Characterization Theorems for unitals in $PG(2, q^2)$.

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A unital in $PG(2,q^2)$ is a set of q^3+1 points meeting every line in either 1 or q+1 points. There is only one class of examples known since 1979, the ovoidal Buekenhout-Metz unitals. We will present some old and new characterization theorems regarding these unitals.