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Spherical nano-shells of block copolymers MARCO PINNA, ANDREI ZVELINDOVSKY, School of Computing, Engineering and Physical Sciences, University of Central Lancashire, Preston, UK — Using cell dynamics simulation we investigate morphologies block copolymers confined in a spherical shell. The shell is formed by coating of a colloidal particle with a block copolymer thin film. We examine the influence of molecular composition, thickness of the film, curvature of the shell on the nano- structure of the shell. Several block copolymer morphologies are investigated: bulk lamellae, cylinders, spheres and bicontinuous. Deviation from the bulk structure develops under influence of confinement between curved surfaces. The curvature influences the defect density in the formed structure.

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