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Open Source TEBD: software for entangled quantum many-body dynamics MICHAEL WALL, LINCOLN CARR, Colorado School of Mines — Matrix product state (MPS) based methods have proven in recent years to be the most efficient means of studying strongly correlated one dimensional systems. Among these methods is time-evolving block decimation (TEBD), which allows for studies of entangled quantum many-body dynamics in situations that may be far from equilibrium. Open Source TEBD is an open source effort which aims at making this algorithm available to a wider audience. In this talk I will discuss the conceptual and theoretical background of TEBD and MPS based methods in general, demonstrate the capabilities of the software package, and discuss future prospects for the open source effort.

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