conferenceseries.com

2nd International Conference and Exhibition on

Automobile Engineering December 01-02, 2016 Valencia, Spain



Kadir Aydin

Çukurova University, Turkey

Hydroxy gas (HHO) addition to fossil fuels for improved performance and lower emissions

E lectrolysis is the most common method used to split H_2 from water and currently, 12-15% of hydrogen production globally source is presented by electrolysis. Hydroxy Gas (HHO) is a trademark and comes from the separation of water molecules H-OH that contains (theoretically) 66% H_2 and 33% O_2 . It has high calorific value and 1 kg of HHO, is three times as potent as gasoline and eight times as potent as diesel. Also achieving of HHO gas under water electrolysis, several item affected the end product. This affected the efficiency of the HHO generators. Electrolysis uses an electrical current to split water into hydrogen at the cathode (+) and oxygen at the anode (–). Steam electrolysis uses heat, instead of electricity, to provide some of the energy needed to split water and can make the process more energy efficient. In this study, HHO is mixed with air and gasoline in inlet manifold in a gasoline engine and HHO is mixed with air and natural gas during induction stoke and diesel fuel is injected into the cylinder during injection period in a pilot injection diesel engine to measure engine performance and exhaust emission parameters. HHO gas addition to the fossil fuels (gasoline, diesel fuel and natural gas) improved engine performance parameters (power, torque and specific fuel consumption) and reduced exhaust emission parameters. The average power increment in test engines during experiments is bigger than the electrical power consumed and fuel economy obtained with the aid of HHO system as well. This indicates that HHO system is efficient.

Biography

Kadir Aydin received his BSc degree in 1983 and MSc degree in 1986 from the Mechanical Engineering Department of Cukurova University. He completed his PhD degree in 1993 at the Department of Mechanical Engineering of Liverpool University. He became Assistant Professor in 1993, Associate Professor in 1995 and Professor in 2001 in the Mechanical Engineering Department of Cukurova University. He is Chairman of Automotive Engineering Department of Cukurova University and also General Manager of Cukurova Technopark. His special research areas are Internal Combustion Engines, Vehicle Technology, Combustion, Hydrogen and Electric Powered Vehicles and Alternative Fuels (Biodiesel, Bioethanol and Biogas). He published more than 150 national and international scientific papers.

kdraydin@cu.edu.tr

Notes: