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Nota di contenuto	Preface; Contents; Introduction; Chapter 1 Classical Microscopy and Methods of Phase Microscopic Objects Visualization; 1.1 The theory of object imaging by microscope; 1.2 Phase microscopic objects; 1.3 Interference phenomenon; 1.4 F. Zernike's phase-contrast method; 1.5 The interference-contrast method; 1.5.1 Interferometry in an infinitely wide fringe; 1.5.2 The method of interferometry in fringes of finite width; 1.6 The polarization-contrast method; Chapter 2 Holography and Holographic Microscopy; 2.1 Holography as the method of wave recording and reconstruction 2.2 History of holographic microscopyChapter 3 Holographic Methods of Phase Microscopic Object Imaging and the Digital Holographic Interference Microscope; 3.1 Holographic phase-contrast method; 3.2 Holographic interferometry in fringes of finite width; 3.3 Comparison of the holographic methods; 3.4 Sensitivity of the holographic methods; 3.5 The holographic polarization-contrast method; 3.6 The digital holographic interference microscope; 3.7 Digital holographic

	microscopy; Chapter 4 Application of the Digital Holographic Interference Microscope for Blood Cells Study 4.1 DHIM study of 3D morphology of blood erythrocytes4.2 Ozone therapy influence on 3D morphology of blood erythrocytes; 4.3 Blood erythrocytes in hematological diseases; 4.4 Blood erythrocytes of pregnant women and newborns; 4.5 Gamma-radiation influence on blood erythrocytes; 4.6 Conclusions; Chapter 5 DHIM Study of Thin Transparent Films; Conclusions; References; Bibliography; Index
Sommario/riassunto	The book presents a clear and comprehensive review of the current status of the holographic microscopy with discussion of the positive and negative features of classical and holographic methods for solving the problem of three-dimesional (3D) imaging of phase microscopic objects. Classical and holographic methods of phase, interference and polarization contrast are discussed. Combination of the developed holographic methods with the methods of digital image processing allowed creating the digital holographic interference microscope (DHIM). The first 3D images of native phase microscopic object