

## ケーソン式防波堤の外的安定に関する 信頼性設計手法の提案

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### 要 旨

本研究は、ケーソン式防波堤の外的安定照査にレベル1およびレベル2の信頼性設計法を適用する手法を提案するものである。波力、自重、基礎地盤強度などの設計パラメータの従う確率分布を用いて、全国の防波堤の建設事例をもとに、信頼性理論により現行設計法による施設の総合的な安全性水準を明らかにした。次に、信頼性設計法による目標安全性の設定を行い、信頼性設計法によるコードキャリブレーションを行った。また、レベル1およびレベル2の方法の適用性の相互比較を行った。

キーワード：信頼性設計，安全性指標，コードキャリブレーション，防波堤，外的安定。

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## **Reliability Based Design Method for Checking the External Safety of Caisson Type Breakwaters**

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### **Synopsis**

This paper presents the design method for breakwaters to evaluate the safety against sliding, overturning, and foundation failure through the reliability based design method. By using the probability distributions of design parameters such as wave force, deadweight, coefficient of friction and so on, distribution of safety indices of breakwaters designed with conventional design method has been clarified. Target safety indices have been determined in two ways; ①mean value of safety indices with reliability based design method and that with conventional design method are to conform to each other, ②5th percentile value of safety indices with reliability based design method and that with conventional design method are to conform to each other. Code calibration has been carried out for each way, and safety factors for level 1 reliability design method and target safety indices for level 2 design method have been proposed.

**Key Words:** reliability based design, safety index, code calibration, breakwater, external safety

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