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Nota di contenuto	Intro -- About This Book -- Introduction -- Contents -- 1 Substantiation of Alternative Fuels Utilization -- 1.1 Contribution of Marine Transport to the Global Atmosphere Pollution -- 1.2 Demands of the International Conventions for Preventing Pollution from Marine Vessels -- 1.3 Methods of Ship Power Plants Emissions Reduction -- 1.4 Conclusions -- References -- 2 Modern State of Using Alternative Fuels in Marine Engineering -- 2.1 Impact of Fuel Characteristics on the Parameters of Fuel Systems and Ship Power Plants -- 2.2 Alternative Fuels Technologies -- 2.3 Perspective Alternative Fuels for Application on Marine Transport -- 2.4 Review of Experience in Alternative Fuels Usage in Ship Power Plants -- 2.5 Conclusions -- References -- 3 Liquefied Natural Gas as Marine Fuel -- 3.1 Review of the Fuel Systems for LNG-Fueled Power Plants -- 3.2 Main Equipment for LNG Fuel Systems of Ship Power Plants -- 3.3 Parameters of LNG-Fueled Ship Power Plants -- 3.4 Conclusions -- References -- 4 Biodiesel and Its Blends as Marine Fuels -- 4.1 Review of Fuel Systems for Biodiesel-Fueled Power Plants -- 4.2 Main Equipment and Additives for Biodiesel Fuel Systems of Ship Power Plants -- 4.3 Parameters of Ship Biodiesel-Fueled Power Plants -- 4.4 Conclusions -- References -- 5 Synthetic Coal-Based Fuels and Their Combustion -- 5.1 Integrated Plasma Coal Gasification Power Plant --

5.2 Working Process in a Gas Turbine Combustor Operating on Synthesis Gas -- 5.3 Low-Emissive Combustion of Synthesis Gas -- 5.4 Conclusions -- References.

Sommario/riassunto

This book describes the feasibility and status of the use of alternative fuels in marine engineering, as well as the application of liquefied natural gas, biodiesel and their blends as marine fuels, and the combustion of synthetic coal-based fuels. Each chapter in the book ends with a summary, which gives the reader a quick and clear understanding of the main contents of the chapter. The book gives a lot of advice on the selection of equipment and parameters, fuel reserves and preparation for scholars related to alternative fuels in ships, and points them in the way. It contains lots of illustrations and tables and explains it in the form of chart comparison. The authors have developed mathematical models and methods for calculating the parameters of fuel systems for biodiesel fuels and liquefied natural gas. Recommendations for choosing the rational parameters of these systems are given, as are schematic solutions of the fuel systems, recommendations for selecting equipment, storing, and preparing the fuels. Application of the materials described in the book provides the SPP designers with a reliable tool for choosing rational characteristics of the fuel systems operating on alternative fuels and improving the efficiency of their application on ships.