



Speaker: Philippe Mathieu
University of Notre Dame

Tuesday, September 4, 2018

2:30 PM

258 Hurley Hall

Title: Deligne-Beilinson cohomology and abelian Chern-Simons theory

Abstract:

Talk 1: 2:30-3:30 Talk 2: 4:00-5:00 Starting from the point of local observers, we will show that Deligne-Beilinson cohomology classes can be used to build the abelian Chern-Simons theory in terms of gauge classes of potentials, instead of potentials as we are used to in physics. The structure of the module of Deligne-Beilinson cohomology classes is very specific and makes it possible to identify in (ill-defined) functional integrals some finite topological quantities. We will conclude saying a few words about relations we can then derive between those topological quantities and an abelian Reshetikhin-Turaev-like invariant.