

Review of: "Bridging Classical and Computational Physics: Integrating Unsolvable Differential Equations into Undergraduate Education"

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Potential competing interests: No potential competing interests to declare.

Bridging Classical and Computational Physics: Integrating Unsolvable Differential Equations into Undergraduate Education

This manuscript examines a series of physical systems described by ordinary differential equations. It advocates for the integration of computational calculus in solving these models in undergraduate education, a proposal that could bring significant benefits to both high school and undergraduate students. Moreover, with the advancement of technology, hardware constraints are no longer a barrier. However, I do have some concerns about the current form of the manuscript and its readiness for publication.

First, from the title and abstract, one would expect the discussion to include how to introduce computational physics in high school and undergraduate education. In the last paragraph of the introduction, the manuscript states, "This paper demonstrates the simplicity, ease of use, and extraordinary power of computational methods, with analyses of nine prototypical systems." So, in its current form, the manuscript is a collection of very good examples without mentioning how to integrate them into the curriculum. It would be great if the manuscript were clearer regarding the knowledge gap it intends to cover. I still cannot see the purpose of discussing nine examples. Perhaps discussing three examples in detail is enough, and then shedding some light on pedagogy and curriculum.

Finally, some minor details will help make the paper better. Please consider including a notation section and numbering equations. The quality and resolution of figures require attention. The font size in axis titles is very small.