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

Elham Keshavarz[1]

1 Alzahra University

Potential competing interests: No potential competing interests to declare.

Comments on the paper

New adaptative numerical algorithm for solving partial integro-differential

Equations

In this paper, a new numerical method based on orthonormal Bernoulli polynomials has been applied to give the approximate solution of the parabolic partial integro-differential equations. The proposed method is applied to reduce the problem to a nonlinear algebraic system.

1. Check the manuscript carefully for typos and grammatical errors. For instance,

- on page 2, after Eq. (2), and on page 5, in Eq. (20) "k_1" and "k_2" should be corrected as "K_1" and "K_2".
- on page 3, in Eq. (10), "P_{j-1,T}(x) "should be replaced by "P_{j-1,T}(t) ".
- on page 3, section 3, letter "t" should be deleted.
- on page 4, after Eq. (15), and, on page 6, in section 4, "with" should be replaced by "where".
- on page 4, before Eq. (17), "and" should be replaced by "Also".
- on page 5, in Eq. (20) "Lambda_2" should be corrected as "Lambda_3".
- on page 5, before Eq. (21), "defined by (3)" should be deleted.
- on page 6, before Eq. (24), "Lambda_2" and "Lambda_3" should be added before Sigma symbols.
- on page 6, after Eq. (24), "Using relation (9), initial … given in (6)" should be corrected as " Using relation (9) and initial … given in (2)".
- on page 7, before Eq. (27), "(x^(j) "should be replaced by "(x^(j)) ."
- on page 7, after Eq. (29), "u-P_N " should be replaced by "u-P_Nu".
- on page 8, in proof 1, "r=0, 32 reduce to 29. Now suppose that 32" and "by using 31" and "the results 32" should be replaced by " r=0, relation (32) reduce to (29). Now suppose that (32)" and "by using (31) and "the results (32)", respectively.
- "Proof 1" and "Proof 2" should be replaced by "Proof".
- In Proof 2, "equation 1" and "Lemma 31" should be replaced by " equation (1)" and "relation (31)", respectively .
- On page 9, before section 5, "is" should be deleted.

1. On page 8, in proof of Theorem 2, why is the last inequality true?

2. On page 4, what is the used reference for "T_{b,N}" ?

3. What is the used reference for Lemma 2 , and Examples 1 and 2?

4. Authors must present arguments in the conclusions demonstrating the advantages of using the proposed method.