

1125-00-3044

Kate Heenan L Heenan*, klheen18@g.holycross.edu, and **David B Damiano**. *Topological data analysis of ballistic deposition models.*

In this project we apply methods from computational topology to analyze the void structure of simulations of ballistic deposition. In particular, we adapt and apply the concept of persistent homology dimension developed by MacPherson and Schweinhart. Further, we compare the persistent homology dimension to fractal measures of the void structure. Considering a large range of deposition sizes and different probabilistic rules for the depositions, we hope to capture and quantify the characteristics of the voids to come to an understanding of the complexity of the depositions. (Received September 20, 2016)