

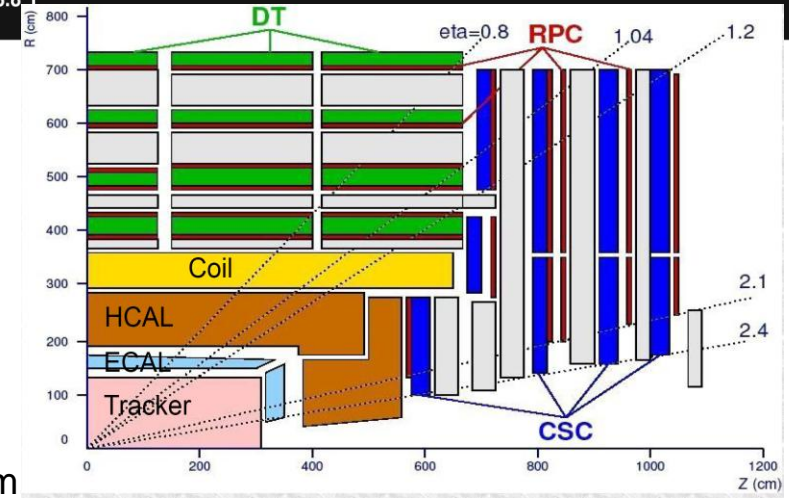
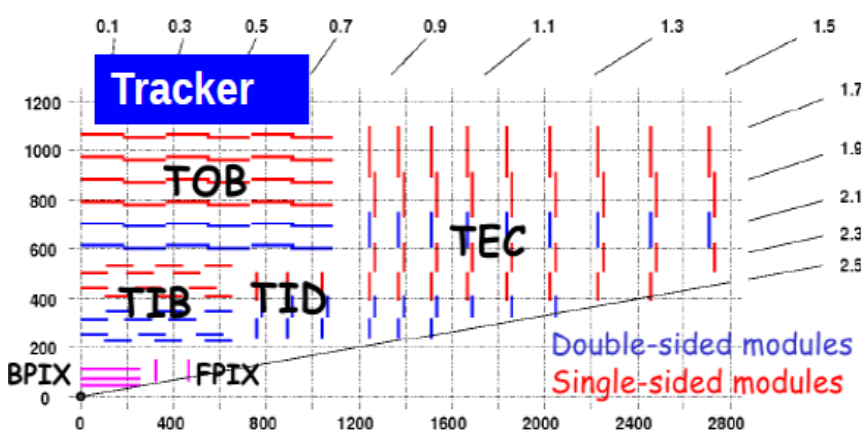
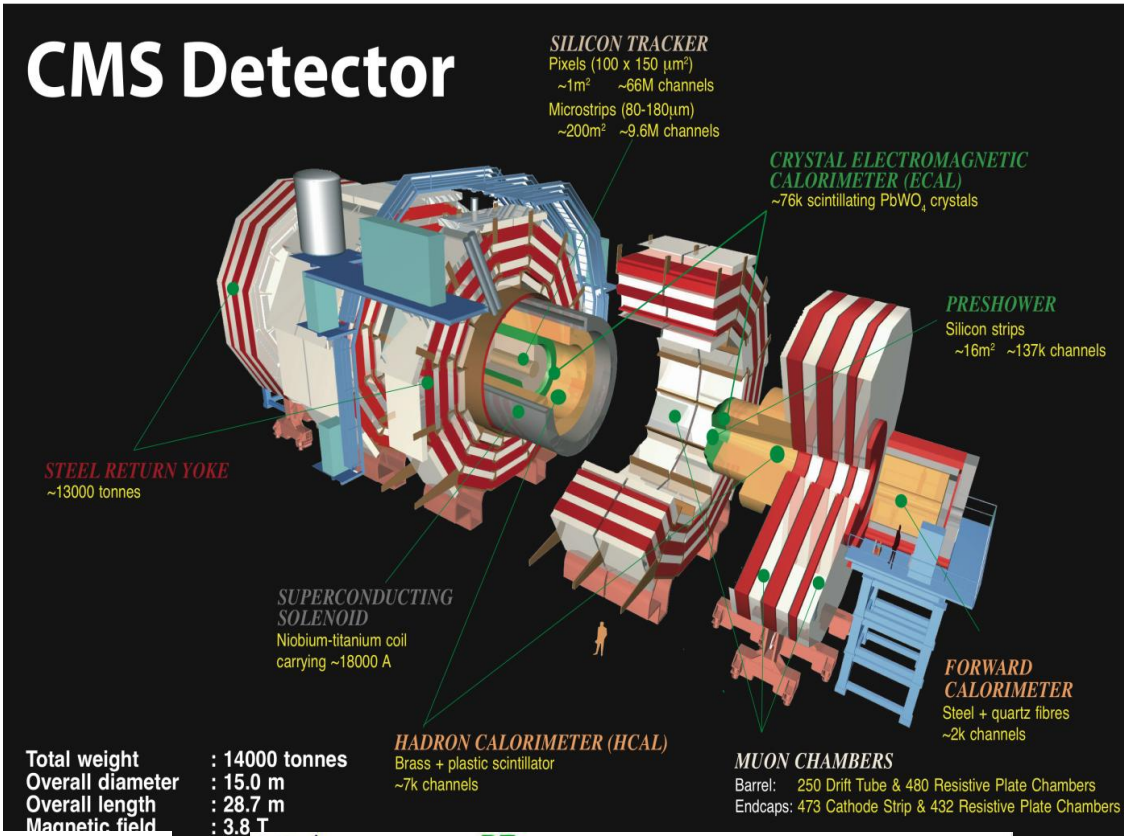
CMS Detector

•Tracker:

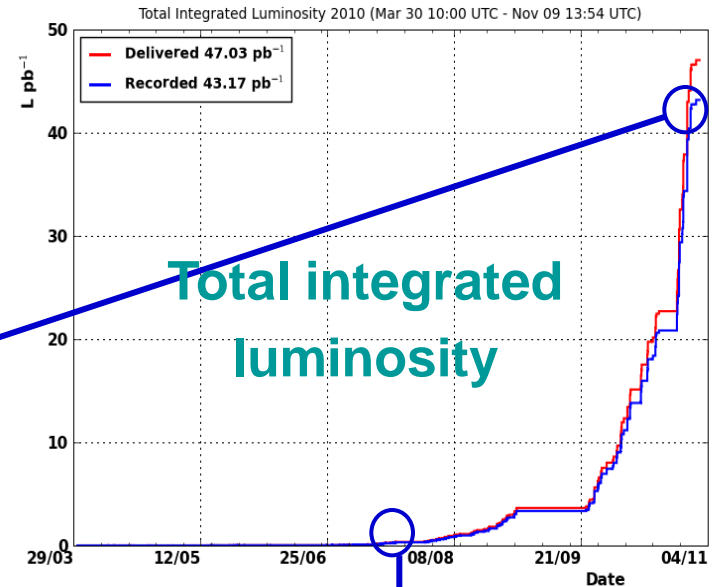
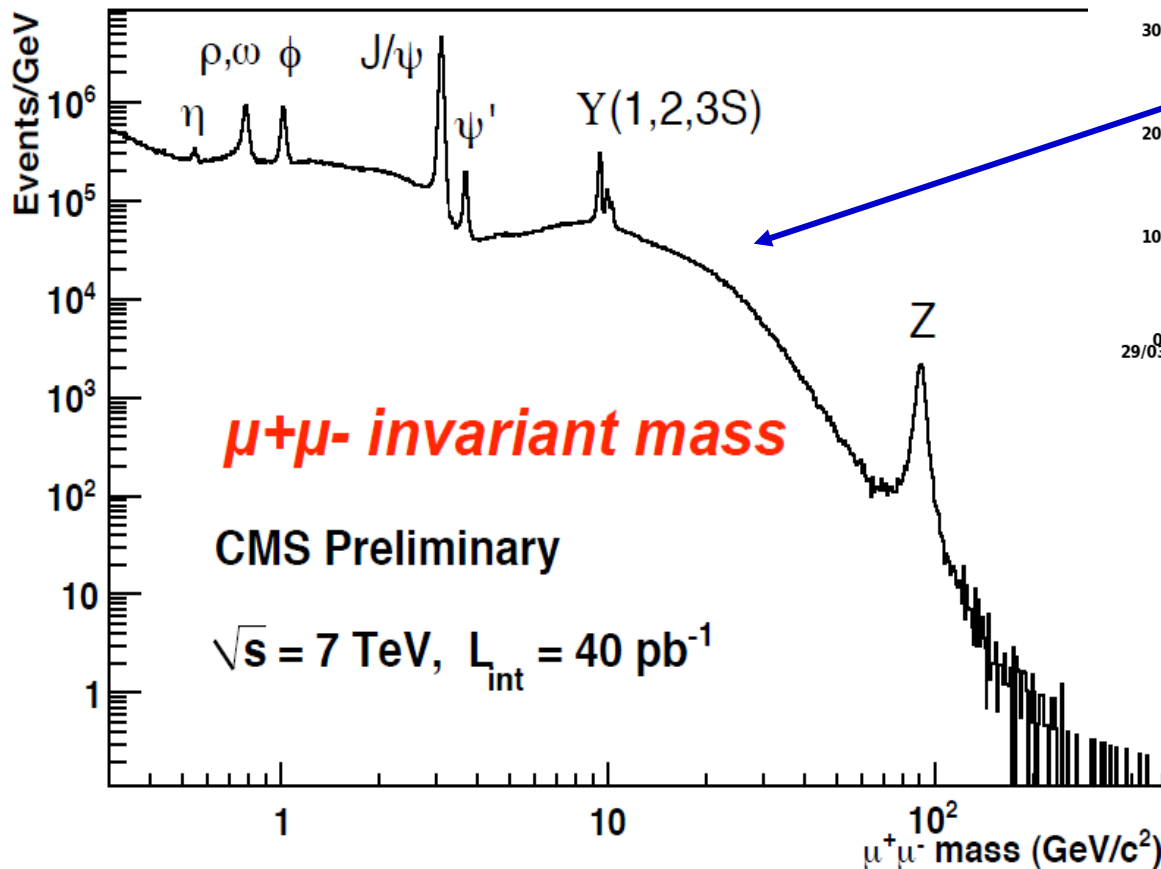
- 60M pixels
- 10M strips
- coverage: $|\eta| < 2.4$

•Muon system:

- Trigger detector
- RPC+CSC, RPC+DT



The di-muon mass spectrum



Total integrated
luminosity

•Used for the
analyses shown
here:

The CMS collab.,
PAS BPH-10-002

•updates in
progress!

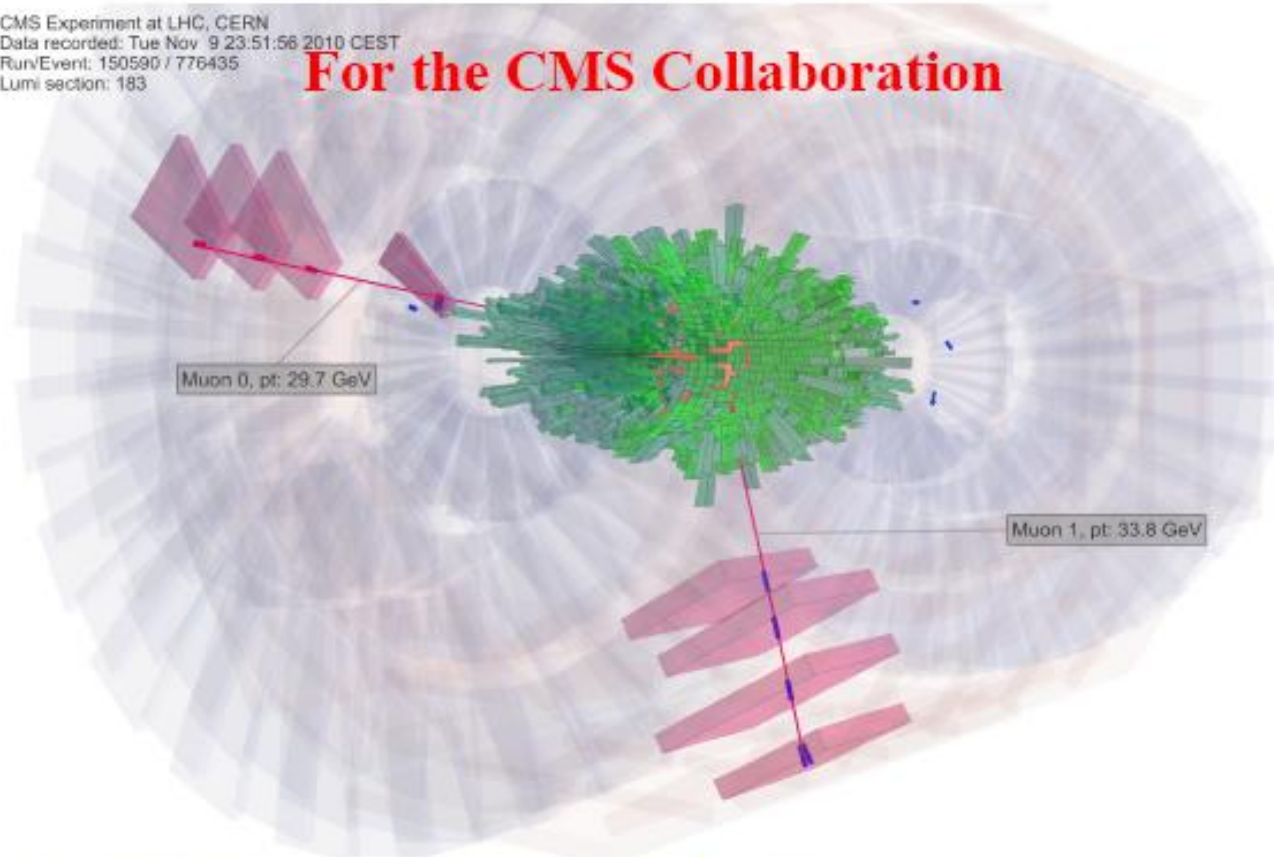
First look at Heavy Ion Data with CMS

Prashant Shukla
Nuclear Physics Division
BARC, Mumbai India



CMS Experiment at LHC, CERN
Data recorded: Tue Nov 9 23:51:56 2010 CEST
Run/Event: 150590 / 776435
Lumi section: 183

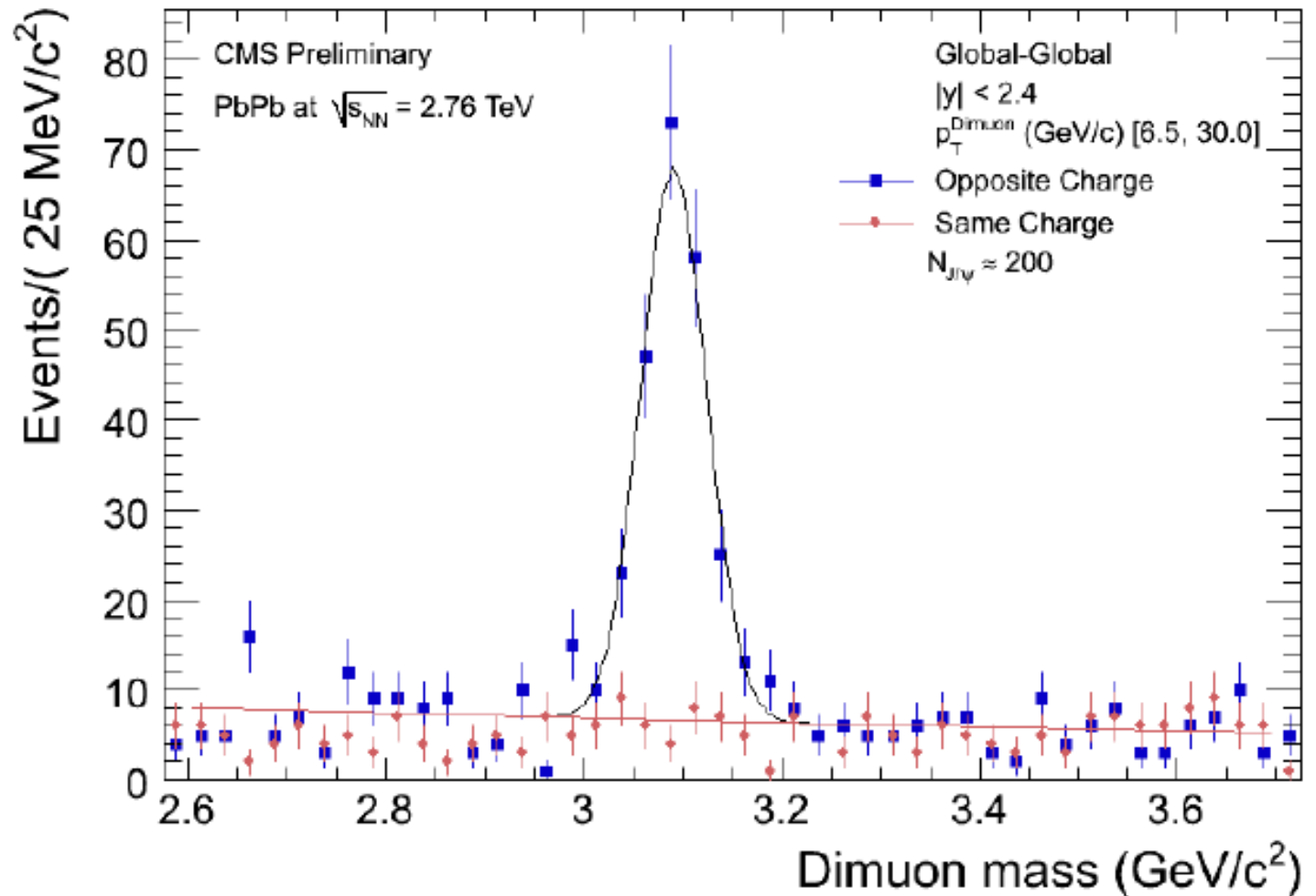
For the CMS Collaboration



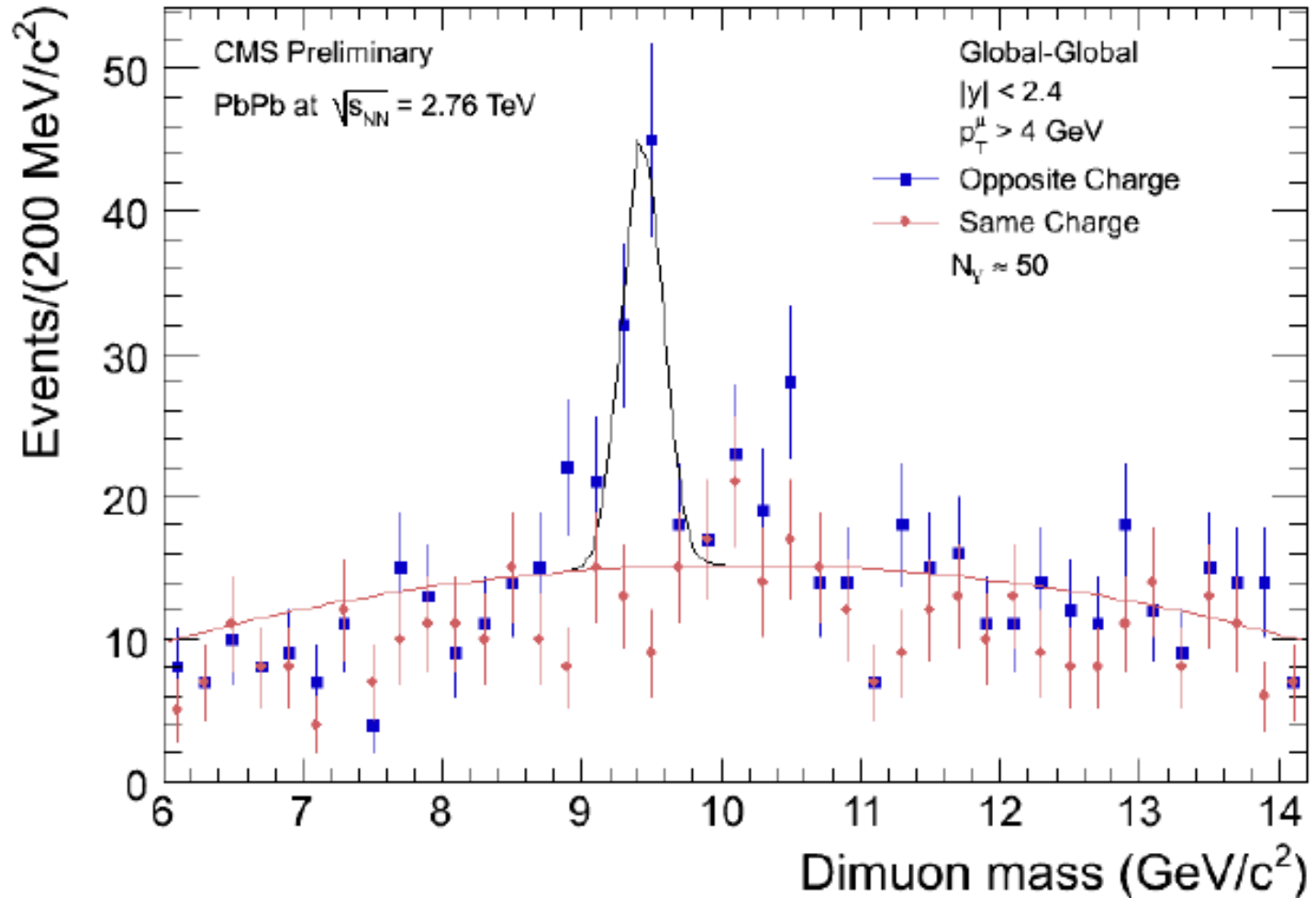
ICPA-QGP, 6-10 December 2010, Goa, India

A. Gurtu: BRNS-DAE HEP Symposium, LNMIIT Jaipur, 13-17 Dec 2010

High p_T $J/\psi \rightarrow \mu^+\mu^-$



High p_T $Y \rightarrow \mu^+\mu^-$

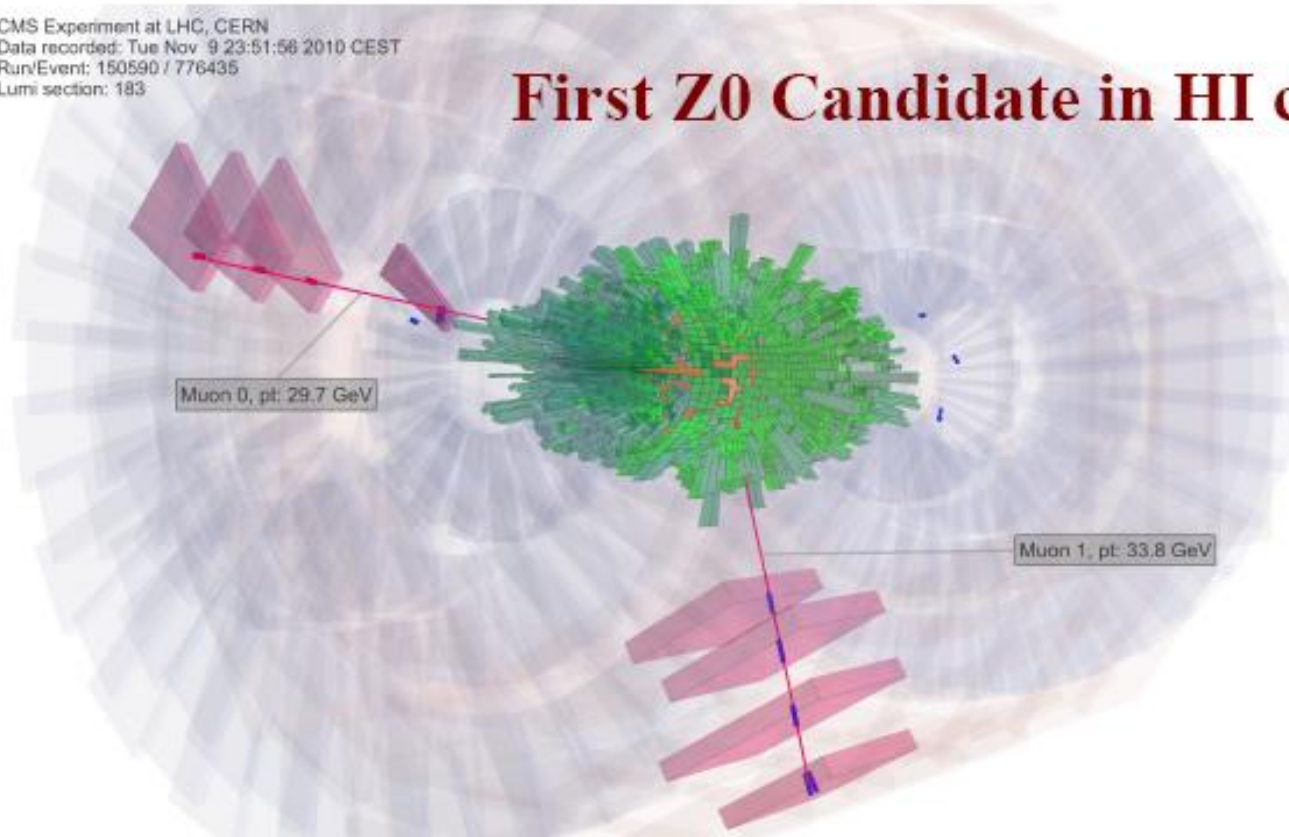


Z0 does not interact with medium (like photons)
- Probe of initial state effects:
shadowing, multi-parton scattering etc.

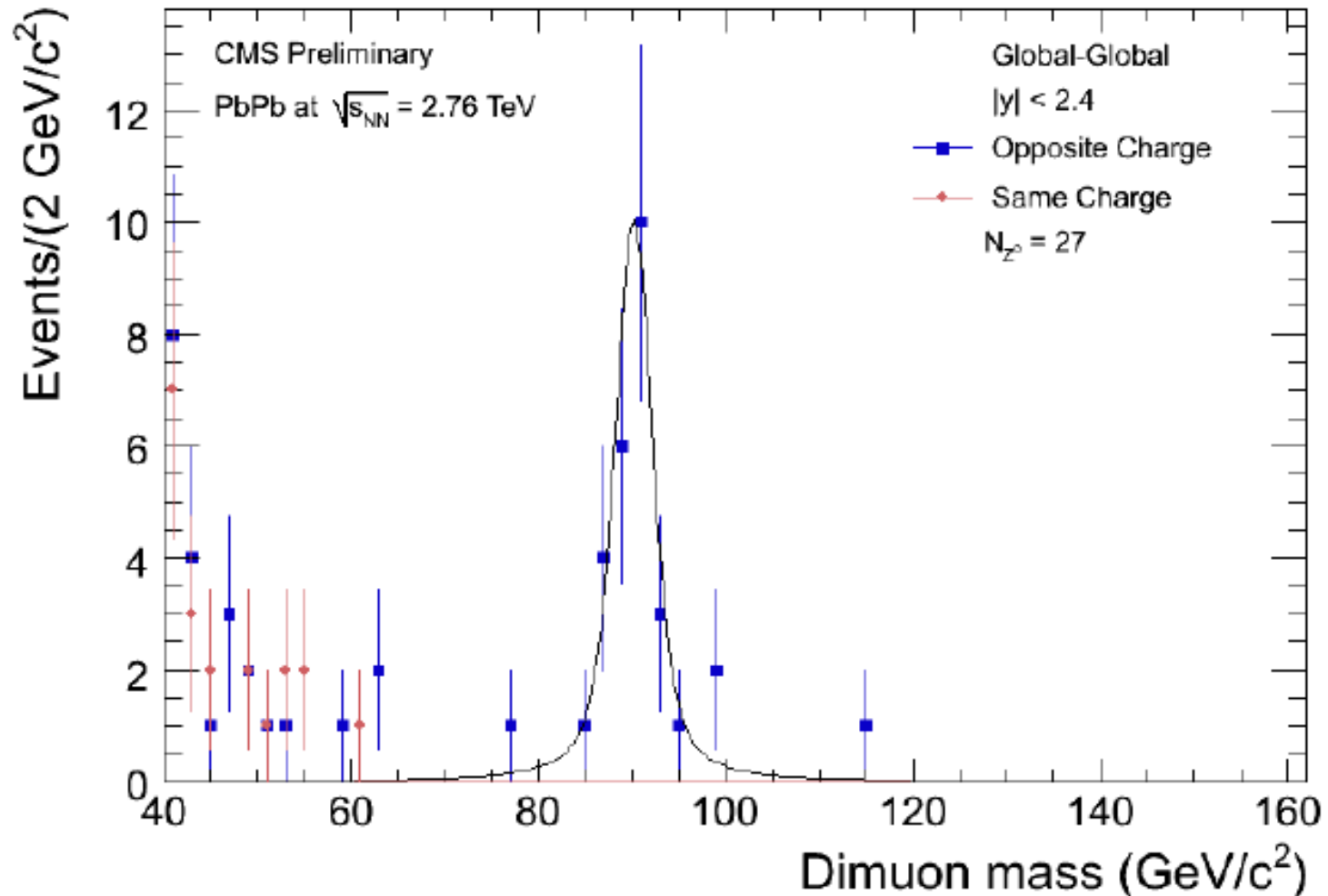


CMS Experiment at LHC, CERN
Data recorded: Tue Nov 9 23:51:58 2010 CEST
Run/Event: 150590 / 776435
Lumi section: 183

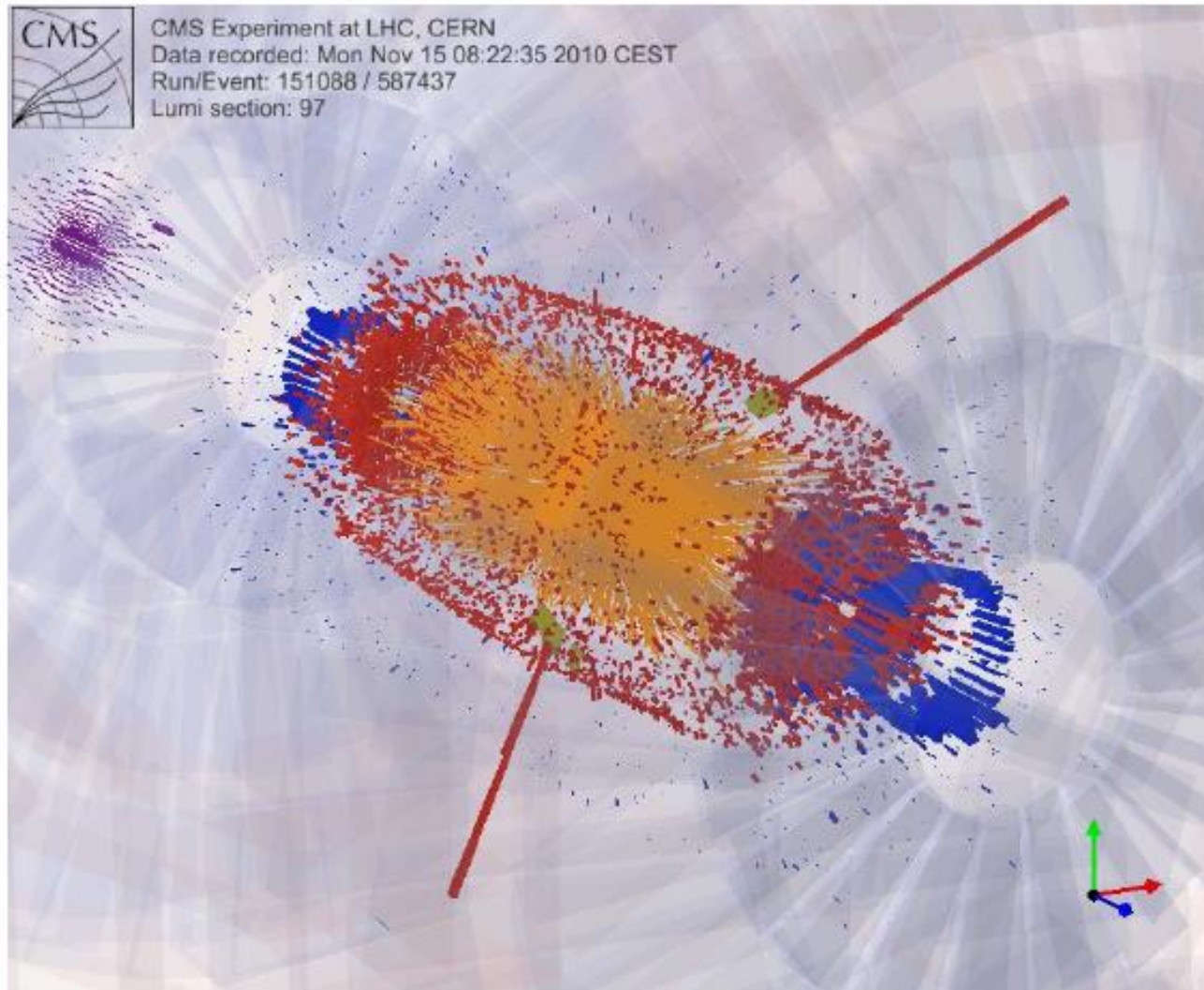
First Z0 Candidate in HI collisions



$Z^0 \rightarrow \mu^+\mu^-$ in PbPb

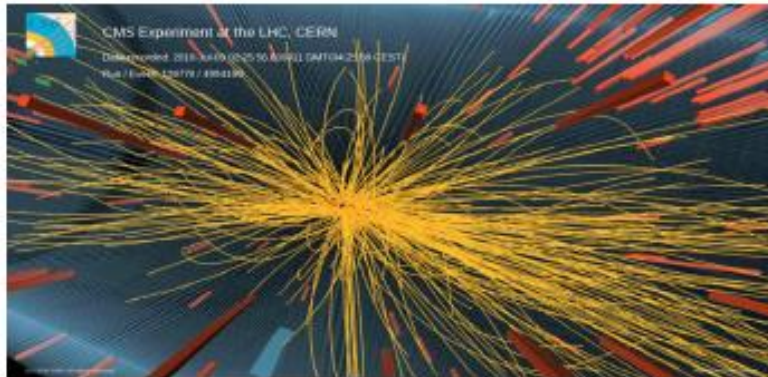


Z → ee Candidate



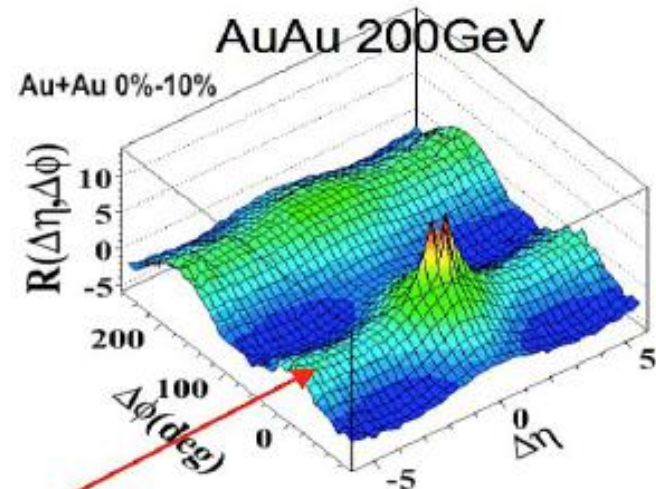
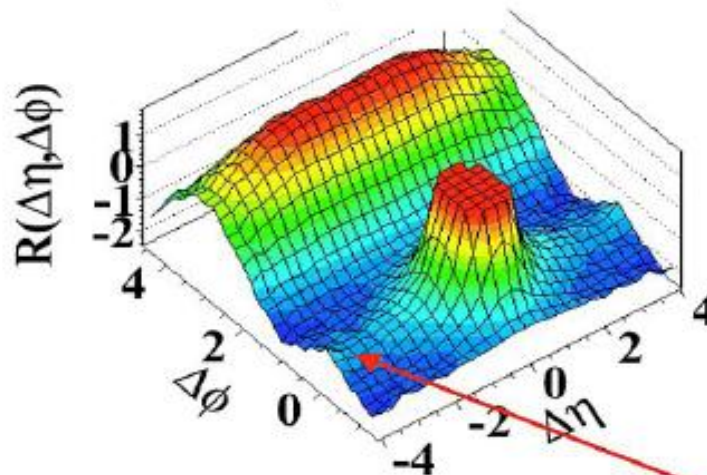


New observation by CMS in pp collisions



“Ridge”-effect in **high-multiplicity events** at 7 TeV >> dedicated talk
Long-Range Near-Side Angular Correlations in pp
Shown alongwith RHIC results
PbPb work in progress

(d) $N > 110, 1.0 \text{ GeV}/c < p_T < 3.0 \text{ GeV}/c$



Similar “ridge” in high multiplicity pp
(even similar p_T dependence)