

Abstract Submitted
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Shape-sensitive crystallization in colloidal superball fluids LAURA

ROSSI, Van't Hoff Laboratory for Physical and Colloid Chemistry, Utrecht University, NL, STEFANO SACANNA, Center for Soft Matter research, New York University, USA, VISHAL SONI, James Franck institute, University of Chicago, USA, PAUL CHAIKIN, DAVID PINE, Center for Soft Matter research, New York University, USA, ALBERT PHILIPSE, Van't Hoff Laboratory for Physical and Colloid Chemistry, Utrecht University, NL, WILLIAM IRVINE, James Franck institute, University of Chicago, USA — Uniform colloidal silica superballs crystallize into a variety of ordered phases when depletant objects induce attraction between the colloids. The differences in these entropy-driven self-assembled structures are driven by minute deviations of the particle shape and are uniquely determined by an interplay between the size of depletants and superballs. Tuning this ratio allows to smooth the deviation in particle shape, allowing the observation of different depletion-stabilized crystalline structures for the same superball fluid.

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