X-RAY AND ULTRAVIOLET OBSERVATIONS OF AG DRACONIS DURING QUIESCENCE AND OUTBURST

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ABSTRACT

We describe the first X-ray monitoring of a symbiotic star during phases of enhanced activity. AG Dra is a Pop II object with a composite spectrum, characterized by a cool K-type component, prominent high ionization emission lines and a strong UV continuum which is attributed to a hot dwarf companion. Periodic variability of the UV radiation during minimum could be attributed to the orbital motion of the system. In April 1980 HEAO-2 detected an intense, soft X-ray flux from AG Dra, stronger than in other symbiotic stars. After one major outburst of November 1980, which continued until 1983, two more outbursts occurred in February 1985 and January 1986, and coordinated X-ray (EXOSAT) and ultraviolet (IUE) observations were organized to study the behaviour of AG Dra during different activity phases. EXOSAT observations made during decline after the 1985 outburst, revealed a weak X-ray flux in the Thin Lexan filter of the Low Energy dedtector. Observations made during minimum, in June and November 1985, at phases 0.22 and 0.50 of the UV light curve, disclosed the presence of an intense X-ray flux, which was not occulted in November. AG Dra was again observed with EXOSAT in February 1986 when the stellar luminosity was still at maximum.No X-ray flux was detected, in spite of the prominent, high ionization UV spectrum observed with IUE.
A detailed discussion of the X-ray and ultraviolet results on AG Dra in the light of possible models is in progress.

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