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Erdős, Paul; Sós, V.T.; Faudree, Ralph J.

The k -spectrum of a graph. (In English)

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The k -spectrum $s_k(G)$ of a graph G is the set of integers that occur as the sizes of the induced subgraphs of G of order k . Properties of those sets $S \subseteq \{0, 1, 2, \dots, \binom{k}{2}\}$ that are the k -spectrum $s_k(G)$ of some graph G will be investigated. Gap theorems, which indicate the distribution of elements in $s_k(G)$, will be proved, and the k -spectra of large order trees will be characterized as the union of two intervals. The number of subsets that are the k -spectrum of a graph will be studied, and extremal problems concerning the k -spectrum will be considered.

Classification:

05C35 Extremal problems (graph theory)

05C05 Trees

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spectrum gap; gap degree; gap theorems; k -spectrum; trees; extremal problems