ROMANIAN RESEARCH & DEVELOPMENT INSTITUTE FOR GAS TURBINES

Premixed swirled combustion chamber

Research project RO 76/2014: COMOTI - UPB - GE 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.





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- 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.





GENEVE

Après examen, le Jury International a décidé

PRISECARU Malina M., TECU Vlad, SANDU Cornel,

Chambre de combustion à pré mélange

CARLANESCU Cristian

MEDAILLE D'OI GOLD MEDAL

GOLDMEDAILLE

CARLANESCU Razvan, PRISECARU Tudor, SILIVESTRU Valentin

Genève, le 15 avril 2016

Le Président du Salon: Jean-Luc Vincent

4350-800AIRBUS

DES INVENTIONS de remettre à: pour l'invention: Avec les félicitations du jury With the congratulations of the jury Mit höchsten Empfehlungen des Preisgerichtes e Président du Jury: David Taj

Geneve 2016

Gold Medal



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