

# Overview 9M-S<sup>3</sup> Program

## The Ninth Moscow Solar System Symposium (9M-S<sup>3</sup>)

IKI RAS, 8-12 October 2018

	8 October	9 October	10 October	11 October	12 October
10.00	<b>Opening Session</b>	Session 2. Venus	Session 5. Small Bodies	Session 6. Giant planets	Session 8. Moon science and exploration
	Session 1. Mars	Session 3. Exoplanets	Lunch	Lunch	Lunch
11.40					
		Session 4. Solar wind	Coffee	Coffee	Coffee
12.00					
		Session 7. Dust	Coffee	Coffee	Coffee
13.00					
		Concert	Coffee	Coffee	Coffee
14.00					
		Invited lecture	Social events in Moscow	Social events in Moscow	Reception
16.00					
	Poster Session	Social events in Moscow	Social events in Moscow	Reception	
16.20					
	Welcome party	Social events in Moscow	Social events in Moscow	Reception	
17.40					
	Welcome party	Social events in Moscow	Social events in Moscow	Reception	
18.00					
	Welcome party	Social events in Moscow	Social events in Moscow	Reception	
19.00					
	Welcome party	Social events in Moscow	Social events in Moscow	Reception	
20.00					

## 9M-S<sup>3</sup> Scientific Program

**Monday, 8 October 2018**

Lev Zelenyi                      Opening Remarks                      **10.00-10.10**

Lori Glaze                      Overview of the NASA planetary science                      **10.10-10.30**

**Session 1. MARS**                      **10.30-17.45**

**Convener: Oleg KORABLEV**

**9MS3-MS-01**                      Anna Fedorova et al                      The Atmospheric Chemistry Suite (ACS) Experiment On Board The ExoMars Trace Gas Orbiter: The Results of First Six Months Of Operations                      10.30-10.45

**9MS3-MS-02**                      Alexey Malakhov et al                      Fine Resolution Epithermal Neutron detector onboard ExoMars Trace Gas Orbiter: Mars neutron mapping first results and new areas of interest                      10.45-11.00

**9MS3-MS-03**                      Jordanka Semkova et al                      Recent results for the space radiation environment in Mars orbit provided by FREND Liulin-MO dosimeter aboard ExoMars TGO                      11.00-11.15

**9MS3-MS-04**                      Dmitrij Titov et al                      Mars Express: 15 years of hard work and discoveries                      11.15-11.30

**9MS3-MS-05**                      Denis Lisov et al                      Low-Fe regions along the Curiosity path in the Gale crater based on DAN active neutron probing data                      11.30-11.45

**Coffee-break**                      11.45-12.15

**9MS3-MS-06**                      Majd Mayyasi et al                      Echelle Observations of Lyman-alpha emissions of H, D, and Interplanetary Hydrogen at Mars                      12.15-12.30

**9MS3-MS-07**                      James Head and Robin Wordsworth                      Deciphering Noachian geological and climate history of Mars: major geologic processes and their climatic consequences                      12.30-12.45

**9MS3-MS-08**                      James Head et al                      Two Oceans on Mars?: History, Problems and Prospects                      12.45-13.00

**Lunch**                      13.00-14.00

**9MS3-MS-09**                      Sohan Jheeta                      Astrobiology - a new kid on the block                      14.00-14.30

**9MS3-MS-10**                      Ashley Palumbo and James Head                      Oceans on Mars: The possibility of a Noachian groundwater-fed ocean in a sub-freezing martian climate                      14.30-14.45

**9MS3-MS-11**                      Benjamin Boatwright and James Head                      An Integrated Model of Precipitation, Infiltration, and Groundwater Flow on Mars                      14.45-15.00

**9MS3-MS-12**                      Jessica Flahaut et al                      Fumarolic alteration on Mars: lessons learned from terrestrial analog fieldwork                      15.00-15.15

**9MS3-MS-13**                      Vladimir A. Krasnopolsky                      Photochemistry of Water in the Martian Thermosphere and Its Effect of Hydrogen Escape                      15.15-15.30

**9MS3-MS-14**                      Anatolij Pavlov et al                      High rate of atmospheric methane losses in reactions with cosmic rays produced ions as possible source of seasonal methane variations on Mars                      15.30-15.45

**Coffee-break**                      15.45-16.15

**9MS3-MS-15**                      Vladimir Ogibalov                      Non-equilibrium radiative transfer in the ro-vibrational CO<sub>2</sub> bands in the Martian atmosphere taking account of radiation extinction by aerosols                      16.15-16.30

**9MS3-MS-16**                      Salvador Jiménez et al                      Retrieval of an induced magnetic field in Mars ionosphere from MARSIS data. effects of crustal and noncrustal fields                      16.30-16.45

**9MS3-MS-17**                      Oleg Vaisberg et al                      Dayside magnetosphere of Mars in MSE coordinate system                      16.45-17.00

**9MS3-MS-18**                      Jürgen Oberst et al                      Benefit for Mars polar science from a mission to very-low (< 150 km) orbit                      17.00-17.15

<b>9MS3-MS-19</b>	Rustam Lukmanov et al	Biosignatures detection from 1.88 Ga Gunflint chert with LMS suite	17.15-17.30
<b>9MS3-MS-20</b>	Haiming Wang et al	Bibliometric Evaluation of the Development Trend of Mars Exploration Research	17.30-17.45

**POSTER SESSION (all sessions)**

**18.00-19.00**

**Tuesday, 9 October 2018**

**Session 2. VENUS**

**10.00-13.00**

**Convener: Ludmila ZASOVA**

<b>9MS3-VN-01</b>	Daria Evdokimova et al	Variations of the lower cloud layer and H <sub>2</sub> O in the deep atmosphere of Venus from the night windows observations by SPICAV-IR/VEX	10.00-10.15
<b>9MS3-VN-02</b>	Vladimir Krasnopolsky	Venus Nighttime Photochemical Model: Nightglow of O <sub>2</sub> , NO, OH and Abundances of O <sub>3</sub> and ClO	10.15-10.30
<b>9MS3-VN-03</b>	Kandi Jessup et al	Venus' cloud top response to the excitation of planetary scale GWs at Aphrodite	10.30-10.45
<b>9MS3-VN-04</b>	Ludmila Zasova et al	Traces of surface topography in Venus mesosphere on Venera 15 and Venus Express data	10.45-11.00
<b>9MS3-VN-05</b>	Mikhail Luginin et al	Study of aerosol properties in upper haze from SPICAV-UV and -IR data	11.00-11.15
<b>9MS3-VN-06</b>	Sanjay Limaye et al	Venus as an Astrobiology Target	11.15-11.30
<b>9MS3-VN-07</b>	Valeriy Snytnikov and Leonid Ksanfomality	About the possible nature of living forms on Venus	11.30-11.45

**Coffee-break**

**11.45-12.00**

<b>9MS3-VN-08</b>	Irina Kovalenko, and Natan Eismont	Trajectory and orbit design for the Venera-D mission	12.00-12.15
<b>9MS3-VN-09</b>	Mikhail Ivanov et al	Venera-D Landing Site Constraints	12.15-12.30
<b>9MS3-VN-10</b>	Oleg Vaisberg et al	Dynamic processes in the solar wind as the cause of Venus magnetosphere and ionosphere disturbances and loss of mass	12.30-12.45
<b>9MS3-VN-11</b>	Sergey Kolomiets et al	A new criterion of the geometrical optics applicability as a foundation of a novel approach to radio occultation data interpretation	12.45-13.00

**Lunch**

**13.00-14.00**

**Session 3. EXOPLANETS**

**14:00-16:00**

**Convener: Alexander TAVROV**

<b>9MS3-EP-01</b>	Shingo Kameda et al	Ultraviolet Spectrograph for Exoplanets (UVSPEX) onboard World Space Observatory Ultraviolet (WSO-UV)	14.00-14.20
<b>9MS3-EP-02</b>	Valery Shematovich et al	Atmospheric mass loss of close-in exoplanets irradiated by stellar superflares	14.20-14.40
<b>9MS3-EP-03</b>	Masahiro Ikoma et al	Theoretical Spectra of Highly-Irradiated Atmospheres of Transiting Exoplanets	14.40-15.00
<b>9MS3-EP-04</b>	Takanori Kodama et al	The threshold of the runaway greenhouse effect for Earth-like planets	15.00-15.20
<b>9MS3-EP-05</b>	Jean-Loup Bertaux et al	A new numerical inversion scheme of mini exoplanet mass distribution: the Neptune-Saturn desert remains after inversion	15.20-15.40
<b>9MS3-EP-06</b>	Vladislava Ananyeva et al	Exoplanet mass distribution considering the observation selection factors	15.40-16.00

**Coffee-break**

**16.00-16.20**

**Session 4. SOLAR WIND INTERACTIONS WITH PLANETS AND SMALL BODIES**

**16.20-18.05**

**Convener: Oleg VAISBERG**

<b>9MS3-SW-01</b>	Eduard Dubinin et al	Different faces of the Martian magnetosphere	16.20-16.35
<b>9MS3-SW-02</b>	Elena Grigorenko et al	A multiscale structure of the cross-tail Current Sheet and its relation to the ion composition according to MAVEN observations in the Martian magnetotail	16.35-16.50

<b>9MS3-SW-03</b>	Vladimir Ermakov et al	Analysis of Martian magnetic barrier	16.50-17.05
<b>9MS3-SW-04</b>	Sergey Shuvalov et al	Dynamics of Hot Flow Anomalies at Mars	17.05-17.20
<b>9MS3-SW-05</b>	Valery Shematovich et al	Aurorae at Mars: modeling and comparison with observations	17.20-17.35
<b>9MS3-SW-06</b>	Peter Wurz et al	Surface release processes to populate Mercury's exosphere	17.35-17.50
<b>9MS3-SW-07</b>	Christoph Lhotka et al	Motion of dust subject to solar wind and interplanetary magnetic fields	17.50-18.05

**Wednesday, 10 October 2018**

**Session 5. SMALL BODIES**

**10.00-17.40**

**Conveners: Alexander BASILEVSKY, Sergey VOROPAEV**

<b>9MS3-SB-01</b>	Mikhail Marov et al	Numerical simulation of thermal evolution of the comet 67 P/Churyumov-Gerasimenko nucleus	10.00-10.20
<b>9MS3-SB-02</b>	Jean-Loup Bertaux and Rosine Lallement	D/H ratio in water ice and in solid organics of comet 67P : Implications for the formation of the Solar system	10.20-10.40
<b>9MS3-SB-03</b>	Yuri Skorov et al.	Gas production rate: myths and analysis	10.40-11.00
<b>9MS3-SB-04</b>	Anton Kochergin et al	Slow-ejected dust particles forming a crust on a cometary nucleus	11.00-11.20
<b>9MS3-SB-05</b>	Leonid Ksanfomality	Some dynamic characteristics of the Hale-Bopp comet nucleus (by 1997 observations)	11.20-11.40
<b>Coffee-break</b>			11.40-12.00
<b>9MS3-SB-06</b>	Alexander Basilevsky et al	Lineaments on the surface of consolidated material of the comet 67P nucleus	12.00-12.20
<b>9MS3-SB-07</b>	Sergey Efimov and Vladislav Sidorenko	Semi-analytical study of mean motion resonances with application to dynamics of Kuiper belt objects	12.20-12.40
<b>9MS3-SB-08</b>	Vladimir Busarev et al	Confirmations of ice sublimation process near perihelion on primitive main-belt asteroids 779 Nina, 704 Interamnia and 145 Adeona: A search for common reasons	12.40-13.00
<b>Lunch</b>			13.00-14.00
<b>9MS3-SB-09</b>	Atila Poro	Light Curve analyze of 50 asteroids based on the ALCDEF database	14:00 – 14:20
<b>9MS3-SB-10</b>	Vacheslav Emel'yanenko	Dynamical evolution and origin of meteorites with short cosmic-ray exposure ages	14:20 – 14:40
<b>9MS3-SB-11</b>	Sergei Ipatov	Migration of bodies to the Earth and the Moon from different distances from the Sun	14:40 – 15:00
<b>9MS3-SB-12</b>	Richard Hoover and Alexey Rozanov	Microfossils, biomolecules and bioelements in the Orgueil meteorite	15:00 – 15:20
<b>9MS3-SB-13</b>	Evgenij Zubko et al	Significant spatial heterogeneity of regolith on asteroid (3200) Phaethon	15:20 – 15:40
<b>9MS3-SB-14</b>	Sergey Voropaev	Asteroid disruption by planets at near flyby	15:40 – 16:00
<b>Coffee-break</b>			16.00-16.20
<b>9MS3-SB-15</b>	Evgeny Slyuta and Sergey Voropaev	Gravitational deformation of small Solar system bodies	16:20 – 16:40
<b>9MS3-SB-16</b>	Jing Sun et al	Preliminary work on promoting asteroids radio astronomical study in China	16:40 – 17:00
<b>9MS3-SB-17</b>	Thomas Duxbury et al	The international Phobos/Deimos surface characterization and site selection working group: 2018 status	17:00 – 17:20

<b>9MS3-SB-18</b>	Evgeny Slyuta et al	Proposals to Russian program for research of small bodies of the Solar system	17:20 – 17:40
	<b>INVITED LECTURE</b>		<b>17.40-18.10</b>
	Takafumi Matsui	Decadal plan for Japanese planetary exploration	17.40-18.10
<b>POSTER SESSION (all sessions)</b>			<b>18.10-19.10</b>

**Thursday, 11 October 2018**

**Session 6. GIANT PLANETS**

**10.00-15.20**

**Convener: Scott BOLTON**

<b>9MS3-GB-01</b>	Scott Bolton and Jack Connerney	Juno's Surprising Results at Jupiter	10.00-10.20
<b>9MS3-GB-02</b>	Michel Blanc et al	A short introduction to magnetosphere-ionosphere-thermosphere studies at Jupiter with Juno	10.20-10.40
<b>9MS3-GB-03</b>	Jack Connerney et al	Juno Magnetometer Observations of Jupiter's Magnetic Field and Magnetosphere	10.40-11.00
<b>9MS3-GB-04</b>	Alessandro Mura and A. Adriani	The auroral footprints of Galilean moons at Jupiter	11.00-11.20
<b>9MS3-GB-05</b>	Masafumi Imai et al	Multi-instrument investigation for Jupiter lightning-induced whistler and sferic events using Juno	11.20-11.40

**Coffee-break**

**11.40-12.00**

<b>9MS3-GB-06</b>	Sadie Elliott et al	Electron acceleration to high energies via whistler-mode wave-particle interactions in the Jovian polar regions	12.00-12.20
<b>9MS3-GB-07</b>	Paolo Racioppa et al	Jupiter's gravity field determination from Doppler tracking of the Juno spacecraft	12.20-12.40
<b>9MS3-GB-08</b>	Paolo Racioppa et al	Saturn's gravity field determination from Doppler tracking of the Cassini spacecraft	12.40-13.00

**Lunch**

**13.00-14.00**

<b>9MS3-GB-09</b>	Vladimir Krasnopolsky	On the carbon isotope ratio in Titan's atmosphere and interior	14:00 – 14:20
<b>9MS3-GB-10</b>	Vladislav Sidorenko	The multi-shell models of celestial bodies with an intermediate layer of fluid: dynamics in the case of the large values of the Ekman number	14:20 – 14:40
<b>9MS3-GB-11</b>	Michel Blanc et al	Planetary exploration, Horizon 2061: from key questions to representative space missions and enabling technologies	14:40 – 15:00
<b>9MS3-GB-12</b>	Theodore Clarke	Juno and the New Renaissance	15:00 – 15:20

**Coffee-break**

**15.20-15.40**

**Session 7. DUST AND DUSTY PLASMA IN SPACE**

**15.40-17.00**

**Convener: Alexander ZAKHAROV**

<b>9MS3-DP-01</b>	Sergei Ipatov	Migration of interplanetary dust particles to the Earth and the Moon	15:20 – 15:40
<b>9MS3-DP-02</b>	Sergey Popel et al	Formation of two dusty plasma clouds as a result of a meteoroid impact onto the Moon	15:40 – 16:00
<b>9MS3-DP-03</b>	Ekaterina Chornaya et al	The 10- $\mu$ m silicate feature in sub-millimeter compact olivine particles	16:00 – 16:20
<b>9MS3-DP-04</b>	Marina Frontasyeva et al	Cosmic dust studied by the moss analysis	16:20 – 16:40



**9MS3-DP-05**

Tatiana Salnikova and  
Sergey Stepanov

On the dust charged particles as a part of Kordylewski  
clouds

16:40 – 17:00

CONCERT

17.00-18.00

RECEPTION

18.00-20.00

**Friday, 12 October 2018**

**Session 8. MOON SCIENCE AND EXPLORATION**

**10.00-18.00**

**Conveners: Igor MITROFANOV, Maxim LITVAK**

<b>9MS3-MN-01</b>	Carle Pieters et al	Transformative Lunar science	10.00-10.20
<b>9MS3-MN-02</b>	Jessica Flahaut et al	Lunar polar regions of interest for future exploration	10.20-10.40
<b>9MS3-MN-03</b>	Ariel Deutsch et al	Analysis of subsurface impact and volcanic structures on the Moon with gravity recovery and interior laboratory (GRAIL)	10.40-11.00
<b>9MS3-MN-04</b>	Mariia Sundeeva et al	The distribution of the concentrations (anomalies) of the water equivalent of hydrogen as a function of the relief at the polar regions of the Moon regarding the LRO data	11.00-11.20
<b>9MS3-MN-05</b>	Igor Mitrofanov	So many discoveries of water on the Moon	11.20-11.40

**Coffee-break**

**11.40-12.00**

<b>9MS3-MN-06</b>	James Head and Lionel Wilson	Lunar basaltic volcanic eruptions: gas release patterns and variations in lava vesicularity: fissures, mare flows, and ring moat dome structure (RMDS) morphology	12.00-12.20
<b>9MS3-MN-07</b>	Mikhail Ivanov et al	Geology of the northern portion of the SPA basin on the Moon: evidence for compositional stratification of the ancient lunar crust	12.20-12.40
<b>9MS3-MN-08</b>	Valeriy Tenishev	Kinetic modeling of sodium population in the lunar exosphere	12.40-13.00

**Lunch**

**13.00-14.00**

<b>9MS3-MN-09</b>	Jinsong Ping et al	Some pre-studies about the candidate landing area for CHANG'E-4 project	14.00-14.20
<b>9MS3-MN-10</b>	Maya Djachkova et al	Landing site selection process for future Moon polar missions	14.20-14.40
<b>9MS3-MN-11</b>	Rico Fausch et al	Neutral gas mass spectrometer for the Luna- Resurs mission: status, performance and scientific implications	14.40-15.00
<b>9MS3-MN-12</b>	Mingyuan Wang et al	Lunar ionosphere and planetary radio emissions detection based on radio experiments of Chinese space mission	15.00-15.20
<b>9MS3-MN-13</b>	Bernard Foing et al	EuroMoonMars pilot programme for research, technology, training and field simulations	15.20-15.40
<b>9MS3-MN-14</b>	Weiwei Fan et al	Bibliometric analysis of solar system exploration missions	15.40-16.00

**Coffee-break**

**16.00-16.20**

<b>9MS3-MN-15</b>	Maxim Litvak et al	Lunar round-trip mission: objectives	16.20-16.40
<b>9MS3-MN-16</b>	Neeraj Pradhann	The modular mobile lunar base concept the most redundant approach for habitat architecture [HAB-ROB]	16.40-17.00
<b>9MS3-MN-17</b>	Alexander Gusev et al	On eve of the glorious jubilee: 60 years of the Moon's exploration by spacecrafts	17.00-17.20
	Panel Discussion	Integration of manned and robotic missions on the Moon	17.20-18.00

## Poster Session

8 October 18.00-19.00

10 October 18.10-19.10

MARS		
9MS3-PS-01	Adeene Denton and James Head	Closed depressions in Arabia Terra, Mars: Implications for subsurface mass removal
9MS3-PS-02	Ashley Palumbo and James Head	Early Mars climate history: Characterizing a "warm and wet" martian climate with a 3D global climate model and testing geological predictions
9MS3-PS-03	Mikhail Luginin et al	Retrieval of aerosol properties from TIRVIM solar occultations onboard ExoMars/TGO
9MS3-PS-04	Alexey Batov et al	On the location of potential marsquakes' sources
9MS3-PS-05	Tamara Gudkova et al	Model estimates of stress state in Mars for three-level loading
9MS3-PS-06	Eugene Brusnikin and Dubovitskaia A.	The study of influence of Mars climate on Slope streaks formation process
9MS3-PS-07	Mikhail Malenkov et al	ExoMars - 2020 program: on the concept of the marsokhod locomotion system
9MS3-PS-08	Diego Rodríguez Díaz et al	AMR instrument for ExoMars' 2020 Surface Platform. Development status, calibration and qualification
9MS3-PS-09	Maxim Zaitsev et al	The use of the EO gas sterilization process for the planetary protection requirements fulfillment on the «ExoMars-2020» mission
9MS3-PS-10	Gennady Dolnikov et al	Investigation of Martian Dust with Dust Complex onboard the ExoMars-2020 landing platform
9MS3-PS-11	Imant Vinogradov et al	M-DLS experiment for the ExoMars-2020 stationery landing platform
9MS3-PS-12	Mikhail Gerasimov et al	The Martian Gas Analytical Package (ExoMars mission, 2020)
9MS3-PS-13	Maxim Kulikov and Alexander Skalsky	Mars: Electromagnetic survey at the landing platform
9MS3-PS-14	Alexander Kosov et al	LaRa (Lander Radioscience) on the ExoMars 2020 Surface Platform – Rotation of Mars and Positioning of the Surface Platform
9MS3-PS-15	Ekaterina Grishakina et al	Martian soil simulant for large-scale field experimental research
9MS3-PS-16	Mikhail Ivanov et al	ExoMars landing sites in Oxia Palus and Mawrth Vallis: geological characterization
9MS3-PS-17	Mikhail Ivanov et al	ExoMars landing sites in Oxia Palus and Mawrth Vallis: small craters and boulders
9MS3-PS-18	Manuel Maria Dominguez-Pumar et al	A miniaturized 3D wind sensor for planetary exploration
9MS3-PS-19	Simone Dell'Agnello et al	Next-Gen Laser Retroreflectors for Mars (ExoMars 2016-2020, Mars 2020, InSight 2018)
9MS3-PS-20	Jose Luis Vazquez-Poletti et al	Serverless On-Demand MARSIS Ionogram Processing on a Public Cloud Computing Infrastructure

<b>9MS3-PS-21</b>	Maria Pilar Velasco et al	Fractional Models to Simulate the Martian Atmospheric Dust Dynamics
<b>9MS3-PS-22</b>	Gennady Kochemasov	The new wave planetology shown in the martian satellites: shrinking Phobos and swelling Deimos
<b>9MS3-PS-23</b>	Alexandra Bermejo et al	Potential of nanoparticle self-assembled layer for optical instruments
<b>9MS3-PS-24</b>	Vladimir Cheptsov et al	Viability of desert soil microbial community after irradiation with accelerated electrons under simulated extraterrestrial conditions
<b>9MS3-PS-25</b>	Andrey Belov et al	Halotolerance of bacteria from extreme ecosystems: implications for astrobiology
<b>9MS3-PS-26</b>	Margarita Kriuchkova et al	The influence of high energy electrons (HEE) on fungal community from desert soil
<b>9MS3-PS-27</b>	Sergey Bulat	Subglacial Antarctic Lake Vostok vs. subglacial South Pole Martian lake and hypersaline Canadian Arctic lakes – prospects for life

#### VENUS

<b>9MS3-PS-28</b>	Ludmila Zasova et al	Venera-D: from science objectives to mission architecture
<b>9MS3-PS-29</b>	Dmitry Gorinov et al	Circulation of Venusian atmosphere at 90-110 km based on apparent motions of the O <sub>2</sub> 1.27 μm nightglow from VIRTIS-M (Venus Express) data
<b>9MS3-PS-30</b>	Michael Bondarenko and Anatoly Gavrik	Gravity wave activity as possible cause of ionospheric layers registered at 90-115km on Venus
<b>9MS3-PS-31</b>	Anatoly Gavrik	Wave-like structures in the Venus ionosphere during radio occultation
<b>9MS3-PS-32</b>	Evgeniya Guseva	Main global extensional regimes on Venus
<b>9MS3-PS-33</b>	Vladimir Zharkov and Tamara Gudkova	On the estimate of precession constant for Venus
<b>9MS3-PS-34</b>	Daria Evdokimova et al	Improved retrieval of gaseous concentration profiles in Venus mesosphere using SPICAV-UV/VEX stellar occultation data
<b>9MS3-PS-35</b>	Vladimir Gromov and Alexander Kosov	An accuracy of the retrieving of Venusian atmospheric data from the radiometer instrument in the Venera- D mission

#### EXOPLANETS

<b>9MS3-PS-36</b>	Elena Popova	Nonlinear theory of stability of nanocraft equipped with a sail accelerated by an intense laser beam
<b>9MS3-PS-37</b>	Artem Berezutsky et al	Numerical study of the planetary atmosphere of Gliese 436B
<b>9MS3-PS-38</b>	Sergey Bulat et al	Marinilactobacillus SP and two more bacteria in the subglacial Antarctic Lake Vostok
<b>9MS3-PS-39</b>	Yuhiko Aoyama et al	Theoretical Model of Hydrogen Line Emission from Accreting Gas Giants
<b>9MS3-PS-40</b>	Valery Kotov	Superfast exoplanets and 9600 seconds

<b>9MS3-PS-41</b>	Andrey Yudaev et al	Interference coronagraph with rotational shear for ground-based and space telescopes
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### SOLAR WIND INTERACTIONS WITH PLANETS AND SMALL BODIES

<b>9MS3-PS-42</b>	Oleg Khavroshkin and A.B. Khrustalev	Chandler's precace, sun processes: spectral analysis
<b>9MS3-PS-43</b>	Oleg Khavroshkin and Vladislav Tsyplakov	Sun and temperature fields of the Earth

### SMALL BODIES

<b>9MS3-PS-44</b>	Veniamin Fedulov et al	Stepwise degassing of the original gray matter of the meteorite Chelyabinsk (LL5)
<b>9MS3-PS-45</b>	Pauli Laine	Accessing icy moon's ocean with thermonuclear reactor
<b>9MS3-PS-46</b>	Elena Petrova and V.P. Tishkovets	Retrieval of surface properties using polarization and intensity of light reflected by atmosphereless celestial bodies
<b>9MS3-PS-47</b>	Larissa Golubeva and Dmitry Shestopalov	Asteroids: spectral properties of polarization degree
<b>9MS3-PS-48</b>	Vladimir Busarev and Sergei Ipatov	Observational evidences and possible dynamical reasons of sublimation activity of primitive asteroids in the main-belt
<b>9MS3-PS-49</b>	Dorsa Asgarian	Comparative Study of Orbital Parameters and Magnitude of Short and Long Period Comets

### GIANT PLANETS

<b>9MS3-PS-50</b>	Ivan Pensionerov et al	Models of the Jovian magnetodisc vs. Juno magnetometer data
<b>9MS3-PS-51</b>	Petr Lyssenko. et al	The ammonia absorption in the Jovian Great Red Spot
<b>9MS3-PS-52</b>	Yaroslav Ilyushin and Paul Hartogh	Submillimeter wave radiometry of the Jovian icy moons' crust: numerical simulations
<b>9MS3-PS-53</b>	Anna Dunaeva et al	Hydrated phases in the Titan's core
<b>9MS3-PS-54</b>	Victor Kronrod et al	Dependence of the planetesimals mass captured in giant planets accretion disks from ablation processes
<b>9MS3-PS-55</b>	Gennady Kochemasov	Terrestrial catastrophic atmospheric phenomena of the wave nature (El-Nino, cyclon, tornado) and comparison of cyclones on Earth and Jupiter

### DUST AND DUSTY PLASMA IN SPACE

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<b>9MS3-PS-58</b>	Yulia Izvekova and Sergey Popel	Dusty plasmas and vortex motions in the atmosphere of Mars
<b>9MS3-PS-59</b>	Vladimir Cheptsov et al	Survivability of bacteria in an impact-type plasma torch
<b>9MS3-PS-60</b>	Alexander Zakharov et al	Investigation of lunar dusty exosphere with future Russian lunar missions: Development of the Instrument & Simulation Control
<b>9MS3-PS-61</b>	Andrew Lyash et al	Development of the Experimental Set-up for Lunar Dust Particles Investigation and Instruments calibrations
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### MOON SCIENCE AND EXPLORATION

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