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Visible and Near Infrared spectral analysis of several hollows on Mercury

jeudi 27 février 2020 16:00 (15 minutes)

Among the unexpected features revealed by MErcury Surface, Space ENvironment, GEochemistry and Ranging (MESSENGER) mission on the surface of Mercury, geological units named hollows are the most surprising and least understood. Possibly related to volatile components, hollows are small depressions, surrounded by bright halo, never observed on other body in our Solar System. The multispectral images taken by the Mercury Dual Imaging System (MDIS) onboard the probe show that hollows have spectral slope in the visible less steep than the average surface of Mercury. Moreover, an absorption band around 600 nm have been reported in several hollows from multispectral data. Because the multispectral camera are composed of only 10 filters, the spectral analysis is limited. I will present the results of a spectral analysis of several hollows from observations done by the Mercury Atmospheric and Surface Composition Spectrometer (MASCS) onboard MESSENGER operating with more than 230 channels.

Field

Planetology (incuding small bodies and exoplanets)

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