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Kenneth R. Davidson, Adam H. Fuller* (afuller7@math.unl.edu) and **Evgenios T. A. Kakariadis**. *Semicrossed Products of Operator Algebras by Semigroups*. Preliminary report.

Group dynamical systems and the crossed product algebras they generate have long been a source of interesting operator algebras. The natural generalization, inspired by concrete examples of operator algebras, is to consider semigroup dynamical systems. That is, if A is an operator algebra and $\{\alpha_s\}_{s \in S}$ is a representation of a semigroup S by endomorphisms on A . The goal is to construct a larger algebra, containing A , that also encodes the information of the action of S on A . The nonself-adjoint versions of these algebras are called semicrossed product algebras.

Recent work has shown that the C^* -envelope of a semicrossed algebra can be useful in distinguishing dynamical systems by their semicrossed products.

However, whilst in the C^* -literature a wide class of semigroups are considered for crossed-products, the majority of the work on semicrossed products has been carried out in the case when $S = \mathbb{Z}_+$.

In this talk we present some recent results in semicrossed products arising from a wider class of positive cones. These include, but are not limited to, the positive cones of abelian lattice ordered groups. (Received September 16, 2013)