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Higher twisted K -theory via strongly self-absorbing C^* -algebras

Abstract

Twisted K -Theory is most elegantly expressed in terms of non-commutative geometry as K -Theory of section algebras of locally trivial bundles of compact operators. However, from the point of view of homotopy theory, this setup just captures a small portion of the possible twists. I would like to report on joint work with Marius Dadarlat, in which we generalise the classical theory to a C^* -algebraic model, which captures all possible twists of K -Theory as predicted by stable homotopy theory. It is based on strongly self-absorbing C^* -algebras, which play a fundamental role in Elliott's classification program.