

Abstract Submitted
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Superresolution Microscopy of the Volume Phase Transition of pNIPAM Microgels GAURASUNDAR MARC CONLEY, University of Fribourg, SOFI NJD, Lund University, MARCO BRAIBANTI, University of Fribourg, PETER SCHURTENBERGER, Lund University, FRANK SCHEFFOLD, University of Fribourg — Hierarchical polymer structures such as pNIPAM microgels have been extensively studied for their ability to undergo significant structural and physical transformations that can be controlled by external stimuli such as temperature, pH or solvent composition. Here we discuss in-situ three-dimensional superresolution microscopy of dye-labeled submicron sized PNiPAM microgels [1]. We use direct STochastic Optical Reconstruction Microscopy (dSTORM) to study the internal density distribution and the particle-to-particle variability of the volume phase transition. Moreover we discuss the potential of this technique towards future applications to more complex architectures for example microgel with anisotropic shape or ones that are doped or decorated with nanoparticles. [1] G. M. Conley, S. Nojd, M. Braibanti, P. Schurtenberger, and F. Scheffold, submitted.

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