Chapter 2 - Orbit Overview

Contents

Introduction to Chapter 2

This chapter gives an overview of the NIMS observations in the E26 Orbit.

The text on page 3 summarizes the NIMS science objectives for E26. The NIMS calibrations are discussed on page 3. Early data return and E26 playback are also discussed on page 3.

The table on page 4 is a time-ordered listing of the NIMS Oapels for E26.

The plot on page 5 shows the geometry of the NIMS E26 observations using a north trajectory pole view projection. The plot on page 6 shows the geometry of the NIMS E26 calibrations.

The spreadsheet on page 7 summarizes the various inputs for the NIMS E26 Observations. The spreadsheet on pages 8 and 9 summarizes the resource usage for the NIMS E26 observations.

The table on page 10 lists various NIMS E26 observing parameters: target latitude/longitude, range, cone angle, incidence angle light), emission angle view) and phase angle.

The timeline on pages 11 through 13 shows the placement of the E26 observations for all intruments during the E26 Encounter Period.

The tapemap on page 14 shows the placement of the E26 observations on the spacecraft’s tape recorder.

The timeline on pages 15 through 21 shows the preliminary E26 playback schedule.

The NIMS E26 mosaic designs are summarized on page 22 in time-order.

NIMS E26 SCIENCE OVERVIEW

Io Science

There is only one science observation during E26 - a distant observation of Io similar to the distant observations of Io executed during the main mission. 26INHSLOKI01 is a global observation of Io composed of a single swath across a nearly completely lit disk, centered at 255 degrees West longitude. This is the first NIMS observation to see Loki on Io's dayside. Pele and Pillan are also visible.

Calibration

There are no NIMS calibration observations planned for E26.

Early Data Return

There are no realtime observations in E26.

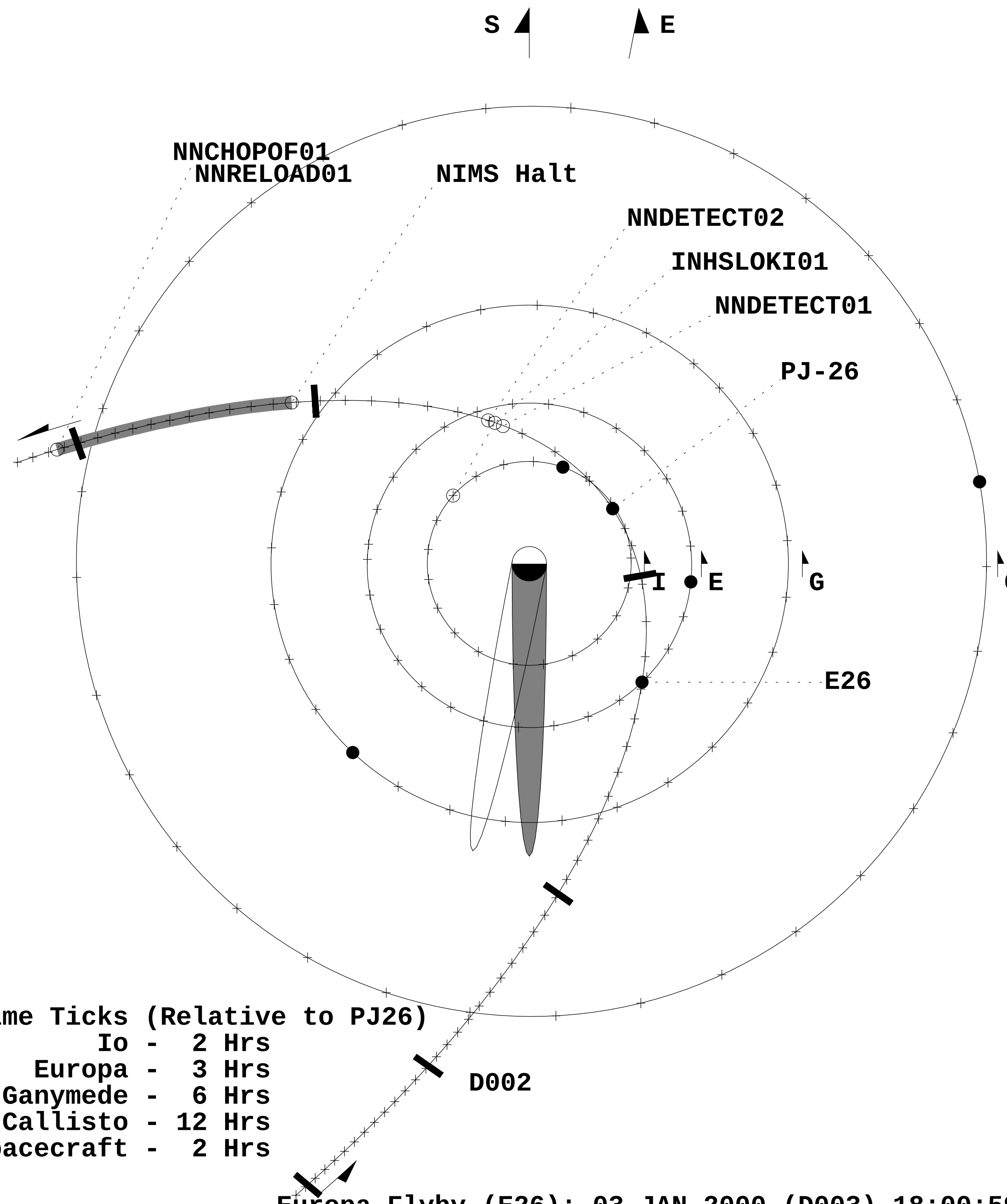
E26 Playback

E26 playback is split into two passes through the tape. A large portion of data recorded during I25 and not recorded over during E26 will be played back during E26 cruise.

E26 Time-Ordered Listing

OAPEL	Start (UTC)	End (UTC)	Duration
26NNDETECT01-	00-004/10:44:01	00-004/10:49:04	000/00:05:03
26NNDETECT02-	00-004/10:49:04	00-004/11:03:13	000/00:14:09
26INHSLOKI01-	00-004/11:14:21	00-004/11:26:29	000/00:12:08
26NNHSLOKI01-	00-004/11:15:21	00-004/11:18:21	000/00:03:00
26NNDETECT03-	00-004/11:39:37	00-004/11:43:40	000/00:04:02
26NNDETECT04-	00-004/11:44:41	00-004/11:58:50	000/00:14:09
26INRELOAD01-	00-006/02:30:14	00-006/02:34:17	000/00:04:02
26NNCHOPOF01-	00-006/02:37:19	00-006/02:47:25	000/00:10:06
26NNMROGRT01-	00-015/20:59:51	00-016/00:01:51	000/03:02:00
26NNRELOAD02-	00-037/11:01:04	00-037/11:14:04	000/00:13:00

NIMS E26 OBSERVATIONS



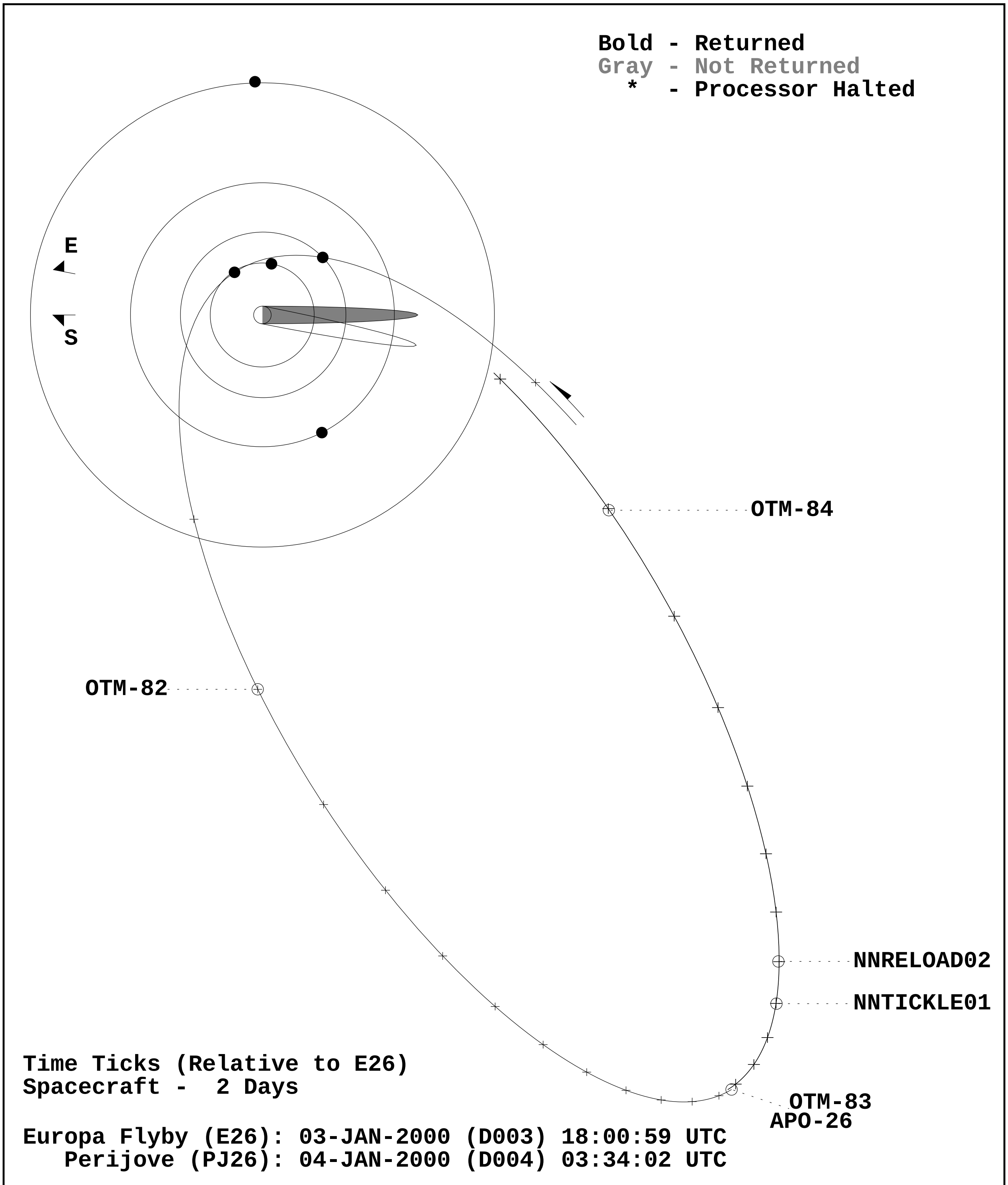
Time Ticks (Relative to PJ26)
Io - 2 Hrs
Europa - 3 Hrs
Ganymede - 6 Hrs
Callisto - 12 Hrs
Spacecraft - 2 Hrs

Europa Flyby (E26): 03-JAN-2000 (D003) 18:00:59 UTC
Perijove (PJ26): 04-JAN-2000 (D004) 03:34:02 UTC

E26 North Trajectory Pole View

NIMS - FEL - 03/01/00

NIMS E26 CALIBRATIONS



E26 North Trajectory Pole View

NIMS - FEL - 12/12/00

E26 NIMS INPUTS

Activity ID	Observation Title	NIMS Edit Table	NIMS PB Table	Mode	Gain	Grating Start	Grating Offset	Record Format	PSID
26NNDETECT01-	Grating Step Test P2								
26NNDETECT02-	Grating Step Test Copy								
26INHSLOKI01-	Io Loki Observation	I25ILM442	I25ILM360	LM	2	0	4	MPW	DA
26NNDETECT03-	Grating Step Test P2								
26NNDETECT04-	Grating Step Test Copy								
26INRELOAD01-	NIMS Software Reload								
26NNCHOPOF01-	NIMS Chopper Off								
26NNMROGRT01-	Grating MRO								

E26 RESOURCES

Activity ID	Mode	Record Format	Obs. Cost (tracks)	Obs. Cost (ticks)	Number Wavelengths Returned	Obs Duration (Minutes)	Obs Record (sec.)	Obs PB (sec.)	Selected Bits to Tape sBOT (MBITS)	Bits to Tape BOT (Mbit)	Mode Cycle time (sec)
26INHSLOKI01-	LM	MPW	0.0608	354	360	6.67	400.00	408.00	4.70	4.61	8.667
Resource Totals			**0.0608**	**354**							

12/31/00

E. Barbinis

E26 RESOURCES

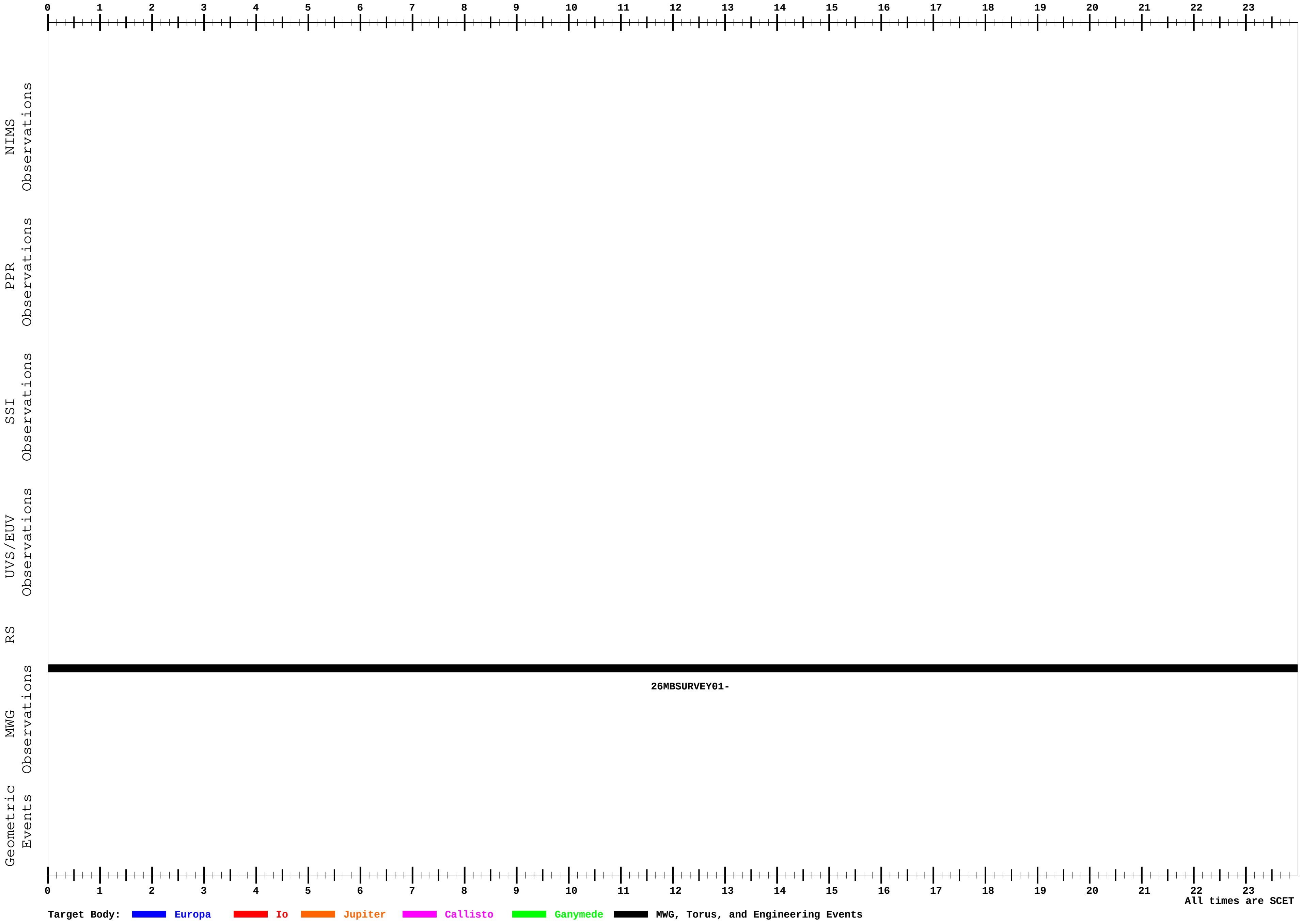
Activity ID	AACS	Comp	Thold	RT	Total BTG	Data Reduction	Pass
	Mbits				Mbits	Factor	
	c 2.5				(w/4% ohead)	(sBOT/BTG)	
26INHSLOKI01-	0.02	1.05	0.00		3.3571	1.40	1,3
Resource Totals					**3.3571**		

NIMS E26 OBSERVING GEOMETRY

OAPEL	Latitude (deg)	Longitude (deg)	Range (km)	Cone (deg)	Light (deg)	View (deg)	Phase (deg)
26INHSLOKI01	-90 to +90	165 to 345	335K	163	3 to 118	1 to 90	27

E26 ENCOUNTER
Plot Time: 00-002/00:00:00.000 to 00-3/00:00:00.000
Date of Plot: 26-May-100 11:40:55

GEM: E26



E26 ENCOUNTER
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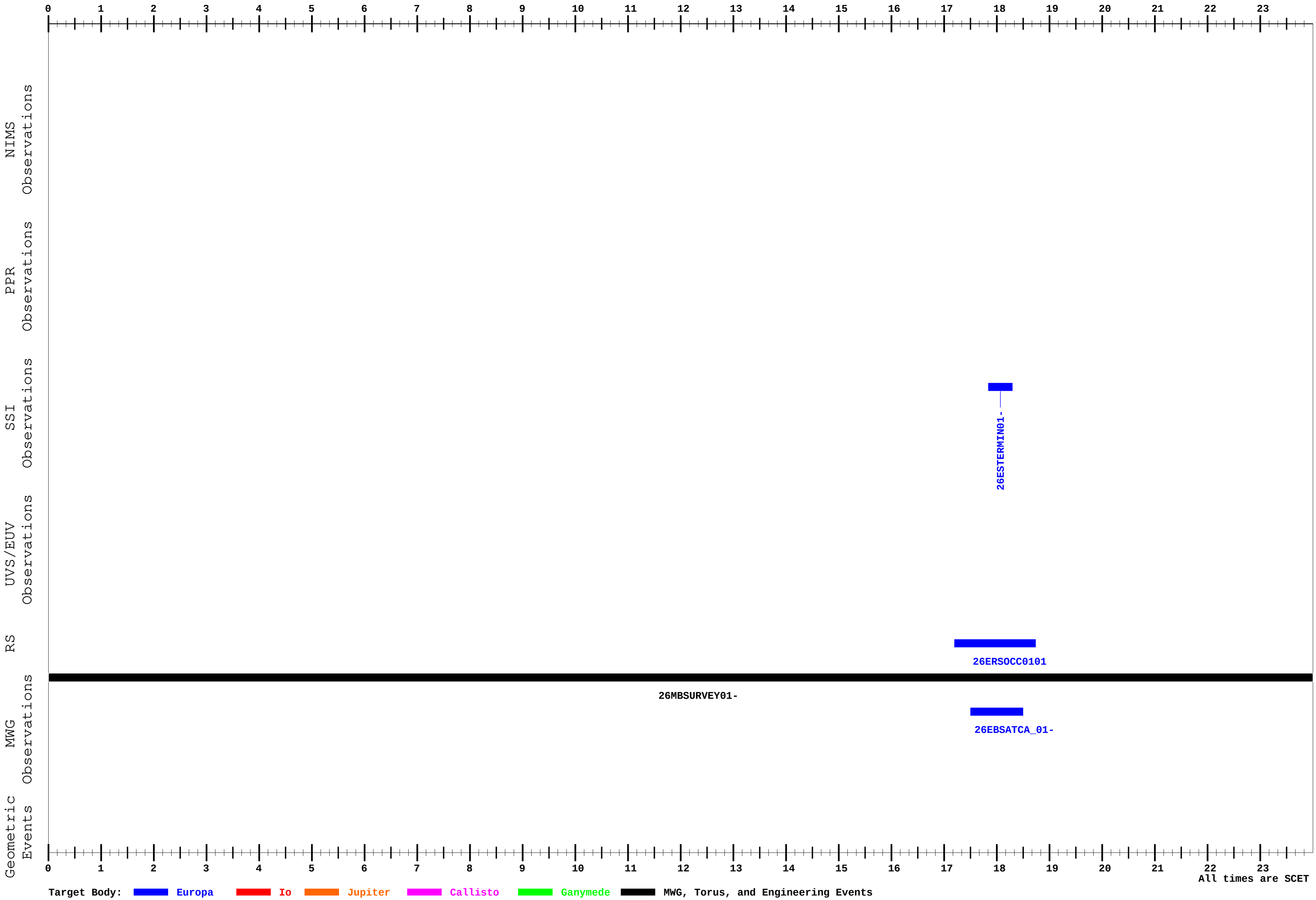
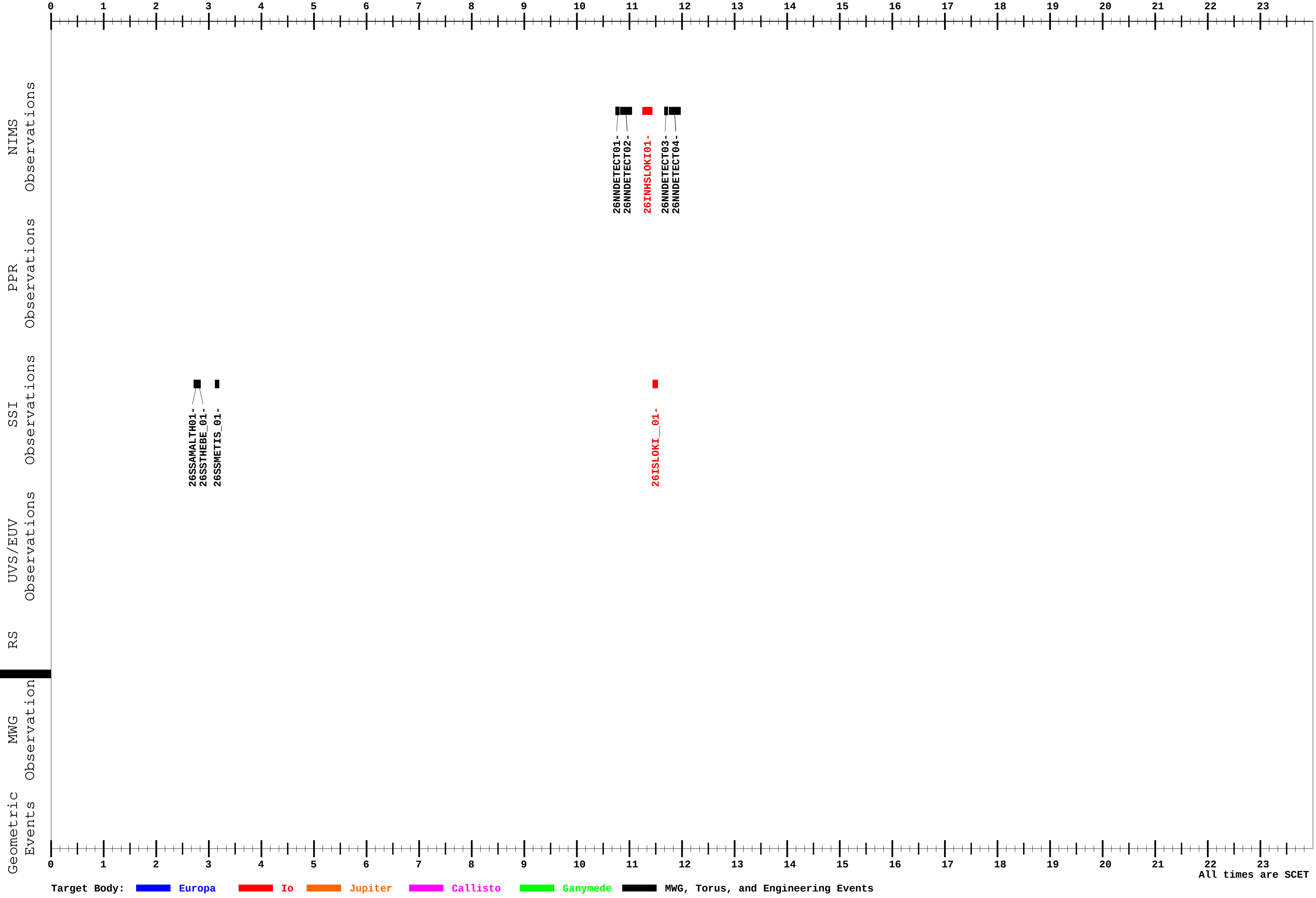
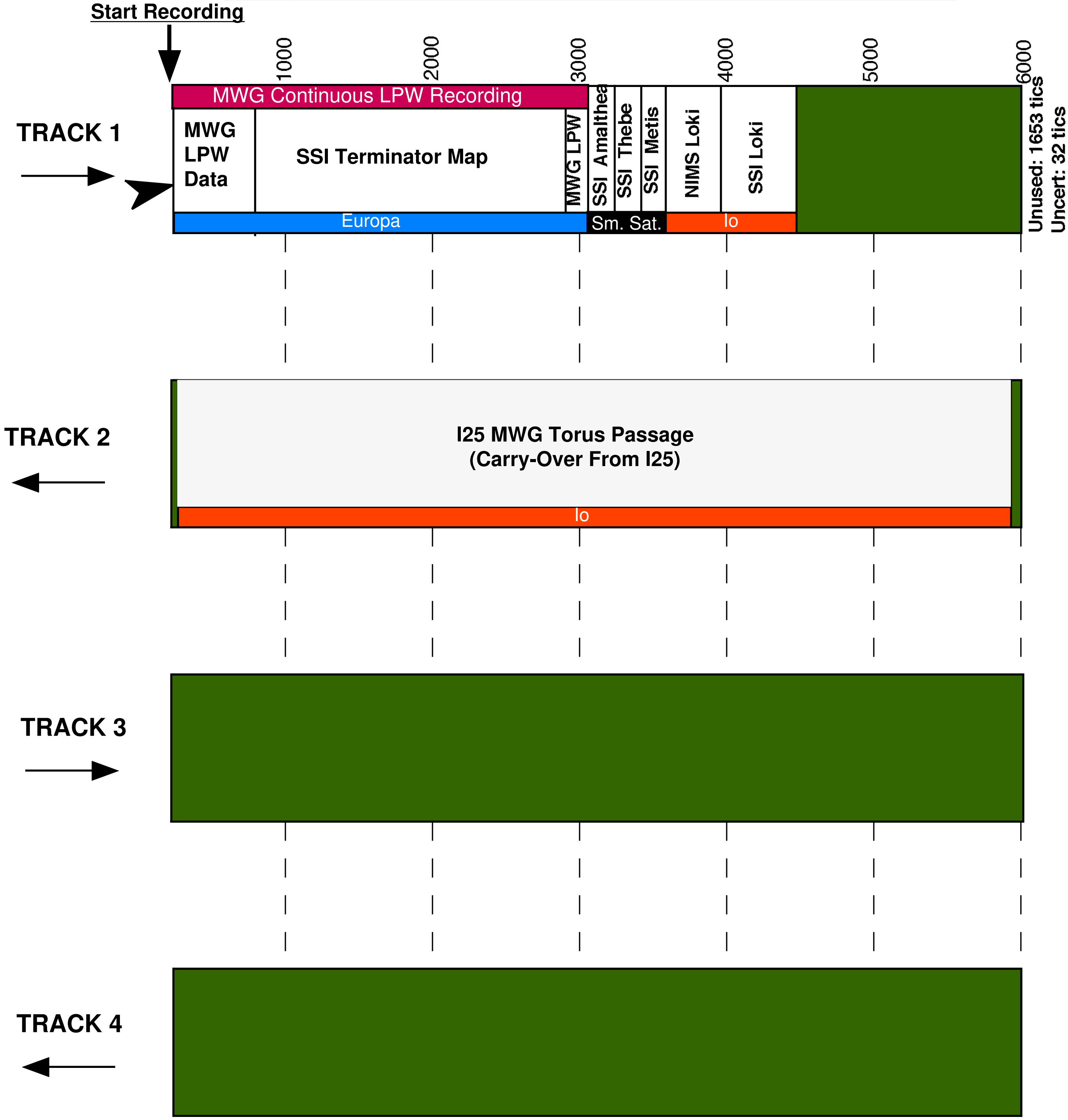


GEM: E26

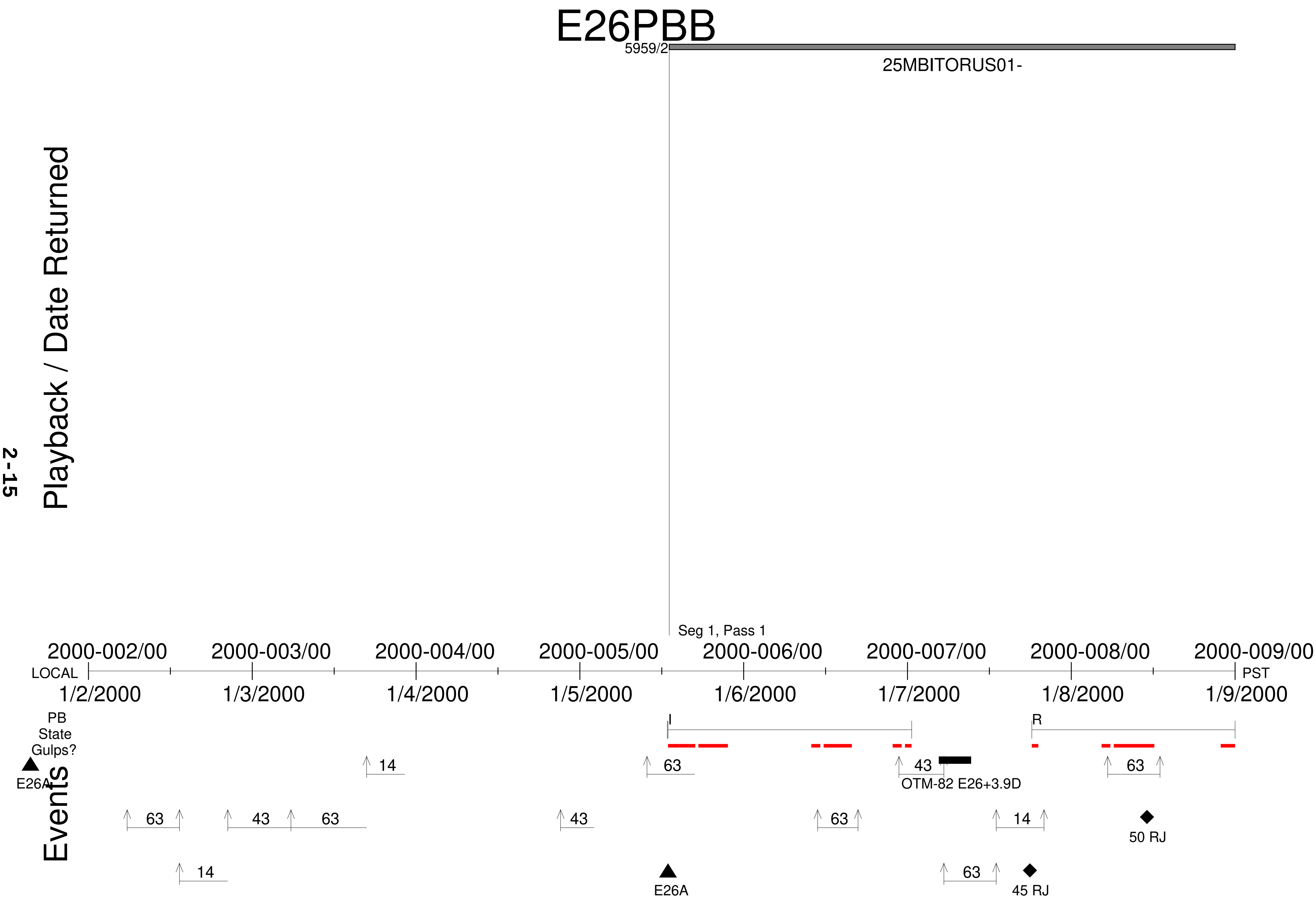
E26 ENCOUNTER
Plot Time: 00-4/00:00:00.000 to 00-5/00:00:00.000
Date of Plot: 26-May-100 11:40:55



E26 ENCOUNTER HIGH-LEVEL TAPEMAP



J. Gross, 7/26/99



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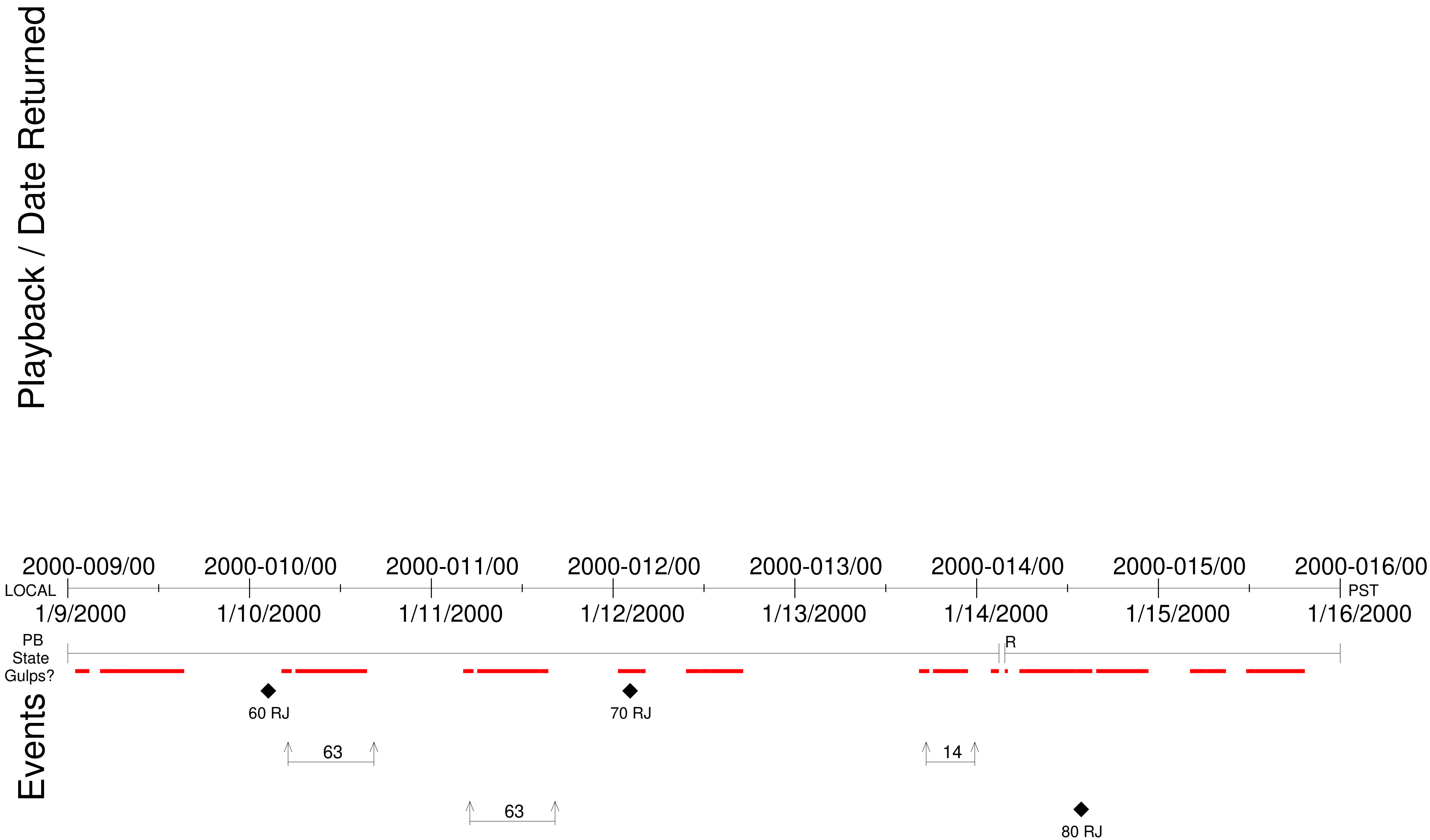
E26PBB

25MBITORUS01-



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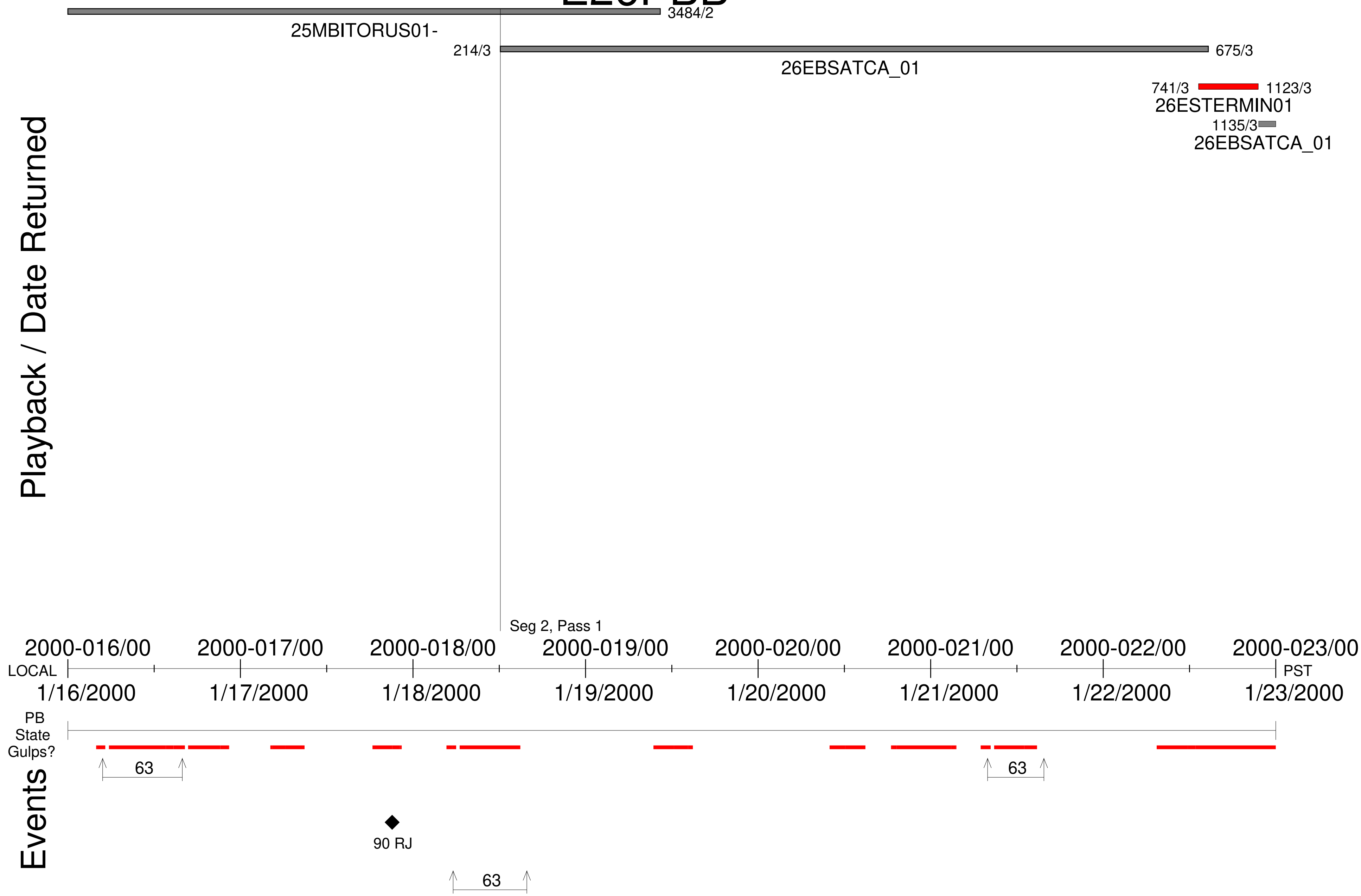

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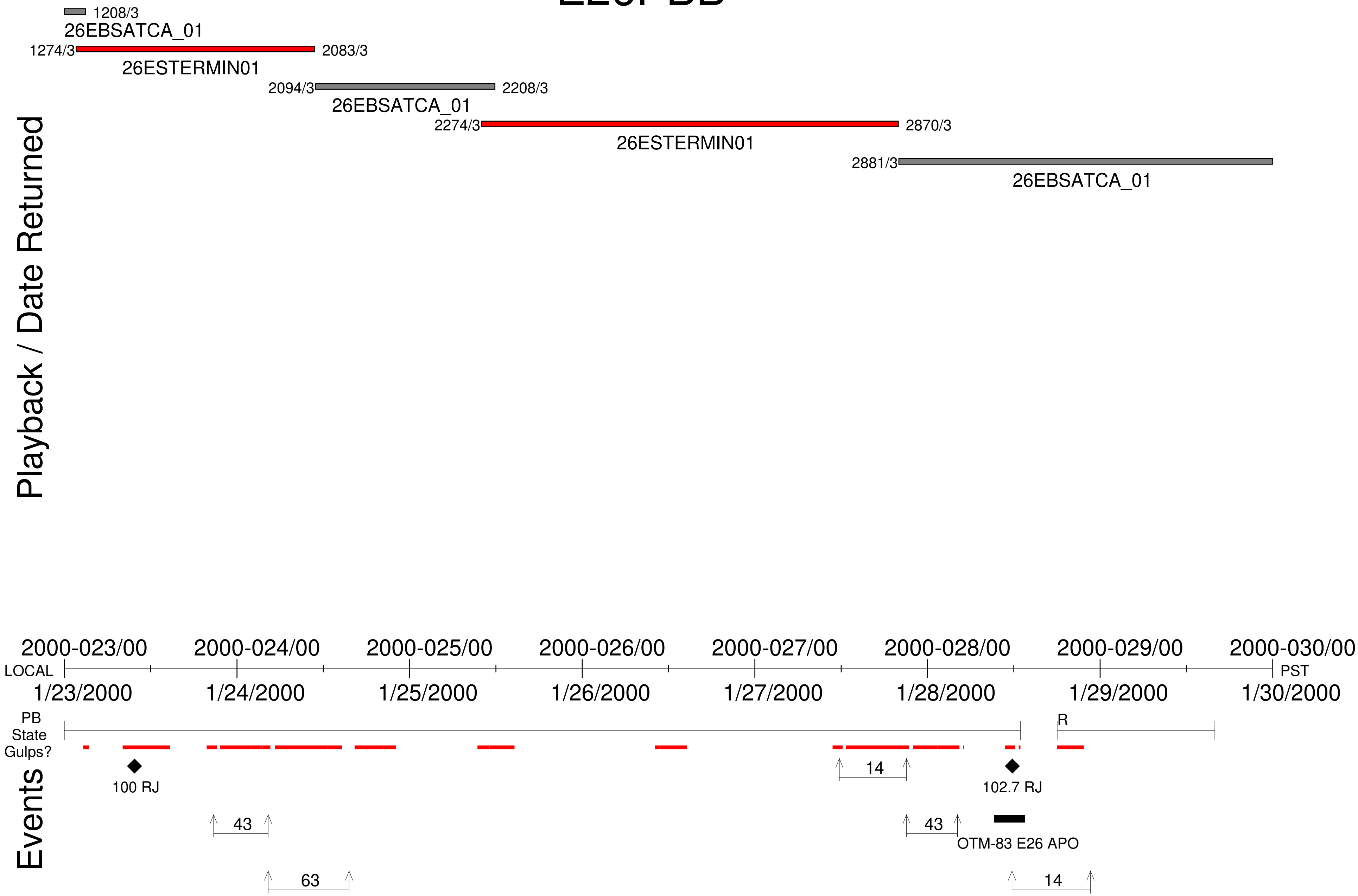

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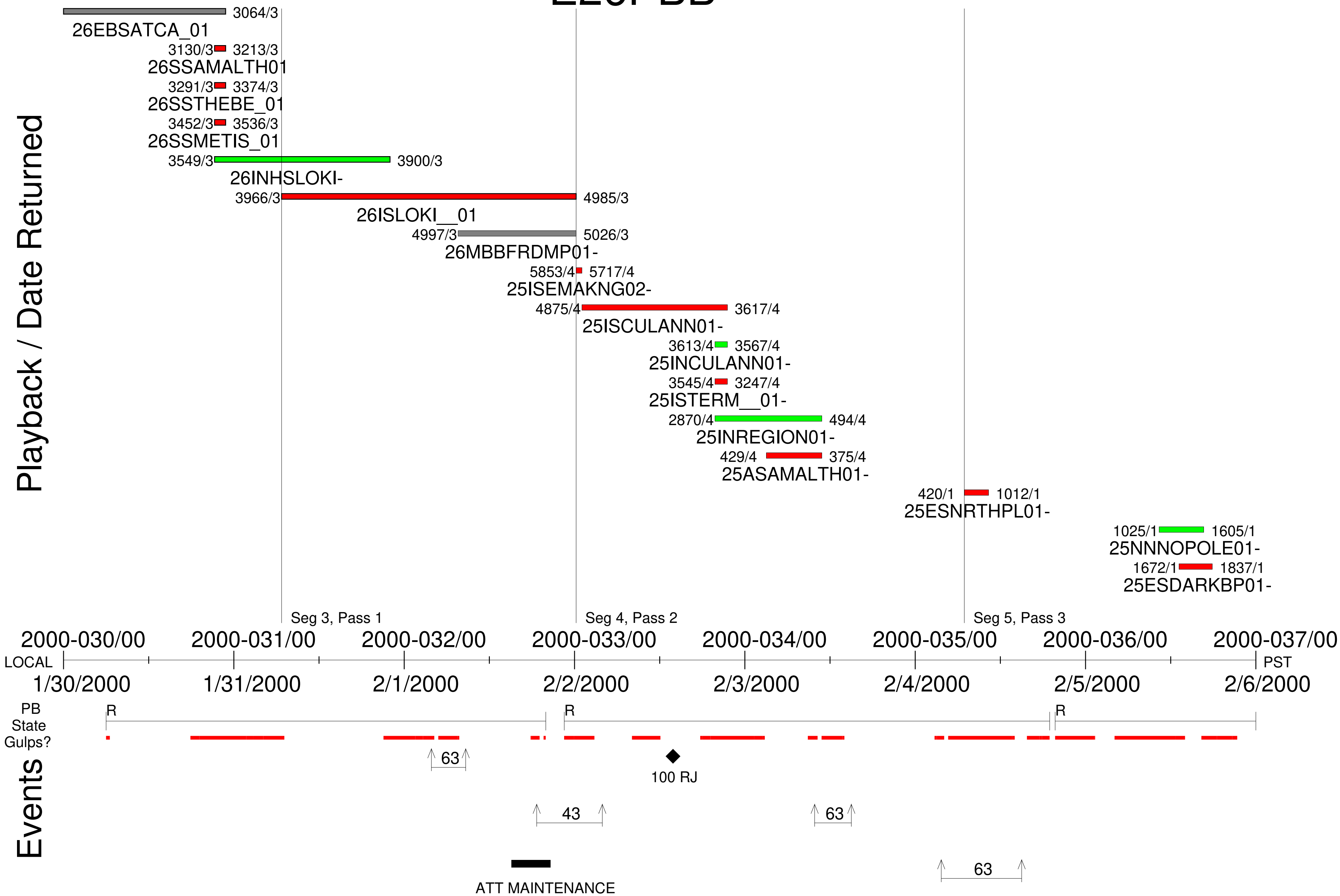
Playback / Date Returned
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26EBSATCA_01
3130/3 3213/3
26SSAMALTH01
3291/3 3374/3
26SSTHEBE_01
3452/3 3536/3
26SSMETIS_01
3549/3 3900/3
26INHSLOKI-
3966/3 4985/3
26ISLOKI__01
4997/3 5026/3
26MBBFRDMP01-
5853/4 5717/4
25ISEMAKNG02-
4875/4 3617/4
25ISCULANN01-
3613/4 3567/4
25INCULANN01-
3545/4 3247/4
25ISTERM__01-
2870/4 494/4
25INREGION01-
429/4 375/4
25ASAMALTH01-
420/1 1012/1
25ESNRTHPL01-
1025/1 1605/1
25NNNOPOLE01-
1672/1 1837/1
25ESDARKBP01-
Seg 3, Pass 1
Seg 4, Pass 2
Seg 5, Pass 3
2000-030/00
2000-031/00
2000-032/00
2000-033/00
2000-034/00
2000-035/00
2000-036/00
2000-037/00
LOCAL
PST
1/30/2000
1/31/2000
2/1/2000
2/2/2000
2/3/2000
2/4/2000
2/5/2000
2/6/2000
PB
State
Gulps?
R
R
R
63
100 RJ
43
63
63
ATT MAINTENANCE
Events

E26PBB

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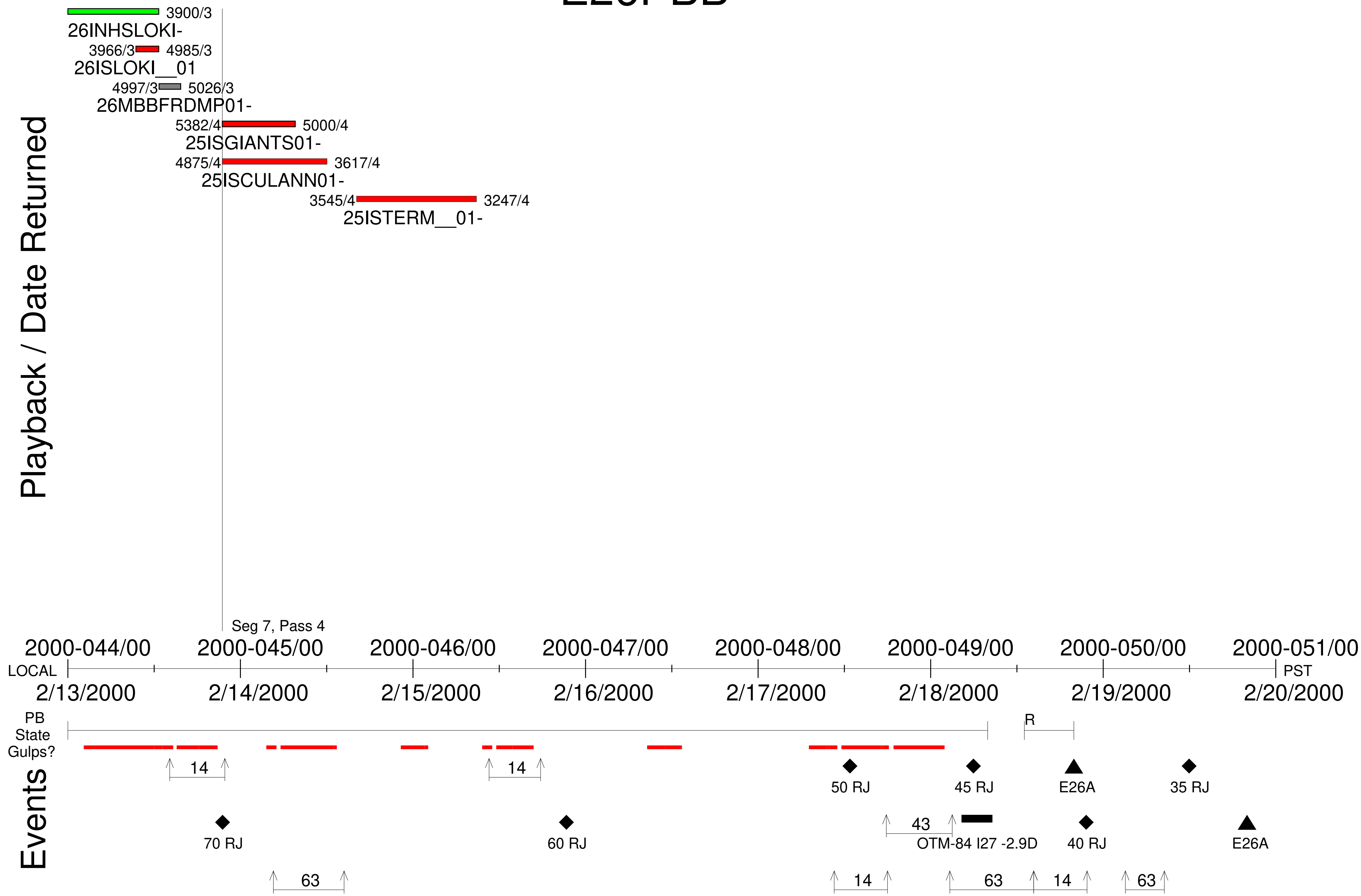
E26PBB



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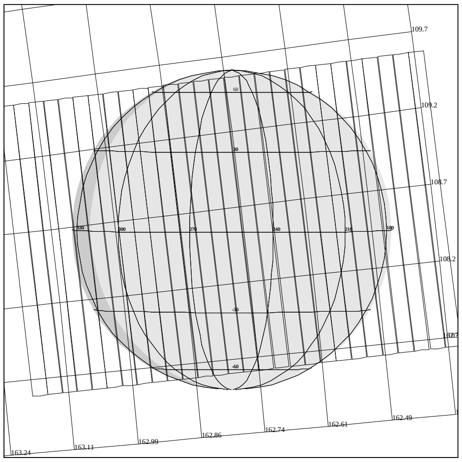
E26 NIMS A



26INHSLOKI01

00-004/11:14:21