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In the last years a variety of improvements of existing standards were developed within and around the AMS group at the Institute for Astronomy at the University of Vienna. Individual elemental abundance patterns in stellar atmospheres (Piskunov and Kupka) and even stratification as an observed parameter (Shuliak et al.) can be taken into account in our models, as well as a variety of convection models.

Recently a formalism for solving the open set of non-local hydrodynamic moment equations has been developed by Kupka and Montgomery. Tests on numerical simulations and selected features in stellar spectra have shown the applicability of this RSM model. Once these stand alone tools are combined in a model atmosphere code, we get a powerful and efficient instrument which will improve research such as abundance analysis, doppler-imaging or pulsation models and allows us to investigate and, as we believe, answer some most interesting questions.
