

FCPPL ATLAS Projects: 2008, 2009 and future

Shan JIN

Institute of High Energy Physics (IHEP)

jins@mail.ihep.ac.cn

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FCPPL ATLAS Collaboration

- **Our collaboration started earlier than FCPPL was founded.**
- **We have established one of the largest scale collaboration among all FCPPL projects —**
 - **3 projects in 2008/2009 involving 9 institutes and universities from China and France.**

Institutes and Universities in the FCPPL ATLAS projects

- **China— ATLAS Chinese Cluster (ACC):**
 - **IHEP, SDU, USTC, NJU**

- **France:**
 - **IN2P3: CPPM, LAL, LPNHE, LPSC**
 - **CEA/Saclay**

**ACC/IN2P3(CPPM,LPNHE,LAL)
Collaboration Project**

Research topics

- **Search for Higgs boson in $H \rightarrow \gamma\gamma$**
(measurement of $\gamma\gamma$ cross section on early data)
- **Study of Higgs couplings in ttH/WH**
- **top spin correlation**
- **Btagging/e-ID/mu-ID/Missing ET ... performance studies**
- **Test beam study of LAr calorimeter**
- **Silicon detector R&D**
- **...**

Activities and progress in 2008 (I)

- Lydia work in IHEP for two years until last summer.
- One senior physicist from CPPM (Emmanuel) visited IHEP for one week.
- Four senior physicist from ACC (Feng, Lianyou, Chengguang, Yanwen) worked at CPPM for 10.5 months.
- One co-PhD student from IHEP worked in CPPM for 6 months (supported by CAS grant).
- One co-PhD student from IHEP worked in LPNHE and CERN for 8 months (supported by French Embassy and ACC funding).

Activities and progress in 2008 (II)

- **Physics progress: Two CSC Notes finished—** talks by Chengguang and Huaqiao (**He was an editor for the CSC note on ttH/WH**)
 - **Great effort was made in ATLAS collaboration on the CSC (**Computing System Commissioning**)** Notes with full estimations on various systematic uncertainties. The CSC book has been published in arXiv signed by the whole ATLAS collaboration.
- **The first co-PhD student Huaqiao ZHANG graduated from IHEP/CPPM and became a post-doc in CPPM.**
- **One conference talk at SUSY08 by Huaqiao.**

Prospects in 2009

- Many exchanging visits are planned, and one more student will go to work in IN2P3 institutes. Research work will concentrate on understanding the early data.
- One more IN2P3 institute (LAL) joins FCPPL ATLAS collaboration:
 - One co-PhD student will go to LAL to work on Higgs searches (Xifeng RUAN is applying for French Embassy Co-PhD Grant).
 - Zhiqing's visit to China is also supported by CAS talent team project.
- New research topic on SUSY search is under study.
- New research topic on SLHC (silicon detector) R&D : already started in 2008 → Alexandre's talk

ACC/CEA-Saclay Collaboration Project

Research topics

- **Top pair cross section measurement**
- **Top mass measurement**
- **SM: Z + jets**

Activities and progress in 2008

- **One senior physicist (Eric) visited IHEP on ATLAS grid computing last summer.**
- **One post-doc from China worked in Saclay for more than one year.**
- **One co-PhD student from Nanjing University has been working in Saclay since last October (for 6 months period)**
- **Progress in research topics → Bruno's talk**

Prospects in 2009 and future

- **Some exchanging visits are planned, and one more co-PhD from USTC arrived at Saclay in January to work there for 6 months.**
- **Make effort to obtain physics results from early data at 10 TeV.**
- **Possible collaboration on ATLAS-upgrade – micromegas detector R&D is under discussion.**

**SDU/IN2P3 (LPSC)
Collaboration Project**

Activities and progress in 2008

- Feb. 28th, 2008:

Prof. Francois Le DIBERDER (Deputy Director of IN2P3), Dr. Lydia ROOS (co-director of FCPPL), Dr. Fairouz MALEK (Atlas Grenoble Team Leader), and one person from French Embassy visited Shandong University, and discussed about the collaboration between LPSC and SDU.

- One senior physicist (Cunfeng) from SDU visited LPSC for two weeks, started the collaboration on single top study
- One PhD student J. Wang visited LPSC for 3 months.
- Research progress → Cunfeng's talk

Prospects in 2009

- **Some exchanging visits are planned, including one co-PhD student will go to LPSC to work for 6 months in 2009 (Jing WANG is applying for French Embassy Co-PhD Grant).**
- **Continue to work on single top physics.**

Summary

- All 3 FCPPL ATLAS projects were well organized according to project proposals. Main achievements include:
 - A lot of productivity and visibility in ATLAS – 2 CSC notes; SUSY08 talk; many talks presented in ATLAS physics group meetings; Editor/convener of CSC note...
 - One co-PhD graduated, and 7 co-PhD students are in our projects.
- We will strengthen our cooperation with FCPPL LCG project.
- We strongly encourage more French physicists to visit China, even though LHC/ATLAS is in/near France.

谢 谢 !

Merci !

Thank You !