

Chemical Stratification in the Atmosphere of the Cool Ap Star β CrB

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In this poster we present new empirical models of the vertical distributions of Mg, Si, Ca, Ti, Cr, Fe and Ba in the atmosphere of β CrB, a cool magnetic Ap star. These stratified abundance distributions are obtained by direct comparison of observed and calculated line profiles. The observational results are compared with new theoretical vertical abundance distributions, determined through a self-consistent calculation of the model atmosphere including the effects of radiative diffusion using a new version of the PHEONIX code.