



THE UNIVERSITY OF
CHICAGO

Computational and Applied Mathematics
&
Statistics Student Seminar

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COMMITTEE ON COMPUTATIONAL AND APPLIED MATHEMATICS
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A Boundary Integral Method for the Klein-Gordon
Equation with Interface Waves

TUESDAY, January 10,
2023
12:30pm-1:50pm
Jones Laboratory,
Room 303

ABSTRACT

In this talk, we analyze the behavior of solutions to the Klein-Gordon equation in the presence of an interface. For certain jump conditions, solutions are localized near, and propagate along, the interface. We present a well-posed boundary integral formulation for this PDE and describe a fast iterative algorithm for solving it. We illustrate our theoretical results with several numerical examples of solutions and scattering effects.