

Co-minimum Additive Operators*

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Abstract

Let $\mathcal{E} \subseteq 2^\Omega$ be a collection of subsets of a state space Ω . We propose a weak additivity concept, \mathcal{E} -cominimum additivity. We say that two functions x and y on Ω are \mathcal{E} -cominimum if, for every $E \in \mathcal{E}$, the set of minimizers of x restricted on E and that of y on E have a common element. An operator I is said to be \mathcal{E} -cominimum additive if $I(x + y) = I(x) + I(y)$ whenever x and y are \mathcal{E} -cominimum. The purpose of this paper is to characterize homogeneous \mathcal{E} -cominimum additive operators. As an application, we give an alternative proof for Eichberger and Kelsey (1999)'s axiomatization result of E-capacity, which includes the so called " ε -contamination" as a special case.

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