

265b Particles Slowly Coating a Surface

Eduardo D. Glandt and Panu Danwanichakul

We study the formation of clusters or aggregates in slowly deposited, i.e. sequentially quenched systems for varying strengths of the interparticle forces. We explore the degree of ordering within the clusters at densities close to the jamming limit of random sequential addition. Sequential quenching allows a continuous evolution from totally random aggregates to perfect crystals; in this sense is fundamentally different from equilibrium. We investigate the emergence of crystallinity, i.e. positional ordering and the bond-order parameter within the microclusters. The low-temperature limit is singular, corresponding to either a single annealed crystal or to a polycrystalline tessellation, depending on the size of the system.