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SMART-1/AMIE high resolution maps of the Lunar Poles

M. Ellouzi (1), B. Foing (1), D. Koschny (1), S. Beauvivre (2), J-L. Josset (3) & AMIE Science Team

(1) ESA/ESTEC, The Netherlands, (2) Micro-Cameras SA, Switzerland, (3) SPACE-X Space Exploration Institute, Switzerland

The science objectives of the Advanced Moon micro-Imager Experiment (AMIE) on board the ESA lunar spacecraft SMART-1 were, among others, to provide images of the Lunar Poles, where permanent shadow and eternal light areas are located. Thanks to the spacecraft's polar orbit, Lunar North and South Pole high resolution images have been obtained. Depending on the spacecraft's altitude, the field of view (5.3˚x5.3˚) corresponds to a pixel size up to 45 meters at the South Pole, which gives a spatial resolution equivalent to Clementine High Resolution Camera.

We present in this work high resolution maps of the Polar Regions which help to choose relevant landing sites for future lander and rover activities on the Moon.

Moreover, as images were taken all along the mission lifetime, a monitoring of illumination is performed in order to map potential sites of eternal light and eternal shadow.