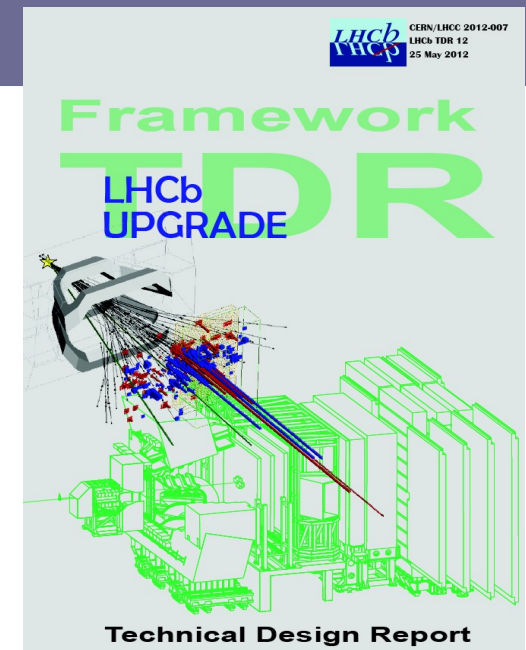


## Calorimeter Upgrade : News



Frédéric Machefert

LAL, Orsay (IN2P3)



- Upgrade Framework TDR released
  - Possible options
  - Costs
  - Commitments
  - Schedules
- The calorimeter upgrade web pages were hosted on the online server
  - Moved to the LHCb twiki server at CERN → new url :  
<https://twiki.cern.ch/twiki/bin/view/LHCb/CaloUpgrade>
  - Keep the previous page, move material and add a link to the new one
  - Remember that you have access right
    - You can edit/add material, create new pages and make links, ...
    - This is for the benefit of the group → don't be shy !

# LHCb Upgrade news



## LHCb Calorimeter Upgrade Meeting

Friday, June 15, 2012 from 09:00 to 13:00 (Europe/Zurich)  
at CERN ( 304-1-001 )

**Video Services** EVO Meeting scheduled Fri 15/06 from 08:30 to 14:00 : Phone Bridge ID:4475536. [More Info](#)

### Friday, June 15, 2012

09:00 - 09:20	News 20' Speaker: Frederic Machefert (Laboratoire de L'Accélérateur Linéaire (LAL), Orsay)
09:20 - 11:20	Electronics
09:20	<b>Front-end - Analog 20'</b> Speaker: Eduardo Picatoste Olloqui (University of Barcelona (ES))
09:40	<b>Front-end - Digital 20'</b> Speaker: Olivier Duarte (Universite de Paris-Sud 11 (FR))
10:00	<b>Optical links 20'</b> Speaker: Umberto Marconi (Universita e INFN (IT))
10:20	<b>Control board 20'</b> Speaker: Cyril Drancourt (Annecy IN2P3 (FR))
10:40	<b>LLT-Calo 20'</b> Speaker: Cyril Drancourt (Annecy IN2P3 (FR))
11:00	<b>ECS (GBT) 20'</b> Speaker: Iouri Guz (Institute for High Energy Physics (RU))
11:20 - 11:40	Module - Radiation tolerance 20' Speaker: Iouri Guz (Institute for High Energy Physics (RU))
11:40 - 12:40	Performances
11:40	<b>SPD/PS 20'</b> Speaker: Dmitry Golubkov (ITEP Institute for Theoretical and Experimental Physics (RU))
12:00	<b>Pile-up effect 20'</b> Speaker: Frederic Machefert (Laboratoire de L'Accélérateur Linéaire (LAL), Orsay)

- Today : first meeting where all activities should be represented
  - Good opportunity to know what others do and the connections between the different systems

- Most of the fields now are covered :
  - Electronics :
    - FE analog → Barcelona (UB),
    - FE digital → Orsay,
    - LLT-calo → Annecy,
    - Optical mezzanines → Bologna,
    - GBT mezzanine (ECS) → IHEP,
    - Control boards → Annecy + Barcelona (La Salle)
  - Module radiation → IHEP + ITEP
  - SPD/PRS studies → ITEP
  - Pile-up effects → Orsay

- Variation of the gain of the PMT
  - Is already a bad effect (pre-upgrade conditions)
  - Will be more serious at upgrade times
- Idea from Yuri (see slides from Wednesday)
  - Try to change the monitoring clear fibers of the calibration system **asap**
  - This would help calibrating the modules rapidly
    - Easy and fast feedback
    - Online (?) calibration of the modules
- Strongly support this proposal
  - Price looks affordable (quartz fibers)
- May have a look at the present proposal concerning the possible replacement of the modules
  - [https://twiki.cern.ch/twiki/pub/LHCb/CaloUpgrade/Minutes\\_28032012.pdf](https://twiki.cern.ch/twiki/pub/LHCb/CaloUpgrade/Minutes_28032012.pdf)

- Recently, the idea to run the detector at a luminosity of  $L=8 \times 10^{32} \text{ cm}^{-2} \cdot \text{s}^{-1}$  emerged
  - Mentioned by Hans during PPG meeting
  - Decision
    - to perform a short test at high luminosity by the end of the year
- We should evaluate the effect of such conditions before the upgrade
  - if you cannot bear  $8 \times 10^{32} \text{ cm}^{-2} \cdot \text{s}^{-1}$ , how can you support more at upgrade's time ?
    - PMT current is planned to be reduced by a factor 5
    - New FE electronics (analog, upgrade) designed to compensate without increasing the noise
    - Our present electronics is not designed for this