Maximum in-general-position set in a random subset of $\mathbb{F}_q^d$

Jiaxi Nie
Georgia Institute of Technology

Time: Mon. Dec. 15th, 10:30 - 11:30
Venue: Room 110, SCMS
Tencent Meeting Number: 955996678 Password: 112358

Abstract: Let $\alpha(\mathbb{F}_q^d, p)$ be the maximum possible size of a point set in general position in a p-random subset of $\mathbb{F}_q^d$. We determine the order of magnitude of $\alpha(\mathbb{F}_q^d, p)$ up to a polylogarithmic factor by proving the balanced supersaturation conjecture of Balogh and Luo. Our result also resolves a conjecture implicitly posed by Chen, Liu, Zeng, and myself. This is joint work with Yaobin Chen, Jing Yu and Wentao Zhang.