## Multiconfigurational perturbation theory with separately scaled energy terms

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Wavefunctions composed of many determinants are important in several chemical problems, like bond fissure or molecules in electronic excited states. A widely applied method in quantum chemistry to obtain such functions is multireference perturbation theory. Various strategies were presented to determine the partitions and reference wave functions in the framework of multiconfigurational perturbation theory (MCPT) [J. Chem. Phys. **122**, 114104 (2005)].

To improve the second order Moller-Plesset perturbation theory a special scaling philosophy was introduced by Grimme [J. Chem. Phys. **118**, 9095 (2003)] in the single-reference formalism. This scaling is based on the systematic separation of the different contributions of doubly excited states. It was shown [J. Chem. Phys **125**, 214105 (2006)] that Grimme's procedure can be interpreted as a two-parameter version of a scaling previously proposed by Feenberg.

In this work scaling methods are investigated within MCPT, following the ideas of Feenberg and Grimme. Pilot applications on small model systems are presented.