

The famous EPR paradox and the response to it by Schrodinger led to the realization that correlations between distant parties plays a fundamental role in the foundations of quantum theory. Subsequently, the work of Bell provided a quantitative framework for studying such correlations as distinct from those that appear in classical physics.

At present, it is understood that quantum entanglement provides the basic building block for such nonlocal correlations which can be further classified into different types based on their strength, viz., Bell-nonlocal correlations, quantum steering, etc. In the present talk we address the question as to whether the nonlocality of an entangled pair of particles can be shared among multiple observers on one side who act sequentially and independently of each other. Considering a pair of spin-1/2 particles, we first show that the optimality condition for the trade-off between information gain and disturbance emerges naturally in a quantum measurement when one employs a one-parameter class of positive operator valued measures (POVMs). Using this formalism we then prove analytically that it is impossible to obtain violation of the Bell-CHSH inequality by more than two Bobs in one of the two wings with an Alice in the other wing. We next consider the steering scenario for two-qubits with two measurement settings for each observer. We show that the analogue steering inequality can be violated for an Alice and at most two Bobs on the other side. Finally, we consider the nonlocal advantage of quantum coherence (NAQC), and show that the NAQC correlations can also be shared by a maximum of two Bobs with Alice on the other side.