

Extending the Chvátal-Erdős Theorem

Ronald J. Gould*, Emory University

For a graph G , the famed Chvátal-Erdős Theorem relates the independence number $\alpha(G)$ and connectivity $\kappa(G)$ as follows: If G is a graph of order $n \geq 3$ with $\alpha(G) \leq \kappa(G)$, then G is hamiltonian. Over the years several conjectures extending this classic result have been proposed, in particular, conjectures concerning types of 2-factors as well as the pancyclicity of G . We present these conjectures, along with related results and some new extensions concerning chorded pancyclicity.

Keywords: independence, connectivity, chord, chorded cycle, k -pancyclic