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ORBIT OF THE SPECTROSCOPIC BINARY BOSS 5996

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Boss 5996 ($\alpha = 23^h\ 13^m{\cdot}7$, $\delta = +11°\ 13'$, mag. 5·90, type A) was announced as a binary by Adams in the *Publications of the Astronomical Society of the Pacific*, June, 1916. The following orbit has been computed from measures of forty spectrograms secured by the writer with a one-prism spectrograph attached to the 15-inch telescope.

Numerous metallic lines are present in the spectrum of this star, but on the plates taken here they are rather wide and diffuse, so that accurate measures of individual lines are impossible. The number of lines which can be utilized makes up for this lack to a certain extent. Table I gives the wave-lengths of all the lines measured, together with the mean residuals formed by taking the velocity as given by the plate from the velocities given by the lines. The total weight of each line is also given. The algebraic residuals can be used to correct the wave-lengths in the first column, and the arithmetic residuals give a general idea of the accidental error of setting on the lines and, indeed, if desired may be used to compute the probable error of measurement of the average plate.

The journal of observations follows in Tables II and III. The large range of the observed velocities defines the velocity curve pretty well, and the elements can be determined without any special difficulty.

TABLE I

Wave-length	Arithmetic Residual	Algebraic Residual	Weight	Wave-length	Arithmetic Resi..	Algebraic Residual	Weight
4005·602	7·0	−2·2	9	4308·085	7·8	−1·6	7
4045·874	7·9	−1·6	21	4314·661	4·0	−4·0	3
4063·702	10·9	−1·6	13	4325·818	9·3	−3·8	16
4071·612	3·9	−3·8	4	4340·634	6·4	+3·8	4
4077·632	7·8	+7·0	6	4352·001	10·5	−4·2	19
4128·214	3·2	+0·4	2	4374·974	7·7	0·0	32
4143·736	9·5	−5·8	18	4395·202	6·7	+4·6	48
4198·579	10·5	+6·6	12	4445·163	5·5	−0·7	4
4202·139	6·2	−1·0	16	4444·062	9·7	−9·7	6
4215·644	7·1	+2·7	23	4481·454	8·4	−0·4	38
4227·257	8·3	−2·3	40	4504·374	8·4	−0·2	24
4233·462	9·7	+2·5	41	4508·668	40·4	+8·8	40
4236·062	2·8	+1·4	1	4515·508	7·4	+7·4	4
4247·074	6·4	+3·9	42	4522·908	8·8	−2·5	8
4250·659	7·6	+1·3	47	4534·284	8·9	−4·0	47
4260·694	4·6	−2·8	3	4549·737	7·4	+0·7	38
4271·588	6·5	+0·3	19	4558·692	2·0	−2·0	1
4282·746	2·0	−2·0	1	4564·105	2·0	−2·0	4
290·045	5·4	+2·7	30	4572·202	8·0	−2·8	21
294·326	5·0	+5·0	4	4583·801	9·5	−2·0	14

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