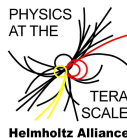


Statistics Tools Group

Gero Flucke
DESY



Analysis Centre Meeting
December 15, 2010

- Activity Overview
- Few Comments
- Loose Thoughts for Future

Schools

- September 2008 at DESY: “Terascale Statistics Tools School”
- April 2009 at DESY: “Fitting Workshop / School”
- October 2009 in Karlsruhe: “Workshop on Advanced Methods in Statistical Data Analysis”
- January/March 2010 at DESY: “MarieCurie / Alliance Training Event Geant4 detector simulation and ROOT data analysis”
- March 2010 at DESY: “Terascale Statistics Tools School Spring 2010”
- October 2010 in Göttingen: “Advanced Topics in Statistics”
- April 2011 in Mainz: “Introductory School on Statistics”

Meetings

- Rare Group Meetings
- Non-regular Informal Statistics Meetings
 - at DESY
 - tried once/twice with EVO
- Unfolding (\Rightarrow)

Millepede II

- Tool for large linear fitting problems (for calibration and alignment).
- By Volker Blobel.
- Further development by Claus Kleinwort: more parameters, parallelisation, faster track fits, improved diagnostics. . .
- Driven by CMS alignment needs - but experiment independent.

TMVA

- Unit tests successfully introduced by Ch. Rosemann.
- Regression in Support Vector Machine: Worked on by I. Rubinsky.

RooStats

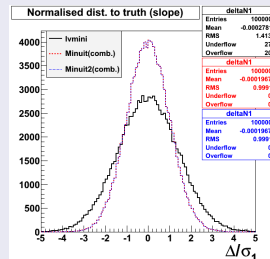
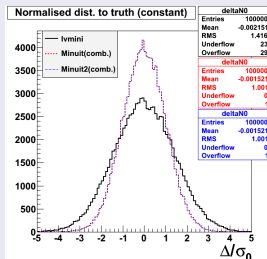
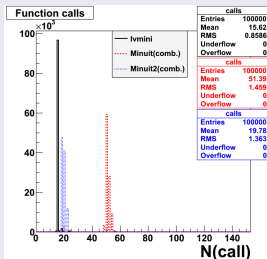
- Scholarship for Stefan Schmitz (RWTH Aachen) to go to CERN.
- Contributed e.g. interface to BAT.

Past and Current Activities: Tools and Programs

Lvmini

- Limited-BFGS minimisation tool (non-linear)
 - by Volker Blobel,
 - intended also for very large number of parameters (10^5 ?).
- G.F.: interface to be called from ROOT, some testing.
- Discussing integration in ROOT (albeit FORTRAN) with L. Moneta.

Tests: Here Simple Straight Line Fit



- TUnfold (S. Schmitt): final version in ROOT since 5.27/04.
- Workshop in May at DESY: “Theory”, implementations and experience.
- Trying to establish group to
 - test algorithms,
 - interface from existing RooUnfold framework (by T. Adye, RAL),
 - improve algorithms?
- About monthly meetings since summer.
- PhD's at Göttingen, Bonn currently focus on their analysis... (but now we have Pedro at DESY!)

- No real working group spirit:
 - everybody has his main interests outside (including me. . .),
 - Statistics Group as additional burden,
 - no common project or “product”,
 - my limited “leadership” capabilities.
- Projects, tools: diversity like in a “Gemischtwarenladen”.
- Hitting person power wall for real impact.

- Need additional man power to have impact:
 - not several “20%”, but larger fractions,
 - to form a real group: at DESY (or part time here?)
 - applied fellows?
- Continue with 1-2 schools per year.
- For DESY: informal meetings.
- Projects:
 - concentrate on one or two (unfolding?)
 - several small contributions as now?
 - take Blobel programs/thoughts and “put into (usable) software” (lvmini, aplcon, unfolding, ...)?
- Better link to CERN/LHC statistics committees (by membership?)