

FIVE STARS HAVING VARIABLE RADIAL VELOCITIES

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The following stars have recently been shown to be spectroscopically double, in the course of the work of the D. O. Mills Expedition to the Southern Hemisphere.

ζ *Canis Majoris* ($\alpha=6^h 16^m 5; \delta=-30^\circ 2'$)

Date	Velocity	Measured by
1906 Nov. 7.....	+35 km	Paddock
	+31	Curtis
Dec. 17.....	+38	Paddock
	+35	Curtis
1907 Oct. 4.....	+11	Paddock
	+12	Curtis
Oct. 19.....	+19	Paddock
	+21	Curtis
Oct. 30.....	+22	Paddock
Nov. 7.....	+20	Paddock
Nov. 8.....	+21	Paddock
Nov. 12.....	+17	Paddock
Nov. 23.....	+26	Paddock
	+25	Curtis
Nov. 26.....	+29	Paddock
	+29	Curtis
Dec. 2.....	+32	Paddock
Dec. 4.....	+27	Paddock

This star is of type B₃A and five lines of fair quality are available for measurement. The binary character of this star was discovered by Mr. Paddock from measures of the third plate. The period is probably long.

τ *Puppis* ($\alpha=6^h 47^m 4; \delta=-50^\circ 30'$)

Date	Velocity	Measured by
1903 Nov. 15.....	+39 km	Palmer
1904 Oct. 12.....	+34.4	Palmer
Dec. 9.....	+33.0	Palmer
1905 Jan. 24.....	+33.1	Palmer
Nov. 10.....	+34	Wright
1907 Jan. 15.....	+39.7	Curtis
Jan. 19.....	+40.3	Curtis
Oct. 4.....	+36.6	Curtis
Oct. 13.....	+37.2	Curtis
Nov. 23.....	+34.0	Curtis

This star is of type K with very good lines. The variable radial velocity was discovered by Mr. Curtis from definitive measures of the sixth plate and independently discovered by Mr. Palmer from measures made at Mount Hamilton of the first four plates taken. Though the variation is small, the character of the lines is such as to leave no doubt of its reality. The period is long.

o Velorum ($\alpha=8^{\text{h}} 37^{\text{m}} 4$; $\delta=-52^{\circ} 34'$)

Date	Velocity	Measured by
1904 Feb. 4.657.....	+14 km	Palmer
	+14.3	Wright
Nov. 15.833.....	+11.1	Albrecht
1905 Jan. 31.628.....	+10.0	Palmer
Apr. 13.574.....	+11.0	Palmer
1906 Dec. 29.826.....	+16.0	Paddock
1907 Mar. 1.644.....	+19.8	Paddock
Apr. 26.510.....	+19.4	Paddock
Oct. 14.885.....	+18.6	Paddock
Nov. 1.859.....	+17.4	Paddock
	+16.7	Curtis
1908 Jan. 13.770.....	+27.0	Curtis
Feb. 10.636.....	+24.7	Curtis (II Prism)

This star is of type B₃A; it has available six lines of *C*, *H*, *He*, and *Mg* of quite fair quality. The variation in the velocity was discovered by Mr. Curtis. The period is probably long.

d Carinae ($\alpha=8^{\text{h}} 38^{\text{m}} 5$; $\delta=-59^{\circ} 24'$; Mag.=4.4)

Date	Velocity	Measured by
1907 Nov. 7.....	+72 km	Paddock
Nov. 14.....	+62	Paddock
Nov. 23.....	+53	Curtis
Nov. 25.....	+46	Curtis
Nov. 26.....	+48	Curtis
Dec. 2.....	+38	Curtis

This star is of type B₂A and has available six lines due to *C*, *H*, *He*, and *Mg*, besides a few other lines too faint to use. The variation was discovered by Mr. Paddock from the measure of the second plate. The period is probably of some length.

FIVE STARS WITH VARIABLE VELOCITIES

231

q Velorum ($\alpha=10^h 10^m 6^s$; $\delta=-41^\circ 37'$; Mag. 4.0)

Date		Velocity	Measured by
1904	Apr. 10.....	- 1 km	Curtis
1907	Jan. 26.....	+ 25	Paddock
		+ 19	Curtis
	Apr. 30.....	- 2	Paddock
		- 1	Curtis
	Nov. 29.....	+ 21	Curtis

This star is of type A₂F with very broad $H\gamma$ and two other broad lines; the measures are accordingly subject to considerable uncertainty. The variation was discovered by Mr. Paddock.

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