.250 S INTERVALS REGROUPED BY 3

0 - 0 keV

N=10 M=2

>4.0 SIGMA FLUCTUATIONS





DECLINATION

-80° 26'

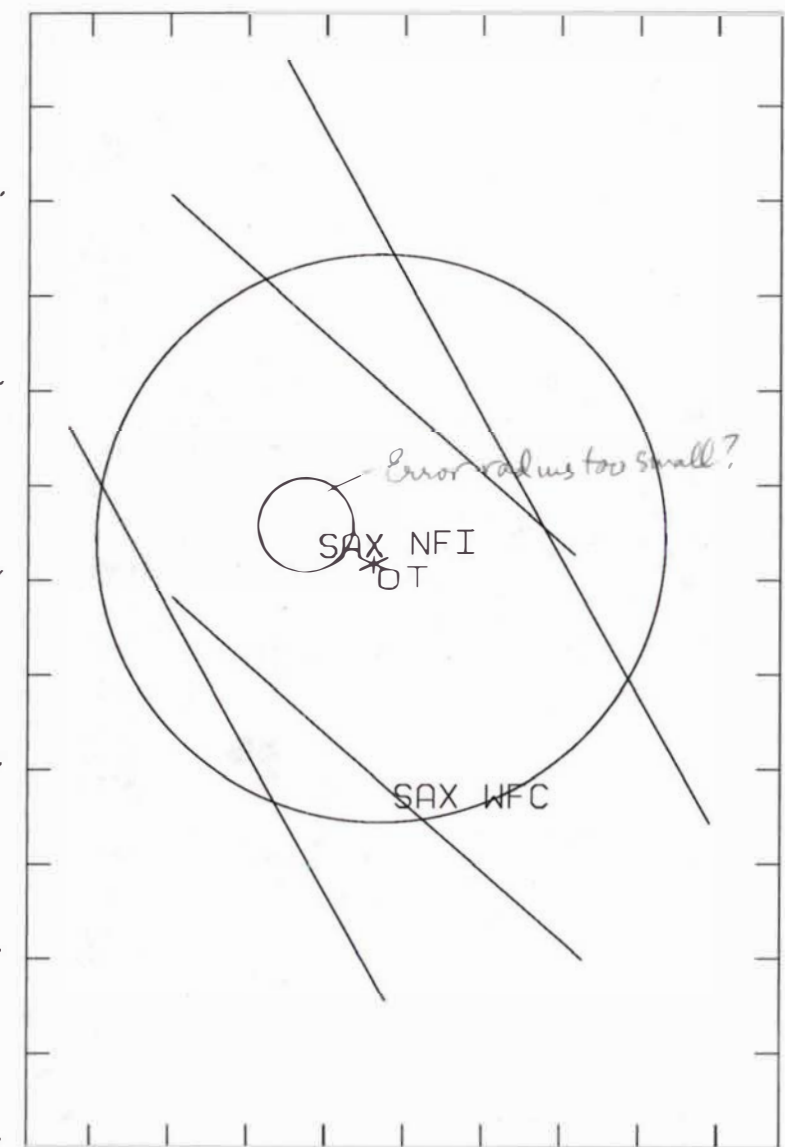
-80° 28'

-80° 30'

-80° 32'

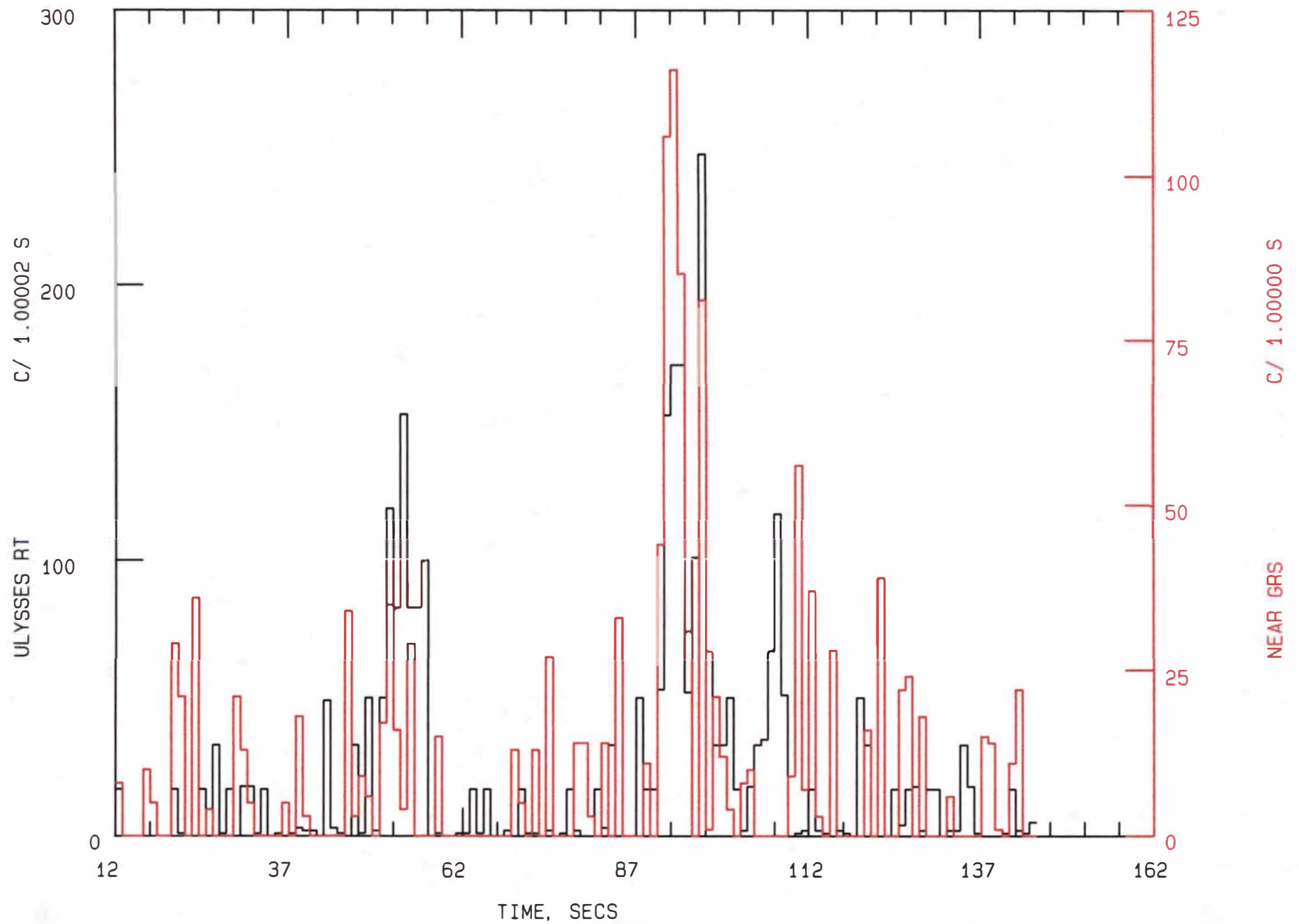
-80° 34'

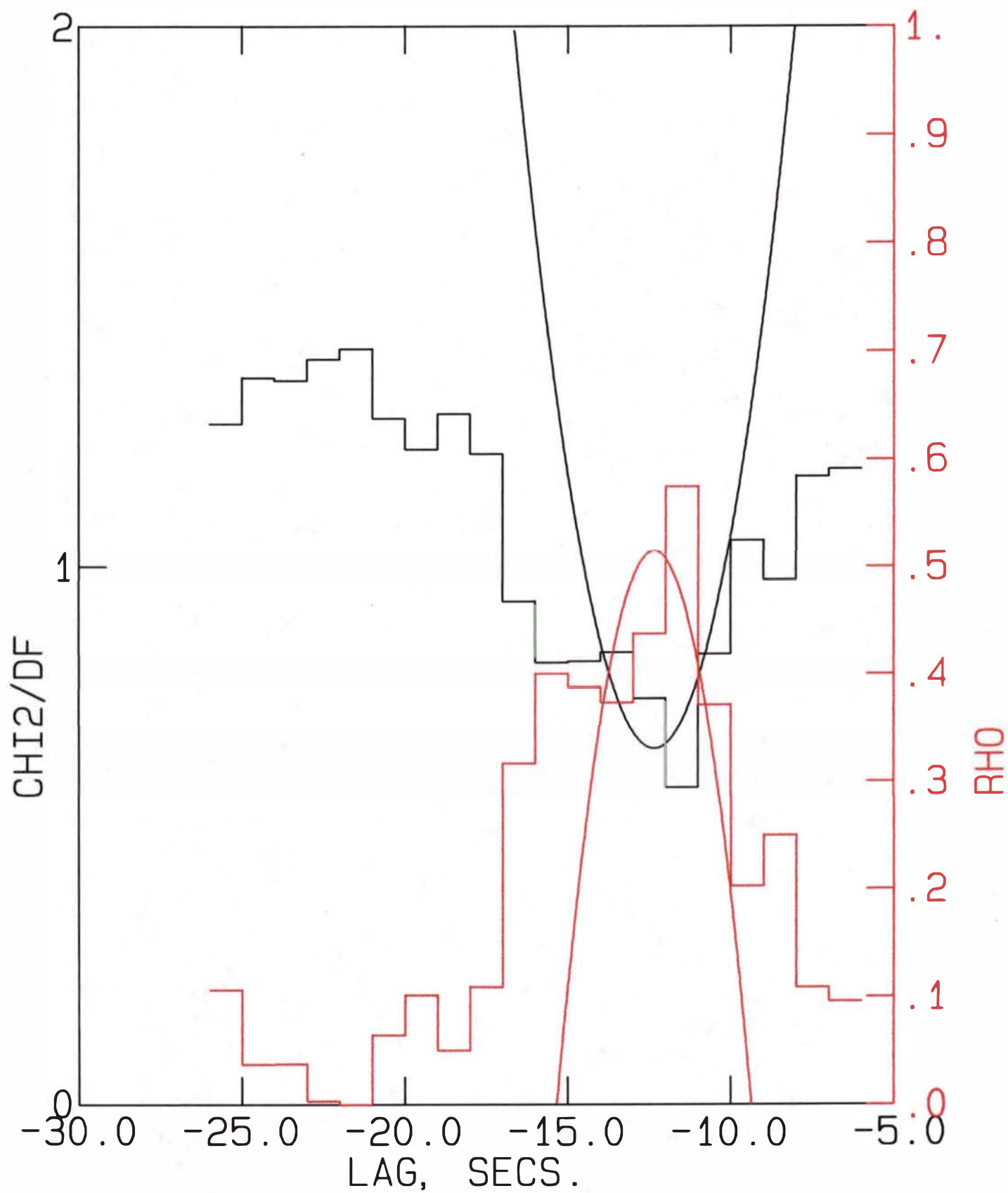
-80° 36'

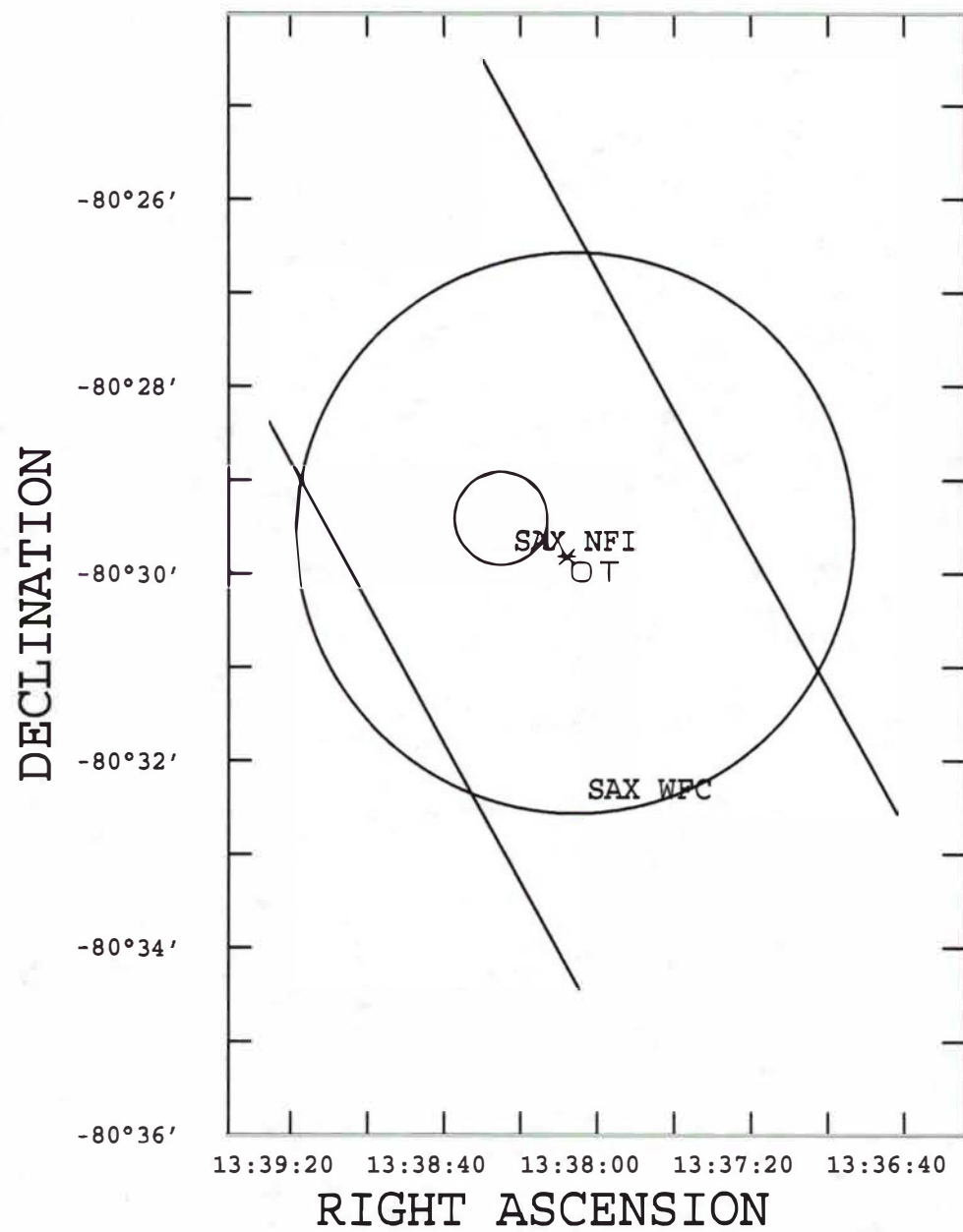


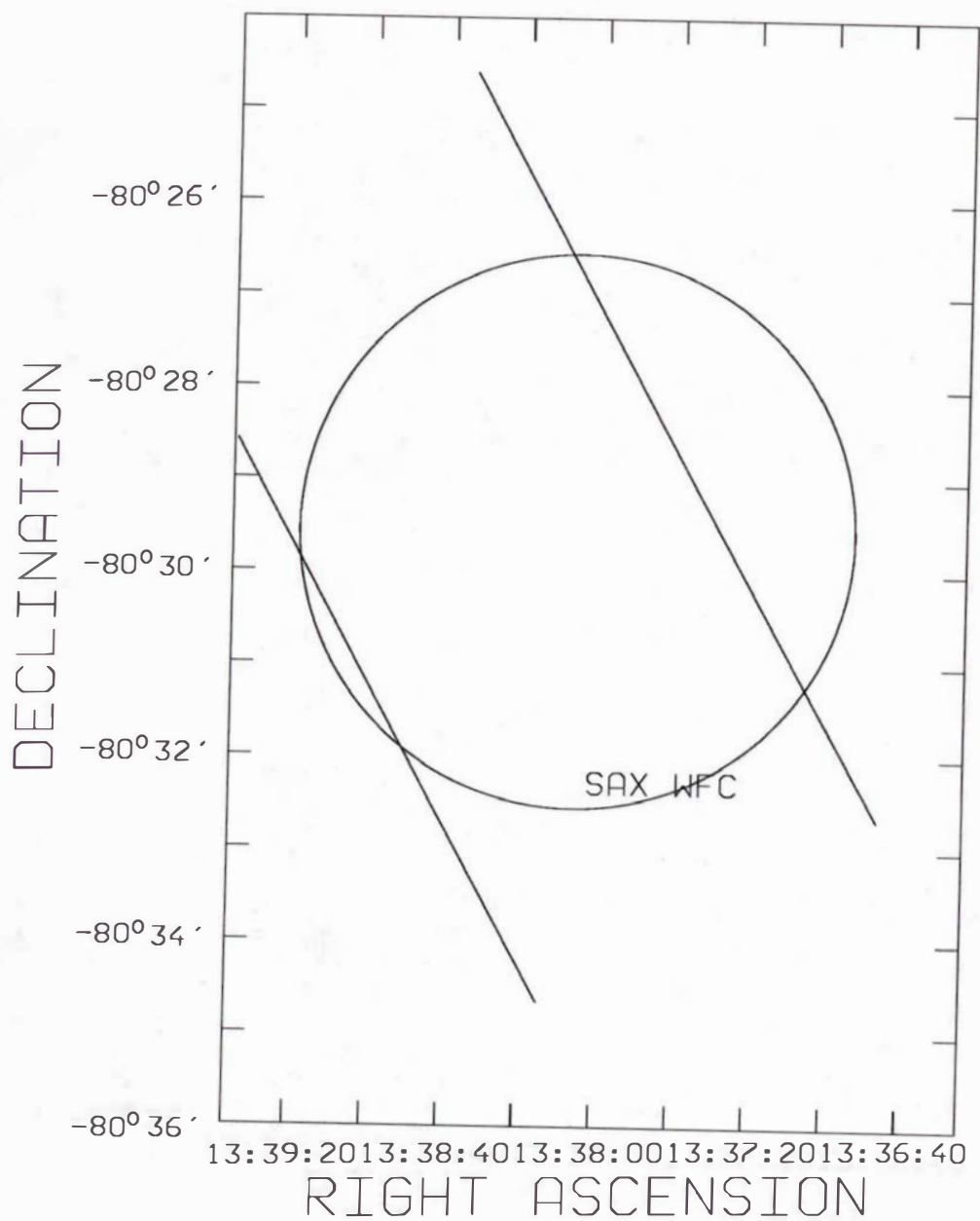
13:39:20 13:38:40 13:38:00 13:37:20 13:36:40

RIGHT ASCENSION









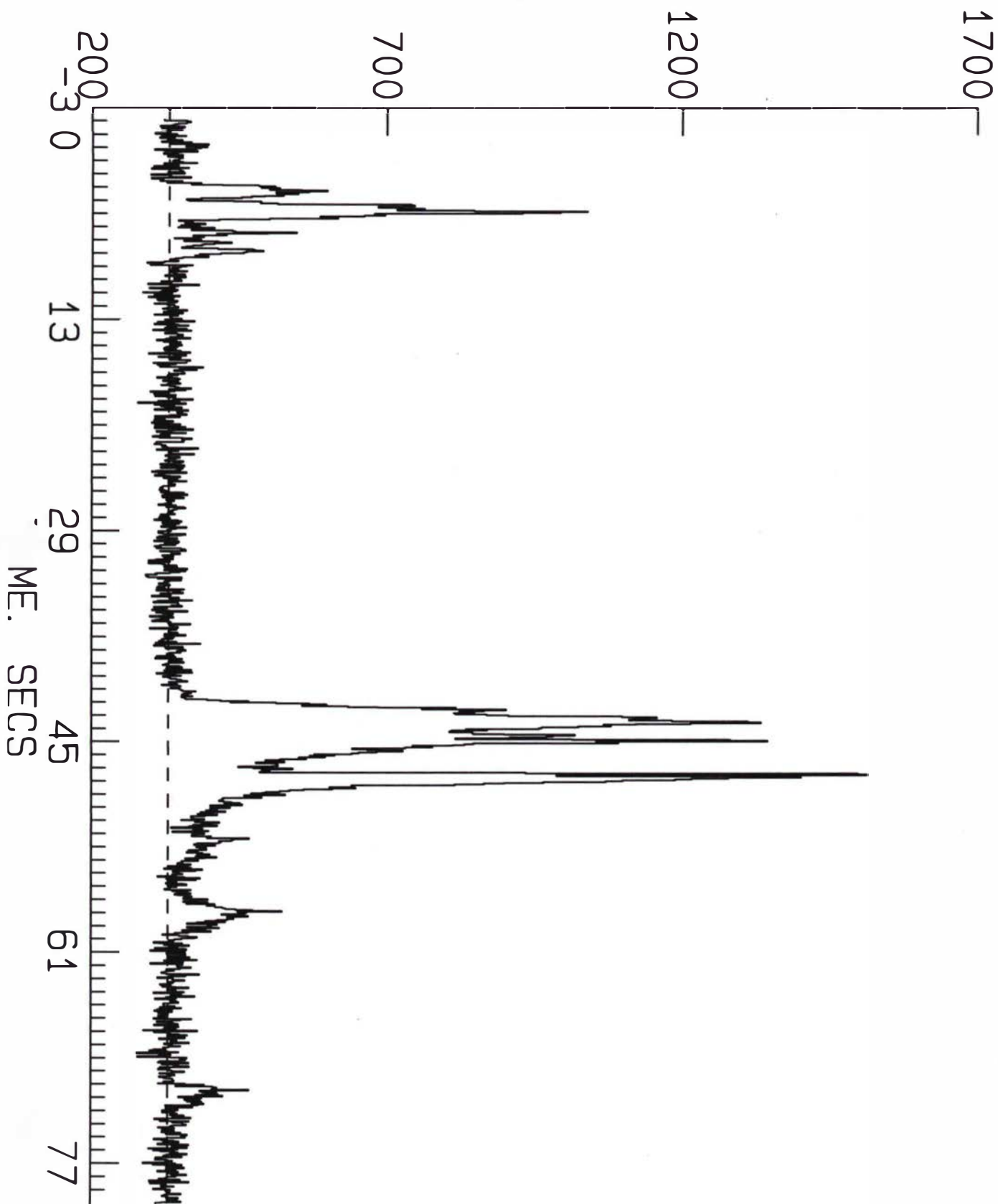
BATSE

10/05/99

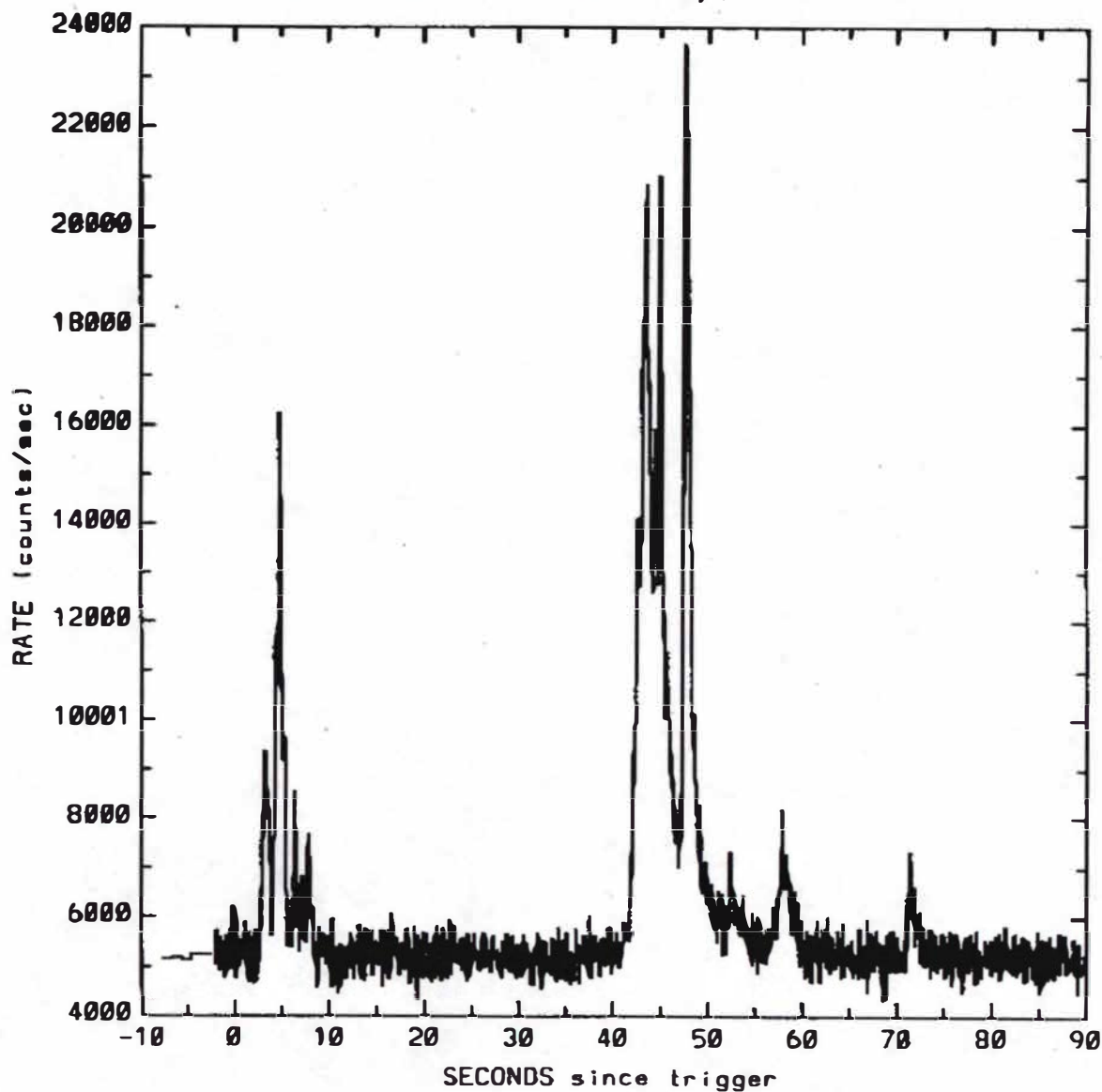
31746.297

100-1000 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7560



3-MAR-2000 11:28.46

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

Trigger # : 7560

Trigger Time:
11388 / 31746.297

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

Detectors (7..0):
7-54----

Discriminators:
(3 , 4)

Quality Mask:
BDISP1

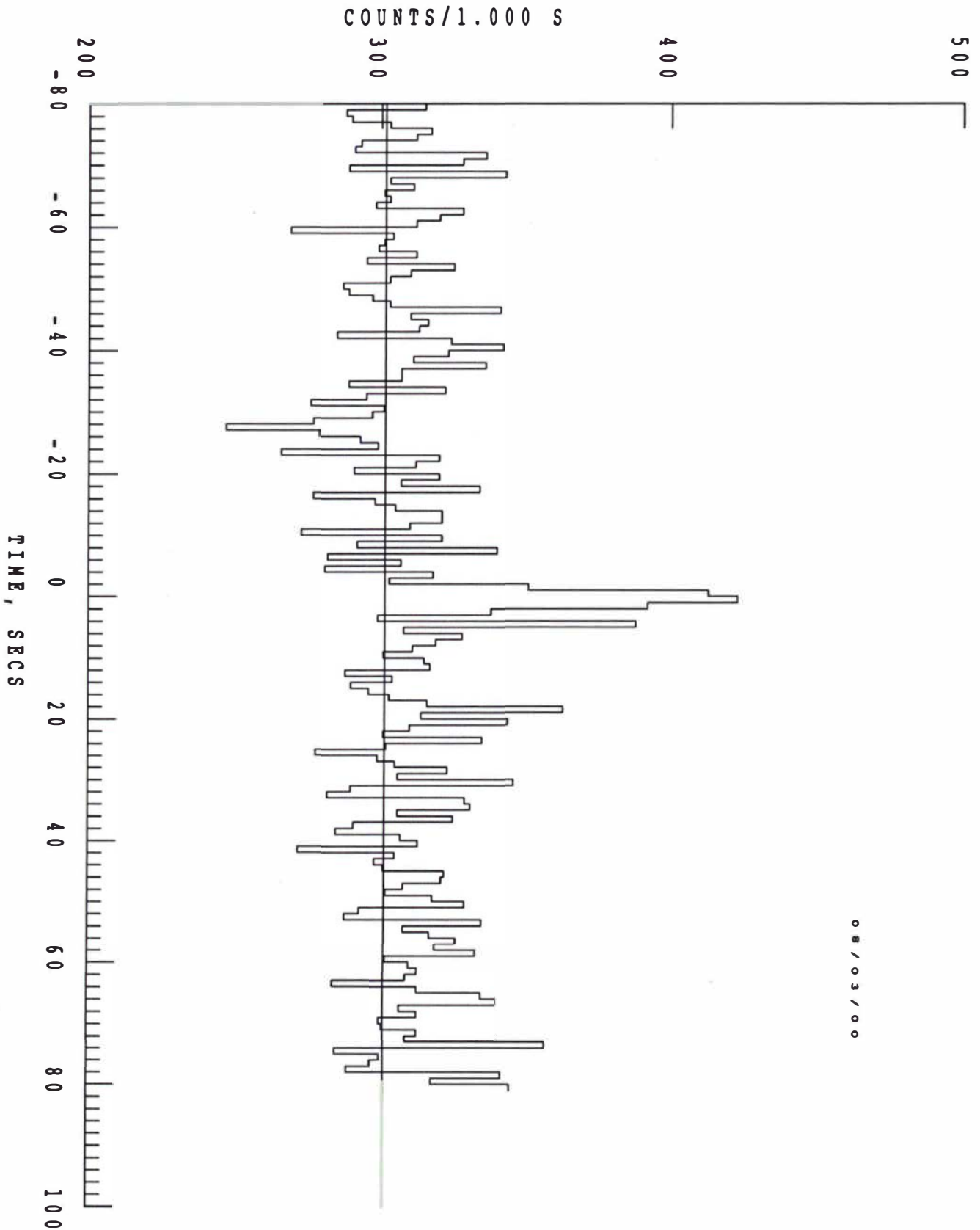
NEAR

10/05/99

32349.989

(new, corrected - 7ms diff)

100-1000 keV

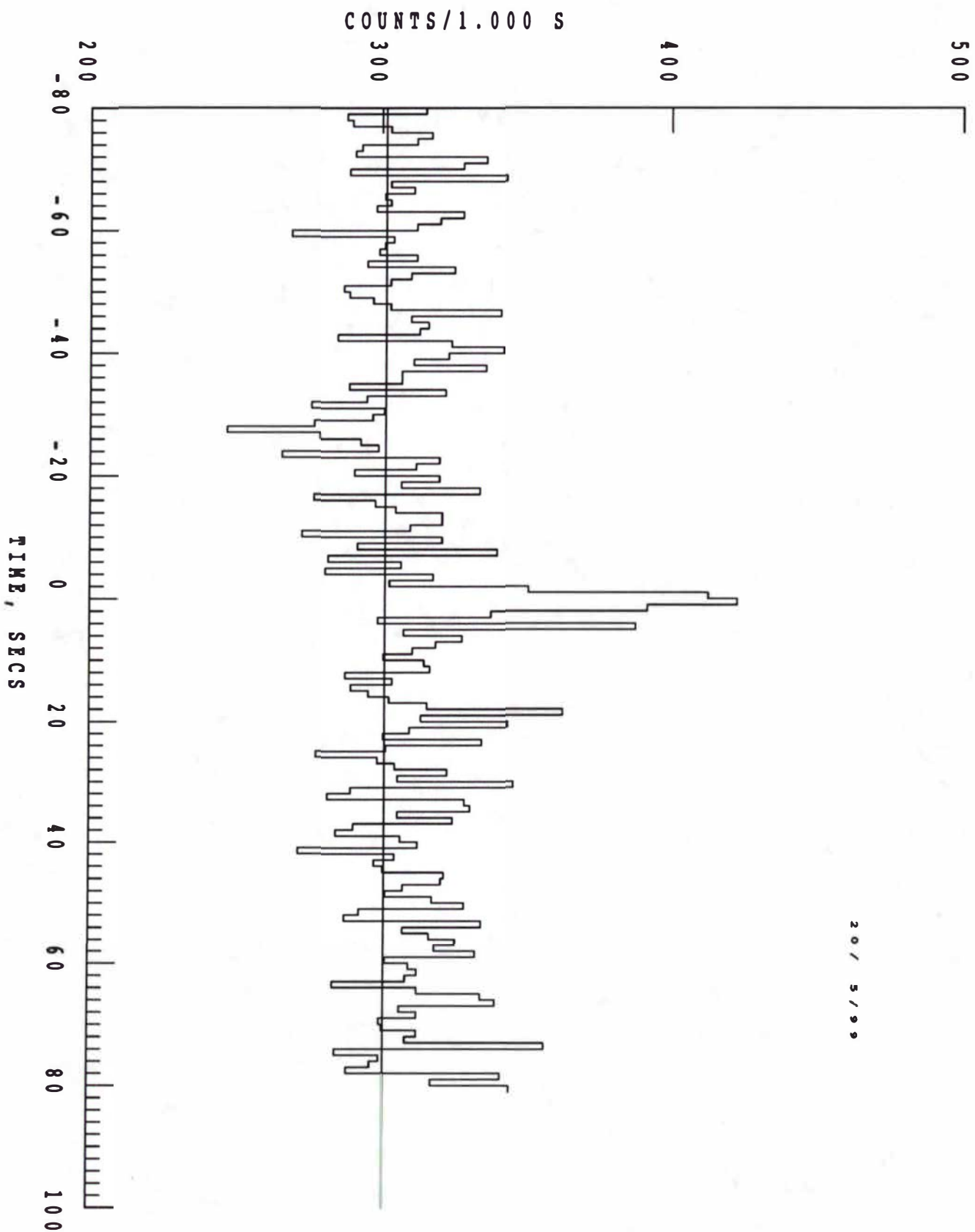


NEAR

10/05/99

32349.996 (old)

100-1000 keV



20 / 5 / 99

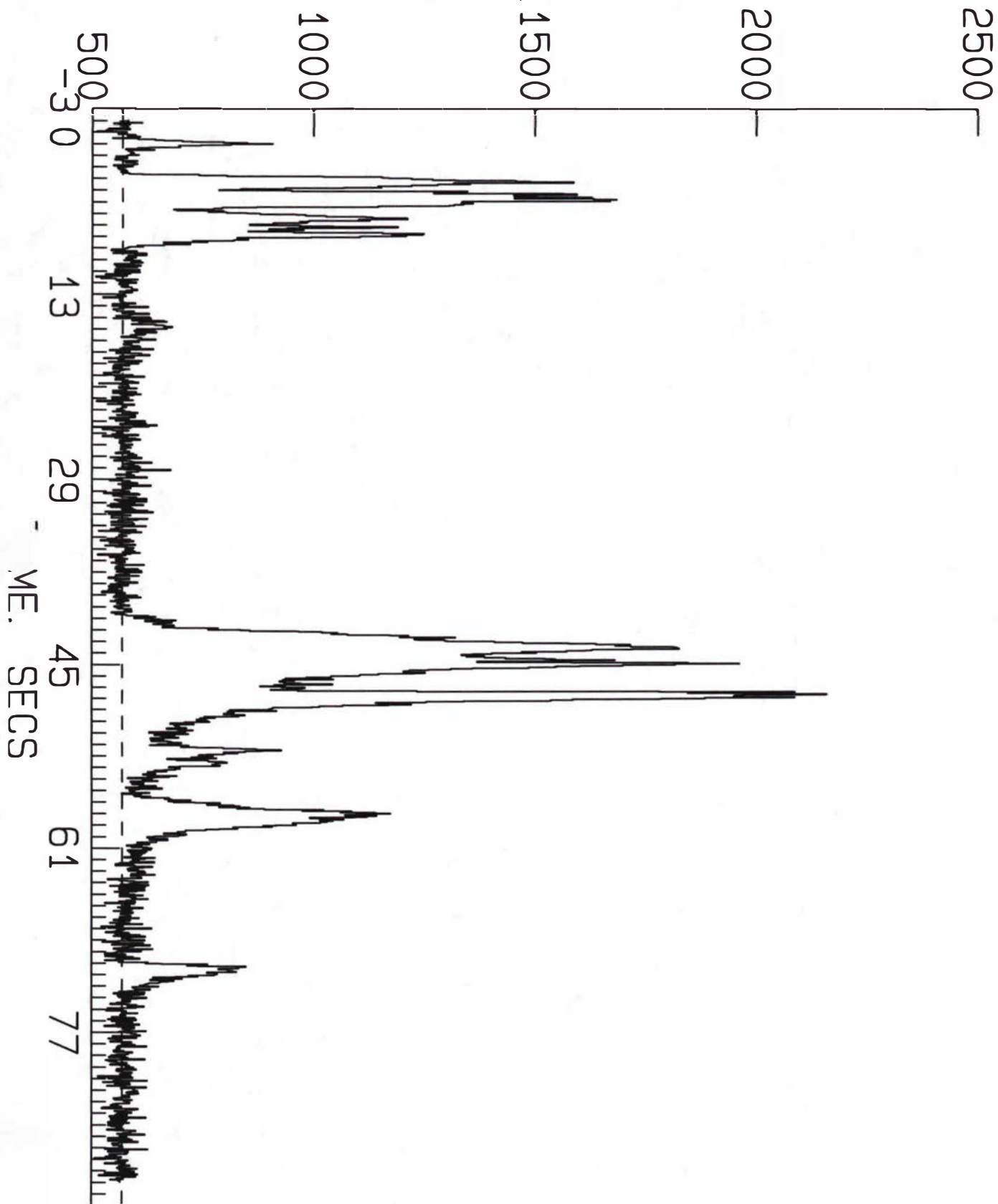
BATSE

10/05/99

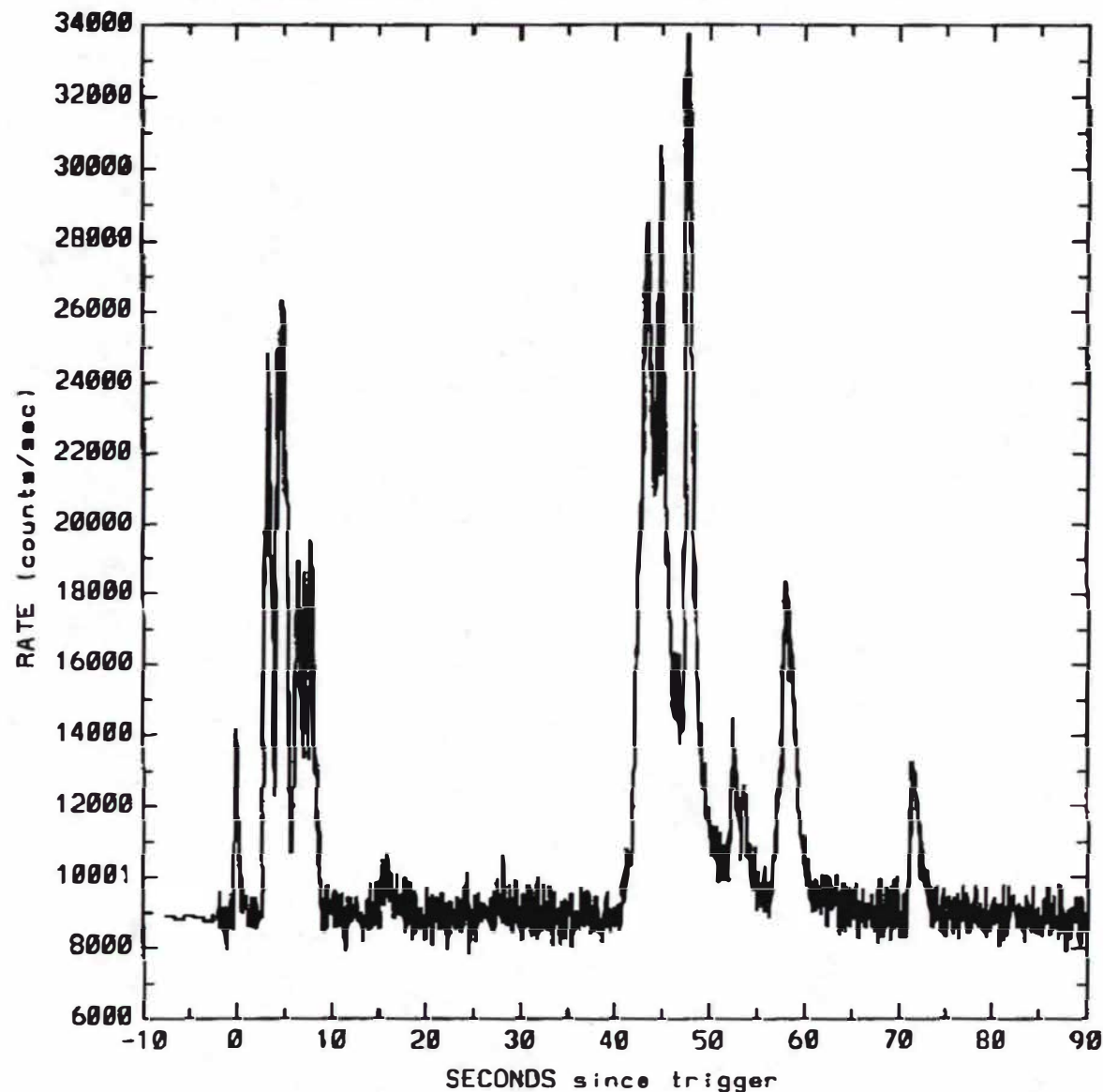
31746.297

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7560



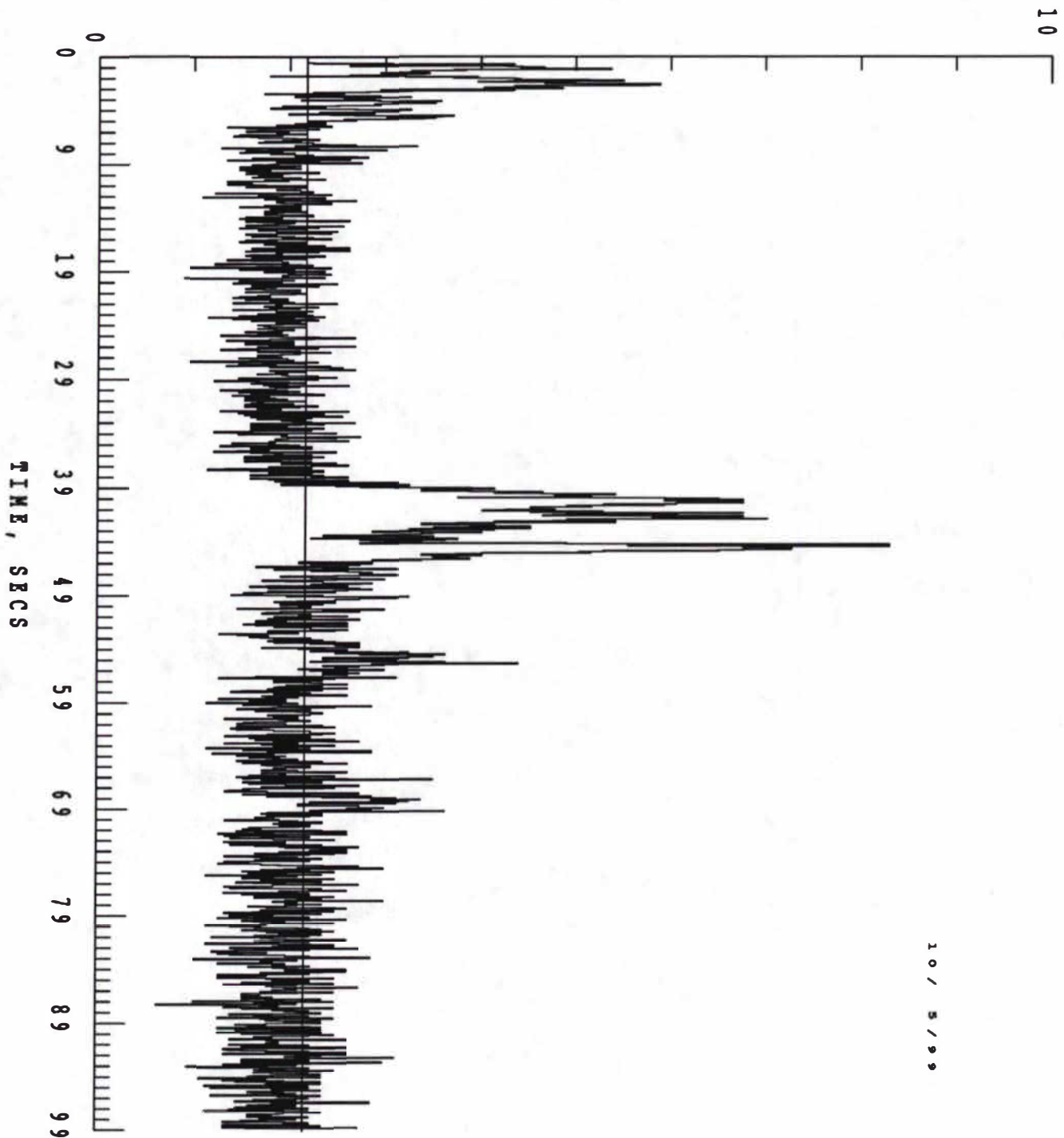
KONUS

10/05/99

31750.059

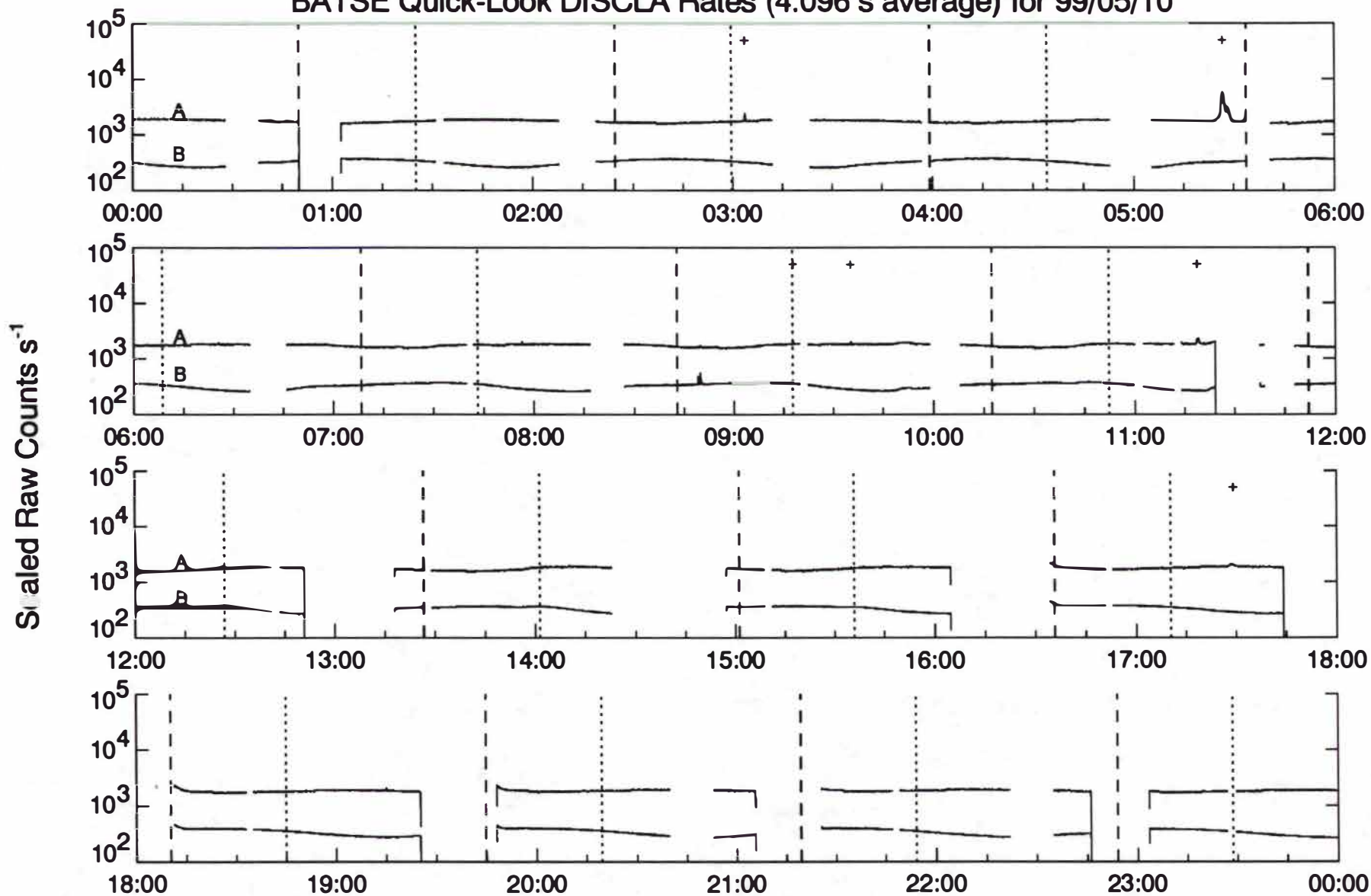
50 - 200 keV

COUNTS/0.064 S



10 / 5 / 99

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

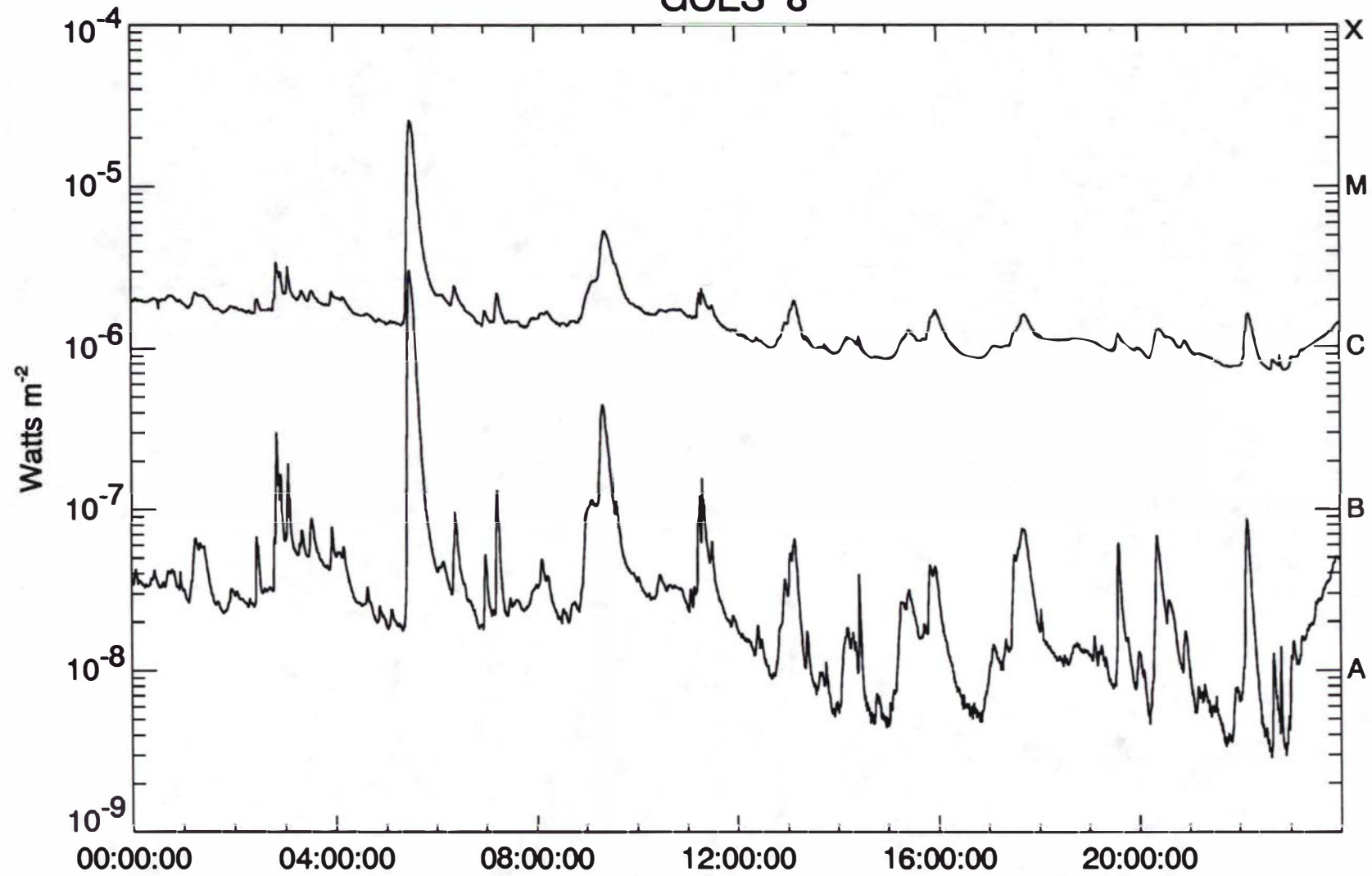


Current Time: 99/05/14, 1007 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



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

Plot created: 99/05/14, 1006

Channel

1 (1.0 - 8.0 Angstroms)

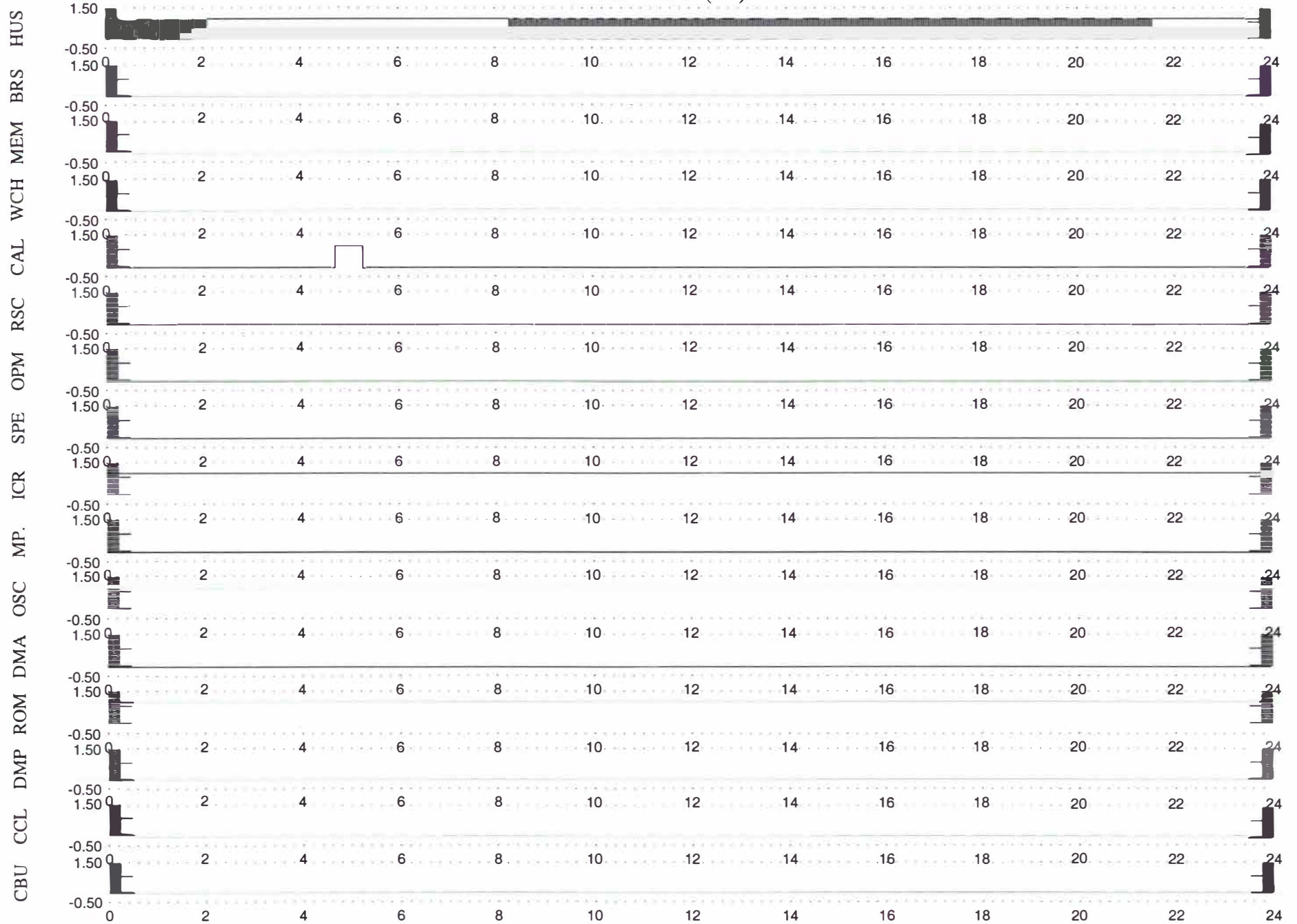
Background not subtracted

2 (0.5 - 4.0 Angstroms)

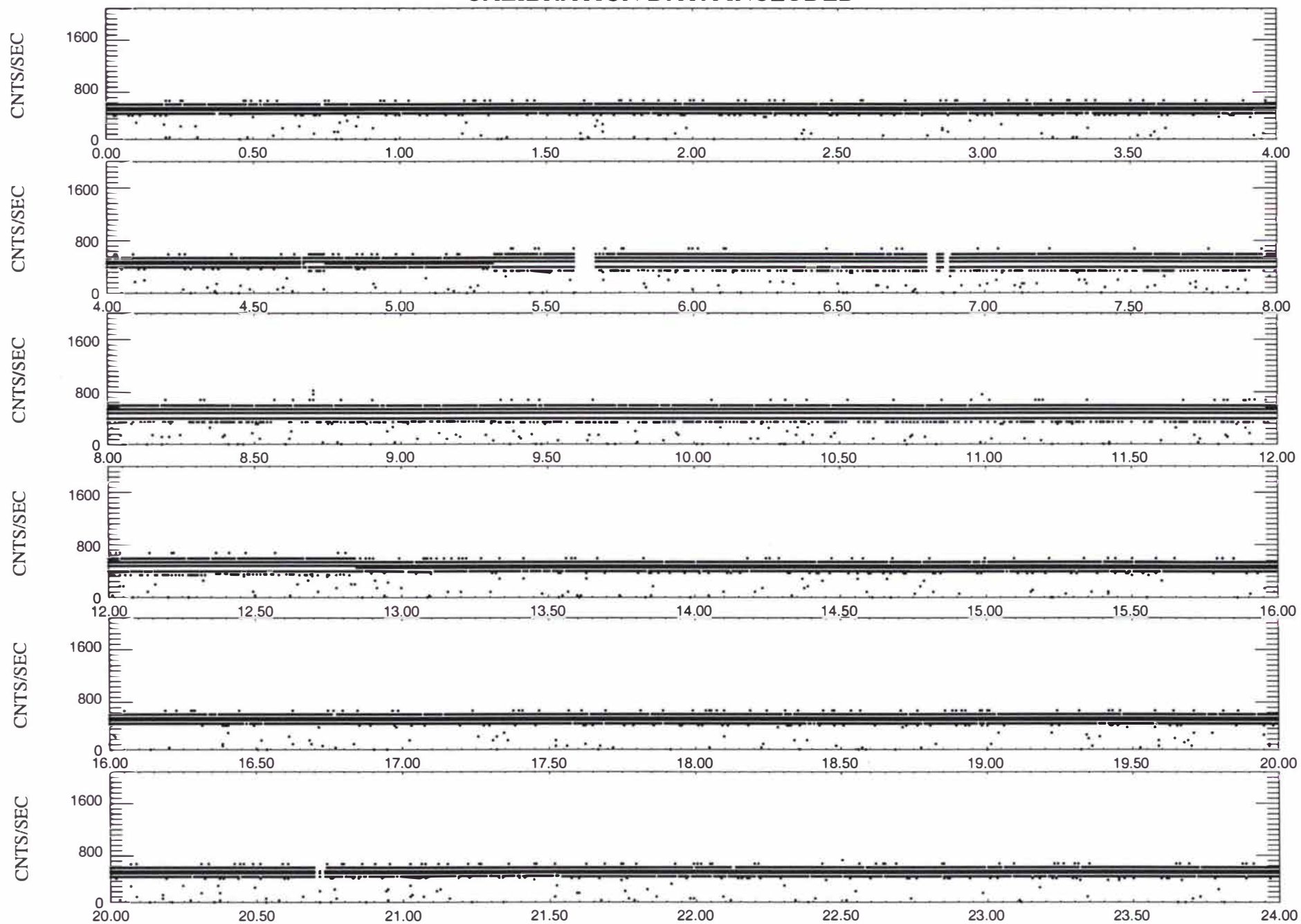
Background not subtracted

Sample average = 10

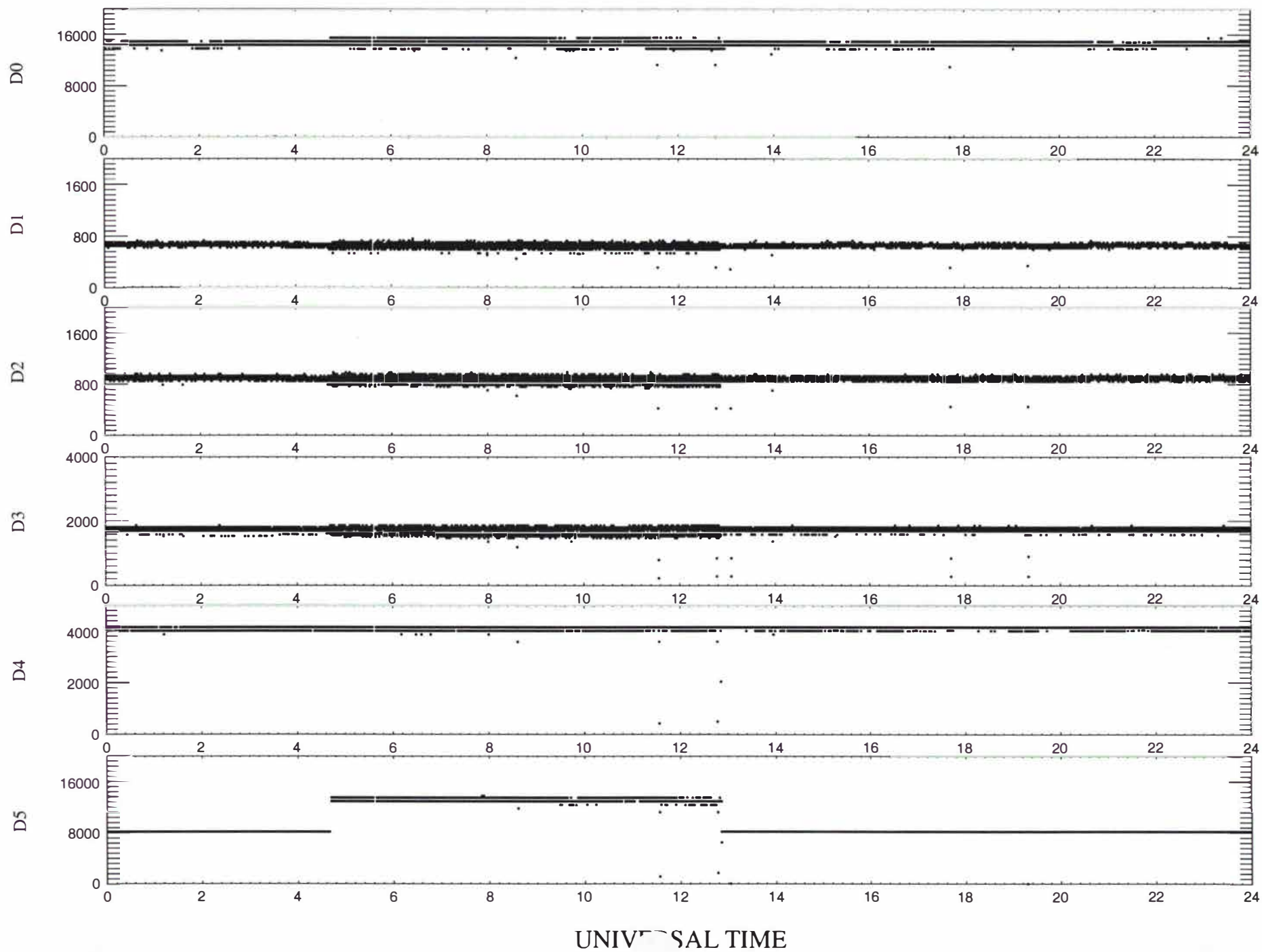
UNIV SAL TIME



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From PETERSON@fender.msfc.nasa.gov Fri May 14 06:51:13 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 GAA15079; Fri, 14 May 1999 06:51:12 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id GAA11990
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 14 May 1999 06:48:23 -0700 (PDT)
Date: Fri, 14 May 1999 8:52:12 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990514085212.2021837d@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7561
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7561
EVENT OF 1999 MAY 11 DAY OF YEAR=131
EVENT CROSSING TIME AT BATSE : 52826. S. OR 14:40:26.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 206.000 42.000
BATSE PEAK COUNTING RATE: 2500 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 11/ 5/ 99 IS:
RA= 144.114 DEC= -6.966 DIST= 4.698 AU
BATSE-ULYSSES DISTANCE = 702895267. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=105.45 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -624.73 SECS.
CROSSING TIME AT ULYSSES IS 52201. S. OR 14:30:01 +/- 432.86 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 11/ 5/ 99 IS:
RA= 206.558 DEC= -10.272 DIST= 0.586 AU
MARS-BATSE DISTANCE = 87736560. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=127.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -179.07 SECS.
CROSSING TIME AT MARS IS 52647. S. OR 14:37:26 +/- 37.47 SECONDS

BATSE BURST TRIGGER

NO.: 7561

TIME: TJD=1309 SECONDS=52826

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=90.1 AZIMUTH=211.7 ERROR=7.96 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. APPROX. 6 S., STARTS AT APPROX. T-1 S. NOT VISIBLE ABOVE 300 KEV. TRIGGERED DURING REORIENTATION GAP.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7561	990511	11309	52826	2500	206	+42	6

BATSE BURST# 7561

ULYSSES RT

14 / 5 / 99

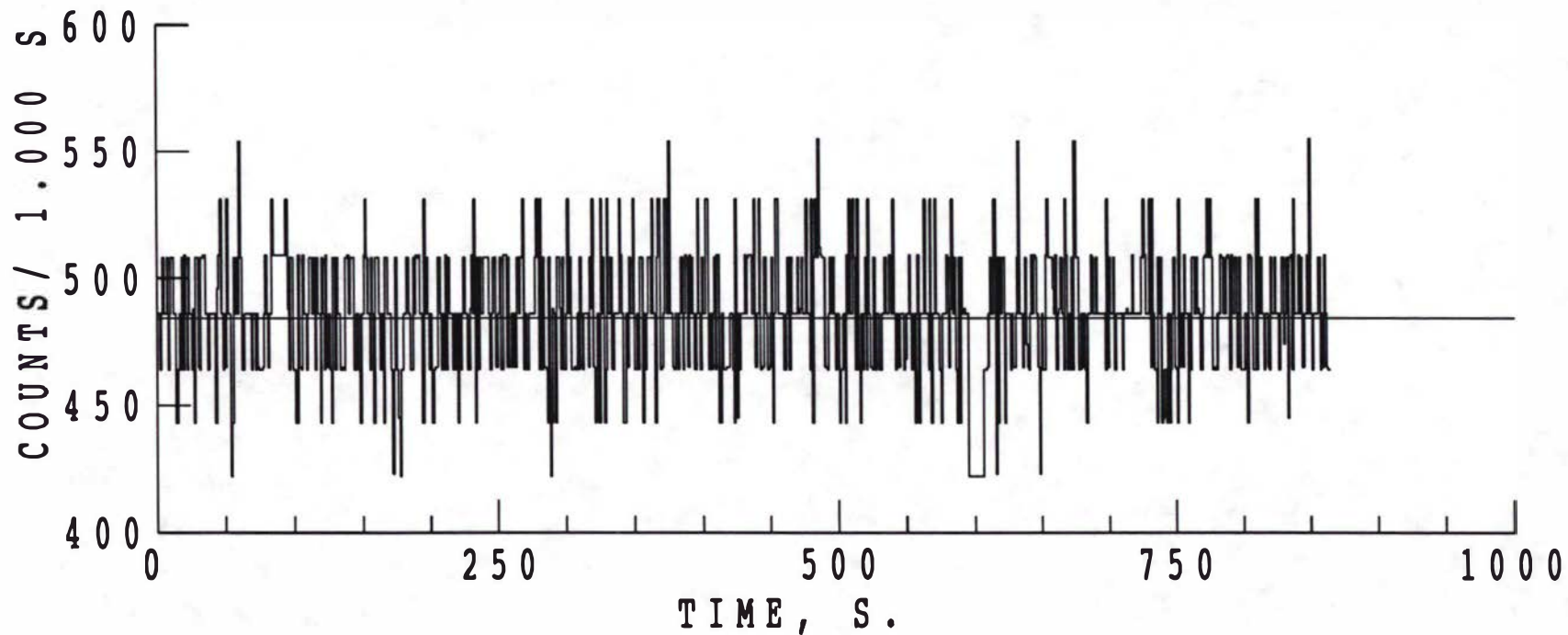
11 / 5 / 99 51768.203 s

0.500 S INTERVALS REGROUPED BY 2

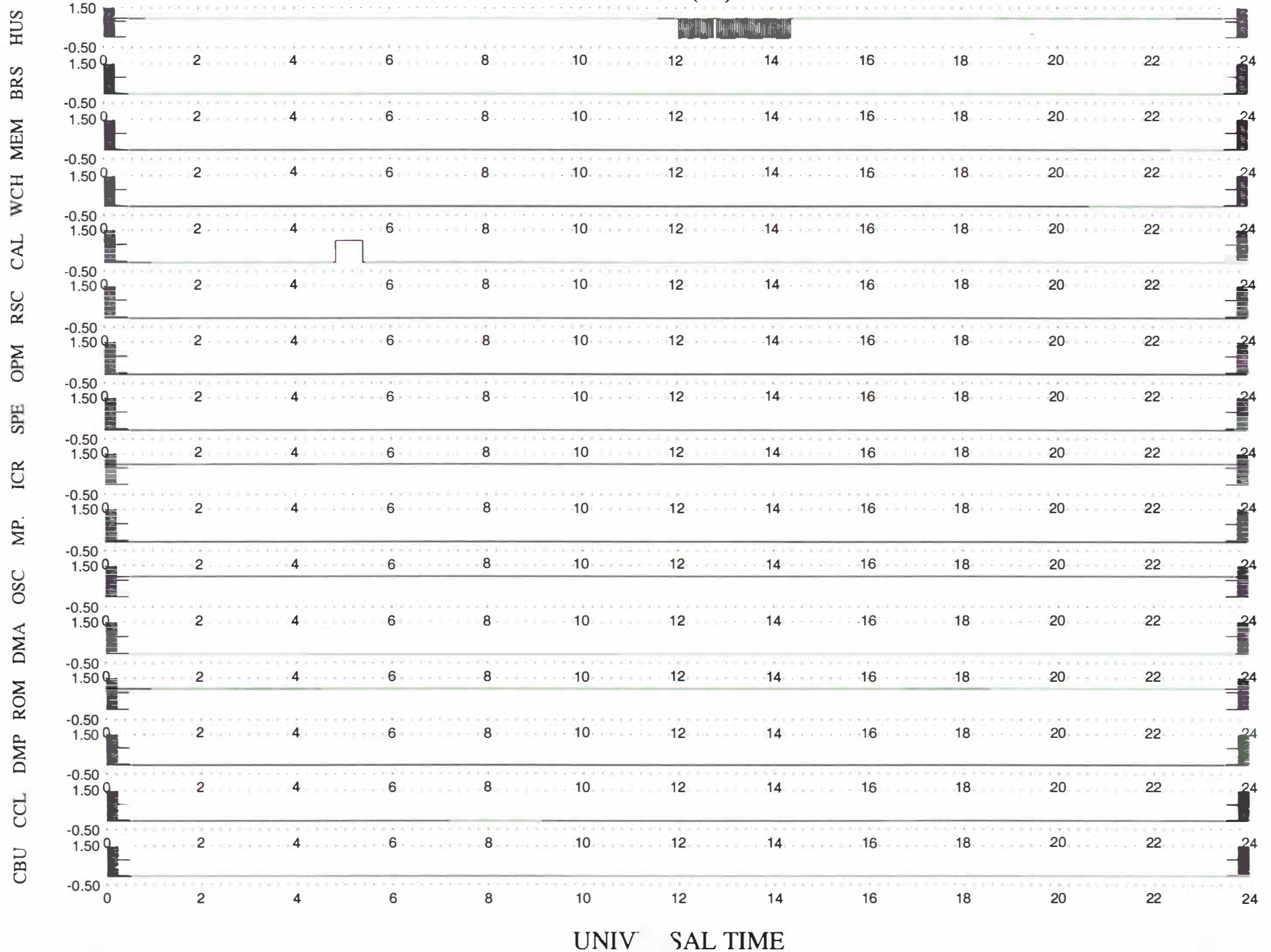
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

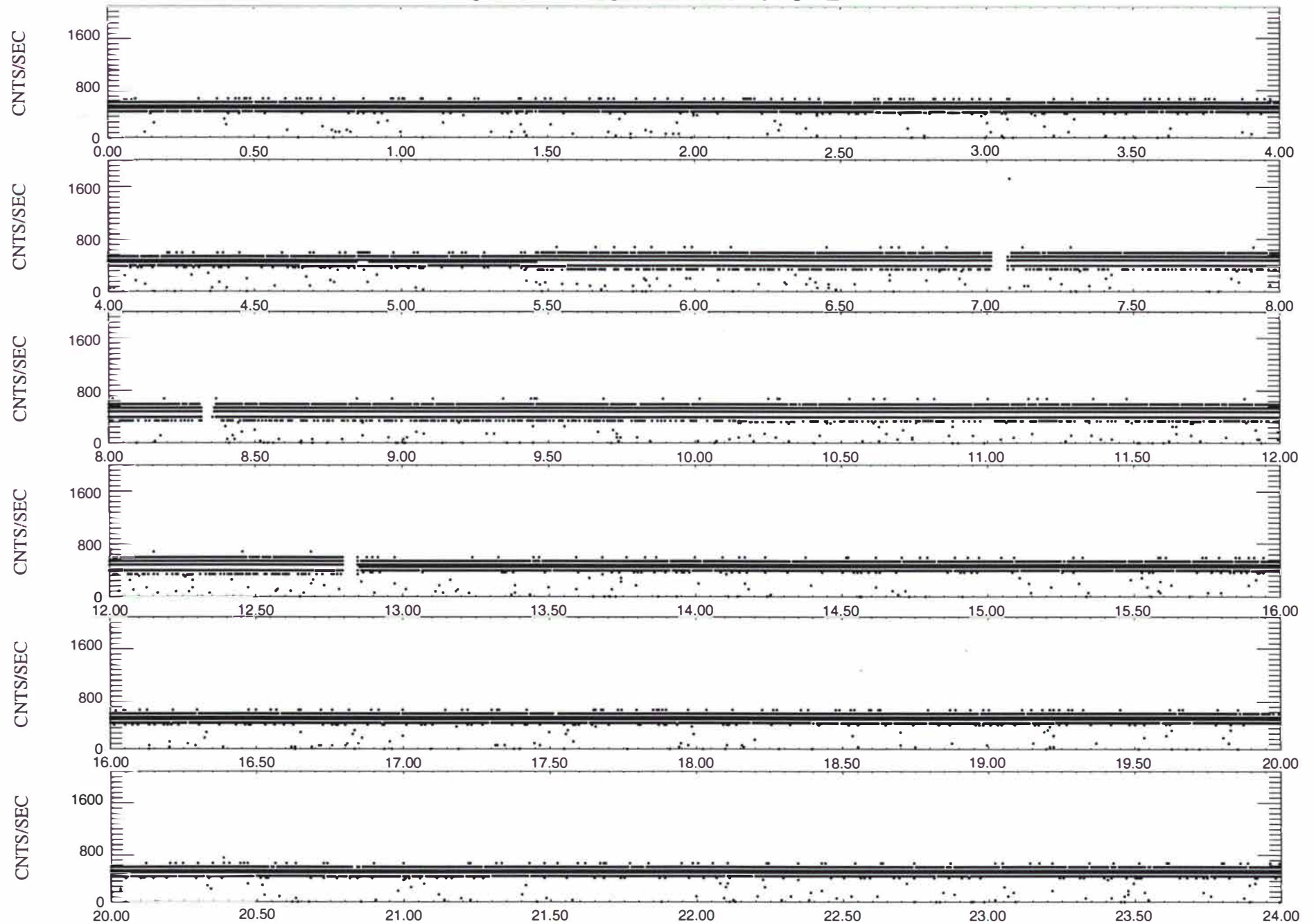
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



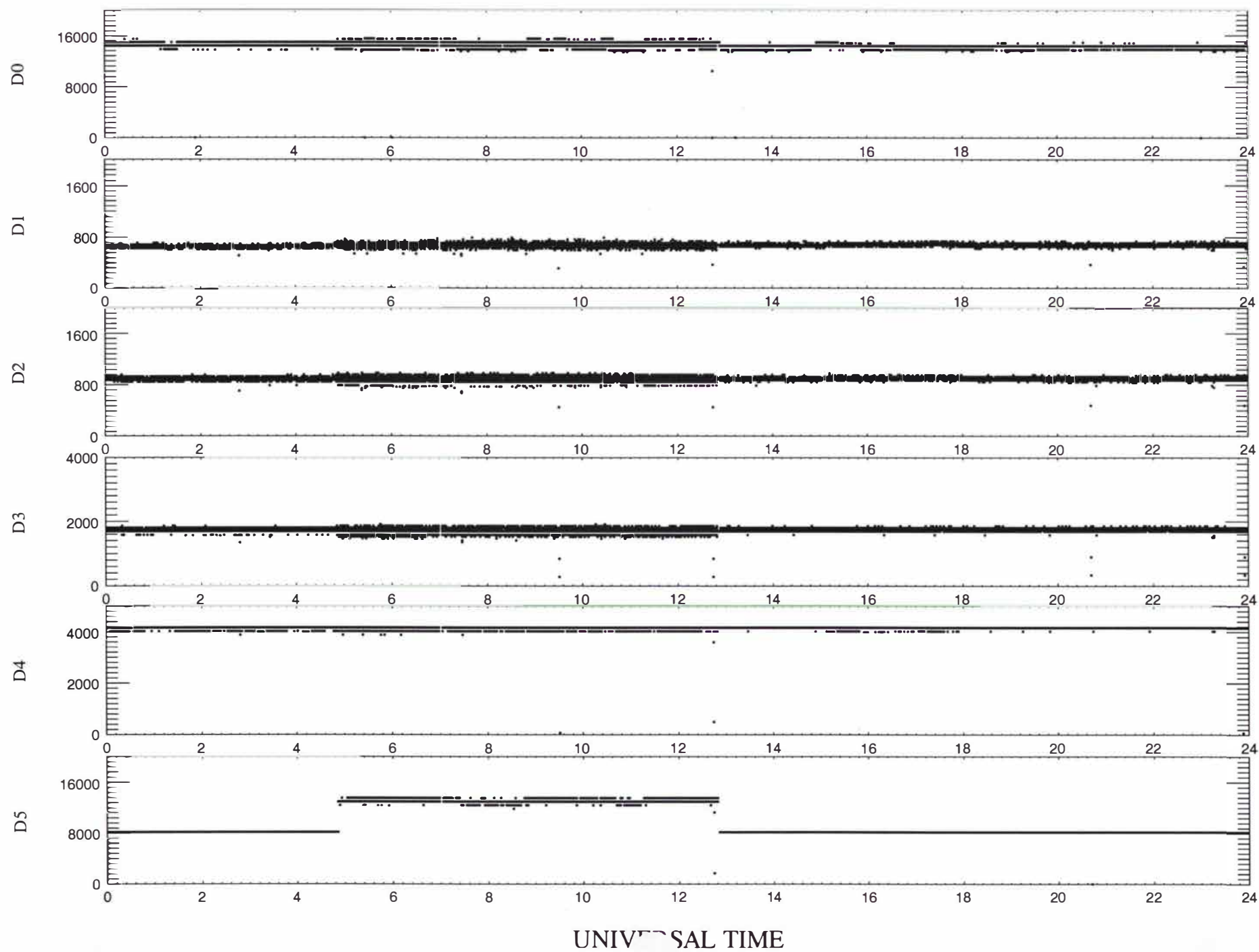
NO BURST (15)



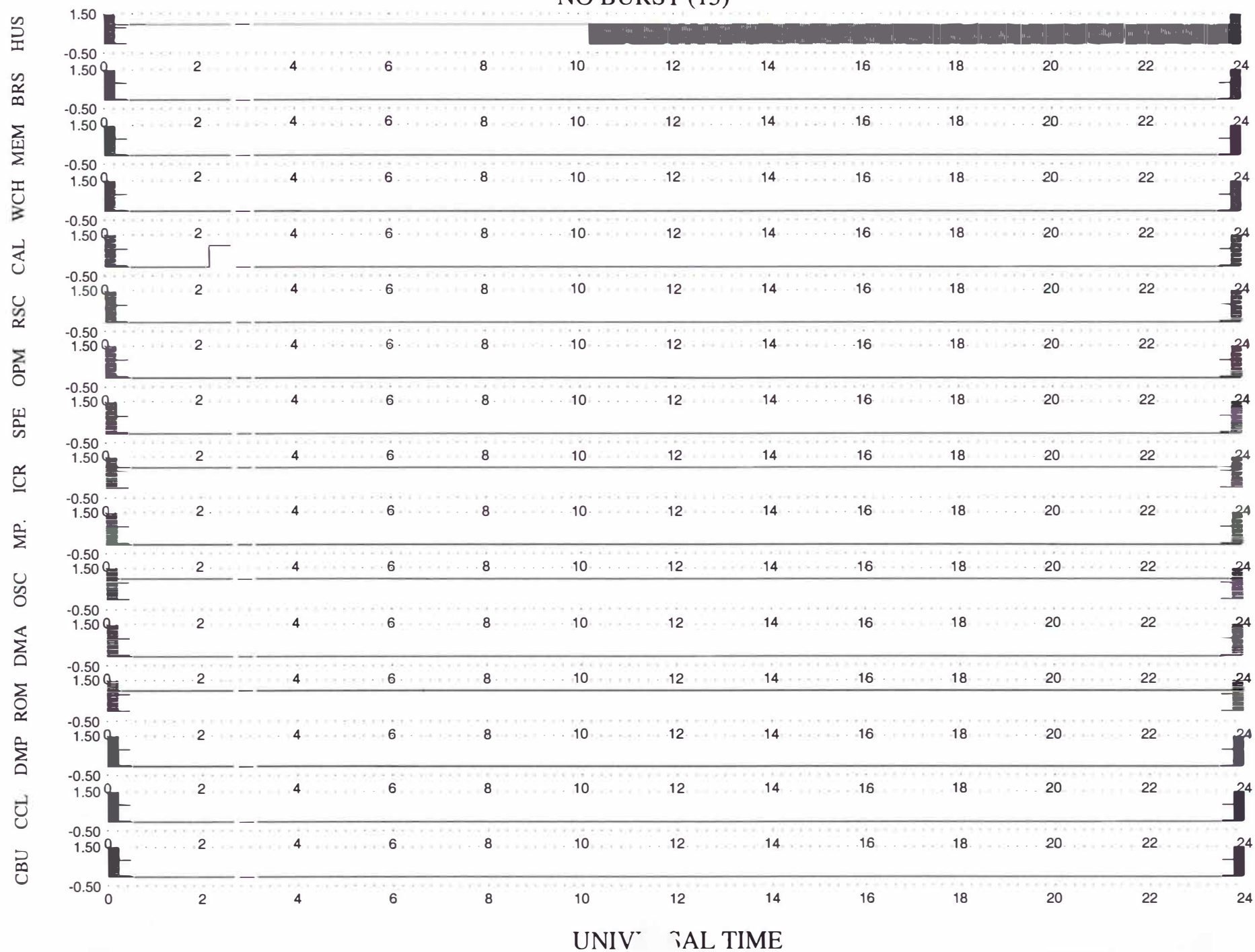
CALIBRATION DATA INCLUDED



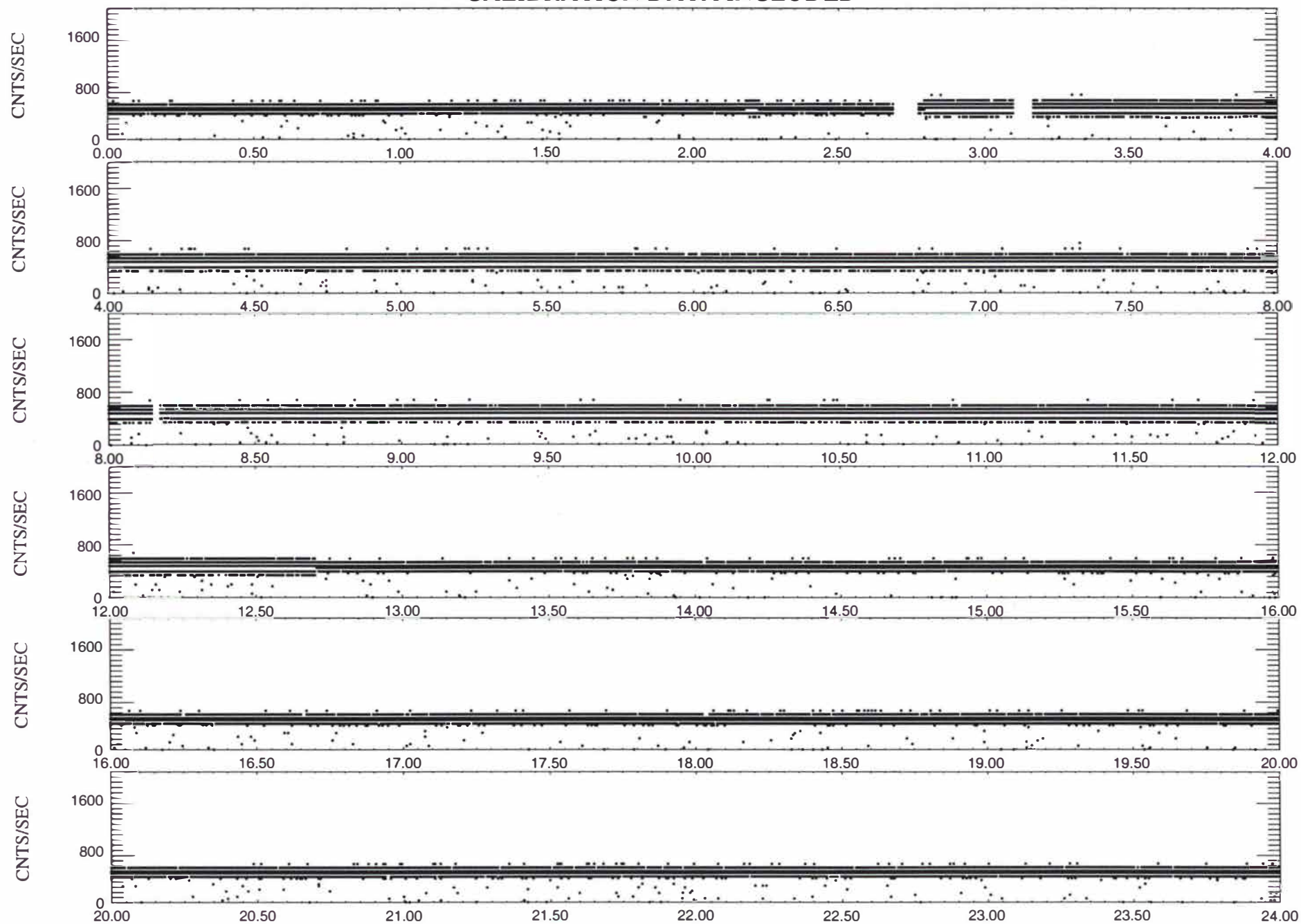
UNIV SAL TIME



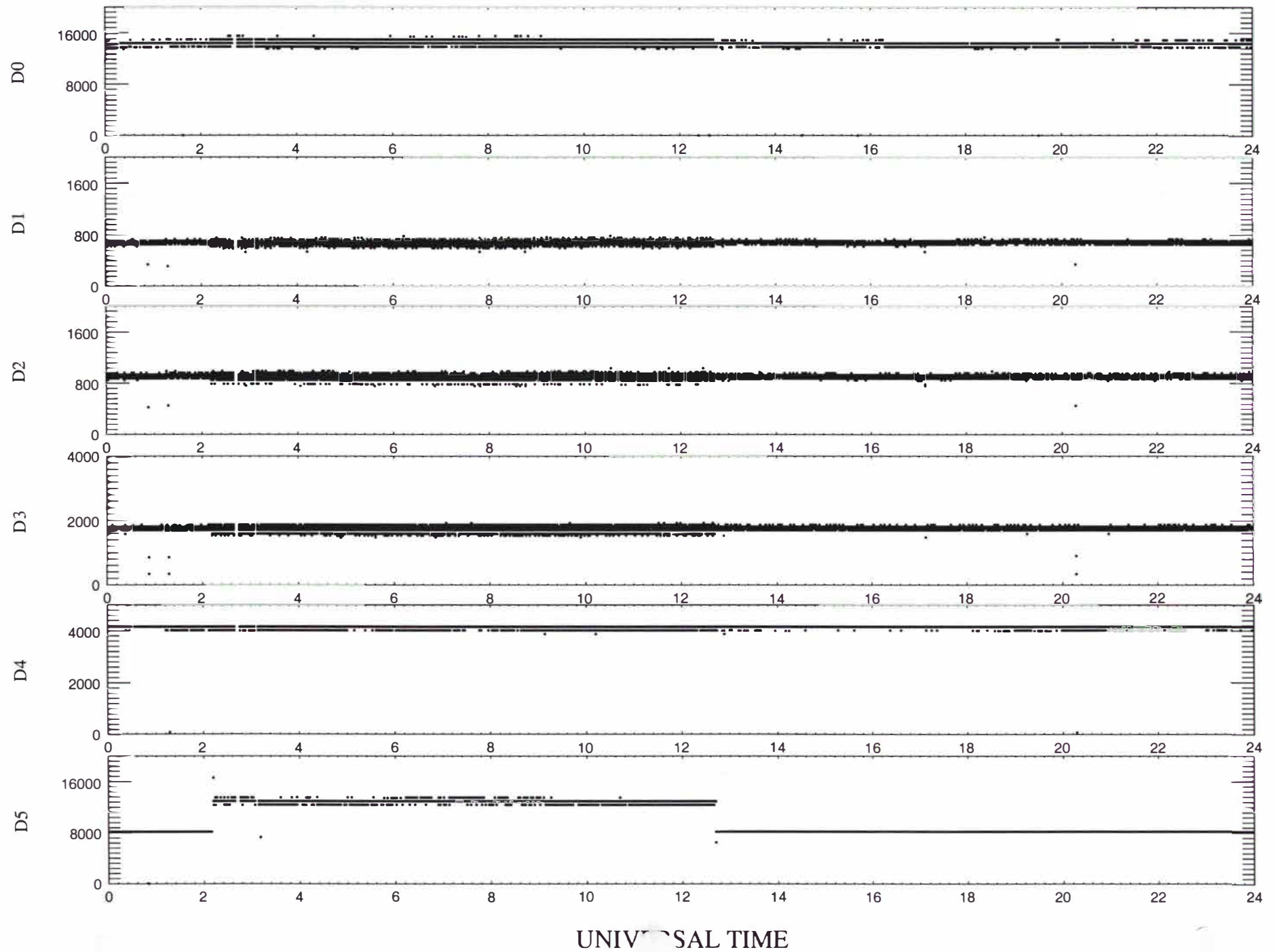
NO BURST (15)



CALIBRATION DATA INCLUDED



UNIVRSAL TIME



JANA TAB1 19990513 02255

ULYSSES RT

05/08/05

13/05/99 1800.443 s

0.500 S INTERVALS REGROUPED BY 2

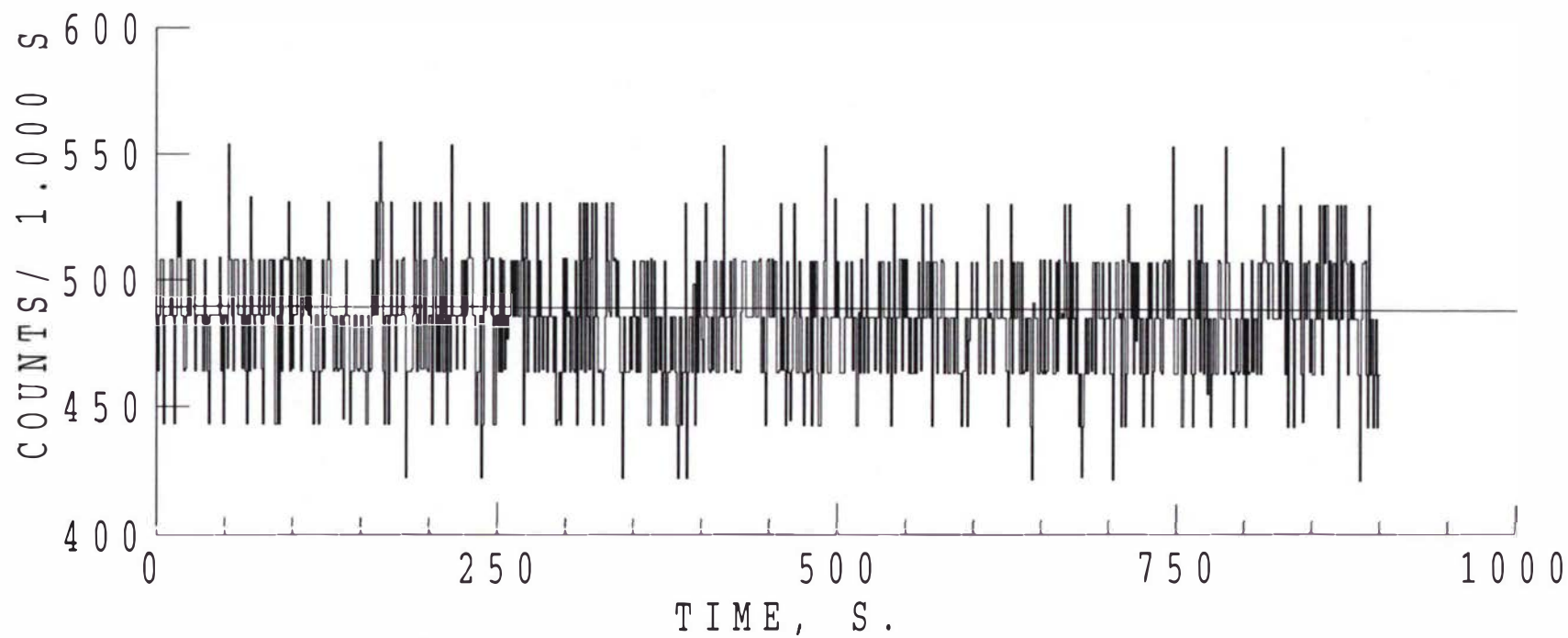
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Mon May 17 13:27:24 1999
Date: Mon, 17 May 1999 15:25:27 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7562

TIME: TJD=1311 SECONDS=29471

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=174.9 AZIMUTH=138.0 ERROR= 2.6 DEGREES

COMMENTS:

SGR 1806-20. SINGLE PULSE, DUR. APPROX. 0.09 S. NOT VISIBLE ABOVE 100 KEV.

BATSE BURST# 7562

ULYSSES RT

18 / 5 / 99

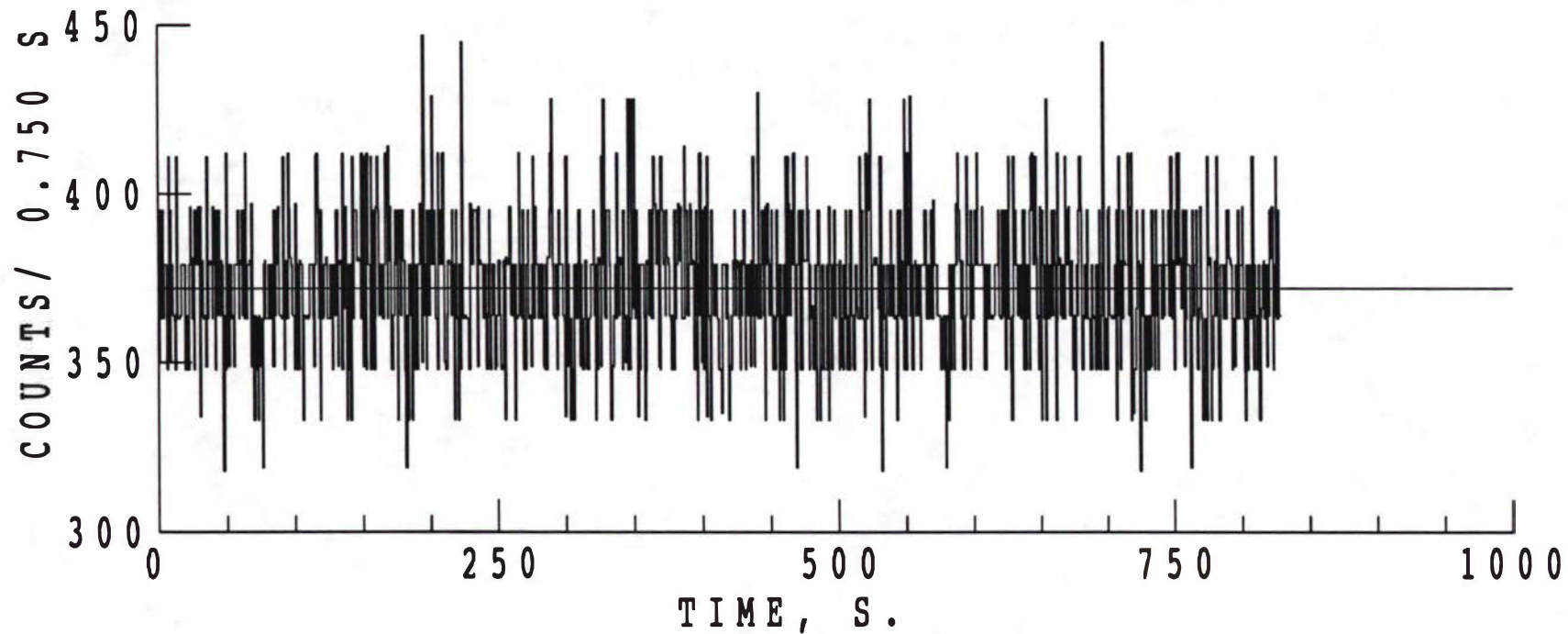
13 / 5 / 99 30312.236 s

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 GOGUSE@fender.msfc.nasa.gov Thu May 20 08:08:41 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 IAA08556; Thu, 20 May 1999 08:08:40 -0700
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 (8.9.3/8.9.2) with SMTP id IAA10202
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 20 May 1999 08:05:42 -0700 (PDT)
Date: Thu, 20 May 1999 10:09:45 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990520100945.2021f975@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7563
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7563
EVENT OF 1999 MAY 13 DAY OF YEAR=133
EVENT CROSSING TIME AT BATSE : 57971. S. OR 16:06:11.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 327.000 -5.000
BATSE PEAK COUNTING RATE: 3100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 5/ 99 IS:
RA= 144.068 DEC= -6.931 DIST= 4.726 AU
BATSE-ULYSSES DISTANCE = 707003939. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 12.28 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2304.31 SECS.
CROSSING TIME AT ULYSSES IS 60275. S. OR 16:44:35 +/- 172.11 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 5/ 99 IS:
RA= 205.963 DEC= -10.144 DIST= 0.590 AU
MARS-BATSE DISTANCE = 88294968. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 60.64 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 144.39 SECS.
CROSSING TIME AT MARS IS 58115. S. OR 16:08:35 +/- 46.76 SECONDS

BATSE BURST TRIGGER

NO.: 7563

TIME: TJD=1311 SECONDS=57971

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=131.0 AZIMUTH=337.1 ERROR= 4.4 DEGREES

COMMENTS:

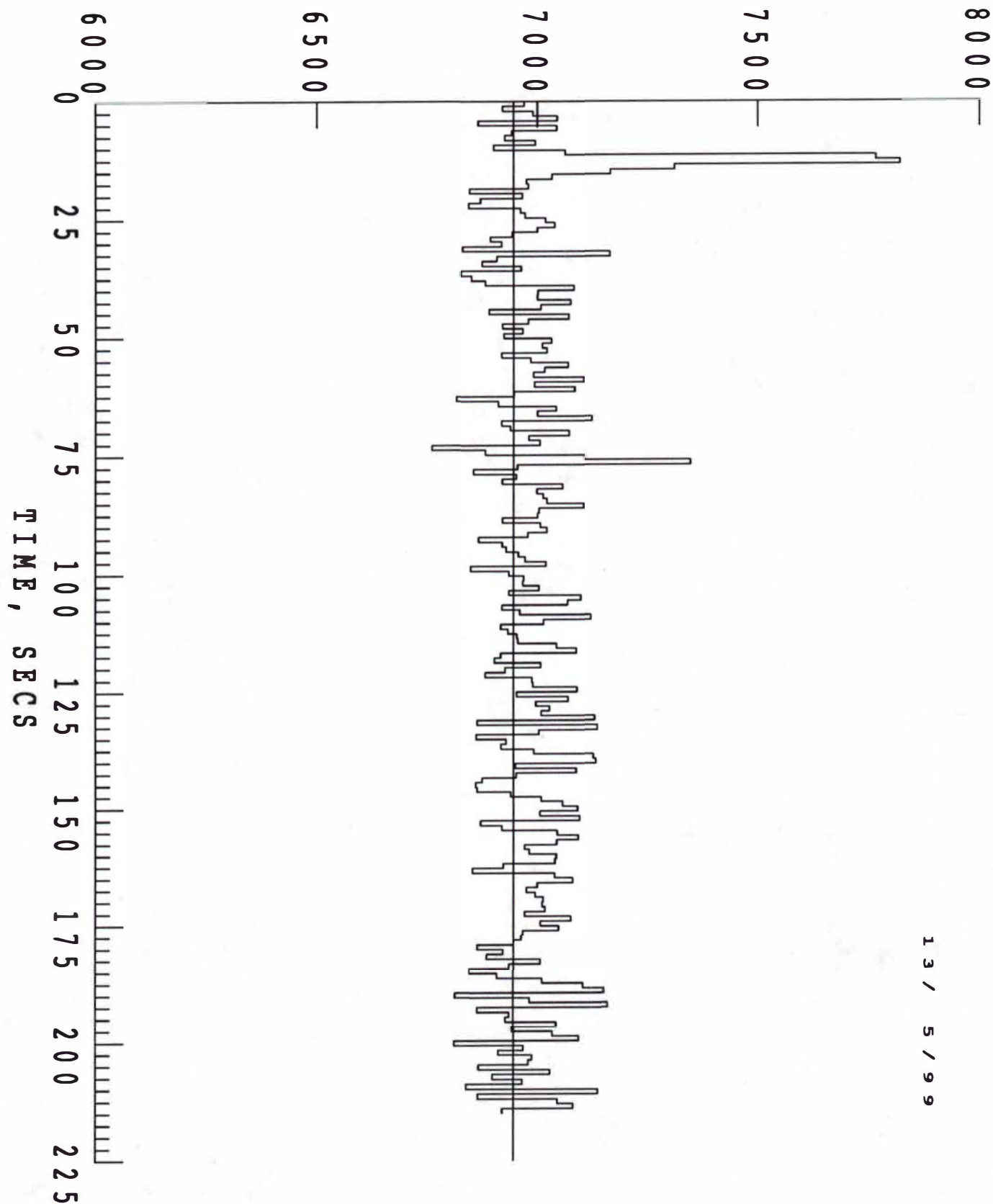
GRB, SINGLE PEAK WITH STRUCTURE, DURATION APPROX. 3 SEC.
NOT VISIBLE ABOVE 300 KEV

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7563	990513	11311	57971	3100	327	-05	3

BACODINE 7563 13/05/99 57959.161

25- 100 keV

COUNTS/1.024 S



13 / 5 / 99

BATSE BURST# 7563

ULYSSES RT

20 / 5 / 99

13 / 5 / 99 60120.035 s

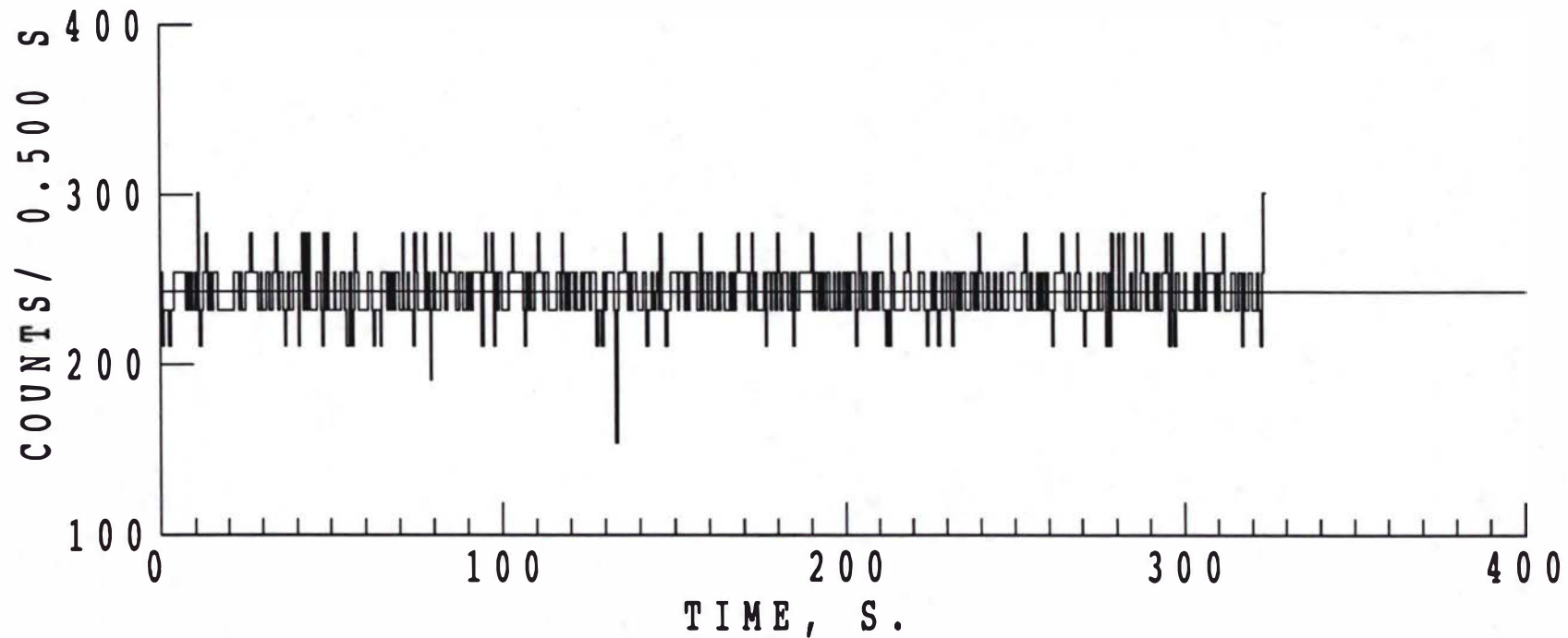
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From khurley@sunspot.ssl.berkeley.edu Tue May 18 08:10 PDT 1999
Date: Tue, 18 May 1999 08:12:23 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB990513

ULYSSES GAMMA-RAY BURST NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 13 1999 13:21*	weak, 32 ms long	2350

*Possibly SGR1806-20; if so, Earth-crossing is 1250 s earlier.

Was this event detected by anyone else?

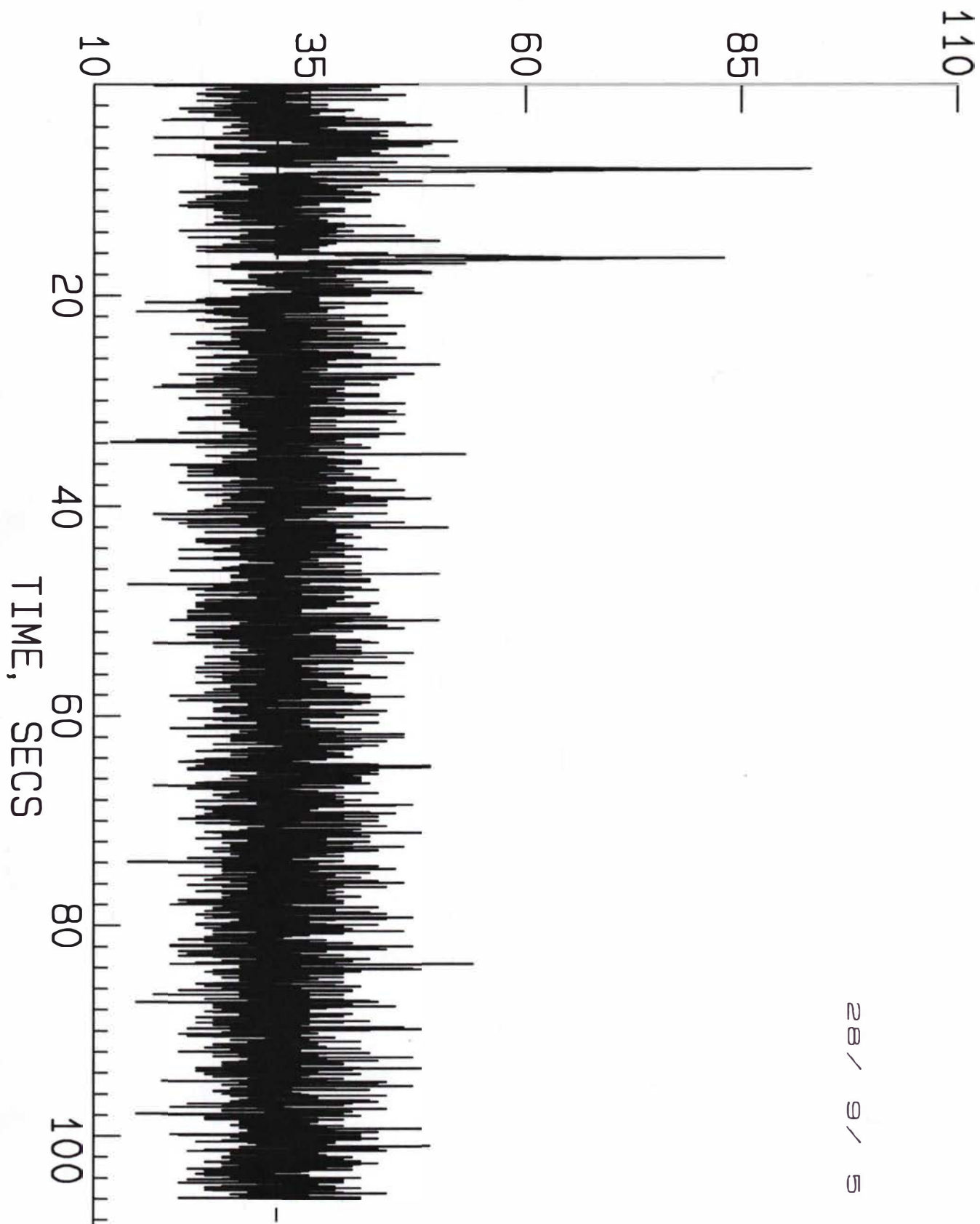
CC: ulyssesbursts alias list
(barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, tee

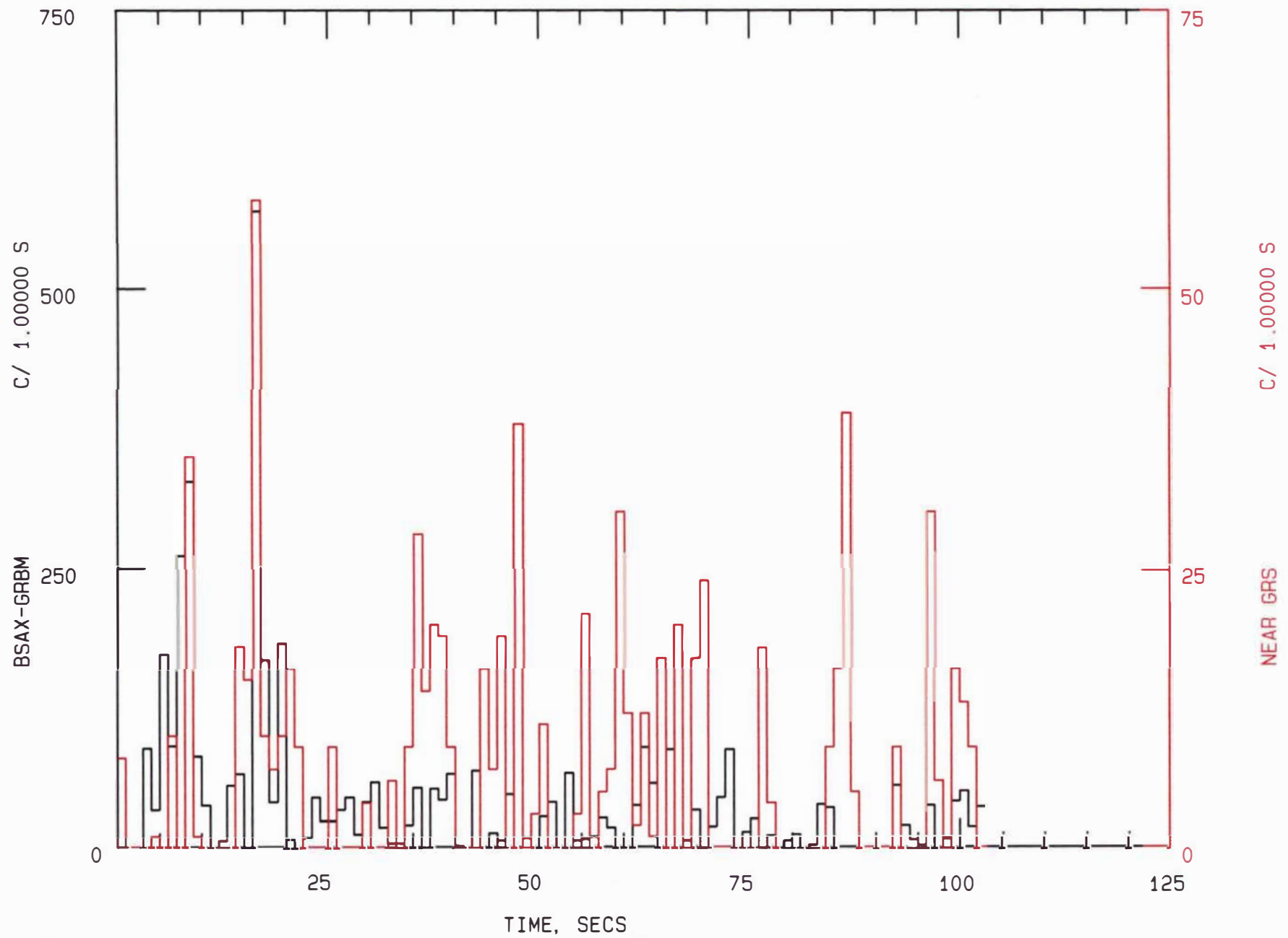
SAX GRBM

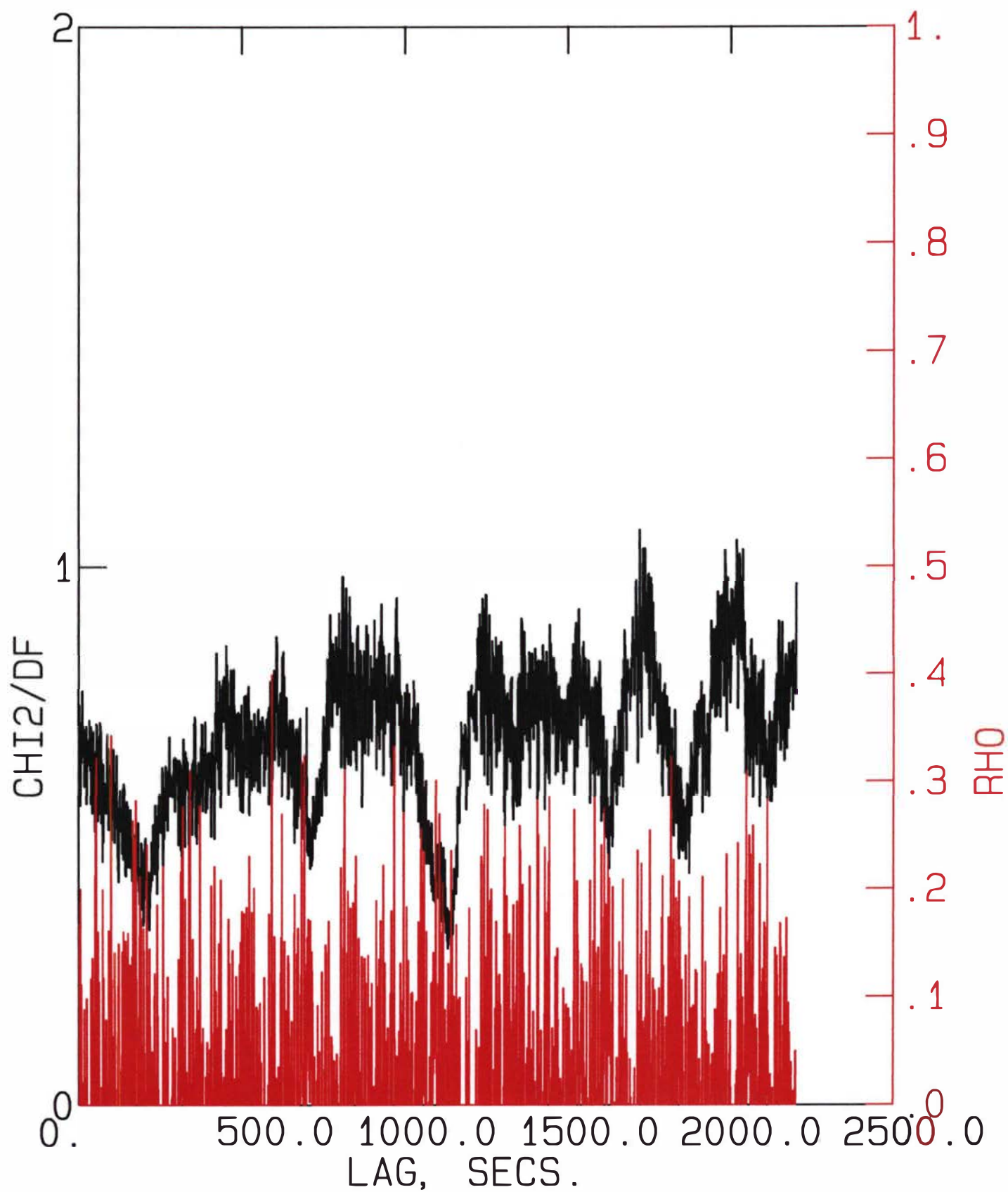
13/05/99 68775.694

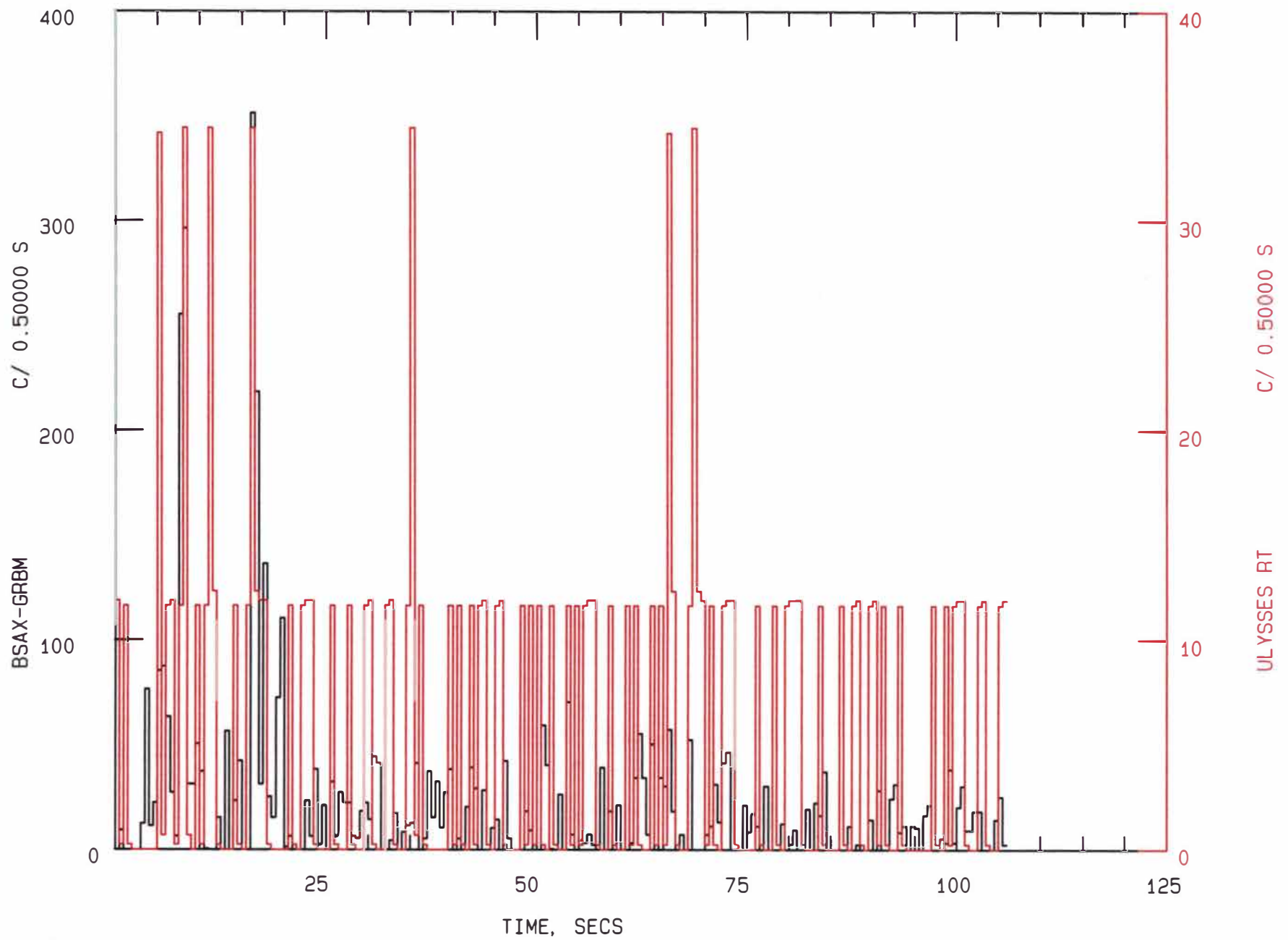
40- 700 keV

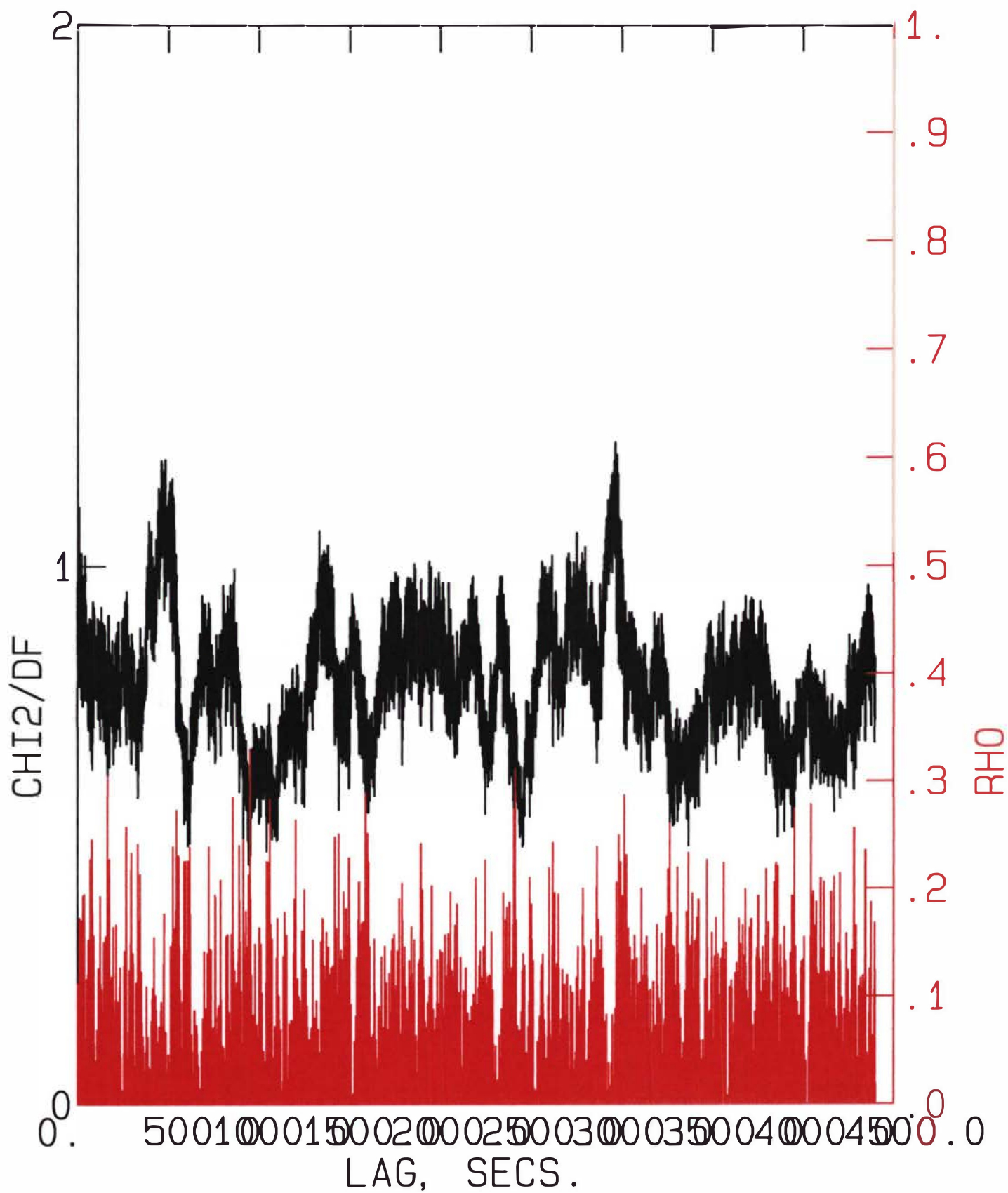
COUNTS/0.031 S







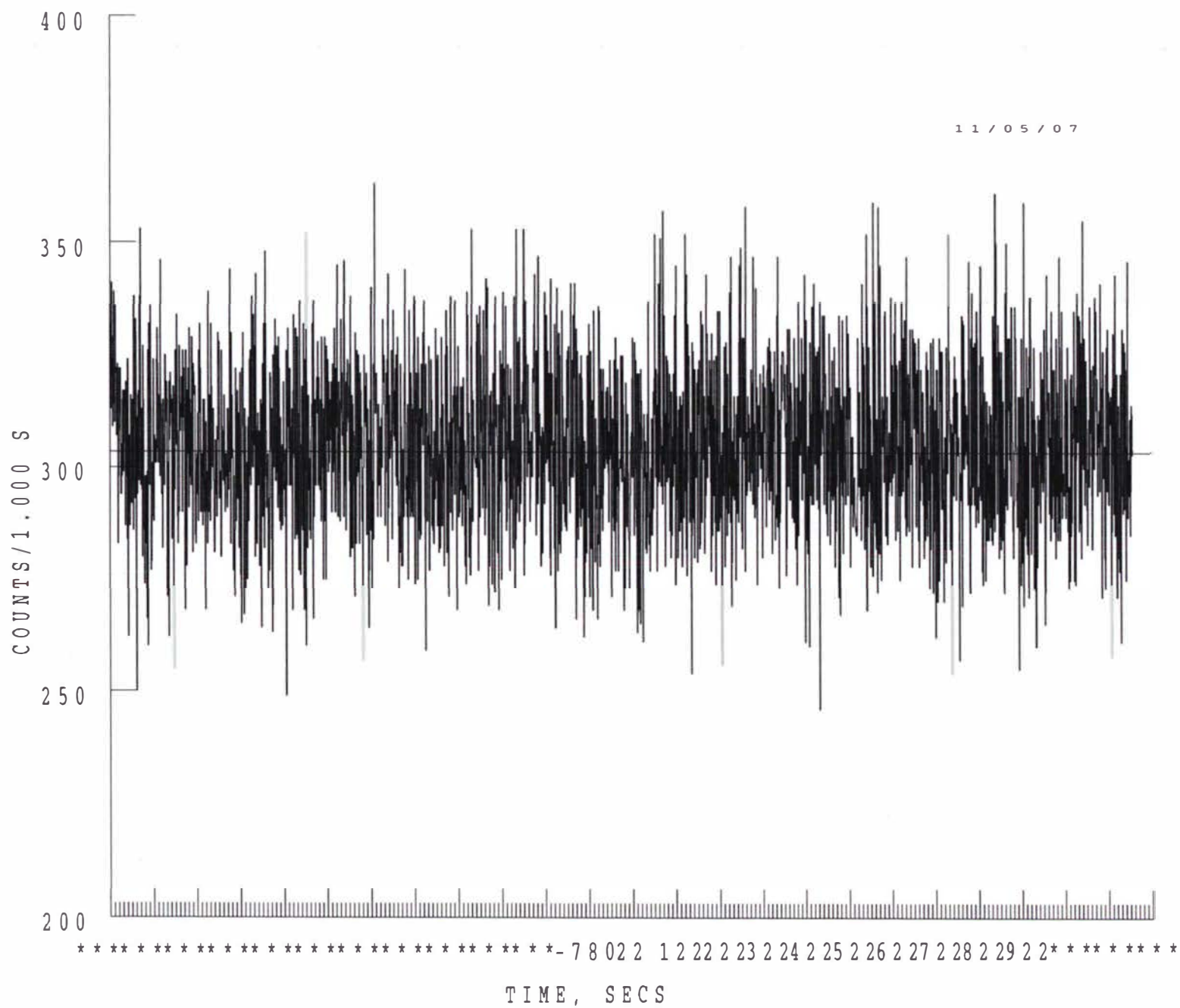




NEAR

13/05/99 68782.906

100-1000 keV



SAX GRBM
HUS DATA

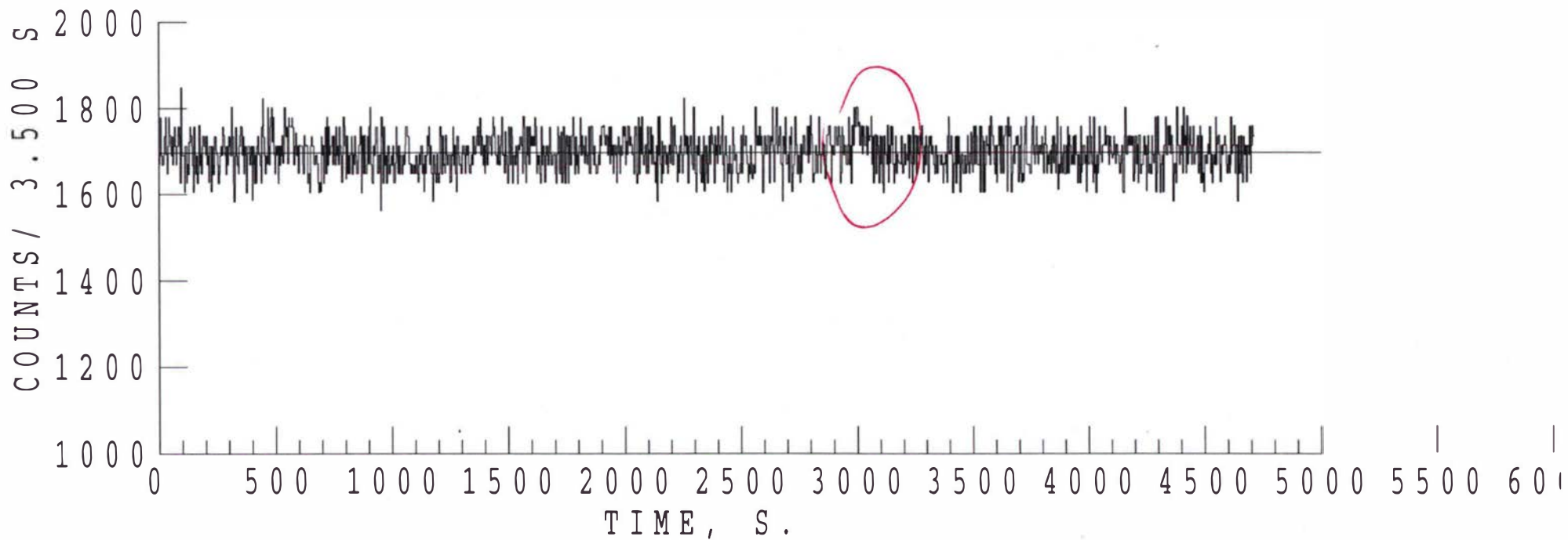
ULYSSES RT

19 / 07 / 05

13 / 05 / 99 66420.094 s
0.500 S INTERVALS REGROUPED BY 7
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Mon May 17 13:52:10 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 NAA10089; Mon, 17 May 1999 13:52:09 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id NAA07733
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 17 May 1999 13:49:16 -0700 (PDT)
Date: Mon, 17 May 1999 15:53:13 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990517155313.2021ba77@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7564
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7564
EVENT OF 1999 MAY 13 DAY OF YEAR=133
EVENT CROSSING TIME AT BATSE : 71295. S. OR 19:48:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 339.000 -75.000
BATSE PEAK COUNTING RATE: 6900 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 13/ 5/ 99 IS:
RA= 144.065 DEC= -6.929 DIST= 4.728 AU
BATSE-ULYSSES DISTANCE = 707309895. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 82.43 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 310.79 SECS.
CROSSING TIME AT ULYSSES IS 71606. S. OR 19:53:25 +/- 460.77 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 13/ 5/ 99 IS:
RA= 205.963 DEC= -10.144 DIST= 0.590 AU
MARS-BATSE DISTANCE = 88294968. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 89.78 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1.11 SECS.
CROSSING TIME AT MARS IS 71296. S. OR 19:48:16 +/- 51.15 SECONDS

BATSE BURST TRIGGER

NO.: 7564

TIME: TJD=1311 SECONDS=71295

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=114.5 AZIMUTH= 62.2 ERROR= 1.8 DEGREES

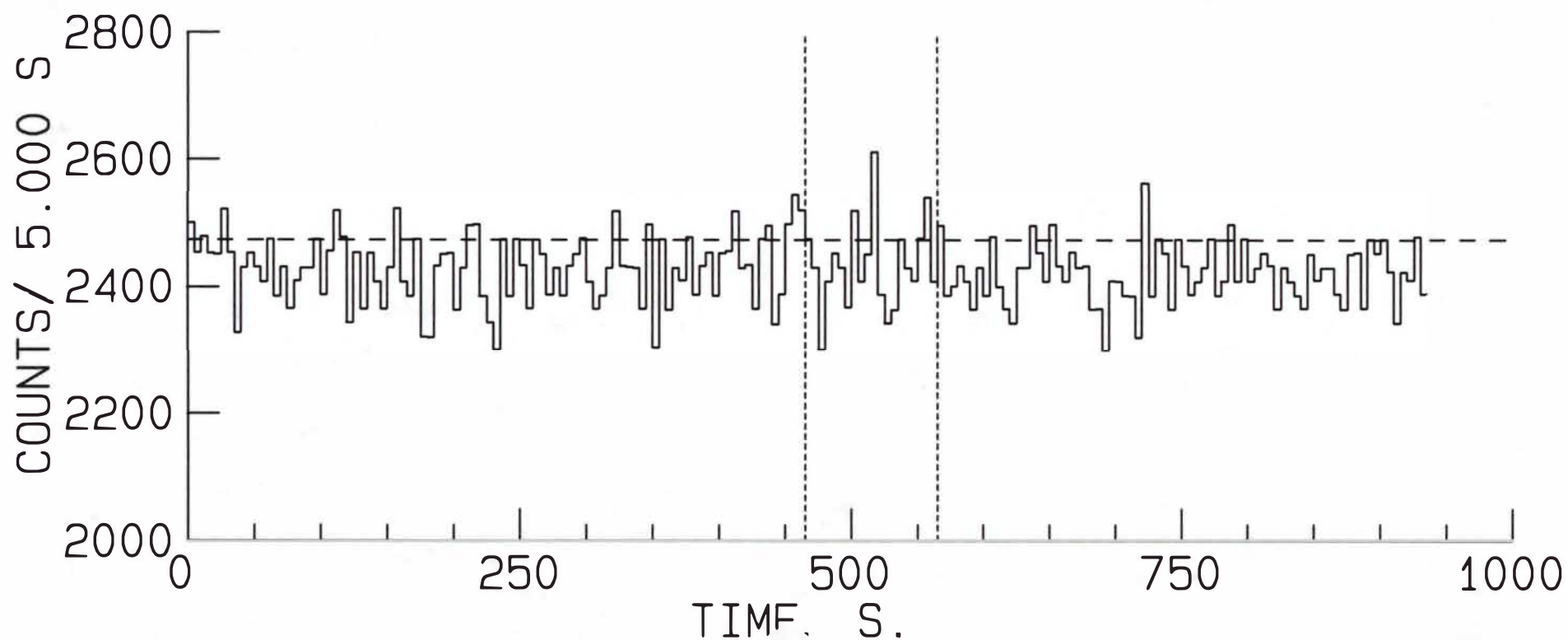
COMMENTS:

SINGLE PULSE WITH STRUCTURE, DUR. APPROX. 8 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7564	990513	11311	71295	6900	339	-75	8

ULYSSES RT
13/ 5/99 71136.145 s
0.500 S INTERVALS REGROUPED BY 10
22- 150 keV

29/ 5/99



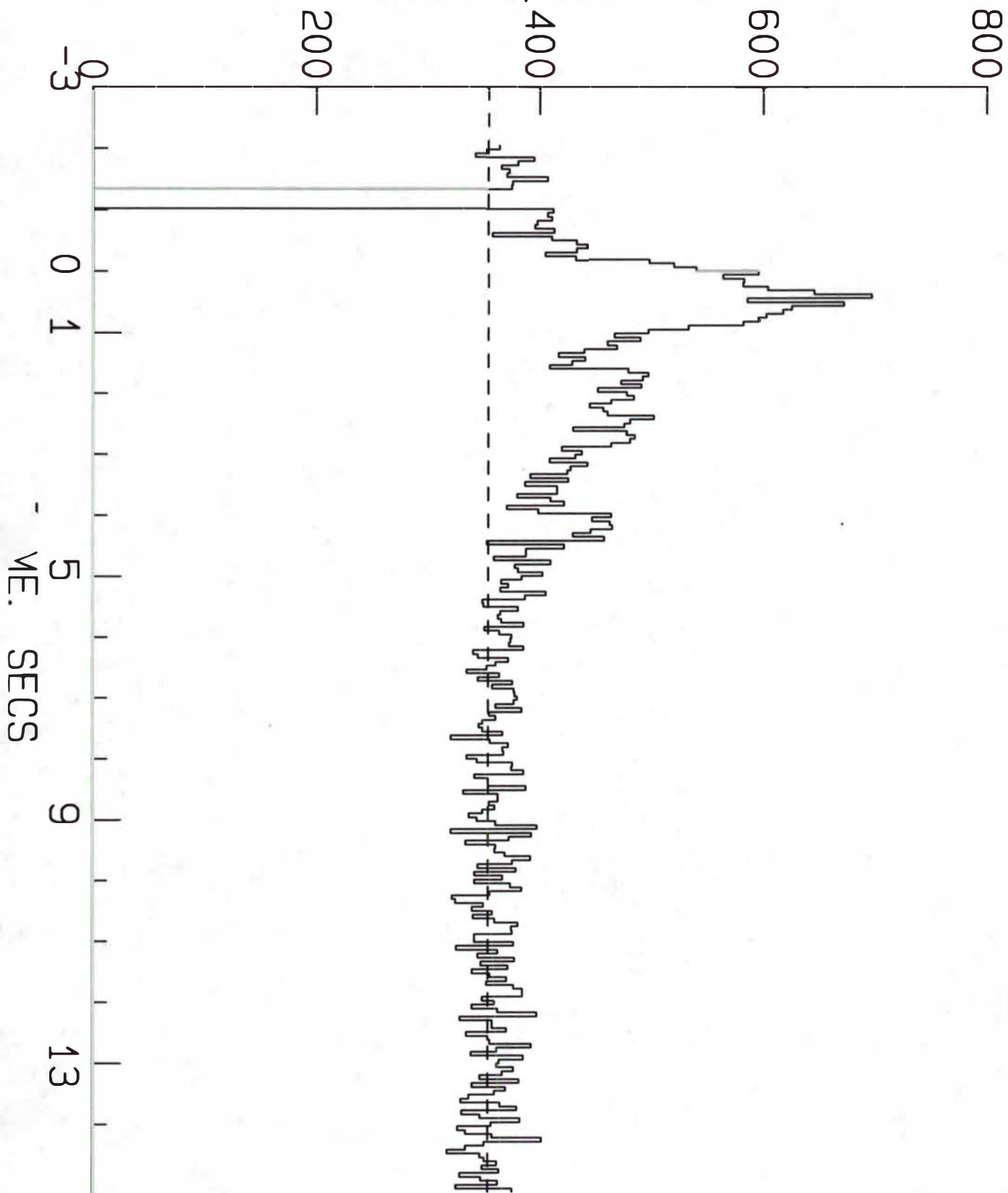
BATSE

13/05/99

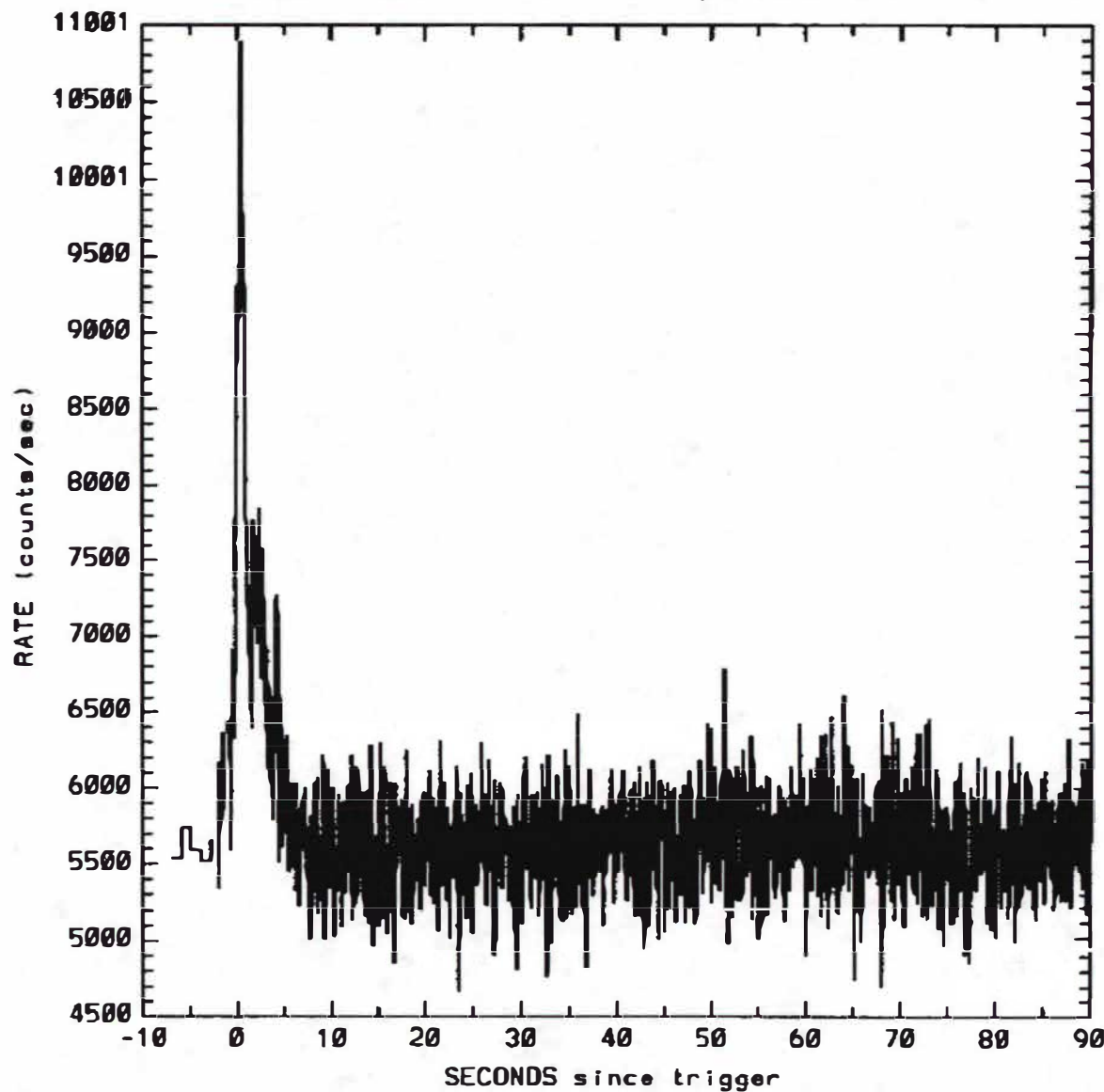
71295.481

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7564



24-MAY-1999 09:39.11

Created by MOPS BD
(Burst Display)
Version 12.26

Trigger # . 7564

Trigger Time:
11311 / 71295.481

Burst Data Type:
DISCSC

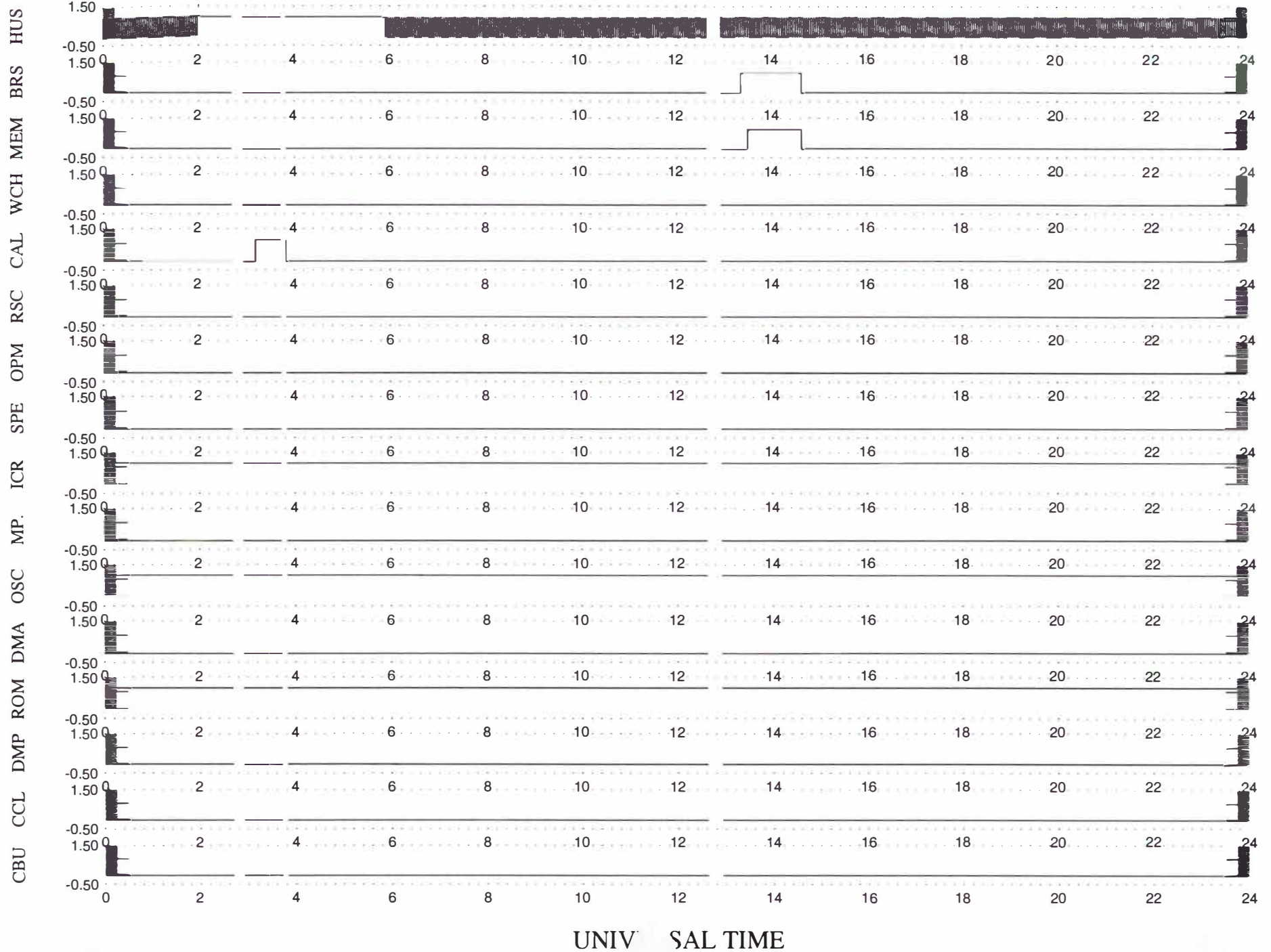
Deadtime
Corrected: N
Background Data
Type: PREB + DISCLA
Minimum Integ. Time:
0.064 second(s)

Detectors (7..0).
--5--1-

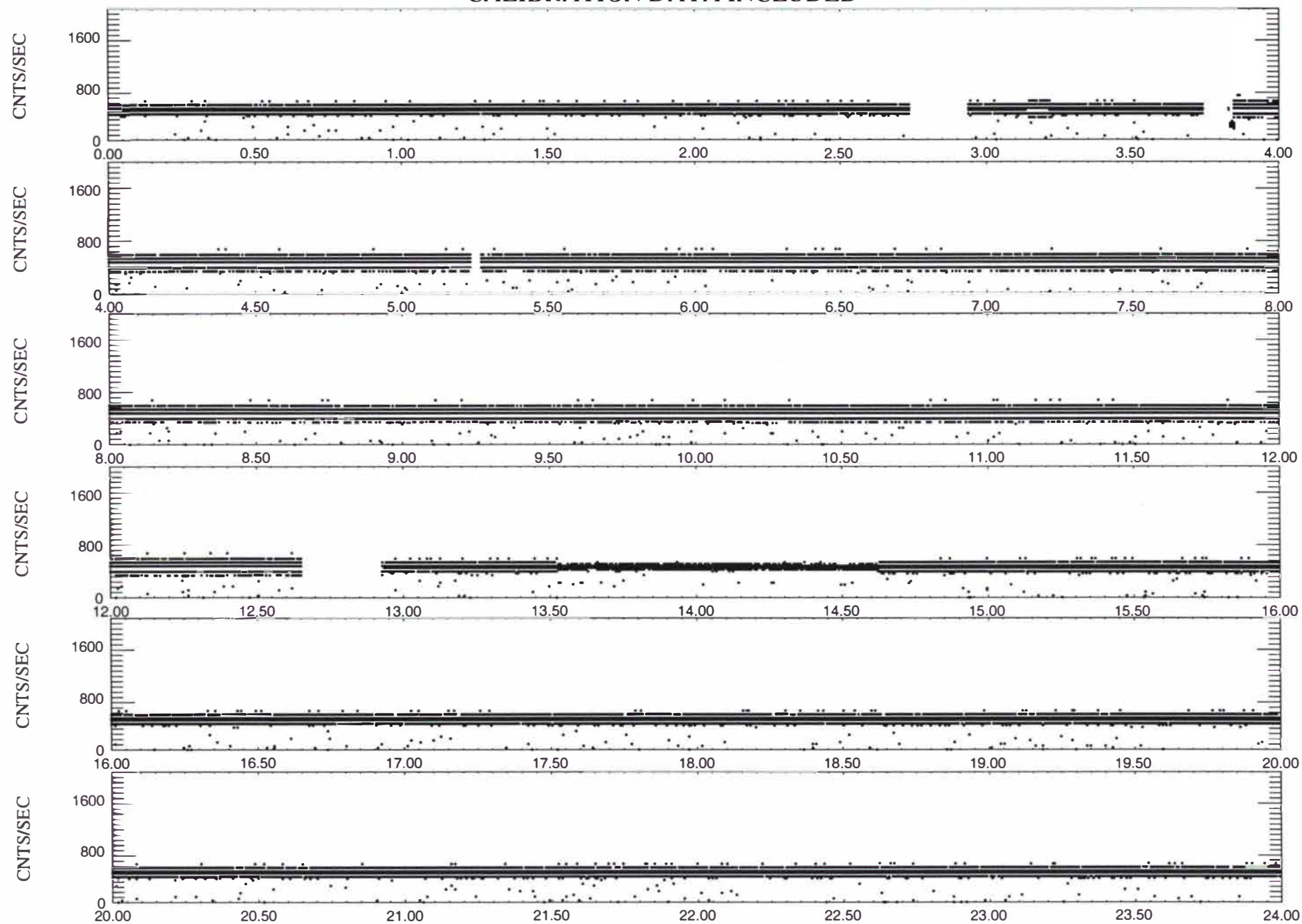
Discriminators:
(1..2)

Quality Mask:
BDISP1

BURST NUMBER 0

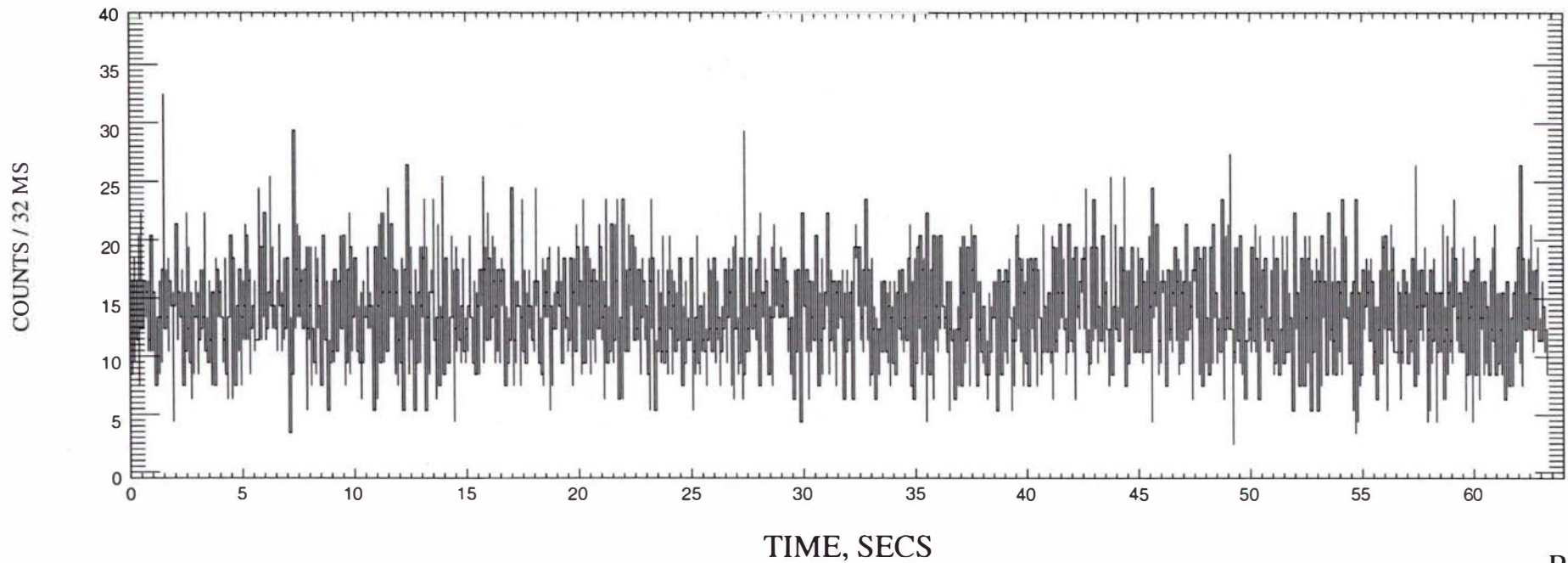
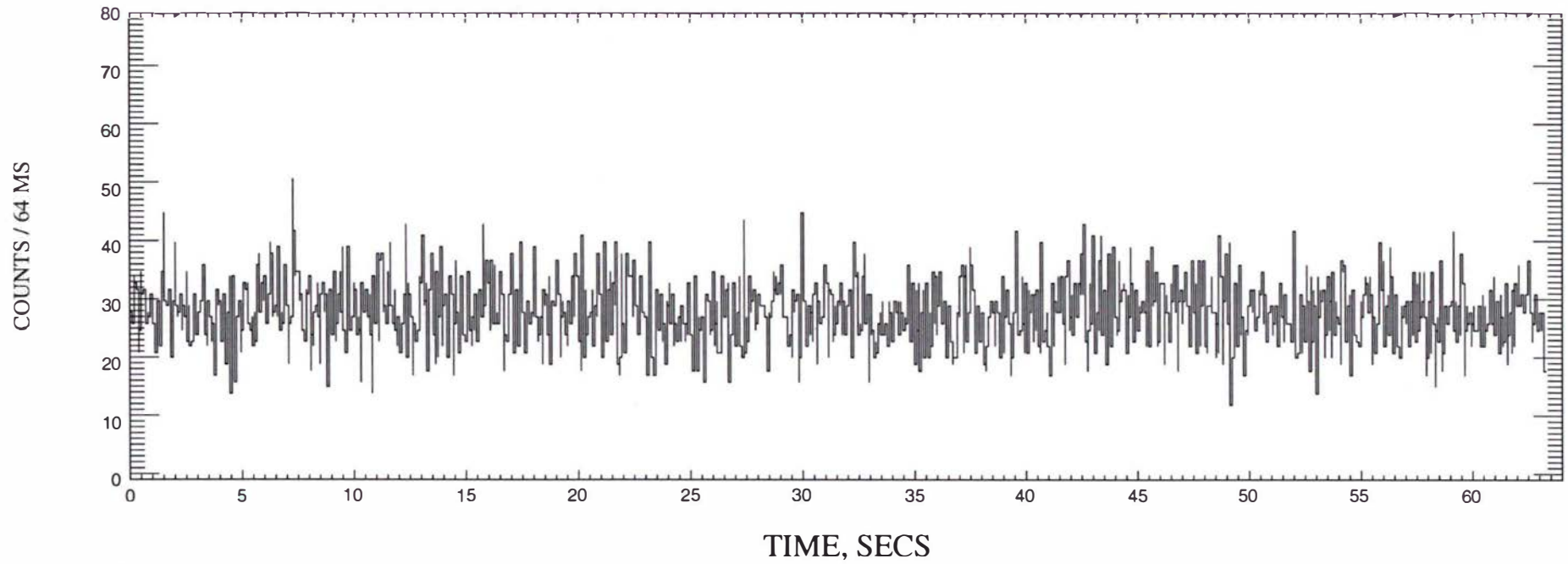


CALIBRATION DATA INCLUDED

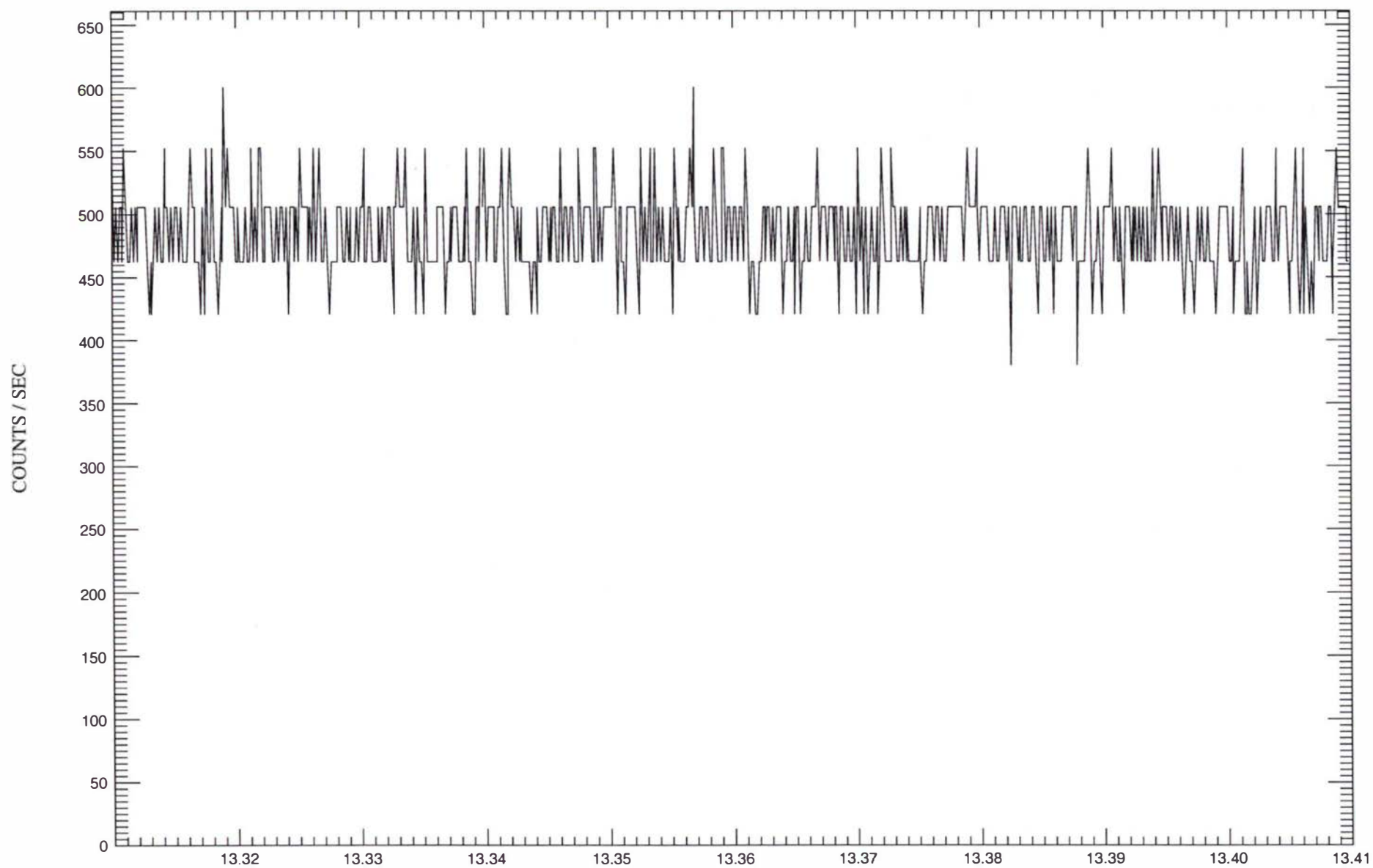


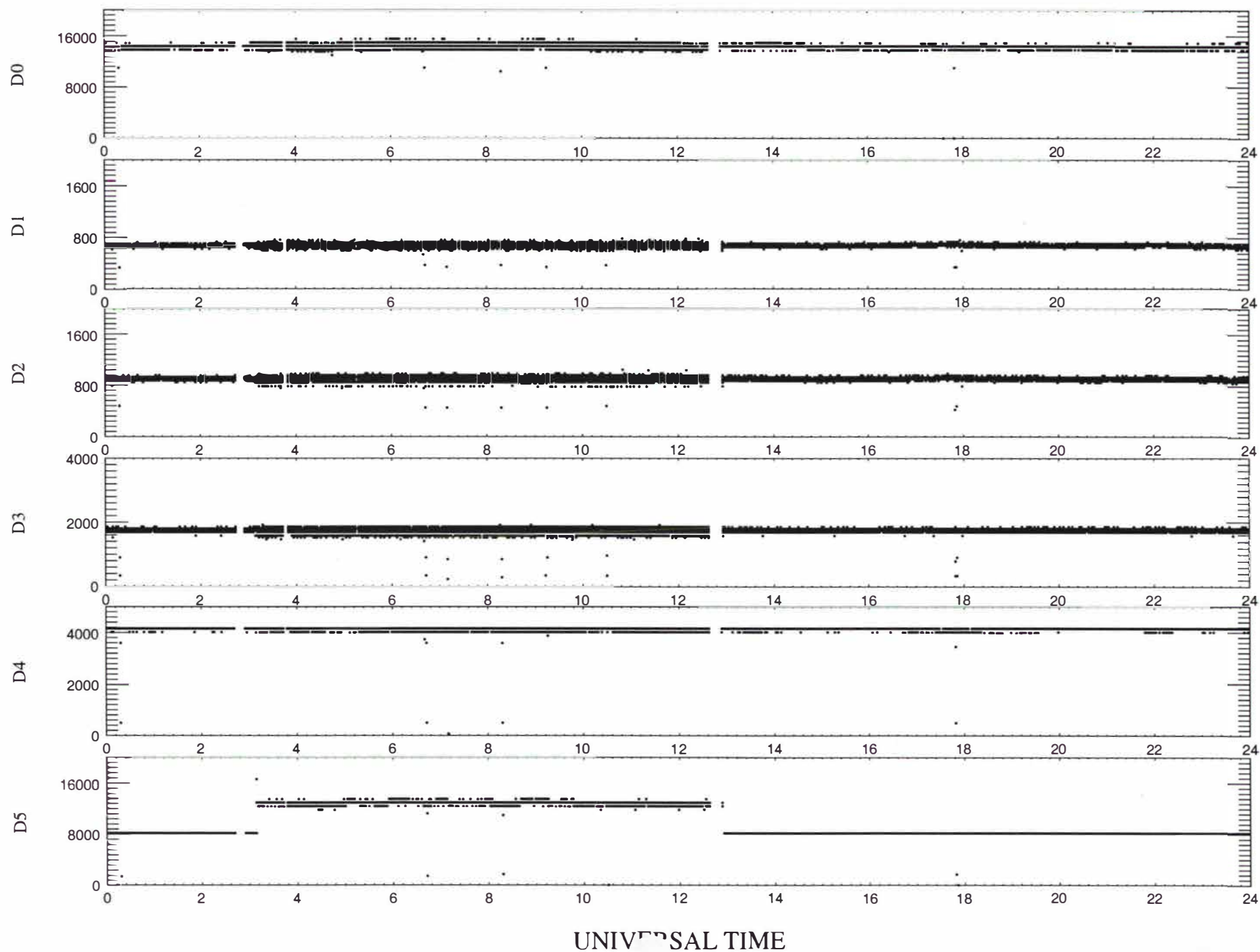
UNIVERSAL TIME

Burst Counter 0 at UT=13.357021484375 h=48085.277 s 13:21:25.277



CALIBRATION DATA INCLUDED





From MEEGAN@fender.msfc.nasa.gov Mon May 17 12:31:22 1999

From: MEEGAN@fender.msfc.nasa.gov

Date: Mon, 17 May 1999 14:28:08 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7565

14th

TIME: TJD=1312 SECONDS=40535

TYPE: SGR

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=176.0 AZIMUTH=176.3 ERROR=2,0 DEGREES

COMMENTS:

SGR 1806-20. SINGLE 0.1 S PULSE.

BATSE BURST# 7565

ULYSSES RT

18 / 5 / 99

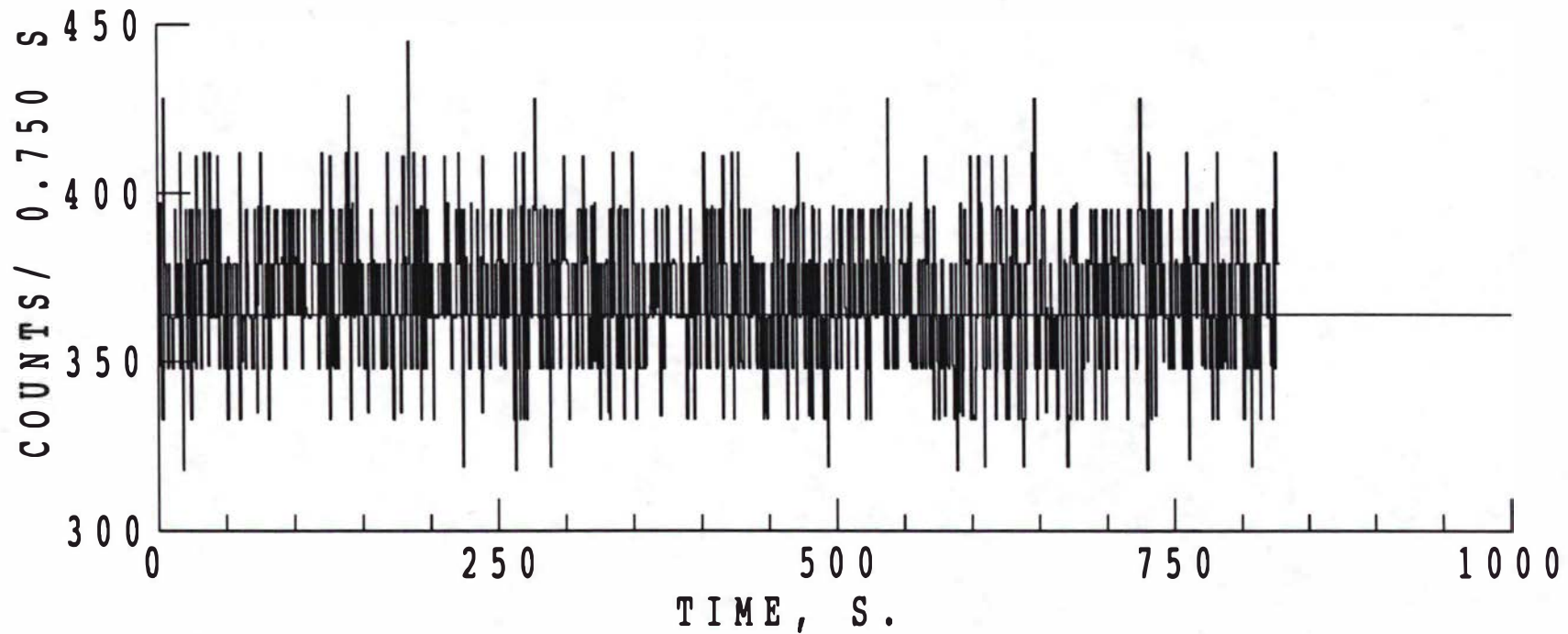
14 / 5 / 99 41364.219 s

0.250 S INTERVALS REGROUPED BY 3

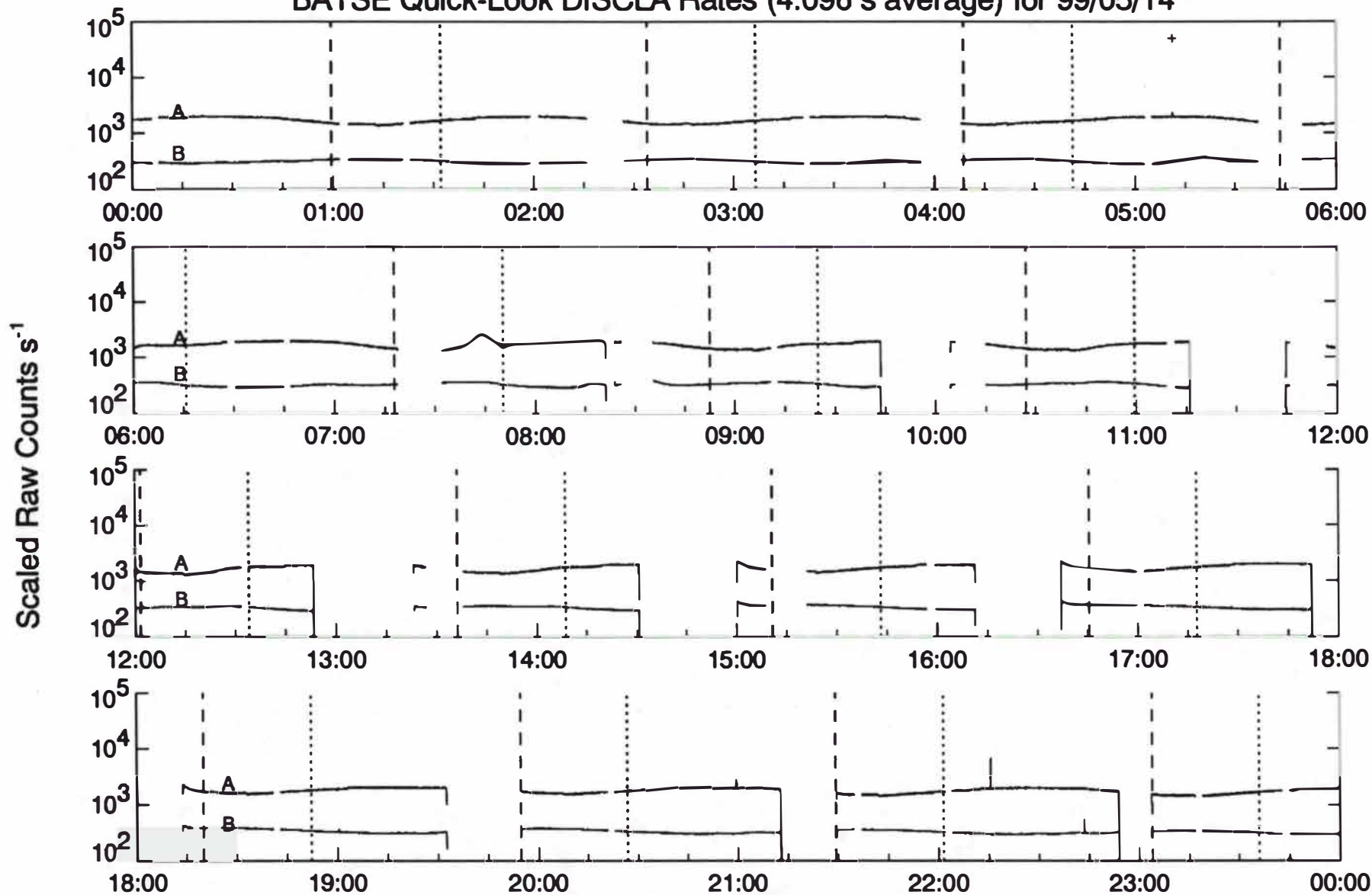
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/14

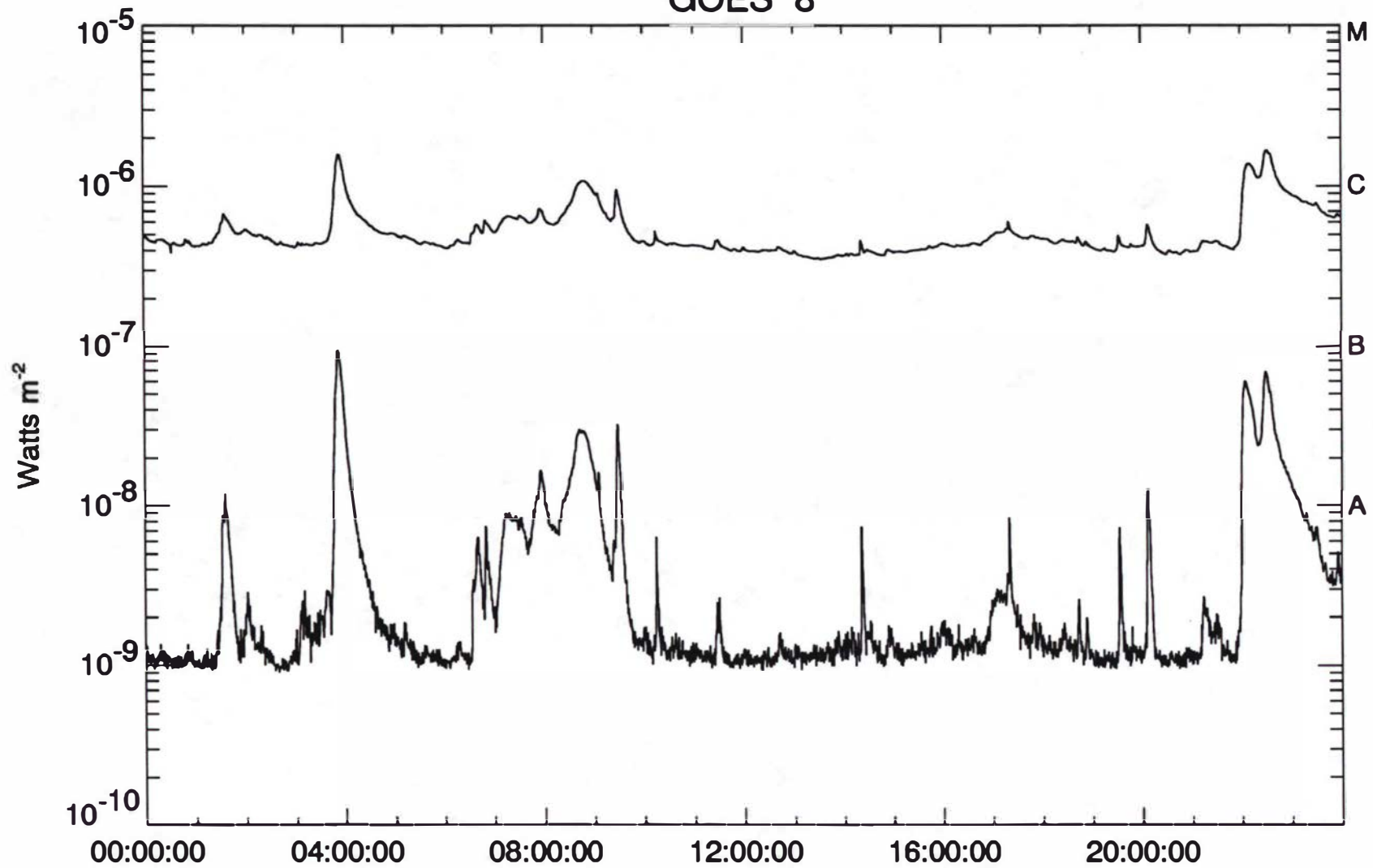


Current Time: 99/05/18, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

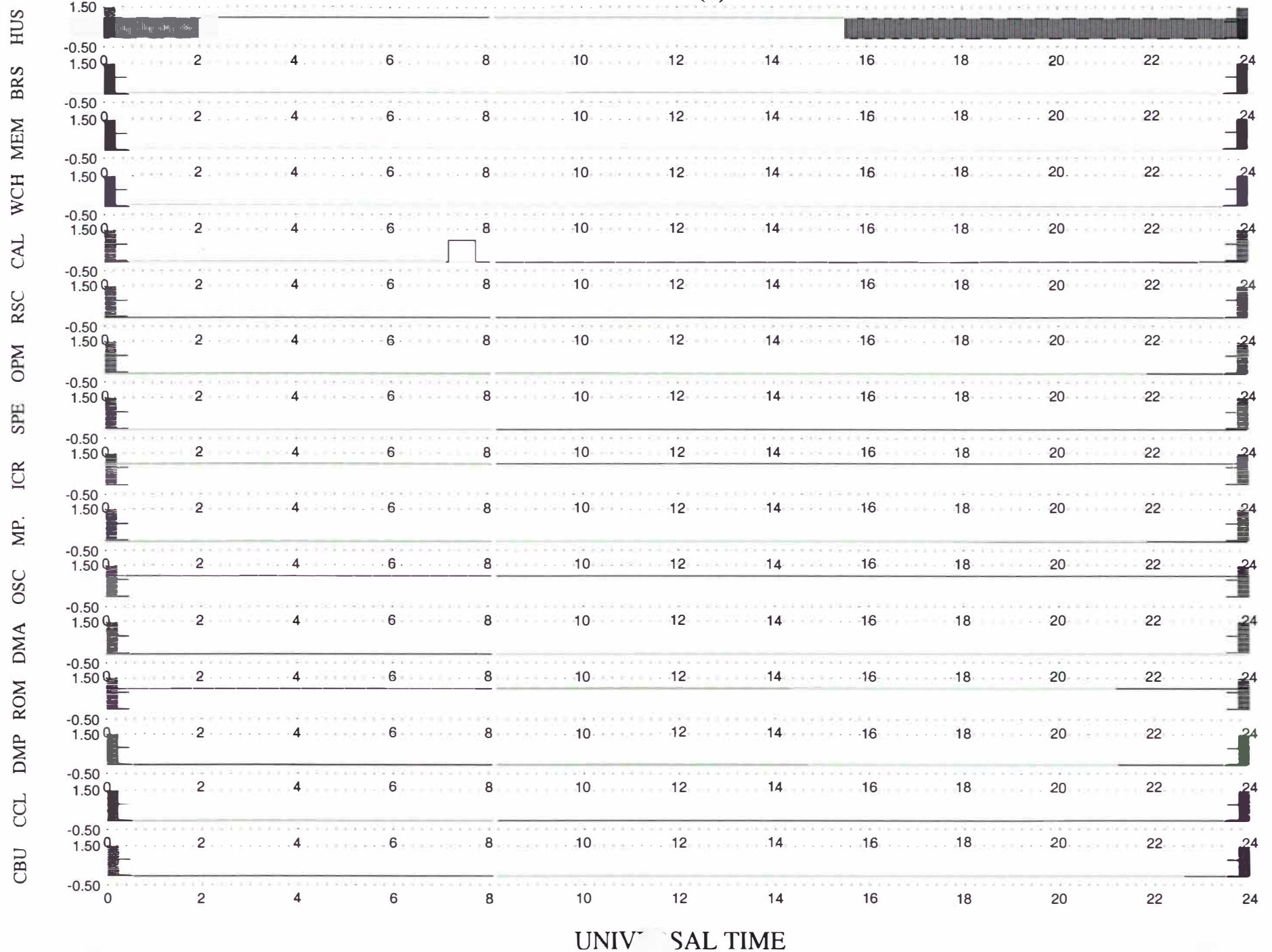


Data Start: 99/05/14, 0000:00

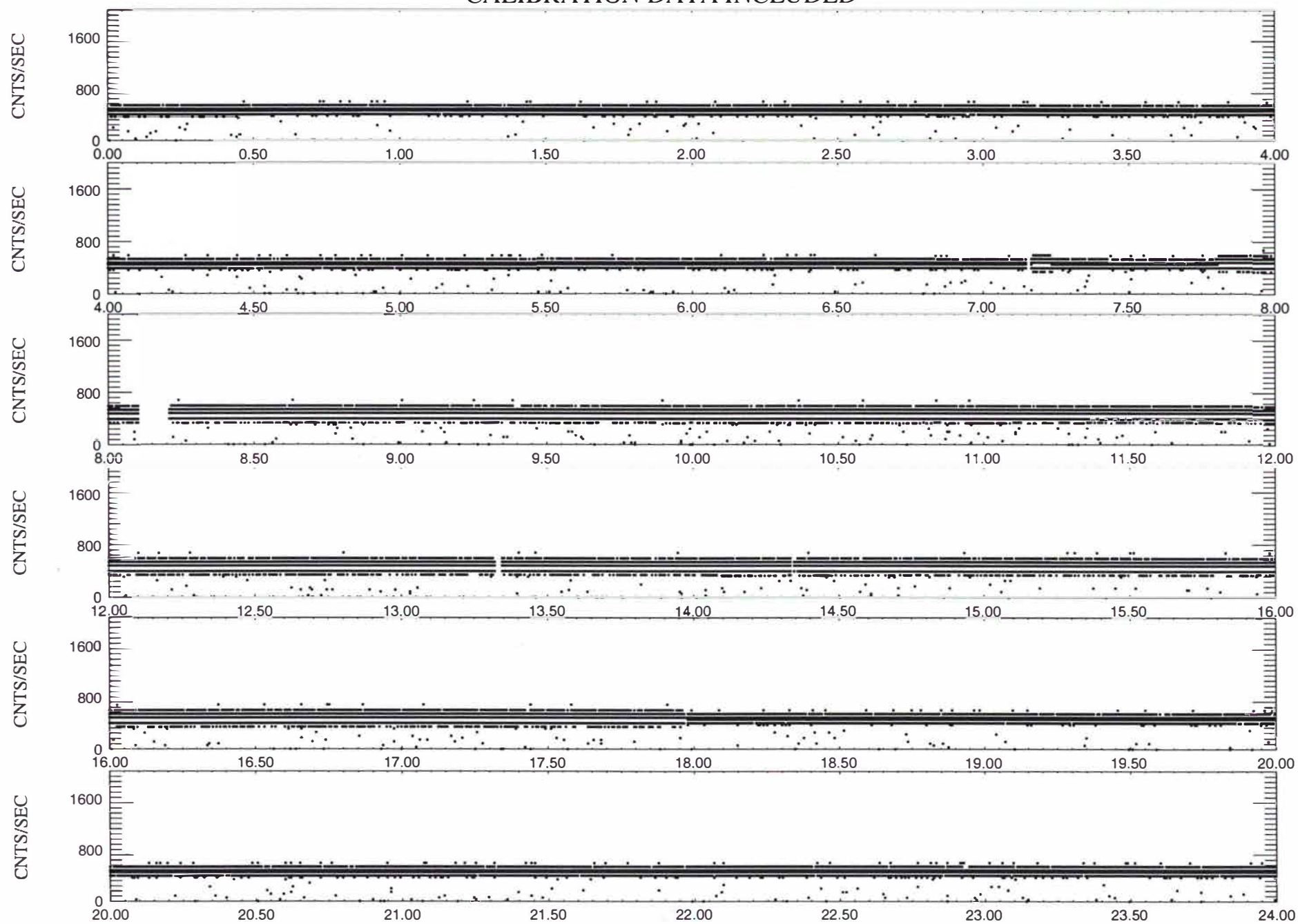
Plot created: 99/05/18, 1006

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

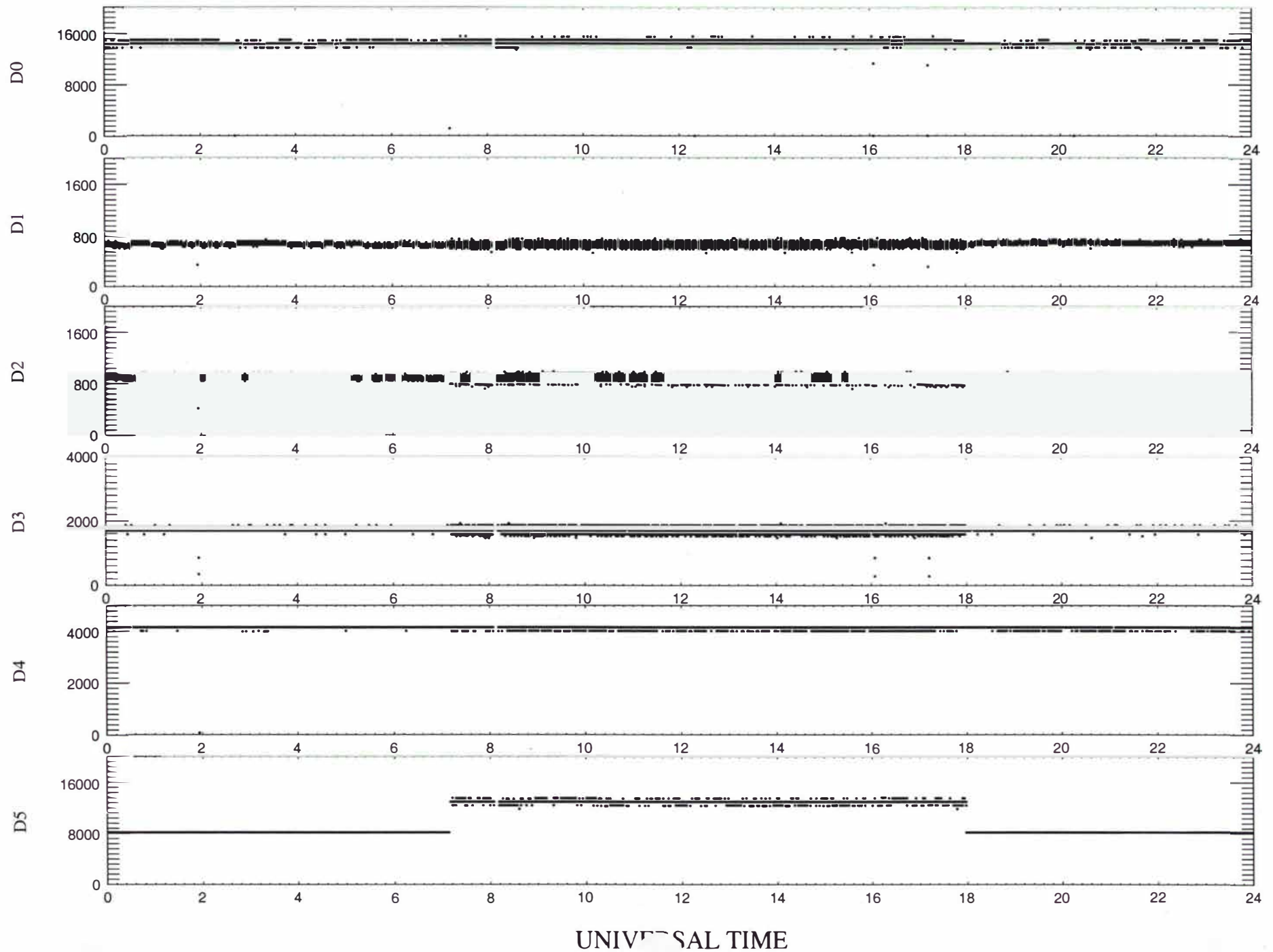
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From PETERSON@fender.msfc.nasa.gov Tue May 18 09:57:48 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 JAA23794; Tue, 18 May 1999 09:57:47 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA16967
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 18 May 1999 09:54:52 -0700 (PDT)
Date: Tue, 18 May 1999 11:53:01 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990518115301.2021c864@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7566
Content-Length: 1135
X-Lines: 26
Status: RO

*No - at second glance, it's too weak.
There are 2 widely separated excesses
in the Ulysses data, Either one
could be the burst*

BATSEARCH PROGRAM

BATSE BURST # 7566
EVENT OF 1999 MAY 15 DAY OF YEAR=135
EVENT CROSSING TIME AT BATSE : 4577. S. OR 01:16:17.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 44.000 -28.000
BATSE PEAK COUNTING RATE: 5200 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 15/ 5/ 99 IS:
RA= 144.045 DEC= -6.910 DIST= 4.744 AU
BATSE-ULYSSES DISTANCE = 709766452. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 228.25 SECS.
CROSSING TIME AT ULYSSES IS 4805. S. OR 01:20:05 +/- 462.59 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 15/ 5/ 99 IS:
RA= 205.407 DEC= -10.028 DIST= 0.595 AU
MARS-BATSE DISTANCE = 88952248. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 42.07 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 220.26 SECS.
CROSSING TIME AT MARS IS 4797. S. OR 01:19:57 +/- 37.86 SECONDS

BATSE BURST TRIGGER

NO.: 7566

TIME: TJD=1313 SECONDS= 4577

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=70 AZIMUTH=26.2 ERROR=2.61 DEGREES

COMMENTS:

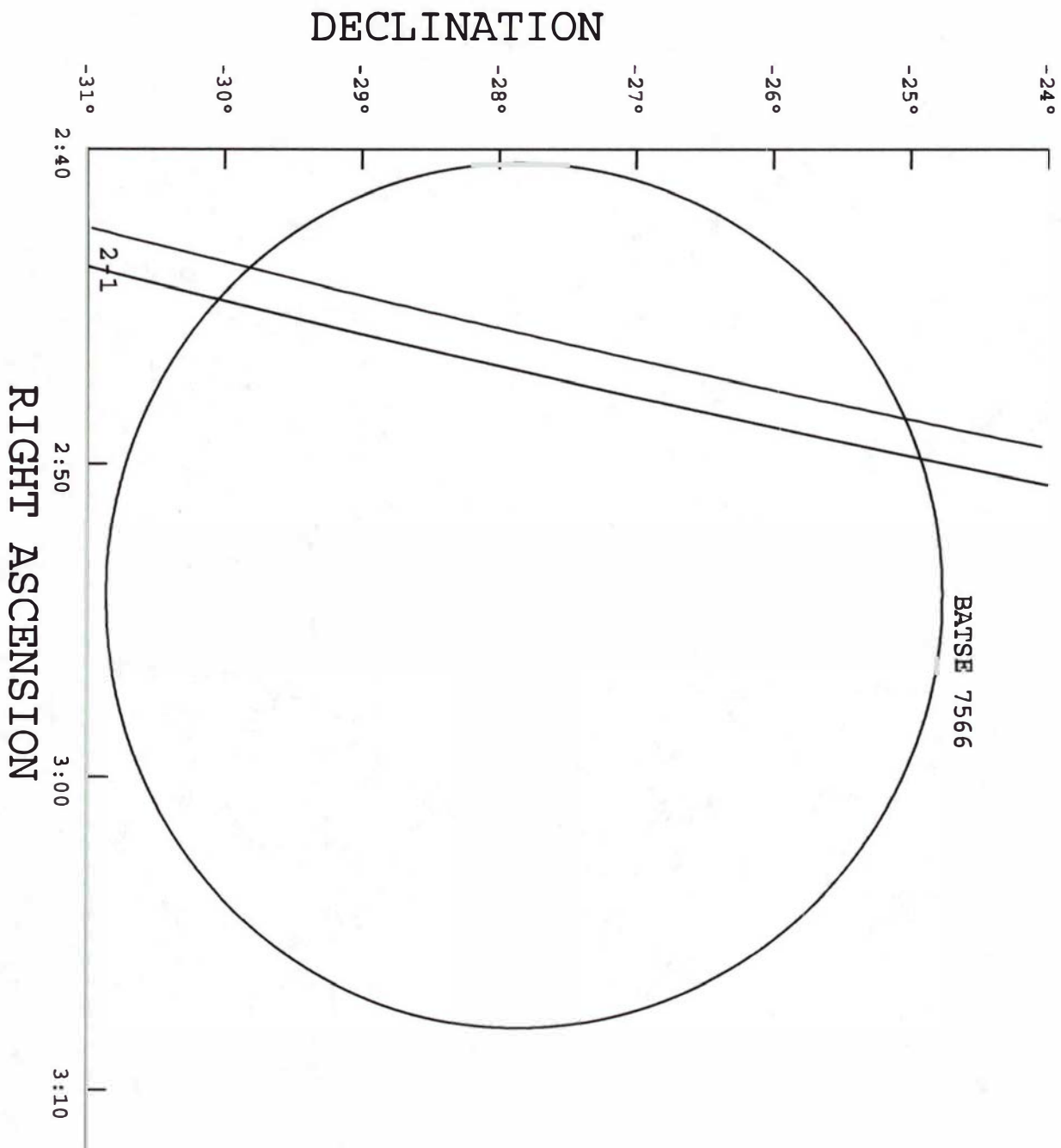
GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 45 S., STARTS AT APPROX.
T-4 S., MAX AT APPROX. T+15 S. WEAKLY VISIBLE ABOVE 300KEV. CRAB RISE AT APPROX.
T+310 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7566	990515	11313	04577	5200	044	-28	45

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

EVENT OF MAY 15, 1999 1:21

29 / 5/99



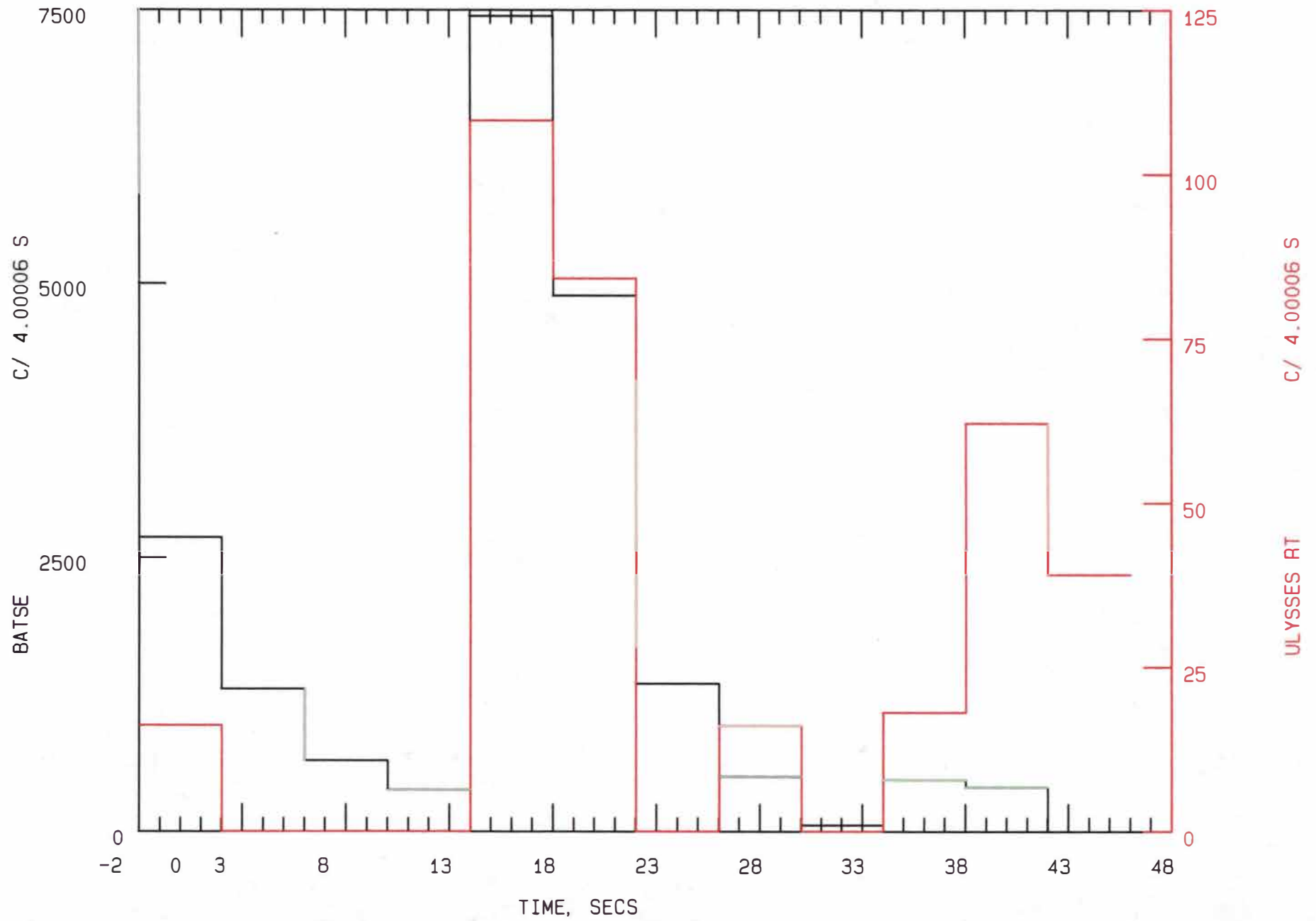
BATSE

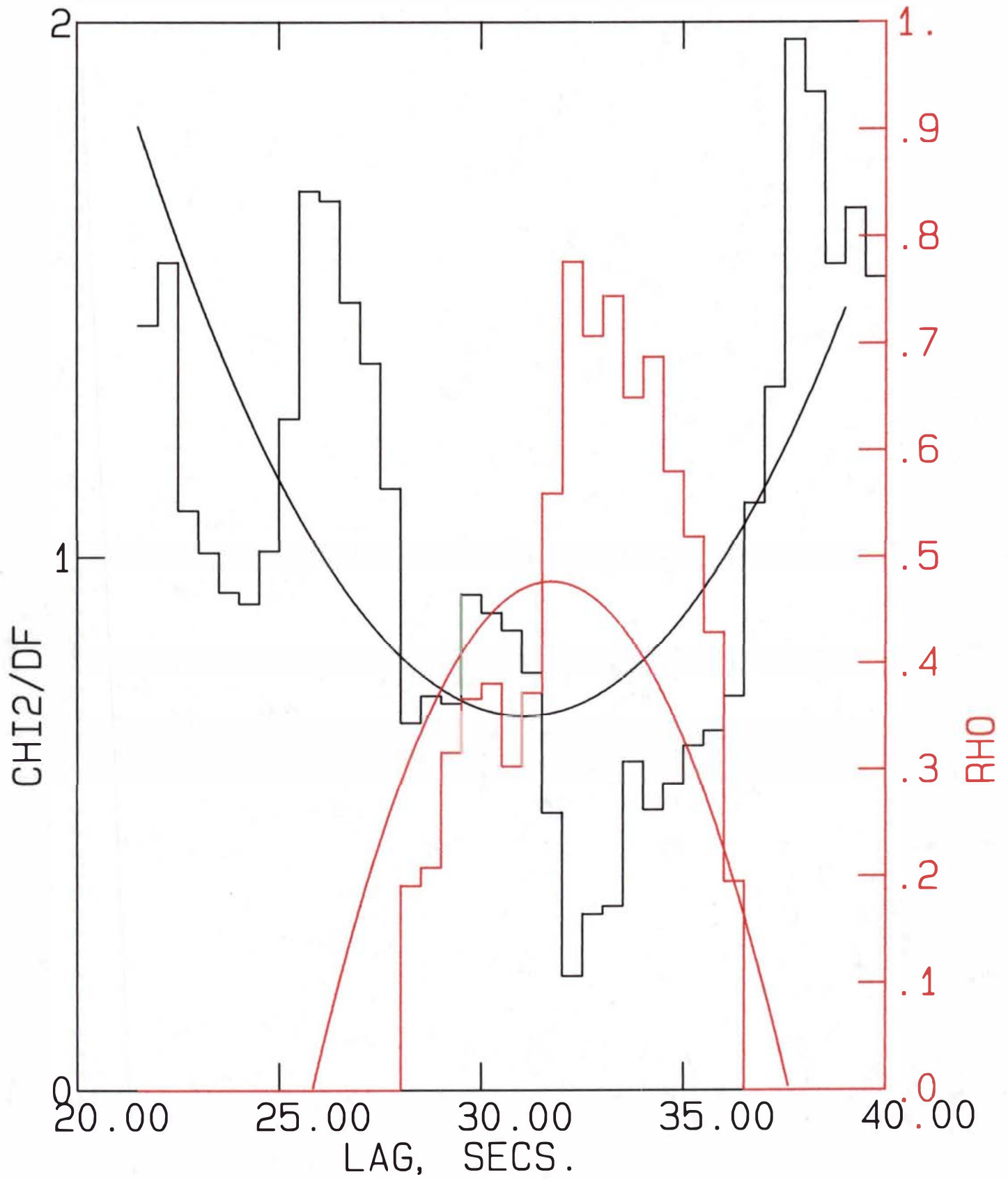
-ULYSSES RT CORRELATION

15/ 5/99

4577.017

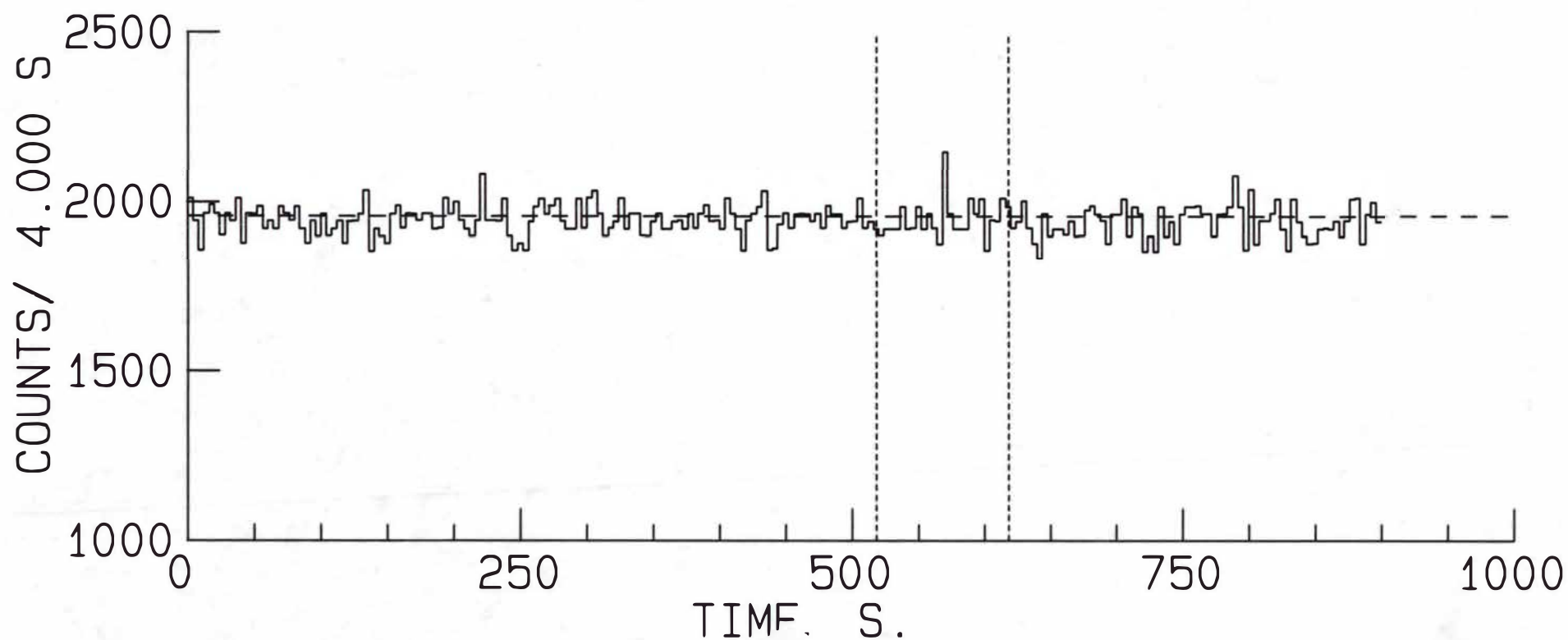
29/ 5/99





ULYSSES RT
15/ 5/99 4356.217 s
0.500 S INTERVALS REGROUPED BY 8
22- 150 keV

29/ 5/99



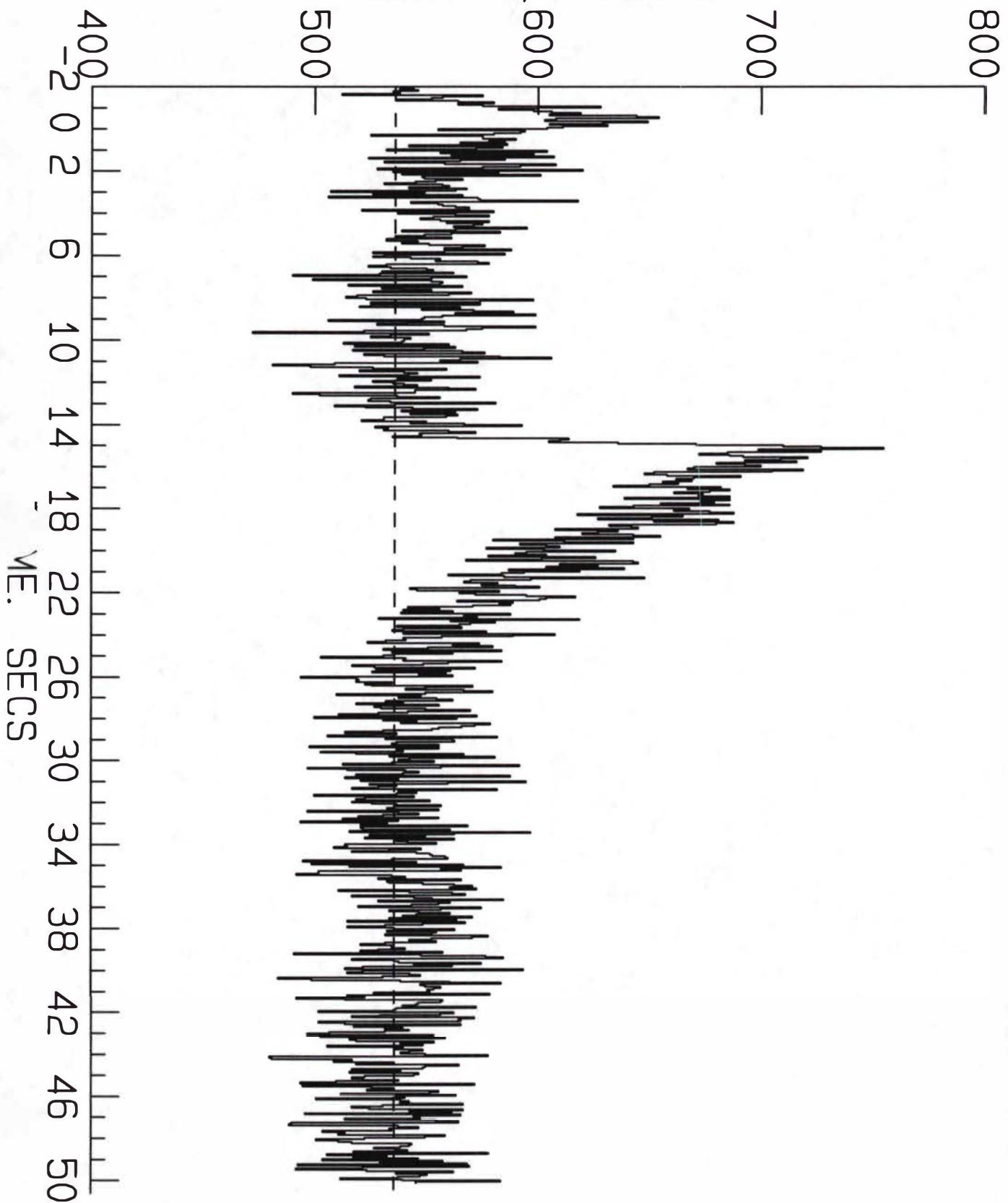
BATSE

15/05/99

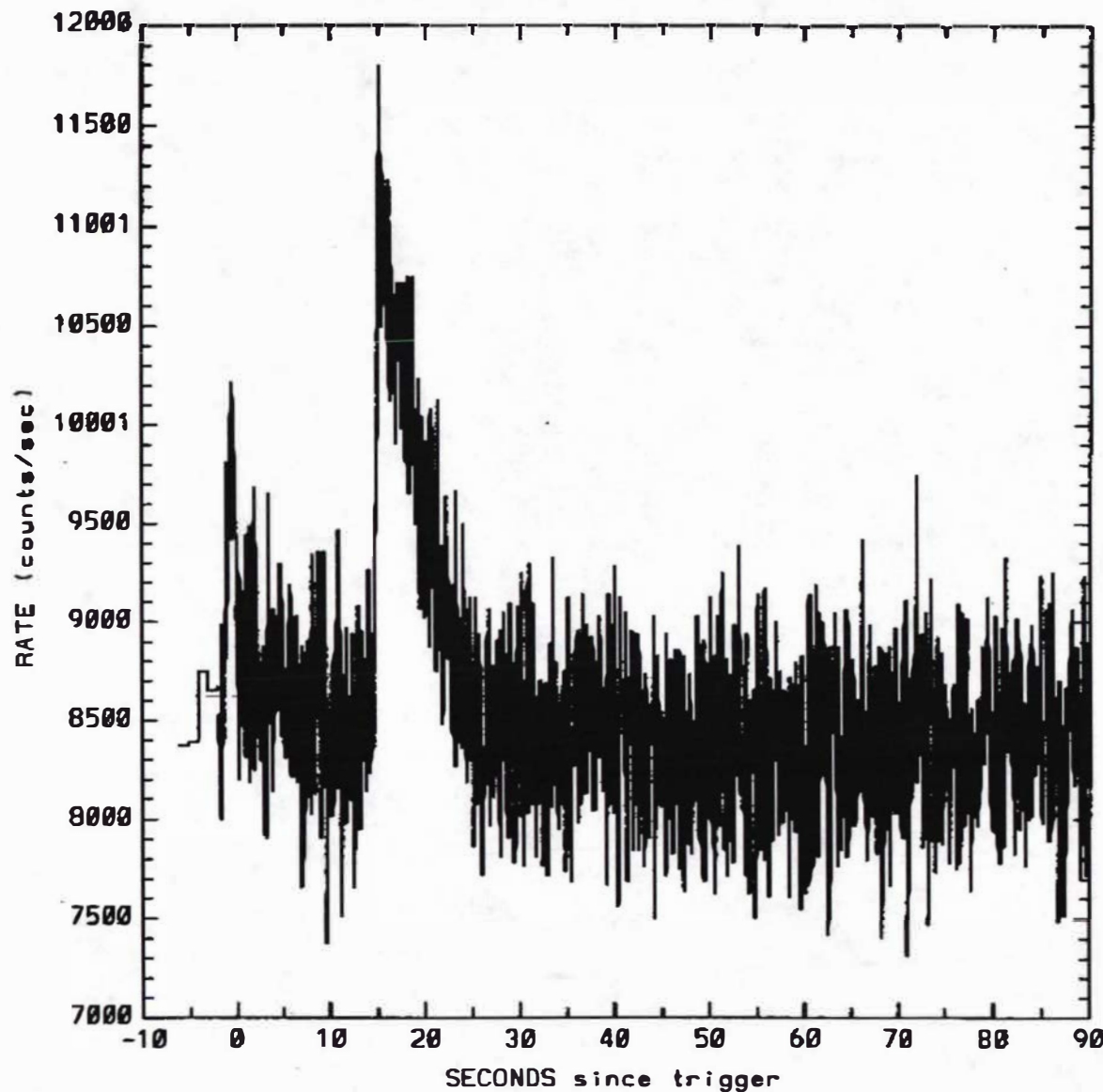
4577.017

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7566



24-MAY-1999 09:48.46

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

Trigger # : 7566

Trigger Time:
11313 / 4577.817

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

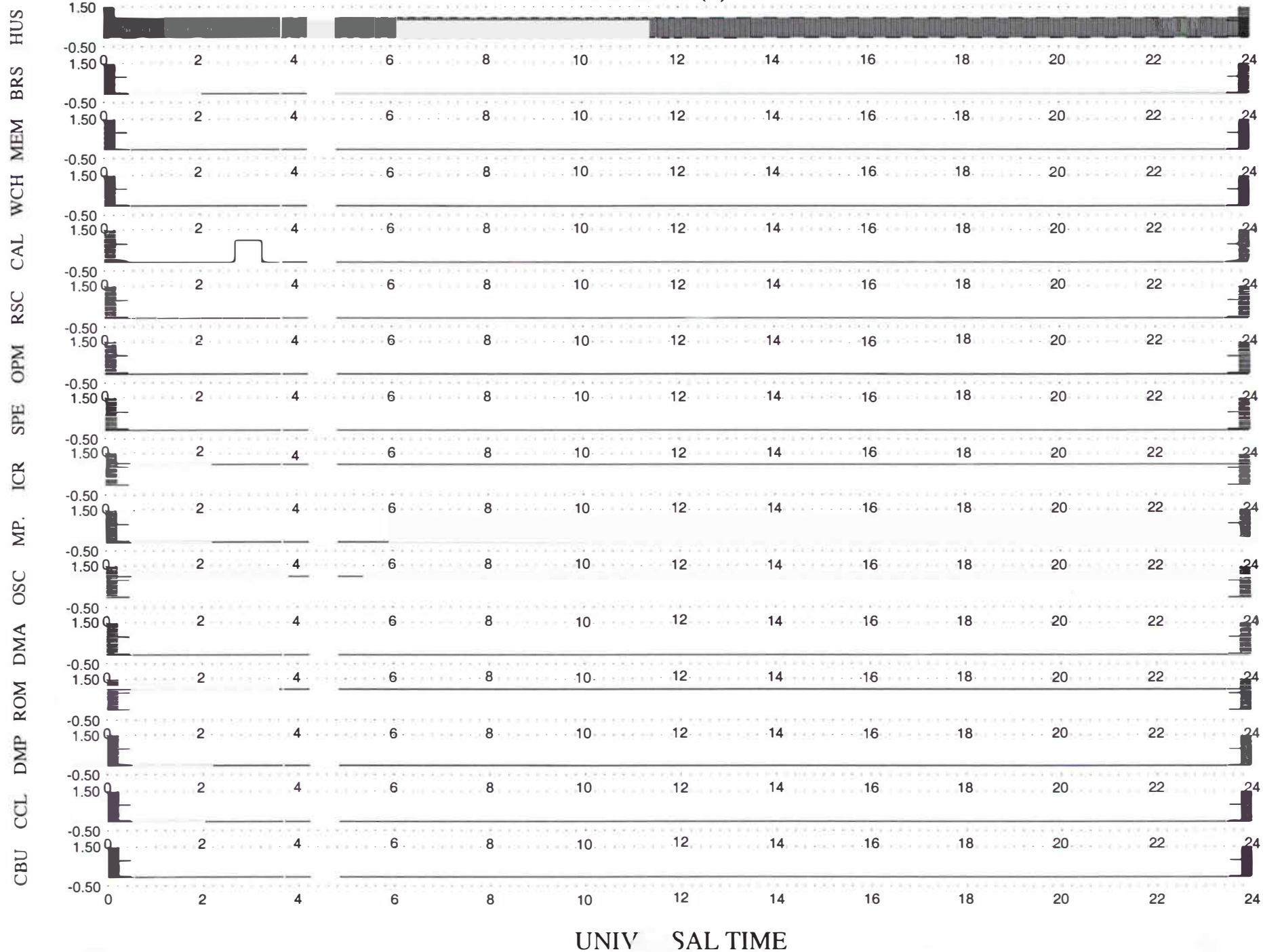
Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
-----210

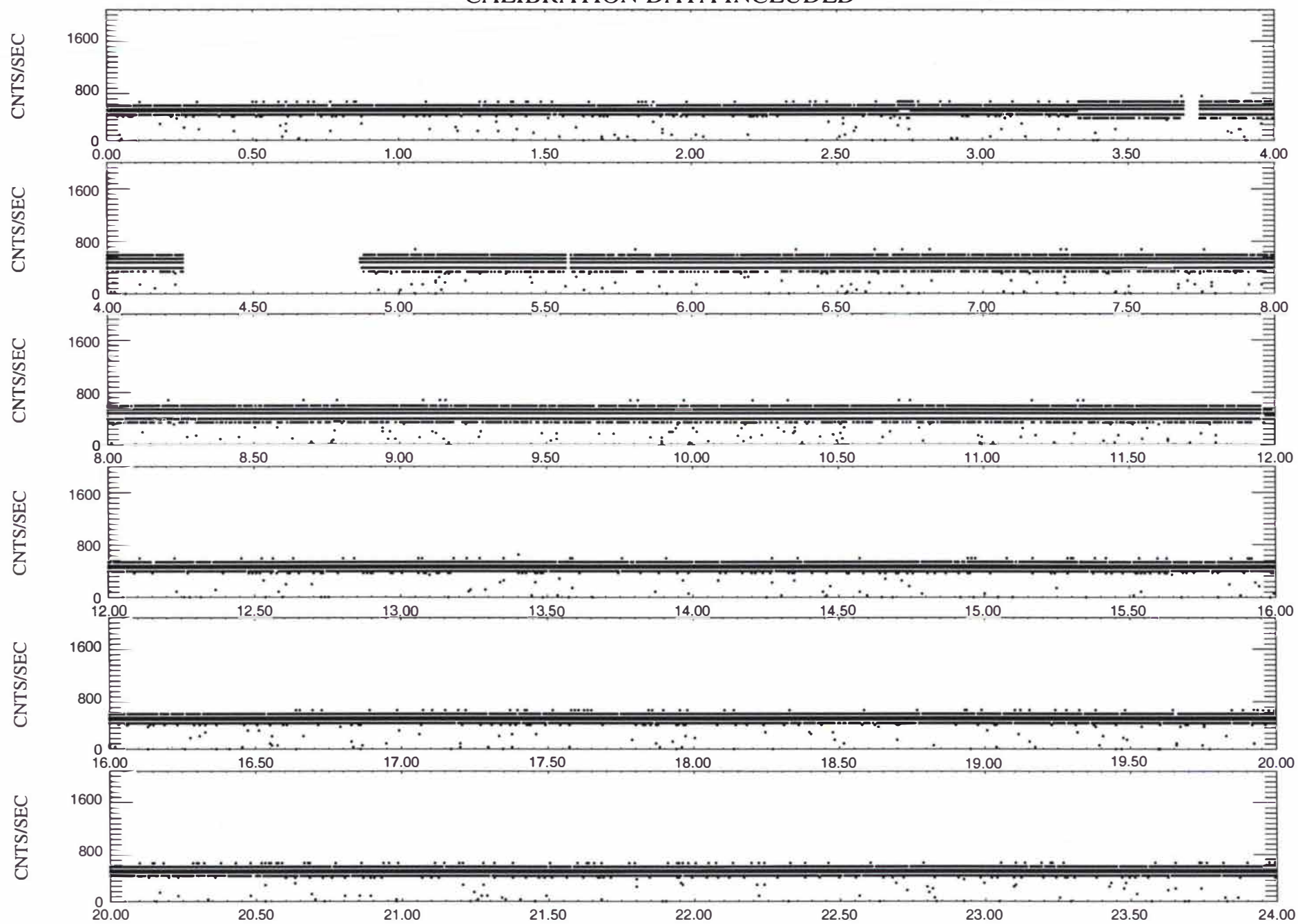
Discriminators:
(1..2)

Quality Mask:
BDISP1

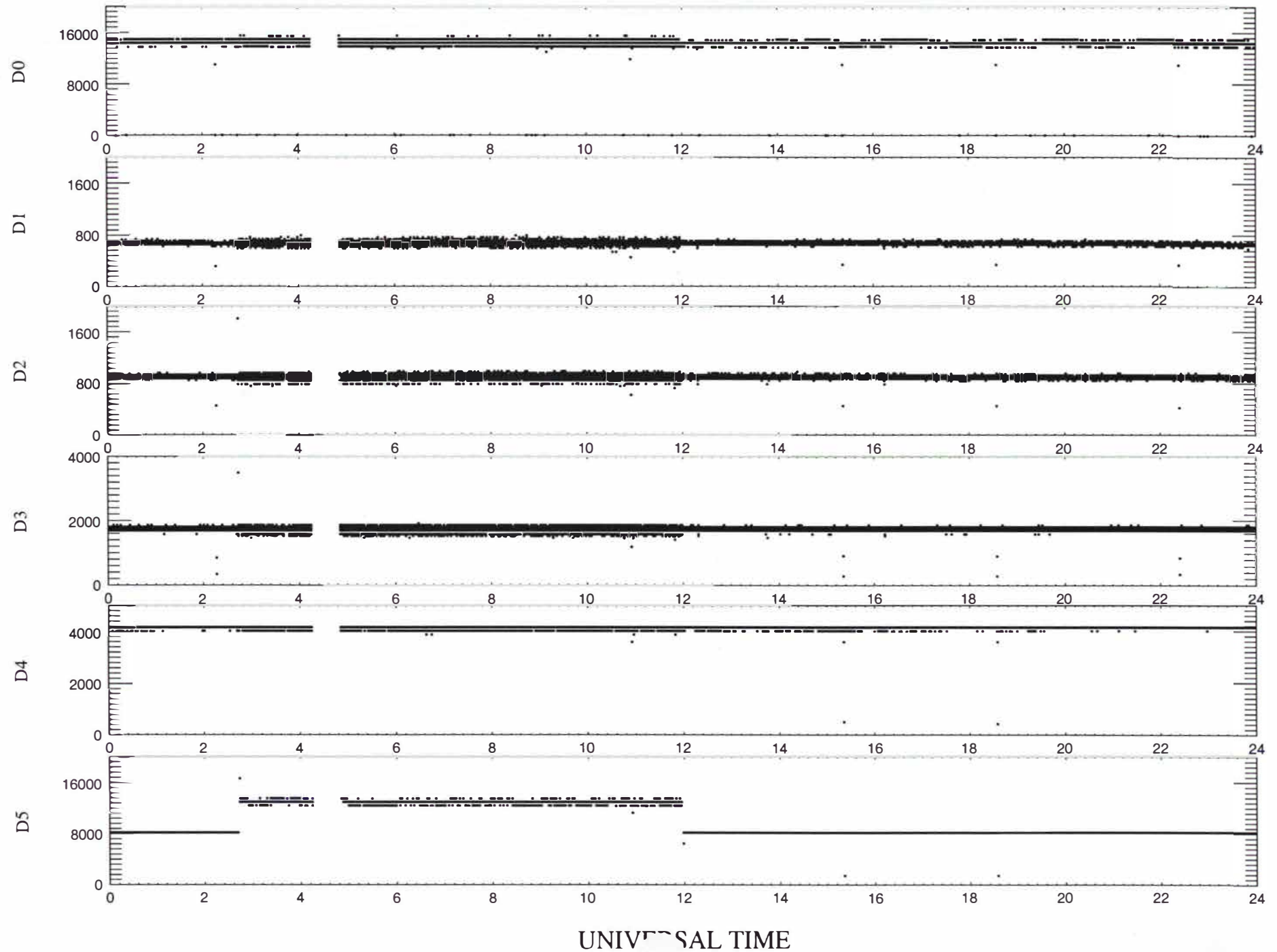
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



KONUS2 19990516 49749

ULYSSES RT

17 / 5 / 99

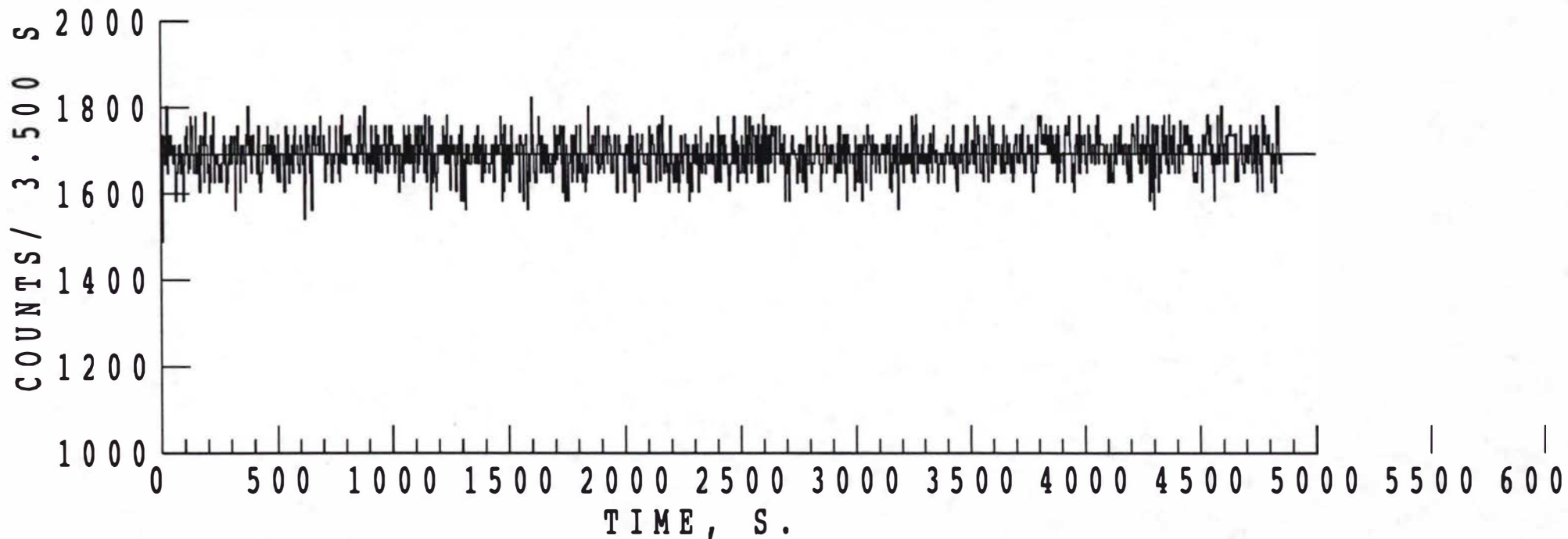
16 / 5 / 99 47304.023 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



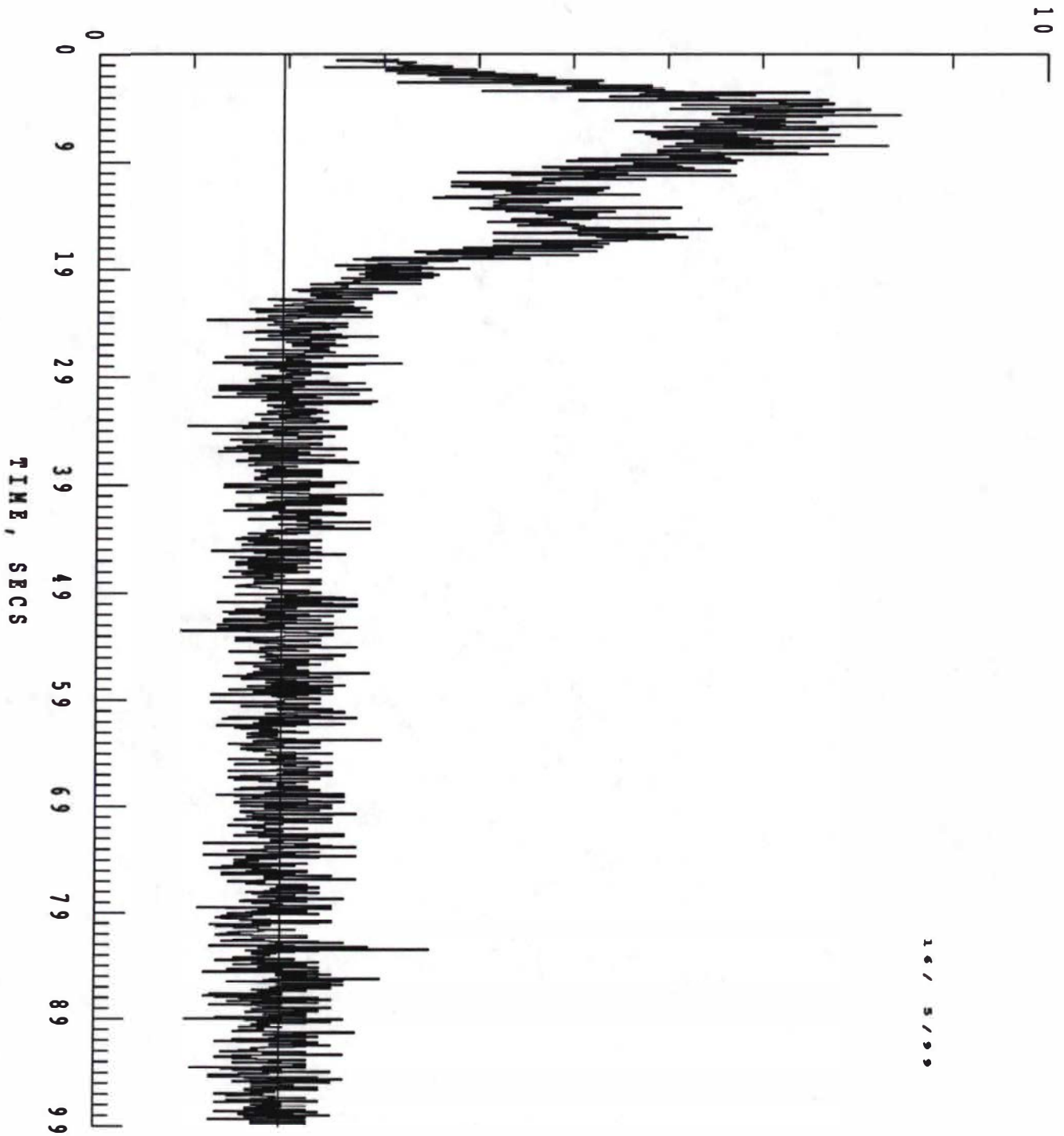
KONUS

16/05/99

49749.000

50- 200 keV

COUNTS/0.064 S



From PETERSON@fender.msfc.nasa.gov Tue May 18 09:57:57 1999
Return-Path: <PETERSON@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id JAA23798; Tue, 18 May 1999 09:57:56 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA16980
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 18 May 1999 09:55:01 -0700 (PDT)
Date: Tue, 18 May 1999 11:54:28 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990518115428.2021c864@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7567
Content-Length: 1135
X-Lines: 26
Status: RO

*No. Too weak to triangulate
reliably. Many maxima in g*

BATSEARCH PROGRAM

BATSE BURST # 7567
EVENT OF 1999 MAY 16 DAY OF YEAR=136
EVENT CROSSING TIME AT BATSE : 75315. S. OR 20:55:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 86.000 56.000
BATSE PEAK COUNTING RATE: 9100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 5/ 99 IS:
RA= 144.025 DEC= -6.887 DIST= 4.769 AU
BATSE-ULYSSES DISTANCE = 713407383. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=101.22 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -463.03 SECS.
CROSSING TIME AT ULYSSES IS 74852. S. OR 20:47:31 +/- 448.22 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 5/ 99 IS:
RA= 205.146 DEC= -9.976 DIST= 0.597 AU
MARS-BATSE DISTANCE = 89316632. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 65.68 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 122.70 SECS.
CROSSING TIME AT MARS IS 75438. S. OR 20:57:17 +/- 49.00 SECONDS

BATSE BURST TRIGGER

NO.: 7567

TIME: TJD=1314 SECONDS=75315

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=40 AZIMUTH=268 ERROR=3.146 DEGREES

COMMENTS:

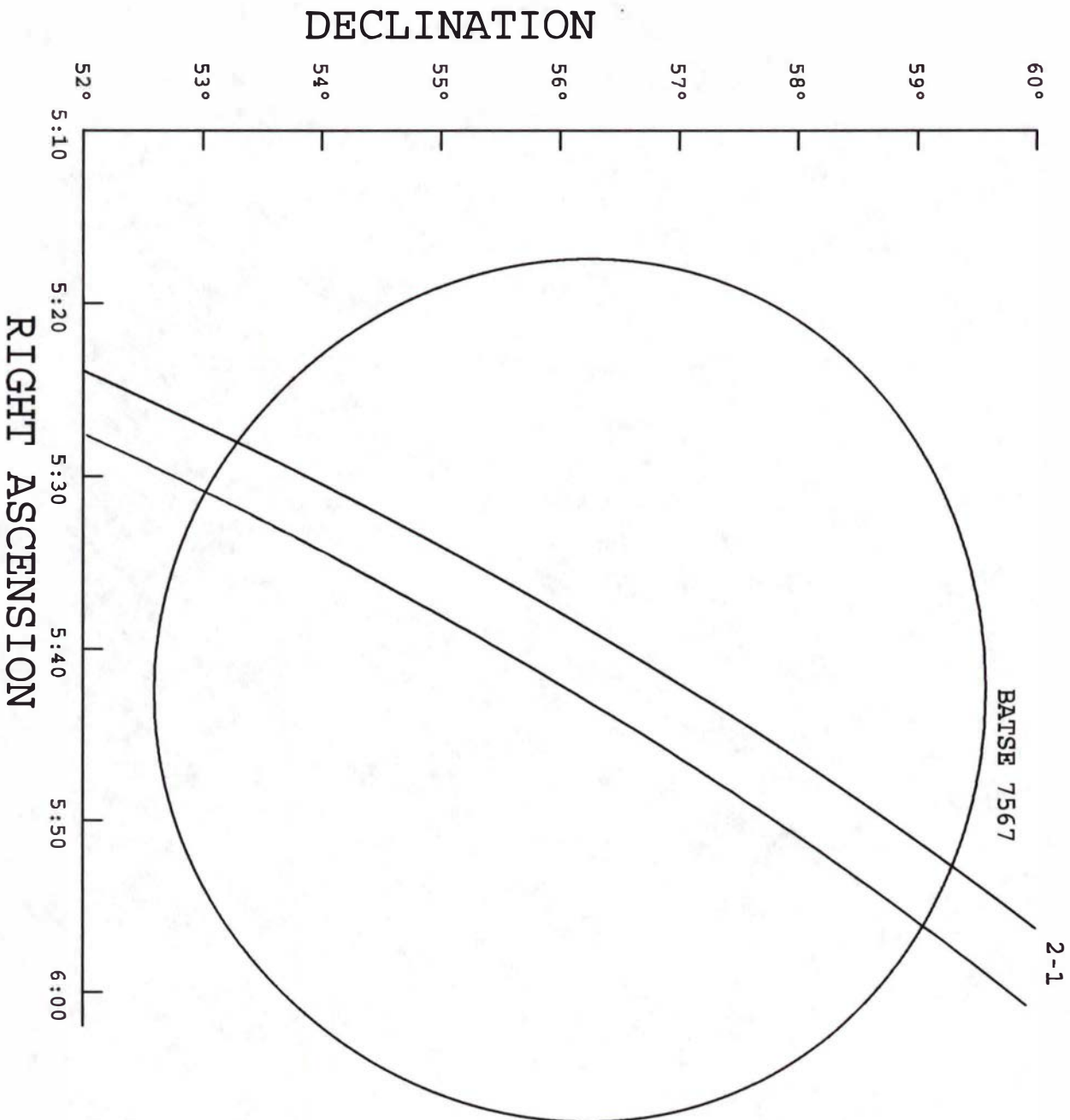
GRB. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 7 S., MAX AT APPROX. T+0.5 S.
NOT VISIBLE ABOVE 300 KEV. CRAB SET AT APPROX. T+215 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7567	990516	11314	75315	9100	086	+56	7

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

EVENT OF MAY 16, 1999 20:47

29 / 5/99



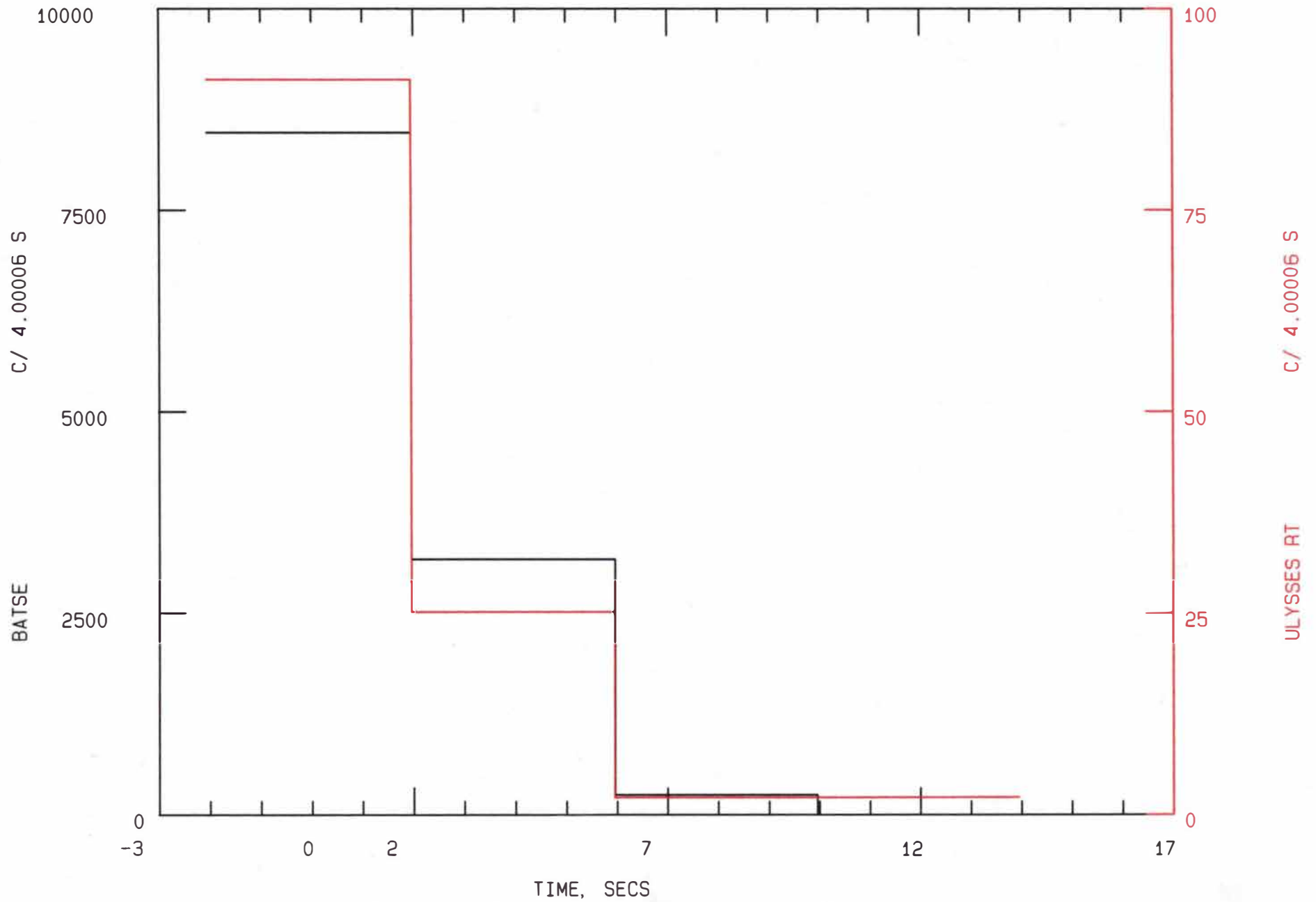
BATSE

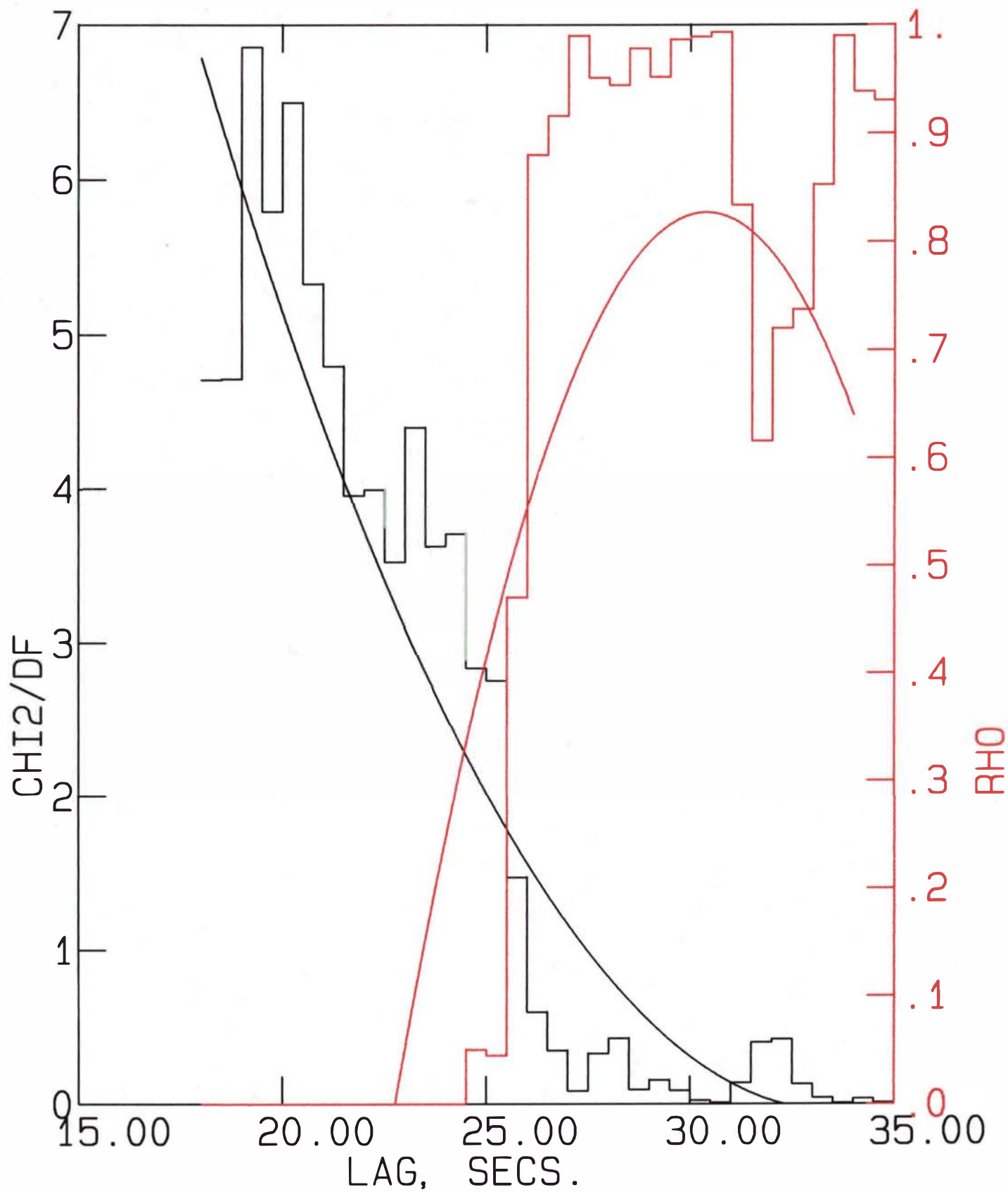
-ULYSSES RT CORRELATION

16/ 5/99

75315.897

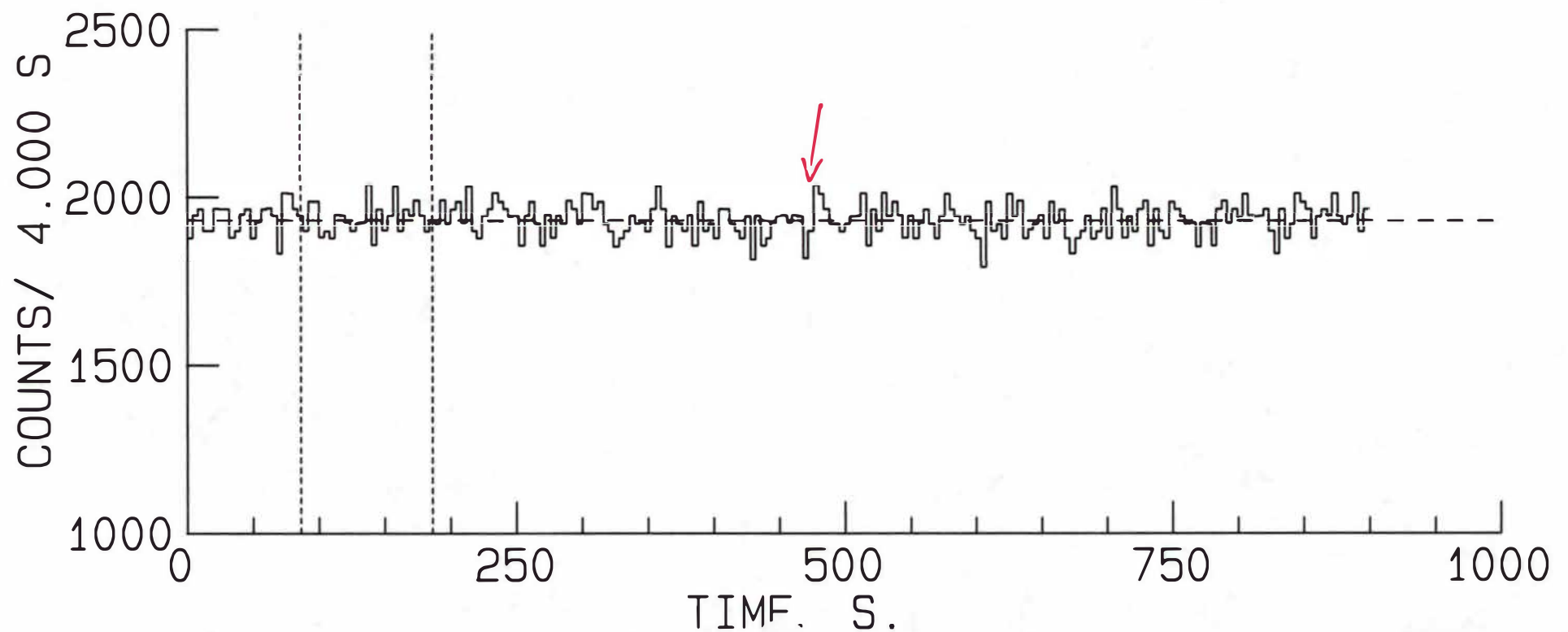
29/ 5/99





ULYSSES RT
16/ 5/99 74412.296 s
0.500 S INTERVALS REGROUPED BY 8
22- 150 keV

29/ 5/99



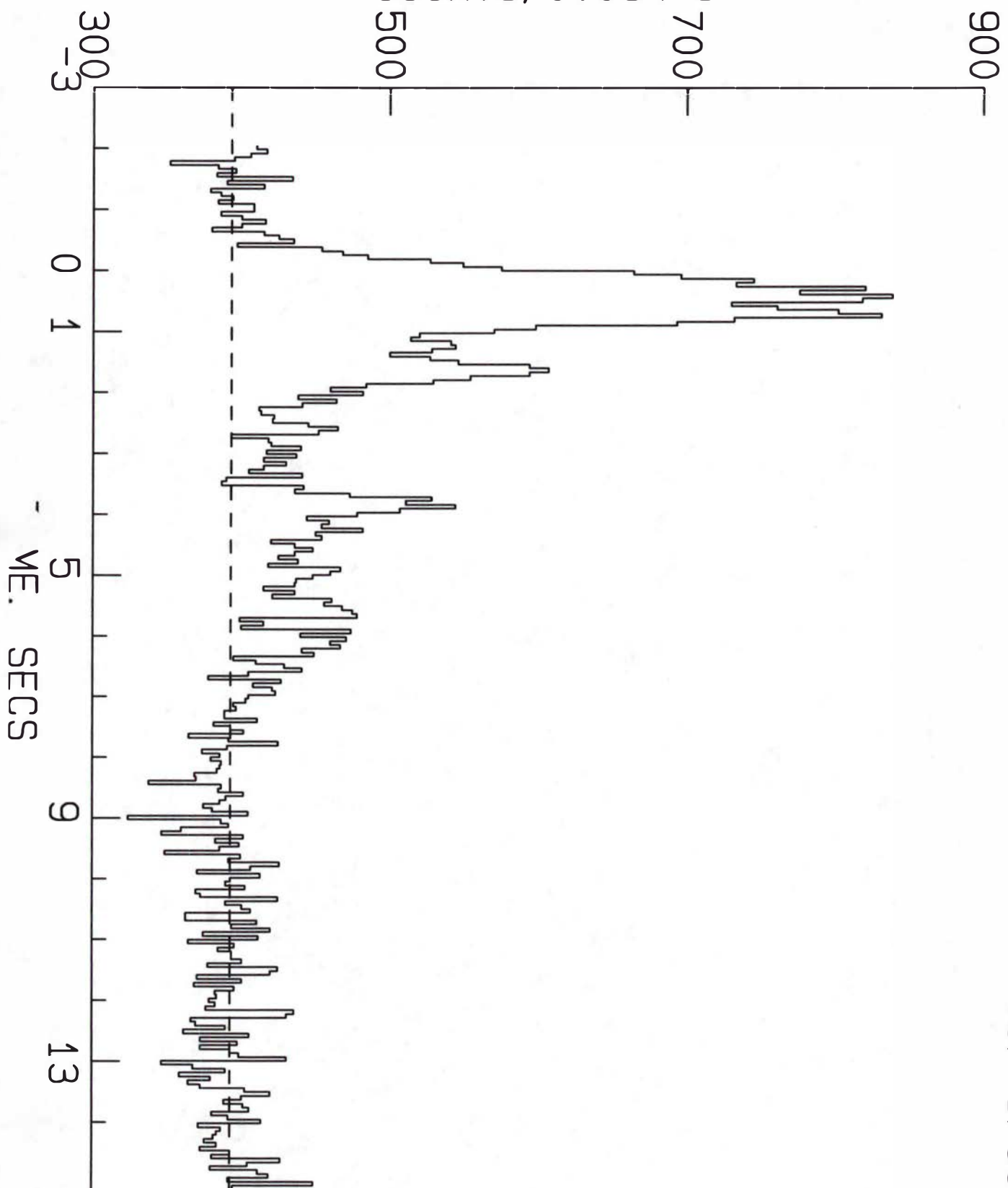
BATSE

16/05/99

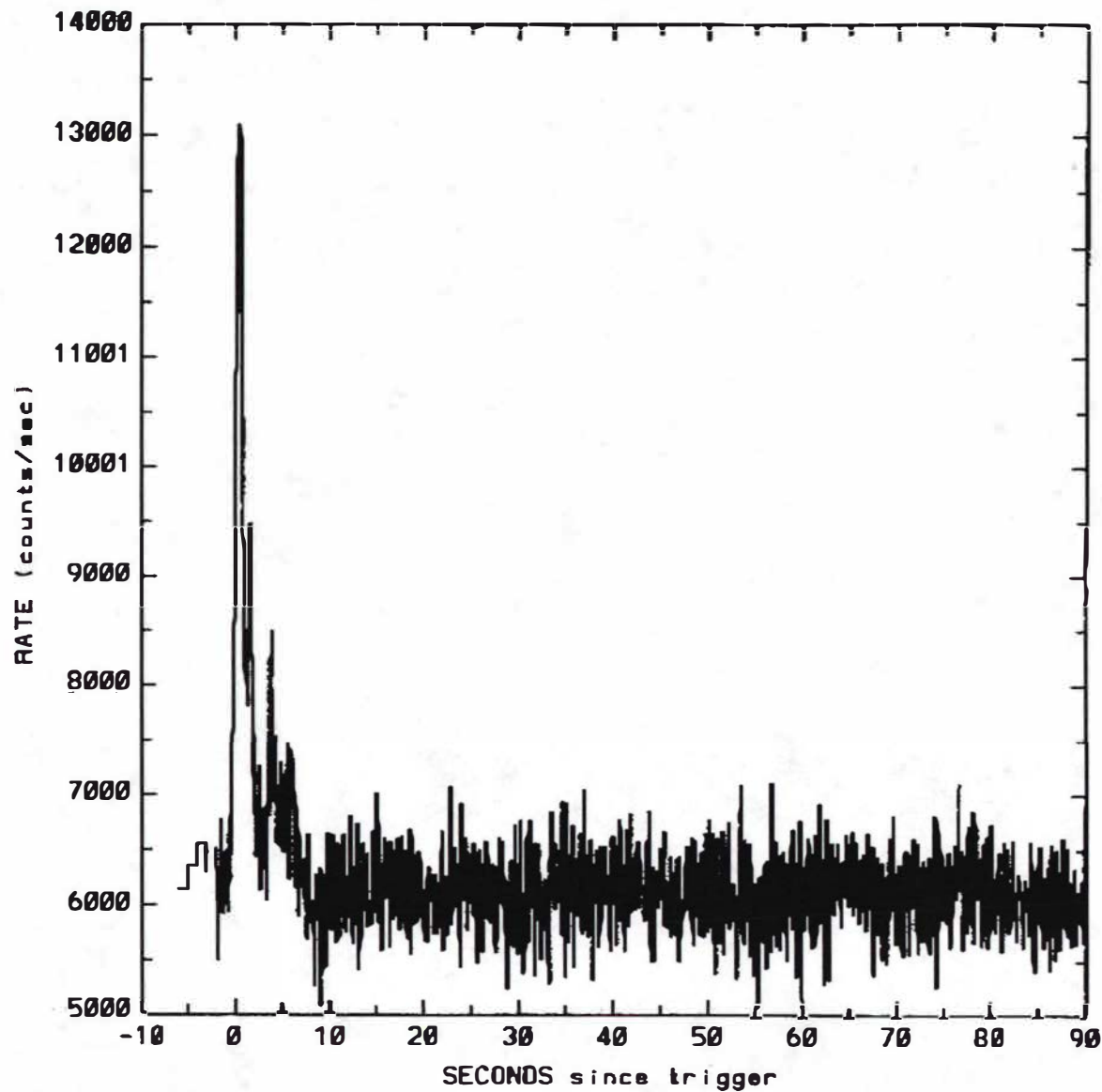
75315.897

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7567



24-MAY-1999 09:45:44

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

Trigger # : 7567

Trigger Time:
11314 / 75315.897

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 second(s)

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

Discriminators:
[1 . 2]

Quality Mask:
BDISP1

From HENZE@fender.msfc.nasa.gov Tue May 18 12:44:48 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 MAA27076; Tue, 18 May 1999 12:44:47 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id MAA19655
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 18 May 1999 12:41:52 -0700 (PDT)
Date: Tue, 18 May 1999 14:45:52 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990518144552.2021c76c@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7568
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7568
EVENT OF 1999 MAY 16 DAY OF YEAR=136
EVENT CROSSING TIME AT BATSE : 84255. S. OR 23:24:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 266.000 -43.000
BATSE PEAK COUNTING RATE: 2900 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 5/ 99 IS:
RA= 144.024 DEC= -6.885 DIST= 4.770 AU
BATSE-ULYSSES DISTANCE = 713613683. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 72.38 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 720.64 SECS.
CROSSING TIME AT ULYSSES IS 84976. S. OR 23:36:15 +/- 454.82 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 5/ 99 IS:
RA= 205.146 DEC= -9.976 DIST= 0.597 AU
MARS-BATSE DISTANCE = 89316632. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=117.97 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -139.71 SECS.
CROSSING TIME AT MARS IS 84115. S. OR 23:21:55 +/- 43.56 SECONDS

BATSE BURST TRIGGER

NO.: 7568

TIME: TJD=1314 SECONDS=84255

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=152.6 AZIMUTH= 96.6 ERROR= 5.8 DEGREES

COMMENTS:

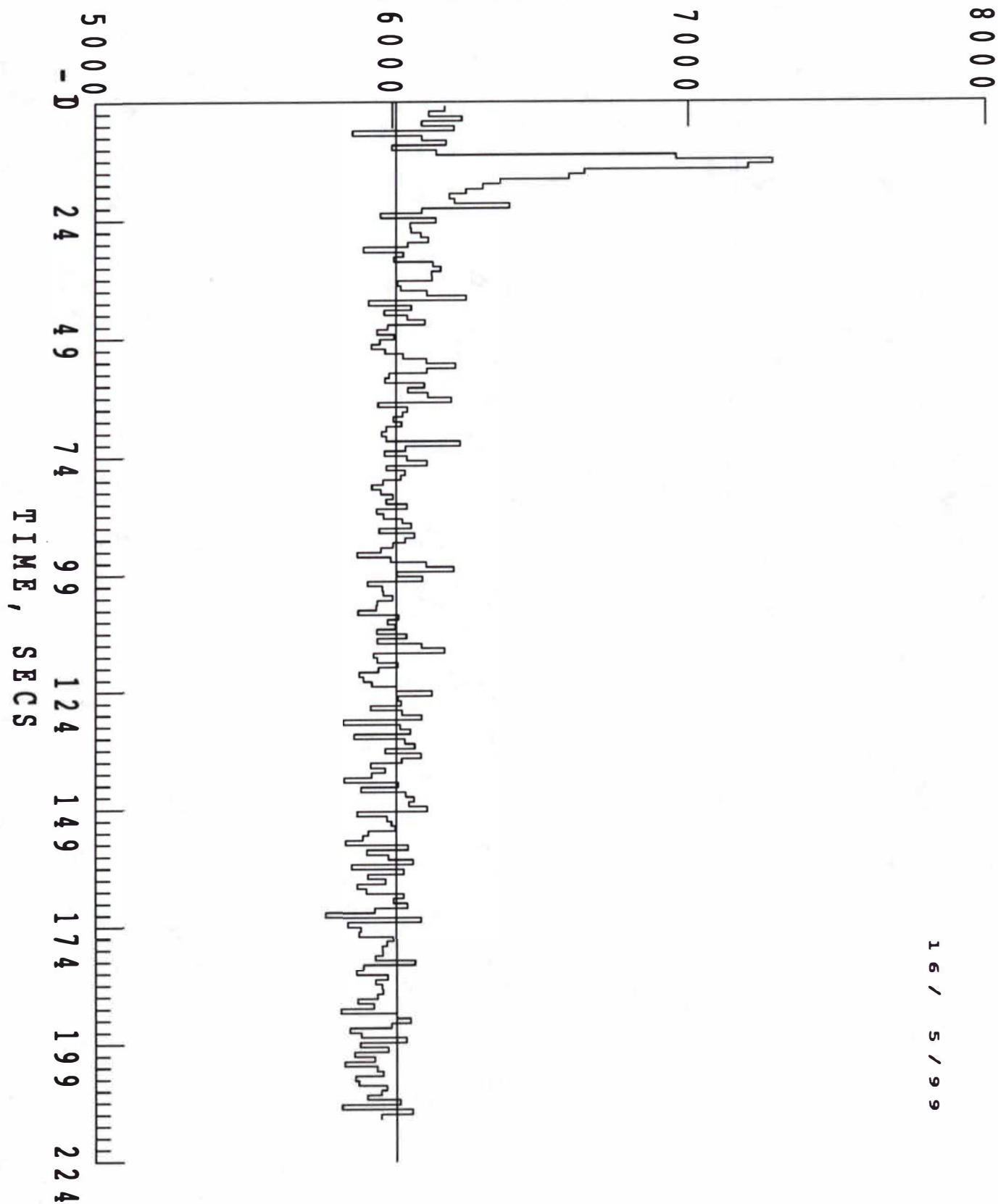
SINGLE PULSE, DUR. APPROX. 12 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7568	990516	11314	84255	2900	266	-43	12

BACODINE 7568 16/05/99 84244.217

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7568

ULYSSES RT

18 / 5 / 99

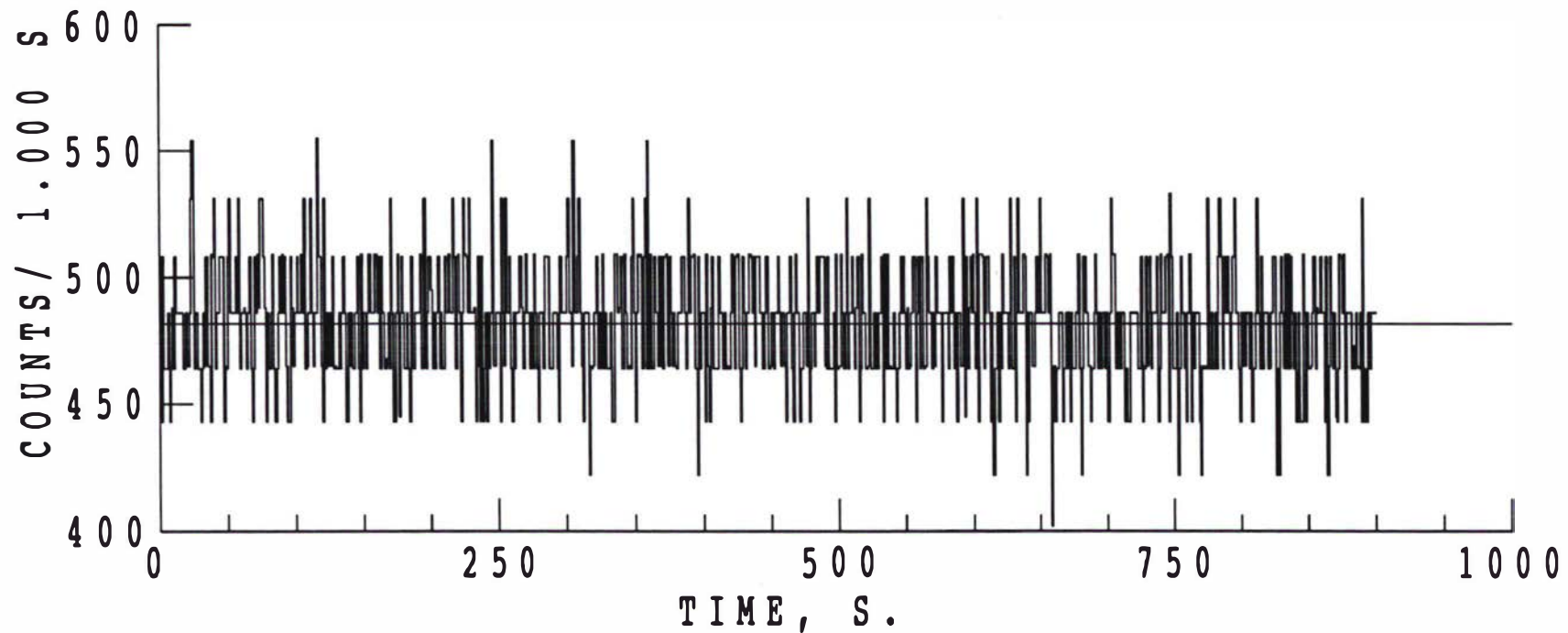
16 / 5 / 99 84528.398 s

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 Wed May 19 09:33:14 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 JAA12598; Wed, 19 May 1999 09:33:13 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA29029
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 19 May 1999 09:30:12 -0700 (PDT)
Date: Wed, 19 May 1999 11:34:13 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990519113413.2021e405@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7569
Content-Length: 1135
X-Lines: 26
Status: RO

*Trigger (but on 17th
for Ulysses)*

BATSEARCH PROGRAM

BATSE BURST # 7569
EVENT OF 1999 MAY 16 DAY OF YEAR=136
EVENT CROSSING TIME AT BATSE : 86063. S. OR 23:54:23.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 254.000 -4.000
BATSE PEAK COUNTING RATE: 220000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 16/ 5/ 99 IS:
RA= 144.024 DEC= -6.885 DIST= 4.770 AU
BATSE-ULYSSES DISTANCE = 713658267. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 70.73 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 785.51 SECS.
CROSSING TIME AT ULYSSES IS 86849. S. OR 24:07:28 +/- 452.07 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 16/ 5/ 99 IS:
RA= 205.146 DEC= -9.976 DIST= 0.597 AU
MARS-BATSE DISTANCE = 89316632. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=131.19 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -196.20 SECS.
CROSSING TIME AT MARS IS 85867. S. OR 23:51:06 +/- 35.95 SECONDS

BATSE BURST TRIGGER

NO.: 7569

TIME: TJD=1314 SECONDS=86063

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=151.8 AZIMUTH=193.8 ERROR=0.8 DEGREES

COMMENTS:

GRB. TWO STRONG SHORT SPIKES FOLLOWED BY SOFT EXTENDED EMISSION. FIRST SPIKE
AT APPROX. T-0.05 SEC WITH DURATION APPROX. = 0.15 SEC. SECOND SPIKE AT APPROX.
T+0.15 SEC. WITH DURATION APPROX. = 0.25 SEC. EXTENDED EMISSION OUT TO APPROX.
T+35 SEC. VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7569	990516	11314	86063	220000	254	-04	35

Date: Feb 29 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 vwxx@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?

Checking
OK

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

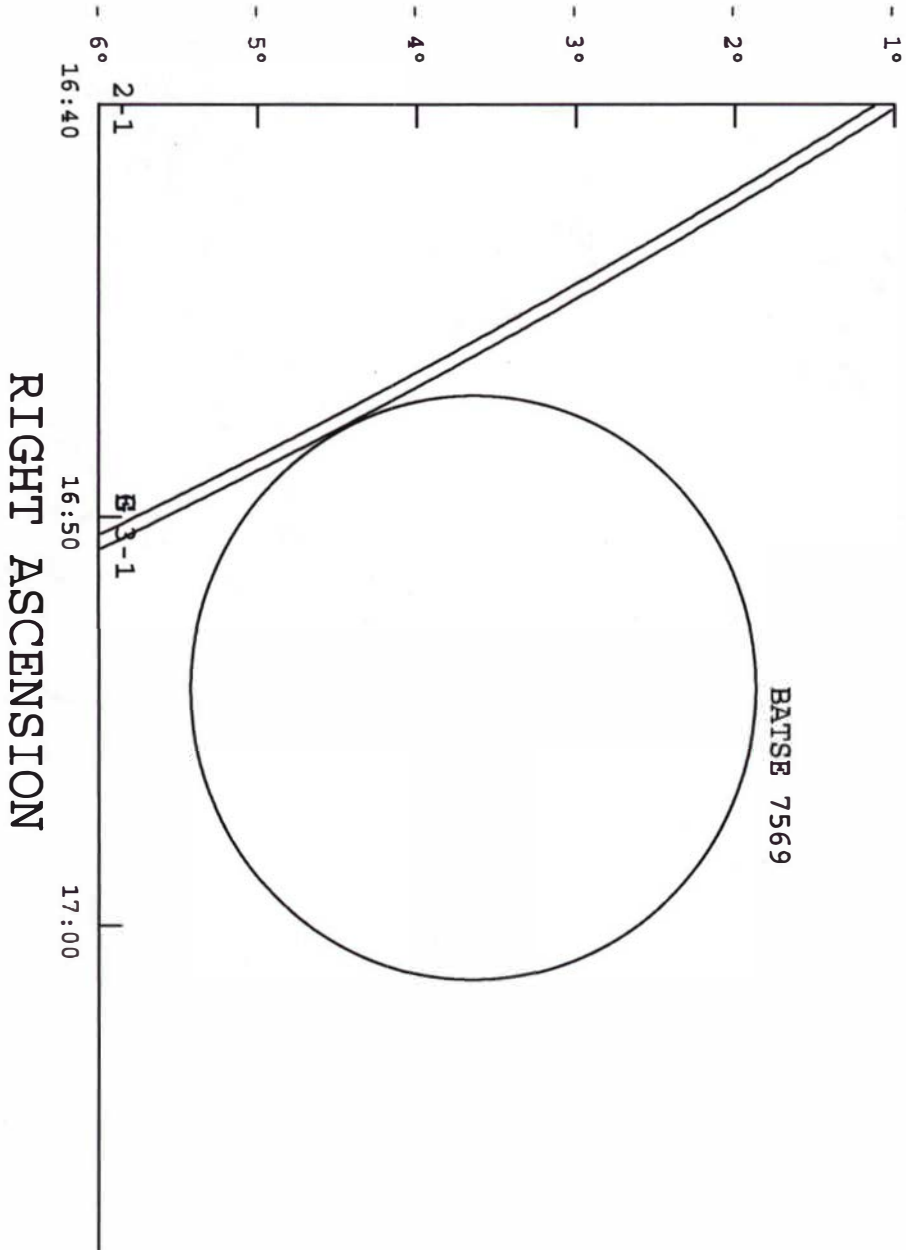
1 BATSE

2 ULYSSES

3 NEAR

DECLINATION

EVENT OF MAY 16, 1999 23:54



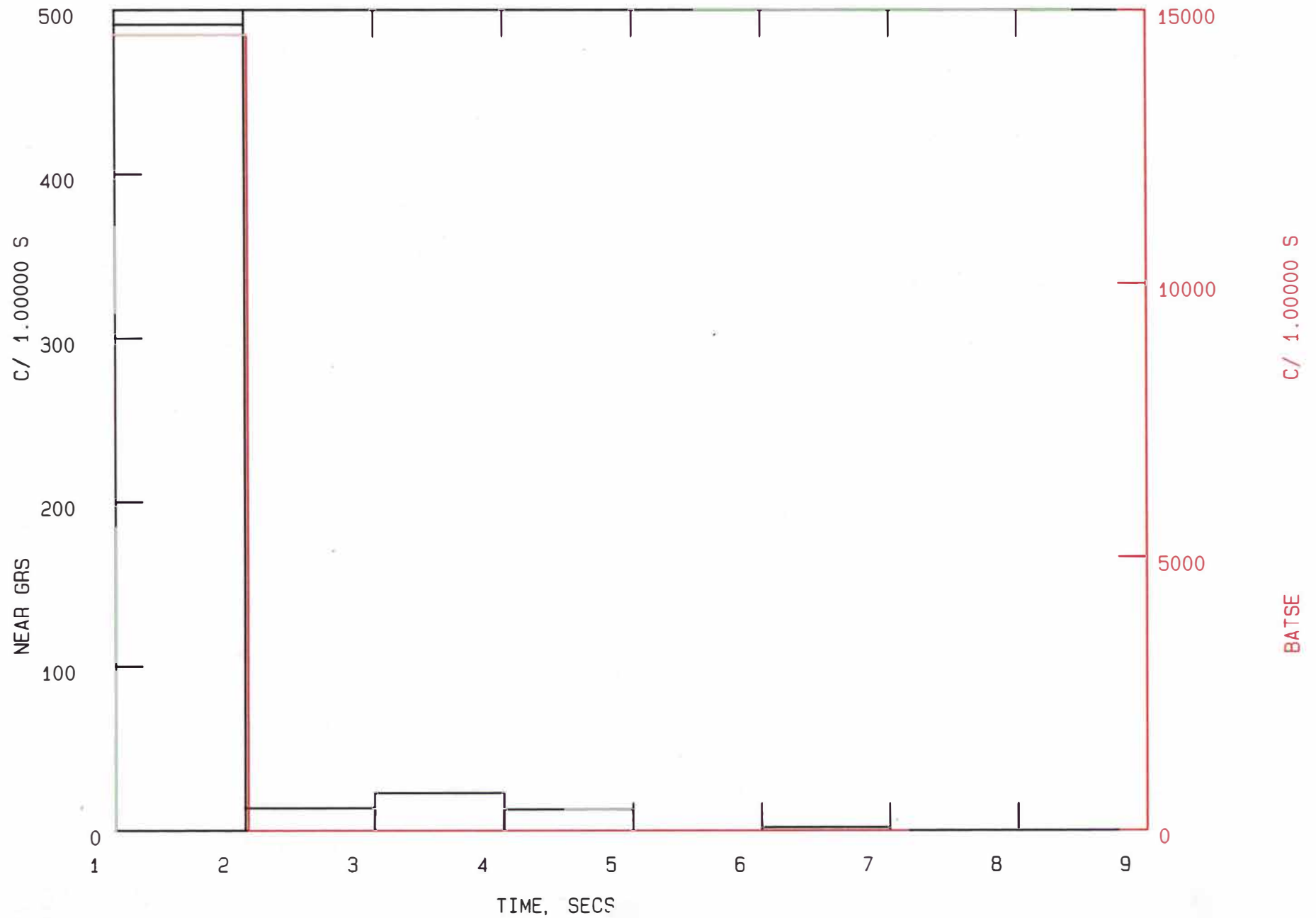
NEAR GRS -BATSE

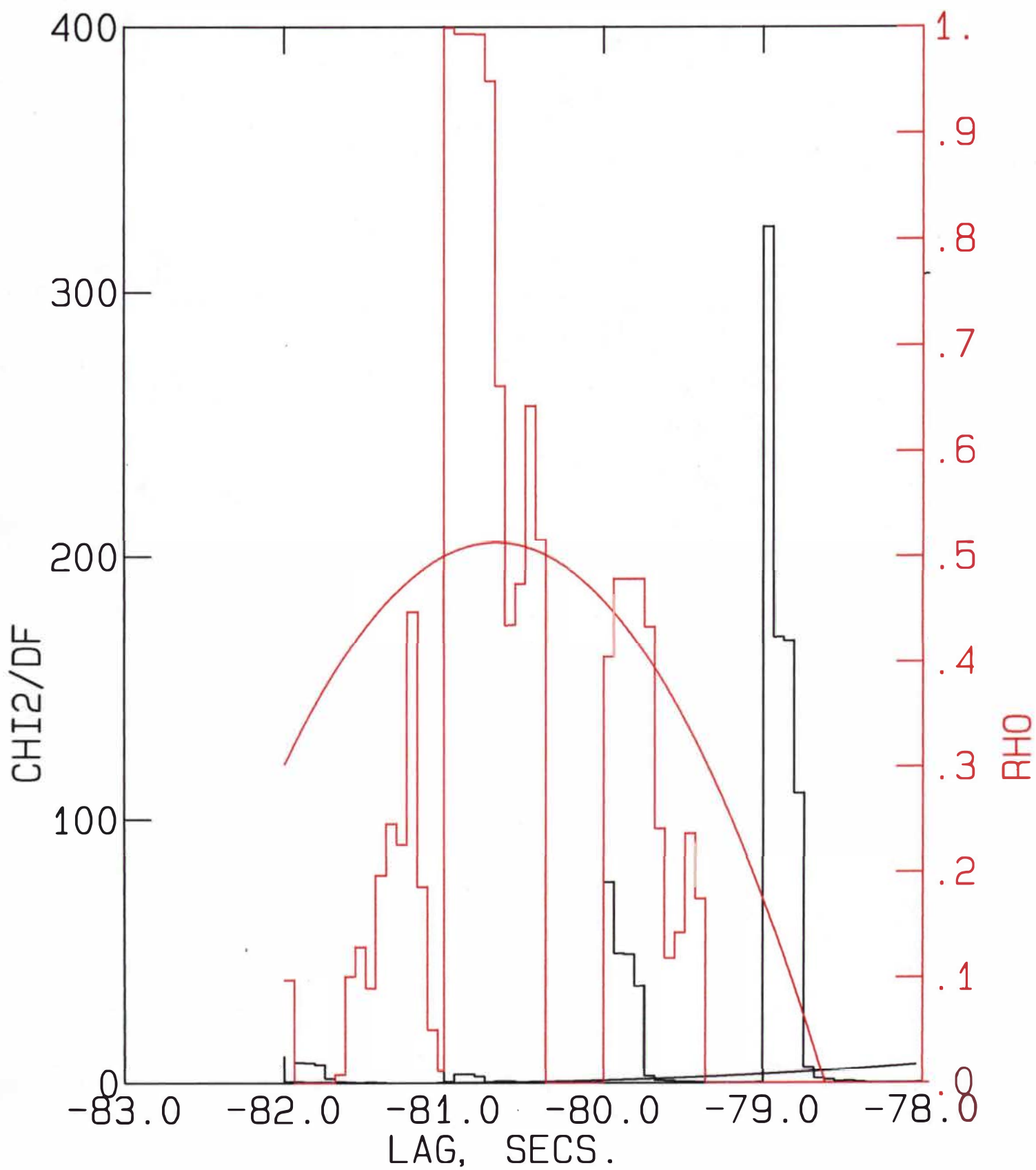
CORRELATION

17/05/99

556.848

29/ 2/ 0





BATSE

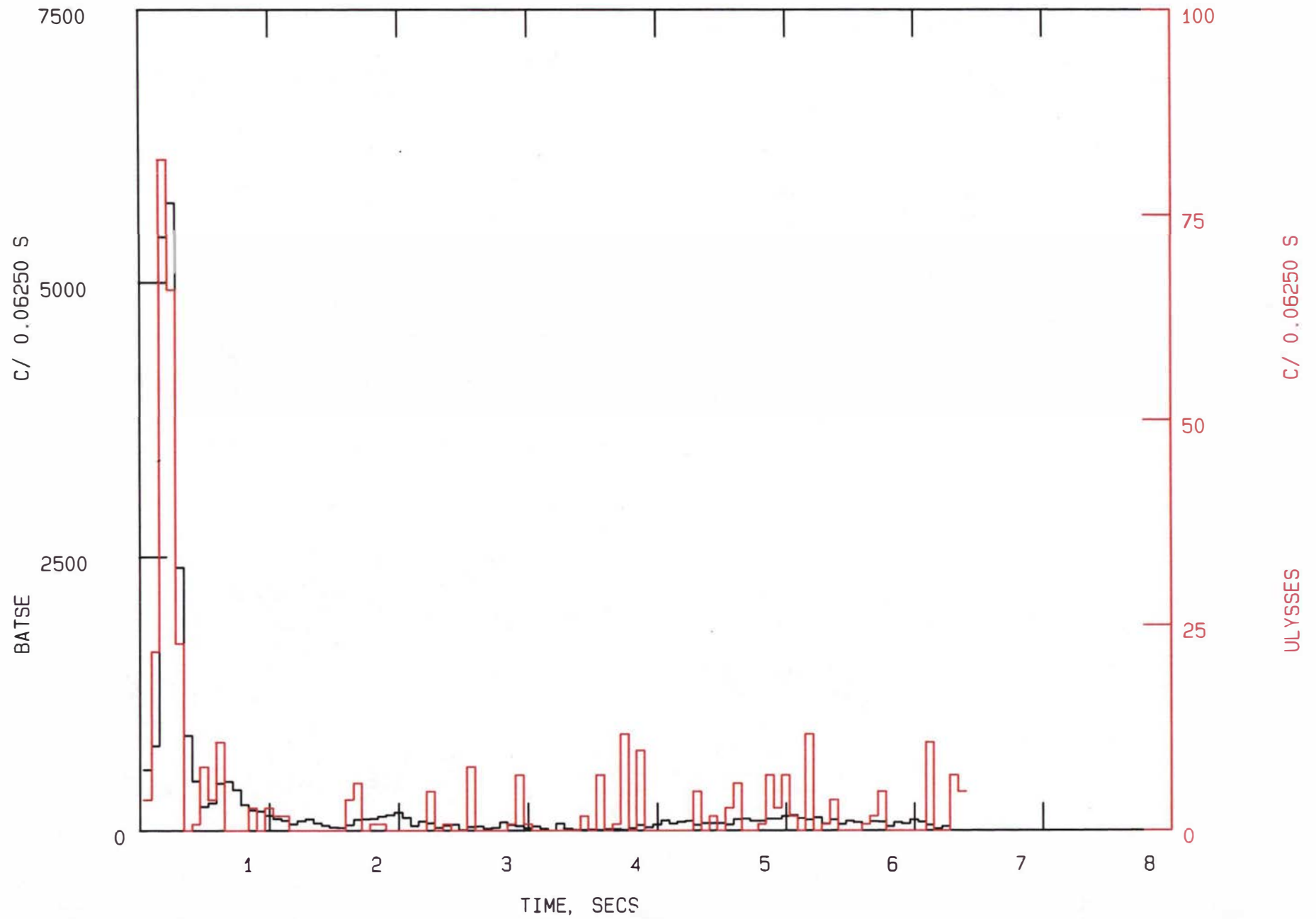
-ULYSSES

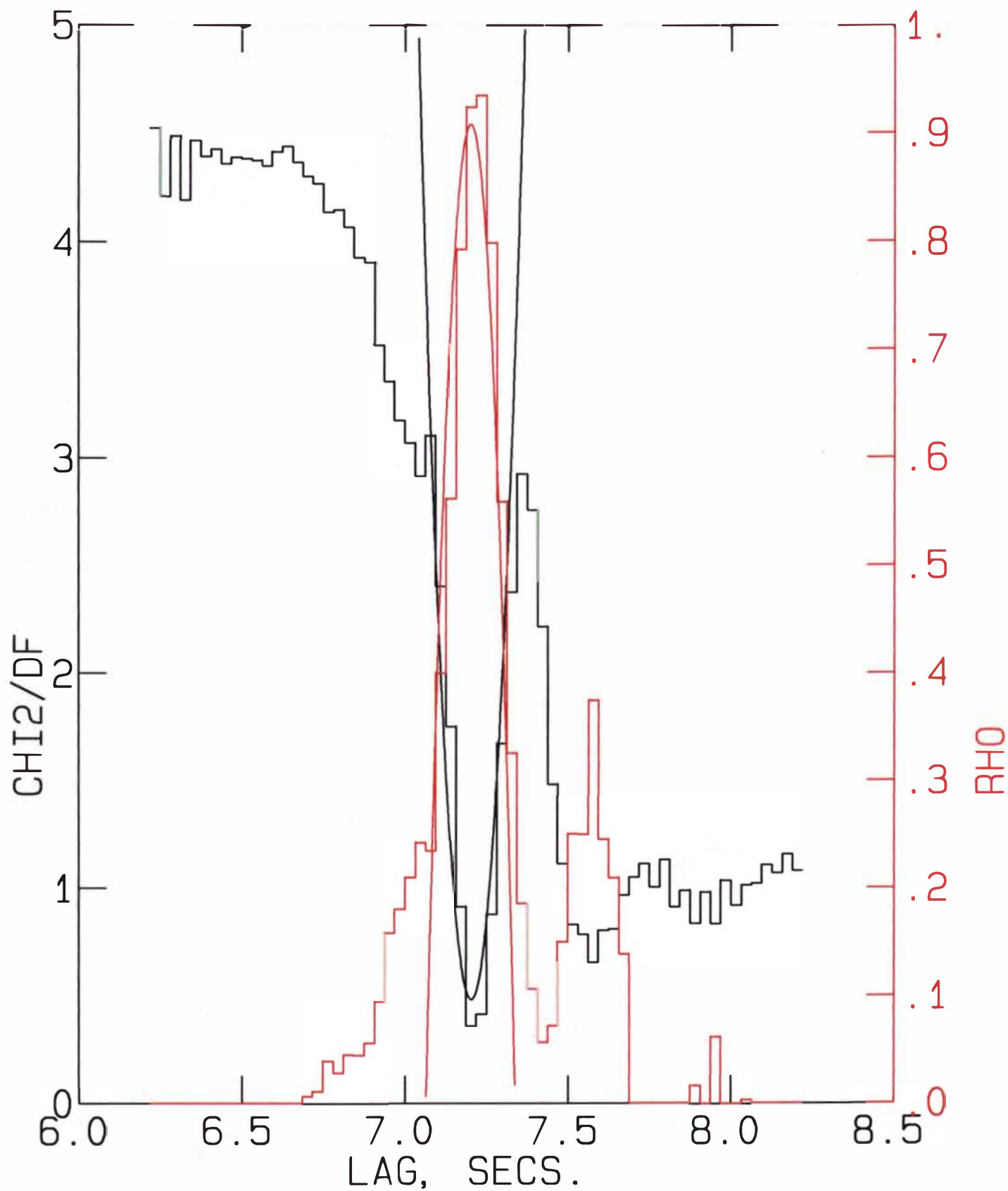
CORRELATION

16/ 5/99

86063.353

29/ 2/ 0





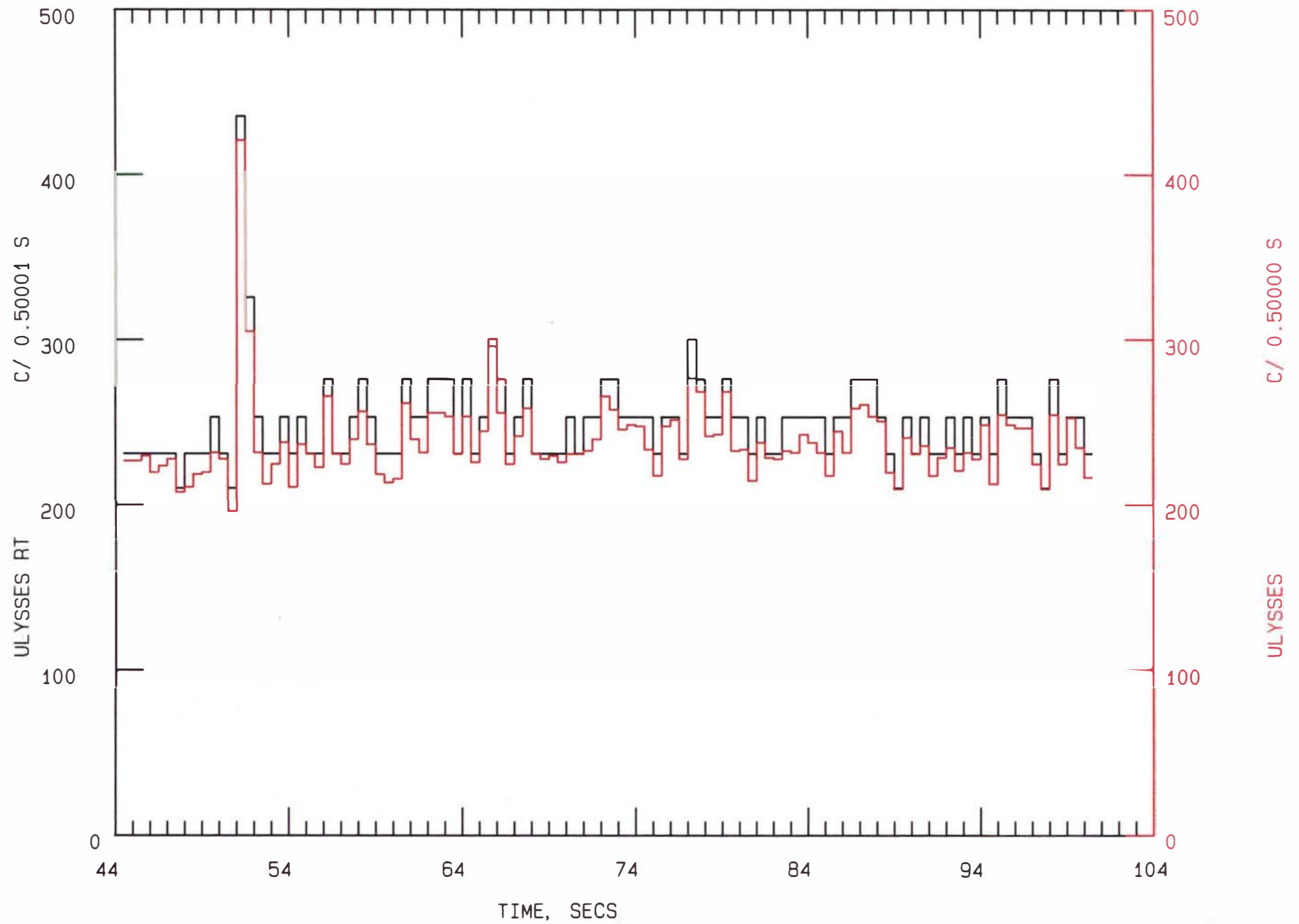
ULYSSES RT-ULYSSES

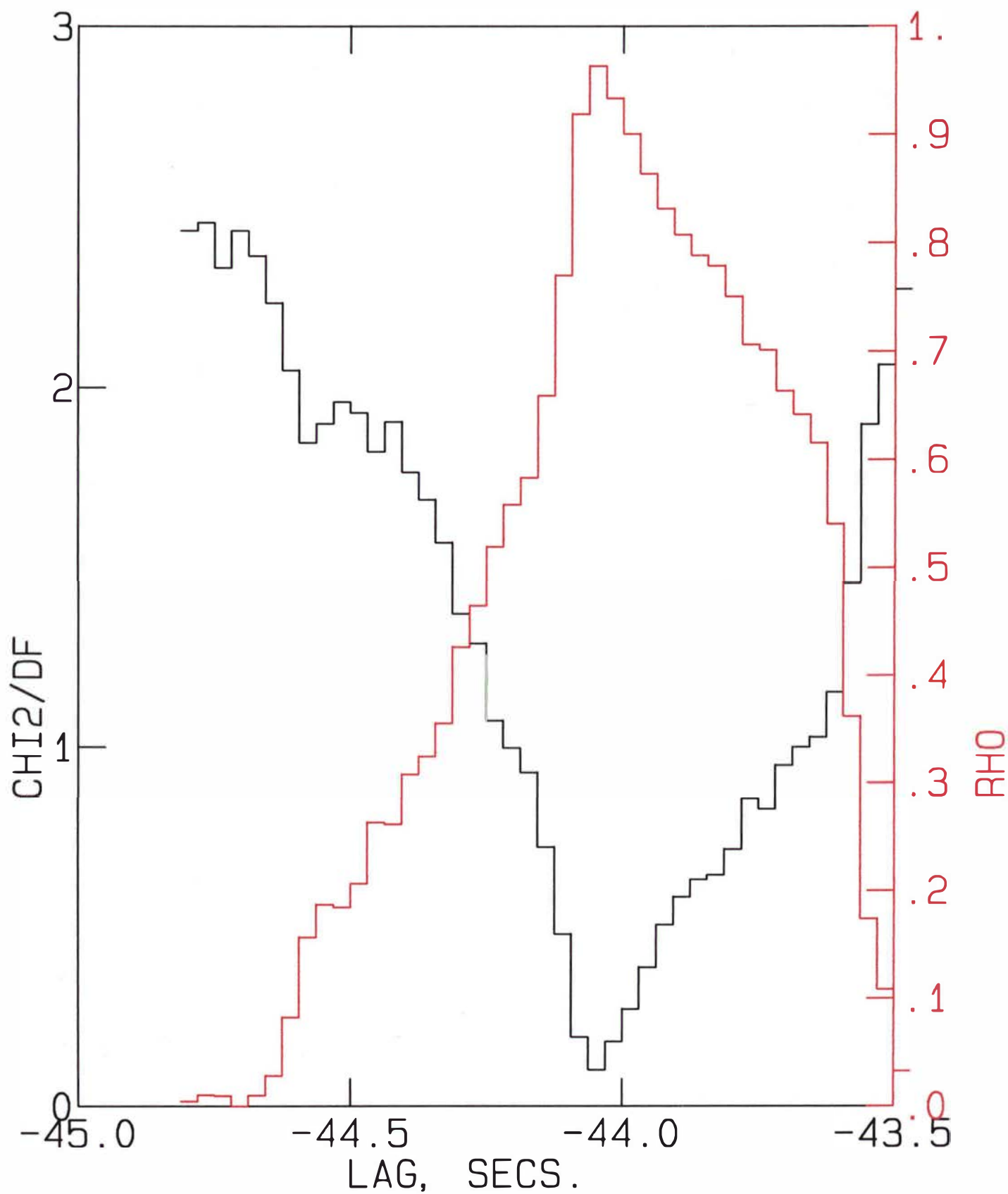
CORRELATION

17/ 5/99

147.435

18/11/99



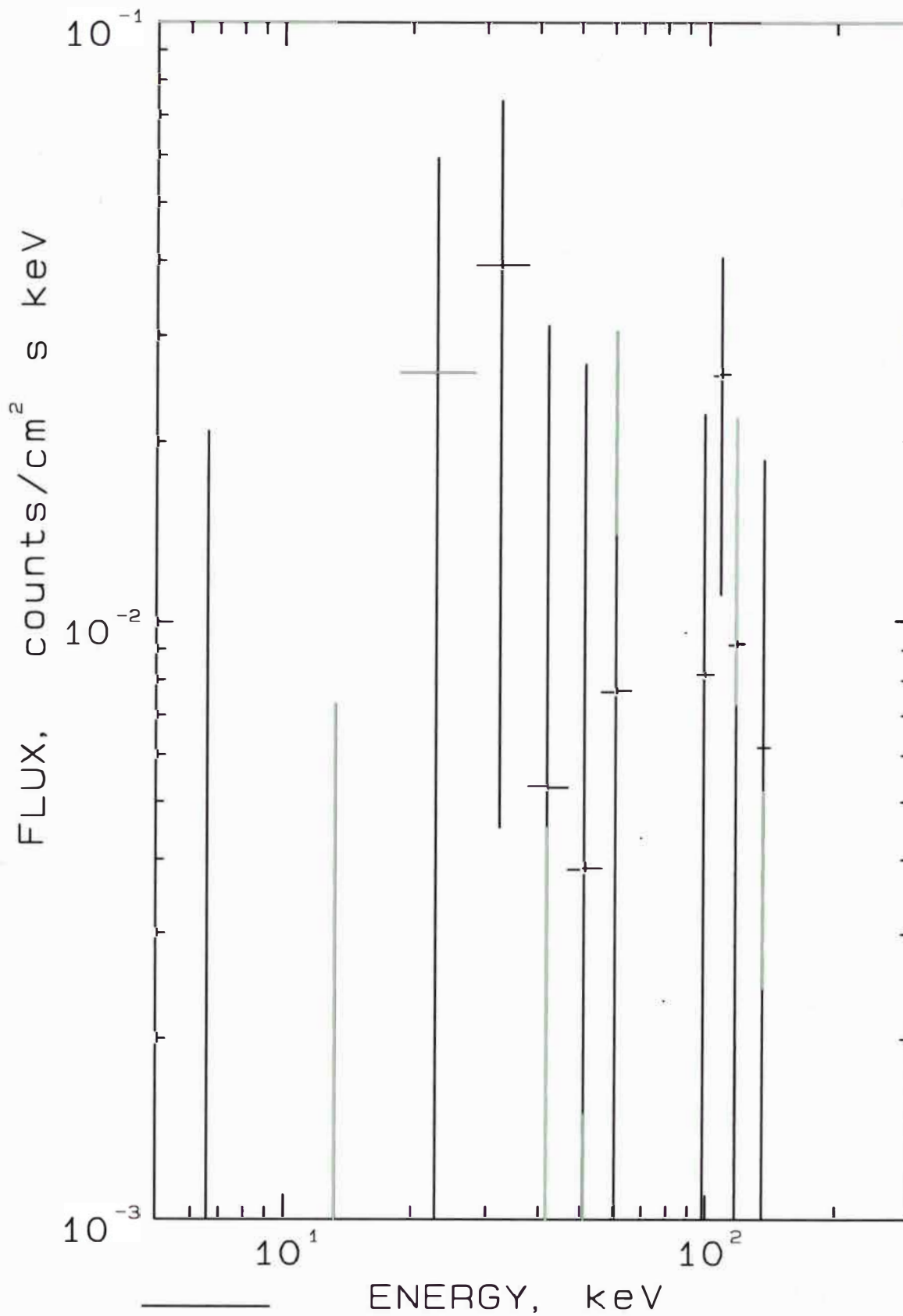


ULYSSES 17/05/99

199.416

18/11/99

SPECTRUM INTEGRATED OVER 4.6 SECONDS, INTERVALS 1 TO 5



ULYSSES 17/05/99 BURST SPECTRAL COUNT RATES

4- 18 keV

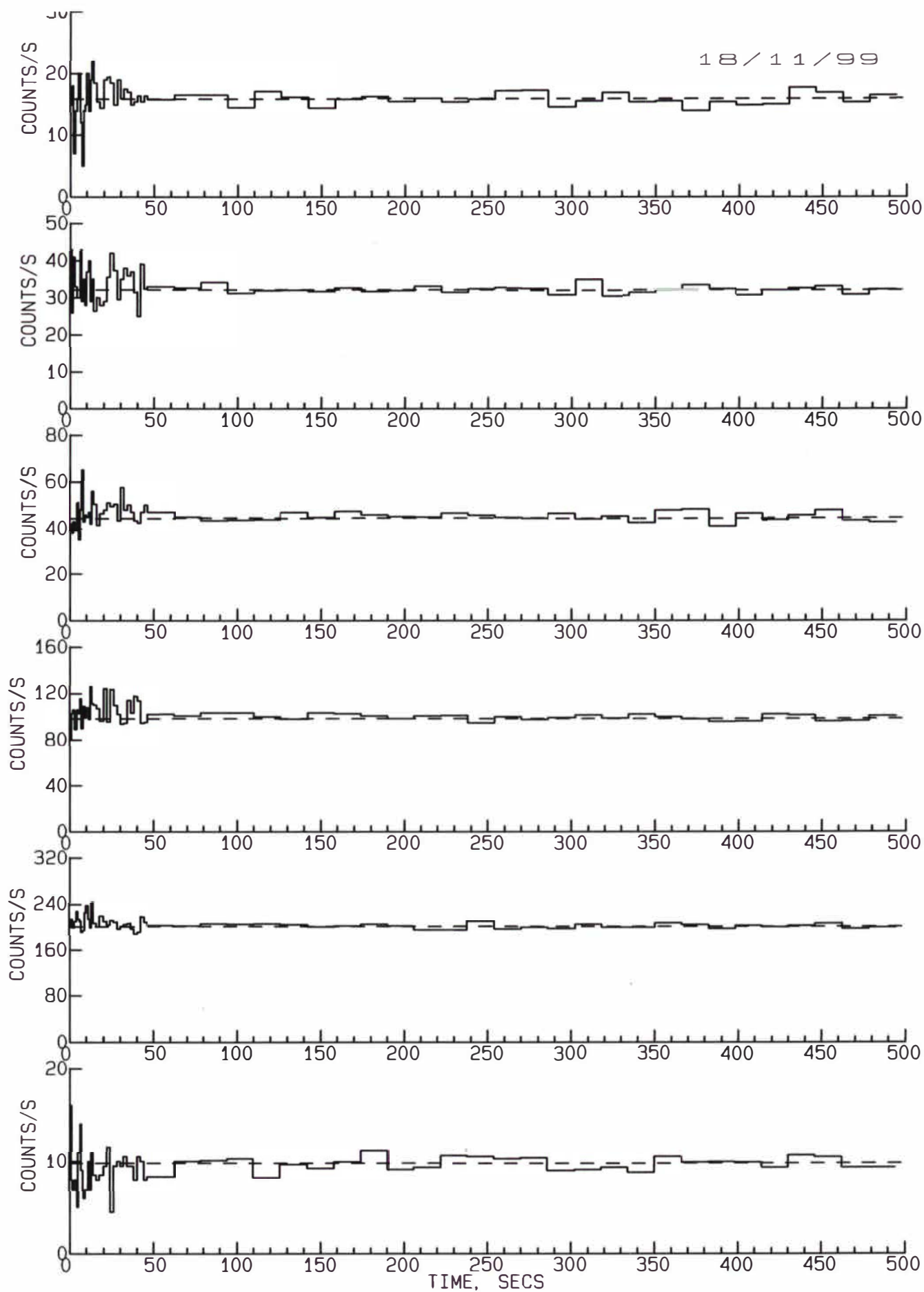
18- 46 keV

46- 75 keV

75-103 keV

103-131 keV

131-150 keV



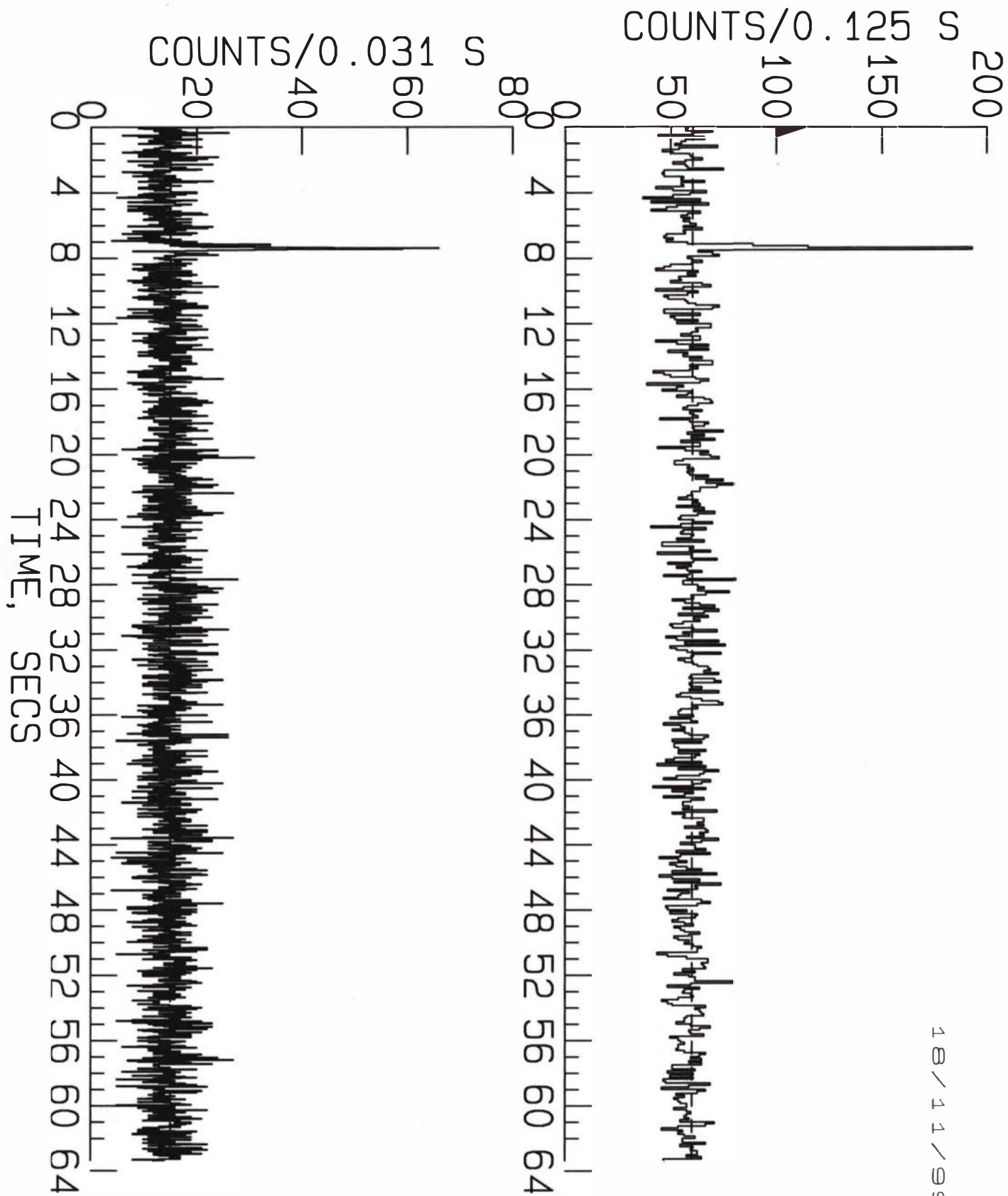
ULYSSES

17/05/99

Ttrig=

198.883

22- 150 keV

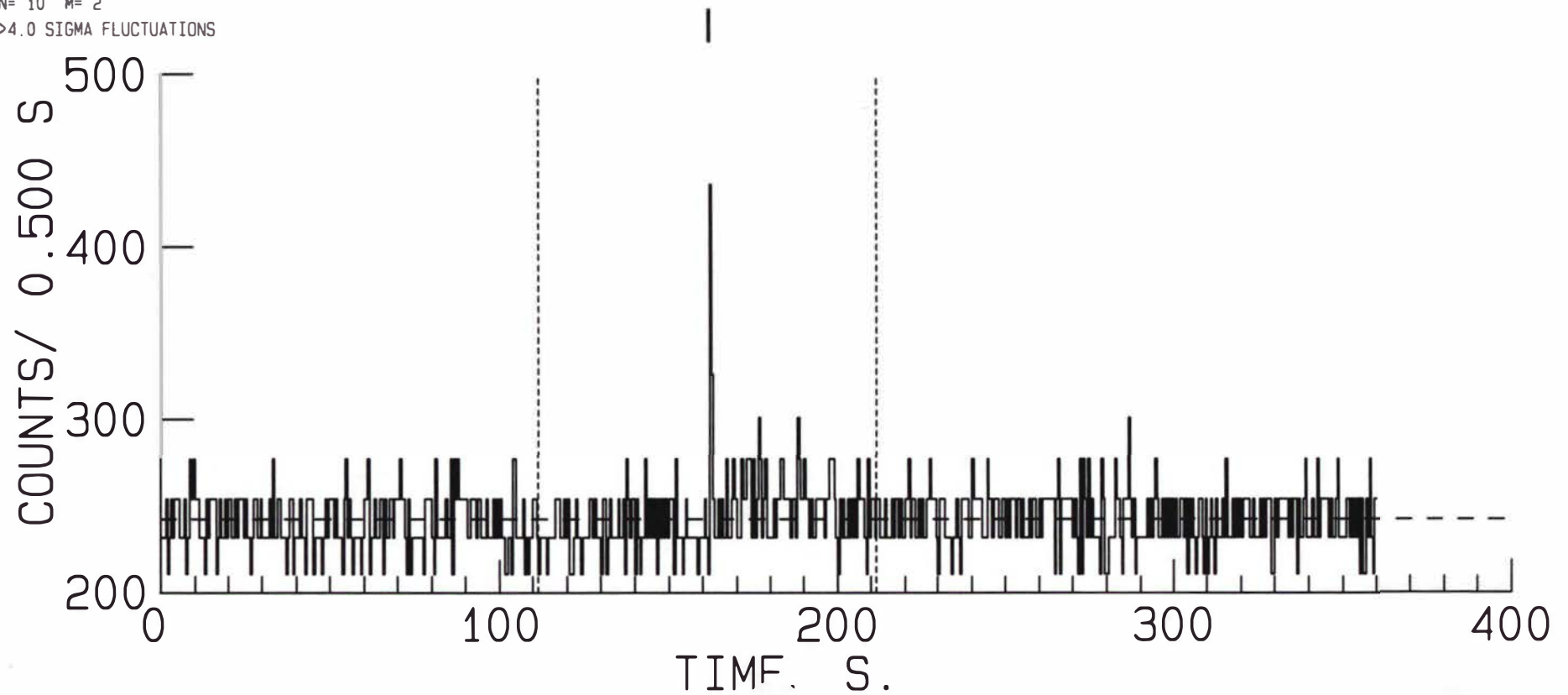


18/11/99

ULYSSES RT
17/ 5/99 36.420 s
22- 150 keV

18/11/99

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

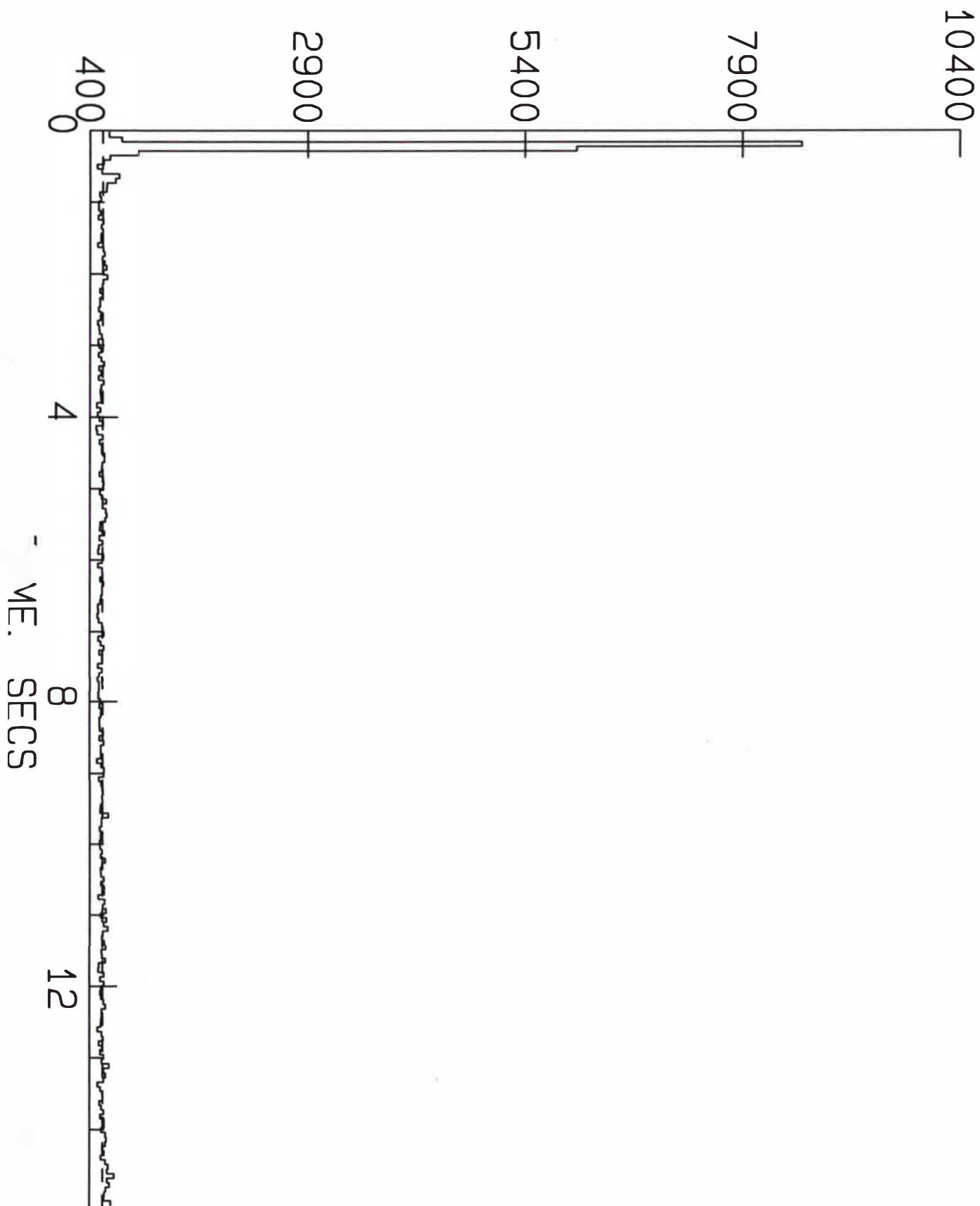


BATSE

16/05/99

86063.353

100-1000 keV
COUNTS/0.064 S



18 / 11 / 99

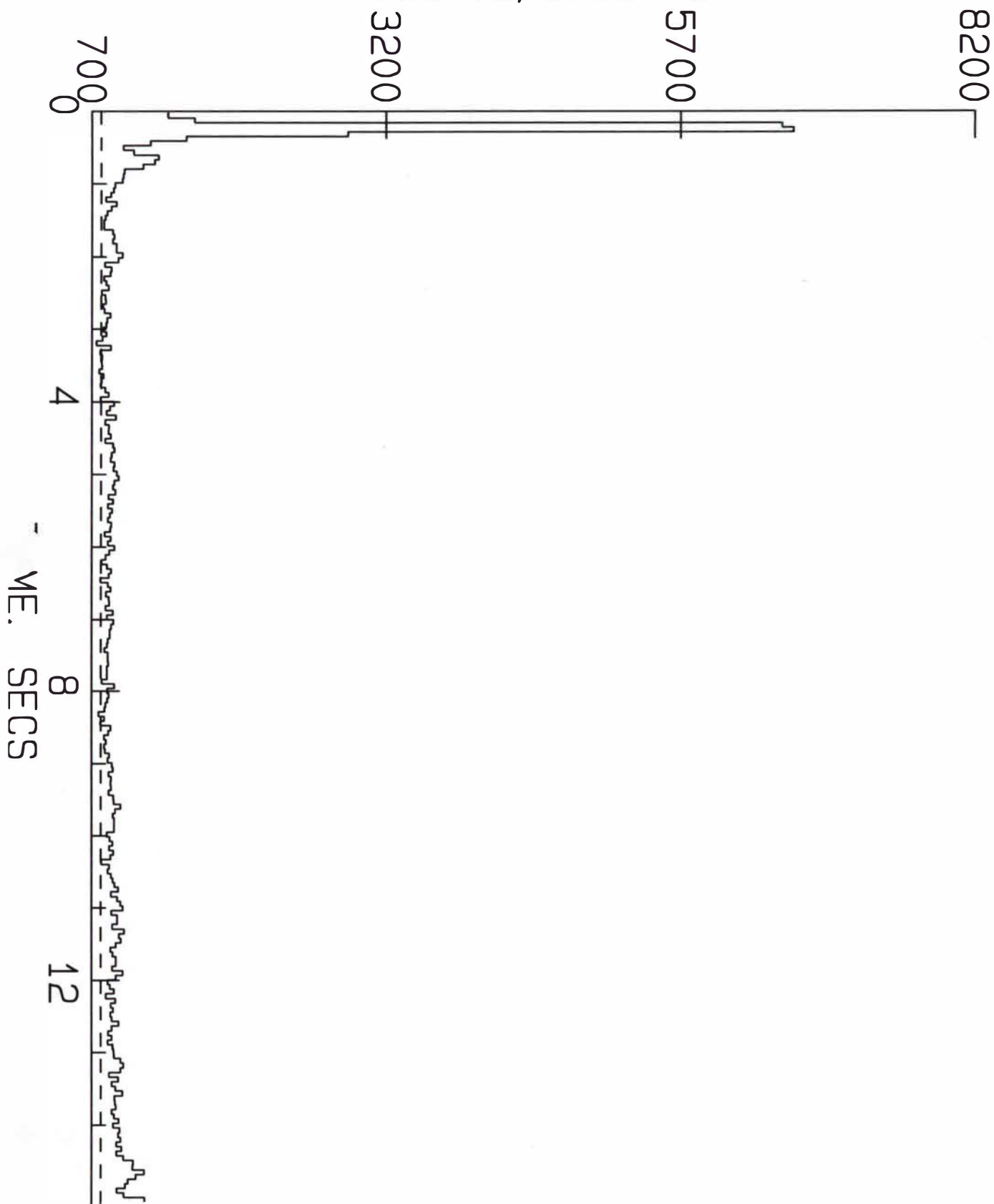
BATSE

16/05/99

86063.353

25- 100 keV

COUNTS/0.064 S



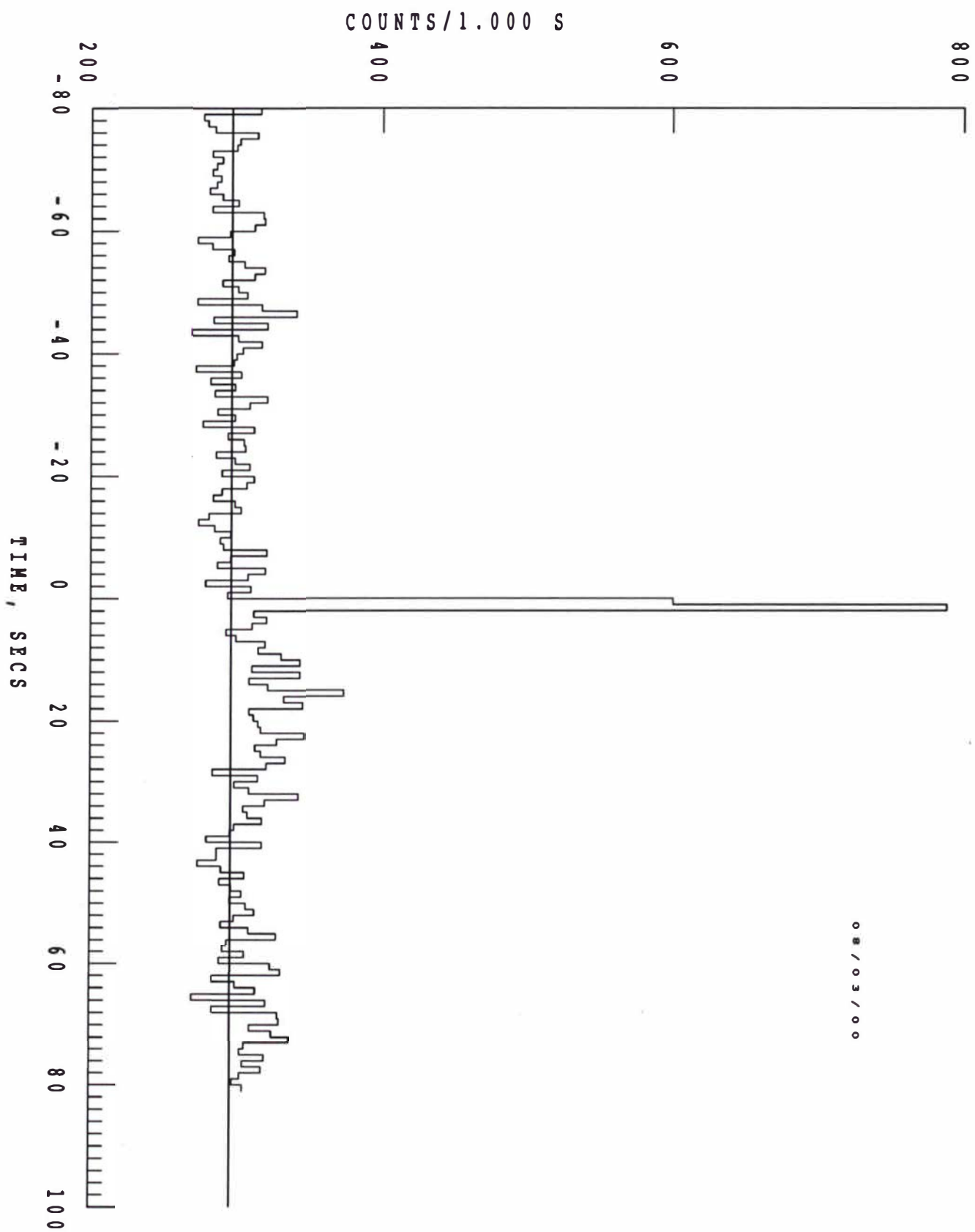
18 / 11 / 99

NEAR

17/05/99

556.831 *new time*

100-1000 keV

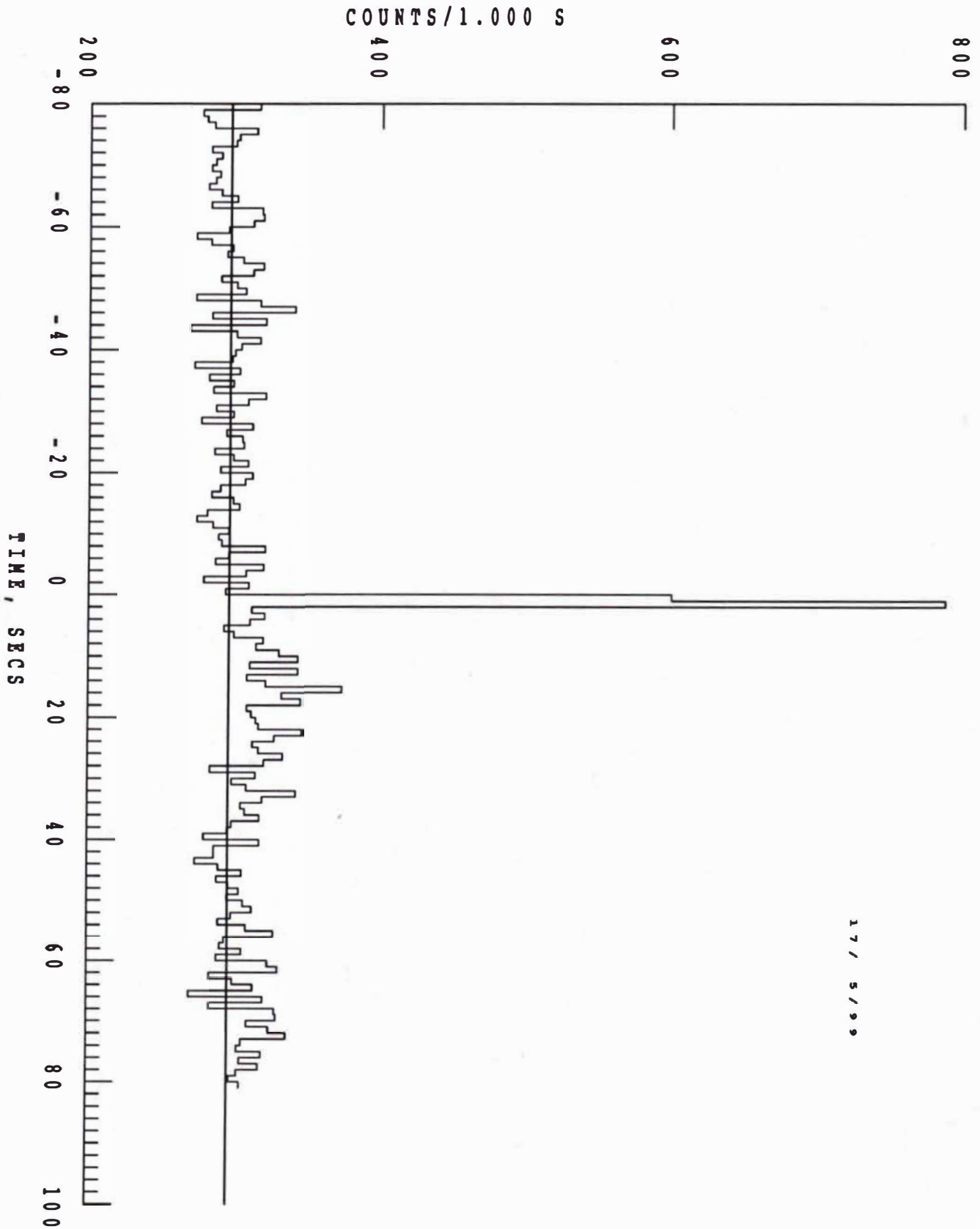


NEAR

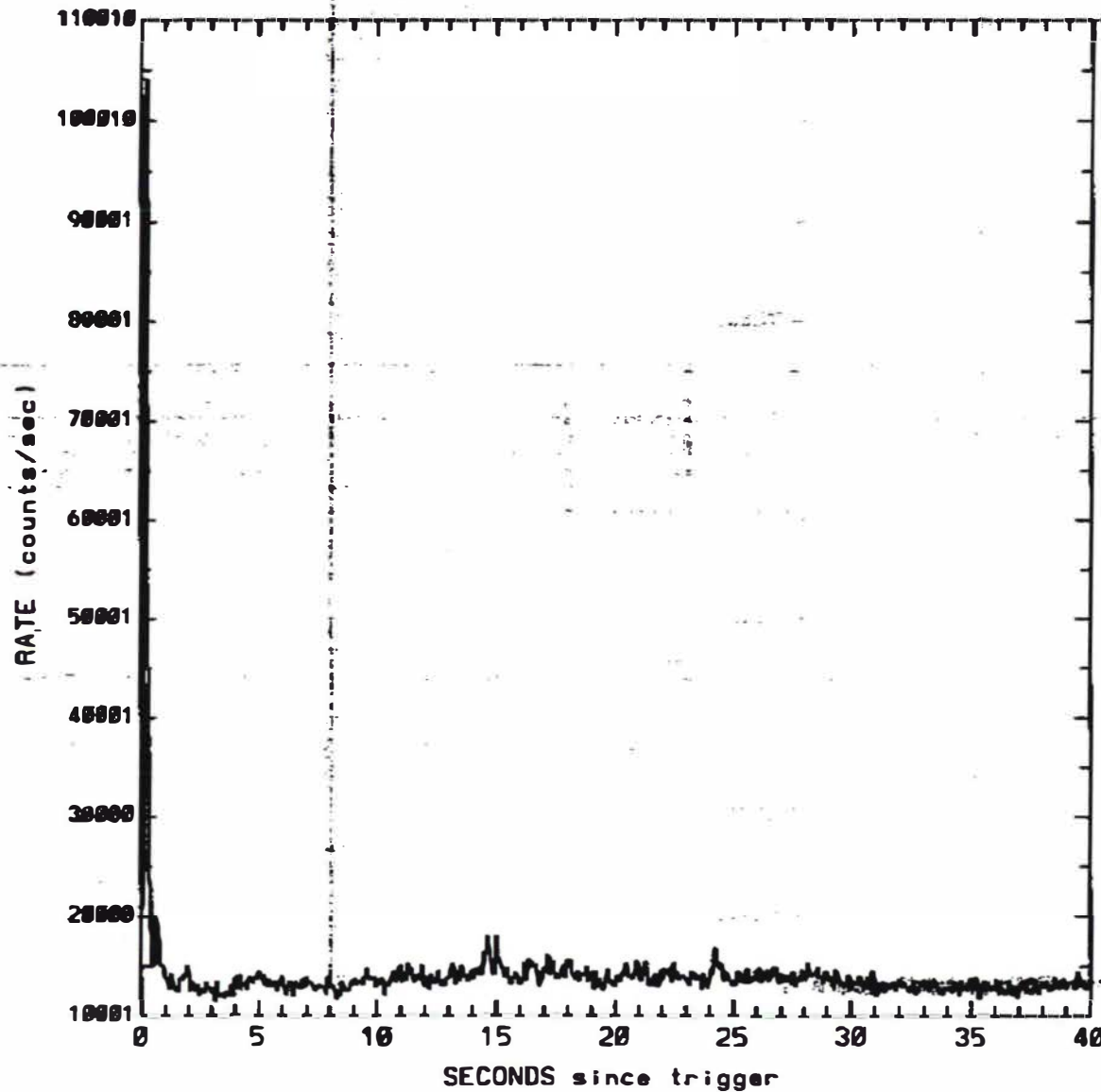
17/05/99

556.848 *old time*

100-1000 keV



MER Data for K. Hurley, No. 7569



17-NOV-1999 12:15:22

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

Trigger # : 7569

Trigger Time:
11314 / 86063.353

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

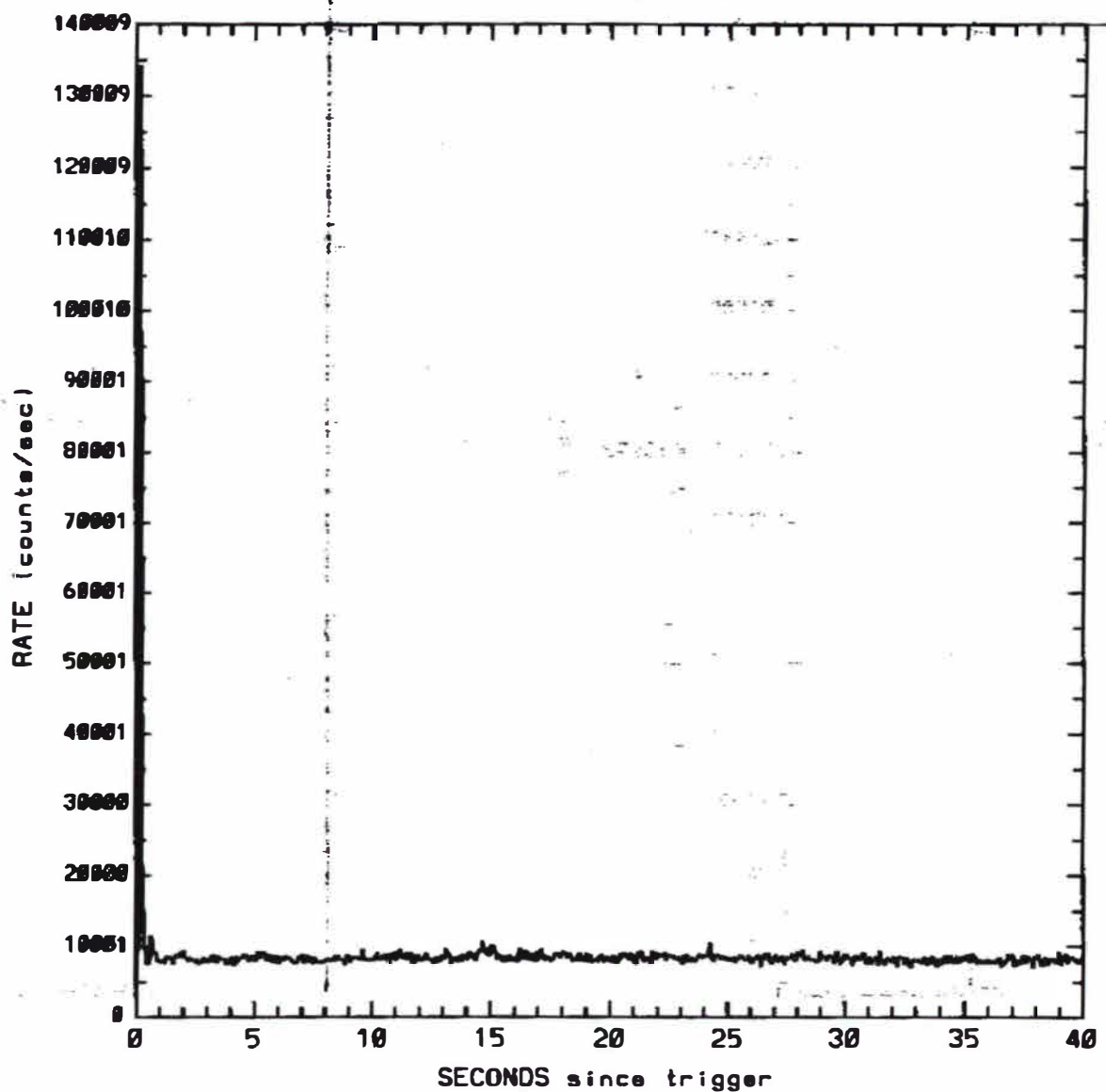
Minimum Integ. Time:
0.064 second(s)

Detectors [7..8]:
7-5-3-1-

Channels:
[0..6]

Quality Mask:
BDISP1

MER Data for K. Hurley, No. 7569



17-NOV-1999 12:18.82

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

Trigger # : 7569

Trigger Time:
11314 / 86863.353

Burst Data Type:
MER

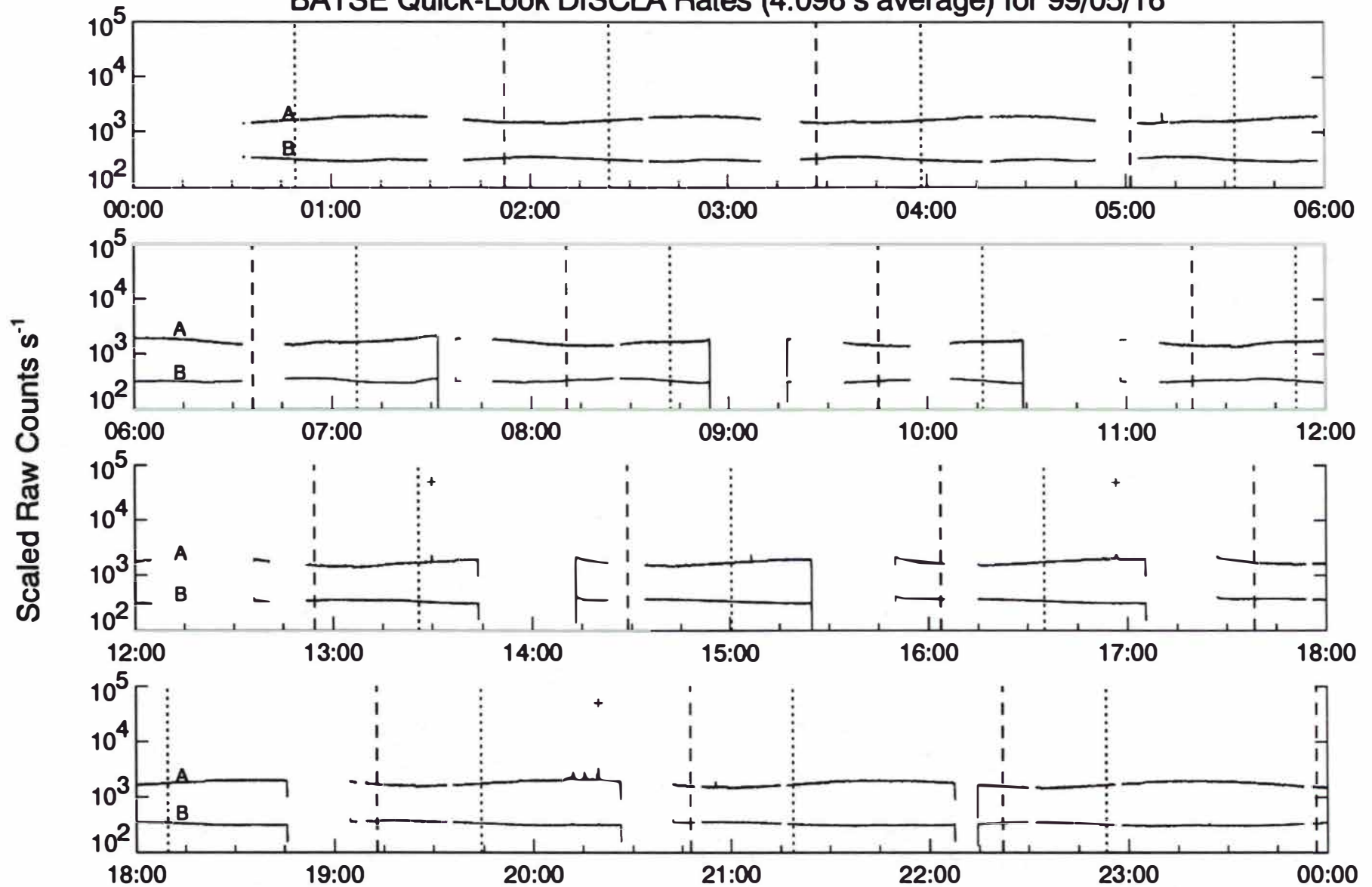
Deadtime
Corrected: N
Background Data
Type: CONT
Minimum Integ. Time:
0.064 seconds

Detectors [7.9].
7-5-3-1-

Channels:
1 7 .15 1

Quality Mask:
BDISP1

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/16

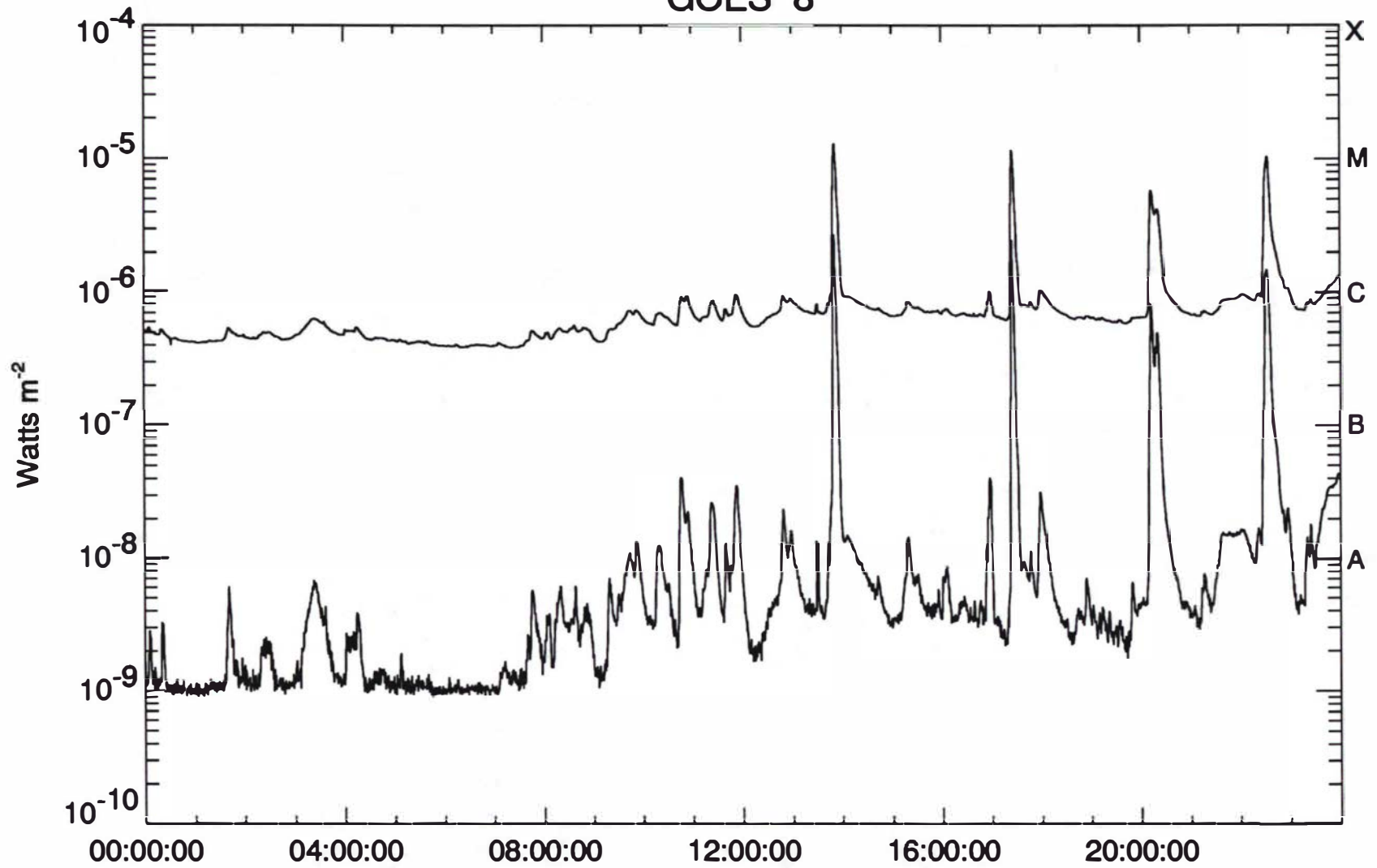


Current Time: 99/05/20, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/16, 0000:00

Plot created: 99/05/20, 1006

Channel

1 (1.0 - 8.0 Angstroms)

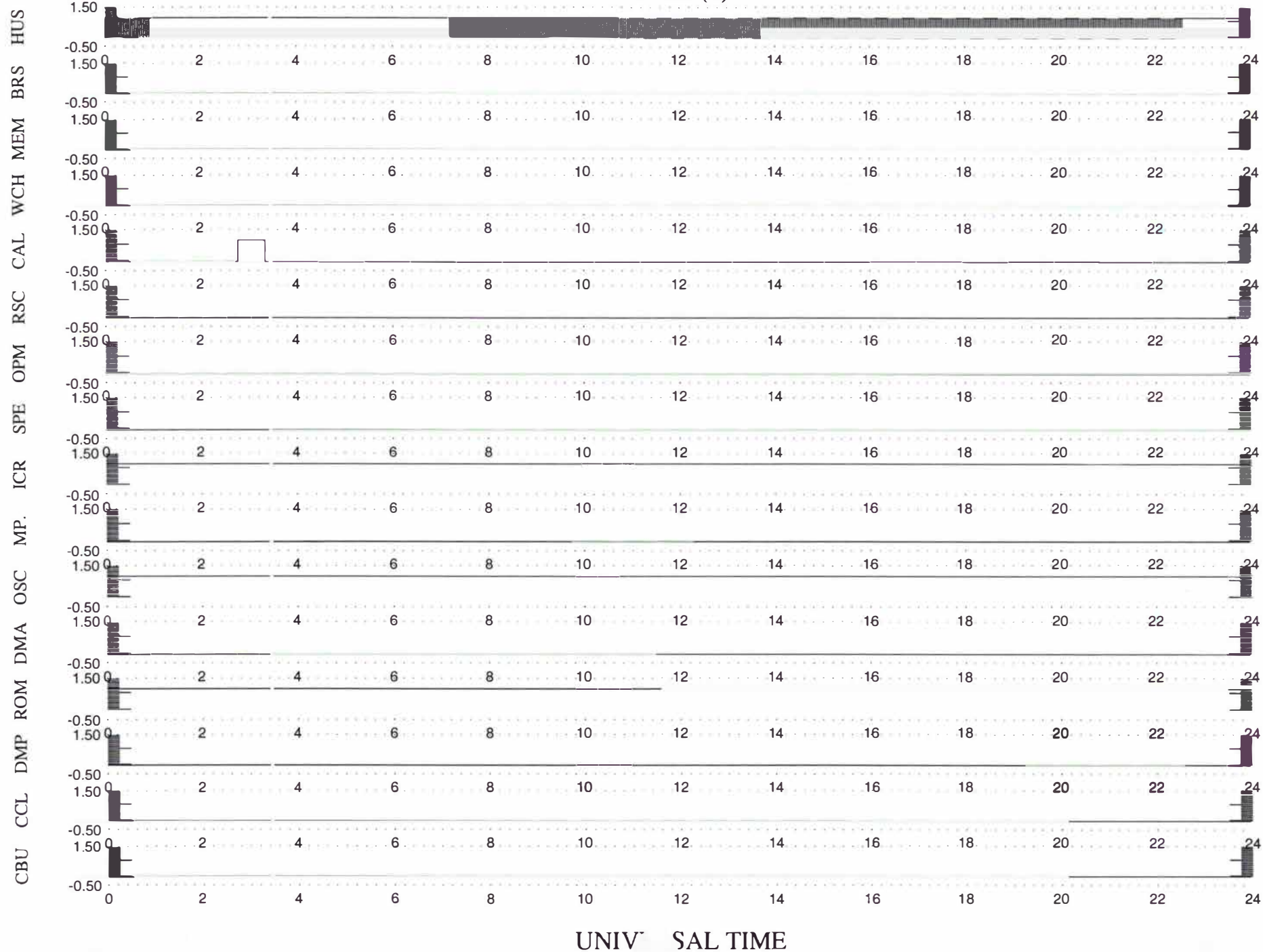
Background not subtracted

2 (0.5 - 4.0 Angstroms)

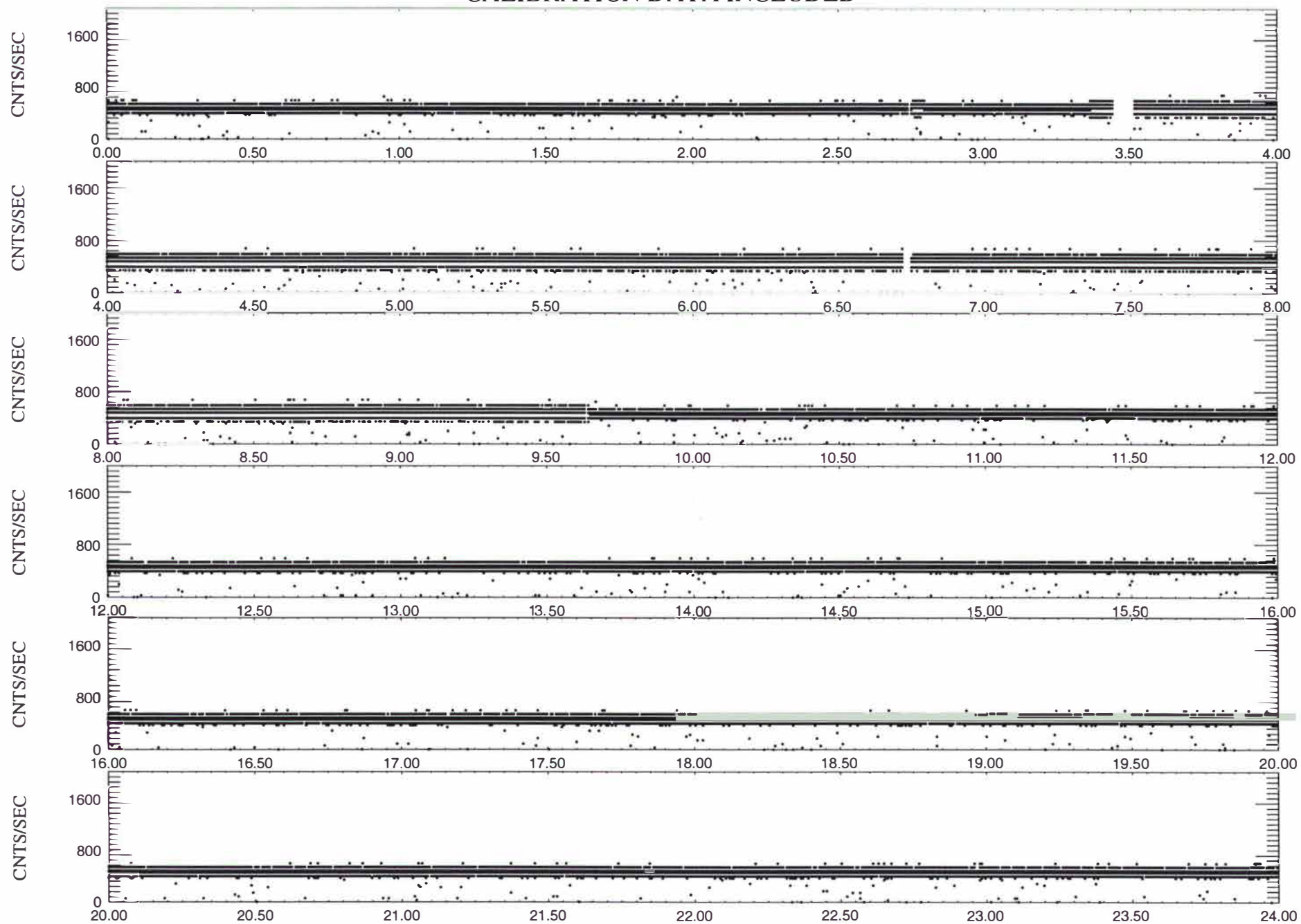
Background not subtracted

Sample average = 10

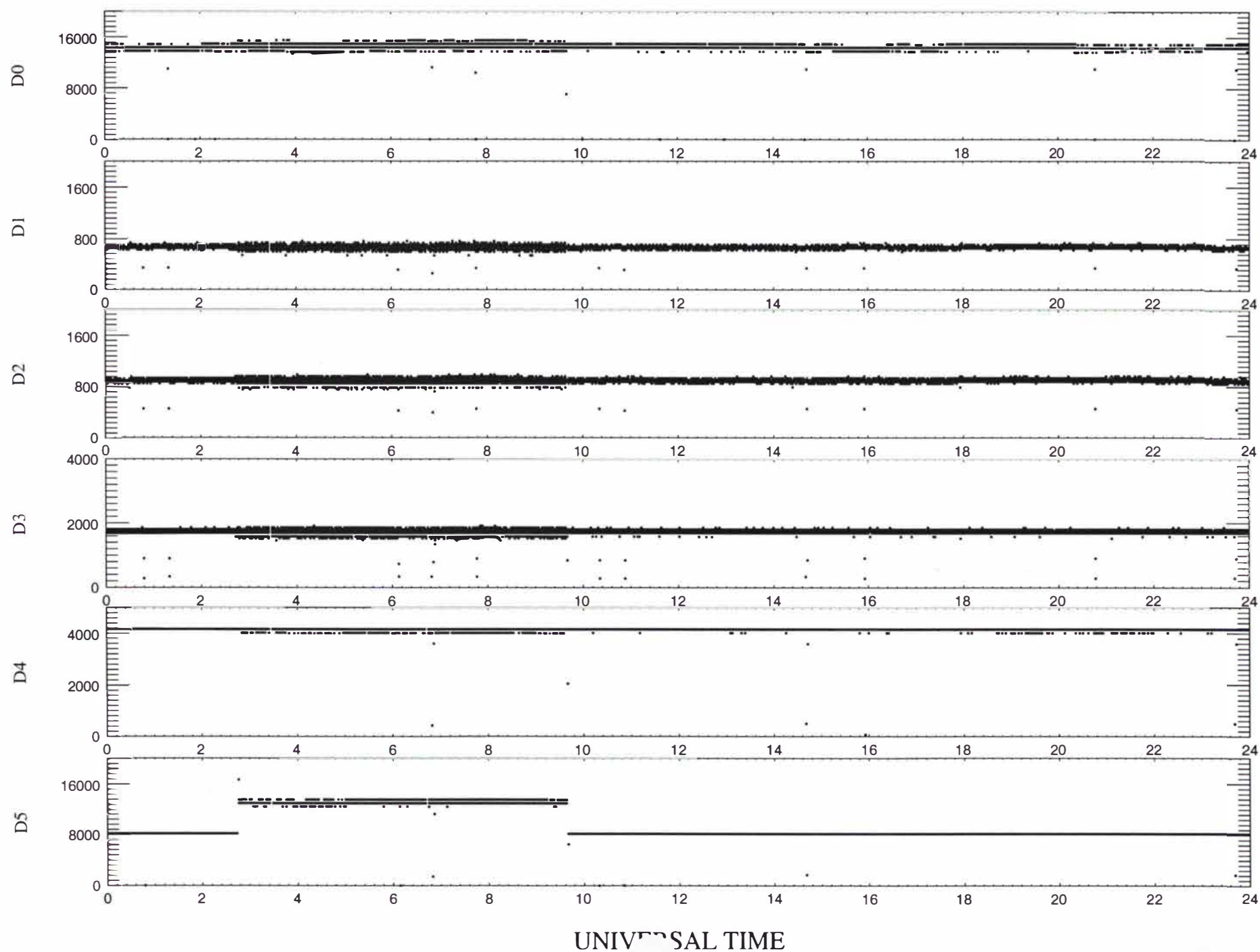
NO BURST (0)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Wed May 19 11:15:42 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 19 May 1999 13:10:27 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7570

TIME: TJD=1315 SECONDS=13339

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=46.9 AZIMUTH=332.6 ERROR=0.7 DEGREES

COMMENTS:

SOLAR FLARE. GOES C3.9, NO OPTICAL,

LOTS OF STRUCTURE. DURATION APPROX. = 300 SEC. VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Wed May 19 11:16:11 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 19 May 1999 13:13:52 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7571

TIME: TJD=1315 SECONDS=47859

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=46.6 AZIMUTH=333.8 ERROR=1.7 DEGREES

COMMENTS:

SOLAR FLARE, GOES C1.6, NO OPTICAL,

LOTS OF STRUCTURE. DURATION APPROX. = 110SEC. VISIBLE ABOVE 100KEV.

From RICHARDSON@fender.msfc.nasa.gov Wed May 19 11:17:02 1999

From: RICHARDSON@fender.msfc.nasa.gov

Date: Wed, 19 May 1999 13:17:40 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7572

TIME: TJD=1315 SECONDS=61536

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=51.1 AZIMUTH=331.5 ERROR=1.4 DEGREES

COMMENTS:

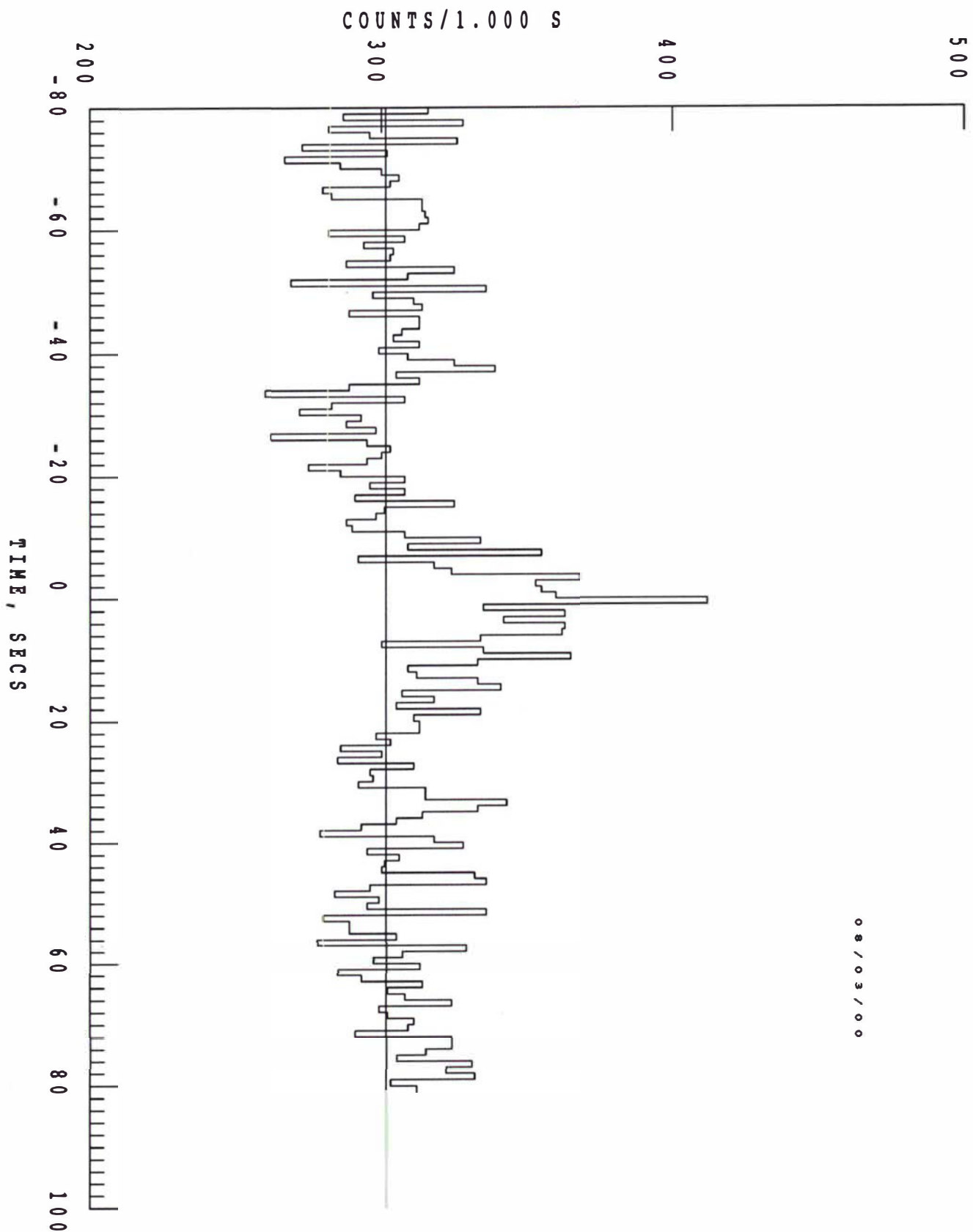
SOLAR FLARE, GOES C6.2, OPTICAL 1F,
SEVERAL PULSES. BEGINS DURING HIGH VOLTAGE OFF, SO TOTAL DURATION UNKNOWN.
DURATION AT LEAST 180 SEC. NOT VISIBLE ABOVE 100KEV.

NEAR

17/05/99

17830.827 *near time*

100-1000 keV

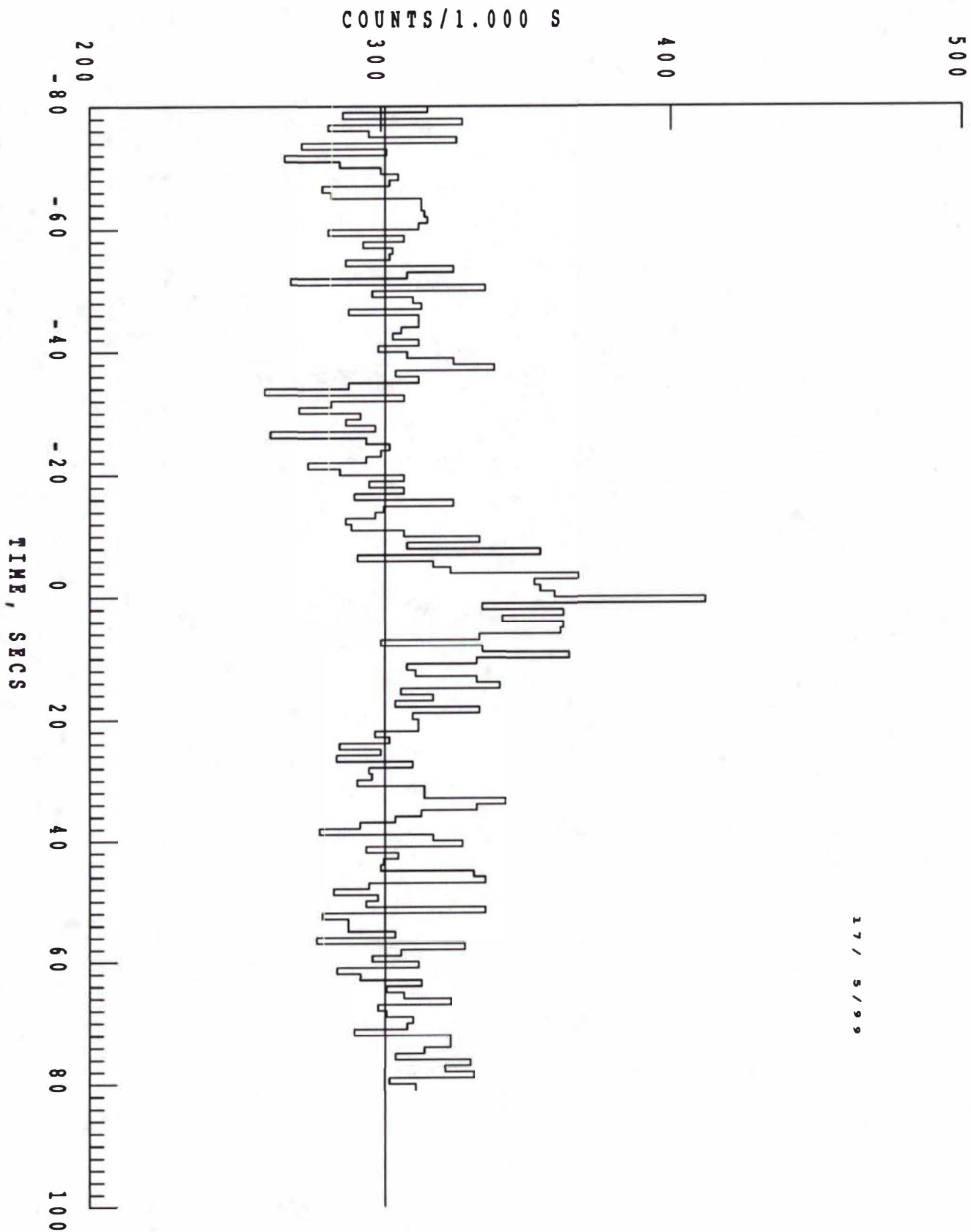


NEAR

17/05/99

17830.844 *old time*

100-1000 keV



17 / 5 / 99

KNEAR GRS 19990517 17830

ULYSSES RT

17 / 5 / 99

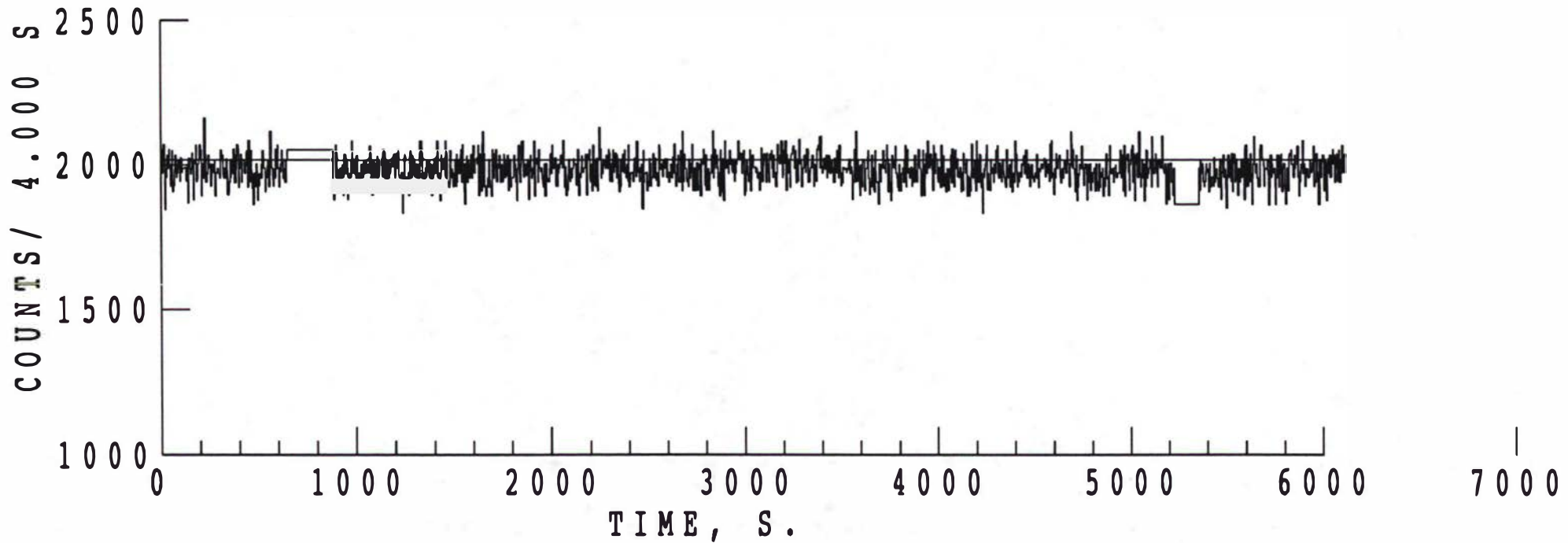
17 / 5 / 99 14760.068 s

0.250 S INTERVALS REGROUPED BY 16

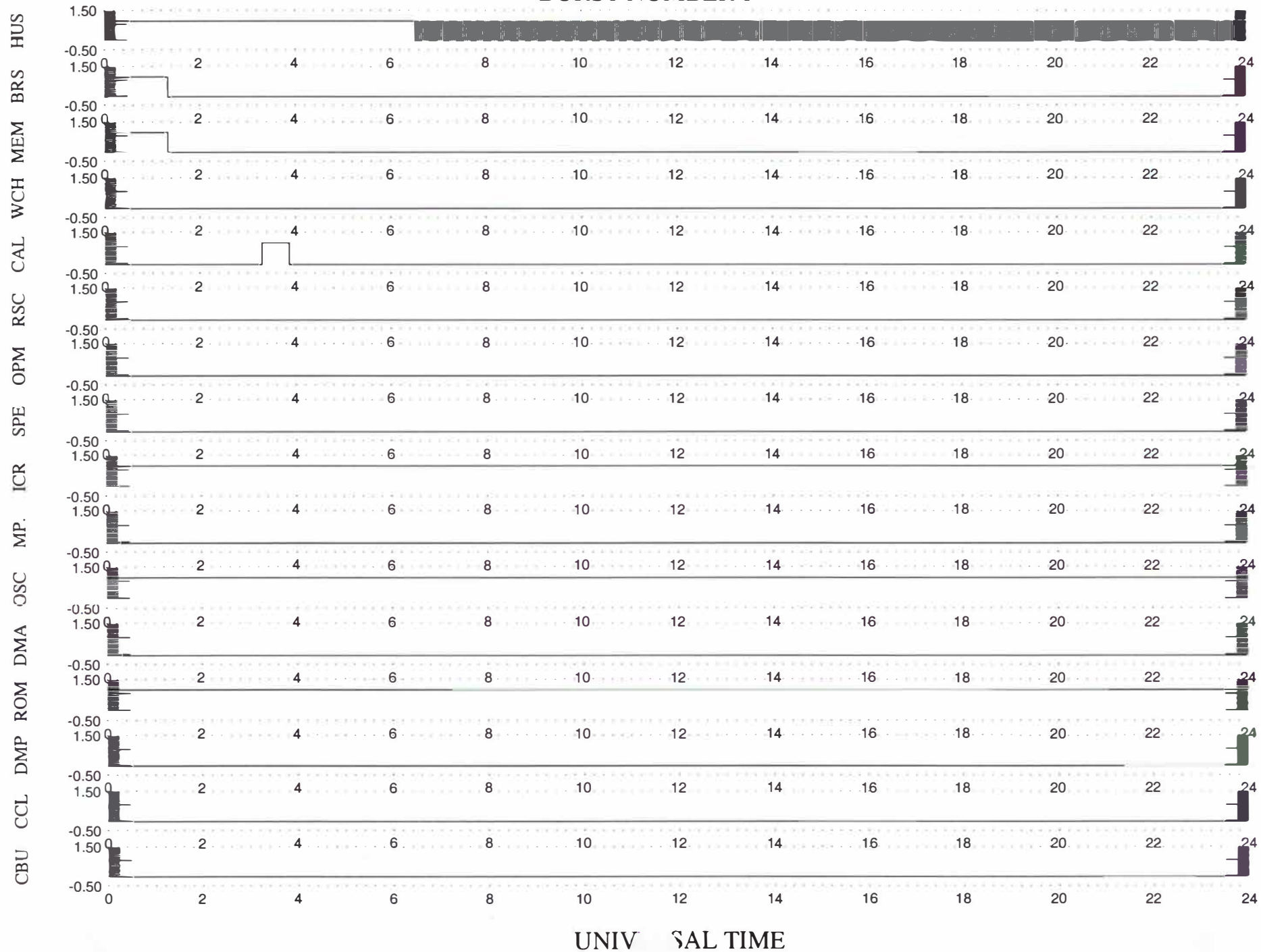
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

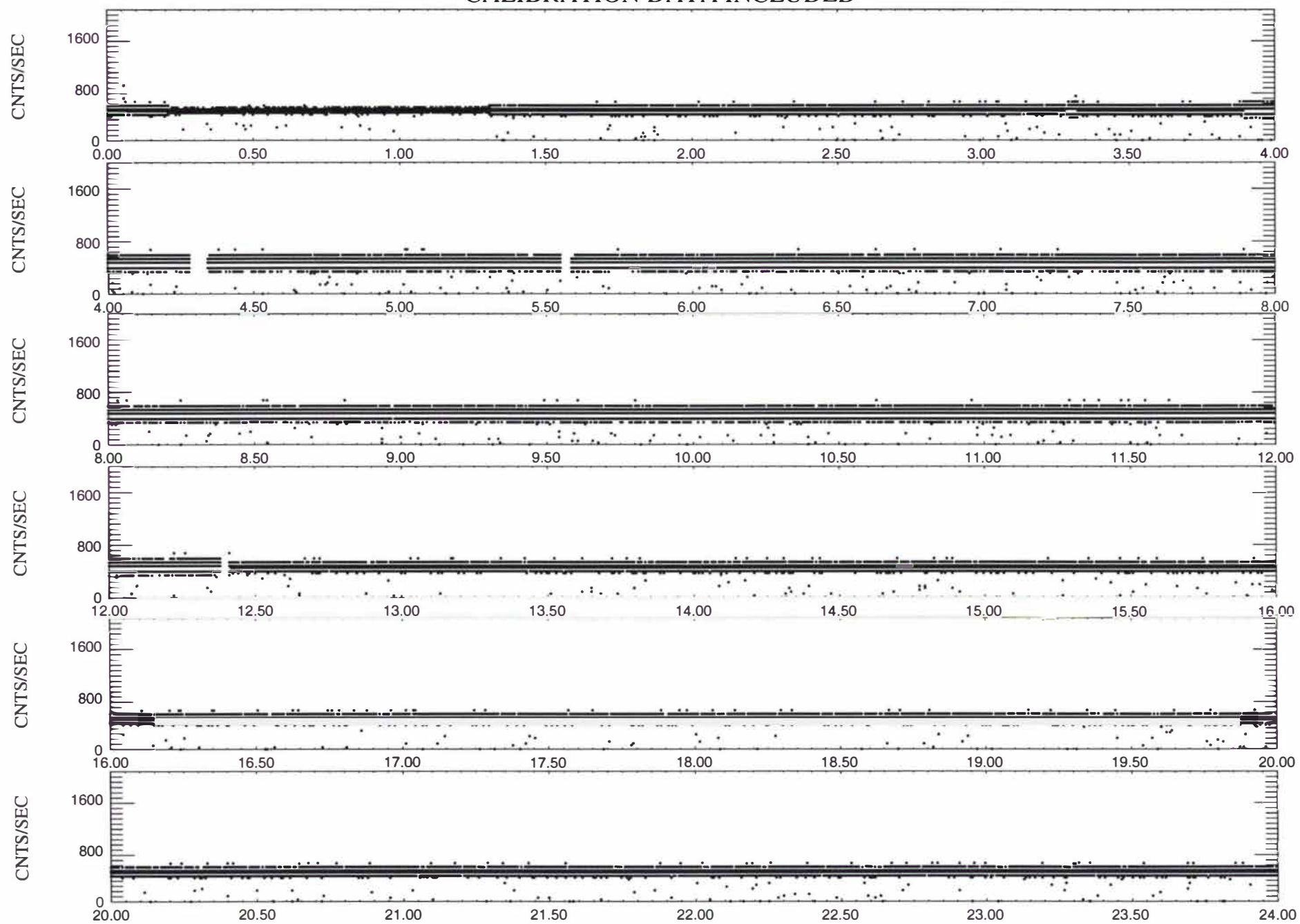
N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BURST NUMBER 1

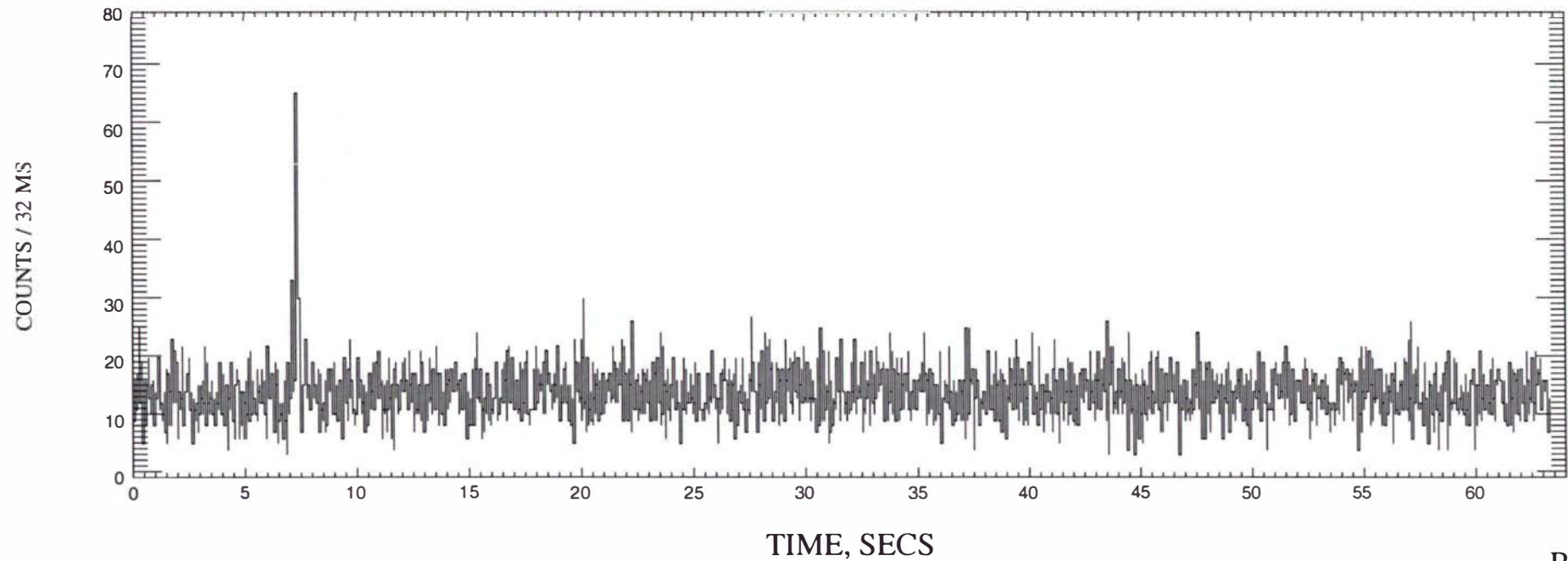
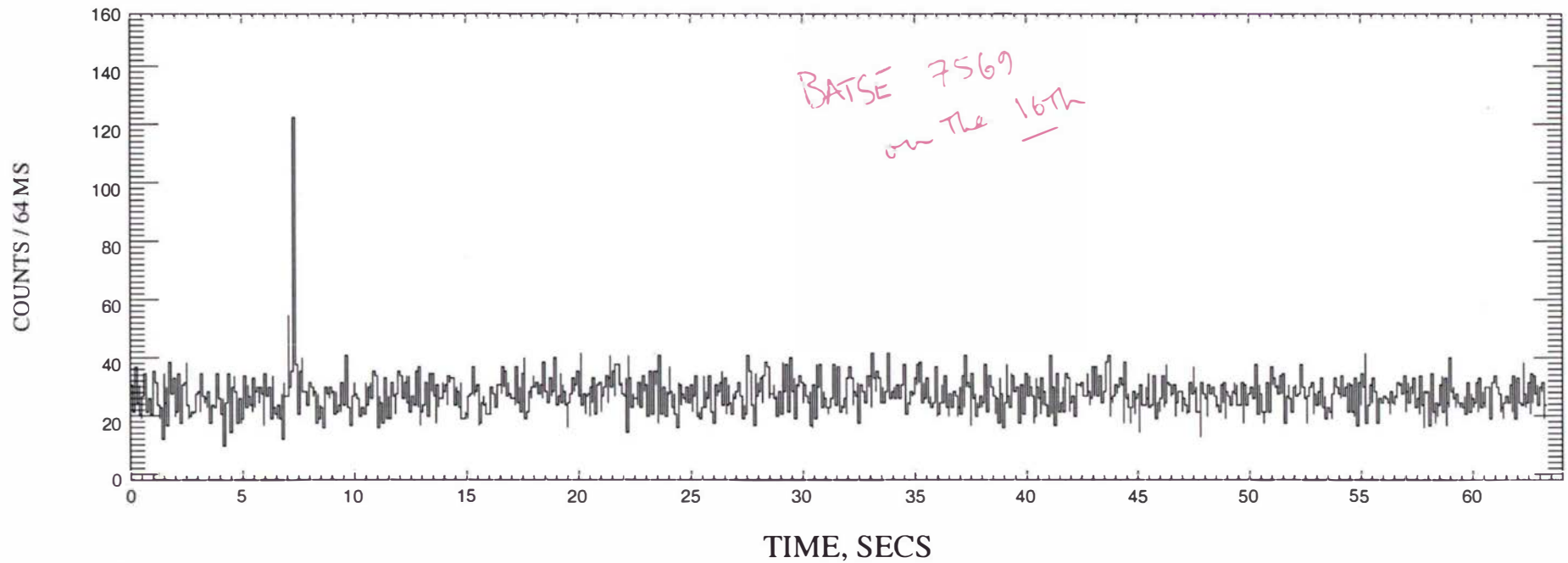


CALIBRATION DATA INCLUDED

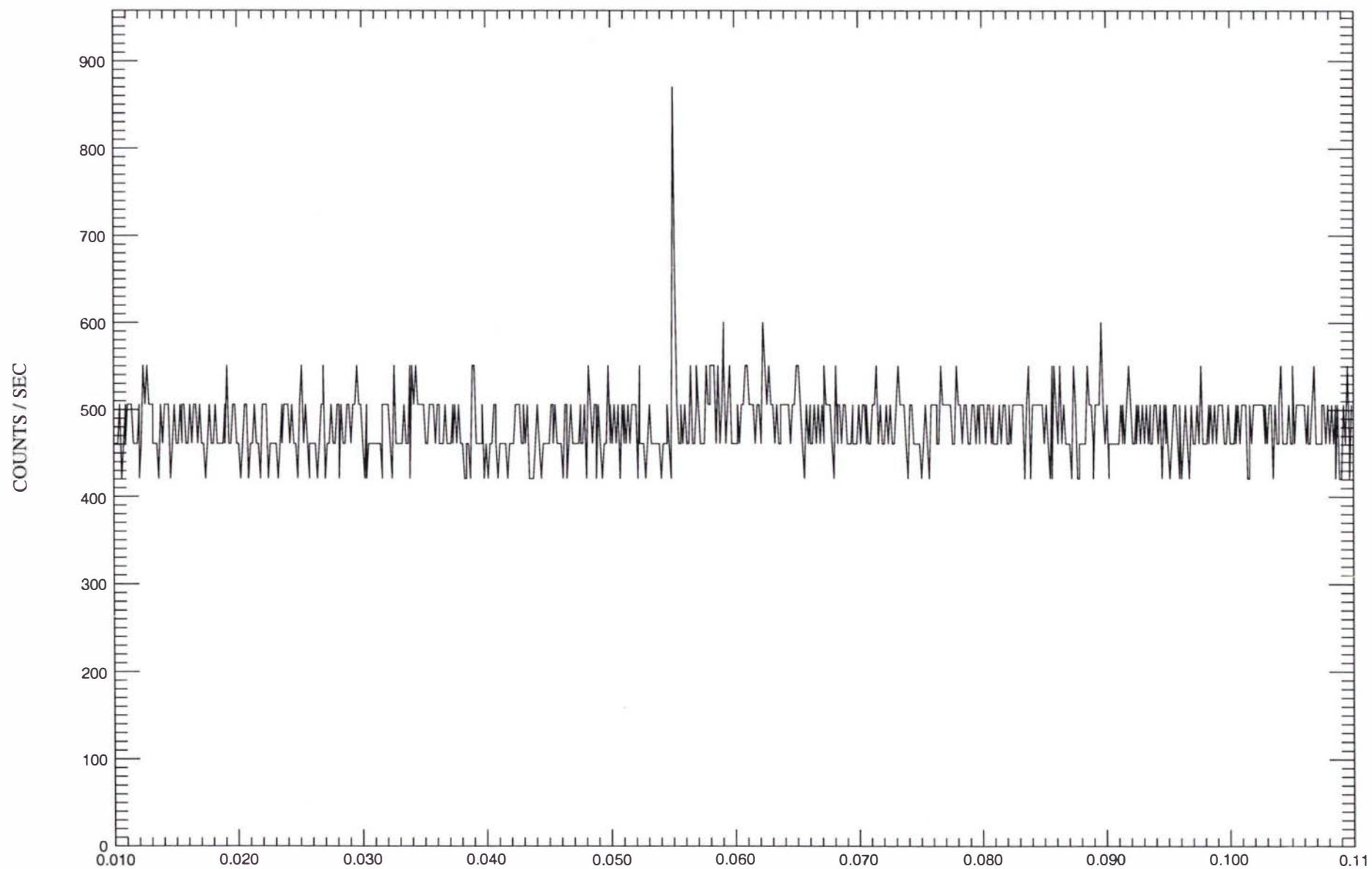


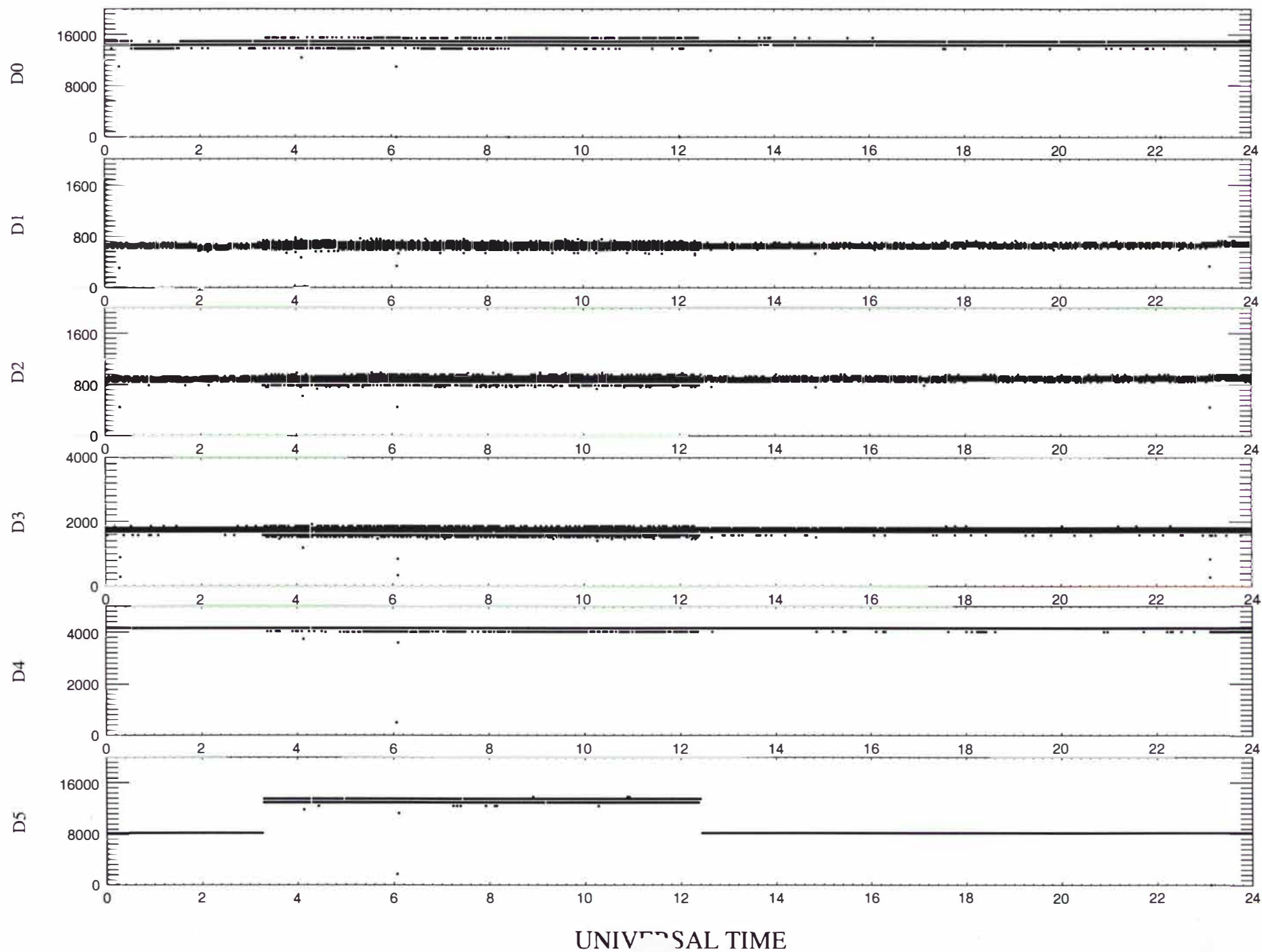
UNIVERSAL TIME

Burst Counter 1 at UT= 0.055239147610 h= 198.861 s 00:03:18.861



CALIBRATION DATA INCLUDED





From HENZE@fender.msfc.nasa.gov Thu May 20 14:27:01 1999
Return-Path: <HENZE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id OAA17190; Thu, 20 May 1999 14:27:00 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id OAA15621
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 20 May 1999 14:24:02 -0700 (PDT)
Date: Thu, 20 May 1999 16:27:57 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990520162757.2021f171@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7573
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7573
EVENT OF 1999 MAY 18 DAY OF YEAR=138
EVENT CROSSING TIME AT BATSE : 5223. S. OR 01:27:03.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 235.000 19.000
BATSE PEAK COUNTING RATE: 4300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 5/ 99 IS:
RA= 144.018 DEC= -6.873 DIST= 4.785 AU
BATSE-ULYSSES DISTANCE = 715789610. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 86.84 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 131.45 SECS.
CROSSING TIME AT ULYSSES IS 5354. S. OR 01:29:14 +/- 465.90 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 5/ 99 IS:
RA= 204.656 DEC= -9.883 DIST= 0.602 AU
MARS-BATSE DISTANCE = 90114064. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=138.42 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -224.84 SECS.
CROSSING TIME AT MARS IS 4998. S. OR 01:23:18 +/- 31.22 SECONDS

BATSE BURST TRIGGER

NO.: 7573

TIME: TJD=1316 SECONDS= 5223

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=123.7 AZIMUTH=205.6 ERROR= 2.7 DEGREES

COMMENTS:

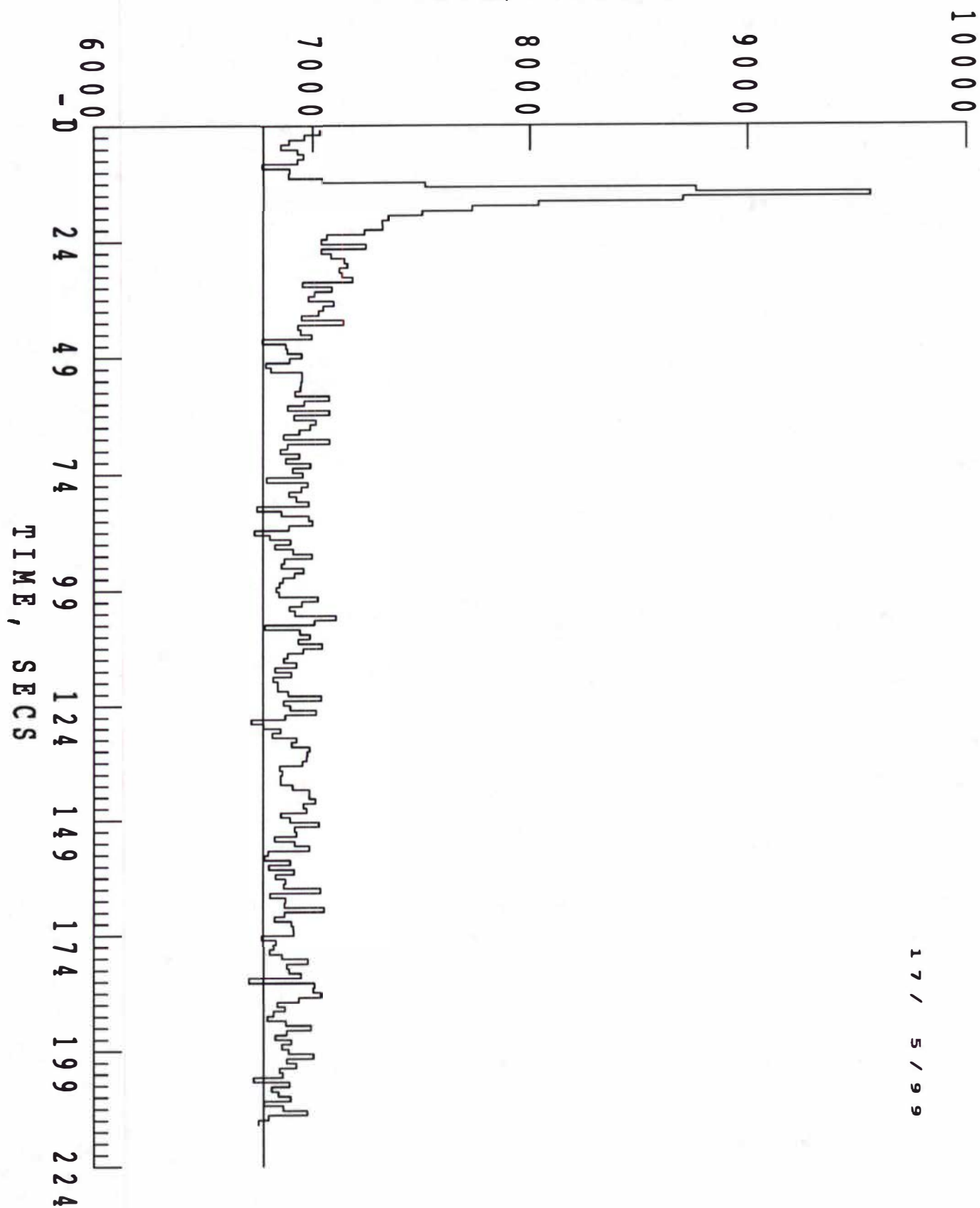
SINGLE PULSE WITH TAIL, TOTAL DUR. APPROX. 35 S. WEAKLY VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7573	990518	11316	05223	4300	235	+19	35

BACODINE 7573 18/05/99 5211.897

25- 100 keV

COUNTS/1.024 S



BATSE BURST# 7573

ULYSSES RT

20 / 5 / 99

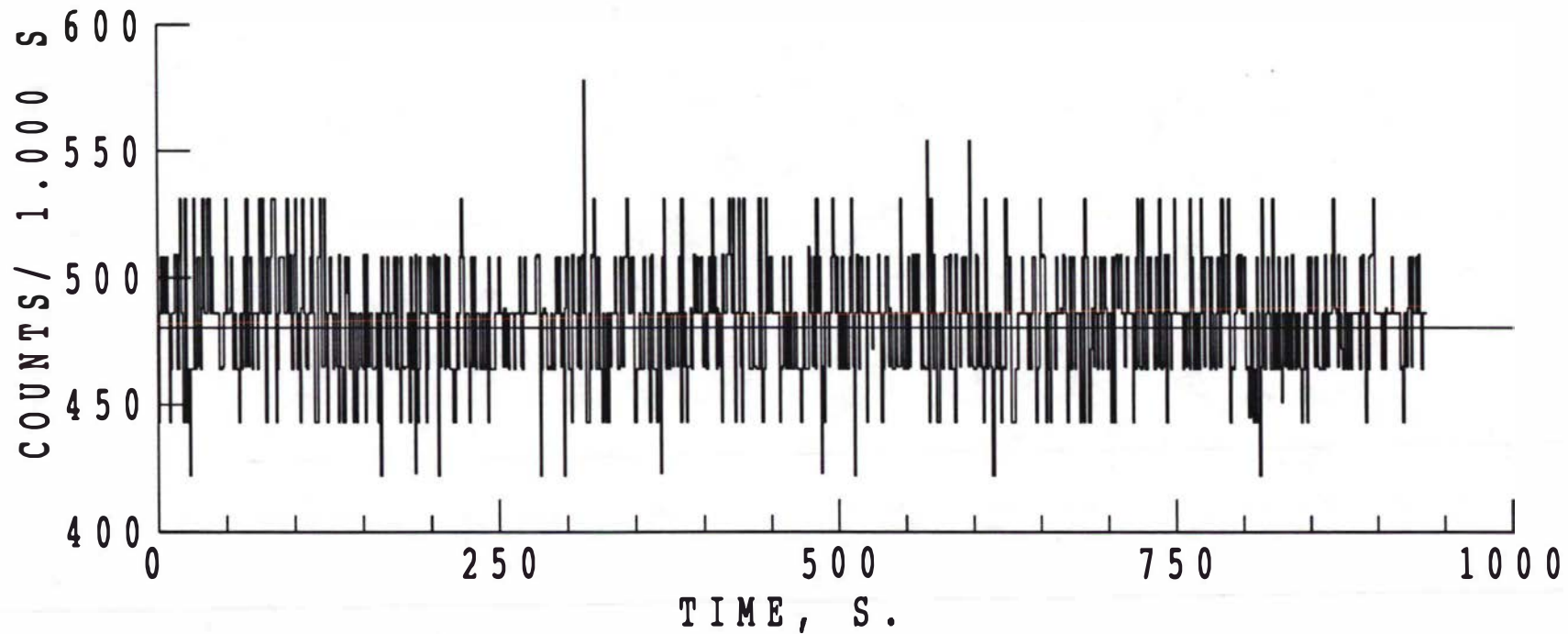
18 / 5 / 99 4896.339 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

B= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

B= 10 M= 2
>4.0 SIGMA FLUCTUATIONS

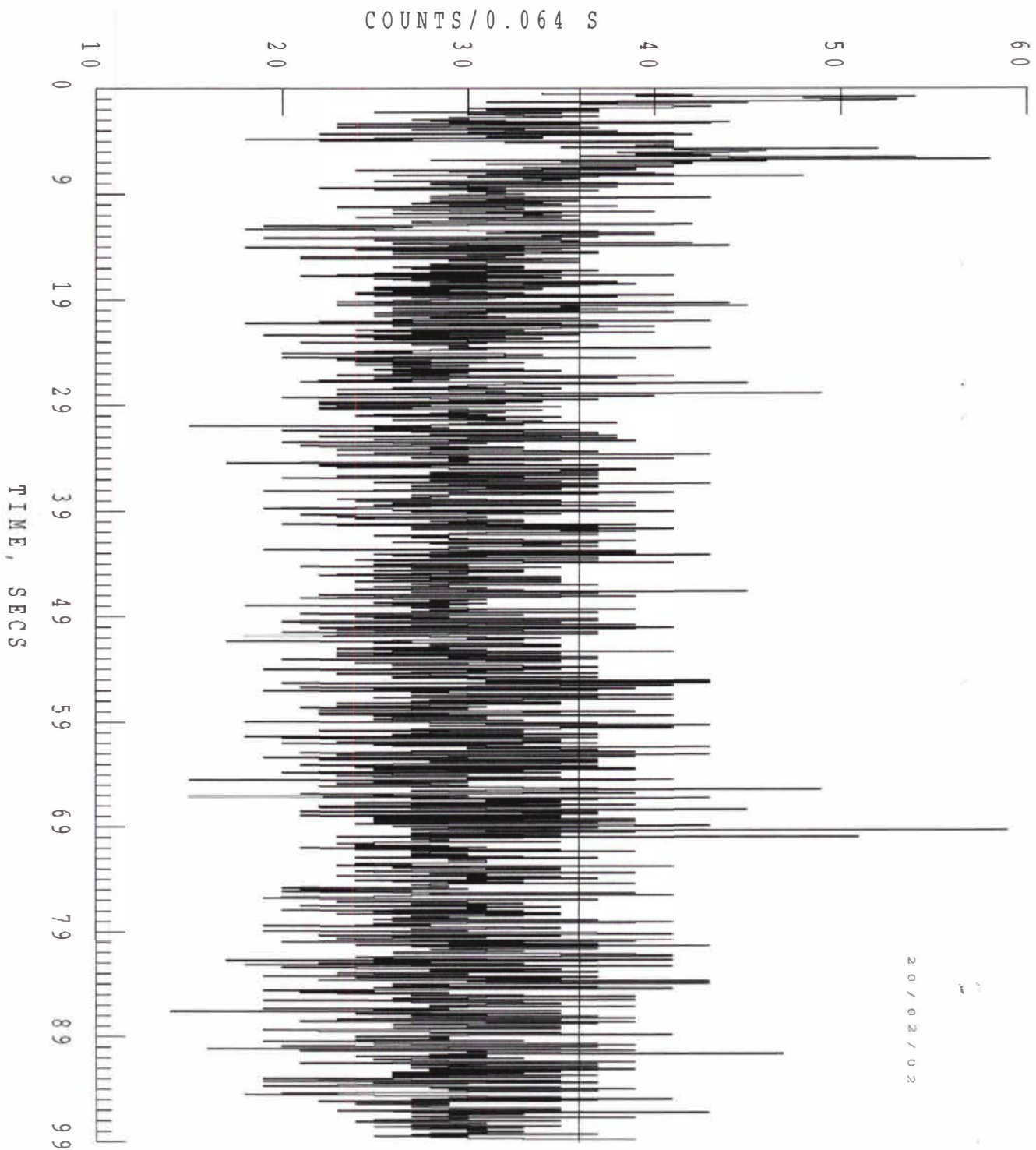


KONUS2

18/05/99

8653.896

50 - 200 keV



Date: Jan 17 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. 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?

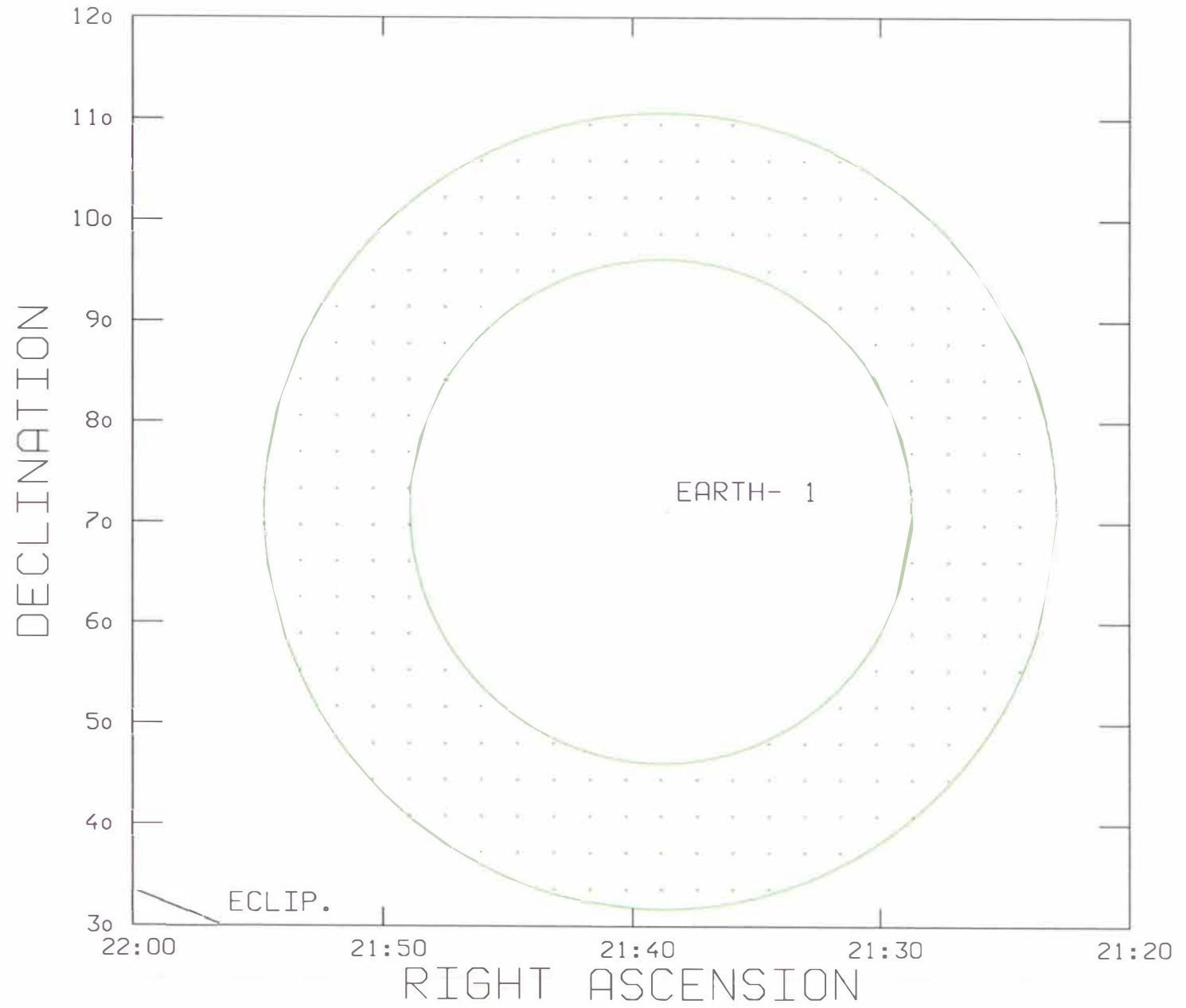
2. For 3 or More Spacecraft events

- ☐ $\Sigma 3\Delta t$'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?

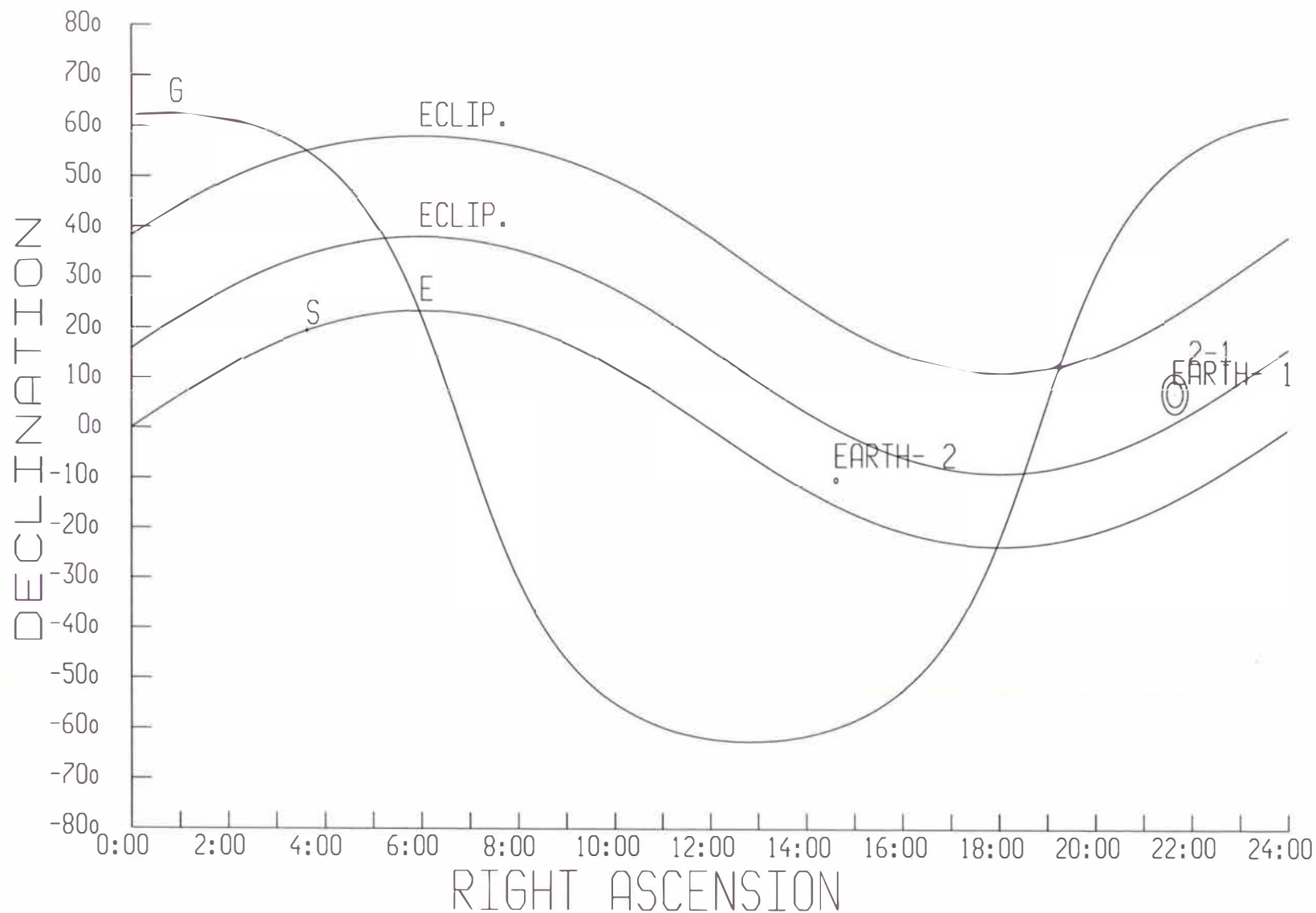
-
- ☒ ACCESS and MBL4 databases updated with identical times?

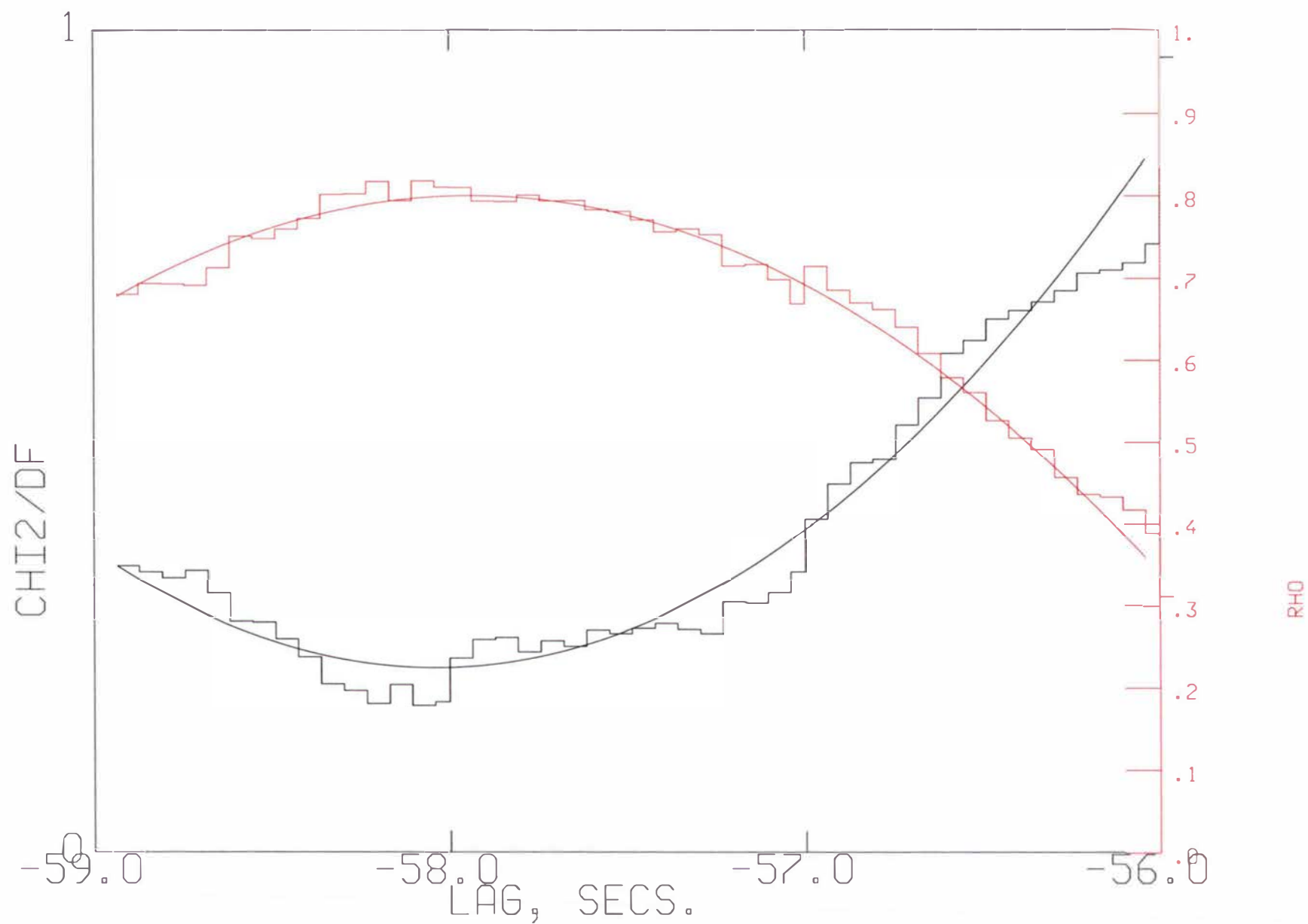


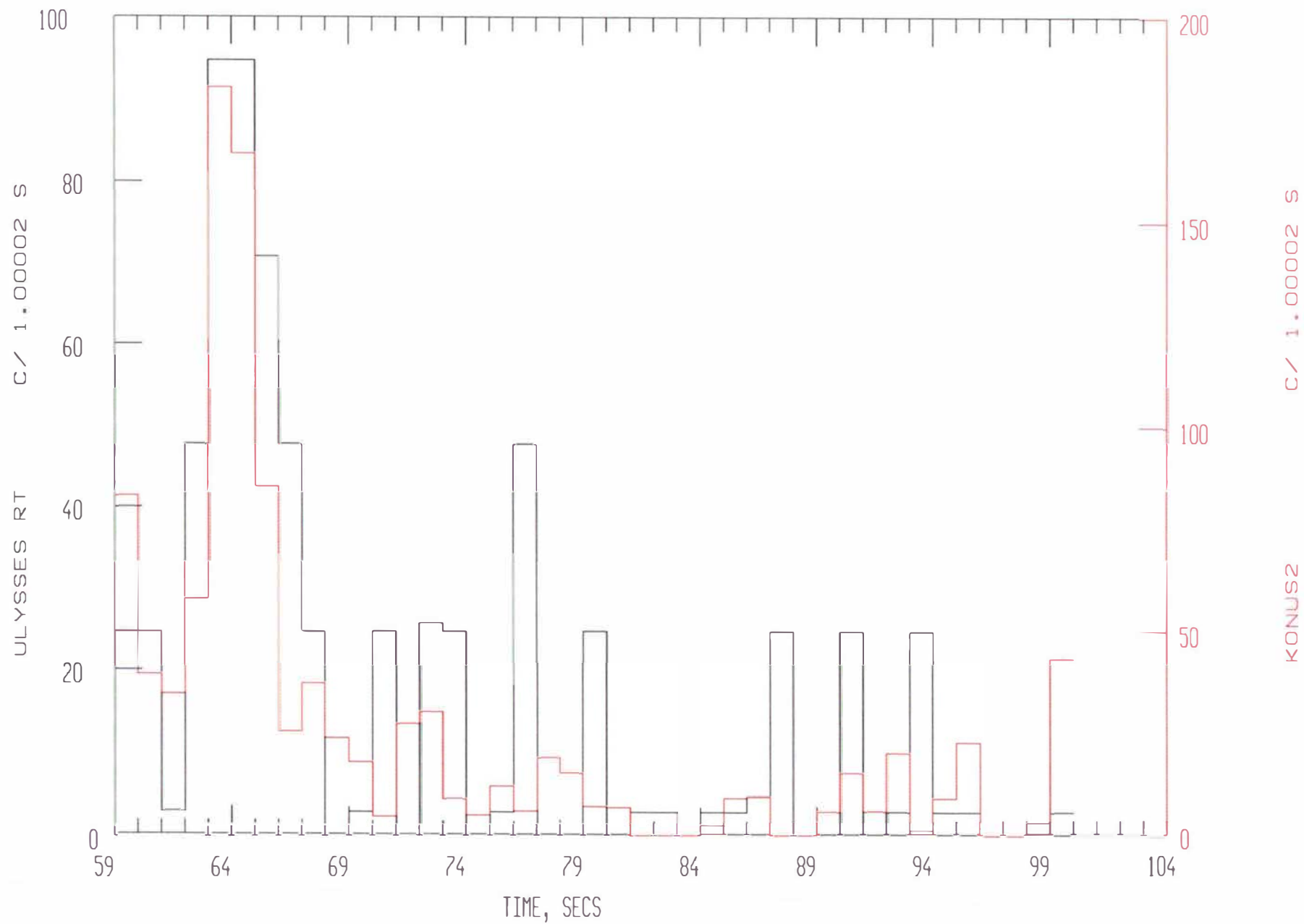
EVENT OF MAY 18, 1999 3:02

17/01/2013

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







KONUS2 19990518 08653

ULYSSES RT

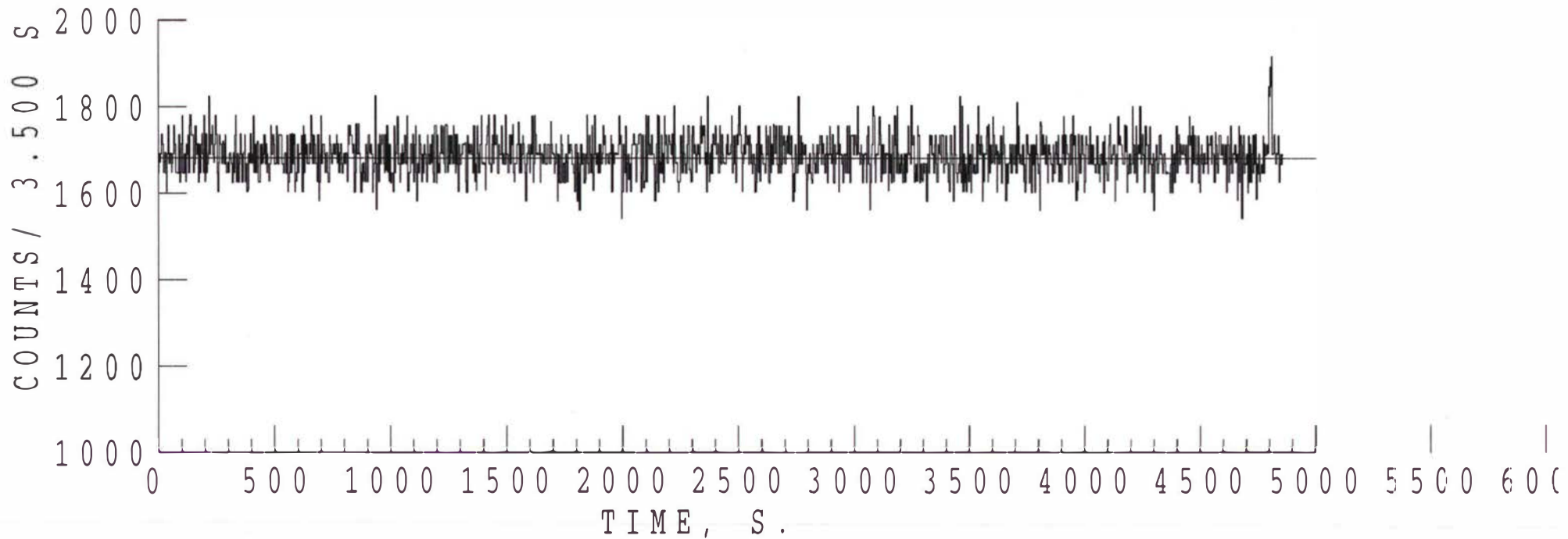
20 / 02 / 02

18 / 05 / 99 6228.351 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From HENZE@fender.msfc.nasa.gov Thu May 20 14:13:11 1999

Date: Thu, 20 May 1999 16:14:03 -0500 (CDT)

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

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@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.: 7574

TIME: TJD=1316 SECONDS=18512

TYPE: SGR SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=165.7 AZIMUTH=172.8 ERROR= 5.5 DEGREES

COMMENTS:

SINGLE PULSE WITH SUBSTRUCTURE, DUR. ~0.14 S. NOT VISIBLE ABOVE 100 KEV.
PROBABLY SGR 1806-20.

BATSE BURST# 7574

ULYSSES RT

20 / 5 / 99

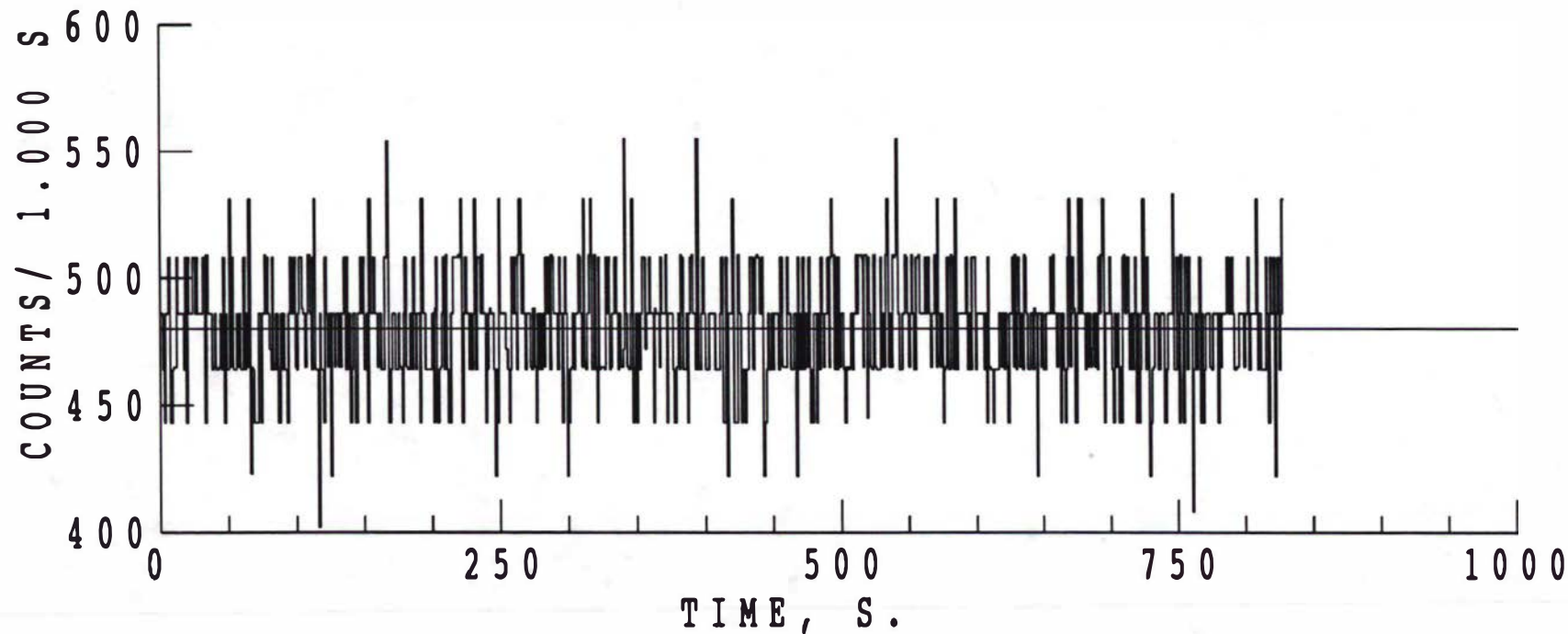
18 / 5 / 99 19368.484 s

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



From HENZE@fender.msfc.nasa.gov Thu May 20 15:02:18 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 PAA17825; Thu, 20 May 1999 15:02:18 -0700
From: HENZE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id OAA16134
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 20 May 1999 14:59:20 -0700 (PDT)
Date: Thu, 20 May 1999 17:03:24 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990520170324.2021f171@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7575
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7575
EVENT OF 1999 MAY 18 DAY OF YEAR=138
EVENT CROSSING TIME AT BATSE : 62325. S. OR 17:18:45.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 343.000 -39.000
BATSE PEAK COUNTING RATE: 64000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 18/ 5/ 99 IS:
RA= 144.017 DEC= -6.867 DIST= 4.794 AU
BATSE-ULYSSES DISTANCE = 717111016. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1565.27 SECS.
CROSSING TIME AT ULYSSES IS 63890. S. OR 17:44:50 +/- 387.81 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 18/ 5/ 99 IS:
RA= 204.656 DEC= -9.883 DIST= 0.602 AU
MARS-BATSE DISTANCE = 90114064. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 62.35 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 139.48 SECS.
CROSSING TIME AT MARS IS 62464. S. OR 17:21:04 +/- 48.35 SECONDS

BATSE BURST TRIGGER

NO.: 7575

TIME: TJD=1316 SECONDS=62325

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=120.4 AZIMUTH= 21.6 ERROR= 0.3 DEGREES

COMMENTS:

TRIGGERED ON MODERATE SINGLE PULSE WITH STRUCTURE, DUR. APPROX. 10 S, MAX AT APPROX. T+4 S; NOT VISIBLE ABOVE 300 KEV. STRONG MAIN PULSE HAS MAX AT APPROX. T+160 S, STARTS AT APPROX. T+120 S, DUR. APPROX. 100 S, PLUS EXTENDED TAIL; VISIBLE ABOVE 300 KEV. TWO WEAK PULSES HAVE MAXES AT APPROX. T+65 S, T+305 S.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7575	990518	11316	62325	64000	343	-39	220

Date: Mar 7 00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

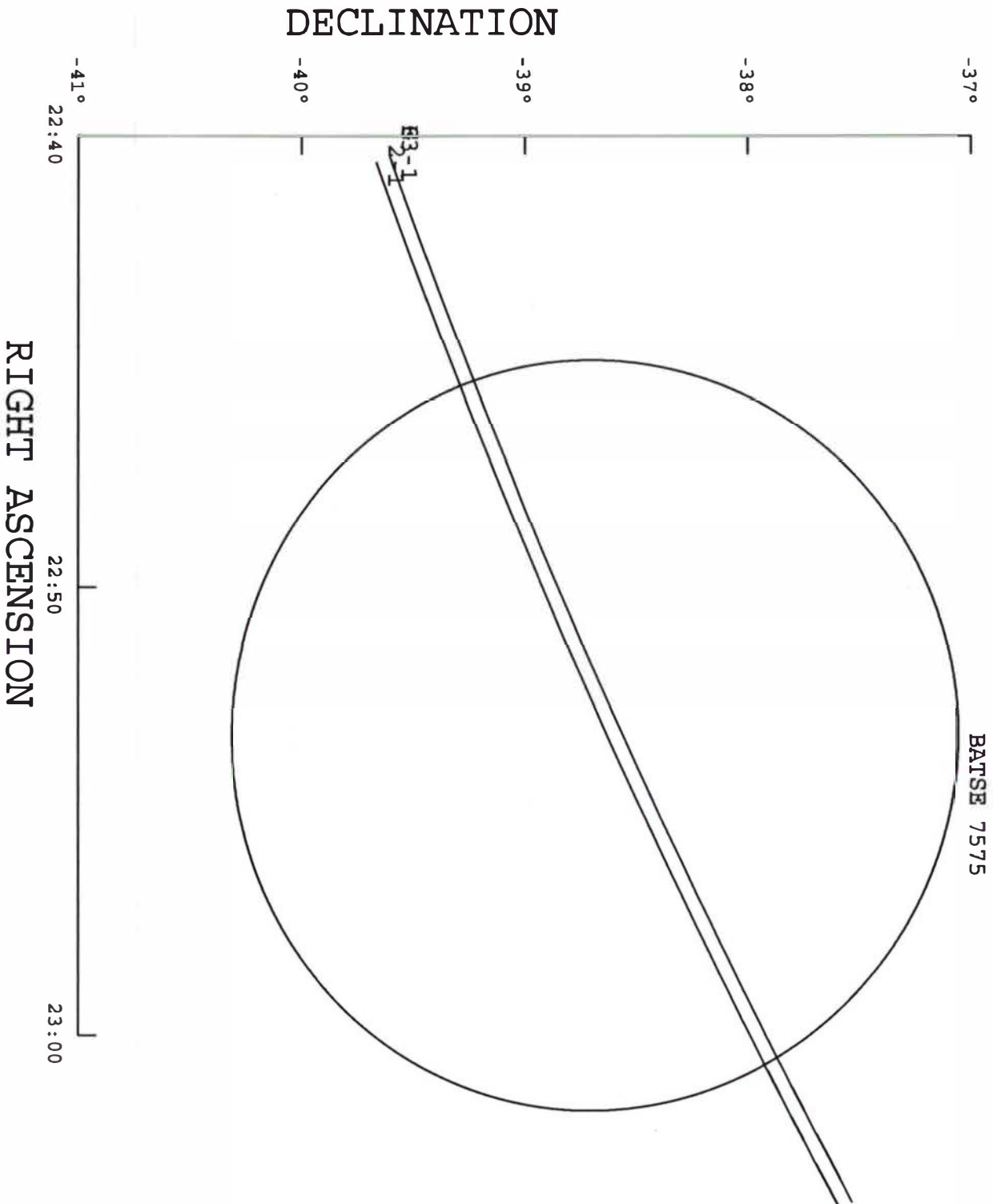
3. NEAR Data

- ☒ Final, correct time used? (Files postmarked vw@bocc1, from from Teresa Sheets, postmarked May 2 1999 or later have the correct time; files on website have incorrect times)
- ☐ BATSE >100 keV data used for NEAR correlation? *No - BATSE >100 keV data only recorded the precursor. BACODINE data used*
- ☒ 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 MAY 18, 1999 17:18

7 / 3 / 0



BATSE

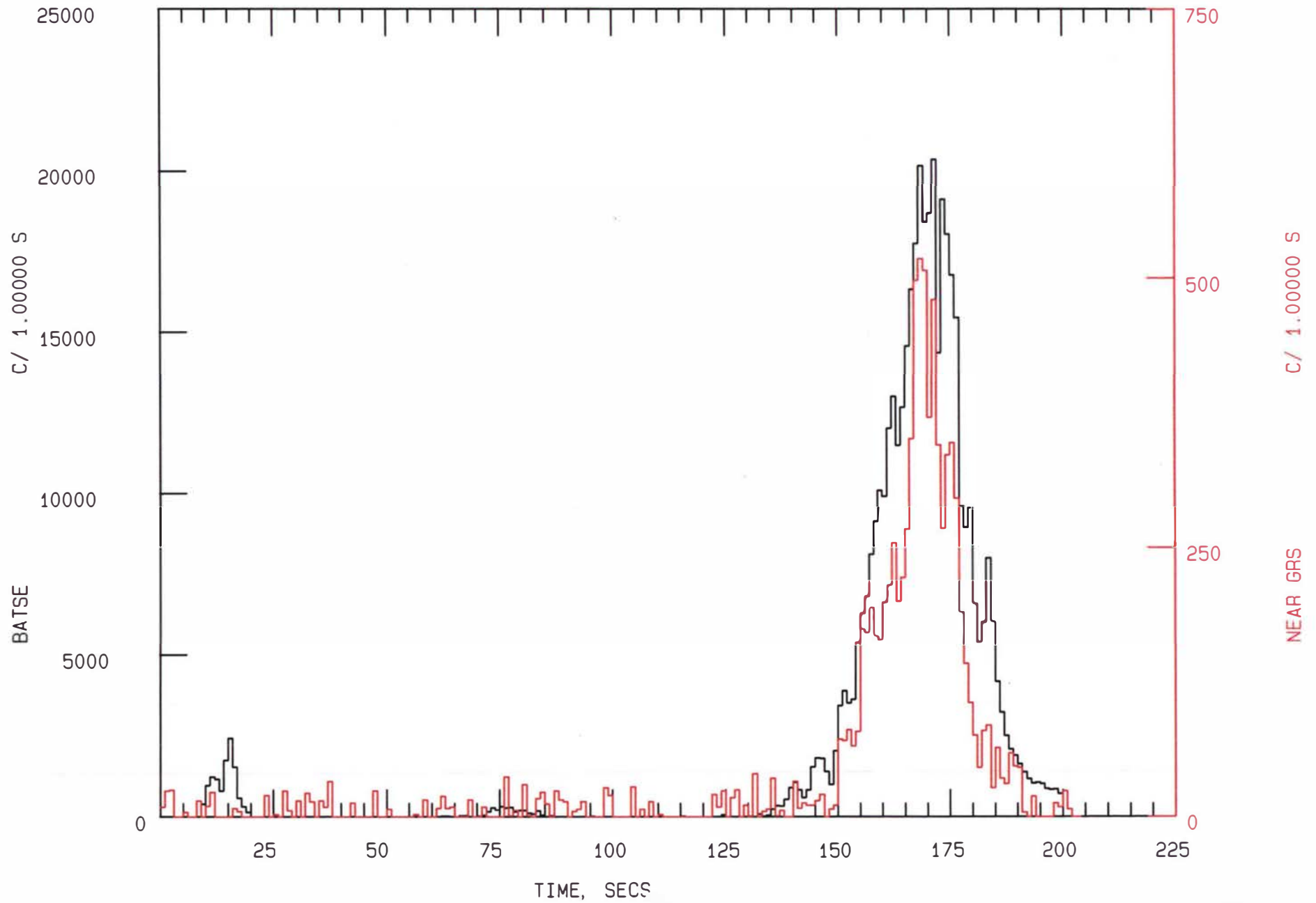
-NEAR GRS

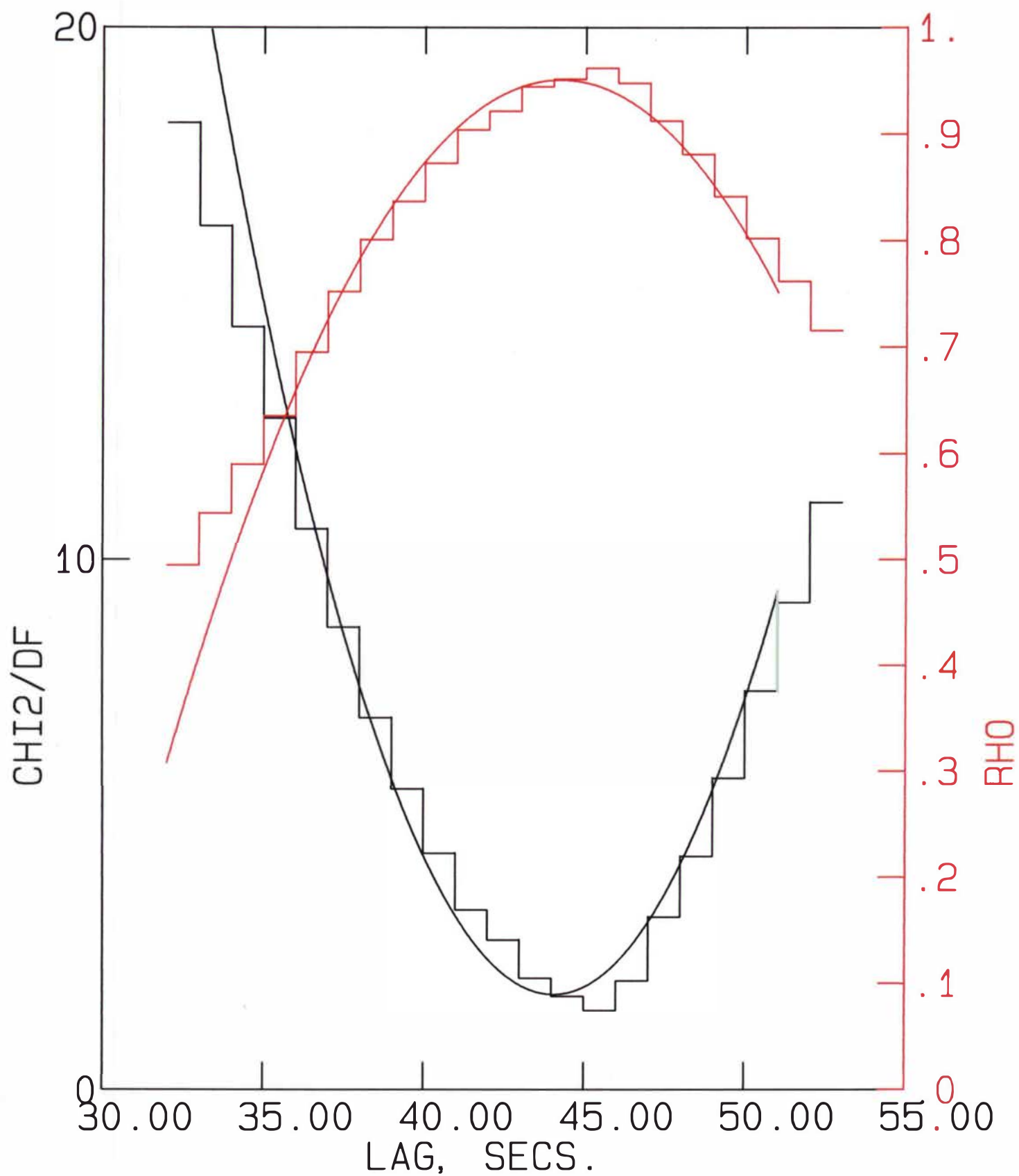
CORRELATION

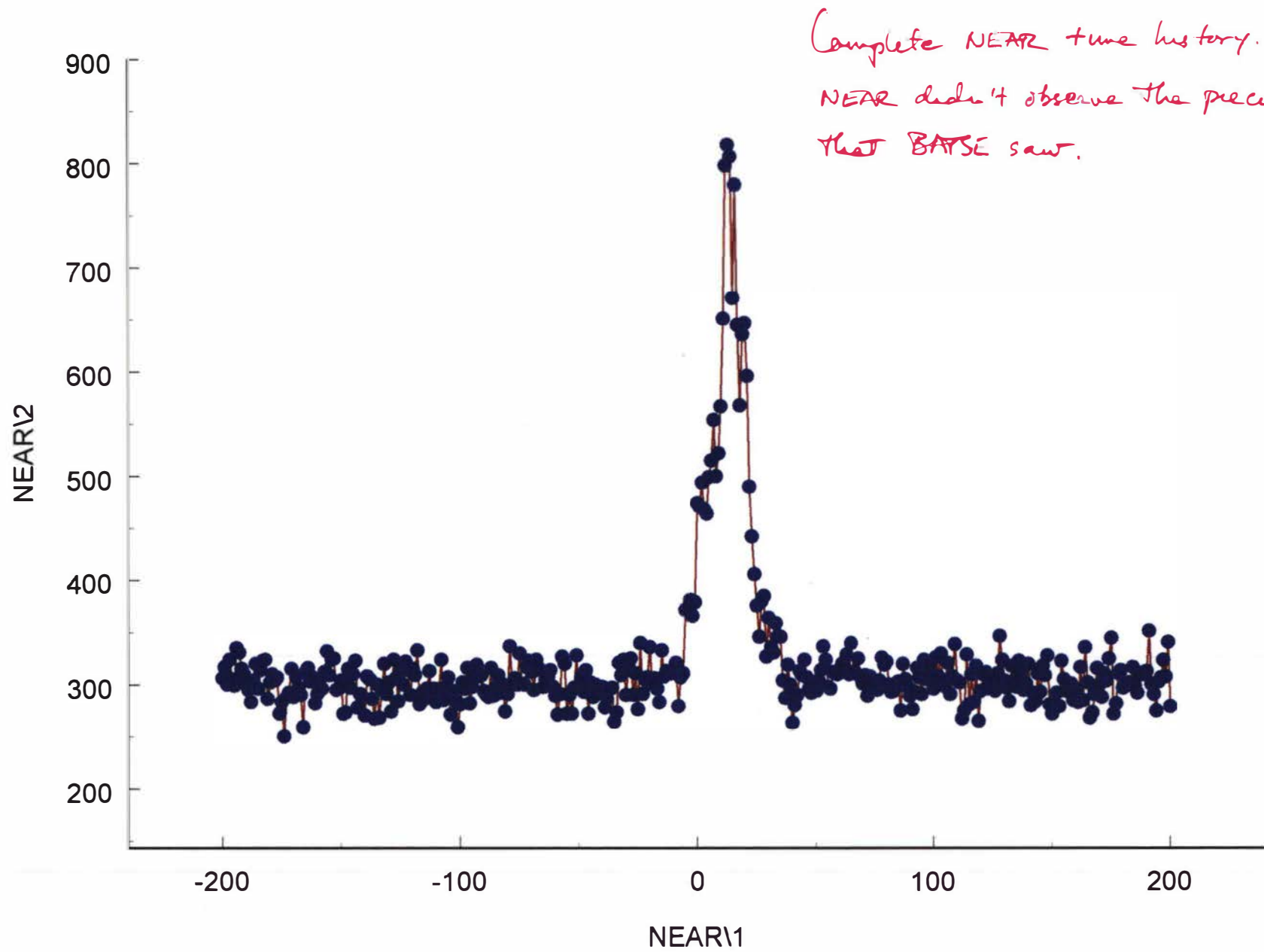
18/ 5/99

62314.233

7/ 3/ 0







Complete NEAR time history.
NEAR didn't observe the precursor
that BATSE saw.

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

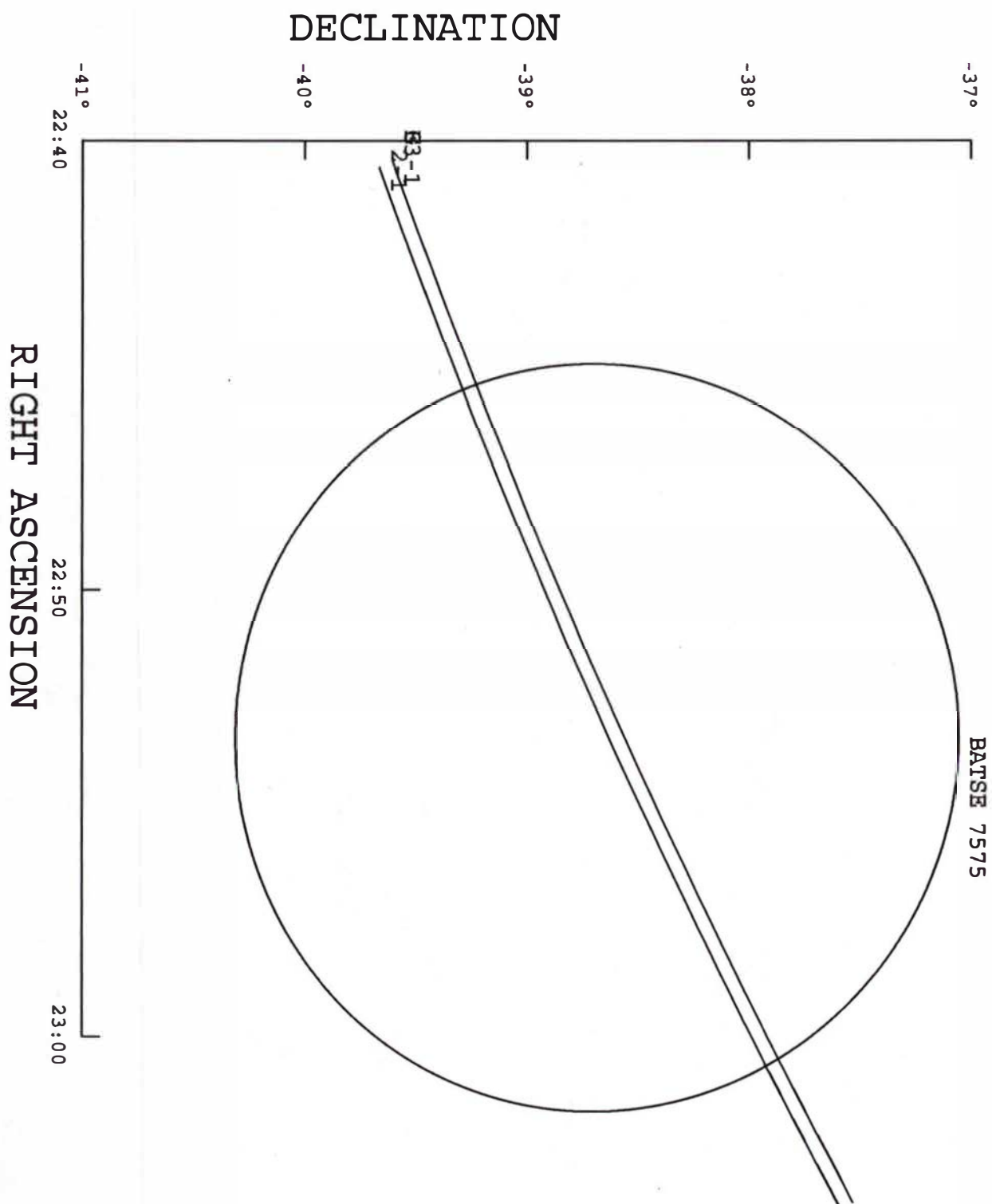
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAY 18, 1999 17:18

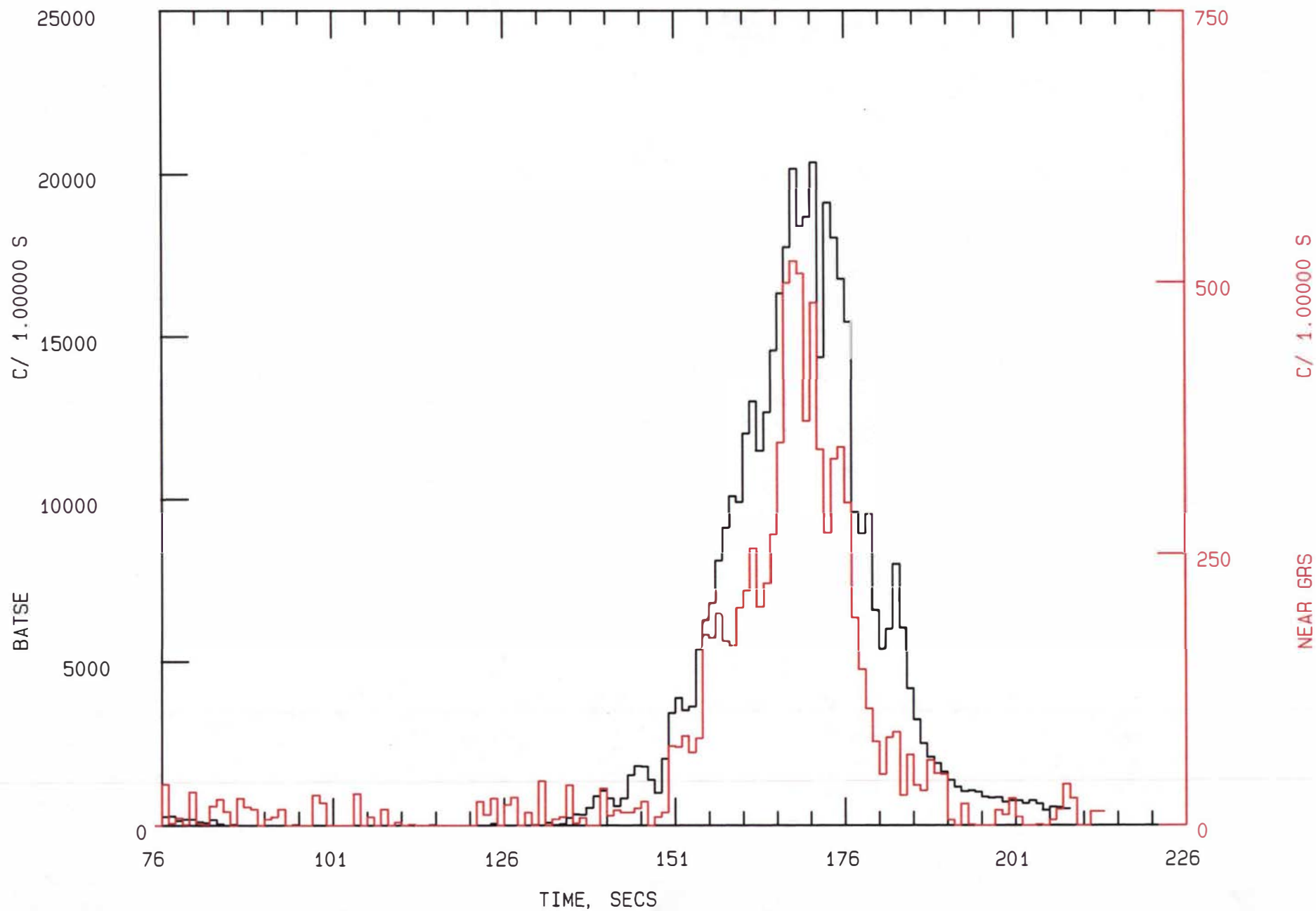
29 / 2 / 0



BATSE — *13, 25-100 keV*
-NEAR GRS CORRELATION

18/ 5/99 62314.233

29/ 2/ 0



BATSE

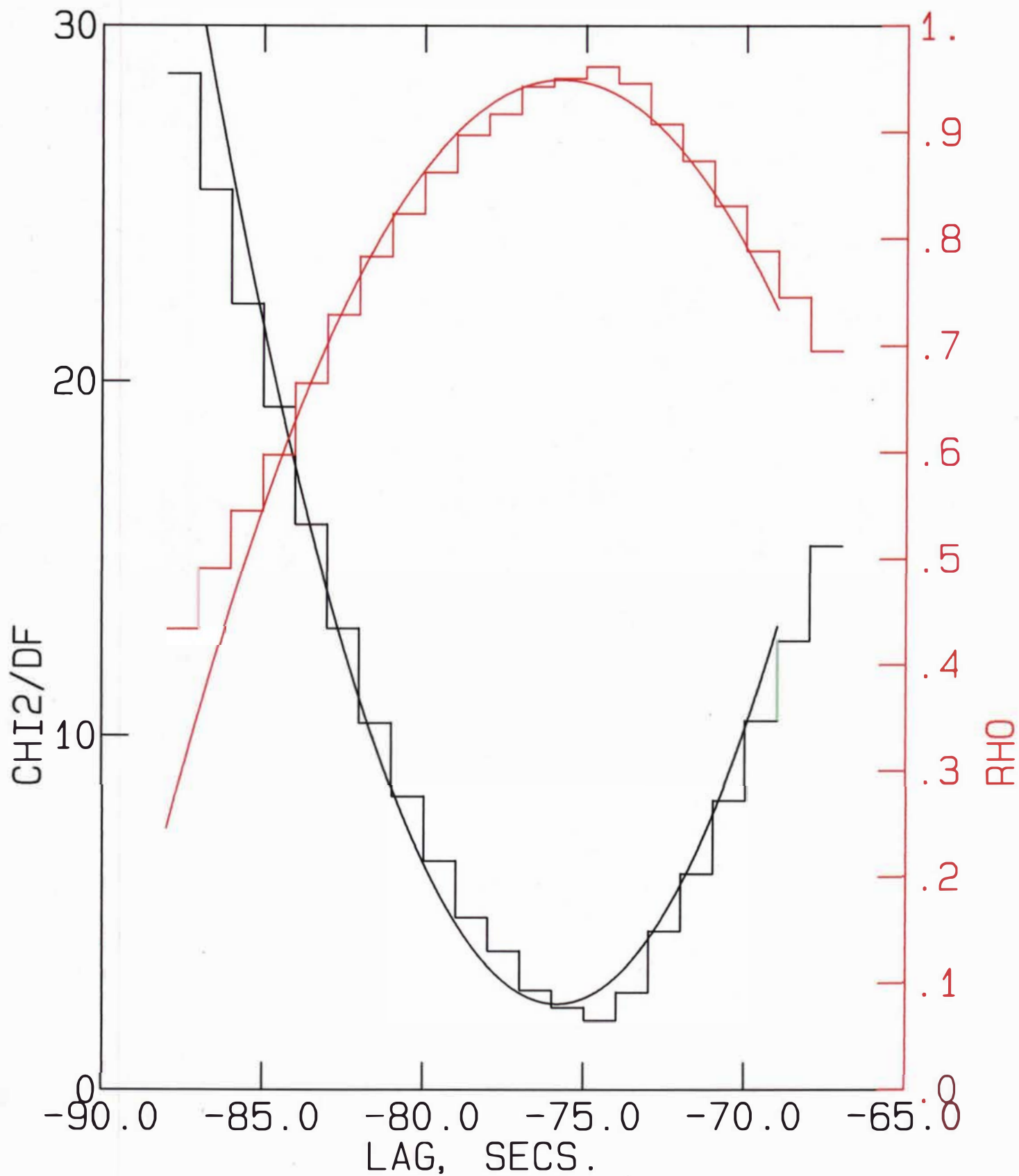
-NEAR GRS

CORRELATION

18/ 5/99

62314.233

29/ 2/ 0



GRS data

BATSE

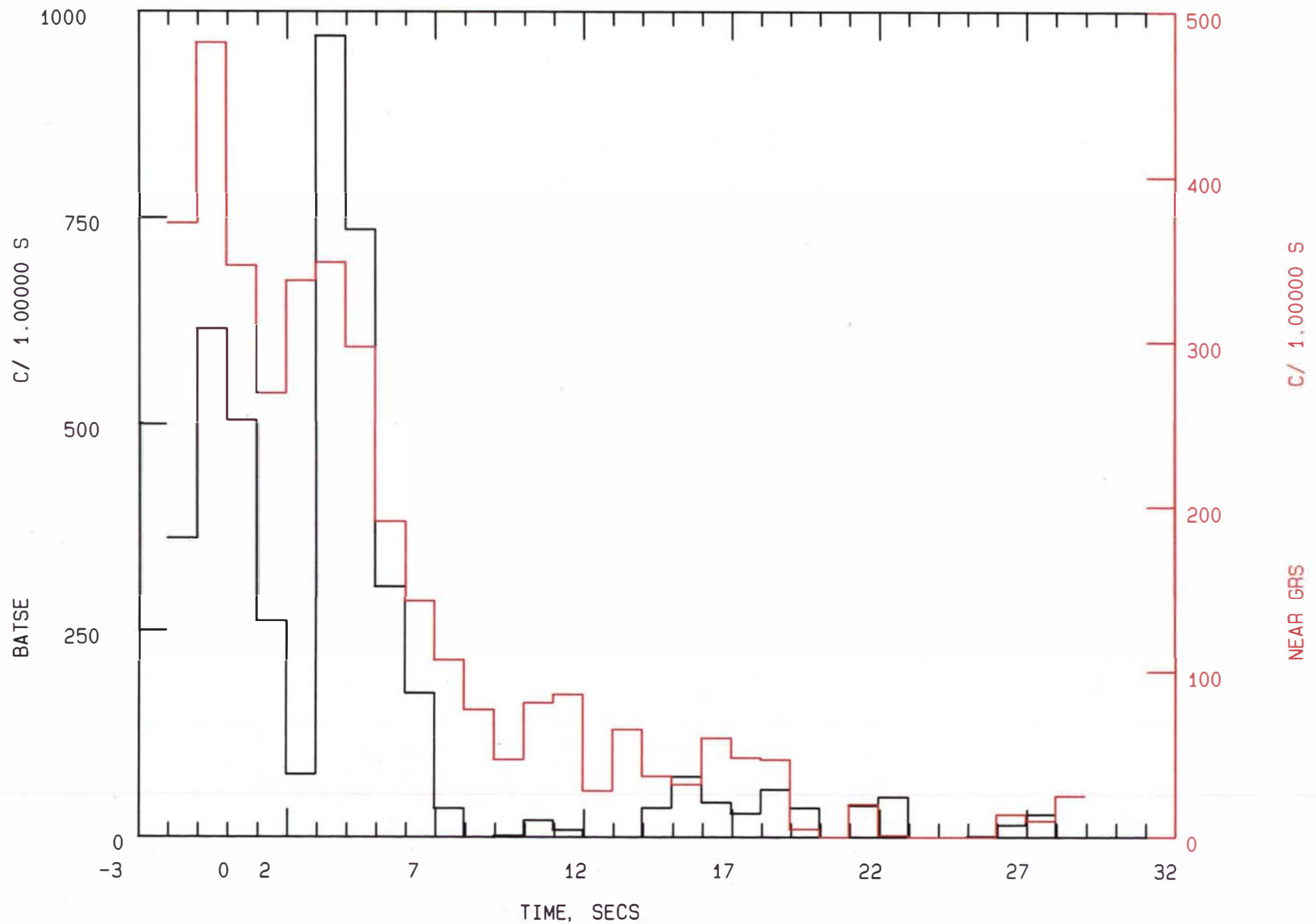
-NEAR GRS

CORRELATION

18/05/99

62325.497

29/ 2/ 0



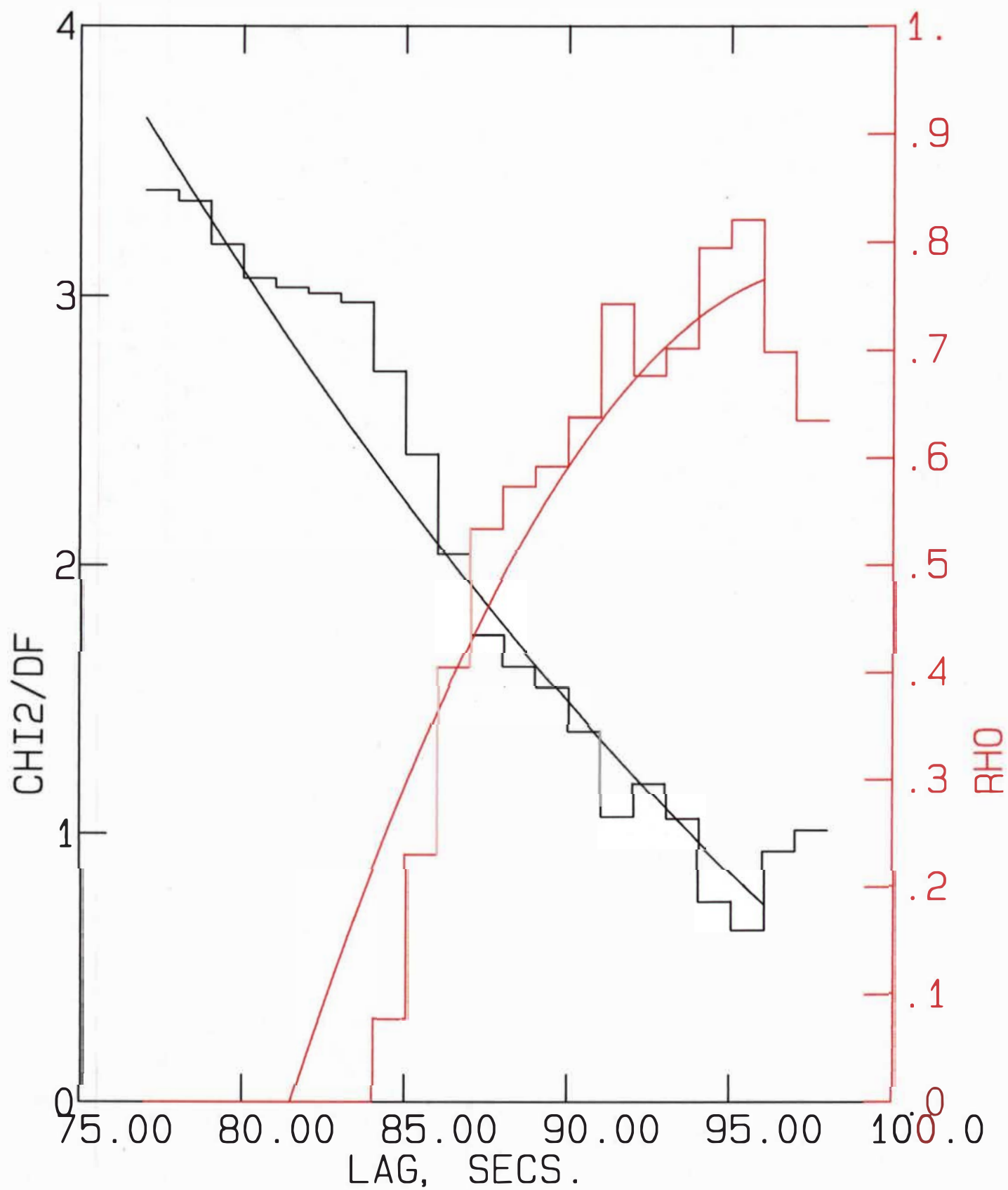
BATSE

-NEAR GRS

CORRELATION

18/05/99

62325.497



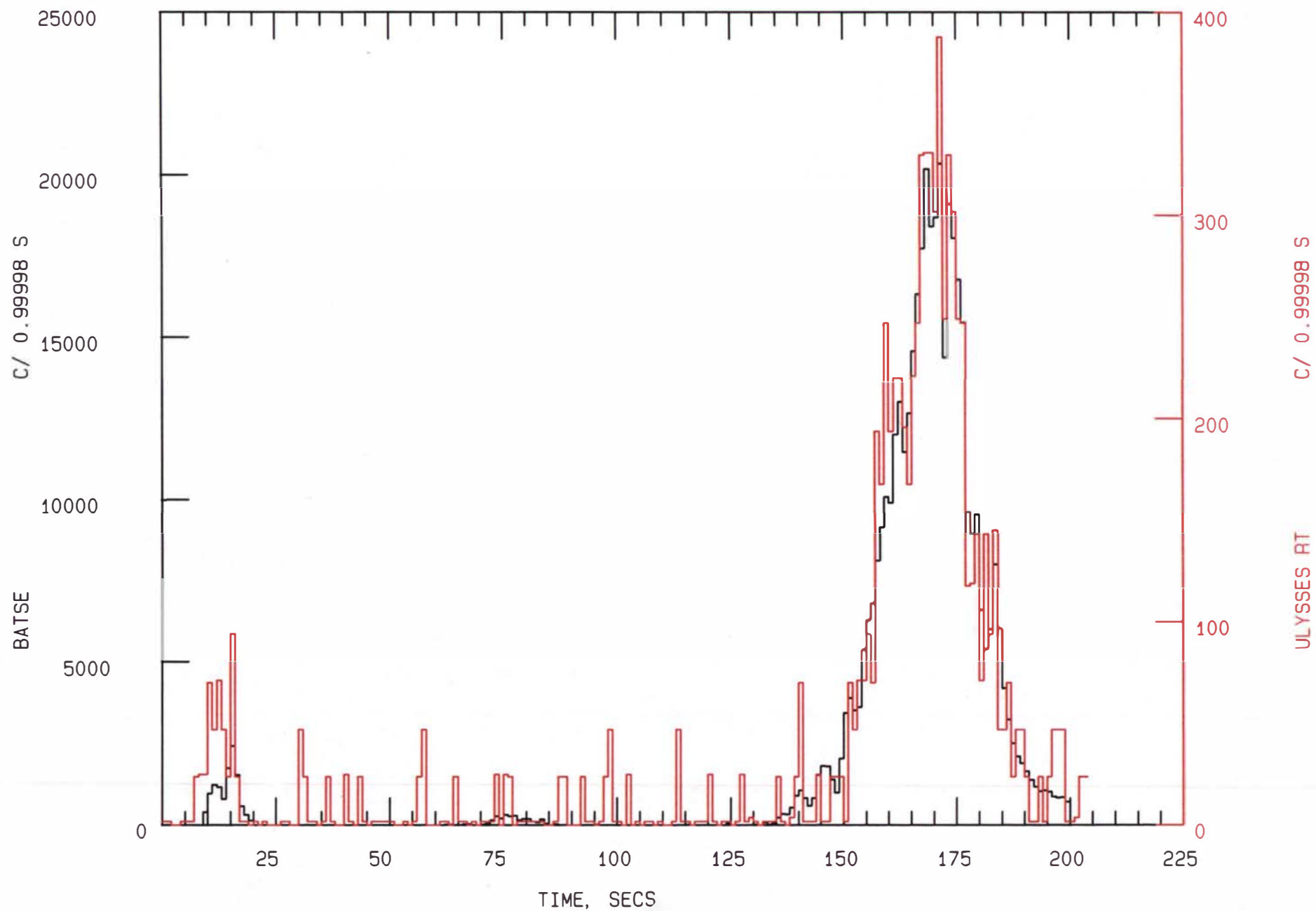
BATSE

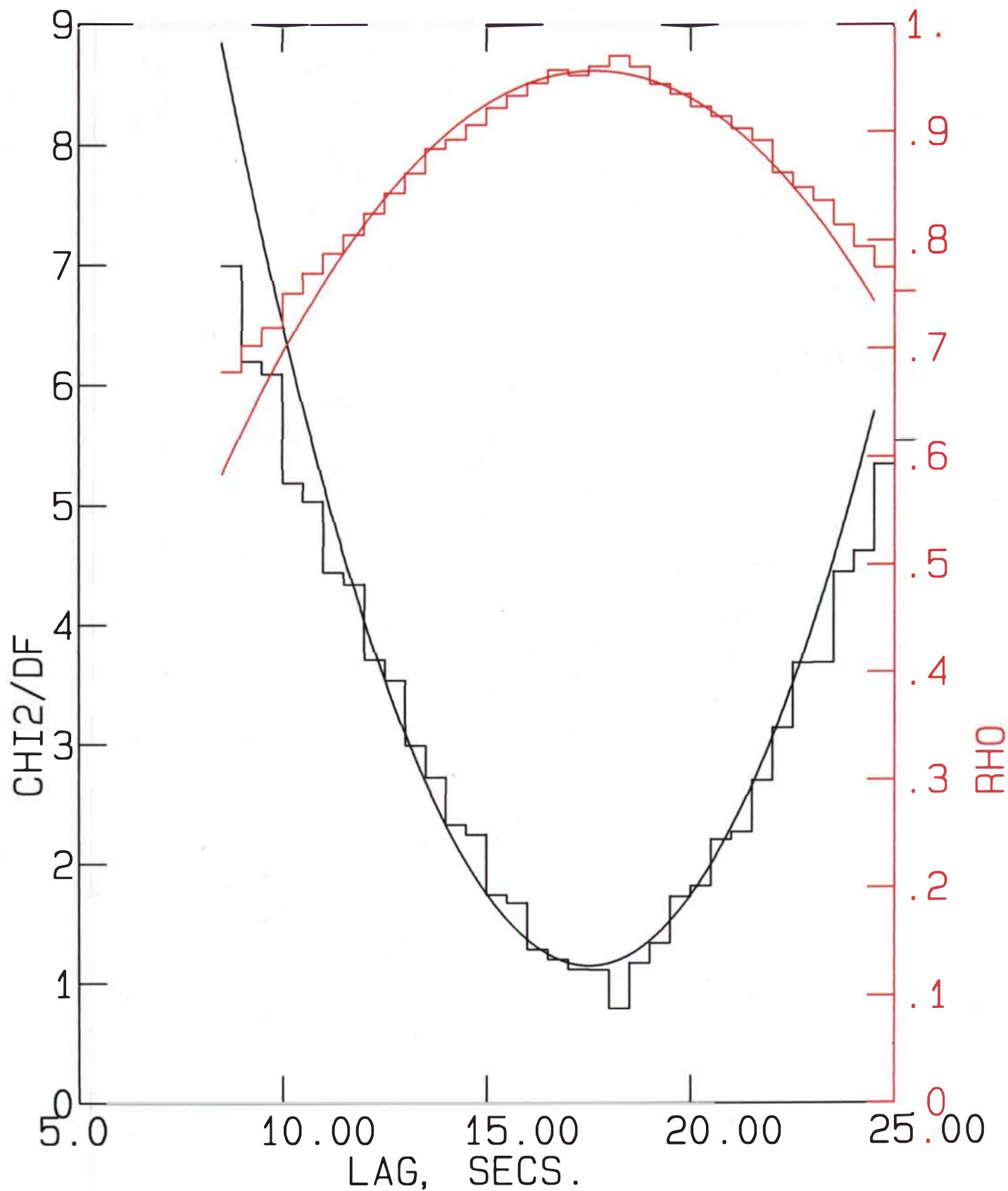
-ULYSSES RT CORRELATION

18/ 5/99

62314.233

29/ 2/ 0





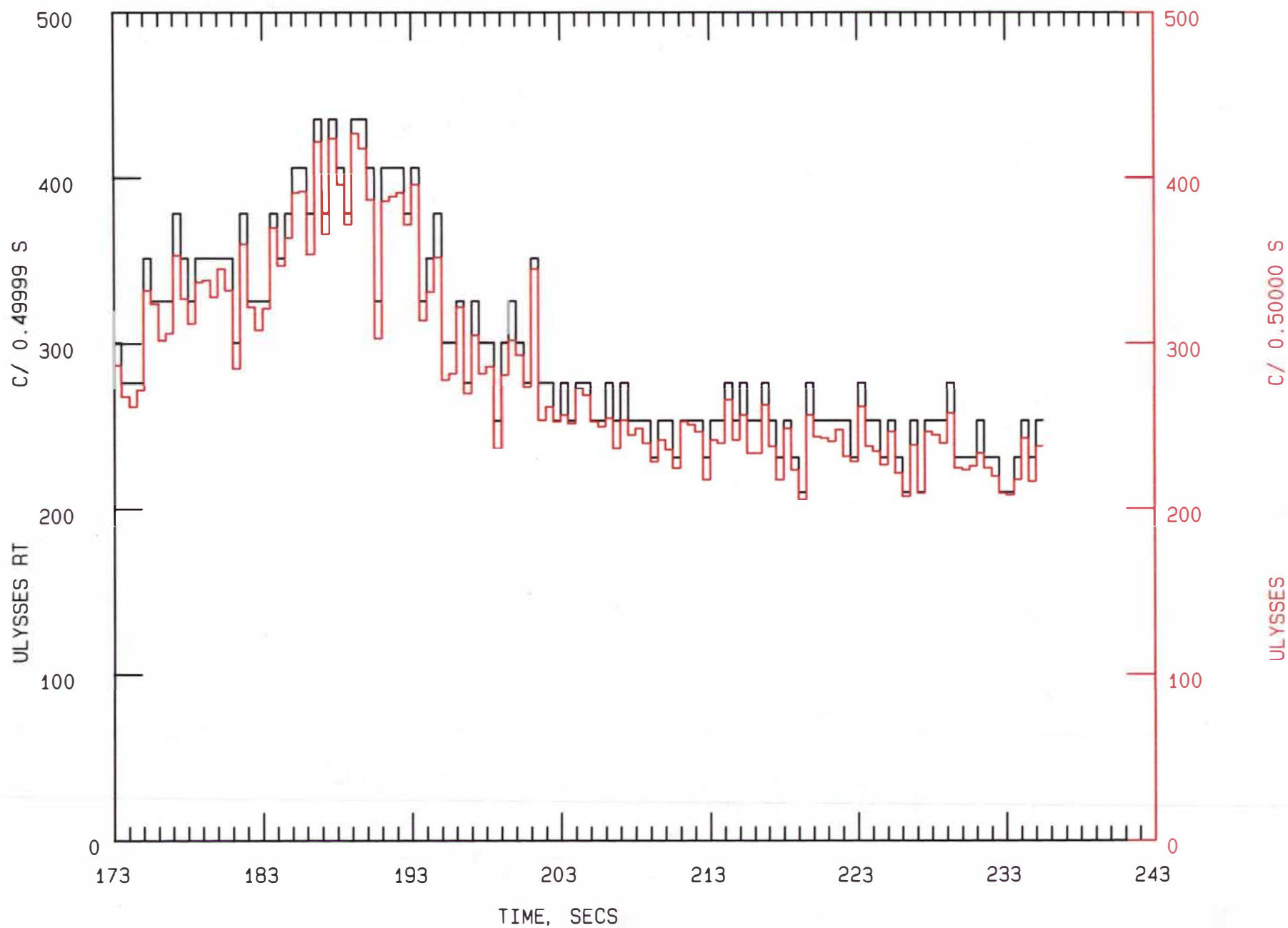
ULYSSES RT-ULYSSES

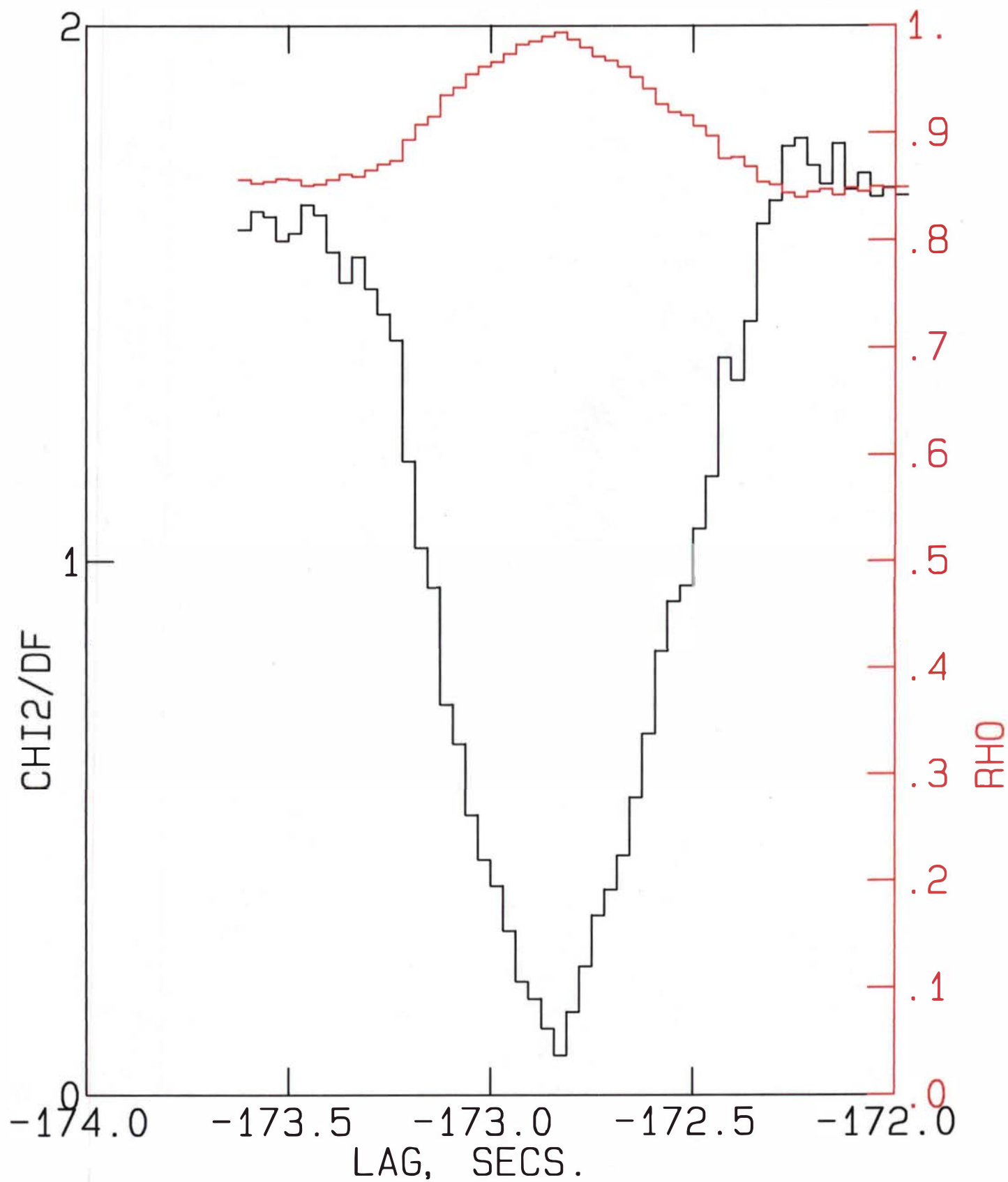
CORRELATION

18/ 5/99

63864.951

29/ 2/ 0

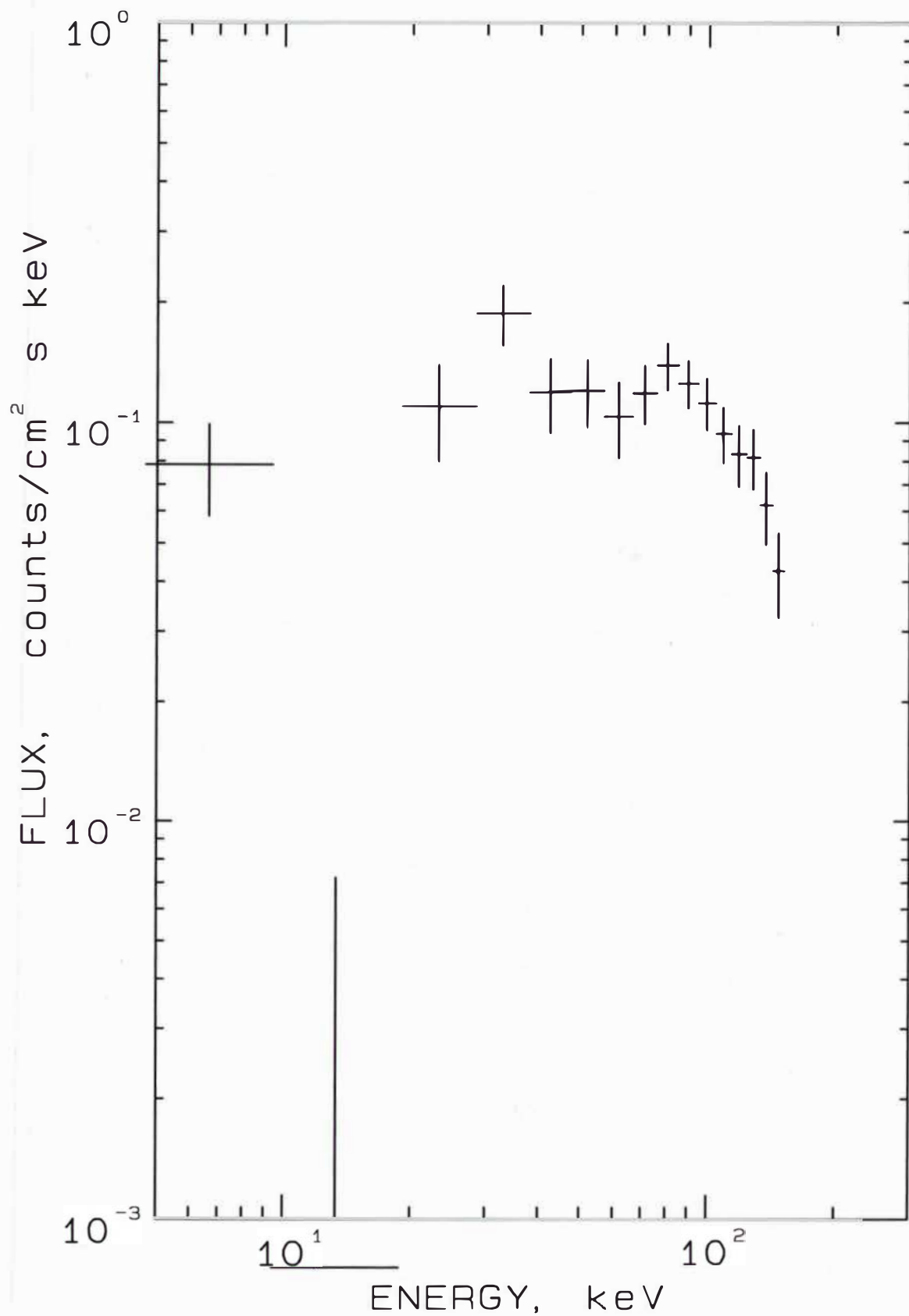




ULYSSES 18/05/99 64045.174

29/ 2/ 0

SPECTRUM INTEGRATED OVER 8.8 SECONDS, INTERVALS 2 TO 10



ULYSSES 18/05/99 64045.174 BURST SPECTRAL COUNT RATES

4- 18 keV

18- 47 keV

47- 75 keV

75-103 keV

103-131 keV

131-150 keV

COUNTS/S

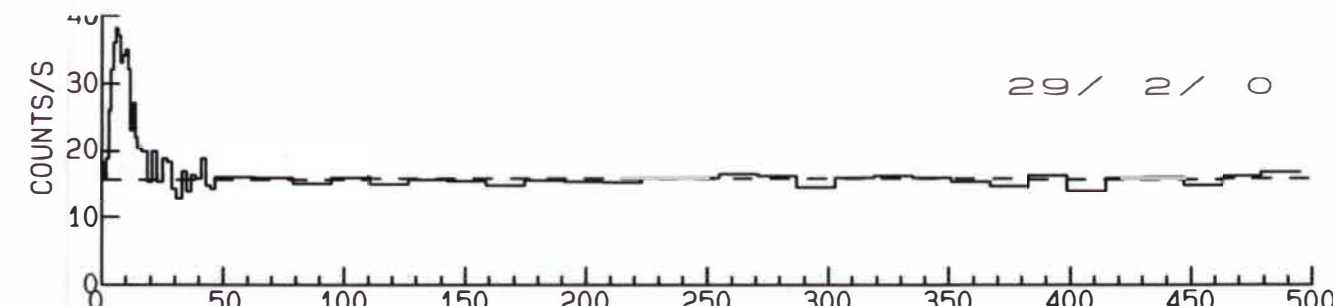
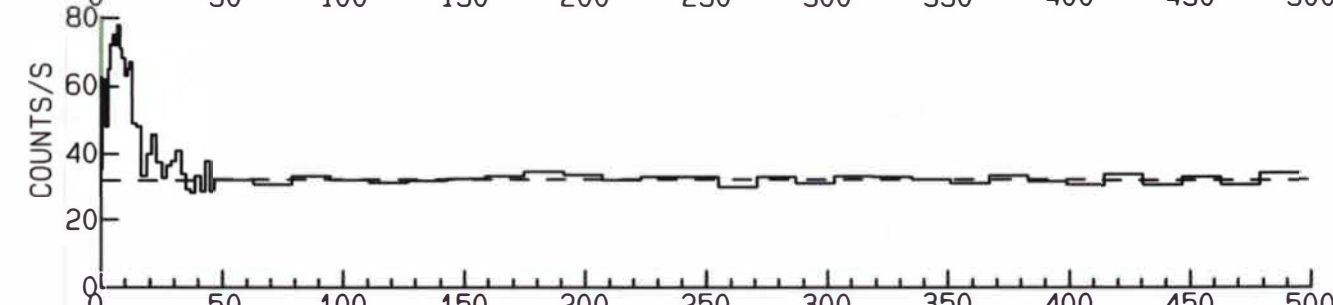
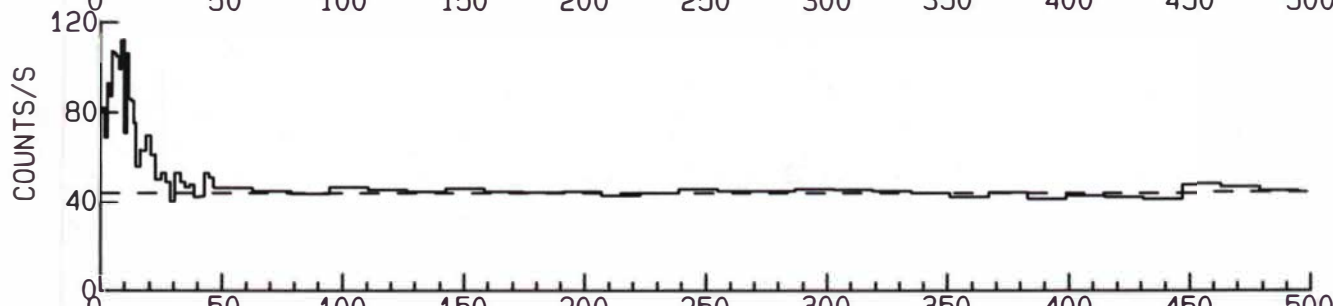
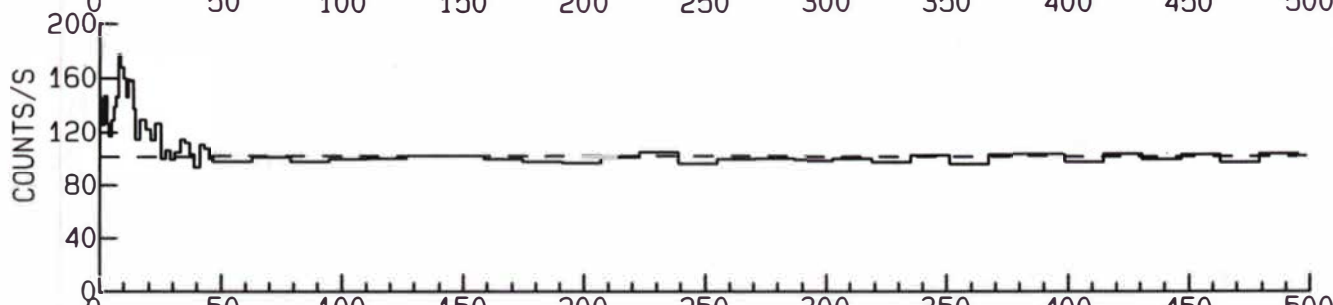
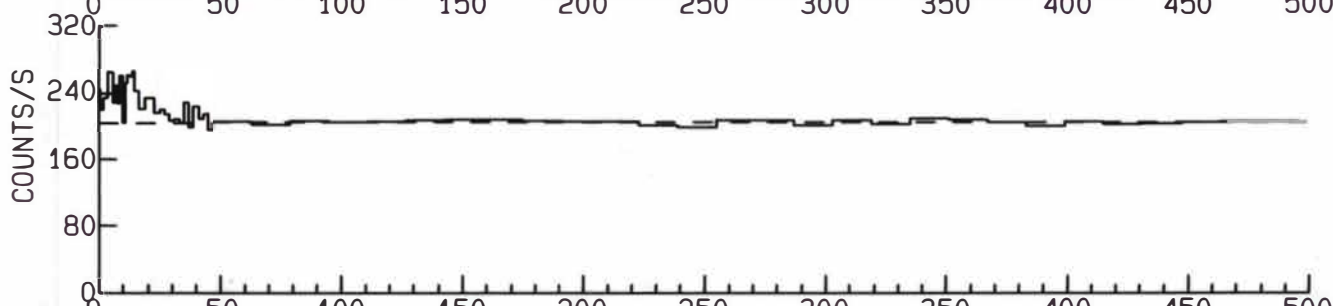
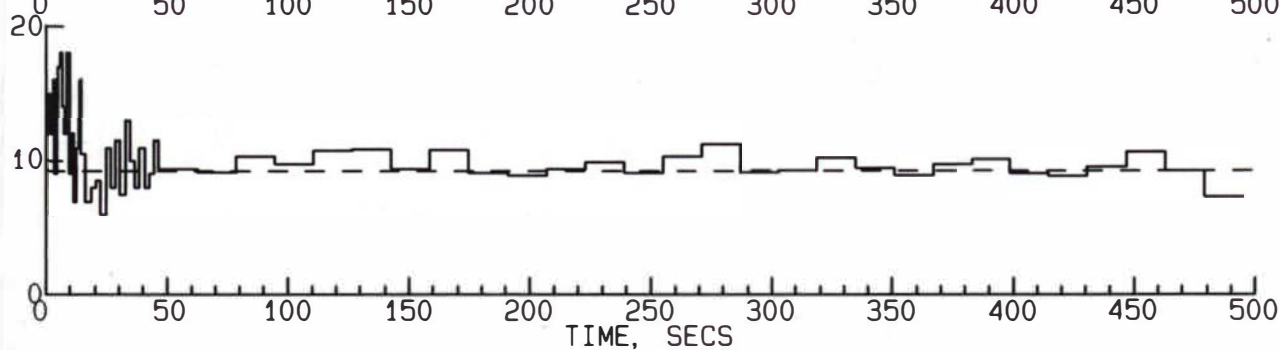
COUNTS/S

COUNTS/S

COUNTS/S

COUNTS/S

COUNTS/S



29 / 2 / 0

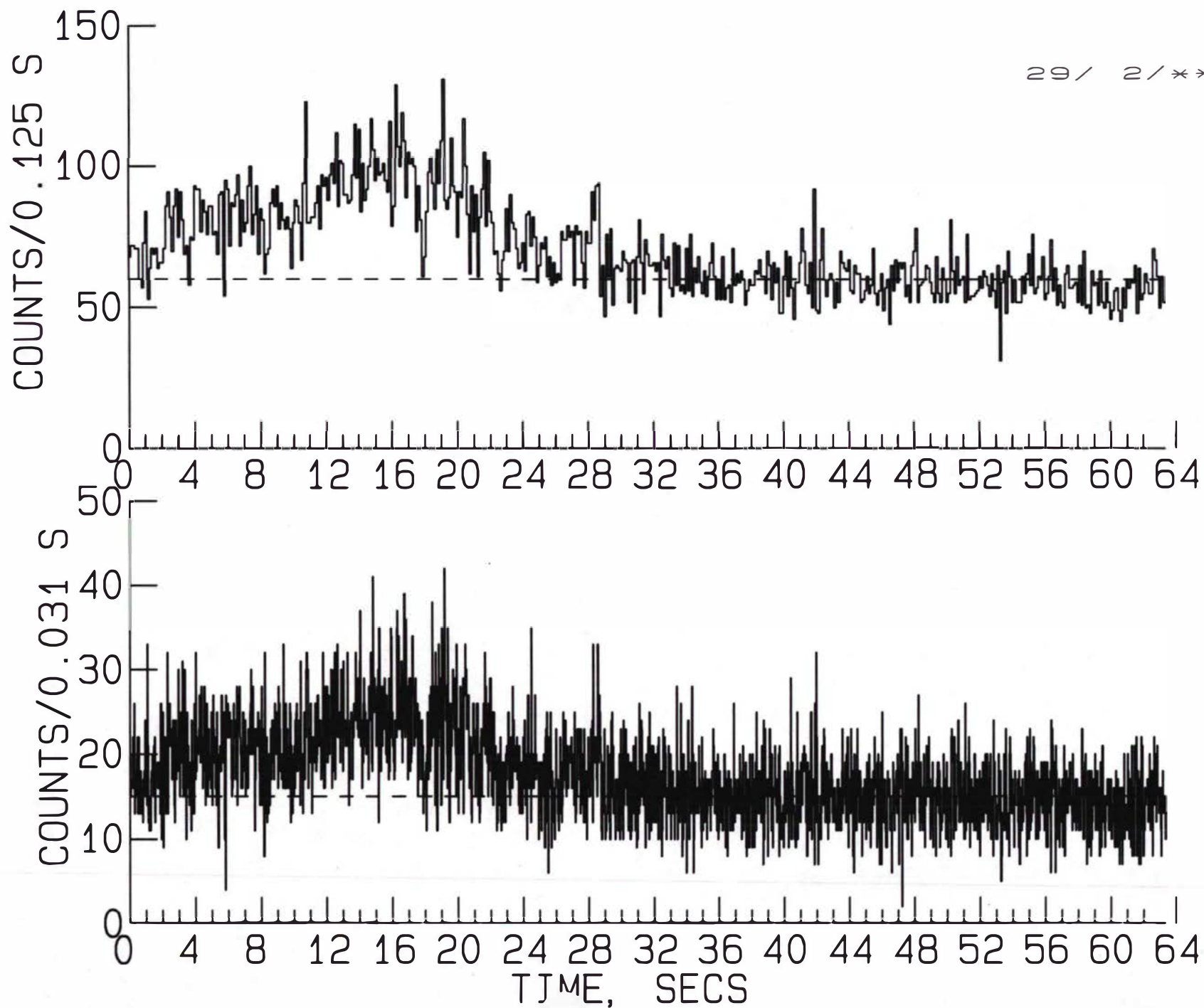
TIME, SECS

ULYSSES

18/05/99

Ttrig=64045.202

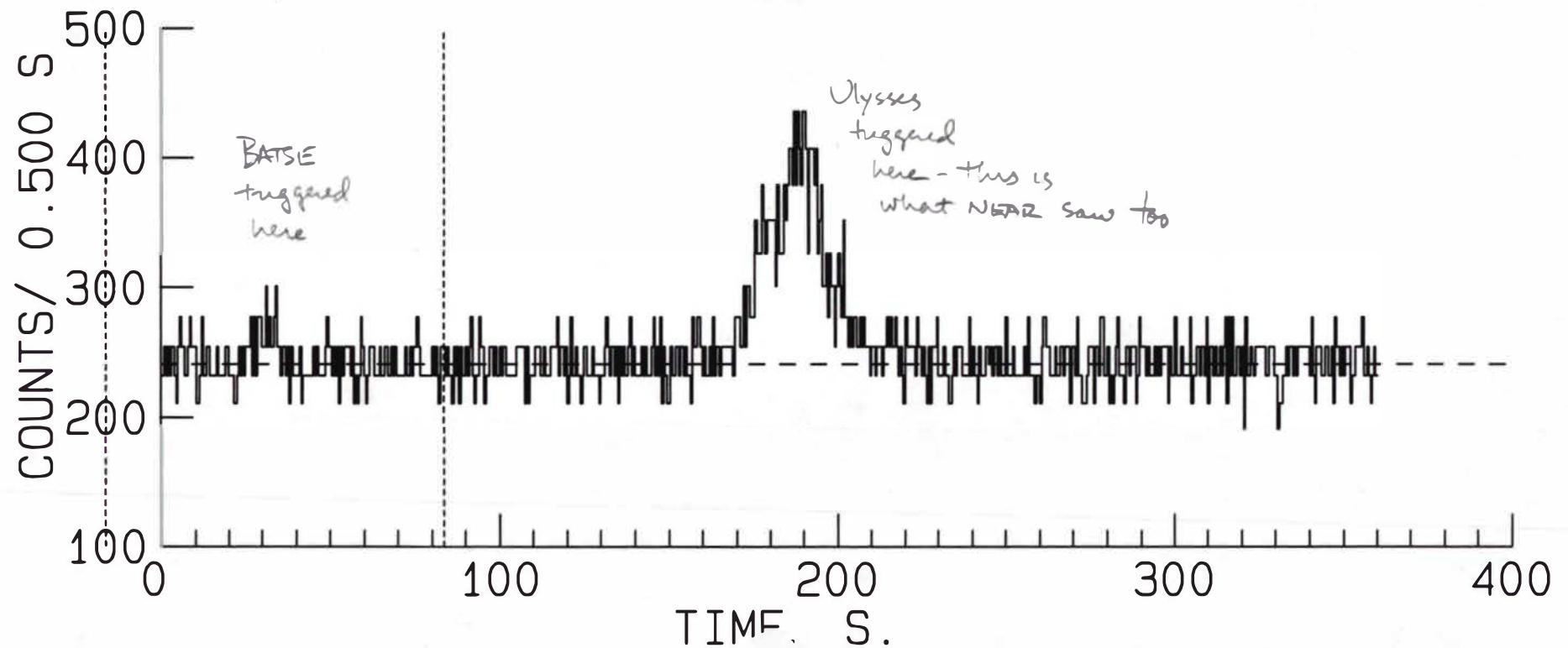
22- 151 keV



ULYSSES RT
18/ 5/99 63864.437 s
22- 151 keV

29 / 2 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE

18/05/99

62325.497

100-1000 keV

COUNTS/0.064 S

600

500

400

300

0 1

5

9

13

17

21

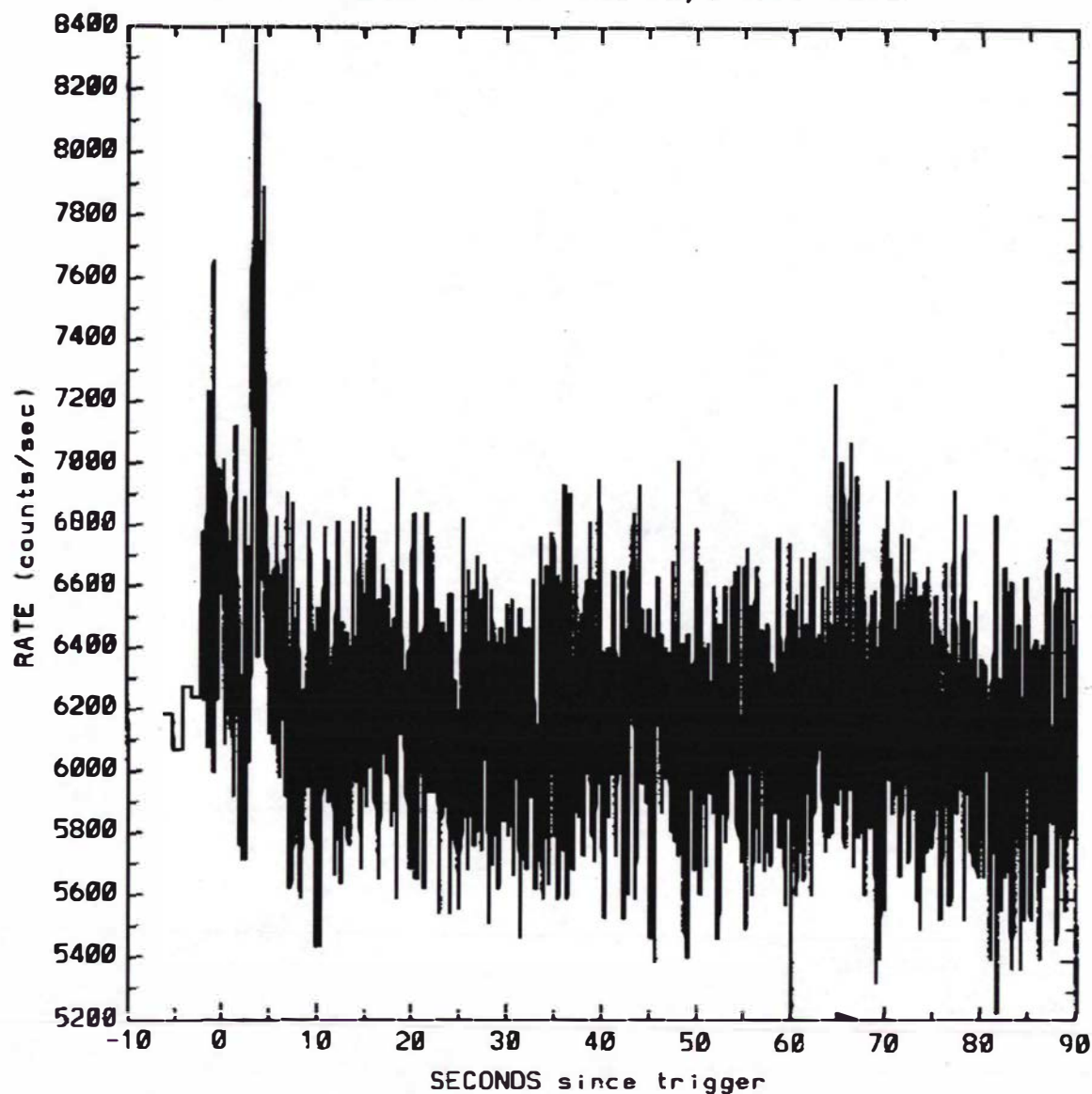
25

29

ME. SECS

29 / 2 / 0

DISCSC Data for K. Hurley, No. 7575



24-FEB-2000 12:32:55

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7575

Trigger Time:
11316 / 62325.497

Burst Data Type:
DISCSC

Deadtime
Corrected: N

Background Data
Type: PREB + DISCLA

Minimum Integ. Time:
0.064 seconds

Detectors (7..8):
----3-1-

Discriminators:
(3 , 4)

Quality Mask:
BOTSP1

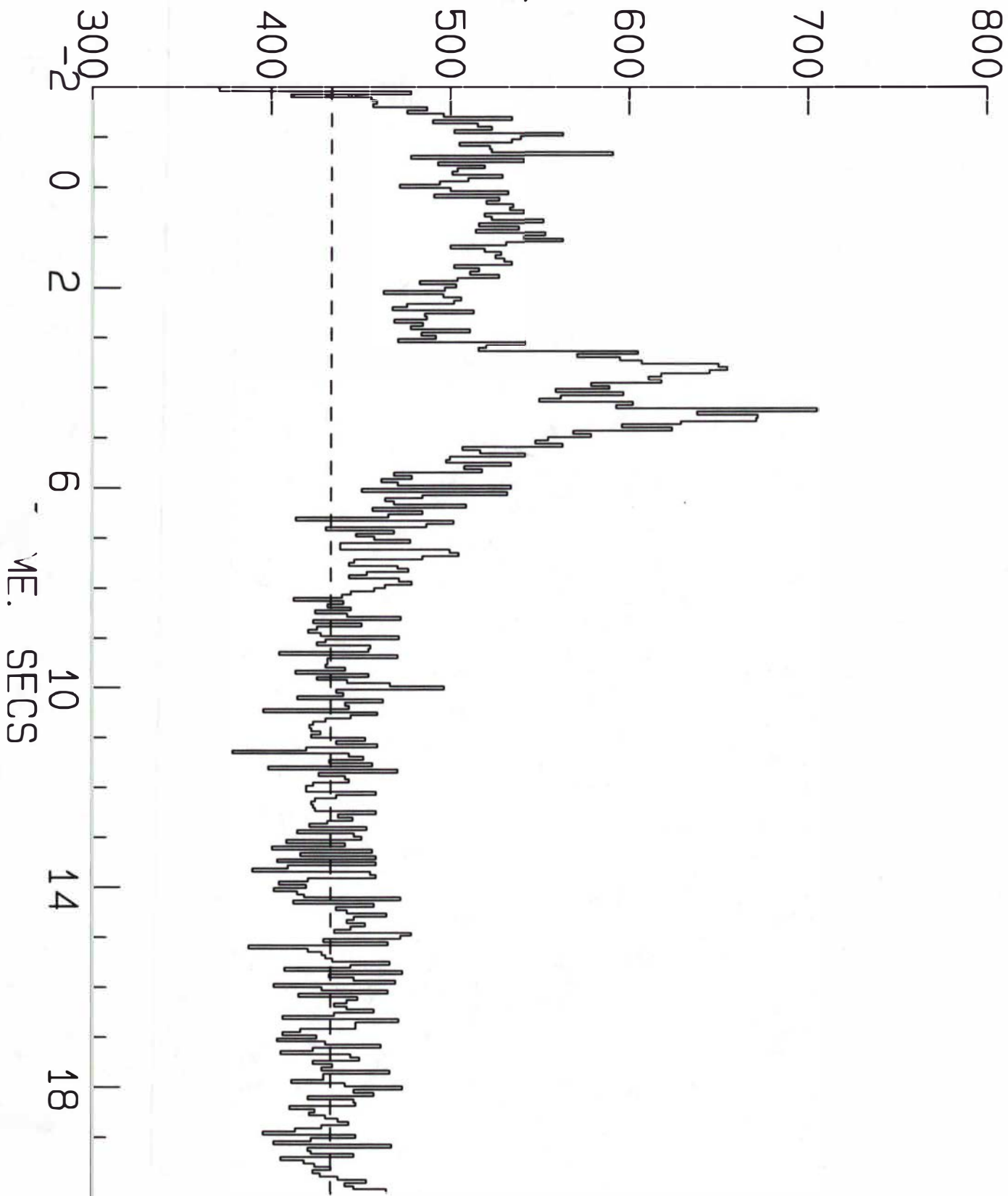
BATSE

18/05/99

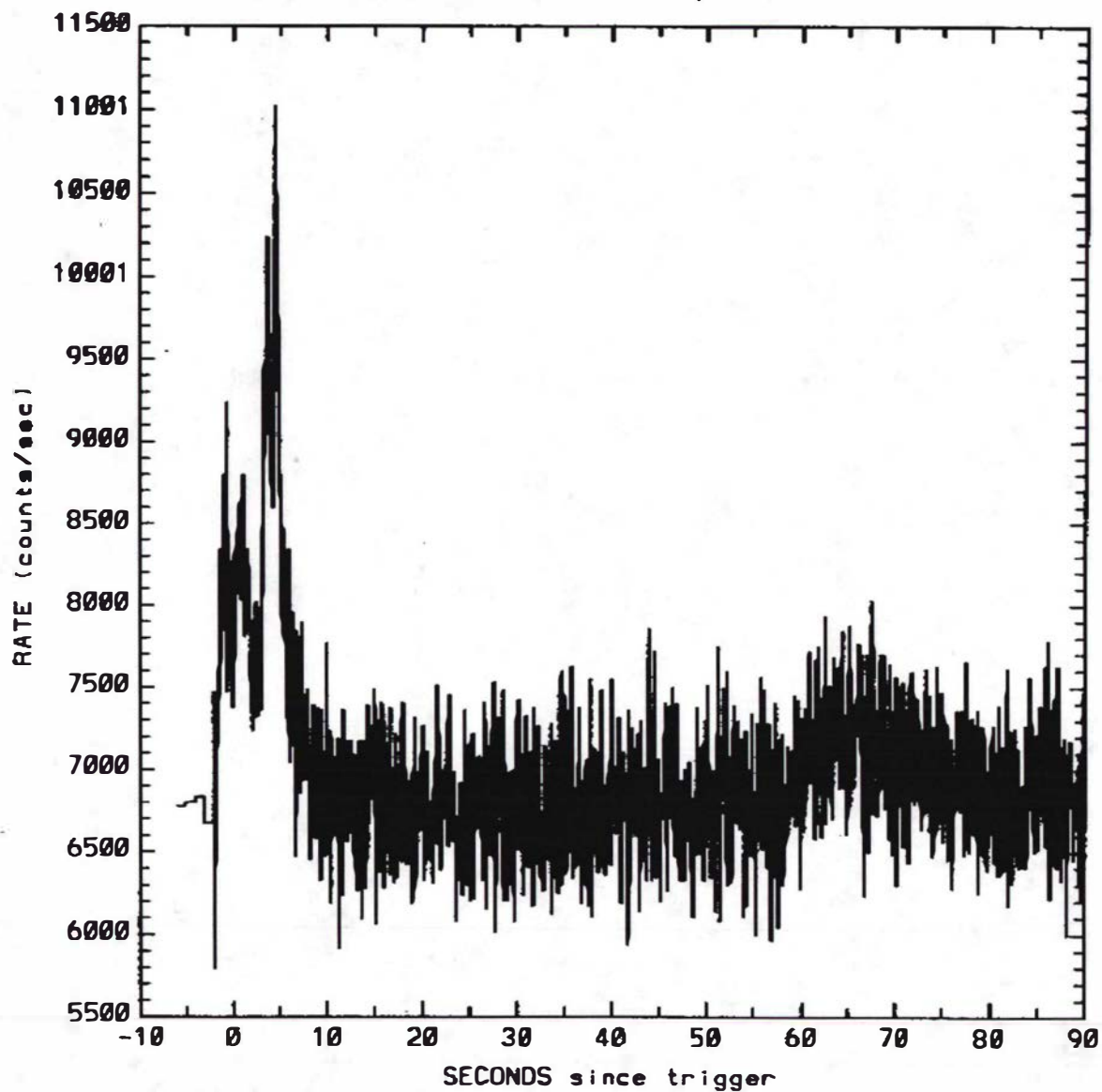
62325.497

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7575



24-MAY-1999 09:46:59

Created by WDPS 80
(Burst Display)
Version 12.26

Trigger # : 7575

Trigger Time:
11316 / 62325.497

Burst Data Type:
DISCSC

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

Detectors [7..9].
----3-1-

Discriminators:
(1..2)

Quality Mask:
80ISP1

NEAR

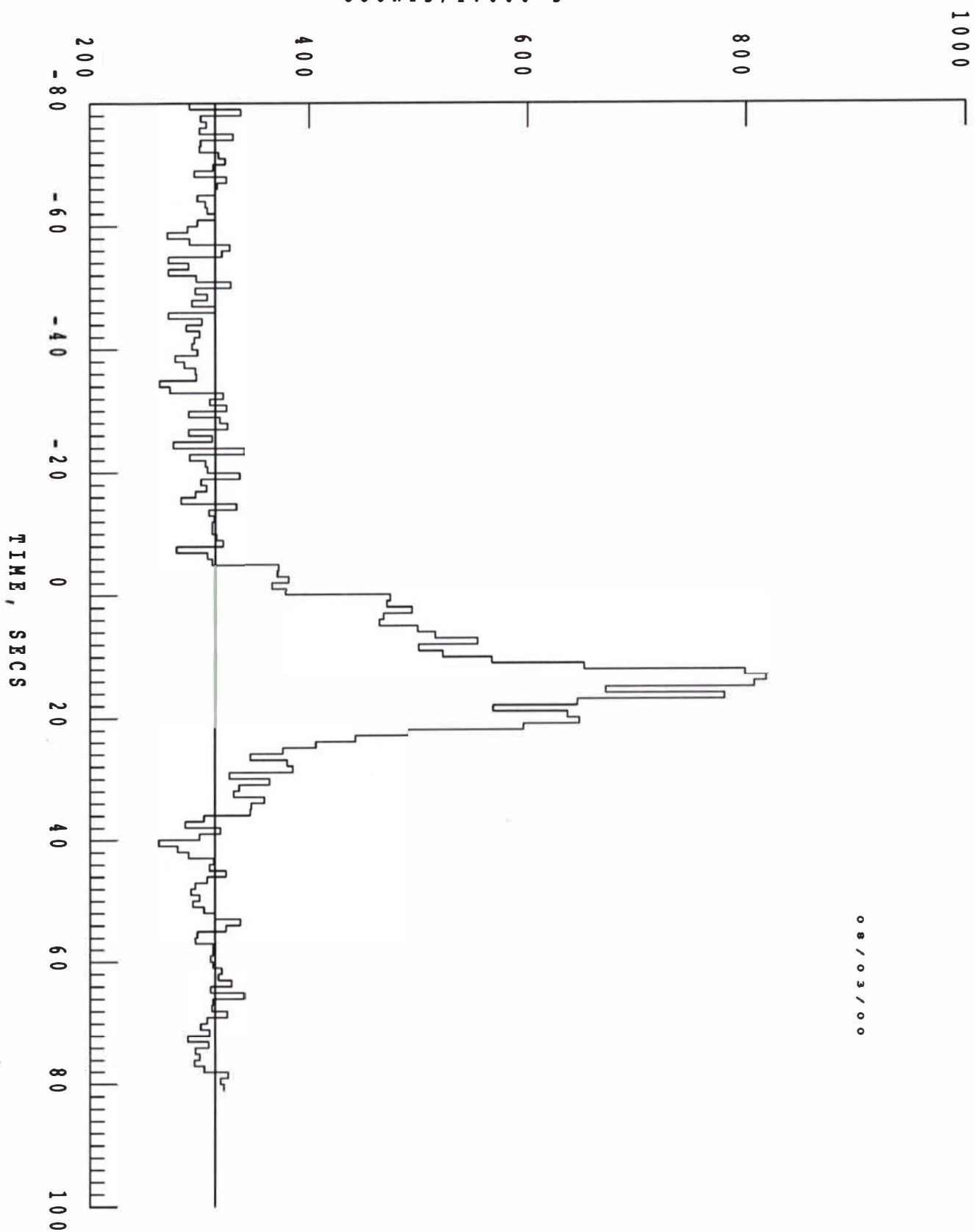
18/05/99

62147.792

new time

100-1000 keV

COUNTS/1.000 S



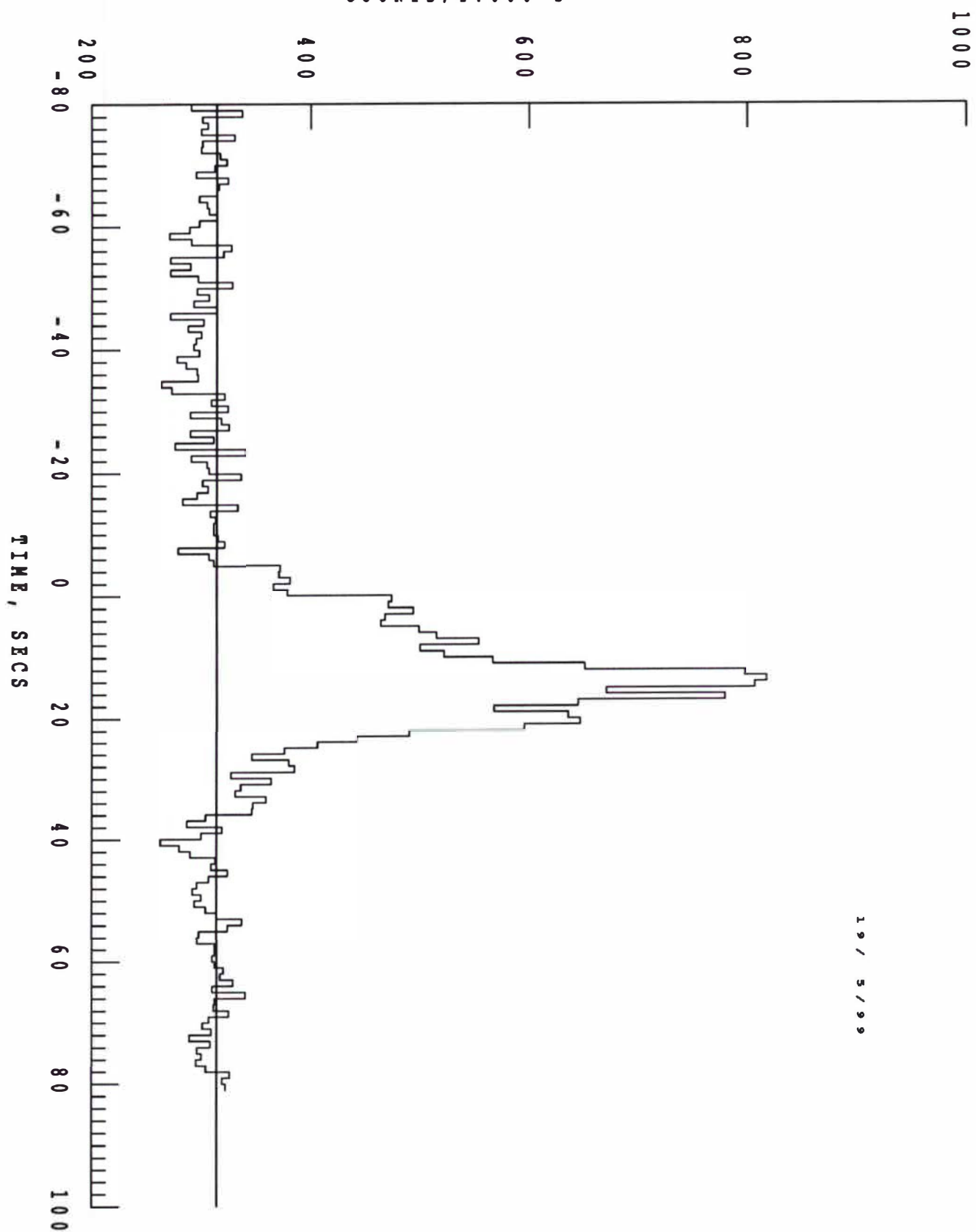
NEAR

18/05/99

62147.810 *old time*

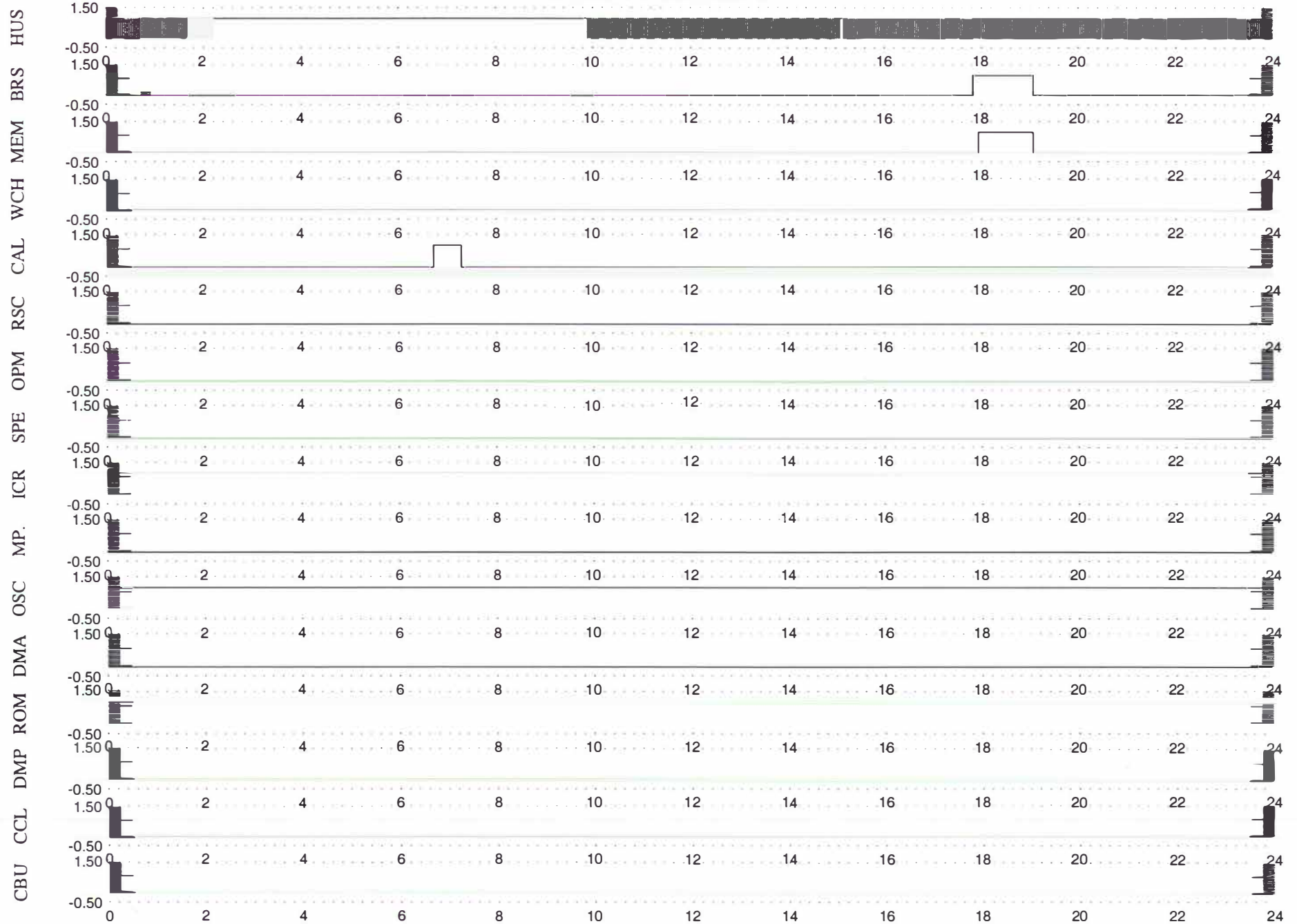
100-1000 keV

COUNTS/1.000 S

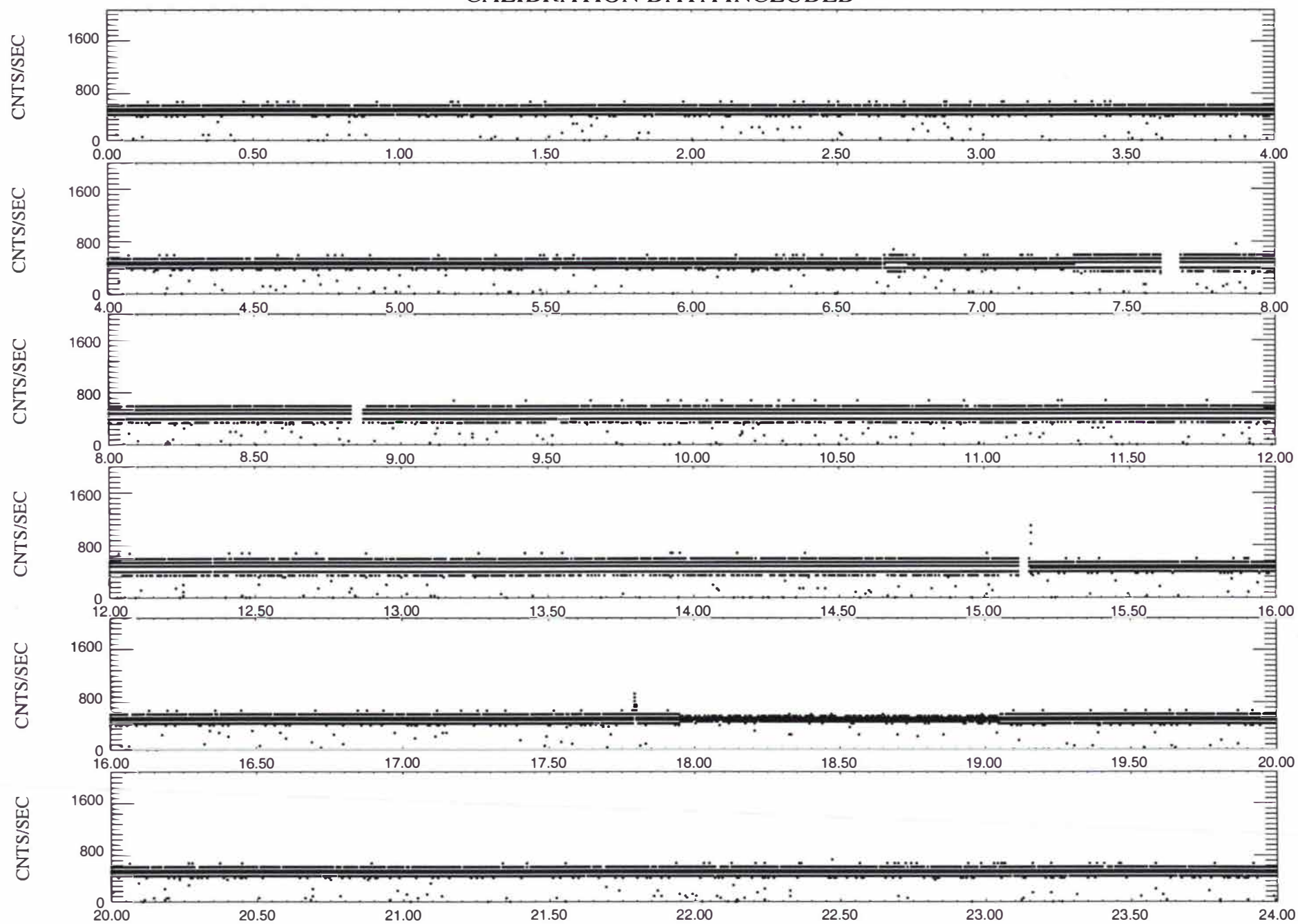


19 / 5 / 99

UNIV SAL TIME

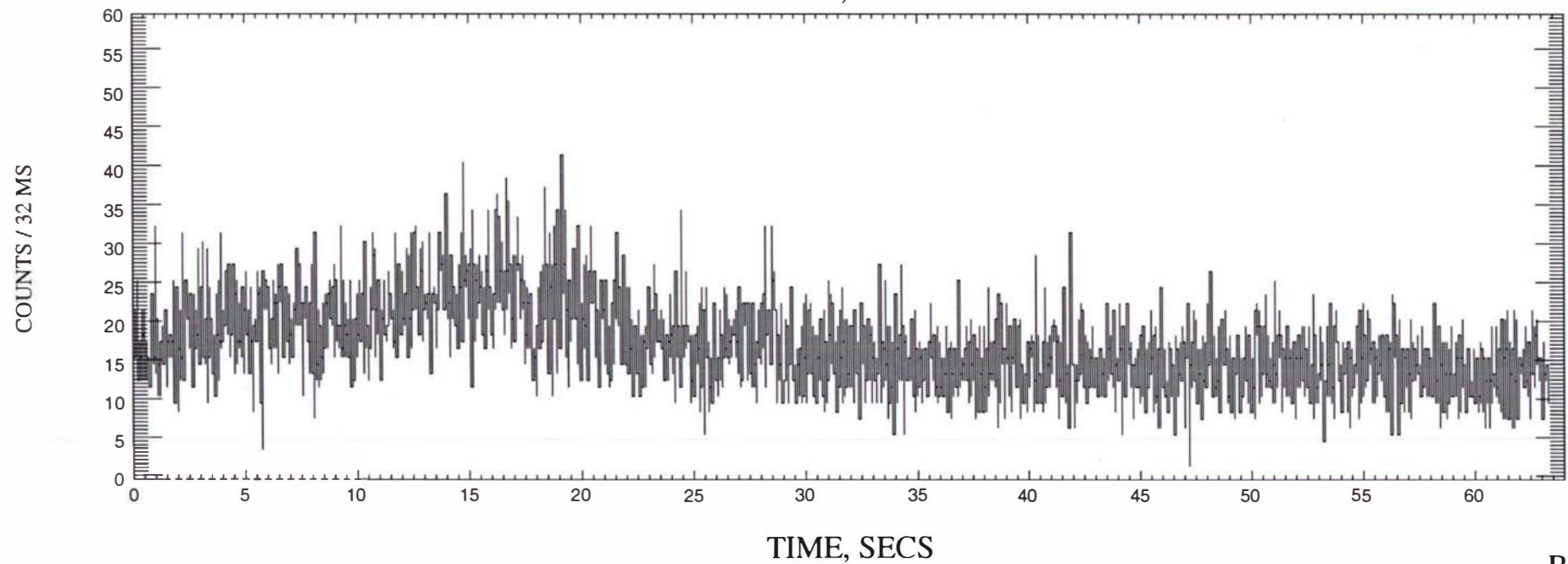
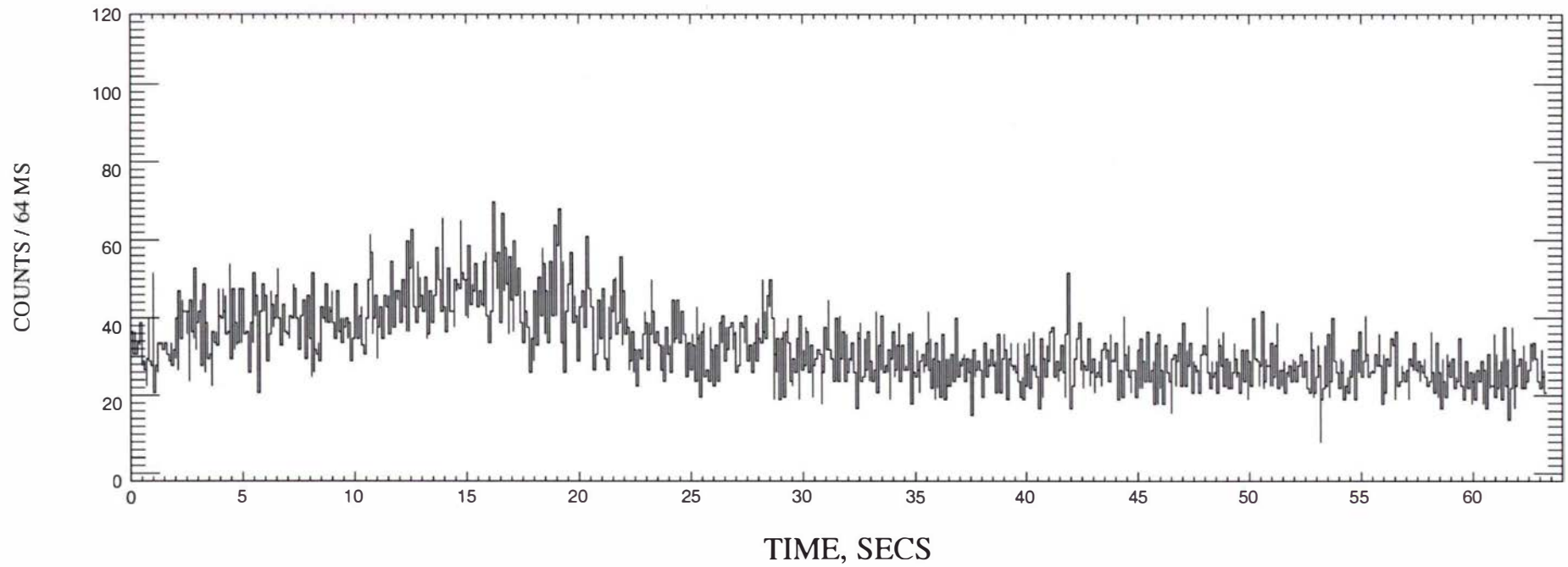


CALIBRATION DATA INCLUDED

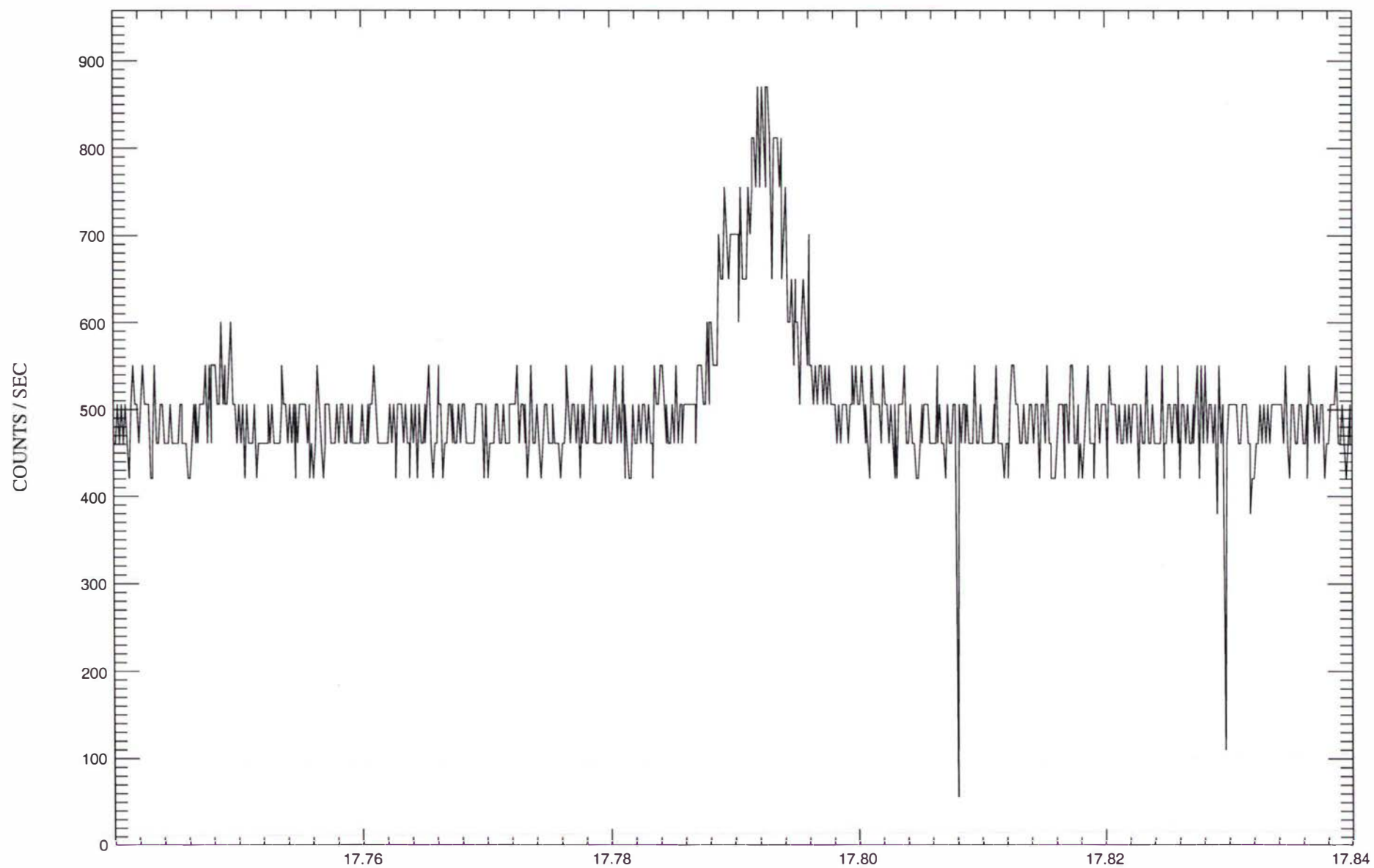


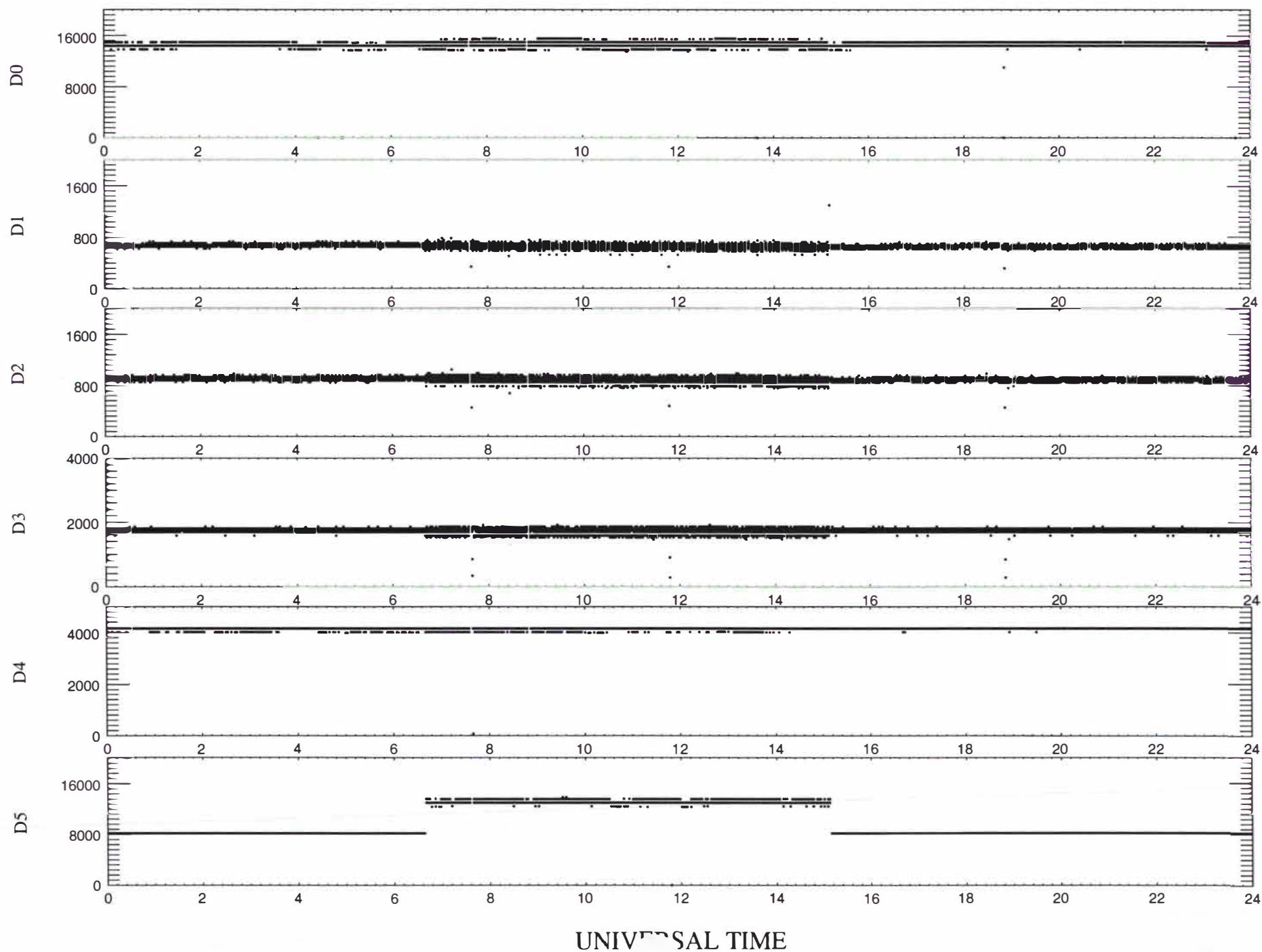
UNIVERSAL TIME

Burst Counter 2 at UT=17.790326143901 h=64045.174 s 17:47:25.174



CALIBRATION DATA INCLUDED





From PETERSON@fender.msfc.nasa.gov Mon May 24 08:41:17 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 IAA05992; Mon, 24 May 1999 08:41:16 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id IAA19303
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 24 May 1999 08:38:12 -0700 (PDT)
Date: Mon, 24 May 1999 10:41:40 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990524104140.2080012e@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7576
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7576
EVENT OF 1999 MAY 19 DAY OF YEAR=139
EVENT CROSSING TIME AT BATSE : 55414. S. OR 15:23:34.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 318.000 -27.000
BATSE PEAK COUNTING RATE: 1700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 19/ 5/ 99 IS:
RA= 144.017 DEC= -6.858 DIST= 4.806 AU
BATSE-ULYSSES DISTANCE = 718955592. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 34.36 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1979.81 SECS.
CROSSING TIME AT ULYSSES IS 57394. S. OR 15:56:33 +/- 315.03 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 19/ 5/ 99 IS:
RA= 204.429 DEC= -9.842 DIST= 0.605 AU
MARS-BATSE DISTANCE = 90545840. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 74.13 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 82.59 SECS.
CROSSING TIME AT MARS IS 55497. S. OR 15:24:56 +/- 51.69 SECONDS

BATSE BURST TRIGGER

NO.: 7576

TIME: TJD=1317 SECONDS=55414

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=142.6 AZIMUTH=8.2 ERROR=4.951 DEGREES

COMMENTS:

GRB. SINGLE PULSE, DUR. APPROX. 30S, STARTS AT APPROX. T-10 S. NOT VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7576	990519	11317	55414	1700	318	-27	30

BATSE BURST# 7576

ULYSSES RT

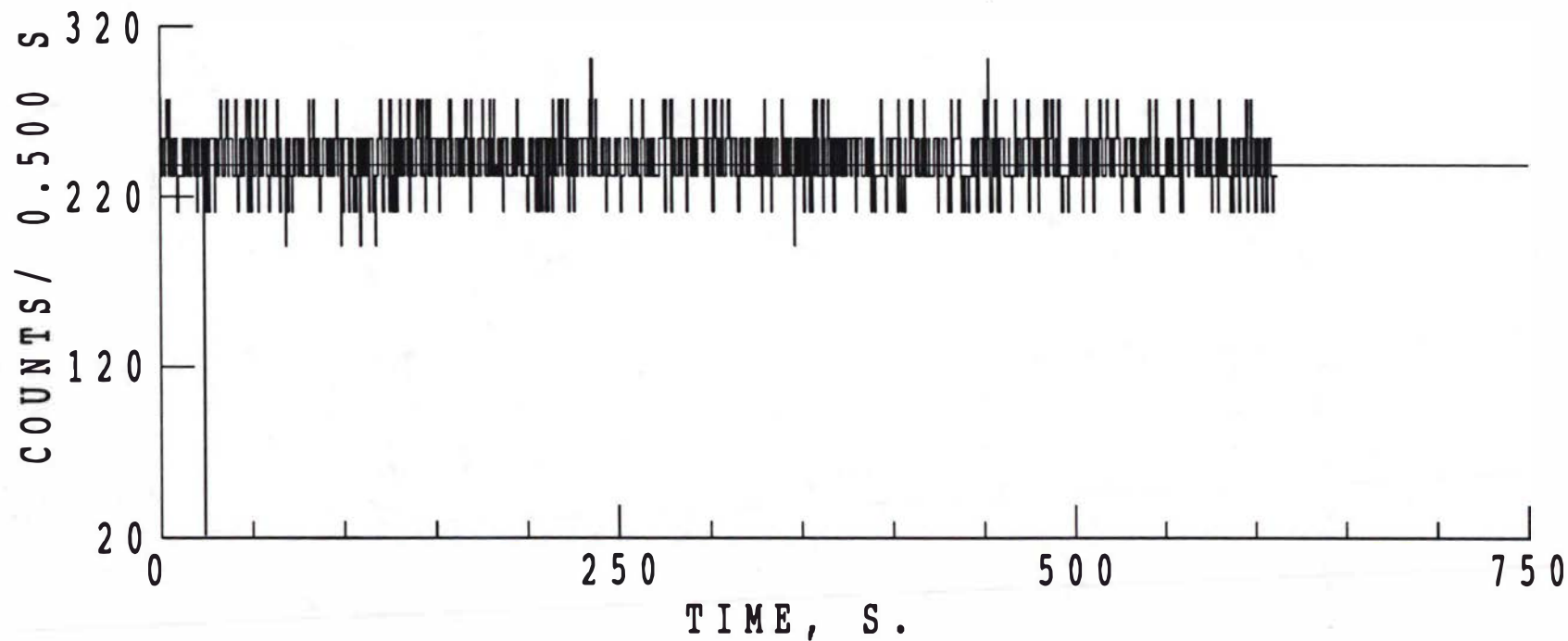
24 / 5 / 99

19 / 5 / 99 57096.238 s

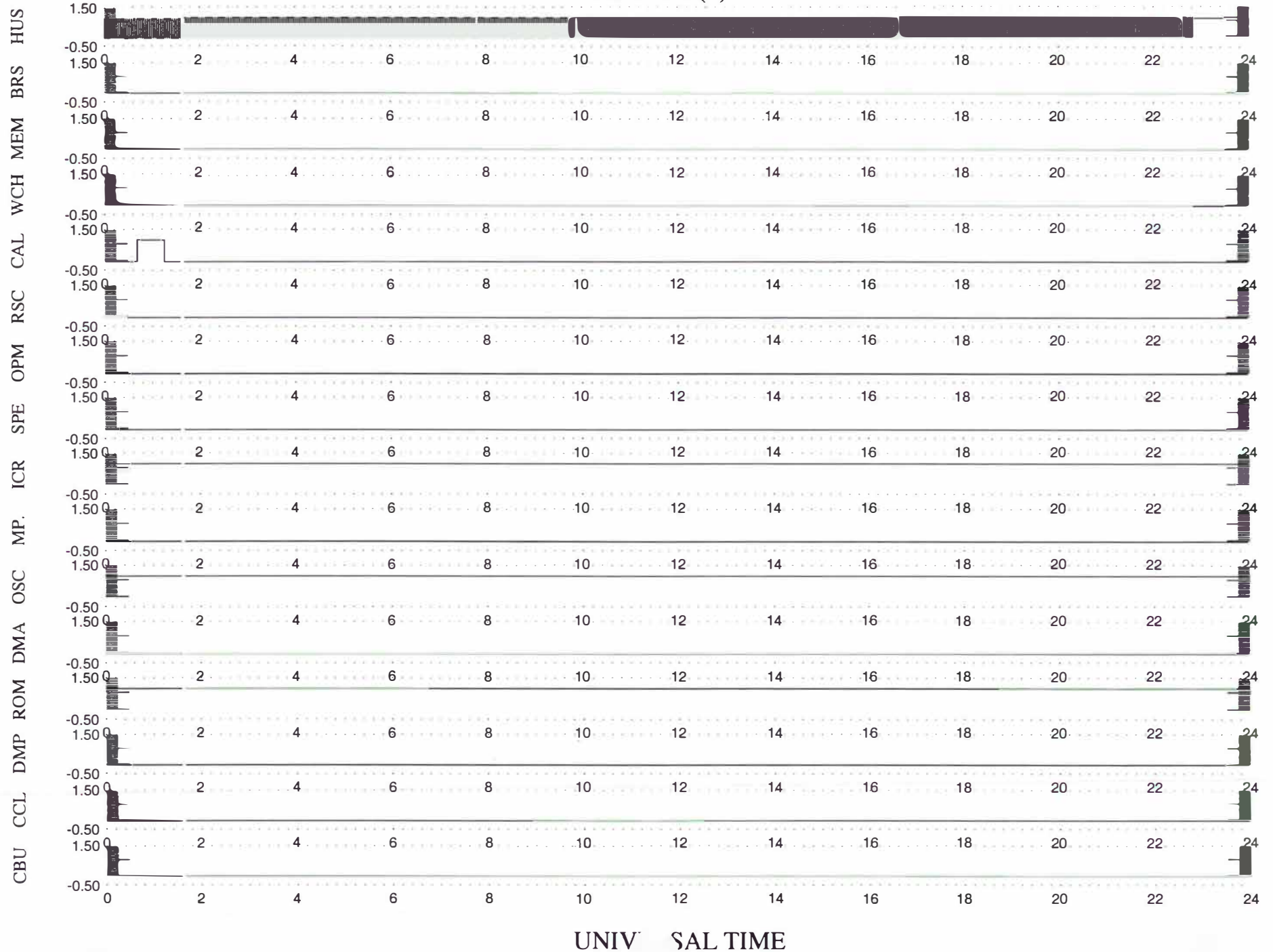
0 - 0 keV

N= 10 M= 2

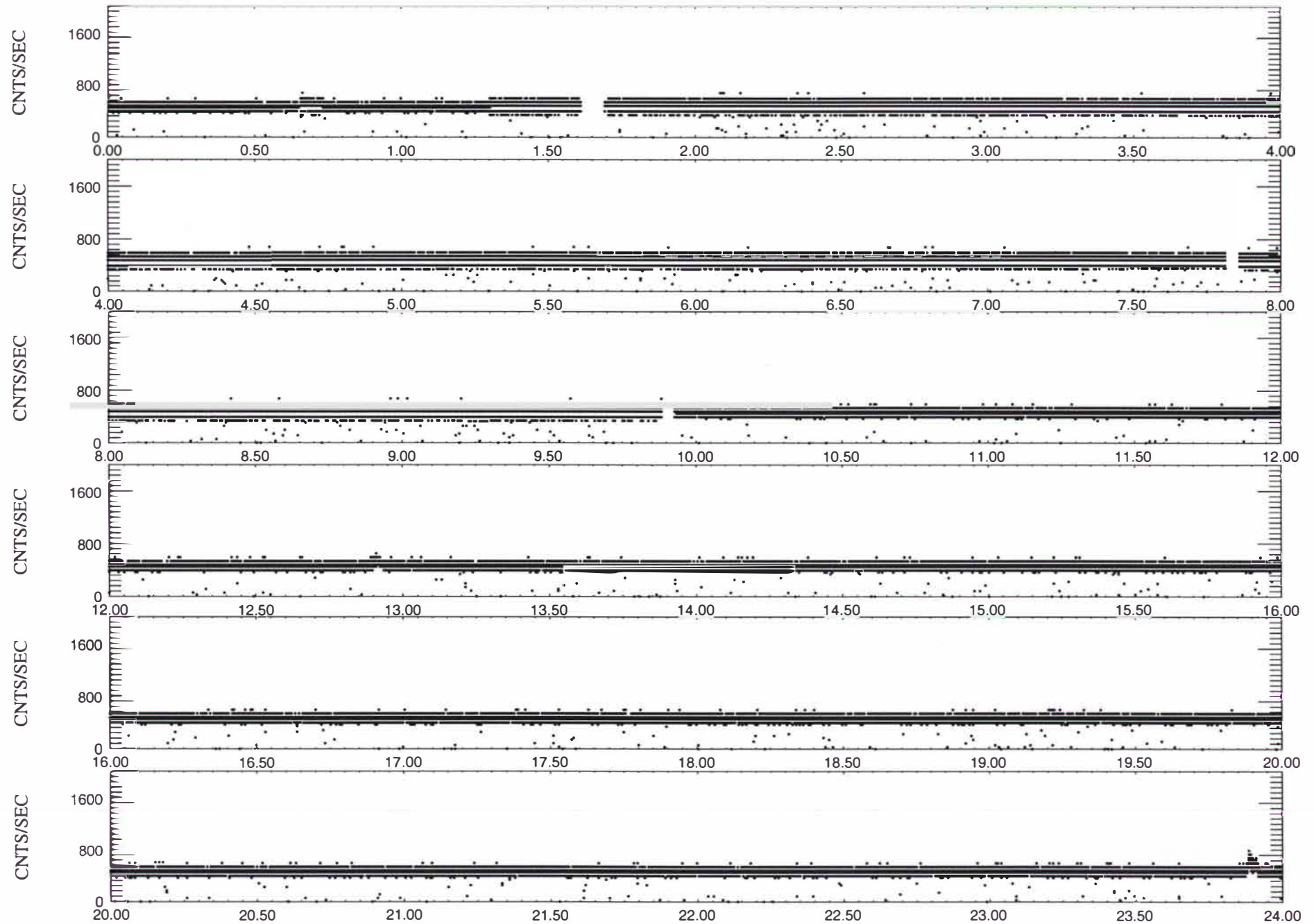
>4.0 SIGMA FLUCTUATIONS



NO BURST (2)

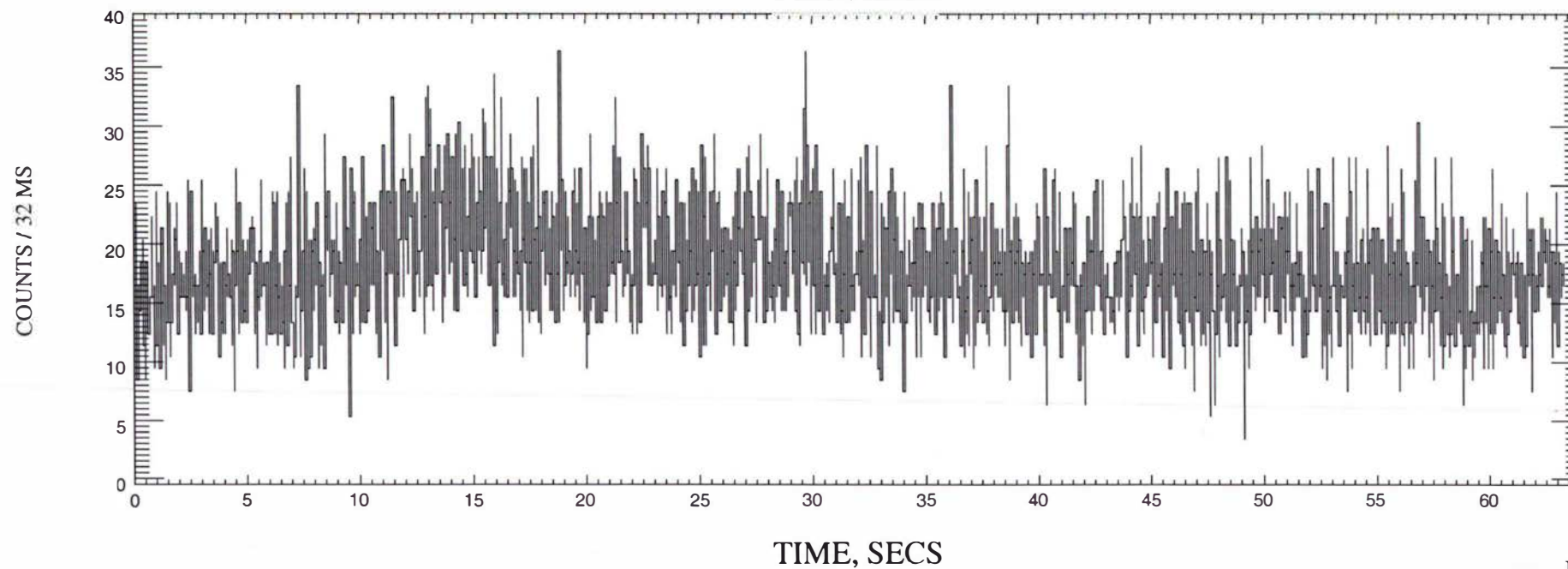
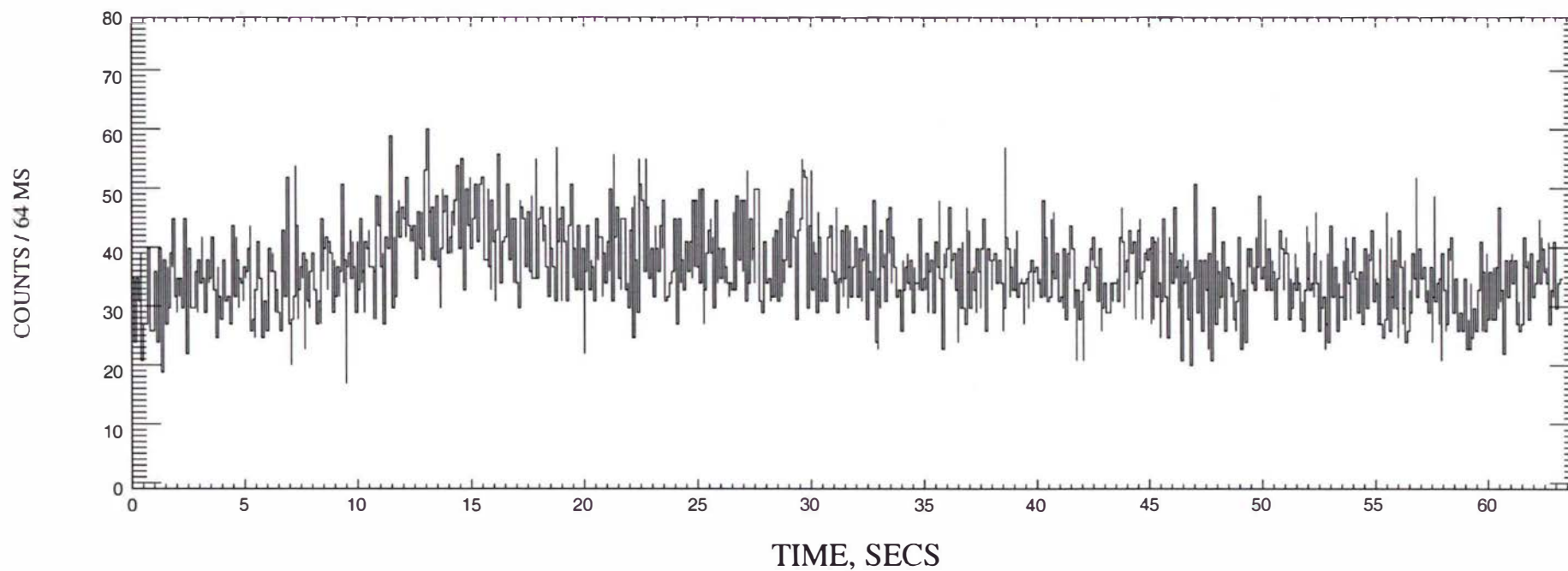


CALIBRATION DATA INCLUDED

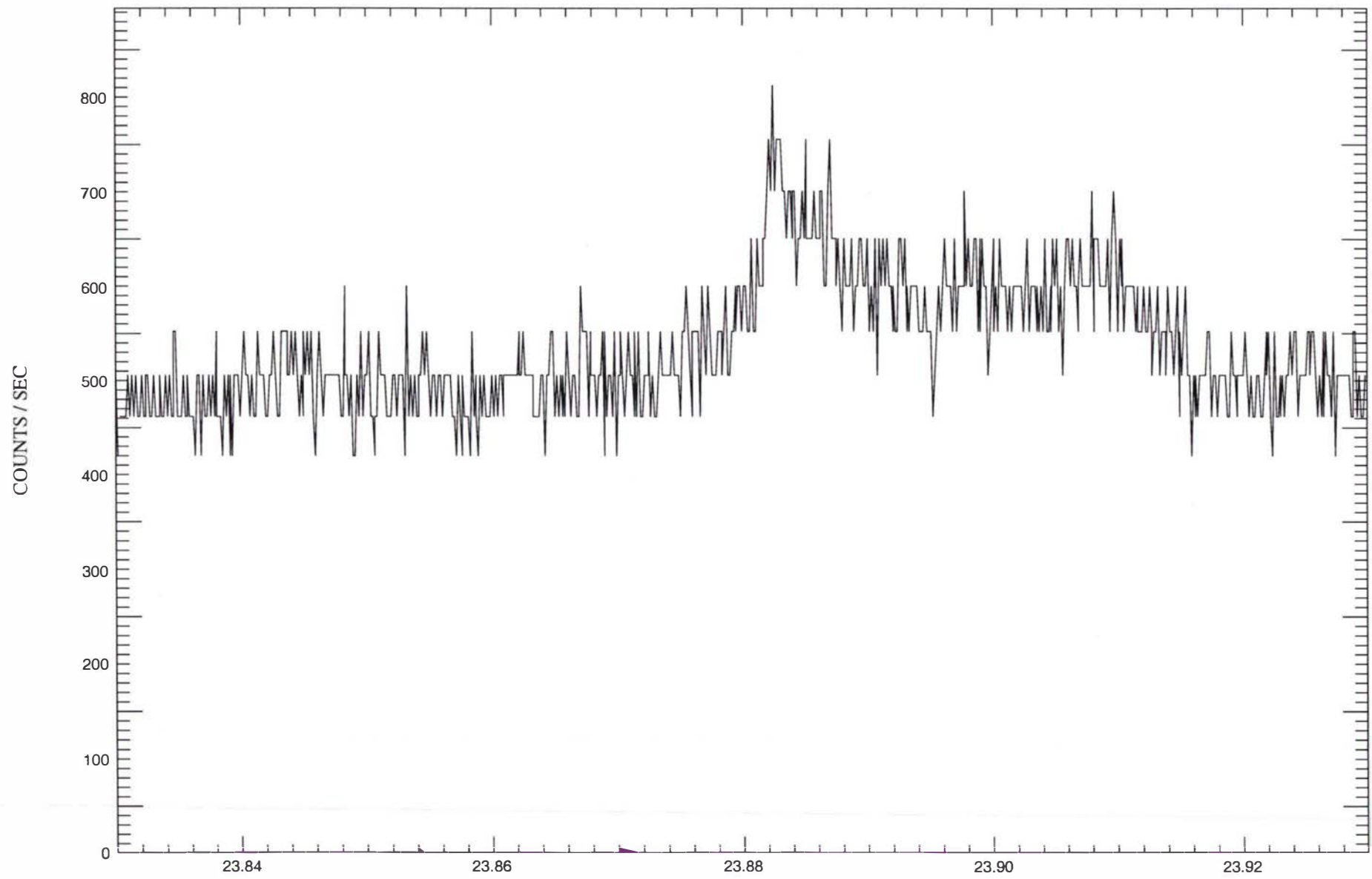


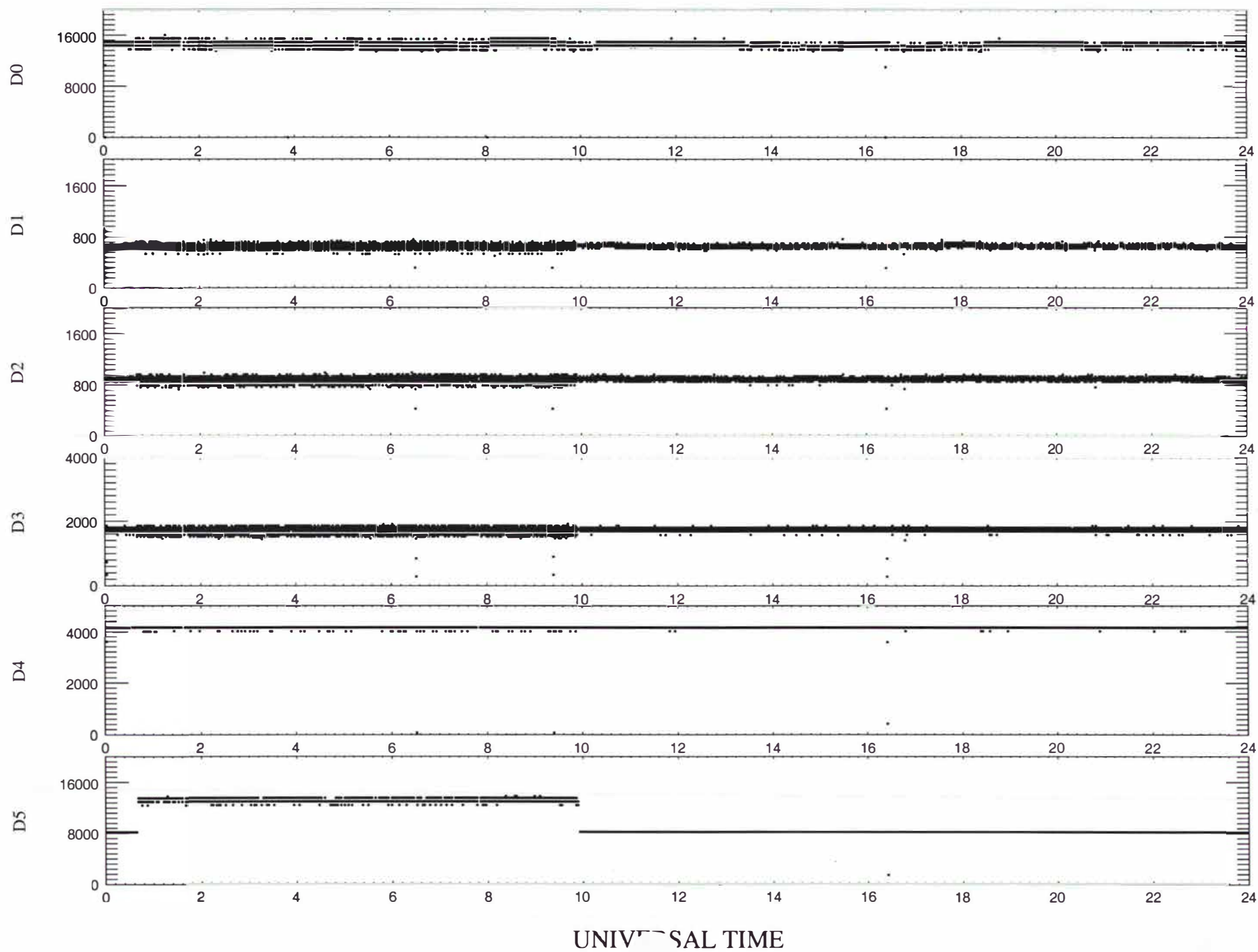
UNIVERSAL TIME

Burst Counter 3 at UT=23.880978940328 h=85971.524 s 23:52:51.524



CALIBRATION DATA INCLUDED





SAX Fast x-ray transient

24 / 5 / 99

ULYSSES RT

20 / 5 / 99 5760.095 s

0.500 S INTERVALS REGROUPED BY 2

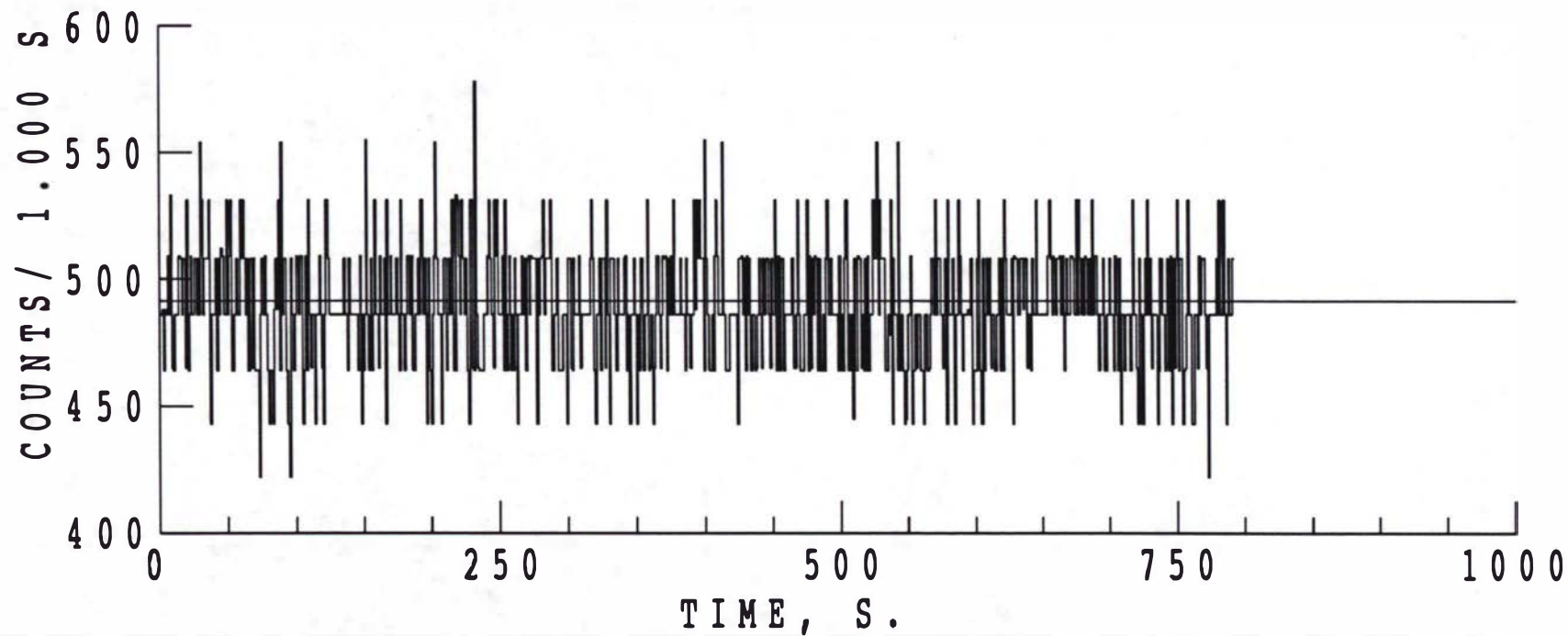
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



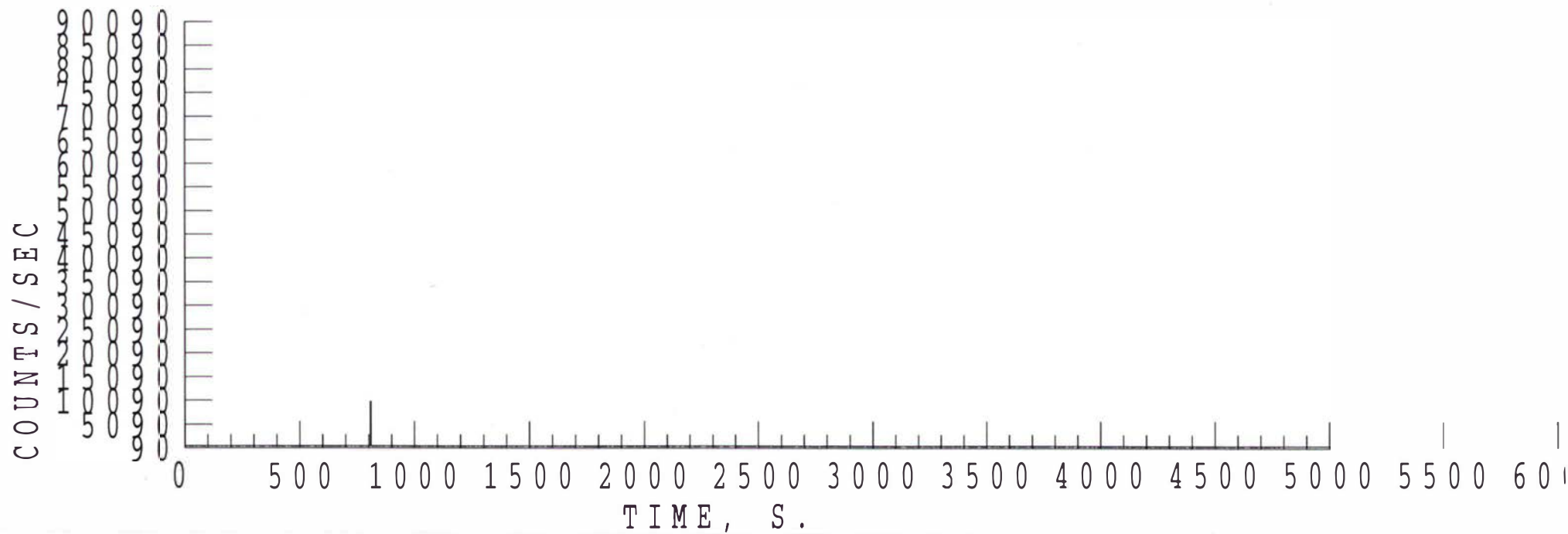
SAX GRBM
HUS DATA

19 / 07 / 05

ULYSSES RT
20 / 05 / 99 41940.211 s
INTERVALS REGROUPED BY 9
0 - 0 keV

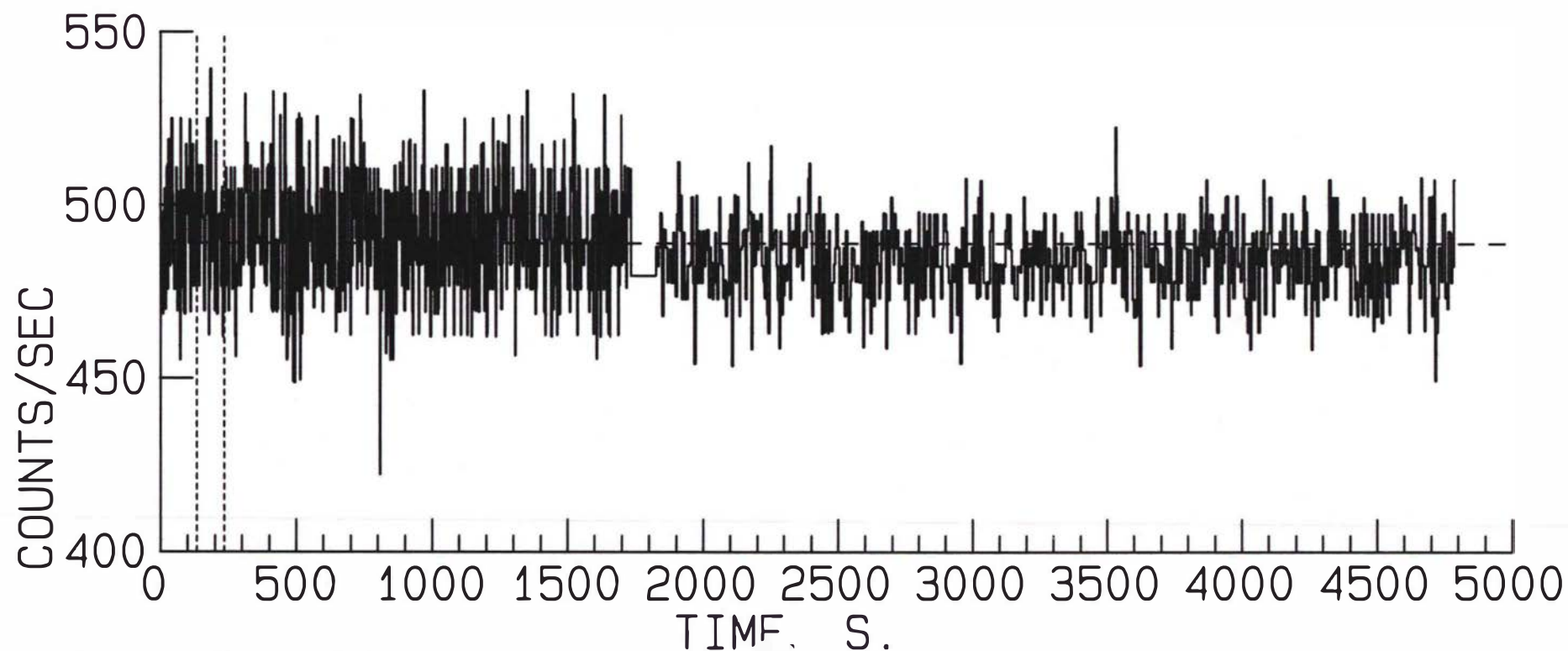
N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



ULYSSES RT
20/ 5/99 41940.211 s
INTERVALS REGROUPED BY 9
22- 150 keV

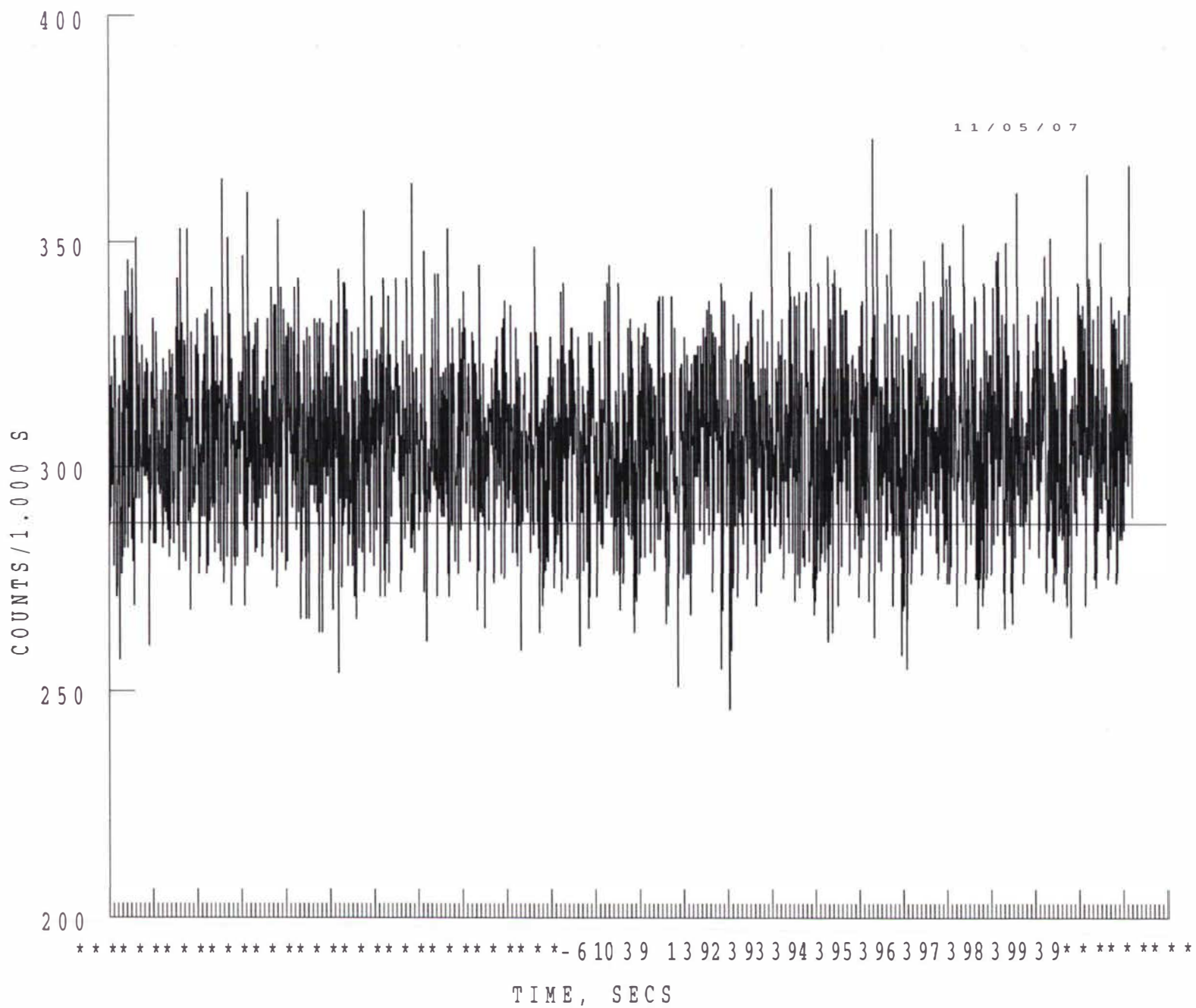
27 / 9 / 5



NEAR

20/05/99 44326.751

100-1000 keV



From HENZE@fender.msfc.nasa.gov Fri May 21 14:13:18 1999
Date: Fri, 21 May 1999 16:14:07 -0500 (CDT)
From: Bill Henze (256-544-7616) <HENZE@fender.msfc.nasa.gov>
To: burst@comptel.sr.unh.edu, grobad@ests2.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@lheavx.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,
butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,
jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,
HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
hpark@llnl.gov
Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7577

TIME: TJD=1318 SECONDS=18213

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

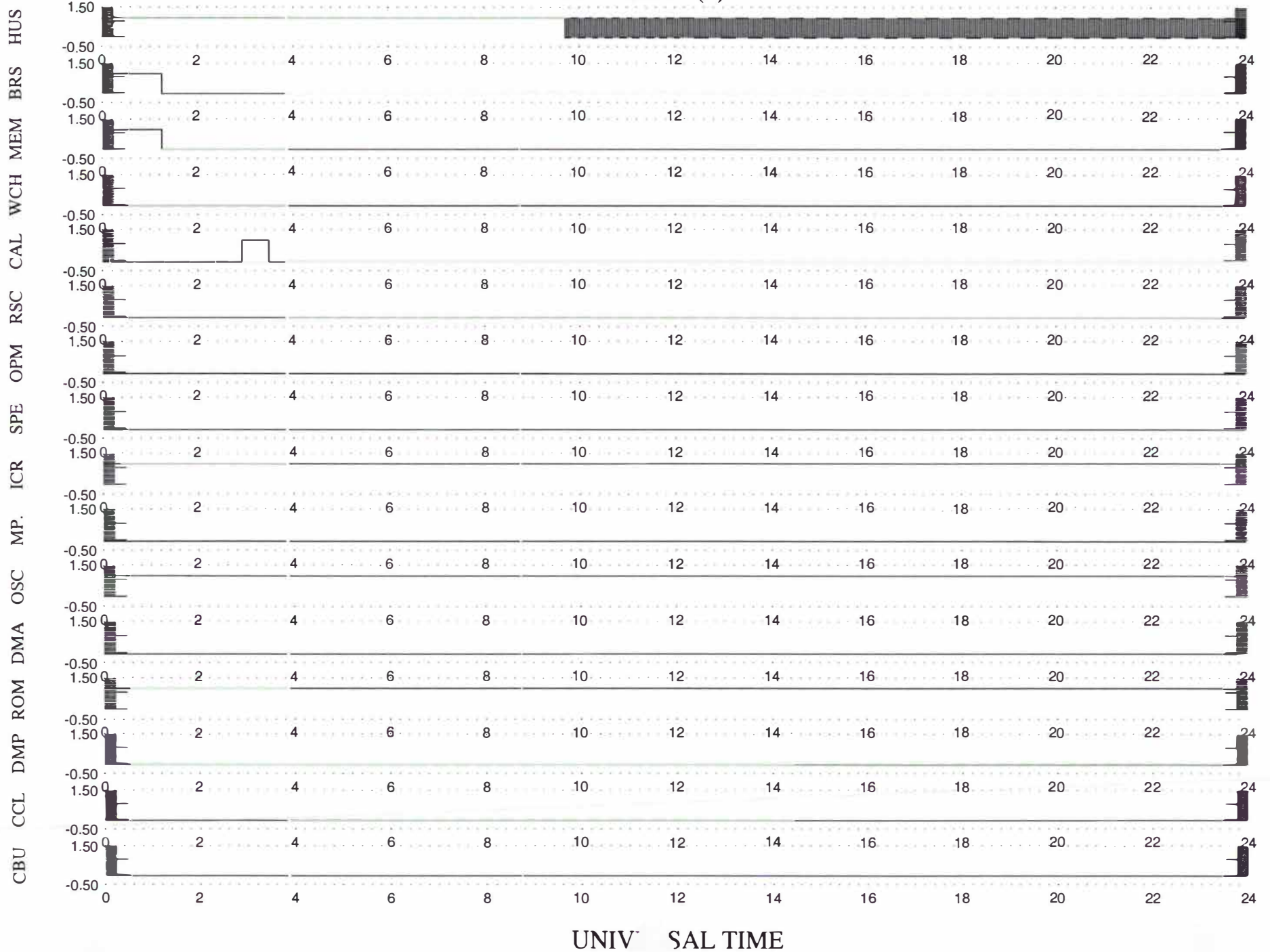
INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 43.2 AZIMUTH=331.4 ERROR= 1.9 DEGREES

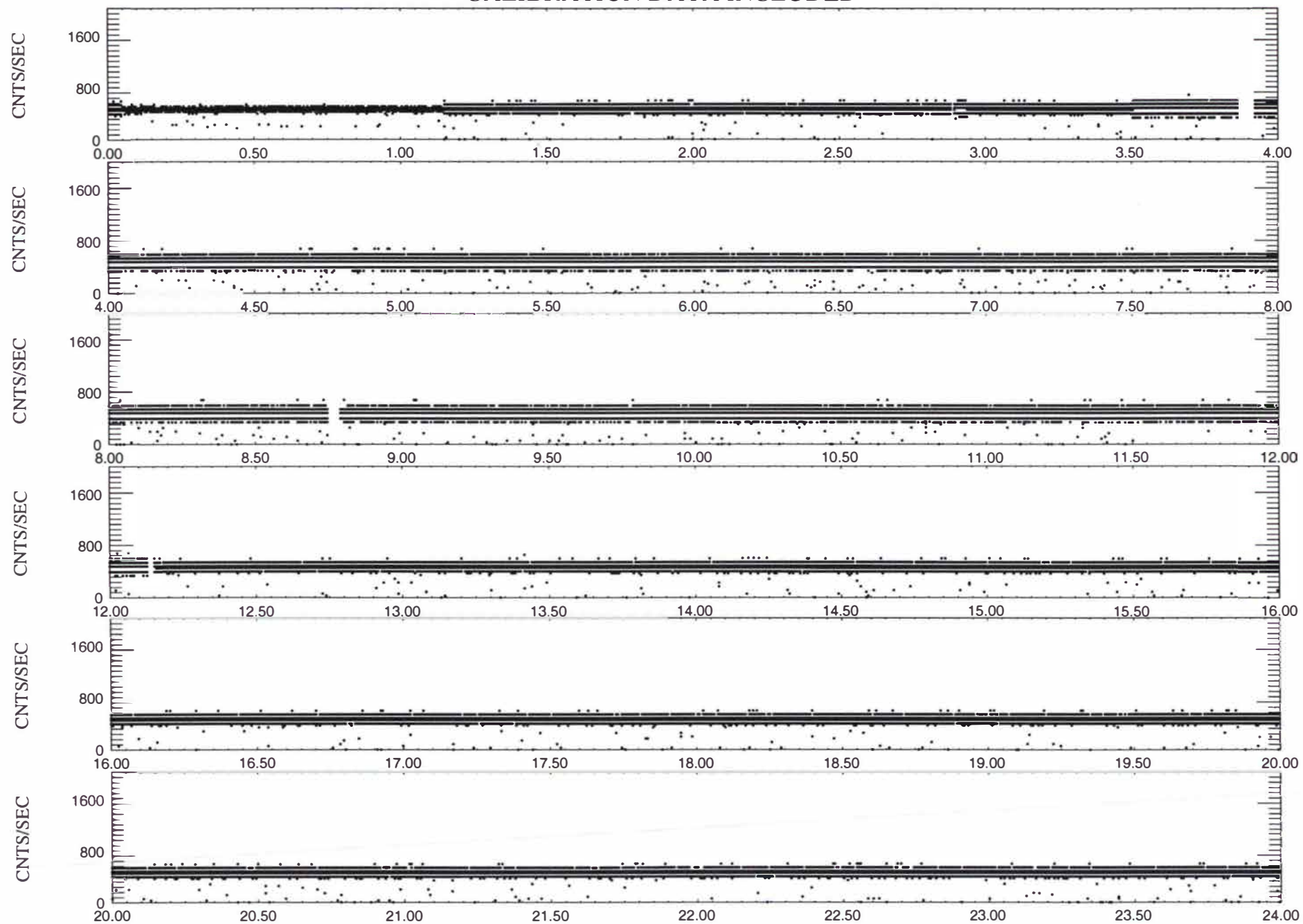
COMMENTS:

SOLAR FLARE, GOES C2.3, NO OPTICAL IDENT. SINGLE PULSE WITH SUBSTRUCTURE,
DUR. APPROX. 45 S, STARTS AT APPROX. T-15 S. WEAKLY VISIBLE ABOVE 100 KEV.

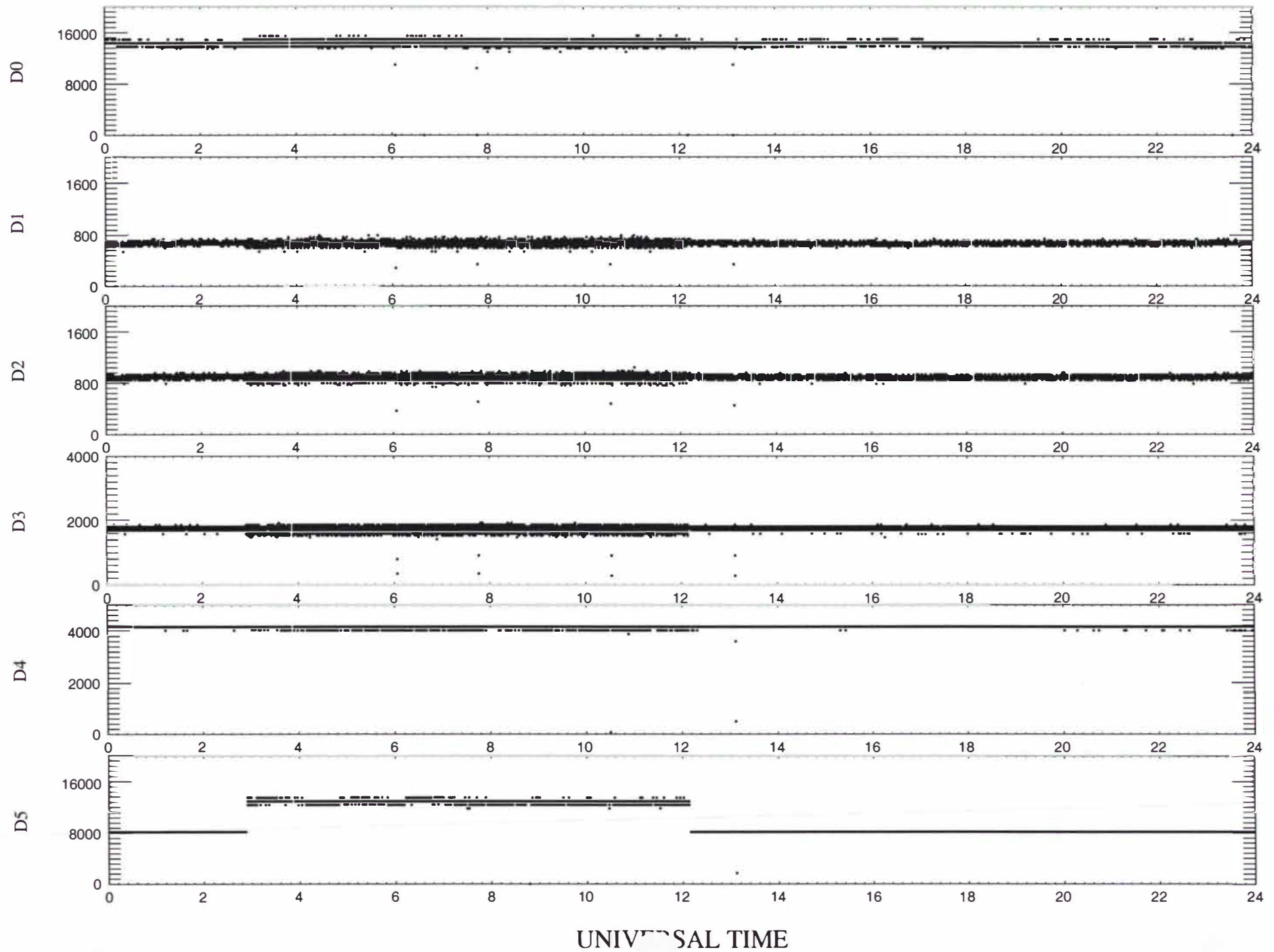
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME

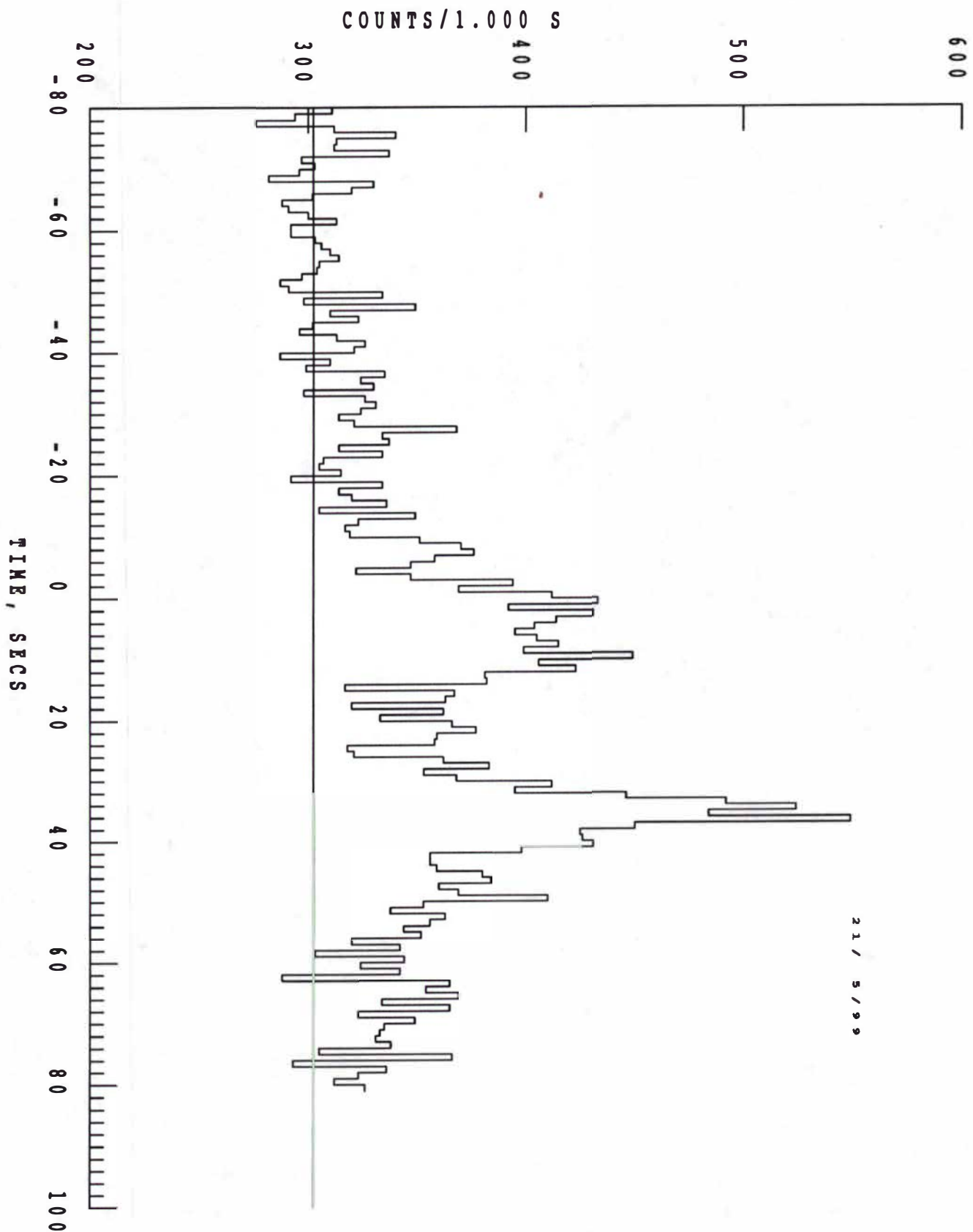


NEAR

21/05/99

27402.753

100-1000 keV



KNEAR GRS 19990521 27402

ULYSSES RT

21 / 5 / 99

21 / 5 / 99 24372.156 s

0.250 S INTERVALS REGROUPED BY 17

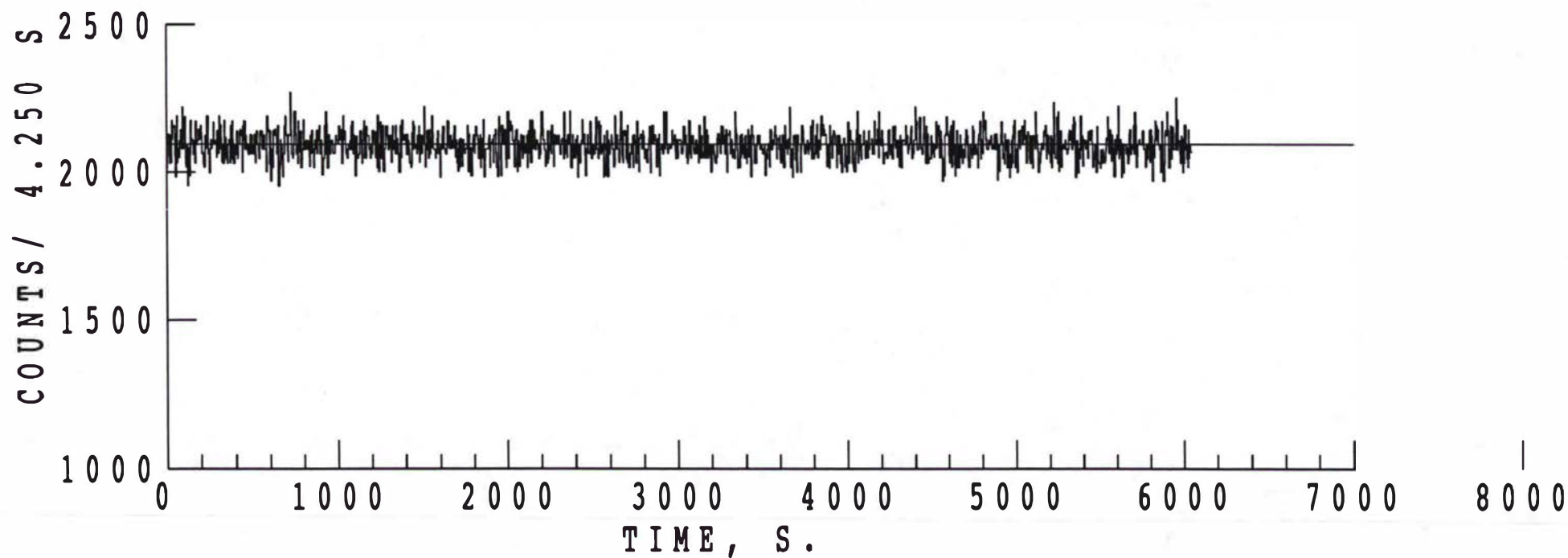
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



Date: May 17 2007

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

2. For Odyssey events

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

2. For 3 or More Spacecraft events

- ☒ $3\Delta t$'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?

KONUS

21/05/99 83521.008

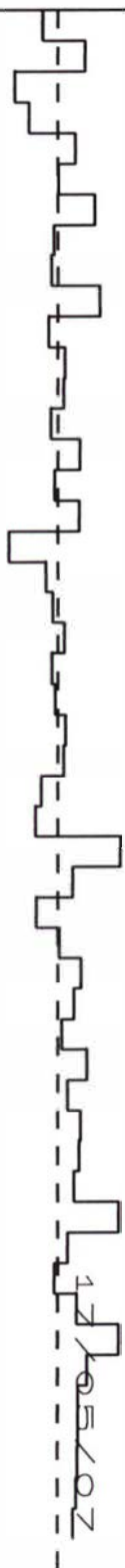
10- 50 keV

50- 200 keV 200- 750 keV

COUNTS/2.945 S

3500

DETECTOR 1 - S. ECLIPTIC



1500

2500

500

20

40

60

80

100

120

140

TIME, SECS

KONUS

21/05/99 83521.008

10- 50 keV

50- 200 keV

200- 750 keV

COUNTS/2.945 S

4300

3300

2300

1300

300

20

40

60

80

100

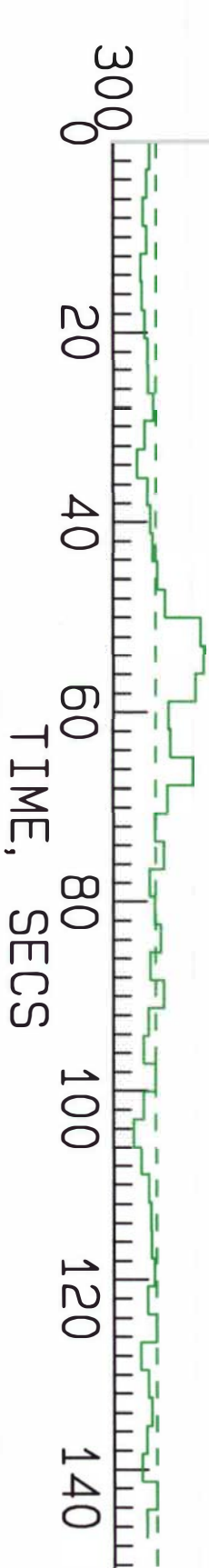
120

140

DETECTOR 2 - N. ECLIPTEIC

17/05/07

TIME, SECS



N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

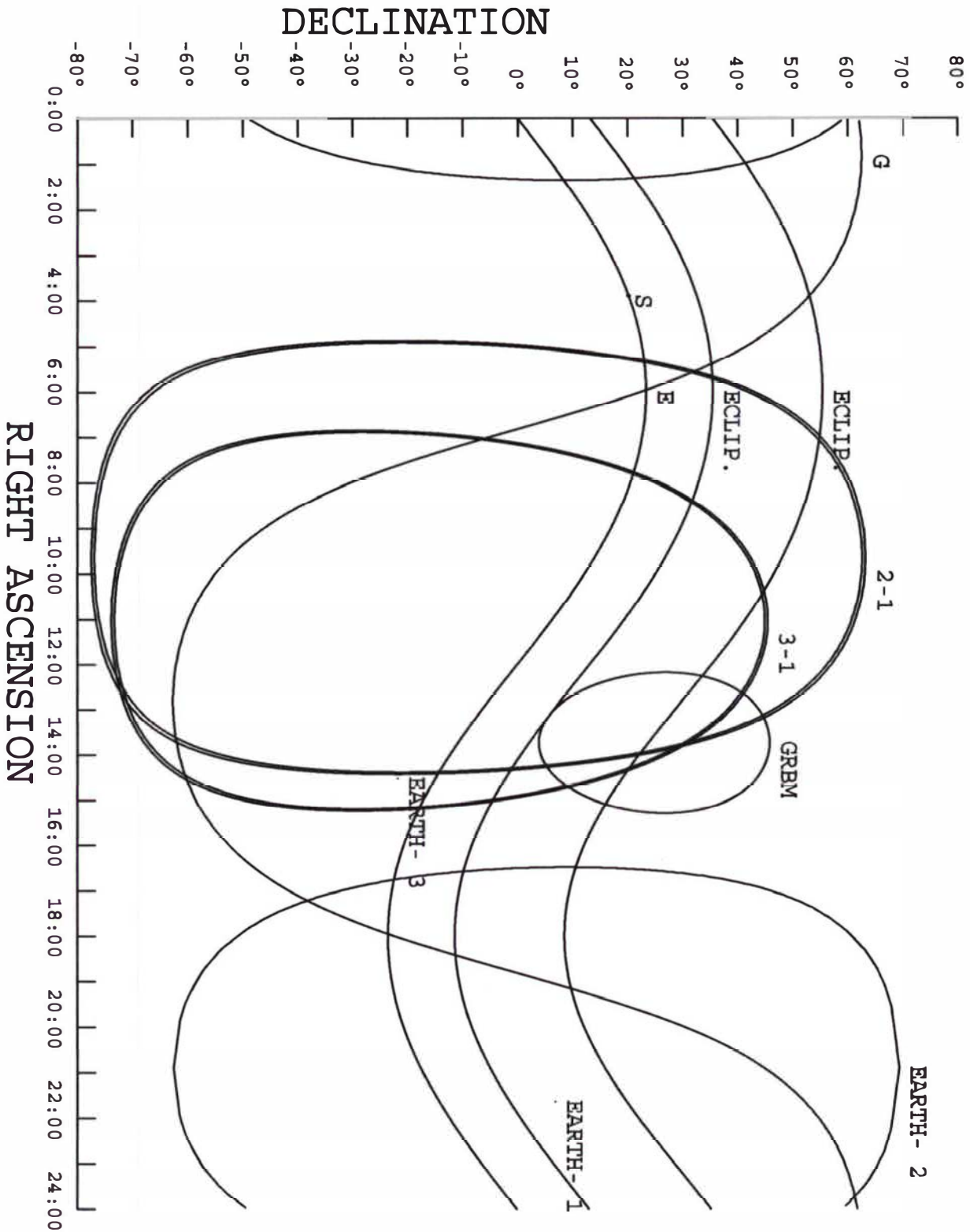
1 ULYSSES

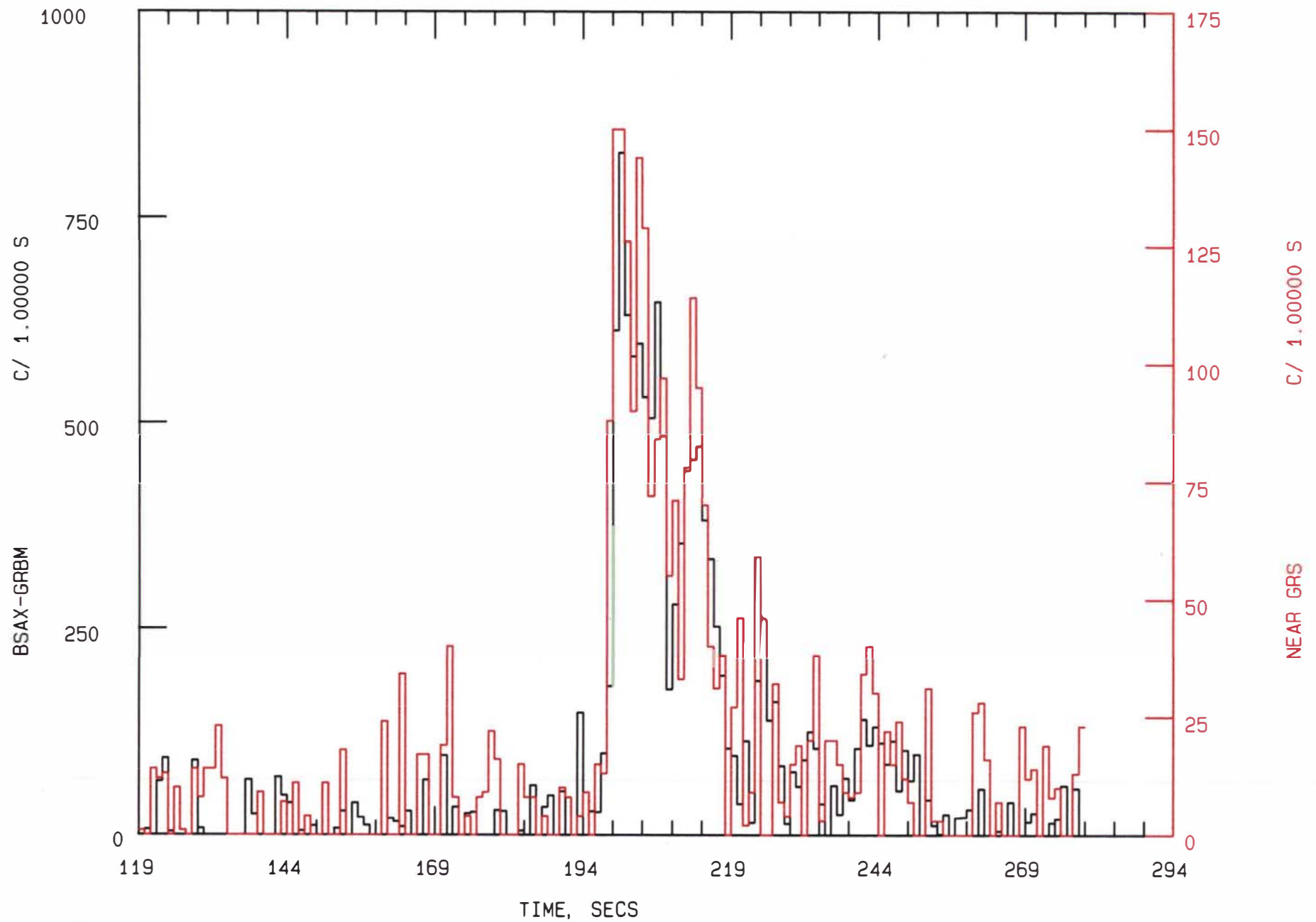
2 SAX

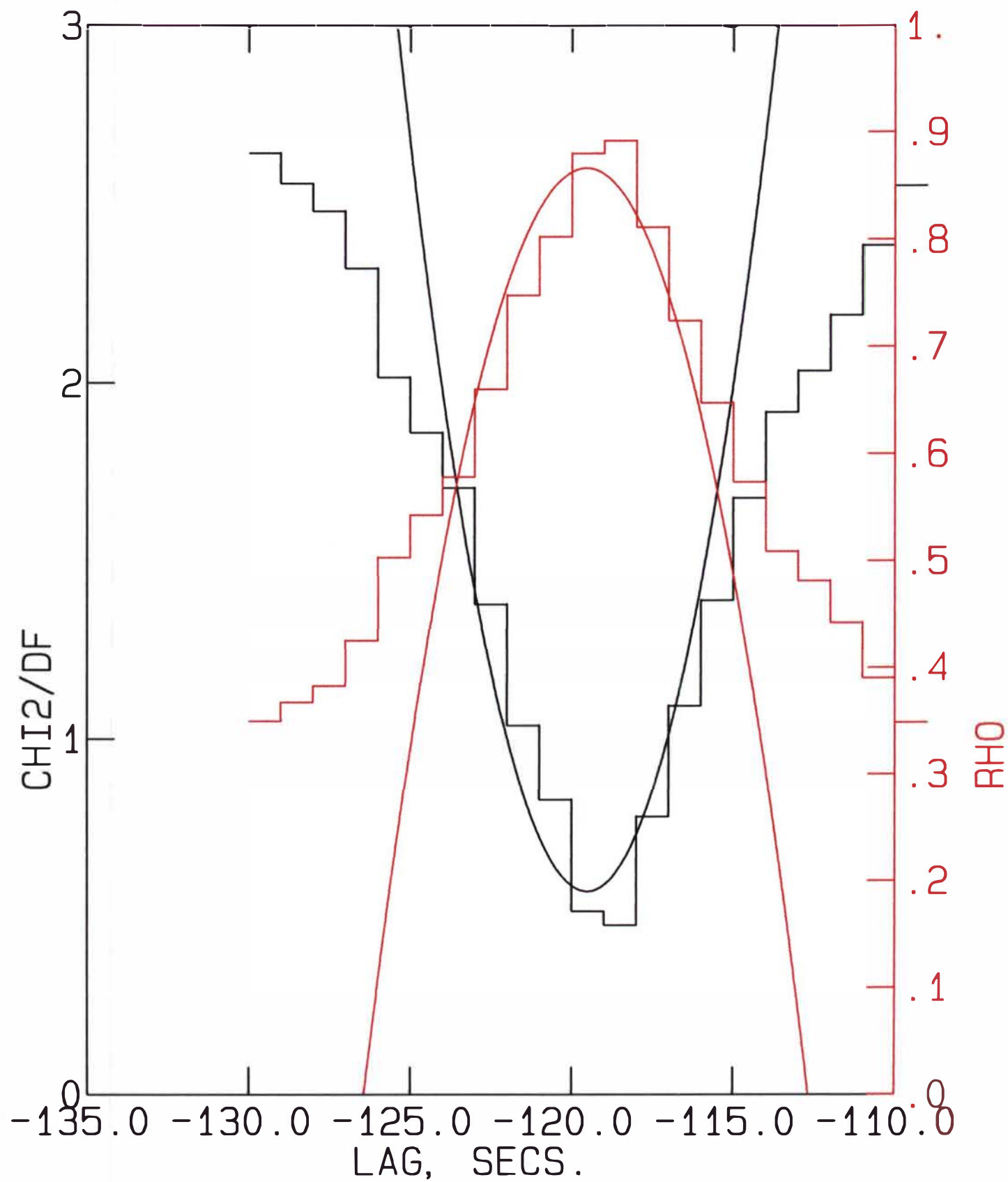
3 NEAR

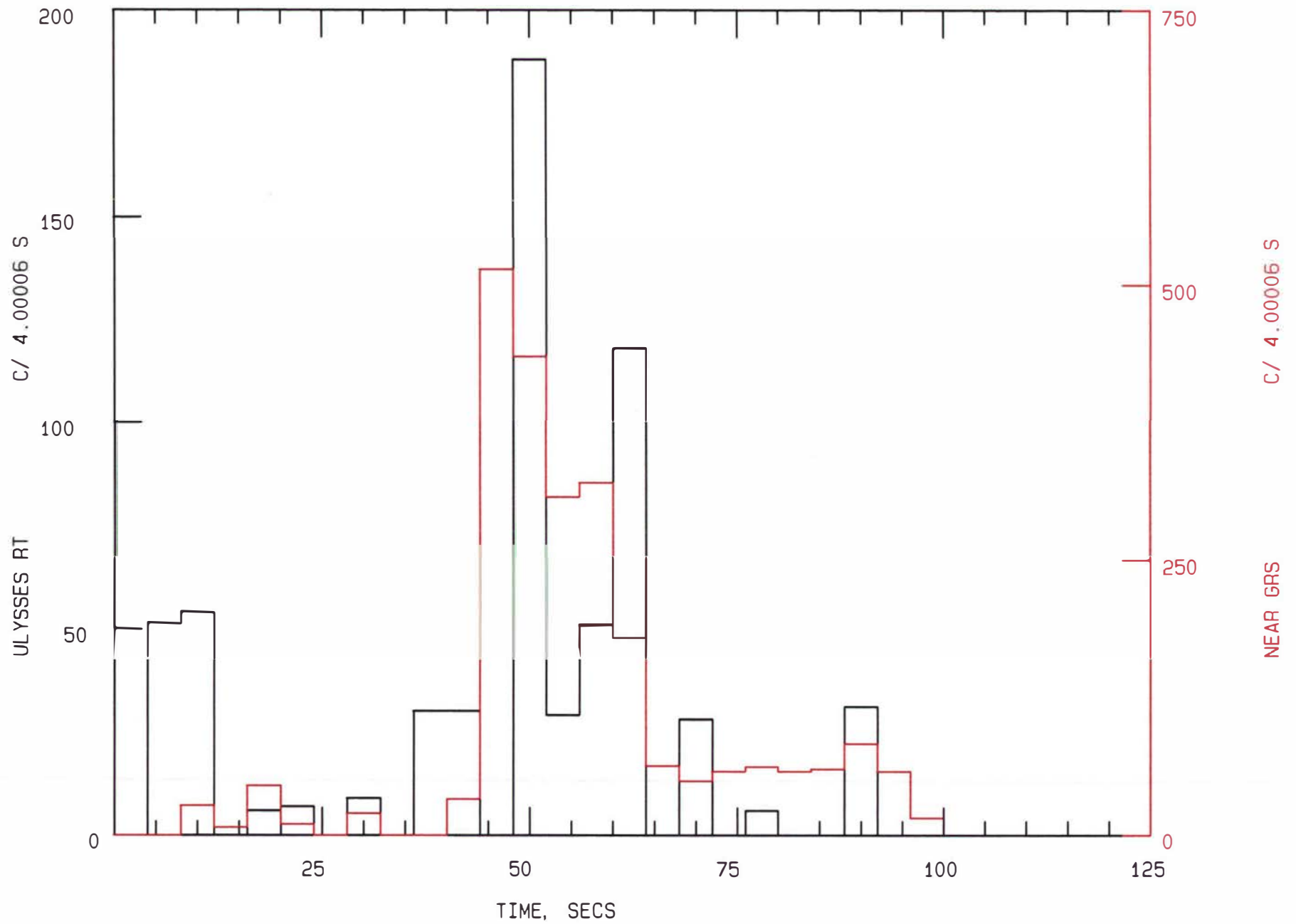
EVENT OF MAY 21, 1999 22:58

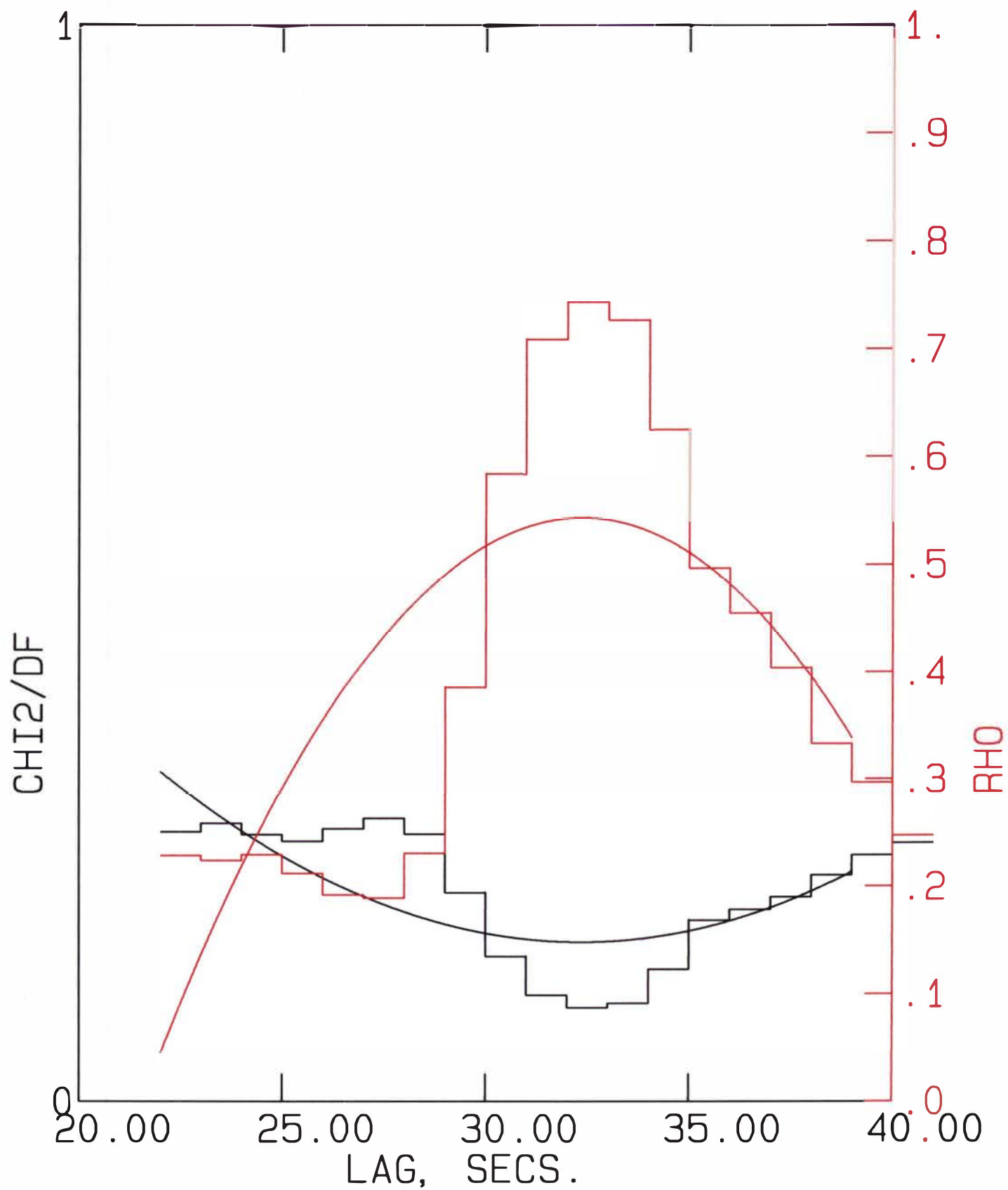
16 / 5 / 7

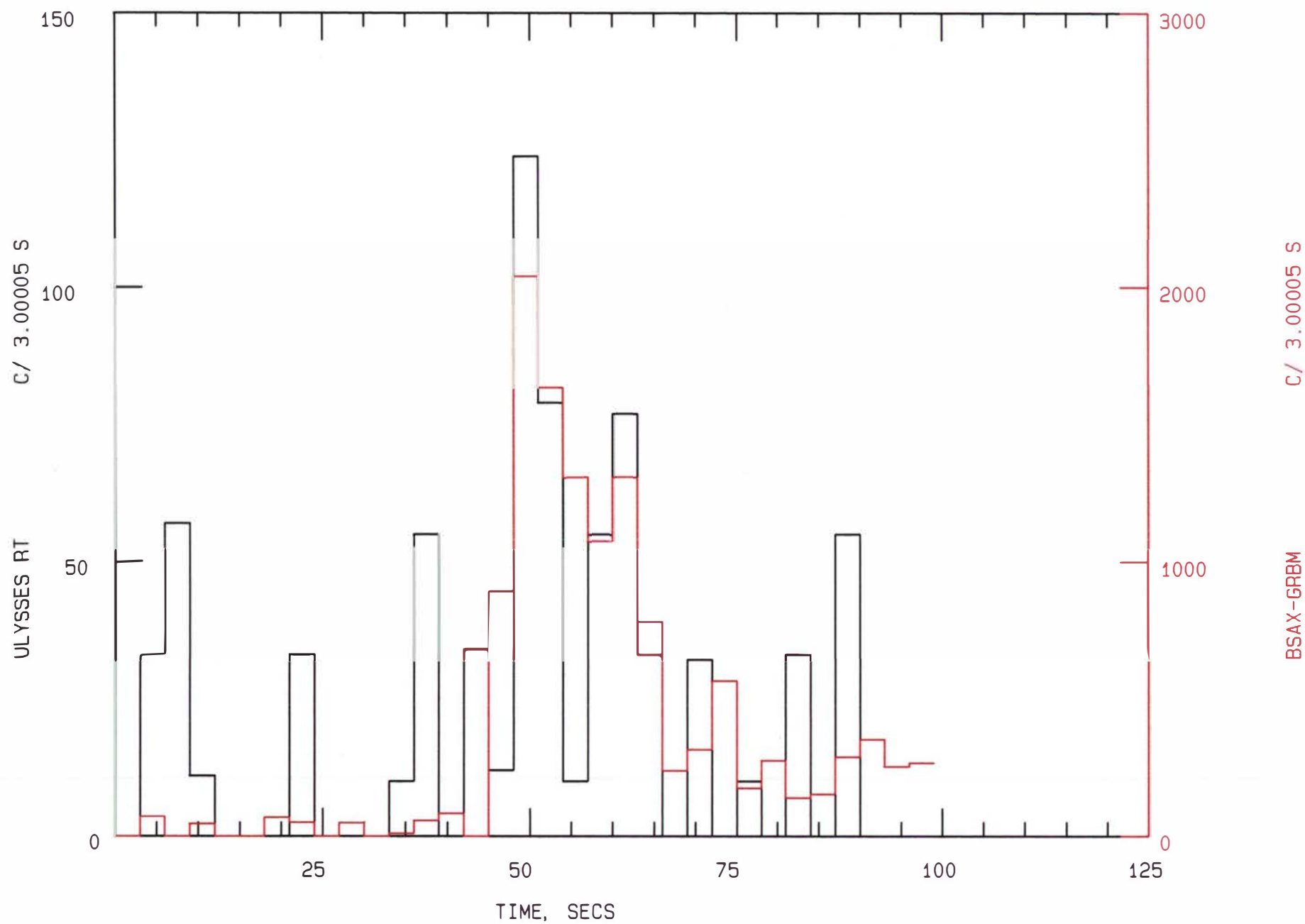


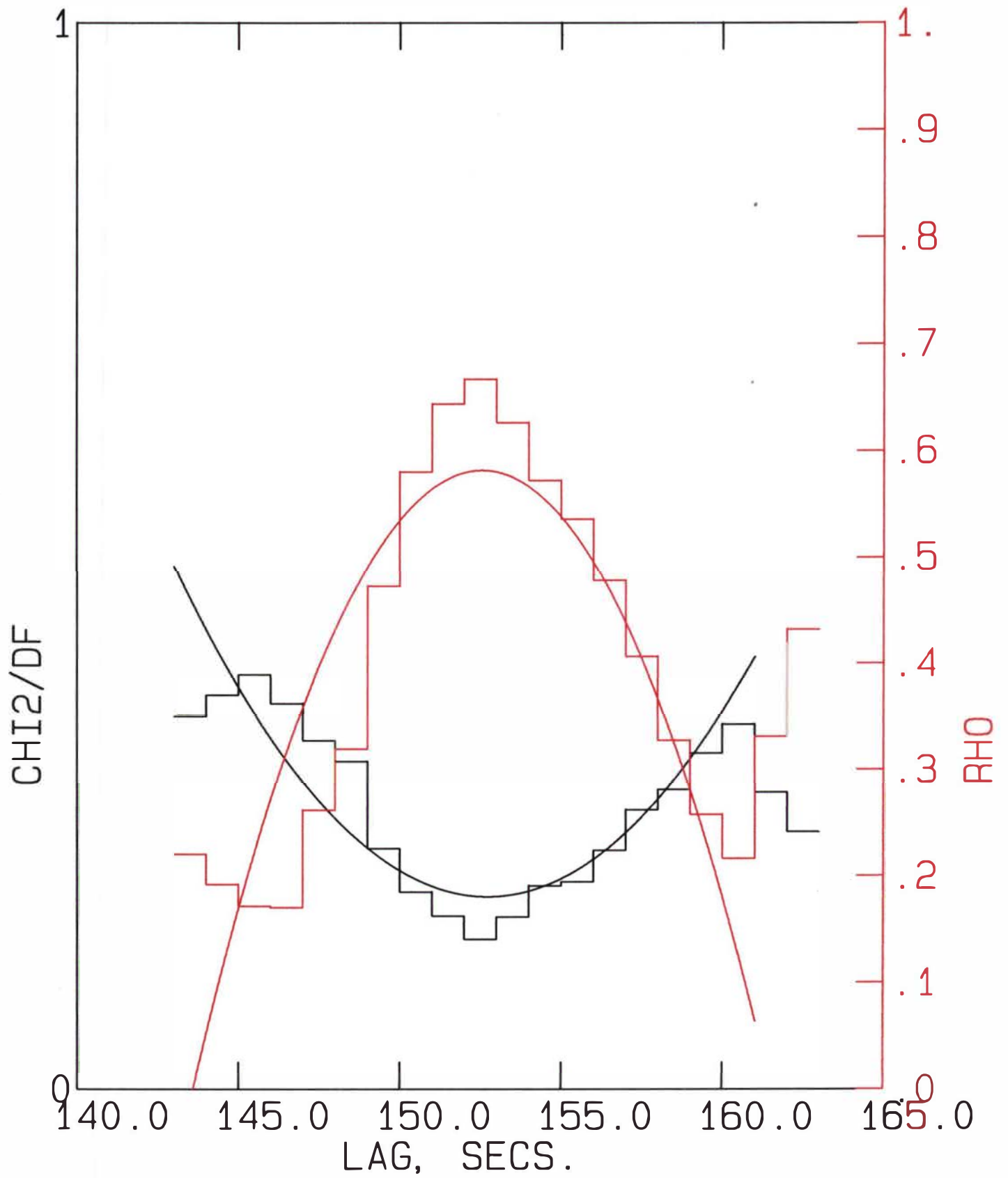












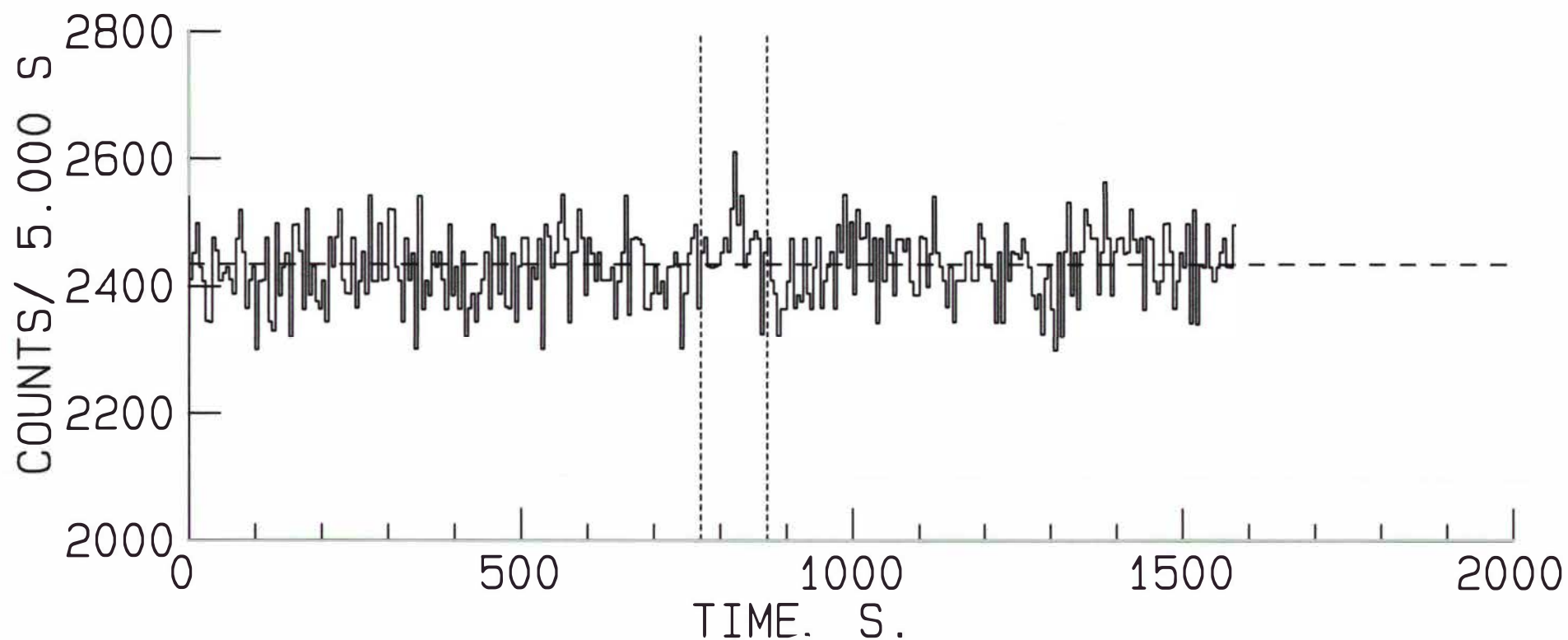
ULYSSES RT

16 / 5 / 7

21 / 5 / 99 81936.234 s

0.500 S INTERVALS REGROUPED BY 10

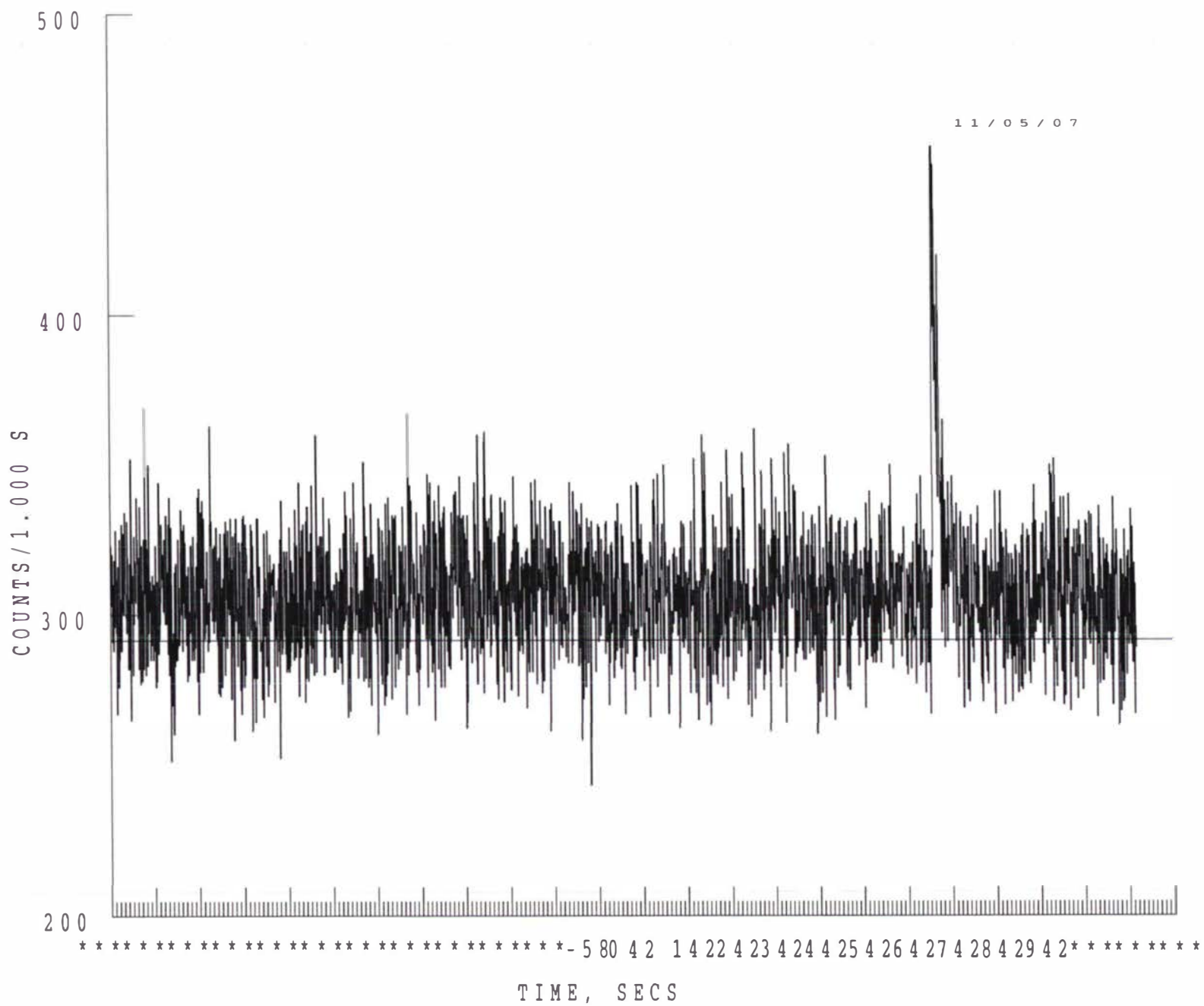
22- 151 keV



21/05/99 83569.712

100-1000 keV

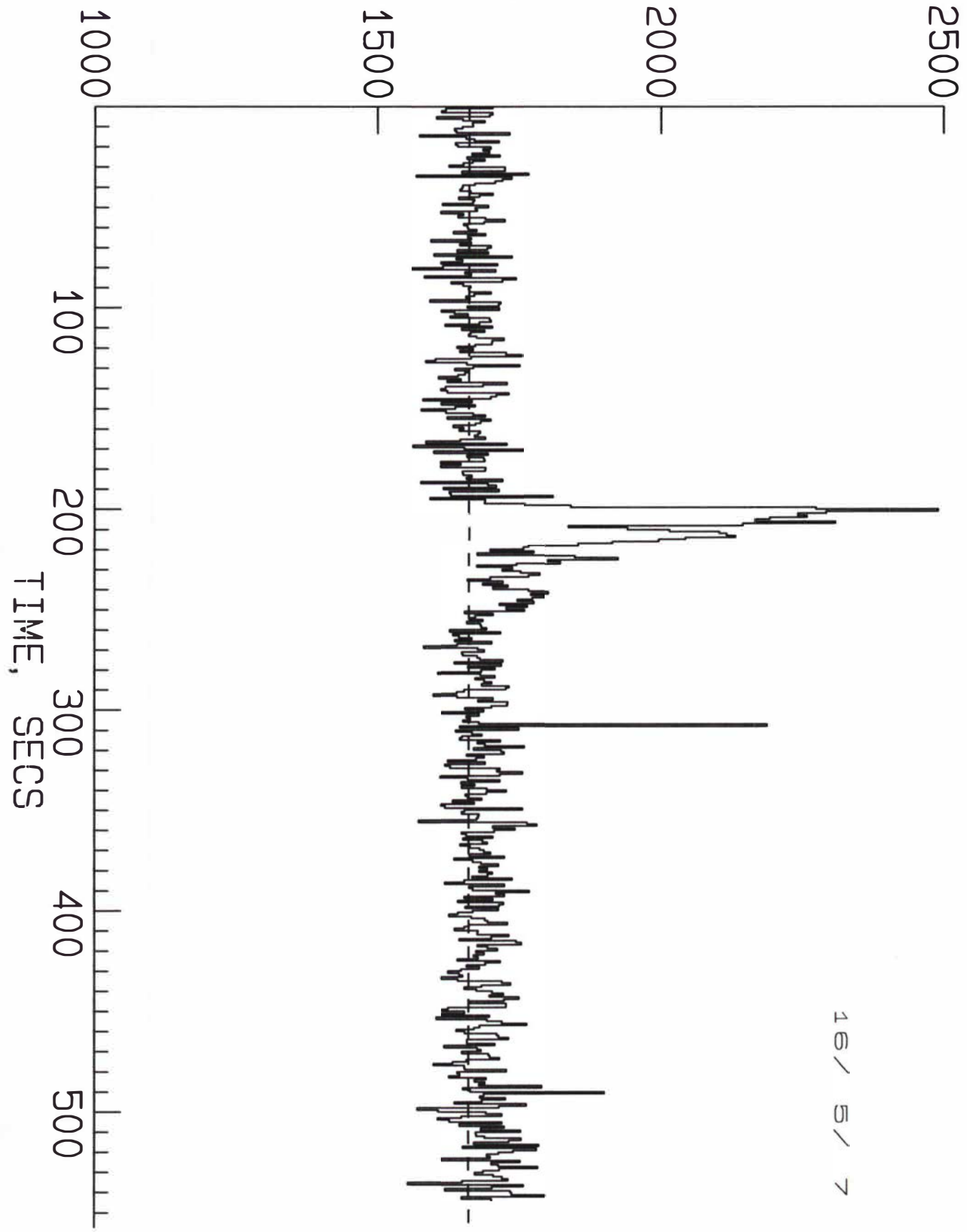
NEAR



SAX GRBM

21/05/99 83370.976
40- 700 keV

COUNTS/1.000 S

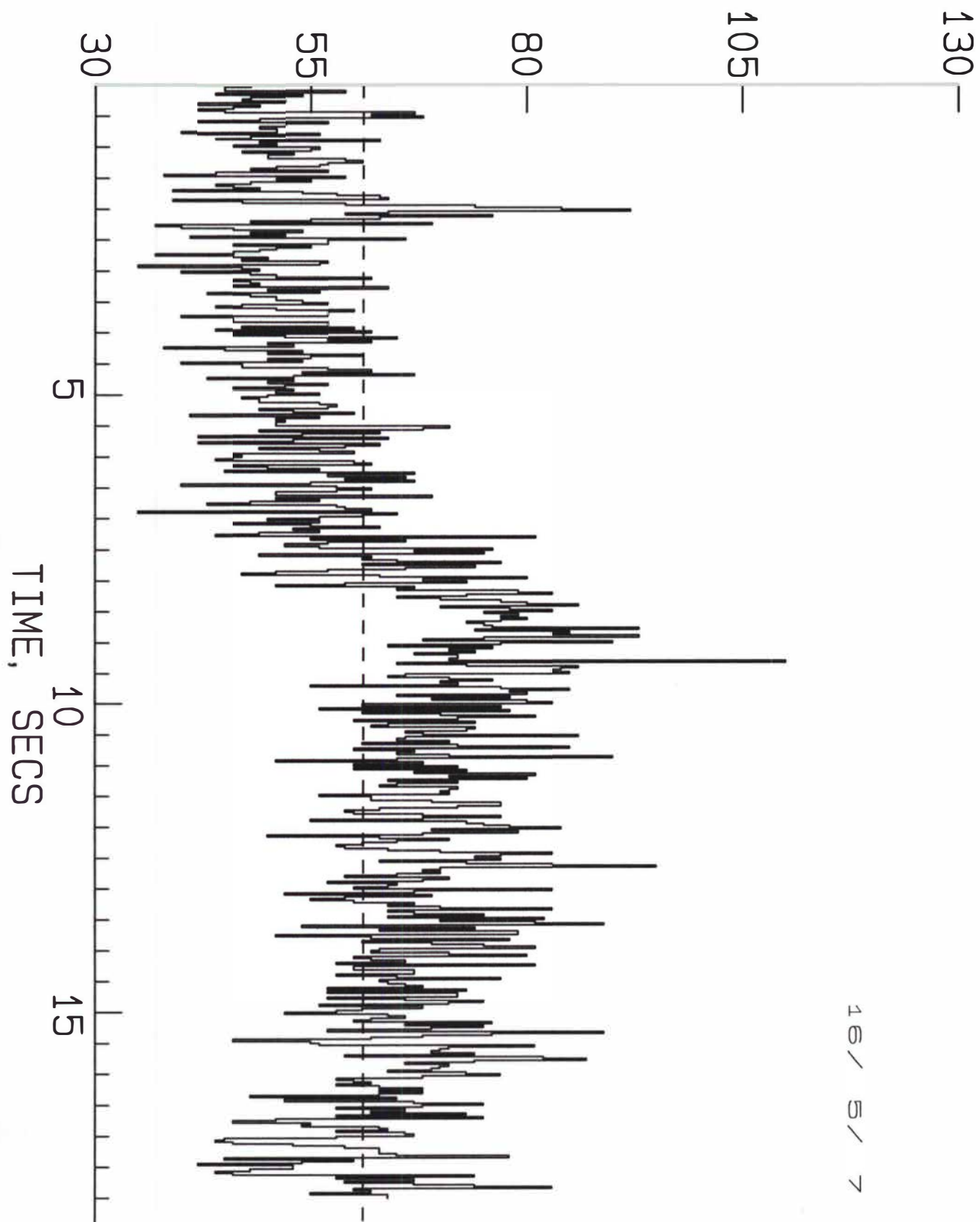


SAX GRBM

21/05/99 83562.282

40- 700 keV

COUNTS/0.031 S

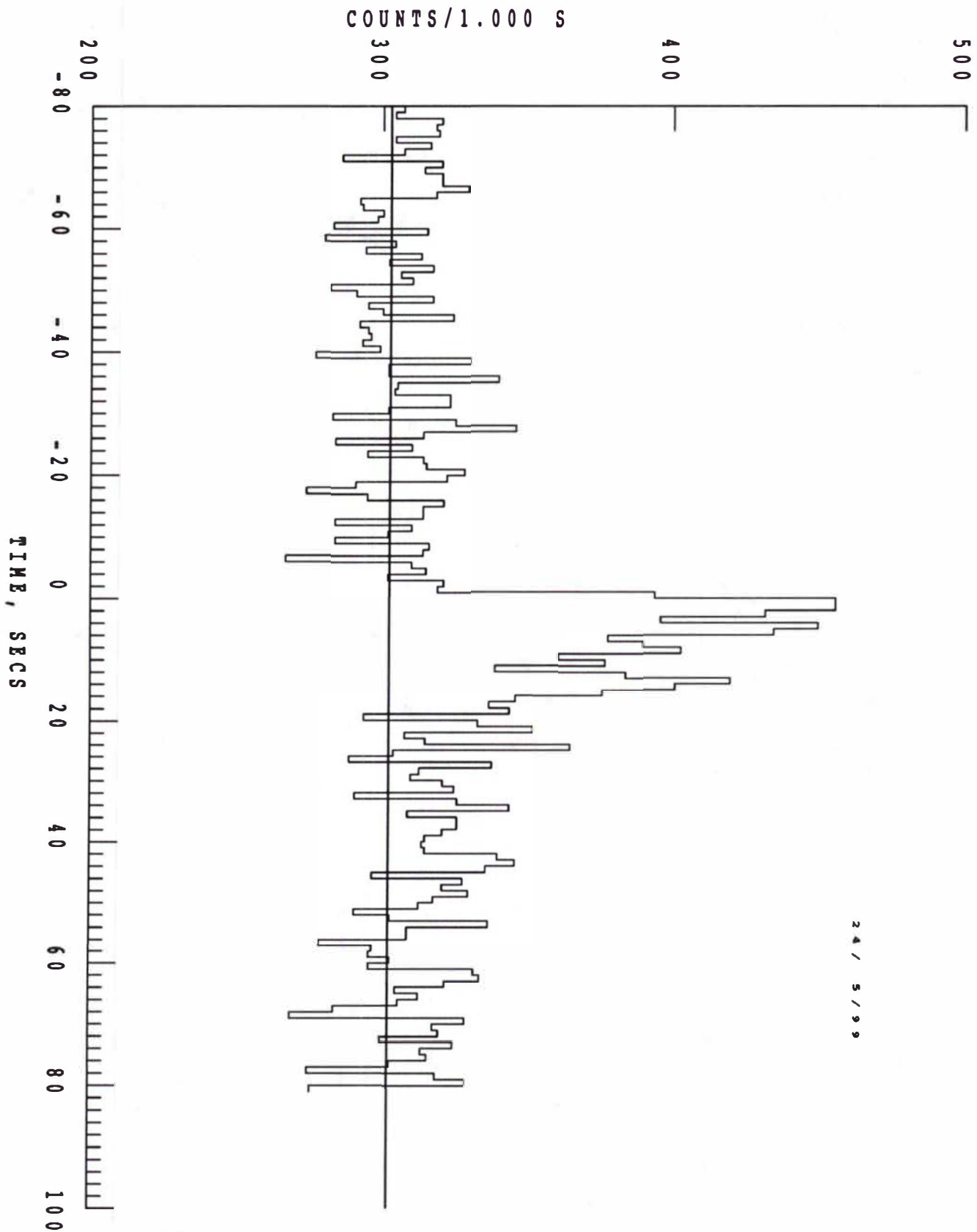


NEAR

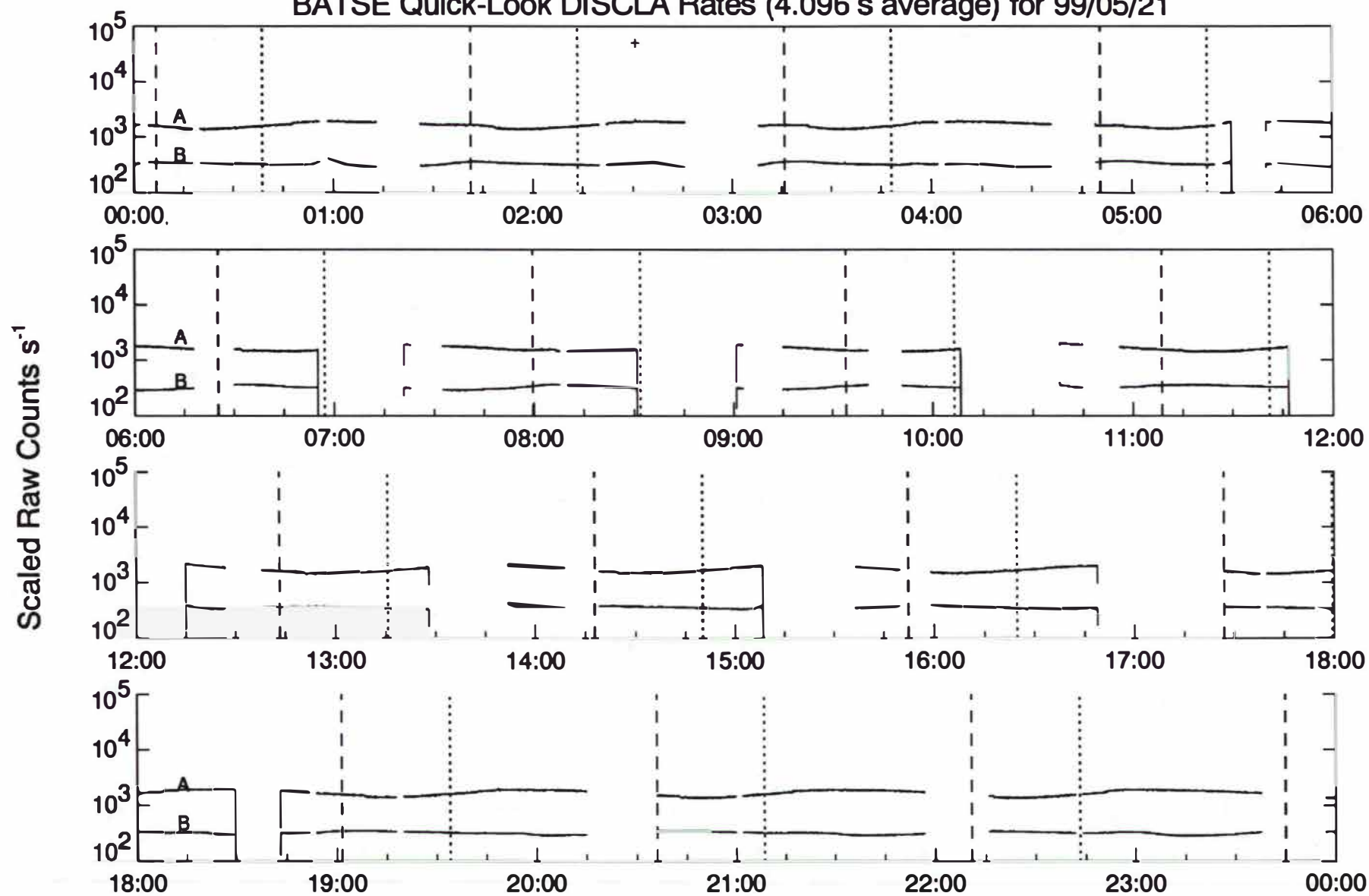
21/05/99

84268.738

100-1000 keV



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/21



Current Time: 99/05/25, 1006 EDT

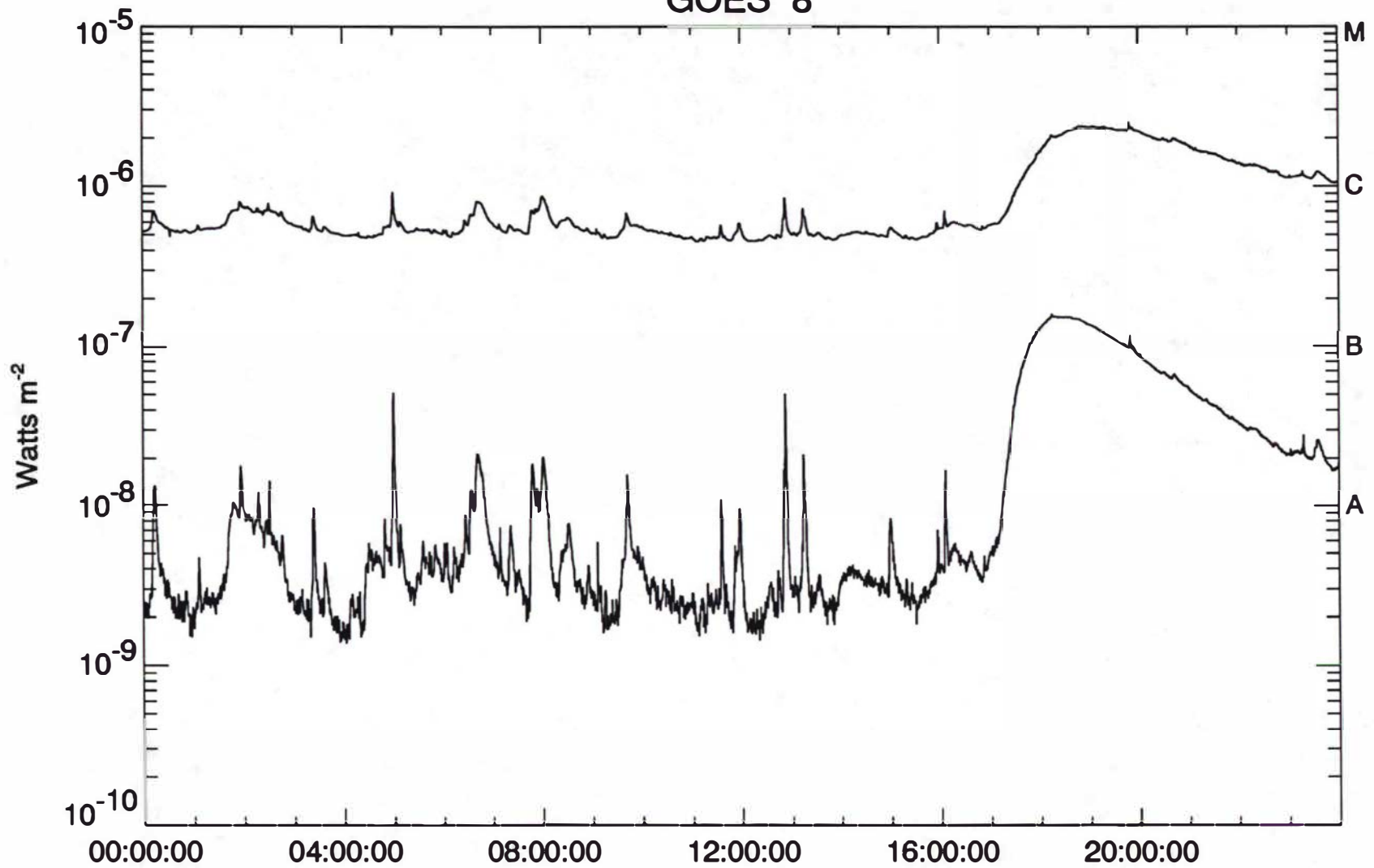
A: Channel 0 Most Sunward LAD

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

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8



Data Start: 99/05/21, 0000:00

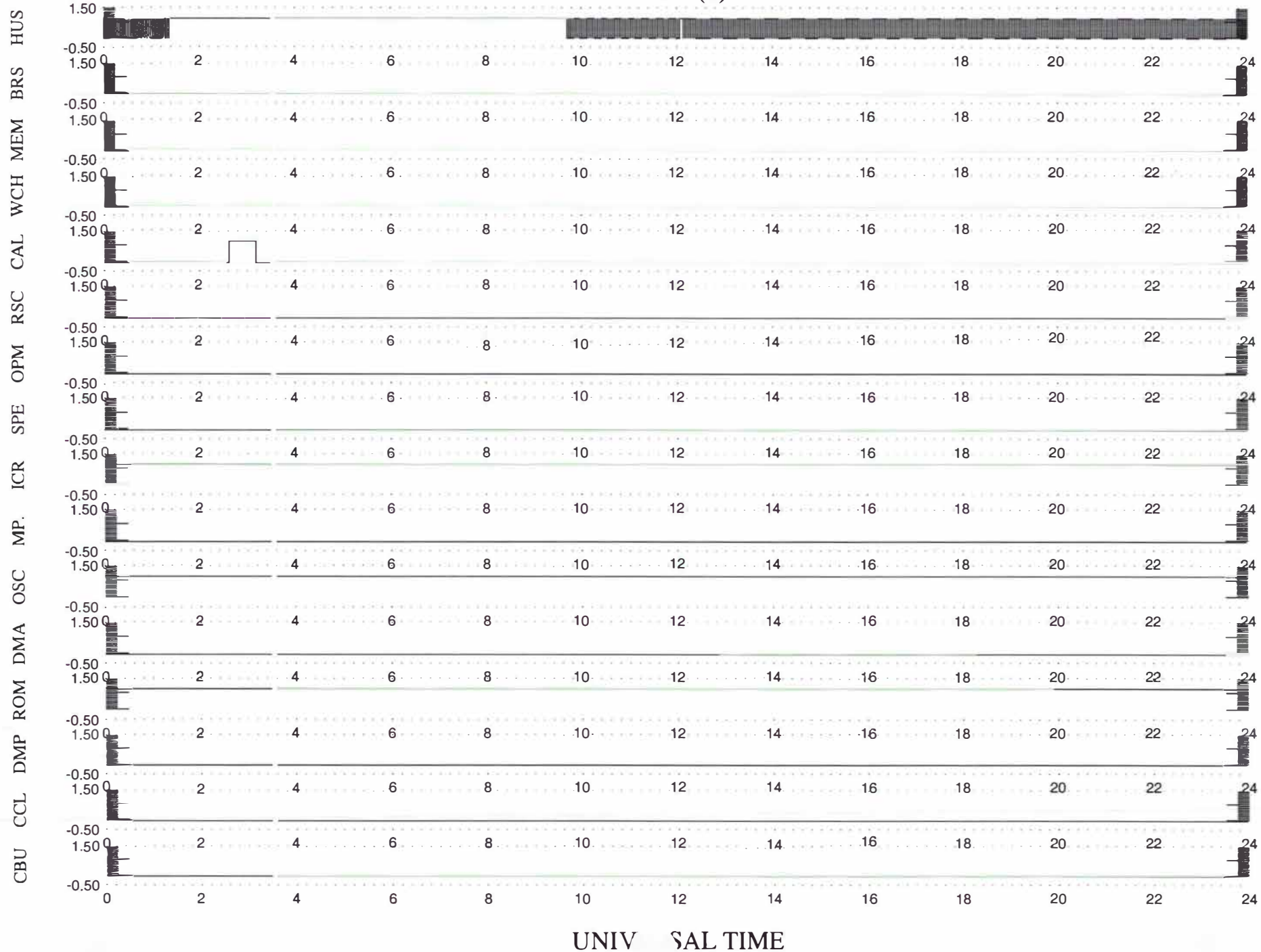
Plot created: 99/05/25, 1006

Channel 1 (1.0 - 8.0 Angstroms) Background not subtracted

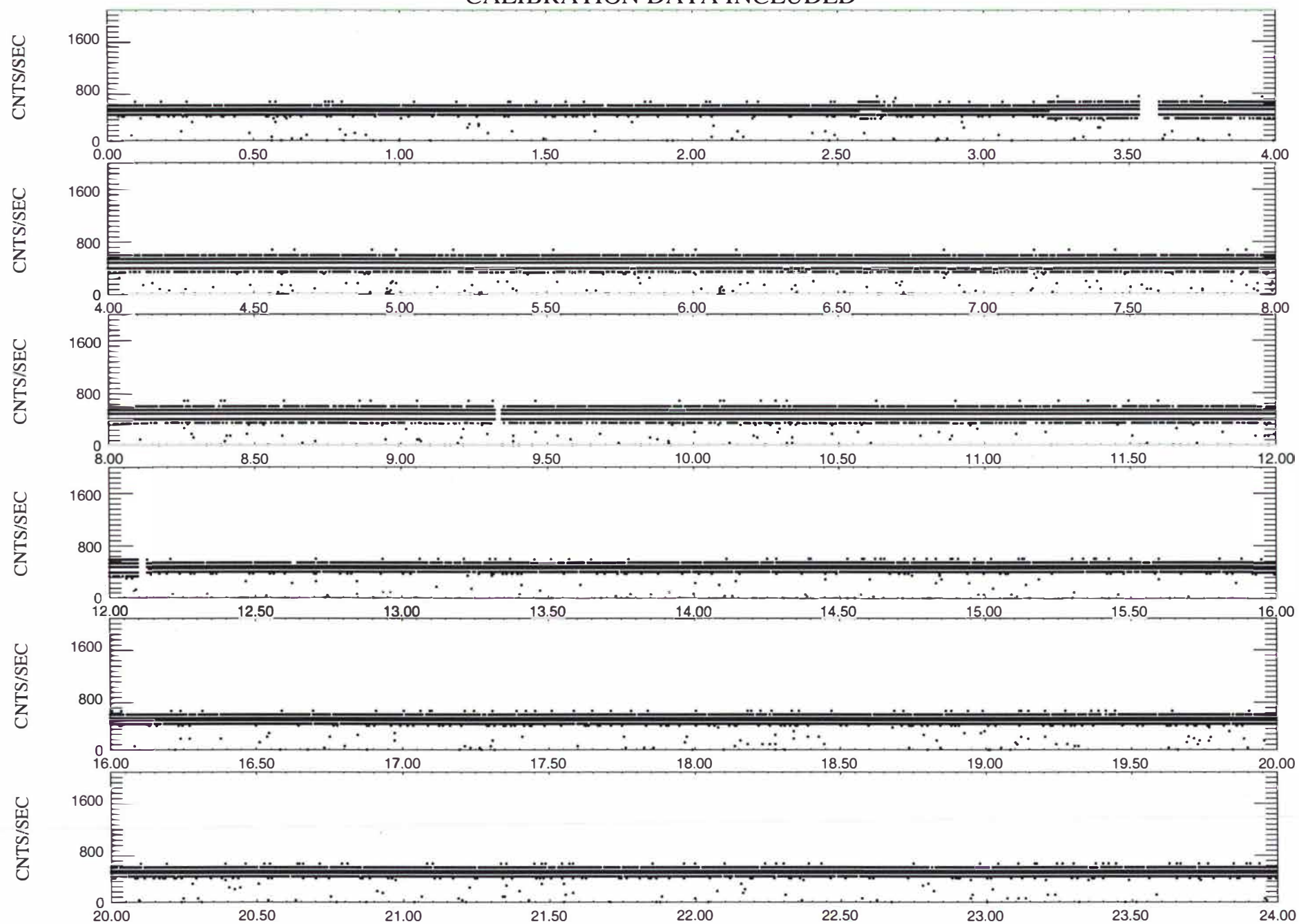
Channel 2 (0.5 - 4.0 Angstroms) Background not subtracted

Sample average = 10

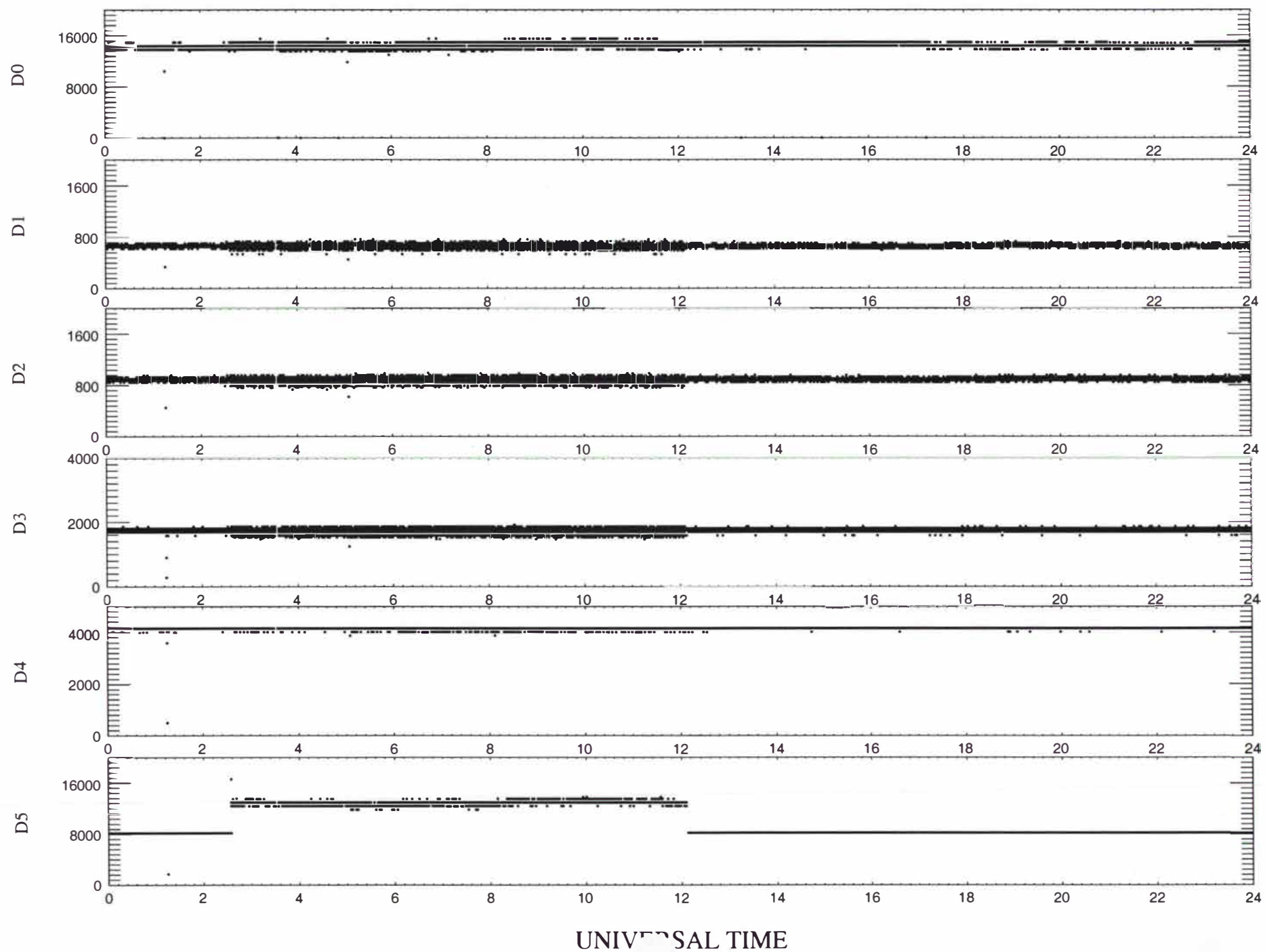
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Mon May 24 11:07:34 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 LAA08717; Mon, 24 May 1999 11:07:34 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA01016
for <khurley@sunspot.ssl.berkeley.edu>; Mon, 24 May 1999 11:04:30 -0700 (PDT)
Date: Mon, 24 May 1999 13:07:58 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990524130758.2080021b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7578
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7578
EVENT OF 1999 MAY 22 DAY OF YEAR=142
EVENT CROSSING TIME AT BATSE : 15225. S. OR 04:13:45.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 39.000 27.000
BATSE PEAK COUNTING RATE: 30000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 22/ 5/ 99 IS:
RA= 144.030 DEC= -6.840 DIST= 4.840 AU
BATSE-ULYSSES DISTANCE = 724012733. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 73.53 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 684.62 SECS.
CROSSING TIME AT ULYSSES IS 15910. S. OR 04:25:09 +/- 462.49 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 22/ 5/ 99 IS:
RA= 203.822 DEC= -9.746 DIST= 0.615 AU
MARS-BATSE DISTANCE = 91966008. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 22.43 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 283.56 SECS.
CROSSING TIME AT MARS IS 15509. S. OR 04:18:28 +/- 24.63 SECONDS

BATSE BURST TRIGGER

NO.: 7578

TIME: TJD=1320 SECONDS=15225

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=54.9 AZIMUTH=325.6 ERROR=0.7 DEGREES

COMMENTS:

GRB. TWO PULSES WITH STRUCTURE. DURATION APPROX. = 7 SEC.
VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7578	990522	11320	15225	30000	039	+27	7

Date: 29 Feb 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?

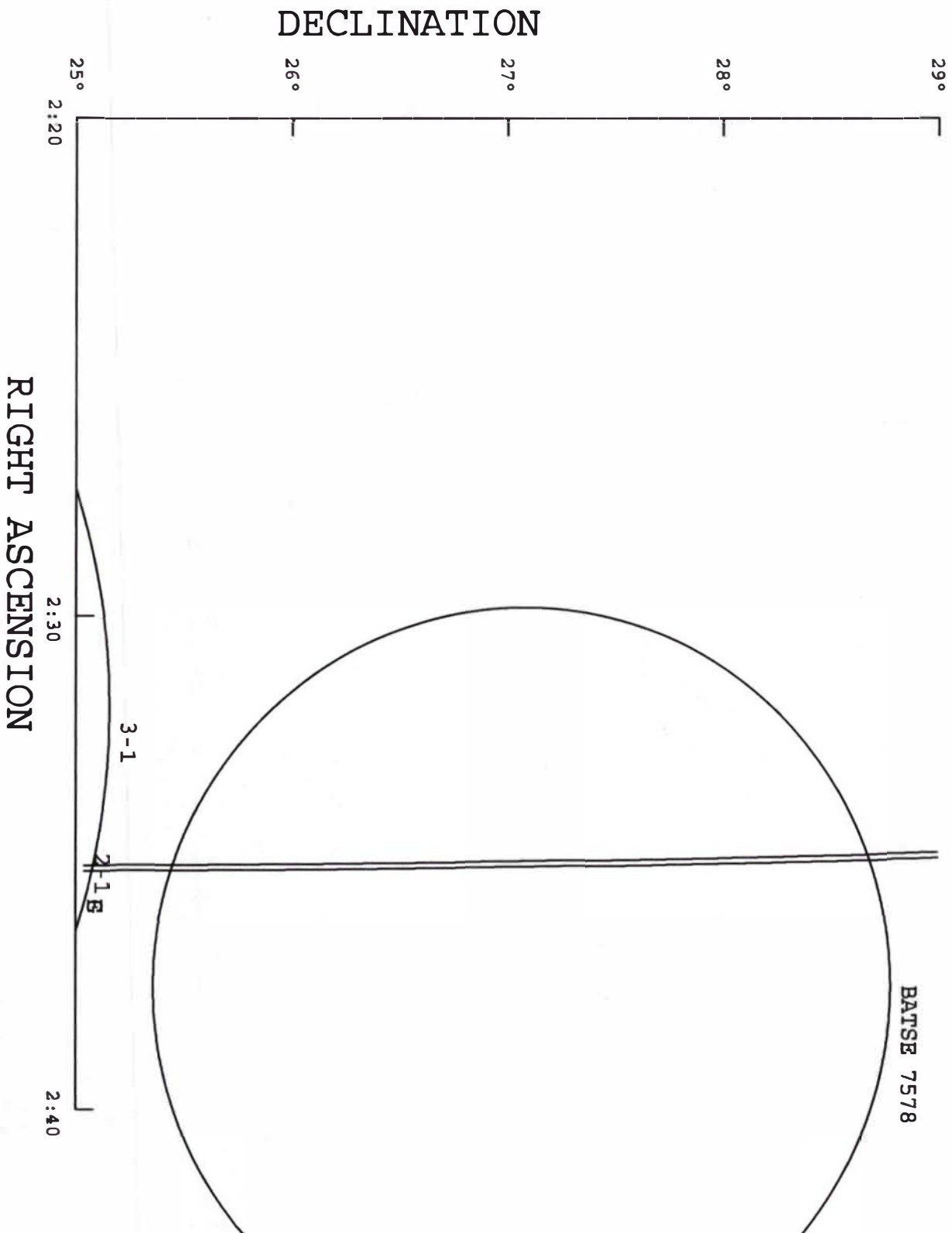
3. NEAR Data

- ☒ 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?
- ☒ 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 MAY 22, 1999 4:13

29 / 2 / 0



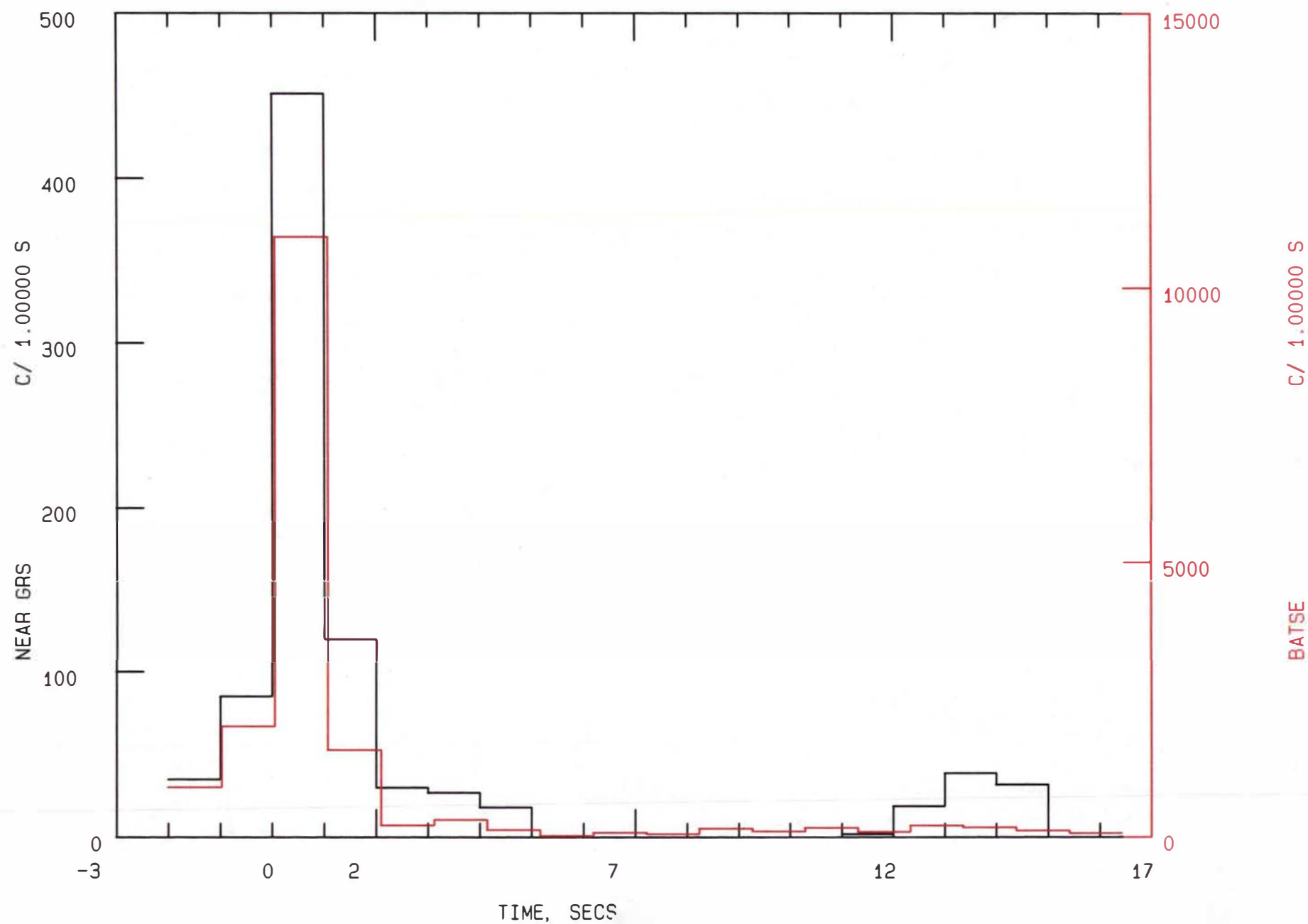
NEAR GRS -BATSE

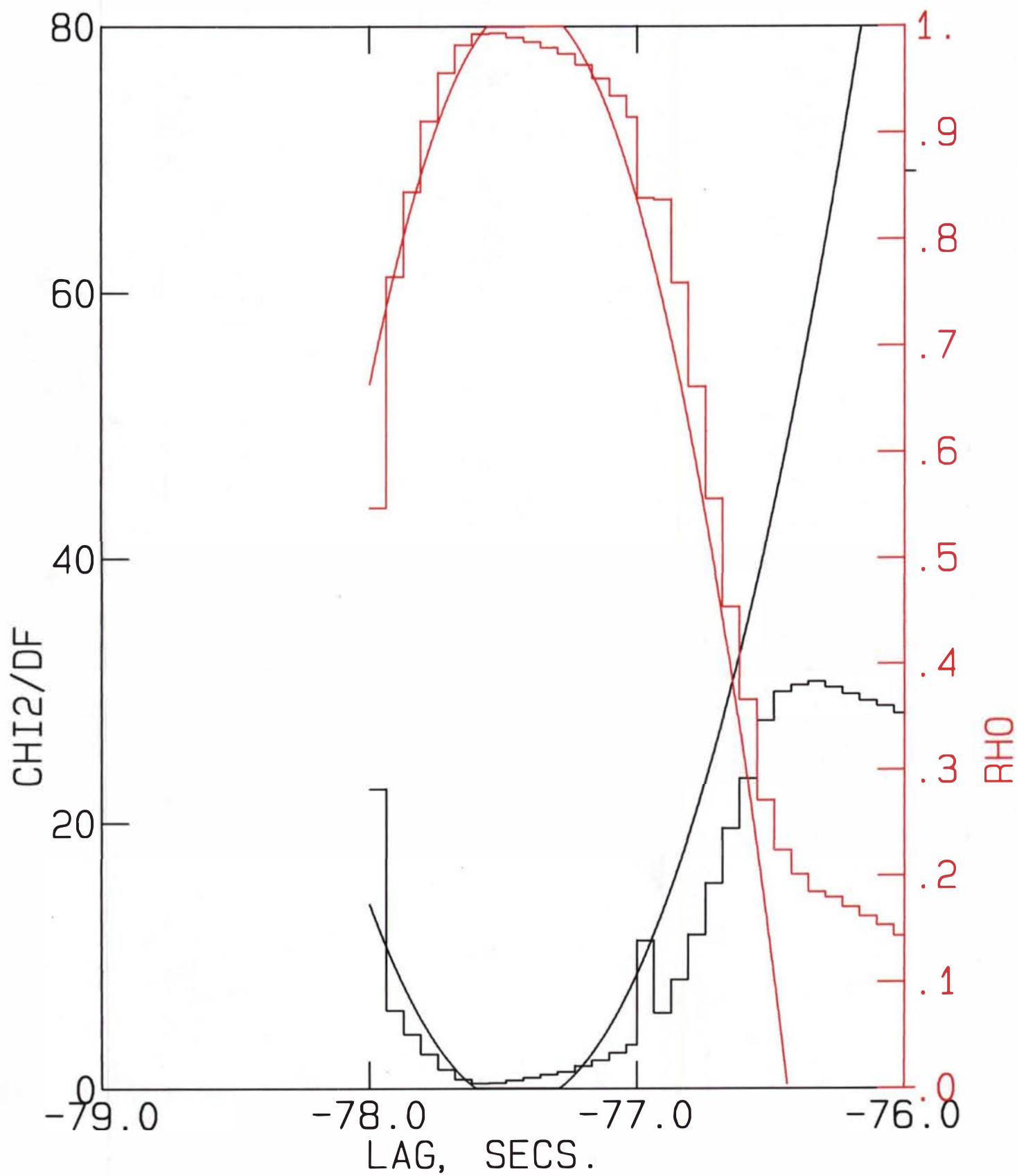
CORRELATION

22/05/99

14071.734

29/ 2/ 0





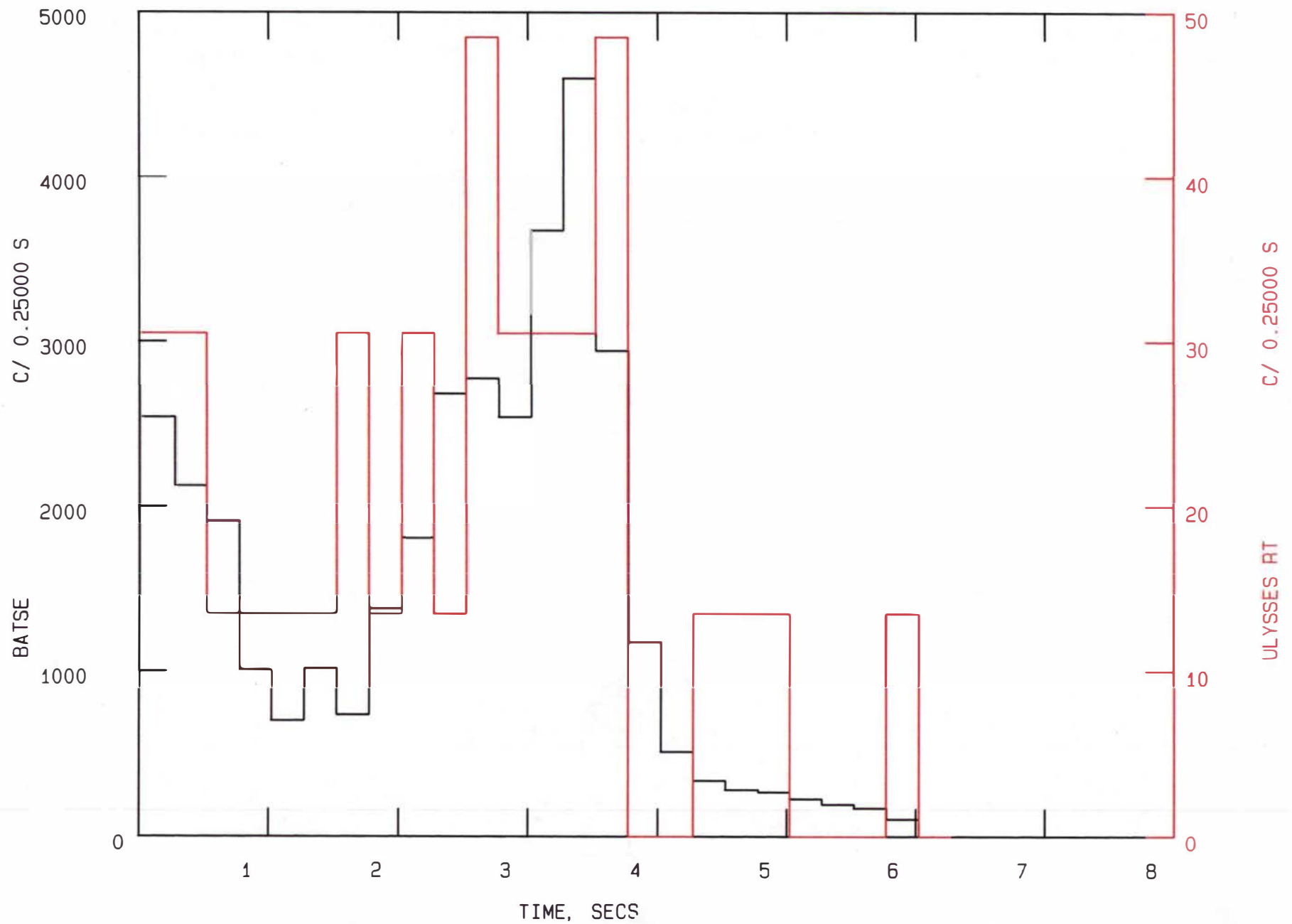
BATSE

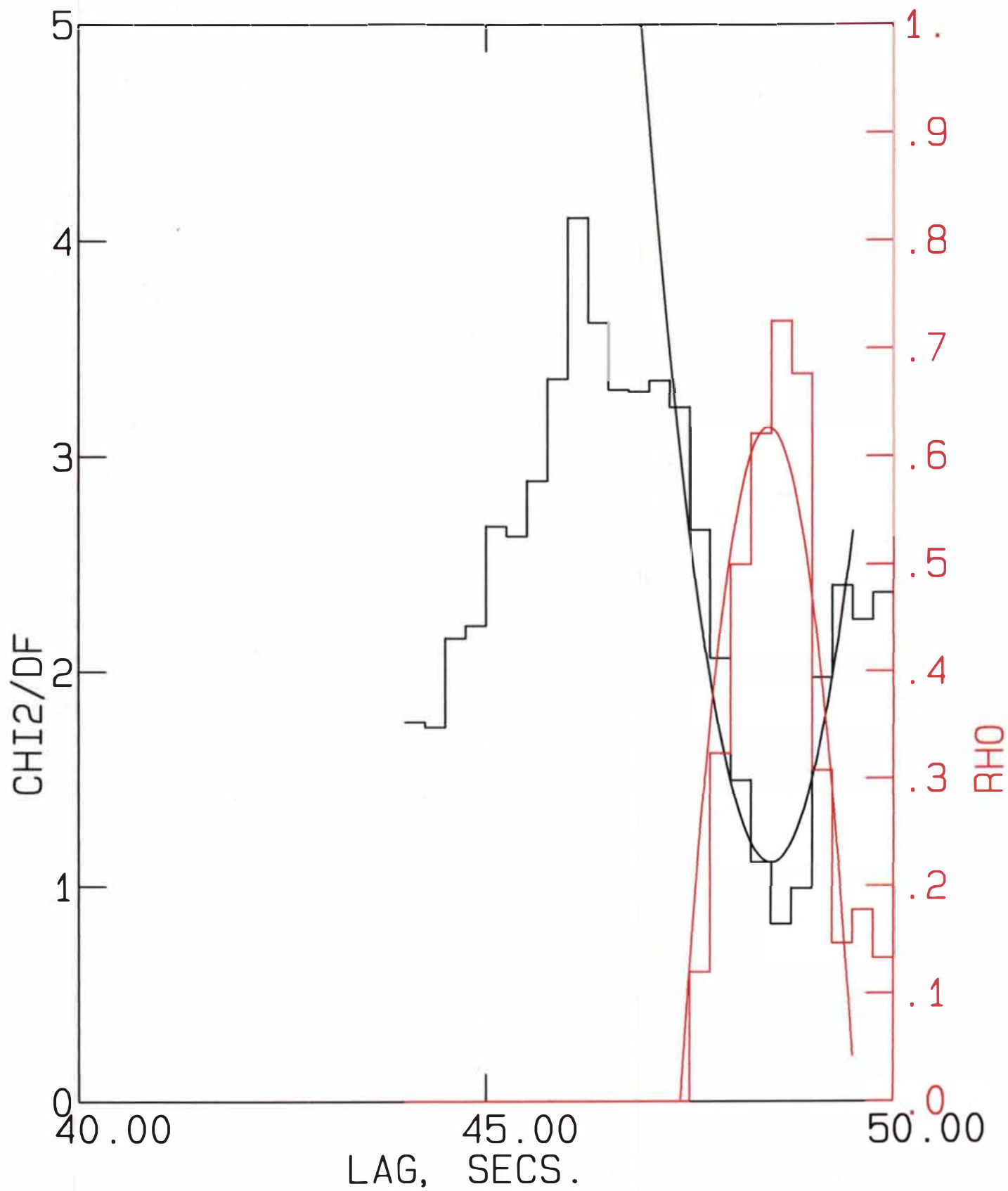
-ULYSSES RT CORRELATION

22/ 5/99

15225.209

29/ 2/ 0

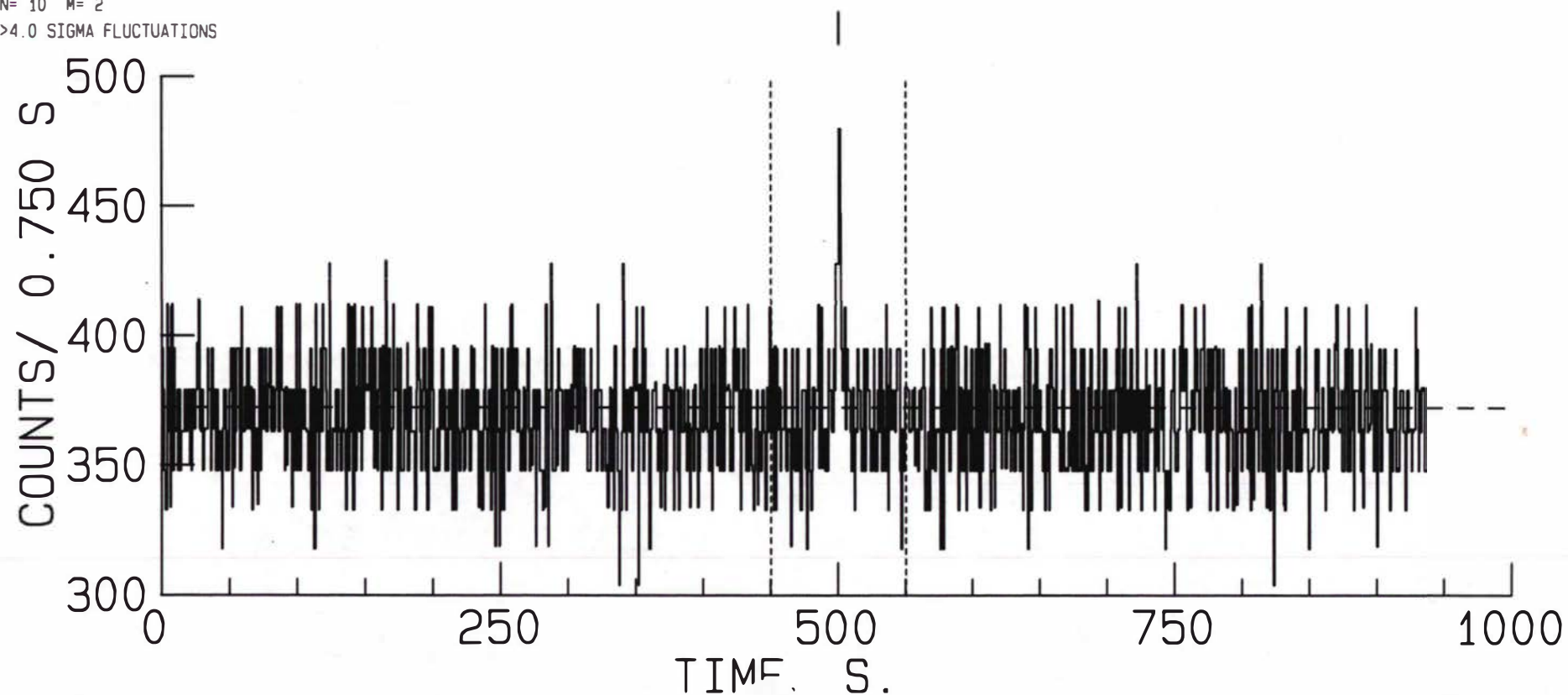




ULYSSES RT
22/ 5/99 15444.188 s
0.250 S INTERVALS REGROUPED BY 3
22- 150 keV

29/ 2/ 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



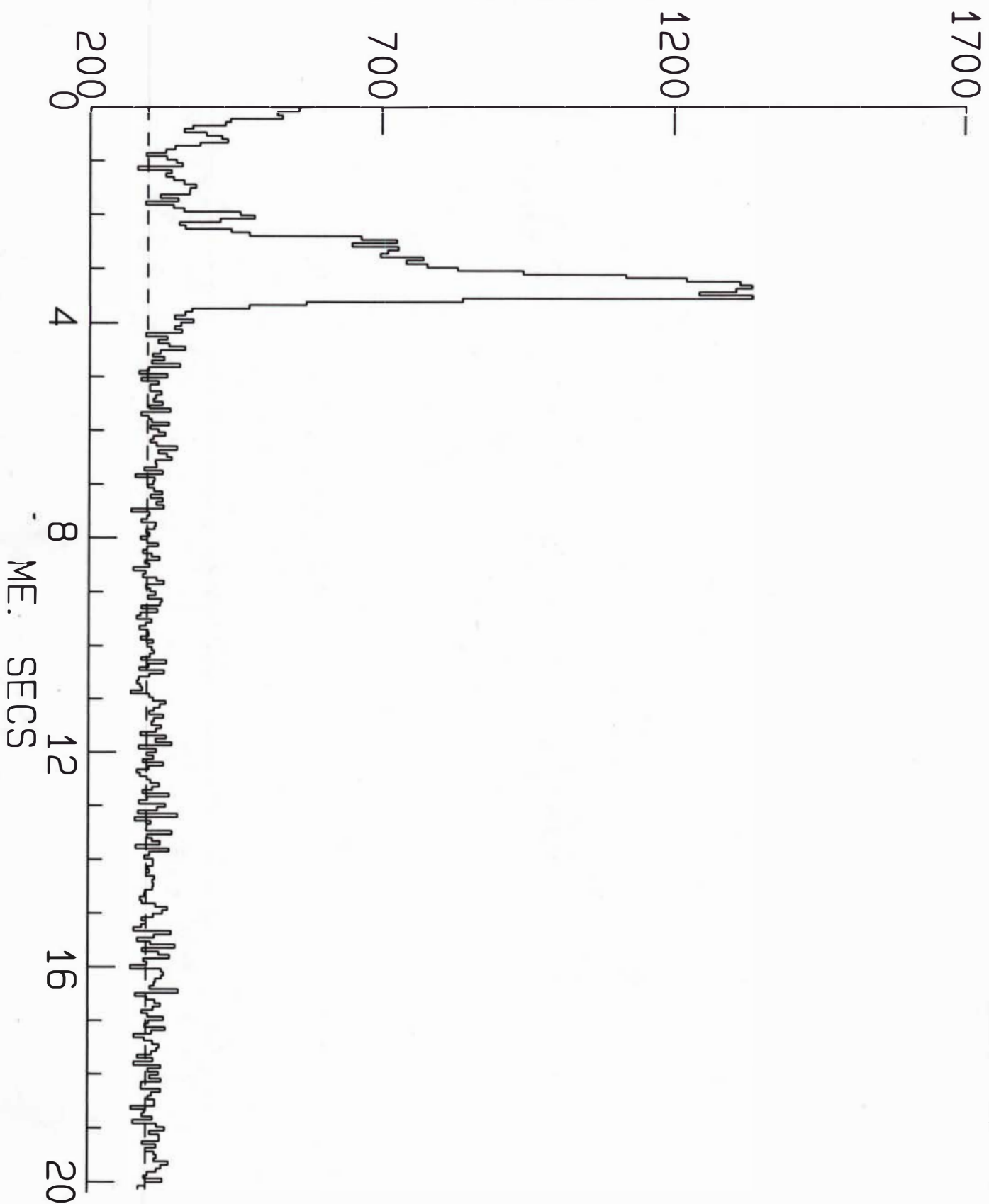
BATSE

22/05/99

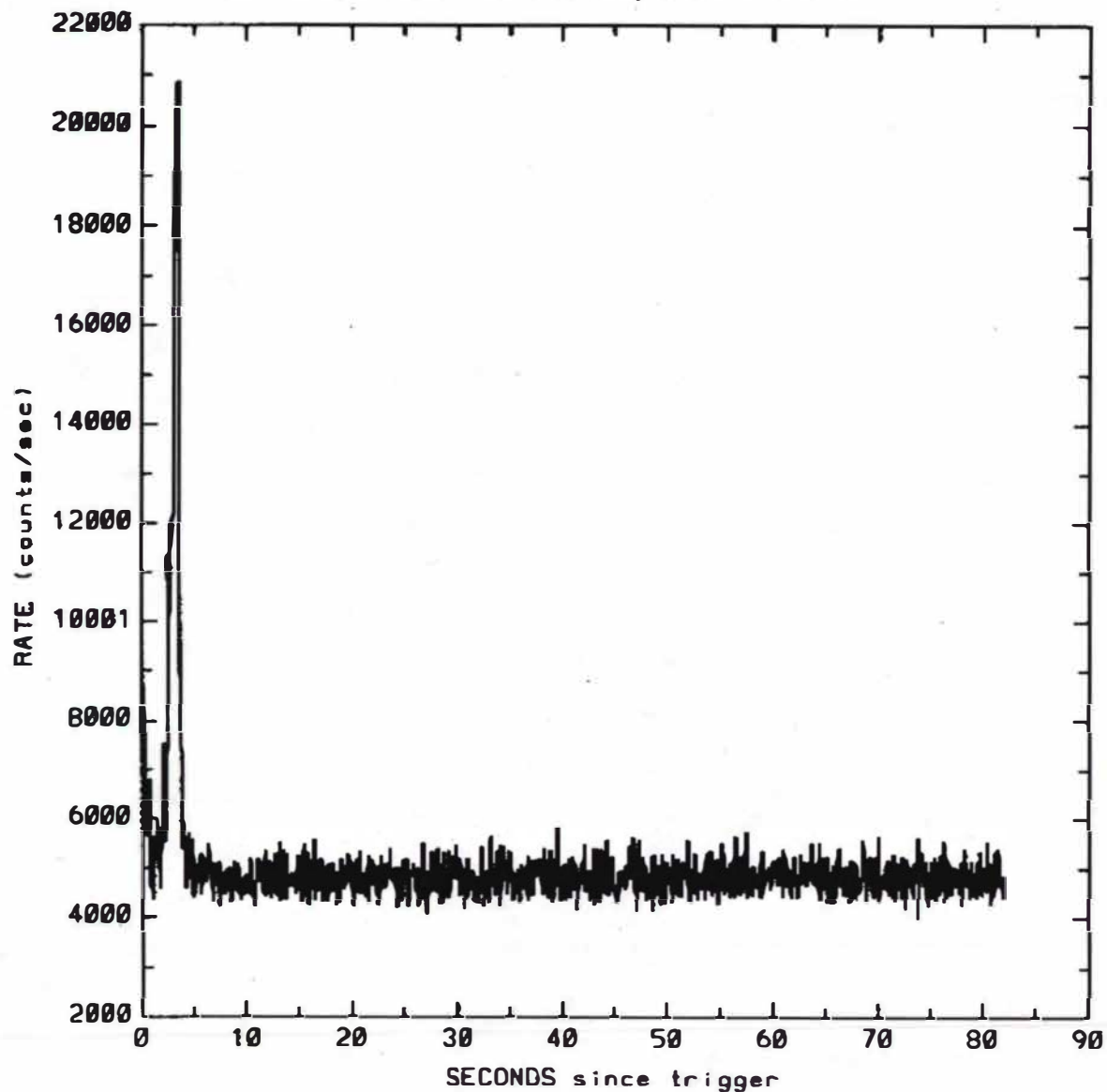
15225.209

100-1000 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7578



24-FEB-2000 12:37:47

Created by MDPS BD
(Burst Display)
Version 12.26

Trigger # : 7578

Trigger Time:
11320 / 15225.200Burst Data Type:
MERDeadtime
Corrected: NBackground Data
Type: CONTMinimum Integ. Time:
0.064 second(s)Detectors [7..8]:
----32-0Channels:
(7 .15)Quality Mask:
BDISP1

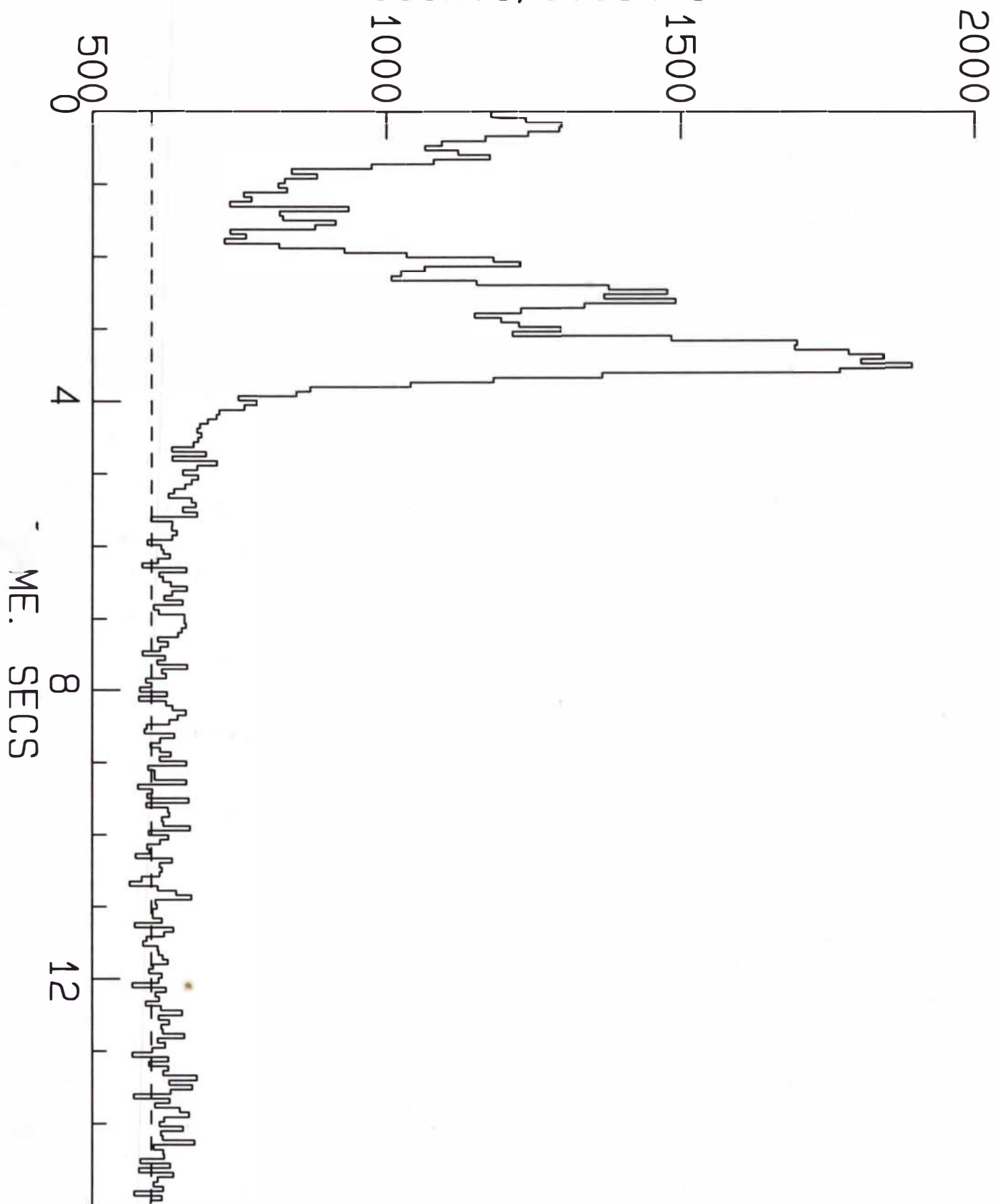
BATSE

22/05/99

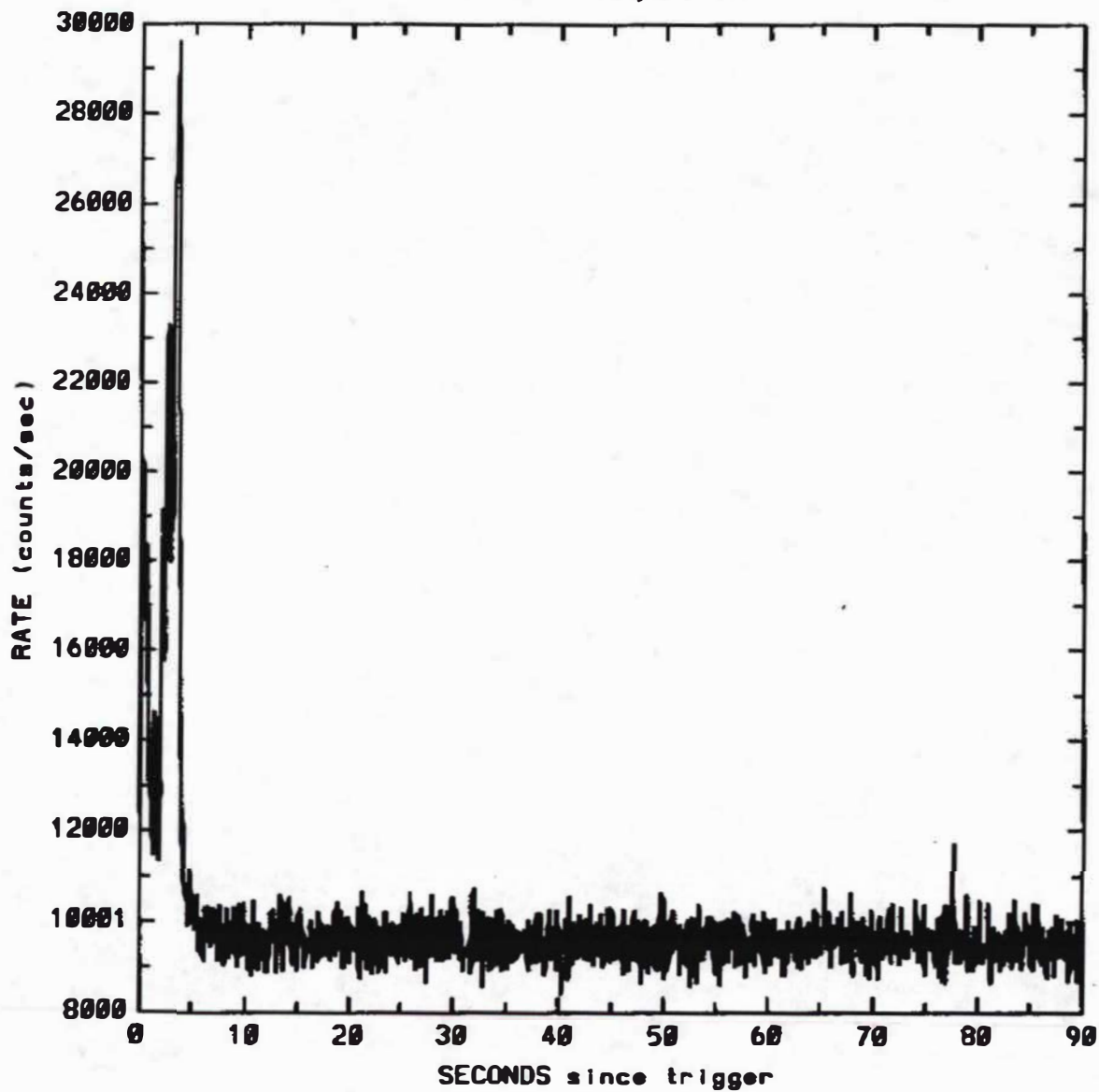
15225.209

25- 100 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7578



4-JUN-1999 11:37:48

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # : 7578

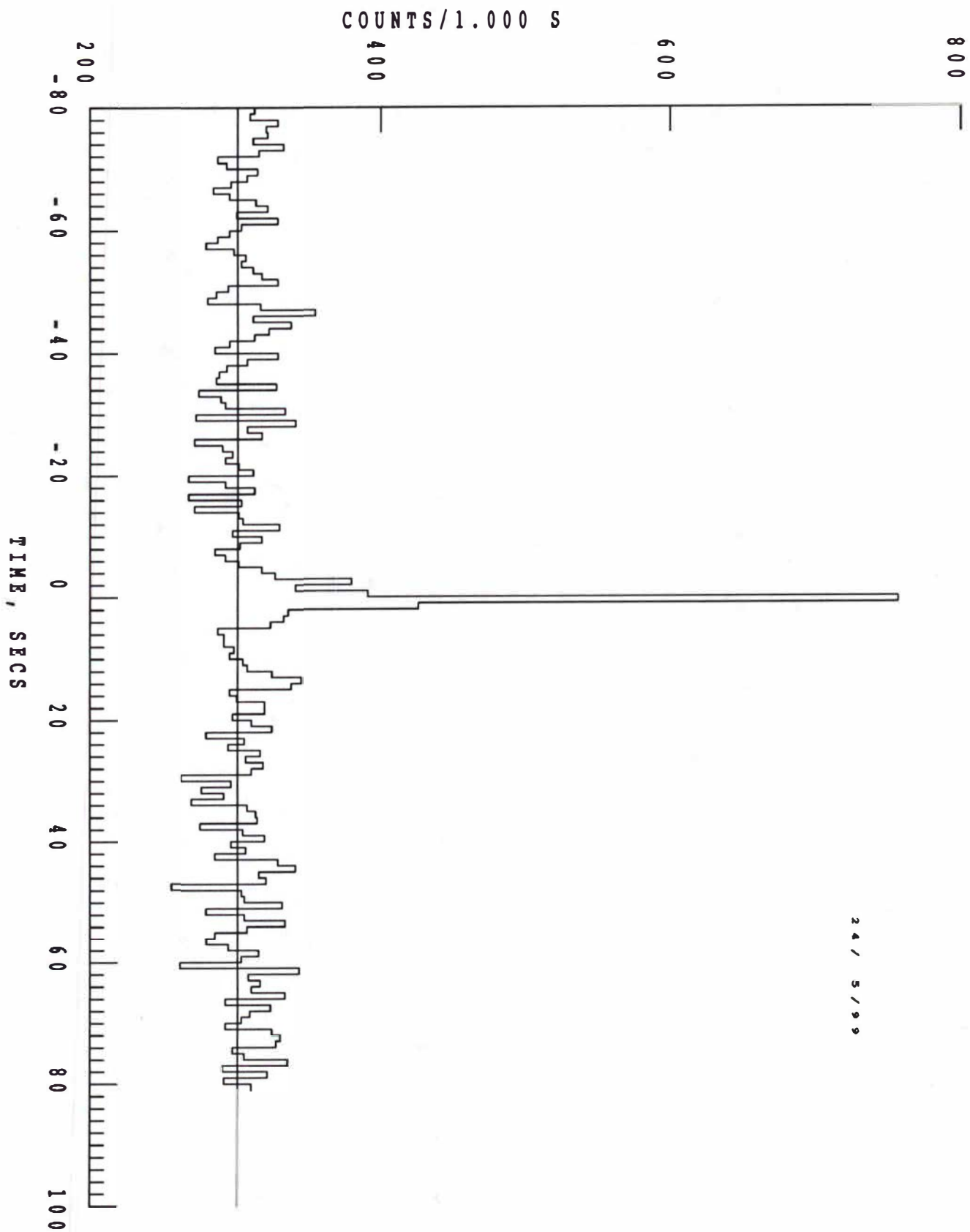
Trigger Time:
11320 / 15225.289Burst Data Type:
MERDeadtime
Corrected: NBackground Data
Type: CONTMinimum Integ. Time:
0.064 secondsDetectors (7..0):
----32-0Channels:
(0 . 6)Quality Mask:
80ISP1

NEAR

22/05/99

14071.734

100-1000 keV



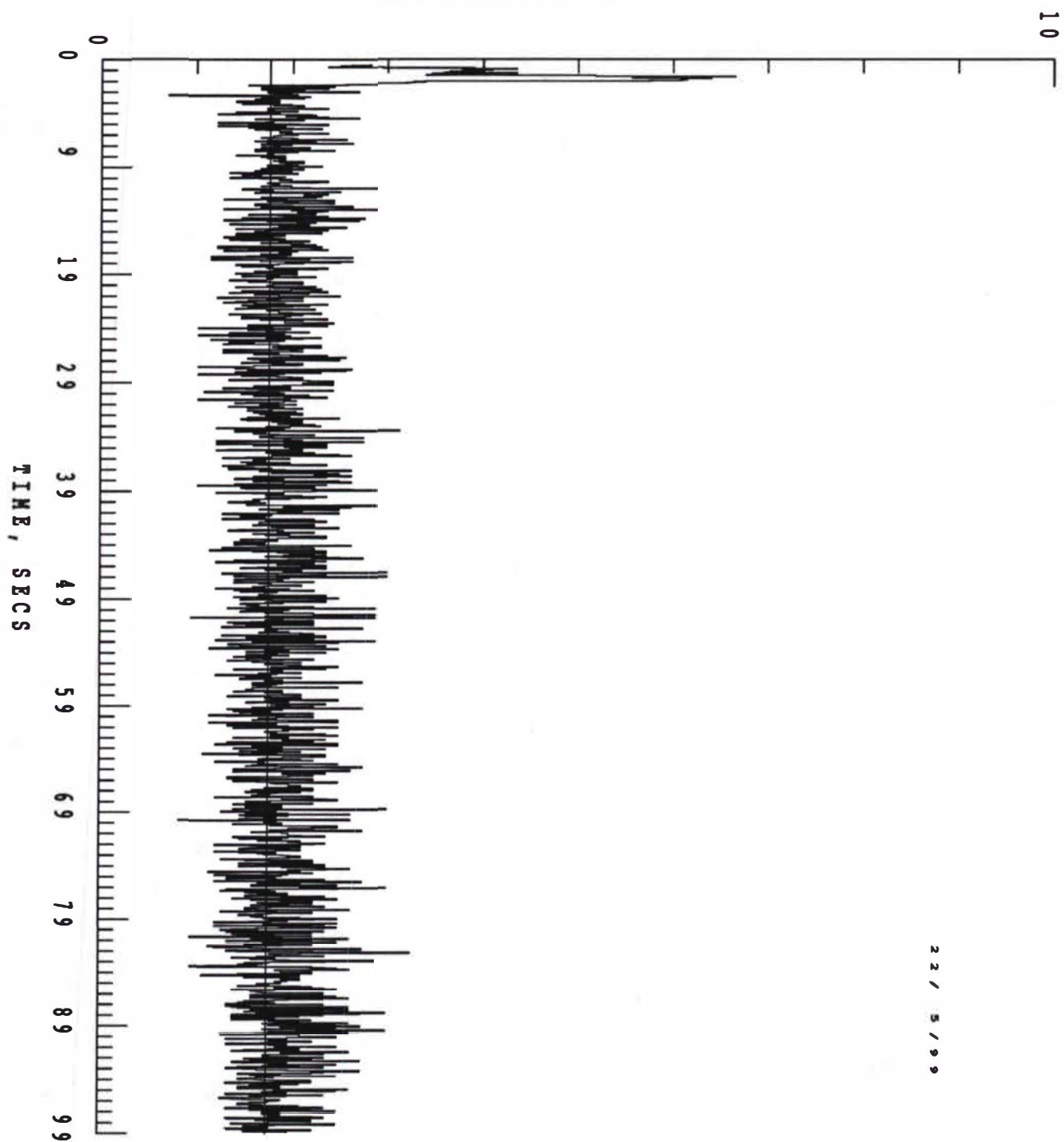
KONUS

22/05/99

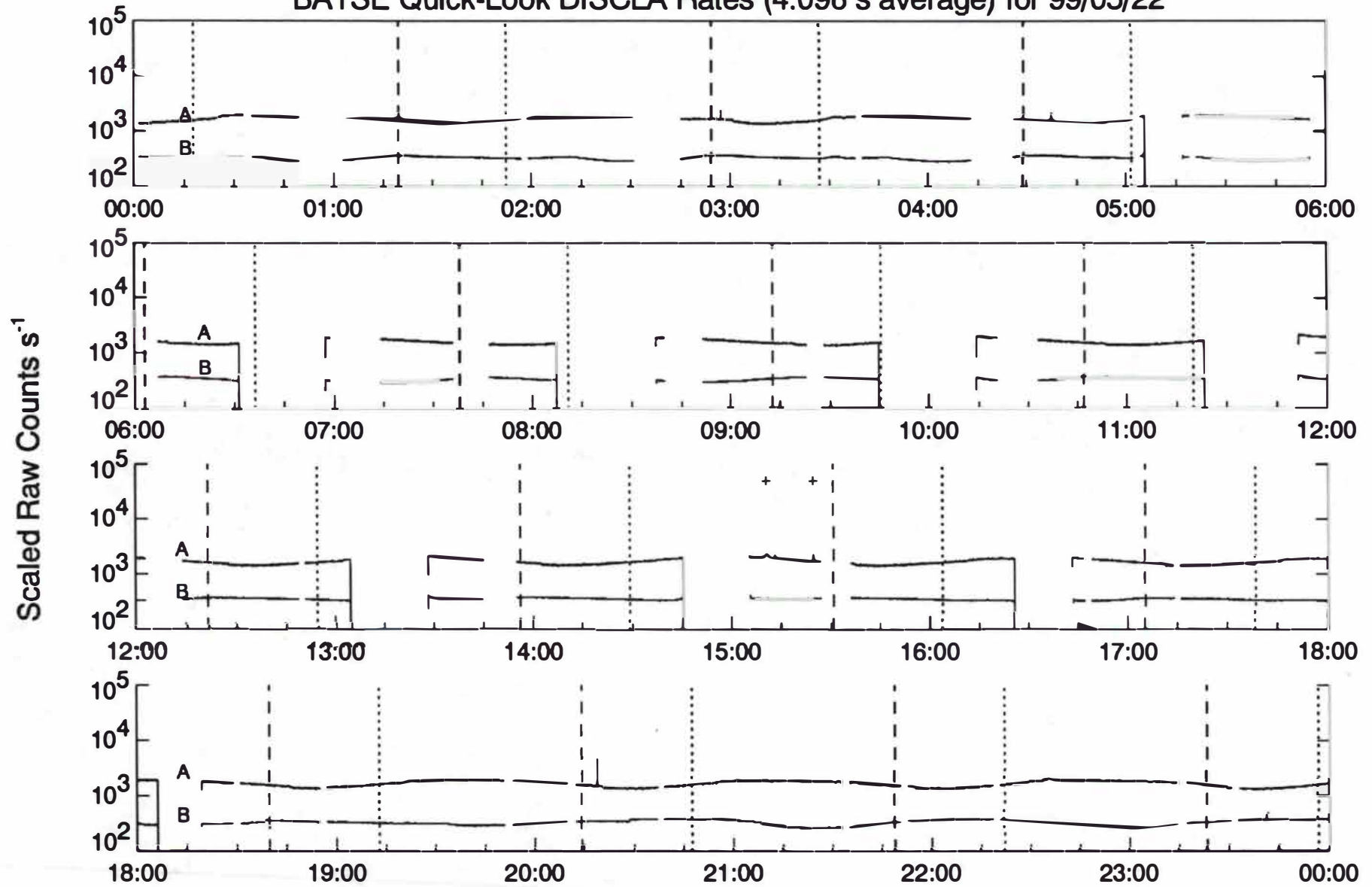
15224.963

50 - 200 keV

COUNTS/0.064 S



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/22

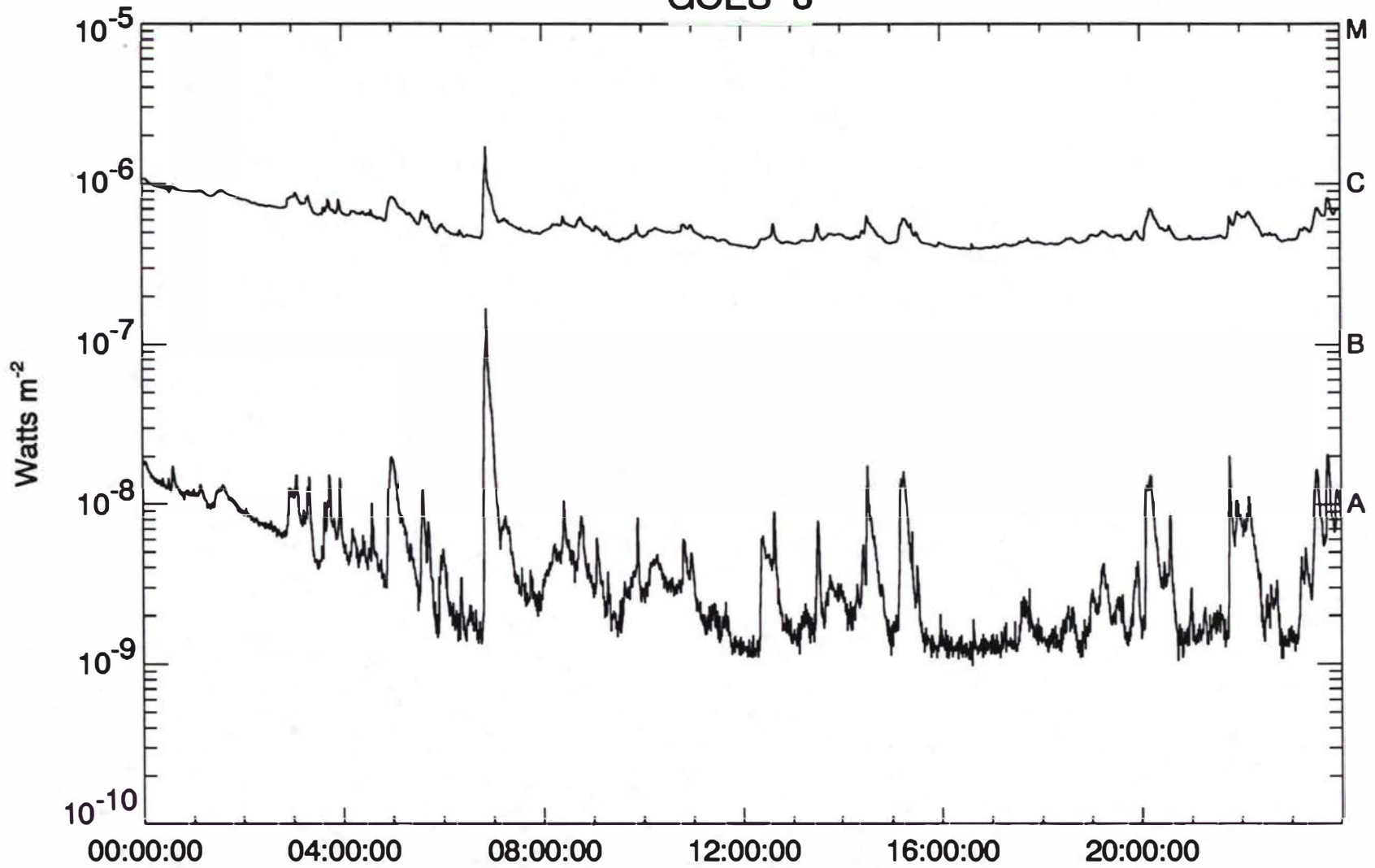


Current Time: 99/05/26, 1007 EDT
A: Channel 0 Most Sunward LAD
B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
Dashed line: Night entry

* Solar Burst Trigger
+ Solar Flare

GOES 8

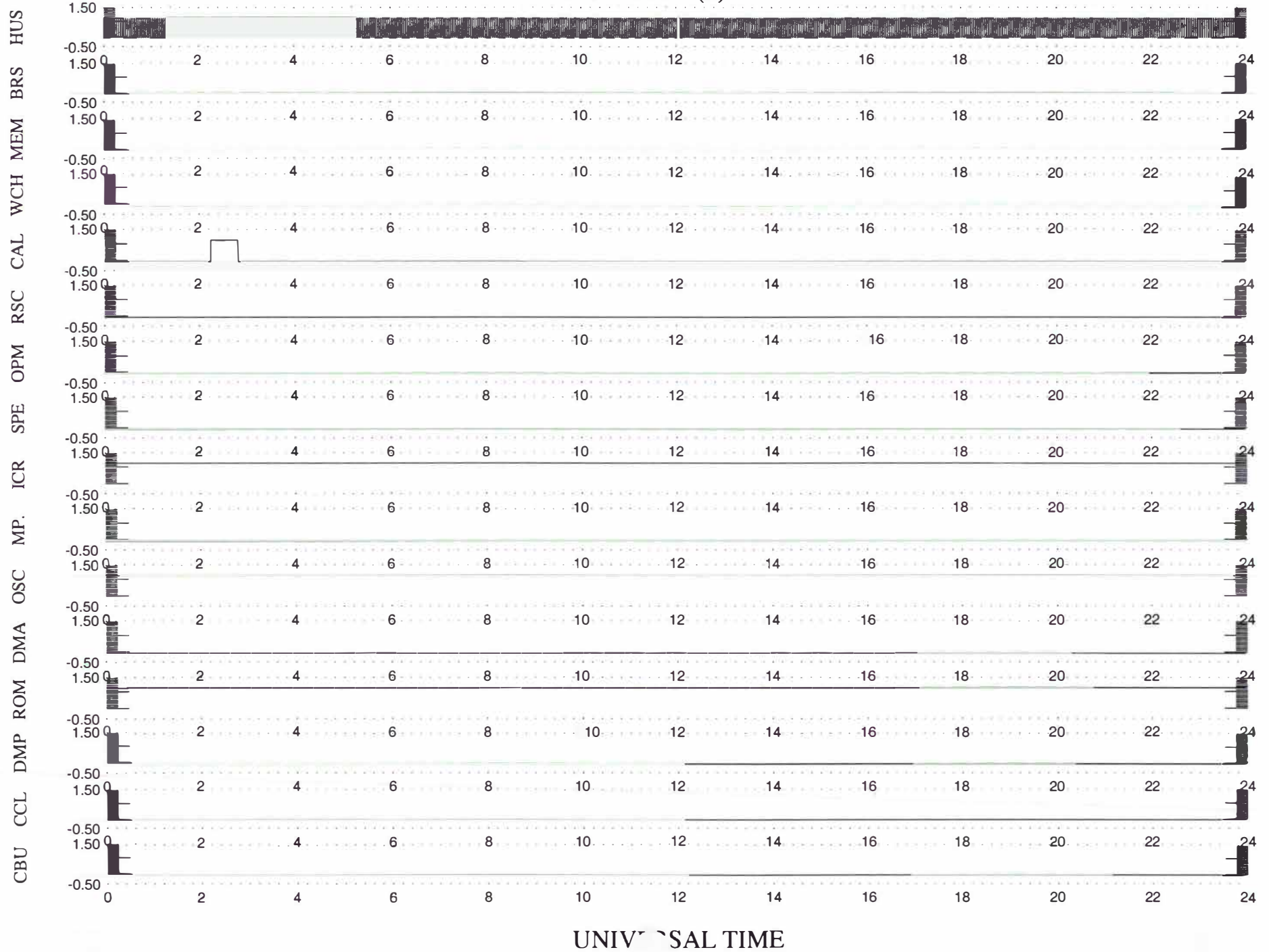


Data Start: 99/05/22, 0000:00

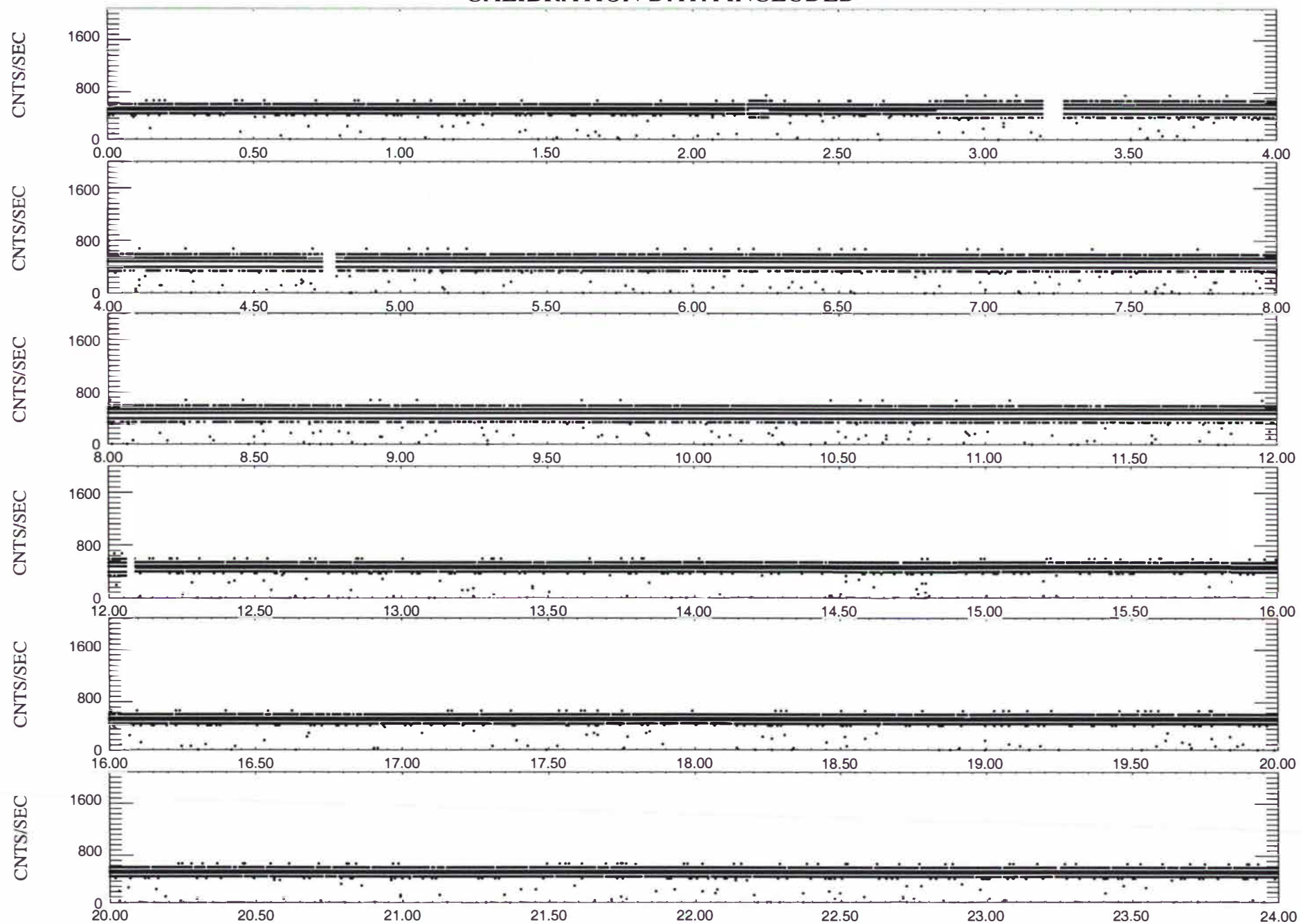
Plot created: 99/05/26, 1006

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

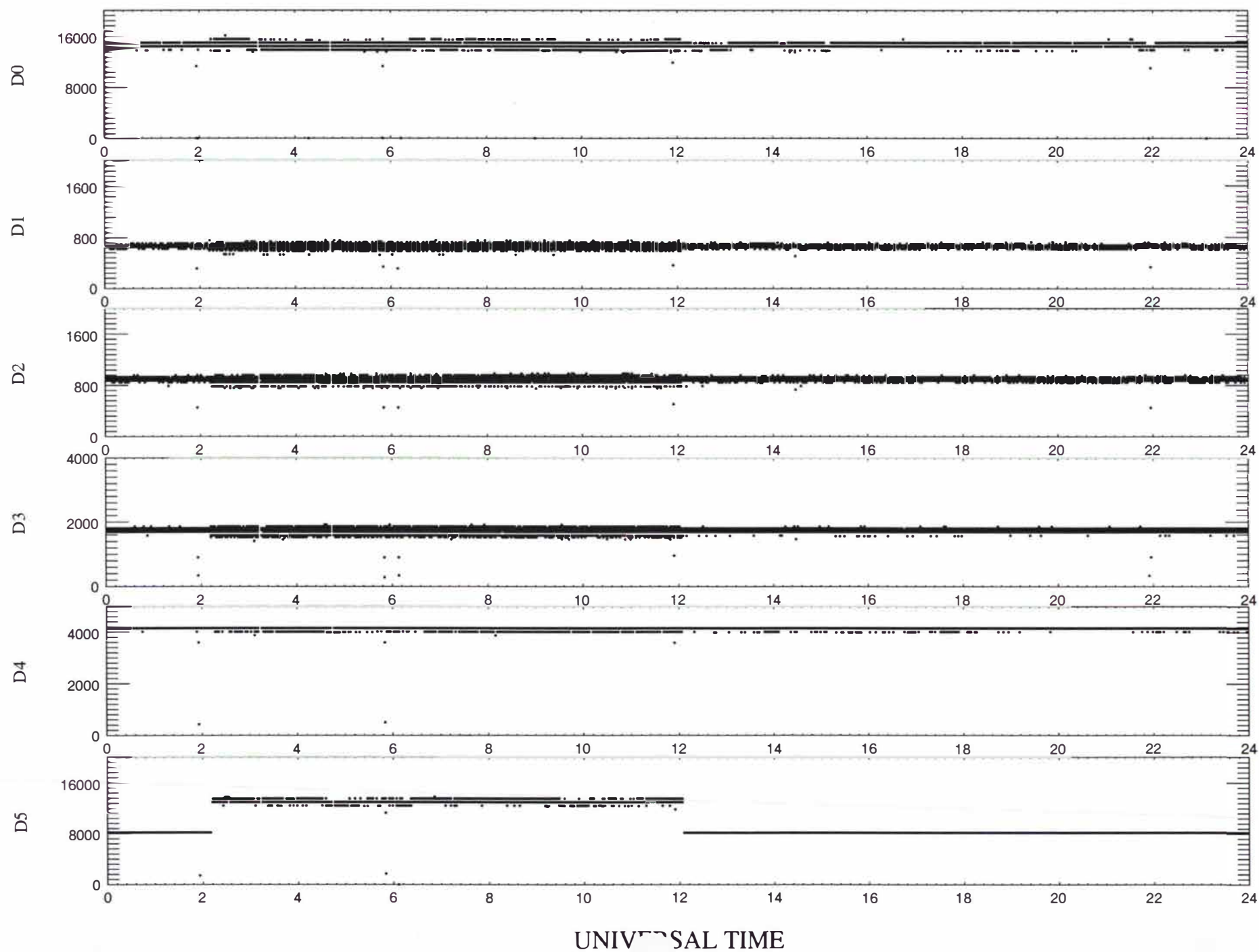
NO BURST (3)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From MEEGAN@fender.msfc.nasa.gov Tue May 25 11:41:42 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 LAA26227; Tue, 25 May 1999 11:41:42 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA16339
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 25 May 1999 11:38:36 -0700 (PDT)
Date: Tue, 25 May 1999 13:42:06 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990525134206.2080154b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7579
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7579
EVENT OF 1999 MAY 23 DAY OF YEAR=143
EVENT CROSSING TIME AT BATSE : 20635. S. OR 05:43:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 131.000 -62.000
BATSE PEAK COUNTING RATE: 3700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 5/ 99 IS:
RA= 144.041 DEC= -6.835 DIST= 4.854 AU
BATSE-ULYSSES DISTANCE = 726126456. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=124.00 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH=-1354.42 SECS.
CROSSING TIME AT ULYSSES IS 19281. S. OR 05:21:20 +/- 378.05 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 5/ 99 IS:
RA= 203.644 DEC= -9.722 DIST= 0.618 AU
MARS-BATSE DISTANCE = 92478904. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.69 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -88.58 SECS.
CROSSING TIME AT MARS IS 20546. S. OR 05:42:26 +/- 49.96 SECONDS

BATSE BURST TRIGGER

NO.: 7579

TIME: TJD=1321 SECONDS=20635

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

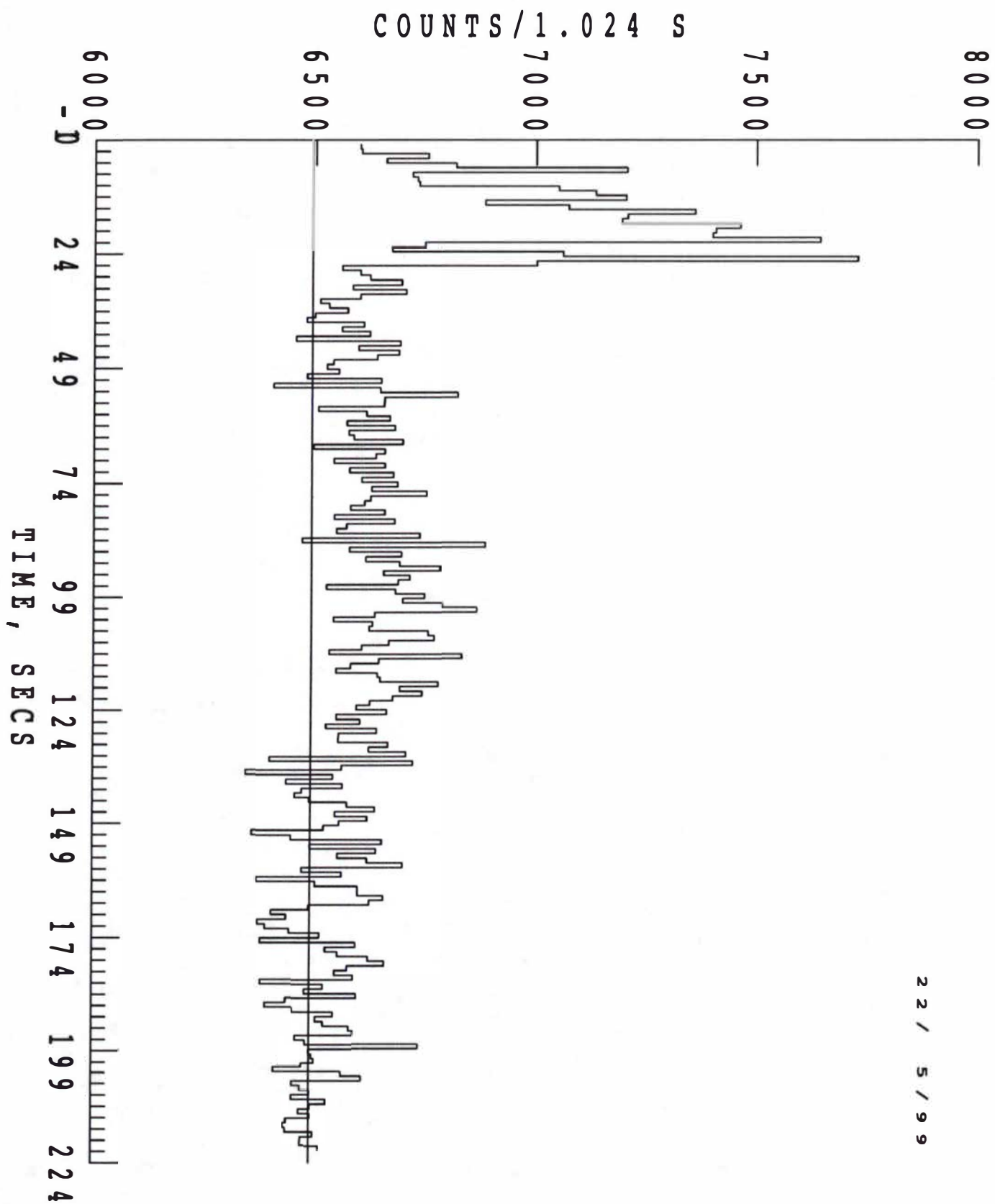
LOCATION: ZENITH= 83.9 AZIMUTH= 91.2 ERROR= 2.0 DEGREES

COMMENTS:

WEAK, 20 S LONG. NOT SEEN ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7579	990523	11321	20635	3700	131	-62	20

BACODINE 7579 23/05/99 20624.121
25- 100 keV



BATSE BURST# 7579

ULYSSES RT

25 / 5 / 99

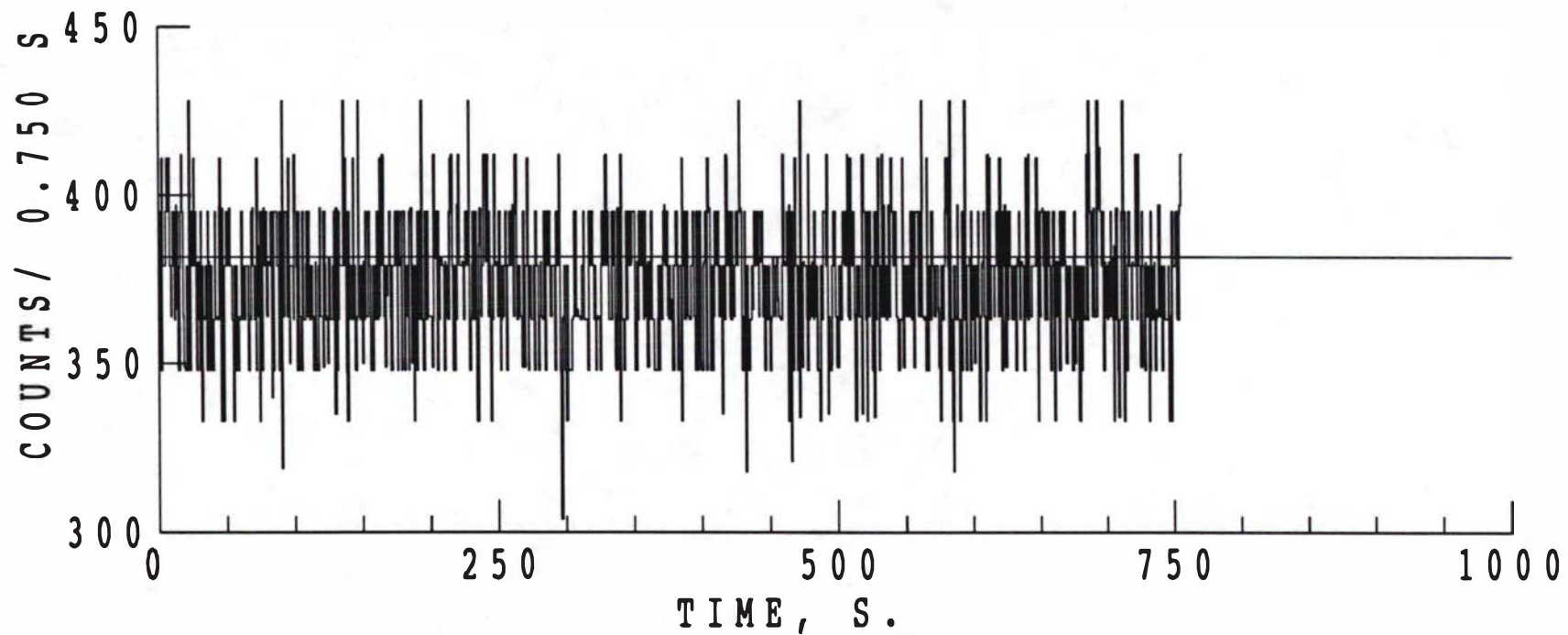
23 / 5 / 99 18900.096 s

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 MEEGAN@fender.msfc.nasa.gov Tue May 25 11:43:26 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 LAA26519; Tue, 25 May 1999 11:43:25 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA16389
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 25 May 1999 11:40:19 -0700 (PDT)
Date: Tue, 25 May 1999 13:43:50 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990525134350.2080154b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7580
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7580
EVENT OF 1999 MAY 23 DAY OF YEAR=143
EVENT CROSSING TIME AT BATSE : 50326. S. OR 13:58:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 236.000 -60.000
BATSE PEAK COUNTING RATE: 3000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 5/ 99 IS:
RA= 144.046 DEC= -6.834 DIST= 4.858 AU
BATSE-ULYSSES DISTANCE = 726813196. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 94.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -208.78 SECS.
CROSSING TIME AT ULYSSES IS 50117. S. OR 13:55:17 +/- 466.18 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 5/ 99 IS:
RA= 203.644 DEC= -9.722 DIST= 0.618 AU
MARS-BATSE DISTANCE = 92478904. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=124.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -173.53 SECS.
CROSSING TIME AT MARS IS 50152. S. OR 13:55:52 +/- 41.64 SECONDS

BATSE BURST TRIGGER

NO.: 7580

TIME: TJD=1321 SECONDS=50326

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

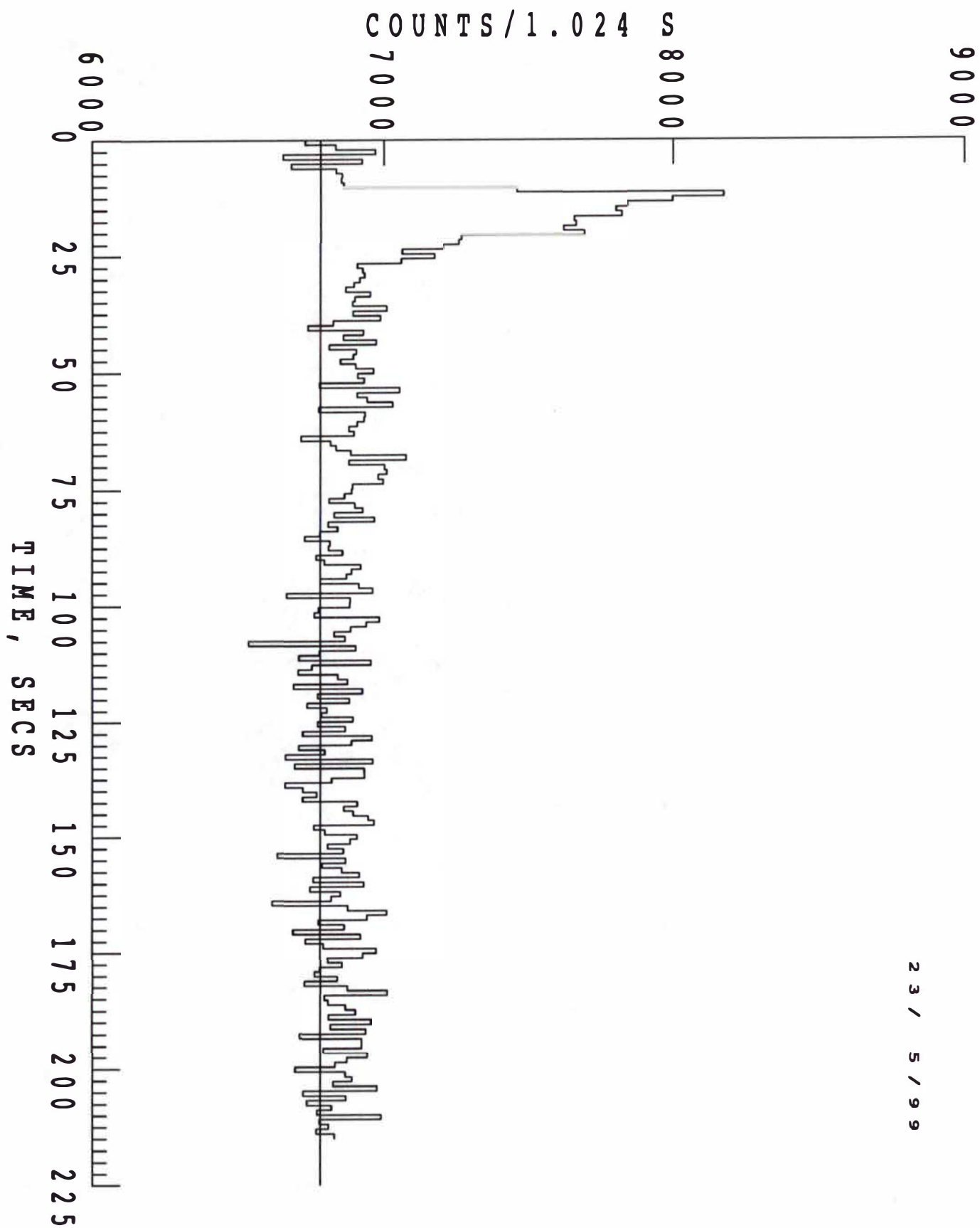
LOCATION: ZENITH=127.7 AZIMUTH=101.5 ERROR= 10.4 DEGREES

COMMENTS:

SINGLE WEAK 15 S PULSE. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7580	990523	11321	50326	3000	236	-60	15

BACODINE 7580 23/05/99 50313.977
25- 100 keV



BATSE BURST# 7580

ULYSSES RT

25 / 5 / 99

23 / 5 / 99 49644.156 s

0.500 S INTERVALS REGROUPED BY 2

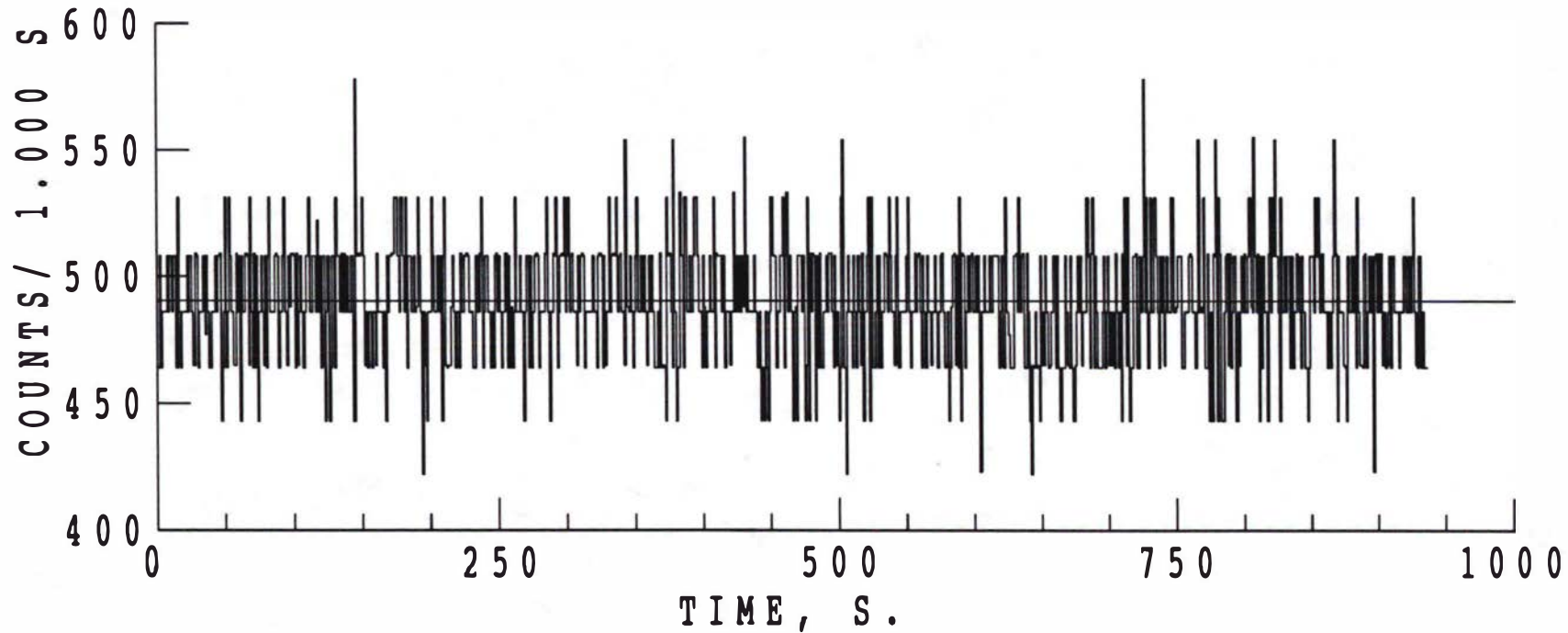
0 - 0 keV

N= 10 M= 10

>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2

>4.0 SIGMA FLUCTUATIONS



From MEEGAN@fender.msfc.nasa.gov Tue May 25 11:45:06 1999
Return-Path: <MEEGAN@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id LAA26836; Tue, 25 May 1999 11:45:05 -0700
From: MEEGAN@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id LAA16434
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 25 May 1999 11:41:59 -0700 (PDT)
Date: Tue, 25 May 1999 13:45:30 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990525134530.2080154b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7581
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7581
EVENT OF 1999 MAY 23 DAY OF YEAR=143
EVENT CROSSING TIME AT BATSE : 67606. S. OR 18:46:46.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 52.000 53.000
BATSE PEAK COUNTING RATE: 3300 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 23/ 5/ 99 IS:
RA= 144.049 DEC= -6.833 DIST= 4.861 AU
BATSE-ULYSSES DISTANCE = 727211958. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 83.32 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 282.31 SECS.
CROSSING TIME AT ULYSSES IS 67888. S. OR 18:51:28 +/- 472.57 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 23/ 5/ 99 IS:
RA= 203.644 DEC= -9.722 DIST= 0.618 AU
MARS-BATSE DISTANCE = 92478904. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 48.94 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 202.63 SECS.
CROSSING TIME AT MARS IS 67809. S. OR 18:50:08 +/- 43.46 SECONDS

BATSE BURST TRIGGER

NO.: 7581

TIME: TJD=1321 SECONDS=67606

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

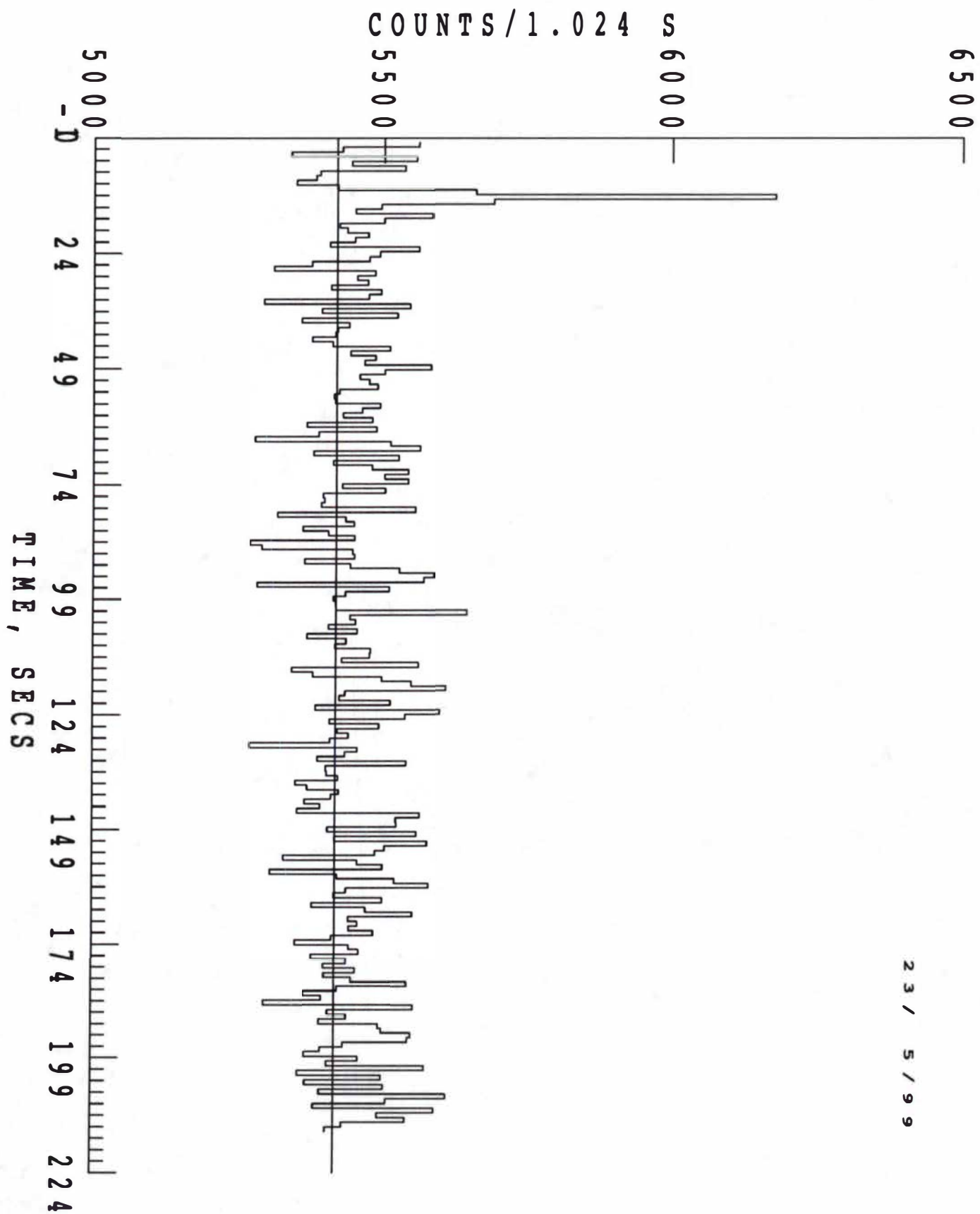
LOCATION: ZENITH= 50.4 AZIMUTH=291.2 ERROR= 5.2 DEGREES

COMMENTS:

WEAK, HARD EVENT LASTING 1 S. SEEN ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7581	990523	11321	67606	3300	052	+53	1

BACODINE 7581 23/05/99 67595.001
25- 100 keV



BATSE BURST# 7581

ULYSSES RT

25 / 5 / 99

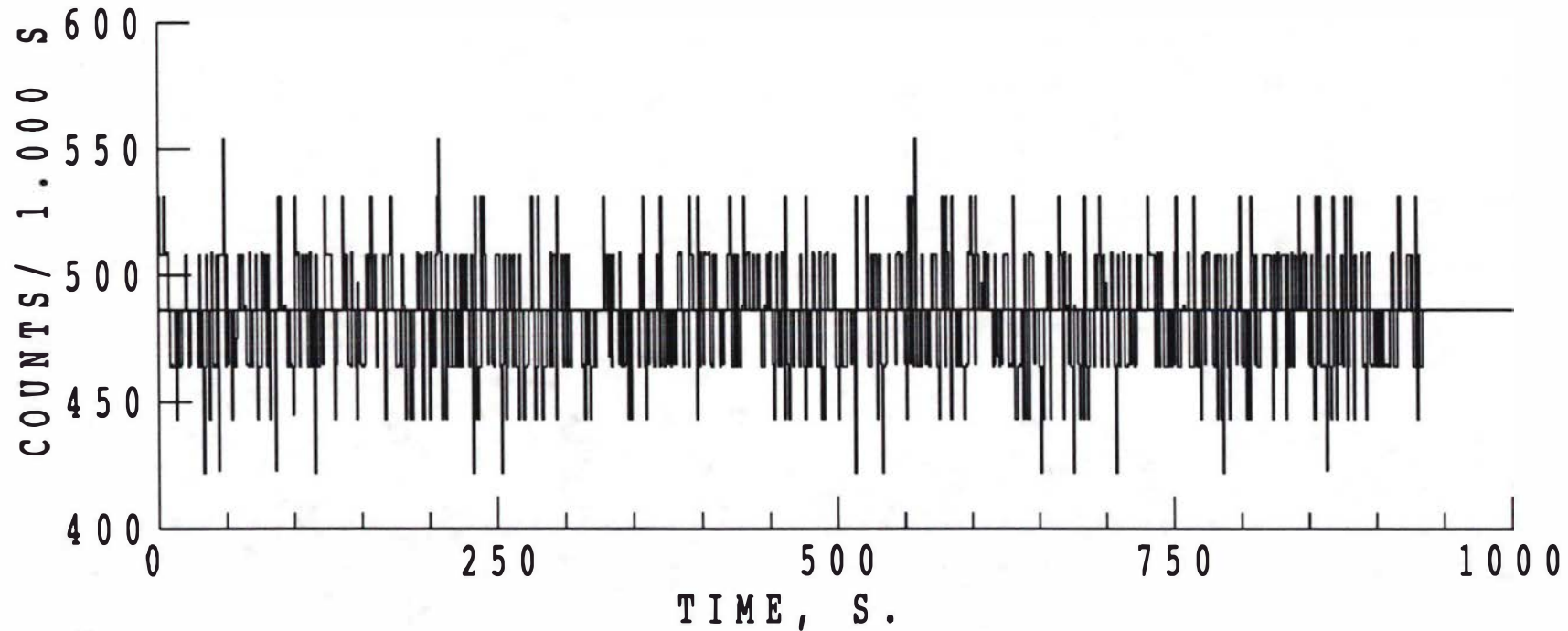
23 / 5 / 99 67428.336 s

0.500 S INTERVALS REGROUPED BY 2

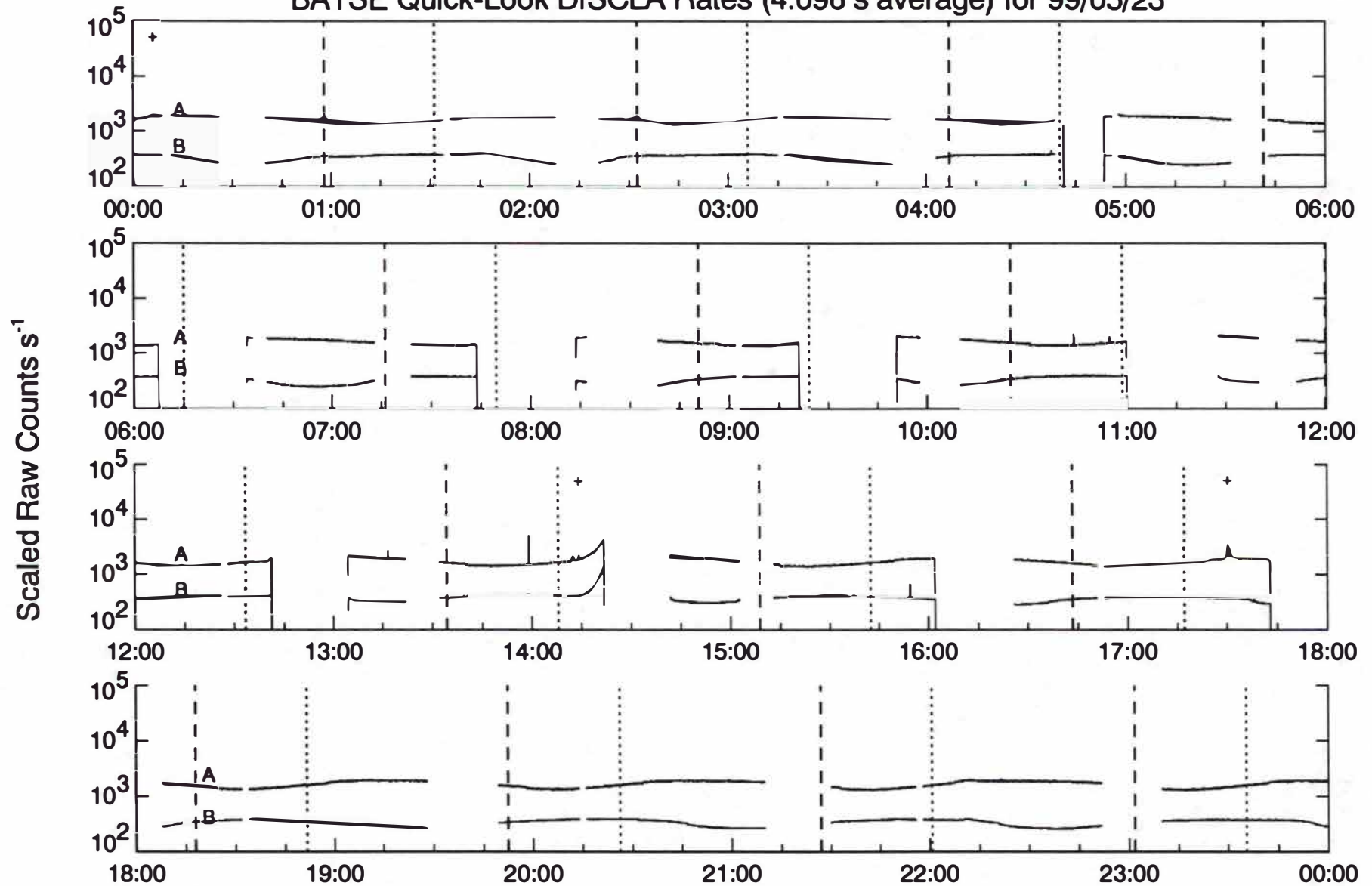
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/23

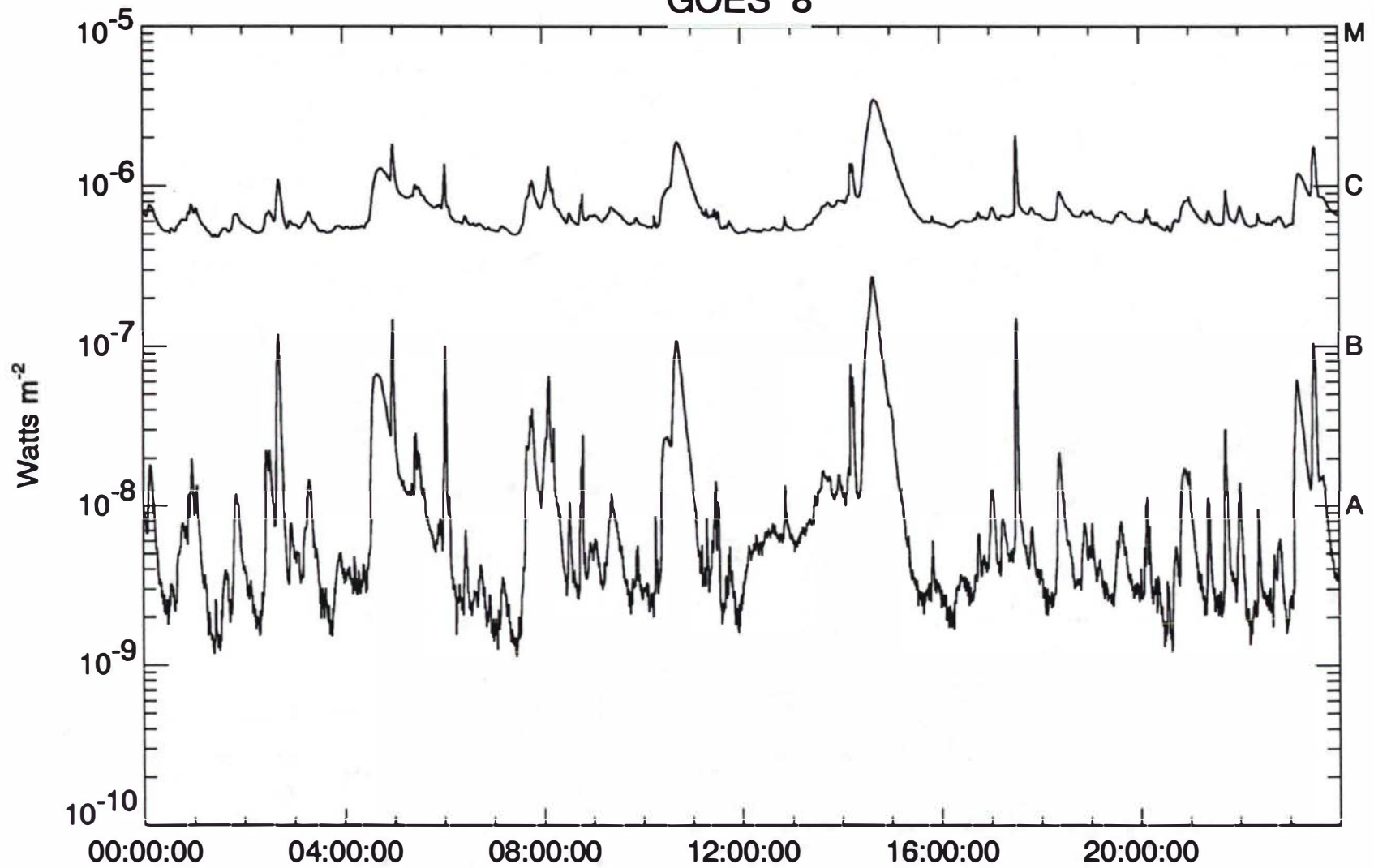


Current Time: 99/05/27, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/23, 0000:00

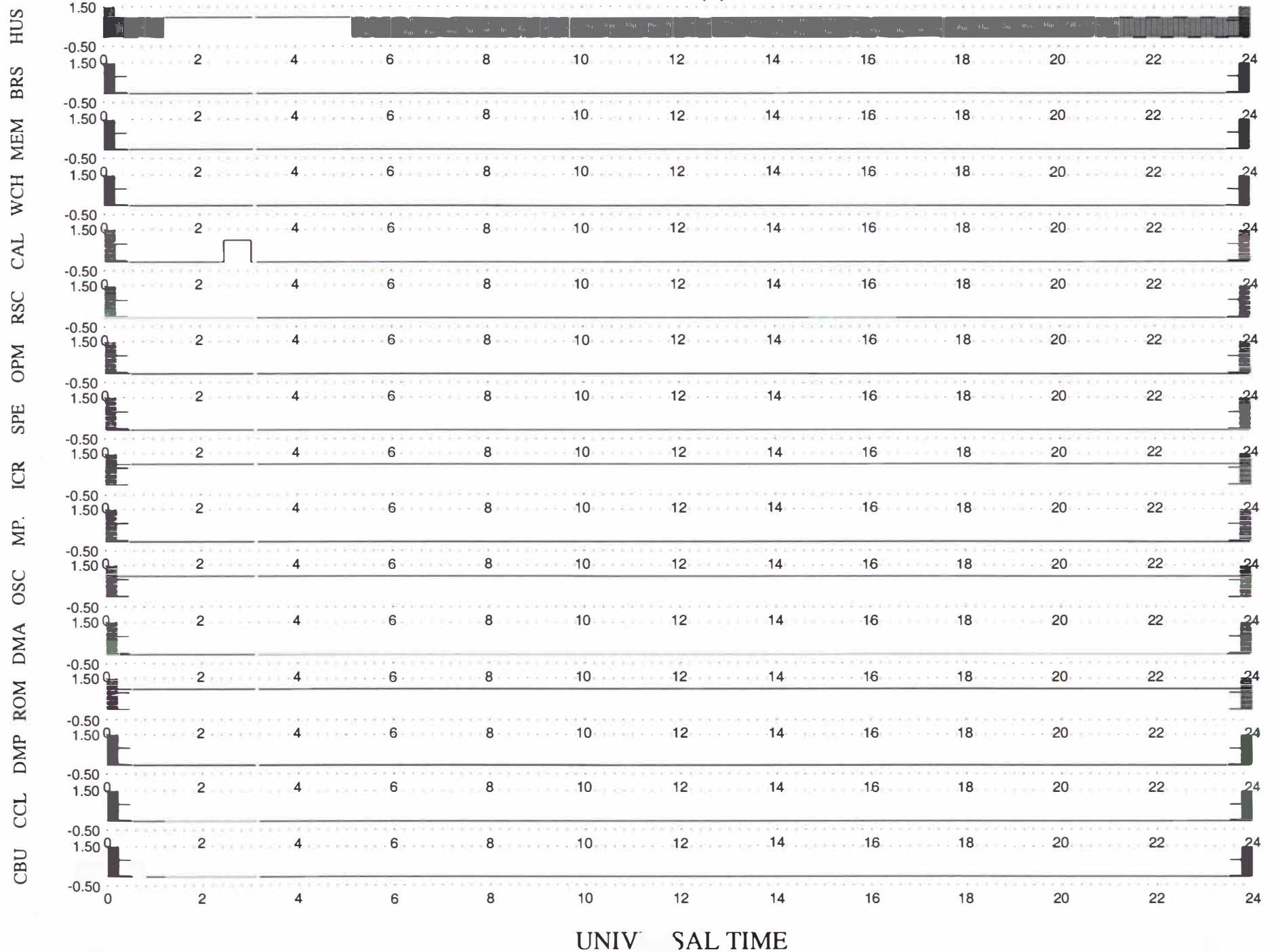
Plot created: 99/05/27, 1006

Channel

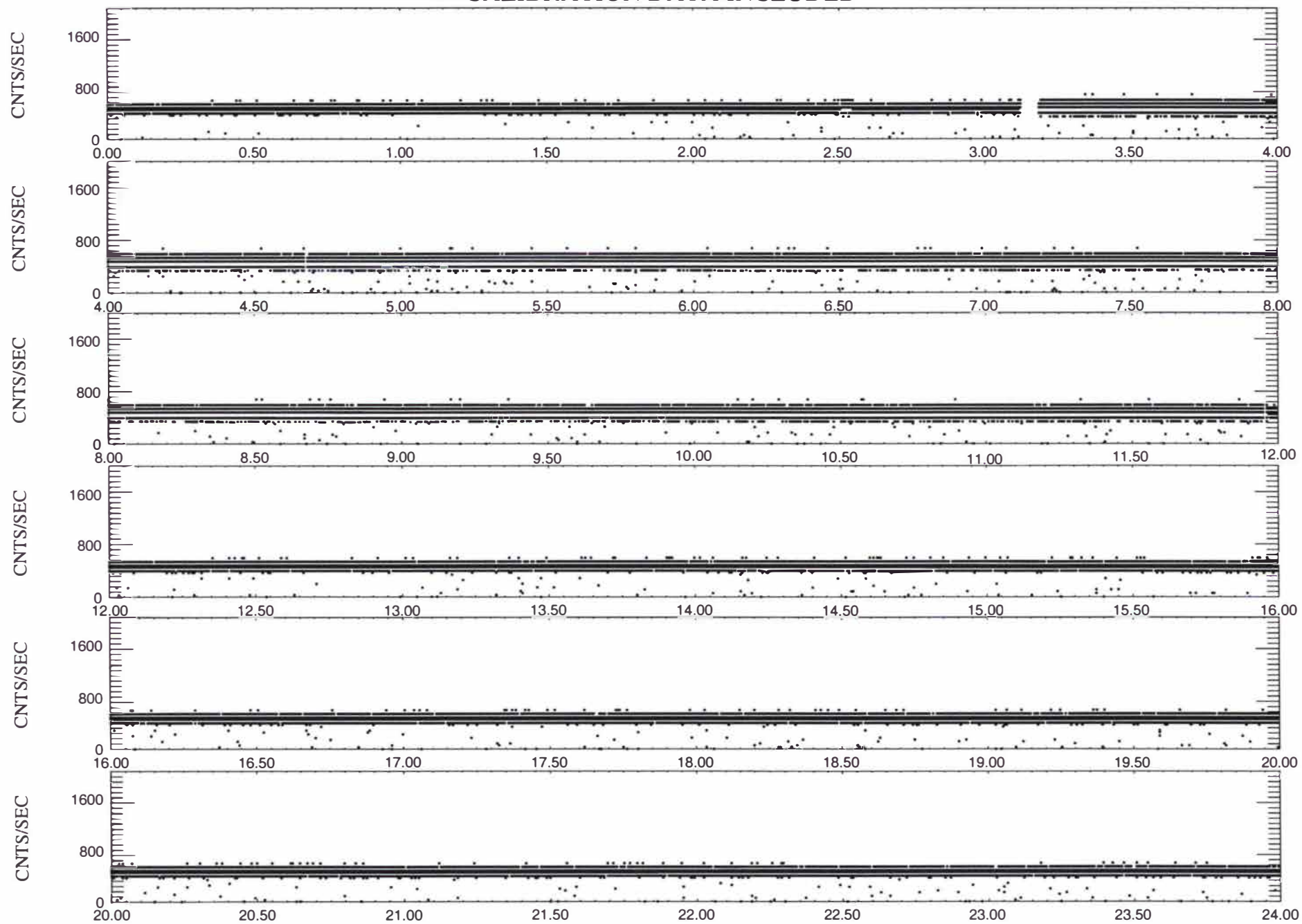
1 (1.0 - 8.0 Angstroms)
2 (0.5 - 4.0 Angstroms)

Background not subtracted
Background not subtracted
Sample average = 10

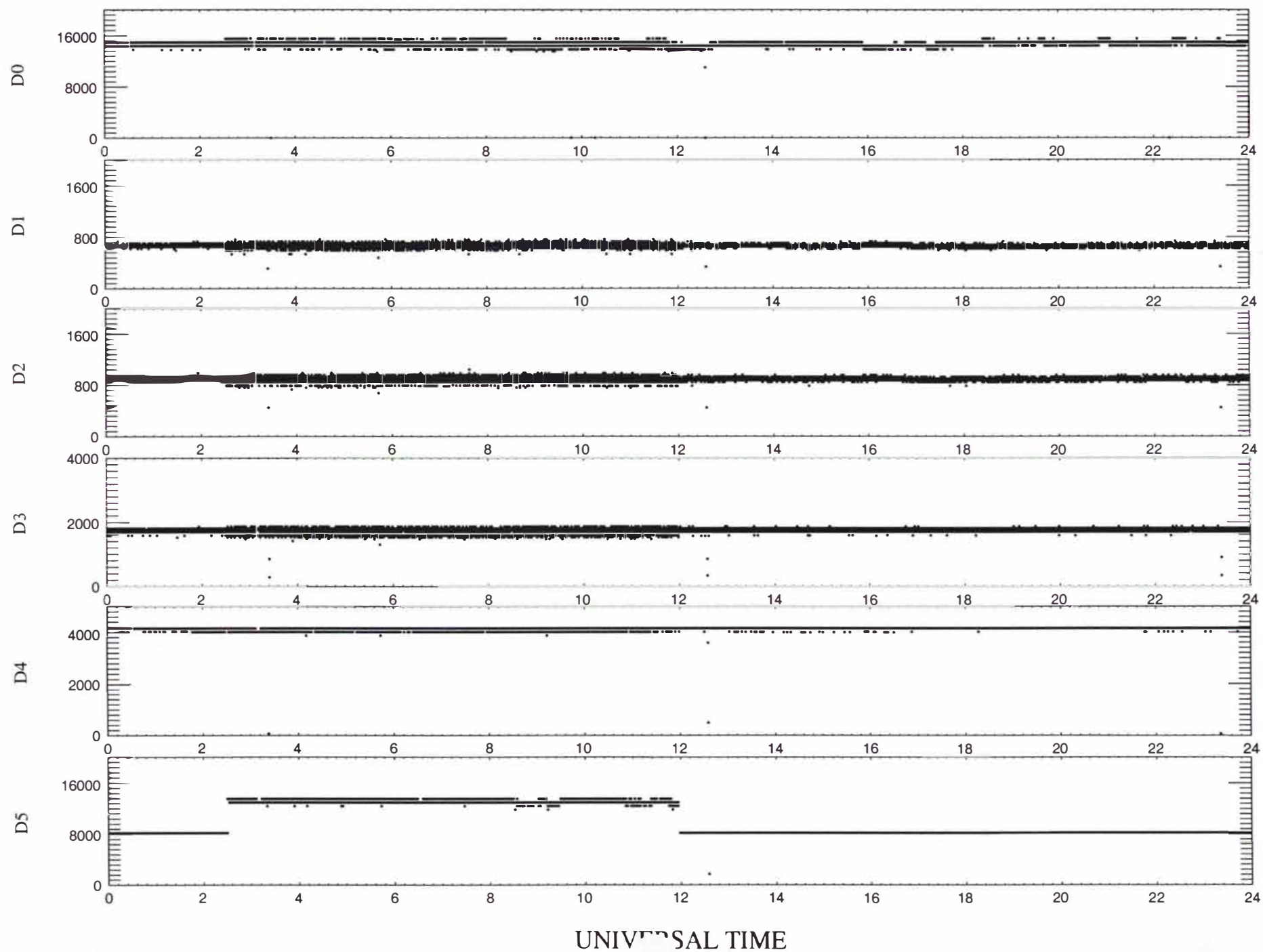
NO BURST (3)



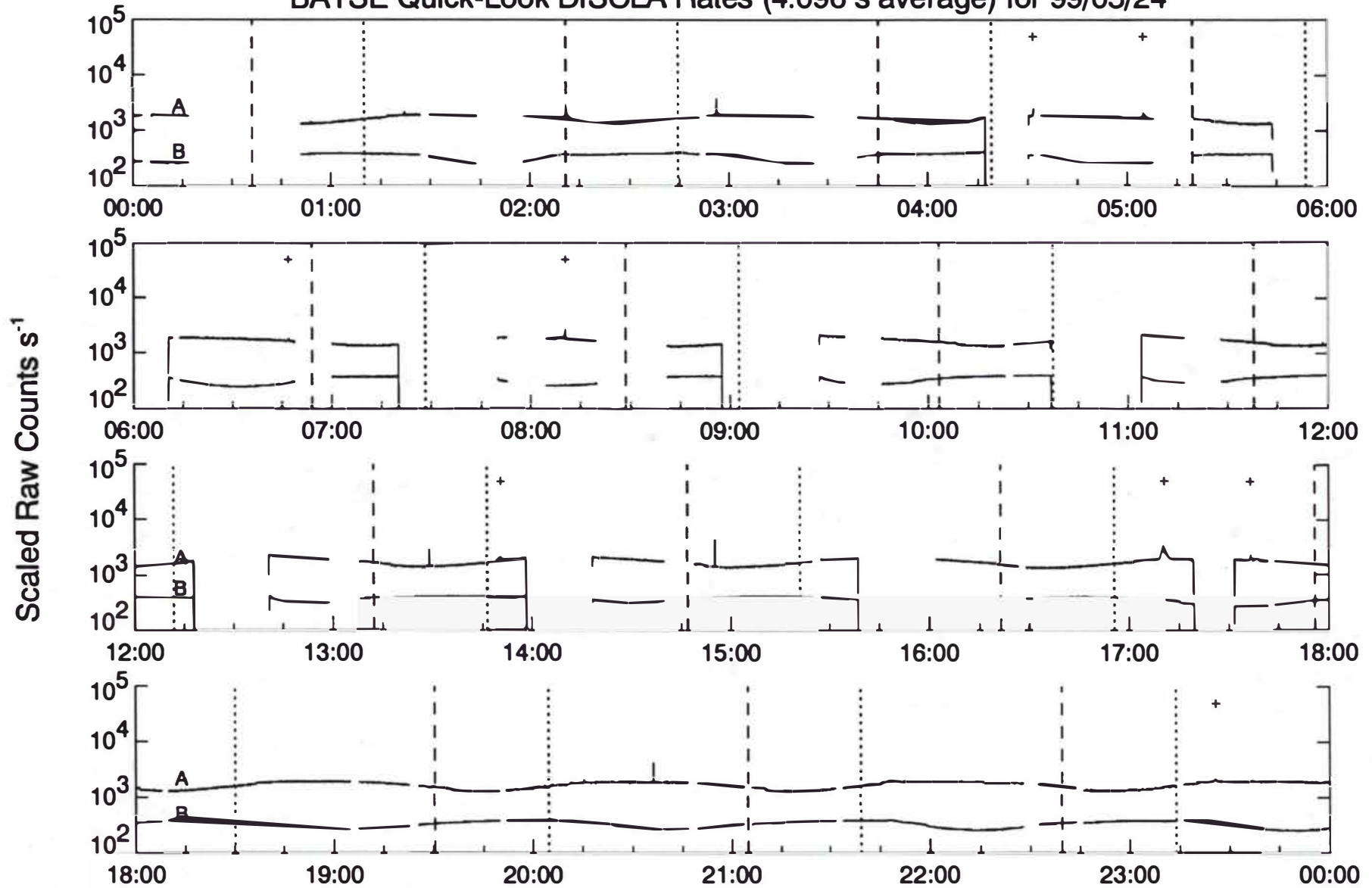
CALIBRATION DATA INCLUDED



UNIVERSAL TIME



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/24

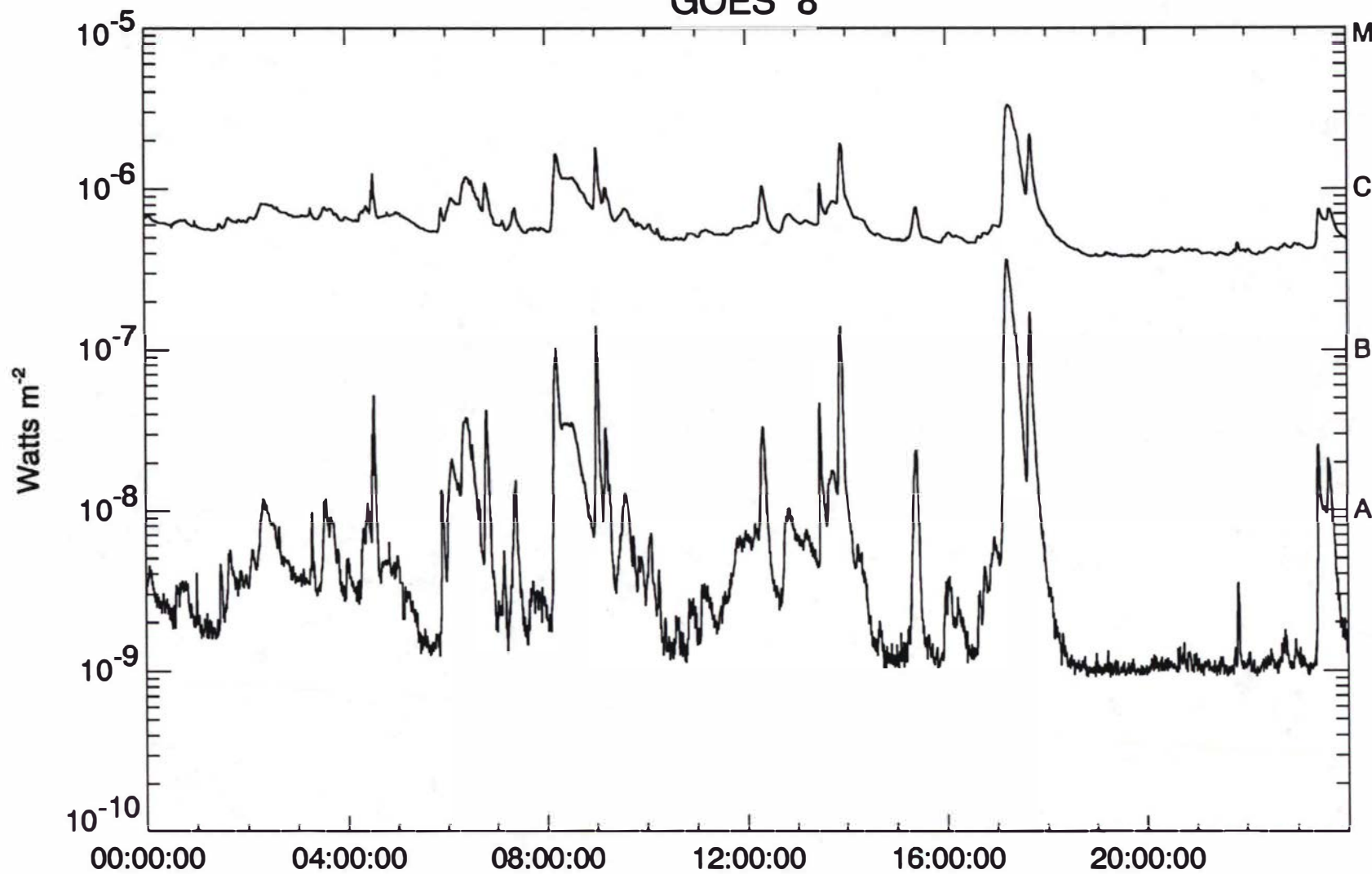


Current Time: 99/05/28, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/24, 0000:00

Plot created: 99/05/28, 1006

Channel

1 (1.0 - 8.0 Angstroms)

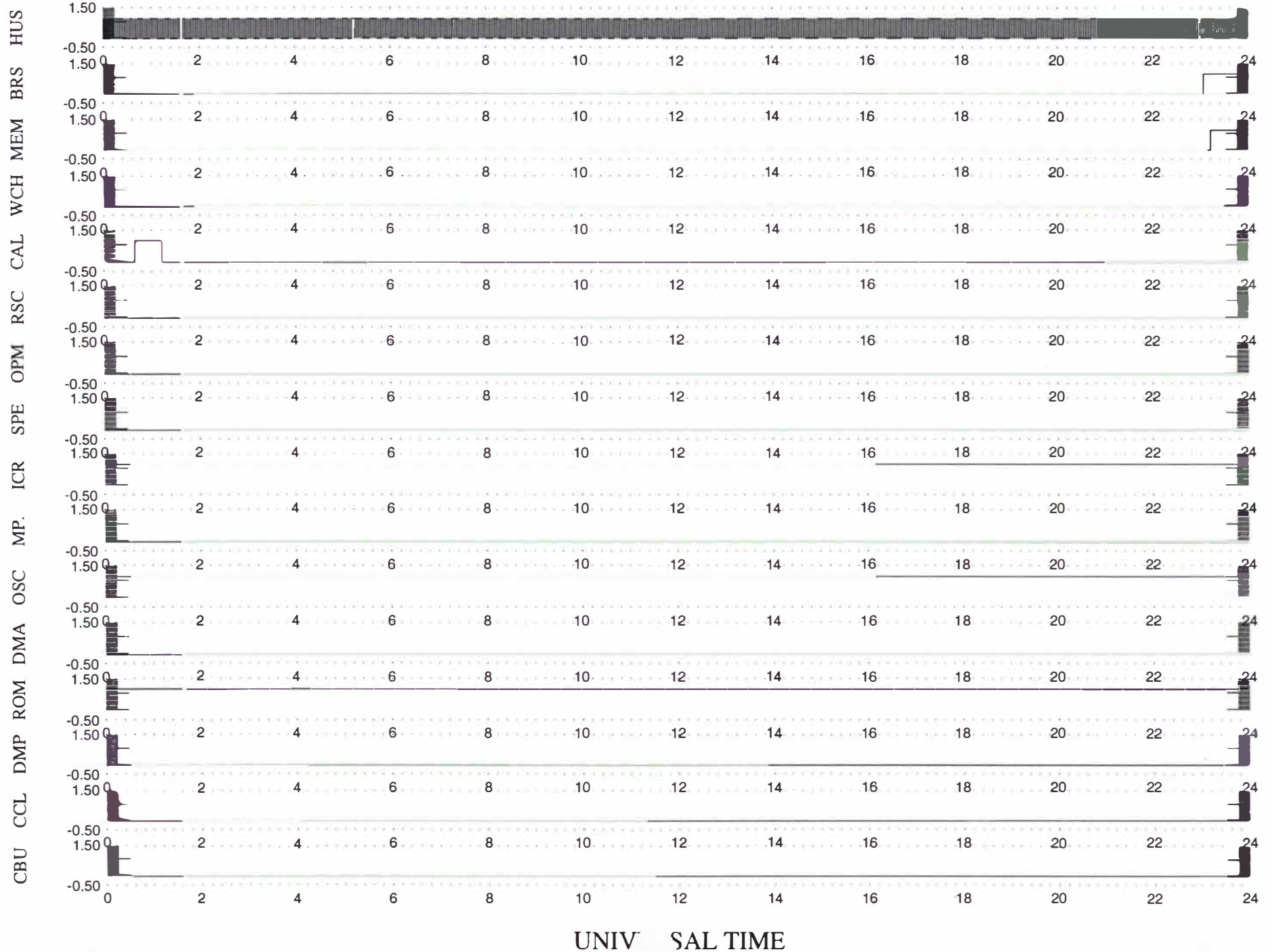
Background not subtracted

2 (0.5 - 4.0 Angstroms)

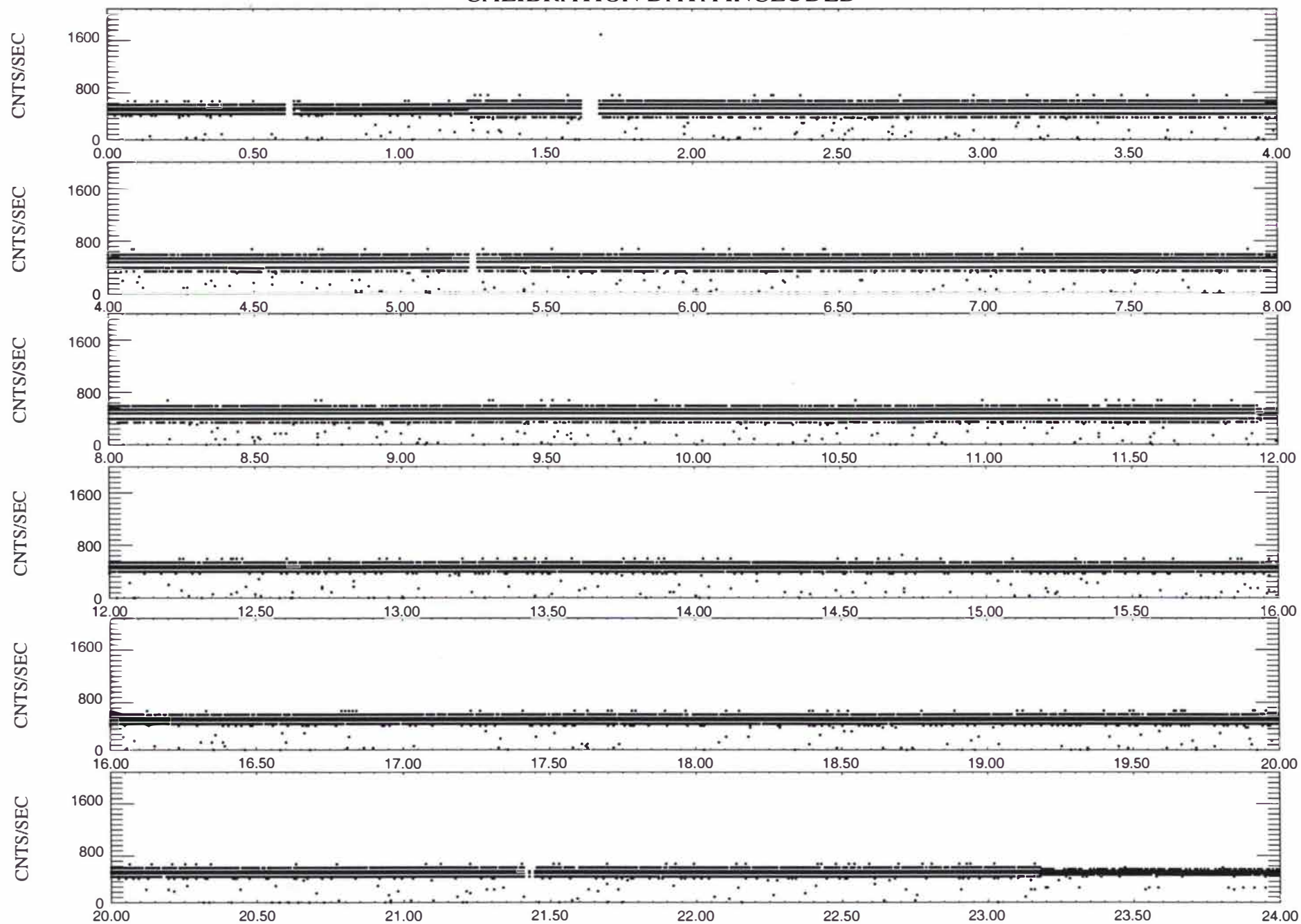
Background not subtracted

Sample average = 10

BURST NUMBER 4

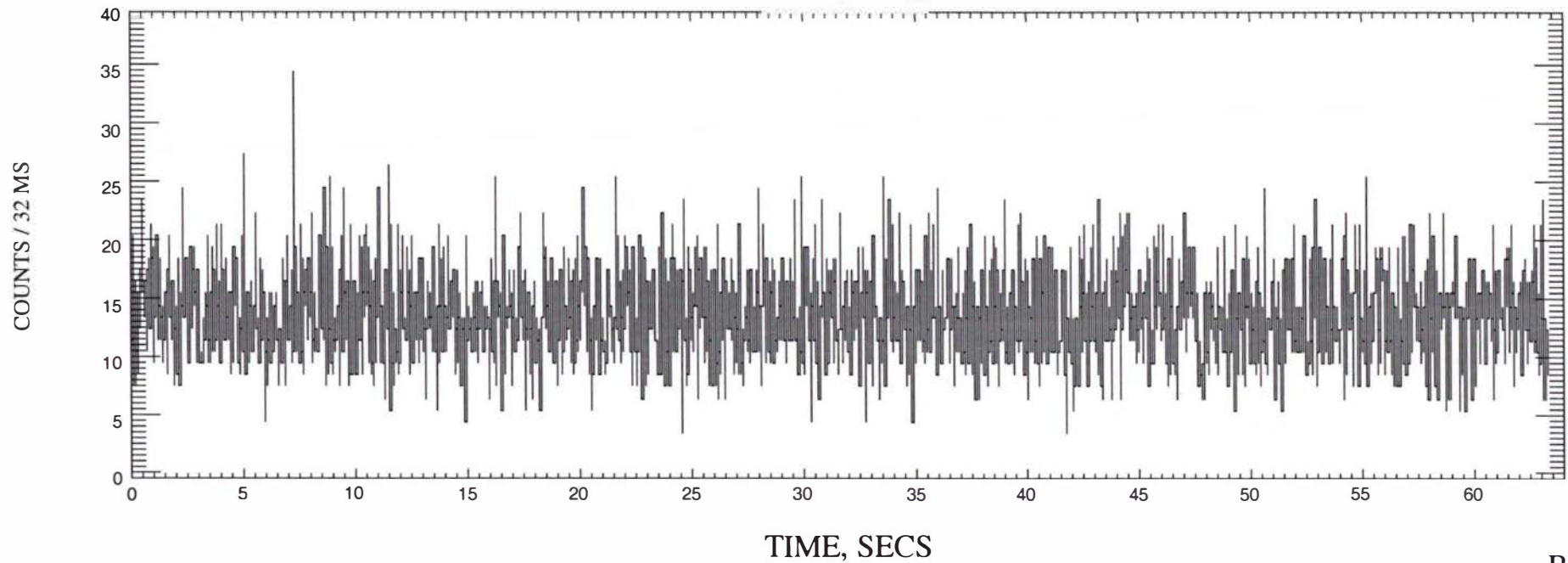
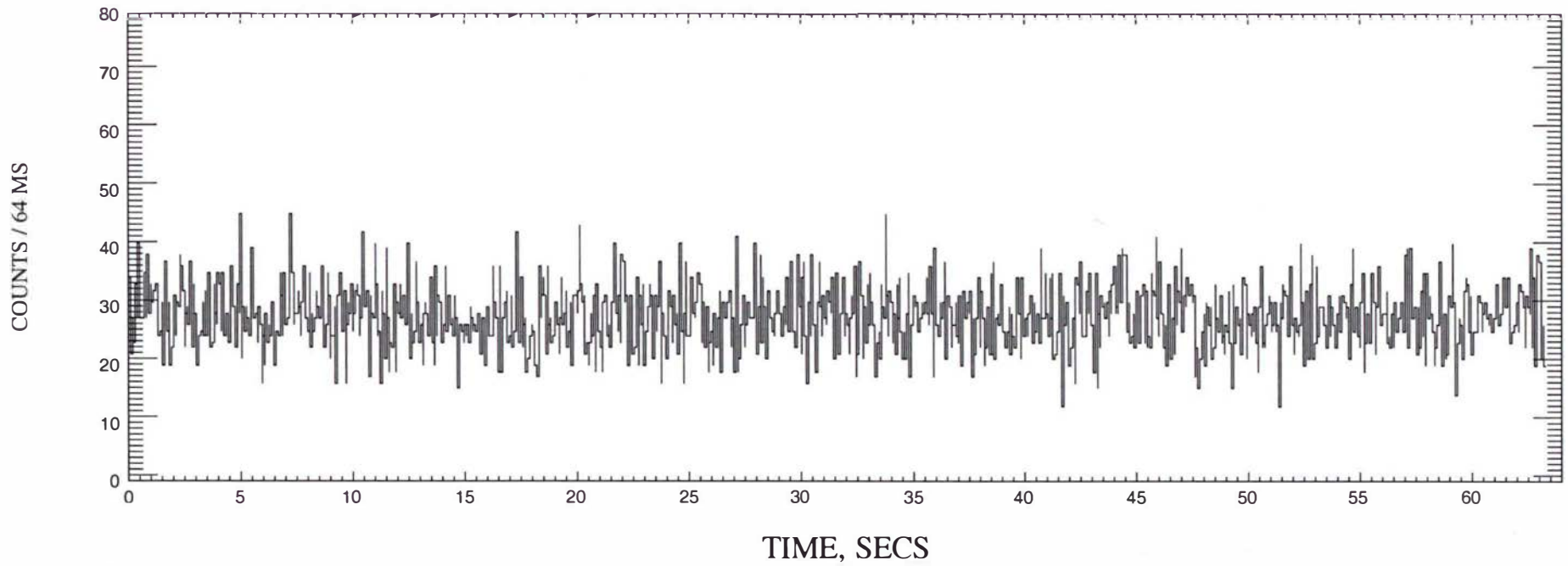


CALIBRATION DATA INCLUDED

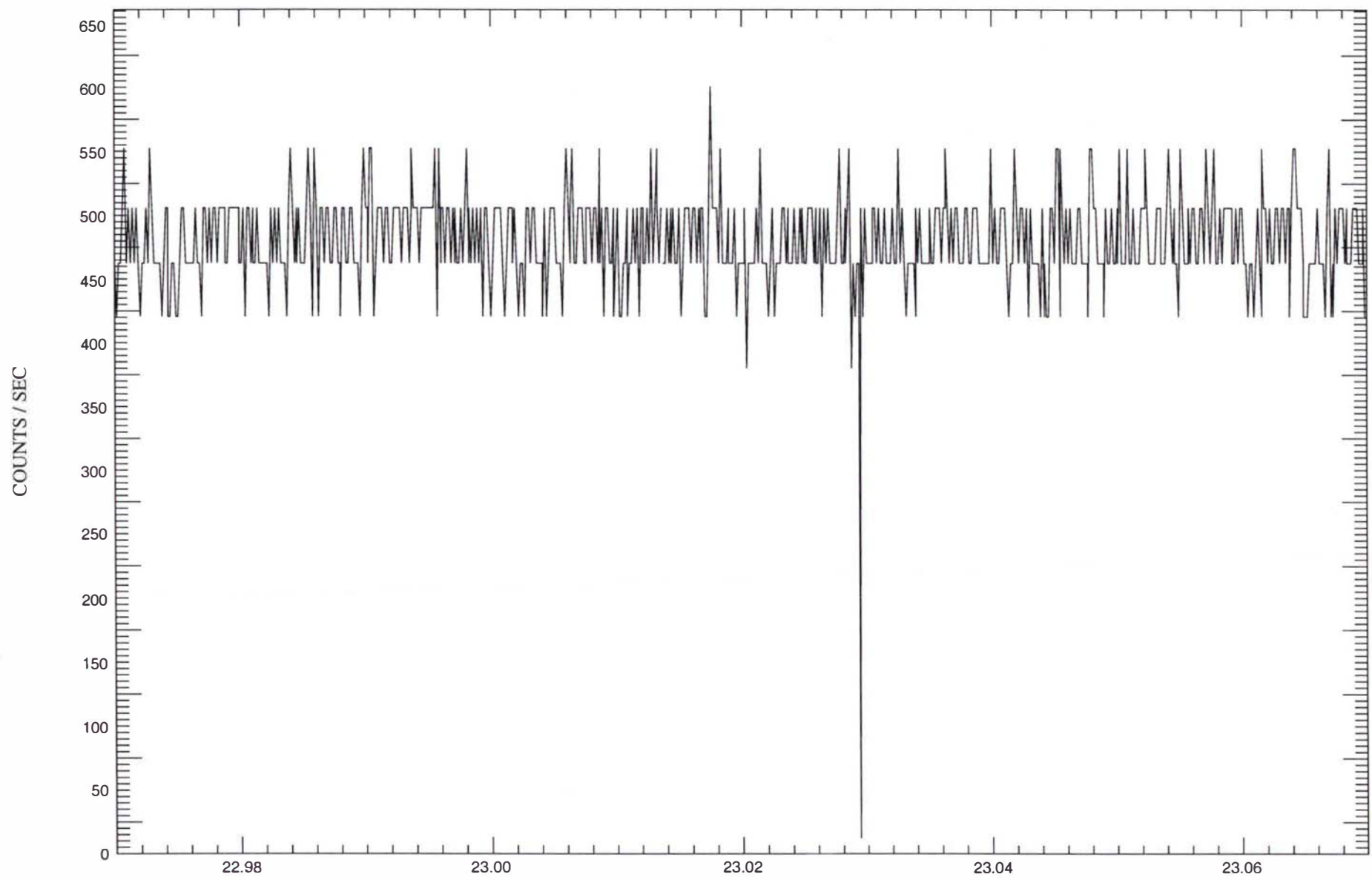


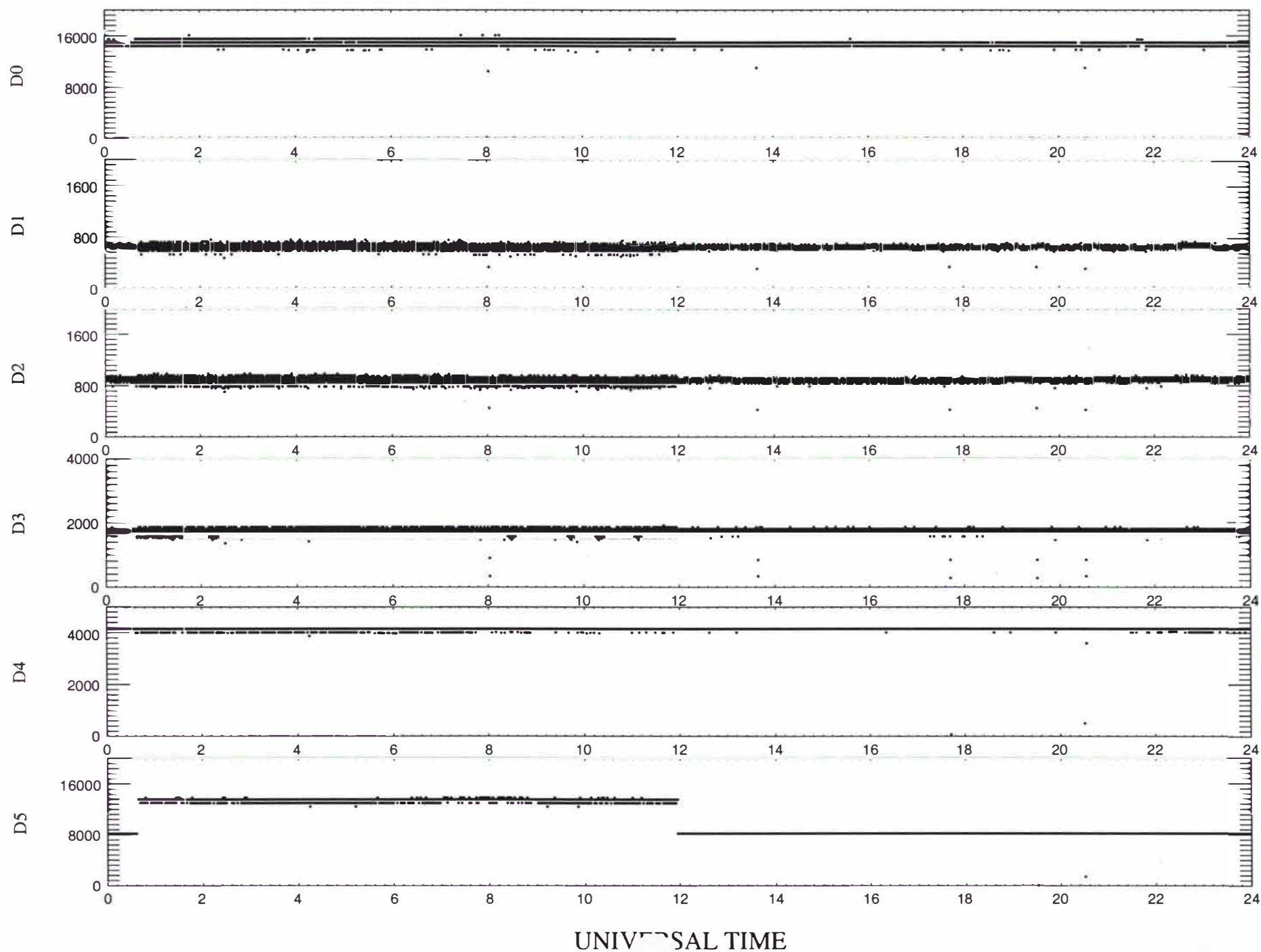
UNIVERSAL TIME

Burst Counter 4 at UT=23.017669406467 h=82863.610 s 23:01:03.610



CALIBRATION DATA INCLUDED





From RICHARDSON@fender.msfc.nasa.gov Thu May 27 09:14 PDT 1999
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA12047
for <khurley@sunspot.ssl.berkeley.edu>; Thu, 27 May 1999 09:14:46 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Date: Thu, 27 May 1999 11:17:17 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990527111717.20803840@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7582
Content-Type: text
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7582
EVENT OF 1999 MAY 25 DAY OF YEAR=145
EVENT CROSSING TIME AT BATSE : 1380. S. OR 00:23:00.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 269.000 6.000
BATSE PEAK COUNTING RATE: 5000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 25/ 5/ 99 IS:
RA= 144.068 DEC= -6.829 DIST= 4.877 AU
BATSE-ULYSSES DISTANCE = 729660669. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 54.70 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1406.43 SECS.
CROSSING TIME AT ULYSSES IS 2786. S. OR 00:46:26 +/- 416.23 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 25/ 5/ 99 IS:
RA= 203.328 DEC= -9.688 DIST= 0.625 AU
MARS-BATSE DISTANCE = 93560184. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=112.72 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -120.55 SECS.
CROSSING TIME AT MARS IS 1259. S. OR 00:20:59 +/- 48.15 SECONDS

BATSE BURST TRIGGER

NO.: 7582

TIME: TJD=1323 SECONDS=1380

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=154.4 AZIMUTH=233.4 ERROR=1.7 DEGREES

COMMENTS:

1. SINGLE PULSE. DURATION APPROX. = 20 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7582	990525	11323	01380	5000	269	+06	20

BATSE BURST# 7582

ULYSSES RT

27 / 5 / 99

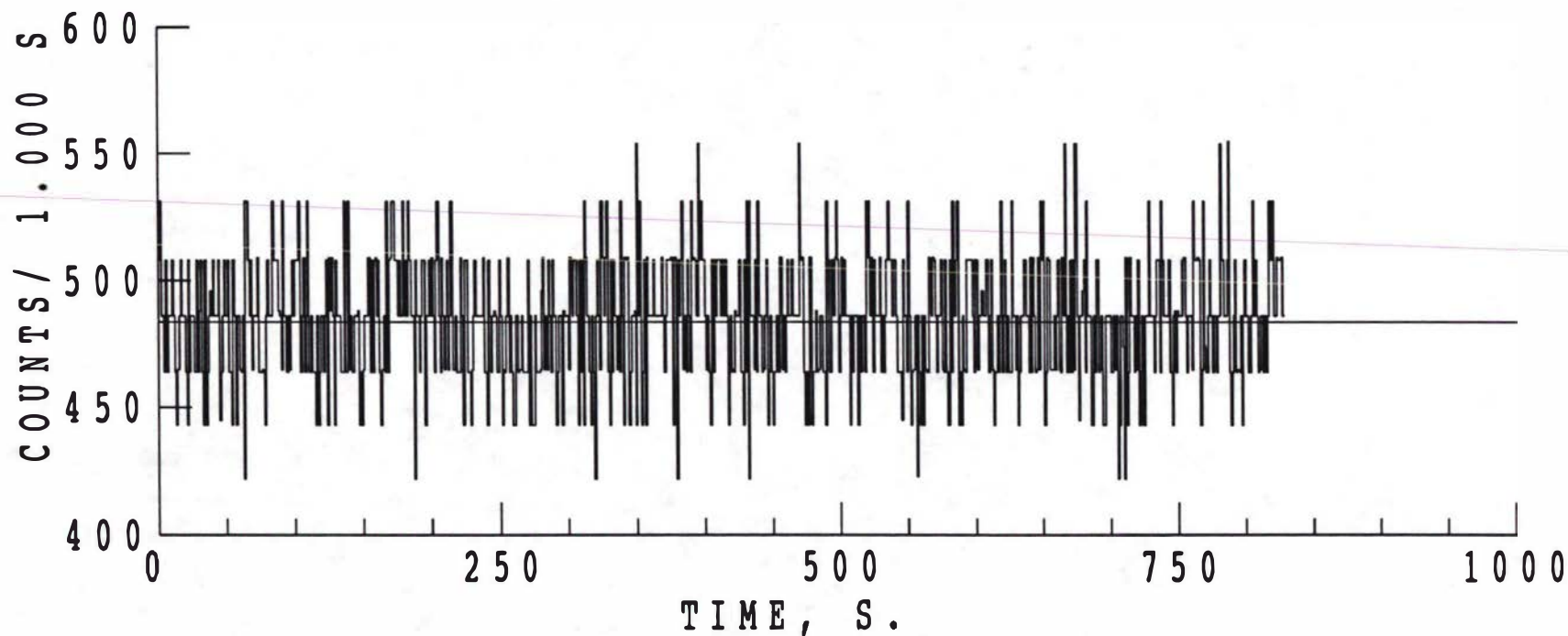
25 / 5 / 99 2376.420 s

0.500 S INTERVALS REGROUPED BY 2

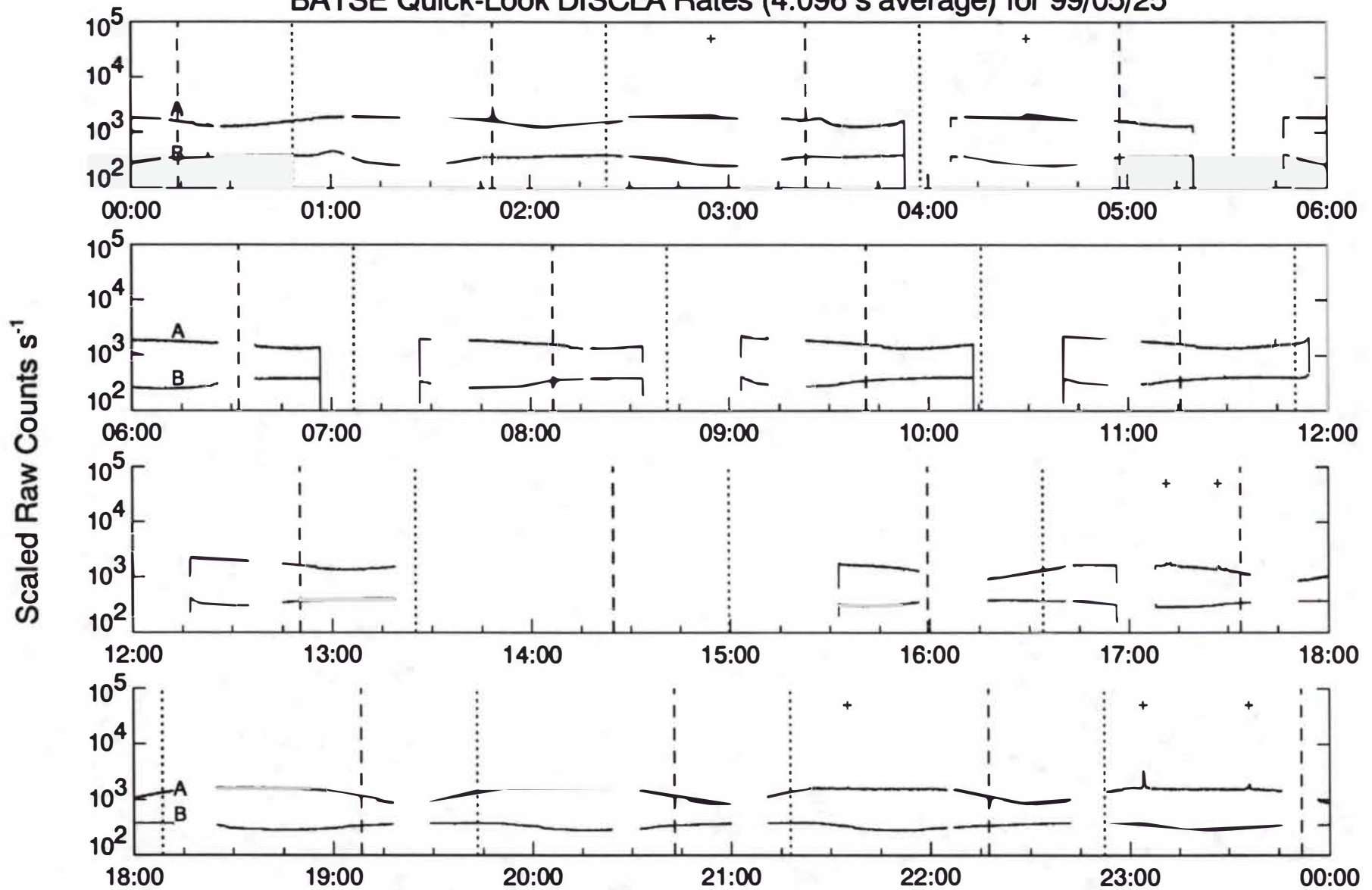
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/25

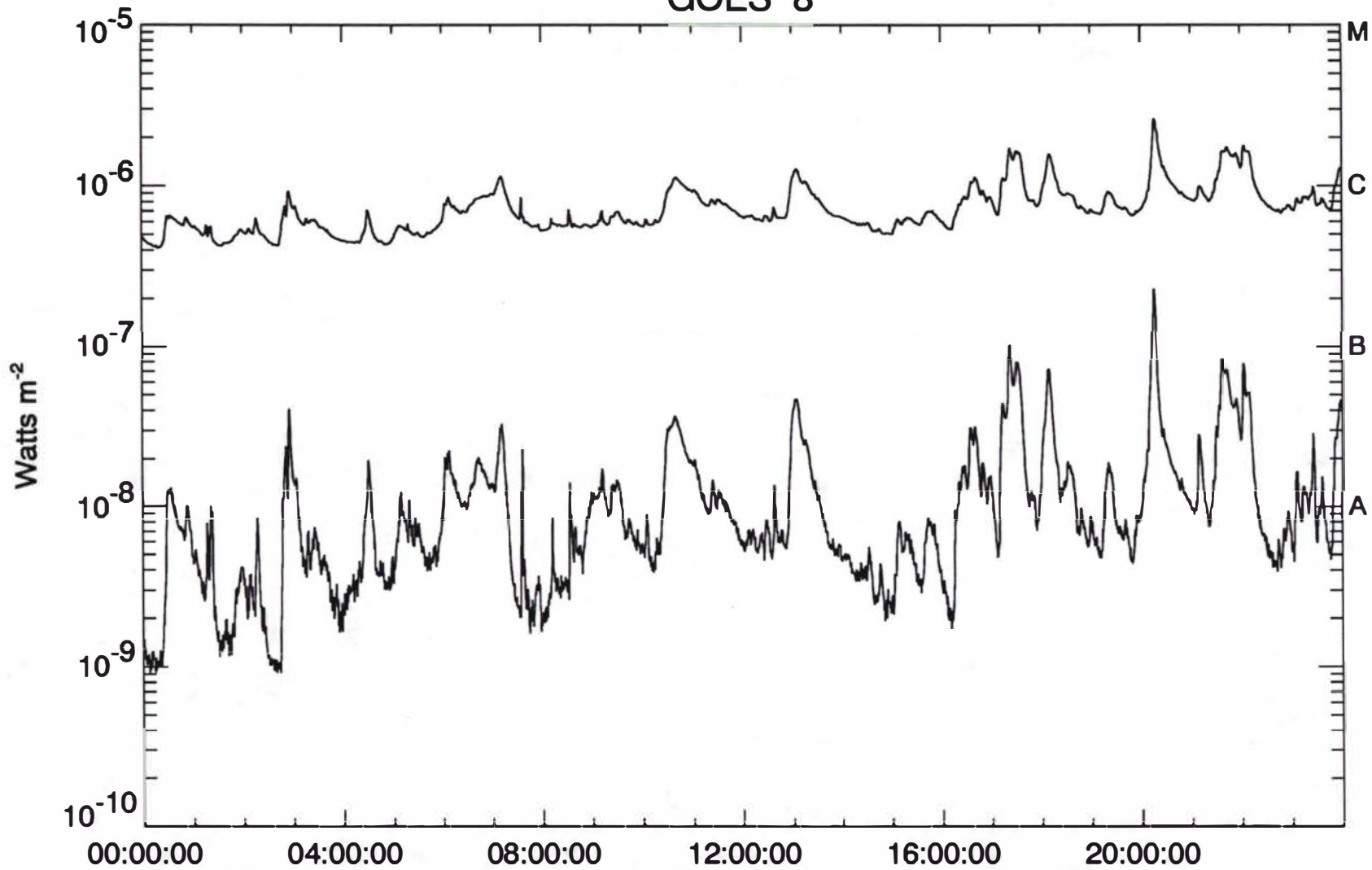


Current Time: 99/05/29, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8

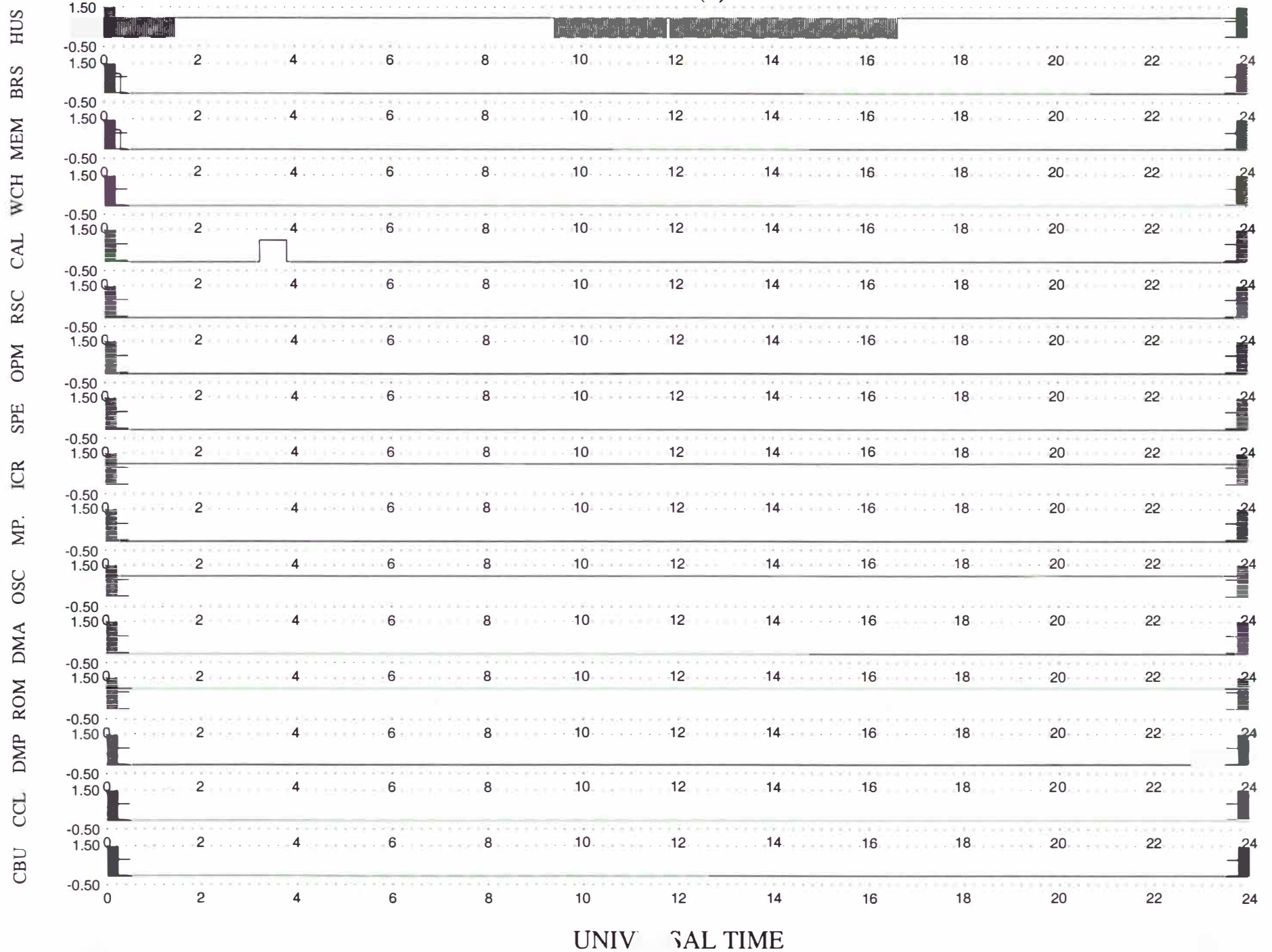


Data Start: 99/05/25, 0000:00

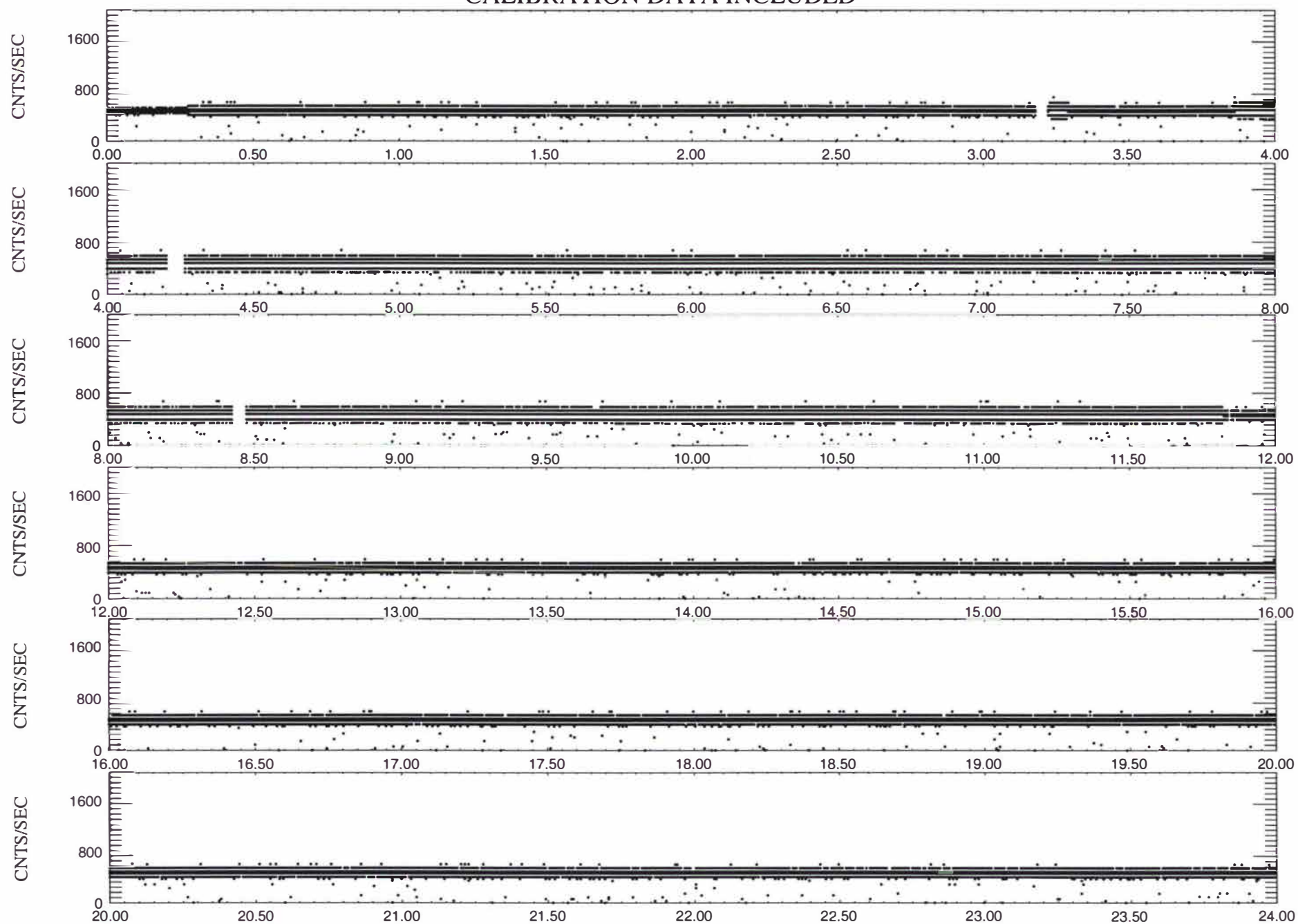
Plot created: 99/05/29, 1006

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

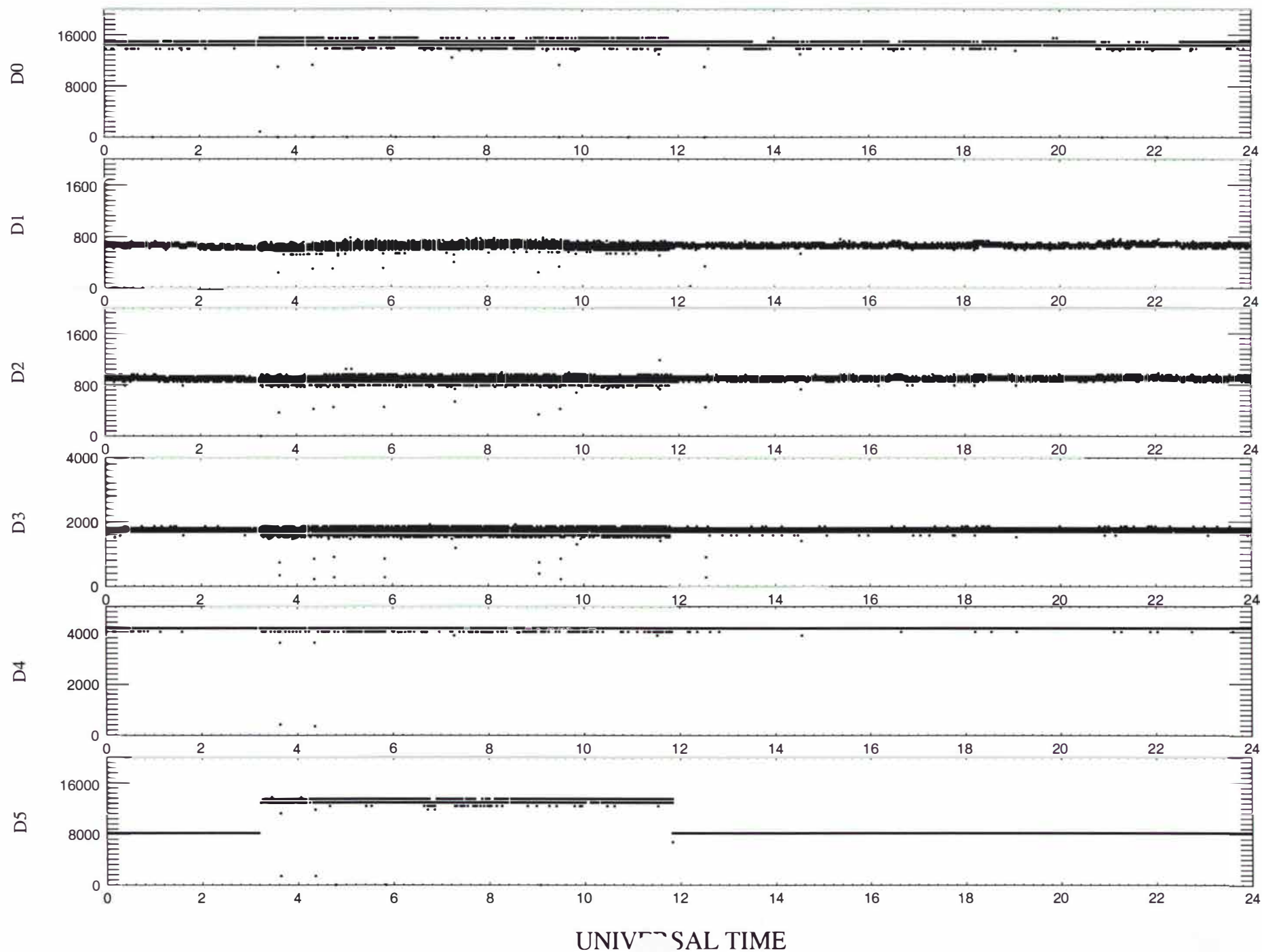
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIV SAL TIME



From PETERSON@fender.msfc.nasa.gov Wed Jun 2 07:53:23 1999

From: PETERSON@fender.msfc.nasa.gov

Date: Wed, 2 Jun 1999 9:53:26 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@ests2.estec.esa.nl,
cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,
bacodine@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.: 7583

TIME: TJD=1324 SECONDS=32135

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=139.5 AZIMUTH=59.6 ERROR=0.361 DEGREES

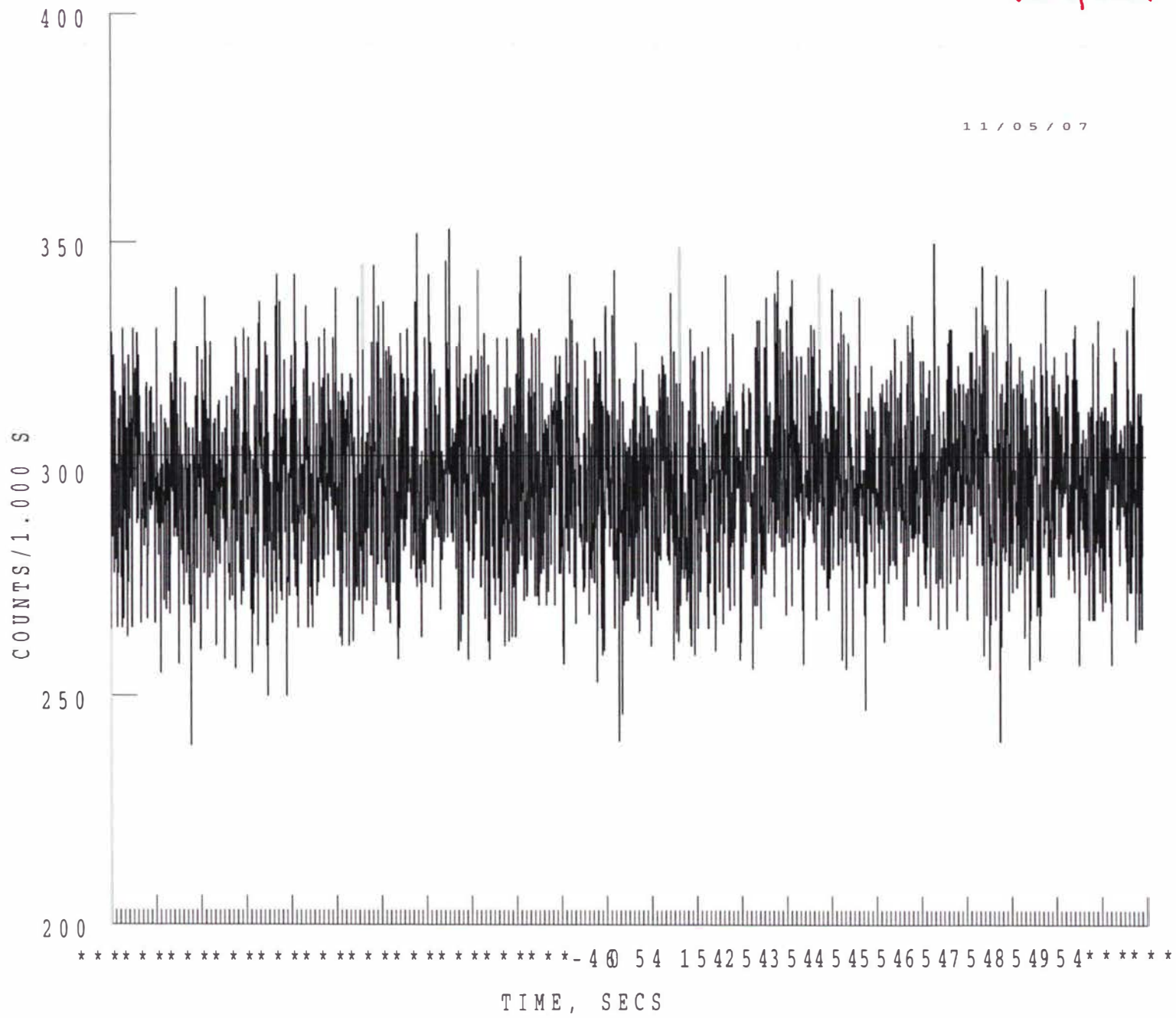
COMMENTS:

GOES C2.7, OPTICAL SF. SINGLE PULSE WITH SUBSTRUCTURE, DUR. APPROX. 120S, START
AT APPROX. T-17S, MAX AT APPROX. T+7S. VISIBLE ABOVE 100KEV.

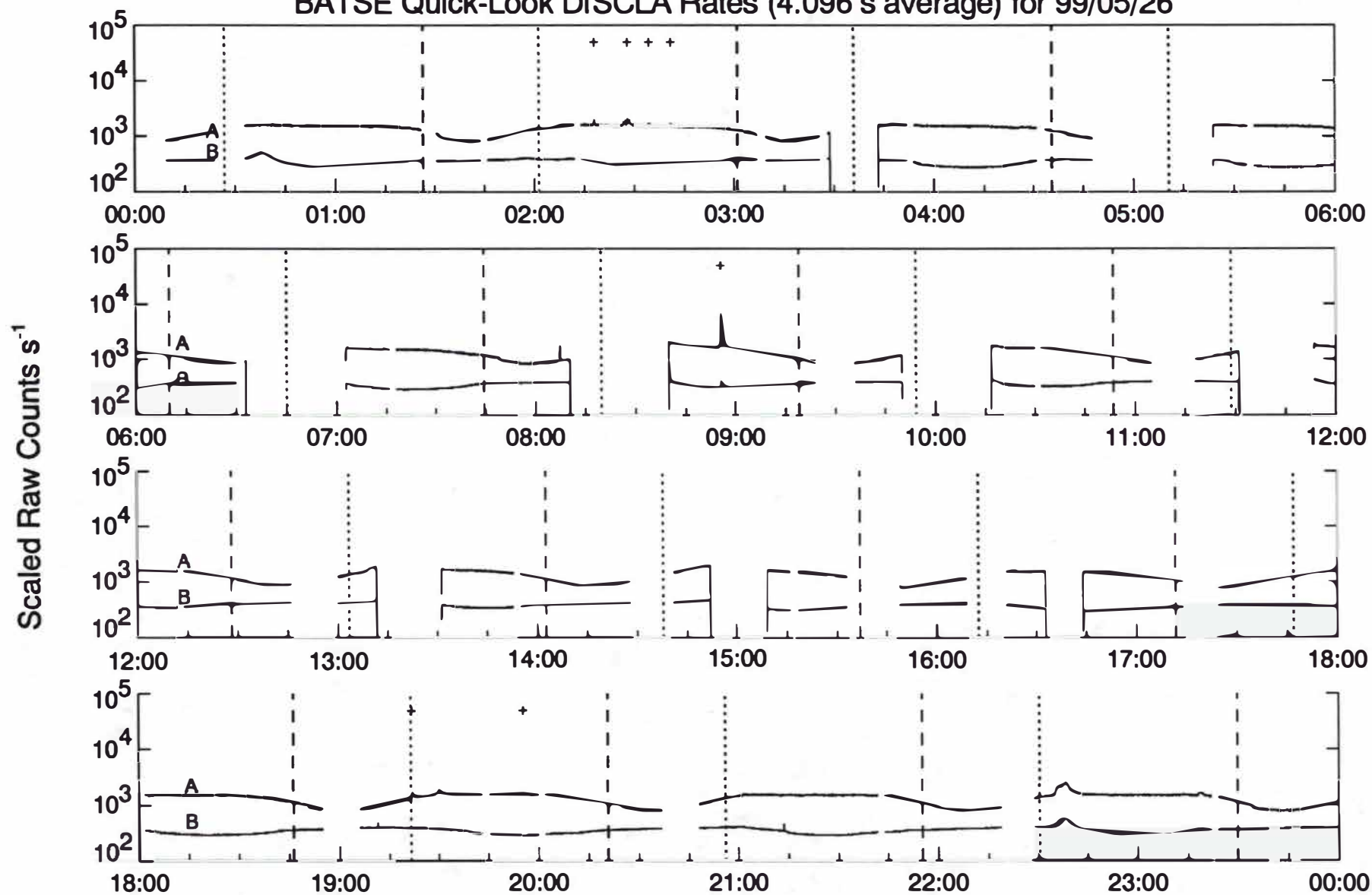
26/05/99 47272.604

100-1000 keV

NEAR



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/26

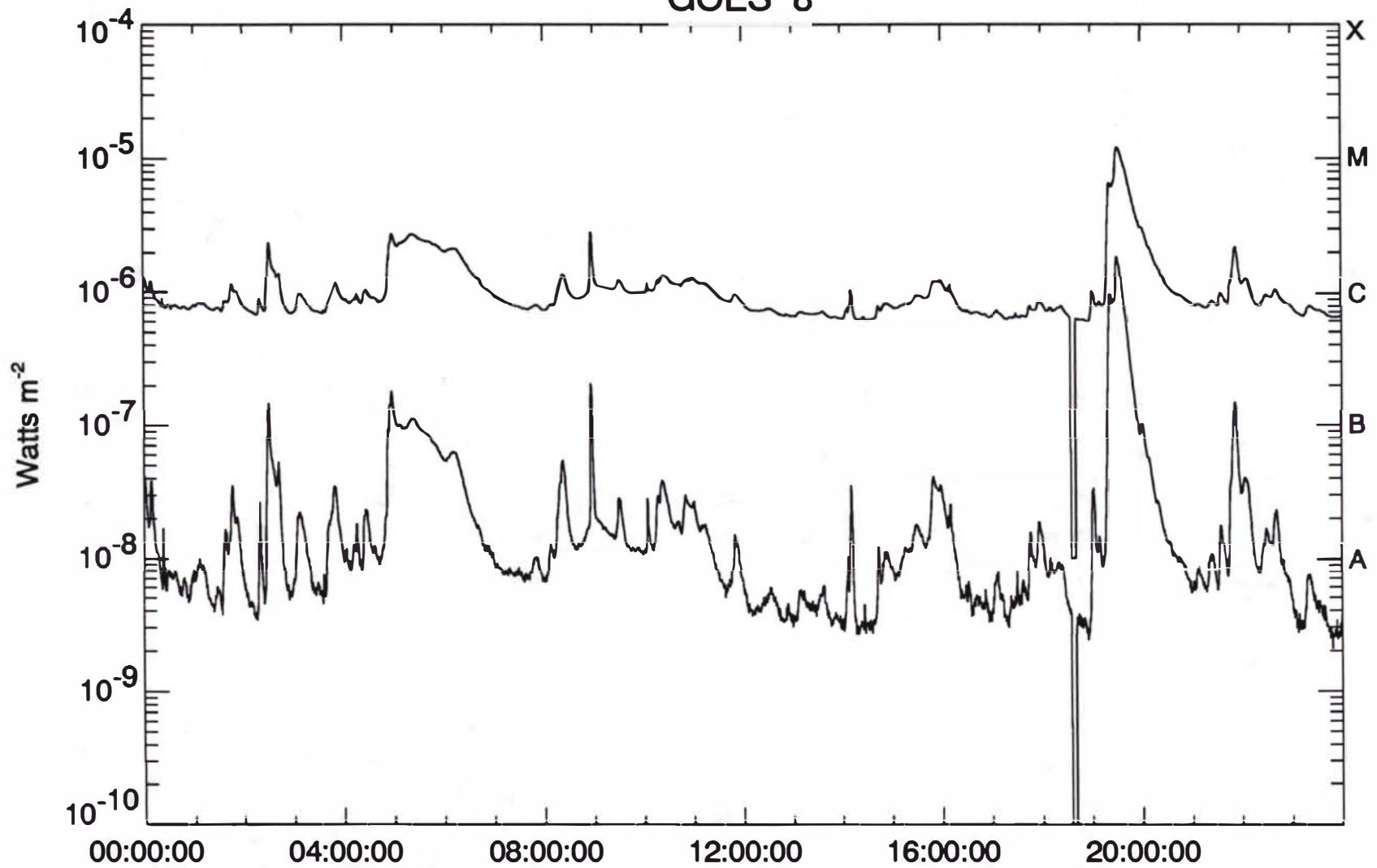


Current Time: 99/05/30, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/26, 0000:00

Plot created: 99/05/30, 1006

Channel

1 (1.0 - 8.0 Angstroms)

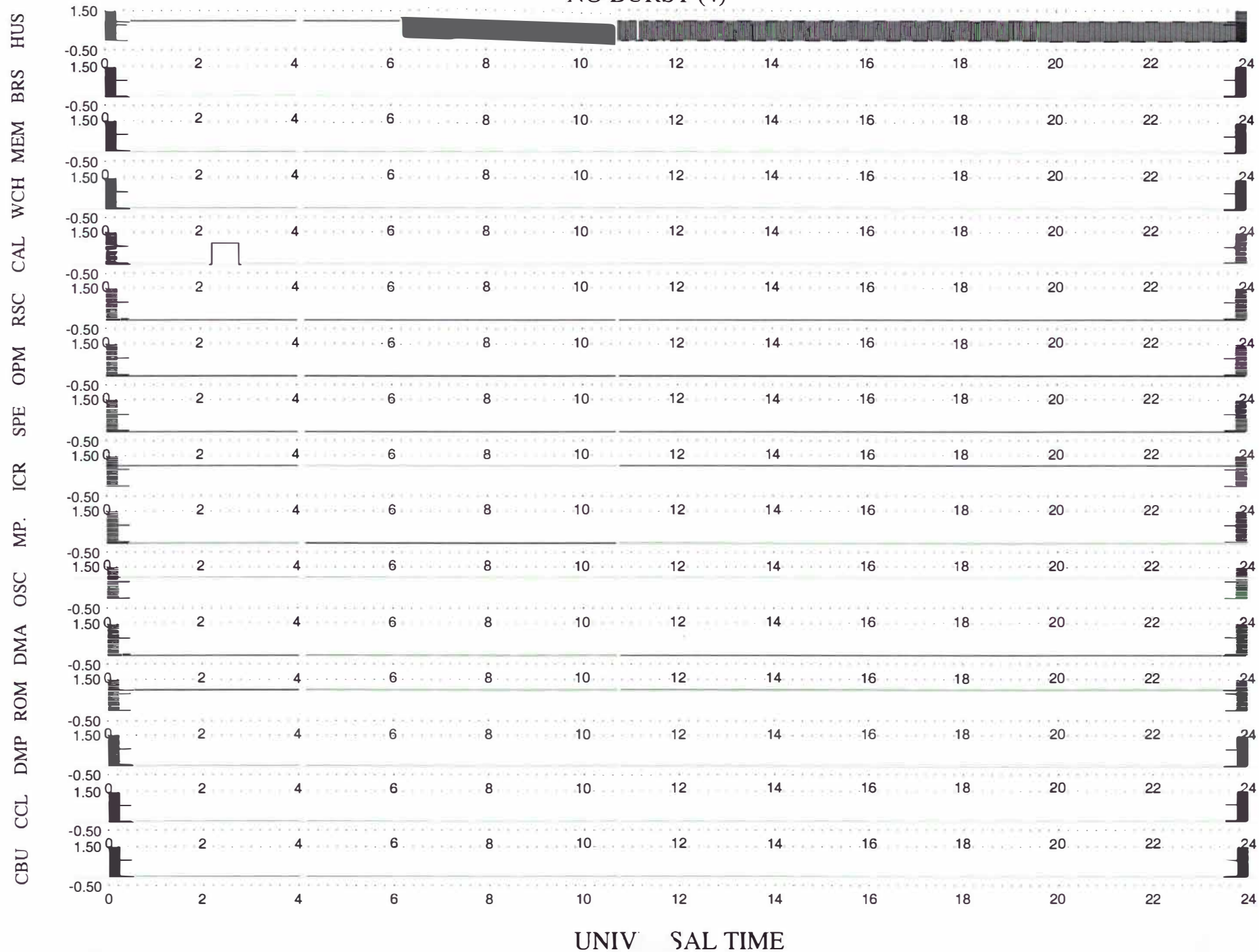
Background not subtracted

2 (0.5 - 4.0 Angstroms)

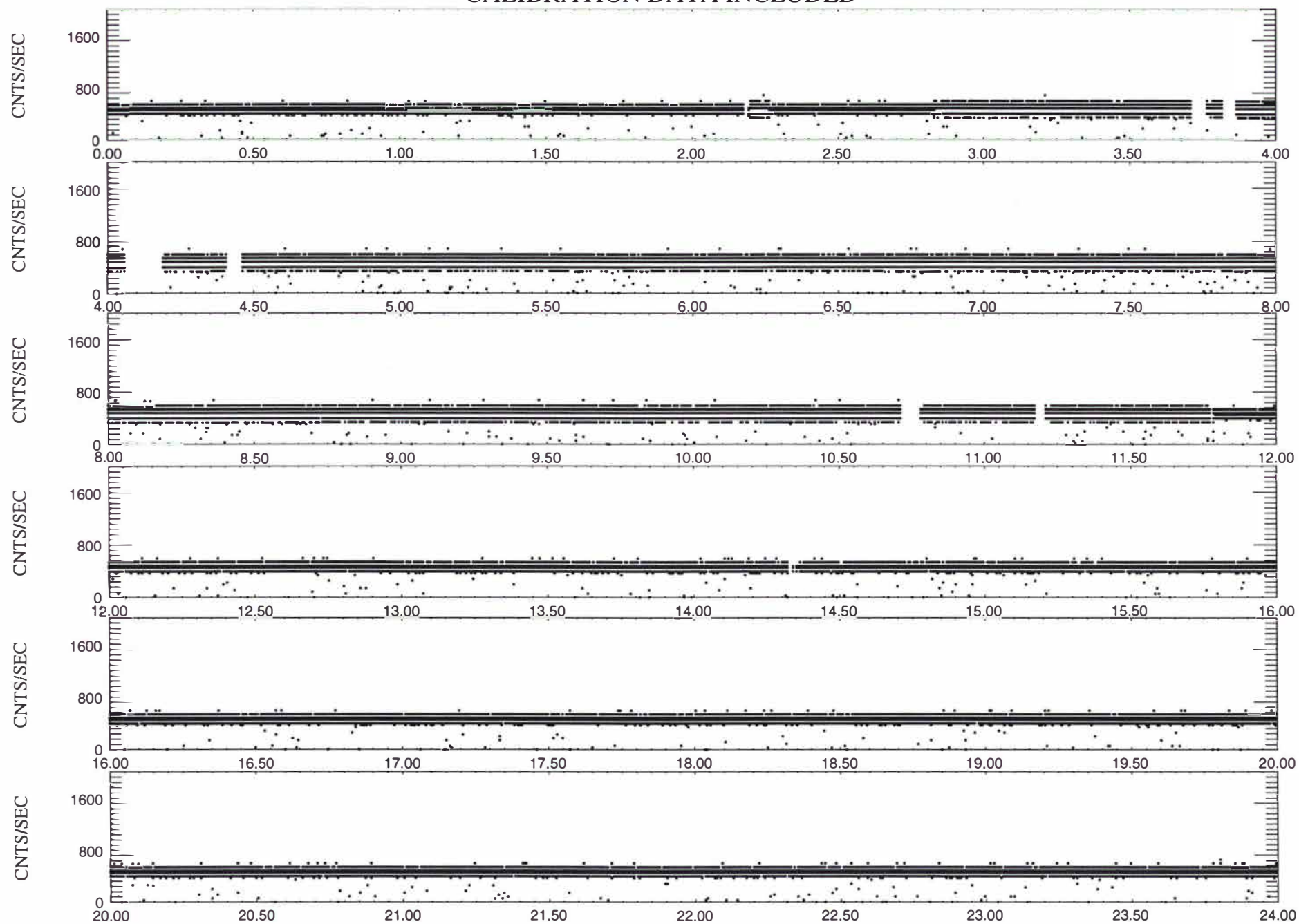
Background not subtracted

Sample average = 10

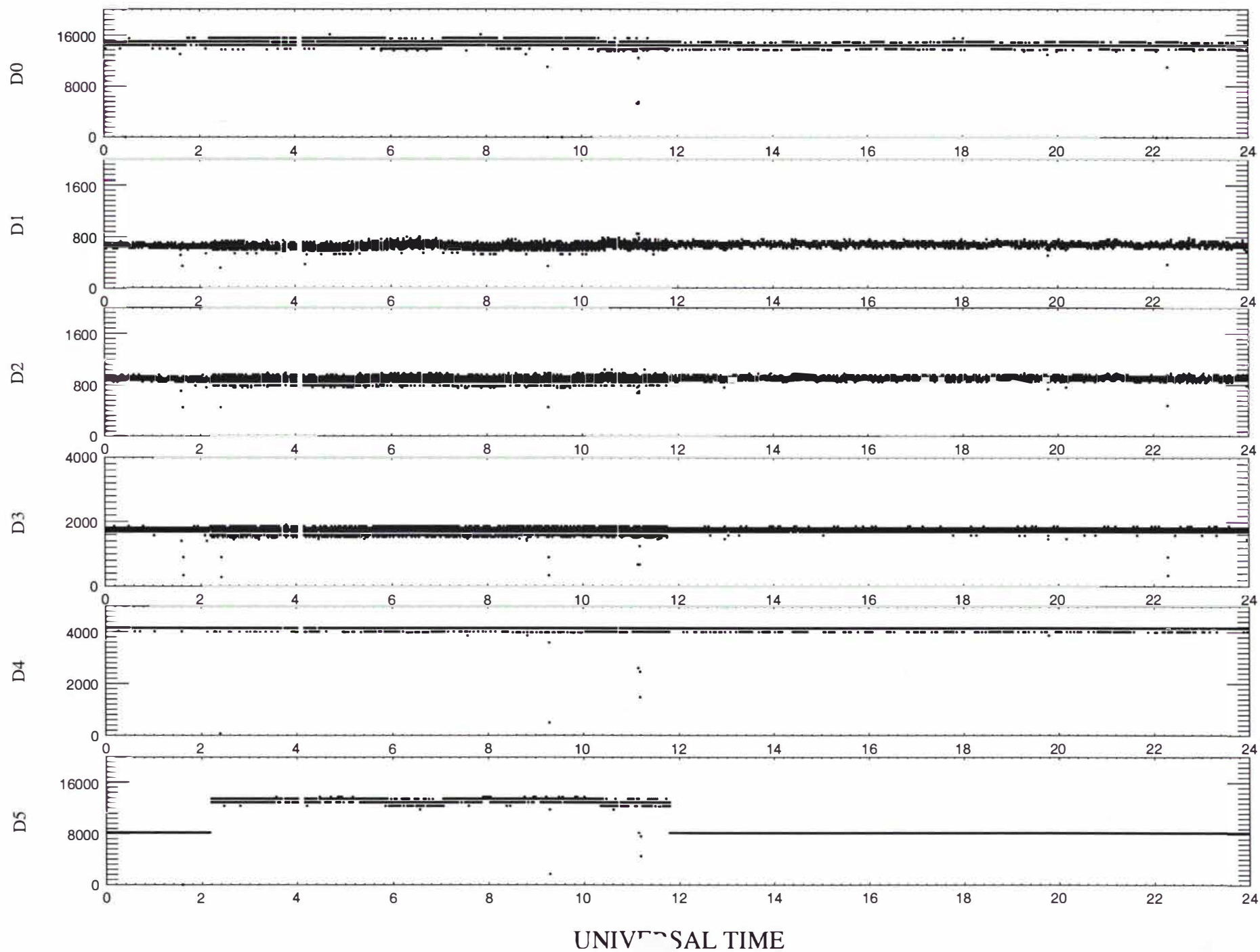
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From GOGUSE@fender.msfc.nasa.gov Wed Jun 2 08:22:58 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 IAA22735; Wed, 2 Jun 1999 08:22:58 -0700
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 (8.9.3/8.9.2) with SMTP id IAA17227
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 2 Jun 1999 08:19:40 -0700 (PDT)
Date: Wed, 2 Jun 1999 10:23:26 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990602102326.2080c41b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7584
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7584
EVENT OF 1999 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 12760. S. OR 03:32:40.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 295.000 -45.000
BATSE PEAK COUNTING RATE: 6000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 99 IS:
RA= 144.114 DEC= -6.827 DIST= 4.906 AU
BATSE-ULYSSES DISTANCE = 733867284. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 58.04 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1295.76 SECS.
CROSSING TIME AT ULYSSES IS 14056. S. OR 03:54:15 +/- 430.25 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 99 IS:
RA= 203.064 DEC= -9.672 DIST= 0.633 AU
MARS-BATSE DISTANCE = 94711424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 95.47 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -30.09 SECS.
CROSSING TIME AT MARS IS 12730. S. OR 03:32:09 +/- 54.14 SECONDS

BATSE BURST TRIGGER

NO.: 7584

TIME: TJD=1325 SECONDS=12760

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 31.1 AZIMUTH=113.5 ERROR= 9.5 DEGREES

COMMENTS:

ZENITH IS DEGREES FROM +Z AXIS, AZIMUTH IS DEGREES CCW FROM +X,
ERROR IS 3 SIGMA ERROR CIRCLE RADIUS.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7584	990527	11325	12760	6000	295	-45	.04

BATSE BURST# 7584

ULYSSES RT

2 / 6 / 99

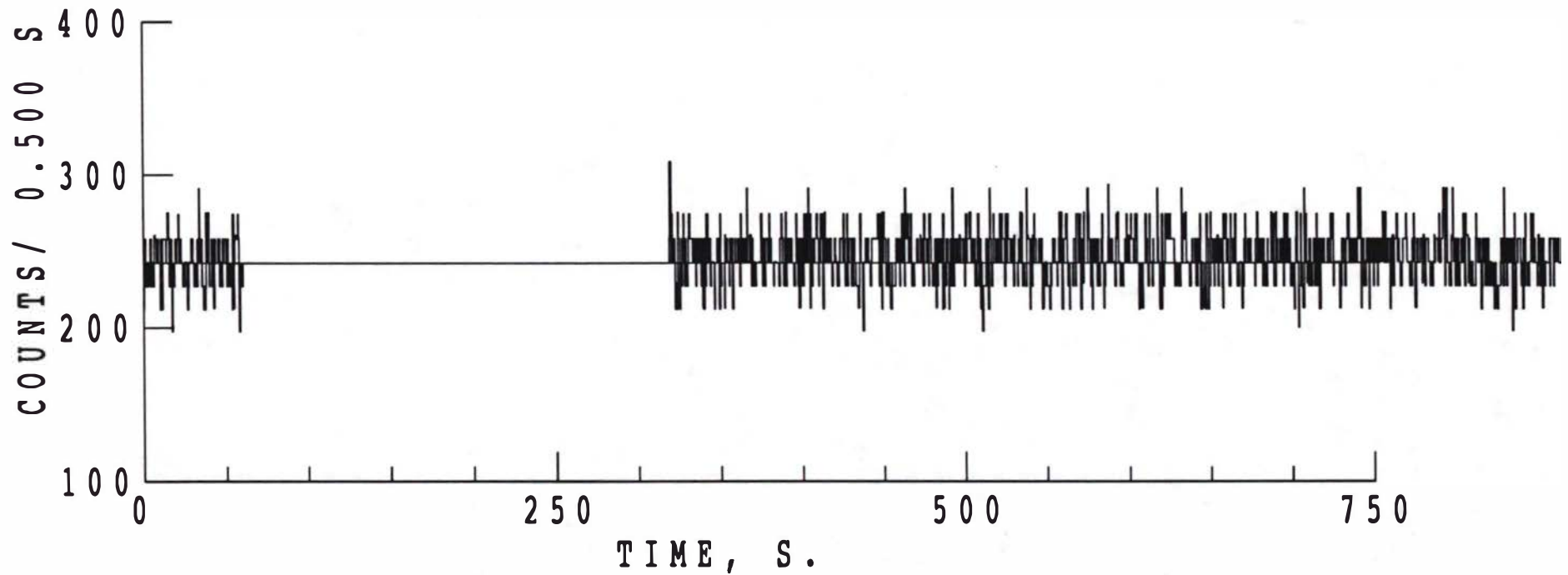
27 / 5 / 99 13608.033 s

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 GOGUSE@fender.msfc.nasa.gov Wed Jun 2 08:18:40 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Wed, 2 Jun 1999 10:18:30 -0500 (CDT)

To: burst@comptel.sr.unh.edu, grobad@estsa2.estec.esa.nl,

cline@lheavx.gsfc.nasa.gov, barthelmy@lheavx.gsfc.nasa.gov,

bacodine@lheawww.gsfc.nasa.gov, scott@circe.gsfc.nasa.gov,

butterworth@lheavx.gsfc.nasa.gov, dband@ucsd.edu, dgruber@ucsd.edu,

jmatteson@ucsd.edu, PACIESAS@fender.msfc.nasa.gov,

HORACK@fender.msfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,

hpark@llnl.gov

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7585

TIME: TJD=1325 SECONDS=19981

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=145.2 AZIMUTH= 65.4 ERROR= 3.4 DEGREES

COMMENTS:

ZENITH IS DEGREES FROM +Z AXIS, AZIMUTH IS DEGREES CCW FROM +X,
ERROR IS 3 SIGMA ERROR CIRCLE RADIUS.

From GOGUSE@fender.msfc.nasa.gov Wed Jun 2 08:36:19 1999

From: GOGUSE@fender.msfc.nasa.gov

Date: Wed, 2 Jun 1999 10:36:36 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7585

TIME: TJD=1325 SECONDS=19981

TYPE: FLARE SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=145.2 AZIMUTH= 65.4 ERROR= 3.4 DEGREES

COMMENTS:

GOES C2.9, OPTICAL SF,

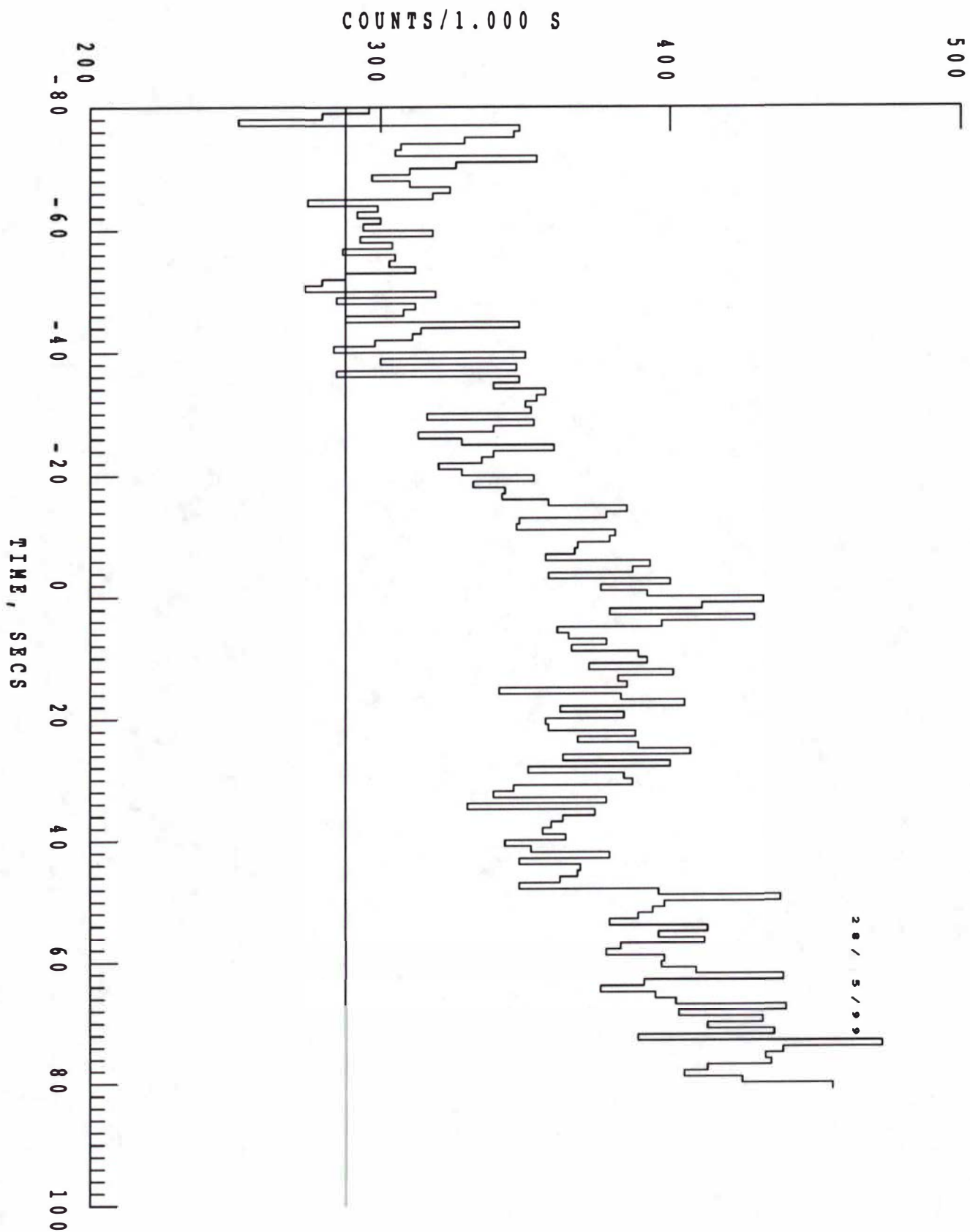
DUR. APP. 50 SEC., NOT VISIBLE ABOVE 100 KEV

NEAR

27/05/99

38753.582

100-1000 keV



KNEAR GRS 19990527 38753

ULYSSES RT

28 / 5 / 99

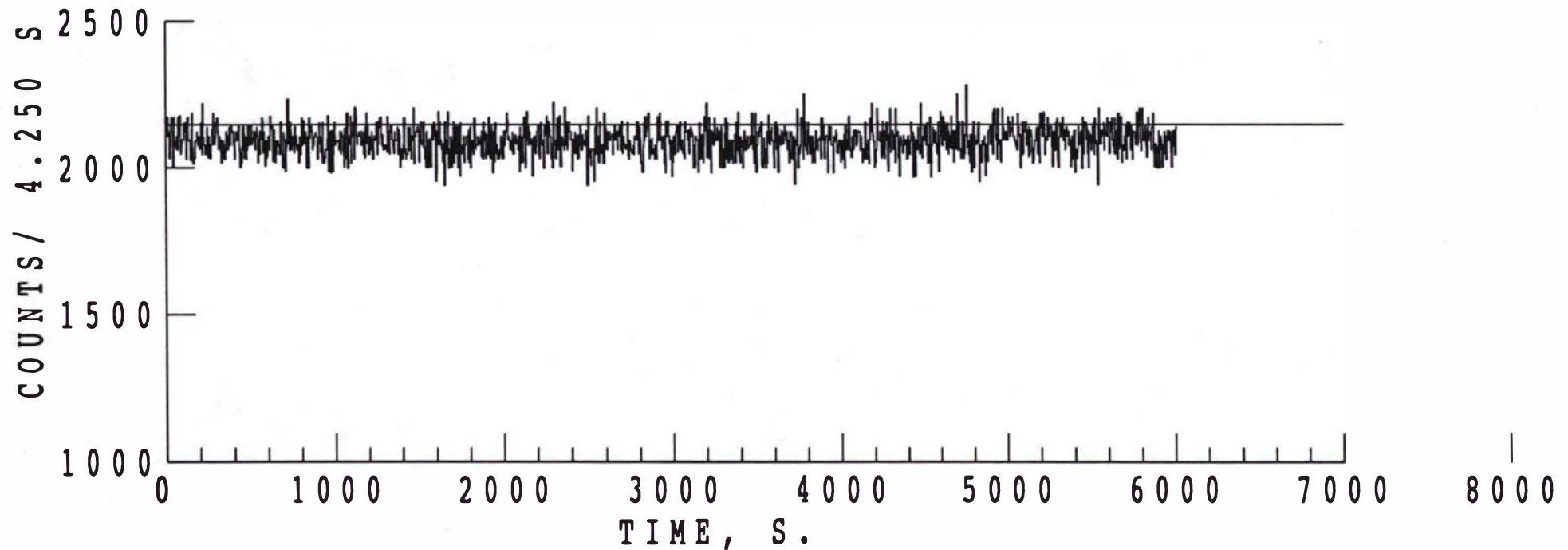
27 / 5 / 99 35748.008 s

0.250 S INTERVALS REGROUPED BY 17

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



From PETERSON@fender.msfc.nasa.gov Wed Jun 2 08:06:11 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 IAA22416; Wed, 2 Jun 1999 08:06:11 -0700
From: PETERSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id IAA16958
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 2 Jun 1999 08:02:53 -0700 (PDT)
Date: Wed, 2 Jun 1999 10:06:43 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990602100643.2080c46f@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7586
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7586
EVENT OF 1999 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 50215. S. OR 13:56:55.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 345.000 -20.000
BATSE PEAK COUNTING RATE: 2100 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 99 IS:
RA= 144.125 DEC= -6.828 DIST= 4.911 AU
BATSE-ULYSSES DISTANCE = 734721448. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 33.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 2036.89 SECS.
CROSSING TIME AT ULYSSES IS 52252. S. OR 14:30:51 +/- 317.54 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 99 IS:
RA= 203.064 DEC= -9.672 DIST= 0.633 AU
MARS-BATSE DISTANCE = 94711424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 47.79 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 212.26 SECS.
CROSSING TIME AT MARS IS 50427. S. OR 14:00:27 +/- 43.85 SECONDS

BATSE BURST TRIGGER

NO.: 7586

TIME: TJD=1325 SECONDS=50215

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=78.8 AZIMUTH=110.5 ERROR=0.792 DEGREES

COMMENTS:

GRB. DOUBLE PULSE WITH SUBSTRUCTURE, DUR. GREATER THAN 73S, MAX AT APPROX.
T+54S. VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7586	990527	11325	50215	2100	345	-20	73

Date: Mar 6 '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?

*~ 70 s time difference between old + new Ulysses files!
Probably related to the presence of the data gap*

N-M = CORRELATION BETWEEN SATELLITES N AND M

EARTH-N = EARTH AS SEEN FROM SATELLITE N

S=SUN

E=ECLIPTIC

G=GALACTIC EQUATOR

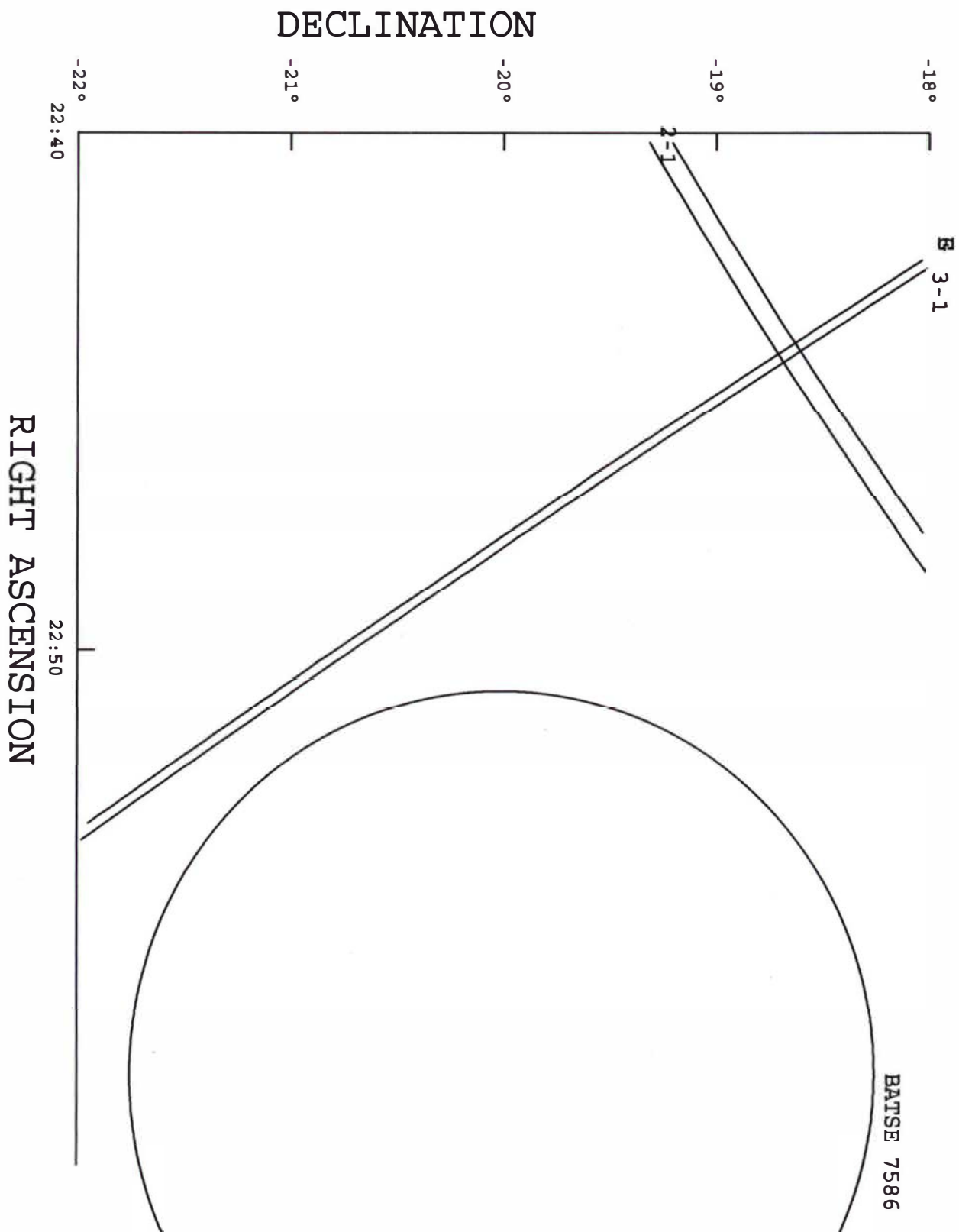
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAY 27, 1999 13:56

6 / 3 / 0



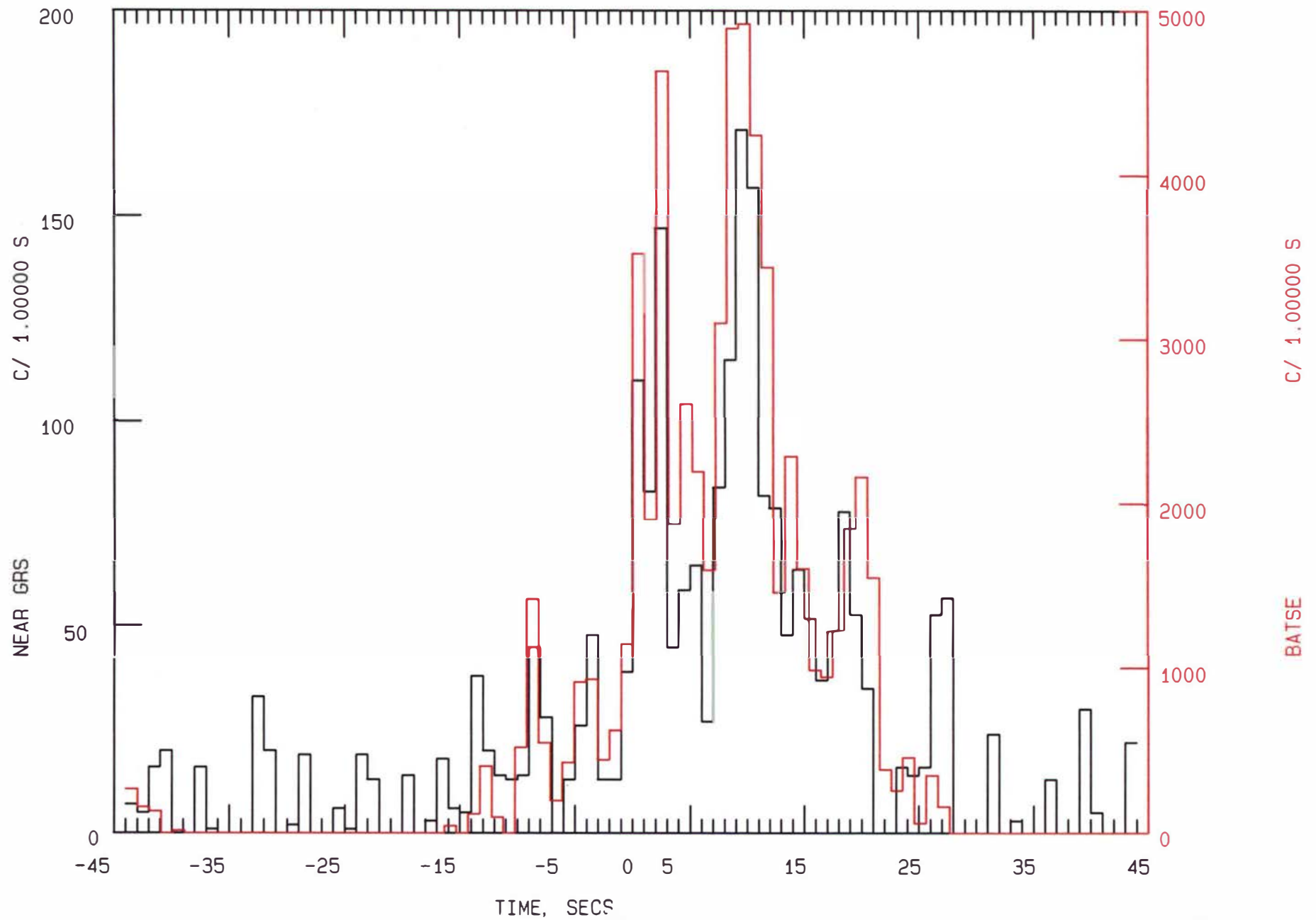
NEAR GRS -BATSE

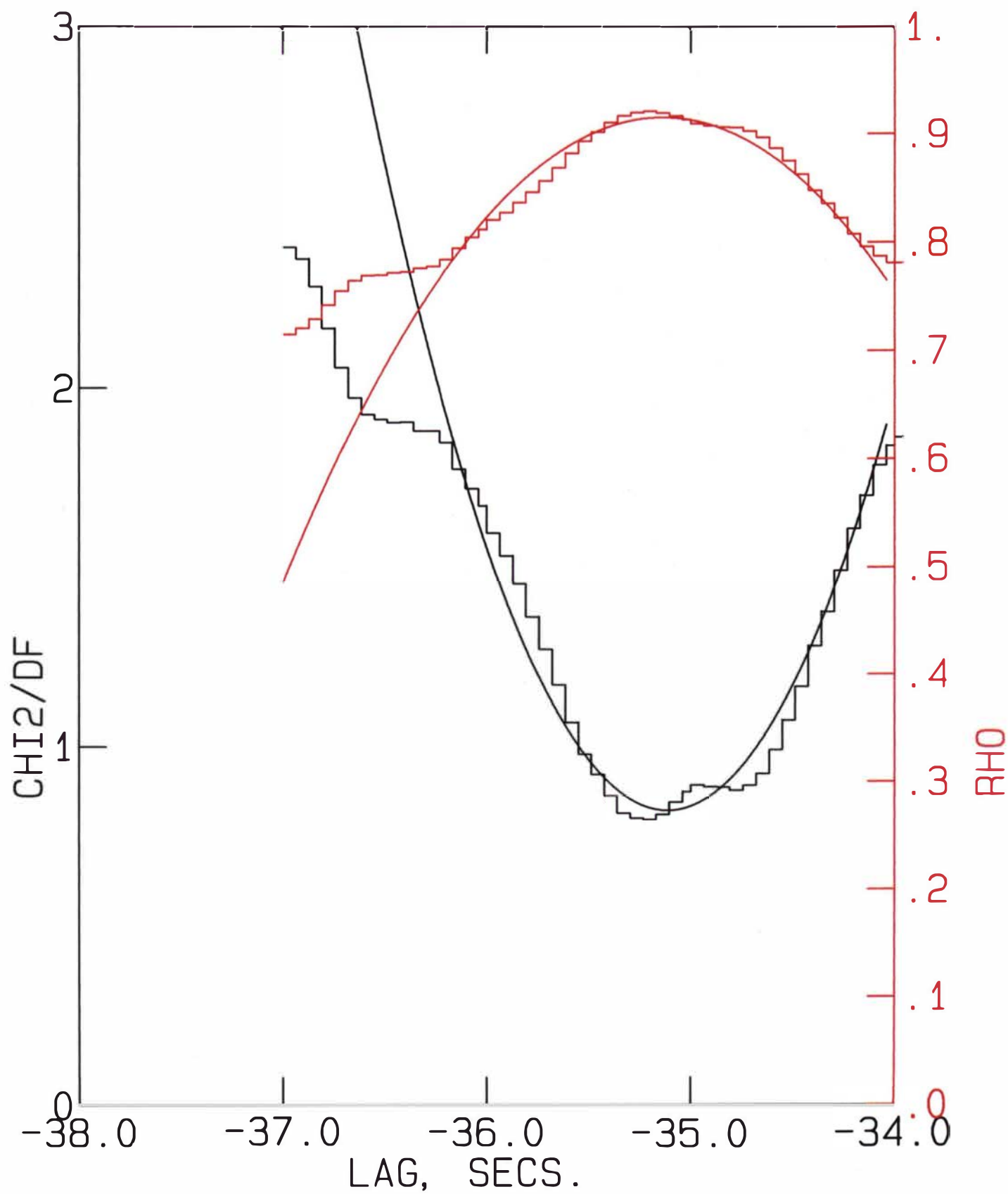
CORRELATION

27/05/99

49923.579

6/ 3/ 0





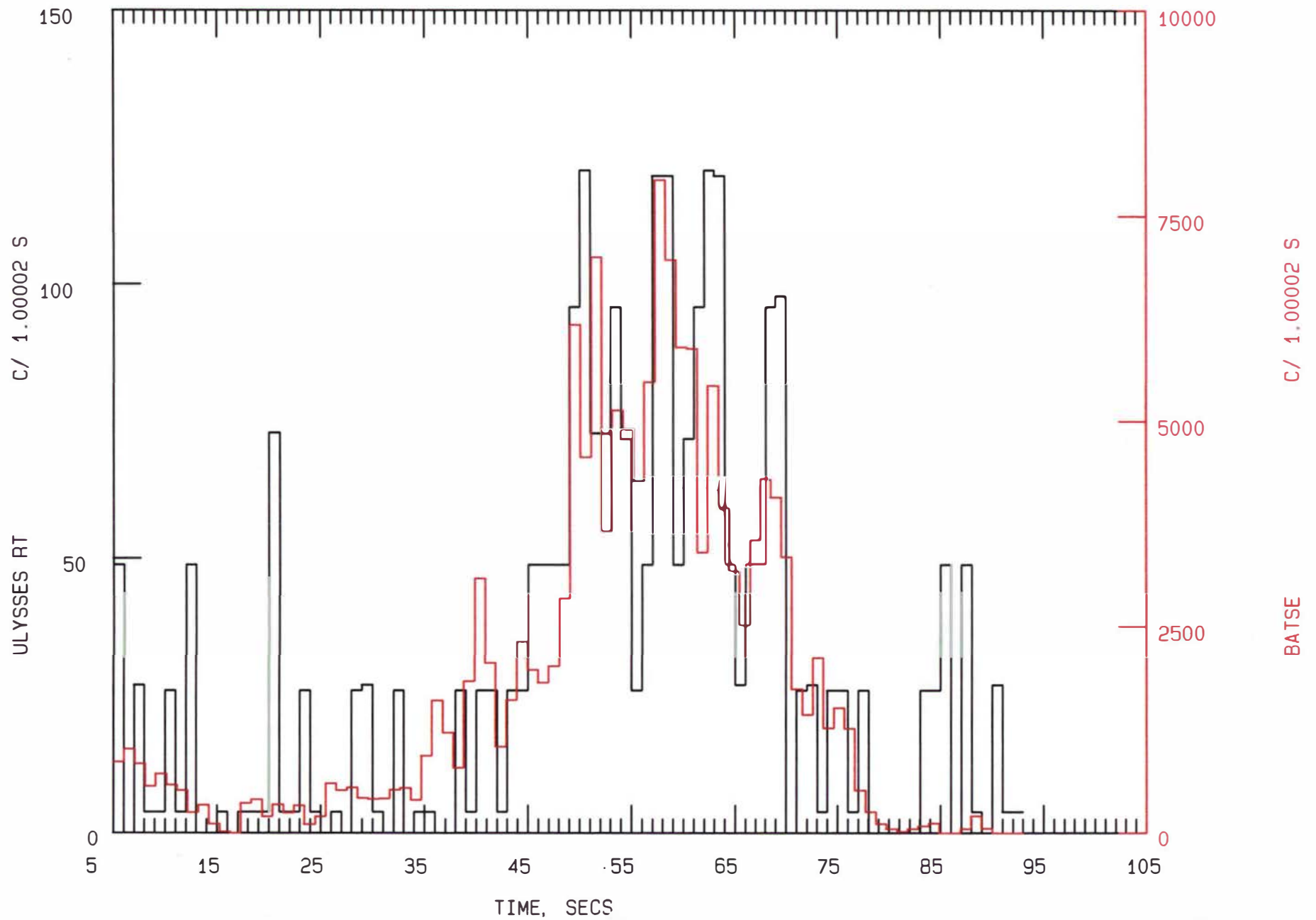
ULYSSES RT-BATSE

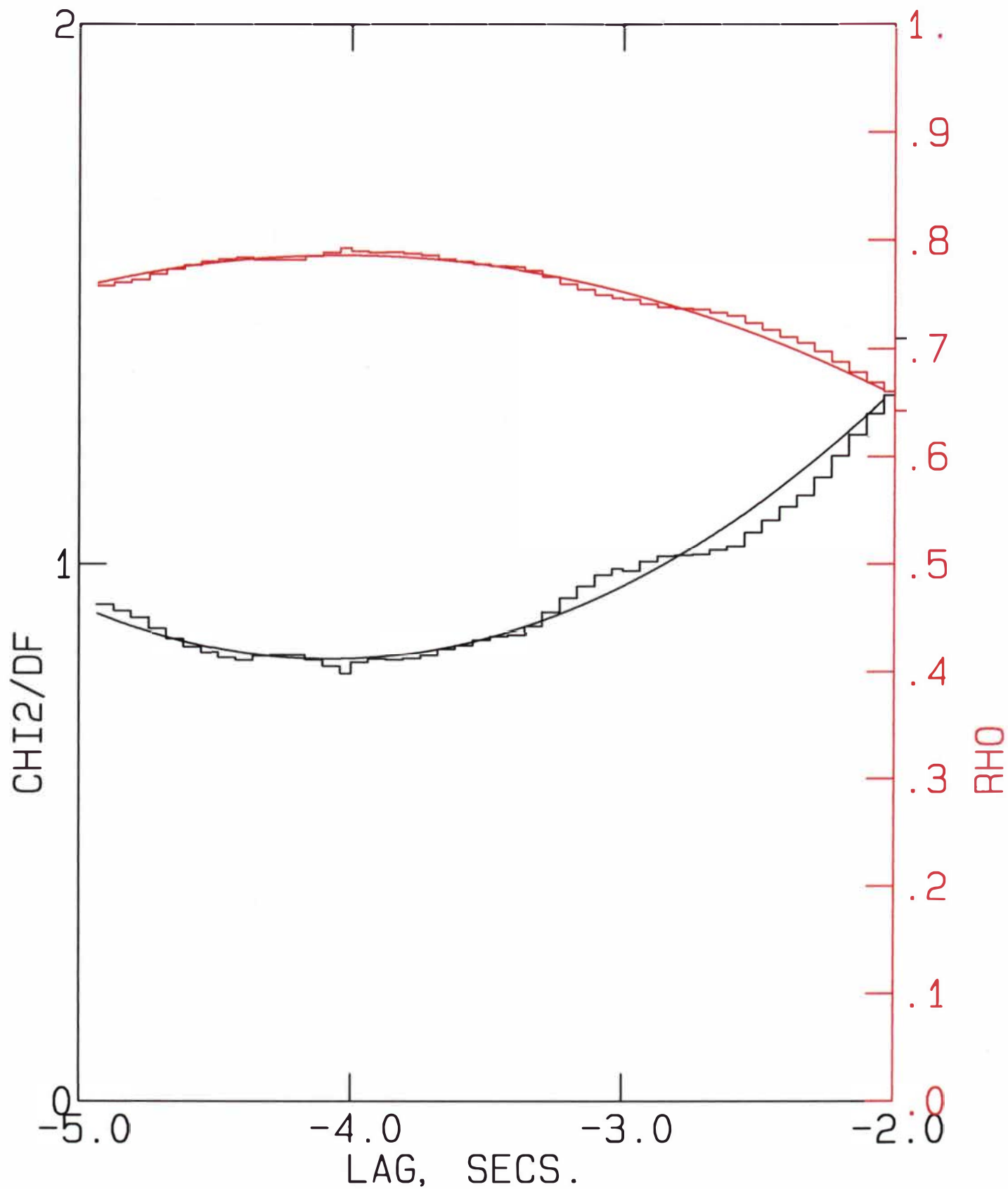
CORRELATION

27/ 5/99

52321.199

6/ 3/ 0

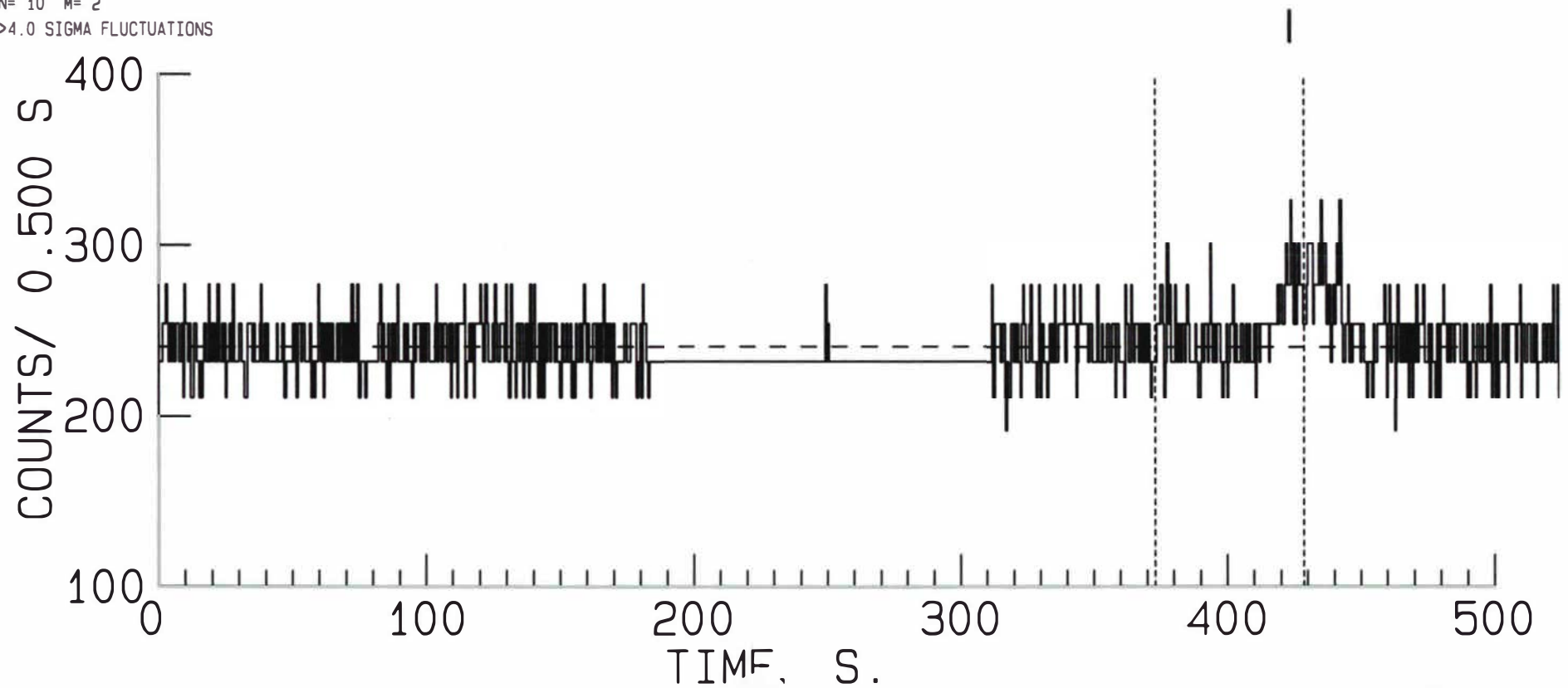




ULYSSES RT
27/ 5/99 51948.169 s
22- 150 keV

6 / 3 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



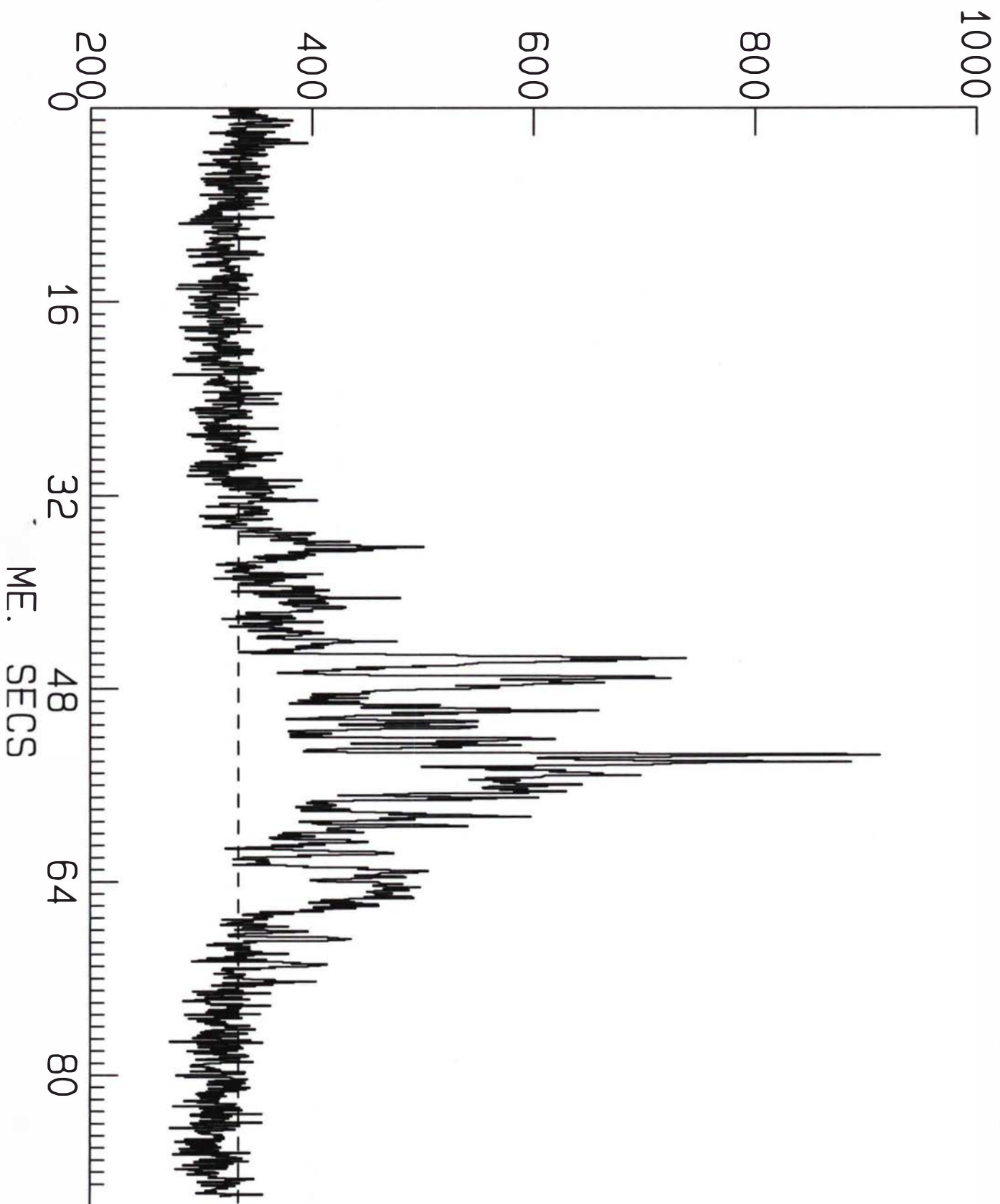
BATSE

27/05/99

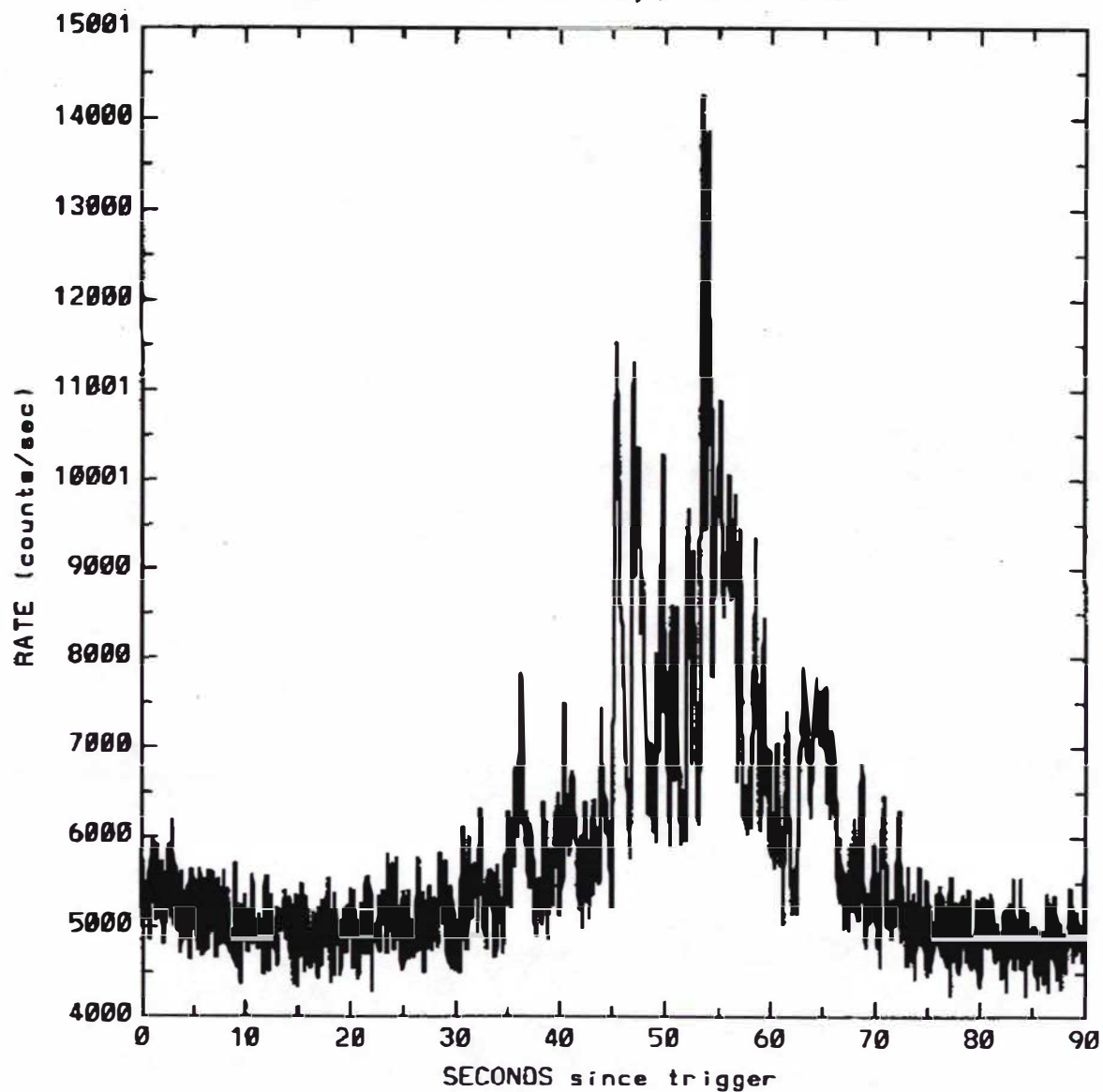
50215.673

100-1000 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7586



24-FEB-2008 12:40:54

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

Trigger # : 7586

Trigger Time:
11325 / 50215.673

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

Minimum Integ. Time:
0.064 second(s)

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

Channels:
1 7.15 1

Quality Mask:
BDISP1

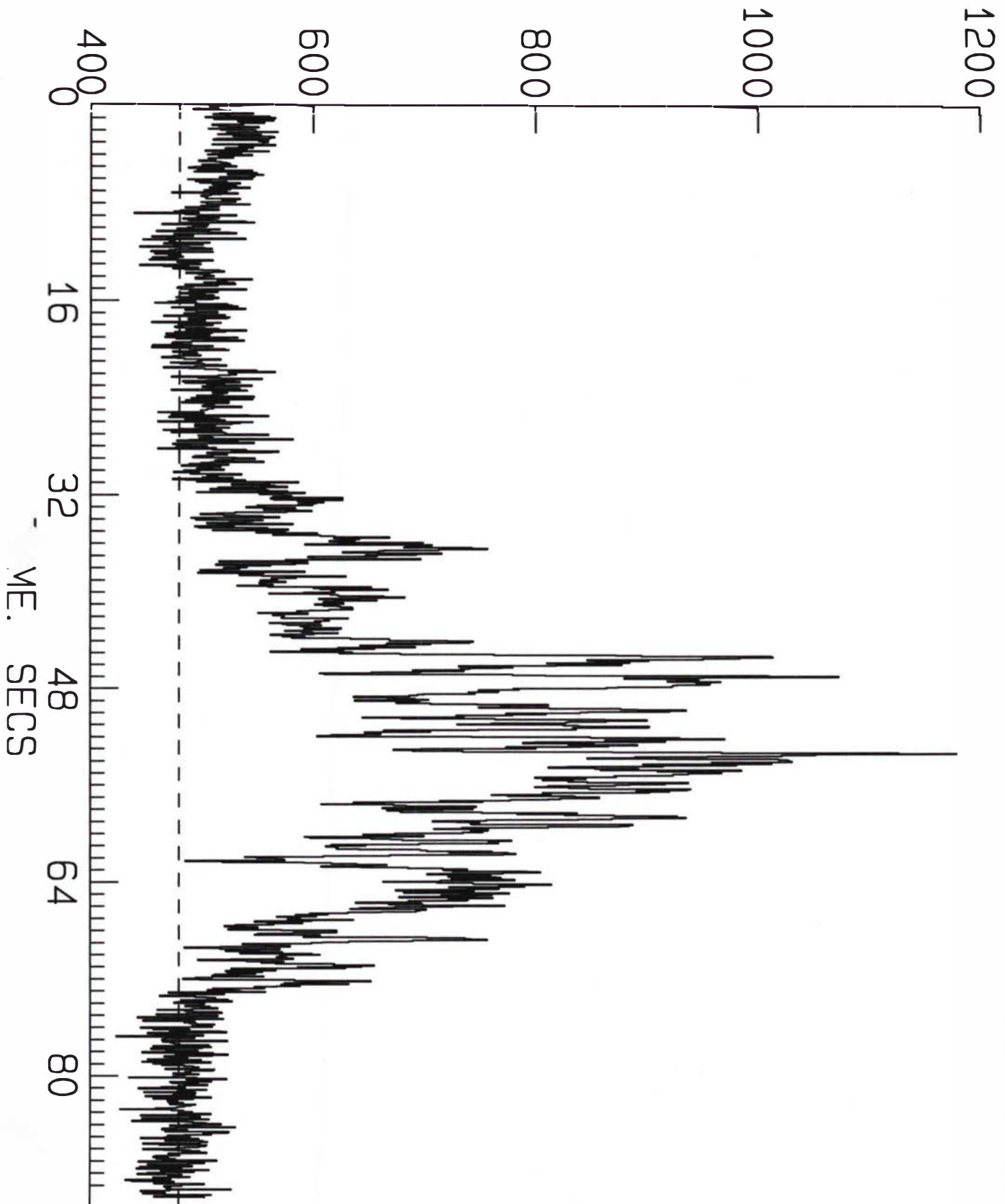
BATSE

27/05/99

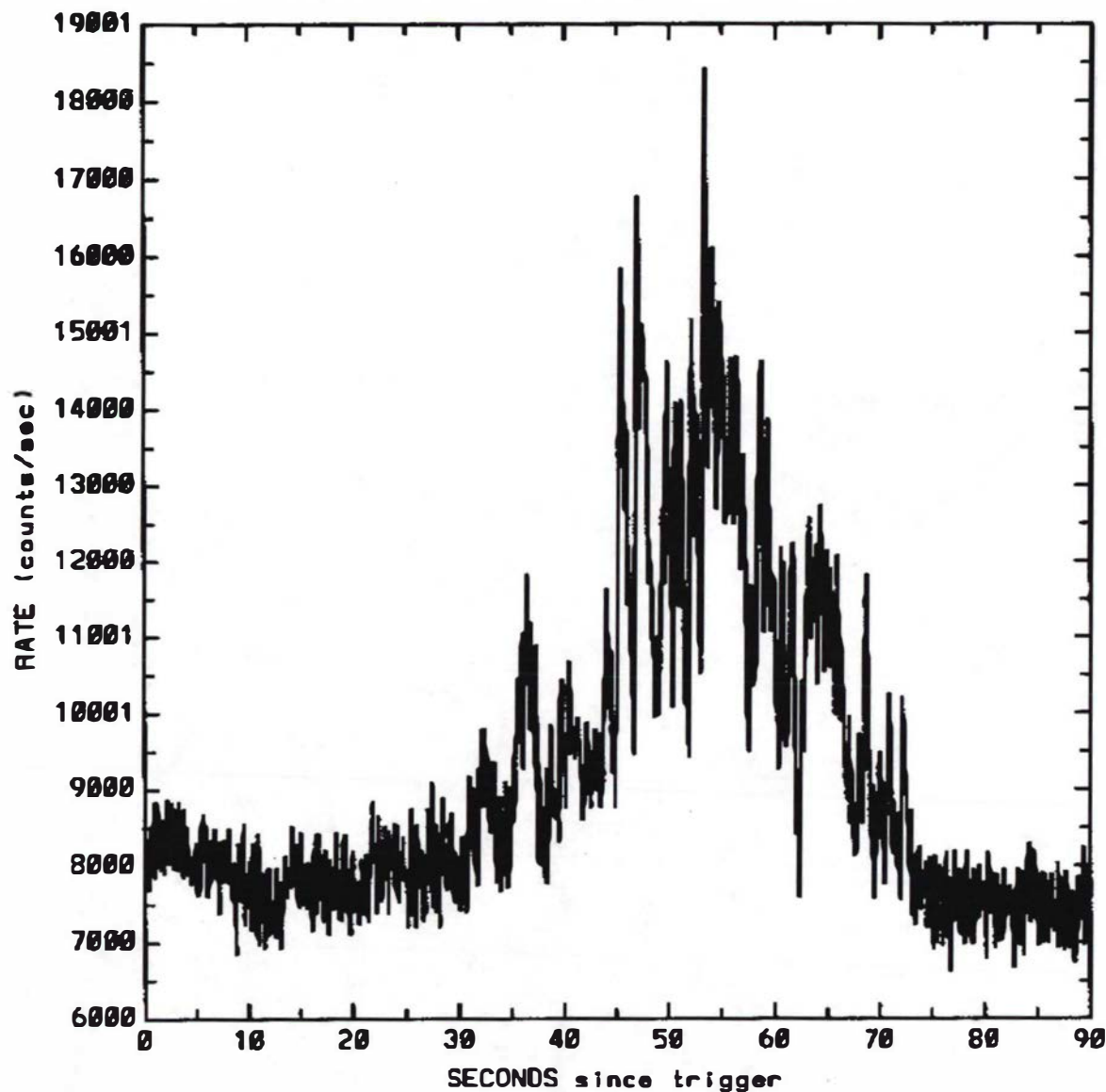
50215.673

25- 100 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7586



15-JUN-1999 12:48:12

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

Trigger # : 7586

Trigger Time:
11325 / 58215.673

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

Minimum Integ. Time:
0.064 second(s)

Detectors {7..8}.
--54----

Channels:
(5 , 6)

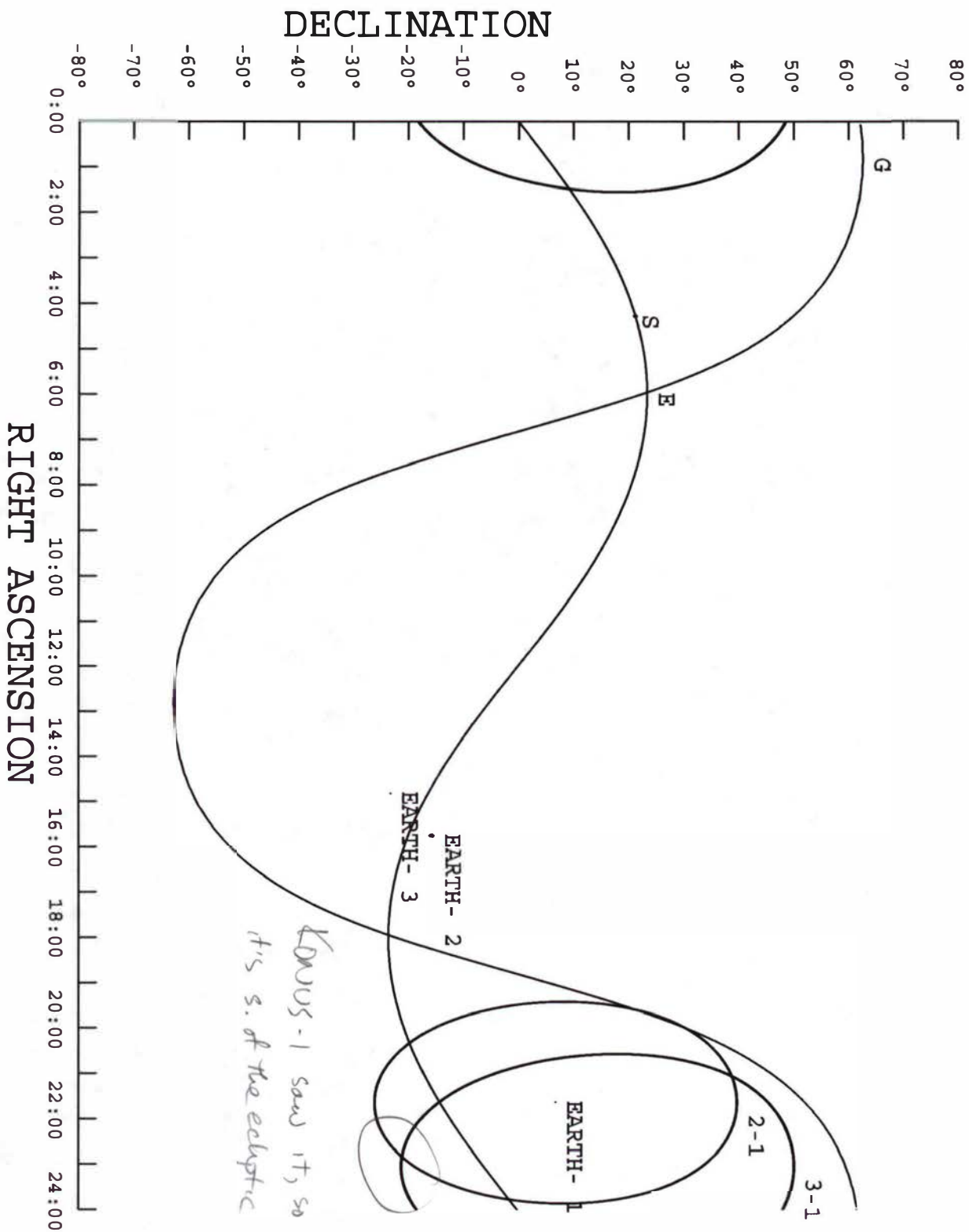
Quality Mask:
B0ISP1

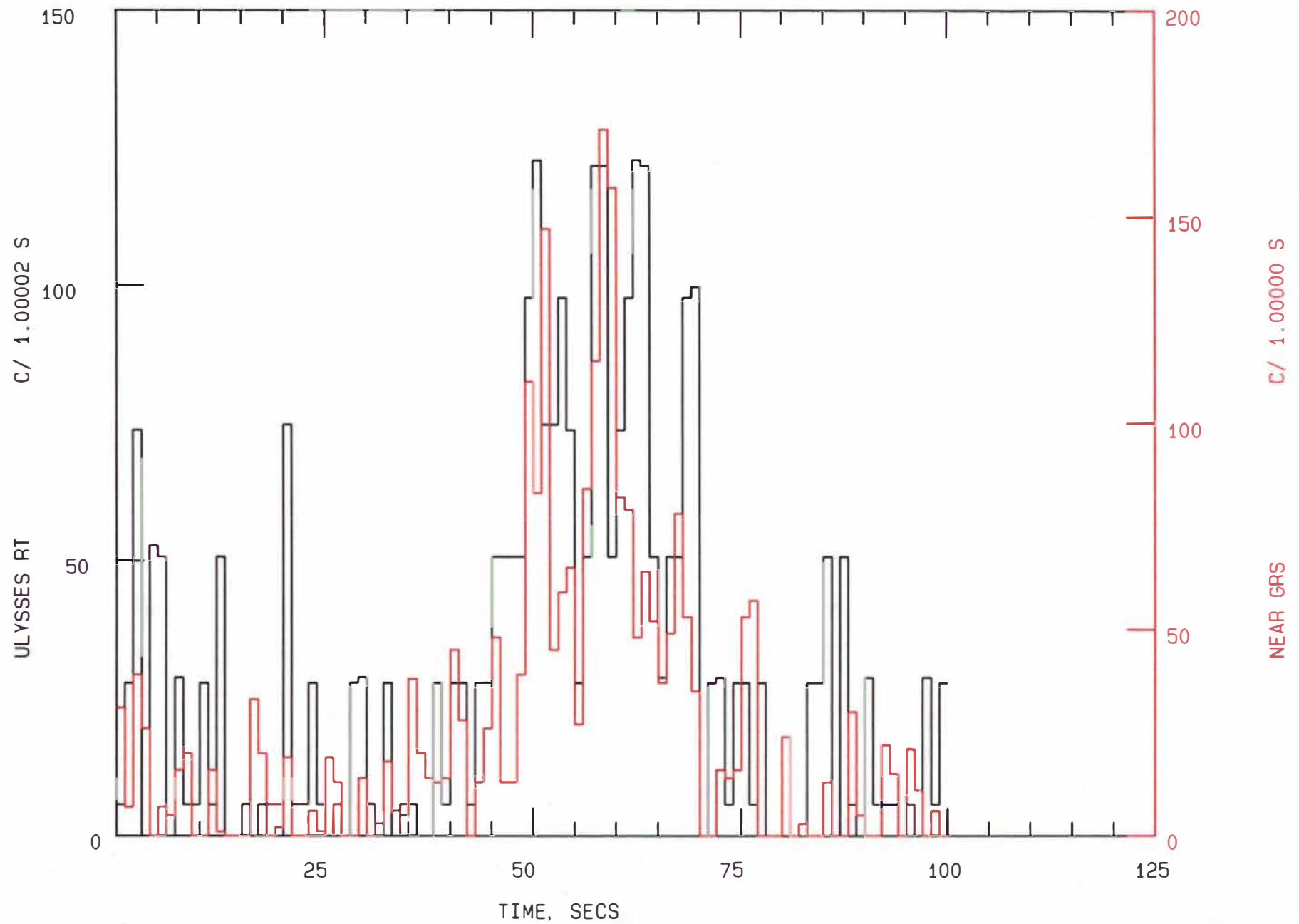
G=GALACTIC EQUATOR

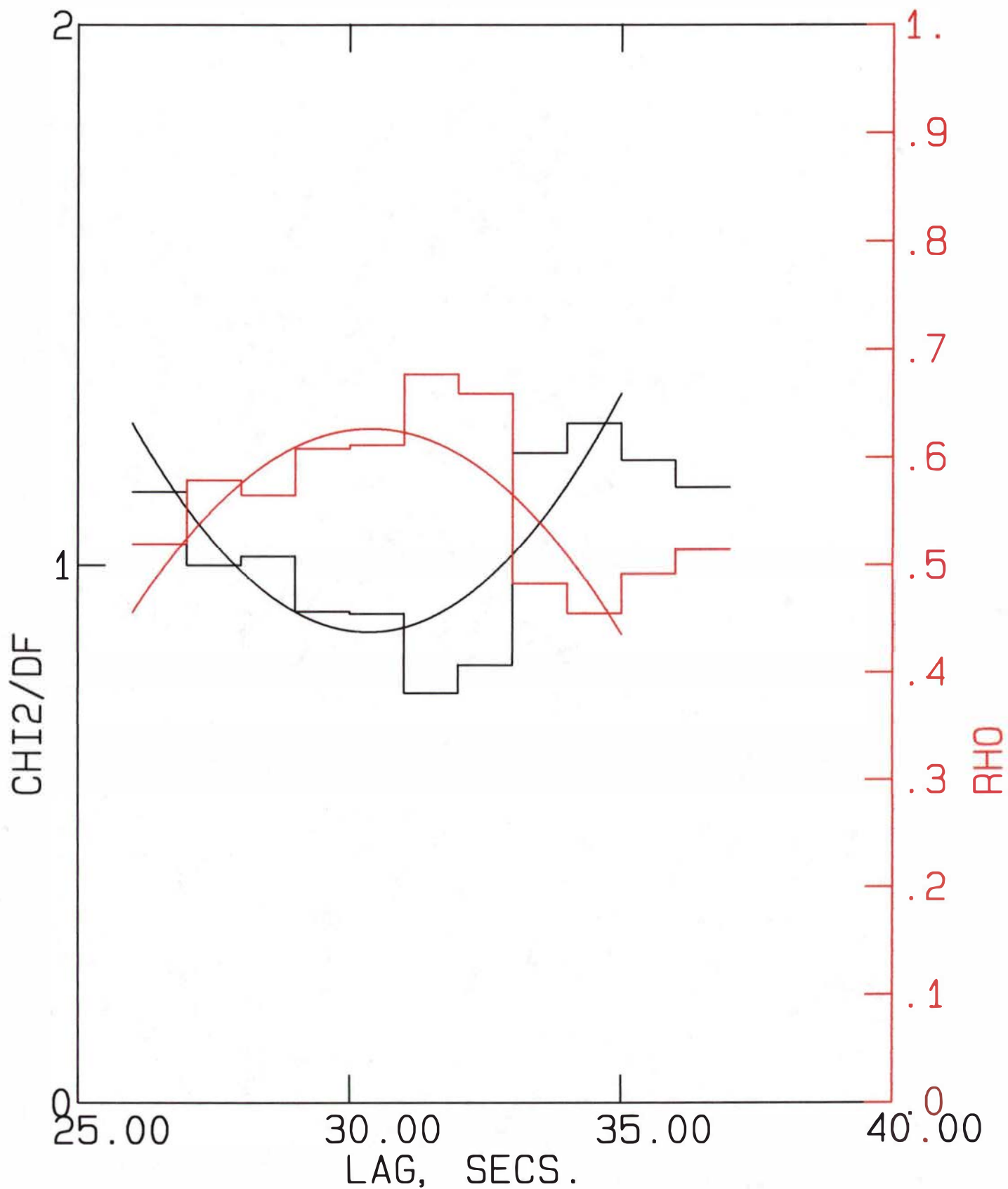
3. NEAR

EVENT OF MAY 27, 1999 14:31

28 / 5/99







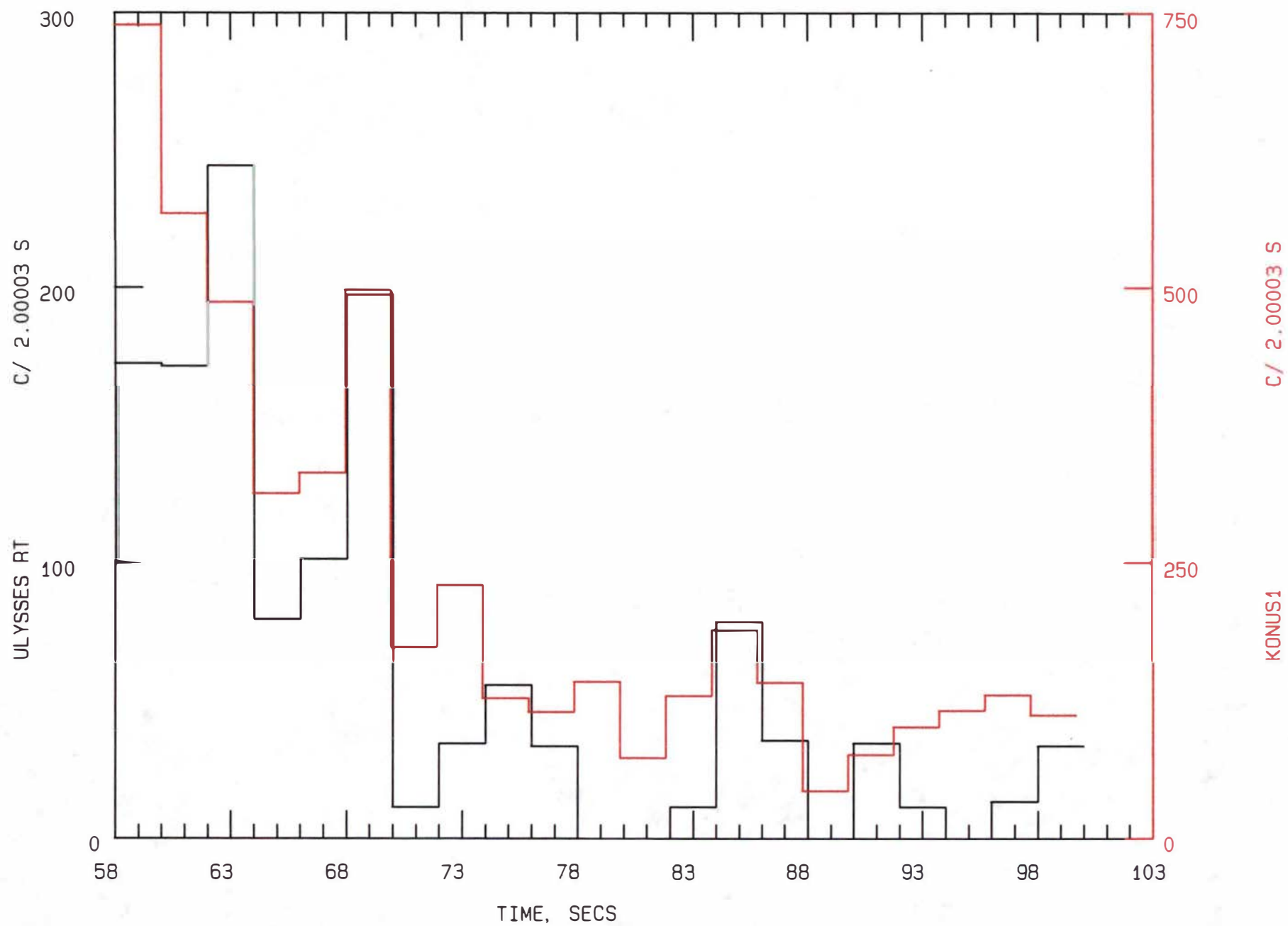
ULYSSES RT-KONUS1

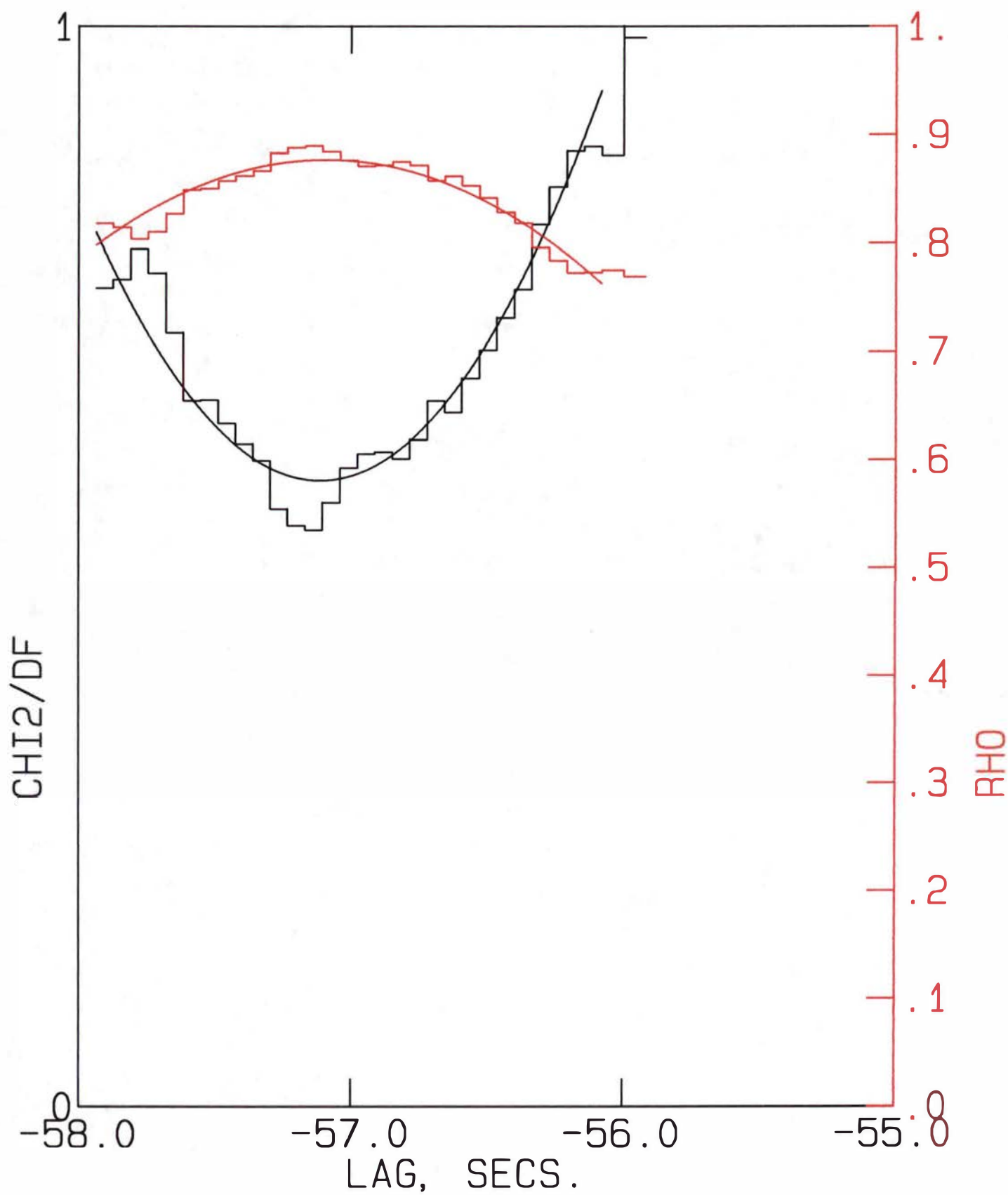
CORRELATION

27/ 5/99

52261.173

28/ 5/99





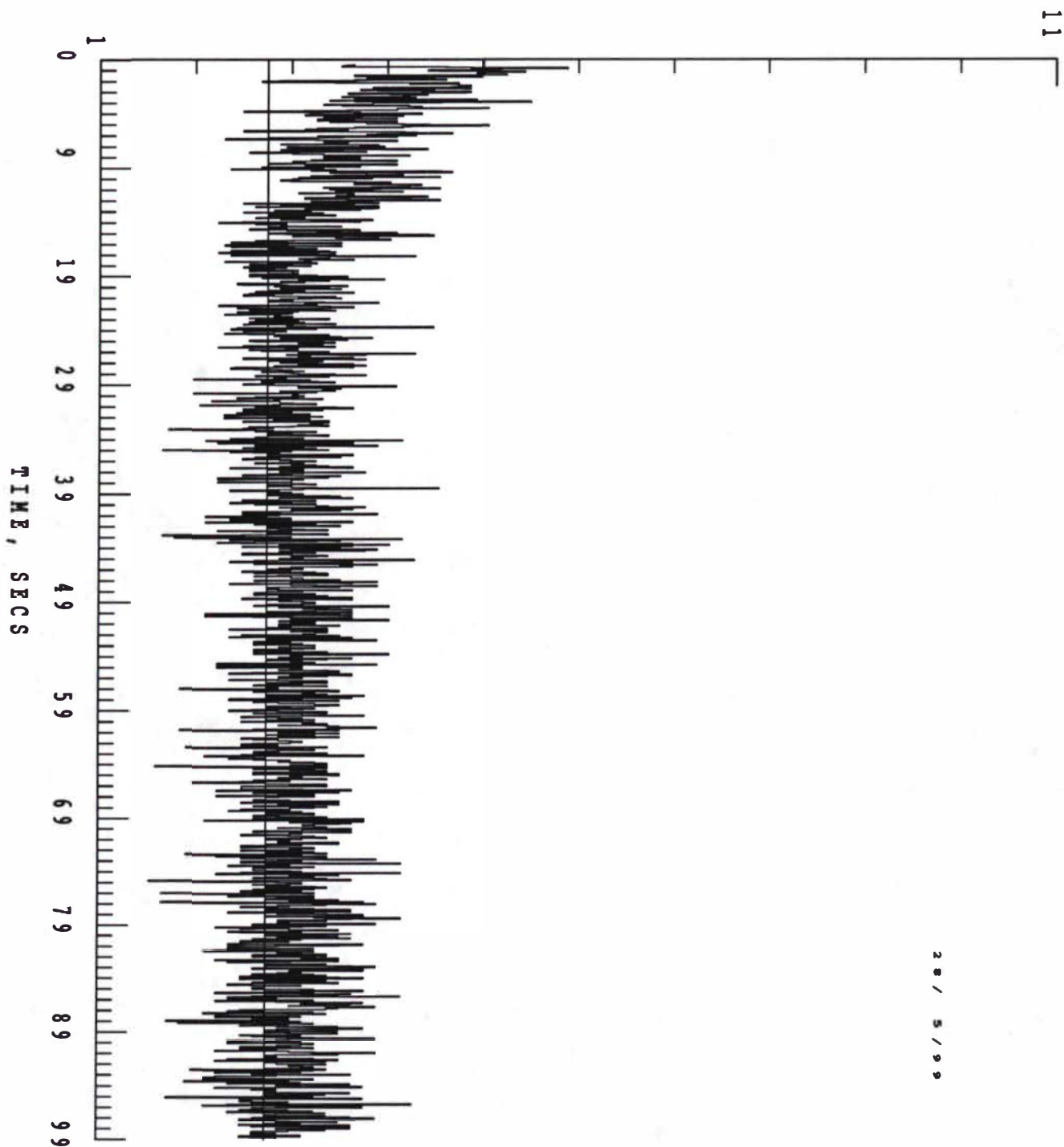
KONUS

27/05/99

50268.778

50 - 200 keV

COUNTS/0.064 S

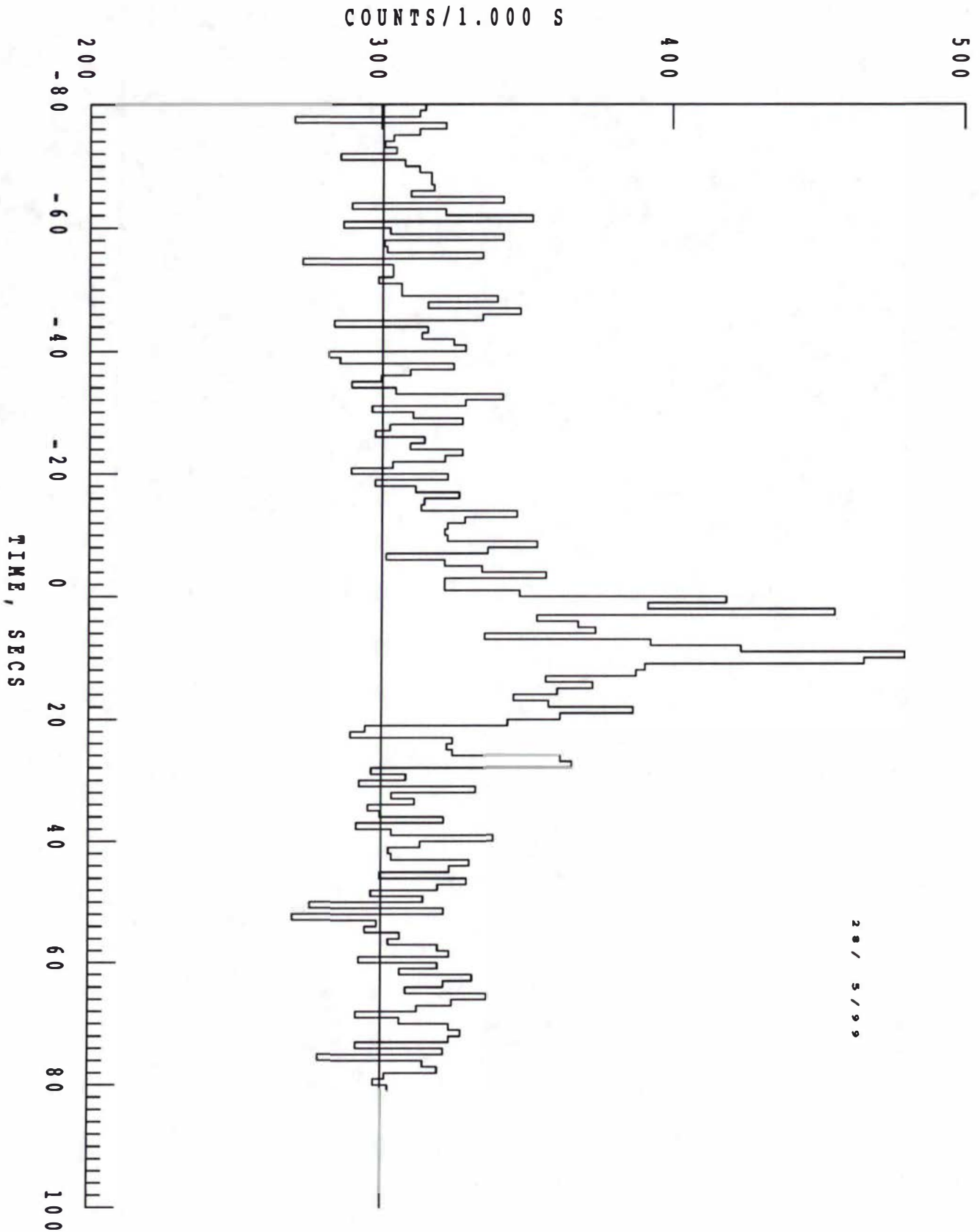


NEAR

27/05/99

49923.579

100-1000 keV



SAX GRB

HUS DATA

19 / 07 / 05

ULYSSES RT

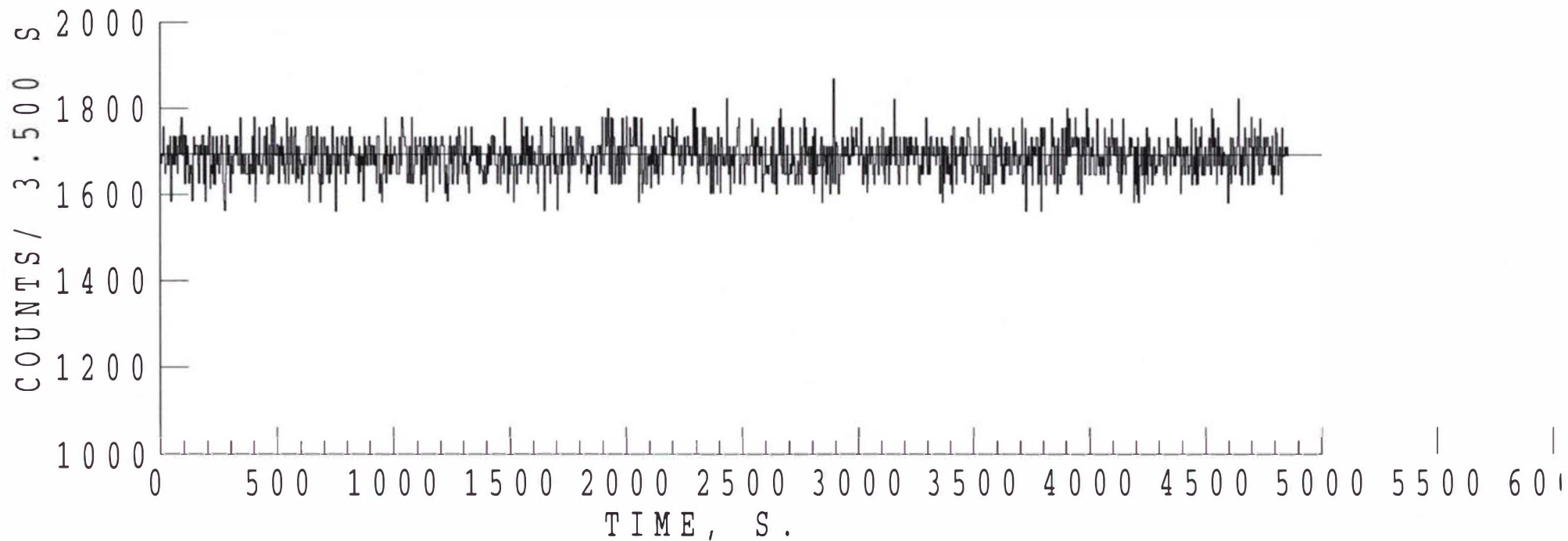
27 / 05 / 99 63720.289 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



27/05/99 66146.575

NEAR

100-1000 keV

COUNTS/1.000 S

500

400

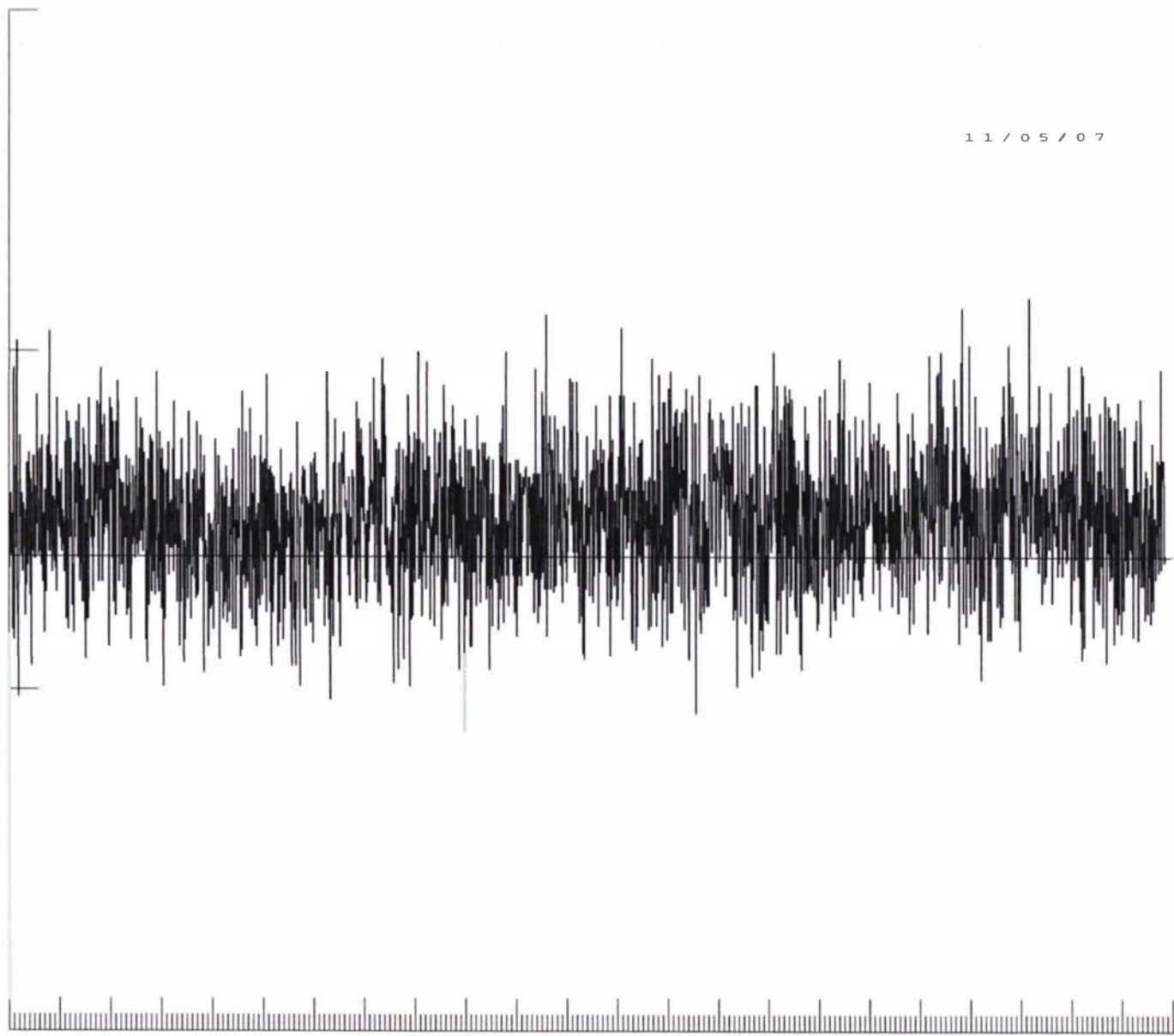
300

200

11/05/07

*****-4 3 5 7 1 5 7 2 5 7 3 5 7 4 5 7 5 7 6 5 7 7 5 7 8 5 7 9 5 7*****

TIME, SECS



From GOGUSE@fender.msfc.nasa.gov Wed Jun 2 08:24:58 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 IAA22765; Wed, 2 Jun 1999 08:24:57 -0700
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 (8.9.3/8.9.2) with SMTP id IAA17288
for <khurley@sunspot.ssl.berkeley.edu>; Wed, 2 Jun 1999 08:21:35 -0700 (PDT)
Date: Wed, 2 Jun 1999 10:25:14 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990602102514.2080c41b@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7587
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7587
EVENT OF 1999 MAY 27 DAY OF YEAR=147
EVENT CROSSING TIME AT BATSE : 65592. S. OR 18:13:12.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 200.000 49.000
BATSE PEAK COUNTING RATE: 1800 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 27/ 5/ 99 IS:
RA= 144.129 DEC= -6.828 DIST= 4.914 AU
BATSE-ULYSSES DISTANCE = 735071916. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=106.01 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -676.12 SECS.
CROSSING TIME AT ULYSSES IS 64916. S. OR 18:01:55 +/- 448.92 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 27/ 5/ 99 IS:
RA= 203.064 DEC= -9.672 DIST= 0.633 AU
MARS-BATSE DISTANCE = 94711424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION=121.27 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -163.97 SECS.
CROSSING TIME AT MARS IS 65428. S. OR 18:10:28 +/- 44.39 SECONDS

BATSE BURST TRIGGER

NO.: 7587

TIME: TJD=1325 SECONDS=65592

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH= 82.8 AZIMUTH=244.6 ERROR= 7.7 DEGREES

COMMENTS:

ZENITH IS DEGREES FROM +Z AXIS, AZIMUTH IS DEGREES CCW FROM +X,
ERROR IS 3 SIGMA ERROR CIRCLE RADIUS.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7587	990527	11325	65592	1800	200	+49	20

BATSE BURST# 7587

ULYSSES RT

2 / 6 / 99

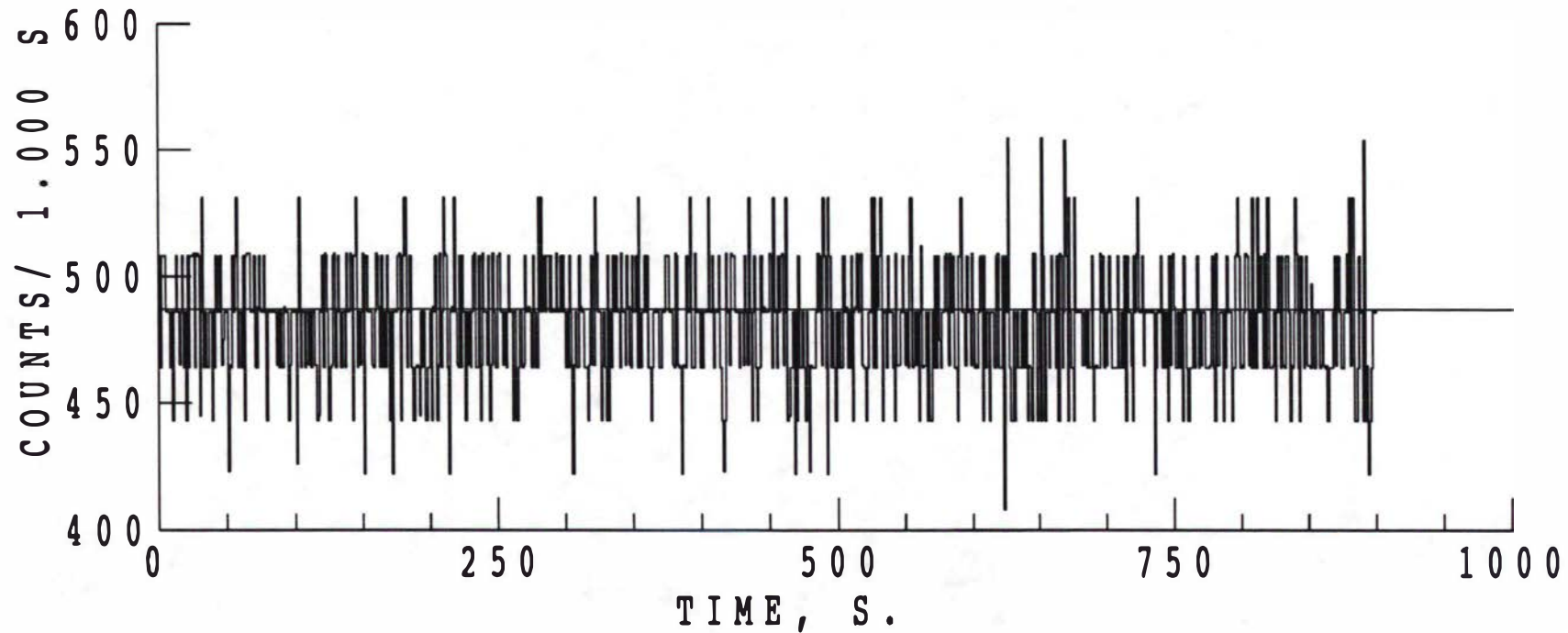
27 / 5 / 99 64476.297 s

0.500 S INTERVALS REGROUPED BY 2

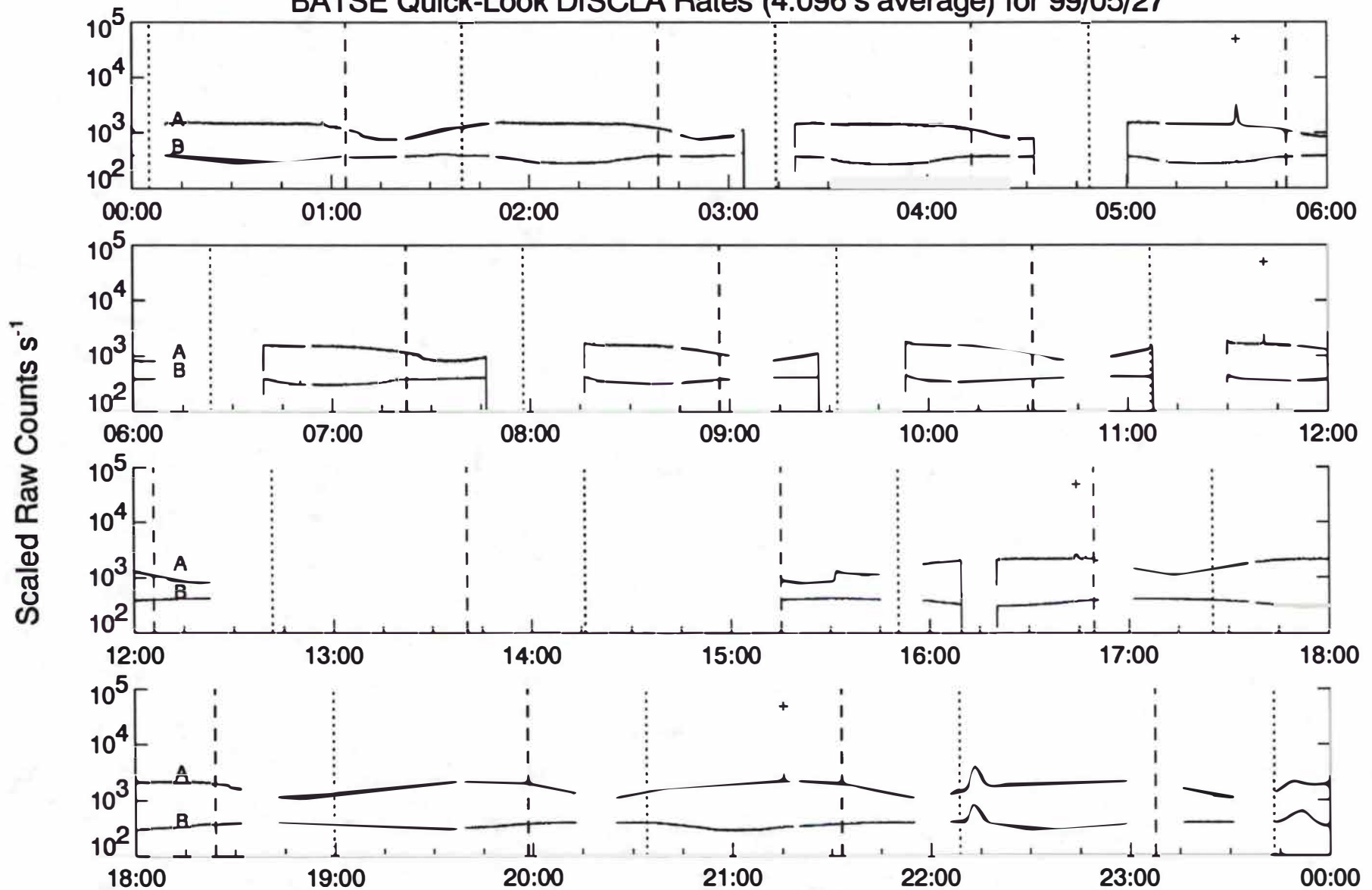
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/27

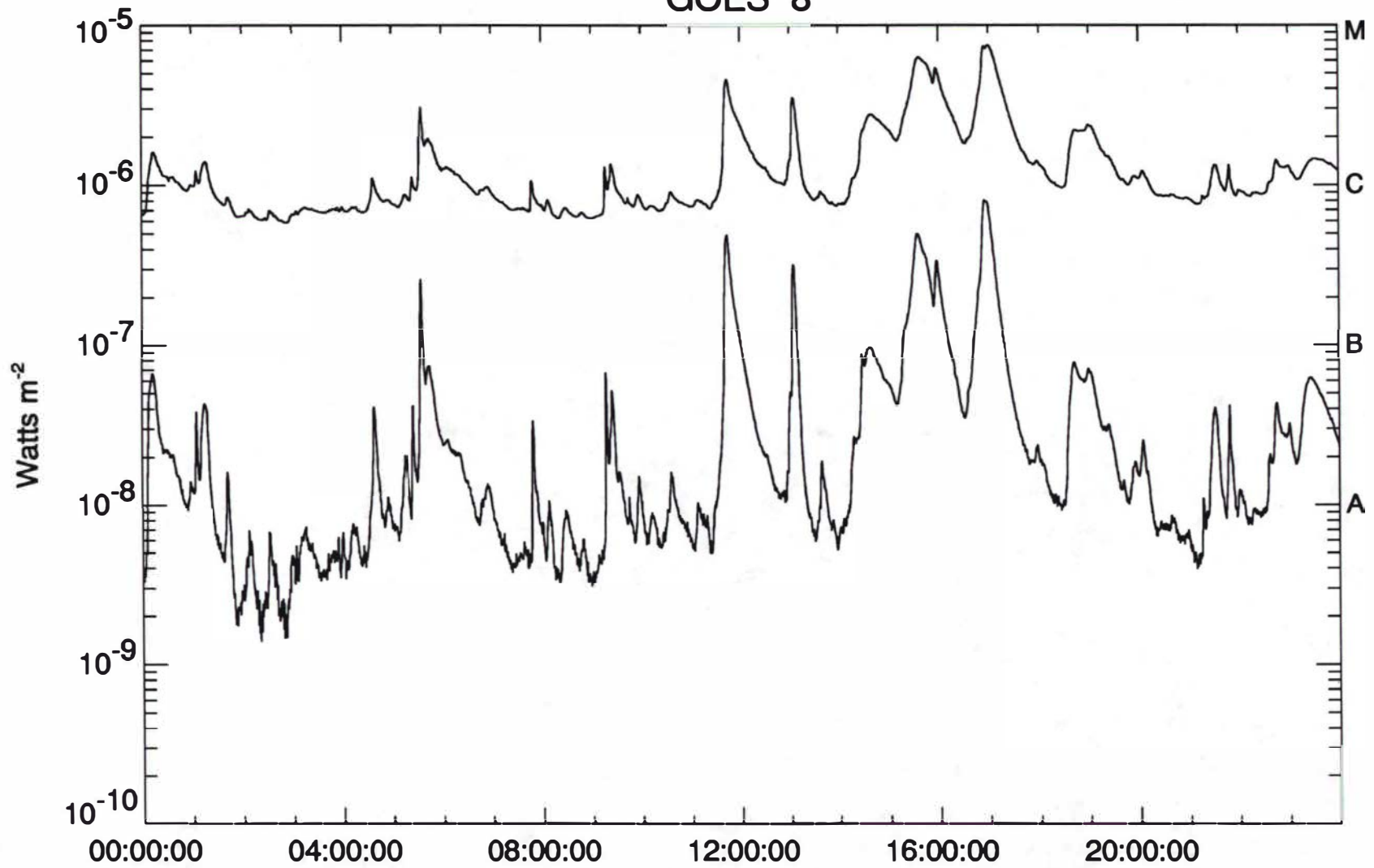


Current Time: 99/05/31, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

GOES 8



Data Start: 99/05/27, 0000:00

Plot created: 99/05/31, 1006

Channel

1 (1.0 - 8.0 Angstroms)

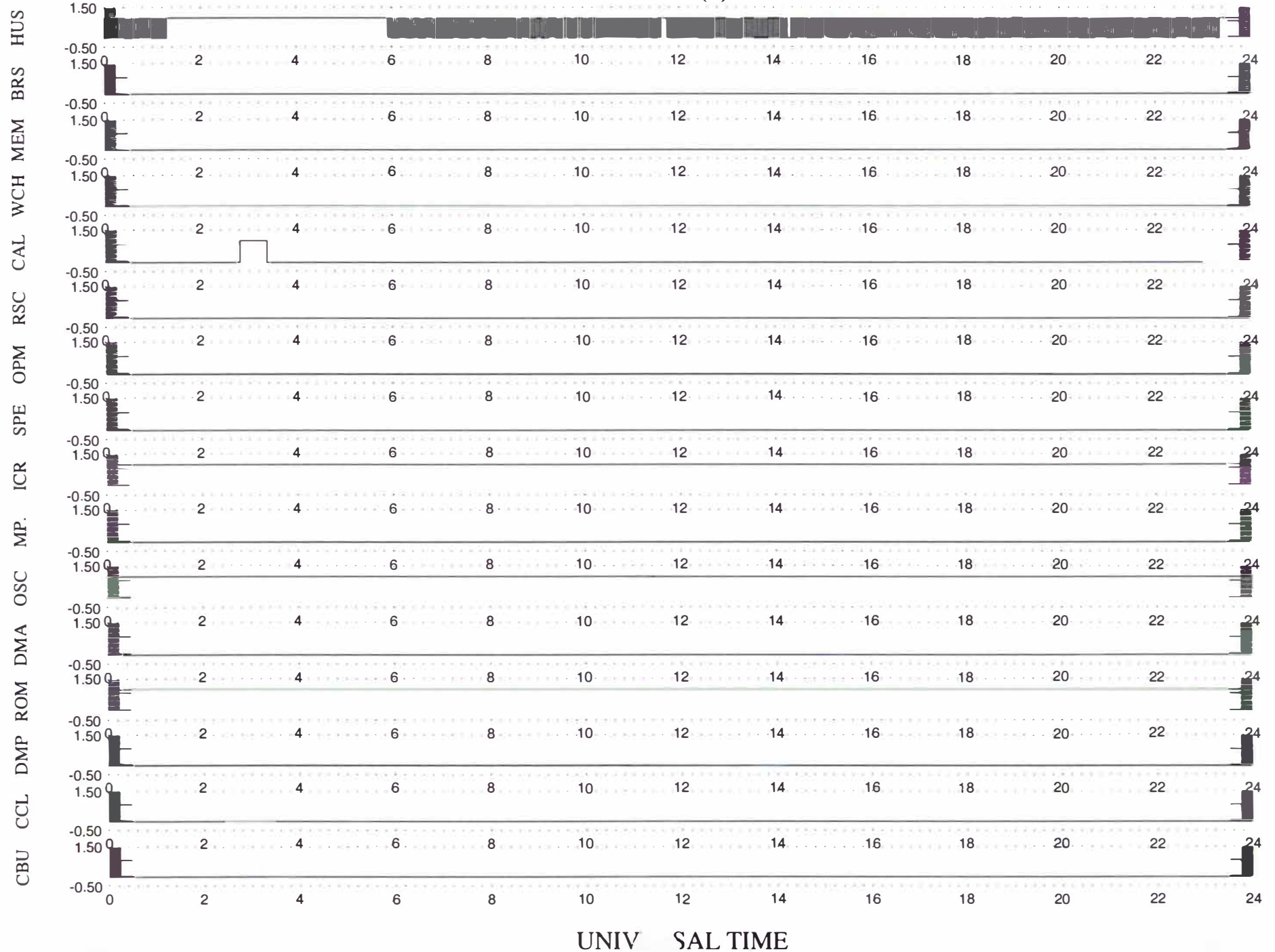
Background not subtracted

2 (0.5 - 4.0 Angstroms)

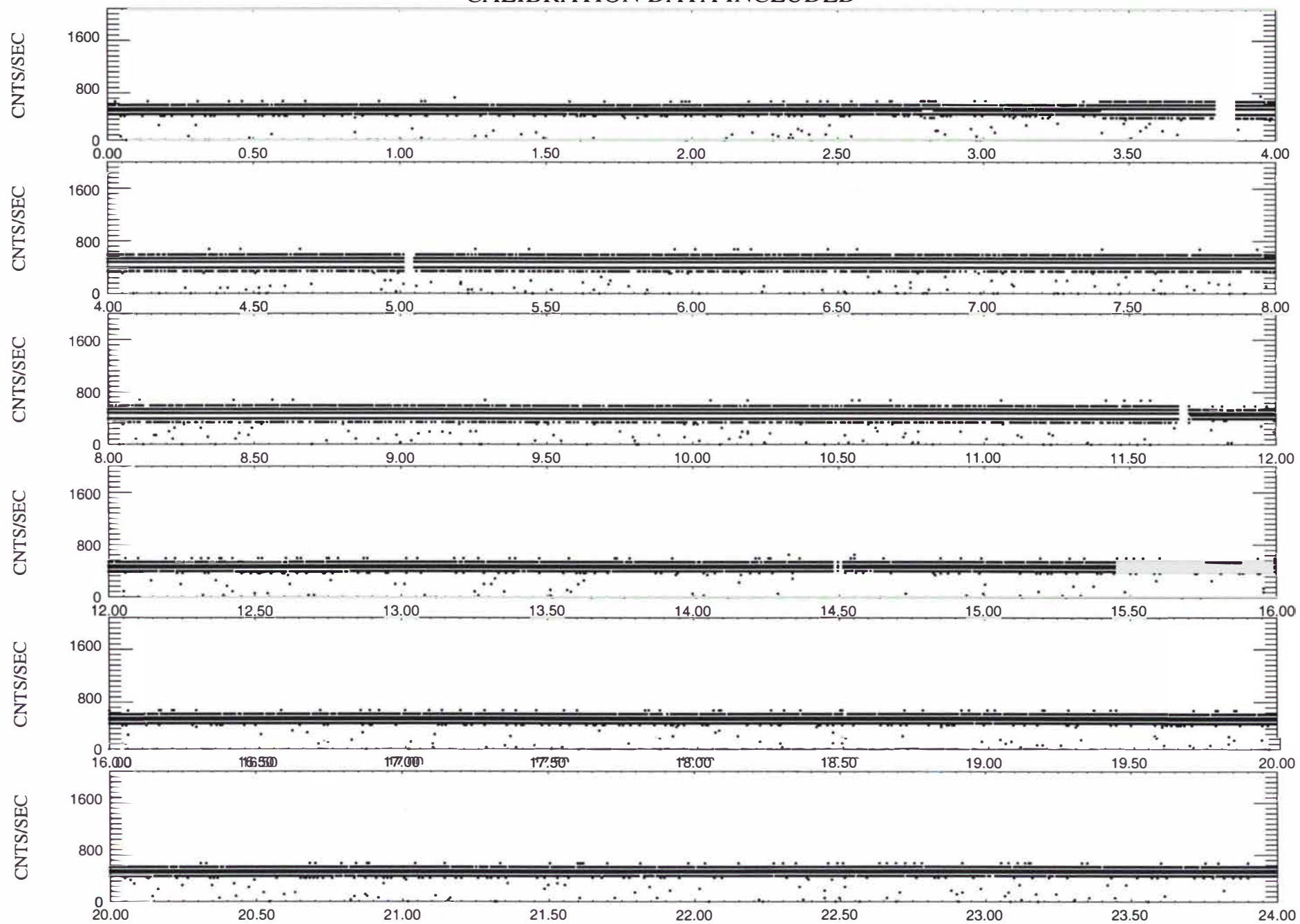
Background not subtracted

Sample average = 10

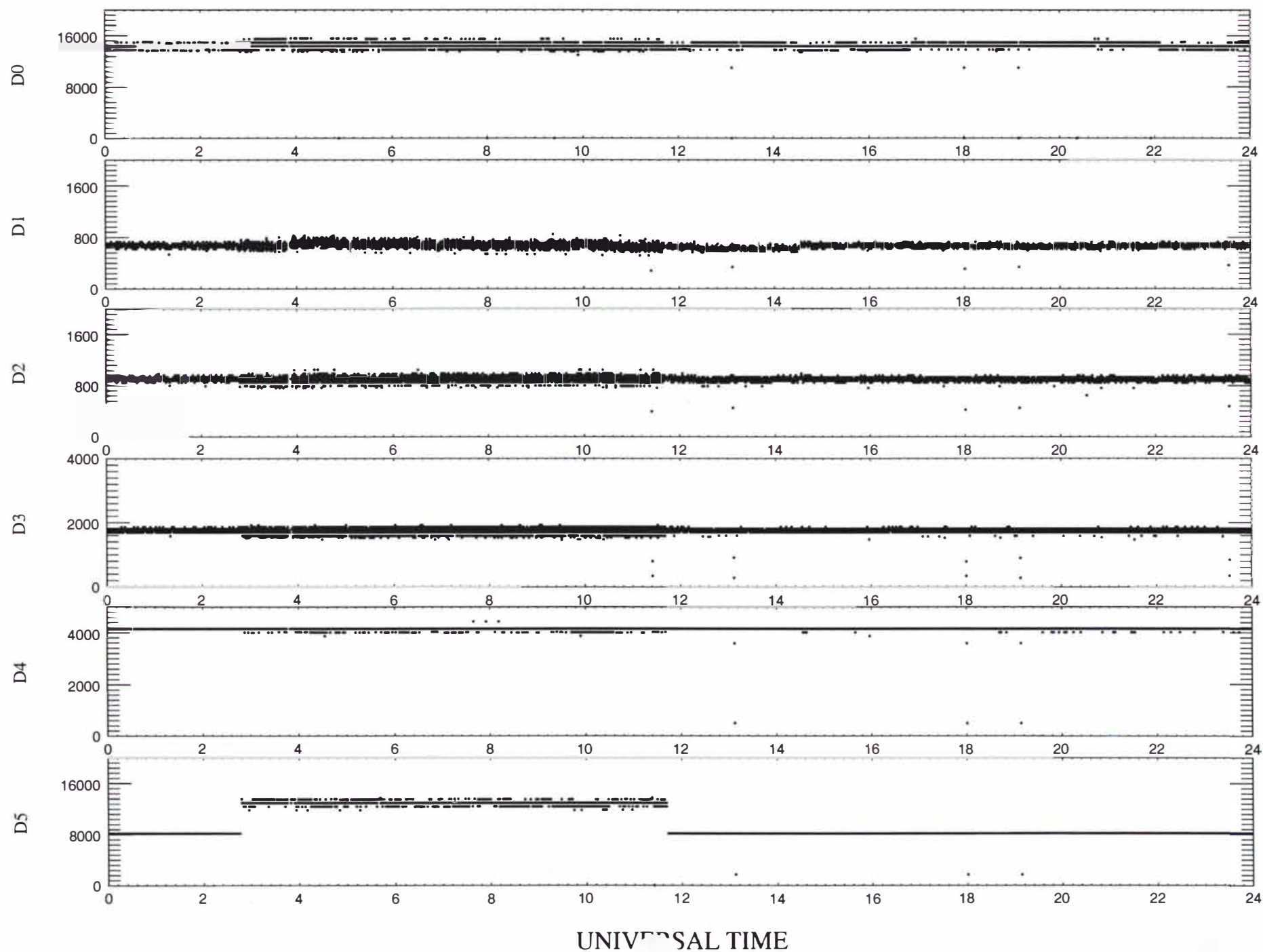
NO BURST (4)



CALIBRATION DATA INCLUDED



UNIVERSAL TIME



From RICHARDSON@fender.msfc.nasa.gov Tue Jun 1 09:56:28 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 JAA09205; Tue, 1 Jun 1999 09:56:26 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA02951
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 1 Jun 1999 09:53:10 -0700 (PDT)
Date: Tue, 1 Jun 1999 11:56:58 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990601115658.2080a881@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7588
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7588
EVENT OF 1999 MAY 28 DAY OF YEAR=148
EVENT CROSSING TIME AT BATSE : 34935. S. OR 09:42:15.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 66.000 -16.000
BATSE PEAK COUNTING RATE: 8400 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 28/ 5/ 99 IS:
RA= 144.147 DEC= -6.829 DIST= 4.922 AU
BATSE-ULYSSES DISTANCE = 736334328. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION=103.23 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= -562.02 SECS.
CROSSING TIME AT ULYSSES IS 34373. S. OR 09:32:52 +/- 456.58 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 28/ 5/ 99 IS:
RA= 202.951 DEC= -9.671 DIST= 0.637 AU
MARS-BATSE DISTANCE = 95311824. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 49.75 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 205.44 SECS.
CROSSING TIME AT MARS IS 35140. S. OR 09:45:40 +/- 45.25 SECONDS

BATSE BURST TRIGGER

NO.: 7588

TIME: TJD=1326 SECONDS=34935

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:Y

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=134.6 AZIMUTH=26.3 ERROR=1.3 DEGREES

COMMENTS:

GRB. RISE FASTER THAN DECAY. DURATION APPROX. = 40 SEC.
MARGINALLY VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7588	990528	11326	34935	8400	066	-16	40

Date: 27/1/00

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

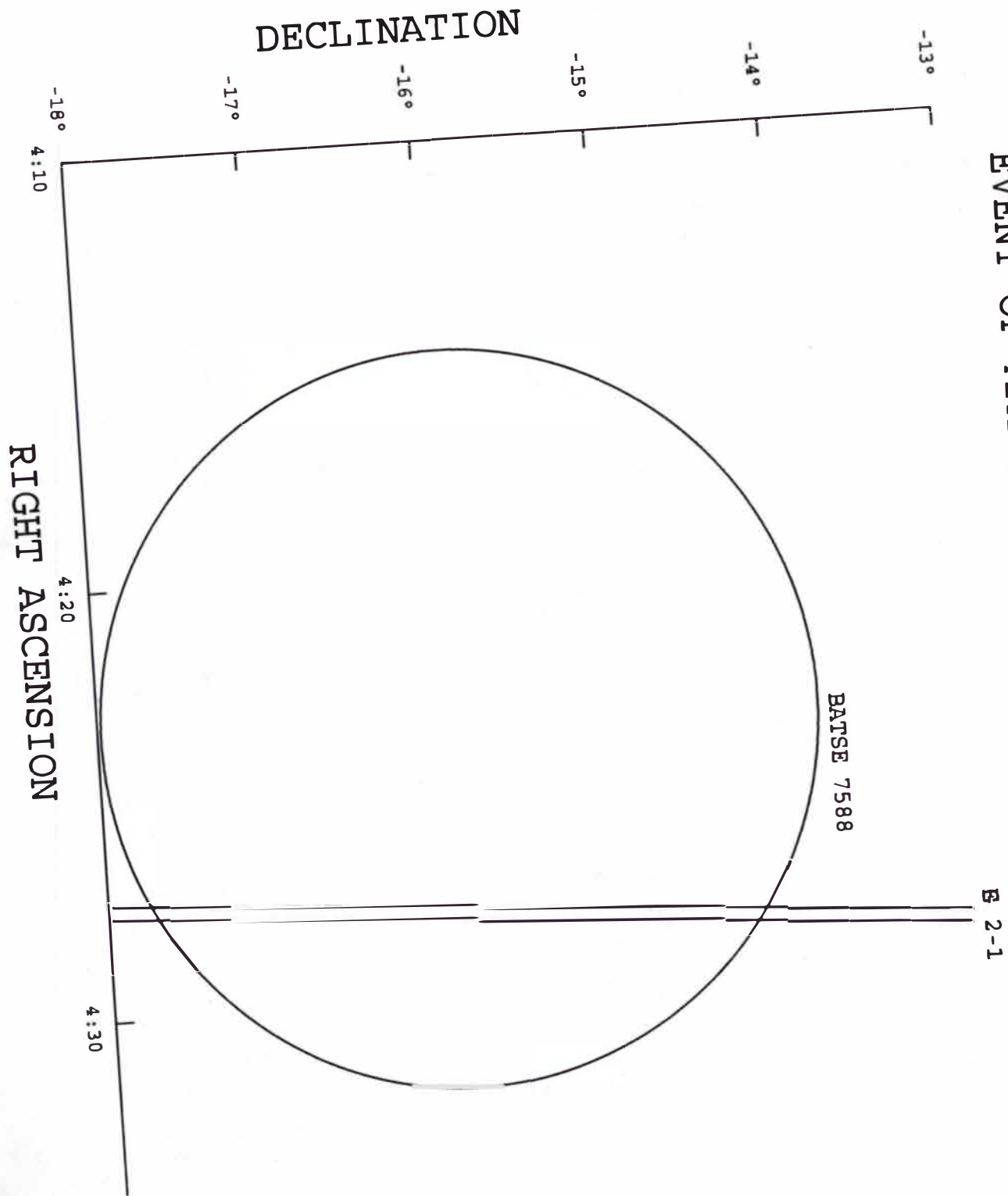
N/A

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

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

EVENT OF MAY 28, 1999 9:42

27 / 1 / 0



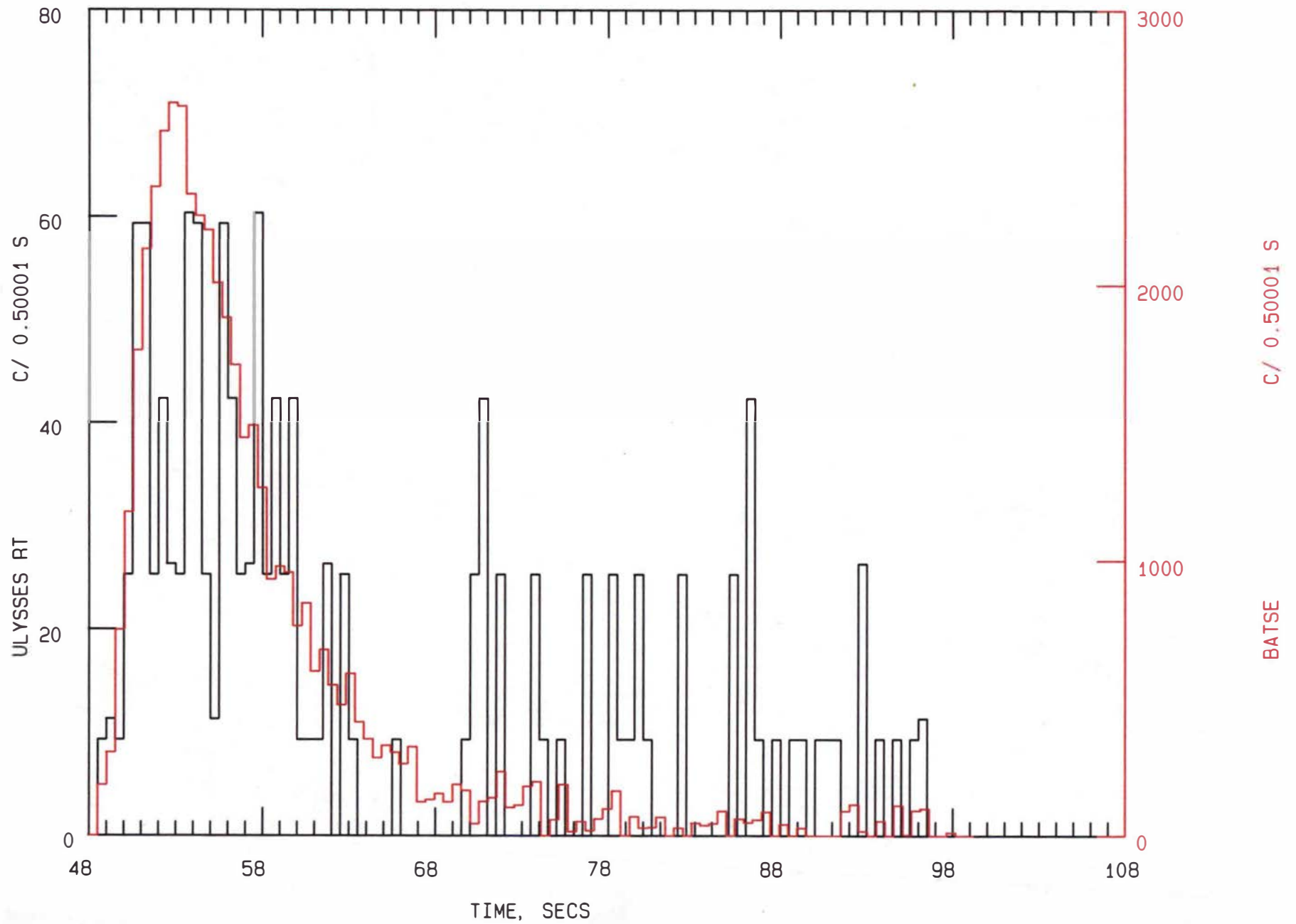
ULYSSES RT-BATSE

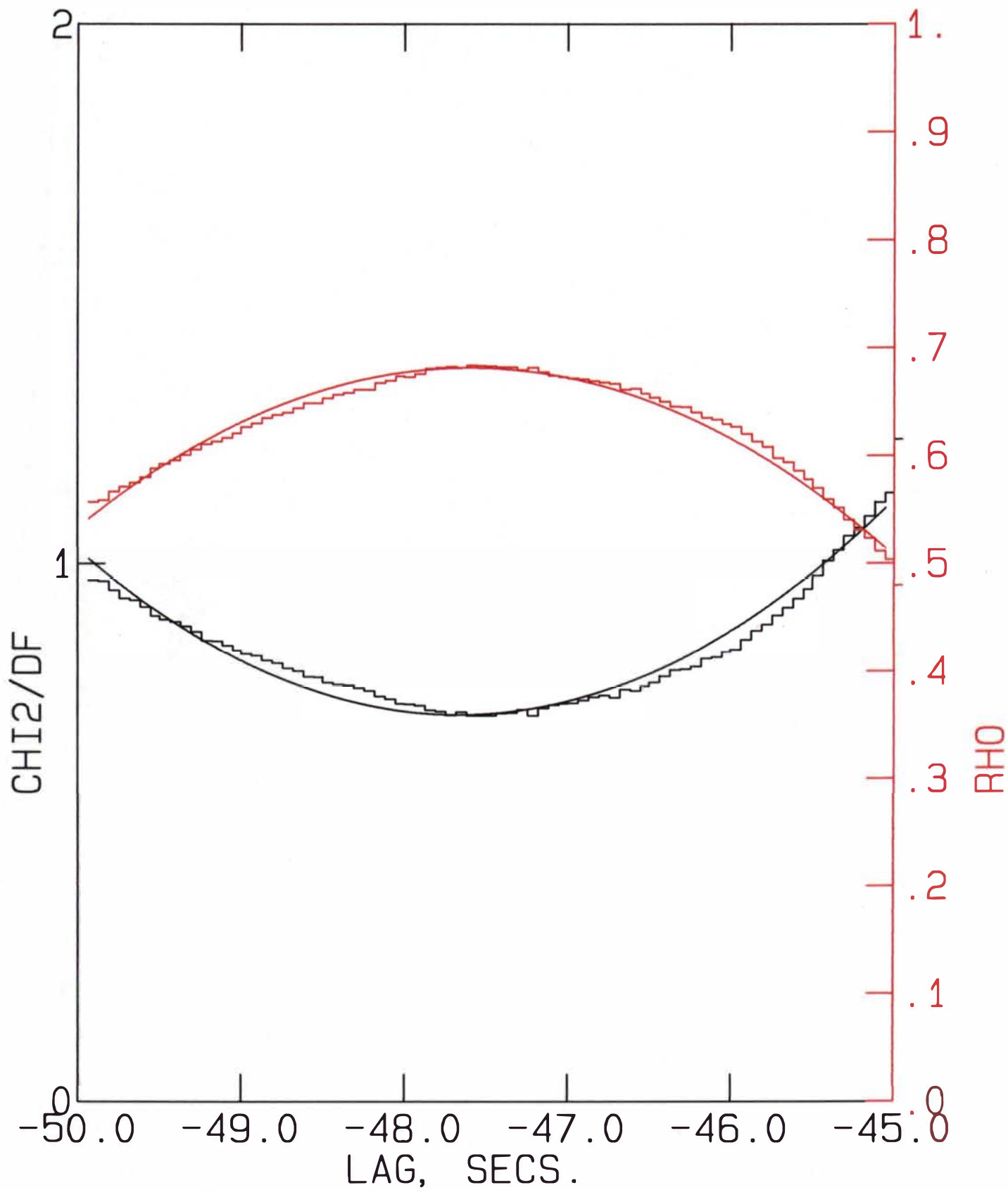
CORRELATION

28/ 5/99

34307.141

27/ 1/ 0

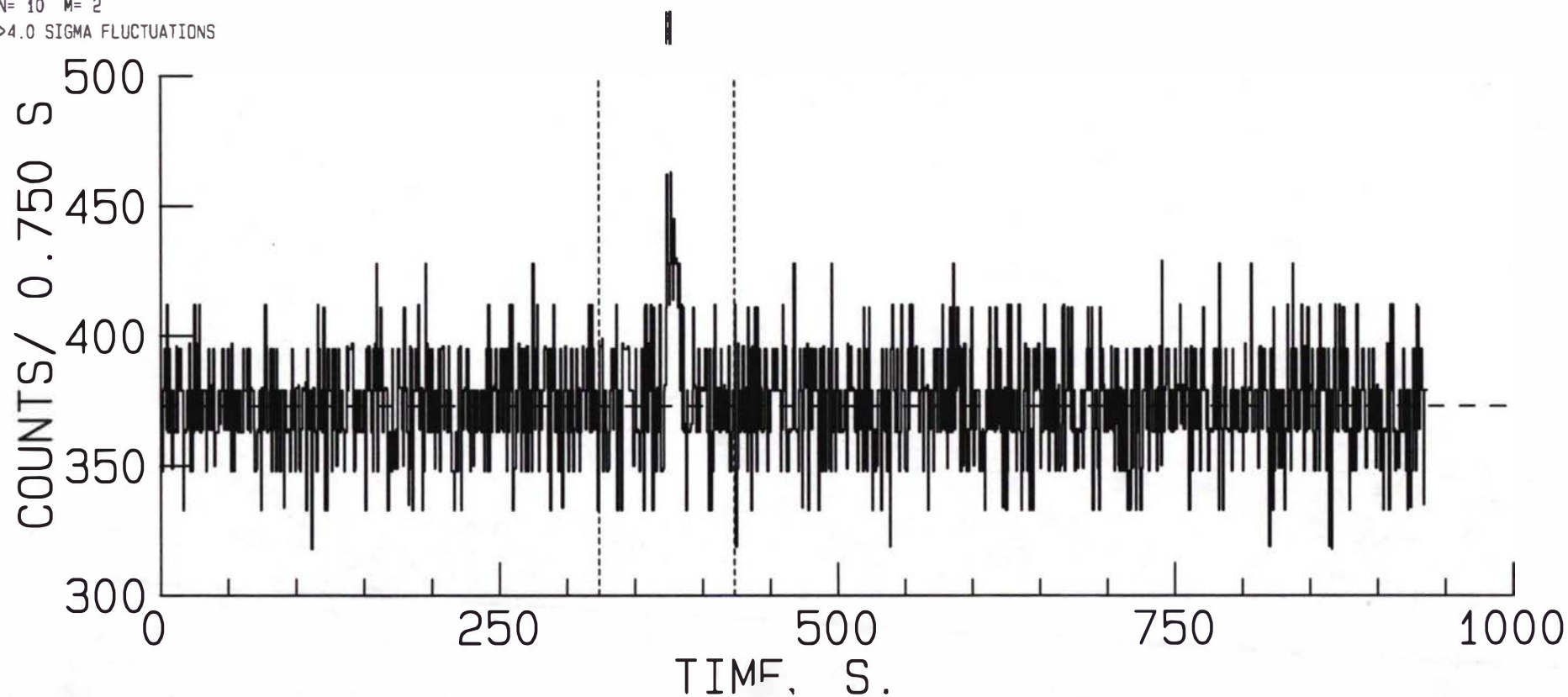




ULYSSES RT
28/ 5/99 33984.110 s
0.250 S INTERVALS REGROUPED BY 3
22- 150 keV

27 / 1 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



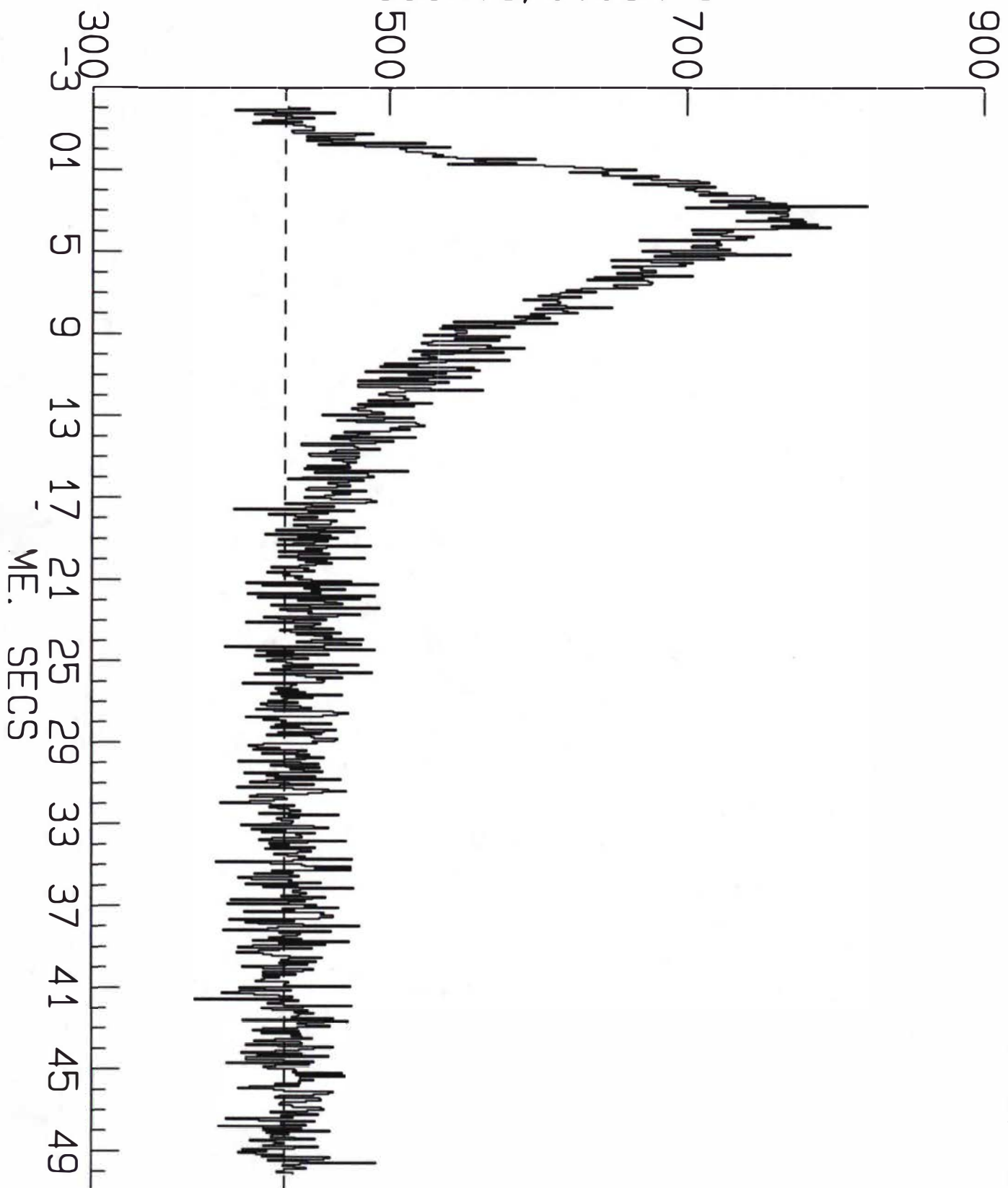
BATSE

28/05/99

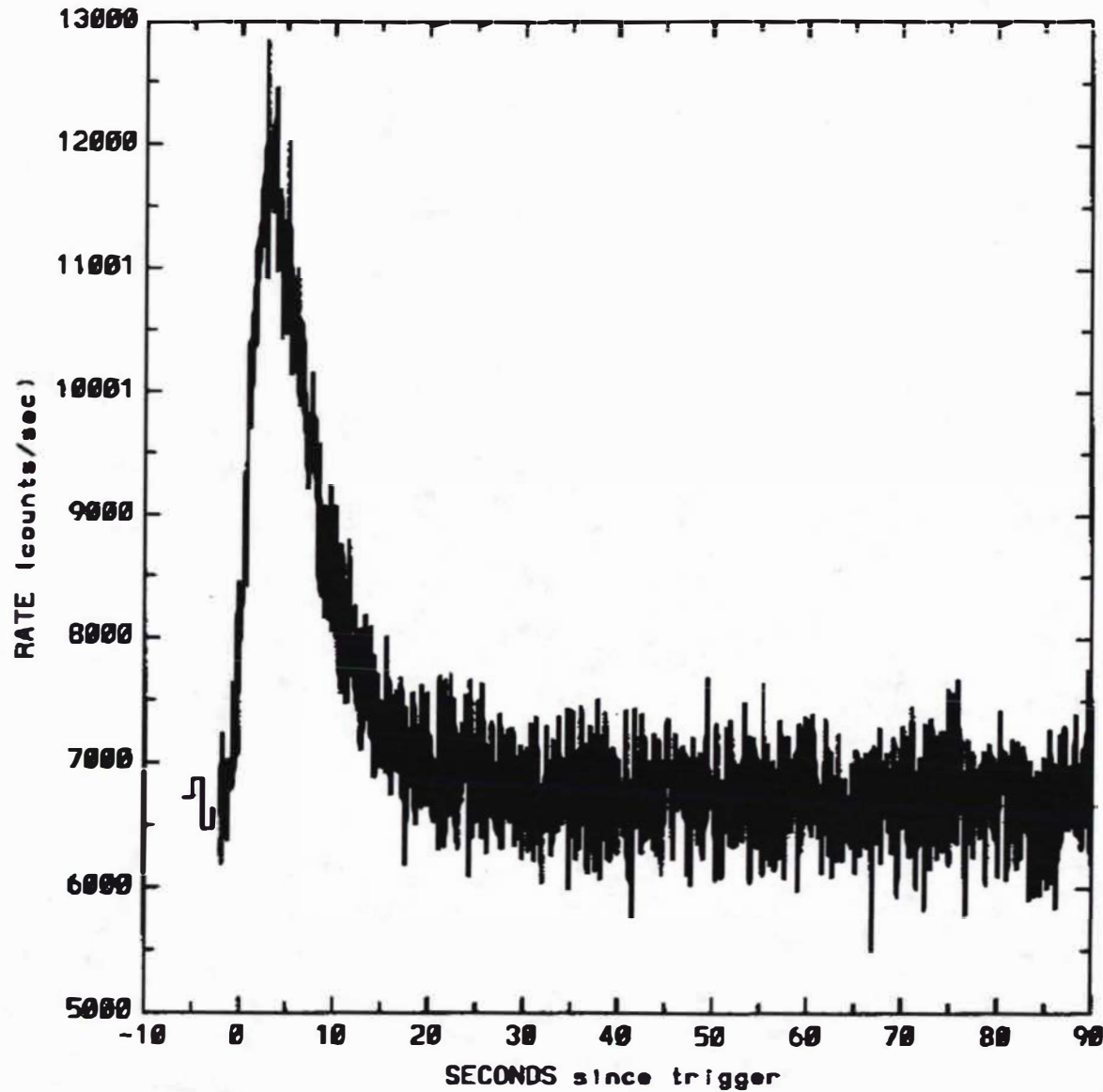
34935.289

25- 100 keV

COUNTS/0.064 S



DISCSC Data for K. Hurley, No. 7588



4-JUN-1999 11:39:40

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

Trigger # : 7588

Trigger Time:
11326 / 34935.289Burst Data Type:
DISCSCDeadtime
Corrected: NBackground Data
Type: PREB + DISCLAMinimum Integ. Time:
0.064 secondsDetectors (7..8):
---3-1-Discriminators:
(1 . 2)Quality Mask:
BDISP1

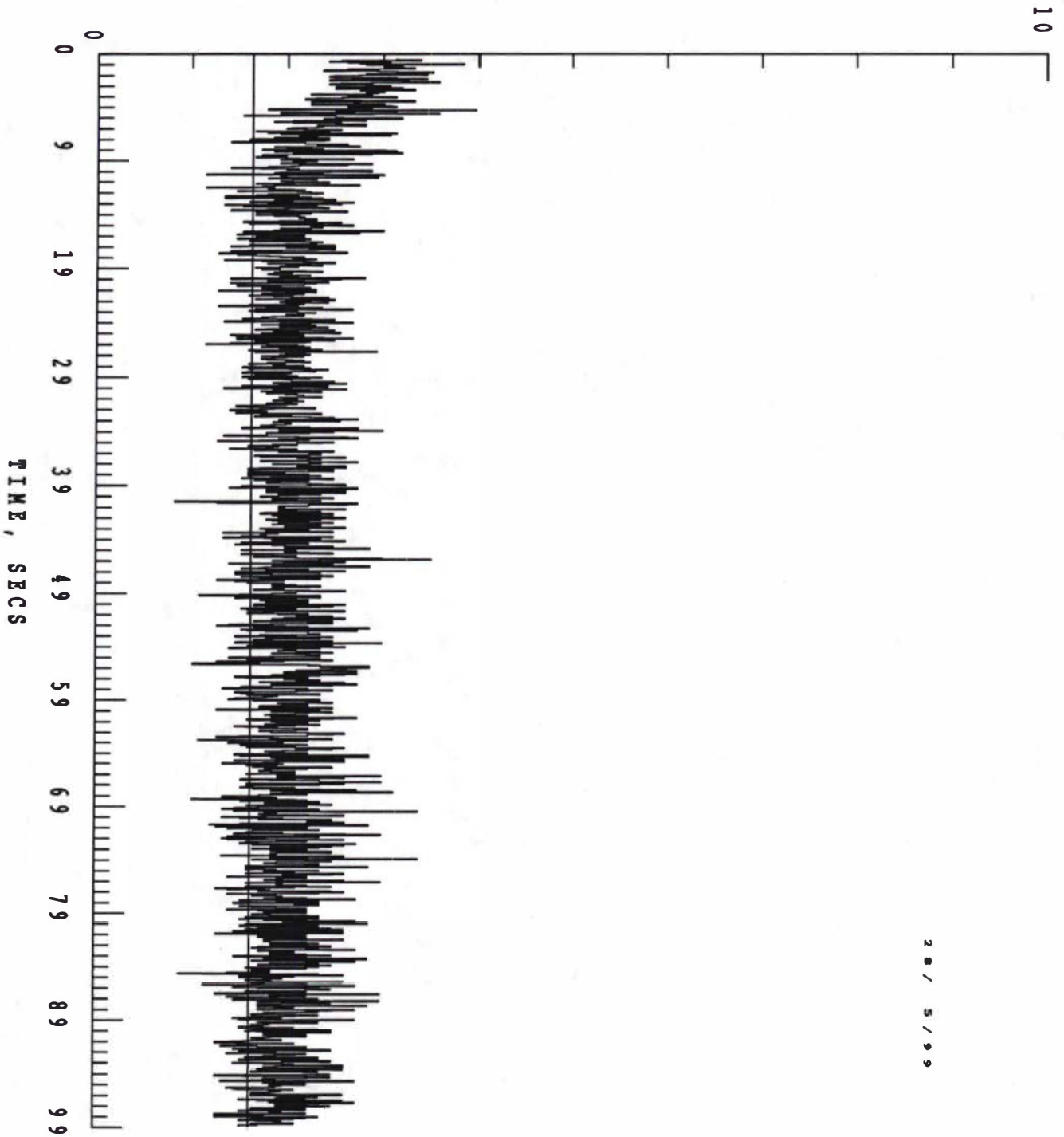
KONUS

28/05/99

34933.955

50 - 200 keV

COUNTS/0.064 S



28 / 5 / 99

From feroci@ias.rm.cnr.it Wed Jun 2 09:45 PDT 1999
Date: Wed, 2 Jun 1999 18:45:45 +0200 (DFT)
From: Marco Feroci <feroci@ias.rm.cnr.it>
 \: Kevin Hurley <khurley@ssl.berkeley.edu>
 : 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: Re: GRB990528, 990529
MIME-Version: 1.0

Dear All,

BeppoSAX/GRBM did not trigger on any cosmic event consistent with those indicated by Ulysses.

Very short (8-16ms) spikes were detected on:
Fri, 28 May 1999 12:37:47:60584
Sat, 29 May 1999 02:10:49:06231

but both events have most likely an instrumental origin.

Best regards,
Marco

Wed, 2 Jun 1999, Kevin Hurley wrote:

> ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:
>
> ULYSSES DATE & TIME COMMENTS ULYSSES DISTANCE FROM EARTH, LIGHT-S
>
> MAY 28 1999 12:47* weak, 32 ms long 2450
> MAY 29 1999 02:10* weak, 32 ms long 2450
>
> *looks like an SGR, but which one?
>
> Were these events detected by anyone else?
>
> CC: ulyssesbursts alias list
> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, t
>

Marco Feroci

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

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

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Wed Jun 2 09:15 PDT 1999
Date: Wed, 2 Jun 1999 12:18:13 -0400
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
feroci@saturn.ias.rm.cnr.it, cline@apache.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses events of 990528 and 990529 were not detected by Konus

Hi Everyone,

Konus didn't trigger within an hour of either event, and there are no obvious features in the low time-resolution (3 second bin) waiting-mode data.

Paul.

re:

Date: Wed, 2 Jun 1999 08:12:11 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199906021512.IAA25272@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB990528, 990529
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

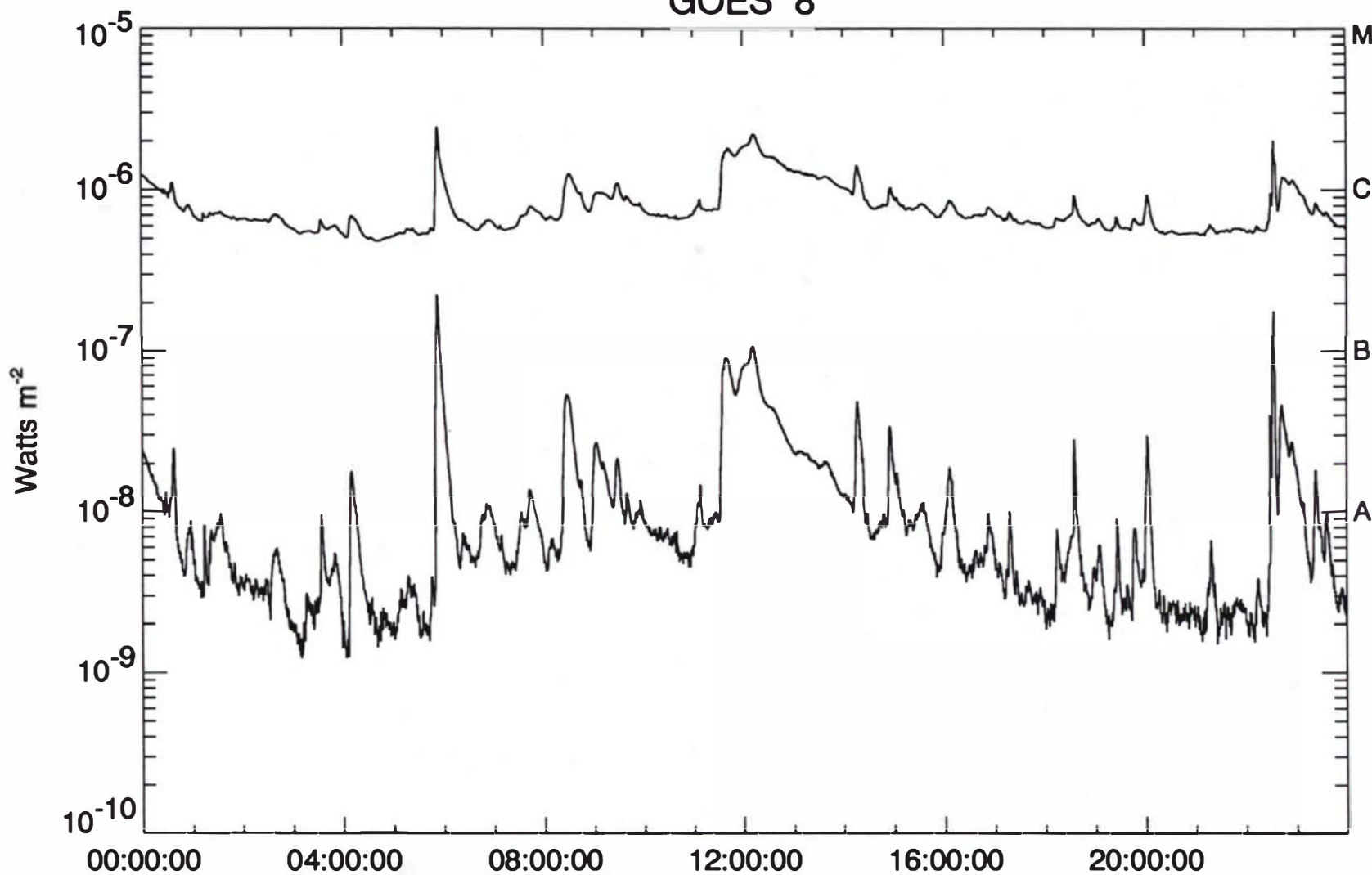
ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 28 1999 12:47*	weak, 32 ms long	2450
MAY 29 1999 02:10*	weak, 32 ms long	2450

*looks like an SGR, but which one?

Were these events detected by anyone else?

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

GOES 8



Data Start: 99/05/28, 0000:00

Plot created: 99/06/01, 1006

Channel

1 (1.0 - 8.0 Angstroms)

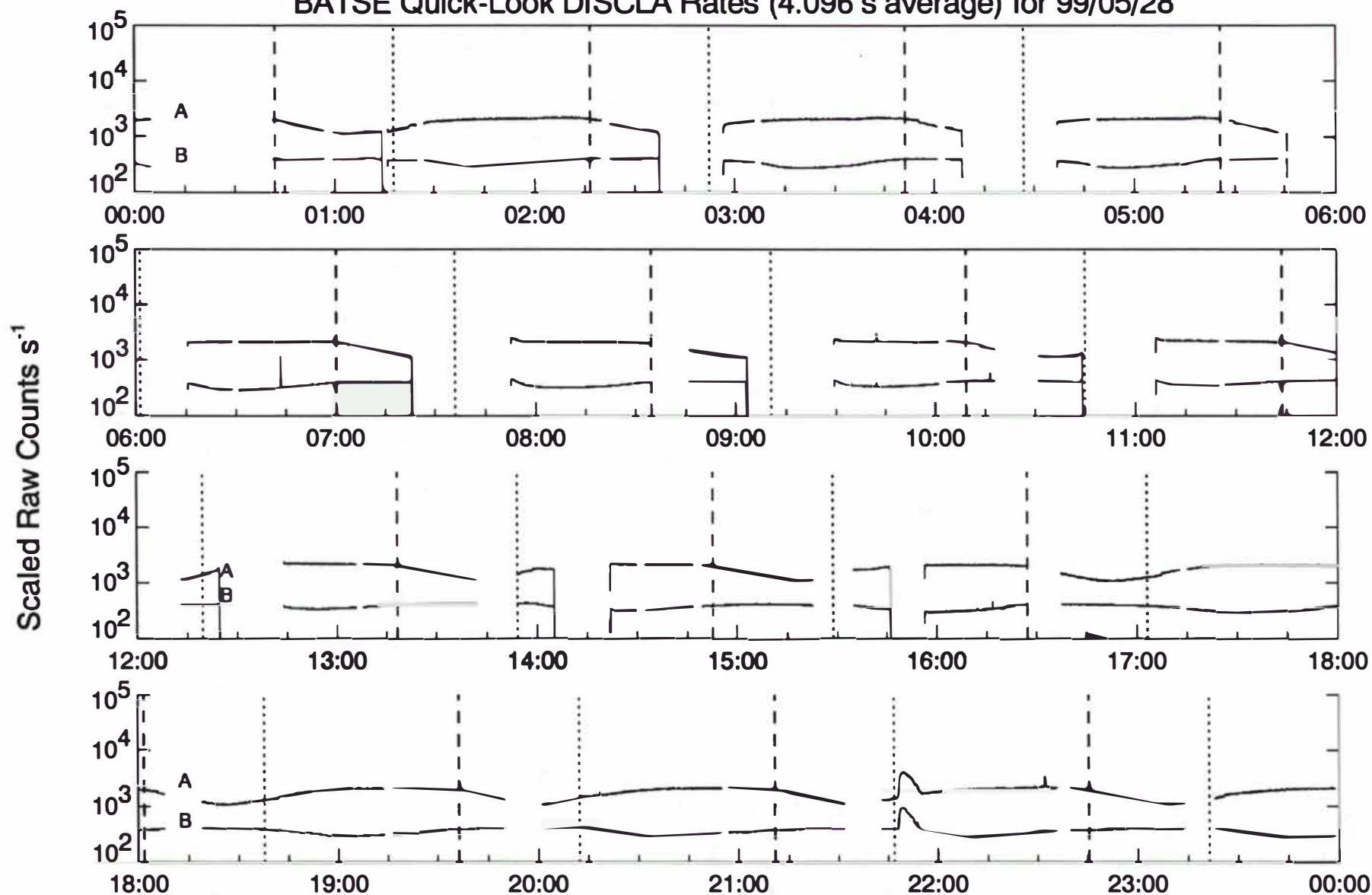
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/28

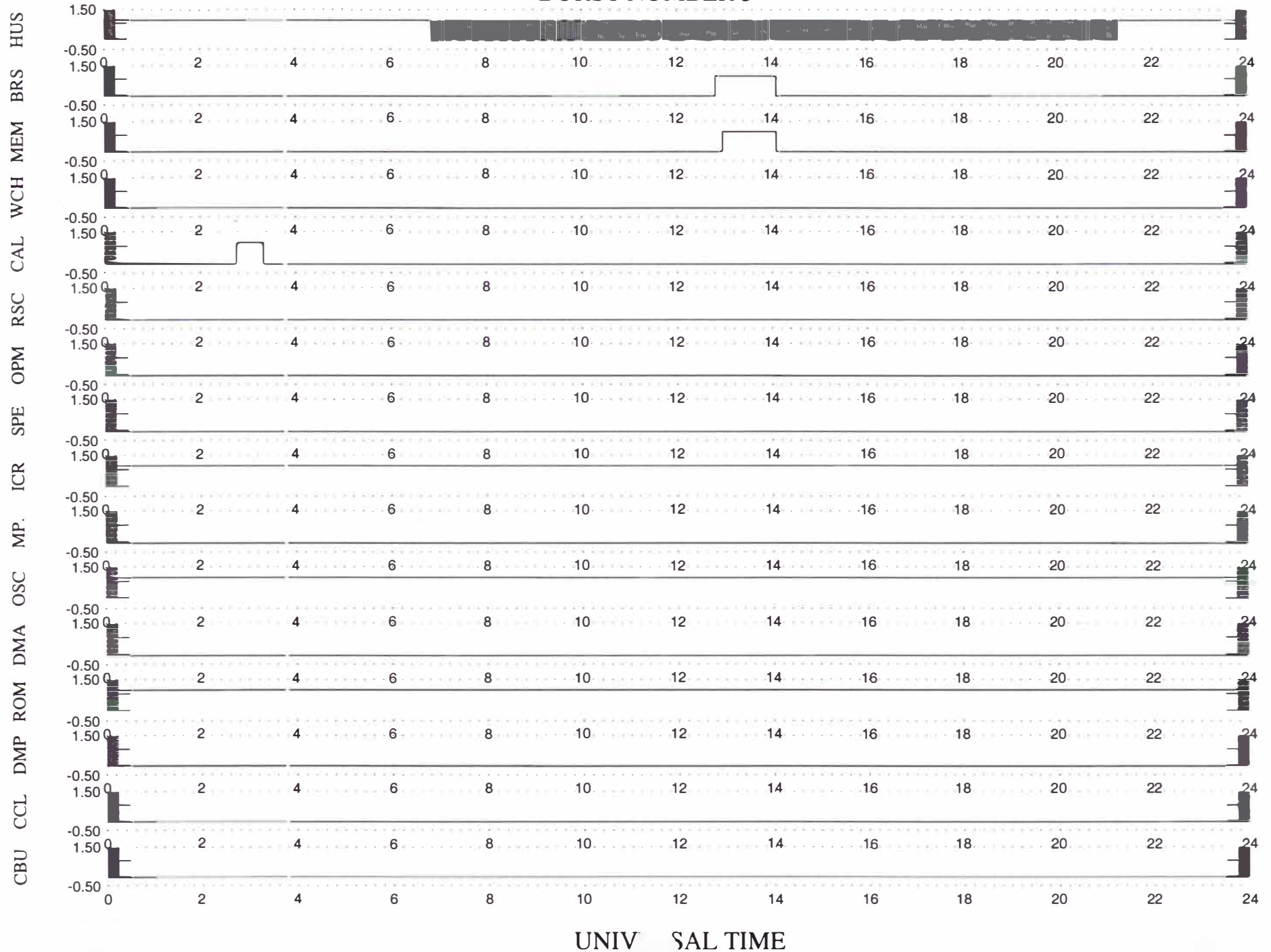


Current Time: 99/06/01, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

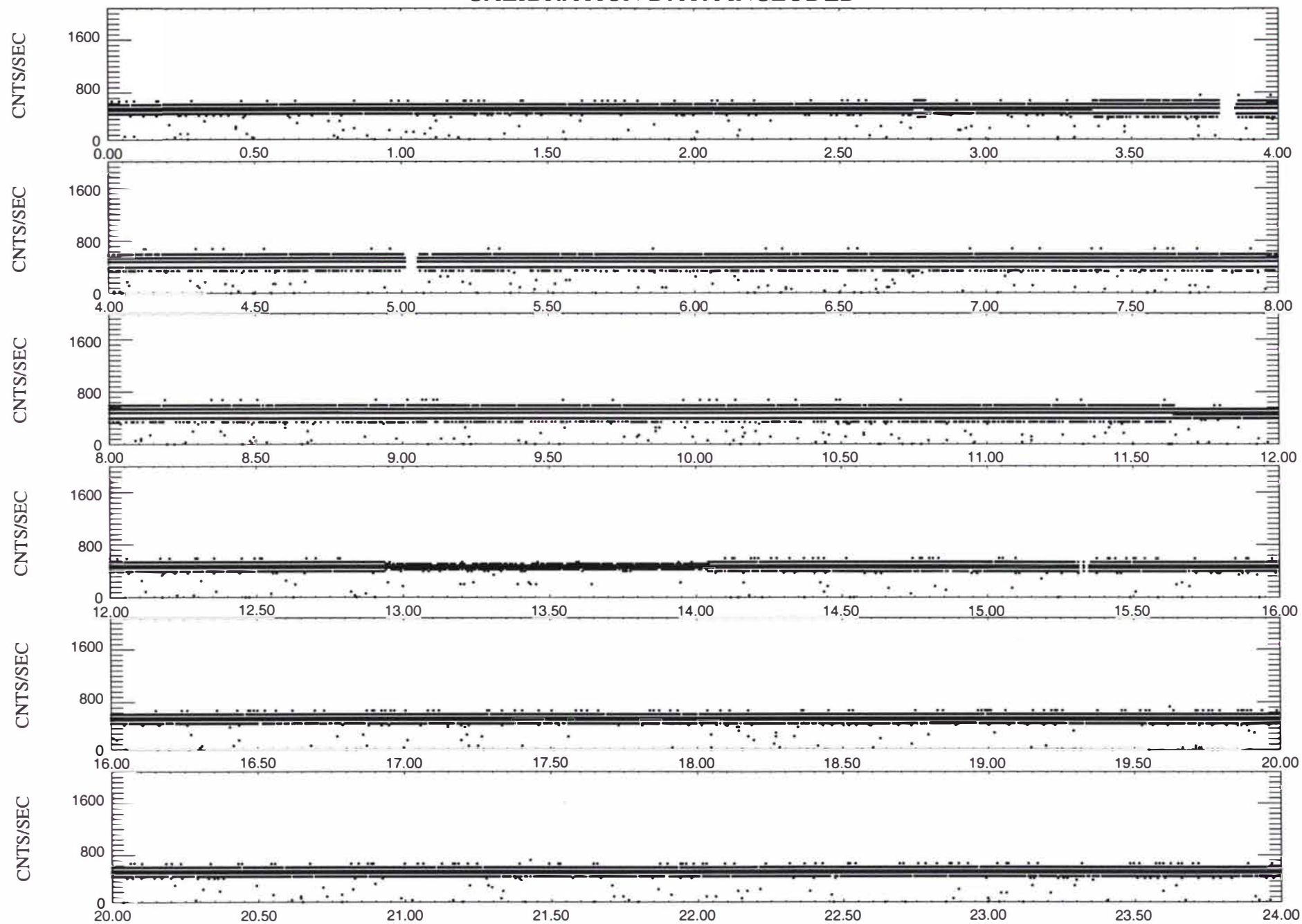
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 5

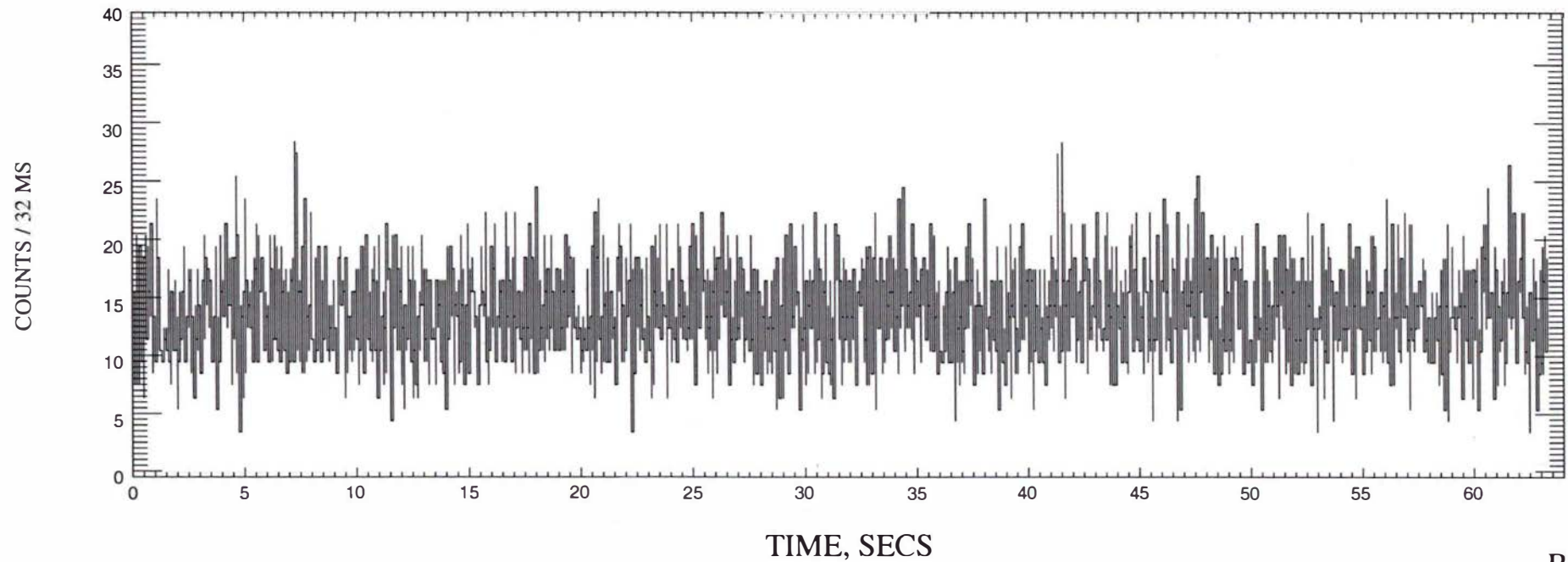
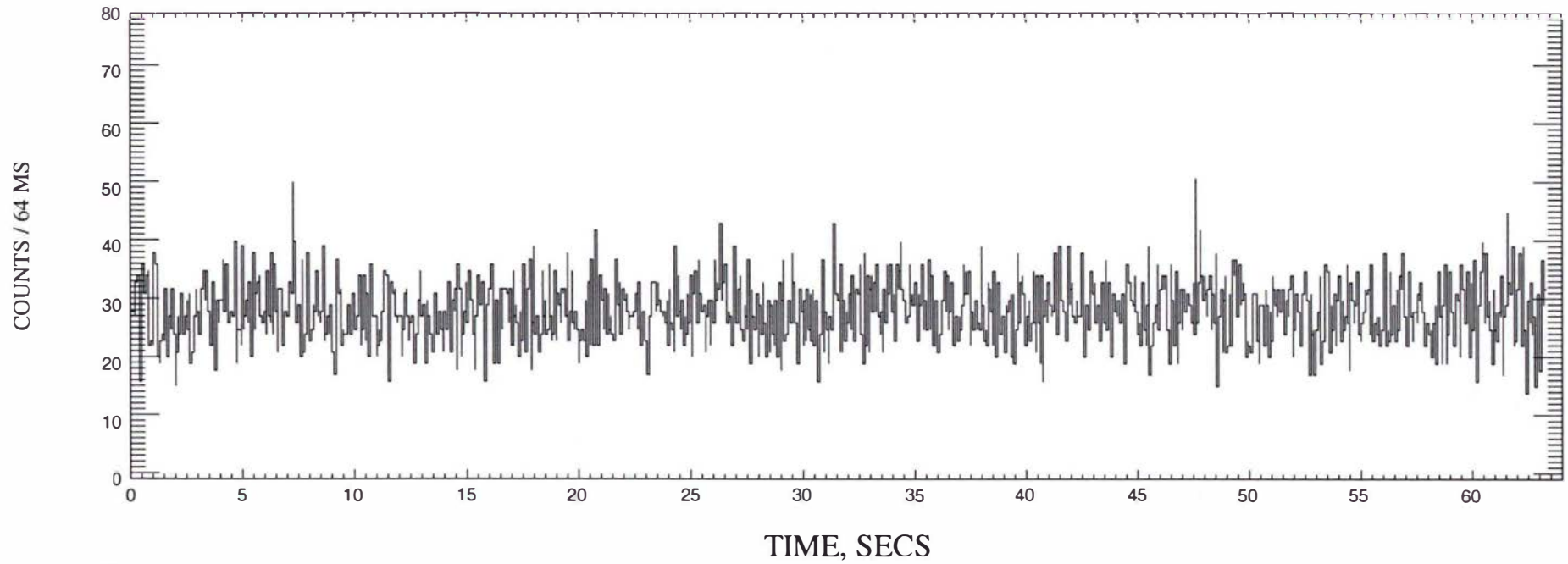


CALIBRATION DATA INCLUDED

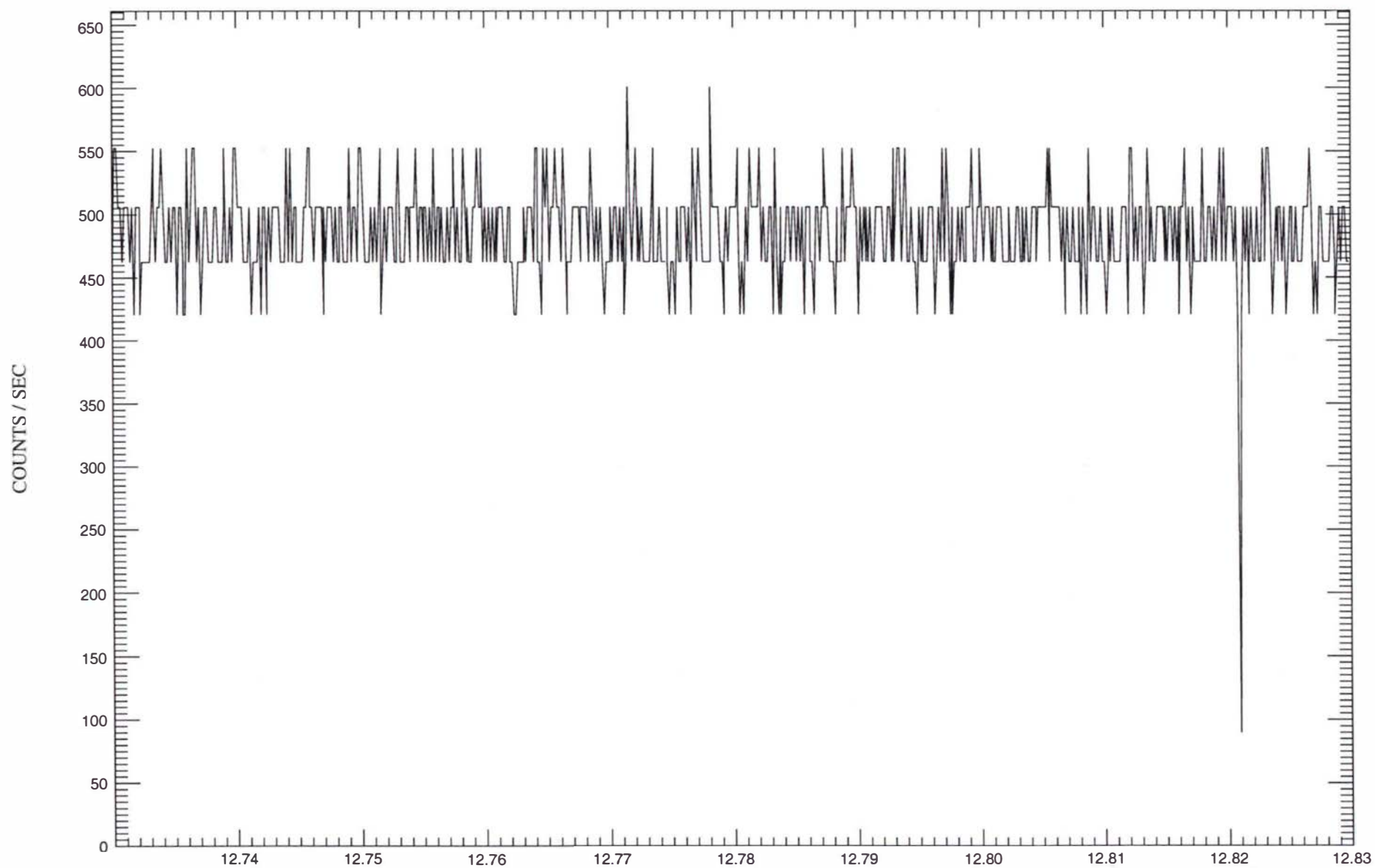


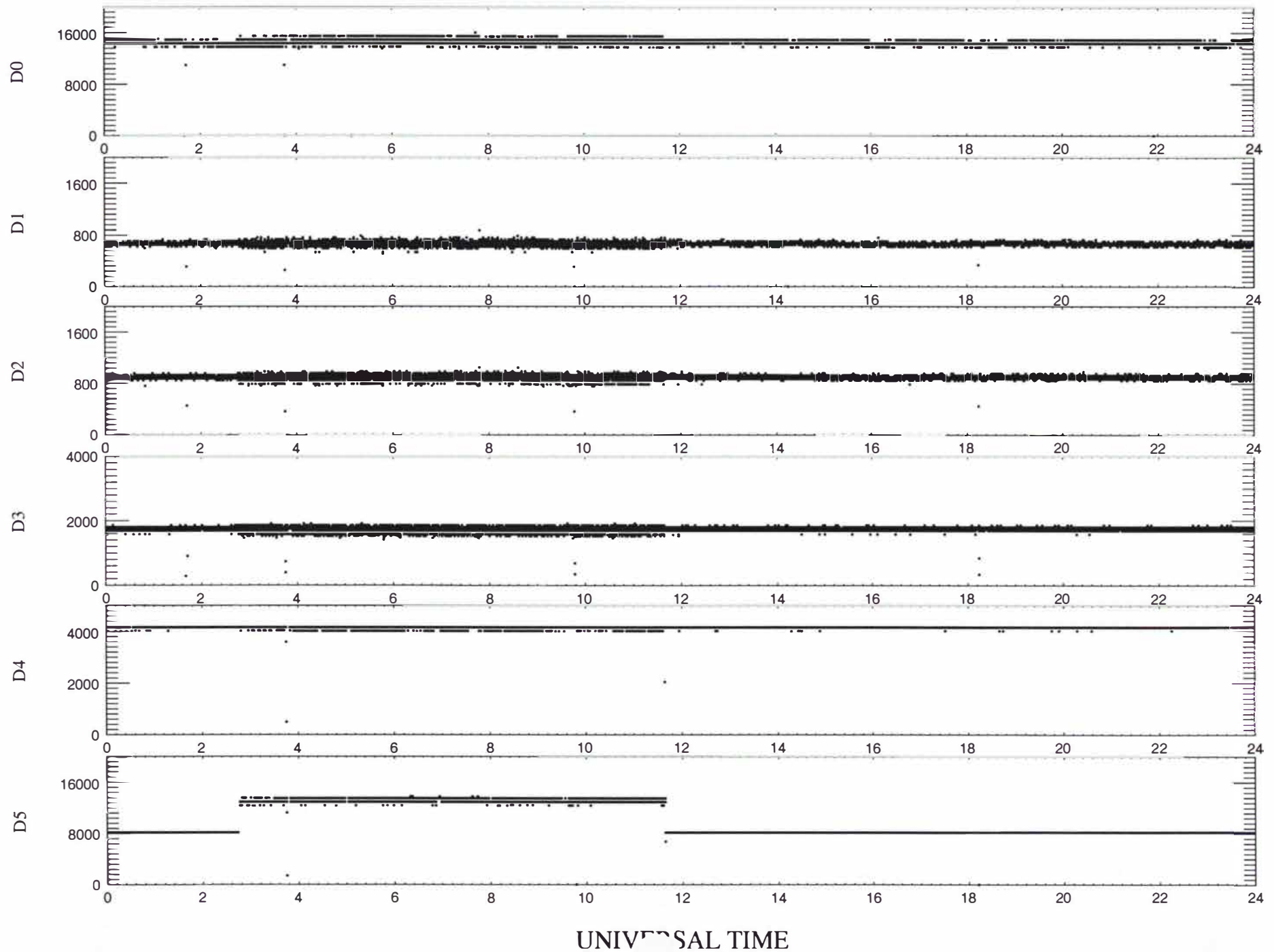
UNIVERSAL TIME

Burst Counter 5 at UT=12.782352769640 h=46016.470 s 12:46:56.470



CALIBRATION DATA INCLUDED





From feroci@ias.rm.cnr.it Wed Jun 2 09:44 PDT 1999
Date: Wed, 2 Jun 1999 18:45:45 +0200 (DFT)
From: Marco Feroci <feroci@ias.rm.cnr.it>
To: Kevin Hurley <khurley@ssl.berkeley.edu>
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: Re: GRB990528, 990529
MIME-Version: 1.0

Dear All,

BeppoSAX/GRBM did not trigger on any cosmic event consistent with those indicated by Ulysses.

Very short (8-16ms) spikes were detected on:
Fri, 28 May 1999 12:37:47:60584
Sat, 29 May 1999 02:10:49:06231

but both events have most likely an instrumental origin.

Best regards,
Marco

Wed, 2 Jun 1999, Kevin Hurley wrote:

> ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:
>
> ULYSSES DATE & TIME COMMENTS ULYSSES DISTANCE FROM EARTH, LIGHT-S
>
> MAY 28 1999 12:47* weak, 32 ms long 2450
> MAY 29 1999 02:10* weak, 32 ms long 2450
>
> *looks like an SGR, but which one?
>
> Were these events detected by anyone else?
>
> CC: ulyssesbursts alias list
> (barthelmy, butterworth, cline, frontera, kouveliotou, kurczynski, marar, t
>

Marco Feroci

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

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

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Wed Jun 2 09:15 PDT 1999
Date: Wed, 2 Jun 1999 12:18:13 -0400
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
feroci@saturn.ias.rm.cnr.it, cline@apache.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses events of 990528 and 990529 were not detected by Konus

Hi Everyone,

Konus didn't trigger within an hour of either event, and there are no obvious features in the low time-resolution (3 second bin) waiting-mode data.

Paul.

re:

Date: Wed, 2 Jun 1999 08:12:11 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199906021512.IAA25272@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB990528, 990529
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 28 1999 12:47*	weak, 32 ms long	2450
MAY 29 1999 02:10*	weak, 32 ms long	2450

*looks like an SGR, but which one?

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 Tue Jun 1 12:04:55 1999

From: MEEGAN@fender.msfc.nasa.gov

Date: Tue, 1 Jun 1999 14:04:46 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7589

TIME: TJD=1327 SECONDS=11292

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=163.8 AZIMUTH=336.4 ERROR=2.0 DEGREES

COMMENTS:

M1.6 FLARE. INTENSE EVENT LASTING ABOUT 800 S. VISIBLE ABOVE 300 KEV.

From MEEGAN@fender.msfc.nasa.gov Tue Jun 1 12:06:43 1999

From: MEEGAN@fender.msfc.nasa.gov

Date: Tue, 1 Jun 1999 14:06:54 -0500 (CDT)

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

Subject: Burst Trigger Message

BATSE BURST TRIGGER

NO.: 7590

TIME: TJD=1327 SECONDS=72453

TYPE: FLARE

SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

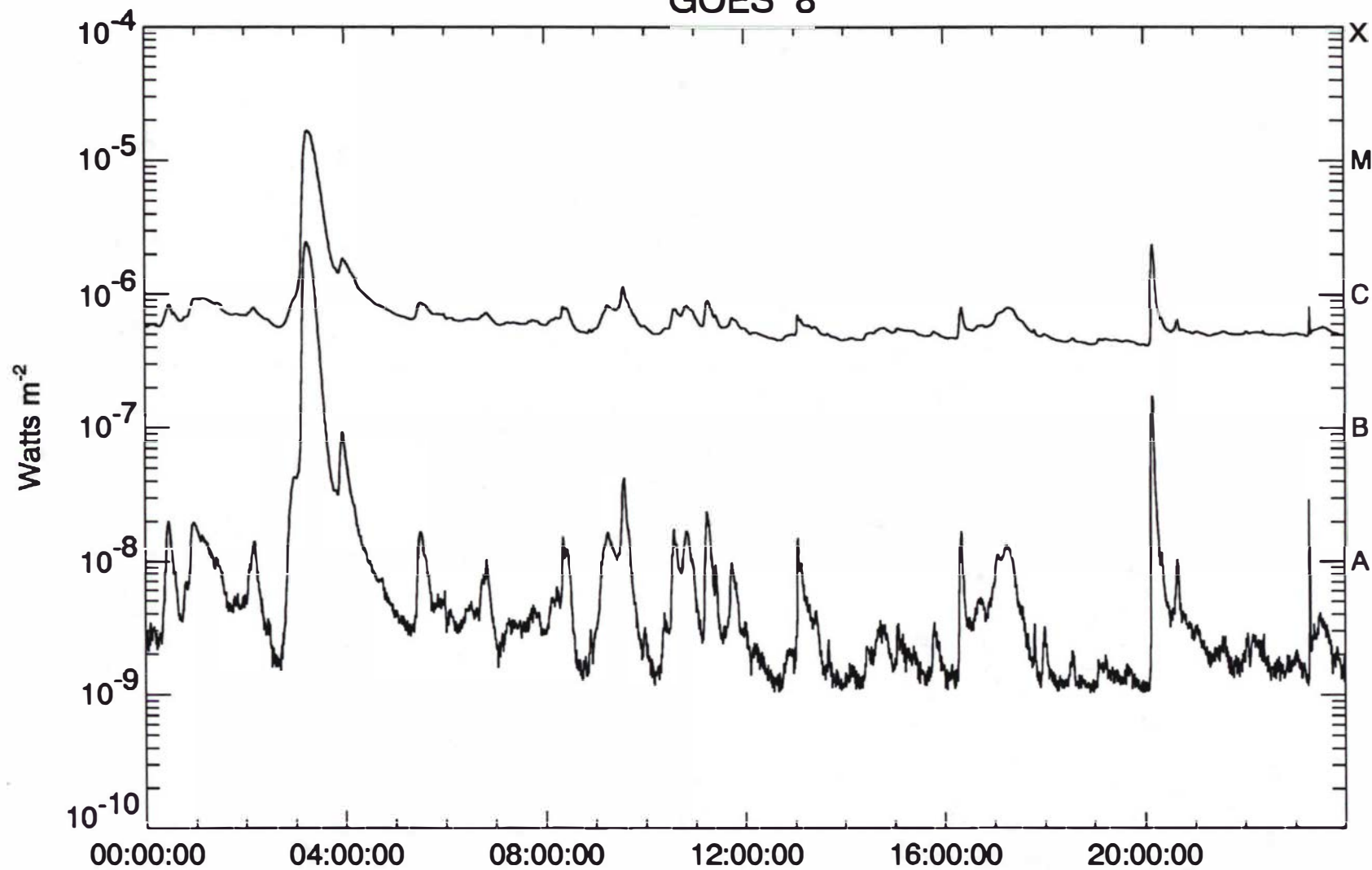
INTENSITY: COUNTS/CM2

LOCATION: ZENITH=163.8 AZIMUTH=338.7 ERROR=2.0 DEGREES

COMMENTS:

C2.3 FLARE. SEVEN PEAKS OVER ABOUT 160 S. NOT SEEN ABOVE 300 KEV.

GOES 8



Data Start: 99/05/29, 0000:00

Plot created: 99/06/02, 1006

Channel

1 (1.0 - 8.0 Angstroms)

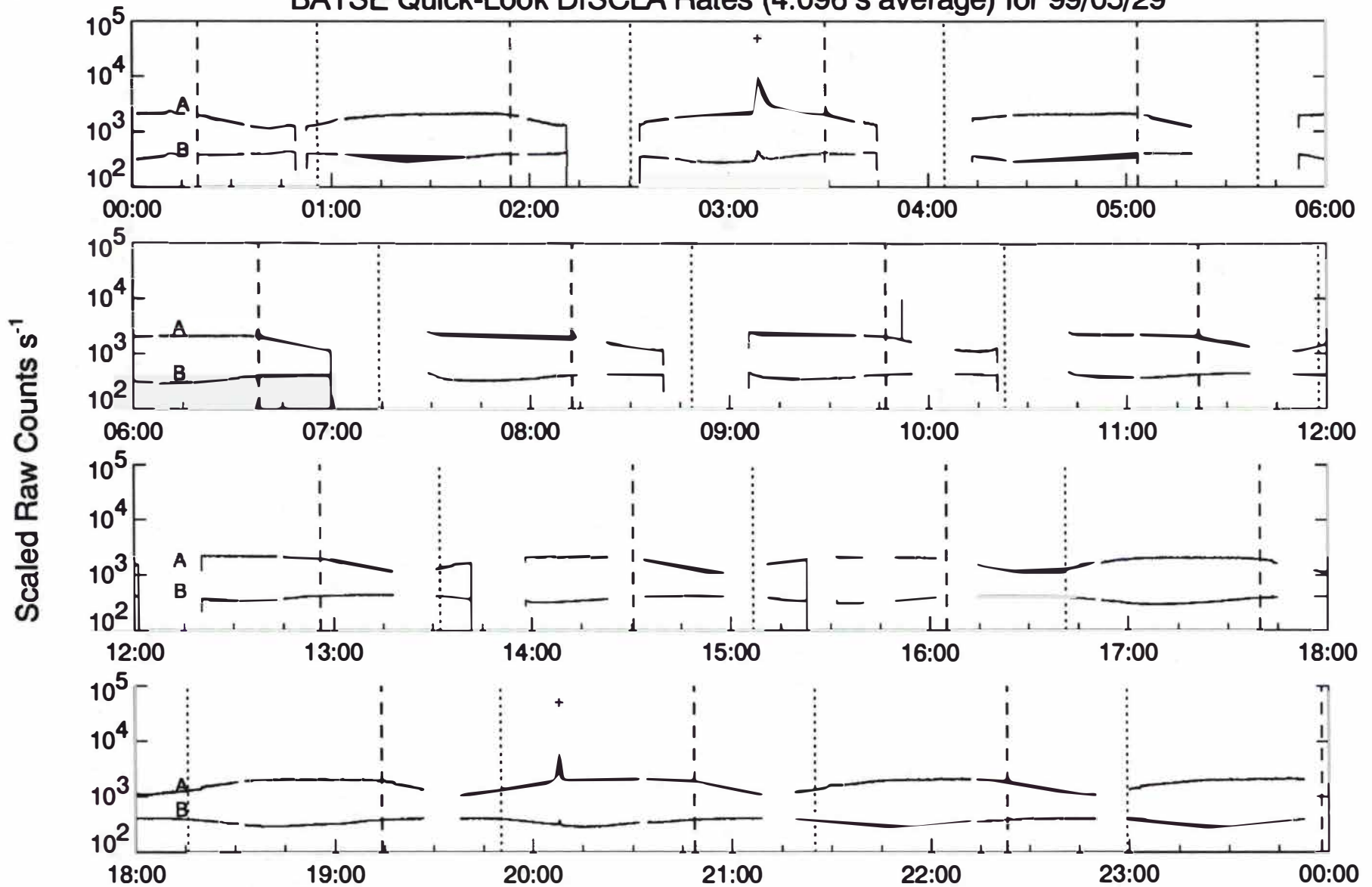
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/29

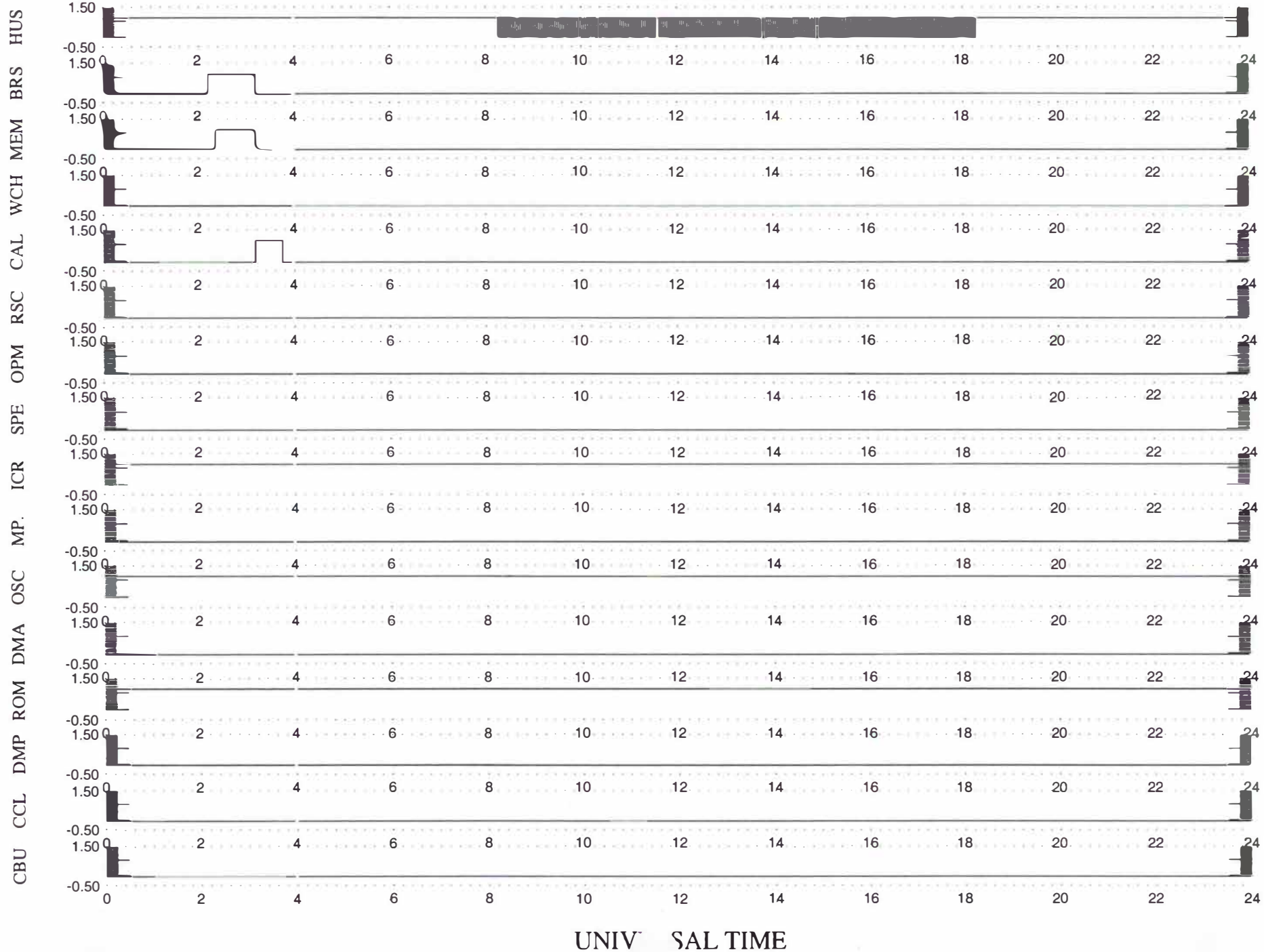


Current Time: 99/06/02, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

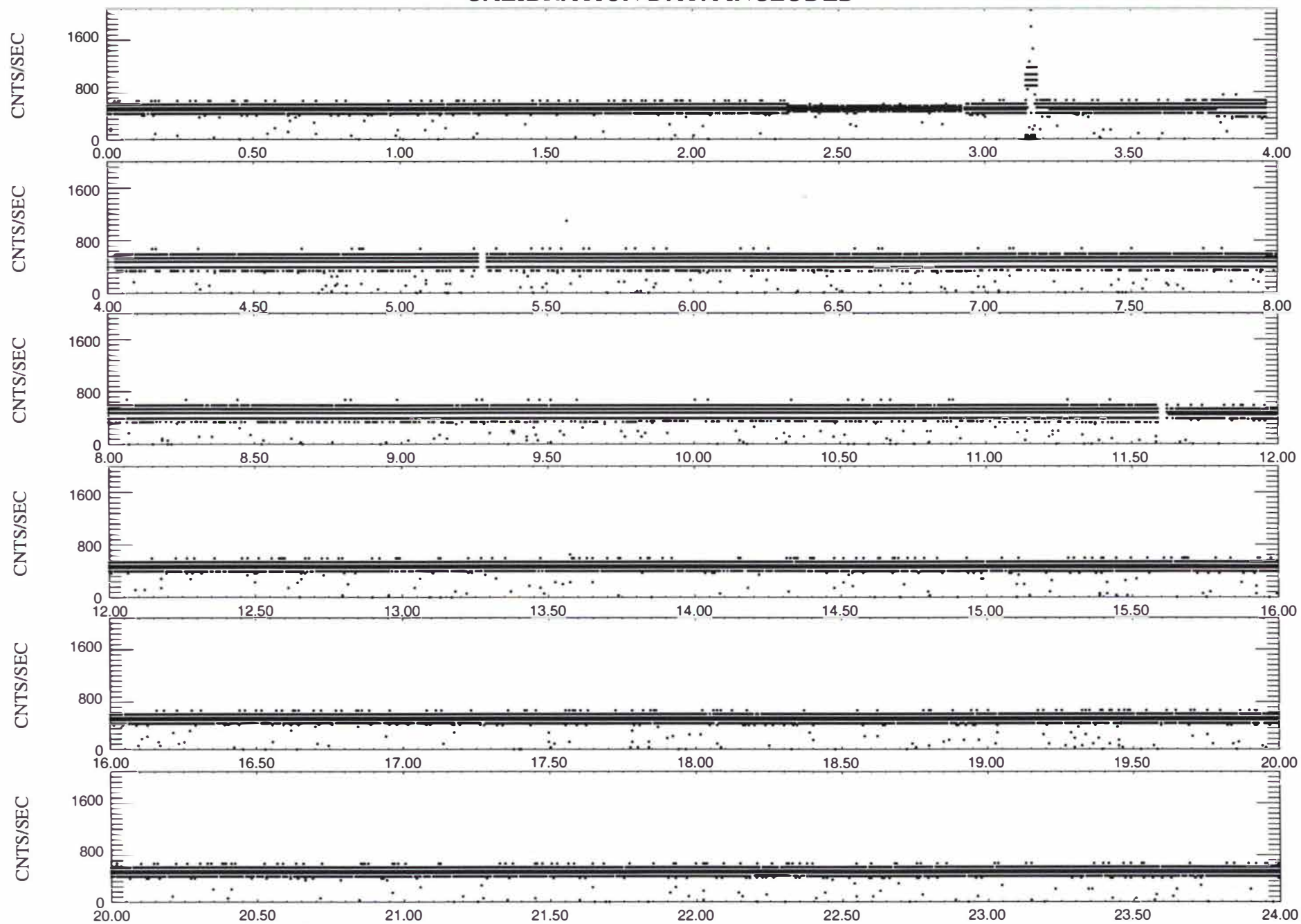
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 6

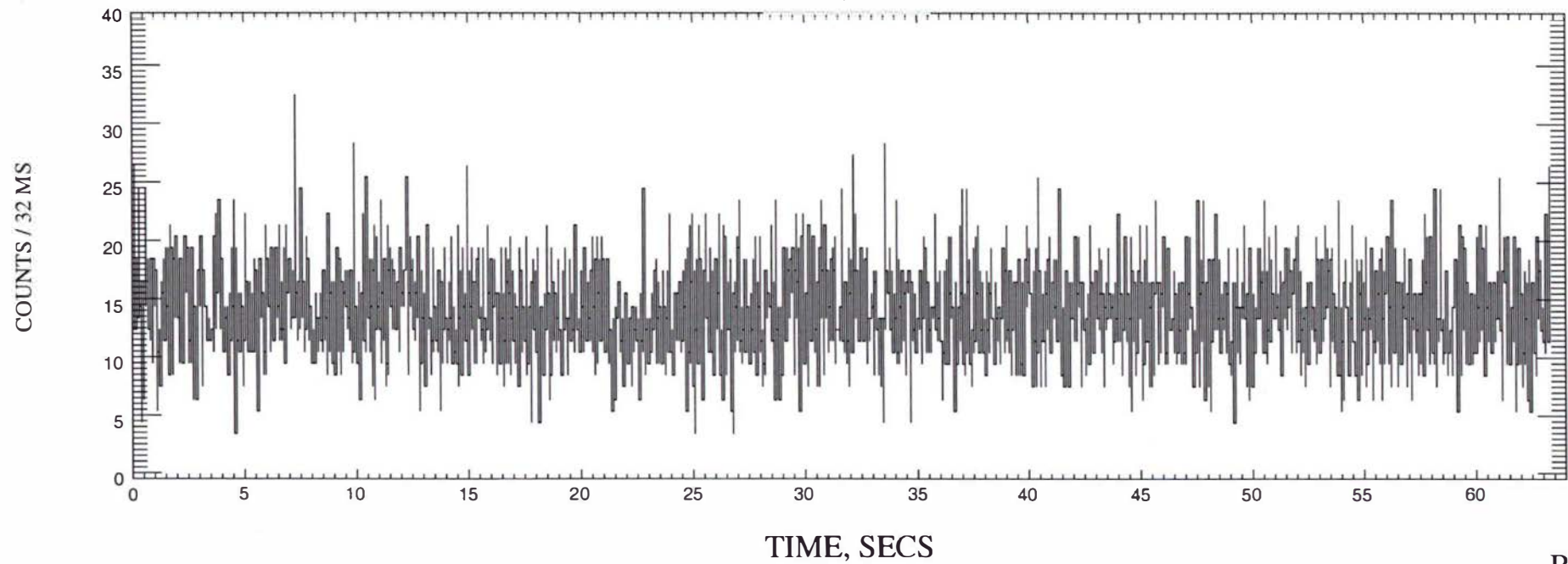
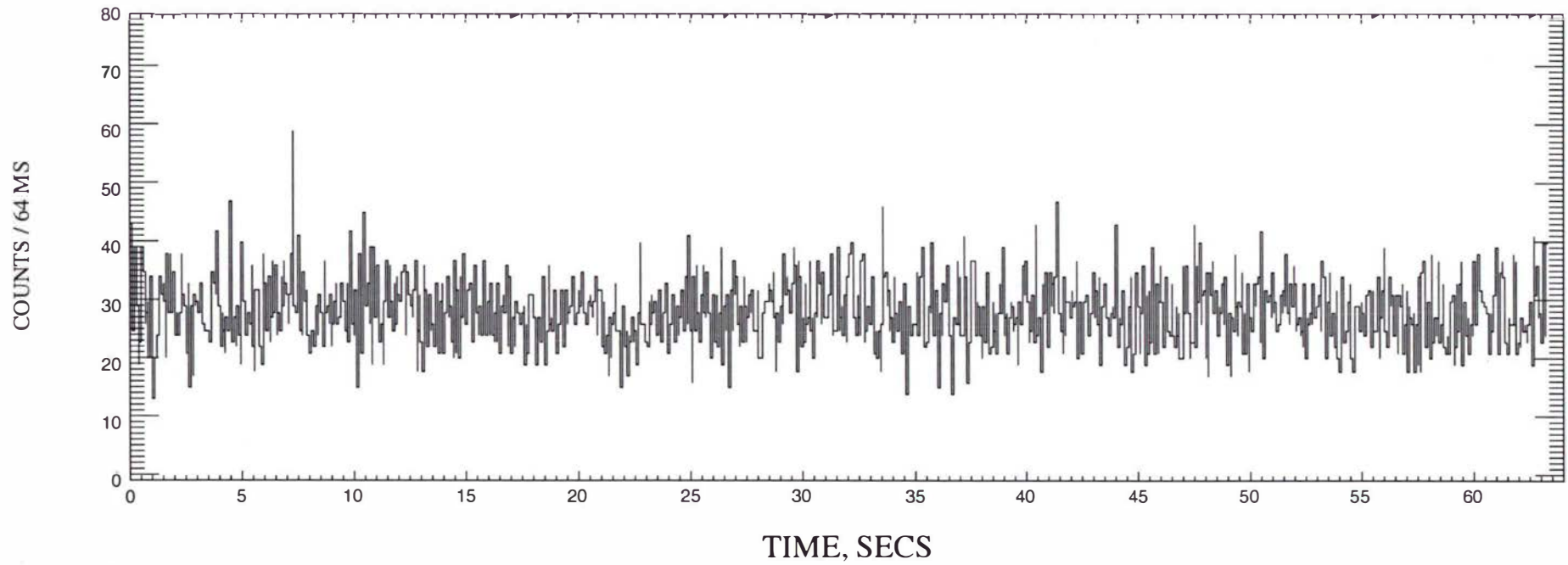


CALIBRATION DATA INCLUDED

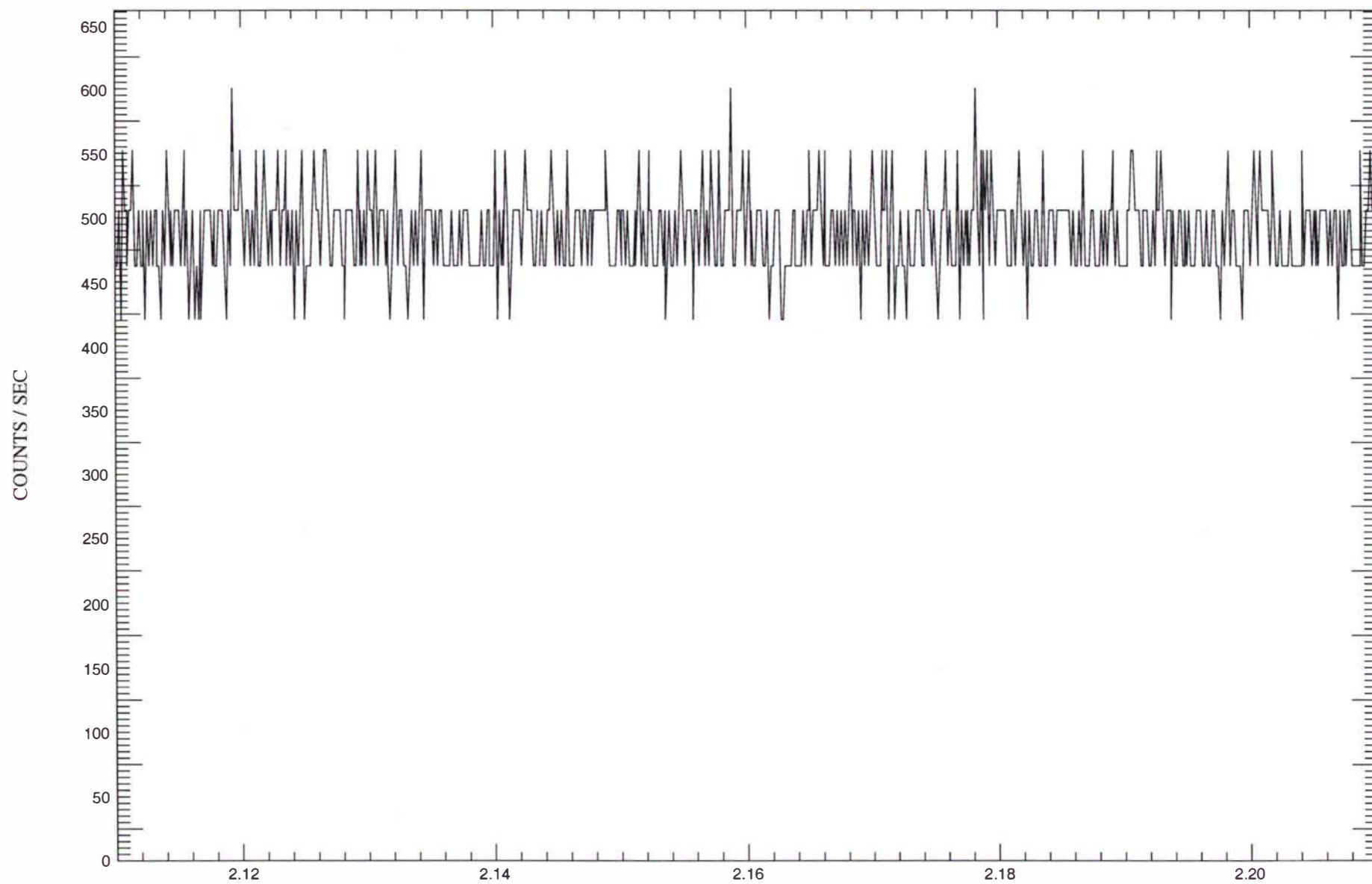


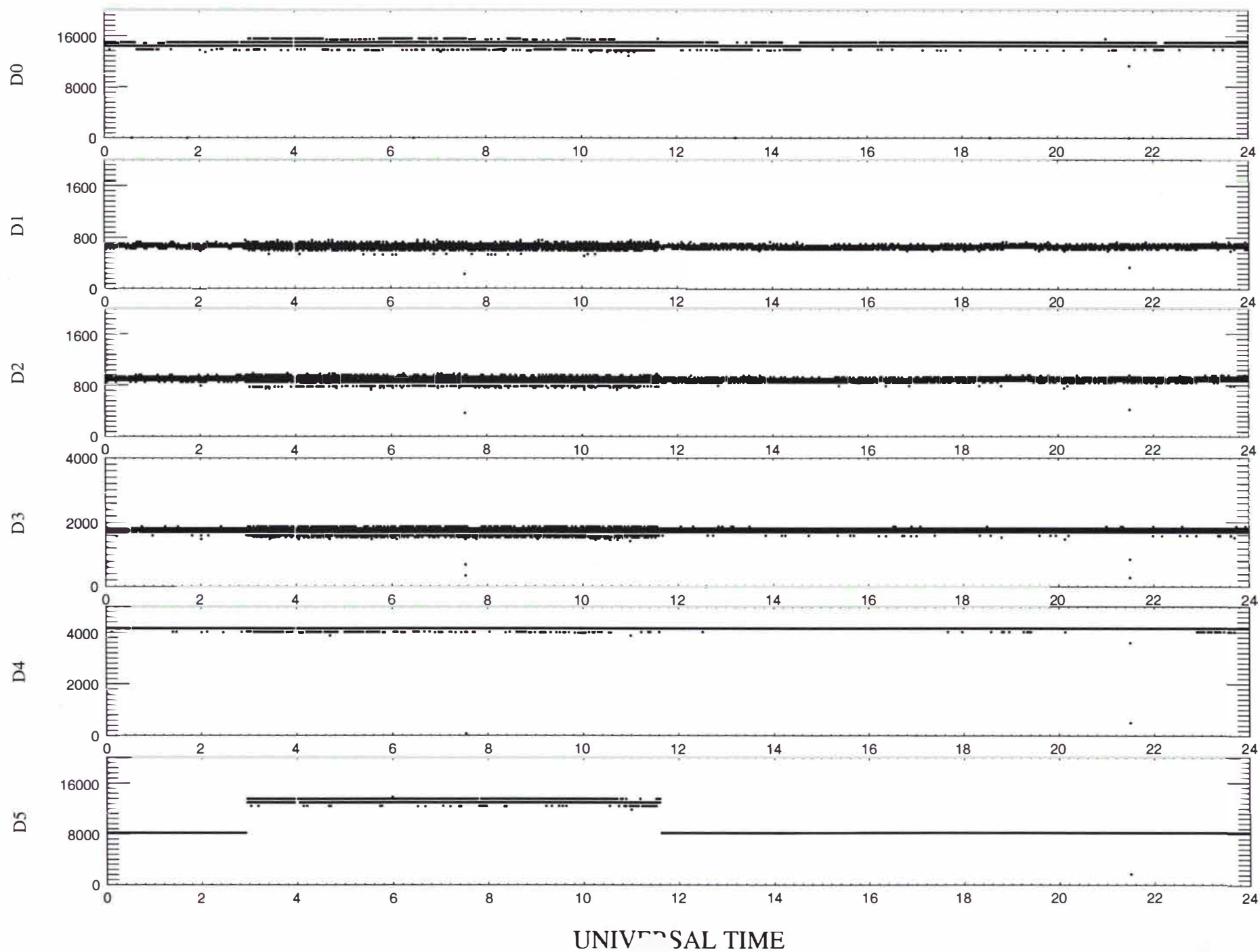
UNIVERSAL TIME

Burst Counter 6 at UT= 2.158946113586 h= 7772.206 s 02:09:32.206



CALIBRATION DATA INCLUDED





From BUTTERWORTH@tgrs2.gsfc.nasa.gov Fri Jun 4 08:37 PDT 1999
Date: Fri, 4 Jun 1999 11:40:27 -0400
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
feroci@saturn.ias.rm.cnr.it, cline@apache.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: The 'non-SGR' Ulysses event of 990530 was detected by Konus

Hi Everyone,

Konus didn't trigger near to either of the first two events, and there are no obvious features in the low time-resolution (3 second bin) waiting-mode data. We did trigger at 23:26:38.164 on a weak 10-second event with a single broad peak. The trigger was in the North-facing detector, and from the ratio of North/South waiting mode counts must have had an ecliptic latitude of at least 25 degrees North.

Paul.

re:

Date: Fri, 4 Jun 1999 08:08:08 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199906041508.IAA21734@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB990530A,B,C
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 30 1999 03:08*	weak, 32 ms long	2450
MAY 30 1999 11:58*	weak, 32 ms long	2450
MAY 30 1999 23:54	weak, 10 s long	2450

*looks like an SGR, but which one?

Were these events detected by anyone else?

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

From RICHARDSON@fender.msfc.nasa.gov Tue Jun 1 09:57:44 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 JAA09229; Tue, 1 Jun 1999 09:57:43 -0700
From: RICHARDSON@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id JAA03005
for <khurley@sunspot.ssl.berkeley.edu>; Tue, 1 Jun 1999 09:54:27 -0700 (PDT)
Date: Tue, 1 Jun 1999 11:58:14 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990601115814.2080a881@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7591
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7591
EVENT OF 1999 MAY 30 DAY OF YEAR=150
EVENT CROSSING TIME AT BATSE : 57808. S. OR 16:03:28.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 16.000 -33.000
BATSE PEAK COUNTING RATE: 2700 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 30/ 5/ 99 IS:
RA= 144.218 DEC= -6.837 DIST= 4.952 AU
BATSE-ULYSSES DISTANCE = 740756946. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 63.24 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 1112.69 SECS.
CROSSING TIME AT ULYSSES IS 58921. S. OR 16:22:00 +/- 449.93 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 30/ 5/ 99 IS:
RA= 202.765 DEC= -9.681 DIST= 0.645 AU
MARS-BATSE DISTANCE = 96559424. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 43.17 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 234.92 SECS.
CROSSING TIME AT MARS IS 58043. S. OR 16:07:22 +/- 41.82 SECONDS

BATSE BURST TRIGGER

NO.: 7591

TIME: TJD=1328 SECONDS=57808

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=109.8 AZIMUTH=76.4 ERROR=8.0 DEGREES

COMMENTS:

GRB. SHORT SPIKE. DURATION APPROX. = 0.4 SEC. NOT VISIBLE ABOVE 300KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7591	990530	11328	57808	2700	016	-33	.4

BATSE BURST# 7591

ULYSSES RT

1 / 6 / 99

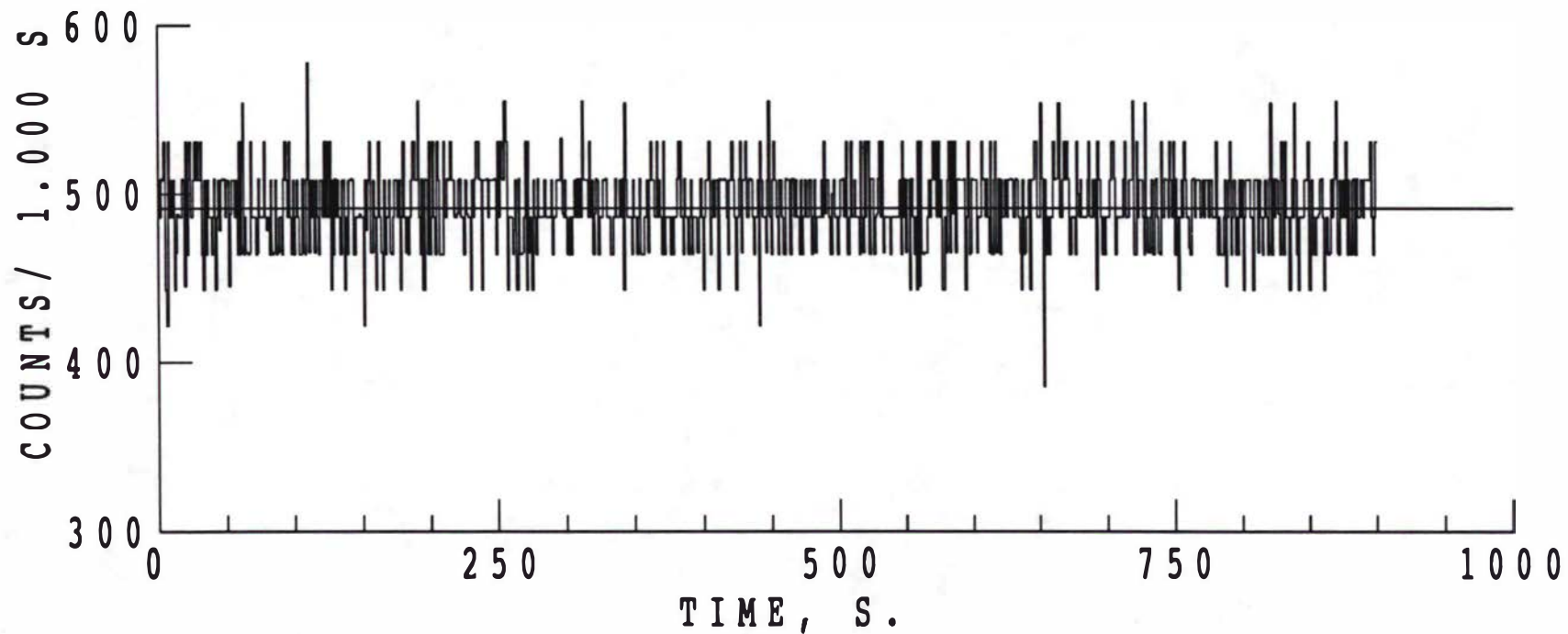
30 / 5 / 99 58464.352 s

0.500 S INTERVALS REGROUPED BY 2

0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



Date: 17 Jan 2013

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

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

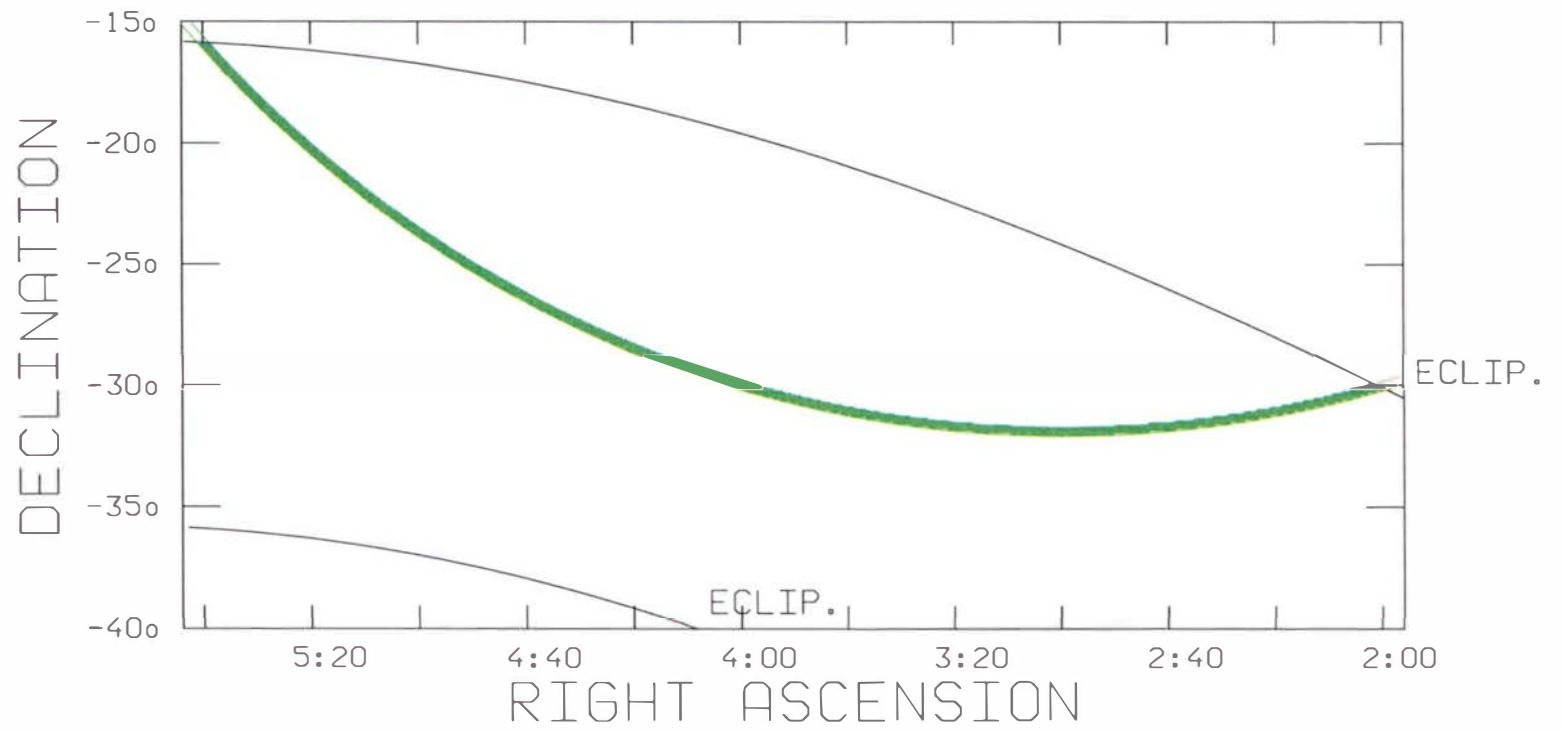
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

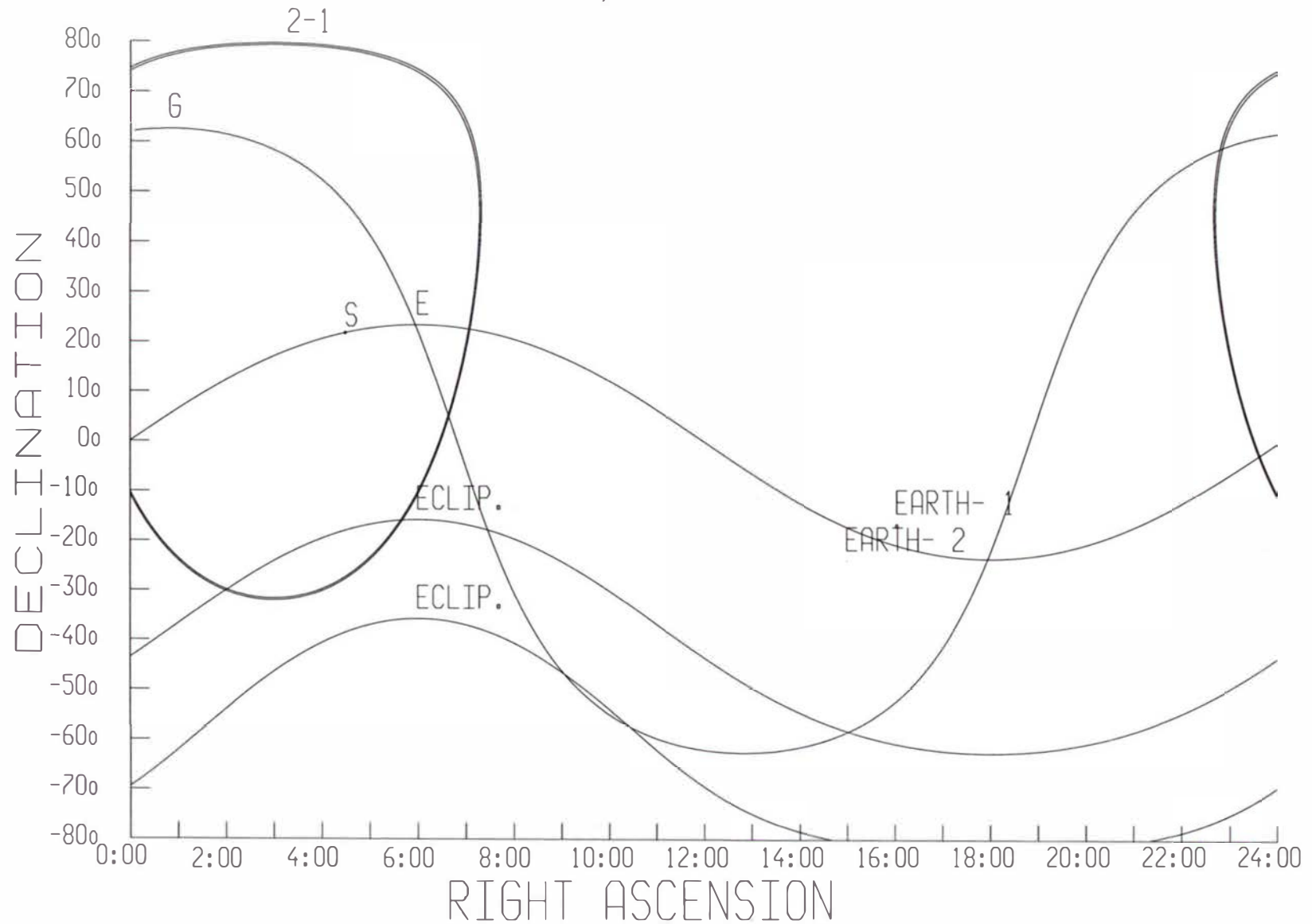
- ☒ ACCESS database updated?

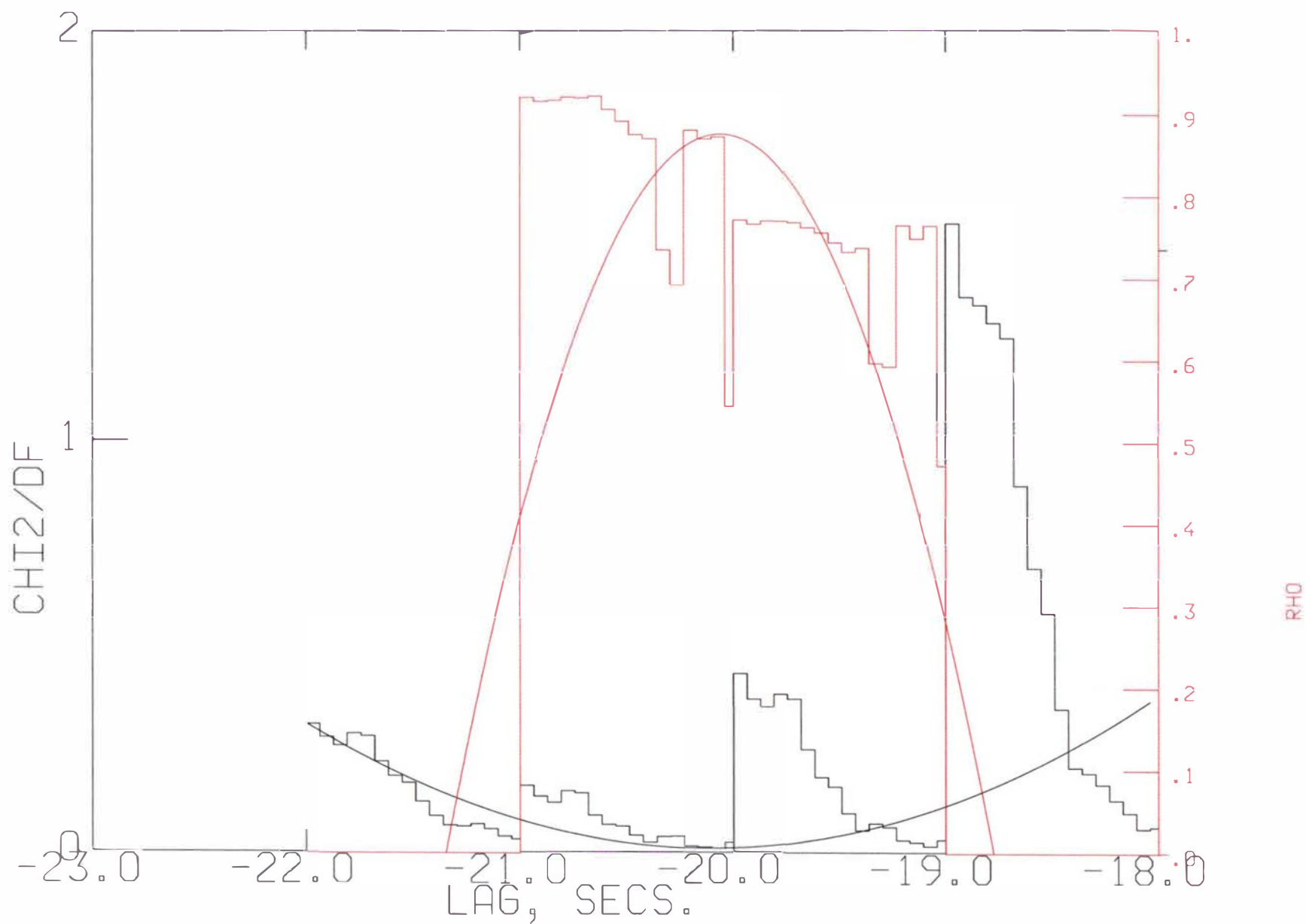


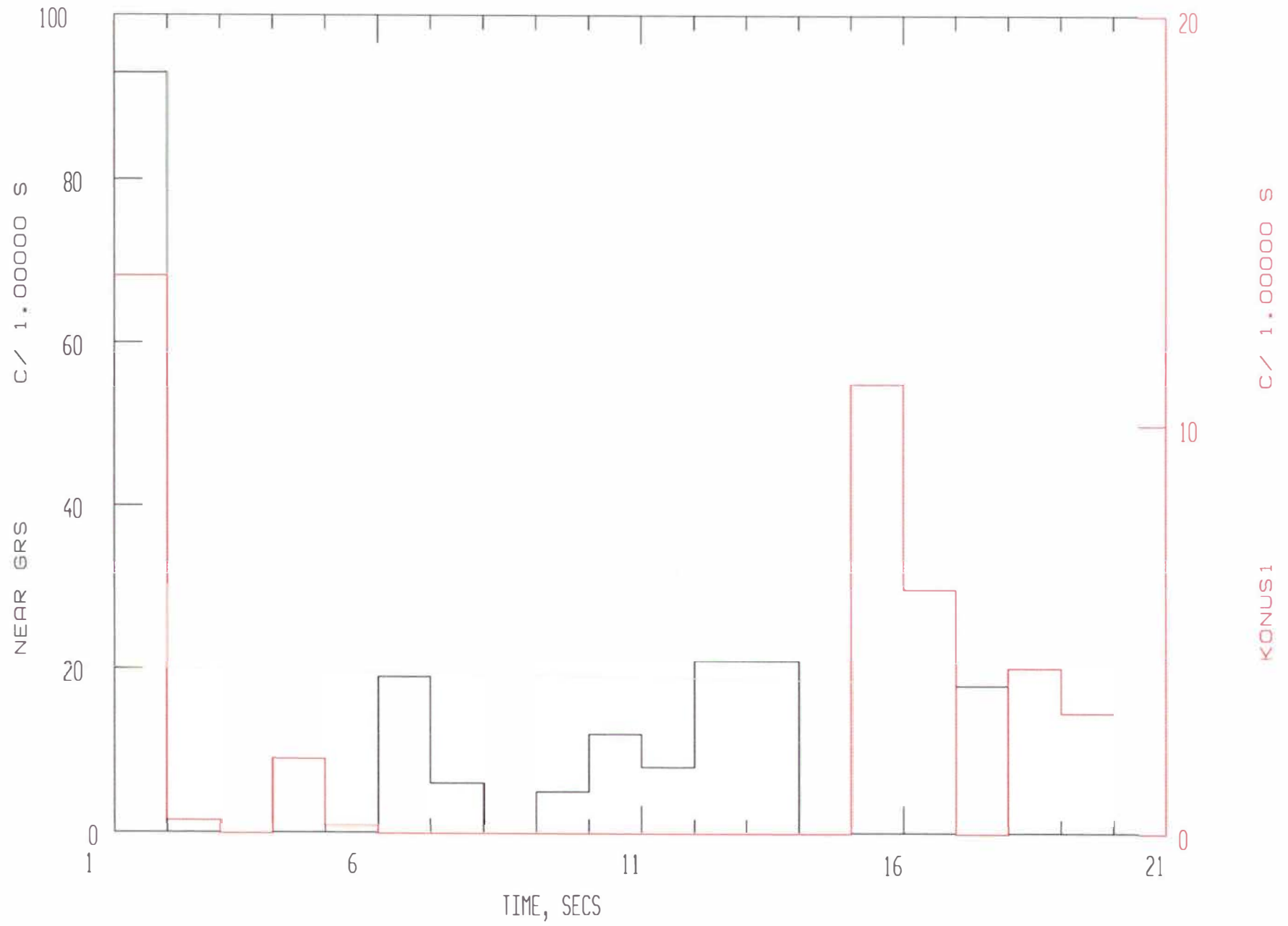
EVENT OF MAY 30, 1999 22:20

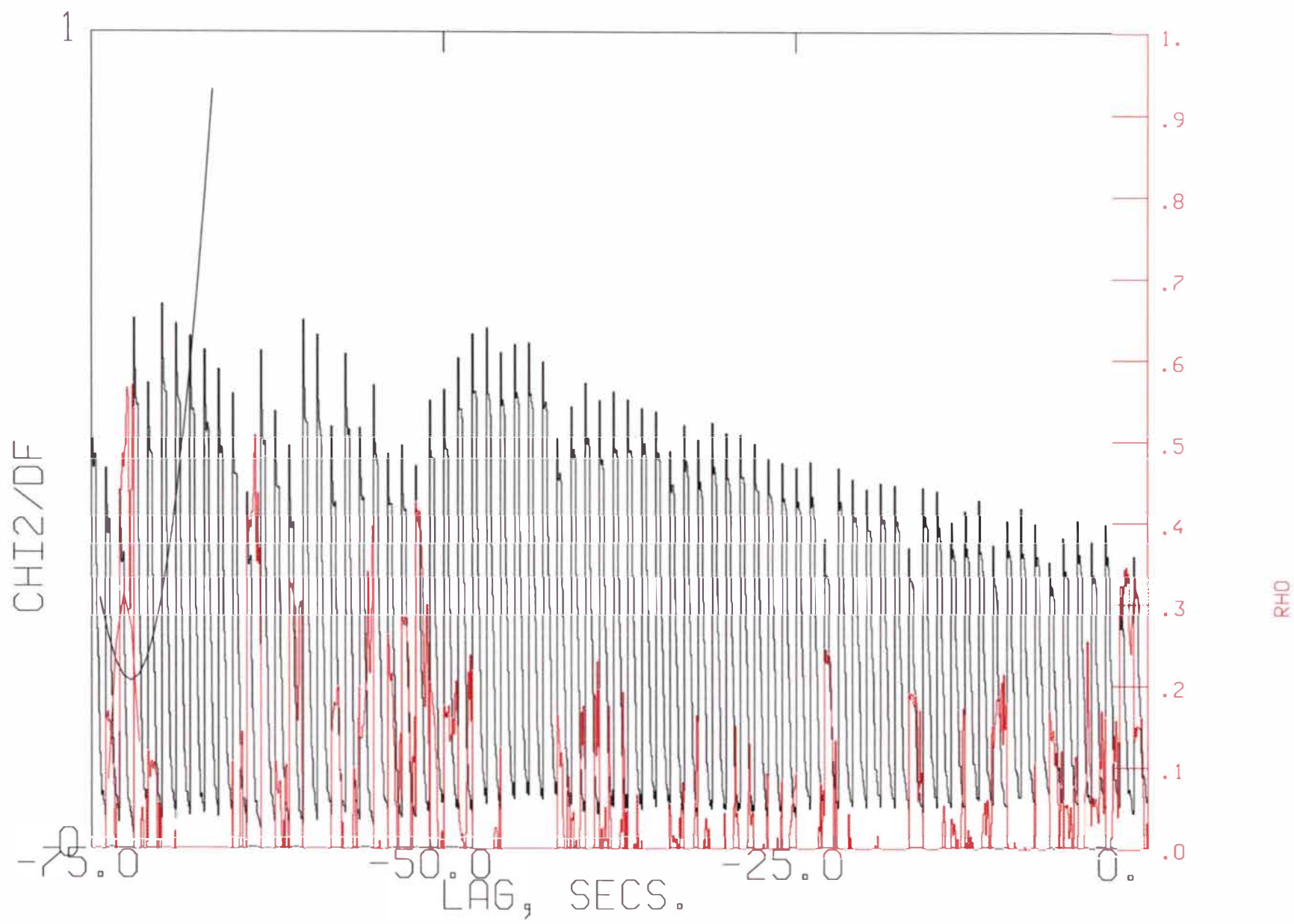
17/01/2013

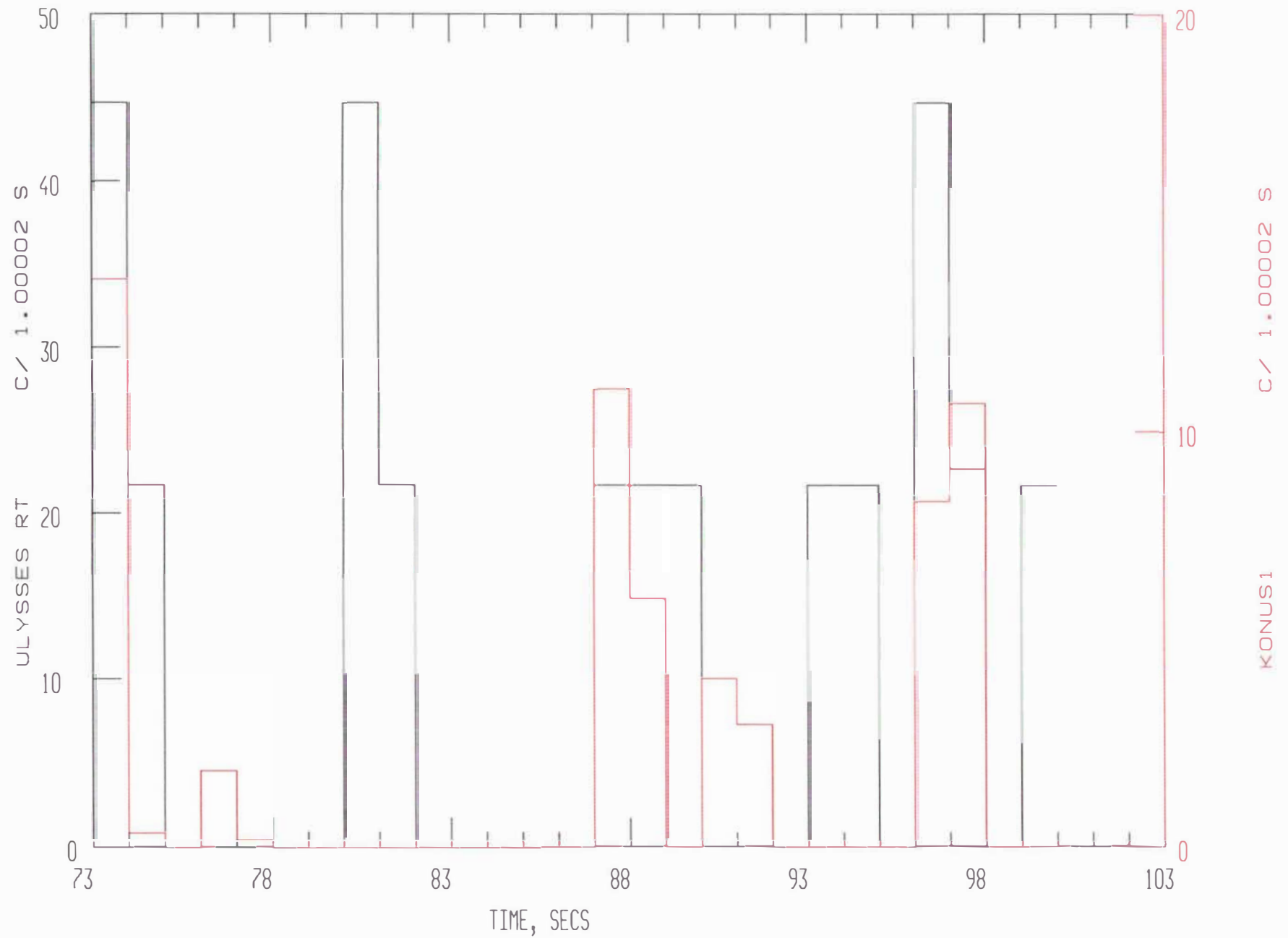
N-M = CORRELATION BETWEEN SATELLITES N AND M
 EARTH-N = EARTH AS SEEN FROM SATELLITE N
 S=SUN E=ECLIPTIC G=GALACTIC EQUATOR
 1 KONUS1 2 NEAR



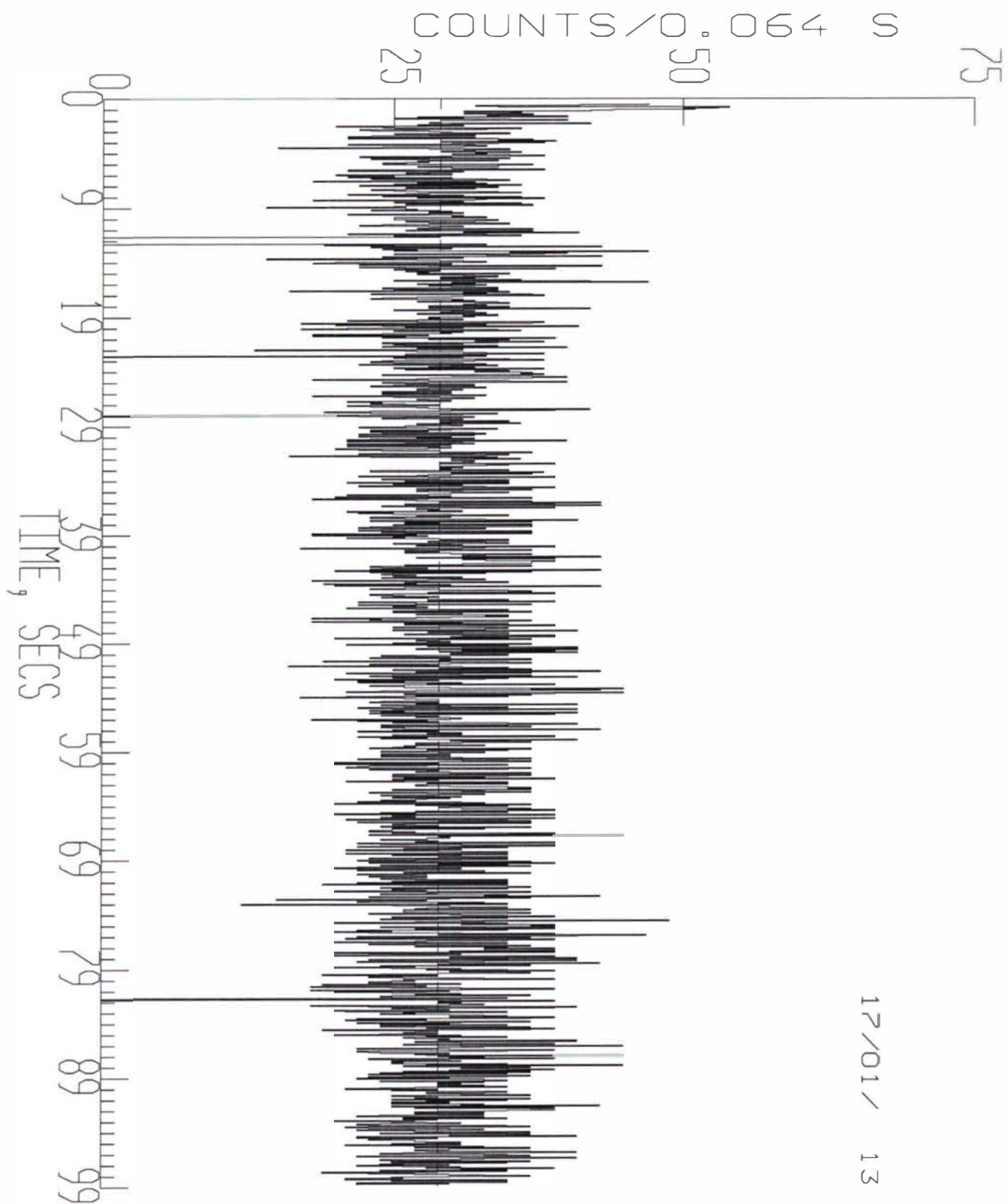








KONUS 30/05/99 80419.916
50- 200 keV

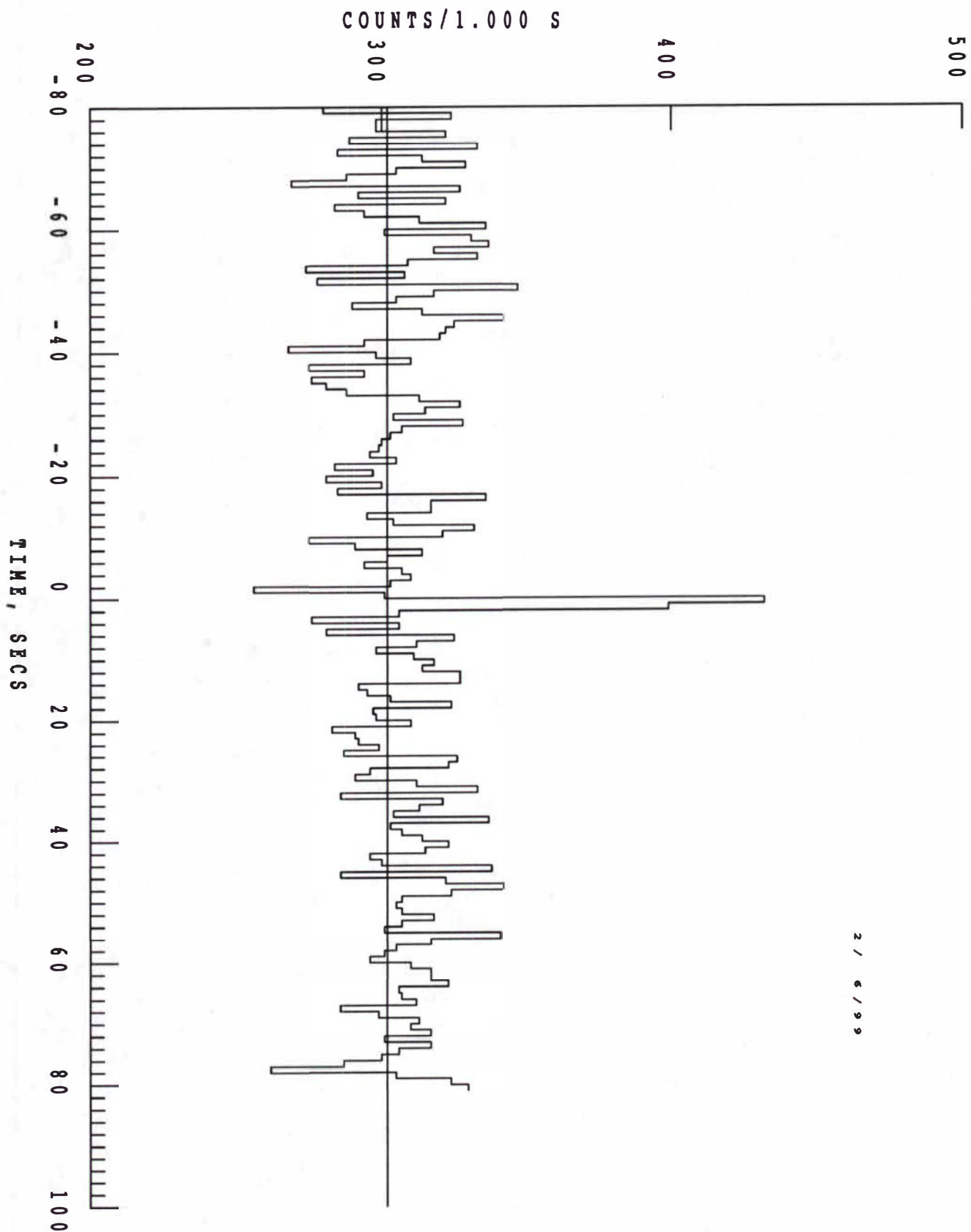


NEAR

30/05/99

79781.493

100-1000 keV



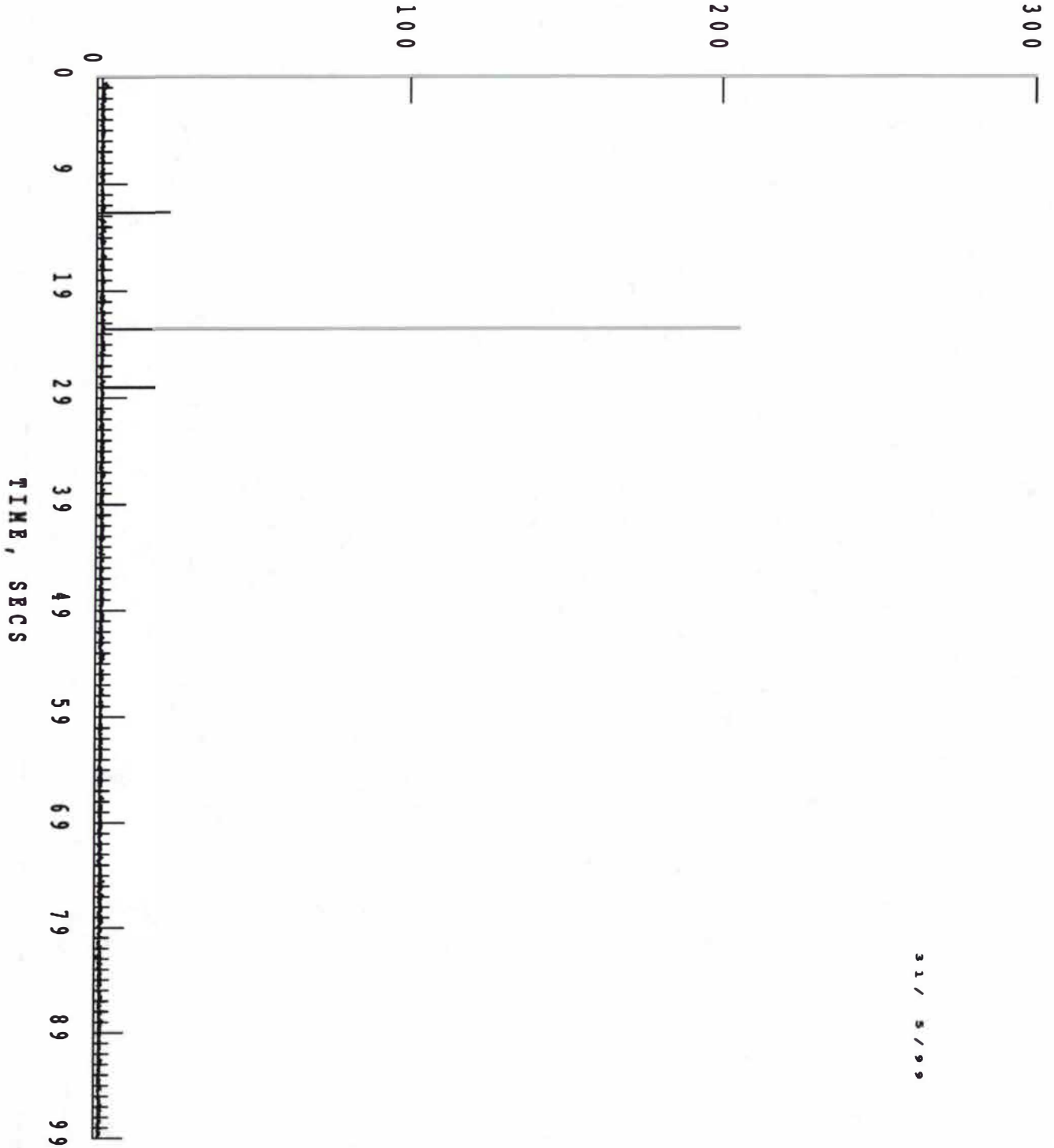
KONUS

30/05/99

80419.916

50 - 200 keV

COUNTS/0.064 S



31 / 5 / 99

KONUS1 19990530 80419

ULYSSES RT

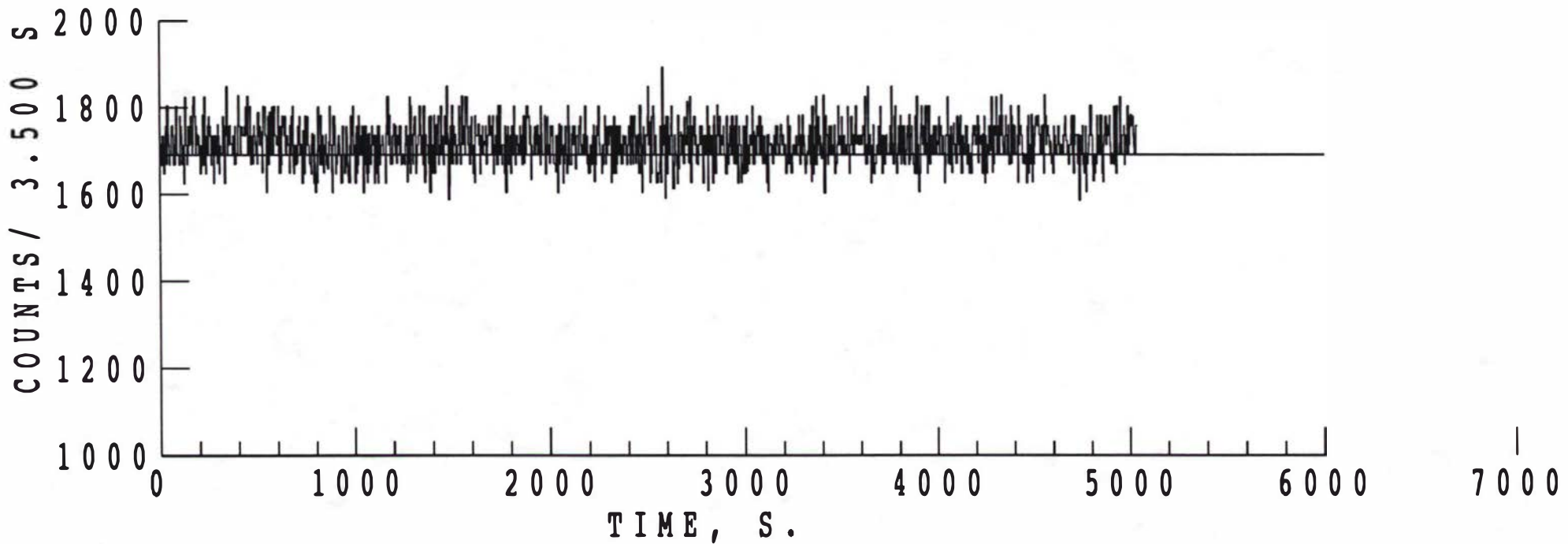
1 / 6 / 99

30 / 5 / 99 77904.047 s

0.500 S INTERVALS REGROUPED BY 7

0 - 0 keV

W= 10 N= 2
>4.0 SIGMA FLUCTUATIONS



Date: 24 Jan 2013

BURST TRIANGULATION CHECKLIST

1. Ulysses Data

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

2. BATSE Data

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

3. NEAR Data

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

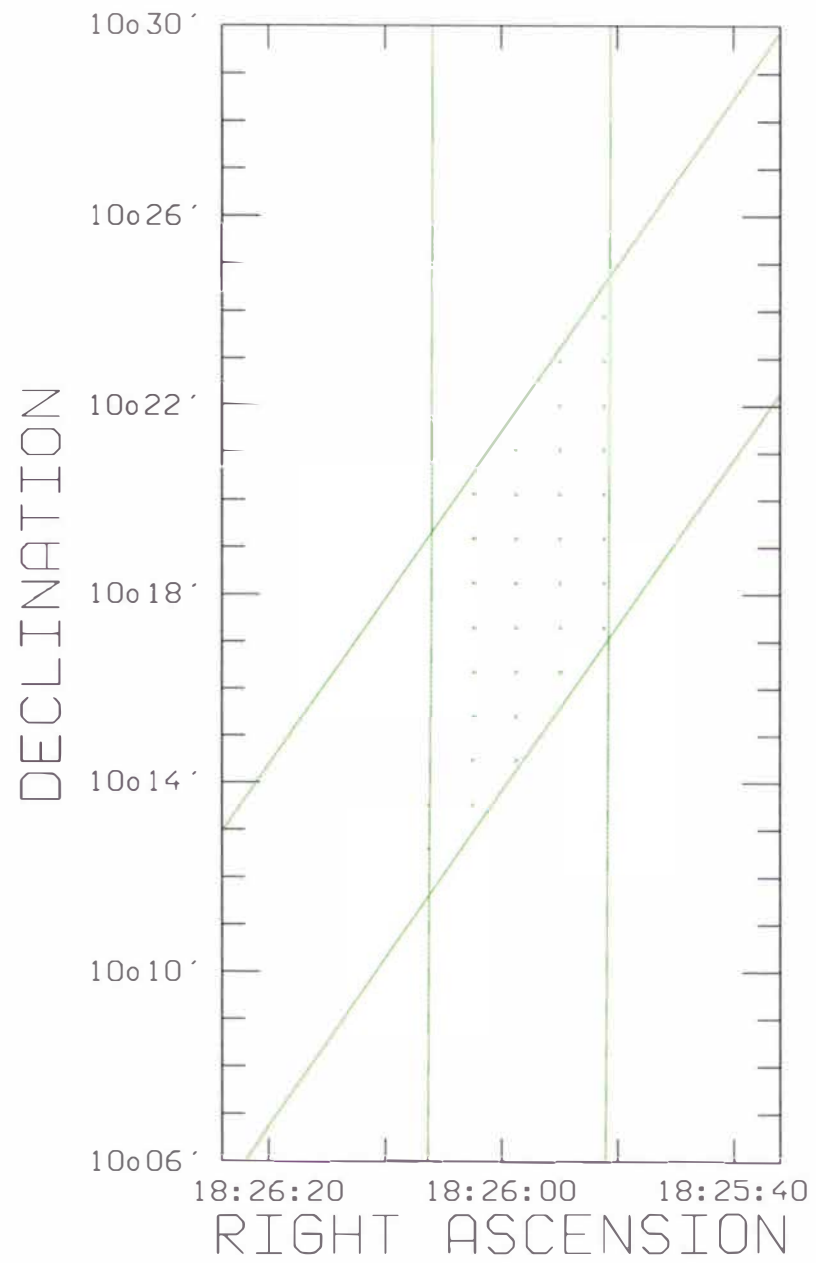
4. For Konus events

- ☒ Konus ecliptic latitude used with latest calibration?

5. For 3 Spacecraft events

- ☐ $\Sigma 3\Delta t$'s calculated?

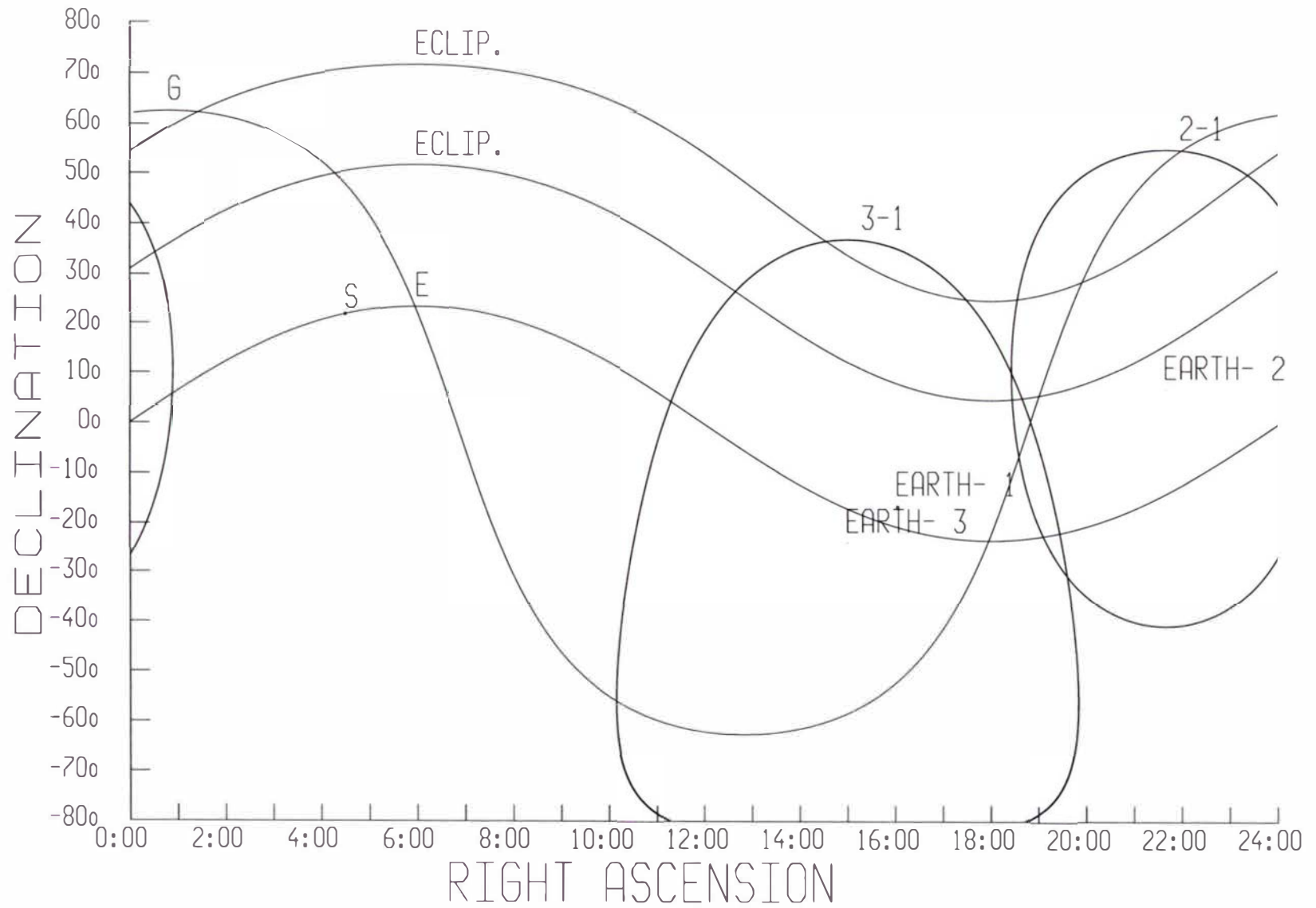
- ☒ ACCESS database updated?

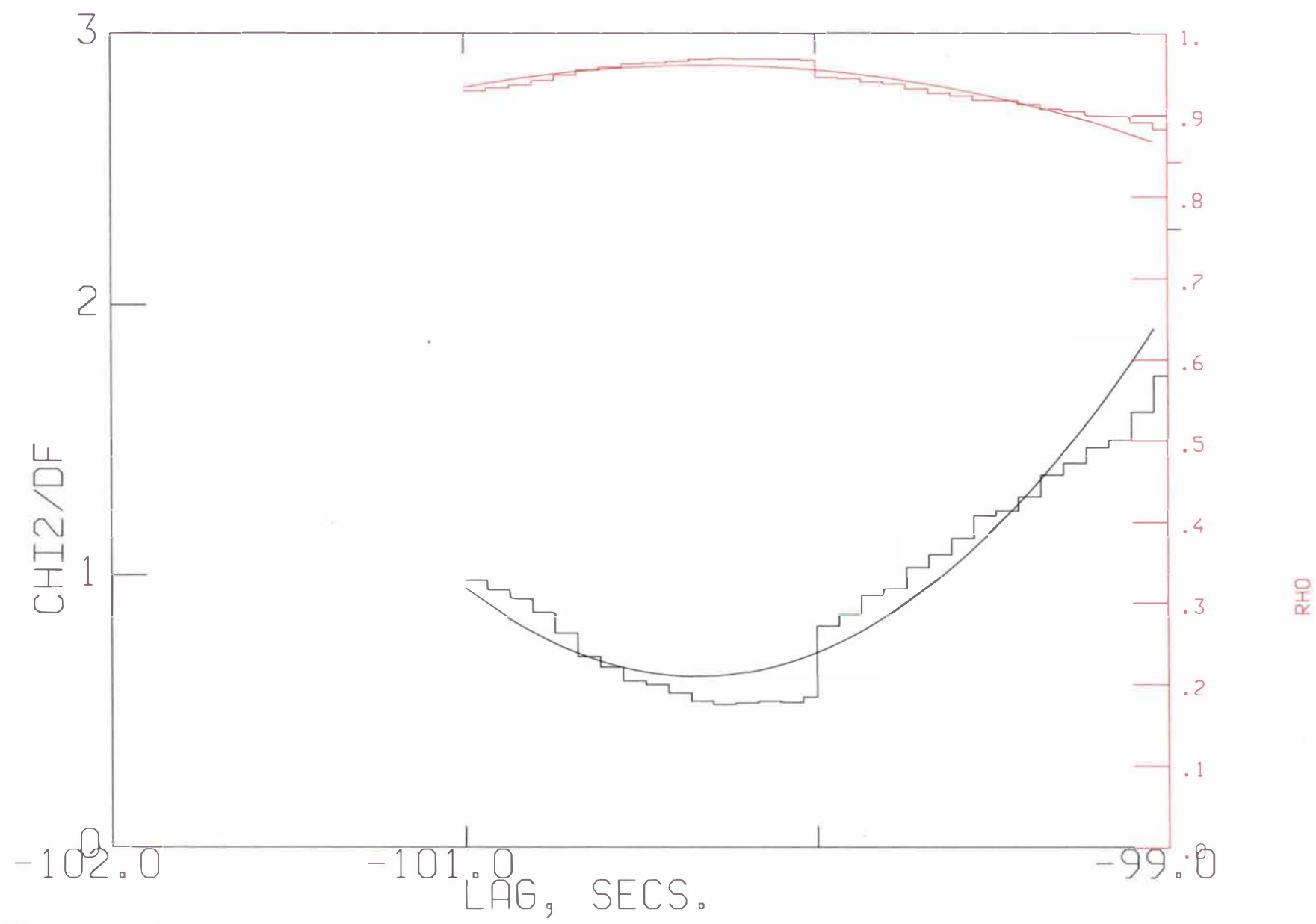


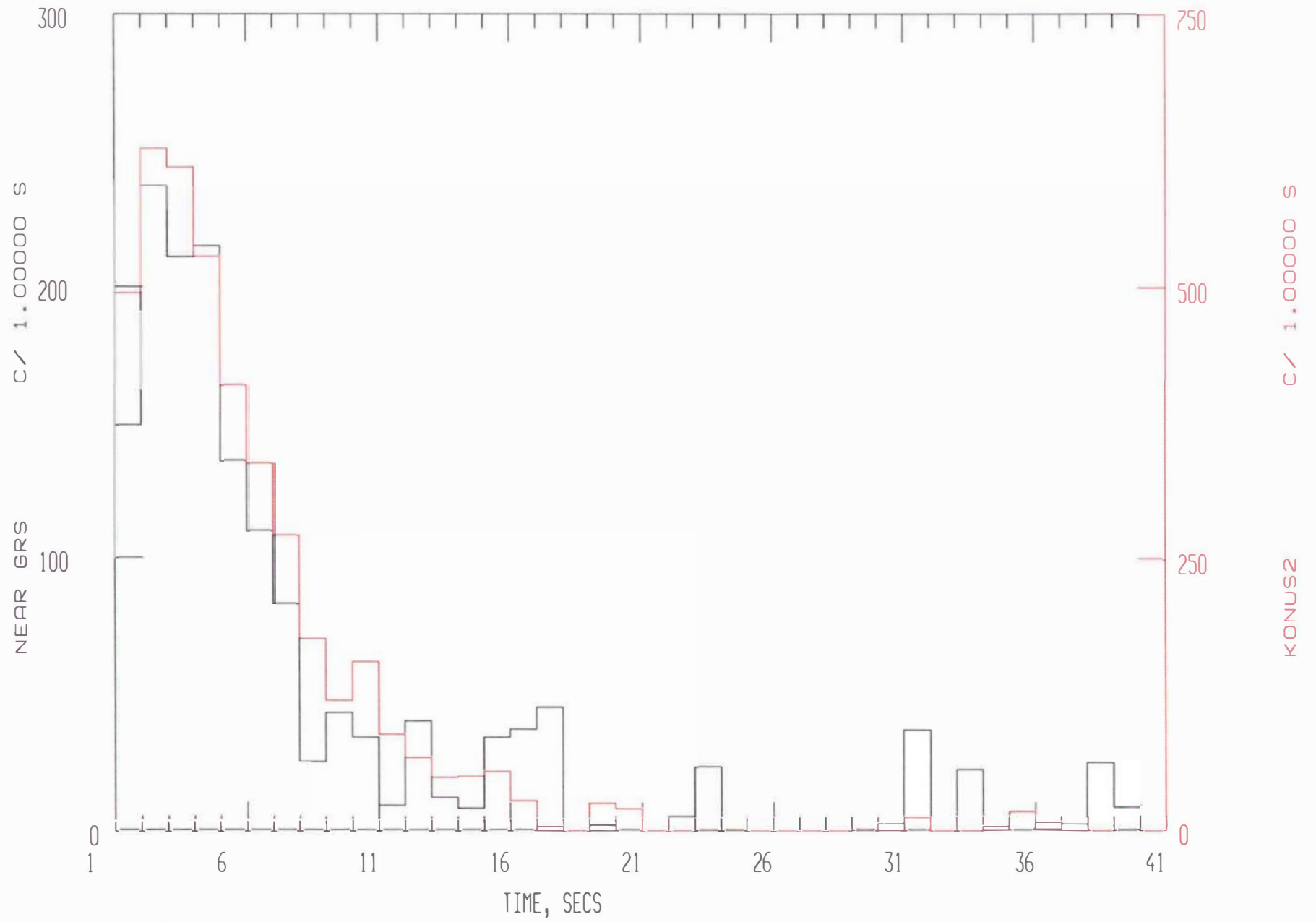
EVENT OF MAY 30, 1999 23:26

24/01/2013

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

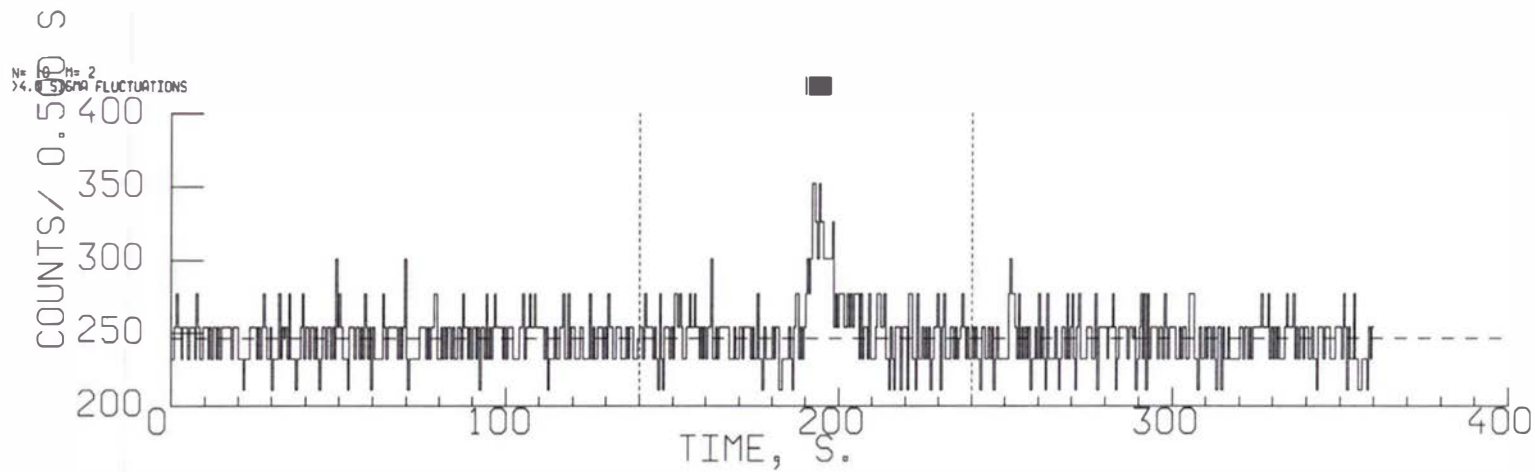






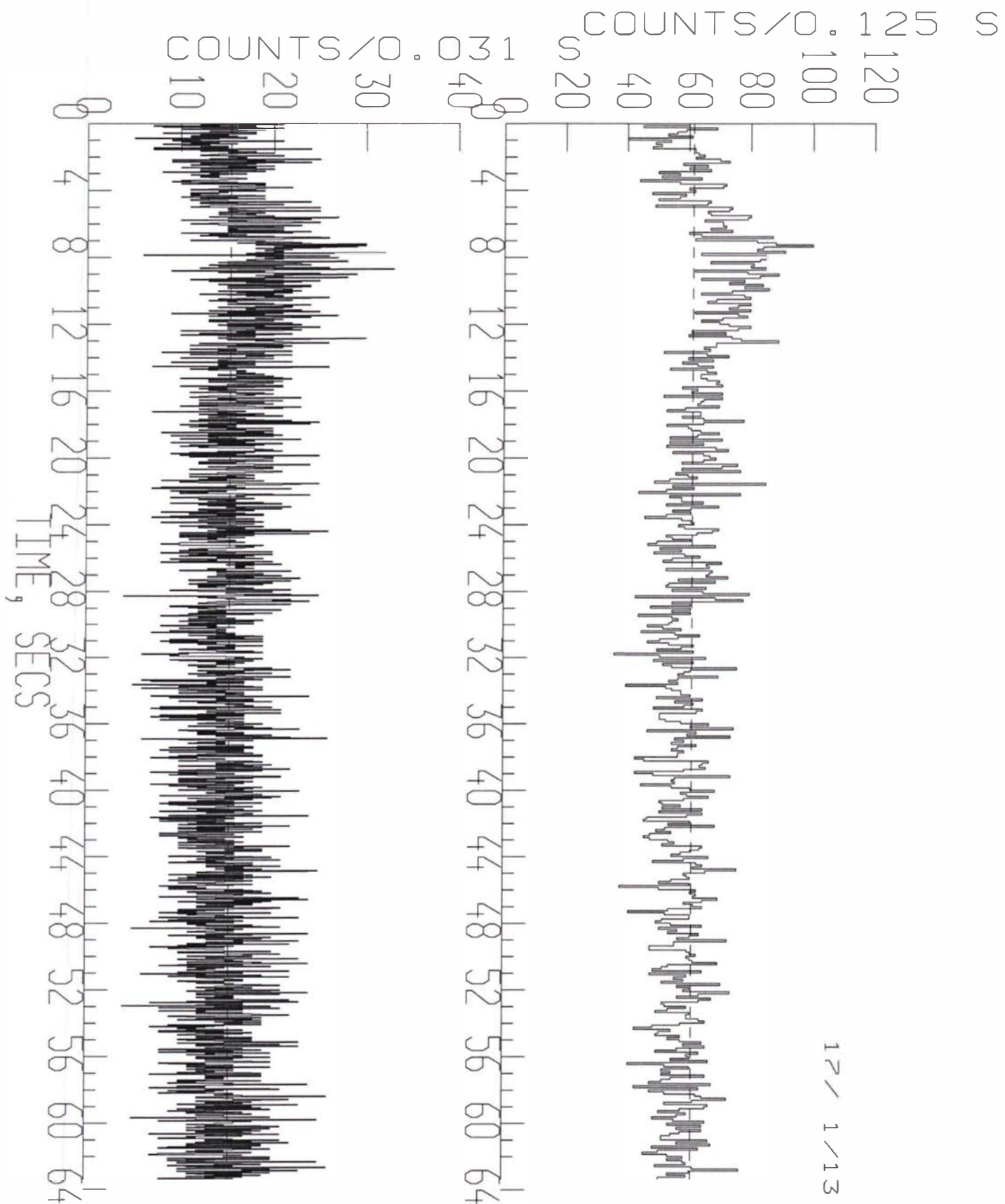
ULYSSES RT
30/ 5/99 85860.125 s
22- 149 keV

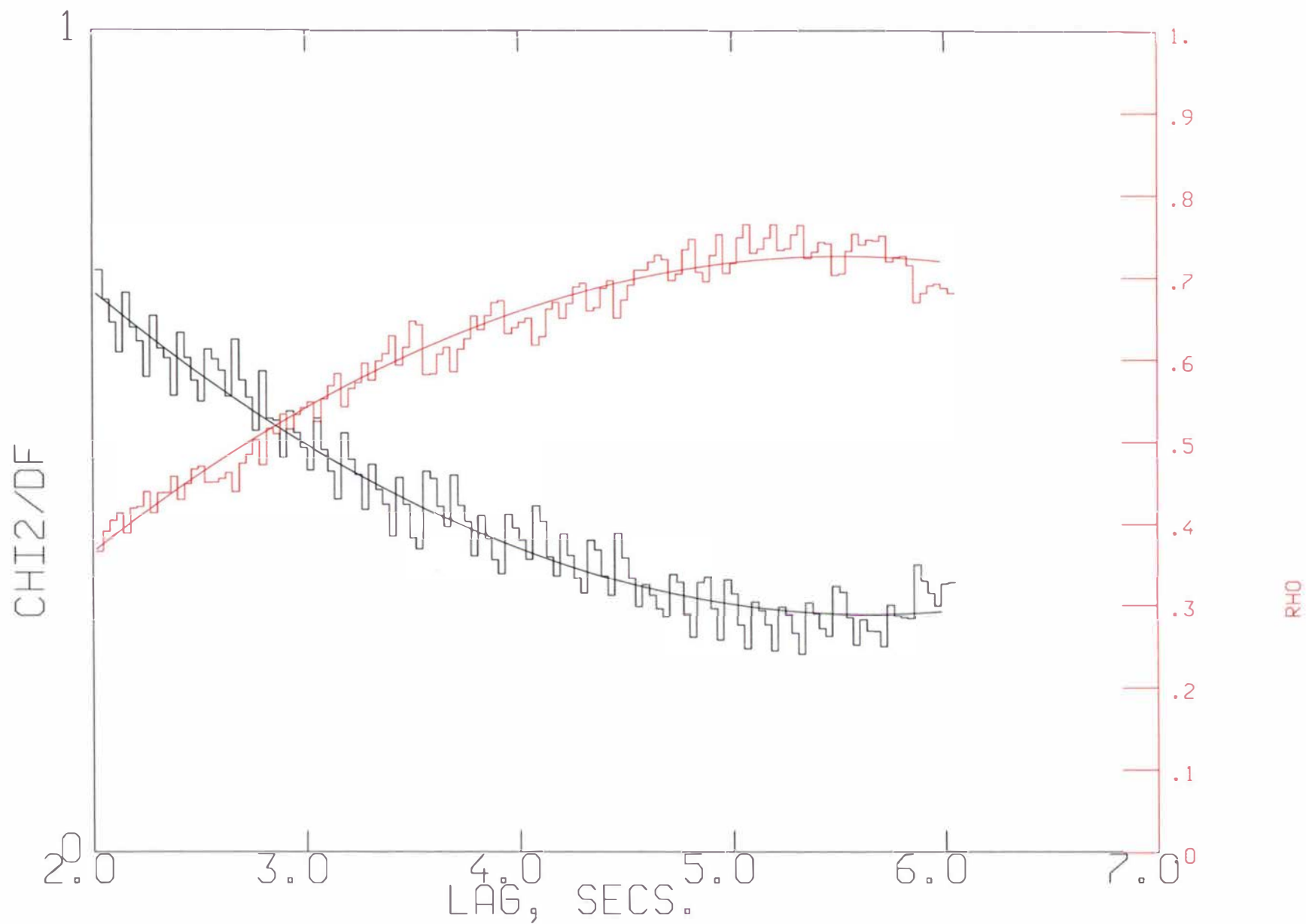
17 / 1 / 13

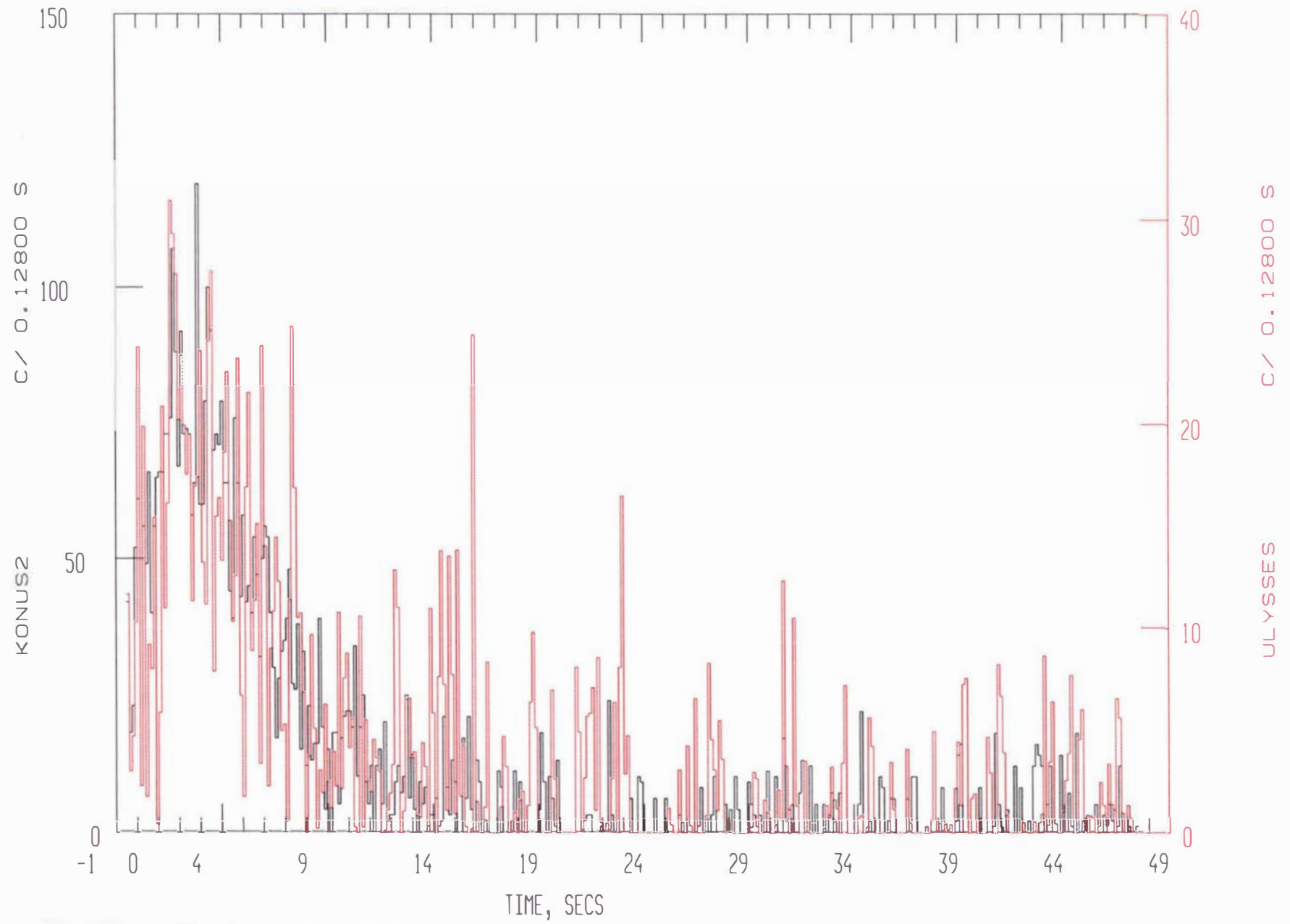


ULYSSES 30/05/99 Ttrig=86052.657

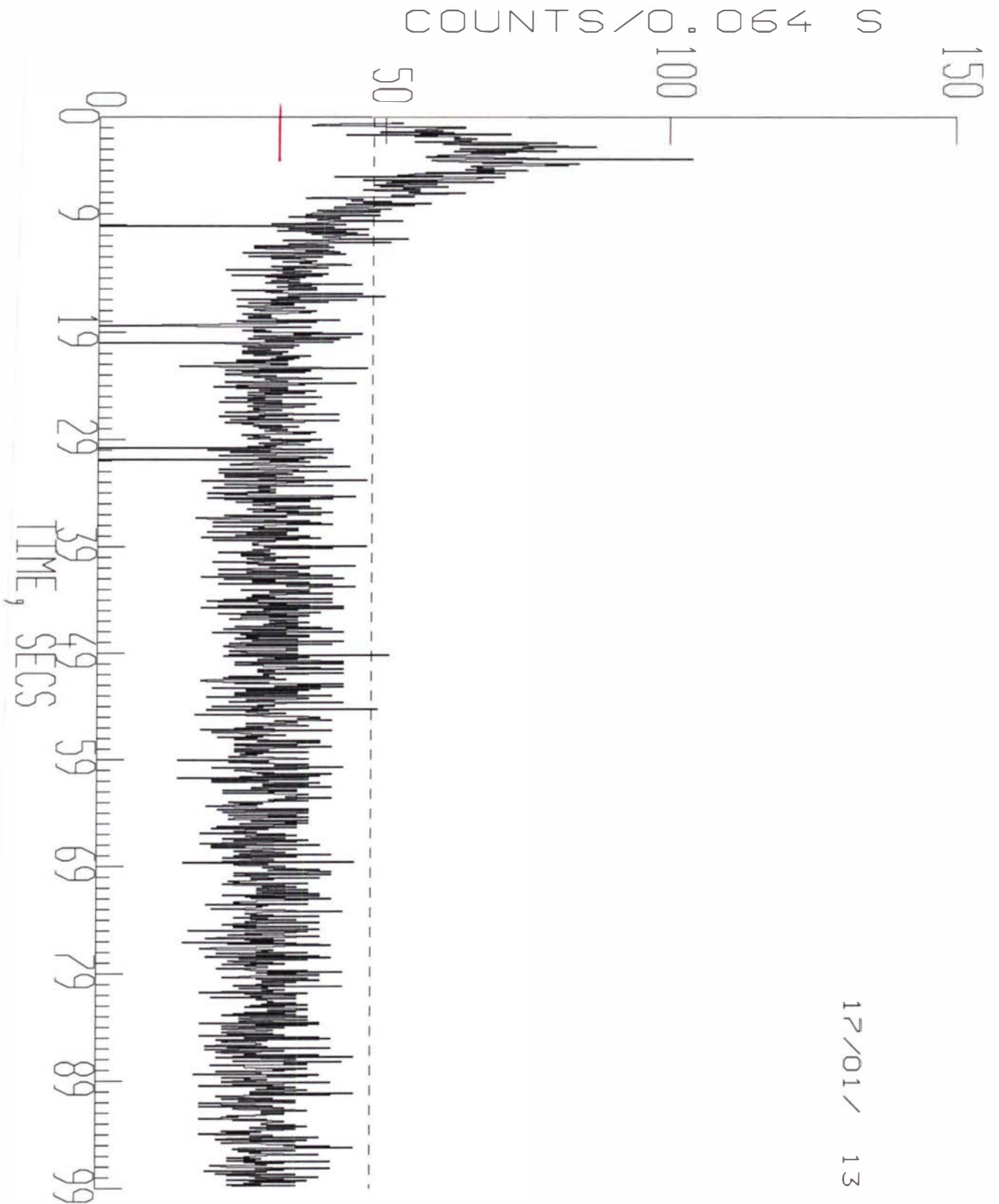
22- 149 keV







KONUS 30/05/99 84398.164
50- 200 keV

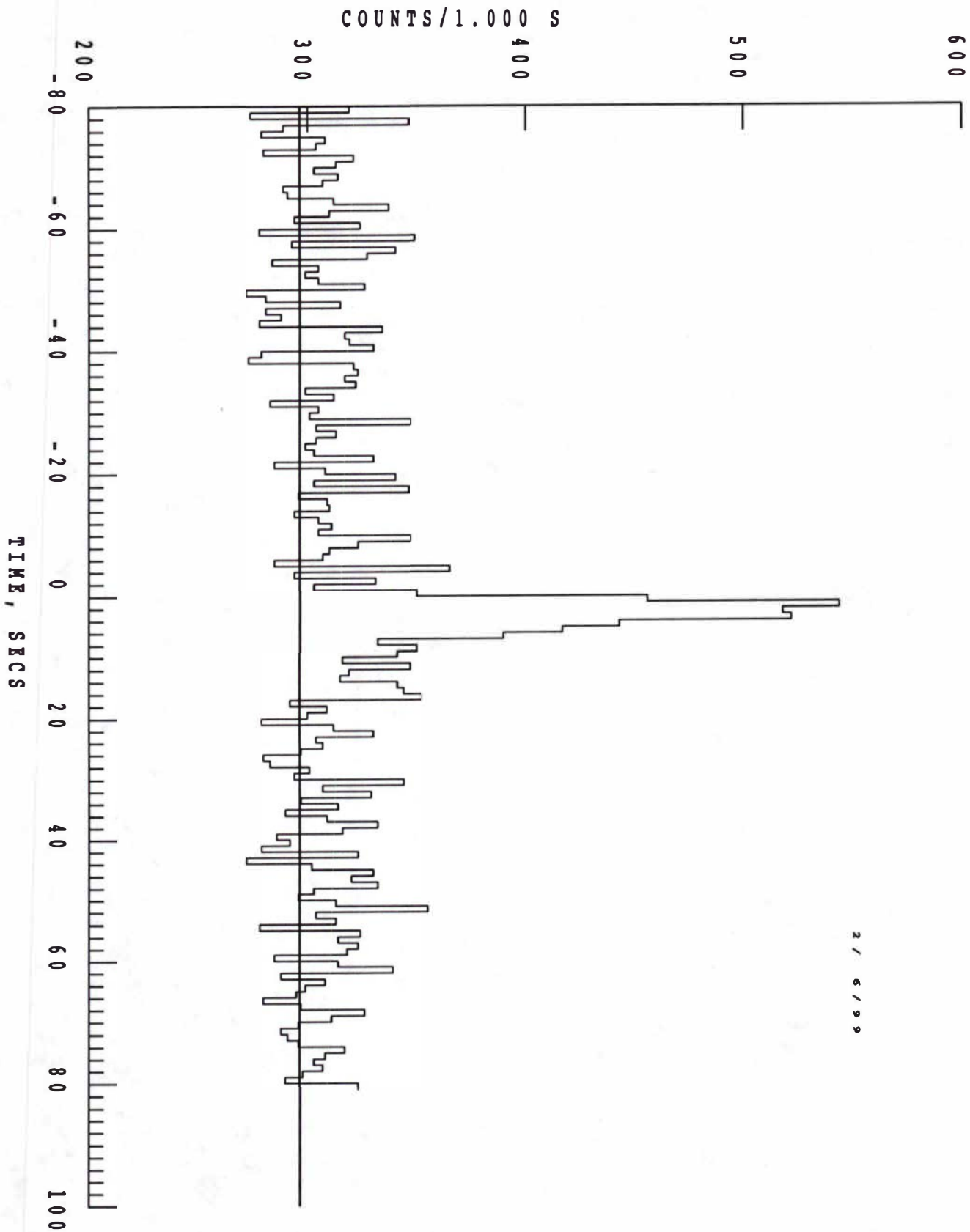


NEAR

30/05/99

84950.492

100-1000 keV



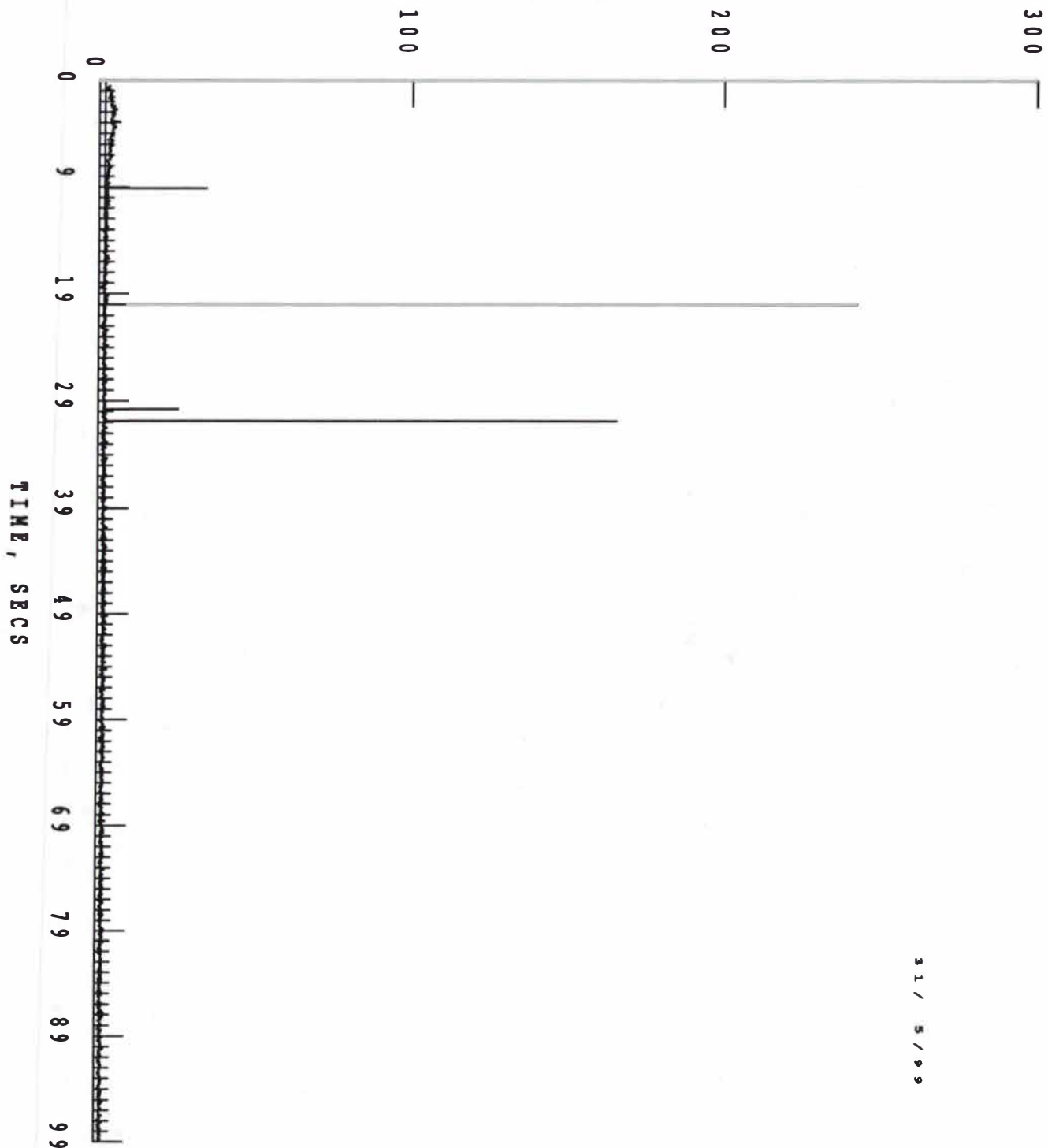
KONUS

30/05/99

84398.164

50- 200 keV

COUNTS/0.064 S



KONUS2 19990530 84398

ULYSSES RT

1 / 6 / 99

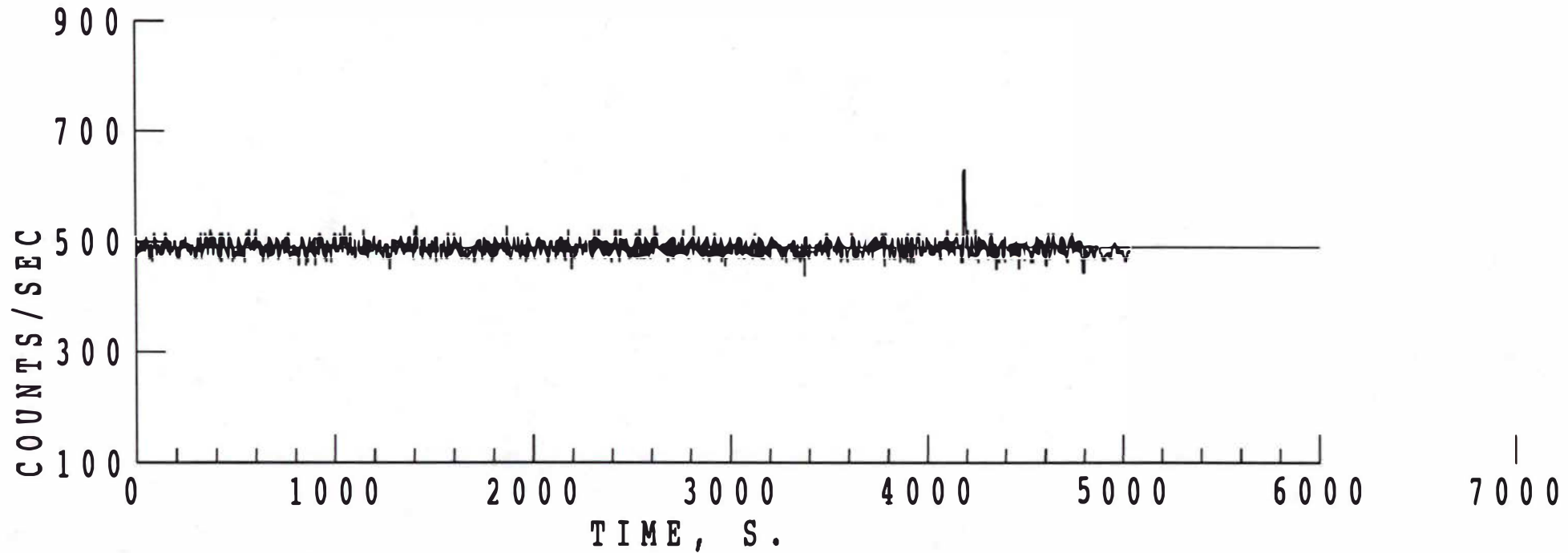
30 / 5 / 99 81864.086 s

INTERVALS REGROUPED BY 7

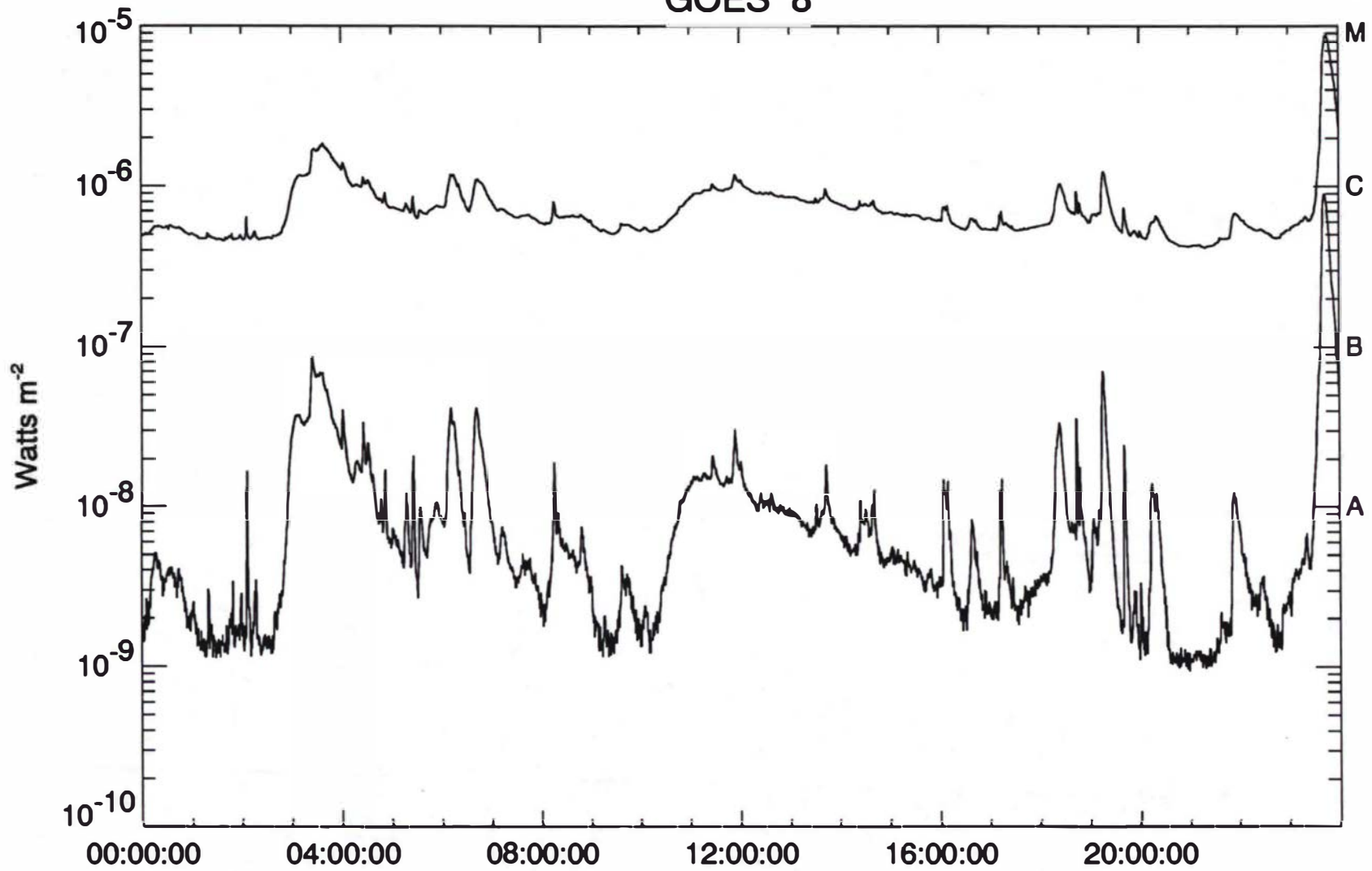
0 - 0 keV

N= 10 M= 10
>4.0 SIGMA FLUCTUATIONS

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



GOES 8



Data Start: 99/05/30, 0000:00

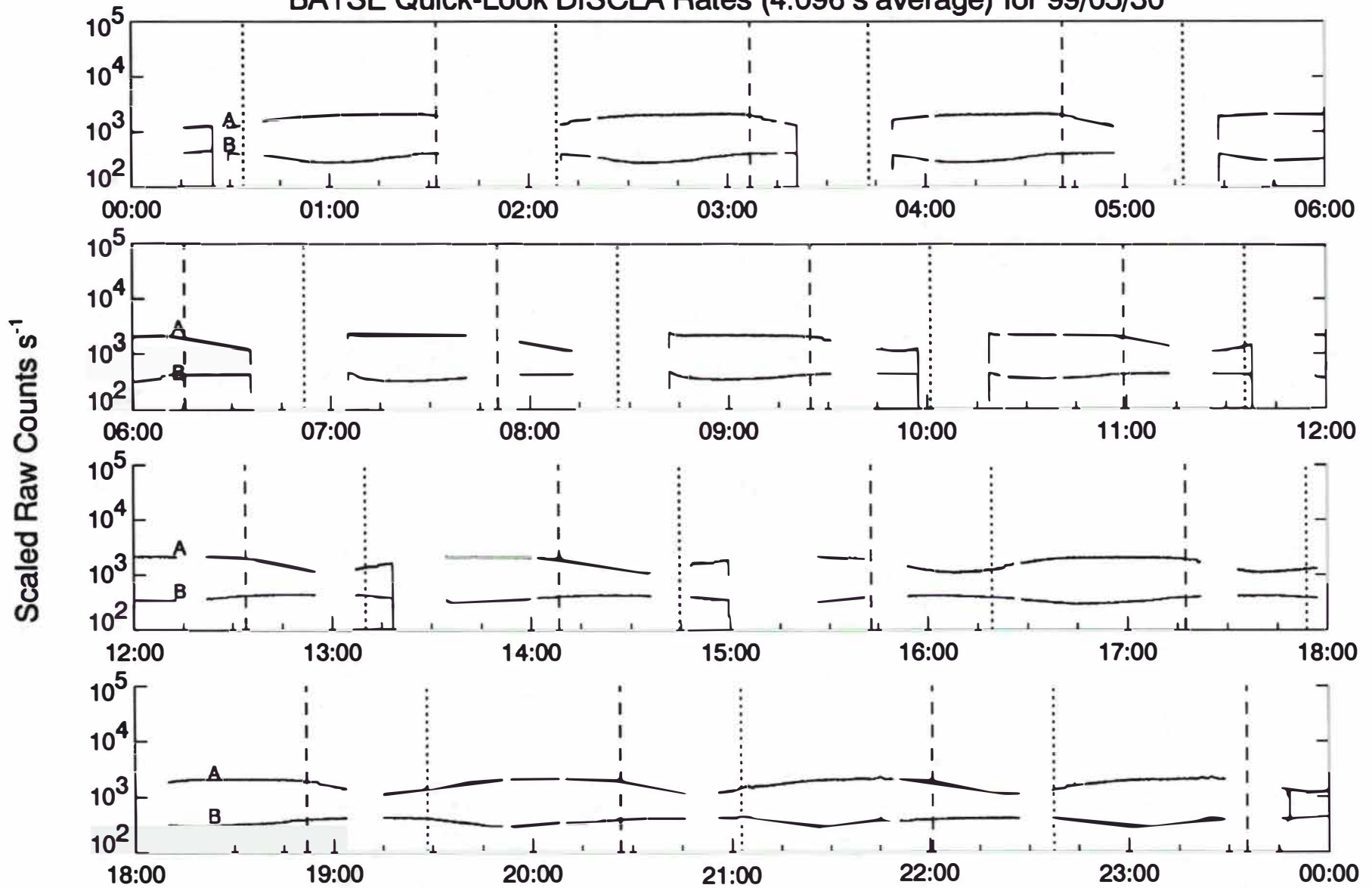
Plot created: 99/06/03, 1005

Channel

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

Background not subtracted
Background not subtracted
Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/30



Current Time: 99/06/03, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

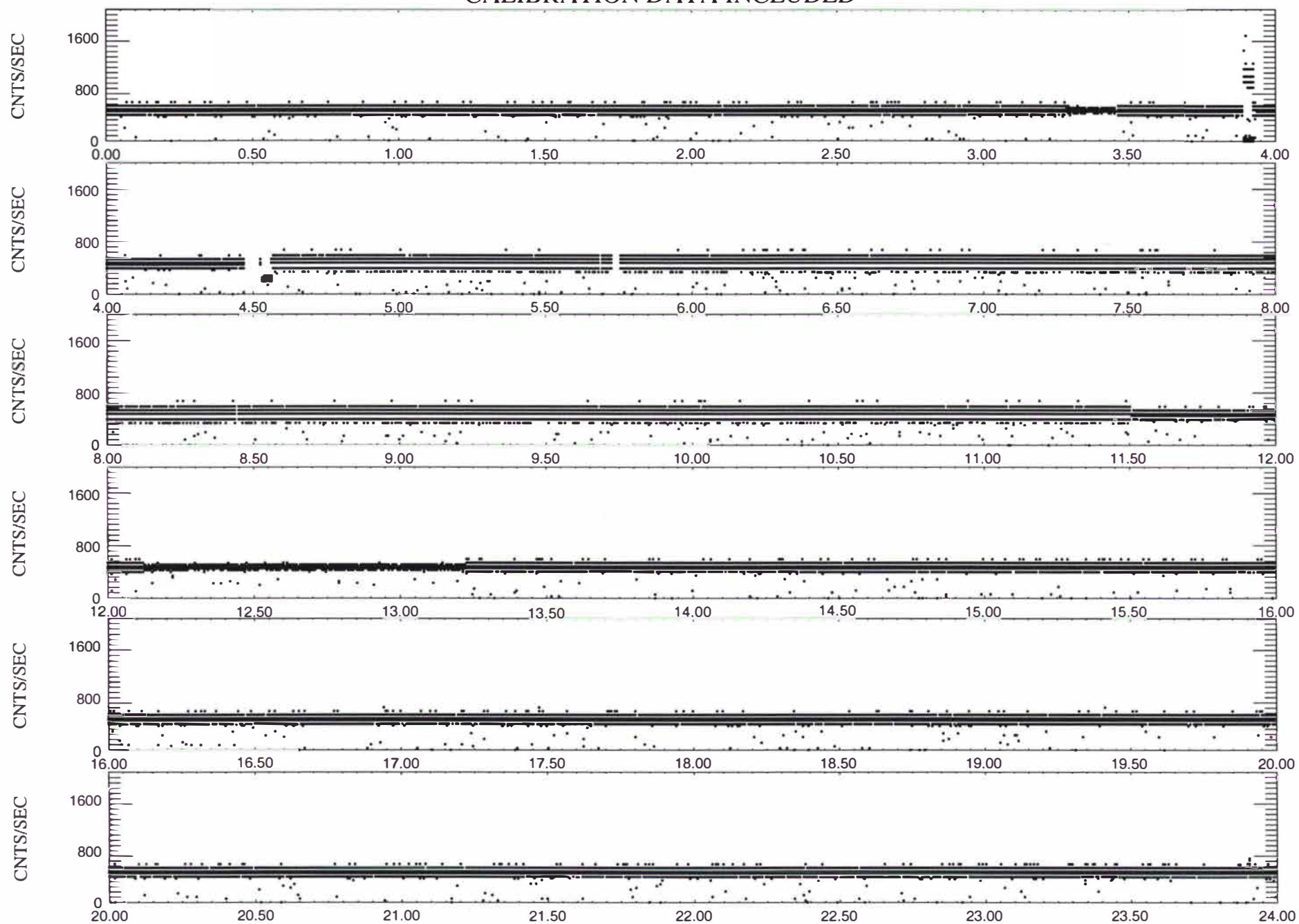
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 7 - 9

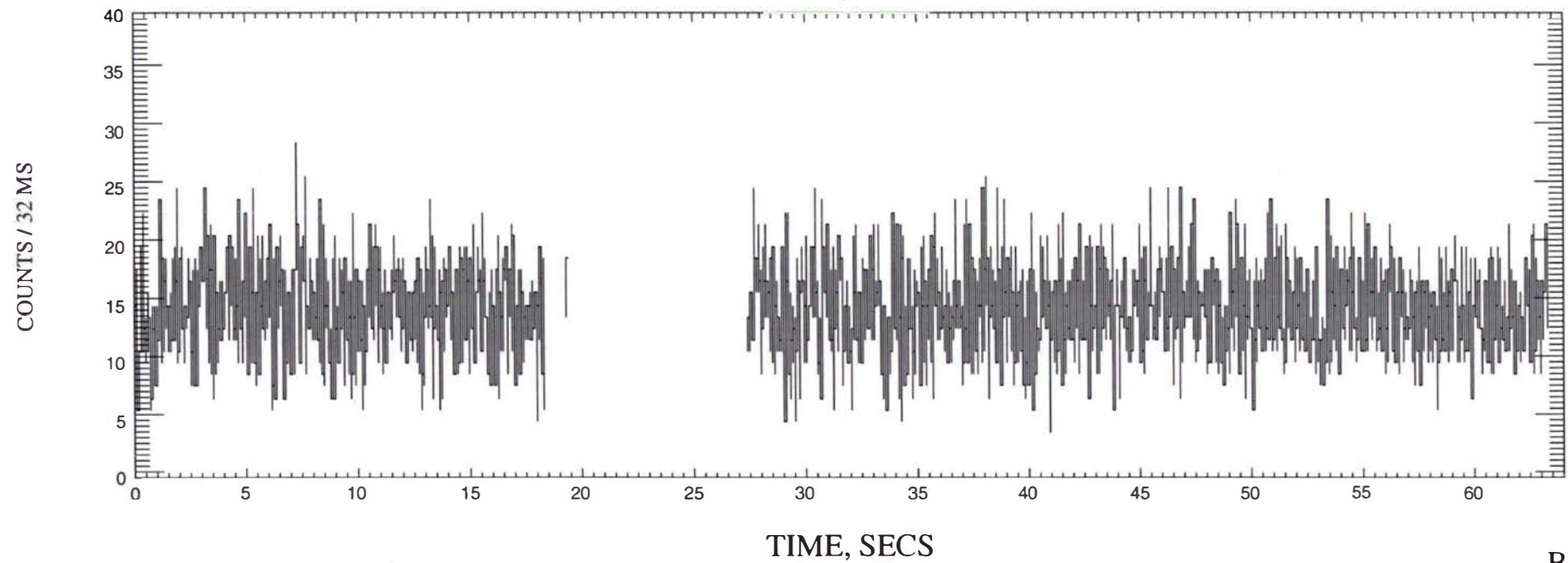
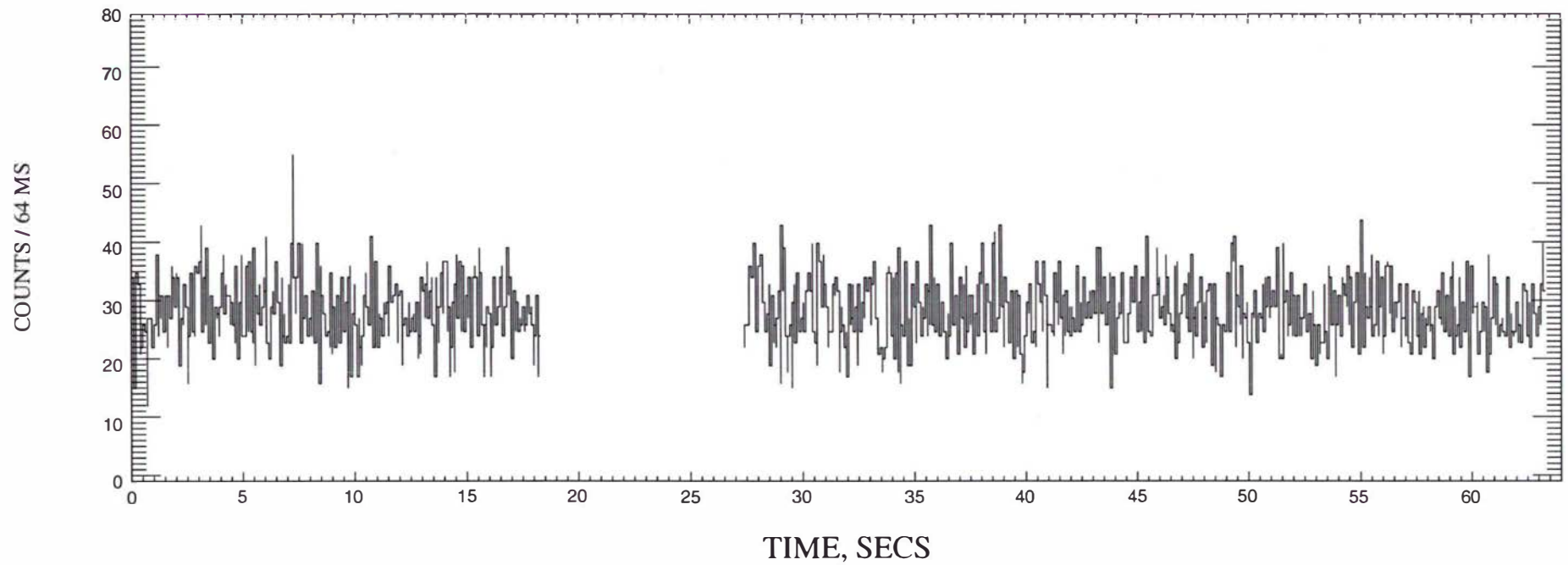


CALIBRATION DATA INCLUDED

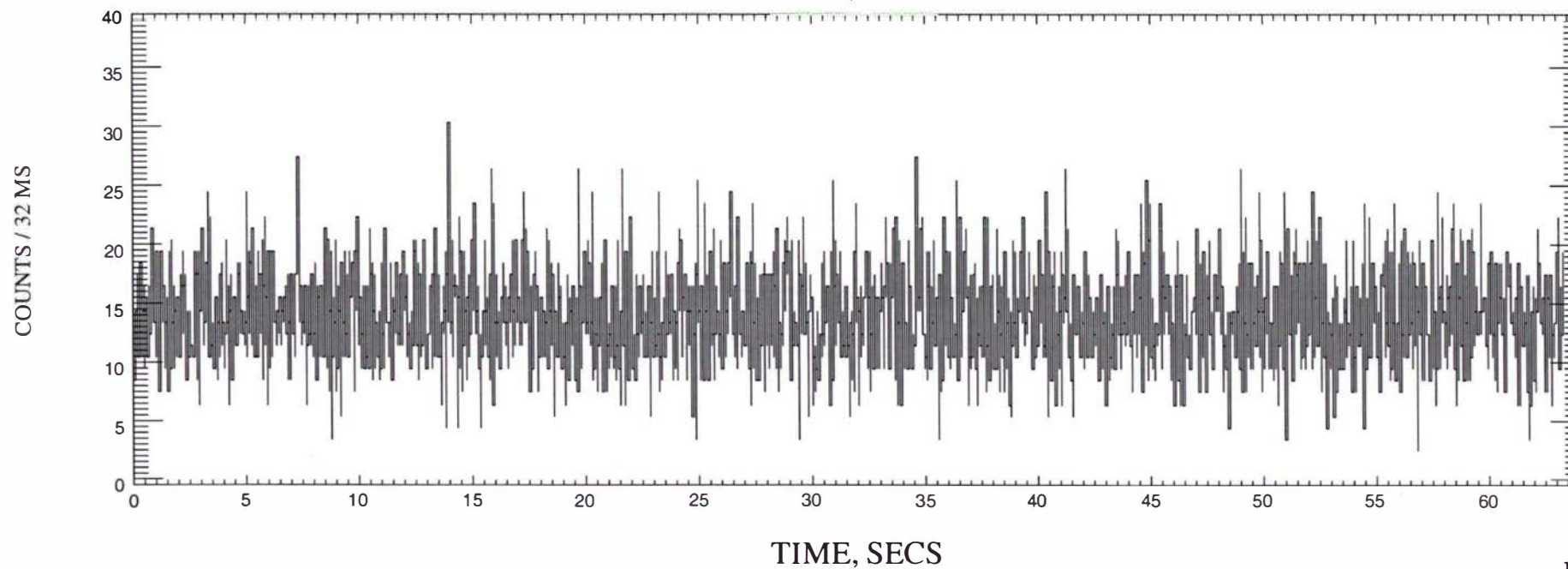
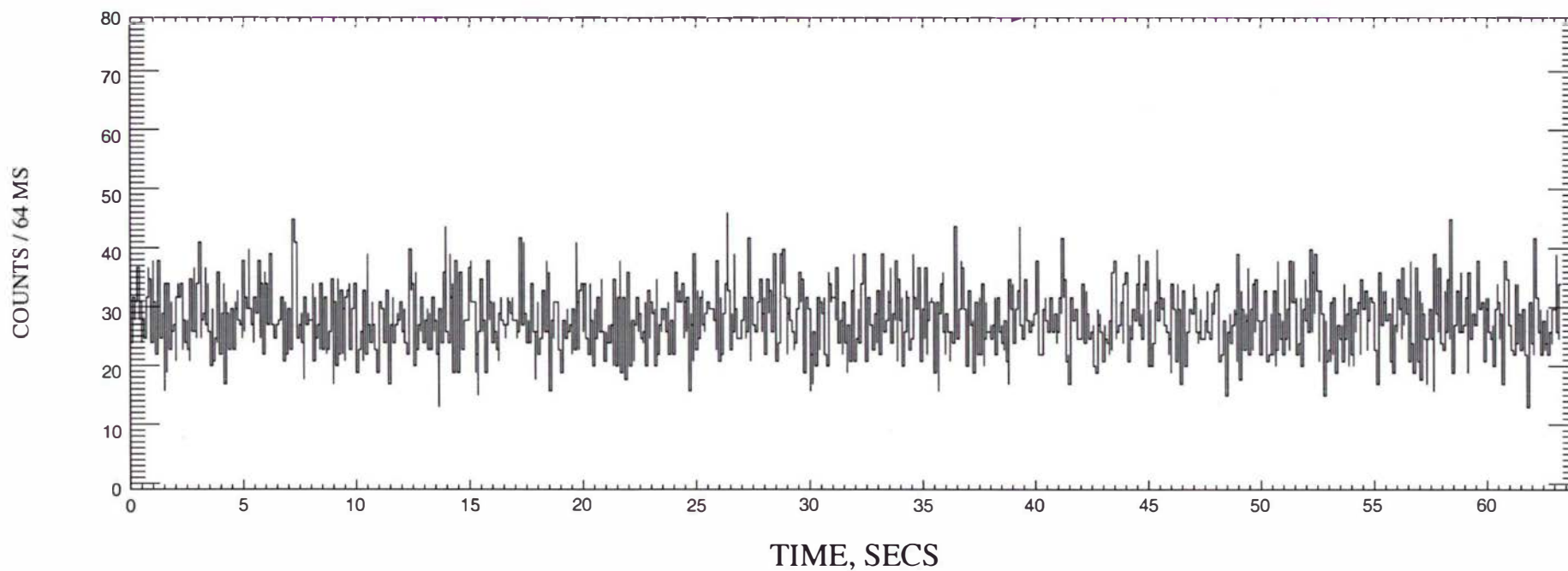


UNIVERSAL TIME

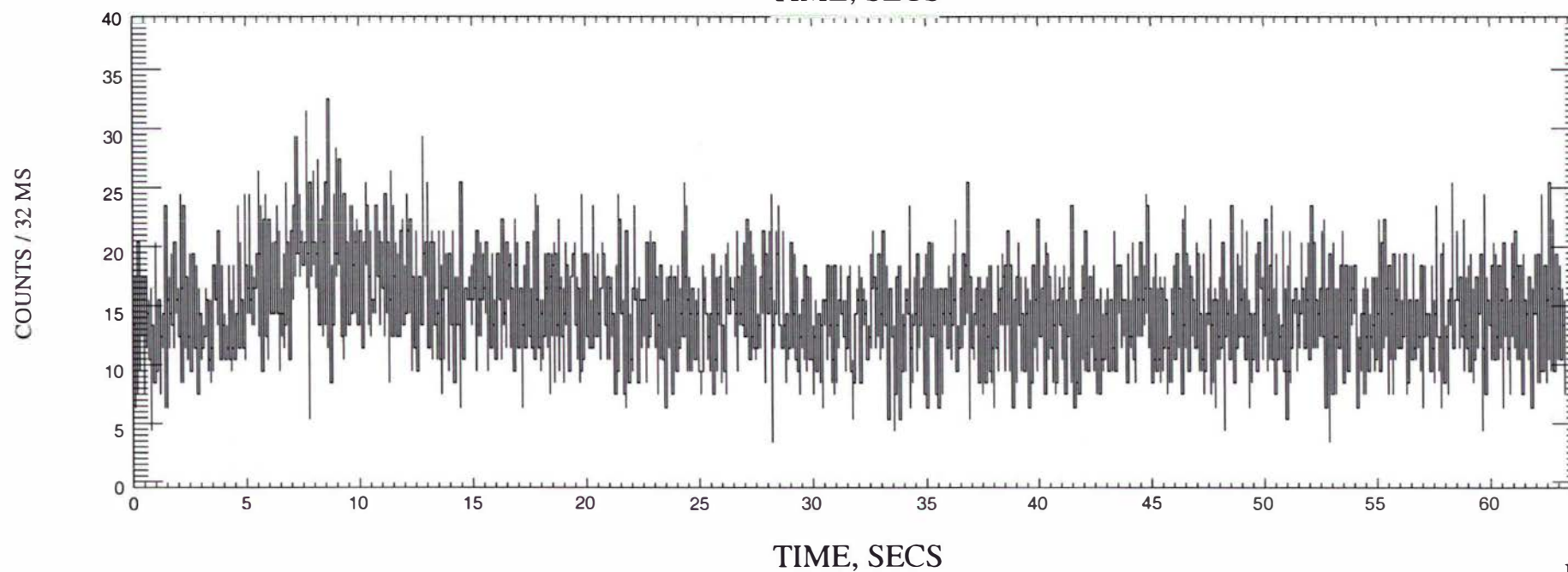
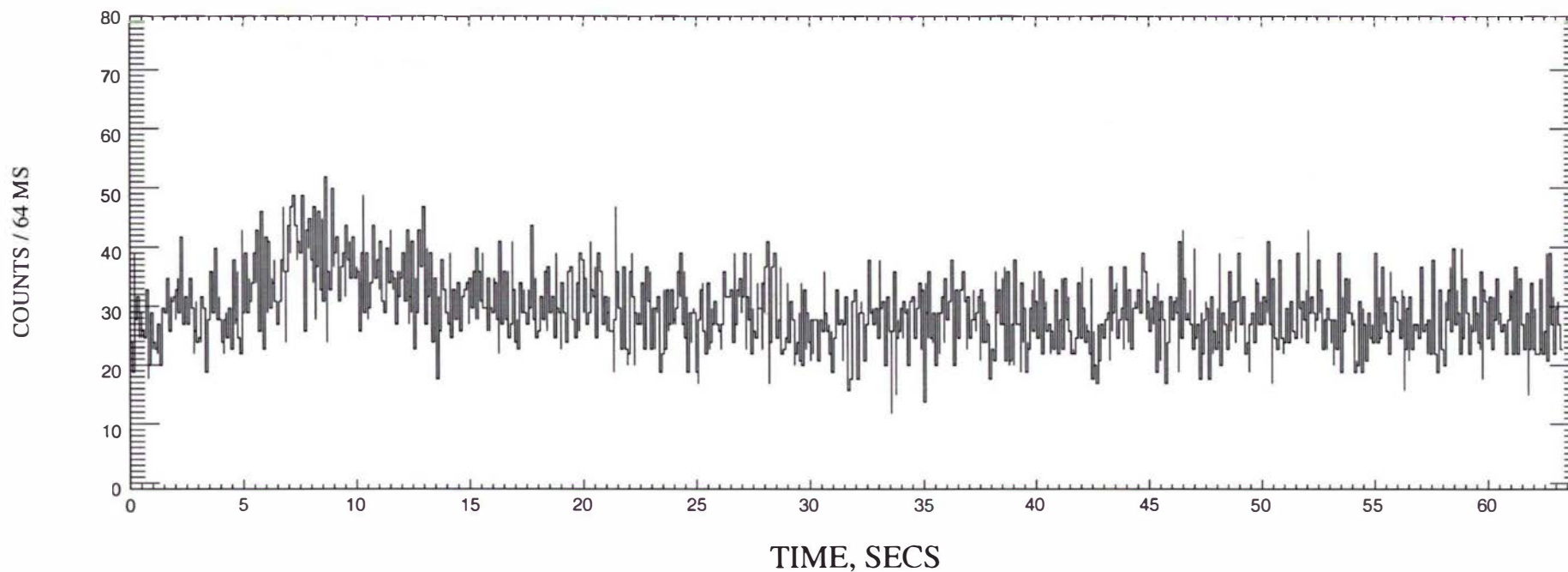
Burst Counter 7 at UT= 3.133852399190 h=11281.869 s 03:08:01.869



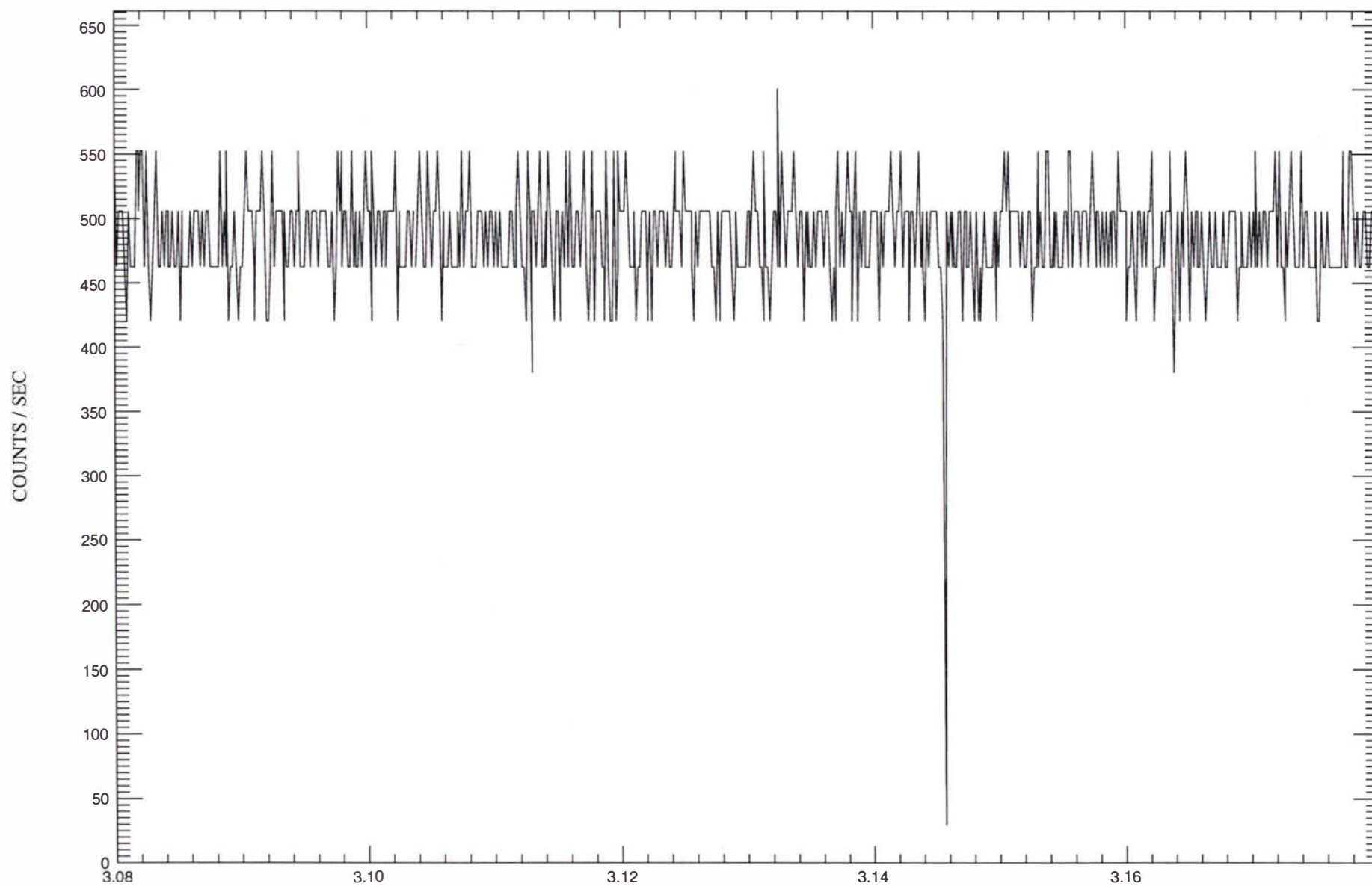
Burst Counter 8 at UT=11.970815014309 h=43094.934 s 11:58:14.934



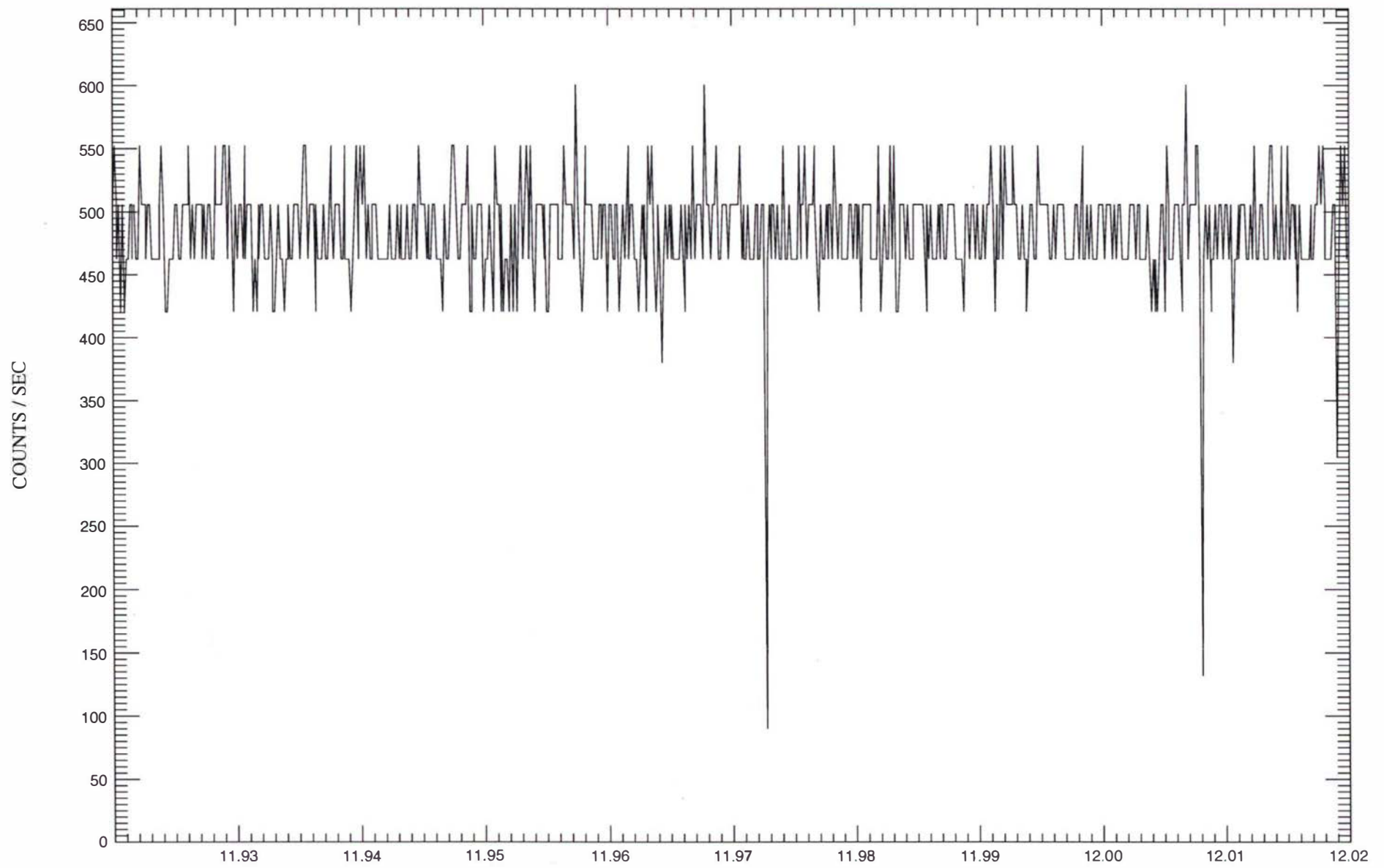
Burst Counter 9 at UT=23.903507279290 h=86052.626 s 23:54:12.626



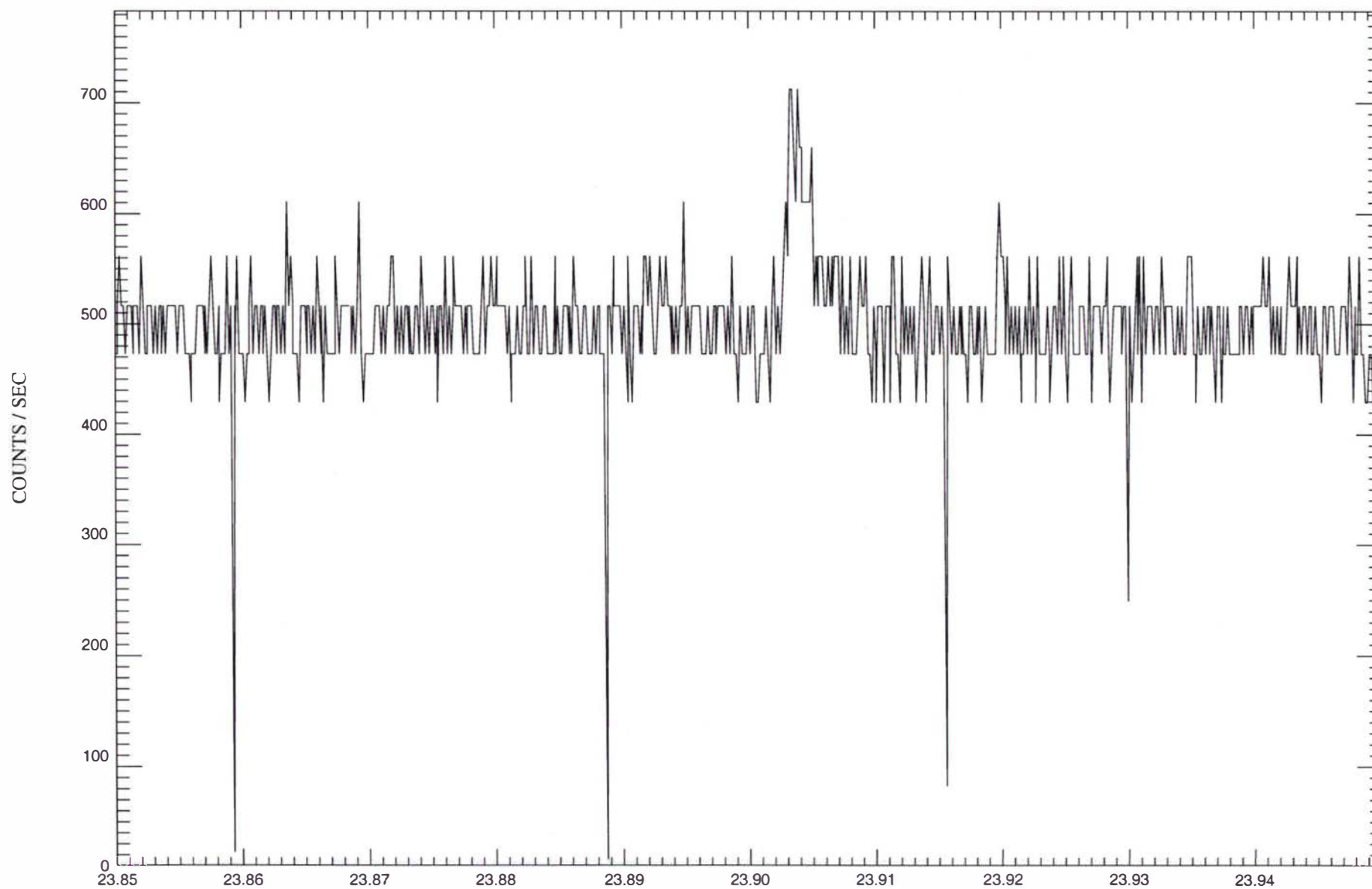
CALIBRATION DATA INCLUDED

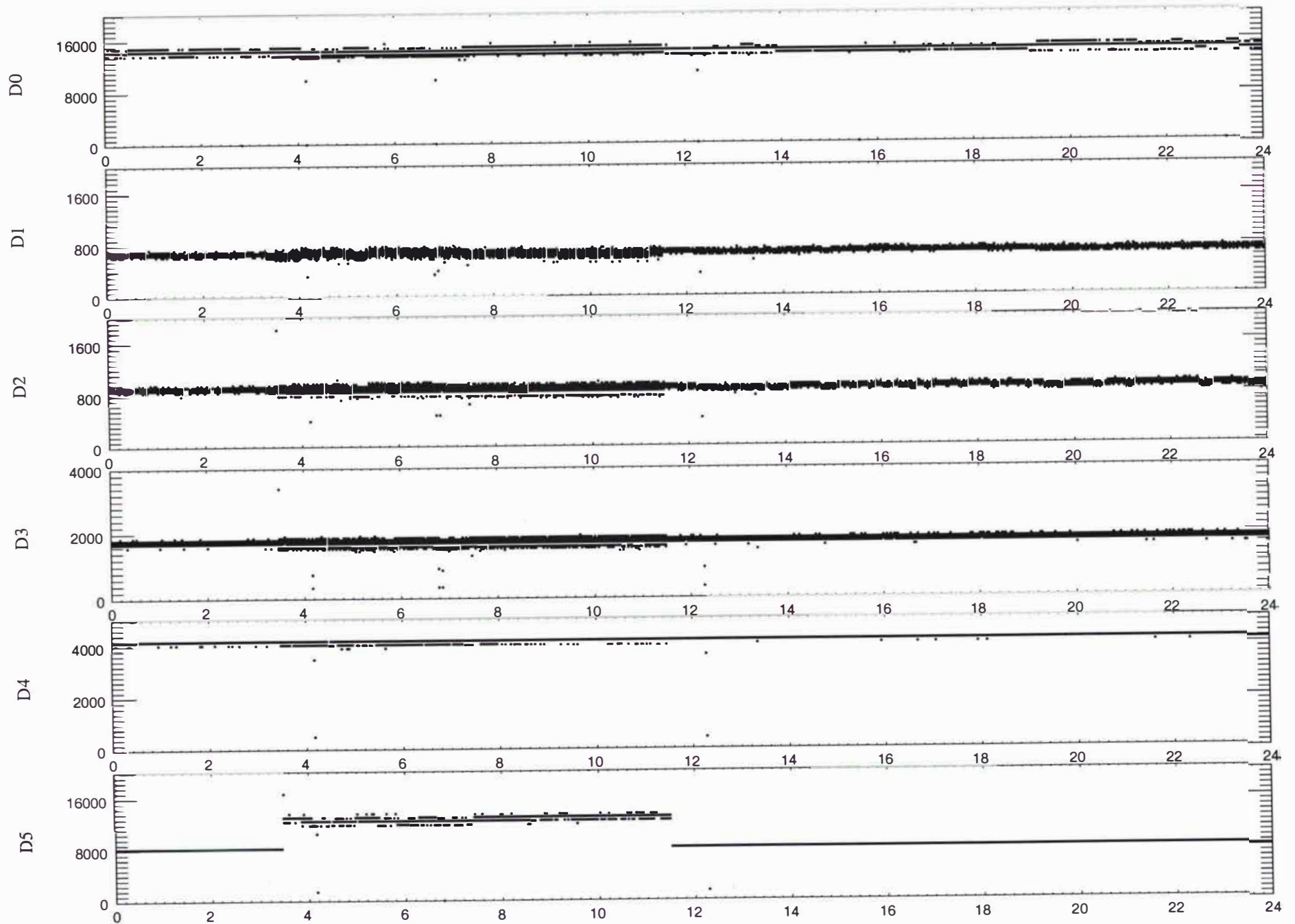


CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED





UNIVERSAL TIME

From BUTTERWORTH@tgrs2.gsfc.nasa.gov Thu Jun 3 09:22 PDT 1999
Date: Thu, 3 Jun 1999 12:25:53 -0400
From: BUTTERWORTH@tgrs3.gsfc.nasa.gov
To: khurley@sunspot.ssl.berkeley.edu, kmarar@isac.ernet.in, vnp@isac.ernet.in,
jterrell@lanl.gov, yosimori@rikkyo.ac.jp,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov,
feroci@saturn.ias.rm.cnr.it, cline@apache.gsfc.nasa.gov,
scott@milkyway.gsfc.nasa.gov, TEEGARDEN@tgrs3.gsfc.nasa.gov
CC: BUTTERWORTH@tgrs3.gsfc.nasa.gov
Subject: Ulysses events of 990531 were not detected by Konus

Hi Everyone,

Konus didn't trigger within an hour of either event, and there are no obvious features in the low time-resolution (3 second bin) waiting-mode data.

Paul.

re:

Date: Thu, 3 Jun 1999 08:13:46 -0700
From: khurley@ssl.berkeley.edu (Kevin Hurley)
Message-Id: <199906031513.IAA28599@scylla.>
To: scott@milkyway.gsfc.nasa.gov, khurley@sunspot.ssl.berkeley.edu,
butterworth@lheavx.gsfc.nasa.gov, cline@lheavx.gsfc.nasa.gov,
kmarar@isac.ernet.in, vnp@isac.ernet.in,
bonnard@milkyway.gsfc.nasa.gov, jterrell@lanl.gov,
yosimori@rikkyo.ac.jp, feroci@saturn.ias.rm.cnr.it,
filippo@botes1.tesre.bo.cnr.it, henze@fender.msfc.nasa.gov,
woods@eagles.msfc.nasa.gov, kraken@origin.gsfc.nasa.gov
Subject: GRB990531A,B
X-Sun-Charset: US-ASCII

ULYSSES GAMMA-RAY BURSTS NOT REPORTED BY BATSE:

ULYSSES DATE & TIME	COMMENTS	ULYSSES DISTANCE FROM EARTH, LIGHT-S
MAY 31 1999 08:12*	weak, 32 ms long	2450
MAY 31 1999 12:04*	weak, 32 ms long	2450

*looks like an SGR, but which one?

Were these events detected by anyone else?

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

From PREECE@fender.msfc.nasa.gov Fri Jun 4 07:08:23 1999
Return-Path: <PREECE@fender.msfc.nasa.gov>
Received: from sunspot.ssl.Berkeley.edu by apollo.ssl.berkeley.edu (SMI-8.6/SMI-SVR4)
id HAA23914; Fri, 4 Jun 1999 07:08:22 -0700
From: PREECE@fender.msfc.nasa.gov
Received: from FENDER.MSFC.NASA.GOV (FENDER.MSFC.NASA.GOV [128.158.132.13])
by sunspot.ssl.Berkeley.edu (8.9.3/8.9.2) with SMTP id HAA26059
for <khurley@sunspot.ssl.berkeley.edu>; Fri, 4 Jun 1999 07:05:02 -0700 (PDT)
Date: Fri, 4 Jun 1999 9:08:56 -0500 (CDT)
To: khurley@sunspot.ssl.berkeley.edu
Message-Id: <990604090856.2080d742@fender.msfc.nasa.gov>
Subject: Crossing Windows for BATSE Burst 7592
Content-Length: 1135
X-Lines: 26
Status: RO

BATSEARCH PROGRAM

BATSE BURST # 7592
EVENT OF 1999 MAY 31 DAY OF YEAR=151
EVENT CROSSING TIME AT BATSE : 57384. S. OR 15:56:24.0
COORDINATES ARE 0.000 0.000 6800. (RA, DEC, DIST.)
BURST ARRIVAL DIRECTION: 53.000 36.000
BATSE PEAK COUNTING RATE: 100000 C/S

EVENT CROSSING TIME AT ULYSSES WILL BE FOUND
INTERPOLATED POSITION OF ULYSSES ON 31/ 5/ 99 IS:
RA= 144.276 DEC= -6.847 DIST= 4.972 AU
BATSE-ULYSSES DISTANCE = 743806796. KM.
ANGLE WHICH BATSE-ULYSSES VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 84.95 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 218.23 SECS.
CROSSING TIME AT ULYSSES IS 57602. S. OR 16:00:02 +/- 482.40 SECONDS

EVENT CROSSING TIME AT MARS WILL BE FOUND
POSITION OF MARS ON 31/ 5/ 99 IS:
RA= 202.691 DEC= -9.693 DIST= 0.650 AU
MARS-BATSE DISTANCE = 97205584. KM.
ANGLE WHICH BATSE-MARS VECTOR MAKES WITH GRB ARRIVAL DIRECTION= 38.05 DEG.
LIGHT TRAVEL TIME ALONG PROJECTED PATH= 255.32 SECS.
CROSSING TIME AT MARS IS 57639. S. OR 16:00:39 +/- 38.58 SECONDS

BATSE BURST TRIGGER

NO.: 07592

TIME: TJD=1132 SECONDS=57384

TYPE: BURST SOLAR FLARE TRIGGER SIGNAL:N

SIGNIFICANCE: SIGMA

INTENSITY: COUNTS/CM2

LOCATION: ZENITH=171.3 AZIMUTH=218.6 ERROR= DEGREES

COMMENTS:

GRB, 2 MAIN PULSES, 2ND IS QUITE SOFT. TOTAL DURATION ~45 S. FIRST PULSE IS
VISIBLE ABOVE 300 KEV.

BATSE #	Date	TJD	SoD	Max ct/s	RA	Dec	Dur (s)
7592	990531	11329	57384	100000	053	+36	45

Date: Mar 27 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 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

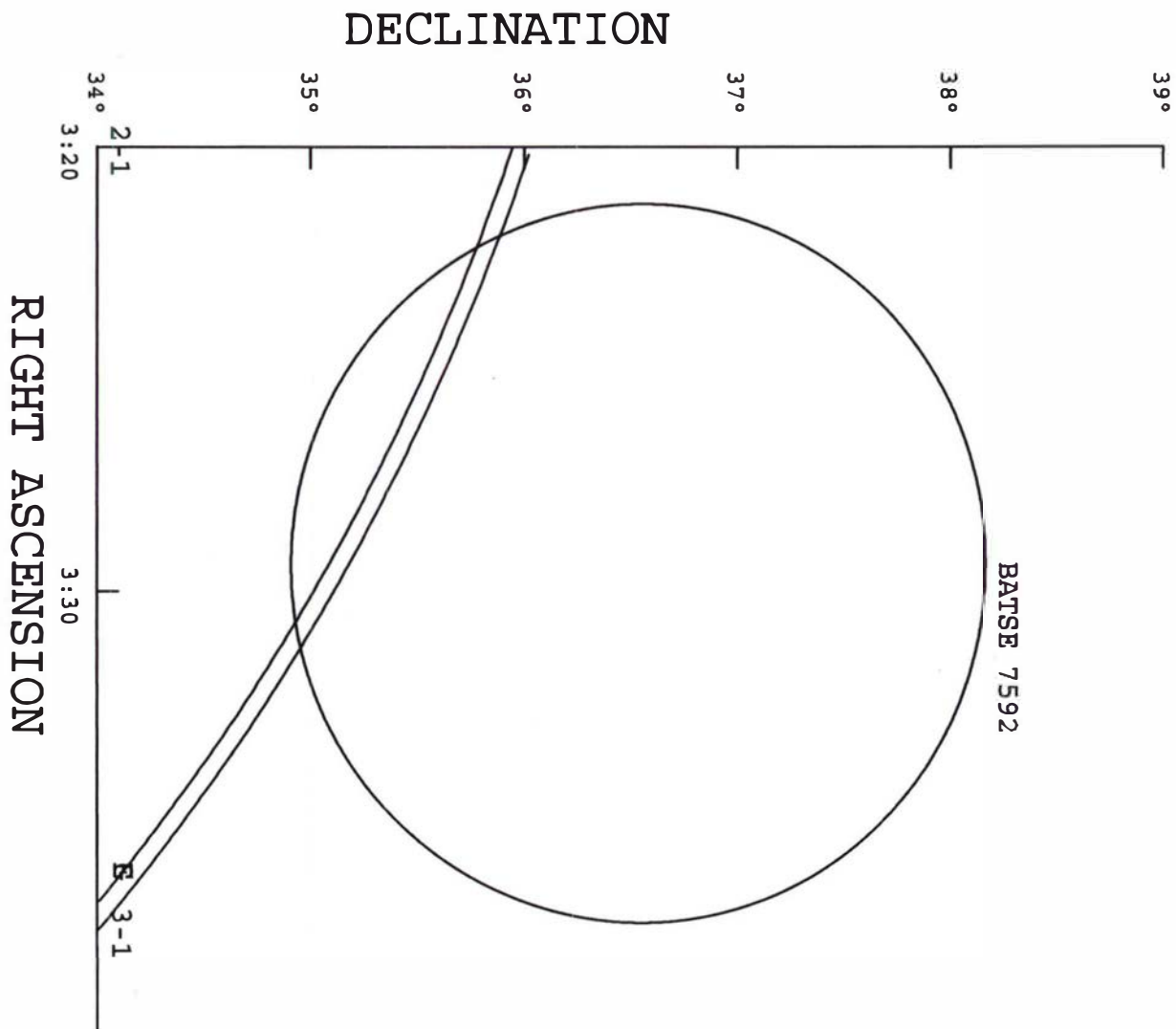
1 BATSE

2 ULYSSES

3 NEAR

EVENT OF MAY 31, 1999 15:56

7 / 3 / 0



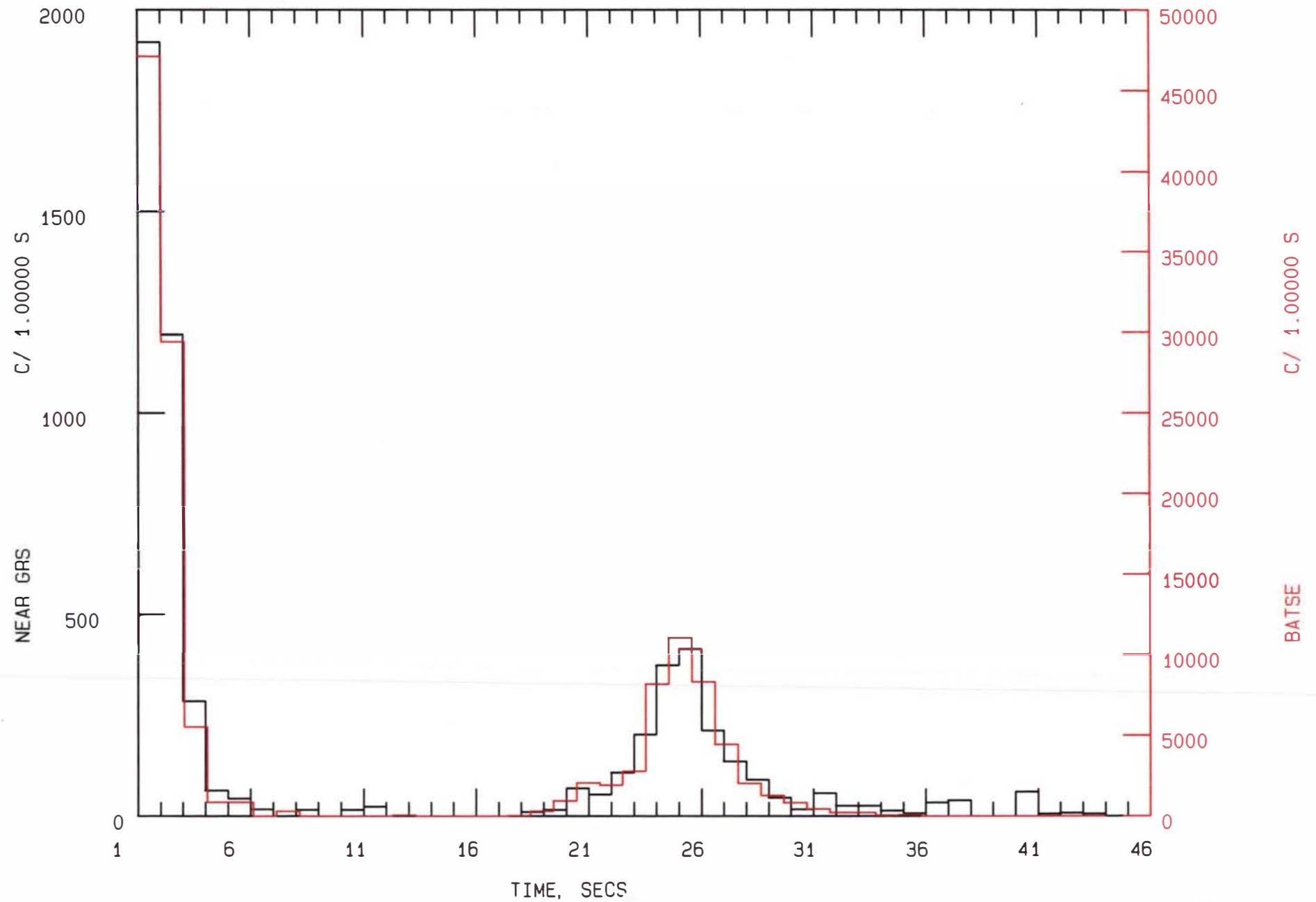
NEAR GRS -BATSE

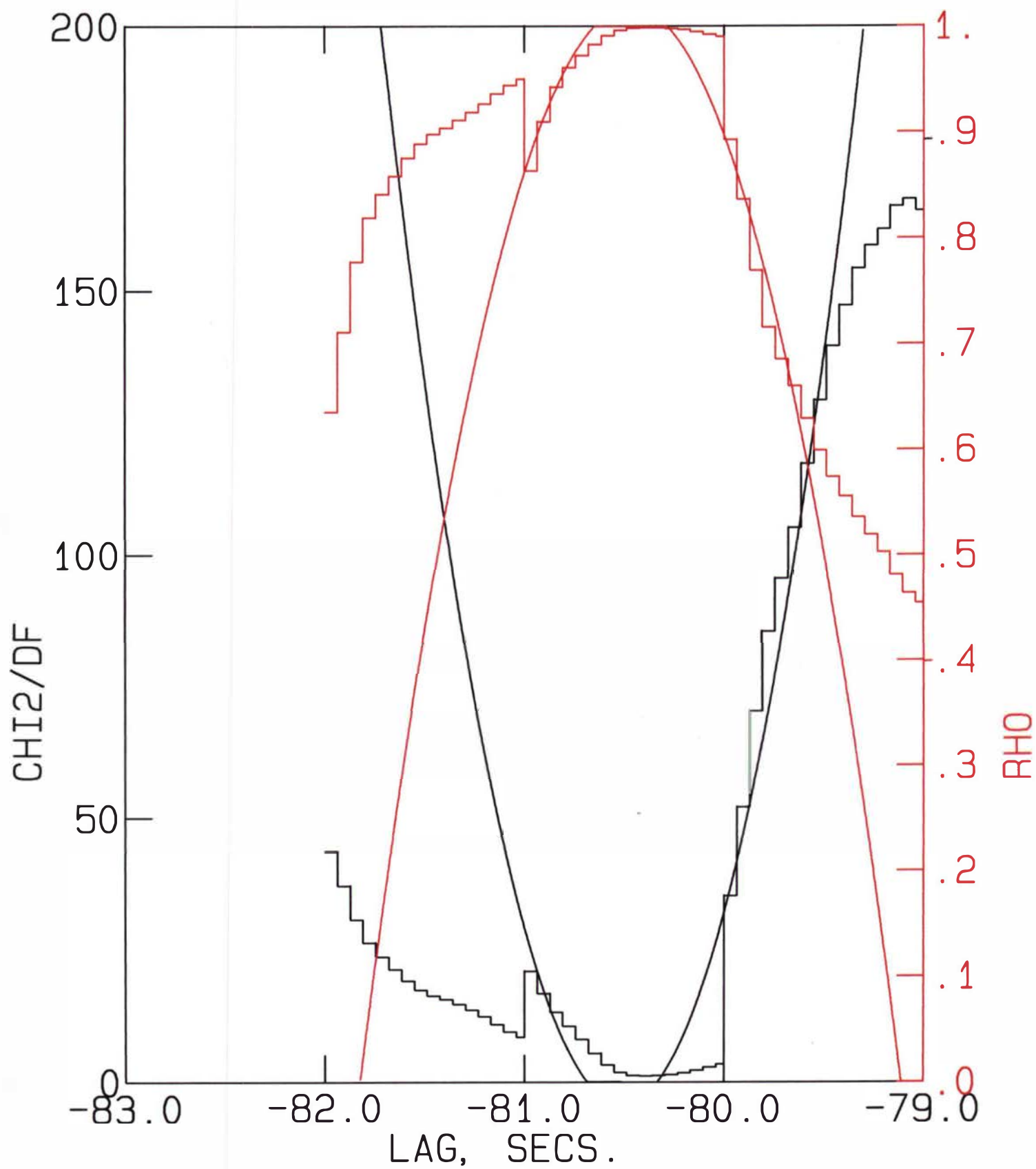
CORRELATION

31/05/99

56277.475

7/ 3/ 0





BATSE

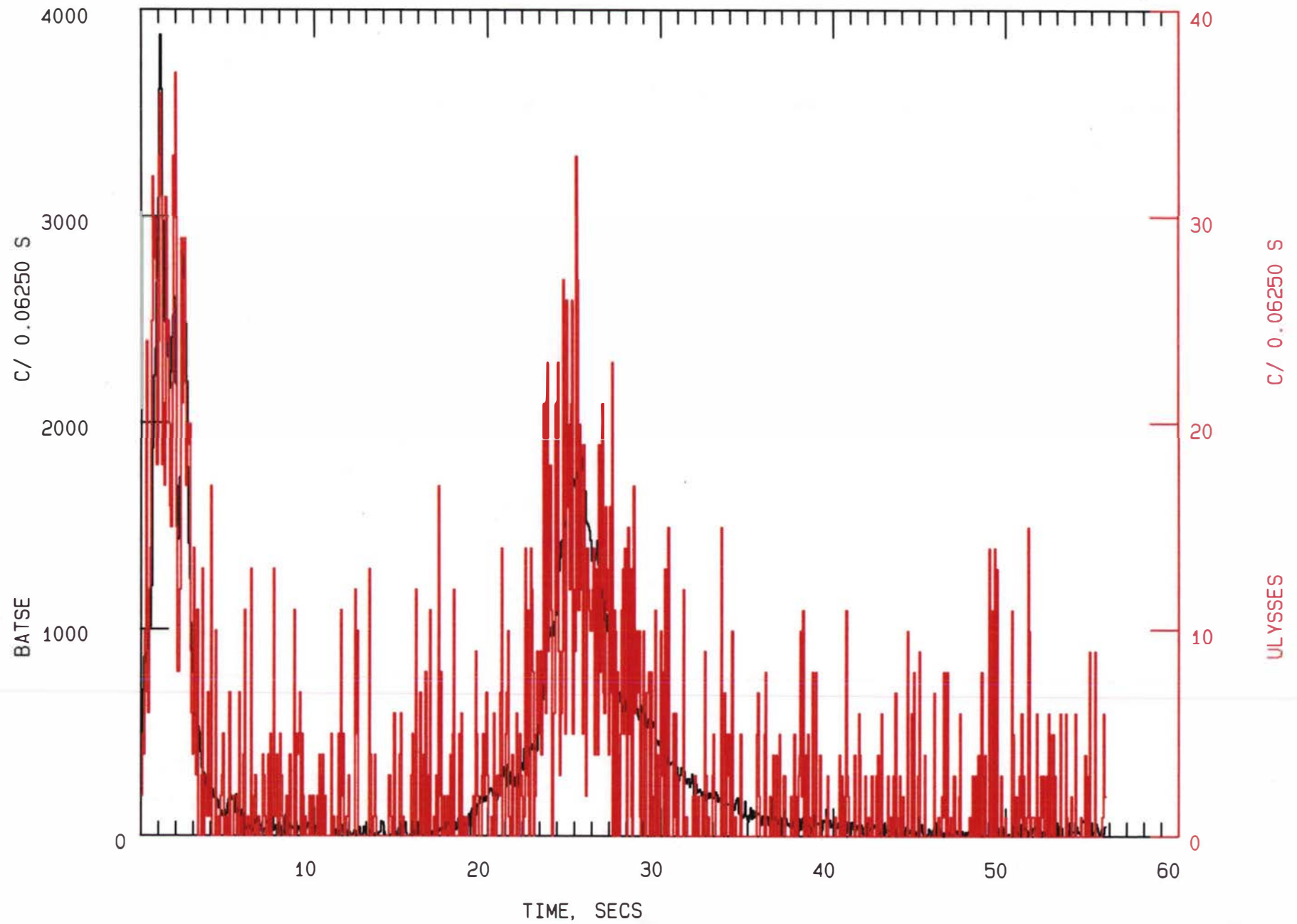
-ULYSSES

CORRELATION

31/ 5/99

57384.441

7/ 3/ 0



BATSE

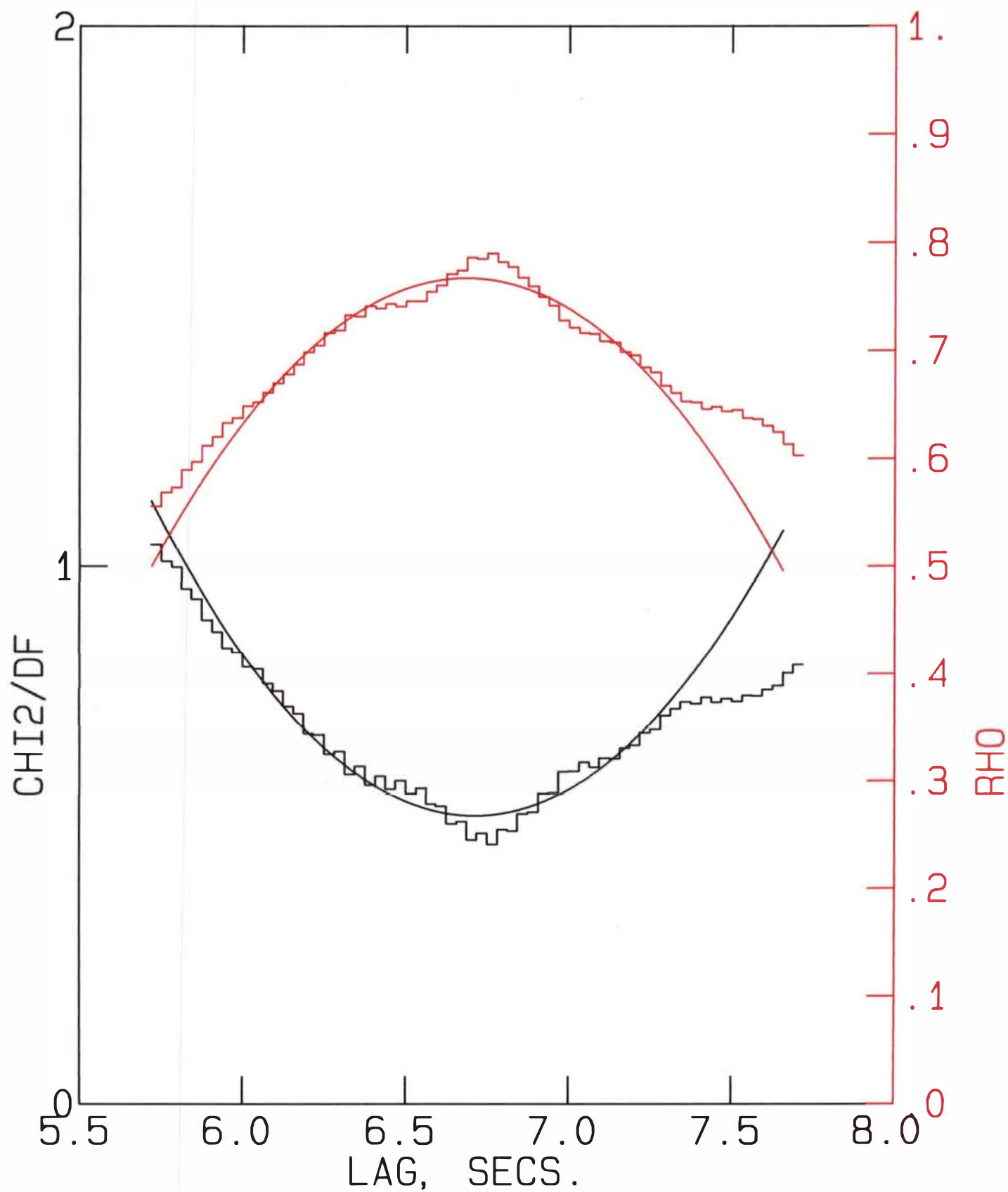
-ULYSSES

CORRELATION

31/ 5/99

57384.441

7/ 3/ 0



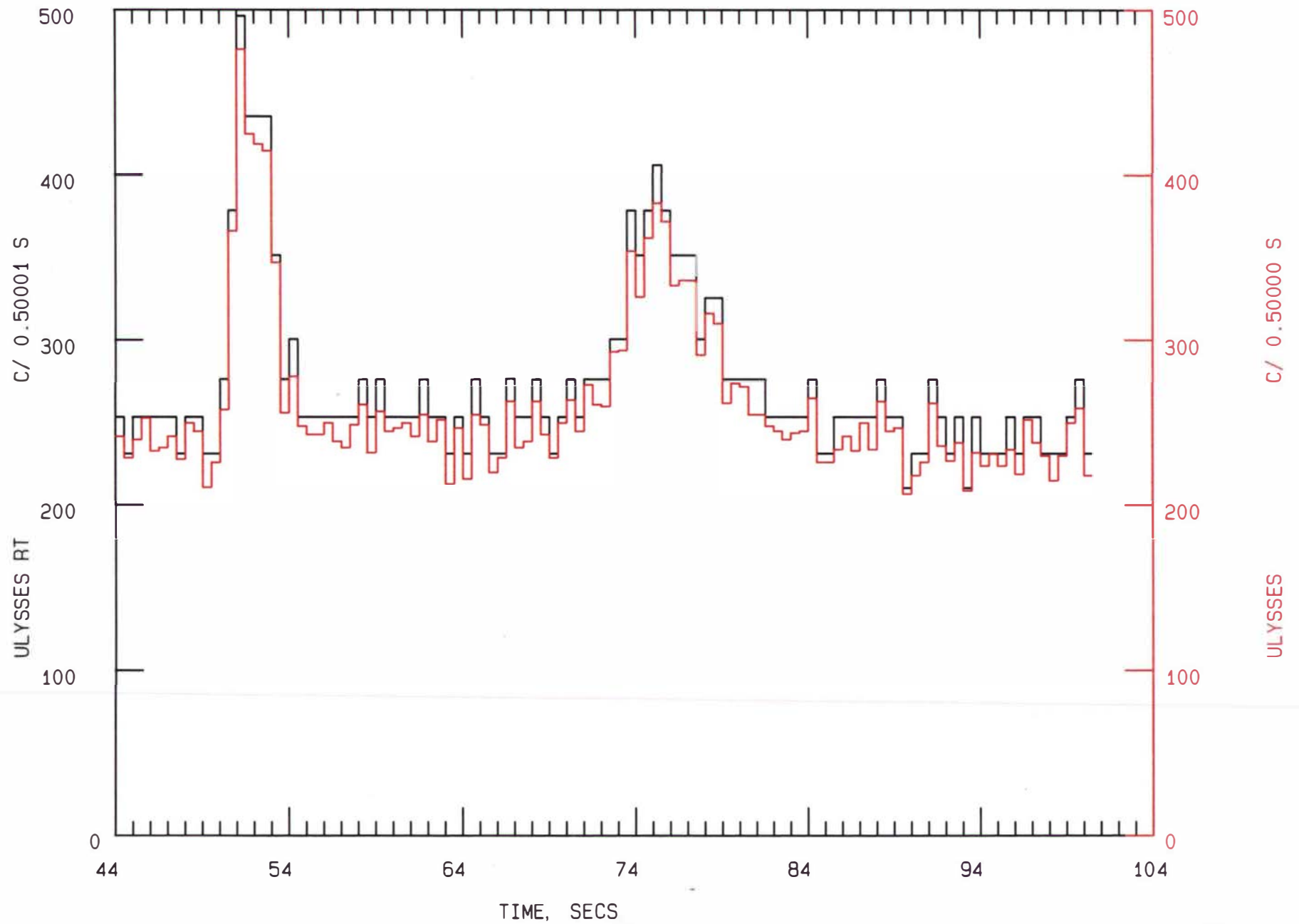
ULYSSES RT-ULYSSES

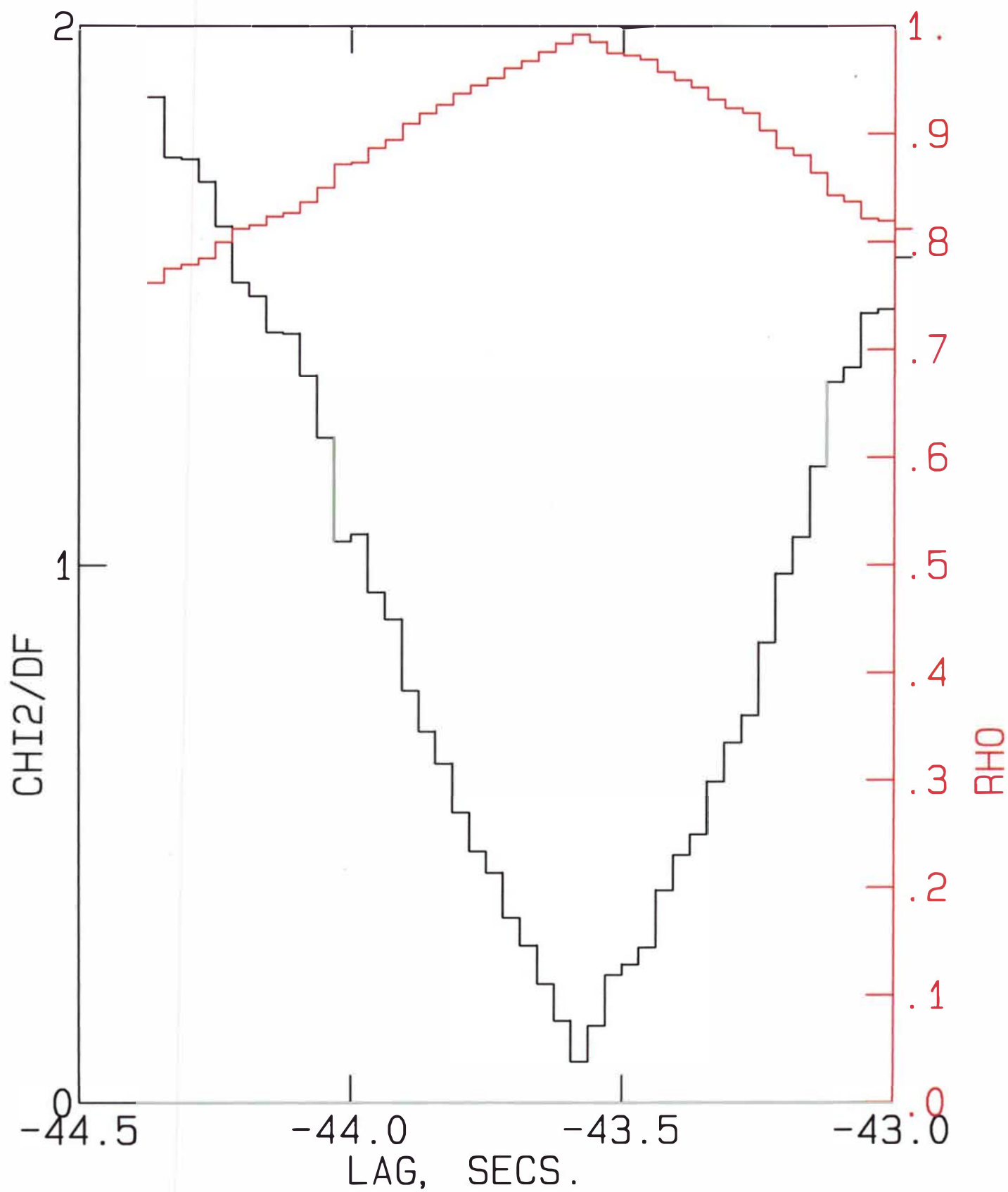
CORRELATION

31/ 5/99

57692.243

7/ 3/ 0

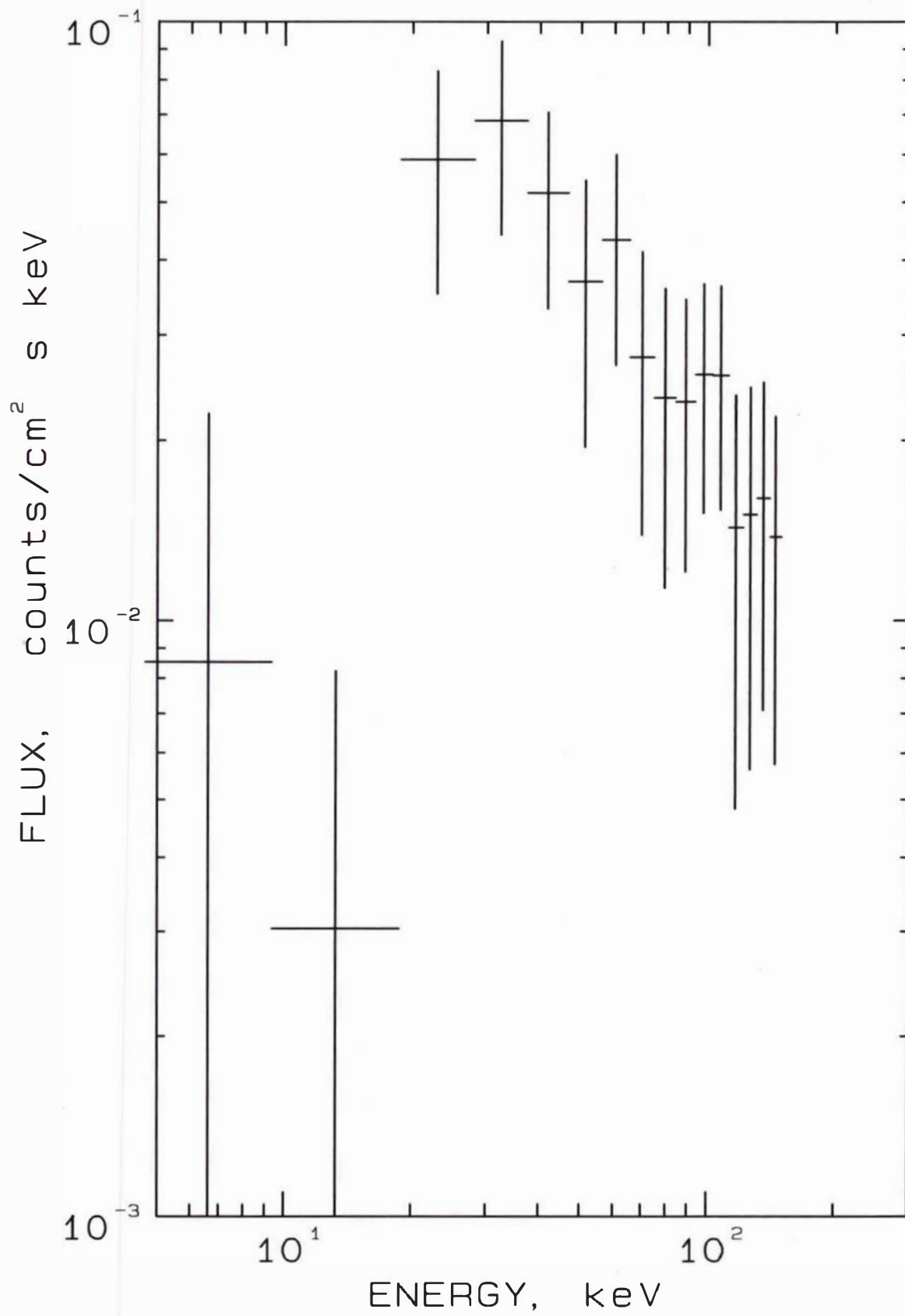




ULYSSES 31/05/99 57743.203

7/ 3/ 0

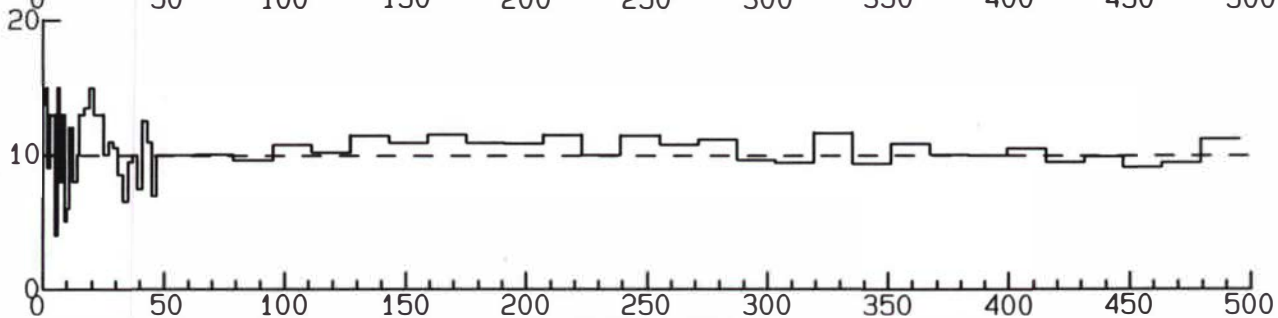
SPECTRUM INTEGRATED OVER 43.0 SECONDS, INTERVALS 2 TO 30



ULYSSES 31/05/99 57743.203 BURST SPECTRAL COUNT RATES

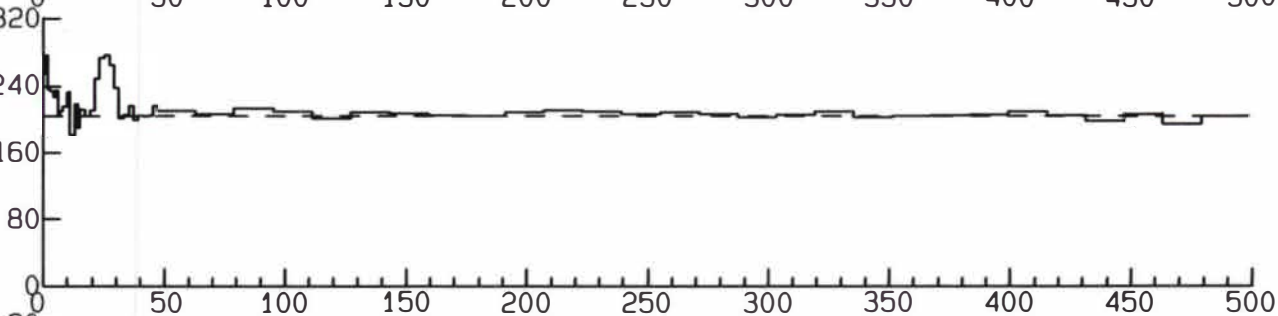
4- 18 keV

COUNTS/S



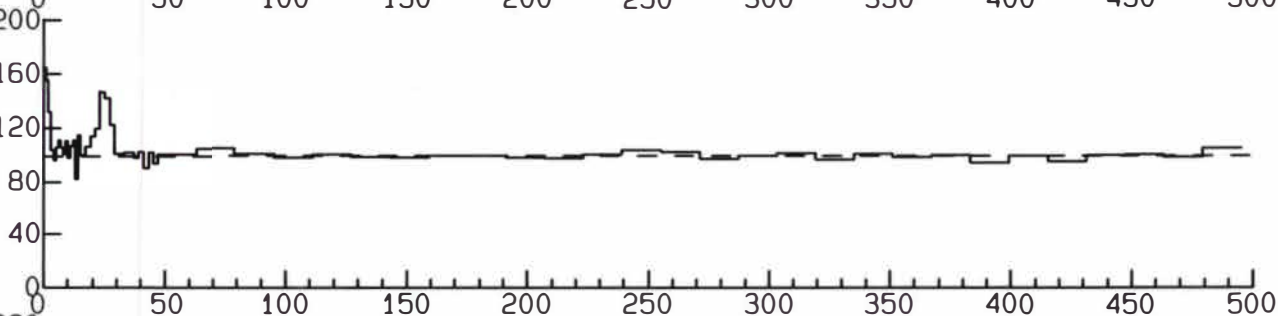
18- 46 keV

COUNTS/S



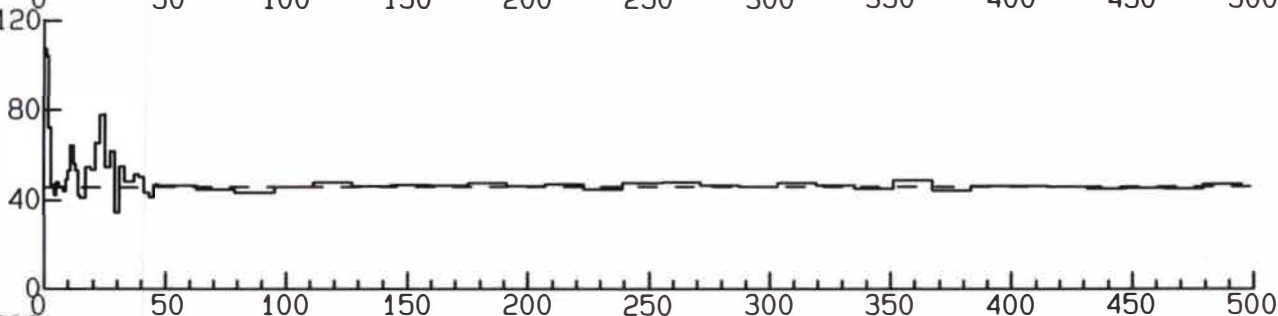
46- 74 keV

COUNTS/S



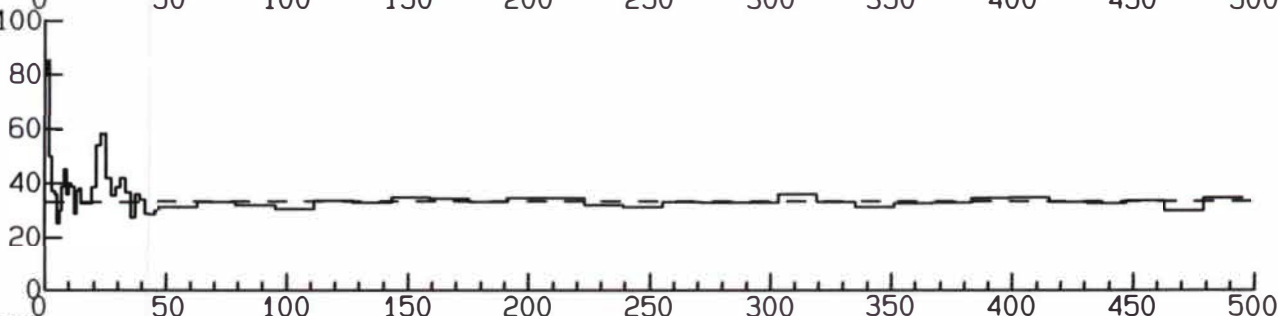
74-102 keV

COUNTS/S



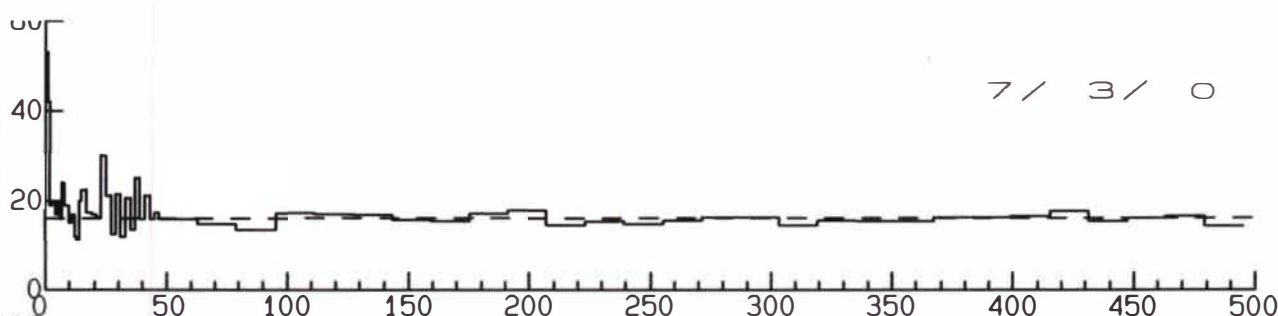
102-130 keV

COUNTS/S



130-149 keV

COUNTS/S



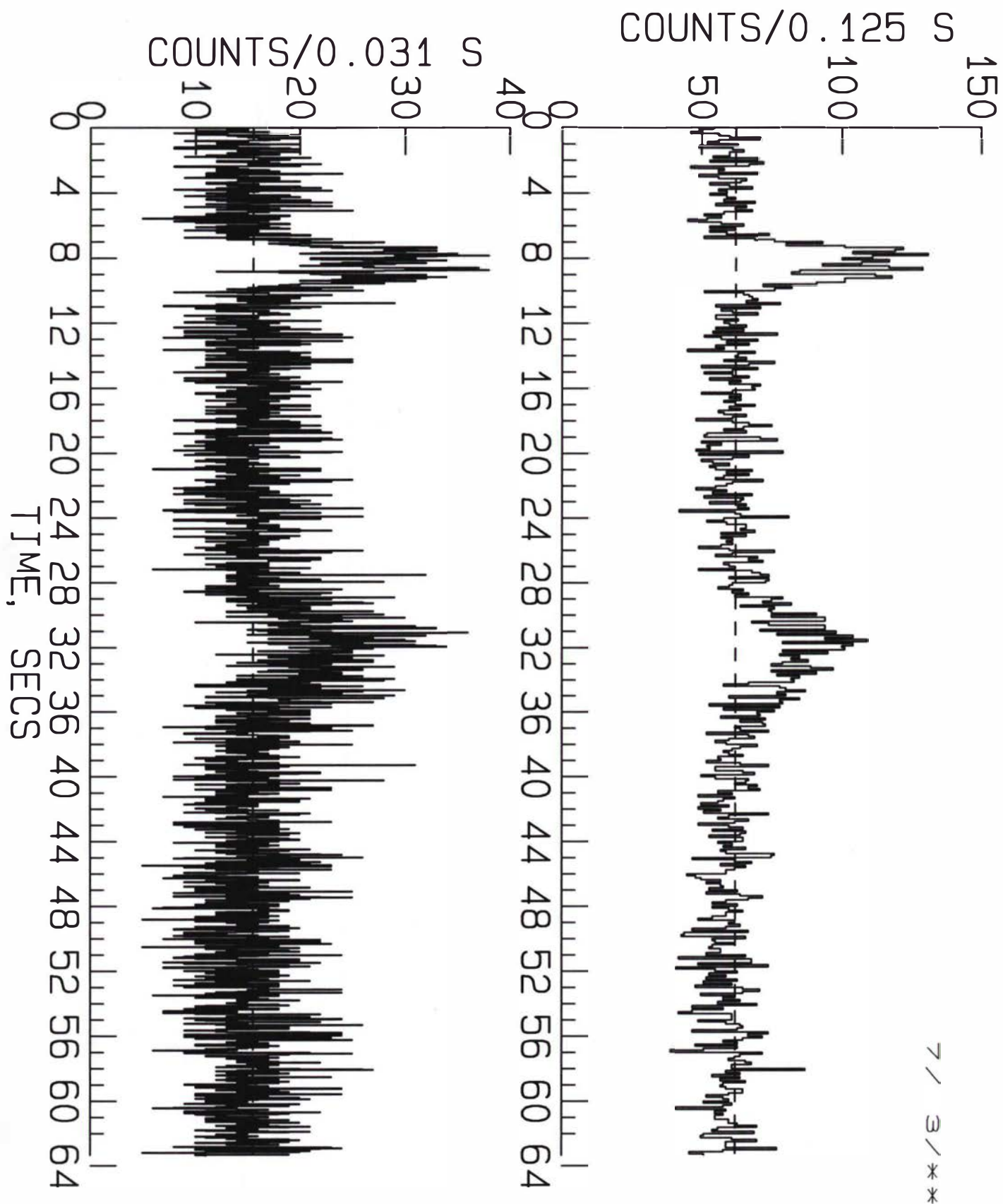
7 / 3 / 0

ULYSSES

31/05/99

Ttrig=57743.234

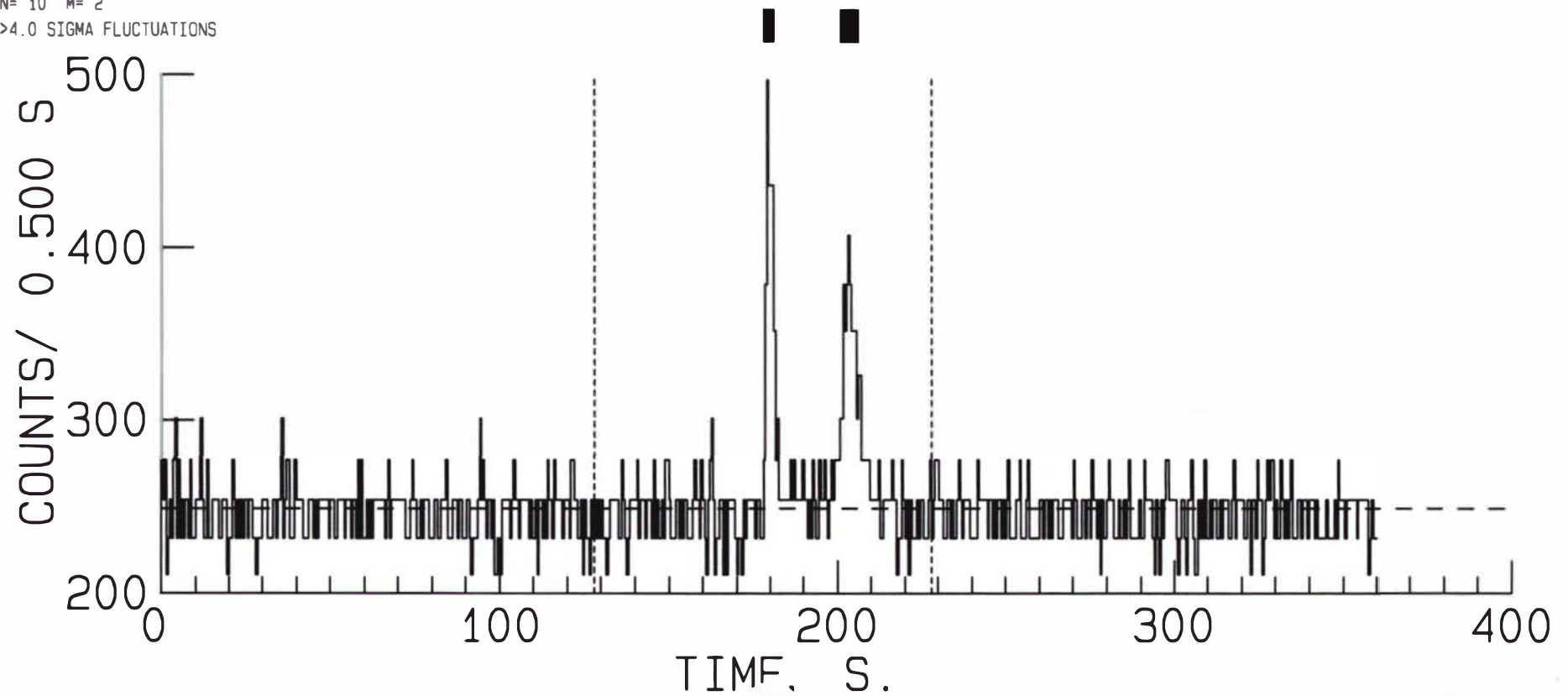
22- 149 keV



ULYSSES RT
31/ 5/99 57564.213 s
22- 149 keV

7 / 3 / 0

N= 10 M= 2
>4.0 SIGMA FLUCTUATIONS



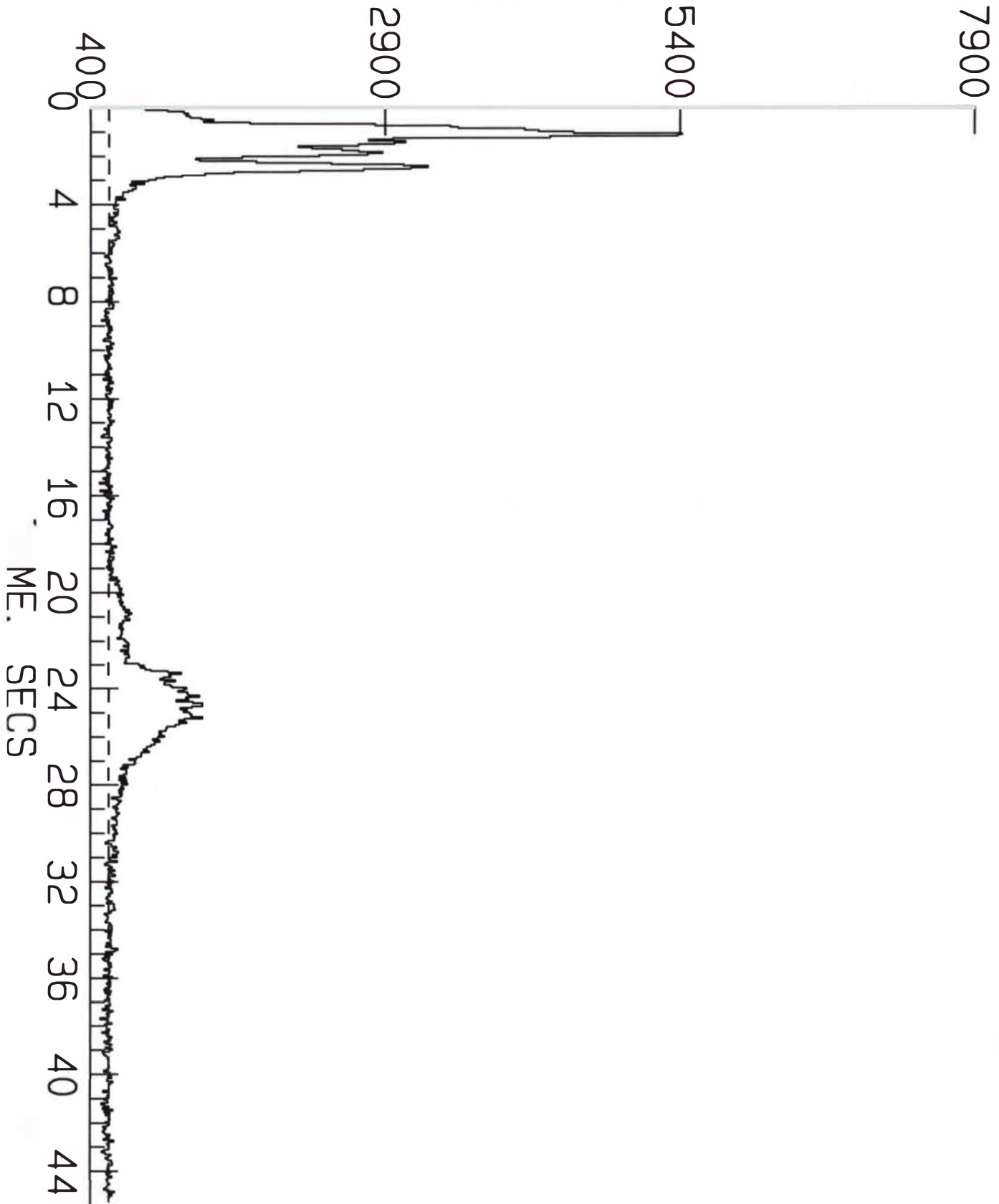
BATSE

31/05/99

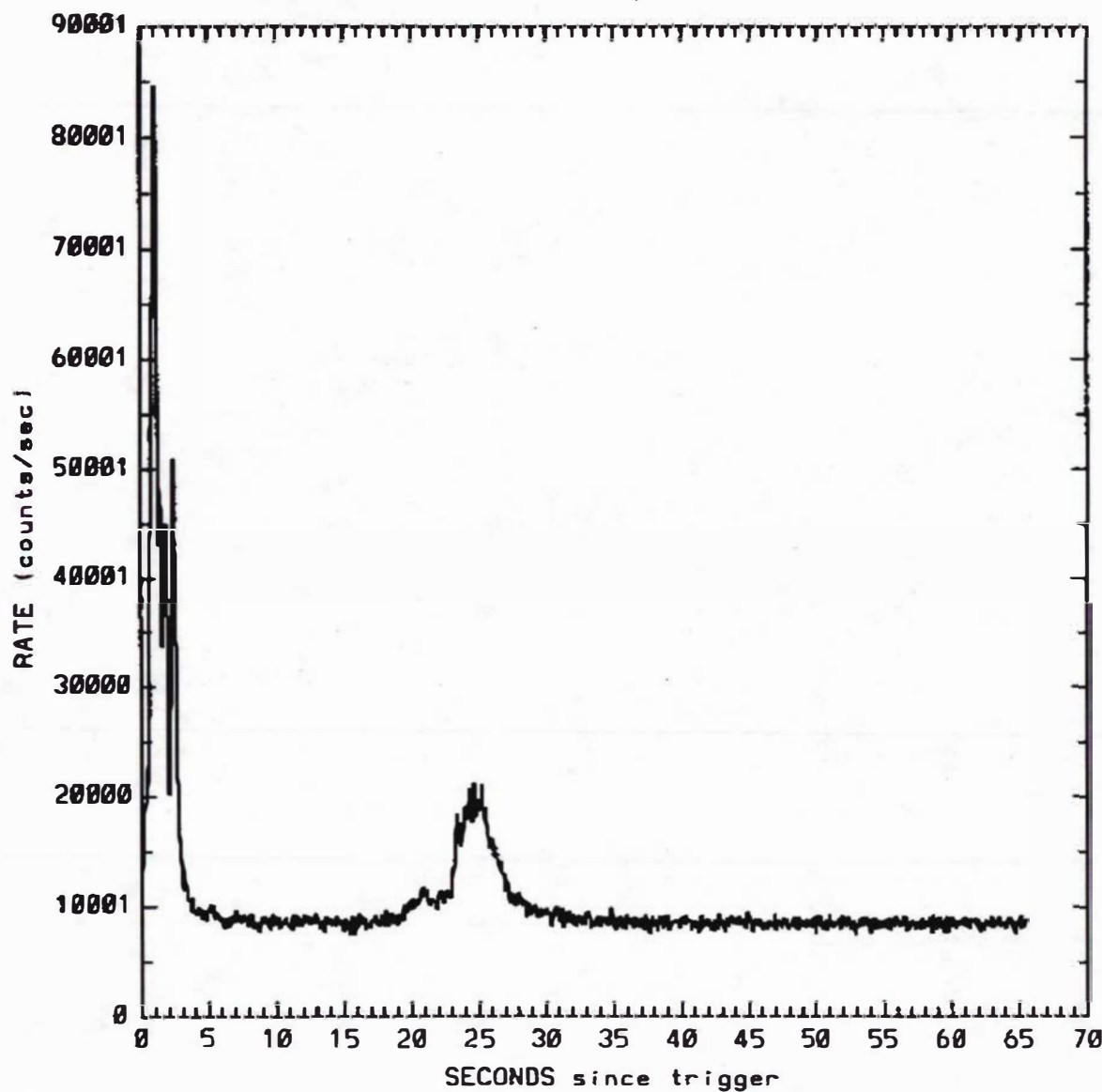
57384.441

100-1000 keV

COUNTS/0.064 S



MER Data for K. Hurley, No. 7592



24-FEB-2000 12:43:30

Created by MOPS 80
(Burst Display)
Version 12.26

Trigger # . 7592

Trigger Time.
11329 / 57384.441

Burst Data Type.
MER

Deadtime
Corrected. N

Background Data
Type. CONT

Minimum Integ. Time.
0.064 seconds

Detectors (7..0).
7-5-3-1-

Channels.
(7 .15)

Quality Mask.
BDISP1

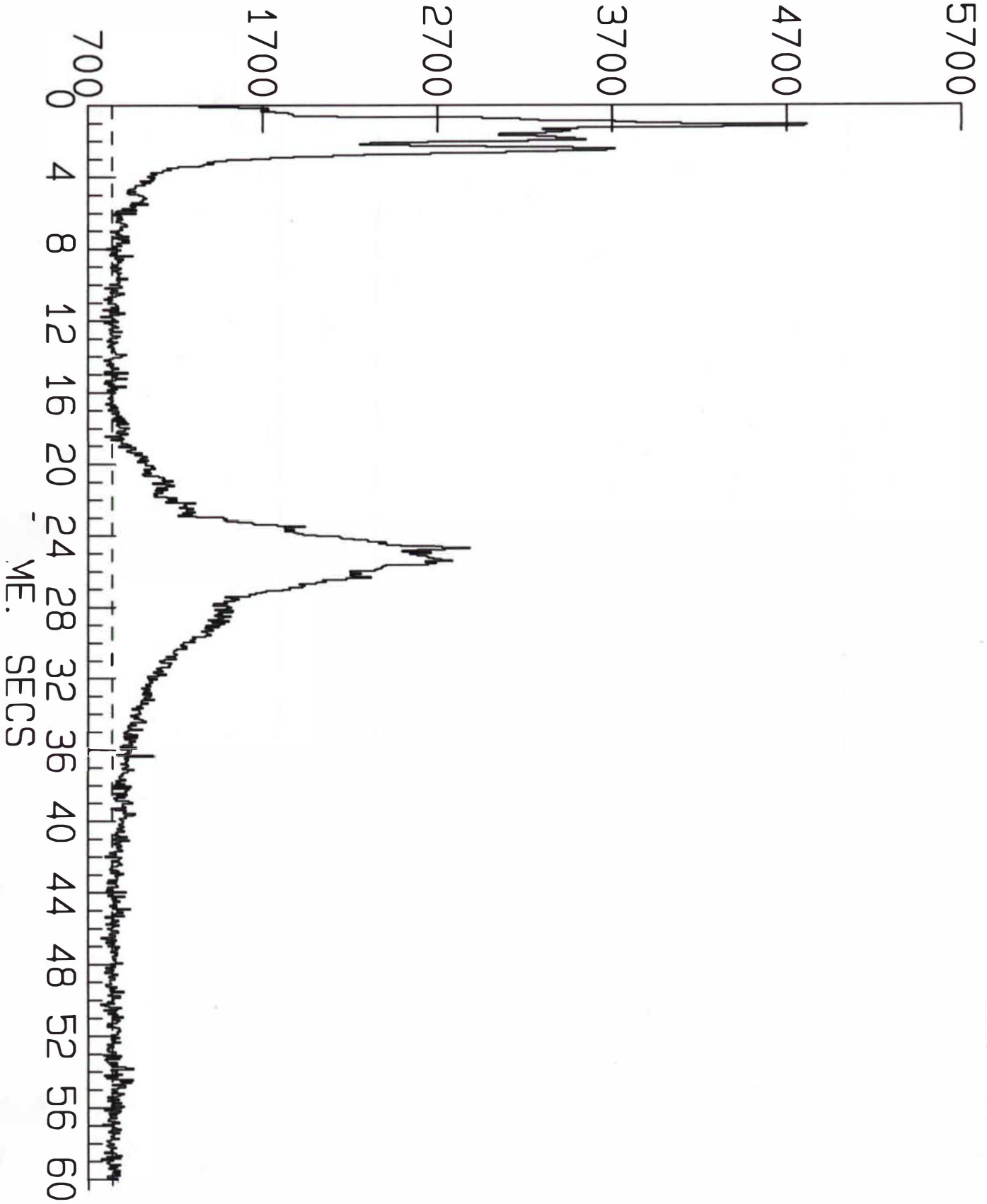
BATSE

31/05/99

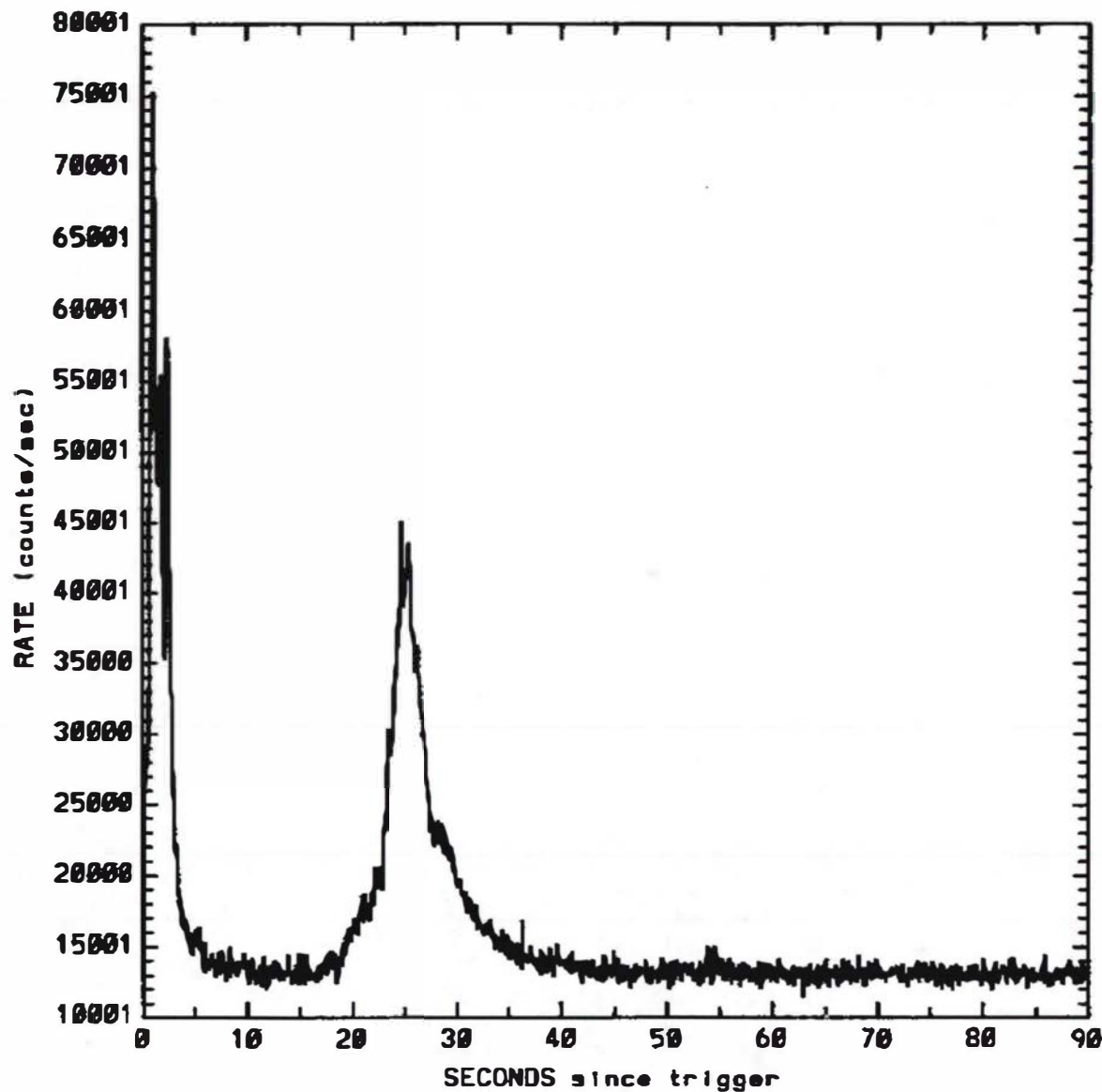
57384.441

25- 100 keV

COUNTS/0.064 S



MER Data for K. Hurley. No. 7592



15-JUN-1999 12:42:34

Created by NOPS 80
(Burst Display)
Version 12.26

Trigger # : 7592

Trigger Time:
11329 / 57384.441

Burst Data Type:
MER

Deadtime
Corrected: N

Background Data
Type: CONT

Minimum Integ. Time:
0.064 second(s)

Detectors (7..8).
7-5-3-1-

Channels:
(8 . 6)

Quality Mask:
BDISP1

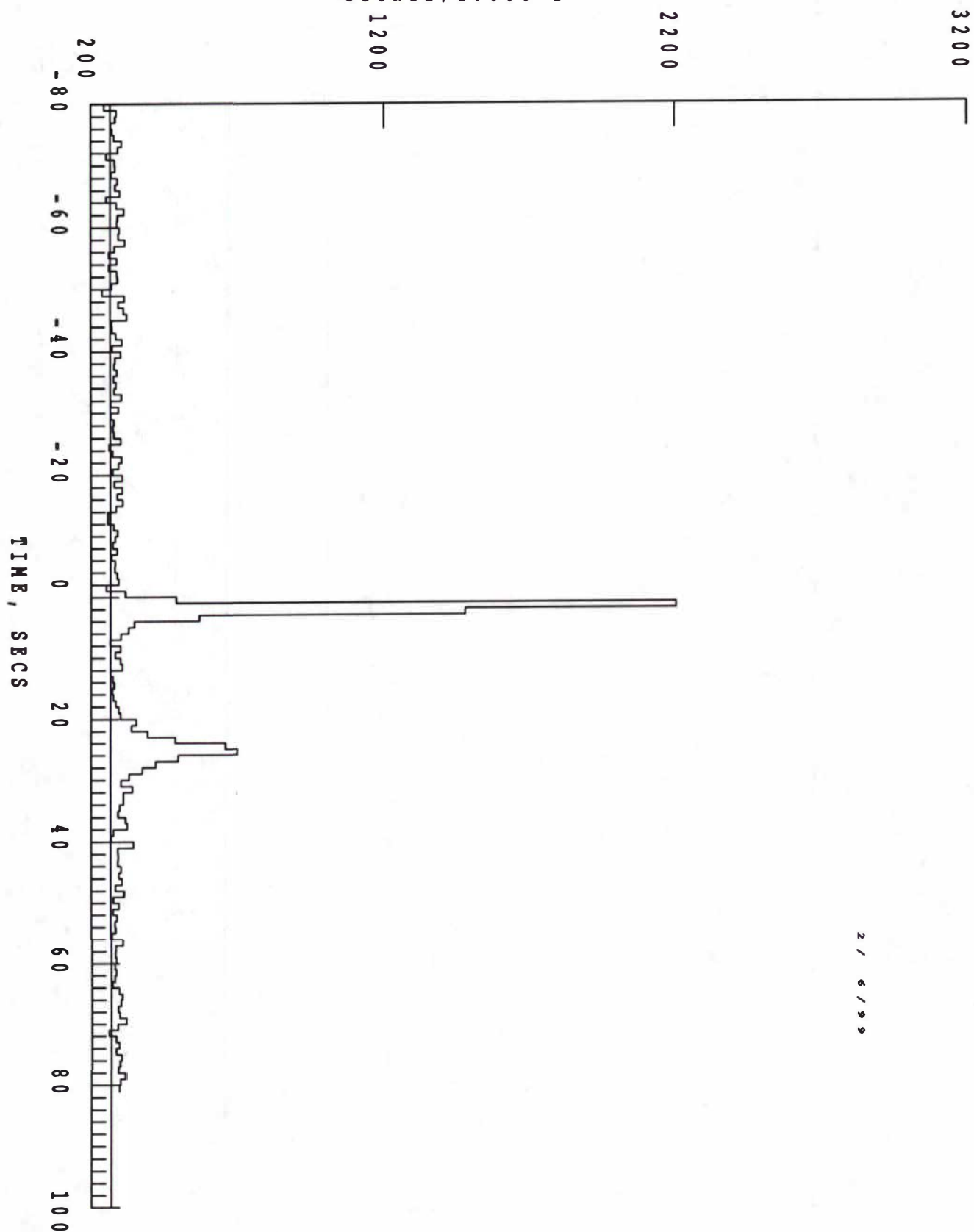
NEAR

31/05/99

56277.475

100-1000 keV

COUNTS/1.000 S



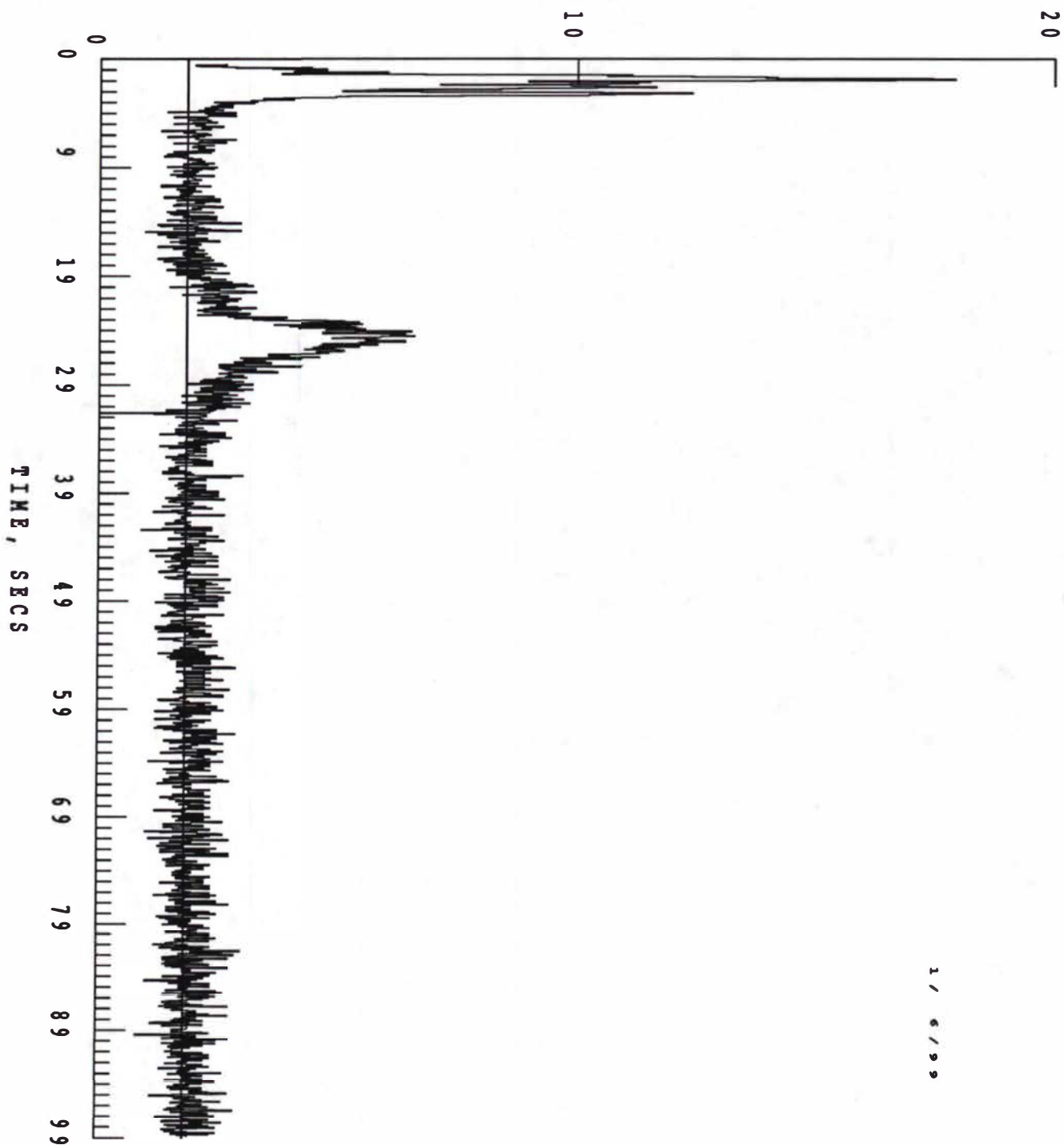
KONUS

31/05/99

57381.211

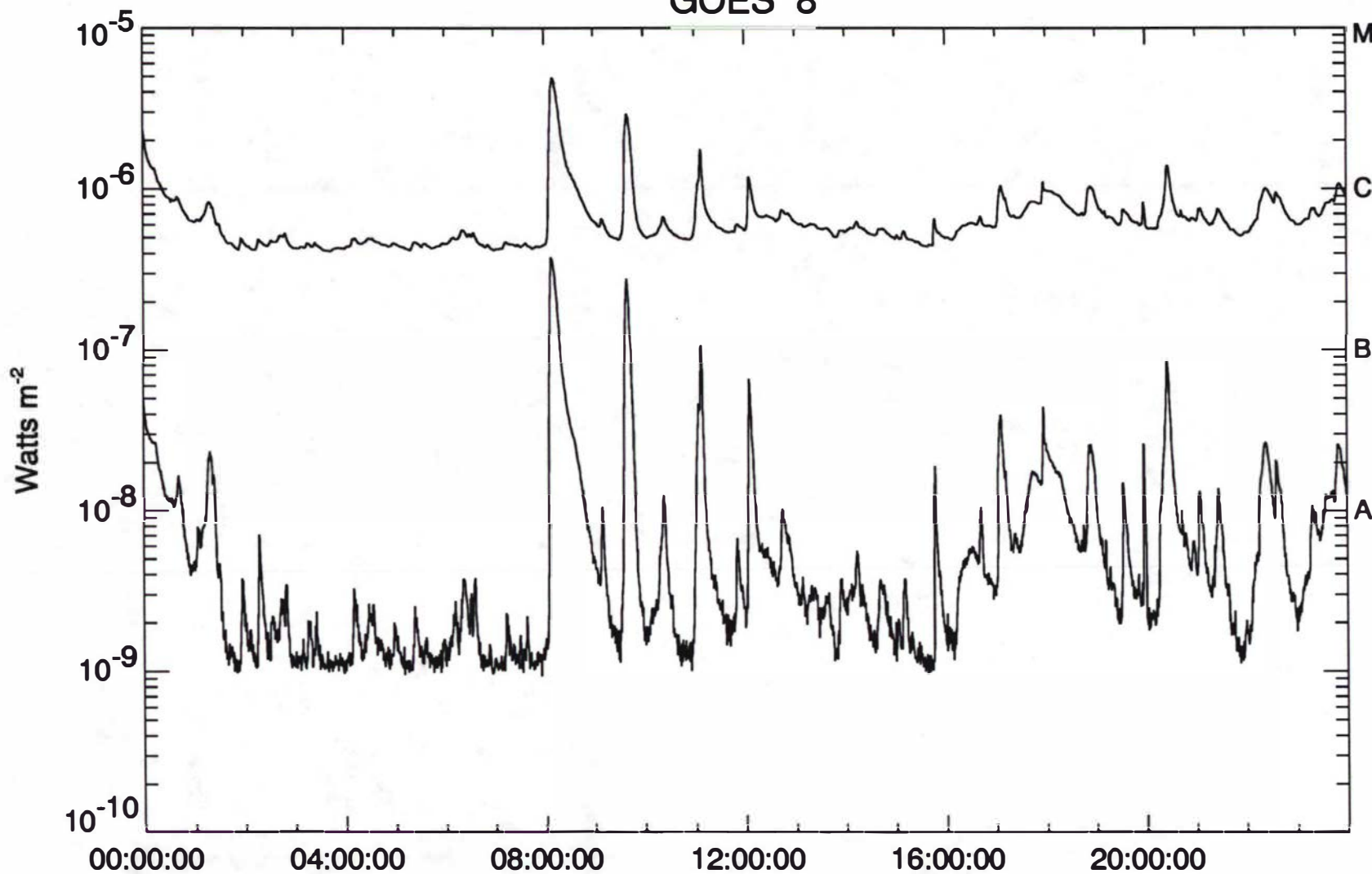
50- 200 keV

COUNTS/0.064 S



1 / 6 / 99

GOES 8



Data Start: 99/05/31, 0000:00

Plot created: 99/06/04, 1005

Channel

1 (1.0 - 8.0 Angstroms)

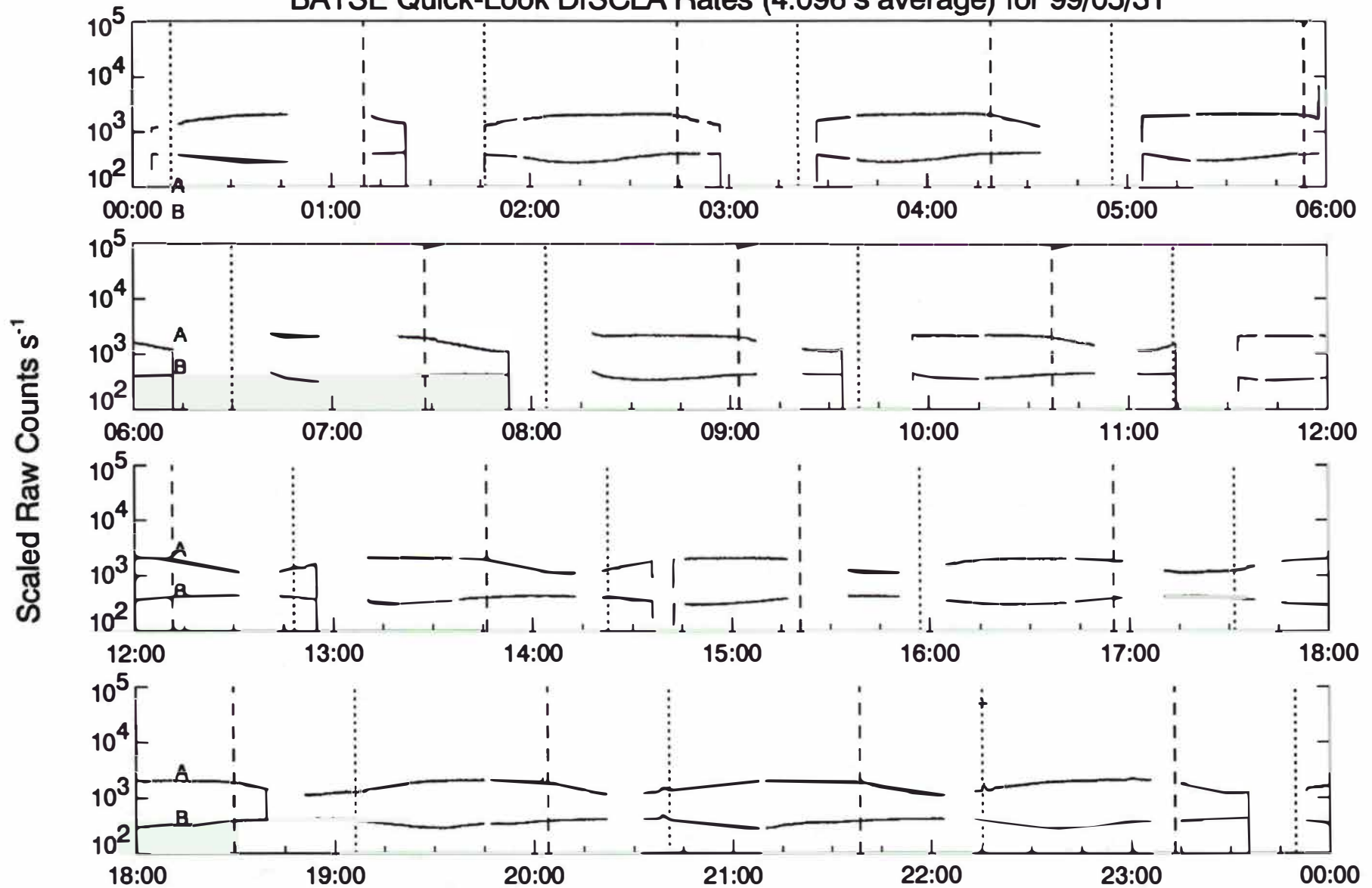
Background not subtracted

2 (0.5 - 4.0 Angstroms)

Background not subtracted

Sample average = 10

BATSE Quick-Look DISCLA Rates (4.096 s average) for 99/05/31

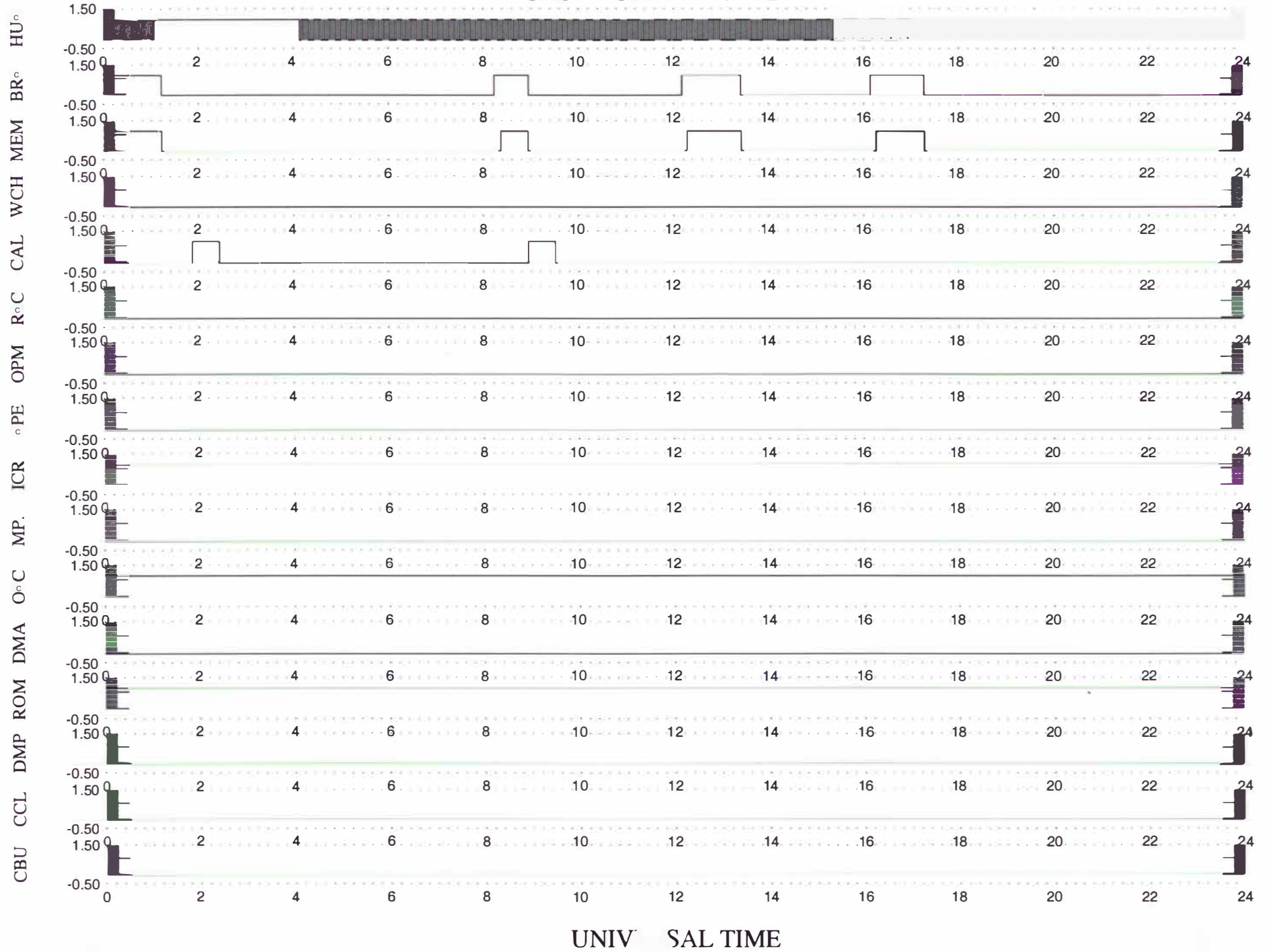


Current Time: 99/06/04, 1006 EDT
 A: Channel 0 Most Sunward LAD
 B: Sum Channel 0 Anti-Sunward LADs X .05

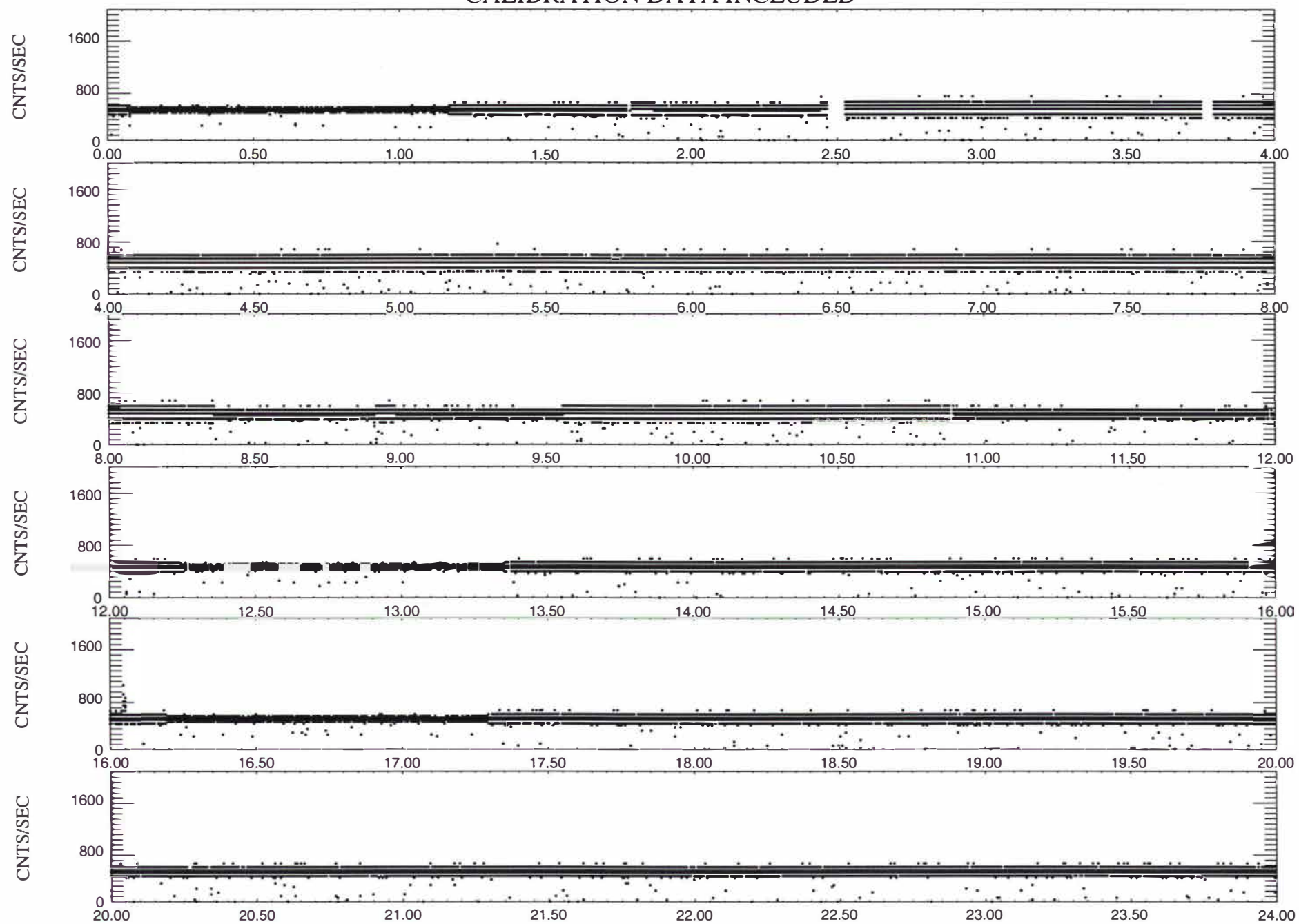
Dotted line: Day entry
 Dashed line: Night entry

* Solar Burst Trigger
 + Solar Flare

BURST NUMBER 10 - 12

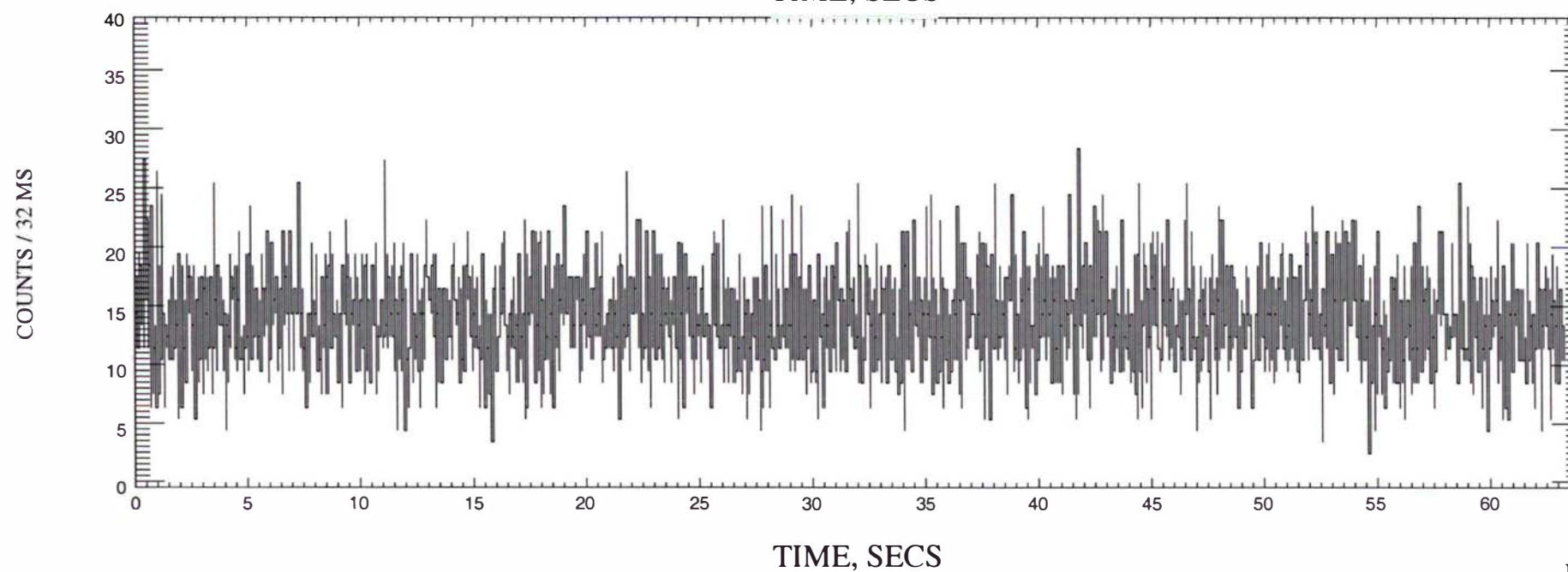
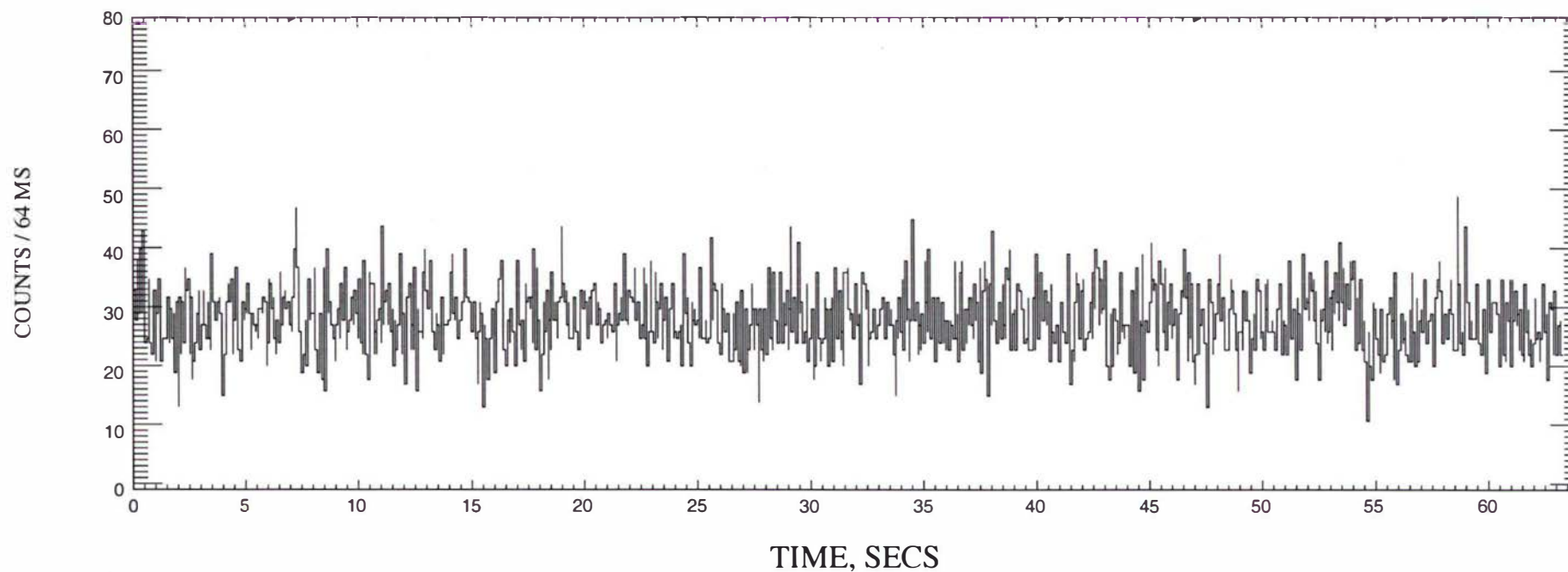


CALIBRATION DATA INCLUDED

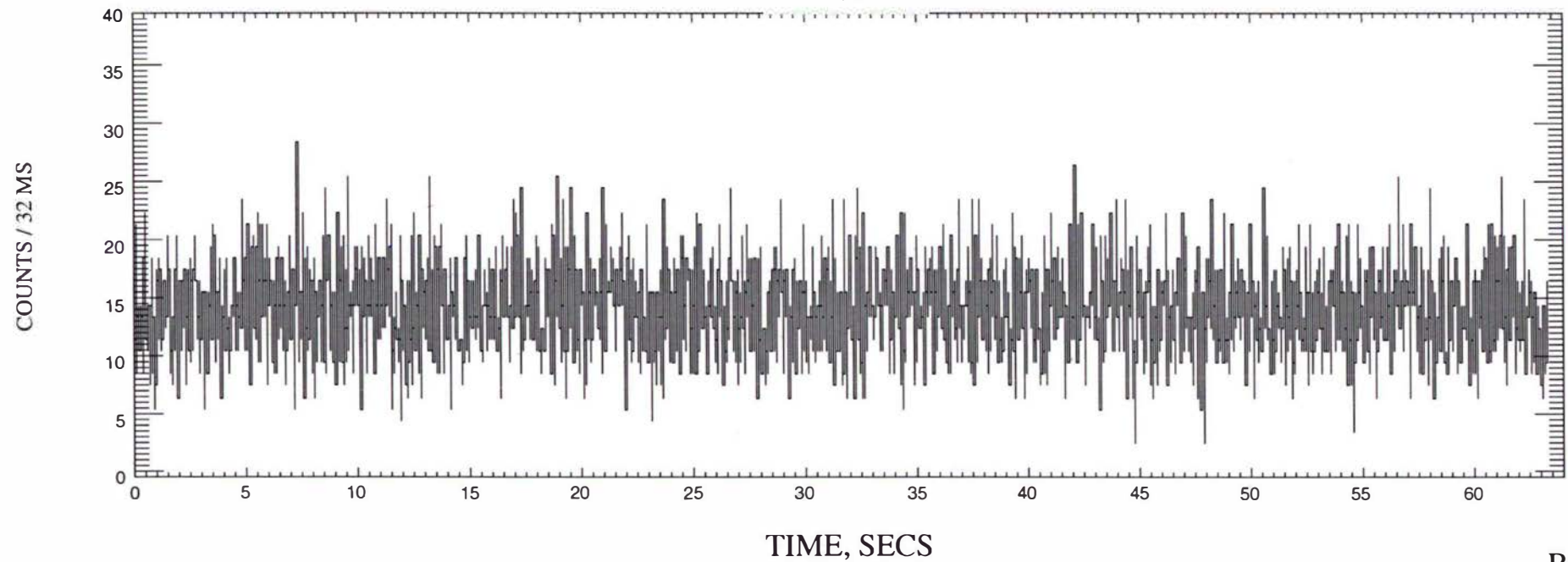
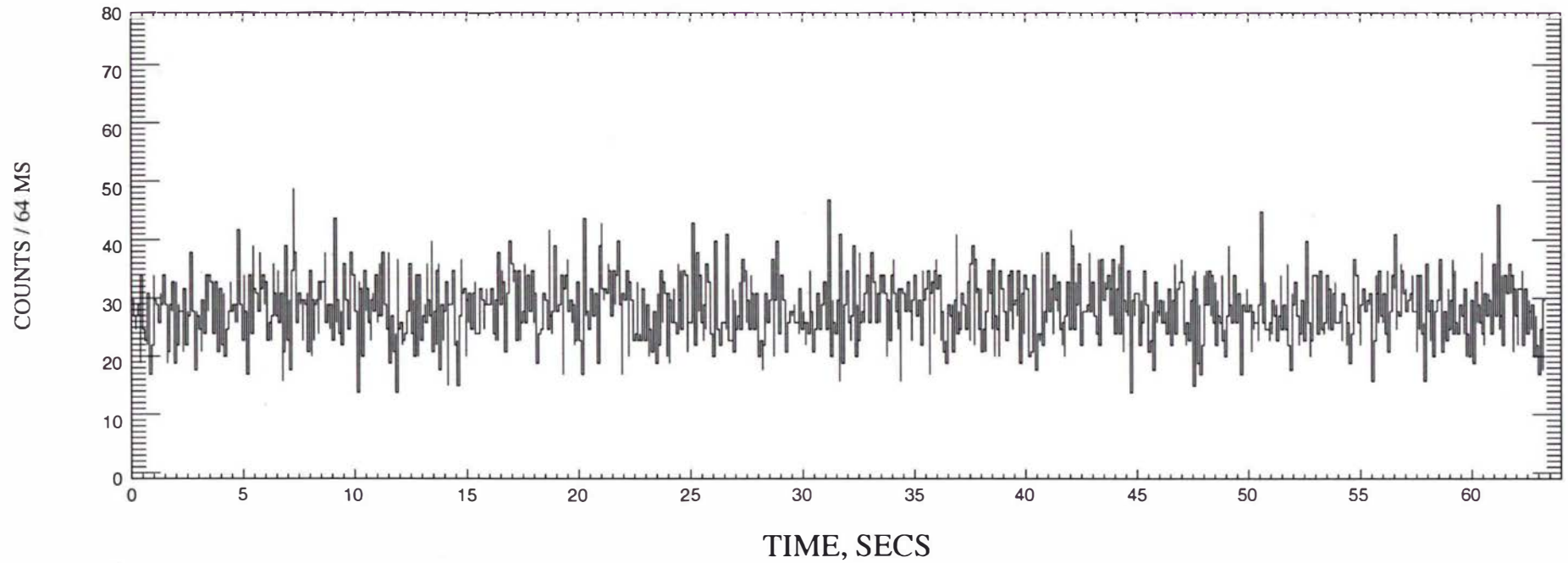


UNIVERSAL TIME

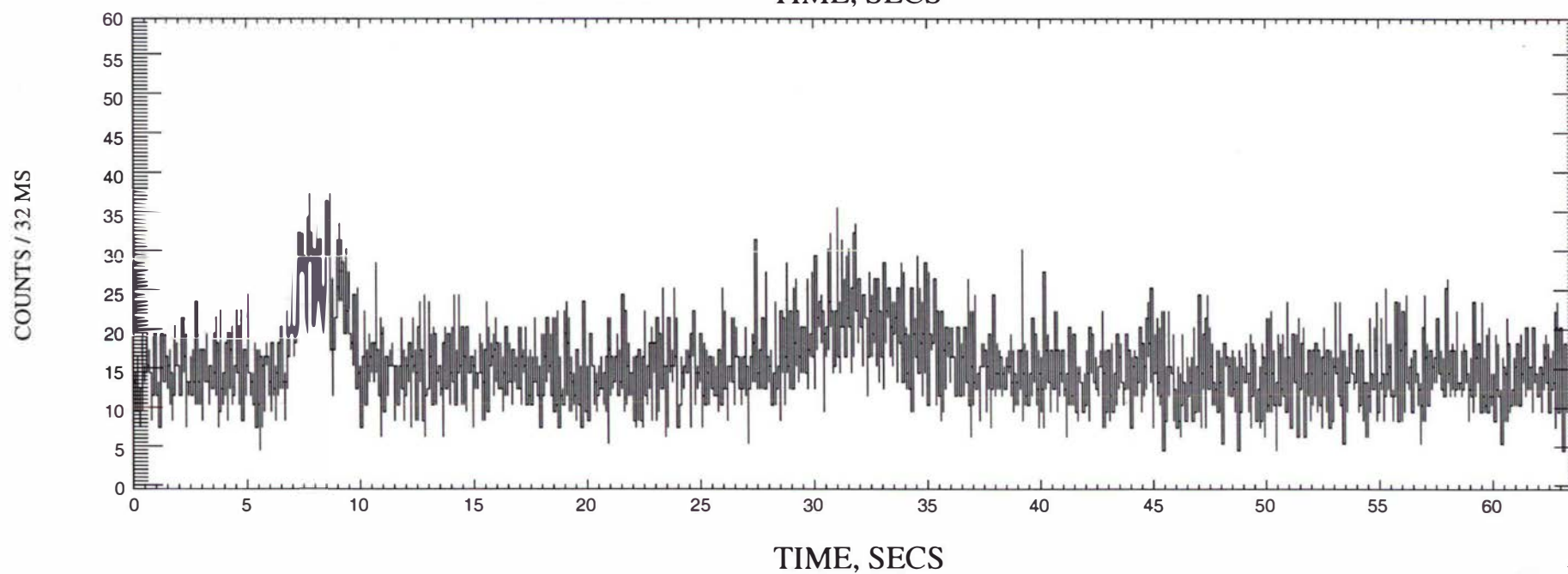
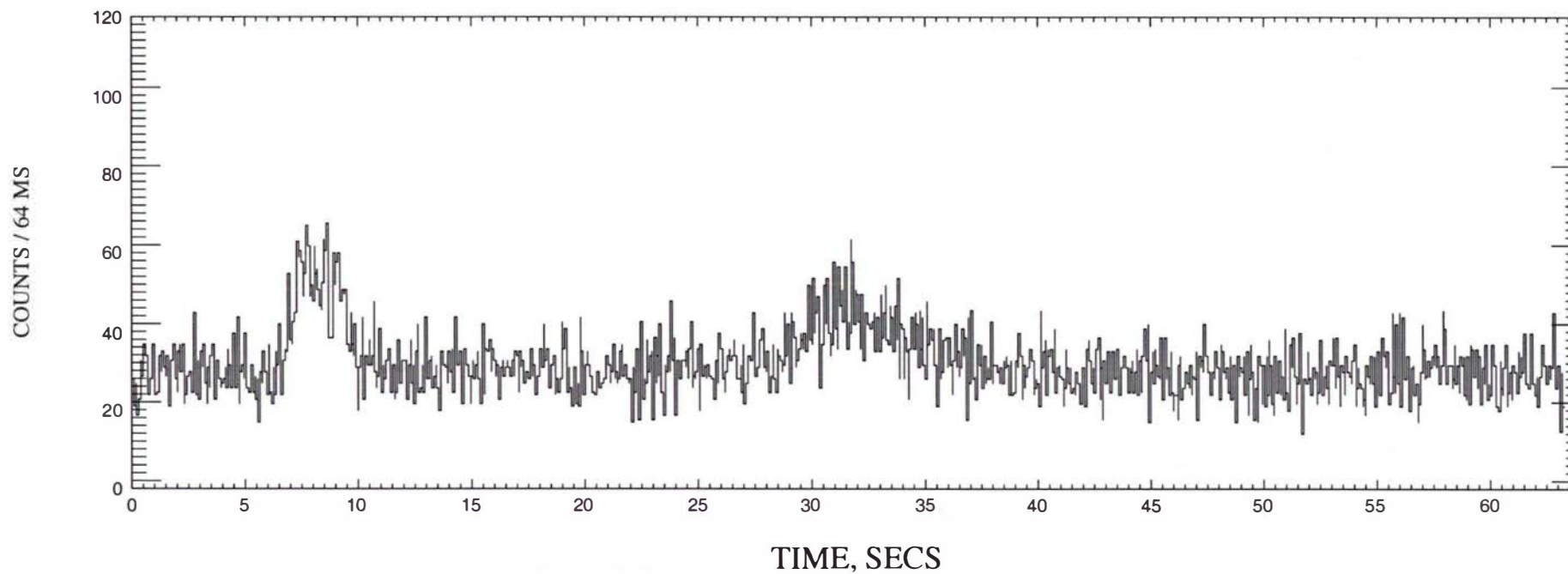
Burst Counter 10 at UT= 8.207513639662 h=29547.049 s 08:12:27.049



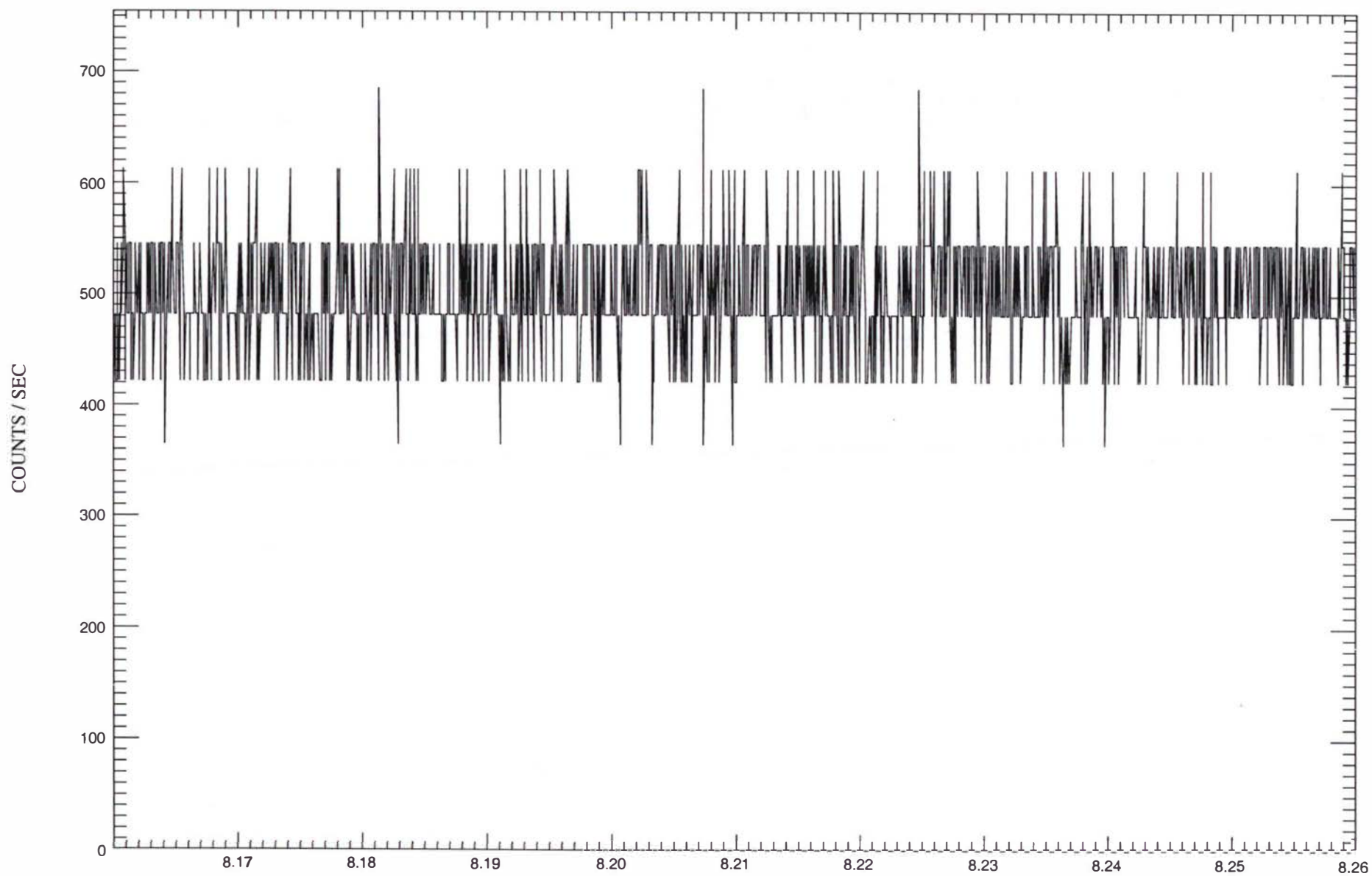
Burst Counter 11 at UT=12.087275182936 h=43514.191 s 12:05:14.191



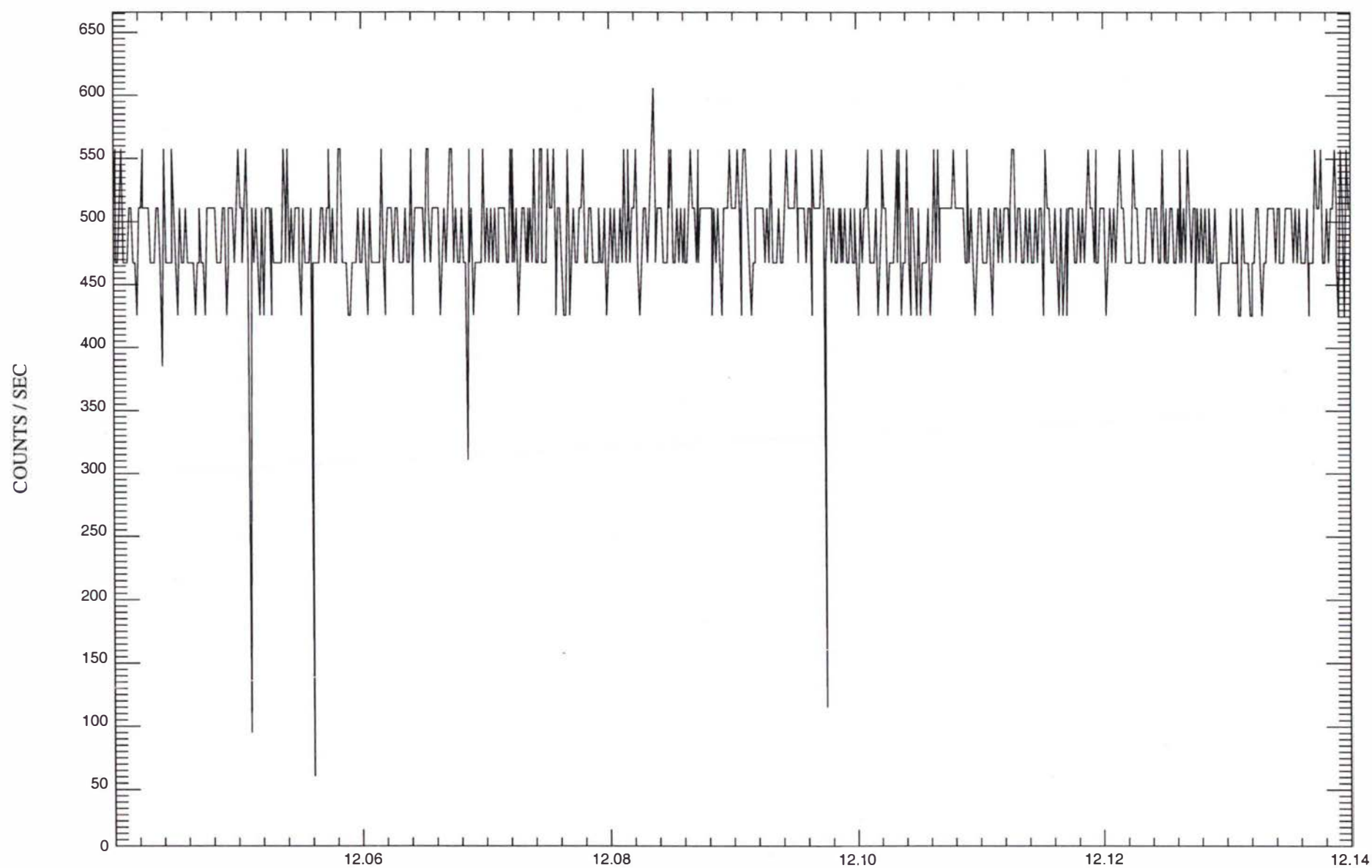
Burst Counter 12 at UT=16.039778505961 h=57743.203 s 16:02:23.203



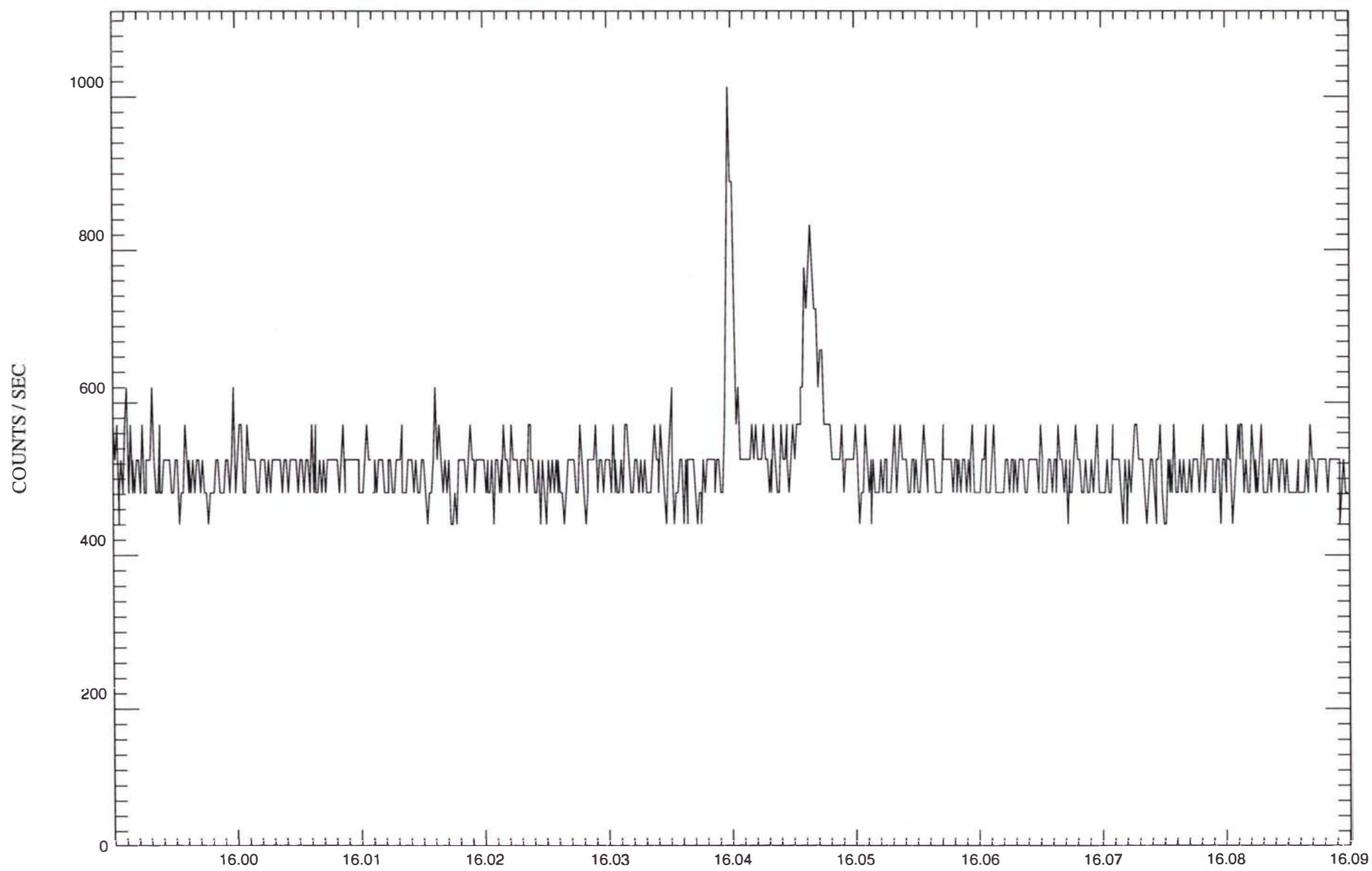
CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED



CALIBRATION DATA INCLUDED



100

