

Abstract Submitted
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Particle Characterization using Holographic video Microscopy

FOO CHIONG CHEONG, DAVID GRIER, New York University — In-line holographic video microscopy can be interpreted with Lorenz-Mie theory to obtain exceptionally precise measurements of individual colloidal spheres' dimensions and optical properties, while simultaneously tracking their three dimensional motions with nanometer-scale spatial resolution at video rates. This method works over the entire range of particle sizes and compositions for which Mie scattering theory applies. Unlike other light scattering techniques for measuring particle size or refractive index, holographic particle analysis can be applied directly to individual particles.

Fook Chiong Cheong
New York University

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