A NOTE ON ORLICZ ALGEBRAS

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Abstract. The purpose of this paper is to give a necessary and sufficient condition for an Orlicz space $L^\Phi(G)$ to be a convolution Banach algebra, where G is a compactly generated locally compact abelian group and Φ is a Young function satisfying Δ_2-condition and an extra sequence condition.

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REFERENCES

[1] F. ABTAHI, R. NASR ISFAHANI AND A. REJALI, *On the L_p-conjecture for locally compact groups*, Arch. Math. (Basel) **89**, (2007), 237–242.

[2] C. CHEN AND C.-H. CHU, *Hypercyclic weighted translations on groups*, Proc. Amer. Math. Soc. **139**, (2011), 2839–2846.

[3] E. HEWITT AND K. A. ROSS, *Abstract Harmonic Analysis*, Springer-Verlag, Heidelberg, 1979.

[4] H. HUDZIK, A. KAMISKA AND J. MUSIELAK, *On some Banach algebras given by a modular*, in: Alfred Haar Memorial Conference, Budapest, Colloquia Mathematica Societatis J anos Bolyai (North Holland, Amsterdam), **49**, (1987) 445–463.

[5] M. M. RAO AND Z. D. REN, *Theory of Orlicz Spaces*, Marcel Dekker, New York, 1991.

[6] A. OSANÇLIOL AND S. ÖZTOP, *Weighted Orlicz algebras on locally compact groups*, J. Aust. Math. Soc. **99**, (2015), 399–414.

[7] K. URBANIK, *A proof of a theorem of Zelazko on L^p-algebras*, Colloq. Math. **8**, (1961), 121–123.

[8] W. ZELAZKO, *A note on L^p-algebras*, Colloq. Math. **10**, (1963), 53–56.

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