Validated SCR Concept Development

2007 DEER Conference, Detroit, MI

Dr. Michael Traver, IAV Inc
James Ireton, IAV Inc

Dr. Lutz Krämer, IAV GmbH
Jürgen Manns, IAV GmbH

Poster Location P-15

Validated SCR Concept Development

Combined modeling and experimental testing for SCR concept development

Development of Tier 2 Diesel applications:
• Vehicle & engine hardware fixed
• Aftertreatment system to be defined
• Entire system approach required
-> IAV utilizes **full model-chain** to
   iteratively define the system concept

SCR concept definition:
• THEMOS engine simulation (exhaust enthalpy)
• Engine-out emissions assessment (DoE)
• Vehicle longitudinal model (VeloDyn)
• CAE package study (urea tank, exhaust line)
• Kinetic aftertreatment modeling (1D -> 3D)
-> **Validated model chain**

SCR concept development:
• Optimization of SCR concept:
      • Maximization of ammonia distribution
      • Minimization of HC poisoning
• Application/calibration of control strategy

Come over and find out...