MR856985 (88b:47047) 47B55 (46A40 47H99)

Bogmér, A. (H-SZEG-B); **Joó, I.** (H-EOTVO-2); **Stachó, L. L.** (H-EOTVO-2)

Remarks on superlinear operators.

Ann. Univ. Sci. Budapest. Eötvös Sect. Math. **28** (1985), 147–151 (1986).

The authors consider the concepts of superlinear operators and positive superlinear operators (introduced by E. M. Nikishin in connection with the theory of Fourier series) in a vector lattice setting. Let E, F be a vector space and a vector lattice, respectively. A mapping $T\colon E \to F$ is said to be superlinear if for every $e \in E$ there exists $L_e \in \mathcal{L}(E, F)$ such that $L_e e = Te$ and $|L_e| \leq |T|$. If E is also a vector lattice and for every $e \in E$ there exists $L_e \in \mathcal{L}_+(E, F)$ with $L_e e = Te$ and $|L_e| \leq |T|$, then T is said to be positive superlinear. This paper presents equivalent formulations to the concept of a superlinear operator under the assumption that F is order complete. Also, the authors show that positive superlinear operators between locally convex topological vector lattices are very rarely continuous unless they are linear.

Reviewed by *Rosalind Reichard*