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Nota di contenuto	1. Hydrogen Utilization in Internal Combustion Engines: Advantages and Challenges -- 2. Advanced Combustion Technologies using Alternative Fuels -- 3. Hydrogen Production through Biological Route -- 4. Pyrolysis Oil Upgrading to Fuels by Catalytic Cracking: A Refinery Perspective -- 5. Enhancing Combustion Properties and Improving Emission Characteristics: W/D Nano-Emulsions Fuels for Diesel Engines -- 6. Peroxy-Fuels: Potential Applications in Combustion Engines -- 7. Soot Morphology of Biodiesel -- 8. Advances in Hydrogen Fuelled Compression Ignition Engines -- 9. Application of CNG and Hythane in on-Road PV and CV Engines -- 10. Solar Assisted Biodiesel Production -- 11. Experimental Investigation of Corrosion Tribological Properties of DMF/Gasoline Blend -- 12. HCNG: A Cleaner Fuel for IC Engines -- 13. Fuel from Waste: A Scientific Solution for Waste Management and Environment Conservation -- 14. Thermochemical Conversions of Biomass to Bioenergy: A Review -- 15. Fuel Injection Equipment (FIE) Design for the New-Generation -- 16. Alternative Fuel Powered Diesel Engines -- 17. Utilization of Alcohols in Compression Ignition Engines.

## Sommario/riassunto

This book discusses different types of alternative fuels, including biodiesel, alcohol, synthetic fuels, compressed natural gas (CNG) and its blend with hydrogen, HCNG, and provides detailed information on the utilization of these alternative fuels in internal combustion (IC) engines. Further, it presents methods for production of these alternative fuels and explores advanced combustion techniques, such as low-temperature and dual-fuel combustion, using alternative fuels. It includes a chapter on the soot morphology of biodiesel, which focuses on the toxicity. There are also four chapters on hydrogen-fueled engines, which discuss use of hydrogen in IC engines and also provide important information on the methodologies. This book is a valuable resource for researchers and practicing engineers alike.

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