BOOK REVIEW

Selection of books for review is based on the editor's opinions regarding possible reader interest and on the availability of the book to the editor. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.

Nuclear Fission Reactors

Author	I. R. Cameron
Publisher	Plenum Publishing Corporation, New York (1982)
Pages	389
Price	$42.50
Reviewer	Nicholas Tsoulfanidis

This book is well written, and the subjects are arranged in a logical sequence. The author takes a somewhat historical approach when he describes the different types of reactors, which is appropriate for the readers to whom this text is addressed.

Nuclear Fission Reactors would be a fine text for an introductory course for undergraduates (not graduate students) in nuclear engineering or students of physics and other engineering fields. It might also be useful to practicing engineers in fields other than nuclear who desire to obtain a very general idea about nuclear reactors. The book is not useful, however, for an engineer involved in the reactor engineering or reactor physics areas. It is too elementary for that type of work.

Starting with a brief but very well-written discussion of basic atomic and nuclear physics, the author presents the basics of fission chain reactions and reactor theory in the next two chapters. I like the fact that the subject of the first three chapters is written in a way that would appeal more to engineers than to physicists. If I may offer one criticism it is that the treatment of the multigroup method (Chap. 3) has sacrificed clarity and accuracy in the interest of brevity.

The next three chapters treat engineering aspects of nuclear fuels, reactor materials, and heat generation and removal. A survey of all types of nuclear reactors follows (Chaps. 7 through 11). I liked, in particular, the chapter on heavy-water-moderated reactors, a subject missing from most other reactor physics books. The final chapter presents, in a lucid manner, the safety and environmental aspects of nuclear reactors. Again, for an introductory text, the treatment is excellent.

In conclusion, *Nuclear Fission Reactors* by I. R. Cameron will be a useful introductory book for physicists and engineers who are not practicing nuclear engineers.

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