岩石力学与工程学报 » 2012, Vol. 31 » Issue (4) :856-864 DOI:

关于深层砂土液化判定方法的探讨——以港珠澳特大桥水下隧道工程场地为例

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STUDY OF EVALUATION METHOD OF LIQUEFACTION FOR SANDY SOIL IN DEEP LAYER：TAKING UNDERSEA TUNNEL SITE OF HONGKONG—ZHUHAI—MACAO GREAT BRIDGE FOR EXAMPLE

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摘要 以港珠澳特大桥海底隧道工程场地为例，利用振动三轴液化试验结果，并结合等效线性化土层地震反应分析方法间接获取的土层等效循环剪应力，对该工程场地所涉及的覆盖层43 m深度范围内存在的砂土层进行液化可能性判定，进而采用动力反应分析液化势的方法进行液化程度的详细判定。结果表明：20 m以下的饱和砂土层也存在着不同程度液化的可能。因目前我国尚无关于深层砂土液化具体判定的统一规范，故所用方法对深层砂土液化的详细判定具有较好的参考和借鉴意义。

关键词： 土力学 深层砂土 液化 液化判定

Abstract： In order to evaluate the liquefaction of sandy soil in a depth range from surface to 43 m for the undersea tunnel project of the Hongkong—Zhuhai—Macao Great Bridge in detail，the method which combines the experiment data from the dynamic triaxial liquefaction test and the equivalent uniform cyclic shear stress deduced from the analysis method of equivalent linearized seismic response of soil layers，is used to give a primary evaluation. Then，the dynamic response method for potential liquefaction analysis is used to further evaluate and classify the liquefaction in detail. The result shows that liquefaction is still possible for the sandy soil with the depth more than 20 m. Considering that there is no specific code yet in Chinese Mainland for the evaluation of liquefaction of sandy soil with the depth more than 20 m，the strategy and method in this paper which are used to evaluate the sandy soil liquefaction in deep layer will be useful for references.

Keywords： soil mechanics sandy soil in deep layer liquefaction evaluation of liquefaction

Received 2011-11-25;

引用本文:

黄雅虹，吕悦军，荣棉水，方 怡.关于深层砂土液化判定方法的探讨——以港珠澳特大桥水下隧道工程场地为例[J] 岩石力学与工程学报, 2012,V31(4): 856-864

HUANG Yahong，LU Yuejun，RONG Mianshui，FANG Yi.STUDY OF EVALUATION METHOD OF LIQUEFACTION FOR SANDY SOIL IN DEEP LAYER：TAKING UNDERSEA TUNNEL SITE OF HONGKONG—ZHUHAI—MACAO GREAT BRIDGE FOR EXAMPLE[J] ，2012,V31(4): 856-864