

# Tagger-mass decorrelation: experience within CMS

*Thursday, 16 January 2020 09:40 (20 minutes)*

Jet substructure tagging of highly boosted heavy resonances decaying to quarks has become an important tool for Standard Model (SM) measurements and searches for beyond the SM physics. Background estimation typically rely on at least 3 data sideband regions that can be separated from the signal region with the physics process of interest by a set of two uncorrelated variables. For searches with boosted objects jet substructure taggers that are decorrelated from the jet mass have proven very useful. This talk discussed such tagger with and without the use of machine learning and explain their relevance to physics analyses.

**Presenter:** QU, Huilin (Univ. of California Santa Barbara (US))

**Session Classification:** Decorrelation and Semi/Unsupervised approaches