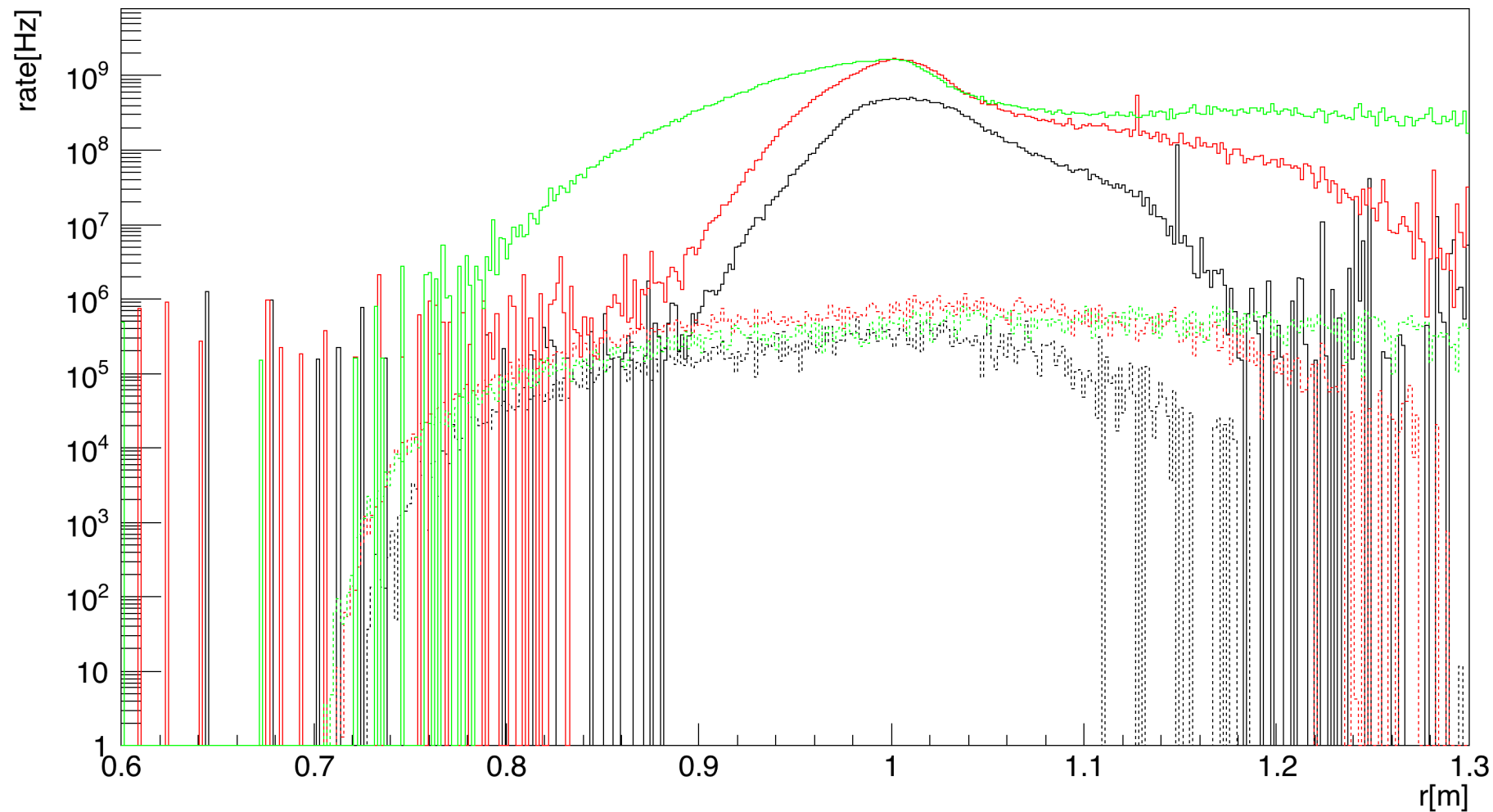


Pi- rates in remoll

Ciprian Gal UVa

Pi- simulation



full lines: Moller
dashed lines: Pi-

Black: open
Red: transition
Green: closed

- Yuxiang and I managed to track down the source of the discrepancy we saw in my Moller rates (Geant4 version)
- The new results agree very well specifically in sector 5

Pi- simulation

Table 1

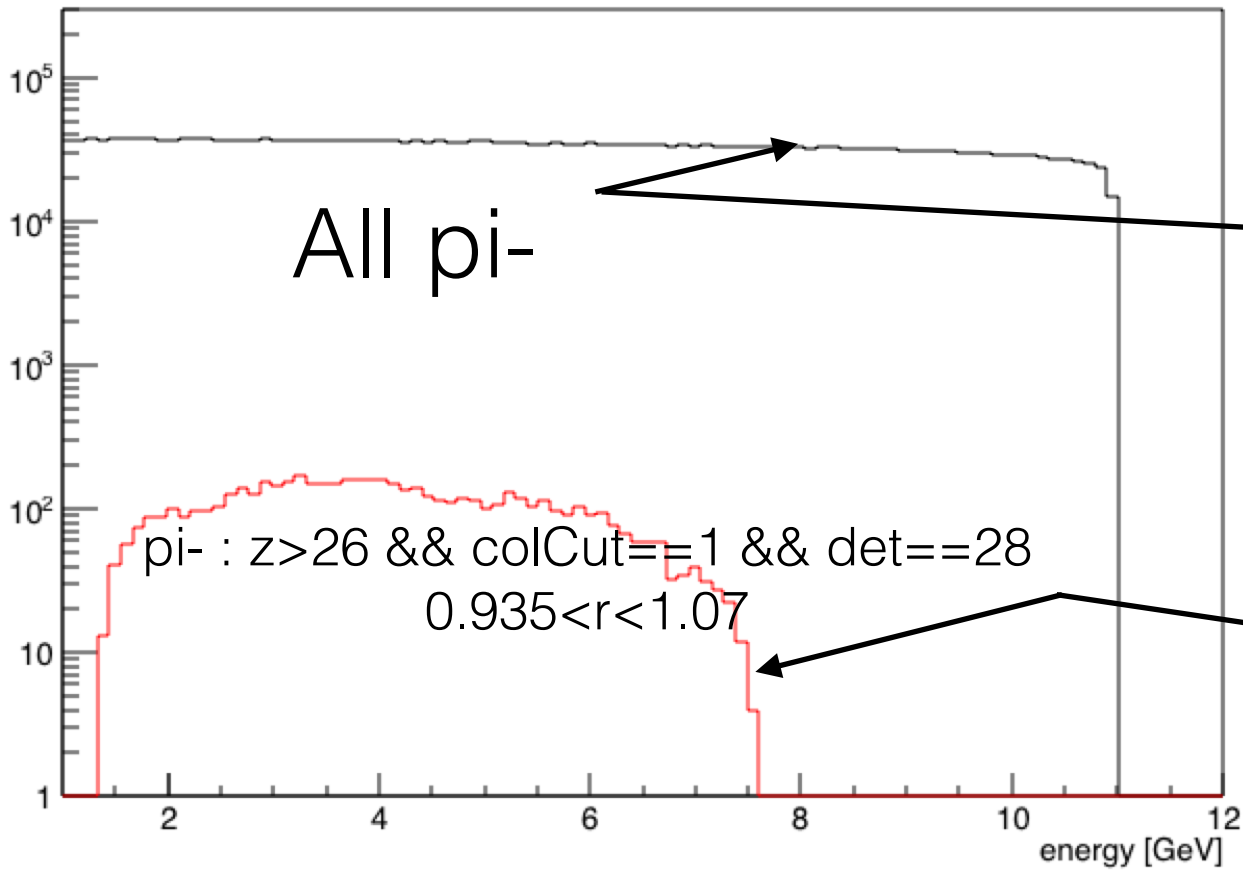
Ring	Phi Region	Moller (1e7)	Moller YZ	CG/YZ	Pi - (1e6)	Pi-/Moller	ep Elastic (YZ)	Pi-/ep Elastic
1	0	1.14E+06	2.23E+06	0.51	1.71E+02	1.50E-04	6.32E+07	2.70E-06
1	1	7.20E+05	3.49E+06	0.21	4.32E+03	6.00E-03	9.90E+08	4.36E-06
1	2	1.59E+05	1.70E+06	0.09	7.54E+03	4.75E-02	7.77E+09	9.70E-07
2	0	1.59E+05	3.03E+06	0.05	1.43E+05	8.97E-01	5.08E+08	2.81E-04
2	1	6.49E+06	7.12E+06	0.91	6.74E+05	1.04E-01	8.36E+09	8.06E-05
2	2	2.40E+07	2.47E+07	0.97	4.92E+05	2.05E-02	3.00E+10	1.64E-05
3	0	3.38E+06	4.66E+06	0.72	2.57E+06	7.6E-01	4.29E+08	5.98E-03
3	1	2.25E+07	2.64E+07	0.85	6.85E+06	3.04E-01	4.44E+09	1.54E-03
3	2	1.12E+09	1.08E+09	1.04	4.56E+06	4.07E-03	1.48E+10	3.07E-04
4	0	1.22E+08	7.88E+07	1.54	7.78E+06	6.40E-02	5.14E+08	1.51E-02
4	1	4.64E+09	5.03E+08	9.23	2.79E+07	6.02E-03	2.91E+09	9.60E-03
4	2	3.06E+10	1.38E+10	2.22	1.74E+07	5.68E-04	9.40E+09	1.85E-03
5	0	1.77E+10	2.11E+10	0.84	1.88E+07	1.06E-03	1.94E+09	9.70E-03
5	1	5.94E+10	5.91E+10	1.01	4.94E+07	8.31E-04	5.67E+09	8.72E-03
5	2	7.32E+10	7.33E+10	1.00	3.80E+07	5.19E-04	1.10E+10	3.46E-03
6	0	5.10E+09	8.03E+08	6.35	9.54E+06	1.87E-03	9.19E+08	1.04E-02
6	1	1.17E+10	7.71E+09	1.52	3.24E+07	2.77E-03	6.56E+09	4.94E-03
6	2	1.87E+10	1.78E+10	1.05	3.07E+07	1.64E-03	2.22E+10	1.38E-03

- the blue discrepancy is probably due to low statistics on my part (only ran 2M events)
- the yellow discrepancy is due to not matching rings 4 and 5 radii to not leave any region out in YZ's script
- the purple discrepancy is my extra cuts in my analysis (collimation cut, particle ID, detector ID)

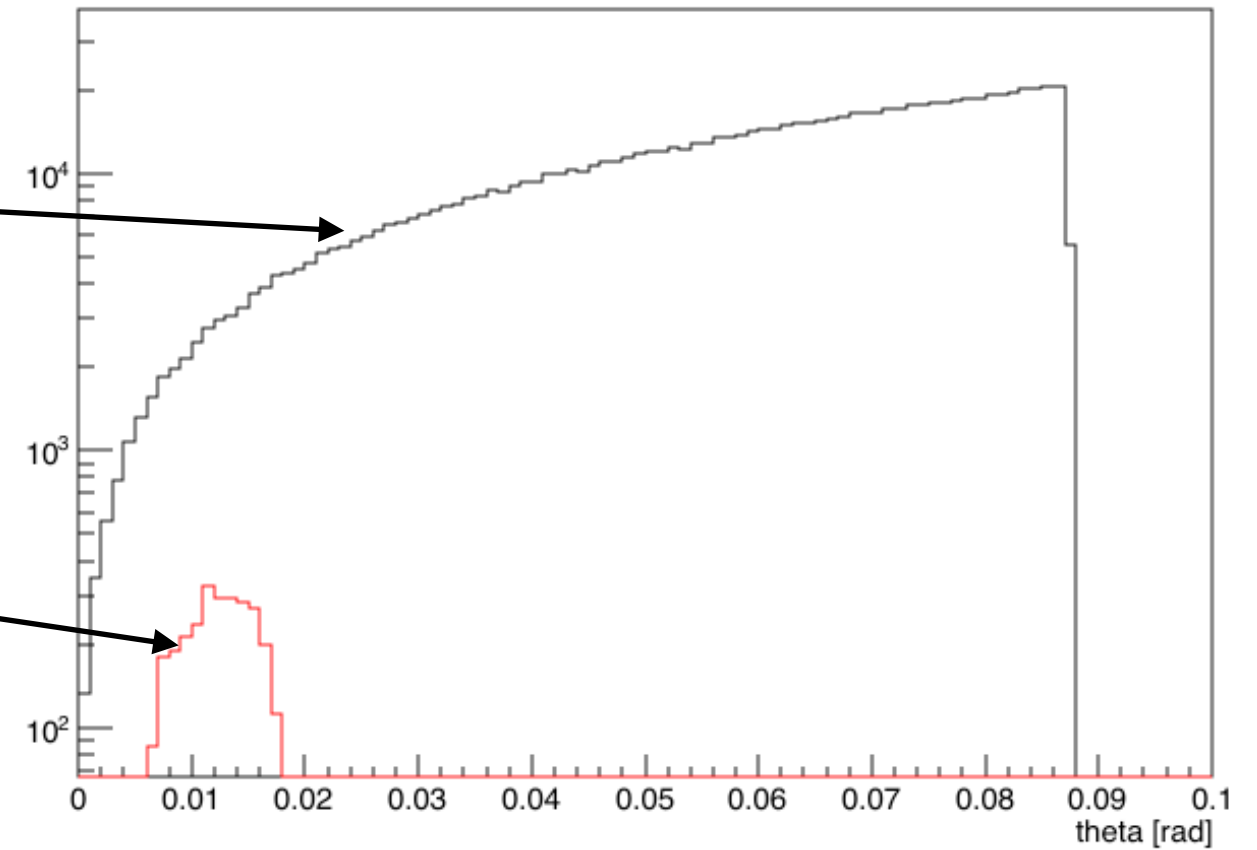
Pi- simulation G4.9.6.p03

Black: All pions | Red: Pions in Moller ring

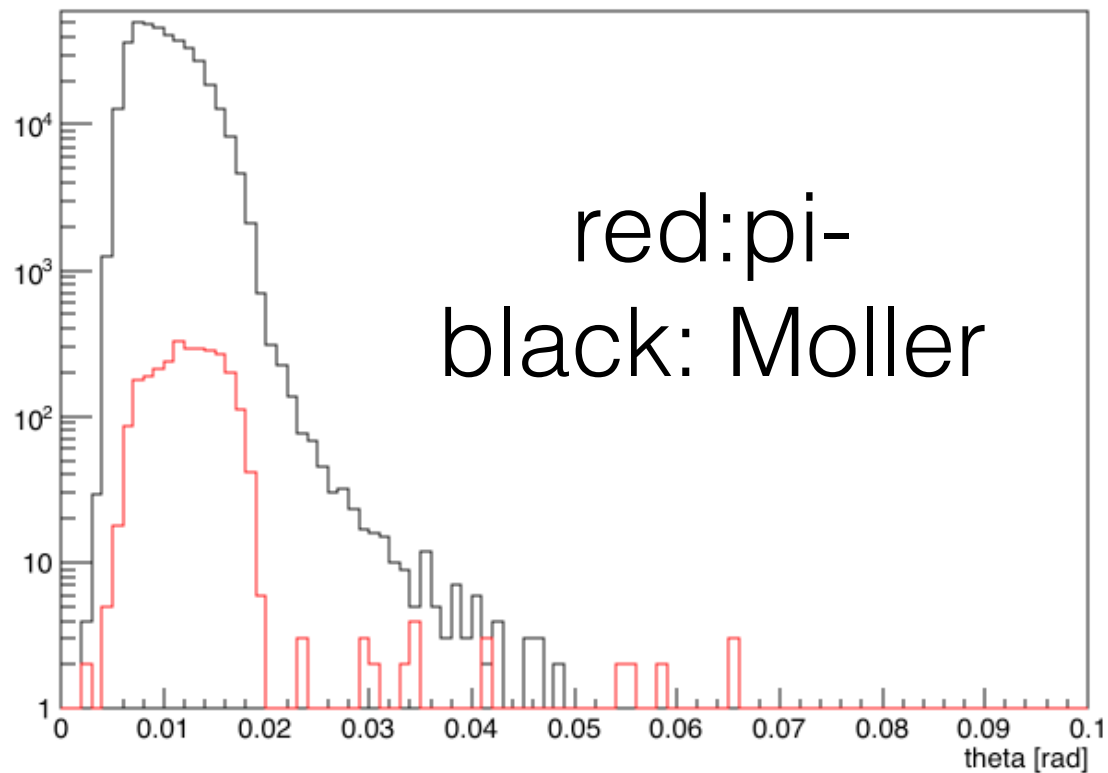
Black: All pions | Red: Pions in Moller ring



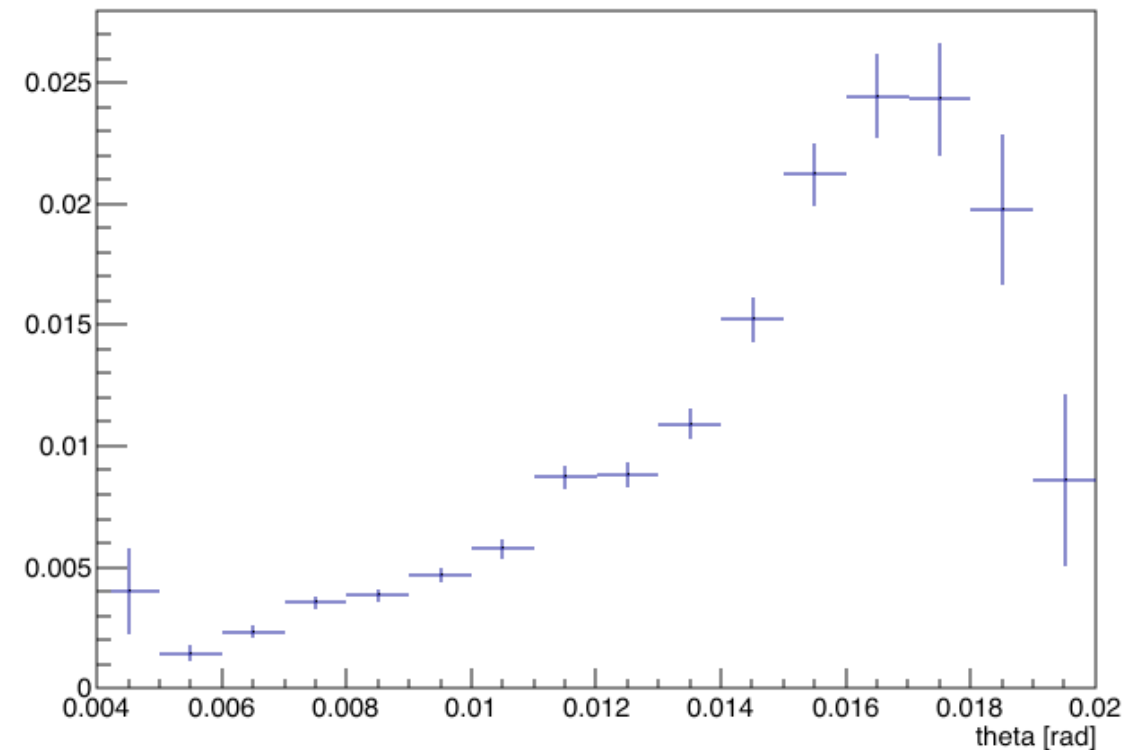
Red: pi- | Black: Moller



pi- / Moller



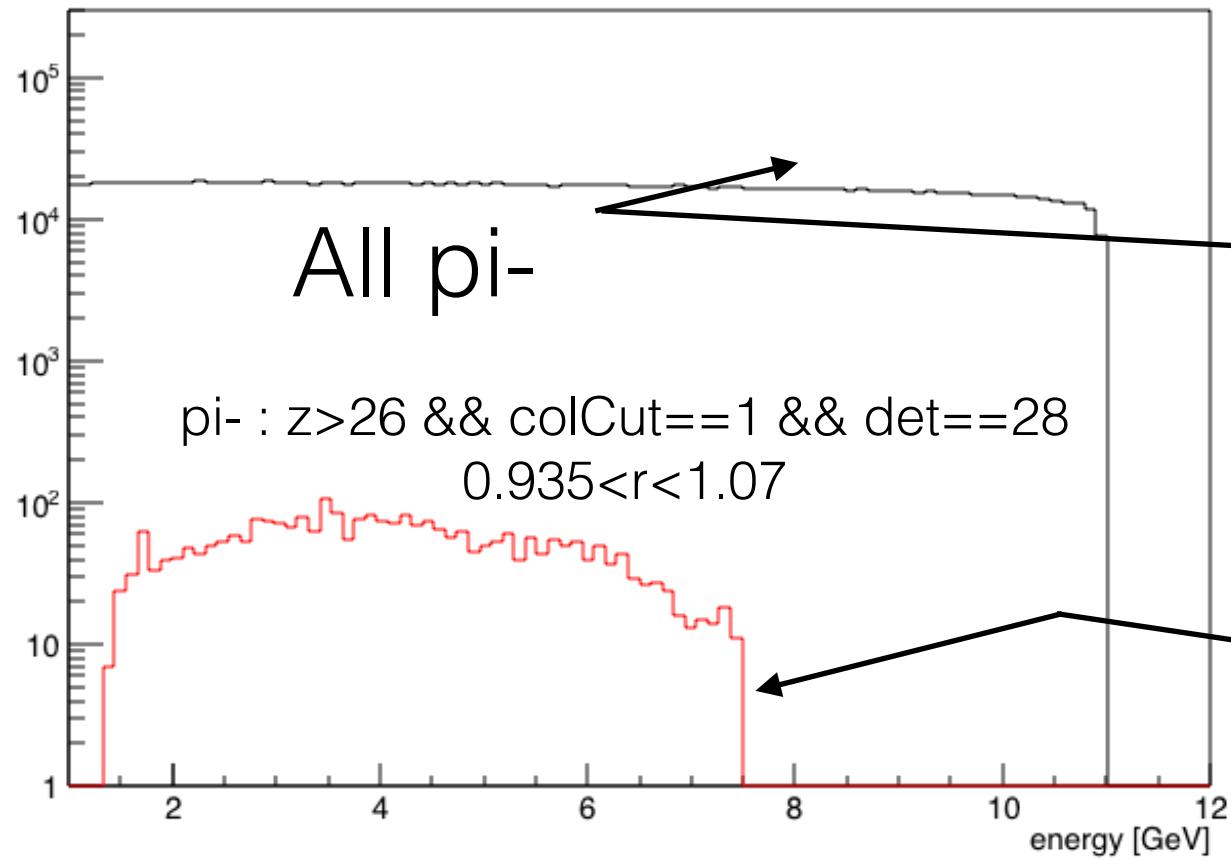
red: pi-
black: Moller



Pi- simulation G4.10.1.p01

Black: All pions | Red: Pions in Moller ring

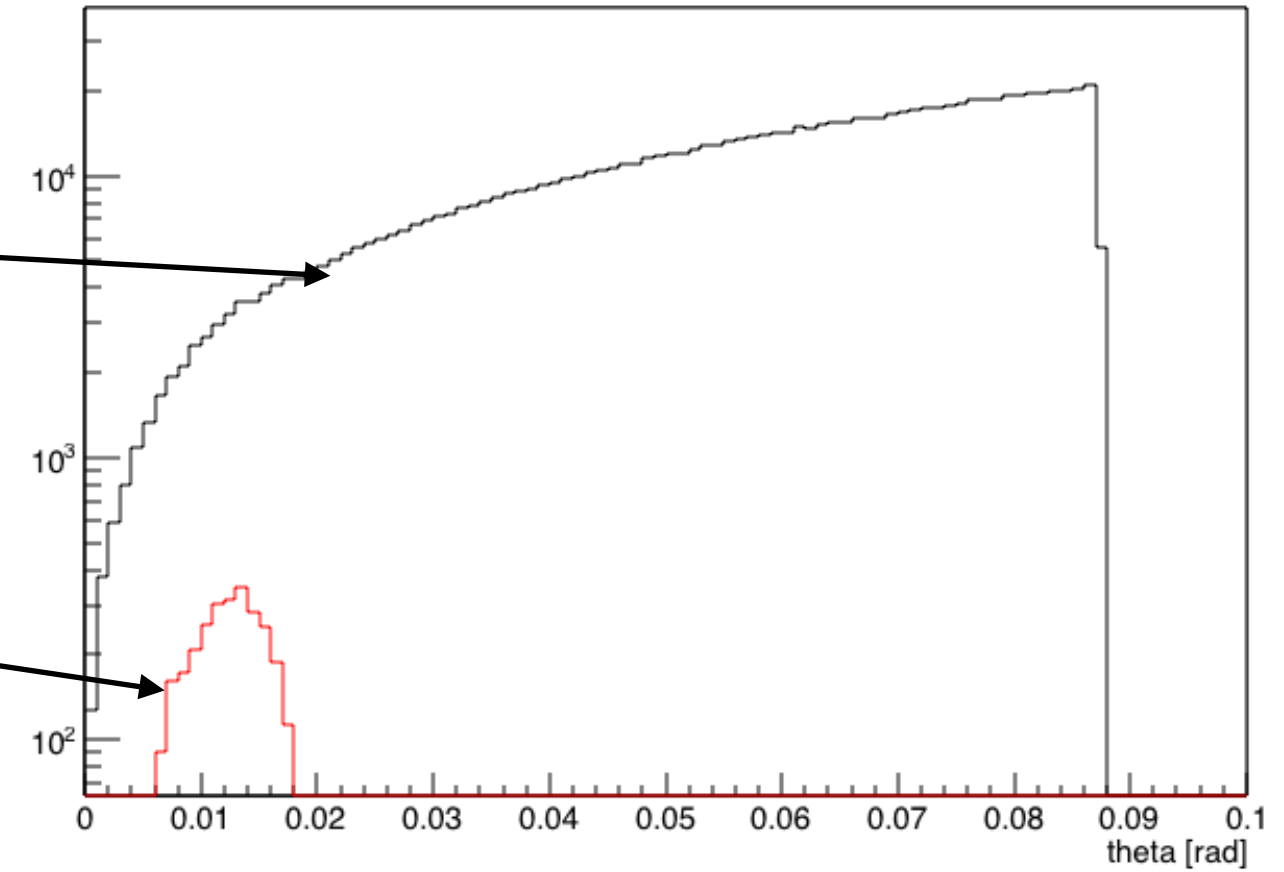
Black: All pions | Red: Pions in Moller ring



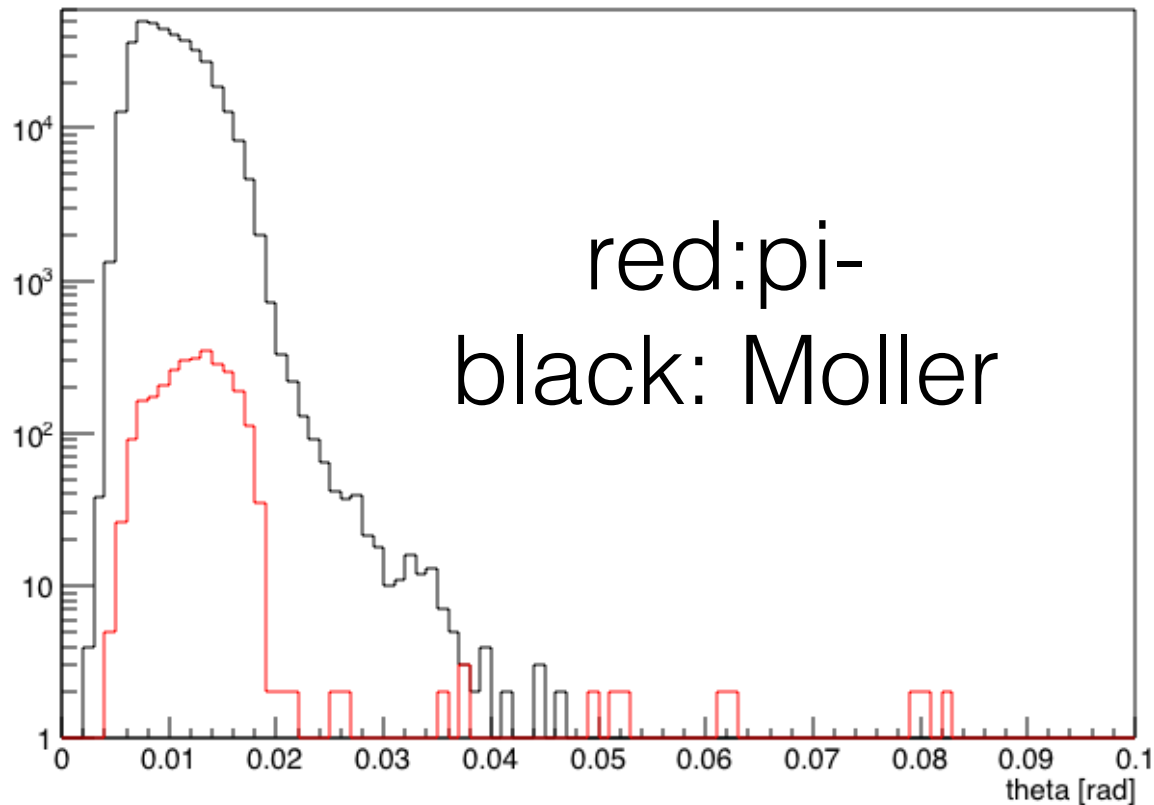
All pi-

pi- : z>26 && colCut==1 && det==28
0.935<r<1.07

Red: pi- | Black: Moller



pi- / Moller



red:pi-
black: Moller

