

Abstract Submitted
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Geometry Dominance in the Formation of Clusters in Systems of Rigid Gapped Rings CHRISTOPHER LASOTA, Gonzaga University, RACHEL CARY, ARIEL HELFER — We have examined the formation of clusters in kinetically agitated collections of rigid rings with angular gaps in them. Even for small gap angles, large clusters form readily and are sufficiently tangled so as to remain tangled under semi-static gravitational stresses without decomposing. We have measured the average largest cluster size as a function of gap angle, and witness behavior similar to that of a percolation phase transition. This was done for a variety of materials having different friction coefficients. The critical gap angle at which clusters disappear appears to be nearly independent of the friction coefficient, suggesting that cluster formation is dominated by geometry effects.

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