

SPACE EXPLORATION SYMPOSIUM (A3)
Mars Exploration – Science, Instruments and Technologies (3B)

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LABORATORY AND EIFEL FIELD SPECTROSCOPY OF MARS ANALOGUE SAMPLES

Abstract

Samples derived from terrestrial analogue sites are studied to gain insight into Mars analogue processes in their geological context (Foing, Stoker, Ehrenfreund, 2011). For this study samples from the volcanic region of the Eifel, Germany collected during our latest field campaigns in November 2015 and February 2016 (Foing et al., 2010), are analyzed with a variety of spectrometers. The aim is to obtain a database of analyzed samples that could be used as a reference for future in situ measurements. We also use a documented set of Moon-Mars relevant minerals curated at VU Amsterdam.

We are using systematically for all samples UV-VIS and NIR reflectance spectrometers, and sporadically a Fourier Transform Infrared (FTIR) spectrometer, an X-Ray Fluorescence (XRF) spectrometer, a Raman laser spectrometer on control samples.

The spectrometers have been used in combination with the ExoGeoLab mock-up lander during field campaigns (Foing, Stoker, Ehrenfreund, 2011) and also brought again to Eifel volcanic area in February 2016, to prove the applicability of the equipment in the field.

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