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Probing Quarkonium Production in Jets using Effective Field Theories

Tuesday 14 March 2017 11:30 (40 minutes)

This talk will discuss recent attempts to study the long-outstanding quarkonium polarization puzzle by studying the production of the J/ψ meson within jets at high transverse momentum. The talk will introduce the basics of how quarkonia are studied in the Non-relativistic QCD (NRQCD) framework and how, in the context of SCET factorization theorems for jet cross-sections, the Fragmenting Jet Function (FJF) formalism can be used to probe the energy distributions of quarkonia within jets. Predictions of the J/ψ polarization using various extractions of the non-perturbative NRQCD long-distance matrix elements will be discussed. The talk will then show comparisons of resummed analytic calculations of the z-distributions for J/ψ in jets with Pythia simulations as well as with recent data from the LHCb experiment.

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