

SPEAKER:

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TITLE:

Uniform Boundary Controllability and Homogenization of Wave Equations

ABSTRACT:

This is a joint work with Fanghua Lin. We obtain sharp convergence rates, using Dirichlet correctors, for solutions of wave equations in a bounded domain with rapidly oscillating periodic coefficients. The results are used to prove the exact boundary controllability that is uniform in the small parameter ϵ - the scale of the microstructure, for the projection of solutions to the subspace generated by the eigenfunctions with eigenvalues less than $C\epsilon^{-2/3}$.