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ONLINE ISSN : 1881-1760

PRINT ISSN : 1880-3717

Journal of the Japan Society of Naval Architects and Ocean Engineers

Vol. 3 (2006) pp.233-242

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Finite Element Analysis for Thin Plates Having an Infinitely Long Length and Finite Breadth in Shallow Water Waves

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(Received October 14, 2005)

Summary: A new hydroelastic finite element for analyzing wave response of long plates on shallow water is presented. The plate has an infinite length, finite breadth and various flexural rigidity. The element is derived from weighted residual method with a Galerkin-type weighting function. We use not a polynomial but complex exponential function as the displacement function in the element. The performance of executing calculation by this method is very good. This method will be valid for flexible and large structures in initial design.

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To cite this article:

Takashi Tsubogo, Koji Masaoka and Shinya Yabuuchi: Finite Element Analysis for Thin Plates Having an Infinitely Long Length and Finite Breadth in Shallow Water Waves, Journal of the Japan Society of Naval Architects and Ocean Engineers, (2006), Vol. 3, pp.233-242.

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