

Perfect kernels and dynamics: from Bass-Serre theory to hyperbolic groups

The space of subgroups of a countable group G is a compact Polish space equipped with a natural G -action. It is the crucible where certain properties of the non-free actions of G boil down, whether they are of a topological or measured nature. We will discuss several approaches to determining the Cantor-Bendixson decomposition of this space. In particular, we find the perfect kernel and the Cantor-Bendixson rank of the subgroup space of many new groups, including infinitely ended groups, limit groups and hyperbolic 3-manifold groups. We also give conditions under which the action on the perfect kernel is topologically transitive. This is joint work with Damien Gaboriau.