

Stable rank one in nonnuclear C*-algebras

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I will talk about stable rank one, that is, the density of invertible elements in a C*-algebra. For commutative C*-algebras, this property occurs precisely in topological dimension zero or one, and can therefore be interpreted as a notion of noncommutative low dimensionality.

Stable rank one guarantees more accessible computations of K-theory and other C*-algebraic invariants. The space $\text{Act}(G, X)$ of actions of a countable group G on the Cantor set X by homeomorphisms carries a natural Polish topology, making it amenable to methods from Baire category theory.

By restricting to suitable Polish subspaces of $\text{Act}(G, X)$, we investigate situations in which stable rank one occurs generically, that is, on a dense G_δ subset, for the associated crossed product C*-algebras.

This is joint work with Jamie Bell and David Kerr.