

The radial plasma structure of 1E 0102.2-7219

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Chandra High Energy Transmission Grating Spectrometer observations of 1E 0102.2-7219 have revealed marked radial dependence in its ionization structure (Flanagan *et al.*, 2004). In order to explore intrinsic radial variations of temperature or other plasma parameters, line ratios may provide useful diagnostics if projection effects are taken into account. We have approached this problem using a spatial model of the emission including orientation, angular and radial distribution. We use MARX to simulate observations of a 3D SNR emissivity distribution and compare these simulations with the actual X-ray line image to fit radial distributions of key diagnostic lines. Plasma parameters are derived by forming ratios from the best-fit radial models for each X-ray line. We find that ionization age and electron temperature increase smoothly with radius. We examine the implications with regard to electron density, shock velocity and electron-ion equilibration.