1. Record Nr. UNINA9910743265303321

Titolo	Advances in Energy and Combustion : Safety and sustainability / / edited by Ashwani K. Gupta, Ashoke De, Suresh K. Aggarwal, Abhijit Kushari, Akshai K. Runchal
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2022
ISBN	981-16-2647-2 981-16-2648-0
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (XV, 600 p. 400 illus., 290 illus. in color.)
Collana	Green Energy and Technology, , 1865-3537
Disciplina	629.134353
Soggetti	Engines Fire prevention Buildings - Protection Thermodynamics Heat engineering Heat transfer Mass transfer Energy harvesting Engine Technology Fire Science, Hazard Control, Building Safety Engineering Thermodynamics, Heat and Mass Transfer Energy Harvesting
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Injector Dynamics and Pressure Gain in Rotating Detonation Engines -- Low Emissions Propulsion Engine Characterization Process -- Aerodynamic and Aero-Acoustic Performance of an Adjustable Pitch Axial Flow Fan -- Proposed Thrust Profile Design of Pulse Detonation Engine (PDE) for Aerospace Applications -- The Formation of PAH Compounds from the Combustion of Biofuels -- Review of Biomass Energy Resources with Livestock Manure -- Higher Alcohols as Diesel Engine Fuel -- Photocatalytic Hydrogen from Water over Semiconductors -- Evaluation of Hazard Correlations for Hydrogen Rich

Fuels using Stretched Transient Flames -- Experimental Investigation of Turbulent Flow/Flame Structure of Double Swirler Burner.

Sommario/riassunto

This book provides state-of-the-art advances in several areas of importance in energy, combustion, power, propulsion, environment using fossil fuels and alternative fuels, and biofuels production and utilization. Availability of clean and sustainable energy is of greater importance now than ever before in all sectors of energy, power, mobility and propulsion. Written by internationally renowned experts, the latest fundamental and applied research innovations on cleaner energy production as well as utilization for a wide range of devices extending from micro scale energy conversion to hypersonic propulsion using hydrocarbon fuels are provided. The tailored technical tracks and contributions from the world renowned technical experts are portrayed in the respective field to highlight different but complementary views on fuels, combustion, power and propulsion and air toxins with special focus on current and future R&D needs and activities. The energy and environment sustainability require a multi-pronged approach involving development and utilization of new and renewable fuels, design of fuel-flexible combustion systems that can be easily operated with the new fuels, and develop novel and environmentally friendly technologies for improved utilization of all kinds of gas, liquid and solid fuels. This volume is a useful book for practicing engineers, research engineers and managers in industry and research labs, academic institutions, graduate students, and final year undergraduate students in Mechanical, Chemical, Aerospace, Energy and Environmental Engineering.