

1125-53-501

Ian M Adelstein*, ian.adelstein@trincoll.edu, and **Mary R Sandoval**. *The G -invariant spectrum and non-orbifold singularities.*

We consider the G -invariant spectrum of the Laplacian on an orbit space M/G where M is a compact Riemannian manifold and G acts by isometries. We generalize the Sunada-Pesce-Sutton technique to the G -invariant setting to produce pairs of isospectral non-isometric orbit spaces. One of these spaces is isometric to an orbifold with constant sectional curvature whereas the other admits non-orbifold singularities and therefore has unbounded sectional curvature. We therefore show that constant sectional curvature and the presence of non-orbifold singularities are inaudible properties of the G -invariant spectrum. (Received September 04, 2016)