NOVA SCUTI 1949

By BALFOUR S. WHITNEY

This nova (1900: 18^h 50^m 56^s.11, -4° 20' 15".0)¹ was discovered on 1949 July 31 by Ch. Bertaud at Meudon.² The seventeen photographic estimates in Table I are from plates taken here between 1949 August 11 and October 9. Between August 12 and September 27 (J.D. 2433141-3187) the loss in light was nearly rectilinear at the daily rate of 0.054 mag. This was followed by a more rapid decline beyond the limit of our plates.

The photographic magnitude sequence in Table II was obtained from measures of two pairs of plates using an unpublished sequence

for RY Scuti as a standard and four pairs using the north polar sequence. The mean of the weighted mean residuals for these magnitudes was ± 0.10 . The coordinates are measured from the nova.

TABLE II. PHOTOGRAPHIC MAGNITUDE SEQUENCE

Star	H.D.	Sp	$\alpha - \alpha_N$	$\delta - \delta_N$	m_{pg}
a	174916	A0	-3 ^m 0	-31'	7.65
b	175104	B9	-2.2	-25	8.22
c	175546	A3	-0.2	-19	8.93
d	175560	B8	-0.1	-33	9.20
e	175295	A5	-1.4	-18	9.76
f	175750	A0	+0.8	-1	10.22
g			+0.3	-6	10.94
h			-0.2	-10	11.46
k			-1.5	+3	12.07
l			-0.16	-4	12.62
m			+0.2	0	13.7

TABLE I. PHOTOGRAPHIC ESTIMATES

J.D. 2430000 +	m_{pg}	J.D. 2430000 +	m_{pg}
3140.60	9.13	3171.59	11.31
40.73	9.04	82.66	11.99
41.72	9.67	82.67	11.92
45.62	9.99	85.66	12.28
54.82	10.31	87.61	11.92
56.76	10.62	87.62	12.18
57.62	10.46	99.56	<13.7
57.66	10.54	99.57	<13.7
69.60	11.09		

REFERENCES

1. G. Van Biesbroeck, *Harv. Announcement Card* No. 1027, 1949.
2. *Harv. Announcement Card* No. 1017, 1949.

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BF SERPENTIS: A PULSATING VARIABLE WITH AN UNUSUAL PERIOD

By JOSEPH ASHBROOK

The previous history of BF Serpentis is brief. Discovered to be variable by C. Hoffmeister¹ on Sonneberg plates, and announced as 35.1935 Serpentis, this star was assigned to the RR Lyrae variables by A. V. Soloviev,² who found the period to be 0^d5382. The 1948 Moscow *General Catalogue of Variable Stars* gives the following revised elements, obtained in 1940 by Soloviev:³

$$\text{J.D. hel. Max.} = 2428343.233 + 0^d5382073 \text{ E.}$$

I have found from estimates on Harvard patrol plates of 1928 to 1945 that this period is however spurious; Soloviev's period P' and the true period P are related by

$$1/P' - 1/P = 1.$$

The new elements

$$\text{J.D. hel. Max.} = 2425378.31 + 1^d165438 \text{ E}$$

were obtained from 17 dates of Harvard plates,

listed in Table I, on which the variable was near maximum brightness. Soloviev's initial epoch is satisfactorily represented by the new elements with $O - C = +0^d05$ for $E = +2544$.

TABLE I. OBSERVED MAXIMA OF BF SERPENTIS

E	J.D. hel.	O - C	E	J.D. hel.	O - C
0	2425378.31	0.00	2499	2428290.74	0.00
1	25379.47	-0.01	3080	28967.85	-0.01
311	25740.76	.00	3151	29050.66	+0.05
530	25995.94	-0.05	3448	29396.71	-0.03
637	26120.69	.00	3459	29409.60	+0.04
1853	27537.83	-0.04	3750	29748.70	.00
2143	27875.87	+0.03	3780	29783.64	-0.03
2238	27986.63	+0.07	3993	30031.92	+0.02
2487	28276.73	-0.02			

Recognition that the published period was spurious was possible because BF Serpentis appears on Bloomfontein plates, as well as Cambridge and Oak Ridge plates. These three stations span 6^h5 in geographical longitude. On