

NO_x ADSORBER REGENERATION IN TRANSIENT CYCLES: PARAMETRIC STUDY

Scott Sluder and Brian West
Oak Ridge National Laboratory

A 1999 Mercedes A170 CDI has been equipped with prototype NO_x adsorber devices in order to study the impacts of regeneration conditions on the emissions reduction performance of the devices. This study consisted of a number of laboratory experiments utilizing a bottled-gas injection system to periodically provide fuel-rich exhaust conditions for device regeneration. The NO_x adsorbers were evaluated on the LA4 driving cycle using a fixed regeneration schedule. The rich-pulse duration and minimum air/fuel ratio during the rich pulse were varied, and the impacts upon pollutant emission rates were measured. Results are presented for five prototype NO_x adsorbers.