

1165-58-170

Katie Gittins, Carolyn Gordon* (csgordon@dartmouth.edu), **Magda Khalile, Ingrid Membrillo Solis, Mary Sandoval** and **Elizabeth Stanhope**. *Comparing the Hodge spectra of Riemannian manifolds and orbifolds*. Preliminary report.

We will address the question: Does spectral data detect the presence of singularities in a closed Riemannian orbifold; i.e., are Riemannian orbifolds with singularities spectrally distinguishable from Riemannian manifolds? Following a brief introduction to orbifolds and a partial history of results, we will focus on the Hodge Laplacian acting on differential forms. We present the small time heat asymptotics, paying particular attention to the contributions of the orbifold singularities to the heat invariants. We then obtain various positive answers to the question above and also counterexamples. (Received January 17, 2021)