# Existence and a characterisation of maximal partial ovoids of $Q(4, q)$

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We consider maximal partial ovoids of size $q^2 - 1$ of $Q(4, q)$. Using a Redei polynomial, we show their non-existence for $q = p^h$, $h > 1$, $p$ odd. For $q = 3, 5, 7$ and 11, examples are known, and using the Redei polynomial, we derive intersection numbers with elliptic quadrics. The goal is to obtain a characterisation to prove non-existence in the remaining open cases.