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标题: Demonstration of spectral and spatial interferometry at THz frequencies
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摘要: A laboratory prototype spectral-spatial interferometer has been constructed to demonstrate the feasibility of the double-Fourier technique at far infrared (FIR) wavelengths (0.15-1 THz). It is planned to use this demonstrator to investigate and validate important design features and data-processing methods for future astronomical FIR interferometer instruments. In building this prototype, we have had to address several key technologies to provide an end-end system demonstration of this double-Fourier interferometer. We report on the first results taken when viewing single-slit and double-slit sources at the focus of a large collimator used to simulate real sources at infinity. The performance of the prototype instrument for these specific field geometries is analyzed to compare with the observed interferometric fringes and to demonstrate image reconstruction capabilities. (C) 2012 Optical Society of America OCIS codes: 120.3180, 110.3175.
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