

RPC project

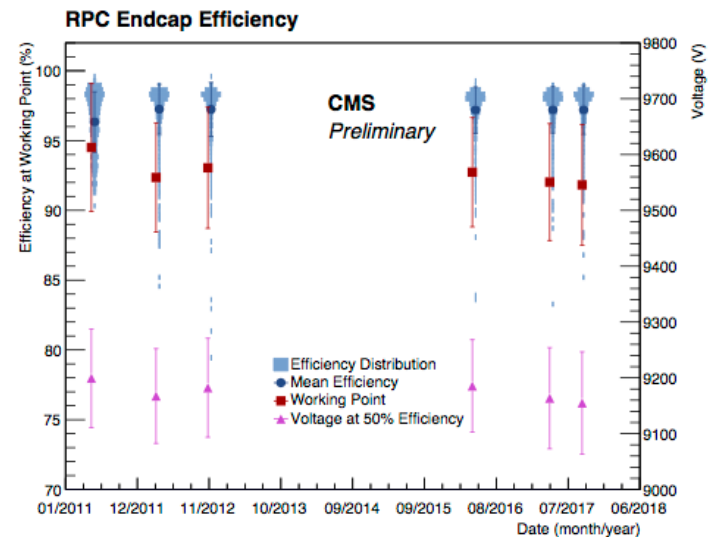
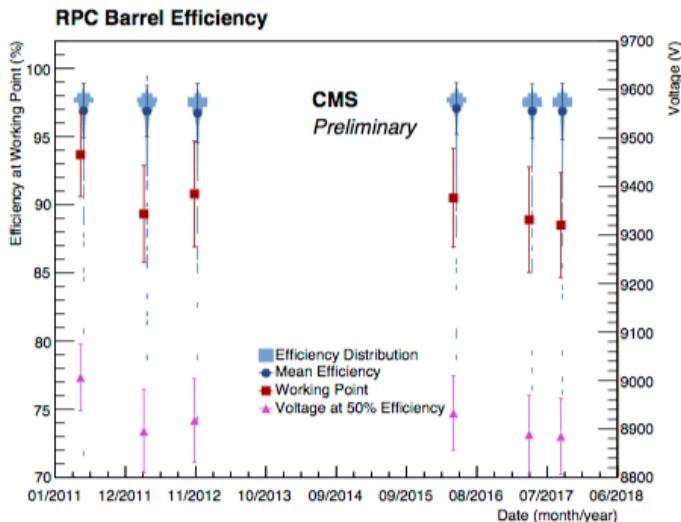
G. Pugliese

INFN and Polytechnic of Bari
on behalf the RPC group



Overall RPC positive year (1)

- Very high data taking efficiency of RPC system
- Stable and high detector performance
- HV scan performed this year at high and low luminosity. Preliminary results showed a shifts of 40 V due to gas composition (5.4 % of Iso-butano).
- Plan to approve all performance results by end of Nov

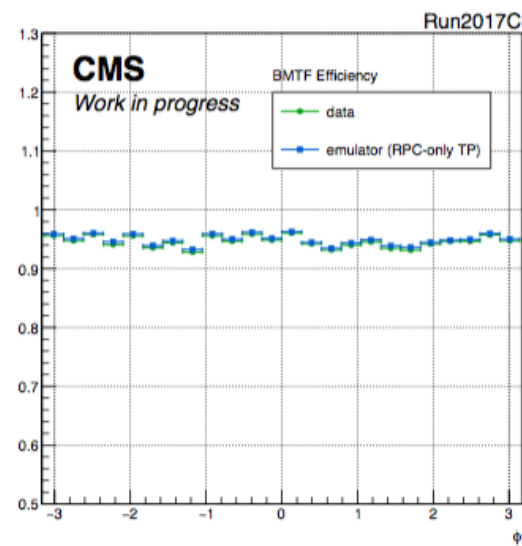
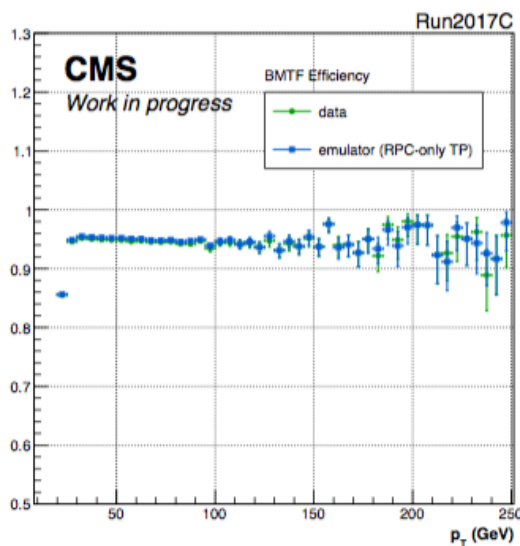
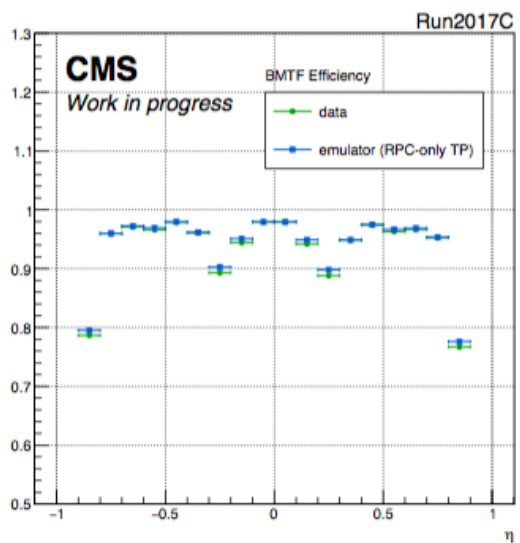


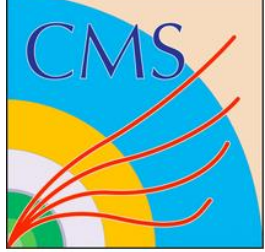


Overall RPC positive year (2)

Inclusion of RPC hits in the trigger (EMTF and BMTF) commissioned and completed.

Muon primitives with RPC – only hits implemented and studied in the TwinMux. Primitives will be enabled in the BMTF this week.





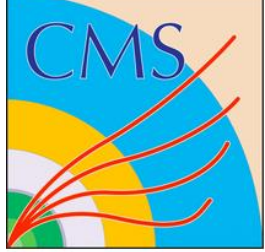
Upgrade

Meeting with the LHCC panel on 31 Oct.: 7 talks and answering the forty-one questions from the reviewers presented.

The meeting went really well. Thanks to all for help and supports.

- Next set of questions from the panel is expected on Friday, Nov 3; we should be prepared to answer the new questions on a time scale of two weeks.
- LHCC pannel on 28 th Nov (open day 29 Nov)
- Next version of TDR (FINAL!) should be made available to the committee by Nov 23-24.

<https://twiki.cern.ch/twiki/bin/view/CMS/MuonPhase2TDR>



Last 2017 Workshop

I would like to have a “Workshop on Upgrade and 2017 Operation” before the end of the year:

LHCC pannel on 28 th Nov (open day 29 Nov)
CMSWEEK 4-8 Dec.

- 29 Nov-1 Dec ??
- 11- 13 Dec ??
- ?



M&O B 2017

We are in negative balance: -11 kEuro (Today)

Sofia M&OB 2016 and 2017 should arrive soon

50 % INFN contribution received last week (the rest should arrive soon).

Without carry-over (reduced in the past years) there is no margin. It is important to receive the contribution at beginning of the year.

**On next IB summary report of 2017 expenditures and plan for 2018.
during the CMSEEK ?**



Upgrade MM

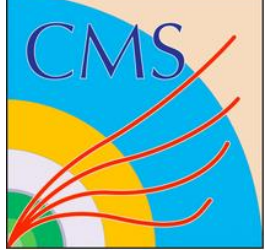
Upgrade Money Matrix: the contribution from each institutions in RPC upgrade has been defined (officially communicated from each financial agency to CMS).

Cost of Table for the Muon (RPC) Upgrade project is also defined.

Institutions responsibilities approved and included in the TDR.

In case of reduction of your contribution, a fast feedback by you is important.

RPC system has an excess of 1 MCHF



Upgrade MM

Working on assigning the contribution (in – kind and cash) to each task in the Cost of Table. Example:

RE3/1-RE4/1 Total	Description	2254,00										
CHAMBER COMPONENTS		763,89			763,89							
Bakelite set	pannel (RIVA)	96,90	97	0,00	96,90	INFN	96,90				96,90	
Chamber Mechanics	Oannels, alluminium Frame, C	200,47	0	200,47	200,47	MEX	100,24	THU	100,24		200,47	
Two Gap Production		276,25	0	276,25	276,25	Korea	276,25				276,25	
Chamber Cooling Circuit		84,93	0	84,93	84,93	Mex	84,93				84,93	
Chamber Assembly Components		55,33	0	55,33	55,33	THU	55,33				55,33	
Quality control test		50,00	0	50,00	50,00	Korea	10,00	Mex	20	THU	20	50,00
FE ELECTRONICS		714,02			714,02							
ASICs [petiroc]		143,14	0	143,14	143,14	Lyon	143,14				143,14	
PCB		276,25	0	276,25	276,25	Lyon	276,25				276,25	
FEB & cabling		103,82	0	103,82	103,82	Lyon	103,82				103,82	
TDC		89,56	0	89,56	89,56	THU	89,56				89,56	
FPGA		101,26	0	101,26	101,26	Lyon	101,26				101,26	

Plan to contact each institution to discuss the contribution.
Complete the table by CMS WEEK.



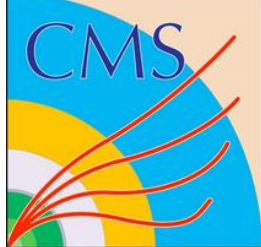
RPC Organization 2017-19

With LV2 coordinators, for each area, the LV3 structure has been revised.

Some changes in the Upgrade structure, in order to move from the R&D phase to the pre-production and production phase.

Manpower missing on DPG!

Looking for enthusiastic young colleagues to take some responsibility/analysis and senior to coordinate the activity.



RPC Organization 2017-19

Resource Manager
TBD

Subsystem Manager
G. Pugliese
N. Zaganidis

Institution Board
I. Laktineh

Technical Coordination
A. Dimitrov
J. Eysermans

Run Coordinator
A. Aleksandrov
M. A. Shah

DPG Coordinator
R. Hadjiiska
J. J. Goh

Upgrade Coordinator
I. Pedraza
S. Buontempo

Electronics Coordinator
L. Mirabito
TBD

Equipment Management & DB
A. Dimitrov

Trigger Hardware
Warsaw

On-detector Electronics
F. Loddo

Spare Materials
TBD

Power System
P. Paolucci

Gas System
A. Aleksandrov

Cooling system
I. Crotty

Safety
I. Crotty

DCS
J. Eysermans

Online Software
Karol/Filipe

GGM
L. Benussi

Online DB
M. Schleper

DOC Shifts Manager
M. A. Shah

Operation Maintenance
M. A. Shah

Detector Performance
R. Roumyana

Background Studies
TBD

Data Certification
A. Cabrera

Trigger Studies
C. Carrillo

Offline Tools
J. J. Goh

Conditions DataBaseTools
A. Dimitrov

Chamber Production
S. C. Moreno

P5 services and Installation
I. Crotty

Physics and Trigger Studies
C. Carrillo

Detector Consolidation
S. Bontempo

Longevity and Eco-gas Studies
N. Zaganidis/D. Piccolo

New FEB
TBD

Off Detector Electronics
TBD

New Link System
IPM

Power System (Upgrade)
P. Paolucci





**DPG
Coordinator**
*R. Hadjiiska
J. J. Goh*

**Detector
Performance**
R. Hadjiiska

**Background
Studies**
*Looking for a
senior*

Data Certification
A. Cabrera

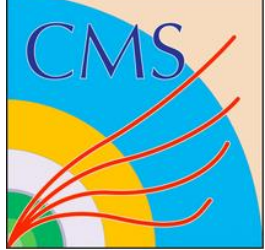
Trigger Studies
C. Carrillo

Detector Offline Analysis *M. Shopova/I.Asgha*
Detector Performance stability (aging/luminosity) *R. Hadjiiska/MANPOWERNEEDED*
Comics Current evolution *MANPOWERNEEDED M. A. Shah*
Current vs luminosity *J. Quijada*
Study of Current vs Environmental parameters *P. Petkov*
Study of Current on gas flow rate *MANPOWERNEEDED*
Integrated Charge *O. M. Colin*
HV Calibration analysis *R. Almanza/Cezar*
TH Calibration analysis *MANPOWERNEEDED*
Timing Synchronization *A. Cabrera*

Rate and Currents analysis *Raul/Cecilia/
S. Constantini*
Fluka simulation *A. Gelmi*
Geant simulation *P. Salvini/P. Montagna/S. Aly*
MC comparison

Prompt Feedback Analysis *Mehar/Mariana*
Data Certification *A. Cabrera*
Data Manager shifters (manager) *A. Cabrera*

BMTF (Software Development and Analysis) *R. Mohamed*
OMTF (Software Development and Analysis) *Warsaw*
EMTF/CPPF (analysis) *A. Di Crescenzo/G. Galati*
CPPF (Software Development) *A. Delgado*



Offline Software
J. J. Goh

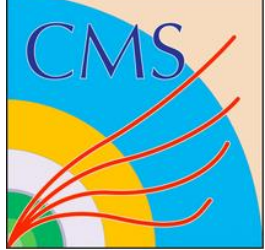
CMCSW Release Validation
CMSSW Geometry
Detector Simulation
Reconstruction
Segment reconstruction Algorithm
T&P method
DQM (development and maintenance)

Y.H. Lee
MANPOWERNEEDED
B. Pavlov
J. J. Goh
C. Carrillo
J. J. Goh
S. Lezki

**Conditions
database tools**
A. Dimitrov

Current Automation Tool
Noise Tool
WBM (maintenance)
OMS (development)
Offline DB

O. M. Colin
M. Rodozov
Korea Univ.
O. M. Colin
ManPower



Upgrade Coordinator
I. Pedraza
S. Bontempo

Mechanics Design	<i>I. Crotty/E.Voevodina</i>
Mechanics Production	<i>TBD</i>
Cooling Production	
PCB and coaxial cables	<i>Lyon</i>
FEB production	<i>M. Laurent</i>
HPL Production and QC	<i>S. Bontempo</i>
Gap Production and QC	<i>K. Lee</i>
Chamber Assembly and QC (site1)	<i>TBD</i>
Chamber Assembly and QC (site2)	<i>TBD</i>
CERN Long term test and final Certification	<i>TBD</i>

Chamber Production
S. C. Moreno

P5 Services and Installation
I. Crotty

Chamber Integration	<i>I. Crotty/E.Voevodina</i>
Services Integration	<i>TBD</i>
Gas system	<i>A. Aleksandrov</i>
Installation tools	<i>I. Crotty</i>
Chamber Installation	<i>TBD</i>

Physics and Trigger studies
C. Carrillo

iRPC Implementation in CMSSW	<i>B. Pavlov</i>
Trigger and P_t regression @ high eta	<i>A. Di Crescenzo/G. Galati</i>
HSCP for Present system	<i>G. Ramirez</i>
HSCP for High eta region	<i>Maxime, John</i>



**Detector
Consolidation**
S. Bontempo

Leak Chamber repairation (tools development) *F. Michele*
Recuperation system development* *A. Aleksandrov*
Abatement System development* *A. Aleksandrov*

**Longevity/eco gas
studies**
N. Zaganidis
D. Piccolo

Performance Monitoring *? E.*
Current and Resistivity Monitoring *A. Gelmi*
Rate Monitoring *A. Fagot*
DQM (maintenance and development) *A. Fagot*
DCS (maintenance and development) *TDB*
Trigger (maintenance and development) *I. Begaturia*
GIF++/Test Beam Run Coordinator *S. C. Moreno*
GIF++ gas system *A. Aleksandrov*
GCM *M. Gouzevitch*
HF measurements *TBD*