

MEMORIE DELLA SOCIETÀ ASTRONOMICA ITALIANA

Supplements Vol. n.20 2012

X National Conference on Planetary Science

Bormio, January 17-21, 2011

editors: A. Dell'Oro

TABLE OF CONTENTS

<i>Index</i>	3
A. Dell'Oro <i>Foreword</i>	5
Ground and space observations	
G. Cevolani, G. Grassi, G. Bortolotti, R. Bruco, M. Marti, G. Pupillo, M. Tempore, G. Trivellone, L. Visi, V. Porubcan <i>Forward Scatter Radio Observations of Atmospheric Space Debris and Meteoroids during 2009 - 2010</i>	7
F. La Forgia, S. Magrin, I. Bertini, M. Lazzarin, M. Pajola, C. Barbieri <i>Photometric Analysis of Asteroid (2867) Steins from Rosetta OSIRIS Images</i>	14
F. Manca, P. Sicoli, A. Testa <i>Identification of asteroids and comets: methods and results</i>	21
F. Borsa, E. Poretti <i>The importance of astero-seismology in exoplanetary science</i>	24
S. Pluchino, F. Schilliro', E. Salerno, G. Pupillo, A. Kraus, K.-H. Mack <i>Coordinated observations of PHEMU at radio wavelengths</i>	28
A. Cellino, A. Dell'Oro, M. Bertaina <i>The planned JEM-EUSO mission and applications to meteor observation</i>	34
G. Pupillo, E. Salerno, M. Bartolini, M. Di Martino, A. Mattana, S. Montebugnoli, C. Portelli, S. Pluchino, F. Schilliro', A.A. Konovalenko, A. Nabatov, M. Nechaeva <i>The INAF contribution to the ASI Space Debris program: observational activities</i>	42
L. Cibin, M. Chiarini, A. Milani, F. Bernardi, R. Ragazzoni, G.M. Pinna, I. Zayer, P.M. Besso, A. Rossi, F. Villa <i>Wide Eye Debris telescope allows to catalogue objects in any orbital zone</i>	49

Modelling and laboratory experiments

- M. D'Elia, A. Blanco, V. Orofino, S. Fonti, A. Mastandrea, A. Guido, F. Russo
A spectroscopic tool for the detection of biocarbonates 57
- A. Guido, A. Mastandrea, F. Tosti, F. Demasi, A. Blanco, M. D'Elia, V. Orofino, S. Fonti, F. Russo
Characterization of fossil organic matter with Fourier-Transform Infrared (FTIR) Spectroscopy: an attempt to record extraterrestrial life 63
- A. Guido, A. Mastandrea, F. Demasi, F. Tosti, A. Tagarelli, A. Naccarato, F. Russo
Biogeochemical signals of unfossilizable organisms in terrestrial problematic carbonates: relevance to carbonatogenesis and astrobiology 68
- C. Guaita
SEM exploration of carbonaceous chondrites 73
- F. Mancarella, A. Facchini, G. Liuzzi, A. Blanco, M. D'Elia, S. Fonti, V. Orofino
Laboratory measurements of particulate samples of olivine and related planetary studies 83
- M. Formisano, C. Federico, A. Coradini
Vesta Thermal Models 89
- G.A. Baratta, D. Fulvio, M. Garozzo, Z. Kanuchova, M.E. Palumbo, F. Spinella, G. Strazzulla
Sulfur and Carbon Bearing Molecules on the Galilean Moons 93
- S. Stefani, G. Piccioni, M. Snels, A. Rodin, N. Ignatiev, A. Adriani
Study of the optical properties of CO₂ at high pressure and high temperature: comparison between measured and simulated spectra 98
- ## Solar System Exploration
- M. Pajola, S. Magrin, M. Lazzarin, F. La Forgia, C. Barbieri
Rosetta-Mars fly-by, February 25, 2007 104
- F. Scipioni, A. Coradini, F. Tosi, F. Capaccioni, P. Cerroni, G. Filacchione, C. Federico
Spectroscopic investigation of Dione' surface using Cassini VIMS images 114
- P. Messidoro, F. Fenoglio, M. Pasquinelli, J. Gottlieb
Human Mission to Asteroids in the Context of Future Space Exploration Studies 119
- A. Genova, M. Marabucci, L. Iess
Mercury radio science experiment of the mission BepiColombo 127
- M. Ducci, L. Iess, B. Giese, R. Mackenzie
The effect of Tirawa impact basin on the determination of Rhea's gravity field 132

- C. Catallo, S. Mattei, G. Alberti, R. Seu, R. Orosei, A. Olivieri, C. Abbattista,
M. Carbone
Planetary SubSurface Radar processing centre 135
- G. Pareschi, G. Trincheri, A. Manara
Schiaparelli: the most appropriate name for the ExoMars programme 140