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3D non-LTE chemical abundance measurements for CEMP stars

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Stellar abundance measurements are heavily model dependent, and for late-type stars, the accuracy is often limited by the use of one-dimensional (1D) hydrostatic model atmospheres and the assumption of local thermodynamic equilibrium (LTE). Systematic errors imparted by the use of 1D LTE modelling tend to grow towards lower metallicities, and are thus especially significant for CEMP stars. Recently it has become feasible to relax both assumptions simultaneously, by carrying out detailed 3D non-LTE radiative transfer post-processing of 3D hydrodynamic model stellar atmospheres. In this talk I shall present our new grids of 3D non-LTE abundance corrections, and the results of their application to CEMP stars.

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