H2AERO: Métodos de Alto Orden para combustion de H2 en AEROreactores

Description

H2AERO is focused on the development and assessment of advanced scale-resolving simulation methodologies for the prediction of relevant phenomena in terms of flame dynamics, thermoacoustics and nitrogen oxides (NOx), for industrially relevant hydrogen injectors of aeronautical combustion chambers.

H2AERO proposes a multidisciplinary approach including high-fidelity simulations with high-order methods, model validations with state-of-the-art and well-established experimental data, and advanced software generation for heterogeneous hardware architectures with CPUs and GPUs. Once validated, the simulation tools will be used to investigate the hydrogen combustion test rig. The most suitable approaches, either with tabulated chemistry or finite-rate chemistry, will be extended to a high-order framework. The aim is to achieve CFD software at TRL 4 for combustion chamber design of aeroengine applications.

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