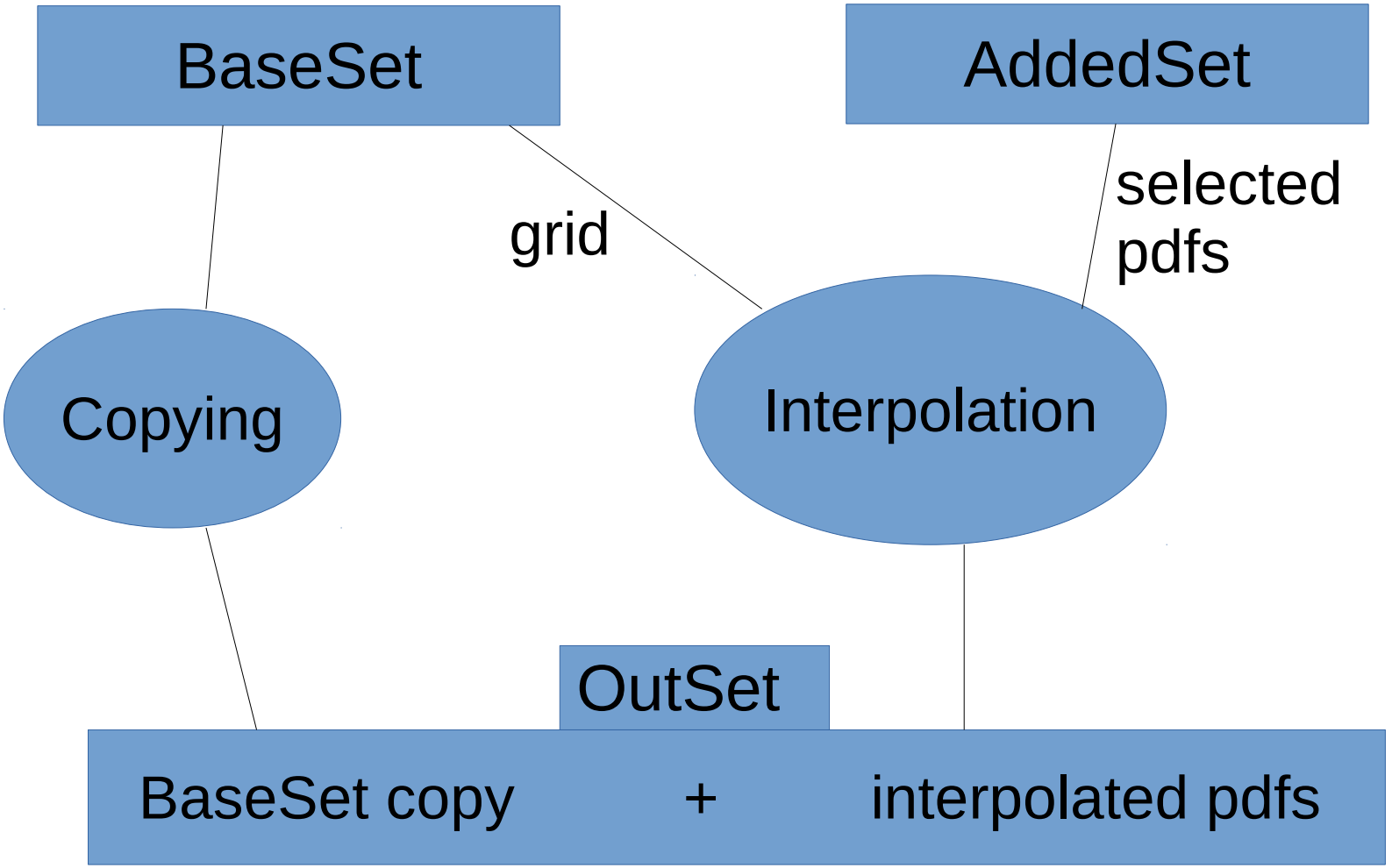
Combine utility for the process module in xfitter

Structure

- About combine & syntax
- Implementation
- Current status

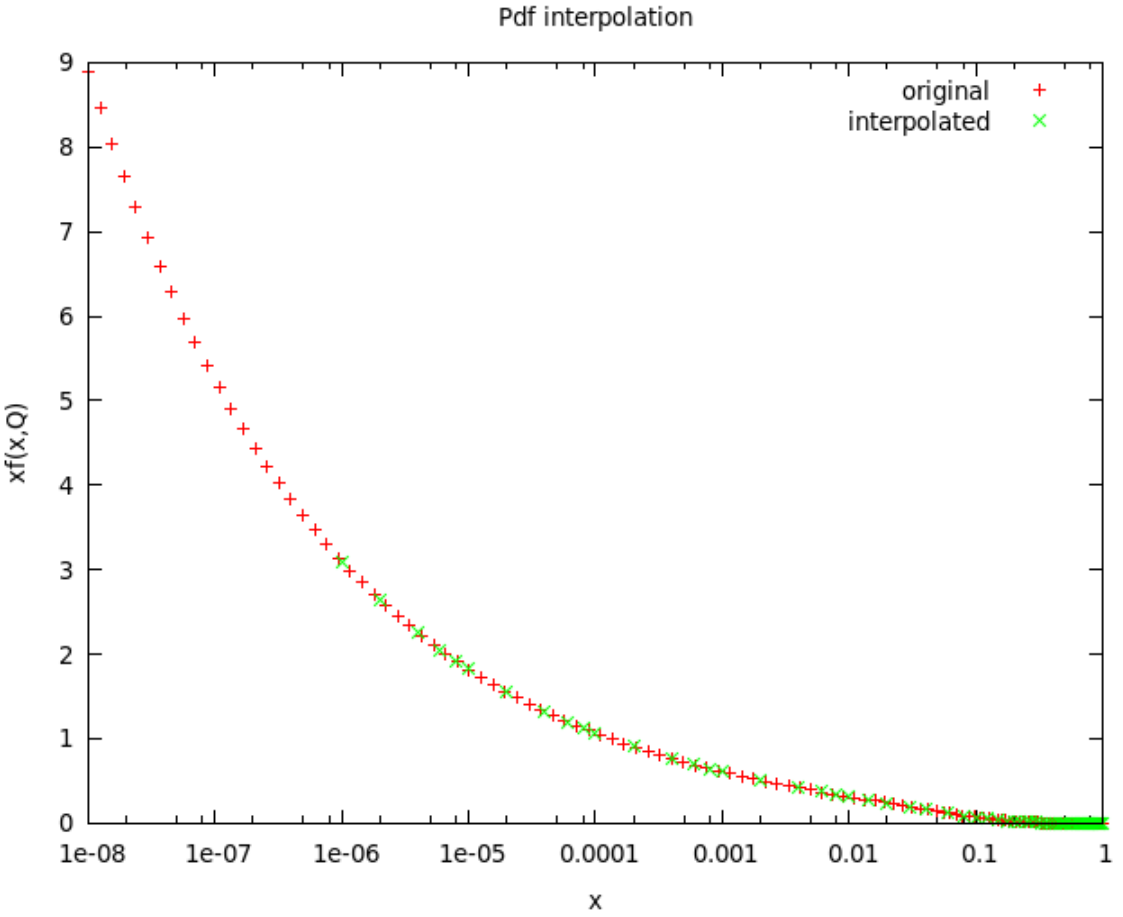
How it works


BaseSet
AddedSet
grid
selected
pdfs
Copying
Interpolation
OutSet
BaseSet copy
+
interpolated pdfs

Syntax

Xfitter-process combine OutSet BaseSet AddedSet[:Pdfs]

- OutSet
- BaseSet contains grid
- AddedSet contais pdfs to be interpolated
- Pdfs 1,2,7...



Implementation

combine.c & interpolation.cc

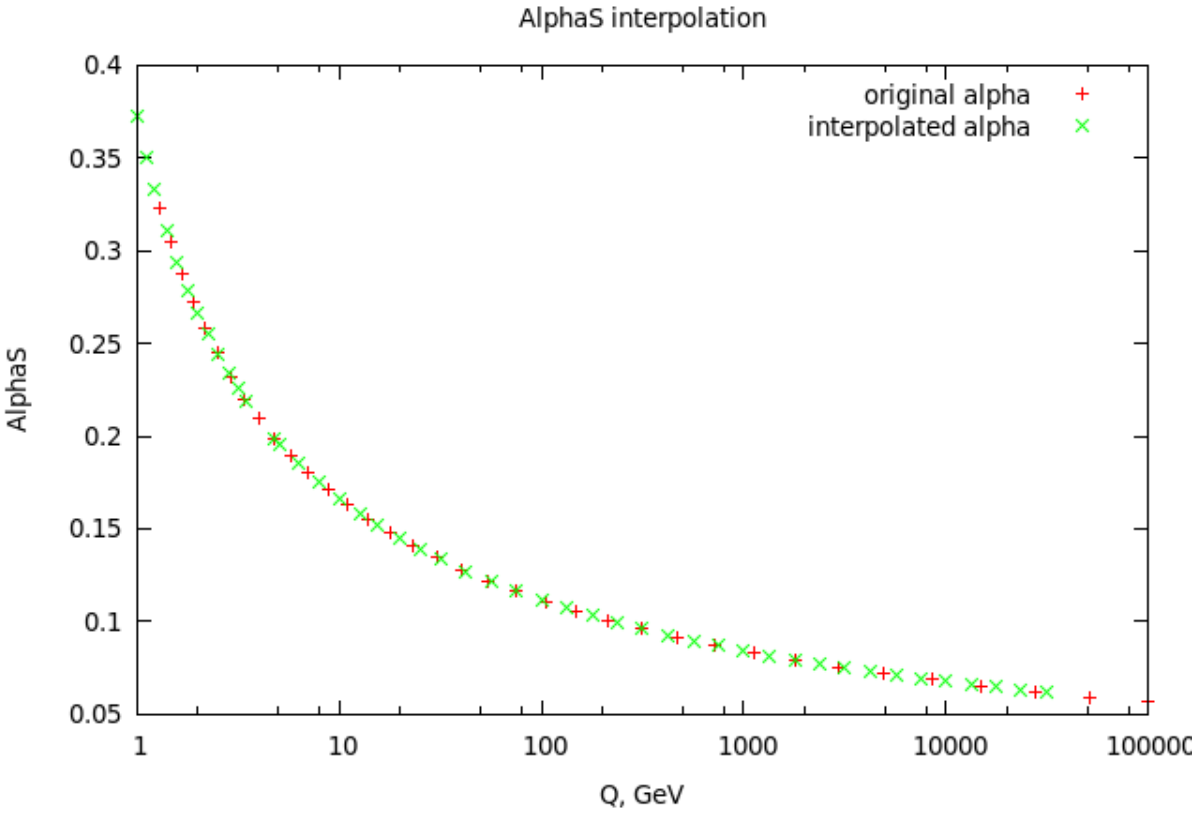
- Combine.c contains the function combine(args)
  - Declaration of variables
  - Parsing of command line arguments
  - Loading pdfsets and initializating of new pdfs
  - Filling the new pdfs with the values resulting from the interpolation
  - Saving new pdfset (or OutSet) to file
  - Memory cleaning
- Interpolation.cc contains the function interpolation(args) uses the LHAPDF function xfxQ(x,Q,flavours)

Current status

- Increase NumMembers node value in Info file
- Add to interpolated pdf hesh original parameters: MCharm, MBottom, AlphaS_MZ …

➔ If AlphaS_Type: ipol

  - interpolation of Alphas values on new Q grid
  - The function alphas_ipol(args) described in interpolation.cc uses the LHAPDF function AlphaS()



Current status

- Add >1 sets:
  - Xfitter-process combine OutSet BaseSet AddedSet1[:pdfs] AddedSet2[:pdfs] …
- Few functions are described separately in combine.c:
  - Argument parser
  - Initialization of new pdfs
  - Changing Info and pdf hash

Summary

- To take pdfs from only one or more pdfsets and interpolate them
- To increase NumMembers in Info file
- To append some parameters to pdf hash
- To interpolate alphas on new grid if AlphaS_Type = ipol

Thanks for attention!