Zentralblatt–MATH

Tretkoff, M.

Covering spaces, subgroup separability, and the generalized M. Hall property. (English)

Combinatorial group theory, Proc. AMS Spec. Sess., College Park, MD, USA 1988, Contemp. Math. 109, 179-191 (1990).

[For the entire collection see Zbl. 703.00011.]

In [Contemp. Math. 33, 90-115 (1984; Zbl. 571.20015)] *A. M. Brunner*, *D. Solitar* and the reviewer showed by technical combinatorial-group theoretic means that $A *_U B$ is LERF if A, B are free and U is cyclic. (A group G is said to be LERF if every finitely generated subgroup is closed in the profinite topology on G.) In the present paper this is generalized to the fundamental group $\pi_1(\Gamma, \mathcal{G})$ of a graph of groups, where Γ is a finite tree, each vertex group is free, and each edge group is cyclic. For such groups (and others where the vertex groups are finite "potent" rather than free) conditions are given ensuring they have the stronger "generalized M. Hall property". The proofs, using covering-space theory, are much shorter than in the above-mentioned paper. There is also a useful list of the classes of groups known to be LERF or have the M. Hall property, and a remark illuminating the role of the LERF property in 3-dimensional topology.

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