HADRON PHYSICS DEPARTMENT

Natinal Institute for Physics and Nuclear Engineering – IFIN-HH

http://niham.nipne.ro

ISAB Meeting, November 14, 2016

Highlights of accomplishments in the last year

- **Physics**

- Multiplicity and directivity dependent p_T distributions for identified charged hadrons in pp collisions at $\sqrt{s}$ = 7 TeV
- Charged particle p_T spectra as a function of multiplicity in pp collisions at $\sqrt{s}$ = 7 TeV up to 40 GeV/c
- Bjorken energy density estimates for pp collisions at $\sqrt{s}$ = 7 TeV
- Detailed comparison of pp ($\sqrt{s}$ = 7 TeV), p-Pb ($\sqrt{s_{NN}}$ = 5.02 TeV) and Pb-Pb ($\sqrt{s_{NN}}$ = 2.76 TeV)
- BGBW fits for Pb-Pb data on different species
- Core-Corona effects in Pb-Pb collisions at 2.76 TeV
- Two particle correlation studies as a function of multiplicity and directivity
- 32 presentations in ALICE meetings
- 2 Internal Notes
- 2 conference presentations
- 9 papers with direct or indirect contributions (co-authors to other 32)
- 8 conferences with direct or indirect contributions
- PC members

- **TRD tracking and QA activities**

- **ALICE upgrade**

- Assembling and testing the first OROC (with two stacks OROC1 & OROC3) for PRR

- **Computing**

- Maintaining NIHAM in a leading position among Tier2s ALICE GRID centres, NAF efficient management

- **ALICE shifts**

- Participation to detector operation: 90.5 credits (87%) ((Run manager, Shift leader, DCS, ECS operators)

- **Teaching & Outreach**

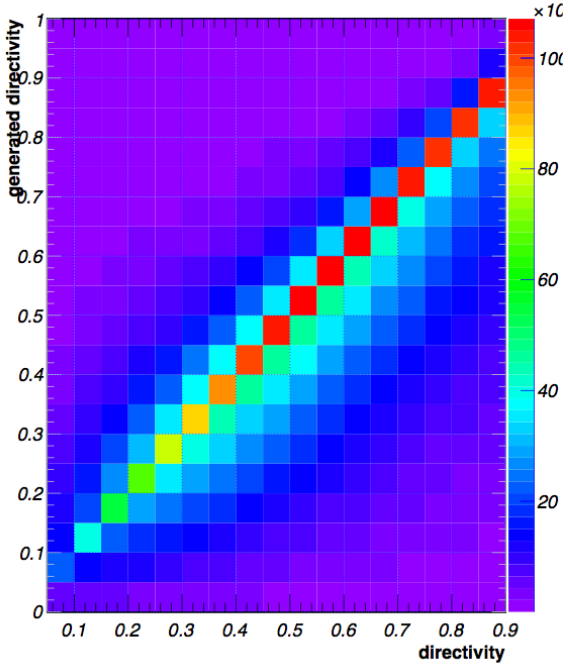
- Summer student program and outreach activities

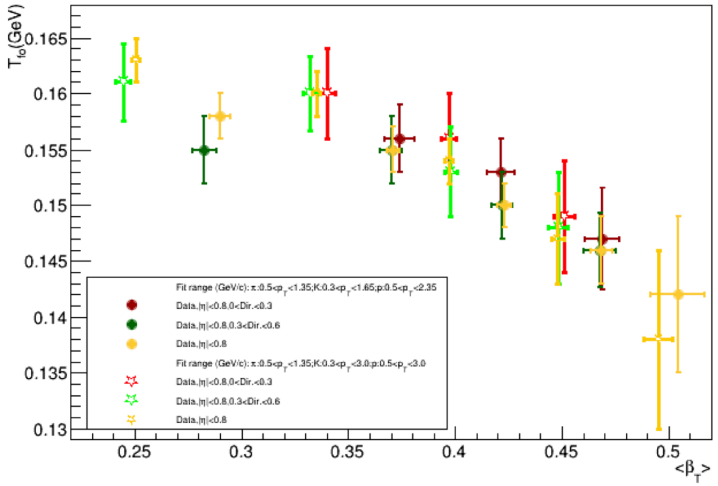
pp @ 7 TeV – identified charged hadrons
Charged particles multiplicity & event shape

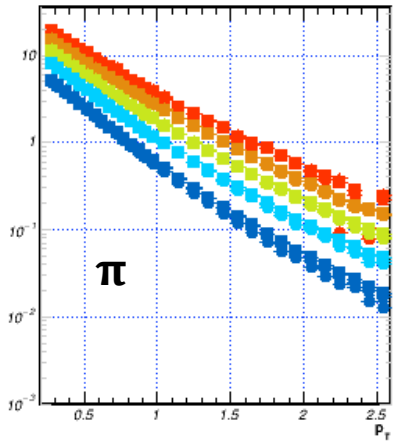
$$D = \frac{|\sum_i p_t^i|}{\sum_i |p_t^i|}|_{\eta>0},$$

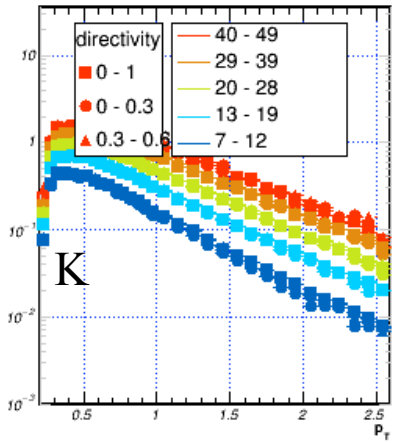
D → 0 ⇒ isotropic event

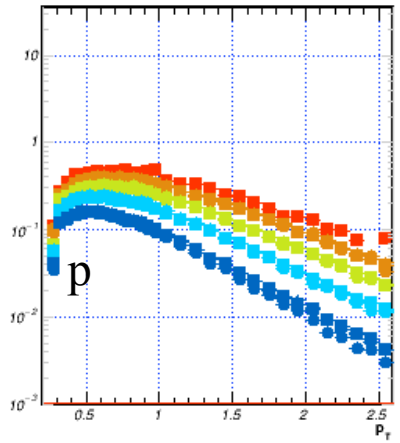
D → 1 ⇒ jetty event

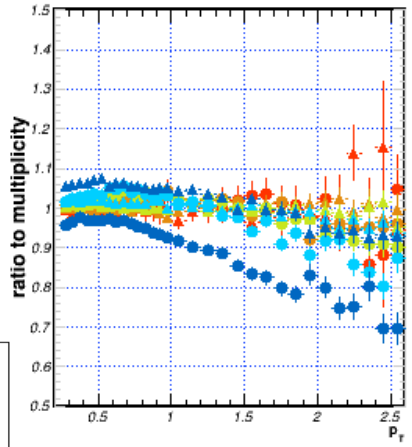


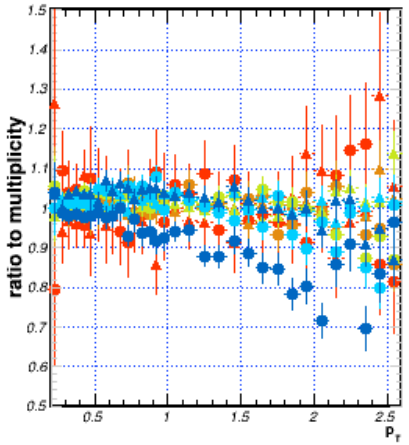


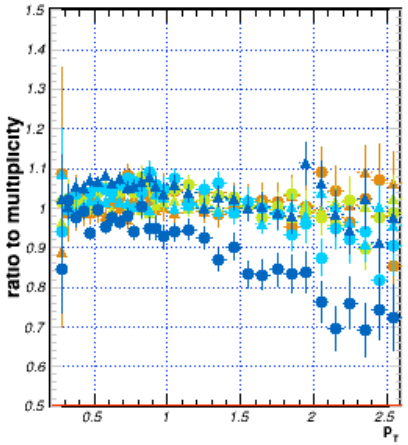






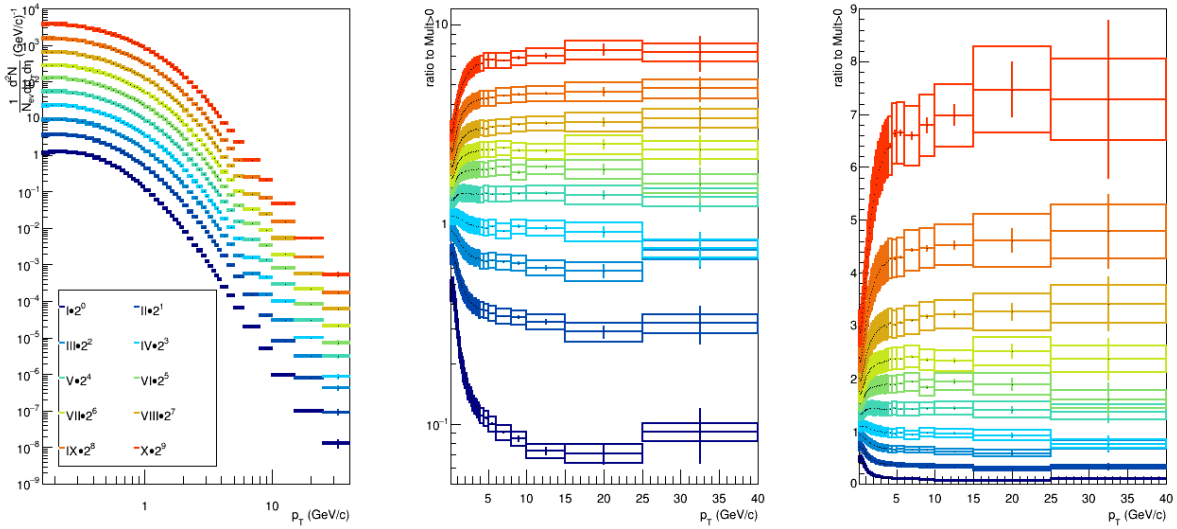


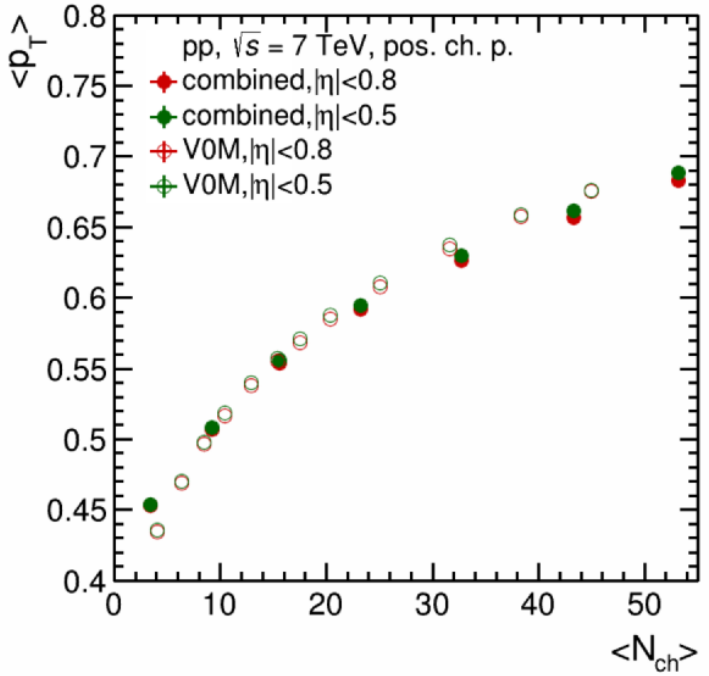




pp @ 7 TeV
Charged particles p_T spectra & $\langle p_T \rangle$ - multiplicity dependence

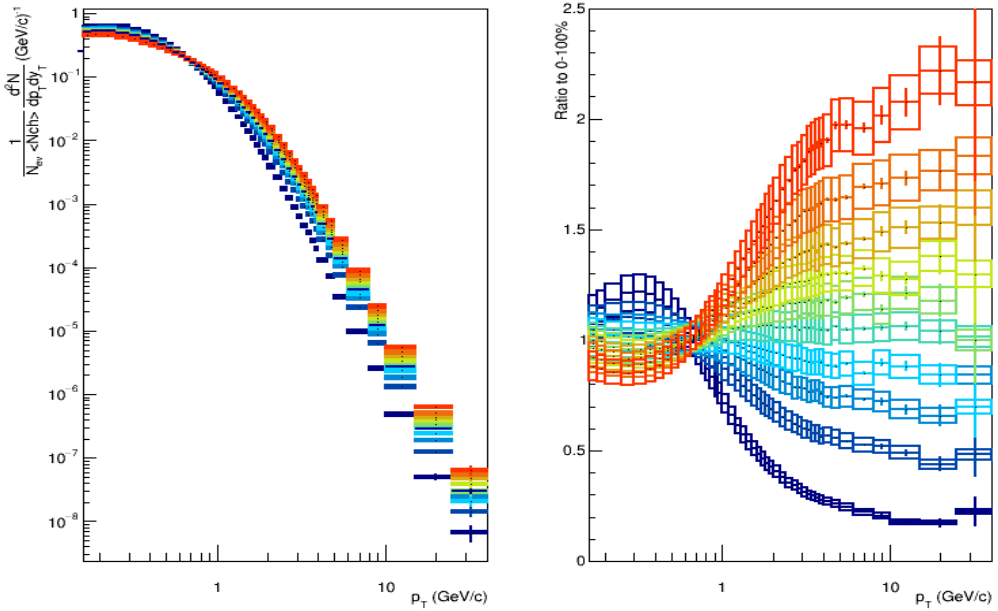
|η|<0.5

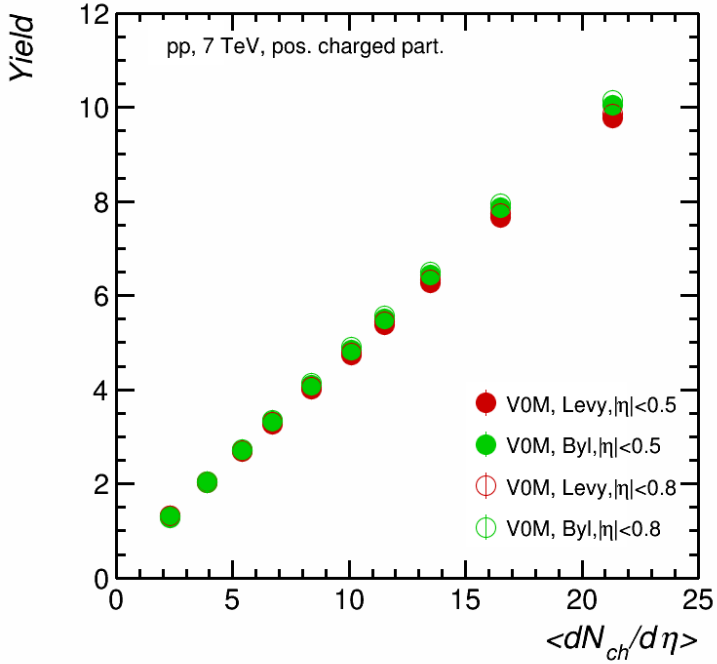




Charged / <Nch>

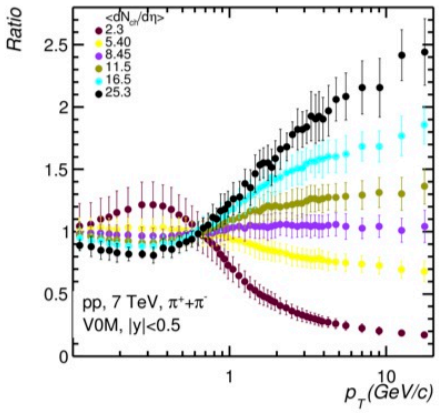
$$\frac{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta) >]^{(\%bin)}}{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta >]^{(p+p)^{MB}}}$$

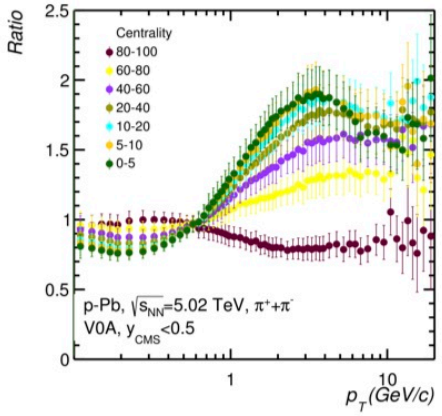


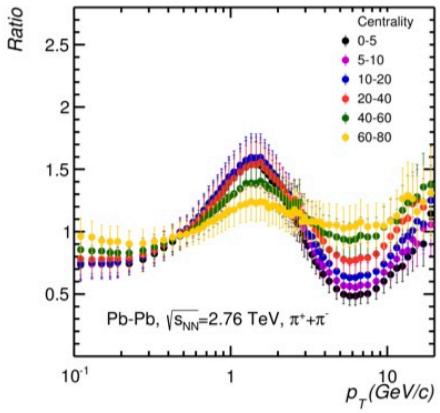


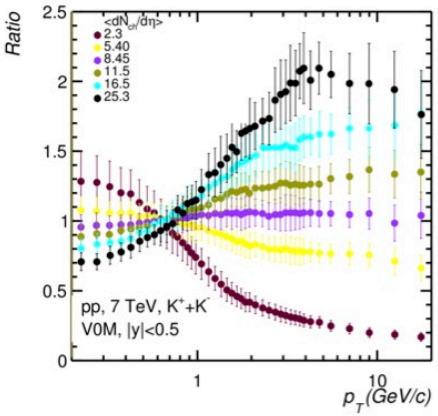
$$\frac{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta) >]^{(\%bin)}}{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta >]^{(p+p)^{MB}}}$$

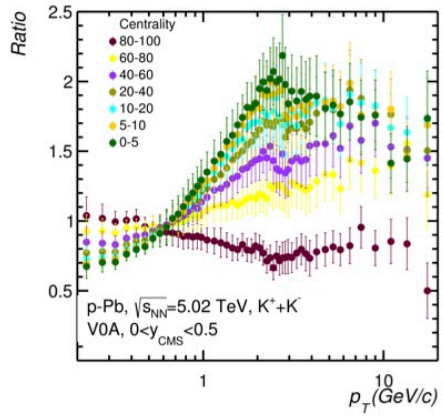
Normalized p_T distributions relative to MB pp as a fuction of charged particle multiplicity-centrality for pp (7 TEV), p-Pb (5.02 TeV) and Pb-Pb (2.76 TeV)

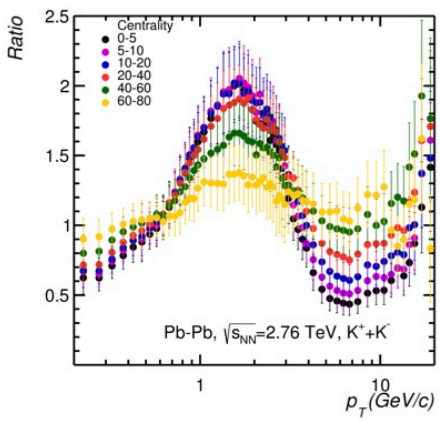


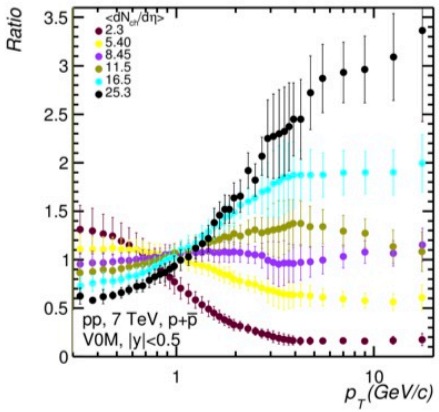


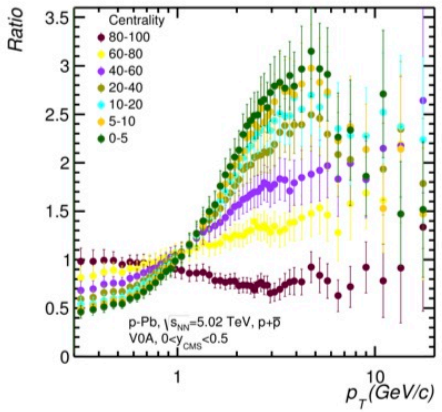


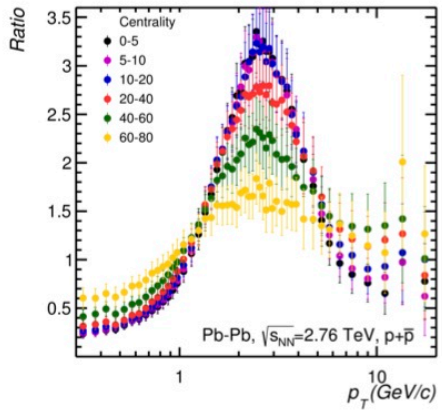












Livio Bianchi for ALICE Collaboration, *Quark Matter 2015* (2015)

V. Vislavicius for ALICE Collaboration, *Quark Matter 2015* (2015)

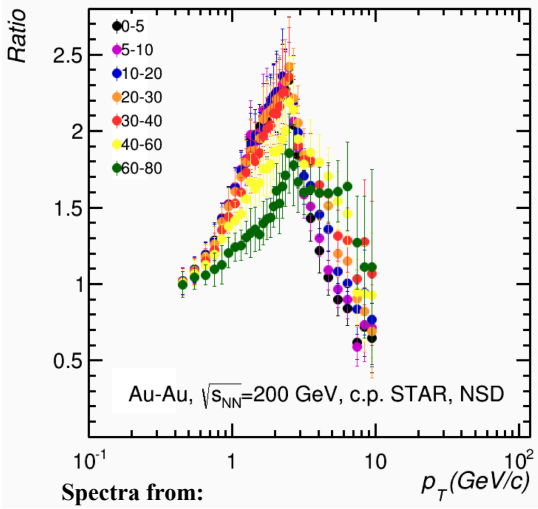
ALICE Collaboration, Phys. Lett. B 760, 720–735 (2016).

J. Adam et al. ,ALICE Collaboration Phys. Rev. C 93, p. 034913 (2016)

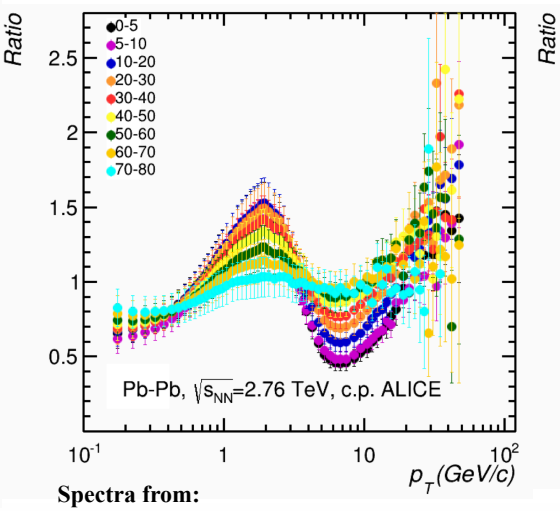
Ratios of normalized charged particles p_T distributions relative to MB pp as a function of charged particle multiplicity-centrality for Au-Au (0.2 TeV), Pb-Pb (2.76 TeV) compared with R_{AA}

$$\frac{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta >]^{(\%bin)}}{[\frac{d^2\sigma}{dydp_T} / < dN_{ch}/d\eta >]^{(p+p)^{MB}}}$$

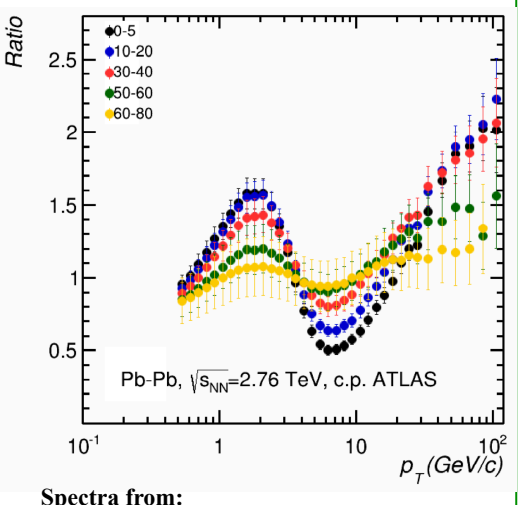
- based only on measured observables



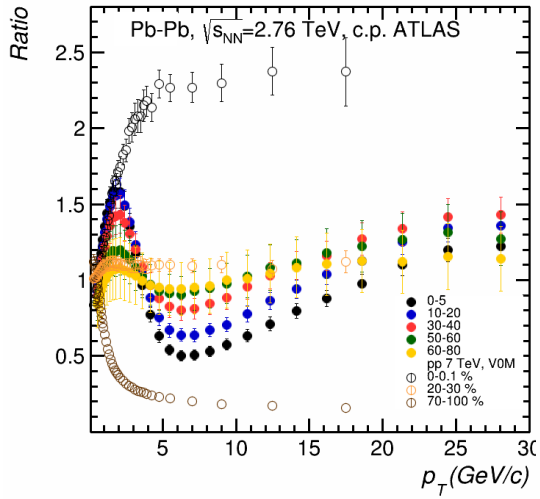
Spectra from:
J.Adams et al., STAR arXiv:[nucl-ex]0305015

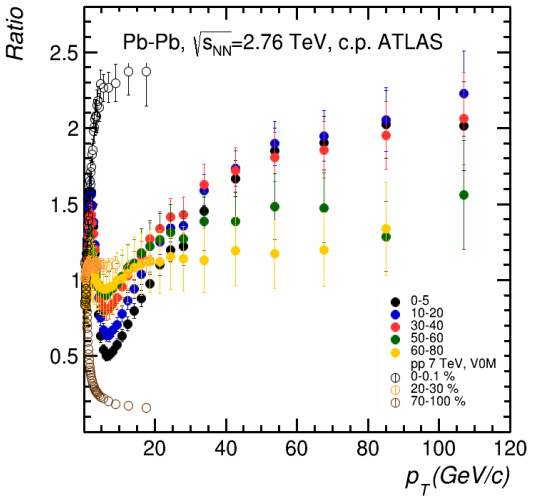


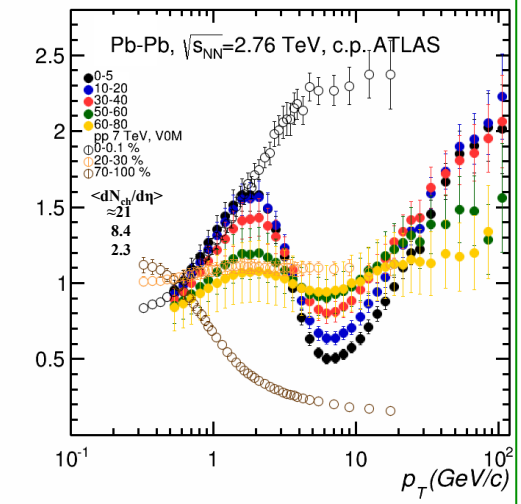
Spectra from:
B.Abelev et al., ALICE Phys.Lett.B720(2013)52



Spectra from:
G.Aad et al., ATLAS arXiv:[hep-ex]1504.04337





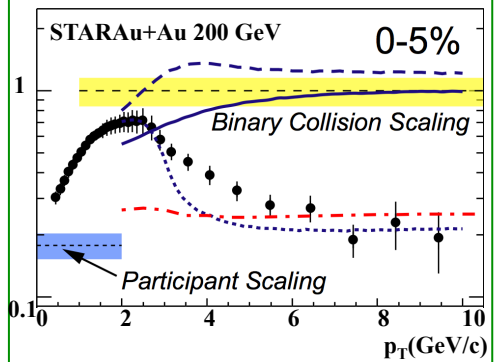


Spectra from:
B.Abelev et al., ALICE Phys.Lett. B720(2013)52

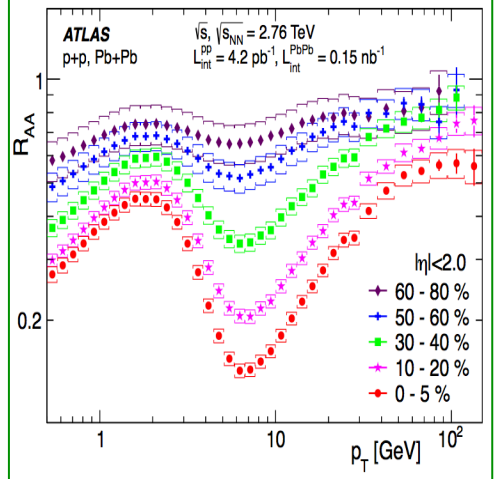
$$R_{\mathrm{AA}} = \frac{1}{\langle T_{\mathrm{AA}} \rangle} \frac{1/N_{\mathrm{evt}}\ \mathrm{d}^2N_{\mathrm{Pb+Pb}}/\mathrm{d}\eta\mathrm{d}p_{\mathrm{T}}}{\mathrm{d}^2\sigma_{pp}/\mathrm{d}\eta\mathrm{d}p_{\mathrm{T}}}$$

- based on Glauber approach

$<T_{AA}>$ - the no. of N–N collisions (Glauber approach) over their cross section



J.LKlay, UCRL-PROC-207407(2004)



G.Aad et al., ATLAS arXiv:[hep-ex]1504.04337

Bjorken energy density - pp at 7 TeV

$$\varepsilon_{Bj} = \frac{dE_T}{dy}\frac{1}{S_T \tau}$$

$$\frac{dE_T}{dy} \approx \frac{3}{2}(< m_T > \frac{dN}{dy})_{\pi^{\pm}} + 2(< m_T > \frac{dN}{dy})_{K^{\pm},p,\bar{p}} \qquad < m_T >= \sqrt{< p_T >^2 + m_0^2}$$

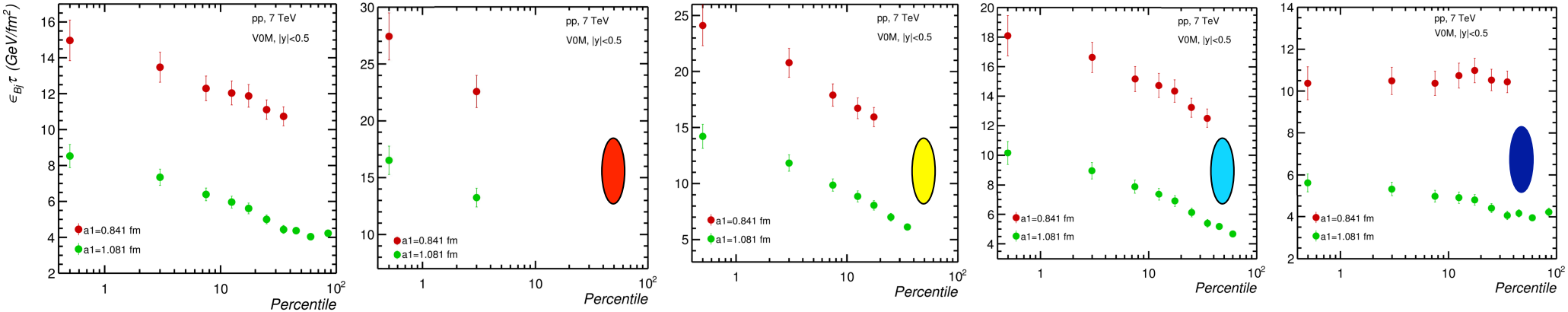
Geometrical overlap for the corresponding r_p

Overlapped zone corresponding r=0.25fm in each of colliding protons

Overlapped zone corresponding to σ_{a2} complementary to r=0.25fm

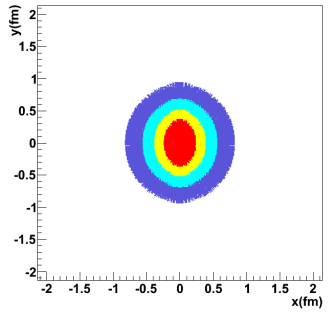
Overlapped zone corresponding to σ_{a1} complementary to σ_{a2}

Overlapped zone corresponding to r_p complementary to σ_{a1}

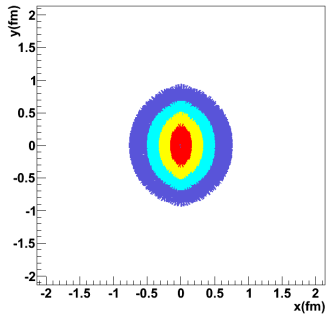


r_p = 0.841 fm

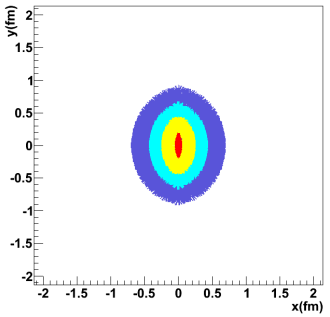
b=0.185 fm



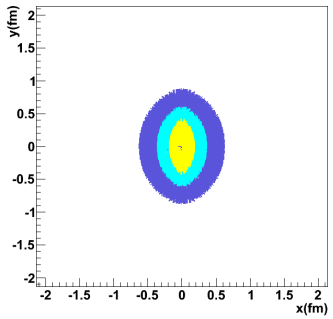
b=0.303 fm



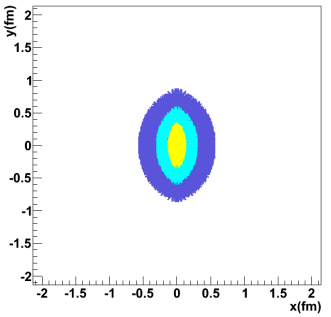
b=0.450 fm



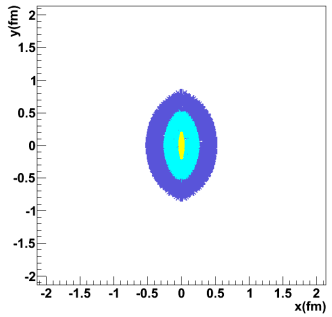
b=0.582 fm



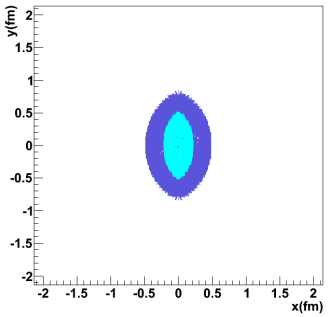
b=0.695 fm



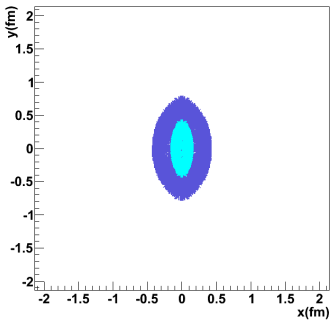
b=0.788 fm



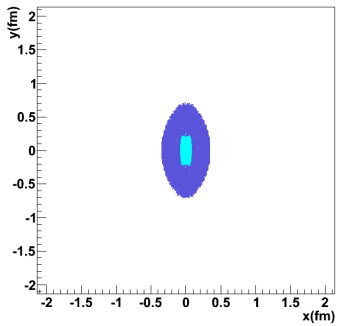
b=0.866 fm



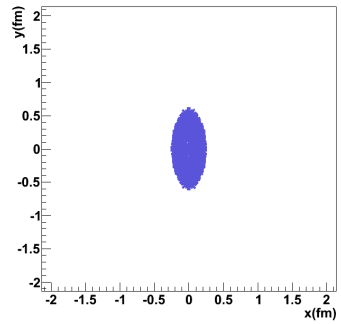
b=0.978 fm



b=1.145 fm

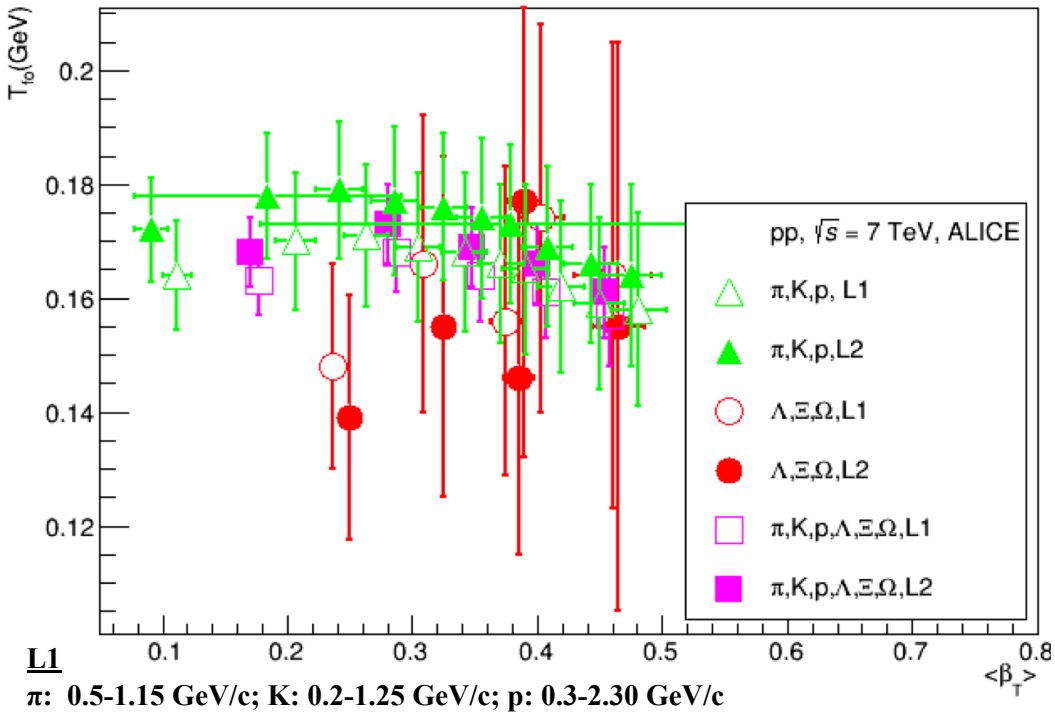


b=1.326 fm

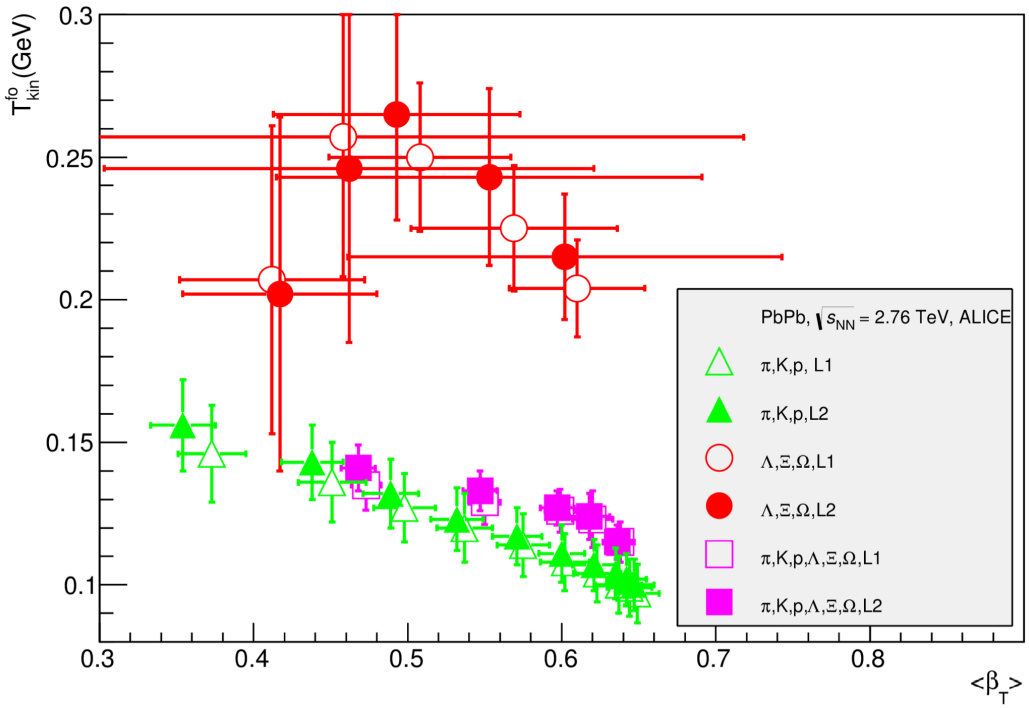


BGBW - fits

pp 7 TeV



Pb-Pb 2.76 TeV



L1

π: 0.5-1.15 GeV/c; K: 0.2-1.25 GeV/c; p: 0.3-2.30 GeV/c
Λ: ≤ 2.75 GeV/c; Ξ: ≤ 3.25 GeV/c ; Ω: ≤ 3.0 GeV/c

L2

π: 0.5-1.35 GeV/c; K: 0.2-1.65 GeV/c; p: 0.3-2.45 GeV/c
Λ: ≤ 2.50 GeV/c; Ξ: ≤ 2.70 GeV/c ; Ω: ≤ 3.40 GeV/c

Core-Corona effect (1st order approximation !)

$$M^i(N_{part}) = N_{part}\left[f(N_{core})\cdot M^i_{core} + (1-f(N_{core}))\cdot M^i_{corona}\right]$$

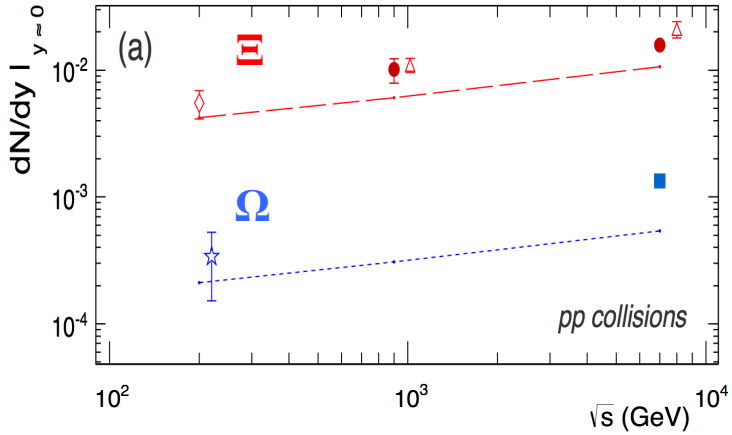
$$M^i_{corona} = \frac{1}{2}\frac{dn^i}{dy}\Big|^{pp}_{y=0}$$ - *taken from pp 7 TeV !!!*

$$M^i_{core} = \frac{1}{N_{part}\cdot f(N_{core})}\left\{\frac{dn^i}{dy}\Big|_{60-80\%} - (1-f(N_{core})\frac{1}{2}\frac{dn^i}{dy}\Big|^{pp}_{y=0}\right\}$$

$1-f(N_{core})$ - *fraction of nucleons suffering single collisions*

N_{part} *& (1 - f(*N_{core}*)) estimated by Glauber MC*

pp collisions



ALICE Coll. PL 712(2012)309

Pb+Pb collision @ 2.76 TeV

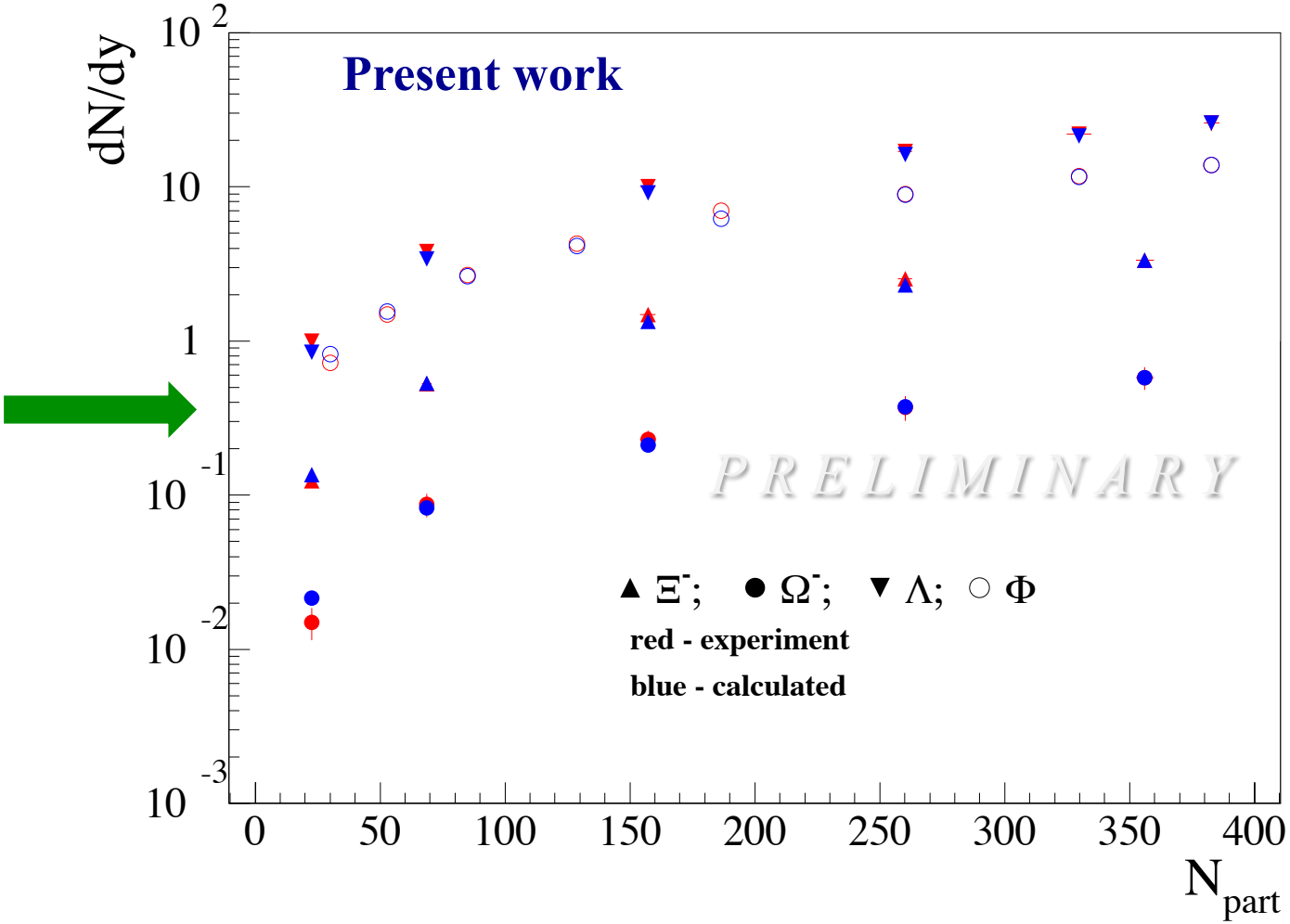
ALICE Coll. PRL 111(2013)222301

		0–5%	5–10%	10–20%	20–40%	40–60%	60–80%	80–90%
Λ	dN/dy	26 ± 3	22 ± 2	17 ± 2	10 ± 1	3.8 ± 0.4	1.0 ± 0.1	0.21 ± 0.03
	$p_T < 0.6$ GeV/c frac.	10%	11%	12%	14%	18%	24%	32%
K^0_S	dN/dy	110 ± 10	90 ± 6	68 ± 5	39 ± 3	14 ± 1	3.9 ± 0.2	0.85 ± 0.09
	$p_T < 0.4$ GeV/c frac.	20%	21%	21%	23%	25%	31%	33%
	Ratio dN/dy Λ/K^0_S	0.24 ± 0.02	0.24 ± 0.02	0.25 ± 0.02	0.25 ± 0.02	0.26 ± 0.03	0.25 ± 0.02	0.25 ± 0.02

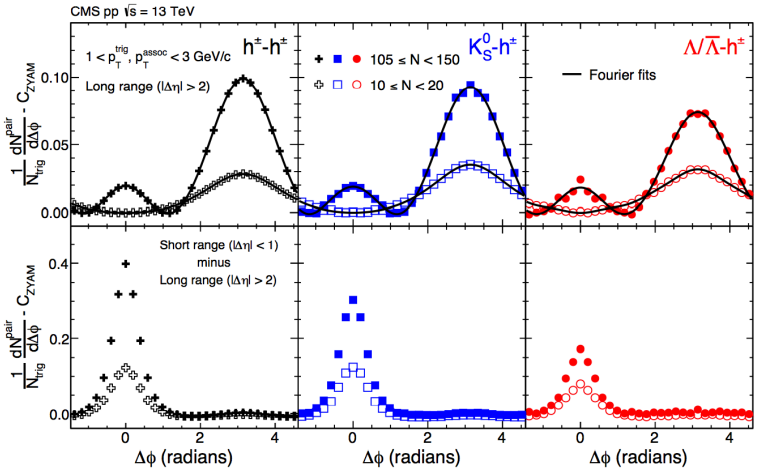
ALICE Coll. PL 728(2014)216

Centrality	0-10%	10-20%	20-40%	40-60%	60-80%
$\langle N_{part}\rangle$	356.1 ± 3.6	260.1 ± 3.9	157.2 ± 3.1	68.6 ± 2.0	22.5 ± 0.8
Ξ^-	$3.34\pm0.06\pm0.24$	$2.53\pm0.04\pm0.18$	$1.49\pm0.02\pm0.11$	$0.53\pm0.01\pm0.04$	$0.124\pm0.003\pm0.009$
$\overline{\Xi}^+$	$3.28\pm0.06\pm0.23$	$2.51\pm0.05\pm0.18$	$1.53\pm0.02\pm0.11$	$0.54\pm0.01\pm0.04$	$0.120\pm0.003\pm0.008$
$\Xi^-+\overline{\Xi}^+$	$6.67\pm0.08\pm0.47$	$5.14\pm0.06\pm0.36$	$3.03\pm0.03\pm0.22$	$1.07\pm0.01\pm0.08$	$0.240\pm0.006\pm0.019$
Ω^-	$0.58\pm0.04\pm0.09$	$0.37\pm0.03\pm0.06$	$0.23\pm0.01\pm0.03$	$0.087\pm0.005\pm0.014$	$0.015\pm0.002\pm0.003$
$\overline{\Omega}^+$	$0.60\pm0.05\pm0.09$	$0.40\pm0.03\pm0.06$	$0.25\pm0.01\pm0.03$	$0.082\pm0.005\pm0.013$	$0.017\pm0.002\pm0.003$
$\Omega^-+\overline{\Omega}^+$	$1.19\pm0.06\pm0.19$	$0.78\pm0.04\pm0.15$	$0.48\pm0.02\pm0.08$	$0.170\pm0.007\pm0.029$	$0.032\pm0.003\pm0.005$

Core-Corona effect (1st order approximation !)



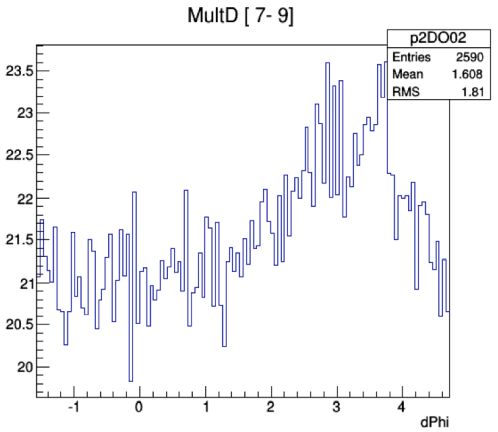
Two particle correlations

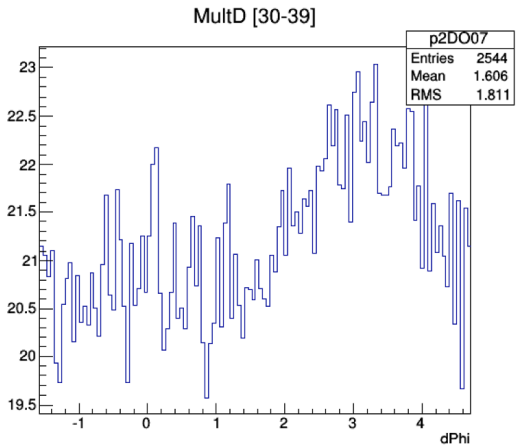


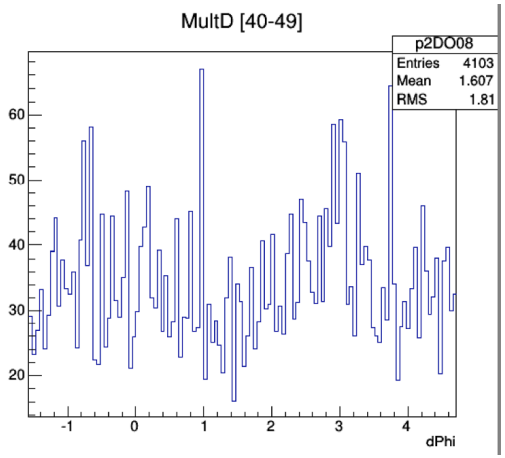
CMS Coll, arXiv:[nucl-ex]1606.06198

Preliminary our analysis

1.25<|Δη|<1.5 (combined multiplicity)





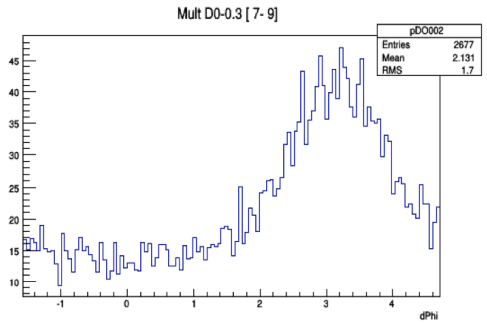


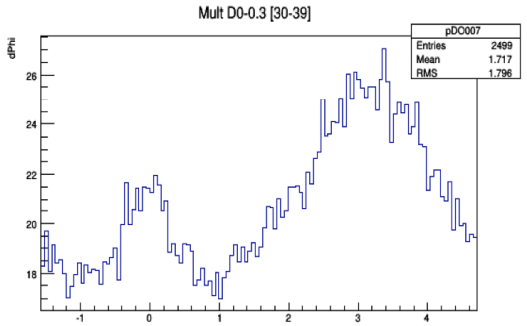
Two particle correlations

Preliminary our analysis

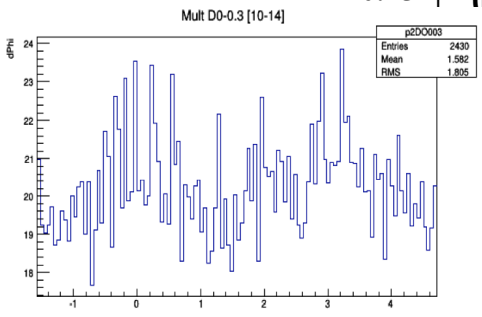
D^+ & D^- <0.3 (combined multiplicity)

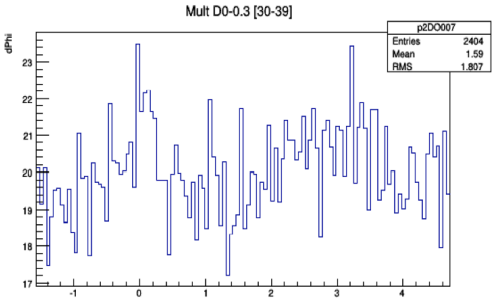
|Δη|<0.25



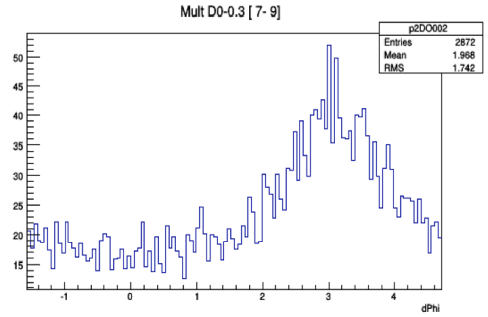


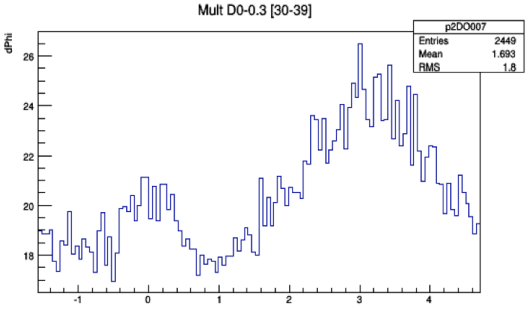
0.75<|Δη|<1.00



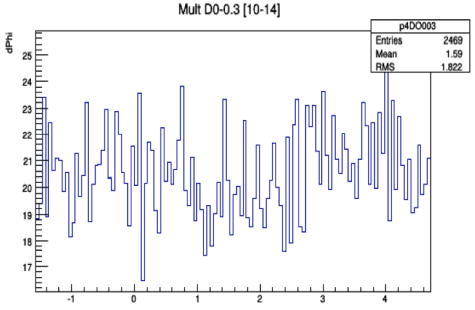


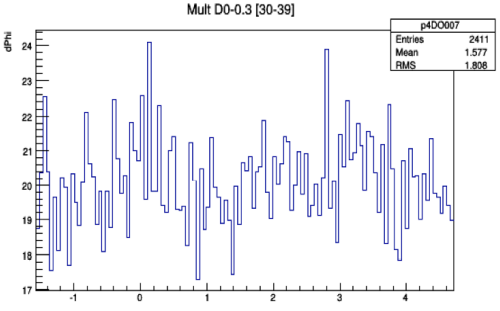
0.25<|Δη|<0.5



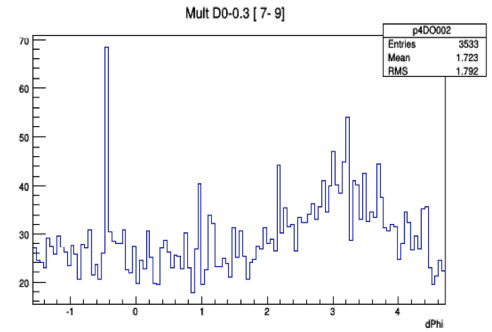


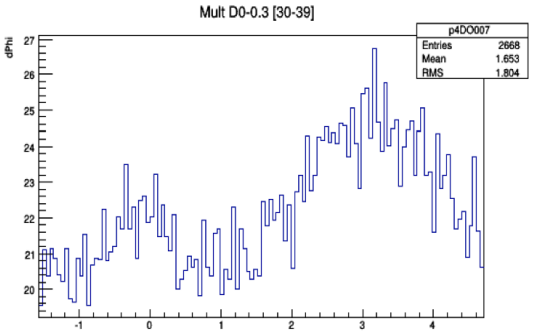
1.00<|Δη|<1.25



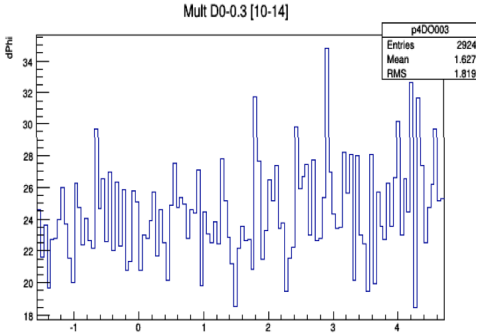


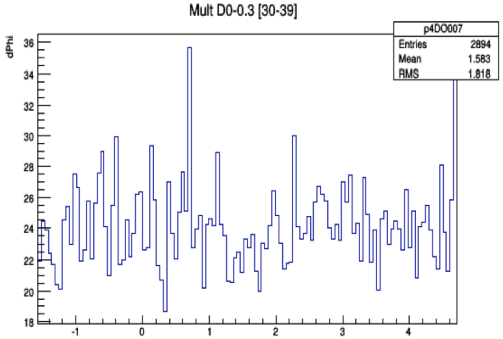
0.5<|Δη|<0.75



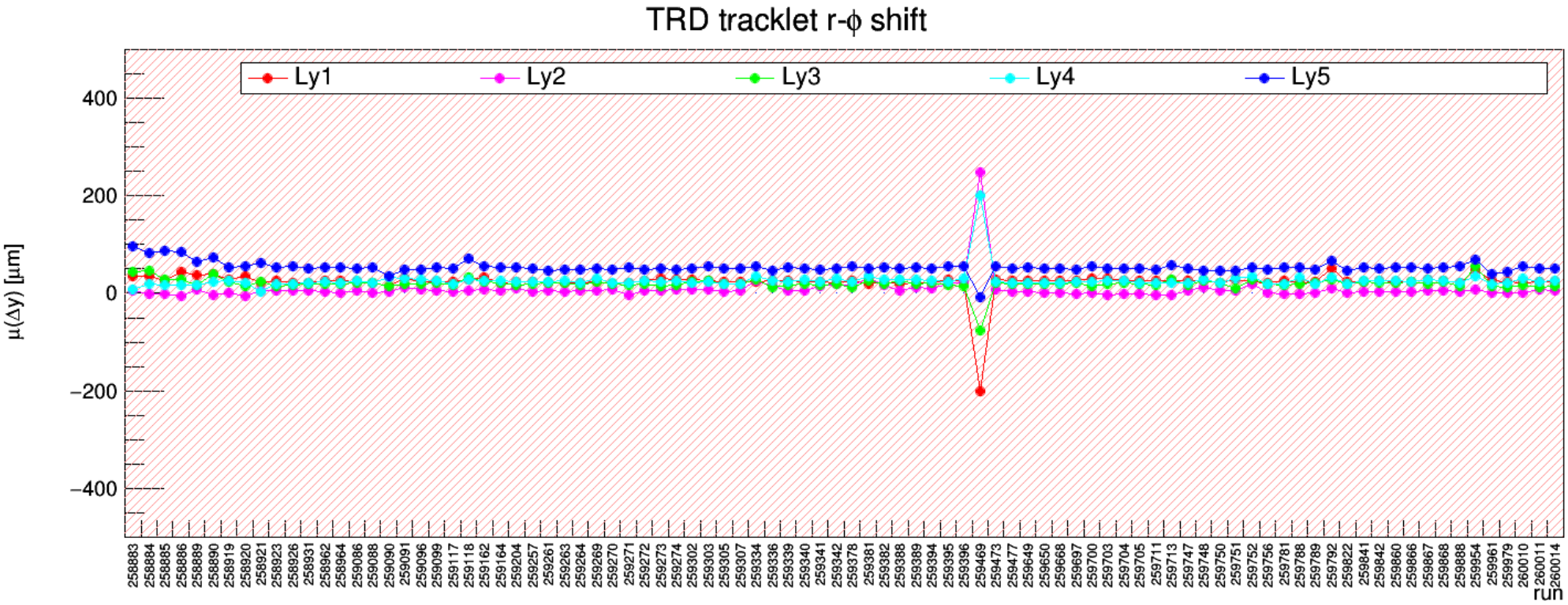


1.25<|Δη|<1.50





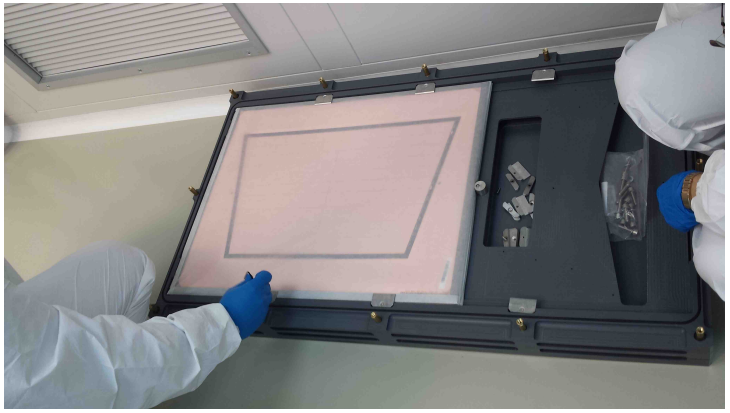
TRD-QA

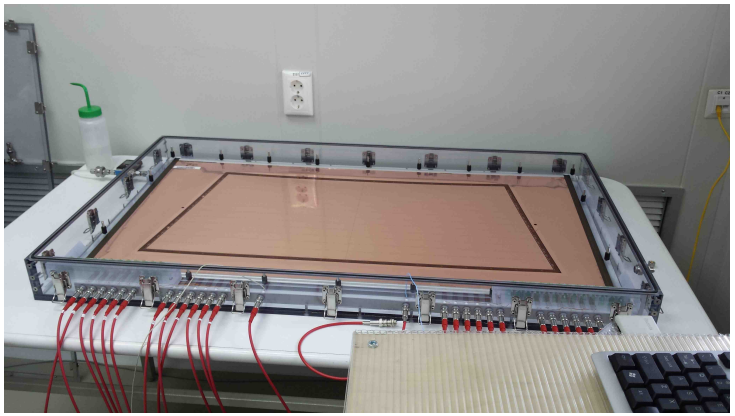


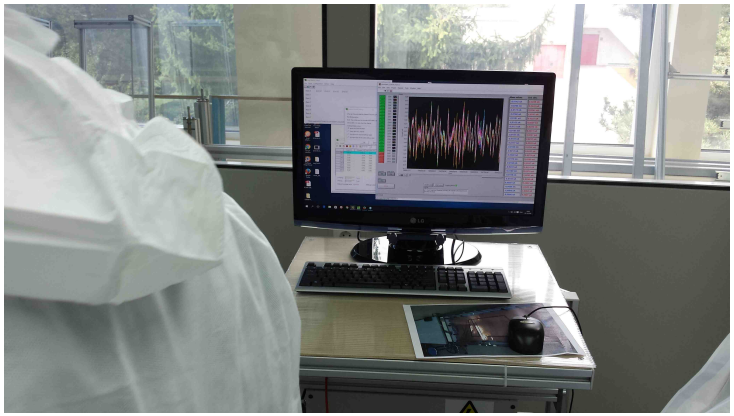
An overview of the TPC-TRD tracklet to track shift in five layers of the ALICE-TRD

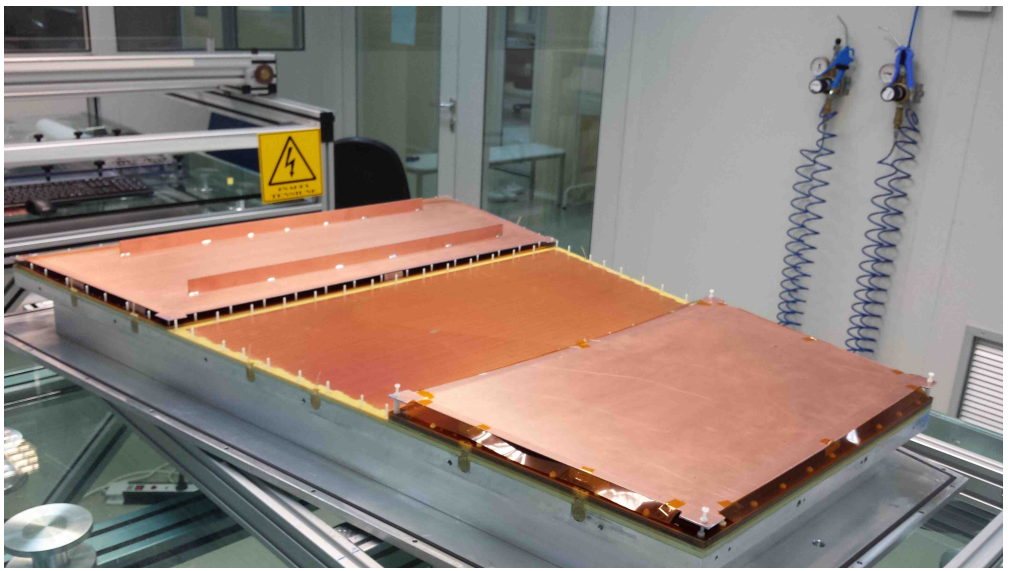
Presentations in 19 TRD weekly meetings

ALICE-TPC Upgrade
HPD – October 5-6





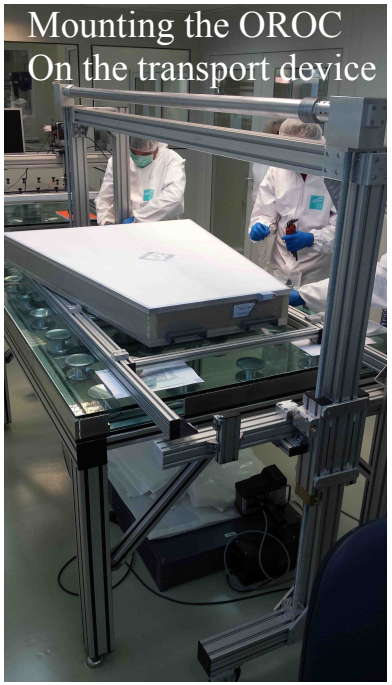




October 12

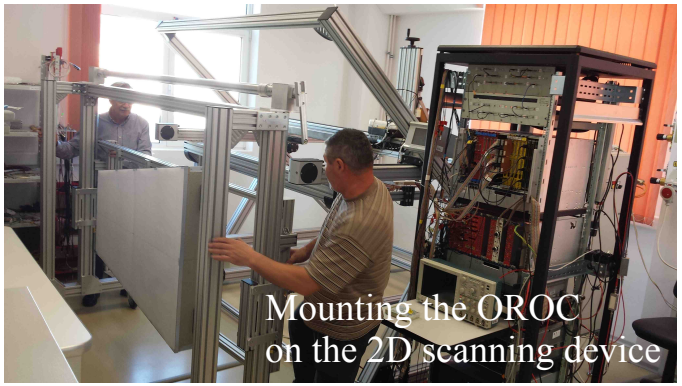

Solder the resistor from the
"burned" segment of the shorted OROC3-G1

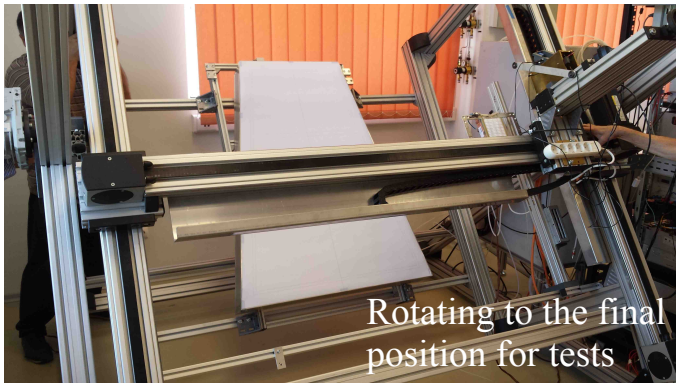
October 13

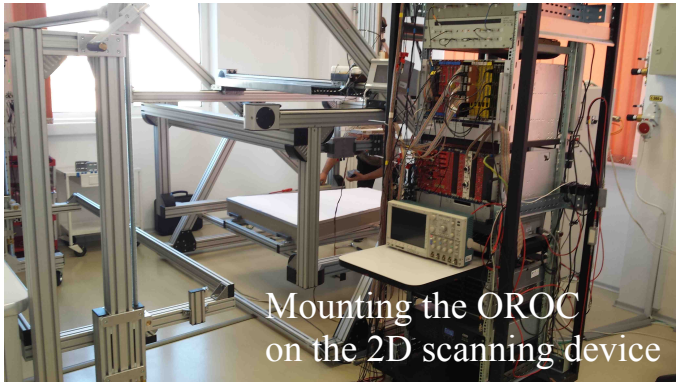


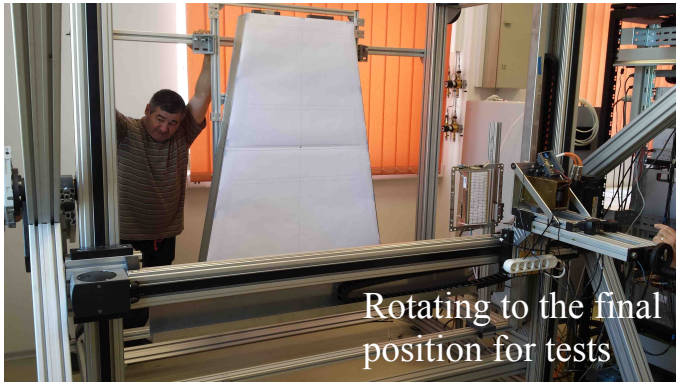
October 13

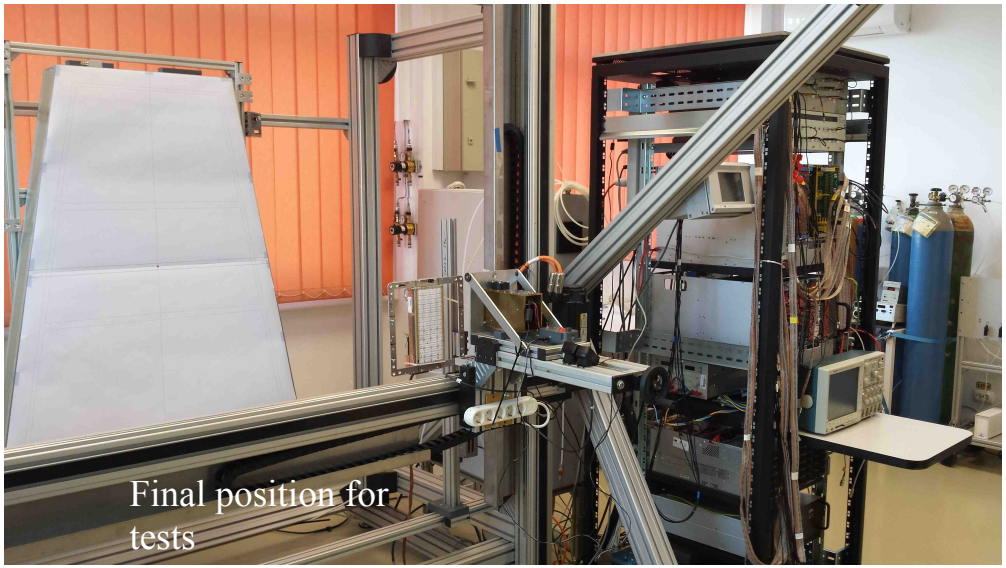

Transporting the OROC
to the TestLab

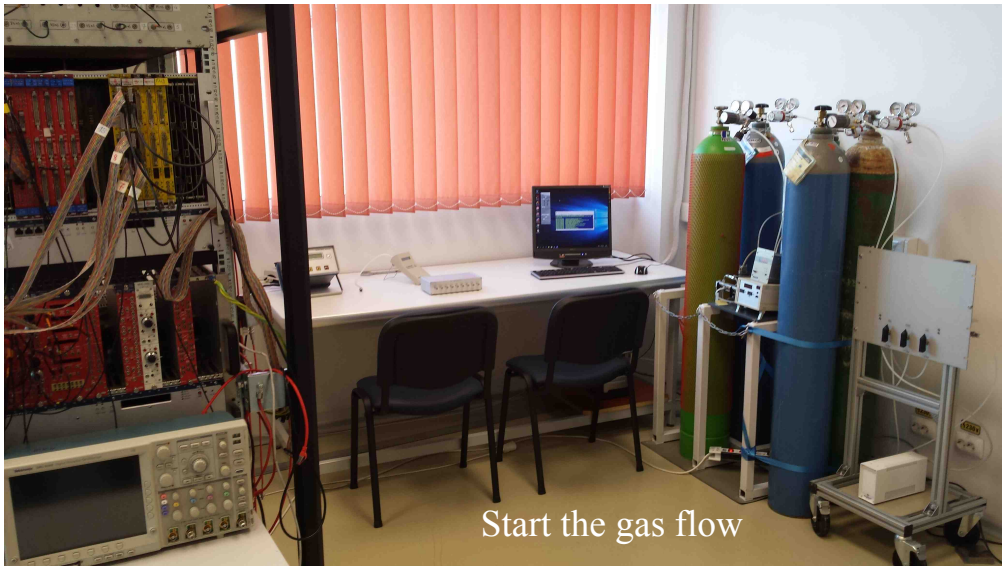

Mounting the OROC
on the 2D scanning device


Rotating to the final
position for tests


Mounting the OROC
on the 2D scanning device

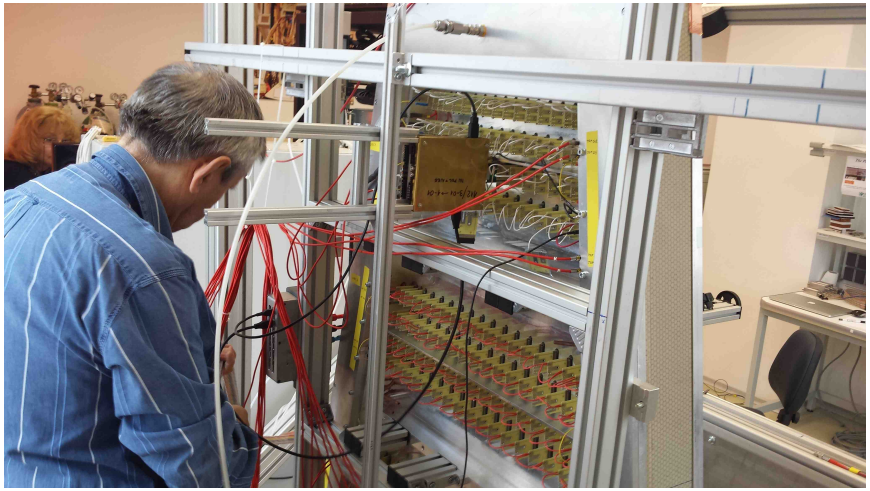

Rotating to the final
position for tests


Final position for
tests

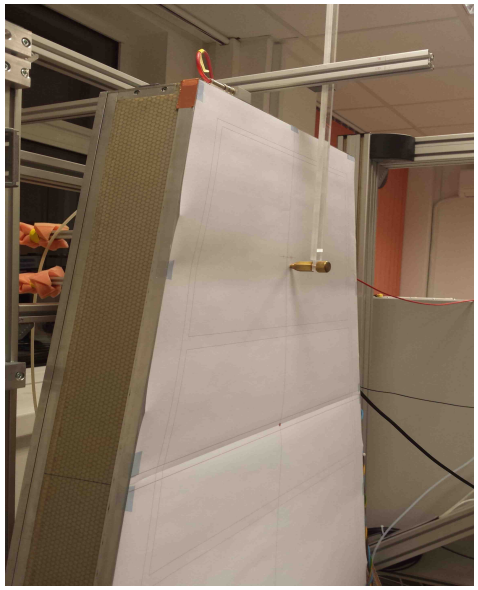

Start the gas flow

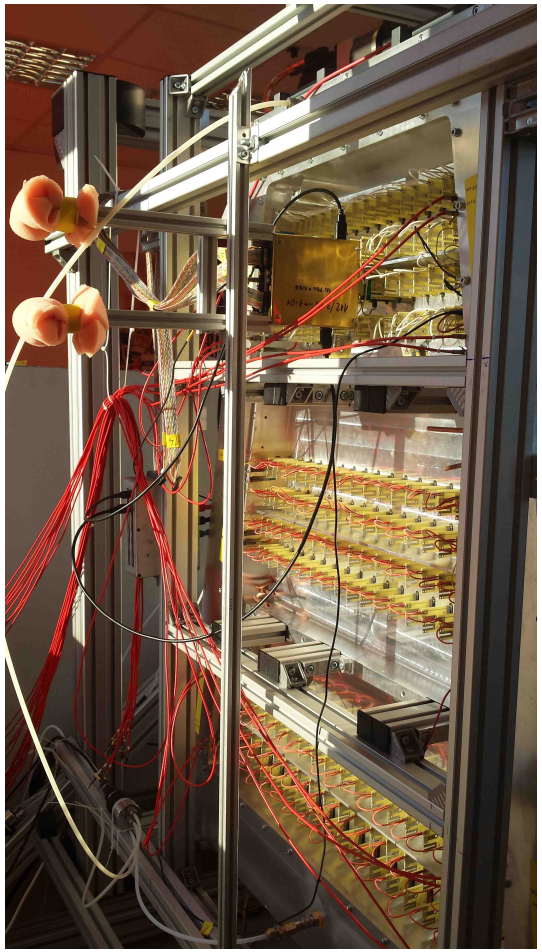
October 17

- *Finalized HV cabling*



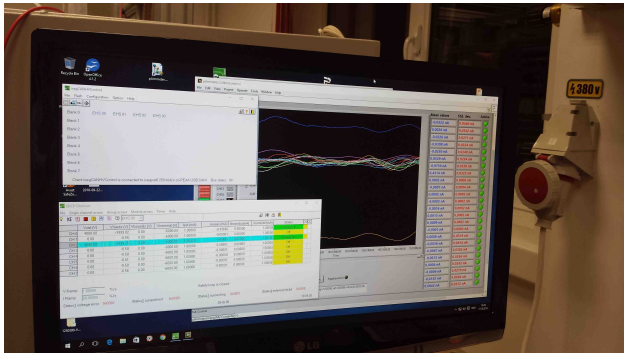
- *Finalized the coupling of FEE - FASP-02*
  (CBM Annual Report p.82 (2014))





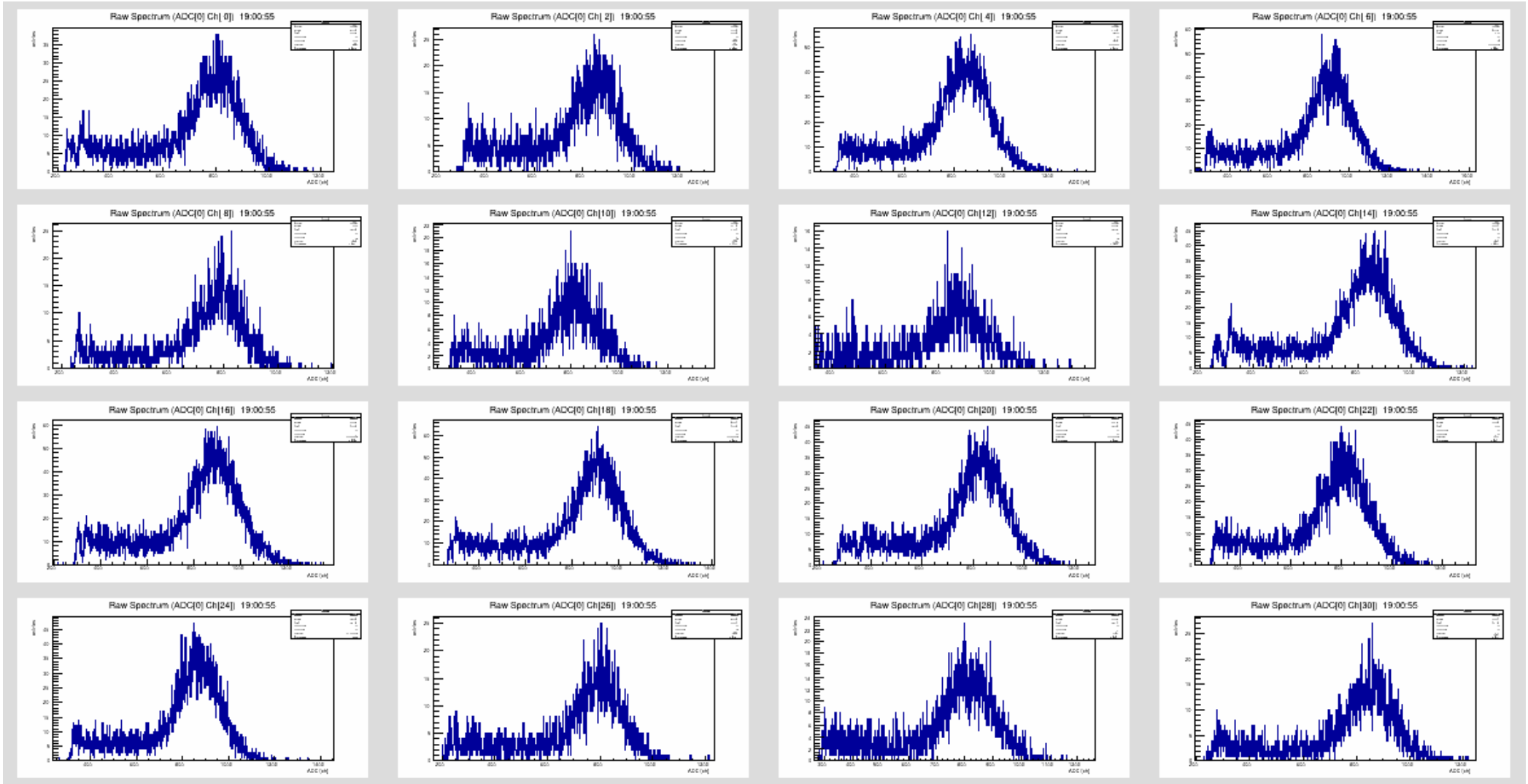
- *Finalized ^{55}Fe holding device*

- *HV conditioning*



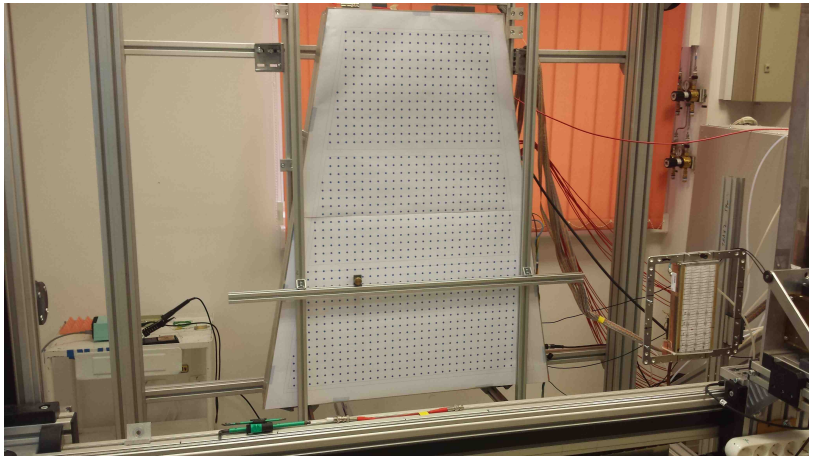
October 18

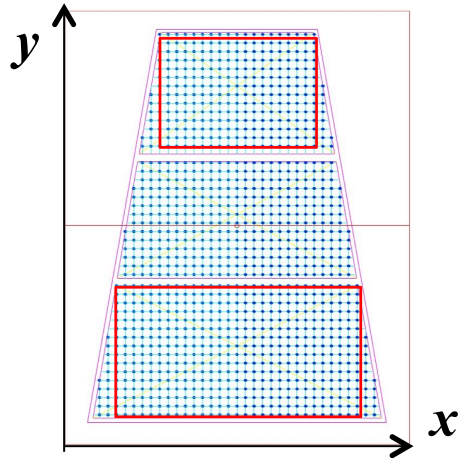
^{55}Fe spectra on 16 OROC3 pads



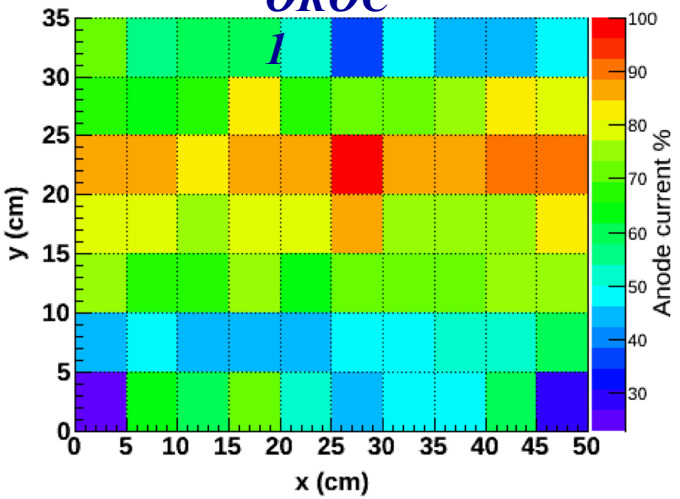
October 19

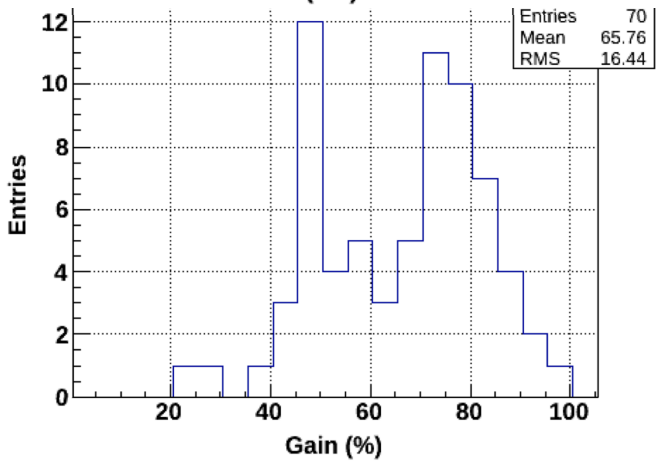
$^{55}Fe\ I_{padplane}$ mapping 5x5 cm^2 grid



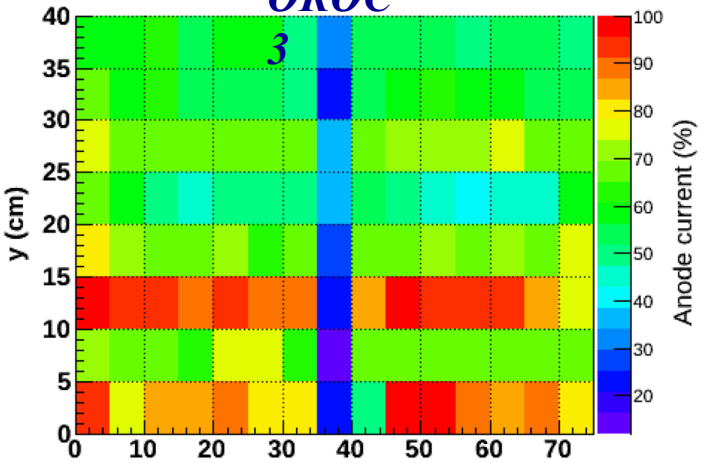


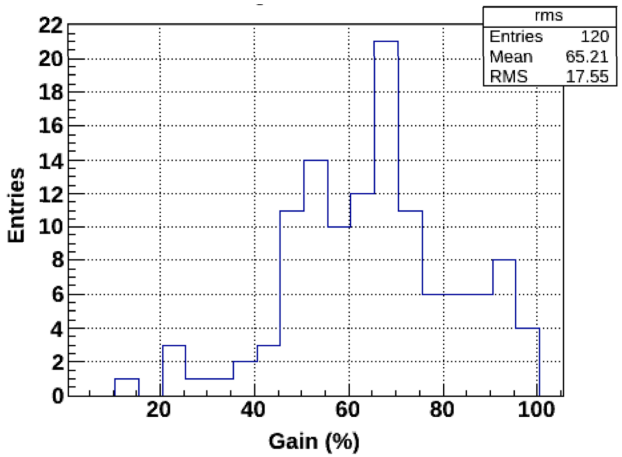
OROC 1





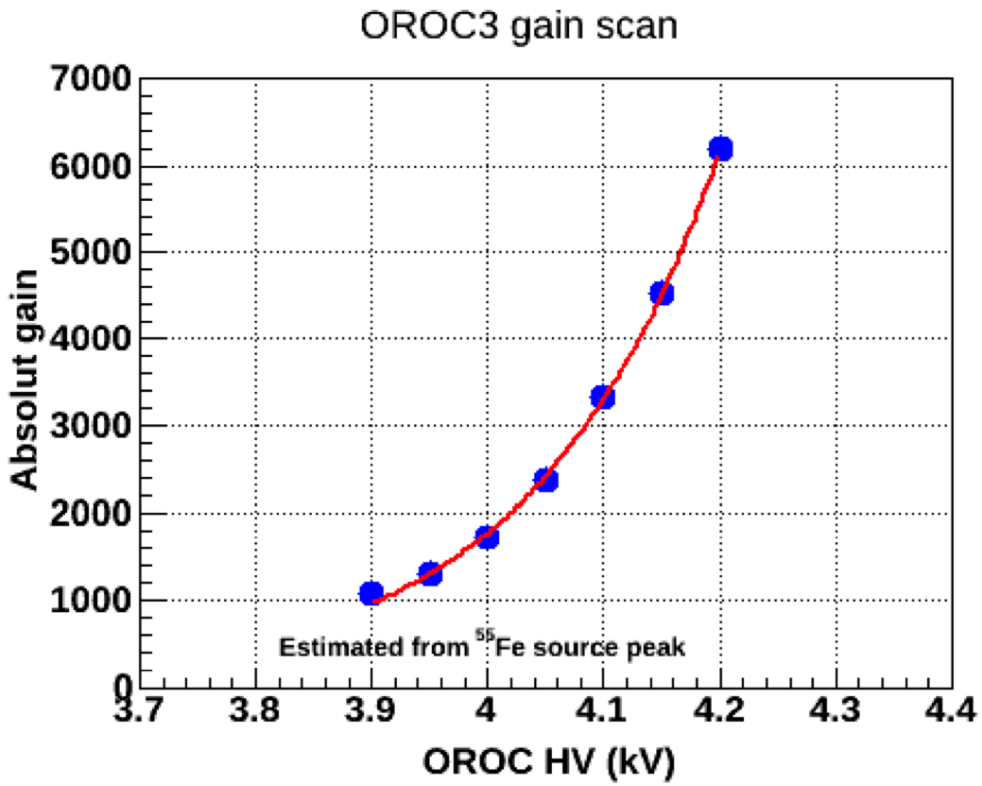
OROC 3

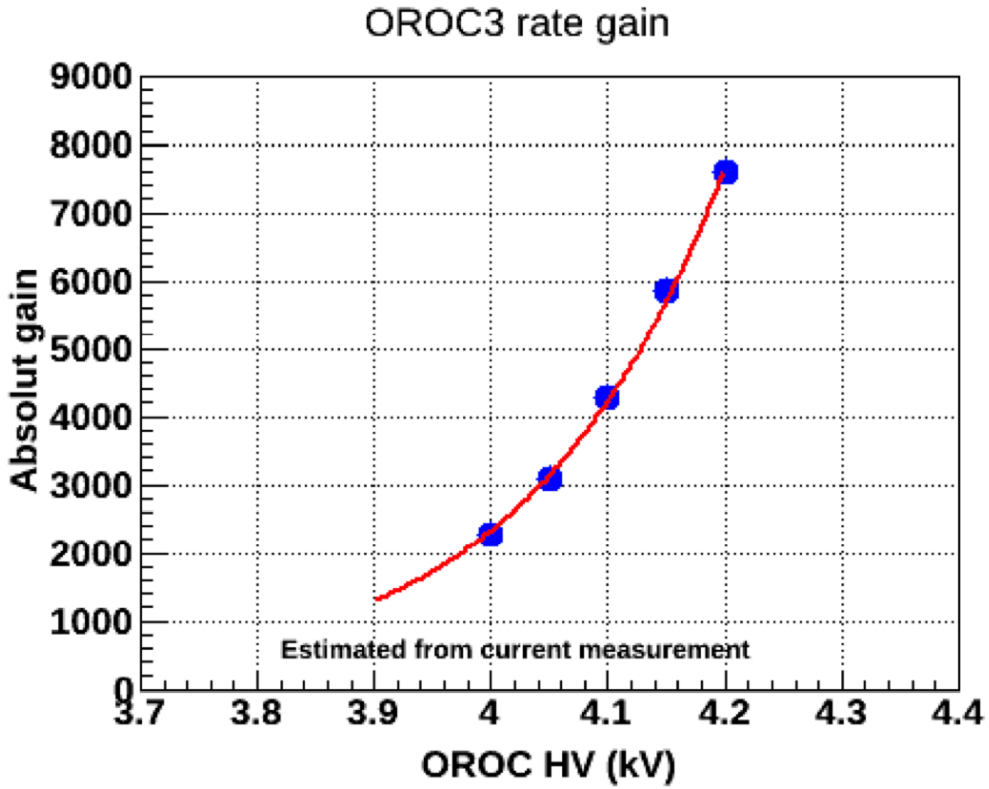




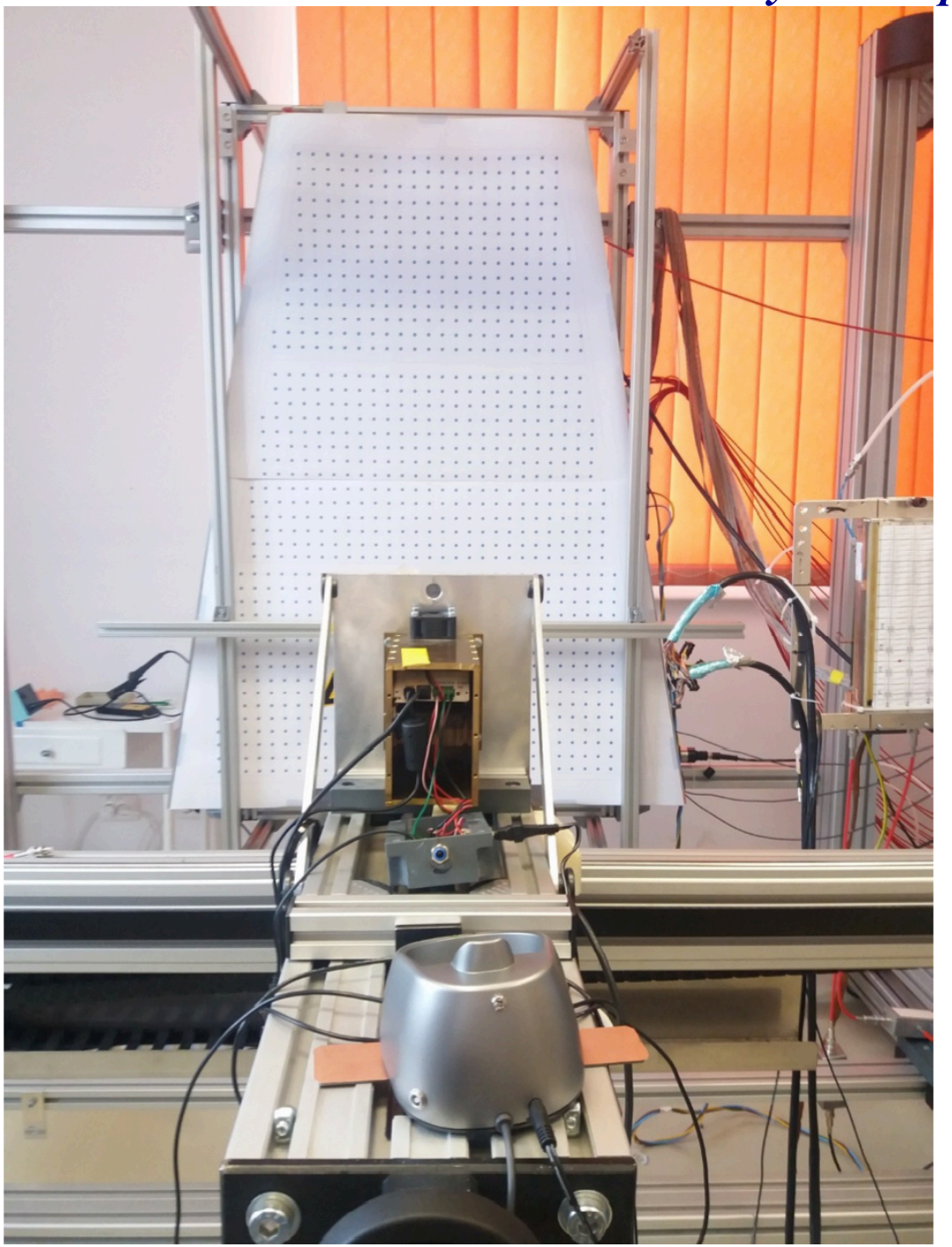
October 19-27

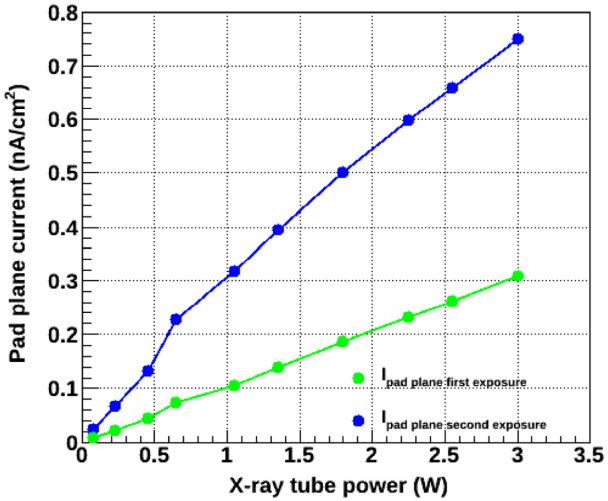
OROC gain scan

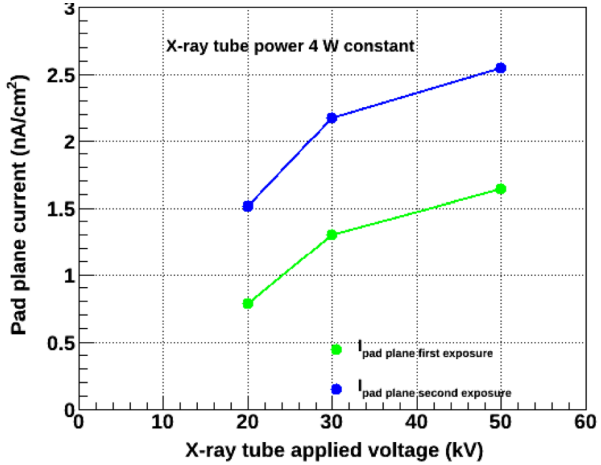


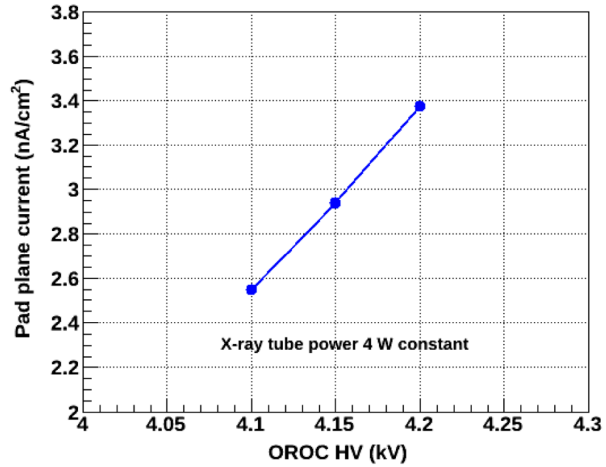


October 19-27
OROC X-ray tube exposure - rate scan

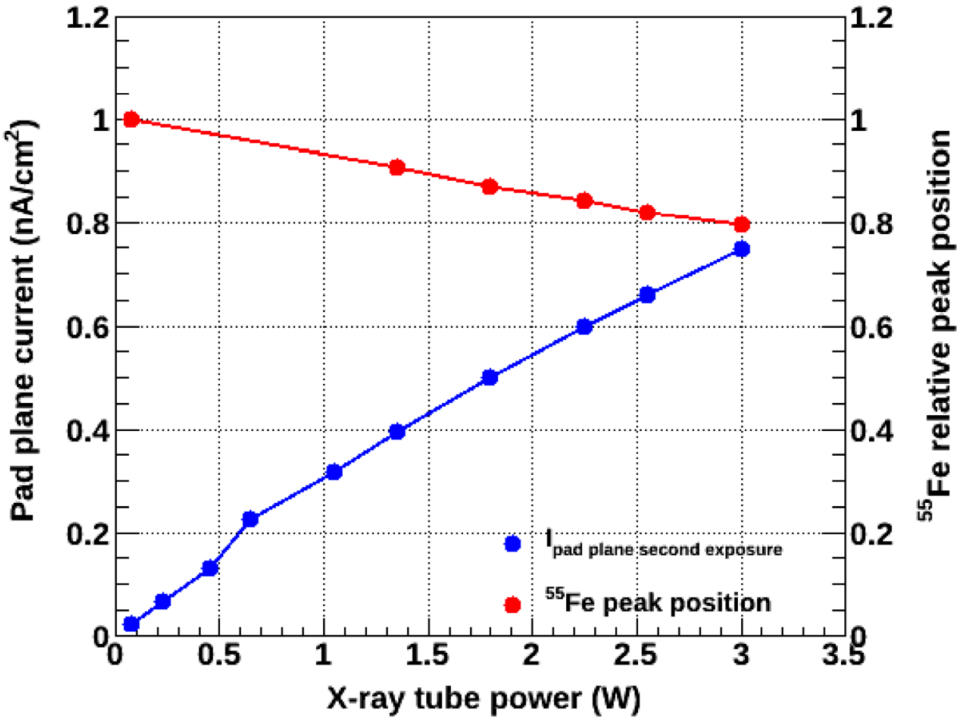


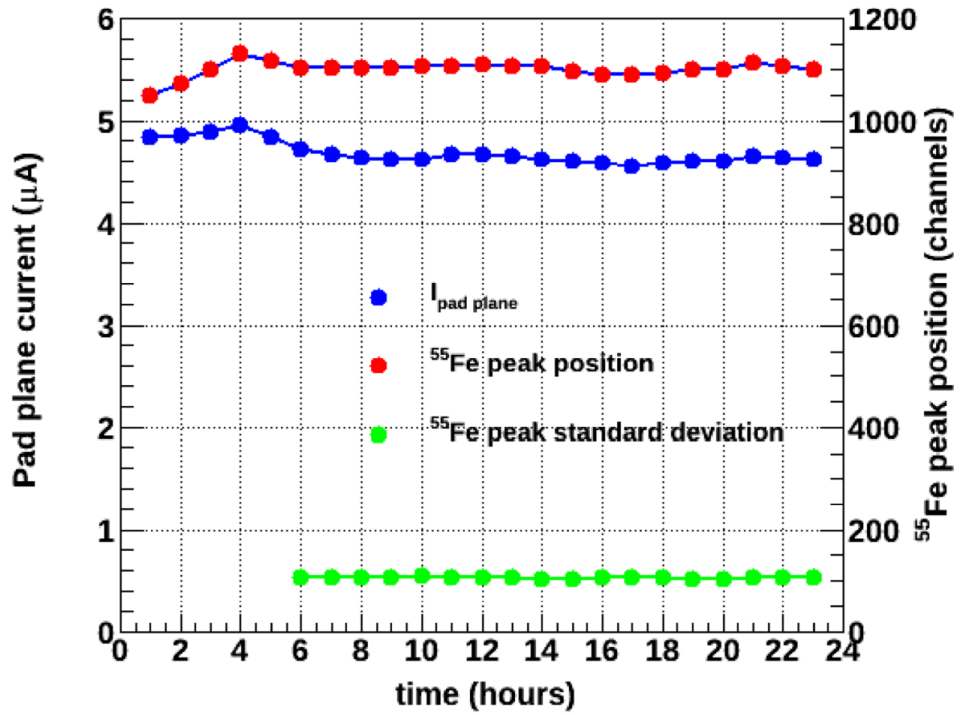




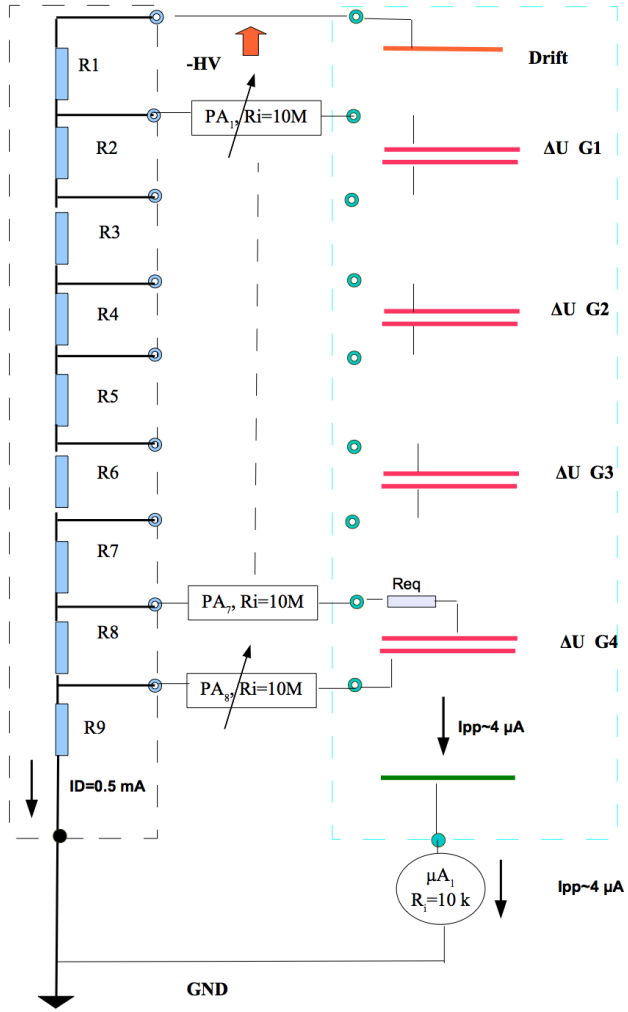


October 19-27
OROC X-ray tube exposure - rate scan

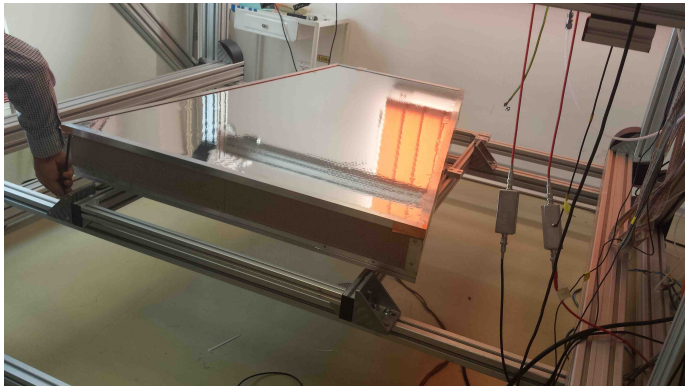


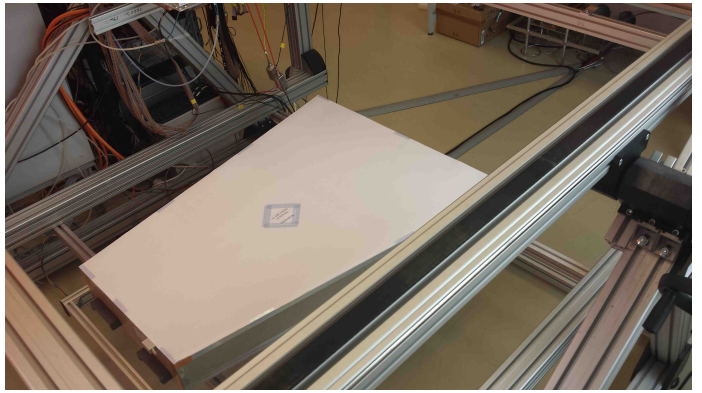


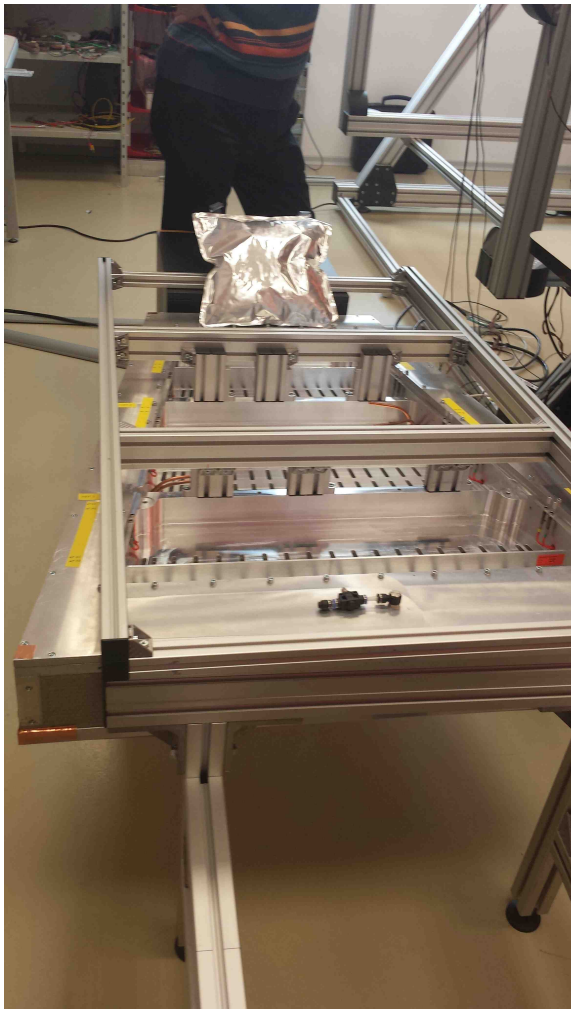
E (V/cm)	D (cm)	ΔU (V)	I (mA)	P (mW)	R (KΩ)	
400	1.1	440	0.5	220	880	R1-Drift
		270	0.5	135	540	R2 - T1
4000	0.2	800	0.5	400	1600	R3
		230	0.5	115	460	R4 - T2
4000	0.2	800	0.5	400	1600	R5
		288	0.5	144	576	R6 – T3
100	0.2	20	0.5	10	40	R7
		359	0.5	179.5	718	R8 – T4
4000	0.2	800	0.5	400	1600	R9– IND



October 28



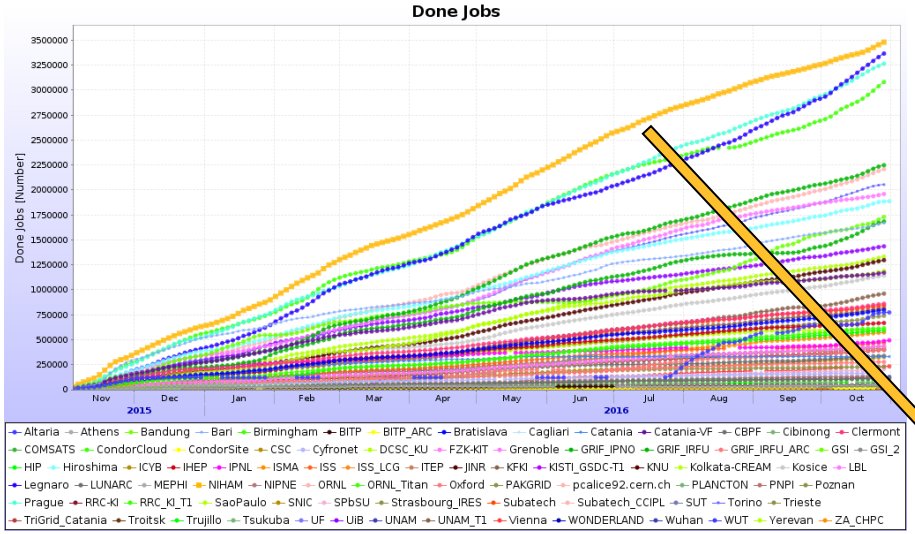


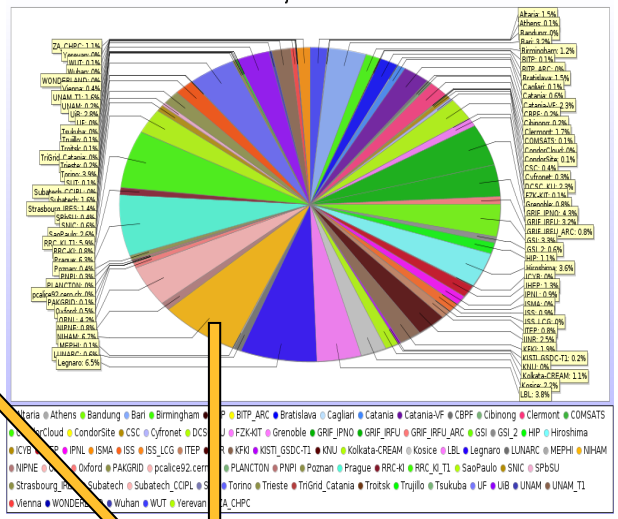


Computing

NIHAM
Tier2 component of ALICE GRID

NAF (Niham Analysis Facility)





Software development for an efficient and flexible local data analysis

Analysis - efficiencies, contaminations multiplicity & event shape - two-particles correlations

6.7% of Tier2 contributions

Papers and talks in the last year

Papers

- Particle identification in ALICE: a Bayesian approach,
  ALICE Collaboration, Eur. Phys. J. Plus 131 (2016) 168.

- Multiplicity dependence of charged pion, kaon, and (anti)proton production at large transverse momentum in p-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV,
  ALICE Collaboration, Phys. Lett. B 760 (2016) 720

- Elliptic flow of electrons from heavy-flavour hadron decays at mid-rapidity in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV,
  ALICE Collaboration,JHEP 09 (2016) 028

- Multiplicity and transverse momentum evolution of charge-dependent correlations in pp, p-Pb, and Pb-Pb collisions at the LHC,
  ALICE Collaboration, Eur. Phys. J. C 76 (2016) 86

- Pseudorapidity dependence of the anisotropic flow of charged particles in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV,
  ALICE Collaboration, arXiv: 1605.02035

- Higher harmonic flow coefficients of identified hadrons in Pb--Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV,
  ALICE Collaboration, arXiv:1606.06057 ; CERN-EP-2016-159

- Jet-like correlations with neutral pion triggers in pp and central Pb-Pb collisions at 2.76 TeV,
  ALICE Collaboration, arXiv:1608.07201; CERN-EP-2016-195

- D-meson production in p–Pb collisions at $\sqrt{s_{NN}}$ =5.02 TeV and in pp collisions at $\sqrt{s}$ =7 TeV,
  ALICE Collaboration, arXiv:1605.07569; CERN-EP-2016-127

- Correlated event-by-event fluctuations of flow harmonics in Pb-Pb collisions at $\sqrt{s_{NN}}$ = 2.76 TeV,
  ALICE Collaboration, arXiv: 1604.07663v1 CERN-EP-2016-102

+ co-authors to 32 ALICE papers

Conferences

- Multiplicity dependence of light flavour hadrons in small systems with the ALICE experiment HQ2016: Hot Quarks 2016 (South Padre Island, TX, USA, 2016-09-12)

- Multiplicity dependence of identified particle production in proton-proton collisions measured with ALICE, XXXVII Encontro Nacional de FÌsica de PartÌculas e Campos (Natal, Rio Grande doNorte, Brasil, 2016-09-03)

- Multiplicity dependence of light flavor hadron production in proton-proton collisions measured with ALICE, XII Quark Confinement and the Hadron Spectrum (Thessaloniki, Greece, 2016-08-29)

- Strangeness and light flavor production as a function of multiplicity in proton-proton collisions measured with ALICE, 38th International Conference on High Energy Physics (Chicago, USA, 2016-08-03)

- Identified particle production in pp collisions at 7 and 13 TeV measured with ALICE Strangeness in Quark Matter 2016 (UC Berkeley, 2016-06-27)

- Multiplicity dependence of light flavour hadrons in small systems with the ALICE experiment at LHC, XV Edizione di IFAE - Incontri di Fisica delle Alte Energie (Genova, 2016-03-30)

- Multiplicity dependence of identified hadrons production in pp collisions at $sqrt_{s}$ = 7 TeV in the ALICE at LHC, The 6th Asian Triangle Heavy-Ion Conference (India International Center, New Delhi, India, 2016-02-15)

- Search for collective phenomena in high multiplicity pp and p-Pb collisions with ALICE, QCD Challenges at the LHC: from pp to AA (Taxco Guerro Mexico, 2016-01-18)

- From pp to AA ultrarelativistic collisions – invited talk,
  M. Petrovici, C. Andrei, I. Berceanu, A. Herghelegiu, A. Pop, M.Tarzila
  CARPATHIAN SUMMER SCHOOL OF PHYSICS 2016
  Exotic Nuclei and Nuclear / Particle Astrophysics (VI). Physics with small accelerators, June 26 - July 09, 2016, Sinaia, Romania

- Multiplicity dependence of identified particle production in pp collisions - Surch for collective phenomena (presentation including results from ALICE, ATLAS and CMS Collaborations)
  Cristian Andrei, LHC days in Split 2016, 19-24 September, Split, Croatia

Papers and talks in the last year

ALICE PAGs and PWG

- Charged hadron pt-spectra versus multiplicity pp 7 TeV, Spectra weekly meeting, 18 January 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Charged particle spectra 7 TeV pp versus mult, SPECTRA Weekly Meeting, 1 February 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Discussion on Spectra Modification, PID Spectra in pp-vs-mult: PC Meeting, 8 February 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop
- Update on charged hadron pT-spectra, SPECTRA Weekly Meeting, 22 February 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Discussion on Spectra Modification, PID Spectra in pp-vs-mult: PC Meeting, 22 February 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop
-Charged hadron pT-spectra versus multiplicity, SPECTRA Weekly Meeting, 29 February 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Discussion on Spectral Shapes and Boost-like Features, PID Spectra in pp-vs-mult: PC Meeting, 19 April 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop
- Update on the Inclusive Charged Analysis, PID Spectra in pp-vs-mult: PC Meeting, 30 August 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Multiplicity dependence of identified particle production in pp collisions (LHC days in Split), ALICE Hard Probes 2016 rehearsals, 16 September 2016, C. Andrei
- Core-corona studies, PID Spectra in pp-vs-mult: PC Meeting, 20 September 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop
- The core-corona approach, PWG-LF meeting, 3 October 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop
- Analysis update: charged particles pp @ 7 TeV, Spectra weekly meeting, 10 October 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
- Unidentified Analysis Update, PID Spectra in pp-vs-mult: PC Meeting, 21 October 2016, A. Herghelegiu, C. Andrei, I. Berceanu, A. Bercuci, M. Petrovici, A. Pop
-Core-corona studies, PID Spectra in pp-vs-mult: PC Meeting, 21 October 2016, M.Petrovici, C. Andrei, I. Berceanu, A. Bercuci, A. Herghelegiu, A. Pop

TPC U&P

- Status in Bucharest, TPC Upgrade planning meeting: pre-production, 4 February 2016, M. Petris, M. Petrovici
- Status in Bucharest, TPC Upgrade plenary meeting, 7 June 2016, M. Petrovici
- In the last period regular presentations in the weekly TPCU&P meetings

TRD-QA

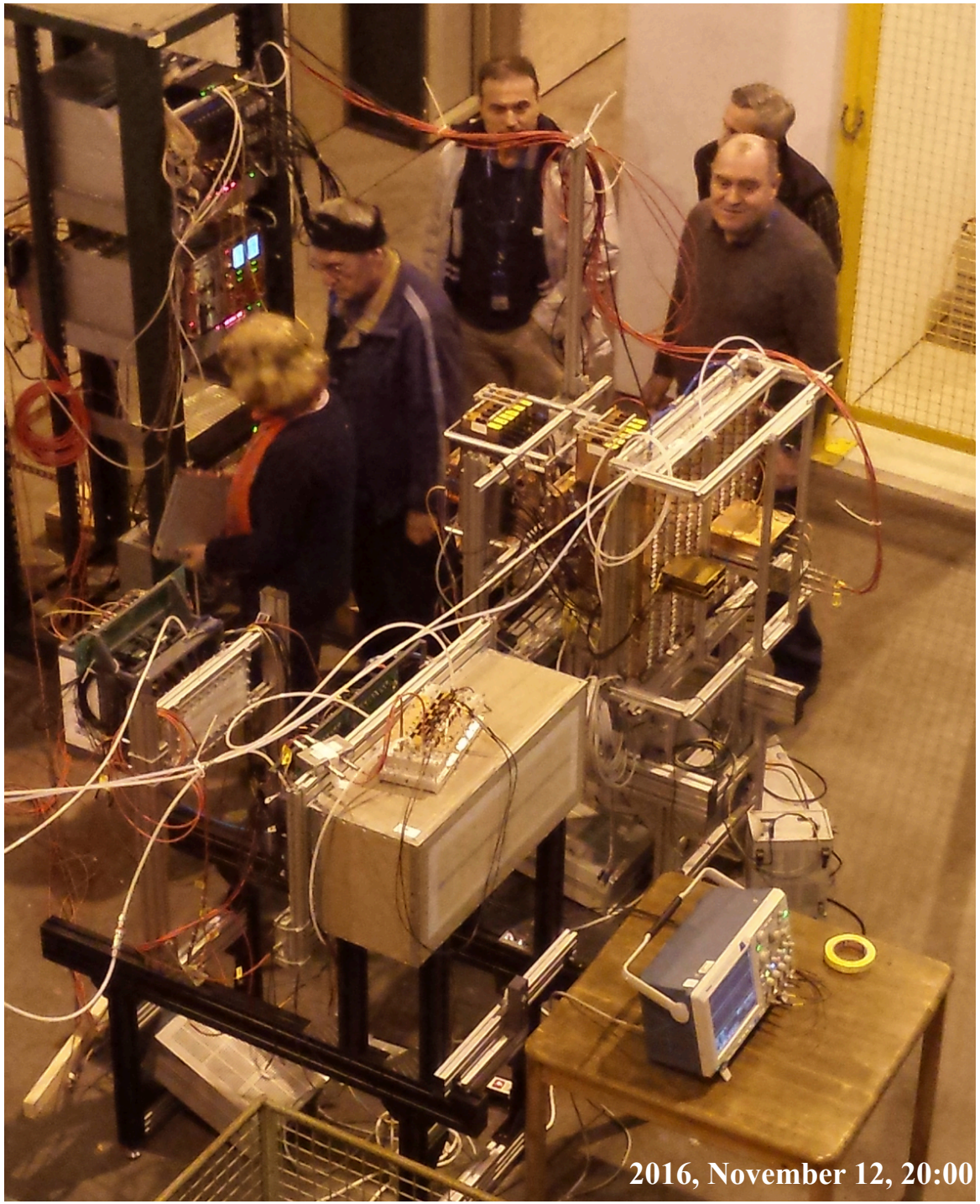
- QA of latest productions, TRD Weekly Meeting, 18 January 2016, M. Tarzila
- TRD, ALICE QA meeting, 19 January 2016, M. Tarzila
- RM Report, RC weekly meeting, 12 April 2016, M. Tarzila
- TRD, ALICE QA meeting, 26 April 2016, M. Tarzila
- TRD, ALICE QA meeting, 3 May 2016, M. Tarzila
- TRD, ALICE QA meeting, 11 May 2016, M. Tarzila
- TRD, ALICE QA meeting, 17 May 2016, M. Tarzila
- Status Report on TRD QA, TRD Weekly Meeting, 27 May 2016, M. Tarzila
- TRD, ALICE QA meeting, 24 May 2016, M. Tarzila
- TRD, ALICE QA meeting, 8 June 2016, M. Tarzila
- TRD, ALICE QA meeting, 14 June 2016, M. Tarzila
- TRD, ALICE QA meeting, 21 June 2016, M. Tarzila
- TRD, ALICE QA meeting, 28 June 2016, M. Tarzila
- TRD, ALICE QA meeting, 5 July 2016, M. Tarzila
- TRD, ALICE QA meeting, 13 July 2016, M. Tarzila
- TRD, ALICE QA meeting, 27 July 2016, M. Tarzila

Further activities


2016, November 2nd


2016, November 2nd


2016, November 10, 10:00 a.m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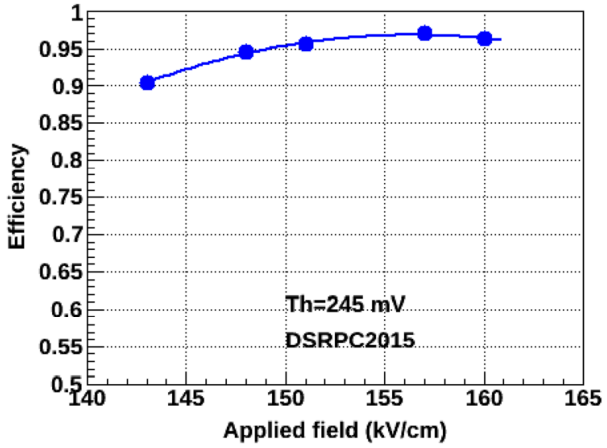
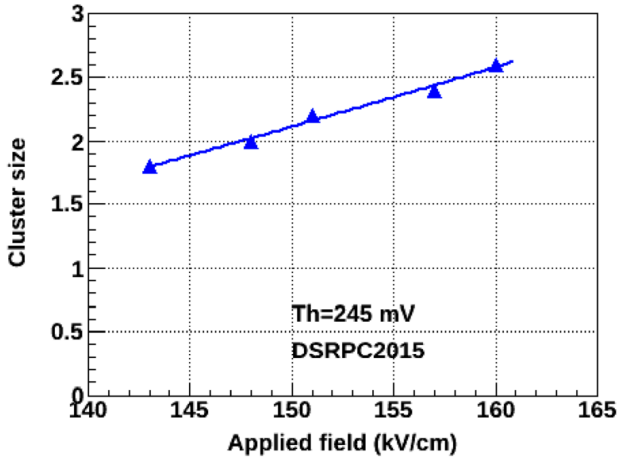
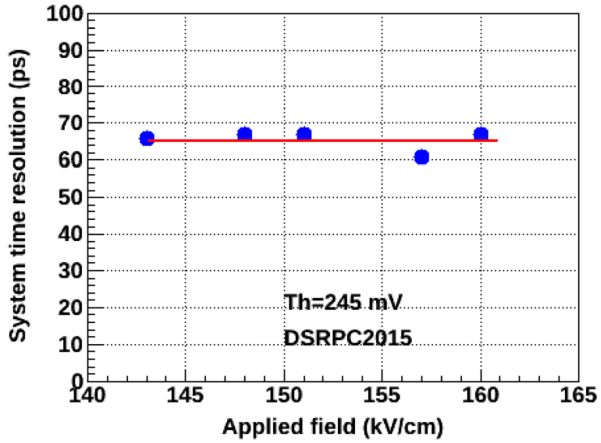
Further activities

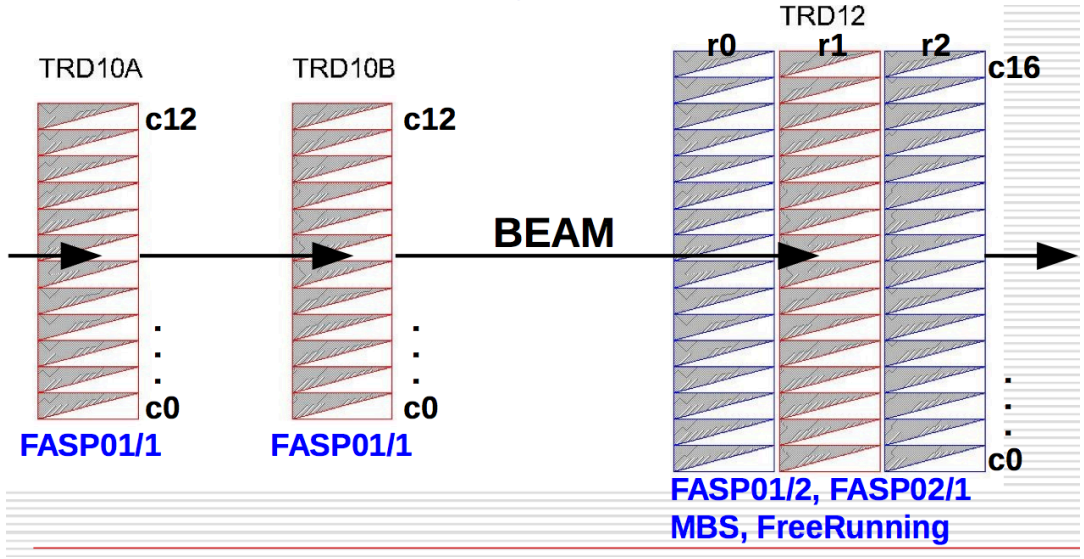
HCRMGMSRPC



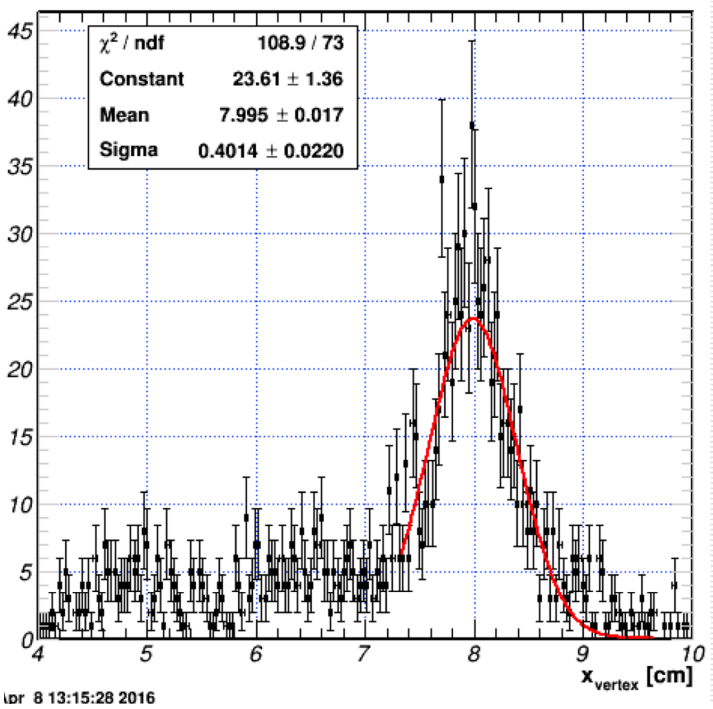




HCRTRD

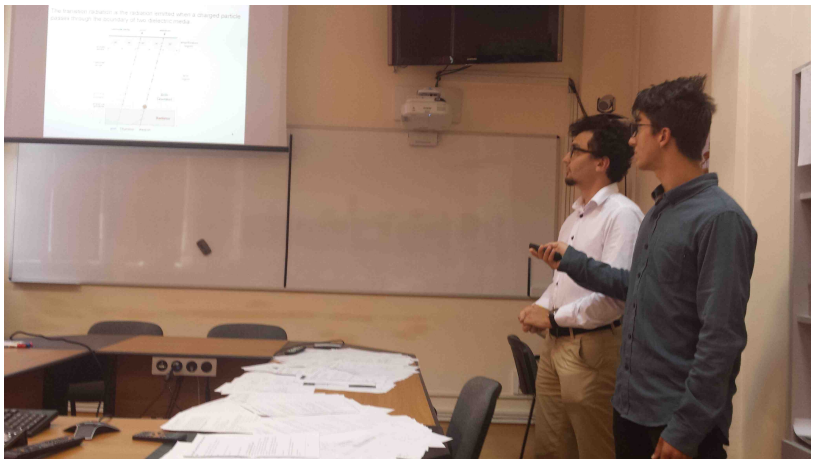


Interaction point reconstruction



Outreach

Summer Student Program



Winners of International Physics Olympiad

Outreach

- *"Engineering Excellence in Basic Research"*
  M. Petrovici, DHBW Mosbach , February 4, 2016

- *ALICE Matters - 31 August 2016*
- *Numerous visits of Romanian and foreign delegations, gymnasium pupils, students of the Romanian Physics Faculties network*

- *Presentation and Posters on the occasion of Romania becoming full member at CERN*

IFIN-HH
Hadron Physics Department

- *Poster at Researchers Night, September 2016*

Scientific objectives for the next year

- Event shape selection based on different event shape global variables

- Detailed studies of the dependence of corrections applied to raw spectra on the event shape global variables and their selection power

- Two particle correlation studies as a function of charged particle multiplicity and event shape

- Substantial statistics will be generated based on HIJING and EPOS models and comparison with experimental results

- Phenomenological estimates of Core-Corona effects in p-p collisions

- Contribution to the detector operation in Run2

- TPC-OROC assembling and tests

- Operating NIHAM data center – component of ALICE GRID at its standard efficiency

- Outreach activities

- Summer Student Program

They are the main actors !