Chapter 1 - Introduction

Contents

Introduction

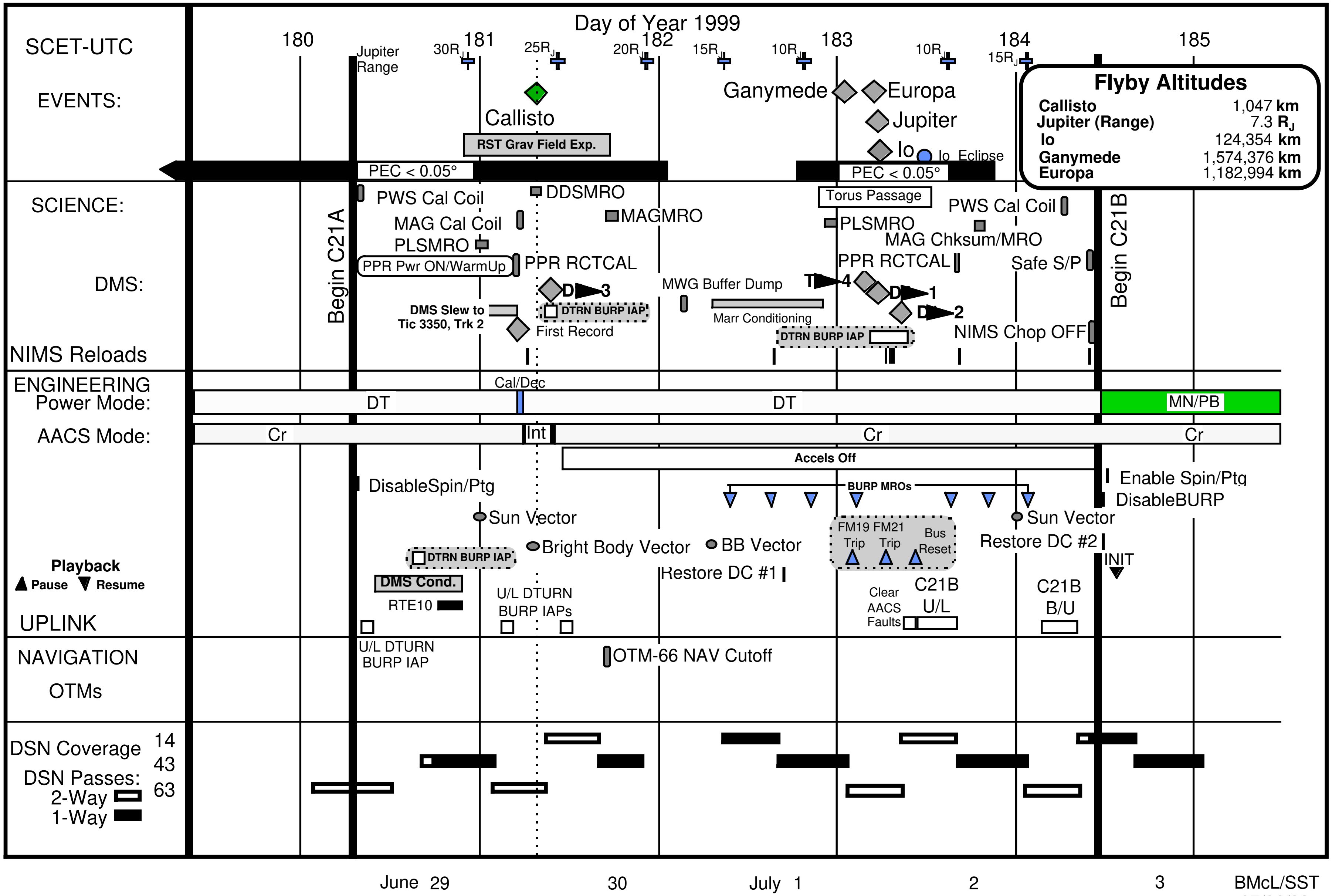
This C21 orbit is the twenty-first of twenty-five orbits in Galileo's Tour of the Jovian system and the tenth orbit in the Galileo Europa Mission (GEM). C21 continues the perijove reduction part of the GEM. This orbit has a targetted satellite flyby of Callisto. NIMS will also make observations of Jupiter and Io in this orbit.

There are 8 autonomous reloads of the NIMS RAM code from CDS planned during the C21A 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.

To protect the highest resolution Io observation to date, four autonomous reloads were fitted into the Io mosaic, one before the start of the observation and one between each reposition slew in the mosaic. This was done to avert the loss of the entire mosaic in the high radiation environment close to Jupiter.

The C21 orbit is divided into 2 sequence loads: one Encounter Load (C21A) and one Orbital Cruise Load (C21B). The C21A load begins on D180 (06/29/99) and ends on D184 (07/03/99). This load contains the flybys of Jupiter and Callisto. The Cruise Load C21B runs from D184 to D223. Playback of the recorded data takes place during the Cruise phase, C21B. A high-level overview timeline of the C21 orbit can be found on the following two pages.

C21A Sequence Overview



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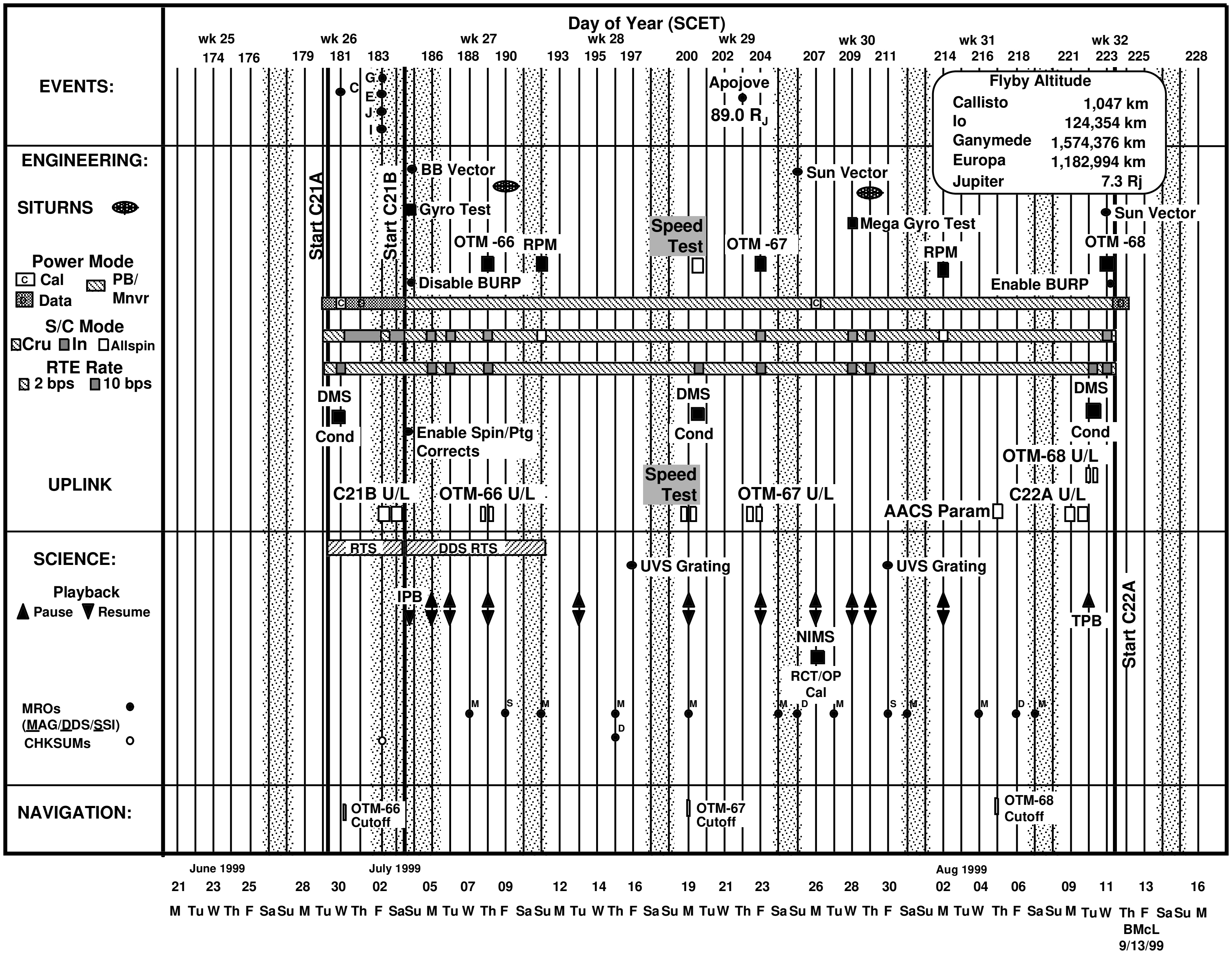
C-21 Overview



Introduction

The following table lists the major events during C21, including NIMS Real Time observations, in UTC.

06/29/99	99-180/07:00:00	C21 Encounter Start
06/30/99	99-181/06:42:34	NIMS RAM Reload 01
06/30/99	99-181/07:47:01	C21 Callisto Closest Approach
07/01/99	99-182/16:28:50	NIMS RAM Reload 02
07/01/99	99-182/16:36:11	NIMS R/T Jupiter 01
07/02/99	99-183/05:03:38	PJ-21 Jupiter Closest Approach
07/02/99	99-183/05:07:10	I21 Io Closest Approach
07/02/99	99-183/06:31:05	NIMS RAM Reload 03
07/02/99	99-183/06:56:22	NIMS RAM Reload 04
07/02/99	99-183/07:17:36	NIMS RAM Reload 05
07/02/99	99-183/07:39:51	NIMS RAM Reload 06
07/02/99	99-183/16:23:36	NIMS RAM Reload 07
07/02/99	99-183/16:31:57	NIMS R/T Jupiter 02
07/03/99	99-184/10:42:41	NIMS RAM Reload 08
07/03/99	99-184/11:23:03	Start C21 Playback
07/26/99	99-207/09:03:47	NIMS R/T RCT CAL
08/10/99	99-222/10:26:43	End C21 Playback