

Fluidization Engineering Daizo Kunii Octave Levenspiel

Slurry Flow. Principles and Practice describes the basic concepts and methods for understanding and designing slurry flow systems, in-plan installations, and long-distance transportation systems. The goal of this book is to enable the design or plant engineer to derive the maximum benefit from a limited amount of test data and to generalize operating experience to new situations. Design procedures are described in detail and are accompanied by illustrative examples needed by engineers with little or no previous experience in slurry transport. The technical literature in this field is extensive; this book facilitates its use by surveying current research results and providing explanations of mechanistic flow models. This discussion of background scientific principles helps the practitioner to better interpret test data, select pumps, specify materials of construction, and choose measuring devices for slurry transport systems. The extensive range of topics covered in Slurry Flow: Principles and practice includes slurry rheology, homogeneous and heterogeneous slurry flow principles, wear mechanisms, pumping equipment, instrumentation, and operating aspects.

Some of the most original and productive research specialists in the field of particle-fluid flow systems are assembled in this book, which is an important and current reference volume. The book focuses on methods of measurement and options for engineers

1969: January-June

Catalog of Copyright Entries. Third Series

Chemical Reactor Omnibook- soft cover

Engineering Flow and Heat Exchange

The Journal of Engineering Education

The Omnibook aims to present the main ideas of reactor design in a simple and direct way. It includes key formulas, brief explanations, practice exercises, problems from experience and it skims over the field touching on all sorts of reaction systems. Most important of all it tries to show the reader how to approach the problems of reactor design and what questions to ask. In effect it tries to show that a common strategy threads its way through all reactor problems - a strategy which involves three factors: identifying the flow pattern, knowing the kinetics, and developing the proper performance equation. It is this common strategy which is the heart of Chemical Reaction Engineering and identifies it as a distinct field of study.

Supercritical Fluid Extraction is a technique in which CO2 is used under extremely high pressure to separate solution (e.g., removing caffeine from coffee). Separations is basic to all process industries and supercritical fluid extraction is a specific type which is receiving a high level of attention. The book will combine basic fundamentals with industrial applications. The second edition has been expanded and updated and includes new chapters on chromatography and food processing. "...this is an excellent book which is both instructive and amusing to read. Its true value is neatly summarised in one of the closing sentences: "We have supplied you with the guidelines and criteria which you can now apply when considering supercritical fluids for your own needs.'" - Chemistry in Britain, February 1995

NASA Technical Note

v.1-v.219

The Proceedings of the ... International Conference on Fluidized-Bed Combustion

Principles and Practice

Science and Technology Associated with Their Fabrication and Application : Symposium Held November 3-December 1, 1994, Boston, Massachusetts, U.S.A.

The goal of "Porous Media: Geometry and Transports" is to provide the basis of a rational and modern approach to porous media. This book emphasizes several geometrical structures (spatially periodic, fractal, and random to reconstructed) and the three major single-phase transports (diffusion, convection, and Taylor dispersion). "Porous Media" serves various purposes. For students it introduces basic information on structure and transports. Engineers will find this book useful as a readily accessible assemblage of all the major experimental results pertaining to single-phase transports in porous media. For scientists it presents the latest developments in the field, some of which have never before been published.

Includes abstracts of Kagaku kagaku, v. 31-

Fluidization Engineering

Proceedings... Annual Pittsburgh Coal Conference

Reviews of Heat and Mass Transfer

Rate-Controlled Separations

NASA technical note

This unique book, the first published on the subject, provides an introduction to the theory of macrotransport processes, a comprehensive effective-medium theory of transport phenomena in heterogeneous systems. The text begins with a relatively simple approach to the basic theory before turning to a more formal theoretical treatment which is extended in scope in each successive chapter. Many detailed examples, as well as questions appearing at the end of each chapter, are included to demonstrate the practical implementation of the theory. Macrotransport Processes is aimed at an audience already familiar with conventional theories of transport phenomena. This audience especially includes graduate students in chemical, mechanical, and civil engineering departments, as well as applied mathematicians, biomechanicists, and soil physics, particularly those with interests in problems of flow and dispersion in porous media.

The third edition of Engineering Flow and Heat Exchange is the most practical textbook available on the design of heat transfer and equipment. This book is an excellent introduction to real-world applications for advanced undergraduates and an indispensable reference for professionals. The book includes comprehensive chapters on the different types and classifications of fluids, how to analyze fluids, and where a particular fluid fits into a broader picture. This book includes various a wide variety of problems and solutions - some whimsical and others directly from industrial applications. Numerous practical examples of heat transfer Different from other introductory books on fluids Clearly written, simple to understand, written for students to absorb material quickly Discusses non-Newtonian as well as Newtonian fluids Covers the entire field concisely Solutions manual with worked examples and solutions provided

Macrotransport Processes

Current Awareness in Particle Technology

Journal of Chemical Engineering of Japan

Subject Catalog

New Developments and Application in Chemical Reaction Engineering

This textbook is designed to provide the theory, methods of measurement, and principal applications of the expanding field of interfacial hydrodynamics. It is intended to serve the research needs of both academic and industrial scientists, including chemical or mechanical engineers, material and surface scientists, physical chemists, chemical and biophysicists, rheologists, physiochemical hydrodynamicists, and applied mathematicians (especially those with interests in viscous fluid mechanics and continuum mechanics). As a textbook it provides materials for a one- or two-semester graduate-level course in interfacial transport processes. It may also be noted that, while separate practical and theoretical subdivisions of material have been introduced, a kind of cross-emphasis is often stressed: (i) to the academic scientist, or the importance of understanding major applications of interfacial transport; and (ii) to the industrial scientist, of the importance of understanding the underlying theory.

This is the first book to present the idea of Industry 5.0 in biomanufacturing and bioprocess engineering, both upstream and downstream. The Prospect of Industry 5.0 in Biomanufacturing details the latest technologies and how they can be used efficiently and explains process analysis from an engineering point of view. In addition, it covers applications and challenges. FEATURES Describes the previous Industrial Revolution, current Industry 4.0, and how new technologies will transition toward Industry 5.0 Explains how Industry 5.0 can be applied in biomanufacturing Demonstrates new technologies catered to Industry 5.0 Uses worked examples related to biological systems This book enables readers in industry and academia working in the biomanufacturing engineering sector to understand current trends and future directions in this field.

Interfacial Transport Processes and Rheology

Instrumentation for Fluid Particle Flow

Porous Media

The Prospect of Industry 5.0 in Biomanufacturing

Chemical Engineering Progress

Separations have always been very important in chemical engineering. This importance has recently escalated with the imminent emergence of new industries in biotechnology and high-performance materials. Separations will continue to remain important in bulk chemical manufacturing, petroleum processing, and the other standard areas of chemical engineering interest. The development of new industries requiring the expertise of chemical engineers leads to problems and opportunities for chemical engineering education. Chemical engineering students need to be prepared for both the "known future" and the "unknown future." The known future includes the use of standard chemical engineering separation methods such as distillation and adsorption which will remain important for many years. The unknown future involves the use of many relatively new separation methods such as adsorption, chromatography, electrophoresis, membrane separations. A major question for chemical engineering education is what to teach. In the area of separations my personal answer has been to require undergraduates to study classical separations including distillation, adsorption and extraction. Then an elective course on newer methods which require a mass transfer analysis should be made available to seniors and graduate students. I would not mind if this second course were required of graduate students; certainly, that would be preferable to an additional distillation course. My first book, Equilibrium-Stage Separations, was my response for the required undergraduate course. This book is my response to both the proposed second course, and to practicing chemical engineers who missed this material when they were in school.

This Proceedings of APCRE '05 contains the articles that were presented at the 4th Asia-Pacific Chemical Reaction Engineering Symposium (APCRE '05), held at Gyeongsu, Korea between June 12 and June 15, 2005, with a theme of "New Opportunities of Chemical Reaction Engineering in Asia-Pacific Region". Following the tradition of APCRE Symposia and ISCRE, the scientific program encompassed a wide spectrum of topics, including not only the traditional areas but also the emerging fields of chemical reaction engineering into which the chemical reaction engineers have successfully spearheaded and made significant contributions in recent years. In addition to the 190 papers being accepted, six plenary lectures and 11 invited lectures are placed in two separate chapters in the front. * Provides an overview of new developments and application in chemical reaction engineering * Topics include traditional and emerging fields * Papers reviewed by experts in the field

The British National Bibliography

Geometry and Transports

Chemical Engineering Education

Hollow and Solid Spheres and Microspheres

Preliminary Comparison of Theory and Experiment for a Conical, Pressurized-fluidized-bed Coal Combustor

Fluidization Engineering, Second Edition, expands on its original scope to encompass these new areas and introduces reactor models specifically for these contacting regimes. Completely revised and updated, it is essentially a new book. Its aim is to distill from the thousands of studies those particular developments that are pertinent for the engineer concerned with predictive methods, for the designer, and for the user and potential user of fluidized beds. Covers the recent advances in the field of fluidization. Presents the studies of developments necessary to the engineers, designers, and users of fluidized beds.

Gas-solid Reactions in Pyrometallurgy

Supercritical Fluid Extraction

Scientific and Technical Books and Serials in Print

Fifth International Workshop on Coal-Liquid Fuels Technology, October 15-18, 1985, Halifax Sheraton, Nova Scotia, Canada

Colorado School of Mines Quarterly Review of Engineering, Science, Education and Research