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Experimental Study on Performance and Emission Parameters of An IC Engine Using Alternative Fuels

Sohail Khan[1] and Deepesh Singh Gehlot[2]
Department of Thermal Engineering[1,2]
LNCT Indore, Madhya Pradesh, India
snawab007khan@gmail.com, deepesh.gehlot.84@gmail.com

Abstract: *The increasing depletion of the fossil fuel reserves as well as the growing concern over the vehicular emissions have well intensified the search for the sustainable as well as the cleaner fuel alternatives for the context of internal combustion engines.. This paper presents an experimental project on the use of compression ignition engine on various alternative fuels of choice, its performance as well as emission properties. This was done by taking such parameters as the brake thermal efficiency, the brake specific fuel consumption, the exit emissions in form of carbon monoxide, hydrocarbon as well as the nitrogen oxides emissions and carbon dioxide. All the experiments were done under different conditions of load in the normal test processes. It can be seen that alternative power sources can provide the competitive engine power besides significantly cutting down to high level of harmful emissions. Some shortcomings were however experienced with regards to nature of fuel and the combustion behaviour. The research results could be used to supplement the developing literature that embraces a pro-adoption of alternative fuels as a viable alternative to the conventional petroleum-based fuel in the internal combustion engines*

Keywords: Internal combustion

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