CLASSIFICATION OF SEPARABLE NUCLEAR UNITAL SIMPLE C^*-ALGEBRAS. HISTORY AND FINAL RESULTS

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ABSTRACT. Over the last decade, our understanding of simple, nuclear C^*-algebras has improved a lot. This is thanks to the the interplay between certain topological and algebraic regularity properties, such as nuclear dimension of C^*-algebras, tensorial absorption of suitable strongly self-absorbing C^*-algebras and order completeness of homological invariants. In particular, this is reflected in the Toms-Winter conjecture. In this talk I will speak about this problem, and explain the general classification of nuclear simple C^*-algebras using the finite nuclear dimension (done in two groundbreaking articles by Elliott-Gong-Lin-Niu and Tikuisis-White-Winter). If time permits, I will also show some research built up from the classification just explained.

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