

The 3rd National Mars Science Seminar

22.10.2021, www.mars.uj.edu.pl

Astrobiology Investigation on the New Volcanic Island Surtsey

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[POSTER]

Lava tubes are natural caves carved by basaltic pahoehoe magma river flowing down the volcanic slopes. While progressing downhill lava gradually cools off and forms hardened crust on the surface underneath which molten lava continues to flow. The similar fate is correlated with volcanic islands. The same processes were possible on Mars when volcanic eruptions intensive and created new geological forms. We suggest that subsurface lava tubes and other volcanic forms on Mars, similarly as Earth's analogues, may or could in the past sustain diverse microbial community. The Surtsey Island create a peculiar place as an analog to investigate evolution on the new volcanic areas and astrobiology approach in research. We would like to present possible probes and examination of volcanic formations and lava tubes investigation above and underwater both. The main goal of the experimental in the laboratory set up part is to confirm evolution of primitive organisms, which form biofilms for its protection.



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