

Finite Geometries and pseudorandom graphs

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(Joint work with Anurag Bishnoi and Ferdinand Ihringer)

Abstract

In [N. Alon, Explicit Ramsey graphs and orthonormal labelings, *Electron. J. Combin.* 1 (1994), R12, 8pp.] Alon constructs triangle-free pseudorandom graphs with high edge density. The very nice construction by S.Kopparty, as good as Alon's one, turns out to be the incidence graph of a Generalized Quadrangle over the finite fields \mathbb{F}_q intersected with an \mathbb{F}_p -linear set, with $p = ch(\mathbb{F}_q)$. Inspired by that, we explore the constructions of dense clique free pseudorandom graphs using finite geometries.