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# OPTICAL BEHAVIOUR OF AT CANCRI IN THE SEASON 1986/87

In linking to the sequence of comparison stars given in the IBVS No. 2363 this cataclysmic star was measured on 72 blue-sensitive plates (ORWO-ZU21 + GG13 + BG12) from 18 nights obtained with the 50/70/172 cm Schmidt camera of Sonneberg Observatory covering the time interval between 27 November 1986 and 27 April 1987. The observations are listed in Table I.

Table I

| J.D. hel 244.... | $m_B$ | J.D. hel 244.... | $m_B$ | J.D. hel 244.... | $m_B$ |
|---|---|---|---|---|---|
| 6762.575 | 12.72 | 6827.559 | 15.84 | 6876.414 | 13.35 |
| 6762.593 | 12.76 | 6827.580 | 15.45 | 6877.341 | 13.02 |
| 6763.536 | 12.49 | 6827.601 | 15.49 | 6877.359 | 12.82 |
| 6763.556 | 12.50 | 6828.388 | 15.29 | 6877.378 | 12.95 |
| 6763.575 | 12.41 | 6828.407 | 15.81 | 6877.398 | 12.77 |
| 6763.594 | 12.45 | 6828.428 | 16.19 | 6877.418 | 12.86 |
| 6764.522 | 12.56 | 6828.452 | 15.77 | 6877.437 | 12.80 |
| 6764.541 | 12.39 | 6828.471 | 16.14 | 6881.384 | 13.04 |
| 6764.561 | 12.52 | 6828.574 | 15.96 | 6881.404 | 13.53 |
| 6764.581 | 12.59 | 6850.376 | 15.87 | 6881.429 | 12.92 |
| 6769.536 | 12.67 | 6850.395 | 15.68 | 6881.450 | 13.06 |
| 6769.555 | 12.66 | 6850.413 | 15.48 | 6884.349 | 15.33 |
| 6769.574 | 12.60 | 6850.436 | 15.70 | 6884.385 | 15.26 |
| 6799.597 | 12.37 | 6850.456 | 15.70 | 6885.353 | 15.88 |
| 6799.615 | 12.19 | 6850.496 | 16.06 | 6885.372 | 16.44:: |
| 6799.632 | 12.27 | 6850.515 | 16.12 | 6885.391 | 16.31 |
| 6826.547 | 15.88 | 6851.401 | 15.43 | 6885.410 | 15.82 |
| 6826.567 | 15.87 | 6851.419 | 15.67 | 6885.430 | 15.91 |
| 6826.587 | 15.93 | 6851.438 | 16.28 | 6909.363 | 15.92 |
| 6826.609 | 15.77 | 6851.458 | 16.22 | 6909.383 | 15.50 |
| 6827.448 | 15.74 | 6851.479 | 15.54 | 6909.405 | 15.71 |
| 6827.471 | 15.81 | 6851.503 | 15.54 | 6910.383 | 16.02 |
| 6827.490 | 16.01 | 6876.379 | 13.48 | 6910.401 | 16.08 |
| 6827.509 | 15.82 | 6876.397 | 13.37 | 6913.385 | 16.35 |

The long-term light curve of AT Cnc, which results from the mean brightness values of each night and which is given in Figure 1 shows variations between

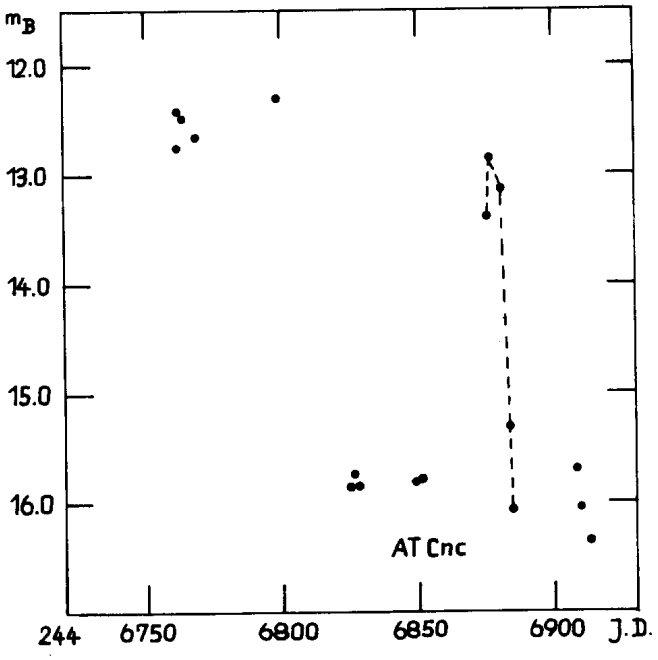


Figure 1

$m_B = 16^m.35$ and $m_B = 12^m.28$. A remarkable decrease of brightness was observed with $\Delta m_B = 2^m.93$ within $3^d.962$ between 26 March and 30 March.

Reducing all observations to one common epoch by means of the improved orbital elements given the IBVS No. 2918 the orbital light changes and the displaced minimum phase in the high state to phase $\sim$ 0.5 can be confirmed.

In opposition to other series of observations from former years, which are reduced in the IBVS No. 2918 concerning the present observations of the low state ($14^m.5 < m_B < 16^m.4$) no positive statements about the behaviour of the orbital light changes can be made. The results mentioned are given in Figures 2 and 3, where the magnitudes $m_B$ from the high and the low state of brightness are plotted against the phases.

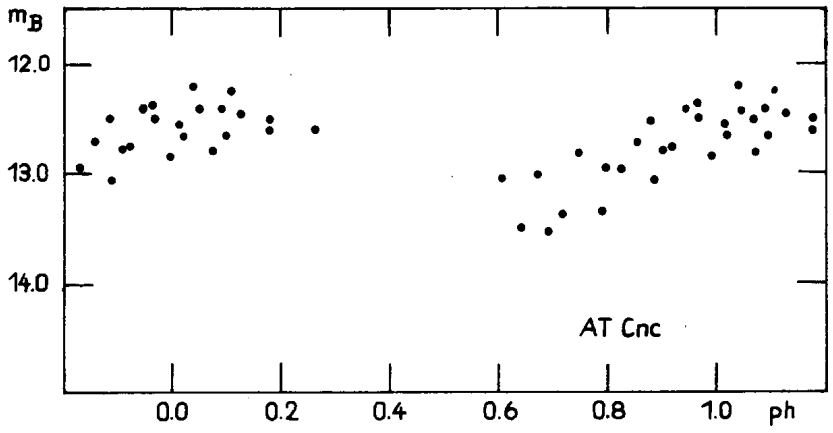


Figure 2

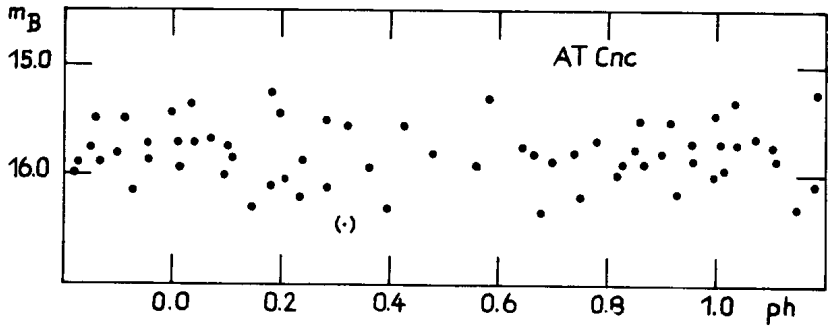


Figure 3

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