

Abstract Submitted
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Directed Self-Assembly of Colloidal Particles ZORANA ZERAVCIC, School of Engineering and Applied Sciences, Harvard University, JESSE COLLINS, Department of Physics, Harvard University, VINOTHAN MANOHARAN, School of Engineering and Applied Sciences, Harvard University and Department of Physics, Harvard University, MICHAEL BRENNER, School of Engineering and Applied Sciences, Harvard University — In nature, simple constituents like atoms, molecules and polymer chains, spontaneously organize into larger, higher order structures. Interactions involved in this self-assembly act on a local level. These facts inspire experimental and theoretical engineering of components able to organize into pre-designed complex systems. We perform numerical simulations of collections of DNA coated colloidal particles. We test different design rules for self-assembly with short-range interactions and explore the stability of equilibrium structures.

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