1. Record Nr. UNINA9911007483203321

Titolo	Proceedings of the 15th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows : ISAIF-15, 24–27 October 2023, Chennai, India / / edited by G. Rajesh, A. Sameen, C. Anbu Serene Raj
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9640-82-2
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (VII, 331 p. 228 illus., 188 illus. in color.)
Disciplina	530
Soggetti	Physics Soft condensed matter Thermodynamics Heat engineering Heat - Transmission Mass transfer Fluid mechanics Classical and Continuum Physics Fluids Engineering Thermodynamics, Heat and Mass Transfer Engineering Fluid Dynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This book is a carefully curated collection of technical research papers presented at the 15th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows (ISAIF-15). It highlights the latest advancements in experimental and computational studies of internal flows, covering diverse and cutting-edge topics. The proceedings feature significant research on shock wave-boundary layer interactions, aeroacoustics of supersonic jets, and the dynamics of pulsatile fluid flows. Studies on multiphase flows, biofluid dynamics, and heat transfer with hydrophobic coatings underscore the

interdisciplinary nature of the work. Advanced numerical simulations, including models of biomagnetic flows, red blood cell migration, and ejector-diffuser systems in high-altitude testing, are also showcased. Practical applications such as improving aerodynamic efficiency for high-speed trains, mitigating shock wave effects, and enhancing supersonic ejector performance are explored alongside theoretical advancements. This ensures a balanced perspective on the challenges and opportunities in aerothermodynamics. Aimed at academics, researchers, and industry professionals, this book bridges theoretical principles with real-world applications. Each chapter reflects rigorous scientific inquiry, offering insights into innovative methodologies, computational models, and practical solutions. It serves as a definitive resource for those seeking to understand and advance the state-of-the-art in fluid dynamics and aerospace engineering. Whether you are delving into flow control, heat transfer, or the intricacies of combustion dynamics, this book provides a comprehensive repository of knowledge, inspiring future research and fostering innovation in the field of aerothermodynamics.