

Applicability of the fast multipole method to large-size elastic wave scattering problems

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A number of elastic wave scattering problems can be described by using boundary integral equations in the frequency domain. However the technique has limitations related to the size of the matrices obtained by discretization of the integral equations. The fast multipole method combined with an iterative method for linear equation is one of the candidates for a rapid solution technique for large-size problems of elastic wave scattering. In this study the fast multipole method is developed for the solution of the boundary integral equations arising in 3-D elastic wave scattering problems.