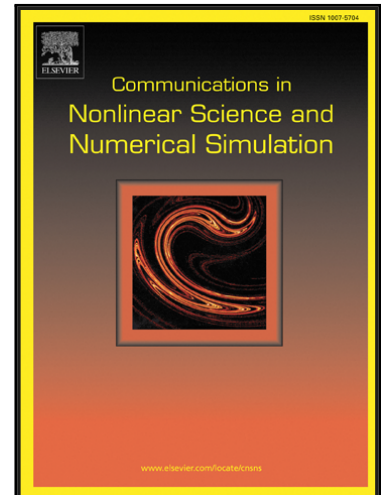


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On an accurate discretization of a variable-order fractional reaction-diffusion equation

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Highlights

- A highly accurate discretization technique is developed to solve a class of variable-order fractional reaction-diffusion problems.
- The numerical scheme involves the use of a fourth-order compact finite-difference formula in space and a third-order weight-shifted Grünwald method in time.
- Solvability, stability and convergence of proposed schemes are derived.
- Using the reported real data, the feasibility of the VOF model is demonstrated.
- Through numerical results, the theoretical analysis and high-accuracy of proposed methods are verified.

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