J-ASTEROID, 3D DATA FORMATS AND ISSUES FOR THE VISUALIZATION OF SMALL BODIES. W. Hagee[1], S. Anwar[1], D. Noss[1], S. Dickenshied[1], [1]Mars Space Flight Facility, 201 E Orange Mall, Arizona State University, Tempe, AZ 85287 USA.

Introduction: J-Asteroid is part of the JMARS (Java Mission-planning for Analysis and Remote Sensing) suite of Geographic Information System (GIS) applications developed by Mars Space Flight Facility at Arizona State University (ASU). J-Asteroid extends JMARS functionality as a mission planning and data analysis tool to asteroids and other small celestial bodies. Historically JMARS was created to be the mission planning tool for the THEMIS (THermal EMission Instrument System) instrument on board the Mars Odyssey Spacecraft. Since its release, JMARS mission planning and data analysis capabilities have been extensively enhanced to support many NASA missions including MRO, LRO, Dawn, and OSIRIS-REx. In addition to supporting NASA missions, JMARS is also used in ASU and NASA educational outreach programs and is available to the general public.

J-Asteroid was initially created to support the Dawn mission to Vesta and Ceres and is being extended further to provide both mission planning and data visualization capabilities for the OSIRIS-REx mission to Bennu. A key enhancement for the OSIRIS-REx mission is the ability to mission plan and visualize data in 3D. This 3D visualization capability, including the rendering of arbitrary data sets and user-created data onto complex shape models, has been extended to other small bodies including Itokawa and Eros.

Poster Contents: This poster will describe some of the many data formats that have been created to support 3D visualization. The pros and cons of each format in terms of size, tool support, performance, and suitability for small bodies will be presented. Issues that have been encountered fusing different data formats including projected data will also be presented.

One of the most interesting issues of visualizing small body data in 3D or in a projected map is the representation of multiple surface points along a single radius line or multiple surface solutions for a single Longitude/Latitude position. This issue is problematic for some data formats when rendered in 3D but not for others.

Examples will be shown to illustrate the key data format issues.