

Abstract from Urs Schreiber

Title: *Nonabelian differential cohomology*

Abstract: Nonabelian cohomology generalizes Čech cohomology with coefficients in sheaves of complexes of abelian group to cohomology with coefficients in sheaves of infinity-categories. It classifies in particular higher principal bundles and their higher gerbes of sections. There is a differential version which classifies higher bundles with connection. Classes of examples of these arise from possibly twisted lifts of structure groups through shifted central "String-like" extensions. Using Lie-infinity theory relating smooth infinity-groupoids and L-infinity algebras we construct twisted String 2- and Fivebrane 6-bundles as well as their obstructing Chern-Simons 3- and 7-bundles. We explain the Green-Schwarz mechanism and its magnetic dual version from this point of view.