

# Joint CQSE and CASTS Seminar

Weekly Seminar  
Oct. 31, 2014 (Friday)

TIME Oct. 31, 14:30 ~ 15:30  
TITLE Temporal steering inequality  
SPEAKER Prof. Yueh-Nan Chen  
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## Abstract

Quantum steering is the ability to remotely prepare different quantum states by using entangled pairs as a resource. Very recently, the concept of steering has been quantified with the use of inequalities, leading to substantial applications in quantum information and communication science. We highlight that there exists a natural temporal analog of the steering inequality when considering measurements on a single object at different times. We give nontrivial operational meaning to violations of this temporal inequality by showing that it is connected to the security bound in the Bennett-Brassard 1984 protocol and thus may have applications in quantum communication.

