HERAFitter Users Meeting
status report
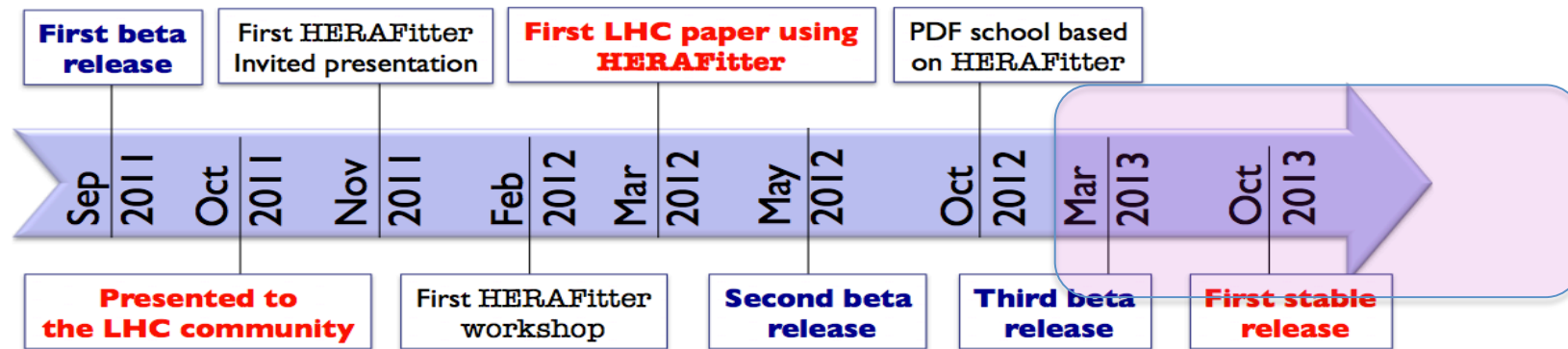
HERAFitter time scale

First beta release

First HERAFitter Invited presentation

First LHC paper using HERAFitter

PDF school based on HERAFitter

| Sep 2011 | Oct 2011 | Nov 2011 | Feb 2012 | Mar 2012 | May 2012 | Oct 2012 | Mar 2013 | Oct 2013 |

Presented to the LHC community

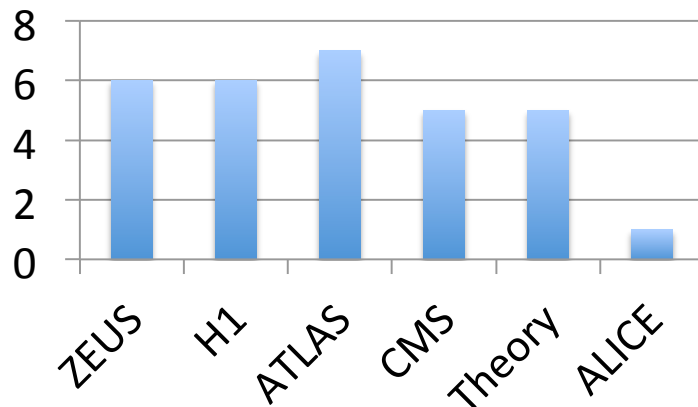First HERAFitter workshop

Second beta release

Third beta release

First stable release

◆ Statistics of developers team:

Users: ~100 downloads

List can be extended according to needs and proposed physics cases .

Current releases:

Date	Version	Files	Remarks
💡 03/2013	0.3.0	📎 herafitter-0.3.0.tgz	latest release includes 📎 manual-0.3.1.pdf and decoupled 📎 theoryfiles.tgz
07/2012	0.2.1	📎 herafitter-0.2.1.tgz	fix release for 0.2.0
05/2012	0.2.0	📎 herafitter-0.2.0.tgz	added functionality for LHC users
09/2011	0.1.0	📎 herafitter-0.1.0.tgz	first release

Call for Feedback

- In preparations for stable release, we collect feedback from users/developers to improve the package, which are collected on the internal webpages for developers to address them.

- Example of presentation improvements:
  - u-PDF configuration was checked and will require an update related to Pythia update
  - Output directory – overriding issues
  - Collect the common functions in a common pool
  - Plotting tools improvement
  - renaming of directories

- In addition we plan to release together with the stable release a paper:
  - References, benchmarking/validations under consideration.
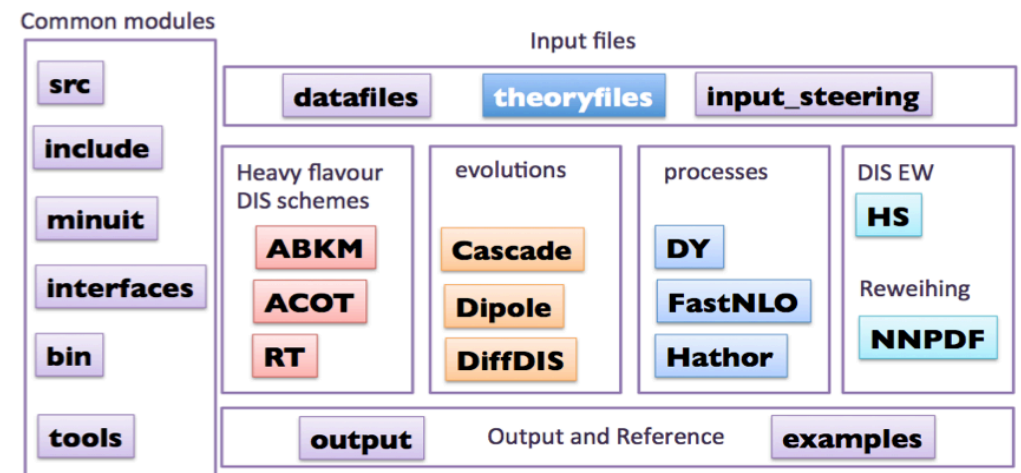
HERAFitter developments perspectives

A list of planned developments:

◆ **Theory (short and long terms):**

 ▶ Consistent implementation of scale variations (✔)

 ▶ ACOT NNLO. → ongoing

 ▶ QED PDF (see Renat's talk) → ongoing

 ▶ Nuclear PDFs. → proposed

 ▶ ACOT in QCDNUM, using fast convolution engine. → ongoing

 ▶ Improvements in Hathor cross-section calculation for fits, other ttbar codes

 ▶ EW corrections.

 ▶ DYNNLO in APPLGRID. → indirectly related

 ▶ Different evolution schemes:
   ✧ e.g. matched to MC showering, mixed Dipole-DGLAP fits.

◆ **Data treatments:**

 ▶ Additional tools to transform covariance matrix to nuisance parameter representation

 ▶ Alternative to MINUIT minimization package

◆ Floor open for more physics cases to be included.

Today's Agenda

Tuesday, 23 April 2013

18:30 - 18:50 Status *20'*
Speakers: Ringaile Placakyte (Deutsches Elektronen-Synchrotron (DE)), Voica Ana Maria Radescu (Deutsches Elektronen-Synchrotron (DE))

18:50 - 19:10 Summary of PDF4LHC *20'*
Speaker: Amanda Sarkar (University of Oxford (GB))
Material: Slides

19:10 - 19:30 Fast evaluation of gamma gamma->ll using Applgrid to SANC MC *20'*
Speaker: Renat Sadykov (Joint Inst. for Nuclear Research (RU))

19:30 - 19:50 Discussion *20'*
Speaker: All

◆ Next meeting – proposal 28-29.05 – doodle:

http://doodle.com/6h3mrx4e5saw68m6