



Initial Results from the C1XS X-Ray Spectrometer on Chandrayaan-1

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The Chandrayaan-1 lunar mission, which was successfully launched by the Indian Space Research Organisation (ISRO) on 22 October, carried as part of its payload the C1XS Chandrayaan-1 X-ray Spectrometer [1]. It exploits heritage from the D-CIXS instrument [2] on ESA's SMART-1 mission. Whereas SMART-1 was a technology mission, Chandrayaan-1 is science oriented, with a far more favourable orbit for science measurements. C1XS is designed to measure abundances of major rock-forming elements (principally Mg, Al, Si, Ca, Ti and Fe). The instrument has been commissioned, and is operating nominally. The Sun continues to show X-ray emission characteristic of the Solar minimum. As has been commented by [7], the onset of this solar maximum is significantly delayed. However, C1XS has been able to observe the Moon even in these very low illumination conditions. Figure 3 shows the result of an integration during an A class flare on the 12th Dec. 2008. Characteristic energy lines at Mg, Al and Si are clearly seen and resolved from the average extreme quiet time data background. This performance shows that the instrument is easily meeting its design requirements, and in the higher illumination conditions expected during the rest of the mission will be capable of meeting its science goals.