1016-22-194 **Steven T Spallone*** (sspallone@gmail.com), 108 S. River Rd, Apt #157, West Lafayette, IN 47906, and **Dan Margalit** (margalit@math.utah.edu), 155 S 1440 East, Salt Lake City, UT 84112-0090. *Mapping Class Groups and Characteristic Polynomials: An Application of Representation Theory.*

Let S be a surface. Any self-homeomorphism f of S gives a symplectic action on the first homology group. By results of Casson, Bleiler, Nielsen, and Thurston, the characteristic polynomial of this action can tell us that f is pseudo-Anosov. Using the theory of the Steinberg map, we exploit these results to give a new explicit construction of large families of pseudo-Anosov mapping classes. (Received February 12, 2006)