

Topic for Journal Club: Experimental Quantum Teleportation

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Reference: Experimental quantum teleportation, Dik Bouwmeester, Jian-Wei Pan,
NATURE, 390, DECEMBER 1997

[Abstract]: In this talk, I will introduce the concept of Quantum Teleportation—the transmission and reconstruction over arbitrary distances of the state of a quantum system, and why we need an EPR pair to realize it in the microscopic world. Also I will cover the experimental setup in this talk: an initial photon which carries the polarization that is to be transferred and one of a pair of entangled (non-local correlated) photons are subjected to a measurement such that the second photon of the entangled pair acquires the polarization of the initial photon. This latter photon can be arbitrarily far away from the initial one.