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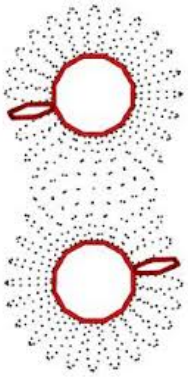
The rising STAR *of Texas*



Topology Seminar

Friday, 2018, February 16, 11:00-11:50 a.m., in DERR 334

Speaker: Dr. Sean Corrigan

Title: *Perfect Morse functions on two-dimensional orbifolds*

ABSTRACT

The equivariant homology associated to a classical effective two-dimensional orbifold may be readily computed via a construction due to Haefliger. We will use this to give a complete list of those closed, orientable two-dimensional orbifolds which admit a perfect Morse function in the sense that the integral equivariant homology may be read directly from the critical point data of the function. For more general (i.e., higher-dimensional) classical effective orbifolds, there is a spectral sequence corresponding to each orbifold Morse function, and this spectral sequence converges to the homology of an associated Borel construction. As a corollary, we will see that the perfect Morse functions on two-dimensional orbifolds are exactly those whose corresponding spectral sequence collapses at the first page. If time permits, we can discuss some partial results regarding perfect Morse functions on three-dimensional orbifolds, and look at some three-dimensional examples.

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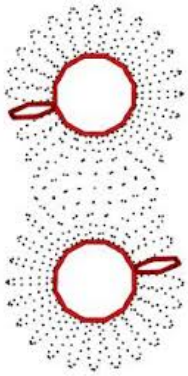

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