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Results of XSM onboard SMART-1

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Results of the observations by the X-ray Solar Monitor onboard SMART-1 Moon mission are presented. A large number of high quality X-ray spectra with high time resolution have been observed for a large range of activitity on the Sun during the operation time of SMART-1 starting from March 2004 until now. The analysis of the spectra in the range 1.5-20 keV has revealed the detailed evolution of the hot X-ray corona throughout flares and seasons of quiescence. General results show that the overall mechanisms governing the X-ray emission include thermal and non-thermal components. The thermal component is dominant in the quiescence, while at high flare states the emission is predominantly non-thermal even at low X-ray energies below 5 keV. The physical mechanism of the non-thermal emission is not yet clear, and requires further investigation and modelling. Also the abundances of chemical elements may differ significantly from the standard photospheric abundances and may also play a role in explaining the temporal variation of the spectrum. The spectra are of a very high quality and have a low background, enabling accurate determination of the X-ray input on the Moon for modelling of the expected X-ray fluorescence observed by the D-CIXS instrument in periods with simultaneous observations of these two instruments.