



OPEN TALK ANNOUNCEMENT

12 February 2014 4.00 p.m. Fermion

Speaker:

Dr. Manabendra Nath Bera

*(VASP Short Term Visitor to Prof. Archan Subhra Majumdar,
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Affiliation:

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Title:

Uncertainty and Speed of Evolution in Presence of Quantum Correlation

Abstract:

We will introduce a connection between the geometric quantum uncertainty and the speed of quantum evolution on one hand and quantum correlation present in the system on the other. In particular, it will be shown that the time-energy uncertainty relation is bounded below by the geometric measure of multipartite entanglement for an arbitrary quantum evolution of any multipartite system. By analyzing the speed of quantum evolution, we will show that the speed due to local quantum operation of the same system is bounded below by the quantum discords, a quantum correlation measure. The relations are demonstrated for pure as well as for mixed quantum states. We provide examples of physical systems for which the bounds reach close to saturation.
