

1030-05-162

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Let $m^*(r, k)$ be the smallest number of edges in an r -uniform $(k + 1)$ -chromatic simple hypergraph. Erdős and Lovász proved that

$$\frac{k^{2(r-2)}}{16r(r-1)^2} \leq m^*(r, k) \leq 1600r^4k^{2(r+1)}.$$

A result of Z. Szabó improves the lower bound by a factor of $r^{2-\epsilon}$. Elaborating ideas of Szabó, we improve the lower bound by another factor of r . (Received July 31, 2007)