



## OPEN TALK ANNOUNCEMENT

**26 August 2015**

**4:00 pm**

**Fermion**

Speaker:

**Dr. Tanumoy Pramanik**

*(VASP Short Term Visitor to Prof. Archan S. Majumdar)*

Affiliation:

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Title:

**Theoretical and Experimental Study of Quantum Steering**

Abstract:

Quantum steering is a kind of quantum correlation which can not be explained by local hidden state model (LHS). Absence of LSH model of a quantum system, say B, indicates that the uncertainty relation for the system B will be violated with the help of its steerable part. But, these feature does not captured properly using coarse-grained uncertainty relations, e.g., Heisenberg uncertainty relation, entropic uncertainty relation. We have formulated fine-grained steering inequality for both discrete variable and continuous variable systems and overcome the limitation in coarse-grained steering inequalities. Monogamous nature of our steering inequality gives lower bound of secret key rate in one sided device independent way under individual attack. We also justify our work experimentally.

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