

SPEAKER:

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TITLE:

Propagation of Singularities for the Wave Operator

ABSTRACT:

Hörmander's propagation of singularities theorem says the following: if a function has a certain level of regularity in a known region, then the function maintains this regularity at certain end regions. The catch, however, is that we have to propagate along the correct "paths" to conclude regularity in the end regions. In this talk, I'll introduce concepts from microlocal analysis, which is a paradigm that will allow us to analyze the singularities of distributions. We will then use a positive commutator argument and tools from microlocal analysis to prove propagation of singularities for the wave operator.