

1040-37-98

John Franks* (j-franks@math.northwestern.edu), Department of Mathematics, Northwestern University, 2033 Sheridan Road, Evanston, IL 60208-2730, and **Michael Handel**. *Global fixed points for centralizers and Morita's Theorem.*

We prove a global fixed point theorem for the centralizer of a homeomorphism of the two dimensional disk D that has attractor-repeller dynamics on the boundary with at least two attractors and two repellers. As one application, we show that there is a finite index subgroup of the centralizer of a pseudo-Anosov homeomorphism with infinitely many global fixed points. As another application we give an elementary proof of Morita's Theorem, that the mapping class group of a closed surface S of genus g does not lift to the group of diffeomorphisms of S and we improve the lower bound for g from 5 to 3. (Received January 28, 2008)