system of a cool giant and a hot star with an emission nebular around it. A point-like isotropic UV radiation source is assumed and a simple spherical wind model is adopted for the kinematics of the scattering material from the cool giant. We first investigate the case where the incident line is given by a Gaussian having a width of 10^4K. The synthetic profiles and polarization structures are also obtained for several schematic UV line profile.

In the case of the Gaussian UV source, the scattered line profiles are asymmetric to the red due to receding atoms from the hot star and a large degree of polarization perpendicular to the binary axis is obtained in the blue part of the scattered feature. Around the line center, however, the polarization direction changes and the degree of polarization increases as the scattering optical depth increases. The synthetic profiles for a triangular double-peaked incident source are obtained and the polarization behavior turns out to be similar to that of the Gaussian case.

Brief observational consequences are discussed and it is concluded that spectropolarimetry may provide a powerful diagnostic about the physical condidions of symbiotic stars.

A Low State Eclipse Spectrum of Hercules X-1 Observed with ASCA

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We analyzed the ASCA data of Her X-1 obtained during the EXTENEDE LOW intensity state on 1993 August 13 and August 28. Both observations cover orbital phases ranging from 0.7 to 1.25 including an X-ray eclipse. We find that the eclipse spectrum is modeled by a single power-law with a photon index of 0.8 plus a soft black-body of kT ~ 0.1 keV in the energy range of 0.5-10 keV. The estimated eclipse flux is $(8.1\pm0.6)\times10^{-12}$ erg $cm^{-2}s^{-1}$(2-10 keV). The spectral shape is consistent with that obtained from the eclipse data of the MAIN HIGH with Ginga, although the flux is reduced by a factor of 3. Similarity of the eclipse spectra between the LOW and HIGH state suggests the presence of a steady circumstellar matter surrounding the Her X-1 system. We interpret the flux reduction in the LOW state due to time variations of the X-ray scattering site.

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