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The local extrapolated exponential splitting scheme for
multi-dimensional nonlinear space-fractional Schrödinger equations
Numerical Algorithms

2011/08-2014/12

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2006/09-2010/12

科研与学术工作经历：

主持或参加科研项目（课题）及人才计划项目情况：

省部级及以上项目：

其他项目：

2018-01 2019-12, 0

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2019-04 2020-04, 15

代表性研究论文：

(1) *, Efficient exponential time differencing methods with Padé approximations for the semilinear space-time-fractional Schrödinger equation, Modern Physics Letters B, 2020: <https://doi.org/10.1142/S021798492050428X>.

(2) *, Abdul Khaliq, An efficient Fourier spectral exponential time differencing method for the space-fractional nonlinear Schrödinger equations, Computer and mathematics with applications, 2018, 75: 4438-4457.

(3) *, Harish Bhatt, Exponential time differencing schemes for the 3-coupled nonlinear fractional Schrödinger equation, Advances in Difference Equations, 2018: 476.

(4) *, Abdul Khaliq, Harish Bhatt, Kiran Furati, The locally extrapolated exponential splitting scheme for multi-dimensional nonlinear

space-fractional Schrödinger equations, *Numerical Algorithms*, 2017, 76: 939-958.

(5) *, Abdul Khaliq, Yulong Xing, Fourth order exponential time differencing method with local discontinuous Galerkin approximation for coupled nonlinear Schrödinger equations, *Communications in Computational Physics*, 2015, 17(2): 510-541.