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EPOCHS OF PHOTOELECTRIC MINIMA OF Y CYGNI

This report concerns the Japanese contribution to the international campaign of photoelectric observations of the eclipsing variable Y Cyg in 1971 and 1972 for the epochs of the minima given by Commission 42 of the IAU during the Brighton meeting. Y Cyg is a binary system with apsidal motion, and accurate epochs of the light minima would provide with important data for study of the latter motion. Photoelectric observations were carried out with the 20 cm refractor BV] at the Education Centre of Kanagawa Prefecture, the 25 cm reflector UBVI at the Akita University, the 20 cm refractor BV at the Education Centre of Saga Prefecture and the 91 cm reflector UBVI at the Dodaira Station of Tokyo Astronomical Observatory. In the observations BD +34°4196 O'Connell 1971 was used as comparison star. The following eleven epochs of minima were obtained from these observations:

Date	JD hel. 2441...	min	E	(O-C) 1	(O-C) 2	Observer*	Observatory**
1971							
Aug. 28	192.2044	odd	10565	+0.1277	+0.0040	H,S;Kt,Oz	A;D
Sep. 15	210.1848	odd	10571	+0.1301	+0.0069	H,S;Kt,Oz	A;D
1972							
July 18	517.0692	even	10674	-0.1098	-0.0095	Og	K
July 24	523.0605	even	10676	-0.1112	-0.0111	Og, O, K	K
Aug. 8	538.0430	even	10681	-0.1103	-0.0108	Og, O, K	K
Aug. 14	544.0353	even	10683	-0.1107	-0.0113	Og, O, K	K
Sep. 4	565.0145	even	10690	-0.1058	-0.0071	H, S	A
Sep. 10	571.007	even	10692	-0.1060	-0.0075	H, S	A
Oct. 4	594.9784	even	10700	-0.1053	-0.0076	Kg	S
Oct. 13	603.9644	even	10703	-0.1083	-0.0109	Kg	S
Oct. 16	606.9599	even	10704	-0.1091	-0.0118	Kg	S

*Observers: H=Hayasaka, S=Sato, Kt=Kitamura, Oz=Okozaki,
 Og=Ogata, O=Oba, K=Koreeda, Kg=Koga.

**Observatories: K=Kanagawa 20 cm refractor, A=Akita (25 cm reflector), S=Saga (20 cm refractor), D=Dodaira (91 cm reflector).

In calculating the O-C value for each minimum we used Dugan's formulae (1931);

$$\begin{aligned} \text{Min I (even)} &= \text{JD } 2409534.3195 \\ \text{Min II (odd)} &= \text{JD } 2409535.8175 + 2^d.9963331 E \\ &+ 0.1380 \sin 0^{\circ}06266 E \\ &- 0.1380 \sin 0^{\circ}06266 E - 0.0074 \sin 2^{\circ}06266 E \end{aligned}$$

On the nights of August 28 and September 15 in 1971, simultaneous observations were made at Dodaira and Akita and therefore the epochs of minimum listed for these two nights are the mean values. In the table the O-C 1 -values were calculated with the linear formulae, while the O-C 2 -values were calculated with the full formulae.

H. OGATA, Education Centre of
Kanagawa Prefecture,
T. HAYASAKA and N. SATO, Akita University,
M. KOGA, Education Centre of Saga
Prefecture and
M. KITAMURA, Tokyo Astronomical Observatory.

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