

Evgenija D. Popova — List of Publications

December 2025

1. E.D. Popova, Quantified Formulation of an Interval Model in Mechanics, in: I. Georgiev, H. Kostadinov, E. Lilkova (eds.), *Advanced Computing in Industrial Mathematics, Studies in Computational Intelligence*, 1111, Springer, 2023, pp. 176–187. DOI: [10.1007/978-3-031-42010-8_19](https://doi.org/10.1007/978-3-031-42010-8_19), ISBN: 978-3-031-42009-2
Preprint: [23-EPopova-StCompInt-preprint](#) SJR(Scopus):0.209
2. E.D. Popova, Proving endpoint dependence in solving interval parametric linear systems. *Numerical Algorithms* 86(3):1339–1358, 2021. DOI: [10.1007/s11075-020-00936-3](https://doi.org/10.1007/s11075-020-00936-3), ISSN:1017-1398. Free read-only access: <https://rdcu.be/b38aM>, Preprint: [21-EPopova-NumAlgo-preprint](#) JCR-IF:2.37
3. E.D. Popova, New parameterized solution with application to bounding secondary variables in FE models of structures, *Applied Mathematics and Computation* 378 (2020) 125205. DOI: [10.1016/j.amc.2020.125205](https://doi.org/10.1016/j.amc.2020.125205),
Preprint: [arXiv:1812.07300](#) JCR-IF:4.091
4. E.D. Popova, On a class of parameterized solutions to interval parametric linear systems. *C. R. Acad. Bulg. Sci.* 73(5):599–611, ISSN:1310nS1331, DOI: [10.7546/CRABS.2020.05.02](https://doi.org/10.7546/CRABS.2020.05.02) JCR-IF:0.378
Preprint: [arXiv:1906.00613](#)
5. E.D. Popova, I. Elishakoff, Novel interval model applied to derived variables in static and structural problems. *Archive of Applied Mechanics* 90(4):869–881, 2020. DOI: [10.1007/s00419-019-01644-8](https://doi.org/10.1007/s00419-019-01644-8). Free read-only access: <https://rdcu.be/b25i5>, Preprint: [19-EPopova-AAM-preprint](#) JCR-IF:1.976
6. E. D. Popova, Algebraic Solution to Interval Equilibrium Equations of Truss Structures, *Applied Mathematical Modelling* 65, 489–506, 2019, free access DOI: [10.1016/j.apm.2018.08.021](https://doi.org/10.1016/j.apm.2018.08.021). JCR-IF:3.633
7. E. D. Popova, Rank one interval enclosure of the parametric united solution set, *BIT Numerical Mathematics* 59(2):503–521, 2019. ISSN:0006-3835 DOI: [10.1007/s10543-018-0739-4](https://doi.org/10.1007/s10543-018-0739-4). JCR-IF:1.33
Free read-only access: <https://rdcu.be/bbNCs>, Preprint: [19-EPopova-BIT-preprint.pdf](#)
8. E. D. Popova, Enclosing the solution set of parametric interval matrix equation $A(p)X = B(p)$, *Numerical Algorithms* 78(2):423–447, 2018, ISSN:1017-1398, DOI: [10.1007/s11075-017-0382-1](https://doi.org/10.1007/s11075-017-0382-1). JCR-IF:2.417
Free read-only access: <https://rdcu.be/enuwG>, Preprint: [18-EPopova-NumAlgo-preprint.pdf](#)
9. E. D. Popova, Equilibrium equations in interval models of structures, *Int. J. Reliability and Safety* 12(1/2):218–235, 2018, ISSN:1479-389X, DOI: [10.1504/IJRS.2018.10013814](https://doi.org/10.1504/IJRS.2018.10013814) SJR(Scopus):0.201
10. E. D. Popova, Improved solution to the generalized Galilei's problem with interval loads, *Archive of Applied Mechanics* 87(1):115–127, 2017. ISSN:1432-0681, DOI: [10.1007/s00419-016-1180-2](https://doi.org/10.1007/s00419-016-1180-2) Free read-only access: <https://rdcu.be/kofz>, Preprint: [16-EPopova-AAM-Preprint.pdf](#) JCR-IF:1.467
11. E. D. Popova, Parameterized outer estimation of AE-solution sets to parametric interval linear systems, *Applied Mathematics and Computation* 311:353–360, 2017. DOI: [10.1016/j.amc.2017.05.042](https://doi.org/10.1016/j.amc.2017.05.042) ISSN:0096-3003, Preprint: [17-EPopova-AMC-Preprint.pdf](#) JCR-IF:2.300
12. E. D. Popova, Interval algebraic approach to equilibrium equations in mechanics, in Georgiev, K. et al. (Eds), *Advanced Computing in Industrial Mathematics, Springer series "Studies in Computational Intelligence Vol. 681*, Springer International Publishing, 2017, pp. 161–173. DOI: [10.1007/978-3-319-49544-6_14](https://doi.org/10.1007/978-3-319-49544-6_14), Preprint: [16-EPopova-SCI-Preprint](#) SJR(Scopus):0.184
13. E. D. Popova, Interval equilibrium equations in mechanics, in: S. Freitag, R. Muhanna, R. Mullen (Eds.) *Proceedings of REC 2016*, Ruhr University Bochum, 2016, pp. 241–256.
http://rec2016.rub.de/downloads/rec2016_proceedings.pdf,
14. E. D. Popova, Outer bounds for the parametric controllable solution set with linear shape, in M. Nehmeier et al. (Eds.): *SCAN 2014, LNCS 9553*, pp. 138–147, 2016. ISBN: 978-3-319-31768-7
DOI: [10.1007/978-3-319-31769-4_12](https://doi.org/10.1007/978-3-319-31769-4_12), Preprint: [16-EPopova-SCAN14-Preprint.pdf](#) SJR(Scopus):0.339
- 14x Hofschuster, W., Popova, E.D., Kearfott, R.-B., Bibliography of Prof. Walter Krämer, in M. Nehmeier et al. (Eds.): *SCAN 2014, LNCS 9553*, pp. 281–290, 2016. ISBN: 978-3-319-31768-7
<http://link.springer.com/content/pdf/bbm:978-3-319-31769-4/1.pdf> SJR(Scopus):0.339

15. M. Hladík, E. D. Popova, Maximal inner boxes in parametric AE-solution sets with linear shape, *Applied Mathematics and Computation* 270:606–619, 2015. ISSN:0096-3003, DOI:[10.1016/j.amc.2015.08.003](https://doi.org/10.1016/j.amc.2015.08.003), Preprint: [15-MHladikEP-AMC-Preprint.pdf](#) JCR-IF:1.345
16. E. D. Popova, Solvability of Parametric Interval Linear Systems of Equations and Inequalities, *SIAM J. Matrix Anal. Appl.* 36(2):615–633, 2015. ISSN:0895-4798, DOI:[10.1137/140966459](https://doi.org/10.1137/140966459) Preprint: [2015-EPopova-SIMAX-preprint.pdf](#) JCR-IF:1.883
17. E. D. Popova, On the Unbounded Parametric Tolerable Solution Set, *Numerical Algorithms* 69(1):169–182, 2015. ISSN:1017-1398, DOI:[10.1007/s11075-014-9888-y](https://doi.org/10.1007/s11075-014-9888-y). Free read-only access: <https://rdcu.be/enTEA>. Preprint: [14-EPopova-NumAlgo-Preprint.pdf](#) JCR-IF:1.366
- 17x Popova, E.D., 10th Annual Meeting of the Bulgarian Section of SIAM, *Biomath Communications* 2(2), 2015. ISSN 2367-5233. <https://biomath.math.bas.bg/biomath/index.php/conference/article/view/585/701>
18. E. D. Popova, Improved Enclosure for Some Parametric Solution Sets with Linear Shape, *Computers and Mathematics with Applications* 68(9):994-1005, 2014. ISSN: 0898-1221, free access DOI:[10.1016/j.camwa.2014.04.005](https://doi.org/10.1016/j.camwa.2014.04.005), Erratum: [erratum-CAMWA14.pdf](#). JCR-IF:1.697
19. E. D. Popova, Inner Estimation of Linear Parametric AE-Solution Sets, *Comptes rendus de l'Academie Bulgare des Sciences* 67(1):13–20, 2014. ISSN: 1310-1331 JCR-IF:0.284
20. E. D. Popova, On “Overestimation-free Computational Version of Interval Analysis”, *Int. J. for Computational Methods in Engineering Science and Mechanics* 14(6):491–494, 2013. DOI: [10.1080/15502287.2013.806606](https://doi.org/10.1080/15502287.2013.806606) ISSN: 1550-2287 SJR(Scopus):0.275
21. E. D. Popova, Inner Estimation of the Parametric Tolerable Solution Set, *Computers and Mathematics with Applications* 66(9):1655–1665, 2013. free access DOI: [10.1016/j.camwa.2013.04.007](https://doi.org/10.1016/j.camwa.2013.04.007) JCR-IF:1.996
22. E. D. Popova, M. Hladik, Outer enclosures to the parametric AE solution set, *Soft Computing* 17 (2013) 1403–1414. DOI: [10.1007/s00500-013-1011-0](https://doi.org/10.1007/s00500-013-1011-0). Free read-only access: <https://rdcu.be/enTS9>, Preprint: [13-EP+MH-Preprint.pdf](#), ISSN: 1432-7643 JCR-IF:1.304
- 22x V. Kreinovich, W. Luther, E. Popova, Special issue on “uncertainty modeling and analysis with intervals: foundations, tools, applications”, *Soft Computing* (2013) 17:1315–1317. ISSN: 1432-7643, DOI: [10.1007/s00500-013-1004-z](https://doi.org/10.1007/s00500-013-1004-z) JCR-IF:1.304
23. J. Garloff, E. D. Popova, and A. P. Smith, Solving Linear Systems with Polynomial Parameter Dependency with Application to the Verified Solution of Problems in Structural Mechanics, in: A. Chinchuluun et al. (eds.), *Optimization, Simulation, and Control*, Springer Optimization and Its Applications 76, 2013, 301–318, Springer Science+Business Media, New York. DOI: [10.1007/978-1-4614-5131-0_19](https://doi.org/10.1007/978-1-4614-5131-0_19), Preprint: [13-GarloffEtAl-preprint.pdf](#), ISBN: 978-1-4614-5130-3, ISSN: 1931-6828 SJR(Scopus): 0.148
24. E. D. Popova, Explicit Description of AE Solution Sets for Parametric Linear Systems, *SIAM Journal on Matrix Analysis and Applications* 33(4):1172–1189, 2012. ISSN: 0895-4798 DOI: [10.1137/120870359](https://doi.org/10.1137/120870359), (Preprint [7/2011](#), IMI-BAS, Sofia, 2011.) JCR-IF:1.342
25. E. D. Popova, The United Solution Set to 3D Linear System with Symmetric Interval Matrix, *Proceedings of BGSIAM'11*, Demetra, Sofia, 2012, pp. 80–85. ISSN: 1313-3357
26. E. D. Popova, *Explicit Description of 2D Parametric Solution Sets*, *BIT Numerical Mathematics* 52(1):179–200, 2012. DOI: [10.1007/s10543-011-0339-z](https://doi.org/10.1007/s10543-011-0339-z). Free read-only access: <https://rdcu.be/enTW7>. ISSN: 0006-3835, Preprint: [EPopova2011-BIT.pdf](#) JCR-IF:0.977
27. M. Zimmer, W. Krämer, E. D. Popova, *Solvers for the verified solution of parametric linear systems*, *Computing* 94:109–123, 2012. ISSN: 0010-485X, DOI: [10.1007/s00607-011-0170-z](https://doi.org/10.1007/s00607-011-0170-z). Free read-only access: <https://rdcu.be/enWoq>. Reprint: [2012-ZimmerEtAl.pdf](#) JCR-IF:0.807
28. E. D. Popova, W. Krämer, *Characterization of AE Solution Sets to a Class of Parametric Linear Systems*, *Comptes rendus de l'Academie Bulgare des Sciences*, 64(3):325–332, 2011. ISSN: 1310-1331 JCR-IF:0.210
- 28x₁ E. Popova and R. Surilov, *Interval Interpolating Polynomial*, the Wolfram Demonstrations Project, 2011. <http://demonstrations.wolfram.com/IntervalInterpolatingPolynomial/>
- 28x₂ E. Popova and R. Surilov, *Interpolating Vertical Segments*, the Wolfram Demonstrations Project, 2011. <http://demonstrations.wolfram.com/InterpolatingVerticalSegments>

29. E.D. Popova, W. Krämer, *Embedding C-XSC Nonlinear Solvers in Mathematica*, Comptes rendus de l'Academie Bulgare des Sciences, 64(1):11–20, 2011. ISSN: 1310-1331 JCR-IF:0.210
- 29x I. Elishakoff, V. Kreinovich, W. Luther, and E. D. Popova (Eds.), *Uncertainty modeling and analysis with intervals: Foundations, tools, applications*, Dagstuhl Reports 1(9):26–57, 2011, Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, Dagstuhl, Germany. ISSN:2192-5283
DOI: [10.4230/DagRep.1.9.26](https://doi.org/10.4230/DagRep.1.9.26), <http://drops.dagstuhl.de/opus/volltexte/2011/3318>
30. E. D. Popova, W. Krämer, *Communicating Functional Expressions from Mathematica to C-XSC*, in K. Fukuda, J. van der Hoeven, M. Joswig, N. Takayama (Eds.), *Mathematical Software – ICMS’2010*, Lecture Notes in Computer Science 6327, Springer-Verlag Berlin Heidelberg 2010, pp. 354–365. ISSN: 0302-9743, DOI: [10.1007/978-3-642-15582-6_56](https://doi.org/10.1007/978-3-642-15582-6_56), SJR(Scopus):0.326
- 30p E. D. Popova, W. Krämer, M. Russev, *Integration of C-XSC Automatic Differentiation in Mathematica*, Preprint 3/2010, Institute of Mathematics and Informatics, BAS, 2010. <http://hdl.handle.net/10525/3373>
31. R. Anguelov, E. D. Popova, *Topological structure preserving numerical simulations of dynamical models*, Journal of Computational and Applied Mathematics 235(2):358–365, 2010. ISSN:0377-0427
free access DOI: [10.1016/j.cam.2010.05.038](https://doi.org/10.1016/j.cam.2010.05.038) JCR-IF:1.029
32. E. Popova, L. Kolev, W. Krämer, *A Solver for Complex-Valued Parametric Linear Systems*, Serdica Journal of Computing 4 (2010), pp. 123nIS-132. ISSN 1312-6555 (free access)
33. Popova, E.: *Mathematica Connectivity to Interval Libraries filib++ and C-XSC*, in: A. Cuyt, W. Krämer, W. Luther, P. Markstein (Eds.), *Numerical Validation*, Lecture Notes in Computer Science 5492, pp. 117–132, Springer-Verlag, 2009. ISSN: 0302-9743, DOI: [10.1007/978-3-642-01591-5_7](https://doi.org/10.1007/978-3-642-01591-5_7) SJR(Scopus):0.336
34. Garloff, J., Popova, E.D., Smith, A., *Solving Linear Systems with Polynomial Parameter Dependency in the Reliable Analysis of Structural Frames*, in N. Sims & K. Worden, Eds., *Proceedings of the 2nd Int. Conf. on Uncertainty in Structural Dynamics*, 15-17 June 2009 at The Univ. of Sheffield, UK, 2009, pp. 147–156. Expanded version in:
Garloff, J., Popova, E.D., Smith, A.: *Solving Linear Systems with Polynomial Parameter Dependency*, Preprint No. 1/2009, IMI-BAS, Sofia, 2009. <http://hdl.handle.net/10525/3369>
35. R. Anguelov, E. Popova, *Reliable Simulations for Applied Dynamical Models*, in T.E. Simos et al. (Eds.), *Numerical Analysis and Applied Mathematics*, American Inst. of Physics Conference Proceedings 1168, Melville, New York, 2009, pp. 1205-1208. ISSN: 0094-243X, DOI: [10.1063/1.3241284](https://doi.org/10.1063/1.3241284) SJR(Scopus):0.141
[Preprint](#) at 7th International Conference ICNAAM 2009, Aquila Rithymna Beach, Rethymno, Crete, Greece, Sept. 18-22, 2009.
36. E. Popova, *Explicit Characterization of a Class of Parametric Solution Sets*, Comptes rendus de l'Academie Bulgare des Sciences 62(10):1207–1216, 2009. ISSN: 1310-1331 JCR-IF:0.204
37. Popova, E.D., Krämer, W., *Visualizing Parametric Solution Sets*, BIT Numerical Mathematics 48(1):95–115, 2008. DOI: [10.1007/s10543-007-0159-3](https://doi.org/10.1007/s10543-007-0159-3). Free read-only access: <https://rdcu.be/enHD3>, ISSN: 0006-3835 JCR-IF:0.902
38. Popova, E.: *On the Interoperability Between Interval Software*. In A. Cuyt, W. Krämer, W. Luther, P. Markstein (Eds.), *Numerical validation in current hardware architectures*, Dagstuhl Seminar [Proceedings 08021](#), Internationales Begegnungs- und Forschungszentrum für Informatik (IBFI), Schloss Dagstuhl, Germany, 2008. ISSN: 1862-4405, DOI: [10.4230/DagSemProc.08021.16](https://doi.org/10.4230/DagSemProc.08021.16) open access with an electronic supplement: [08021.cxscML.pdf](#) and a source archive: [08021.cxscMathLink.zip](#).
39. Popova, E.D., Krämer, W.: *Inner and Outer Bounds for Parametric Linear Systems* Journal of Computational and Applied Mathematics 199(2):310–316, 2007. DOI: [10.1016/j.cam.2005.08.048](https://doi.org/10.1016/j.cam.2005.08.048) free access
ISSN:0377-0427 JCR-IF:0.943
40. Popova, E.: *Computer-Assisted Proofs in Solving Linear Parametric Problems*. In Conference [Post-Proceedings](#) of SCAN 2006, IEEE Computer Society Press, July 2007, p. 35. DOI: [10.1109/SCAN.2006.12](https://doi.org/10.1109/SCAN.2006.12), ISBN 978-0-7695-2821-2, Preprint: [06scanEPopova.pdf](#)
41. Popova, E.D.: *Solving Linear Systems whose Input Data are Rational Functions of Interval Parameters*, In T. Boyanov et al. (Eds.) *NMA 2006*, LNCS 4310, 2007, pp. 345–352. ISBN: 978-3-540-70940-4, DOI: [10.1007/978-3-540-70942-8_41](https://doi.org/10.1007/978-3-540-70942-8_41) (Preprint No. 3/2005, IMI-BAS, 2005.) SJR(scopus):0.322

42. Popova, E., R. Yankov, Z. Bonev: *Bounding the Response of Mechanical Structures with Uncertainties in all the Parameters*. In R.L.Muhanna, R.L.Mullen (Eds): Proceedings of the NSF Workshop on Reliable Engineering Computing, Savannah, Georgia USA, Feb. 22-24, 2006, pp. 245–265.
https://rec.ce.gatech.edu/rec2006/papers/Popova_paper.pdf
43. Popova, E.: *Improved Solution Enclosures for Over- and Underdetermined Interval Linear Systems*. In I. Lirkov, S. Margenov, J. Waśniewski (Eds.), LNCS 3743, 2006, pp. 305–312. ISBN: 3-540-31994-8, DOI: [10.1007/11666806_34](https://doi.org/10.1007/11666806_34) SJR(Scopus):0.313
44. Popova, E.: *WebComputing Service Framework*, International Journal INFORMATION THEORIES & APPLICATIONS (IJ ITA) 13(3):246–254, 2006. ISSN 1310-0513
45. Stoyanova V., Tonchev V., Popova E.: *Ground State of 2D Quadrumer Block Crystals with Square Lattices and Symmetric Nearest Neighbour Interactions*, Nanoscience and Nanotechnology 6, Heron Press Science Series, 2006, pp. 27–30. ISBN 954-580-097-6
46. Popova, E.: *Web Accessible Tools for Interval Linear Systems*, PAMM, Volume 5, Issue 1, 2005, pp. 713–714. ISSN: 1617-7061, DOI: [10.1002/pamm.200510331](https://doi.org/10.1002/pamm.200510331) (free access)
47. Popova, E., Ivanova, M.: *Scientific Visualization: interactive graphical web service*, Mathematics and Education in Mathematics, 2005, 363–369. (free access, in Bulgarian) ISBN: 954-8880-19-9
48. Stoeva, M., Uzunova, K., Popova, E., Stoyanova, K.: *Patterns and levels of variation within section Phacocystis of genus Carex (Cyperaceae) in Bulgaria*, *Phytologia Balcanica* 11(1):45–62, 2005. ISSN: 1310-7771.
49. W. Krämer, E. Popova: *Zur Berechnung von verlässlichen Außen- und Inneneinachließungen bei parameter-abhängigen linearen Gleichungssystemen*, PAMM, Vol. 4, 1, 2004, pp. 670–671. ISSN: 1617-7061, DOI: [10.1002/pamm.200410316](https://doi.org/10.1002/pamm.200410316) open access
50. Popova, E.: *Generalizing the Parametric Fixed-Point Iteration*, PAMM, Volume 4, Issue 1, 2004, pp. 680–681. ISSN: 1617-7061, DOI: [10.1002/pamm.200410321](https://doi.org/10.1002/pamm.200410321) open access
51. Popova, E., Datcheva, M., Iankov, R., Schanz, T.: *Sharp Bounds for Strains and Stresses in Uncertain Mechanical Models*. In I. Lirkov et al. (Eds.), LNCS 2907, 2004, pp. 262–269. ISBN10: 3540210903, DOI: [10.1007/978-3-540-24588-9_29](https://doi.org/10.1007/978-3-540-24588-9_29) JCR-IF:0.513
52. Iankov, R., E. Popova, Datcheva, M., Schanz, T.: *Modelling a cavity expansion problem under uncertainties*. In Proceedings of the University of Rousse, 2004, vol. 41, book 6.1, Mathematics and informatics, Physics, pp. 51–55. (Preprint)
53. Iankov, R., Popova, E., Datcheva, M., Schanz, T.: *Numerical Modeling of Consolidation with Uncertainty in Soil Properties*, Journal of Theoretical and Applied Mechanics 34(3):43–54, 2004. ISSN: 0861-6663, Reprint
54. Popova, E.: *Parametric Interval Linear Solver*, Numerical Algorithms 37(1-4):345–356, 2004. ISSN 1017-1398, DOI: [10.1023/B:NUMA.0000049480.57066.fa](https://doi.org/10.1023/B:NUMA.0000049480.57066.fa), free read-only access: <https://rdcu.be/enVgH>.
Preprint: [SCAN2002Popova.pdf](#) JCR-IF:0.264
55. Popova, E.: *Strong Regularity of Parametric Interval Matrices*. In I. Dimovski (Ed.) Mathematics and Education in Mathematics, Proceedings of the 33rd Spring Conf. of the Union of Bulgarian Mathematicians, Borovets, 1–4.4.2004, Union of Bulgarian Mathematicians, Sofia, 2004, pp. 446–451. ISBN: 954-8880-17-2.
56. Popova, E.D., Datcheva, M., Iankov, R., Schanz, T.: *Mechanical Models with Interval Parameters*. In K. Gürlebeck, L. Hempel, C. Könke (Eds.): Proceedings of 16th Internat. Conference on the Applications of Computer Science and Mathematics in Architecture and Civil Engineering, ISSN 1611-4086, 2003. Reprint: [03-ikm36.pdf](#)
57. Popova, E.: *Quality of the Solution Sets of Parameter Dependent Interval Linear Systems*, ZAMM 82(10):723–727, 2002. DOI: [10.1002/1521-4001\(200210\)82:10<723::AID-ZAMM723>3.0.CO;2-A](https://doi.org/10.1002/1521-4001(200210)82:10<723::AID-ZAMM723>3.0.CO;2-A), ISSN: 0044-2267, Reprint: [ZAMMPopova.pdf](#) JCR-IF:0.238
58. Popova, E.: *On the Solution of Parametrised Linear Systems*. In: W. Krämer, J. Wolff von Gudenberg (Eds.), Scientific Computing, Validated Numerics, Interval Methods, Kluwer Acad. Publishers, 2001, pp. 127–138. DOI: [10.1007/978-1-4757-6484-0_11](https://doi.org/10.1007/978-1-4757-6484-0_11), ISBN: 0-306-46706-2, Preprint: [SCAN2000Popova.pdf](#)

59. Popova, E.: *Solving Parametric Linear Systems by Mathematica*. In: Mathematics and Education in Mathematics, 2002, pp. 391–396. ISSN: 1313-3330
60. Popova, E.: *Multiplication Distributivity of Proper and Improper Intervals*. Reliable Computing 7(2):129–140, 2001. ISSN: 1573-1340, DOI: [10.1023/A:1011470131086](https://doi.org/10.1023/A:1011470131086) SJR(Scopus):0.263
- 60x Popova, E. D., All about Generalized Interval Distributive Relations. I. Complete Proof of the Relations. Manuscript, English translation of Chapter 2 in [60d], Sofia, March 2000. (http://www.math.bas.bg/~epopova/papers/00EPopova_DistrRel.pdf)
- 60d Popova, E.D., Generalized Interval Arithmetic — Properties and Implementation, PhD thesis, Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, Sofia, 2000, in Bulgarian. <http://hdl.handle.net/10525/3942>
61. Popova, E.: *Generalized interval distributive relations and their applications*, in J. Vehí, M. Sainz (Eds.), Applications of Interval Analysis to Systems and Control, Proceedings of MISC'99, Girona, Spain, 1999, pp. 29–40. ISBN: 84-95138-60-3, [Reprint](#)
62. Y. Akyildiz, E. Popova, Ch. Ullrich: *Computer Algebra Support for the Completed Set of Intervals*. In: J. Vehí, M. Sainz (Eds.): Applications of Interval Analysis to Systems and Control, Proceedings of MISC'99, Univ. of Girona, Spain, 1999, pp. 19–28. ISBN: 84-95138-60-3, [Reprint](#)
63. Ognjanova-Rumenova, N., M. Filipova-Marinova, E. Popova: *Analysis of Vegetation-Environment Relationships in the Bay of Sozopol, Bulgarian Black sea coast, by the CCA Method*. Acta Palaeobotanica Suppl. 2, 1999, pp. 589–593. (RG-source: <https://www.researchgate.net/publication/259706598>)
64. D. Temniskova-Topalova, V. Petrova-Karadjova, E. Popova: *Benthic Diatom Communities from the Bulgarian Black Sea Shelf*. Phytologia Balcanica 5, 2–3, 1999, pp. 131–138. ISSN: 1310-7771
65. Ognjanova-Rumenova, N., D. Zaprjanova, E. Popova: *Siliceous microfossil stratigraphy of sediment profile "F" connected with archaeological excavation in coastal wetlands in the Bay of Sozopol (Bulgarian Black sea coast). Part II: Palaeoenvironmental interpretation*. Phytologia Balcanica, 4/3, 1998, pp. 39–50. ISSN: 1310-7771 (RG source: <https://www.researchgate.net/publication/259706669>)
66. Popova, E.: *Algebraic Solutions to a Class of Interval Equations*. Journal of Universal Computer Science, 4(1):48–67, 1998. ISSN: 0948-6968, DOI: [10.3217/jucs-004-01-0048](https://doi.org/10.3217/jucs-004-01-0048) free access SJR(Scopus):0.155
67. Popova, E.; Ullrich, C.: *Simplification of Symbolic-Numerical Interval Expressions*. In O. Gloor (Ed.): Proceedings of the 1998 International Symposium on Symbolic and Algebraic Computation, ACM Press, 1998, pp. 207–214. ISBN: 1-58113-002-3, DOI: [10.1145/281508.281614](https://doi.org/10.1145/281508.281614)
68. Popova, E.: *On the Efficiency of Interval Multiplication Algorithms*. Proceedings of III-rd International Conference “Real Numbers and Computers”, Paris, April 27–29, 1998, pp. 117–132. Reprint: [RNC98PopovaC](#)
69. Popova, E.; Ch. Ullrich: *Generalising BIAS Specification*. Journal of Universal Computer Science, 3(1):23–41, Springer, 1997. ISSN: 0948-6968, DOI: [10.3217/jucs-003-01-0023](https://doi.org/10.3217/jucs-003-01-0023)
70. Popova, E.; Markov, S.: *Towards Credible Implementation of Inner Interval Operations*. In A. Sydow (Ed.): 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics. Volume 2 Numerical Mathematics, W&T Verlag, 1997, pp. 371–376. ISBN: 3-89685-552-2 ([Preprint](#))
71. Popova, E.: *Mathematica Tools for Explicit Manipulation of Interval Formulas*. In A. Sydow (Ed.): 15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics. Volume 2 Numerical Mathematics, W&T Verlag, 1997, pp. 389–394. ISBN: 3-89685-552-2
72. Akyildiz, Y., Popova, E., Ullrich, C.: *Towards a More Complete Interval Arithmetic in Mathematica*. In V. Keränen, P. Mitich (Eds.): *Innovation in Mathematics, Proceedings of the 2nd International Mathematica Symposium*. Computational Mechanics Publications, Southampton, UK, 1997, pp. 29–36. WIT Transactions on Engineering Sciences 15, 1997, EI.ISSN: 1743-3533. DOI: [10.2495/IMS970051](https://doi.org/10.2495/IMS970051)
73. Stoeva, M., E. Popova: *A taxonomic study of Carex sect. Phaestoglochin and sect. Stellulatae (Cyperaceae) in Bulgaria*. Bocconea 5(1-2):787–796, 1997. ISSN: 1120-4060
74. Ognjanova-Rumenova, N., E. Popova: *Diatom biostratigraphy and environmental history of the Holocene sediments in Sozopol bay*. Annuaire de l'Univerite de Sofia "St.Kl.Ochridski Fac. Biology, Livre 2 – Botanique 88, 4, 1997, pp. 42–46.

75. D. Temniskova-Topalova, D. Ivanov, E. Popova: *Diatom Analysis of Neogene Sediments from the Elhovo Basin in South Bulgaria*. *Geologica Karpathica* 47(5):289–300, 1996. ISSN: 1335-0552 JCR IF:0.486
76. Ognjanova-Rumenova, N., E. Popova: *Palaeolimnological Reconstruction of the Sofia Neogene Basin, Soughthern Bulgaria – a Review of Paleoenvironmental Diatom Studies*. *Phytologia Balcanica* 2(2):43–53, 1996. ISSN: 1310-7771
77. D.Temniskova-Topalova, N. Ognjanova-Rumenova, E. Popova: *Diatom Analysis of Neogene Sediments from the Karlovo Coal Basin (Southern Bulgaria). II. Stratigraphy and Palaeoecology Based on Siliceous Microfossils*. *Phytologia Balcanica* 2(1):13–28, 1996. ISSN: 1310-7771
78. Popova, E.: *Interval Operations Involving NaNs*. *Reliable Computing* 2(2):161–165, 1996. ISSN: 1573-1340, DOI: [10.1007/BF02425919](https://doi.org/10.1007/BF02425919) (Preprint)
79. Popova, E. D., Ullrich, C.: *Embedding Directed Intervals in Mathematica*. [Revista de Informatica Teorica e Aplicada](#) **3**, 2, 1996, pp. 99–115. ISSN: 21752745
- 79p Popova, E.D., Ullrich, C.P.: *Directed Interval Arithmetic in Mathematica: Implementation and Applications*. Technical Report 96-3, Universität Basel, January 1996, pp. 1–56.
80. Markov, S., Popova, E.: *Interpolation and Estimation using Interval Arithmetic*. In Milanese, M., Norton, J.P., Piet-Lahanier, H., Walter, E. (Eds.): *Bounding Approaches to System Identification*, Plenum Press, London, N.Y., 1996, pp. 139–157. ISBN: 0-306-4502L-6, DOI: [10.1007/978-1-4757-9545-5_9](https://doi.org/10.1007/978-1-4757-9545-5_9)
81. Markov, S., Popova, E., Ullrich, Ch.: *On the Solution of Linear Algebraic Equations Involving Interval Coefficients*. In S. Margenov, P. Vassilevski (Eds.): *Iterative Methods in Linear Algebra, II*, IMACS Series in Computational and Applied Mathematics **3**, 1996, pp. 216–225.
82. Markov, S.M., Popova, E.D., Schneider, U., Schulze, J.: *On Linear Interpolation under Interval Data*. *Mathematics and Computers in Simulation* 42(1):35–45, 1996. ISSN: 0378-4754
DOI: [10.1016/0378-4754\(95\)00110-7](https://doi.org/10.1016/0378-4754(95)00110-7) JCR-IF:0.165
83. Stoeva, M., Popova, E.: Population study of *Carex Pallescens* L. (Cyperaceae) in Bulgaria. In: Tsankov, G. (ed.), Proceedings of sci.conference "100 Anniversary of Acad. B. Stefanov 1995, pp. 272-277. full record in <https://www.cabidigitallibrary.org/doi/full/10.5555/20093190588>
84. Popova, E.: *On a Formally Correct Implementation of IEEE Computer Arithmetic*. *Journal of Universal Computer Science* 1(7):560–569, Springer, 1995. ISSN:0948-6968, DOI: [10.3217/jucs-001-07-0560](https://doi.org/10.3217/jucs-001-07-0560)
85. Popova, E.: *Extended Interval Arithmetic in IEEE Floating-Point Environment*. *Interval Computations*, No 4, 1994, pp. 100–129. ISSN: 0135-4868
86. Akyildiz, Y., Markov, S., Popova, E., Schulze, J.: *Computer-Aided Interval Interpolation*. In Dimov, I., Sendov, Bl., Vassilevski, P. (Eds.): *Advances in Numerical Methods and Applications*, World Scientific, Singapore, 1994, pp. 3–10. ISBN: 9810219261, book DOI: [10.1142/9789814533751](https://doi.org/10.1142/9789814533751)
87. Akyildiz, Y., Markov, S., Miller, J., Popova, E.: *Computational Tools for Interpolation and Curve Fitting under Uncertainties*. In Lipitakis, E. A. (Ed.): *Hellenic European Research on Mathematics and Informatics'94*. (Hermis'94), Athens, pp. 659–666.
88. Stoeva, M., E. Popova: *Cytotaxonomic study of Carex sect. Acrocystis (Cyperaceae) in Bulgaria*. *Fragmenta Floristica et Geobotanica* 38(1):29–43, 1993. ISSN: 1640-629X
89. Tsanev, V., Popova, E., Bochev, B., Ganeva, G.: *Seed Nitrogen Content and its Relation to Some Nitrogen Metabolism Elements in Lines Developed by Triticum Aestivum x Aegilops Crassa Hybridization. II. Nitrate Reductase and Protease Activity in the Leaves*. *Cereal Research Communication* **21**, Nos 2–3, Budapest, 1993, pp. 167–173. ISSN 0133-3720 JCR IF:0.174
access via: <https://www.jstor.org/stable/23783857>
90. Tsanev, V., Popova, E., Bochev, B., Ganeva, G.: *Seed Nitrogen Content and its Relation to Some Nitrogen Metabolism Elements in Lines Developed by Triticum Aestivum x Aegilops Crassa Hybridization. I. Nitrogen Assimilation and Translocation*. *Cereal Research Communication* **21**, Nos 2-3, Budapest, 1993, pp. 159–165. ISSN 0133-3720, access via: <https://www.jstor.org/stable/pdf/23783856.pdf> JCR IF:0.174

91. Ognjanova-Rumenova, N.; E. Popova: *Diatom biostratigraphy and comparative core correlation within the Sofia Basin, Bulgaria*. In Kovar-Eder, J. (Ed.) *Paleovegetational Development in Europe*, Museum of Natural History, Vienna, 1992, pp. 197–203, source: <https://www.researchgate.net/publication/259863758>
- 91a Ognjanova-Rumenova, N., E. Popova: *CCA used for Neogene Palaeoecological Reconstruction of Sofia basin, South Bulgaria*. In: Diatom algae as indicators of the changes of climate and environment, Fifth workshop on Diatom Algae, Irkutsk, March, 16-20, 1993, pp. 104–107.
92. Stoeva, M., E. Popova: *Taxonomical evaluation of the Bulgarian populations of genus Carex L. sect. Glaucae (Ascherson) Christ.* C. R. Acad. Bulg. Sci. 45(9):99–101, 1992. ISSN 0861-1459 JCR IF:0.082
93. Dimitrova, N., Markov, S.M., Popova, E.: *Extended Interval Arithmetics: New Results and Applications*, In Atanassova, L.; Herzberger, J. (Eds.): *Computer Arithmetic and Enclosure Methods*, Elsevier Sci. Publishers B. V., 1992, pp. 225–232. ISBN-10: 0444898344 (Preprint: [Oldenb92.pdf](#))
94. Markov S., E. Popova: *Curve Fitting under Interval Data for the Measurements: Software Tools and Numerical Examples*. In: Mathematics and Mathematical Education, BAS, Sofia, 1992, pp. 322–332.
95. Markov, S.; Popova, E.: *New Aspects of Mathematical Modelling: Curve Fitting*. In A. Andreev, I. Dimov, S. Markov, Ch. Ullrich (Eds.): *Mathematical Modelling and Scientific Computations*, Publ. House of the Bulg. Acad. of Sci., Sofia, 1991, pp. 49–63. (publ.index 13207)
96. Markov S., E. Popova: *Estimation and Identification using Interval Arithmetic*. In: Banyasz, Cs., Keviczky, L. (Eds.): *Identification and System Parameter Estimation*. 9th IFAC Symposium, Volume 1, Budapest, 1991, pp. 769–772. ISBN 963 311 331 8, 963 311 332 6, DOI: [10.1016/S1474-6670\(17\)50637-0](https://doi.org/10.1016/S1474-6670(17)50637-0)
97. Stoeva, M.; Popova, E.: *Variation Patterns within the Genus Carex L. sect. Digitatae (Fries) Christ. in Bulgaria*, Folia Geobotanica et Phytotaxonomica 26(4):379–395, Praga, 1991. ISSN: 00155551, DOI: [10.1007/BF02912773](https://doi.org/10.1007/BF02912773), access via: <https://www.jstor.org/stable/pdf/4181102.pdf> JCR IF:0.204
98. Stoeva, M., Popova, E., Uzunova, K.: *Population Variability of Carex sempervirence Vill. complex and Carex kitaibeliana Degen in Bulgaria*. In: Kozhukharov K., Kuzmanov B. (eds.): *Evolution of the Flowers and Florogenesis*. BAS Publ. House, 1991, 140–159. (in Bulgarian) ISSN: 954-430-039-2
99. Stoeva, M., Popova, E.: *Population Variation of Carex caryophillea Latourr in Bulgaria*. Fitologija **38**, 1990, pp. 41–58. (in Bulgarian)
100. Peneva, P., Popova, E., Kuzmanov, B.: *Morphological Variation of Matricaria recutita L. I. Cluster Analysis*. Fitologija **36**, 1989, pp. 15–25. (in Bulgarian) abstract in <https://www.cabidigitallibrary.org/doi/full/10.5555/19901696919>
101. Popova, E., Peneva, P.: *Morphological Variation of Matricaria recutita L. II. Discriminant Analysis*. Genetics and Breeding **20**, 4, 1987, 319–326. (in Bulgarian) ISSN: 0016-6766, abstract in <https://www.cabidigitallibrary.org/doi/full/10.5555/19871666103>
102. Peneva, P., Popova, E.: *Einfluss von Einigen Genetischen und Oekologischen Unterschieden auf die Morphologischen Merkmale der Echten Kamille — Matricaria recutita L.*, C. R. Acad. Bulg. Sci. 40(5):89–92, 1987. ISSN 0366-8688
103. Popova, E., Peneva, P.: *Grundfaktoren der Morphologischen Variabilitaet bei der Echten Kamille-Matricaria recutita L.*, C. R. Acad. Bulg. Sci. 40(4):89–92, 1987. ISSN 0366-8681 JCR IF:0.130
104. Dorekyuvteva (Popova), E., Tzanev, V., Savov, P.: *Correlation and Regression Analysis of the Dependencies Between the Content of the Crude Protein and Lisine in M₂ Plants of Different Wheat Varieties*. C. R. Acad. Bulg. Sci. 37(7):931–934, 1984. ISSN 0366-8681 JCR IF:0.125
105. P. Mirchev, E. Popova, *Effect of the temperature regime during diapause on the rate and duration of Lymantria Dispar L. egg hatching*. Forest Science **21**, 6, 1984, pp. 54–56. (in Bulgarian) <https://researchgate.net/publication/259654491>