Small Maximal Partial Ovoids

in

Generalized Quadrangles

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Abstract

A *maximal partial ovoid* of a generalized quadrangle is a maximal set of points no two of which are collinear. The problem of determining the smallest size of a maximal partial ovoid in quadrangles has been extensively studied in the literature. In general, theoretical lower bounds on the size of a maximal partial ovoid in a quadrangle of order (s, t) are linear in s. I will discuss a simple probabilistic construction of a maximal partial ovoid of size at most $s(\log s)^{\alpha}$ for a large class of quadrangles.