

X-Ray and Optical Observations of a New X-Ray Soft Intermediate Polar: RX J0512.2–3241

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The $V \sim 17.6$ mag optical counterpart of the bright, soft, high-galactic latitude X-ray source RX J0512.2–3241 detected during the ROSAT All-Sky Survey, has been identified as a new, asynchronously rotating, magnetic cataclysmic variable (intermediate polar). The X-ray spectrum of RX J0512-32 is similar to that of polars, it shows a soft component with no intrinsic absorption and a blackbody temperature $kT_{\text{bb}} \sim 38$ eV. From our optical follow-up B and V CCD photometry (cf. Fig. 1) we derive most probable spin and orbital periods of (863.5 ± 0.7) s and (3.45 ± 0.03) h respectively. A lower limit for the distance to the system is $d > 740$ pc. From this evidence we suggest that RX J0512-32 is a further member of the ROSAT discovered class of soft X-ray intermediate polars (for details see Burwitz et al., 1996, A&A 310, L25). This still small class of systems (see Haberl and Motch 1995, A&A 297, L37) has X-ray characteristics similar to those of low magnetic field polars and may be their long sought evolutionary progenitors.

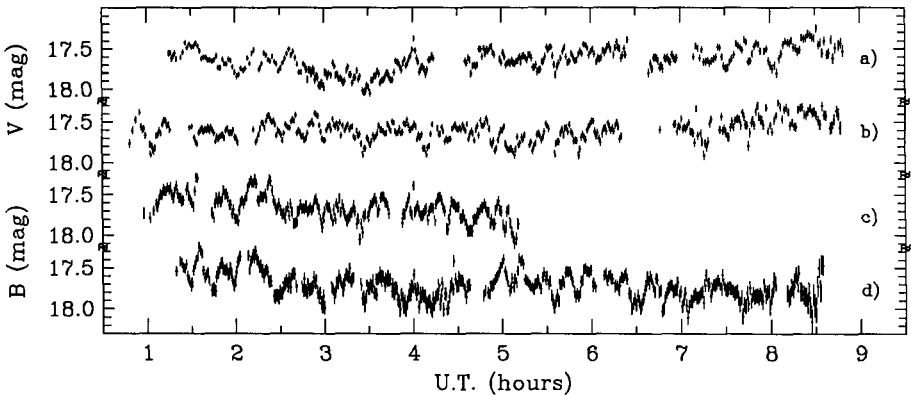


Figure 1. CCD photometry obtained with the 0.9m ESO/Dutch telescope in V on a) Jan. 13, b) Jan. 14, and in B on c) Jan. 16, d) Jan. 17, 1996

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