Muon Tracking and Triggering GEMs for CMS at High Eta

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on behalf of the GEMs (GEM for CMS collaboration)

Technical Proposal Submitted March 6th 2012
https://twiki.cern.ch/twiki/pub/MPGD/CmsGEMCollaboration/GEM_technical_proposal.pdf

Excellent Workshop

Technological solution with prototypes demonstrated

Technical Proposal for 2 stations on solid grounds

Physics session – very interesting and many possibilities demonstrated:

14:00 - 18:00 Simulation Tools, Reconstruction Studies and Physics Impact
Convener: Marcello Maggi (Universita e INFN (IT))
Material: slides

14:00 **Status of Simulation, Reconstruction and Physics Studies with GEM in CMS** *40'*
Speaker: Marcello Maggi (Sezione di Bari (INFN))
Material: Slides

14:40 **Plans for Simulation Tools** *20'*
Material: Slides

15:00 **Muon Reconstruction and ID overview** *30'*
Speaker: Riccardo Bellan (Univ. of California Santa Barbara (US))
Material: Slides

15:30 **Overview of HIGGS contributions to Upgrade TDR** *30'*
Speaker: Paolo Giacomelli (INFN Sezione di Bologna)
Material: Slides

Third Workshop on GEMs for CMS
From Austin's slides

"My suggestion is to move quickly forward with the demonstrator idea to give a target for a real integrated system (not a test-beam prototype) to be installed in LS2.

Support of the CMS muon community and Upgrade Project managers is essential.

Self-sufficient, secure funding position, including all ancillary costs, is essential.

For a demonstrator, the compelling physics case can to some extent be postponed, pending further simulations or even the results from the demonstrator.

How about a proposal to instrument a fraction of 1/1, 1/2 layers at one or both ends?
(make sure the services and the thermal issues are completely addressed and resourced)"

Can we think of 2 Superchambers for LS1?.

1 GE1/1
1 GE 2/1

Next steps

Understand the implications and feasibility of installing
4 detectors in LS1:

On and Off detector electronics
DAQ / SRS / μTCA crates ...
Gas
Cooling
Cabling
Readout
HV / LV
Online / DQM / Reconstruction and analysis
.....

Responsibility sharing