



xFitter Users' Meeting



- News since last xFitter Users Meeting (in February in Dubna)
 - xFitter releases:
 - xfitter-1.2.1: bug fix of xfitter-1.2.0 (released in February)

Releases of the xFitter QCD analysis package

- Versioning convention: **i.j.k** with
 - **i** - stable release
 - **j** - beta release
 - **k** - bug fixes.
- The release notes can be found in this attachment: [@xFitter_release_notes.pdf](#) .
- Installation script for xFitter together with QCDNUM, APFEL, APPLGRID, LHAPDF [@install-xfitter](#)

Date	Version	Files	Remarks
05/2016	1.2.1	@xfitter-1.2.1.tgz	release with decoupled data and theory files which can be downloaded with @getter.sh script
02/2016	1.2.0	@xfitter-1.2.0.tgz	release with decoupled data and theory files which can be downloaded with @getter.sh script

- installation scripts + datafile getter script are available on the web.
- xfitter-1.2.1 is the last release from svn



xFitter Users' Meeting



- News since last xFitter Users Meeting (in February in Dubna)
 - xFitter releases:
 - xfitter-1.2.1: bug fix of xfitter-1.2.0 (released in February)
 - List of Fixes:

xFitter: Releases and Updates May, 2016

xFitter versions are labeled as **xfitter-i.j.k** where **i** is the stable release number, **j** is beta release number, and **k** is bug fixes.

Release	Date	Description
xfitter-1.2.1	11.05.2016	<ul style="list-style-type: none">• Update the EW corrections in CMS 7 TeV jet data, as used for the publication.• Fix in the Hessian error for external codes: FONLL schemes, DGLAP_QED and DGLAP_APFEL_QED were affected.• Fix in α_s for running mass option in FONLL.• Fix in the cached PDFs when using Hessian errors.• Fix in the LHAPDF errors for the MNR code.• Allow the FF scheme for the MNR calculations.• Fix in the handling of the virtual grids (hyperbins were not filled).• Improved warning messages in FastNLO from the photon PDF.



xFitter Users' Meeting



- News since last xFitter Users Meeting (in February in Dubna)
 - xFitter repository moved from SVN to GIT →
 - `ssh://git@gitlab.cern.ch:7999/fitters/xfitter.git`
 - most relevant for developers, but also users using head version

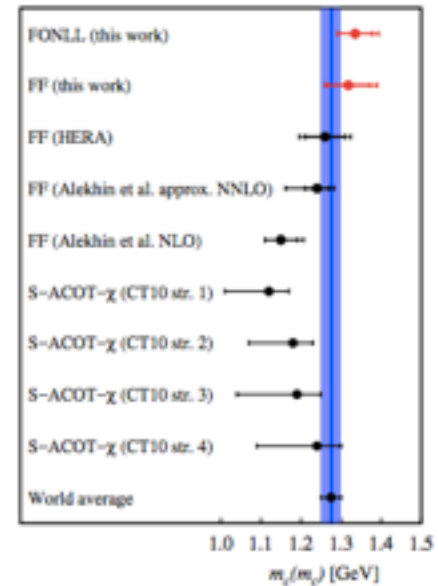
The screenshot shows the GitLab interface for the repository 'fitters / xfitter'. The left sidebar contains navigation options: Go to group, Project, Activity, Files, Commits, Builds (0), Graphs, Milestones, and Issues. The main content area displays the xFitter logo and the repository name 'xfitter'. Below this, there are buttons for 'Star' (1) and 'Fork' (0). A search bar is visible in the top right. The SSH URL `ssh://git@gitlab.cern.ch:7999/fitters/xfitt` is highlighted in a box. At the bottom, statistics are shown: 1,894 commits, 6 branches, 0 tags, and 40.11 MB. There are also buttons for 'License', 'Add Changelog', and 'Add Contribution guide'.

xFitter analyses

- Analysis led by V. Bertone (xFitter & APFEL) —> see today's talk

arXiv.org > hep-ph > arXiv:1605.01946v1

High Energy Physics – Phenomenology



A determination of $m_c(m_c)$ from HERA data using a matched heavy-flavor scheme

xFitter Developers' team: Valerio Bertone, Stefano Camarda, Amanda Cooper-Sarkar, Alexandre Glazov, Agnieszka Luszczak, Hayk Pirumov, Ringaile Placakyte, Klaus Rabbertz, Voica Radescu, Juan Rojo, Andrey Saprano, Oleksandr Zenaiev, Achim Geiser

(Submitted on 6 May 2016)

The charm quark mass is one of the fundamental parameters of the Standard Model Lagrangian. In this work we present a determination of the $\overline{\text{MS}}$ charm mass from a fit to the inclusive and charm HERA deep-inelastic structure function data. The analysis is performed within the xFitter framework, with structure functions computed in the FONLL general-mass scheme as implemented in APFEL. In the case of the FONLL-C scheme, we obtain $m_c(m_c) = 1.335 \pm 0.043(\text{exp}) + 0.019 - 0.000(\text{param}) + 0.011 - 0.008(\text{mod}) + 0.033 - 0.008(\text{th})$ GeV. We also perform an analogous determination in the fixed-flavor-number scheme at next-to-leading order, finding $m_c(m_c) = 1.318 \pm 0.054(\text{exp}) + 0.011 - 0.010(\text{param}) + 0.015 - 0.019(\text{mod}) + 0.045 - 0.004(\text{th})$ GeV, compatible with the FONLL-C value. Our results are consistent with previous determinations from DIS data as well as with the PDG world average.

Comments: 37 pages, 12 figures, 3 tables
Subjects: **High Energy Physics – Phenomenology (hep-ph)**
Report number: OUTP-16-10P, DESY Report-16-078
Cite as: [arXiv:1605.01946](https://arxiv.org/abs/1605.01946) [hep-ph]
(or [arXiv:1605.01946v1](https://arxiv.org/abs/1605.01946v1) [hep-ph] for this version)

xFitter at conferences in 2016

- Active participation of xFitter at the conferences:

List of Presentations

2016

Date	Conference/Workshop	Presenter	Link
25.09-1.10.2016	Vietnam 2016	S. Glazov	xFitter talk
2.09-8.09.2016	Diffraction 2016	A. Sarkar-Cooper	xFitter talk
22.08-26.08.2016	QCD@LHC2016	V. Radescu	xFitter talk
3.08-10.08.2016	ICHEP 2016	poster	xFitter poster
06-16.07.2016	CTEQ and MCnet school	R. Placakyte, S. Camarda	PDF lecture, xFitter tutorial
11-15.07.2016	QCD-N'16	V. Bertone	xFitter talk
06-14.07.2016	ICNFP2016	speaker	xFitter talk
6.06-10.06.2016	Low X 2016	R. Placakyte (TBC)	xFitter talk
29.05-4.06.2016	Quarks-2016	A. Saproinov	xFitter talk
27.04-1.05.2016	DIS 2016	O. Zenaev	xFitter talk
27.04-1.05.2016	DIS 2016	V. Bertone	APFEL & xFitter analysis
19-26.03.2016	Moriond QCD		
14.03.2016	PDF4LHC	V.Radescu/ A. Cooper-Sarkar	xFitter talks: release and summary of Dubna Workshop
18-20.02.2016	xFitter workshop Dubna	users and developers	xFitter talks/discussions

List of analyses using xFitter

Number	Date	Group	Reference	Title
	2016			
31	03.2016	Pheno/R.M. Chatterjee et al.	arXiv:1603.09619	A QCD analysis of CMS inclusive differential Z production data at sqrt(s) = 8 TeV
30	03.2016	HERA	arXiv:1603.09628	Combined QCD and electroweak analysis of HERA data
29	03.2016	Pheno/A. Accardi et al.	arXiv:1603.08906	Recommendations for PDF usage in LHC predictions

xFitter new developments towards new release

- New release preparations: xfitter-1.3.0 for a first release from git:
 - New developments (in trunk)
 - symmetric hessian errors evaluation as alternative to Pumplin's code using asymmetric hessian
 - CT code for HF scheme @ NNLO
 - check minuit status after execution, report to the standard output and Status.out file
 - improvements in the treatment of the scale variations in FONLL
 - added option for QCD scale uncertainty in LHAPDF analysis
 - updates (and fixes) to profiling code
 - removed prior option in drawing tools
 - Plans:
 - expect major updates in code structuring interfaces
 - better steering block (more modularity)
 - data formats
 - parametrisation
 - minuit inputs
 - profiling tools

Today's agenda

Description PLEASE USE:
Auto-join URL <http://vidyoportal.cern.ch/flex.html?roomdirect.html&key=QpFaaSZLsTe1>

Wednesday, 11 May 2016

15:00 → 15:20 Status

Speakers: Ringaile Placakyte (Deutsches Elektronen-Synchrotron (DE)), Voica Ana Maria Radescu (University of Oxford (GB))

15:20 → 15:40 News from QCDNUM

Speaker: Michiel Botje (NIKHEF (NL))

15:40 → 16:00 Running Mass using FONLL scheme

Speaker: Valerio Bertone (University of Oxford (GB))