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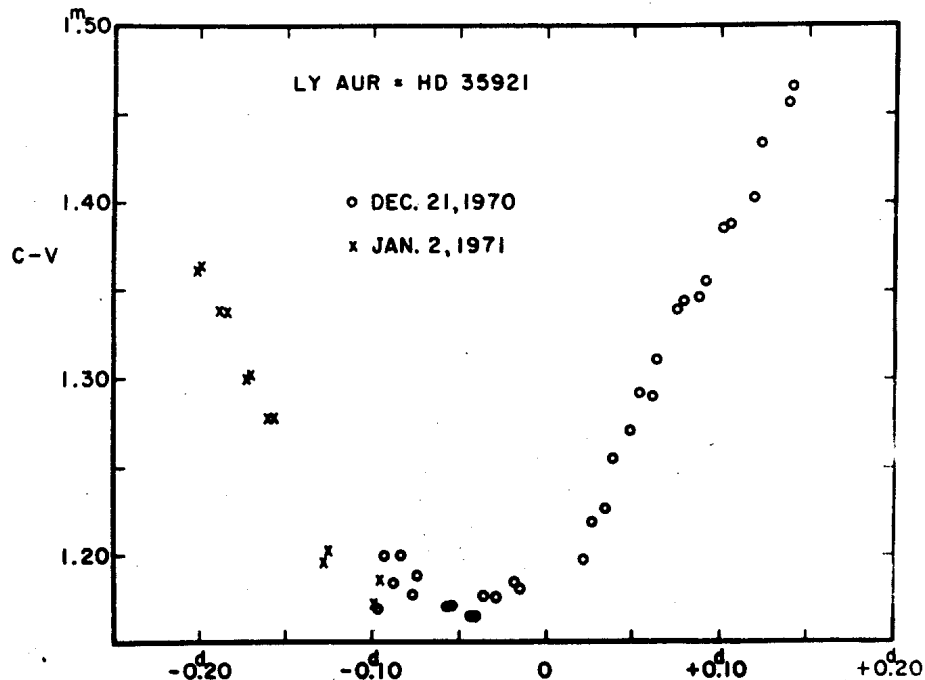
Konkoly Observatory  
Budapest  
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A NOTE ON LY AURIGAE = 35921

In 1968, Pavel Mayer (1) announced that HD 35921 was an eclipsing variable with two deep eclipses and that both spectra were visible. He pointed out that it had the largest amplitude of light variation among brighter eclipsing stars of spectral-type 0 and thus would be important for determining absolute dimensions.

This system has now been observed photoelectrically in three colors using the 30-inch reflector of the Rosemary Hill Observatory of the University of Florida. The light curve near the bottom of primary is shown as determined from observations on two nights. The observations shown were taken with a yellow filter on the natural scale of the telescope-photometer combination; they are very close to the usual V system but have not yet been put on that system. The comparison star was HD 35619 which was also used by Mayer.



The most interesting feature is the existence of a total (or annular) phase of approximately three hours duration. Observations on other nights agree with those shown but suggest variation of a few hundredths of a magnitude on a time scale of a few hours. Comparison-check readings suggest that the variations are in the variable rather than the comparison star which has been rather carefully checked by Mayer.

The primary minima occur about one hour earlier than those predicted from Mayer's published elements, JD 243 9061.48 + 4<sup>d</sup>0026, and are much more in accord with unpublished ones supplied by him, JD 243 9061.464+4<sup>d</sup>00251. For predictions in the near future, I suggest:

Pr. Min. = JD 244 0942.649 + 4<sup>d</sup>002521.

S. Rucinski has called my attention to the fact that the colors published by Mayer indicate the star is appreciably reddened. LY Aur lies only about 1/3 degree from the open cluster NGC 1907. If fitted to the color-magnitude diagram of the cluster as given by Gretchen L.Hagen's "Atlas of Open Cluster Colour Magnitude Diagrams" (2) using Mayer's values of V and B-V, the star falls close to, but slightly to the right of, an extension of the upper main sequence; if we correct the V to allow for the fact that we are dealing with a double star, the agreement as anticipated is much closer. The color excess,  $E_{B-V}$  as computed from the measures listed by Mayer is approximately 0.49; that listed in the Hagen catalogue is 0.42. The question of its membership in this cluster should be investigated further.

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References:

- (1) 1968, Publ. Astr. Soc. Pacific 80, 81.
- (2) 1970, Publ. of the David Dunlap Observatory, Vol. 4.