Phenomenology 2022 Symposium: From Virtual to Real



Contribution ID: 210

Type: not specified

Simple, Interpretable Anomaly Detectors

Tuesday 10 May 2022 15:30 (15 minutes)

Anomaly detection with autoencoders is a popular method to search for new physics in a model-agnostic manner.

In this talk, we try to understand these "black boxes" by designing mimickers with a small number of energy flow polynomials as inputs.

These mimickers perform comparably to the autoencoder when ordering background events, but also match the anomaly detection capabilities of the autoencoder across a variety of signal events.

Thus, this approach allows one to create simple, interpretable anomaly detectors.

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Session Classification: BSM III