Marina Díaz-Michelena

Payloads & Instrumentation Area

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EDUCATION:

Marina Díaz-Michelena was born in Madrid in 1975. She received her M.S. degree from the Faculty of Physics at Complutense University of Madrid (UCM) in 1998. She received her Ph.D. degree in Applied Physics from the Polytechnical University of Madrid (UPM) in 2004. Her thesis research included a study and development of several magnetometric devices. Two of them have been included on-board the Spanish experimentation satellite NANOSAT-01.

METNET RELATED EXPERIENCE

Dr. Marina Díaz-Michelena joined INTA in 2001 as project controller responsible for INTA's participation in the European Space Agency's mission of cometary exploration ROSETTA. In 2007 she joined the Complutense University of Madrid (UCM) as a part-time lecturer.

She is currently the head of the Unit of Magnetic Payloads and Magnetic Testing at the Spanish National Institute for Aerospace Technology (INTA). The unit is responsible for INTA's development of magnetic instrumentation for spacecraft missions and covers the whole chain from scientific experimental research, test, development and optimization of components as well as the actual equipment for the platform (mainly for the Attitude Control System - ACS).

Dr. Díaz-Michelena brings an extensive knowledge of experimental and applied research as well as practical experience in the special area of space magnetometry and European space missions. She has participated in 12 space related projects as responsible for the magnetic payloads, project controller and principal investigator and she has authored and co-authored several scientific articles in leading magazines about magnetic components for space applications including the possibility for upgrading and using off the shelf components for space missions.

KEYWORDS:

MAGNETIC Commercial Off The Shelf (COTS) COMPONENTS

MAGNETIC SENSORS FOR SPACE APPLICATIONS

GRADIOMETERS

SUSCEPTOMETERS

MEMS-BASED MAGNETIC SENSORS

MAGNETIC CHARACTERIZATION

ANALOG ELECTRONICS – SMALL SIGNAL CONDITIONING FOR SENSORS

METNET PROJECT CONTRIBUTION:

Responsible of the MOURA magnetometer on board MetNet lander precursor.

Tasks:

- Functional Design
- Modes Description
- Magnetic Engineering of components
- Magnetometer response characterization with magnetic field and temperature in the wide range of temperatures of Mars
- Magnetic mineralogy strategy
- Analysis of the results