Expression of Interest
from Humboldt University of Berlin
to join the SCT collaboration

SCT Institute Board Meeting

ID week – 29th of October 2013

(PI – Heiko Lacker, Presenter: Sergio Grancagnolo)

ATLAS @ Humboldt University of Berlin

HUMBOLDT-UNIVERSITÄT ZU BERLIN

- **HU Berlin group @ Institute of Physics joined ATLAS in 2006**

  EE1 (Thomas Lohse, Full Professor)

  EE2 (Heiko Lacker, Full Professor since 2007/2008)

- **ATLAS contributions:**

  HLT (responsible: EE1)

  Pixel (responsible: EE2; since 2008)

Institut of Physics

Adlershof

Moving from pixel to SCT

- Phase-II upgrade work for the strip detector since 2011 (by EE2)
in collaboration with DESY and University of Freiburg

- HU Berlin would like to move closer to the current strip community (because of knowledge exchnage) and hence would like to move from pixel to SCT (responsible: EE2)

- This intended move was already part of the HU Berlin ATLAS proposal to the German Federal Ministery of Education and Research (BMBF) for the funding period 2012-2015

- Within the overall German ATLAS funding for 2012-2015:
HU Berlin pays 30,5 kEuro of M&O-B for SCT in 2015

- Good time for the group to make the pixel --> SCT move
in the forthcoming months

Manpower

- **ATLAS@HU Berlin (EE2): Positions from the university**
  Full Professor (Heiko Lacker) + 1 Postdoc + 1 PhD student + 1 Technician

- **Additional positions financed currently by third-party funding:**
  *** BMBF: 1 Postdoc (Sergio Grancagnolo)**
  + 1 PhD student
  *** Graduiertenkolleg 1504 (until 2018): up to 2/on average 1 PhD student**

- **New service work/authorship qualification tasks can go into SCT**

- **We can offer some experience in pixel/IBL that might be (partly) helpful for SCT (next slide)**

Pixel/IBL work made so far

- **Holger Schulz (PhD student)**
  - Detector resolutions for different IBL geometries
- **Dennis Wendland (PhD student)**
  - Scaling of Lorentz angle in pixel simulation as a function of cluster size
  - Ntuple production for pixel offline software group
- **Geoffrey Herbert (PhD student)**
  - Adaption of NN-based clustering algorithm for IBL
- **Sergio Grancagnolo (Postdoc)**
  - Run coordinator
  - Online shifts
  - DCS oncall expert
  - Exchange of/aging effect measurements of optical transmitters (TX)
  - Test software (PVSS) for SC-OL cards
  - IBL performance in different simulated geometries

Contributions to SCT made so far/planned

- **Contribution to SCT already made (to prepare the move to SCT):**

  *** Laura Rehnisch: Authorship Qualification (July 2012 - Aug 2013)**

  - Inclusion of muon-related information into the SCT ntuple

  - Study of momentum dependence and radiation effects in MIP signals

- **Contributions in the near future:**

  *** Sergio Grancagnolo (postdoc based @ CERN; BMBF funded): just started to work on SCT**

  *** Dustin Biedermann (new PhD student; funded by GK 1504): just started; authorship qualification task in SCT to be defined**

Areas of Contributions

- Agreed with SCT management to contribute
  to the wide area of Conditions Service

- Will start with:
  Implement the use of measured Lorentz angles into reconstruction:
  - Implement reading of values from COOL in SiLorentzAngleSvc
  - Decide when and how these values need updating and perform updates

We appreciated very much
if we could join the SCT collaboration !