Joint CQSE and CASTS Seminar

2021 February 26, Friday

TIME Feb. 26, 2021, 2:30~3:30pm

TITLE Applications of narrowband entangled photons in

entanglement purification and photon-surface-plasmon

coupling

SPEAKER Prof. Chuu Chih-Sung

Department of Physics, National Tsing Hua University

PLACE Rm833, CCMS & New Physics Building, NTU

Abstract:

Entangled photons lie at the heart of photonic quantum technologies, whose optimal performances are normally reached when the purity of entangled photons is high. However, the dissipation and decoherence always lead to the degradation of the entangled-photon quality. On the other hand, the interplay of nonclassical light and surface plasmons has attracted considerable attention due to fundamental interests and potential applications. To gain more insight into the quantum nature of the photon–surface-plasmon coupling, the time-resolved detection and manipulation of the interaction is necessary. In this talk, I will talk about our recent works on the entanglement purification and time-resolved detection of photon-surface-plasmon coupling using narrowband entangled photons.

Biography Brief:

Chih-Sung Chuu is currently an Associate Professor of physics at National Tsing Hua University and Center for Quantum Technologies, where he leads the Quantum Photonics Laboratory. His interests and expertise concern experimental quantum optics and quantum engineering, including the generation and applications of single and entangled photons, and the manipulation of the light–matter interaction at the single-photon level.



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