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## Generalized Dunkl-Sobolev Spaces of Exponential Type and Applications

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**Abstract:**

We study the Sobolev spaces of exponential type associated with the Dunkl-Bessel Laplace operator. Some properties including completeness and the imbedding theorem are proved. We next introduce a class of symbols of exponential type and the associated pseudo-differential-difference operators, which naturally act on the generalized Dunkl-Sobolev spaces of exponential type. Finally, using the theory of reproducing kernels, some applications are given for these spaces.



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