APPLICATION OF MULTIDIMENSIONAL HARDY OPERATOR AND ITS CONNECTION WITH A CERTAIN NONLINEAR DIFFERENTIAL EQUATION IN WEIGHTED VARIABLE LEBESGUE SPACES

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ABSTRACT. In this paper a two weight criterion for multidimensional geometric mean operator in variable exponent Lebesgue space is proved. Also, we found a criterion on weight functions expressing one-dimensional Hardy inequality via a certain nonlinear differential equation. In particular, considered nonlinear differential equation is nonlinear integro-differential equation.

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