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WEIGHTED INEQUALITY FOR SINGULAR INTEGRALS IN LEBESGUE SPACES, ASSOCIATED WITH THE LAPLACE-BESSEL DIFFERENTIAL OPERATORS

Abstract

In this paper, the author establish some theorem for the boundedness of singular integral operators, associated with the Laplace-Bessel differential operator $\Delta_{B_n} = \sum_{k=1}^{n} \frac{\partial^2}{\partial x_k^2} + B_n$, $B_n = \frac{\partial^2}{\partial x_n^2} + \frac{\gamma}{x_n}\frac{\partial}{\partial x_n}$, $\gamma > 0$, on a weighted Lebesgue space. Sufficient condition on weighted function ω is given so that certain singular integral operator is bounded on the weighted Lebesgue spaces $L_{p,\omega,\gamma}(\mathbb{R}^n_+)$.