

An Investigation into the resistance/powering and seakeeping characteristics of river catamaran and trimaran

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Abstrak

The increase of fuel price has caused fleet operational and shipping business to be in danger situation. The fuel consumption of a ship is influenced by ship volume or wetted area which contributes directly to the increase of ship resistance and the size of main engine. In order to find out the appropriate answers, a series of investigation into river transportation using monohull, catamaran and trimaran types of vessel was carried out. The work focused on the estimation of total resistance and powering as well as seakeeping characteristics and carried out experimentally using tank test and numerically using a ship design software (Maxsurf). It was found out that the catamaran and trimaran could have less resistance and hence power compared to monohull of similar displacement. The seakeeping characteristics of the multihull vessels were also comparable with those of the monohull. This is a good indication that river catamaran/trimaran is an efficient and comfortable vessel. If a prototype or real vessel is developed, it can be a very efficient ship as well as a ship with high safety standard.