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*Conjugacy separability of certain Bianchi groups and HNN extensions.* (English)

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Let  $a, b$  be any pair of non-conjugate elements of a group  $G$ . Then  $G$  is said to be conjugacy separable if the images of  $a, b$  in any finite quotient of  $G$  are never conjugate. Mal'cev has shown that, for finitely presented groups, this property leads to a positive solution of the conjugacy problem. It is known that a group is conjugacy separable if and only if each of its conjugacy classes is closed in the profinite topology.

Let  $G$  be a free amalgamated product (of a pair of groups) or an HNN extension. There are "standard" trees on which such groups act. By considering the action of the profinite completions of these groups on the corresponding profinite trees, the authors establish a number of (rather technical) conditions which ensure that  $G$  is conjugacy separable.

Let  $d$  be a square-free positive integer and let  $O_d$  be the ring of integers of the imaginary quadratic field  $\mathbf{Q}(\sqrt{-d})$ . Using the above results the authors prove that the (euclidean) Bianchi groups,  $\mathrm{PSL}_2(O_d)$ , are conjugacy separable, where  $d = 1, 2, 7, 11$ .

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