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.

Comments on the manuscript *Qeios* R4546K entitled

"**New adaptative numerical algorithm for solving partial integro-differential equations**"

This manuscript uses an approach based on orthonormal Bernoulli polynomials to solve the parabolic partial integro-differential equations numerically. The Convergence issue is analyzed, also, in order to investigate the efficiency and accuracy of the introduced method, some test problems have been solved.

Some comments are given in below.

1. The word of "convergence" should be added to keywords.
2. With the appropriate grammatical convention and punctuation, sentences introducing equations should, with the inclusion of the equation, constitute a complete sentence. More editing for writing is needed. For example, on page 3, after Equation 6, "contains" can be replaced by "containing".
3. Moderate editing English language required. Only some of them are given here.

- On page 2, before Equation 3, "oppeared" should be replaced by " appeared".
- On page 3, section 3, what is the letter "t" after "technique"?
- On page 5, before Equation 21, "noeuds" should be replaced by "nodes".
- On page 5, before Equation 22, "oppeared" should be replaced by " appeared".
- On page 17, conclusion, what the meaning of "after" in the following sentence?

"After we take Gauss-Legendre nodes in the intervals [0; b] and [0; T] as collocation points."

1. You have claimed that your presented method is easily to implement and simple. What is the criterion for this claim? It is suggested to report the CPU run times in the given tables for all of the examples. Also, write the configuration of your computer at the beginning of section corresponding to numerical examples.
2. The paper's layout usually comes at the end of the introduction.
3. All acronyms should be defined for the first time. For example, on page 3, you have used "OBP" but you haven't defined it.
4. On page 5, what is the used reference for invertibility of matrix "T_b,N". Give it before Equation 16.
5. What is the reference of Lemma 2?

6. On page 8, proof of Theorem 2, why is the first inequality true?
7. It is suggested to confirm the theoretical results for convergence of the proposed approach numerically in tables.