



GEOMETRY, TOPOLOGY, AND PHYSICS SEMINAR

Mathematical Foundations of Orientifolds

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Abstract: We give an overview of a project with Dan Freed and Jacques Distler whose goal is a precise and general formulation of orientifold backgrounds of type II string theory. A central theme is the use of twisted equivariant differential generalized cohomology theories. The B-field twists a version of equivariant KR theory, while the RR fields and currents are formulated in terms of a twisted equivariant differential KR theory. One important new result is a formula for the RR charge of an orientifold plane at the K-theory level, which lifts the standard result of Morales-Scrucca-Serone in integral cohomology.