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Quantitative approximation by nonlinear convolution operators of Landau-Choquet type

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ABSTRACT.

By using the concept of Choquet nonlinear integral with respect to a monotone set function, we introduce the nonlinear convolution operators of Landau-Choquet type, with respect to a family of submodular set functions. Quantitative approximation results in terms of the modulus of continuity are obtained with respect to some particular possibility measures. For some subclasses of functions we prove that these Landau-Choquet type operators can have essentially better approximation properties than their classical correspondents.

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