Title:	Density Matrix Renormalization Group
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Abstract:	The dimension of the Hilbert space of many-body quantum system increases expo- nentially with the number of particles. When there is the possibility of having the variable number of particles at each position, then the dimension of Hilbert space increases exponentially with the number of possible position a particle can acquire, called as the site. Due to this reason, the exact diagonalization simulation of systems in condensed matter physics is impossible for a large size system. For most of the system in condensed matter physics, the analytical solution does not exist. Hence, one must find a way to simulate these many-body interacting system. Here we discuss a numerical algorithm which is designed to solve the many-body quantum system with excellent accuracy. In this article, we will discuss the algorithm as well as a result obtained by the algorithm for one-dimensional Tight-binding model and one dimensional Heisenberg chain.
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