The non-arithmetic cusped hyperbolic 3-orbifold of minimal volume
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Abstract: Together with Simon Drewitz, we showed recently that the 1-cusped quotient of the (real) hyperbolic 3-space by the tetrahedral Coxeter group $\Gamma = [5, 3, 6]$ has minimal volume among all non-arithmetic cusped hyperbolic 3-orbifolds, and as such it is uniquely determined. Furthermore, the lattice is incommensurable to any Gromov-Piatetski-Shapiro type lattice.

Our methods have their origin in the work of Colin Adams. We extend considerably this approach via the geometry of the underlying horoball configuration induced by a cusp. I shall present and provide a broad outline of the proof.