

## VISUAL OBSERVATIONS OF XY LYRAE AND CH CYGNI

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### Abstract

Presented are the results of visual observations of the irregular variable XY Lyrae during the past 15 years, and of the symbiotic star CH Cygni during the past six years. The observations of CH Cygni show deep minima in 1988 and 1990.

### 1. Observations of XY Lyrae

The irregular variable XY Lyrae (BD +39°3476, HD 172380, HR 7009) is a bright red giant of spectral type M4.5 Ib-II. According to the *General Catalogue of Variable Stars* (Kholopov *et al.* 1985) (GCVS), the brightness range of XY Lyrae is relatively small (5.80-6.35V). See Figure 1 for a finder chart.

I have made observations of XY Lyrae since May 1975 with 7x50 binoculars. For reduction, I used both V magnitudes of the comparison stars from the *Bright Star Catalogue* (Hoffleit 1982) and photoelectric measurements by Pigulski (1990) for HD 173086. These magnitudes are given in Table 1. The light curves from my observations are presented in Figures 2 and 3. The quasi-periodic changes with about a 100-day time scale and a small range are visible. The entire range, according to my observations, is magnitude 5.6-6.4, similar to the range given in the GCVS.

Table 1. Comparison stars for XY Lyrae

<i>Star</i>	<i>HD</i>	<i>HR</i>	<i>V</i>
a	175740	7146	5.46 m
b	176318	7174	5.70
c	173936	7073	5.92
d	172671	7017	6.07
e	173383	7041	6.32
f	173086		6.63

### 2. Observations of CH Cygni

The well-known symbiotic star CH Cygni (BD +49°2999, HD 182917) has shown peculiar activity in recent decades. I began visual observations of this variable in August 1984, after the star showed a considerable brightness drop. I took the magnitudes of the comparison stars from AAVSO charts.

The light curve of CH Cygni made from my observations is presented in Figure 4. The distinct brightness drops in the beginning of 1988 and at the end of 1989 are visible.

In mid-1988 and mid-1990, CH Cygni showed the deepest minima (magnitude 9.2) ever observed. Since the beginning of 1988, CH Cygni has also shown regular fluctuations with a 100-day periodicity and a range up to 1.0 magnitude.

### References

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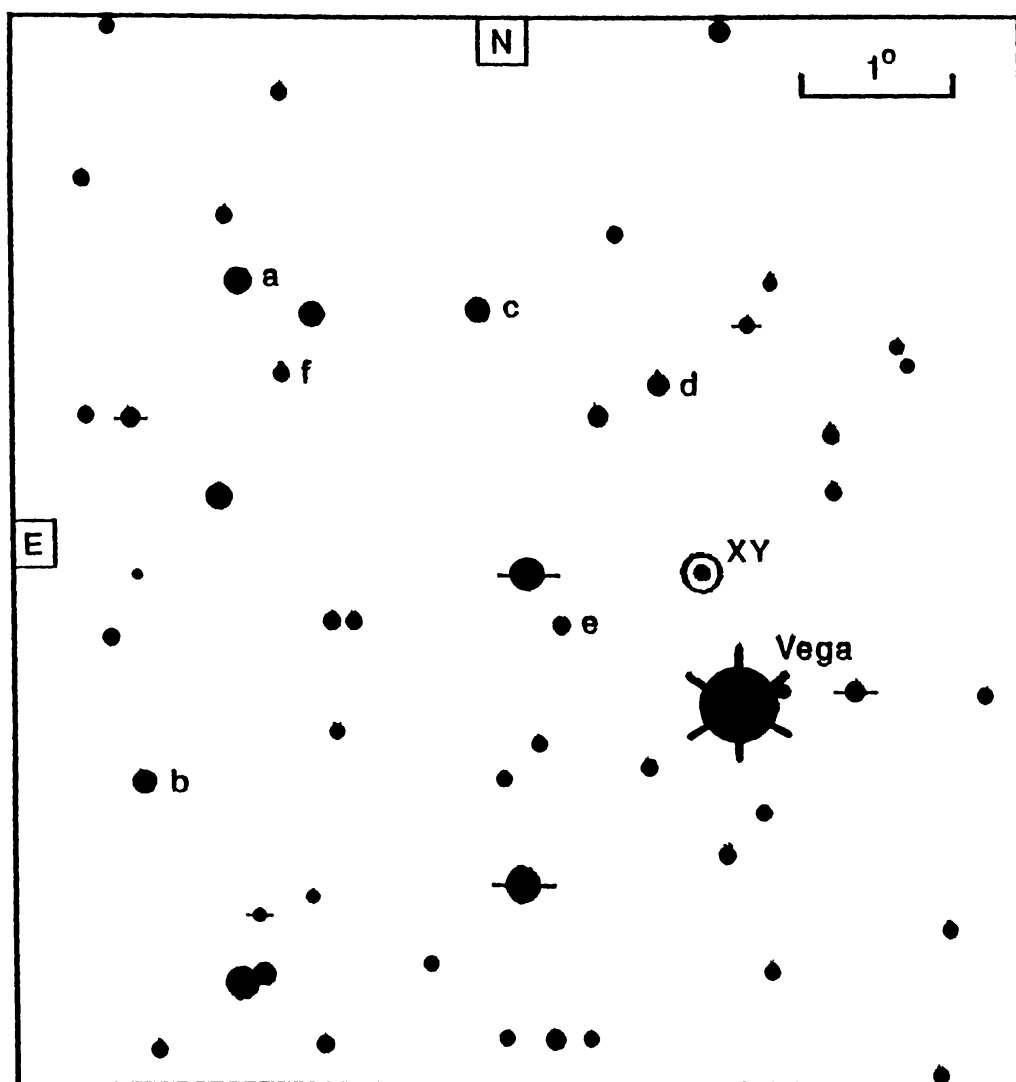


Figure 1. Finder chart for XY Lyrae.

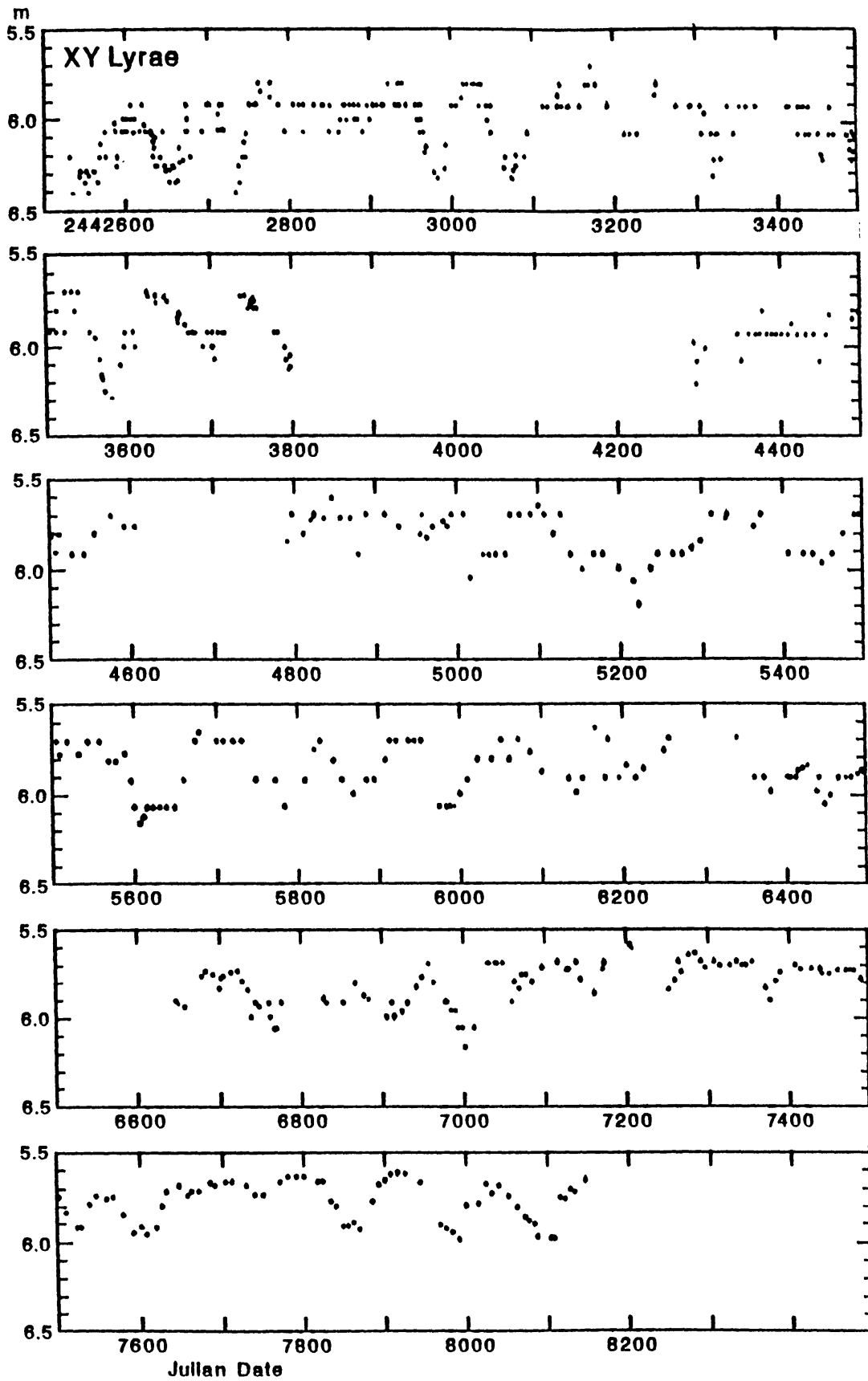


Figure 2. Visual light curve for XY Lyrae.

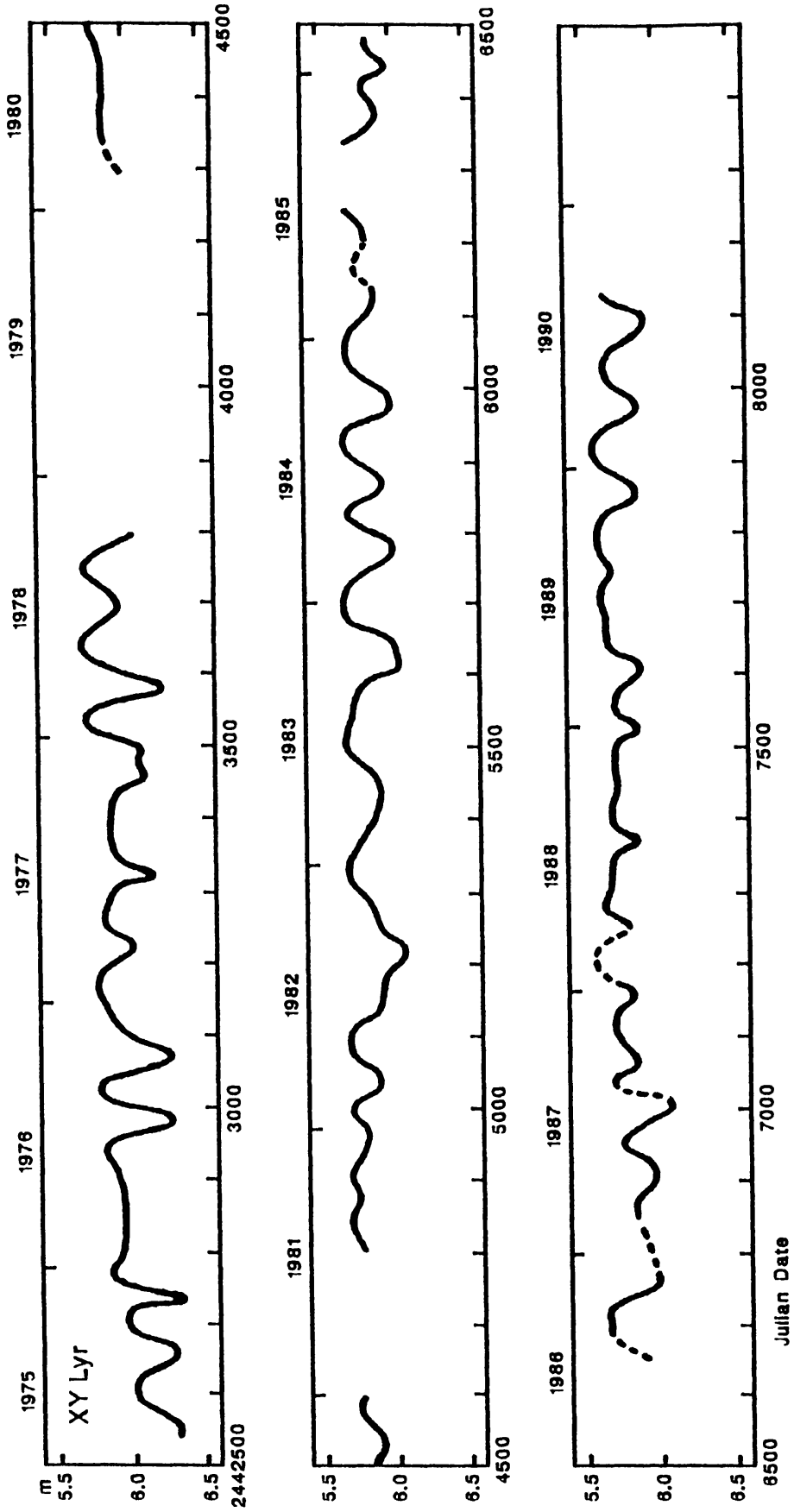


Figure 3. Smoothed visual light curve for XY Lyrae.

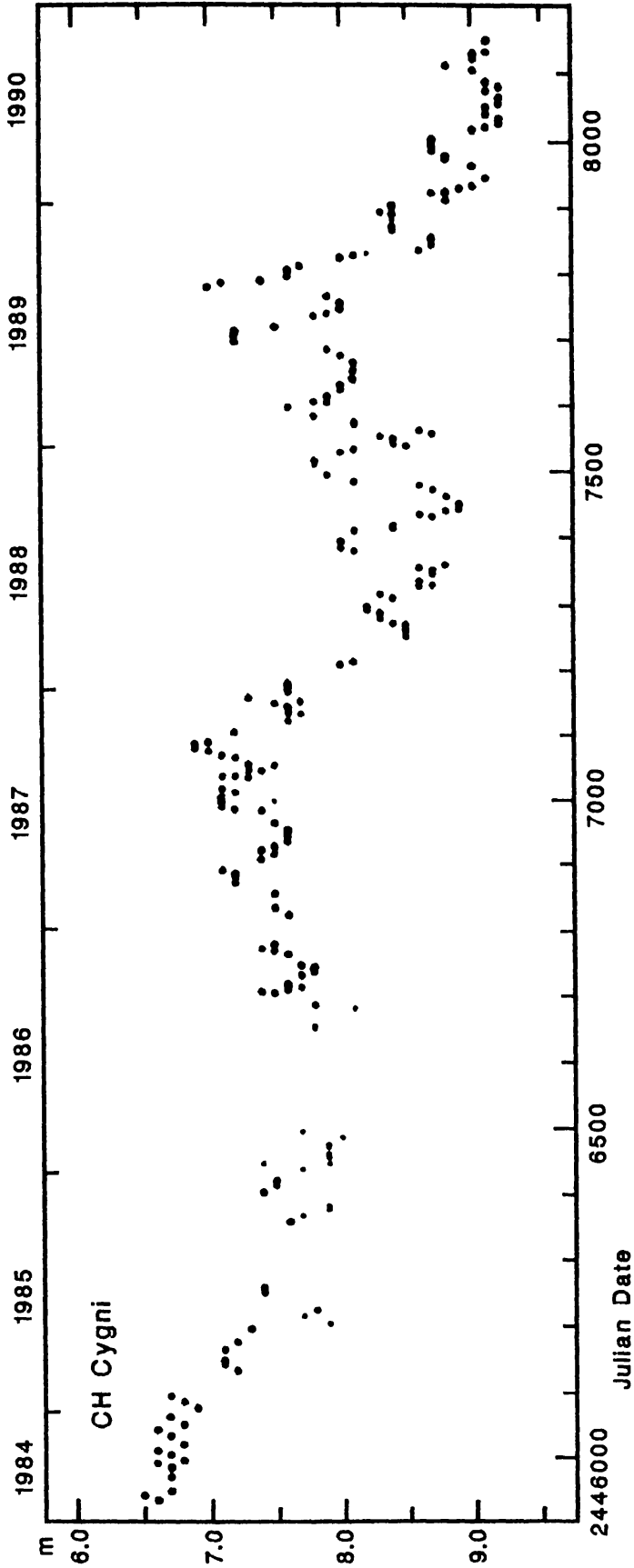


Figure 4. Visual light curve for CH Cygni.