

1163-35-1594 **A Hasan, N Rodriguez** and **L Wong*** (lyndsey.wong@colorado.edu). *Finding Pattern Formation in a Model for Wealth and Amenities.*

Gentrification refers to the influx of income into a community leading to the improvement of an area through renovation or the introduction of local amenities. This is usually accompanied by an increase in the cost of living, which displaces lower income populations. To better understand this problem, we will introduce a model for the dynamics of wealth and amenities. In order to find when we have inhomogeneous solutions to this model, we present two approaches. The first is to perform a linear stability analysis in order to find when small perturbations of constant equilibrium solutions become unstable. The second is to prove the existence of a global bifurcation of these solutions from the constant equilibrium solution. (Received September 15, 2020)