1167-51-304 **Jihoon Sohn*** (jihoonso@usc.edu), 3620 S. Vermont Ave., KAP 104, Los Angeles, CA 90007.

Volumes of Hyperbolic Truncated Tetrahedra and the Bloch-Wigner Dilogarithm.

In the hyperbolic 3-space $\mathbb{H}^3$, a truncated tetrahedron is a polyhedron with finite volume which, in the projective model $\mathbb{H}^3 \subset \mathbb{RP}^3$ for the hyperbolic space, is obtained from a projective tetrahedron by polar truncation at the vertices that lie outside of $\mathbb{H}^3$. We present two different computations of the volume of a truncated hyperbolic tetrahedron, one in terms of its dihedral angles and another one in terms of its edge lengths. Our method provides a unified approach to earlier results of J. Murakami, M. Yano, A. Ushijima, and A. Kolpakov, and extends to cases that had been left unaddressed. Our key technical idea is to rely on the (real-valued) Bloch-Wigner dilogarithm function instead of the (complex-valued) Euler dilogarithm, which eliminates subtle phase issues and has better analytic properties. (Received March 09, 2021)