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Steam, Its Generation and Use - Babcock Wilcox Company 2019-11-19
"Steam, Its Generation and Use" by Babcock & Wilcox Company.

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Vegetable Fiber Composites and their Technological Applications - Mohammad Jawaid 2021-08-18

This book explores vegetable fiber composite as an eco-friendly, biodegradable, and sustainable material that has many potential industrial applications. The use of vegetable fiber composite supports the sustainable development goals (SDGs) to utilize more sustainable and greener composite materials, which are also easy to handle and locally easily available with economical production costs. This book presents various types of vegetable fiber composite and its processing methods and treatments to obtain desirable properties for certain applications. The book caters to researchers and students who are working in the field of bio-composites and green materials.

Thermodynamic Models for Industrial Applications - Georgios M. Kontogeorgis 2009-12-01

Using an applications perspective Thermodynamic Models for Industrial Applications provides a unified framework for the development of various thermodynamic models, ranging from the classical models to some of the most advanced ones. Among these are the Cubic Plus Association Equation of State (CPA EoS) and the Perturbed Chain Statistical Association Fluid Theory (PC-SAFT). These two advanced models are already in widespread use in industry and academia, especially within the oil and gas, chemical and polymer industries. Presenting both classical models such as the Cubic Equations of State and more advanced models such as the CPA, this book provides the critical starting point for choosing the most appropriate calculation method for accurate process simulations. Written by two of the developers of these models, Thermodynamic Models for Industrial Applications emphasizes model selection and model development and includes a useful "which model for which application" guide. It also covers industrial requirements as well as discusses the challenges of thermodynamics in the 21st Century.

Situating Open Data - Danny Lämmerhirt 2020-10-29

Open data and its effects on society are always woven into infrastructural legacies, social relations, and the political economy. This raises questions about how our understanding and engagement with open data shifts when we focus on its situated use. To shed light onto these questions, *Situating Open Data* provides several empirical accounts of open data practices, the local implementation of global initiatives, and the development of new open data ecosystems. Drawing on case studies in different countries and contexts, the chapters demonstrate the practices and actors involved in open government data initiatives unfolding within different socio-political settings. The book proposes three recommendations for researchers, policy-makers and practitioners. First, beyond upskilling through 'data literacy' programmes, open data initiatives should be specified through the kinds of data practices and effects they generate. Second, global visions of open data implementation require more studies of the resonances and tensions created in localised initiatives. And third, research into open data ecosystems requires more attention to the histories and legacies of information infrastructures and how these shape who benefits from open data flows. As such, this volume departs from the framing of data as a resource to be deployed. Instead, it proposes a prism of different data practices in different contexts through which to study the social relations, capacities, infrastructural histories and power structures affecting open data initiatives. It is hoped that the contributions collected

in *Situating Open Data* will spark critical reflection about the way open data is locally practiced and implemented. The contributions should be of interest to open data researchers, advocates, and those in or advising government administrations designing and rolling out effective open data initiatives.

Practical Applications of Computational Biology & Bioinformatics, 14th International Conference (PACBB 2020) - Gabriella Panuccio 2020-07-22

This book highlights the latest research on practical applications of computational biology and bioinformatics, and addresses emerging experimental and sequencing techniques that are posing new challenges for bioinformatics and computational biology. Successfully applying these techniques calls for new algorithms and approaches from fields such as statistics, data mining, machine learning, optimization, computer science, and artificial intelligence. In response to these challenges, we have seen the rise of a new generation of interdisciplinary scientists with a strong background in the biological and computational sciences. These proceedings include 21 papers covering many different subfields of bioinformatics and computational biology. Focusing on interdisciplinary applications that combine e.g. bioinformatics, chemoinformatics, and system biology, they are intended to promote the collaboration of scientists from different research groups and with different backgrounds (computer scientists, mathematicians, biologists) to reach breakthrough solutions and overcome the challenges outlined above.

Chemical Process Engineering Volume 1 - Rahmat Sotudeh-Gharebagh 2022-03-25

Written by two of the most prolific and respected chemical engineers in the world, this groundbreaking two-volume set is the "new standard" in the industry, offering engineers and students alike the most up-to-date, comprehensive, and state-of-the-art coverage of processes and best practices in the field today. This first new volume in a two-volume set explores and describes integrating new tools for engineering education and practice for better utilization of the existing knowledge on process design. Useful not only for students, professors, scientists and practitioners, especially process, chemical, mechanical and metallurgical engineers, it is also a valuable reference for other engineers, consultants, technicians and scientists concerned about various aspects of industrial design. The text can be considered as a complementary text to process design for senior and graduate students as well as a hands-on reference work or refresher for engineers at entry level. The contents of the book can also be taught in intensive workshops in the oil, gas, petrochemical, biochemical and process industries. The book provides a detailed description and hands-on experience on process design in chemical engineering, and it is an integrated text that focuses on practical design with new tools, such as Excel spreadsheets and UniSim simulation software. Written by two industry and university's most trustworthy and well-known authors, this book is the new standard in chemical, biochemical, pharmaceutical, petrochemical and petroleum refining. Covering design, analysis, simulation, integration, and, perhaps most importantly, the practical application of Microsoft Excel-UniSim software, this is the most comprehensive and up-to-date coverage of all of the latest developments in the industry. It is a must-have for any engineer or student's library.

Fundamentals of Natural Gas Processing - Arthur J. Kidnay 2006-06-21

Fundamentals of Natural Gas Processing explores the natural gas industry from the wellhead to the marketplace. It compiles information from the open literature, meeting proceedings, and experts to accurately depict the state of gas processing technology today and highlight technologies that could become important in the future. This book covers *Psychiatry and the Legacies of Eugenics* - Frank W. Stahnisch 2020-07-28

From 1928 to 1972, the Alberta Sexual Sterilization Act, Canada's

lengthiest eugenic policy, shaped social discourses and medical practice in the province. Sterilization programs—particularly involuntary sterilization programs—were responding both nationally and internationally to social anxieties produced by the perceived connection between mental degeneration and heredity. Psychiatry and the Legacies of Eugenics illustrates how the emerging field of psychiatry and its concerns about inheritable conditions was heavily influenced by eugenic thought and contributed to the longevity of sterilization practices in Western Canada. Using institutional case studies, biographical accounts, and media developments from Western Canada and Europe, contributors trace the impact of eugenics on nursing practices, politics, and social attitudes, while investigating the ways in which eugenics discourses persisted unexpectedly and remained mostly unexamined in psychiatric practice. This volume further extends historical analysis into considerations of contemporary policy and human rights issues through a discussion of disability studies as well as compensation claims for victims of sterilization. In impressive detail, contributors shed new light on the medical and political influences of eugenics on psychiatry at a key moment in the field's development. With contributions by Ashley Barlow, W. Mikkell Dack, Diana Mansell, Guel A. Russell, Celeste Tuong Vy Sharpe, Henderikus J. Stam, Douglas Wahlsten, Paul J. Weindling, Robert A. Wilson, Gregor Wolbring, and Marc Workman.

Sustainable Energy Conversion for Electricity and Coproducts - Ashok Rao 2015-04-27

Provides an introduction to energy systems going on to describe various forms of energy sources Provides a comprehensive and a fundamental approach to the study of sustainable fuel conversion for the generation of electricity and for coproducing synthetic fuels and chemicals Covers the underlying principles of physics and their application to engineering including thermodynamics of combustion and power cycles, fluid flow, heat transfer, and mass transfer Details the coproduction of fuels and chemicals including key equipment used in synthesis and specific examples of coproduction in integrated gasification combined cycles are presented Presents an introduction to renewables and nuclear energy, including a section on electrical grid stability and is included due to the synergy of these energy plants with fossil-fueled plants

Death's Apprentice - K. W. Jeter 2012-10-30

Death's seventeen-year-old apprentice must learn to stand on his own as he leads an uprising against the Devil Forget about Once Upon a Time . . . Built on top of the gates of Hell, Grimm City is the Devil's capital on earth. A place where every coffee shop, nightclub and shopping mall is the potential hunting ground for a ghost, a demon, or any of the other supernatural entities that inhabit the Grimm City world. Death's seventeen-year-old apprentice, Nathaniel, comes into his own as he leads an uprising against the Devil with the help of a half-dead wraith and a giant hit-man. What results is a bloody, brutal revolt that calls upon the loyalties of both the living and the dead. Based not only upon the Brothers Grimm well-known fairy tales, but also upon their "unknown" sagas and essays, K. W. Jeter & Gareth Jefferson Jones's *Death's Apprentice* is the first novel to be based upon the entire Grimm canon. Such a comprehensive, in-depth adaptation of the works of the Brothers Grimm has never been published before!

Chemical Process Equipment - Selection and Design (Revised 2nd Edition) - James R. Couper 2009-08-11

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 configure 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

Oilfield Processing of Petroleum: Natural gas - Francis S. Manning 1991 This book describes oilfield processing and handling of natural gas in a direct, easy-to-follow format. Process descriptions, design methods, operating procedures and troubleshooting are covered in detail. This

hands-on reference will be useful to field practitioners and is an ideal training text. Petroleum engineers will gain a better understanding of surface operations between the wellhead and the point of custody transfer or transport from the production facilities.

14th International Symposium on Process Systems Engineering - Yoshiyuki Yamashita 2022-06-24

14th International Symposium on Process Systems Engineering, Volume 49 brings together the international community of researchers and engineers interested in computing-based methods in process engineering. The conference highlights the contributions of the PSE community towards the sustainability of modern society and is based on the 2021 event held in Tokyo, Japan, July 1-23, 2021. It contains contributions from academia and industry, establishing the core products of PSE, defining the new and changing scope of our results, and covering future challenges. Plenary and keynote lectures discuss real-world challenges (globalization, energy, environment and health) and contribute to discussions on the widening scope of PSE versus the consolidation of the core topics of PSE. Highlights how the Process Systems Engineering community contributes to the sustainability of modern society Establishes the core products of Process Systems Engineering Defines the future challenges of Process Systems Engineering

Gas Purification - Arthur L. Kohl 1985

Network-Oriented Modeling - Jan Treur 2016-10-03

This book presents a new approach that can be applied to complex, integrated individual and social human processes. It provides an alternative means of addressing complexity, better suited for its purpose than and effectively complementing traditional strategies involving isolation and separation assumptions. Network-oriented modeling allows high-level cognitive, affective and social models in the form of (cyclic) graphs to be constructed, which can be automatically transformed into executable simulation models. The modeling format used makes it easy to take into account theories and findings about complex cognitive and social processes, which often involve dynamics based on interrelating cycles. Accordingly, it makes it possible to address complex phenomena such as the integration of emotions within cognitive processes of all kinds, of internal simulations of the mental processes of others, and of social phenomena such as shared understandings and collective actions. A variety of sample models - including those for ownership of actions, fear and dreaming, the integration of emotions in joint decision-making based on empathic understanding, and evolving social networks - illustrate the potential of the approach. Dedicated software is available to support building models in a conceptual or graphical manner, transforming them into an executable format and performing simulation experiments. The majority of the material presented has been used and positively evaluated by undergraduate and graduate students and researchers in the cognitive, social and AI domains. Given its detailed coverage, the book is ideally suited as an introduction for graduate and undergraduate students in many different multidisciplinary fields involving cognitive, affective, social, biological, and neuroscience domains.

Future Energy - Trevor M. Letcher 2013-11-12

As the demand for global energy increases, fact-based evaluations of alternative energy sources are needed in order to address the growing interest in how energy is produced, provided, and transported in sustainable ways. *Future Energy, Second Edition* provides scientists and decision makers with the knowledge they need to understand the relative importance and magnitude of various energy production methods in order to make the energy decisions needed for sustaining development and dealing with climate change. The second edition of *Future Energy* looks at the present energy situation and extrapolates to future scenarios related to global warming and the increase of carbon dioxide and other greenhouse gases in the atmosphere. This thoroughly revised and updated edition contains over 30 chapters on all aspects of future energy, each chapter updated and expanded by expert scientists and engineers in their respective fields providing an unbiased and balanced view of the future of energy. Provides readers with an up-to-date overview of available energy options, both traditional and renewable, as well as the necessary tools to make informed decisions regarding selection, use, and environmental impacts. Covers a wide spectrum of future energy resources presented in a single book with chapters written by experts of the particular field Eleven new chapters including chapters on: solar heating, energy resources in developing nations and frontiers in oil and gas, Arctic drilling and unconventional oil and gas sources,

thorium in nuclear fission, ethanol and other options for future transport fuel, fracking, smart grids, new batteries, environmental issues and the energy options for China

Hydrate Engineering - E. Dendy Sloan 2000

Community Detection and Mining in Social Media - Lei Tang 2010-05-05

The past decade has witnessed the emergence of participatory Web and social media, bringing people together in many creative ways. Millions of users are playing, tagging, working, and socializing online, demonstrating new forms of collaboration, communication, and intelligence that were hardly imaginable just a short time ago. Social media also helps reshape business models, sway opinions and emotions, and opens up numerous possibilities to study human interaction and collective behavior in an unparalleled scale. This lecture, from a data mining perspective, introduces characteristics of social media, reviews representative tasks of computing with social media, and illustrates associated challenges. It introduces basic concepts, presents state-of-the-art algorithms with easy-to-understand examples, and recommends effective evaluation methods. In particular, we discuss graph-based community detection techniques and many important extensions that handle dynamic, heterogeneous networks in social media. We also demonstrate how discovered patterns of communities can be used for social media mining. The concepts, algorithms, and methods presented in this lecture can help harness the power of social media and support building socially-intelligent systems. This book is an accessible introduction to the study of **community detection and mining in social media**. It is an essential reading for students, researchers, and practitioners in disciplines and applications where social media is a key source of data that piques our curiosity to understand, manage, innovate, and excel. This book is supported by additional materials, including lecture slides, the complete set of figures, key references, some toy data sets used in the book, and the source code of representative algorithms. The readers are encouraged to visit the book website for the latest information. Table of Contents: Social Media and Social Computing / Nodes, Ties, and Influence / Community Detection and Evaluation / Communities in Heterogeneous Networks / Social Media Mining Engineering Data Book Fps - 2004

Gas Hydrates - Carlo Giavarini 2011-09-06

Gas hydrates are both a huge energy resource and an environmental challenge. They have a significant impact on society because of their applications to the future of energy, protection of the environment and fuel transportation. Gas Hydrates opens up this fascinating, multidisciplinary field to non-specialists. It provides a scientific study of gas hydrates that considers their potential as an energy source while assessing the possible risk to the environment. The authors also examine the feasibility of using these natural compounds for storing and transporting gases such as methane and carbon dioxide. Diagrams and photos are used throughout Gas Hydrates to help readers understand the scientific and technical content. Each section has been designed so it can be read independently by academics and professionals in the oil and gas industry, as well as by all those with an interest in how hydrates combine to be an energy resource, an industrial challenge and a geological hazard.

Natural Gas Hydrates - John Carroll 2020-05-12

Natural Gas Hydrates, Fourth Edition, provides a critical reference for engineers who are new to the field. Covering the fundamental properties, thermodynamics and behavior of hydrates in multiphase systems, this reference explains the basics before advancing to more practical applications, the latest developments and models. Updated sections include a new hydrate toolbox, updated correlations and computer methods. Rounding out with new case study examples, this new edition gives engineers an important tool to continue to control and mitigate hydrates in a safe and effective manner. Presents an updated reference with structured comparisons on hydrate calculation methods that are supported by practical case studies and a current list of inhibitor patents Provides a comprehensive understanding of new hydrate management strategies, particularly for multiphase pipeline operations Covers future challenges, such as carbon sequestration with simultaneous production of methane from hydrates

Heat Exchanger Equipment Field Manual - Maurice Stewart 2012-06-12

From upstream to downstream, heat exchangers are utilized in every stage of the petroleum value stream. An integral piece of equipment, heat exchangers are among the most confusing and problematic pieces

of equipment in petroleum processing operations. This is especially true for engineers just entering the field or seasoned engineers that must keep up with the latest methods for in-shop and in-service inspection, repair, alteration and re-rating of equipment. The objective of this book is to provide engineers with sufficient information to make better logical choices in designing and operating the system. Heat Exchanger Equipment Field Manual provides an indispensable means for the determination of possible failures and for the recognition of the optimization potential of the respective heat exchanger. Step-by-step procedure on how to design, perform in-shop and in-field inspections and repairs, perform alterations and re-rate equipment Select the correct heat transfer equipment for a particular application Apply heat transfer principles to design, select and specify heat transfer equipment Evaluate the performance of heat transfer equipment and recommend solutions to problems Control schemes for typical heat transfer equipment application

Acid Gas Extraction for Disposal and Related Topics - Ying Wu 2016-01-22

This is the fifth volume in a series of books focusing on natural gas engineering, focusing on the extraction and disposal of acid gas. This volume includes information for both upstream and downstream operations, including chapters on modeling, carbon capture, chemical and thermodynamic models, and much more. Written by some of the most well-known and respected chemical and process engineers working with natural gas today, the chapters in this important volume represent the most cutting-edge and state-of-the-art processes and operations being used in the field. Not available anywhere else, this volume is a must-have for any chemical engineer, chemist, or process engineer working with natural gas. There are updates of new technologies in other related areas of natural gas, in addition to the extraction and disposal of acid gas, including testing, reservoir simulations, acid gas injection, and natural gas hydrate formations. Advances in Natural Gas Engineering is an ongoing series of books meant to form the basis for the working library of any engineer working in natural gas today. Every volume is a must-have for any engineer or library.

Practical Onshore Gas Field Engineering - David Simpson 2017-07-10

Practical Onshore Gas Field Engineering delivers the necessary framework to help engineers understand the needs of the reservoir, including sections on early transmission and during the life of the well. Written from a reservoir perspective, this reference includes methods and equipment from gas reservoirs, covering the gathering stage at the gas facility for transportation and processing. Loaded with real-world case studies and examples, the book offers a variety of different types of gas fields that demonstrate how surface systems can work through each scenario. Users will gain an increased understanding of today's gas system aspects, along with tactics on how to optimize bottom line revenue. As reservoir and production engineers face many challenges in getting gas from the reservoir to the final sales point, especially as a result of the shale boom, a new demand for more facility engineers now exists in the market. This book addresses new challenges in the market and brings new tactics to the forefront. Presents the full lifecycle of the gas surface facility, from reservoir to gathering and transmission Helps users gain experience through case studies that explain successes and failures on a variety of gas fields, including unconventional and shale Teaches how the surface gas facility system and equipment work individually, and as an integrated system

Chemical Process Design and Simulation: Aspen Plus and Aspen Hysys Applications - Juma Haydary 2019-01-03

A comprehensive and example oriented text for the study of chemical process design and simulation Chemical Process Design and Simulation is an accessible guide that offers information on the most important principles of chemical engineering design and includes illustrative examples of their application that uses simulation software. A comprehensive and practical resource, the text uses both Aspen Plus and Aspen Hysys simulation software. The author describes the basic methodologies for computer aided design and offers a description of the basic steps of process simulation in Aspen Plus and Aspen Hysys. The text reviews the design and simulation of individual simple unit operations that includes a mathematical model of each unit operation such as reactors, separators, and heat exchangers. The author also explores the design of new plants and simulation of existing plants where conventional chemicals and material mixtures with measurable compositions are used. In addition, to aid in comprehension, solutions to examples of real problems are included. The final section covers plant

design and simulation of processes using nonconventional components. This important resource: Includes information on the application of both the Aspen Plus and Aspen Hysys software that enables a comparison of the two software systems Combines the basic theoretical principles of chemical process and design with real-world examples Covers both processes with conventional organic chemicals and processes with more complex materials such as solids, oil blends, polymers and electrolytes Presents examples that are solved using a new version of Aspen software, ASPEN One 9 Written for students and academics in the field of process design, Chemical Process Design and Simulation is a practical and accessible guide to the chemical process design and simulation using proven software.

Petroleum Refining Design and Applications Handbook - A. Kayode Coker 2021-03-09

A must-read for any practicing engineer or student in this area There is a renaissance that is occurring in chemical and process engineering, and it is crucial for today's scientists, engineers, technicians, and operators to stay current. This book offers the most up-to-date and comprehensive coverage of the most significant and recent changes to petroleum refining, presenting the state-of-the-art to the engineer, scientist, or student. Useful as a textbook, this is also an excellent, handy go-to reference for the veteran engineer, a volume no chemical or process engineering library should be without.

Aircraft Propulsion and Gas Turbine Engines - Ahmed F. El-Sayed 2017-07-06

Aircraft Propulsion and Gas Turbine Engines, Second Edition builds upon the success of the book's first edition, with the addition of three major topic areas: Piston Engines with integrated propeller coverage; Pump Technologies; and Rocket Propulsion. The rocket propulsion section extends the text's coverage so that both Aerospace and Aeronautical topics can be studied and compared. Numerous updates have been made to reflect the latest advances in turbine engines, fuels, and combustion. The text is now divided into three parts, the first two devoted to air breathing engines, and the third covering non-air breathing or rocket engines.

Meeting our commitments to gender equality in education - UNESCO 2018-03-12

Aucune information saisie

Emulsions and Oil Treating Equipment - Maurice Stewart 2008-12-30

The problem of removing water which is emulsified with produced oil has grown more widespread and often times more difficult as producers attempt to access more difficult reserves. This practical guide is designed to help engineers and operators develop a "feel" for selection, sizing, and troubleshooting emulsion equipment. These skills are of vital importance to ensure low operating costs and to meet crude export quality specifications. The book is written for engineers and operators, who need advanced knowledge of the numerous techniques and the equipment used to destabilize and resolve petroleum emulsions problems. In *Emulsions and Oil Treating Equipment: Selection, Sizing and Troubleshooting* the author provides engineers and operators with a guide to understanding emulsion theory, methods and equipment, and practical design of a treating system. Comprehensive in its scope, the author explains methods such as: demulsifiers, temperature, electrostatics and non-traditional methods of modulated or pulsed voltage control, as well as equipment such as: electrostatic treater (dehydrator), separator, gunbarr heater-treater and free water knockout. Written in a "how to" format, it brings together hundreds of methods, handy formulas, diagrams and tables in one convenient book. Detailed coverage emulsion equipment and removal methods Tips for selecting, sizing, and operating emulsion equipment Overview of emulsion theory and factors affecting treatment methods Packed with equipment diagrams, worked out calculations covers equipment and removal methods

Guide to the Quality and Safety of Tissues and Cells for Human Application - European Directorate for the Quality of Medicines & Healthcare 2013-10-11

This guide provides state-of-the-art information in order to maximise the quality and minimise the risks during donation, procurement, testing, processing, preservation, storage and distribution of tissues and cells. As with all transplanted material of human origin, tissues and cells carry risks of disease transmission, which must be controlled by the application of scrupulous donor selection criteria (including testing) and comprehensive quality systems. The idea behind this guide is to help professionals on a practical level by providing generic guidance that will help improve the rate of successful clinical application of tissues and

cells. The guide makes reference to EU mandatory requirements where appropriate and describes generally-accepted good practice. It has been divided into two parts. Part A contains general requirements applicable to all establishments involved in the donation, procurement, testing, processing, preservation, storage and distribution of tissues and cells. Part B contains specific guidelines and requirements for the different tissue and/or cell types

Handbook of Petroleum Processing - Steven A Treese 2015-08-04

This extensively updated second edition of the already valuable reference targets research chemists and engineers who have chosen a career in the complex and essential petroleum industry, as well as other professionals just entering the industry who seek a comprehensive and accessible resource on petroleum processing. The handbook describes and discusses the key components and processes that make up the petroleum refining industry. Beginning with the basics of crude oils and their nature, it continues with the commercial products derived from refining and with related issues concerning their environmental impact. More in depth coverage of many topics previously covered in the first edition, such as hydraulic fracturing or fracking as it is often termed, help ensure this reference remains a relevant and up-to-date resource. At its core is a complete overview of the processes that make up a modern refinery, plus a brief history of the development of processes. Also described in detail are design techniques, operations and in the case of catalytic units, the chemistry of the reaction routes. These discussions are supported by calculation procedures and examples, which enable readers to use today's simulation-software packages. The handbook also covers off-sites and utilities, as well as environmental and safety aspects relevant to the industry. The chapter on refinery planning covers both operational planning and the decision making procedures for new or revamped processes. Major equipment used in the industry is reviewed along with details and examples of the process specifications for each. An extensive glossary and dictionary of the terms and expressions used in petroleum refining, plus appendices supplying data such as converging factors and selected crude oil assays, as well as an example of optimizing a refinery configuration using linear programming are all included to aid the reader. The 2nd edition of the Handbook of Petroleum Processing is an indispensable desk reference for chemists and engineers as well as an essential part of the libraries of universities with a chemical engineering faculty and oil refineries and engineering firms performing support functions or construction.

Global Corruption - Gerry Ferguson 2018-02

Handbook of Petroleum Refining Processes - Robert A. Meyers 2003-10-14

* Offers detailed description of process chemistry and thermodynamics and product by-product specifications of plants * Contributors are drawn from the largest petroleum producers in the world, including Chevron, Mobil, Shell, Exxon, UOP, and Texaco * Covers the very latest technologies in the field of petroleum refining processes * Completely updated 3rd Edition features 50% all new material

Gas Treating - Dag Eimer 2014-08-25

Gas Treating: Absorption Theory and Practice provides an introduction to the treatment of natural gas, synthesis gas and flue gas, addressing why it is necessary and the challenges involved. The book concentrates in particular on the absorption-desorption process and mass transfer coupled with chemical reaction. Following a general introduction to gas treatment, the chemistry of CO₂, H₂S and amine systems is described, and selected topics from physical chemistry with relevance to gas treating are presented. Thereafter the absorption process is discussed in detail, column hardware is explained and the traditional mass transfer model mechanisms are presented together with mass transfer correlations. This is followed by the central point of the text in which mass transfer is combined with chemical reaction, highlighting the associated possibilities and problems. Experimental techniques, data analysis and modelling are covered, and the book concludes with a discussion on various process elements which are important in the absorption-desorption process, but are often neglected in its treatment. These include heat exchange, solution management, process flowsheet variations, choice of materials and degradation of absorbents. The text is rounded off with an overview of the current state of research in this field and a discussion of real-world applications. This book is a practical introduction to gas treating for practicing process engineers and chemical engineers working on purification technologies and gas treatment, in particular, those working on CO₂ abatement processes, as well as post-graduate students in process engineering, chemical

engineering and chemistry.

Pipeline Rules of Thumb Handbook - E.W. McAllister 2015-08-03

Now in its sixth edition, Pipeline Rules of Thumb Handbook has been and continues to be the standard resource for any professional in the pipeline industry. A practical and convenient reference, it provides quick solutions to the everyday pipeline problems that the pipeline engineer, contractor, or designer faces. Pipeline Rules of Thumb Handbook assembles hundreds of shortcuts for pipeline construction, design, and engineering. Workable "how-to" methods, handy formulas, correlations, and curves all come together in this one convenient volume. Save valuable time and effort using the thousands of illustrations, photographs, tables, calculations, and formulas available in an easy to use format Updated and revised with new material on project scoping, plastic pipe data, HDPE pipe data, fiberglass pipe, NEC tables, trenching, and much more A book you will use day to day guiding every step of pipeline design and maintenance

Rules of Thumb for Chemical Engineers - Carl Branan 2002

The most complete guide of its kind, this is the standard handbook for chemical and process engineers. All new material on fluid flow, long pipe, fractionators, separators and accumulators, cooling towers, gas treating, blending, troubleshooting field cases, gas solubility, and density of irregular solids. This substantial addition of material will also include conversion tables and a new appendix, "Shortcut Equipment Design Methods." This convenient volume helps solve field engineering problems with its hundreds of common sense techniques, shortcuts, and calculations. 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. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day design, operations, and equipment problems.

Oscillating Heat Pipes - Hongbin Ma 2015-05-22

This book presents the fundamental fluid flow and heat transfer principles occurring in oscillating heat pipes and also provides updated developments and recent innovations in research and applications of heat pipes. Starting with fundamental presentation of heat pipes, the focus is on oscillating motions and its heat transfer enhancement in a two-phase heat transfer system. The book covers thermodynamic analysis, interfacial phenomenon, thin film evaporation, theoretical models of oscillating motion and heat transfer of single phase and two-phase flows, primary factors affecting oscillating motions and heat transfer, neutron imaging study of oscillating motions in an oscillating heat pipes, and nanofluid's effect on the heat transfer performance in oscillating heat pipes. The importance of thermally-excited oscillating motion combined with phase change heat transfer to a wide variety of applications is emphasized. This book is an essential resource and learning tool for senior undergraduate, graduate students, practicing engineers, researchers, and scientists working in the area of heat pipes. This book also · Includes detailed descriptions on how an oscillating heat pipe is fabricated, tested, and utilized · Covers fundamentals of oscillating flow and heat transfer in an oscillating heat pipe · Provides general presentation of conventional heat pipes

Project Management for the Oil and Gas Industry - Adedeji B. Badiru 2016-04-19

Project management for oil and gas projects comes with a unique set of challenges that include the management of science, technology, and engineering aspects. Underlining the specific issues involved in projects in this field, Project Management for the Oil and Gas Industry: A World

System Approach presents step-by-step application of project management techniques. Using the Project Management Body of Knowledge (PMBOK®) framework from the Project Management Institute (PMI) as the platform, the book provides an integrated approach that covers the concepts, tools, and techniques for managing oil and gas projects. The authors discuss specialized tools such as plan, do, check, act (PDCA); define, measure, analyze, improve, control (DMAIC); suppliers, inputs, process, outputs, customers (SIPOC); design, evaluate, justify, integrate (DEJI); quality function deployment (QFD); affinity diagrams; flowcharts; Pareto charts; and histograms. They also discuss the major activities in oil and gas risk assessment, such as feasibility studies, design, transportation, utility, survey works, construction, permanent structure works, mechanical and electrical installations, and maintenance. Strongly advocating a world systems approach to managing oil and gas projects and programs, the book covers quantitative and qualitative techniques. It addresses technical and managerial aspects of projects and illustrates the concepts with case examples of applications of project management tools and techniques to real-life project scenarios that can serve as lessons learned for best practices. An in-depth examination of project management for oil and gas projects, the book is a handbook for professionals in the field, a guidebook for technical consultants, and a resource for students.

The Three Sisters - Ying Wu 2019-05-21

This is the seventh volume in the series, Advances in Natural Gas Engineering, focusing on carbon dioxide (CO₂) capture and sequestration, acid gas injection, and enhanced oil recovery, the "three sisters" of natural gas engineering. This volume includes information for both upstream and downstream operations, including chapters detailing the most cutting-edge techniques in acid gas injection, carbon capture, chemical and thermodynamic models, and much more. Written by some of the most well-known and respected chemical and process engineers working with natural gas today, the chapters in this important volume represent the most state-of-the-art processes and operations being used in the field. Not available anywhere else, this volume is a must-have for any chemical engineer, chemist, or process engineer in the industry. Advances in Natural Gas Engineering is an ongoing series of books meant to form the basis for the working library of any engineer working in natural gas today.

Offshore Processing of CO₂-Rich Natural Gas with Supersonic Separator - José Luiz de Medeiros 2018-12-31

This book introduces a new and powerful approach based on rigorous process simulations conducted with professional simulators like HYSYS to predict the performance of supersonic separators (SS). The book addresses the utilization of SSs for the offshore processing of CO₂-rich natural gas as an alternative to Joule-Thomson expansion, glycol absorption, membrane permeation and chemical absorption. It describes and analyzes the conventional offshore processing of CO₂-rich natural gas, discussing the advantages of SS in terms of cost and power consumption. The book offers a comprehensive framework for modeling SS units, describing the physical principles of SS in detail. The thermodynamic multiphase sound speed is also discussed at the light shed by a classical analysis based on the Landau Model of phase transitions. A complete framework is presented for modelling and simulating SS units within HYSYS environment. A special chapter is dedicated to the performance of SSs for removing CO₂ from CO₂-rich natural gas, taking into account the limitations of CO₂ freeze-out in various scenarios of gas feed in terms of CO₂ content, pressure and temperature.