

WEIGHTED BILINEAR MULTIPLIER THEOREMS IN DUNKL SETTING VIA SINGULAR INTEGRALS

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Abstract:

Dunkl theory is a generalization of Fourier analysis and special function theory related to root systems and reflection groups. The Dunkl operators, introduced by Charles Dunkl, can be considered as generalizations of ordinary directional derivatives. Through the well-established connection between the Fourier transform and the partial derivative operator, Dunkl operators introduce a new operator that generalizes the classical Fourier transform, called the Dunkl transform. This signifies the commencement of the analytical aspect of Dunkl theory, a thorough initiative to generalize the results of classical Fourier analysis and the theory of special functions within the framework of root systems and reflection groups. The goal of this talk is to present weighted inequalities for bilinear multiplier operators in the Dunkl setting, with multiple Muckenhoupt weights, using the theory of multilinear Calderón-Zygmund type operators in the Dunkl set up. This is based on a joint work with Sanjay Parui.