

ON A GENERALIZED q -BERNSTEIN-SCHURER POLYNOMIALS

Carmen-Violeta Muraru

Department of Mathematics and Informatics, Faculty of Science "Vasile Alecsandri", University of Bacău

[carmen.7419@yahoo.com]

2000 Mathematics Subject Classification. 41A36

Keywords and phrases. q -Bernstein-Schurer operators, approximation by positive and linear operators.

In this paper, we introduce a generalization of the Bernstein-Schurer operators based on q -integers and get a Bohman-Korovkin type approximation theorem of these operators. We also compute a rate of convergence in the terms of first modulus of smoothness.

REFERENCES

- [1] F. Altomare, M. Campiti, *Korovkin-type approximation theory and applications*, Berlin, Walter de Gruyter, 1994.
- [2] O. Dogru, V. Gupta, *Korovkin-type approximation properties of bivariate q -Meyer-König and Zeller operators*, *Calcolo* **43** (2006), pp. 51-63.
- [3] T. N. T. Goodman, H. Oruç, G. M. Phillips, *Convexity and generalized Bernstein polynomials*, *Proc. Edinburgh Math. Soc.* **42** (2) (1999), pp. 179-190.
- [4] T. Trif, *Meyer-König and Zeller operators based on q -integers*, *Rev. Anal. Numer. Theor. Approx.*, **29** (2000), pp. 221-229.
- [5] D. D. Stancu, *A new class of uniform approximation polynomial operators in two and several variables*, In Alexits G., Stechkin S.B., (eds), *Proceedings of the Conference on Constructive Theory of Functions*, Budapest, Akadémiai Kiadó, (1972), pp. 443-455.