



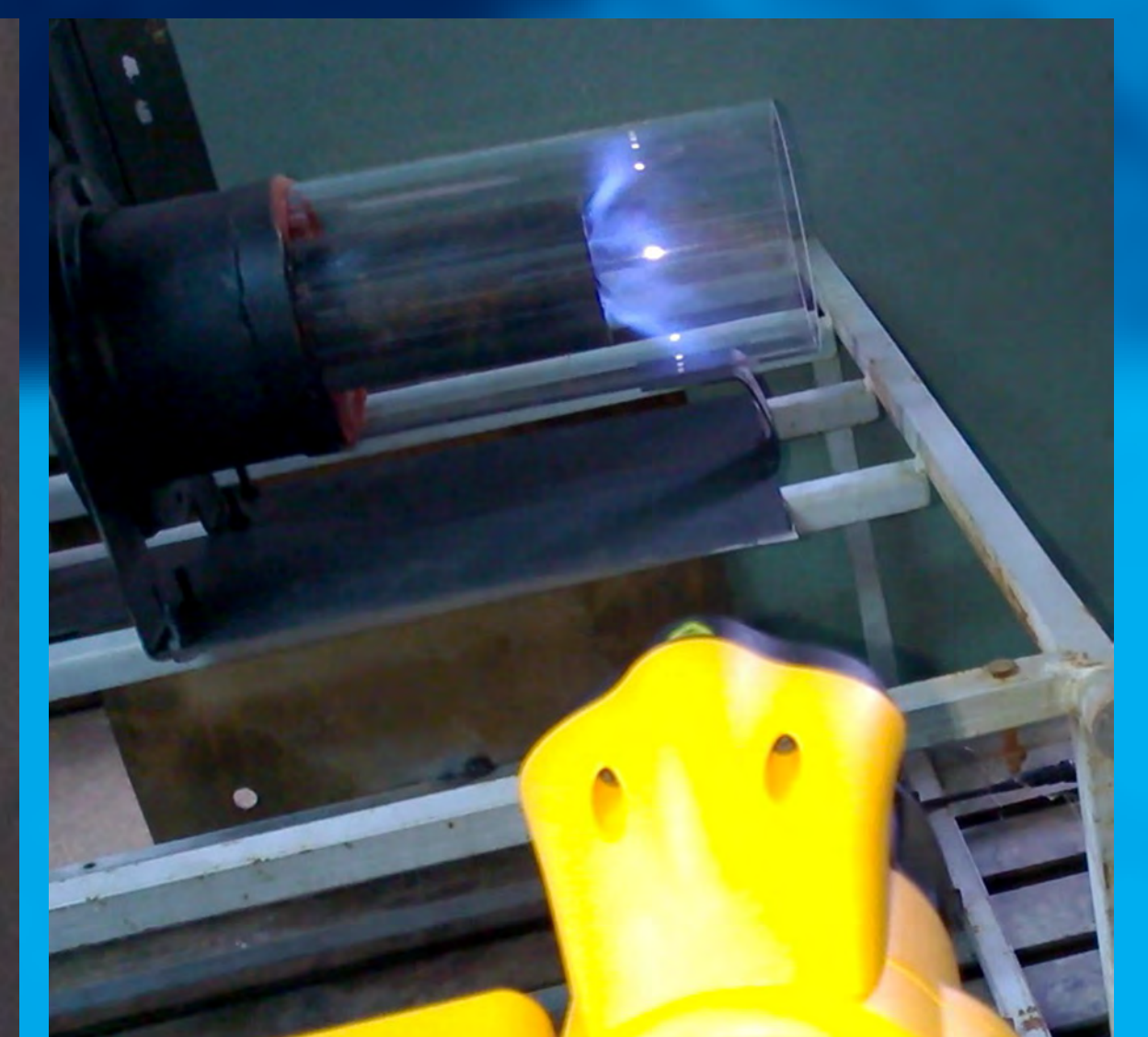
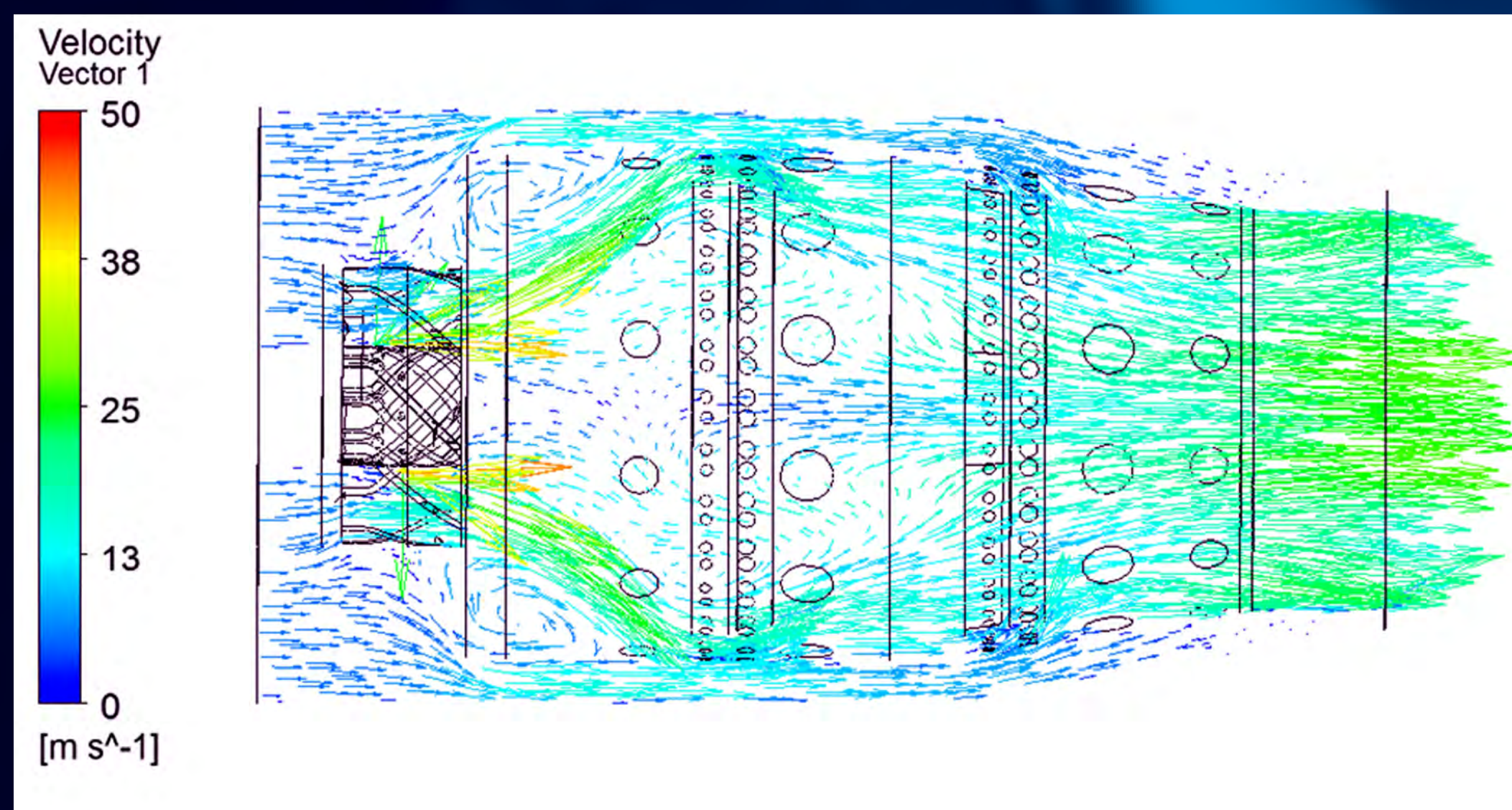
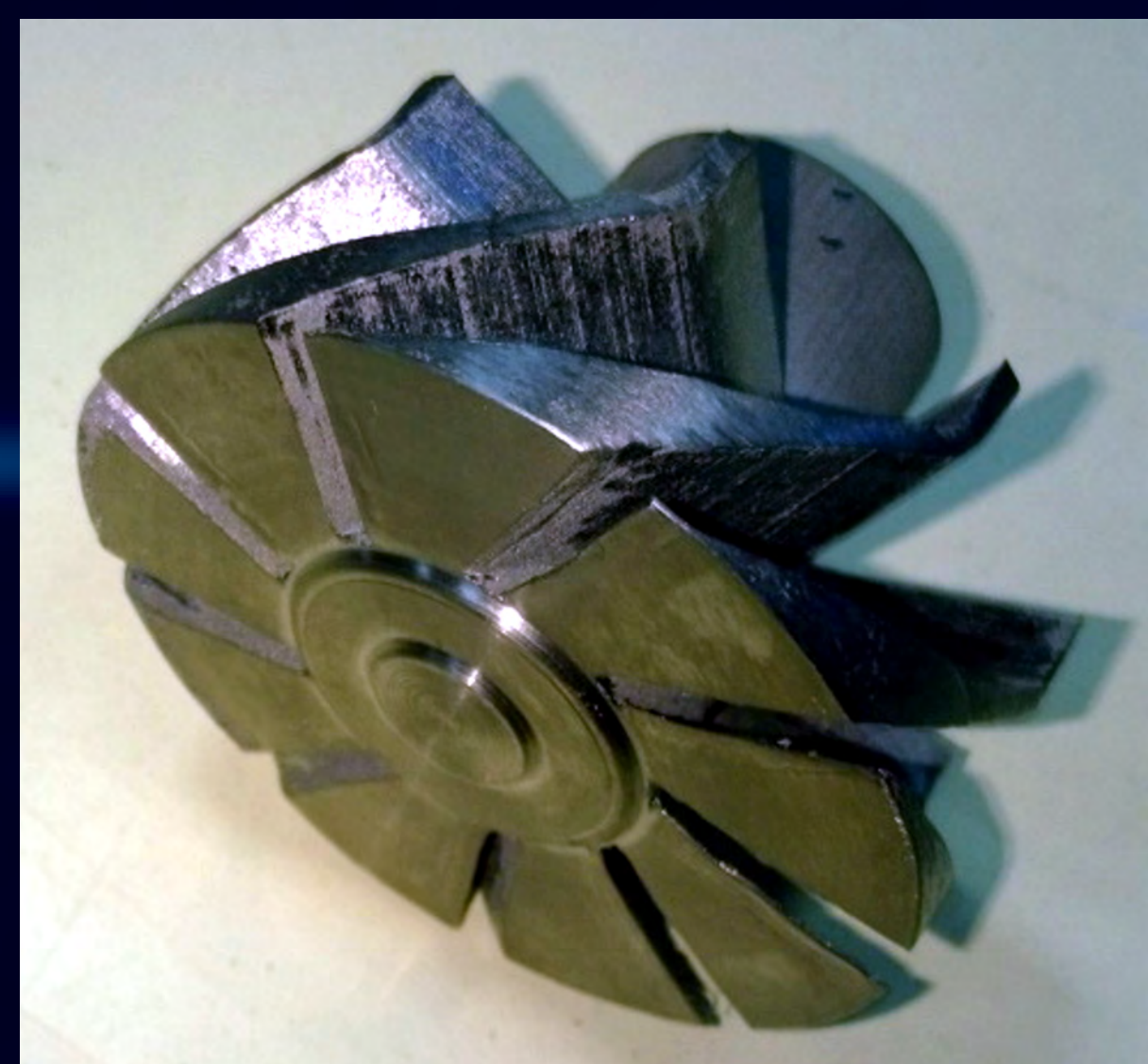
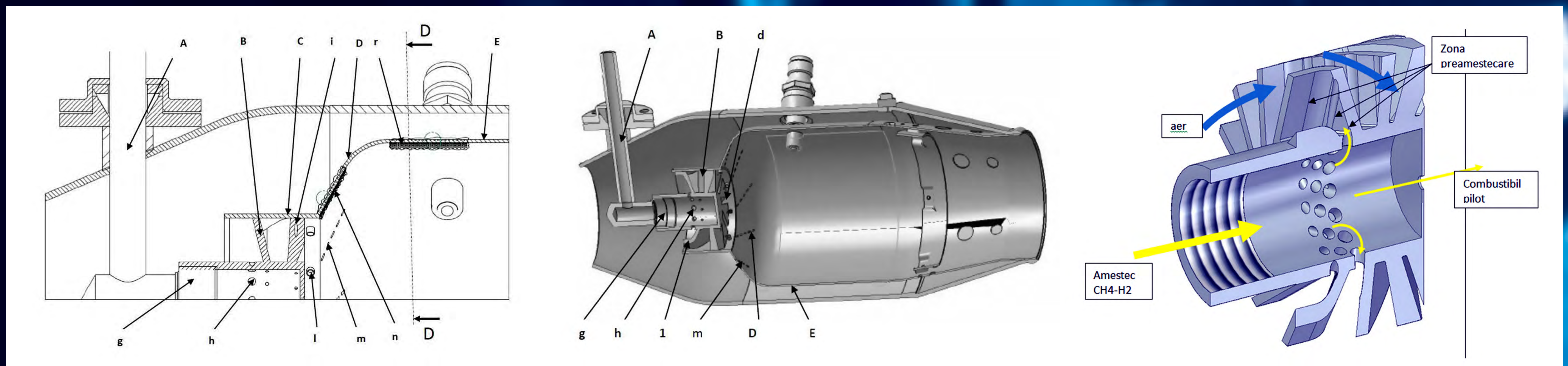
Premixed swirled combustion chamber

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Industrial Partener GENERAL ELECTRIC Aviation



Description:

The invention relates to a premixed and swirled combustion chamber which is used in the field of gas turbines operating on gaseous fuels, especially for the case when the gaseous fuel is a mix of gases with high burning velocity like hydrogen.

Novelty:

- The swirled injector with helical flared flow channels and convergent nozzle.
- Sectorial jets with optimization of the dosage.
- Counter-flow cooling effusion jets in opposite direction to the swirl.

Advantages:

- The axial helical flow sections of the swirled injector are formed by convergent nozzles – this eliminates the risk of flame flashback phenomenon.
- The elongated parallelogram slot holes at the exit of the vortex allow the adjusting of the optimal dosage.
- The disposal of the orifices as layout and angle on the fire tube removes the effusion cooling on the boundary layer zone, eliminating the possibility of freezing chemical reactions.

