

LIST OF PUBLICATIONS

Constantin BOTA

List of the most relevant papers included in the file obtained after obtaining doctorate

1. Bota, C., Caruntu, B., Approximate Analytical Solutions of the Fractional-Order Brusselator System Using the Polynomial Least Squares Method, *Advances in Mathematical Physics*, Volume 2015 (2015), Article ID 450235
2. Bota Constantin, Căruntu Bogdan, Olivia Bundău - *Approximate Periodic Solutions for Oscillatory Phenomena Modeled by Nonlinear Differential Equations*, *Mathematical Problems in Engineering*, Volume 2014 (2014), Article ID 513473
3. Bota, C., Căruntu, B., *Approximate Analytical Solutions of the Regularized Long Wave Equation Using the Optimal Homotopy Perturbation Method*, (2014) *Scientific World Journal*, 2014, art. no. 721865
4. Caruntu, B., Bota, C., Polynomial Least Squares Method for the Solution of Nonlinear Volterra-Fredholm Integral Equations, *Mathematical Problems in Engineering*, Volume 2014 (2014), Article ID 147079
5. Caruntu, B., Bota, C., Analytical Approximate Solutions for a General Class of Nonlinear Delay Differential Equations, *The Scientific World Journal*, Volume 2014 (2014), Article ID 631416
6. Marinca, V; Herisanu, N; Bota, C; Marinca, B, *An optimal homotopy asymptotic method applied to the steady flow of a fourth-grade fluid past a porous plate*, *APPLIED MATHEMATICS LETTERS*, 245-251, 2009, 10.1016/j.aml.2008.03.019, WOS:000262219200020;
7. Bota, C; Caruntu, B; Bundau, O - *Approximate Polynomial Solutions for Riccati Differential Equations using the Squared Remains Minimization Method*, 11th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM), Vol. 1558, ISBN: 978-0-7354-1185-2, ISSN: 0094-243X, SEP 21-27, 2013, WOS:000331472800376;
8. Bota, C; Caruntu, B, *ε -Approximate polynomial solutions for the multi-pantograph equation with variable coefficients*, *APPLIED MATHEMATICS AND COMPUTATION*, 1785-1792, 2012, 10.1016/j.amc.2012.08.017, WOS:000310504000035;
9. Caruntu, B; Bota, C, *Approximate polynomial solutions for nonlinear heat transfer problems using the squared remainder minimization method*, *INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER*, 1336-1341, 2012, 10.1016/j.icheatmasstransfer.2012.08.002, WOS:000310407700005
10. Caruntu, B; Bota, C, *Approximate polynomial solutions of the nonlinear Lane-Emden type equations arising in astrophysics using the squared remainder minimization method*, *COMPUTER PHYSICS COMMUNICATIONS*, 1643-1648, 2013, 10.1016/j.cpc.2013.01.023, WOS:000318194000001

Ph.D. Thesis

Constantin Bota, “*Unele aplicații ale operatorilor diferențiali în geometria diferențială*”, Scientific coordinator – Prof.univ.dr. Dan I. Papuc, 1991, West University of Timisoara, Faculty of Mathematics and Informatics.

Patents and other titles of industrial property

Not applicable.

Books and book chapters

1. Marius B., Bota C., *Modelarea masinii sincrone reactive*, Editura Politehnica, Timisoara, ISBN ISBN (10) 973-625-342-2, 150 pag., 2006
2. Bota, C., s.a., *Geometrie si trigonometrie. Culegere de teste de admitere*, Politehnica, Timisoara, 152 pag., 1991
3. Boja N., Bota C., Lipovan O., s.a., *Teste de matematica pentru bacalaureat si admitere in invatamantul superior*, Mirton, Timisoara, 166 pag., 1996.
4. Boja N., Bota C., Banzaru T., s.a., *Probleme de Algebra, Geometrie, Trigonometrie si Analiza Matematica*, Mirton, Timisoara, ISBN ISBN 973-578-118-2, 340 pag., 1996;
5. Bota C., Popescu D., *Algebra Liniara si Geometrie - Vol.II*, Orizonturi Universitare, Timisoara, ISBN ISBN 973-638-157-9, 134 pag., 2004
6. Bota C., Popescu D., *Algebra Liniara si Geometrie - Vol.I*, Orizonturi Universitare, Timisoara, ISBN ISBN 973-638-125-0, 115 pag., 2004
7. Bota C., Popescu D., *Algebra Liniara si Geometrie - culegere de probleme*, Orizonturi Universitare, Timisoara, ISBN ISBN 978-973-638-285-7, 162 pag., 2006
8. Bota C., *Algebra liniara*, Orizonturi Universitare, Timisoara, ISBN ISBN 978-973-638-343-4, 135 pag., 2007
9. Bota C., Popescu D., *Geometrie Analitica si Diferentiala - Culegere de probleme*, Orizonturi Universitare, Timisoara, ISBN ISBN 978-973-638-363-2, 150 pag., 2008

**Articles/studies in extenso, published in journals
from the main international scientific flux**

Articles in ISI journals

1. Caruntu, B; Bota, C, *Approximate polynomial solutions of the nonlinear Lane-Emden type equations arising in astrophysics using the squared remainder minimization method*, COMPUTER PHYSICS COMMUNICATIONS, ELSEVIER SCIENCE BV, Romania, ISSN 0010-4655, 1643, 1648, 6 pag., 2013, 10.1016/j.cpc.2013.01.023, WOS:000318194000001
2. Bota, C; Caruntu, B, *ϵ -Approximate polynomial solutions for the multi-pantograph equation with variable coefficients*, APPLIED MATHEMATICS AND COMPUTATION, ELSEVIER SCIENCE INC, ISSN 0096-3003, 1785, 1792, 8 pag., 2012, 10.1016/j.amc.2012.08.017, WOS:000310504000035
3. Caruntu, B; Bota, C, *Approximate polynomial solutions for nonlinear heat transfer problems using the squared remainder minimization method*, INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, PERGAMON-ELSEVIER SCIENCE LTD, ISSN 0735-1933, 1336, 1341, 6 pag., 2012, 10.1016/j.icheatmasstransfer.2012.08.002, WOS:000310407700005
4. Marinca, V; Herisanu, N; Bota, C; Marinca, B, *An optimal homotopy asymptotic method applied to the steady flow of a fourth-grade fluid past a porous plate*, APPLIED MATHEMATICS LETTERS, PERGAMON-ELSEVIER SCIENCE LTD, ISSN 0893-9659, 245, 251, 7 pag., 2009, 10.1016/j.aml.2008.03.019, WOS:000262219200020, Citari: 39
5. Marinca, V; Herisanu, N; Bota, C, *Application of the variational iteration method to some nonlinear one-dimensional oscillations*, MECCANICA, SPRINGER, ISSN 0025-6455, 75, 79, 5 pag., 2008, 10.1007/s11012-007-9086-2, WOS:000252995200007, Citari: 9
6. Bota, C., Căruntu, B., Bundău, O., *Approximate Periodic Solutions for Oscillatory Phenomena Modelled by Nonlinear Differential Equations*, (2014) Mathematical Problems in Engineering, 2014, art. no. 513473
7. Bota, C., Căruntu, B. - *Approximate Analytical Solutions of the Fractional-Order Brusselator System Using the Polynomial Least Squares Method*, Advances in Mathematical Physics, Volume 2015 (2015), 5 pages.
8. Bota Constantin, Căruntu Bogdan, Olivia Bundău - *Approximate Periodic Solutions for Oscillatory Phenomena Modeled by Nonlinear Differential Equations*, Mathematical Problems in Engineering, Volume 2014 (2014), Article ID 513473
9. Căruntu Bogdan, Bota Constantin - *Polynomial Least Squares Method for the Solution of Nonlinear Volterra-Fredholm Integral Equations*, Mathematical Problems in Engineering, Volume 2014 (2014), Article ID 147079

Other articles in journals indexed in international data basis

1. Petrișor E., Bota C. *Two geometric structures of a simple elastic body with random response*, Buletinul Științific, Seminarul de Matematică și Fizică al I.P. "Traian Vuia" Timișoara, 5 pg., Mai-Noiembrie 1987.
2. Bota C. *Distribution tensors invariant under the action of a Lie group*, Analele Universității din Timișoara, Vol. XXVIII, fasc. 2-3, 8 pg., 1990, Seria Științe Matematice
3. Bota C., *Invariant distribution tensors*, Buletinul Științific și Tehnic al Universității Tehnice din Timișoara, Tom 36(50) Matematică-Fizică, 4 pg., 1991
4. Bota C., *Some properties of Lie derivative on distribution tensors*, Buletinul Științific și Tehnic al Universității Tehnice din Timișoara, Tom 36(50) Matematică-Fizică, 4 pg., 1991
5. Bota C., *On the stability of p-distribution tensors on a riemannian manifold*, Buletinul Științific, Seminarul de Matematică și Fizică al IPT "Traian Vuia", Noiembrie, 4 pg., 1988
6. Bota C., *About a dynamical system described by an algebraic polynomial equation*, Buletinul Științific al UT Timișoara Tom 42(56), 2, Matematică-Fizică, 3 pg., 1997
7. Bota C., *On a Theorem of A.M. Ostrowsky*, Buletinul Științific al Univ. "Politehnica" din Timișoara, Tom 44(58), 2 Matematică-Fizică, 3 pg., 1999
8. Bota C., *On a property on a minimal sets of a homeomorphism*, Buletinul Științific al Univ. "Politehnica" din Timișoara, Tom 49(63), 1, Matematică-Fizică. 2004, pp. 59-61
9. Bota C., *A property of a monotone global semi-flow on a vector bundle*, Buletinul Științific al Univ. "Politehnica" din Timișoara, Tom 49(63), 2, Matematică-Fizică 2004, pp. 26-29
10. Bota C., Popescu D., *About periodic trajectories of a dynamical system on a topological manifold*, Buletinul Științific al Univ. "Politehnica" din Timișoara, Tom 49(63), 2, Matematică-Fizică 2004, pp. 44-47
11. Căruntu B. Bota C., *A new method for the calculus of an approximate polynomial solution of some differential equations on a finite interval with boundary conditions*, Buletinul Științific al UPT, Seria Matematica-Fizica, B+, Timișoara, ISSN 1223-5876, 2010
12. Bota C., Căruntu B., *Periodic Solutions for a Van der Pol Oscillator*, Buletinul Științific al UPT, Seria Matematica-Fizica, Timișoara, Romania, ISSN 1224-6069, 21, 34, Buletinul Științific al Universității "Politehnica" din Timișoara, Seria MATEMATICA - FIZICA, 2012;
13. Constantin Bota, Bogdan Căruntu, Liviu Bereteu, *Approximate Polynomial Solution of a Nonlinear Differential Equation with Applications*, ACM, Ankara, Turkey, ISBN 978-1-4614-0453-8, 2012, 169, 177, Dynamical Systems and Methods, The third Conference on Nonlinear Science and Complexity (NSC), Ankara, Turkey, July 27–31, 2010.

Publications in extenso, in proceedings of the main specific international conferences

1. Popescu, F; Ionel, I; Bota, C; Lontis, N; Talianu, C, *Evaluation of Air Quality Monitoring data obtained from parallel monitoring*, ADVANCES IN BIOLOGY, BIOENGINEERING AND ENVIRONMENT, WORLD SCIENTIFIC AND ENGINEERING ACAD AND SOC, Athens, ISBN 978-960-474-261-5, ISSN 1792-7412, DEC 29-31, 2010, 4 pag., 6th WSEAS International Conference on CELLULAR and MOLECULAR BIOLOGY, BIOPHYSICS and BIOENGINEERING/8th WSEAS International Conference on ENVIRONMENT, ECOSYSTEMS and DEVELOPMENT/International Conference on Bioscience and Bioinformatics, 2010, WOS:000300024800029
2. Bota, C; Caruntu, B; Babescu, M, *Analytic approximate periodic solutions based on harmonic analysis*, PROCEEDINGS OF THE 10TH INTERNATIONAL SYMPOSIUM ON SYMBOLIC AND NUMERIC ALGORITHMS FOR SCIENTIFIC COMPUTING, IEEE COMPUTER SOC, Timisoara, ISBN 978-0-7695-3523-4, SEP 26-29, 2008, 6 pag., 10th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, 2009, 10.1109/SYNASC.2008.48, WOS:000274363300027
3. Bota, C., Caruntu, B. - *A collocation-type method for an approximate polynomial solution of some second order nonlinear differential equations*, World Scientific And Engineering Acad and SOC, Timisoara, ISBN 978-960-474-080-2, May 27-29, 2009, 3 pag., 11th WSEAS International Conference on Sustainability in Science Engineering (SSE 09), 2009, WOS:000269057100077

Other papers and scientific contributions

1. Bota C., *Square summable distribution-tensor*, Bulletins for Applied & Computer Mathematics, PAMM; BAM-1898/2001 (XCVI-C)
2. Bota C., *On the de RHAM Currents with values in a Banach space*, Bulletins for Applied & Computer Mathematics, PAMM; BAM-1970(2002) (XCIX)
3. Bota C., Albert M., Croitoru F., *A criterion for dispersive dynamical systems on a topological space*, Bulletins for Applied and Computer Mathematics, PAMM, BAM-CVII/2004 nr. 2230
4. Bota C., Popescu D., Albert M., Croitoru F., *Lagrange and Poisson stability for the points motions in a dynamical*, Bulletins for Applied and Computer Mathematics, PAMM, BAM-CVII/2004 nr. 2231
5. Bota C., Căruntu B., Bota Ciprian, *An Optimal Method for the Computation of an Approximate Solution of a Class of Differential Equations with Application in Economy*, , Viena, Austria, ISBN 9878-3-901509-83-4, 775, 776, Proceedings of The 22nd DAAAM International World Symposium, The 22nd DAAAM International World Symposium, 23-26th November 2011, Vienna, Austria

6. Babescu M., Bota C., Căruntu B., *Maximization of the Energy of a Wind System with a Synchronous Generator*, , Viena, Austria, ISBN 9878-3-901509-83-4, 773, 774, Proceedings of The 22nd DAAAM International World Symposium, The 22nd DAAAM International World Symposium, 23-26th November 2011, Vienna, Austria.

7. Bota C., Popescu D., *A criterion for Parallezable Dynamical Systems*, Proceedings of the 11th symposium of Mathematics and its Applications, Timisoara, Romania, ISBN 1224-6069, 2007, Proceedings of the 11 th Symposium of Mathematics and its Applications, 2009 Timisoara, Proceedings of the 11 th Symposium of Mathematics and its Applications, 2009 Timisoara.

8. Bota C., Popescu D., Caruntu B., *Two criterions related to dispersive dynamical systems on a topological manifold*, Proceedings of the 12th Symposium of Mathematics and its Applications, B+, Timisoara, Romania, ISBN 1223-5876, 2010.

9. Bota C., Căruntu B., *Approximate solutions for the generalized delay differential equation by the squared remainder minimization method*, Proceedings of the 13th International Conference on Mathematics and its Applications, Romania, ISSN 1224-6069, 2013-04-03, 193, 198, ICMA2012, Proceedings of the 13th International Conference of Mathematics and its Applications, The 13th International Conference of Mathematics and its Applications, Timisoara, Romania, 1-3 November 2012.

National Grants

1. Constantin Bota, Bogdan Caruntu, Marius Babescu, *Stabilitatea si convergenta relativ la sistemele dinamice global monotone cu aplicatii la studiul ecuatiilor de regim tranzitoriu ce intervin in optimizarea unui microsistem ecologic energetic format din baterii solare*, 28/2008, Proiect GAR, 2008.

2. Constantin Bota, Bogdan Caruntu, Marius Babescu, *Stabilitatea si convergenta relativ la sistemele dinamice global monotone cu aplicatii la studiul ecuatiilor de regim tranzitoriu ce intervin in optimizarea unui microsistem ecologic energetic format din baterii solare, turbine eoliene si turbine hidro.*, 28/2007, Proiect GAR, 2007

3. Biriescu Marius, Liuba Gheorghe, Irimia Dumitru, Madescu Gheorghe, Mot Martian, Bota Constantin, Micea Mihai, Mioc Mirela - *Executarea probelor necesare pt.determinarea cuplului la MAS 5250kW, 1500rot/min, pt.Centrala nucleară electrică Cernavodă - Unitatea2, în standul de probă al UCM Resita*, 205/12.01.2005, 2005.

4. Prostean Octavian, Filip Ion, Milos Teodor, Bordeasu Ilare, Bota Constantin, Juratoni Adina, Bundau Olivia Mihaela, Binzar Tudor, Constantin Gheorghe, Florescu C., Muntean N., Biriescu M., Botici A., Lascu D., Babescu M., Prosteanu G., Kilyeni S., Lie I., Mihet L., Ungureanu D., *Institutul de cercetari pentru energii regenerabile. Programul Operational Sectorial-Creșterea Competitivității Economice (POS_CCE)*, Contract Nr. 13/01.03.2009, faza sisteme de energie eoliană, 2012.

Timișoara,
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