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Title: Real-time calculations of many-body dynamics in quantum systems

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I present real-time calculation of quantum mechanical problems to discuss its advantages/disadvantages over the conventional time-independent approaches. Especially, the time-dependent approach is suitable for description of the quantum systems with a complex scattering boundary condition. The method automatically takes care of the boundary condition. In this presentation, I present the applications mostly to nuclei, but may include those to molecules, and condensed matter as well.