Contribution ID: **286** Type: **not specified**

The fast reproduction of fully differential cross sections at NNLO in deep inelastic scattering at HERA using fast interpolation grids

Wednesday 10 April 2019 16:15 (20 minutes)

The APPLgrid and fastNLO projects provide a fast and flexible way to reproduce the results of perturbative QCD cross section calculations with any input PDF, renormalisation or factorisation scale, and different values for the strong coupling constant. Recent developments in the generation of fast interpolation grids using the DIS process with the NNLOJET generator through the standardised interface to the interpolation grids are reported. Results using precision interpolations grids for a number of jet production processes at HERA are presented and an exemplary application – that of a determination of the strong coupling constant, $alpha_s(M_Z)$, in next-to-next-to-leading order QCD from inclusive jet cross section data in electron-proton collisions is presented.

Authors: SUTTON, Mark (University of Sussex (GB)); RABBERTZ, Klaus (KIT - Karlsruhe Institute of Technology (DE)); HUSS, Alexander Yohei (CERN); BRITZGER, Daniel (Max-Planck-Institut für Physik München); GWENLAN, Claire (University of Oxford (GB))

Presenter: BRITZGER, Daniel (Max-Planck-Institut für Physik München)

Session Classification: WG1:Structure Functions and Parton Densities

Track Classification: WG1: Structure Functions and Parton Densities