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**IACS URS11 defines the dimensioning wave load for ship design,
but what does it mean from a statistical point of view?"**

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Abstract

Ships vibrate due to waves, and these wave induced vibrations can not easily be avoided by moderate changes to the hull lines. The waves may cause the whole hull girder to vibrate due to whipping (transient response), which increase the extreme loading. Recently this has also become an industry concern. Modern hull monitoring systems in combination with model tests are the best tools to answer the key questions: How important is the wave induced vibrations, and does it have to be included in design?

The presentation will review the basis of IACS URS11 wave load requirements, and compare these with measured results. Measurements have been carried out on two container vessels operating in the North Atlantic. An elastic model of the larger vessel has also been tested in a towing tank. Results are obtained at quarter lengths and amidships. The full scale measurements and model test show that IACS URS11 rule loads may be exceeded in less than extreme sea states, in particularly amidships and in the aft ship. The IACS UR S11 may need revision for container ship design. MAIB's report based on the investigation of the MSC Napoli incident (vessel broke in two) also recommends increased requirements for container ship design and further research into the effect of whipping.