Computational study of a class of cooperative sequential adsorption models on Cayley trees and two- dimensional lattices WILL BANKS, ANDREW SEREDINSKI, BRIAN SIMPSON, VINCENT KIM, IRINA MAZILU, DAN MAZILU, Washington and Lee University — We present a Monte Carlo simulation study of a class of cooperative sequential adsorption models with constant and variable attachment rates and their possible applications for ionic self-assembly of thin films, drug encapsulation of nanoparticles and susceptible-infected-recovered epidemic models. We do a comparison study of these models on a Cayley tree and a two - dimensional lattice and discuss the cases for which four-branch Cayley trees are good approximations for two -dimensional lattices.

Will Banks
Washington and Lee University

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