

Phenomenology 2018 Symposium



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CWoLa hunting

Monday 7 May 2018 16:30 (15 minutes)

Classification Without Labels (CWoLa) is a Machine Learning strategy which can be used to classify event categories (e.g. quark jet vs gluon jet, or BSM signal vs SM background) starting from mixed event samples, which are inevitable at the LHC. I will illustrate how this strategy can be used to uncover BSM resonance signals which would otherwise be completely buried under large SM backgrounds by talking advantage of as much information as possible about the events, focusing on a toy example where a di-fat jet resonance with unusual jet substructure is hidden amongst standard model dijets. This strategy can be applied directly to data without a need for any specific signal model, simulated signal or background Monte Carlo events, or carefully chosen cuts.

Summary

Machine Learning

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