

# Hot stars observed by XMM-Newton I. The catalog and the properties of OB stars

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**Aims :** Following the advent of increasingly sensitive X-ray observatories, deep observations of early-type stars became possible. However, the results for only a few objects or clusters have until now been reported and there has been no large survey comparable to that based upon the ROSAT All-Sky Survey (RASS). **Methods :** A limited survey of X-ray sources, consisting of all public XMM observations (2XMMi) and slew survey data (XMMSL1), is now available. The X-ray counterparts to hot, massive stars have been searched for in these catalogs. **Results :** About 300 OB stars were detected with XMM. Half of them were bright enough for a spectral analysis to be possible, and we make available the detailed spectral properties that were derived. The X-ray spectra of O stars are represented well by low (<1keV) temperature components and seem to indicate that an absorption column is present in addition to the interstellar contribution. The X-ray fluxes are well correlated with the bolometric fluxes, with a scatter comparable to that of the RASS studies and thus larger than found previously with XMM for some individual clusters. These results contrast with those of B stars that exhibit a large scatter in the L\_X-L\_BOL relation, no additional absorption being found, and the fits indicate a plasma at higher temperatures. **Variability** (either within one exposure or between multiple exposures) was also investigated whenever possible: short-term variations are far more rare than long-term ones (the former affects a few percent of the sample, while the latter concerns between one third and two thirds of the sources). **Conclusions :** This paper presents the results of the first high-sensitivity investigation of the overall high-energy properties of a sizable sample of hot stars.

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