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Titel des Beitrags:

Performance evaluation of numerical methods for the Maxwell–Liouville–von Neumann equations

Abstract:

The Maxwell–Liouville–von Neumann (MLN) equations are a valuable tool in nonlinear optics in general and to model quantum cascade lasers in particular. Several numerical methods to solve these equations with different accuracy and computational complexity have been proposed in related literature. We present an open-source framework for solving the MLN equations and parallel implementations of three numerical methods using OpenMP. The performance measurements demonstrate the efficiency of the parallelization.

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