

栈橋式岸壁の耐震性照査手法に関する解析的研究

長尾 毅*

要 旨

本研究は、栈橋式岸壁の耐震性照査手法を検討したものである。川崎港および横浜港の栈橋式岸壁における強震・微動観測記録をもとに、栈橋式岸壁の震動特性を評価するとともに、杭-上部工ラーメンモデルの振動特性のみを考慮する現行設計法における設計震度の設定方法の妥当性について検討した。さらに、栈橋と土留め工の間に敷設される渡版をモデルに組み込んだ2次元有効応力地震応答解析を行い、渡版の影響を適切に考慮する必要性を示すとともに、2次元地震応答解析による耐震性照査手法に関する提案を行った。

キーワード：固有周期，地震応答解析，栈橋式岸壁

*港湾研究部港湾施設研究室長

〒239-0826 横須賀市長瀬3-1-1 phone : 0468-44-5029 fax : 0468-44-5081 E-mail : nagao-t92y2@ysk.nilim.go.jp

Analytical Study on Earthquake Resistant Evaluation Method for Pile-Supported Wharves

Takashi NAGAO*

Synopsis

The present study aims at presenting the earthquake resistant evaluation method for pile-supported wharves. For the purpose, frequency characteristic of pile-supported wharves was evaluated with strong-motion array observation and microtremor observation at Yokohama Port and Kawasaki Port. Natural periods and seismic coefficients of the wharves obtained with observation were compared with those assumed with present design code. Moreover, two-dimensional earthquake response analyses taking into account the effect by the access bridge between the superstructure of the wharf and the retaining wall were conducted. Necessity for modeling the access bridge was verified and earthquake resistant evaluation method was proposed.

Key Words: natural period, earthquake response analysis, pile-supported wharf

* Head of Port Facilities Division, Port and Harbor Department