

## Advances in transport processes IX /

Mujumdar, Arun S., editor Mashelkar, R. A., editor

Electronic books

Monografía

The subject matter covered in this volume covers a wide scope. It contains critical reviews in many frontier areas of interest to engineers and applied scientists. Multiphase transport ranging from floc breakage to flow through multiphase media is discussed. Difficult problems of bubble growth and devolatilisation from polymeric melts are treated. The question of solid-liquid phase change with flow is considered and the emerging quantitation of web drying technology through mathematical modeling is covered. Transport phenomena in high-tech materials ranging from zeolite catalysts to liquid cry

Título: Advances in transport processes IX edited by A. S. Mujumdar and R. A. Mashelkar

Editorial: Amsterdam, The Netherlands Elsevier Science Publishers B.V 1993 ©1993

**Descripción física:** 1 online resource (592 p.)

Mención de serie: Advances in Transport Processes

Nota general: Description based upon print version of record

Bibliografía: Includes bibliographical references and index

Contenido: Front Cover; Advances in Transport Processes IX; Copyright Page; Table of Contents; CONTRIBUTORS; PREFACE; CHAPTER 1. APPLICATIONS OF BODY-FITTED COORDINATES IN TRANSPORT PROCESSES: NUMERICAL COMPUTATION AND PHYSICAL INTERPRETATION; I. INTRODUCTION; II. OVERVIEW OF NUMERICAL ALGORITHM; III. THREE-DIMENSIONAL COMBUSTOR FLOW SIMULATION; IV. HIGH PRESSURE DISCHARGE LAMP; V. TRANSPORT PHENOMENA DURING MATERIALS SOLIDIFICATION PROCESS; VI. TWO-PHASE THERMOCAPILLARY FLOW UNDER NORMAL AND MICROGRAVITY CONDITIONS; VII. CONCLUDING REMARKS; VIII. ACKNOWLEDGMENTS; IX. REFERENCES CHAPTER 2. Binary Solid-Liquid Phase Change with Fluid Row1. INTRODUCTION; 2. MATHEMATICAL MODELS; 3. SELECTED RESULTS FROM NUMERICAL SIMULATIONS; 4. ACTIVE CONTROL OF MACROSEGREGATION; 5. CONCLUSIONS AND FUTURE RESEARCH NEEDS; 6. NOMENCLATURE; 7. REFERENCES; CHAPTER 3. ESSENTIAL ASPECTS OF FLOC STRUCTURE AND BREAKAGE; 1. Introduction; 2. Floe Structure; 3.

Hydrodynamic Forces in Coagulation; 4. Disintegration Mechanisms and Energetics; 5. Conclusions; 6. Acknowledgment; CHAPTER 4. INTERACTION OF MACRO- AND MICRO MIXING IN AGITATED REACTORS1; 1. INTRODUCTION; 2. TIMES CALES OF MIXING 3. FLUID MECHANICS OF AGITATED REACTORS4. MODELLING OF INTERACTIONS BETWEEN MACRO-AND MICROMIXING; 5. SIMULATION OF MIXING AND REACTIONS; 6. CONCLUSIONS; CHAPTER 5. Macroscopic Modeling of Dynamical Phenomena in Liquid Crystalline Materials; 1. Fundamentals; 2. Magnetic Reorientation Phenomena; 3. Defect-Driven Elastic Phenomena; 4. Flow-Induced Phenomena; References; CHAPTER 6. MATHEMATICAL MODELLING OF INTRACRYSTALLINE DIFFUSION I N ZEOLITES\*; 1. INTRODUCTION; 2. EXPERIMENTAL DETERMINATION OF DIFFUSIVITY; 3. COMPARISON OF DIFFUSIVITY VALUES OBTAINED FROM DIFFERENT METHODS 4. MATHEMATICAL MODELS5. CURRENT MODELS AND EXPERIMENTAL OBSERVATIONS; 6. NOMENCLATURE; 7. REFERENCES; CHAPTER 7. Mathematical modeling of web drying; 1. INTRODUCTION; 2. CAPILLARY FLOW OF WATER; 3. BASIC EQUATIONS FOR THE DRYING MODEL: 4. BOUNDARY CONDITIONS FOR DRYING: 5. SIMULATIONS: REFERENCES; CHAPTER 8. TRANSPORT OF GASES CONTAINING CONDENSABLES IN POROUS SOLIDS; 1. INTRODUCTION; 2. SOLID-VAPOR EQUILIBRIUM IN POROUS SOLIDS; 3. INTRAPHASE TRANSPORT MODELS; 4. MULTIPHASE TRANSPORT; 5. SOME PROBLEMS OF CURRENT INTEREST; 6. CONCLUDING REMARKS; NOTATION; REFERENCES CHAPTER 9. DEVOLATILIZATION OF POLYMERS1. INTRODUCTION; 2. PROCESSES; 3. MODELS; 4. PHYSICOCHEMICAL PROPERTIES; 5. CONCLUSIONS; 6. NOMENCLATURE; 7. REFERENCES; CHAPTER 10. Bubble Growth and Collapse in Viscoelastic Liquids; 1 Introduction; 2 Theory of Bubble Growth; 3 Mathematical Modeling; 4 Experiments; 5 Process Models; References; CHAPTER 11. TRANSPORT PROCESSES IN PARTICULATE SYSTEMS WITH NON-NEWTONIAN FLUIDS; 1 INTRODUCTION; 2 SCOPE; 3 RHEOLOGICAL ASPECTS; 4 NON-NEWTONIAN EFFECTS FOR SINGLE PHASE FLOW IN PACKED BEDS; 5 NON-NEWTONIAN EFFECTS WITH TWO PHASE GAS-LIQUID FLOW IN PACKED BEDS 6 NON-NEWTONIAN EFFECTS IN LIQUID -SOLID FLUIDISED BEDS

Lengua: English

ISBN: 1-4832-9146-4

Materia: Heat- Transmission Mass transfer- Mathematical models

Autores: Mujumdar, Arun S., editor Mashelkar, R. A., editor

**Enlace a formato físico adicional:** 1-322-28577-2 0-444-89737-2

Punto acceso adicional serie-Título: Advances in Transport Processes

## **Baratz Innovación Documental**

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es