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Simple but efficient optical condensers based on liquid droplets DARSHAN DESAI, DANIEL DOMINGUEZ, AYRTON BERNUSSI, LUIS GRAVE-DE-PERALTA, Texas Tech University — Optical condensers used in microscopes illuminate the object under observation at inclined angles, thus providing enhanced resolution. However, these condensers contain many parts such as diaphragms, lenses etc. that make them bulky. Recently, we have found that liquid droplets over the surface of the object under observation can be used as efficient condensers that can provide sub-wavelength resolution. Also, an interesting way to analyze and characterize these droplet-based condensers using Fourier plane imaging microscopy (FPIM) technique and the potential for achieving deeper sub-wavelength resolution shall be discussed in detail.

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