

Oil and Water: a two-type internal aggregation model

Elisabetta Candellero

October 30, 2014

Abstract

We introduce a two-type internal aggregation model where the particles (*oil* particles and *water* particles) perform the following process on \mathbb{Z} . Starting from n *oils* and n *waters* at the origin, inductively if at a vertex $x \in \mathbb{Z}$ there are both oil and water particles, then x fires one oil and one water: each particle (independently) takes one step according to simple random walk. Firing continues until at each vertex there is at most one type of particles. We establish the correct order for several statistics of the model, and identify the scaling limit under assumption of existence. (Joint work with S. Ganguly, C. Hoffman and L. Levine.)