ON SOME CONVOLUTION NORM INEQUALITIES IN WEIGHTED $L_P(\mathbb{R}^n, \rho)$ SPACES AND THEIR APPLICATIONS

DINH THANH DUC AND NGUYEN DU VI NHAN

Abstract. In this paper, we give the inequalities in convolutions in weighted $L_p(\mathbb{R}^n, \rho)$ spaces and their important applications to partial differential equations and integral transforms.

REFERENCES

[1] A. V. BITSADZE, *Equations of mathematical physics,* Mir Publishers Moscow,1980.
[2] A. V. BITSADZE, D. F. KALINICHENKO, *A collection of problems on the equations of mathematical physics,* Mir Publishers Moscow, 1980.
[3] YU. A. BRYCHKOV, H. J. GLAESKE, A. P. PRUDNIKOV, VU KIM TUAN, *Multidimensional Integral Transformations,* Gordon and Breach Science Publishers, 1992.
[4] CHEN JI-XIU, JIANG GUO-YING, PAN YANG-LIAN, QIN TIE-HU, TONG YU-SUN, WU QUAN-SHUI AND XU SHENG-ZHI, *Problems and Solutions in Mathematics* World Scientific, 1998.
[5] NGUYEN DU VI NHAN, DINH THANH DUC, *Weighted L_p -norm inequalities in convolutions and their applications,* Inequal. J. Math. Inequal. **2**(1) (2008), 45–55
[6] S. SAITOH, *Weighted L_p - norm inequalities in convolution,* Survey on Classical Inequalities, 225–234 (2000), Kluwer Academic Pulishers, The Netherlands.
[7] S. SAITOH, *A fundamental inequality in the convolution of L_2 functions on the half line,* Proc. Amer. Math. Soc., 91: 285–286, 1984.
[8] S. SAITOH, *On the convolution of L_2 functions,* Kodai - Math. J., 9: 50–57, 1986.
[9] S. SAITOH, *Inequalities in the most simple Sobolev space and convolutions of L_2 functions with weights,* Proc. Amer. Math. Soc., 118: 515–520, 1993.
[10] ELIAS M. STEIN, GUIDO WEISS, *Introduction to Fourier Analysis on Euclidean Spaces,* Princeton, New Jersey, Princeton University Press, 1971.

ⓒ ELEMENT, Zagreb
Paper MIA-11-39

Mathematical Inequalities & Applications
www.ele-math.com
mia@ele-math.com