



Algebra/Topology Seminar

JUSTIN CURRY

FOUNDATIONS OF TDA: CLASSIFICATION OF CONSTRUCTIBLE COSHEAVES

Thursday, November 9, 2017

1:15 p.m. in ES-143

ABSTRACT. In my last talk I presented a poset-theoretic perspective on the Elder rule, which associates a barcode (persistence diagram) to a persistent set. In this talk, I will describe a quiver and representation-theoretic perspective on persistence that emerges from a classification theorem for constructible cosheaves originally described by MacPherson and proved in various versions by Shepard, Treumann, Lurie, and myself, in collaboration with Amit Patel. This theorem is a building block for making (co)sheaves essentially finite and computable and serves as a foundation for level-set and multi-parameter persistence, the latter being the next step for TDA.

N.B. This is the second part of a three lecture series, but will not explicitly depend on details from the first lecture.