

# Some Geometric Properties in Orlicz Sequence Spaces equipped with Orlicz Norm

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**Abstract:** It is proved that for any reflexive Banach space  $X$ , both  $X$  and  $X^{**}$  are **CLUR** if and only if both  $X$  and  $X^{**}$  have property **H**. Criteria for rotundity, local uniform rotundity, compact local uniform rotundity and property **H** in Orlicz sequence spaces equipped with the Orlicz norm are given. Criteria for property **H**, rotundity and **LUR** were already known in the literature only for finitely valued Orlicz functions which vanish only at zero and are  $N$ -functions (i.e. they satisfy conditions  $(0_1)$  and  $(\infty_1)$ ). All our criteria except Corollary 2.15 are given for arbitrary Orlicz functions. Criteria for smoothness of  $L_{\Phi}$  in Corollary 2.15 are given for any finitely valued Orlicz function satisfying condition  $(\infty_1)$ , extending the respective result of [2] proved only for Orlicz functions vanishing only at zero.

**Keywords:** Orlicz sequence space, rotundity, local uniform rotundity, compact local uniform rotundity, property **H**, smoothness, copy of  $L_{\infty}$

**Classification (MSC2000):** 46E30, 46E40, 46B20

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