SEMPARIS – Séminaires en région parisienne

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Particle Physics at LPTHE

Vendredi 18 Septembre 2020, 14 :00
LPTHE, Library, 4th floor(Refs : arxiv : 1911.07571, 2006.09113, 2007.13379, 2007.15706)
Domaines : hep-lat—hep-ph—hep-th

Titre : *Machine learning for lattice QFT and string theory*

Orateur : **Harold Erbin (INFN Turin)**

Résumé : *Machine learning has revolutionized most fields of industry and research, and the range of its applications is growing rapidly. The last years have seen efforts towards bringing the tools of machine learning to lattice QFT and, more recently, to string theory. After reviewing the general ideas behind machine learning, I will present three recent results : 1) computing the Casimir energy for a 3d QFT with arbitrary Dirichlet boundary conditions, 2) predicting the critical temperature of the confinement phase transition in 3d QED at different lattice sizes, 3) predicting the Hodge numbers of Calabi-Yau 3-folds. I will conclude by giving some general thoughts on the use of ML for mapping the space of effective QFTs.*