1. Record Nr.   UNINA9910674016303321

   Autore   Martinsanz Gonzalo Pajares

   Titolo   Imaging Sensors and Technologies / / Gonzalo Pajares Martinsanz

   Pubbl/distr/stampa   Basel : , : MDPI - Multidisciplinary Digital Publishing Institute, , 2017

   Descrizione fisica   1 online resource (ix, 620 pages) : illustrations

   Collana   Sensors

   Disciplina   621.367

   Soggetti   Image converters

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico Monografia

   Nota di contenuto   About the Guest Editor -- Preface to "Imaging: Sensors and
                         Technologies" -- Depth Errors Analysis and Correction for Time-of-
                         Flight (ToF) Cameras -- Expanding the Detection of Traversable Area
                         with RealSense for the Visually Impaired -- A 3D Optical Surface
                         Profilometer Using a Dual-Frequency Liquid Crystal-Based Dynamic
                         Fringe Pattern Generator -- Graphical Models -- Are We Ready to Build
                         a System for Assisting Blind People in Tactile Exploration of Bas-
                         Reliefs? -- Extracting Objects for Aerial Manipulation on UAVs Using
                         Low Cost Stereo Sensors -- Reliable Fusion of Stereo Matching and
                         Depth Sensor for High Quality Dense Depth Maps -- Simulated and Real
                         Sheet-of-Light 3D Object Scanning Using a-Si:H Thin Film PSD Arrays
                         -- An Indoor Obstacle Detection System Using Depth Information and
                         Region Growth -- Target Detection over the Diurnal Cycle Using a
                         Multispectral Infrared Sensor -- Color Restoration of RGBN
                         Multispectral Filter Array Sensor Images Based on -- Penetration Depth
                         Measurement of Near-Infrared Hyperspectral Imaging Light for Milk
                         Powder -- Forward-Looking Infrared Cameras for Micrometeorological
                         Applications within Vineyards -- Test of the Practicality and Feasibility
                         of EDoF-Empowered Image Sensors for Long-Range Biometrics --
                         Nonintrusive Finger-Vein Recognition System Using NIR Image Sensor
                         and Accuracy Analyses According to Various Factors -- Full-Field
                         Optical Coherence Tomography Using Galvo Filter-Based Wavelength
                         Swept Laser -- A Selective Change Driven System for High-Speed
                         Motion Analysis -- Geometric Calibration and Validation of Kompsat-
                         3A AEISS-A Camera -- Design and Evaluation of a Scalable and

Reconfigurable Multi-Platform System for Acoustic Imaging -- Underwater Imaging Using a 1 × 16 CMUT Linear Array -- Ultraviolet Imaging with Low Cost Smartphone Sensors: Development and Application of a Raspberry Pi-Based UV Camera -- Design of a Sub-Picosecond Jitter with Adjustable-Range CMOS Delay-Locked Loop for HighSpeed and Low-Power Applications -- A Low Power Digital Accumulation Technique for Digital-Domain CMOS TDI Image Sensor -- A 75-ps Gated CMOS Image Sensor with Low Parasitic Light Sensitivity -- A Fast Multiple Sampling Method for Low-Noise CMOS Image Sensors With Column-Parallel 12-bit SAR ADCs -- Long-Term Continuous Double Station Observation of Faint Meteor Showers -- Evaluation of a Wobbling Method Applied to Correcting Defective Pixels of CZT Detectors in SPECT Imaging -- A Bevel Gear Quality Inspection System Based on Multi-Camera Vision Technology -- Substrate and Passivation Techniques for Flexible Amorphous Silicon-Based X-ray Detectors -- Time-Resolved Synchronous Fluorescence for Biomedical Diagnosis -- A High Performance Banknote Recognition System Based on a One-Dimensional Visible Light -- Uncertainty Comparison of Visual Sensing in Adverse Weather Conditions -- Object Occlusion Detection Using Automatic Camera Calibration for a Wide-Area Video Surveillance System -- A Crowd-Sourcing Indoor Localization Algorithm via Optical Camera on a Smartphone Assisted -- Parallax-Robust Surveillance Video Stitching -- Monocular-Vision-Based Autonomous Hovering for a Miniature Flying Ball -- Driver Distraction Using Visual-Based Sensors and Algorithms.

Sommario/riassunto

This book provides different technologies and procedures related to imaging sensors. Active or passive imaging sensors capture electromagnetic radiation across the whole spectra or acoustic echoes, which, conveniently arranged in images, allow the extraction of useful information. Researchers, engineers and industry professionals can find the most advanced imaging technologies and developments, together with dedicated image processing and computer vision-based approaches. This book provides insights into and solutions for different problems, covering a broad spectrum of possibilities, thanks to a set of applications and solutions, including 3D data recovery; multispectral analysis; biometrics applications; computed tomography; surface defects; indoor/outdoor systems; surveillance. Advanced imaging technologies and specific sensors are also described on the electromagnetic spectrum (ultraviolet, visible, infrared), including airborne calibration systems; selective change driven, multi-spectral systems; specific electronic devices (CMOS, CCDs, CZT, X-Ray, and fluorescence); multi-camera systems; line sensors arrays; video systems. Some technologies based on acoustic imaging are also provided: acoustic planar arrays of MEMS or linear arrays.