

Effect of flavor-dependent partonic transverse momentum on precision measurements at hadron colliders

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The electroweak working group at the LHC is actively working to analyse (and, possibly, reduce) all kind of theoretical and experimental uncertainties affecting precision electroweak observables. The resummation of soft and collinear radiation to all orders has a considerable impact on selected observables (i.e. m_W). I will first present a concise review of the different frameworks (SCET, TMD, qt resummation, parton branching) presently available to take into account this kind of effect. Then, I will give an overview of recent results concerning the impact of a possible flavour dependence of the intrinsic quark transverse momentum on the direct determination of the boson mass. I will show that these effects are comparable in size to other nonperturbative effects commonly included in phenomenological analyses and should thus be included in precise theoretical predictions for present and future hadron colliders.

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