PMP Light Duty Inter-Laboratory Correlation Exercise Final Results Summary

Introduction

This document provides a summary of the final results of the PMP light duty validation testing. Nine laboratories participated. The golden vehicle (Au-vehicle) was measured in all labs. Another 15 vehicles were also tested in 8 labs (Table 1). Error bars represent +/- 1 standard deviation.

Table 1: Vehicles tested.

Vehicle	Туре	Lab	Code
Peugeot 407 HDi FAP 2000 cc	DPF Diesel [Oxicat, uncoated DPF, FBC]	All	Au-Vehicle
BMW 525d catalysed DPF equipped, 2500 cc	DPF Diesel [Oxicat, catalysed DPF]	RICARDO	DPF#1
Mazda Bongo catalysed DPF, 2000cc	DPF Diesel [Oxicat, catalysed DPF]	NTSEL	DPF#2
Toyota Avensis D-CAT 2000cc	DPF Diesel [Oxicat, deNOx, catalysed DPF]	SHELL	DPF#3
Mercedes Vito Van DPF 3000cc	DPF Diesel [Oxicat, catalysed DPF]	SHELL	DPF#4
Peugeot 206 HDi FAP	DPF Diesel [Oxicat, uncoated DPF, FBC]	UTAC	DPF#5
FIAT, Idea, MPI, EURO-4, TWC, 1400cc	Port-injected gasoline	JRC	MPI Vehicle
Mitsubishi, Carisma, GDI, TWC/deNOx 1800 cc	Direct-Injection Gasoline (lean)	RWTUV	GDI Vehicle#1
VW, GOLF FSI, TWC/deNOx 1600 cc	Direct-Injection Gasoline (lean)	JRC	GDI Vehicle#2
Toyota Crown G-DI, 3000cc	Direct-Injection Gasoline (lean)	NTSEL	GDI Vehicle#3
BMW 120d PMFC 2000cc	Conventional Diesel	SHELL	non-DPF#1
Audi A2, TDi, EURO-4, Oxicat, 1500 cc	Conventional Diesel	RICARDO	non-DPF#2
VW, GOLF TDi, non-DPF, Oxicat, 1800 cc	Conventional Diesel	RWTUEV	non-DPF#3
Honda Accord i-CTDi, EURO-4, Oxicat/deNOx, 2200 cc	Conventional Diesel	LAT	non-DPF#4
Kia Pride, non-DPF, 1500cc	Conventional Diesel	NIER	non-DPF#5
Vauxhall Astra, CDTi, 1700cc	Conventional Diesel	SHELL	non-DPF#6

Results

mean PM emissions from all labs (Golden vehicle)

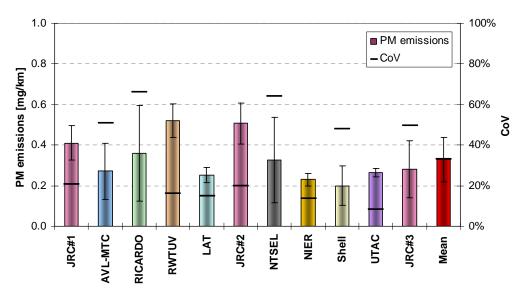


Figure 1: Mean particulate matter (PM) emissions for the golden vehicle (Auvehicle).

mean N emissions from all labs (Golden vehicle)

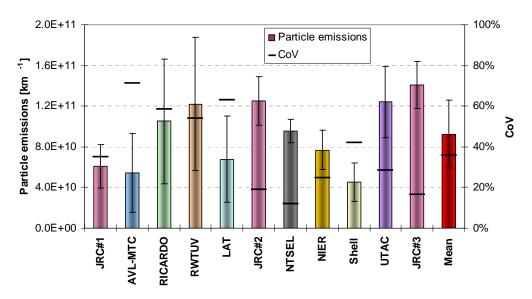


Figure 2: Mean particle number (N) emissions for the golden vehicle (Au-vehicle).

mean PM emissions (all vehicles)

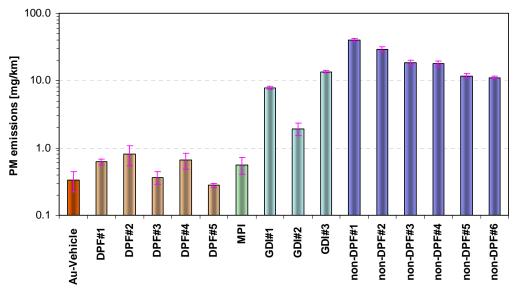


Figure 3: Mean particulate matter (PM) emissions of all vehicles.

mean N emissions (all vehicles)

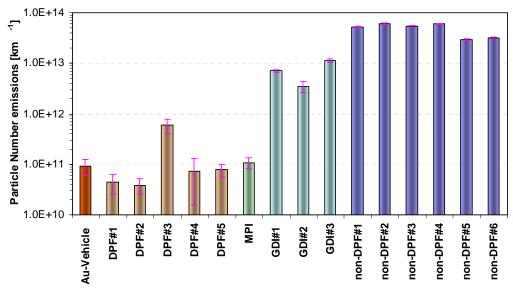


Figure 4: Mean particle number (N) emissions of all vehicles.

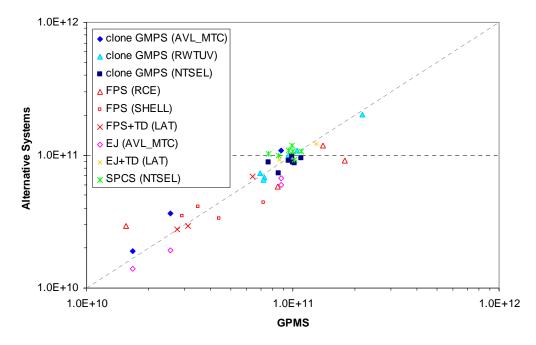


Figure 5: Comparison of Golden Particle Measurement System (GPMS) with other particle measurement systems for the Golden vehicle.

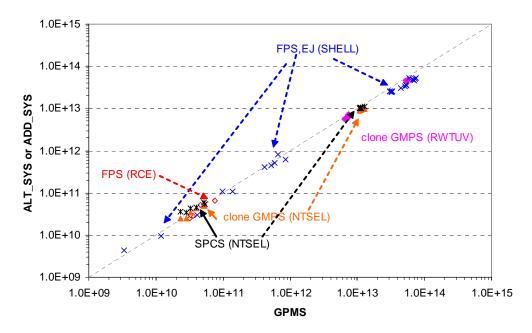


Figure 6: Comparison of Golden Particle Measurement System (GPMS) with other particle measurement systems for all other vehicles.

mean CO2 emissions (all vehicles)

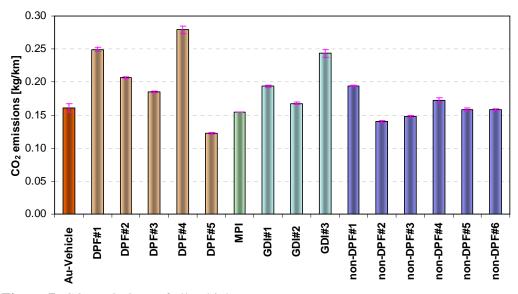


Figure 7: CO₂ emissions of all vehicles.

mean CO emissions (all vehicles)

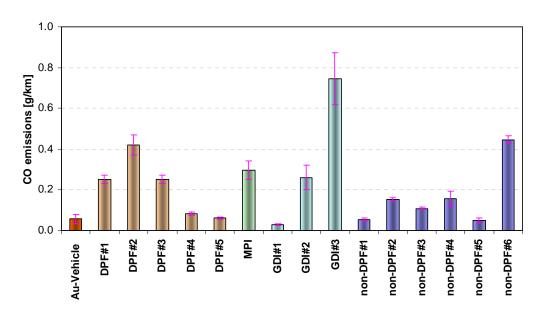


Figure 8: CO emissions of all vehicles.

mean NOx emissions (all vehicles)

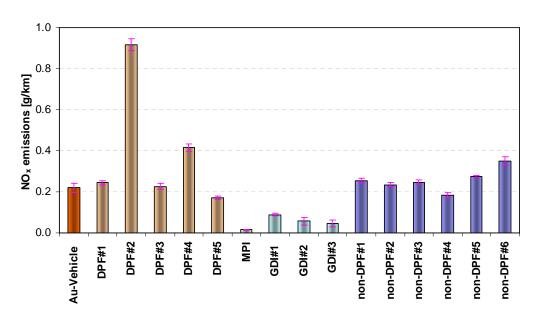


Figure 9: NO_x emissions of all vehicles.

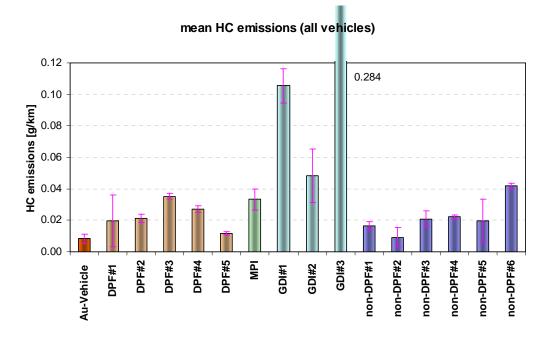


Figure 10: HC emissions of all vehicles.

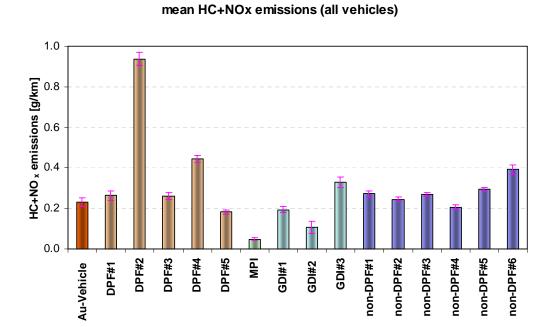


Figure 11: HC+NO_x emissions of all vehicles.

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