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Tianyu Qiu* (qty@udel.edu), 109 Ewing Hall, Newark, DE 19711. *Numerical solution of multilayer multiple acoustic wave scattering by time domain boundary integral equation.*

Despite its various advantages over the finite element method, the boundary integral equation method has long suffered from inability to handle differential equations with variable coefficients. We extend the idea proposed by Costabel and Stephan to deal with the wave equation with piecewise constant coefficient. For time discretization, we apply the convolution quadrature technique. In this talk, I am going to present the formulation and error estimates of the time domain boundary integral method applied to multilayer multiple wave scattering problem. (Received September 23, 2015)