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Semicrossed products over lattice semigroups

We study semicrossed products by semigroups, and in this talk I will specialize to the case of lattice ordered Ore semigroups. For these semigroups, one can restrict attention to representations of the covariance relations which are Nica covariant, a doubly commuting condition that applies to elements with meet zero. In the abelian case, we show that the C^* -envelope of the Nica-covariant semicrossed product for injective systems on C^* -algebras is a full crossed product. For the special case of \mathbb{Z}_+^n , we embed an arbitrary C^* dynamical system into a canonical injective system. We can then deduce that the C^* -envelope of the Nica-covariant semicrossed product is a full corner of a full crossed product. In the non-abelian case, we consider right covariance relations, which automatically reduce to the injective case, and again the C^* -envelope is a full crossed product.

This is joint work with Adam Fuller (U. Nebraska) and Evgenios Kakariadis (Ben-Gurion U.).