

Seminar

von

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Abundance Determination in Cool Giants

Due to a rich nucleosynthesis in their central regions and deep convective mixing dredging the processed material up, Asymptotic Giant Branch stars are relevant contributors to the chemical evolution of galaxies. Thus, it was always considered an important issue to determine the elemental abundances in their atmospheres.

We discuss some of the major problems when using high or medium resolution spectroscopy to obtain stellar parameters and chemical abundances of AGB stars. We start with the uncertainty of opacities affecting certain atomic or molecular lines or features as well as the quasi-continuous absorption of molecules and dust. Then we continue with issues concerning the atmospheric models. It is shown that classical hydrostatic 1-D models may be used for some of the warmer AGB stars with weak pulsation, while mass-loss and atmospheric shocks as well as the dust absorption must be addressed for the cooler objects, where also deviations from spherical symmetry and chemical equilibrium may appear.

Keeping the preceding discussion in mind, we will comment on possible errors of published data like C/O ratios.

Montag, 09. Oktober 2017, um 15:00 Uhr im HS

des Institutes für Astrophysik, Türkenschanzstraße 17, 1180 Wien