

Machine-enhanced CP-asymmetries in the Higgs sector

Wednesday 15 June 2022 11:30 (30 minutes)

Improving the sensitivity to CP-violation in the Higgs sector is one of the pillars of the precision Higgs programme at the Large Hadron Collider. I will present a simple method that allows CP-sensitive observables to be directly constructed from the output of neural networks. In this talk, I will show that these observables have improved sensitivity to CP-violating effects in the production and decay of the Higgs boson when compared to the use of traditional angular observables alone. The kinematic correlations identified by the neural networks can be used to design new analyses based on angular observables, with a similar improvement in sensitivity.

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