

EVIDENCE FOR g -MODE OSCILLATIONS IN THE PECULIAR BLUE VARIABLE CD – 42°14462*

(Abstract)

J. E. HESSER, B. M. LASKER, and P. S. OSMER
*Cerro Tololo Interamerican Observatory***, La Serena, Chile

CD – 42°14462 is a star of peculiar spectral properties first noted by Bond and Landolt (1971). The spectroscopic evidence indicates that the star has broad shallow lines of both H and He, features that suggested that it was a binary composed perhaps of two degenerate stars. Photometric variability was discovered by us in 1972, but no coherent variations were discerned. Following Warner's (1973) observation in April 1973 of a 0.003 mag. variation at 29s, a reexamination of our data revealed two variations present with periods of 29.08 s and 30.15 s and mean amplitudes of 0.00028 mag. Variable H α emission and H β and H γ absorption lines were observed and the continuum colours place it near the 12000K blackbody line.

The observations are consistent with a model invoking g -mode oscillations on a hot, rotating white dwarf. Whether the oscillating star is a member of a binary system is still somewhat problematical, in view of Greenstein's (1973) observations of apparently single degenerate stars with both H and He lines.

References

- Bond, H. E. and Landolt, A. U.: 1971, *Publ. Astron. Soc. Pacific* **83**, 485.
Greenstein, J. L.: 1973, private communication.
Warner, B.: 1973, *Monthly Notices Roy. Astron. Soc.* **163**, 25P.

* This paper was presented by J. E. Hesser.

** Operated by the Association of Universities for Research in Astronomy, Inc., under contract with the National Science Foundation.