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Titolo	Catalytic combustion / / Sophie A. Cottillard, editor
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ISBN	1-62081-438-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (210 p.)
Collana	Chemical engineering methods and technology
Altri autori (Persone)	CottillardSophie A
Disciplina	541/.361
Soggetti	Combustion Catalysis Chemical reactions
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	Intro -- CATALYTIC COMBUSTION -- CATALYTIC COMBUSTION -- Library of Congress Cataloging-in-Publication Data -- Contents -- Preface -- Chapter 1 RE-INTERPRETATION OF FLUIDIZATION -- ABSTRACT -- 1. Introduction -- 2. Measurement Techniques -- 2.1. Optical Measurement Systems -- 2.2. Tomographic Imaging -- 2.2.1. Capacitance Measurement Systems -- 2.2.2. X-Ray Imaging -- 2.3. PEPT Techniques -- 2.3.1. Detection -- 2.3.2 Tracer Labelling -- 2.3.2.1 Radioisotopes Used in Tracer Production -- 2.3.2.2 Particle Tracer Labelling Methods -- Direct Activation Method -- Ion-Exchange Method -- Surface Modification -- 3. Bubbling Fluidization -- 3.1. Solid Flow Structure in a Bubbling Fluidized Bed -- 3.1.1. Effect of Gas Velocity on Flow Structure -- 3.1.2. Effect of Particle Size on Solid Flow Structure -- 3.2. Microscopic Behaviour of Solids within the Bed -- 3.3. Solid Mixing -- 3.4. Bubble Flow Patterns -- 3.5. Prediction of Bubble Velocity and Bubble Size -- 3.5.1. Empirical Correlations -- 3.5.2. Prediction of Bubble Rise Velocity from Particle Rise Velocity -- 3.5.3. Impact of Flow Pattern on Bubble Size -- 3.6. Effect of Particle Size on Bubble Rise Velocity and Bubble Size -- 4. Circulating Fluidization -- 4.1. CFB Operating Regimes -- 4.2. Bottom Bed -- 4.4. Acceleration Zone -- 4.5. Fully Developed Zone -- 4.6. Particle Velocities and Their Residence Time Distribution in the Riser of a CFB -- 4.7. Gas Mixing in CFB Risers -- Acknowledgments -- References -- Chapter 2 THE

CATALYTIC COMBUSTION OF SOOT -- Abstract -- 1. The Origination and Formation Mechanism of Soot -- 2. The Adverse and Emission Regulations of Soot -- 3. The Structure and Chemical Characterization of Soot -- 4. DPF and Oxidation Catalyst -- 5. Catalysts of the Catalytic Combustion of Soot -- 5.1. Low-Melting Point Catalyst -- 5.2. Noble Metal Catalysts. 5.3. Complex Oxide Catalysts -- 5.4. Macroporous-Based Catalysts -- 5.5. The Simultaneous Removal of Soot and NO_x under Rich Oxygen Condition -- Conclusions and Prospects -- Acknowledgment -- References -- Chapter 3 CATALYTIC COMBUSTION OVER CHEAPER METAL OXIDES -- Abstract -- 1. General Introduction -- 1.1. Conventional Combustion -- 1.2. Impact of Nitrogen Oxides -- 1.3. Paths of NO_x Formation -- 2. Important NO_x Controlling Technologies -- 2.1. Catalytic Combustion -- 2.2. Characteristics of Catalytic Combustion -- 3. Catalytic Combustion Applications -- 3.1. Volatile Organic Compounds (VOCs) -- 3.1.1. VOC Abatement Technologies -- 3.1.2. Catalytic Oxidation versus Thermal Oxidation -- 3.2. Gas Turbines -- 4. Catalytic Materials for Combustion Applications -- 5. Catalytic Materials for VOC Oxidation -- 5.1. Metal Oxides -- 5.1.1. Chromium Oxide -- 5.1.2. Manganese Oxides -- 5.1.3. Copper Oxide and Cobalt Oxide -- 5.1.4. Cerium Oxide -- 5.2. Mixed Metal Oxides -- 5.2.1. Doped Metal Oxides -- 5.2.2. Perovskites -- 5.3. Supports for VOCs Oxidation -- 6. Catalytic Materials for Gas Turbine Applications -- 6.1. Active Component -- 6.2. Substrate -- 6.3. Wash Coat or Support -- 6.3.1. Alumina -- 6.3.2. Zirconia -- 6.3.3. Crystal Structure and Sintering Behavior of Hexa-aluminate -- 6.4. The Commonly Used Hexa-Aluminate Materials -- 6.4.1. Barium Hexa-aluminate (BHA) -- 6.4.2. Lanthanum Hexa-Aluminate (LHA) -- Conclusion -- Acknowledgments -- References -- Chapter 4 CATALYTIC COMBUSTION: KINETICS AND REACTOR DESIGN -- Abstract -- 1. Introduction -- 2. Catalytic Combustion Technologies -- 2.1. Power Generation Systems -- 2.2. Abatement of Volatile Organic Compounds (VOCs) -- 3. Kinetic Aspects of Catalytic Combustion -- 4. Reactor Design -- Conclusions -- References -- Chapter 5 CATALYTIC COMBUSTION OF METHANE OVER CERIA-ZIRCONIA CATALYSTS -- Abstract. 1. Introduction -- 2. The CeO₂-ZrO₂ System -- 2.1. Synthesis, Morphological Aspects and Structural Characterization -- 2.2. Oxygen Storage Capacity and Redox Properties -- 3. Methane Combustion over CeO₂-ZrO₂Catalysts -- Conclusions -- References -- Index.

Sommario/riassunto

Catalytic combustion has been developed as a method of promoting efficient combustion over a wide range of air-to-fuel ratios with a minimum pollutant formation at low temperatures as compared to conventional flame combustion. In this book, the authors present current research in the study of catalytic combustion including commercial and industrial research in combustion and fluidization engineering; the catalytic combustion of soot; using metal oxides to improve catalytic efficiency; catalytic combustion in the removal of pollutants from exhaust gases and in the energy conversion field and the catalytic combustion of methane using ceria-zirconia.

2. Record Nr.	UNINA9910895869403321
Titolo	Historická geografie
Pubbl/distr/stampa	Praha, : Komise pro historickou geografii pi Historickém ústavu SAV, 1968-
ISSN	0441-7348
Descrizione fisica	1 online resource
Soggetti	Historical geography historicka geografie - esko historicka geografie - Slovensko Tschechoslowakei Geschichtswissenschaft Wirtschaftsgeographie Wirtschaftsgeschichte Geschichte Geographie Periodicals.
Lingua di pubblicazione	Ceco
Formato	Materiale a stampa
Livello bibliografico	Periodico
Note generali	Refereed/Peer-reviewed Some issues have also a distinctive title.

3. Record Nr.	UNINA9911054589903321
Autore	Sarif Omar
Titolo	Advanced Geospatial Intelligence and AI for Environmental Resilience and Sustainable Development / / edited by Md. Omar Sarif, Ayyoob Sharifi
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-032-03714-X
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (560 pages)
Collana	Advances in Geographic Information Science, , 1867-2442
Disciplina	910.285
Soggetti	Geographic information systems Artificial intelligence Sustainability Geographical Information System Artificial Intelligence
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Using geospatial technologies and machine learning to map and mitigate urban heat islands and improve urban livability -- Urban expansion and thermal environment in a medium size city role of urban green and blue spaces in mitigating surface urban heat island intensity -- Identification of on road and roadside objects using random forest-based prediction model -- Analyzing the role of geospatial technologies and ai in urban infrastructure planning and the development of smart cities, including transportation systems utilities, and public services -- Assessing the impact of night time light as proxy for climate change a geospatial approach in himachal pradesh -- Decadal study on supraglacial debris cover of kaer glacier eastern himalayas -- Sessing the impact of climate change on glaciers through region wise mass balance and ai tools contributing to our understanding of environmental changes in high mountain asia -- Climate change impacts on various ecosystems a geospatial and ai perspective -- Early identification and pathogenesis of leaf diseases in magnifera indica using transfer learning -- Examining the role of geospatial data and ai in conducting comprehensive forestry

inventories and mapping to support sustainable forest management -- Prioritization of erosion prone watersheds of the song river basin using morphometric indices coupled with ahp-topsis and geospatial technology -- Application of geospatial technologies and ai to detect and analyze the shoreline change of Visakhapatnam a coastal district -- A systematic and structured review on groundwater contamination sources prevalence health risk and mitigation strategies in relation with land use land cover in bihar state of india -- A systematic and structured review on groundwater contamination, sources, prevalence health risk and mitigation strategies in relation with land use land cover in bihar state of india -- Examining the role of geospatial technologies and ai in disaster risk management and response including hazard mapping vulnerability assessment and real-time monitoring -- Gis based landslide susceptibility assessment for coonoor taluk nilgiris district south india tamil nadu using machine learning algorithm -- Forecasting drought from satellite imagery comparing stochastic classical machine learning and deep learning approaches -- Smart geospatial intelligence and ai for a resilient environment a review -- Uncovering air pollution risks in indian scenario with explainable ai a case study perspective.

Sommario/riassunto

This edited volume brings together leading experts and researchers from diverse disciplines to provide insights into how geospatial data and AI technologies can be leveraged to tackle pressing environmental issues, ranging from climate change mitigation to natural resource management. By combining geospatial analysis with AI algorithms such as machine learning and deep learning, the book showcases innovative approaches for monitoring, modelling, and managing environmental systems at various scales. The chapters in this book bridge the gap between theory and practice, offering practical guidance and real-world case studies to readers interested in harnessing the potential of geospatial and AI technologies for sustainability and resilience initiatives. Through a series of chapters covering topics such as remote sensing, spatial data analysis, environmental modelling, and decision support systems, the book equips readers with the knowledge and tools necessary to address complex environmental challenges in an increasingly interconnected world. The book fills an important gap by providing a timely and authoritative resource that not only explores the theoretical foundations of geospatial and AI applications but also offers practical insights into their implementation and potential impact. Ultimately this volume seeks to empower readers with the knowledge and tools needed to address environmental challenges effectively and promote sustainable resilience in an ever-changing world. The contents here offer valuable insights and guidance for leveraging the transformative power of geospatial and AI technologies to create a more sustainable future. .
