Review of: "Taylor Series Based Domain Collocation Meshless Method for Problems with Multiple Boundary Conditions including Point Boundary Conditions"

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Potential competing interests: No potential competing interests to declare.

These are my questions and suggestions to improve the article:

1. First of all, I think the abstract and the Introduction are good, maybe a little bit grandiloquent "Laws which govern the physics of the universe….", but it has a good review of the current methodologies. At the end of the introduction you can also mention section 4 where the conclusions are presented.
2. People not familiar with Taylor polynomials will find it very hard to follow. I would suggest to start section 2 with a simple explanation to introduce the method, to explain what are Taylor polynomials and how they are used and applied in simple examples, or at least give some basic references of how to be introduced in this mathematical topic.
3. You start explaining the proposed methodology in two steps, that will be presented in sections 2.1 and 2.2, but you did not tell this in the introduction of section 2. I think that you can also explain why these two steps are needed and what is the concept behind the "domain collocation", and why this is important.
4. In the first paragraph of section 2.1 you repeat "function u(x)" twice in a sentence, you can improve that sentence.
5. All equations must have a number, and in order to see it correctly this number must be justified at right. You start presenting the set of points, which is a mathematical expression without giving a reference number for it. I suggest to put a equation number to all expressions in text.
6. All equations must have a number, and in order to see it correctly this number must be justified at right. In some expressions is difficult to see.
7. You use many points to denote the extension of the equations, I don't know exactly if it is mathematically correct, but I would reduce it to three point only in most of places.
8. In equation 2, the coefficient c_i are not defined. If these are the Tailor coefficients (also presented in equation 5, c_ij), I did not found the definition until the example 3.4. You must define all terms of the equations when they appear the first time.
9. In the last expression in page 4 I think that 2+(x-1) is missing. I would suggest to review again the expressions to detect mistakes.
10. In page number 6, the nomenclature of the derivative d^(a+b), I am not familiar with that, so maybe you can explain the meaning.
11. In section 2, when you say m boundary conditions, how I can identify the m number in the expressions.

12. I liked section 3, with a lot of test examples. In the introduction of the section you can explain a little bit more about the examples presented next. What will be shown in this examples, e.g. you start 3.1 without telling that you are going to compare the results with the TMM, and suddenly it appears in the text .
13. Something that is not clear to me, is that how do you obtain the generalized formulation of u(x,y) in all the examples. I think you can explain it better with a extended development in some case.
14. The generalized procedure used to develop the analytical function of the boundary from a collections of points, is is also not so clear for me. May be you can add a more detailed explanation with a simpler example in an annex.
15. You can also add the functions beta and gamma of example 3.3 in an annex if you have them.
16. The acknowledgements, I did not find so usual to acknowledge the family support, usually are used to acknowledge some financial support.

Finally some detected typos:

1. Check that points have an space afterwards in the text.
2. Introduction: search for “can not be solved analytical (analytically) ”, “the function to a family to (of) functions”
3. Section 2, page 4: search for “u(1)=2, u(2)=3 and u(4)=5”, must be u(3)=5, “ for this cased (case) will be”
4. Section 2, page 6: “For intersecting boundaries” is duplicated.
5. Section 3, page 11: “ for any k and j (, and) for i….” the comma and the and missing.
6. Section 3, page 19: “instead of addition (,) as addition would results (result) in…”

I hope the review helps you to improve the paper.