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【542】 Entanglement detection in NISQ devices

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I will discuss the recent proposal of a set of experimentally accessible conditions for detecting entanglement in mixed states based on comparing moments of the partially transposed density operator. The union of all inequalities reproduces the Peres-Horodecki criterion. Exploiting symmetries can help to further improve their detection capabilities and the estimation of the inequalities is based on local random measurements in single-copy experiments. We show how to include the experimentally relevant situation of non-identical (but independent) copies (drifts) in the analysis and derive error bounds and confidence intervals as a function of the number of performed measurements.

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