
Zbl 114.40004
Erdős, Pál
Remarks on a paper of Pósa (In English)
Publ. Math. Inst. Hung. Acad. Sci., Ser. A 7, 227-229 (1962).

Let G be a graph containing n vertices and k a natural number $(1 \leq k < n/2)$. Denote by m_k the maximum of $\binom{n-k}{2} + k^2$ and $\binom{n-[(n-1)/2]}{2} + \left[\frac{(n-1)}{2}\right]^2$.
Theorem: If each vertex of G has a degree $\geq k$ and G contains $m_k + 1$ edges, then G has a Hamilton line. The conclusion does not hold in general if G contains only m_k edges.
The final part of the paper deals with conditions which assure the existence of an open Hamilton line; the conditions in question are resulting from combining the conditions of the theorem of *L.Pósa* (reviewed above, Zbl 114.40003) and of the first theorem.

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Classification:
05C45 Eulerian and Hamiltonian graphs