

0.1 Differences in results

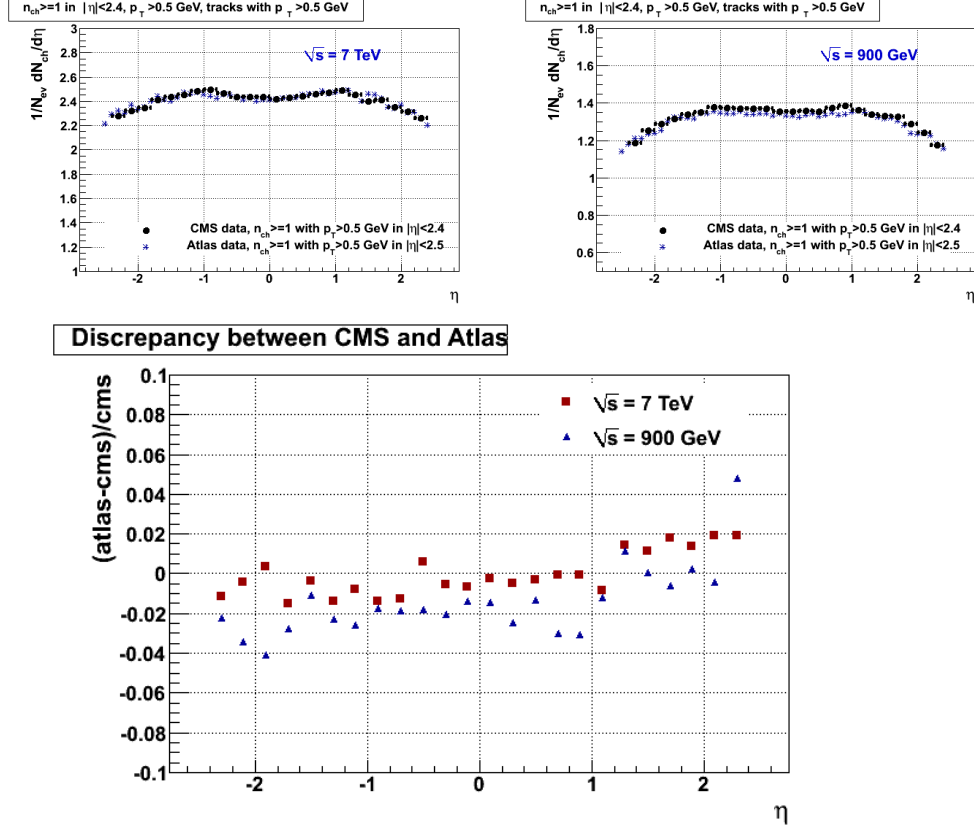


Figure 1: CMS vs Atlas. Notice that Atlas has extended acceptance to eta 2.5. Since $dN/d\eta$ is normalized to the number of events with a charged particle in $|\eta|$ region, Atlas would have higher N_{ev} , therefore the absolute scale should be lower. From MC true for 7 TeV the scale for $|\eta| < 2.5$ is 0.8-1% lower than for $|\eta| < 2.4$ selection region.

0.2 f_{M0} correction

Still thinking on a better way to incorporate the f_{M0} correction. It should be a migration from bin 0 to bin 1 and included in $\omega_{event}(M)$ for $M=1$ bin. But, since f_{M0} is a fraction of $M0$ events to the total, it's not clear how to write it mathematically. (it is not simple $\omega_{event}(1) * (1 + f_{M0})$)

Table 1:

multiplicity bin (M)	N_{tracks}	ϵ_{trig}	ϵ_{PV}	$\epsilon_{central}$						
				$ \eta <$		one track		one track		six tracks
				$p_T >$	0.8	0.5 GeV/c	1.0 GeV/c	0.5 GeV/c	1.0 GeV/c	
0	0	0.9984 ± 0.0002	0.0005 ± 0.0002		0.0000 ± 0.0000	0.0000 ± 0.0000	0.0000 ± 0.0000	0.0000 ± 0.0000	0.0000 ± 0.0000	
1	1	0.9984 ± 0.0002	0.0550 ± 0.0001		0.8060 ± 0.0220	0.9189 ± 0.0468	0.7699 ± 0.0451	1.0000 ± 0.0000	1.0000 ± 0.0000	
2	2	0.9984 ± 0.0002	0.5372 ± 0.0001		0.9049 ± 0.0037	0.9228 ± 0.0089	0.8836 ± 0.0070	0.9418 ± 0.0141	0.9418 ± 0.0141	
3	3	0.9984 ± 0.0020	0.7953 ± 0.0002		0.8923 ± 0.0028	0.8714 ± 0.0079	0.8761 ± 0.0048	0.9186 ± 0.0108	0.9186 ± 0.0108	
4	4	0.9984 ± 0.0020	0.9134 ± 0.0001		0.9010 ± 0.0024	0.8692 ± 0.0064	0.8742 ± 0.0040	0.9181 ± 0.0085	0.9181 ± 0.0085	
5	5	0.9984 ± 0.0002	0.9655 ± 0.0004		0.9036 ± 0.0023	0.8573 ± 0.0061	0.8713 ± 0.0037	0.9107 ± 0.0081	0.9107 ± 0.0081	
6	6	0.9984 ± 0.0002	0.9849 ± 0.0001		0.9184 ± 0.0021	0.8519 ± 0.0057	0.8745 ± 0.0035	0.8931 ± 0.0081	0.8931 ± 0.0081	
7	7	1.0000 ± 0.0002	0.9961 ± 0.0000		0.9436 ± 0.0012	0.8561 ± 0.0035	0.8878 ± 0.0022	0.8984 ± 0.0048	0.8984 ± 0.0048	
8	8	1.0000 ± 0.0002	0.9992 ± 0.0000		0.9664 ± 0.0009	0.8717 ± 0.0029	0.9037 ± 0.0019	0.9085 ± 0.0039	0.9085 ± 0.0039	
9	9	1.0000 ± 0.0002	0.9998 ± 0.0000		0.9839 ± 0.0006	0.8893 ± 0.0020	0.9255 ± 0.0014	0.9076 ± 0.0028	0.9076 ± 0.0028	
10	10	1.0000 ± 0.0001	0.9999 ± 0.0000		0.9954 ± 0.0003	0.9088 ± 0.0018	0.9458 ± 0.0012	0.9167 ± 0.0025	0.9167 ± 0.0025	
11	11	1.0000 ± 0.0001	0.9998 ± 0.0000		0.9988 ± 0.0002	0.9360 ± 0.0014	0.9616 ± 0.0010	0.9259 ± 0.0020	0.9259 ± 0.0020	
12	12	1.0000 ± 0.0001	0.9999 ± 0.0000		0.9998 ± 0.0001	0.9613 ± 0.0011	0.9778 ± 0.0008	0.9394 ± 0.0017	0.9394 ± 0.0017	
13	13	1.0000 ± 0.0001	0.9999 ± 0.0000		0.9999 ± 0.0000	0.9835 ± 0.0006	0.9907 ± 0.0004	0.9556 ± 0.0011	0.9556 ± 0.0011	
14	14	1.0000 ± 0.0001	0.9999 ± 0.0000		1.0000 ± 0.0000	0.9982 ± 0.0002	0.9979 ± 0.0002	0.9789 ± 0.0008	0.9789 ± 0.0008	
15	15	1.0000 ± 0.0001	1.0000 ± 0.0001		0.9999 ± 0.0001	0.9998 ± 0.0001	0.9997 ± 0.0001	0.9960 ± 0.0004	0.9960 ± 0.0004	

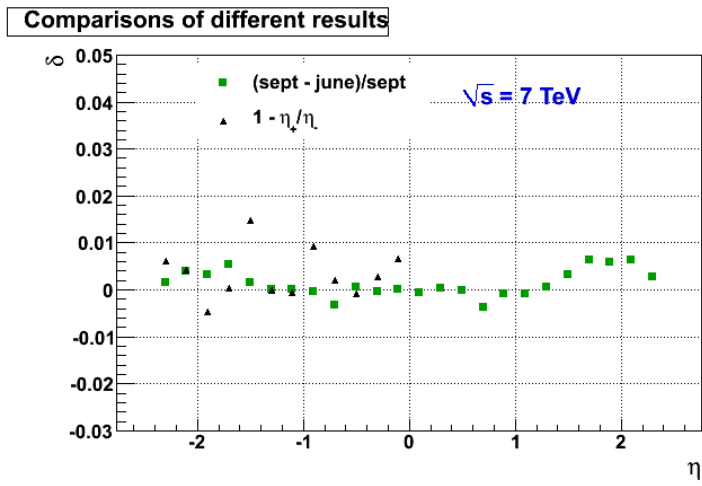


Figure 2: Compare CMS rereco of Sept17 to rereco of June9 (green) and eta +/- difference of CMS result from Sept17 rereco