

Topics in Geometry Seminar

Yang Hu
University of Regina

Introduction to Complex K-Theory III

Date: Monday, April 24, 2017

Time: 11:30 AM - 1:00 PM

Room: Math Lounge 307.20

Abstract:

The purpose of this talk is to present sample computations on K groups. Before doing this we will first continue our discussion on the properties of the functors K^* and \tilde{K}^* , explaining why they are generalized cohomology theories. In particular we will see why \tilde{K}^* takes a coproduct $\vee_{\alpha} X_{\alpha}$ in Top_* to a product $\bigoplus_{\alpha} \tilde{K}^*(X_{\alpha})$ in $GrAbgrp$, and why there is a long exact sequence of a pair. These two properties are basic computational tools we will later make use of.

We will then turn to the computations. The first set of examples will be the K -groups of spheres. Next we will do the K -groups of the torus. The long exact sequence of a pair will be suffice for this purpose, but our next task, namely the computation of the K groups of $\mathbb{C}P^n$, would require an application of Atiyah-Hirzebruch spectral sequence.