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Title: Semiovals and semiarcs

Summary:

Ovals, k -arcs and semiovals of finite projective planes are not only interesting geometric structures, but they have important applications to coding theory and cryptography, too. Semi-arcs are the natural generalizations of arcs. Let Π_q be a projective plane of order q . A non-empty pointset $\mathcal{S}_t \subset \Pi_q$ is called a t -*semiarc* if for every point $P \in \mathcal{S}_t$ there exist exactly t lines $\ell_1, \ell_2, \dots, \ell_t$ such that $\mathcal{S}_t \cap \ell_i = \{P\}$ for $i = 1, 2, \dots, t$. These lines are called the tangents to \mathcal{S}_t at P . The classical examples of semiarcs are the semiovals ($t = 1$) and the subplanes ($t = q - m$, where m is the order of the subplane.)

In this talk we survey the known results about semiarcs and present some open problems, too.