Contribution ID: **53** Type: **not specified**

Heavy flavour corrections to polarised and unpolarised deep-inelastic scattering at 3-loop order

Friday, 3 June 2016 14:50 (20 minutes)

We report on progress in the calculation of 3-loop corrections to the deep-inelastic structure functions from massive quarks in the asymptotic region of large momentum transfer Q2. Recently completed results allow us to obtain the O(a3 s) contributions to several heavy flavour Wilson coefficients which enter both polarised and unpolarised structure functions for lepton-nucleon scattering. In particular, we obtain the non-singlet contributions to the unpolarised structure functions F2(x,Q2) and xF3(x,Q2) and the polarised structure function g1(x,Q2). From these results we also obtain the heavy flavour contributions to the Gross-Llewellyn-Smith and the Bjorken sum rules. While the size of the corrections in the polarised and charged current cases are below the current experimental uncertainty, they may become relevant at a future Electron-Ion Collider.

Presenter: BEHRING, Arnd

Session Classification: Talks