

Non US Collaboration issues/point of view

Giorgio Chiarelli

Istituto Nazionale di Fisica Nucleare
Sezione di Pisa

Scenario



The LHC construction phase is coming to an end

- Commissioning phase is ongoing

There are other projects on their way (from astroparticle physics to the ILC...)

This situation has different impact on Institutions in different countries

- At CDF we discussed with Institutions their perspective for the year 2007 and beyond given the current scenario
 - ⇒ I will try to summarize/list their point of view

Foreign institutions in CDF

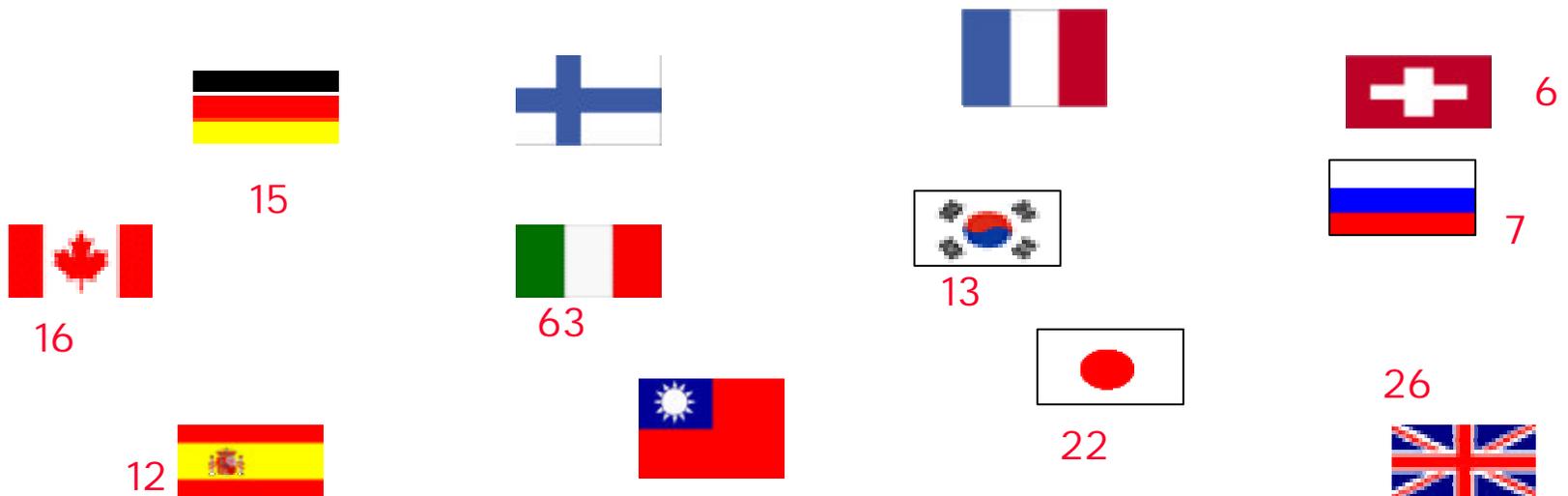


There are 12 (non USA) countries in CDF: they sum to

- 25 Institutions
- 37% of the FTE Physicists

Some institutions are part of CDF since the beginning, others joined later, several recently

⇒ Strong interest in the Tevatron Physics Program and its opportunities



Entering in CDF



From 1998 to today:

- ⇒ Rome (1998)
 - ⇒ UCL, Liverpool, Glasgow, Oxford (1998)
 - ⇒ University of Cantabria (Santander) (1998)
 - ⇒ Korean Hadron Collider Lab. (1999)
 - ⇒ Okayama (2000)
 - ⇒ ITEP (1999)
 - ⇒ Helsinki (2001)
 - ⇒ IFAE Barcelona (2003)
 - ⇒ Paris (2005)
 - ⇒ Madrid (2005)
- During the same period of time five US institutions joined

CDF from a foreign point of view



Past investments:

- Building CDF & CDF II
 - ⇒ Financial and human resources

Present investments:

- Commitments in operating, upgrading, computing, algorithms development..

Reward:

- Being able to do first class physics
 - ⇒ Top, B, QCD, ElectroWeak, Searches
 - Appealing to students and post docs

Environment

- An experiment which has been around for >20 years must be a pleasant place to work
 - ⇒ Relevant if you have to move half a world away from home or convince somebody to do that

Some foreign statements...



From Canadian groups:

⇒ "-Our funding agency has supported our CDF group since 1991 and has made significant investments in Run II and its physics programme. The return on this investment will be maximized once we have integrated and analysed inverse femtobarns of data."

From UK groups:

⇒ "...We believe, as does PPARC, that the Tevatron remains one of, if not the best, places to train students, particularly in the context of the LHC."

Beyond 2007?



Why should we keep running beyond 2007?

A number of answers were common to everybody

- The LHC will not start producing competitive physics before 2008-2009
 - ⇒ In the meantime CDF can produce important results
- Interesting physics to be done at the Tevatron given the current luminosity scenario:
 - ⇒ see talks by Beate and John
- Good training environment for young physicists
 - ⇒ A "small" experiment
- Synergy with the LHC
 - ⇒ Do not forget that many institutions are involved in LHC
- Some Institutions expressed interested in maintaining a strong link with the US-HEP community

Difficulties in extending their participation beyond 2007 were expressed by Geneva (small institutions may face funding problems)

How attractive is Batavia?



Will there be people from foreign institutions able to help in running CDF ?

- You already saw the figures in previous presentations by Rob and Terry

Additional:

- Confidence in continuing support from funding agency expressed by groups from:
 - ⇒ Italy, Spain, U.K, Japan, Canada, Germany
 - Differences due to different funding structure from country to country
 - ⇒ Some examples:
 - Pisa group is expected to be almost stable at the current level (29 FTE) through 2009
 - Karlsruhe (15 FTE) expected to shrink to 5 after 2007
 - Tsukuba is staying almost flat from 3.8 to 2.4 FTE and willing to hire students until 2008

Current vs future situation



The current level of participation from foreign institutions can be expressed by a few figures:

- ~38% of the CDF grad.students
- 20/50 Ph.D. theses in 2003-2005

How does the current situation project into the future?

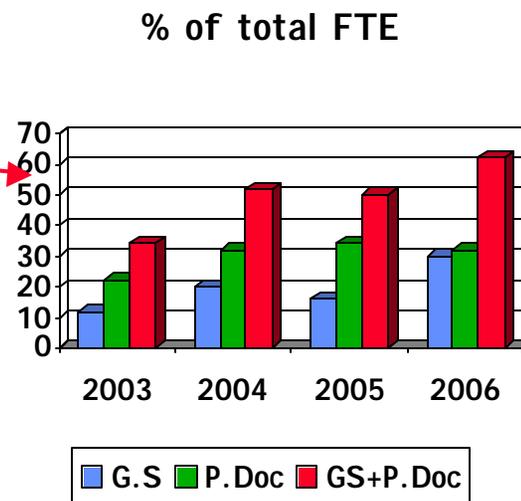
- Projection is sometime difficult as we do not always keep track of positions and systems are different from country to country for access to Grad School or to Post Doc positions.
 - ⇒ I examined one case (accessible information)
 - CDF/I taly from 2003 to 2006

Case Study: Italian Group



7 institutions (Bologna, Frascati, Padova, Pisa, Roma, Trieste, Udine), total ~16% of CDF FTE

- In Italy, particle physics is centrally funded
 - ⇒ Funding agency keeps track of the number of people working in a given experiment and their position on a yearly (calendar) basis
- CDF case (between 2003 and 2006*):
 - ⇒ Approximately flat in FTE
 - ⇒ Fraction of grad.students and post docs:
 - Increase in 2006 due to more graduate students (individual grants, for a three year thesis) coming to work with us.
 - ⇒ Decrease in total FTE in the future as shown in Terry's talk combines with increase of young physicists. There is no lack of interest!



* Information used to establish funding level for 06



Conclusion

Foreign institutions in CDF are willing to run beyond 2007

- Convinced there is important physics to be done during the LHC startup period
 - ⇒ It can be a (relatively) long period
- Most of them are convinced that they can provide a sizeable help to CDF and that CDF is a good investment:
 - ⇒ New institutions coming on board
 - ⇒ Students still coming to us in spite of the LHC

Competition is competition

- ⇒ Tevatron has a role to play