## Chapter 1 - Introduction

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## Introduction

This G2 orbit is the second of eleven orbits in Galileo’s Tour of the Jovian system. This orbit has a targetted satellite flyby of Ganymede and a non-targetted distant flyby of Europa. NIMS will make observations of Jupiter, Io, Europa, Ganymede and Callisto in this orbit. NIMS will also perform some calibrations in this orbit.

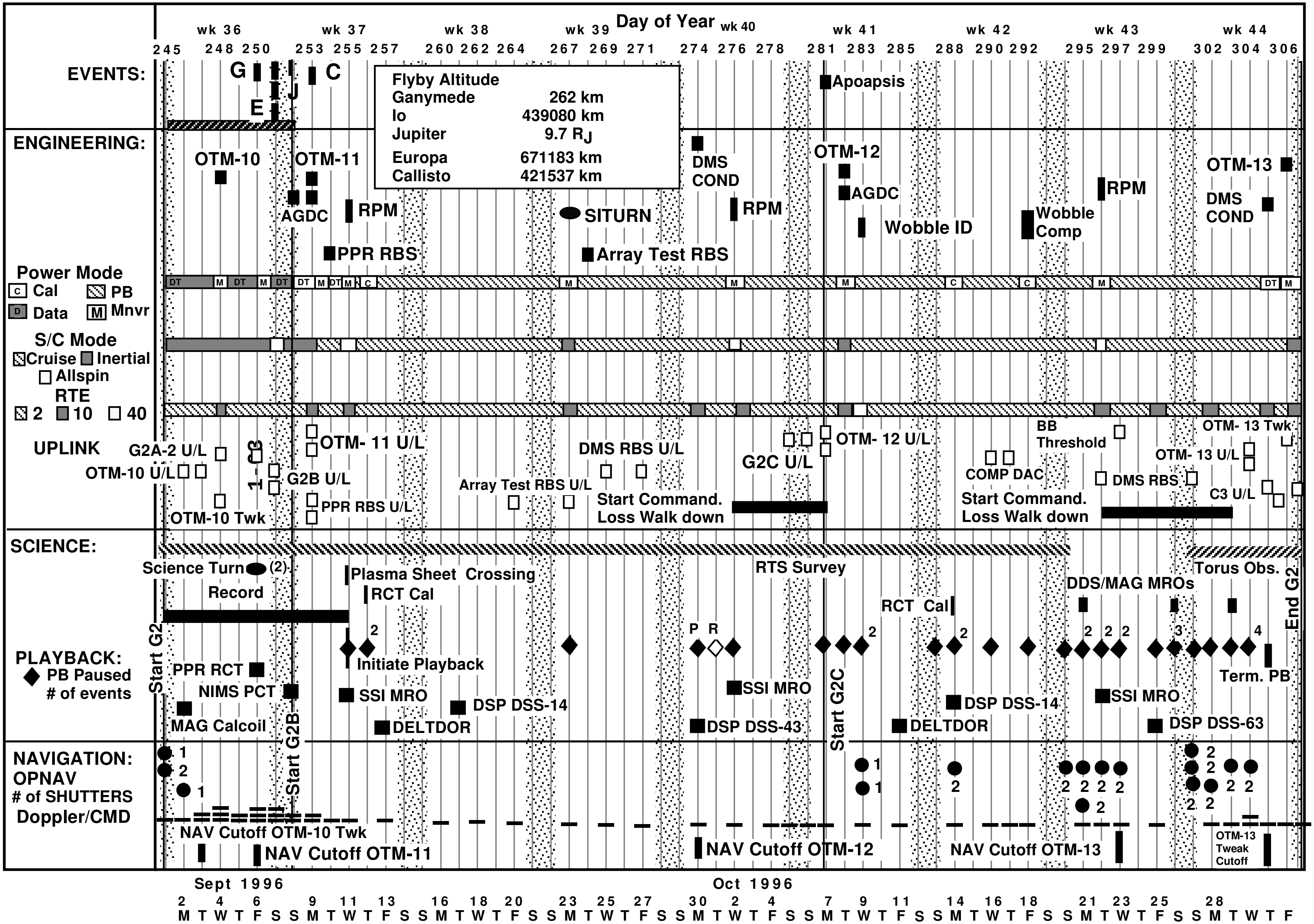
A new feature in G2 is the inclusion of three autonomous reloads of the NIMS RAM code from CDS during the G2A encounter period with checksums of specific NIMS RAM locations. These reloads are in response to the NIMS G1 flight-anomaly where the NIMS RAM code took some bit hits and halted the instrument during the G1A encounter period. NIMS will return realtime data on a daily basis during the G2A encounter period as a means of monitoring the instrument’s status. NIMS personnel will also monitior the NIMS engineering telemetry data on a regular schedule to track the instrument’s status.

The G2 orbit is divided into 3 sequence loads: one Encounter Load (G2A) and two Orbital Cruise Loads (G2B and G2C). The Encounter Load, G2A, begins on D245 of 1996 (09/01/96) and ends on D252 of 1996 (09/08/96). This load contains the flybys of Jupiter, Ganymede, Europa and Io. The first Cruise Load, G2B, runs from D252 to D281. The flyby of Callisto is at the beginning of this load. The second Cruise Load, G2C, runs from D281 to D307. Playback of the recorded data takes place during the two Cruise phases, G2B and G2C. A high-level overview timeline of the G2 orbit can be found on the following page.

The following table lists the major events during G2, including NIMS Real Time observations, in UTC.

| | | |
|---|---|---|
| 9/01/96 | 96-245/16:00:00 | G2 Encounter Start |
| 9/03/96 | 96-247/17:15:28 | NIMS R/T Status |
| 9/04/96 | 96-248/12:48:21 | NIMS R/T Opcal |
| 9/05/96 | 96-249/17:02:16 | NIMS R/T Status |
| 9/06/96 | 96-250/11:40:35 | NIMS R/T Status |
| 9/06/96 | 96-250/19:00:00 | Ganymede Closest Approach |
| 9/06/96 | 96-250/21:17:00 | NIMS RAM Reload |
| 9/07/96 | 96-251/05:25:00 | Io Closest Approach |
| 9/07/96 | 96-251/08:06:43 | NIMS R/T Io |
| 9/07/96 | 96-251/13:38:26 | Jupiter Closest Approach |
| 9/07/96 | 96-251/16:06:00 | NIMS RAM Reload |
| 9/07/96 | 96-251/17:06:00 | Europa Closest Approach |
| 9/07/96 | 96-251/17:32:57 | NIMS R/T Europa |
| 9/08/96 | 96-252/10:05:00 | NIMS RAM Reload |
| 9/08/96 | 96-252/16:00:00 | Start G2 Playback |
| 9/08/96 | 96-252/23:33:03 | NIMS R/T Status |
| 9/09/96 | 96-253/10:24:00 | Callisto Closest Approach |
| 9/09/96 | 96-253/11:03:19 | NIMS R/T Callisto |
| 11/02/96 | 96-307/15:00:00 | End G2 Playback |

# G2 Overview

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PJG/KIM/PFT
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