Anticipated Results From the Multi-Angle Imaging SpectroRadiometer

David J. Diner

MISR Project
Jet Propulsion Laboratory
California Institute of Technology

ABSTRACT

Launch of the Multi-angle Imaging SpectroRadiometer (MISR) aboard the EOS Terra platform is scheduled for the latter part of 1999. MISR acquires pushbroom images of the Earth at 9 viewing angles ranging from 70.5 deg. forward to 70.5 deg. aftward of nadir, in 4 visible/near-IR spectral bands at each angle. Data are acquired over a swath width of approximately 400 km, with selectable footprints in each channel ranging from 275 m to 1.1 km. Simulated MISR test imagery will be used to demonstrate the ground data processing flow, from radiometric calibration through geolocation and geometric registration through retrieval of geophysical parameters relating to aerosols, clouds, and the land surface. An overview of some of the principal algorithms used to generate the data products will also be discussed. Descriptions and examples of the HDF-EOS products that will be available to the scientific community through the Atmospheric Science Data Center at NASA Langley Research Center, such as top-of-atmosphere multi-angle radiances, stereoscopic surface and cloud altitudes, aerosol maps, and surface bidirectional reflectance factors, will be presented.