Special Issue

Gas Turbines Propulsion and Power

Message from the Guest Editors

Gas turbines engines are extensively used in aviation because of their advantageous volume and weight characteristics. The engines are designed to offer costeffective features such as high efficiency, reliability and availability. Understanding their aero-thermodynamic performance is a prerequisite for many developments in their cycle, components' design and maintenance techniques. Modelling and simulating the jet engine at a preliminary design phase is very important for minimizing the development cost and optimizing its performance. This goal calls for new tools and techniques for assessing engine's performance under a variety of configurations, alternative fuels or/and fluid flows. Variable geometry engines, open rotor and high by-pass turbofan are examples of different configurations. Particulate or multiphase flows such as water droplets and sand particles have an effect on engine's performance. Understanding engine's operation at a preliminary design phase is essential for any development.

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