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HISTORICAL LIGHT CURVE FOR
STEPANIAN'S VARIABLE STAR IN SERPENS

Stepanian (1979) reports observations of an unusual variable star in Serpens. A search of the plate collection at the Harvard College Observatory has produced B magnitudes, presented in Table 1, from 1897 to 1979. Comparisons were made with a rough sequence set up from the Palomar Sky Survey blue print (see Liller and Liller, 1975). Figure 1a shows a light curve for this star, and Figure 1b gives the points from 1936 to 1951 on an expanded scale. The light curve is

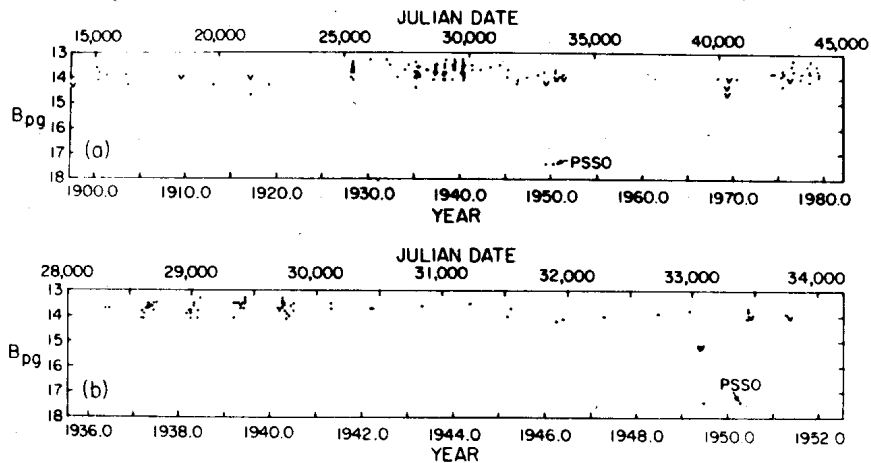


Fig. 1 a. Light curve for Stepanian's Variable in Serpens
from 1897 to 1979.
b. Repeat of Fig. 1a from 1936 to 1951 on an expanded
scale.

Table 1. B magnitudes for Stepanian's Variable in Serpens

J.D.	Mag.	J.D.	Mag.	J.D.	Mag.	J.D.	Mag.
14098	>14.4	27949	13.6	29396	13.7	33098	17.4:
15095	13.6::	27952	13.8	29396	13.6	33389*	17.4
15134	14.1	27985	13.8	29408	13.5	33446	14.1:
15189	13.8	27986	13.6	29419	13.7	33448	13.7
15502	13.9	28011	14.0	29429	13.5::	33450	13.8
16257	13.9	28308	13.7:	29429	13.3	33477	>14.1
16341	14.3	28342	13.7:	29429	13.4	33752	13.9
18494	>14.1	28602	14.1	29696	13.7::	33781	>14.1
19813	14.3	28604	13.8	29702	13.8	39943	14.0
21284	>14.1	28614	14.1:	29721	13.7	40323	>14.4
21308	14.7	28626	13.9	29726	13.5	40324	>14.7
22025	14.3	28636	13.7	29726	13.3	40332	>14.7
25301	14.0	28644	13.7:	29730	13.4	40383	>14.1
25325	13.8	28654	13.5	29730	13.5	40735	14.0
25361	13.5	28654	13.6:	29734	13.6:	42134	13.8
25361	13.6	28656	13.7	29734	13.5	42154	13.8
25361	13.8:	28656	13.7	29734	13.5	42217	13.8::
25362	13.7	28666	13.6	29748	13.8	42514	13.9
25363	13.6::	28663	13.6:	29760	13.8	42549	14.3:
25363	13.7	28683	13.6:	29760	14.1:	42573	13.7:
25379	13.7	28684	13.6::	29762	13.9	42595	13.8
25379	13.4	28696	13.8	29783	14.0::	42845	>14.1
25379	13.5	28700	13.5:	29787	14.0::	42932	13.5
25382	14.1::	28724	13.5::	29787	13.7::	42934	13.5
25383	13.8:	28964	13.9	29816	13.5::	42977	13.3
25383	13.7	28982	13.8	29819	13.8::	43009	13.7
26059	13.3::	28985	13.8	30113	13.5	43285	14.0::
26725	13.3	28993	13.8	30118	13.7::	43334	13.8
26826	13.5:	28993	13.9	30438	13.7::	43573	13.5
27158	14.0	28996	14.1::	30444	13.7:	43611	13.5::
27457	13.7:	28996	13.8:	30843	13.6	43630	13.7
27576	13.5:	29022	13.6	31223	13.5:	43659	13.8::
27839	13.8	29022	13.5	31523	14.0	43685	14.1::
27840	14.0	29050	13.8	31549	13.7:	43716	13.3:
27875	13.4	29050	14.1	31911	14.2:	43955	13.5
27903	14.4	29052	13.8	31963	14.1:	43987	13.7
27918	14.0	29070	13.3:	32297	14.0	44016	13.9
27924	13.9	29339	13.5:	32728	13.9	44040	13.8
27944	13.6	29339	14.1	32984	13.8		
27948	13.9	29344	13.5	33062	>15.3		
27948	13.9	29377	13.5	33066	>15.3		

* magnitude from PSS-O print.

reminiscent of that for R Coronae Borealis (Mayall, 1960), with a clear minimum in 1949-50 (during which the PSS-O exposure was made) and suggestions of less pronounced minima in 1917 and 1969, and possibly in 1897. A computer search for periodicity of the many observations in 1937-1940 revealed no significant period between 20 and 160 days. Also, there seems to be no simple period that fits the observed minima.

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References:

- Liller, M. H. and Liller, W. 1975, *Astrophys. J. Lett.* 199, 133.
Mayall, M. W. 1960, *Journal Roy. Astr. Soc. Canada* 54, 193.
Stepanian, J. A. 1979, *I.B.V.S.* No. 1630.