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UBV PHOTOMETRY OF NOVA ANDROMEDAE 1986

Nova And 1986 (R.A. = $23^{\text{h}}09^{\text{m}}47.72^{\text{s}}$; D. = $+47^{\circ}12'00.8''$ (1950); $l = 110^{\circ}$; $b = -13^{\circ}$) was discovered by Mitsury Suzuki on Dec. 5.44 (Kosai, 1986). We report here our systematic UBV photoelectric observations between December 11.73 (1986) and January 21.75 (1987), when the star declined from $V = 7.28$ to $V = 11.32$. Between January and February 1987 we followed photographically the fading of the Nova toward $V = 12.4$.

All the observations were performed with the 0.4m reflector of the "G. Colombo" Observatory. Photoelectric measurements were carried out at the Cassegrain focus (F/20) equipped with a RCA 931 B photomultiplier tube and UBV filters. The comparison star was 7 And ($V = 4.52$; $B-V = 0.31$; $U-B = 0.02$, from USNO Photoelectric Catalogue). Photovisual magnitudes were estimated on Kodak Tri-X plates exposed through a filter Schott GG 495 (2mm) at the Newton focus (F/5) of the same reflector, adopting the comparison star sequence from AAVSO Chart No. 230746.

The V light curve is presented in Figure 1, where our data are plotted as black dots. As open dots the V estimates published in IAU Circulars 4281, 4282, 4293, 4342, 4360 are also reported. The light curve shows that the Nova attained the maximum at $V=6.3$ on Dec. 7, 1986. After that the Nova declined rapidly ($t_2 = 10^{\text{d}}$; $t_3 = 21^{\text{d}}$) with a rate of 0.20 mag/day. The star entered in the transition phase on December 31 and the final decline started about on January 20.

The (U-B) colour index showed a regular increase from -0.69 (S.D. 0.02) to -0.53 (S.D. 0.04) between Dec. 22 and Jan. 21. By contrast the (B-V) colour index displayed formerly a decline from $+0.41$ (S.D. 0.02) to $+0.18$ (S.D. 0.02) about at the end of December, followed by an increase up to $+0.52$ (S.D. 0.04) in January. These facts can be accounted for by the appearance of strong

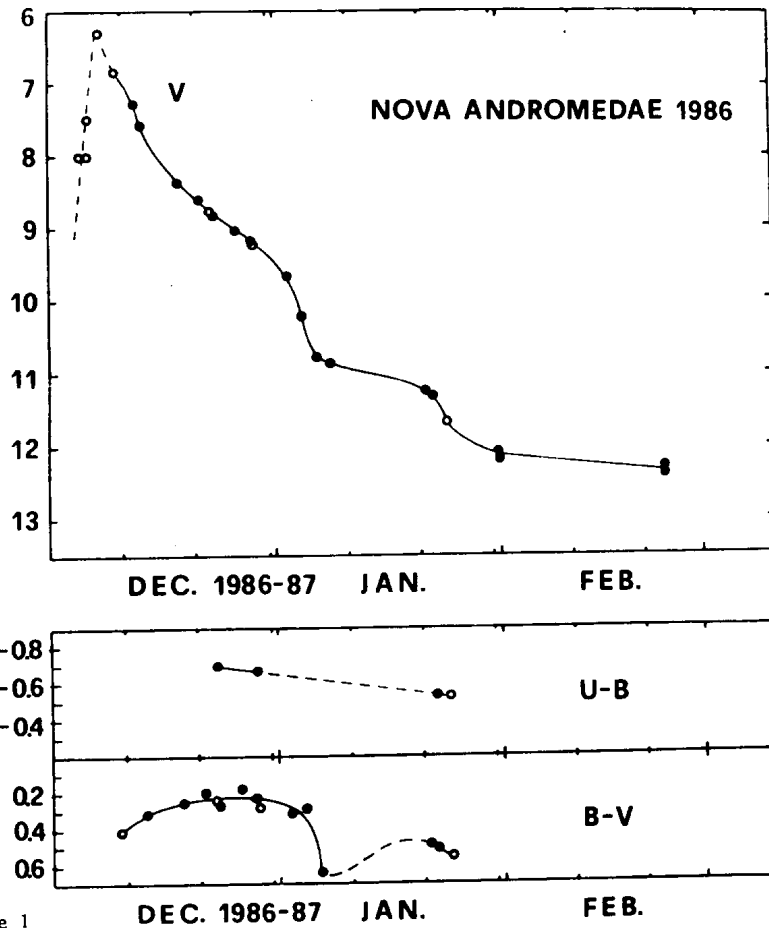


Figure 1

emission bands in the spectrum of the star (L. Rosino, personal communication), following the usual behaviour of Novae in this evolutionary phase.

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Reference:

Kosai, M., 1986, IAU Circular 4281