

**DISCOVERY OF 6.2-MINUTE OSCILLATIONS
 IN THE Ap Sr STAR HD 86181**

Martinez (1993) has obtained Strömgren photometry for all the Ap SrCrEu stars in the first four volumes of the Michigan Spectral Catalogue, along with selected stars classified by Bidelman & MacConnell (1973) north of declination -12° . Using this photometry we have been conducting a systematic survey for new rapidly oscillating Ap (roAp) stars. In this note we announce the 12th one found as part of the survey, the 27th now known.

HD 86181 was classified as Ap Sr by Houk & Cowley (1975). Martinez (1993) measured $V=9.323$, $b-y=0.172$, $m_1=0.205$, $c_1=0.757$ and $\beta=2.819$. The calculated dereddened metallicity and luminosity indices are $[\delta m_1]=-0.030$ and $[\delta c_1]=-0.095$, both of which indicate strong metallicity and heavy line-blocking in the Strömgren v band, characteristics we have come to associate with roAp stars.

On the night of 11/12 March 1994 we obtained 4.85 hours of continuous 10-s photometric integrations of HD 86181 through a Johnson B filter using the 0.5-m. telescope of the Sutherland Station of the South African Astronomical Observatory. The observations were corrected for coincidence losses, sky brightness, extinction and reduced to 40-s integrations. Figure 1 shows a two-hour section of the light curve for that night and Figure 2 shows the amplitude spectrum of the entire 4.85-hr light curve. The 6.2-min oscillations are obvious in both. No comparison star was used, but sky transparency variations, scintillation, and photon statistics produced noise of a maximum amplitude of about 0.35 mmag at the frequencies of interest, as can be seen in the amplitude spectrum.

We are continuing observations of this star and, as of this writing, have 24 hours of observations obtained on 6 nights. The amplitude of the light curve is modulated. The star is multiperiodic and may also show rotational amplitude modulation.

HD86181 JD2449423 B 40

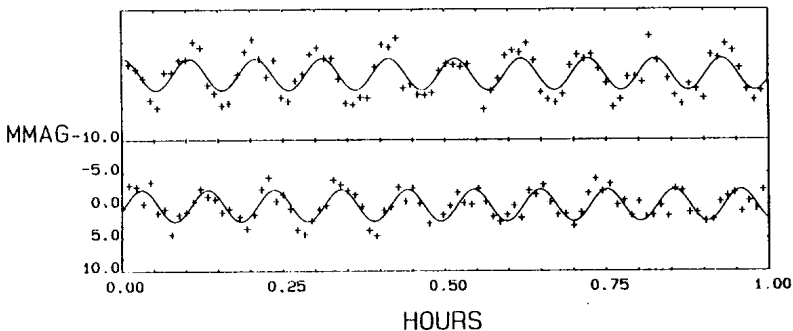
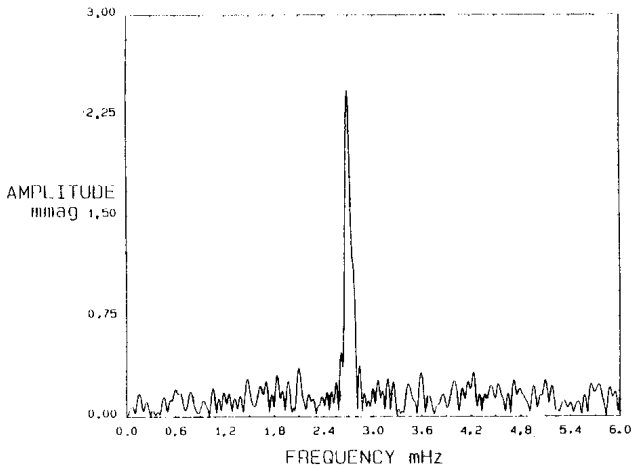


Figure 1

HD66181 JD2449423 B 40



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