

---

# Contents

<b>Preface</b> .....	vii
<b>1 Overconvergence in <math>\mathbb{C}</math> of Some Bernstein-Type Operators</b> .....	1
1.1 Auxiliary Results in Complex Analysis .....	1
1.2 Voronovskaja-Type Theorems for Derivatives of Bernstein Polynomials .....	5
1.3 Schurer–Faber Polynomials .....	13
1.4 Beta Operators of the First Kind .....	20
1.5 Genuine Bernstein–Durrmeyer Polynomials .....	28
1.6 Bernstein–Durrmeyer Polynomials with Jacobi Weights.....	40
1.7 Lorentz Polynomials .....	53
1.8 $q$ -Lorentz Polynomials, $q > 1$ .....	62
1.9 $q$ -Stancu and $q$ -Stancu–Faber Polynomials, $q \geq 1$ .....	73
1.10 $q$ -Favard–Szász–Mirakjan Operators, $q > 1$ .....	83
1.11 $q$ -Bernstein–Faber-Type Polynomials, $q \geq 1$ .....	85
1.12 $q$ -Bernstein Polynomials of Quaternion Variable, $q \geq 1$ .....	98
1.13 Notes and Open Problems .....	114
<b>2 Overconvergence and Convergence in <math>\mathbb{C}</math> of Some Integral Convolutions</b> .....	117
2.1 Complex Convolutions with Trigonometric-Type Kernels ....	117
2.1.1 Convolutions with Positive Trigonometric Kernels ....	117
2.1.2 Convolutions with Nonpositive Cosine Kernels .....	126
2.2 Approximation by Complex Potentials of Euler Type .....	128
2.3 Notes .....	162
<b>3 Overconvergence in <math>\mathbb{C}</math> of the Orthogonal Expansions</b> .....	163
3.1 Convergence of the Chebyshev Orthogonal Expansions for Vector-Valued Functions .....	164

3.2	Overconvergence in $\mathbb{C}$ of the Orthogonal Expansions for Vector-Valued Functions .....	167
3.3	Applications to Chebyshev and Legendre Orthogonal Expansions .....	172
3.4	Notes and Open Problems .....	180
<b>References</b> .....		185
<b>Index</b> .....		193

<http://www.springer.com/978-1-4614-7097-7>

Overconvergence in Complex Approximation

Gal, S.G.

2013, XIV, 194 p., Hardcover

ISBN: 978-1-4614-7097-7