

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

1005-51-86                    **Chat Yin Ho\*** (cyh@math.ufl.edu), Department of Mathematics, 358 Little Hall, PO Box  
118105, Gainesville, FL 32611-8105. *Groups generated by affine perspectivities*. Preliminary report.

We will discuss, among other results, the following theorem.

**Theorem 1.1.** *Let  $G$  be a group in the translation complement generated by perspectivities of a translation plane of characteristic  $p$ . Suppose  $G$  contains a non abelian minimal normal subgroup  $M$ . Then the following conclusions hold.*

1.  $p = 2$ ,  $M$  is simple,  $M \cong L_2(q)$ ,  $q$  even, or  $Sz(q)$ , and  $M$  contains affine perspectivities with at least 5 different axes.
2. Further,  $M$  is the only non abelian minimal normal subgroup of  $G$ .
3.  $C_G(M) = Z(G)$  and  $G/Z(G)$  is isomorphic to a subgroup of the group of automorphisms of inner or diagonal automorphisms of  $M$ .
4. The set of affine perspectivities of  $M$  is either the set of all involutions, which are shears, or a set of homologies of orders dividing  $q + 1$  for  $L_2(q)$ , with  $q$  even, or a set of homologies of orders dividing  $q \pm r + 1$ , where  $r^2 = 2q$ , for  $Sz(q)$ .

(Received January 31, 2005)