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Titolo	Pulsed Electric Fields Technology for the Food Industry : Fundamentals and Applications // edited by Javier Raso, Volker Heinz, Ignacio Alvarez, Stefan Toepfl
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ISBN	3-030-70586-2
Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (558 pages)
Collana	Food Engineering Series, , 2628-8095
Disciplina	664.028
Soggetti	Food science Biotechnology Food Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	History of PEF in food processing -- Basic electric concepts and generation of high voltage pulses -- The phenomenon of electroporation -- Electrochemical reaction in PEF treatment -- Microbial inactivation by PEF -- Cell membrane permeabilization by PEF -- Effect of PEF on food quality -- Liquid food pasteurization by PEF -- PEF in the potato industry -- PEF applications in a Winery -- Improving sugar extraction by PEF -- PEF applications in tomato Industry -- Improving oil extraction from plant foods by PEF -- Improving extraction of compounds from microalgae -- Application of PEF for valorization of by products from the food industry -- Other applications of PEF in the food industry -- PEF industrial equipment design -- PEF process performance analysis -- Process validation and Hygienic design for PEF processing -- Environmental impact assessment of the PEF technology incorporation in food processing -- Regulation of foods processed by PEF.
Sommario/riassunto	Among all nonthermal food processing technologies, high intensity pulsed electric fields (PEF) is one of the most appealing due to its short treatment times and reduced heating effects. Its capability to enhance extraction processes and to inactivate microorganisms at temperatures that do not cause any deleterious effect on flavor, color or nutrient

value of foods opens interesting possibilities for the food processing industry. This new and revised edition of Pulsed Electric Fields Technology for the Food Industry presents the information accumulated on PEF over the last decade by experienced microbiologists, biochemists, food technologists and electrical and food engineers. With insight into current applications of PEF across the food industry, this text offers a comprehensive and up to date resource on PEF application in the food industry from the scientific fundamentals to its use in various food types to environmental and regulatory aspects. For researchers and industry professionals seeking a single source containing all of the relevant and up to date information on PEF in foods, look no further than this essential text. .
