

Abstract Submitted
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Modeling quantum physics with machine learning¹ ALEJANDRO LOPEZ-BEZANILLA, Argonne National Laboratory, LOUIS-FRANCOIS ARSENAULT, ANDREW MILLIS, Columbia University, PETER LITTLEWOOD, Argonne National Laboratory, ANATOLE VON LILIENFELD, University of Basel — Machine Learning (ML) is a systematic way of inferring new results from sparse information. It directly allows for the resolution of computationally expensive sets of equations by making sense of accumulated knowledge and it is therefore an attractive method for providing computationally inexpensive 'solvers' for some of the important systems of condensed matter physics. In this talk a non-linear regression statistical model is introduced to demonstrate the utility of ML methods in solving quantum physics related problem, and is applied to the calculation of electronic transport in 1D channels.

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