



Journal of
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Book Review

Handbook of Generation IV Nuclear Reactors Edition 2

This second edition of the *Handbook of Generation IV Nuclear Reactors*¹ combines the history of development, research, industrial-operating experience, advanced designs, systems, and safety analysis, and applications of nuclear energy. Impressive number of 64 recognized nuclear-energy-system experts from 13 nuclear-power countries: Belgium, Canada, China, France, Germany, India, Japan, Russia, Republic of Korea, Ukraine, Switzerland, UK, and USA, contributed to this book. The second edition builds on the successes of the first edition published in 2016 (*Handbook of Generation IV Nuclear Reactors*, 2016. Editor: I. L. Piro, Elsevier – Woodhead Publishing). Arguably it is the most comprehensive book solely dedicated to Generation-IV nuclear-power reactors. Understandably, there were many new developments that have happened in research and development of advanced Generation-IV nuclear-power reactors since the first edition has been published. Therefore, the present edition serves the important purpose of summarizing the latest achievements, developments, and trends and provides an almost encyclopedic and up-to-date resource. The world's future of balanced environmentally friendly energy production and mitigation of climate changes lies amongst others in the development of the next generation of nuclear-energy systems: Generation-IV nuclear-power reactors and other advanced reactor concepts/designs, which offer potential solutions to many problems of current energy mix. New reactor designs including small modular

and micro-reactors (SMMRs) and regulations must incorporate the latest developments and understanding in this important engineering/scientific discipline. This book addresses some of these challenges and it comes at the right time of increasing competition amongst different systems on their path to fully commercialization. It is recommended for a wide range of specialists, professionals, and practitioners within the areas of nuclear and power engineering, mechanical and environmental engineering, as well as in academia for undergraduate and graduate students as a textbook.

The book is divided into four parts and twenty-six chapters with nine appendices spread over 1100 pages, plus 184 pages for Appendices. The book is aptly punctuated with the right mix of figures, graphs, diagrams, tables, and bullet points that make it easier to understand the material. The placement of the chapters is logical and methodical for easy flow of the book. We should mention that the Preface is written by the Generation IV International Forum (GIF), and the Handbook is promoted on the GIF website.²

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¹<https://www.sciencedirect.com/book/9780081001493/handbook-of-generation-iv-nuclear-reactors>

²https://www.gen-4.org/gif/jcms/c_208948