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Autore	Rout Saroj
Titolo	Active Metamaterials : Terahertz Modulators and Detectors / / by Saroj Rout, Sameer Sonkusale
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Soggetti	Electronic circuits Signal processing Image processing Speech processing systems Optical materials Electronic materials Circuits and Systems Electronic Circuits and Devices Signal, Image and Speech Processing Optical and Electronic Materials
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Nota di contenuto	Chapter 1.Introduction -- Chapter 2. Background Theory -- Chapter 3. Experimental Methods -- Chapter 4.High Speed Terahertz Modulation using Active Metamaterial -- Chapter 5. A Terahertz Spatial Light Modulator for Imaging Application -- Chapter 6.A Terahertz Focal Plane Array using Metamaterials in a CMOS Process -- A. Electromagnetic Waves. .
Sommario/riassunto	This book covers the theoretical background and experimental methods for engineers and physicist to be able to design, fabricate and characterize terahertz devices using metamaterials. Devices utilize mainstream semiconductor foundry processes to make them for communication and imaging applications. This book will provide engineers and physicists a comprehensive reference to construct such devices with general background in circuits and electromagnetics. The

authors describe the design and construction of electromagnetic (EM) devices for terahertz frequencies (108-1010cycles/sec) by embedding solid state electronic devices into artificial metamaterials where each unit cell is only a fraction of the wavelength of the incident EM wave. The net effect is an electronically tunable bulk properties with effective electric (permittivity) and magnetic (permeability) that can be utilized to make novel devices to fill the terahertz gap.