

# overview 8M-S<sup>3</sup> program

## THE EIGHTH MOSCOW SOLAR SYSTEM SYMPOSIUM (8M-S<sup>3</sup>)

IKI RAS, 9-13 OCTOBER 2017

|       | 9 october                        | 10 october                             | 11 october               | 12 october                       | 13 october                                    |        |        |        |        |
|-------|----------------------------------|--|--------------------------|----------------------------------|---|--------|--------|--------|--------|
| 10.00 | opening                          |  |                          |                                  |   |        |        |        |        |
| 10.20 |                                  |  |                          |                                  |   |        |        |        |        |
| 10.40 |                                  |  |                          |                                  |   |        |        |        |        |
| 11.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 11.20 |                                  |  |                          |                                  |   |        |        |        |        |
| 11.40 | Session 1. PLANETARY ATMOSPHERES | Session 2. LUNAR AND PLANETARY GEOLOGY | session 3. GIANT PLANETS | session 6. DUST AND DUSTY PLASMA | session 9. INSTRUMENTS, MISSIONS, EXPLORATION |        |        |        |        |
| 12.00 |                                  |  |                          |                                  |   | coffee | coffee | coffee | coffee |
| 12.20 |                                  |  |                          |                                  |   | lunch  | lunch  | lunch  | lunch  |
| 12.40 |                                  |  |                          |                                  |   |        |        |        |        |
| 13.00 |                                  |  |                          |                                  |   | coffee | coffee | coffee | coffee |
| 14.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 14.20 |                                  |  |                          |                                  |   |        |        |        |        |
| 14.40 |                                  |  | coffee                   | coffee                           |   | coffee | coffee |        |        |
| 15.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 15.20 |                                  |  |                          |                                  |   |        |        |        |        |
| 15.40 | Session 4. ASTROBIOLOGY          |  | session 5. EXOPLANETS    | session 7. SMALL BODIES          |   |        |        |        |        |
| 16.00 |                                  |  |                          |                                  |   | coffee | coffee | coffee | coffee |
| 16.20 |                                  |  |                          |                                  |   | coffee | coffee | coffee | coffee |
| 16.40 |                                  |  |                          |                                  |   |        |        |        |        |
| 17.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 17.20 | coffee                           | coffee                                 | coffee                   | coffee                           |   |        |        |        |        |
| 17.40 |                                  |  |                          |                                  |   |        |        |        |        |
| 18.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 18.20 | POSTER SESSION WELCOME PARTY     | SOCIAL EVENTS IN MOSCOW                | POSTER SESSION           | CONCERT                          | SOCIAL EVENTS IN MOSCOW                       |        |        |        |        |
| 18.40 |                                  |  | SOCIAL EVENTS IN MOSCOW  | RECEPTION                        |   |        |        |        |        |
| 19.00 |                                  |  |                          |                                  |   |        |        |        |        |
| 19.20 |                                  |  |                          |                                  |   |        |        |        |        |
| 19.40 |                                  |  |                          |                                  |   |        |        |        |        |
| 20.00 |                                  |  |                          |                                  |   |        |        |        |        |

# 8M-S<sup>3</sup> SCIENTIFIC PROGRAM

| monday, 9 october 2017  |  |  |                    |
|---|--|--|--------------------|
|   | <b>Lev ZELENYI</b>   | opening remarks  | 10.00-10.40        |
| <b>session 1. PLANETARY ATMOSPHERES.<br/>THE SESSION DEDICATED<br/>TO THE MEMORY OF TOBIAS<br/>OWEN</b> |  |  | <b>10.40-18.00</b> |
| <b>conveners: Ludmila ZASOVA, Scott BOLTON,<br/>Oleg KORABLEV</b>                                       |  |  |                    |
| 8MS3-PA-01  | <b>Mikhail MAROV<br/>and<br/>Sergei IPATOV</b>             | Heterogeneous accretion:<br>some results of the<br>computer modeling   | 10.40-11.00        |
| 8MS3-PA-02  | <b>Jonathan LUNINE<br/>and<br/>Scott BOLTON</b>            | The origin of Titan's<br>atmosphere revealed<br>in isotopic and molecular<br>composition: from Toby<br>Owen's pioneering work<br>to the end of Cassini                                 | 11.00-11.20        |
| 8MS3-PA-03  | <b>Jack WAITE<br/>et al</b>                                | CASSINI In Situ<br>Observations of Saturn's<br>Equatorial Atmosphere<br>and Ionosphere   | 11.20-11.40        |
| <b>coffee-break</b>   |  |  | <b>11.40-12.00</b> |
| 8MS3-PA-04  | <b>Helmut LAMMER<br/>et al</b>                             | Element fractionation<br>by hydrodynamic escape<br>at early Venus: constraining<br>the planet's evolution  | 12.00-12.20        |
| 8MS3-PA-05  | <b>Mikhail<br/>GERASIMOV</b>                               | On the Origin<br>of Atmospheres<br>of Terrestrial Planets  | 12.20-12.40        |
| 8MS3-PA-06  | <b>Yeon Joo LEE<br/>et al</b>                              | Venus' glory observed<br>by the UV Imager on board<br>Akatsuki   | 12.40-13.00        |
| <b>lunch</b>  |  |  | <b>13.00-14.00</b> |
| 8MS3-PA-07  | <b>Vladimir<br/>KRASNOPOLSKY</b>                           | Disulfur dioxide and its<br>NUV absorption in the<br>photochemical model<br>of Venus atmosphere  | 14.00-14.20        |
| 8MS3-PA-08  | <b>Vladimir<br/>KRASNOPOLSKY<br/>and<br/>Denis BELYAEV</b> | Search for HBr and bromine<br>photochemistry on Venus  | 14.20-14.40        |
| 8MS3-PA-09  | <b>Mikhail LUGININ<br/>et al</b>                           | Study of scale heights<br>and detached haze layers<br>at high latitudes in the upper<br>haze of Venus from SPICAV<br>IR data   | 14.40-15.00        |
| 8MS3-PA-10  | <b>Jose Luis<br/>VAZQUEZ<br/>POLETTI<br/>et al</b>         | Optimal Cloud Computing<br>Infrastructure for Planetary<br>Image Processing: A Tale<br>of Two Planets (Mars and<br>Venus)  | 15.00-15.20        |
| 8MS3-PA-11  | <b>Anatoliy PAVLOV<br/>et al</b>                           | Evolution of Martian<br>atmosphere in modern era,<br>its isotopic imprints and<br>connection with Martian<br>subsurface environments   | 15.20-15.40        |
| 8MS3-PA-12  | <b>Ashley PALUMBO<br/>et al</b>                            | Late Noachian icy highlands<br>climate model: Exploring<br>the possibility of transient<br>melting and fluvial/<br>lacustrine activity through<br>peak annual/seasonal<br>temperatures | 15.40-16.00        |
| <b>coffee-break</b>   |  |  | <b>16.00-16.20</b> |

|                                      |                                   |  |                    |
|--------------------------------------|-----------------------------------|--|--------------------|
| 8MS3-PA-13                           | <b>Anna FEDOROVA<br/>et al</b>    | Long-term observations of water vapor in the middle atmosphere of Mars by SPICAM/MEX                         | 16.20-16.40        |
| 8MS3-PA-14                           | <b>Vladimir KRASNOPOLSKY</b>      | Annual mean mixing ratios of N <sub>2</sub> , Ar, O <sub>2</sub> , and CO in the martian atmosphere          | 16.40-17.00        |
| 8MS3-PA-15                           | <b>Maxim LITVAK</b>               | Inter-annual variations of Martian seasonal caps from neutron spectroscopy observations onboard Mars Odyssey | 17.00-17.20        |
| 8MS3-PA-16                           | <b>Salvador JIMÉNEZ<br/>et al</b> | Magnetic field at Mars ionosphere from MARSIS data. Models and simulations                                   | 17.20-17.40        |
| 8MS3-PA-17                           | <b>Valery SHEMATOVICH</b>         | Neutral escape at Mars induced by the high-energy H/H <sup>+</sup> of solar wind origin                      | 17.40-18.00        |
| <b>POSTER SESSION (all sessions)</b> |                                   |  | <b>18.00-19.00</b> |

tuesday, 10 october 2017

**session 2. LUNAR AND PLANETARY  
GEOLOGY**

**10.00-18.00**

**conveners: Igor MITROFANOV, Maxim LITVAK**

|            |                                   |   |             |
|------------|-----------------------------------|---|-------------|
| 8MS3-PG-01 | <b>Maxim LITVAK et al</b>         | Crater age and hydrogen content in lunar regolith from LEND neutron data  | 10.00-10.20 |
| 8MS3-PG-02 | <b>Alexander BAZILEVSKY et al</b> | Recent tectonic deformation in the South pole area of the Moon  | 10.20-10.40 |
| 8MS3-PG-03 | <b>Andrew DMITROVSKY et al</b>    | Preliminary data on the age interval of the Mons Rumker volcanic province formation                                 | 10.40-11.00 |
| 8MS3-PG-04 | <b>Arne GRUMPE et al</b>          | Daytime-dependent variations of the lunar surficial OH/H <sub>2</sub> O content                                     | 11.00-11.20 |
| 8MS3-PG-05 | <b>Daniela ROMMEL et al</b>       | South Pole-Aitken Basin: Anorthosite rich material as indicator for a complex layering of the basin crust structure | 11.20-11.40 |

**coffee-break**

**11.40-12.00**

|            |                                |   |             |
|------------|--------------------------------|---|-------------|
| 8MS3-PG-06 | <b>Mariya BUCHENKOVA et al</b> | Wave phenomena in the Moon environment  | 12.00-12.20 |
| 8MS3-PG-07 | <b>Audrey VORBURGER et al</b>  | The Moon observed in Energetic Neutral Atoms: Review of the Scientific Findings from SARA/CENA on board Chandrayaan-1 | 12.20-12.40 |
| 8MS3-PG-08 | <b>Anton SANIN et al</b>       | Potentially interesting landing sites around the South pole of the Moon   | 12.40-13.00 |

**lunch**

**13.00-14.00**

|            |                                    |  |             |
|------------|------------------------------------|--|-------------|
| 8MS3-PG-09 | <b>Carle PIETERS et al</b>         | Diversity of materials at Luna 24 site from Moon Mineralogy Mapper (M3)  | 14.00-14.20 |
| 8MS3-PG-10 | <b>Anastasia ZHARKOVA et al</b>    | Craters features of the Moon and Mercury Southern polar regions  | 14.20-14.40 |
| 8MS3-PG-11 | <b>Ariel DEUTSCH et al</b>         | New evidence for surface ice in micro-cold traps and in three large craters at the North polar region on Mercury: implications for lunar exploration               | 14.40-15.00 |
| 8MS3-PG-12 | <b>Ekaterina FEOKTISTOVA et al</b> | Thermal and illumination conditions in the radar features host craters in the Mercury's South pole region  | 15.00-15.20 |
| 8MS3-PG-13 | <b>Svetlana PUGACHEVA et al</b>    | Morphological features of Mercury South pole relief  | 15.20-15.40 |
| 8MS3-PG-14 | <b>James HEAD et al</b>            | Deciphering the Noachian geological and climate history of Mars: Part 2- A Noachian stratigraphic view of major geologic processes and their climatic consequences | 15.40-16.00 |

**coffee-break**

**16.00-16.20**

|            |   |   |             |
|------------|---|---|-------------|
| 8MS3-PG-15 | <b>Denis LISOV et al</b>                  | Water and Chlorine abundance in the Gale crater according to DAN data                     | 16.20-16.40 |
| 8MS3-PG-16 | <b>Benjamin BOATWRIGHT and James HEAD</b> | MARSSIM Landform Evolution Model: Hydrologic Constraints on the Noachian Early Dry Period | 16.40-17.00 |

|            |                                       |  |             |
|------------|---------------------------------------|--|-------------|
| 8MS3-PG-17 | <b>James HEAD</b>                     | Venus Geological History: Current Perspectives, Unknowns, and Opportunities for the Modeling Community | 17.00-17.20 |
| 8MS3-PG-18 | <b>Evgeniya GUSEVA</b>                | Rift zones of Venus: Possible terrestrial analogues  | 17.20-17.40 |
| 8MS3-PG-19 | <b>Piero D'INCECCO and L.S. GLAZE</b> | Imdr Regio as the landing site of the Venera-D mission: a geologic perspective                         | 17.40-18.00 |

wednesday, 11 october 2017

**session 3. GIANT PLANETS**

**10.00-14.40**

**convener: Valery SHEMATOVICH,  
Scott BOLTON**

|            |                                      |   |             |
|------------|--------------------------------------|---|-------------|
| 8MS3-GP-01 | <b>Scott BOLTON<br/>et al</b>        | The Juno Mission  | 10.00-10.20 |
| 8MS3-GP-02 | <b>John<br/>CONNERNEY<br/>et al</b>  | Jupiter's Magnetic Field<br>and Magnetosphere:<br>Juno's First Eight Orbits   | 10.20-10.40 |
| 8MS3-GP-03 | <b>John<br/>JOERGENSEN<br/>et al</b> | Profiling the Jovian high<br>energy particle flux<br>at Juno's trajectories   | 10.40-11.00 |
| 8MS3-GP-04 | <b>Victor KRONROD</b>                | Fragmentation of<br>planetesimals<br>and capture of material<br>by the circumplanetary<br>disks of Jupiter and Saturn | 11.00-11.20 |
| 8MS3-GP-05 | <b>Igor ALEXEEV<br/>et al</b>        | Equatorial Current Disk<br>Dynamics in the Jovian<br>Magnetosphere  | 11.20-11.40 |

**coffee-break**

**11.40-12.00**

|            |   |  |             |
|------------|---|--|-------------|
| 8MS3-GP-06 | <b>Peter WURZ<br/>et al</b>                           | Interaction of Jupiter's<br>Plasma with the Galilean<br>Moons        | 12.00-12.20 |
| 8MS3-GP-07 | <b>Yaroslav<br/>ILYUSHIN<br/>and<br/>Paul HARTOGH</b> | The Prospects for Active<br>and Passive Radar Probing<br>of Ganymede | 12.20-12.40 |
| 8MS3-GP-08 | <b>Valery<br/>SHEMATOVICH</b>                         | Gas Envelopes of the Icy<br>Moons with Oceans                        | 12.40-13.00 |

**lunch**

**13.00-14.00**

|            |   |  |             |
|------------|---|--|-------------|
| 8MS3-GP-09 | <b>Jonathan LUNINE<br/>and<br/>Scott BOLTON</b> | Using Volatiles<br>to Determine Planetary<br>Formation Processes                       | 14.00-14.20 |
| 8MS3-GP-10 | <b>Alexander<br/>HAYES<br/>et al</b>            | The Bathymetry<br>and Composition of Titan's<br>Lakes and Seas:<br>A Post-Cassini View | 14.20-14.40 |

**session 4. ASTROBIOLOGY, METHODS  
AND INSTRUMENTS FOR SEARCH  
OF EXTRATERRESTRIAL LIFE**

**14.40-16.00**

**convener: Elena VOROBYOVA**

|            |  |  |             |
|------------|--|--|-------------|
| 8MS3-AB-01 | <b>Georgi<br/>MANAGADZE</b>                            | Emergence of life in the<br>meteorite impact plasma<br>in the process of the<br>formation and mass<br>accumulation by the Earth                    | 14.40-15.00 |
| 8MS3-AB-02 | <b>Maxim ZAITSEV<br/>and<br/>Mikhail<br/>GERASIMOV</b> | Formation of Amino<br>Acids from Components<br>of a Nitrogen-Methane<br>Atmosphere during<br>Hypervelocity Impacts                                 | 15.00-15.15 |
| 8MS3-AB-03 | <b>Leonid<br/>KSANFOMALITY</b>                         | Moving Living Objects<br>on Venus: New Evidence  | 15.15-15.30 |
| 8MS3-AB-04 | <b>Dmitrij SKLADNEV<br/>and V.V. SOROKIN</b>           | Observation of biogenic<br>nanoparticles generation<br>for comparison of microbial<br>communities and for<br>detection of extraterrestrial<br>life | 15.30-15.45 |
| 8MS3-AB-05 | <b>Oleg<br/>KOTSYURBENKO</b>                           | Astrobiology in Russia:<br>Integration to the Worldwide<br>Astrobiology  | 15.45-16.00 |

**coffee-break**

**16.00-16.20**

| <b>session 5. EXOPLANETS</b>         |                                     |  | <b>16.20-18.00</b> |
|--------------------------------------|-------------------------------------|--|--------------------|
| <b>convener: Alexander TAVROV</b>    |                                     |  |                    |
| 8MS3-EP-01                           | <b>Jean-Loup BERTAUX</b>            | A Road Map to the New Frontier: finding Extra Terrestrial Intelligenc  | 16.20-16.40        |
| 8MS3-EP-02                           | <b>Ildar SHAIKHISLAMOV et al</b>    | Modeling Transit Observations of HD209458B   | 16.40-17.00        |
| 8MS3-EP-03                           | <b>Jean-Loup BERTAUX et al</b>      | Retrieving the true mass distribution of exoplanets detected with the Radial velocity method: method and first results                   | 17.00-17.15        |
| 8MS3-EP-04                           | <b>Vladislava ANANJEVA et al</b>    | Retrieving the true mass distribution of exoplanets detected with the Radial velocity method: removing the effect of observing selection | 17.15-17.30        |
| 8MS3-EP-05                           | <b>Seyed Javad JAFARZADEH et al</b> | The effect of unknown parameters of exoplanets on their habitability   | 17.30-17.45        |
| 8MS3-EP-06                           | <b>Alexander TAVROV et al</b>       | Stellar imaging coronagraph and exoplanet coronal spectrometer – instruments for exoplanet exploration onboard the WSO-UV                | 17.45-18.00        |
| <b>POSTER SESSION (all sessions)</b> |                                     |  | <b>18.00-19.00</b> |

thursday, 12 october 2017

**session 6. DUST AND DUSTY PLASMA  
IN SPACE**

**10.00-11.40**

**convener: Alexander ZAKHAROV**

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|------------|---|---|-------------|
| 8MS3-DP-01 | <b>Maria Pilar VELASCO et al</b>        | Atmospheric dust dynamics: fractional models, numerical methods and computational simulations | 10.00-10.20 |
| 8MS3-DP-02 | <b>Dariia BETSIS et al</b>              | Martian dust cycle via solar infrared occultation observations by SPICAM IR for 27–34 MY      | 10.20-10.40 |
| 8MS3-DP-03 | <b>Evgenij ZUBKO et al</b>              | Reflectance of lunar dust: Concept of experiment aboard a lunar lander                        | 10.40-11.00 |
| 8MS3-DP-04 | <b>Sergey POPEL et al</b>               | Dusty plasma cloud in the lunar exosphere and impacts of meteoroids                           | 11.00-11.20 |
| 8MS3-DP-05 | <b>Andrey DUBINSKY and Sergey POPEL</b> | Hydrogen formation in lunar regolith and its possible influence on dusty plasma at the Moon   | 11.20-11.40 |

**coffee-break**

**11.40-12.00**

**session 7. SMALL BODIES**

**12.00-16.00**

**convener: Alexander BASILEVSKY**

|              |   |  |                    |
|--------------|---|--|--------------------|
| 8MS3-SB-01   | <b>Olga POPOVA et al</b>                      | Infrasound registration of Romanian superbolide  | 12.00-12.15        |
| 8MS3-SB-02   | <b>Anna KARTASHOVA et al</b>                  | The investigation of meteor events by multi technique observations   | 12.15-12.30        |
| 8MS3-SB-03   | <b>Rob LANDIS et al</b>                       | The Recovery of 2012 TC4 and the International Asteroid Warning Network (IAWN)                             | 12.30-12.45        |
| 8MS3-SB-04   | <b>Ilan ROTH</b>                              | Anomalous Mg-26 composition in the early solar system chondrites   | 12.45-13.00        |
| <b>lunch</b> |   |  | <b>13.00-14.00</b> |
| 8MS3-SB-05   | <b>Boris KONDRATYEV et al</b>                 | Dynamics and evolution of rings around Centaurs Chariklo and Chiron  | 14.00-14.15        |
| 8MS3-SB-06   | <b>Sergey VOROPAEV</b>                        | The surface tension of small bodies under self-gravity, rotation and tidal forces                          | 14.15-14.30        |
| 8MS3-SB-07   | <b>Anastasiia DUBOVITSKAIA et al</b>          | Update of shape parameters and libration amplitude for Saturnian satellites Dione and Rhea                 | 14.30-14.45        |
| 8MS3-SB-08   | <b>Rosine LALLEMENT and Jean-Loup BERTAUX</b> | Diffuse Interstellar Bands carriers and cometary organic material  | 14.45-15.00        |
| 8MS3-SB-09   | <b>Olena SHUBINA et al</b>                    | Color-slope interpretation of comet C/2013 UQ4 (Catalina) using the model of agglomerated debris particles | 15.00-15.15        |
| 8MS3-SB-10   | <b>Vacheslav EMEL'YANENKO</b>                 | Nongravitational effects in the motion of near-Sun comets  | 15.15-15.30        |
| 8MS3-SB-11   | <b>Yuri SKOROV</b>                            | The models of cometary gas production: Analysis for 67P/Churyumov-Gerasimenko                              | 15.30-15.45        |



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| 8MS3-SB-12  | <b>Leonid KSAFOMALITY</b>                | Comets 1P/Halley and 67P/Churyumov-Gerasimenko: comparison of some their properties                                | 15.45-16.00        |
| <b>coffee-break</b>   |  |  | <b>16.00-16.20</b> |
| <b>Session 8. SOLAR WIND INTERACTIONS WITH PLANETS AND SMALL BODIES</b> |  |  |                    |
| <b>convener: Oleg VAISBERG</b>  |  |  | 16.20-18.00        |
| 8MS3-SW-01  | <b>Mingyuan WANG et al</b>               | Exploring obvious lunar ionosphere based on the service module of circumlunar return and reentry spacecraft        | 16.20-16.30        |
| 8MS3-SW-02  | <b>Alexey BEREZHNOY and G.V. BELOV</b>   | Behavior of hydrogen during impact events on the Moon  | 16.30-16.40        |
| 8MS3-SW-03  | <b>Sergey SHUVALOV et al</b>             | Analysis of solar wind-Mars interaction region and pick-up ions from MAVEN measurements                            | 16.40-16.50        |
| 8MS3-SW-04  | <b>Oleg VAISBERG et al</b>               | Dayside magnetosphere of Mars  | 16.50-17.00        |
| 8MS3-SW-05  | <b>Vladimir ERMAKOV et al</b>            | Initial analysis of ion fluxes in magnetotail of Mars based on simultaneous measurements on Mars Express and MAVEN | 17.00-17.10        |
| 8MS3-SW-06  | <b>Eduard DUBININ et al</b>              | How to describe the martian space environment and how solar wind and EUV control ion escape. MAVEN observations    | 17.10-17.20        |
| 8MS3-SW-07  | <b>Petra ODERT et al</b>                 | Escape of volatiles from Mars-sized planetary embryos  | 17.20-17.30        |
| 8MS3-SW-08  | <b>Mikhail VERIGIN and Galina KOTOVA</b> | Who twists venusian magnetotail?   | 17.30-17.40        |
| 8MS3-SW-09  | <b>Oleg VAISBERG et al</b>               | Radio-occultation and in-situ measurements of plasma density in Halley's comet plasma                              | 17.40-17.50        |
|   | discussion                               |  | 17.50-18.00        |

friday, 13 october 2017

**session 9. INSTRUMENTS, MISSIONS,  
EXPLORATION**

**10.00-18.40**

**convener: Oleg KORABLEV**

|            |                                   |  |             |
|------------|-----------------------------------|--|-------------|
| 8MS3-IM-01 | <b>Thomas DUXBURY<br/>et al</b>   | Restoration of the 1969<br>Mariner Mars Images:<br>Phase I Results   | 10.00-10.20 |
| 8MS3-IM-02 | <b>Thomas DUXBURY<br/>et al</b>   | The International Phobos /<br>Deimos Surface<br>Characterization and Site<br>Selection Working Group   | 10.20-10.40 |
| 8MS3-IM-03 | <b>Jürgen OBERST<br/>et al</b>    | DEPHINE – the Deimos<br>and Phobos Interior<br>Explorer – a Mission<br>Proposal to ESA'S Cosmic<br>Vision Program/ <b>invited talk/</b>          | 10.40-11.00 |
| 8MS3-IM-04 | <b>Dmitrij TITOV<br/>et al</b>    | Mars Express science<br>highlights and future plans<br><b>/invited talk/</b>   | 11.00-11.20 |
| 8MS3-IM-05 | <b>Sergei NIKIFOROV<br/>et al</b> | Water content in the<br>Martian subsurface along<br>the NASA/MSL "Curiosity»<br>Rover traverse: data<br>of the DAN instrument<br>in Passive mode | 11.20-11.40 |

**coffee-break**

**11.40-12.00**

|            |                                       |   |             |
|------------|---------------------------------------|---|-------------|
| 8MS3-IM-06 | <b>Jordanka<br/>SEMKOVA<br/>et al</b> | Charged particles radiation<br>quantities onboard Exomars<br>Trace Gas Orbiter during<br>the transit and in high elliptic<br>Mars orbit | 12.00-12.20 |
| 8MS3-IM-07 | <b>Alexey<br/>MALAKHOV<br/>et al</b>  | Fine Resolution Neutron<br>Detector (FRIEND)<br>Instrument onboard<br>Exomars 2016 TGO Orbiter.<br>First Results                        | 12.20-12.40 |
| 8MS3-IM-08 | <b>Andrey<br/>VOSTRUKHIN</b>          | Neutron component of<br>radiation environment<br>for interplanetary missions  | 12.40-13.00 |

**lunch**

**13.00-14.00**

|            |   |  |             |
|------------|---|--|-------------|
| 8MS3-IM-09 | <b>Ludmila ZASOVA<br/>et al</b>             | VENERA-D - Concept<br>Mission to Venus: Scientific<br>Goals and Architecture<br><b>/invited talk/</b>                                      | 14.00-14.20 |
| 8MS3-IM-10 | <b>Maxim LITVAK<br/>et al</b>               | Active gamma ray<br>spectrometer proposed<br>for future Venus surface<br>missions  | 14.20-14.40 |
| 8MS3-IM-11 | <b>Daniel RODIONOV<br/>et al</b>            | ExoMars 2020 Surface<br>platform Payload/ <b>invited<br/>talk/</b>   | 14.40-15.00 |
| 8MS3-IM-12 | <b>Francesca<br/>ESPOSITO<br/>et al</b>     | Characterisation of<br>Dust Suspended in the<br>Atmosphere of Mars: the<br>Dust Suite - Micromed<br>Sensor for the Exomars<br>2020 Mission | 15.00-15.20 |
| 8MS3-IM-13 | <b>Diego Rodríguez<br/>DÍAZ et al</b>       | AMR instrument for<br>stationary magnetic<br>measurements<br>on Mars   | 15.20-15.40 |
| 8MS3-IM-14 | <b>Marina DÍAZ-<br/>MICHELENA<br/>et al</b> | NEWTON Project: New<br>opportunities for magnetic<br>surveys in the planetary<br>exploration   | 15.40-16.00 |

**coffee-break**

**16.00-16.20**

|            |                                   |   |             |
|------------|-----------------------------------|---|-------------|
| 8MS3-IM-15 | <b>Jinsong PING</b>               | Low frequency radio astronomical missions on the farside space of the Moon                            | 16.20-16.40 |
| 8MS3-IM-16 | <b>Mariia ZAKHAROVA</b>           | Compiling the navigational 3D model for prospective lunar base area                                   | 16.40-17.00 |
| 8MS3-IM-17 | <b>Alexander KOSOV et al</b>      | Radioscience Experiments for Martian and Lunar Missions   | 17.00-17.20 |
| 8MS3-IM-18 | <b>Dmitry MOISEENKO et al</b>     | Functional tests of ARIES-L instrument  | 17.20-17.40 |
| 8MS3-IM-19 | <b>Victor APESTIGUE et al</b>     | Mars 2020 Radiation and Dust Sensor Technical Overview  | 17.40-18.00 |
| 8MS3-IM-20 | <b>Ryan CHAU and A.A. MARDON</b>  | Lunar Caving: Usage and Exploration   | 18.00-18.20 |
| 8MS3-IM-21 | <b>Konstantin LUCHNIKOV et al</b> | Method and Laser Ablation Mass-Spectrometer for the Search of Evidence of Life From the Europa Lander | 18.20-18.40 |

# POSTER SESSION

9 october 18.00-19.00

11 october 18.00-19.00

## PLANETARY ATMOSPHERES

|            |   |  |
|------------|---|--|
| 8MS3-PS-01 | <b>Sanjay S. LIMAYE</b><br>et al                  | Mesoscale vortex circulations on Venus observed in AKATSUKI IR2 images   |
| 8MS3-PS-02 | <b>Daria EVDOKIMOVA</b><br>et al                  | Venus cloud parameters modulating the 1.28- $\mu\text{m}$ nightside window emission observed by SPICAV IR/VEX                            |
| 8MS3-PS-03 | <b>Elena PETROVA</b>                              | Glory on the upper cloud deck of Venus and identification of the unknown UV absorber   |
| 8MS3-PS-04 | <b>Vladimir GUBENKO</b><br>et al                  | Radio occultation retrievals of zonal wind speed at the high-latitude atmosphere of the Venus  |
| 8MS3-PS-05 | <b>A. PAVELYEV</b><br>et al                       | Space bistatic radio-holography as applied to study atmosphere and surface of Venus and Earth  |
| 8MS3-PS-06 | <b>Ashley PALUMBO</b><br>and<br><b>James HEAD</b> | The mineralogic alteration history of early Mars: The role of large craters and basins in transient regional high-temperature alteration |
| 8MS3-PS-07 | <b>Anton SANIN</b><br>et al                       | Impact of the Martian atmosphere properties on the spatial resolution of the FREN/D/TGO  |
| 8MS3-PS-08 | <b>Herbert LICHTENEGGER</b><br>et al              | Influence of Suprathermal Atoms on the Escape and Evolution of the Martian' CO <sub>2</sub> Atmosphere                                   |

## LUNAR AND PLANETARY GEOLOGY

|            |   |   |
|------------|---|---|
| 8MS3-PS-09 | <b>James HEAD</b><br>and <b>H. QUINTAL</b>          | McMurdo Dry Valleys: Exploring Antarctica As A Mars Analog  |
| 8MS3-PS-10 | <b>Adeene DENTON</b><br>and <b>James HEAD</b>       | The fretted terrain, Mars: Implications of missing volume for hypotheses of origin  |
| 8MS3-PS-11 | <b>James CASSANELLI</b><br>and<br><b>James HEAD</b> | Outflow Channels on Mars: Testing the Origin of Reull Vallis in Hesperia Planum by Large-Scale Lava-Ice Interactions and Top-Down Melting         |
| 8MS3-PS-12 | <b>Erica JAWIN</b><br>et al                         | The Prinz-Harbinger Shield Volcano: A Transition in Lunar Volcanic Eruption Style   |
| 8MS3-PS-13 | <b>Boris IVANOV</b>                                 | Small lunar crater degradation: time scale and mechanisms   |
| 8MS3-PS-14 | <b>Natalia KOZLOVA</b><br>et al                     | Morphometric catalogue of lunar craters 1-10 km in diameter   |
| 8MS3-PS-15 | <b>Dijun GUO</b><br>et al                           | Orientele Secondary Craters: Insights Into Orientele Impact Parameters and the Largest Secondary Crater Size of the South Pole-Aitken Basin Event |
| 8MS3-PS-16 | <b>Gennady KOCHEMASOV</b>                           | Global Degassing Producing Formation In Crust of Hydrocarbon Concentrations, Kimberlites, and Alkaline Rocks                                      |
| 8MS3-PS-17 | <b>Gennady KOCHEMASOV</b>                           | Orbital Energy As a Main Source for Shaping and Structuring Cosmic Bodies   |
| 8MS3-PS-18 | <b>Tamara GUDKOVA</b> et al                         | On attenuation of torsional oscillations on Mars  |
| 8MS3-PS-19 | <b>Vladimir ZHARKOV</b> et al                       | On the estimate of the dissipative factor of martian interiors  |
| 8MS3-PS-20 | <b>Alexey BATOV</b><br>et al                        | Model stresses in martian interiors for two-level loading   |
| 8MS3-PS-21 | <b>Evgeny SLYUTA</b>                                | The Scientific Tasks of the LUNA-GRUNT Project (LUNA-28)  |
| 8MS3-PS-22 | <b>Sergey KRASILNIKOV</b><br>et al                  | Estimation of probability of dangerous slopes in the landing sites of LUNA-GLOB spacecraft through analysis of shadow area on the LROC NAC images |

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|------------|---|---|
| 8MS3-PS-23 | <b>Alexey MALAKHOV et al</b>                  | SAP "Luna" system for automated scientific planning of future lunar missions  |
| 8MS3-PS-24 | <b>Mikhail IVANOV et al</b>                   | Sources of materials at the three high-priority landing sites of the LUNA-GLOB mission  |
| 8MS3-PS-25 | <b>Maya DJACHKOVA et al</b>                   | LUNA-25 landing sites candidates: detailed analysis   |
| 8MS3-PS-26 | <b>Mikhail IVANOV et al</b>                   | Contribution of the lunar basin ejecta to materials within the LUNA-GLOB landing zone   |
| 8MS3-PS-27 | <b>Yuqi QIAN et al</b>                        | Geology of the CHANG'E-5 Candidate Landing Region In Northern Procellarum   |
| 8MS3-PS-28 | <b>Yangxiaoyi LU and Vladislav SHEVCHENKO</b> | Crater Von Karman:CHANG'E-4 Farside Landing Mission   |
| 8MS3-PS-29 | <b>Alexander GUSEV et al</b>                  | Spin-orbital evolution and interior of the Moon: past, modern, future   |
| 8MS3-PS-30 | <b>Ekaterina KRONROD et al</b>                | Lunar internal structure models consistent with seismic and selenodetic (GRAIL and LLR) data and thermodynamic constraints                    |
| 8MS3-PS-31 | <b>Azary BARENBAUM and Michael SHPEKIN</b>    | Problem of mascons origin   |
| 8MS3-PS-32 | <b>Andrey KHARITONOV</b>                      | The analysis of magnetic and gravity field of the Moon from satellite data for the geological analysis of lunar rocks                         |
| 8MS3-PS-33 | <b>Nadezhda CHUJKOVA et al</b>                | A spherical harmonic and statistical analysis of the surface topography of the Moon and the connection of the relief with gravitational field |
| 8MS3-PS-34 | <b>Arthur ZAGIDULLIN et al</b>                | Results of modeling the rotation of the Moon on the basis of modern theories of its physical libration  |
| 8MS3-PS-35 | <b>Alexey ANDREEV</b>                         | Analysis of planetophysical parameters on the basis of harmonic and fractal methods and space missions data                                   |
| 8MS3-PS-36 | <b>Sergei IPATOV</b>                          | Formation and growth of embryos of the Earth-Moon system  |
| 8MS3-PS-37 | <b>Nikita DEMIDOV and Mikhail IVANOV</b>      | Validation of Diviner rock abundance data with direct rock counting on LROC images  |
| 8MS3-PS-38 | <b>Anastasia ZHARKOVA</b>                     | Mercury topographic roughness: calculation, analysis, mapping   |

#### GIANT PLANETS

|            |   |  |
|------------|---|--|
| 8MS3-PS-39 | <b>Anna DUNAEVA et al</b>                   | Main constraints on the hydrous silicates content for the models of partially differentiated Titan |
| 8MS3-PS-40 | <b>Sergei KULIKOV and Alexander SKALSKY</b> | Magnetic field measurements around Ganymede and at its surface                                     |
| 8MS3-PS-41 | <b>Victor TEJFEL et al</b>                  | Zonal-time variations of the ammonia absorption on Jupiter in 2005-2015                            |
| 8MS3-PS-42 | <b>Ivan PENSIONEROV et al</b>               | Is Saturn's magnetosphere open to the interplanetary magnetic field?                               |

#### ASTROBIOLOGY, METHODS AND INSTRUMENTS FOR SEARCH OF EXTRATERRESTRIAL LIFE

|            |                               |  |
|------------|-------------------------------|--|
| 8MS3-PS-43 | <b>Georgi MANAGADZE et al</b> | Probability of nucleotide synthesis in the meteorite-impact plasma torch |
|------------|-------------------------------|--|

|            |                                    |  |
|------------|------------------------------------|--|
| 8MS3-PS-44 | <b>A. CHUMIKOV et al</b>           | Elemental composition measurement as a powerful approach to searching and characterizing samples containing microorganisms             |
| 8MS3-PS-45 | <b>Tatiana BORISOVA et al</b>      | Inorganic martian dust simulant enriched by carbon component possess modulating effects on glutamate- and gaba-ergic neurotransmission |
| 8MS3-PS-46 | <b>Ahya REZAEI</b>                 | Plants growths in space, effective methods and techniques  |
| 8MS3-PS-47 | <b>Mohammad Sadegh GHEIBZADEH</b>  | Study of the bacterial life on similar conditions of the Europa, in the laboratory.  |
| 8MS3-PS-48 | <b>Vladimir CHEPTSOV et al</b>     | Putative martian microbial complexes could be viable cryopreserved in regolith during tens of millions years                           |
| 8MS3-PS-49 | <b>Ilya DIGEL and M. KUHLEN</b>    | Temperature dependence of autofluorescence: detection limits for ubiquitous life-specific compounds                                    |
| 8MS3-PS-50 | <b>Andrey BELOV et al</b>          | High resistance of bacteria from extreme habitats to abiotic and biotic factors  |
| 8MS3-PS-51 | <b>Tatyana ALEKHOVA et al</b>      | Monitoring of internal environment on the board of space station   |
| 8MS3-PS-52 | <b>Konstantin KLEMENTIEV et al</b> | Influence of space flight and ionizing radiation on the photosynthetic apparatus of cyanobacteria                                      |

#### EXOPLANETS

|            |                                |   |
|------------|--------------------------------|---|
| 8MS3-PS-53 | <b>Artem BEREZUTSKIY et al</b> | Two different regimes of interaction of planetary and stellar winds of the Glise 436 b and transit absorption in Lya line |
|------------|--------------------------------|---|

#### DUST AND DUSTY PLASMA IN SPACE

|            |  |   |
|------------|--|---|
| 8MS3-PS-54 | <b>Iliia KUZNETSOV et al</b>             | Numerical SPIS-Dust Modelling of Plasma - "Luna-Glob" Lander Interactions                         |
| 8MS3-PS-55 | <b>Andrey KHARITONOV</b>                 | The specific features of interplanetary magnetic field and dusty plasma from "ACE" satellite data |
| 8MS3-PS-56 | <b>Yulia IZVEKOVA et al</b>              | Dusty plasma turbulence in the regions where the Moon crosses the Earth's magnetotail             |
| 8MS3-PS-57 | <b>Tatiana SALNIKOVA and S. STEPANOV</b> | Effect of electromagnetic field on Kordylewski clouds formation                                   |

#### SMALL BODIES

|            |   |  |
|------------|---|--|
| 8MS3-PS-58 | <b>Mikhail KRESLAVSKY</b>                   | Gas of Dust Particles: A Possible Mechanism of Aeolian Processes on Small Bodies                             |
| 8MS3-PS-59 | <b>Vladimir BUSAREV et al</b>               | Confirmation of sublimation and dust activity on 779 Nina and 704 Interamnia                                 |
| 8MS3-PS-60 | <b>Marina SHCHERBINA et al</b>              | Asteroid reflectance spectra modeling with laboratory databases of analog samples                            |
| 8MS3-PS-61 | <b>Dmitry GLAZACHEV et al</b>               | Impact effect calculator. Radiation assessment from atmospheric impacts of cosmic bodies                     |
| 8MS3-PS-62 | <b>Atila PORO</b>                           | Pole of rotation and spin rate of different asteroids  |
| 8MS3-PS-63 | <b>Zeinab Sadat LESANI</b>                  | A study on occultation and timing methods  |
| 8MS3-PS-64 | <b>Gennady KOCHEMASOV</b>                   | Essence of the Wave Planetology Revealed in Shape of Asteroid 2014J025 and Some Other Small Celestial Bodies |
| 8MS3-PS-65 | <b>Dmitry SHESTOPALOV and L.F. GOLUBEVA</b> | Interlink between Photometric and Polarimetric Properties of Asteroids                                       |

## INSTRUMENTS, MISSIONS, EXPLORATION

|            |  |   |
|------------|--|---|
| 8MS3-PS-66 | <b>Imant VINOGRADOV et al</b>                  | A multichannel diode laser spectrometer experiment on board of the ExoMars-2020 mission landing platform for in situ study of atmosphere near the martian surface   |
| 8MS3-PS-67 | <b>Anatoly MANUKIN et al</b>                   | A uniaxial seismometer is an element of a triaxial seismometer for measurements on the surface of Mars (the ExoMars program).   |
| 8MS3-PS-68 | <b>Rositza KOLEVA et al</b>                    | Galactic cosmic rays modulation by solar wind disturbances as observed on board of ExoMars TGO  |
| 8MS3-PS-69 | <b>Pauli LAINE</b>                             | Accessing Icy Moon's Ocean with Thermonuclear Reactor   |
| 8MS3-PS-70 | <b>Yuri OZOROVICH et al</b>                    | Geophysical survey of the surface and subsurface planetary geo-electrical markers of the subsurface ocean on the Jupiter's and Saturn's ice moons: possibilities to adapt space technology for risk assessment and geophysical practice |
| 8MS3-PS-71 | <b>Helen POPOVA</b>                            | Theory of stability of nanocraft equipped with a sail accelerated by a intense laser beam   |
| 8MS3-PS-72 | <b>Dmitry MOISEENKO et al</b>                  | Complex of low-weight miniature instruments for solar wind monitoring   |
| 8MS3-PS-73 | <b>Rico FAUSCH et al</b>                       | Neutral gas mass spectrometry in the context of the Luna-Resurs mission   |
| 8MS3-PS-74 | <b>Aleksey STAROVEROV and Oleg KHAVROSHKIN</b> | Space guns for the Moon and on the Moon   |
| 8MS3-PS-75 | <b>Andrey LYASH et al</b>                      | Development of the Experimental Set-up for Lunar Dust Particles Investigation and Instruments calibrations  |
| 8MS3-PS-76 | <b>Austin MARDON and Victoria THROCKMORTON</b> | Lunar lava tubes and pressurized tents as a suitable alternative for human habitation   |
| 8MS3-PS-77 | <b>Ryan CHAU and Austin MARDON</b>             | Using Meteor Burst Communications on inhabited planets  |
| 8MS3-PS-78 | <b>Boris EPISHIN and Michael SHPEKIN</b>       | Analysis of apparent motion of Sun, Earth and stars on lunar sky  |