Zbl 337.05135
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Sets of independent edges of a hypergraph. (In English)
Q. J. Math., Oxf. II. Ser. 27, 25-32 (1976). [0033-5606]

An r-graph (hypergraph) G is a pair (V,T) where V is a finite set and T is a subset of the set of all r-element subsets of V. The paper contains results related to those of *P. Erdős* [Ann. Univ. Sci. Budapest, Rolando Eötvös Sect. Math. 8, 93-95 (1965; Zbl 136.21302)], *A. J. W. Hilton* and *E. C. Milner* [Quart. J. Math., Oxford II. Ser. 18, 369-384 (1967; Zbl 168.26205)], *A. J. W. Hilton* [Infinite finite Sets, Colloq. Honour Paul Erdős, Keszthely 1973, Colloq. Math. Soc. János Bolyai 10, 875-886 (1975; Zbl 334.05118)] and others.
Theorem 1: Let $G=(V,T)$ be an r-graph with $r\ge 2$, $k\ge 1$, $|V|=n>2r^3k$ and

$$|T|>\binom{n}{r}-\binom{n-k}{r}-\binom{n-k-r}{r-1}+1.$$

Suppose G contains at most k independent r-tuples. Then there exists $W\subset V$ with $|W|=k$ such that every r-tuple of G intersects W. Theorem 2: Let $G=(V,T)$ be an r-graph with $r\ge 2$, $k\ge 1$ and $|V|=n>2r^3(k+2)$. Suppose G contains at most k independent r-tuples. If

$$\deg v>\binom{n-1}{r-1}-\binom{n-k}{r-1}+\binom{n-k-1}{r-2}r^3/(n-k+1)$$

for every $v\in V$ then there exists $W\subset V$ with $|W|=k$ such that every r-tuple of G intersects W.

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Classification:
05C99 Graph theory