

SIR – a NIR spectrometer for studying the Lunar mineralogy

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SIR is a highly compact grating, near-infrared spectrometer, which covers the wavelength range between 0.9 and 2.4 μm , with a spectral resolution of $\Delta\lambda_{\text{pixel}} = 6$ nm. SIR is operating on board the European mission SMART-1. SIR serves as a technology demonstration experiment for a new series of instruments. The spectrometer's scientific goal is to determine the Moon's mineralogical surface composition by means of reflectance spectra.

The operation of SIR is ongoing until August 2006. Soon after the spacecraft is expected to crash onto the Moon's surface. Currently targets of special interest are observed, such as large craters, swirls, pyroclastic deposits, areas of very young mare volcanism, and some permanently shadowed depressions at the lunar poles. We briefly report about the instrument itself and on spectral variations found across the lunar surface.