

# Overview 14M-S<sup>3</sup> Program

## THE FOURTEENTH MOSCOW SOLAR SYSTEM SYMPOSIUM (14M-S<sup>3</sup>)

IKI RAS, 9-13 October 2023

	9 October	10 October	11 October	12 October	13 October
10.00	REGISTRATION	MN SESSION	MN SESSION	SB SESSION	EP SESSION
11.00	MS SESSION				
11.40	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE
12.00			VN SESSION		
13.00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
14.00					
16.00	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE
16.20					
18.00	MS POSTER SESSION	MN POSTER SESSION	VN POSTER SESSION	SB POSTER SESSION	EP POSTER SESSION
19.00					
20.00	WELCOME PARTY	SOCIAL EVENTS IN MOSCOW	SOCIAL EVENTS IN MOSCOW	RECEPTION	SOCIAL EVENTS IN MOSCOW
					AB POSTER SESSION

**MS SESSION:** MARS SESSION

**MN SESSION:** MOON AND MERCURY SESSION

**VN SESSION:** VENUS SESSION

**SB SESSION:** SMALL BODIES (INCLUDING COSMIC DUST) SESSION

**EP SESSION:** EXTRASOLAR PLANETS SESSION

**AB SESSION:** ASTROBIOLOGY SESSION

## 14M-S<sup>3</sup> Scientific Program

<b>Monday, 9 October 2023</b>			
<b>Session 1. MARS</b>			<b>11.00-19.00</b>
<b>Convener: Oleg KORABLEV</b>			
<b>conference hall, second floor</b>			
<b>14MS3-MS-01</b>	<b>Alina MUKHAMEDZHANOVA</b>	Valley topography of northeastern Terra Cimmeria on Mars	11.00-11:20
<b>14MS3-MS-02</b>	<b>Yaowen LUO</b>	Constraint on paleo hydrological activities from deltas on Mars	11.20-11.40
<b>Coffee-break</b>			<b>11.40-12.00</b>
<b>14MS3-MS-03</b>	<b>Jun CHU et al</b>	Deposits in the depression west to Eberswalde crater indicate a synchronous hydrogeological history of Holden and Eberswalde craters on Mars	12.00-12:20
<b>14MS3-MS-04</b>	<b>Boris IVANOV</b>	New craters on Mars: Updating after 2022 catalog	12.20-12.40
<b>14MS3-MS-05</b>	<b>Elena PODOBNAYA et al</b>	Some statistics on fresh Martian clusters	12.40-13.00
<b>Lunch</b>			<b>13.00-14.00</b>
<b>14MS3-MS-06</b>	<b>Zhongchen WU et al</b>	The gas-solid chemical reaction during Martian dust events	14.00-14.20
<b>14MS3-MS-07</b>	<b>Anna FEDOROVA et al</b>	Distribution of atmospheric aerosols during the 2007 Mars dust storm by solar infrared occultation on Mars-Express	14.20-14.40
<b>14MS3-MS-08</b>	<b>Ekaterina STARICHENKO et al</b>	Two years of gravity waves observation in the Martian atmosphere by the ACS experiment on board the ExoMars/TGO	14.40-15.00
<b>14MS3-MS-09</b>	<b>Pavel VLASOV et al</b>	Martian global water vapor column abundance from ACS TIRVIM nadir observations onboard ExoMars TGO	15.00-15.20
<b>14MS3-MS-10</b>	<b>Alina MERKULOVA and A. K. PAVLOV</b>	Possible explanations for seasonal variations of oxygen in the Martian atmosphere	15.20-15.40
<b>14MS3-MS-11</b>	<b>Dominik BELOUSOV et al</b>	Possible source of perchlorates on Mars and Europa	15.40-16.00
<b>Coffee-break</b>			<b>16.00-16.20</b>
<b>14MS3-MS-12</b>	<b>Anton SALNIKOV et al</b>	Analytical continuation of the magnetic field of Mars from satellite data using a combined approach	16.20-16.40
<b>14MS3-MS-13</b>	<b>Jinsong PING et al</b>	Mars electron density inversion based on Tianwen-1 radio occultation experiment	16.40-17.00
<b>14MS3-MS-14</b>	<b>Egor KULIK and Tamara GUDKOVA</b>	Effects of anelasticity on Chandler period of Mars	17.00-17.20
<b>14MS3-MS-15</b>	<b>Jordanka SEMKOVA et al</b>	New results from the radiation investigations aboard ExoMars TGO in 2018-2023	17.20-17.40
<b>14MS3-MS-16</b>	<b>Elena KARPOVICH et al</b>	A science Martian airplane: preliminary configurations and radiation loading analysis	17.40-18.00
<b>POSTER SESSION, Session Mars</b>			<b>18.00-19.00</b>
<b>12 posters*5min</b>			
<b>14MS3-MS-PS-01</b>	<b>Anatoly ZUBAREV et al</b>	Photogrammetric procession of Mars 2020 Ingenuity data and subsequent obtaining of a 3D surface model	18.00-18.05
<b>14MS3-MS-PS-02</b>	<b>Alexey BATOV and Tamara GUDKOVA</b>	On correlation of non-hydrostatic stresses in the interior of Mars with the epicenters of marsquakes	18.05-18.10
<b>14MS3-MS-PS-03</b>	<b>Sergei KULIKOV et al</b>	Magnetic field observations at the surface of Mars: the influence of atmospheric/ionospheric phenomena and the interplanetary medium	18.10-18.15
<b>14MS3-MS-PS-04</b>	<b>Oleg VAISBERG et al</b>	Recurring magnetic structure in Martian dayside magnetopause	18.15-18.20
<b>14MS3-MS-PS-05</b>	<b>Marina KUZMICHEVA and Boris IVANOV</b>	Characteristic features of magnetic anomalies of impact craters on Earth: how they appear on terrestrial planets	18.20-18.25
<b>14MS3-MS-PS-06</b>	<b>Anatoly MANUKIN et al</b>	Improvement of the characteristics of the uniaxial seismometer	18.25-18.30
<b>14MS3-MS-PS-07</b>	<b>Mohamad ABDELAAL et al</b>	Exploring electromagnetic signatures of dust particles collisions: experimental setup and station construction for signal acquisition	18.30-18.35

<b>14MS3-MS-PS-08</b>	<b>Vladimir OGIBALOV and G. M. SHVED</b>	An improved model of radiative transfer for the NLTE problem in the NIR bands of CO <sub>2</sub> and CO molecules in the daytime atmosphere of Mars. 3. An effect of aerosol radiation scattering on the vibrational state populations	18.35-18.40
<b>14MS3-MS-PS-09</b>	<b>Vladimir OGIBALOV</b>	Hierarchy of vibrational state sets for solving the NLTE radiative transfer problem in the IR CO <sub>2</sub> bands in the Martian atmosphere	18.40-18.45
<b>14MS3-MS-PS-10</b>	<b>Petr LYSENKO et al</b>	On the role of methane and ammonia absorption in studying Jupiter's atmosphere	18.45-18.50
<b>14MS3-MS-PS-11</b>	<b>Andrey KIRILLOV</b>	Electronic kinetics of molecular nitrogen at the altitudes of Titan's middle atmosphere	18.50-18.55
<b>14MS3-MS-PS-12</b>	<b>Nikolay KASATIKOV</b>	Integrating IoT with space exploration: Improving Mars missions with Neural networks	18.55-19.00
	<b>WELCOME PARTY</b>		<b>19.00-20.00</b>

<b>Tuesday, 10 October 2023</b>			
<b>Session 2. MOON AND MERCURY</b>			<b>10.00-19.45</b>
<b>Conveners: Igor MITROFANOV, Maxim LITVAK conference hall, second floor</b>			
<b>Mercury</b>			
<b>14MS3-MN -01</b>	<b>Alexander KOZYREV et al</b>	Three Mercury flybys: observations of neutron and gamma-ray fluxes by MGNS instrument onboard the ESA's BepiColombo mission	10.00-10.20
<b>14MS3-MN-02</b>	<b>Alexander LAVRUKHIN et al</b>	Determination of the optimal parameters of the Mercury's magnetosphere for the MESSENGER mission	10.20-10.40
<b>The studies of the Moon as celestial body</b>			
<b>14MS3-MN-03</b>	<b>Alexander GUSEV et al</b>	Geological exploration of the Moon VI: mineralogy, rheology, heat budget	10.40-11.00
<b>14MS3-MN-04</b>	<b>Mikhail IVANOV et al</b>	Thickness of volcanic materials in Mare Fecunditatis	11.00-11.20
<b>14MS3-MN-05</b>	<b>Alexander BASILEVSKY et al</b>	Study of the surface morphology of permanently shadowed floor of polar crater Shoemaker: Relative depth of small craters	11.20-11.40
<b>Coffee-break</b>			<b>11.40-12.00</b>
<b>14MS3-MN-06</b>	<b>Alexander BASILEVSKY et al</b>	Photogeological analysis of the tectonically deformed impact crater in the South Pole region of the Moon	12.00-12.20
<b>14MS3-MN-07</b>	<b>Xing WANG and James HEAD</b>	Evidence for extensive cryptomaria in the center of the South-Pole Aitken basin	12.20-12.40
<b>14MS3-MN-08</b>	<b>Zifeng YUAN et al</b>	Inversion of global lunar oxides using Chang'E-2 Lunar Microwave Sounder data	12.40-13.00
<b>Lunch</b>			<b>13.00-14.00</b>
<b>14MS3-MN-09</b>	<b>James HEAD and Mikhail IVANOV</b>	Mare mesas in Mare Fecunditatis: characteristics of a newly documented class of mare volcanic feature	14.00-14.20
<b>14MS3-MN-10</b>	<b>James HEAD et al</b>	Ina shield volcano summit pit crater: forward-modeling major stages in its evolution and comparison with surface morphology and sequence	14.20-14.40
<b>14MS3-MN-11</b>	<b>Maya DJACHKOVA et al</b>	Studies of the floor of Zeeman lunar polar crater with LRO and Luna-25 data	14.40-15.00
<b>14MS3-MN-12</b>	<b>Maxim LITVAK et al</b>	The experiment LEND: 14 years observations of lunar neutron albedo	15.00-15.20
<b>14MS3-MN-13</b>	<b>Iliia KUZNETSOV et al</b>	Investigation of the cosmic dusty plasmas with dust monitoring instruments	15.20-15.40
<b>14MS3-MN-14</b>	<b>Vladimir DUDCHENKO and Evgeny SLYUTA</b>	A temperature distribution model in the lunar soil at the Polar Regions	15.40-16.00
<b>Coffee-break</b>			<b>16.00-16.20</b>
<b>The Earth based experiments and studies of the Moon</b>			
<b>14MS3-MN-15</b>	<b>Daniil MIRONOV et al</b>	VI-LH1 - Lunar highlands simulant for large scale experiments	16.20-16.40
<b>14MS3-MN-16</b>	<b>Yuri BONDARENKO et al</b>	Earth-based radar observations of permanently shadowed regions on the lunar South Pole	16.40-17.00
<b>14MS3-MN-17</b>	<b>Artem KRIVENKO et al</b>	Features of isotopic fractionation of water ice during sublimation under lunar conditions	17.00-17.20
<b>Lunar exploration perspectives</b>			
<b>14MS3-MN-18</b>	<b>Dmitry GOLOVIN et al</b>	The gamma-ray spectroscopy of Rare Earth elements in lunar subsurface	17.20-17.40
<b>14MS3-MN-19</b>	<b>Anton SANIN et al</b>	On the neutron emission from the south polar region of the Moon	17.20-18.00
<b>POSTER SESSION , Session Moon and Mercury</b>			<b>18.00-19.45</b>
<b>21 posters*5 min</b>			
<b>14MS3-MN-PS-01</b>	<b>Alexander BASILEVSKY et al</b>	Regional and local geology and Moon Mineralogy Mapper data analysis for the Luna 24 landing site	18.00-18.05

14MS3-MN-PS-02	<b>Alexander KRASILNIKOV et al</b>	Model stratigraphy in the Artemis landing sites region	18.05-18.10
14MS3-MN-PS-03	<b>Mikhail IVANOV et al</b>	Sources of materials in the Luna-16 sample	18.10-18.15
14MS3-MN-PS-04	<b>Zhiguo MENG et al</b>	New findings of surface deposits in cryptomare region revealed by CE-2 MRM data	18.15-18.20
14MS3-MN-PS-05	<b>Xeniya KOCHUBEY and Mikhail IVANOV</b>	Degradation of fresh-looking craters on the Moon	18.20-18.25
14MS3-MN-PS-06	<b>Ekaterina GRISHAKINA et al</b>	Absolute model age estimates of the Plaskett crater	18.25-18.30
14MS3-MN-PS-07	<b>Michael SHPEKIN and V.S. SHISHKINA</b>	The structure features of young impact craters in the area of “bulbous fields” on the Aitken crater floor	18.30-18.35
14MS3-MN-PS-08	<b>Nadezhda CHUJKOVA et al</b>	Dynamics of the Earth-Moon and Venus-Mercury systems: a comparative analysis	18.35-18.40
14MS3-MN-PS-09	<b>Ekaterina KRONROD et al</b>	Numerical simulation of the thermal evolution of the Moon. Consistency with the presence of a low-viscosity zone at the core-mantle boundary	18.40-18.45
14MS3-MN-PS-10	<b>Jing YANG and Lianghai GUO</b>	An omnidirectional filtering method for destriping lunar satellite gravity data	18.45-18.50
14MS3-MN-PS-11	<b>Jinsong PING et al</b>	To promote a joint space-time reference datum on the Moon	18.50-18.55
14MS3-MN-PS-12	<b>Andrey SHUGAROV et al</b>	Astrophysical UV-Optical-IR telescope for the International Lunar Research Station	18.55-19.00
14MS3-MN-PS-13	<b>Ekaterina GRISHAKINA et al</b>	Creating the map of the polar regions of the Moon	19.00-19.05
14MS3-MN-PS-14	<b>Boris EPISHIN and Michael SHPEKIN</b>	The situation in the lunar sky in the landing area of the Russian «Luna - 25» station from August 2023 to August 2024	19.05-19.10
14MS3-MN-PS-15	<b>Imant VINOGRADOV et al</b>	Design of a compact multichannel diode laser spectrometer for the Luna-27 mission: challenges and achievements	19.10-19.15
14MS3-MN-PS-16	<b>Alexander KOSOV et al</b>	Luna-27 lander and Luna-26 orbiter navigation by means of Radio Beacon deployed on the Luna-27 lander	19.15-19.20
14MS3-MN-PS-17	<b>Alexandra UVAROVA</b>	Studying the suitability of the Kamchatka peninsula as natural testing site for lunar missions based on the properties of soils	19.20-19.25
14MS3-MN-PS-18	<b>Mohamad ABDELAAL et al</b>	Investigating high-voltage charging effects and substrate material on dust particle dynamics and electromagnetic signatures in a low-pressure conditions: lunar regolith analogue study	19.25-19.30
14MS3-MN-PS-19	<b>Ivan AGAPKIN and Alexandra UVAROVA</b>	Experimental research of the lunar soil-analogue VI-75 under negative temperature	19.30-19.35
14MS3-MN-PS-20	<b>Egor SOROKIN et al</b>	Thermal reduced Si and P in metallic iron nanospherules: experimental data	19.35-19.40
14MS3-MN-PS-21	<b>Azariy BARENBAUM</b>	New interpretation of “true polar wander” phenomenon: conclusions for terrestrial planets	19.40-19.45

<b>Wednesday, 11 October 2023</b>			
<b>Session 2. MOON AND MERCURY</b>			<b>10.00-11.40</b>
<b>Conveners: Igor MITROFANOV, Maxim LITVAK</b>			
<b>conference hall, second floor</b>			
<b>Lunar exploration perspectives</b>			
<b>14MS3-MN-20</b>	<b>Anatoly ZUBAREV et al</b>	Processing technique for the image data from Service Television Camera System - Luna (STS-L) at the landing stage	10.00-10.20
<b>14MS3- MN-21</b>	<b>Huijuan WANG et al</b>	Optimizing scientific objectives for the Lunar-based UV-Optical-IR telescope for ILRS	10.20-10.40
<b>14MS3- MN- 22</b>	<b>Denis LISOV et al</b>	In-flight selection of landing site for lunar polar lander	10.40-11.00
<b>14MS3- MN -23</b>	<b>Tatiana TOMILINA et al</b>	Laboratory Testing for ISRU of Regolith by SLM technology	11.00-11.20
<b>14MS3- MN -24</b>	<b>Lev ZELENYI et al</b>	Russian Lunar Program: Difficult beginning	11.20-11.40
<b>Coffee-break</b>			<b>11.40-12.00</b>
<b>Session 3. VENUS</b>			<b>12.00-18.40</b>
<b>Convener: Ludmila ZASOVA</b>			
<b>conference hall, second floor</b>			
<b>14MS3--VN-01</b>	<b>Lev ZELENYI et al</b>	Venera-D Mission Update	12.00-12.20
<b>14MS3--VN-02</b>	<b>Takehiko SATOH et al</b>	Updates of Akatsuki Venus Orbiter	12.20-12.40
<b>14MS3--VN-03</b>	<b>Igor KHATUNTSEV et al</b>	Twelve years cycle in the cloud top winds on Venus	12.40-13.00
<b>Lunch</b>			<b>13.00-14.00</b>
<b>14MS3--VN-04</b>	<b>Ludmila ZASOVA et al</b>	Some peculiarities of the Venusian mesosphere dynamics	14.00-14.20
<b>14MS3--VN-05</b>	<b>Mikhail LUGININ et al</b>	Retrieval of upper haze aerosol properties at Venus from SPICAV-UV and -IR data	14.20-14.40
<b>14MS3--VN-06</b>	<b>Daria EVDOKIMOVA et al</b>	Venus lower cloud variations by SPICAV-IR/VEX night emission observations and supplemented radiative transfer model	14.40-15.00
<b>14MS3--VN-07</b>	<b>Evgenij ZUBKO and Y. J. LEE</b>	Retrieving microphysics of aerosols in the atmosphere of Venus using the glory phenomenon	15.00-15.20
<b>14MS3--VN-08</b>	<b>Mikhail IVANOV and James HEAD</b>	Morphological and topographical groups of large volcanoes on Venus	15.20-15.40
<b>14MS3--VN-09</b>	<b>Piero D'INCECCO et al</b>	Introducing the “Analogues for VENUS’ GEologically Recent Surfaces” initiative: an opportunity for identifying and analyzing recently active volcano-tectonic areas of Venus through a comparative study with Terrestrial analogues	15.40-16.00
<b>Coffee-break</b>			<b>16.00-16.20</b>
<b>14MS3--VN-10</b>	<b>Denis BELYAEV et al</b>	Scientific concept of VOLNA experiment to study spectroscopy of Venus atmosphere	16.20-16.40
<b>14MS3--VN-11</b>	<b>Pavel KLIMOV et al</b>	SONET scientific equipment for the Venera-D project	16.40-17.00
<b>14MS3--VN-12</b>	<b>Piero D'INCECCO et al</b>	The Campo Imperatore ADvanced VENUS’ Night Airglows Near-infrared Telescope (ADVENANT) Project as a ground-based segment for future missions to Venus	17.00-17.20
<b>14MS3--VN-13</b>	<b>Dargilan Oliveira AMORIM and Tamara GUDKOVA</b>	Earth-like viscoelastic models of Venus interior structure	17.20-17.40
<b>POSTER SESSION , Session Venus</b>			<b>17.40-18.40</b>
<b>12 posters * 5 min</b>			
<b>14MS3--VN-PS-01</b>	<b>Marina PATSAEVA et al</b>	Influence of the underlying surface on the zonal and meridional speed at the cloud top level near noon from VMC/Venus Express and UVI/Akatsuki images	17.40-17.45
<b>14MS3--VN-PS-02</b>	<b>Artem NEPOP et al</b>	Study of aerosol properties in the Venus’ upper haze from SOIR data	17.45-17.50
<b>14MS3--VN-PS-03</b>	<b>Elizaveta FEDOROVA et al</b>	Study of the HDO/H <sub>2</sub> O isotope ratio in the mesosphere of Venus based on SOIR observations for 2006-2014	17.50-17.55
<b>14MS3--VN-PS-04</b>	<b>Imant VINOGRADOV et al</b>	Optical design of a high-resolution IR spectrometer ISCRA-V for the Venera-D mission	17.55-18.00

<b>14MS3--VN-PS-05</b>	<b>Vladislav ZUBKO et al</b>	Study of flight scenarios to Venus followed by a passage of an asteroid	18.00-18.05
<b>14MS3--VN-PS-06</b>	<b>Dmitry MOISEENKO et al</b>	Venus in solar wind: scientific goals and concepts of plasma analyzers for Venera-D mission	18.05-18.10
<b>14MS3--VN-PS-07</b>	<b>Vladimir GUBENKO and I. A. KIRILLOVICH</b>	Comparison of internal wave characteristics in the Venus's atmosphere deduced by two independent methods from the Magellan radio occultation measurements	18.10-18.15
<b>14MS3--VN-PS-08</b>	<b>Evgeniya GUSEVA and Mikhail IVANOV</b>	Coronae of Venus: topography and volcanic productivity	18.15-18.20
<b>14MS3--VN-PS-09</b>	<b>Ivan BORONIN and Tamara GUDKOVA</b>	Computer realization of algorithm for inversion of Venusian interiors based on Monte Carlo method: 1. testing on classical example of gravitational field data	18.20-18.25
<b>14MS3--VN-PS-10</b>	<b>Tamara GUDKOVA and Alexey BATOV</b>	On stress state of Venus	18.25-18.30
<b>14MS3--VN-PS-11</b>	<b>Valery KOTOV</b>	Motion of Venus and Earth, and Fibonacci numbers	18.30-18.35
<b>14MS3--VN-PS-12</b>	<b>Natalia BULATOVA</b>	Cosmic rays are initiators of strong earthquakes	18.35-18.40

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<b>Thursday, 12 October 2023</b>			
<b>Session 4. SMALL BODIES(including cosmic dust)</b>			<b>10.00-18.50</b>
<b>Conveners: Alexander BASILEVSKY, Alexander ZAKHAROV conference hall, second floor</b>			
14MS3-SB-01	Vacheslav EMEL'YANENKO	The origin of distant trans-Neptunian objects	10.00-10.20
14MS3-SB-02	Vladislav GUSEV and Eduard KUZNETSOV	The accuracy of methods for estimating the ages of pairs of trans-Neptunian objects in close orbits	10.20-10.40
14MS3-SB-03	Vladimir BUSAREV et al	Spectral signs and probable mechanisms of optically thin and thick dusty exosphere of active asteroids	10.40-11.00
14MS3-SB-04	Tatyana GALUSHINA et al	The study of mean motion resonance multiplet for near-Sun asteroids	11.00-11.20
14MS3-SB-05	Alexander MELNIKOV and K.S. LOBANOVA	On perturbations in the rotational motion of the asteroid (99942) Apophis during its 2029 Earth encounter	11.20-11.40
<b>Coffee-break</b>			<b>11.40-12.00</b>
14MS3-SB-06	Evgenij ZUBKO and G.VIDEEN	What we can learn about dust in comets from their polarimetry/ <b>Invited talk/</b>	12.00-12.20
14MS3-SB-07	Wentao LUO et al	The 2.5 meter Wide Field Survey Telescope (WFST) design and hunting for NEOs	12.20-12.40
14MS3-SB-08	Dominik BELOUSOV and A.K. PAVLOV	Distant cometary outbursts: a non-gravitational mechanism of orbit perturbation	12.40-13.00
<b>Lunch</b>			<b>13.00-14.00</b>
14MS3-SB-09	Iliia KUZNETSOV et al	UV-influence on dust particles electrostatic lift-off processes in experimental set-up	14.00-14.15
14MS3-SB-10	Valentin BORZOSEKOV et al	Microwave discharge experiments on samples of a meteorite substance and lunar regolith simulants for plasma-dust cloud modelling	14.15-14.30
14MS3-SB-11	Tatyana GAYANOVA et al	Simulation experiments on the deposition of charged particles of LMS-1D regolith on the solar panels of spacecraft	14.30-14.45
14MS3-SB-12	Yulia IZVEKOVA et al	Specific features of dusty plasma and wave processes in the exosphere of Mercury	14.45-15.00
14MS3-SB-13	Sergey POPEL and Lev ZELENYI	Manifestations of anomalous dissipation in dusty plasmas of our Solar system: celestial bodies without atmosphere	15.00-15.15
14MS3-SB-14	Yulia REZNICHENKO et al	Dusty plasma clouds in the atmosphere of Mars: significance of Rayleigh-Taylor instability	15.15-15.30
14MS3-SB-15	Olga POPOVA et al	Energy release of large impactors in the terrestrial atmosphere	15.30-15.45
14MS3-SB-16	Sergei IPATOV	Migration of bodies ejected from the Earth and the Moon	15.45-16.00
<b>Coffee-break</b>			<b>16.00-16.15</b>
14MS3-SB-17	Tatiana SALNIKOVA and E.I. KUGUSHEV	Possibility of space debris escape from the Earth - Moon system	16.15-16.30
14MS3-SB-18	Roman ZOLOTAREV and Boris SHUSTOV	On the dynamics of meteoroid streams originating from NEA collisions	16.30-16.45
14MS3-SB-19	Nikolai KISELEV et al	Polarimetry of NEAs at the Crimean astrophysical observatory and the Peak Terskol observatory in 2019 - 2023	16.45-17.00
14MS3-SB-20	Alexander SAMOKHIN et al	About the GTOC XII problem	17.00-17.15
14MS3-SB-21	Anton SOKOLOV et al	Mapping of Hyperion in the triaxial ellipsoid projections	17.15-17.30
14MS3-SB-22	Vladimir TCHERNYI et al	Saturn's magnetism in the origin of dense rings and in their peculiarities recorded by the Cassini probe. the Tchernyi-Kapranov effect	17.30-17.45
14MS3-SB-23	Phiilipp VYSIKAYLO	Vysikaylo' cumulative plasma cannon on the protection of the Earth from meteoroids	17.45-18.00
<b>POSTER SESSION , Session Small Bodies(including cosmic dust)</b>			<b>18.00-18.50</b>
<b>10 posters * 5 min</b>			
14MS3-SB-PS-01	Mohammad MADANI	An overview of Pluto's atmospheric studies	18.00-18.05
14MS3-SB-PS-02	Dmitriy SHOKHRIN et al	2D-description of nonlinear wave perturbations in the dusty magnetosphere of Saturn	18.05-18.10
14MS3-SB-PS-03	Marina SHCHERBINA et al	Gaia Data Release 3: distribution by spectral groups of near-Earth asteroids	18.10-18.15



<b>14MS3-SB-PS-04</b>	<b>Elena PETROVA</b>	On the evaluation possibility for the properties of the exosphere of an active asteroid from polarimetric data	18.15-18.20
<b>14MS3-SB-PS-05</b>	<b>Tatiana MOROZOVA and Sergey POPEL</b>	Instabilities in meteoroid tails associated with ion acoustic mode	18.20-18.25
<b>14MS3-SB-PS-06</b>	<b>Tatiana MOROZOVA and Sergey POPEL</b>	Manifestations of modulation instability in meteoroid tails	18.25-18.30
<b>14MS3-SB-PS-07</b>	<b>Maksim KHOVRICHEV and D.A. BIKULOVA</b>	Calculation of the non-gravitational A2 parameter using ground-based observations of the apparent close approaches between near-earth asteroids and Gaia stars	18.30-18.35
<b>14MS3-SB-PS-08</b>	<b>Mariia VASILEVA and Eduard KUZNETSOV</b>	Asteroid cluster of (338073) 2002 PY38: membership and age estimation	18.35-18.40
<b>14MS3-SB-PS-09</b>	<b>Vladimir EFREMOV et al</b>	Application of the small meteors ablation model to Perseid meteors	18.40-18.45
<b>14MS3-SB-PS-10</b>	<b>Vladislav ZUBKO et al</b>	Concept of planetary defense system using a projectile asteroid	18.45-18.50
<b>RECEPTION</b>			<b>19.00-21.00</b>

<b>Friday, 13 October 2023</b>			
<b>Session 5. EXTRASOLAR PLANETS</b>			<b>10.00-15.50</b>
<b>Convener: Alexander TAVROV room 200, second floor</b>			
<b>14MS3-EP-01</b>	<b>Iidar SHAIKHISLAMOV et al</b>	Modelling absorption in lines of hydrogen and oxygen of Super-Hot massive Jupiter Kelt9b	10.00-10.20
<b>14MS3-EP-02</b>	<b>Marina RUMENSKIKH et al</b>	The emission spectrum of the host star and transit absorptions of Hot Jupiters in the metastable helium line	10.20-10.40
<b>14MS3-EP-03</b>	<b>Olga OLEYNIK and Vacheslav EMEL'YANENKO</b>	The role of Earth-mass planets in the origin of debris disks	10.40-11.00
<b>14MS3-EP-04</b>	<b>Boris KONDRATYEV et al</b>	Modified method of round Gaussian rings. Application to the two-planetary problem	11.00-11.20
<b>14MS3-EP-05</b>	<b>Arina SIMONOVA and Valery SHEMATOVICH</b>	Calculation of thermal atmospheric loss for a Hot exoplanet on elliptic orbit	11.20-11.40
<b>Coffee-break</b>			<b>11.40-12.00</b>
<b>14MS3-EP-06</b>	<b>Anastasia AVTAEVA and Valery SHEMATOVICH</b>	Kinetic model of the effect of stellar wind on the extended hydrogen atmosphere of the exoplanet $\pi$ Men c	12.00-12.20
<b>14MS3-EP-07</b>	<b>Vladislava ANANYEVA et al</b>	The refined method for taking into account observational selection for planets detected by the radial velocity technique	12.20-12.40
<b>14MS3-EP-08</b>	<b>Yisi LIU and Volker PERDELWITZ</b>	One reliable method for stellar parameter determination based on space photometry and the PHOENIX spectral library	12.40-13.00
<b>Lunch</b>			<b>13.00-14.00</b>
<b>14MS3-EP-09</b>	<b>Anastasiia IVANOVA et al</b>	Telluric absorption correction and radial velocity method	14.00-14.20
<b>14MS3-EP-10</b>	<b>Artem SHEPELIN et al</b>	Statistical equilibrium code for exoplanet atmospheres simulations	14.20-14.40
<b>14MS3-EP-11</b>	<b>Sergei IPATOV</b>	Mixing of planetesimals in the Glisse 581 planetary system	14.40-15.00
<b>14MS3-EP-12</b>	<b>Eduard KUZNETSOV and A.S. PERMINOV</b>	Investigation of dynamic evolution of the compact planetary system Kepler-51	15.00-15.20
<b>POSTER SESSION , Session Extrasolar Planets</b>			<b>15.20-15.50</b>
<b>6 posters*5 min</b>			
<b>14MS3-EP-PS-01</b>	<b>Ilia MIROSHNICHENKO et al</b>	Simulation of absorption in the H $\alpha$ line of exoplanet KELT-9b	15.20-15.25
<b>14MS3-EP-PS-02</b>	<b>Maksim GOLUBOVSKY et al</b>	Oxygen 777.4 nm triplet absorption simulation in KELT-9 b atmosphere	15.25-15.30
<b>14MS3-EP-PS-03</b>	<b>Stanislav SHARIPOV et al</b>	Simulation of H $\alpha$ absorption for hot Jupiter WASP-12b	15.30-15.35
<b>14MS3-EP-PS-04</b>	<b>Artem BEREZUTSKY et al</b>	3D aeronomy of the HD 63433 system planets and absorption in Ly $\alpha$ line	15.35-15.40
<b>14MS3-EP-PS-05</b>	<b>Ailar ALIZADEHSABEGH</b>	Planetary Mass-Radius Relation	15.40-15.45
<b>14MS3-EP-PS-06</b>	<b>Esfandiar JAHANGIRI</b>	Ephemeris Updates for Seven Selected HATNet Survey Transiting Exoplanets	15.45-15.50
<b>Coffee-break</b>			<b>16.00-16.20</b>

Friday, 13 October 2023

Session 6. ASTROBIOLOGY

10.00-17.00

Convener: Oleg KOTSYURBENKO  
conference hall, second floor

14MS3-AB-01	Vladimir KOMPANICHENKO	Concept of thermodynamic inversion as a model of the origin of life on planets and satellites	10.00-10.20
14MS3-AB-02	Valery SHEMATOVICH et al	Non-thermal nitric oxide formation in polar regions of N <sub>2</sub> -O <sub>2</sub> atmospheres	10.20-10.40
14MS3-AB-03	Sergey BULAT et al	Searching for extraterrestrial thermophiles on icy moons with subglacial oceans?	10.40-11.00
14MS3-AB-04	Alexander GURIDOV et al	Resistance of bacteria Bacillus licheniformis of "EXPOSE-R2" space experiment to the extreme space factors	11.00-11.20
14MS3-AB-05	Daniil MIRONOV et al	Development of biomining technology using Aspergillus niger: application to the Lunar program	11.20-11.40

Coffee-break

11.40-12.00

14MS3-AB-06	Elena DESHEVAYA et al	Planetary protection of Mars in missions for searching possible life forms	12.00-12.20
14MS3-AB-07	Elena DESHEVAYA et al	Survival of microorganisms over two years of exposure in the near-ISS space	12.20-12.40
14MS3-AB-08	Vyacheslav ILYIN and S.V.PODDUBKO	Exobiological studies in the interests of ensuring planetary quarantine	12.40-13.00

Lunch

13.00-14.00

14MS3-AB-09	Sohan JHEETA	Irradiation of Methyl Cyanide (CH <sub>3</sub> CN) with 200 keV at 15 K temperature	14.00-14.20
14MS3-AB-10	Oleg KOTSYURBENKO	Main directions and prospects for the development of astrobiology in Russia	14.20-14.40
14MS3-AB-11	Ximena ABREVAYA et al	Astrophysical sources of radiation and habitability in the universe	14.40-15.00
14MS3-AB-12	Richard B. HOOVER and Alexey ROZANOV	Life in the universe: extraterrestrial water, cyanobacteria and diatoms	15.00-15.20
14MS3-AB-13	Andrey B. RUBIN et al	Strategy for using fluorimetric methods in the search for extraterrestrial life forms	15.20-15.40
14MS3-AB-14	Ivan KONYUKHOV et al	Using fluorimetric methods to search for extraterrestrial photosynthetic organisms	15.40-16.00

Coffee-break

16.00-16.20

POSTER SESSION , Session Astrobiology

16.20-17.00

4 posters\*10 min

14MS3-AB-PS-01	Daniil BARBASHIN et al	Bacterial tolerance to the influence of sodium perchlorate: estimation in extreme ecotopes communities	16.20-16.30
14MS3-AB-PS-02	Marina GRINBERG et al	Effect of low intensity ionizing radiation and magnetic fields on the functional status of plants	16.30-16.40
14MS3-AB-PS-03	Mehdi KHODADADILORI	2D and 3D parameter relationships for W UMa-type systems revisited	16.40-16.50
14MS3-AB-PS-04	Alexander SAFRONOV	Scanning for habitable stellar systems on behalf of future space missions	16.50-17.00

