LHC&ATLAS summary.

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Deutsches Elektronen-Synchrotron Ein Forschungszentrum der Helmholtz-Gemeinschaft



The groups

- DESY has a la large ATLAS group (12 permanent+tenure track, 23 postdocs, 21 PhD students
- DESY joined ATLAS relatively late and didn't contribute to the construction
- KEK has a similar number of permanent scientists but no Postdocs and few student however good connections to Japanese universities
- KEK is ATLAS member from the beginning and contributed significantly to the construction



Possible collaboration topics

- DESY has joined the silicon tracker (SCT) recently, where KEK is member since long
- >Both institutes are planning to work on the SCT upgrade with many possible synergies
- >Both institutes work on precision measurements of W/Z production with complementary experience
- There may be opportunities to collaborate on the trigger but it is too early to discuss this further



Measurements with W/Z bosons

- DESY is more focussed on electron channels while KEK concentrates on muon channels and for optimal precision a combination of the two is needed.
- KEK works on a W+charm analysis which is sensitive to the strange sea in the proton
- DESY leads the effort of fitting Parton Distribution Functions from ATLAS data where this analysis would be an important input
- > We plan to start some common discussions on these topics



SCT upgrade

- DESY wants to build one endcap for the new SCT
- This requires R&D which has started already
- KEK has a long standing experience on silicon detectors
- KEK has sent already 96 detector modules to DESY to study them in detail
- KEK will participate in the upgrade of the SCT barrel
- On the sensor side there can be a collaboration on sensor tests like Lorenz angle measurements or irradiation
- An important tool for this is the DESY testbeam
- It can be a focus point for common studies



SCT upgrade (II)

- There are several other common issues in the upgrade
- > As a 1st topic new very light materials have been identified
- KEK is building a generic DAQ module to readout silicon detectors using TCPIP
- We consider to use this module in the EUDET/AIDA testbeam telescope
- Several of the discussed topics are generic and extend naturally to the DESY CMS group



Logistics

- There exists already a working collaboration on silicon sensors
- A large part of the projects arise naturally as inter-ATLAS collaborations
- However it would be helpful to get some special funds for bilateral visits
- We will evaluate which special programs are available for that

