

Classification of II_1 factors arising from free groups acting on spaces

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A famous problem of Murray and von Neumann (1943) asks whether the II_1 factors $L(\mathbb{F}_n)$ arising from the free groups \mathbb{F}_n , $2 \leq n \leq \infty$, are non-isomorphic for distinct n 's. While this is still open, its “group measure space” version, showing that the II_1 factors $L^\infty(X) \rtimes \mathbb{F}_n$ arising from free ergodic actions on probability measure spaces, $\mathbb{F}_n \curvearrowright X$, are non-isomorphic for different n , independently of the actions, has recently been settled by Stefaan Vaes and myself. I will comment on this result and on the related free group factor problem.