
Contribution ID: **185** Type: **not specified**

# Quantum teleportation in a two-qubit quantum system in the presence of intrinsic decoherence

*Monday, 18 November 2024 15:15 (15 minutes)*

In order to implement the process of quantum teleportation, we evaluate quantum information resources through local quantum uncertainty, local quantum Fisher information, and quantum entanglement, as measured by the concurrence of the teleported output state. One of the main challenges of this work lies in the ability to create and analyze local non-classical correlations between the proposed open system and its surrounding environment. Moreover, the considered quantum state will be used as a maximally entangled mixed state as the quantum channel in the process of quantum teleportation. In light of this, we will investigate the impact of intrinsic decoherence on the quantum teleportation protocol. Finally, we assess the fidelity of the process to demonstrate the reliability of transmitting the unknown state.

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**Session Classification:** AfPS Contribution

**Track Classification:** AfPS