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RECENT PHOTOMETRY OF OJ287

Quasi-stellar objects of the BL Lacertae class have highly chaotic optical light curves which exhibit detectable variations on time scales of hours, as well as longer term changes. The unravelling of the complex features in the light curves and the development of reliable photometric statistics requires as much optical information as possible. To the end we list in Table 1 sixteen photographic B magnitudes of the BL Lacertae object OJ 287 acquired principally over the past two seasons.

The data were obtained with a Cassegrain camera attached to the 24 inch (60 cm) f/11 reflector at the Optical Observatory of The Pennsylvania State University, using unbaked Kodak 103a0 plates and a GG13 filter. Most exposures were 20 minutes long. Calibration was accomplished with the help of the photoelectric standards discussed by Penston and Wing (1973) (Numbers 1 to 6, 10 and 11) and the fainter standard of McGimsey, Miller and Williamon (1976). The paucity of the number of standard sources and the non-linearity of the calibration curves necessitated the use of hand-fitted curves to the data points, since second and higher order least squares fits were underdetermined by nine calibrators. The resulting B magnitudes are given in the Table along with probable errors estimated from the scatter about the calibration curves. Also given are the modified Julian days (= J.D. - 2,400,000) of midexposure and the dates of observation.

Table 1

B	σ	M.J.D.	Date
13.45	0.05	41718.6	Feb. 4/5, 73
13.45	0.05	41718.6	Feb. 4/5, 73
13.55	0.05	41720.6	Feb. 6/7, 73
15.80	0.15	42784.771	Jan. 6/7, 76
16.45	0.10	42866.646	Mar. 28/29, 76
16.05	0.10	42892.667	Apr. 23/24, 76
15.10	0.10	43228.587	Mar. 25/26, 77
15.05	0.10	43228.615	Mar. 25/26, 77
15.35	0.10	43242.601	Apr. 8/9, 77
15.35	0.10	43242.677	Apr. 8/9, 77
15.40	0.10	43245.576	Apr. 11/12, 77
15.40	0.10	43248.556	Apr. 14/15, 77
15.50	0.10	43248.576	Apr. 14/15, 77
15.50	0.10	43263.573	Apr. 29/30, 77
15.45	0.10	43271.590	May 7/8, 77
14.95	0.05	43275.597	May 11/12, 77

No evidence for nebulosity was observed in association with any image. The data are in good agreement with the composite light curve of Pollock (1975) and recent observations conducted at the University of Florida Rosemary Hill Observatory.

Of the many goals which exist for optical monitoring of quasars, the establishment of the extremum photometric statistics B_{\min} and B_{\max} , and characteristic optical time scales τ , is conceivably among the more important. The B magnitude of OJ 287 in Table 1 observed by Pica (1976) on March 28/29, 1976 is thus of some interest. This value of $B = 16.45 \pm 0.10$ is in good agreement with the apparent minimum brightness if $B = 16.33 \pm 0.09$ observed the previous month by Dumortier (1976). It is also comparable to the minimum brightnesses of (i) $B = 16.47$ observed

nine years earlier and recorded by Lyuty (1976), and (ii) $B = 16.4$ recorded by Visvanathan and Elliot (1973) and Pollock (1975) in the 1940's. Thus the well-known outburst which occurred during the past ten years is bracketed by minima that appear to be quite well established.

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