ON SUBGROUP STRUCTURE OF GROUPS OF BRANCH TYPE

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Abstract:

Groups of branch type (abstract or profinite) is a remarkable class of groups full of groups with unusual properties and related to the numerous branches of mathematics. Some of such groups bear intriguing names like Hanoi Towers Groups, Basilica, $IMG(z^2+i), \cdots$. This class contains groups of intermediate growth (between polynomial and exponential), amenable but not elementary amenable groups, groups of Burnside type (i.e. infinite finitely generated torsion groups), just-infinite groups, finitely constrained groups etc.

Also the groups of branch type have unusual structure of the lattice of subgroups. In my talk first, I will give a panorama of known results about subgroups of branch (and weakly branch) groups starting from congruence subgroup and subgroup separability (or LERF) properties and then focusing on maximal and weakly maximal subgroups. Then I will define the block structure for finitely generated subgroups of self-similar branch groups and formulate a few results. The material of the talk will be based on the numerous results of the speaker and his coouthers, including the jubilee Pavel Zalesskii.