

# Research on roll stabilization for ships at anchor (PDF)

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Title: Research on roll stabilization for ships at anchor

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摘要: With the increasing importance of ocean exploitation, providing anti-rolling stability for ships at anchor has become more and more important. The lift-generation theory of traditional fin stabilizers is based on incoming flow velocity, which is not suitable for explaining lift generated at anchor. We analyzed non-steady flows, with forces on fin stabilizers generated by non-incoming flow velocity conditions, and gave a new lift-generation model. The correctness of the model was proven by comparing experimental results of fin stabilizer motion under non-incoming velocity conditions from the fluid computation software with that from the emulator of the lift-generation model. Finally, the model was used in an anti-rolling system on a ship and the reduction of roll was much better than what could be achieved by passive anti-rolling tanks.

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