

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

Number 713

Konkoly Observatory
Budapest
1972 September 11

OBSERVATIONS OF THE EXTREMELY YOUNG
STELLAR GROUP Lk H α 224 AND 225

The evolutionary significance of the stellar group near BD + 40^o4124 was first noticed by Herbig (ApJ Supp. 4, p.337). Later Cohen (ApJ 173, L 61) and Strom et al. (ApJ 173, L 65) detected large infrared excesses of members of the group. Furthermore the data of Strom et al. revealed some optical variability of Lk H α 225 and of BD + 40^o4124 itself.

Though the remark of Strom et al. on the strong variability of Lk H α 225 seemed not to be conclusive, as they compared the red photograph of Herbig (l.c.) with their own Blue plates, a private communication of Dr. Herbig satisfied the doubts.

I estimated the stars Lk H α 224 and 225 on Sonneberg plates with the following results:

Lk H α 224 is more often bright than faint. In maximum light there are irregular fluctuations generally between 13^m.0 and 14^m.0 (cycle length roughly 50 days) which occasionally are interrupted or terminated by minima (extreme case: 17^m.3) lasting days or weeks.

Total range: 12^m.6 to 17^m.3 pg.

Lk H α 225 is usually fainter than 16^m.5 and invisible on the majority of plates. A series of Heidelberg 40 cm astrographic plates from 1958 April to July shows the star irregularly varying between 17^m.0 and 17^m.8 near the plate limit. On the POSS prints the object is about 16^m.8 (O 754) and 17^m.8 (O 1145), Strom et al. measured B = 18.2 (1971 Oct. 14). The outstanding fact is that two eruptions are observed:

1962 June 2, Oct. 4 15^m.4 (May 31 fainter than 16^m.0),

1963 Sep. 13 15.7 (isolated plate).

Total range: 15^m.4 to 18^m.2 pg.

W. WENZEL
Sternwarte Sonneberg
DDR-64