# proc13 validation with $B^+ \to D^0\rho^+$ and sideband $B^+ \to \rho^+\rho^0$

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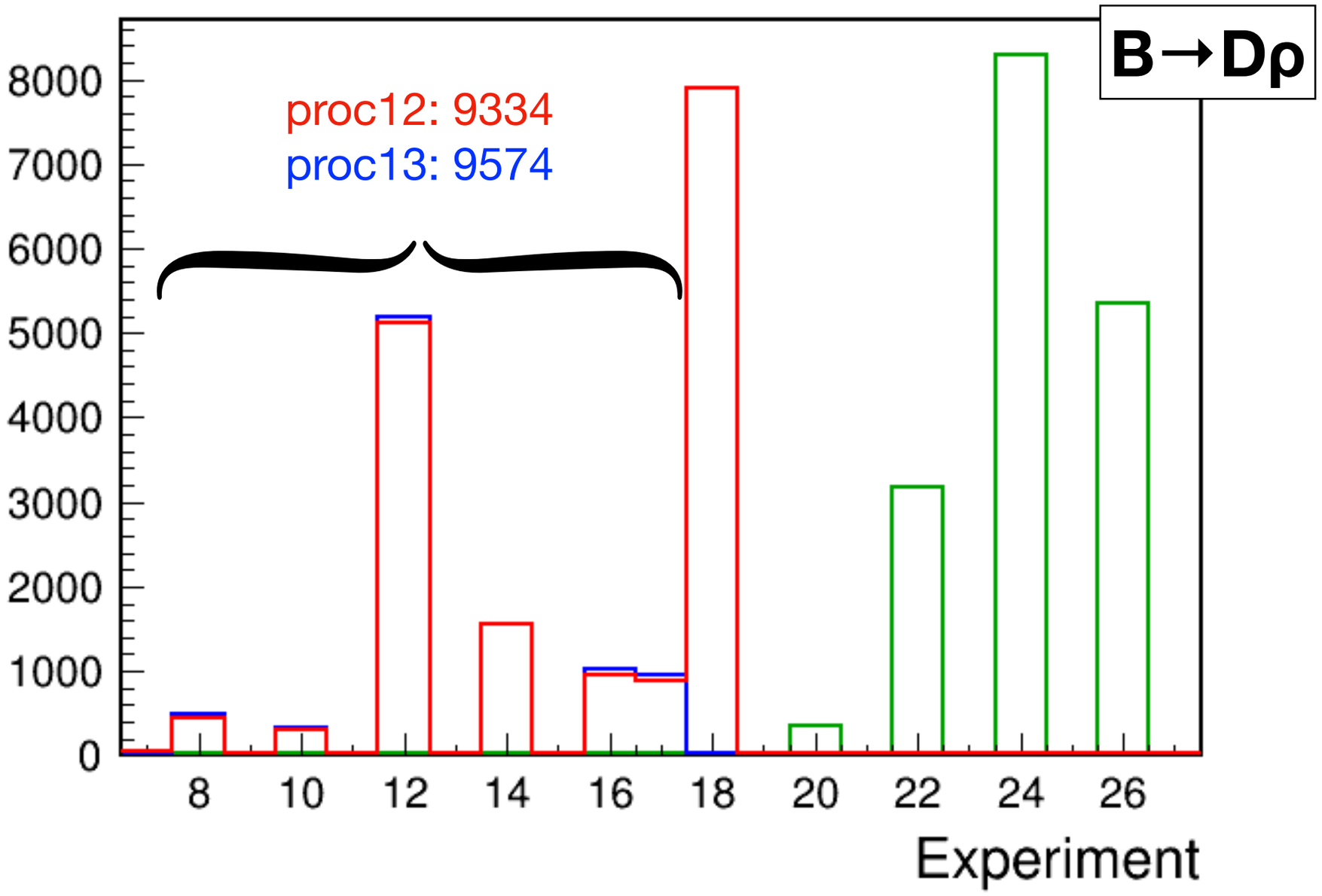
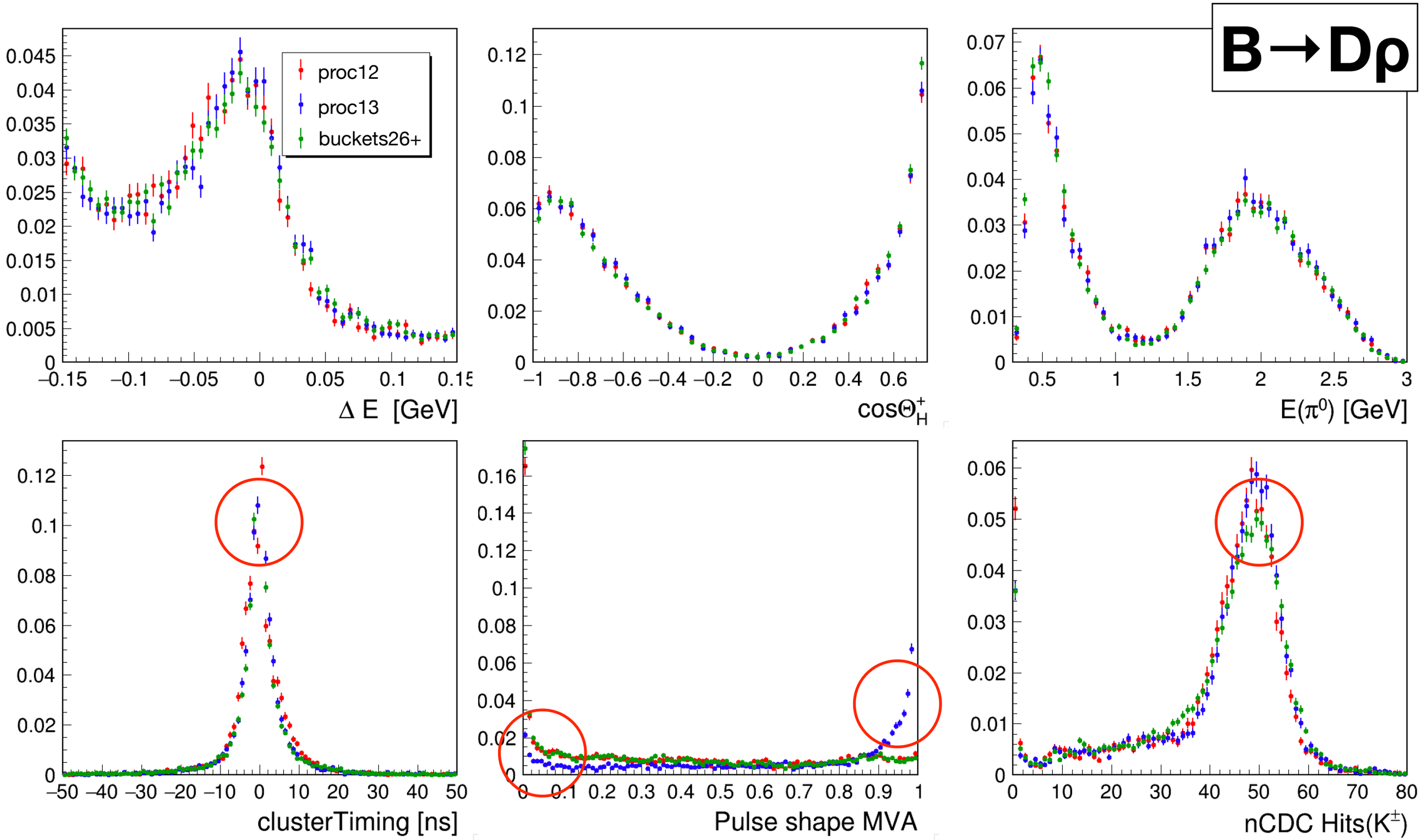
# Datasets

MC: 700 $fb^{-1}$ of MC14ri; 1 $ab^{-1}$ of MC15ri
Data: proc12+buckets16-25; proc13+buckets26-35
→ apply momentum scale factor (0.99976)
→ apply $E_\gamma$ corrections (`PhotonEnergyBiasCorrection_MC14a_Jan2022_V3`)
Full selection of the Moriond22 $B^+ \to \rho^+\rho^0$ analysis (slide 38 here).

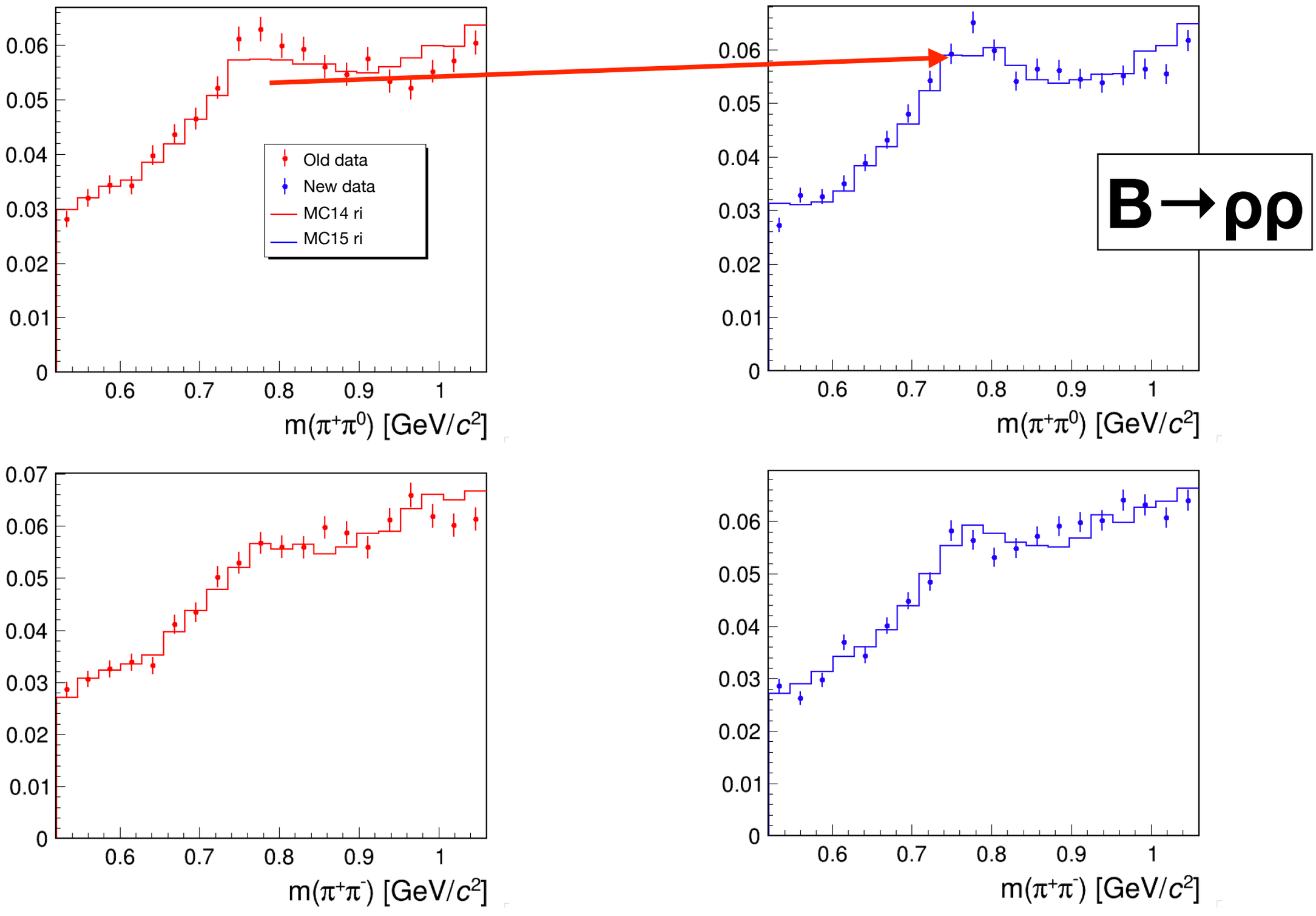


# proc12 vs proc13 vs buckets26+



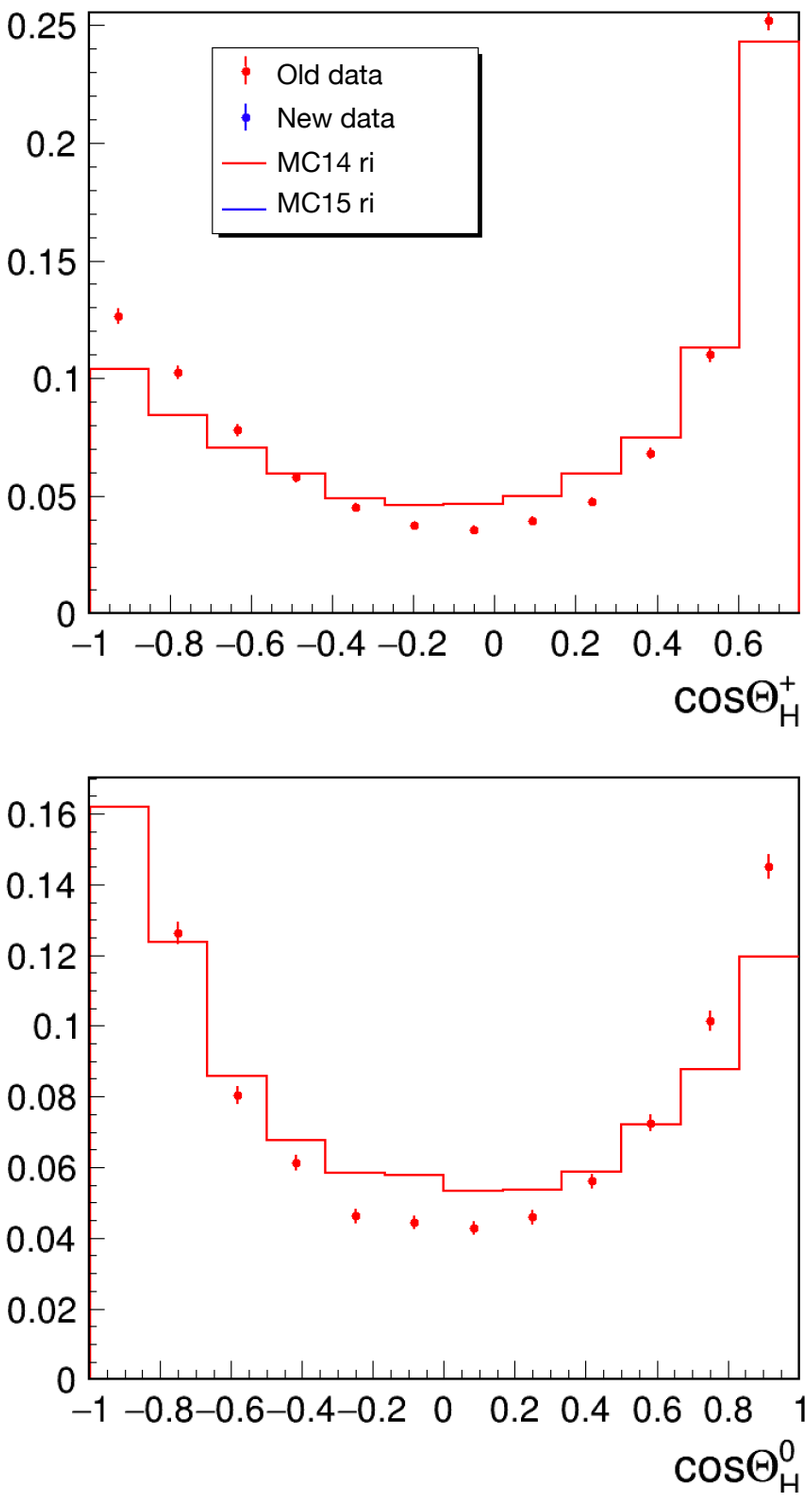

**Overall good agreement, strange behaviour in a few variables.**

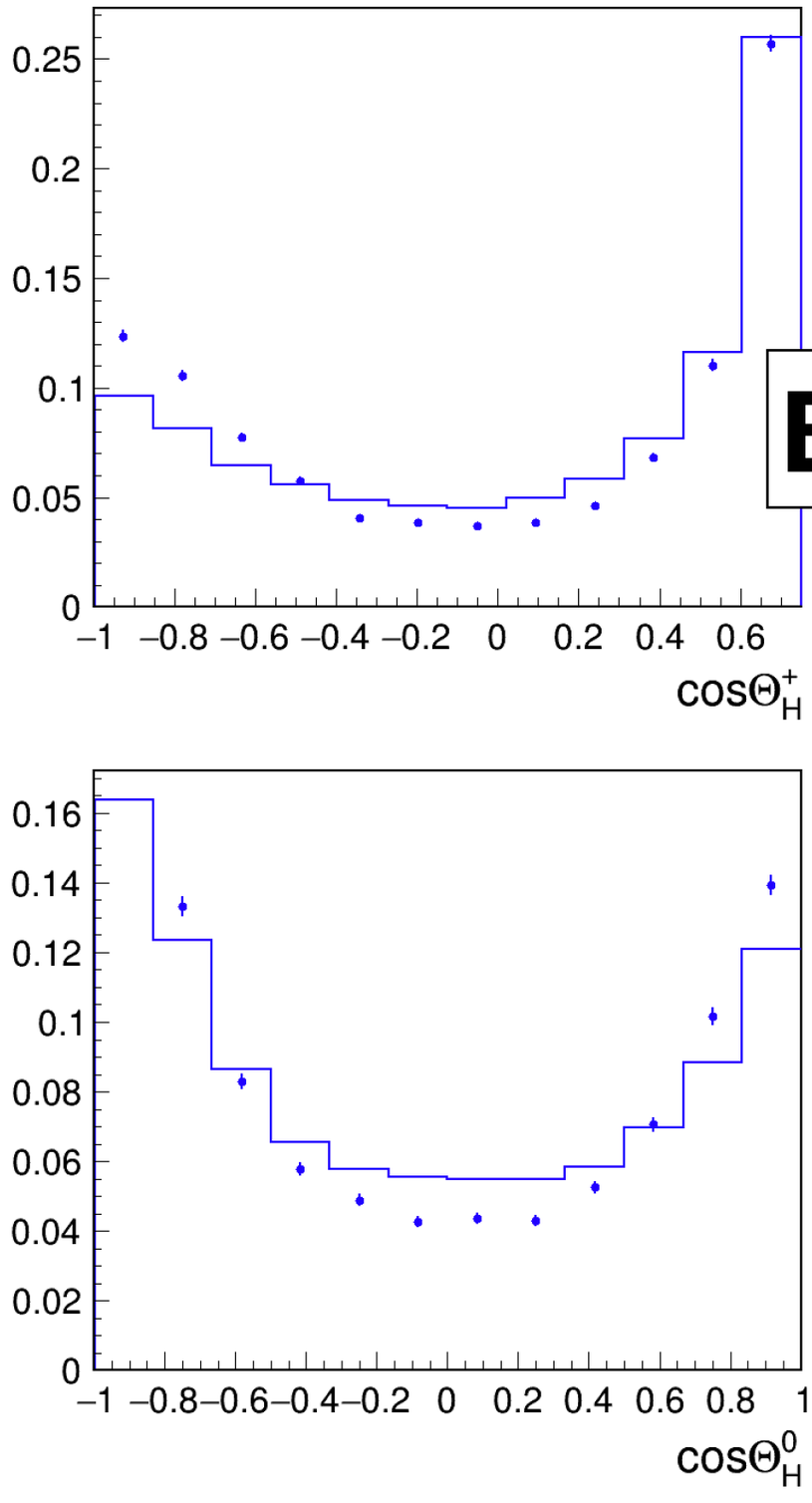
# Data vs MC ri




**Visible effect after correcting the m(ρ) in the continuum.**

# Data vs MC ri

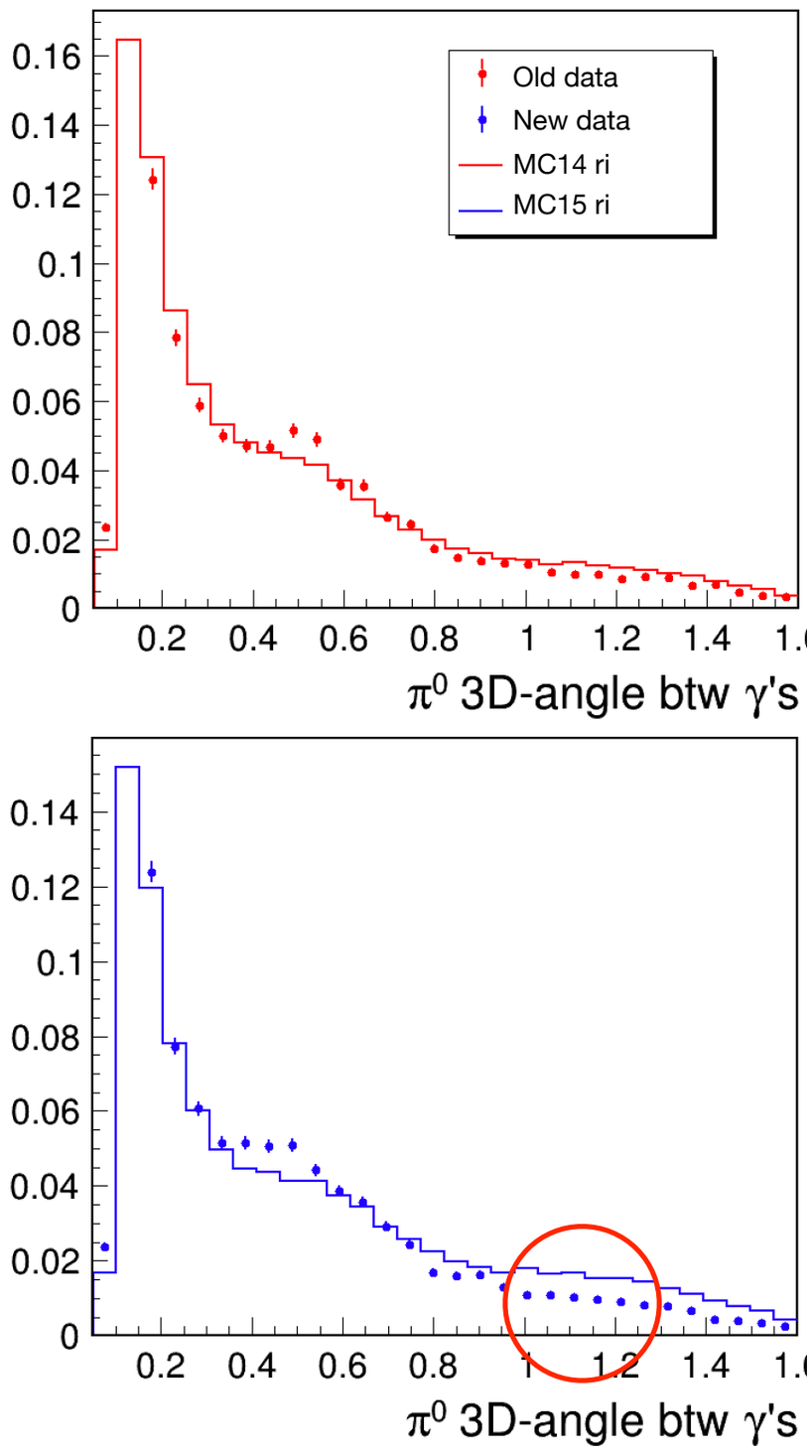


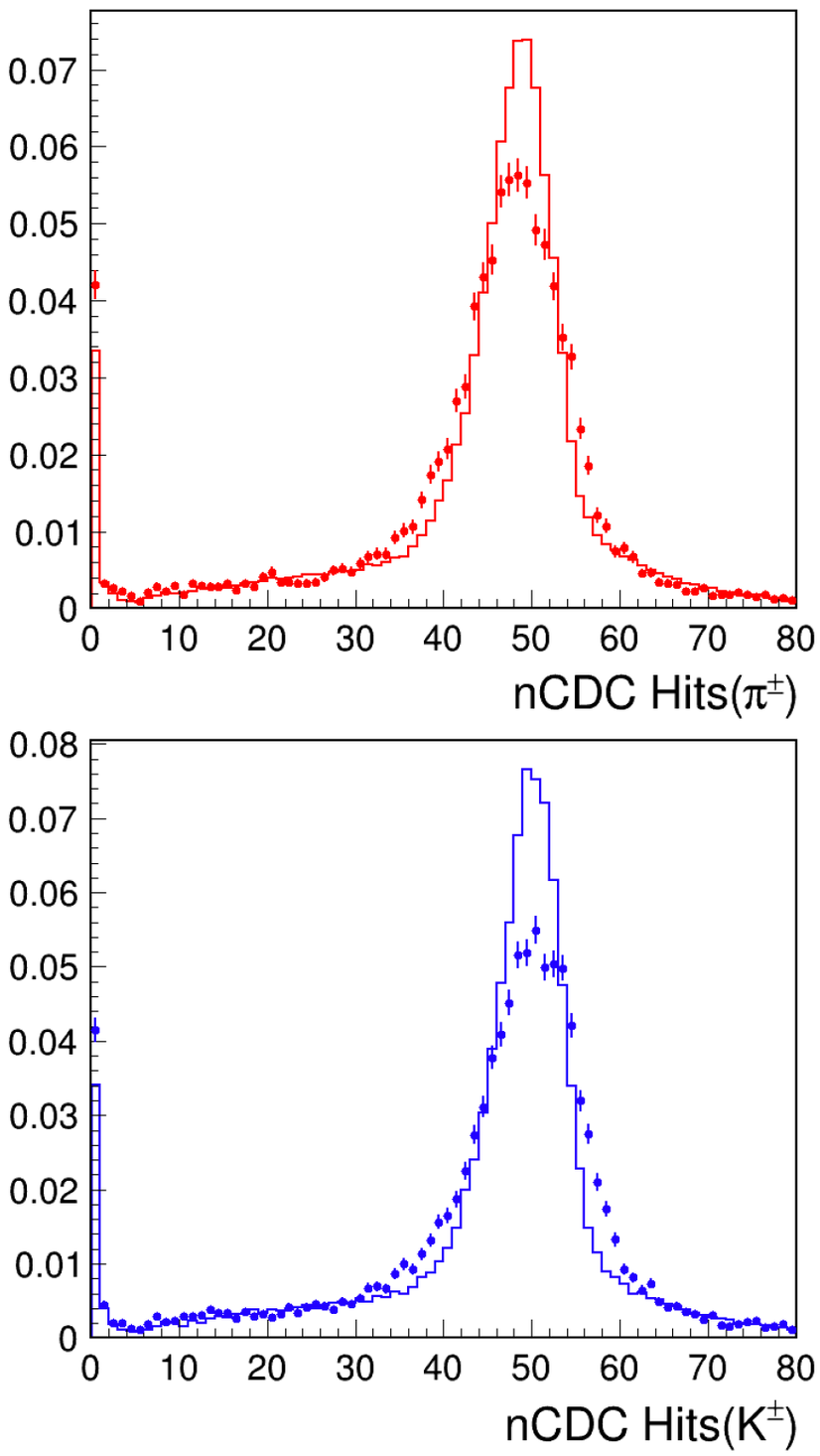



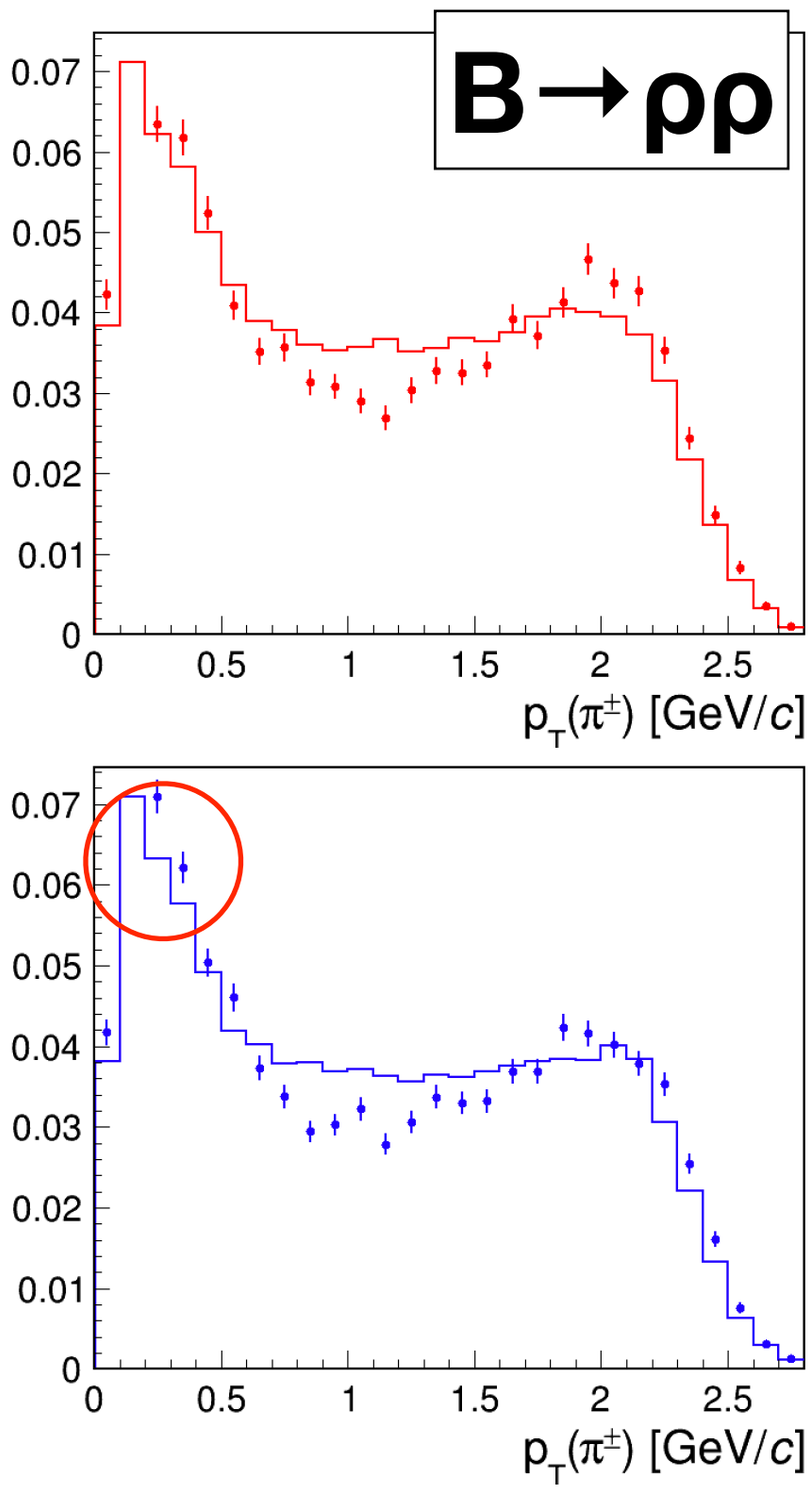

**B→ρρ**

**Angular mismodelling doesn't change with the new MC and data.**

# Data vs MC ri




**In a few variables the data-MC agreement got worse.**

# Summary

Compared $B^+ \to D^0\rho^+$ and sideband of $B^+ \to \rho^+\rho^0$ in proc12, proc13, new prompt data, MC14ri and MC15ri, applying the full selection from the Moriond22 analysis.

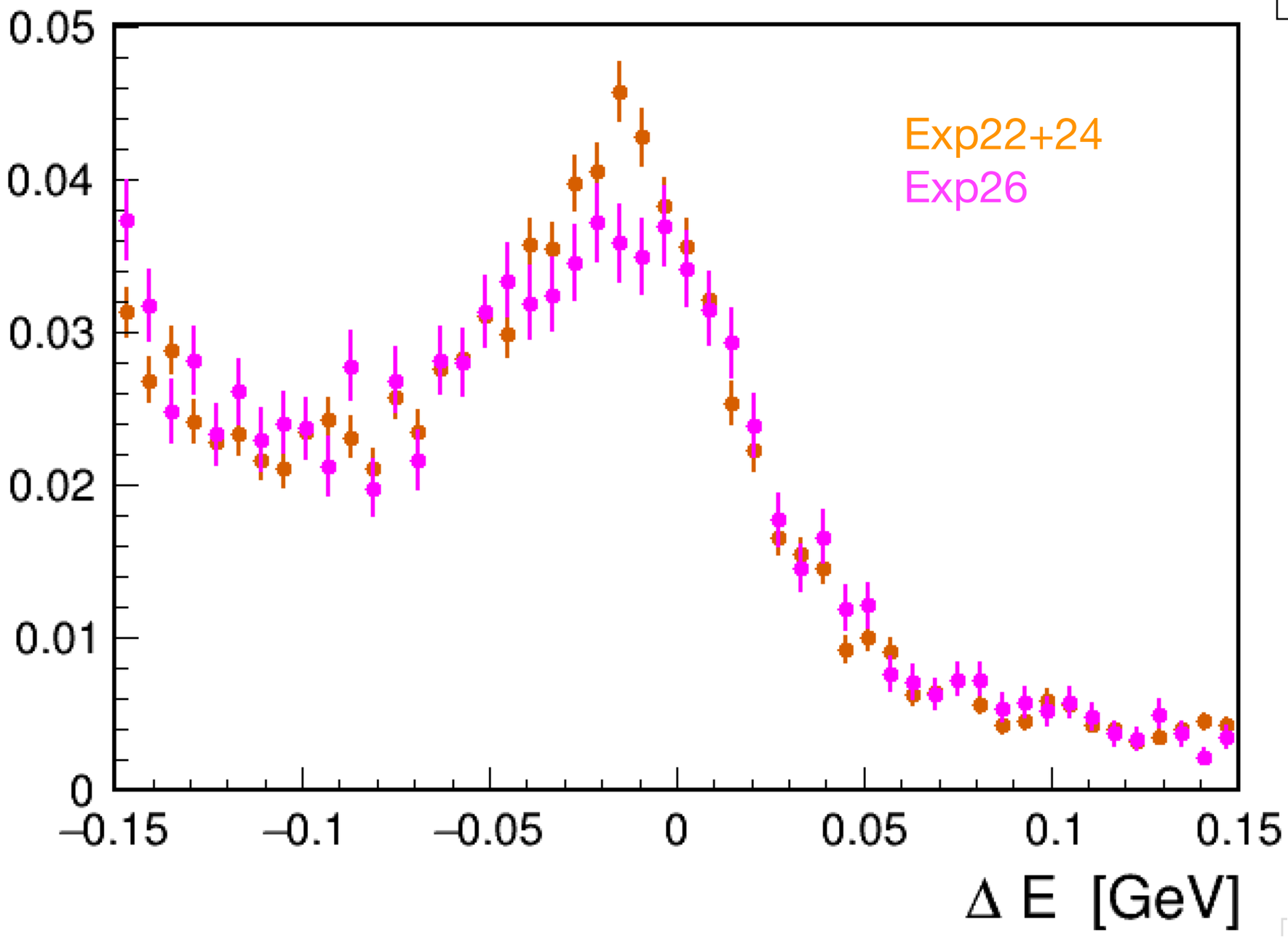
Overall the same data in different releases and new data have good agreement, some differences are present in ECLclusterTiming, pulse shape MVA from the ECL, and number of CDC hits.

The data-MC agreement in the new release is good, and the effect of the correction of wide masses resonances is evident in the m(ρ) distributions. In some low-level quantities (angles between ɣ's from π0, number of CDC hits, track $p_T$).

buckets

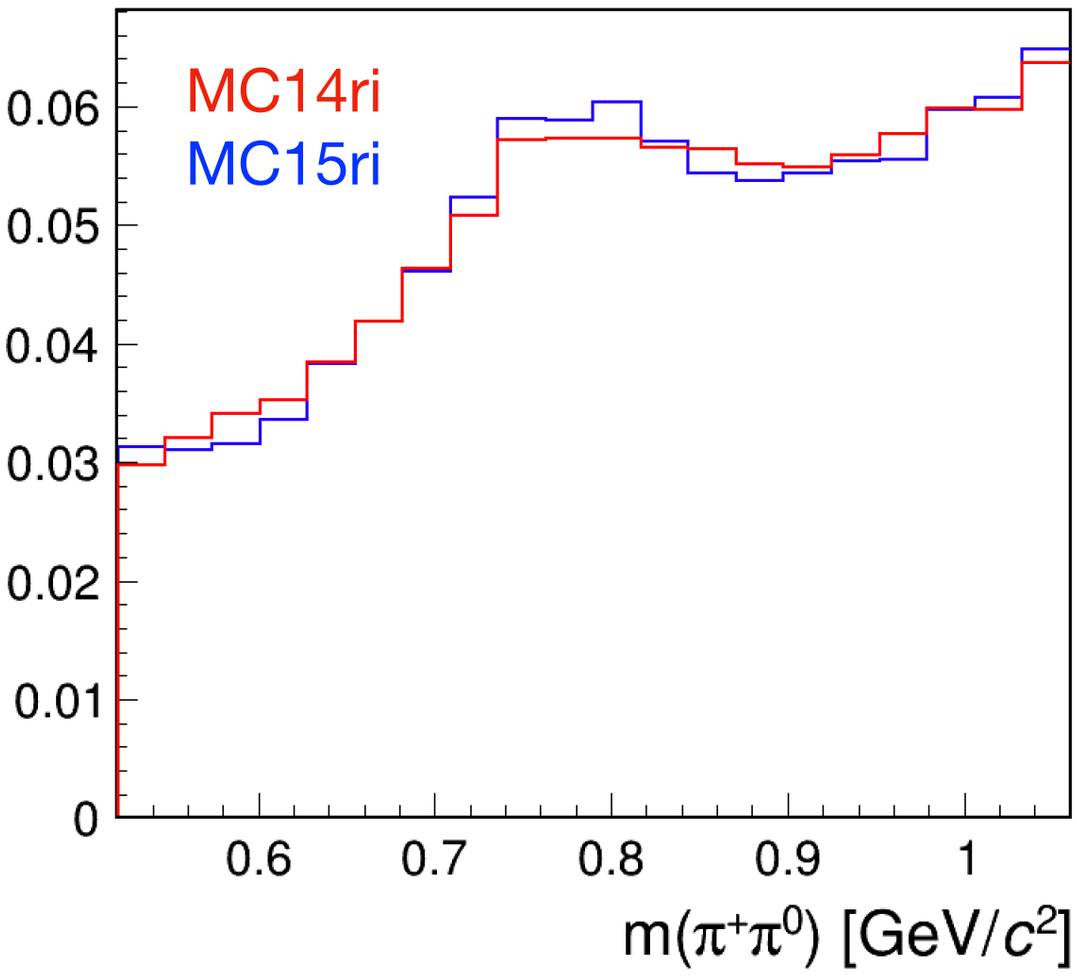
# Exp22+24 vs Exp26

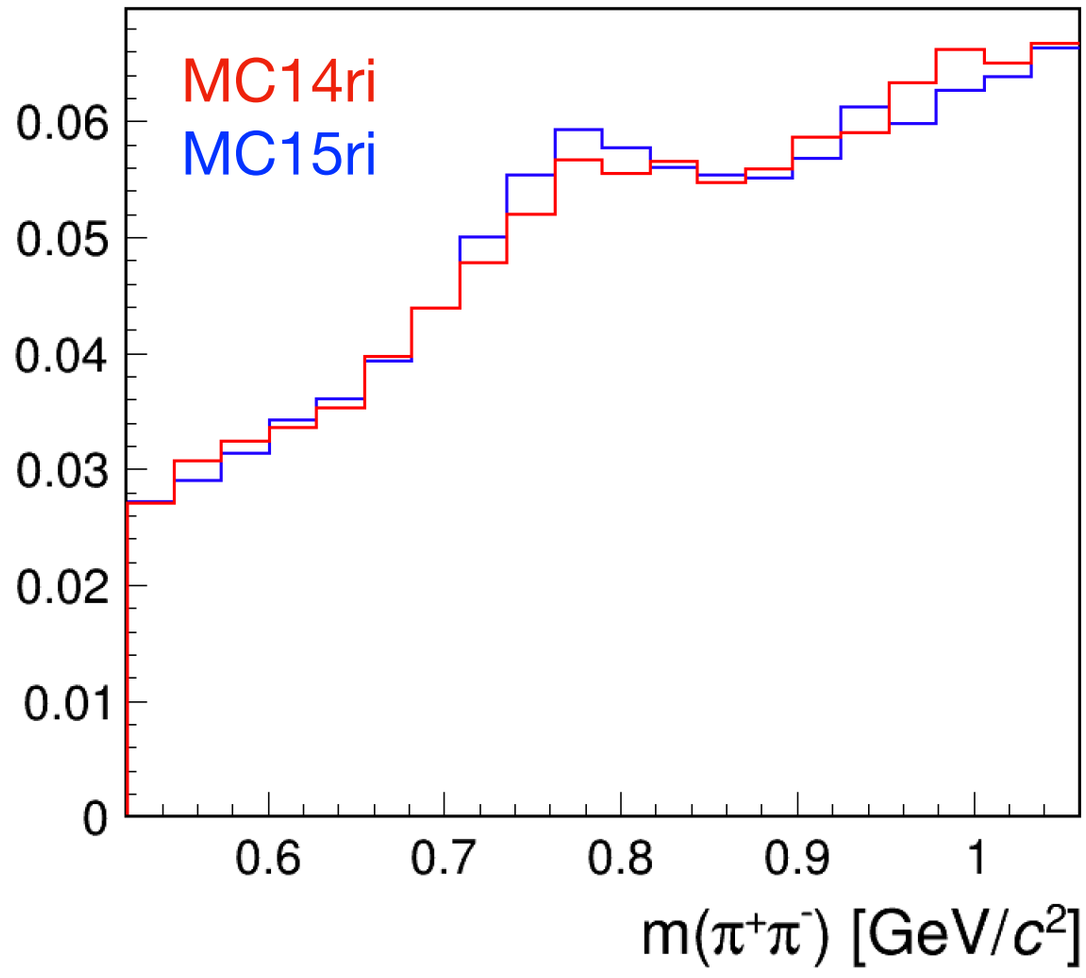
**B→Dρ**



# m(ρ): MC14 vs MC15

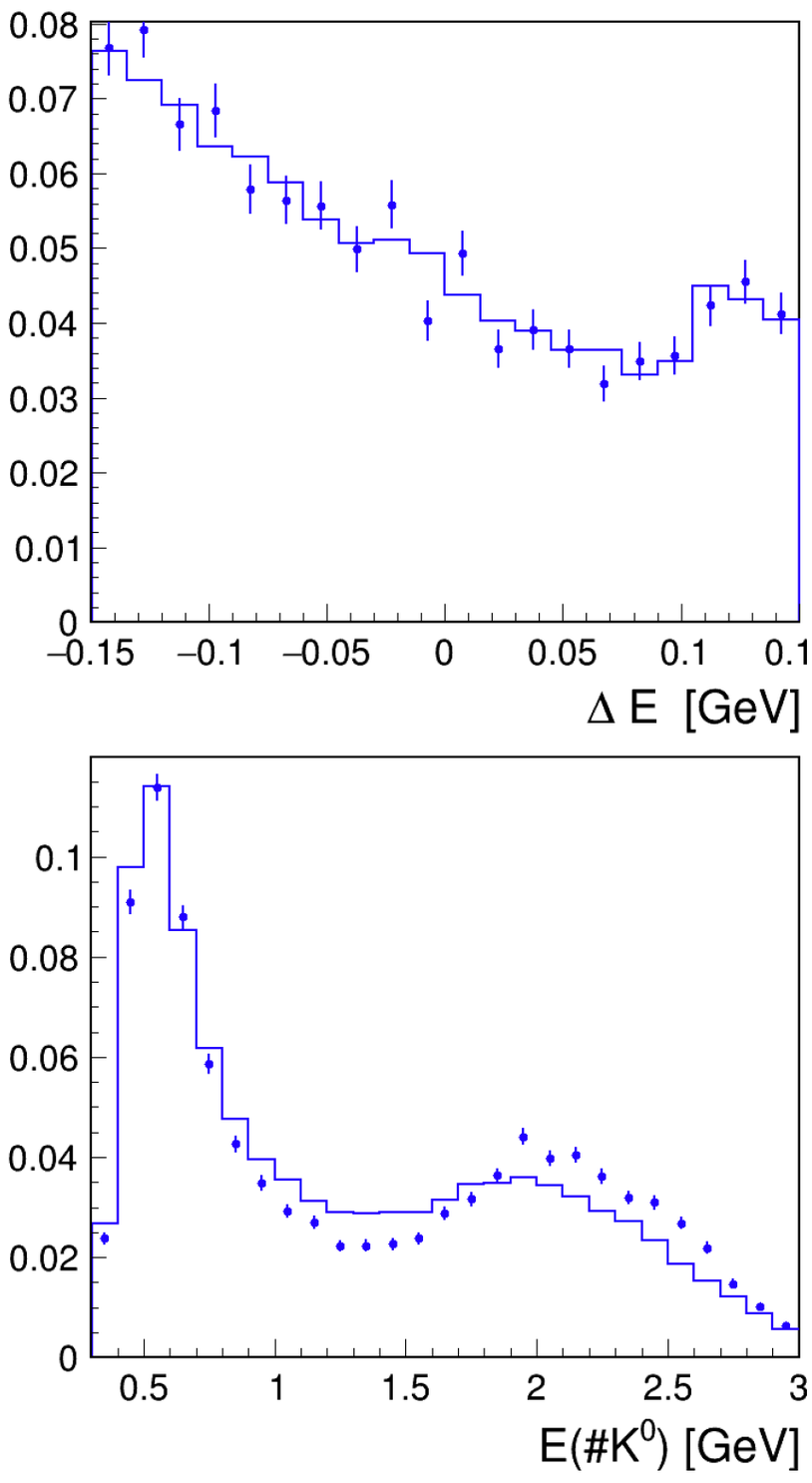
**B→ρρ**

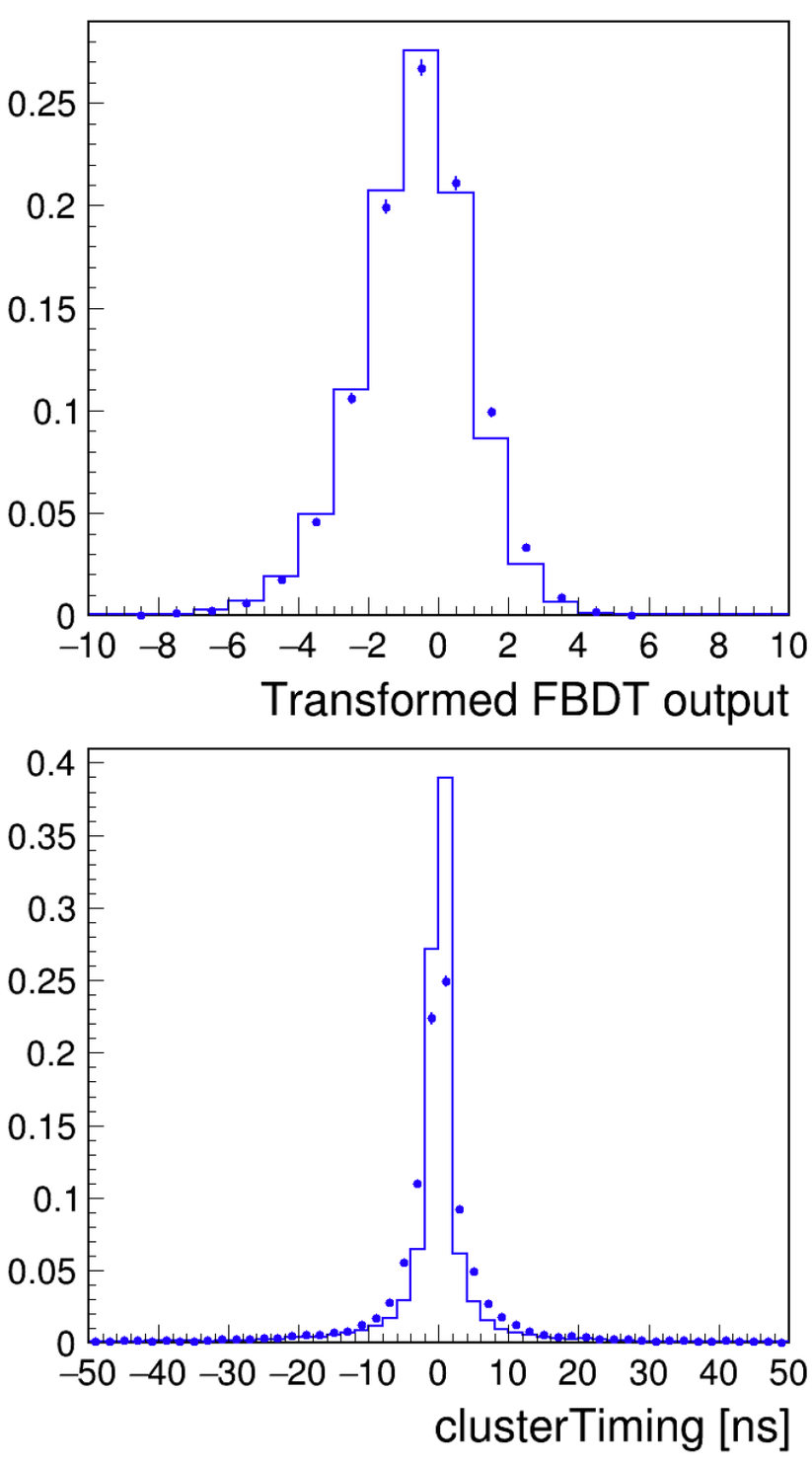


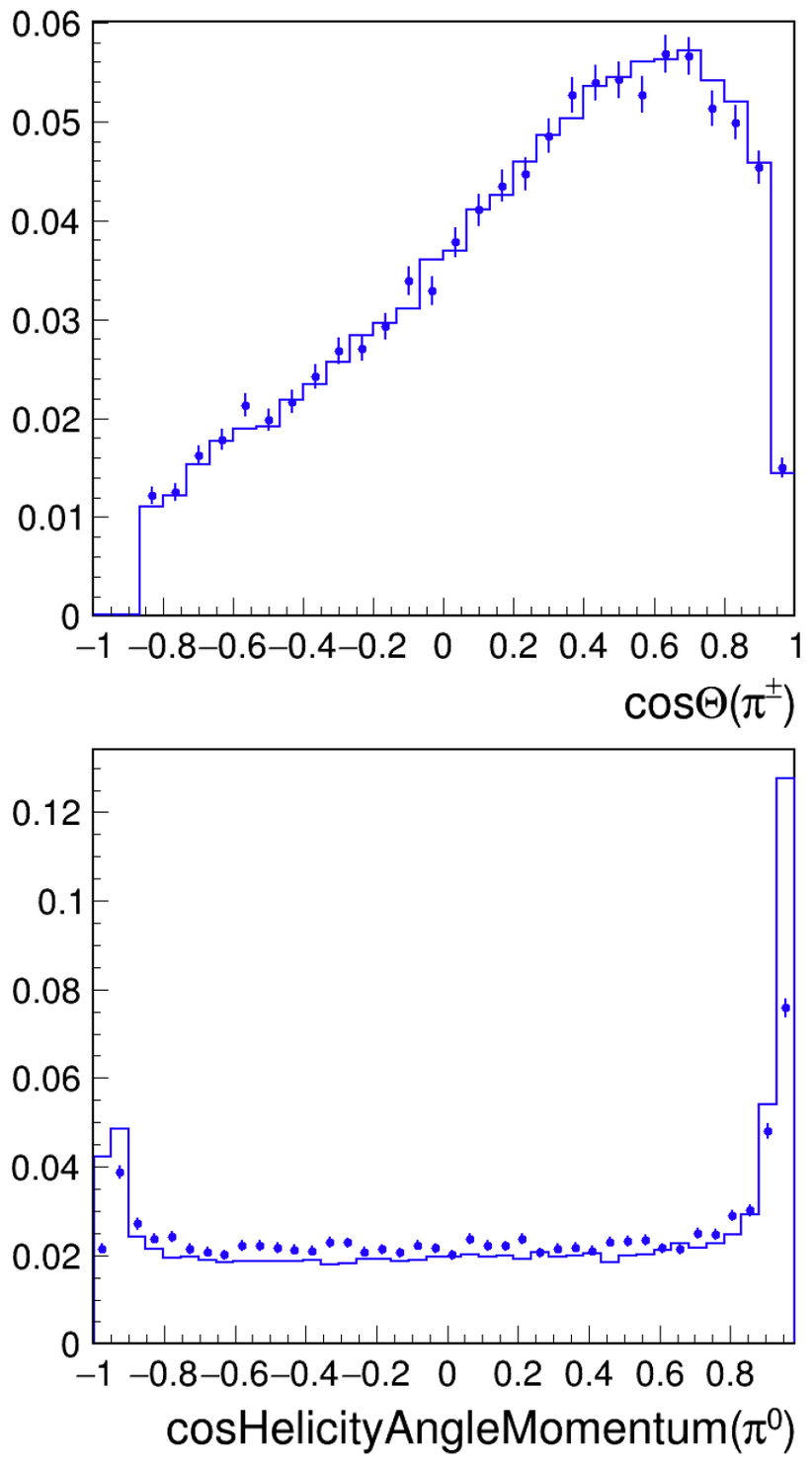



# Data vs MC ri

**B→ρρ**



# proc12 vs proc13 vs buckets26+