

439. Title:Analysis of THZ imaging system with a refractive small lens array by a hybrid numerical method

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Abstract:In this paper, a hybrid numerical method, combining geometrical optics/physical optics (GO/PO) and finite-difference time-domain (FDTD), is adopted to design and analyze a THz imaging system, which is composed of an optimized objective lens and a refractive small lens array (SLA). The diffraction efficiency of small lens and the level of cross talk between the adjacent small lenses are calculated and analyzed. The performance of different sizes and materials of SLA are calculated and compared in detail. The hybrid numerical method is also been verified by the relative experimental results.