



SMOKE EMISSIONS FROM DIESEL VEHICLES: A CASE STUDY

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Abstract

With a greater emphasis on the increasing number of diesel vehicles provided with pollution control systems complying to regulatory standards these days than ever before, it is also necessary to look into the emission characteristics of the diesel vehicles with respect to vehicle-related parameters with a view to ascertain as to how the tail pipe emission from the diesel vehicles could be kept under control by adopting suitable strategies. Considering the constraints of data collection and time-frame and realizing the importance of diesel buses in transportation sector, in India, a case study of different models of diesel buses reporting at different locations in Gorakhpur city of Uttar Pradesh was taken up and tail pipe emission along with individual vehicles-related parameters like vehicle age, vehicle mileage, engine capacity, number of cylinders, working status of odometer, level of inspection/maintenance and emission control system etc. were monitored for idle test condition. The analysis of data was carried out for the entire data range and for different models of diesel buses in the study. Out of the several vehicles – related parameters, vehicle age was found to be most crucial one, and showed good correlation with average smoke density.

Key words: smoke emission, vehicle-related parameters, diesel vehicles, inspection and maintenance

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