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Danny Calegari and **Joel Louwsma*** (louwsma@caltech.edu), Department of Mathematics
253-37, California Institute of Technology, Pasadena, CA 91125. *Immersed surfaces in the modular orbifold.*

A hyperbolic conjugacy class in the modular group $\mathrm{PSL}(2, \mathbb{Z})$ corresponds to a closed geodesic in the modular orbifold. Some of these geodesics virtually bound immersed surfaces, and some do not; the distinction is related to the polyhedral structure in the unit ball of the stable commutator length norm. We prove the following stability theorem: for every hyperbolic element of the modular group, the product of this element with a sufficiently large power of a parabolic element is represented by a geodesic that virtually bounds an immersed surface. (Received March 07, 2011)