

Borwein, J. M.; Dempster, M. A. H.**The linear order complementarity problem.** (English) Zbl 0694.90094

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Summary: The classical complementarity problem in Euclidean space can be viewed alternatively as a variational inequality or as a lattice orthogonality problem. Generalizations of the former have been extensively studied, but infinite-dimensional analogues of the latter have been largely ignored. Moreover, as we show, many well-known results about the classical complementarity problem are more appropriately viewed order- theoretically. This is particularly true of least element solutions, which are central to the present study of order complementarity in vector lattices. We emphasize that the lattice theoretic descriptions we employ are very useful even in the standard finite-dimensional setting.

MSC:**90C33** Complementarity and equilibrium problems and variational inequalities (finite dimensions) (aspects of mathematical programming)**47H10** Fixed-point theorems**49J40** Variational inequalities**90C48** Programming in abstract spacesCited in **2** Reviews
Cited in **8** Documents**Keywords:**

lattice orthogonality problem; infinite-dimensional analogues; order complementarity; vector lattices

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