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A NOTE ON ONE–SIDED MAXIMAL OPERATOR IN $L^{p(.)}(\mathbb{R})$

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Abstract. Consider one-sided Hardy-Littlewood maximal operator on the general Lebesgue space with variable exponent. It is known a local sufficient condition to the function $p(.)$ for the boundedness of the one-sided maximal operator on $L^{p(.)}(\mathbb{R})$ provided $p(.)$ is a constant function in a neighborhood of infinity. Our main aim is to find a weaker condition to $p(.)$ at infinity to guarantee the boundedness of the one-sided maximal operator on $L^{p(.)}(\mathbb{R})$. We will show two different sufficient conditions to the behavior of $p(.)$ at infinity under which the one-sided maximal operator is bounded on $L^{p(.)}(\mathbb{R})$.

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