

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

Number 1283

Konkoly Observatory
Budapest
1977 May 25

WANTED: PHOTOELECTRIC AND SPECTROSCOPIC
OBSERVATIONS OF THE UNUSUAL SYSTEM, V389 CYGNI

Between 1936 and 1942 Paul Guthnick published a series of papers on V389 Cygni, assumed to be the $3^d.3$ spectroscopic binary component A of ADS 14682. His conclusions are briefly summarized in the Remarks in the GCVS.

Guthnick found two Cepheid-like periods, apparently unrelated to the SB period, of $1^d.12912$ and $1^d.19328$. These two periods alternated with one another at intervals of one to three weeks, being separated by intervals of random or non-variability. As each period recurred it did so at precisely the phase it would have had if there had been no interruptions. Guthnick interpreted the system as consisting of two Cepheids whose pulsations account for the deviations of the observed radial velocities from their mean curve.

These remarkable conclusions have never been verified. The spectroscopic binary orbit has been questioned by Luyten and by Batten. Testing the published radial velocities for spurious periods, I find that they can be almost as well represented by a period of $0^d.7665126$ as by Guthnick's $3^d.31322$. The two light periods are related by $1/P_1 - 1/P_2 = 1/21.0000$. A beat period of 21 days is not obvious from the plot of the photoelectric observations. An examination of these data reveals no better period than those published.

After a lapse of more than 35 years, extensive photoelectric and spectroscopic observations are warranted to verify and update Guthnick's conclusions, or to arrive at an alternative plausible interpretation.

DORRIT HOFFLEIT

Maria Mitchell Observatory
Nantucket, Mass.02554,U.S.A.

References:

- Batten, A.H. 1967, Pub. Dominion Astrophysical Obs., 13, 251
Guthnick, Paul 1936, Ast. Nachrichten, 261, 217
1937, Abh. d. Preus.Ak.d. Wissen.,Nr.3
1939, *ibid.*, Nr.6
1942, *ibid.*, Nr.7
1942, Die Sterne, 22, 129
Luyten, W. 1936, Ap.J., 84, 85