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Titolo	Nuclear Thermal Hydraulics [[electronic resource] /] / by Hajime Akimoto, Yoshinari Anoda, Kazuyuki Takase, Hiroyuki Yoshida, Hidesada Tamai
Pubbl/distr/stampa	Tokyo : , : Springer Japan : , : Imprint : Springer, , 2016
ISBN	4-431-55603-6
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XVIII, 458 p. 197 illus.)
Collana	An Advanced Course in Nuclear Engineering, , 2195-3708 ; ; 4
Disciplina	627
Soggetti	Nuclear energy Thermodynamics Heat engineering Heat transfer Mass transfer Fluid mechanics Nuclear Energy Engineering Thermodynamics, Heat and Mass Transfer Engineering Fluid Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	The First Law of Thermodynamics -- Ideal gas and steam -- Second Law of Thermodynamics -- Gas Turbine Cycles and Steam Cycles -- Fundamental Equations of Flow -- Bernoulli's Equation (Mechanics of Ideal Fluids) -- Law of Momentum -- Motion of Viscous Fluid -- Laminar Flow and Turbulent Flow (The Similarity Rule) -- Pressure Propagation and Critical Flow(Compressible Fluid Flow) -- Two-phase Flow -- Flow Oscillations -- Reactor Heat Production -- Heat Conduction -- Convective Heat Transfer -- Boiling Heat Transfer and Critical Heat Flux -- Condensation Heat Transfer -- Radiative Heat Transfer -- Thermal Hydraulics inside the Reactor -- Reactor Thermal Design. .
Sommario/riassunto	This volume provides fundamentals of nuclear thermal–hydraulics for reactor design and safety assessment. It also describes the basis for

assessing cooling performance of nuclear reactors under accidental conditions. The descriptions in this book are virtually self-contained, beyond the assumption that readers are familiar with the introductory levels of nuclear engineering. This book helps readers understand the processes for nuclear reactor plant design and the most important factors in nuclear thermal-hydraulics.

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