Entropy on Effect Algebras with Riesz Decomposition Property I: Basic Properties.

Antonio Di Nola; M. Hycko; Corrado Manara; Anatolij Dvurečenskij

Abstract: We define the entropy, lower and upper entropy, and the conditional entropy of a dynamical system consisting of an effect algebra with the Riesz decomposition property, a state, and a transformation. Such effect algebras allow many refinements of two partitions. We present the basic properties of these entropies and these notions are illustrated by many examples. Entropy on MV-algebras is postponed to Part II.