



Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy)

From Woodhead Publishing

[Download now](#)

[Read Online](#) ➔

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy)

From Woodhead Publishing

Advanced separations technology is key to closing the nuclear fuel cycle and relieving future generations from the burden of radioactive waste produced by the nuclear power industry. Nuclear fuel reprocessing techniques not only allow for recycling of useful fuel components for further power generation, but by also separating out the actinides, lanthanides and other fission products produced by the nuclear reaction, the residual radioactive waste can be minimised. Indeed, the future of the industry relies on the advancement of separation and transmutation technology to ensure environmental protection, criticality-safety and non-proliferation (i.e., security) of radioactive materials by reducing their long-term radiological hazard.

Advanced separation techniques for nuclear fuel reprocessing and radioactive waste treatment provides a comprehensive and timely reference on nuclear fuel reprocessing and radioactive waste treatment. Part one covers the fundamental chemistry, engineering and safety of radioactive materials separations processes in the nuclear fuel cycle, including coverage of advanced aqueous separations engineering, as well as on-line monitoring for process control and safeguards technology. Part two critically reviews the development and application of separation and extraction processes for nuclear fuel reprocessing and radioactive waste treatment. The section includes discussions of advanced PUREX processes, the UREX+ concept, fission product separations, and combined systems for simultaneous radionuclide extraction. Part three details emerging and innovative treatment techniques, initially reviewing pyrochemical processes and engineering, highly selective compounds for solvent extraction, and developments in partitioning and transmutation processes that aim to close the nuclear fuel cycle. The book concludes with other advanced techniques such as solid phase extraction, supercritical fluid and ionic liquid extraction, and biological treatment processes.

With its distinguished international team of contributors, Advanced separation techniques for nuclear fuel reprocessing and radioactive waste treatment is a standard reference for all nuclear waste management and nuclear safety professionals, radiochemists, academics and researchers in this field.

- A comprehensive and timely reference on nuclear fuel reprocessing and radioactive waste treatment
- Details emerging and innovative treatment techniques, reviewing pyrochemical processes and engineering, as well as highly selective compounds for solvent extraction
- Discusses the development and application of separation and extraction processes for nuclear fuel reprocessing and radioactive waste treatment

 [Download Advanced Separation Techniques for Nuclear Fuel Re ...pdf](#)

 [Read Online Advanced Separation Techniques for Nuclear Fuel ...pdf](#)

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy)

From Woodhead Publishing

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing

Advanced separations technology is key to closing the nuclear fuel cycle and relieving future generations from the burden of radioactive waste produced by the nuclear power industry. Nuclear fuel reprocessing techniques not only allow for recycling of useful fuel components for further power generation, but by also separating out the actinides, lanthanides and other fission products produced by the nuclear reaction, the residual radioactive waste can be minimised. Indeed, the future of the industry relies on the advancement of separation and transmutation technology to ensure environmental protection, criticality-safety and non-proliferation (i.e., security) of radioactive materials by reducing their long-term radiological hazard.

Advanced separation techniques for nuclear fuel reprocessing and radioactive waste treatment provides a comprehensive and timely reference on nuclear fuel reprocessing and radioactive waste treatment. Part one covers the fundamental chemistry, engineering and safety of radioactive materials separations processes in the nuclear fuel cycle, including coverage of advanced aqueous separations engineering, as well as on-line monitoring for process control and safeguards technology. Part two critically reviews the development and application of separation and extraction processes for nuclear fuel reprocessing and radioactive waste treatment. The section includes discussions of advanced PUREX processes, the UREX+ concept, fission product separations, and combined systems for simultaneous radionuclide extraction. Part three details emerging and innovative treatment techniques, initially reviewing pyrochemical processes and engineering, highly selective compounds for solvent extraction, and developments in partitioning and transmutation processes that aim to close the nuclear fuel cycle. The book concludes with other advanced techniques such as solid phase extraction, supercritical fluid and ionic liquid extraction, and biological treatment processes.

With its distinguished international team of contributors, Advanced separation techniques for nuclear fuel reprocessing and radioactive waste treatment is a standard reference for all nuclear waste management and nuclear safety professionals, radiochemists, academics and researchers in this field.

- A comprehensive and timely reference on nuclear fuel reprocessing and radioactive waste treatment
- Details emerging and innovative treatment techniques, reviewing pyrochemical processes and engineering, as well as highly selective compounds for solvent extraction
- Discusses the development and application of separation and extraction processes for nuclear fuel reprocessing and radioactive waste treatment

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing Bibliography

- Sales Rank: #4121409 in Books
- Published on: 2011-03-29

- Original language: English
- Number of items: 1
- Dimensions: 9.21" h x 1.13" w x 6.14" l, 1.97 pounds
- Binding: Hardcover
- 512 pages

 [Download Advanced Separation Techniques for Nuclear Fuel Re ...pdf](#)

 [Read Online Advanced Separation Techniques for Nuclear Fuel ...pdf](#)

Download and Read Free Online Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing

Editorial Review

About the Author

Professor Kenneth L. Nash of Washington State University is an expert in the fields of nuclear separation processes and the nuclear fuel cycle.

Dr Gregg J. Lumetta of Pacific Northwest National Laboratory is an expert in the fields of nuclear separation processes and the nuclear fuel cycle.

Users Review

From reader reviews:

Gregory Mackenzie:

Do you have favorite book? In case you have, what is your favorite's book? Publication is very important thing for us to know everything in the world. Each publication has different aim or goal; it means that reserve has different type. Some people really feel enjoy to spend their time and energy to read a book. They can be reading whatever they get because their hobby is actually reading a book. How about the person who don't like studying a book? Sometime, particular person feel need book after they found difficult problem or maybe exercise. Well, probably you should have this Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy).

Loren Velasco:

What do you concerning book? It is not important along with you? Or just adding material when you require something to explain what yours problem? How about your time? Or are you busy particular person? If you don't have spare time to perform others business, it is give you a sense of feeling bored faster. And you have extra time? What did you do? All people has many questions above. They should answer that question mainly because just their can do in which. It said that about guide. Book is familiar on every person. Yes, it is right. Because start from on pre-school until university need this Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) to read.

Charles Barton:

Beside that Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) in your phone, it might give you a way to get nearer to the new knowledge or data. The information and the knowledge you are going to got here is fresh from oven so don't always be worry if you feel like an older people live in narrow small town. It is good thing to have Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) because this book offers for you readable information. Do you often have book but you seldom get what it's facts concerning. Oh come on, that will not happen if you have

this in your hand. The Enjoyable agreement here cannot be questionable, including treasuring beautiful island. Use you still want to miss this? Find this book in addition to read it from currently!

Cynthia Kipp:

As we know that book is vital thing to add our expertise for everything. By a publication we can know everything we want. A book is a list of written, printed, illustrated or blank sheet. Every year was exactly added. This guide Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) was filled concerning science. Spend your time to add your knowledge about your research competence. Some people has several feel when they reading a new book. If you know how big good thing about a book, you can sense enjoy to read a book. In the modern era like right now, many ways to get book which you wanted.

Download and Read Online Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing #C6EJ58BFONQ

Read Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing for online ebook

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing books to read online.

Online Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing ebook PDF download

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing Doc

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing Mobipocket

Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing EPub

C6EJ58BFONQ: Advanced Separation Techniques for Nuclear Fuel Reprocessing and Radioactive Waste Treatment (Woodhead Publishing Series in Energy) From Woodhead Publishing