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Residual finite-dimensionality for general operator algebras

Finite-dimensional approximation properties have proven to be a fruitful idea in the realm of C^*-algebras. It is thus natural to hope that similar ideas can elucidate the structure of general (not necessarily self-adjoint) operator algebras. In this talk we will study residual finite-dimensionality from that perspective. The departure from the self-adjoint world involves some interesting subtleties. For instance, it is well-known that finite-dimensional operator algebras cannot necessarily be represented completely isometrically inside of an algebra of matrices, in contrast with the situation for C^*-algebras. As such, it it not immediately obvious what the "natural" definition of this more general notion of residual finite-dimensionality should be. After clarifying this issue, we will explore the extent to which the residual finite-dimensionality of an operator algebra carries over to its C^*-envelope or its maximal C^*-algebra. This is joint work with Christopher Ramsey.