

Algebra/Topology Seminar

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CONSTRUCTING RELATIVELY GEOMETRIC CUBULATIONS

Thursday, November 21, 2024
3:00 p.m. in BB-B012

ABSTRACT. The study of hyperbolic and relatively hyperbolic groups acting properly and cocompactly on $CAT(0)$ cube complexes has produced spectacular results in geometric group theory and low dimensional topology. In 2019, Groves and I introduced a new kind of action of a relatively hyperbolic group on a $CAT(0)$ cube complex called a relatively geometric action. Relatively geometric actions are cocompact but not proper in a controlled way. In this talk, I will discuss some examples and applications of relatively geometric actions. I will also explain how to naturally construct relatively geometric actions using a relatively geometric version of Bergeron and Wise's boundary cubulation criterion for hyperbolic groups. This talk contains joint work with Daniel Groves, Suraj Krishna MS and Thomas Ng.