

SuperB SVT test-beam data analysis status

A.Lusiani – Pisa

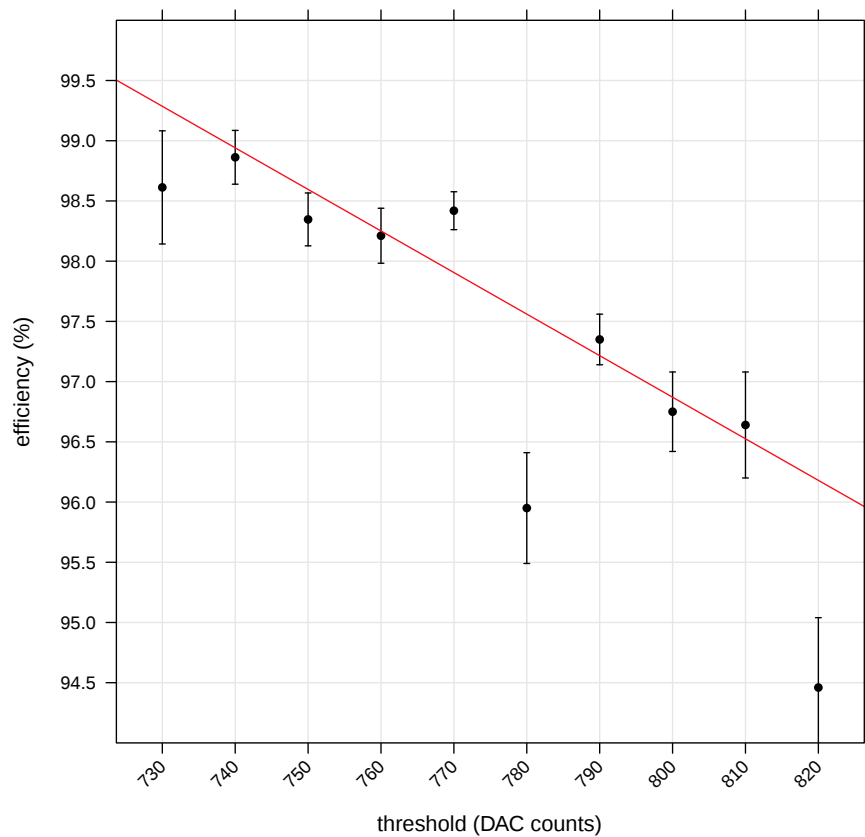
SuperB SVT test-beam meeting, Pisa, 28 October 2011

Reporting activities in Pisa & Krakow on Superpix0

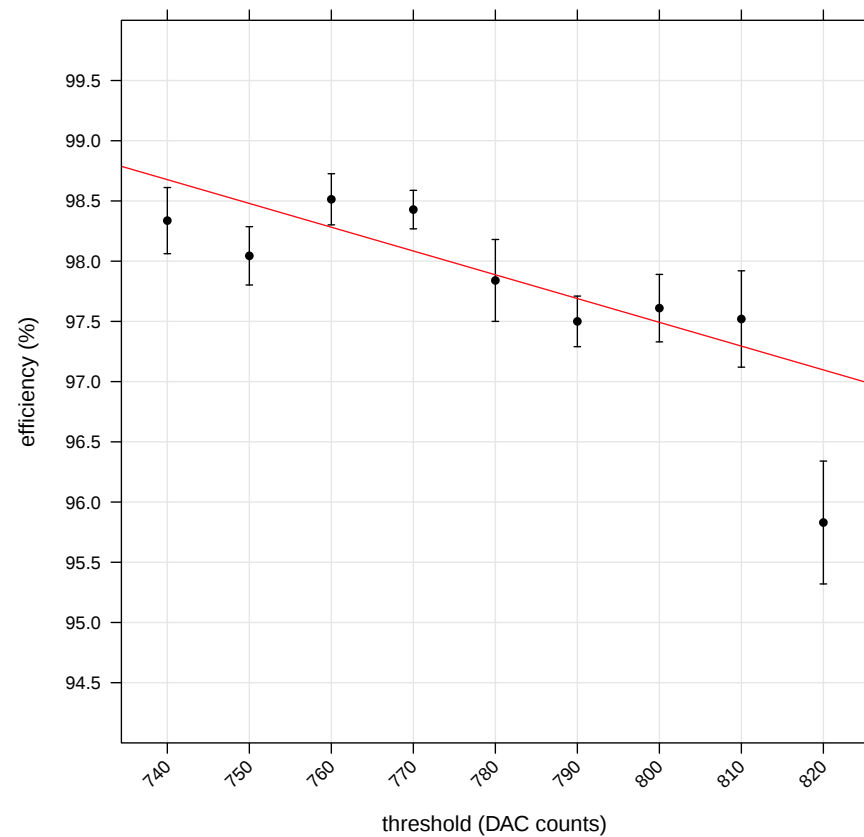
- ◆ since October 14 presentation
- ◆ produced efficiency vs. threshold in DAC counts plots
 - ▶ (Stefano has data on per-chip $N(\text{electrons})$ vs. threshold to produce more physical plots)
 - ▶ these results being presented in Valencia by F.Giorgi, more details from him later I presume
- ◆ some investigations to explain some odd residuals in V view, possibly due to mis-bondings

Efficiency vs. threshold

Chip #12, efficiency vs. threshold



Chip #55, efficiency vs. threshold



Data on efficiency vs. threshold, including slice

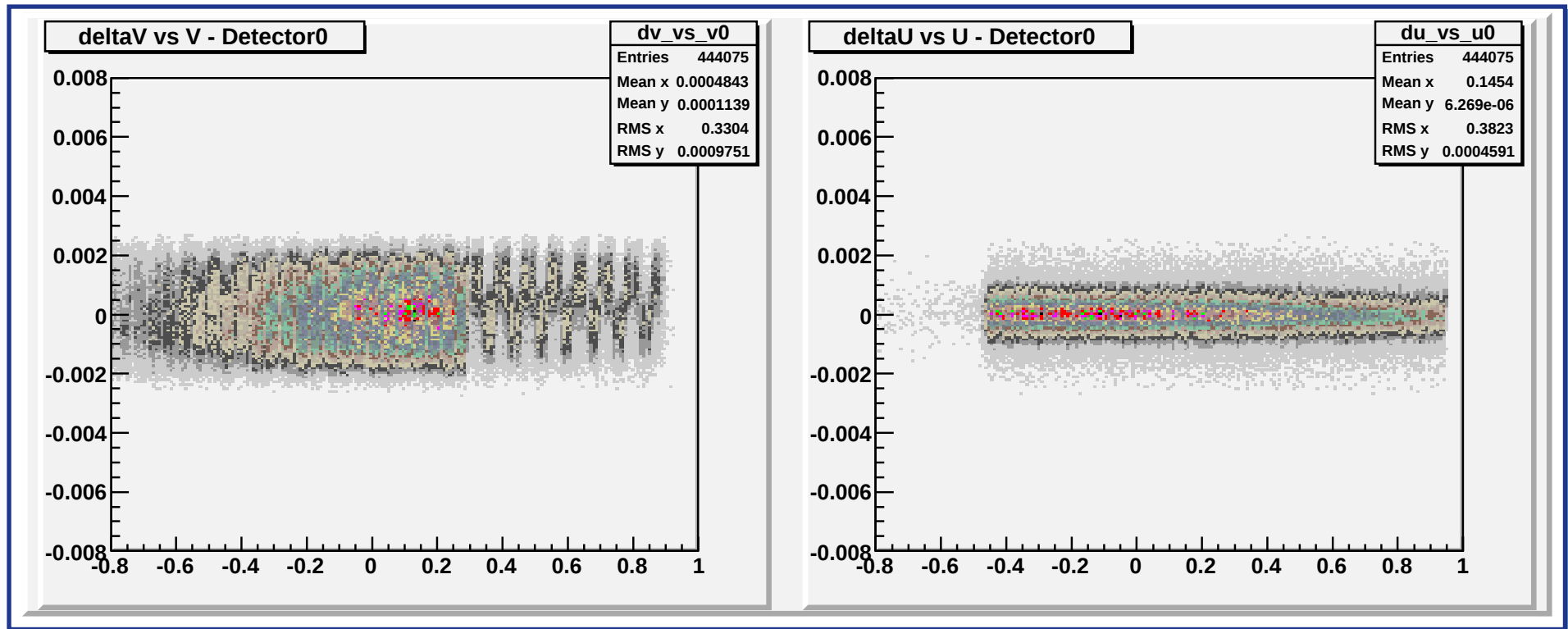
Run	Chip	Threshold	Slice	Eff (%)	$\Delta(\text{Eff} \%)$
2665	12	770	0	98.29	0.33
2665	55	770	0	98.27	0.34
2666	12	770	0	99.49	0.36
2666	55	770	0	97.44	0.89
2667	12	770	0	99.24	0.75
2667	55	770	0	98.32	1.18
2669	12	770	1	97.77	0.51
2669	55	770	1	99.08	0.32
2671	12	770	2	97.77	0.55
2671	55	770	2	97.40	0.60
2672	12	770	2	97.19	1.05
2672	55	770	2	97.38	1.06
2673	12	770	3	97.82	0.41
2673	55	770	3	98.45	0.35
2674	12	770	3	98.52	0.36
2674	55	770	3	98.42	0.38
2676	12	760	3	98.05	0.38
2676	55	760	3	98.15	0.38
2677	12	760	3	97.95	0.51
2677	55	760	3	98.78	0.40
2678	12	760	2	98.34	0.46
2678	12	760	2	98.34	0.46
2678	55	760	2	98.68	0.41

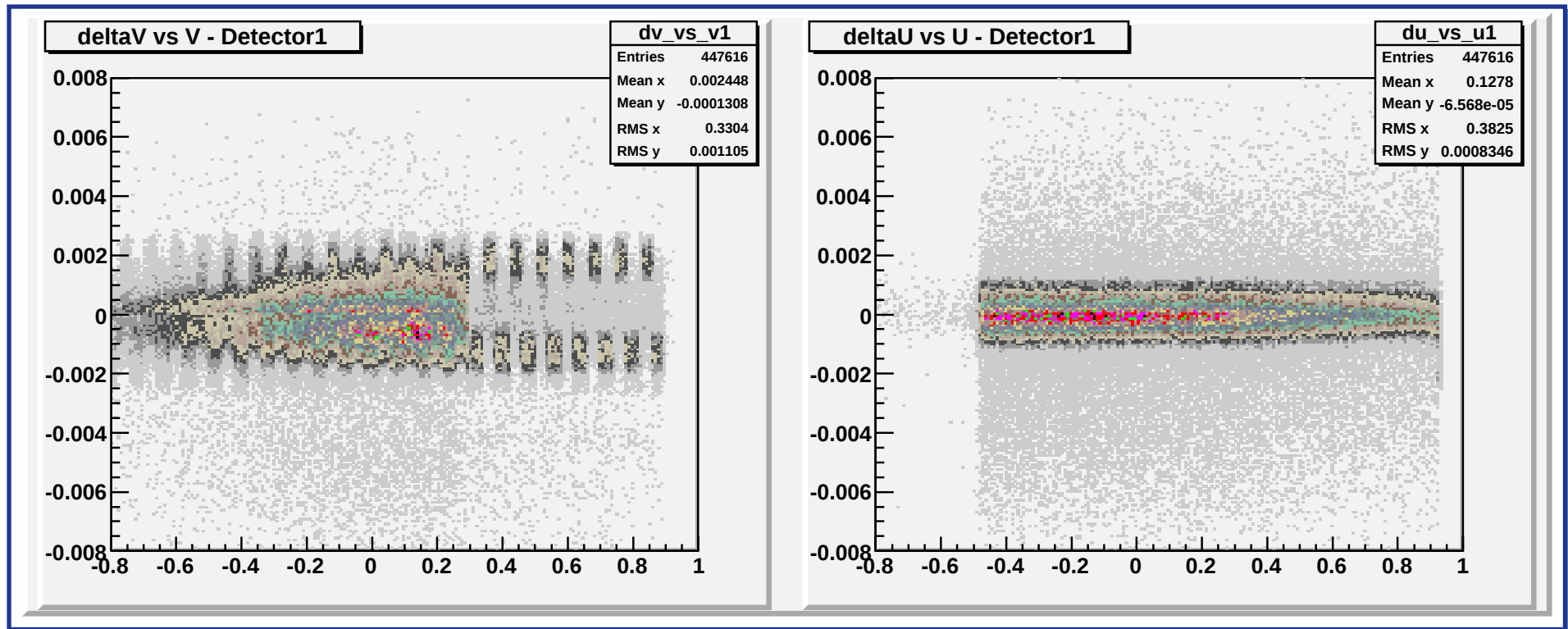
Run	Chip	Threshold	Slice	Eff (%)	$\Delta(\text{Eff} \%)$
2679	12	760	2	98.62	0.52
2679	55	760	2	98.47	0.57
2685	12	750	0	98.04	0.41
2685	55	750	0	98.09	0.41
2686	12	750	0	98.47	0.26
2686	55	750	0	98.02	0.30
2707	12	740	3	98.50	0.37
2707	55	740	3	98.21	0.41
2709	12	740	3	99.07	0.28
2709	55	740	3	98.44	0.37
2723	12	730	2	99.01	0.57
2724	12	730	2	97.77	0.83
2734	12	780	3	95.95	0.46
2734	55	780	1	97.84	0.34
2741	12	790	3	97.35	0.21
2741	55	790	1	97.50	0.21
2759	12	800	2	96.75	0.33
2759	55	800	1	97.61	0.28
2767	12	810	2	96.64	0.44
2767	55	810	2	97.52	0.40
2771	12	820	3	94.46	0.58
2771	55	820	3	95.83	0.51

Eff. vs. threshold data

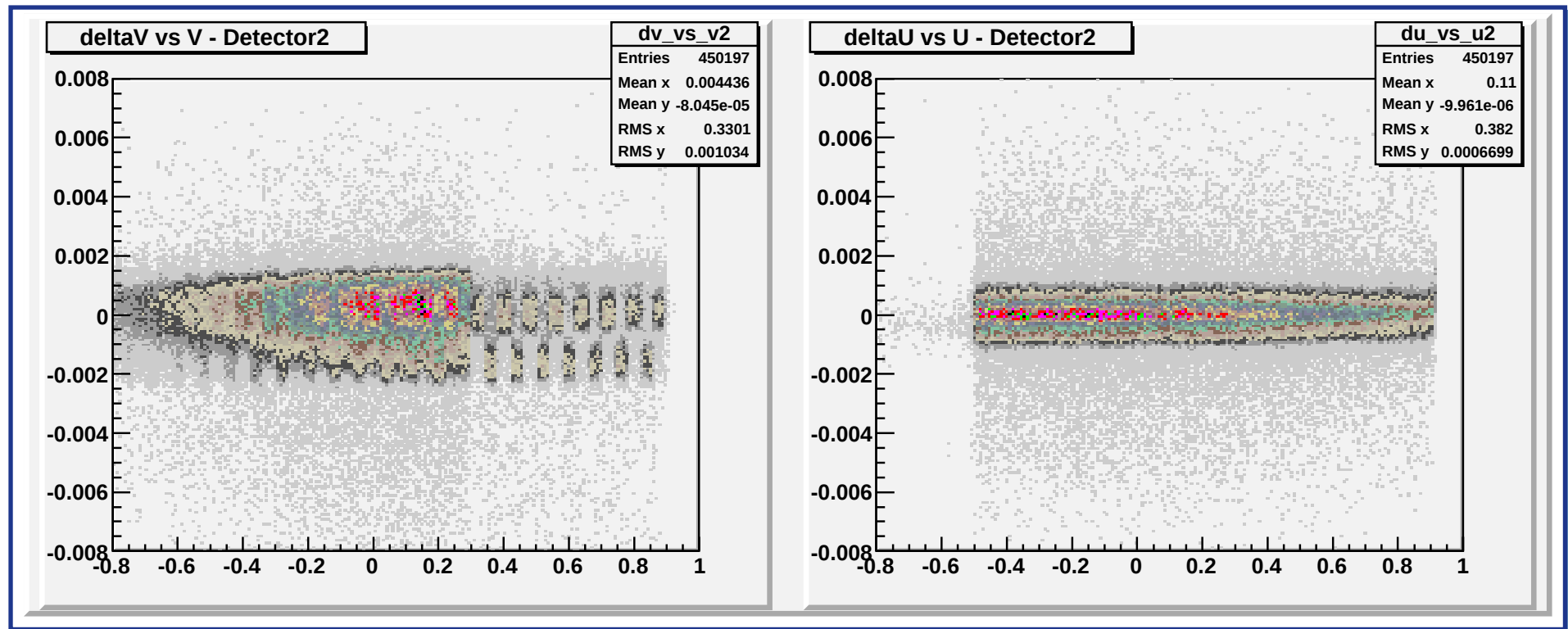
Chip	Threshold	Eff (%)	$\Delta(\text{Eff}(\%))$
12	770	98.42	0.16
12	760	98.21	0.23
12	750	98.35	0.22
12	740	98.86	0.22
12	730	98.61	0.47
12	780	95.95	0.46
12	790	97.35	0.21
12	800	96.75	0.33
12	810	96.64	0.44
12	820	94.46	0.58
55	770	98.43	0.16
55	760	98.51	0.21
55	750	98.04	0.24
55	740	98.34	0.27
55	780	97.84	0.34
55	790	97.50	0.21
55	800	97.61	0.28
55	810	97.52	0.40
55	820	95.83	0.51

Telescope Det #0 residuals, A.Paladino

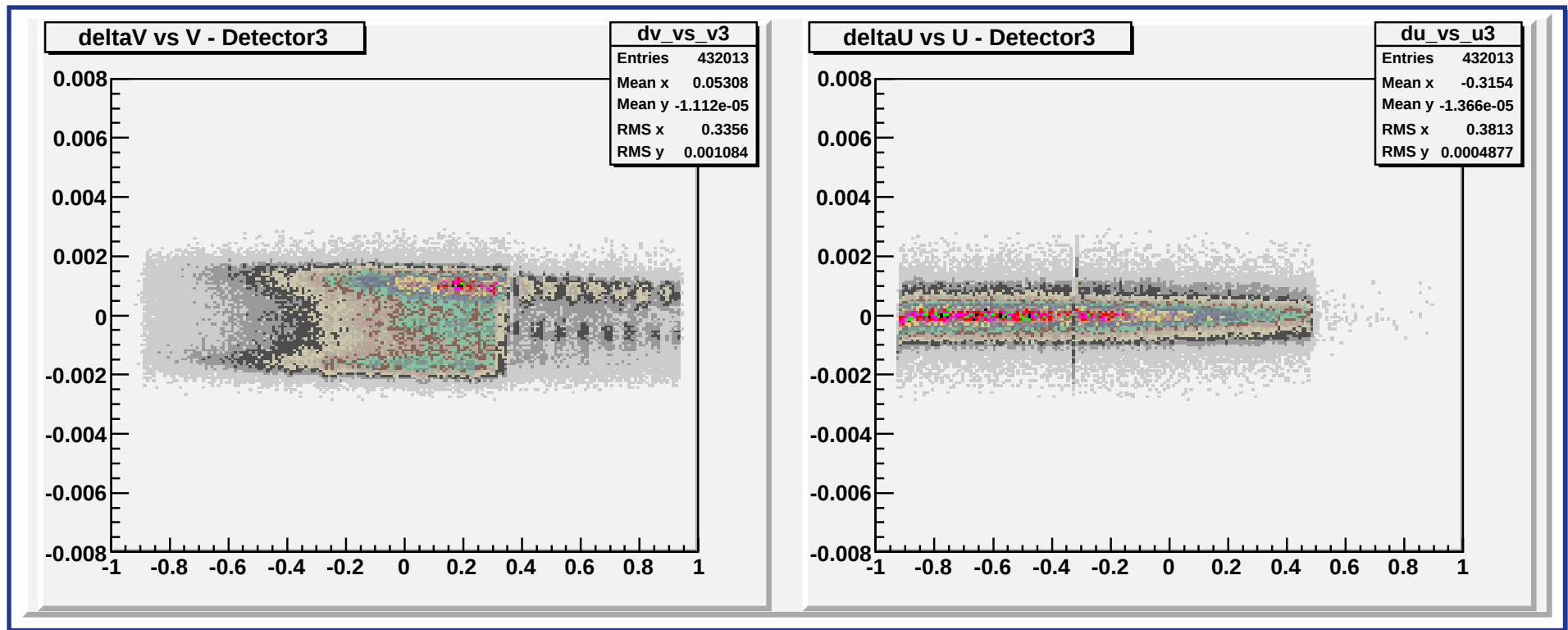


Telescope Det #1 residuals, A.Paladino

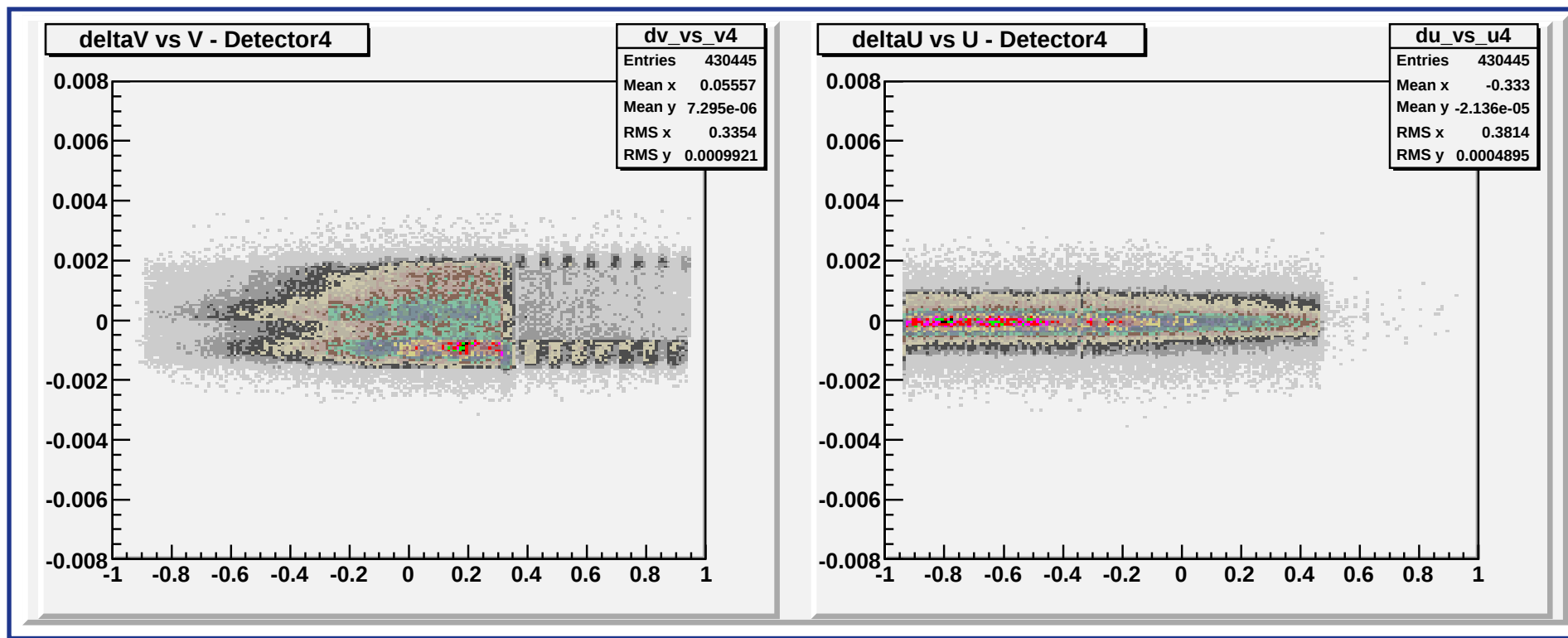
Telescope Det #2 residuals, A.Paladino



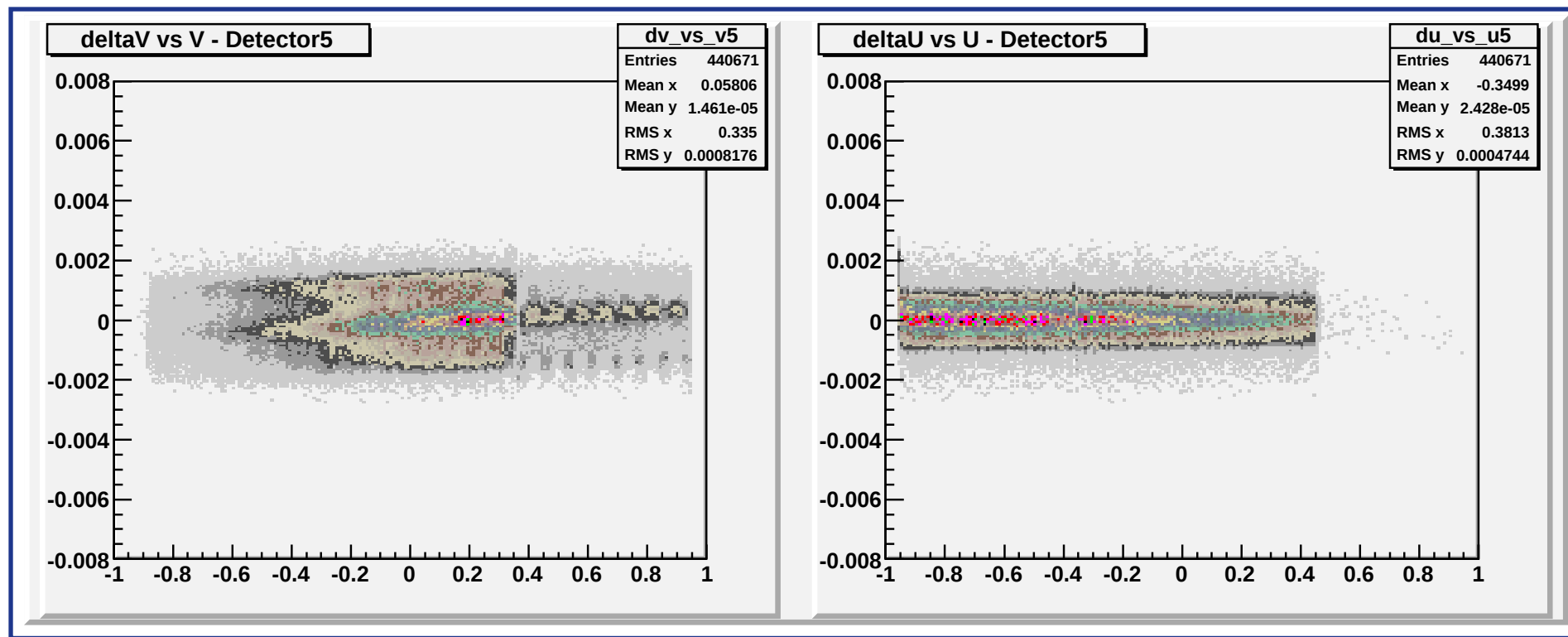
Telescope Det #3 residuals, A.Paladino



Telescope Det #4 residuals, A.Paladino



Telescope Det #5 residuals, A.Paladino



Conclusion

- ◆ hopefully residual plots can prompt & direct HW checks on the telescope modules
- ◆ work still on-going on alignment with Millepede (B.Oberhof)
- ◆ Marcin in Krakow is also producing plots on the odd telescope residuals
- ◆ N.Neri had also plans to review his alignment algorithm
- ◆ → correct HW defects in SW & re-align
- ◆ → more thorough alignment of DUTs
- ◆ → investigate problematic runs
- ◆ my sensation is that the efficiency figures will not change