

Abstract

Orlicz spaces $l^\varphi(\Gamma)$ over an arbitrary set Γ , being a natural generalizations of Orlicz sequence spaces are studied. The following problems in these spaces are considered: relationships between the Luxemburg norm and the modular, Fatou property, relationships between the Luxemburg norm and the Orlicz norm, equality of the Orlicz norm and the Amemiya norm, order continuous elements, a formula for the norm in the quotient space $l^\varphi(\Gamma)/h^\varphi(\Gamma)$ in terms of the modular I_φ for both the Luxemburg and the Orlicz norm, the problem when the equality of the space $l^\varphi(\Gamma)$ and its subspace $h^\varphi(\Gamma)$ holds, isometric representation of the dual spaces $(h^\varphi(\Gamma))^*$, $(l^\varphi(\Gamma))^*$, $(h_0^\varphi(\Gamma))^*$ and $(l_0^\varphi(\Gamma))^*$, representation of support functionals, criteria for smooth points and extreme points of $S(l^\varphi(\Gamma))$ and problem of the existence of such points. It is worthy noticing that the problem of the existence of smooth points on $S(l^\varphi(\Gamma))$ depends essentially on the assumption if Γ is countable or not.