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WEIGHTED NORM INEQUALITIES FOR GENERALIZED FOURIER-TYPE TRANSFORMS AND APPLICATIONS

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Abstract: We obtain necessary and sufficient conditions on weights for the generalized Fourier-type transforms to be bounded between weighted L^p-L^q spaces. As an important example, we investigate transforms with kernel of power type, as for instance the sine, Hankel, or $\mathscr{H}_\alpha$ transforms. The obtained necessary and sufficient conditions are given in terms of weights, but not in terms of their decreasing rearrangements, as in several previous investigations.

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