

ENERGY OPTIMIZATION BY DETERMINING PID COEFFICIENTS BY GENETIC ALGORITHM IN MARINE DUAL FUEL ENGINE

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ABSTRACT

In ships, fuel amounts are the biggest items that affect the cost of one voyage. All the professional operations on a ship affect fuel consumption. Of all the clients on board, the most important is the ship's diesel engine that produces the main energy that provides the joy of the ship. For this reason, in recent years, the issue of improving the energy efficiency of ship diesel machines has gained momentum. In this study, a mathematical model of a dual-fueled ship diesel engine was investigated. According to the mathematical model, the energy consumption of the ship has been tried to be optimized. For this purpose, the PID coefficients to be used in the optimization of the ship diesel engine mathematical model have been determined with the help of genetic algorithm.

KEYWORDS - Ship, Energy, Optimization, Genetic Algorithm, Pid, Dual Fuel Engine