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Tian Yang* (tianyang@math.rutgers.edu), 23855 BPO Way, Piscataway, NJ 08854. *On the Hyperbolic Gluing Equations and Representations of Fundamental Groups of Closed 3-Manifolds.*

We show that for a representation of the fundamental group of a triangulated closed 3-manifold (not necessarily hyperbolic) into $\mathbf{PSL}(2; \mathbb{C})$ so that any edge loop has non-trivial image under the representation, there exist uncountably many solutions to the hyperbolic gluing equation whose associated representations are the given representation, and whose volumes are equal to the volume of the given representation. As a consequence, the hyperbolic structure on a closed, orientable, hyperbolic 3-manifold can be constructed from a solution to the hyperbolic gluing equations using any triangulation with essential edges. (Received March 26, 2010)