

Workshop Speaker



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Title: Model Based Controls for Clean Diesel Vehicle

Abstract: A diesel engine vehicle can provide better fuel economy performance than a gasoline engine vehicle. However, its emissions, especially nitrogen oxides (NO_x), have been serious issues in environmental point of view. The effective means to reduce NO_x are the engine-out NO_x reduction by an air-egr (exhaust-gas recirculation) management control, a Urea-SCR (selective catalyst reduction) system and an LNT (lean NO_x trap catalyst) system. These means are more complicated than the TWC (three-way catalyst) system. A simple control method such as PID control cannot sufficiently manage them and not reduce NO_x to the level required by recent emission legislations. Consequently, advanced model-based controls have been researched for them and applied to series production vehicles. In this tutorial, the emission reduction technologies and some model-based controls used for them will be introduced.

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