

AN EXPERIMENTAL ASSESSMENT OF ENGINE PERFORMANCE USING WATER-DIESEL EMULSIONS

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ABSTRACT

The project deals with the efficiency enhancement of an IC Engine by supplying an alternate fuel based on the concept of dual fuel injection. The experimental setup is prepared for generation of 'Brown's Gas from the electrolysis of water. The Brown's generator or electrolyzer consists of spiral stainless steel electrodes connected to a rated DC power supply where the electrolysis will begin as soon as the circuit is closed resulting the generation of Brown's gas. The performance tests are conducted separately on diesel engine and petrol engine at varying load conditions along with testing the exhaust gasses and their effects on environment. As the result of adding additional oxygen and hydrogen the fuel efficiency has been increased to a certain extent and also reduced the harmful emissions from the IC engine.

KEYWORDS: Brown Gas, Efficiency Enhancement, Electrolyzer, Fuel Cells, Micro Emulsion Systems, Total Fuel Consumption, Thermal Efficiency.