

**10M-S3 PRELIMINARY PROGRAM****(oral and poster presentations suggested to 10M-S3 Program)**

Session. Mars

1.	James Head	Toward an Understanding of Early Mars Climate History: New Themes, Directions and Tests
2.	Ashley Palumbo et al	Volcanism on Early Mars: Exploring the Influence of the SO <sub>2</sub> Plume on Localized and Short-Term Climate Change
3.	Ashley Palumbo and James Head	Rainfall as an erosive mechanism on Noachian Mars: Rain splash, infiltration, and surface runoff
4.	Ben Boatwright and James Head	Fluvial Geology of the Northwest Hellas Region, Mars
5.	Hakan Svedhem	ExoMars TGO status and future activities
6.	Oleg Korablev et al	The Atmospheric Chemistry Suite (ACS) Experiment on Board the ExoMars Trace Gas Orbiter: the First Results
7.	Alexey Malakhov et al	Martian subsurface hydrogen measured with high resolution by FREND onboard TGO. Results half way through the science phase
8.	Jordanka Semkova et al	Radiation environment in the interplanetary space and Mars' orbit according FRENDS' Liulin-MO dosimeter aboard ExoMars TGO data
9.	Imant Vinogradov and the M-DLS team	M-DLS experiment for the ExoMars-2020 mission Stationery Landing Platform: instrument calibration results
10.	Alexander Kosov, Veronique Dehant et al	LaRa (Lander Radioscience) on the ExoMars-2020 Surface Platform – VLBI and Doppler Positioning measurement
11.	Anatoly Manukin et al	Measurement of the seismic activity of Mars using the device SEM in the framework of the program "ExoMars"
12.	Diego Rodríguez Díaz	AMR instrument for ExoMars 2020 mission: Scientific goals concerning the martian magnetic field
13.	José Luis Mesa Uña	Development of magnetic instrumentation for planetary applications: Evolution of the NEWTON magnetic susceptometer
14.	Mikhail Verigin and Galina Kotova	Measurements of the Martian crust magnetization 25 years before its discovery
15.	Tamara Gudkova et al	On the zones of potencial seismicity on Mars
16.	Salvador Jimenez	Crustal and non crustal magnetic fields in Mars ionosphere from MARSIS data
17.	Marina Díaz Michelena	Magnetic investigations of terrestrial analogues of Mars
18.	Marina Díaz Michelena	Magnetic measurements to investigate the origin of the martian moons: Phobos and Deimos
19.	Jessica Flahaut and C. Brüstel et al	News views of Mars crust
20.	Boris Ivanov	Traces of atmospheric shock waves near new Martian craters
21.	Mikhail Ivanov et al	Acidalia Mensa on Mars: A test of the mars ocean hypothesis
22.	Ekaterina Grishakina et al	Western Utopia plain: geological characterization (clarification) and cryological processes
23.	Anatoliy Pavlov et al	A novel mechanism for rapid methane destruction by cosmic rays on Mars
24.	Vladimir Ogibalov and G.M. Shved	Effect of aerosol scattering on radiative transfer in the CO <sub>2</sub> and CO infrared bands in the daytime Martian atmosphere under breakdown of vibrational LTE

25.	Maria Pilar Velasco	The Martian atmospheric dust dynamic through fractional differential models and simulations
26.	Luis Vázquez	Solar Radiation and Dust in the Martian Atmosphere
27.	Yulia Izvekova	Convective dust vortices near the surface of the Earth and Mars
28.	Jose Luis Vazquez-Poletti	Serverless Computing for Mars Exploration Applications
29.	Jinsong Ping	Open loop doppler between Earth-Mars for Martian rotation research
30.	Alexandra Bermejo	Metamaterials technology for space applications
31.	Ekaterina Grishakina et al	Martian soil simulant for mission ExoMars
32.	Manuel Dominguez	Control of sensors for optimal performance: application to planetary missions

#### Session. Venus

1.	Ludmila Zasova	Venera-D: a perspective planetary mission
2.	Richard Ernst	Geological tests of global warming models on Venus
3.	Evgeniya Guseva	Morphological analysis of the coronae of Venus
4.	Vladimir Zharkov and Tamara Gudkova	On the structure of the gravitational field for the earth-like interior structure of Venus
5.	Vladimir N. Gubenko and Ivan A. Kirillovich	Internal waves characteristics in the Venus's atmosphere revealed from the Magellan and Venus Express radio occultation data by two independent methods
6.	Vladimir Gromov and Alexander Kosov	A model of millimeter wave atmospheric absorption of the sulfur dioxide and the sulphuric acid vapour for the radiometric experiment in the Venera-D mission
7.	Leonid Ksanfomality et al	Hypothetical living forms on planet Venus and their possible nature

#### Session. Extrasolar planets

1.	Shingo Kameda et. al	Exoplanets Exosphere Detecting Ultraviolet Spectrograph (UVSPEX) onboard World Space Observatory Ultraviolet (WSO-UV)
2.	Valery Shematovich et. al	Statistical characteristics of exoplanets
3.	Vladislava Ananyeva et. al	Power Laws for Exoplanet Mass Distribution by Different Spectral Classes Parent Stars
4.	Alexander Tavrov et. al	Stellar Coronagraph for Exoplanets Direct Imaging onboard World Space Observatory Ultraviolet (WSO-UV)
5.	Andrey Yudaev et. al	Nulling Rotational-Shear Interferometer for Ground-based Telescopes Aiming High Contrast Imaging Towards Exoplanets
6.	Ildar Shaikhislamov	3d gasdynamic modeling of transiting hot exoplanets
7.	Leonid Ksanfomality	Exo-rings of 1708.04600 type as satellites of the KIC 8462852 Kepler object
8.	Valery I. Shematovich	Atmospheric mass loss of close-in neptunes and super-earths
9.	Marina Rumenskikh	Numerical simulation of processes occurring in the space environment of Gliese-436b

Session. Solar wind interactions with planets and small bodies

1.	Vladimir V. Busarev	Solar wind interaction with the surface of primitive asteroids and their sublimation activity
2.	Stas Barabash	ENA imaging on an interstellar prob
3.	Valery I. Shematovich	Kinetic models of electron and proton aurorae at Mars
4.	Natalia Bulatova	Features of the Sun's influence on the Earth lithosphere in periods of minimum activity

Session. Moon and Mercury

1.	Johannes Benkhoff, BepiColombo Project Scientist, ESA	The status of the BepiColombo mission
2.	Alexander Bazilevskiy et al	Potential lunar base on Mons Malapert on Mons Malapert: topographic, geologic and trafficability consideration
3.	Evgenyi Slyuta	Formation of the scientific program of research of the Moon: from priority scientific tasks to scientific equipment
4.	Vladislav Shevchenko	The far side of the Moon - 60 years of history (1959 – 2019)
5.	James Head and L. Wilson	Rethinking Lunar Mare Basalt Regolith Formation: New Concepts of Lava Flow Protolith and Evolution of Regolith Thickness and Internal Structure
6.	Jessica Flahaut, J. N. Schnuriger et al.	Long-term, complex volcanic history of the Arago region of the Moon
7.	Ariel Deutsch et al	Distribution of surface water ice on the Moon: An analysis of host crater ages provides insights into the ages and sources of ice at the lunar south pole
8.	James Head	Volcanically-Induced Transient Atmospheres on the Moon: Assessment of Duration and Significance
9.	Olga Nosova	Problems of choice of the Lunokhod route for research and exploration of the volatile components in the south polar region of Moon
10.	Sergey Voropaev and A.Yu.Dnestrovskii	Features of the Fossil Tidal Bulge Formation for the Early Moon
11.	Sergey Voropaev et al	Experimental Study of degassing of the early Earth and Moon during accretion
12.	A.G. Fatyanov	The focusing effect of p-wave in the Moon's and Earth's low-velocity core. Analytical Solution
13.	V. Yu. Burmin	On the nature of the seismic ringing of the Moon. Analytical modeling
14.	Arthur Zagidullin	Physical libration of the moon
15.	Susanne Schröder	LIBS for in-situ geochemical investigation of extraterrestrial surfaces of atmosphereless bodies
16.	Ariel Deutsch et al	Investigating diurnal changes in the normal albedo of the lunar surface at 1064 nm: A new analysis with the Lunar Orbiter Laser Altimeter
17.	Jinsong Ping	Low frequency radio astronomy experiment on the Moon
18.	Mingyuan Wang	The radio frequency interference of earth based on low-frequency detection of Chang'E 4

19.	Imant Vinogradov and the DLS-L team	DLS-L optical sensor for investigation of chemical content and isotope ratio of Moon soil volatiles for the gas chromatography analytical suite of the Luna-27 mission
20.	Ute Böttger et al	Ramanspectrometer for in-situ geochemical investigation of extraterrestrial surfaces of atmosphereless bodies
21.	Vladislav Makovchuk	Functional and statistical testing of Thermo-LR surface thermal sensors
22.	Alexander Stark et al	Lunar Rotation measurement with Laser Altimeter
23.	Olga Turchinskaya	Selection and mapping of various concentration of titanium on the Moon according to spacecraft data
24.	Ivan Agapkin	Problems of studying the physico-mechanical properties of lunar soil in the TERMO-LR experiment for the Luna-Resource-1 project
25.	Svetlana Pugacheva	Studies of the composition and structure of the soil of the South Pole of the Moon by spacecraft
26.	Egor Sorokin	Experimental simulating of a micrometeorite impact on the Moon
27.	Olga Yushkova et al	Geometric problems in simulation of the Moon bistatic sounding
28.	Andrey Kharitonov	Magnetic and Gravity fields of the Moon from spacecraft Apollo data
29.	Gennady Kochemasov	A new lunar phenomenon - widespread fine cm-sized rippling of its surface discovered by the Chang's 3 & 4
30.	Alexander Gusev et al	Geological exploration of the Moon
31.	Natalia Kozlova et al	Digital Moon: development of scientific basis, methods and tools for planetary data processing and analysis
32.	Boris Ivanov	Small lunar crater formation and evolution
33.	Mikhail Shpekin et al	The state of matter and the shock-wave processes in lunar craters
34.	Igor Zavyalov et al	Implementation of Lunar crater catalogue for morphometric studies of the craters (diameter 1-10 km)
35.	Mariya Kolenkina et al	Using relief approximation methods to study the surface of the Moon
36.	Natalia Kozlova et al	Methods and technologies of geodetic and cartographic support of Global Lunar Navigation System
37.	Mariya Kolenkina et al	Application of the geoportal for preservation and popularization of results of the Russian space missions
38.	Zanna Rodionova et al	Topographic Features of the lunar maria and bazins
39.	Azariy Barenbaum and Mikhail Shpekin	Problems of interpretation of crater data in the Solar System
40.	Svetlana Pugacheva et al	The migration of volatiles in polar region of Mercury
41.	Anastasia Zharkova et al	Thermal stability of volatiles in low-latitude traps on Mercury
42.	Anastasia Zharkova and Mariya Kolenkina	Patterns in distribution of morphometric parameters of the Moon and Mercury surfaces: mapping at the global level
43.	Anastasia Zharkova and Mikhail Kreslavsky	Boulders on the Moon and Mercury: comparative morphological analysis at detail level

Session. Small Bodies(including cosmic dust)

1.	Jing Sun	The research on radar astronomical observations to the asteroids
2.	Daniel Hestroffer	BIRDY deep-space CubeSat to probe the internal structure of small bodies
3.	Vladimir V. Busarev	Modeling of small bodies' migration from the formation zone of Jupiter to the main asteroid belt
4.	Sergey Voropaev and Y. Jianguo	Small Bodies' Strength: Failure Model
5.	Sergey Ipatov and Mikhail Marov	Migration of planetesimals from different distances outside Mars' orbit to the terrestrial planets and the Moon
6.	Sergey Ipatov	Probabilities of collisions of bodies from different zones of the feeding zone of the terrestrial planets with the forming planets, the Moon, and their embryos
7.	Daniel Hestroffer	Gaia and dynamics of Solar System Objects
8.	Evgenyi Slyuta	Gravitational deformation of small rocky bodies
9.	Anna Kartashova et al	Analysis of meteor characteristics by multi-technique observations
10.	Ilan Roth	The puzzle of meteorite abundance: anomalous enhancement of Mg-26 in Ca-Al inclusions
11.	A. I. Bakhtin et al	Silicate and iron spherules in regolite of the Moon: origin and characteristic features
12.	Leonid Ksanfomality	Physics of comets Hale-Bopp C/1995 O1 and 1P/Halley as different stages of the evolution of giant comet nuclei
13.	Dmitry Shestopalov	Polarimetric properties of asteroid (3200) Phaethon
14.	Gennady Kochemasov	Octahedron tectonism of cosmic bodies including Earth
15.	Gennady Kochemasov	Small bodies - Broken asteroid Ultima Thule
16.	Sergey I. Popel	Dusty plasmas at Phobos and Deimos: Effects of meteroids.
17.	Sergey Ipatov	Migration of interplanetary dust particles from different distances from the Sun to the terrestrial planets and the Moon
18.	Tatiana Salnikova	Existence of elusive Kordylewski cosmic dust clouds
19.	Alexey Demyanov and V.V. Vysochkin	Analyzer of Space Dust

Session. Giant planets

1.	Scott Bolton, Jack Connerney	Juno's Surprising Results at Jupiter
2.	Elena Belenkaya	Jupiter's auroras associated with Galilean moons and the main ovals
3.	Victor Tejfel	Latitudinal and zonal variations of the ammonia absorption bands on Jupiter
4.	Ivan Pensionerov	Model of Jupiter's current sheet with a piecewise current density
5.	TBD (3-4 presentations from US)	Jupiter and Saturn: the results of Cassini and Juno
6.	Valery Kotov	Rotation of giant planets
7.	Erica Nathan et al	Icy Moon Evolution: Experiments with Freezing Water Spheres

Session. Astrobiology

1.	Richard Hoover	Advances in Astrobiology
2.	Sohan Jheeta	Synthesis of the basic 'building blocks' of life
3.	Sergey Bulat et al	Microbial life under thick glacier sheets: Lessons from the subglacial Antarctic Lake Vostok exploration
4.	Richard Hoover and Alexei Rozanov	New Evidence for Indigenous Microfossils in Carbonaceous Chondrites
5.	Mikhail Kapralov	Astrobiological research in Dubna
6.	Vladimir Cheptcov	Survival of Radioresistant Bacteria on Europa's Surface after Pulse Ejection of Subsurface Ocean Water
7.	Andrey Belov	Edaphic bacterial communities of the extreme-arid Mojave desert: astrobiological implication
8.	E.A. Deshevaya	Space Experiment "Test". ISS as an Outpost of the Knowledge of the Universe
9.	Andrey Kharitonov	The Galactic cycles and Biological changes
10.	Oleg Kotsyurbenko	Methanogens as the model microbial group for astrobiology
11.	Margarita Kruchkova	How do the fungal communities from desert soils react to the impact of proton irradiation? Astrobiological model experiment