

Comparison of CERN-TB results

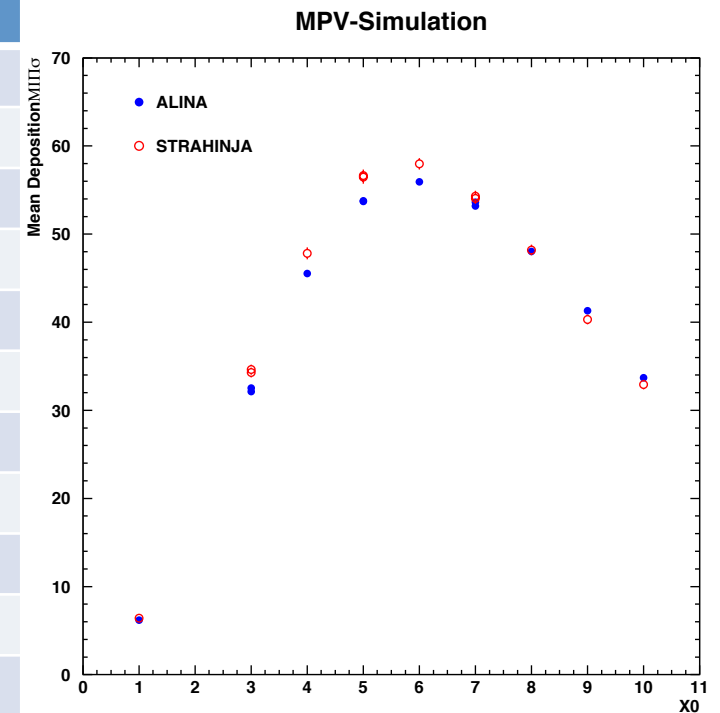
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FCAL –Zeuthen, October 21, 2015

Alina – Strahinja - Simulation

Cn	X ₀	Alina	A-new	Str.	S-new	last
1	1	6.18 ± 0.09	6.38 ± 0.05	6.40 ± 0.18	6.41 ± 0.19	7.61 .24
	3	32.53 ± 0.18	34.16 ± 0.17	34.62 ± 0.58	34.46 ± 0.56	36.35 .52
	5	53.73 ± 0.21	55.46 ± 0.21	56.65 ± 0.69	56.32 ± 0.70	55.99 .29
2	7	53.20 ± 0.18	54.06 ± 0.18	54.29 ± 0.62	53.56 ± 0.63	51.96 .64
	3	32.12 ± 0.18	34.44 ± 0.17	34.29 ± 0.57	35.65 ± 0.58	36.68 2.60
	5	53.78 ± 0.21	56.19 ± 0.20	56.45 ± 0.72	57.79 ± 0.73	56.48 .69
3	7	53.61 ± 0.18	54.34 ± 0.19	54.06 ± 0.62	53.33 ± 0.65	52.14 1.09
	9	41.29 ± 0.16	40.51 ± 0.18	40.32 ± 0.55	38.55 ± 0.53	37.81 1.66
	4	45.53 ± 0.21	48.06 ± 0.20	47.82 ± 0.69	49.22 ± 0.68	48.88 1.89
4	6	55.95 ± 0.19	58.10 ± 0.20	57.97 ± 0.65	58.63 ± 0.69	56.94 .44
	8	48.04 ± 0.17	48.30 ± 0.18	48.19 ± 0.60	48.08 ± 0.63	45.97 1.56
	10	33.71 ± 0.15	33.51 ± 0.15	32.92 ± 0.53	32.02 ± 0.52	30.46 1.66

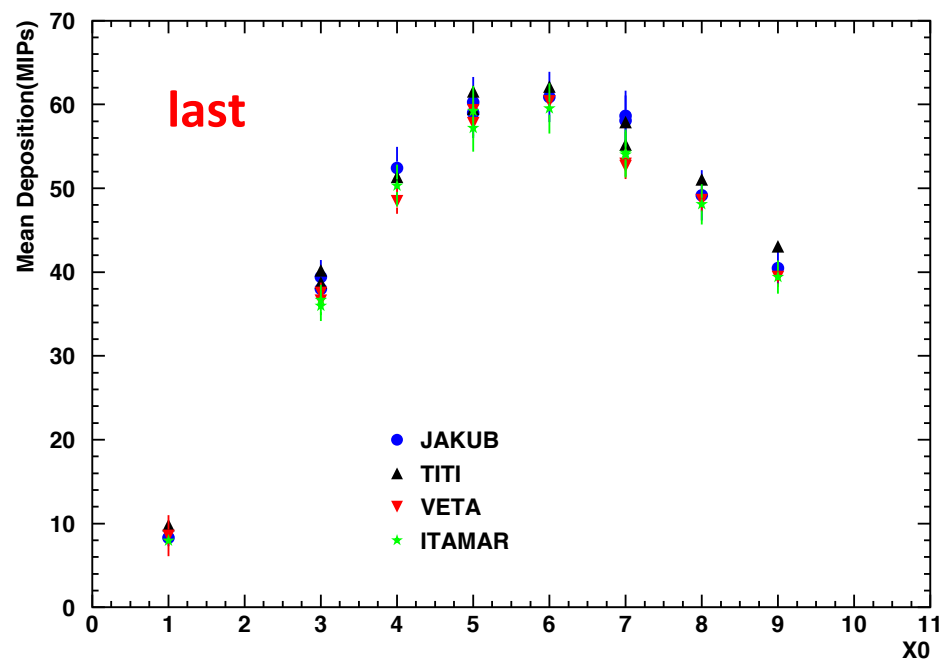


DATA (Titi, Veta, Jakub, Itamar)

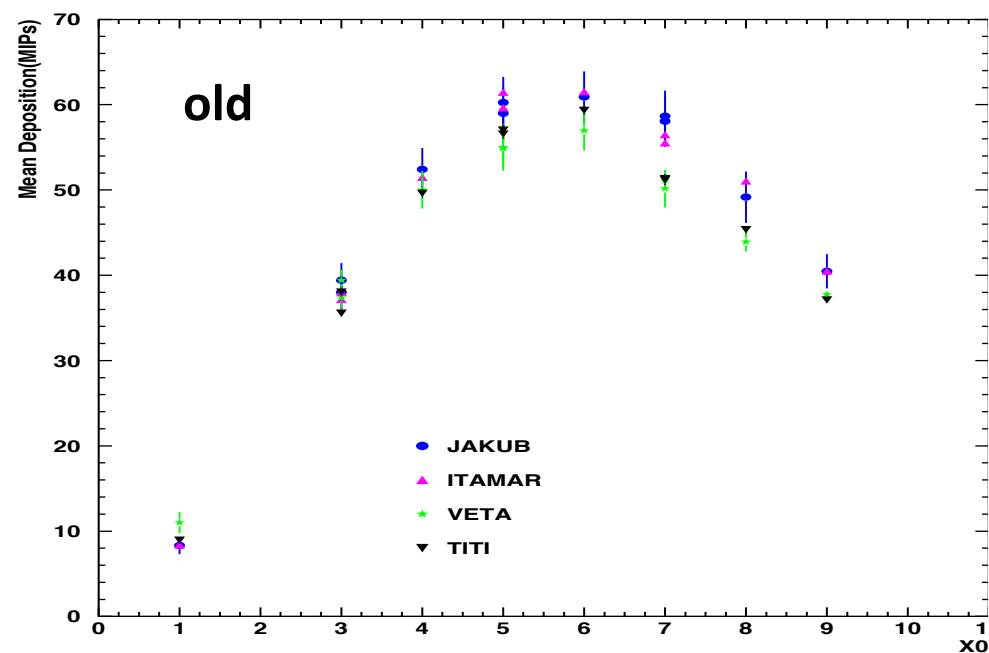
Co	X ₀	Titi	Max	fit	Veta	V-last	Jakub	Itamar	I-new	last
1	1	8.92 ± 0.14	9.71	9.81	11.0 ± 1.24	8.54 2.45	8.31 ± 0.4	8.39 ± 0.06	8.10	7.94
	3	38.03 ± 0.51	39.74	40.21	39.42 ± 1.22	37.52 1.21	39.43 ± 2.0	37.16 ± 0.18	36.33	35.95
	5	57.01 ± 0.67	61.41	61.56	54.85 ± 2.66	59.31 1.23	60.26 ± 3.0	61.47 ± 0.21	59.61	59.23
	7	51.35 ± 0.50	54.50	55.22	50.15 ± 2.20	52.64 0.35	58.08 ± 3.0	55.55 ± 0.18	54.81	54.22
2	3	35.57 ± 0.47	38.22	38.76	37.39 ± 1.29	36.59 0.41	38.01 ± 2.0	38.04 ± 0.20	37.08	36.67
	5	56.56 ± 0.55	60.60	59.47	55.01 ± 2.76	57.77 0.68	59.01 ± 3.0	59.64 ± 0.24	57.62	57.20
8	7	51.18 ± 0.57	57.31	57.90	51.09 ± 0.78	52.91 1.81	58.65 ± 3.0	56.50 ± 0.22	54.42	54.00
	9	37.10 ± 0.41	41.52	43.08	37.74 ± 0.93	39.42 1.18	40.47 ± 2.0	40.51 ± 0.19	39.96	39.41
3	4	49.61 ± 0.49	50.92	51.63	50.03 ± 2.20	48.47 1.51	52.42 ± 2.5	51.48 ± 0.25	50.87	50.32
	6	59.32 ± 0.50	61.92	62.12	56.96 ± 2.32	60.36 0.92	60.91 ± 3.0	61.53 ± 0.24	60.07	59.53
	8	45.34 ± 0.45	50.52	51.04	43.94 ± 1.13	48.61 1.38	49.16 ± 3.0	51.07 ± 0.23	48.50	48.09

DATA (Titi, Veta, Jakub, Itamar)

CERNTB-2014

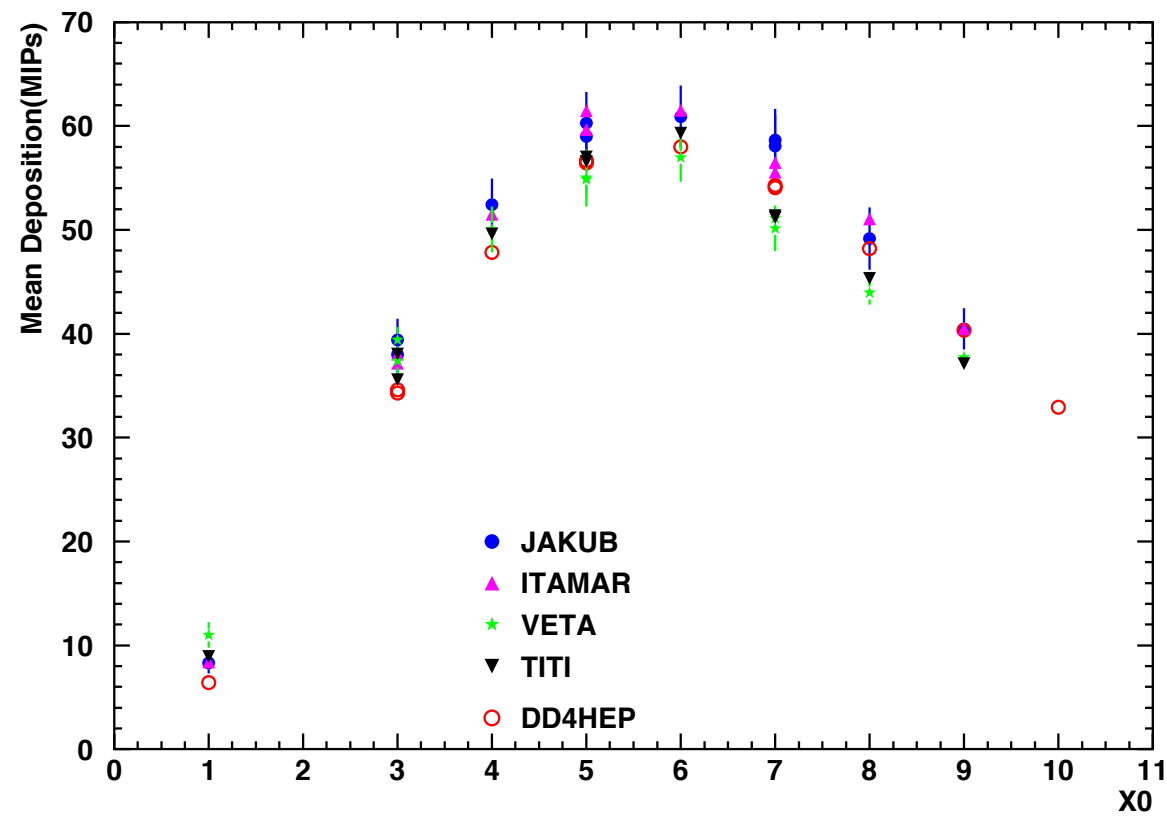


CERNTB-2014



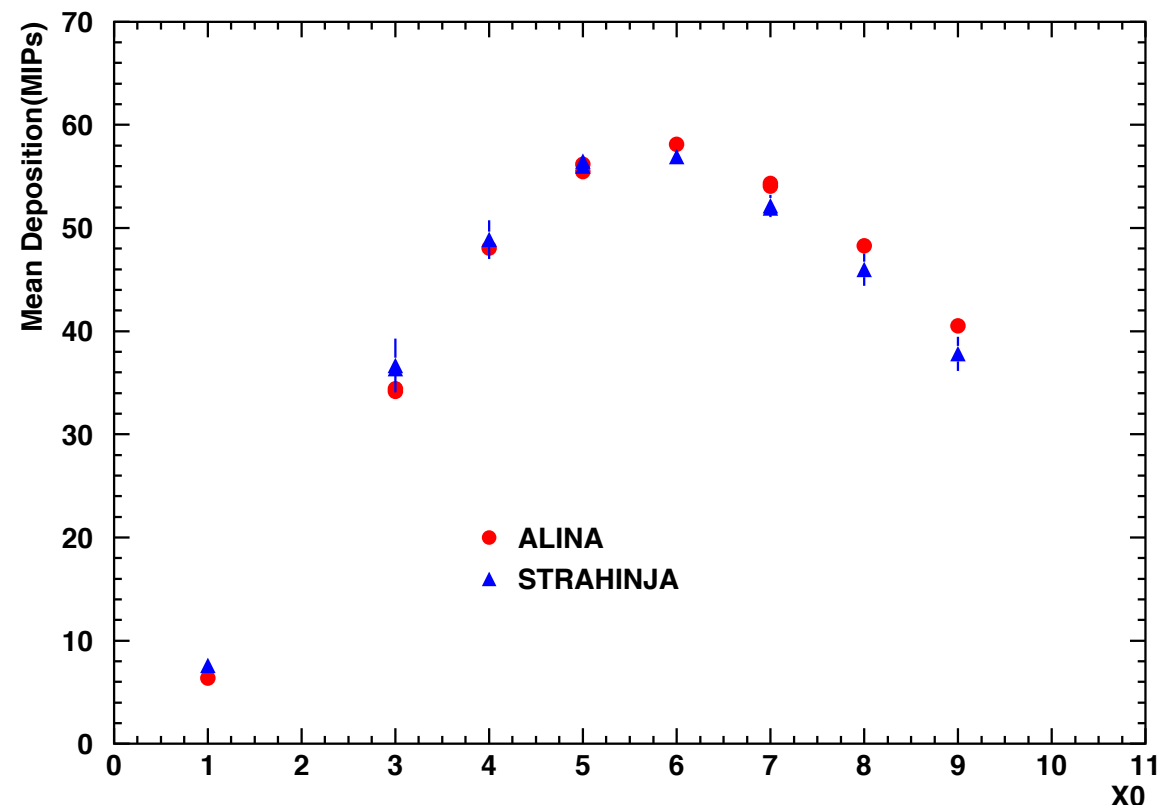
DATA – SIM (old)

CERNTB-2014

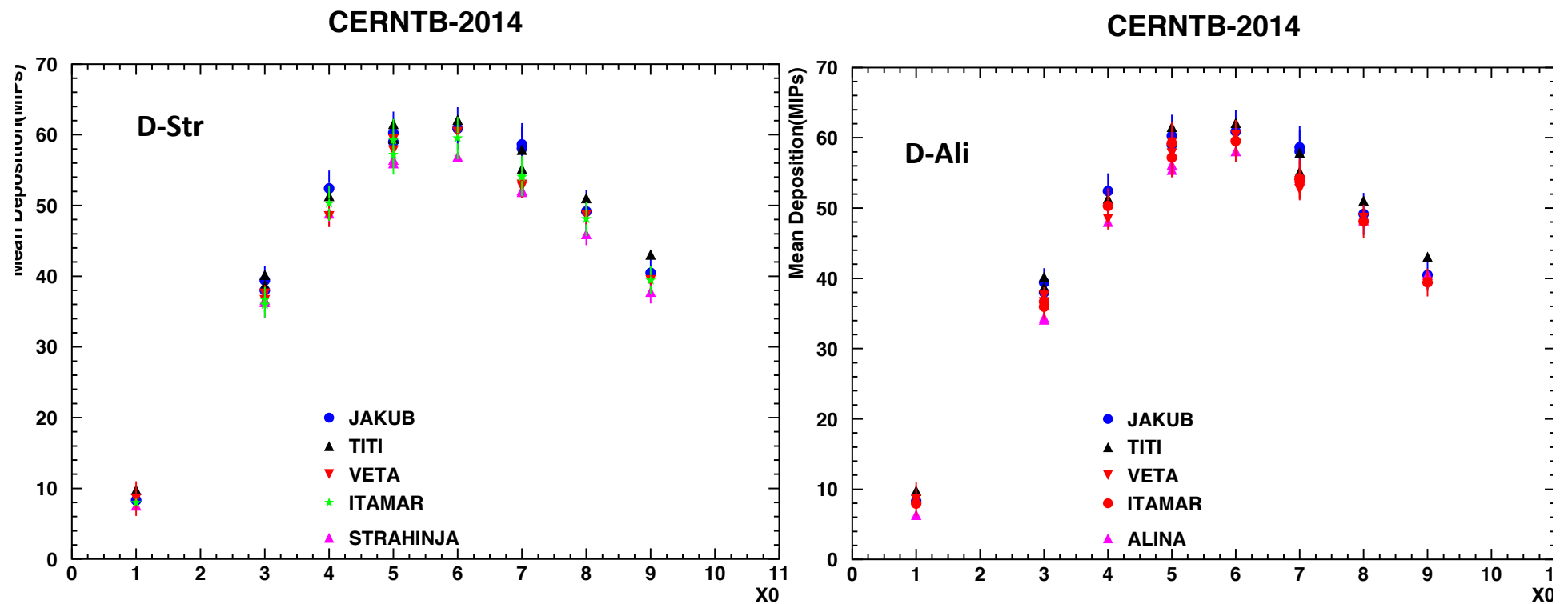


Alina-Strahinja (SIM)

CERNTB-2014

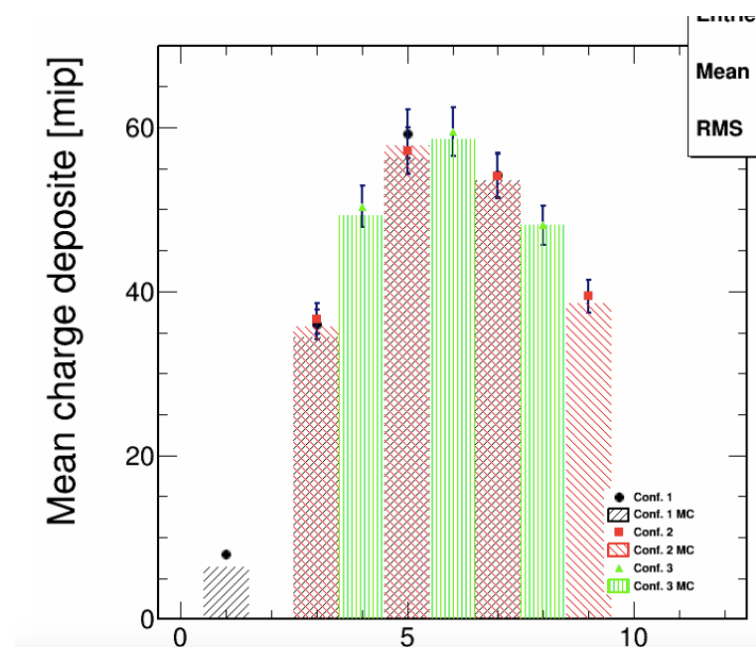
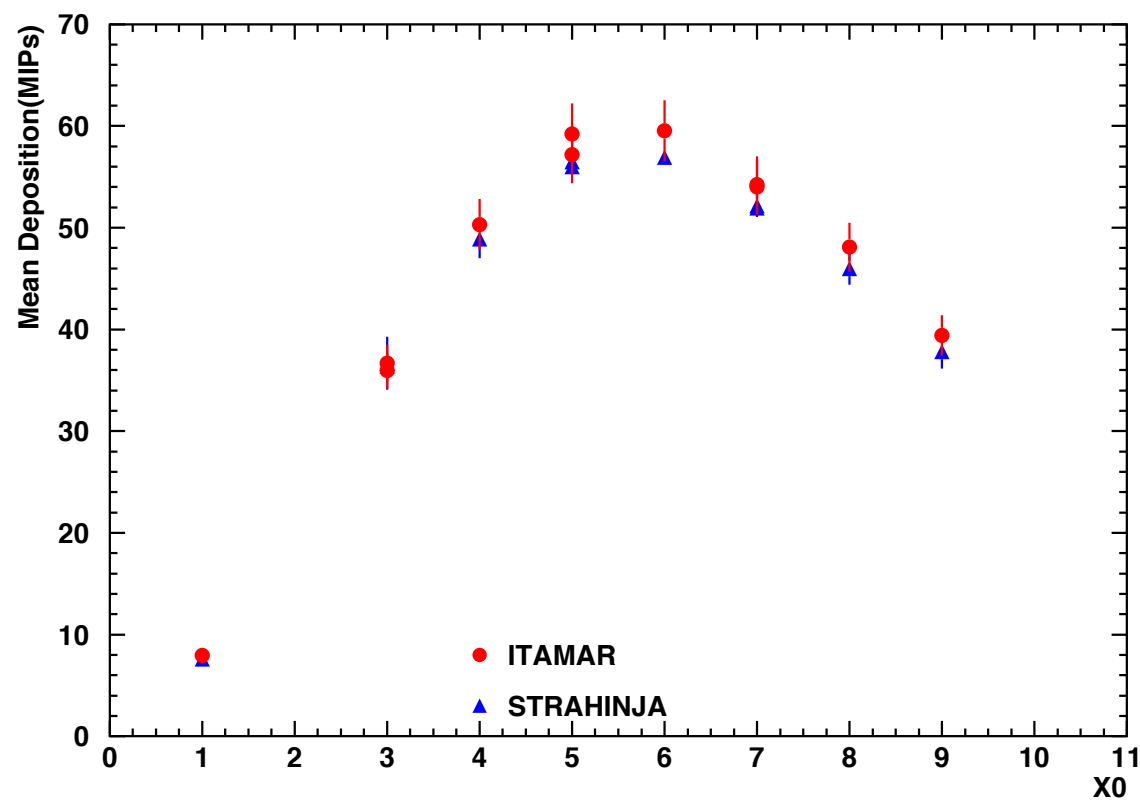


DATA – Strahinja/Alina



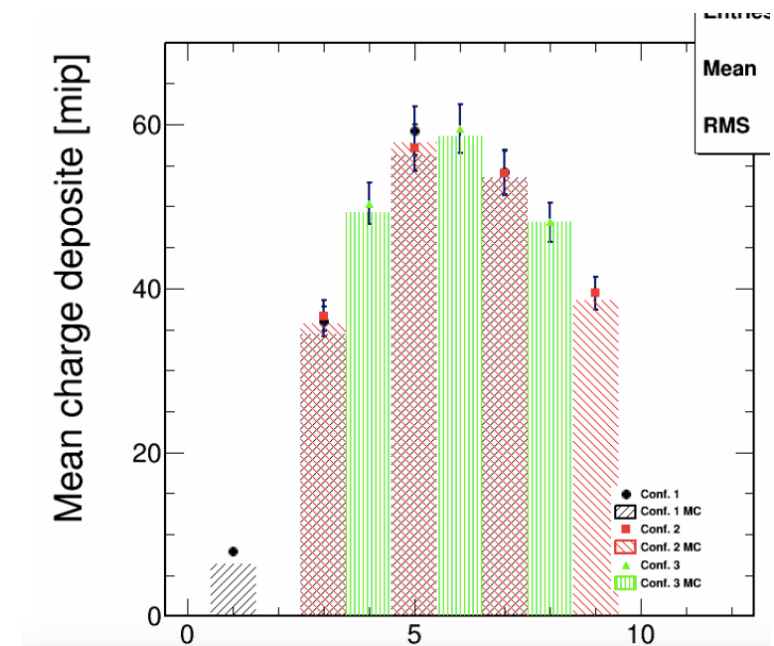
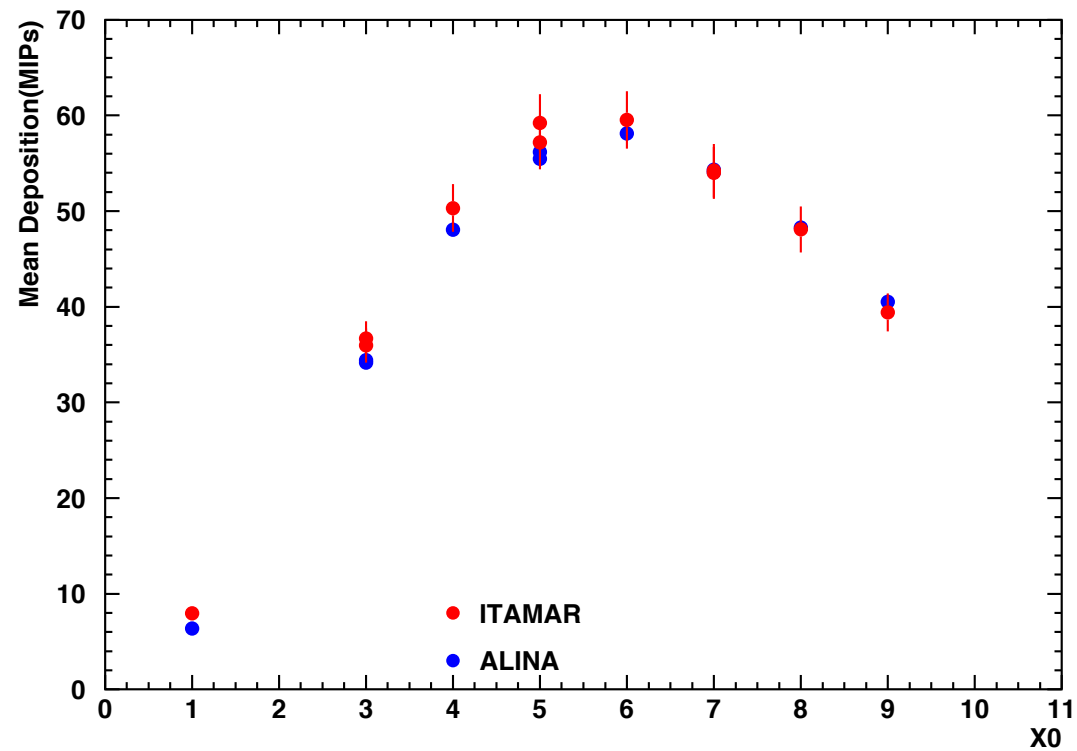
Itamar – Strahinja-last

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Itamar – Alina-last

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Analysis points (Itamar's talk)

Basic beam test analysis is done (at last)

Beam test analysis outlook (in my view) :

- Do off line calibration. ✓
- Show LumiCal basic signal processing. ✓
- Show the reconstruction of track and Telescope alignment. (✓)
- Show synchronization and LumiCal alignment. ✓
- Do on line (Muon) calibration. ✓
- Study E.M. showers development (compare with M.C – DD4HEP) ✓.
- Molier radius...
- Compare hadrons muons and electrons runs.
- Study E.M. showers uniformity (X, Y plane).

Summary

- One year later.....
- Simulation converged, work of two people
- Four different data analyses...4 different results
- Systematic uncertainties:
 - simulation – calculated
 - data – “sucked from the finger” (from Hebrew), 5%
- Extracted one result - MPV

To do

- Organise TWO people to calculate more physical quantities (see Itamar's list)
- Start writing the note.