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GASTVORTRAG

Das Institut für Mathematik lädt zu folgendem Vortrag ein:

Harald Hofstätter

Technische Universität Wien

Time propagators for Schrödinger-type equations with expensive-to-evaluate nonlinear part

We give an overview of numerical time integration methods for time-dependent nonlinear equations of Schrödinger type, where the linear operator A is built up from (discretized versions of) Laplacians, and the nonlinear time-dependent operator B is well-behaved but expensive to evaluate. As an example we consider the equations appearing in the context of multi-configuration time-dependent Hartree-Fock (MCTDHF) calculations. We compare a number of established approaches, comprising splitting methods, composition methods, exponential Runge-Kutta methods, and exponential multistep methods. It is found that exponential predictor-corrector multi-step methods of Lawson type are particularly attractive in terms of accuracy, stability, and computational effort.

Zeit: **Montag, den 24. Juli 2017 um 16:00 Uhr**

Ort: **Bauing.-Gebäude, Technikerstraße 13, HSB 1**

Gäste sind herzlich willkommen!

Mechthild Thalhammer