

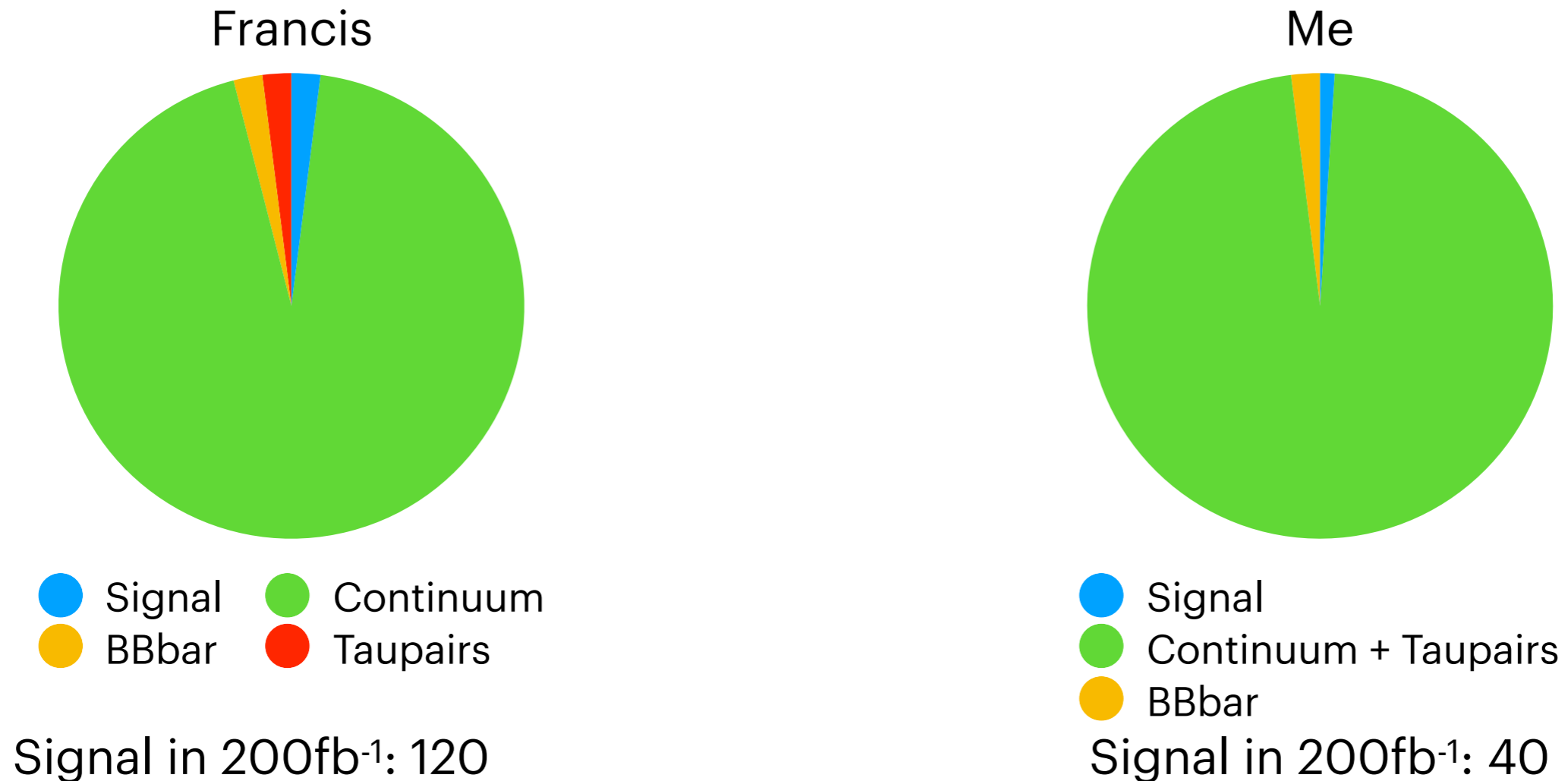
$B^0 \rightarrow \pi^0 \pi^0$ analysis

S. Raiz

Most urgent problem

Final composition of the sample

Check sample composition after applying $CS > 0.74$ (Francis cut). Note: we have a signal efficiency a bit higher than Francis' ($\epsilon \sim 35\%$, obtained using signalMC).



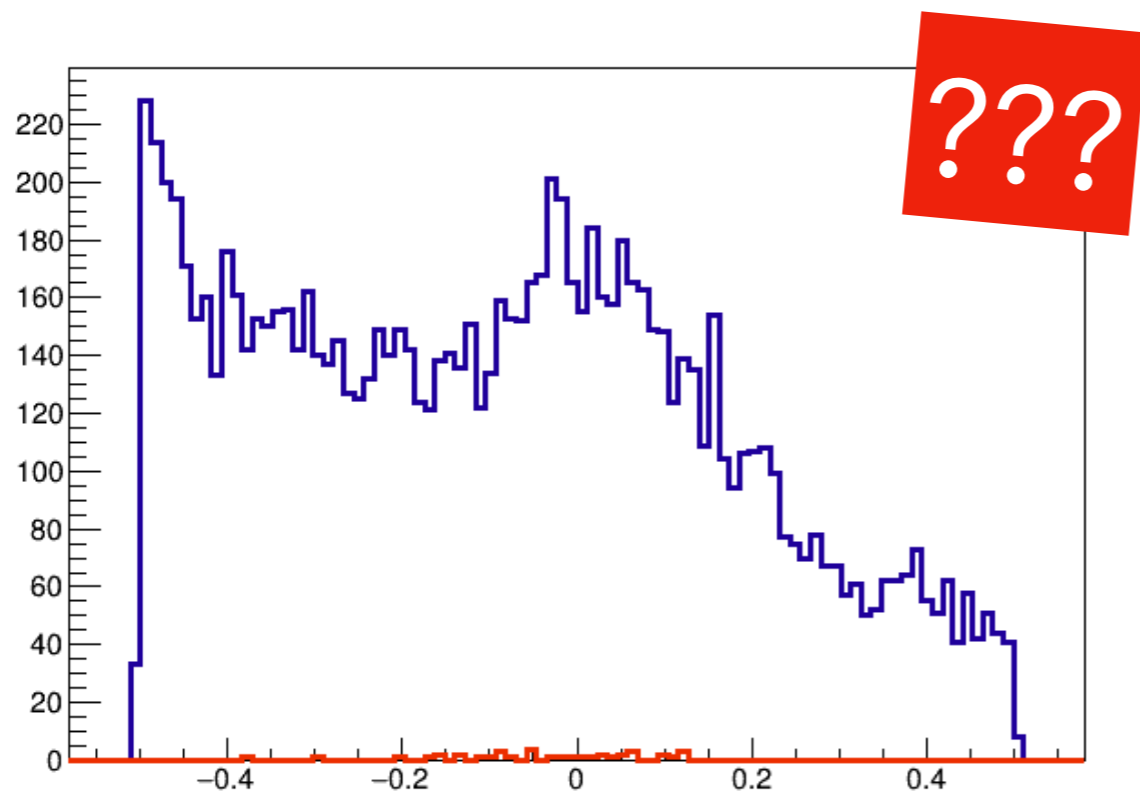
I'm losing a lot of signal events (already at reconstruction).
Still trying to understand why

Expected signal using PDG *BF* and my signal efficiency (obtained using my signalMC) is 120 events. After reconstruction in genericMC (no cuts applied) I observe only < 80 events. Problem of the genericMC? But *BF* in decfile is correct.

MC14-MC15 comparison

Right after reconstruction signal efficiency is 61.2% (using signalMC).

MC14ri (100 fb⁻¹ of mixed)

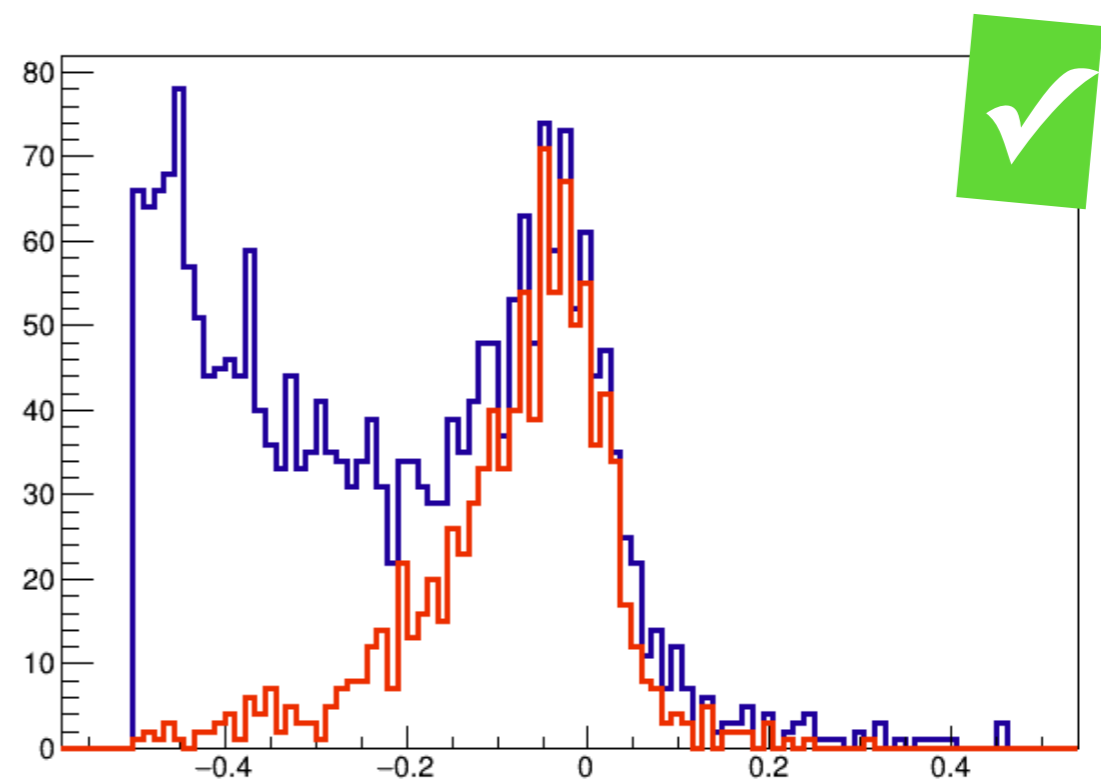


Total: 10802

Signal: 37

Expected signal: 98

MC15ri (1ab⁻¹ of mixed)



Total: 2337

Signal: 995

Expected signal: 984

Something wrong with MC14ri, but at least MC15ri is fine

To do

Reconstruct $B^0 \rightarrow \pi^0 \pi^0$ in MC15ri_b sample.

Check PhotonMVA (again).

Check if CSMVA is working fine.

