

Time-Domain BEM for Acoustic Problems

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We consider the time-domain boundary element method for exterior Robin type bvp's for the acoustic wave equation. We apply a space-time Galerkin method, present a priori and a posteriori error estimates and derive an h-adaptive algorithm in space and time with mesh refinement driven by residual type error indicators. Numerical experiments are also given which underline our theoretical results. Special emphasis is given to numerical simulations of sound radiation of car tyres.