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Nota di contenuto	Chapter 1 - THz Bandpass Filter Design using Metamaterial-based Defected 1D Photonic Crystal Structure (Dr. Angsuman Sarkar) -- Chapter 2 - Terahertz Radiators Based on Silicon Carbide Avalanche Transit Time Sources – Part I: Large-Signal Characteristics (Dr. Aritra Acharyya) -- Chapter 3 - Terahertz Radiators Based on Silicon Carbide Avalanche Transit Time Sources – Part II: Avalanche Noise Characteristics (Dr. Aritra Acharyya) -- Chapter 4 - RF Performance of

Ultra Wide Band Gap HEMTs (Dr. T R Lenka) -- Chapter 5 - Potentiality of Impact Avalanche Transit Time diode as Terahertz Source based on Group-IV and III-V semiconducting materials (Girish Chandra Ghivela) -- Chapter 6 - Analysis of InN based Surrounded gate tunnel field effect transistor for terahertz applications (Dr. Nitai Paitya) -- Chapter 7 - Thermoelectric Power in Heavily Doped Nano-Structures In The Presence of Terahertz Radiation (K P Ghatak) -- Chapter 8 - Heterostructure Devices for THz Signal Recognition (Dr. Manas Chand) -- Chapter 9 - Data transmission with Terahertz Communication Systems (Dr. Sudipta Das) -- Chapter 10 - Advances in Terahertz Imaging (Dr. Arijit Saha) -- Chapter 11 - Terahertz emission mechanisms in III-V semiconductors: The influence of isoelectronic dopants (Rajeev N. Kini and C. P. Vaisakh) -- Chapter 12 - Group III – Nitride and other semiconductor for terahertz detector(Bijit Choudhuri and Aniruddha Mondal).

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Sommario/riassunto

This book highlights recent advances and applications in terahertz (THz) technology, addressing advanced topics such as THz biomedical imaging, pattern recognition and tomographic reconstruction for THz biomedical imaging by machine learning and artificial intelligence, THz imaging radars for autonomous vehicle applications, and THz imaging systems for security and surveillance. It also discusses theoretical, experimental, established and validated empirical work on these topics.

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