


Mathematica interface for LHAPDF6

LHAPDF the Les Houches Accord PDF Interface

- All PDF sets defined with a unified grid structure
 - .. can access grids with a single interface
- New “*dat*” files available for:
 - ABM
 - ATLAS
 - CTEQ
 - **HERAPDF** 
 - MSTW
 - NNPDF
- ... *and under construction:*
 - JR, CJ, nCTEQ, ...

Mathematica Interface:

Good news: we read **data** file just fine

Bad news: we need to update parsing the **info** file
(to be fixed very soon; patch available)

Fred Olness (SMU) Hera Fitter 27 May 2014
w/ Eric Godat, Ben Clark, Olek Kusina

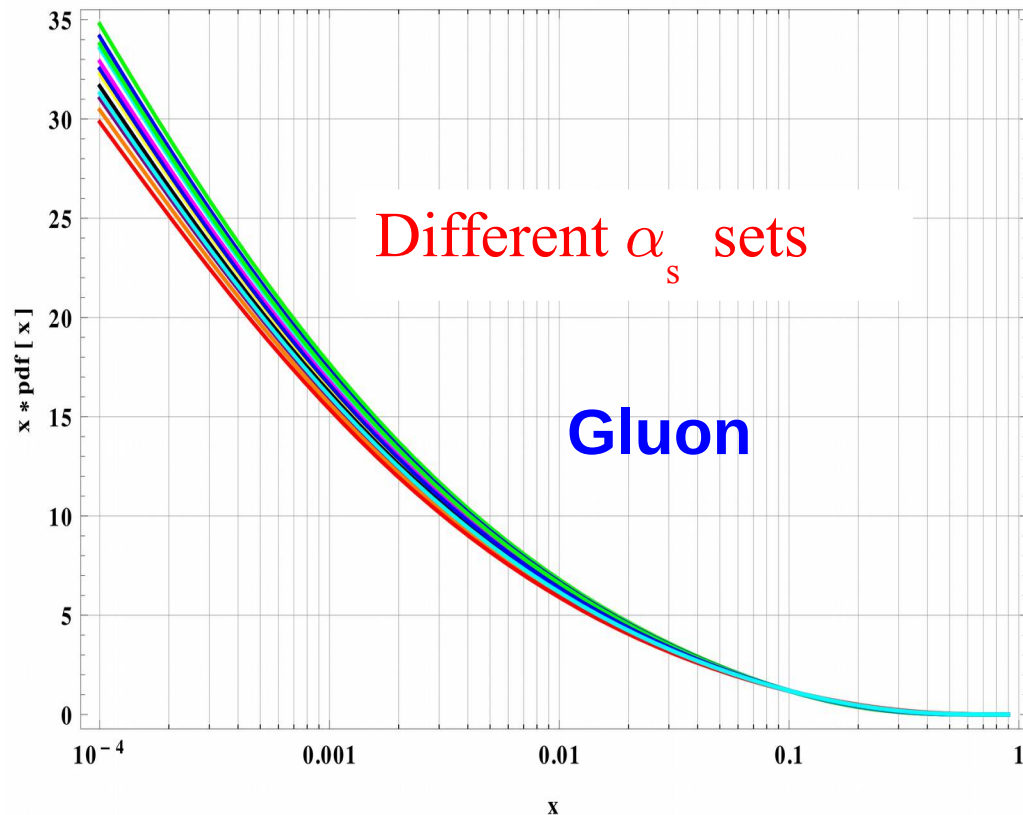
Examples:

HERA PDF 1.5

2

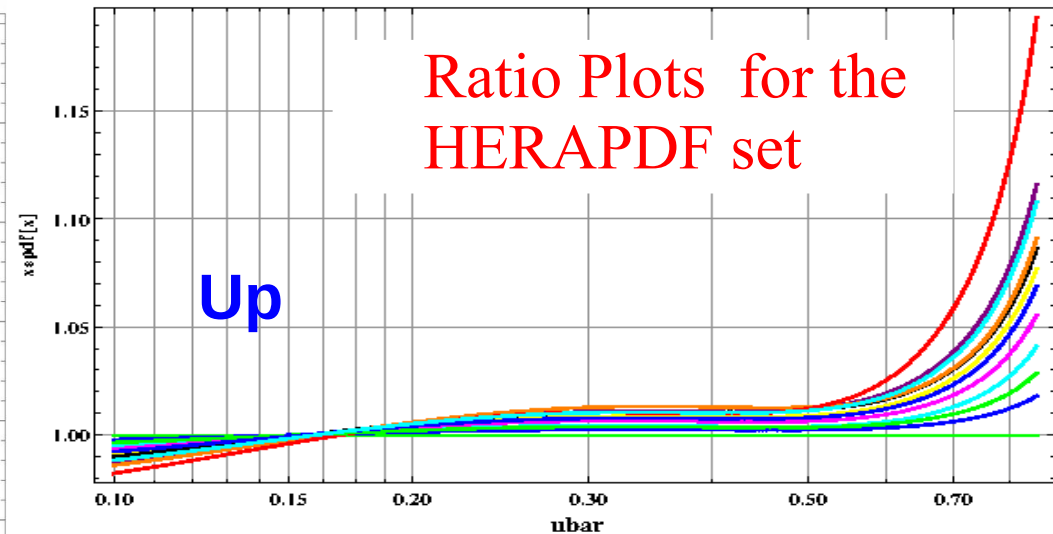
```
LogLinearPlot[ pdf[iset, iparton, x, q], {x, 0.01, 0.9}]
```

gluon

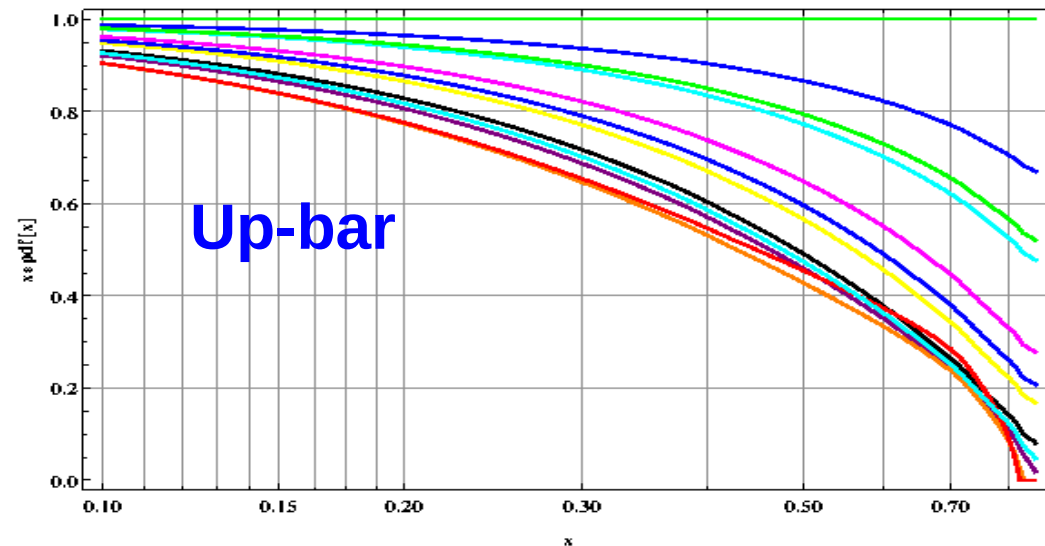


Full sets of PDFs inside Mathematica
Easy to manipulate

up



Ratio Plots for the
HERAPDF set



If interested in Testing
Please Contact:

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```
LogLinearPlot[ pdf[iset, iparton, x, q] / pdf[iset0, iparton, x, q], {x, 0.01, 0.9}]
```

Thursday 22 May 2014

US: Report of the Particle Physics Project Prioritization Panel (P5)

The U.S. particle physics community has just updated its vision for the future. The P5 report presents a strategy for the next decade and beyond that enables discovery and maintains our position as a global leader through specific investments by the Department of Energy's Office of Science and the National Science Foundation Directorate for Mathematical and Physical Sciences.

“Science Drivers”

- **Use the Higgs boson as a new tool for discovery**
- Pursue the physics associated with neutrino mass
- Identify the new physics of dark matter
- Understand cosmic acceleration: dark energy and inflation
- **Explore the unknown: new particles, interactions, and physical principles.**

<http://science.energy.gov/hep/hepap/reports/>

Proton Structure in the LHC Era

School + Workshop

September 29 -- Oct 2, 2014

DESY Hamburg

<http://www.terascale.de/pdf2014>