DESCRIPTION

Provides a broad overview of advanced multidimensional imaging systems with contributions from leading researchers in the field.

Multi-dimensional Imaging takes the reader from the introductory concepts through to the latest applications of these techniques. Split into 3 parts covering 3D image capture, processing, visualization and display, using 1) a Multi-View Approach and 2.) a Holographic Approach, followed by a 3rd part addressing other 3D systems approaches, applications and signal processing for advanced 3D imaging. This book describes recent developments, as well as the prospects and challenges in advances in imaging sciences and engineering such as 3D image sensing, 3D holographic imaging, imaging applications for bio-photonics and 3D image recognition. Advanced imaging systems incorporate knowledge from various fields. It is a complex technology that combines physics, optics, signal processing, and image capture techniques.

• Provides a broad overview of advanced multidimensional imaging systems with contributions from leading researchers in the field.

• Integrates the background, introductory material with new advances in 3D imaging and applications.

• Covers the most recent technologies such as high speed digital holography, compressive sensing, real-time 3D integral imaging, 3D TV, photon counting imaging.

• To be available as an enhanced ebook with added functionality of colour films showing the effects of advanced 3D applications such as 3D microscopy, 3D biomedical imaging and 3D for security and defense applications.
• Acts as a single source reference to the rapidly developing field of 3D imaging technology.

• Provides supplementary material on a companion website including video clips, examples, numerical simulations, and experimental results to show the theoretical concepts.

With contributions from leading researchers from across these fields, *Multi-dimensional Imaging* is a comprehensive reference for the imaging technology research community.

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**ABOUT THE AUTHOR**

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Bahram Javidi is Board of Trustees Distinguished Professor at University of Connecticut, USA. Prof. Javidi has been recognized by 9 best journal and conference paper awards, and several major awards from professional societies and foundations. Dr. Javidi has been named Fellow of eight National and International professional scientific societies, including IEEE; AIMBE; OSA; SPIE and IS&T. He has edited/ co-edited 10 books and 54 book chapters, and has published over 320 technical articles in major peer reviewed journals. He has also published over 370 conference proceedings, including more than 120 plenary addresses, keynote addresses, and invited conference papers. Some of his journal papers are among the 10 most cited in their topic according to the ISI Web of Science database. His papers have been cited 7,300 times according to the citation index of WEB of Science (h index=46).

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