

PeriDyn: A Peridynamics Package Written in Julia Programming Language

Ravinder Bhattoo¹, N. M. Anoop Krishnan^{1,2}

¹*Civil Engineering Department, Indian Institute of Technology Delhi, New Delhi, India*

²*School of Artificial Intelligence, Indian Institute of Technology Delhi, New Delhi, India*

E-mail: cez177518@iitd.ac.in, krishnan@iitd.ac.in

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Scientific computational tools are of utmost importance for performing large scale simulations, easy model prototyping, and fast model iterations. Scientific research relies on the availability of such computational tools. Here, we present PeriDyn, an implementation of peridynamics [1] written in Julia [2] programming language. It offers an easy interface to write custom material and contact models, allowing the simulation of complex systems. It uses DifferentialEquations.jl [3] for solvers, i.e., integrate equations of motion, and helper functions to stage simulations. It provides dynamic and quasi-static solver. Further, it writes particle trajectory to disk which can be visualized using software like Ovito [4].

References

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