

SCATTERING OF TRANSIENT WAVES BY PENETRABLE OBSTACLES

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In this talk we will present some results on models for the scattering of transient linear waves by different types of obstacles: homogeneous isotropic; non-homogeneous; elastic. The coupled systems will be discretized with BEM or BEM-FEM in space, and with some implicit or implicit-explicit time-stepping method. We will discuss general stability properties, how to obtain convergence estimates for the fully discrete problems, as well as some delicate questions on how the stability constants behave as functions of time. The results collect current and previous work with Lehel Banjai, Christian Lubich, Tianyu Qiu, Tonatiuh Sanchez-Vizuet, and Matthew Hassell.