

1. Record Nr.	UNINA9910461755603321
Titolo	Coal combustion research [[electronic resource] /] / Christopher T. Grace, editor
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2010
ISBN	1-61668-646-4
Descrizione fisica	1 online resource (268 p.)
Collana	Energy science, engineering and technology
Altri autori (Persone)	GraceChristopher T
Disciplina	662.6/22
Soggetti	Coal - Combustion Chemical technology 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	<p>""LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA""; ""CONTENTS""; ""PREFACE""; ""ADVANCES IN COAL COMBUSTION RESEARCH""; ""ABSTRACT""; ""INTRODUCTION""; ""1. DEVOLATILIZATION OF COAL""; ""1.1. Basic Mechanism of Coal Pyrolysis""; ""1.2. Research Apparatus of Pyrolysis Experiments""; ""1.3. Factors Influencing Pyrolysis Behavior""; ""1.3.1. Effect of temperature""; ""1.3.2. Effect of heating rate""; ""1.3.3. Effect of pressure""; ""1.4. Pyrolysis Model""; ""1.4.1. Simple kinetic model""; ""1.4.2. Network model""; ""2. CHAR COMBUSTION""; ""2.1. Description of Char Combustion Process"" ""2.1.1. Macro-description""""2.1.2. Micro-description""; ""2.2. Intrinsic Reactivity""; ""2.3. Thermal Annealing""; ""2.4. Char Burnout Model""; ""2.4.1. Char combustion model""; ""2.4.1.1. Global char combustion model""; ""2.4.1.2. Semi-global char combustion model""; ""2.4.2. Carbon burnout kinetic (CBK) model""; ""2.4.2.1. Single film char oxidation sub-model""; ""2.4.2.2. Thermal annealing sub-model""; ""2.4.2.3. Physical property sub-model""; ""3. NOX FORMATION DURING COAL COMBUSTION""; ""3.1. NOx Formation Mechanism""; ""3.2. Nitrogen Partition during Coal Pyrolysis"" ""3.3. Nitrogen Conversion during Volatile Combustion""""3.4. Nitrogen Conversion during Char Combustion""; ""3.5. NOx Formation Model""; ""CONCLUSION""; ""REFERENCES""; ""FUNDAMENTAL RESEARCH ON OXY-FUEL COMBUSTION: THE NOX AND COALIGNITION REACTIONS""; ""1.</p>

INTRODUCTION"; "2. NOX REACTION MODEL"; "2.1. A Key Index for
Nox Reduction in Fuel-Rich Conditions"; "2.2. Nox Reaction Model";
"2.3. Calculation for Oxy-Fuel Combustion"; "3. COAL IGNITION
REACTION MODEL"; "3.1. Coal Ignition Study for Oxy-Fuel
Combustion"; "3.2. Experimental Procedure"
"3.3. Experimental Results for N₂/O₂ Combustion""3.4. Lean
Flammability Limit for CO₂/O₂ Combustion"; "3.5. Estimation of
Blow-Off Limit for Large-Scale Furnaces"; "4. A CASE STUDY FOR
OXY-FUEL COMBUSTION SYSTEMS"; "5. CONCLUSION";
"NOMENCLATURE"; "REFERENCES"; "PART II: FUNDAMENTAL
RESEARCH FOR OXYFUEL COMBUSTION: NOX REACTION AND COAL
IGNITION"; "INTRODUCTION"; "NOX REACTION"; "COAL IGNITION";
"REFERENCES"; "DEVELOPMENTS IN NOX EMISSION CONTROL BYa€?
REBURNINGa€? IN PULVERISED COAL COMBUSTION"; "ABSTRACT"; "1.
INTRODUCTION"
"1.1. Emissions of Oxides of Nitrogen Resulted from Combustion""
1.2. Legislations Related To Nitrogen Oxides"; "1.3. Formation of NOX
during Combustion"; "1.3.1. Thermal-NO Formation"; "1.3.2. Prompt
NO Formation"; "1.3.3. Fuel-NOO Formation"; "2. NOX EMISSION
CONTROL STRATEGIES"; "2.1. Flue Gas Recirculation (FGR)"; "2.2.
Low-Nox Burners"; "2.3. Air Staging"; "2.4. Selective Non-Catalytic
Reduction (SNCR)"; "2.5. Selective Catalytic Reduction (SCR)"; "2.6.
Nox Reduction by Reburning"; "2.6.1. A Brief Review of Research
Activities on Reburning"
"2.6.2 The Principle of Reburning"
