Infrared Thermal Imaging: Fundamentals, Research and Applications

By Michael Vollmer, Klaus-Peter M?llmann

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This richly illustrated hands-on guide is designed for researchers, teachers and practitioners. The huge selection of examples taken from science, basic teaching of physics, practical applications in industry and a variety of other disciplines spanning the range from medicine to volcano research allows readers to pick those that come closest to their own individual task at hand. Following a look at the fundamentals of IR thermal imaging, properties of the imaging systems, as well as basic and advanced methods, the book goes on to discuss IR imaging applications in teaching, research and industry. Specific examples include thermography of buildings, microsystems and the rather new field of IR imaging of gases.

Impartially written by expert authors in the field from a renowned applied science institution, who are in the unique position of having both experience in public and private research and in teaching, this comprehensive book can be used for teaching beginners in the field as well as providing further education to specialized staff, students and researchers.

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Editorial Review

Review
...
This hardcover, richly illustrated hands-on guide is specifically written in an understandable style for practitioners in the field of IR imaging, for physics and science teachers and for researchers. The authors ? both professors at the University of Applied Sciences Brandenburg (Germany) ? comment: ?There is today the paradox of more cameras being sold worldwide than there are technicians understanding the physics behind them, let alone being able to properly interpret the colourful images generated.?
...
Even the specialised reader finds extensive background knowledge of a great deal of aspects in a wide field of application domains. The specific contents of the cases discussed give readers, as technicians, an additional tool which they can use to select cases that suit their everyday needs.
...

Jan Wijers
Mikroniek 1/2013

From the Back Cover
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About the Author
Michael Vollmer received his PhD degree for the studies of clusters on surfaces, and his ha-bilitation on optical properties of metal clusters from the University of Heidelberg, Germany. Later assignments were with the University of Kassel, Germany, the university of California in Berkeley, USA, as well as with various institutions in the United States and Asia during sabbaticals. His research interests include atmospheric optics, spectroscopy, infrared thermal imaging, and the didactics of physics. Professor Vollmer has authored one science book and co-authored a scienti? c monograph and about 140 scienti? c papers.

Klaus-Peter M?llmann received his PhD from the Humboldt University of Berlin, Germany, studying strongly doped narrow band semiconductors at low temperatures and later, for his habilitation, MCT photo detectors. He subsequently held positions with the Humboldt Uni-versity and with several businesses in industry. Professor M?llmann?s research interests include MEMS technology, infrared thermal imaging, and spectroscopy. He is the co-author of about 100 scienti? c and didactical papers.

Both authors are professors of experimental physics at the University of Applied Sciences in Brandenburg, Germany.

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