

SELF-SIMILAR GROUP ACTIONS AND THEIR EQUILIBRIUM STATES

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Abstract: A self-similar action (G, X) consists of a group G along with a self-similar action of the group on a rooted tree. Self-similarity is displayed by the action of the group acting on all levels of the tree, in a similar fashion to fractals where patterns are repeated at all scales. Self-similar actions give rise to Cuntz-Pimsner algebras, first constructed by Nekrashevych, as well as a universal Toeplitz algebra. We describe the equilibrium states on these algebras and how they give rise to a new trace on the group algebra. The presentation will be primarily focused on interesting examples. This talk is based on joint work with Marcelo Laca, Iain Raeburn, and Jacqui Ramagge.