

# Photoelectric Absorption As An X-ray Spectral Diagnostic Of Massive Star Winds

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**Abstract.** The dense, supersonic stellar winds of the most massive and luminous stars in the galaxy affect the spectral signatures of the emergent X-ray emission from these objects. Our study of a large sample of spectra taken with the Chandra X-ray Observatory reveals trends in this emission across stars of varying intrinsic luminosity and mass. We show that the broadband trends from star to star, as well as the trends in the appearance of individual emission line profiles, are controlled by the effects of wind absorption. By modeling this absorption, we can determine the properties of massive star winds and also gain some insight into the X-ray production mechanism of massive stars.