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*How effective an invariant is the Cuntz semigroup?*

It has recently been shown that the Cuntz semigroup classifies inductive limits of matrix algebras over the interval (Ciuperca and Elliott), and that, when combined with the natural algebraic  $K_1$  information, it also does this for inductive limits of matrix algebras over arbitrary locally compact spaces of dimension one (Ciuperca, Elliott, Robert, and Santiago). Presumably, in these cases, the Cuntz semigroup can be computed in terms of more familiar invariants—this is known in the simple case (Brown, Perera, and Toms) and also in an interesting non-simple case (Elliott, Robert, and Santiago). Toms has shown that the Cuntz semigroup can also distinguish algebras that are not distinguished by any other invariant—namely, certain inductive limits of matrix algebras over cubes of unbounded dimension (or the Hilbert cube). It would seem to be a reasonable question if it can distinguish any two such inductive limits which are not isomorphic. Some discussion of this problem will be attempted.