Polish-German WE-Heraeus Seminar & Max Born Symposium



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Physics-Informed Neural Networks as Solvers for the Time-Dependent Schrödinger Equation

We demonstrate the utility of Physics-Informed Neural Network based solvers for the solution of the Time-Dependent Schrödinger Equation. We study the performance and generalisability of PINN solvers on a simple quantum system. The method developed here can be potentially extended as a surrogate model for Time-Dependent Density Functional Theory, enabling the simulation of large-scale calculations of electron dynamics in matter exposed to strong electromagnetic fields, high temperatures, and pressures.

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