PLANETARY SURFACE VISUALIZATION AND ANALYTICS. E. Law[1], Solar System Treks Project Team[1], [1]Jet Propoulsion Laboratory, Califronia Institute of Technology.

Introduction: The Solar System Treks Project is a collaborative project led by Solar System Exploration Research Virtual Institute (SSERVI) at NASA's Ames Research Center. JPL leads the engineering and implementation with USGS as the primary contributor providing valued-added data product from various missions. The project has developed three operational web-based portals: Moon Trek [1], Mars Trek [2], and Vesta Trek [3] providing a suite of interactive visualization and analysis tools to enable users including mission planners, scientists and general public to access large amount of mapped lunar, Mars and Vesta data products based on data collected by past and current lunar missions, Mars missions and from the Dawn mission.

The portals allow users to explore and measure the surface, zoom in and out of surface of the planetary bodies. The interactive maps are provided with different overlay options that provide details including visualization of various types of data (e.g., topography, mineralogy, abundance of elements and geology etc). These maps are value-added products based on data available from the Planetary Data System (PDS) [4]. The portals also provide 3-D printer-exportable topography so users can print physical models of the Moon's, Mars' and Vesta's surface. In addition, standards keyboard gaming controls are available to maneuver a first-person flyover view across the surface of these planetary bodies.

We will give an overview and direction of the project, including highlights of the operational portals and portals in work, as well as demonstration of their key features.

References:

[1] https://moontrek.jpl.nasa.gov/
[2] https://marstrek.jpl.nasa.gov/
[3] https://vestatrek.jpl.nasa.gov/
[4] https://pds.nasa.gov/