

Rainbow cliques in randomly perturbed dense graphs

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We determine the thresholds for the emergence of rainbow cliques of a prescribed size in any proper edge-colouring of dense graphs that are randomly perturbed/augmented with a (binomial) random graph. For cliques of size 9 and beyond, a single unifying behaviour is observed for the aforementioned threshold. For cliques of size 3 to 8, a somewhat erratic behaviour is seen for their respective thresholds; for cliques of size 8 our proofs suggest that the phenomenon seen for cliques of size 9 and beyond should apply as well; we conjecture that this is, in fact, the case.

In our talk, we shall outline the proof establishing the threshold(s) for cliques of size 9 and beyond and sketch the 1-statement for the threshold related to cliques of size 6. If time permits, the associated 0-statement for cliques of size 6 will be considered.

Joint work with: Oran Danon, Dan Hefetz, and Shoham Letzter.