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ASTER Early Science Outcome and Operation Status

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The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) is a high spatial resolution multi-spectral imaging radiometer, and is on board the NASA Terra spacecraft launched on December 18, 1999. It spectrally covers the visible and near-infrared, short-wave-infrared, and thermal infrared regions with 14 spectral bands, and creates high-spatial-resolution (15-90m) multispectral images of the Earth's surface with 60 km imaging swath. ASTER data can be used to map distribution of a variety of surface materials and to help establish a baseline for long-term monitoring of regional changes on the Earth's surface, e.g., land use, de-forestation, desertification, lake and playa water level changes, changes in vegetation communities, glacial movements, and volcanic processes. We have confirmed that the performance of the ASTER instrument is exceeding the baseline requirements in many areas. Status of the ASTER instrument operation and examples of early science outcome will be shown in the presentation, e.g., observation of active volcanoes in Ethiopia, rain forests in Brazil, land use patterns and geologic structures in California, etc. Reference: Yamaguchi, Y., Kahle, A.B., Tsu, H., Kawakami, T., and Pniel, M. (1998.7) Overview of Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER). IEEE Transactions on Geoscience and Remote Sensing, 36, (4), 1062-1071.
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