

ACTIONS OF FREE GROUPS AND ALGEBRAS

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Based mainly on the joint work with Alexander Olshanskii, this talk will be devoted to the study of the growth functions arising when a finite number of transformations act on a set. Our main concern are the situations where the growth is maximal, that is, equivalent to the growth of a free action. It is quite interesting that there are many examples where the growth is maximal and, at the same time, it enjoys those properties which are often called the finiteness conditions. We will talk about these situations, mention a number of open questions and report some recent progress achieved in their solution.