

Abstract Submitted
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Fidelity susceptibility and quantum phase transitions¹ SHI-JIAN GU, Department of Physics, The Chinese University of Hong Kong — In this talk, I will introduce the quantum fidelity approach to quantum phase transitions based on its leading term, i.e. the fidelity susceptibility. The fidelity susceptibility denotes the adiabatic leading response of the ground state to the driving parameter. Differ from traditionally approach based on the ground-state energy, the fidelity susceptibility shows distinct scaling and singular behaviours around the critical point. I will present also the ground-state fidelity approach to both Landau's phase transition and topological phase transition, as illustrated by the Lipkin-Meshkov-Glick model and the Kitaev honeycomb model, respectively.

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