

Playing the devil's advocate to bound hidden systematic uncertainties

Saturday 20 July 2024 18:10 (17 minutes)

This talk will summarise a method based on machine learning to play the devil's advocate and investigate the impact of unknown systematic effects in a quantitative way. This method proceeds by reversing the measurement process and using the physics results to interpret systematic effects under the Standard Model hypothesis. We explore this idea in arXiv:2303.15956 by considering the hypothetical possibility that the efficiency to reconstruct a signal is mismodelled in the simulation. Extensions of this method to include hypothetical backgrounds are also discussed, which have the potential to significantly streamline the analysis procedure in a complex experiment.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

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Yes

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