

عنوان مقاله:

COMPARISON OF SPRAY SHARACTERISTICS OF LIGHT AND HEAVY FUEL OIL FOR A HEAVY DUTY GAS
TURBINE

محل انتشار:

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خلاصه مقاله:

Nowadays, gas turbine engines require greater flexibility to burn a wider range of fuels, which is a crucial factor for power plants supplied with different fuel sources. Besides, droplet size distributions in the cold spray of a fuel are important in observed combustion behavior. Specification of droplet size distributions in the immediate downstream of injectors is also essential as boundary conditions for advanced computational fluid dynamics (CFD). The purpose of this paper is to describe the micro-scale and macro-scale characteristics of a swirl pressure spray for a heavy duty gas turbine nozzle (MGT-70) for light fuel oil (Diesel) and heavy fuel oil (HFO). For this means a spray apparatus and a global droplet size measurement system has been developed using the Digital Image Analysis (DIA) approach. This measurement system was used to measure droplet mean diameter and droplet size distribution as well as spray angle by means of in-house image processing code. Comparison between the experimental data of droplet size distribution for a light fuel oil and heavy fuel oil indicates a quantitative comparison between two oil fuels

کلمات کلیدی:

Spray, Measurement, Heavy Fuel Oil, DIA, Gas Turbine

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