

عنوان مقاله:

Experimental Investigation on Hydrous Methanol Fueled Homogeneous Charge Compression Ignition Engine Using Spark Assisted Method

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خلاصه مقاله:

The present work investigates the performance and emission characteristics of hydrous methanol fuelled Homogeneous Charge Compression Ignition (HCCI) engine. In the present work, a regular diesel engine has been modified to work as HCCI engine. Hydrous methanol is used with 15% water content in this HCCI engine and its performance and emission behavior is documented. A spark plug is used for assisting auto-ignition. The spark timings are changed in steps of 3 degrees and the suitable timing that offers better phasing is called optimum spark timing. From the investigation, it is found that the hydrous methanol suits perfectly with HCCI engine and the water content present in the hydrous methanol helps to phase the combustion perfectly and to change the rate of combustion. The investigation also proves that the hydrous methanol operation reduces NO and smoke to extremely low level which is not possible by the direct injection CI engine. The water content present in the hydrous methanol helps to control the timing of auto ignition and to run HCCI engine smoothly. Therefore, it is beneficial to use hydrous methanol in internal combustion engines

کلمات کلیدی:

, Hydrous Methanol , HCCI , Spark Assisted Performance , Emission and Combustion

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