

BAV-Mitteilung Nr. 20

COMMISSION 27 OF THE I. A. U. INFORMATION BULLETIN ON VARIABLE STARS NUMBER 283

Konkoly Observatory
Budapest
1968 June 14

THE PERIOD OF V 346 AQUILAE

The period of the Algol-system V 346 Aql seemed to be constant since its discovery 30 years ago, although KOCH and KOCH (AJ 67, 462 (1962)) from one photographically observed minimum found a period $2^d . 10^{-6}$ shorter than the one given in the GCVS 1968. Their elements are

$$\text{Min I} = \text{JD } 24\ 27970.4525 + 1^d.106\ 365 . \text{E}$$

Observations in the following years show increasing negative $O - C_1$ s against these elements, and the accompanying plot of $O - C_1$ may lead one to suggest a sudden shortening of period roughly at JD 24 38500.

New elements were derived from 78 minima found in the literature (s. References). 13 normal minima (Table) were obtained by grouping the individual minima. Admitting the same weight to each of the normal minima, the following elements were obtained:

$$\text{Min I} = \text{JD } 24\ 27970.4647 + 1^d.106\ 363\ 3 . \text{E} \\ \pm 0038 \quad \pm 000\ 000\ 5$$

$O - C_2$ in the table are residuals against these elements.

Moreover, instantaneous elements were calculated with normal minima I to X and IX to XIII, respectively, giving

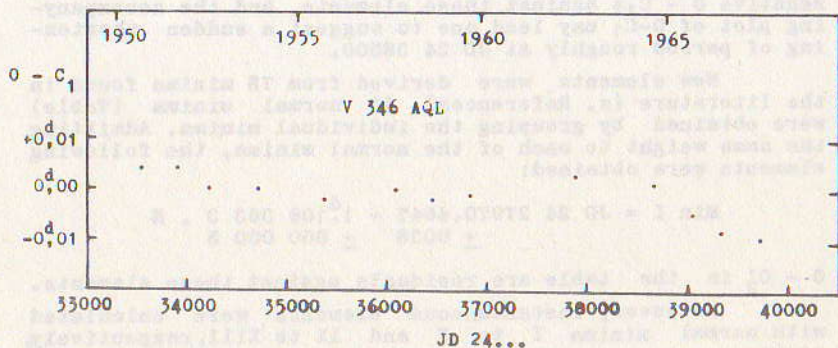
$$\text{A) Min I} = \text{JD } 24\ 27970.4558 + 1^d.106\ 364\ 6 . \text{E} \\ \pm 0040 \quad \pm 000\ 000\ 5$$

$$\text{B) Min I} = \text{JD } 24\ 37862.4660 + 1^d.106\ 357 . (\text{E-8941}) \\ \pm 0021 \quad \pm 000\ 002$$

In the table, $O - C_A$ and $O - C_B$ are residuals against these instantaneous elements.

Normal minima of V 346 Aquilae

Number	Min (JD 243...)	0 - C ₁	0 - C ₂	0 - C _A	0 - C _B
I	3539.898	+0. ^d 004	0. ^d 000	+0. ^d 003	
II	3900.573	+0.004	+0.001	+0.003	
III	4213.670	0.000	-0.003	-0.001	
IV	4698.258	0.000	-0.002	-0.001	
V	5365.394	-0.002	-0.003	-0.003	
VI	6073.470	0.000	0.000	0.000	
VII	6447.419	-0.002	-0.001	-0.002	
VIII	6821.371	-0.001	0.000	-0.002	-0. ^d 013
IX	7862.465	+0.003	+0.006	+0.003	-0.001
X	8652.408	+0.001	+0.006	+0.002	+0.003
XI	9029.672	-0.005	0.000	-0.004	-0.001
XII	9342.770	-0.008	-0.003	-0.008	-0.002
XIII	9715.614	-0.009	-0.003	-0.008	0.000



References:

- DOMKE, K., POHL, E. AN 281, 113 (1952); POHL, E. AN 282, 235 (1955); ASHBROOK, J. AJ 57, 259 (1952); KOCH, J. C., KOCH, R. H. loc. cit.; RUDOLPH, R. AN 285, 162 (1960); HUTH, H. MVS 3, 120 (1966); EBC 4 (1960); BRAUNE, W., QUESTER, W. AN 286, 209 (1963); AHNERT, P. MVS 1, 519 (1960); DUEBALL, J., LEHMANN, P. B. AN 288, 167 (1965); OBURKA, O. BAC 16, 213 (1965); POHL, E. AN 289, 191 (1966); BRAUNE, W., HÜBSCHER, J. AN 290, 105 (1967); ROBINSON, L. J. IBVS 114 (1965); 119 (1965); 180 (1967); 247 (1968).

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