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The Shuttle Radar Topography Mapper

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Abstract

The Shuttle Radar Topography Mapper (SRTM), is a cooperative project between NASA and the Defense Mapping Agency of the U.S. Department of Defense. A formal memorandum of understanding to develop and conduct the mission was finalized on July 8. The mission is designed to use a single-pass radar interferometer to produce a digital elevation model of the Earth's land surface between about 60 degrees north and south latitude. The DEM will have 30 m horizontal resolution and about 10 m vertical errors. SRTM will use the same radar instrument that comprised the Spaceborne Imaging Radar-C (SIR-C) that flew twice on the Shuttle Endeavour in 1994. To collect the interferometric data, a 60 m mast, additional C-band imaging antenna, and improved tracking and navigation devices will be added. A second X-band antenna is also planned to be added, which will produce higher resolution topographic measurements in strips nested within the C-band coverage. * Work performed under contract to NASA.

Keywords: Shuttle Radar Topography Mapper, Interferometry, Global DEM