ON NON-EFFECTIVE WEIGHTS IN ORLICZ SPACES

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Abstract. Given a weight w in $\Omega \subset \mathbb{R}^N$, $|\Omega| < \infty$ and a Young function Φ, we consider the weighted modular $\int_\Omega \Phi(f(x))w(x)dx$ and the resulting weighted Orlicz space $L_\Phi(w)$. For a Young function $\Phi \notin \Delta_2(\infty)$ we present a necessary and sufficient conditions in order that $L_\Phi(w) = L_\Phi(\chi_\Omega)$ up to the equivalence of norms. We find a necessary and sufficient condition for Φ in order that there exists an unbounded weight w such that the above equality of spaces holds. By way of applications we simplify criteria from the atricle:
Y. Cui, H. Hudzik, R. Kumar and L. Maligranda, *Composition operators in Orlicz spaces* , J. Aust. Math. Soc. **76** (2004),189–206
for continuity of the composition operator from L_Φ into itself when $\Phi \notin \Delta_2(\infty)$ and obtain necessary and sufficient condition in order that the composition operator maps L_Φ continuously onto L_Φ.
The results that will be presented are from a joint paper by H. Hudzik and M. Krbec.