

Abstract Submitted
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Methods of long-range holographic optical trapping¹ AARON YEVIK, ARGHA MONDAL, DAVID GRIER, New York University — Holographic techniques can create three-dimensional light fields which may be used, among many other applications, for optical manipulation of micron-scale particles. This is achieved by a laser beam interacting with a phase-controlling spatial light modulator. We investigate different optical configurations that may be used for projecting three-dimensional light fields as well as their limitations. We evaluate these possibilities in the context of optical micromanipulation and "tractor beams", traveling light fields that can pull microscopic objects towards its source.

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