

THE HIGH ENERGY X-RAY SPECTRUM OF CEN XR-3 OBSERVED FROM OSO-8

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The X-ray binary Cen XR-3 (=4U1118-60) was observed in the energy range 20 to 120 keV by the high energy X-ray spectrometer on board OSO-8 during the intervals 1975 July 16 to 19 and 1978 July 5 to 14. The source's intensity was a factor of 2 weaker in 1978 between 21 and 41 keV than it was in 1975. Mean orbital light curves appeared similar in shape in both years, but orbit-to-orbit variations are apparent. The spectra we observe above 20 keV can be acceptably represented by thermal bremsstrahlung spectra ($kT = (5.3 \pm 2.1)$ keV in 1975), but not by a power law spectrum. The 21 to 41 keV luminosity in 1975, assuming $d = 8$ kpc, is $(1.3 \pm 0.2) \times 10^{37}$ erg s^{-1} , much larger than that observed from other X-ray binaries. These apparent differences between the high energy X-ray spectrum of Cen XR-3 and those of 4U0900-40 or 4U1700-37, for example, may result from the mass transfer in the binary being primarily via stellar wind rather than Roche Lobe overflow from the primary (cf. Carlberg, *Astrophys. J.*, 232, 878, 1979), even if an accretion disk is present around the magnetic neutron star secondary (Bonnet-Bidaut and van der Klis, *Astron. Astrophys.*, 73, 90, 1979). Preliminary analysis of the 4.84 second pulsed component indicates that the pulsed fraction between 21 and 49 keV was 0.38 ± 0.27 .