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Effective coherence in discriminated groups

Subgroups are usually specified by a generating set, but many group-theoretic algorithms require a presentation as (part of) their input. In applying such algorithms to subgroups it is therefore essential that the ambient group be *effectively coherent*, meaning that a finite presentation can always be computed for a finitely generated subgroup. This property fails in hyperbolic groups, but holds with the additional assumption that the group Γ be locally quasi-convex. We show that effective coherence extends to groups G discriminated by Γ . Such groups G are characterized by being embeddable as subgroups of iterated centralizer extensions of Γ , and effective coherence allows for an algorithm to compute this embedding. It also provides algorithms to enumerate all finitely generated groups discriminated by Γ , and to decide whether a given group is discriminated by Γ .

This is joint work with I. Bumagin.