Record Nr. UNINA9910820150703321 Autore Richardson Martin <1958-> Titolo The hologram: principles and techniques // Martin J. Richardson, John D. Wiltshire Pubbl/distr/stampa Hoboken, New Jersey:,: John Wiley & Sons,, 2017 [Piscatagay, New Jersey]:,: IEEE Xplore,, [2017] **ISBN** 1-119-08894-1 1-119-08893-3 1-119-08892-5 Descrizione fisica 1 PDF (336 pages) Collana Wiley - IEEE 621.36/75 Disciplina Soggetti Holography Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references at the end of each chapters and Nota di bibliografia Nota di contenuto What is a hologram? -- Important optical principles and their occurrence in nature -- Conventional holography and lasers -- Digital image holograms -- Recording materials for holography -- Processing techniques -- Infrastructure of a holography studio and its principle components -- Making conventional denisyuk, transmission, and reflection holograms in the studio -- Sources of holographic imagery -- A personal view of the history of holography -- Epilogue: an overview of the impact of holography in the world of imaging. Sommario/riassunto The practical and comprehensive guide to the creation and application of holograms Written by Martin J. Richardson (an acclaimed leader and pioneer in the field) and John D. Wiltshire, The Hologram: Principles and Techniques is an important book that explores the various types of hologram in their multiple forms and explains how to create and apply the technology. The authors offer an insightful overview of the currently available recording materials, chemical formulas, and laser technology that includes the history of phase imaging and laser science. Accessible and comprehensive, the text contains a step-bystep guide to the production of holograms. In addition, The Hologram

outlines the most common problems encountered in producing

satisfactory images in the laboratory, as well as dealing with the wide

range of optical and chemical techniques used in commercial holography. The Hologram is a well-designed instructive tool, involving three distinct disciplines: physics, chemistry, and graphic arts. This vital resource offers a guide to the development and understanding of the recording of materials, optics and processing chemistry in holography and: . Discusses the pros and cons of the currently available recording materials. Provides tutorials on the types of lasers required and optical systems, as well as diffraction theory and wave front reconstruction. Details the chemical formulations for processing techniques Researchers and technicians working in academia and those employed in commercial laboratories on the production of holograms as well as students of the sciences will find The Hologram to be a comprehensive and effective resource.