MicroMeGas Pavia

4, December, 2013 - Pavia

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- Some comparison – ageing effect
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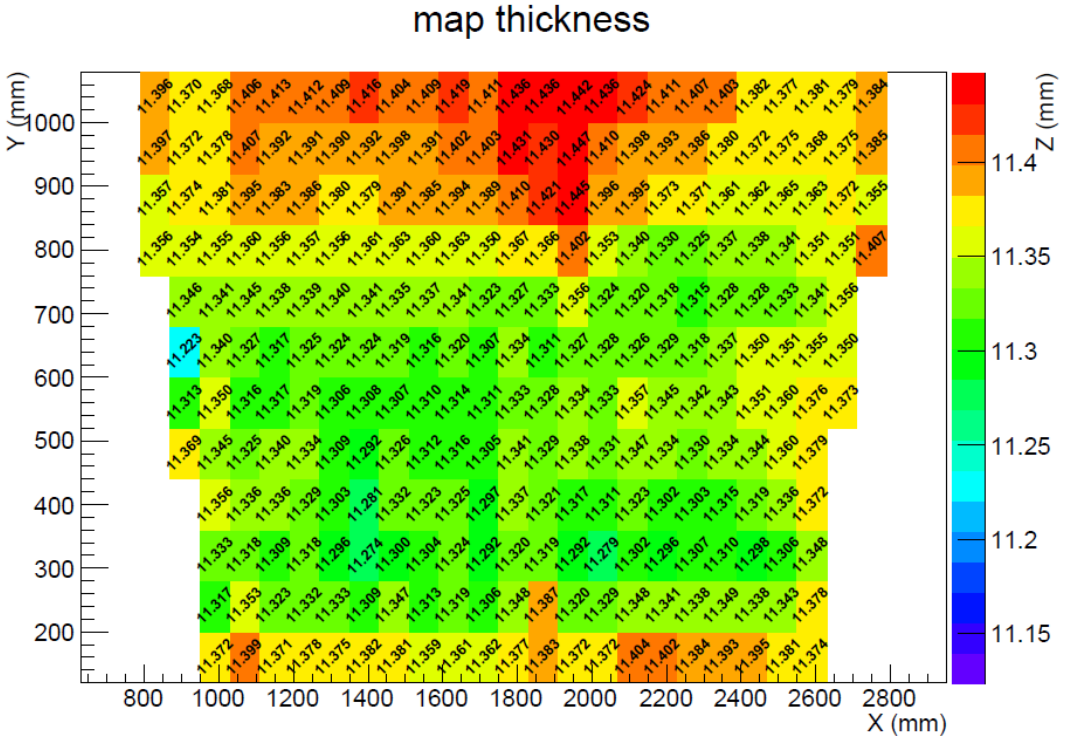

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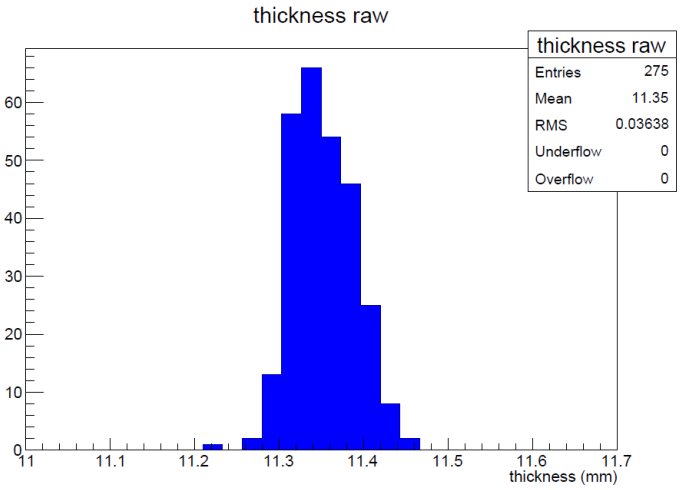

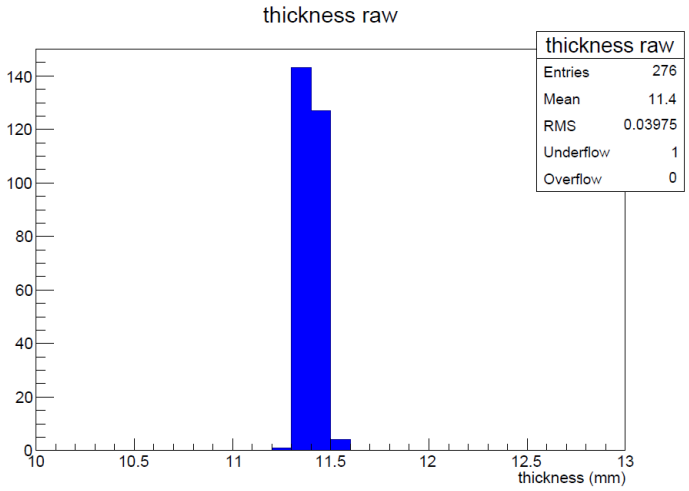

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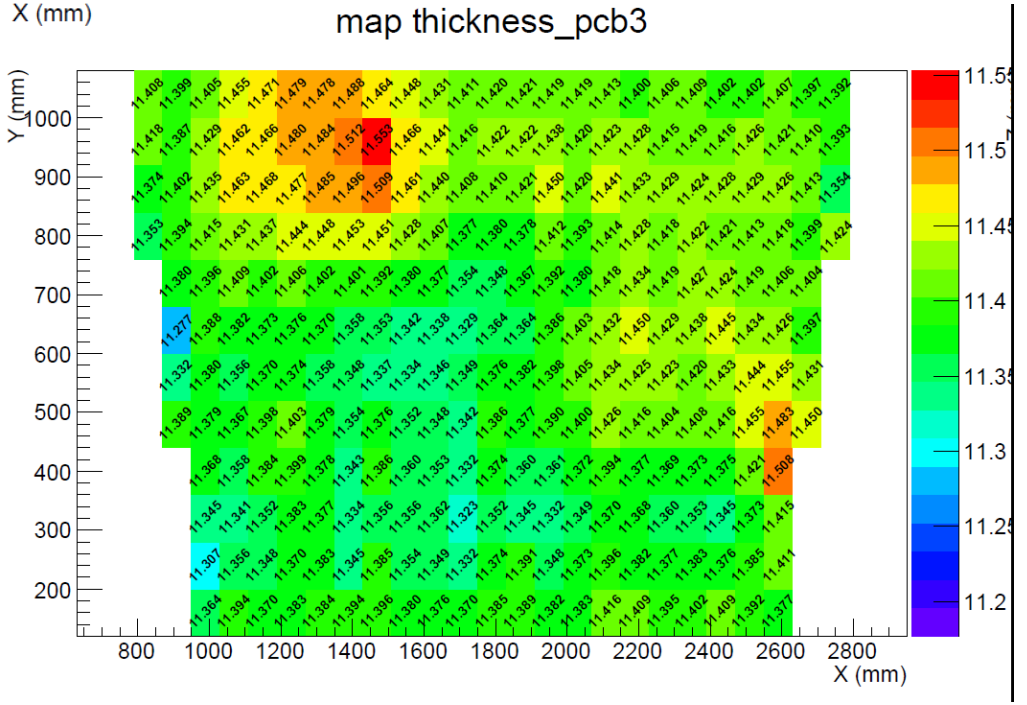
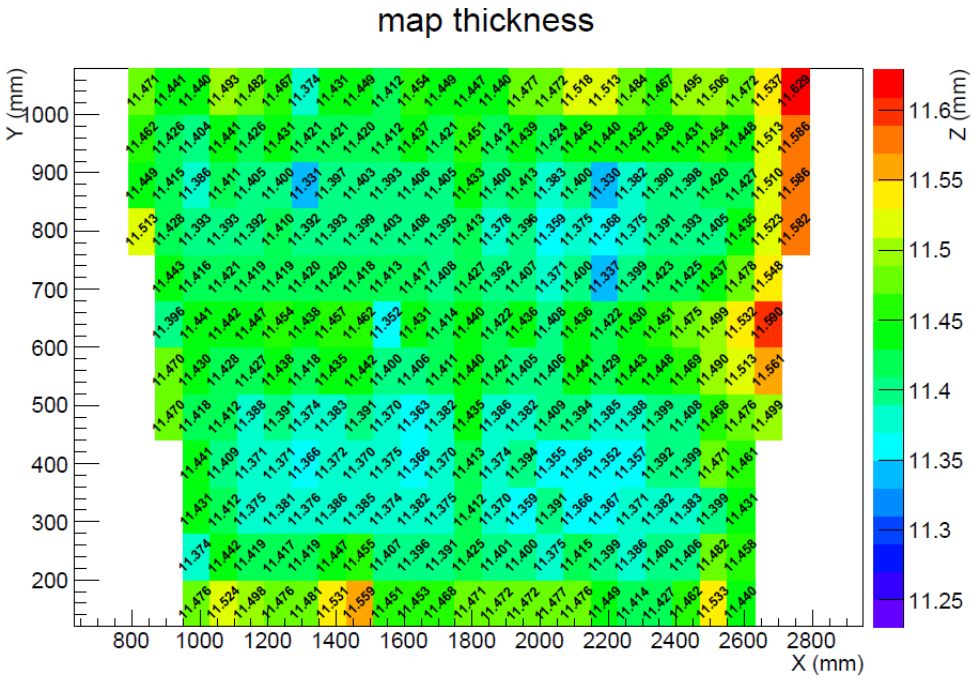


Gross

Prima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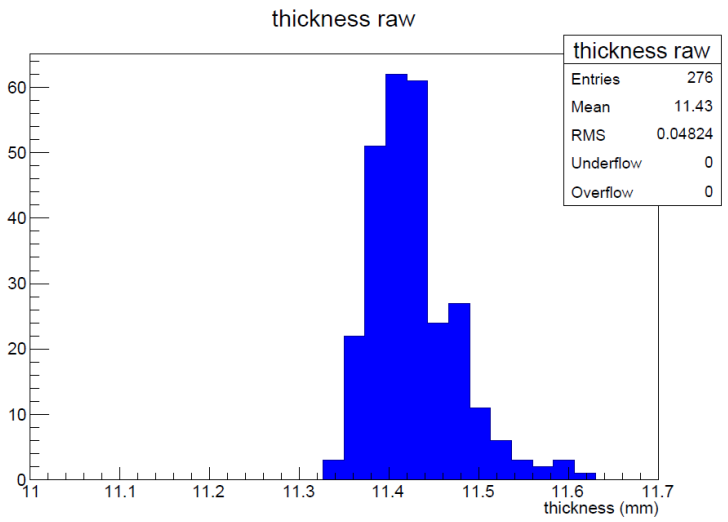
X (mm)
Z (mm)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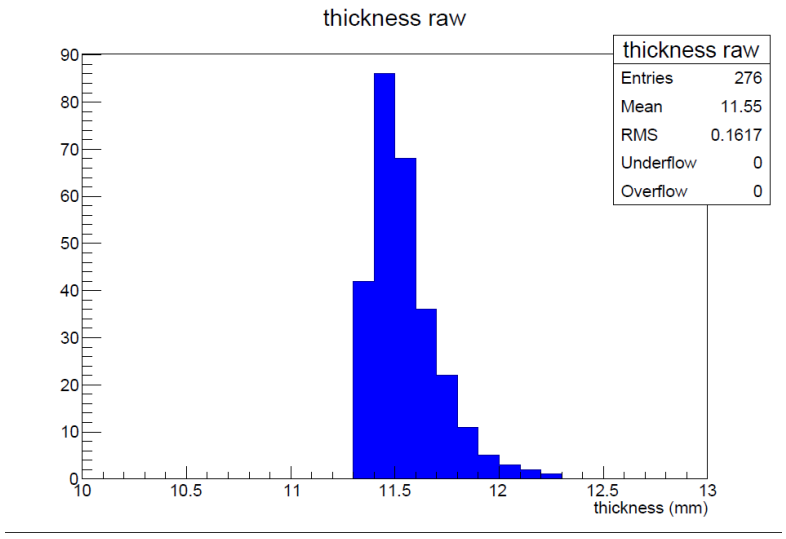
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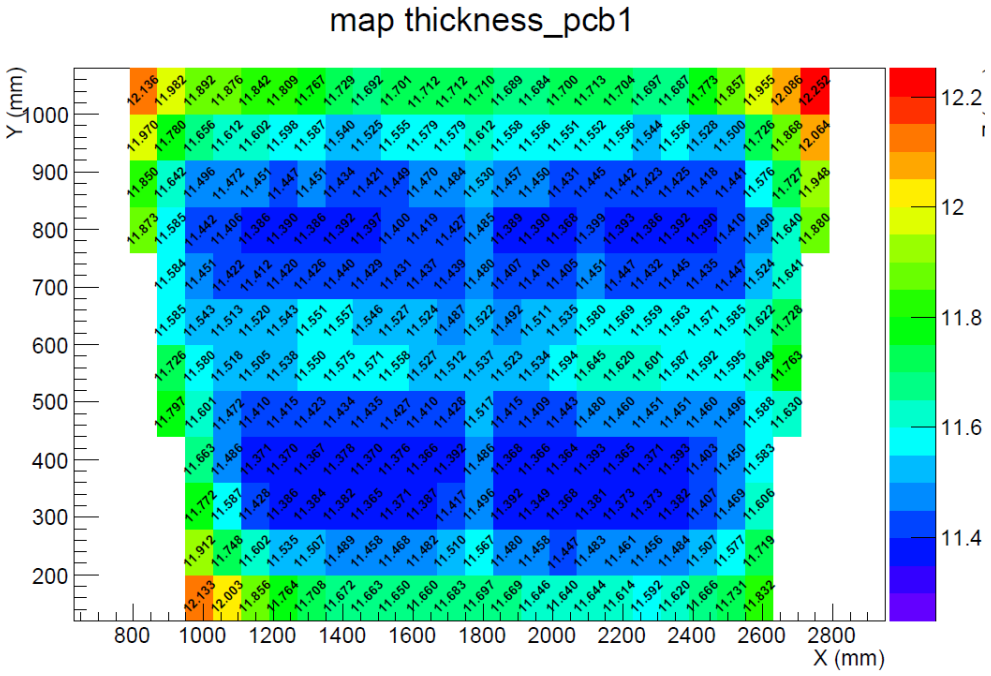
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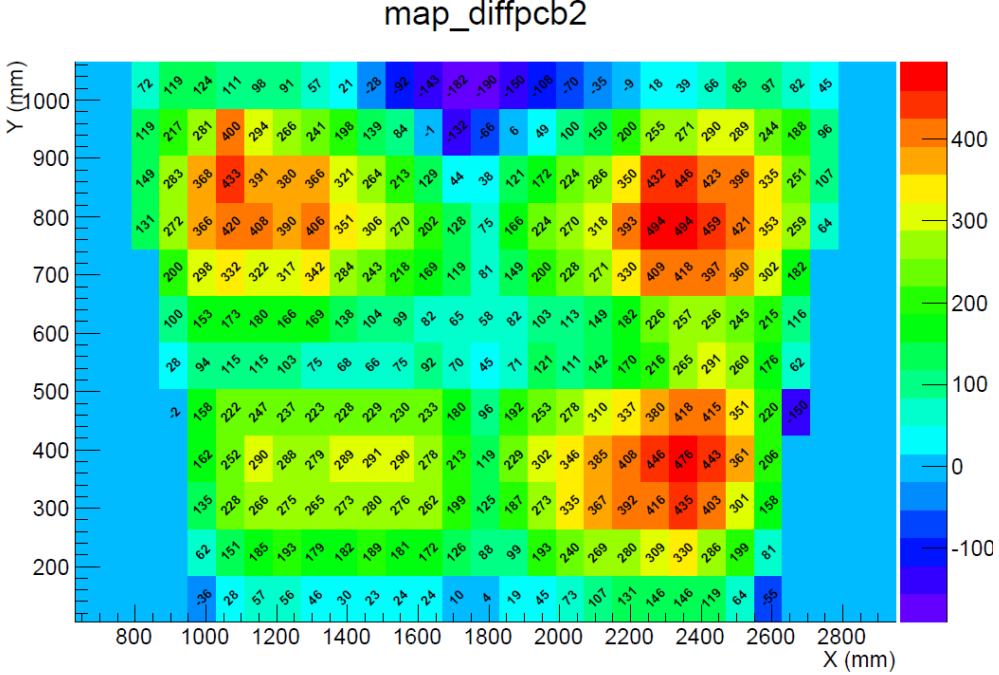
X (mm)

Table 3: chamber free on granite

panel	thickness (mm)	rms raw (μm)	rms fit (μm)	α_{zx} (μrad)	β_{zy} (μrad)	PILLAR
pcb1up-M	11.440	48	42	-2	78	yes
pcb2up-M	11.447	51	42	-23	95	
pcb3up-M	11.352	36	31	-4	74	no
pcb4up-M	11.337	54	40	-25	75	

Table 1: panel November

panel	thickness (mm)	rms raw (μm)	rms fit (μm)	α_{zx} (μrad)	β_{zy} (μrad)	PILLAR
pcb1	11.552	161.74	148.88	-4.1207	122.02	yes
pcb2	11.644	131.38	130.66	-2.3014	71.097	
pcb3	11.399	39.752	35.013	-11.577	93.258	no
pcb4	11.344	49.371	48.078	-21.417	72.776	
pcb5	11.398	90.1	73.589	-122.03	-7.8985	no
pcb6	11.383	67.549	66.76	-32.595	70.56	
pcb7	11.266	72.407	46.623	-31.12	13.625	yes
pcb8	11.251	62.076	44.868	-10.607	-30.949	
pcb9	11.653	138.91	126.25	-111.57	155.21	no
pcb10	11.517	172.26	157.37	-3.9724	74.947	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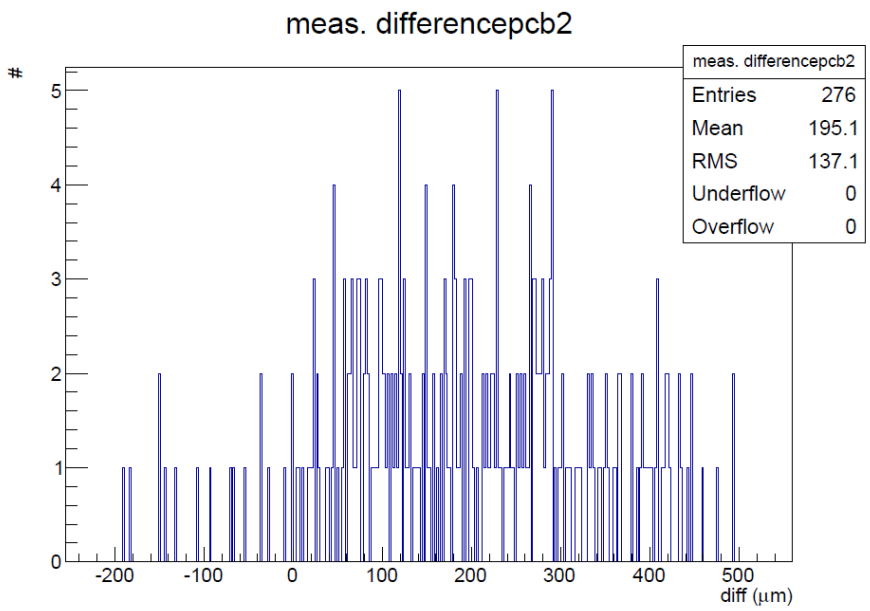
X (mm)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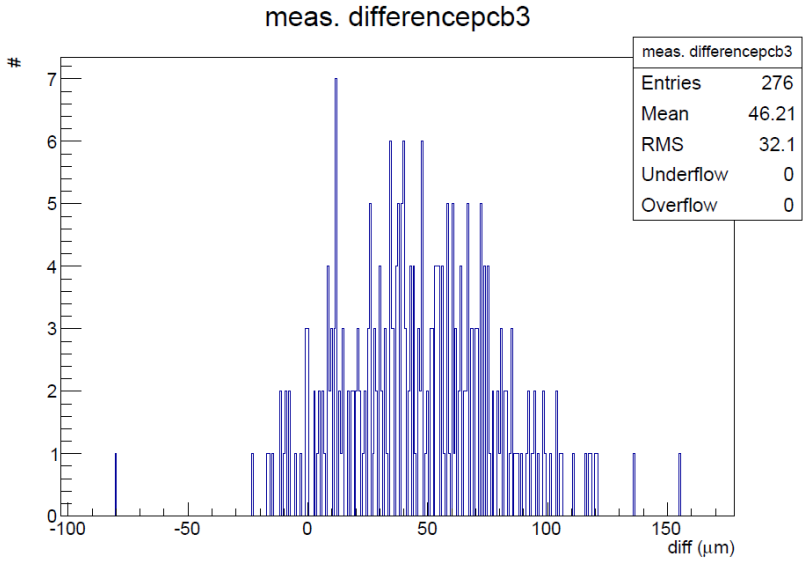
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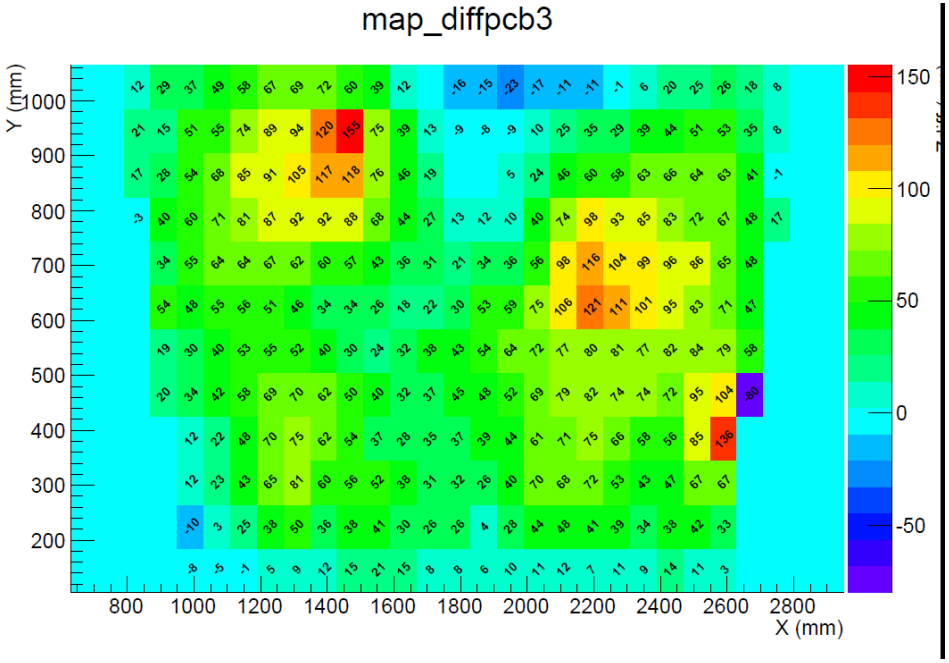
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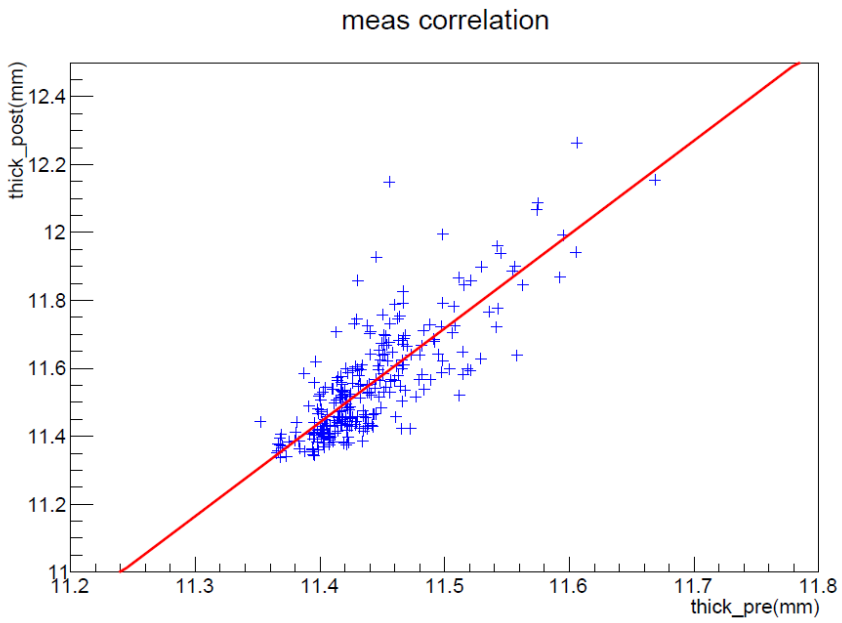
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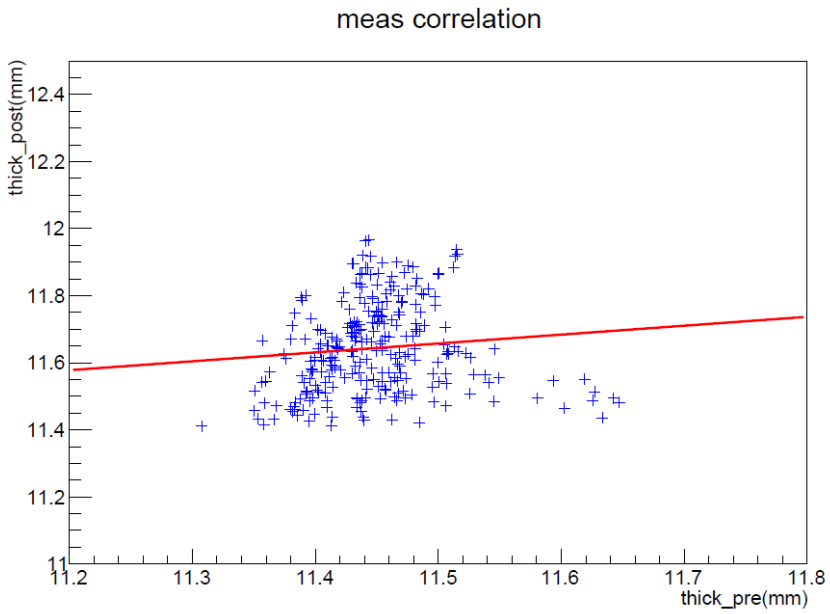
thick_pre(mm)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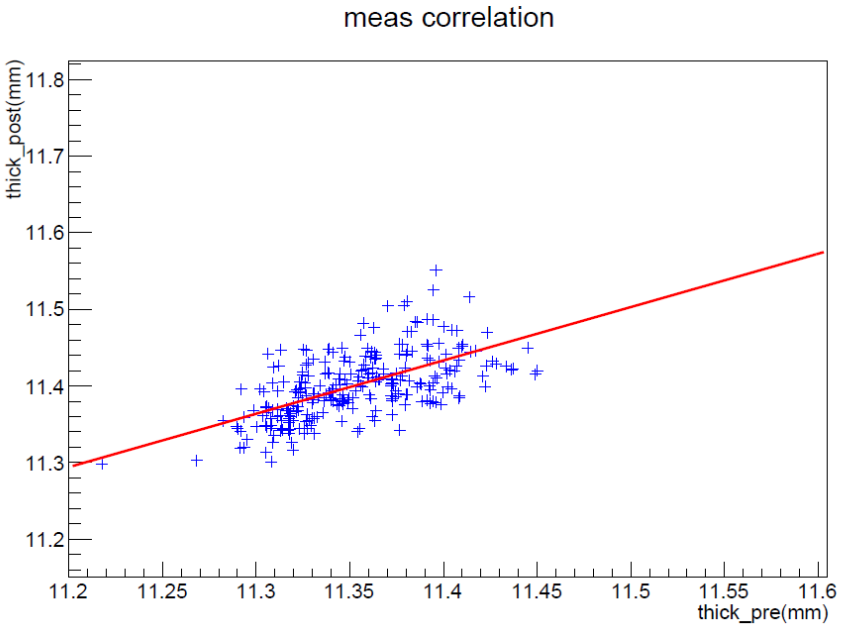
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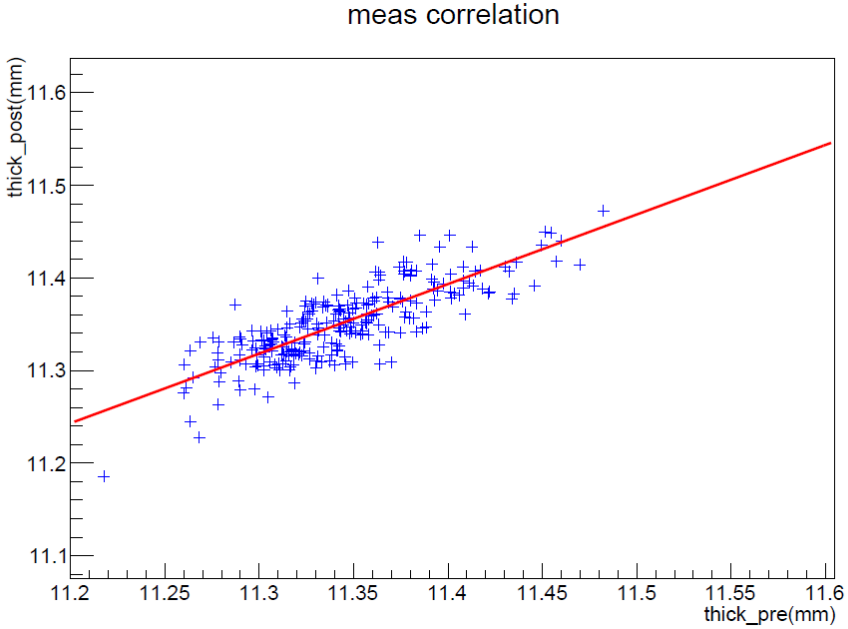

meas correlation
thick_post(mm)
thick_pre(mm)

Temperature evolution: On panels

Panel #2: corresponding temperature evolution

Table 2: panel temperature dependence (November)

panel	thickness (mm)	rms raw (μm)	rms fit (μm)	α_{zx} (μrad)	β_{zy} (μrad)
pcb3up-M	11.352	36	31	-4	74
pcb3	11.399	39.752	35.013	-11.577	93.258
pcb3termalized	11.368	29.547	29.689	-28.881	43.357
pcb3freddo	11.363	81.203	28.863	-24.15	42.776
pcb4up-M	11.337	54	40	-25	75
pcb4	11.344	49.371	48.078	-21.417	72.776
pcb4termalized	11.36	56.215	55.624	-4.637	28.116
pcb4freddo	11.345	76.373	58.871	-16.112	21.85

Temperature evolution:

Work in progress on the system

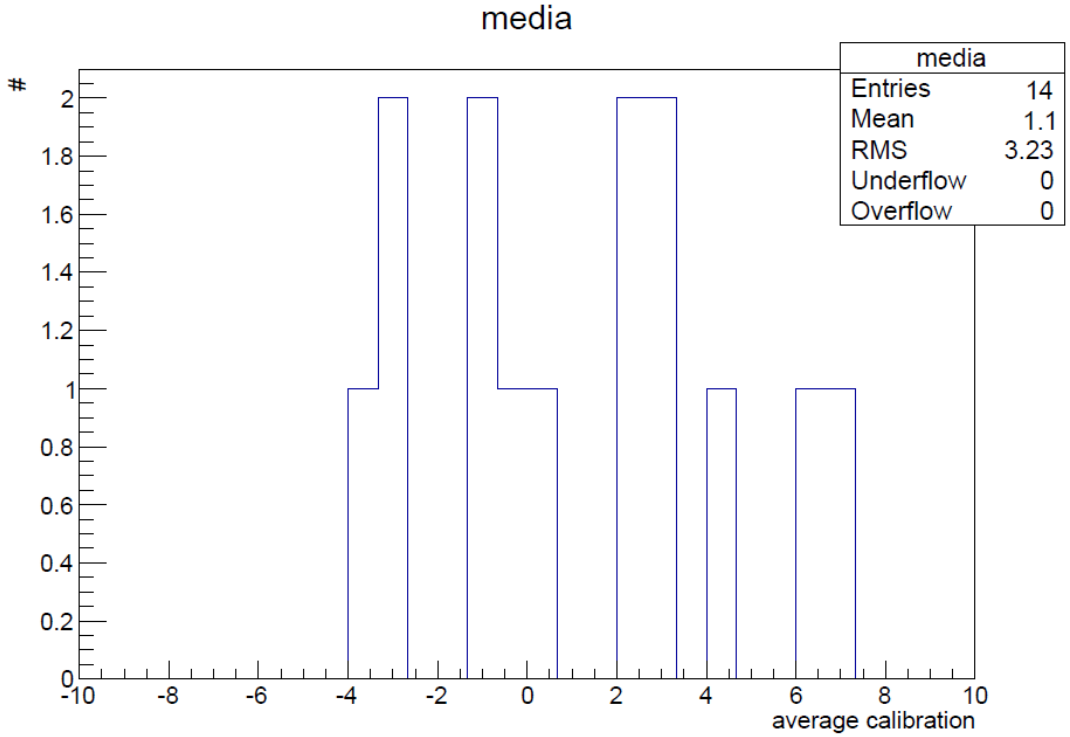
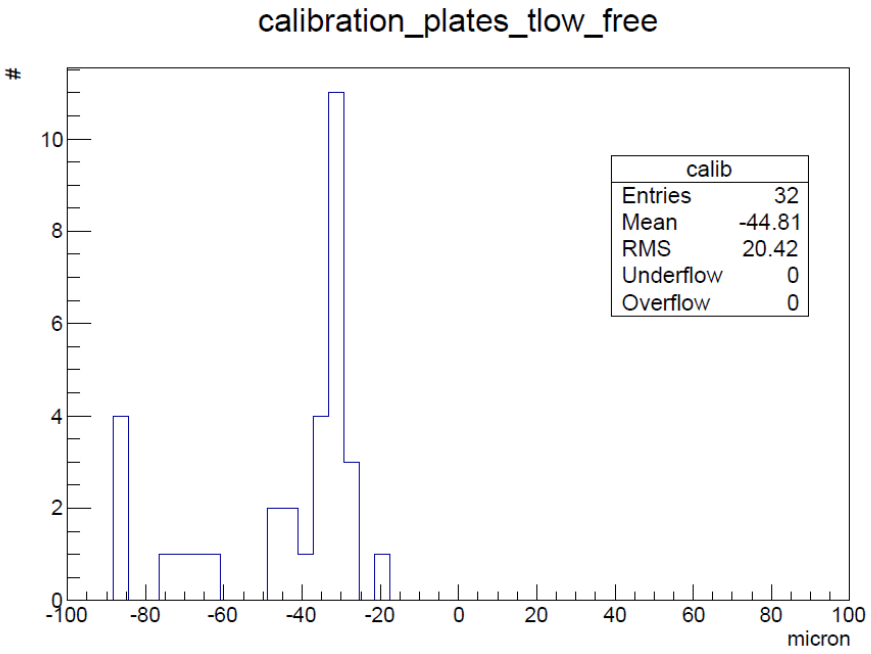


Table 4: calibration data

panel	average (μm)	rms (μm)	maxvalue (μm)	minvalue (μrad)
pcb1	4	2	7	1
pcb2	-0.3	2	5	-4
pcb3	3	1	6	0
pcb3termalized	0.5	2	6	-3
pcb3freddo	-0.8	2	4	-4
pcb4	-4	2	0	-13
pcb4termalized	2	2	5	-2
pcb4freddo	-3	4	3	-9
pcb5	3	2	7	1
pcb6	2	1	5	-2
pcb7	-3	3	3	-7
pcb8	-1	2	5	-4
pcb9	7	3	12	2
pcb10	6	2	11	1

32 points checked.
No evidence of calibration lost in each measure.



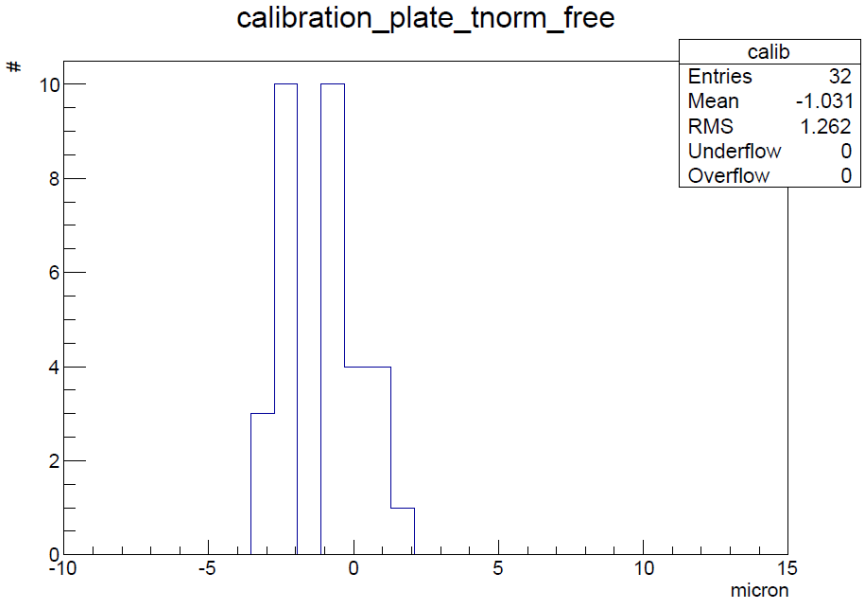
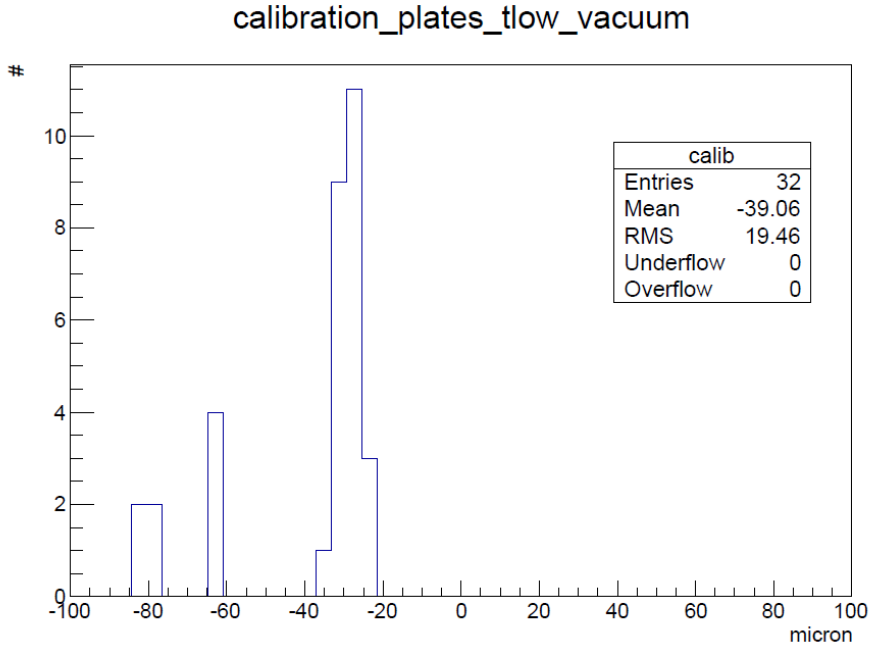


Table 3: Calibration points

vuoto	temperature passi	X passi	Y (μm)	Z-value	marmo
no	low	13500	3000	-0.032	si
no	low	13500	8000	-0.068	si
no	low	13500	13000	-0.087	si
no	low	13500	18000	-0.087	si
no	low	13500	23000	-0.073	si
no	low	13500	28000	-0.030	si
no	low	18000	28000	-0.046	no
no	low	24250	28000	-0.046	no
no	low	30500	28000	-0.043	no
no	low	36750	28000	-0.036	no
no	low	43000	28000	-0.033	no
no	low	49250	28000	-0.032	no
no	low	55500	28000	-0.042	no
no	low	61750	28000	-0.033	no
no	low	68000	28000	-0.021	no
no	low	74250	28000	-0.032	no
no	low	76250	28000	-0.028	si
no	low	76250	23000	-0.064	si
no	low	76250	18000	-0.087	si
no	low	76250	13000	-0.088	si
no	low	76250	8000	-0.071	si
no	low	76250	3000	-0.029	si
no	low	71750	3000	-0.030	no
no	low	65500	3000	-0.032	no
no	low	59250	3000	-0.034	no
no	low	53000	3000	-0.039	no
no	low	46750	3000	-0.034	no
no	low	40500	3000	-0.034	no
no	low	34250	3000	-0.032	no
no	low	28000	3000	-0.028	no
no	low	21750	3000	-0.033	no
no	low	15500	3000	-0.030	no



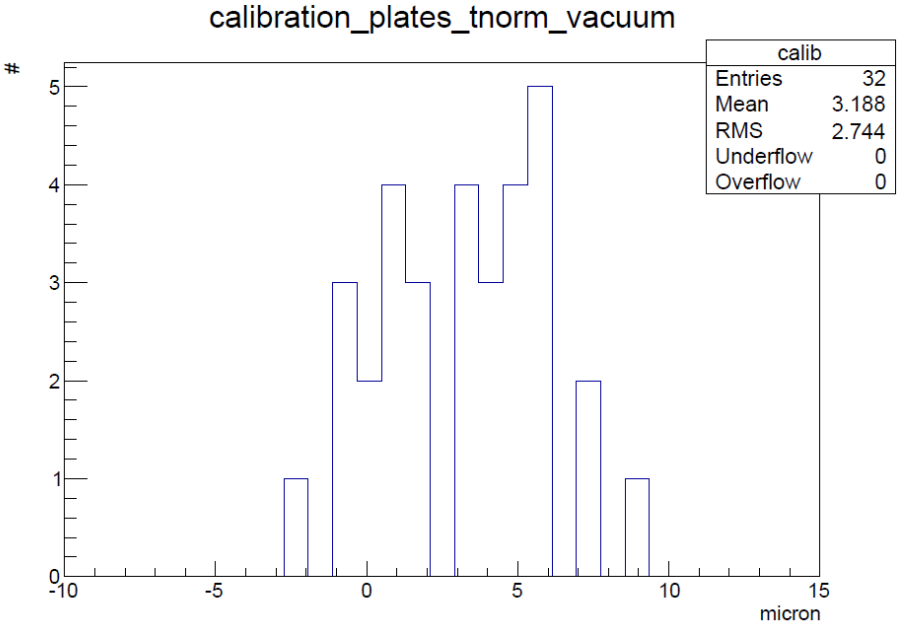
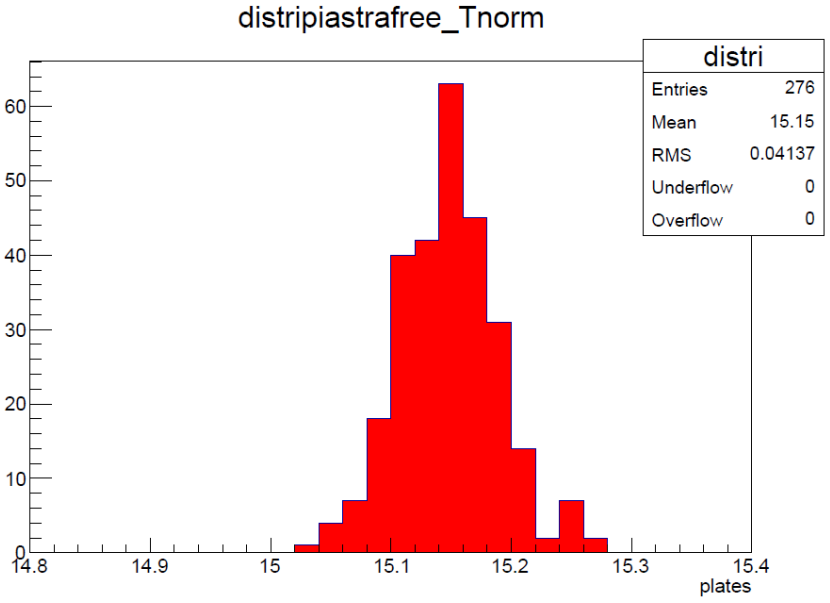


Table 2: Calibration points

vuoto	temperature passi	X passi	Y (μm)	Z-value	marmo
si	low	13500	3000	-0.026	si
si	low	13500	8000	-0.061	si
si	low	13500	13000	-0.082	si
si	low	13500	18000	-0.079	si
si	low	13500	23000	-0.062	si
si	low	13500	28000	-0.030	si
si	low	18000	28000	-0.035	no
si	low	24250	28000	-0.029	no
si	low	30500	28000	-0.030	no
si	low	36750	28000	-0.027	no
si	low	43000	28000	-0.027	no
si	low	49250	28000	-0.031	no
si	low	55500	28000	-0.031	no
si	low	61750	28000	-0.027	no
si	low	68000	28000	-0.023	no
si	low	74250	28000	-0.030	no
si	low	76250	28000	-0.028	si
si	low	76250	23000	-0.062	si
si	low	76250	18000	-0.080	si
si	low	76250	13000	-0.082	si
si	low	76250	8000	-0.064	si
si	low	76250	3000	-0.032	si
si	low	71750	3000	-0.026	no
si	low	65500	3000	-0.030	no
si	low	59250	3000	-0.027	no
si	low	53000	3000	-0.032	no
si	low	46750	3000	-0.024	no
si	low	40500	3000	-0.026	no
si	low	34250	3000	-0.023	no
si	low	28000	3000	-0.026	no
si	low	21750	3000	-0.030	no
si	low	15500	3000	-0.028	no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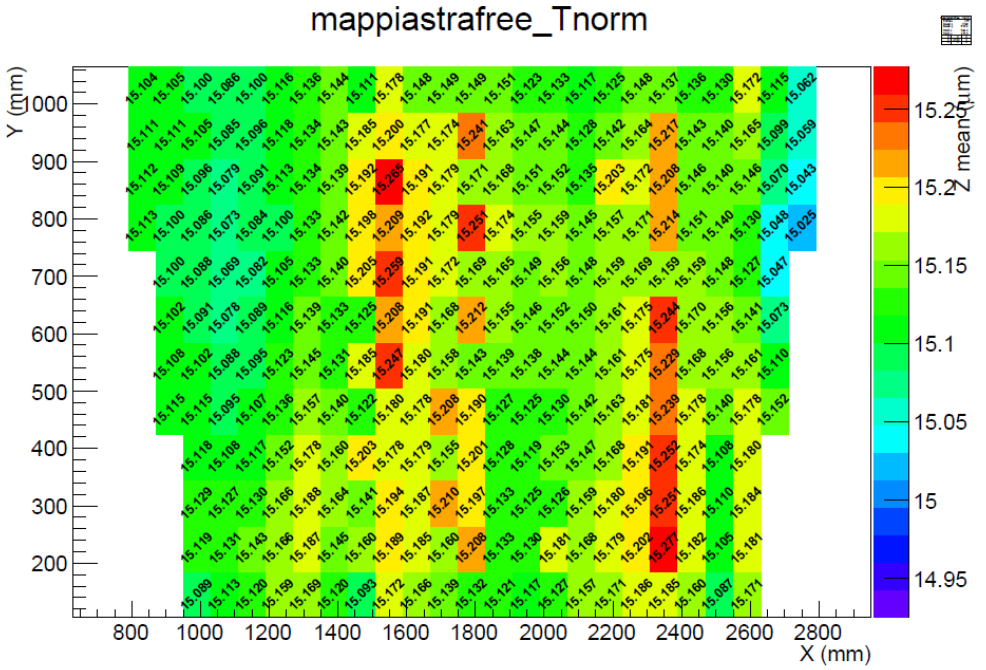
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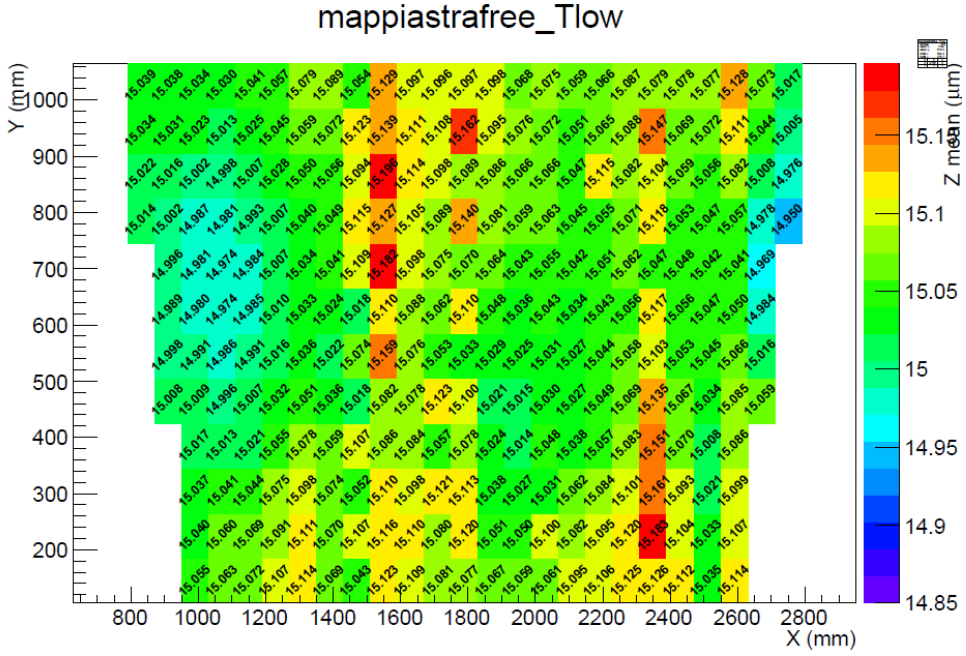
Y (mm)
X (mm)
Z mean (µm)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X (mm)
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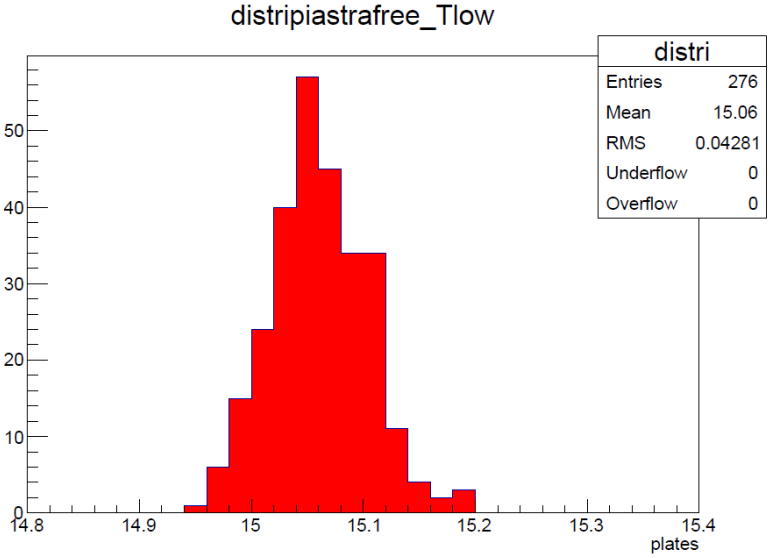
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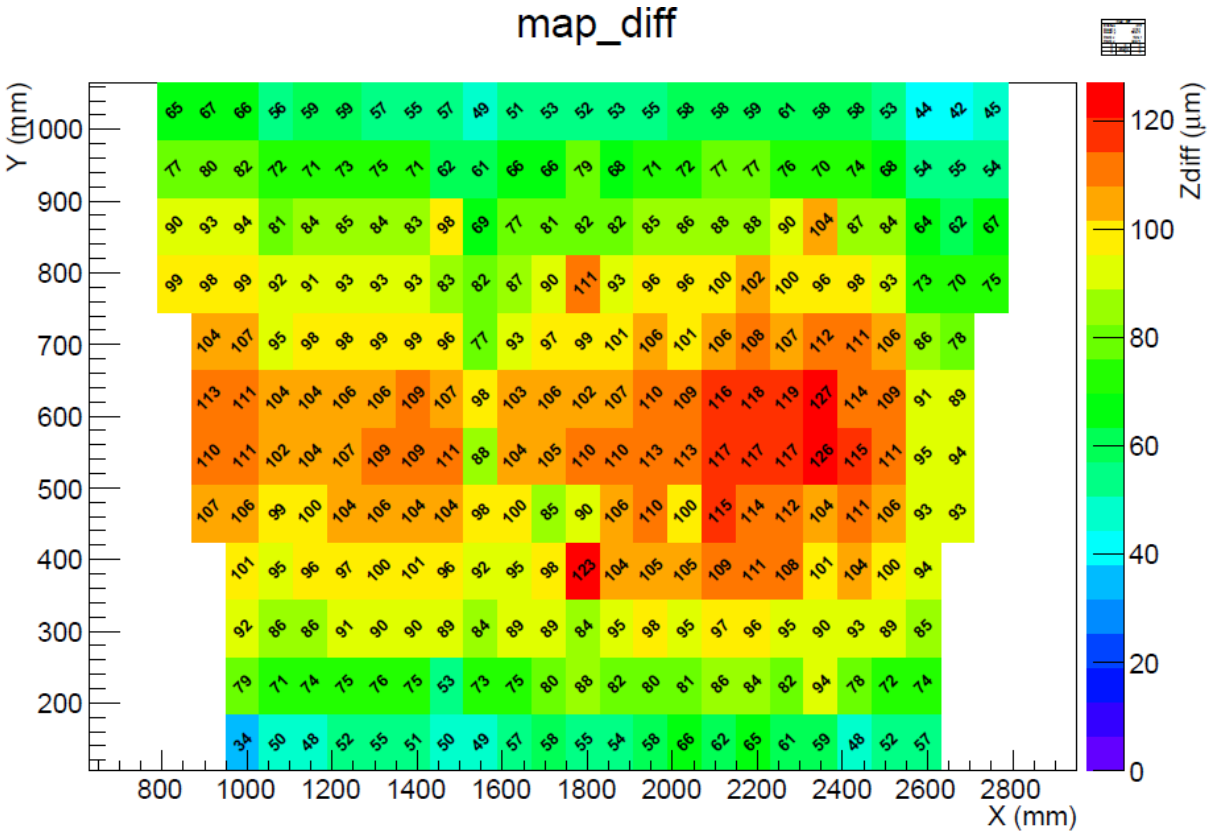
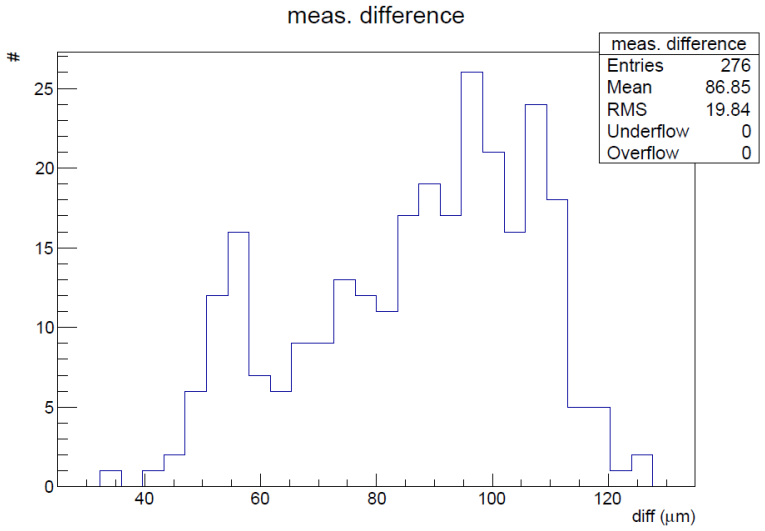
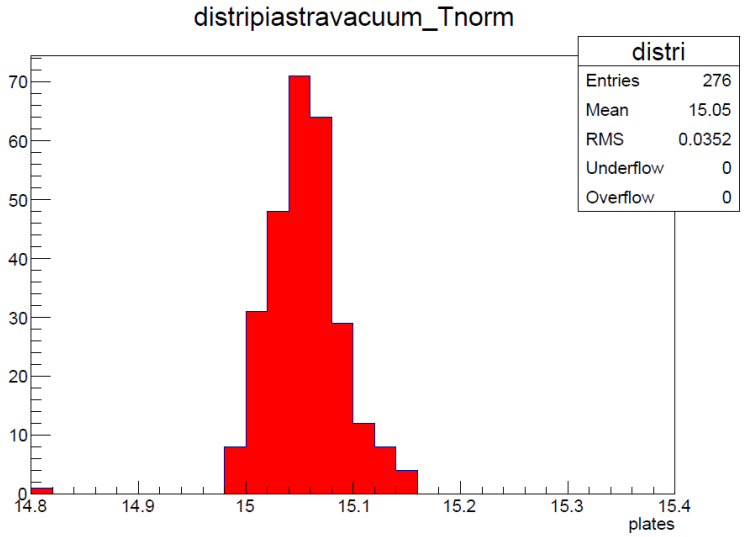


Differenza tra valori assoluti delle piastre presi a temperature diverse, vuoto off

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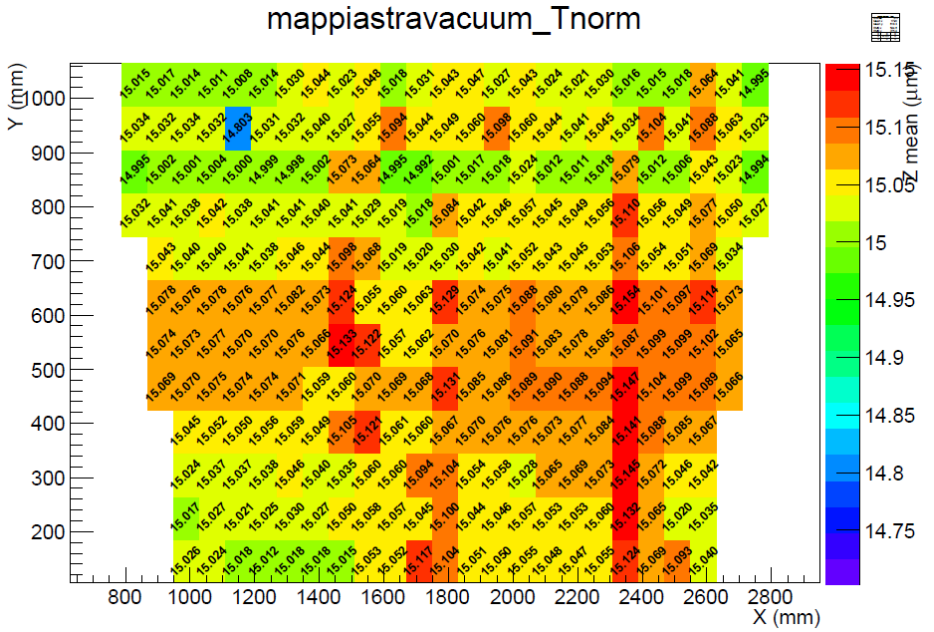
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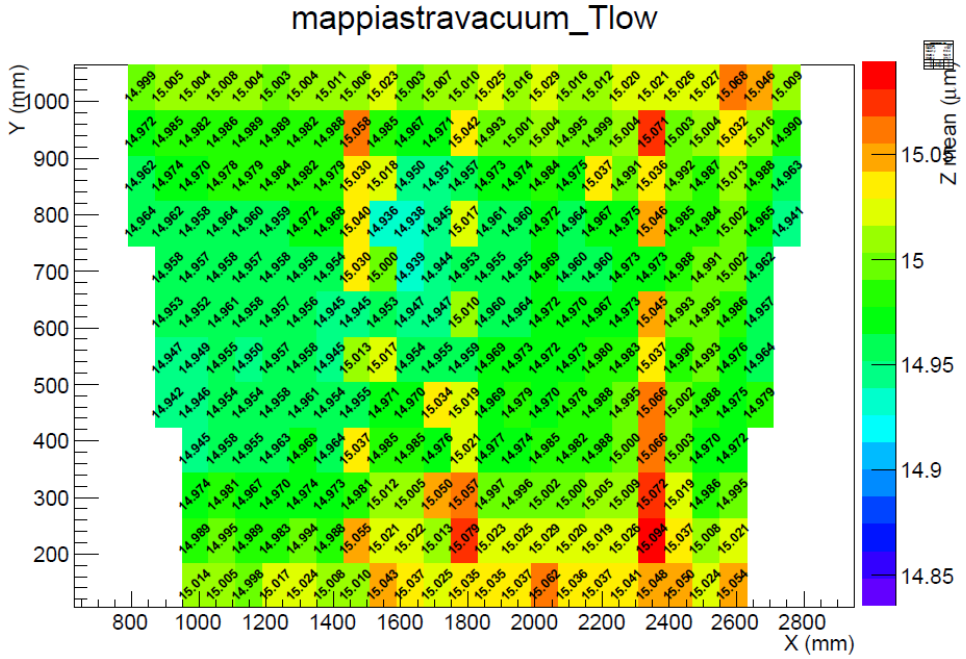
Y (mm)
X (mm)
Z mean (µm)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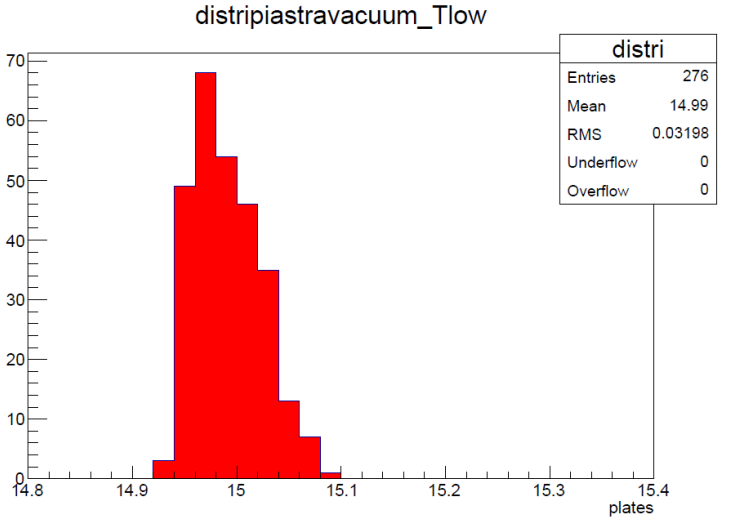
X (mm)
Z mean (µm)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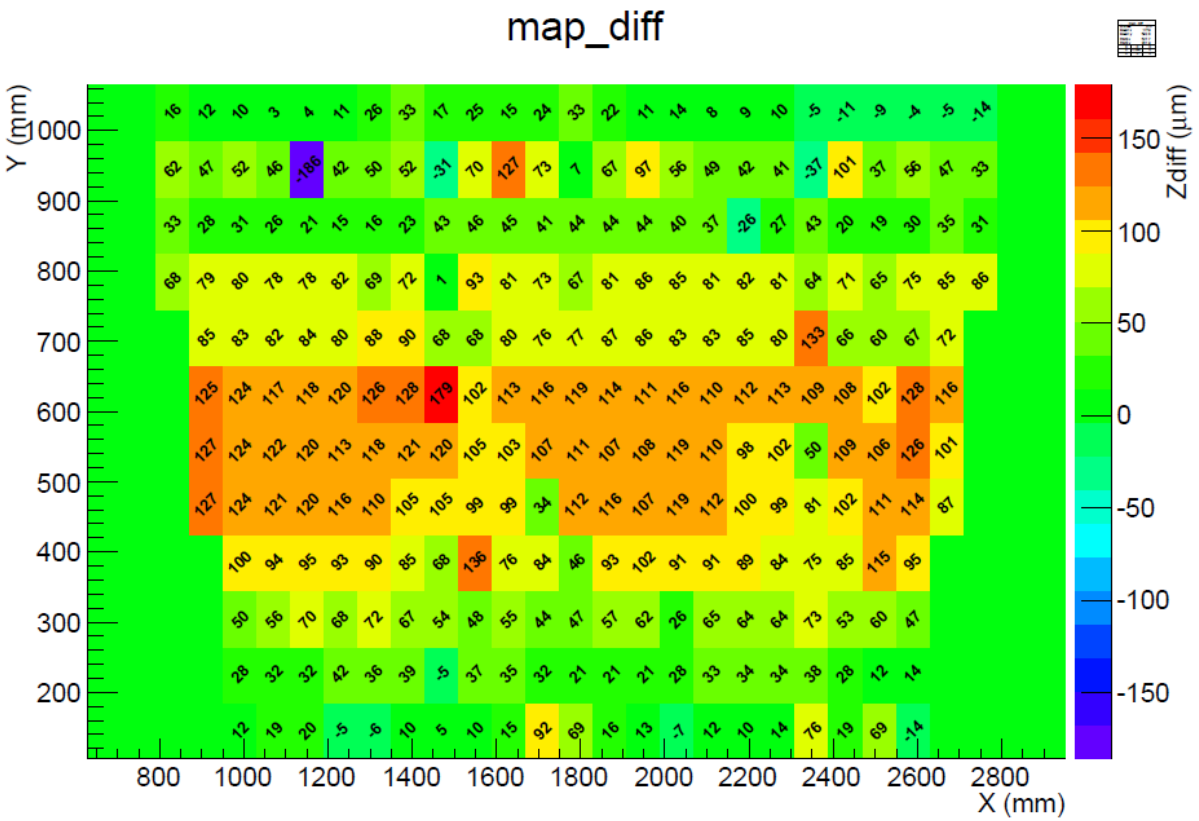
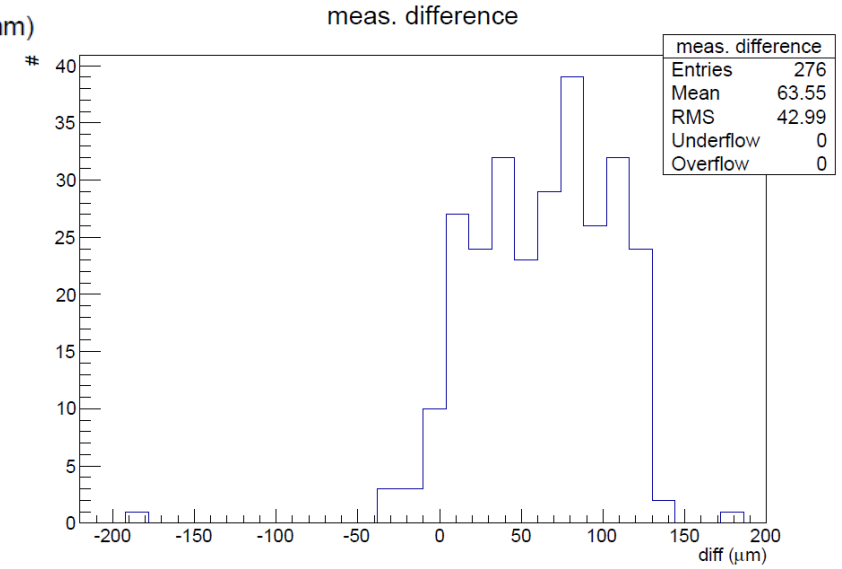


Differenza tra valori assoluti delle piastre presi a temperature diverse, vuoto on



Conclusion

- analysis and data taking for the hysteresis loop is not completed
- Evidence of panels-temperature-dependence (for “mixed” panels
- Calibration lost after lowering-temperature
- Low correlation between last measurements and the oldest ones