CMS Data Analysis School

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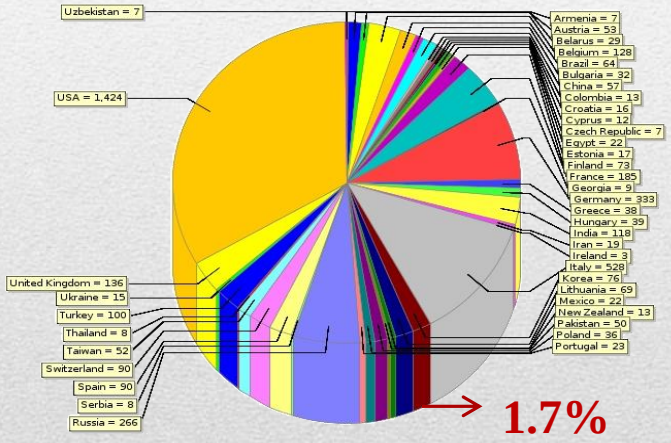
- Welcome to CMSDAS in Korea
  - 12th CMS data analysis school
  - 3rd CMSDAS in Asia

- In this school, YOU do the hard work ☺
  - 10% lecture, 90% hands-on analysis
  - Prepare you for Run 2 analyses
  - Learn to collaborate (and compete) with others

Introduction

- 8 Institutions
  - Korea, Chonnam, Chonbuk, Kangwon, Kyungpook Nat'l, Seoul Nat'l, U of Seoul, SKKU

Status	2015.4
Faculty	13
Postdocs	23
Graduate students	36 (23 Ph.D)
Technicians and support staff	5
Total	78



- KNU is a host to CMS Tier 2

Korea in CMS

- 5 day program

Date	Activities
25 (Tue)	Plenary talks, short exercises, welcome reception
26 (Wed)	Short exercises
27 (Thu)	Long exercises, excursion
28 (Fri)	Long exercises
29 (Sat)	Preparation for presentations, Presentations of results

- You should have completed the pre-workshop exercises, which cover the very basic usages of CMSSW

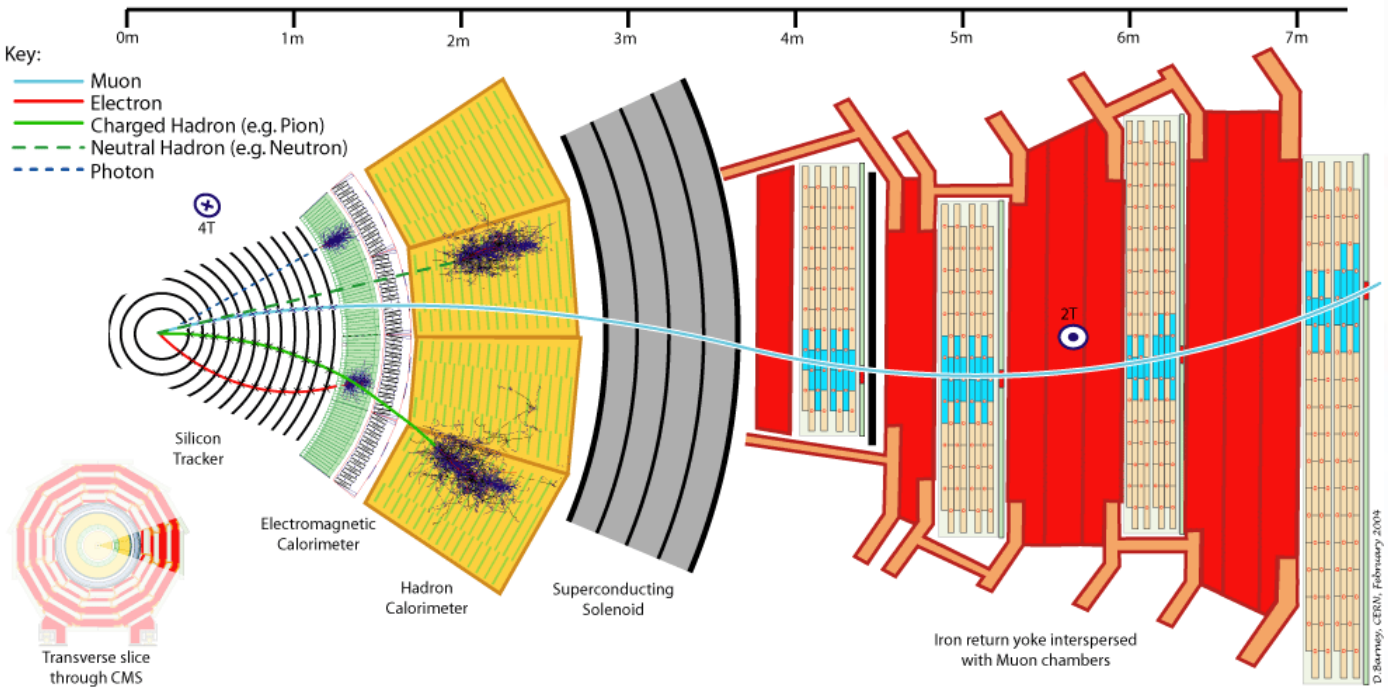
Program at a Glance

CMSDAS Exercises This Week

- Short
  - Electron
  - Muon
  - Jet/MET
  - B-tagging
  - Triggers
  - 15 maximum per exercise
- Long
  - Top – 2 groups
  - Z and Z’
  - SUSY

Short Exercises

- To learn to access the physics objects, identification algorithms, selection criterion, various corrections etc.
- Leads to strong foundation, understanding for a successful physics analysis
- Each student, in the first half of the school , completes a sequence of assigned Short Exercises in part to satisfy prerequisites for the Long Exercises
- The duration of each Short Exercises is 2 hours in a class-like setting with class-size of about 8-12 students

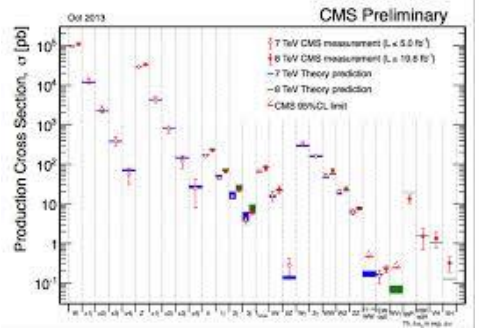


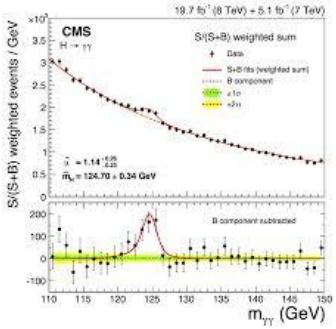
For a description of Short Exercises, please have a look the following link:

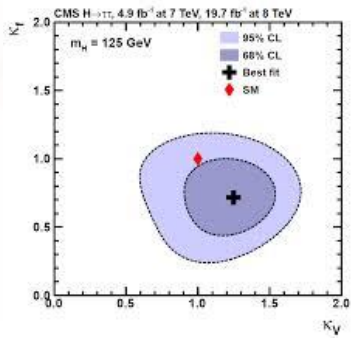
https://twiki.cern.ch/twiki/bin/view/CMS/WorkBookExercisesCMSDataAnalysisSchool#ShortExercises2015Korea

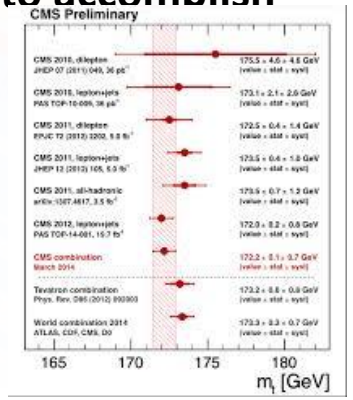
Long Exercises

- Goal is to generate experts in the field by making a physics measurement or even a possible discovery !!!
- Students perform one exercise for which they have made a choice prior to attending the school from 8 choices provided
- Students work in a team of 3-4 with teachers who are experts in the field
- A full physics measurement is performed that could include determination of trigger/object efficiencies and acceptance, fits to data to extract signal and background yields, data driven methods for background determination, measurement of systematic uncertainties etc.
- The measurement may extend the state of art on CMS by extending dataset or modifying selection to improve sensitivity or could altogether be a new search
- There is sense of competition with best performing team winning a prize
- Due to dense work in a short time, students decide on a division of work to accomplish their physics analysis during the Long Exercise









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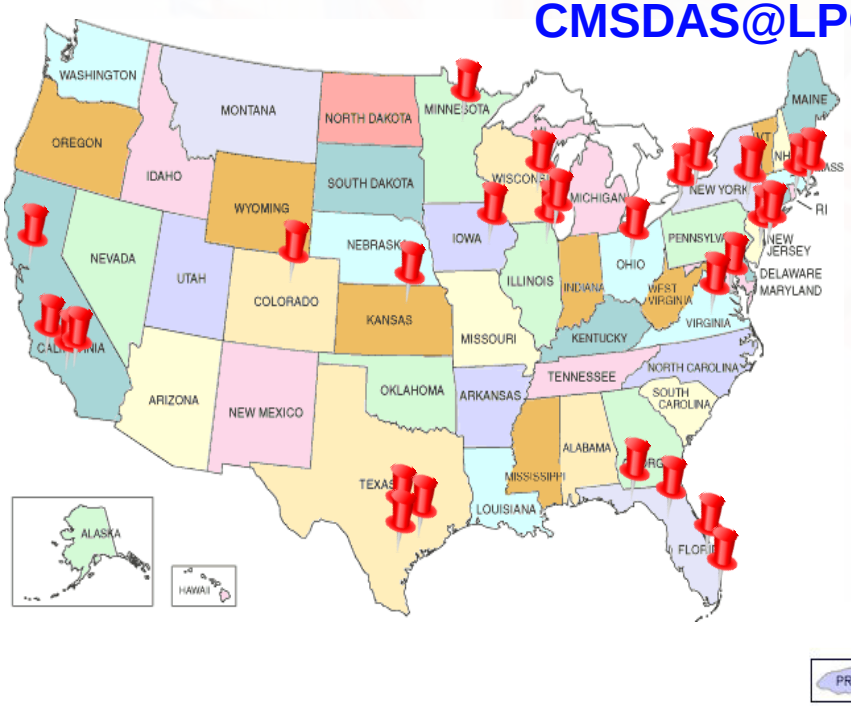
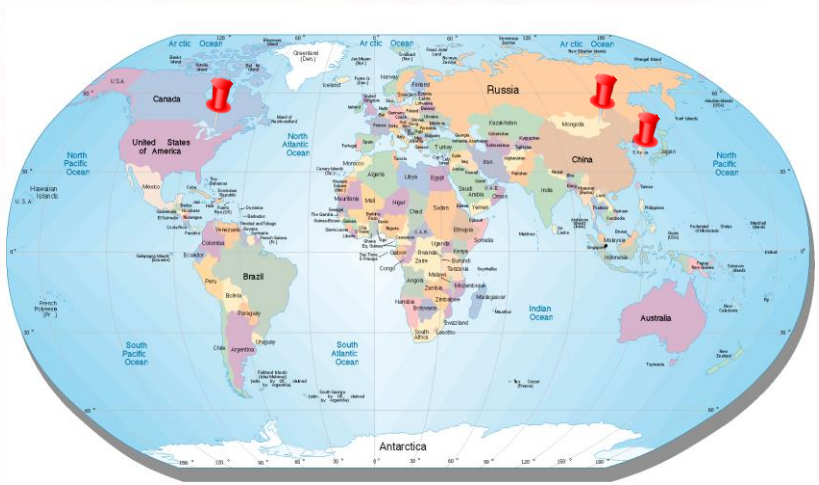
Brief CMSDAS statistics

- Most participants are graduate students & postdocs
  - and mainly attend their regional CMSDAS (NA, Europe, Asia)
- Facilitators/Teachers -
  - 40% faculty, 40% post docs 20% advanced graduate students
- Majority of the participants (66%) have less than 1 year of experience with CMS analysis.

CMSDAS@LPC class of 2015





Past student's lasting impression about CMSDAS

- Absolutely crucial to being able to quickly contribute to CMS efforts.
- Very useful for students and facilitators too.
- It was a useful method to familiarize oneself with the cms framework
- CMS software is just as difficult as I thought it was.
- It was a great way of learning so much within such a short time.
- CMSDAS was a wonderful experience. I learned about new opportunities for ser magnificent conference is being held at my institution in a few months, and that there are plenty of other people like myself who are just getting their feet wet in data analysis.
- A good learning experience
- wonderful learning opportunity.
- That CMS is a pretty good fit for me. Seeing the wide range of people in CMS and their individual skill sets helped to show me that I can be a valuable asset to this organisation as I grow in knowledge and ability.
- My sincere suggestion is that it should be for a month with students working in groups based on their research interest. I don't think you can really get started with your analysis in ~2 days of long exercise. The long exercise should have options like Leptonic SUSY or Hadronic SUSY.
- This was a wonderful experience in which I not only learned a great deal, but made some great friends who I will hopefully reconnect with out at CERN.
- Seems to be a good overview of CMS software.
- Great for introduction into the machinery and to meet people currently involved in real analysis.
- It was a valuable experience
- *It was one of the best experiences of life. It was an amazing learning experience while also being a ton of fun and allowing me to meet new people*.

- I would like to express deep gratitude to all who dedicated time and effort
  - Organizers and Facilitators
  - Many cancelations by outside facilitators due to unforeseen circumstances
  - Tried to incorporate as much of the latest criteria and tools for analyses

- So, enjoy the school and work on other exercises that interest you after the school.

Thank you!