

# BOOST 2016: 8th International Workshop on Boosted Object Phenomenology, Reconstruction and Searches in HEP



Contribution ID: 22

Type: **not specified**

## Kinematic Extraction of Short Distance Top Mass at the LHC

*Tuesday 19 July 2016 14:25 (20 minutes)*

The top quark mass is one of the most important standard model parameters. The most precise method for top mass extraction comes from kinematic extraction. However, there's an  $O(1)$  GeV theory uncertainty associated with the fact these methods rely on Monte Carlo simulations which do not have a fully specified field theoretic mass scheme definition. I will describe our proposal for using a 2-jettiness variable with a boosted top sample to extract the top mass at the LHC. This variable obeys a factorization theorem which allow the associated cross section to be calculated with a well defined top mass scheme, and has the same strong sensitivity as the currently used template method.

### Summary

I describe our proposal for a 2-jettiness variable which allows us to extract top mass in a well defined short mass distance scheme using a boosted top sample at the LHC.

**Authors:** PATHAK, Aditya (Massachusetts Institute of Technology); HOANG, Andre (University of Vienna); STEWART, Iain (MIT); MANTRY, Sonny

**Presenter:** PATHAK, Aditya (Massachusetts Institute of Technology)

**Session Classification:** Plenary