YOU CAN HEAR THE LOCAL ORIENTABILITY OF AN ORBIFOLD

SEAN RICHARDSON

A Riemannian orbifold is a generalization of a manifold which allows for local structure given by the quotient of a Riemannian manifold with respect to finite groups of isometries. If all such isometries on the orbifold are orientation preserving, we call the orbifold locally orientable. Using heat invariants, we find that the Laplace spectrum of a Riemannian orbifold determines the local orientability of the orbifold.