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Clifford J Earle* (`cliff@math.cornell.edu`). *Diffeomorphism groups of compact 2-dimensional hyperbolic orbifolds.*

We extend some classical results about diffeomorphisms of closed Riemann surfaces of genus greater than one. Our results are also related to results of Birman and Hilden about equivariant homotopies of homeomorphisms. Here is a sample result. Undefined terms will be explained in the talk.

Theorem: Let X and Y be compact hyperbolic orbifolds of dimension two, and let f be an orbifold covering map of X onto Y . Consider the group of diffeomorphisms of X onto itself that are both homotopic to the identity on X and f -equivariant. This group, endowed with the topology of smooth convergence, is contractible.

For example, X may be a closed Riemann surface of genus greater than one, Y may be the quotient of X by a group of (not necessarily orientation-preserving) hyperbolic isometries, and f may be the quotient map. That case was considered in the author's 1971 paper "On the moduli of closed Riemann surfaces with symmetries" in the book "Advances in the Theory of Riemann Surfaces" (Princeton University Press). (Received January 02, 2008)