

Abstract Submitted
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Quantum Dynamics of Many-Body Systems using Bohmian Trajectories TAREK ELSAYED, KLAUS MOELMER, LARS BOJER MADSEN, Aarhus University — Several attempts have been made to utilize the Bohmian trajectories as a computational tool to tame the many-body problem in quantum dynamics of large systems. In this work, we develop a new method based on the notion of conditional wavefunctions to solve the time-dependent Schrodinger equation with the help of Bohmian trajectories. This method is used to study the breathing dynamics in a system of bosons. The precision of our method is compared with the Multiconfigurational Time-Dependent Hartree method for Bosons (MCTDHB).

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