About a Characterization of Dodds-Fremlin Regarding Positive Compact Operators

Belmesnaoui Aqzzouz, Aziz Elbour

Université Mohammed V-Souissi, Faculté des Sciences Economiques,
Juridiques et Sociales, Département d'Economie, B.P. 5295,
SalaAljadida, Morocco, baqzzouz@hotmail.com

Université Ibn Tofail, Faculté des Sciences, Département de Mathématiques,
B.P. 133, Kénitra, Morocco, azizelbour@hotmail.com

Abstract: We give sufficient and necessary conditions, different from that of Dodds-Fremlin, which characterize compact operators between Banach lattices, relying on semi-compact and AM-compact operators.

Key words: compact operator, AM-compact operator, semi-compact operator, order continuous norm, discrete Banach lattice.

AMS *Subject Class.* (2010): 46A40, 46B40, 46B42

References

[1] C.D. Aliprantis, O. Burkinshaw, "Positive Operators" (Reprint of the 1985 original), Springer, Dordrecht, 2006.

[2] B. Aqzzouz, A. Elbour, Some characterizations of compact operators on Banach lattices, *Rendiconti del Circolo Matematico di Palermo* **57** (2008), 423 – 431.

[3] P. Meyer-Nieberg, "Banach Lattices", Universitext, Springer-Verlag, Berlin, 1991.

[4] A.W. Wickstead, Converses for the Dodds-Fremlin and Kalton-Saab theorems, *Math. Proc. Cambridge Philos. Soc.* **120** (1996), 175 – 179.