

SPECTROGRAPHIC OBSERVATIONS OF 31 AND 32 CYGNI
DURING THE LAST ECLIPSES

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Spectrographic observations of 31 and 32 Cygni have been made from October 1961 to the present time (June 24, 1962) and are still continuing, with the grating spectrograph of the Merate Observatory. The dispersion is 22 Å/mm.

31 Cygni.—According to the predictions of McKellar and Petrie,¹ for the eclipse in 1961–62 we should expect:

First occurrence of the chromospheric K line.	Sept. 22, 1961
First contact	Nov. 28, 1961
Second contact	Dec. 1, 1961
Mid-eclipse	Jan. 1, 1962

Our observations start on October 30. In this epoch a weak chromospheric K line is visible. A spectrogram taken on December 17 shows a strong chromospheric K line; in the next spectrogram, on December 19, only the spectrum of the K-type star is visible. Hence first contact occurred after December 17. On February 21, still only the K spectrum was visible. This date was the last observation we could make during totality, because of unfavorable weather conditions. The next spectrograms, on March 15 and 18, show a fairly strong chromospheric K line. The star could be observed again in April and May. A weak chromospheric K line is visible on the spectrogram of April 12, a trace is present on April 21, no trace is visible on May 15.

Measurements of the radial velocities before totality have been made for the chromospheric lines. The radial velocities vary irregularly between -10 and -30 km/sec. Measurements of the intensities of the lines are in progress.

32 Cygni.—According to the Kukarkin catalog, mid-eclipse was predicted for June 3, 1962. Table I lists our observations. From visual inspection of these spectrograms, we conclude that the chromospheric eclipse began between April 12 and 23 and the

TABLE I

SPECTROGRAPHIC OBSERVATIONS OF 32 CYGNI

1962		
March	19	No trace of the chromospheric K line.
April	12	No trace of the chromospheric K line.
April	23	A sharp chromospheric K line is clearly visible.
May	15	Strong chromospheric spectrum.
May	16	Strong chromospheric spectrum.
May	21	Strong K line. The partial phase has begun.
May	22	The width of the K line increases.
May	23	The K line becomes broader but is not yet as broad as the H + H7 line.
June	3	Total phase. H and K lines are almost equal in intensity.
June	4	Total phase. H and K lines are almost equal in intensity.
June	9	Partial phase. The width of the K line is about the same as on May 22 or 23.
June	10	Partial phase. The width of the K line is about the same as on May 21.
June	16	Strong chromospheric K line.
June	18	Strong chromospheric K line.
June	20	Strong chromospheric K line.
June	21	Strong chromospheric K line.

partial phase began after May 16 but before May 21 and finished after June 10 but before June 16. We estimate that mid-eclipse occurred between May 31 and June 1. Quantitative reductions of the spectrograms and measurements of the radial velocities are in progress.

¹A. McKellar and R. M. Petrie, *Pub. Dominion Astrophysical Obs.*, 11, 1, 1958.

VISIBILITY OF SIRIUS B

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The 24-inch refractor of the Lowell Observatory is fitted with an iris-diaphragm that progressively reduces the aperture to a minimum of 6 inches. I rarely use it while measuring double stars, but on the evening of February 5, 1962, Sirius B was so clearly seen that, as an experiment, I reduced the telescope's aperture to