

海洋における砕波の力学的ならびに確率論的研究

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Study on Dynamical and Stochastic Properties of Breaking Ocean Waves

by

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ABSTRACT

This paper deals with a part of synthetic researches into breaking waves in deep-water. The breaking ocean waves exert much damage on ocean structures and floating vessels in offshore regions as well as in coastal areas. The wave breaking phenomenon also plays an important role in Air Sea Interaction (global climatic environment) by exchange of momentum and energy through ocean surface.

In this report, we plan to make clear of their basic natures, dynamical and statistical properties by experimental measurements in wave tank and by a theoretical approach for the prediction of breaking waves appearance in random seas.

The thorough description of the procedures and results are shown in Chapters 3 and 4 respectively. Historical aspects are slightly reviewed in Chapter 2. In Chapter 5, activities in cooperation with foreign countries are tabulated and expounded. The most practical interest for ocean engineer is the evaluation of breaking wave impact load and its effect on the floating vessels. The subject of wave pressure and related topics are not included in this article but now under consideration for the next step of this project. The results will be reported in the subsequent paper.

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原稿受付 平成9年9月8日

審査済 平成9年11月12日