

Zbl 778.05059

**Erdős, Paul; Rousseau, C.C.**

*The size Ramsey number of a complete bipartite graph.* (In English)

**Discrete Math.** 113, No.1-3, 259-262 (1993). [0012-365X]

The size Ramsey number  $\hat{r}(G, H)$  of graphs  $G$  and  $H$  is the smallest integer  $\hat{r}$  so that there is a graph  $F$  with  $\hat{r}$  edges such that if the edges of  $F$  are two-colored, then there will be a copy of  $G$  in the first color or a copy of  $H$  in the second color. Using probabilistic techniques the authors verify the lower bound  $\hat{r}(K_{n,n}, K_{n,n}) > n^2 2^n / 60$  for the size Ramsey number for complete bipartite graphs. This corresponds to the upper bound of  $\hat{r} < \frac{3}{2} n^3 2^n$  proved in *P. Erdős, R. Faudree, C. C. Rousseau and R. H. Schelp* [Period. Math. Hung. 9, 145-161 (1978; Zbl 331.05122)].

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Classification:

05C55 Generalized Ramsey theory

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size Ramsey number; lower bound; complete bipartite graphs