

1125-51-1536

**Giuseppe Martone\*** (gmartone@usc.edu) and **Tengren Zhang**. *Positively ratioed representations.*

Anosov representations are specific homomorphisms from the fundamental group of a closed surface with negative Euler characteristic to a Lie group. We study certain length functions that arise in this setting. Positively ratioed representations are Anosov and they satisfy a positivity property with respect to one such length function. Examples are Hitchin and maximal representations. In this context, we relate the length of a shortest simple closed curve (which we show it exists) to the topological entropy of the length function. This is joint work with Tengren Zhang. (Received September 17, 2016)