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The Cuntz Semigroup for Commutative C^ -algebras*

The Cuntz semigroup is an invariant which promises to be important to the classification of C^* -algebras. It is still far from being well-understood—in fact, its computation has only been carried out in some fairly restricted situations. In my talk, I will report on attempts to understand, and even compute, this invariant for certain commutative C^* -algebras. We have a description of the Cuntz semigroup for the situation that the algebra is separable and the spectrum has dimension at most three.

In defining the Cuntz semigroup of A , a pre-order relation is imposed on the elements of $\bigcup M_n \otimes A$; the relation has been described (informally) Murray–von Neumann equivalence of the support projections. In our study of the Cuntz semigroup when A is commutative, we have taken this description seriously, thus using open projections to represent Cuntz elements.

This is joint work with Leonel Robert.