

Noufissa Hafidi, Jawad H'michane

Some results on the class of σ -unbounded Dunford-Pettis operators

Comment.Math.Univ.Carolin. 62,4 (2021) 431–443.

Abstract: We introduce and study the class of unbounded Dunford–Pettis operators. As consequences, we give basic properties and derive interesting results about the duality, domination problem and relationship with other known classes of operators.

Keywords: σ -un-Dunford–Pettis operator; unbounded norm convergence; order continuous Banach lattice; atomic Banach lattice; relatively sequentially un-compact set; Schur property

AMS Subject Classification: 46B42, 47B60, 47B65

REFERENCES

- [1] Aliprantis C. D., Burkinshaw O., *Positive Operators*, reprint of the 1985 original, Springer, Dordrecht, 2006.
- [2] Aqzzouz B., Elbour A., H'michane J., *The duality problem for the class of b -weakly compact operators*, Positivity **13** (2009), no. 4, 683–692.
- [3] Aqzzouz B., H'michane J., *Some results on order weakly compact operators*, Math. Bohem. **134** (2009), no. 4, 359–367.
- [4] Deng Y., O'Brien M., Troitsky V. G., *Unbounded norm convergence in Banach lattices*, Positivity **21** (2017), no. 3, 963–974.
- [5] Gao N., *Unbounded order convergence in dual spaces*, J. Math. Anal. Appl. **419** (2014), no. 1, 347–354.
- [6] Gao N., Xanthos F., *Unbounded order convergence and application to martingales without probability*, J. Math. Anal. Appl. **415** (2014), no. 2, 931–947.
- [7] Kandić M., Li H., Troitsky V. G., *Unbounded norm topology beyond normed lattices*, Positivity **22** (2018), no. 3, 745–760.
- [8] Kandić M., Marabeh M. A. A., Troitsky V. G., *Unbounded norm topology in Banach lattices*, J. Math. Anal. Appl. **451** (2017), no. 1, 259–279.
- [9] Meyer-Nieberg P., *Banach Lattices*, Universitext, Springer, Berlin, 1991.
- [10] Nakano H., *Ergodic theorems in semi-ordered linear spaces*, Ann. of Math. (20) **49** (1948), no. 2, 538–556.
- [11] Wang Z., Chen Z., Chen J., *Continuous operators for unbounded convergence in Banach lattices*, available at arXiv:1903.04854 [math.FA] (2021), 9 pages.
- [12] Wickstead A. W., *Weak and unbounded order convergence in Banach lattices*, J. Austral. Math. Soc. Ser. A **24** (1977), no. 3, 312–319.
- [13] Zaanen A. C., *Riesz Spaces. II*, North-Holland Mathematical Library, 30, North-Holland Publishing Company, Amsterdam, 1983.