

ORBIT OF THE SPECTROSCOPIC BINARY 23 CASSIOPEÆ.

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The binary character of 23 Cassiopeæ ($\alpha=0^h 41^m 1$, $\delta=+74^\circ 18'$, 1900, mag. 5.39, type BS) was announced by Adams in 1912.* Sixty-one spectrograms, taken with a one-prism spectrograph at this observatory during 1914 and 1915, have been used in determining an orbit.

The principal lines showing in the spectrum are given in Table I which gives in order:—The wave-lengths used, the elements to which the wave-lengths are assigned, the residuals, and the number of times each line was measured. The residual for any line is the mean (algebraic or arithmetic) of all the residuals for that line. The separate residuals are found by subtracting the velocity as given by the plate from the velocity as given by the line.

TABLE I.

Wave- Length.	Element	Algebraic Residual	Arithmetic Residual.	Number of times measur'd	Wave- Length	Element	Algebraic Residual	Arithmetic Residual.	Number of times measur'd
3933.825	Calcium	0.0	3.6	50	4340.634	Hydrogen	- 0.8	5.1	59
4101.890	Hydrogen	- 1.2	4.4	44	4481.400	Magnesium	+ 1.2	6.6	44
4128.211	Silicon	0.0	7.1	39	4519.766	Iron	+ 5.9	8.7	7
4131.017	Silicon	+ 0.5	5.9	39					

*Ap. J. vol. 35, 172.