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Self-assembly of two-dimensional systems with off-center core-corona architecture DANIEL SALGADO, CARLOS MENDOZA, Instituto de Investigaciones en Materiales, UNAM — Physical systems with core-corona architecture, such as dendritic polymers or hyper-branched star polymers which are characterized by two repulsive length scales, related to the hard and soft repulsions, respectively, show the spontaneous formation of stripe phases. Here we study, by using Monte Carlo simulations, how robust is the stripe formation process upon a shift in the center of the core with respect to the corona in a two-dimensional system of colloidal particles. We find that for sufficiently large shifts, the strip phases are replaced by a sort of plastic (or glassy) colloidal crystal consisting of a regular lattice of coronas inside of which disordered aggregates of cores coexist. The model investigated in this work could be useful for the design of colloidal plastic crystals.

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