

Analysis and Applied Mathematics Seminar

Boundary Integral Operator and Its Applications

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Abstract: In the past three decades, harmonic analysis has played important roles in the rapid advances of the study of nonlinear dispersive wave equations. In particular, many new tools have been developed to establish various well-posedness results for the pure initial value problems of nonlinear dispersive wave equations. However, how those harmonic analysis based tools can be used effectively to study non-homogeneous boundary value problems of nonlinear dispersive wave equations is still yet to be investigated. In this talk, we will introduce the concept of the boundary integral operators and show how they play important roles in studying non-homogeneous boundary value problems of nonlinear dispersive wave equations. In particular, we will demonstrate through examples of the KdV equation and the Schrödinger equation how the boundary integral operators can enable us to use those harmonic analysis based tools to study non-homogeneous boundary value problems effectively.

Monday, November 9 at 4:00 PM in SEO 636
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