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Title: *Detecting ideals in reduced crossed product C^* -algebras of topological dynamical systems*

Abstract: Crossed products arising from topological dynamical systems are an important source of examples of C^* -algebras and form ground for interaction between dynamics and operator algebras. Included in this class are reduced group C^* -algebras which code representation theoretic information of a group. Sophisticated tools to prove (non-)simplicity of such C^* -algebras have been developed over the time. However, they only apply to well-behaved dynamical systems or exclude a certain kind of amenable behaviour of the dynamical system. I will make these statements precise and report on joint work with Are Austad (University of Southern Denmark) in which we introduce the ℓ^1 -ideal intersection property. All non-zero ideals in the crossed product C^* -algebra of a dynamical system satisfying this property can be detected already inside the much smaller and more concrete ℓ^1 -crossed product. We prove that large classes of groups, such as lattices in Lie groups and linear groups over algebraic integers in a number field have this property for ANY action on a locally compact Hausdorff space. The proof combines the theory of twisted groupoid C^* -algebras and C^* -simplicity with structure results about amenable subgroups.