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The non-thermal X-ray filaments in young Supernova Remnants

DAVID LOMIASHVILI, Department of Physics, Purdue University — The nature of the non-thermal X-ray filaments in young Supernova Remnants (SNR) is still unclear. In this work we provide simulated spatially resolved emission spectra in the X-ray. We use a one-dimensional diffusion-loss equation to describe the propagation of non-thermal electrons near the shock of a young SNR and to calculate spatially resolved emission spectra in the X-ray. The results suggests that the high-energy electrons are diffused further and hence the width of the radial profile doesn't depend on the observed frequency.

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