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In 1980, H. Berens and R. DeVore (A characterization of Bernstein polynomials, Approximation Theory III, Proc. Conf. Hon. G.G. Lorente, Austin/Tex.1980 213-219) showed that classical Bernstein operators are the bests in certain sense. They proved that if L is a linear operator mapping real functions defined on $[0,1]$ onto polynomial functions of degree less or equal to n , preserving the positivity and the sign of all the derivatives and fixing the linear polynomial, then the eigenvalues corresponding to the polynomial functions of degree two is lower or equal to $(n-1)/n$, and the identity is satisfied only by Bernstein operator.

Now, we consider the preservation of the sign of only one derivative by linear polynomial operators that use certain data (values of the function in some points, derivatives, moments, etc.). (Received August 21, 2005)