

Abstract Submitted
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The Role of Space Group Symmetries in Many Body Interacting Systems RAHUL ROY, University of California, Los Angeles — The constraints placed by space group symmetries in two and three dimensions on the ground state degeneracies of a many body interacting system in the thermodynamic limit are studied. It is shown that the number of such degenerate ground states have a lower bound which depends on the details of the space group. These results may be seen as a generalization of some free fermionic band touching theorems to interacting systems and also provide guidance for the search for topological phases in interacting systems.

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