



Contribution ID: 320

Type: **Presentation**

## Quarkonium Production in Jets

*Tuesday, 1 August 2017 13:30 (24 minutes)*

This talk will describe new tests of quarkonium production using quarkonia that are produced within jets. We study the distribution in the fraction  $z$  of a jet's longitudinal momentum carried by the quarkonium. The  $z$  distribution is sensitive to the underlying NRQCD production mechanism. Analytic calculations the  $z$  distributions in SCET that incorporate Next-to-Leading-Log (NLL) resummation disagree with default PYTHIA predictions. We describe a modified simulation method which agrees well with NLL analytic calculations. This method is then successfully applied to recent LHCb measurements of  $J/\psi$  within jets. We discuss the implications of this measurement for extractions of NRQCD long-distance matrix elements. Finally, we discuss other observables involving quarkonium within jets which may be useful for discriminating between NRQCD production mechanisms.

**Primary author:** Dr MEHEN, Thomas (Duke University)

**Co-authors:** LEIBOVICH, Adam (Pitt. U.); DAL, Lin (Pitt. U.); Mr BAIN, Reggie (Duke University); Mr MAKRIS, Yiannis (Duke University)

**Presenter:** Dr MEHEN, Thomas (Duke University)

**Session Classification:** QCD

**Track Classification:** QCD