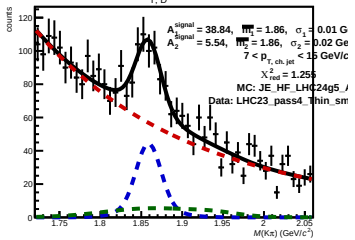
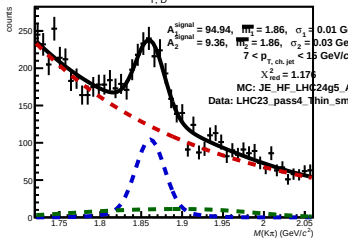
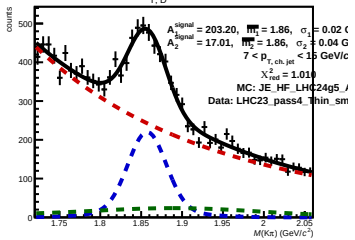
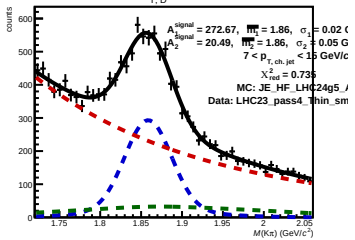
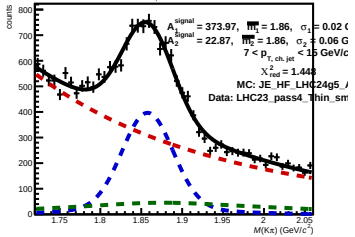
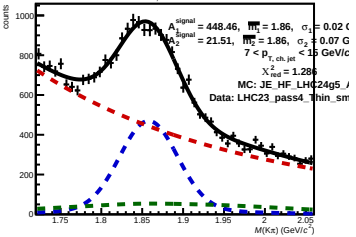

1 < p_{T,D^0} < 2 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 38.84, $\overline{m_1}$ = 1.86, σ_1 = 0.01 G
A_2^{signal} = 5.54, $\overline{m_2}$ = 1.86, σ_2 = 0.02 Ge
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.255
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

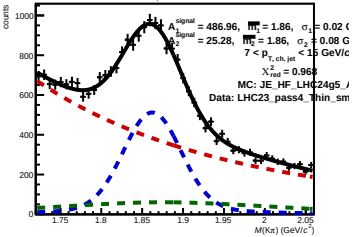

2 < p_{T,D^0} < 3 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 94.94, $\overline{m_1}$ = 1.86, σ_1 = 0.01 G
A_2^{signal} = 9.36, $\overline{m_2}$ = 1.86, σ_2 = 0.03 Ge
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.176
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

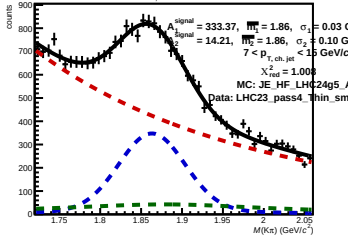

3 < p_{T,D^0} < 4 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 203.20, $\overline{m_1}$ = 1.86, σ_1 = 0.02 (
A_2^{signal} = 17.01, $\overline{m_2}$ = 1.86, σ_2 = 0.04 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.010
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

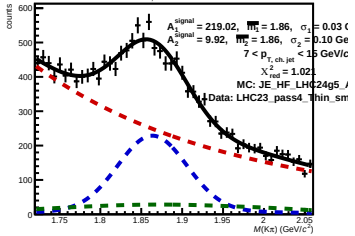

4 < p_{T,D^0} < 5 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 272.67, $\overline{m_1}$ = 1.86, σ_1 = 0.02 (
A_2^{signal} = 20.49, $\overline{m_2}$ = 1.86, σ_2 = 0.05 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 0.736
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

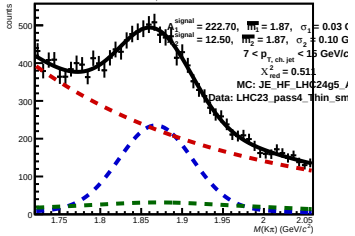

5 < p_{T,D^0} < 6 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 373.97, $\overline{m_1}$ = 1.86, σ_1 = 0.02 (
A_2^{signal} = 22.87, $\overline{m_2}$ = 1.86, σ_2 = 0.06 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.440
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

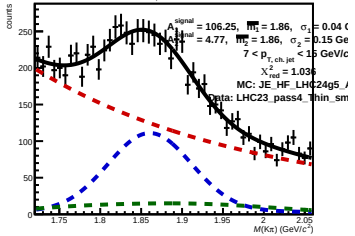

6 < p_{T,D^0} < 7 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 448.46, $\overline{m_1}$ = 1.86, σ_1 = 0.02 (
A_2^{signal} = 21.51, $\overline{m_2}$ = 1.86, σ_2 = 0.07 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.286
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

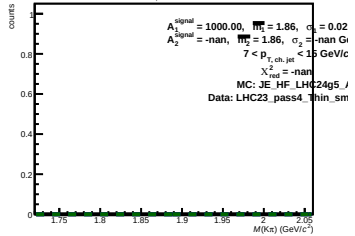

7 < p_{T,D^0} < 8 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 486.96, $\overline{m_1}$ = 1.86, σ_1 = 0.02 (
A_2^{signal} = 25.28, $\overline{m_2}$ = 1.86, σ_2 = 0.08 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 0.968
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

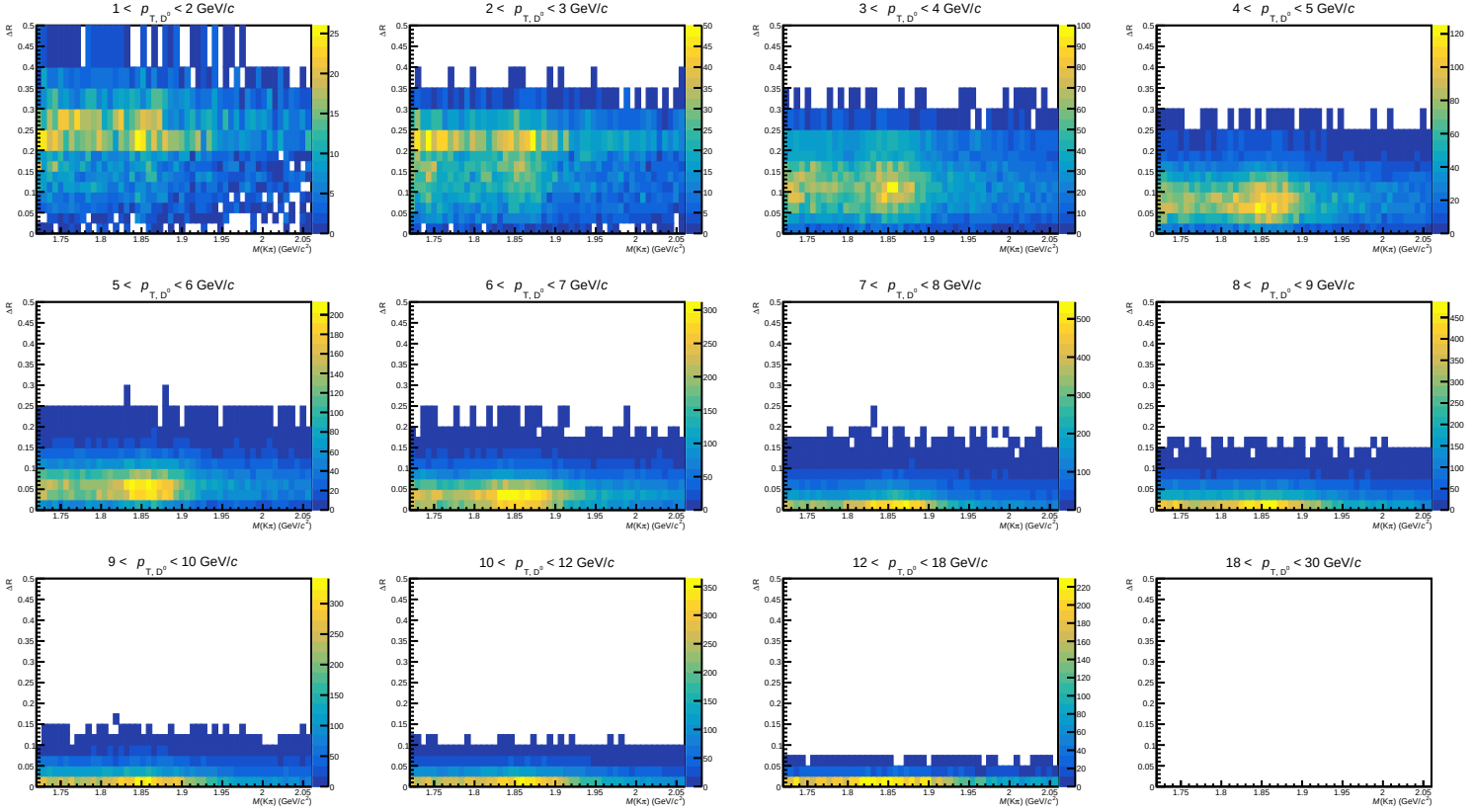

8 < p_{T,D^0} < 9 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 333.37, $\overline{m_1}$ = 1.86, σ_1 = 0.03 (
A_2^{signal} = 14.21, $\overline{m_2}$ = 1.86, σ_2 = 0.10 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.008
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

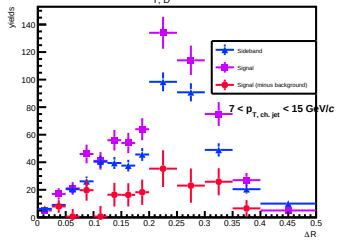

9 < p_{T,D^0} < 10 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 219.02, $\overline{m_1}$ = 1.86, σ_1 = 0.03 (
A_2^{signal} = 9.92, $\overline{m_2}$ = 1.86, σ_2 = 0.10 Ge
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.021
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

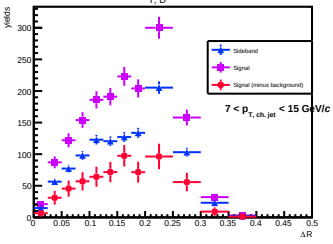

10 < p_{T,D^0} < 12 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 222.70, $\overline{m_1}$ = 1.87, σ_1 = 0.03 (
A_2^{signal} = 12.50, $\overline{m_2}$ = 1.87, σ_2 = 0.10 G
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 0.511
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

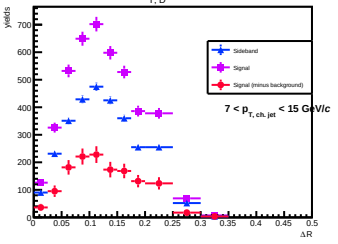

12 < p_{T,D^0} < 18 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 106.25, $\overline{m_1}$ = 1.86, σ_1 = 0.04 (
A_2^{signal} = 4.77, $\overline{m_2}$ = 1.86, σ_2 = 0.15 Ge
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = 1.036
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

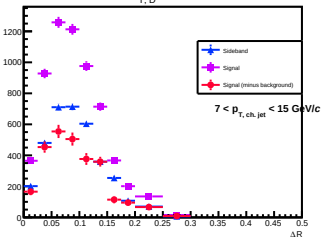

18 < p_{T,D^0} < 30 GeV/c
counts
$M(K\pi)$ (GeV/c^2)
A_1^{signal} = 1000.00, $\overline{m_1}$ = 1.86, σ_1 = 0.02
A_2^{signal} = -nan, $\overline{m_2}$ = 1.86, σ_2 = -nan Ge
7 < $p_{T,ch.jet}$ < 15 GeV/c
χ^2_{red} = -nan
MC: JE_HF_LHC24g5_J
Data: LHC23_pass4_Thin_sm

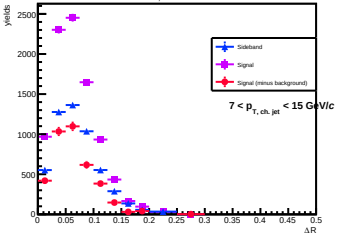

1 < p_{T,D^0} < 2 GeV/c
2 < p_{T,D^0} < 3 GeV/c
3 < p_{T,D^0} < 4 GeV/c
4 < p_{T,D^0} < 5 GeV/c
5 < p_{T,D^0} < 6 GeV/c
6 < p_{T,D^0} < 7 GeV/c
7 < p_{T,D^0} < 8 GeV/c
8 < p_{T,D^0} < 9 GeV/c
9 < p_{T,D^0} < 10 GeV/c
10 < p_{T,D^0} < 12 GeV/c
12 < p_{T,D^0} < 18 GeV/c
18 < p_{T,D^0} < 30 GeV/c
ΔR
$M(K\pi)$ (GeV/c^2)

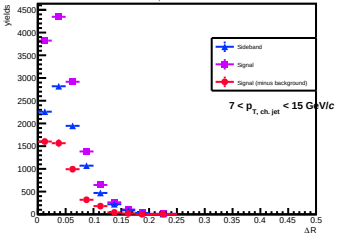

1 < p_{T,D^0} < 2 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

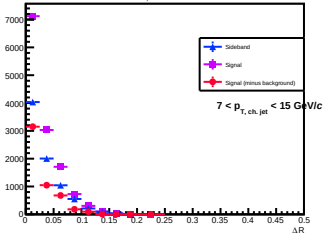

2 < p_{T,D^0} < 3 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

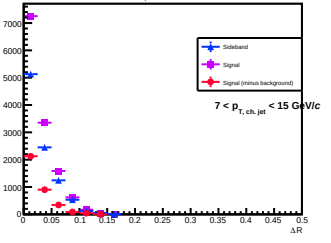

3 < p_{T,D^0} < 4 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

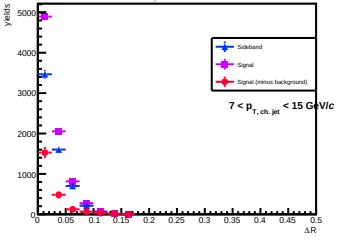

4 < p_{T,D^0} < 5 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

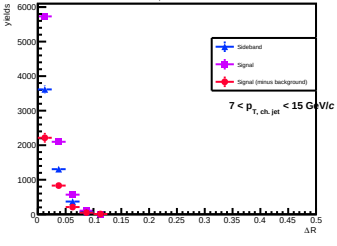

5 < p_{T,D^0} < 6 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

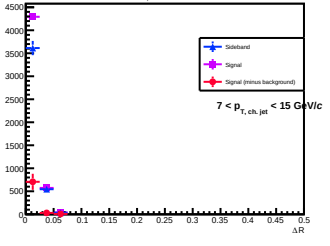

6 < p_{T,D^0} < 7 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c

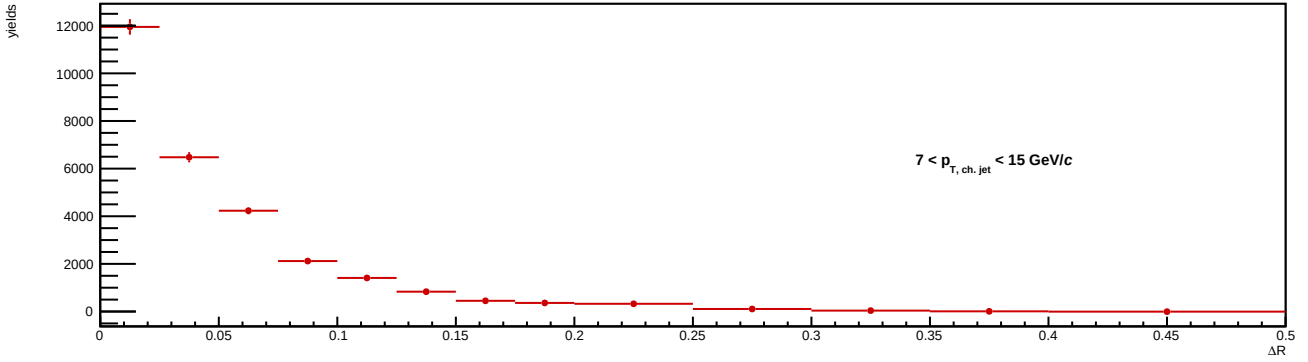

7 < p_{T,D^0} < 8 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c


8 < p_{T,D^0} < 9 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c


9 < p_{T,D^0} < 10 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c


10 < p_{T,D^0} < 12 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c


12 < p_{T,D^0} < 18 GeV/c
yields
ΔR
Sideband
Signal
Signal (minus background)
7 < $p_{T,ch.jet}$ < 15 GeV/c



Estimated significance for each $m_{invariant}$ distribution bin