



Physical Sciences Seminar

Dynamical quantum phase transitions in U(1) quantum link models

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Quantum link models are extensions of Wilson-type lattice gauge theories which realize exact gauge invariance with finite-dimensional Hilbert spaces. Quantum link models not only reproduce the standard features of Wilson's lattice gauge theories, but also host new phenomena such as crystalline confined phases. We study the non-equilibrium quench dynamics for two representative cases, U(1) quantum link models in (1+1)d and (2+1)d, through the lens of dynamical quantum phase transitions. Finally, we discuss the connection to the high-energy perspective and the experimental feasibility to observe the discussed phenomena in recent quantum simulator settings such as trapped ions, ultra-cold atoms, and Rydberg atoms.

Tuesday, February 26, 2019 11:00am - 12:00pm

Mondi Seminar Room 2, Central Building



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