Nonlinear Dynamics and Systems Theory, **23** (1) (2023) 58–68

Generalized Bessel-Riesz Operator on Morrey Spaces with Different Measures

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Received: October 10, 2022; Revised: December 12, 2022

Abstract: This study's primary area of interest is the generalized operators, which are defined with doubling measures by generalized Bessel-Riesz kernels with various measures in Morrey spaces. In terms of Bessel decay, the kernel satisfies a few key requirements. To prove that the integral operators are bounded, we will make use of Young, Holder, and Minköwski inequalities and a doubling measure. Additionally, we look into the relationship, we discover that the norm of these operators will be similarly constrained by the relationship between the elements of the kernel and the integral operators based on the norm of each kernel, although according to several measures. Additionally, we investigate the boundedness of pointwise multiplier operators in Morrey spaces using generalized fractional integrals and the generalized Bessel-Riesz operator.

Keywords: *generalized Bessel-Riesz operators; doubling measure; fractional integral; Morrey spaces.*

Mathematics Subject Classification (2010): 45P05, 70K99, 93B28, 47A30.

1 Introduction

This paper extends our recent findings in paper [1] by investigating the boundedness of Bessel-Riesz operators by a generalized kernel defined with doubling measures in Morrey spaces with various measures. Some basic requirements are being met by the operator's kernel in relation to Bessel decay. We will use the Young, Holder, and Minköwski inequalities and a doubling measure to demonstrate that the integral operators are bounded.

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