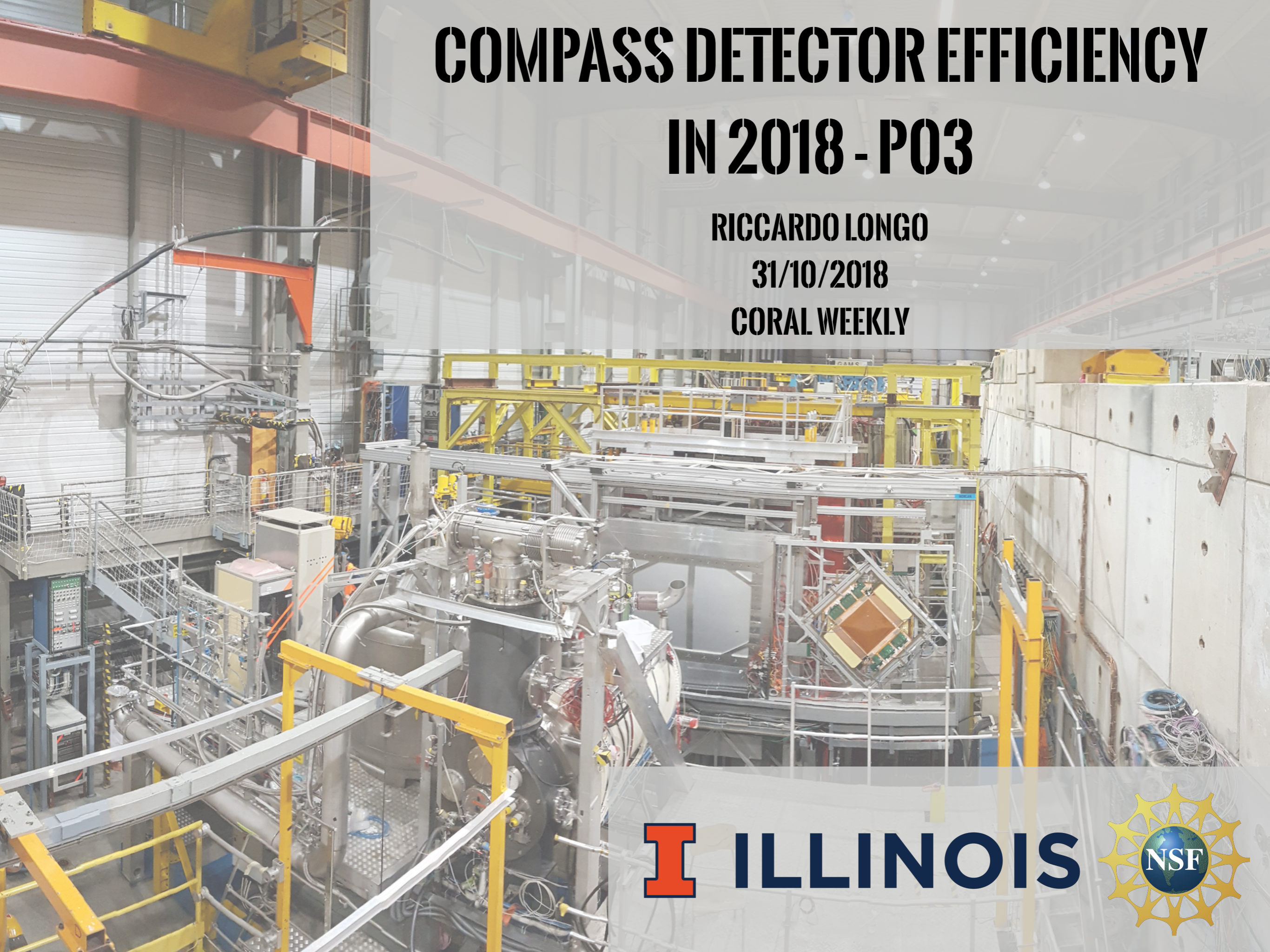


COMPASS DETECTOR EFFICIENCY IN 2018 - P03

RICCARDO LONGO

31/10/2018

CORAL WEEKLY



I ILLINOIS



EXTRACTION DETAILS

- P03t1 setup:
 - Coral r6d48b499 revision from GitLab;
 - Latest detectors.284941.transv.dat and dico file from Renat;
 - Production and efficiencies ran on Blue-Waters:
 - Production folder in the usual place:
/projects/sciteam/balh/compass/RDproductions/dy2018P03t1_escalade
 - MySQL database checked out on October the 10th;
 - ~12 chunks sampled for each produced run;
 - Latest updates from W45 [All planes] and DC04 [U1,U2,V2];

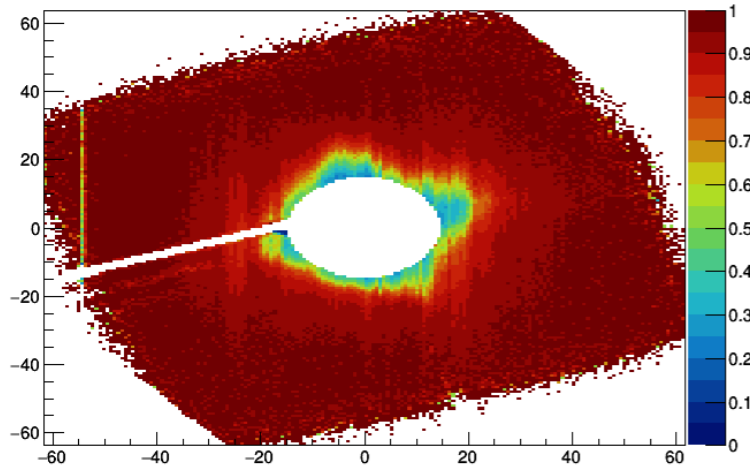
#	Det. type	Det. name	Creation time	Insertion time	Type	Valid from	Valid to
435872	DC	DC04U1__	Tue 09 October 2018, 16:53	Tue 09 October 2018, 16:53	default	Mon 01 January 2018, 00:00	Mon 31 December 2018, 00:00
435873	DC	DC04U2__	Tue 09 October 2018, 16:53	Tue 09 October 2018, 16:53	default	Mon 01 January 2018, 00:00	Mon 31 December 2018, 00:00
436293	DC	DC04X2__	Wed 10 October 2018, 16:09	Wed 10 October 2018, 16:09	default	Mon 01 January 2018, 00:00	Mon 31 December 2018, 00:00
437608	DW	DW01X1__	Thu 11 October 2018, 21:12	Thu 11 October 2018, 21:12	default	Mon 01 January 2018, 00:00	Fri 31 December 2021, 23:59
437609	DW	DW01X2__	Thu 11 October 2018, 21:13	Thu 11 October 2018, 21:13	default	Mon 01 January 2018, 00:00	Fri 31 December 2021, 23:59
437610	DW	DW01Y1__	Thu 11 October 2018, 21:13	Thu 11 October 2018, 21:13	default	Mon 01 January 2018, 00:00	Fri 31 December 2021, 23:59
437611	DW	DW01Y2__	Thu 11 October 2018, 21:13	Thu 11 October 2018, 21:13	default	Mon 01 January 2018, 00:00	Fri 31 December 2021, 23:59

⋮ DW02, DW03, DW04, DW05, DW06

- In the following, a selection of interesting results is shown;
- Other efficiency maps can be found in the backup. UE11 outputs are available in:
/afs/cern.ch/work/r/rlongo/public/2018-P03/

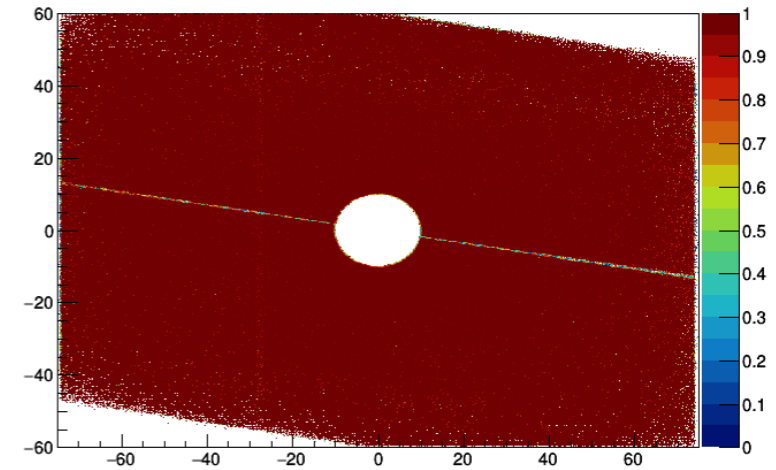
SELECTED EFFICIENCIES

DC00U1__: Efficiency (6σ) = 77.5377 %

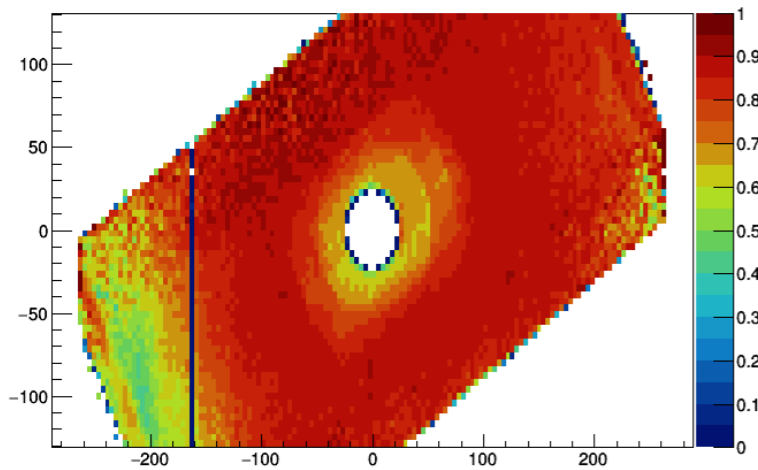


- DC00U1, Slightly lower wrt 2015 (-5/7%);
- PA05 efficiency not affected by the noise;

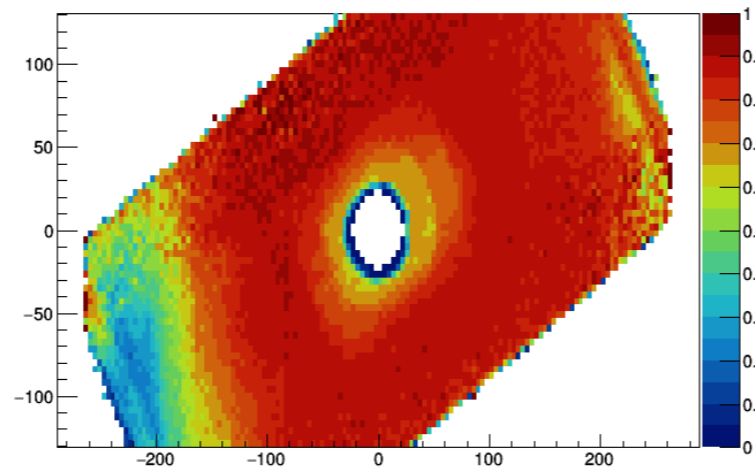
PA05U1__: Efficiency (6σ) = 98.9179 %



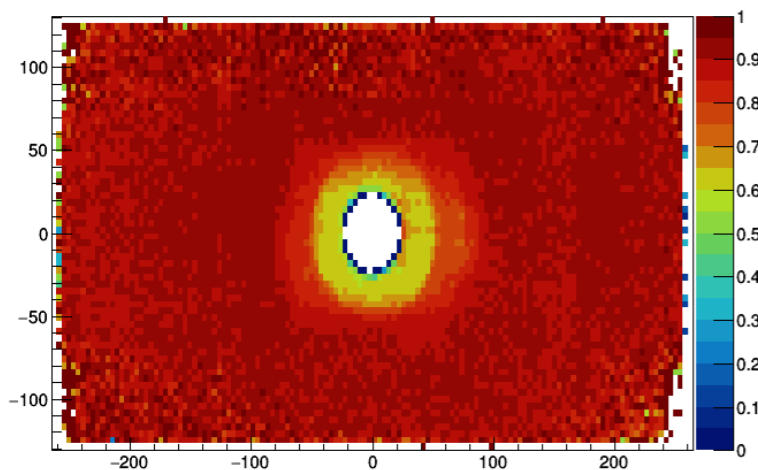
DW04U1__: Efficiency (6σ) = 75.1307 %



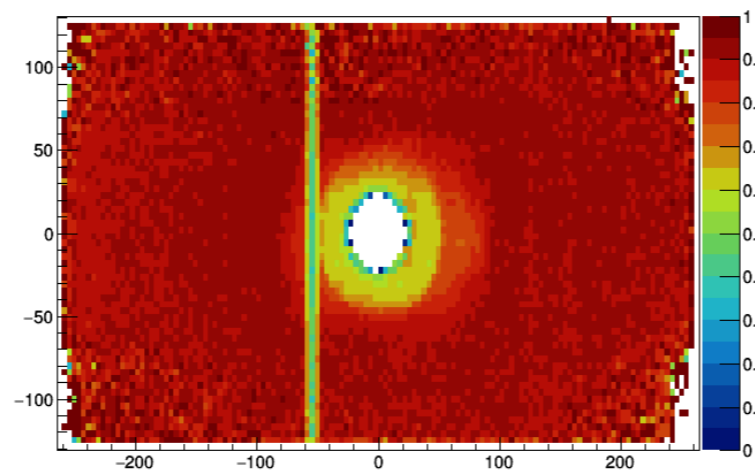
DW04U2__: Efficiency (6σ) = 70.8 %



DW05X1__: Efficiency (6σ) = 76.7136 %



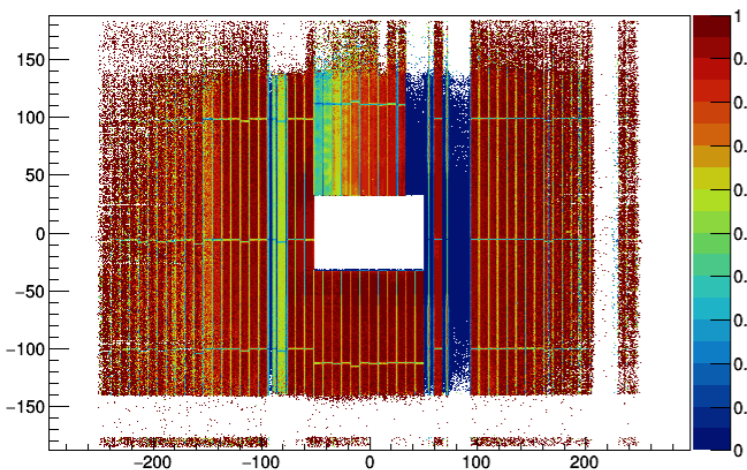
DW05X2__: Efficiency (6σ) = 75.5098 %



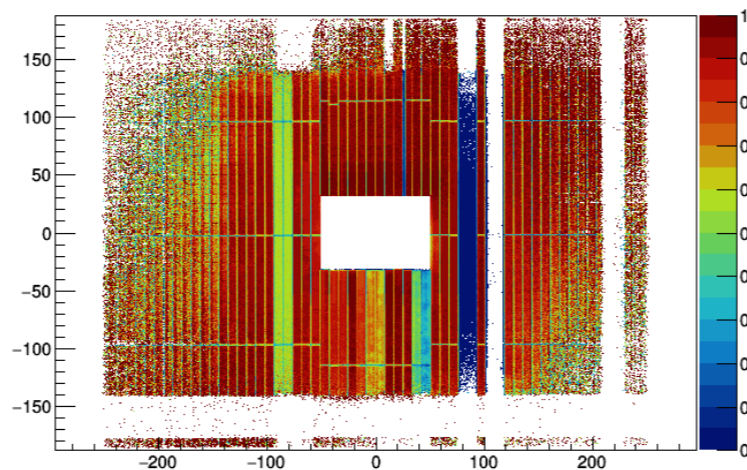
- Less efficient region (with circular shape) in the middle of two view (DW04U and DW05X)

SELECTED EFFICIENCIES

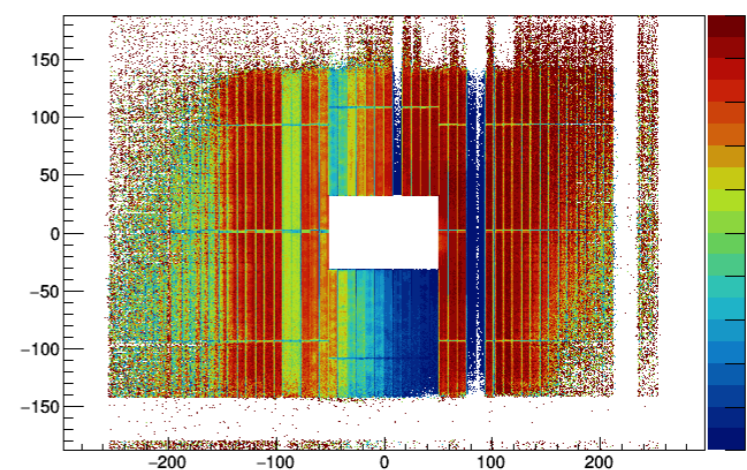
DR01X1__: Efficiency (6σ) = 69.2296 %



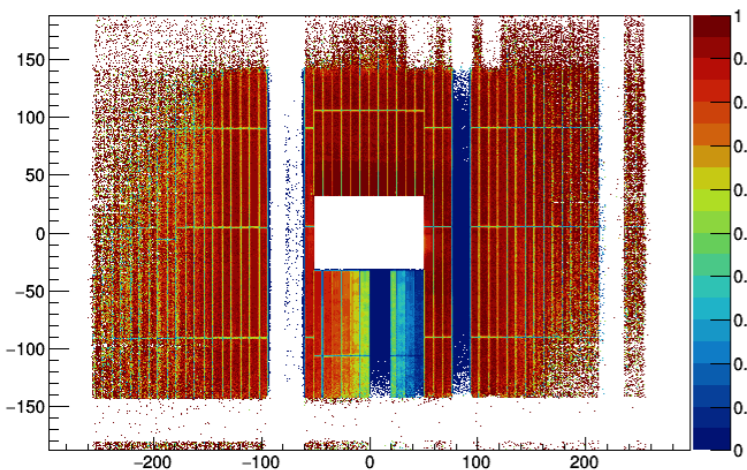
DR01X2__: Efficiency (6σ) = 75.6228 %



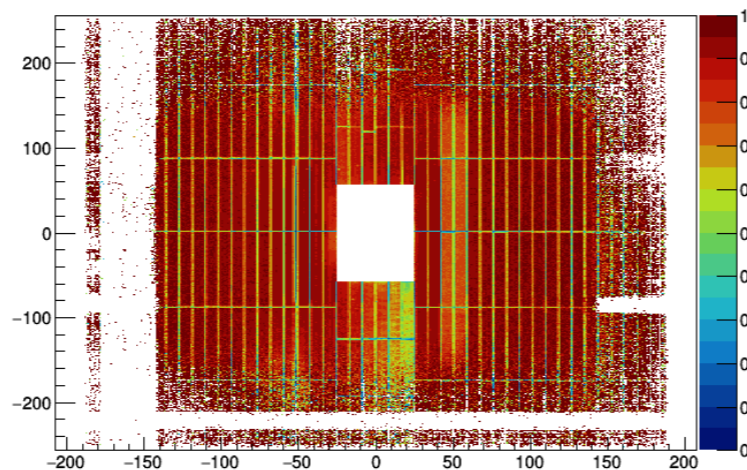
DR02X1__: Efficiency (6σ) = 54.4908 %



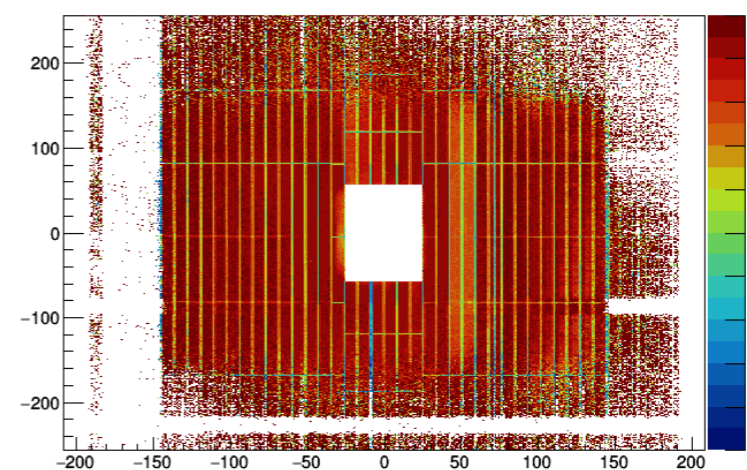
DR02X2__: Efficiency (6σ) = 58.329 %



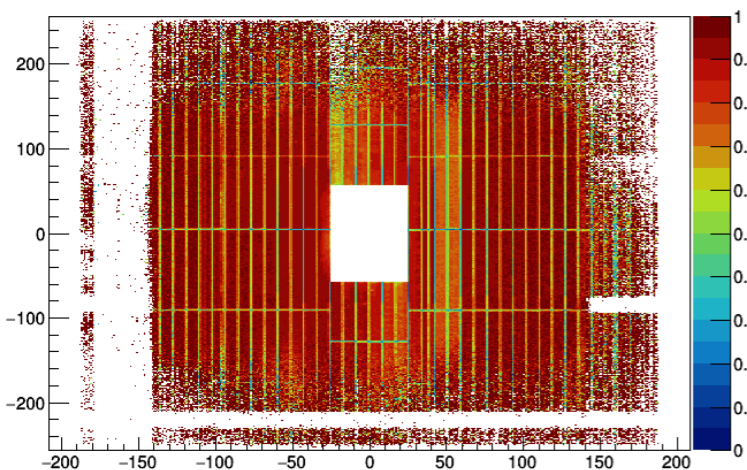
DR01Y2__: Efficiency (6σ) = 81.4031 %



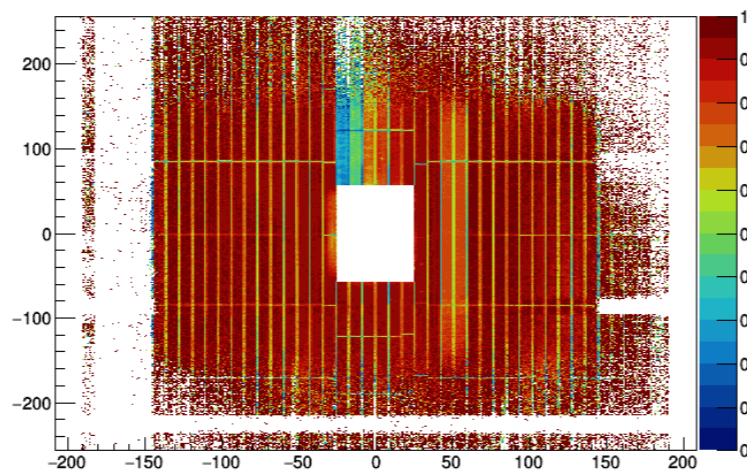
DR02Y2__: Efficiency (6σ) = 84.0068 %



DR01Y1__: Efficiency (6σ) = 82.0309 %



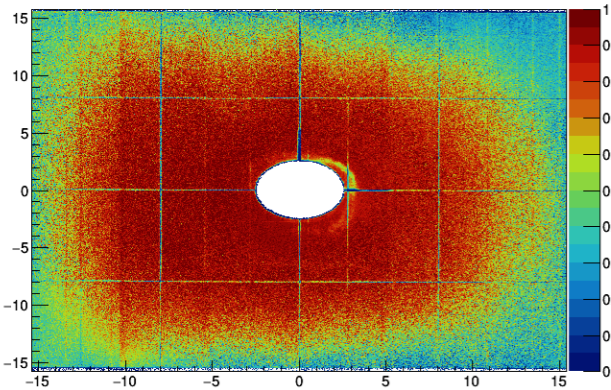
DR02Y1__: Efficiency (6σ) = 83.3504 %



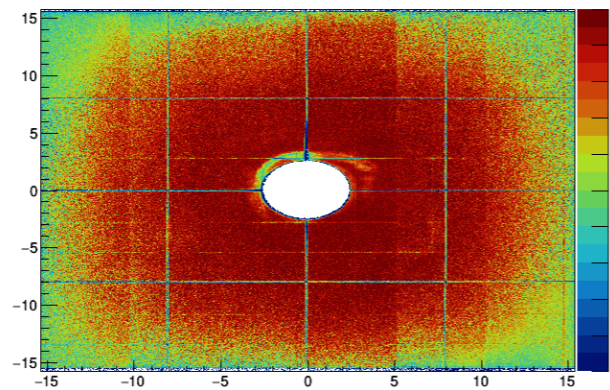
- DR0[1-2]X still in bad shape during P03,
- Missing card on X or Y affecting also Y or X results (respectively); This is effect of efficiency determination;

SELECTED EFFICIENCIES

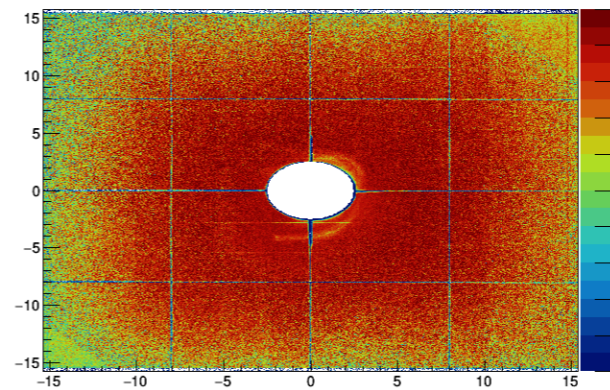
GM01U1__: Efficiency (6σ) = 67.5364 %



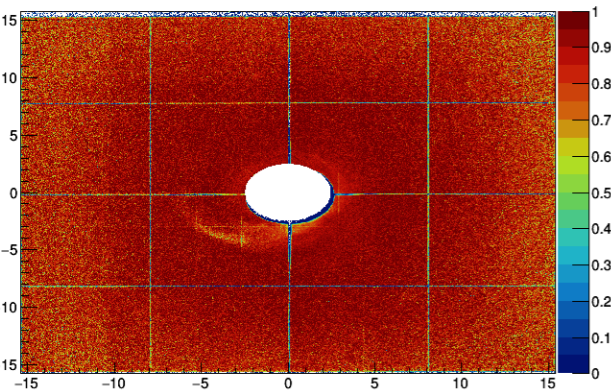
GM01V1__: Efficiency (6σ) = 73.1282 %



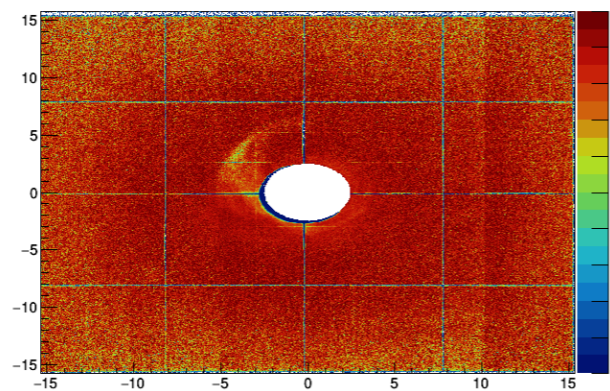
GM03U1__: Efficiency (6σ) = 76.0874 %



GM02X1__: Efficiency (6σ) = 84.1117 %

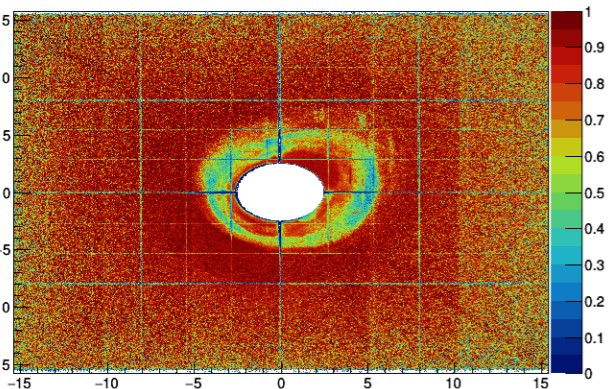


GM02Y1__: Efficiency (6σ) = 80.8535 %

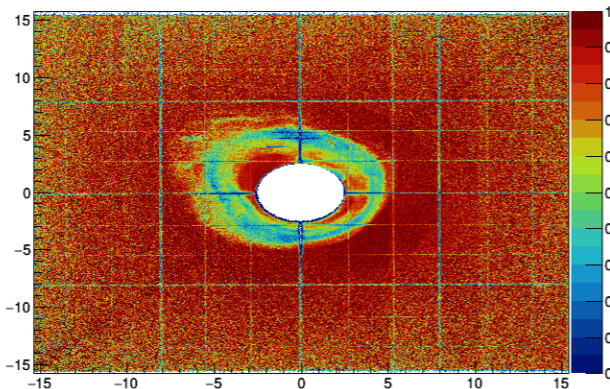


- Strange inefficiencies for GM01[U-V] and GM03U
- Some small dead-zone issue for GM02;
- Many planes affected by “GM04 topology”

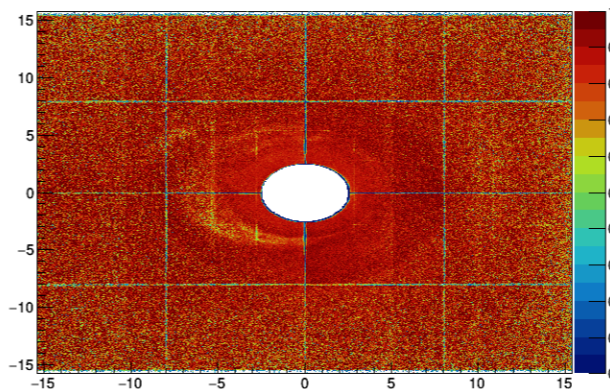
GM04U1__: Efficiency (6σ) = 73.5816 %



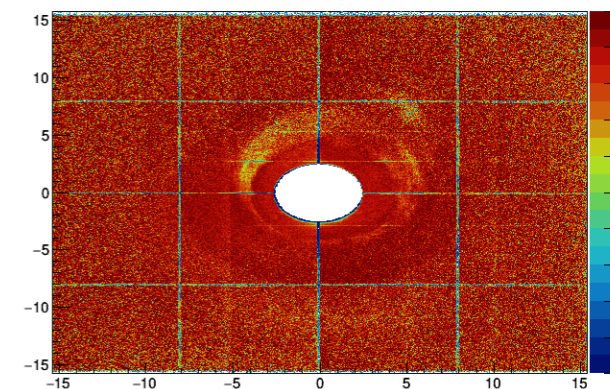
GM04V1__: Efficiency (6σ) = 71.0247 %



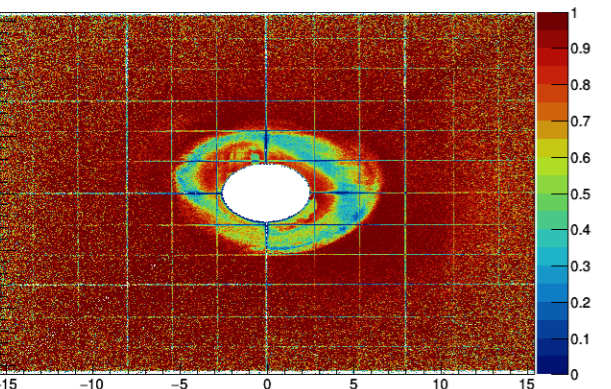
GM04X1__: Efficiency (6σ) = 83.5631 %



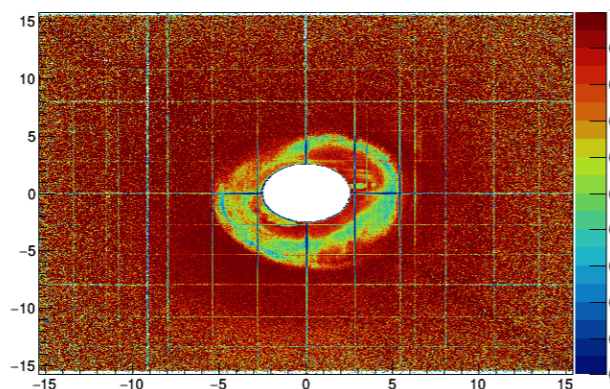
GM04Y1__: Efficiency (6σ) = 83.7964 %



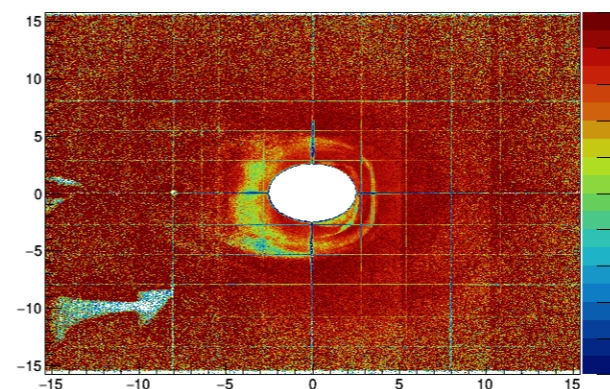
GM05V1__: Efficiency (6σ) = 72.148 %



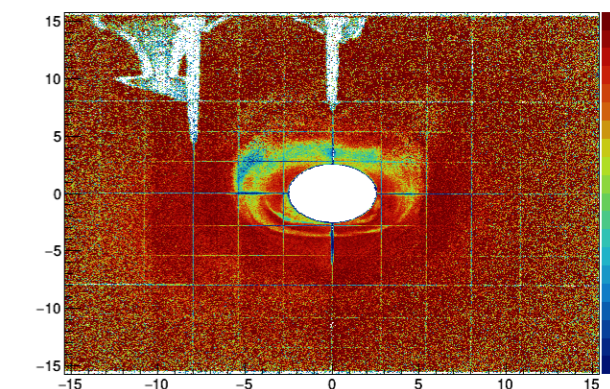
GM05U1__: Efficiency (6σ) = 75.669 %



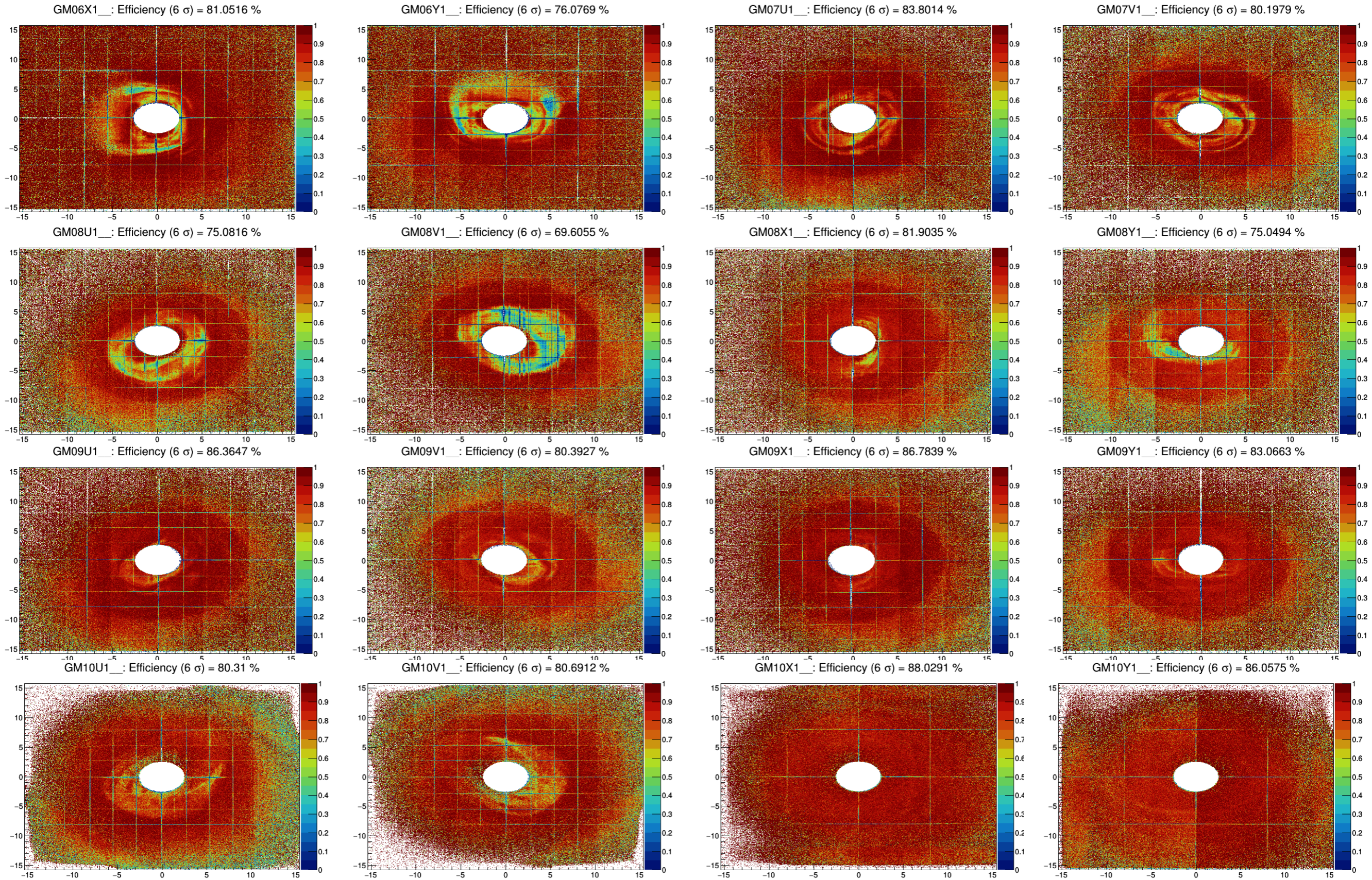
GM05X1__: Efficiency (6σ) = 81.6098 %



GM05Y1__: Efficiency (6σ) = 78.5638 %



SELECTED EFFICIENCIES



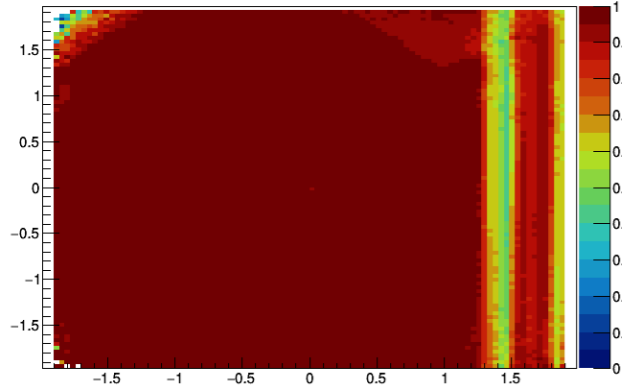
SUMMARY

- Overall picture looks pretty good;
- Not many problems with dead zones (only something for GM02);
- X planes of the RichWall shows many inefficient regions (not optimum gas flow + missing cards);
- Some strange circular topology (DW04U, DW05X, GM0[5...10]);
- Many GEMs showing central structures like GM04 in previous years;
- UE11 outputs are available in </afs/cern.ch/work/r/rlongo/public/2018-P03/>
- If the detector experts are interested in coral output or in some reprocessing via UE11, please contact me asap [I plan to move data from BW disk to tape tomorrow].

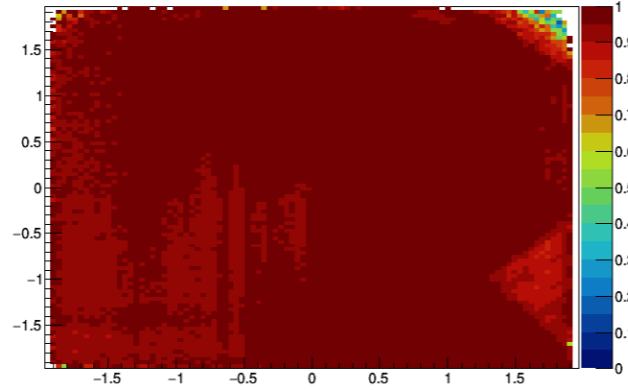
BACKUP

BEAM TELESCOPE

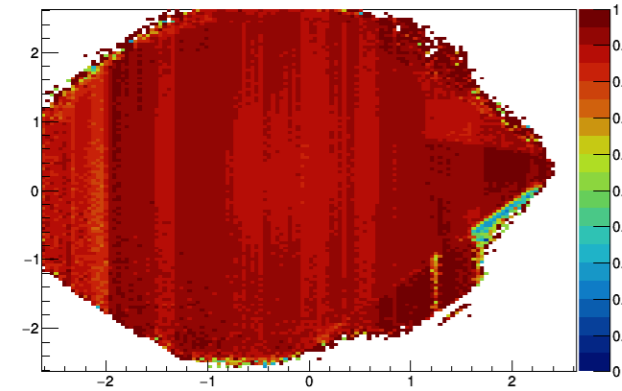
FI01X1__: Efficiency (6σ) = 94.3352 %



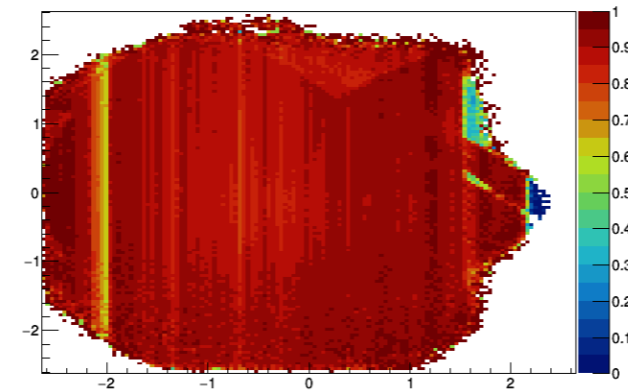
FI01Y1__: Efficiency (6σ) = 96.3424 %



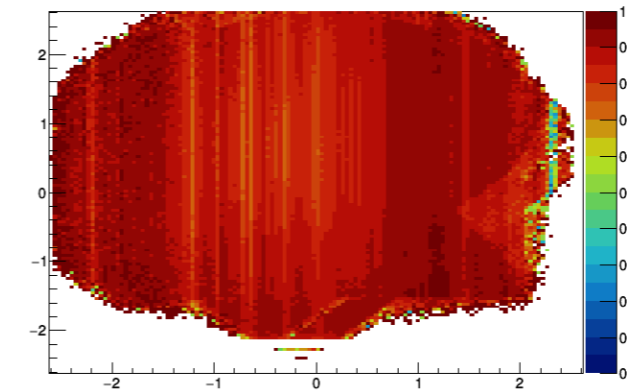
FI04U1__: Efficiency (6σ) = 90.2822 %



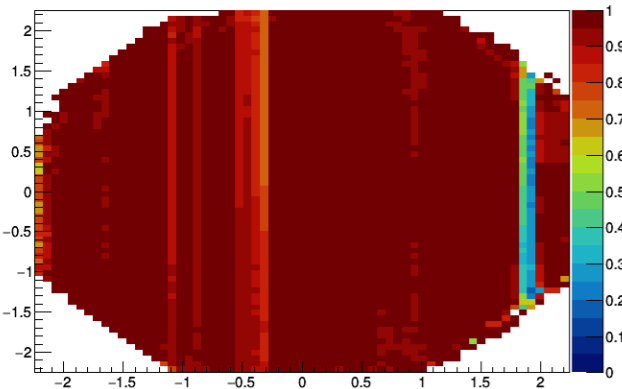
FI04X1__: Efficiency (6σ) = 88.7219 %



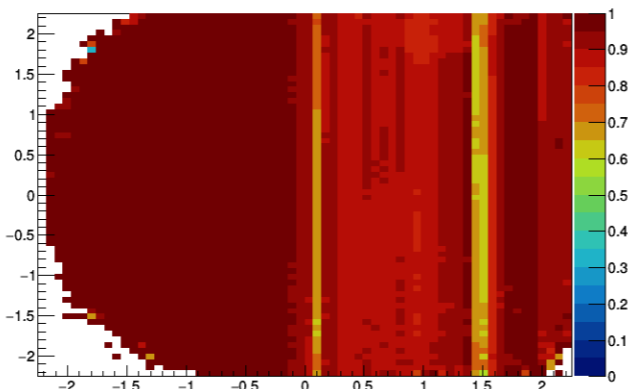
FI04Y1__: Efficiency (6σ) = 86.4964 %



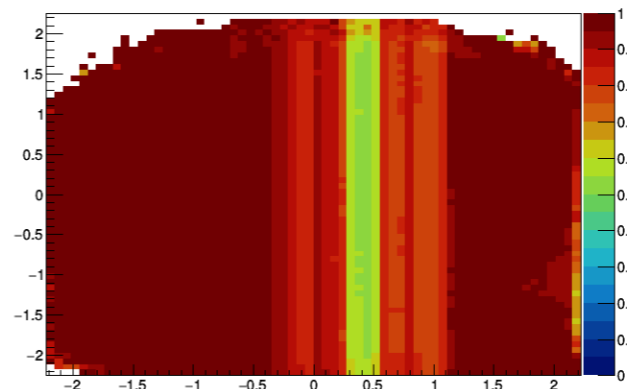
FI15U1__: Efficiency (6σ) = 94.6283 %



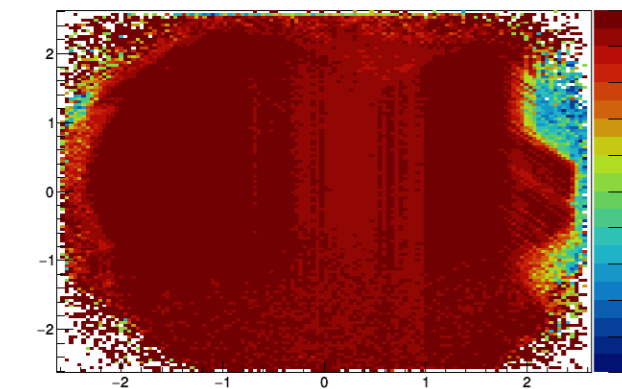
FI15X1__: Efficiency (6σ) = 91.0351 %



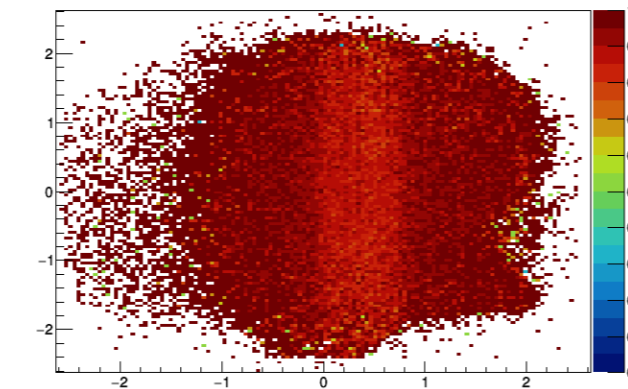
FI15Y1__: Efficiency (6σ) = 81.9794 %



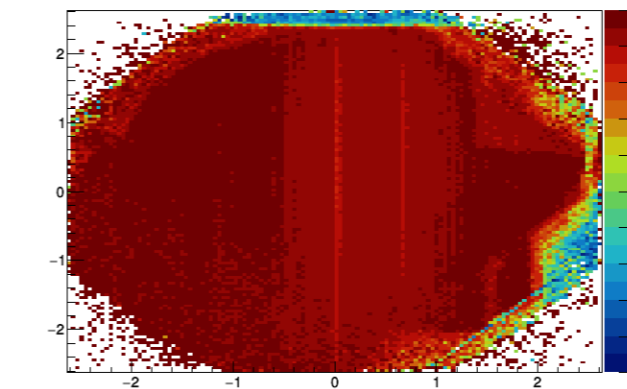
FI03X1__: Efficiency (6σ) = 95.4915 %

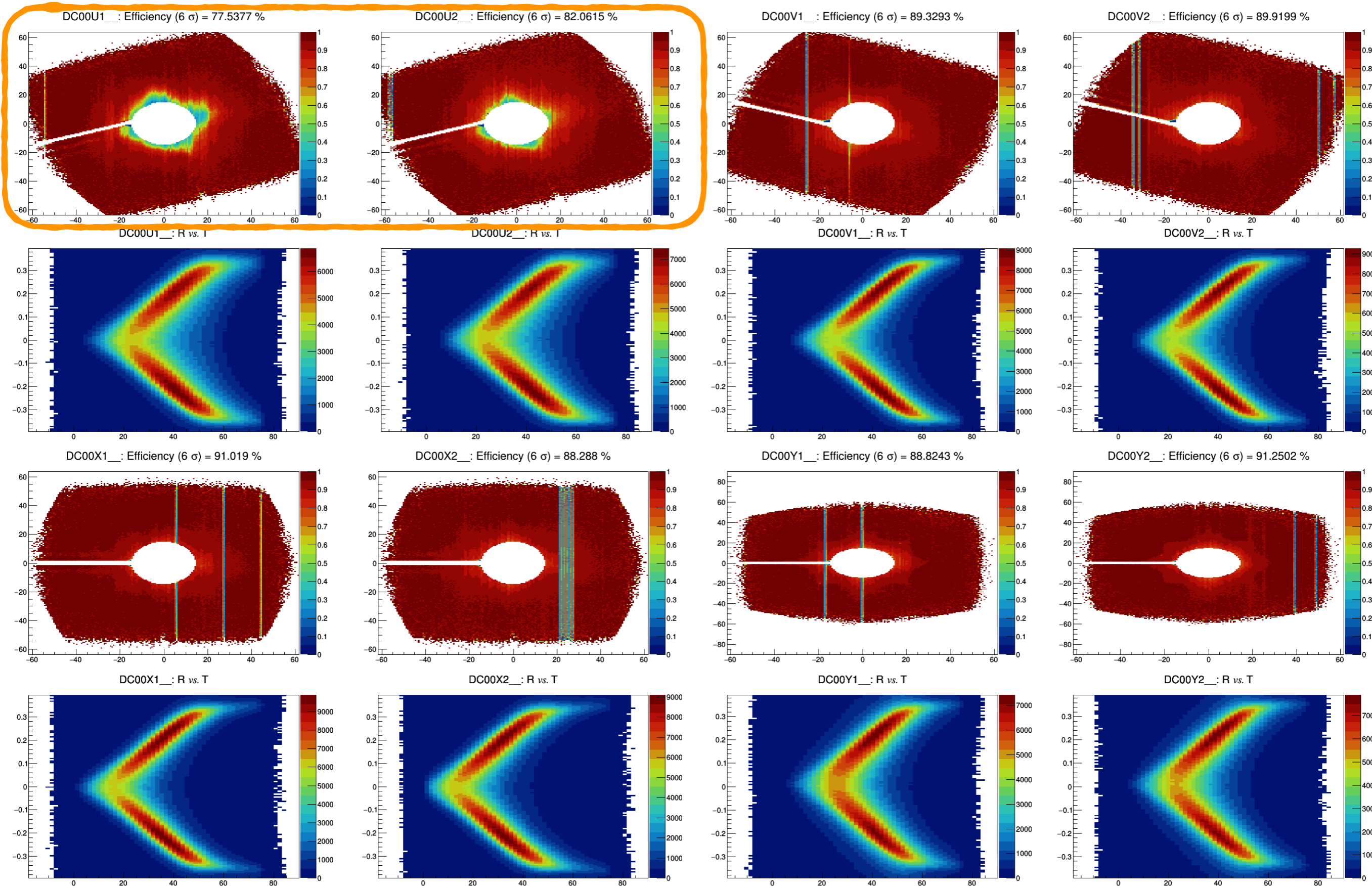


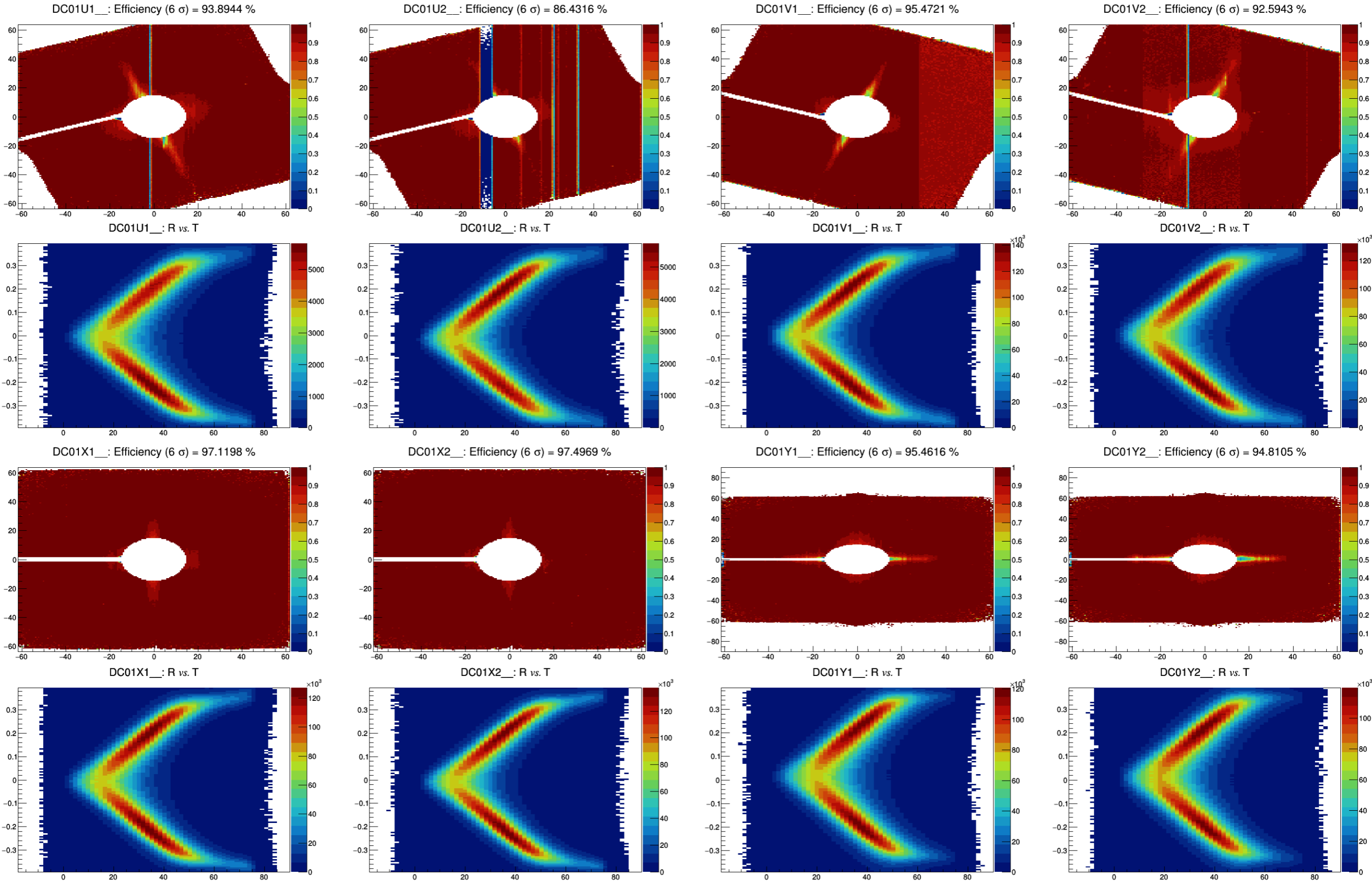
FI03Y1__: Efficiency (6σ) = 90.8457 %



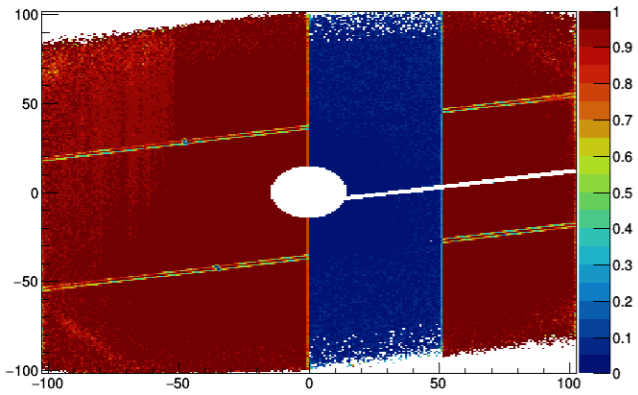
FI03U1__: Efficiency (6σ) = 93.5541 %





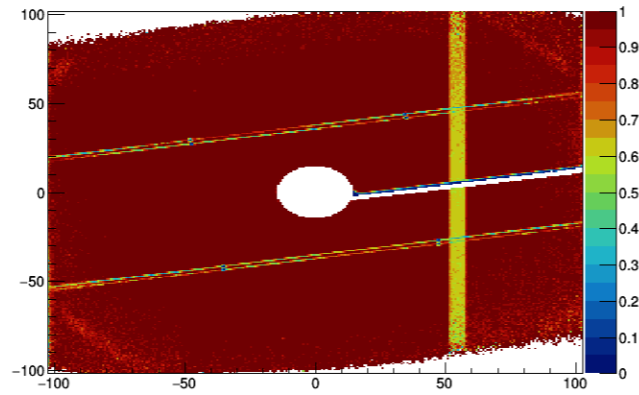


DC04U1__: Efficiency (6σ) = 56.5582 %



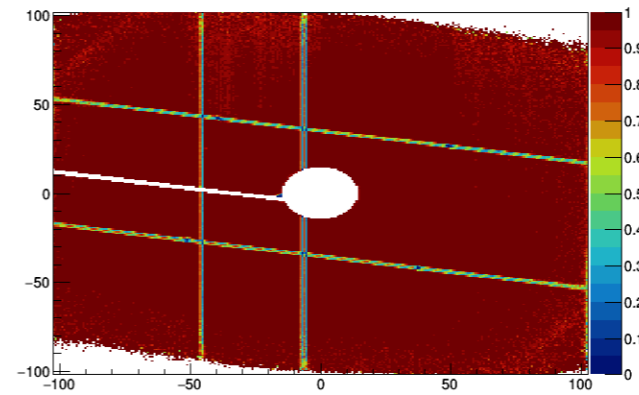
DC04U1__: R vs. T

DC04U2__: Efficiency (6σ) = 97.3234 %



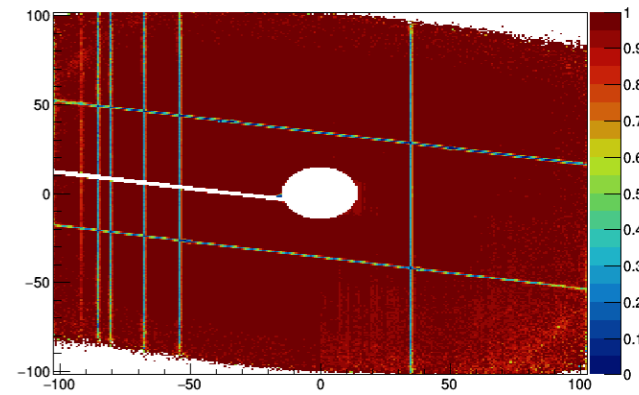
DC04U2__: R vs. T

DC04V1__: Efficiency (6σ) = 94.7627 %

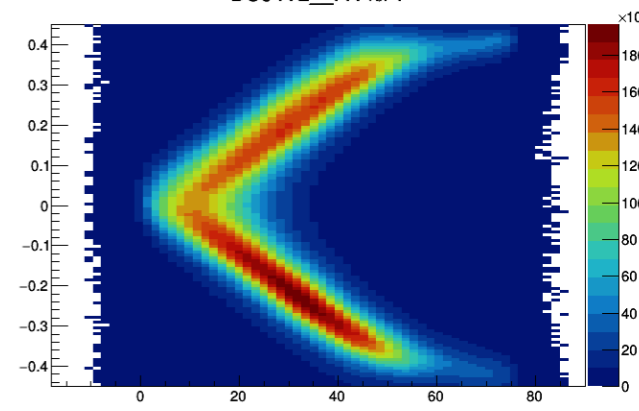
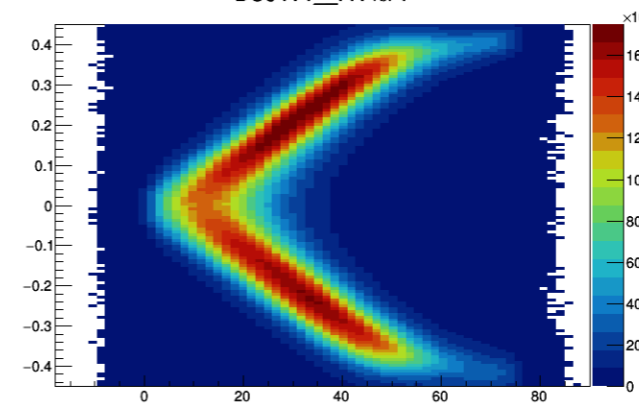
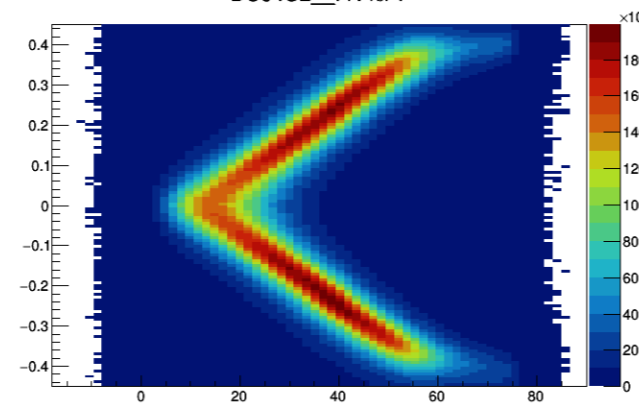
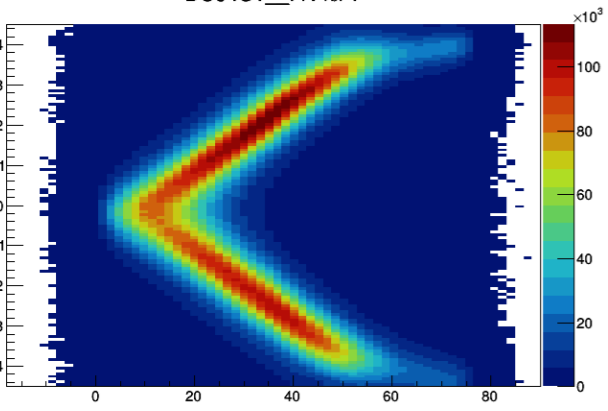


DC04V1__: R vs. T

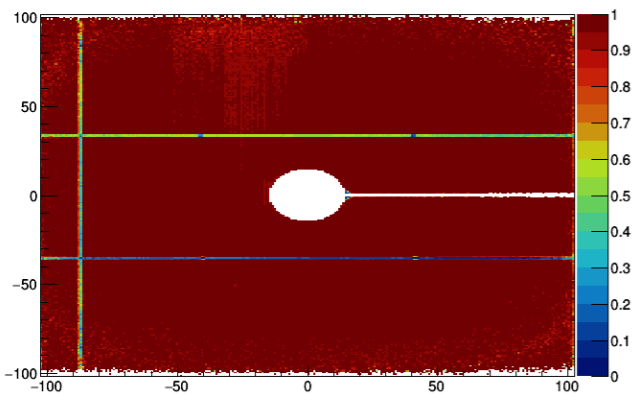
DC04V2__: Efficiency (6σ) = 96.4169 %



DC04V2__: R vs. T

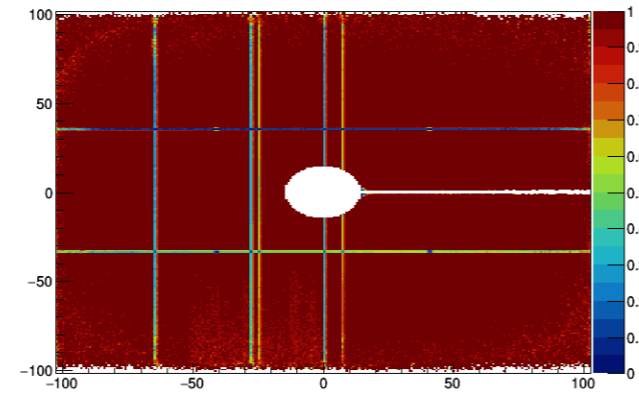


DC04X1__: Efficiency (6σ) = 97.2609 %



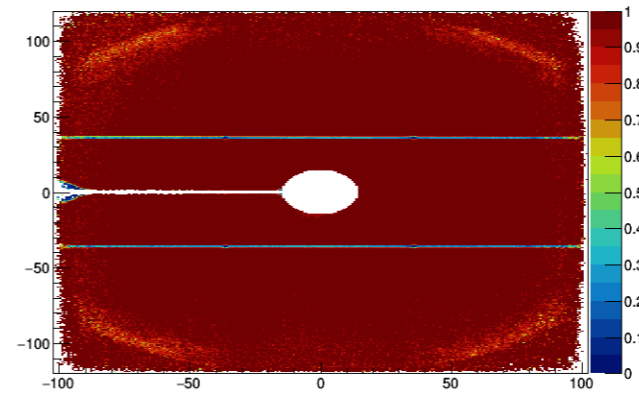
DC04X1__: R vs. T

DC04X2__: Efficiency (6σ) = 94.8052 %



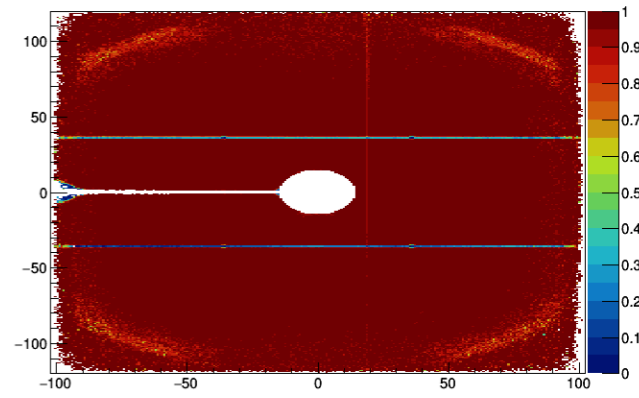
DC04X2__: R vs. T

DC04Y1__: Efficiency (6σ) = 97.4995 %

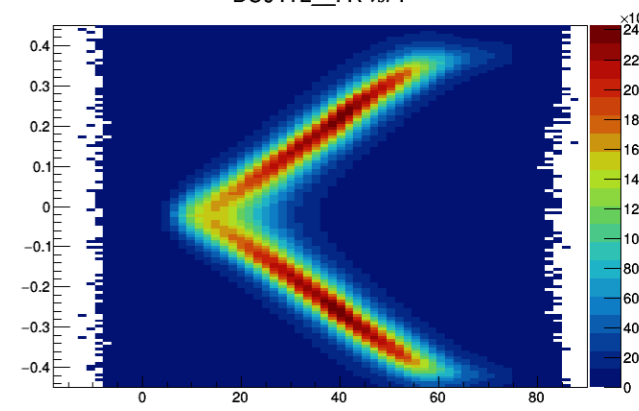
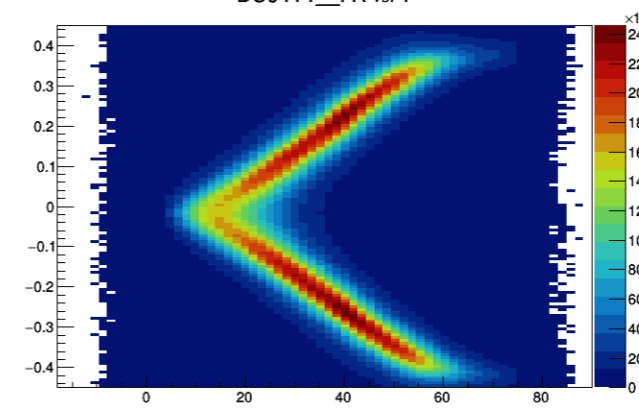
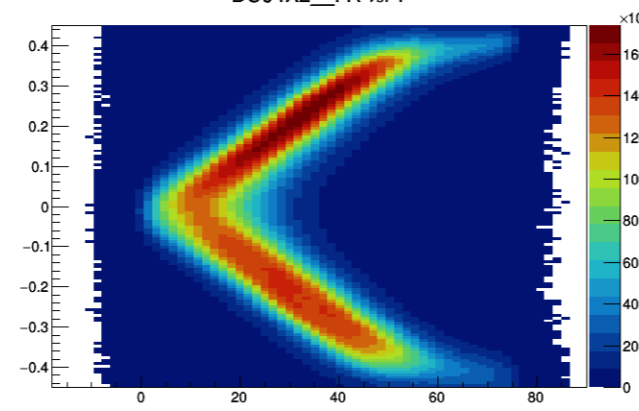
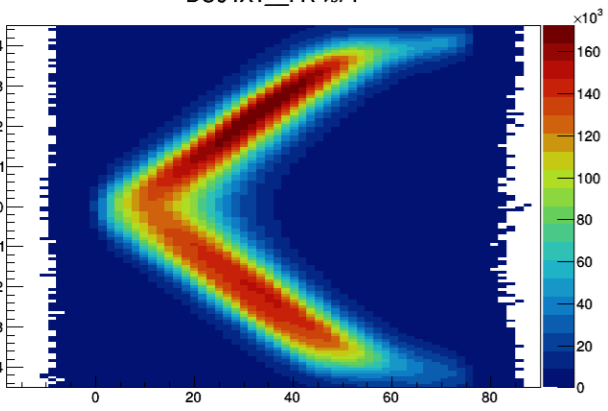


DC04Y1__: R vs. T

DC04Y2__: Efficiency (6σ) = 97.6152 %

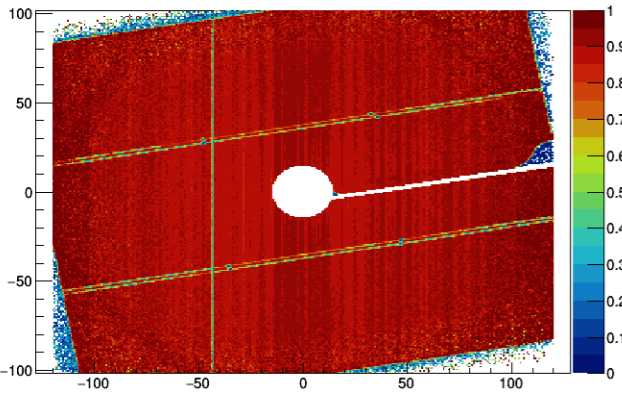


DC04Y2__: R vs. T

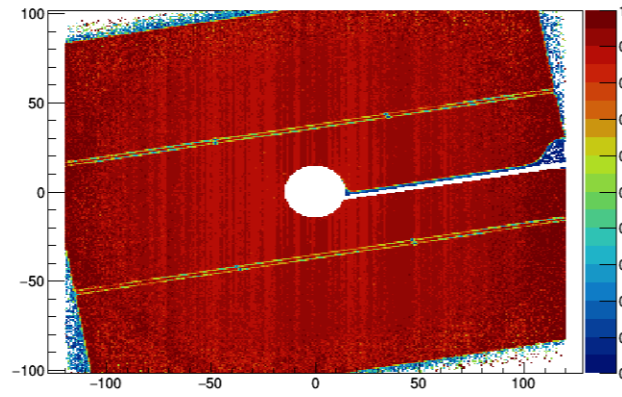


DC05 - W4.5

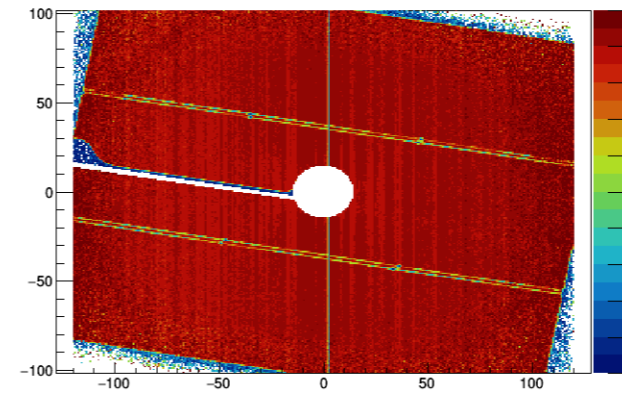
DC05U1__: Efficiency (12σ) = 88.4075 %



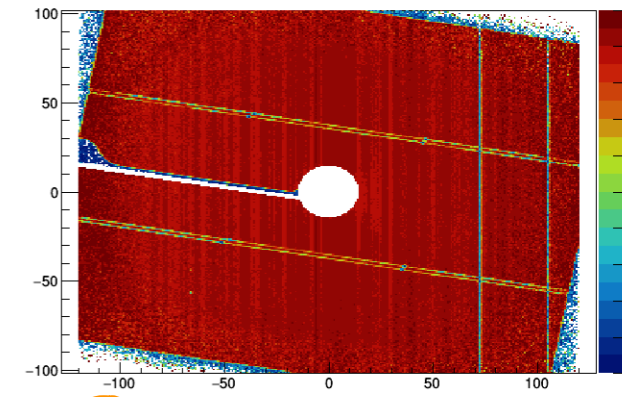
DC05U2__: Efficiency (12σ) = 88.9996 %



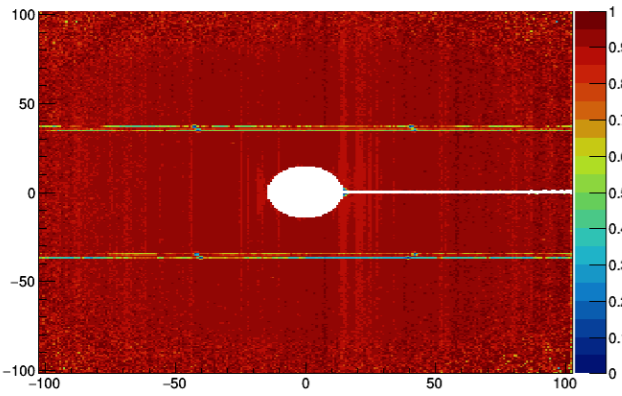
DC05V1__: Efficiency (12σ) = 88.6553 %



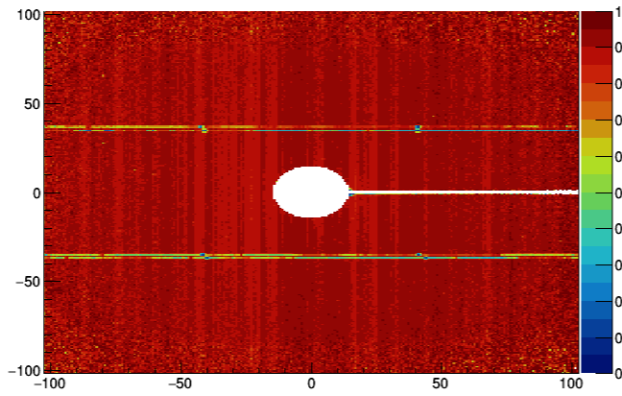
DC05V2__: Efficiency (12σ) = 89.9263 %



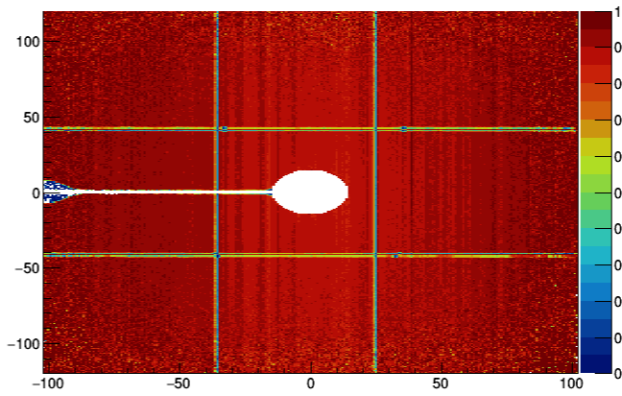
DC05X1__: Efficiency (12σ) = 90.8176 %



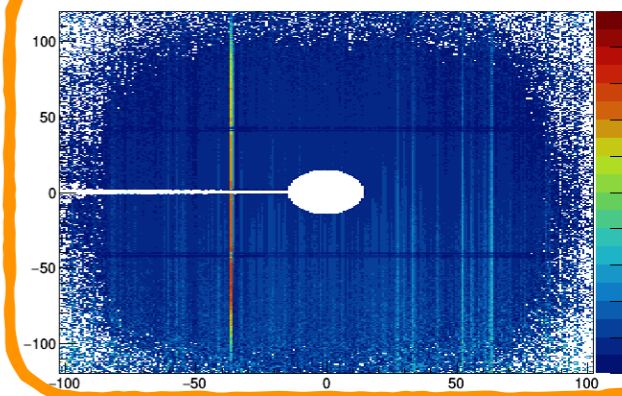
DC05X2__: Efficiency (12σ) = 89.7604 %



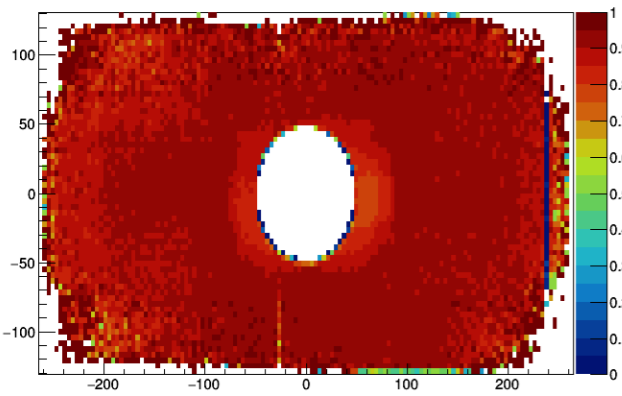
DC05Y1__: Efficiency (12σ) = 86.6704 %



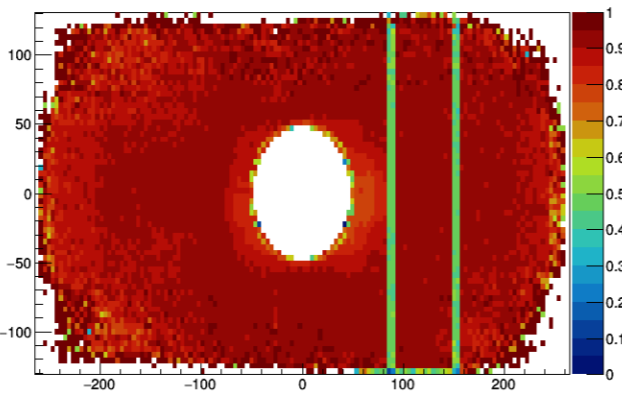
DC05Y2__: Efficiency (12σ) = 9.08169 %



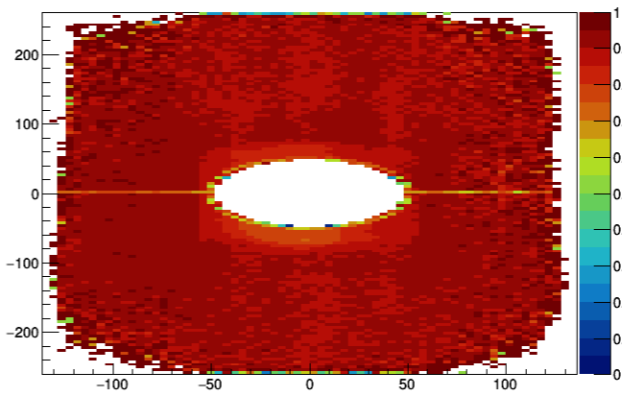
DW01X1__: Efficiency (6σ) = 88.0079 %



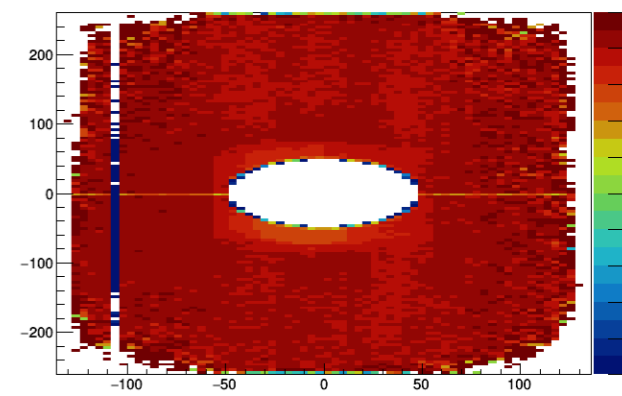
DW01X2__: Efficiency (6σ) = 85.9516 %



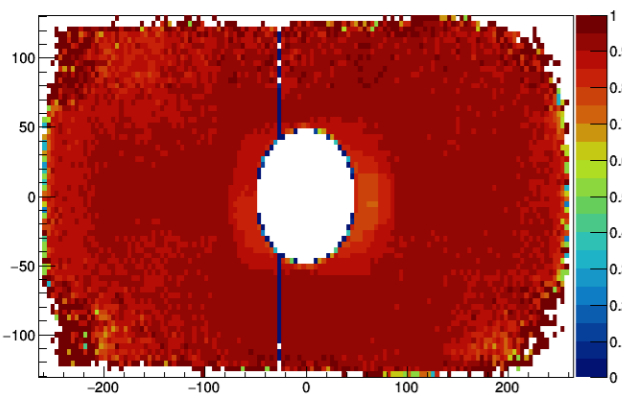
DW01Y1__: Efficiency (6σ) = 87.6713 %



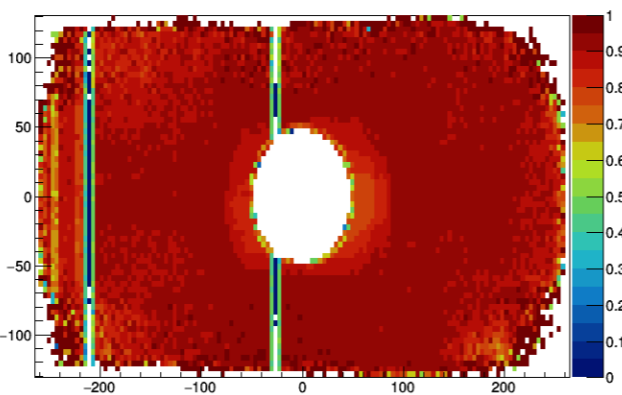
DW01Y2__: Efficiency (6σ) = 87.335 %



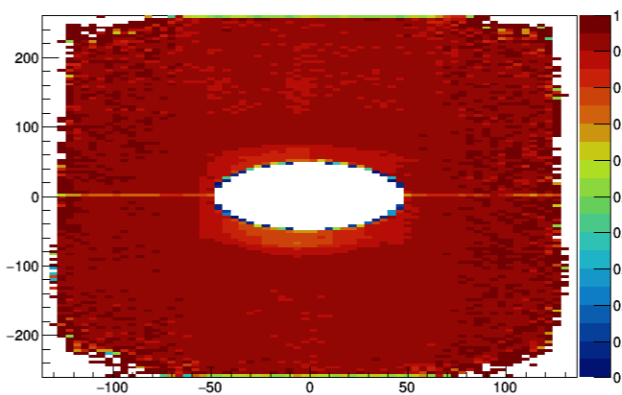
DW02X1__: Efficiency (6σ) = 87.5926 %



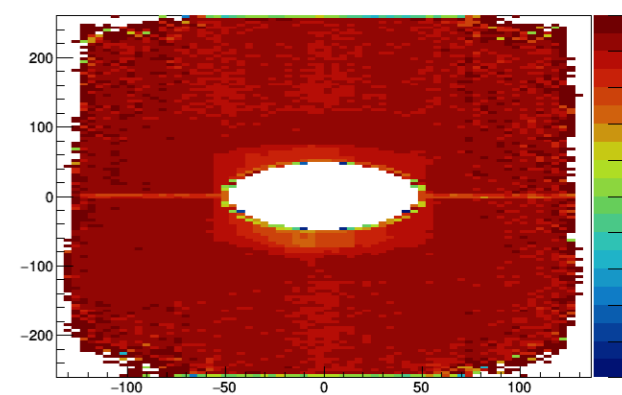
DW02X2__: Efficiency (6σ) = 86.6368 %

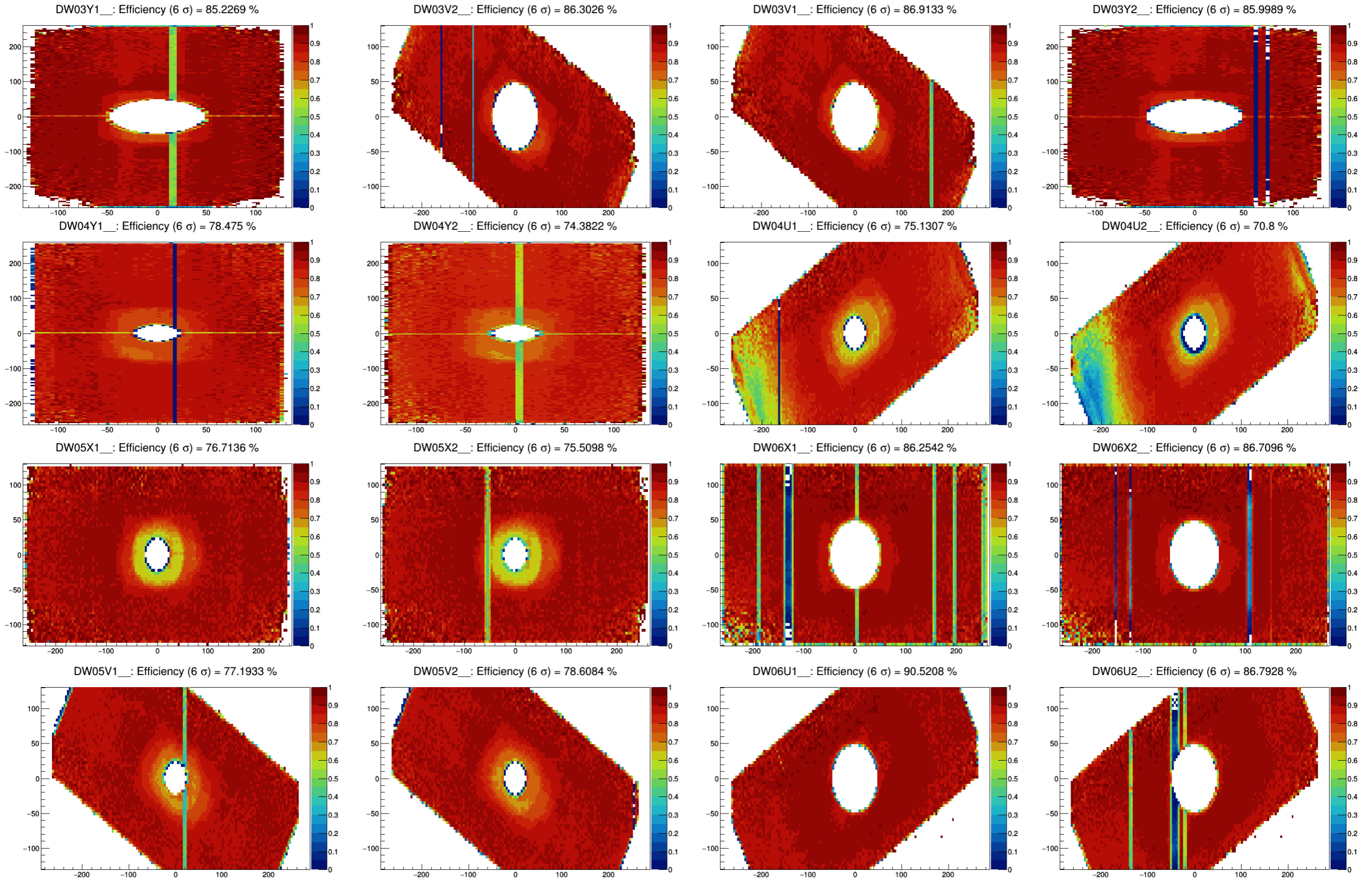


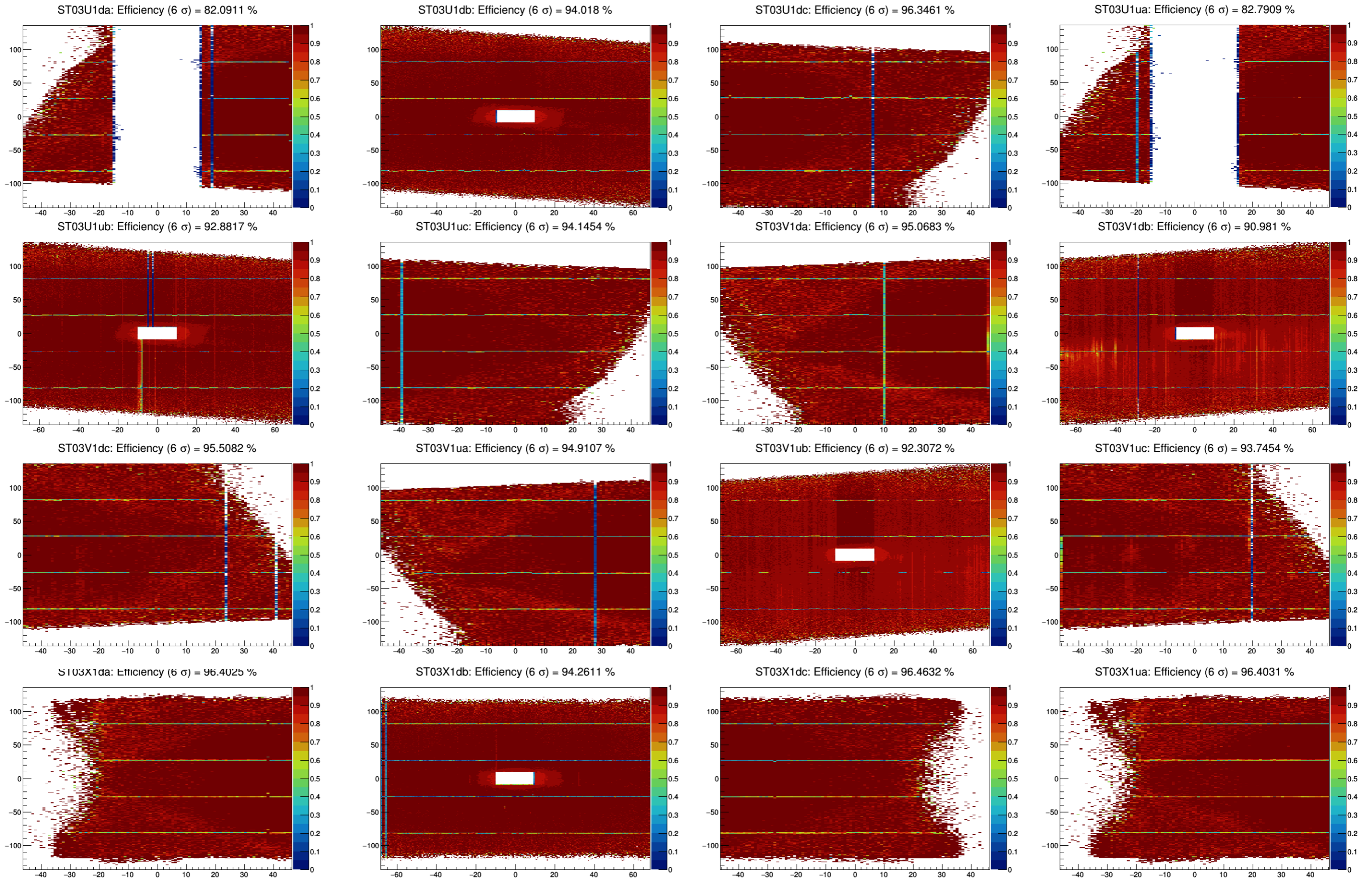
DW02Y2__: Efficiency (6σ) = 88.8838 %



DW02Y1__: Efficiency (6σ) = 87.6224 %

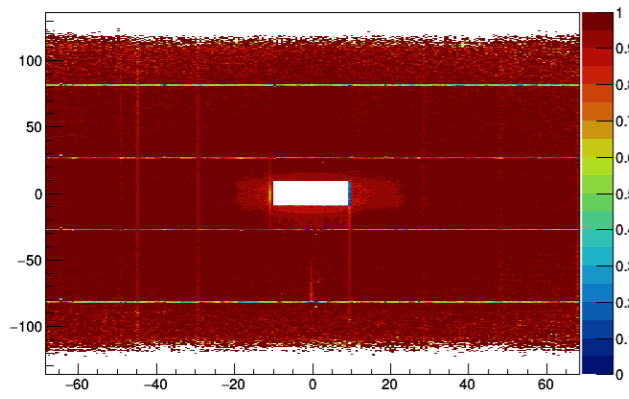




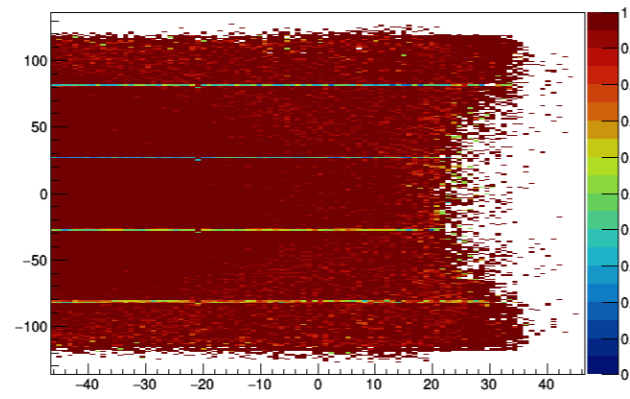


ST03

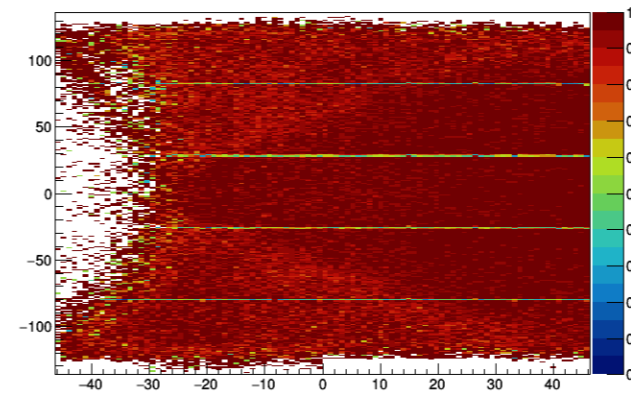
ST03X1ub: Efficiency (6σ) = 94.2398 %



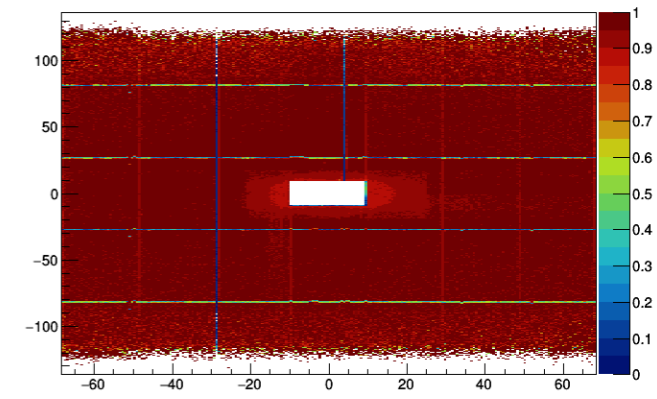
ST03X1uc: Efficiency (6σ) = 96.5013 %



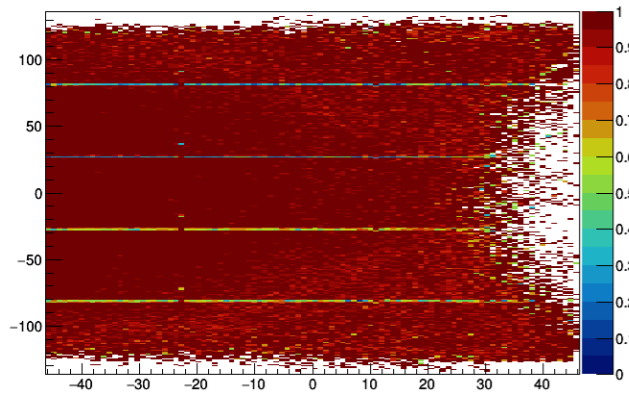
ST03X2da: Efficiency (6σ) = 94.47 %



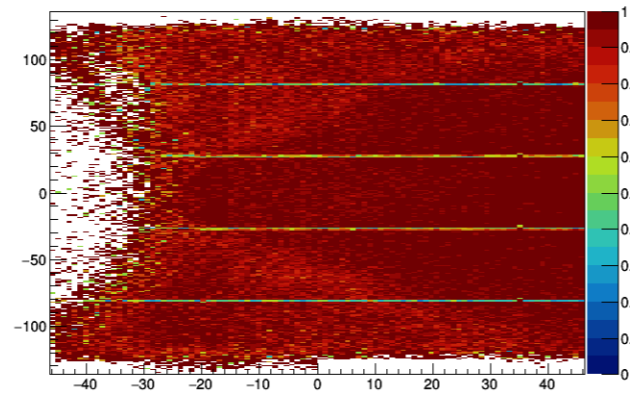
ST03X2db: Efficiency (6σ) = 92.9831 %



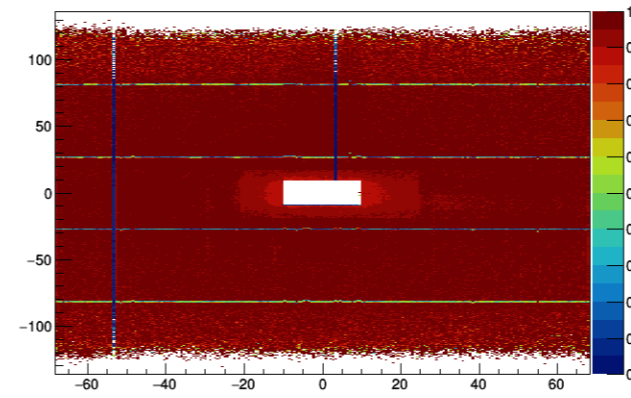
ST03X2dc: Efficiency (6σ) = 95.9321 %



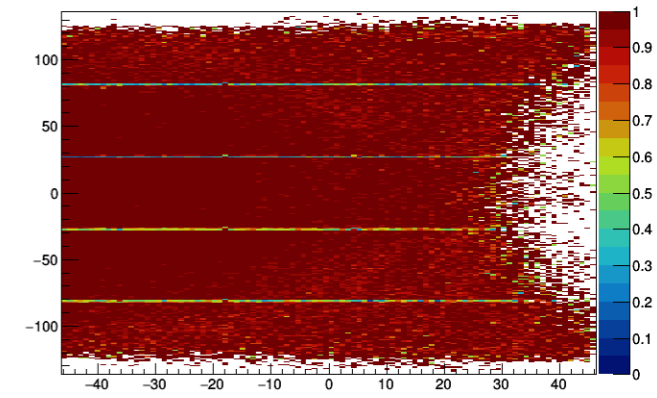
ST03X2ua: Efficiency (6σ) = 94.5918 %



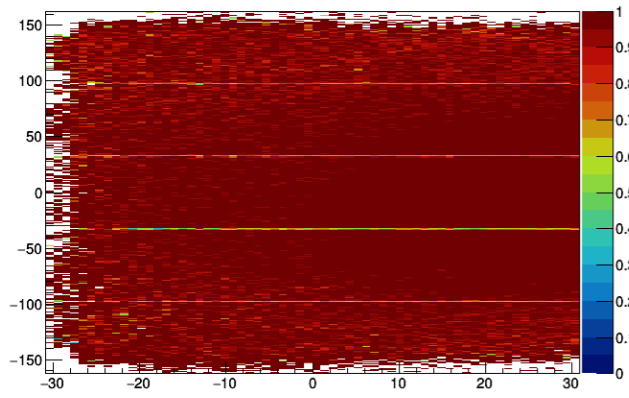
ST03X2ub: Efficiency (6σ) = 93.3384 %



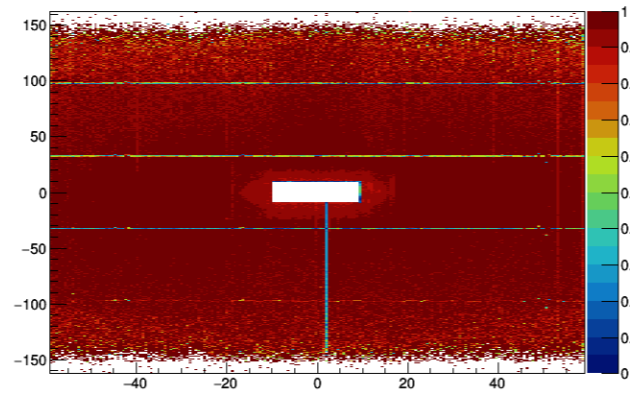
ST03X2uc: Efficiency (6σ) = 96.1014 %



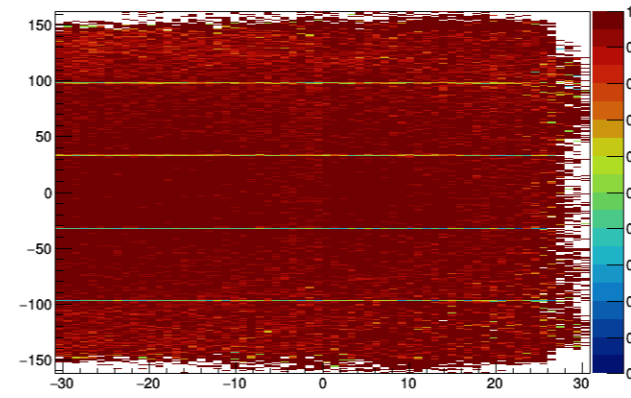
ST03Y1ua: Efficiency (6σ) = 96.7666 %



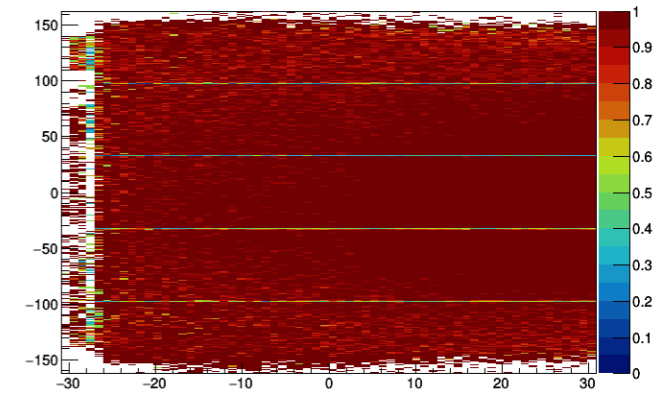
ST03Y1ub: Efficiency (6σ) = 94.5166 %



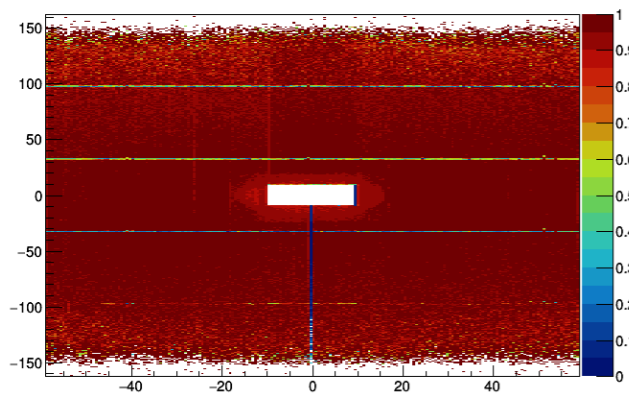
ST03Y1uc: Efficiency (6σ) = 95.2421 %



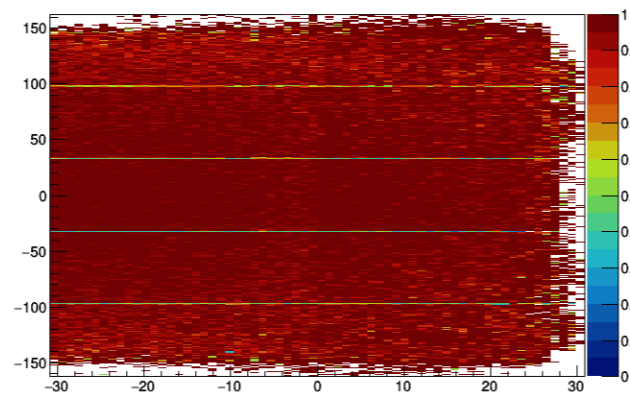
ST03Y1ud: Efficiency (6σ) = 96.6769 %



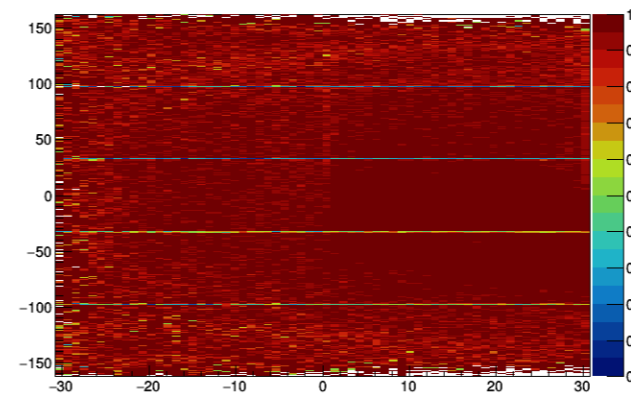
ST03Y1ub: Efficiency (6σ) = 94.9327 %



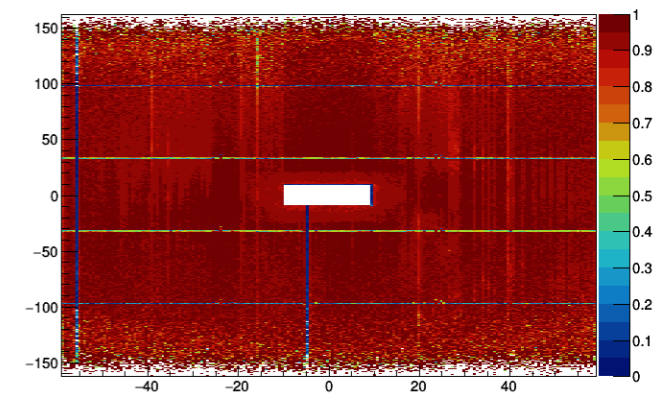
ST03Y1uc: Efficiency (6σ) = 95.1413 %



ST03Y2da: Efficiency (6σ) = 95.6556 %

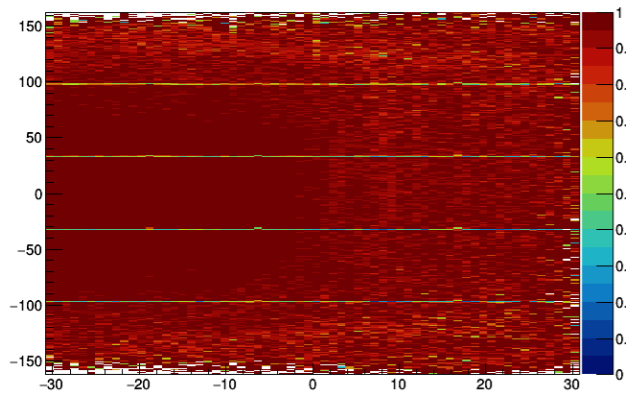


ST03Y2db: Efficiency (6σ) = 93.477 %

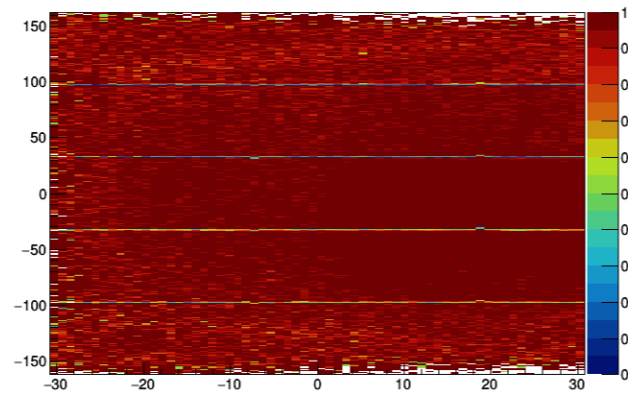


ST03 - RICH WALL

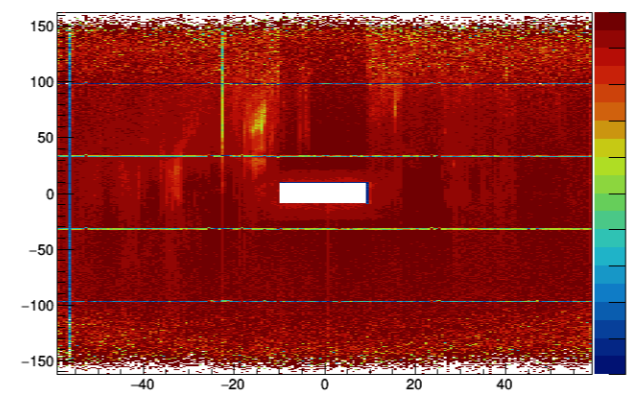
ST03Y2dc: Efficiency (6σ) = 96.5705 %



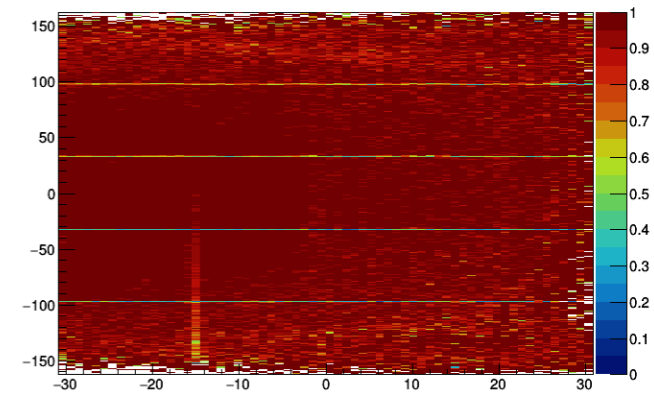
ST03Y2ua: Efficiency (6σ) = 96.0782 %



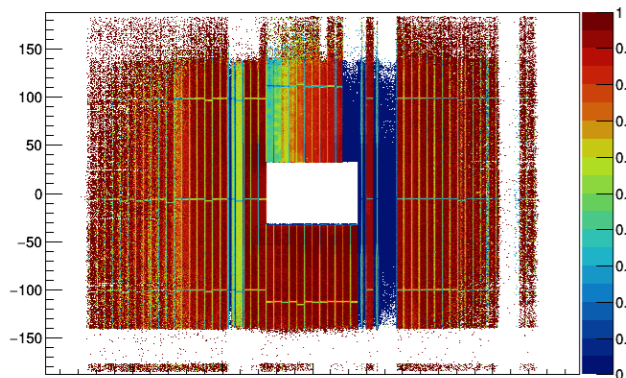
ST03Y2ub: Efficiency (6σ) = 93.2309 %



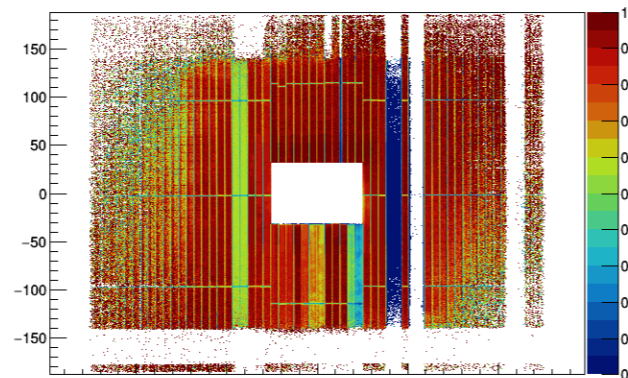
ST03Y2uc: Efficiency (6σ) = 96.5443 %



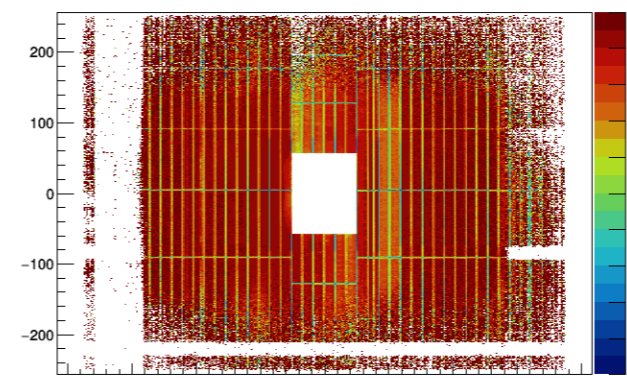
DR01X1__: Efficiency (6σ) = 69.2296 %



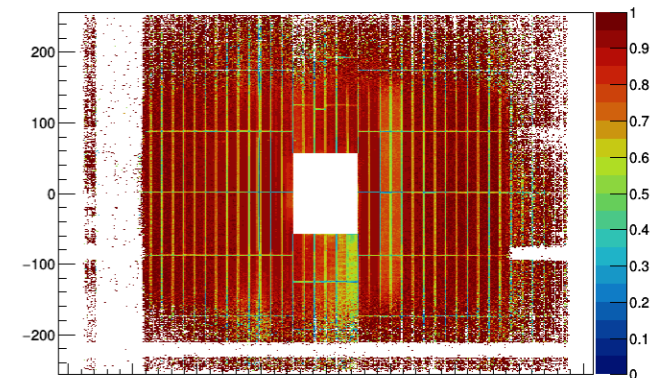
DR01X2__: Efficiency (6σ) = 75.6228 %



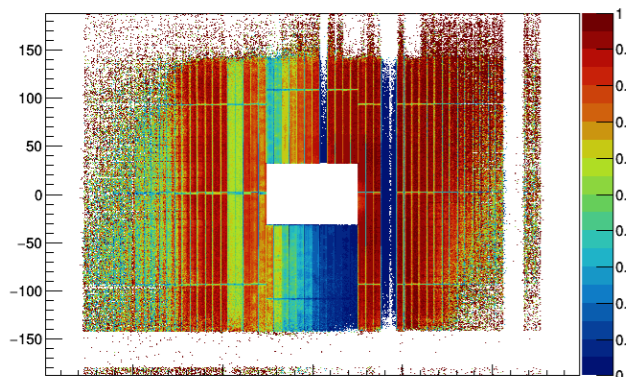
DR01Y1__: Efficiency (6σ) = 82.0309 %



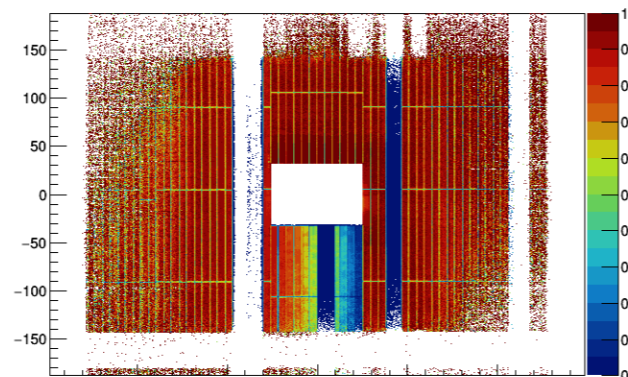
DR01Y2__: Efficiency (6σ) = 81.4031 %



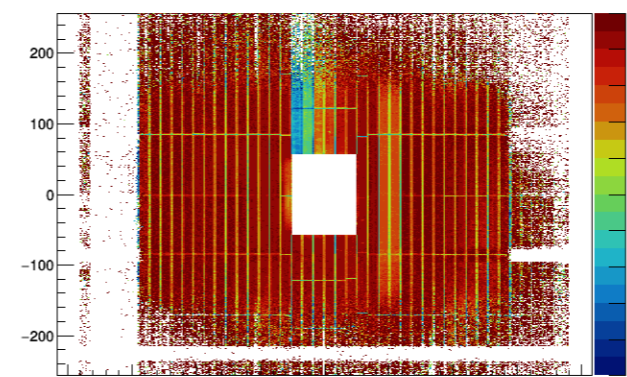
DR02X1__: Efficiency (6σ) = 54.4908 %



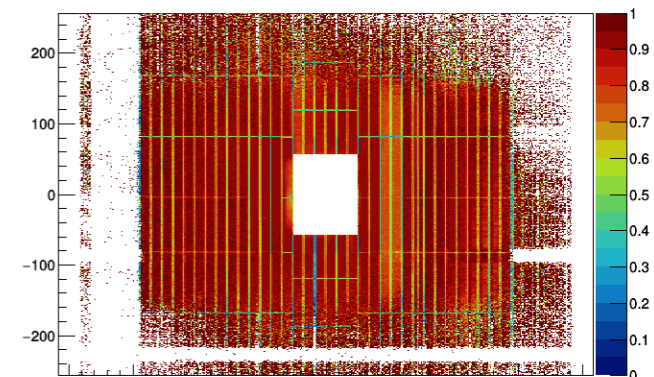
DR02X2__: Efficiency (6σ) = 58.329 %



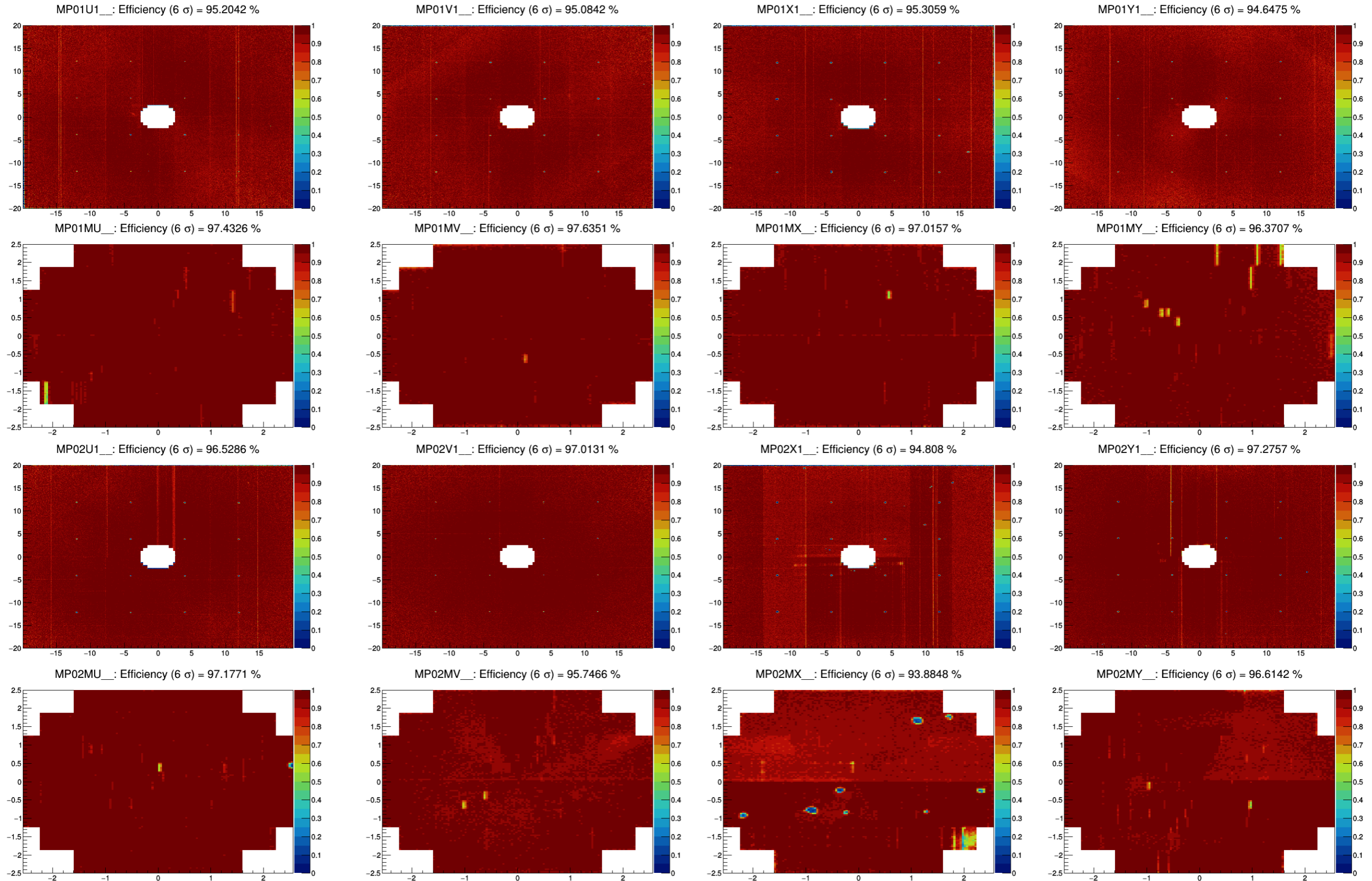
DR02Y1__: Efficiency (6σ) = 83.3504 %



DR02Y2__: Efficiency (6σ) = 84.0068 %

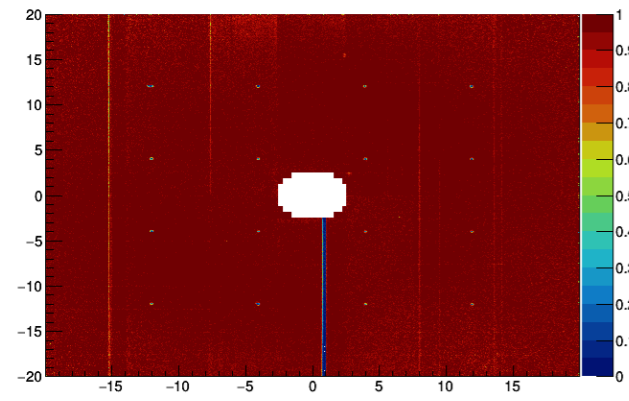


PIXEL MICROMEAS

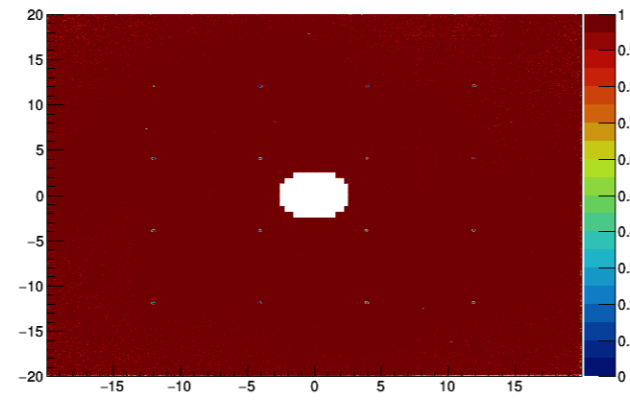


PIXEL MICROME GAS - GEMS

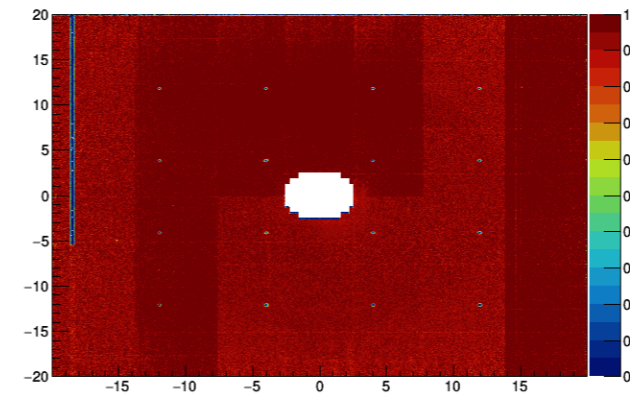
MP03U1__: Efficiency (6σ) = 97.1257 %



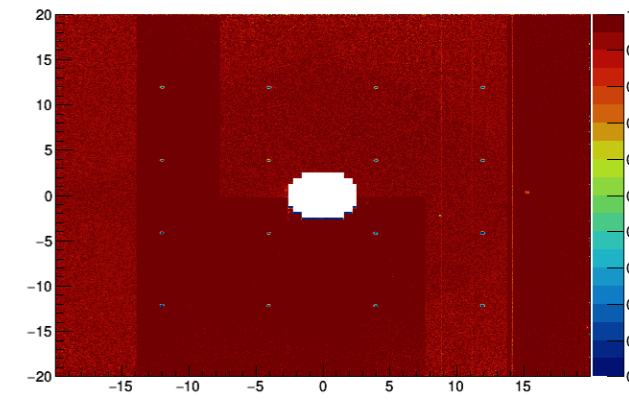
MP03V1__: Efficiency (6σ) = 98.5056 %



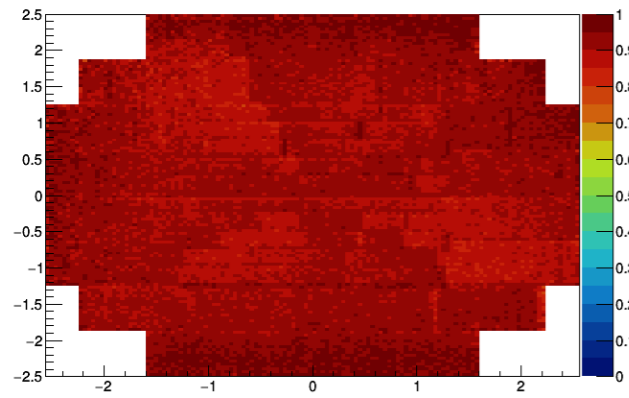
MP03X1__: Efficiency (6σ) = 94.9554 %



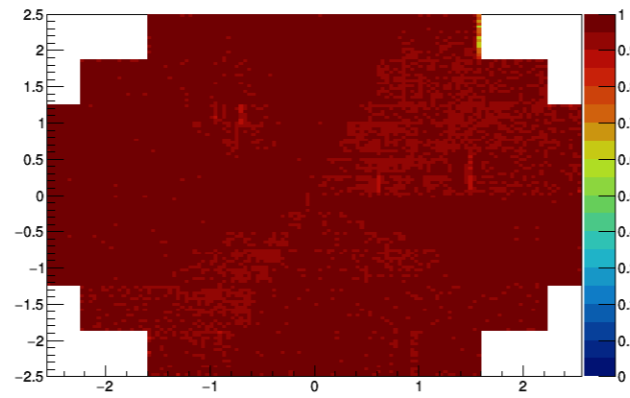
MP03Y1__: Efficiency (6σ) = 96.1018 %



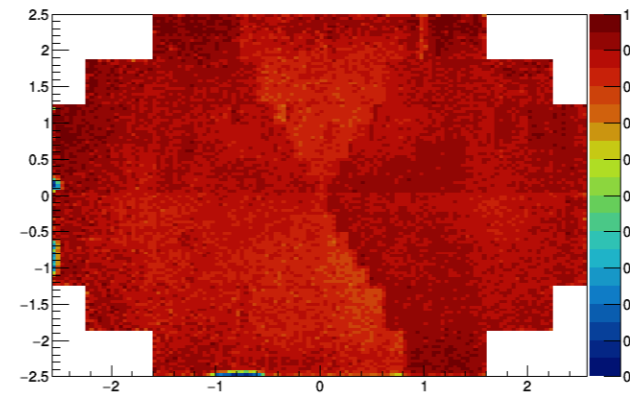
MP03MU__: Efficiency (6σ) = 91.0381 %



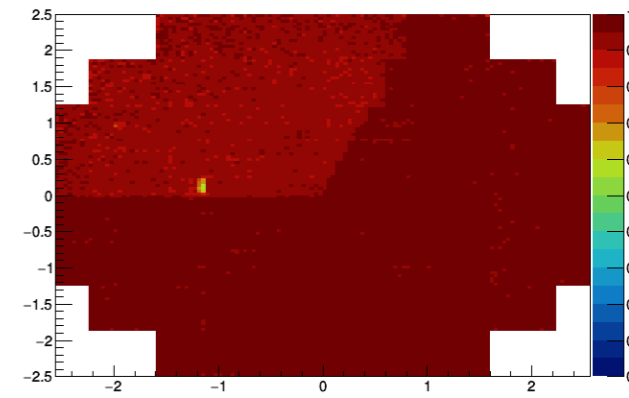
MP03MV__: Efficiency (6σ) = 96.4915 %



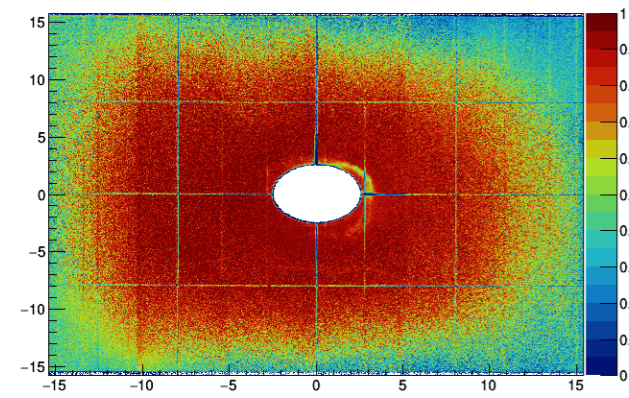
MP03MX__: Efficiency (6σ) = 88.1797 %



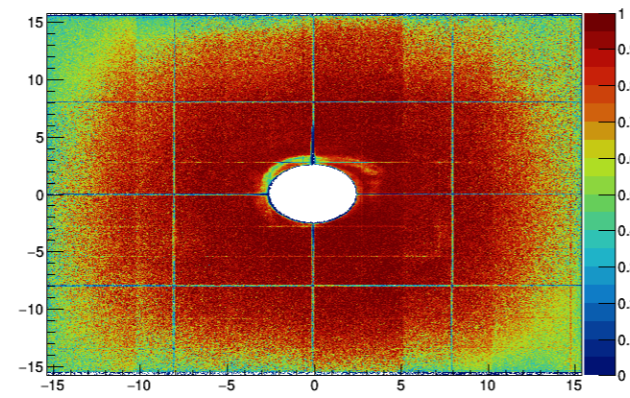
MP03MY__: Efficiency (6σ) = 96.2964 %



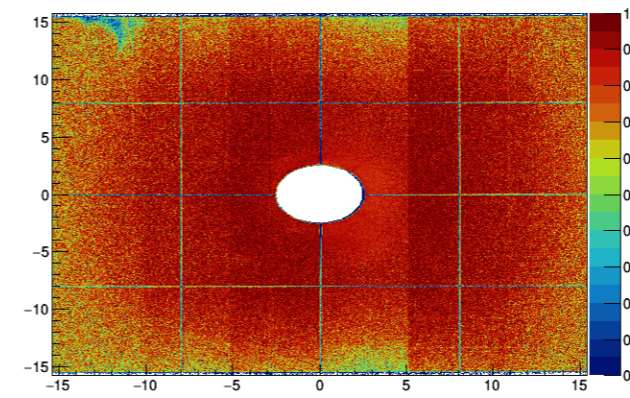
GM01U1__: Efficiency (6σ) = 67.5364 %



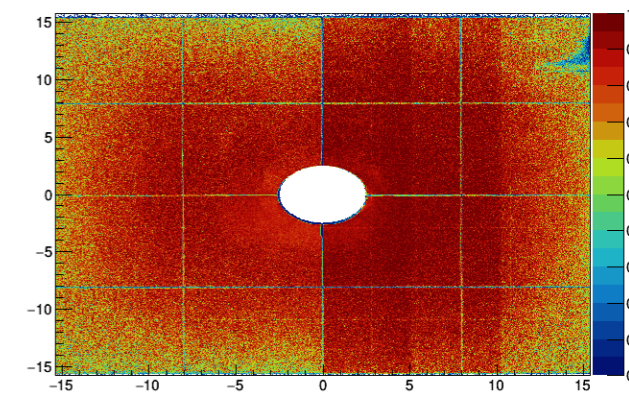
GM01V1__: Efficiency (6σ) = 73.1282 %



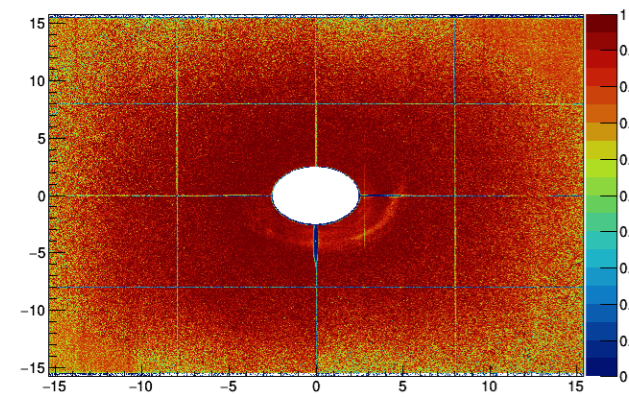
GM01X1__: Efficiency (6σ) = 81.3641 %



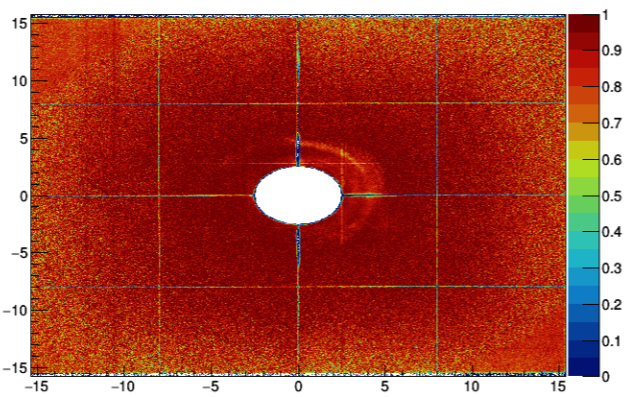
GM01Y1__: Efficiency (6σ) = 82.065 %



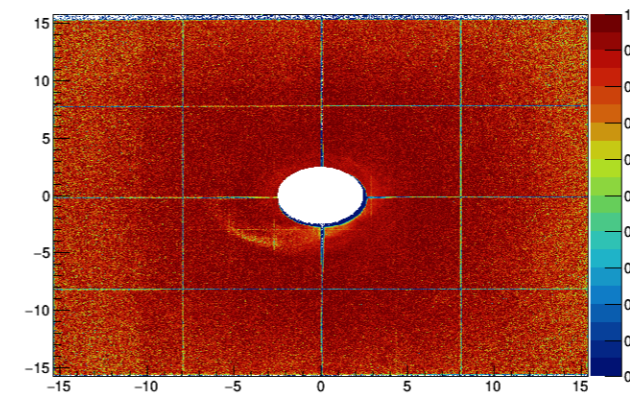
GM02U1__: Efficiency (6σ) = 82.7216 %



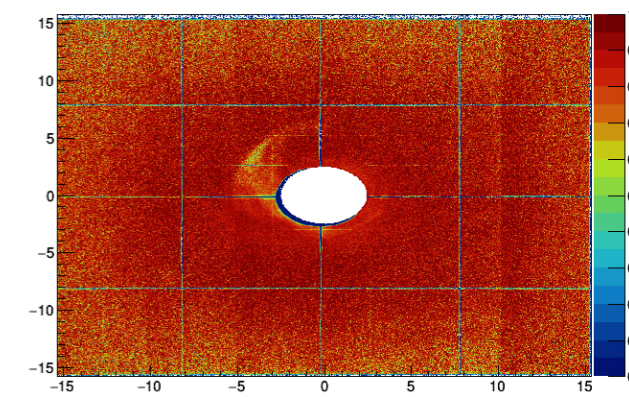
GM02V1__: Efficiency (6σ) = 85.1431 %

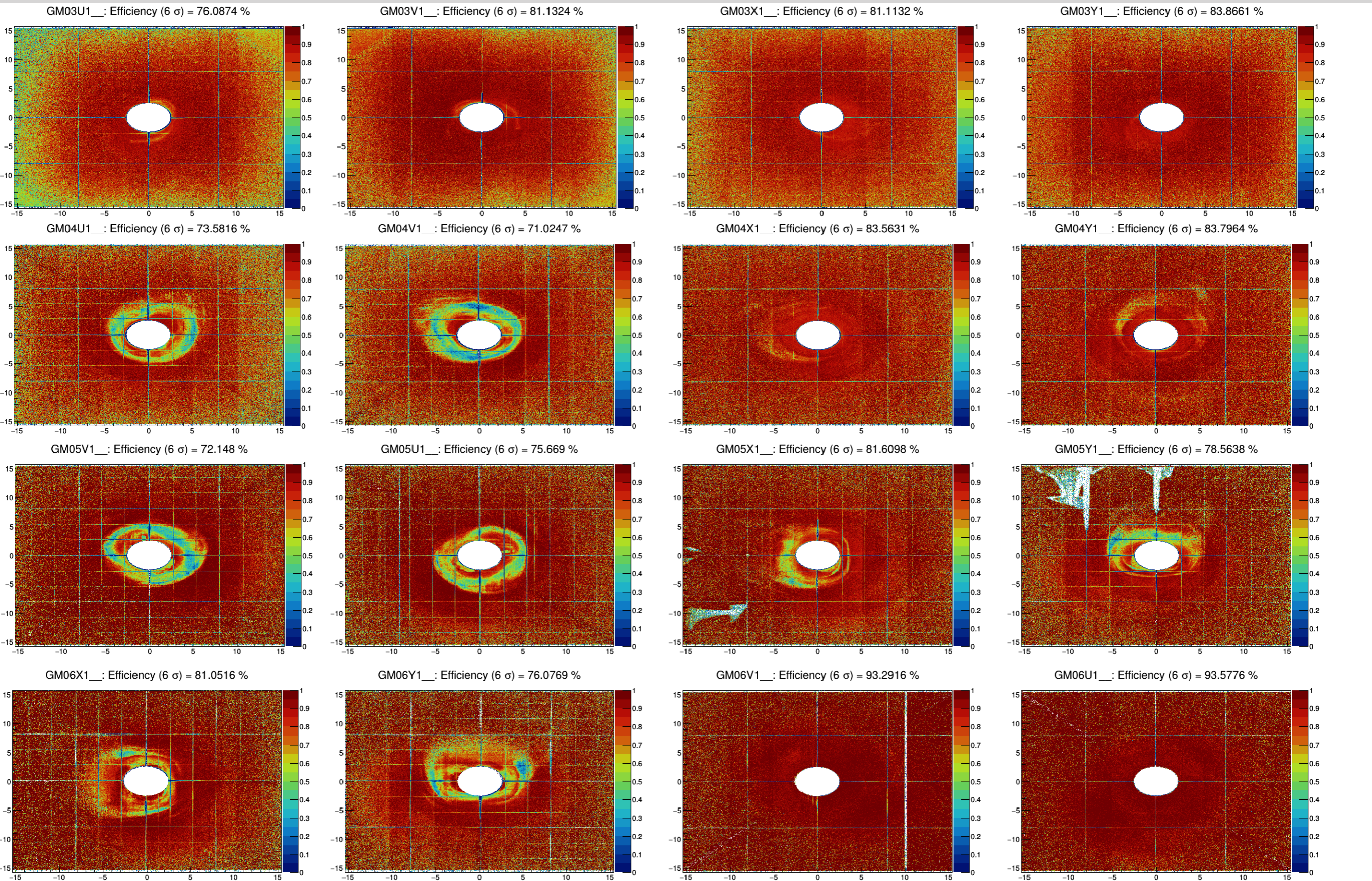


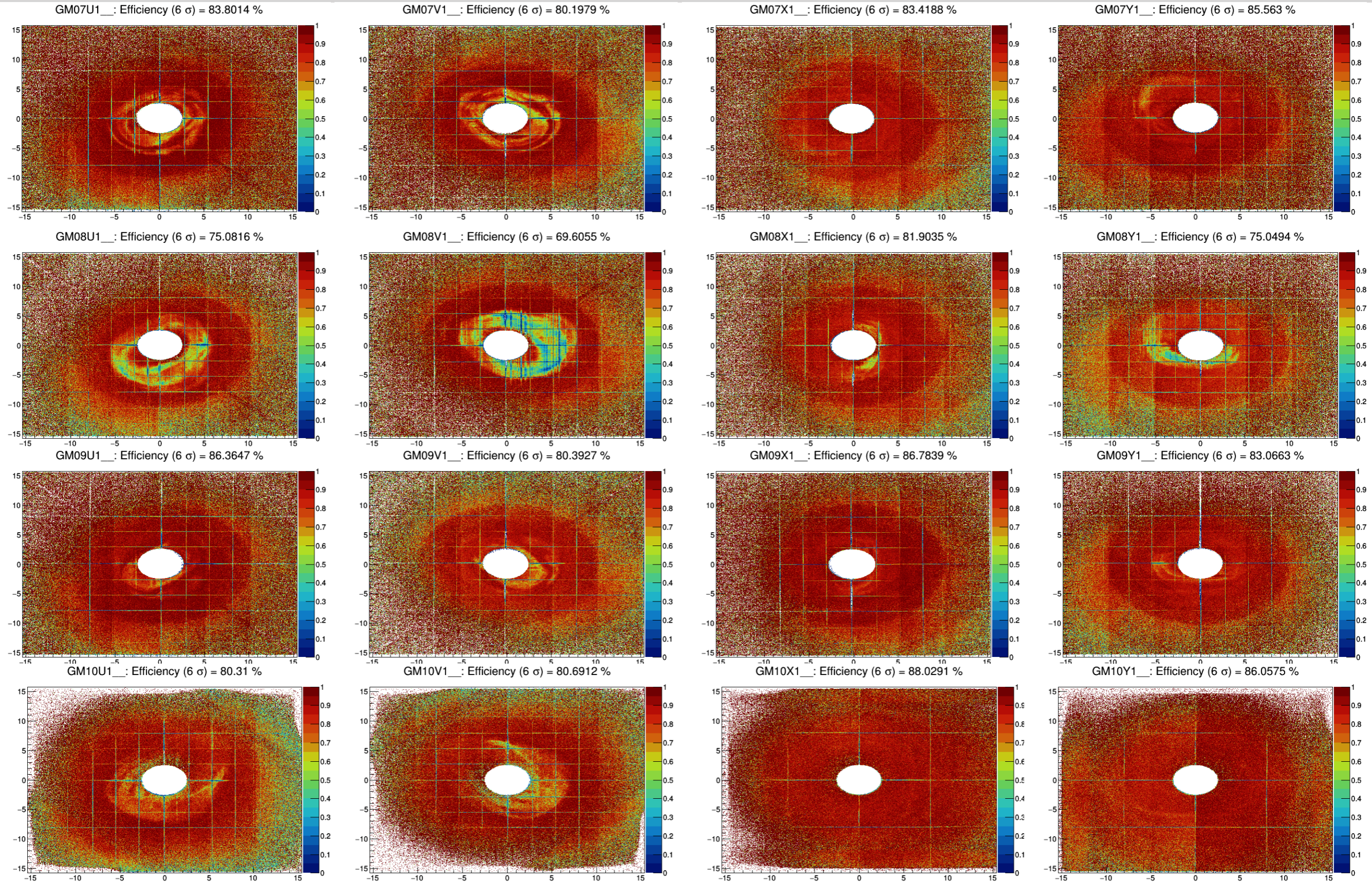
GM02X1__: Efficiency (6σ) = 84.1117 %



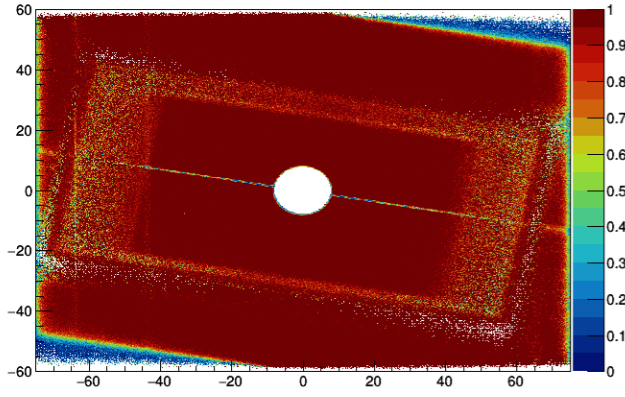
GM02Y1__: Efficiency (6σ) = 80.8535 %



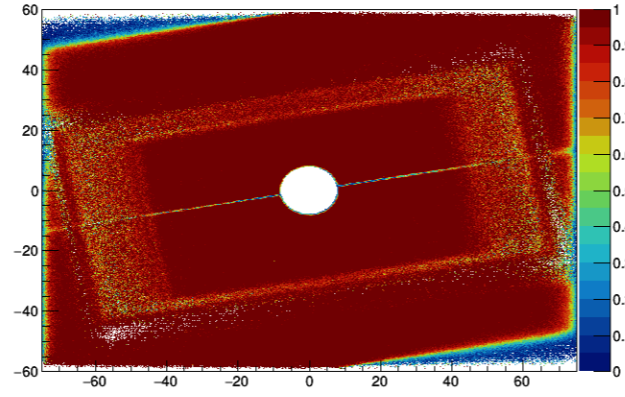




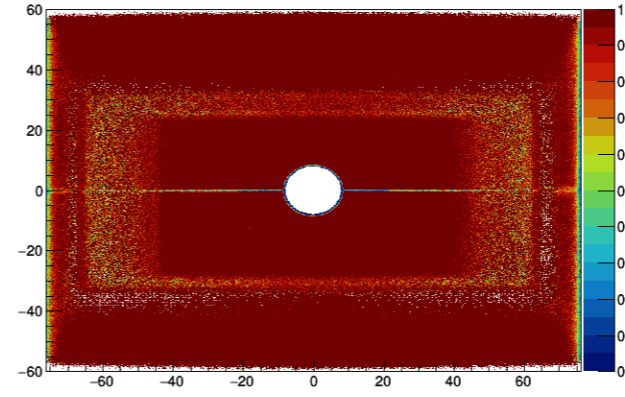
PA01U1__: Efficiency (6σ) = 95.893 %



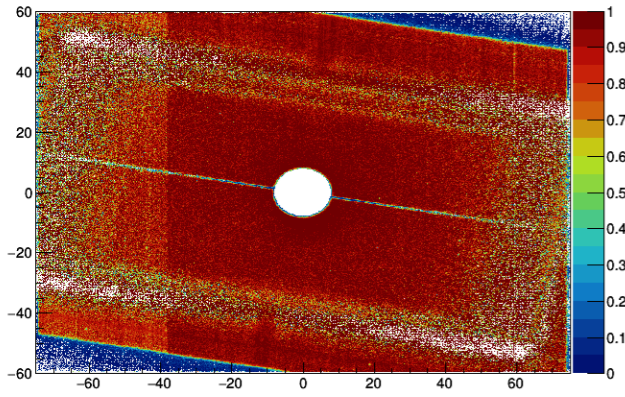
PA01V1__: Efficiency (6σ) = 95.2274 %



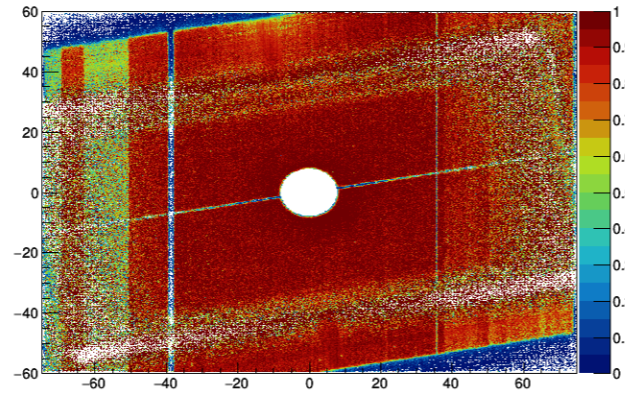
PA01X1__: Efficiency (6σ) = 97.1127 %



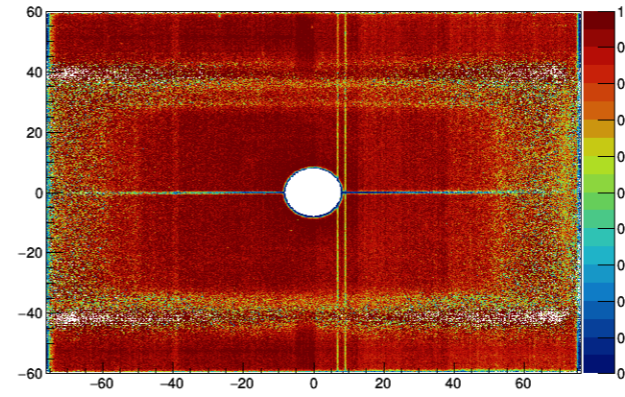
PA02U1__: Efficiency (6σ) = 82.4491 %



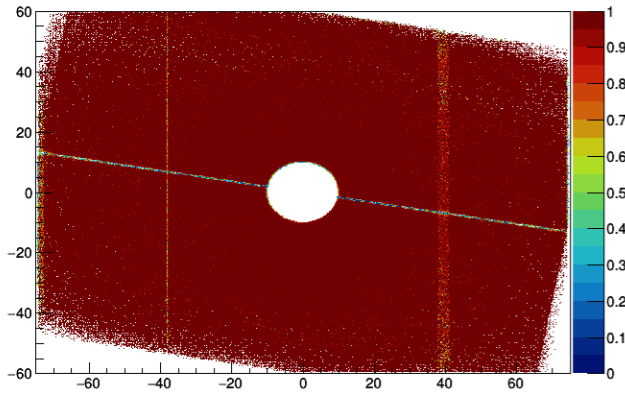
PA02V1__: Efficiency (6σ) = 77.1092 %



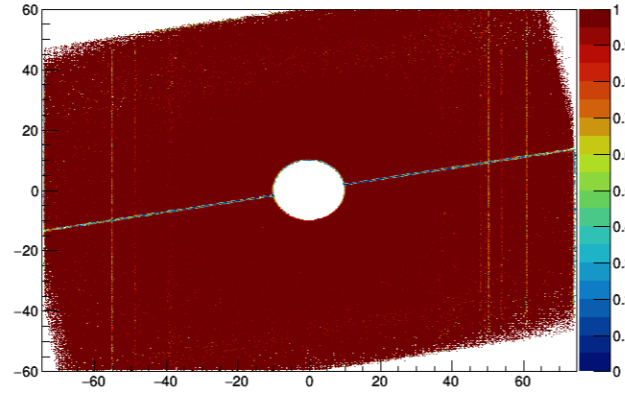
PA02X1__: Efficiency (6σ) = 89.4859 %



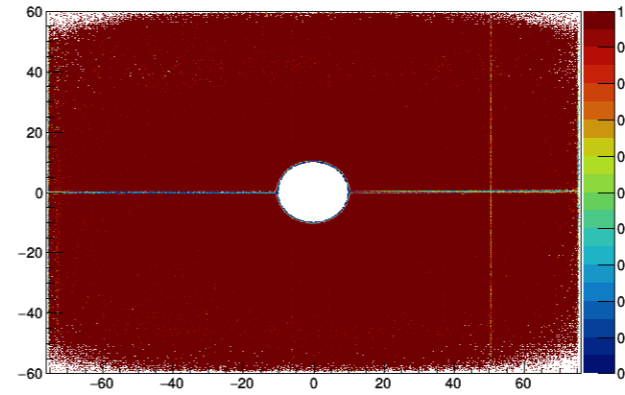
PA03U1__: Efficiency (6σ) = 98.6367 %



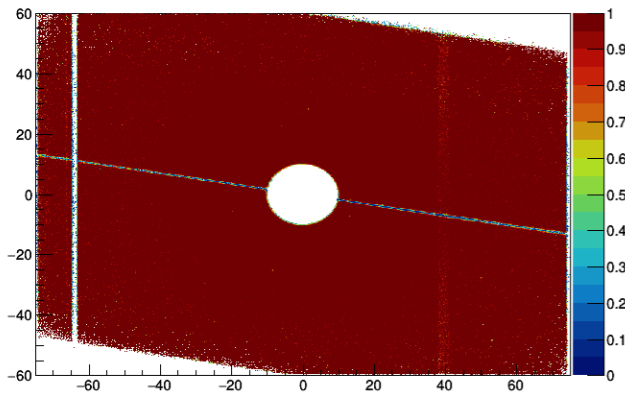
PA03V1__: Efficiency (6σ) = 98.6074 %



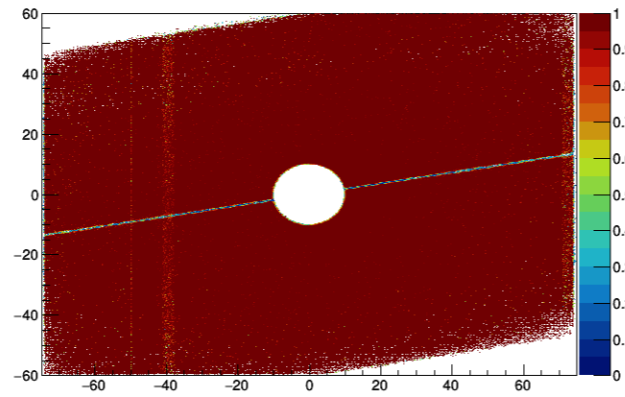
PA03X1__: Efficiency (6σ) = 97.6935 %



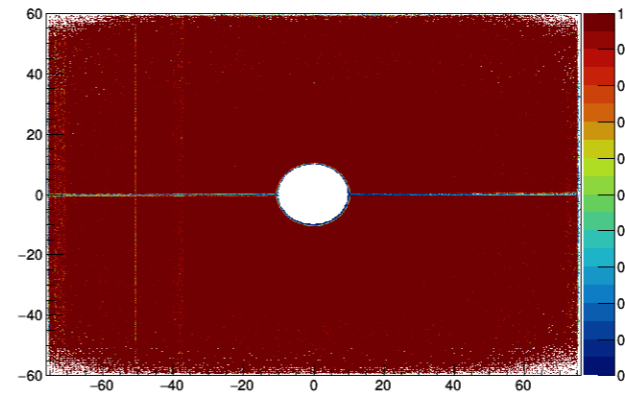
PA04U1__: Efficiency (6σ) = 98.0163 %

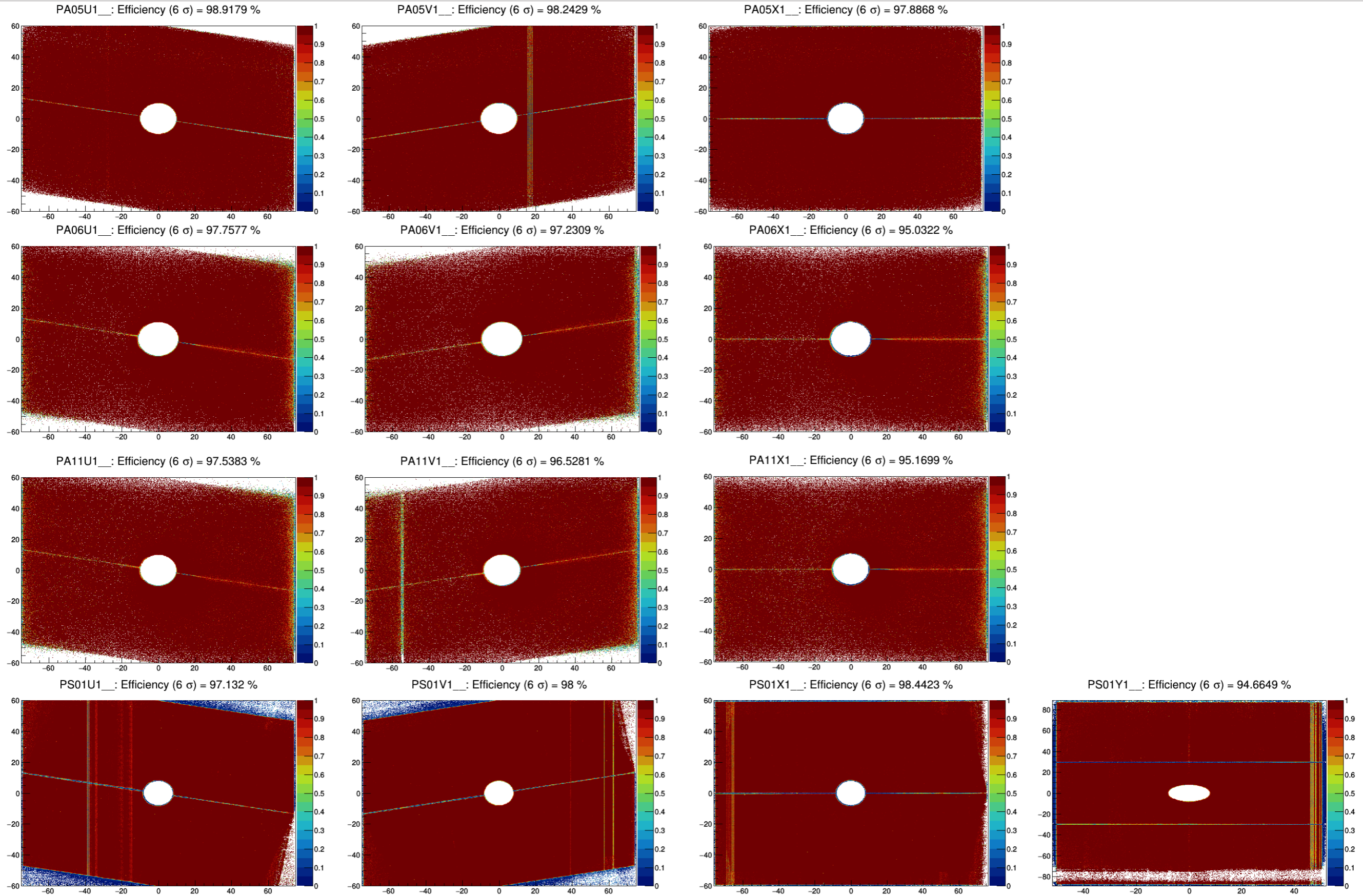


PA04V1__: Efficiency (6σ) = 98.5947 %

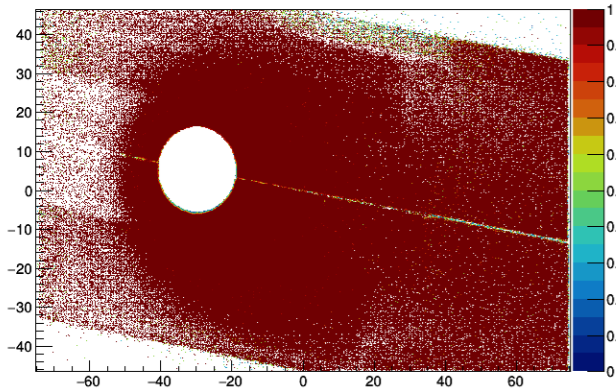


PA04X1__: Efficiency (6σ) = 97.1636 %

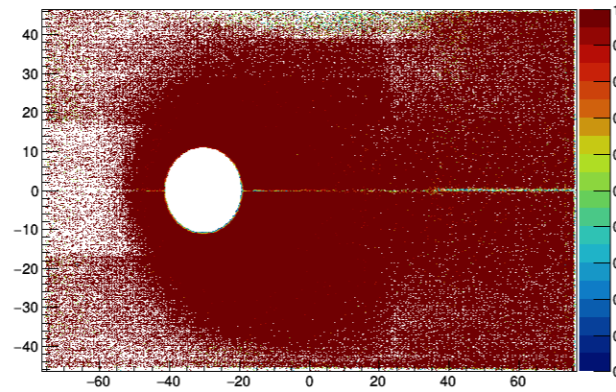




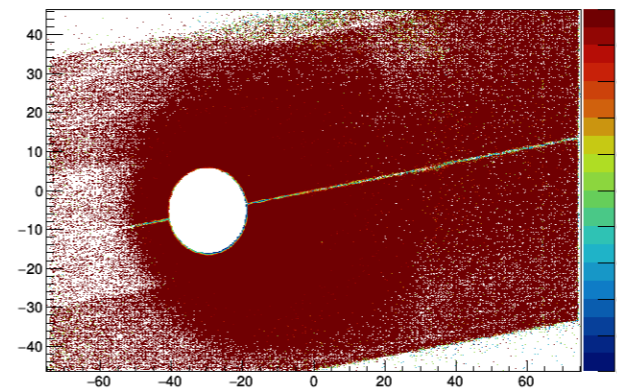
PB01U1__: Efficiency (6σ) = 98.6137 %



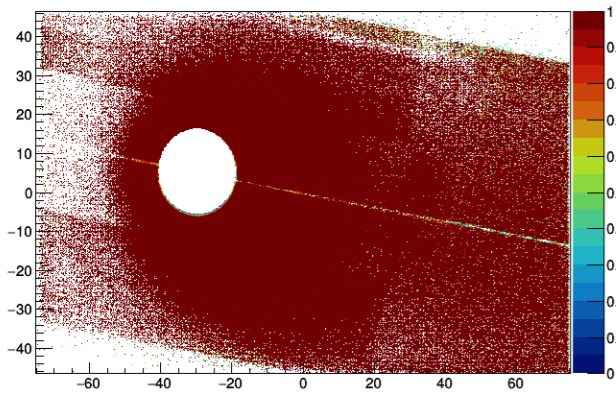
PB01X1__: Efficiency (6σ) = 98.9679 %



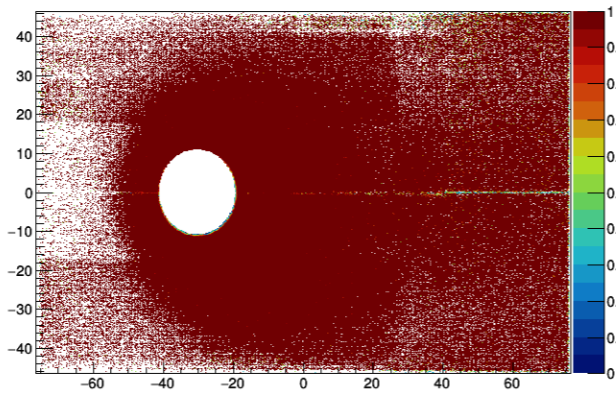
PB02V1__: Efficiency (6σ) = 97.6963 %



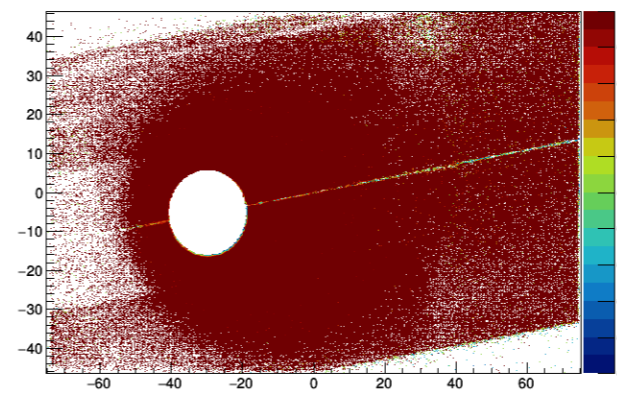
PB03U1__: Efficiency (6σ) = 98.8417 %



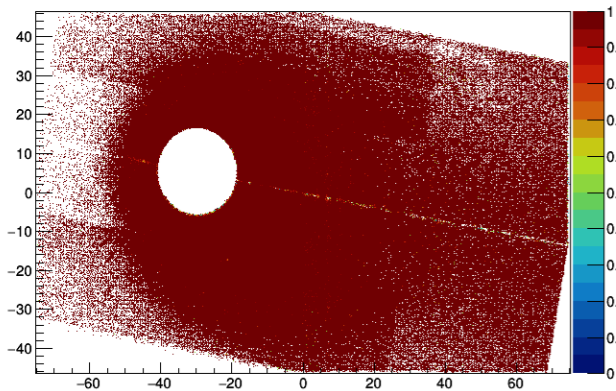
PB03X1__: Efficiency (6σ) = 99.3059 %



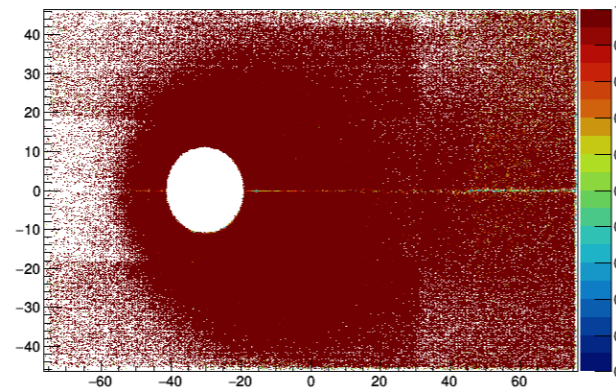
PB04V1__: Efficiency (6σ) = 99.0586 %



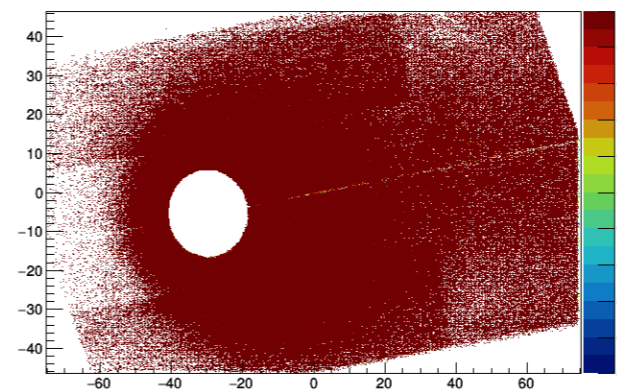
PB05U1__: Efficiency (6σ) = 99.8381 %



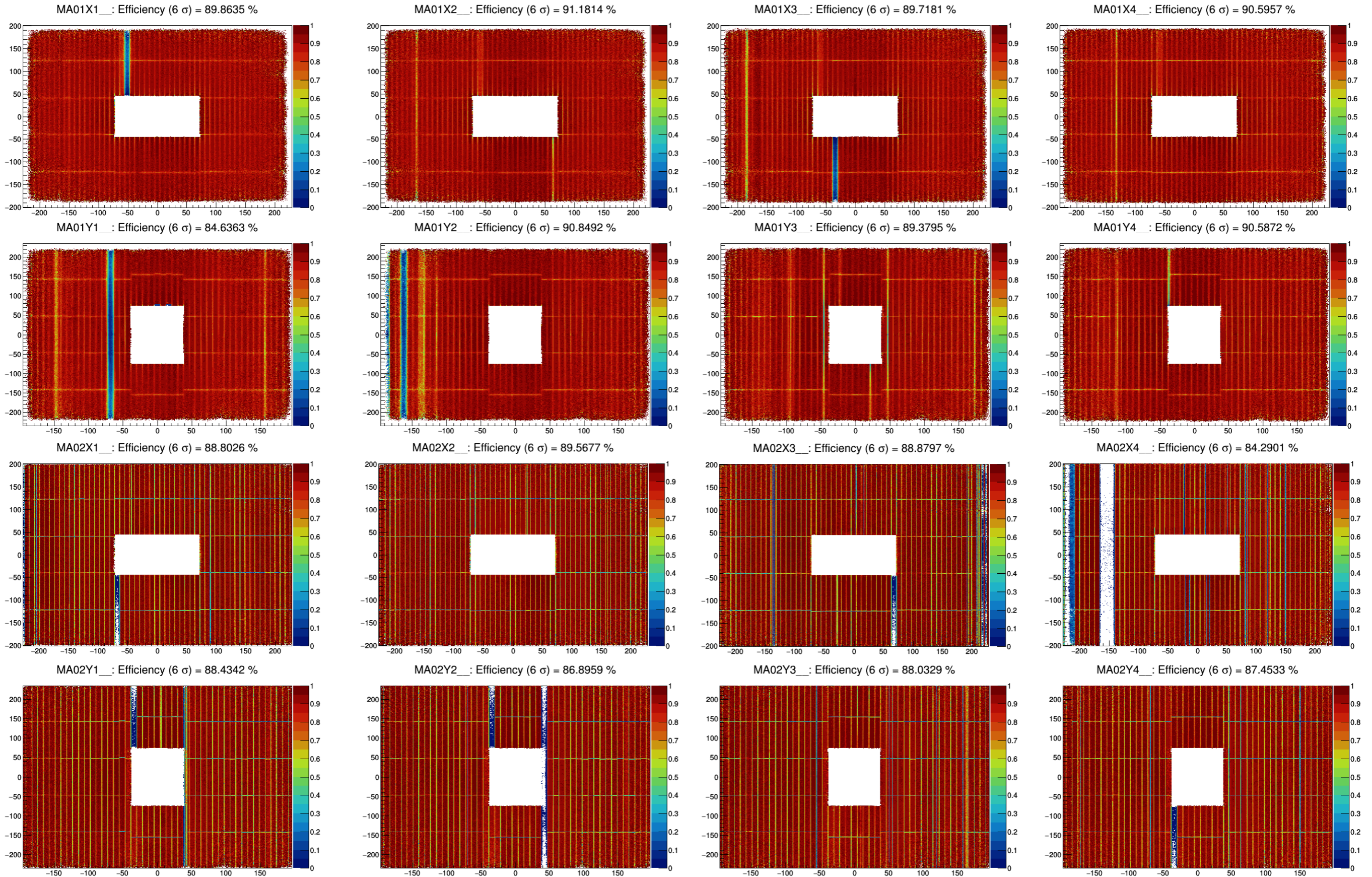
PB05X1__: Efficiency (6σ) = 99.5499 %



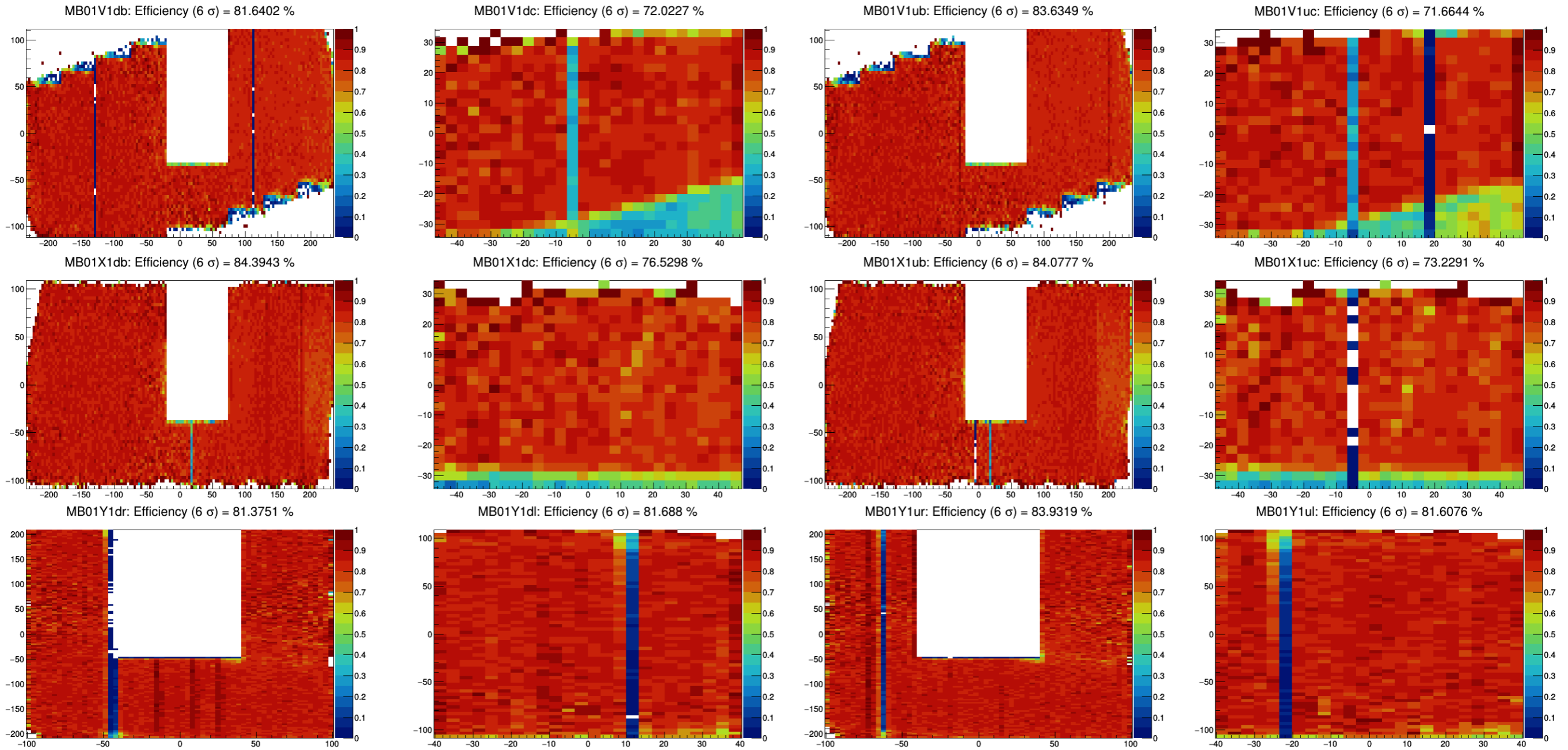
PB06V1__: Efficiency (6σ) = 99.8832 %



MUON WALL A



MUON WALL B-01



MUON WALL B-02

