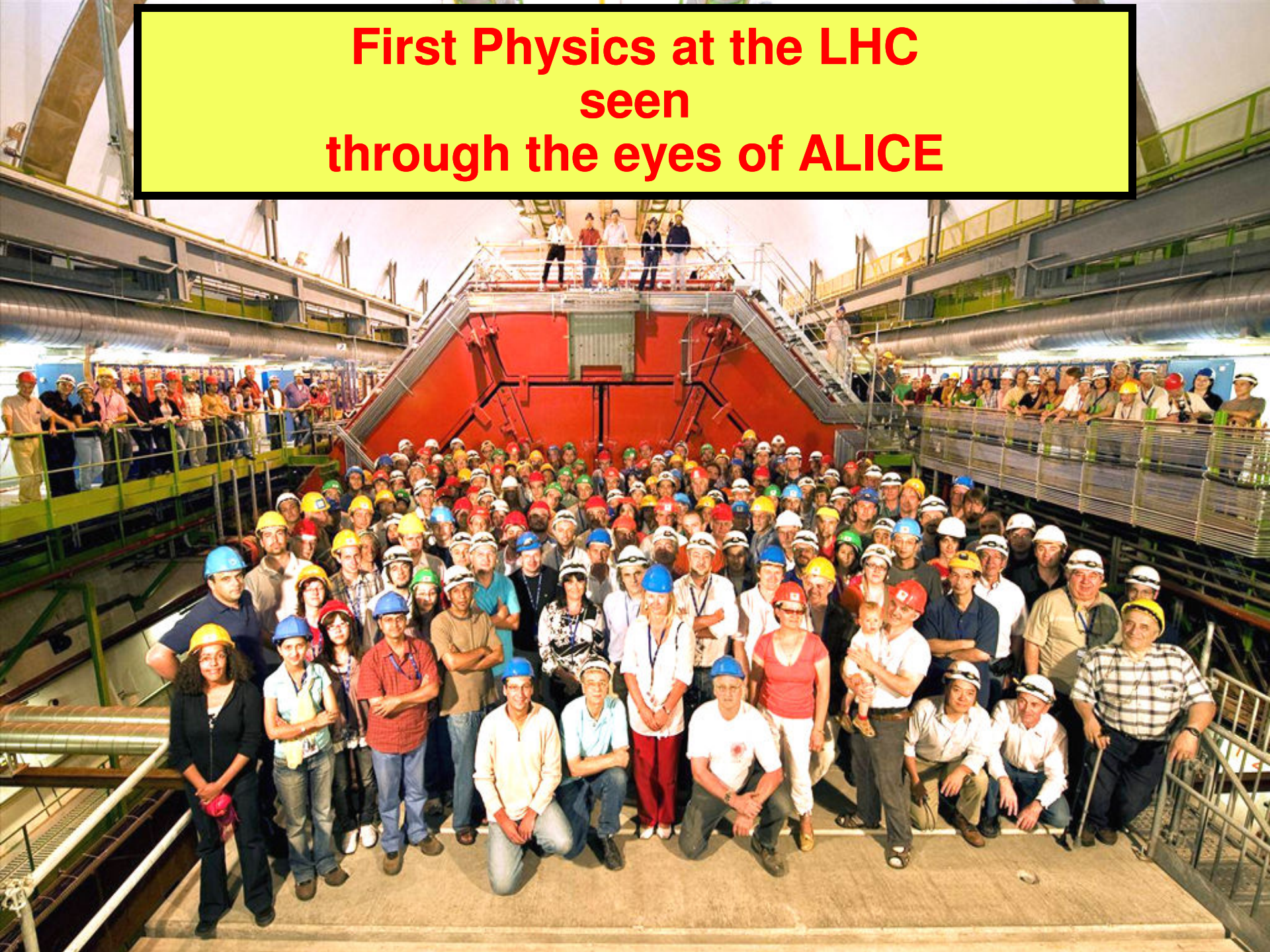


First Physics at the LHC seen through the eyes of ALICE





Almost to the day, 19 years ago..



Minutes of the 1st meeting on heavy ion / pp min. bias physics at LHC

The following is a short summary of the presentations and discussions taking place during the first meeting on a Heavy-Ion-Experiment at LHC held on Thursday 13.12.1990 at CERN. The intention of this meeting was to initiate a study of a heavy ion detector capable of measuring ultra-relativistic heavy ion collisions. Copies of the transparencies and minutes by mail.

experimental arrangements

Then, on
November 23rd 2009,
somebody pressed
the
'fast forward'
button..

- The design of the experiment should exist by then, if the case as well as the need for a Letter of Intent for the LHC, i.e. even if somewhat, the extra time will be used to stretch the construction schedule of the machine (and the detectors) rather than to delay the start of construction.

The overall lay-out of an experiment is operation foreseen for 1998

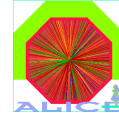
currently foreseen for 1998, should slip

.. should it slip, we stretch the construction schedule ..





The LHC (and everything else) accelerates ..



..after concentrated preparations..

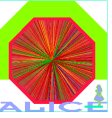


.. and tense anticipation..

Monday, 23rd November, ~15:30
in the ALICE Control Room



some anxious minutes waiting for collisions..

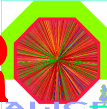


~ 16:35





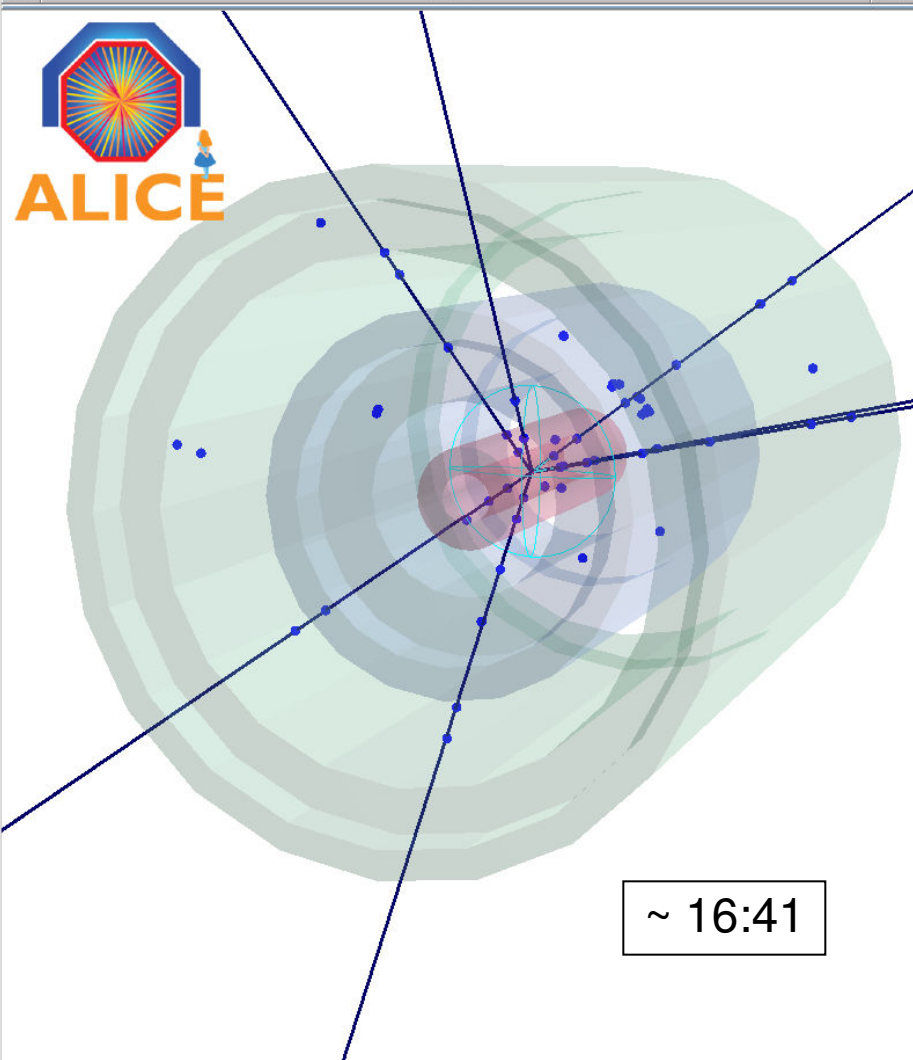
The first 'event' pops up in the ACR



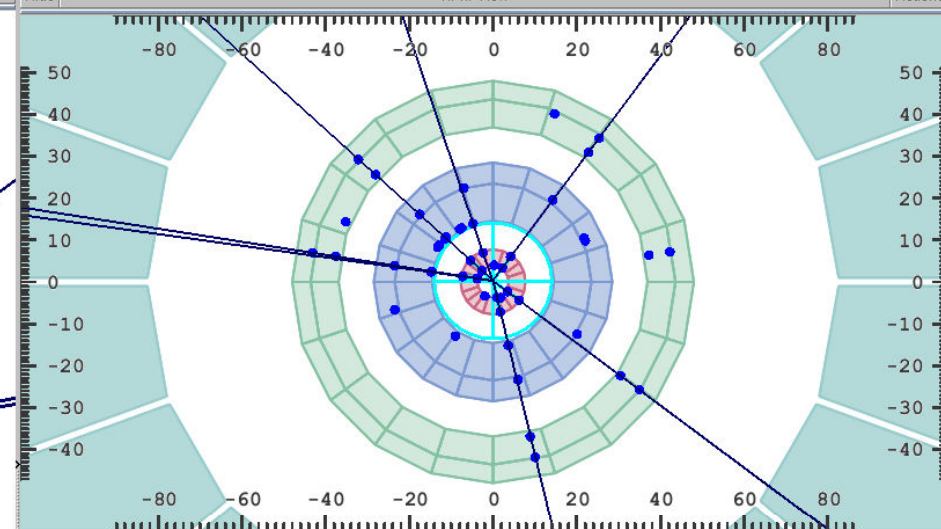
Timestamp: 2009-11-23 15:47:17; Event # in ESD file: 0

Viewer 1 Multi View DataSelection Selections QA histograms WindowStore

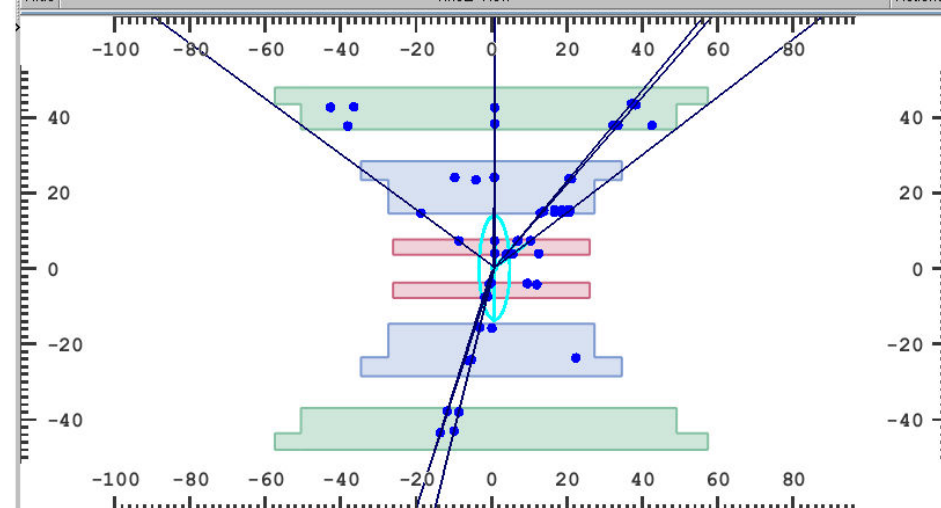
Hide 3D View Actions



Hide RPhi View Actions



Hide RhoZ View Actions



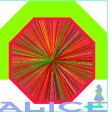
Command EventCtrl

First Prev 0 / 215 Next Last Refresh Autoload Time: 5

No raw-data event info is available!



Relief and jubilation..



Collisions in ALICE !!



.. and some celebration..



~ 16:42



'First Physics' in the making



After years of looking at simulated data, there was no holding back:
First physics results examined,
ca 1 hour after data taking finished (284 events !)..



Physics exploitation of ALICE has started for good !

The European Physical Journal

volume 65 - numbers 1-2 - January - 2010

EPJ C



Recognized by European Physical Society

submitted to EPJC 28 Nov 2009

Particles and Fields

Phase 1: rediscovering the standard model

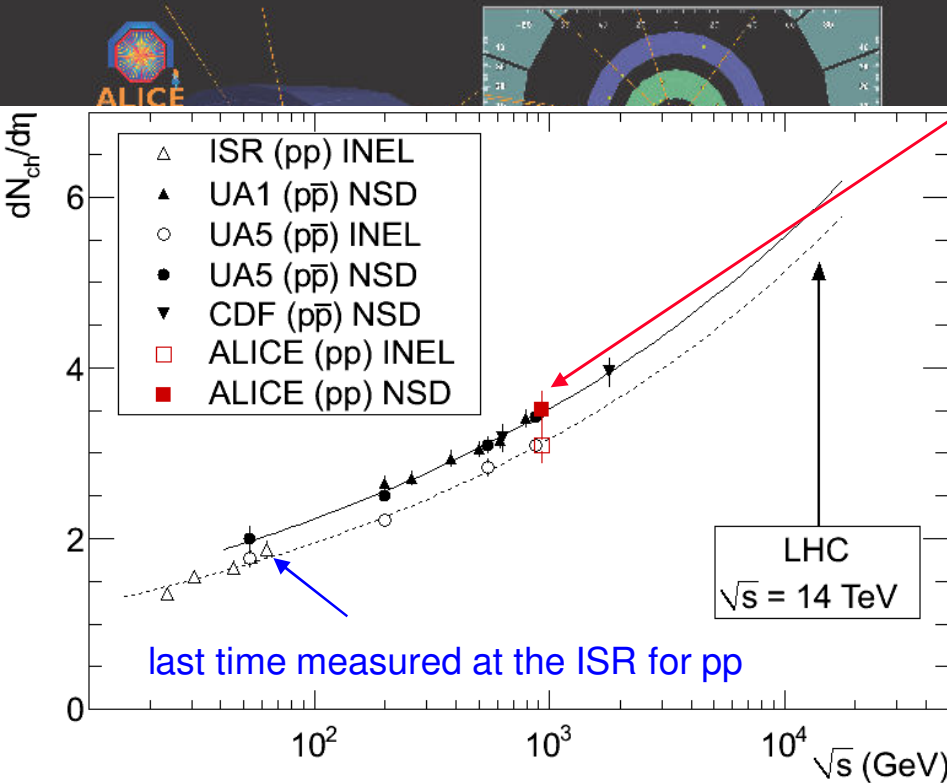
(QCD in the case of ALICE)

The average number of charged particles created perpendicular to the beam in pp collisions at 900 GeV is:

$$dN/d\eta = 3.10 \pm 0.13 \text{ (stat)} \pm 0.22 \text{ (syst)} \approx \pi$$

National Geographic News (4 Dec.)

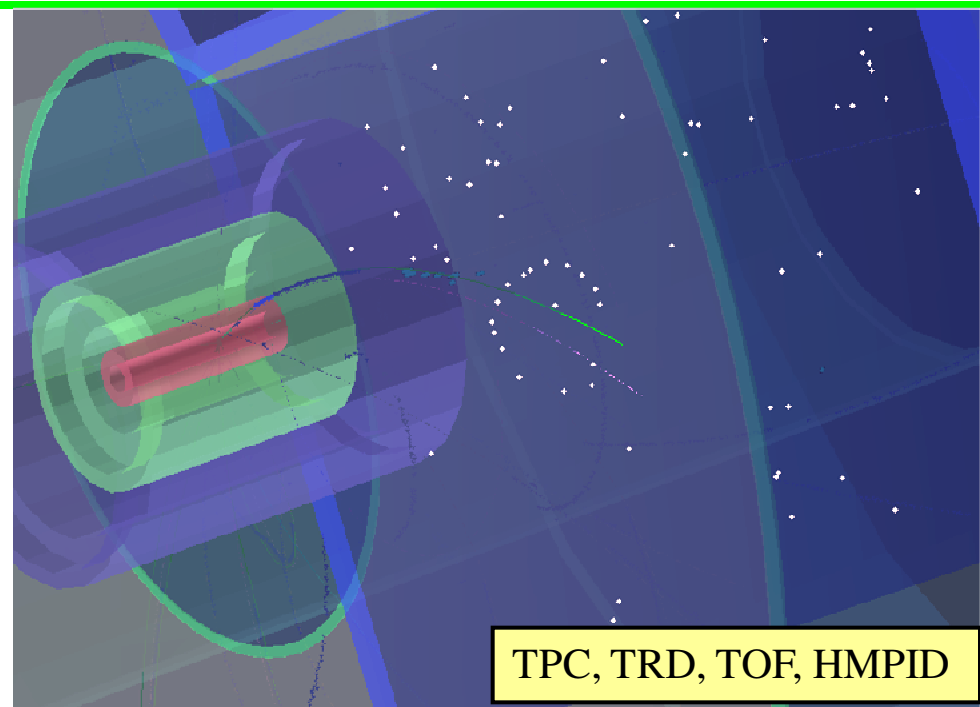
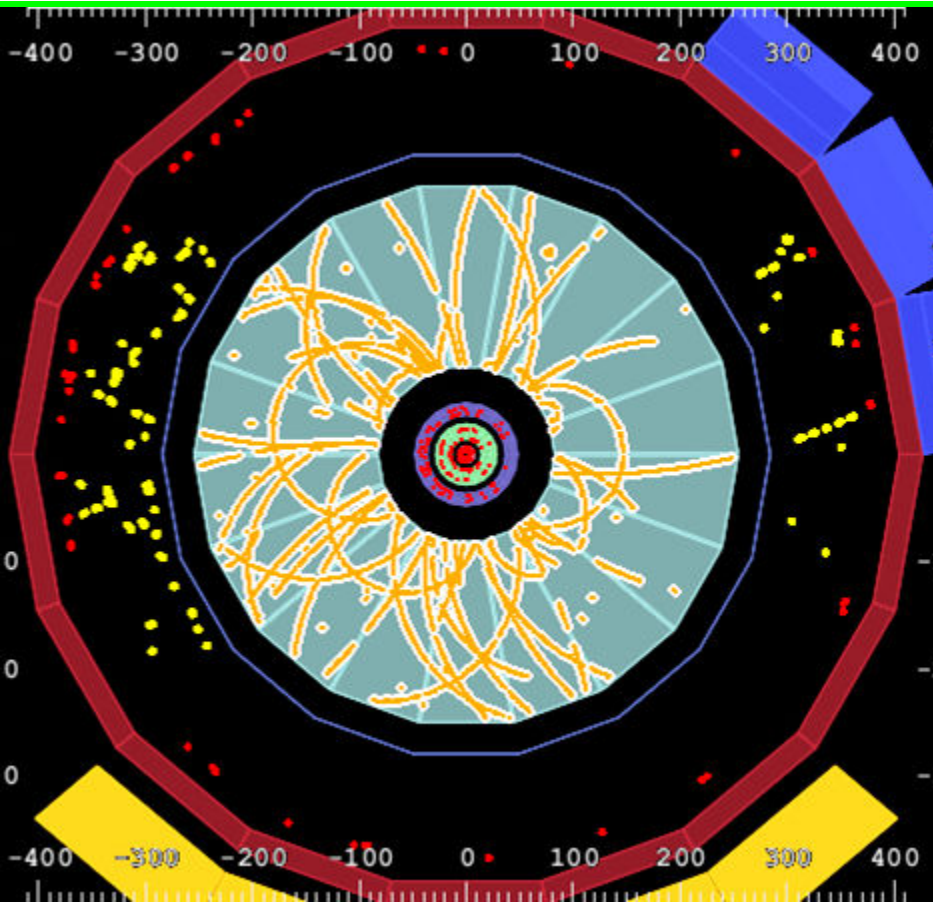
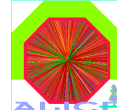
‘....a machine called ALICE... found that a (1) proton-proton collision recorded on November 23



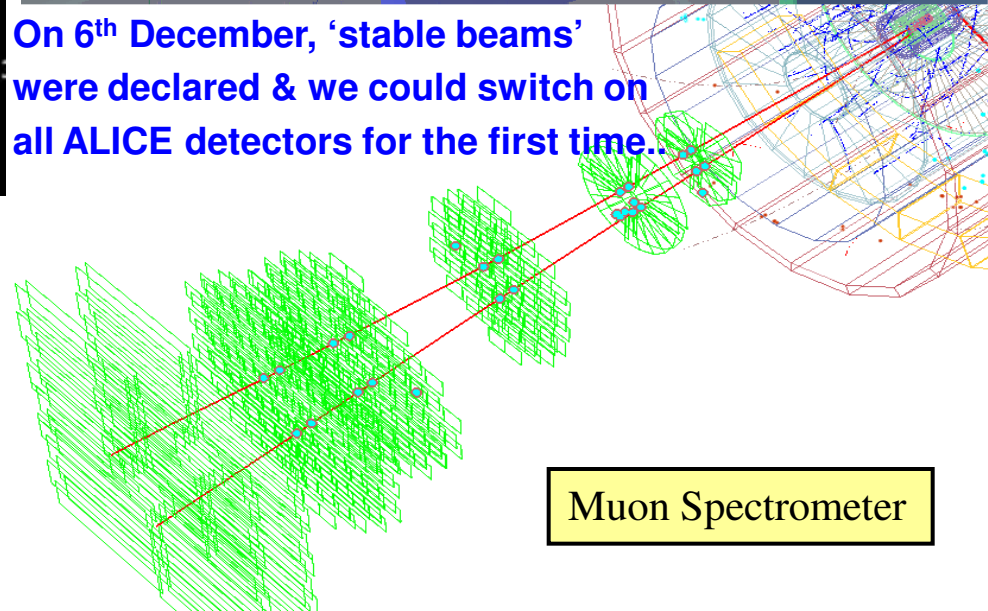
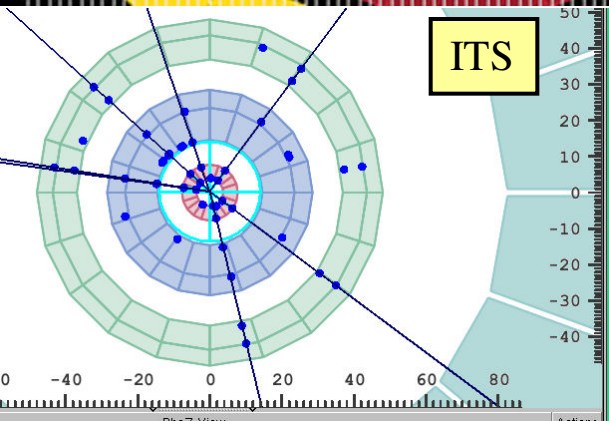
This is the first (and easiest) of many numbers we need to (re)measure to get confidence in our detectors, tune the simulations, study background, Phase 2 is still a long way to go..

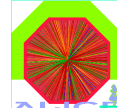


The Drop has become a Trickle ..

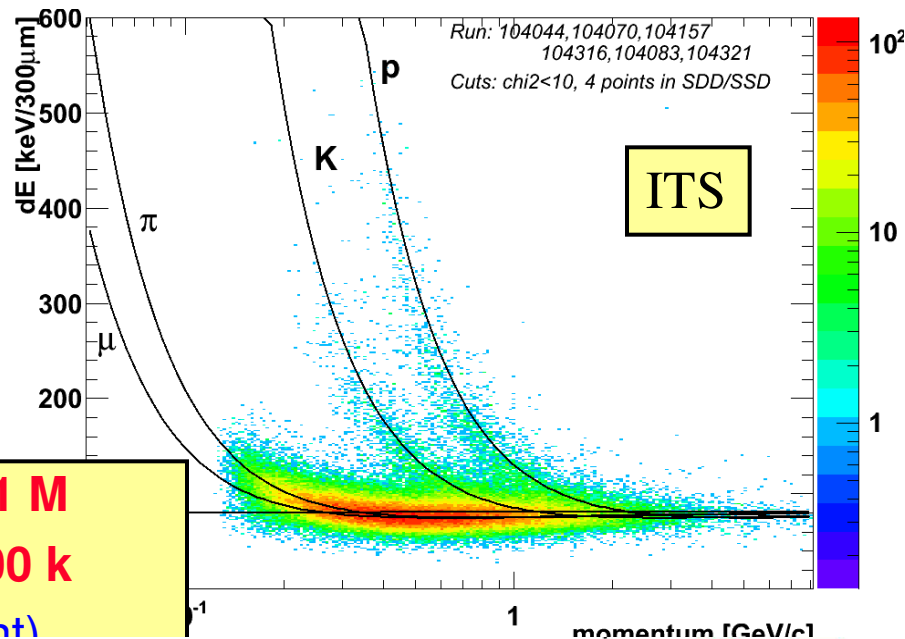
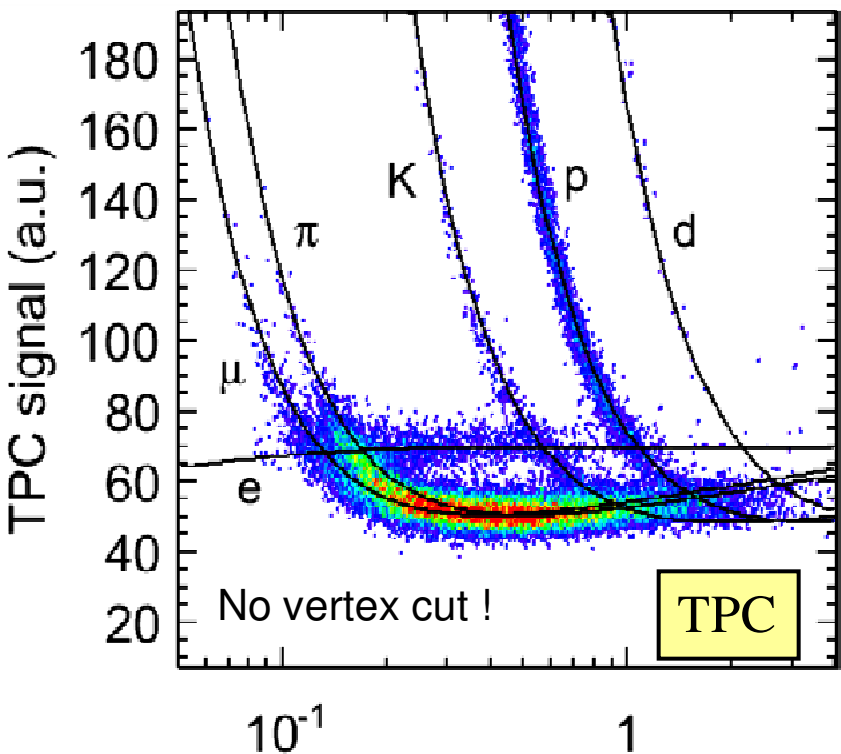


On 6th December, 'stable beams' were declared & we could switch on all ALICE detectors for the first time...

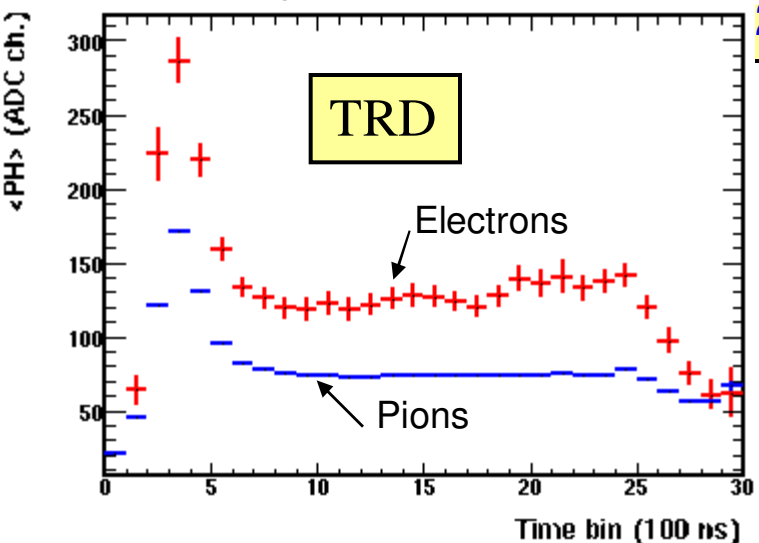




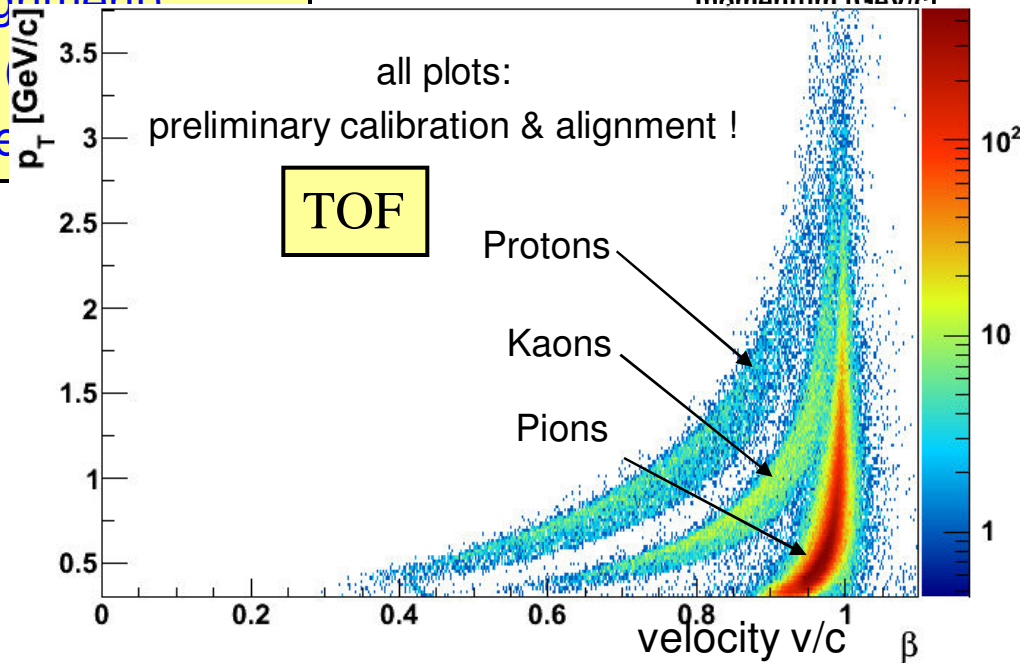
.. and the Trickle is becoming a Flood..



ected: > 1 M
ons': 500 k
alignment)

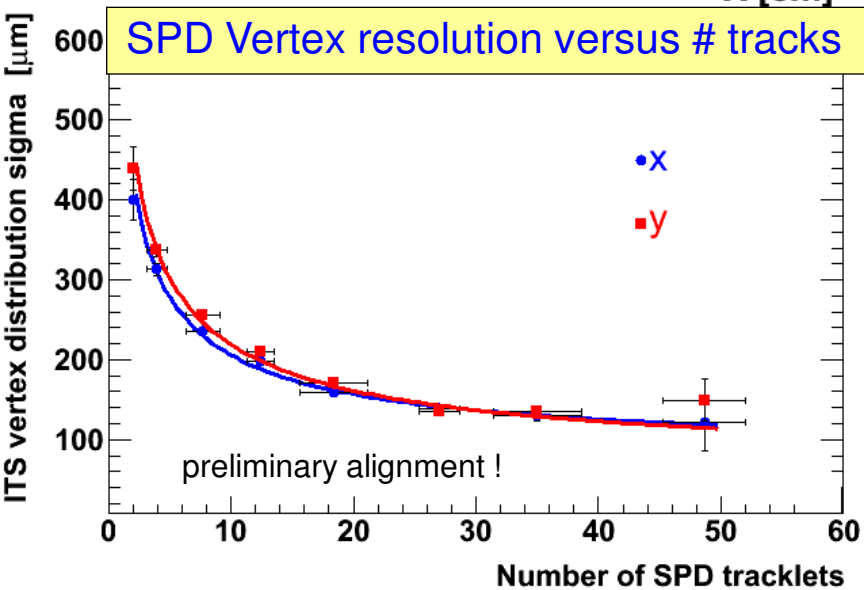
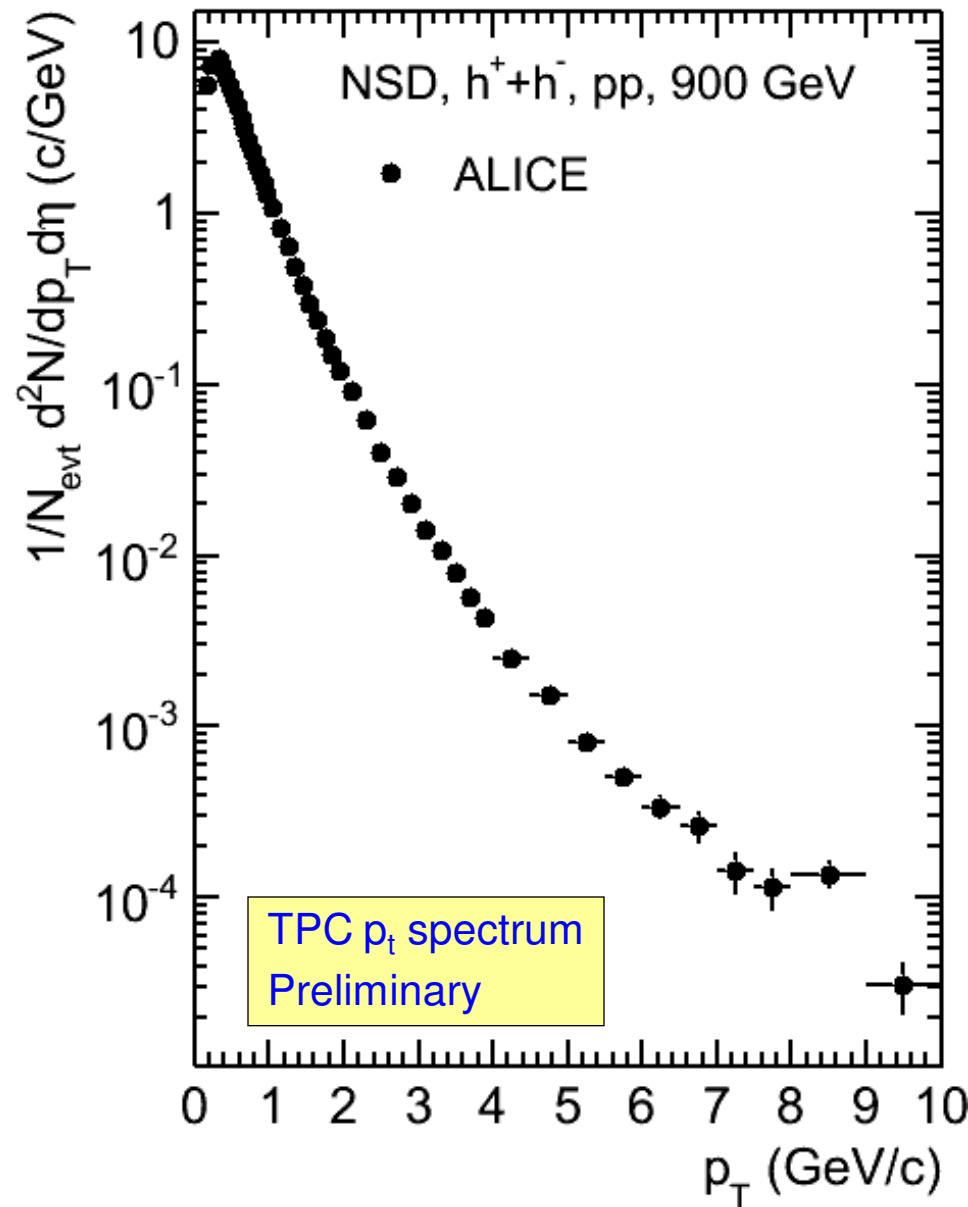
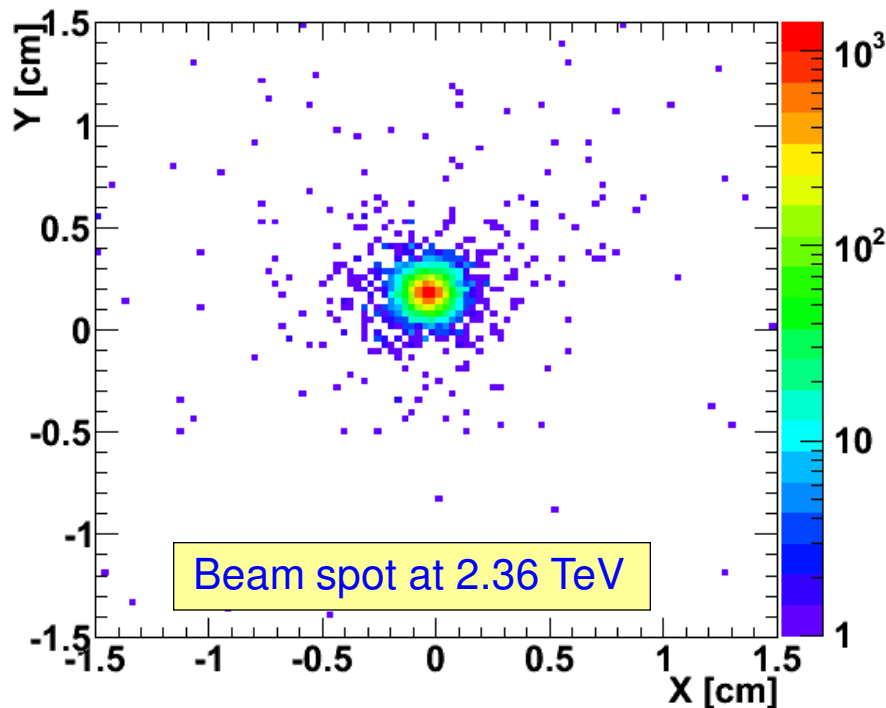
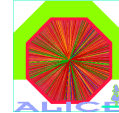


2.36 Te



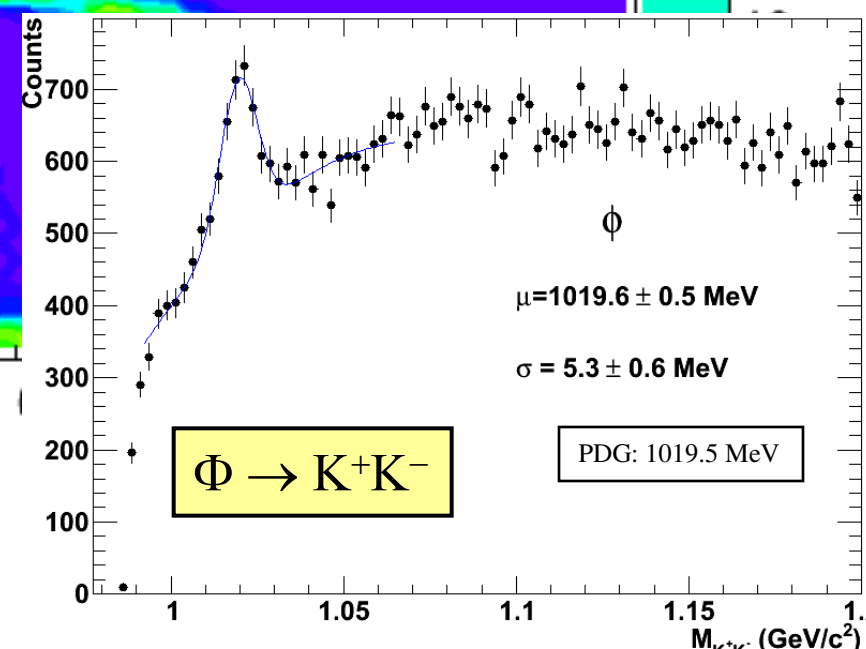
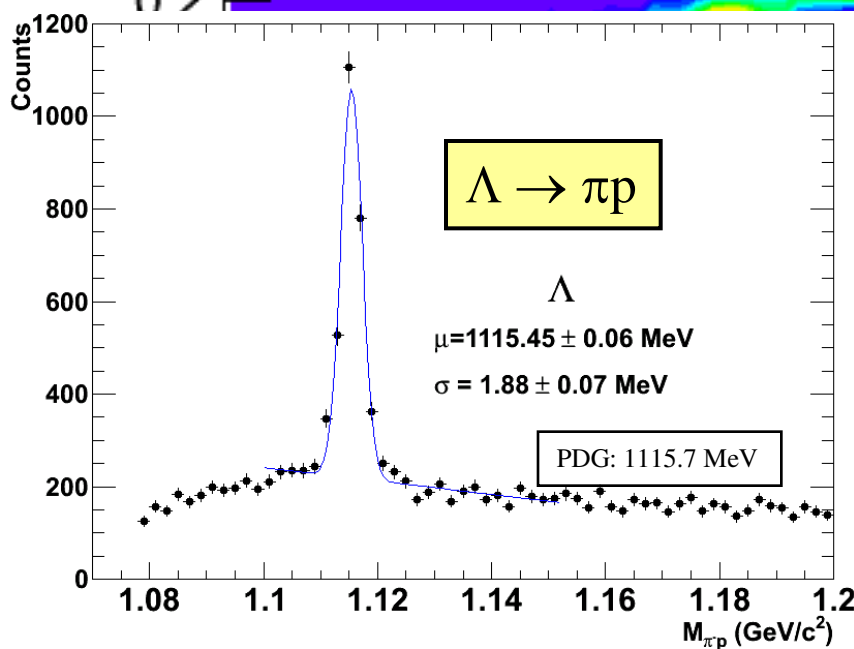
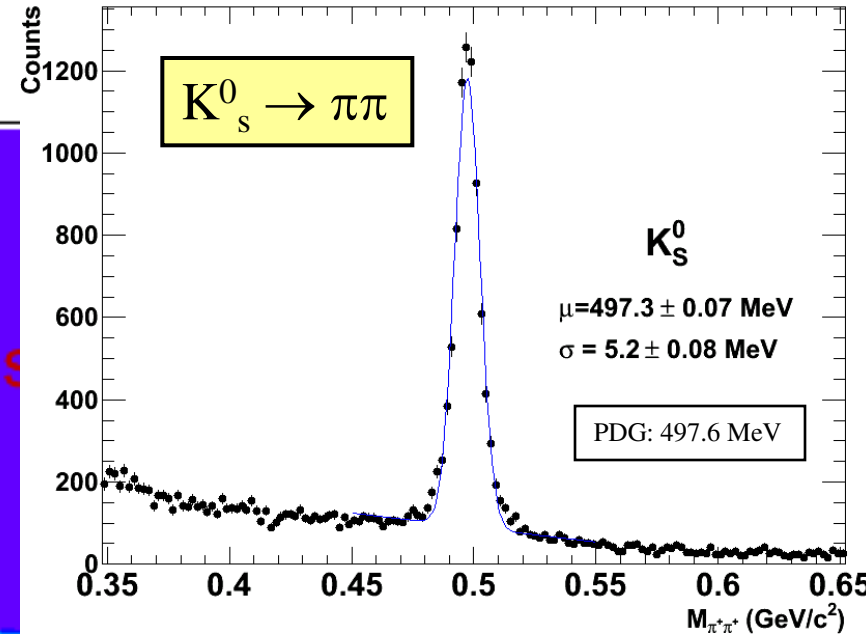
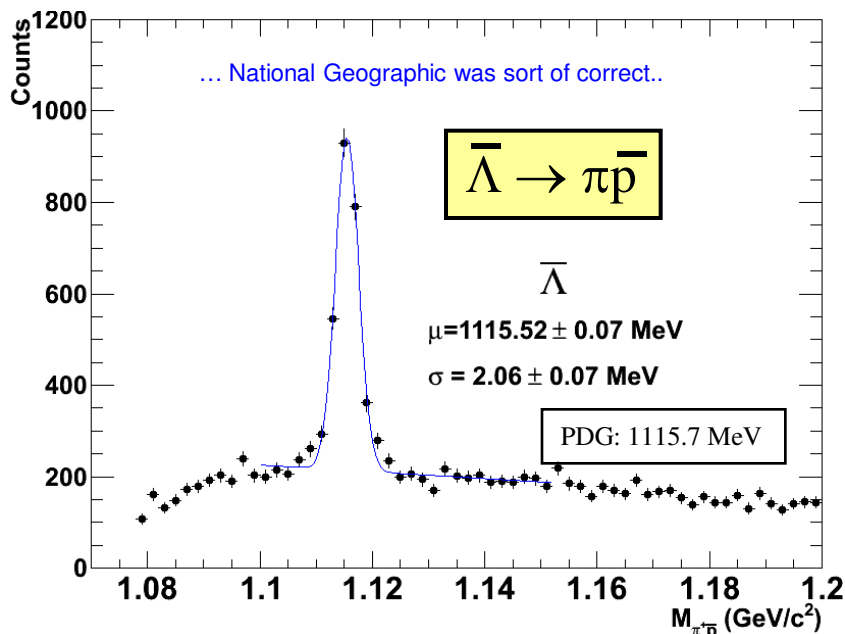
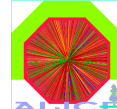


Tracking works beautifully



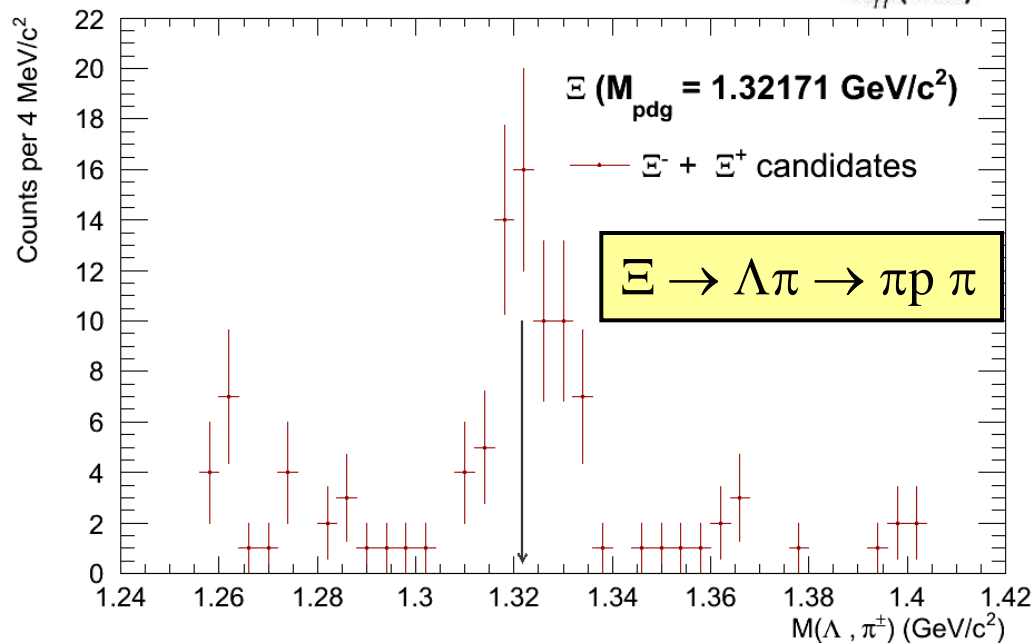
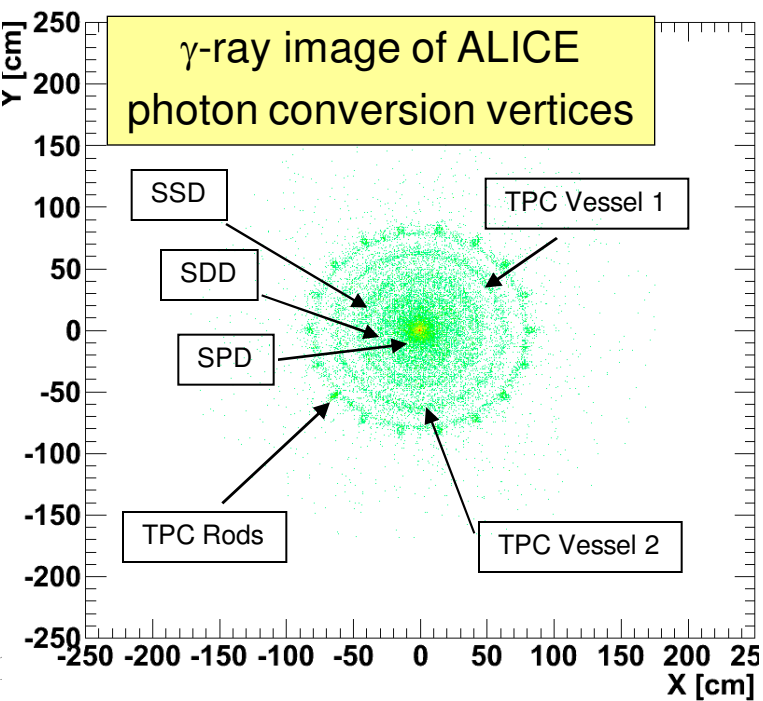
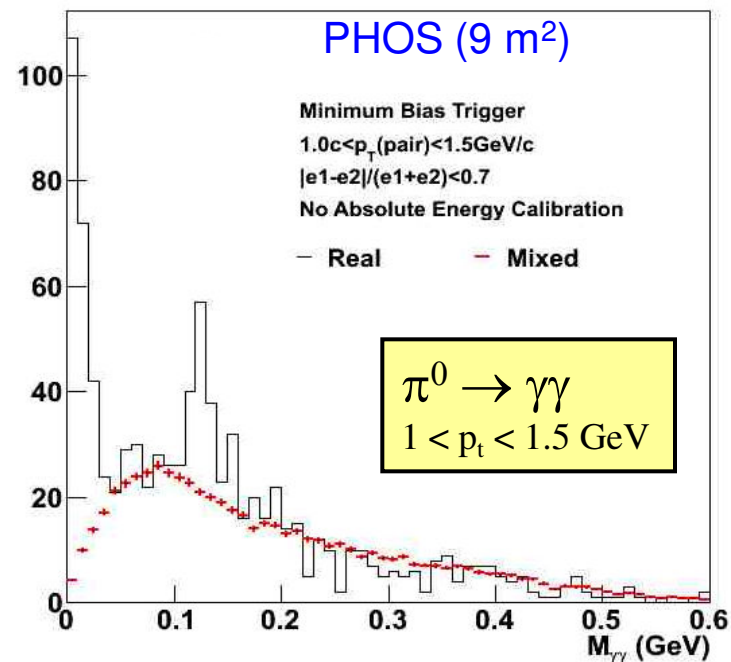
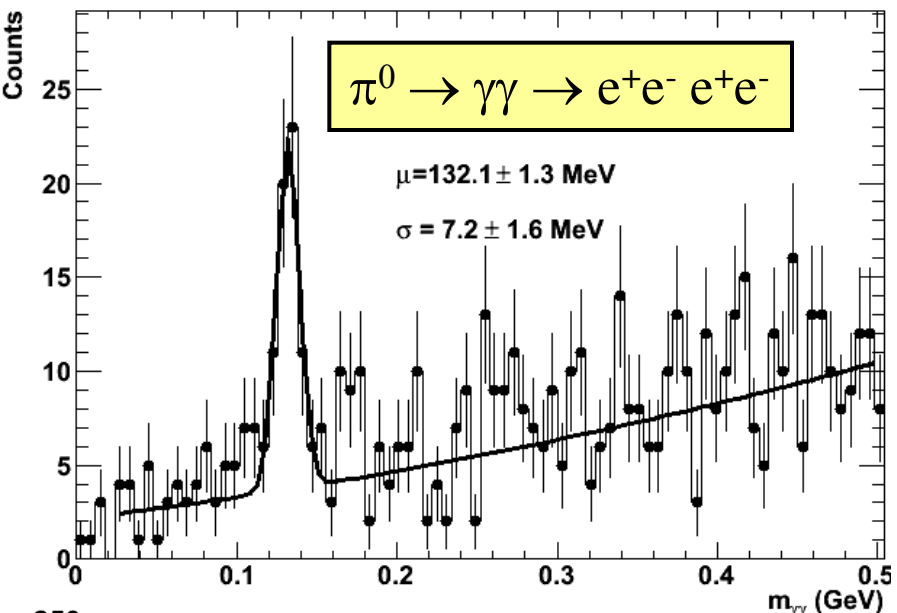
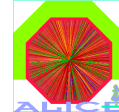


The Particle Zoo Revisited:



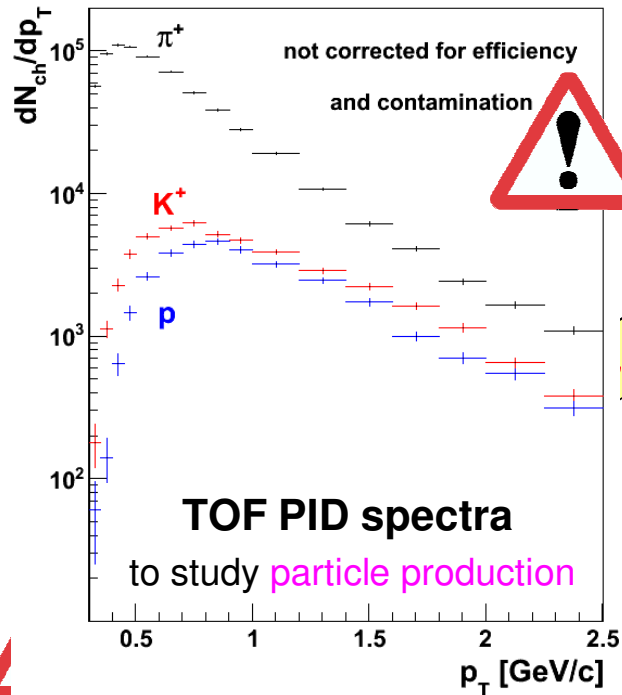
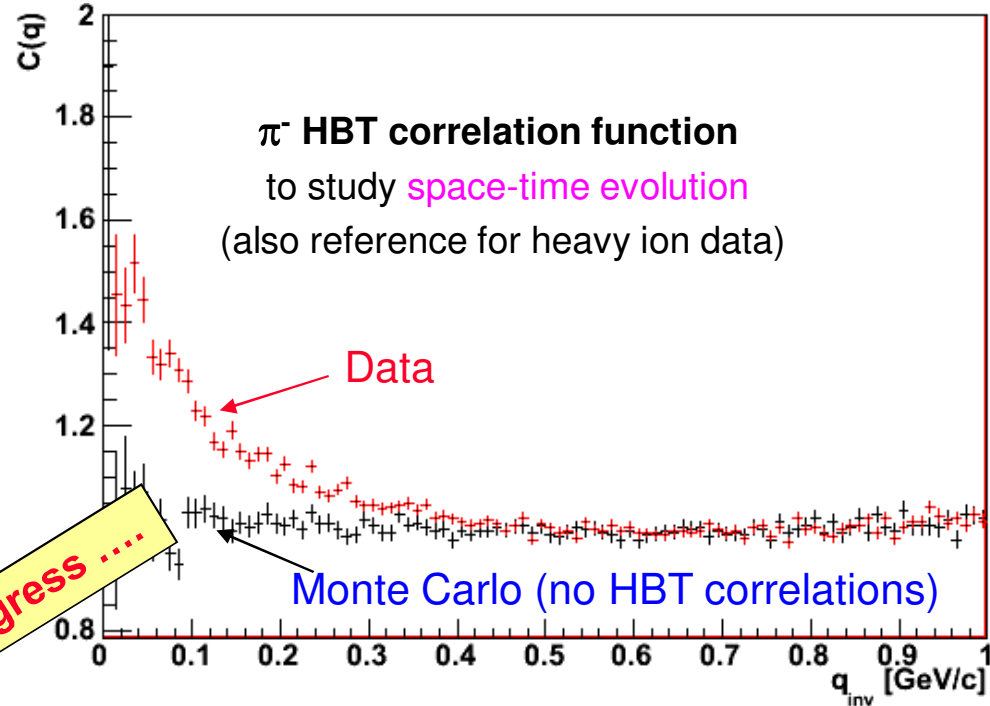
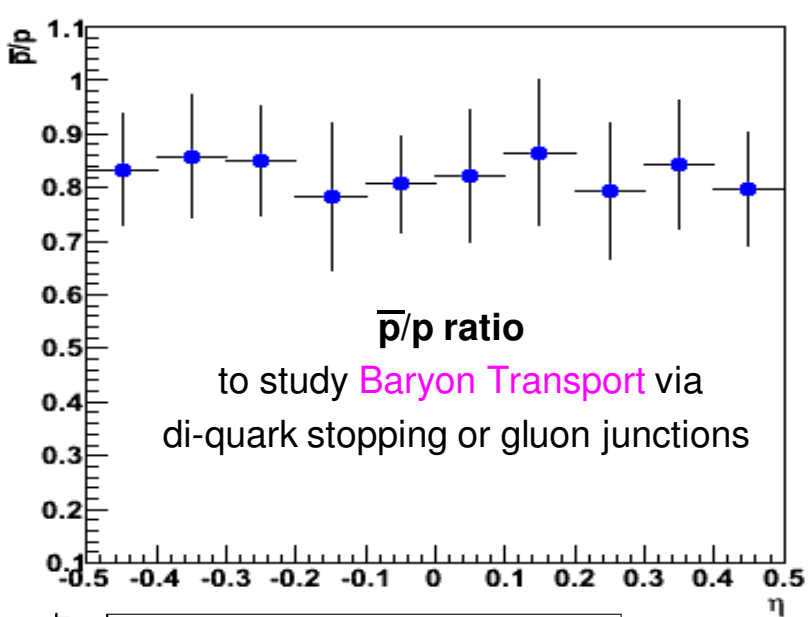


More Particles..



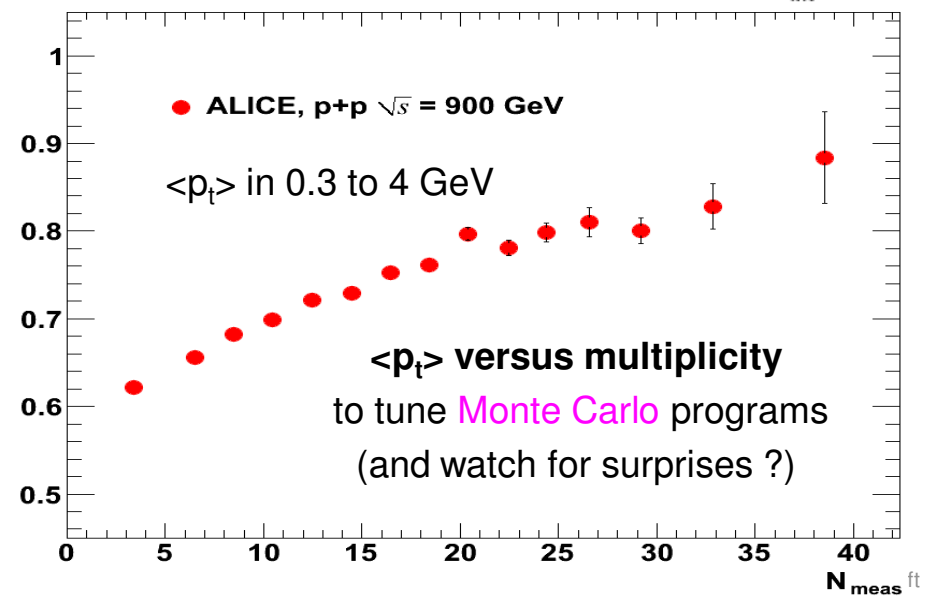


A taste of things to come..



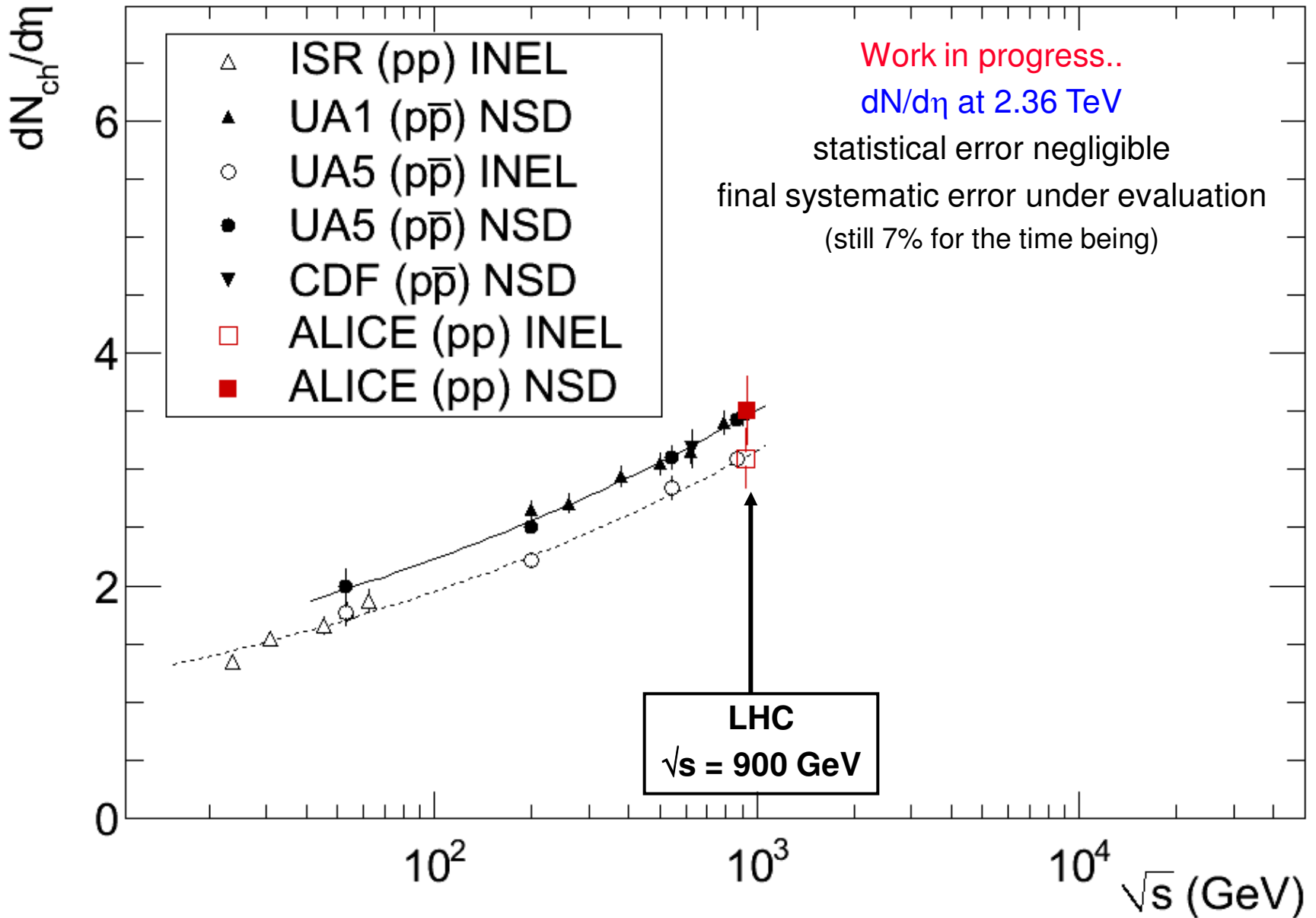
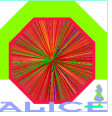
Work in progress

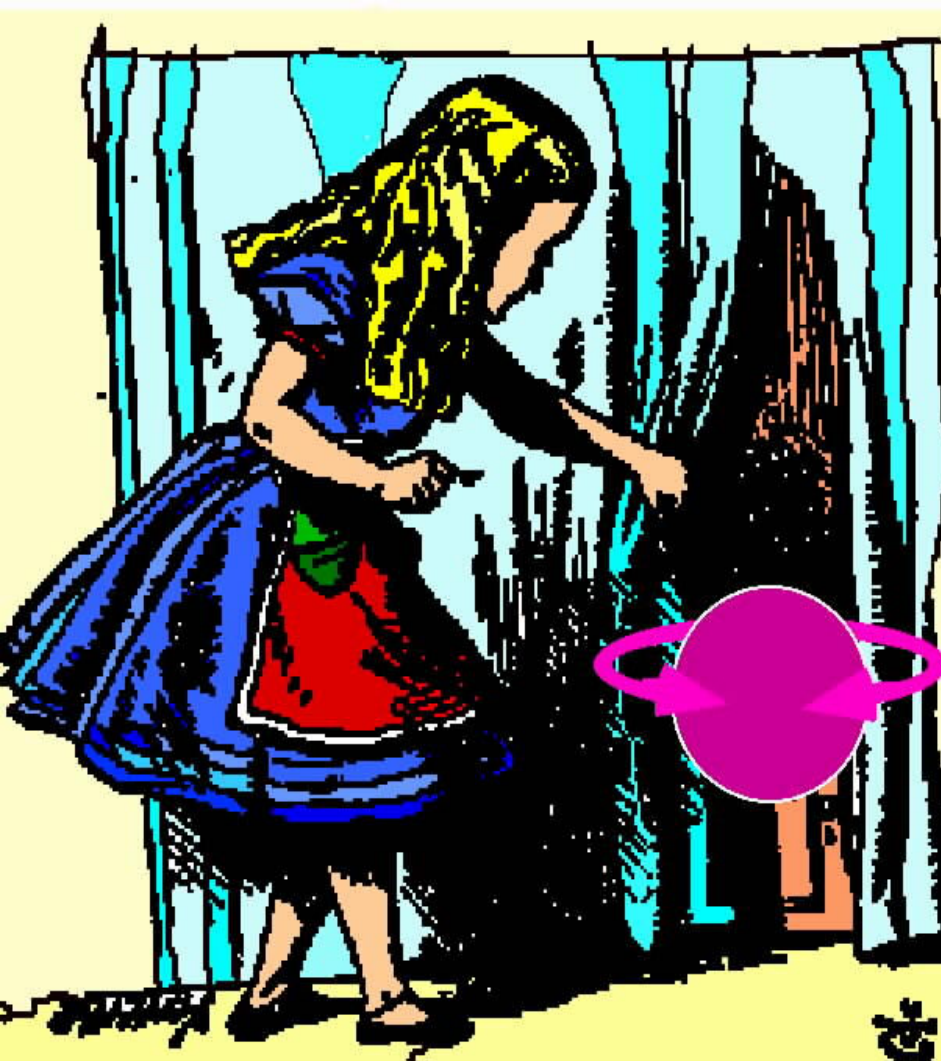
correction for efficiency



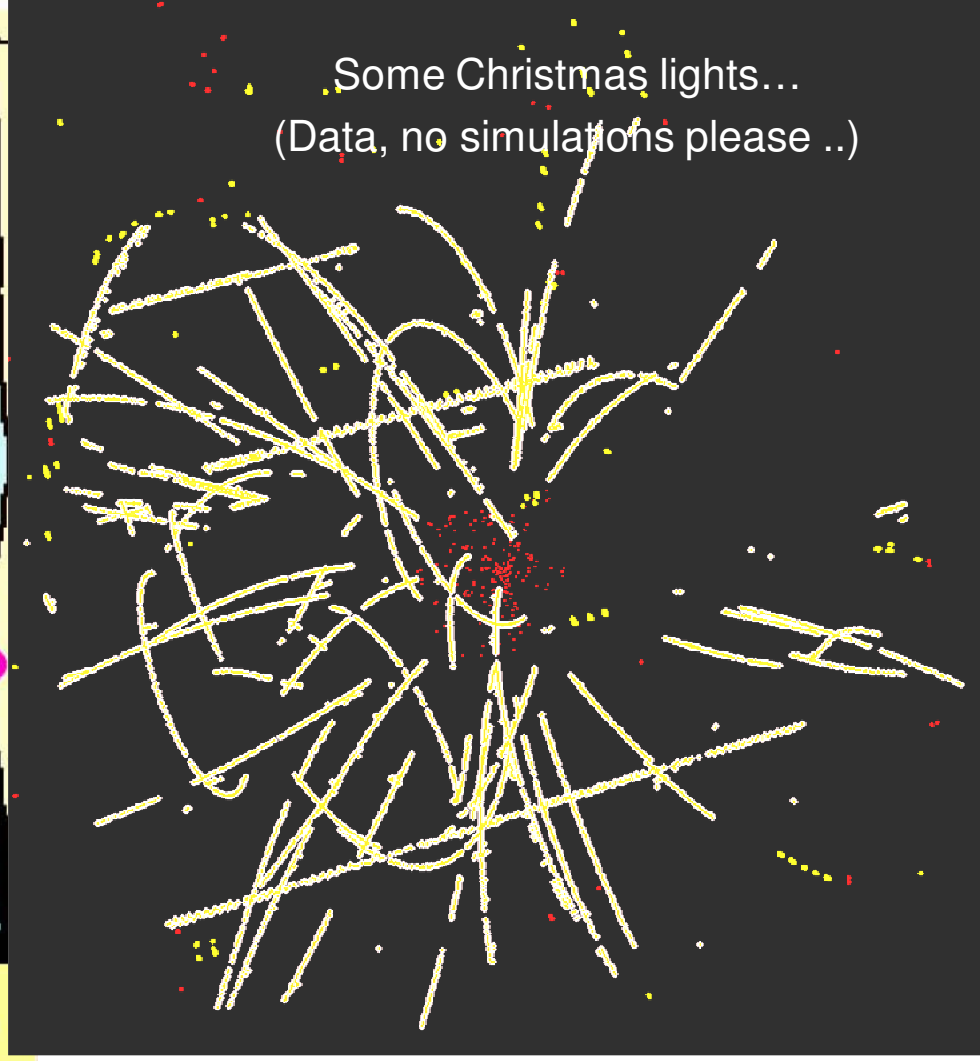


Finally...





Some Christmas lights...
(Data, no simulations please ..)



ALICE is a very happy (and busy) girl right now