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## **Experimental Study on Wave-Induced Motions and Steady Drift Forces of an Obliquely Moving Ship**

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**Summary:** Lateral drift occurs due to the effects of wind forces and/or wave drifting forces in ships sailing in actual seas. It is important therefore to investigate the influence of lateral drift on seakeeping performance to attain a rational design for ships. This paper describes the experimental results with respect to ship motions in regular waves and steady drifting forces for an obliquely moving ship. The experiments were carried out for SR108, container ship at seakeeping and maneuvering basin, Nagasaki R & D Center, MHI. Due to the effect of the hull drift, the lateral motions such as sway, roll and yaw are induced even in pure heading waves, which never appear in case without hull drift. Their amplitudes become larger with increase of absolute value of the drift angle. In beam waves, also, amplitudes of sway, roll and yaw become larger with increase of the drift angle. On the other hands, the influence of the hull drift on the motions of surge, heave and pitch is not remarkable. The influence of the hull drift on wave drifting lateral force and yawing moment is considerable large. The lateral drifting force acts on the hull so as to damp the lateral motion. The influence of the hull drift on the added resistance is small.

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