AN ANALYSIS OF COMBINATION BETWEEN DUCTED PROPELLER AND CONTRA ROTATING PROPELLERS SHIP BY USING CFD APPROACH

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Abstract

Contra Rotating Propellers dan Ducted Propeller (Kort Nozzle propeller) are some famous propulsor systems in shipping. The uniqueness of Contra Rotating Propulsor system is have two coaxial propellers sited one behind the other and rotating in opposite direction. While Ducted Propeller is a propeller which has a channel (Duct) shaped like a bracelet which has an airfoil-shaped cross-section. Improved propeller efficiency depends on the propeller load. The concept of a combination of these propellers is two propellers attached / bonded coaxially, and has a longer size of shaft system. And then Contra Rotating Propellers will be given a channel (Duct). From this experiment are expected in both fusion types are obtained so that better efficiency and thrust with a small cavitations level. Analysis toward behavior of fluida circulation occurred in propeller is conducted by using the software of Computational Fluid Dynamics (CFD).

Keywords : Ducted Propeller, Kort Nozzle, Contra Rotating Propellers, Nozzle, Kaplan Propeller.
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