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Spinodal decomposition in particle-laden Landau-Levich flow JUSTIN KAO, A.E. HOSOI, Massachusetts Institute of Technology — We investigate Landau-Levich coating of a solid wall by a suspension of large spherical particles. Capillary forces lead to self-assembly of a monolayer of particle aggregates, and experiments show two regimes of pattern formation, corresponding to sporadic and continuous deposition. We obtain coating fraction as a function of bulk particle volume fraction and wall speed, and propose a continuum spinodal decomposition (Cahn-Hilliard) model for this pattern formation process. Solutions of the corresponding model equations are presented and compared to experimental results.

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