Contribution ID: **24**                                                    Type: **not specified**

# NNPDF3.0: Next Generation PDFs for LHC Run II

*Tuesday 26 August 2014 11:25 (25 minutes)*

## Summary

PDFs have been an essential ingredient for Run I phenomenology, and will be so even more at the upcoming Run II. Many crucial LHC analysis benefit from improved PDFs, from precision Standard Model measurements, like the W mass determination, and Higgs boson characterization to BSM searches. NNPDF3.0 is the new forthcoming PDF release from the NNPDF Collaboration, a major upgrade that accounts for recent progress in experimental constraints, theory calculations and methodological improvements. In this talk I will present the new NNPDF3.0 set, and discuss the improvements in new experimental data such as the HERA-II structure functions, ATLAS and CMS jets, CMS W+charm, ATLAS and CMS Drell-Yan production and top quark production, the improved theory calculations such as approximate NNLO K-factors for jets and electroweak effects for Drell-Yan data, and the brand-new fitting methodology with the C++ rewriting of the code and fitting strategy validated on closure tests. Finally I will explore some phenomenological implications of NNPDF3.0 for the LHC Run II.

**Primary author:**   Dr BERTONE, Valerio (CERN)

**Presenter:**   Dr BERTONE, Valerio (CERN)

**Session Classification:**   PDFs

**Track Classification:**   PDF