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Two-function minimax theorems involving interval spaces. (English)

J. Nonlinear Convex Anal. 2, No. 1, 21-30 (2001).

<http://www.ybook.co.jp/jnca.html>

In this paper the authors study some generalized versions of two-function minimax theorems of the type

$$\inf_{y \in Y} \sup_{x \in X} f(x, y) \leq \sup_{x \in X} \inf_{y \in Y} g(x, y).$$

Here, X is a compact topological space, Y is an interval space [*L. L. Stachó*, Acta Sci. Math. 42, 157–164 (1980; Zbl 0436.49017)], and $f, g: X \times Y \rightarrow \mathbb{R}$ are functions which satisfy some semicontinuity and concavity-convexity assumptions. Thus, some extensions of classical results on the matter are obtained [*K. Fan*, C. R. Acad. Sci., Paris 259, 3925–3928 (1964; Zbl 0138.37304)].

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*49K35 Minimax problems (necessity and sufficiency)

52A30 Variants of convex sets