On generalized Voronovskaja theorem for Bernstein polynomials

ZOLTÁN FINTA

ABSTRACT.

We establish a new quantitative variant of Floater's theorem dealing with the generalization of Voronovskaja's theorem for Bernstein polynomials. Our estimate improves the recent quantitative version of Floater's theorem proved in [Gonska, H. and Raşa, I., *Asymptotic behaviour of differentiated Bernstein polynomials*, Mat. Vesnik **61** (2009), 53-60]. Moreover, as a particular case, we recover the main result of [Tachev, G. T., *Voronovskaja's theorem revisited*, J. Math. Anal. Appl. **343** (2008), 399-404].

DEPARTMENT OF MATHEMATICS
BABEŞ-BOLYAI UNIVERSITY
M. KOGĂLNICEANU 1, 400084 CLUJ-NAPOCA, ROMANIA
E-mail address: `fzoltan@math.ubbcluj.ro`