



## **ArcGIS and GRASS GIS for Planetary Data**

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Geographic Information Systems (GIS) are powerful tools for integrating information from different planetary datasets e.g. images, spectral data and digital terrain models which are often given in different vector or raster formats. Before analyzing these datasets within GIS it is necessary to relate them to a common reference system. While the regular standard GIS Systems are developed for terrestrial reference systems, additional efforts are required for the integration of planetary datasets into a GIS. On this poster we describe the import of different datasets into ESRI's commercial ArcGIS 9 and the open source project GRASS 5.3 (Geographic Resources Analysis Support System). We introduced several Mars datasets like MOLA (Mars Obiter Laser Altimeter), MDIM2.1 (Mars Digital Image Mosaic), MOC (Mars Orbiter Camera), TES (Thermal Emission Spectrometer), the USGS (US Geologic Survey) Geologic Map of Mars, and images of the High Resolution Stereo Camera of ESA's Mars Express mission. Before importing these datasets, we referenced all of them to the MOLA reference sphere using custom-made mapping tools in the VICAR (Video Image Communication and Retrieval) environment. We developed scripts to automate these steps and to create the image formats suited for GRASS and ArcGIS, respectively.