

Gas Liquid And Liquid Liquid Separators Elsevier

Gas-Liquid And Liquid-Liquid Separators **Solid/Liquid Separation: Equipment Selection and Process Design** **Liquid-Gas and Solid-Gas Separators** **Surface Process, Transportation, and Storage** **Exergy for A Better Environment and Improved Sustainability 1** *Process Intensification Technologies for Green Chemistry* **Solid/Liquid Separation** **Physics of Petroleum Reservoirs** **Natural Gas Processing** *Research and Development Progress Report* **Elsevier's maritime dictionary in three languages, English, French, and Arabic** **Lithium-Ion Supercapacitors** **High Tech Ceramics** **Standard Handbook of Petroleum and Natural Gas Engineering: Volume 2** **Advances in Fluid Mechanics X** **Energy Efficient Solvents for CO2 Capture by Gas-Liquid Absorption** *Surface Operations in Petroleum Production, I* **Gas Engineering** **Issues in Applied, Analytical, and Imaging Sciences** **Research: 2013 Edition** *Progress in Polymer Research for Biomedical, Energy and Specialty Applications* **Surface Production Operations, Volume 2: Ion Exchange and Solvent Extraction** **Handbook of Chemical Processing Equipment Rules of Thumb for Chemical Engineers** **Surface Production Operations, Volume 1** **A Generalized Approach To Primary Hydrocarbon Recovery Of Petroleum Exploration & Production** **Standard Handbook of Petroleum and Natural Gas Engineering** **Alkanes: Advances in Research and Application: 2011 Edition** **Progress in Refrigeration Science and Technology** *Chemical Engineering Design* **Chemical Process Equipment Issues in Hydrogen, Fuel Cell, Electrochemical, and Experimental Technologies: 2013 Edition** *Issues in Water and Power Engineering: 2011 Edition* **Process Equipment and Plant Design Rules of Thumb for Chemical Engineers** **Gathering and Transportation** **Shale Oil and Gas Handbook** **Chemical Process Equipment - Selection and Design (Revised 2nd Edition)** *Working Guide to Petroleum and Natural Gas Production Engineering* **Bioreactors for Microbial Biomass and Energy Conversion**

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Natural Gas Processing Feb 23 2022 Natural gas is considered the dominant worldwide bridge between fossil fuels of today and future resources of tomorrow. Thanks to the recent shale boom in North America, natural gas is in a surplus and quickly becoming a major international commodity. Stay current with conventional and now unconventional gas standards and procedures with Natural Gas Processing: Technology and Engineering Design. Covering the entire natural gas process, Bahadori's must-have handbook provides everything you need to know about natural gas, including: Fundamental background on natural gas properties and single/multiphase flow factors How to pinpoint equipment selection criteria, such as US and international standards, codes, and critical design considerations A step-by-step simplification of the major gas processing procedures, like sweetening, dehydration, and sulfur recovery Detailed explanation on plant engineering and design steps for natural gas projects, helping managers and contractors understand how to schedule, plan, and manage a safe and efficient processing plant Covers both conventional and unconventional gas resources such as coal bed methane and shale gas Bridges natural gas processing with basic and advanced engineering design of natural gas projects including real world case studies Digs deeper with practical equipment sizing calculations for flare systems, safety relief valves, and control valves

Surface Process, Transportation, and Storage Jul 31 2022 Petroleum engineers search through endless sources to understand oil and gas chemicals, identify root cause of the problems, and discover solutions while operations are becoming more unconventional and driving toward more sustainable practice. Oil and Gas Chemistry Management Series brings an all-inclusive suite of tools to cover all the sectors of oil and gas chemistry-related issues and chemical solutions from drilling and completion, to production, surface processing, and storage. The fourth reference in the series, Surface Process, Transportation, and Storage delivers the critical basics while also covering latest research developments and practical solutions. Organized by the type of challenges, this volume facilitates engineers to fully understand underlying theories, practical solutions, and keys for successful applications. Basics include produced fluids treating, foam control, pipeline drag reduction, and crude oil and natural gas storage, while more advanced topics cover CO2 recovery, shipment, storage, and utilization. Supported by a list of contributing experts from both academia and industry, this volume brings a necessary reference to bridge petroleum chemistry operations from theory into more cost-effective and sustainable practical applications. Petroleum engineers search through endless sources to understand oil and gas chemicals, identify root cause of the problems, and discover solutions while operations are becoming more unconventional and driving toward more sustainable practice. Oil and Gas Chemistry Management Series brings an all-inclusive suite of tools to cover all the sectors of oil and gas chemistry-related issues and chemical solutions from drilling and completion, to production, surface processing, and storage. The fourth reference in the series, Surface Process, Transportation, and Storage delivers the critical basics while also covering latest research developments and practical solutions. Organized by the type of challenges, this volume facilitates engineers to fully understand underlying theories, practical solutions, and keys for successful applications. Basics include produced fluids treating, foam control, pipeline drag reduction, and crude oil and natural gas storage, while more advanced topics cover CO2 recovery, shipment, storage, and utilization. Supported by a list of contributing experts from both academia and industry, this volume brings a necessary reference to bridge petroleum chemistry operations from theory into more cost-effective and sustainable practical applications.

Solid/Liquid Separation Apr 27 2022 This book collects together the test procedures used in different sectors of the solid/ liquid separation equipment industry, identifies the types of tests carried out and what might typically be done with the resulting data when faced with a new application to assess. The procedures described are based on established methods which are determined by industrial practice. The book has a strong practical emphasis and is intended to act as a reference text for engineers concerned with applications evaluation of equipment or its scale-up. This book forms part of a five-volume set on all aspects of filtration and separation processes. One other volume is currently available from the set: Wakeman & Tarleton: Solid/Fluid Separation Processes: Principles of Industrial Filtration. A practical handbook on ways to approach solid/liquid separation problems, applications evaluation of equipment or its scale-up. The book has a strong practical emphasis. Reference text for engineers concerned with applications evaluation of equipment or its scale-up.

Shale Oil and Gas Handbook Sep 28 2019 Shale Oil and Gas Handbook: Theory, Technologies, and Challenges provides users with information on how shale oil and gas exploration has revolutionized today's energy industry. As activity has boomed and job growth continues to increase, training in this area for new and experienced engineers is essential. This book provides comprehensive information on both the engineering design and research aspects of this emerging industry. Covering the full spectrum of basic definitions, characteristics, drilling techniques, and processing and extraction technologies, the book is a great starting point to educate oil and gas personnel on today's shale industry. Critical topics covered include characterization of shale gas, theory and methods, typical costs, and obstacles for exploration and drilling, R&D and technology development in shale production, EOR methods in shale oil reservoirs, and the current status and impending challenges for shale oil and gas, including the inevitable future prospects relating to worldwide development. Reveals all the basic information needed to quickly understand today's shale oil and gas industry, including advantages and disadvantages, equipment and costs, flow diagrams, and processing stages Evenly distributes coverage between oil and gas into two parts, as well as upstream and downstream content Provides a practical handbook with real-world case studies and problem examples, including formulas and calculations

Progress in Polymer Research for Biomedical, Energy and Specialty Applications Mar 15 2021 With the rapid advancements in polymer research, polymers are finding newer applications such as scaffolds for tissue engineering, wound healing, flexible displays, and energy devices. In the same spirit, this book covers the key features of recent advancements in polymeric materials and their specialty applications. Divided into two sections – Polymeric Biomaterials and Polymers from Sustainable Resources, and Polymers for Energy and Specialty Applications – this book covers biopolymers, polymer-based biomaterials, polymer-based nanohybrids, polymer nanocomposites, polymer-supported regenerative medicines, and advanced polymer device fabrication techniques. FEATURES Provides a comprehensive review of all different polymers for applications in tissue engineering, biomedical implants, energy storage or conversion, and so forth Discusses advanced strategies in development of scaffolds for tissue engineering Elaborates various advanced fabrication techniques for polymeric devices Explores the nuances in polymer-based batteries and energy harvesting Reviews advanced polymeric membranes for fuel cells and polymers for printed electronics applications Throws light on some new polymers and polymer nanocomposites for optoelectronics, next generation tires, smart sensors and stealth technology applications This book is aimed at academic researchers, industry personnel, and graduate students in the interdisciplinary fields of polymer and materials technology, composite engineering, biomedical engineering, applied chemistry, chemical engineering, and advanced polymer manufacturing.

Exergy for A Better Environment and Improved Sustainability 1 Jun 29 2022 This multi-disciplinary book presents the most recent advances in exergy, energy, and environmental issues. Volume 1 focuses on fundamentals in the field and covers current problems, future needs, and prospects in the area of energy and environment from researchers worldwide. Based on selected lectures from the Seventh International Exergy, Energy and Environmental Symposium (IEEES7-2015) and complemented by further invited contributions, this comprehensive set of contributions promote the exchange of new ideas and techniques in energy conversion and conservation in order to exchange best practices in "energetic efficiency". Included are fundamental and historical coverage of the green transportation and sustainable mobility sectors, especially regarding the development of sustainable technologies for thermal comforts and green transportation vehicles. Furthermore, contributions on renewable and sustainable energy sources, strategies for energy production, and the carbon-free society constitute an important part of this book. Exergy for Better Environment and Sustainability, Volume 1 will appeal to researchers, students, and professionals within engineering and the renewable energy fields.

Alkanes: Advances in Research and Application: 2011 Edition Jul 07 2020 Alkanes: Advances in Research and Application: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Alkanes. The editors have built Alkanes: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Alkanes in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Alkanes: Advances in Research and Application: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

High Tech Ceramics Oct 22 2021

Gas Engineering May 17 2021 Volume 1 deals with the origins of process gases and describes recovery, properties and composition. It covers as well the shale gas, the production from hydrocarbon rich deep shale formations, being one of the most quickly expanding trends in onshore domestic gas exploration. Vol. 2: Composition and Processing of Gas Streams. Vol. 3: Uses of Gas and Effects.

Chemical Engineering Design May 05 2020 Chemical Engineering Design is one of the best-known and widely adopted texts available for students of chemical engineering. It deals with the application of chemical engineering principles to the design of chemical processes and equipment. Revised throughout, the fourth edition covers the latest aspects of process design, operations, safety, loss prevention and equipment selection, among others. Comprehensive and detailed, the book is supported by problems and selected solutions. In addition the book is widely used by professionals as a day-to-day reference. Best selling chemical engineering text Revised to keep pace with the latest chemical industry changes; designed to see students through from undergraduate study to professional practice End of chapter exercises and solutions

Gas-Liquid And Liquid-Liquid Separators Nov 03 2022 Gas-Liquid And Liquid-Liquid Separators is practical guide designed to help engineers and operators develop a 'feel' for selection, specification, operating parameters, and trouble-shooting separators; form an understanding of the uncertainties and assumptions inherent in operating the equipment. The goal is to help familiarize operators with the knowledge and tools required to understand design flaws and solve everyday operational problems for types of separators. Gas-Liquid And Liquid-Liquid Separators is divided into six parts: Part one and two covers fundamentals such as: physical properties, phase behaviour and calculations. Part three through five is dedicated to topics such as: separator construction, factors affecting separation, vessel operation, and separator operation considerations. Part six is devoted to the ASME codes governing wall thickness determination of vessel weight fabrication, inspection, alteration and repair of separators 500 illustrations Easy to understand calculations methods Guide for protecting downstream equipment Helps reduce the loss of expensive intermediate ends Helps increase product purity

Standard Handbook of Petroleum and Natural Gas Engineering: Volume 2Sep 20 2021 Volume 2 presents the industry standards and practices for reservoir engineering and production engineering. It also looks at all aspects of petroleum economics and shows how to estimate oil and gas reserves.

Surface Production Operations, Volume 1 Oct 10 2020 The latest edition of this best-selling title is updated and expanded for easier use by engineers. New to this edition is a section on the fundamentals of surface production operations taking up topics from the oilfield as originally planned by the authors in the first edition. This information is necessary and endemic to production and process engineers. Now, the book offers a truly complete picture of surface production operations, from the production stage to the process stage with applications to process and production engineers. New in-depth coverage of hydrocarbon characteristics, the different kinds of reservoirs, and impurities in crude Practical suggestions help readers understand the art and science of handling produced liquids Numerous, easy-to-read figures, charts, tables, and photos clearly explain how to design, specify, and operate oilfield surface production facilities

Rules of Thumb for Chemical Engineers Nov 10 2020 This new edition of the most complete handbook for chemical and process engineers incorporates the latest information for engineers and practitioners who depend on it as a working tool. New material explores the recent trends and updates of gas treating and fractionator computer solutions analysis. Substantial additions to this edition include a new section on gasification that reflects the many new trends and techniques in the field and a treatment on compressible fluid flow. This convenient volume provides engineers with hundreds of common sense techniques, shortcuts, and calculations to quickly and accurately solve day-to-day design, operations, and equipment problems. Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. * The standard handbook for chemical and process engineers * All new material on pinch point analysis on networks of heat exchangers and updates on gas treating in process design and heat transfer * Hundreds of common sense techniques and calculations

Chemical Process Equipment Apr 03 2020 First published: Chemical process equipment / Stanley M. Walas. 1988.

Energy Efficient Solvents for CO2 Capture by Gas-Liquid AbsorptionJul 19 2021 This book reviews and characterises promising single-compound solvents, solvent blends and advanced solvent systems suitable for CO2 capture applications using gas-liquid absorption. Focusing on energy efficient solvents with minimal adverse environmental impact, the contributions included analyse the major technological advantages, as well as research and development challenges of promising solvents and solvent systems in various sustainable CO2 capture applications. It provides a valuable source of information for undergraduate and postgraduate students, as well as for chemical engineers and energy specialists.

Research and Development Progress Report Jan 25 2022

Surface Operations in Petroleum Production, IJun 17 2021 This is the first part of a two-volume work which comes at a time when oil producers are taking a close look at the economy of oilfield operation and redesign of production technology to improve ultimate recovery. The very high cost, and risk, of the search for new oilfields demands the re-evaluation of production technology and reservoir engineering to improve the production characteristics of existing oilfields. It is the aim of this work that it will be instrumental in the improvement of the global enhancement of oil production and ultimate recovery. It is the outcome of extensive collaboration between experts in petroleum who have devoted their time to the lucid expression of the knowledge that they have acquired through experience in the evaluation and solution of field problems, and development of economic field processes. Oil production companies have been generous in their cooperation through assistance and encouragement to the authors and permission to publish data, designs and photographs. Together, the two books provide a detailed and comprehensive coverage of the subject. The physical and chemical properties of the fluids encountered by engineers in the field are clearly described. The properties, methods of separation, measurement, and transportation of these fluids (gases, condensate liquids derived from natural gas, crude oils and oilfield waters) are dealt with. Following a presentation of the fluids and their process technology, a series of chapters give a thorough discussion of every type of surface equipment that is encountered in the myriad aspects of oilfield operations, ranging from waterflooding to new enhanced oil recovery techniques. Included are all methods for pumping, water control, production logging and corrosion control. The coverage also extends to: well completion and work-over operations, methods for design and operation of underground gas storage, and a review of offshore technology. Surface Operations in Petroleum Production is therefore a comprehensive reference which will be invaluable for field production managers and engineers; as well as being an ideal text on production technology to complement the study of reservoir engineering.

Process Intensification Technologies for Green ChemistryMay 29 2022 The successful implementation of greener chemical processesrelies not only on the development of more efficient catalysts forsynthetic chemistry but also, and as importantly, on thedevelopment of reactor and separation technologies which candeliver enhanced processing performance in a safe, cost-effectiveand energy efficient manner. Process intensification has emerged asa promising field which can effectively tackle the challenges ofsignificant process enhancement, whilst also offering the potentialto diminish the environmental impact presented by the chemicalindustry. Following an introduction to process intensification and theprinciples of green chemistry, this book presents a number ofintensified technologies which have been researched and developed,including case studies to illustrate their application to greenchemical processes. Topics covered include: • Intensified reactor technologies: spinning discreactors, microreactors, monolith reactors, oscillatory flowreactors, cavitation reactors • Combined reactor/separator systems: membrane reactors,reactive distillation, reactive extraction, reactiveabsorption • Membrane separations for green chemistry • Industry relevance of process intensification,including economics and environmental impact, opportunities forenergy saving, and practical considerations for industrialimplementation. Process Intensification for Green Chemistry is a valuableresource for practising engineers and chemists alike who areinterested in applying intensified reactor and/or separator systemsin a range of industries to achieve green chemistry principles.

Working Guide to Petroleum and Natural Gas Production EngineeringJul 27 2019 Working Guide to Petroleum and Natural Gas Production Engineering provides an introduction to key concepts and processes in oil and gas production engineering. It begins by describing correlation and procedures for predicting the physical properties of natural gas and oil. These include compressibility factor and phase behavior, field sampling process and laboratory measurements, and prediction of a vapor-liquid mixture. The book discusses the basic parameters of multiphase fluid flow, various flow regimes, and multiphase flow models. It explains the natural flow performance of oil, gas, and the mixture. The final chapter covers the design, use, function, operation, and maintenance of oil and gas production facilities; the design and construction of separators; and oil and gas separation and treatment systems. Evaluate well inflow performance Guide to properties of hydrocarbon mixtures Evaluate Gas production and processing facilities

Advances in Fluid Mechanics X Aug 20 2021 Containing the proceedings of the tenth International Conference on Advances in Fluid Mechanics it follows the success of all previous conferences in the series, the first of which took place in 1996. The field of fluid mechanics is vast and has numerous, diverse applications. This book covers a wide range of topics, including basic formulations and their computer modelling as well as the relationship between experimental and analytical results. The emphasis is on new applications and research currently in progress. Topics covered include: Computational methods; Hydrodynamics; Fluid structure interaction; Multiphase flow; Bio-fluids; Electronic components; Environmental fluid mechanics; Heat and mass transfer; Industrial applications; Energy systems; Nano and micro fluids; Turbulent flow; River hydraulics; Combustion problems; Jets; Fluidics; Bubble and drop dynamics.

Surface Production Operations, Volume 2: Feb 11 2021 This revised edition puts the most current information about gas-handling systems and facilities at your fingertips. The authors channeled their classroom and field experience into this volume, which features many new sections such as: * Heat recovery units * Kinetic inhibitors and anti-agglomerators * Trays and packing for distillation and absorption towers * Compressor valves * Foundation design considerations for reciprocating compressors * Pressure vessel issues and components * Nox reduction in engines and turbines * Safety management systems This book walks you through the equipment and processes used in gas-handling operations to help you design and manage a production facility. Production engineers will keep this volume on the desktop for the latest information on how to DESIGN, SPECIFY, and OPERATE gas-handling systems and facilities. The book allows engineers with little or background in production facility design to easily locate details about equipment, processes, and design parameters. With this volume, you will more completely comprehend the techniques of handling produced fluids from gas wells so your facility can be more efficient and productive. * Revised edition puts the most current information about gas-handling systems at your fingertips * Features brand new sections!

Chemical Process Equipment - Selection and Design (Revised 2nd Edition)Aug 27 2019 A facility is only as efficient and profitable as the equipment that is in it: this highly influential book is a powerful resource for chemical, process, or plant engineers who need to select, design or configures plant successfully and profitably. It includes updated information on design methods for all standard equipment, with an emphasis on real-world process design and performance. The comprehensive and influential guide to the selection and design of a wide range of chemical process equipment, used by engineers globally • Copious examples of successful applications, with supporting schematics and data to illustrate the functioning and performance of equipment Revised edition, new material includes updated equipment cost data, liquid-solid and solid systems, and the latest information on membrane separation technology Provides equipment rating forms and manufacturers' data, worked examples, valuable shortcut methods, rules of thumb, and equipment rating forms to demonstrate and support the design process Heavily illustrated with many line drawings and schematics to aid understanding, graphs and tables to illustrate performance data

Handbook of Chemical Processing Equipment Dec 12 2020 The Handbook of Chemical Process Equipment is a major reference on process equipment. It provides practical understanding and description of the working principles, intended applications, selection criteria and fundamental design principles for equipment used throughout the process and allied chemical industries. It is an important reference for engineers, and in particular chemical engineers who will use such a volume throughout their studies and careers. Each major unit operation and equipment associated with the operation is described in sufficient detail for the reader to obtain practical knowledge of the equipment's limitations and typical applications. The book contains sufficient working examples and references for the user to refer to more in-depth treatment of individual subject areas. A practical reference for chemical process equipment Can be used throughout the process and allied chemical industries Unit operations and equipment described in detail

Process Equipment and Plant Design Jan 01 2020 Process Equipment and Plant Design: Principles and Practices takes a holistic approach towards process design in the chemical engineering industry, dealing with the design of individual process equipment and its configuration as a complete functional system. Chapters cover typical heat and mass transfer systems and equipment included in a chemical engineering curriculum, such as heat exchangers, heat exchanger networks, evaporators, distillation, absorption, adsorption, reactors and more. The authors expand

on additional topics such as industrial cooling systems, extraction, and topics on process utilities, piping and hydraulics, including instrumentation and safety basics that supplement the equipment design procedure and help to arrive at a complete plant design. The chapters are arranged in sections pertaining to heat and mass transfer processes, reacting systems, plant hydraulics and process vessels, plant auxiliaries, and engineered safety as well as a separate chapter showcasing examples of process design in complete plants. This comprehensive reference bridges the gap between industry and academia, while exploring best practices in design, including relevant theories in process design making this a valuable primer for fresh graduates and professionals working on design projects in the industry. Serves as a consolidated resource for process and plant design, including process utilities and engineered safety Bridges the gap between industry and academia by including practices in design and summarizing relevant theories Presents design solutions as a complete functional system and not merely the design of major equipment Provides design procedures as pseudo-code/flow-chart, along with practical considerations

Liquid-Gas and Solid-Gas Separators Sep 01 2022 Liquid-Gas and Solid-Gas Separators, part of the Industrial Equipment for Chemical Engineering set, details the magnetic properties of solids and their separation in a magnetic field. After a thorough description of the electronic filter and its functioning, numerical examples are given for the functioning of Venturi (which is a convergent-divergent). The centrifugal separator with superimposed plates theory is also developed alongside the screw-mud-pump. The author also provides the methods needed for understanding the equipment used in applied thermodynamics in the hope of encouraging students and engineers to self build the programs they need. Chapters are complemented with appendices that provide additional information and associated references. Presents a comprehensive example of a real-world simulation of a venturi Examines a centrifugal decanter designed to separate the components of a liquid-solid Details the magnetic properties of solids and their separation in a magnetic field

Progress in Refrigeration Science and Technology Jun 05 2020 Progress in Refrigeration Science and Technology, Volume I is a collection of papers from the Eleventh International Congress of Refrigeration held in Munich in August-September 1963. These papers deal with the various scientific and technical aspects, designs, and technology of refrigeration. One paper explains technological advances in the use of very low temperature fluids, namely liquid hydrogen and liquid helium as rocket fuels, as bubble chambers, in the study of mesons or hyperons, and in experiments involving the reaction of metals in a wide range of temperature. Another paper examines the requirements for improved food refrigeration and the limitations of certain methods when compared to other cold processing forms. Freeze-drying is also used in biology such as in freeze-drying of biological solutions, tissues, or living organisms. One paper explains the purification method for obtaining very pure hydrogen at high pressures to be used in comparative experiments on the thermodynamical properties of ortho- and para-hydrogen, and their mixtures. Another paper investigates the effect of heat exchange between capillary tube and suction line on the performance of small hermetic compressor systems. This collection is suitable for engineers or technologists in the area of refrigeration, as well as for scientists involved in the space industry and materials research.

Bioreactors for Microbial Biomass and Energy Conversion Jun 25 2019 This book discusses recent trends and developments in the microbial conversion process, which serves as an important route for biofuel production, with particular attention to bioreactors. It combines microbial conversion with multiphase flow and mass transfer, providing an alternative perspective for the understanding of microbial biomass and energy production process as well as enhancement strategy. This book is relevant to students and researchers who work in the fields of renewable energy, engineering and biotechnology. Policymakers, economists and industry engineers also benefit from this book, as it can be used as a resource for the implementation of renewable energy technologies.

Physics of Petroleum Reservoirs Mar 27 2022 This book introduces in detail the physical and chemical phenomena and processes during petroleum production. It covers the properties of reservoir rocks and fluids, the related methods of determining these properties, the phase behavior of hydrocarbon mixtures, the microscopic mechanism of fluids flowing through reservoir rocks, and the primary theories and methods of enhancing oil recovery. It also involves the up-to-date progress in these areas. It can be used as a reference by researchers and engineers in petroleum engineering and a textbook for students majoring in the area related with petroleum exploitation.

Ion Exchange and Solvent Extraction Jan 13 2021 This volume will capture transformational changes in both the chemistry and engineering side of solvent extraction, creating new directions and deepening our understanding of the structure and dynamics of liquid-liquid systems from the molecular- to nano- to meso- to bulk-scale. Reviews will cover advances in microfluidics, new tools for understanding the structure and dynamics of the liquid-liquid interface, ionic liquids in liquid-liquid extraction, molecular dynamics to visualize interactions in the solvent phase, liquid-liquid electrochemistry to interrogate the energetics of interfacial transport and complexation, design of new extractants, and the streamlining of process applications.

Lithium-Ion Supercapacitors Nov 22 2021 The book provides a comprehensive understanding of the principles for operating lithium-ion supercapacitors (LISCs), their challenges, technological trends and perspectives. LISC technology has high potential to replace conventional rechargeable batteries such as lead-acid and nickel metal hydride batteries for automotive, portable electronics, and stationary applications. The book offers detailed analysis of LISCs at the material, component, and system levels to evaluate the different approaches to their integration. It also discusses economics, market, manufacture, and commercialization status of LISCs. It is an up-to-date study of an emerging field, written by experts, ideal for those in academia and industry who want a detailed explanation of the technology.

Issues in Hydrogen, Fuel Cell, Electrochemical, and Experimental Technologies: 2013 Edition Mar 03 2020 Issues in Hydrogen, Fuel Cell, Electrochemical, and Experimental Technologies: 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Fuel Cells. The editors have built Issues in Hydrogen, Fuel Cell, Electrochemical, and Experimental Technologies: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Fuel Cells in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Hydrogen, Fuel Cell, Electrochemical, and Experimental Technologies: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

A Generalized Approach To Primary Hydrocarbon Recovery Of Petroleum Exploration & Production Sep 08 2020 This reservoir-engineering textbook is a contemporary analysis of primary recovery. It covers rock and fluid properties, reservoir energies, surface separation, laboratory PVT methods, material balance, fluid flow, well deliverability, water influx, reservoir performance, and decline-curve analysis. Using an unified approach, the text includes the full range of reservoir fluids: black oils, volatile oils, gas condensates, wet gases, and dry gases. It also covers the entire range of producing mechanisms, including gas-cap, water-drive, and compaction-drive reservoirs.

Issues in Water and Power Engineering: 2011 Edition Jan 31 2020 Issues in Water and Power Engineering / 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Water and Power Engineering. The editors have built Issues in Water and Power Engineering: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Water and Power Engineering in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Water and Power Engineering: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Rules of Thumb for Chemical Engineers Nov 30 2019 Rules of Thumb for Chemical Engineers, Sixth Edition, is the most complete guide for chemical and process engineers who need reliable and authoritative solutions to on-the-job problems. The text is comprehensively revised and updated with new data and formulas. The book helps solve process design problems quickly, accurately and safely, with hundreds of common sense techniques, shortcuts and calculations. Its concise sections detail the steps needed to answer critical design questions and challenges. The book discusses physical properties for proprietary materials, pharmaceutical and biopharmaceutical sector heuristics, process design, closed-loop heat transfer systems, heat exchangers, packed columns and structured packings. This book will help you: save time you no longer have to spend on theory or derivations; improve accuracy by exploiting well tested and accepted methods culled from industry experts; and save money by reducing reliance on consultants. The book brings together solutions, information and work-arounds from engineers in the process industry. Includes new chapters on biotechnology and filtration Incorporates additional tables with typical values and new calculations Features supporting data for selecting and specifying heat transfer equipment

Solid/Liquid Separation: Equipment Selection and Process Design Oct 02 2022 In this volume, the third in a set specifically written for the industrial process and chemical engineer, the authors provide the detailed information on filtration equipment and media which allows the reader to then consider the pre-treatment of suspensions, selection of the most appropriate equipment for the task, data analysis and the subsequent design of the processes involved for particular separations. The result is a comprehensive book which is designed to be used frequently and referred to regularly in order to achieve better industrial separations. Successful industrial-scale separation of solids from liquids requires not only a thorough understanding of the principles involved, but also an appreciation of which equipment to use for best effect, and a start-to-finish plan for the various processes involved in the operation. If these factors are all correct, then successful separations should result. Part of 3-volume set Unique approach to industrial separations Internationally-known authors

Issues in Applied, Analytical, and Imaging Sciences Research: 2013 Edition Apr 15 2021 Issues in Applied, Analytical, and Imaging Sciences Research: 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Applied Analysis. The editors have built Issues in Applied, Analytical, and Imaging Sciences Research: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Applied Analysis in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Applied, Analytical, and Imaging Sciences Research: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Standard Handbook of Petroleum and Natural Gas Engineering Aug 08 2020 This new edition of the Standard Handbook of Petroleum and Natural Gas Engineering provides you with the best, state-of-the-art coverage for every aspect of petroleum and natural gas engineering. With thousands of illustrations and 1,600 information-packed pages, this text is a handy and valuable reference. Written by over a dozen leading industry experts and academics, the Standard Handbook of Petroleum and Natural Gas Engineering provides the best, most comprehensive source of petroleum engineering information available. Now in an easy-to-use single volume format, this classic is one of the true "must haves" in any petroleum or natural gas engineer's library. * A classic for the oil and gas industry for over 65 years! * A comprehensive source for the newest developments, advances, and procedures in the petrochemical industry, covering everything from drilling and production to the economics of the oil patch. * Everything you need - all the facts, data, equipment, performance, and principles of petroleum engineering, information not found anywhere else. * A desktop reference for all kinds of calculations, tables, and equations that engineers need on the rig or in the office. * A time and money saver on procedural and equipment alternatives, application techniques, and new approaches to problems.

Gathering and Transportation Oct 29 2019 Gathering and Transportation

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