
Seminar
Physics at the Large Hadron Collider
Summer semester 2008

Topics:

- 1. Charged Higgs Boson Searches (Thies, 29.04.)**
 - overview of results described in the CSC note + tt-background estimation from data (HG10)
- 2. Missing Energy and Tau-Lepton Reconstruction in ATLAS (S. Stonjek, 27.05.)**
 - overview of the results described in the CSC note (J9-J16), application in H->tautau analysis
- 3. Statistical Methods for Determining the Higgs Discovery Potential (Oliver 03.06.)**
 - described on the example of the combined Higgs analyses
- 4. Incl. SUSY Searches and Data-Driven Background Estim. (Federica, 17.06.)**
 - overview of the results described in the CSC note (SUSY5+SUSY1,2,3)
- 5. Excl. SUSY Searches and Exotic Multilepton Final States (Joerg v.L., 24.06.)**
 - overview of the results described in the CSC note (SUSY6+)
- 6. Search for Higgs Boson Decays H->WW (Steffen, 01.07.)**
 - overview of the results described in the CSC note (HG4)
- 7. Production of Gauge Boson Pairs at the LHC (Daniela, 15.07.)**
 - overview of the results described in the CSC note (SM6)
- 8. Search for Higgs Boson Decays H->ZZ^(*)->4l (Alessia, 22.07.)**
 - overview of the results described in the CSC note (HG2)
- 9. Jet Energy Calibration in ATLAS (Andreas Jantsch, 29.07.)**
 - overview of the current ATLAS strategy (CSC J6-J9)
- 10. W/Z(+jets) cross-section measurement (Sandra)**
 - overview of the results described in the CSC note (SM2+SM5)
- 11. tt cross-section measurement (SCT?)**
 - overview of the results described in the CSC note (T6)
- 12. top mass measurement (SCT?)**
 - overview of the results described in the CSC note (T9)
- 13. Commissioning of the muon spectrometer (Bernhard Bittner?)**
- 14. Theory**
 - Dark Matter Studies at LHC (F. Steffen?)
 - Higgs and SUSY phenomenology (S. Dittmaier?)

Available dates for the talks (always Tuesdays at 14:00 at MPI) :

- 29.04.2008. (Thies Ehrich)
- 06.05.2008.
- 13.05.2008.
- 20.05.2008.
- 27.05.2008. (Stefan Stonjek)
- 03.06.2008. (Oliver Kortner)
- 10.06.2008. Muon Week
- 17.06.2008. (Federica Legger)
- 24.06.2008. (Joerg von Loeben)
- 01.07.2008. (Steffen Kaiser)
- 08.07.2008. ATLAS Week Bern
- 15.07.2008. (Daniela Rebuffi)
- 22.07.2008. (Alessia D'Orazio)
- 29.07.2008. (Andreas Jantsch)

Few guidelines for the speakers:

The topics are selected to cover the most interesting latest results presented in various CSC notes, with an emphasis on the physics which can be performed with early data.

The goal is that the speakers can also profit from their talks, i.e. learn something new about the topic which is interesting for their field of research.

The duration of the talk should be 30–45 minutes.

The talks should be prepared for a very mixed audience of university students, diploma, PhD and postdoctoral students. Thus,

- The first half of the talk should give a good overview of the subject, with simple explanations understandable for everyone, including university students.
- The second half of the talk can be dedicated to more specialized issues of particular interest to ATLAS/LHC physicists (but avoid the ATLAS slang).