Space Studies of the Earth-Moon System, Planets, and Small Bodies of the Solar System (B)
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TOPOGRAPHY OF MERCURY FROM MESSENGER ORBITAL STEREO IMAGES: A STATUS REPORT

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In March 2011, the MErcury Surface, Space ENvironment, GEochemistry, and Ranging (MESSENGER) spacecraft was inserted into Mercury orbit. The spacecraft is equipped with the Mercury Dual Imaging System (MDIS) consisting of wide- and narrow-angle cameras, co-aligned on a pivot platform. During the past three years MDIS acquired more than two hundred thousand images and mapped Mercury's surface several times under different illumination and viewing conditions. We have processed available stereo images to generate digital terrain models (DTMs) and report on results of our efforts. The DTMs are particularly important for coverage of the southern hemisphere, most of which is out of range of MESSENGER's Mercury Laser Altimeter (MLA). We aim at a global reconstruction of Mercury's surface topography.