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Vertex coverings of the edge set in a connected graph. (In English)

Alavi, Y. (ed.) et al., Graph theory, combinatorics, algorithms and applications. Vol. 2. Proceedings of the seventh quadrennial international conference on the theory and applications of graphs, Kalamazoo, MI, USA, June 1-5, 1992. New York, NY: Wiley, 1179-1187 (1995). [ISBN 0-471-30439-5; ISBN 0- 471-30437-9/set]

We prove that every connected graph with n vertices and m edges contains a set of at most $\frac{2}{7}(m+n+1)$ vertices that meets all edges. This bound is best possible in general, as shown by an infinite family of connected graphs.

Classification:
05C35 Extremal problems (graph theory)
05C65 Hypergraphs
05C70 Factorization, etc.

Keywords:
vertex coverings; transversal; transversal number; hypergraph; connected graph; bound