

Overview 12M-S³ Program

The Twelfth Moscow Solar System Symposium (12M-S³)

IKI RAS, 11-15 October 2021

	11 October	12 October	13 October	14 October	15 October					
10.00	OPENING SESSION	Round table: «PH3 on Venus?»	Session 3. Extrasolar Planets(EP)	Session 6. Small Bodies(SB)	Session 7. Moon and Mercury(MN)					
11.00	Session 1. Mars (MS)	Session 2. Venus(VN)	Session 4. Astrobiology(AB)	Session 6. Small Bodies(SB)	Session 7. Moon and Mercury(MN)					
11.40						Coffee	Coffee	Coffee	Coffee	
12.00										
13.00						Lunch	Lunch	Lunch	Lunch	
14.00								Poster Session		
16.00						Coffee	Coffee	Coffee	Coffee	
16.20										
								Poster Session		
18.00							Poster Session	Session 5. Giant Planets(GP)	Poster Session	Poster Session
19.00						Poster Session				
20.00	Welcome party	Social events in Moscow	Poster Session Social events in Moscow	Reception	Social events in Moscow					

12M-S³ Scientific Program

Monday, 11 October 2021			
	Lev ZELENYI	OPENING SESSION	10.00-11.00
	Session 1. MARS		11.00-19.35
	Convener: Oleg KORABLEV conference hall, second floor		
12MS3-MS-01	Thomas DUXBURY et al	Mariner Mars 1969 image restoration archive	11.00-11:20
12MS3-MS-02	Francesca FERRI et al	AMELIA, The EDL Science Experiment for the ExoMars 2022 Mission	11.20-11.40
	Coffee-break		11.40-12.00
12MS3-MS-03	Mariano SASTRE et al	Luminescence technique applied to Martian sediments in-situ dating: the IN-TIME project	12.00-12:20
12MS3-MS-04	Boris IVANOV	Tracks in Martian dust - dust devils and air shock waves footprints	12.20-12.40
12MS3-MS-05	Elena PODOBNAYA et al	Trajectory estimations for fresh impacts on Mars	12.40-13.00
	Lunch		13.0-14.00
12MS3-MS-06	Sergei NIKIFOROV et al	Water and chlorine estimation in the martian subsurface according to DAN measurements onboard the NASA Curiosity rover	14.00-14.20
12MS3-MS-07	Gonzalo BARDERAS et al	Martian CO ₂ polar caps deposits derived with GEANT4-PLANETOCOSMICS from neutron flux variations	14.20-14.40
12MS3-MS-08	Benjamin BOATWRIGHT and James HEAD	Mars Crater Modification in the Late Noachian II: Updated Criteria for Identifying Cold-Based Crater Wall Glaciation	14.40-15.00
12MS3-MS-09	James HEAD	Zhurong landing site in southern Utopia Planitia, Mars: global geologic context, stratigraphy and outstanding questions	15.00-15.20
12MS3-MS-10	Anton SALNIKOV et al	Constructing an analytical model of the magnetic field of Mars using satellite data and modified S-approximations	15.20-15.40
12MS3-MS-11	Valery SHEMATOVICH	Atomic oxygen loss during proton auroral events at Mars	15.40-16.00
	Coffee-break		16.00-16.20
12MS3-MS-12	Valery SHEMATOVICH and D. BISIKALO	Kinetic modeling of proton aurora at Mars	16.20-16.40
12MS3-MS-13	Luis VAZQUEZ et al	Some applications of the space data analysis + cloud computing: from the Martian auroras to the COVID-19 Pandemic evolution	16.40-17.00
12MS3-MS-14	Mikhail LUGININ et al	CO ₂ clouds on Mars from ACS solar occultations onboard TGO	17.00-17.20
12MS3-MS-15	Anna FEDOROVA et al	Seasonal and spatial variations of the CO vertical distribution on Mars based on ACS TGO measurements	17.20-17.40
12MS3-MS-16	Alexey PANKINE	Vertical distribution of water vapor in the Martian atmosphere retrieved from MGS TES day and night observations	17.40-18.00
12MS3-MS-17	Vladimir A. KRASNOPOLSKY	Seasonal and Latitudinal Variations of the HDO/H ₂ O Ratio in the Martian Atmosphere	18.00-18.20
12MS3-MS-18	Alexander TROKHIMOVSKIY et al	Hydrogen chloride (HCl) and its isotopologues in the atmosphere of Mars	18.20-18.40
12MS3-MS-19	Denis BELYAEV et al	Temperature and density climatology of the Martian middle/upper atmosphere from the ACS/TGO CO ₂ spectroscopy	18.40-19.00
	POSTER SESSION , Session Mars		19.00-19.35
	8 posters*4 min		
12MS3-MS-PS-01	Alexander ZAKHAROV et al	Dust Complex instrument onboard ExoMars-2020 Surface Platform	
12MS3-MS-PS-02	Anatoly MANUKIN et al	Seismometer for measurements on Mars	
12MS3-MS-PS-03	Ekaterina STARICHENKO et al	Activity of the gravity waves in the Martian atmosphere from the ACS/TGO solar occultations experiment	

12MS3-MS-PS-04	Vladimir OGIBALOV	Heating rate due to the NIR CO ₂ and CO bands emissions in the daytime Martian atmosphere
12MS3-MS-PS-05	Vladimir GUBENKO and I. KIRILLOVICH	Determining the characteristics of internal gravity waves in terrestrial atmospheres using an analysis of the vertical temperature or density profiles recovered from radio occultation satellite measurements
12MS3-MS-PS-06	Tamara GUDKOVA and A. BATOV	Non-hydrostatic stresses and the location of marsquakes' sources
12MS3-MS-PS-07	Sergey PAVLOV et al	Towards Martian Moons Exploration: micro-Raman and VIS-MIR reflection spectroscopy of the Phobos surface simulants
12MS3-MS-PS-08	Natalia BULATOVA	The phenomenon lightning, possible transport of electrons and cosmic rays to Earth

Tuesday, 12 October 2021

Round table: Discussion «PH3 on Venus?»

Moderator: Oleg KOTSYURBENKO

10.00-11.00

conference hall, second floor

Session 2. VENUS

Conveners: Ludmila ZASOVA, Richard ERNST

11.00-19:20

conference hall, second floor

12MS3-VN-01	Richard ERNST et al	Assessing a Large Igneous Provinces (LIPS) Context for Volcanism on Venus	11.00-11.15
12MS3-VN-02	Ekaterina ANTROPOVA et al	Analysis of Multiple Impact "Splotches" in Hinemoa Planitia, NW and W of Phoebe Regio, Venus	11.15-11.30
12MS3-VN-03	Carlos BRAGA et al	Preliminary Geology & Stratigraphy of the Volcanic Center Atira Mons, Beta-Atla-Themis Region, Venus	11.30-11.45
Coffee-break			11.45-12.00
12MS3-VN-04	Carlos SANCHEZ et al	Dyke Swarm History of Nabuzana Corona, Scarpellini Quadrangle (V-33), Venus	12.00-12.15
12MS3-VN-05	Hafida EL. BILALI et al	Dyke Swarm History of Atla Regio, Venus	12.15-12.30
12MS3-VN-06	Abdelhak AITLAHNA et al	Window into 4-km Cross Section of Venusian Crust Exposed by Normal Faults of Dali Chasma, SW of Atla Regio	12.30-12.45
12MS3-VN-07	Rachid OUKHRO et al	Characteristics, Orientation and Origin of Structural Components of Jokwa Linea Groove Belt, SE Stanton Quadrangle (V-38), Venus	12:45-13:00
Lunch			13.00-14.00
12MS3-VN-08	Ludmila ZASOVA	"Venera-D" and Decade of Venus Exploration	14.00-14.15
12MS3-VN-09	Mikhail IVANOV et al	Geological characterization of the Venera-D landing sites	14.15-14.30
12MS3-VN-10	Mikhail IVANOV et al	Criteria for Venera-D Mission Lander Site Selection	14.30-14.45
12MS3-VN-11	Anastasia KOSENKOVA	Investigation of the Capabilities of a Maneuverable Lander to the Venus Surface	14.45-15.00
12MS3-VN-12	Vladislav ZUBKO et al	Using of a resonant orbit in the problem of extension landing areas on the Venus surface	15.00-15.15
12MS3-VN-13	Sanjay LIMAYE and R. MOGUL	Venus cloud cover puzzles	15.15-15.30
12MS3-VN-14	Daria EVDOKIMOVA et al	Night distribution of the O ₂ (A1ΔG) airglow on Venus observed by SPICAV IR/VEX in 2006-2014	15:30-15:45
12MS3-VN-15	Dmitry GORINOV et al	O ₂ night airglow and dynamics of Venus atmosphere around 100 km from VIRTIS-M/VEX	15:45-16:00
Coffee-break			16.00-16.20
12MS3-VN-16	Michael WAY et al	Large Scale Volcanism and the possible heat-death of Venus like worlds	16.20-16.35
12MS3-VN-17	James HEAD et al	Contributions of Volatiles to the Venus Atmosphere from the Observed Extrusive Volcanic Record: Implications for the History of the Venus Atmosphere	16.35-16.50
12MS3-VN-18	Mikhail IVANOV et al	Pit Crater Chains, Graben and Related Features in Ovda Tessera, Venus: Implications for Dike Emplacement and Volatile Loss	16.50- 17.05

12MS3-VN-19	Jihane OUNAR et al	Origin and Evolution of Lineaments in NW Wawalag Planitia, Stanton Quadrangle (V-38), Venus	17.05-17.20
12MS3-VN-20	Rico FAUSCH et al	Mass spectrometric measurements of complex molecules during hypervelocity planetary flybys	17.20-17.35
12MS3-VN-21	Kirill ZAKHARCHENKO et al	High-temperature detector of space radiation based on diamond sensitive elements	17.35-17.50
		Discussion	17:50 – 18:00

POSTER SESSION, Session Venus

18.00-19:20

16 posters * 5 min

12MS3-VN-PS-01	Tamara MENSCHIKOVA and Tamara GUDKOVA	On Load Love Numbers for Venus
12MS3-VN-PS-02	Jordan SHACKMAN et al	Reconnaissance geological mapping of the Latmikaik Corona and associated dyke swarms, Henie Quadrangle (V-58), Venus
12MS3-VN-PS-03	James HEAD and Mikhail IVANOV	Erosion of Tessera Terrain on Venus: Criteria for Recognition of Effects of the Presence of an Earth-Like Atmospheric Erosional Environment
12MS3-VN-PS-04	James HEAD and Mikhail IVANOV	Global Geological Mapping of Venus: Identification of Challenges & Opportunities for Future Venus Mapping
12MS3-VN-PS-05	Evgeniya GUSEVA and Mikhail IVANOV	Dome-Shaped Coronae of Venus: Spatial Distribution, Relationship with Rifts and Lobate Plains
12MS3-VN-PS-06	Mikhail IVANOV and James HEAD	Morphometric characteristics of large volcanoes on Venus
12MS3-VN-PS-07	Lauren MACLELLAN and Richard ERNST	Structural Map of Northern Astkhik Planum and Selu Corona, Lada Terra, Venus
12MS3-VN-PS-08	Vladimir OGIBALOV and Yuliya BORDOVSKAYA	Influence of wind fields with macroscopic velocity gradients on the IR CO ₂ bands emissions outgoing from a planetary atmosphere
12MS3-VN-PS-09	Mahanoor RIAZ et al	Developing a Dyke Swarm History for Bell Regio, Venus
12MS3-VN-PS-10	Anoushka SINGHAL et al	Magmatic Feeder Systems of the Lo Shen Region, Southern Margin of Eastern Ovda Regio, Venus
12MS3-VN-PS-11	Mohamed Achraf MEDIANY et al	Developing a Detailed Magmatic History of Eastern Rusalka Planitia, Venus
12MS3-VN-PS-12	Abderrazzak HASANAINE et al	Detailed Mapping of a Corona Cluster within Dali-Diana Chasmata 1000 km SW of Atla Regio, Venus
12MS3-VN-PS-13	Kamal MGHAZLI et al	Dyke Swarms of the Maram Corona Area, along Parga Chasmata, SE of Atla Regio, Venus

- 12MS3-VN-PS-14** **Ismail HADIMI et al** Detailed Mapping of Graben-Fissure Systems of Nott Corona Region, Isabella Quadrangle (V-50), Venus
- 12MS3-VN-PS-15** **Fatima Ezzahrae
NAJIB et al** Evaluation of the Cluster Of Anemone Type Volcanoes Located South of Atla Regio, Venus
- 12MS3-VN-PS-16** **Raiden DEAN et al** Mapping of Graben Systems (“Ribbon Fabrics”) in Western Ovda Tessera, Venus: Interpretation as Dyke Swarms

Wednesday, 13 October 2021

Session 3. EXTRASOLAR PLANETS

10.00-14.40

Convener: Alexander TAVROV
conference hall, second floor

12MS3-EP-01	Shingo KAMEDA et al	Ultraviolet Spectrograph for Exoplanet (UVSPEX) onboard WSO-UV for Earth-like exoplanets	10.00-10.15
12MS3-EP-02	Vlada ANANYEVA et al	Properties of RV-exoplanet distributions by masses and by orbital periods	10.15-10.30
12MS3-EP-03	Oleg YAKOVLEV et al	Comparison of the mass distributions of short-period exoplanets detected by transit and by RV methods	10.30-10.45
12MS3-EP-04	Valery SHEMATOVICH and A. AVTAEVA	Non-thermal atmospheric loss for hot sub-neptune π Men c	10.45-11.00
12MS3-EP-05	Shiva ZAMANPOUR et al	Light curve analysis of ten exoplanets	11.00-11.15
12MS3-EP-06	Marina RUMENSKIKH et al	Modeling transit absorptions of hot Jupiters in the metastable helium line	11.15-11.30
12MS3-EP-07	Ahmad MAZIDABADI FARAHANI et al	Refined ephemeris for three hot Jupiters using ground-based and TESS observations	11.30-11.45

Coffee-break

11.45-12.00

12MS3-EP-08	Ildar SHAIKHISLAMOV et al	3D MHD modeling of hot Jupiter's magnetosphere and observational manifestations	12.00-12.15
12MS3-EP-09	Igor SAVANOV	Activity of two young stars of solar type with planetary systems from the Ursa major moving group of stars and the stream Psc-Eri	12.15-12.30
12MS3-EP-10	Vladislav SIDORENKO and A. IVANOVA	Secular evolution of orbital motions in planetary system consisting of a star and two planets	12.30-12.45
12MS3-EP-11	Sergei IPATOV	Migration of bodies in the Proxima Centauri planetary system	12.45-13.00

Lunch

13.10-14.00

POSTER SESSION , Session Extrasolar Planets

14.00-14.40

8 posters*4 min

12MS3-EP-PS-01	Valery KOTOV	Motion of superfast exoplanets and solar system	
12MS3-EP-PS-02	Fatemeh HASHEMINASAB	Revealing exoplanet's atmosphere composition with high resolution spectroscopy	
12MS3-EP-PS-03	Tabassom MADAYEN et al	Investigation of the period-mass relations for W UMA-Type contact binary systems by using machine learning method	
12MS3-EP-PS-04	Artem BEREZUTSKY et al	Simulation of a system with two hot exoplanets TOI 421	
12MS3-EP-PS-05	Farzaneh AHANGARANI FARAHANI et al	Refined Ephemeris for Hot Jupiter WASP-12 b using Ground-Based and TESS Observations	
12MS3-EP-PS-06	Anastasiya IVANOVA et al	Correction of observation selection in statistics of RV-exoplanets. From the number of detected planets to the occurrence rate	
12MS3-EP-PS-07	Andrei YUDAEV and Alexander TAVROV	Wavefront correction for direct imaging of exoplanets. Phase retrieval by LCSLM and Interfero-Coronagraph	
12MS3-EP-PS-08	Iliia MIROSHNICHENKO et al	Absorption in the H α line by outleing atmospheres of hot Jupiters	

Session 4. ASTROBIOLOGY

14.40-17.30

Conveners: Oleg KOTSYURBENKO, Elena VOROBYOVA
conference hall, second floor

12MS3-AB-01	Sohan JHEETA	Where were the molecules of life made?	14.40-15.00
12MS3-AB-02	Vladimir KOMPANICHENKO	Origin of life on a planet by efficient response of prebiotic systems to high-frequency oscillations in the environment	15.00-15.15
12MS3-AB-03	Daniil MIRONOV	Prospects for the use of lichens in astrobiological and astroecological research	15.15-15.30
12MS3-AB-04	Ximena ABREVAYA et al	UV radiation from stellar flares: a constraint for life?	15.30-15.45
12MS3-AB-05	Eduardo CORTON et al	Microbial fuel cells as extraterrestrial microbial life sensors	15.45-16.00

Coffee-break

16.00-16.20

12MS3-AB-06	Richard HOOVER et al	Extraterrestrial & intraterrestrial diatoms & cyanobacteria: implications to the origin and distribution of biospheres	16.20-16.40
12MS3-AB-07	Janusz PETKOWSKI et al	Phosphine and other Venusian cloud anomalies	16.40-17.00

POSTER SESSION, Session Astrobiology

17.00-17.30

7 posters*4 min

12MS3-AB-PS-01	Richard HOOVER et al	Extraterrestrial cyanobacteria and diatoms in the Orgueil (CI1) and Murchison (CM2) carbonaceous chondrites	
12MS3-AB-PS-02	Oleg KOTSYURBENKO et al	Succession of hypothetical microbial communities on Venus during planetary climate change	
12MS3-AB-PS-03	Dmitry SKLADNEV et al	Aerosol or foam – which structure of Venusian clouds is better for survival of hypothetical microbial communities	
12MS3-AB-PS-04	Sergey BULAT et al	Resistance of DNA(Microbial) to radiation damage on the frosty Jovian Europa surface	
12MS3-AB-PS-05	Hamidreza GUILANI and Aila PORO	The Necessity of Developing ML and AI for Future Astronomy	
12MS3-AB-PS-06	Vladimir CHEPTSOV et al	Perchlorate tolerance of soil microbial communities	
12MS3-AB-PS-07	Andrey BELOV and Vladimir CHEPTSOV	Resistance and metabolic activity of soil prokaryotic communities under conditions of water deficiency: astrobiological implications	

Session 5. GIANT PLANETS

17.30-20.00

Convener: Scott BOLTON
conference hall, second floor

12MS3-GP-01	Scott BOLTON	Juno's Extended Mission	17.30-17.50
12MS3-GP-02	Heidi BECKER et al	Trapped GeV Heavy Ions in Jupiter's Inner Radiation Belts at High Latitudes	17.50-18.10
12MS3-GP-03	Nimrod GAVRIEL and Yohai KASPI	The number and location of Jupiter's circumpolar cyclones explained by vorticity dynamics	18.10-18.30
12MS3-GP-04	Alesandro MURA et al	Infrared observations of Jupiter's Aurorae, Atmosphere and Moons	18.30-18.50
12MS3-GP-05	Alexander PERMINOV and E. KUZNETSOV	The semi-analytical four-planetary motion theory of the third order in masses	18.50-19.10
12MS3-GP-06	Peter WURZ et al	Measurement of Io's Atmosphere during the IVO Mission	19.10-19.30

POSTER SESSION , Session Giant Planets

19.30-20.00

7 posters*4 min

12MS3-GP-PS-01	Satoshi TANAKA et al	Jupiter and lunar seismograms	
12MS3-GP-PS-02	Vladimir VDOVICHENKO et al	The first experience of studying latitudinal variations of a weak absorption band NH ₃ 550nm on Jupiter	
12MS3-GP-PS-03	Ekaterina KRONROD et al	Estimates of the possible dehydration of hydrated silicates in the cores of large icy satellites	
12MS3-GP-PS-04	Andrey KHARITONOV	Some data confirming the hypotheses of the formation of silicate and iron-hydrocarbon-containing shells of giant planets	
12MS3-GP-PS-05	Victor KRONROD et al	The content of hydrated silicates in the primordial rocky core of Ganymede	
12MS3-GP-PS-06	Anna DUNAEVA et al	Condensed phases of carbon dioxide in Titan's icy crust: influence on rheological properties	

12MS3-GP-PS-07

Alexander
SUKHANOV

Repeatability of a given configuration of planets

Thursday, 14 October 2021

Session 6. SMALL BODIES(including cosmic dust)

10.00-19.10

Conveners: Alexander BASILEVSKY, Alexander ZAKHAROV
conference hall, second floor

12MS3-SB-01	Evgenij ZUBKO et al	Negative polarization of distant Comet C/2017 K2 (PANSTARRS)	10.00-10.20
12MS3-SB-02	Ekaterina CHORNAYA et al	Fast variations of polarization maximum in comet C/2020 S3 (Erasmus)	10.20-10.40
12MS3-SB-03	Vladimir BUSAREV et al	Reflectance spectra of asteroids with simultaneous sublimation activity: registration and models	10.40-11.00
12MS3-SB-04	Boris SHUSTOV and R. ZOLOTAREV	Near-Earth asteroids: Depletion time scales, escape routes and estimate of share of interstellar bodies	11.00-11.20
12MS3-SB-05	Nikolai KISELEV et al	Recent progress in studying polarization of the Jupiter's and Saturn's satellites and NEAs in the Crimean Astrophysical Observatory and the Peak Terskol Observatory	11.20-11.40

Coffee-break

11.40-12.00

12MS3-SB-06	Tatyana GALUSHINA et al	Study of the nonlinearity problem for the near-Sun asteroids	12.00-12.20
12MS3-SB-07	Maxim ZHELTOBRYUKHOV et al	The Umov effect in the near-earth asteroids	12.20-12.40
12MS3-SB-08	Ricardo GIL-HUTTON	The CASLEO polarimetric survey of the main belt asteroids	12.40-13.00

Lunch

13.00-14.00

12MS3-SB-09	Vladislav ZUBKO et al	Using optimal number of asteroids on the resonance orbits to construct the planetary defense shield	14.00-14.20
12MS3-SB-10	Maryam HADIZADEH et al	Calculating period and the rotation speed of the asteroids by using observational data collection	14.20-14.40
12MS3-SB-11	Sergei IPATOV and Mikhail MAROV	Collisions of planetesimals with the Earth and the Moon	14.40-15.00
12MS3-SB-12	Vladimir TCHERNYI and S.KAPRANOV	How the third force of diamagnetic expulsion and the mechanism of magnetic anisotropic accretion allowed Saturn to create rings by itself	15.00-15.20
12MS3-SB-13	Fatemeh NAJAFI KODINI et al	Study of Pluto's atmosphere based on 2020 stellar occultation light curve results	15.20-15.40
12MS3-SB-14	Sergey POPEL et al	Dust dynamics at the Moon: Levitation or lofting	15.40-16.00

Coffee-break

16.00-16.20

12MS3-SB-15	Yulia REZNICHENKO et al	Ionization properties of dusty Martian ionosphere	16.20-16.40
12MS3-SB-16	Ute BÖTTGER et al	The Raman spectrometer RAX as an analytical instrument for the JAXA MMX sample return mission	16.40-17.00
12MS3-SB-17	Andrei DMITROVSKII et al	Tidal deformation modeling as a potential means of constraining the interior structure of Phobos	17.00-17.20
12MS3-SB-18	Yuriy CHETVERIKOV et al	Monitoring of space precipitation at the Vostok antarctic station using the example of collecting magnetite microparticles from may to september 2017	17.20-17.40
12MS3-SB-19	Alexey PANKINE	Reconciling estimates of endogenic power emitted from the southern polar region of Enceladus	17.40-18.00

POSTER SESSION , Session Small Bodies(including cosmic dust)

18.00-19.10

18 posters * 4 min

12MS3-SB-PS-01	Vladimir ZUBKO et al	Possible space mission to Sedna at launch in 2029-2037	
12MS3-SB-PS-02	Manuel DOMINGUEZ-PUMAR et al	Preliminary tests with a 3D thermoprobe for measuring the thermophysical properties of regolith	
12MS3-SB-PS-03	Yuri SKOROV and V. RESHETNYK	Transport characteristics of the near-surface layer of the nucleus of comet 67P	
12MS3-SB-PS-04	Andrey SHUGAROV et al	System of observation of day-time asteroids (SODA)	
12MS3-SB-PS-05	Arina SAVELOVA et al	On the possibility to study the surface matter composition of primitive main belt asteroids near perihelion	

12MS3-SB-PS-06	Anna KARTASHOVA et al	Investigation of (159402) 1999 AP10 asteroid with observations and simulation data
12MS3-SB-PS-07	Dmitry PETROV and E. ZHUZHULINA	Features of the phase dependence of the degree of linear polarization of sungrazing comet C/1965 S1
12MS3-SB-PS-08	Vladimir EFREMOV et al	Application of small meteor ablation model to Perseid observations
12MS3-SB-PS-09	Yulia IZVEKOVA et al	Dust acoustic waves in Martian atmosphere
12MS3-SB-PS-10	Alexey ROSAEV	Dwarf planet Ceres resonance perturbations
12MS3-SB-PS-11	Tatiana MOROZOVA and Sergey POPEL	Modulational interactions in the dusty plasmas of meteoroid tails
12MS3-SB-PS-12	Victoria SAFRONOVA and Eduard KUZNETSOV	Estimation of the age of young asteroid pair (21436) Chaoyichi — (334916) 2003 YK39
12MS3-SB-PS-13	Sergey KOPNIN et al	Dust acoustic solitons in the magnetosphere of Saturn
12MS3-SB-PS-14	Inna SHASHKOVA et al	Investigation of the dust particles dynamics under the airless bodies' conditions: experimental set-up
12MS3-SB-PS-15	Iliia KUZNETSOV et al	Investigation of the lunar near-surface dusty plasma exosphere interaction with spacecraft with PiC method simulation
12MS3-SB-PS-16	Andrey DIVIN et al	Collisional cooling of electrons at comet 67p/Churyumov–Gerasimenko as viewed from 3D particle-in-cell simulations
12MS3-SB-PS-17	Tatiana DROZHKOVA et al	Simulating the reflectance observed on macroscopic scale planetary surfaces by a GPU ray-tracing technique
12MS3-SB-PS-18	Azariy BARENBAUM	On the nature of observed comets and the mechanism of their formation

RECEPTION

19.10-21.10

Friday, 15 October 2021

Session 7. MOON AND MERCURY

10.00-19.20

Conveners: Igor MITROFANOV, Maxim LITVAK
conference hall, second floor

Mercury

12MS3-MN-01	Johannes BENKHOFF et al	BepiColombo en route to Mercury – Results from some investigations during cruise	10.00-10.20
12MS3-MN-02	Alexander KOZYREV et al	MGNS flight to Mercury: status report	10.20-10.40

Lunar science

12MS3-MN-03	James HEAD et al	Geologic Context for Lunar South Circumpolar Region Exploration: Implications for Goals, Site Selection and Operations Strategy	10.40-11.00
12MS3-MN-04	Alexandr GUSEV et al	Geological exploration of the Moon: regolith, volatile and rare elements	11.00-11.20
12MS3-MN-05	Alexander BASILEVSKY et al	Impact-caused regolith reworking within the polar regions of the Moon	11.20-11.40

Coffee-break

11.40-12.00

12MS3-MN-06	Igor ALEINOV et al	Transient volcanically-induced lunar atmosphere: basic properties and effect on volatile transport	12.00-12.20
12MS3-MN-07	Marina DÍAZ MICHELENA et al	In situ determination of multiple physical properties of planetary surface rocks and soils through a single measurement of their complex susceptibility	12.20-12.40
12MS3-MN-08	Yugi QIAN et al	Provenance of Materials at the Chang'e-5 Landing Site	12.40-13.00

Lunch

13.00-14.00

Lunar missions

12MS3-MN-09	Vladislav TRET'YAKOV et al	Science program of Luna-25 and Luna-27 missions	14.00-14.20
12MS3-MN-10	Maxim LITVAK et al	Tests of Lunar Robotic Arm with lunar polar regolith simulant	14.20-14.40
12MS3-MN-11	Alexander ZAKHAROV et al	Lunar near-surface dusty plasma investigations with PmL instrument	14.40-15.00
12MS3-MN-12	Oleg VAISBERG et al	Instruments ARIES-L and LINA-R for investigation of space plasma interaction with the lunar regolith.	15.00-15.20
12MS3-MN-13	Dave HEATHER et al	The ESA PROSPECT Payload for Luna 27: Development Status and Science Activities	15.20-15.40
12MS3-MN-14	Tatiana KOZLOVA et al	Extraction of Soil Samples from Subsurface: Instrument GZU for Lunar Robotic Landers	15.40-16.00

Coffee-break

16.00-16.20

12MS3-MN-15	Maxim LITVAK et al	Future Lunar Sample Return mission	16.20-16.40
12MS3-MN-16	Sergey KRASILNIKOV et al	Data improvement of geological and morphological structure of the Luna-25 landing sites	16.40-17.00

Concept of future experiments

12MS3-MN-17	Egor SOROKIN et al	Laser experimental modeling of the formation of nanophase iron (np-Fe ⁰).	17.00-17.15
12MS3-MN-18	Andrey KIM et al	The concept of Lunar Printer for Future Robotic Missions	17.15-17.30

12MS3-MN-19	Andrey SHUGAROV et al	The concept of Lunar-based UV-Optical-IR Telescope for ILRS	17.30-17.45
12MS3-MN-20	Mikhail MALENKOV et al	Directions of research and achievements of the school for the creation of locomotion systems of planetary rovers. To the 100th anniversary from the birth of A.L. Kemurdjian	17.45-18.00

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18.00-19.20

25 posters*3 min

12MS3-MN-PS-01	Jinsong PING et al	A Mission Suggestion: Dynamics of Lunar Rotation & Frame Tie of Astronomy for ILRS	
12MS3-MN-PS-02	Sergey KRASILNIKOV et al	Geological investigation of the South pole of the Moon	
12MS3-MN-PS-03	Mohamad ESSAM ABDELAAL et al	Study the trajectory of dust particles by simulating the plasma environment on the Moon's surface	
12MS3-MN-PS-04	Imant VINOGRADOV et al	Sensor DLS-L of the GC-L instrument of the "Luna-Resource" mission: calibration results and perspective discussion	
12MS3-MN-PS-05	Boris EPISHIN and Michael SHPEKIN	Lunar territories with direct visibility of the Earth	
12MS3-MN-PS-06	Artem KRIVENKO et al	The setup for studying the sublimation of water ice on the mineral composition at lunar conditions	
12MS3-MN-PS-07	Andrey KHARITONOV	Results of spectral analysis of the magnetic and gravitational fields of the moon according to the data of the Apollo spacecraft	
12MS3-MN-PS-08	Valeriy BURMIN	Optimal Systems of Recording Acoustic Signals on Spacecraft of the Cylindrical Form	
12MS3-MN-PS-09	Elena BELENKAYA et al	Excess of sodium ions density required to create a wide current at the Hermean magnetopause	
12MS3-MN-PS-10	Jingyi ZHANG et al	The Origin of the Lunar Procellarum KREEP Terrane (PKT): Stratigraphic Evidence and Implications for Lunar Geological and Thermal Evolution	
12MS3-MN-PS-11	Ekaterina FEOKTISTOVA et al	Morphological and morphometric features of Mercurian craters	
12MS3-MN-PS-12	Negal MAHDAVI et al	O-C Analysis of 545 Lunar Occultations	
12MS3-MN-PS-13	Alexander KRASILNIKOV et al	The Model Estimates of the Craters Ejecta Thickness in the Southern Polar Region of the Moon	
12MS3-MN-PS-14	Azariy BARENBAUM and Michael SHPEKIN	On origin and age of Mare Orientale on Moon	
12MS3-MN-PS-15	Mohammad MADANI and Atila PORO	A study on the Visibility Limit of Stellar Occultations with the Moon at Sunset and Sunrise	
12MS3-MN-PS-16	Yuan LI et al	Analysis of Topographic Roughness vs WEH Concentration in the Regolith of the Lunar South Polar Area	
12MS3-MN-PS-17	Vladimir ROTARU et al	Morphometric parameters for the new catalog of Mercury craters	
12MS3-MN-PS-18	Ekaterina GRISHAKINA and Mikhail IVANOV	Geological analysis of the lunar crater Plaskett	
12MS3-MN-PS-19	Elnaz BOZORGZADEH et al	Analyses of observational parameters in the timing accuracy of Lunar occultation	
12MS3-MN-PS-20	Nikolay SLODARZH and Zhanna RODIONOVA	Comparison of the cratering of the north and south polar regions of the Moon	
12MS3-MN-PS-21	Gennady KOCHEMASOV	Earth and Moon: different ages of similar wave tectonics reflecting their unequal masses	
12MS3-MN-PS-22	Gennady KOCHEMASOV	Chang'E-5 confirms globe-wide distribution of the centimeter-scale rippling caused by coupling two Lunar frequencies (near Earth and in Galaxy)	
12MS3-MN-PS-23	Vladimir CHEPTSOV et al	Laser ionization mass spectrometer LASMA-LR onboard Luna-25 and Luna-27 spacecraft	
12MS3-MN-PS-24	Vladimir AFANASYEV and G. PECHERNIKOVA	On the capture of protoplanetary bodies during the formation of the Earth-Moon system	

12MS3-MN-PS-25

Nadezhda CHUJKOVA
et al

Density, stress, and gravitational field anomalies inside the Moon, Mars, and Earth: a comparative analysis.