

# Nuclear Engineering Entergy

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Hybrid Nuclear Energy Systems - Michael F. Keller 2021-01-30

Hybrid Nuclear Energy Systems: A Sustainable Solution for the 21st Century provides practical insights on the environmental impact of the hybrid systems discussed, as well as important technical, economic, licensing and safety considerations. This book acts as a guide for the implementation of hybrid energy systems and authoritatively compares the benefits and possible downfalls of each technology. This enables the reader to analyze their own setting or research and evaluate the most economical and effective solution. Energy engineering researchers and professional engineers will benefit from the practical and technical approach of this book. This book will also benefit regulators and economists who will gain a clear understanding of how a hybrid system is not only designed, but also how societies will benefit from a cleaner and more abundant energy source. Provides a comprehensive analysis of hybrid energy systems and their associated benefits and possible shortcomings Provides the latest technical, environmental, economic, safety and regulatory research Ranks key energy production methods against novel hybrid systems to highlight possibilities

*Small Modular Reactors as Renewable Energy Sources* - Bahman Zohuri 2018-06-18

This book highlights Small Modular Reactors (SMRs) as a viable alternative to the Nuclear Power Plants (NPPs), which have been used as

desalination plant energy sources. SMRs have lower investment costs, inherent safety features, and increased availability compared to NPPs. The unique and innovative approach to implementation of SMRs as part of Gen-IV technology outlined in this book contributes to the application of nuclear power as a supplementary source to renewable energy. Discusses Gen-IV Power plants, their efficiency, cost effectiveness, safety, and methods to supply renewable energy; Presents Small Modular Reactors as a viable alternative to Nuclear Power Plants; Describes the benefits, uses, safety features, and challenges related to implementation of Small Modular Reactors.

Fiscal year 1985 Department of Energy authorization - United States. Congress. House. Committee on Science and Technology. Subcommittee on Energy Development and Applications 1984

**Encyclopedia of Nuclear Energy** - 2021-07-15

Encyclopedia of Nuclear Energy provides a comprehensive and reliable overview of the many ways nuclear energy contributes to society. Comprised of four volumes, it includes topics such as generating clean electricity, improving medical diagnostics and cancer treatment, improving crop yields, improving food shelf-lives, and crucially, the deployment of nuclear energy as an alternative energy source, one that is proving to be essential in the management of global warming.

Carefully structured into thematic sections, this encyclopedia brings together the vast and highly diversified literature related to nuclear energy into a single resource, with convenient to read, cross-referenced chapters. This book will serve as an invaluable resource for researchers in the fields of energy, engineering, material science, chemistry, and physics, from both industry and academia. Offers a contemporary review of current nuclear energy research and insights into the future direction of the field, hence negating the need for individual searches across various databases Written by academics and practitioners from different fields to ensure that the knowledge within is easily understood by, and applicable to, a large audience Meticulously organized, with articles split into sections on key topics and clearly cross-referenced to allow students, researchers and professionals to quickly and easily find relevant information

**Life at the Center of the Energy Crisis** - George H Miley 2013-04-30

Life at the Center of the Energy Crisis: A Technologist's Search for a Black Swan describes the story of the author's work and struggles in the field of energy research. The author's experience in the field spans from work with Admiral Rickover and the Nuclear Navy to research with NASA designing propulsion for spacecraft to travel to Mars. The book provides insights into the differences between nuclear research done during the Cold War by the two superpowers, and offers a commentary on the flaws in each system with hope for change in the future. The book also provides a look into the development of the nuclear engineering program at the University of Illinois from the author's years as a professor and an administrator. Contents: Why a "Black Swan"? Living at the Center of the Energy Crisis Timeline and Apology Early Days and Searching for a Starting Path Burnable Poison Control for Nuclear Submarine Reactors Nuclear Pulse Propagation and Fission Reactor Kinetics Nuclear Pumped Laser (NPL) Research Direct Electron Beam Pumped Laser Advanced Lasers Alpha Particle Effects in Thermonuclear Fusion Devices Alternate Fusion Concepts Advanced Fuel Fusion and Direct Energy Conversion Inertial Confinement Fusion (ICF) Inertial Electrostatic Confinement (IEC) Fusion Low Energy Nuclear Reactions

(LENR) Hydrogen Economy and Fuel Cells Fusion Propulsion and Space Colonization Nuclear Batteries Computation and Theory Nuclear Power Plant Safety and the Illinois Low-Level Waste Site Teaching, Education, and University Administration Creation of a Small Company, NPL Associates, Inc. Where Am I in the Search? What Have I Found? Concluding Comments Timeline of Events Readership: Undergraduates and PhDs, as well as anyone in the general public interested in the history of the field. Keywords: Burnable Poison Control; Nuclear Submarine Reactors; Neutron Pulse Propagation; Fission Reactor Kinetics; Nuclear Pumped Lasers; Direct Electron Beam Pumped Laser; Advanced Lasers; Alpha Particle Effects in Thermonuclear Fusion Devices; Alternate Fusion Concepts; Advanced Fuel Fusion; Direct Energy Conversion; Inertial Confinement Fusion; Inertial Electrostatic Confinement Fusion; Low Energy Nuclear Reactions (LENR); Hydrogen Economy and Fuel Cells; Fusion Propulsion; Space Colonization; Nuclear Batteries; Nuclear Power Plant Safety Board; Illinois Low-level Waste Site; Energy Studies Reviews: "Miley includes pictures and graphics to set the historical tone and illustrate scientific concepts, both of which add to his colorful narrative. Readers with an interest in the principles or the history of nuclear energy, or of its future in post-Cold War era — will find much to interest them in this book." (See Full Review) Inside Illinois Nuclear R&D and the Idaho National Laboratory - United States. Congress. House. Committee on Science. Subcommittee on Energy 2004

Energy from Nuclear Fission - Enzo De Sanctis 2016-07-20

This book provides an overview on nuclear physics and energy production from nuclear fission. It serves as a readable and reliable source of information for anyone who wants to have a well-balanced opinion about exploitation of nuclear fission in power plants. The text is divided into two parts; the first covers the basics of nuclear forces and properties of nuclei, nuclear collisions, nuclear stability, radioactivity, and provides a detailed discussion of nuclear fission and relevant topics in its application to energy production. The second part covers the basic technical aspects of nuclear fission reactors, nuclear fuel cycle and

resources, safety, safeguards, and radioactive waste management. The book also contains a discussion of the biological effects of nuclear radiation and of radiation protection, and a summary of the ten most relevant nuclear accidents. The book is suitable for undergraduates in physics, nuclear engineering and other science subjects. However, the mathematics is kept at a level that can be easily followed by wider circles of readers. The addition of solved problems, strategically placed throughout the text, and the collections of problems at the end of the chapters allow readers to appreciate the quantitative aspects of various phenomena and processes. Many illustrations and graphs effectively supplement the text and help visualising specific points.

*Economics of Nuclear Power* - Geoffrey Rothwell 2018-12-07

This book is a unique introduction to the economic costs of nuclear power. It examines the future of the nuclear power industry and unpacks the complicated relationships between its technical, economic and political variables. It does so by modelling the costs, risks and uncertainties of one of the world's most opaque industries using micro-econometrics, econometrics, and cost engineering. *Economics of Nuclear Power* examines the very important costs of externalities (storing of nuclear waste and the impact of a Chernobyl or Fukushima event) and compares those to the externalities of alternative carbon based energies (oil, coal, natural gas). With over 100 tables and figures this book details nuclear power production around the world - present and planned, providing a completely global focus. It also includes an overview of the past 70 years of international nuclear power developments. This book is essential reading for students, scholars and professionals interested in energy economics, nuclear engineering and energy policy.

*Nuclear Engineering Seminar* - Jerome L. Shapiro 1955

*Principles of Fusion Energy* - A. A. Harms 2000

This textbook accommodates the two divergent developmental paths which have become solidly established in the field of fusion energy: the process of sequential tokamak development toward a prototype and the need for a more fundamental and integrative research approach before

costly design choices are made. Emphasis is placed on the development of physically coherent and mathematically clear characterizations of the scientific and technological foundations of fusion energy which are specifically suitable for a first course on the subject. Of interest, therefore, are selected aspects of nuclear physics, electromagnetics, plasma physics, reaction dynamics, materials science, and engineering systems, all brought together to form an integrated perspective on nuclear fusion and its practical utilization. The book identifies several distinct themes. The first is concerned with preliminary and introductory topics which relate to the basic and relevant physical processes associated with nuclear fusion. Then, the authors undertake an analysis of magnetically confined, inertially confined, and low-temperature fusion energy concepts. Subsequently, they introduce the important blanket domains surrounding the fusion core and discuss synergetic fusion-fission systems. Finally, they consider selected conceptual and technological subjects germane to the continuing development of fusion energy systems.

**The Quest for a Fusion Energy Reactor** - Weston Stacey 2010-04-26

At the Geneva Superpower Summit in November 1985, Secretary of the former Soviet Union Mikhail Gorbachev and US President Ronald Regan agreed to pursue an international effort to develop fusion energy for peaceful purposes. At a time when tension between these cold war nations was very high, how were these leaders able to come together to work towards making nuclear fusion a feasible energy source? *The Quest for a Fusion Energy Reactor* is the story of the INTOR Workshop (INternational TOKamak Reactor) which brought together scientists and engineers from Europe, Japan, the United States, and the (then) USSR from 1978 to 1988 to share their individual research and work cooperatively on the design and development possibilities for harnessing nuclear energy. Drawing on his insights while serving as Vice Chairman of the INTOR Workshop, Weston Stacey offers an insider's account of both the participants' technical work and their fascinating political interactions under the blanket of the cold war. An accessible presentation of their research on the viability of designing, constructing,

and operating a Tokamak experimental power reactor is combined with personal anecdotes of the obstacles Workshop leaders and participants faced as they strove to make progress on the global future of nuclear fusion technology while balancing their own countries' priorities. The Workshop led to the International Thermonuclear Experimental Reactor (ITER), construction of which began in 2009 with the goal of demonstrating the scientific and technical feasibility of fusion power.

**Advances in Energy Materials and Environment Engineering -**

Chong Kok Keong 2022-11-23

This new book, *Advances in Energy Materials and Environment Engineering*, covers the timely issue of green applications of materials. It covers the diverse usages of carbon nanotubes for energy, for power, for the protection of the environment, and for new energy applications. The diverse topics in the volume include energy saving technologies, renewable energy, clean energy development, nuclear engineering and hydrogen energy, advanced power semiconductors, power systems and energy and much more. This timely book addresses the need of the hour and will prove to be valuable for environmentally conscious industry professionals, faculty and students, and researchers in materials science, engineering, and environment with interest in energy materials.

**Advanced Reactor Concepts (ARC) -** Bahman Zohuri 2023-01-15

Nuclear engineers advancing the energy transition are understanding more about the next generation of nuclear plants, but it is difficult to obtain all the critical types, concepts, and applications in one location. *Advanced Reactor Concepts (ARC): A New Nuclear Power Plant Perspective for Energy* gives engineers and nuclear engineering researchers the comprehensive tool to get up to date on the latest technology supporting the Generation IV nuclear plant systems. After describing a brief history, alternative technology is discussed such as electromagnetic pumps, heat pipes as control devices, and integration of Nuclear Air-Brayton Combined Cycles, helping nuclear plants provide dispatchable electricity to the grid and heat to the industry. Packed with examples and on all the types, benefits, and challenges, *Advanced Reactor Concepts (ARC)* delivers the go-to reference engineers need to

advance safe nuclear energy as a low-carbon option. Learn theory and concepts on generation IV technology such as advanced reactor concepts (ARC) and electromagnetic pumps, including comparison of different types and sizes Advance the energy transition with critical carbon-free technology that can supplement intermittent power sources such as wind and solar Grasp alternative heat storage technology, including Nuclear Air-Brayton Combined Cycle

*Oversight* - United States. Congress. House. Committee on Science and Technology. Subcommittee on Fossil and Nuclear Energy Research, Development, and Demonstration 1978

Nuclear Energy - Raymond Murray 2009

*Nuclear Energy* is one of the most popular texts ever published on basic nuclear physics, systems, and applications of nuclear energy. This newest edition continues the tradition of offering a holistic treatment of everything the undergraduate engineering student needs to know in a clear and accessible way. Presented is a comprehensive overview of radioactivity, radiation protection, nuclear reactors, waste disposal, and nuclear medicine. New coverage on nuclear safety concerns following 9/11, including radiation and terrorism, nuclear plant security, and use of nuclear techniques to detect weapons materials New facts on nuclear waste management, including the Yucca Mountain repository New developments in the use of nuclear-powered systems for generating cheap and abundant hydrogen from water using nuclear technology New information on prospects for new nuclear power reactors and their applications for electricity and desalination New end-of-chapter Exercises and Answers, lists of Internet resources, and updated references

*Nuclear Regulatory Commission Issuances* - U.S. Nuclear Regulatory Commission 2008

**Selective Guide to Literature on Nuclear Engineering -** 2000

**Nuclear Fusion - Bringing the Sun to Earth** - David Brückner

2013-01-16

Essay from the year 2011 in the subject Engineering - Nuclear Engineering, Lancing College, language: English, abstract: The dream that a bathtub of water and 100 g lithium could supply a family for 50 years with electricity stimulated scientists since the 1940s all over the world to make every effort to construct a working fusion reactor that uses the most fundamental of all energy sources: the nuclear fusion that fuels sun. In the late 1940's scientists began to investigate if it was possible to use the nuclear fusion, that had been discovered to be the sun's fuel, as an energy source on earth. The source of fusion energy is the binding energy of the atoms. The details of the physics behind fusion as well as the challenges facing the engineers to build a working reactor are outlined here. Both feasible possibilities of confinement, the Tokamak and the Stellarator are explained and discussed.

**America's Energy Future** - National Research Council 2010-01-15

For multi-user PDF licensing, please contact customer service. Energy touches our lives in countless ways and its costs are felt when we fill up at the gas pump, pay our home heating bills, and keep businesses both large and small running. There are long-term costs as well: to the environment, as natural resources are depleted and pollution contributes to global climate change, and to national security and independence, as many of the world's current energy sources are increasingly concentrated in geopolitically unstable regions. The country's challenge is to develop an energy portfolio that addresses these concerns while still providing sufficient, affordable energy reserves for the nation. The United States has enormous resources to put behind solutions to this energy challenge; the dilemma is to identify which solutions are the right ones. Before deciding which energy technologies to develop, and on what timeline, we need to understand them better. America's Energy Future analyzes the potential of a wide range of technologies for generation, distribution, and conservation of energy. This book considers technologies to increase energy efficiency, coal-fired power generation, nuclear power, renewable energy, oil and natural gas, and alternative transportation fuels. It offers a detailed assessment of the associated

impacts and projected costs of implementing each technology and categorizes them into three time frames for implementation.

**Progress in Nuclear Energy** - M. M. R. Williams 1983

**Abundant Nuclear Energy** - 1969

*Nuclear Engineering* - Zafar Ullah Koreshi 2022-03-23

Nuclear Engineering Mathematical Modeling and Simulation presents the mathematical modeling of neutron diffusion and transport. Aimed at students and early career engineers, this highly practical and visual resource guides the reader through computer simulations using the Monte Carlo Method which can be applied to a variety of applications, including power generation, criticality assemblies, nuclear detection systems, and nuclear medicine to name a few. The book covers optimization in both the traditional deterministic framework of variational methods and the stochastic framework of Monte Carlo methods. Specific sections cover the fundamentals of nuclear physics, computer codes used for neutron and photon radiation transport simulations, applications of analyses and simulations, optimization techniques for both fixed-source and multiplying systems, and various simulations in the medical area where radioisotopes are used in cancer treatment. Provides a highly visual and practical reference that includes mathematical modeling, formulations, models and methods throughout. Includes all current major computer codes, such as ANISN, MCNP and MATLAB for user coding and analysis. Guides the reader through simulations for the design optimization of both present-day and future nuclear systems.

Progress in Nuclear Energy - 1956

**Nuclear Energy** - 1969

**Elementary Reactor Physics** - P. J. Grant 2013-09-03

Elementary Reactor Physics details the underlying principles that govern the physical processes taking place in a nuclear reactor core. The title

tackles the various variables that contribute to the kinetic behavior of a nuclear reactor. The text first introduces the basic concepts of nuclear reactor kinetics, and then proceeds to tackling neutron and neutron cross-sections. Next, the selection covers neutron diffusion and the slowing down of neutrons. The text also covers both homogeneous and heterogeneous reactions, along with the effects of temperature and of fission products. The eighth chapter discusses long-term changes, while the last chapter tackles control rod calculations. The book will be of great use to students of degrees involved in dealing with various operational concerns in nuclear reactors.

**Energy/environment Opportunities for Civil Engineers** - Ronald D. Neufeld 1988

This collection contains 17 papers describing opportunities for civil engineers in balancing needs for energy generation with environmental acceptability presented at sessions of the ASCE National Convention, held in Nashville, Tennessee, 1988.

Nuclear Energy - David Bodansky 1996

Market: Scientists in nuclear engineering, engineering students, and government policy makers with technical backgrounds. This book presents an objective view of nuclear energy as an important source for future energy needs. It discusses various types of reactors, the nuclear fuel cycle, the problem of nuclear waste disposal, reactor accidents, safety and new types of reactors that are being considered, and the cost of electricity from nuclear power. Additional themes include the problem of nuclear weapons, their storage, and, very important, their disposal as nuclear arsenals are pared down.

*Nuclear Inc* - Mark Hertsgaard 1983

A comprehensive account of the economics of the nuclear industry examines the motives and activities of the corporate and government leaders who control those economics and the history of the industry itself

**Storage and Hybridization of Nuclear Energy** - Hitesh Bindra 2018-09

Storage and Hybridization of Nuclear Energy: Techno-economic Integration of Renewable and Nuclear Energy provides a unique analysis

of the storage and hybridization of nuclear and renewable energy. Editor Bindra and his team of expert contributors present various global methodologies to obtain the techno-economic feasibility of the integration of storage or hybrid cycles in nuclear power plants. Aimed at those studying, researching and working in the nuclear engineering field, this book offers nuclear reactor technology vendors, nuclear utilities workers and regulatory commissioners a very unique resource on how to access reliable, flexible and clean energy from variable-generation. Presents a unique view on the technologies and systems available to integrate renewables and nuclear energy Provides insights into the different methodologies and technologies currently available for the storage of energy Includes case studies from well-known experts working on specific integration concepts around the world

Engineering Developments in the Gaseous Diffusion Process - Manson Benedict 2013-05

Preface By George M. Murphy. Contributors Include A. O. Nier, T. A. Abbott, J. K. Pickard And Others.

*Nuclear Energy* - Raymond L. Murray 2014

Nuclear Energy is one of the most popular texts ever published on basic nuclear physics, systems, and applications of nuclear energy. This newest edition continues the tradition of offering a holistic treatment of everything the undergraduate engineering student needs to know in a clear and accessible way. The book presents a comprehensive overview of radioactivity, radiation protection, nuclear reactors, waste disposal, and nuclear medicine. The seventh edition is restructured into three parts: Basic Concepts, Nuclear Power (including new chapters on nuclear power plants and introduction to reactor theory), and Radiation and Its Uses. Part Two in particular has been updated with current developments, including a new section on Reactor Safety and Security (with a discussion of the Fukushima Daiichi accident); updated information on naval and space propulsion; and revised and updated information on radioactive waste storage, transportation, and disposal. Part Three features new content on biological effects of radiation, radiation standards, and radiation detection. Coverage of energy

economics integrated into appropriate chapters More worked examples and end of chapter exercises Updated final chapter on nuclear explosions for current geopolitical developments

**Political Electricity** - Terence Price 1990

This study offers an analysis of current public attitudes to nuclear power, contrasting the popular negative image with the reality of the achievements within the nuclear industry. Future energy alternatives and the likely future role of nuclear power are also surveyed.

**Nuclear Energy Leadership** - Mary Jo Rogers 2012-12

The nuclear industry has quietly evolved over the past 30 years to become one of the safest and most reliable low-cost producers of electricity. Mary Jo Rogers's new book, *Nuclear Energy Leadership: Lessons Learned from US Operators*, provides helpful suggestions as well as useful tools drawn from the best of the nuclear industry. This timely book illustrates with convincing detail and relevant case studies how the lessons from the best nuclear operators can be applied to nonnuclear operations-based organizations to markedly improve production and safety performance. The author draws from a research database on nuclear leaders, supervisors, senior leadership teams and organizations, interviews with numerous nuclear leaders, as well as extensive personal experience assisting in nuclear power plant turnarounds. With increased pressure on cost of production for fossil generation and oil and gas, readers from the energy and utility industries would greatly benefit from the lessons learned by excellent nuclear operators.

**Nuclear Power Plant Design and Analysis Codes** - Jun Wang 2020-11-27

*Nuclear Power Plant Design and Analysis Codes: Development, Validation, and Application* presents the latest research on the most widely used nuclear codes and the wealth of successful accomplishments which have been achieved over the past decades by experts in the field. Editors Wang, Li, Allison, and Hohorst and their team of authors provide readers with a comprehensive understanding of nuclear code development and how to apply it to their work and research to make

their energy production more flexible, economical, reliable and safe. Written in an accessible and practical way, each chapter considers strengths and limitations, data availability needs, verification and validation methodologies and quality assurance guidelines to develop thorough and robust models and simulation tools both inside and outside a nuclear setting. This book benefits those working in nuclear reactor physics and thermal-hydraulics, as well as those involved in nuclear reactor licensing. It also provides early career researchers with a solid understanding of fundamental knowledge of mainstream nuclear modelling codes, as well as the more experienced engineers seeking advanced information on the best solutions to suit their needs. Captures important research conducted over last few decades by experts and allows new researchers and professionals to learn from the work of their predecessors Presents the most recent updates and developments, including the capabilities, limitations, and future development needs of all codes Includes applications for each code to ensure readers have complete knowledge to apply to their own setting.

**Worldwide development of nuclear Energy - Strategic deployment of German Consultancies in the Arabian Market** - Felix Wilde 2011-05

Considering the annual economical growth rate of more than 5% and the limited availability of fossil resources, GCC countries have few possibilities for attaining independence of fossil fuels. Despite huge investments in renewable resources, these are currently not sufficiently available to cover the pending energy shortfall. The ambitious aim to generate 30% of electricity by nuclear power in 2030 is prompting the governments to start as early as possible with implementation of nuclear power production. This new development in the energy sector covers a broad range of challenges and opportunities not only for Consultancies. Regarding the energy market, the fastest growing economy on the Arabian Peninsula is Saudi Arabia with an increase in power generation capacity from 25,790 MW in 2000 to 39,242 MW in 2008, amounting to 52% For a couple of years, the states on the Arabian Peninsula have been competing with each other, with the UAE seeking to be the first to set up

a civilian nuclear power program and the preplanning phase going back to early 2006. UAE is one of around 15 countries in the Middle East with a serious interest in nuclear energy, other countries being Kuwait, Egypt, Jordan and Saudi Arabia. The ambitious aim of the UAE government is to prepare detailed plans for acquiring skills and technology and for dealing with regulatory challenges. By 2020, the UAE government intends to have several nuclear reactors in operation which should meet almost one-third of the country's electricity demand. The nuclear development program in the UAE is the most ambitious of all countries on the Arabian Peninsula followed by the efforts of the Kingdom of Saudi Arabia. This analysis is chiefly targeted at German consultancy companies so that they can assess their status of strategic deployment and prioritize their activities to enter a new business sector in a foreign market. This publication could also be of relevance for policy makers, investors, suppliers as well as nuclear energy and governmental agencies to identify their need for external advisers to safely operate a nuclear power program. Furthermore it provides a guideline for how to enter a new market. Hence this analysis should be considered as an aid to identify hurdles and obstacles that have to be foreseen and so overcome. Potential business fields are also noted as well as important factors that have to be considered to minimize the chance of failure in the new market. Nevertheless, this huge market with its continuously changing constraints and conditions could throw up a lot more obstacles than could be covered in this analysis. Also the internal organizations of individual companies may differ from the one described in the analysis. The objective of this Analysis is thus to set out a set of guidelines for possible approaches.

**Nuclear Energy Technology** - Ronald Allen Knief 1981

**Nuclear Engineering International** - 1980

**Nuclear Energy** - United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Energy 1993

**Modular High-temperature Gas-cooled Reactor Power Plant** - Kurt Kugeler 2018-10-05

"Modular High-temperature Gas-cooled Reactor Power Plant" introduces the power plants driven by modular high temperature gas-cooled reactors (HTR), which are characterized by their inherent safety features and high output temperatures. HTRs have the potential to be adopted near demand side to supply both electricity and process heat, directly replacing conventional fossil fuels. The world is confronted with two dilemmas in the energy sector, namely climate change and energy supply security. HTRs have the potential to significantly alleviate these concerns. This book will provide readers with a thorough understanding of HTRs, their history, principles, and fields of application. The book is intended for researchers and engineers involved with nuclear engineering and energy technology.

**Nuclear Principles in Engineering** - Tatjana Jevremovic 2005-07-01

Nuclear engineering plays an important role in various industrial, health care, and energy processes. Modern physics has generated its fundamental principles. A growing number of students and practicing engineers need updated material to access the technical language and content of nuclear principles. Nuclear Principles in Engineering is written for students, engineers, physicians and scientists who need up-to-date information in basic nuclear concepts and calculation methods using numerous examples and illustrative computer application areas. Drawing upon years of practical experience and research Tatjana Jevremovic covers nuclear principles as they apply to: - Power production propulsion - Electric generators for space applications - Diagnostics and treatment in medicine - Imaging - Homeland security