

VARIATION IN COMET P/HALLEY

(Letter to the Editor)

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(Received 29 November, 1988)

Abstract. Photoelectric photometry (UBV) of Comet P/Halley performed on April 29, 1986 has been presented. The observations show short-term variability in light. The amplitude of variability in U filter is much more than in B and V filters.

We observed Comet P/Halley on 38-cm reflector of the Uttar Pradesh State Observatory, Nainital on April 29, 1986. The thermoelectrically cooled (-20°C) 1P21 photomultiplier was used as a detector and standard U, B, and V filters of Johnson and Morgan were used for making observations. An entrance diaphragm of 75 arc sec was used to allow the whole of the coma light to be received.

The output from the photomultiplier was fed to the d.c. amplifier to get the amplified signal which was registered on the Honeywell strip-chart recorder. The comparison star 10 Tau was observed along with the comet. The sky contribution was subtracted from the deflections and the deflections were converted to the instrumental magnitudes. For doing so the extinction coefficients were derived from the observations of the comparison star and the air mass correction was applied to the observed data. Then we derived the differential magnitudes by subtracting the magnitudes of the comparison star from that of respective cometary magnitudes (i.e. $\Delta = V - C$).

The differential magnitudes as measured by us are displayed in Figure 1. It is interesting to see from this figure that comet exhibits the short-term variations present in the light curve. The amplitude of the variations in U filter is much more ($\sim 0^{\text{m}}.7$) than that in the B and V filters ($\sim 0^{\text{m}}.4$). Our earlier observations also showed short-term variations in P/Halley (Goraya *et al.* 1987a,b; 1988). Many other observers have reported the variations in this comet (Jewitt and Danielson, 1984; Lecacheux and Le Fèvre, 1984; Le Fèvre *et al.* 1984; West and Pederson, 1983; 1984; Lecacheux *et al.*, 1984a,b). Such variations indicate the active nature of the comet. We suggest that the ejection of material from the cometary surface takes place in the form of jets which may further be related to the activity of the Sun.

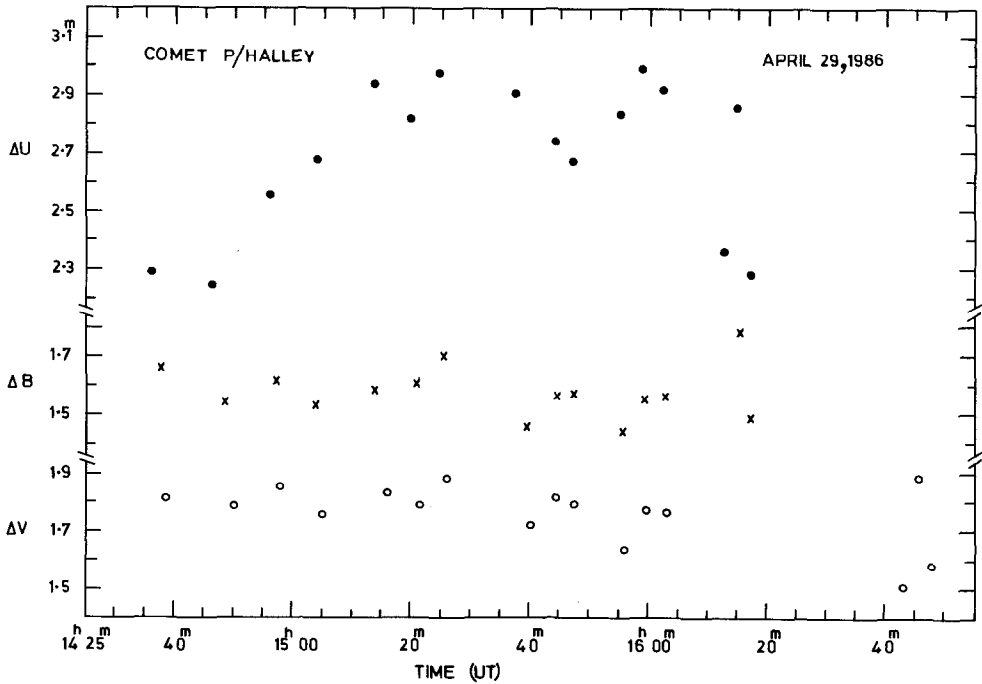


Fig. 1. Light variations in P/Halley.

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