



LA VISION

WE COUNT ON PHOTONS

EngineMaster advanced diagnostic tools for engine development

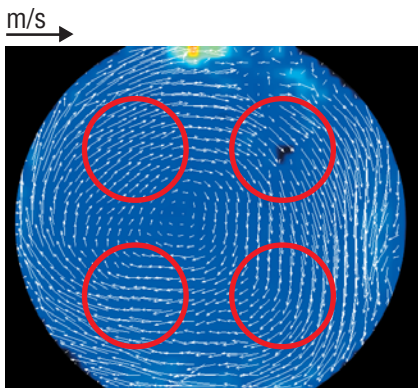


Engine Flame Analysis

Optical Fiber Probe

Optical λ -Sensor

Laser Light Sheet



in-cylinder swirl flow field

The detailed characterization of in-cylinder events and a better understanding of these processes lead to more intelligent engine designs. Basically the methods are aiming at better fuel efficiencies and reduced pollutant emissions. Optical diagnostics using **EngineMaster** allow real-time in-cylinder measurements for fast and efficient engine development.

applications

internal combustion of gasoline and diesel engines

information

high speed visualization of
ignition processes, flame front propagation
soot and radical formation

correlated measurements of
temperature, soot and radical formation

cycle-to-cycle variations of
air/fuel ratio (λ -value) + residual gas + temperature
mixture formation

fuel distribution, fuel/air mixing, temperature fields
OH formation, NO production, unburnt O₂ distribution
end gas evolution and localization of knock centers
laser induced soot imaging
velocity fields of swirl & tumble flows

upgrades

SprayMaster for spray characterization

FlowMaster for in-cylinder flow field analysis

system features

predefined crank angle resolved measurements & cycle statistics
engine synchronization interface
high speed measurements probing the same cycle (transient analysis)

special topics

measurements of the equivalence ratio (λ -value) for charge
stratification in direct injection engines and charge homogeneity
before ignition

BMW Scientific Award



LA VISION GMBH

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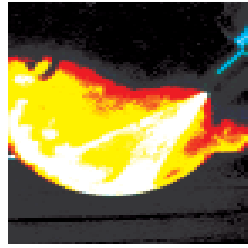
LA VISION INC.

301 W. MICHIGAN AVE. / SUITE 403 / YPSILANTI, MI 48197 / USA

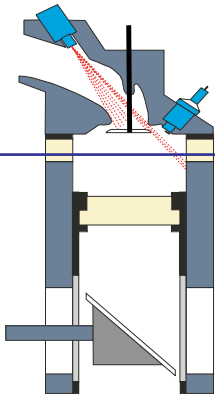
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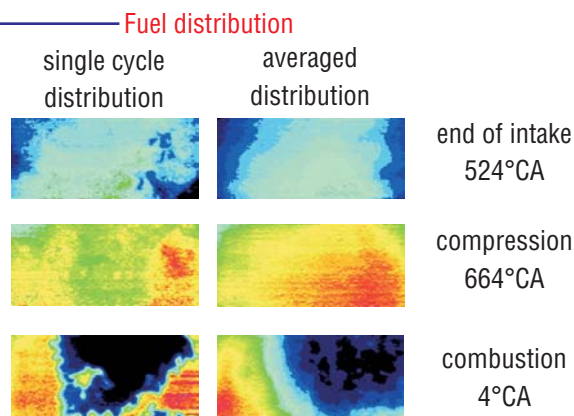
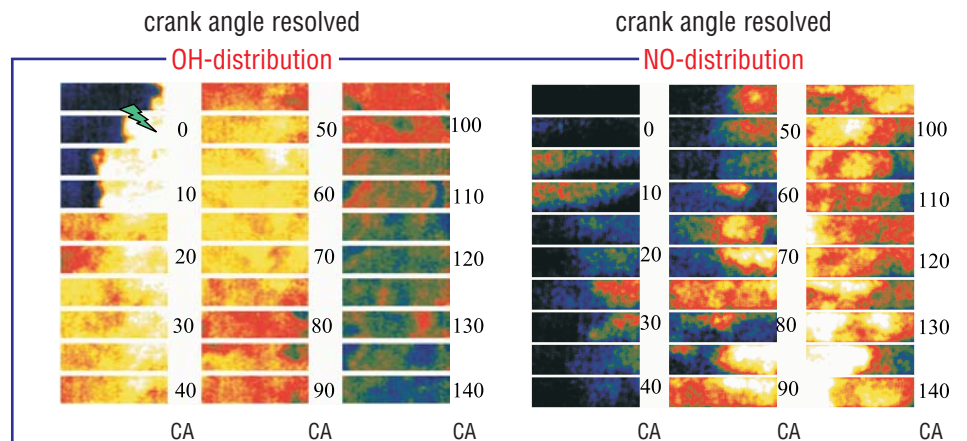
EngineMaster-



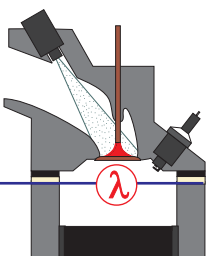
Light Sheet Measurements



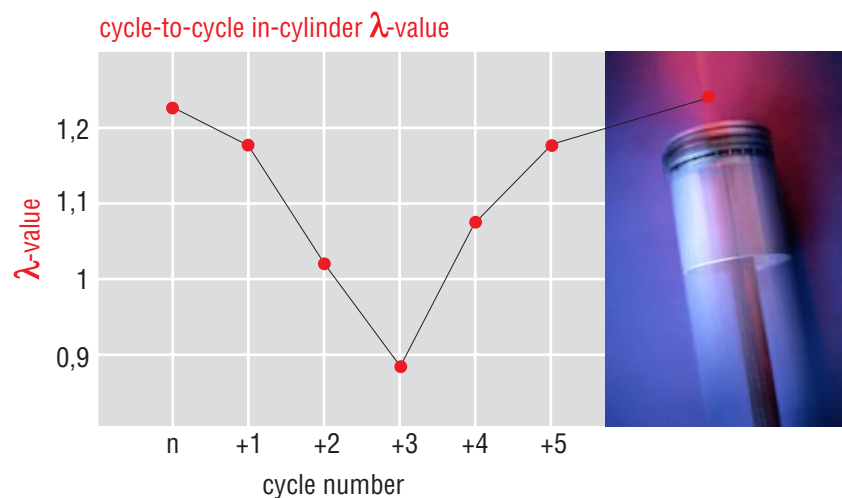
Glass Engine



Optical λ -Sensor



Production Engine



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