

Scientific 2MS³ Program

10 October 2011

Opening Session

10.00-10.20

L. Zelenyi Opening remarks
E.M.Galimov
J.Head

Session: Planetary science (PS)

10.20-15.40

Chair: James Head

2MS³-PS-01 M. Ivanov Geological history of Isidis Planitia on Mars 10.20-10.40
2MS³-PS-02 T. Goudge Open-basin lakes on Mars: a global analysis of associated lacustrine and post-fluvial deposits. 10.40-11.00

2MS³-PS-03 A. Bryanskaya Survival of halophiles at presence of sulfates and perchlorates 11.00-11.20

2MS³-PS-04 C. d'Uston Laser based methods of surface composition analysis for in situ planetary exploration 11.20-11.40

Coffee-break

11.40-12.00

2MS³-PS-05 J. Head The Messenger Mission to Mercury: an overview of results from the orbital phase. 12.00-12.20

2MS³-PS-06 G. Arnold Exploring Mercury by means of MIR spectroscopy: Mercury Radiometer and Thermal Infrared Spectrometer (MERTIS) for BepiColombo 12.20-12.40

2MS³-PS-07 M. Hamelin Titan ionospheric's cavity as explored by the PWA-HASI instrument on Huygens 12.40-13.00

Lunch

13.00-14.00

2MS³-PS-08 A. Rodin Coupling aerosol microphysics and atmospheric dynamics in the 3D model of Titan atmosphere. 14.00-14.20

2MS³-PS-09 E. Belenkaya Possible mechanisms of Saturn's aurora generation 14.20-14.40

2MS³-PS-10 A. Gavrik New methods for the detection of plasma layers in the ionosphere during radio occultation. 14.40-15.00

2MS³-PS-11 A.Rodin Non-hydrostatic general circulation model of Venus atmosphere 15.00-15.20

2MS³-PS-12 I. Maslov Comet as a huge friable dust particle – a good place for formation of molecules of the terrestrial life. “Life” as parameter of complex systems. 15.20-15.40

Session: Instruments for Future Missions(FM)

15.40-19.20

Chair: Oleg Korablev

2MS³-FM-01 L. Zelenyi Russian plans for Solar System investigation and exploration 15.40-16.00

Coffee-break

16.00-16.20

2MS³-FM-02 P. Schibler SEIS : a Very Broad Band Seismometer proposed on-board Russian Mars-Net mission 16.20-16.40

2MS³-FM-03 T. Nebut A planetary broad band seismometer on SELENE-2 / GEMS2 missions: focus on VBB technical improvements 16.40-17.00

2MS³-FM-04 L. Vázquez Scientific aspects of the MEIGA payload for MetNet 17.00-17.20

2MS³-FM-05	M. Diaz-Michelena	Small magnetic sensors for Lunar & Martian exploration	17.20-17.40
2MS³-FM-06	H.Guerrero	Development of miniaturized instrumentation for Mars exploration	17.40-18.00
2MS³-FM-07	D. Fernandez	Advances in miniaturization technologies for next generation instruments	18.00-18.20
2MS³-FM-08	M. Tulej	On chemical analysis of solids by a miniature laser-ablation mass analyser designed for space research	18.20-18.40
2MS³-FM-09	L. Gurvits	Planetary Radio Interferometry and Doppler Experiment (PRIDE) for prospective planetary missions	18.40-19.00
2MS³-FM-10	U. Boettger	Detection of cyanobacteria and methanogenes in mars analogue material by Raman Spectroscopy	19.00-19.20
2MS³-FM-Poster	A. Ekonomov	Monte-Carlo 3d simulation of planetary surface imaging through the optically dense atmosphere (Venus as an example)	
2MS³-FM-Poster	A. Ekonomov	Venus: In situ mini mission.	

11 October 2011

Session: Martian moons(MM)

10.00-15.00

Chair: Alexander Zakharov

2MS³-MM-01	J. Head	The origin of grooves on Phobos: New observations and comparisons to the Moon.	10.00-10.20
2MS³-MM-02	K. Ramsley	The origin of Phobos grooves from ejecta launched from impact craters on Mars - Tests of the hypothesis.	10.20-10.40
2MS³-MM-03	T.Duxbury	Phobos grooves, a lunar analogy	10.40-11.00
2MS³-MM-04	A. Basilevsky	Grooves of Phobos as seen on the MEX HRSC rectified images and comparisons with planetary analogs	11.00-11.20
2MS³-MM-05	B. Buchenberger	Elongated craters on Mars revisited: Test of the decaying moonlets hypothesis?	11.20-11.40

Coffee-break

11.40-12.00

Session: Martian moons(MM)(continuation)

Chair: Thomas Duxbury

2MS³-MM-06	R. Kuzmin	Diurnal temperature regime of the surficial regolith of Phobos in the landing site region of the Phobos-Grunt Lander for different seasons: the model prediction.	12.00-12.20
2MS³-MM-07	P. Rosenblatt	Phobos geodesy experiment using radio-tracking data of the Phobos-soil spacecraft: constraints on the interior and origin of Phobos.	12.20-12.40
2MS³-MM-08	P. Rosenblatt	Mass distribution inside Phobos: a key observational constraint for the origin of Phobos.	12.40-13.00

Lunch

13.00-14.00

2MS³-MM-09	L. Ksanfomality	Photometric and radiometric properties of Phobos regolith from data gathered by the Phobos Mission	14.00-14.20
2MS³-MM-10	D. Uchaev	The Phobos gravitational field modeled on the basis of its topography	14.20-14.40
2MS³-MM-11	I. Karachevtseva	Development of a global crater catalog of Phobos, and GIS-analysis of the distribution of craters	14.40-15.00

Session: Phobos-Soil Project(PhS)

15.00-19.00

Chair: Claude d'Uston

2MS³-PhS-00	L. Zelenyi	Opening remarks: PhSR project status	15.00-15.20
2MS³-PhS-01	M. Gerasimov	Principals of volatile components measurements in the GAP experiment on board the Phobos-Grunt mission and beyond.	15.20-15.40
2MS³-PhS-02	M. Cabane	The gas chromatograph of the Gas Analytical Package aboard the Phobos-Grunt mission: in situ analysis of the surface of Phobos	15.40-16.00
Coffee-break			16.00-16.20
2MS³-PhS-03	G. Durry	Near infrared diode laser spectroscopy of C ₂ H ₂ , H ₂ O, CO ₂ and their isotopologues and the application to a Tunable Diode Laser Spectrometer (TDLAS) for the Martian Phobos-Grunt space mission	16.20-16.40
2MS³-PS-04	G. Klingelhofer	The Miniaturized Moessbauer spectrometer MIMOS II for the Phobos-Soil mission	16.40-17.00
2MS³-PhS-05	V. Smirnov	Subsurface radar sounding of the Phobos Ground	17.00-17.20
2MS³-PhS-06	O. Korablev	TIMM: Echelle-Spectrometer to study the atmosphere of Mars	17.20-17.40
2MS³-PhS-07	C. Lorenz	Geology of Phobos-Grunt landing sites: a view from the MEX HRSC images	17.40-18.00
2MS³-PhS-08	E. Vorobyova	Experiment BioPhobos in the context of current tasks of astrobiology	18.00-18.20
2MS³-PhS-09	K. Seweryn	The CHOMIK instrument for Phobos-Grunt mission – functional test and calibration data	18.20-18.40
2MS³-PhS-10	J. Ping	Radio science experiments of joint observation of YH-1 and Phobos-Grunt	18.40-19.00

12 October 2011**Session: Luna science(LS)****10.00-17.40****Chair: Alexander Basilevsky**

2MS³-LS-01a	V. Shevchenko	Interplanetary matter on the Moon.	10.00-10.10
2MS³-LS-01b	V. Shevchenko	Current events on the Moon.	10.10-10.20
2MS³-LS-02	J. Head	Lunar scientific frontiers and goals for future exploration: Insights from recent spacecraft results	10.20-10.40
2MS³-LS-03	G. Kochemasov	The lunar South Pole-Aitken Basin as a tectonic equivalent of the Indian geoid minimum	10.40-11.00
2MS³-LS-04	C. Runyon	Sharing lunar exploration with the world: Examples from the Moon Mineralogy Mapper/Chandrayaan-1 E/PO Program	11.00-11.20
2MS³-LS-05	C. Pieters	Composition of the lower crust of the moon identified at basin rings	11.20-11.40

Coffee-break

11.40—12.00

Session: Luna science(LS)(continuation)**Chair: Mikhail Ivanov**

2MS³-LS-06	P. Wurz	Solar wind interaction with the lunar surface: SARA/Chandrayaan-1 results	12.00-12.20
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2MS³-LS-07	A. Gusev	Interior structure and physical librations of the three-layer Moon	12.20-12.40
2MS³-LS-08	J.N.Goswami	Significant results from Chandrayaan-1 mission	12.40-13.00
Lunch			13.00-14.00
Session: Luna science(LS)(continuation)			
Chair: Maxim Litvak			
2MS³-LS-09a	I. Mitrofanov	Regions of water-rich permafrost on the Moon: results from LEND on LRO	14.00-14.10
2MS³-LS-09b	V. Shevchenko	Epithermal flux depression and PSR in Shoemaker crater	14.10-14.20
2MS³-LS-10	M. Sinitsyn	Immature lunar formations and palaeoregolith deposits as sources of information about the history of the Solar System.	14.20-14.40
2MS³-LS-11	Y. Velikodsky	Phase function of lunar color ratio	14.40-15.00
2MS³-LS-12	V. Kaydash	Phase-ratio and color-ratio imagery of lunar crater Cauchy	15.00-15.20
2MS³-LS-13	V. Smirnov	Radar complex in the project "Moon-Glob": mono- and bistatic- radio location of Moon	15.20-15.40
2MS³-LS-14	P. Isaacson	Composition of the lunar crust from laboratory and remote VNIR spectroscopy	15.40-16.00
Coffee-break			16.00-16.20
2MS³-LS-15a	O. Khavroshkin	Solar busts and lunar seismicity.	16.20-16.30
2MS³-LS-15b	O. Khavroshkin	Deep faults of the Moon and multiple reflected waves	16.30-16.40
2MS³-LS-16	O. Kuskov	Constraining the composition and thermal state of the Moon from inversion of seismic data	16.40-17.00
2MS³-LS-17	T. Gudkova	Source cutoff frequency estimations for a number of impacts detected by the Apollo seismometers	17.00-17.20
2MS³-LS-18a	I. Nadezhdina	Studies of former Soviet and modern lunar co-ordinate systems using Soviet spacecraft on the lunar surface	17.20-17.30
2MS³-LS-18b	I. Karachevtseva	GIS-analyses of the Lunokhod-1 landing site using LROC images and high resolution DEM	17.30-17.40
Session: Luna Missions(LM)			17.40-20.00
Chair: Maxim Mokrousov			
2MS³-LM-01	A. Pertukovich	Science investigations on the orbiter Luna Glob	17.40-18.00
2MS³-LM-02	V. Tret'yakov	Science investigations on landers Luna-Resource and Luna Glob	18.00-18.20
2MS³-LM-03	J. Goswami	Chandrayaan-2 mission: The orbiter and Rover payloads	18.20-18.40
2MS³-LM-04a	Y. Sikharulidze	Landing dynamics on the Moon in "Luna-Glob" project	18.40-18.50
2MS³-LM-04b	A. Kosov	Radioscience Experiments with "Moon-Glob" Orbiter Receiver and Beacons on Moon's Landers	18.50-19.00
2MS³-LM-05a	D.Skulachev	Microwave investigation of lunar regolith	19.00-19.10
2MS³-LM-05b	A. Basilevsky	Selection of landing sites for the Luna-Glob and Luna Resource missions	19.10-19.20
2MS³-LM-06a	V. Shevchenko	Landing site for Luna mission in south pole – Aitken basin	19.20-19.30
2MS³-LM-06b	O. Korablev	Experimental studies of lunar exosphere	19.30-19.40
2MS³-LM-07	M.Wieczorek	Farside Explorer: Unique Science from a Mission to the Far Side of the Moon.	19.40-20.00

13 October 2011

Session: Galilean moons(GM)

12.00-15.00

Chair: Brad Dalton

2MS³-GM-01	V. Zharkov	Sounding of the interior structure of Galilean Satellite Io using the parameters of the theory of figure and gravitational field in the second approximation.	12.00-12.20
2MS³-GM-02	M. Podzolko	Model of spatial distribution of relativistic electron fluxes in vicinity of Jupiter's moon Europa	12.20-12.40
2MS³-GM-03	S. Barabash	Callisto – magnetosphere interactions: hybrid simulations and comparison with the Moon	12.40-13.00

Lunch

13.00-14.00

Session: Galilean moons(GM)(continuation)

Chair: Stas Barabash

2MS³-GM-04	J. Dalton	Surface materials on Europa: Considerations for landing site selection.	14.00-14.20
2MS³-GM-05	O.Prieto-Ballesteros	The oceans of Europa and Ganymede. Aqueous solutions under pressure as potential habitats.	14.20-14.40
2MS³-GM-06	I. Alexeev	The role of the magnetodisk in the Jupiter's magnetosphere	14.40-15.00
2MS³-GM-poster	V. Zharkov	Effects of second approximation of the figure theory for Jupiter's satellite Io.	
2MS³-GM-poster	V. Zharkov	Models, figures, and gravitational moments of Jupiter's satellite Europa. Effects of second approximation.	

Session: Europa Lander(EL)

15.00-18.20

Chair: Oleg Korablev

2MS³-EL-01	M. Martynov	Laplace – Europa Lander mission architecture	15.00-15.20
2MS³-EL-02	L. Zelenyi	Science investigations in frameworks of expedition to Europa.	15.20-15.40
2MS³-EL-03	K. Hand	Science investigations and payload for the JPL Europa Lander mission	15.40-16.00
Coffee-break			16.00-16.20
2MS³-EL-04	J. Casani	System description of a Europa Orbiter/Lander Mission.	16.20-16.40
2MS³-EL-05	M. Podzolko	Radiation environment estimates for Europa Lander mission	16.40-17.00
2MS³-EL-06	N.Strange	Mission design for a low-radiation Europa Lander	17.00-17.20
2MS³-EL-07	S. Bulat	Searching for life in extreme environments relevant to Jovian's Europa: Lessons from subglacial ice studies at Lake Vostok (East Antarctica)	17.20-17.40
2MS³-EL-08	S.Aksenov	Theoretical and computer investigation of crack formation on Europe's surface	17.40-18.00

