ORBIT OF THE SPECTROSCOPIC BINARY 14 AURIGÆ

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No measures of this star ($\alpha = 5^h\ 09^m$, $\delta = +32°\ 35'$) have been previously published. It was placed on our programme last January on the suggestion of Professor Frost, director of the Yerkes observatory, who noted it as "probably a spectroscopic binary." Shortly afterwards he sent us the velocities of their five plates which showed a range of variation of 40 km., and its discovery as a spectroscopic binary is therefore due to the Yerkes observatory.

The approximate period of the star had been obtained when the Yerkes' results were received. This period of 3·78 days, modified to 3·789 by the Yerkes' results and additional plates of our own, suits all the observations except the first one taken at the Yerkes observatory. Professor Frost, with his usual kindness in such matters, has re-measured this plate which he states to be of good quality. The mean of their two measures, which differ very little, is still about 13 km. too positive for our curve. Allowing for a possible systematic difference of 3 km. between our observations there is still a residual of 10 km. This is larger than is natural to expect in a star of type A2, whose lines are much better than the average. A value of the period of 3·7898 days suits the Yerkes' results much better, but our own not so well, which are probably best satisfied by a period of 3·7885 days. I have, therefore, a rounded off value of 3·789 days as a compromise between these two extremes.

There is a suspicion, from the way the observations group themselves in some of the periods tested, that the spectrum of the component star is bright enough to influence the measures, causing the well known blend effect. As the range in the variation of the primary is barely over 40