Randomly perturbed vertex Ramsey problems

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Abstract

The randomly perturbed graph model, compared to the classic Erdős–Rényi random graph, starts with a dense deterministic base graph before adding random edges. There has been much work on this model, with the goal of determining how much smaller the probabilistic thresholds for various graph properties are.

In this talk we shall investigate the vertex-Ramsey properties of randomly perturbed graphs, and determine when such graphs are vertex-Ramsey for K_t versus an arbitrary graph. In contrast to recently-obtained results in the edge-Ramsey setting, we find that the thresholds are sensitive to the parity of t.

This is joint work with Patrick Morris and Andrew Treglown.