Chapter 1 - Introduction

Contents

Introduction

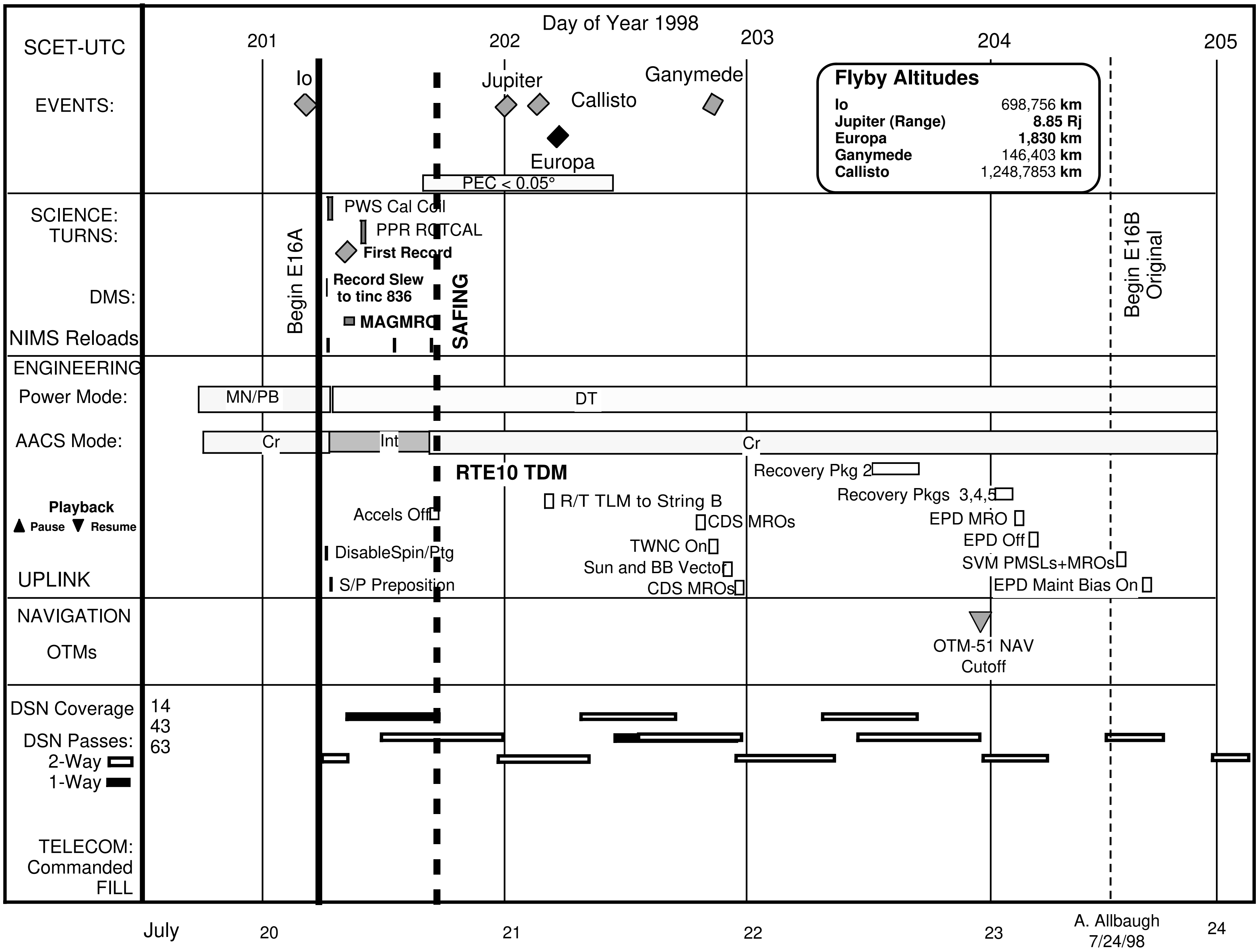
This E16 orbit is the sixteenth of twenty-five orbits in Galileo's Tour of the Jovian system and the fifth orbit in the Galileo Europa Mission (GEM). This orbit has a targetted satellite flyby of Europa. NIMS will make observations of Jupiter, Io, Europa and Ganymede in this orbit.

There are 13 autonomous reloads of the NIMS RAM code from CDS planned during the E16A encounter period, one just before each science observation. These reloads are in response to the on-going flight-anomalies where the NIMS RAM code takes some bit hits and halts the instrument during when the spacecraft is close to Jupiter. NIMS personnel will monitior the NIMS engineering telemetry data on a regular schedule to track the instrument's status.

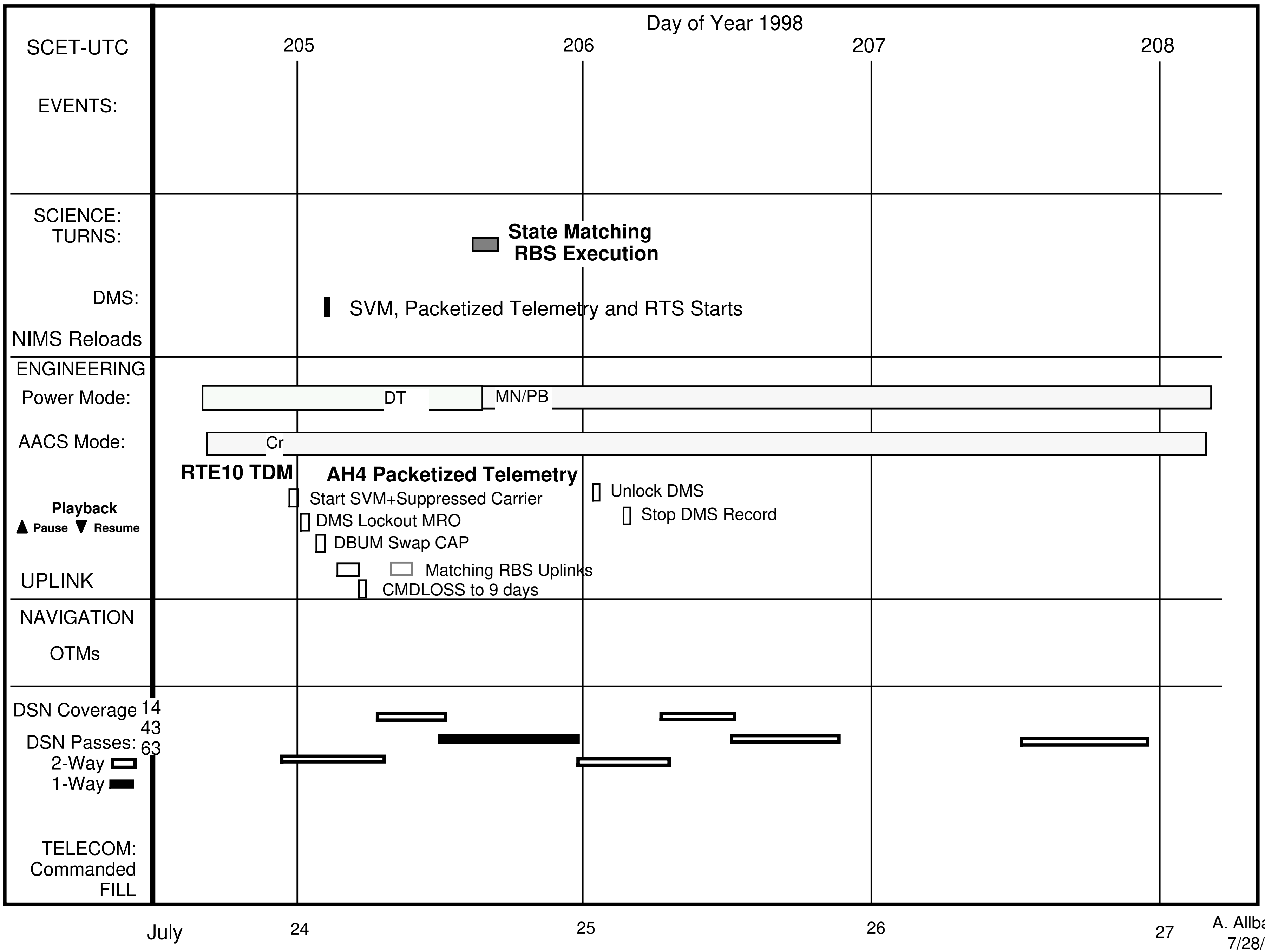
The E16 orbit is divided into 2 sequence loads: one Encounter Load (E16A) and one Orbital Cruise Load (E16B). The E16A load begins on D201 (07/20/98) and ends on D208 (07/27/98). This load contains the flybys of Jupiter, Europa, Io and Ganymede. The Cruise Load E16B runs from D209 to D268. Playback of the recorded data takes place during the Cruise phase, E16B. A high-level overview timeline of the E16 orbit can be found on the following five pages.

Due to spacecraft safing during the inbound segment of the E16 encounter, a large portion of the E16 encounter sequence was lost. Additional NIMS calibration observations were added after the fact to take advantage of the extra tape and bits to ground. Many E15 observations were not recorded over in E16 as planned. Therefore, these E15 observations were available for playback during E16 cruise.

E16A Safing Recovery Overview Part 1

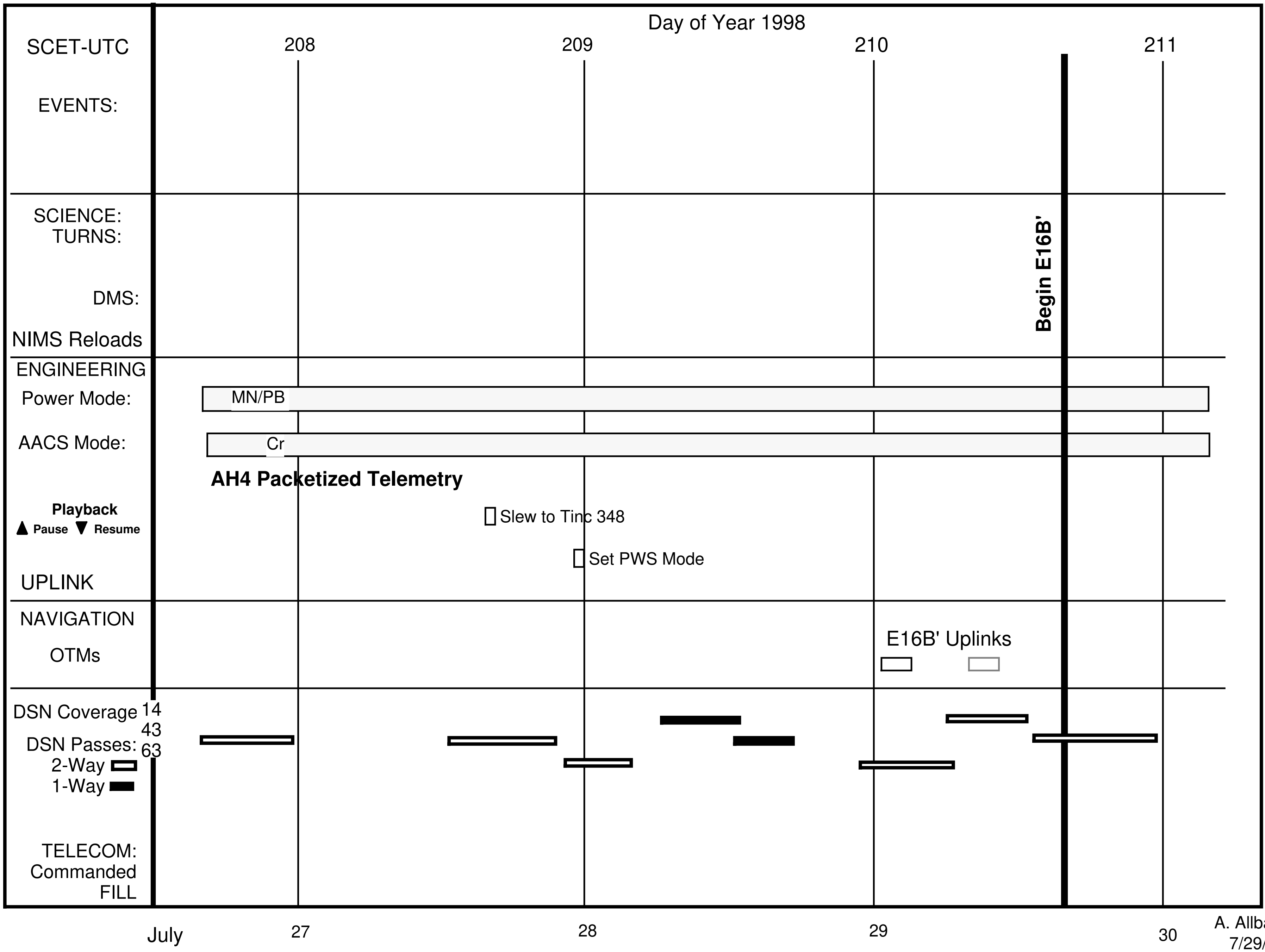


E16A Safing Recovery Overview Part 2



A. Allbaugh
7/28/98

E16A Safing Recovery Overview Part 3



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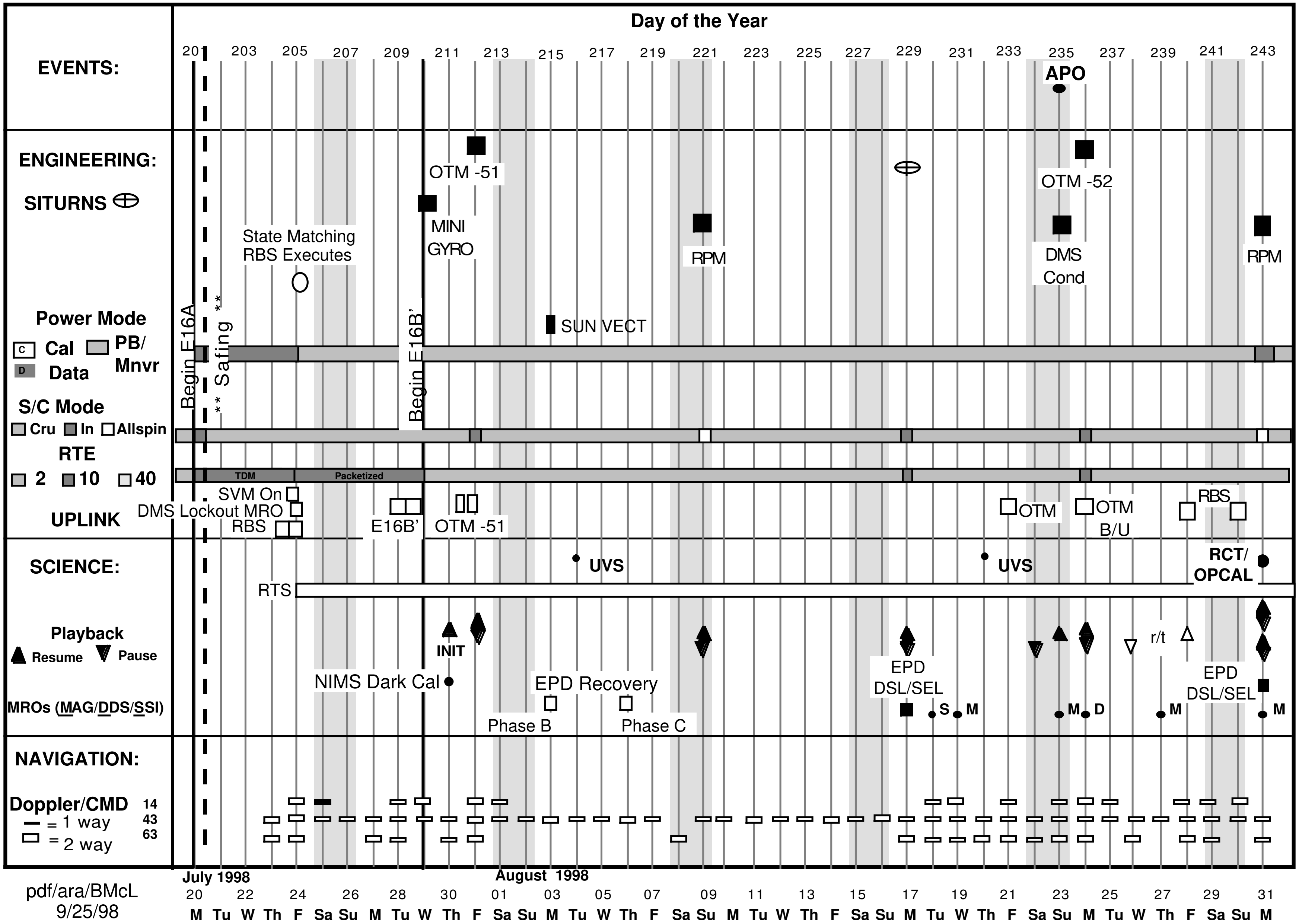
7/29/98

E16 Orbit Overview (Part 1)



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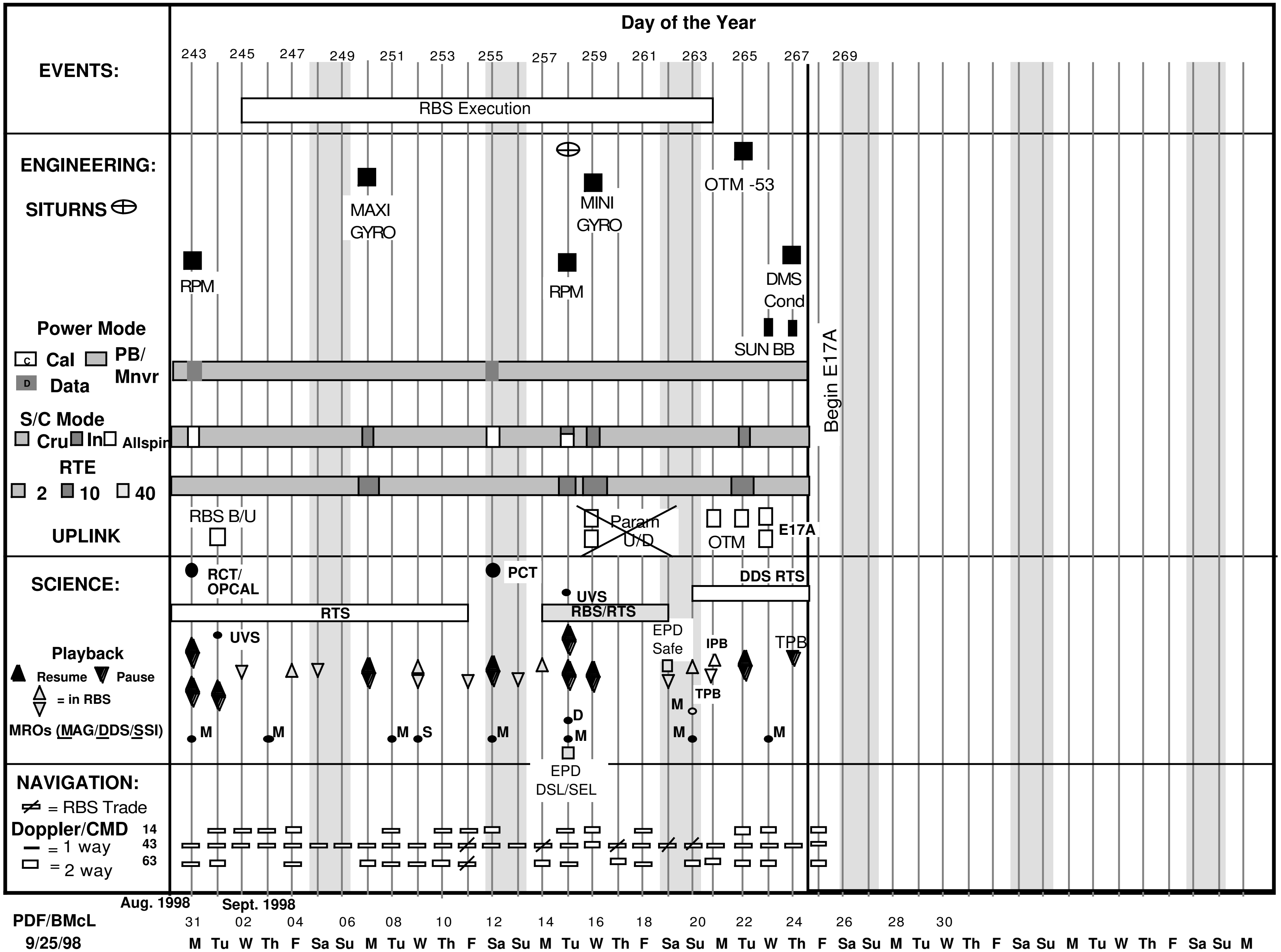
E16 Orbit Overview (Part 2)



Introduction

The following table lists the major events during E16, including NIMS Real Time observations, in UTC.

07/20/98	98-201/04:55:21	Io Closest Approach
07/20/98	98-201/05:00:00	E16 Encounter Start
07/20/98	98-201/05:57:12	NIMS RAM Reload 01
07/20/98	98-201/11:46:06	NIMS RAM Reload 02
07/20/98	98-201/11:53:57	NIMS R/T Jupiter 01
07/20/98	98-201/16:09:46	NIMS RAM Reload 03
07/20/98	98-201/17:35:42	SPACECRAFT SAFED
07/29/98	98-210/18:54:55	Start E16 Playback
07/30/98	98-211/13:40:04	NIMS RAM Reload 04
08/31/98	98-243/21:00:32	NIMS R/T RCT CAL
09/12/98	98-255/00:00:34	NIMS R/T PCT CAL
09/24/98	98-267/08:26:57	End E16 Playback