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Presentation Title

On the equivalence of weak- and cyclic-monotonicity
(with Lev Lokutsievskiy)

Abstract

We provide an approach to studying the equivalence of weak- and cyclic-monotonicity conditions in convex and non-convex domains with a finite set of outcomes. Using this approach, we establish the new equivalence results for gross-substitutes preferences and single-peaked preferences on posets. We also provide several applications of our results to problems in mechanism design, spatial allocation, revealed preference theory, and producer choice theory.

Keywords

Weak-monotonicity, cyclic-monotonicity, gross-substitutes, mechanism design, algebraic topology

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