

Ewert, Eske Ellen; Meyer, Ralf

Coarse geometry and topological phases. (English) Zbl 07041901
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Summary: We propose the Roe C^* -algebra from coarse geometry as a model for topological phases of disordered materials. We explain the robustness of this C^* -algebra and formulate the bulk-edge correspondence in this framework. We describe the map from the K-theory of the group C^* -algebra of \mathbb{Z}^d to the K-theory of the Roe C^* -algebra, both for real and complex K-theory.

MSC:

46L80 *K*-theory and operator algebras (including cyclic theory)
82D30 Statistical mechanical studies of random media, disordered materials (including liquid crystals and spin glasses)

Cited in **2** Reviews

Full Text: [DOI](#)

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