PAPER

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To cite this article: Ilan Tzitrin *et al* 2020 *J. Phys. A: Math. Theor.* **53** 095304

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$|\psi$, □ $\mathbb{1}$, so V U^T shares the unitarity of U. Unitarity for V, on the other hand, requ0res $V^\dagger V$ $\mathbb{1}$ for all V U^T -1

By convention is a $d_A \times d_B$ diagonal matrix with the Schmidt coefficients σ_i listed in decreasing order.

If $|\psi_{AB}$ is fully entangled, then, by definition, its Schmidt rank is maximal, viz. rank d_A. This implies that there exists a right inverse $^{-1}_{R}$ such that

In this language, the Reeh Schlieder theorem says that the vacuum state of a QFT on Minkowski spacetime is cyclic and separating with respect to any local algebra A_V of eld operators supported in an open neighbourhood V

that any local operation on A

This is the condition that the set

The von Neumann operator trace inequality tells us that $|\mathrm{Tr}\ \ X\ | \leqslant \mathrm{Tr}\,|X|$, and $|V\ \ U^*\ |\ \ \ |\ U^*\ |$ is independent of V

for unitaries U and states $|\psi$ whose Schmidt matrices are not necessarily full rank. Arranging the bases such that the nonzero Schmidt coef cients are in the rst $r \times r$ blocks of their corresponding

$$\int \mathrm{d}U\, |U_{11}| = \frac{\sqrt{\pi}\,\Gamma(d)}{2\,\Gamma\left(d+\frac{1}{2}\right)} = \frac{2^{2d-2}}{2d-1}\binom{2d-2}{d-1}^{-1}. \tag{B.12}$$

If we try to deviate slightly from a separable state, with $\mathrm{diag}\left(1-\epsilon, \epsilon, 0, \cdots\right)$

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