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UNUSUAL OUTBURST OF THE CATAclySMIC BINARY MV LYRAE

The attention of cataclysmic binary specialists has been focused on MV Lyrae since its remarkable fading in 1979. Before that date the brightness of the star was usually in the "high" state ($\approx 12^m.5$): this was interrupted from time to time in a semiregular manner by phases of "intermediate" state (between 13^m and 15^m , cycle length of 325^d-455^d between minima). After 1979 the star predominantly remained in the "inactive" (or "low") state ($\approx 17^m.0$), from which the brightness in irregular intervals rose to the intermediate level for one to several months. Some models start out from the assumption that MV Lyrae is entering or has entered the well-known gap of orbital periods.

For complete long term light-curves of the years 1928 to 1986 and a discussion see Wenzel and Fuhrmann (1983) and Andronov, Fuhrmann and Wenzel (1988). In 1987 a strong eruption reached almost $14^m.0$ pg, and after subsequent 600 days of quiescence the brightness even climbed to $13^m.6$ pg in the summer of 1989, probably the highest value observed since the fading in 1979. The ascent was accompanied by strong and very fast fluctuations (for instance from $15^m.3$ to $16^m.7$ during 16 minutes at JD 244 7648.4). In the figure we give the light-curve as a continuation of the curves mentioned earlier. It has been derived from observations on Sonneberg 40 cm astrograph plates and Sky Patrol plates and might be important for comparison with spectroscopic data or model considerations. It should be noted that the sporadic measurements of Kraicheva (1988) and Rosino (1989) are in good agreement with our observations. The B system of comparison star magnitudes of Andronov and Shugarov (1982) was used; smaller dots denote uncertain values, the arrows show upper limits of brightness when the star was invisible on the plates.

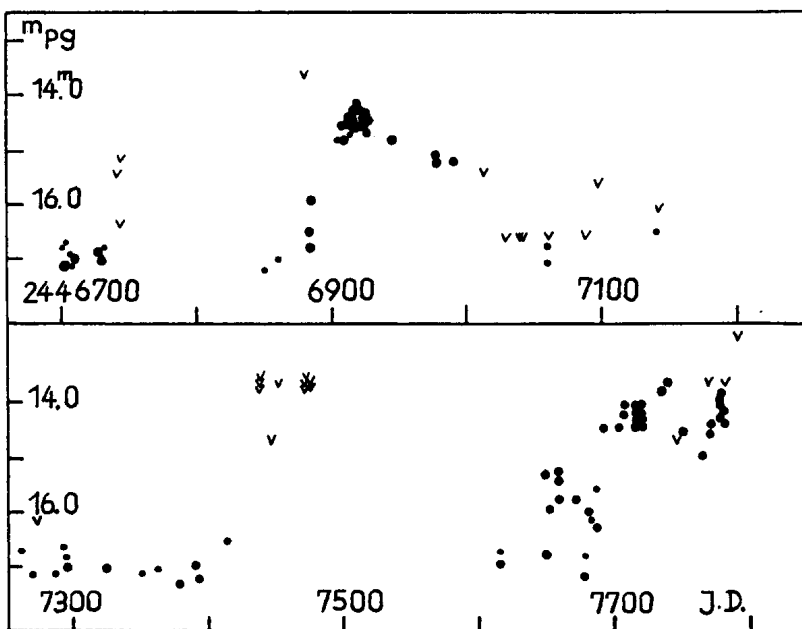


Figure 1

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