

Daily programme for room Machado

Room Machado | Mon, 19 Sep 2022

TP1 | Mercury Science and Exploration

Convener: Jack Wright | Co-conveners: Joe Zender, Johannes Benkhoff, Go Murakami, Lina Hadid, Noah Jäggi, Beatriz Sanchez-Cano, Willi Exner, Joana S. Oliveira, Alice Lucchetti, Anna Milillo, Valeria Mangano

Chairpersons: Joana S. Oliveira, Joe Zender

BepiColombo

- 10:00–10:10 EPSC2022-78
BepiColombo on its cruise to Mercury – first results and mission status
Johannes Benkhoff and Go Murakami
- 10:10–10:25 EPSC2022-1260 | **MI**
First NGP measurements at Mercury
Umberto De Filippis, Carlo Lefevre, David Lucchesi, Marco Lucente, Carmelo Magnafico, Roberto Peron, and Francesco Santoli
- 10:25–10:35 EPSC2022-353
Photometric modelling of MESSENGER/MDIS observations: science results and implications for the calibration of SIMBIO-SYS on BepiColombo
Giovanni Munaretto, Gabriele Cremonese, Emanuele Simioni, Alice Lucchetti, Maurizio Pajola, and Matteo Massironi
- 10:35–10:45 EPSC2022-123
Observation of Mercury's Exosphere with the Visible Channels of PHEBUS during BEPICOLOMBO First Mercury's Flyby
Rozenn Robidel, Eric Quemerais, Dimitra Koutroumpa, Jean-Yves Chaufray, and François Leblanc
- 10:45–10:55 EPSC2022-264
First Analysis of Solar Energetic Particles with the BepiColombo Radiation Monitor (BERM)
Carlota Cardoso, Marco Pinto, Patrícia Gonçalves, Beatriz Sanchez-Cano, Richard Moissl, Rami Vainio, Philipp Oleynik, Johannes Benkhoff, Pedro Assis, Arto Lehtolainen, Manuel Grande, Go Murakami, Wojciech Hajdas, and Arlindo Marques

Interior

- 10:55–11:10 EPSC2022-1250 | **MI**
Some technical challenges for parametrized one-dimensional thermal evolution models of Mercury
Jurrien Knibbe
- 11:10–11:20 EPSC2022-829
Elastic Thickness and Heat Flux Variations on Mercury from Thermal Evolution Modeling
Aymeric Fleury, Ana-Catalina Plesa, Nicola Tosi, Michaela Walterova, and Doris Breuer
- 11:20–11:30 EPSC2022-929
Effect of a thermally stratified layer in the outer core of Mercury on its internally generated magnetic field
Attilio Rivoldini, Marie-Hélène Deprout, Yue Zhao, Jurien Knibbe, and Tim Van Hoolst

Coffee break

Chairpersons: Jack Wright, Sebastien Besse

Surface

- 15:30–15:50 EPSC2022-1239 | **MI**
BepiColombo Unique Views of Mercury Seven Years After MESSENGER
Valentina Galluzzi, Jack Wright, David Rothery, Emanuele Simioni, Joe Zender, Johannes Benkhoff, and Gabriele Cremonese
- 15:50–16:00 EPSC2022-728
A Global Survey of Mercury for Ejecta Flows: Investigating their Origins, Prevalence, and Significance
Alistair Blance, David Rothery, Jack Wright, Matt Balme, and Valentina Galluzzi

- 16:00–16:10 EPSC2022-811
Geostructural mapping of the Michelangelo (H-12) quadrangle of Mercury: relationship between tectonic and crustal structures
Salvatore Buoninfante, Valentina Galluzzi, Luigi Ferranti, Maurizio Milano, and Pasquale Palumbo
- 16:10–16:20 EPSC2022-278
Global Map and Parameter Catalog of Shortening Structures on Mercury Using Novel High-Resolution Topography Data
Hannes Bernhardt, Jaclyn D. Clark, Frank Preusker, Christian Klimczak, Maria E. Banks, David A. Williams, David Nelson, and Thomas R. Watters
- 16:20–16:30 EPSC2022-199
The Mercury surface investigated with Principal Component Analysis and Spectral Angle Mapper on MASCS/MESSENGER data
Anna Galiano, Fabrizio Capaccioni, Gianrico Filacchione, and Cristian Carli
- 16:30–16:40 EPSC2022-319
Impact basins and their associated smooth plains on Mercury using MESSENGER/MASCS observations
Emma Caminiti, Alain Doressoundiram, and Sebastien Besse
- 16:40–16:50 EPSC2022-326
Simulation of laser pulse shapes received by the BepiColombo Laser Altimeter (BELA): Implications for future constraints on surficial properties of Mercury
Gaku Nishiyama, Alexander Stark, Christian Hüttig, Hauke Hussmann, Klaus Gwinner, Ernst Hauber, Luisa M. Lara, and Nicolas Thomas
- 16:50–17:00 EPSC2022-658
Mercury exploration with MATISSE tool
Edoardo Rognini, Veronica Camplone, Angelo Zinzi, Alessandro Mura, Anna Milillo, Matteo Massironi, Angelo Pio Rossi, Francesco Zucca, and Maria Teresa Capria

Coffee break

Chairpersons: Lina Hadid, Anna Milillo

Planetary Environment

- 17:30–17:40 EPSC2022-849
Laboratory measurements to study the sputtering of Hermean surface analogues under He ion impact
Johannes Brötzner, Herbert Biber, Noah Jäggi, Paul Stefan Szabo, Christian Cupak, Benjamin Cserveny, André Galli, Peter Wurz, and Friedrich Aumayr
- 17:40–17:50 EPSC2022-125
The sputtering of Mercury surface analogues in models and experiments
Noah Jäggi, Herbert Biber, Paul Stefan Szabo, Andreas Mutzke, Johannes Brötzner, Friedrich Aumayr, Peter Wurz, and André Galli
- 17:50–18:00 EPSC2022-574
Simulating Micrometeoroid Bombardment on Mercury in the Laboratory
Nicolas Bott, Michelle S. Thompson, Kathleen E. Vander Kaaden, Mark J. Loeffler, and Francis M. McCubbin
- 18:00–18:10 EPSC2022-225
How do Mercury's planetary magnetic field models compare to measurements from MESSENGER's and BepiColombo's first flybys?
Willi Exner, Léa Griton, and Daniel Heyner
- 18:10–18:20 EPSC2022-848
Electron dynamics in Mercury's magnetosphere using a global fully-kinetic model
Federico Lavorenti, Pierre Henri, Francesco Califano, Jan Deca, Sae Aizawa, Nicolas André, Simon Lindsay, and Johannes Benkhoff
- 18:20–18:30 EPSC2022-53
Variation of g-values of major species with heliocentric velocity
Rosemary Killen, Ronald Vervack, and Matthew Burger

Room Machado | Tue, 20 Sep 2022

TP17 | Planetary field analogues for Space Research

Convener: Barbara Cavalazzi | Co-conveners: Fulvio Franchi, Felipe Gómez, Fernando Gomez, Jonathan Merrison, Keld R. Rasmussen, Miruts Hagos, Viggó Þór Marteinnsson, Yang Liu, Gareth Davies

Chairpersons: Barbara Cavalazzi, Fulvio Franchi, Fernando Gomez

Mars Analogues

- 10:00–10:10 EPSC2022-690
Molecular and Isotopic impact of desiccation in high-altitude wetlands analogous to Martian paleolakes
Laura Sánchez-García, Daniel Carrizo, Federico A. Vignale, and María E. Farías
- 10:10–10:20 EPSC2022-715
Landscapes of the Argentine Puna Reveal Conditions and Processes on Wind-Eroded Planetary Surfaces
Jani Radebaugh, Laura Kerber, Dylan McDougall, Jonathon Sevy, Jason Rabinovitch, and Ralph Lorenz
- 10:20–10:30 EPSC2022-822
High-Altitude Andean Lakes as Natural Laboratories for Planetary Geology and Astrobiology Research: The Laguna Negra case (Argentina)
Fernando Gomez, Mara Matic, Paloma Perez Valdenegro, Flavia Boidi, and Cecilia Mlewski
- 10:30–10:40 EPSC2022-1152
Scratching beneath the surface of a Mars analogue site: Microbial stratification in Laguna de Alumbrea
Ben Tatton, Michael C Macey, Fernando Gomez, Susanne P Schwenzer, Mario Toubes-Rodrigo, and Karen Olsson-Francis
- 10:40–10:50 EPSC2022-485
Investigating dust devils on Mars through the Makadikadi Salt Pans analogue (Botswana)
Daniel Toledo, Victor Apéstigue, Ignacio Arruego, Francisco Montoro, Javier Martinez-Oter, Felipe Serrano, Margarita Yela, Isaias Carrasco-Blázquez, and Fulvio Franchi
- 10:50–11:00 EPSC2022-1125
Stromatolites from extreme environment as tools for astrobiological exploration, study case of Lake Ashenge, East African Rift system
Victor Amir Cardoso Dorneles, Keyron Hickman-Lewis, Tsegazeab Haileselassie, and Barbara Cavalazzi
- 11:00–11:10 EPSC2022-983
Mineral Identification and Abundance Mapping through the hyperspectral PRISMA images on the Dallo Planetary Analog
Francesca Mancini, Adriano Tullo, Pascal Allemand, and Gian Gabriele Ori
- 11:10–11:20 EPSC2022-153
In-situ measurement and sampling of Martian analogues in the Rio Tinto area in support of the Ma_MISS scientific activity
Marco Ferrari, Simone De Angelis, Alessandro Frigeri, Maria Cristina De Sanctis, Francesca Altieri, Felipe Gomez, Eleonora Ammannito, Nicole Costa, Lorenzo Rossi, and Michelangelo Formisano
- 11:20–11:30 EPSC2022-1003
Large size lava tubes as planetary analogues: the case of La Corona (Lanzarote, Canary Islands)
Iliaria Tomasi, Matteo Massironi, Christine Marie Meyzen, Francesco Sauro, Riccardo Pozzobon, Luca Penasa, Tommaso Santagata, Jesús Martínez-Frías, and Elena Mateo Mederos

Coffee break

Chairpersons: Barbara Cavalazzi, Fulvio Franchi, Fernando Gomez

- 12:00–12:10 EPSC2022-558
Blue biotopes in Icelandic lava tubes: analog environments for subsurface life on Mars
Nina Kopacz, Joleen Csuka, **Mickael Baqué**, Iaroslav Iakubivskyi, Hrefna Guðlaugardóttir, Ingeborg J. Klarenberg, Mahid Ahmed, Alexandra Zetterlind, Abhijeet Singh, Inge Loes ten Kate, Eric Hellebrand, Brent R. Stockwell, Árni B. Stefánsson, Oddur Vilhelmsson, Anna Neubeck, Anna Anna Schnürer, and Wolf Geppert

- 12:10–12:20 EPSC2022-938
Ecological paleo-reconstruction of polar lakes in Greenland based on molecular and isotopic analysis of lipid biomarkers
Pablo de Lucía Finkel, Daniel Carrizo, Victor Parro, and Laura Sánchez-García
- 12:20–12:30 EPSC2022-311
Phosphorus Cycling and Bioavailability in Archean Carbonates: Analogues for Martian Paleoenvironments
Fuencisla Cañadas Blasco and Alberto G. Fairén
- 12:30–12:40 EPSC2022-468
Terrestrial analog studies of sedimentary volcanism: Application to Mars science and missions
Goro Komatsu, Ryo Ishimaru, Nori Miyake, and Takafumi Matsui
- 12:40–12:50 EPSC2022-1035
Degradation processes on ice-cored moraines on Svalbard: a terrestrial analog for Mars
Marine Desjardins, Ernst Hauber, Tilman Bucher, Matthias Geßner, Harald Hiesinger, Nico Schmedemann, Andreas Johnsson, Fabian Ellermann, Cynthia Sassenroth, Jörg Brauchle, Susan Conway, and Axel Noblet
- New Methods**
- 12:50–13:00 EPSC2022-1210
Field analogues and laboratory experiments to constrain sublimation waves on planetary icy surfaces
Sabrina Carpy, Maï Bordiec, Olivier Bourgeois, Clémence Herny, Marion Massé, and Stéphane Pochat
- 13:00–13:10 EPSC2022-1197
A molecular toolkit to hunt and resolve Fungal Dark Matter (FDM) in extreme planetary environments
Ali Nawaz and Christian Wurzbacher
- 13:10–13:20 EPSC2022-1200
What is that? Identification confidence of Mars analog habitats with Deep Learning
Michael Phillips
- 13:20–13:30 EPSC2022-126
The Future and Sustainability of Transnational Access in Europlanet Research Infrastructure
Gareth Davies, Wim van Westrenen, Jonathan Merrison, Sara Russell, Barbara Cavalazzi, Jonas L'Haridon, and Nigel Mason

Lunch break

TP12 | Planetary Seismology and Geophysics

Convener: Philippe Lognonné | Co-conveners: Melanie Drilleau, Foivos Karakostas, Mark Panning, Simon C. Stähler, Mark Wieczorek
 Chairpersons: Philippe Lognonné, Mark Panning, Mark Wieczorek

- 15:30–15:45 EPSC2022-773 | **MI**
InSight's Contributions to Planetary Seismology and Geophysics
Bruce Banerdt and the InSight Science Team
- 15:45–16:00 EPSC2022-1101
A view into the deep interior of Mars from nutation measured by InSight RISE
Attilio Rivoldini, Sébastien Le Maistre, Alfonso Caldiero, Marie Yseboodt, Rose-Marie Baland, Mikael Beuthe, Tim Van Hoolst, Veronique Dehant, William Folkner, Dustin Buccino, Daniel Kahan, Jean-Charles Marty, Daniele Antonangeli, James Badro, Melanie Drilleau, Alex Konopliv, Marie-Julie Peters, Ana-Catalina Plesa, Henri Samuel, and Nicola Tosi and the InSight/RISE team
- 16:00–16:15 EPSC2022-880
The Seismicity of Mars as Recorded by InSight's Marsquake Service
Anna Horleston, John Clinton, Savas Ceylan, Taichi Kawamura, Simon C. Stähler, Constantinos Charalambous, Nikolaj L. Dahmen, Cecilia Duran, Doyeon Kim, Matthieu Plasman, Géraldine Zenhäusern, Fabian Euchner, Martin Knapmeyer, Domenico Giardini, Philippe Lognonné, William T. Pike, Mark Panning, Suzanne Smrekar, and William B. Banerdt

- 16:15–16:25 EPSC2022-833
Using machine learning to separate atmospherically generated noise from marsquakes
Alexander Stott, Raphael Garcia, Armand Chédozeau, Aymeric Spiga, Naomi Murdoch, Baptiste Pinot, David Mimoun, Constantinos Charalambous, Anna Horleston, Scott King, Taichi Kawamura, Nikolaj Dahmen, Salma Barkaoui, Philippe Lognonné, and William Banerdt
- 16:25–16:40 EPSC2022-10
First seismo-acoustic location and orbital imaging of recent impacts on Mars: constraints on atmosphere and interior structure and impact processes
Raphael F. Garcia and the InSight and CTX science teams
- 16:40–16:50 EPSC2022-969
Seismology on Mars: Analysis and identification of body-waves with implications for Martian structure
Cecilia Durán, Amir Khan, Savas Ceylan, and Domenico Giardini
- 16:50–17:00 EPSC2022-297
Testing the Presence Deep Martian Mantle Layering in the light of InSight Seismic Data
Henri Samuel, Mélanie Drilleau, Raphael Garcia, Quancheng Huang, Attilio Rivoldini, Philippe Lognonné, and Bruce Banerdt

Room Machado | Wed, 21 Sep 2022

TP12 | Planetary Seismology and Geophysics

Convener: Philippe Lognonné | Co-conveners: Melanie Drilleau, Foivos Karakostas, Mark Panning, Simon C. Stähler, Mark Wieczorek
Chairpersons: Melanie Drilleau, Foivos Karakostas, Simon C. Stähler

10:00–10:05 **The big one (S1222a)**

10:05–10:15 EPSC2022-845

Seismic Moment Rate of Mars after Event S1222a

Martin Knapmeyer, Savas Ceylan, Constantinos Charalambous, John Clinton, Nikolaj Dahmen, Cecilia Duran, Anna Horleston, Taichi Kawamura, Doyeon Kim, Matthieu Plasman, Simon Stähler, Géraldine Zenhäusern, Renee C. Weber, Domenico Giardini, Mark Panning, Philippe Lognonné, and Bruce Banerdt

10:15–10:25 EPSC2022-782

Spectral analyses of the Largest Marsquake S1222a: Implications for the attenuation, the source parameters and the site effect

Taichi Kawamura, Sabrina Menina, Ludovic Margerin, Zongbo Xu, Wanbo Xiao, and Philippe Lognonné

10:25–10:35 EPSC2022-805

Scattering and attenuation properties of the Martian crust through the S1222a seismic event

Sabrina menina, Ludovic Margerin, Taichi kawamura, Philippe Lognonné, Zongbo Xu, Keisuke Onodera, Marie Calvet, and Raphaël Garcia

10:35–10:45 EPSC2022-1221

Effects of 3D structure on Martian seismic waves

Ebru Bozdog, Ana-Catalina Plesa, Quancheng Huang, Daniel Peter, Caio Ciardelli, Nienke Brinkman, Martin Knapmeyer, Savas Ceylan, Mark Wieczorek, Brigitte Knapmeyer-Endrun, Attilio Rivoldini, Amir Khan, Benjamin Fernando, Tarje Nissen-Meyer, and Philippe Lognonné

10:45–10:55 EPSC2022-863

Radial anisotropy from surface-wave observation in Mars

Zongbo Xu, Eleonore Stutzmann, Philippe Lognonné, Martin Schimmel, Jean-Paul Montagner, and Taichi Kawamura

10:55–11:05 EPSC2022-1078

Denoising InSight: Determination of Mars' lateral crustal variations through surface-wave identification

Constantinos Charalambous, Tom Pike, Benjamin Fernando, Alexander Stott, Tarje Nissen-Meyer, and Philippe Lognonné

11:05–11:15 EPSC2022-738

Martian free oscillations: Search in SEIS data and implications

Philippe Lognonné, Martin Schimmel, Eleonore Stutzmann, Mélanie Drilleau, Henri Samuel, Mark Panning, and W. Bruce Banerdt

11:15–11:30 EPSC2022-672 | **MI**

Farside Seismic Suite (FSS): First-ever seismology on the farside of the Moon and a model for long-lived lunar science

Mark Panning, Sharon Kedar, Neil Bowles, Simon Calcutt, Mélanie Drilleau, Raphael Garcia, Taichi Kawamura, Philippe Lognonné, David Mimoun, Ceri Nunn, W. Tom Pike, Dilan Portela-Moreira, Sébastien de Raucourt, Renee Weber, and Arnaud Wilhelm

Coffee break

TP18 | Ionospheres of unmagnetized or weakly magnetized bodies

Convener: Beatriz Sanchez-Cano | Co-conveners: Christopher Fowler, Lina Hadid, Valeria Mangano, Niklas Edberg, Francisco González-Galindo

Chairperson: Beatriz Sanchez-Cano

- 12:00–12:15 EPSC2022-704
MAVEN Observations of a State-Transition in Ion Escape from Mars
Robin Ramstad, David Brain, James McFadden, David Mitchell, Laila Andersson, Jared Espley, Jasper Halekas, Mats Holmström, and Shannon Curry
- 12:15–12:30 EPSC2022-469
Investigating the impact of different Interplanetary Coronal Mass Ejection parameters on the Venusian atmospheric escape
Maria Chloi Katrougkalou, Sae Aizawa, Moa Persson, Nicolas André, and Ronan Modolo
- 12:30–12:45 EPSC2022-834
Can wave-particle interaction be important for ion heating and escape at Venus?
Gabriella Stenberg Wieser, Mats André, Hans Nilsson, and Niklas Edberg
- 12:45–13:00 EPSC2022-277
MAVEN observations of initial ion acceleration in the Martian ionosphere
Gwen Hanley, Christopher Fowler, James McFadden, David Mitchell, and Shannon Curry
- 13:00–13:15 EPSC2022-700
Sounder accelerated ions: a new technique revealing new ionospheric properties as observed by Mars Express
Andrii Voshchepynets, **Stas Barabash**, Mats Holmström, Dmitri Titov, Roberto Orosei, Patrick Martin, and Beatriz Sanchez-Cano
- 13:15–13:30 EPSC2022-724
EMM EMUS Observations of Martian nightside discrete EUV and FUV Aurora
Robert Lillis, Justin Deighan, Sonal Jain, Greg Holsclaw, Matthew Fillingim, Krishnaprasad Chirakkil, Scott England, Michael Chaffin, David Brain, Hessa Al Matroushi, Fatma Lootah, Hoor Al Mazmi, Ed Thiemann, Frank Eparvier, Nick Schneider, Jasper Halekas, Suranga Ruhunusiri, Jared Espley, Jacob Gruesbeck, and Shaosui Xu
- Lunch break
- Chairperson: Christopher Fowler
- 15:30–15:45 EPSC2022-170
Magnetic Reconnection and Discrete Aurora at Mars: MAVEN Observations
Charles Bowers, James Slavin, Gina DiBraccio, Ben Johnston, and Nicholas Schneider
- 15:45–16:00 EPSC2022-302
Auroral electrons at Mars: upstream drivers and ionospheric impact
Shaosui Xu, David Mitchell, James McFadden, Christopher Fowler, Gwen Hanley, Tristan Weber, David Brain, Gina DiBraccio, Michael Liemohn, Robert Lillis, Jasper Halekas, Suranga Ruhunusiri, Christian Mazelle, Mehdi Benna, Laila Andersson, and Shannon Curry
- 16:00–16:15 EPSC2022-654
High Time and Spatial Resolution Observations of the Topology of Mars' Crustal Magnetic Fields
David Mitchell, Shaosui Xu, David Brain, James McFadden, Christian Mazelle, and Jared Espley
- 16:15–16:30 EPSC2022-739
Pristine Solar Wind Deep in the Collisional Atmosphere of Mars
Zachary Girazian, Jasper Halekas, Suranga Ruhunusiri, and Christopher Fowler
- 16:30–16:45 EPSC2022-569
Search for auroral signatures in the Martian ionosphere using MAVEN/ROSE electron density profiles
Marianna Felici and Paul Withers
- 16:45–17:00 EPSC2022-799
Electric conductivities of Titan's dusty ionosphere
Oleg Shebanits, Jan-Erik Wahlund, Hunter Waite, and Michele Dougherty

Chairperson: Lina Hadid

- 17:30–17:45 EPSC2022-397 | **MI**
The scenic tour of the Venusian subsolar magnetosheath by BepiColombo
Moa Persson and the The BepiColombo Venus flyby #2 team
- 17:45–18:00 EPSC2022-948
Electrostatic Solitary Waves in Venus' Magnetosphere
Steffy Sara Vaghese and Ioannis Kourakis
- 18:00–18:15 EPSC2022-972
Cold electrons at a weakly outgassing comet
Peter Stephenson, Marina Galand, Jan Deca, and Pierre Henri
- 18:15–18:30 EPSC2022-1140
Plasma turbulence at comet 67P
Elias Odelstad, Luca Sorriso-Valvo, Anders Eriksson, and Tomas Karlsson

Room Machado | Thu, 22 Sep 2022

TP7 | Atmospheres and Exospheres of Terrestrial Bodies

Convener: Anni Määttänen | Co-conveners: Francisco González-Galindo, Dmitrij Titov

Chairperson: Anni Määttänen

Mars

- 10:00–10:10 EPSC2022-786
The Mars Climate Database (Version 6.1)
Ehouarn Millour, Francois Forget, Aymeric Spiga, Thomas Pierron, Antoine Bierjon, Luca Montabone, Margaux Vals, Franck Lefèvre, Jean-Yves Chaufray, Miguel Lopez-Valverde, Francisco Gonzalez-Galindo, Stephen Lewis, Peter Read, Marie-Christine Desjean, and Fabrice Cipriani and the MCD Team
- 10:10–10:20 EPSC2022-260
The CO Cameron bands in the Mars dayglow and aurora:consequences of revised cross sections
Jean-Claude Gérard, Lauriane Soret, Rena Lee, Joe Ajello, J. Scott Evans, Nicholas Schneider, and Sonal Jain
- 10:20–10:30 EPSC2022-274
Martian Meteoric Mg+: Atmospheric Distribution and Variability from MAVEN/IUVS
Matteo Crismani, Robert Tyo, Nicholas Schneider, John Plane, Wuhu Feng, Juan-Diego Carrillo-Sanchez, Geronimo Villanueva, Sonal Jain, and Justin Deighan
- 10:30–10:40 EPSC2022-436
Reappraising the Production and Transfer of Hydrogen to the Upper Atmosphere at Times of Elevated Water Vapor
Franck Montmessin, Denis Belyaev, Franck Lefevre, Juan Alday, Anna Fedorova, Oleg Korablev, Alexander Trokhimovskiy, Mike Chaffin, and Nick Schneider
- 10:40–10:50 EPSC2022-693
Simulation of the Hydrogen escape from Mars using a Global Climate Model
Francisco González-Galindo, Jean-Yves Chaufray, Gabriella Gilli, Margaux Vals, Franck Lefèvre, Franck Montmessin, Loic Rossi, Francois Forget, Ehouarn Millour, Miguel Ángel López-Valverde, and Adrián Brines
- 10:50–11:00 EPSC2022-696
Measurements of HDO and the D/H ratio in the Martian atmosphere from ACS MIR
Ashwin Braude, Franck Montmessin, Kevin Olsen, Margaux Vals, Juan Alday, Loic Rossi, Alexander Trokhimovskiy, Anna Fedorova, Frédéric Schmidt, Oleg Korablev, Franck Lefèvre, Lucio Baggio, Abdanour Irbah, Gaetan Lacombe, Andrey Patrakeev, and Alexey Shakun
- 11:00–11:10 EPSC2022-730
Isotope Ratios in the Martian Upper Atmosphere Measured by MAVEN NGIMS
Shane Stone, Geronimo Villanueva, Roger Yelle, Mehdi Benna, Giuliano Liuzzi, Meredith Elrod, and Paul Mahaffy
- 11:10–11:20 EPSC2022-568
Simulation of the atomic deuterium density and escape at Mars and comparison with MAVEN/IUVS observations
Jean-Yves Chaufray, Francisco Gonzalez-Galindo, Margaux Vals, Loic Rossi, Franck Montmessin, Franck Lefevre, François Leblanc, Ronan Modolo, François Forget, Ehouarn Millour, Gabriella Gilli, Miguel Lopez-Valverde, and Majd Mayyasi
- 11:20–11:30 EPSC2022-578
On the effect of the orbital parameters of Mars to the H escape and the fate of water in the last millions of years
Gabriella Gilli, Francisco Gonzalez-Galindo, François Forget, Ehouarn Millour, Joseph Naar, and Jean-Yves Chaufray

Coffee break

Chairperson: Francisco González-Galindo

- 12:00–12:10 EPSC2022-852
Climate Simulations of Mars at Low Obliquity
Lucas Lange, François Forget, Romain Vandemeulebrouck, and Ehouarn Millour
- 12:10–12:20 EPSC2022-252
Characterising Atmospheric Gravity Waves on Mars using Mars Express OMEGA images – novel results from systematised study
Francisco Brasil, Pedro Machado, Gabriella Gilli, Alejandro Cardesín-Moinelo, José E. Silva, Daniela Espadinha, and Rafael Rianço-Silva
- 12:20–12:30 EPSC2022-390
Nocturnal turbulence at Jezero driven by the onset of a low-level jet as determined from MRAMS modeling and MEDA measurements
Jorge Pla-Garcia, Asier Munguira, Scot C.R. Rafkin, Ricardo Hueso, Agustín Sánchez-Lavega, Manuel de la Torre, Daniel Viúdez-Moreiras, Claire Newman, Tanguy Bertrand, Teresa del Río, Naomi Murdoch, Germán Martínez, Hannu Savijarvi, Baptiste Chide, Mark Richardon, and Jose Antonio Rodríguez-Manfredi
- 12:30–12:40 EPSC2022-885
Atmospheric processes affecting methane on Mars
John Lee Grenfell, Fabian Wunderlich, Miriam Sinnhuber, Konstantin Herbst, Ralph Lehmann, Markus Scheucher, Stefanie Gebauer, Gabriele Arnold, and Heike Rauer
- Venus**
- 12:40–12:50 EPSC2022-7
Minor species measurements below the clouds of Venus using VIRTIS-H/Venus Express data set.
Emmanuel Marcq, Bruno Bézard, Séverine Robert, Jean-Michel Reess, Pierre Drossart, and Giuseppe Piccioni
- 12:50–13:00 EPSC2022-1058
Zonal winds in the Venus mesosphere from VIRTIS/VEx temperature sounding
Arianna Piccialli, Davide Grassi, Alessandra Migliorini, Romolo Politi, Giuseppe Piccioni, and Pierre Drossart
- 13:00–13:10 EPSC2022-384
Venus Atmospheric Dynamics: Akatsuki UVI and TNG HARPS-N observations
Daniela Espadinha, Pedro Machado, Javier Peralta, José Silva, and Francisco Brasil
- 13:10–13:20 EPSC2022-542
Exploring the variability of the Venusian Thermosphere with the IPSL Venus GCM
Antoine Martinez, Sebastien Lebonnois, Enora Moisan, Ehouarn Millour, Thomas Pierron, Gabriella Gilli, and Franck Lefevre
- 13:20–13:30 **Final discussion**

Lunch break

TP11 | Structural Geology and Deformational Histories of Terrestrial Bodies

Convener: Gene Schmidt | Co-convener: Trishit Ruj

Chairpersons: Gene Schmidt, Trishit Ruj

- 15:30–15:31 **Structural and Tectonic Insights of the Interior Planets**
- 15:31–15:41 EPSC2022-699
Structural Style and Origin Of Western Jokwa Linea Groove Belt, Se Stanton Quadrangle (V-38), Venus
Rachid Oukhro, Hafida El Bilali, Richard Ernst, James Head, and Nasrddine Youbi
- 15:41–15:51 EPSC2022-1041
The Claritas Fossae region, an example of polyphasic deformation on Mars?
Evandro Balbi, Paola Cianfarra, Gabriele Ferretti, Laura Crispini, and Silvano Tosi
- 15:51–16:01 EPSC2022-903
Geological History of Nott Corona, Isabella Quadrangle (V-50), Venus
Ismail Hadimi, Hafida El bilali, Richard Ernst, and Nasrddine youbi

- 16:01–16:11 EPSC2022-965
Geological History Of Maram Corona And Link With Host Parga Chasmata, Venus
Kamal Mghazli, Hafida El Bilali, Richard Ernst, and Nasrddine Youbi
- 16:11–16:21 EPSC2022-872
Discontinuum modelling of magma emplacement below surface doming on the Moon, Mars and Earth analogues from the Polish Sudetes
Sam Poppe, Alexandra Morand, Claire Harnett, Marek Awdankiewicz, Anne Cornillon, Michael Heap, and Daniel Mège
- 16:21–16:31 EPSC2022-556
Two mechanisms of graben nucleation above dikes based on elastic and frictional models applied at three locations in the Elysium Rise, Mars
Sam Rivas-Dorado, Javier Ruiz Perez, and Ignacio Romeo Briones
- 16:31–16:41 EPSC2022-998
Geological History of Lava flows and Graben Systems (Dyke Swarms) Of The Mbokomu Mons Region, Along Parga Chasmata, 2400 Km SE Of Atla Regio, Venus.
Naima Hannour, Hafida El Bilali, Richard .E Ernst, James .W Head, and Nasseriddine Youbi
- 16:41–16:51 EPSC2022-382
Subsurface layer investigation of the glacial-like forms using SHARAD data
Devanshi Kacholia, Wim H. Bakker, and Hossein Aghababaei
- Coffee break
- Chairpersons: Gene Schmidt, Trishit Ruj
- 17:30–17:40 EPSC2022-844
Structural glaciology of the Martian ice caps unveils conduits for fluid migrations
 Paola Cianfarra, **Francesco Salvini**, Evandro Balbi, and Matteo Maggi
- 17:40–17:50 EPSC2022-388
3D Structural modeling of large thrust faults in Warrego Rise (southern Thaumasia) and Phrixi Rupes (Aonia Terra), Mars: implications for the architecture of a thrust fault system concentric to Tharsis.
 Andrea Herrero-Gil and **Ignacio Romeo**
- 17:50–18:00 EPSC2022-757
Extensional Features at East Serenitatis Wrinkle Ridge-Lobate Scarp Transition Indicate Recent Tectonic Activity
Jaclyn D. Clark, Hannes Bernhardt, and Mark S. Robinson
- 18:00–18:10 EPSC2022-892
Implications for ELD Deposition and Water Content Based on the Existence of Collinear Fold Structures
Gene Schmidt, Francesco Salvini, and Andrea Apuzzo

Room Machado | Fri, 23 Sep 2022

TP5 | Mars Science and Exploration

Convener: Alejandro Cardesin-Moinelo | Co-conveners: Lucie Riu, Eleni Bohaceck, Elliot Sefton-Nash, Colin Wilson, Csilla Orgel

Chairpersons: Colin Wilson, Elliot Sefton-Nash

Mars Moons

10:00–10:10 EPSC2022-210

Exploring the recycling model of Phobos formation: rubble-pile satellites

Gustavo Madeira and Sebastien Charnoz

10:10–10:20 EPSC2022-330

Preliminary geodesy study for MMX mission

Julien Laurent-Varin, Jean-Charles Marty, Koji Matsumoto, Keiko Yamamoto, Ikeda Hitoshi, Araki Hiroshi, and Jungwon Lee

10:20–10:30 EPSC2022-953

Search for Phobos and Deimos spectroscopic analogs: Summary of remote sensing observations and new preliminary laboratory measurements

Giovanni Poggiali, Moe Matsuoka, Maria Antonietta Barucci, Sonia Fornasier, Alain Doressoundiram, John Robert Brucato, Pierre Beck, Frederic Merlin, and Alberini Andrew

10:30–10:40 EPSC2022-955

In situ science on Phobos by the Raman spectrometer RAX on board the MMX rover

Olga Prieto-Ballesteros, Ute Böttger, Yuichiro Cho, Heinz-Wilhelm Huebers, Fernando Rull, Susanne Schroeder, Tomás Belenguer, Marina Benito, Anko Börner, Maximilian Buder, Yuri Bunduki, Enrico Dietz, Till Hagelschuer, Shingo Kameda, Emanuel Kopp, Guillermo Lopez-Reyes, Andoni G. Moral Inza, Shoki Mori, Carlos Perez Canora, Martin Pertenais, Gisbert Peter, Steve Rockstein, Selene Rodd-Routley, Pablo Rodriguez Perez, Conor Ryan, Pilar Santamaria, Thomas Säuberlich, Friedrich Schrandt, Stephan Ulamec, Tomohiro Usui, Iris Weber, and Karsten Westerdorff

Mars Atmosphere

10:40–10:50 EPSC2022-409 | **MI**

A Four-Year Search of Methane on Mars with ACS onboard ExoMars TGO

Franck Montmessin, Oleg Korablev, Alexander Trokhimovskiy, Kevin Olsen, Franck Lefèvre, Lucio Baggio, Ashwin Braude, Anna Fedorova, Elise Knutsen, Abdanour Irbah, Gaétan Lacombe, Andrey Patrakeev, and Alexey Shakun

10:50–11:00 EPSC2022-247 | **MI**

Mars 2020 MEDA Measurements of Near Surface Atmospheric Temperatures at Jezero

Asier Munguira, Ricardo Hueso, Agustín Sánchez-Lavega, Manuel de la Torre-Juarez, Germán Martínez, Claire Newman, Donald Banfield, Alain Lepinette, Jorge Pla-García, Álvaro Vicente-Retortillo, Jose Antonio Rodríguez-Manfredi, Baptiste Chide, Tanguy Bertrand, Mark Lemmon, Eduardo Sebastián, Javier Gómez-Elvira, and Ralph Lorenz and the CAB Team (6)

11:00–11:10 EPSC2022-228

Atmospheric disturbances imaged on Mars during the simultaneous operations of four surface stations along 2021 and 2022

Agustin Sanchez-Lavega, Ethan Larsen, Jorge Hernandez-Bernal, Teresa del Río-Gaztelurrutia, Iñaki Ordoñez-Etxeberría, Jesús Ordorika, and Alejandro Cardesin-Moinelo

11:10–11:20 EPSC2022-478

Interpretation of the Meteorological Environment Changes Experienced By MSL During Mission Traverse Using REMS and MRAMS

María Ruíz-Pérez, Jorge Pla-García, Scot Rafkin, Germán Martínez, Manuel de la Torre, Javier Gómez-Elvira, and Jose Rodríguez-Manfredi

Coffee break

Chairpersons: Colin Wilson, Eleni Bohacek, Lucie Riu

- 12:00–12:10 EPSC2022-766 | **MI**
Measurements of water and its D/H as released from both Martian polar caps
Geronimo Villanueva, Giuliano Liuzzi, Shohei Aoki, Shane Stone, Adrian Brines, Ian Thomas, Miguel Lopez-Valverde, Loic Trompet, Justin Erwin, Frank Daerden, Bojan Ristic, Michael Smith, Michael Mumma, Sara Faggi, Vincent Kofman, Severine Robert, Lori Neary, Manish Patel, Giancarlo Bellucci, and Ann-Carine Vandaele
- 12:10–12:20 EPSC2022-296
Global maps of H₂O, HCl and isotopic signatures in the Martian atmosphere: synergies between NASA/IRTF and TGO/ExoMars observations.
Sara Faggi, Shohei Aoki, Giuliano Liuzzi, Hideo Sagawa, Michael J. Mumma, and Geronimo L. Villanueva
- 12:20–12:30 EPSC2022-451
Modeling the Martian HDO cycle with a Global Climate Model during the “dusty” season
Margaux Vals, Franck Montmessin, Loïc Rossi, Ashwin Braude, Franck Lefèvre, Francisco Gonzalez-Galindo, Jean-Yves Chaufray, Anna Fedorova, Juan Alday, François Forget, Ehouarn Millour, Oleg Korablev, Alexander Trokhimovskiy, and Alexey Shakun
- 12:30–12:40 EPSC2022-504
Mars water vapor vertical distributions from the troposphere to the mesosphere from NOMAD Solar Occultation for Martian Years 34 and 35
Adrian Brines, Miguel Ángel Lopez Valverde, Aurélien Stolzenbach, Ashim Modak, Bernd Funke, Francisco Gonzalez Galindo, Jose Juan Lopez Moreno, Shohei Aoki, Ann Carine Vandaele, Frank Daerden, Ian Thomas, Justin Erwin, Loïc Trompet, Bojan Ristic, Gerónimo Luis Villanueva, Giuliano Liuzzi, Manish Patel, and Giancarlo Bellucci
- 12:40–12:50 EPSC2022-1027
Ozone in the Martian atmosphere observed by TGO/NOMAD-UVIS solar occultations
Arianna Piccialli, Ann Carine Vandaele, Yannick Willame, Anni Määttänen, Loïc Trompet, Justin Erwin, Frank Daerden, Lori Neary, Shohei Aoki, Sébastien Viscardy, Ian Thomas, Cedric Depiesse, Bojan Ristic, Jon Mason, Manish Patel, Michael Wolff, Alain Khayat, Giancarlo Bellucci, and Jose Juan Lopez-Moreno
- 12:50–13:00 EPSC2022-575
Measuring the 13C/12C in the lower atmosphere of Mars with NOMAD/TGO: challenges and interpretation
Giuliano Liuzzi, Geronimo Villanueva, Shane W. Stone, Sara Faggi, Vincent Kofman, Shohei Aoki, Juan Alday, Loïc Trompet, and Ann Carine Vandaele
- 13:00–13:10 EPSC2022-113
Migrating Thermal Tides in the Martian Atmosphere from TIRVIM-ACS onboard TGO
Sandrine Guerlet, Siteng Fan, François Forget, Ehouarn Millour, Nikolay Ignatiev, Pavel Vlasov, Alex Shakun, Alexander Trokhimovskiy, Oleg Korablev, Alexey Grigoriev, and Franck Montmessin
- 13:10–13:20 EPSC2022-779
Vertical distribution of atmospheric temperature and density from the solar occultation instruments NOMAD and ACS on board the Trace Gas Orbiter
Miguel Angel Lopez-Valverde, Bernd Funke, Adrian Brines, Aurélien Stolzenbach, Ashimananda Modak, Francisco Gonzalez-Galindo, Shohei Aoki, Loic Trompet, Ian Thomas, Gerónimo Villanueva, Giuliano Liuzzi, Denis Belyaev, Kevin Olsen, Alexander Trokhimovsky, Jose Juan Lopez-Moreno, Ann Carine Vandaele, Manish Patel, Giancarlo Bellucci, Oleg Korablev, and Franck Montmessin

Lunch break

TP14 | Impact Processes in the Solar System

Convener: Robert Luther | Co-conveners: Elena Martellato, Isabel Herreros, Jens Ormö, Francisco Javier Rodriguez Tovar, Christopher Hamann, Chrysa Avdellidou

Chairpersons: Robert Luther, Elena Martellato

- 15:30–15:50 EPSC2022-195 | **MI**
Properties of natural and artificial craters on asteroid (162173) Ryugu revealed by remote-sensing observations and sample analyses
Seiji Sugita

- 15:50–16:00 EPSC2022-131
Impact Induced Motion of Boulders and Their Effect on Ejecta Emplacement on Rubble-pile Targets
Jens Ormö, Sabina D. Raducan, Robert Luther, Martin Jutzi, M. Isabel Herreros, Gareth Collins, Kai Wünnemann, and Valentin Mauri
- 16:00–16:10 EPSC2022-735
Reproducing space weathering on olivine via ion irradiation
Camilo Jaramillo-Correa, Roger N. Clark, Deborah L. Domingue, Neil Pearson, Daniel W. Savin, Faith Vilas, Jean P. Allain, and Amanda R. Hendrix
- 16:10–16:20 EPSC2022-813
Impact into a regolith: A shock recovery study of a graphite-bearing surface
Aleksandra N. Stojic, Juulia-Gabrielle Moreau, Tomas Kohout, Antti Penttilä, Andreas Morlok, Iris Weber, Maximilian P. Reitze, Harald Hiesinger, Nico Schmedemann, Argo Joeleht, Karin E. Bauch, Jan-Hendrik Pasckert, and Jörn Helbert
- 16:20–16:30 EPSC2022-402
Melt production and ejection at lunar intermediate-sized impact craters: where is the molten material deposited?
Tiantian Liu, Robert Luther, Lukas Manske, and Kai Wünnemann
- 16:30–16:50 EPSC2022-265 | **MI**
Dynamic strength, fragmentation, and the impact cratering process
Auriol S. P. Rae, Thomas Kenkmann, Gareth S. Collins, Michael H. Poelchau, Vivek Padmanabha, and Frank Schäfer
- 16:50–17:00 **Discussion & Early Career Poster Overview**
- Coffee break
- Chairpersons: Isabel Herreros, Chrysa Avdellidou
- 17:30–17:40 EPSC2022-873
Early collisional evolution of TNOs
Paula Benavidez, **Adriano Campo Bagatin**, Álvaro Álvarez-Candal, and Jean-Baptiste Vincent
- 17:40–17:50 EPSC2022-1130
Sputnik Planitia as an Impactor Remnant: An Ancient Mascon in a Frozen Ice Mantle
Harry Ballantyne, Erik Asphaug, C. Adeene Denton, Alexandre Emsenhuber, and Martin Jutzi
- 17:50–18:00 EPSC2022-1069
Shattered Cores? Fragmentation of Asteroid Cores During Impact Into a Magma Ocean.
Randolph Röhlen, Kai Wünnemann, Laetitia Allibert, Lukas Manske, Christian Maas, and Ullrich Hansen
- 18:00–18:10 EPSC2022-1037 | **MI**
Simulated craters and ejecta on the past Martian water- and ice-rich impact sites
Aleksandra Sokolowska, Nicolas Thomas, Kai Wünnemann, and Robert Luther
- 18:10–18:20 EPSC2022-906
Hypervelocity impact studies on Enceladus analogue ices
Grace Richards, Victoria Pearson, Manish Patel, Geraint Morgan, Matthew Sylvest, Zoe Morland, Mark Fox-Powell, and Simon Sheridan
- 18:20–18:30 EPSC2022-636 | **MI**
Campo del Cielo Strewn Field: Simulating the Funnel Formation for Vertical & Oblique Impacts
Robert Luther, Andrea Schmalen, and Natasha Artemieva