

1058-37-121

**Brian F Martensen\*** ([martensen@mnsu.edu](mailto:martensen@mnsu.edu)), Department of Mathematics & Statistics, Wissink Hall 273, Mankato, MN 56001, and **Marcy Barge** ([barge@math.montana.edu](mailto:barge@math.montana.edu)), Department of Mathematical Sciences, Montana State University, Bozeman, MT 59717. *The classification of expansive attractors on surfaces.*

We prove the conjecture of F. Rodriguez Hertz and J. Rodriguez Hertz (Erg. Thy. & Dyn. Sys., 2006) that every nontrivial transitive expansive attractor of a homeomorphism of a compact surface is a derived from pseudo-Anosov attractor.

It follows that such attractors are very nearly hyperbolic. Simply “unzipping” finitely many unstable branches and splitting finitely many periodic orbits turns such an attractor into a hyperbolic attractor that can be modeled by a substitution tiling space. As such, the dynamics of the attractor are essentially determined by its topology. (Received February 10, 2010)