

## Review of: "New adaptative numerical algorithm for solving partial integro-differential equations"

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Potential competing interests: No potential competing interests to declare.

## **Reviewer personal information**

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Review on the paper "New adaptative numerical algorithm for solving partial integro-differential equations"

The manuscript reported the theoretical and numerical results solving initial-boundary value problem for singularly perturbed parabolic integro-differential equations.

The content and design of the material meet the requirements of a scientific publication with minor correction.

Therefore I would recommend the publication of this manuscript.

I only have a few questions and comments:

- 1. Please show the gap and state the novelty of your work at introduction section.
- 2. Does your method work for singularly perturbed parabolic integro- differential equations?
- 3. You have stated the present method is good efficiency method. Is it in terms of accuracy or computational time?
- 4. I haven't seen the order of convergence of your proposed method at any section, so what is the order of convergence of your proposed method?
- 5. Compute the rate of convergence?

## **Additional comment**

Authors should include the two references for the completeness of the literature on singularly perturbed differential equations:

 D.M., Tefera, A.A., Tiruneh. G.A., Derese, Numerical Treatment on Parabolic Singularly Perturbed Differential Difference Equation via Fitted Operator Scheme, Abstr. Appl. Anal., 2021 1 - 12, 2021.



- 2. D.M., Tefera, A.A., Tiruneh. G.A., Derese, Fitted Operator Method over Gaussian Quadrature Formula for Parabolic Singularly Perturbed Convection-Diffusion Problem. Numer. Analys. Appl. 15,256–269 (2022).
- 3. D.M., Tefera, A.A., Tiruneh. G.A., Derese, Fitted Operator Method Using Multiple Fitting Factors for Two Parameters Singularly Perturbed Parabolic Problems, Mathematical Problems in Engineering, Hindawi, vol. 2022, pages 1-10.