

Abstract Submitted
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Fast Holographic Characterization of Dimpled Spheres MARK HANNEL, CHRISTINE MIDDLETON, DAVID GRIER, New York University — We present a method for quickly analyzing the radii and refractive indexes of dimpled spheres using Holographic Video Microscopy. Our method utilizes an azimuthal median to suppress the perturbation caused by the dimple on an otherwise radially symmetric hologram. The resulting one-dimensional radial profile is fit to Lorenz-Mie theory using Support Vector Machines (SVM). We then discuss the limitations of this method as well as the use of SVMs trained on different scattering geometries or theories.

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