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Tracial Rokhlin Property for Finite Group Actions on Non-unital Simple C*-algebras

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We introduce the tracial Rokhlin property for finite group actions on simple not necessarily unital C*-algebras which coincides with Phillips' definition in the unital case. We show that the tracial topological rank zero is preserved under taking crossed products and fixed point algebras with such actions. The main idea is to prove that a simple non-unital C*-algebra has tracial topological rank zero if and only if it is Morita equivalent to a simple unital C*-algebra with tracial topological rank zero. Moreover, we discuss that some other classes of simple C*-algebras such as non-unital tracially Z-absorbing C*-algebras are closed under taking crossed products with such actions. We also define the weak tracial Rokhlin property on simple (possibly stably projectionless) C*-algebras.

The talk is based on a joint work with Marzieh Forough.

Reference

M. Forough and N. Golestani, *Tracial Rokhlin property for finite group actions on non-unital simple C*-algebras*, arXiv 1711.10818, 2017.