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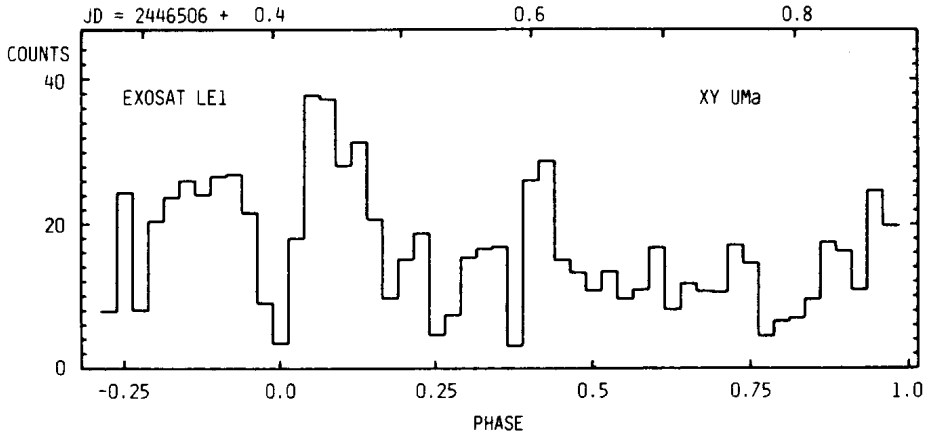
THE X-RAY LIGHT CURVE OF XY URSAE MAJORIS

XY UMa is a short period (P = 0.48d) active late-type (G2-G5 + K5) detached eclipsing binary system, in which the hotter star appears to be the active component (Geyer 1980). We expected such a system to be a source of coronal X-ray emission, and this expectation was supported by the strength of the chromospheric ultraviolet emission lines (Budding, Kadouri and Gimenez 1982). Observations with the EXOSAT X-ray observatory were made continuously through 1.25 orbital cycles during 1986 March 16/17. We present here the soft X-ray light curve, obtained with the LE CMA instrument through the thick Lexan filter, which has a



response over the energy band 0.04-2 keV (6-300 Å). The phase is calculated from the ephemeris of Geyer (1977)

$$HJD = 2435216.5011 + 0.4789944E$$

and the signal is in units of photon counts per time bin of 1035s (40 bins = 1 orbital period).

It is seen that XY UMa shows considerable and complex variability in its X-ray emission over the orbital cycle, with evidence of a primary eclipse but absence of a secondary eclipse, as well as flaring activity. A full analysis of the X-ray light curve is in progress and will be published elsewhere.

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