

1. Record Nr.	UNINA9910366619103321
Titolo	Simulations and Optical Diagnostics for Internal Combustion Engines : Current Status and Way Forward // edited by Akhilendra Pratap Singh, Pravesh Chandra Shukla, Joonsik Hwang, Avinash Kumar Agarwal
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
ISBN	981-15-0335-4
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (171 pages)
Collana	Energy, Environment, and Sustainability, , 2522-8366
Disciplina	621.43
Soggetti	Engines Machinery Transportation Quality control Reliability Industrial safety Automotive engineering Engine Technology Quality Control, Reliability, Safety and Risk Automotive Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction of Combustion Simulations and Optical Diagnostics for IC Engines -- Effect of breakup model on large-eddy simulation of diesel spray evolution under high back pressures -- Multiphase phenomena in fuel injection systems -- An Insight to Novel IC Engine Fuels and its Investigation Techniques -- Numerical Investigations on Water-Ethanol Diesel Emulsified Fuel -- Advancement in Ignition Technology for application of Internal Combustion Engine: Laser Ignition Technology -- Influence of DEE on entropy generation and emission characteristics of DI diesel engine fuelled with WCO biodiesel -- Process Simulations and Optimization of Chemical Looping Combustion for Mixtures of Coal and Biomass using an Iron Based Oxygen Carrier -- 3-D Modelling of Internal Combustion (IC) Engine Using Simulation Software: Converge

-- Improvement of flame kernel growth by microwave-assisted plasma ignition -- Development of 1-D Engine Model Using Vehicle Simulation Software: GT- Suite -- Optical diagnostics of spray wall impingement in diesel engines.

Sommario/riassunto

This book focuses on combustion simulations and optical diagnostics techniques, which are currently used in internal combustion engines. The book covers a variety of simulation techniques, including in-cylinder combustion, numerical investigations of fuel spray, and effects of different fuels and engine technologies. The book includes chapters focused on alternative fuels such as DEE, biomass, alcohols, etc. It provides valuable information about alternative fuel utilization in IC engines. Use of combustion simulations and optical techniques in advanced techniques such as microwave-assisted plasma ignition, laser ignition, etc. are few other important aspects of this book. The book will serve as a valuable resource for academic researchers and professional automotive engineers alike.
