

Joint CQSE & CASTS Seminar

「May 29, 2020 (Friday)」

- Time : 14:30~15:30
- Place : Rm716, New Physics Building
- Speaker: **Prof. Chung-Hsien Chou 周忠憲**
Dept. of Physics, NCKU
國立成功大學物理學系
- Title : **Entangling Capacities and the Geometry of Quantum Operations**

▲ Open for members of National Taiwan University

▲ Please wearing a mask whenever social distancing is impractical.
Social distance: 1.5m indoors.

**Sponsored by Center for Quantum Science and Engineering (CQSE) 量子科學與工程研究中心
and Center for Advanced Study in Theoretical Sciences (CASTS) 理論科學高等研究中心, NTU

Joint CQSE and CASTS Seminar

2020
May 29, Friday

TIME May 29, 2020, 2:30~3:30pm
TITLE Entangling Capacities and the Geometry of Quantum Operations
SPEAKER Prof. Chung-Hsien Chou
(Dept. of Physics, National Cheng Kung University)
PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Quantum entanglement is the characteristic trait of quantum mechanics and is a useful resource for quantum information processing. How much entanglement can be generated by a quantum operation, namely entangling capacities, becomes an important issue. In this talk, I will first discuss the existence and exact value of the supremum of logarithmic negativity (and negativity likewise) between any two blocks for a system composed of permutationally symmetric Gaussian modes. I will then introduce the relation between entangling capacities of operations, geometry of operations, and positive partial transposition (PPT) states, which are an important class of states in quantum information. A length that quantifies both entangling capacity/entanglement and PPT-ness of an operation or state can be defined, establishing a geometry characterized by PPT-ness. The distance derived from the length bounds the relative entangling capability, endowing the geometry with more physical significance.

- ▲防疫期間僅限本校人員參與 Open for members of National Taiwan University.
- ▲拒絕有發燒或呼吸道症狀者入場 Individuals with fever or respiratory symptoms are prohibited from participating in the event.
- ▲無法保持社交距離時 (室內 1.5 公尺) 請戴口罩 Please wearing a mask whenever social distancing (1.5m indoors) is impractical.
- ▲場地備有酒精供雙手消毒使用 We provide alcohol sanitizer to keep your hands clean.

