Automorphism invariant measures on homogeneous structures

Abstract

A first order structure $\mathcal{A}$ is defined to be homogeneous iff isomorphisms between finitely generated substructures of A can be extended to automorphisms of $\mathcal{A}$. The automorphism group $Aut(\mathcal{A})$ of $\mathcal{A}$ can be naturally endowed by a topology.

We will investigate $Aut(\mathcal{A})$ as a topological group. There are already known results about the existence of invariant probability measures on certain subsets of $\mathcal{A}$, on $Aut(\mathcal{A})$ and on the spaces of types of $\mathcal{A}$, from investigations initiated by Hrushovski, Krupinski, Pillay and others. While considering existence also, in this presentation we would like to take a closer look into the other usual question of such topics, that is the uniqueness existing measures.