

On a question of Babai and Sós, a model theoretic approach.

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In 1985, Babai and Sós asked whether there exists a constant $c > 0$ such that every finite group of order n has a product-free set of size at least cn , where a product-free set of a group is a subset that does not contain three elements x, y and z satisfying $xy = z$. Gowers showed that the answer is no in the early 2000s, by linking the existence of product-free sets of large density to the existence of low dimensional unitary representations. In this talk, I will explain how one can answer this question using model theoretic ideas.