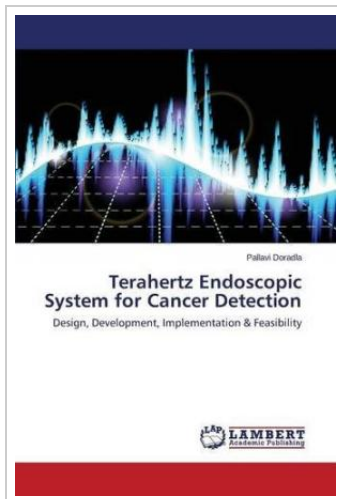




Terahertz Endoscopic System for Cancer Detection

By Doradla, Pallavi

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Design, Development, Implementation & Feasibility | Terahertz (THz) imaging is emerging as a robust platform for myriad applications in the fields of security, health, and material science. Terahertz regime with wavelengths spanning from microns to millimeters has the potential to obtain high-resolution images of an organ effectively combining macroscopic and microscopic information. This book describes the design, development, and practical implementation of a single-channel terahertz endoscope while simultaneously obtaining an overview of the existing technology. Dr. Doradla places a particular emphasis on the design of a miniaturized endoscopic system for cancer detection, among many other facets of the device development including: generation of terahertz radiation from carbon dioxide gas laser, ex-vivo characterization of colorectal tissue in reflection modality, design and fabrication of flexible terahertz waveguides, and feasibility study of polarization-sensitive endoscopic system for clinical applications. This is an ideal book for applied physicists and biomedical engineers entering the field and this volume offers comprehensive and integrated treatment of all aspects of terahertz technology and medical imaging. | Format: Paperback | Language/Sprache: english | 148 pp.



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