Statistical Modeling and Optimization Approaches for Development of Fuel-Efficient Vehicles

Mr. Sameera Damle
Manager - Technical Sales, Support & Marketing
ETAS GMbH – Thailand Office
Email: sameera.damle@etas.com

Abstracts

The challenges for the vehicle manufacturers & their suppliers are increasing by multiple folds with the increasing consumer demands on drivability, safety and comfort as well as stringent legislative demands on fuel consumption, emission & diagnostics. Calibration is a very important & integral part of vehicle development. Along with the above said challenges, increasing vehicle variants, reduced availability of test vehicle and shorter development cycles are making the calibration tasks more complex. Hence the classical approaches of calibration are no more sufficient to meet the new challenges.

ETAS ASCMO allows the behavior modelling of complex systems using advanced statistical methods and numerical methods based on of measured data. With few measurements a very precise model of the engine can be created on a PC. Variety of possibilities available for visualizing the system and optimization allows precise analysis & optimization of the system.

In the application for engine control units, with this approach, all those settings for the relevant parameters are calculated / charged automatically in the PC to represent the best compromises between minimal exhaust emissions and minimal fuel consumption.

This modeling and optimization methods used can also be applied to any other systems in which the output variables are continuously depending on the input variables.

Biography

Sameera Damle is currently responsible for the Technical Sales, Support & Marketing of ETAS products & solutions in ASEAN & Australia. He started his career as a software engineer at Delphi Automotive Systems in India where he developed automotive software for engine management systems and infotainment systems.

He joined ETAS India in 2008 and has worked in different areas like application engineering, technical sales, product management & product marketing. Since 2013 he moved to ETAS Thailand, the newly established entity of ETAS GmbH.

Sameera Damle graduated from Visvesvaraya Technological University, Belgaum, India with specialization in Electronics & Communication engineering.