On a two-weighted inequality for certain sublinear operator in weighted Musielak-Orlicz spaces

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Let $B$ represents sublinear operator satisfying that for any $f \in L^1(R^n)$ with compact support and $x \notin \text{supp } f$

$$|\tilde{B}f(x)| \leq C \int_{R^n} \frac{|f(y)|}{|x-y|^{n-s}} dy, \quad 0 < s < n,$$

(1)

where $C > 0$ is independent of $f$ and $x$. Note that the condition (1) was introduced in [3] and was developed in [2].

In this paper we prove a sufficient conditions on general weights ensuring the validity of the two-weight strong type inequalities for sublinear operator satisfy condition (1) acting boundedly in weighted Musielak-Orlicz spaces. In the proof of obtained result used the boundedness of for multidimensional Hardy type operator acting from usual weighted Lebesgue spaces to weighted Musielak-Orlicz spaces.(see [1])

