

A review of finite element method for propagation of surface waves over trench topography

The diffraction of surface waves by rectangular trench topography in a finite depth of water is examined for its solution with the aid of the finite element method. The associated mixed boundary value problem is solved using a Galerkin finite element scheme. The numerical values of physical quantities such as reflection and transmission coefficients associated with reflected and transmitted waves respectively due to propagation of surface waves over trench bottom topography. The results obtained by the finite element method are compared with the results obtained by the eigenfunction expansion method which shows a good agreement between the results.