MOUFANG SETS

Moufang sets are the Moufang buildings of rank one. They were introduced by J. Tits as a tool for studying algebraic groups of relative rank one. They are essentially equivalent to split BN-pairs of rank one, and as such they have been studied extensively. In some sense they are the basic 'building blocks' of all split BN-pairs.

In the finite case it had been a major project to classify split BN-pairs of rank one. This project culminated in the work of Hering Kantor and Seitz.

Moufang sets are also essentially equivalent to Timmesfeld's 'abstract rank one groups' . In recent years there has been a revived interest and significant progress in this area.

Let us recall that a Moufang set is essentially a doubly transitive permutation group such that the point stabilizer contains a normal subgroup which is regular on the remaining points. These regular normal subgroups are called the root groups and they are assumed to be conjugate and to generate the whole group.

In my course I will teach the basic theory of Moufang sets, and give a few examples. My main aim is to get to some of the most recent (and exciting) developments in this theory. I will also discuss some main open problems.

Date: January 27, 2008.