

Deep Learning-based Tagger for Boosted $WW^{(*)}$ Semi-leptonic Decays at ATLAS

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Identifying $^{(*)} \rightarrow \ell\nu qq$ from heavy particle decays at the LHC is an important but challenging problem due to overlapping lepton and jet signatures. We have developed a deep learning-based $^{(*)}$ tagger which learns from simulated calorimeter features to identify boosted $^{(*)}$ decays to semileptonic final states from $t\bar{t}$ and di-jet backgrounds in ATLAS. In this talk, we present the methods applied to the tagger development in the electron channel and some preliminary performance results on simulated ATLAS events at $\sqrt{s} = 13$ TeV.

Are you are a member of the APS Division of Particles and Fields?

Yes

Primary author: ZHONG, Dewen (Univ. Illinois at Urbana Champaign (US))

Presenter: ZHONG, Dewen (Univ. Illinois at Urbana Champaign (US))

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