

PAUL SCHERRER INSTITUT



Particle Theory Seminar

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“Angular distribution of thrust axis with power-suppressed contribution in e^+e^- annihilation”

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Abstract:

Structure function of $Z^* \rightarrow \text{hadrons}$ cross section proportional to the projector to the thrust axis is power suppressed with respect to an event shape variable in two-jet region. In SCET framework, we study the event shape distribution for this structure function to NLL level of accuracy and NLO matching with the perturbative result, which is also obtained. We demonstrate that resummation of large logarithms leads to an additional suppression of the structure function in comparison to the tree level result. We study the effect of the resummation on the forward-backward asymmetry in e^+e^- annihilation in the case of massless quarks.