

2004 vs 2009 ZDC A_N at 200 GeV

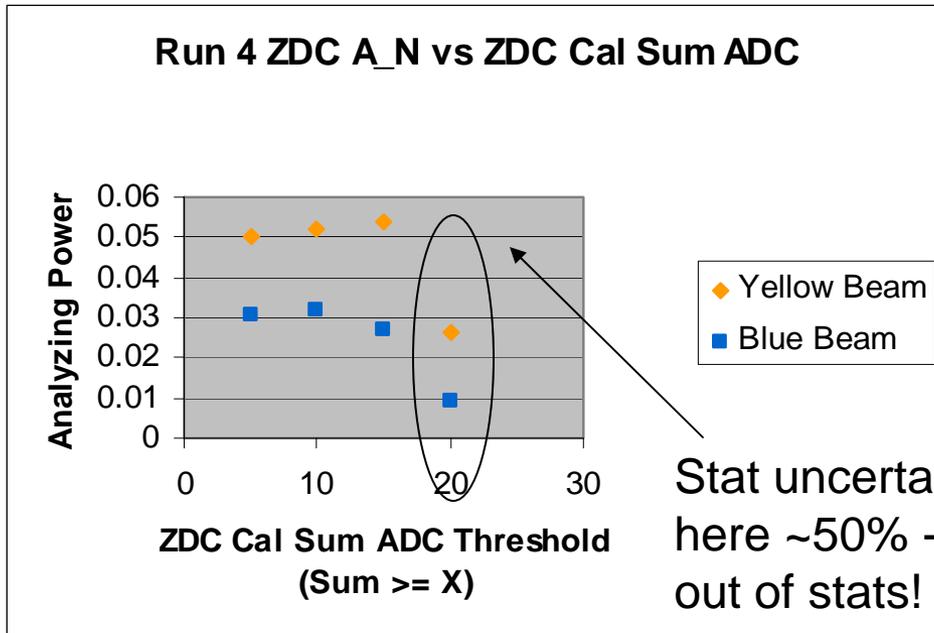
- Polarizations double-checked
- ZDC Calorimeter thresholds
- BBC multiplicity

Offline Polarizations - 2004

Fill	Run	Mode	Month	Day	Time	P final
5170	002	0	April	23	22:54:00	0.40850
5170	003	0	April	24	1:25:04	0.40113
5170	004	0	April	24	4:14:19	0.44190
5170	005	0	April	24	4:23:46	0.39373
5170	006	0	April	24	4:27:02	0.36429
5170	007	0	April	24	4:31:35	0.40784
5170	008	0	April	24	4:34:40	0.40676
Sum						2.82414
Average						0.40345
5170	104	0	April	23	22:56:31	0.34137
5170	105	0	April	24	1:25:59	0.26206
5170	106	0	April	24	4:15:10	0.33838
5170	107	0	April	24	4:24:39	0.31813
5170	108	0	April	24	4:27:53	0.29395
5170	109	0	April	24	4:32:45	0.27255
5170	110	0	April	24	4:35:41	0.32449
Sum						2.15092
Average						0.307274

We had been using 26% for each beam – this is wrong! Straight average for blue beam is 40% and for yellow beam is 30%

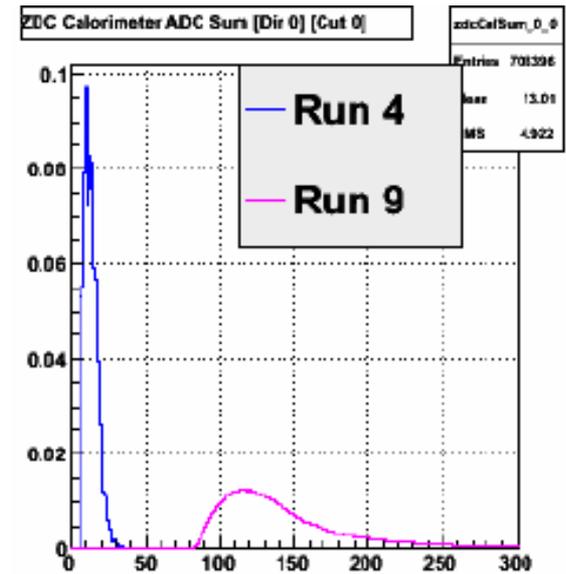
ZDC Cal Sum ADC Threshold



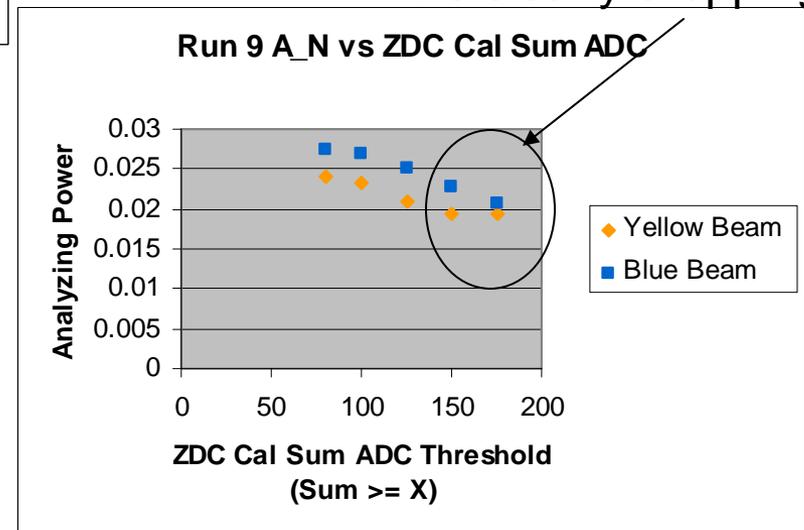
Run4 threshold on sum is $ADC \geq 5$

Run9 threshold is $ADC \geq (40+40=80)$

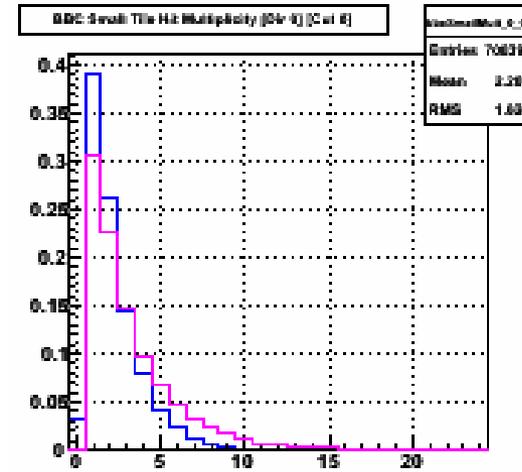
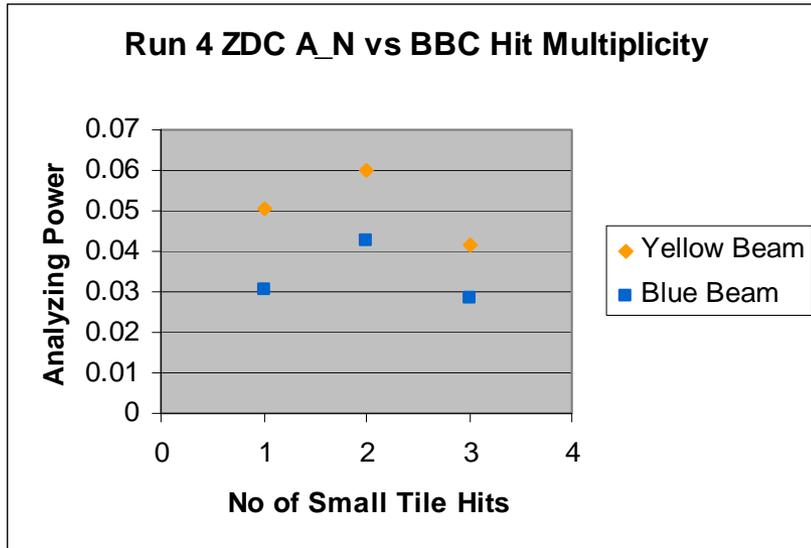
Factor of 5-10 difference run4 to run 9? Run4 $ADC \geq 5 \rightarrow \geq 25$



Enough stats for ~10% uncertainty out here – it is clearly dropping!

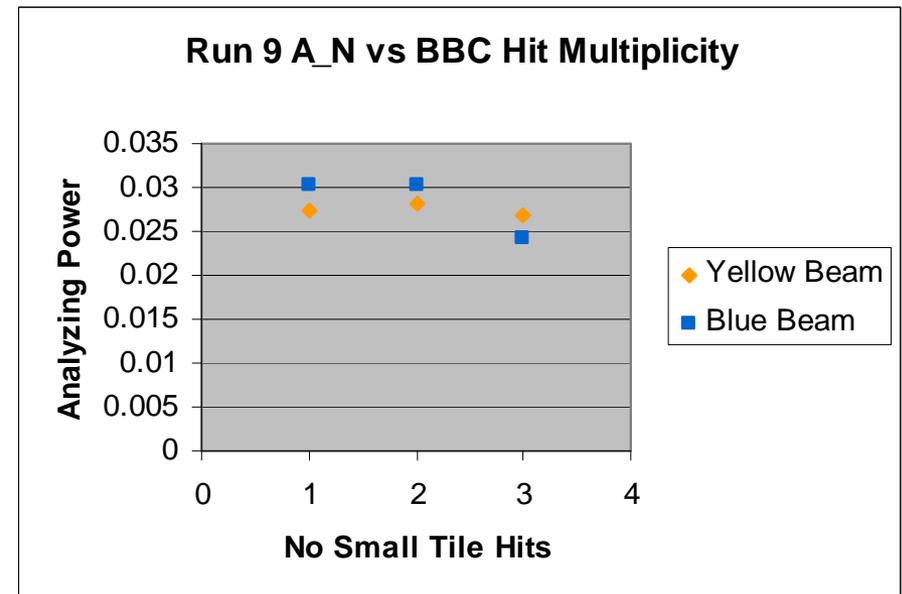


BBC Small Tile Multiplicity



Run 4 mean 2.2

Run 9 mean 3.1



Remarks

- Seems run4 analyzing powers were ~3% and ~5%, not the 7-8% originally claimed
- Analyzing power in run9 data clearly decreases with threshold but hard to tell in run4
 - Think it's clear threshold was relatively much higher in 9 vs 4
- Analyzing power decreases when BBC multiplicity goes from 2 to 3
 - 2009 mean hit multiplicity is closer to 3 than 2
 - 2004 mean hit multiplicity is closer to 2 than 3