



Algebra/Topology Seminar

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ON THE FAILURE OF SURJECTIVITY OF ASSEMBLY MAPS FOR TOPOLOGICAL CYCLIC HOMOLOGY

Thursday, April 14, 2016

1:15 p.m. in ES-143

ABSTRACT. I will present some very recent joint work with Holger Reich. We show that, in general, the assembly map for topological cyclic homology with respect to the family of virtually cyclic subgroups is *not* surjective. This result verifies a conjecture that I made at the end of my series of talks last November. Combined with our earlier results, which I will review, this provides a quite complete picture of the behavior of the assembly maps for topological cyclic homology.

Here's some background, that I will explain at the beginning of the talk. Topological cyclic homology was invented by Bökstedt, Hsiang, and Madsen for their celebrated proof of the K -theoretic Novikov Conjecture, and is a powerful tool for computations in algebraic K -theory. It is a subtle equivariant refinement of Bökstedt's topological Hochschild homology, which in turn is a stable homotopy theoretic version of Hochschild homology. All these theories are defined for rings and more generally for ring spectra, and assembly maps provide tools to study them in the case of group algebras.