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Note on a new Cepheid in Vela

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NOTE ON A NEW CEPHEID IN VELA,

BY R. L. JOLLEY

The variable of this note has been discovered by the writer in the blink comparator. Its equatorial co-ordinates are:

$$\alpha (1900) = 8^h 26^m 5^s, \delta (1900) = -40^\circ 0'0''.$$

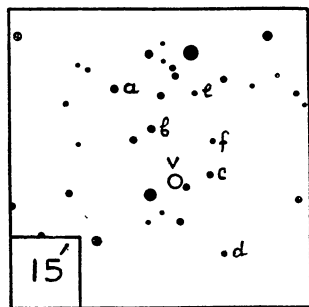
It has been estimated in the usual manner on 34I plates. The brightness in steps of the comparison stars is:

$a = 8^s.0, b = 2^s.4, c = 4^s.0, d = 6^s.0, e = 8^s.4$ and $f = 10^s.4$. The variable and its surroundings are shown in Figure 1. The period has been derived from epochs of maximum. These epochs given in Table 1 are well represented by the following elements:

TABLE 1

J. D. Hel. -2420000	<i>E</i>	<i>O-C</i>
		<i>d</i>
5712'37	0	- '36
17'30	1	+ '29
5922'54	49	+ '31
43'51	54	- '10
69'43	60	+ '17
73'50	61	- '04
6029'26	74	+ '14
63'24	82	- '08
67'28	83	- '32
97'32	90	- '21
6123'25	96	+ '07
6264'55	129	+ '28
6337'33	146	+ '37
62'39	152	- '22
88'32	158	+ '06
6439'34	170	- '23
7713'59	468	- '08
7807'47	490	- '26
9039'27	778	+ '20

FIGURE 1



$$\text{Max.} = \text{J. D. } 2426439^{\text{d}.57} + 4^{\text{d}.27550} E.$$

$$\pm 5 \pm 28 \text{ (m.e.)}$$

The number of periods elapsed and the residuals (*O-C*) are given in the same table. Phases have been computed with the formula:

$$\text{phase} = \text{d}^{-1}.233891 (\text{J. D.} - 2420000).$$

Data about the normal points of the resulting mean light-curve are given in Table 2. The light-curve, which is shown in Figure 2, clearly proves that the star is a δ Cephei-type variable. The median apparent brightness is estimated to be about 12^m.9, the range somewhat less than one magnitude.

TABLE 2

mean phase	mean brightness	<i>n</i>	mean phase	mean brightness	<i>n</i>
P	^s		P	^s	
'0109	6'6	10	'5372	6'8	10
'0498	3'5	10	'5524	6'7	10
'0854	1'1	10	'5750	7'1	10
'1266	'7	10	'6128	7'0	10
'1563	1'0	10	'6615	7'6	10
'1916	1'2	10	'6915	7'6	10
'2235	1'4	10	'7070	7'8	10
'2405	1'4	10	'7339	8'2	10
'2616	2'1	10	'7609	8'1	10
'2871	2'5	10	'7737	8'0	10
'3207	3'7	10	'7909	8'4	10
'3485	3'1	10	'8332	8'3	10
'3807	5'0	10	'8809	8'1	10
'4109	5'8	10	'9202	7'8	10
'4527	5'8	11	'9398	7'8	10
'4713	6'3	10	'9600	7'8	10
'5088	6'6	10	'9837	7'2	10

FIGURE 2

