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Anomaly searches for new physics at the LHC

Tuesday, 25 October 2022 15:30 (20 minutes)

In this talk I will give an overview of our recent progress in developing anomaly detection methods for finding new physics at the LHC. I will discuss how we define anomalies in this context, and the deep learning tools that we can use to find them. I will also discuss how self-supervised representation learning techniques can be used to enhance anomaly detection methods.

Significance

This talk will provide details that go beyond what has currently been published in the literature, and will cover important updates on the status of our work on anomaly detection for new physics searches at the LHC.

References

https://arxiv.org/abs/2108.04253
https://arxiv.org/abs/2202.00686
https://arxiv.org/abs/2205.10380
https://arxiv.org/abs/2206.14225

Experiment context, if any

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Session Classification: Track 3: Computations in Theoretical Physics: Techniques and Methods

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