Contribution ID: **56** Type: **not specified**

Jet substructure tagging and pileup mitigation

Friday, 17 January 2020 15:20 (20 minutes)

Recent advances in neural networks and harsh pileup conditions in the second half on LHC Run 2 with on average 38 PU interactions, have sparked significant developments in techniques for jet tagging and missing transverse momentum reconstruction. Through the study of jet substructure properties, jets originating from quarks, gluons, W/ Z/Higgs bosons, top quarks and pileup interactions are distinguished, surpassing previous performance at lower pileup conditions by using new approaches. This talk will give an overview of the new jet substructure and pileup mitigation tools and advances in performance of jet and missing transverse momentum reconstruction in CMS.

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Session Classification: Applications