

Sh.A. Ayupov, V.I. Chilin, R.Z. Abdullaev
Orlicz spaces associated with a semi-finite von Neumann algebra

Comment.Math.Univ.Carolin. 53,4 (2012) 519–533.

Abstract: Let M be a von Neumann algebra, let φ be a weight on M and let Φ be N -function satisfying the (δ_2, Δ_2) -condition. In this paper we study Orlicz spaces, associated with M , φ and Φ .

Keywords: Orlicz spaces, von Neumann algebra, weight

AMS Subject Classification: 4GL51, 4GL52

REFERENCES

- [1] Al-Rashed M.H.A., Zegarlini B., *Noncommutative Orlicz spaces associated to a state*, Studia Math. **180** (2007), 199–209.
- [2] Brawn L.G., Kosaki H., *Jensen's inequality in semi-finite von Neumann algebras*, J. Operator Theory **23** (1990), 3–19.
- [3] Fack T., Kosaki H., *Generalized s -number of τ -measurable operators*, Pacific J. Math. **123** (1986), 269–300.
- [4] Krasnosel'sky M.F., Rutitskii Ya.B., *Convex Functions and Orlicz Spaces*, Noordhoff, Groningen, 1961; (translated from the Russian).
- [5] Kunze W., *Noncommutative Orlicz spaces and generalized Arens algebras*, Math. Nachr. **147** (1990), 123–138.
- [6] Muratov M.A., *Non commutative Orlicz spaces*, Dokl. Akad. Nauk UzSSR **6** (1978), 11–13.
- [7] Muratov M.A., *The Luxemburg norm in an Orlicz space of measurable operators*, Dokl. Akad. Nauk UzSSR **1** (1979), 5–6.
- [8] Muratov M.A., Chilin V.I., *Algebras of measurable operators and locally measurable operators*, Kyev. Institute of Math. Ukrainian Academy of Sciences, 69, 2007 (Russian).
- [9] Pedersen G., Takesaki M., *The Radon-Nikodym theorem for von Neumann algebras*, Acta Math. **130** (1973), 53–87.
- [10] Takesaki M., *Theory of Operator Algebras I*, Springer, New York, 1979.
- [11] Trunov N.V., *The L_p -spaces associated with a weight on a semi-finite von Neumann algebra*, Constructive theory of functions and functional analysis, no. 3, pp. 88–93, Kazan. Gos. Univ., Kazan, 1981.
- [12] Trunov N.V., *On the theory of normal weights on von Neumann algebras*, Izv. Vyssh. Uchebn. Zaved. Math. **8** 1982, 61–70.
- [13] Trunov N.V., Sherstnev A.N., *Introduction to the theory of noncommutative integration*, N. Soviet Math., 37. Translation from Itogi Nauki i Tekhniki, Sovr. Probl. Math. **27** (1985), 167–190.
- [14] Yeadon F.J., *Convergence of measurable operators*, Proc. Cambridge Philos. Soc. **74** (1973), 257–268.
- [15] Yeadon F.J., *Non-commutative L^p -spaces*, Math. Proc. Cambridge Philos. Soc. **77** (1975), no. 1, 91–102.