
Octonionic ovoids

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Conway, Kleidman and Wilson (1988) and the speaker (1993) have used the octonions to construct new ovoids in $O_8^+(p)$, the triality quadric in projective 7-space over a field of prime order p . (An *ovoid* in such a quadric is a set of $p^3 + 1$ points of the quadric, no two on a line of the quadric.) Throughout its 25-year history, this connection has continued to yield many interesting insights; but many open problems remain. We will survey some highlights of these.