

1153-20-261

Marissa Kawehi Loving* (mloving6@gatech.edu). *Spectral Rigidity of q -differential Metrics.*

When geometric structures on surfaces are determined by the lengths of curves, it is natural to ask which curves' lengths do we really need to know? It is a classical result of Fricke that a hyperbolic metric on a surface is determined by its marked simple length spectrum. More recently, Duchin–Leininger–Rafi proved that a flat metric induced by a unit-norm quadratic differential is also determined by its marked simple length spectrum. In this talk, I will describe a generalization of the notion of simple curves to that of q -simple curves, for any positive integer q , and show that the lengths of q -simple curves suffice to determine a non-positively curved Euclidean cone metric induced by a q -differential metric. (Received August 29, 2019)