

Abstract Submitted  
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**3-D Simulations of Open Star Cluster Evolution Using The King Model** JENNIFER KACHEL, ANN BRAGG, CAVENDISH MCKAY, Marietta College — We model the evolution of open clusters using the Starlab simulator package with the goal of understanding how the spatial distributions of high and low mass stars within the clusters evolve in time. To accomplish this, we built ensembles of simulated clusters containing different numbers of stars, with initial populations distributed according to the King model and the Salpeter initial mass function. Using these simulated clusters, we examine the timescale on which mass segregation becomes apparent and its variability due to differences in initial populations drawn from the same distribution. We also examine the effect of cluster size on the mass segregation.

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