

Paradoxical Comparison and pure infiniteness of reduced crossed product C^* -algebras

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ABSTRACT

I will talk about the relation between comparison phenomenon in topological dynamical systems and pure infiniteness of the reduced crossed products. In particular, I will show how dynamical comparison imply pure infiniteness of reduced crossed product under the assumption that there is no invariant ergodic probability Borel measures. In addition, for an action which is not necessarily minimal, I will introduce a new notion called paradoxical comparison, which is a generalization of dynamical comparison in the case that there is no invariant ergodic probability Borel measures. I will also discuss how paradoxical comparison imply the pure infiniteness of the reduced crossed product if there are only finitely many invariant closed subsets of the action. If time permits, I will talk about more applications of the paradoxical comparison.