

First Collisions in

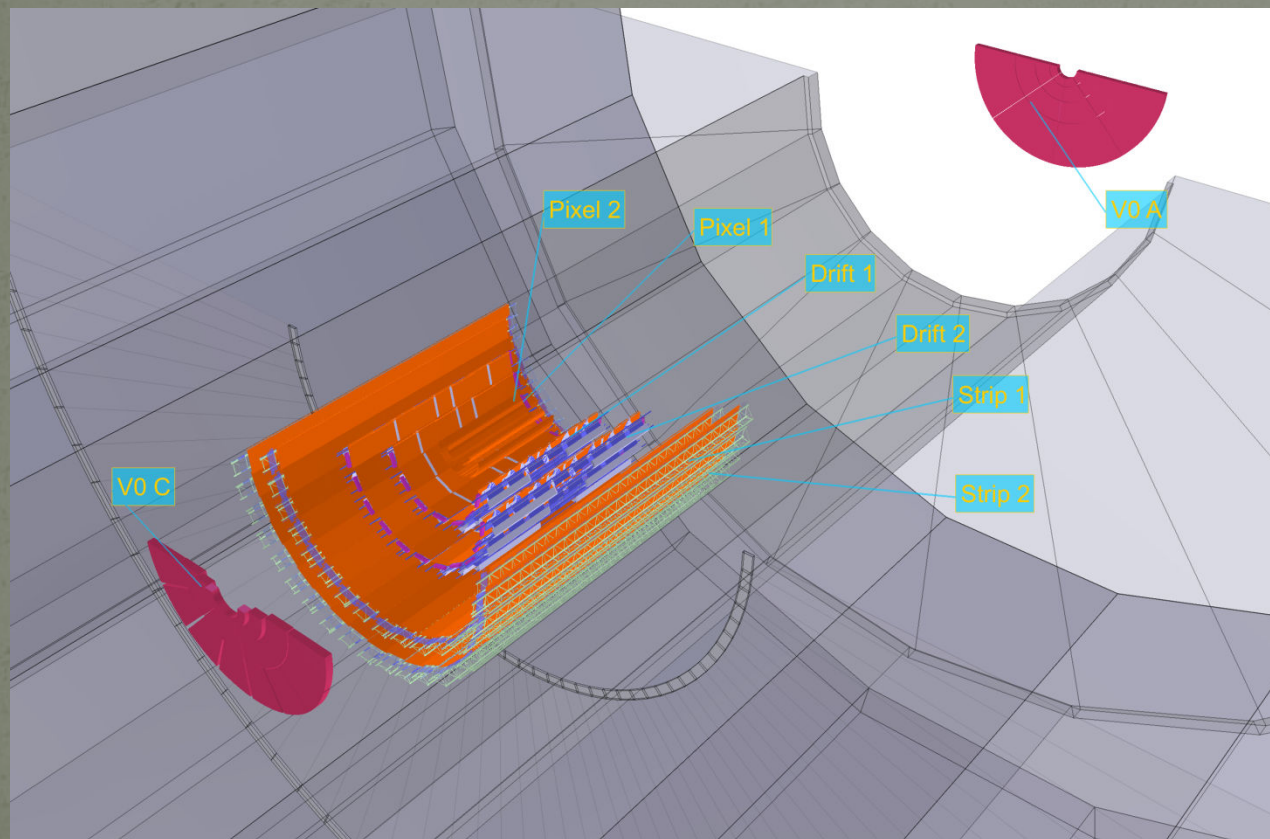


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on behalf of the ALICE Collaboration

1st LHC report, 26 November 2009

Detector configuration

- ALICE configuration for First Collisions on Monday 23/11:



On:

“splash-resistant”
detectors:

- 6 layers of Inner Tracking System
- V0 scintillators
(+ calorimetry:
Zero Degree Calo
Photon Spectrometer
EM Calorimeter)

Off:

everything else

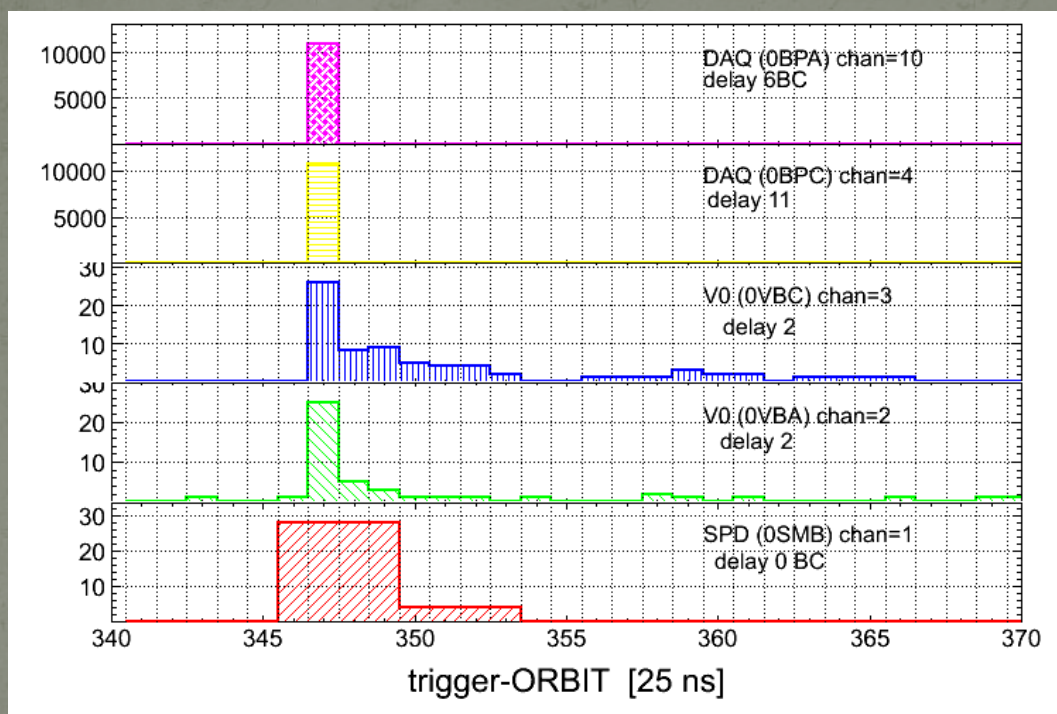
- Trigger: Fast-Or from 2 inner layers (Silicon Pixels) in coincidence with bunches

The “ALICE fill” (ca 16:35)

- Sequence of events:
 - beam 1 injected, captured, circulating
 - data taking started
 - at 16:38 beam 2 injected on “P2” bucket, captured, circulating
 - as soon as beam 2 injected, the ALICE trigger rate jumps from a few 10^{-3} s^{-1} (with beam 1 bunch only) to $\sim 10^{-1} \text{ s}^{-1}$
 - → no further adjustment needed
 - within seconds, the first event popped up on the display
 - at 17:21 the beams were dumped and the run closed with 284 events
 - for an estimated integrated luminosity of about 8 mb^{-1} ☺

Alignment of trigger signals

- trigger signals pre-aligned with TED dumps, injections, circulating beams
- measured alignment during “ALICE fill”:



The First Event!



Eve Main Window -- Timestamp: 2009-11-23 15:38:53; Event # in ESD file: 50

Browser Eve AllEve

Eve Files Macros

- WindowManager
- Viewers
 - Viewer 1
 - 3D View
 - RPhi View
 - RhoZ View
- Scenes
 - Geometry scene
 - Event scene
 - RPhi Geometry
 - RhoZ Geometry
 - RPhi Event Data
 - RhoZ Event Data
- Transients
- Transient Lists
- Event 50
 - Primary Vertex
 - Primary Vertex SPD

Style

Name

Transient Lists: TEveElementList

TEveElement

Show: Self Children

Viewer 1 Multi View DataSelection Selections QA histograms WindowStore

3D View

RPhi View

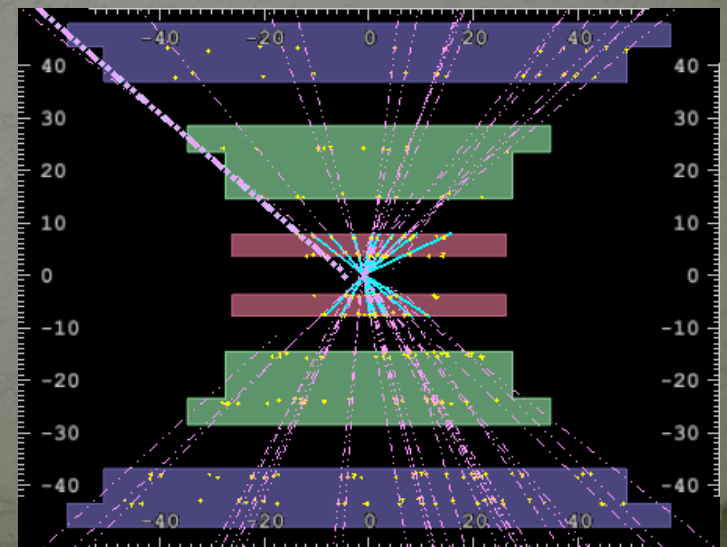
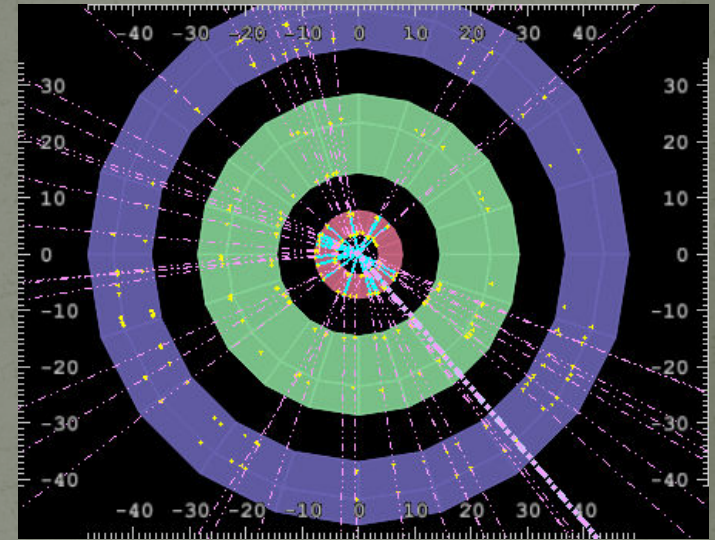
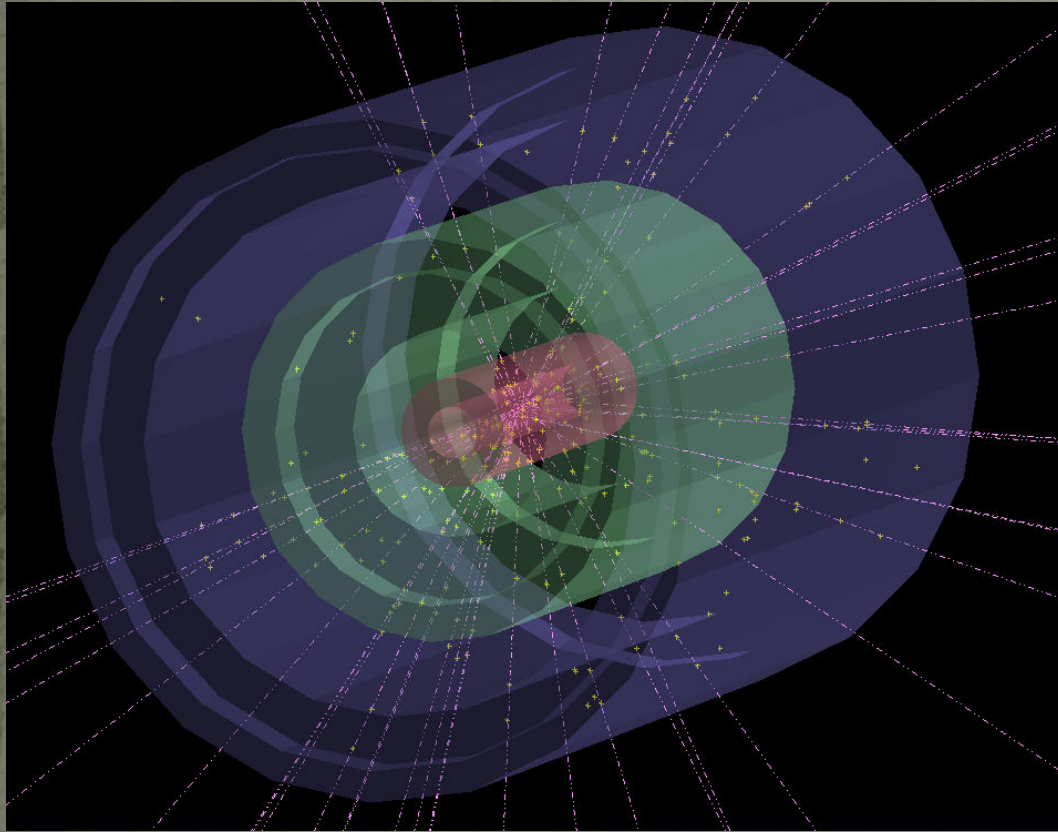
RhoZ View

Command EventCtrl

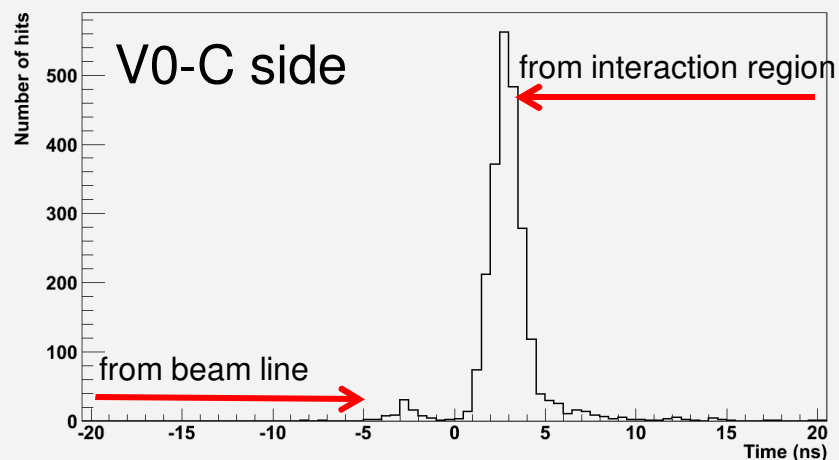
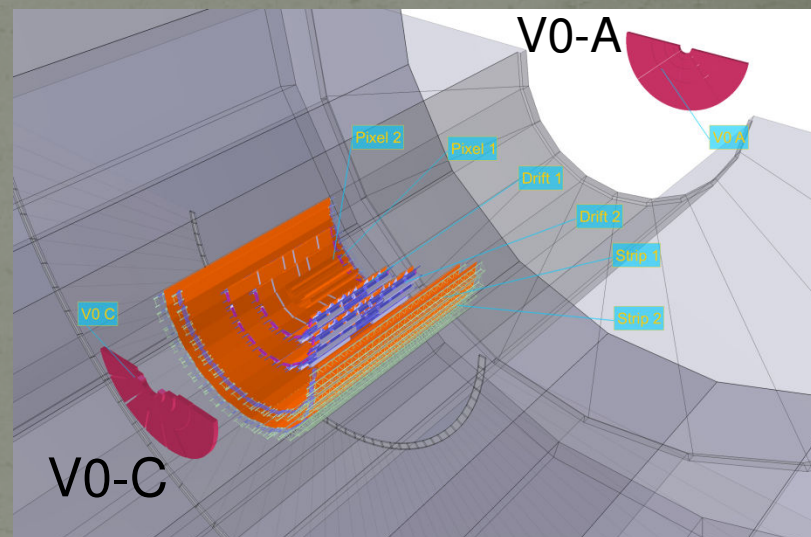
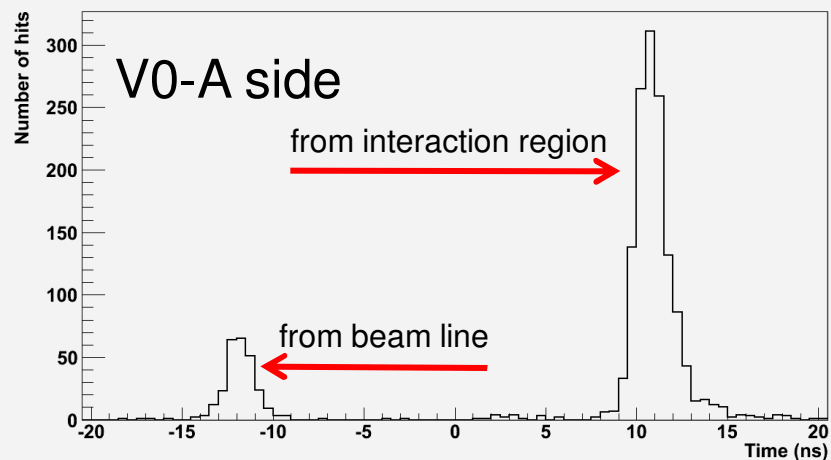
First Prev 50 / 266 Next Last Refresh Autoload Time: 5

```
RAW event info: Run#: 101498 Event type: 7 (PHYSICS_EVENT) Period: 0 Orbit: eecc0 BC: 15a
Trigger: 1
Detectors: c0020007 (ITSSPD ITSSDD ITSSDD TRG HLT)
Attributes: 3F-0-b0 Timestamp: 2009-11-23 15:38:53
ESD event info: Run#: 101498 Event type: 7 (PHYSICS_EVENT) Period: 0 Orbit: eecc0 BC: 15a
Active trigger classes: CSMBB-ABCE-NOPF-ALL CSMBB-ABCE-NOPF-ALL
Trigger: 1 ( CSMBB-ABCE-NOPF-ALL )
Event# in file: 50 Timestamp: 2009-11-23 15:38:53, MagField: 5.00e-14
```

A high multiplicity event...

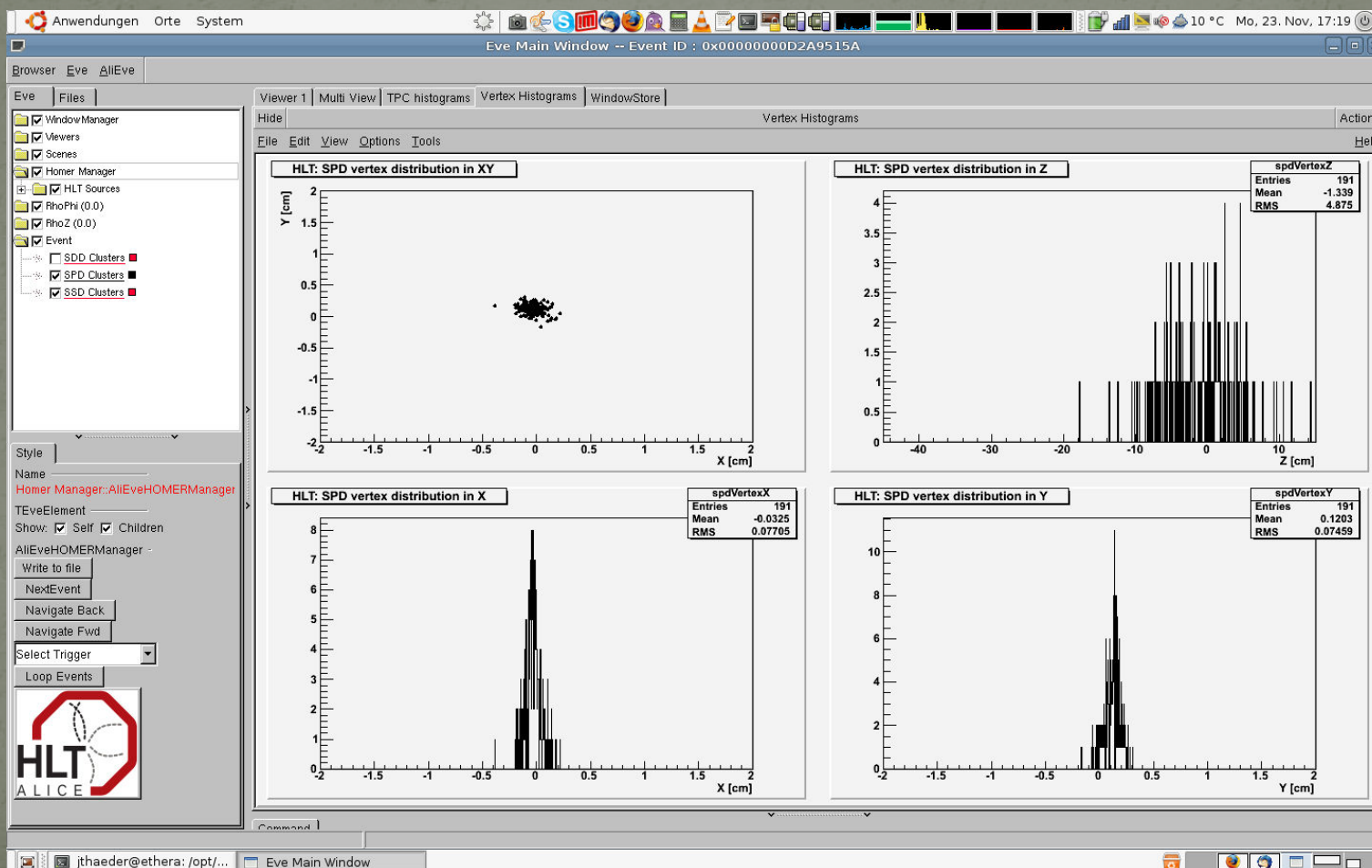


Timing in V0 scintillators



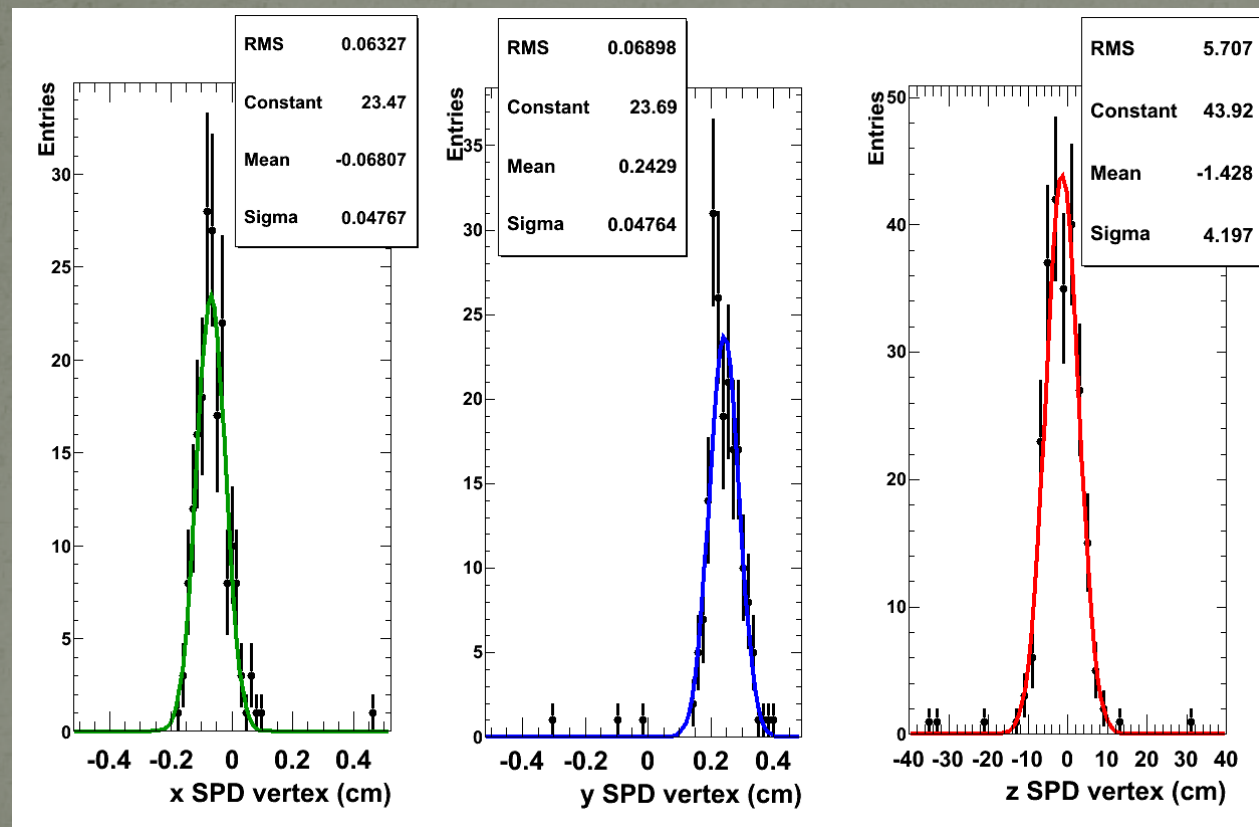
Vertex distribution (z), online

- Calculated by High Level Trigger from tracklets in Silicon Pixel Detector



Vertex distributions (offline)

- Calculated in Offline from tracklets in Silicon Pixel Detector:



$$\sigma_x \sim 475 \mu\text{m}$$

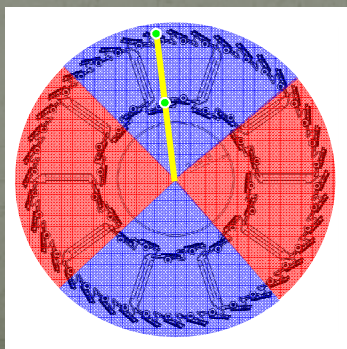
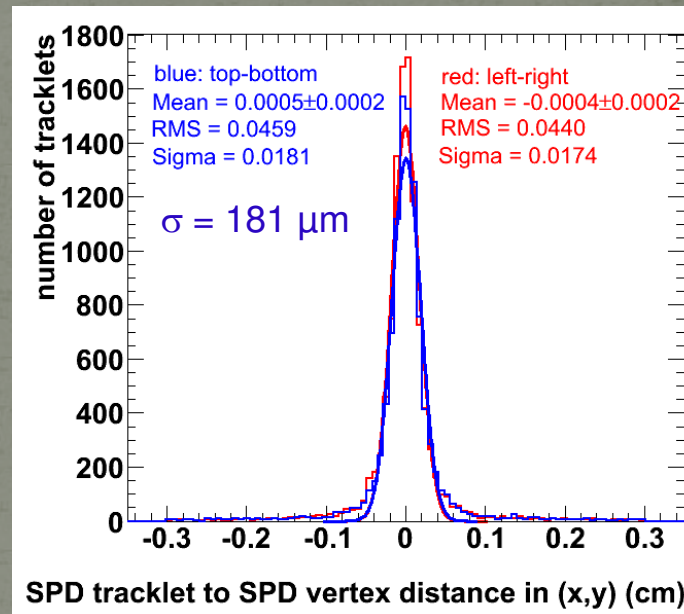
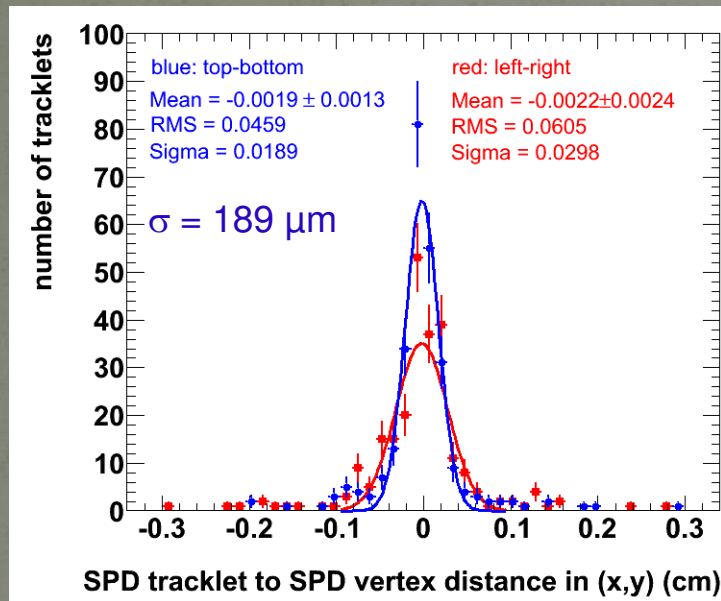
$$\sigma_y \sim 475 \mu\text{m}$$

$$\sigma_z \sim 4.2 \text{ cm}$$

Tracklet impact parameters

real data

simulation



- alignment from cosmics:
- better for top-bottom than for left-right quadrants

What next?

- as soon as “stable beam”
 - bring up and time in whole detector
 - start ALICE “minimum bias” pp program
 - QCD, heavy flavours, jets,...
 - reference data for Pb-Pb collisions
 - collect data at intermediate steps on the way to high energy
- as soon as luminosity high enough
 - start rare triggers program
 - high multiplicity trigger
 - muon, electron, photon triggers
 - ...

Thanks and congratulations
to the machine teams for the
outstanding performance!



and now...

the ALICE Control Room on Monday afternoon

(comme si vous y étiez...)