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Wetdeck slamming loads on a developed catamaran hullform – experimental investigation

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ABSTRACT

Catamaran wetdeck slamming has been experimentally investigated using a servo hydraulic slam testing system. A series of controlled-speed water impacts was undertaken on a rigid catamaran bow section with two interchangeable centrebows. Entry into the body of water was at two fixed trim angles: 0° and 5°. The vertical velocity was varied from 3 to 5 m/s in 0.5 m/s increments. This study presents a new dataset of pressure distributions and slam forces on the arched wetdeck structure of catamaran vessels. The relationships between the peak force magnitudes, relative impact angle and vertical velocity are observed, with a small reduction in slam force for an amended centrebow. Limited pressure measurements along the archway were not found to be representative of wetdeck slamming loads.

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