

Texas State Topology Seminar

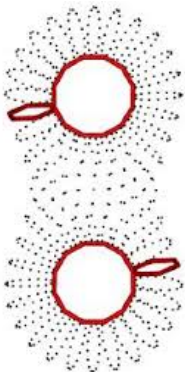
Thursday, 2018, September 13, 2:00-3:15 p.m., in DERR 227

Speaker: Sean Corrigan

Topic: *Perfect Morse functions on three-dimensional orbifolds*

ABSTRACT

When the quotient of a smooth manifold by a compact Lie group action forms a classical effective orbifold, the homotopy type of the associated Borel construction is an invariant of the orbifold structure induced on the quotient. A perfect Morse function on the quotient orbifold is one whose critical point data tell us precisely the homology of the associated Borel construction. We will show some examples and demonstrate some necessary conditions for the existence of such functions when the quotient orbifold in question is three-dimensional. Our emphasis will be on those orbifolds whose singular set is a union of circles, and the results will concern both the underlying space as well as the particular embedding of the singular set.



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