1. Record Nr.   UNINA9910133578903321

   Titolo   Innovative food processing technologies [[electronic resource]] :
                         advances in multiphysics simulation / / Kai Knoerzer ... [et al.], editors

   Pubbl/distr/stampa   Chichester, West Sussex, UK ; ; Ames, Iowa, : Wiley-Blackwell/IFT Press,
                         2011

   ISBN   0-470-95942-8
                         1-62198-225-4
                         1-283-05236-9
                         9786613052360
                         0-470-95941-X
                         0-470-95943-6

   Descrizione fisica   1 online resource (1078 p.)

   Collana   IFT Press series

   Classificazione   TEC012000

   Altri autori (Persone) KnoerzerKai

   Disciplina   664.020113
                         664/.020113

   Soggetti   Food industry and trade - Mathematical models
                         Food industry and trade - Simulation methods
                         Electronic books.

   Lingua di pubblicazione Inglese

   Formato   Materiale a stampa

   Livello bibliografico Monografia

   Note generali   Description based upon print version of record.

   Nota di bibliografia Includes bibliographical references and index.

   Nota di contenuto   Cover; Half title page; IFT Press; Title page; Copyright page; Titles in
                         the IFT Press series; Preface; Contributors; 1.1. Introduction; 1.2.
                         Multiphysics Modeling; 1.3. Innovative Food Processing Technologies;
                         1.4. Modeling Challenges; 1.5. Concluding Remarks; Chapter 1
                         Introduction to Innovative Food Processing Technologies: Background,
                         Advantages, Issues, and Need for Multiphysics Modeling; 2.1.
                         Introduction; 2.2. Definitions and Methods to Determine
                         Thermophysical Properties; 2.3. Final Remarks and Future
                         Recommendations; Notations
                         Chapter 2 The Need for Thermophysical Properties in Simulating
                         Emerging Food Processing Technologies3.1. Brief History of NNs; 3.2.
                         Basis of NNs; 3.3. How NNs Are Helping the Chemical Industry; 3.4. The
                         Role of NNs in the Food Industry; 3.5. NNs in High-Pressure Processes;
                         3.6. A Macroscopic Model for Thermal Exchange in an HPP System; 3.7.

Sommario/riassunto	Part of the IFT (Institute of Food Technologists) series, this book discusses multiphysics modeling and its application in the development, optimization, and scale-up of emerging food processing technologies. The book covers recent research outcomes to demonstrate process efficiency and the impact on scalability, safety, and quality, and technologies including High Pressure Processing, High Pressure Thermal Sterilization, Radiofrequency, Ultrasound, Ultraviolet, and Pulsed Electric Fields Processing. Ideal for food and process engineers, food technologists, equipment designers, microbiologists