MULTICOLOR POLARIZATION MEASUREMENTS OF THE OUTER SOLAR CORONA

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The purpose of the experiment was to measure the polarization of the outer solar corona, from 3 to 18 solar radii, in the red, yellow, blue, and ultraviolet, and to determine the wavelength dependence of polarization as a function of distance from the sun.

The experiment was carried out successfully at Loiyengalani, Kenya, during the 1973 eclipse. Four landscape cameras were used. Each camera box held three lenses with appropriate narrow band color filters, polaroid filters oriented at 0°, 60°, and 120°, and a built-in spot sensitometer.

The eight spectroscopic plates taken are being analyzed and iso-polarimetric contours obtained with the microdensitometer at Harvard University. Later they will be studied at the Artificial Intelligence Center using automatic reducing techniques.

The principal investigator of the experiment is Dr. William Liller of Harvard University. The experiment was part of the 1973 Solar Expedition sponsored by the National Science Foundation.

FIVE VARIABLE STARS IN CYGNUS

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ABSTRACT:

Bonnie Buratti, an M.I.T. undergraduate working at the Maria Mitchell Observatory during the summer of 1973, derived periods for one newly discovered and four previously known variable stars in Cygnus (Table I). Periods for none of these had been given in the 1969 edition of the General Catalog of Variable Stars. For IN Cygni, Miller (1968) obtained a period of 285 days, which does not satisfy the Nantucket observations as well as 287 days. It is curious that three of the Mira-type stars all have effectively the same period.

TABLE I

Star	Type	Position (1900)	Max.	Min.	JD_0	Period	Approx. No. Obs.
HK	EA	$19^h26^m48^s$ +34°08'.4	13.	15.0	41120.65	3.28315	400
HQ	M	19 30 20 38 37.7	12.5	<15.5	40743	287	700
IL	M	19 39 01 35 25.5	13.	<15.0	40419	352	870
IN	M	19 40 19 34 16.9	12.5	<15.5	41567	287	350
New	M	19 49 37 43 50.4	14.3	<16.	41565	287	400

TABLE II

J.D. Of Additional Maxima

HQ Cyg:	2426450	2429580	2432440	2440480
IL	27045	29479	29819	38996
IN	38976	39256	40119	40412
New	26650	27242	28350	40442

REFERENCE

W.J. Miller, S.J., 1968, Ricerche Astronomiche, 7, 411.

Figure 1. New Variable in Cygnus.
Position (1900)
R.A. $19^h\ 49^m\ 37^s.0$
Dec.+43° 50'.4

Chart Approx. 12'x15' South up.
A = BD +43° 3392
B = BD +43° 3393