

SIR – NIR spectrometers for studying the lunar mineralogy

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SIR and SIR-2 are highly compact grating, near-infrared spectrometers, which cover the wavelength range between 0.9 and 2.4 μm with a spectral resolution of $\Delta\lambda_{\text{pixel}} = 6 \text{ nm}$. SIR is operating onboard the European mission SMART-1, while SIR-2 will be flown on India's Chandrayaan-1 mission to be launched in 2007. The main scientific goal of both spectrometers is to determine the Moon's mineralogical surface composition by means of reflectance spectra.

SIR is mainly a technology demonstration for a new series of instruments. It has recently obtained several lunar near- and far side scans. We report on the first results. SIR-2 will benefit from this heritage and it is expected that SIR-2 will deliver even more detailed information about the lunar surface composition than SIR due to its enhanced design and a set of improved mission characteristics, e.g., shorter cruise time, longer science phase, and a lower 100 km circular lunar orbit.