

Joint Seminar – CQSE, CTP, & CASTS

2019
Sep. 20, Friday

TIME Sep. 20, 2019, **15:30~16:30pm**
TITLE Quantum Correlations in Quantum Information and Computation
SPEAKER Dr. C. Jebarathinam
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Understanding correlations in nature is of fundamental importance. Quantum theory admits correlations that are impossible to observe classically. Such non-classical correlations in states of composite systems classified as non-locality, steering, entanglement and general quantum correlations. All of these forms of non-classical correlations can enable classically impossible tasks. This provides motivation to characterize these different forms of quantum correlations as resource for quantum technologies. In this talk, I will give introduction to the different forms of quantum correlations and briefly discuss their usefulness in the context of quantum information theory.

The investigation of synchronization in quantum networks with minimal unit size can be useful in the quantum computing field. In this talk, I will discuss the relation between quantum synchronization and the generation of entanglement in a two-node network built out of the spin-1 self-sustained oscillator.

