



Publication Year	2016
Acceptance in OA@INAF	2020-12-21T15:21:20Z
Title	XII Italian National Workshop of Planetary Sciences
Authors	Cerroni, P.; Di Martino, M.; DOTTO, Elisabetta
Handle	http://hdl.handle.net/20.500.12386/29059
Series	MEMORIE DELLA SOCIETA ASTRONOMICA ITALIANA
Number	87

XII Italian National Workshop of Planetary Sciences*Bormio (Sondrio, Italy), February 2-6, 2015**editors: P. Cerroni , M. Di Martino and E. Dotto***TABLE OF CONTENTS**

<i>Index</i>	5
<i>Foreword</i>	11
<i>List of Participants</i>	14
Session I: Inner Solar System: physical characterization of surfaces and atmospheres	
V. Vivaldi, A. Ninfo, M. Massironi, E. Martellato, G. Cremonese <i>Morphometric analysis of a fresh simple crater on the Moon</i>	19
G. Schettino, S. Di Ruzza, F. De Marchi, S. Cicali, G. Tommei and A. Milani <i>The Radio Science Experiment with BepiColombo mission to Mercury</i>	24
A. Geminale, D. Grassi, F. Altieri, G. Serventi, C. Carli, F.G. Carrozzo, M. Sgavetti, R. Orosei, E. D'Aversa, G. Bellucci, A. Frigeri <i>Retrieval of the Martian surface reflectance by means of Principal Component analysis and Target Transformation using OMEGA/Mex data</i>	30
G. Alemanno, V. Orofino, G. Di Achille and F. Mancarella <i>A new model for evaluating the duration of water flow in the Martian fluvial systems</i>	40
Session II: Outer Solar System: Exploration and Modelling	
M.L. Moriconi, A. Adriani, E. D'Aversa, G.L.Liberti, G.Filacchione, F. Oliva <i>Unbiased estimations of atmosphere vortices: the Saturns storm by Cassini VIMS-V as case study</i>	46
M.L. Moriconi, A. Adriani, B.M. Dinelli, M. Lopez-Puertas, G. Filacchione, E. D'Aversa <i>A climatological study of the composition of Titan upper atmosphere from VIMS-IR soundings in limb geometry has been carried out for HCN, C₂H₂ and CH₄</i>	55
M. Soldani Benzi, I. Ficai Veltroni, G. Preti <i>Space Exploration: the future as seen in 2015</i>	60

Session III: Small bodies of the Solar System: Physical and dynamical characterization

A. Carbognani, P. Pravec, P. Kušnírák , K. Hornoch, A. Galád, S. Monte, M. Bertaina <i>Search of Large Super-Fast Rotator Between NEAs</i>	66
F. Manca, P. Sicoli and A. Testa <i>Close Encounters among Asteroids, Comets, Earth-Moon system and Inner Planets: the Cases of (99942) Apophis and Comet C/2013 A1</i>	72
E. Perozzi, B. Borgia and M. Micheli <i>The European NEO Coordination Centre</i>	76
E. Dotto, S. Ieva, E. Mazzotta Epifani, A. Di Paola, M. Cortese, R. Speziali, M. Lazzarin, I. Bertini, S. Magrin, D. Perna, E. Perozzi and M. Micheli <i>The NEOShield-2 EU project: the Italian contribution</i>	83
S. Ieva, D. Fulvio, E. Dotto, D. Lazzaro, D. Perna, G. Strazzulla, M. C. De Sanctis and M. Fulchignoni <i>Spectral characterization of V-type asteroids: are all the basaltic objects coming from Vesta?</i>	87
A. Cellino, E. Ammannito, S. Bagnulo, I.N. Belskaya, R. Gil-Hutton, P. Tanga, E.F. Tedesco <i>Recent advances in asteroid polarimetry</i>	93

Session IV: Laboratory analogues and Astrobiology

M. D'Elia, A. Blanco, A. Galiano, V. Orofino, S. Fonti, F. Mancarella, A. Guido <i>A comparative SEM morphological study of biogenic and abiogenic carbonates for the search for biostructures on Mars</i>	97
R. Claudi, E. Pace, A. Ciaravella, G. Micela, G. Piccioni, D. Bill, M. Cestelli Guidi, L. Coccola, M.S. Erculiani, M. Fedeli, G. Galletta, E. Giro, N. La Rocca, T. Morosinotto, L. Poletto, D. Schierano, S. Stefani <i>Atmosphere in a Test Tube</i>	104
M. S. Erculiani, R. Claudi, L. Coccola, E. Giro, N. La Rocca, T. Morosinotto, L. Poletto, D. Barbisan, D. Billi, M. Bonato, M. DAlessandro, G. Galletta, M. Meneghini, N. Trivellin, M. Cestelli Guidi, E. Pace, D. Schierano, G. Micela <i>Atmospheres in a test tube: state of the art at the Astronomical Observatory of Padova</i>	112
V. Moggi Cecchi, G. Pratesi, S. Caporali, M. Zoppi <i>High pressure phases in NWA 8711, a shock melted L6 chondrite from Northwest Africa: a combined Raman and EMPA study</i>	121
L. Bignami, C. Guaita, F. Pezzotta, M. Zilioli <i>Shreibersite and Growth of Life on Earth</i>	125

Session V: Formation of Planetary Systems

R. Claudi, R. Gratton, S. Desidera, A.-L. Maire, D. Mesa, M. Turatto, A. Baruffolo, E. Cascone, V. De Caprio, V. D'Orazi, D. Fantinel, E. Giro, B. Salasnich, S. Scuderi, E. Sissa, J.-L. Beuzit, D. Mouillet <i>First Science with SPHERE</i>	132
E. Poretti, C. Boccato, R. Claudi, R. Cosentino, E. Covino, S. Desidera, R. Gratton, A.F. Lanza, A. Maggio, G. Micela, E. Molinari, I. Pagano, G. Piotto, R. Smareglia, A. Sozzetti, and the whole GAPS collaboration <i>Global Architecture of Planetary Systems (GAPS), a project for the whole Italian Community</i>	141
A. Zannoni, F. Borsa, E. Poretti, G. Lodato, M. Rainer and G. Frustagli <i>Looking for planetary candidates in the CoRoT Long Run LRc10</i>	147
Session VI: extended abstracts	
F.Capaccioni, G.Filacchione,M.C. De Sanctis,F.Tosi,M.Ciarniello, A.Raponi, M.T.Capria, G. Piccioni, P. Cerroni, A. Migliorini, E. Palomba, S. Erard, D. Bockelee-Morvan, C. Leyrat, and Rosetta VIRTIS team <i>Comet 67P/CG: major results from Rosetta/VIRTIS-M</i>	151
M.Massironi, E.Simioni, M. Pajola, F. Marzari, G. Cremonese, S. Marchi, L. Giacomini, L. Jorda, M.A. Barucci, G. Naletto, C. Barbieri, I. Bertini, V. Da Deppo, F. Ferri, F. La Forgia, M. Lazzarin, S. Magrin, H. Sierks, and Rosetta OSIRIS team <i>Layering and internal structure of the comet 67P/Churyumov-Gerasimenko as observed by ROSETTA</i>	153
M.,Pajola, J.B. Vincent, C. Gütter, J.-C. Lee, M. Massironi, I. Bertini, E. Simioni, F. Marzari, L. Giacomini, C. Barbieri, G. Cremonese, G. Naletto, A. Pommerol, M. R. El Maarry, S. Besse, M. Küppers, F. La Forgia, M. Lazzarin, N. Thomas, A. T. Auger, W.-H. Ip, Z.-Y. Lin, H. Sierks and the OSIRIS Team <i>Method for the identification of Mars equatorial networks : first analysis of the size-frequency distribution of boulders $\geq 7m$ on comet 67P</i>	156
L. Giacomini, M. Massironi, N.Thomas, M. Pajola, G. Cremonese, F. La Forgia, F. Ferri, M. Lazzarin, C. Barbieri, I.Bettini, S. Magrin, F. Marzari, G.Naletto, H. Sierks, and Rosetta OSIRIS team <i>Geomorphological mapping of the Comet 67P/Churyumov-Gerasimenko</i>	159
F. Tosi, M.T. Capria, F. Capaccioni, G. Filacchione, M.C. De Sanctis, and Rosetta VIRTIS team <i>Comet 67P/CG : surface temperature maps from Rosetta/VIRTIS during the pre-landing phase</i>	161
G. Filacchione, F. Capaccioni, M.C. De Sanctis, F. Tosi, M. Ciarniello, A. Raponi, M.T Capria, G. Piccioni, P. Cerroni, A. Migliorini, E. Palomba, S. Erard, D. Bockelee-Morvan,C. Leyrat, and Rosetta VIRTIS team <i>Comet 67P/CG compositional maps at regional scale in the VIS-IRfrom Rosetta/VIRTIS-M</i>	163

A. Raponi, F. Capaccioni, M.C. De Sanctis, M. Ciarniello, G. Filacchione, F. Tosi, E. Palomba, M.T. Capria, G. Piccioni, P. Cerroni, A. Longobardo , A. Migliorini, and Rosetta VIRTIS team <i>A comparative analysis of water ice on the surface of comets Tempel 1 and 67P/Churyumov-Gerasimenko</i>	165
M. Ciarniello, F. Capaccioni, G. Filacchione, A. Raponi, M.C. De Sanctis, F. Tosi, M.T. Capria, G. Piccioni, P. Cerroni, E. Palomba, A. Longobardo, A. Migliorini and Rosetta VIRTIS team <i>Photometric Properties of Comet 67P/CG as Seen by VIRTIS-M Onboard Rosetta: Light Curves and Disk-integrated Phase Curves</i>	167
R. Sordini, V. Della Corte, A. Rotundi, M. Accolla, M. Ferrari, S. Ivanovski, F. Lucarelli , E. Mazzotta Epifani, P. Palumbo <i>Improvements in the calibration of GIADA's measurement subsystems</i>	169
E. Flamini, F. Capaccioni, G. Cremonese, P. Palumbo, R. Formaro, R. Mugnuolo, S. Debei, I. Ficai Veltroni, M. Dami, L. Tommasi, and the SIMBIO-SYS Team <i>SIMBIO-SYS for BepiColombo: Status and Issues</i>	171
V. Galluzzi, G. Di Achille, L. Ferranti, D.A. Rothery, P. Palumbo <i>Geologic map and structural analysis of the Victoria quadrangle (H2) of Mercury based on NASA MESSENGER images</i>	173
F. Zambon, F. Capaccioni, C. Carli, M. C. De Sanctis, G. Filacchione, L. Giacomini <i>Smooth plains on Mercury. A comparison with Vesta</i>	175
G. Piccioni, P. Drossart and VIRTIS Venus Express team <i>Results from VIRTIS on board Venus Express after the end of the mission operations</i>	177
A. Migliorini, F. Altieri, A. Shakun, L. Zasova, G. Piccioni, G. Bellucci <i>Dynamics investigation in the Venus upper atmosphere</i>	180
C. Carli, F.G. Carrozzo, F. Altieri, L. Giacomini <i>A Peculiar Spectral Unit in the Southern Amazonian Polar LayeredDeposits.</i>	181
F. Altieri, G. Carrozzo, C. Carli, A. Geminale, G. Bellucci <i>The puzzling origin of the Martian Northern Lowlands</i>	182
S. Fonti, F. Mancarella, G. Liuzzi, T. Roush, A. Blanco <i>Discussing the confidence in the identification of Martian CH₄ using TES data</i>	183
G. Liuzzi, G. Masiello, C. Serio, F. Mancarella, S. Fonti, T. Roush <i>Simultaneous physical retrieval of atmospheric and surface state from Martian spectra: the ϕ MARS algorithm and application to TES</i>	184
D. Grassi, N.I. Ignatiev, L.V. Zasova,G. Piccioni, A. Adriani, M.L. Moriconi, G. Sindoni, E. D'Aversa, M. Snels, F. Altieri, A. Migliorini, S. Stefani, R. Politi, B.M. Dinelli, A. Geminale, G. Rinaldi <i>Toward a coherent set of radiative transfer tools for the analysis of planetary atmospheres</i>	186

F. Oliva, A. Adriani, M.L. Moriconi, G.L. Liberti, E. D'Aversa <i>Clouds and hazes vertical structure mapping of Saturn 2011 - 2012 giant vortex by means of Cassini VIMS data analysis</i>	187
F. Fabiano, M. Lopez-Puertas, A. Adriani, M.L. Moriconi, E. D'Aversa, B. Funke, M.A. Lopez-Valverde, M. Ridolfi, B.M. Dinelli <i>CO concentration in the upper stratosphere and mesosphere of Titan: non-LTE analysis of VIMS dayside limb observations at 4.7 μm</i>	188
G. Filacchione, F. Capaccioni, M. Ciarniello, F. Tosi, E. D'Aversa, R.N. Clark, R.H. Brown, B.J. Buratti, D.P. Cruikshank, M.C. Dalle Ore, F. Scipioni and P. Cerroni <i>Cassini-VIMS Temperature maps of Saturn's satellites</i>	190
A. Lucchetti, G. Cremonese, N.M. Schneider, C. Plainaki, E. Mazzotta Epifani, M. Zusi and P. Palumbo <i>Simulation of Europa's Water Plume</i>	192
C. Plainaki, A. Milillo, S. Massetti, A. Mura, X. Jia, S. Orsini, V. Mangano, E. De Angelis, F. Lazzarotto and R. Rispoli <i>The H₂O and O₂ exospheres of Jupiter's moon Ganymede</i>	194
A. Migliorini, M. Barbieri, G. Piccioni, C. Barbieri, F. Altieri <i>Oxygen investigation in the Galileian satellites using AFOSC</i>	196
L. Cibin, M. Chiarini, F. Bernardi, R. Ragazzoni and P. Salinari <i>NEOSTEL: The Telescope Detail Design Program for the ESA Optical Ground Network dedicated to NEO Discovery and Tracking.</i>	197
A. Dell'Oro, A. Cellino, P. Paolicchi, P. Tanga <i>Investigating the outcomes of SPH models of catastrophic destruction</i>	198
G. F. Gronchi <i>Algebraic methods for the identification problem with shortarcs of observations</i>	199
A. Rossi, F. Marzari, D. Scheeres, S. Jacobson, and D. Davis <i>YORP and collisional shaping of the sub-populations, rotation rate and size-frequency distributions in the main-belt</i>	200
G. B. Valsecchi, E. M. Alessi, A. Rossi <i>An analytical treatment of the swing-by problem</i>	201
D.Turri and ISSI Team "Vesta, the key to the origins of the Solar System" and the Dawn Team <i>Vesta as a geophysical laboratory for studying impact contamination</i>	202
S. Fagi, G.P. Tozzi and J.R. Brucato <i>Sublimating grains model of cometary coma</i>	203
A. Migliorini, D. Grassi, G. Piccioni, F. Capaccioni, M.C. De Sanctis, G. Filacchione <i>Gas emission investigation in small bodies: case of P67/Churyumov-Gerasimenko and Ceres</i>	205

C. Carli, G. Serventi, M. Ciarniello, F. Capaccioni and M. Sgavetti <i>VNIR spectroscopy of rock forming minerals mixtures: a tool to interpret planetary igneous compositions</i>	206
S. Stefani, G. Piccioni, M. Snels, A. Adriani, D. Grassi <i>Collisional Induced Absorption (CIA) bands measured in the IR spectral range</i>	208
V. Della Corte, F. J. M. Rietmeijer, A. Rotundi, M. Ferrari, P. Palumbo <i>DUSTER: collection of meteoric CaO and carbon smoke particles in the upper stratosphere</i>	210
M. Ferrari, A. Rotundi, F.J.M. Rietmeijer, V. Della Corte, G.A. Baratta, R. Brunetto, E. Dartois, Z. Djouadi, S. Merouane, J. Borg, J.R. Brucato, L. Le Sergeant Hendecourt, V. Mennella, M.E. Palumbo, P. Palumbo <i>Wild 2 grains characterized combining MIR/FIR/Raman micro-spectroscopy and FE-SEM/EDS analyses</i>	211
E. Simoncini <i>Disequilibrium in planetary atmospheres and the search for habitability</i>	213
E. Pace, G. Micela and the Ariel Team <i>ARIEL: Atmospheric Remote-sensing Infrared Exoplanet Large-survey. A proposal for the ESA Cosmic Vision M4.</i>	214
F. Marzari and G.Picogna <i>Decoupling of a giant planet from its disk in an inclined binary system</i>	215
D. Turrini, ISSI Team Vesta, the key to the origins of the Solar System and EChO Planetary Formation working group <i>The formation of giant planets and its effects on protoplanetary disks: the case of Jupiter and the Jovian Early Bombardment</i>	216