Croucher Summer Course
"Quantum Entanglement and Topological Order"

June 19 – 23, 2017

Department of Physics, The Chinese University of Hong Kong

In the past ten years, the development of quantum information theory has provided us with many useful tools and languages to probe the nature of topological phases of quantum matter. Recently, very important progress has been made toward building up a paradigm for topological phases and phase transitions using the concept of "quantum entanglement". This series of Croucher Summer Course is designed to introduce both the fundamental knowledges and advanced topics in the current frontier of quantum entanglement of topological order to a small group of talent postgraduate students and junior research fellows. Content of the first course, which will be held from June 19-23, 2017, includes tensor category theory, quantum entanglement, topological insulator and topological superconductors in interacting systems, symmetry protected topological phases in interacting systems, quantum geometry and related topics.

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