

# Multi-particle diffusion limited aggregation

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We consider a stochastic aggregation model on  $Z^d$ . Start with an infinite collection of particles located at the vertices of the lattice, with at most one particle per vertex, and initially distributed according to the product Bernoulli measure with parameter  $\mu \in (0, 1)$ . In addition, there is an aggregate, which initially consists of only one particle placed at the origin. Non-aggregated particles move as continuous time simple symmetric random walks obeying the exclusion rule, whereas aggregated particles do not move. The aggregate grows indefinitely by attaching particles to its surface whenever a particle attempts to jump onto it. Our main result states that if on  $Z^d$ ,  $d$  at least 2, the initial density of particles  $\mu$  is large enough, then with positive probability the aggregate grows with positive speed.