ORBIT OF THE SPECTROSCOPIC BINARY A BOÖTIS.

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The binary character of A Boötis ($\alpha = 14^h\ 14^m$. $\delta = +35°54'$, type G5, mag. 4·8) was announced by Moore in Lick Observatory Bulletin 123. Forty-two spectrograms secured at this observatory with a one-prism spectrograph have been used in determining an orbit. In this, as in many other cases, the Lick Observatory results have been useful in defining the period. The details of their observations were very kindly communicated by mail.

In general an orbit of a late type star determined with a one-prism instrument does not compare favourably with an orbit of the same star based on three-prism results. The accuracy is so much greater in the latter case that the practice has been generally followed of leaving the late types for high dispersion. However, the range of the present binary permits of a fairly accurate determination of the orbit with a one-prism instrument. On this account and also because at the time the number of available binaries was rather limited, the star was placed on the observing programme here.

Table I gives the wave-lengths of the lines used in reducing the measures. The corrections in the third column are computed to make the sum of the weighted residuals of column four vanish. The residuals were taken in the sense, observed minus the mean of the plate. If we compute from Rowland's Preliminary Table of Solar Wave-Lengths the lines which would in one-prism dispersion lie near these, we find that the wave-lengths given in the table are about 0·03 Ångström units larger. The method of combining the various lines in a high dispersion table is arbitrary and the resulting position of the blend uncertain. About all we may say of the wave-lengths given, is that they are homogeneous and that the scale is