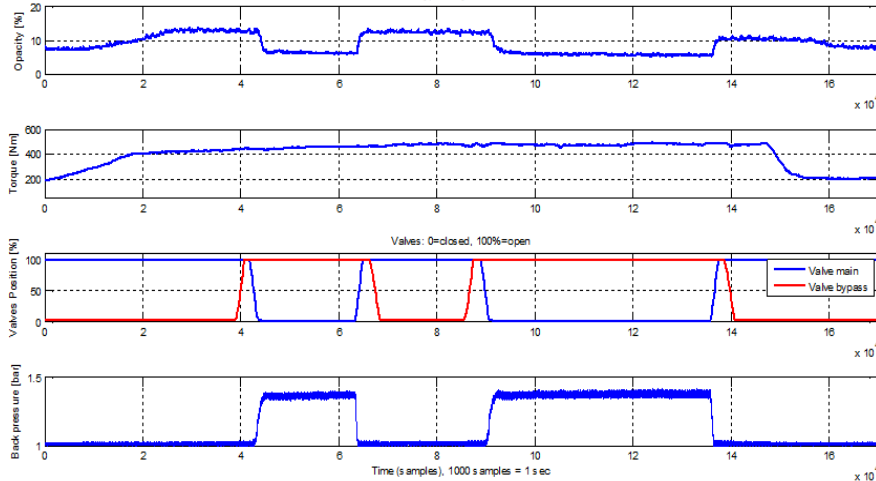


# SMOKE EMISSION REDUCTION OF MARINE DIESEL ENGINES BY LEADING PART OF THE EXHAUST GAS INTO DIESEL PARTICULATE FILTER DURING TRANSIENT LOADING



Exhaust Bypass System, CAT3176B



Student Name: Papoulias Fotis

Potential reduction of smoke emission of marine diesel engines is investigated through the installation of an exhaust bypass system featuring two diesel particulate filters in LME/NTUA. The system charges during engine load increase when there is high smoke emission due to charge air-fuel mismatch. High temperature butterfly valves control the portion of the gas flow through the filters. This offers a key advantage for regulating the blend of raw and treated gas so that it complies with any legislation or operation schedule. The efficiency of the method, is assessed by measuring the exhaust gas opacity after the filters as well as the system backpressure. High backpressure leads to fuel consumption increase and augmented engine thermal loading. The experiments with the system demonstrated its successful operation. Prior measurements on a fast ferry provided the baseline for the experiments.

Examiners: N. P. Kyrtatos, G. Papalambrou, C. Papadopoulos

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