

Avviso Seminario

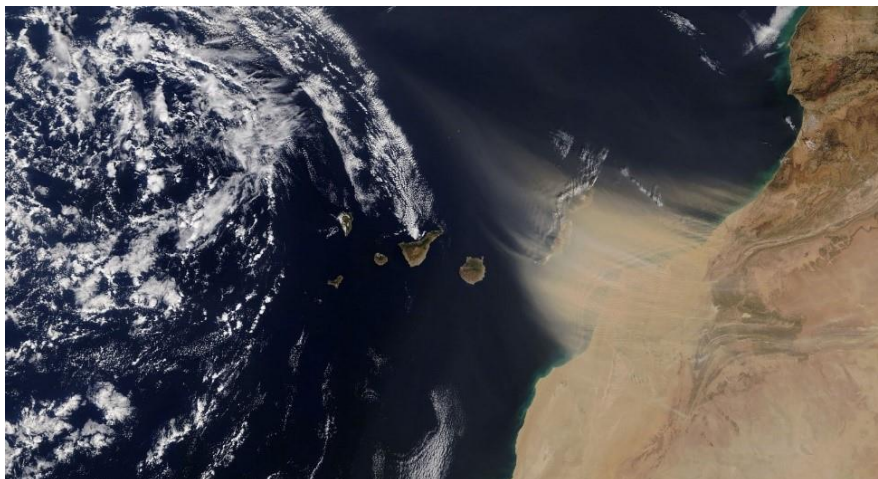
Prof. Antonio Filippone

School of Engineering - The University of Manchester

Environmental Effects on Flight and Aero Engines

Abstract

This seminar addresses flight safety and aero engine integrity in harsh environments that include flight into dust, sand, volcanic ash, and foreign objects debris. The seminar is divided in two parts. First, we discuss issues of dust, volcanic ash, and other environmental hazards, the use of satellite data such as the European Centre for Medium-Range Weather Forecasts (ECMWF) and flight data such as ADS-B (satellite transponders) and IAGOS (flight instrumentation). These are used for examination of critical aspects on safety arising from sandstorms, especially flight in the Middle East, Northern China and Western USA. In the second part, we discuss intake particle separators for aero engines. Design concepts for engine particle separators, including inertial particle separators, vortex tubes and barrier filters, are shown alongside separation efficiency, pressure losses and auxiliary power requirements. We conclude with basic particulate dynamics, mineralogy, physical characteristics, types of dust and their effect on aero engine components (compressors and turbines).



Giovedì 19 Ottobre 2023, ore 12:00
Aula DS1, via della Vasca Navale 79/81

Info: Prof. Giovanni Bernardini, e-mail: giovanni.bernardini@uniroma3.it
Prof. Massimo Gennaretti, e-mail: massimo.gennaretti@uniroma3.it