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## **A Study on Transverse Stability Loss of Planing craft due to Lift Force caused by Super High Forward Speed**

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**Summary:** In this study, one of mechanisms of transverse stability loss at super high forward speed is investigated. Towing tank test is carried out to observe the characteristics of the instability and it is confirmed that the instability has strong relationship to the change in running attitude and hydrodynamic roll moment due to high forward speed. And it has been also found that the dangerous maneuvering motions may be caused by heeling due to the transverse stability loss. Based on some existing empirical formulas to estimate the dynamic normal force (; lift) acting on planing hull, the estimation method of inception of the unstable phenomenon is proposed and its validity is confirmed through comparing with measured results.

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