Abstract

In this paper we study the Bernstein-Schnabl operators associated with a continuous selection of Borel measures on the unit interval. We investigate their approximation properties by presenting several estimates of the rate of convergence in terms of suitable moduli of smoothness. We also study some shape preserving properties as well as the preservation of the convexity. Moreover we show that their iterates converge to a Markov semigroup whose generator is a degenerate second order elliptic differential operator on the unit interval. Qualitative properties of this semigroup are also investigated together with its asymptotic behaviour.