

On the Ryser-Brualdi-Stein conjecture for Dirac graphs

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Let G be a balanced bipartite graph of order $2n$ and $\delta(G) \geq n/2$. Consider an edge colouring of G where each color appear at most μn times, for some $\mu > 0$. Then, we show G contains a rainbow perfect matching, i.e. a perfect matching in which each edge has a distinct colour. As a corollary, we obtain an analogous result for embedding rainbow copies of spanning subgraphs H with $\Delta(H) \leq \Delta$ in graphs G that satisfy $\delta(G) \geq (1 - 1/2\Delta)n$. Joint work with Guillem Perarnau.