

Boundary Integral Operator and Its Applications

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Abstract: In this talk, we will discuss how boundary integral operators play important roles in studying non-homogeneous boundary value problems of dispersive wave equations and will demonstrate how those harmonic analysis based tools, which are originally developed in investigating the pure initial problems of nonlinear dispersive wave equations, can be effectively used to study non-homogeneous boundary value problems through the associated boundary integral operators. Especially, we will explain how boundary integral operators can help us to find various hidden regularities of solutions of the Kortweg-de Vries equation and Schrödinger equation.