SOME NEW HARDY–TYPE INEQUALITIES IN q–ANALYSIS

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Abstract. We derive necessary and sufficient conditions (of Muckenhoupt-Bradley type) for the validity of \( q \)-anlogs of \((r, p)\)-weighted Hardy-type inequalities for all possible positive values of the parameters \( r \) and \( p \). We also point out some possibilities to further develop the theory of Hardy-type inequalities in this new direction.


Keywords and phrases: Inequalities, Hardy-type inequalities, Riemann-Liouville operator, integral operator, \( q \)-analysis, \( q \)-analog, weights.

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