

1. Record Nr.	UNINA9910464928103321
Autore	Lieuwen Timothy C.
Titolo	Gas turbine emissions / / edited by Tim C. Lieuwen, Georgia Institute of Technology, Vigor Yang, Georgia Institute of Technology [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-316-09062-0 1-299-74898-8 1-107-24978-3 1-107-24812-4 1-62870-281-8 1-107-24895-7 1-107-25061-7 1-107-24729-2 1-139-01546-X
Descrizione fisica	1 online resource (xvi, 368 pages) : digital, PDF file(s)
Collana	Cambridge aerospace series ; ; 38
Disciplina	621.43/3
Soggetti	Gas-turbines - Environmental aspects Gas-turbines - Combustion Combustion gases - Environmental aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Forward / Alan H. Epstein -- Preface / Timothy C. Lieuwen, Vigor Yang -- Section 1. Overview and Key Issues -- Aero GT Combustion : Metrics, Constraints and System Interactions / Lead: Randy McKinney, Pratt & Whitney -- Ground based GT combustion : Metrics, Constraints and System Interactions / Lead: Vince McDonell, University of California, Irvine -- Overview of Worldwide Aircraft Regulatory Framework / Lead: Will Dodds, GE Aircraft Engines, williard.dodd@ge.com -- Overview of Worldwide Ground-Based Regulatory Framework / Lead: Manfred Klein, Canadian National Research Council -- Section 2. Fundamentals and Modeling : Production and Control -- Particulate Formation / Lead: Med Colket, United Technologies Research Center --

Gaseous Aerosol Precursors / Lead: Rick Miake-Lye, Aerodyne -- NO_x and CO Formation and Control / Lead: Mike Klassen -- Emissions from Oxyfueled or High Exhaust Gas Recirculation Turbines / Lead: Jerry M. Seitzman -- Section 3. Case Studies and Specific Technologies : Pollutant Trends and Key Drivers -- Partially Premixed, and Premixed Aeroengine Combustors / Lead: Christoph Hassa, DLR -- Industrial Combustors : Conventional, non-premixed and Dry Low Emissions (DLN) / Lead: Thomas Sattelmayer, TU Munchen.

Sommario/riassunto

The development of clean, sustainable energy systems is one of the pre-eminent issues of our time. Most projections indicate that combustion-based energy conversion systems will continue to be the predominant approach for the majority of our energy usage, and gas turbines will continue to be important combustion-based energy conversion devices for many decades to come, used for aircraft propulsion, ground-based power generation, and mechanical-drive applications. This book compiles the key scientific and technological knowledge associated with gas turbine emissions into a single authoritative source. The book has three sections: the first section reviews major issues with gas turbine combustion, including design approaches and constraints, within the context of emissions. The second section addresses fundamental issues associated with pollutant formation, modeling, and prediction. The third section features case studies from manufacturers and technology developers, emphasizing the system-level and practical issues that must be addressed in developing different types of gas turbines that emit pollutants at acceptable levels.
