

Transcritical sprays: Towards drop sizing by polarized Mie scattering with structured illumination

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Abstract

This work describes the application of planar structured laser illumination to near-critical jets. The latter exhibit a complex interplay between compressible fluid dynamics and non-equilibrium phase transitions, which occur on a very small temporal and spatial scale. These features pose several constraints on the application of structured laser illumination. In this work, we present our optical design, aimed at enabling droplet sizing by polarised Mie.