D IL2 Modelling of stratified atmospheres of CP-stars

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Several observational anomalies seem to confirm the presence of abundance gradients as a function of depth in different types of chemically peculiar stars. Results emanating from the construction of model atmospheres that take into account the abundance gradients caused by radiative diffusion will be presented. The atmospheric structure, which is calculated self-consistently along with the abundance gradients, will be compared to models with homogeneous abundances. Recent improvements brought to these models will be discussed, along with intricacies of these calculations and remaining uncertainties. Several possible applications of such models will also be presented.