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EuroMoonMars Etna Campaign 2021: Logistics and Mission Protocol

Leander Schlarmann[1,2], Anouk Ehreiser[3,2], Kevin McGrath[4,2], Gary Brady[4,2], Chirayu Mohan[4,2], Hannah Reilly[4,2], Patrycja Lakomiec[5,2], Gaia De Palma[6,2], Christoph Hönes[7,2], Yke Rusticus[7,2], Bernard Foing[7,2], and Armin Wedler[8]

[1]University of Vienna, Department of Astrophysics, Vienna, Austria (leander.schlarmann@chello.at)
[2]International Lunar Exploration Working group, ILEWG, EuroMoonMars
[3]Institute of Physics, Universität Heidelberg, Germany
[4]Technological University Dublin, Ireland
[5]Department of Physics, University College London, England
[6]Department of Physics, University of Bari, Italy
[7]Leiden Observatory & VU Amsterdam, The Netherlands
[8]DLR Institute of Robotics and Mechatronics, Germany

The EuroMoonMars Etna campaign (EMM-Etna) took place on Mt. Etna in Sicily between the 6th and 11th of July 2021. The scouting campaign was organised by ten students of the International Lunar Exploration Working Group (ILEWG) EuroMoonMars program [1-3] in preparation for the DLR ARCHES (Autonomous Robotic Networks to Help Modern Societies) campaign and the ExoMars launch in 2022. During the ARCHES campaign on Mt. Etna in the summer of 2022, a team of robotics engineers will test various moon landing scenarios to show the capabilities of heterogeneous, autonomous, and interconnected robotic systems [4]. For the EMM-Etna campaign, the team simulated the landing of the REMMI Rover [5] on Mt. Etna as a Mars-analogue site, using a 360-degree remote-controlled camera holder to replicate a panoramic camera. Furthermore, samples were collected and analysed using an Ocean Optics UV-Vis-NIR spectrometer, a Field Raman, and a portable microscope. When working with a team of scientists and engineers the planning and organisation of the campaign are vital. Therefore, every crew member had their distinctive role during the mission, starting from being responsible for individual instruments or the outreach during the campaign to roles such as planner and data officer. Additionally, a mission protocol for the operational steps of the landing of the rover in the volcanic environment was implemented to assure smooth operation in the field.

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