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RepDF($F_g, O^+(1, n)(\mathbb{R})$)

Finitely generated, free discrete groups	without elements of parabolic-type, that is, purely hyperbolic-type	with elements of parabolic-type
geometrically finite with $\Lambda = \partial \mathbb{R}H^n$	$\implies$ cocompact; but cocompact subgroups cannot be free because of Gromov boundary; hence NONE .	$\implies$ finite covolume with cusps; exists for $n = 2$; can they exist for $n > 2$?
geometrically finite with $\Lambda \neq \partial \mathbb{R}H^n$ ($\implies \Lambda$ is a discontinuum?)	precisely <i>ultra-Schottky</i> groups in dim 3 ^[1]	image of $\underbrace{\Gamma}_{\text{lattice}} \hookrightarrow \text{Isom}(\mathbb{R}H^2) \hookrightarrow \text{Isom}(\mathbb{R}H^n)$ has limit set a round S^1 , its quasiconformal deformations has limit set a topological S^1
geometrically finite with Λ a <i>wild discontinuum</i>	exists in $n = 4$	?
geometrically finite with Λ a <i>tame discontinuum</i> but not Schottky	NONE?	?
geometrically infinite with $\Lambda = \partial \mathbb{R}H^n$	exists for $n = 3$ ^[2]	?
geometrically infinite with $\Lambda \neq \partial \mathbb{R}H^n$	geometrically infinite without elements of parabolic-type $\Lambda \neq \mathbb{R}H^n$ ☒ round sphere for n=4 Λ is NOT a round sphere ? Λ is NOT a topological sphere ?	?

1.

(Maskit, 1967)

 Let Γ be a Klienian group with $\Lambda(\Gamma) \neq \partial \mathbb{R}H^3$. Then it is finitely generated, free of purely hyperbolic-type $\iff$ it is *ultra-Schottky*. In particular, Γ is convex cocompact.

@1968chuckrow schottky

3.

(Maskit, 1967)

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