# NIMS GUIDE TO THE G29 ORBIT

**Original: November 2000**

**Revised: October 2001**

**VERSION DATE: 011031**

**G29 Encounter starts 12/26/00, G29 Playback starts 02/05/01**

## Foreword to the Revised Edition

This document was originally published by the NIMS team as a preview to data acquisition for one orbit. It has has been revised and corrected after data receipt and systematic processing for inclusion on the CD-ROMs containing NIMS Experimental Data Records (EDRs) and Systematic Data Products (Cubes). It is also available on the NIMS website in both PostScript (PS) and Portable Document Format (PDF) form. Some material in the original document has been omitted, and a chapter added describing the data actually returned.

The aim of this guide is to provide detailed information on the various NIMS observations and calibrations. Also included in this document is background information on the orbit. A brief overview of the guide is given below. Please refer to the beginning of each chapter for a detailed list of contents.

Chapter 1 gives a brief introduction to the orbit. Chapter 2 gives an overview and summarizes the NIMS science objectives using tables, spreadsheets and timelines. Chapter 3 contains diagrams of various aspects of spacecraft geometry. Chapter 4 summarizes the NIMS observations in terms of a comprehensive sequence summary and a NIMS Observation Table (Obstab). Chapter 5 is a collection of the Detailed Observation Designs made up of OAPEL forms and POINTER plots. Chapter 6 contains plots of the NIMS wavelength edit tables used. Chapter 7 summarizes the NIMS data return from the orbit.

For more information, please refer to the Galileo Orbit Planning Guide (OPG) and the Galileo Orbit Activity Plan (OAP) for this orbit. Both of these documents are produced by the Galileo Project.

For more information on the NIMS instrument, please refer to the NIMS instrument paper: R.W. Carlson, P.R. Weissman, W.D. Smythe, J.C. Mahoney and the NIMS Science and Engineering Teams, "Near-infrared Mapping Spectrometer Experiment on Galileo", Space Science Reviews, Vol 60, pp 457-502, 1992.

## Acknowledgements

The NIMS observations in this guide were designed by the NIMS Science Coordinators: Kevin Baines, John Hui, Rosaly Lopes-Gautier, Adriana Ocampo and Marcia Segura. Materials were also provided by Elias Barbinis, Paul Herrera, Bob Mehlman, Jim Shirley, Al Stevenson and Bill Smythe. Some figures and plots produced by various members of the Galileo Project were incorporated into this guide. Frank Leader provided some materials and edited the guide under the direction of Bob Mehlman and Bill Smythe.

## Foreword

This document serves as a guide to the G29 Orbit for the NIMS Team. The aim of this guide is to provide detailed information on the various NIMS G29 observations and calibrations. Also included in this document is background information on the G29 orbit. This guide was produced before the start of the G29 orbit. After analysis of the NIMS G29 data is complete, it will be revised and corrected. A brief overview of the guide is given below. Please refer to the beginning of each chapter for a detailed list of contents.

Chapter 1 gives a brief introduction to the G29 orbit. Chapter 2 gives an overview of the G29 orbit and summarizes the NIMS science objectives for the G29 orbit using tables, spreadsheets and timelines. Chapter 3 contains diagrams of various aspects of spacecraft geometry for the G29 orbit. Chapter 4 summarizes the NIMS G29 observations in terms of a comprehensive sequence summary and a NIMS Observation Table (Obstab). Chapter 5 is a collection of the Detailed Observation Designs made up of OAPEL forms and POINTER plots. Chapter 6 contains plots of the NIMS wavelength edit tables used during the G29 orbit.

For more information on the G29 orbit, please refer to the Galileo Orbit Planning guide and the Galileo Orbit Activity Plan for the G29 Orbit. Both of these documents are produced by the Galileo Project.

For more information on the NIMS instrument, please refer to the NIMS instrument paper: R.W. Carlson, P.R. Weissman, W.D. Smythe, J.C. Mahoney and the NIMS Science and Engineering Teams, "Near-infrared Mapping Spectrometer Experiment on Galileo", Space Science Reviews, Vol 60, pp 457-502, 1992.

## Table of Contents


| | Chapter | Page |
|---|---|---|
| 1.0 | Introduction ..... | 1-01 |
| 2.0 | Orbit Overview ..... | 2-01 |
| 3.0 | Orbit Geometries ..... | 3-01 |
| 4.0 | Sequence Summary ..... | 4-01 |
| 5.0 | Detailed Observation Designs ..... | 5-01 |
| 6.0 | Edit Tables ..... | 6-01 |
| 7.0 | Data Return ..... | 7-01 |