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Quasiparticle statistics from the ground state wave function[1] JULIA WILDEBOER, Department of Physics, University of Kentucky — A topologically ordered phase is a gapped state that can be characterized by the topological entanglement entropy (TEE) γ and by the properties of its excitations when moved around one another. The literatures contains two approaches to extract γ from the computable ground-state entanglement entropy S, the Levin-Wen construction and the Kitaev-Preskill construction, in 2D. Both approaches can be modified so that they are usable to obtain the modular $\mathcal{S}$- and $\mathcal{U}$-matrices that encode the quasiparticle properties. We compare the two approaches and comment on the issue of corner contributions using the Kalmeyer-Laughlin state as an example.

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