

Mathematisch-Naturwissenschaftliche Fakultät

xFITTER WORKSHOP 28/02/2020

NUCLEAR PDFS, BY MARINA WALT

In collaboration with:

Dr. Ilkka Helenius Prof. Dr. Werner Vogelsang

- 1. FRAMEWORK
- 2. Results
- 3. DEVELOPMENT STATUS

FRAMEWORK: PARAMETERIZATION



Marina Walt, February 2020

FRAMEWORK: A-DEPENDENT COEFFICIENTS

$$c_k \to c_k(A) := c_{k,0} + c_{k,1} \left(1 - A^{-c_{k,2}} \right)$$



Used nuclear DIS data: neutral current DIS and charged current neutrino DIS data.

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A dependent coefficients

FRAMEWORK: BOUND NUCLEON



FRAMEWORK: BOUND NUCLEON





RESULTS: COMPARISON TO DIS DATA



CInfo = ,ratio'



Excluded neutrino data:NuTeVCCFRR

Charged Current DIS processes included:

Reaction = ,neutrino+p CC'

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NPDFs Sets NLO









COMPLETED:

- Results published (Phys.Rev. D93 (2016) no.1, 014026)
- Code modifications migrated to xFITTER v. 2.0.1
- New GitLab branch prepared
- Datafiles uploaded
- Short user guide created
- GSL libraries integrated into "make" routine

PENDING:

- Feedback by Fred Olness on "user testing"
- Documentation of nCTEQ15 options in the user guide



NPDF GITLAB BRANCH (OLD)

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DIPOLE/src	Cleanup: use dist_noinst_HEADERS for	all headers t	2 years ago

NPDF GITLAB BRANCH (NEW)



THANK YOU!

MARINA WALT

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