

CUNTZ SEMIGROUPS OF C*-ALGEBRAIC QUANTUM GROUPS

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ABSTRACT. A central aim of the classification program for C*-algebras is to provide theorems lifting isomorphisms of K-groups or Cuntz semigroups to C*-algebra isomorphisms. In the C*-algebraic quantum group case the Cuntz semigroup often has a product operation that is compatible with the delicate equivalence relations on the (semi)group. In good cases, there is something like a formula for the product. We discuss obtaining Hopf *-isomorphisms from K-theoretical or Cuntz semigroup data. One application is to rigidity results, in other words, obstacles to deformation. We discuss the K-theory and Cuntz semigroups of co-actions.

The main point, though, is that there exists an often small object (a discrete ring or semi-ring) that in good cases contains a great deal of information about the quantum group.

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