

processed data will be used: (i) to provide a comprehensive characterisation of the flow, flame and sound fields as a function of the operating conditions; (ii) for the development of simplified models for the key combustion and sound-generation processes; (iii) for the validation of high-fidelity numerical simulations performed as part of a second DECRESCENDO PhD.

Competencies

We are looking for a highly motivated candidate who will fully commit to the project. She/he will have an aptitude for teamwork as the work will be co-supervised by researchers two Pprime research groups: Turbulent Combustion and Flame Structure (CT) and Aerodynamics, Acoustics and Turbulence (2AT). The PhD involves experimental and theoretical components; and it is multidisciplinary (acoustics and combustion). Candidates should therefore have a keen scientific curiosity, and be aware that working in a research laboratory requires autonomy and rigor.

- Knowledge of fluid mechanics (turbulence) and/or gas-phase combustion is desirable.
- Knowledge of acoustics and signal processing. Experience in the implementation of laser diagnostic techniques in fluid media would be welcome.
- Finally, some knowledge of hydrodynamic stability theory and linearized mean-field analysis would be a plus.

Constraints and risks

Work in the combustion laboratory with measuring equipment using lasers.

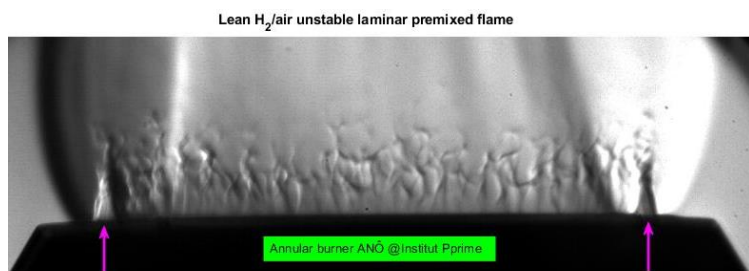


Figure 1 : Annular burner ANO at Institut Pprime: Instantaneous schlieren image of a premixed H_2 -air flame at an equivalence ratio of 0.4 (left) and burner assembly at banc Martel (right).

