

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Comparison of different analysis techniques in inline holographic video microscopy FOOK CHIONG CHEONG, New York University — Holographic video microscope can be analyzed on a frame-by-frame basis to track individual colloidal particles' three-dimensional motions with nanometer resolution. In this work, we compare the performance of two complementary analysis techniques, one based on fitting to the exact Lorenz-Mie theory and the other based on phenomenological interpretation of the scattered light field reconstructed with Rayleigh-Sommerfeld back-propagation. Although Lorenz-Mie tracking provides more information and is inherently more precise, Rayleigh-Sommerfeld reconstruction is faster and more general.

Fook Chiong Cheong
New York University

Date submitted: 18 Nov 2010

Electronic form version 1.4