Joint CQSE and CASTS Seminar

2019
Mar. 29, Friday

TIME Mar. 29, 2019, 14:30 ~ 15:30
TITLE How much information can a single photon carry?
SPEAKER Prof. Li-Yi Hsu
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

In this talk, we consider the following communication task. Alice and Bob each are given a set of input variables of n-bit bit strings. They want to exchange input information without classical communication. By exploiting a photon's coherent superposition for "two-way signaling" in Mark-Zehnder interferometers, the total information gain can be as large as (n+1) bits. This result indicates that the "depth/level" of local operations with signaling resource can be equivalent to the amount of classical communication with non-signaling resource.