

Effect of Injector Installation Angle on the Thermal Behaviors of UWS in a Diesel SCR Catalytic Muffler Systems

Authors : Man Young Kim

Abstract : To reduce the NO_x emission in a Diesel vehicle, such various after treatment systems as SCR, LNC, and LNT are frequently visited as promising systems. Among others, urea-based SCR systems are known to be stable, effective technologies that can reduce NO_x emissions most efficiently from diesel exhaust systems. In this study, therefore, effect of urea injector installation angle on the evaporation and mixing characteristics is investigated to find optimum operation conditions. It can be found that the injection angle significantly affects the thermal behavior of the urea-water solution in the diesel exhaust gases.

Keywords : selective catalytic reduction (SCR), evaporation, thermolysis, urea-water solution (UWS), injector installation angle
Conference Title : ICAMAME 2016 : International Conference on Aerospace, Mechanical, Automotive and Materials Engineering

Conference Location : Vienna, Austria

Conference Dates : June 16-17, 2016