

SWIR Albedo Mapping of Mars using Mars Orbiter Mission data

Ramdayal Singh^{a,b}, Manoj K Mishra^a and Prakash Chauhan^a

^a*Space Applications Centre, Indian Space Research Organisation (ISRO), Ahmedabad, India*

^b*Faculty of Science, NIRMA University, Ahmedabad, India.*

Abstract

Global apparent SWIR (1.64-1.66 μ m) albedo mapping results from data acquired by Methane Sensor for Mars (MSM) onboard Indian Mars Orbiter Mission during October, 2014 to February, 2015, are presented. Global analysis of low and high albedo patterns is discussed using MSM apparent SWIR albedo map. The occurrence frequency of MSM apparent SWIR albedo shows a clear bimodal behaviour and is in good agreement with OMEGA NIR albedo distribution. Based on MSM apparent SWIR albedo values, three classes (high, intermediate and low albedo values) are defined, which shows a clear elevation dependency. Variation of weekly average apparent albedo during the study period over Syrtis Major, Daedalia Planum and Valles Marineris region, respectively, is presented.

Keywords: Mars, Albedo, Methane Sensor for Mars.