

1116-60-1597

John K. McSweeney* (mcsweene@rose-hulman.edu). *Single-Seed Cascades on Clustered Networks.*

We consider a dynamic network (graph) cascade process developed by Duncan Watts – nodes (vertices) enter an ‘active’ state if and only if a specified proportion of their neighbors do. We analyze this process on a class of random networks which have a specified amount of clustering, and are thus not locally tree-like. We adapt existing tree-based methods to formulate an appropriate two-type branching process to describe the spread of a cascade started with a single active node, and obtain a fixed-point equation to implicitly express the extinction probability of such a cascade. In so doing, we also establish a compact criterion for certain extinction of the cascade. (Received September 20, 2015)