Monochromatic covers and partitions of (pseudo)random graphs

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Abstract

Suppose the edges of a graph G are colored with r colors. How many monochromatic cycles (or trees) are needed to partition (or cover) the vertex set? These types of questions have been addressed by many authors in the case where $G = K_n$, the complete graph. For example in 1991, Erdős, Gyárfás and Pyber proved that $O(r^2 \log r)$ monochromatic cycles suffice to partition the vertex set of any r-edge-colored K_n.

In this talk we will discuss some new results of this flavor in which the host graph, G, is (pseudo)random. This is joint work with Louis DeBiasio.