

Fall 2024

Geometry and Topology Seminar

Title

A new vanishing criterion for bounded cohomology

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Time: 9:00PM

Zoom:

Abstract: First studied in the 70's in the context of Banach algebras, the theory of bounded cohomology was then widely generalised by Gromov, who converted it into a powerful tool to study groups and spaces. It is by now a well-established invariant, but on its flip side it is often difficult to compute and, beyond the case of amenable groups, many questions remain widely open. I will introduce the basics of bounded cohomology of groups and its main properties, before turning to recent results obtained with Francesco Fournier-Facio, Yash Lodha and Marco Moraschini: a new algebraic condition that implies the vanishing of the bounded cohomology of a given group for a big family of coefficient modules. This condition is satisfied by many non-amenable groups of topological, geometric or algebraic origin.