Status report

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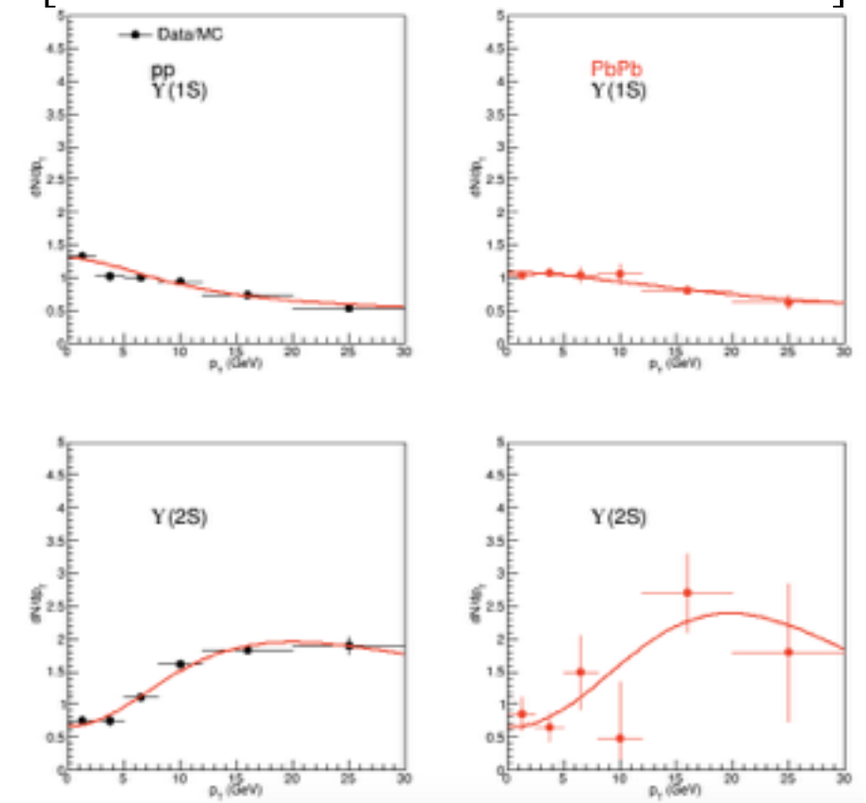
Double Ratio

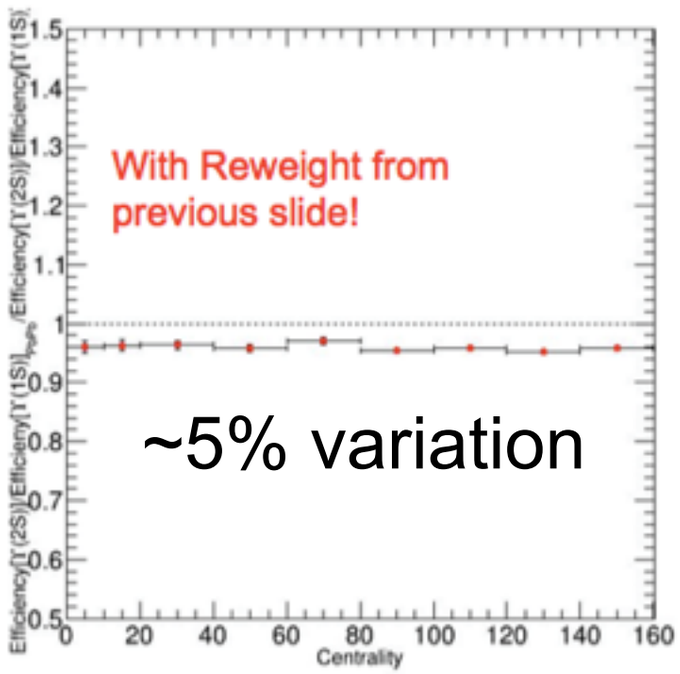
- Dimuon and single muon spectra (comment from ARC)
- dN/dpT spectra reweighting ⟶ efficiency variation

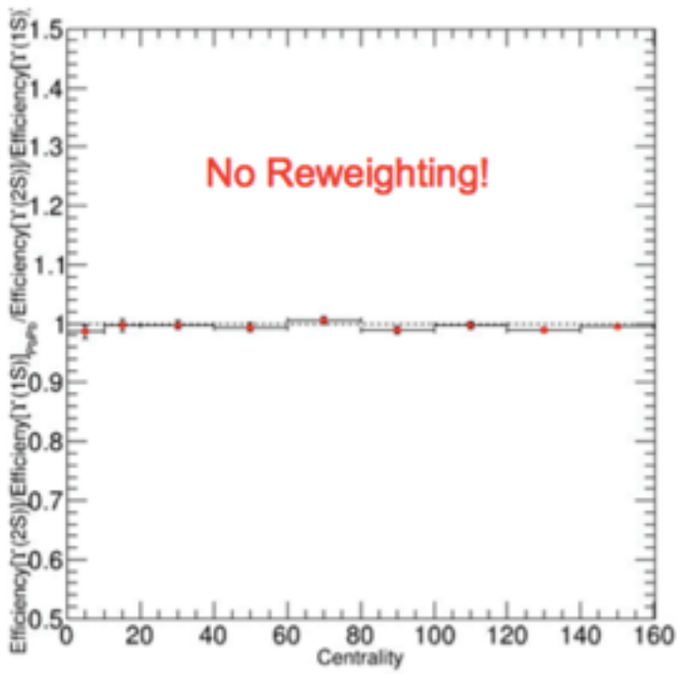
$$\frac{d^2N}{dp_T\,dy} = p_T \frac{dN}{dy} \frac{(n-1)(n-2)}{nC(nC + m_0(n-2))} \left[1 + \frac{m_T - m_0}{nC}\right]^{-n}$$

['Ratio Function' of two Tsallis functions]



[Slides from chad in dilepton weekly meeting]





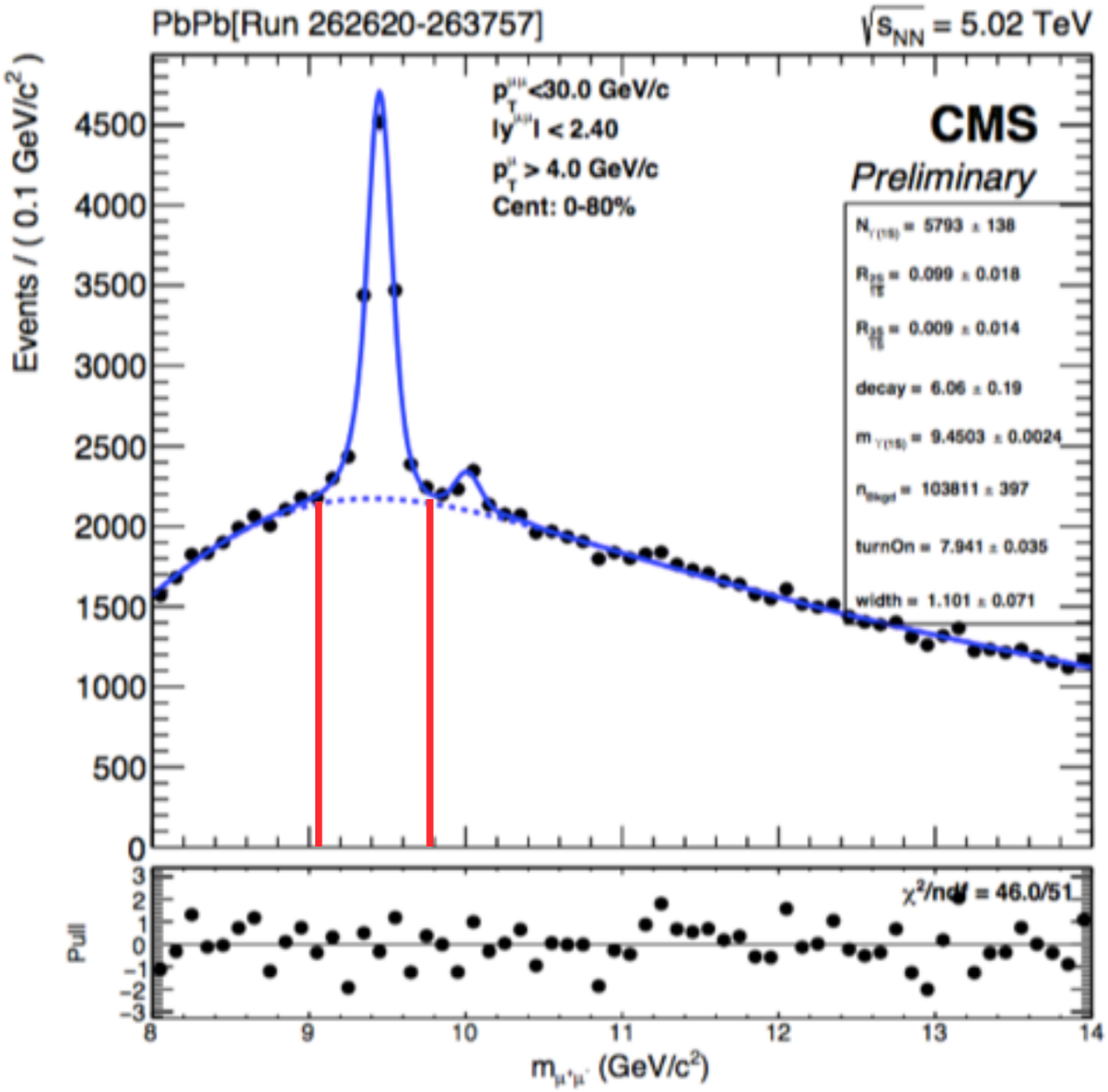
Dimuon & single muon pT

1. Draw pT spectra for single & dimuons in mass window 9.1-9.7 GeV (Y(1S))

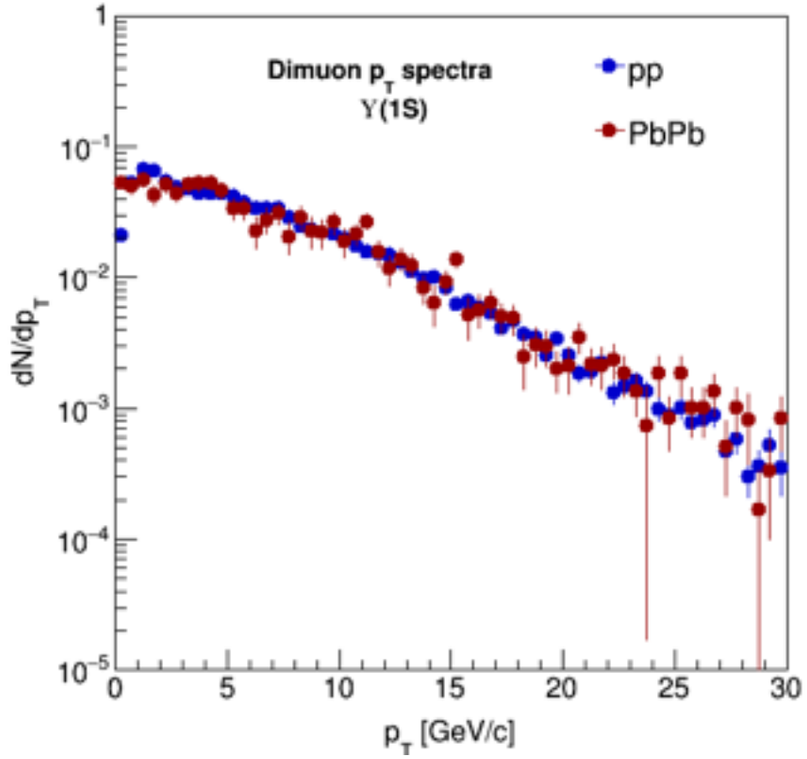
2. Get bkg pT spectra for the same sign data events

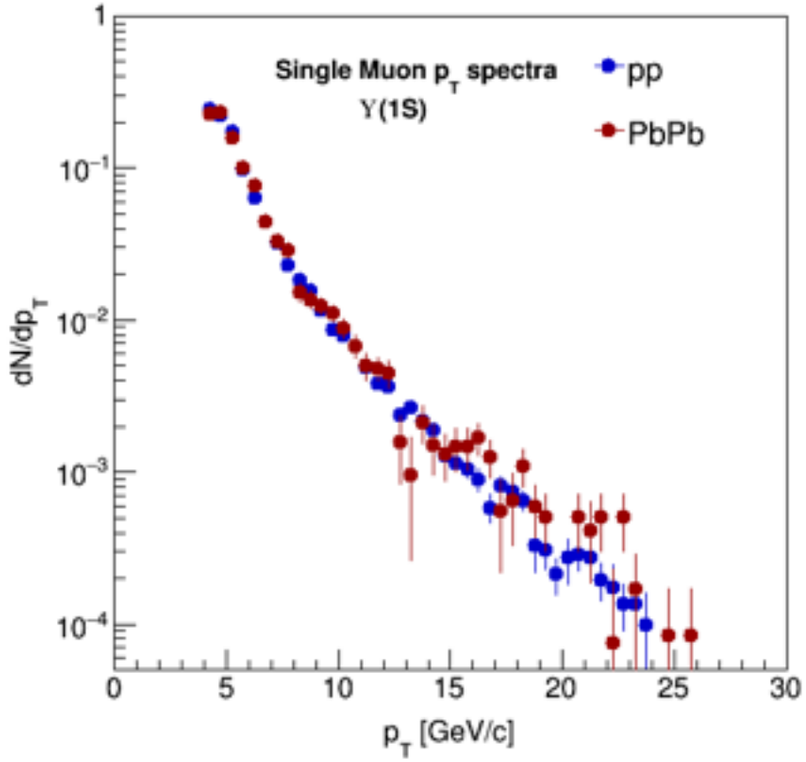
3. Bkg subtraction by integrating the given window (weighted by the bkg function in the opposite sign events)

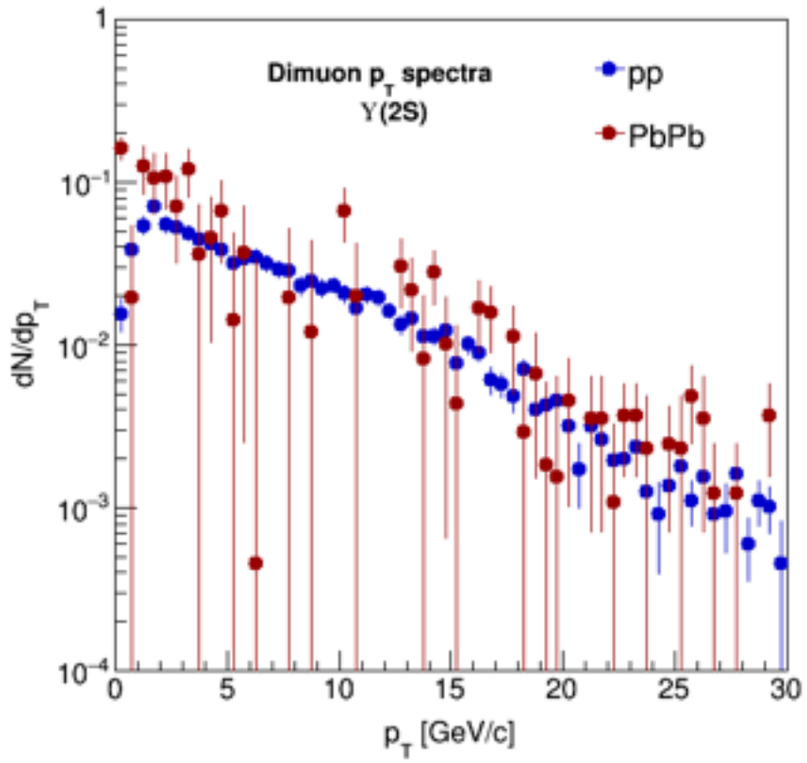
4. Same process for Y(2S) (9.8-10.2 GeV) & Y(3S) (10.25-10.5 GeV)

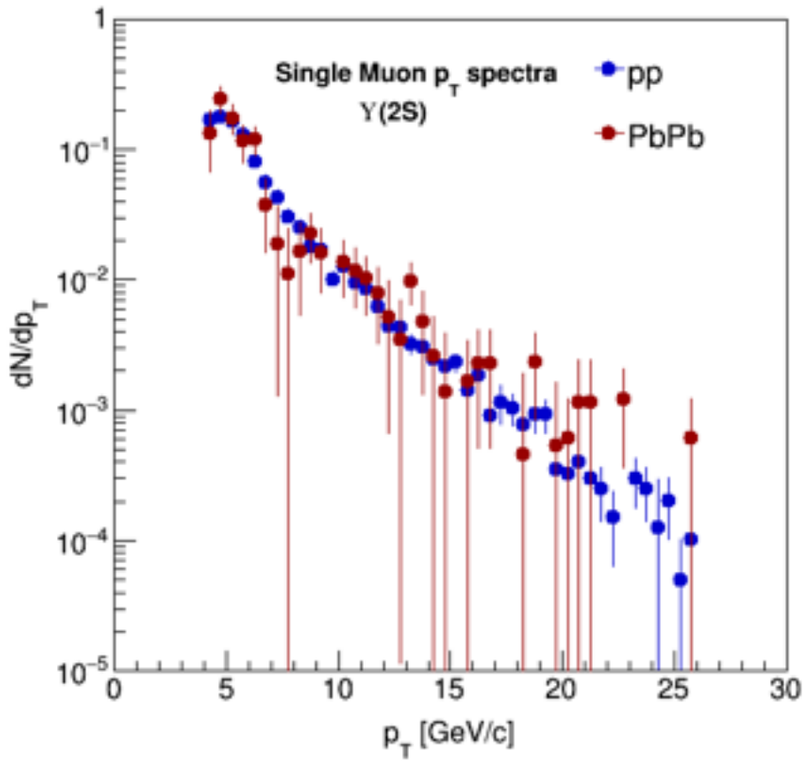


Dimuon & single muon pT





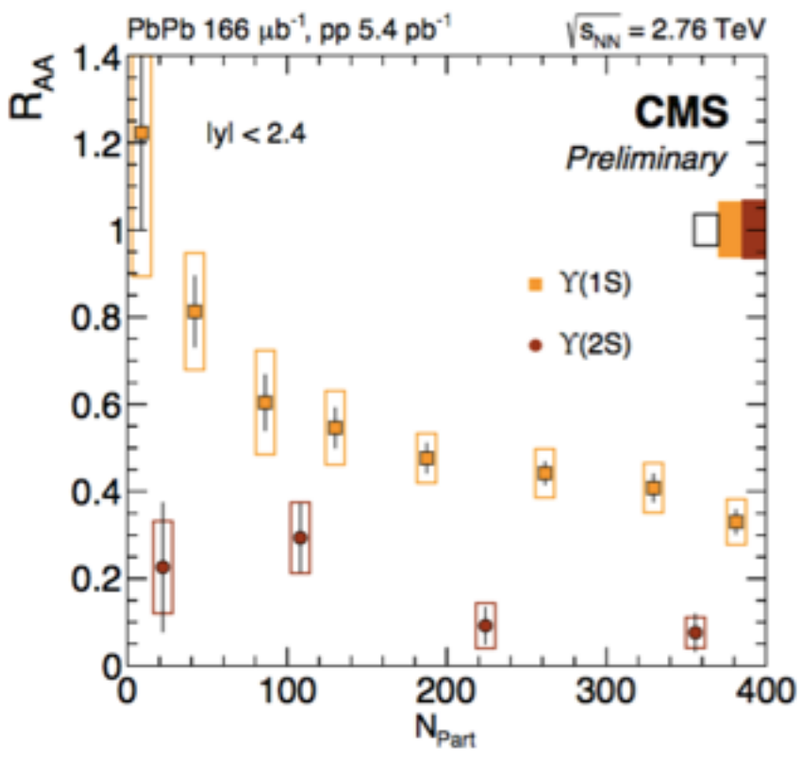


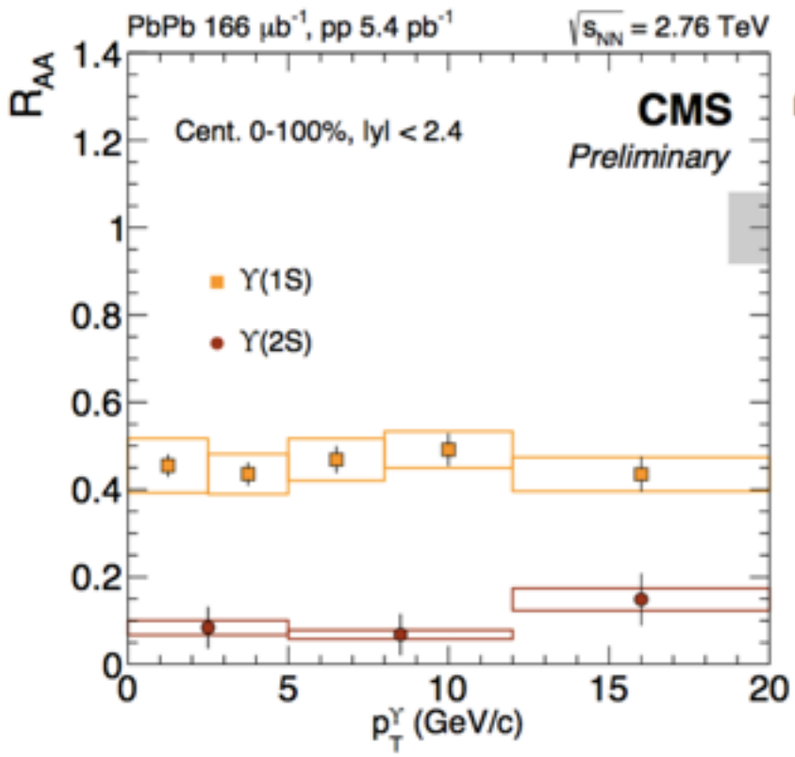


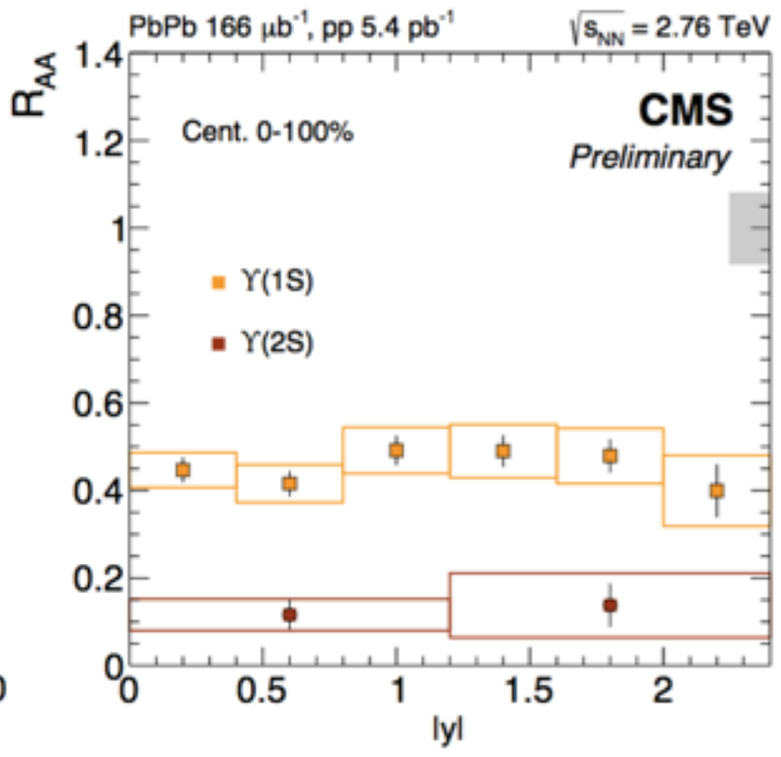
RAA Plan

- Same fit process as in double ratio result
- Bkg function $\mathcal{B}\left(m_{\mu\mu};\mu,\sigma,\lambda\right)=\exp\left(-\frac{m_{\mu\mu}}{\lambda}\right)\cdot\frac{1+\mathrm{Erf}\left(\frac{m_{\mu\mu}-\mu}{\sqrt{2}\sigma}\right)}{2}$
- Signal function $\Sigma_{1S}\left(m_{\mu\mu};m_0,n,\alpha,\sigma_0,f,x\right)=f\cdot\mathrm{CB}_1\left(m_{\mu\mu};m_0,n,\alpha,\sigma_0\right)+(1-f)\cdot\mathrm{CB}_2\left(m_{\mu\mu};m_0,n,\alpha,x\cdot\sigma_0\right)$
- Parameters from MC
  - Fix signal parameters from MC
  - Obtain bkg parameters for initial seed

working on…







back-up

Double Ratio Result