

Abstract Submitted
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Deducing Shape of Anisotropic Particles in Solution from Light Scattering: Spindles and Nanorods. ILONA TSUPER, DANIEL TERRANO, KIRIL STRELETZKY, Cleveland State University, OLGA V. DEMENT'EVA VICTOR M. RUDOY COLLABORATION¹ — Depolarized Dynamic Light Scattering (DDLS) enables to measure in situ rotational and translational diffusion of nanoparticles suspended in solution. The particle size, shape, diffusion, and intermolecular interactions can then be interpreted from the DDLS data using various models of diffusion. Incorporating the technique of DDLS to analyze the dimensions of effortlessly imaged elongated particles, such as Iron (III) oxyhydroxide Spindles (FeOOH) and gold coated Nanorods, enables a further comprehension between rotational and translational diffusion, in conjunction with the size distribution of hard-to-image anisotropic wet systems such as micelles, microgels, and protein complexes. The emphasis of this study assessed an aged FeOOH Spindle sample, and explored the size distribution and modeling of the Nanorod particles. The light scattering results obtained from the basic model of non-interacting prolate ellipsoids offered dimensions similar (within 15

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