

1147-19-116

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Calculating indices by module multiplication.

The K -theory of Connes' foliation C^* -algebra is usually considered to be the K -theory of the leaf space of a foliation. Unfortunately and in contrast to K -theory of topological spaces, it is not a ring.

To compensate for this lack of ring structure, John Roe proposed a new model for the K -theory of the leaf space based on coarse geometry of foliated cones and conjectured that it is a ring and that Connes' model is a module over this ring.

In this talk, I present a modification of Roe's construction under which his conjectures turn out to be true and I show how the module multiplication can be used to calculate indices of certain twisted longitudinally elliptic operators. (Received December 23, 2018)