Motions Analysis of a Phinisi Ship Hull with New Strip Method

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\textbf{ABSTRACT}

Phinisi is the name of a renowned traditional wooden ship from South Sulawesi, Indonesia. The ship has been proven to be tough and reliable in sailing even to this very day. However, the ship is built only with a very traditional method and simple tools. There is no hydrodynamic analysis performed prior to the building of the ship. Therefore, in order to analyze the performance of the ship motion of a Phinisi ship hull, New Strip Method (NSM) is employed in the present study. With NSM, the ship hull is divided into several strips and the hydrodynamics forces are computed on each strip. Moreover, because the ship is assumed to be slender, the total forces are obtained by integrating the force on each strip. From the computation results, it can be shown that the resonant frequency of the analyzed Phinisi hull is shifted to lower frequency as the ship speed increases.

\textit{Keywords: Phinisi Ship, New Strip Method, Hull Characteristics, Hydrodynamic Forces, Ship Motion.}

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