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Atmospheres and spectra of X-ray illuminated stars: A gray model

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Abstract

A gray model is used to explore the effect of heating of stellar atmospheres by an external X-ray flux. This flux is shown to produce additional heating functions in the surface and inner layers. The opacity sources in the X-ray region are determined. A technique for calculating the reflection effect in the gray approximation is presented. The illuminated and normal atmospheres and their spectra are shown to differ considerably.
