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CONTENTS

Abstract: Convexity is one of the characteristics of functions of real variables which plays an efficient role in various branches of mathematics that possesses the two significant properties viz. the maximum value is attained at a boundary point and any local minimum is a global one. The integral mean of a convex function is connected to the Hermite-Hadamard inequality. B.G. Pachpatte established the results on the products of two classical convex functions which helps to estimate the integral mean of the product of two classical convex functions. In this paper, we have extended the idea of the result of the product of classical convex functions to the products of generalized geometric convex functions, and these results are further extended to quantum calculus which is a paradigm shift in convexity theory and integral inequality. The obtained results will definitely be used to estimate the integral mean of generalized geometric convex functions. The ideas expressed in this paper might revolutionize the readers of this field to other types of convex functions.

Abstract: In this article we reexamine the $L_p, 1 \leq p < \infty$ approximation properties of general smooth multivariate singular integral operators over $\mathbb{R}^N, N \geq 1$. It is a trigonometric based approach with detailed applications to the corresponding smooth multivariate Picard singular integral operators. The results are quantitative via Jackson type inequalities involving their first L_p modulus of continuity.

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