

Interactive Presentations (IP)
Topic 2 - Interactive Presentations (2)

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EXPERIMENTS FOR EUROMOONMARS 2020 FIELD CAMPAIGNS

Abstract

Experiments have been developed as part of EuroMoonMars programme, conducted by International Lunar Exploration Working Group (ILEWG) with the support of ESA ESTEC (European Space Research and Technology Centre (ESTEC), VU Amsterdam and partner universities and research institutes.

A series of EMMIHS campaigns (EuroMoonMars –Intl Moonbase Alliance-HISEAS) have been conducted in 2019-2020. Here we discuss instruments used for EMMIHS-IV campaign and other EuroMoonMars campaigns conducted at ESTEC, Eifel volcanic region, Iceland and Etna ARCHES. These experiments specifically concern the testing and operation of observatory equipment including cameras, spectrometers, telescopes and radio antennae.

The ability of these apparatus to observe conditions, whether solar or on celestial objects is paramount to the viability of a future base on the moon. For example, the detection of solar flares, following the stars and determining the variability of celestial objects. To test these apparatus certain tests are being performed.

In previous phases of the EuroMoonMars project spectrometry was applied to test minerals, and plants found in volcanic soil. Later tests were repeated by analog astronauts using the ILEWG ExoGeoLab Lander. This project aims to include observing the sun with a solar telescope, observing planetary bodies such as Jupiter and imaging the moon with telescopes available in ESTEC and familiarising the EuroMoonMars EMMISH-IV team with the operation of these instruments. As in previous experiments, conditions will be simulated to ensure an environment from which the data are taken is similar to what is expected on the Moon or Mars.