Zentralblatt–MATH

Fine, Benjamin; Rosenberger, Gerhard

Conjugacy separability of Fuchsian groups and related questions. (English)
Combinatorial group theory, Proc. AMS Spec. Sess., College Park, MD, USA 1988, Contemp. Math. 109, 11-18 (1990).

[For the entire collection see Zbl. 703.00011.]

Let G be a group. An element g in G is conjugacy distinguished if for all $h \in G$ either g is conjugate to h or there exists a finite quotient G^* of G with $\phi : G \to G^*$ such that $\phi(g)$ is not conjugate to $\phi(h)$. If each element of G is conjugacy distinguished then G is called conjugacy separable. Using the work done by Allenby and Tang the authors extend P. Stebe's result on conjugacy separability of certain Fuchsian groups, and so they state the following important theorem:

Theorem: Let F be a Fuchsian group. Then F is conjugacy separable.

Certainly the proof of this theorem is a positive answer to the question posed by Allenby. The question is whether the triangle groups $T(m, p, q)$ are conjugacy separable. Also under certain conditions they show that G has a faithful representation in $PSL_2(C)$. Further G is residually finite, virtually torsion-free and any element of finite order in G is conjugate to a power of some generator a_i of G. Besides these, the authors make some generalizations on their own former results considering faithful representations and some other properties. At the end of this work they are lead to conjecture that conjugacy separability is true in a class of one-relator products of cyclics.

T.Baskan (Goeruekle-Bursa)

AMS subject classification: 20H10;20E06;20F05;20E07;20E26
Keywords: conjugacy distinguished; conjugacy separability; Fuchsian groups; triangle groups; residually finite; virtually torsion-free; generator; faithful representations; one-relator products