



Prof. Dr. Markus Banagl

A Spatial Approach to Poincaré Duality on Singular Spaces

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ORT:

HU, Institut für Mathematik
Rudower Chaussee 25, Raum 1.013 (ground floor)
12489 Berlin

Trying to lift our understanding of Poincaré Duality on stratified singular spaces from the chain- or form-level to the space level leads to a new cohomology theory HI , which is generally not isomorphic to intersection cohomology IH . We will discuss various aspects, byproducts and applications of this new theory. Topics touched on will include a de Rham formulation, the cohomology of flat fiber bundles, smooth deformations of singular projective hypersurfaces, massless D-branes in type II string theory and mirror symmetry in the context of a Calabi-Yau conifold transition.

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