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Spatially Resolved Spectral Analysis of Galactic Supernova Remnant W28 with the Chandra X-ray Observatory ALEKZANDER KOSAKOWSKI, THOMAS PANNUTI, Morehead State University — We present a spatially resolved spectral analysis of the Galactic mixed-morphology supernova remnant (MM SNR) W28 (G6.4-0.1) using data collected from a pointed observation made by the Chandra X-ray Observatory (CXO). Like most MM SNRs, W28 appears to be interacting with a nearby molecular cloud, as evidenced by numerous OH masers seen along the interface between the SNR and adjacent molecular clouds. We extracted spectra from numerous regions toward the center of the SNR and fit these spectra with a two VPSHOCK component model: the VPSHOCK plasma model describes a plane-parallel shock with variable elemental abundances (specifically, the abundance of iron has allowed to be a free parameter). Consistent with previous spectral analysis we have obtained acceptable fits with the two-component model for almost all regions. The averages of the fit parameters are $NH = (0.37 \pm 0.06)E+22 \text{ cm}^{-2}$, $kT1 = 1.94 \pm 0.72 \text{ keV}$, $kT2 = 0.59 \pm 0.03 \text{ keV}$, iron abundance (allowed to vary) = 0.52 ± 0.11 , ionization timescales $\text{Tau1} = (3.70 \pm 1.98)E+13 \text{ cm}^{-3} \text{ s}$, and $\text{Tau2} = (3.70 \pm 2.17)E+13 \text{ cm}^{-3} \text{ s}$. The presence of two thermal components in the X-ray emission from W28 makes this object more unique amongst MM SNRs: it indicates complex plasma conditions as the SNR interacts with adjacent molecular clouds.

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