Stigmatic Imaging of Dielectric Nanoparticles in High Refractive Index Object Space

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The two principal technologies that allow for such imaging are an interferometric reflectance imaging substrate (IRIS) and a solid immersion lens (SIL) with access to its aplanatic focal point. We have parameterized contrast and resolution using two parameters: the object space immersion medium refractive index and the relative index of the particle to the medium. At this conference, we will be presenting a simple physical model to describe how contrast and resolution should scale with these parameters, and then we will share imaging data for comparison. Additionally, we will discuss the methods and challenges of working with IRIS and SIL’s in a research setting.

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