

NEW SEQUENCES FOR TWO CEPHEID VARIABLES

HOWARD J. LANDIS
East Point, Georgia

CHARLES E. SCOVIL
Stamford, Connecticut

In order to encourage observers to assist in the Classical Cepheid Program (Cragg, 1972) we have started to develop new magnitude sequences for those stars requiring them. 203935 X Cyg, and 021959 SZ Cas are the first to be completed. For X Cyg the sequence stars are bright enough to have been measured with a photoelectric photometer attached to an 8" reflector. The new magnitudes have been incorporated into an existing 'a' chart and a new 'b' chart drawn by C. B. Ford. X Cyg is a binocular object throughout its range of about 5.8 to 7th magnitude, and is conveniently located near Epsilon Cygni. This star should be frequently observed.

SZ Cas, with a range of about 8.9-10th magnitude, is located just north of the double cluster in Perseus and is thus also easy to find. This star is shown on the 'b' chart for 021558 S Persei, but the sequence stars are too far away for satisfactory observing. The variables and sequence stars are close enough, however, to have been photographed on a single plate taken with the 22" Gregory-Maksutov telescope of the Stamford (Conn.) Observatory. A one minute exposure was made on a 103ad plate, using a GG14 filter. With the sequence stars for S Per as a basis, and including a limited sequence for SZ Cas (Payne, 1931), the plate was measured on the Cuffey Iris Photometer at Yale University Observatory, the use of which is gratefully acknowledged. A 'c' chart for this star has been drawn.

The finder charts published with this paper can be used to observe these stars, but it is suggested that regular blueprint charts be purchased from AAVSO Headquarters. Observers are reminded that although Cepheid observations should be reported to Headquarters on a regular monthly basis, to be used in the Cepheid Program they should also be reported to Thomas A. Cragg, Hale Observatories, Mt. Wilson, California 91023. This should be a single report at the end of the observing season for each star, rather than scattered monthly reports.

REFERENCES

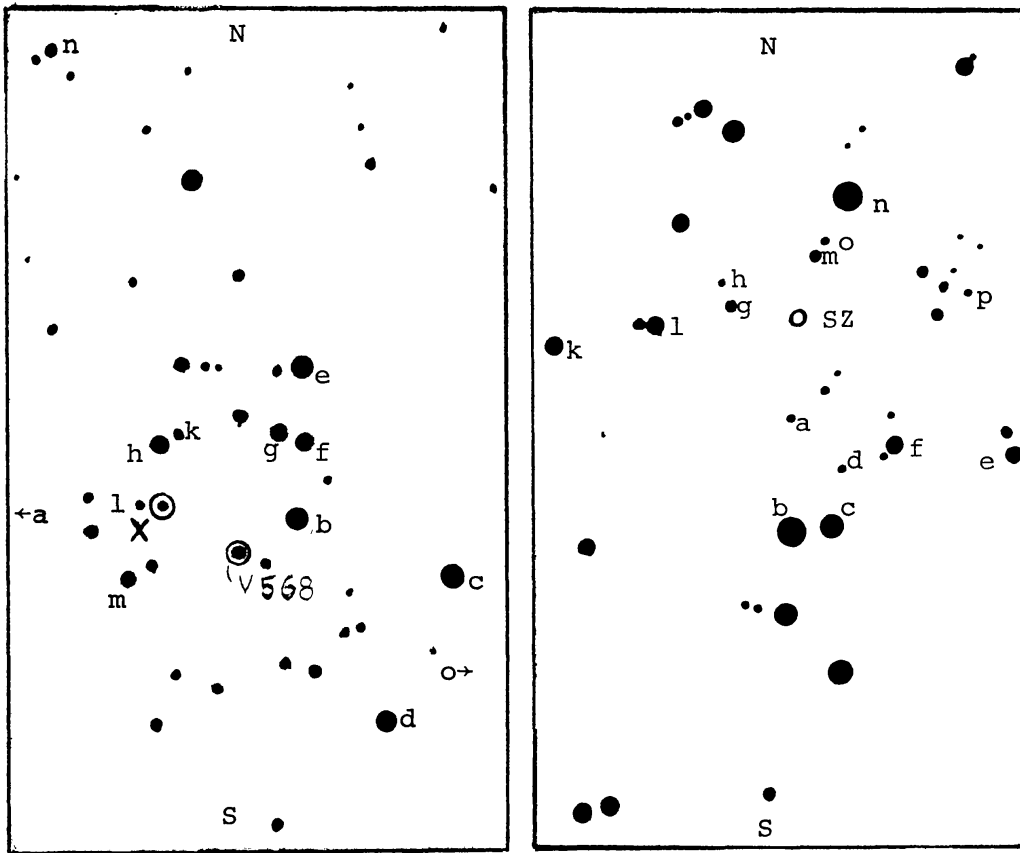
1. Cragg, T. A., 1972, JAAVSO, 1, 9.
2. Payne, C. et al, 1931, Harvard Bulletin 883.
3. Smithsonian Astrophys. Obs. Star Catalog, 1966.

| Photoelectric (V) Magnitudes For X Cygni | | | Photometric (V) Magnitudes For SZ Cassiopeiae | | |
|---|------|---------|--|-------------|---------|
| Star | Mag. | SAO No. | Star | Mag. | SAO No. |
| a. | 6.56 | 070544 | a. | 10.6 | -- |
| b. | 7.44 | 070384 | b. | 7.8 | 023340 |
| c. | 6.87 | 070343 | c. | 8.4 | 023336 |
| d. | 7.20 | 070358 | d. | 10.5 | -- |
| e. | 7.43 | 070379 | e. | 9.3 | 023292 |
| f. | 8.08 | 070380 | f. | 11.3 | -- |
| g. | 8.40 | 070393 | g. | 9.9 | -- |
| h. | 7.98 | 070416 | h. | <u>11.4</u> | -- |
| k. | 8.56 | 070420 | k. | <u>8.7</u> | 023385 |
| l. | 9.06 | 070425 | l. | 8.8 | 023366 |
| m. | 8.02 | 070429 | m. | 9.7 | -- |
| n. | 7.72 | 070444 | n. | <u>7.5</u> | 023327 |
| o. | 7.97 | 070241 | o. | 10.9 | -- |
| | | | p. | <u>11.5</u> | -- |

(Underlined magnitudes: Payne, 1931.)

203935 X Cyg

021959 SZ Cas



Scale 1°

Scale 1/2°