

Lagrangian of intersecting families

Sergey Norin^{*1} and Liana Yepremyan^{†2}

¹Department of Mathematics and Statistics, McGill University

²School of Computer Science, McGill University

Abstract

We prove the conjecture of Keevash and Hefetz that the lagrangian of intersecting r -graph on n elements is maximal for stars (principal families) when $r \geq 4$ and n is sufficiently large. We use this result to compute Turan numbers of certain r -graphs. The technique used to derive the Turan-type result from the lagrangian result is of independent interest and has other applications. Based on joint work with Sergey Norin.

*snorine@gmail.com

†liana.yepremyan@mail.mcgill.ca