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

Number 2306

Konkoly Observatory
Budapest
5 April 1983

HU ISSN 0374 - 0676

ON THE SHORT TIME SCALE PERIOD OF α Cir*

α Cir (HD 128898, Ap(SrCrEu), m_v=3.15) was observed at ESO, La Silla, with the Walraven 5-channel photometer attached to the 90 cm Dutch telescope during the night of July 23 to 24, 1982. Simultaneous measurements through V, B, L, U and W filters were obtained during about 2^h40^m of continuous observations. An integration time of 16 sec was used throughout.

The importance of such multichannel observations lies in the determination of phaseshifts between different colours which allow for the discrimination of different pulsation modes (Balona and Stobie, 1979 and subsequent papers).

Already the first crude reductions following the observations in the same night proved the presence of short time scale variations of α Cir as it was discovered by Kurtz and Cropper (1981). The object seems to have a variable pulsation amplitude which would allow establishment of constraints on i and β as well as an independent determination of the rotational period. These assumptions are based on the validity of the oblique pulsator model for pulsating Ap stars as it is proposed by Kurtz (1982).

Our observations in B, corrected for a mean extinction, are plotted in Fig. 1 and the corresponding power spectrum is presented in Fig. 2. No alias-

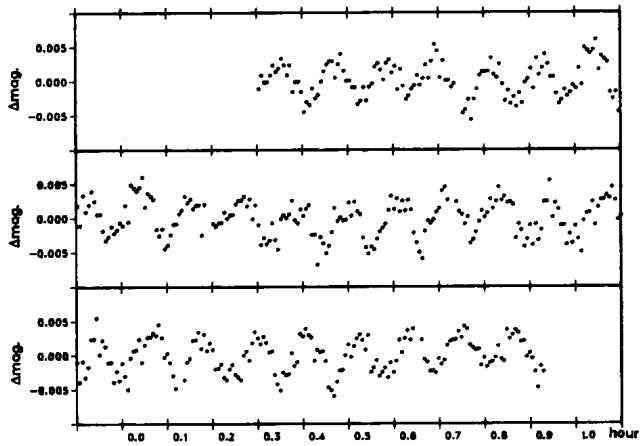

Figure 1

HD128898 23./24.07.82
23:00–26:00 U.T.
90cm Dutch telescope,
E S O La Silla,CHILE
B –filter Walravensystem,magnitudes

* Based on observations obtained at ESO, La Silla

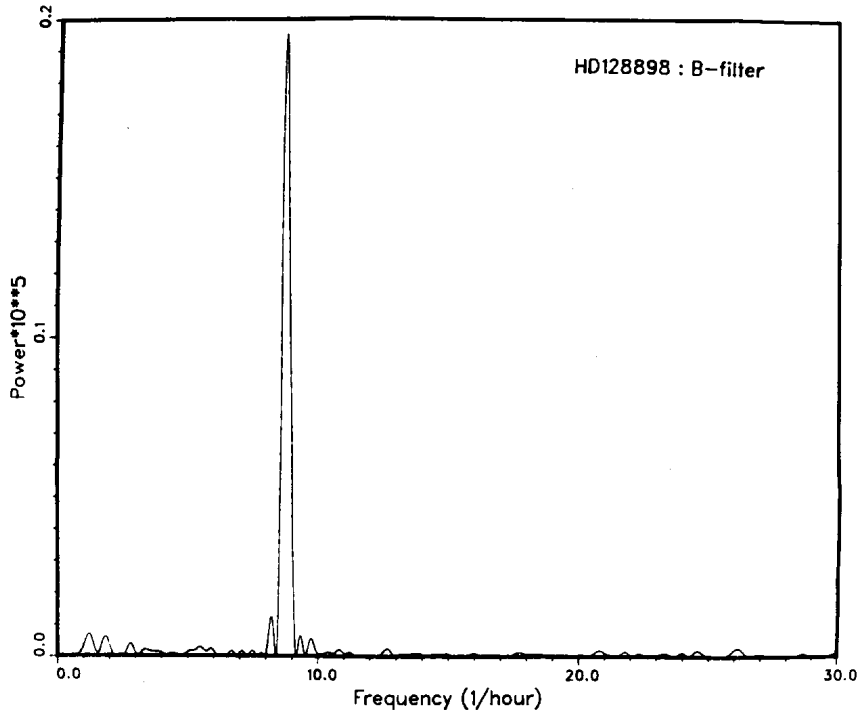

Figure 2

ing problems are evident and a pulsation frequency of

$$f = 8.78\ (hr^{-1}) \qquad [(6.834 \pm 0.01)min]$$

was determined. The amplitude of pulsation was about 0.01 mag in this night and thus considerably larger than in May 2 to 3, 1981 (Kurtz and Cropper, 1981).

A full analysis of the data is in progress and will be published later. With HD 101065 (Weiss and Kreidl, 1980) this is the second pulsating Ap star so far observed at ESO.

HARTMUT SCHNEIDER
Universitätssternwarte
Göttingen, BRD

WERNER W. WEISS
Institut für Astronomie
Wien, Austria

References:

Balona, L., Stobie, R.S.: 1979, Mon. Not. Roy. Astron. Soc., 189, 649.
Kurtz, D.W.: 1982, Mon. Not. Roy. Astron. Soc., 200, 807.
Kurtz, D.W., Cropper, M.S.: 1981, Inf. Bull. Var. Stars, No. 1987.
Weiss, W.W., Kreidl, T.: 1980, Astron. Astrophys., 81, 59.