

Algebra/Topology Seminar

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A COARSE GEOMETRIC ANALOGUE OF HOMOLOGICAL COHERENCE

Thursday, December 6, 2018

1:15 p.m. in ES-143

ABSTRACT. Coherent rings in homological algebra are rings R such that every finitely presented R -module has a resolution by finitely generated projective R -modules. Unfortunately, very few group rings of infinite groups are coherent, even when the coefficient ring is as nice as the ring of integers \mathbb{Z} . Coarse coherence is a coarse geometric counterpart of this classical notion of coherence, and enables us to construct resolutions of modules for a larger collection of (group) rings given certain requirements on the presentation of the module. Modules presented in this way turn out to be relevant to addressing questions of topological rigidity in manifold topology. This talk is a preview of an upcoming short talk, to be given at the Joint Mathematics Meetings in Baltimore this January, and discusses some of the key results regarding coarse coherence from a recent joint paper with Goldfarb.