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.

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Taylor Series Based Domain Collocation Meshless Method for Problems with Multiple Boundary Conditions including Point Boundary Conditions

Taylor Series Based Domain Collocation Meshless Method for Problems with Multiple Boundary Conditions including Point Boundary Conditions. The proposed methodology is well suited to handle multiple boundary conditions including point boundary conditions. The main idea of the method is to formulate a function which satisfies all the boundary conditions and then generalize the function to a family of functions by using Taylor series. Since the family of functions already satisfies the boundary conditions, the PDE solution can be determined by finding the values of unknown Taylor coefficients for which the residual of the PDE over the domain is closest to zero. Using domain collocation method, the linear PDE problem transforms into a linear regression problem. The proposed method is extended by using multi-point Taylor series to solve problems with point boundary conditions.

In my opinion, the problem of the paper is interesting in the context of meshless method. However, there are some typo errors. I suggest the following few comments.

1. I suggest to the author, rewrite the abstract.**Abstract should be concise summary of the key points**. Describe the Objective, Methodology, Results and Conclusion.

Most of the lines in Abstract can be put in Introduction section like *"Many sophisticated real world science and engineering problems after formulation simply reduce to a problem of finding a solution of partial differential equations (PDEs) with relevant boundary conditions over a domain. Numerical methods like FEM, FDM and BEM are most used and popular methods to solve these real-world PDEs. However, in last few decades considerable amount of research has been dedicated to develop meshless methods which don't involve tedious and time consuming process of generating high quality mesh for the domain. Many of these meshless methods have difficulty in handling point boundary conditions which are quite frequent in engineering applications."*

1. In page no. 5, it is better to write the notations like instead of

So, in its actual form, I recommend to accept the publication of the manuscript after incorporation the above comments.