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Nota di contenuto	Cyclic Variations in Dual Fuel Combustion Engines -- Partially Stratified Combustion of Natural Gas: From Fundamentals to Engine Applications -- HCCI in Dual-Fuel Diesel-Methane Combustion: the combined effect of injection and engine parameters -- Advanced Natural Gas Combustion Concepts -- Natural gas for high efficiency engines and future engine concepts -- A Review of Residential and Commercial Scale Natural Gas Powered Micro-Combined Heat and Power Systems -- Natural Gas Dual Fuel Engines -- Effects of EGR on engines fuelled with natural gas and natural gas/hydrogen blends -- Dual fuel (Natural Gas-Diesel) for light-duty industrial engines: a numerical and experimental investigation -- Emission after treatments for Advanced NG engines -- On Solving Engine Control Challenges of Natural Gas Engines Subject to Varying Fuel Compositions -- Modeling of Direct Gas Injection through a Poppet-type Outwardly opening Injector in Internal Combustion

Engines -- Advanced CFD analyses for the design of innovative and dedicated NG engines -- Development of RCCI CNG-diesel concept for light-duty engines: Comprehensive Analysis of the Influence of Design and Calibration Parameters on Performance and Emissions -- Natural Gas Composition Variation: How to Avoid Knock While Maintaining Vehicle Power and Torque Requirements -- Advanced Combustion in Natural Gas Engines for Transportation and Power Generation.

Sommario/riassunto

This book covers the various advanced reciprocating combustion engine technologies that utilize natural gas and alternative fuels for transportation and power generation applications. It is divided into three major sections consisting of both fundamental and applied technologies to identify (but not limited to) clean, high-efficiency opportunities with natural gas fueling that have been developed through experimental protocols, numerical and high-performance computational simulations, and zero-dimensional, multizone combustion simulations. Particular emphasis is placed on statutes to monitor fine particulate emissions from tailpipe of engines operating on natural gas and alternative fuels.
