Comparison between conventional and azimuthing podded propulsion on maneuvering of a ferry utilizing matlab simulink program

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Abstrak

The aim of the paper is to describe the influences of conventional and azimuthing podded propulsion on passenger ferry maneuvering, particularly turning circle and zig-zag maneuvers. The MATLAB-simulink program was used to simulate the turning circle and the zig-zag maneuvers. The program was developed based on the mathematical model for ferry maneuvering. The model involved the setting-up of a 4-DOF in a modular of the Mathematical Modelling Group (MMG) of the hull, propellers-rudder or pod system. The simulation includes separating components of the hull equations, propeller-rudder or pod systems as well as the interaction between them. The results indicated that the azimuthing podded propulsion has an advantage for turning circle performance, meanwhile conventional propulsion is beneficial for zig-zag maneuvers. The 1st and 2nd overshoot times of conventional propulsion of the sea trial are higher than the simulation; but the turning cirles of the sea trial are lower.