A WORKING MODEL OF NEW TYPE OF PLANETARY ROVER AND LITHOLOGICAL MAPPING OF MANILIUS CRATER REGION USING CHANDRAYAAN-1 DATA SETS

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A new type of wheel system(Three different type of wheel base) is designed for planetary rovers which can perform in the lunar surface especially at the area where the slope is nearly 25-30°.This helps the study of other planets and the crater which present on the surface make easy mainly collecting the samples from the craters.The crater is in equatorial region,so easy for landing site and fuel consumption.Then the rover can travel across the crater so, this design will gave a better transportation along the planet with easily travel over the obstacles. The Manilius crater, which occupies the central part of the study area, is a complex crater with a central peak and asymmetric ejecta deposit. Chandrayaan-1 Terrain Mapping Camera and 3D GIS visualization has revealed scientifically diverse characteristics of lunar surface features, due to unique topographical significance of morphological features and lithology of the manilius crater which are very well manifested in 3D GIS environment.

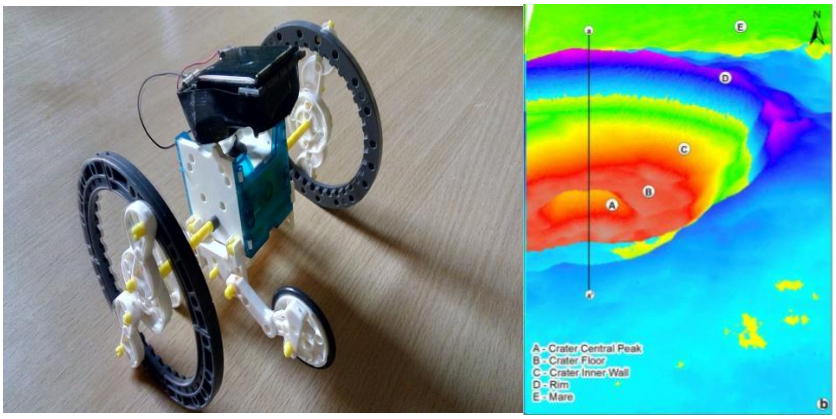

Fig.a Is the planetary rover,b 3D visualization of Manilius crater using LROC (lunar reconnaissance orbiter camera) wide angle camera (WAC) image rendered in DEM and TMC (Chandrayaan-1) color-coded DEM

Keywords: Planatary Rovar,Manilius Crater,Transportation, 3D GIS,Chandrayaan-1

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