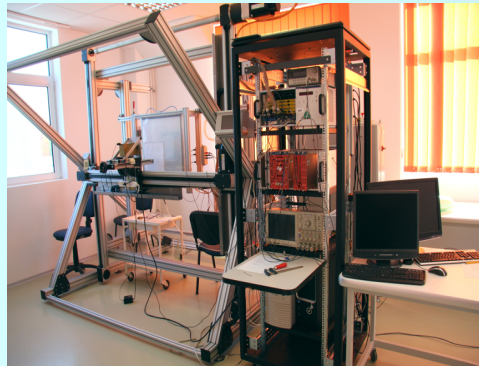
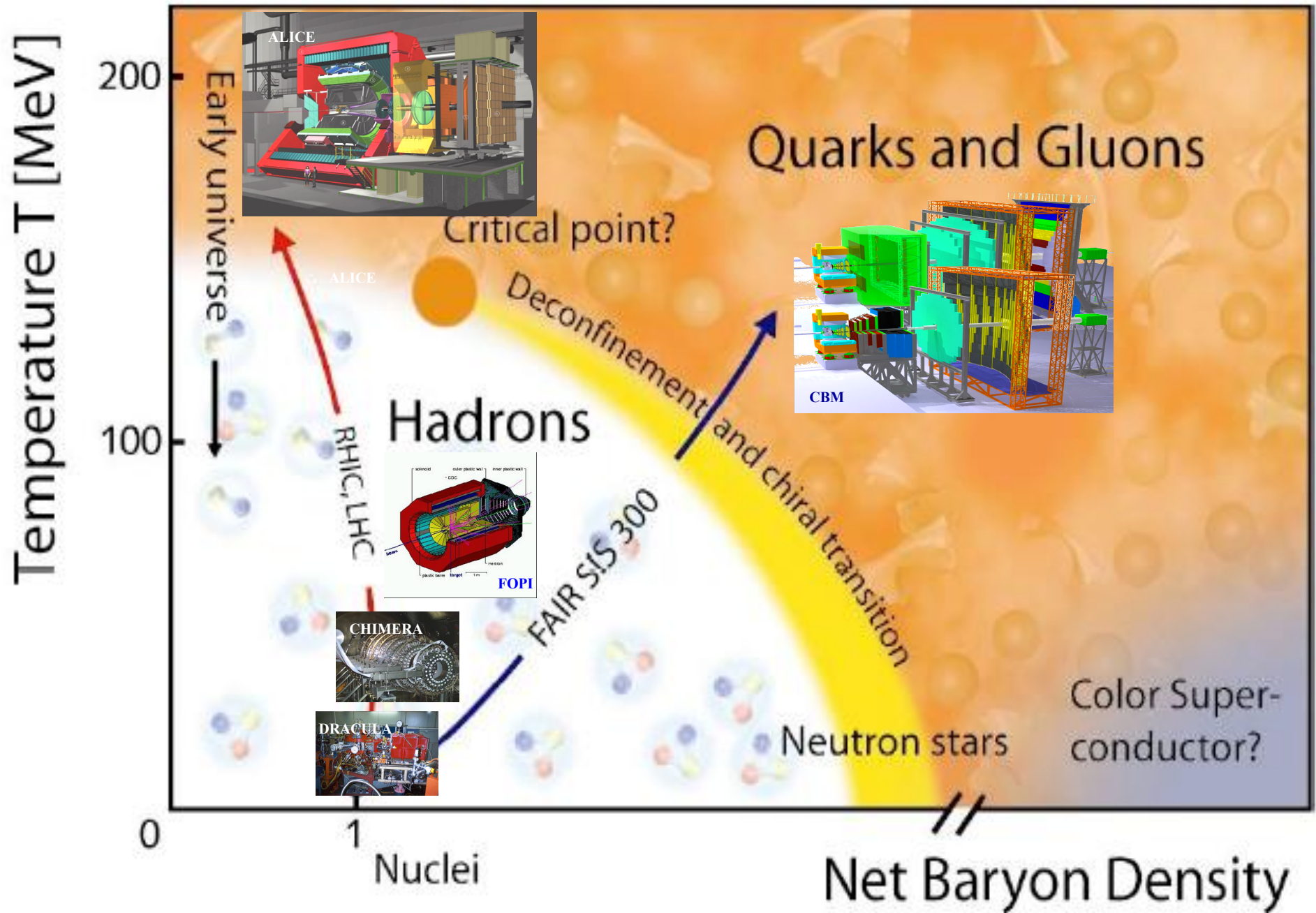


Hadron Physics Department contributions to CBM Experiment @ FAIR

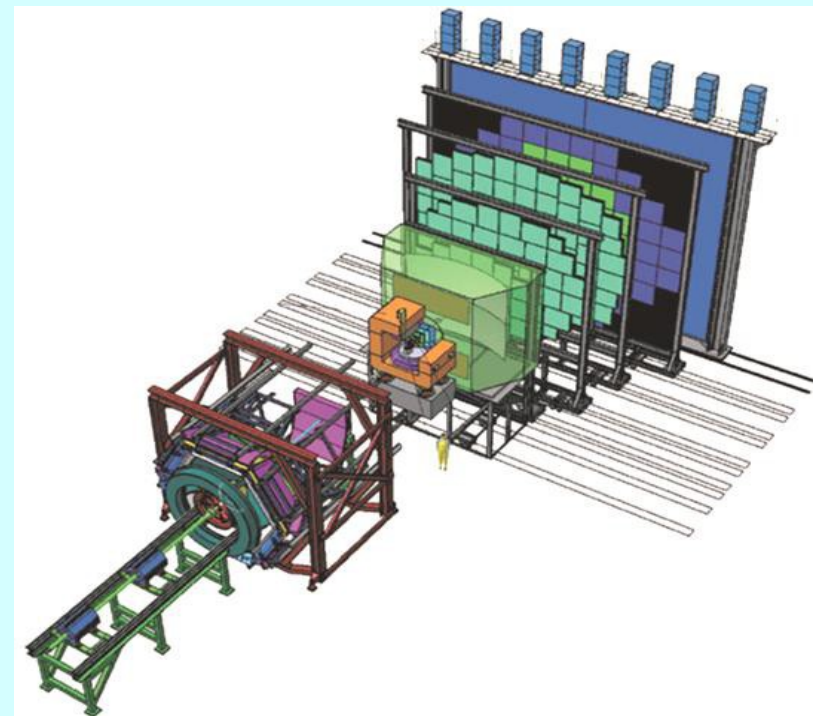
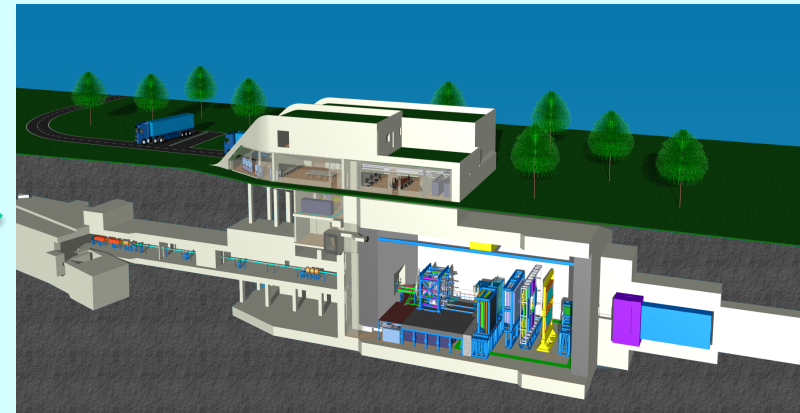
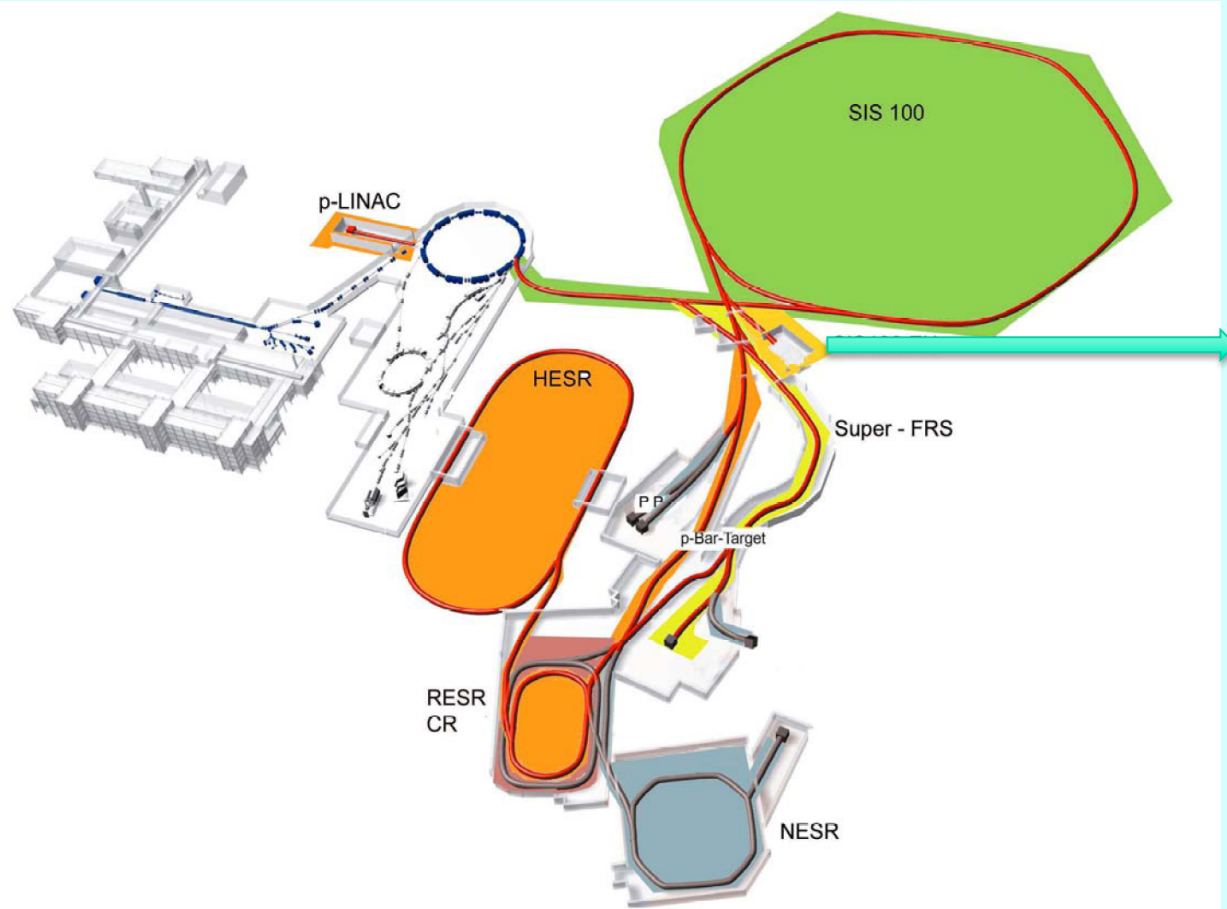


ISAB Meeting, November, 2014, Bucharest

Physics Motivation

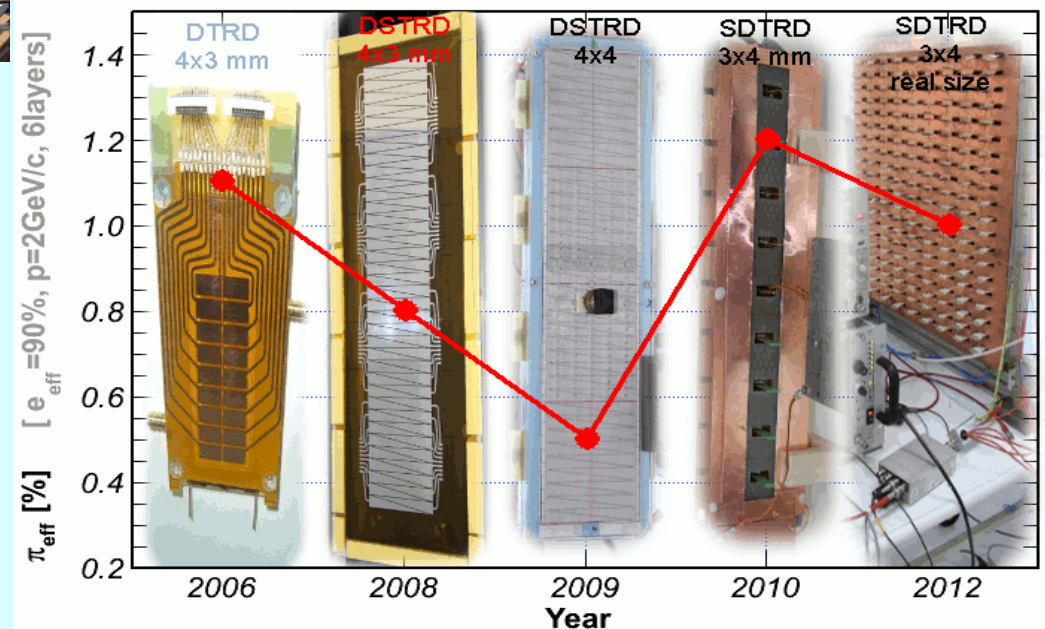
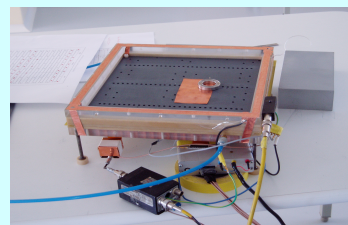
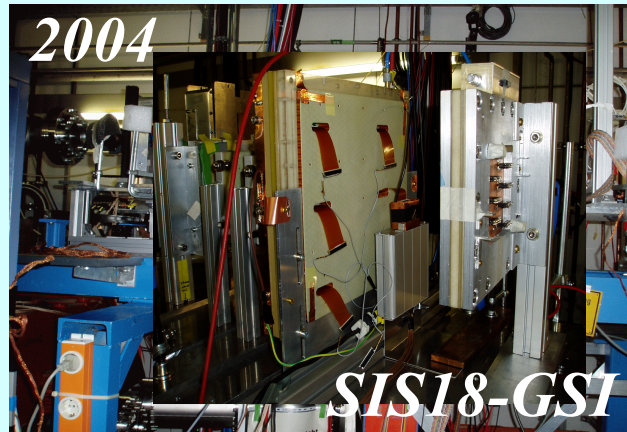
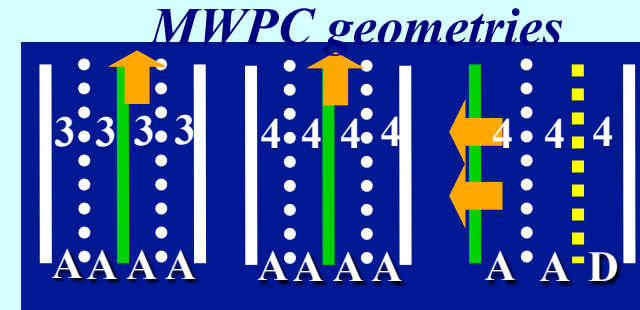
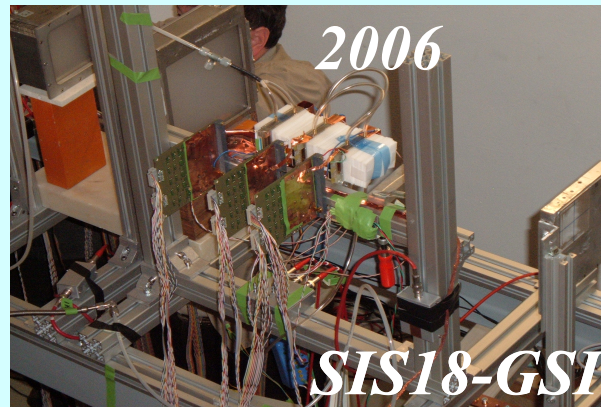
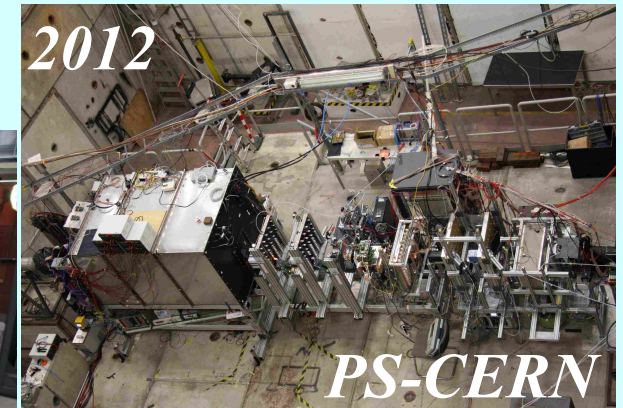
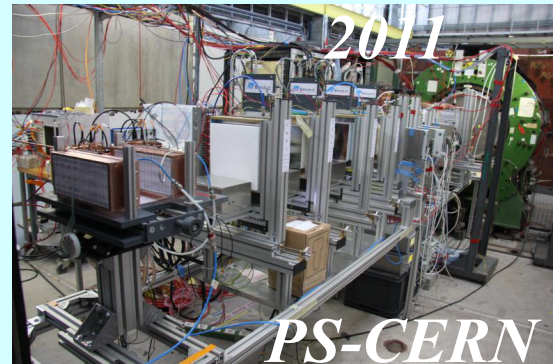
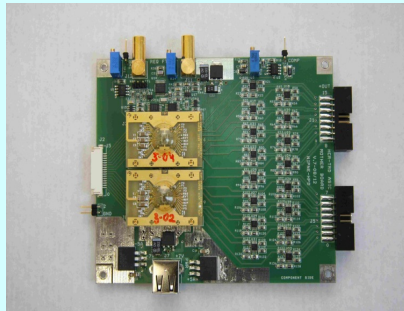
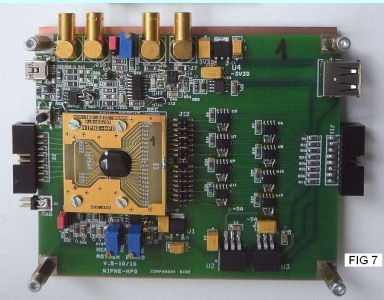


CBM @ FAIR



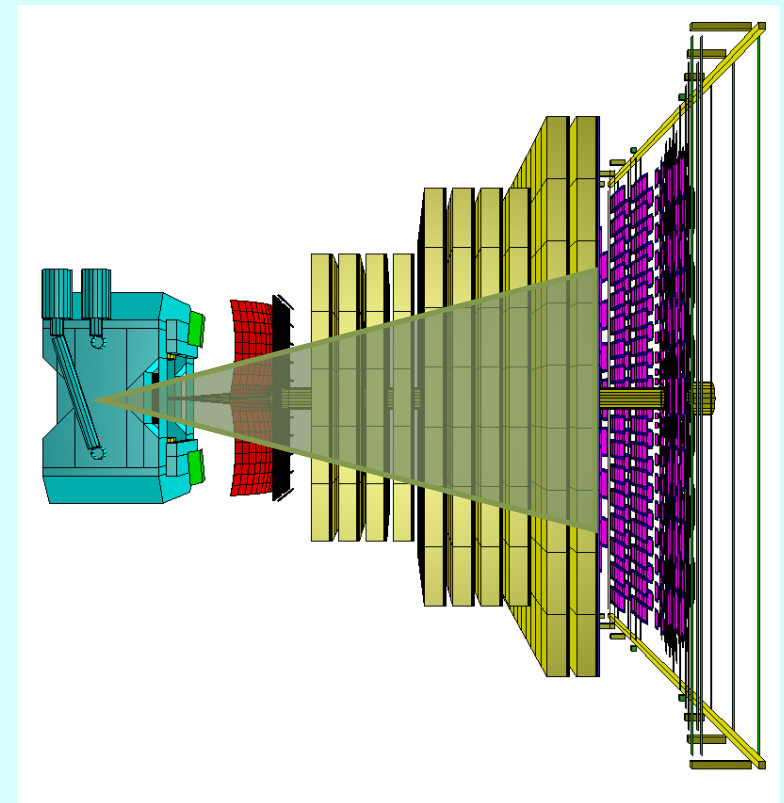
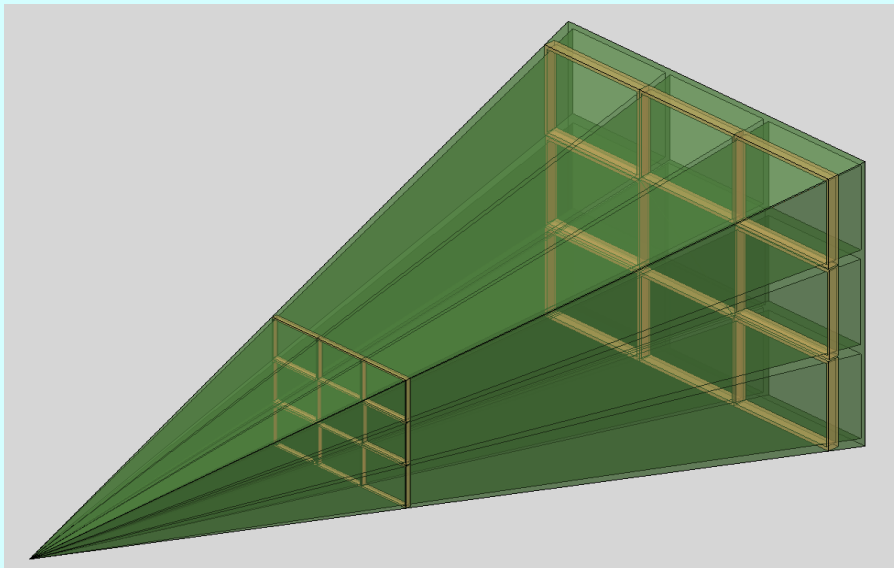
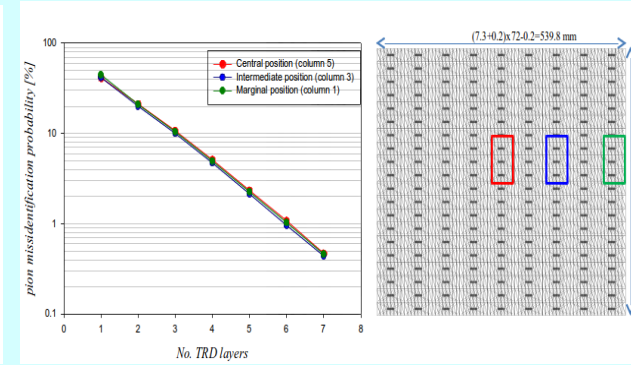
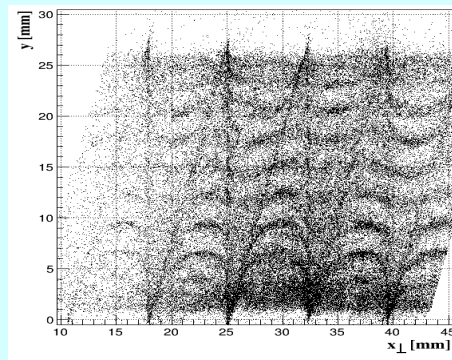
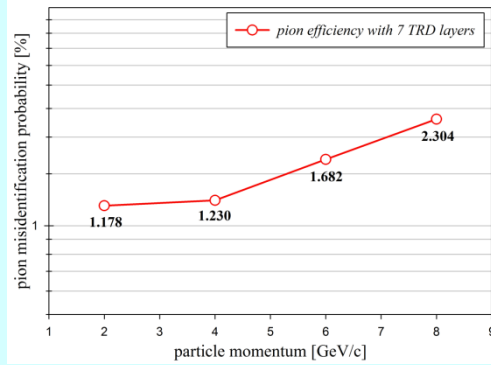
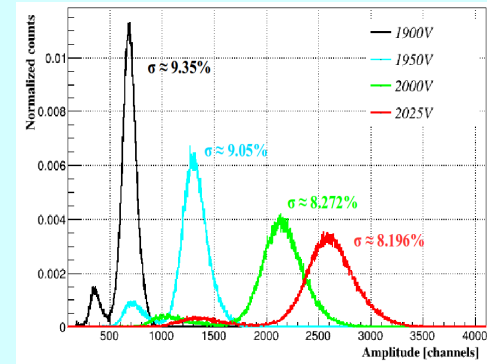
R&D results

FASP

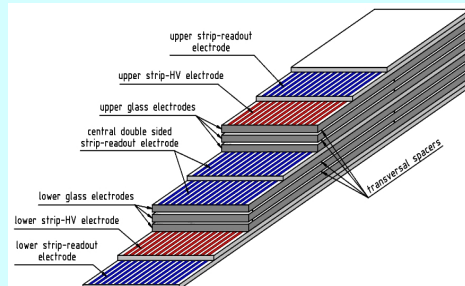
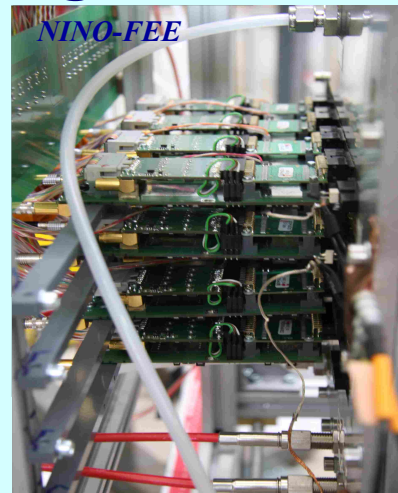
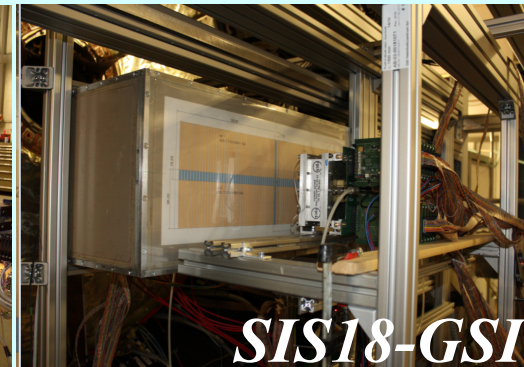
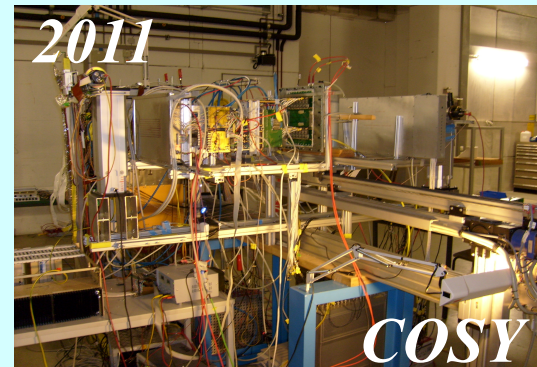
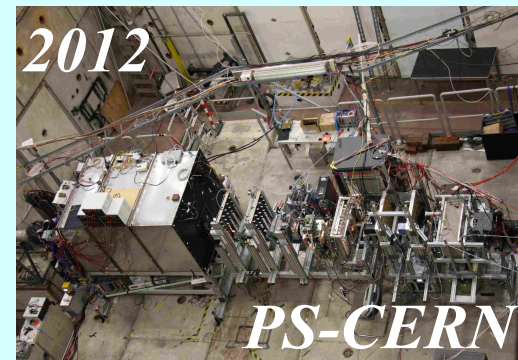


High counting rate TRD & FEE

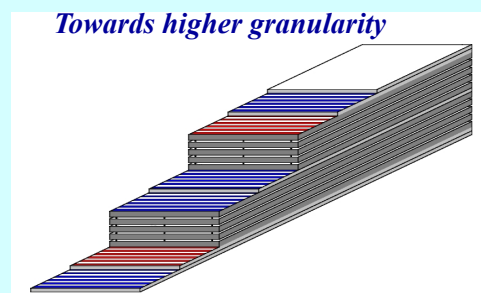
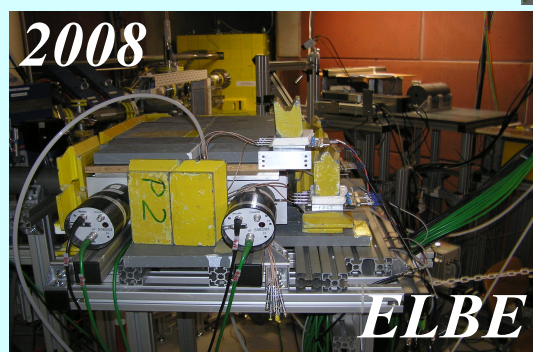
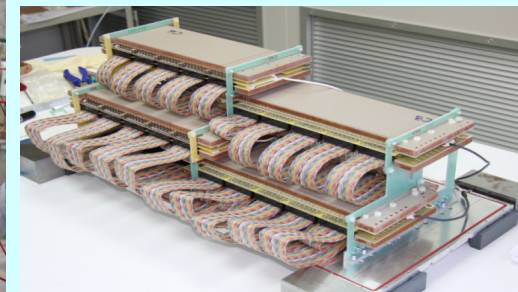
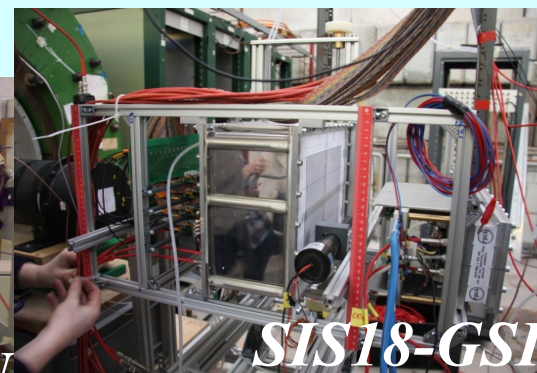
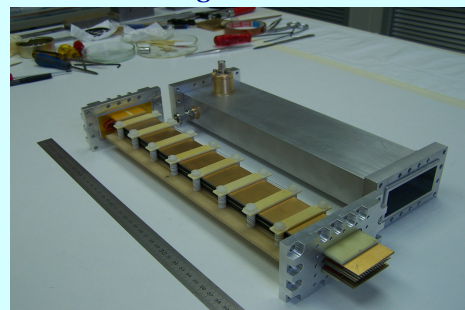
R&D results & final architecture of the inner zone of CBM-TRD



High counting rate RPC & FEE

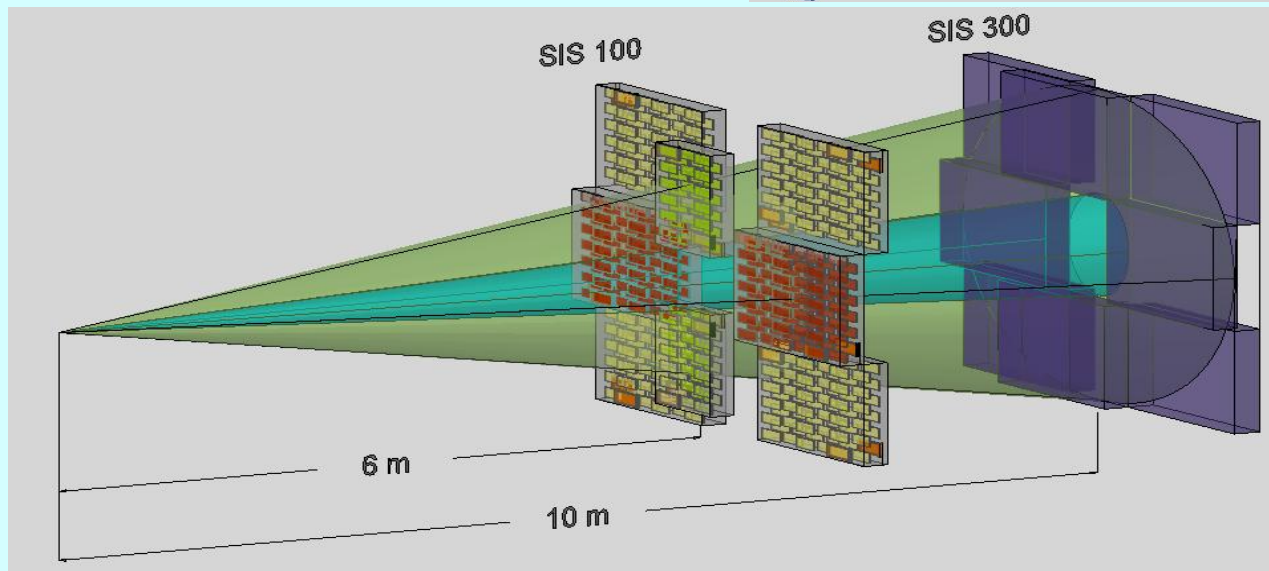
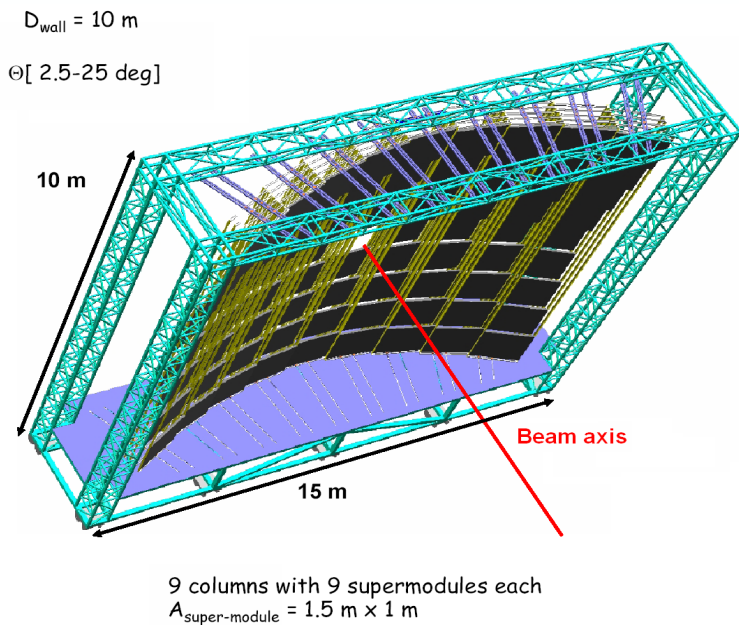
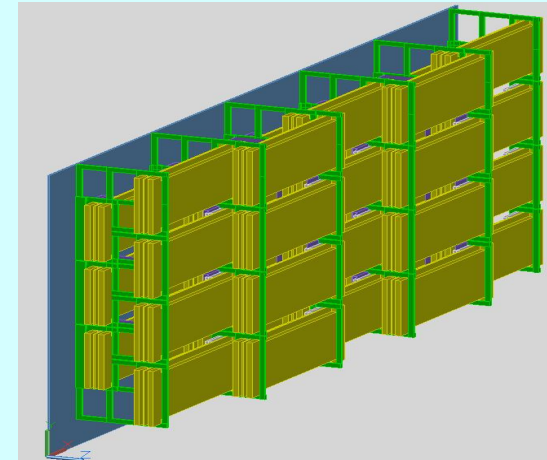
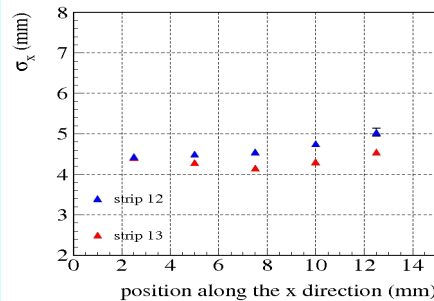
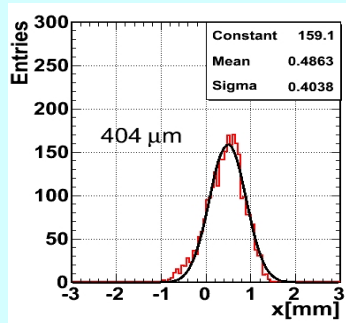
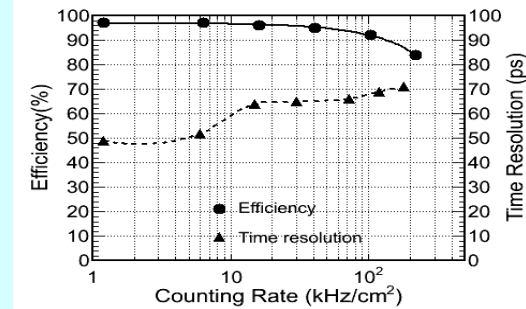
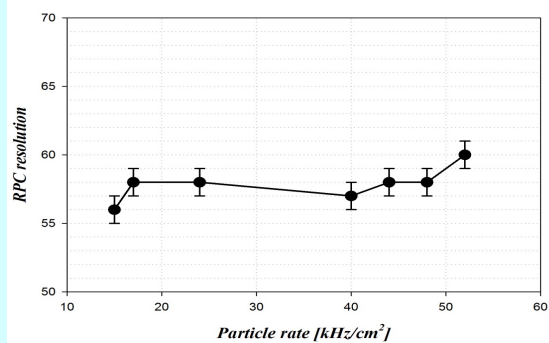
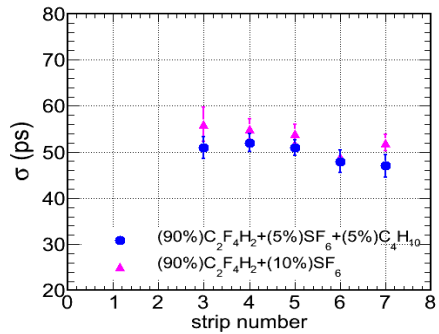


*Differential – strip readout
Pestov glass RPC
Single-ended – strip readout
Pestov glass RPC*



High counting rate RPC

R&D results & final architecture of the inner zone of CBM-TOF



CBM Costs

Project	Costs full version	Costs start version
MVD	2.1	2.1
STS	11.5	11.5
TRD*	9.6	4.0
RICH	5.6	5.6
TOF	6.8	6.8
DAQ*	3.9	3.0
FLES*	6.0	3.0
Magnet	4.3	4.3
MuCh*	10.6	4.0
PSD	1.0	1.0
Infrastr.	4.2	4.2
ECAL*	10.6	3.0
Sum in 2009 €	76.4	52.5

Visibility & competitiveness @ international level

- > 44 presentations @ 22 CBM Collaboration Meetings
- 2 presentations @ International Workshop on Resistive Plate Chambers – 2010, 2012
- 2 presentations at Vienna Conference on Instrumentation – 2011, 2013
- 1 presentation @ IEEE Conference – Dresda 2008
- > 16 contributions to the Annual CBM Scientific Report
- 1 plenary talk & 1 in parallel sessions @ EuNPC 2012
- 7 NIM & 2 Rom. Journal of Physics papers
- 7 diploma thesis
- 2 master degrees
- I3HP - FP6, HadronPhysics2 and HadronPhysics3 – FP7
- 2 brevets
- 2 silver medals @ Geneva salon of inventions
- 3 editions of Summer Student Program in HPD
- 2 International events:
 - Workshop - Cheile Gradistei – 2005
 - CBM Meeting - Mamaia – 2010
- CBM Collaboration Chairman – 2 mandates (elaboration of the CBM Constitution)
- Member of the Management Board & Technical Board
- Co - convener of CBM-TRD subgroup

- Slide 1: - HPD and (bottom line) some of its infrastructure components: construction DetLab, 2 testing Labs, SMD & bonding Lab
- Slide 2: - Strongly interacting matter phase diagram. CBM target: -mapping of the phase diagram with the aim to evidence phase transitions and possible critical or end points
- Slide 3: Overview of FAIR and CBM experiment
- Slide 4: Our contribution over the years to R&D activities for high counting rate TRDs and associated FEE
- Slide 5: Their performance in terms of electron/pion rejection and position resolution and final geometry of the CBM-TRD subdetector TDR – close to be finalized
- Slide 6: Our contribution over the years to R&D activities for high counting rate RPC
- Slide 7: Their performance in terms of efficiency and time resolution and final geometry for the inner zone of the CBM-TOF TDR submitted to the FAIR Evaluation Committee
- Slide 8: CBM costs
- Slide 9: visibility of our results along CBM R&D