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THE PHOTOMETRIC CONSTANCY OF 59 PISCIIUM

59 Psc was first reported as a suspected Delta Scuti star by Seeds and Yanchak (1972) and was confirmed by Gupta and Bhatnagar (1972) with a period of 0.1040 day and amplitude of 0.04 mag in V. The observations were made in two nights 48 days apart with time of observation of 5 hours and 3 hours, respectively. HR 217 was used as comparison star. Gupta and Bhatnagar suggested the presence of beating due to the variation in the amplitude of their light curves. Later, this star was reobserved by Breger and Warman (1973) but no variability could be found from their observations, however, they suggested that it would be interesting to check the behaviour of this star in a later date.

More differential photoelectric photometry of 59 Piscium (HR 214) was made by us during four nights in September 1980 with the 32 inch telescope of Observatorio Astronómico Nacional (San Pedro Mártir, Baja California, México). A refrigerated 1P21 photomultiplier and Johnson's V filter were used. The sequence C_1, V_1, C_2 was followed uninterruptedly, each night. The reductions were made with the method reported by González and Peña (1981) and the probable error in a single observation, estimated from the comparison stars was ± 0.003 mag. The observational details are given in Table I.

In the nights observed, no variability could be found for 59 Psc and the standard deviation calculated for this star and for the difference in magnitudes of the comparison stars was the same in each night (Table II).

Table I

Characteristics of the observed stars					
Star	M_V	Spectrum	α (1980)	δ (1980)	Character
59 Psc	6.01	A5	$0^h 46^m 10^s$	$+19^{\circ} 28'$	Suspected Var.
HR 217	6.45	dF6	$0^h 46^m 51^s$	$+20^{\circ} 49'$	Comparison
HR 254	5.7	A1V	$0^h 53^m 31^s$	$+19^{\circ} 05'$	Comparison

Table II

Characteristics of the nights observed			
Date	Time observed	Standard	
Sept. 1980		Deviation	
(U.T.)	Hrs.	Mags.	
25	4.9	± 0.005	
26	2.0	± 0.004	
27	7.5	± 0.003	
28	7.4	± 0.003	

These results indicate that 59 Psc was a constant star for these dates and confirm the result of Breger and Warman (1973) about the constancy of this star. However, the light curves detected by Gupta and Bhatnagar in 1972 have evident variation, hence, it is possible to think that 59 Psc stopped its pulsations for some reason and, like Breger and Warman suggested, it would be interesting to determine continuously the behavior of this star in later dates.

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