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

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- In this paper, the authors propose a Taylor series based domain collocation PDE solution methodology that can handle multiple boundary conditions, including point boundary conditions. The key idea is to formulate a function that satisfies all the boundary conditions and then generalize it into a family of functions using Taylor series. By determining the values of unknown Taylor coefficients, the PDE solution is obtained by minimizing the residual of the PDE over the domain. This formulation transforms the PDE problem into a linear regression problem using the domain collocation method.

- The authors extend the proposed method by using multi-point Taylor series to solve problems with point boundary conditions. They successfully apply the proposed methodology to solve homogenous/non-homogenous Helmholtz and Poisson's PDEs, demonstrating its efficiency in handling complex PDEs with fewer degrees of freedom compared to the Taylor meshless method (TMM). The method is illustrated for problems with both Dirichlet and Neumann boundary conditions. Furthermore, the authors present a variant of the method that can solve problems where the boundary is defined using a set of points instead of an analytical function.

- The research topic is in line with the main research areas of the journal.

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1. Your paper should contain appropriate examples and/or application of general results as well as concluding remarks.

2. You should be acquainted with the papers on your subject published in Qeios so that to cite some of them.

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**For Editor**

Dear Professor Editor,

Given the scientific value of the article, which solves a difficult problem and falls within the lines of research of the journal, I recommend publishing this paper after having improved it according to the suggestions sent to the authors.

Cordially !