Digital Holographic Microscopy: Principles, Techniques, and Applications (Springer Series in Optical Sciences)

Myung K. Kim
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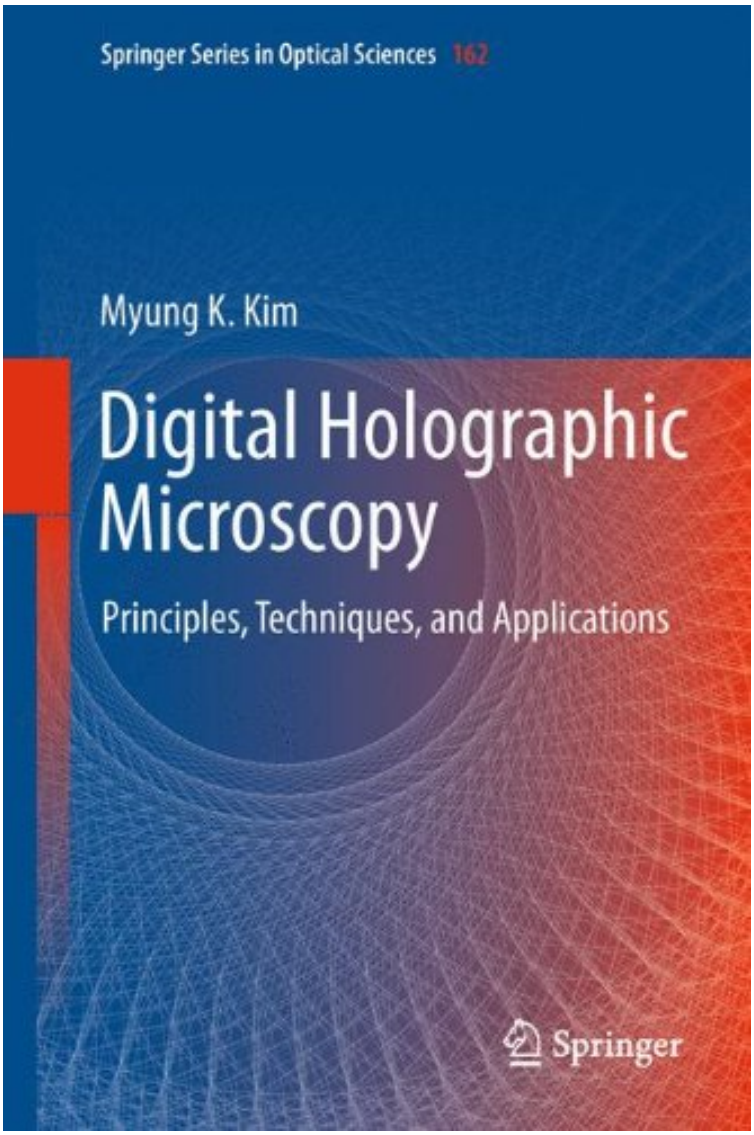

#945848 in Books Myung K Kim 2011-08-09Original language:EnglishPDF # 1 9.20 x .70 x 6.10l, 1.00 #File Name: 1441977929240 pagesDigital Holographic Microscopy | File size: 79.Mb

Myung K. Kim : Digital Holographic Microscopy: Principles, Techniques, and Applications (Springer Series in Optical Sciences) before purchasing it in order to gage whether or not it would be worth my time, and all praised Digital Holographic Microscopy: Principles, Techniques, and Applications (Springer Series in Optical Sciences):

Digital holography is an emerging field of new paradigm in general imaging applications. The book presents an introduction to the theoretical and numerical principles and reviews the research and development activities in digital holography, with emphasis on the microscopy techniques and applications. Topics covered include the general theory of diffraction and holography formations, and practical instrumentation and experimentation of digital holography. Various numerical techniques are described that give rise to the unique and versatile capabilities of digital holography. Representative special techniques and applications of digital holography are discussed. The book is intended for researchers interested in developing new techniques and exploring new applications of digital holography.

From the Back CoverDigital holography is an emerging field of new paradigm in general imaging applications. By replacing the photochemical procedures with electronic imaging and having a direct numerical access to the complex optical field, a wide range of new imaging capabilities become available, many of them difficult or infeasible in conventional holography. An increasing number of researchersnot only in optical physics and optical engineering, but also in diverse applications areas such as microbiology, medicine, marine science, particle analysis, microelectromechanics, and metrologyare realizing and exploiting the new capabilities of digital holography. Digital Holographic Microscopy: Principles, Techniques, and Applications, by Dr. Myung K. Kim, is intended to provide a brief but consistent introduction to the principles of digital holography as well as to give an organized overview of the large number of techniques and applications being developed. This will also shed some light on the range of possibilities for further developments. As such, the intended readers are the students and new researchers interested in developing new techniques and exploring new applications of digital holography. Numerous simulation examples and carefully designed diagrams help one to see the essential elements of the variety of techniques and applications. Reference lists aregiven at the end of each chapter to make the search for relevant materials somewhat easier.