

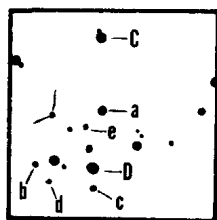
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Konkoly Observatory
 Budapest
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VERIFICATION OF S4846 IN CYGNUS

The suspected variable star in Cygnus S4846, (Figure 1), appears to be an interesting long period irregular variable with possible semi-regular tendencies. Photographic data are available (for S4846) at the Maria Mitchell Observatory from July 1930 to the present. The observed maxima do not occur in regular intervals, but they do seem to occur in groups, with fairly long intervals of relatively little variation. These groups, however, are separated by similar durations in between them.

Figure 1



Magnitude of Comparison Stars	Bonner Durchmusterung Catalog Number
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a 12.1	C 2980
b 12.7	D 2981
c 13.1	
d 13.3	
e 14.1	

Group	Julian Date	Duration
1 - 2	27400-34160	6760 d (18.5 yr)
2 - 3	34160-39770	5610 d (15.36 yr)

(As measured from beginning of ascent of the series of maxima.)
 Seasonal gaps create voids in the data where possible maxima could occur, but this is unlikely because of the duration of the observed maxima and the extremely long minimum detected from JD 26162 to JD 26694 (532 days). Most maxima are fairly symmetri-

cal with slow ascent and descent. The duration of most good maxima varies slightly, but the average is about 430 days, (ranging from 300 days to nearly 500 days.).

Just as the durations of maxima vary, so do the changes in magnitude from maxima to minima. The maximum observed magnitude is about 12.2, and the star usually stays around a minimum of 14.1 ($\Delta m=1.9$).

Spectral analysis would be useful in trying to classify this star.

KAREN MEECH

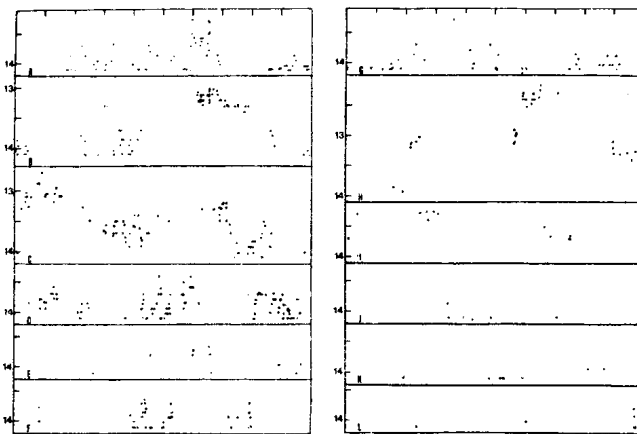
Maria Mitchell Observatory
Nantucket, Mass.02554,U.S.A.

The investigation of the suspected variable S4846 was carried out with the support of a scholarship from EARTHWATCH of Belmont, Massachusetts.

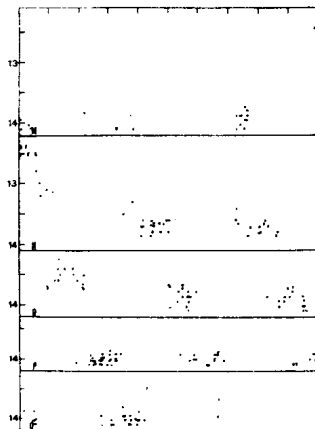
Figure 2

Part 1

Part 2



Part 3



Ordinate axis - marked at half-magnitude intervals. Each strip is 1000 days; markers at 100-day intervals:

Part 1		Part 2		Part 3	
A	26000-27000	G	33000-34000	M	39000-40000
B	27000-28000	H	34000-35000	N	40000-41000
C	28000-29000	I	35000-36000	O	41000-42000
D	29000-30000	J	36000-37000	P	42000-43000
E	30000-31000	K	37000-38000	Q	43000-44000
F	32000-33000	L	38000-39000		