A T3 A spectral study of Vega: A rapidly-rotating pole-on star

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Ultra-high signal-to-noise, high dispersion spectroscopy over the wavelength range $\lambda\lambda$ 4487 - 4553 shows Vega to be a rapidly rotating star ($V_{eq} \sim 160$ km s^{-1}) seen almost pole-on. These data, analyzed anew, are combined with analyses of the hydrogen lines (Hγ, Hβ and Hα) and the latest absolute continuum flux for Vega to yield the following results: V sin $i = 21.9 \pm 0.1$ km s^{-1}, polar $T_{eff} = 9860 \pm 10$ K, polar log g $= 4.00 \pm 0.02$ dex, $V_{eq} = 160 \pm 10$ km s^{-1}, $\xi_T = 1.08 \pm 0.02$ km s^{-1} and $i = 7.9 \pm 0.5^o$. The variations in T_{eff} and log g over the photosphere total 350 K and 0.06 dex, respectively. The mean $T_{eff} = 9510 \pm 10$ K and mean log g $= 3.97 \pm 0.02$ dex agree with the spherical model values derived here and by others.