

Title: Hierarchical wrinkling on elastomeric Janus spheres

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Abstract: Hierarchical wrinkling on elastomeric Janus spheres is permanently imprinted by swelling, for different lengths of time, followed by drying the particles in an appropriate solvent. First-order buckling with a spatial periodicity ($\lambda(1)$) of the order of a few microns and hierarchical structures comprising of 2nd order buckling with a spatial periodicity ($\lambda(2)$) of the order of hundreds of nanometers have been obtained. The 2nd order buckling features result from a Grinfeld surface instability due to the diffusion of the solvent and the presence of sol molecules.

KeyWords Plus: Soft Matter; Particles; Polymerization; Patterns; Emulsion; Surface; Microspheres; Instability; Nanoprobes; Interfaces

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