



ΠΡΟΣΚΛΗΣΗ



Το Εργαστήριο Ναυτικής Μηχανολογίας ΕΜΠ
σας προσκαλεί σε
σεμιναριακή ομιλία του

Prof. Dr. Konstantinos Boulouchos

Aerothermochemistry and Combustion Systems Laboratory / Swiss Federal Institute of Technology ETH Zurich

“Multiwave length – Pyrometry for Detection of Soot Formation and Oxidation in Diesel Engine Combustion”

στη Σχολή Ναυπηγών Μηχανολόγων Μηχανικών, ΕΜΠ

Κτίριο Λ', Εργαστήριο Ναυτικής Μηχανολογίας

Αίθουσα I2, Ισόγειο

http://www.lme.ntua.gr/repos/map_lambda.pdf

Google maps: 37.978524, 23.785020

Πέμπτη, 27 Μαΐου 2010, Ώρα 15:00

Abstract

A miniaturized endoscopic technique has been developed and applied to characterize soot-formation and oxidation in the combustion chamber of a common-rail equipped diesel engine. Different operating conditions and two distinct fuels have been thereby investigated. This new sensor and data processing algorithms employed allow for the first time to obtain on-line, in-site information on the soot formation and oxidation not only in steady-state, but also in transient conditions. Additional diagnostics related to cycle-by-cycle and cylinder-to-cylinder variability are also possible. The technique is useful also for providing relevant insight with concern to the development and validation of soot models for diesel engine combustion.

Biography

Konstantinos Boulouchos, born 1955 in Greece, received his Diploma in Mechanical Engineering from the National Technical University of Athens in 1978 and his Ph.D. in Thermodynamics and Combustion Engines from the Swiss Federal Institute of Technology (ETH) in Zürich in 1984. Following post-doctoral work at ETH and research as Visiting Scientist at Princeton University (Mechanical and Aerospace Engineering Department, 1987 - 1988) he returned to ETH Zürich end of 1988 to establish the research group on unsteady combustion at the Institute of Energy Technology.

In 1995 he was appointed head of the Combustion Research Section at the Paul Scherrer Institut (PSI) and has coordinated since then on the Joint Combustion Research Program of ETH Zurich and PSI. In 2002 he was elected Full Professor and head of the Aerothermochemistry and Combustion Systems Laboratory at ETH Zurich. He currently serves as Chairman of the board of the Energy Science Center of ETH Zurich, founded in 2005.

His research interests focus on fundamentals of chemically reactive systems in energy conversion technology with regard both to modeling and simulation of laminar and turbulent reactive flows and to non-intrusive diagnostic methods in combustion systems. Based thereupon the groups aims at transferring insight from basic research to industry for developing low-carbon, “near-zero” emission combustion technologies. Research in recent years includes also elaboration of optimal strategies for a sustainable future global and national energy system.