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Type: **Talk**

Casting a GraphNet to catch dark showers (8'+2')

Friday, June 5, 2020 2:50 PM (10 minutes)

Strongly interacting dark sectors predict dark showers, which give rise to novel LHC signatures such as semi-visible jets. However, these are difficult to search for with conventional analysis techniques. In my talk I will first consider the sensitivity of existing and prospective LHC searches to semi-visible jets and then discuss how deep learning can help to distinguish dark showers from background. I will compare different network architectures and show that dynamic graph convolutional networks are particularly well suited to this task. I will then demonstrate that a deep-learned dark shower tagger can strongly improve the sensitivity of existing and prospective searches.

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