

G-kernels of Kirchberg algebras

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A G -kernel is a group homomorphism from a group G into the outer automorphism group of a C^* -algebra. In contrast to the case of injective von Neumann algebras where the classification theory of G -kernels is well-established, almost nothing had been known in the C^* -algebra case until Evington-Girón Pacheco recently showed that the third cohomology obstruction of a G -kernel always vanishes for the Jiang-Su algebra.

We introduce a new K -theoretical invariant for G -kernels of C^* -algebras, and discuss a classification problem of G -kernels in the case of Kirchbergs.