

1135-58-1237

Teresa Arias-Marco, Emily B Dryden, Carolyn S Gordon, Asma Hassannezhad, Allie Ray and Elizabeth Stanhope* (stanhope@clark.edu). *The Steklov spectrum and the geometry of orbifolds.*

The Steklov spectrum of a compact Riemannian orbifold with boundary is the spectrum of the Dirichlet-to-Neumann operator of the orbifold. In two dimensions we show that the Steklov spectrum detects the number of singular points on the boundary of the orbisurface. In addition, the Steklov spectrum determines the lengths of orbisurface boundary components up to an equivalence relation. We also obtain upper bounds on the Steklov eigenvalues of an orbifold in terms of the isoperimetric ratio and a conformal invariant. (Received September 20, 2017)