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Universal edge information from wavefunction deformation WEN WEI HO[1], Department of Theoretical Physics, University of Geneva, LUKASZ CINCIO, HEIDAR MORADI, GUIFRE VIDAL, Perimeter Inst for Theo Phys — It is well known that the bulk physics of a topological phase constrains its possible edge physics through the bulk-edge correspondence. Therefore, the different types of edge theories that a topological phase can host is a universal piece of data which can be used to characterize topological order. Here, we argue that beginning from only the fixed point wavefunction (FPW) of a nonchiral topological phase and by locally deforming it, all possible edge theories can be extracted from its entanglement Hamiltonian (EH). We illustrate our claim by deforming the FPW of the Wen-plaquette model, the quantum double of Z_2. We show that the possible EHs of the deformed FPWs reflect the known possible types of edge theories, which are generically gapped, but gapless if translational symmetry is preserved. We stress that our results do not require an underlying Hamiltonian – thus, this lends support to the notion that a topological phase is indeed characterized by only a set of quantum states and can be studied through its FPWs.

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