

Abstract Submitted
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Exploiting the Quantum Zeno Effect to Beat Photon Loss in Linear Optical Quantum Information Processors JONATHAN DOWLING, Louisiana State University — We devise a new technique to enhance transmission of quantum information through linear optical quantum information processors. The idea is based on applying the Quantum Zeno effect to the process of photon absorption. By frequently monitoring the presence of the photon through a QND (quantum non-demolition) measurement the absorption is suppressed. Quantum information is encoded in the polarization degrees of freedom and is therefore not affected by the measurement. Some implementations of the QND measurement are proposed.

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