# Emergent topology of insulators

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Many insulators can be studied via finite matrix models. The joint Clifford spectrum, found using a non-commutative Dirac operator, is often an interesting hypersurface. Proving this uses one of ten KO or KU indices of finite-volume systems. Ongoing work with Schulz-Baldes compares these indices map to older indices for infinite volume systems. The mathematics here is closely recent to work on emergent geometry in string theory.