

In pursuit of colloidal diamond

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While suspensions of colloidal particles self-assemble into a wide variety of crystalline lattices, making them assemble into the diamond lattice has proven elusive. The desire to do so has been driven by the fact that the a dielectric diamond lattice exhibits the widest photonic band gap of any known crystalline structure. Here we report on the progress of strategies to realize a colloidal diamond lattice using DNA-coated colloids in various guises: patchy particles, particle clusters, and superlattices.