

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS

Number 3094

Konkoly Observatory
Budapest
8 October 1987
HU ISSN 0374-0676

SOME UNPUBLISHED PHOTOMETRIC OBSERVATIONS OF AC HERCULIS

The present paper reports 20 photographic BV photometric observations of the RV Tauri-type variable AC Her. The limited number of these, previously unpublished, observations is due to the fact that our observing program on AC Her has been interrupted and never continued.

Obviously, the small number of observations does not allow to make a light curve analysis; however these observations can be useful for General Catalogue on Variable Stars' compilers, or for any other investigator who make light curve analysis on data collected by other observers (for example: Erleksova, 1984).

The photometric observations were obtained with the 20/25 cm f/5 Baker-Schmidt camera of the Osservatorio Astrofisico di Pieve S. Paolo using standard BV plate (Kodak)/filter (Schott) combinations during the year 1983.

The data reduction was made with a Ross-type fixed diaphragm digital microphotometer, using the stars BD + 20° 3821 (Blanco et al., 1968), BD + 21° 3465 (DuPuy, 1973), HD 170671 (Nakagiri and Yamashita, 1979), BD + 21° 3451 (Dawson and Patterson, 1982) as plate calibrators. The internal accuracy of our magnitudes varies from plate to plate; the 1σ errors are reported in Tables I and II beside each measured magnitude. The average 1σ error is about 0.08 magnitudes. Table I lists the B band photometric observations of AC Her, while Table II reports the V band photometric observations. The average (B-V) color index obtained from the observations made, on a descending branch, between the second maximum and the primary minimum of the light is $(B-V)_{av} = +1.18 (+0.12)$; it is in good agreement with the results of Nakagiri and Yamashita (1979) and Preston et al. (1963) who give, respectively, values of $(B-V)_{av} = +1.15$ and $(B-V)_{av} = +1.10$ for the color index at the primary minimum.

I wish to express my deepest gratitude to prof. L. Rosino (Asiago Astrophysical Observatory) for the helpful discussion on RV Tauri-type variable stars, and particularly on AC Herculis. Many thanks are also due to Mr. M. Ferrari S. Polo a Mosciano Astronomical Observatory - Florence) for the assistance at the microphotometer.

Table I

J.D. 2445000 +	B	J.D. 2445000 +	B
469.384	8 ^m .48 + 0.09	528.478	9 ^m .33 + 0.08
472.428	7.65 + 0.09	532.446	9.37 + 0.12
485.411	7.64 + 0.08	533.477	9.54 + 0.10
486.428	7.46 + 0.07	636.333	7.57 + 0.07
488.408	7.81 + 0.08	639.343	8.80 + 0.13
490.412	7.97 + 0.07	640.312	8.59 + 0.09
491.481	7.85 + 0.07	645.310	8.78 + 0.02
518.423	8.35 + 0.06		

Table II

J.D. 2445000 +	V
518.406	7 ^m .33 + 0.17
528.466	8.08 + 0.04
532.453	8.09 + 0.02
533.466	8.38 + 0.07
621.382	7.27 + 0.05

M. SANTANGELO
 Gruppo Ricerche Fotometriche
 Pieve S.Paolo Astrophysical
 Observatory
 Casella postale succ. 1
 55100 Lucca - Italy

References:

- Blanco V.M., Demers S., Douglass G.G., and FitzGerald M.P.: 1968,
 Publ.U.S. Naval Obs., 2nd series, 21
- Dawson D.W., and Patterson C.R.: 1982, Publ. Astron. Soc. Pacific 94, 574
- DuPuy D.L.: 1973, Astrophys. J. 185, 597
- Erleksova G.E.: 1984, Inf. Bull. Var. Stars N^o 2614
- Nakagiri M., and Yamashita Y.: 1979, Tokyo Astron. Bull., 2nd series, N^o 260
- Preston G. W., Krzeminski W., Smak J., and Williams J.A.: 1963
 Astrophys. J. 137, 401