

1063-35-189

Thomas Laurent* (laurent@math.ucr.edu). *Instantaneous mass concentration in solutions of the aggregation equation.*

The aggregation equation is a continuum model for interacting particle systems with attractive/repulsive pairwise interaction potential K . It arises in a number of models for biological aggregation, materials science and granular media. The main phenomenon of interest is that, even with smooth initial data, the solutions can concentrate mass in finite time (i.e. a delta Dirac appears in the solution in finite time). We study how and under which circumstances these Dirac delta functions appear. (Received August 16, 2010)