



Intro

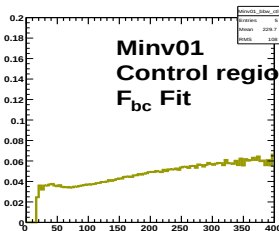
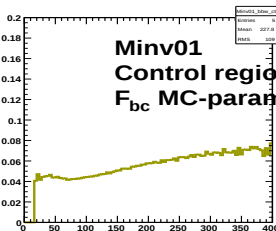
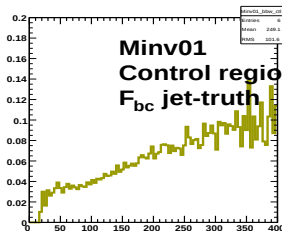
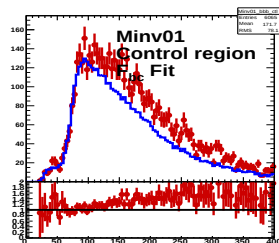
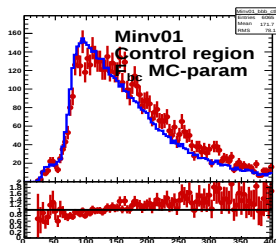
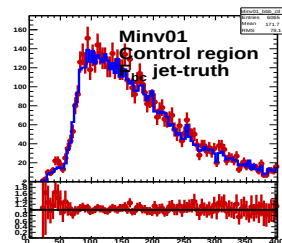


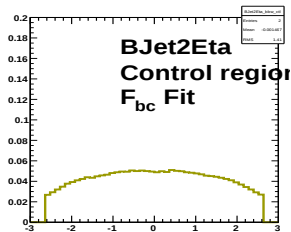
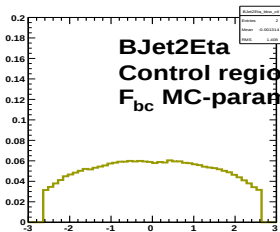
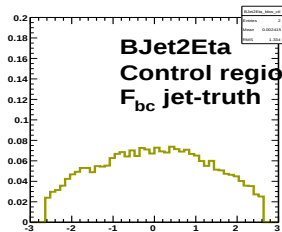
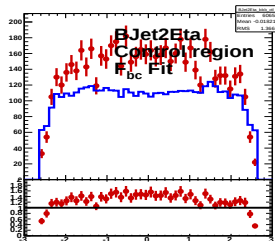
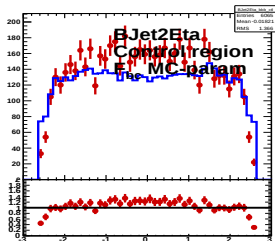
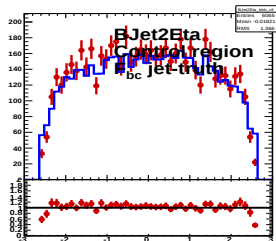
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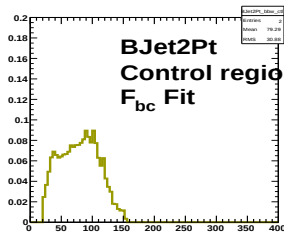
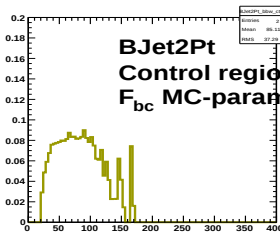
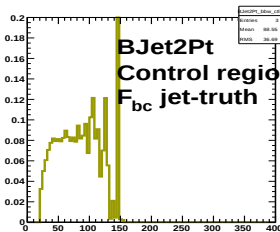
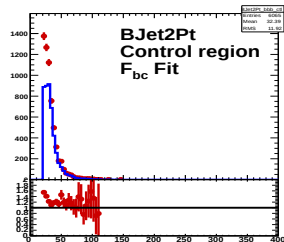
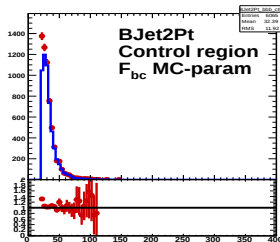
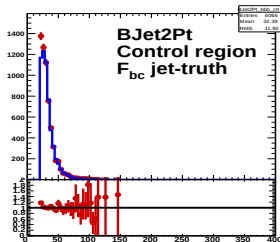
- Improvements:
- MC Param
 - ▶ Bug fixes
 - ▶ use only control region to estimate $F_{b/c}$
 - ▶ fine tuning of binning for low ΔR_{min}
 - ▶ Use of Fall111 MC production
 - ★ $\epsilon_{b,c,l}$ and $F_{b/c}$ recomputed with Fall11 QCD MC
- Fit
 - ▶ Alberto's selection is now correct, namely identical to mine.

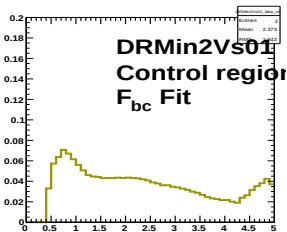
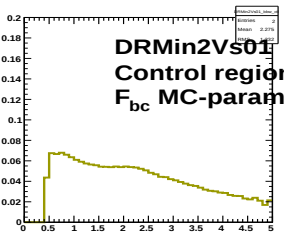
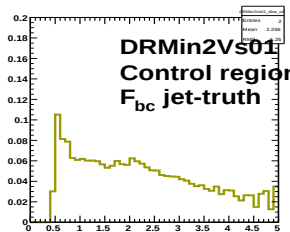
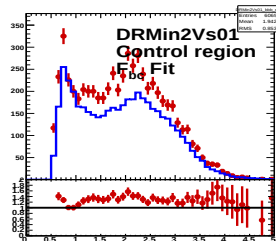
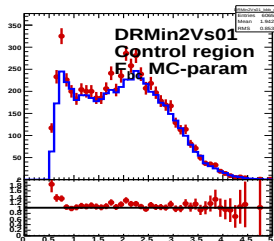
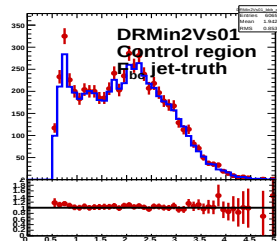


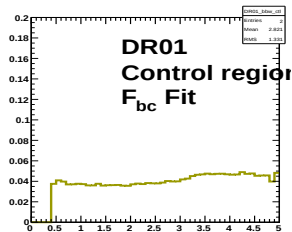
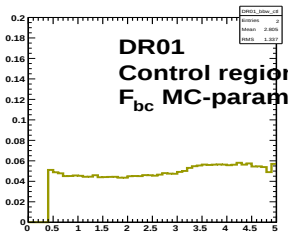
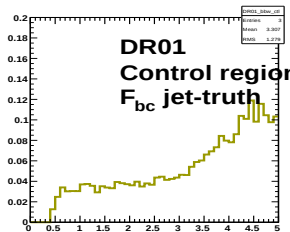
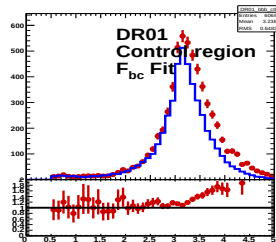
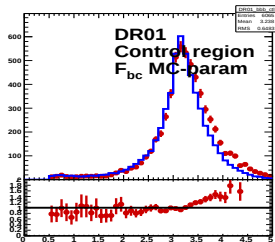
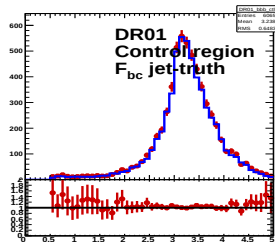
Comparing distribution from MC

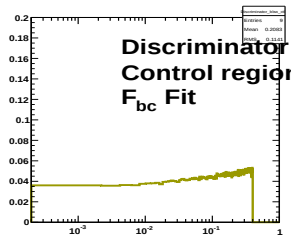
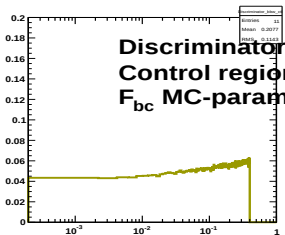
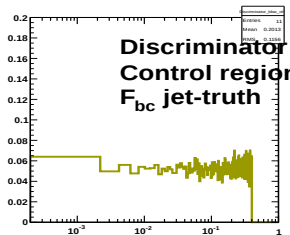
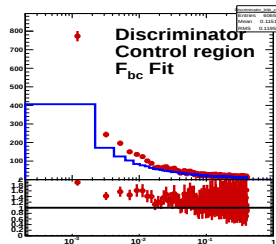
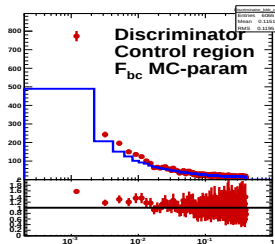
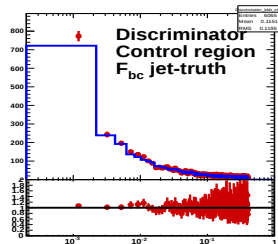














Numerical results on normalization

Seen/Pred:

- Jet-truth $5788/5581.15 = 1.03706$
- Param MC $\Delta R_{min}, E_T^{(3rd-jet)}$ $5788/5376.1 = 1.07662$
- Fit $\Delta R_{min}, E_T^{(3rd-jet)}$ $5788/4676.95 = 1.29679$



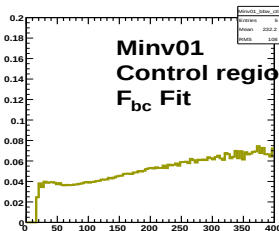
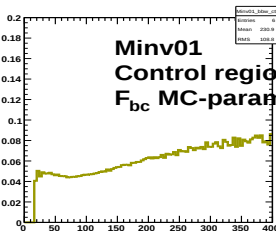
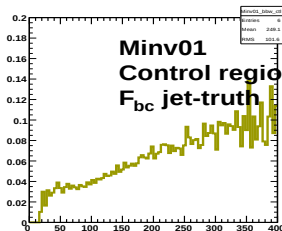
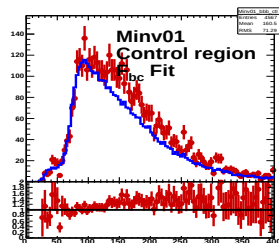
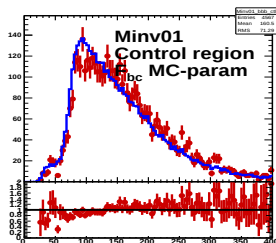
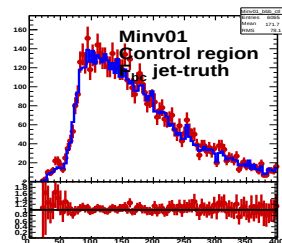
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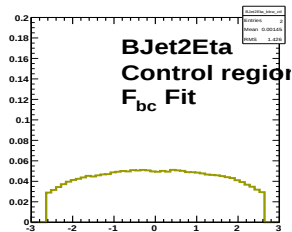
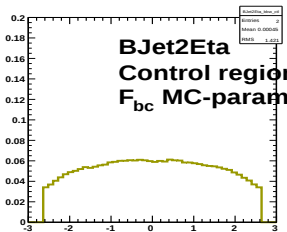
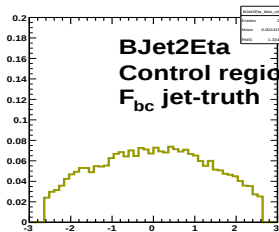
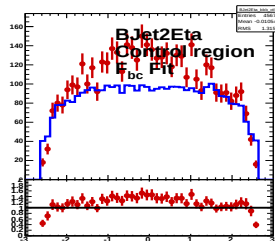
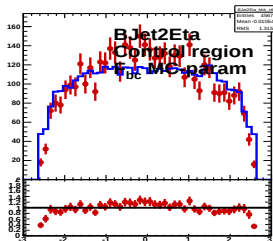
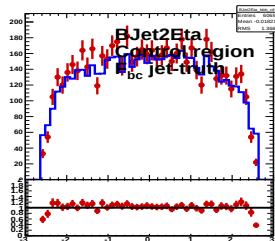


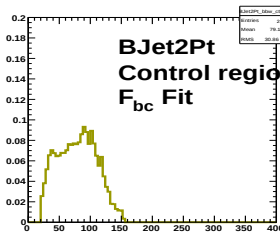
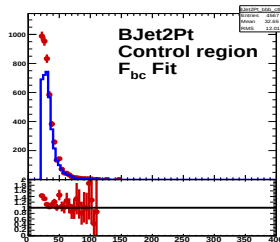
- Use same $F_{b,c}$ as before
- try excluding the very first bin of discriminator $\delta > 0.01$ from control region.

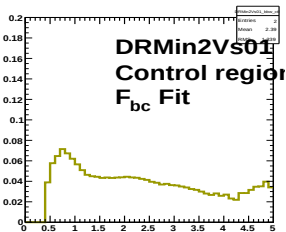
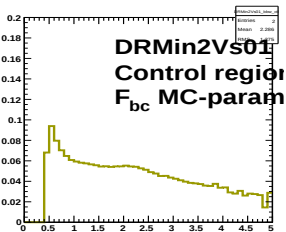
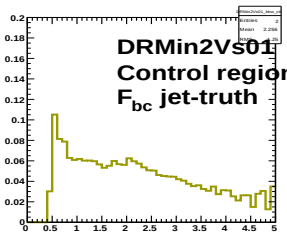
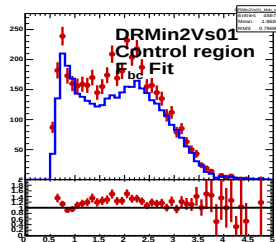
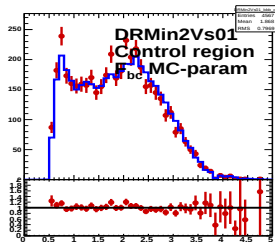
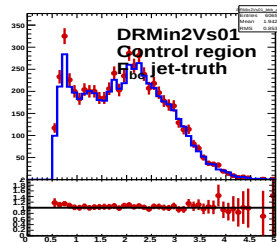


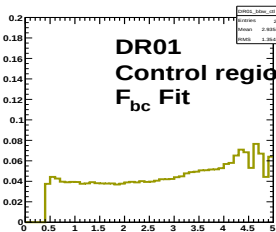
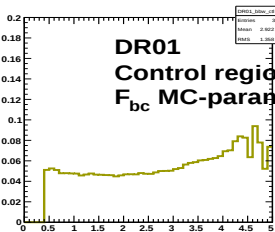
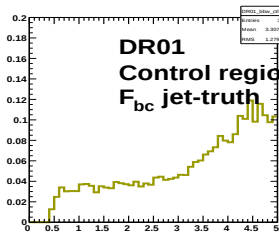
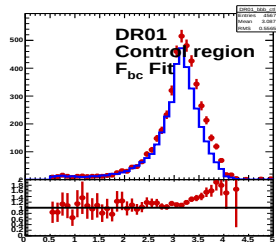
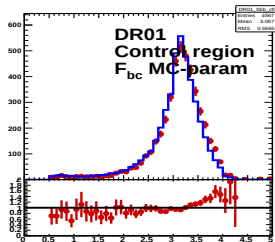
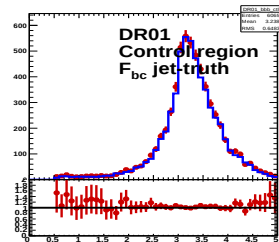
Comparing distribution from MC $\delta > 0.01$

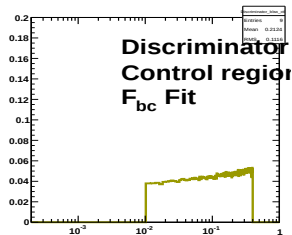
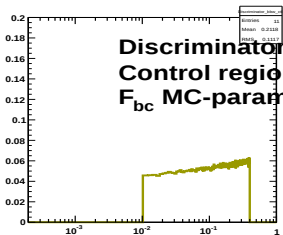
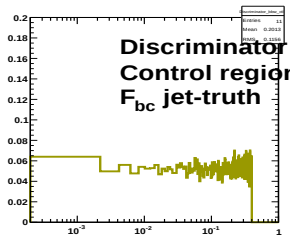
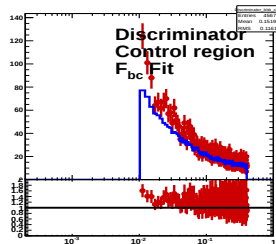
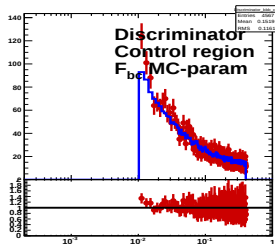
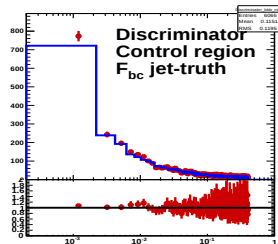














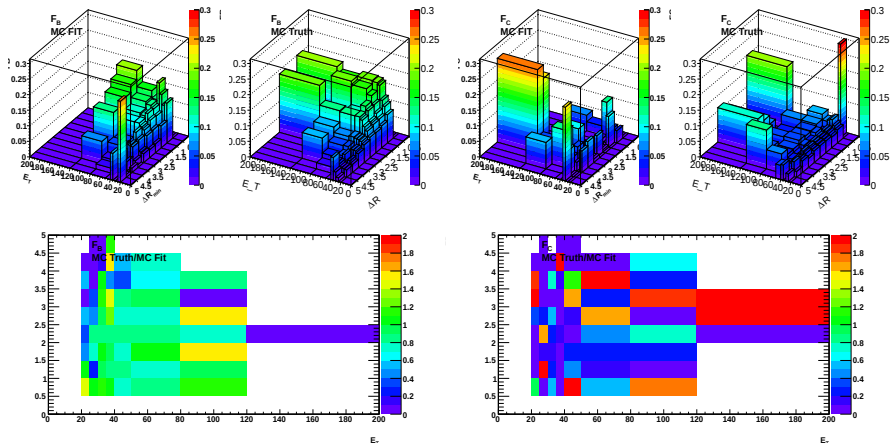
Numerical results on normalization

Seen/Pred:

- excluding the very first bin of discriminator $\delta > 0.01$ from control region.
- Jet-truth $5788/5581.15 = 1.03706$
- Param MC $\Delta R_{min}, E_T^{(3rd-jet)}$ $4476/4434.35 = 1.00939$
- Fit $\Delta R_{min}, E_T^{(3rd-jet)}$ $4476/3724.17 = 1.20188$



A simple comparison of $F_{b/c}$





What

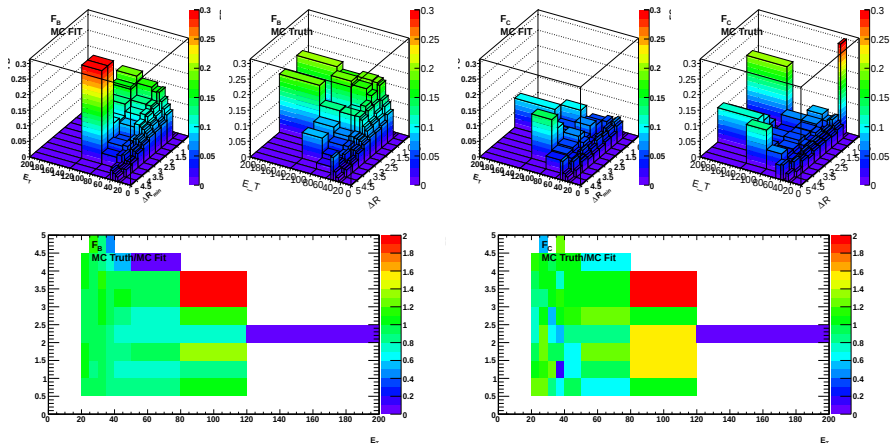


ALERT!

- Alberto had a bug in the selection, fixed.
- It changes significantly the $F_{b,c}$ which now are much closer to the MC truth.
- Check all plots once again.

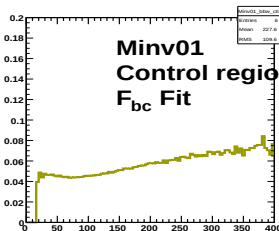
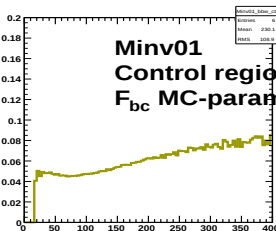
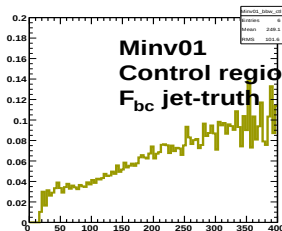
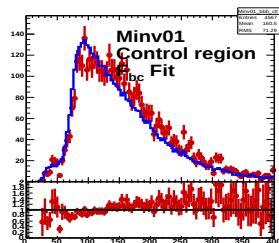
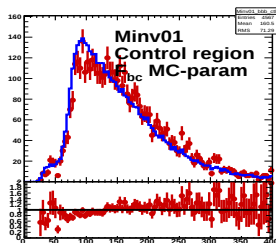
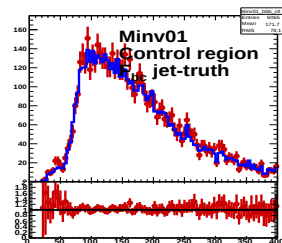


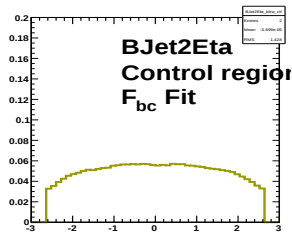
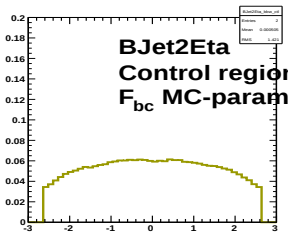
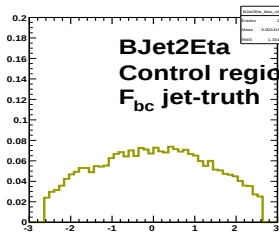
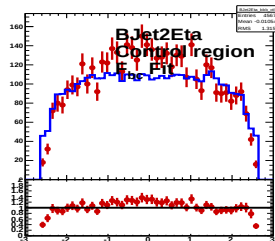
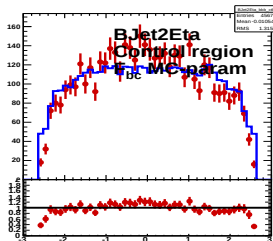
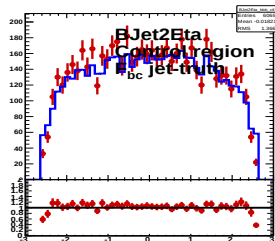
A simple comparison of $F_{b/c}$ with correct selections

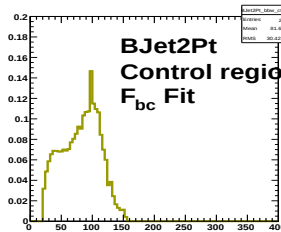
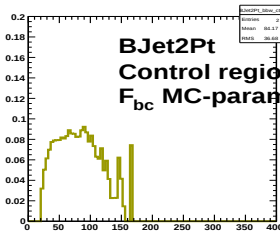
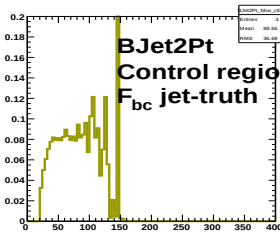
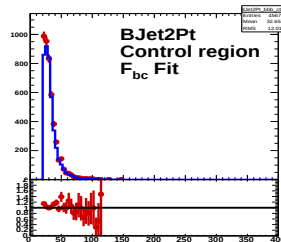
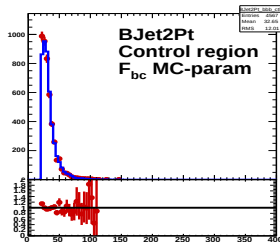
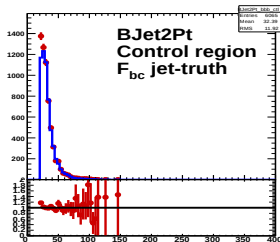


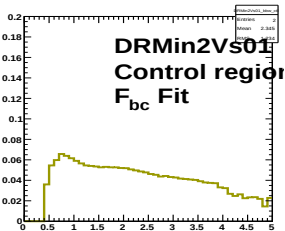
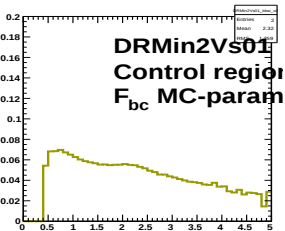
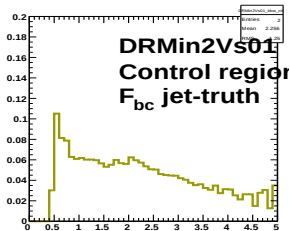
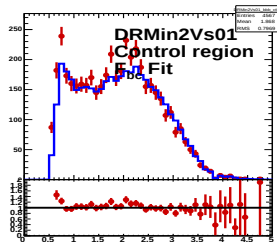
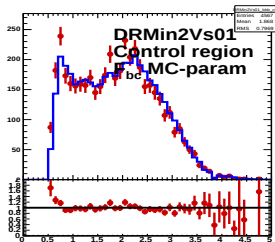
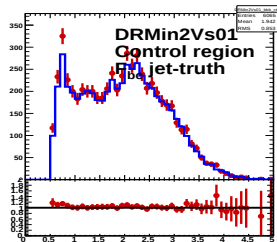


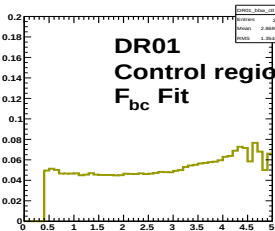
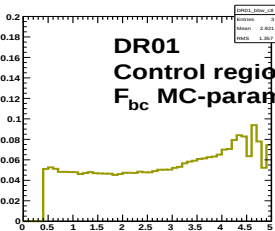
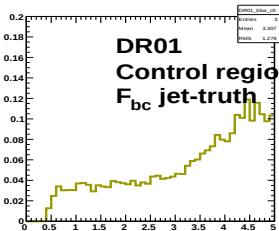
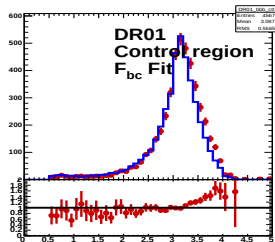
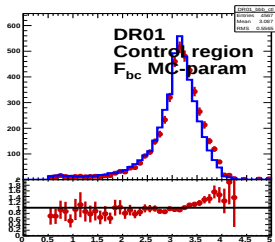
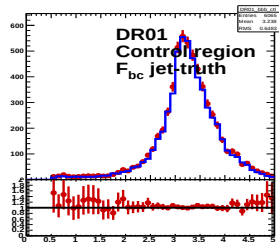
Comparing distribution from MC $\delta > 0.01$

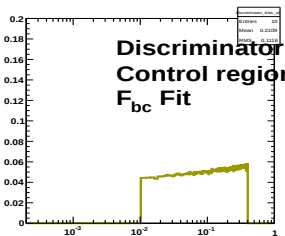
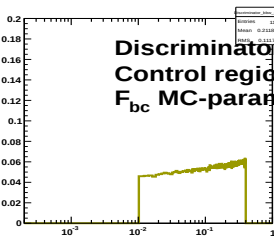
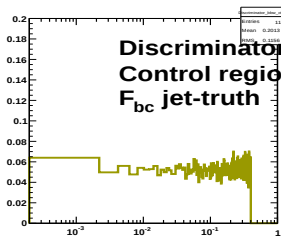
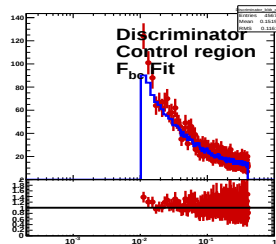
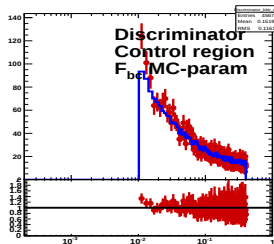
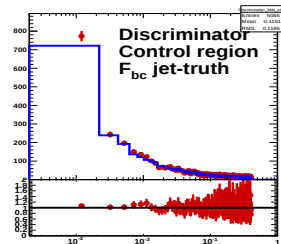














Numerical results on normalization

Seen/Pred:

- excluding the very first bin of discriminator $\delta > 0.01$ from control region.
- Jet-truth $5788/5581.15 = 1.03706$
- Param MC $\Delta R_{min}, E_T^{(3rd-jet)}$ $4476/4434.35 = 1.00939$
- Fit $\Delta R_{min}, E_T^{(3rd-jet)}$ $4476/4215.31 = 1.06184$



In sumamry

- The MC parametrization works reasonably including:
 - ▶ Bug fixes
 - ▶ use only control region to estimate $F_{b/c}$
 - ▶ fine tuning of binning for low ΔR_{min}
 - ▶ Use of Fa1111 MC production
 - ▶ exclude $\delta < 0.01$ from control region
- num. events predicted OK (within $\sim 1\%$), shape not perfect.
- with bug fixed on Alberto's selection, very similar results also for Fit: off by 6% ($\pm 3\%$) and shapes very similar.
- We're in the right path!

BACKUP