# MEASURES OF RADIAL VELOCITY OF δ SERPENTIS

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(1900, $\alpha = 15^h\ 30^m{\cdot}0$, $\delta = +10°\ 53'$, mag. 4·23, type A5)

This star was announced a spectroscopic binary by Campbell, in *Lick Observatory Bulletin* No. 199, from 5 plates scattered over the years 1905 to 1911. The range of velocity from the five plates—considering the mean of the measures on each—is from −26 to − 52 km. per second.

Forty-three plates were made here with the single-prism spectrograph, mostly in the year 1913, as given in the accompanying table of measures. The spectrum is characterized by intensely strong *H* and *K* lines of calcium, moderately strong hydrogen, and faint and diffuse metallic lines. There is a 5·2 magnitude star of the same type about 3″ distant, in position angle 180°, which on nights of poor seeing is confused with the main star, but any effect its spectrum might have on the measures is negligible. Apart from one or two plates, our measures lie between − 38 and − 53 km. per sec. and it has not been possible to obtain a satisfactory period, though the curve of velocity-frequencies would verify the binary character of the star. If the better plates of our own observatory were alone considered, a curve whose period is approximately four months and a range of 15 km. might be suggested, but the Lick observations do not bear this out.

The second column of the table of lines used indicates the number of times the line was measured. The residuals are in the sense, mean minus measured. No revision of the wave-lengths has been made.

LINES USED IN δ SERPENTIS

| λ | n | Residual | | λ | n | Residual | |
|---|---|---|---|---|---|---|---|
| | | Num. | Alg. | | | Num. | Alg. |
| 4549·766 | 30 | 11·4 | + 7·4 | 4250·616 | 3 | 12·8 | + 4·6 |
| 4534·139 | 6 | 10·6 | + 8·0 | 4246·996 | 3 | 6·9 | − 6·9 |
| 4481·400 | 36 | 9·4 | − 4·1 | 4233·328 | 11 | 7·3 | − 4·6 |
| 4443·976 | 4 | 9·7 | + 9·7 | 4227·010 | 9 | 5·4 | + 1·2 |
| 4395·286 | 7 | 14·4 | +14·1 | 4198·494 | 11 | 12·4 | −11·7 |
| 4375·103 | 11 | 10·9 | + 3·5 | 4143·928 | 8 | 12·3 | + 8·5 |
| 4352·006 | 6 | 15·2 | + 2·7 | 4101·890 | 12 | 11·6 | − 0·5 |
| 4340·634 | 32 | 8·2 | − 1·1 | 4063·756 | 10 | 15·7 | + 1·6 |
| 4325·939 | 20 | 8·8 | + 2·8 | 4045·975 | 25 | 6·3 | + 2·9 |
| 4289·915 | 15 | 13·3 | −12·1 | 4005·430 | 10 | 8·7 | − 2·7 |
| 4271·760 | 11 | 9·5 | + 2·2 | 3933·825 | 1 | 11·8 | +11·8 |