



Machine Vision Algorithms and Applications

By Carsten Steger, Markus Ulrich and Christian Wiedemann

WILEY: 2018. 516PP. £55.00

This second edition has been completely updated and revised to reflect the developments in recent years in image acquisition and machine vision algorithms. New cameras and image acquisition interfaces, 3D sensors and technologies, 3D object recognition and 3D image reconstruction are the new topics that are covered. The book presents the theory of machine vision and has a strong focus on applications such as wafer dicing, reading of serial numbers, inspection of saw blades, print inspection, surface inspection and measurements of spark plugs. All of these examples use the latest version of the machine vision software HALCON 13 and a trial version is available from the authors' website.

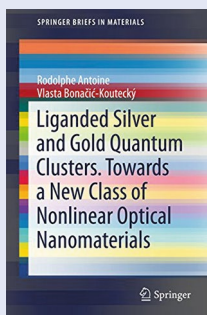


Infrared Thermal Imaging

By Michael Vollmer and Klaus-Peter Möllmann

WILEY: 2017. 794PP. £155.00

This title covers the basic and advanced methods in infrared (IR) imaging. In addition to revised and expanded chapters from the previous edition, it also includes a new chapter that reflects on the recent developments in the field and reports on the progress made within the last decade. The book also includes chapters on the real-life applications of IR imaging such as IR imaging of buildings and infrastructure, IR imaging for the detection of gases and IR imaging of microsystems.

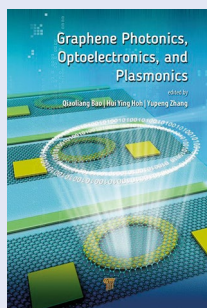


Liganded Silver and Gold Quantum Clusters

By Rodolphe Antoine and Vlasta Bonačić-Koutecký

SPRINGER: 2018. 96PP. £44.99

Liganded silver and gold quantum clusters possess nonlinear optical characteristics that can be tuned by their size, structure and composition. This text presents a broad range of state-of-the-art experimental methods to determine nonlinear optical properties — two-photon absorption, two-photon excited fluorescence and second-harmonic generation — of quantum clusters. The experimental set-ups of these methods and underlying physical concepts are described. The theoretical models and corresponding approaches are used to explain the experimental observations. The models also offer the possibility to deduce the key factors necessary to design new classes of nanoclusters with large nonlinear optical properties. The text also includes case studies on silver and gold liganded clusters to highlight their nonlinear optical properties for potential applications.



Graphene Photonics, Optoelectronics, and Plasmonics

Edited by Qiaoliang Bao, Hui Ying Hoh and Yupeng Zhang

PAN STANFORD PUBLISHING: 2017. 204PP. £139.00

Because of its peculiar optical properties, graphene is attractive and useful for many optical functions such as signal emission, transmission, modulation and detection. This title provides a comprehensive overview of the interactions between light and graphene. It showcases cutting-edge research in graphene photonics, plasmonics and broadband optoelectronic devices. It also emphasizes the ability to integrate graphene photonics onto the silicon platform to afford broadband operation in light routing and amplification, which involves components such as polarizers, modulators and photodetectors. Other components also discussed include saturable absorbers and optical limiters.

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