

Publications:

1. Split local absorbing conditions for one-dimensional nonlinear Klein-Gordon equation on unbounded domain, Houde Han and Zhiwen Zhang, *J. Comput. Phys.*, **227**, 8992-9004 (2008).
2. An analysis of the finite-difference method for one-dimensional Klein-Gordon equation on unbounded domain, Houde Han and Zhiwen Zhang, *Applied Numerical Mathematics*, **59**, 1568-1583 (2009).
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4. An Eulerian surface hopping method for the Schrödinger equation with conical crossings, Shi Jin, Peng Qi and Zhiwen Zhang, *SIAM Multiscale Modeling and Simulation*, **9**, 258-281 (2011).
5. Split local artificial boundary conditions for the two-dimensional sine-Gordon equation on \mathbb{R}^2 , Houde Han and Zhiwen Zhang, *Comm. in Comput. Phys.*, **10**, 1161-1183 (2011).
6. Multiscale tailored finite point method for second order elliptic equations with rough or highly oscillatory coefficients, Houde Han and Zhiwen Zhang, *Comm. Math. Sci.*, **19**, 945-976 (2012).
7. A dynamically bi-orthogonal method for time-dependent stochastic partial differential equations I: derivation and algorithms, M. Cheng, T. Y. Hou, and Z. Zhang, *J. Comput. Phys.*, **242**, 843-868, 2013.
8. A dynamically bi-orthogonal method for time-dependent stochastic partial differential equations II: adaptivity and generalizations, M. Cheng, T. Y. Hou, and Z. Zhang, *J. Comput. Phys.*, **242**, 753-776, 2013.
9. A data-driven stochastic method for elliptic PDEs with random coefficients, M. Cheng, T. Y. Hou, M. Yan, and Z. Zhang, *SIAM/ASA J. Uncertainty Quantification*, **1**, 452-493, 2013.
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13. Computing Eigenvalues and Eigenfunctions Of Schrodinger Equations Using a Model Reduction Approach, Li S. and Zhang Z., Commun. Comput. Phys., (2017)
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15. Computing effective diffusivity of chaotic and stochastic flows using structure preserving schemes, Wang Z., Xin J. and Zhang Z., SIAM J. NUMER. ANAL., (2018)
16. A Markov-Driven Portfolio Execution Strategy with Market Impact, Numerical Mathematics: Theory, Methods and Applications, YANG Q., Ching W.K., Siu T. and Zhang Z., 11, 701-728, (2018)
17. GPS Trajectory Data Segmentation Based on Probabilistic Logic, International Journal of Approximate Reasoning, Li W., Li. X, Ching W.K., Guo S., Ralescu D., and Zhang Z. (2018)
18. Cluster-based generalized multiscale finite element method for elliptic PDEs with random coefficients, Chung E., Efendiev Y., Leung W. and Zhang Z., Journal of Computational Physics, (2018)