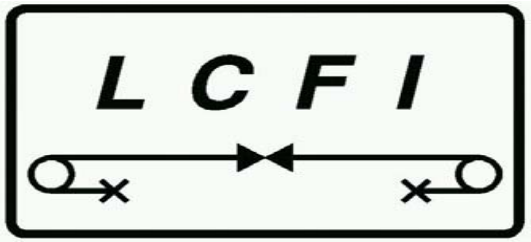




# Top – with PFA (part 2)

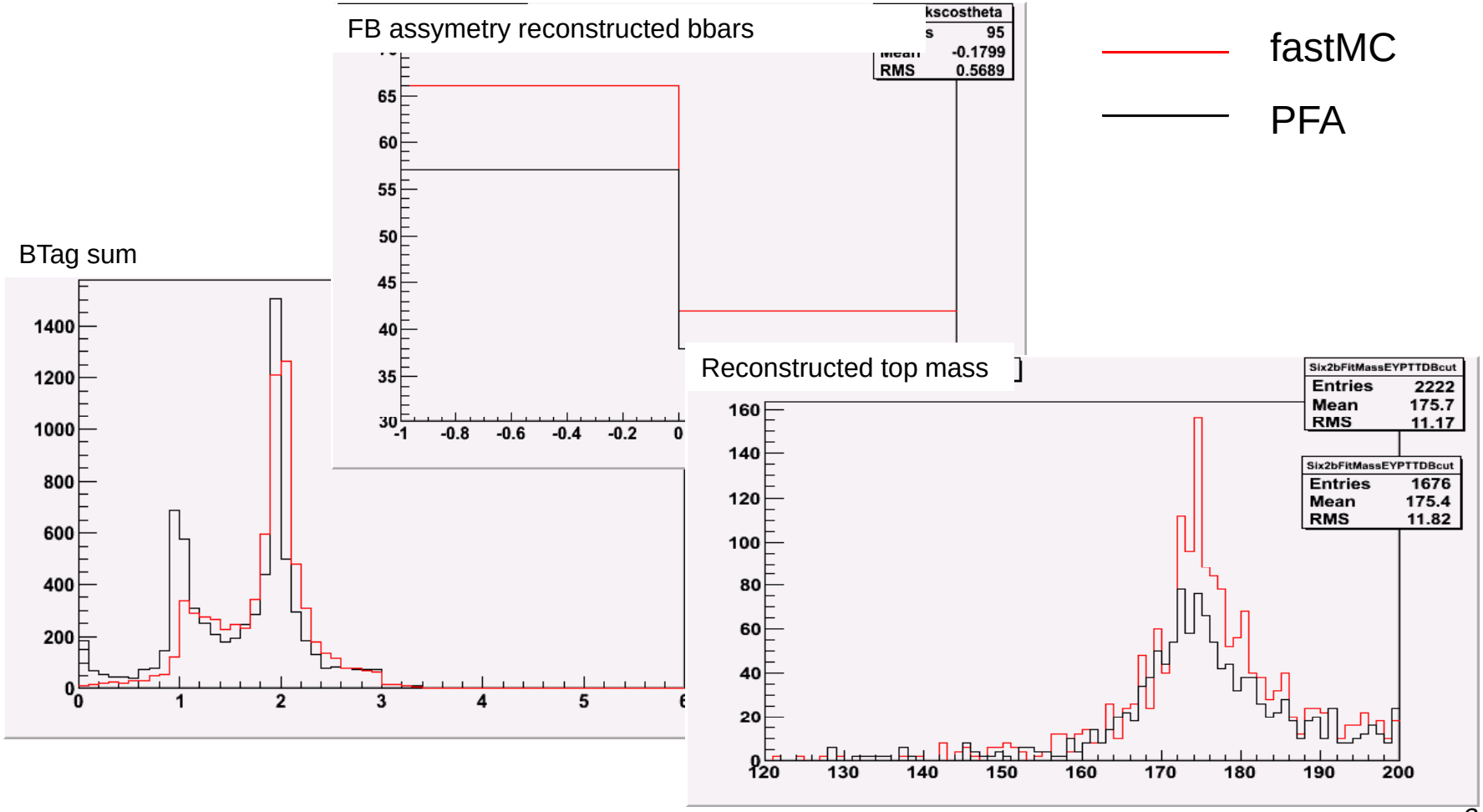
**Erik Devetak**

**Oxford University**

**02/09/2008**

# Very hand wavy… comparison

- **Comparing old fastMC sample and new PFA**
- **For a list of “issues” see last week benchmarking talk**



# Last week: What we need to do

**• In order to compare fastMC and PFA: Need to run fast MC on same events.**

**•Work in progress, unfortunately not there yet (series of small “features” propped up)… very close**

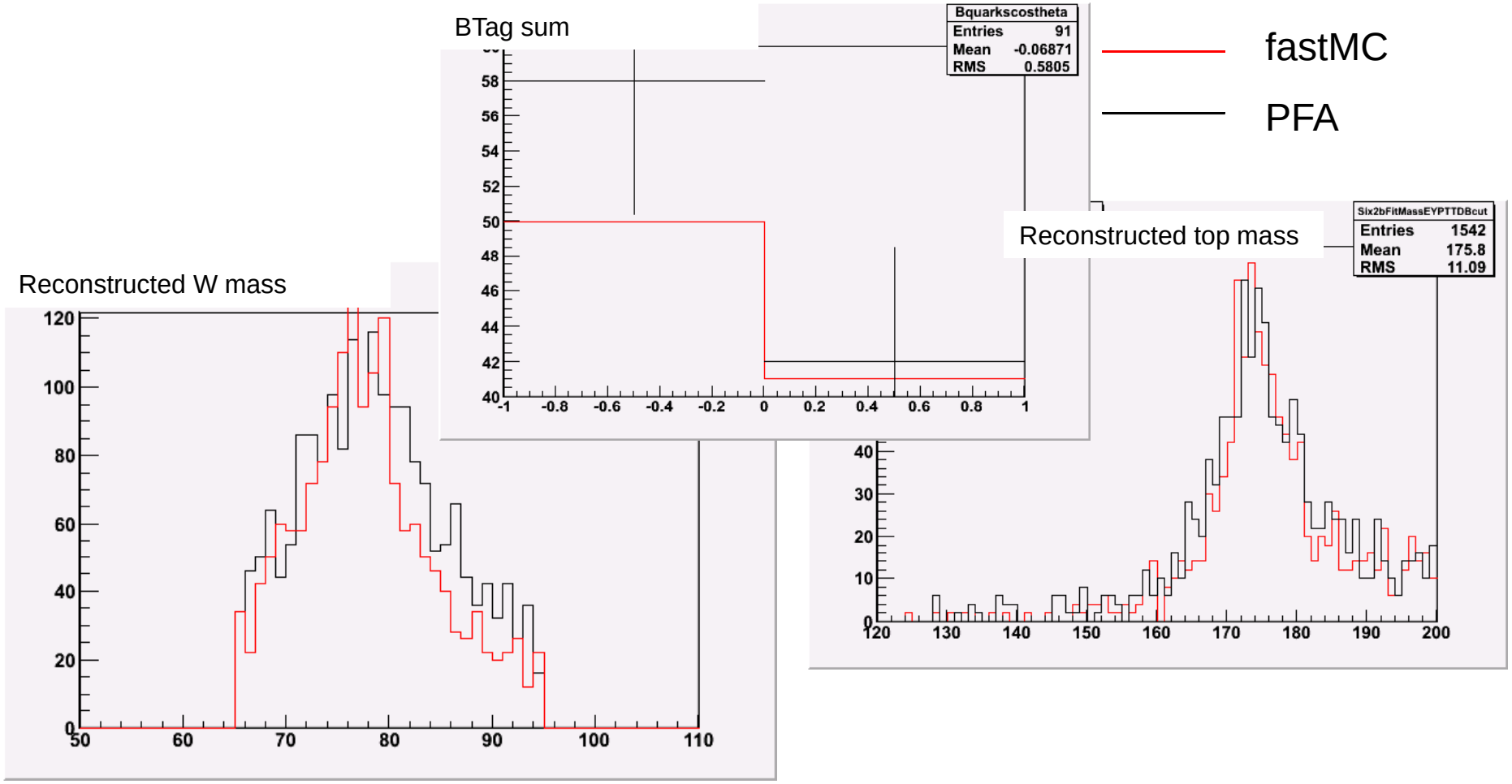
**• In order to get a better understanding of realistic performance: Need to implement weights!**

**• Again… Work in progress. Norman and Jeremy implemented it. SLIC has been rerun (sid02)… testing**

# Part 1 successful!

# Comparison (more like it…)

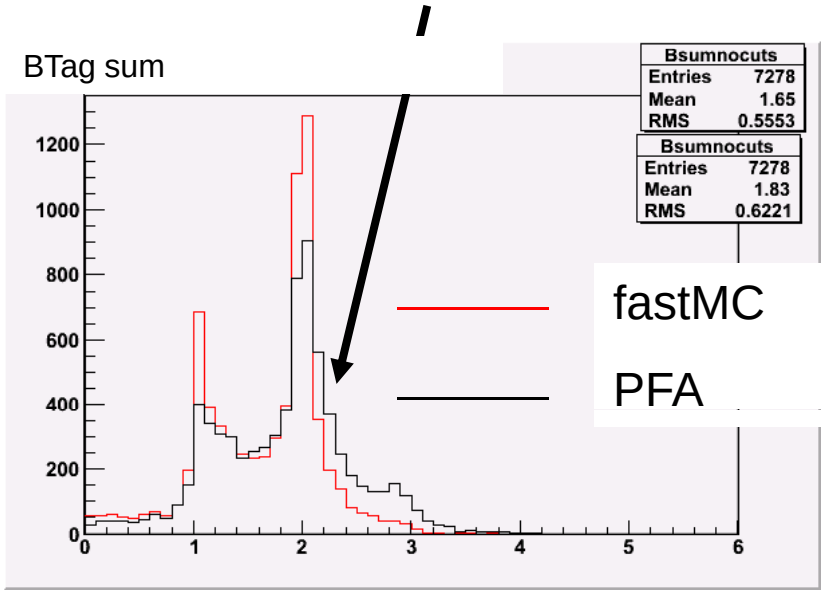
- **Comparing new fastMC sample and new PFA sample**



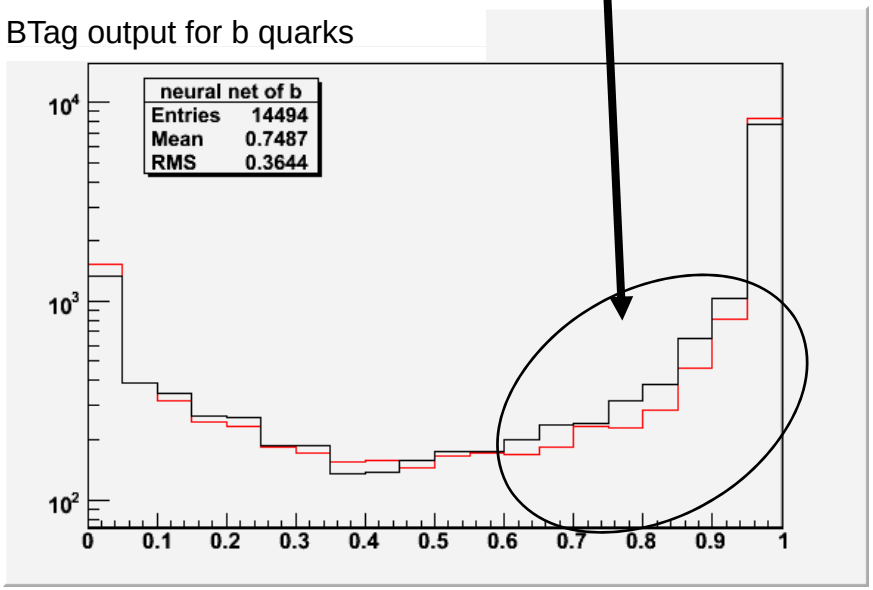
# **When switching to PFA:** Comments - Question…

- **Minimal degradation observed in both Top mass and W mass.**
- **Improvement in reconstruction efficiency (after cuts we get more events).**
- **improved b-assymetry and mistag (charge+flavour) after cuts.**

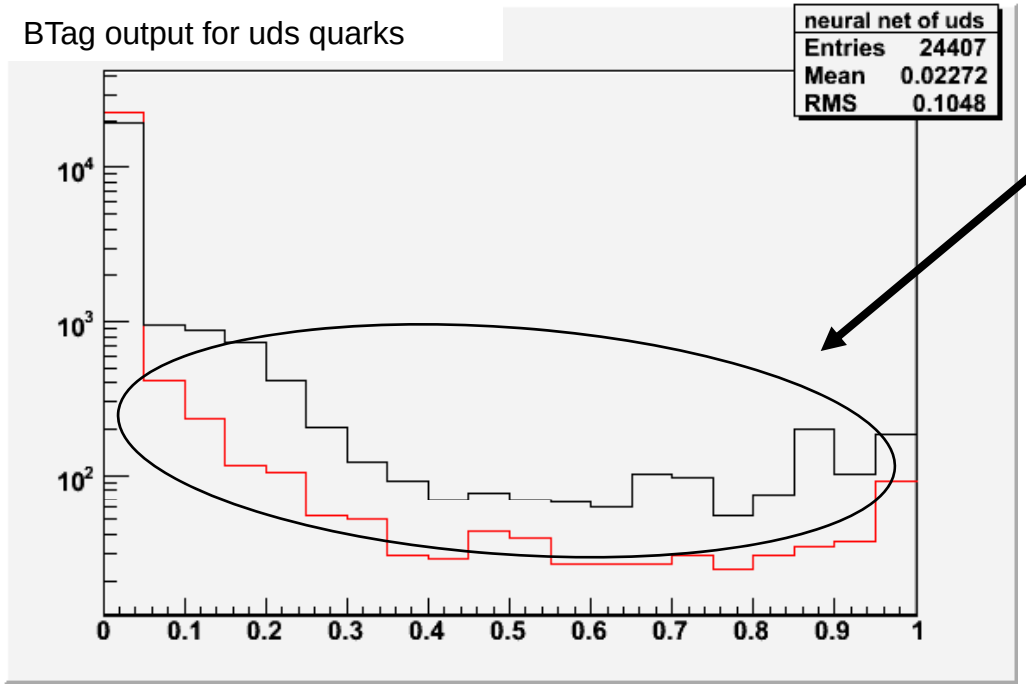
- **Seems good – improvement?**
- **Is it real or from V0s?**




- **Small difference in b tagging**
- **Maybe slight improvement**



# When switching to PFA: Comments - Question…



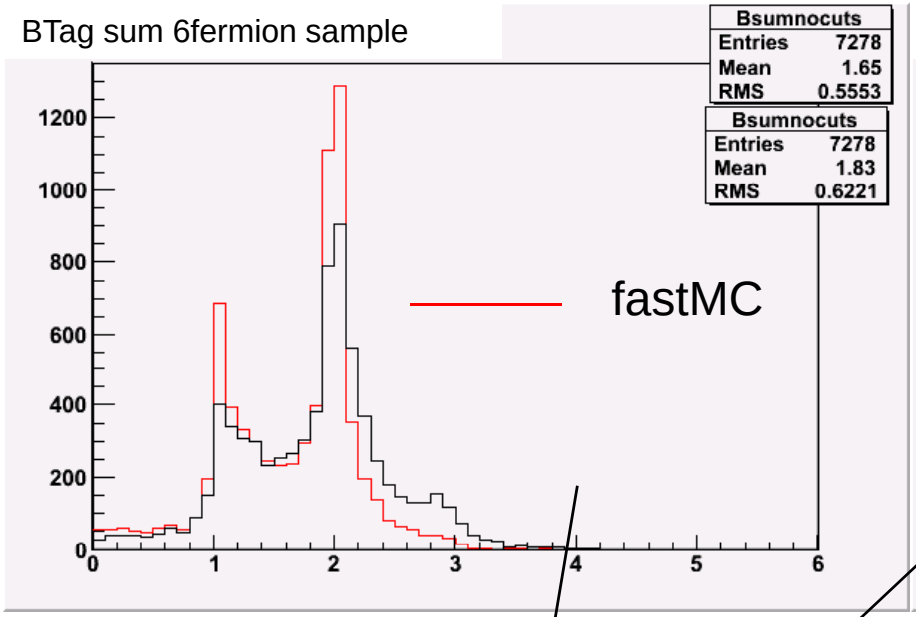

- **Most of the difference from here…**
- **This implies need V0 finding (will try soon…ish to look at this)**
- **And need to try with proper tracks (comments?)**

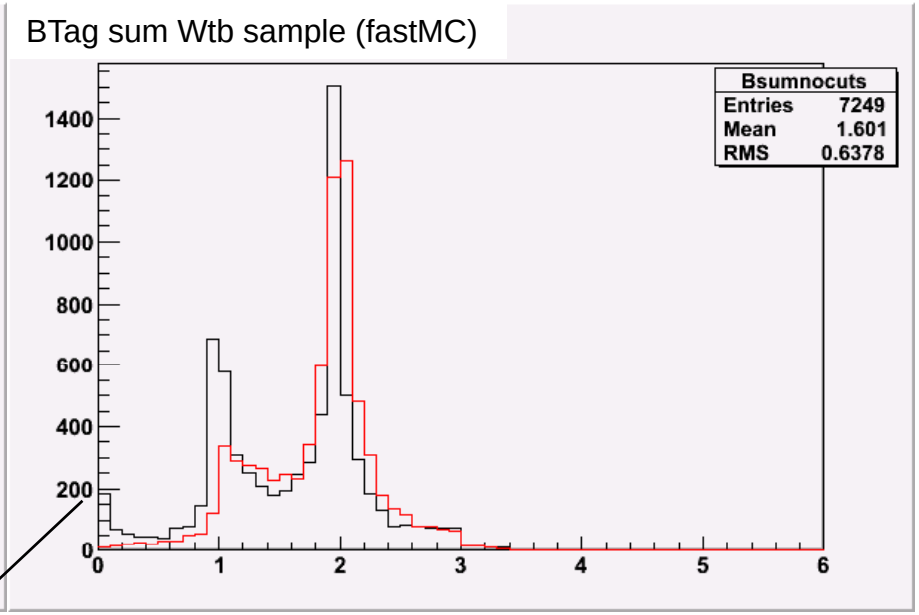
- **Still looks extremely good for first iteration…**
- **Also Ron developed 2 versions of slcio file containing and not containing hits both work great.**

# A comment on tWb and 6 fermion sample…

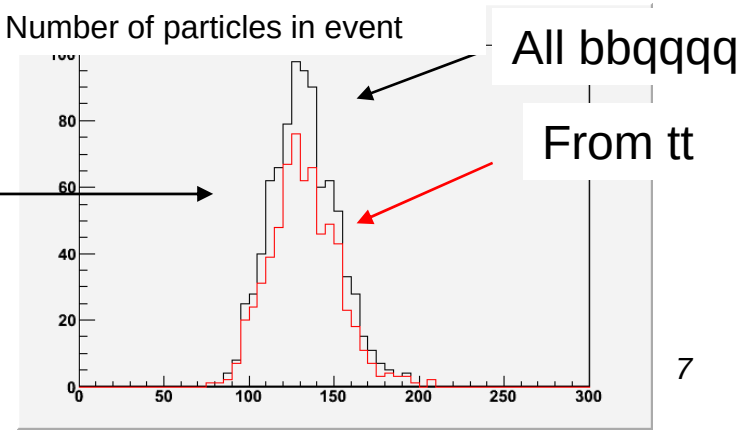
6 fermion

tWb (only fast MC)




Substantial difference! Explanation… Not ttbar events with forward bs? Maybe there really is 25% of non ttbar events… (very speculative conclusion needs a look…)



# Coming up next + Mass Template Fitting

- **Looking at using a simple V0 finder before analysis.**
- **Implement weights in my code**
- **Deal with new**
- **Implemented Mass Template Fitting code**
- **Need to look at some details…  Thanks Tim For help.**
- **First results to be expected soon! ( but not before Boulder)**

- **BUT mainly data! – Just got new sid02 events thanks Norman**