

SIX LONG PERIOD VARIABLES
AND ONE PECULIAR VARIABLE IN SAGITTARIUS

by

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Abstract

New or updated periods are given for six Mira-type stars, and a new irregular variable is discussed. Finder charts are presented for all.

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New observations have been made on six long period variables in Sagittarius, listed in Table I. Five of them are already included in the GCVS, three of which required minor period revisions and two of which seem to confirm the original published period. One is a variable recently discovered at the Maria Mitchell Observatory. None of these stars has had a finder chart published previously and these are included as an aid to identification (Figure 1). One CoD star is marked "A" on each chart.

The brightness of the new variable, JL-1, was estimated on 510 Nantucket plates and 66 Harvard plates dating from JD 2424056 to 2442574. This represents 84 epochs during which 20 maxima were observed. The variable is very close to the nova, V1014 Sgr, which is represented in Finder Chart a by an open circle.

I also discovered a peculiar new variable in Sagittarius. It has been observed on 510 Nantucket plates and 90 Harvard plates ranging from JD 2424056 to 2442574. No periodicity seems evident; however, there is a surprising similarity in the two sections of the light curve (Figure 2) from JD 2434900 to 2439000 and 2439000 to 2442300. The position of this star is $\alpha = 18^{\text{h}} 18^{\text{m}} 34^{\text{s}}$, $\delta = -28^{\circ} 40'$ (1900). It is temporarily designated as JL-2. Figure 3 gives a finder chart.

TABLE I

Six Long Period Variables in Sagittarius

| Star | RA (1900) | Dec. | Max(pg) | Min | JD | Per | |
|-------------|------------------------------------|----------|---------|-------|---------------|-----|-----------|
| a) JL-1 | 18 ^h 00 ^m 59 | -27° 26' | 11.6 | (14.4 | 2437846 | 281 | New |
| b) V506 Sgr | 18 12 09 | -25 | 43.7 | 13.5 | (16.5 2440062 | 171 | Confirmed |
| c) V507 Sgr | 18 12 18 | -25 | 54.8 | 13.8 | (16.5 2436759 | 217 | Revised |
| d) V513 Sgr | 18 17 42 | -25 | 34.5 | 14.5 | (17 2438550 | 222 | Revised |
| e) V516 Sgr | 18 20 08 | -26 | 01.2 | 13.8 | (16.5 2442190 | 290 | Confirmed |
| f) V521 Sgr | 18 22 37 | -26 | 14.2 | 14.5 | (16.5 2442282 | 222 | Revised |

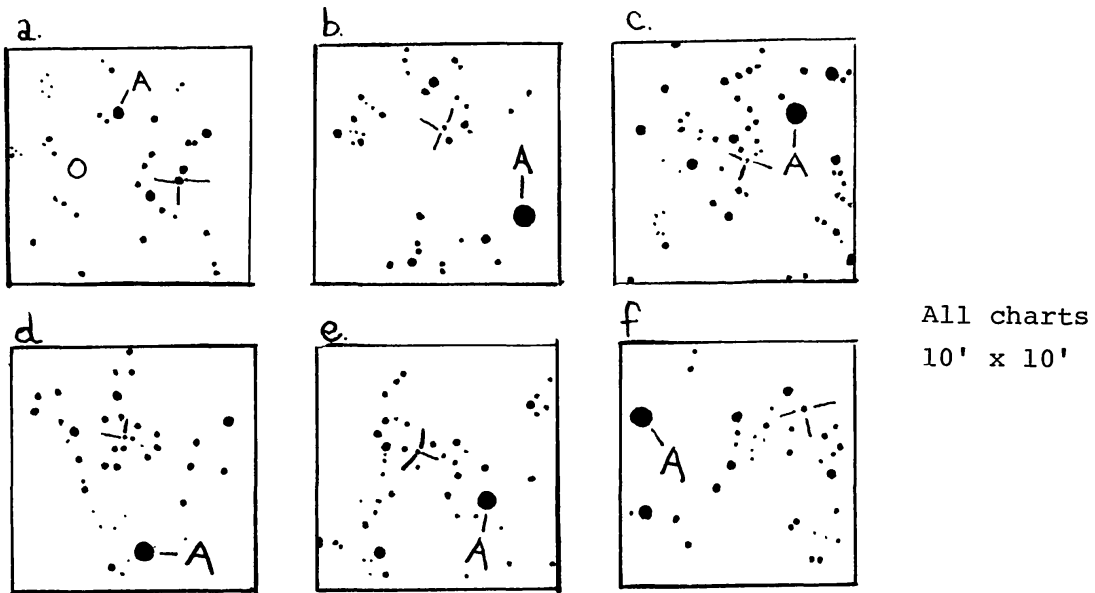


Figure 1. Finder charts for one new and five known long period variables in Sagittarius:

- a) JL-1 A = CoD -27°12409 d) V513 Sgr A = CoD -25°13077
- b) V506 Sgr A = CoD -25°12995 e) V516 Sgr A = CoD -25°13121
- c) V507 Sgr A = CoD -25°12994 f) V521 Sgr A = CoD -26°13194

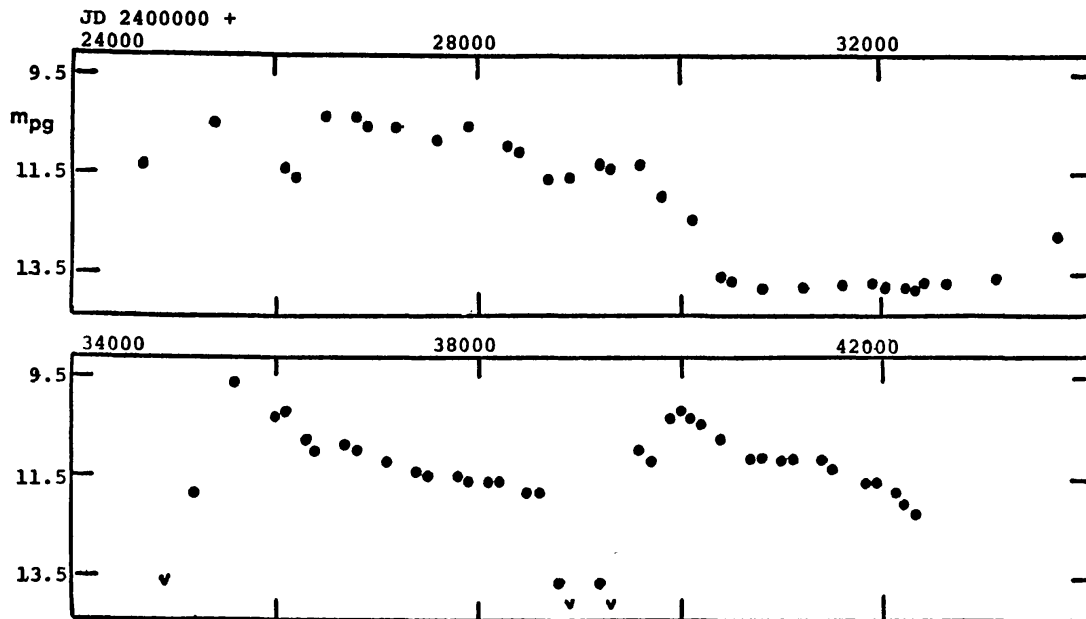


Figure 2. The light curve for the new peculiar variable, JL-2.

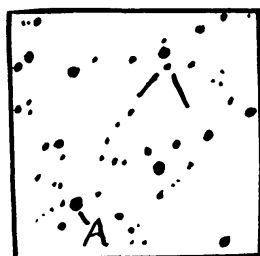


Figure 3. Finder chart for JL-2.
 Star A = CoD -28°14555
 Chart = 10' x 10'