## Abstract Submitted for the DAMOP16 Meeting of The American Physical Society

Robust quantum state transfer with suppressed parametric noise MENGZHEN ZHANG, CHANGLING ZOU, LIANG JIANG, Yale Univ — For opto-electro-mechanical transducers, there are undesirable parametric processes that introduce parametric noise, which will limit the fidelity of the transferred quantum state <sup>1</sup>. To overcome this imperfection, we propose a quantum state transfer scheme with squeezed input states and measurement dependent compensation to eliminate the parametric noise from the quantum state transfer. Besides parametric noise, we also investigate the sensitivity of our scheme to thermal noise, signal frequency detuning and imperfect impedance matching, and show a good quantum state fidelity and applicability to quantum state transfer.

<sup>1</sup>R. W. Andrews, R. W. Peterson, T. P. Purdy, K. Cicak, R. W. Simmonds, C. A. Regal K. W. Lehnert, Nature Physics **10**, 321-326 (2014)

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Date submitted: 29 Jan 2016 Electronic form version 1.4