two plates were excluded from the final determination of the orbit. Just at this point it may be stated that Slipher, using the data just outlined, which is given in the table of "Early Measures," discussed the star's variable velocity in *Astrophysical Journal*, Vol. XXII., page 84, and suggested for it a period of three and one-half years. The observational data was, however, entirely too meagre, I think, to bear out any suggested period. The period herein determined, approximately six years, is no multiple of that suggested by Slipher and the writer feels that though the number of observations is greatly increased they are yet too few to make a rigid determination of the elements. Those given here suit the observations remarkably well however.

Twenty plates were made here with the Universal three-prism spectrograph from December, 1906, to April, 1907. These were measured and reduced by the writer, using the long interpolation method of Hartmann. As twenty or more star lines on each were measured, a considerable amount of labor was thus expended on them. This work availed little so far as the star itself was concerned, but, possibly, helped to show that some instrumental errors had not yet been overcome and a new spectrograph was accordingly designed for radial velocity work alone. The plates with the Universal instrument have, therefore, not been used in this discussion.

The new three-prism spectrograph, IIIL, was ready in May, 1907, and spectrograms of the star were again made. During the season of 1910 the spectrograph was changed quite frequently, as a short form of camera was being experimented on, and no plates with the long focus camera were made. There were made, however, two with camera designated III S and one with camera designated III R, but as the dispersion of these was only about one half as great as the III L, they could not be considered by any means as reliable as the other, and hence they have not been used. It is unfortunate that a continued series of plates with III L were not made that season as they would fall around the maximum of the curve and round out an otherwise incomplete set. The plates then that are used in this discussion were all