Meeting: 1005, Newark, Delaware, SS 5A, Special Session on Designs, Codes, and Geometries

1005-51-125 **David A. Drake*** (dad@math.ufl.edu), University of Florida, Department of Mathematics, P. O. Box 118105, Gainesville, FL 32611. *Desarguesian nets without ovals.* Preliminary report.

Let $\Pi = \Pi(D)$ be the Desarguesian affine plane coordinatized by a division ring D. An *r-net Σ held by* Π is the union of r parallel classes of lines of Π. A set S of r points of Σ is called an *oval* of Σ if each two but no three points of S are collinear in Σ. Necessary and sufficient conditions for Π to hold an r-net **with** oval are known for $r \leq 7$. Assume that $r = 6$ or 7 and, in the case $r = 7$, that $\mathrm{char} D \neq 2$; under these assumptions, we prove that Π holds an r-net **without** an oval if and only if $|D| \geq 9$. (Received February 03, 2005)