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Publications

Journals

- Asadzadeh, M and Saray, BN, "On a multiwavelet spectral element method for integral equation of a generalized Cauchy problem", BIT Numerical Mathematics, Vol. 96, NO. 12, 2022
- Afarideh, Alireza and Saei, Farhad Dastmalchi and Lakestani, Mehrdad and Saray, Behzad Nemati, "Pseudospectral method for solving fractional Sturm-Liouville problem using Chebyshev cardinal functions", Physica Scripta, Vol. 96, NO. 12, 2021
- Saray, Behzad Nemati, "Abel's integral operator: sparse representation based on multiwavelets", BIT Numerical Mathematics, Vol. 61, NO. 2, 2021
- Nemati Saray, Behzad and Lakestani, Mehrdad and Dehghan, Mehdi, "On the sparse multiscale representation of 2-D Burgers equations by an efficient algorithm based on multiwavelets", Numerical Methods for Partial Differential Equations, Vol. 51, NO. 2, 2021
- Shahriari, Mohammad and Saray, Behzad Nemati and Manafian, Jalil, "Reconstruction of the Sturm-Liouville differential operators with discontinuity conditions and a constant delay", Indian Journal of Pure and Applied Mathematics, Vol. 51, NO. 2, 2020
- Saray, Behzad Nemati and Lakestani, Mehrdad, "On the sparse



multi-scale solution of the delay differential equations by an efficient algorithm", Applied Mathematics and Computation, Vol. 381, NO. 5, 2020

- Nemati Saray, Behzad, "Sparse multiscale representation of Galerkin method for solving linear-mixed Volterra-Fredholm integral equations", Mathematical Methods in the Applied Sciences, Vol. 43, NO. 5, 2020
- Seyedi, S Hadi and Saray, Behzad Nemati and Chamkha, Ali J, "Heat and mass transfer investigation of MHD Eyring--Powell flow in a stretching channel with chemical reactions", Physica A: Statistical Mechanics and its Applications, Vol. 544, NO. 16, 2020
- Shahriari, M and Nemati Saray, B and Pashaie, F, "Numerical solution of the Sturm-Liouville problem by using Chebyshev cardinal functions", Journal of New Researches in Mathematics, Vol. 4, NO. 16, 2019
- Seyedi, S Hadi and Nemati Saray, Behzad and Ramazani, Ali, "High-accuracy multiscale simulation of three-dimensional squeezing carbon nanotube-based flow inside a rotating stretching channel", Mathematical Problems in Engineering, Vol. 2019, NO. 4, 2019
- Soleymani, Fazlollah and Saray, Behzad Nemati, "Pricing the financial Heston--Hull--White model with arbitrary correlation factors via an adaptive FDM", Computers & Mathematics with Applications, Vol. 77, NO. 4, 2019
- Saray, Behzad Nemati, "An efficient algorithm for solving Volterra integro-differential equations based on Alpert's multi-wavelets Galerkin method", Journal of Computational and Applied Mathematics, Vol. 348, NO. 5, 2019
- Shahriari, Mohammad and Saray, Behzad Nemati and Lakestani, Mehrdad and Manafian, Jalil, "Numerical treatment of the Benjamin-Bona-Mahony equation using Alpert



multiwavelets", The European Physical Journal Plus, Vol. 133, NO. 5, 2018

- Seyedi, S Hadi and Saray, Behzad Nemati and Ramazani, Ali, "On the multiscale simulation of squeezing nanofluid flow by a highprecision scheme", Powder Technology, Vol. 340, NO. 5, 2018
- Saray, Behzad Nemati and Lakestani, Mehrdad and Cattani, Carlo, "Evaluation of mixed Crank--Nicolson scheme and Tau method for the solution of Klein--Gordon equation", Applied Mathematics and Computation, Vol. 331, NO. 9, 2018
- Saray, Behzad Nemati and Manafian, Jalil, "Sparse representation of delay differential equation of Pantograph type using multi-wavelets Galerkin method", Engineering Computations, Vol. 55, NO. 9, 2018
- Najafi, Ramin and Nemati Saray, Behzad, "Numerical solution of the forced Duffing equations using Legendre multiwavelets", Computational Methods for Differential Equations, Vol. 5, NO. 1, 2017
- Nemati Saray, Behzad and Shahriari, Mohammad, "Numerical solution of linear control systems using interpolation scaling functions", Computational Methods for Differential Equations, Vol. 4, NO. 2, 2016
- Saray, Behzad Nemati and Lakestani, Mehrdad and Razzaghi, Mohsen, "Sparse representation of system of Fredholm integro-differential equations by using alpert multiwavelets", Computational Mathematics and Mathematical Physics, Vol. 55, NO. 9, 2015
- Seyedi, S Hadi and Saray, Behzad Nemati and Nobari, Mohammad Reza Heirani, "Using interpolation scaling functions based on Galerkin method for solving non-Newtonian fluid flow between two vertical flat plates", Applied Mathematics and Computation, Vol. 269, NO. 2, 2015



- Homei, H and Saray, BN and Lakestani, M, "Numerical solution of nonlinear ordinary differential equations using alpert multiwavelets", *Acta Universitatis Apulensis. Mathematics. Informatics*, Vol. 16, NO. 2, 2014
- Dehghan, Mehdi and Saray, Behzad Nemati and Lakestani, Mehrdad, "Mixed finite difference and Galerkin methods for solving Burgers equations using interpolating scaling functions", *Mathematical Methods in the Applied Sciences*, Vol. 37, NO. 6, 2014
- Izadkhah, Saba and Shahriari, Mohammad and Saray, Behzad Nemati, "Galerkin and collocation methods for the solution of Klein-Gordon equation using interpolating scaling functions", *International Journal of Nonlinear Science*, Vol. 16, NO. 2, 2013
- Lakestani, Mehrdad and Saray, Behzad Nemati, "Numerical solution of singular IVPs of Emden-Fowler type using Legendre scaling functions", *International Journal of Nonlinear Science*, Vol. 13, NO. 2, 2012
- Dehghan, Mehdi and Saray, Behzad Nemati and Lakestani, Mehrdad, "Three methods based on the interpolation scaling functions and the mixed collocation finite difference schemes for the numerical solution of the nonlinear generalized Burgers--Huxley equation", *Mathematical and computer Modelling*, Vol. 55, NO. 3, 2012
- Lakestani, Mehrdad and Saray, Behzad Nemati and Dehghan, Mehdi, "Numerical solution for the weakly singular Fredholm integro-differential equations using Legendre multiwavelets", *Journal of Computational and Applied Mathematics*, Vol. 235, NO. 11, 2011
- Lakestani, Mehrdad and Saray, Behzad Nemati, "Numerical solution of telegraph equation using interpolating scaling functions", *Computers & Mathematics with Applications*, Vol. 60, NO. 7, 2010



Conferences

- Saray, Behzad Nemati and Heidarpour, Farid and Karbasi, Seyed Mahdi, "Multiwavelets Galerkin method for solving linear control systems", The 46 th Annual Iranian Mathematics Conference, 2015