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Title:Broadband THz Uncooled Antenna-Coupled Microbolometer Array-Electromagnetic Design, Simulations and Measurements

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Abstract:Bolometer sensors are good candidates for THz imaging thanks to their maturity and capability to sense THz waves on the whole spectrum. Starting with infrared microbolometer technology, uncooled antenna-coupled microbolometer focal plane array are being developed at CEA-LETI with the objective of offering low-cost, real-time 2D terahertz imaging sensors. One of the major challenges is studying the optical coupling mechanism of the detector in THz frequency range. In this paper, we present results of the electromagnetic design and characterization process of these focal plane arrays, concentrating on the spectral absorption.

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