

# The research on the highly efficient calculation method of 3-D frequency-domain Green function(PDF)

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Title: The research on the highly efficient calculation method of 3-D frequency-domain Green function

作者: 姚熊亮; 孙士丽; 王诗平; 杨树涛

Author(s): YAO Xiong-liang; SUN Shi-li; WANG Shi-Ping and YANG Shu-tao  
College of Shipbuilding Engineering, Harbin Engineering University, Harbin 150001, China

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摘要: The traditional calculation method of frequency-domain Green function mainly utilizes series or asymptotic expansion to carry out numerical approximation, however, this method requires very careful zoning, thus the computing process is complex with many cycles, which has greatly affected the computing efficiency. To improve the computing efficiency, this paper introduces Gaussian integral to the numerical calculation of the frequency-domain Green function and its partial derivatives. It then compares the calculation result with that in existing references. The comparison results demonstrate that, on the basis of its sufficient accuracy, the method has greatly simplified the computing process, reduced the zoning and improved the computing efficiency. Keywords: frequency-domain Green function; numerical approximation; Gaussian integral

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