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Title: Representations of Thompson's Group F in $L^2(\mathbf{R}^n)$

Abstract: In this joint work with D.Dutkay we study faithful representations of the Thompson's group F in $L^2(\mathbf{R}^n)$. The amenability question of F is translated within this framework in terms of weak containments with respect to the left regular representation. We prove that the extension of each representation to the universal group algebra has non-trivial kernel. Also, the C^* algebras generated by these representations contain projections, in stark contrast with the reduced C^* algebra of the group F which contains none but trivial projections. In a different direction, the local similarity of F with the Baumslag Solitar group $BS(1, 2)$ enables us to find subsets of F which generate orthonormal bases of $L^2(\mathbf{R})$ with respect to the Haar wavelet.