中国科学院高能物理研究所
Institute of High Energy Physics
Chinese Academy of Sciences

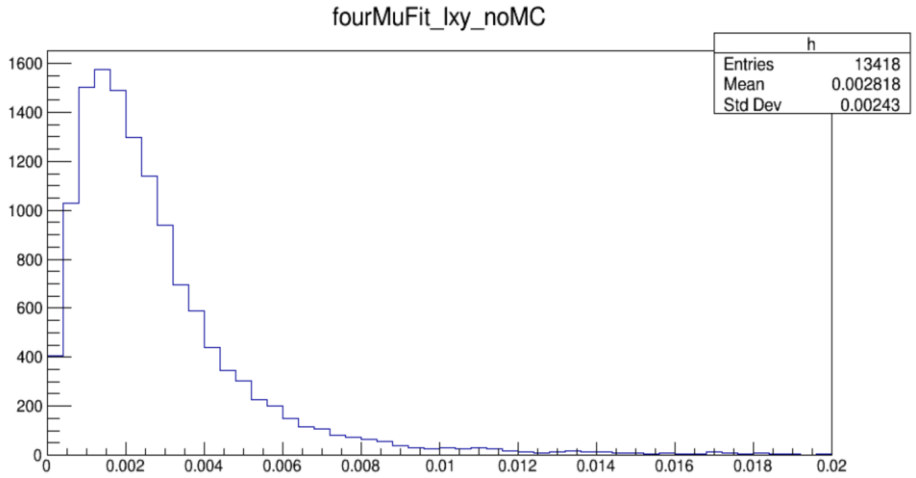
Double Jpsi work status

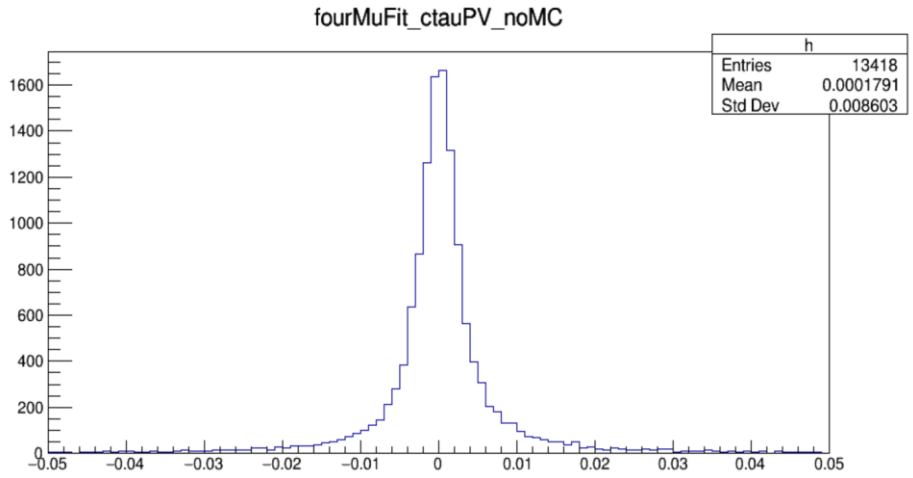
Taozhe YU

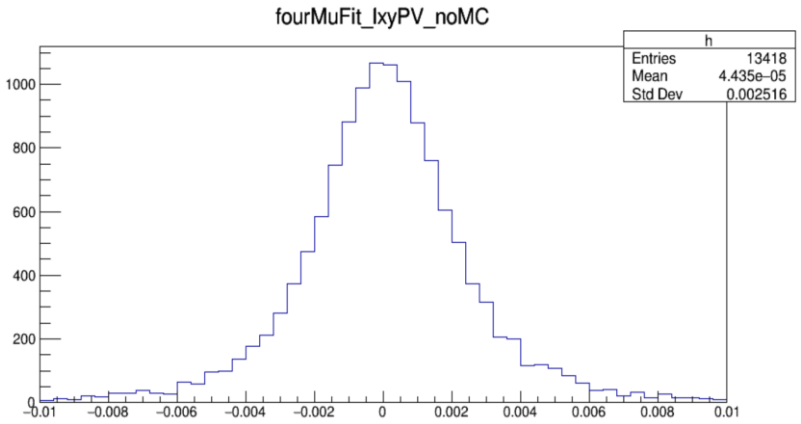
2022.8.11

Lxy and Ctau distribution(no Mass cut)

Use the new Analyzer which can calculate lxy,ctau to get Ntuple

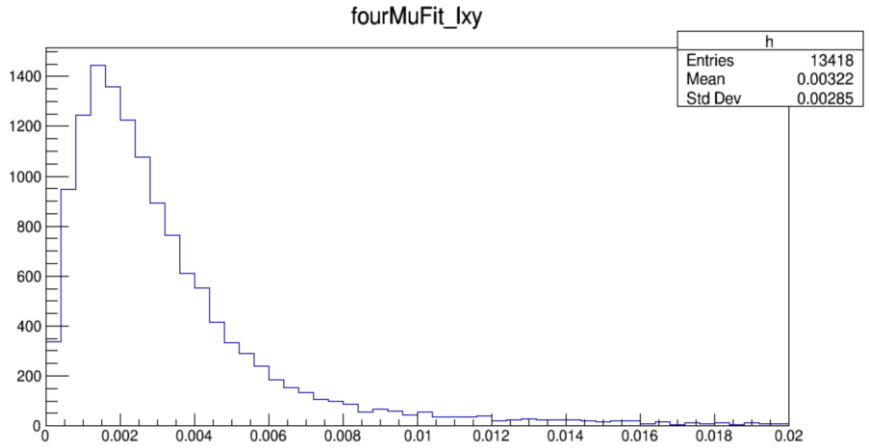


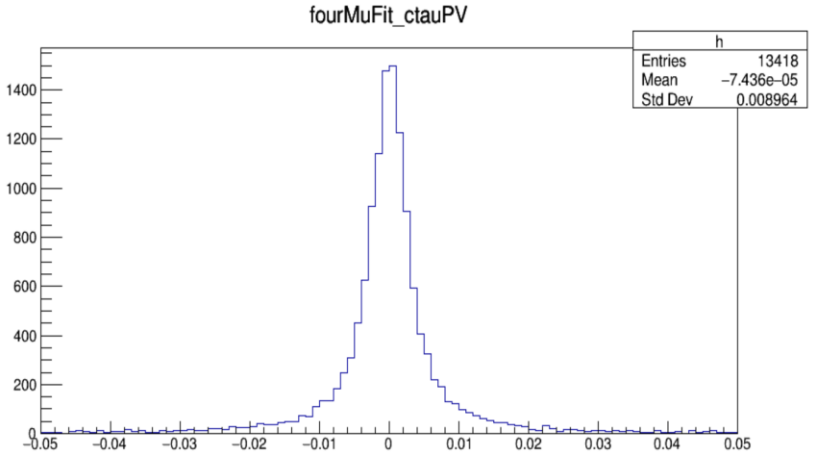


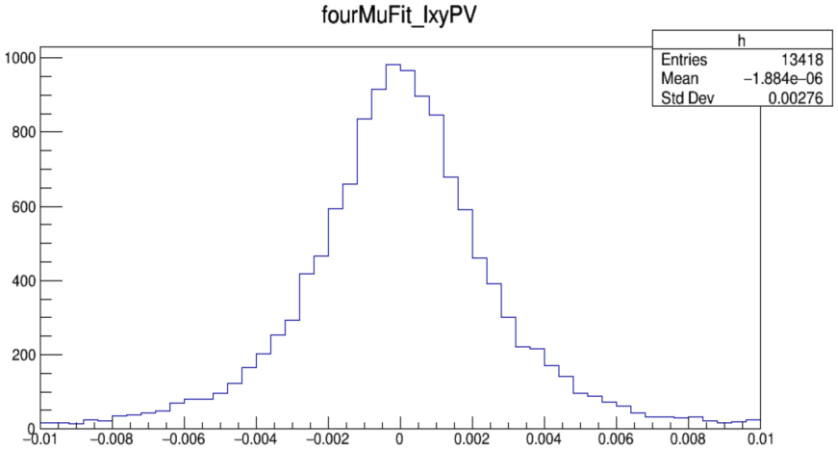


- Get the Lxy and Ctau distribution(no Mass cut)

Lxy and Ctau distribution(Mass cut)





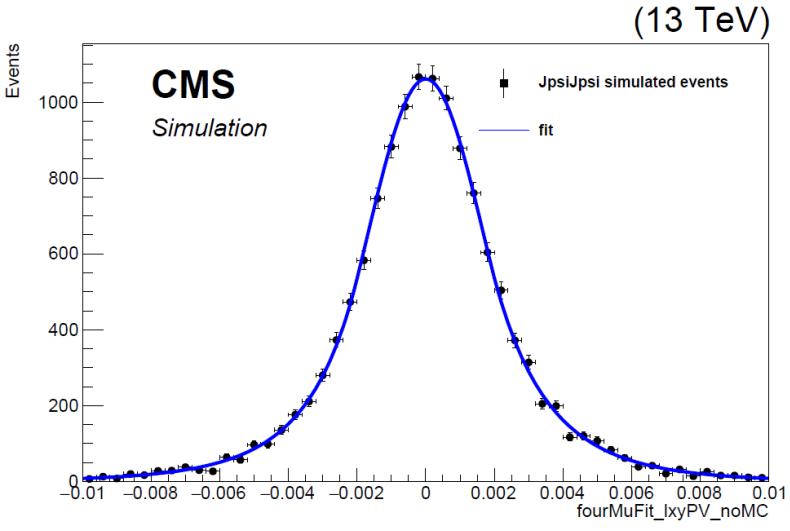


- Get the Lxy and Ctau distribution(Mass cut)

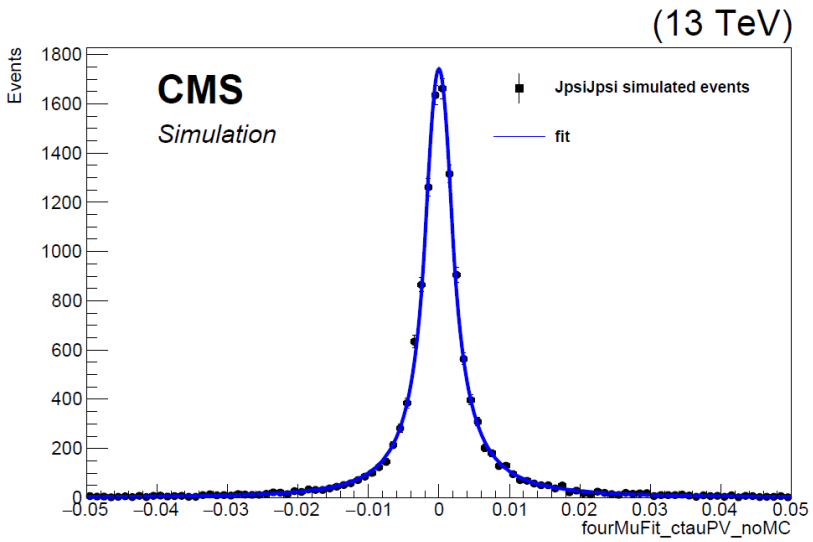
Lxy and Ctau Fit

- Using double-sided Crystal Ball (DSCB) function to fit Lxy and Ctau

$$f_S(x;\vec{\theta}) = \begin{cases} \left(\frac{n_L}{|\alpha_L|}\right)^{n_L} \exp\left(\frac{-|\alpha_L|^2}{2}\right)\left(\frac{n_L}{|\alpha_L|} - |\alpha_L| - \frac{x-\mu}{\sigma}\right)^{-n_L}, & \text{for } \frac{x-\mu}{\sigma} \leq -\alpha_L \\ \exp\left(-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2\right), & \text{for } -\alpha_L < \frac{x-\mu}{\sigma} < \alpha_R \\ \left(\frac{n_R}{|\alpha_R|}\right)^{n_R} \exp\left(\frac{-|\alpha_R|^2}{2}\right)\left(\frac{n_R}{|\alpha_R|} - |\alpha_R| + \frac{x-\mu}{\sigma}\right)^{-n_R}, & \text{for } \frac{x-\mu}{\sigma} \geq \alpha_R, \end{cases}$$



FourMuFit LxyPV



FourMuFit CtauPV