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On the topological stable rank of non-selfadjoint operator algebras

The notions of left- and of right-topological stable rank for a Banach algebra were introduced by M. Rieffel in 1983 as a generalisation of the notion of the covering dimension of a topological space. For many classes of Banach algebras, including C^* -algebras and abelian Banach algebras, the two notions coincide. This led Rieffel to pose the question of whether or not the two stable ranks always agree. In this talk, we shall answer this question by studying the topological stable rank of nest algebras acting on infinite-dimensional, complex, separable Hilbert spaces. These are algebras which serve as an infinite-dimensional generalisation of the algebra of upper-triangular $n \times n$ complex matrices.

This is joint work with K. R. Davidson, R. Levene, and H. Radjavi.