

Abstract Submitted
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Multiply constrained bounds on measures of entanglement¹ ANIL SHAJI, The University of New Mexico — We place bounds on non-operational measures of entanglement using multiple operational measures as constraints. Non-operational measures like the entanglement of formation, tangle and concurrence are physically significant, but they do not admit efficient procedures for computing because computing them involves finding optimal pure state decompositions for mixed states. On the other hand, there are operational measures of entanglement that can be computed relatively easily for arbitrary states. Bounding non-operational measures using a single operational measure as constraint has previously been done. We generalize this method to more than one constraint. We work out examples in which bounds are obtained for the entanglement of formation, tangle and concurrence of a family of states using the operational entanglement measures constructed from two positive, but not completely positive maps as constraints. The two maps are the partial transpose map and the Φ -map introduced by Breuer [H-P. Breuer, e-print, quant-ph/0605036].

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