## Model Predictive Control of Turbocharged Diesel Engine with Exhaust Gas Recirculation

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**Abstract :** Control of diesel engine's air path has drawn a lot of attention due to its multi input-multi output, closed coupled, non-linear relation. Today, precise control of amount of air to be combusted is a must in order to meet with tight emission limits and performance targets. In this study, passenger car size diesel engine is modeled by AVL Boost RT, and then simulated with standard, industry level PID controllers. Finally, linear model predictive control is designed and simulated. This study shows the importance of modeling and control of diesel engines with flexible algorithm development in computer based systems.

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