

1077-57-2910

Jaejeong Lee and **Kei Nakamura*** (nakamura@math.temple.edu), Department of Mathematics, Wachman Hall, 1805 N. Broad Street, Temple University, Philadelphia, PA 19106. *On convex and non-convex Fuchsian polyhedral realizations of hyperbolic surfaces with a single conical singularity.*

For a hyperbolic surface S with genus $g \geq 2$ and with some conical singularities of positive curvatures, its Fuchsian polyhedral realization is an incompressible isometric embedding of S in a Fuchsian cylinder \mathbb{H}^3/Γ for some Fuchsian group Γ with genus g such that the image is a piecewise totally geodesic polyhedral surface. It is known by a theorem of Fillastre that, for any such S , there exists a unique convex Fuchsian polyhedral realization. We will describe the geometry of convex and non-convex Fuchsian polyhedral realizations when S has a single conical singularity, and show that the convex case indeed corresponds to the Delaunay triangulation of S . (Received September 23, 2011)