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Altri autori (Persone)	LieuwenTimothy C YangVigor
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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Combustion instabilities: basic concepts -- Combustion instabilities in industrial gas turbines: Solar Turbine's experience -- Incorporation of combustion instability issues into design process: GE aeroderivative and aero engines experience -- Combustion instability and its passive control: Rolls-Royce aeroderivative engine experience -- Thermoacoustic design tools and passive control: Siemens power generation approaches -- Characterization and control of aeroengine combustion Instability: Pratt & Whitney and NASA experience -- Monitoring of combustion instabilities: Calpine's experience -- Monitoring combustion instabilities: E.ON UK's experience -- Combustion instability mechanisms in premixed combustors -- Flow and flame dynamics of lean premixed swirl Injectors -- Acoustic-vortex-flame interactions in gas turbines -- Physics of premixed combustion-acoustic wave interactions -- Acoustic analysis of gas-turbine combustors -- Three-dimensional linear stability analysis of gas turbine combustion dynamics -- Implementation of instability prediction in design: ALSTOM approaches -- Experimental diagnostics of combustion instabilities -- Passive control of combustion instabilities in stationary gas turbines -- Factors affecting the control

	of unstable combustors -- Implementation of active control in a full-scale gas-turbine combustor.
Sommario/riassunto	Higher operating efficiencies, fewer pollutant emissions, and low capital investment have made gas turbines a dominant technology for new power generating capacity in the U.S. and worldwide. This book offers gas turbine users and manufacturers a valuable resource to help them sort through issues associated with combustion instabilities. In the last ten years, substantial efforts have been made in the industrial, governmental, and academic communities to understand the unique issues associated with combustion instabilities in low-emission gas turbines. The objective of this book is to compile these results into a series of chapters that address the various facets of the problem. The Case Studies section speaks to specific manufacturer and user experiences with combustion instabilities in the development stage and in fielded turbine engines. The book then goes on to examine The Fundamental Mechanisms, The Combustor Modeling, and Control Approaches.