1. Record Nr. UNINA9910780744203321

Autore	Filippone Antonio <1965->
Titolo	Advanced Aircraft Flight Performance : Including Environmental Performance / / Antonio Filippone
Pubbl/distr/stampa	Reston, Virginia : , : American Institute of Aeronautics and Astronautics, Inc., , [2022] ©2022
ISBN	9781624106408 9781624106392
Edizione	[Second edition.]
Descrizione fisica	1 online resource (831 pages)
Disciplina	629.132
Soggetti	Airplanes - Performance Airplanes - Design and construction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	In recent years there has been a renaissance in the field of aircraft flight performance with a number of developments centreing mostly on environmental performance, sustainability, digitisation, large data sets, integration with flight monitoring systems, and novel power plants - just to name a few. The aviation industry is now acutely aware of the climate emergency, and aircraft performance is now intrinsically linked to emissions.The availability of increasingly large amounts of digital data from on-board computers (flight data recorder, FADEC), data transmission to ground stations, internet streaming of flight data, and various web applications have created a wealth of performance data that would have been inconceivable just a few years ago. With advances in these two directions, as well as new engine technology (high by-pass turbofan engines, counter-rotating open rotors), this second edition of Advanced Aircraft Flight Performance features significant updates throughout, along with three new chapters. About one-third of the material now deals with environmental performance.The second part of this book is devoted to a wide spectrum of environmental aspects of flight. Exhaust gases have long time spans and aircraft condensation

trails are there to remind us that aviation is having a measurable impact on our skies. There is hope that sustainable aviation fuels could help reduce the overall emissions. The book also contains advanced material across several disciplines, including data-driven modelling, airframe-propulsion integration, thermo-structural performance, and flight mechanics. This textbook can be used as a guideline for teaching aircraft performance, aircraft noise, and environmental performance at a senior university level.