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T-duality simplifies bulk-boundary correspondence: the noncommutative case. (English)

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The authors of this interesting paper use the ideas of the K -theory of C^* -algebras in the context of the higher-dimensional Hall effect. In particular, they show that the Connes-Thom isomorphisms are related to the so-called bulk-boundary correspondence arising in physics. The paper contains other examples of an interplay between noncommutative geometry and physics.

Reviewer: Igor V. Nikolaev (New York)

MSC:

- 58B34 Noncommutative geometry (à la Connes)
- 46L80 K -theory and operator algebras (including cyclic theory)
- 53D22 Canonical transformations in symplectic and contact geometry
- 81V70 Many-body theory; quantum Hall effect
- 46L85 Noncommutative topology

Cited in 6 Documents

Keywords:

T-duality; topological insulators; quantum Hall effect; defects; bulk-boundary correspondence; disorder; magnetic fields; H-flux; Connes-Thom isomorphism; Hall effect

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