

COMMISSION 27 OF THE I. A. U.
INFORMATION BULLETIN ON VARIABLE STARS
Number 1102

Konkoly Observatory
Budapest
1976 February 12

PHOTOELECTRIC V LIGHT CURVE OF THE ECLIPSING BINARY RT PERSEI

We made 911 photoelectric observations, in V light, of the eclipsing binary RT Persei (BD+46°0740) by the 40 cm Cook refractor of the Teramo Observatory during 18 nights from the end of 1971 to the end of 1973. We used a photometer equipped with an EMI 9502 photomultiplier and a Schott GG14+GG13 filter (2. mm). We reduced in phase the observations by using the linear ephemeris

$$(1) \text{ Hel.J.D. } I = 2441304.3590 + 0^{\text{d}}.84939889 \cdot E.$$

$\pm 1 \qquad \qquad \qquad \pm 18$

We computed (1) by the least square method from the times of minima: we got the last ones analyzing our observed minima by the Kwee and Van Woerden method and by using the preliminary elements

$$T_0 = 2441304.3595$$

$$P_0 = 0^{\text{d}}.84940032$$

As comparison stars we used two anonymous field stars (Fig.1). The coordinates (related to the 1975 equinox) of the comparison stars and the variable are as follow:

a	3h22m36 ^s	46°44'3
b	3 19 23	46 22.5
v	3 21 55	46 29.5

We used "a" as comparison star and "b" as check star. The sequence of observations has been:

sky, a, V, b, V,....

By doing so, we could exclude possible variability of the "a" star with a good level of confidence.

From Fig.2 we can see that the light-curve is variable in both the levels of maxima and minima and, moreover, the latter ones are non symmetrical.

In a forthcoming paper we will discuss the photometric elements of this variable derived by different methods of solution (Russell and Merrill, 1952; Kitamura, 1965; Wood, 1971; Wilson and Devinney, 1971).

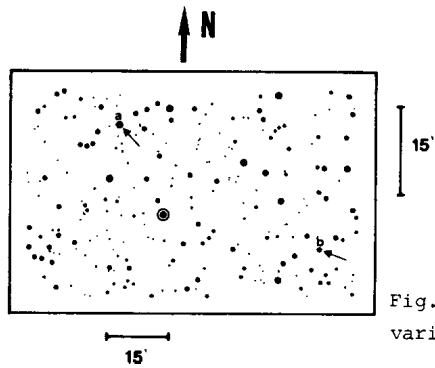


Fig.1. Chart of the variable RT Persei

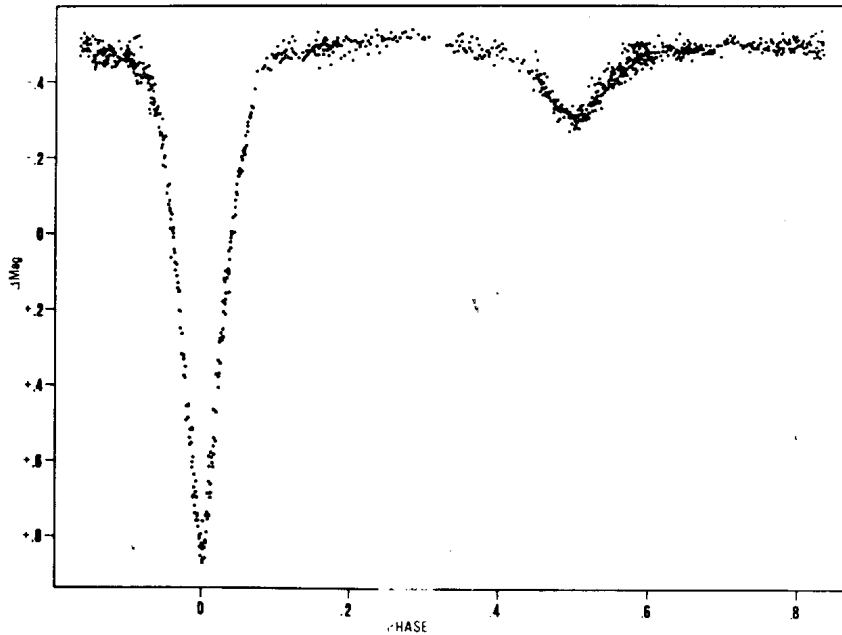


Fig.2. Photoelectric observations of RT Persei

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