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Elemental abundance analysis of CP stars 21 Cvn and 53 Aur I. Coadding spectrograms and T^{eff}, log g determinations

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Abstract

High-dispesrsion photographic spectrograms of the CP stars 21 CVn and 53 Aur, respectively were digitized and coadded by means of cross-correlation to obtain better S/N spectra for determination of the chemical element abundances in the atmospheres of these stars. The projected rotational velocities were derived using the halfwidths of the λ448.1 nm Mg II line being equal to 58 and 89 km/s for 53 Aur and 21 CVn respectively. The comparison of the observed and rotationally broadened theoretical Hγ and Hδ lines resulted at the values as follow: T^{eff} = 11 100 K and log g = 2.0 (SI) for 21 CVn and T^{eff} = 12 600 K and log g = 2.4 (SI) for 53 Aur.