makes a very convincing argument that stored radioactive waste in a densely populated industrial region in the southeastern Urals somehow sustained an uncontrolled explosion or violent release of a large amount of fission products that contaminated the region, making it uninhabitable not only for people but for wildlife as well. The author is familiar with many of the Soviet writers, having worked with them, and the Russian scientific literature is an easy resource for him. He is able to bring to the Western scientist a depth of understanding and a grasp of the social and political factors that few other writers could offer.

Nor does the author confine his point to the Soviet Union. He goes on to describe the general treatment of radioactive waste in U.S. nuclear military facilities, and cautions that under certain conditions an accidental uncontrolled release of fission products might occur. Medvedev speculates on how an explosion of stored radioactive waste might take place, specifically in waste stored near Hanford, Washington.

There is much to be learned from this book. It is well organized, containing adequate references, supporting documents, a glossary, and an index. It should be recommended reading for anyone concerned with high-level radioactive waste handling or disposal, but would easily stand on its own merits as a fascinating and convincing scientific detective story.

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**Two-Phase Flow and Heat Transfer in the Power and Process Industries**

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| *Authors* | A. E. Bergles, J. G. Collier, J. M. Delhaye, G. F. Hewitt, and F. Mayinger |
| *Publisher* | Hemisphere Publishing Corporation, New York (1981) |
| *Pages* | 707 |
| *Price* | $55.00 |
| *Reviewer* | Gary A. Pertmer |

*Two Phase Flow and Heat Transfer in the Power and Process Industries* is a very fine two-phase flow text. The book is a series of lecture notes that the authors prepared for two-phase flow short courses presented in 1978 and 1980. All of the authors are well known in the two-phase field, and their expertise is evident throughout.

The book is very well organized and the layout of the chapters follows in a logical, orderly progression. The book begins with chapters describing, in general, two-phase flow patterns and basic equations. From there, the following chapters include, among others, two-phase heat transfer, pool boiling, post-dryout heat transfer, and condensation. The important subjects of scaling and modeling laws and instrumentation are each covered in separate chapters. The last few chapters in the text discuss specific two-phase flow analyses and problems in the process and power industries, as well as brief introductions to nuclear plant and chemical plant safety. The final chapter in the book is an historical overview of two-phase flow and heat transfer work from 1756 to the present.

This text is very complete, in that it discusses most, if not all, of the aspects of two-phase flow and heat transfer, starting from the fundamental equations and proceeding to actual design problems. The authors present the material in a clear and concise fashion. In addition, the authors have used much of the published literature (books, papers, etc.) in the field in their discussions, and there are extensive reference lists at the end of each chapter. These reference lists may be of great benefit to a reader who has need for more detailed information on a specific subject.

There are only minor drawbacks to the book, drawbacks which are typical of multi-author texts that are mainly collections of technical lectures. Each chapter is written by one of the five authors, each of whom has a different style of writing and presenting information such as equations and figures. This results in a lack of continuity in places. As noted, however, this is not a very severe drawback.

This text should appeal to both experimental and theoretical researchers working in the general area of two-phase flow and heat transfer. Also, it should interest practicing engineers faced with two-phase analyses and problems. Much of present nuclear reactor safety research and engineering deals with two-phase flow, and this book would be of value in these research programs. The book could also possibly serve as the core text in a graduate two-phase flow course or a graduate reactor safety course. It certainly would be a highly recommended reference in such courses.

In conclusion, this book seems to be a worthwhile addition to, as the authors put it, "the continued exponential growth of literature on this subject." It is a clear, complete text that covers the subject matter very well and, as such, should be of use to engineers and scientists in the two-phase flow and heat transfer fields.

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