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Non-Specialist Talk - Digital Holograms

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Abstract content
 (Max 300 words)

Traditionally monochromatic holograms are generated by illuminating an object with a suitable laser beam, and then recording the interference pattern between this object beam and an undisturbed reference beam on photographic film. However, there are many cases where one would like a hologram of an object that does not physically exist; a so-called digital hologram. While the theory required to create such digital holograms has been around for a number of years, it has only recently been possible to demonstrate these techniques in the laboratory. In this talk I will introduce the core concepts of creating customised optical fields using liquid crystal displays, and outline how to get started with such devices for the generation of digital holograms. I will overview some applications of such holograms in quantum and classical optics.

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