Collimator 6 Optimization

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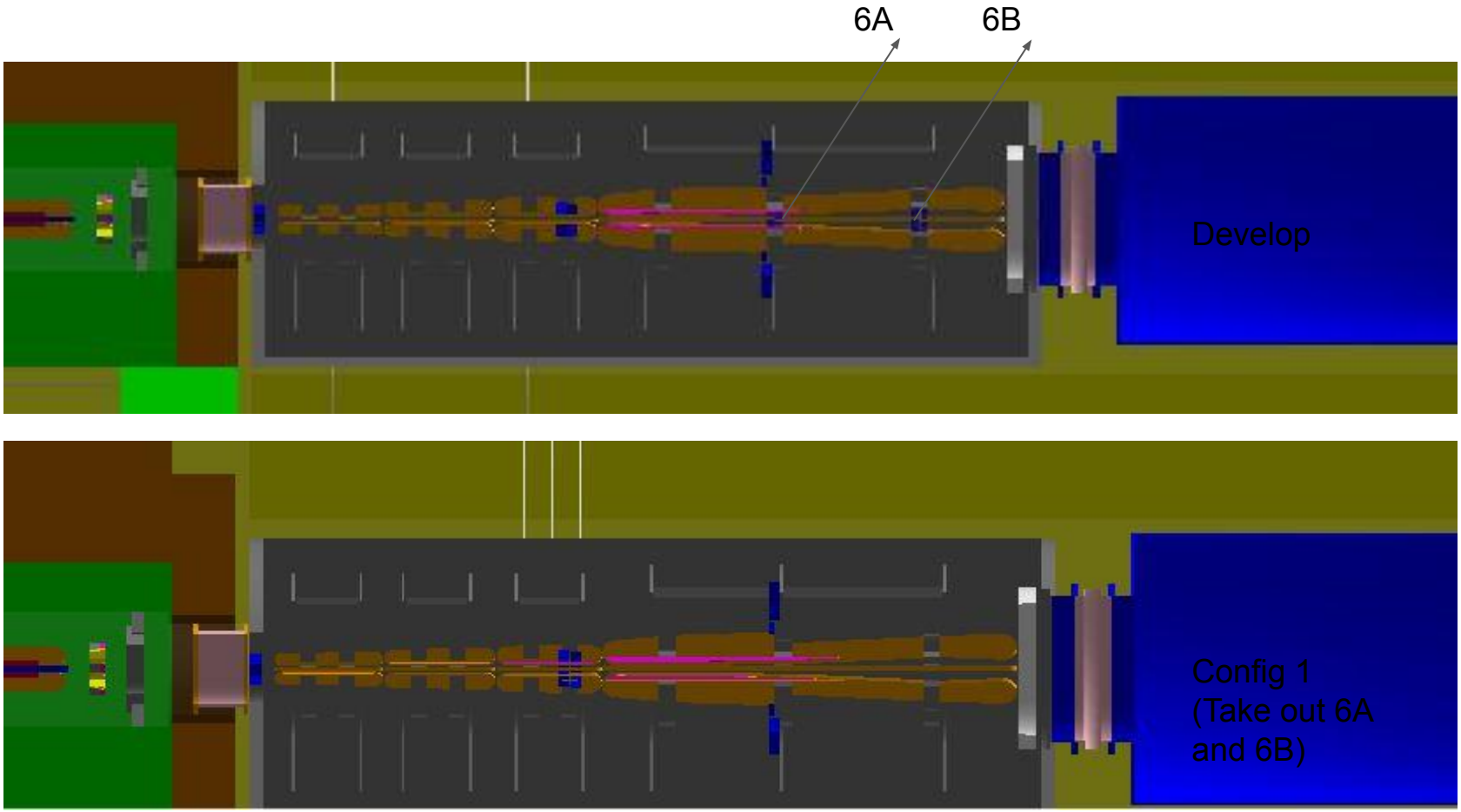
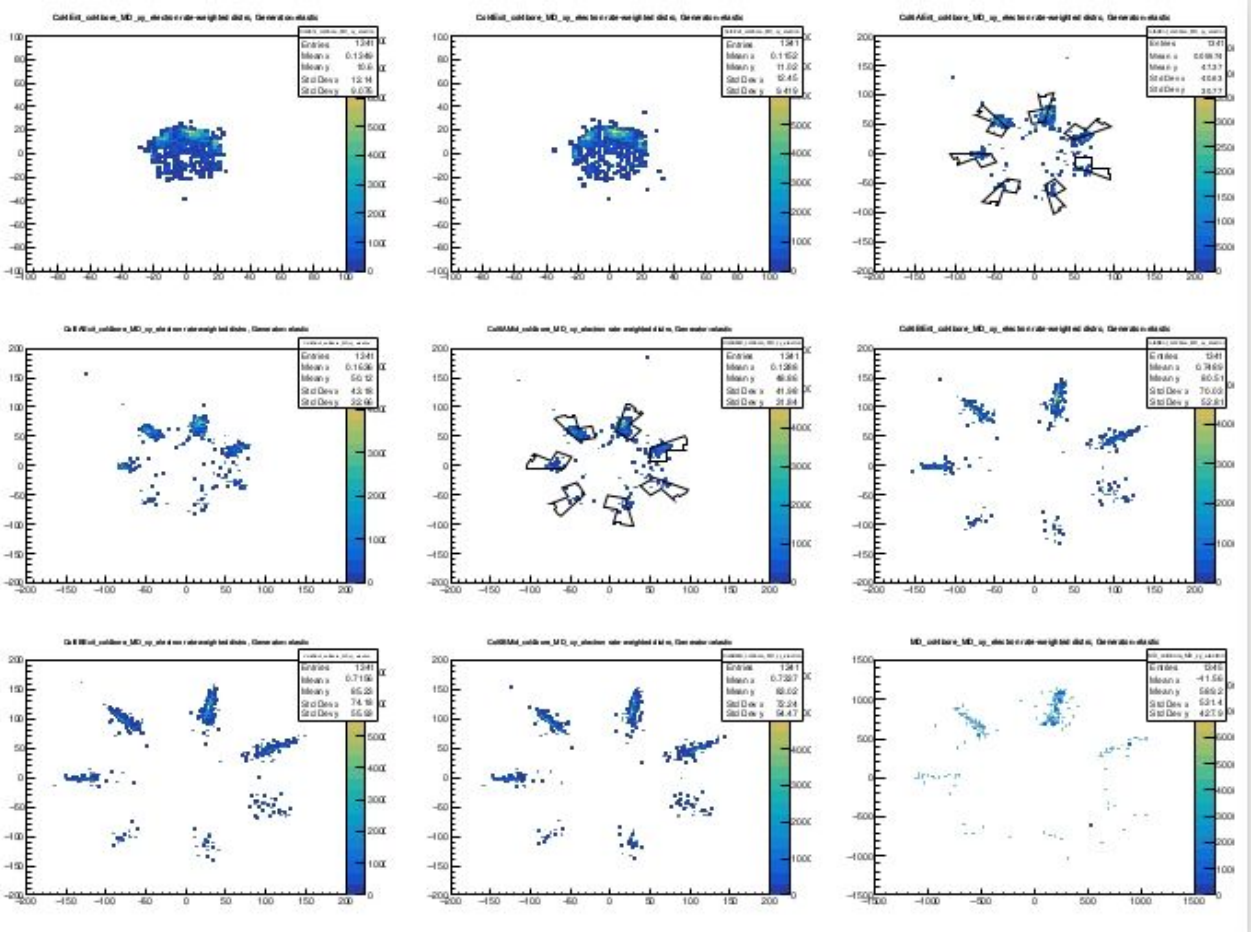
Does 3 mm radial move of TM2 and TM3 have any effect on Collimator 6A and 6B optimization?

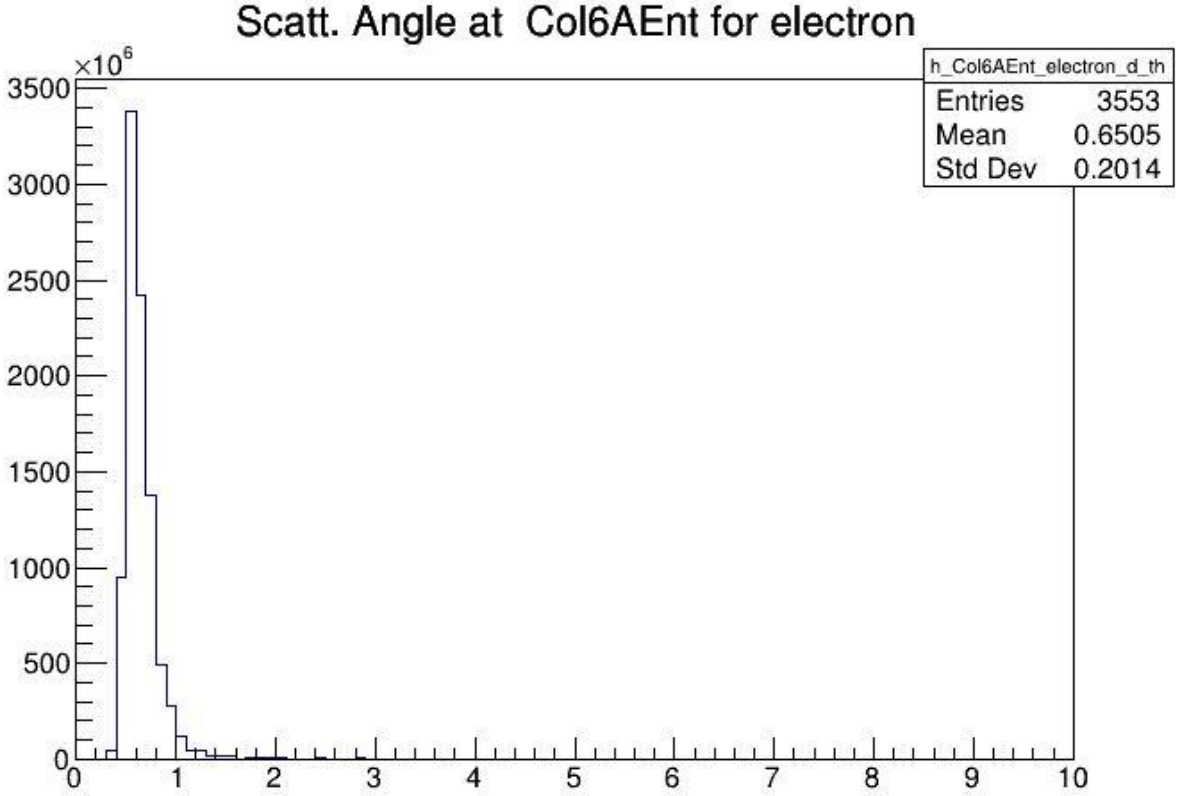

6A
6B
Develop
Config 1
(Take out 6A
and 6B)

Collimator 6A and 6B turned off

subcoil_2_3_3mm_real_asymmetric
V2U.1a.50cm.parallel.real_asymmetric



Theta Direction Distribution at entrance to Collimator 6A upstream block between 55 and 58 mm

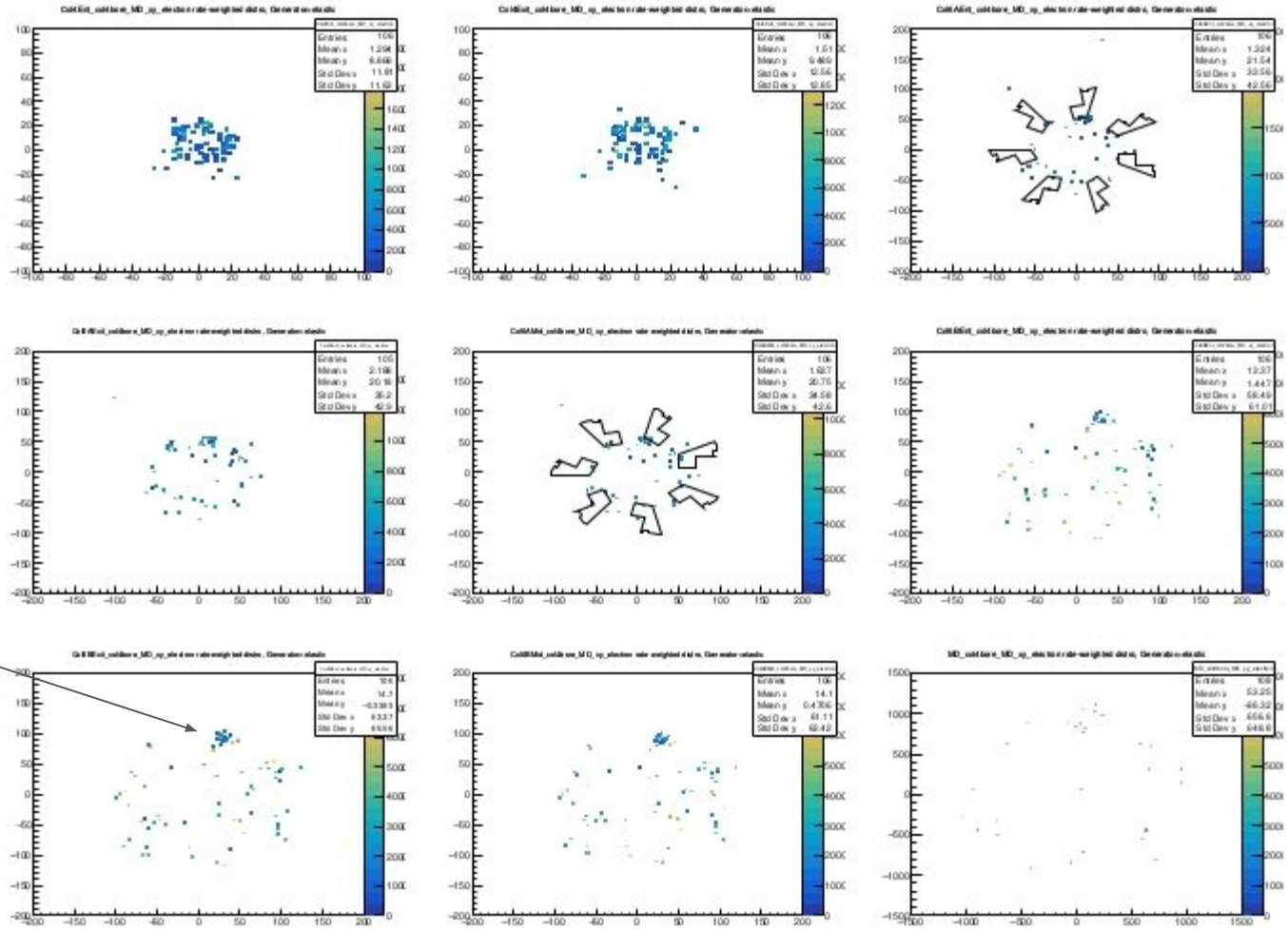


Total rate from collimator 4 bore and acceptance reaching main detector ~ 60 GHz (similar to chandan)

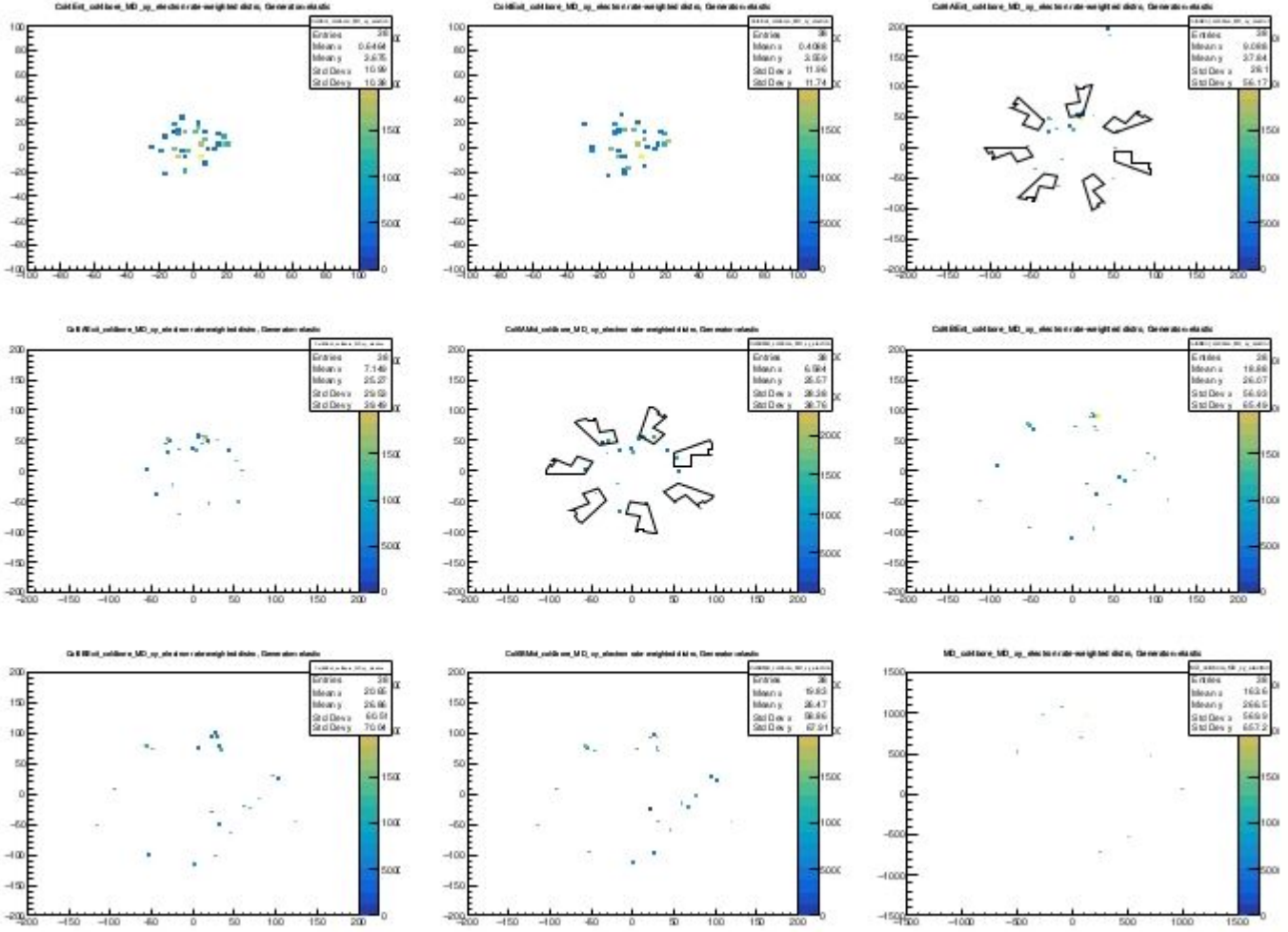
Configuration	Coll 6A	Coll 6B	Electron Rate In MHz Passing Throgh Bore Ending At MD (For Different Statistics)		
			199*75000	800*75000	1000*75000
Config 1	None	None	179.506	199.224	194.3
Config 2	US(55.314-57.982), DS(58.471-61.143)	None	21.0175	21.6774	
Config 3	US(56.7-57.982), DS(59.861,61.143)	None	21.6884		
Config 4	US(55.314-56.7), DS(58.471-59.857)	None	15.3754		
Config 5	US(57.37-57.982), DS(60.532-61.143)	None	25.5683		

Chandan’s result with config 2 and realistic asymmetric field map before 3mm TM2 and TM3 move with collimator 6A turned on is 25 MHz (Slide 11, https://moller.jlab.org/DocDB/0009/000974/004/NewCollimatorDesign.pdf)

Config2

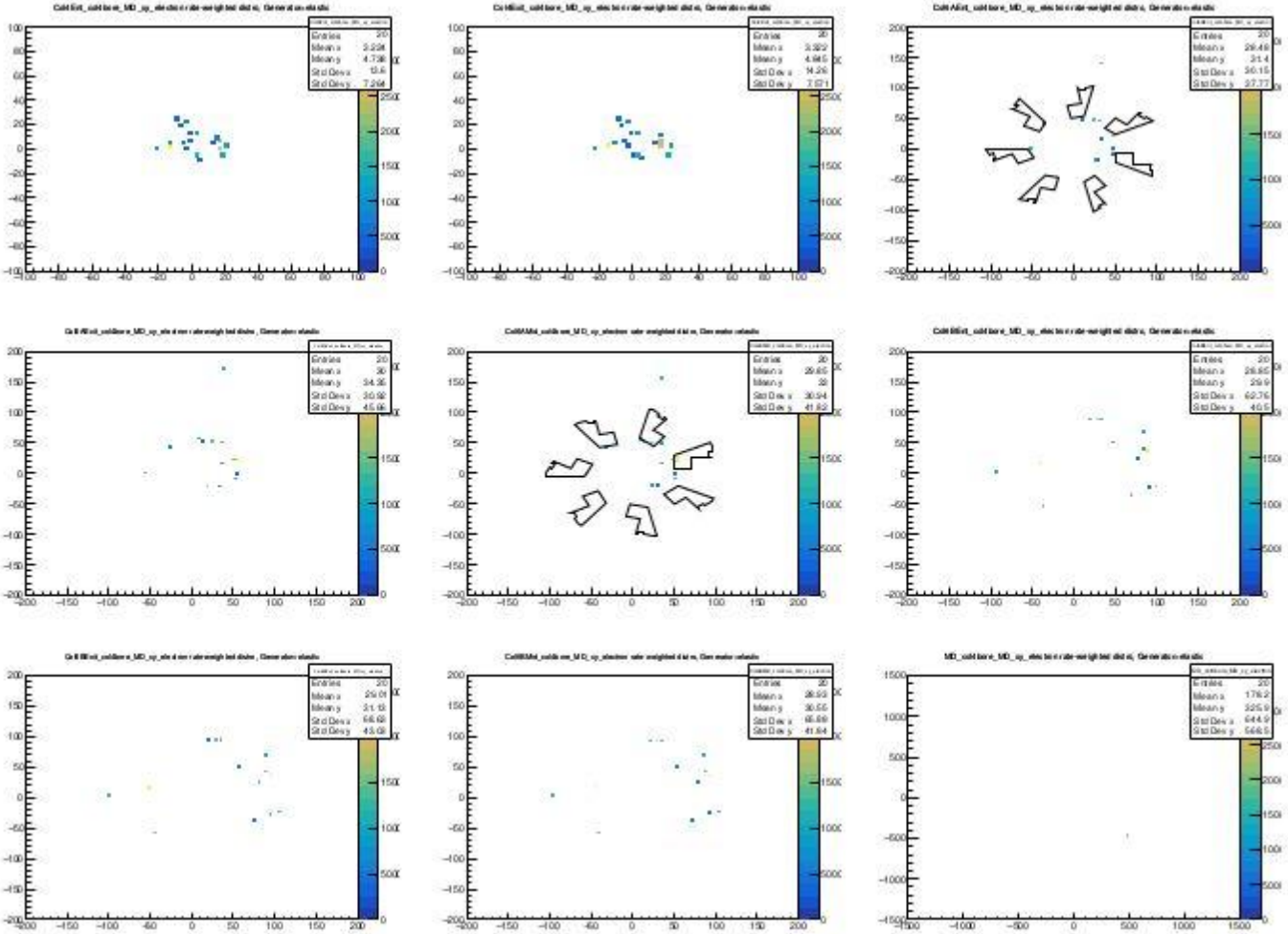


Little asymmetric blob although overall contribution at detector plane is lower



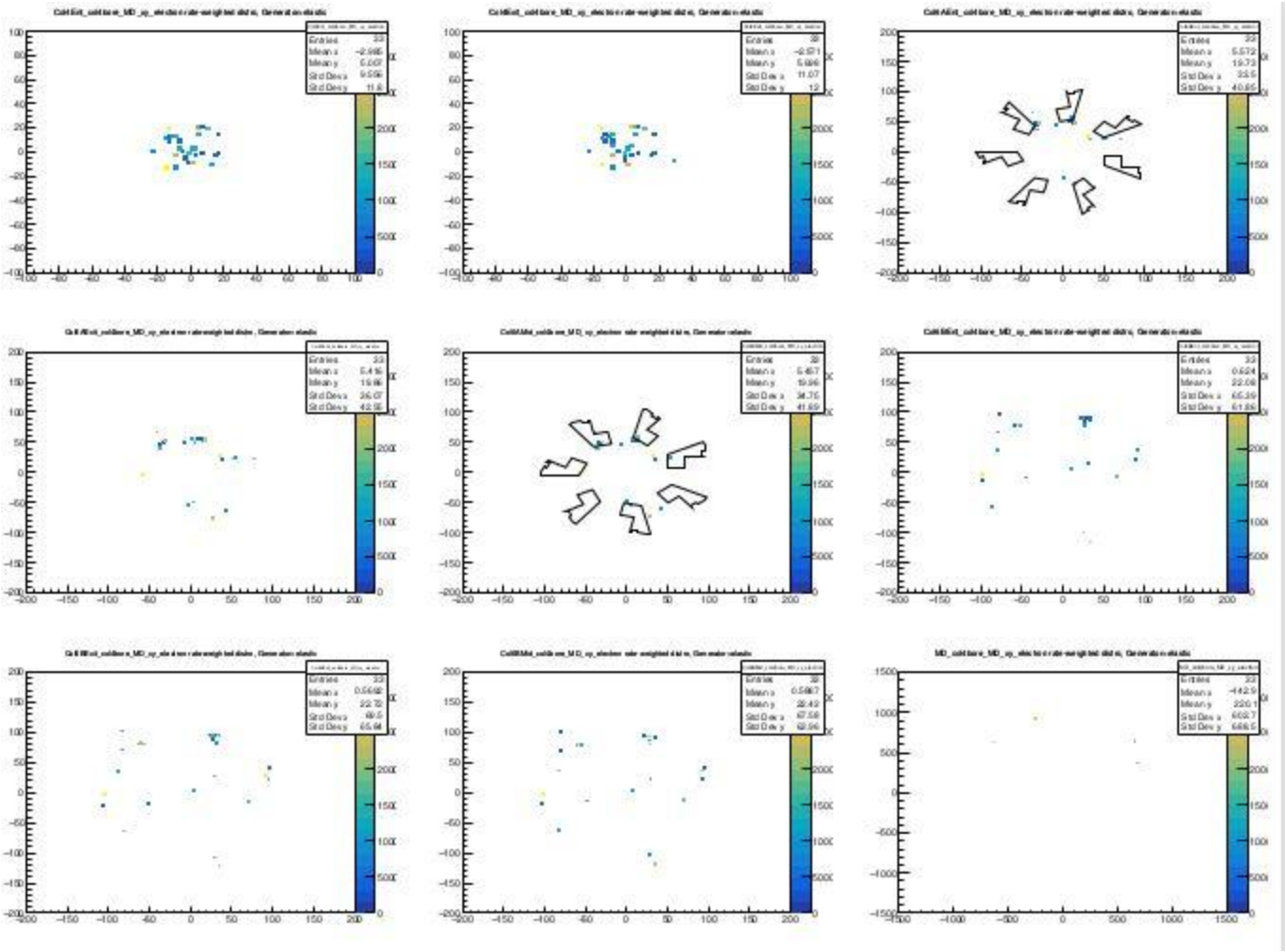
Config3

Caution:
Low statistics



Config4

Caution:
Low statistics



Config5

Caution:
Low statistics