

**ST URSAE MAJORIS:
AN INTERESTING BINOCULAR VARIABLE STAR**

CHRISTOPHER P. STEPHAN
Science Department
Sebring Middle School
Sebring, FL 33870

Abstract

Observations of the semiregular star, ST Ursae Majoris, show an approximate period of 81 days. However, there are occasions when the period is as long as approximately 120 days or as short as approximately 60 days. In 1980-81, one cycle lasted approximately 150 days.

* * * * *

The star ST Ursae Majoris is an easy star to locate with binoculars. Located at R.A. $11^{\text{h}} 22^{\text{m}} 23^{\text{s}}$, Dec. $+45^{\circ} 44'$ (1900), ST UMa is visible for at least eight months out of the year from northern latitudes. The star is a semiregular variable, with a visual magnitude range of 6.4 - 7.5. The **AAVSO Variable Star Atlas** (Scovil 1980) gives a magnitude range of 7.7 - 9.5 in blue light.

The **Third Supplement to the General Catalogue of Variable Stars** (Kukarkin *et al.* 1976) states that ST UMa is a red giant, of spectral type M4. Therefore, as is typical of semiregular stars, it has a low surface temperature.

The data available on the AAVSO hand-plotted light curve of ST UMa from 1979 to 1985 show some irregularity in both the period and the magnitude. The period given on the AAVSO Standard Chart "ab" for ST UMa is 81 days?. However, several peaks are approximately 120 days apart, while others are as close as 60 days apart. In fact, from approximately JD 2444540 to 2444690, the peaks are as far as 150 days apart.

Some of the maximum magnitudes on the light curve are as bright as magnitude 6.0, while others are only as bright as magnitude 6.5. At minimum light, the star ranged from as dim as magnitude 8.2 in late 1979 to only as dim as magnitude 7.3 on several occasions.

I find this star to be interesting to observe. My own observations for ten years don't show too much of a magnitude variation. I've only once seen the star at magnitude 7.5. The brightest I have ever observed it was at magnitude 6.6. Most of the time the star varies between magnitudes 6.8 and 7.2, according to my observations.

There is an ample selection of comparison stars around the variable. Observations of this star on a weekly basis may shed some more light on the period and the magnitude range.

I wish to thank Elizabeth Waagen of AAVSO for supplying the hand-plotted light curve of ST Ursae Majoris. I would also like to thank Tessa Breen of Sebring Middle School, Sebring, Florida, for assistance on the light curve transparencies.

REFERENCES

- Kukarkin, B. V. *et al.* 1976, **Third Supplement to the General Catalogue of Variable Stars**, Third edition, Moscow.
Scovil, C. 1980, **AAVSO Variable Star Atlas**, Cambridge, Massachusetts, Sky Publishing Corp.
Waagen, E. O. 1986, AAVSO observations, private communication.