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Collana	Lecture Notes in Electrical Engineering, , 1876-1119 ; ; 306
Disciplina	621
Soggetti	Telecommunication Mechatronics Signal processing Microwaves, RF Engineering and Optical Communications Signal, Speech and Image Processing
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Formato	Materiale a stampa
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Integration of Image and ID-POS in ISZOT for Behavior Analysis of Shoppers -- Low-Cost IR Visualizer Based on a Rotating Phosphor Screen for Accurate Beam Analysis -- Evaluation of Heteroepitaxially Grown Semipolar {20-21} GaN on Patterned Sapphire Substrate -- Development of a Low-Noise Three-Dimensional Imaging LIDAR System using two 1x8 Geiger-Mode Avalanche Photodiode Arrays -- Quick Light-Mixing for Image Inspection using Simplex Search and Robust Parameter Design -- Dense 3D Reconstruction in Multi-Camera Systems -- Optimization of Coupling Condition in Distance between the Sphere and the Tapered Fiber for Diameter Measurement of Microsphere by using WGM Resonance -- UV Shadow Moiré for Specular and Large Surface Shape Measurement -- Development of measurement system for 3D microscope -- Design and Fabrication of a Prototype Actuator for Fourier Transform Interferometry -- Peak Search Method for the Optical Spectrum Signals -- Magnetostriction Induced Fiberoptic Metal Profile Detector -- Liquid Viscosity Sensing Using Nonlinear Higher Order -- Harmonic Excitation in Fiberoptic Vibrating

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Simulation and Optimization of Nanoparticle Patterned Substrates for S ERS Effect -- An image based coordinate tracking system using afocal optics for surgical navigation.- Feasibility Study of a functional Near Infrared Spectroscopy as a Brain Optical Imaging Modality for -- Real-Time Monitoring System for Industrial Motion and Optical Micro Vibration Detection -- Thermal Manipulation Utilizing Micro-cantilever Probe in Scanning Electron Microscopy -- Sound-source tracking and obstacle avoidance system for the mobile robot -- Object-tracking robot using data combination of ultrasonic sensor and servo motor.

Sommario/riassunto

Optomechatronics, as a fusion of optical and mechatronic engineering, have played a key role in developing innovative products such as high precision instruments, defence, photonic systems, measurements, diagnostics, semiconductors, and so on. And optomechatronics technologies have greatly contributed to the state of the art industries in optics design, manufacturing, optical imaging, metrology, and other applications. This book covers a multitude of optomechatronics advantages and solutions. It includes 20 contributions featuring laser and fiber optics, nitride semiconductors, LIDAR technology, machine vision, optical imaging, micro optoelectro mechanical systems, optical metrology, optical-based sensors and actuators, optomechatronics for microscopes, optical pattern and fiber, optomechatronics for bio-medical applications, optomechatronics for manufacturing applications, robotics for micro and nano scales, and other applications. As revised and extended versions, the contributed articles are selected from the proceedings of the 2013 International Symposium on Optomechatronic Technologies held on Oct 28–30, 2013 in Jeju Island, Korea.