

## EGR Distribution and Fluctuation Probe Based on CO2 Measurements

### **Disclosure Number**

201102759

### **Technology Summary**

The invention measures spatial (cylinder-to-cylinder) and temporal (cycle-to-cycle) EGR fluctuations using an optical probe that requires single-port access. Exhaust-gas recirculation, EGR, is a technology used to reduce automotive NOx emissions, and which involves mixing some of the exhaust with the intake air. Practically, the EGR fraction can vary from cylinder to cylinder and cycle to cycle due to various spatial and temporal nonuniformities. A diagnostic for quantifying intake EGR fluctuations was developed and are more compact, less expensive, and do not entail laser-safety issues.

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