

Abstract Submitted
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Characterization of high power near THz radiation from CMOS circuits using a Michelson Interferometer¹ DANIEL J. ARENAS, Department of Physics, University of North Florida, DONGHA SHIM, Department of Computer and Electrical Engineering, University of Florida, DIMITRIOS KOUKIS, Department of Physics, University of Florida, EUNYOUNG SEOK, Texas Instruments, Inc., DAVID B. TANNER, Department of Physics, University of Florida, KENNETH K. O, Texas Analog Center of Excellence, Department of Electrical and Computer Engineering, University of Texas, Dallas — Recently, a high frequency SiGe BiCMOS Colpitts oscillator circuit was reported capable of emitting a second, third and fourth harmonic signal at 295, 442 and 589 GHz, respectively. The operating frequencies of the circuit and the emission powers were characterized using a Fourier transform interferometric spectrometer. The results show that this optical technique is an efficient way to characterize high-frequency circuits. The power emitted from the circuit at each frequency was also compared to that emitted from conventional blackbody sources. The results show that the high power emission of these circuits makes them ideal candidates for future spectroscopic applications.

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