Variational dynamics of continuous-variable quantum rotor models

Monday 18 November 2024 14:00 (45 minutes)

Time-dependent variational Monte Carlo (t-VMC) has emerged as a powerful method of simulating real-time dynamics of correlated quantum systems in the recent years. With wider adoption of variational states based on neural networks, these methods have started to reach experimentally relevant time scales. However, despite rapid progress and growing interest, the t-VMC method is still relatively difficult to control and implement in high-parameter regimes of interest. After introducing the method, in this talk I will outline open problems in the field on a specific example of the quantum rotor model where the method has been successfully applied to a problem with continuous degrees of freedom.

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