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NO LIGHT VARIABILITY FOR  $\omega$  GEM

The variability of  $\omega$  Gem  $\equiv$  HR 2630 was announced by Henriksson (1977), who gave a period of 0.7282 d and an amplitude of 0.086 mag on the basis of 35 measurements made during a survey of 121 stars situated in the Cepheid instability strip. Hence, the Fourth Edition of the General Catalogue of Variable Stars classified  $\omega$  Gem as a probable Cepheid. However, the announced period is not consistent with the observed spectrum, i.e. G5 III. To obtain an independent confirmation of its variability,  $\omega$  Gem was put on the list of late spectral type giants under photometric monitoring at Merate Observatory. Because of the star's brightness, its observation was also proposed to a few amateur astronomical associations that had a possibility of using a photoelectric equipment. Three independent datasets were thus secured.

At Merate Observatory the star was observed in the  $y$ -Strömgren filter with the 50-cm reflector equipped with the instrumentation described by Cereda et al. (1988). 8-10 measurements were carried out on four nights in March 1988. 37 and 39 Gem were used as comparison and check star, respectively. Grouping the measurements into normal points (standard deviation 0.005 mag), the mean magnitude was found to be rigorously constant from one night to the next. Assuming  $y=5.73$  for 37 Gem the mean value for the four nights is 5.148 mag in the  $y$ -light. Observational errors were found to be equal to those noted for 39 Gem.

$\omega$  Gem was also observed at Locarno Monti by S. Cortesi with a pair of telescopes (50 and 26 cm) both equipped with identical solid state photometers (Cortesi, 1983 and 1985). *BVRI* measurements were taken on 5 nights in 1987 and on 2 nights in 1988. 37 Gem was used as comparison star ( $V = 5.73$ ,  $B - V = +0.57$ ,  $V - R = +0.45$ ,  $V - I = +0.74$ ). The transformation into the standard system was ensured using mean coefficients and also by observing the standard star  $\lambda$  Gem, also used as a check star. Although the scatter observed on some nights is greater than expected, the mean magnitudes of each night are very close to each other and no variability could be reasonably inferred. In the standard system the following magnitudes were established:  $V = 5.17 \pm 0.02$ ,  $B - V = +0.90 \pm 0.03$ ,  $V - R = +0.67 \pm 0.03$ ,  $V - I = +1.13 \pm 0.03$ .

A third dataset was provided by A. Bertoglio who observed with a 20-cm Newtonian telescope equipped with an OPTEC SSP 3 photometer and standard *B* and *V* filters (Persha and Sanders, 1983). The observations were carried out at Alma (600 m above sea level, Ligurian Alps). 37 Gem and 39 Gem were used

Table I

Band	Julian Day	mag.	Obs.
V	2446875.4	5.18	LM
	6900.4	5.15	LM
	6902.4	5.17	LM
	6907.3	5.18	LM
	7205.3	5.18	To
	7212.3	5.18	To
	7233.3	5.18	To
	7239.4	5.15	LM
	7243.4	5.16	LM
	y	2447222.32	5.143
7223.30		5.147	Me
7227.31		5.151	Me
7228.30		5.150	Me

as comparison and check stars, respectively. A measurement was constituted by five consecutive integrations of 10 s each. The observing runs were carried out on three nights for 2-3 hours and no rapid variability exceeding observational errors ( $\pm 0.01$  mag) can be established. Moreover, the three mean magnitudes are very close to each other. The transformation into standard magnitudes was ensured by the mean coefficients established from the measurements of some standard stars. The mean observed values are  $V = 5.18$  and  $B - V = +0.91$ .

We have reported in the table all the mean magnitudes in  $V$  and  $y$ -light: the measurements performed at the Osservatorio Astronomico di Merate, at the Specola di Locarno Monti and at Alma are marked with the sigle Me, LM and To, respectively. The systematic differences between the three datasets can be ascribed to uncertainties in the transformation into standard magnitudes.  $\omega$  Gem, quite definitively, does not display the amplitude and period reported by Henriksson (1977) and is probably not a variable star at all.

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