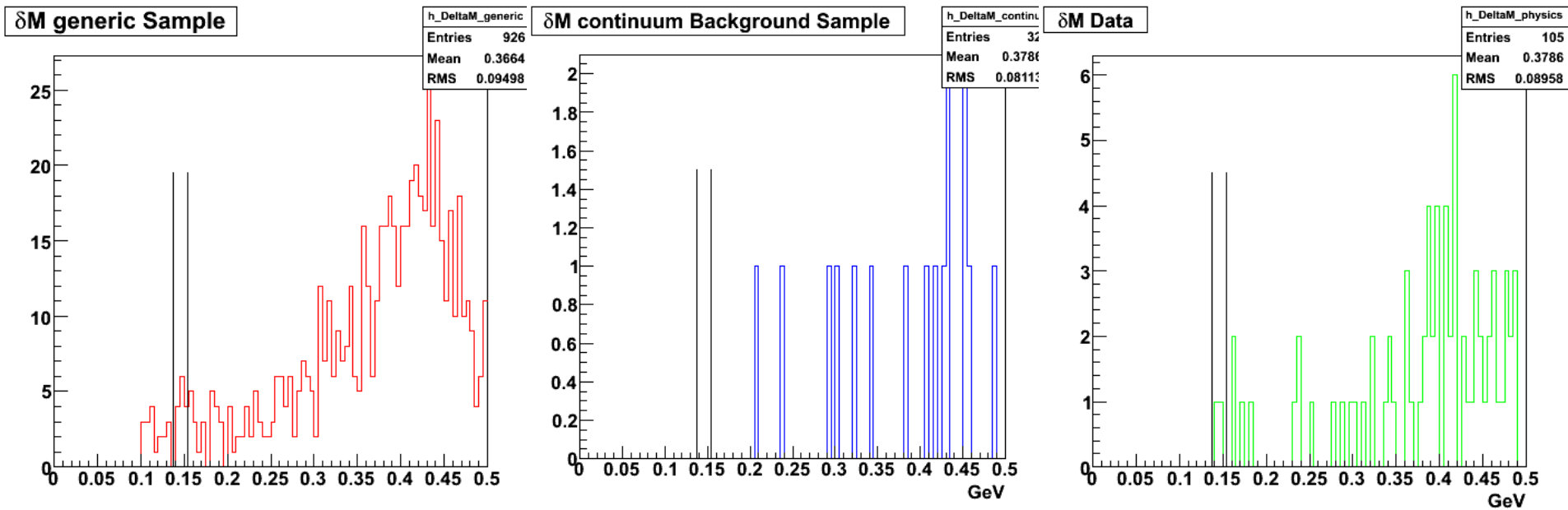


$$D_S^{*+} \rightarrow D_S^+ e^+ e^-$$

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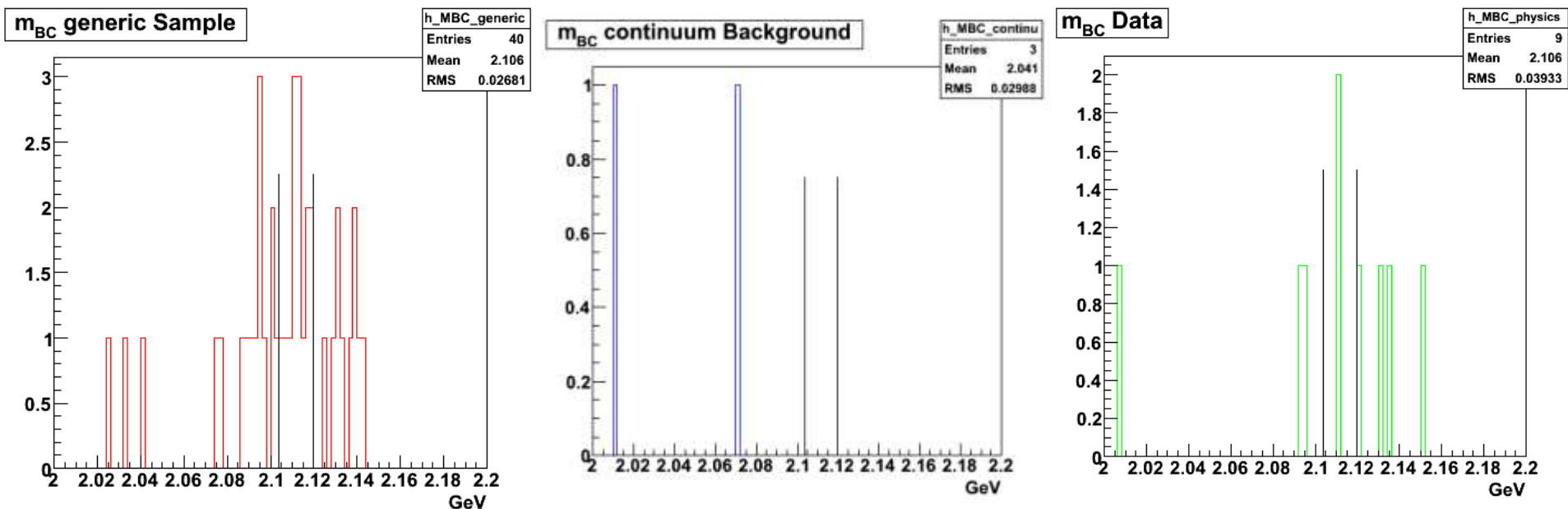
DeltaM Sidebands



DeltaM for the generic MC, continuum MC and physics data for $D_s \rightarrow KK\pi$

Mode	$\Delta M < 0.5 \text{ GeV}$					$\Delta M < 0.3 \text{ GeV}$				
	ddmix MC	cont MC	tot MC	data	$\frac{\text{data}}{\text{MC}}$	ddmix MC	cont MC	tot MC	data	$\frac{\text{data}}{\text{MC}}$
$K^+K^-\pi^+$	30 ± 1.2	3.2 ± 0.8	34 ± 1.5	73 ± 8.5	2.2 ± 0.27	5.2 ± 0.51	0.6 ± 0.35	5.8 ± 0.62	11 ± 3.3	1.9 ± 0.6
$K_S K^+$	8.6 ± 0.66	3 ± 0.77	12 ± 1	19 ± 4.4	1.6 ± 0.4	2.4 ± 0.35	1.2 ± 0.49	3.6 ± 0.6	4 ± 2	1.1 ± 0.59
$\eta\pi^+$	2.4 ± 0.35	7 ± 1.2	9.4 ± 1.2	24 ± 4.9	2.6 ± 0.62	0.5 ± 0.16	2.2 ± 0.66	2.7 ± 0.68	7 ± 2.6	2.6 ± 1.2
η'/π^+	2.4 ± 0.34	0.6 ± 0.35	3 ± 0.49	4 ± 2	1.4 ± 0.71	0.5 ± 0.16	0 ± 0	0.5 ± 0.16	1 ± 1	2 ± 2.1
$K^+K^-\pi^+\pi^0$	$1e+02 \pm 2.2$	13 ± 1.6	$1.1e+02 \pm 2.8$	$2.2e+02 \pm 15$	1.9 ± 0.14	18 ± 0.94	2.4 ± 0.69	20 ± 1.2	39 ± 6.2	1.9 ± 0.33
$\pi^+\pi^-\pi^+$	24 ± 1.1	70 ± 3.7	94 ± 3.9	$1.6e+02 \pm 13$	1.7 ± 0.15	4 ± 0.45	13 ± 1.6	17 ± 1.7	25 ± 5	1.4 ± 0.32
K^*K^0	38 ± 1.4	4 ± 0.89	42 ± 1.6	$1.2e+02 \pm 11$	2.8 ± 0.28	9.4 ± 0.69	0.8 ± 0.4	10 ± 0.79	16 ± 4	1.6 ± 0.41
$\eta\rho^+$	78 ± 2	$1.6e+02 \pm 5.7$	$2.4e+02 \pm 6$	$3e+02 \pm 17$	1.2 ± 0.078	16 ± 0.88	35 ± 2.6	51 ± 2.8	71 ± 8.4	1.4 ± 0.18
η'/π^+	33 ± 1.3	72 ± 3.8	$1e+02 \pm 4$	$1.7e+02 \pm 13$	1.6 ± 0.14	6.6 ± 0.57	14 ± 1.7	21 ± 1.8	26 ± 5.1	1.3 ± 0.27

mBC Sidebands



mBC for the generic MC, continuum MC and physics data for $D_s \rightarrow KK\pi$

Mode	$m_{BC} < 2.102 \text{ GeV}$					$m_{BC} > 2.122 \text{ GeV}$				
	ddmix MC	cont MC	tot MC	data	$\frac{\text{data}}{\text{MC}}$	ddmix MC	cont MC	tot MC	data	$\frac{\text{data}}{\text{MC}}$
$K^+K^-\pi^+$	0.85 ± 0.21	0.4 ± 0.28	1.2 ± 0.35	3 ± 1.7	2.4 ± 1.5	0.5 ± 0.16	0 ± 0	0.5 ± 0.16	4 ± 2	8 ± 4.7
$K_S K^+$	0.75 ± 0.19	0.6 ± 0.35	1.4 ± 0.4	1 ± 1	0.74 ± 0.77	0.15 ± 0.087	0.4 ± 0.28	0.55 ± 0.3	1 ± 1	1.8 ± 2.1
$\eta\pi^+$	0.1 ± 0.071	0.8 ± 0.4	0.9 ± 0.41	1 ± 1	1.1 ± 1.2	0 ± 0	0.2 ± 0.2	0.2 ± 0.2	0 ± 0	$0 \pm \text{nan}$
$\eta'\pi^+$	0.1 ± 0.071	0 ± 0	0.1 ± 0.071	0 ± 0	$0 \pm \text{nan}$	0.05 ± 0.05	0 ± 0	0.05 ± 0.05	0 ± 0	$0 \pm \text{nan}$
$K^+K^-\pi^+\pi^0$	12 ± 0.78	2.4 ± 0.69	14 ± 1	19 ± 4.4	1.3 ± 0.32	4 ± 0.45	1 ± 0.45	5 ± 0.63	5 ± 2.2	0.99 ± 0.46
$\pi^+\pi^-\pi^+$	1.2 ± 0.25	5.6 ± 1.1	6.8 ± 1.1	4 ± 2	0.58 ± 0.31	0.7 ± 0.19	2.2 ± 0.66	2.9 ± 0.69	2 ± 1.4	0.69 ± 0.51
$K^{*+}K^0$	2 ± 0.32	0.2 ± 0.2	2.2 ± 0.37	3 ± 1.7	1.4 ± 0.82	1.2 ± 0.25	0 ± 0	1.2 ± 0.25	0 ± 0	$0 \pm \text{nan}$
$\eta\rho^+$	4.3 ± 0.47	7.4 ± 1.2	12 ± 1.3	16 ± 4	1.4 ± 0.37	2.2 ± 0.33	7.2 ± 1.2	9.4 ± 1.2	11 ± 3.3	1.2 ± 0.39
$\eta'\pi^+$	78 ± 2	$1.6\text{e}+02 \pm 5.7$	$2.4\text{e}+02 \pm 6$	$3\text{e}+02 \pm 17$	1.2 ± 0.078	16 ± 0.88	35 ± 2.6	51 ± 2.8	71 ± 8.4	1.4 ± 0.18

Mode	ddmix signal region	cont signal region	total signal region	data	signal expected	conversions expected
$K^+K^-\pi^+$	0.7 ± 0.187083	0 ± 0	0.7 ± 0.187083	2 ± 1.41421	4.0	0.23
$K_S K^+$	0.2 ± 0.1	0 ± 0	0.2 ± 0.1	0 ± 0	1.1 (e-fit)	0.05 (e-fit)
$\eta\pi^+$	0 ± 0	0 ± 0	0 ± 0	0 ± 0	0.6 (e-fit)	0.01 (e-fit)
$\eta'\pi^+$	0.15 ± 0.0866025	0 ± 0	0.15 ± 0.0866025	1 ± 1	0.4 (e-fit)	0.01 (e-fit)
$K^+K^-\pi^+\pi^0$	2.8 ± 0.374166	0.4 ± 0.282843	3.2 ± 0.469042	4 ± 2		
$\pi^+\pi^-\pi^+$	0.55 ± 0.165831	0.8 ± 0.4	1.35 ± 0.433013	2 ± 1.41421	1.4 (e-fit)	0.02 (e-fit)
$K^{*+}K^{*0}$	0.45 ± 0.15	0 ± 0	0.45 ± 0.15	2 ± 1.41421	0.8 (e-fit)	0.03 (e-fit)
$\eta\rho^+$	1.75 ± 0.295804	1.6 ± 0.565685	3.35 ± 0.638357	3 ± 1.73205	3.5 (e-fit)	0.43 (e-fit)
$\eta'\pi^+$	0.6 ± 0.173205	0.8 ± 0.4	1.4 ± 0.43589	0 ± 0	1.0 (e-fit)	0.09 (e-fit)