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Titolo	Urea-SCR Technology for deNOx After Treatment of Diesel Exhausts [[electronic resource] /] / edited by Isabella Nova, Enrico Tronconi
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Descrizione fisica	1 online resource (715 p.)
Collana	Fundamental and Applied Catalysis, , 1574-0447
Disciplina	629.253
Soggetti	Catalysis Chemical engineering Automobiles - Design and construction Motor vehicles - Design and construction Analytical chemistry Thermodynamics Heat engineering Heat transfer Mass transfer Industrial Chemistry/Chemical Engineering Automotive Engineering Analytical Chemistry Energy Systems Engineering Thermodynamics, Heat and Mass Transfer
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 at the end of each chapters and index.
Nota di contenuto	Selective Catalytic Reduction and Related Technologies for Mobile Applications -- Selective Catalytic Reduction Technology for Off-Highway (Large Diesel Engine) Applications -- Vanadia-based Catalysts for Mobile Selective Catalytic Reduction -- Fe-zeolite Catalysts for NH3-SCR of NOx: Functionality, Durability and Deactivation Mechanisms -- Cu/zeolite SCR Catalysts for Automotive Diesel NOx Emission Control -- Low-temperature NH3-SCR of NOx over Zeolites and Metal Oxides Based Catalysts and Recent Developments of H2 SCR

-- Active Sites for Selective Catalytic Reduction -- Mechanistic Aspects of the NO-NH<sub>3</sub>-O<sub>2</sub> Reacting System -- The Role of NO<sub>2</sub> in the NH<sub>3</sub>-SCR Catalytic Chemistry -- Kinetics of NH<sub>3</sub>-SCR Reactions over V<sub>2</sub>O<sub>5</sub> – WO<sub>3</sub>/TiO<sub>2</sub> Catalysts -- Lean NO<sub>x</sub> Reduction by NH<sub>3</sub> on Fe-Exchanged Zeolite and Layered Fe/Cu Zeolite Catalysts -- Kinetic Modeling of Ammonia Selective Catalytic Reduction for Cu-Zeolite Catalysts -- Reactor Models for Flow-through and Wall-flow Converters -- Diesel Engine SCR Systems: Modeling, Measurements and Control -- DEF Systems and After treatment Architecture Considerations -- Ammonia storage and release in SCR systems for mobile applications -- Modelling the gas flow process inside exhaust systems: one-dimensional and multi-dimensional approaches -- Dual-layer Ammonia Slip Catalysts for automotive SCR exhaust gas after treatment: an experimental and modelling study -- NSR-SCR combined systems: production and use of ammonia -- Integration of SCR Functionality into Diesel Particulate Filters -- Development of the 2010 Ford Diesel Truck Catalyst System -- Model-based approaches to exhaust after treatment system development.

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Sommario/riassunto

Urea-SCR Technology for deNO<sub>x</sub> After Treatment of Diesel Exhausts presents a complete overview of the selective catalytic reduction of NO<sub>x</sub> by ammonia/urea. The book starts with an illustration of the technology in the framework of the current context (legislation, market, system configurations), covers the fundamental aspects of the SCR process (catalysts, chemistry, mechanism, kinetics) and analyzes its application to useful topics such as modeling of full scale monolith catalysts, control aspects, ammonia injections systems and integration with other devices for combined removal of pollutants. .

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