

On groups definable over \mathbb{Q}_p with definable f -generic types

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Abstract

The aim of this talk is to develop the theory for *definable f -generic* groups in the p -adic field within the framework of definable topological dynamics, here the “definable f -generic” means a definable group admits a global f -generic type definable over small submodel. This ‘definable f -generic’ is a dual concept to “finitely satisfiable generic” and a useful tool to describe the analogs of torsion free o -minimal groups in p -adic context.

In this talk we will show that every definable f -generic group definable in \mathbb{Q}_p is virtually isomorphic to a finite index subgroup of a trigonalizable algebraic group over \mathbb{Q}_p . It is analogous to the o -minimal context, where every connected torsion free group in \mathbb{R} is isomorphic to a trigonalizable algebraic group. We will also show that every open dfg subgroup of a dfg group has finite index, and every f -generic type of a dfg group is almost periodic.