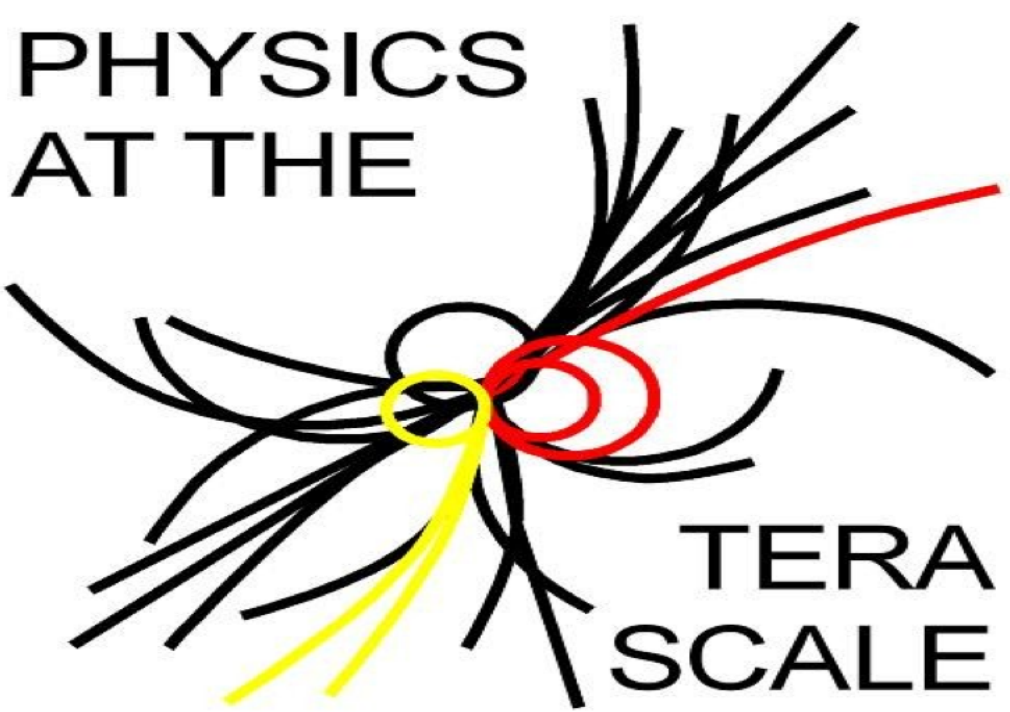
Analysis Center

The Analysis Centre in the



Helmholtz Alliance

Analysis Project Board: Stefan Dittmaier, Herbi Dreiner, Michael Krämer (theo. chair), Klaus Mönig (exp. chair), Markus Schumacher, Peter Schleper

Analysis Center

Analysis Centre at DESY

- Support of physics analysis in Germany
- Areas:
  - Monte Carlo (user support, tuning…)
  - Parton distribution functions
  - Statistics tools
  - Collaborative tools (Web based information system etc.)
- In all cases the groups will be integrated into the working groups of the experiments or common workshops

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Analysis Center: MC

Monte Carlo support

- Contact: H. Jung, S. Levonian, NN
- User support on choice and usage of MC generators
- Tuning of MC generators
- Active contribution to generator development
- The detailed division of work between the analysis centre, the YIG in Karlsruhe and the other German groups working on MC is currently under discussion

Analysis Center: PDF

Parton Distribution Functions

- Contact: J. Blümlein, S. Moch, S. Glazov
- PDFs are mandatory for LHC physics
- Still many open problems like inclusion of LHC data into fits, matching of QCD order of PDFs and studied process, uncertainties on PDFs
- Large experience (theory and experiment) from HERA

Analysis Center: Statistics

Statistics Tools

- Contact: C. Kleinwort (CMS), S. Schmitt (ATLAS)
- In the last years there was a huge development on hypothesis testing and multivariate selection algorithms
- Especially at the TEVATRON new algorithms and methods have been developed
- There are experts in the experiments who work almost full time to apply these techniques to the analyses
- The analysis centre will help you to make use of this development

Analysis Center: Tools

Collaborative Tools

- It was proposed to install a Web based information system as a knowledge base for both experiments
- This can be used as a repository for analysis code and MC programs
- The information system needs to be supervised by one experimentalist per experiment and one theorist

MC group

- Monte Carlo group (Analysis Center) on
  Thursday 17. Jan, 10:00 - 13:00 in sem 1, Bldg. 1, DESY HH.

- - installation of GENSER at DESY
- - interface for HEPMC to all genser generators
- - general fit program: to be used also for tuning and PDF fits
- - MC school 21.April - 25.April.

MC school

Monte Carlo and Simulation school (DESY)

Monday

morning:	arrival
afternoon:	14:00 – 15:00 Lectures on Monte Carlo techniques (NN)
	15:00 – 15:30 Coffee
	15:30 – 17:30 Lecture on NLO calculations (NN)

Tuesday

morning	Lectures on Monte Carlo event generators
	9:00 – 9:45 CASCADE (H. Jung)
	9:45 – 10:30 PYTHIA I (T. Sjostrand ?)
	10:30 – 10:45 coffee
	10:45 – 11:30 HERWIG I (S. Gieseke ?)
	11:30 – 12:15 SHERPA I (NN)
	12:15 – 14:00 lunch
afternoon	14:00 – 15:30 practical exercises: use HEPMC for W/Z pt spectrum (NN)
	15:30 – 16:00 coffee
	16:00 – 18:00 practical exercises: effect of parton showers (NN)

Wednesday

morning	Lectures on Monte Carlo event generators
	9:00 – 9:45 MC and NLO: MC@NLO, POWEG (NN)
	9:45 – 10:30 PYTHIA II (T. Sjostrand ?)
	10:30 – 10:45 coffee
	10:45 – 11:30 HERWIG II (S. Gieseke ?)
	11:30 – 12:15 SHERPA II (NN)
	12:15 – 14:00 lunch
afternoon	14:00 – 15:30 practical exercises: RIVET (L. Sonnenschein ?)
	15:30 – 16:00 coffee
	16:00 – 18:00 practical exercises: using HEPMC &RIVET (NN)

Thursday

morning	Exercises and Discussions
	9:00 – 10:30 Presentation of comparison of MC generators (NN)
	10:30 – 11:00 Coffee
	11:00 – 12:30 exercises on MC – data comparison using RIVET (NN)
afternoon:	departure