

## 船用ディーゼル機関の排ガス浄化の研究

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### Study on Reduction of Exhaust Gas Emissions from Marine Diesel Engines

by

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#### ABSTRACT

The purpose of this research is to experimentally investigate how to reduce harmful gases such as NO<sub>x</sub>, CO, smoke by using an in-cylinder insulated (ceramified) combustion chamber and water emulsified fuels. The experiments were carried out by using two types of high speed diesel engines : a conventional metal diesel engine and a ceramified one.

Water concentrations of the emulsified fuels were changed up to 50%.

Higher temperatures of working gas and higher surface temperatures of the combustion chamber walls were obtained in the case of the ceramified diesel engine, which results in significant changes in diesel combustion and emission characteristics, being compared with the conventional diesel engine.

NO<sub>x</sub> and smoke emissions reduce greatly by the use of water emulsified fuel and an in-cylinder insulated combustion chamber. But CO emissions increase at high water concentrations.

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