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**Fabrication of non-hexagonal close packed colloidal array on a substrate by transfer** MENEKA BANIK, RABIBRATA MUKHERJEE, Indian Institute of Technology Kharagpur — Self-organized colloidal arrays find application in fabrication of solar cells with advanced light management strategies. We report a simple spincoating based approach for fabricating two dimensional colloidal crystals with hexagonal and non-hexagonal close packed assembly on flat and nanopatterned substrates. The non-HCP arrays were fabricated by spin coating the particles onto soft lithographically fabricated substrates. The substrate patterns impose directionality to the particles by confining them within the grooves. We have developed a technique by which the HCP and non-HCP arrays can be transferred to any surface. For this purpose the colloidal arrays were fabricated on a UV degradable PMMA layer, resulting in transfer of the particles on UV exposure. This allows the colloidal structures to be transported across substrates irrespective of their surface energy, wettability or morphology. Since the particles are transferred without exposing it to any kind of chemical or thermal environment, it can be utilized for placing particles on top of thin film solar cells for improving their absorption efficiency.

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