

Joint CQSE and CASTS Seminar

2018
Dec. 28, Friday

TIME Dec. 28, 2018, 14:30 ~ 15:30
TITLE Integrated Quantum Photonic Sources
SPEAKER Prof. Yen-Hung Chen
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Quantum science and technology has fast advanced and been an emerging and highly attractive field of modern physics, opening up many exciting applications such as quantum computing, quantum cryptography, quantum metrology, quantum teleportation, quantum sensing etc. The development of efficient entangled photon sources as well as powerful quantum photonic devices and circuits for manipulating and processing the generated photons has been in great demand in the realization of a compact and practical quantum system. In this talk, I will first introduce a variety of quantum photonic sources and then focus the topic on integrated quantum photonic sources in especially the lithium niobate (LiNbO₃) platform. LiNbO₃, renowned as “the silicon of photonics”, has been long a popular (and perhaps the most important) material for integrated-optical and nonlinear-optical applications, becoming a promising platform for building efficient integrated quantum photonic sources and circuits/devices. Several such interesting quantum photonic schemes developed in our group will be presented. Finally, some ideas of realizing fully integrated quantum photonic sources in LiNbO₃ platform will be discussed.

