DESCRIPTION

The first comprehensive, real-world look at two-phase flow systems—from one of the world's leading authorities on the subject.

From his early works in the area of heat transfer research on boundary layer flows and two-phase flows to his role as one of the lead consultants following the Three Mile Island accident, internationally renowned engineer Salomon Levy has achieved an ideal balance of theory and practice in his engineering career. In Two-Phase Flow in Complex Systems, Dr. Levy's newest book, he draws on this breadth of experience to examine these systems in the real world.

Two-Phase Flow in Complex Systems offers a unique look at two-phase flow phenomena (primarily gas and liquid) in a variety of systems, from water reactors to the global climate system. Focusing on the interaction and simultaneous behavior of all the components in a system, the book's approach departs significantly from conventional texts, which emphasize modeling of separate phenomena. The book begins with the formulation of an integrated program of experiments and analytical tools, and describes experimental aspects—specifically the scaling of test facilities—essential to representing the critical elements of the behavior of complex systems. Subsequent chapters:

* Discuss system computer codes for predicting system behavior during transients and accidents.

* Examine flow pattern maps and flow pattern models.
Describe typical limiting phenomena known to impact the safety and cost of complex systems (including countercurrent limiting conditions and critical or choking flow).

The book also illustrates how the analysis used in understanding the dynamics of a nuclear power system can be applied to the entire global climate system, including the phenomenon of global warming.

🔥 ABOUT THE AUTHOR

SALOMON LEVY is sole owner of Levy & Associates in San Jose, California; a member of the National Academy of Engineering; and a recipient of ASME International’s highest honor, Honorary Membership.

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