

Automorphism groups of trees and forests and Sylow p -subgroups of some locally finite groups

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The talk concerns the problem of characterization of Sylow p -subgroups in countable locally finite groups, which are the direct limits of finite symmetric or alternating groups with diagonal embeddings (for definition see [1]).

We construct some automorphism groups of finite or infinite p -adic rooted trees and infinite reduced ended p -adic trees. Using this construction we give complete up to isomorphism characterization of all Sylow p -subgroups of finitary symmetric group over positive integers and another direct limits of finite symmetric or alternating groups with (strictly) diagonal embedding. The Sylow p -subgroups of such groups are described as p -automorphism groups of certain forests consisting of rooted or ended trees.

References

- [1] Kroshko N., Suschansky V., "Direct limits of symmetric and alternating groups with strictly diagonal embeddings", Arch. Math. 71 (1988) no. 3, pp. 173 - 182