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LONG SERIES OF OBSERVATIONS ON GL, KP, AND V343 Cyg

The plates on a Cygnus region of the Milky Way taken at the Maria Mitchell Observatory and spanning more than fifty years are suitable for testing the accuracy and constancy of variable star periods. For this purpose Bonnie Buratti, a student summer assistant from the Massachusetts Institute of Technology, in 1973 examined the three variable stars in Tables I-III, but she did not have time to complete all of the necessary analyses.

Table I. GL Cyg

Reference	JD ₀	Period	Time Span
Olmsted 1951	31997.746	3.37053	1926-1948
Kukarkina 1955	25512.341	3.37066	JD 13836-34477
Romano 1969	25512.420	3.370683	37468-37889
NEW		3.37070	22906-42187

The new period (reciprocal 0.2966743) representing 600 Nantucket plates also satisfies the previously published JD₀ as well as the observations published by Kukarkina and Romano.

Table II. KP Cyg

GCVS	34536.813	0.855940	
Whitney 1956		0.855933	JD 33617-35299
Romano 1969		0.855940	37189-39061
NEW		0.855936	22609-41963

The General Catalogue of Variable Stars refers to Whitney's paper but the periods differ slightly. The reciprocals of the periods are respectively 1.168316 (Whitney) and 1.168306 (GCVS). The new period (reciprocal used, 1.168311) fits the 1040 Nantucket observations and also the data published by both Whitney and Romano. Moreover, the scatter of observations on the ascending branch of the light curve is smaller than for either of the previously published periods.

Table III. V343 Cyg

Baade 1928	24080.43	11.9290	
Olmsted 1951	31236.737	11.9275	1926-1948
Romano		"	JD 37189-39061
NEW		"	22609-42187



V343 Cyg
 A is BD+38°3884

In this instance the period derived by Olmsted on the basis of less than sixty plates, and verified by Romano, holds equally well without correction for the 670 Nantucket observations.

For none of the three stars investigated is there any indication of changing period in the course of 50 to 60 years.

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