1050-05-161 **Junhua Wu*** (`wuj@wpi.edu`), Worcester, MA 01606. *A binary linear code and its combinatorial properties.*

Let $PG(2, q)$ be the classical projective plane, where q is an odd prime power. An oval in $PG(2, q)$ is a set of $q+1$ points, no three of which are collinear. A binary linear code L was constructed based on point-line incidence structures related to an oval in $PG(2, q)$. We study several geometric structures associated with L and give an algebraic description of L in terms of certain module structures, which also gives a proof of the conjecture on the dimension of L. We also related this code with a commutative association scheme. (Received March 03, 2009)