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AN ASYMPTOTIC VALUE OF A COOPERATIVE GAME WITH INFINITELY MANY DISPARATE PARTICIPANTS

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In the article, we define the asymptotic value for an infinite cooperative game v associated with an admissible sequence of partitions of the unit segment and a probability measure μ defined on its Borel σ-algebra. The function v is assumed to be absolutely continuous relative to μ; moreover (in contrast to standard settings), this measure may have an atomic component. The use of a new variational norm, the polynomial variation of a nonadditive set function, plays a crucial role in defining the class of games with the asymptotic value. The main result of the article consists in establishing simple natural conditions for existence and countable additivity of the values for games of bounded polynomial variation.

Key words and phrases: polynomial variation of a nonadditive set function, admissible sequence of partitions, asymptotic value of a cooperative game.

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