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Research of the Erdős-Ko-Rado theorem based on symplectic spaces over finite fields.
(Chinese. English summary) [Zbl 1424.05281]

Summary: In this paper, we study the Erdős-Ko-Rado (EKR) theorem for isotropic subspaces of the symplectic space over finite fields. We obtain an upper bound for the \( r \)-intersection of isotropic subspaces of type \((m,0)\) in the symplectic spaces by investigating monotonicity of an upper bound function.

MSC:
- 05D05 Extremal set theory
- 05B25 Combinatorial aspects of finite geometries
- 05E15 Combinatorial aspects of groups and algebras (MSC2010)
- 51A50 Polar geometry, symplectic spaces, orthogonal spaces

Keywords:
finite field; symplectic space; \( r \)-intersecting; EKR theorem

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