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## Computing the maximum violation of a Bell inequality is an NP-problem

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### Abstract

The number of steps required in order to maximize a Bell inequality for arbitrary number of qubits is shown to grow exponentially with the number of parties involved. The proof that the optimization of such correlation measure is an NP-problem based on an operational perspective involving a Turing machine, which follows a general algorithm. The implications for the computability of the so-called nonlocality for any number of qubits is similar to recent results involving entanglement or similar quantum correlation-based measures.

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