

## Quantum Physics

# Broadcast copies reveal the quantumness of correlations

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(Submitted on 9 Jan 2009 (v1), last revised 16 Jul 2009 (this version, v2))

We study the quantumness of bipartite correlations by proposing a quantity that combines a measure of total correlations -- mutual information -- with the notion of broadcast copies -- i.e., generally nonfactorized copies -- of bipartite states. By analyzing how our quantity increases with the number of broadcast copies, we are able to classify classical, separable, and entangled states. This motivates the definition of the broadcast regularization of mutual information, the asymptotic minimal mutual information per broadcast copy, which we show to have many properties of an entanglement measure.

Comments: 1 figure, 5 pages, more similar to the published version

Subjects: **Quantum Physics (quant-ph)**

Journal reference: Phys. Rev. Lett. 102, 250503 (2009)

DOI: [10.1103/PhysRevLett.102.250503](https://doi.org/10.1103/PhysRevLett.102.250503)

Cite as: [arXiv:0901.1280v2](https://arxiv.org/abs/0901.1280v2) [quant-ph]

## Submission history

From: Marco Piani [[view email](#)]

[v1] Fri, 9 Jan 2009 17:28:53 GMT (39kb)

[v2] Thu, 16 Jul 2009 21:05:02 GMT (36kb)

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