

PERFORMANCE AND EMISSION ANALYSIS OF POROUS MEDIA COMBUSTION CHAMBER IN DIESEL ENGINES USING KIVA 3V

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ABSTRACT

Higher powers at reduced fuel consumption and reduced emissions have become the norm for engine design today. With depleting fuel resources increasing pollution and cost associated with it, new means to deliver the necessary power are always constantly being investigated. Porous Media inside the combustion chamber presents an attractive option for delivering higher power, lower fuel consumption and reduced emissions. In this paper the authors have presented the performance of an IC engine embedded with a PM. The engine is modeled using modified KIVA 3V code and the results of the simulation are presented. The performance between PM and a non PM engines has been compared and illustrated at different revolutions and compression ratio. The results amply demonstrate the suitability of the PM in enhancing the efficiency and reducing the emissions.

KEYWORDS: IC Engines, PM, KIVA 3V, Emissions

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