

Abstract Submitted
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Topological Characterization of Time Reversal Invariant Systems

RAHUL ROY, University of Illinois at Urbana Champaign — We study Z_2 invariants for time reversal invariant systems in two and dimensions and discuss in particular the novel fourth Z_2 invariant in three dimensions. We present heuristic as well as rigorous arguments justifying the invariance of the Z_2 topological numbers and discuss the consequences of the formulation in terms of the Chern numbers to the surface state spectrum. We also present and discuss models in which the various 3d topological phases can be seen.

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