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VY AQUARII

According to Mc Naught (1982) this erupting star (1907, 1962) appeared to have been in outburst in 1973. The outburst could be confirmed by Wenzel (1983).

By investigating 1066 sky patrol plates (from 1928 to 1982) of the fields $21^{\text{h}} 0^{\circ}$, $21^{\text{h}} - 4^{\circ}$, and $21^{\text{h}} - 18^{\circ}$ taken by H. Huth and predecessors I found the brightness decline of an outburst in 1958.

The plates used to obtain the lightcurves during the two additional outbursts given below include some with the object far out of the centre. Dots are from blue plates, circles from red plates. The extrapolated maxima of the

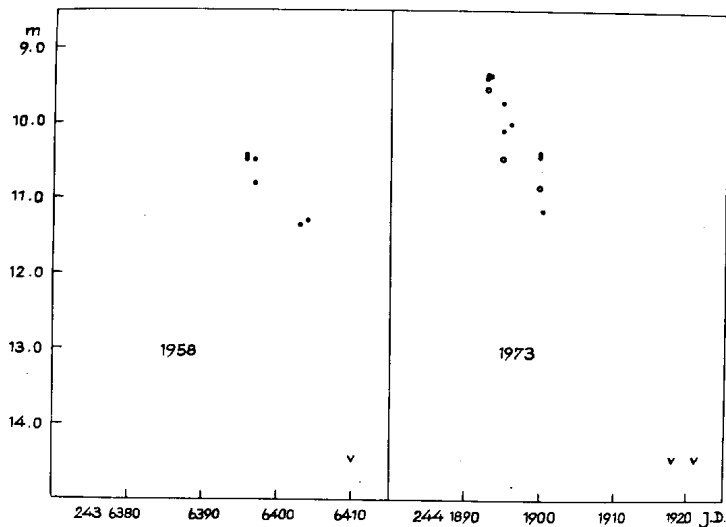


Figure 1

outbursts appear to have occurred around 1958 June 25...June 30 and 1973 July, 20. The blue colour near maximum light seems to indicate that there is no strong H alpha emission typical for nova spectra. Instead, the blue colour resembles U Geminorum stars.

Altogether there have been observed 4 outbursts in a period of 55 years. The probability that a further outburst was overlooked due to bad weather or moonlight is below 50%. As our sky patrol could watch this part of the sky only in the season from June to November, for this object the total number of outbursts in this 55-year period may be about 8 to 10 corresponding to a mean cycle length of about 5 to 7 years. This comparatively short cycle length and the presumable absence of strong H alpha emission near maximum light seem to indicate that VY Aquarii is a dwarf nova which resembles WZ Sagittae rather than a recurrent nova.

This object should be watched for the next brightness maximum in order to allow spectroscopic investigations during the time of the maximum and the whole course of the decline.

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