

Serientaugliches CAI mit Interner und Externer EGR

Production Feasible Controlled Auto-Ignition Using Internal and External EGR

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Abstract

The work was concerned with determining those technologies pre-requisite to achieving robust gasoline controlled auto ignition combustion in a multi-cylinder research engine. During steady state engine operation, it was apparent that combined internal and external exhaust gas recirculation could be used to reach higher loads in CAI mode. However, given both the lowest and highest gasoline engine loads will be difficult to be encroached in a practical manner, the work has also been focused on achieving smooth transition between CAI and SI combustion and vice versa. In summary, it has been concluded that two-stage cam profile switching seems viable for production provided some form of low-cost in-cylinder sensing is made available to control the phasing and stability of combustion.