1138-55-160 **Martina Rovelli\*** (`mrovell1@jhu.edu`), Department of Mathematics, 404 Krieger Hall, 3400 N. Charles Street, Baltimore, MD 21218. *Characteristic classes as complete obstructions.*

We propose a uniform interpretation of characteristic classes as complete obstructions to the reduction of the structure group of a principal bundle, and to the existence of an equivariant extension of a certain homomorphism defined a priori only on a single fiber. By plugging in the correct parameters, we recover several classical theorems. We then define a family of invariants for principal bundles that detect the number of group reductions associated to characteristic classes that a principal bundle admits. (Received February 08, 2018)