Ammonia Sensors Based on Doped-Sol-Gel-Tipped Optical Fibers for Catalyst System Diagnostics

R. M. Connatser, W. P. Partridge, Jr., V. Y. Prikhodko, and J. E. Parks, II
Fuels, Engines, and Emissions Research Center
Energy & Transportation Science Division
Oak Ridge National Laboratory

N. W. Currier and S. C. Geckler
Cummins, Inc.

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U.S. DEPARTMENT OF ENERGY
DEER 2012
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Gurpreet Singh and Ken Howden
Advanced Combustion Engine Program
U.S. Department of Energy

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Diagnostics to enable *efficiency improvements*

- Engine exhaust application in SCR catalysts
  - SCR control: oxidation, coordination of copper
  - NH_3 utilization & slip (5ppm detection limit)
  - Urea decomposition & distribution
- Improved diagnostics ➔ broader development applications
  - Intra-monolith, single-entry fluorescence probe made of catalyst
  - ~100-sec t_{90}; applicable to exhaust temperatures & O_2 levels