

1. Record Nr.	UNINA9910727285803321
Titolo	Hypersonic and supersonic flight : advances in aerodynamics, materials, and vehicle design // edited by Konstantin Volkov
Pubbl/distr/stampa	London : , : IntechOpen, , 2023
ISBN	1-83768-260-7
Descrizione fisica	1 online resource (180 pages)
Disciplina	629.132306
Soggetti	Aerodynamics, Hypersonic Aerodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. High-Temperature Effects on Supersonic Flow around a Wedge -- 2. Design and CFD Analysis on the Reduction of Thermal Effect in Re-entry Vehicle by Using Retractable Aerospike -- 3. Design and Performance of Hypersonic Intake for Scramjet Engine -- 4. Clean and Sustainable Hydrogen-Electric Propulsion -- 5. Cyclic Oxidation of Diffusion Aluminide Coatings -- 6. Perspective Chapter: Effect of Laser Key Parameters on the Ignition of Boron Potassium Nitrate with a Changing Working Distance.
Sommario/riassunto	For future hypersonic and supersonic flight, clean, sustainable and energy-efficient propulsion should be addressed in the general background of the sensational clean electric transition of aircraft. This chapter is to draw the attention of the research communities on the possible feasibilities and challenges of hydrogen-electric propulsion in hypersonic and supersonic flight. This chapter is structured with the following aspects, (1) general design and hybridisation concepts of hydrogen-electric propulsion for general aircraft and their hypersonic and supersonic considerations; (2) merits of hydrogen-electric propulsion on thermofluids process integrations; (3) potential merits of hydrogen-electric propulsion projected through thermofluids structural engineering and re-engineering; (4) storage options and their challenges in design and operation; and (5) reliability considerations.

2. Record Nr.	UNINA9911019463003321
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Titolo	Nanolubricants : Generation and Applications
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2024 ©2024
ISBN	9781119865698 1119865697 9781119865681 1119865689
Edizione	[1st ed.]
Descrizione fisica	1 online resource (276 pages)
Altri autori (Persone)	PrasadLalit KhanShafat Ahmad
Disciplina	620.115
Soggetti	Nanotechnology Lubrication and lubricants
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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Sommario/riassunto

This book provides an in-depth exploration of the generation and applications of nanolubricants, focusing on their preparation, properties, and tribological performance. Edited by experts from The Global University and Galgotias University in India, it covers various methods for synthesizing nanoparticles and their use as lubricant additives. The text delves into the mechanisms of lubrication, the advantages of nanolubricants, and the challenges associated with their dispersion stability. It also examines the environmental benefits and challenges of biodegradable lubricants. This resource is intended for researchers, students, and professionals in the fields of chemistry, materials science, and mechanical engineering, aiming to advance the understanding and application of nanotechnology in lubrication.
