

6th International Conference on

Aerospace and Aerodynamics

August 02-03, 2018 | Barcelona, Spain

Combustion and propulsion effect of acoustic bass on premixed flames

Tathagat Sarangi and Amey Kumar

SRM Institute of Science and Technology, India

Most arranged combustion are premixed, from the rocket motors to the bun set burners which are used in the kitchen works with premixed flames, they create lesser pollutants and combustion can be held in a lesser volume as compared to the diffusion flames, hence premixed flames are widely studied by the scientific community. In aviation industries there are several acoustic noise are created by various sources i.e. from aircraft, engines, ground power units etc. so study of thermo acoustics is an important aspect around the aviation industries. An experimental setup was upraised and implications of premixed flames on effect of bass are estimated. Butane lighter was used as fuel source. The role of key controlling parameters, namely, change of frequency and flutter of flames in horizontal and vertical direction, was extensively examined. The frequency were divided into different ranges and each frequency range were carefully examined and noted down, with using this data a bass flammability curve was plotted and hence a significant change in the flames were found out when bass was impinged to the flame. The results were seen that when these flames interact with low frequency, low pitch tune there is a change in the regression rate, hence changing the burning properties of the flame, by only changing one properties i.e. Bass, this idea has a several application ranging from fire extinguish to enhancing the jet engine performance and reducing the pollution caused from aircraft using acoustics. The very idea is likely to be of immense contribution to the scientific community and industries. The idea is economical and will be very helpful in future aerospace industries by contributing in enhanced success rate.

Biography

Tathagat Sarangi and Amey Kumar are undergraduate students in Aerospace engineering from SRM Institute of Science and Technology, India. Their area of research are mainly concerned regarding propulsion, combustion, astrophysics and classical physics.

tathagatsarangi@gmail.com
ameyarora07@gmail.com

Notes: