

Quantum Physics

Entanglement enhanced bit rate over multiple uses of a lossy bosonic channel with memory

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(Submitted on 30 Jan 2009)

We present a study of the achievable rates for classical information transmission via a lossy bosonic channel with memory, using homodyne detection. A comparison with the memoryless case shows that the presence of memory enhances the bit rate if information is encoded in collective states, i.e. states which are entangled over different uses of the channel.

Comments: 3 figures, comments are welcome

Subjects: **Quantum Physics (quant-ph)**Cite as: **arXiv:0901.4966v1 [quant-ph]**

Submission history

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