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## A Study on Viscous Effects of Roll Damping for Multi-Hull High-Speed Craft

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**Summary:** The roll damping plays a very important part of amplitude of roll motion in resonance and trigger of parametric rolling of a ship. Since the viscous damping components are usually dominant in the roll damping, the theoretical calculation is difficult for predicting it. A method of predicting roll damping of a conventional cargo ship proposed by Ikeda, et al. is widely used and it has been also applied to high speed slender vessels, small hard-chine vessels, barge vessels etc.. In this paper, the characteristics of roll damping of two types of multi-hull vessel, high speed catamaran and trimaran, whose vessel is different from above mentioned is investigated experimentally. A forced roll motion test is carried out with and without forward speed, and their characteristics are investigated. Moreover, a simplified prediction method of roll damping of multi-hull vessel is proposed..

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