

# Review about Mars skylight hole and subsurface caverns

(火星の縦孔・陥没地形分布についてのレビュー)

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## ABSTRACT

SELENE (KAGUYA) lunar orbiter discovered large hole structures of several 10 m in diameter and in depth on the Moon that are possible skylights of subsurface caverns. Similar skylight holes also exist on Mars. Compared to the Martian surface, the inside of subsurface caverns is safer because the roof of cavern protects meteorite impacts and radiation bombardments. In the future, Martian bases will be constructed in the skylight holes and subsurface caverns. By surveying exposed vertical walls of skylight holes and insides of caverns, clues for understanding past volcanic activities and past/current existence of water and life of the Mars will be obtained. However, global investigation of the skylight holes has not been done. Here we review the result of investigation for location and shape of Martian skylight holes in latitude of  $0^{\circ} \sim 90^{\circ}$  N and  $0^{\circ} \sim 50^{\circ}$  S, and around the Tharsis Montes, based on the data taken by High Resolution Imaging Science Experiment (HiRISE) that is equipped the Mars Reconnaissance Orbiter (MRO).