



First results from HiRISE observations of the surface of Mars

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NASA's Mars Reconnaissance Orbiter entered its primary science phase on 6 Nov 2006 after successfully reaching its target orbit (255 km x 320 km). The High Resolution Imaging Science Experiment (HiRISE) is the imaging system onboard and is currently providing images of typically 6 km x 6-12 km footprints at spatial scales of 30 cm/px. The system allows 3-colour imaging (blue-green, red, and near-IR) over the central 1.2 km of the swath. At the time of writing, the experiment has been returning images at a rate of around 60 per week. During the initial phase, observations of the northern polar layered terrains and potential landing sites for the Phoenix mission (to be launched in 2007) were given priority. The instrument was also used to investigate layering at several sites (e.g. Holden Crater, Eberswalde delta), the surface structure in Mawrth Vallis (where the Mars Express/OMEGA experiment has detected phyllosilicate signatures) and Ius Chasma, numerous gullies (e.g. Russell Crater), dunes and dune networks, scalloped terrain in the Vastitas Borealis Formation, and lava flows in, for example, Athabasca Vallis. By moving the spacecraft, stereo imaging is possible. This technique has already been used to produce stereo images of the Opportunity landing site to assist the Mars Exploration Rover investigation of Victoria Crater. The presentation will provide an overview of the data acquired so far.