

# Scattering water waves by rigid barriers over a non periodic oscillatory bottom profile

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## Abstract

This paper involves the scattering of water waves by two thick rigid barriers placed at both sides of a non-periodic oscillatory profile. The problem is solved with the help of the boundary element method. For a non periodic oscillatory bottom profile namely the monotonically decreasing oscillatory profile, the numerical values of the reflection and transmission coefficients are determined and plotted through different graphs. The present results are compared to the results available in the literature, and a good agreement is found, indicating the validity of the current approach. Further, the reflection and transmission coefficients are analysed for different physical parameters like length and width of barriers, gap between the barriers and many more. This model is an attempt to create a calm zone utilising breakwaters.