

## Schurer operators of King type

PETRU I. BRAICA, OVIDIU T. POP and DAN BĂRBOSU

### ABSTRACT.

A class of linear and positive operators defined by finite sum which generalizes the classical Schurer's operators in the King sense is constructed. For the mentioned class of operators, uniform convergences results, error estimations in terms of modulus of continuity and Voronovskaja type theorems are established.

### REFERENCES

- [1] Agratini, O., *An asymptotic formula for a class of approximation processes of King's type*, *Studia Sci. Math. Hungar.*, **47** (2010), No. 4, 435–444
- [2] Bărbosu, D., *Introduction in numerical analysis and approximation theory*, Ed. Univ. de Nord Baia Mare, 2009 (in Romanian)
- [3] Braica, P. I., Pop, O. T. and Indrea, A. D., *About a King-type operator*, *Appl. Math. Inf. Sci.*, **6** (2012), No. 1, 145–148
- [4] King, J. P., *Positive linear operators which preserve  $x^2$* , *Acta Math. Hungar.*, **99** (2003), No. 3, 203–208
- [5] Oancea, L., J. P. King *version of Schurer operator*, *Journal of Science and Arts*, **1** (2009), 43–49
- [6] Pop, O. T., *The generalization of Voronovskaja's theorem for a class of linear and positive operators*, *Rev. Anal. Numer. Théor. Approx.*, **34** (2005), No. 1, 79–91
- [7] Schurer, F., *Linear positive operators in approximation theory*, *Math. Inst. Tech., Univ. Delft. Report*, 1962
- [8] Stancu, D. D., Coman, Gh., Agratini, O. and Trîmbițaș, R., *Numerical analysis and approximation theory, I*, Presa Universitară Clujeană, Cluj-Napoca, 2001 (in Romanian)

SECONDARY SCHOOL "GRIGORE MOISIL"  
MILENIULUI 1, 440037 SATU MARE, ROMANIA  
E-mail address: petrubr@yahoo.com

NATIONAL COLLEGE "MIHAI EMINESCU"  
MIHAI EMINESCU 5, 440014  
SATU MARE, ROMANIA  
E-mail address: ovidiutiberiu@yahoo.com

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE  
FACULTY OF SCIENCES  
NORTH UNIVERSITY CENTER AT BAI A MARE  
TECHNICAL UNIVERSITY OF CLUJ-NAPOCA  
VICTORIEI 76, 430122 BAI A MARE, ROMANIA  
E-mail address: barbosudan@yahoo.com

---

\* Dedicated to Professor Emeritus Constantin Corduneanu on the occasion of his 85th birthday

Received: 25.06.2013; In revised form: 30.08.2013; Accepted: 03.09.2013

2010 *Mathematics Subject Classification.* 41 A10, 41A63.

Key words and phrases. *Schurer operators, Voronovskaja type theorem, King type operators, modulus of continuity.*