



Algebra/Topology Seminar

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COARSE COHERENCE OF METRIC SPACES AND GROUPS, AND ITS PERMANENCE PROPERTIES

Thursday, March 22, 2018

1:15 p.m. in ES-143

ABSTRACT. (Joint work with Jonathan Grossman.) We introduce properties of metric spaces and, specifically, finitely generated groups with word metrics which we call “coarse coherence” and “coarse regular coherence.” They are geometric counterparts of the classical notion of coherence in homological algebra and the regular coherence property of groups defined and studied by Waldhausen. The new properties make sense in the general context of coarse metric geometry and are coarse invariants. In particular, they are quasi-isometry invariants of spaces and groups. They are in fact a weakening of Waldhausen’s regular coherence but can be used as effectively in K -theory computations. This is a large class of groups containing all groups with straight finite decomposition complexity. The new framework allows us to prove structural results by developing permanence properties for coarse coherence.