

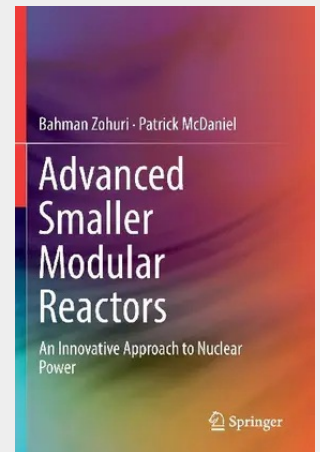
Advanced Smaller Modular Reactors

An Innovative Approach to Nuclear Power

This book discusses advanced Small Modular Reactors (SMRs) as a way to provide safe, clean, and affordable nuclear power options. The advanced SMRs currently under development in the U.S. represent a variety of sizes, technology options and deployment scenarios. These advanced reactors, envisioned to vary in size from a couple megawatts up to hundreds of megawatts can be used for power generation, process heat, desalination, or other industrial uses. In-depth chapters describe how advanced SMRs offer multiple advantages, such as relatively small size, reduced capital investment, location flexibility, and provisions for incremental power additions. SMRs also offer distinct safeguards, security and nonproliferation advantages. The authors present a thorough examination of the technology and defend methods by which the new generation of nuclear power plants known as GEN-IV can safely be used as an efficient source of renewable energy.

- Provides a unique and innovative approach to the implementation of Small Modular Reactor as part of GEN-IV technology;
- Discusses how Small Modular Reactors (SMRs) can deliver a viable alternative to Nuclear Power Plants (NPPs);
- Presents an argument defending the need for nuclear power plant as a source of energy, its efficiency and cost effectiveness, as well as safety related issues.

Chapter 1. The Electricity An Essential Necessity in our life.- Chapter 2. Energy Resources and the Role of Nuclear Energy.- Chapter 3. Economics and Advanced Small Modular Reactors.- Chapter 4. Advanced Power Conversion System for Small Modular Reactors.- Chapter 5. Advanced Small Modular Reactor and Environment Consideration.- Chapter 6. Advanced Small Modular Reactor and Environment Consideration.- Chapter 7. Reliable Electricity Grids and Renewable Source of Energy.- Chapter 8. Integrating Energy Storage with Advanced Small Modular Reactors.- Chapter 9. Design and Analysis of Core Design for Small Modular Reactors.



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