1. | | |
   |---|---|
   | Record Nr. | UNINA9910493718103321 |
   | Titolo | Song Hng |
   | Pubbl/distr/stampa | [Hue] : , : Song Hng |
   | Descrizione fisica | 1 online resource : illustrations |
   | Soggetti | Vietnamese literature Periodicals.
 Vietnam Periodicals
 Vietnam |
   | Lingua di pubblicazione | Vietnamita |
   | Formato | Materiale a stampa |
   | Livello bibliografico | Periodico |

2. | | |
   |---|---|
   | Record Nr. | UNINA9910300554903321 |
   | Autore | Kulikov Kirill |
   | Titolo | Laser Interaction with Heterogeneous Biological Tissue : Mathematical Modeling / / by Kirill Kulikov, Tatiana Koshlan |
   | Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018 |
   | ISBN | 3-319-94114-3 |
   | Edizione | [2nd ed. 2018.] |
   | Descrizione fisica | 1 online resource (197 pages) |
   | Collana | Biological and Medical Physics, Biomedical Engineering, , 1618-7210 |
   | Disciplina | 610.28 |
   | Soggetti | Biophysics
 Biomedical engineering
 Regenerative medicine
 Tissue engineering
 Physics
 Biological and Medical Physics, Biophysics
 Biomedical Engineering and Bioengineering
 Regenerative Medicine/Tissue Engineering
 Numerical and Computational Physics, Simulation |
   | Lingua di pubblicazione | Inglese |
   | Formato | Materiale a stampa |

Livello bibliografico	Monografia
Nota di contenuto	The Main Physical Processes Occurring in the Interaction of Optical Radiation with Matter -- Methods Describing the Interaction of Laser Radiation with Biological Tissues -- Overview of Theoretical Approaches to the Analysis of Light Scattering -- Study of Optical Characteristics of Blood Formed Elements Using Intracavity Laser Spectroscopy -- Mathematical Models of the Interaction of Laser Radiation with Turbid Media -- Modelling of the Optical Characteristics Fibrillar Structure -- The Electrodynamics Model of a Gaussian Beam Reflected from the Biological Tissue which has a Fractal Structure -- Light Scattering by Dielectric Bodies of Irregular Shape in a Layered Medium -- The Theoretical Determination of the Size Distribution Function for Blood Cells -- Study of Optical Properties of Biotissues by the Intracavity Laser Spectroscopy Method -- Study of the Optical Characteristics of Thin Layer of the Biological Sample -- Simulation of the Thermal Processes.
Sommario/riassunto	This book introduces readers to the principles of laser interaction with biological cells and tissues with varying degrees of organization. In addition to considering the problems of biomedical cell diagnostics, and modeling the scattering of laser irradiation of blood cells for biological structures (dermis, epidermis, vascular plexus), it presents an analytic theory based on solving the wave equation for the electromagnetic field. It discusses a range of mathematical modeling topics, including optical characterization of biological tissue with large-scale and small-scale inhomogeneities in the layers; heating blood vessels using laser irradiation on the outer surface of the skin; and thermo-chemical denaturation of biological structures based on the example of human skin. In this second edition, a new electrodynamic model of the interaction of laser radiation with blood cells is presented for the structure of cells and the in vitro prediction of optical properties. The approach developed makes it possible to determine changes in cell size as well as modifications in their internal structures, such as transformation and polymorphism nucleus scattering, which is of interest for cytological studies. The new model is subsequently used to calculate the size distribution function of irregular-shape particles with a variety of forms and structures, which allows a cytological analysis of the observed deviations from normal cells.