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NEW PHOTOELECTRIC OBSERVATIONS OF SZ Her

Photoelectric observations of the binary star SZ Her, BD+33°2930, were made on 7 nights (May and June 1985) at the Stephen F. Austin State University Observatory. The telescope utilized was a computer-controlled 46 cm Ritchey-Chrétien which automatically moves between objects at the end of each filter cycle (Michaels, 1981, and Markworth and Michaels, 1982). The photometer was a Thorn EMI Gencom, Inc. "Starlight-1" photon counting system and was interfaced to a Commodore 64 computer for data acquisition. The "Starlight-1" was equipped with an uncooled EMI 9798A S-20 response PMT. The 615 observations were made in the natural V and R system of the telescope/photometer combination with the R observations presented in Figure 1.

From these observations 6 primary and 2 secondary times of minima were obtained. Since the eclipses were fairly symmetric during this epoch, the bisection of chords method was used to determine mideclipse with the results presented in Table I (Henden, 1982).

The observed times of minima were late by an average of 52 minutes from the predicted values. The predicted minima were computed using the ephemeris given below (Wood et al, 1980).

$$\text{Hel } \text{JD}_{\text{min}} = 2434987.3852 + 0.81809387 \cdot d$$

Table I

<u>Filter</u>	<u>JD(2440000+)</u> <u>min</u>	<u>Type</u>
V	6210.8518	Pri
	+0.0004	
R	6210.8518	Pri
	+0.0006	
V	6224.7558	Pri
	+0.0004	
R	6224.7584	Pri
	+0.0005	
V	6231.7199	Sec
	+0.0052	
R	6231.7154	Sec
	+0.0017	
V	6237.8473	Pri
	+0.0008	
R	6237.8473	Pri
	+0.0005	

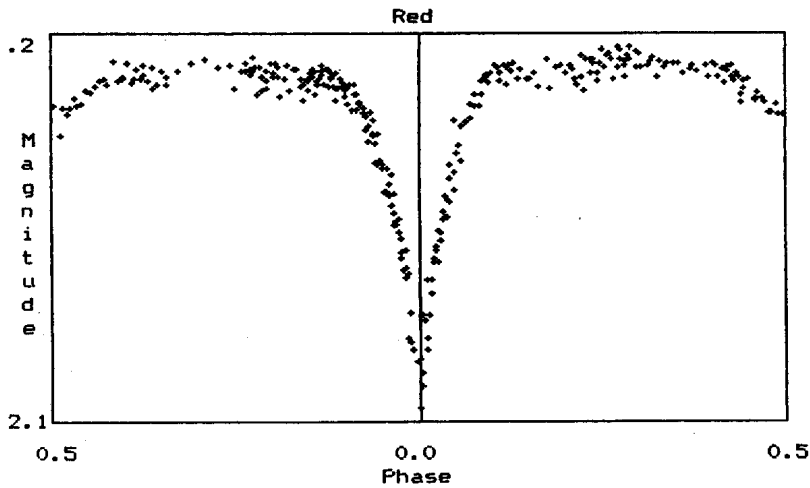


Figure 1

The individual differential magnitudes of
SZ Her in the sense (variable-comparison)

An extensive literature search is now under way to locate the over 300 times of minima published for SZ Her. A complete period and light curve analysis will be published elsewhere.

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