

Project title:

Efficient numerical methods, applied to supercomputers

Project number: 2-CEEX-06-11-96

Supported by: National Authority for Scientific Research

Partners: "Tiberiu Popoviciu" Institute of Numerical Analysis, Cluj-Napoca
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Period: September 2006-September 2008

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Main results in the project

1. S.G. Gal, Shape Preserving Approximation by Real and Complex Polynomials, Birkhauser Publ. Inc., Boston, SUA, 358 pp, ISBN 978-0-8176-4702-5.
2. A.I. Ban, Approximation of fuzzy numbers by trapezoidal fuzzy numbers preserving the expected interval, Fuzzy Sets and Systems, 159 (2008), pp. 1327-1344 (ISI).
3. A.I. Ban, J. Kacprzyk, K.T. Atanassov, On the de-I-defuzzification of intuitionistic fuzzy sets. Part 1, Comptes Rendus de l'Academie Bulgare des Sciences, Tome 61 (2008), 1535-1540 (ISI).
4. A.M. Bica, Algebraic structures for fuzzy numbers from categorial point of view, Soft Computing, 11 (2007), pp. 1099-1105 (ISI).

5. S.G. Gal, Approximation and geometric properties of some nonlinear complex integral convolution operators, *Integral Transformation Special Functions*, 19 (2008), pp. 367-375 (ISI).
6. S.G. Gal, Approximation and geometric properties of some complex Bernstein-Stancu in compact disks, *Revue D'Analyse Numerique et Theorie de l'Approximation (Cluj)*, 36 (2007), pp. 67-77 (Mathematical Reviews and Zentralblatt fur Mathematik).
7. S.G. Gal, Approximation and geometric properties of complex Favard-Szasz-Mirakjan operators in compact disks, *Computer & Mathematics with Applications*, 56 (2008), pp. 1121-1127 (ISI).
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10. A. Bica, L. Galea, On Picard iterative properties of the Bernstein operators and an application to fuzzy numbers, *Communications in Mathematical Analysis*, 5 (2008), pp. 8-19 (Mathematical Reviews and Zentralblatt fur Mathematik).
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12. A.I. Ban, Nearest interval approximation of an intuitionistic fuzzy number, in: *Computational Intelligence, Theory and Applications* (B. Reusch, Ed.), Springer, 2006, pp. 229-240 (ISI Proceedings).
13. A. Ban, A. Pelea, Fuzzy entropies of the product and division of trapezoidal fuzzy numbers, *Analele Universitatii din Oradea, fascicula Matematica*, XIV (2007), pp. 155-174 (Mathematical Review and Zentralblatt fur Mathematik).
14. Sorin G. Gal, Bivariate copositive approximation, *Journal of Mathematical Analysis and Approximation Theory*, 1 (2006), pp. 141-149 (Mathematical Review and Zentralblatt fur Mathematik).
15. A.M. Bica, Trapezoidal inequality for Lipschitzian vector-valued functions and an application, *Analele Universitatii din Oradea, fascicula Matematica*, XIV (2007), pp. 101-121 (Mathematical Review and Zentralblatt fur Mathematik).
16. Ali Aral si S.G. Gal, q-Generalizations of the Picard and Gauss-Weierstrass singular integrals, *Taiwanese Journal of Mathematics*, 12 (2008), pp. 2501-2515 (ISI).
17. S.G. Gal, Approximation by complex Bernstein-Stancu polynomials in compact disks, *Results in Mathematics*, 53 (2009), pp. 245-256 (ISI).
18. S.G. Gal, Generalized Voronovskaja's theorem and approximation by Butzer's linear combinations of complex Bernstein polynomials in compact disks, *Results in Mathematics*, 53 (2009), pp. 257-268. (ISI).

19. S.G. Gal, Voronovskaja's theorem, shape preserving properties and iterations for complex q -Bernstein polynomials, *Studia Scientia Mathematica Hungarica*, 48 (2011), pp. 23-43 (ISI).
20. A.M. Bica, On iterates of Cheney-Sharma operator, *Journal of Computational Analysis and Applications*, 11 (2009), pp. 271-273 (ISI).
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23. S.G. Gal, Remarks on the strong approximation by Taylor series in the unit disk, *Analele Universitatii din Oradea, fascicola Matematica*, 16 (2009), pp. 229-232. (Mathematical Review and Zentralblatt fur Mathematik).
24. A.I. Ban, Triangular and parametric approximations of fuzzy numbers - inadvertences and corrections, *Fuzzy Sets and Systems*, 160 (2009), pp. 3048-3058 (ISI).
25. A.I. Ban, On the nearest parametric approximations of a fuzzy number-revisited, *Fuzzy Sets and Systems*, 160 (2009), pp. 3027-3047 (ISI).
26. S.G. Gal, V. Gupta, Approximation of vector-valued functions by q -Durrmeyer operators with applications to random and fuzzy approximation, *Analele Universitatii din Oradea, fascicola Matematica*, 16 (2009), pp. 233-240. (Mathematical Review and Zentralblatt fur Mathematik).