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Title:	Entanglement detection in triangle-free quantum states.
Authors:	Singh, Satvik (/jspui/browse?type=author&value=Singh%2C+Satvik)
Keywords:	Quantum entanglement
Issue Date:	2021
Publisher:	American Physical Society
Citation:	Physical Review A, 103(3).
Abstract:	We present an alternative approach to unveil a different kind of entanglement in bipartite quantum states whose diagonal zero patterns in suitable matrix representations admit a nice description in terms of triangle-free graphs. Upon application of a local averaging operation, the separability of such states transforms into a simple matrix positivity condition, the violation of which implies the presence of entanglement. We completely characterize the class of triangle-free graphs, which allows for nontrivial entanglement detection using the above test. Moreover, we develop a recipe to construct a plethora of unique classes of positive partial transpose (PPT) entangled states in arbitrary dimensions. Finally, we link the task of entanglement detection in general states to the well-known graph-theoretic problem of finding triangle-free-induced subgraphs in a given graph.
Description:	Only IISER Mohali authors are available in the record.
URI:	https://doi.org/10.1103/PhysRevA.103.032436 (https://doi.org/10.1103/PhysRevA.103.032436) http://hdl.handle.net/123456789/5197 (http://hdl.handle.net/123456789/5197)
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