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Reinforcement Learning and String Model Building

Tuesday 13 July 2021 09:00 (30 minutes)

I will describe recent work which applies reinforcement learning to model building in string theory. After a brief review, I will start with a toy model which involves the index of line bundles to show that reinforcement systems can be used to engineer geometries with prescribed topological properties. Reinforcement learning is then used to explore the set of monad bundles on Calabi-Yau manifolds, in the context of heterotic string models. It turns out that reinforcement systems can learn properties of these models efficiently and are capable of finding new string standard models.

Presenter: Prof. LUKAS, Andre (University of Oxford)