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Numerical simulation of the behavior of multi high container stack and the consideration on the container securing system

- 1st Report: Rigid-body modeling -

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Summary: With the increase of the size of container ship, the number of container stack on deck is increasing up to 8 high. The multi high stack containers are secured with the use of securing system such as twistlock or lashing rod; however, incidences of container loss due to stack failure have been reported in recent years. In the present paper, behaviors of a container stack on deck were analyzed by a motion simulation software of complex mechanical assemblies. The container is assumed to be rigid and modeled in a column-plate structure. The twistlock and the lashing rod are also model in a rope. The dominant ship motion to container stack failure was clarified firstly, and the effectiveness and limitation of the use of twistlock and/or lashing rod were investigated. The securing system with the use of twistlock and the lashing rod were discussed based on the simulation results.

[PDF (1999K)] [References]

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