MOPSS uses CORBA in conjunction with a multi-tier architecture to allow multiple users to concurrently view and edit schedule data. The adaptable architecture of MOPSS also enables easy integration of tools and models to satisfy new system requirements. MOPSS has two clients: an X/MOTIF client and a Java client. The Java client is effective over the Web and has been used by remote MAP mission scientists and engineers to monitor spacecraft integration tests.

The most obvious use of MOPSS is for control of commercial satellites. In the television industry, MOPSS could be used to schedule TV commercials on broadcast television based on FCC rules, demographics, and program content. In the medical field, MOPSS could be used to schedule and optimize use of hospitals in a network and resources within hospitals. In the power industry, MOPSS can be used to schedule nuclear power plant maintenance. The education and transportation fields are also candidates.

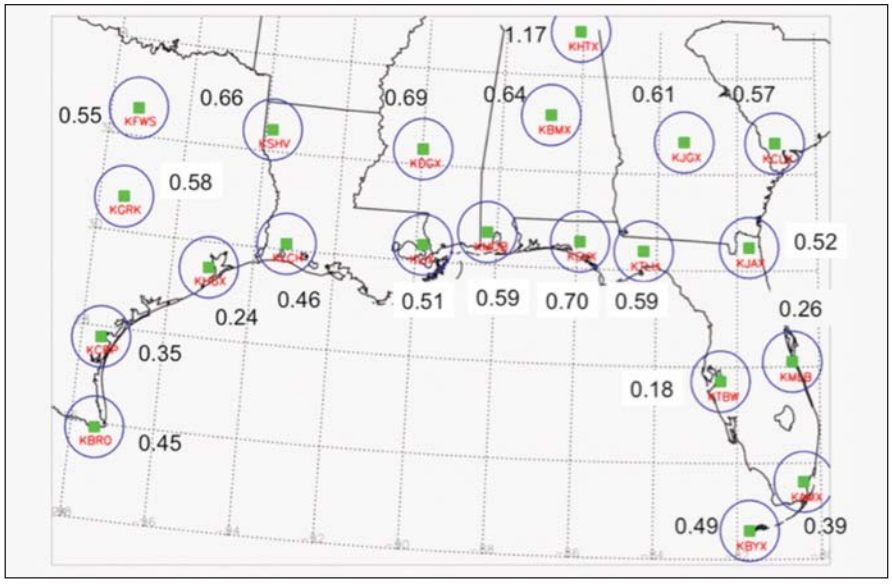
This work was done by Terri Wood of Goddard Space Flight Center and Paul Hempel of Computer Sciences Corp. Further information is contained in a TSP (see page 1).. GSC-15858-1

Global Precipitation Mission Visualization Tool

Goddard Space Flight Center, Greenbelt, Maryland

The Global Precipitation Mission (GPM) software provides graphic visualization tools that enable easy comparison of ground- and space-based radar observations. It was initially designed to compare ground radar reflectivity from operational, ground-based, S- and C-band meteorological radars with comparable measurements from the Tropical Rainfall Measuring Mission (TRMM) satellite's precipitation radar instrument. This design is also applicable to other ground-based and space-based radars, and allows both ground- and space-based radar data to be compared for validation purposes.

The tool creates an operational system that routinely performs several steps. It ingests satellite radar data (precipitation radar data from TRMM) and ground-based meteorological radar data from a number of sources. Principally, the ground radar data comes from national networks of weather radars (see figure). The data ingested by the visualization tool must conform to the data formats used in GPM Validation Network Geometry-matched data product generation. The software also performs match-ups of the radar volume data for the ground- and space-based data, as well as statistical and graphical analysis (including two-dimensional graphical displays) on the match-up data.



Location of Validation Network match-up sites and associated site grid domains in the southeastern U.S.

The visualization tool software is written in IDL, and can be operated either in the IDL development environment or as a stand-alone executable function.

This work was done by Mathew Schwaller of Goddard Space Flight Center. For further information, contact the Goddard Innovative Partnerships Office at (301) 286-5810. GSC-15785-1

Thermal Protection System Imagery Inspection Management System —TIIMS

Lyndon B. Johnson Space Center, Houston, Texas

TIIMS is used during the inspection phases of every mission to provide quick visual feedback, detailed inspection data, and determination to the mission management team. This system consists of a visual Web page interface, an SQL database, and a graphical image generator. These combine to allow a user to ascertain quickly the status of the inspection process, and current determination of any problem zones.

The TIIMS system allows inspection engineers to enter their determinations into a database and to link pertinent images and video to those database entries. The database then assigns criteria to each zone and tile, and via query, sends the information to a graphical image generation program. Using the official TIPS database tile positions and sizes, the graphical image generation program creates images of the current status of the orbiter, coloring zones, and tiles based on a predefined key code. These