

## **Improvement of the High-Resolution Phobos Atlas derived from HRSC images**

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Images obtained by the HRSC (High Resolution Stereo Camera) and SRC (Super Resolution Channel) on Mars Express during close Phobos flybys of the past year were used to improve coverage of the previously released Phobos atlas [2]. In addition an updated digital terrain model, based on images from the 2010 Phobos flybys [5] was used to improve the geometric positioning of image mosaics over large parts of the map. In contrast to previous map versions, the map relies on SRC and HRSC image data and requires only few Viking Orbiter images for gap fill.

For simplicity, contour lines on the map refer to a sphere with a radius of 11.1km. However, representations based on a fitted tri-axial ellipsoid [3, 4] as reference will be demonstrated. The atlas will be useful for detailed geologic mapping of the Phobos surface. The atlas proves to be a valuable tool for planning and landing site selection for the Russian Phobos Grunt mission scheduled for launch in 2011 [1].

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[3] Willner, K. et al.: Phobos control point network, rotation, and shape, *EPSL*, In Press, Corrected Proof, 2009.

[4] Willner, K., The Martian Moon Phobos – A Geodetic Analysis of its Motion, Orientation, Shape, and Physical Parameters, PhD thesis, TU Berlin, 2009.

[5] K. Willner et al, Phobos DTM and Coordinate Refinement for Phobos-Grunt Mission Support, *EPSC*, submitted abstract, 2010.