1022-05-98 **Linyuan Lu*** (lu@math.sc.edu), Department of Mathematics, LeConte College 1523 Greene Street, University of South Carolina, Columbia, SC 29212. *On a problem of Erdős and Lovász on coloring non-uniform hypergraphs.*

Let $f(r) = \min_H \sum_{F \in E(H)} \frac{1}{2^{|F|}}$, where H ranges over all 3-chromatic hypergraphs with minimum edge cardinality r. Erdős-Lovász (1975) conjectured $f(r) \to \infty$ as $r \to \infty$. This conjecture was proved by Beck in 1978. Here we show a new proof for this conjecture with a better lower bound:

$$f(r) \geq (\frac{1}{16} - o(1)) \frac{\ln r}{\ln \ln r}.$$

(Received September 10, 2006)