Abundances in 4 Lac (B9 Iab) and υ Cep (A2 Ia)

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I have performed using Kurucz LTE model atmospheres detailed fine analyses of the supergiants 4 Lac and υ Cep. The spectral data were obtained at 1.22-m telescope of the Dominion Astrophysical Observatory by Saul J. Adelman. The atmospheric parameters were derived using the wings of Hβ and Hγ profiles for each one star, and from Fe I/II, Fe II/III, Si II/III equilibrium for 4 Lac, and from Fe I/II, Cr I/II equilibrium for υ Cep. A microturbulence of 2.7 km s⁻¹ for 4 Lac was found from Fe II lines while a mean value of 5.2 km s⁻¹ for υ Cep from Cr II, Ti II and Fe II lines. The rotational and macroturbulent velocities are, respectively, 14 ± 2 km s⁻¹ and 15 ± 2 km s⁻¹ for 4 Lac, and 26 ± 2 km s⁻¹ and 12 ± 2 km s⁻¹ for υ Cep. Their He, CNO and light element abundances are solar or overabundant while iron peak and heavy element abundances are solar or underabundant. The derived results show that 4 Lac has newly processed matter in its photosphere while υ Cep does not.