Gal, Sorin G.
Approximation by Choquet integral operators. (English) Zbl 1342.41027
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The author introduces operators constructed in terms of the Choquet integral and studies their approximation properties. Analogously to the Feller’s random scheme in probability theory which produces linear and positive approximation operators, it is considered a similar approximation scheme with the aid of the Choquet integral which produces nonlinear approximation operators. Bernstein-Choquet and Picard-Choquet type operators are also introduced to illustrate the theoretical results, and their qualitative and quantitative approximation properties are studied.

Reviewer: Zoltán Finta (Cluj-Napoca)

MSC:
41A36 Approximation by positive operators
41A25 Rate of convergence, degree of approximation
28A10 Real- or complex-valued set functions
28A12 Contents, measures, outer measures, capacities
28A25 Integration with respect to measures and other set functions
60E15 Inequalities; stochastic orderings

Keywords:
Chebyshev-type inequality; Feller’s scheme; monotone set function; capacity; nonlinear Choquet integral; Choquet integral operators; Bernstein-Choquet operators; Picard-Choquet operators

Full Text: DOI arXiv

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