Amplification by state comparison

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Current techniques in super optimal quantum amplification either suffer from the requirement of single photons or can sometimes produce states with low fidelity with the desired output. The success probabilities of the devices are also very low. We introduce a method for quantum optical amplification, which overcomes these problems. It is a non-deterministic method, based on the interaction of a limited set of coherent states at a beam splitter followed by a photon subtraction.