

Abstract: We define the notion of a finitely additive measure on a σ -algebra. We prove that a bounded finitely additive measure can be uniquely represented as a sum of a “ σ -additive part” and a “purely finitely additive part” and that it also has a decomposition similar to the Lebesgue decomposition for σ -additive measures. Bounded finitely additive measures defined on the Borel σ -algebra form a normed linear space and those that are zero on Lebesgue null sets form its subspace. We show that the former one is isometrically isomorphic to the dual space of the space of bounded Borel functions and the latter one is isometrically isomorphic to the dual space of the space of essentially bounded functions.