



LHC-experiments

radiation damage workshop

CERN, 20/11/2017

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Gregor K. and M. Moll



Welcome!

Outline

- A bit of history
- Motivations
- Organisation
- Future plans

Last time was in 2013 in Albuquerque

June 3-5,
2013



Join us for the
22nd RD50 Workshop at the
University of New Mexico,
Albuquerque, New Mexico, USA

June 3-5, 2013
A Workshop
about Radiation Hard Semiconductor Devices for
Very High Luminosity Colliders.

Chaired by Michael Moll, (CERN) and
Sally Seidel (University of New Mexico)

http://panda.unm.edu/RD50_Workshop/

Radiation Damage of the ATLAS Pixel Sensors Using Leakage Current Measurement System

Igor Gorelov

Student Union Building, University of New Mexico

14:00 - 14:30

Status of radiation effects of the ATLAS SCT detector

Taka Kondo

Student Union Building, University of New Mexico

14:30 - 15:00

Coffee Break

Student Union Building, University of New Mexico

15:00 - 15:30

Radiation damage effects in the LHCb Vertex Locator

Zhou Xing

Student Union Building, University of New Mexico

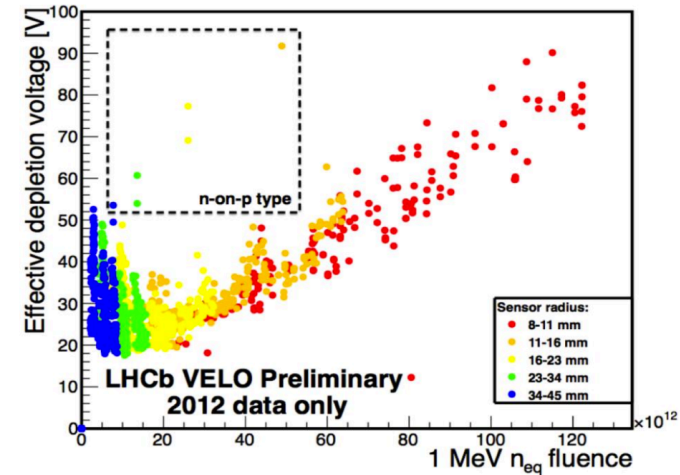
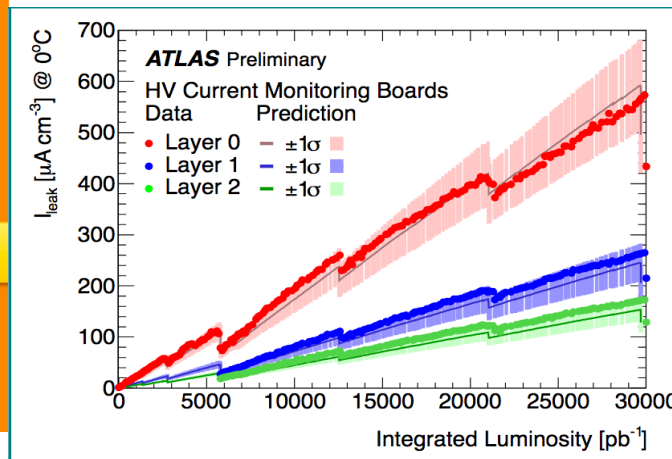
15:30 - 16:00

Summary of the session

Konstantin Toms

Student Union Building, University of New Mexico

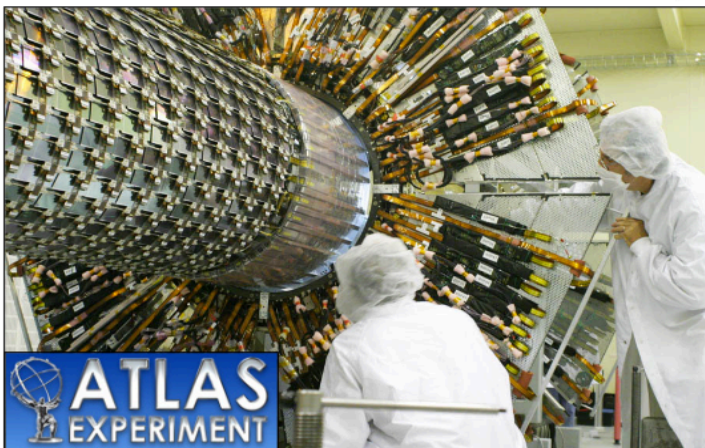
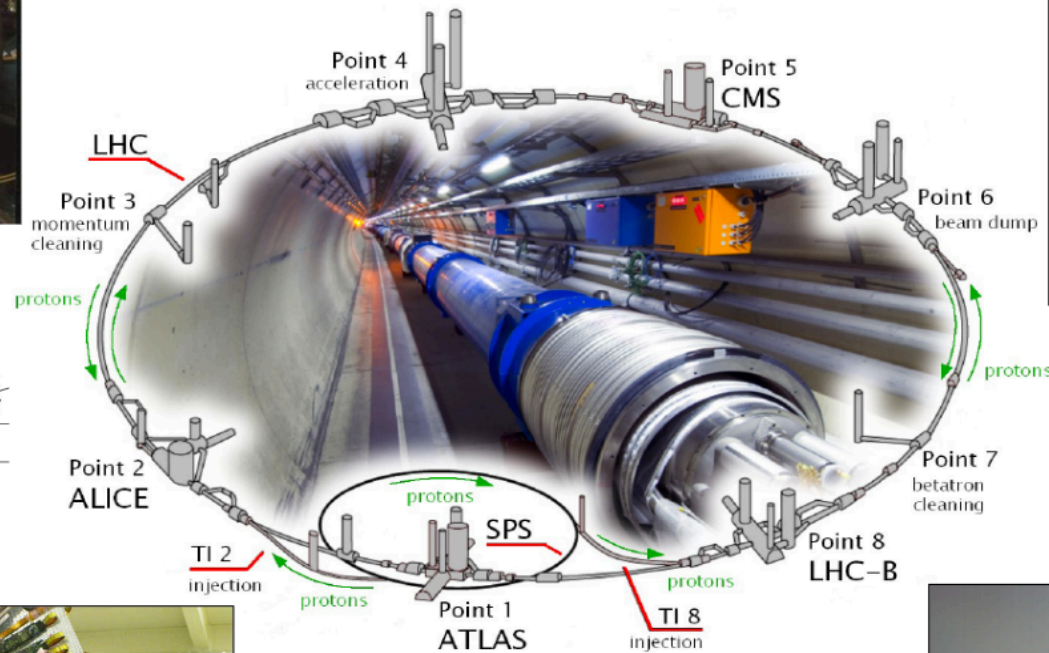
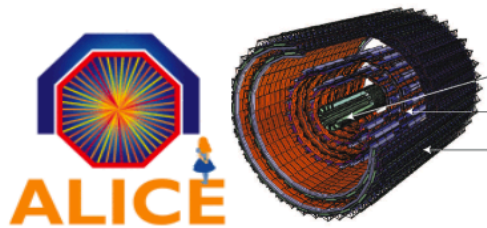
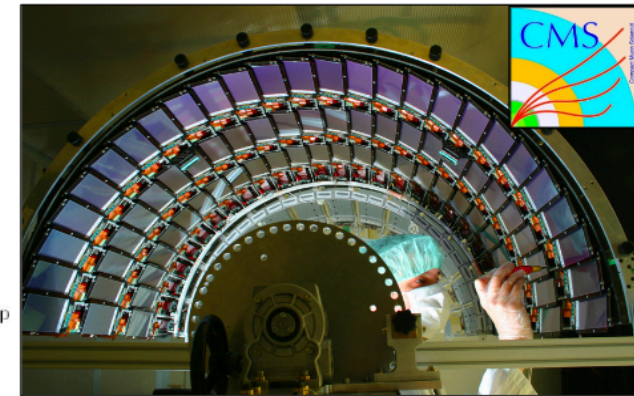
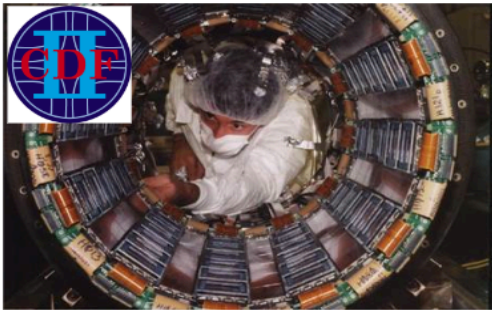
16:00 - 16:30



Effort coordinated in the past by Stephen Gibson
First meeting during 19th RD50 WS (November 2011)

RD50 Special Session on Inter-Experiment Silicon Radiation Damage

Comparison of results and primer for discussion

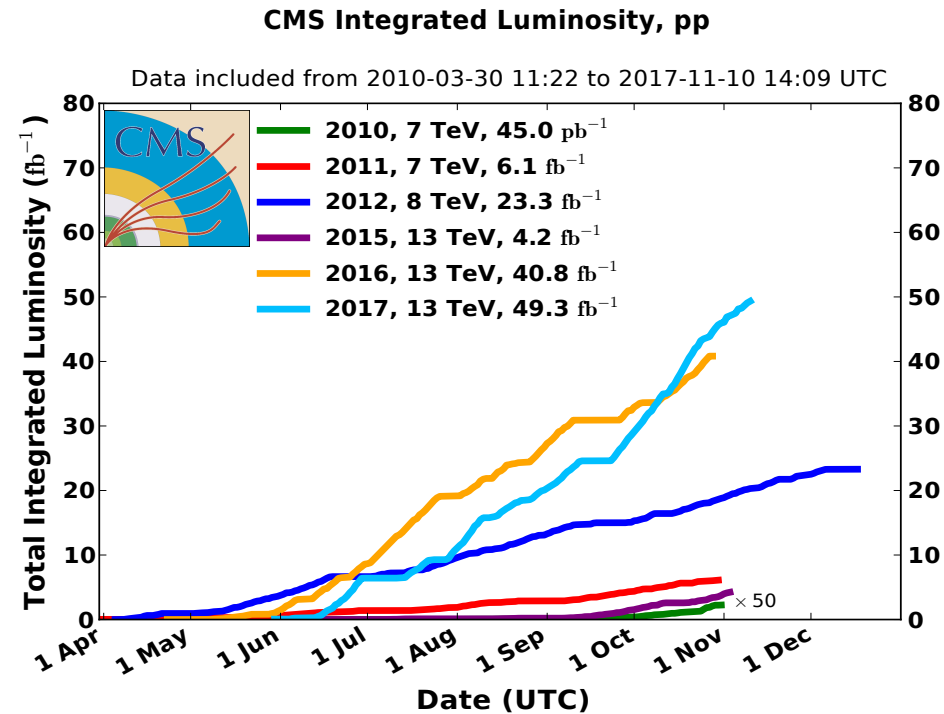


*Stephen Gibson
on behalf of the
Inter-Experiment
Working Group*



Motivations

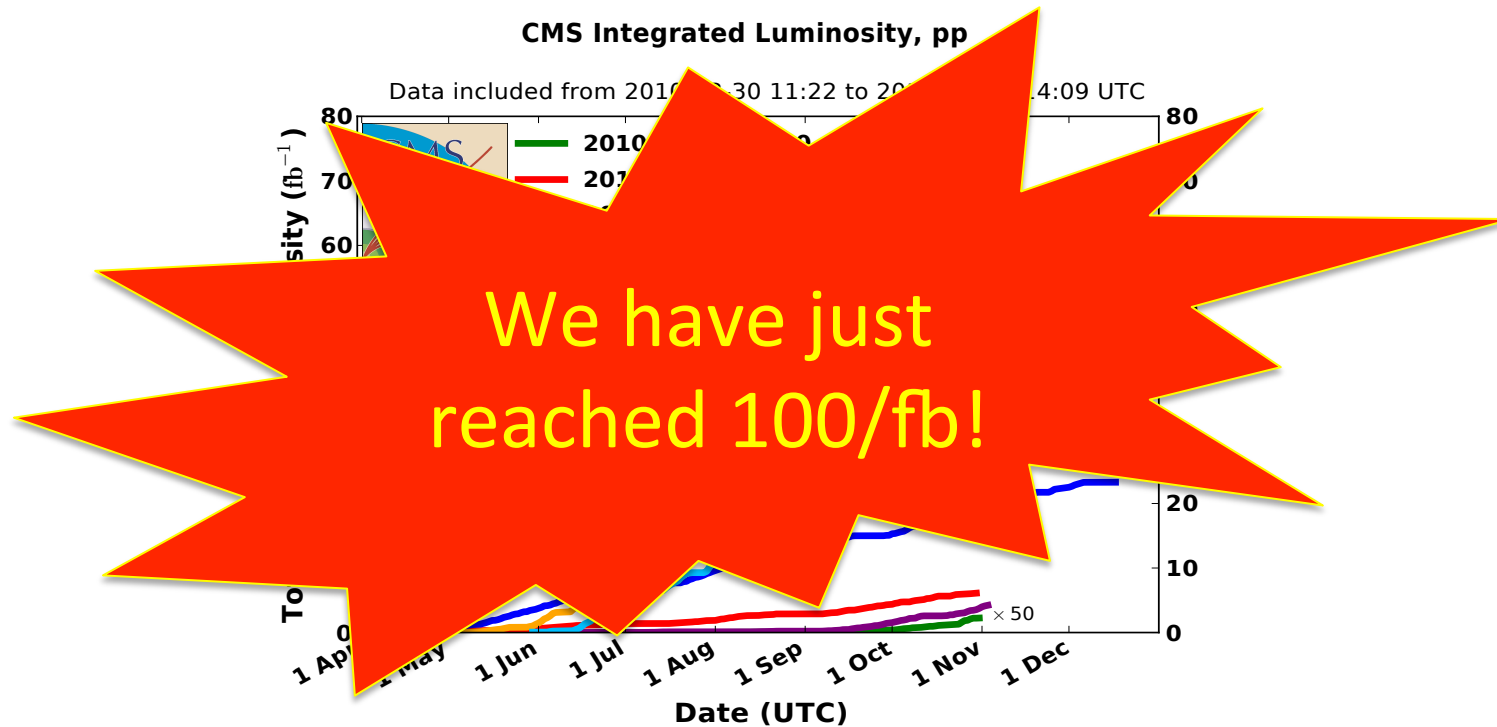
- Thanks to the excellent performance of the LHC important physics results have been achieved



- But this success comes at a cost for the tracking systems

Motivations

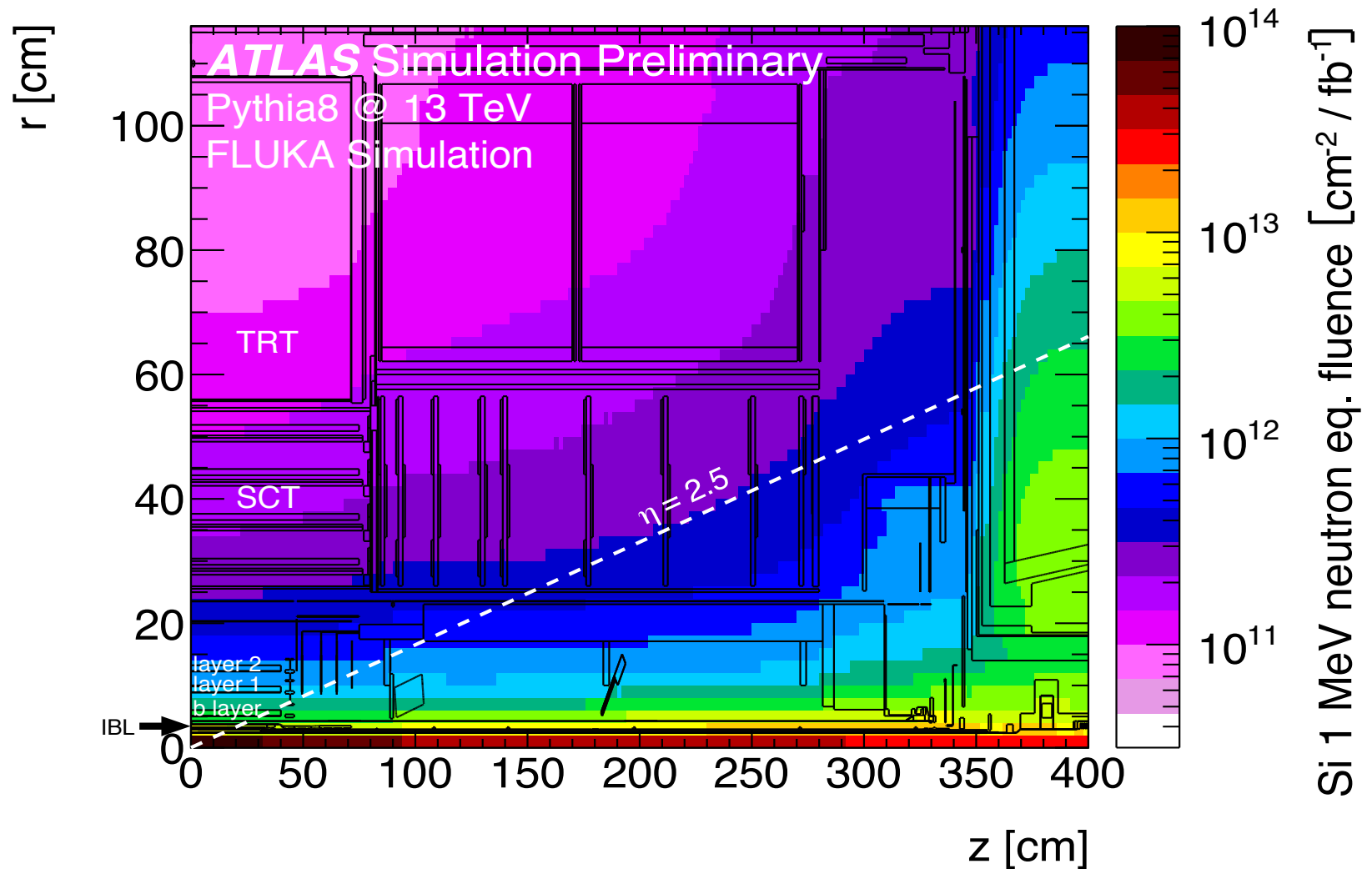
- Thanks to the excellent performance of the LHC important physics results have been achieved



- But this success comes at a cost for the tracking systems

Motivations

- Silicon trackers at LHC experiments are exposed already **today** to sizeable particle fluences



Motivations

To cope with this problematic we need

1. Reliable measurements from the detector itself
2. Precise knowledge of the expected level of particle fluence
3. Accurate simulation of the detector performance evolution

Workshop organisation

09:00	Opening remarks, scope 6-2-024 - BE Auditorium Meyrin, CERN	09:00 - 09:15
	ATLAS pixel and strip rad damage measurements (20'+10') 6-2-024 - BE Auditorium Meyrin, CERN	09:15 - 09:45
	CMS pixel and strip rad damage measurements (20'+10') 6-2-024 - BE Auditorium Meyrin, CERN	09:45 - 10:15
10:00	LHCb rad damage simulations and measurements (25'+5') 6-2-024 - BE Auditorium Meyrin, CERN	10:15 - 10:45
	Coffee break 6-2-024 - BE Auditorium Meyrin, CERN	10:45 - 11:05
11:00	FLUKA fluence/dose simulations (15'+5') 6-2-024 - BE Auditorium Meyrin, CERN	11:05 - 11:25
	ATLAS sensor simulation (15'+5') 6-2-024 - BE Auditorium Meyrin, CERN	11:25 - 11:45
	CMS sensor simulation (15'+5') 6-2-024 - BE Auditorium Meyrin, CERN	11:45 - 12:05
12:00	Closing remarks, overview, future plans, discussion 6-2-024 - BE Auditorium Meyrin, CERN	12:05 - 12:30

Workshop organisation

09:00



Discussions will be vital so please respect the allocated time.
We can of course use coffee and lunch breaks to keep exchanging ideas!

		11:05 - 11:25
6-2		11:25 - 11:45
12:00	CMS sensor simulation	11:45 - 12:05
	6-2-024 - BE Auditorium, CERN	
	Closing remarks, future plans, discussion	
	6-2-024 - BE Auditorium, Meyrin, CERN	12:05 - 12:30

Time to start

- We wish you all a fruitful workshop 😊
- We plan this to be the first a new series of occasions where to discuss radiation damage measurements as well as simulations.
- And we hope it will be a catalyst for future inter-experimental discussions. We will come back to this in more detail at the end



Time to start

