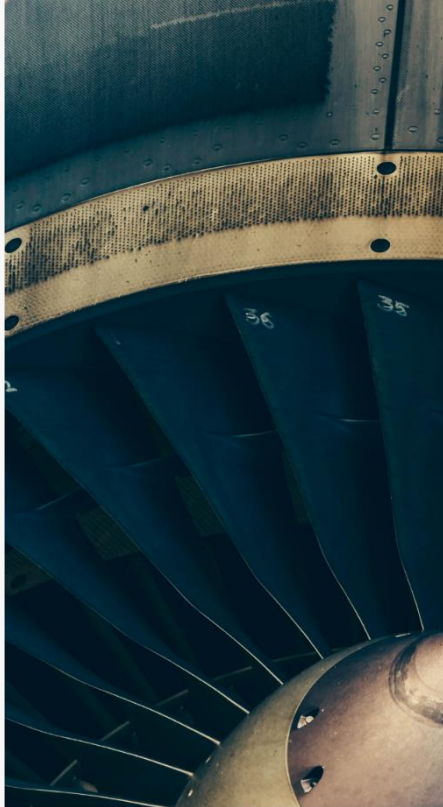




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# High Energy Density Fuels in Aviation Gas Turbines: Experiments and Modelling

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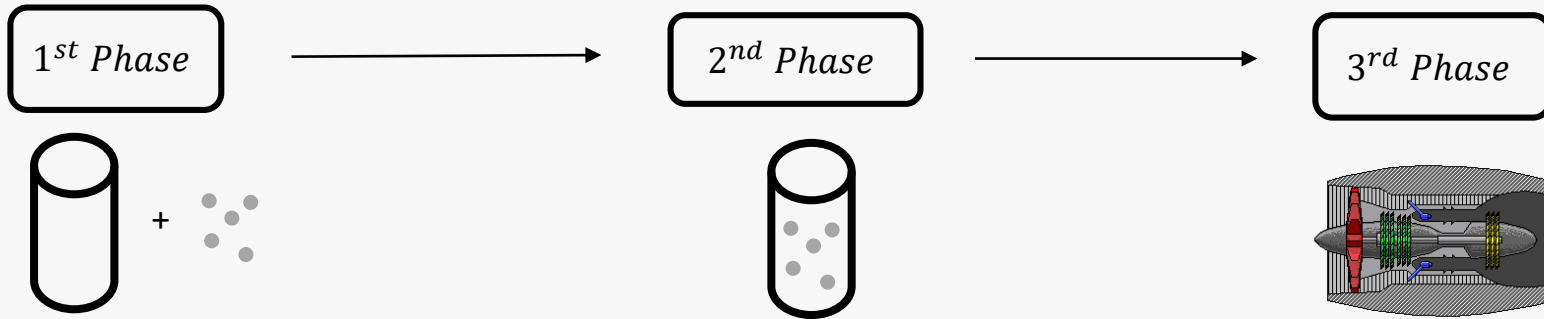
20<sup>th</sup> September, 2019

# Motivation

- The aeronautical sector is responsible for high pollutants and greenhouse gas emissions
- The scientific community urges to disclose the addition of alternative fuels in fuel injection of aero-engines
- One promising alternative to the challenges that the modern world currently faces is the implementation of nanoparticles in the aviation industry



# Objectives



- Selection and characterisation of the fuels and nanoparticles
- Study of nanoparticles added to the biofuel. Create a stable suspension of nanoparticles for lower and higher particle loadings

- Compare experimentally and numerically, single droplet and sprays, between a conventional Jet Fuel (Jet A-1) and a Biofuel with nanoparticles

- The combustion characteristics of Jet A-1 and a Biofuel with several nanoparticles for a spray will be compared in a combustion chamber



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# Thank you for your attention

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