

MEDA INEQUALITY FOR REARRANGEMENTS OF THE B -CONVOLUTIONS AND SOME APPLICATIONS

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Abstract. In this paper we prove the Meda inequality for rearrangements of the convolution operator (B -convolution) associated with the Laplace-Bessel differential operator. By using the Meda inequality for rearrangements we obtain an O’Neil type inequality for the B -convolution. As applications of these results, we obtain necessary and sufficient conditions on the parameters for the boundedness of the fractional B -maximal operator and B -fractional integral operator with rough kernels, from the spaces $L_{p,\gamma}$ to $L_{q,\gamma}$ and from the spaces $L_{1,\gamma}$ to the weak spaces $WL_{q,\gamma}$.

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