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Numerical estimation of the relative entropy of entanglement in Quantum Information Theory

We propose a practical algorithm for the calculation of the relative entropy of entanglement (REE), defined as the minimum relative entropy between a state and the set of states with positive partial transpose. Our algorithm is based on a practical semi-definite cutting plane approach. In low dimensions the implementation of the algorithm in MATLAB provides an estimation for the REE with an absolute error smaller than 1e-3.