UIC Model Theory Seminar, March 7, 2006

ι-groups

Jana Maříková
University of Illinois at Urbana-Champaign

We let M be a big o-minimal structure and say that a group is a ι-group if the underlying set and the graph of the group operation are automorphism invariant subsets of M^n and M^{3n} respectively. We show that a ι-group G in M^n has a unique topology making it a topological group and inducing the same topology on a large ι-subset of G as M^n. If G is in particular a type-definable group in M^n then the group topology on G is induced by a definable manifold. This implies in the case when M is an o-minimal expansion of a real closed field that G is affine.