Symmetric Decompositions of Free Kleinian Groups and Hyperbolic Displacements

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In this talk, I will show that every point in the hyperbolic 3-space is moved at a distance at least $\frac{1}{2}\log\left(12 \cdot 3^{k-1} - 3\right)$ by one of the isometries of length at most $k \geq 2$ in a 2-generator Klenian group Γ which is torsion-free, not co-compact and contains no parabolic. Also I will propose some lower bounds for the maximum of hyperbolic displacements given by symmetric subsets of isometries in purely loxodromic finitely generated free Kleinian groups.

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