Info

This note, that was found here, as a part of a collection
is written (completely with human hands) by Rupadarshi Ray,
was created on March 30, 2026 6:11:15 PM,
was last modified on March 30, 2026 6:21:02 PM, and
was exported on September 7, 2026 3:09:46 PM.

# Fuchsian triangle groups

Let $r, s, t \in \mathbb{N}$, we want to consider groups

$$\Delta(r,s,t) := \left\langle x, y \middle| x^r, y^s, (xy)^t \right\rangle$$

- if $\frac{1}{r} + \frac{1}{s} + \frac{1}{t} > 1$ then we have a triangle on $S^2$ with angles $\frac{\pi}{r}, \frac{\pi}{s}, \frac{\pi}{t}$
  - reflection about the sides will generate $G$ and $\Delta(r,s,t)$ will be a index 2 subgroup
- if $\frac{1}{r} + \frac{1}{s} + \frac{1}{t} = 1$
- if $\frac{1}{r} + \frac{1}{s} + \frac{1}{t} < 1$

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Current note has 0 direct children and 0 total descendants.

- stem
  - Objects stemming from $PSL(2)(\mathbb{R})$
    - Fuchsian groups $\Gamma <_{\mathrm{d}} PSL(2)(\mathbb{R})$ $\leftrightarrow$ oriented hyperbolic 2-manifold/orbifolds $\to$ Riemann surfaces with branching signature
      - Fuchsian triangle groups

And it has 17 siblings.

- stem
  - Objects stemming from $PSL(2)(\mathbb{R})$
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      - Artihmetic Fuchsian groups and Artihmetic hyperbolic 2-orbifolds
      - Cocompact Fuchsian groups
      - Central simple algebra
      - Elementary Fuchsian groups
      - Finitely generated Fuchsian groups $\leftrightarrow$ geometrically finite Fuchsian groups
      - Fuchsian groups of finite coarea
      - Geodesic flow of Fuchsian groups and hyperbolic surfaces
      - Decomposition of hyperbolic surfaces
      - Infinitely generated Fuchsian groups
      - Limit set of Fuchsian groups
      - Marked hyperbolic surfaces
      - subst.R PSL 2 discrete subg.over Q-bar
      - Fuchsian Schottky groups
      - Spectrum of hyperbolic surfaces
      - Torsion-free Fuchsian groups
      - Cocompact torsion-free Fuchsian groups
      - Fuchsian triangle groups