Record Nr. UNINA9910890170003321 Autore Nemitallah Medhat A Titolo Hydrogen for Clean Energy Production: Combustion Fundamentals and Applications / / by Medhat A. Nemitallah, Mohamed A. Habib, Ahmed Abdelhafez Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 9789819779253 9819779251 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (461 pages) Altri autori (Persone) HabibMohamed A AbdelhafezAhmed Disciplina 621.312134 Soggetti Water-power Renewable energy sources Electric power distribution **Energy harvesting** Hydrogen as fuel Hydroenergy Renewable Energy **Energy Grids and Networks Energy Harvesting** Hydrogen Energy Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1. Introduction -- 2. Fuel/oxidizer-flexible lean premixed combustion Nota di contenuto -- 3. Stratified and hydrogen combustion techniques for higher turndown and lower emissions -- 4. Application of lean premixed combustion for emission control in different combustors -- 5. Applications of fuel/oxidizer-flexible premixed combustion in gas turbines. Sommario/riassunto The book fills the existing gap in the literature on clean and hydrogen combustion technologies for industrial applications. This gas is created due to the absence of a comprehensive textbook that covers such kinds

of developments. This book can be used as a textbook for graduate-

level courses in the areas of clean and hydrogen combustion and as a reference book for short courses to be oered to mechanical and aerospace engineers and young researchers worldwide. The book chapters consider investigating clean and hydrogen combustion techniques for different applications based on experimental measurements along with detailed numerical simulations. Detailed descriptions of the different numerical models are presented for given applications to solve for the flow/flame fields, which are very important, especially for beginners and undergraduate students in the fields of clean and hydrogen combustion.