1145-41-147   **George A Anastassiou*** (`ganastss@memphis.edu`), 3725 Norriswood St, Department of Mathematical Sciences, University of Memphis, Memphis, TN 38016. *Multivariate and Convex Approximation by Choquet integrals.*

Here we consider the quantitative approximation of positive sublinear operators to the unit operator. These are given a precise Choquet integral interpretation. Initially we start with the study of the rate of the convergence of the well-known Bernstein-Kantorovich-Choquet and Bernstein-Durrweyer-Choquet polynomial Choquet-integral operators. We introduce also their multivariate analogs. Then we study the very general comonotonic positive sublinear operators based on the representation theorem of Schmeidler (1986). We finish with the approximation by the very general direct Choquet-integral form positive sublinear operators. All approximations are given via inequalities involving the modulus of continuity of the approximated function or its higher order derivative. We derive univariate and multivariate results without or with convexity assumptions. In the latter case estimates become very elegant and brief. (Received August 09, 2018)