

TOPOLOGY SEMINAR

Guest Speaker: Zhen Huan

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Technology**

Date: Tuesday, April 6, 2021

Time: 2:30 PM

Location: Zoom

Zoom Link: notredame.zoom.us/j/97262637721

Lecture Title:

2-Representations of Lie 2-Groups and 2-Vector Bundles

Abstract

Murray, Roberts and Wockel showed that there is no strict model of the string 2-group using the free loop group. Instead, they construct the next best thing, a coherent model for the string 2-group using the free loop group, with explicit formulas for all structure. Based on their expectations, we build a category of 2-representations for coherent Lie 2-groups and some interesting examples. We also discuss the relation between this category of 2-representations and the category of representations. Afterwards, we build the associated 2-vector bundles of the string group. In further projects, we will construct the tensor product of 2-representations and compare it with the Connes fusion product of bimodules over von Neumann algebras. And I will explore the relation between elliptic cohomology and 2-groups by first studying Quasi-elliptic cohomology of coherent 2-groups. This is joint work with Chenchang Zhu.