

PH-DT2-SD - Solid State Detectors Section



Activities in 2007 and plans for 2008 (... in 5 minutes)

- Departmental Silicon Facility (DSF) and Bond Lab
- Irradiation Facilities and RADMON project
- RD50 project and Solid State Detector Laboratory



Maurice Glaser



Richard Fortin
(since July 2007)



Antoine Guipet **Michael Moll** **Ian McGill**
Francoise Cossey Puget



Katharina Kaska
(PhD Student)



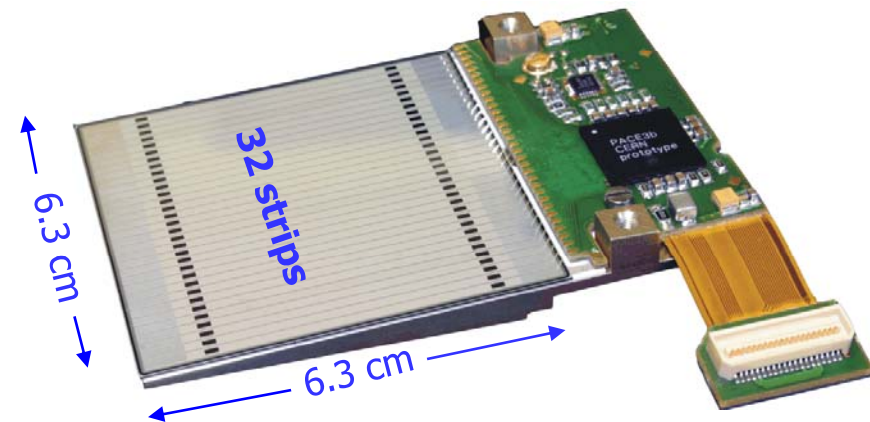
Julien Mekki
(PhD Student)

DT2-SD Departmental Silicon Facility (DSF)



Hall 186 -- 450 m² clean room (class < 100.000) -- assembly area + bond lab

- Assembly area (2007): ALICE Pixel, LHCb Tracker & Velo, CMS Preshower, ...
- Bond lab (2007):
 - ~ 1000 CMS Preshower modules (sensor testing + wire bonding)
 - Many smaller projects/works: Alice Pixel modules, Medipix, BCMs for ALICE, ATLAS CMS, ATLAS Pixel,
 - Serious bond machine problems:



finally: exchange of 2 old machines against one “new” and upgrad of remaining



Activities in 2008:

- ~ 3500 CMS Preshower modules, TOTEM modules,as usual many smaller works
- R&D: Interconnect + Quality Assurance (Resources: PH-Whitepaper-WP6)

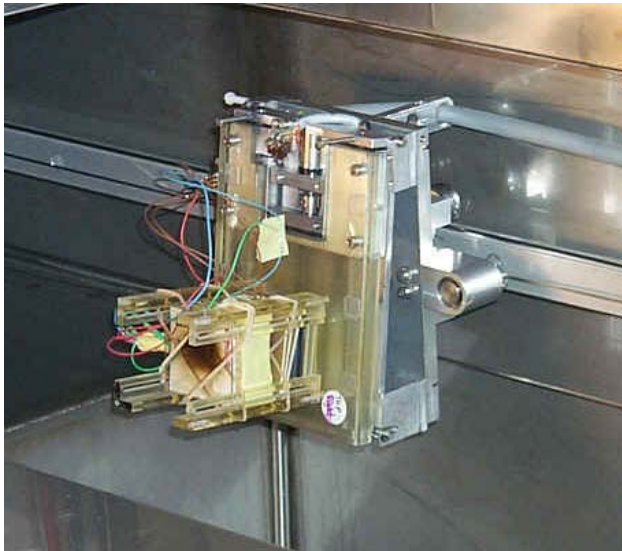
DT2-SD Irradiation Facilities (PS East Hall + GIF)



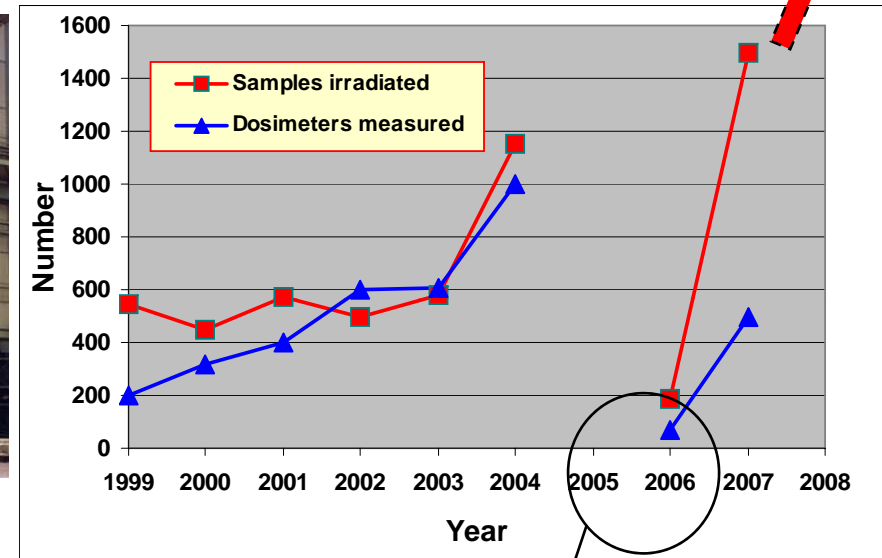
PS EAST Hall – proton/neutron facilities (+ RADMON activities)

- **2007:** ~ 1500 objects irradiated, ~ 500 dosimeter measured, 135 days of beam

2008?



Shuttle system



2005: no beams at CERN

2006: PS problems, magnet failure

GIF (^{137}Cs – Gamma Irradiation Facility - Bldg.190)

- **2007:** Facility taken over in July 08 from ESE group with arrival of Richard Fortin

Activities in 2008:

- PS East Hall irradiation facilities + GIF will run “all year”
- Planning of upgrade of all facilities (Resources: PH-Whitepaper-WP7 + EU FP7 (?))



RD50 main objective: Develop radiation hard semiconductor detectors that can operate beyond the limits of present devices for the luminosity upgrade of the LHC (Super-LHC) which will bring 10 times higher radiation levels.

- **RD50: Development of new silicon based detector materials and new detector concepts ...very positive feedback in 2007 from LHCC, LHC Experiments and PH-Department**

- **Our Involvement (2007/2008):**

- **Experimental work**

- Magnetic Czochralski and epitaxial silicon
 - Characterization of n-in-p vs. p-in-n detectors

- **Organization/Management (250 members, 50 Institutes)**

- Co-Spokesperson (M.Moll), Budgetholder (M.Glaser), coordination of some common projects, workshops, ...



CCE-test setup (bldg 28)

- **Our activities in 2008:**

- Continue present research activities (MCZ, epi, p-type Silicon)
 - Extent activities with new resources and participation of ATLAS/CMS CERN groups (2 Fellows out of PH-Whitepaper-WP7 + PhD student out of EU-FP7-MCPAD)