1. Record Nr. UNINA9910143576603321 Titolo Near-infrared spectroscopy in food science and technology [[electronic resource] /] / edited by Yukihiro Ozaki, W. Fred McClure, Alfred A. Christy Hoboken, N.J., : Wiley-Interscience, c2007 Pubbl/distr/stampa **ISBN** 1-280-65444-9 9786610654444 0-470-04770-4 0-470-04769-0 Descrizione fisica 1 online resource (422 p.) Altri autori (Persone) OzakiY (Yukihiro) McClureW. F (William F.) ChristyAlfred A Disciplina 664.07 664/.07 Soggetti Food - Analysis Near infrared spectroscopy Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto NEAR-INFRARED SPECTROSCOPY IN FOOD SCIENCE AND TECHNOLOGY; CONTENTS; PREFACE; ACKNOWLEDGMENTS; CONTRIBUTORS; 1. Introduction; 2. Principles of Molecular Vibrations for Near-Infrared Spectroscopy; 3. Spectral Analysis; CHAPTER 4 INSTRUMENTATION; 4.1. Instruments; 4.2. Time-of-Flight Spectroscopy; 4.3. NIR Imaging and its Applications to Agricultural and Food Engineering; 5. Sampling Techniques; 6. Latent-Variable Analysis of Multivariate Data in Infrared Spectrometry; CHAPTER 7 APPLICATIONS TO AGRICULTURAL AND MARINE PRODUCTS; 7.1. Grains and Seeds; 7.2. Fruits and Vegetables 7.3. Meat and Fish ProductsCHAPTER 8 APPLICATIONS TO FOODSTUFFS; 8.1. Flours and Breads; 8.2. Cereal Foods; 8.3. Livestock Animal By-Products; 8.4. Dairy Products; CHAPTER 9 OTHER TOPICS; 9.1. Fermentation Engineering; 9.2. On-Line Analysis in Food Engineering; 9.3. Disease Diagnosis Related to Food Safety in Dairy; INDEX

## Sommario/riassunto

This reference gives food science professionals a working understanding of near-infrared spectroscopy (NIRS) and its role in maximizing food potential. It explains the technical aspects of NIRS, including: basic principles; characteristics of the NIR spectra; instrumentation; sampling techniques; and chemometrics. The book details applications of NIRS in agricultural and marine products, foodstuffs and processed foods, engineering and process monitoring, and food safety and disease diagnosis.