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Lower bound on entanglement in subspaces defined by Young diagrams

Eigenvalues of 1-particle reduced density matrices of N-fermion states are upper bounded by $1/N$, resulting in a lower bound on entanglement entropy. In this talk, I discuss the optimal eigenvalue bound for all other subspaces defined by Young diagrams in the Schur–Weyl decomposition of $\otimes^N \mathbb{C}^d$ [1]. I also mention the numerical algorithm that facilitated the search for a proof [2].

[1] Lower bound on entanglement in subspaces defined by Young diagrams, arXiv (from 2 May)

[2] An algorithm to explore entanglement, arXiv:1711.07943