

Chew, Tuan Seng; Lee, Peng Yee

Orthogonally additive functionals on sequence spaces. (English) Zbl 0613.46007
Southeast Asian Bull. Math. 9, 81-85 (1985).

A functional F defined on a sequence space is said to be orthogonally additive if $F(x + y) = F(x) + F(y)$ whenever $x_k y_k = 0$ for every k , where $x = \{x_k\}$ and $y = \{y_k\}$. A sequence space is solid if $x \in X$ whenever $|x| \leq |y|$ for some $y \in X$. The authors proved a representation theorem for orthogonally additive functionals on solid sequence spaces and, in particular, on ℓ_p , where $1 \leq p < \infty$ and c_0 . For a function version, see, for example, [*N. Friedman* and *M. Katz*, Can. J. Math. 18, 1264- 1271 (1966; [Zbl 0145.389](#)); *V. J. Mizel* and *K. Sundaresan*, Arch. Ration. Mech. Anal. 30, 102-126 (1968; [Zbl 0165.499](#))].

MSC:

- [46A40](#) Ordered topological linear spaces, vector lattices
- [47B60](#) Linear operators on ordered spaces
- [46A45](#) Sequence spaces (including Köthe sequence spaces)

Cited in **6** Reviews
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Keywords:

sequence space; representation theorem for orthogonally additive functionals on solid sequence spaces