



Abbas Saadatmandi

Professor

College: Faculty of Mathematics

Department: Applied Mathematics

Education

Degree	Graduated in	Major	University
BSc	1997	Applied Mathematics	Sharif University of Technology
MSc	2000	Numerical Analysis	Amirkabir University of Technology
Ph.D	2004	Numerical Analysis	Amirkabir University of Technology

Employment Information

Faculty/Department	Position/Rank	Employment Type	Cooperation Type	Grade
(not set)	(not set)	Tenured	Full Time	20

Journal Membership

1. Editorial Board Member (2016-present) [Mathematics Interdisciplinary Research](#) (University of Kashan, Islamic Republic of Iran)
2. Editorial Board Member (2013-present) [Computational Methods for Differential Equations](#) (University of Tabriz, Islamic Republic of Iran)
3. Editorial Board Member (2017-present) [Fractional Differential Calculus](#) (Publishing House Element d.o.o., Zagreb, Croatia)

Papers in Conferences

1. M. Pourbabaee, A. Saadatmandi. Numerical solution of the distributed-order diffusion-wave equations based on Legendre operational matrix. Δ 1st Annual Iranian Mathematics Conference. Kashan. 2021.
2. M. Pourbabaee, A. Saadatmandi. Collocation method based on Legendre polynomials for solving distributed order fractional differential equations. Δ 1st Annual Iranian Mathematics

Conference, Kashan, 2021.

3. A. Saadatmandi, M. Dehghan, Bounded solutions of a partial difference equation, 3rd Iranian International Conference on Mathematics, Ardabil, 1999.
4. M. Pourbabaee, A. Saadatmandi, Numerical solution of fractional pantograph differential equation using Chebyshev polynomials, 50th Annual Iranian Mathematics Conference, Shiraz, 2020.
5. N. Moshtaghi, A. Saadatmandi, Sinc-collocation method for approximate solution of the model of beam-type nano-scale electrostatic actuators, 49th Annual Iranian Mathematics Conference, Tehran, Tehran, 2019.
6. M. Pourbabaee, A. Saadatmandi, Numerical solution of a singular boundary value problem arising in the theory of shallow membrane caps via Sinc-collocation method, 49th Annual Iranian Mathematics Conference, Tehran, Tehran, 2019.
7. A. Eftekhari, A. Saadatmandi, DE sinc collocation method for solving the Bagley-Torvik equation with variable coefficients, 48th Annual Iranian Mathematics Conference, Hamedan, 2018.
8. A. Eftekhari, A. Saadatmandi, Application of Double Exponential sinc-collocation method for solving multi-point boundary value problem for optimal bridge design, International Conference on Architecture and Mathematics, Kashan, 2017.
9. A. Saadatmandi, Computational method for variational problems, The Second Conference on Computational Group Theory, Computational Number Theory and Applications, Kashan, 2015.
10. E. Babolian, A. Eftekhari, A. Saadatmandi, A sinc-collocation method for solving a nonlinear system of second order boundary value problems, 44th Annual Iranian Mathematics Conference, Mashhad, 2013.
11. N. Nafar, A. Saadatmandi, Projected differential transform method for solving Burgers' equation, 4th Conference on Mathematical Analysis and its Applications, Khansar, 2013.
12. A. Saadatmandi, S. Yeganeh, The sinc-collocation method for solving a problem arising in Chemical reactor theory, 43th Annual Iranian Mathematics Conference, Tabriz, 2012.

Papers in Journals

1. عباس سعادت‌مندی, Bernstein operational matrix of fractional derivatives and its applications, Applied Mathematical Modelling, 1365, 1392/11/26, شماره صفحات 38, مجلد 38, SCOPUS, JCR.
2. عباس سعادت‌مندی, اعظم قاسمی نصرآبادی, A Bernoulli-reproducing kernel method for a class of nonlinear singular boundary value problems, Journal of Applied Analysis and Computation, Vol. 14, pp. 3260, 2024 12 01, SCOPUS, JCR.
3. Saeid Alikhani, پوربابائی, مرضیه Ghorbani, Modjtaba, عباس سعادت‌مندی, In Memory of Professor Ali Reza Ashrafi (1964-2023): A Matchless Role Model in Mathematical Chemistry in Iran, Iranian Journal of Mathematical Chemistry, Vol. 14, pp. 1, 2023 06 07, SCOPUS, ISC, ISI-Listed.
4. عباس سعادت‌مندی, فاطمه مشهدی فینی, A pseudospectral method for nonlinear Duffing equation involving both integral and non-integral forcing terms, Mathematical Methods in the Applied Sciences, Vol. 38, pp. 1265, 2015 05 15, SCOPUS, JCR.
5. عباس سعادت‌مندی, علی افتخاری, اسماعیل بابلیان, A Sinc-Galerkin technique for the numerical solution of a class of singular boundary value problems, Computational and Applied Mathematics, Vol. 34, pp. 45, 2015 04 01, SCOPUS, JCR.
6. عباس سعادت‌مندی, نفیسه نفر, سید پندار توفیقی, Numerical study on the reaction cum diffusion process in a spherical biocatalyst, Iranian Journal of Mathematical Chemistry, Vol. 5, pp. 47, 2014 04 01, SCOPUS.
7. عباس سعادت‌مندی, علی افتخاری, اسماعیل بابلیان, A Sinc-Galerkin Approximate Solution of the Reaction-Diffusion Process in an Immobilized Biocatalyst Pellet, MATCH Communications in Mathematical and in Computer Chemistry, Vol. 71, pp. 681, 2014 01 01, SCOPUS, JCR.
8. سمیه یگانه, عباس سعادت‌مندی, فهیمه سلطانیان, مهدی دهقان, The numerical solution of differential-algebraic equations by sinc-collocation method, Computational and Applied Mathematics, Vol. 32, pp. 343, 2013 07 01, SCOPUS, JCR.

9. ديميتريو بالنوا,عباس سعادت‌مندی,عبداللهاب كادم,مهدي دهقان, The fractional linear systems of equations within an operational approach, *Journal of Computational and Nonlinear Dynamics*, Vol. 8, pp. 1, 2013 04 01, SCOPUS ,JCR.
10. محمد رضا عزيزي, عباس سعادت‌مندی, مهدي دهقان, The Sinc–Legendre collocation method for a class of fractional convection–diffusion equations with variable coefficients, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 17, pp. 4125, 2012 11 01, SCOPUS ,JCR.
11. مهدي دهقان, جليل منافيان, عباس سعادت‌مندی, Application of semi-analytical methods for solving the Rosenau-Hyman equation arising in the pattern formation in liquid drops, *International Journal of Numerical Methods for Heat & Fluid Flow*, Vol. 22, pp. 777, 2012 08 03, SCOPUS ,JCR.
12. عباس سعادت‌مندی, مهدي دهقان, A method based on the tau approach for the identification of a time-dependent coefficient in the heat equation subject to an extra measurement, *Journal of Vibration and Control*, Vol. 18, pp. 1125, 2012 07 01, SCOPUS ,JCR.
13. محمد رضا عزيزي, عباس سعادت‌مندی, Chebyshev finite difference method for a two-point boundary value problems with applications to chemical reactor theory, *Iranian Journal of Mathematical Chemistry*, Vol. 3, pp. 1, 2012 02 01, SCOPUS ,ISC.
14. عباس سعادت‌مندی, مهدي دهقان, The use of Sinc-collocation method for solving multi-point boundary value problems, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 17, pp. 593, 2012 02 01, SCOPUS ,JCR.
15. عباس سعادت‌مندی, مهدي دهقان, A Legendre collocation method for fractional integro-differential equations, *Journal of Vibration and Control*, Vol. 17, pp. 2050, 2011 11 01, SCOPUS ,JCR.
16. مهدي دهقان, جليل منافيان هريس, عباس سعادت‌مندی, Application of the Exp-function method for solving a partial differential equation arising in biology and population genetics, *International Journal of Numerical Methods for Heat and Fluid Flow*, Vol. 21, pp. 736, 2011 08 09, SCOPUS ,JCR.
17. عباس سعادت‌مندی, مهدي دهقان, A tau approach for solution of the space fractional diffusion equation, *Computers and Mathematics with Applications*, Vol. 62, pp. 1135, 2011 08 01, SCOPUS ,JCR.
18. مهدي دهقان, جليل منافيان هريس, عباس سعادت‌مندی, Application of semi-analytic methods for the Fitzhugh-Nagumo equation which models the transmission of nerve impulses, *Mathematical Methods in the Applied Sciences*, Vol. 33, pp. 1384, 2010 07 30, SCOPUS ,JCR.
19. عباس سعادت‌مندی, مهدي دهقان, Numerical solution of the higher-order linear Fredholm integro-differential-difference equation with variable coefficients, *Computational and Applied Mathematics*, Vol. 59, pp. 2296, 2010 04 01, SCOPUS ,JCR.
20. عباس سعادت‌مندی, مهدي دهقان, Computation of two time-dependent coefficients in a parabolic partial differential equation subject to additional specifications, *International Journal of Computer Mathematics*, Vol. 8, pp. 997, 2010 04 01, SCOPUS ,JCR.
21. مهدي دهقان, جليل منافيان, عباس سعادت‌مندی, Solving nonlinear fractional partial differential equations using the homotopy analysis method, *Numerical Methods for Partial Differential Equations*, Vol. 26, pp. 448, 2010 03 01, SCOPUS ,JCR.
22. عباس سعادت‌مندی, مهدي دهقان, A new operational matrix for solving fractional-order differential equations, *Computers and Mathematics with Applications*, Vol. 59, pp. 1326, 2010 02 01, SCOPUS ,JCR.
23. عباس سعادت‌مندی, مهدي دهقان, Numerical solution of hyperbolic telegraph equation using the Chebyshev tau method, *Numerical Methods for Partial Differential Equations*, Vol. 26, pp. 239, 2010 01 01, SCOPUS ,JCR.
24. عباس سعادت‌مندی, مهدي دهقان, Variational iteration method for solving a generalized pantograph equation, *Computers and Mathematics with Applications*, Vol. 58, pp. 2190, 2009 12 01, SCOPUS ,JCR.
25. مهدي دهقان, عباس سعادت‌مندی, Variational iteration method for solving the wave equation subject to an integral conservation condition, *Chaos, Solitons and Fractals*, Vol. 41, pp. 1448, 2009 08 15, SCOPUS ,JCR.
26. عباس سعادت‌مندی, مهدي دهقان, علي افتخاري, Application of He's homotopy perturbation method for non-linear system of second-order boundary value problems, *Nonlinear Analysis: Real World Applications*, Vol. 10, pp. 1912, 2009 06 01, SCOPUS ,JCR.

27. مهدی دهقان, عباس سعادت‌مندی, Numerical solution of a mathematical model for capillary formation in tumor angiogenesis via the tau method, Communications in numerical methods in engineering, Vol. 24, pp. 1467, 2008 11 01, SCOPUS, JCR.
28. مهدی دهقان, عباس سعادت‌مندی, Numerical solution of a mathematical model for capillary formation in tumor angiogenesis via the tau method, Communications in numerical methods in engineering, Vol. 24, pp. 1467, 2008 11 01, SCOPUS, JCR.
29. مهدی دهقان, عباس سعادت‌مندی, The numerical solution of problems in calculus of variation using Chebyshev finite difference method, Physics Letters A, Vol. 372, pp. 4037, 2008 06 25, SCOPUS, JCR.
30. مهدی دهقان, عباس سعادت‌مندی, The numerical solution of a nonlinear system of second-order boundary value problems using the sinc-collocation method, Mathematical and Computer Modelling, Vol. 46, pp. 1434, 2007 12 01, SCOPUS, JCR.
31. عباس سعادت‌مندی, جلال عسگری فرسنگی, Chebyshev finite difference method for a nonlinear system of second-order boundary value problems, Applied Mathematics and Computation, Vol. 192, pp. 586, 2007 09 15, SCOPUS, JCR.
32. عباس سعادت‌مندی, محسن رزاقی, The numerical solution of third-order boundary value problems using Sinc-collocation method, Communications in numerical methods in engineering, Vol. 23, pp. 681, 2007 07 01, SCOPUS, JCR.
33. مهدی دهقان, عباس سعادت‌مندی, Numerical solution of the one-dimensional wave equation with an integral condition, Numerical Methods for Partial Differential Equations, Vol. 23, pp. 282, 2007 03 01, SCOPUS, JCR.
34. مهدی دهقان, عباس سعادت‌مندی, A tau method for the one-dimensional parabolic inverse problem subject to temperature overspecification, Computers and Mathematics with Applications, Vol. 52, pp. 933, 2006 09 01, SCOPUS, JCR.
35. اعظم قاسمی نصرآبادی, عباس سعادت‌مندی, A new Bernstein-reproducing kernel method for solving forced Duffing equations with integral boundary conditions, Computational Methods for Differential Equations, 0000 00 00, SCOPUS, ISC, ISI-Listed.
36. M. Pourbabaee, A. Saadatmandi, A new operational matrix based on Müntz–Legendre polynomials for solving distributed order fractional differential equations, Mathematics and Computers in Simulation, Vol. 194, pp. 210-235, 2022, JCR.
37. N. Moshtaghi, A. Saadatmandi, Polynomial–Sinc collocation method combined with the Legendre–Gauss quadrature rule for numerical solution of distributed order fractional differential equations, Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemáticas, 2021.
38. A. Eftekhari, A. Saadatmandi, DE Sinc-collocation method for solving a class of second-order nonlinear BVPs, Mathematics Interdisciplinary Research, 2021.
39. M. Pourbabaee, A. Saadatmandi, The construction of a new operational matrix of the distributed-order fractional derivative using Chebyshev polynomials and its applications, International Journal of Computer Mathematics, Vol. 98, pp. 2310–2329, 2021, JCR.
40. N. Moshtaghi, A. Saadatmandi, Numerical Solution of Time Fractional Cable Equation via the Sinc-Bernoulli Collocation Method, Journal of Applied and Computational Mechanics, Vol. 7, pp. 1916-1924, 2021.
41. M. Bisheh, & Niasar, A. Saadatmandi, Some Novel Newton-Type Methods for Solving Nonlinear Equations, Boletim da Sociedade Paranaense de Matemática, 2020.
42. A. Saadatmandi, A. Khani, M. R. Azizi, Numerical calculation of fractional derivatives for the Sinc functions via Legendre polynomials, Mathematics Interdisciplinary Research, 2020.
43. N. Moshtaghi, A. Saadatmandi, Numerical solution for diffusion equations with distributed-order in time based on Sinc-Legendre collocation method, Applied and Computational Mathematics, 2020.
44. M. Pourbabaee, A. Saadatmandi, Collocation method based on Chebyshev polynomials for solving distributed order fractional differential equations, Computational Methods for Differential Equations, 2020.

45. A. Saadatmandi, S. Shateri, Sinc-collocation method for solving sodium alginate (SA) non-Newtonian nanofluid flow between two vertical flat plates,, Journal of the Brazilian Society of Mechanical Sciences and Engineering,2019.
46. M. Pourbabae, A. Saadatmandi, A novel Legendre operational matrix for distributed order fractional differential equations, Applied Mathematics and Computation, 2019.
47. Abbas Saadatmandi, Zeinab Sanatkar, Collocation method based on rational Legendre functions for solving the magneto-hydrodynamic flow over a nonlinear stretching sheet, Applied Mathematics and Computation, Vol. 323, pp. 193-203, 2018, ISI, SCOPUS.
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49. Abbas Saadatmandi, Samaneh Fayyaz, Numerical study of oxygen and carbon substrate concentrations in excess sludge production using sinc-collocation method, MATCH Communications in Mathematical and in Computer Chemistry, Vol. 80, pp. 355-368, 2018, ISI, SCOPUS.
50. Abbas Saadatmandi, Samaneh Fayyaz, Chebyshev finite difference method for solving a mathematical model arising in wastewater treatment plants, Computational Methods for Differential Equations, Vol. 6, pp. 448-455, 2018, ISI, ISC.
51. Abbas Saadatmandi, Ali Khani, Mohammad-Reza Azizi, A sinc-Gauss-Jacobi collocation method for solving Volterra's population growth model with fractional order, Tbilisi Mathematical Journal, Vol. 11, pp. 123-137, 2018, ISI.
52. Abbas Saadatmandi, Hartley series direct method for variational problems, Mathematics Interdisciplinary Research, Vol. 2, pp. 23-31, 2017.
53. Abbas Saadatmandi, Somayye Yeganeh, New approach for the Duffing equation involving both integral and non-integral forcing terms, U POLITEH BUCH SER A, Vol. 79, pp. 43-52, 2017, ISI, SCOPUS.
54. Mohammadreza Ahmadi Darani, Abbas Saadatmandi, The operational matrix of fractional derivative of the fractional-order Chebyshev functions and its applications, Computational Methods for Differential Equations, Vol. 5, pp. 67-87, 2017, ISC.
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57. Abbas Saadatmandi, Zeinab Sanatkar, An approximate solution of the MHD flows of UCM fluids over porous stretching sheets by rational Legendre collocation method, International Journal of Numerical Methods for Heat & Fluid Flow, Vol. 26, pp. 2218-2234, 2016, ISI, SCOPUS.
58. Abbas Saadatmandi, Afsaneh Asadi, Ali Eftekhari, Collocation method using quintic B-spline and Sinc functions for solving a model of squeezing flow between two infinite plates, International Journal of Computer Mathematics, Vol. 63, pp. 1921-1936, 2016, ISI, SCOPUS.
59. Abbas Saadatmandi, Tahereh Abdolahi Niasar, Numerical solution of Troesch's problem using Christov rational functions, Computational Methods for Differential Equations, Vol. 3, pp. 247-257, 2016, ISC.
60. Abbas Saadatmandi, Tahereh Abdolahi Niasar, An analytic study on the Euler-Lagrange equation arising in calculus of variations, Computational Methods for Differential Equations, Vol. 2, pp. 140-152, 2015.
61. Abbas Saadatmandi, Mohadeseh Mohabbati, Numerical solution of fractional telegraph equation via the Tau method, Mathematical Reports, Vol. 17, pp. 155-166, 2015, ISI, SCOPUS.
62. A. Saadatmandi, M. Razzaghi, M. Dehghan, Sinc-Galerkin solution for nonlinear two-point boundary value problems with applications to Chemical reactor theory, Mathematical and Computer Modelling, Vol. 42, pp. 1237-1244, 2005.

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64. A. Saadatmandi, M. Razzaghi, A Tau method approach for the diffusion equation with nonlocal boundary conditions, *International Journal of Computer Mathematics*, Vol. 81, No. 11, pp. 1427-1432, 2004.
65. M. Dehghan, A. Saadatmandi, Bounds for solutions of a six-point partial-difference scheme, *Computers and Mathematics with Applications*, Vol. 47, pp. 83-89, 2004.