# 组会报告

敖冬

# Method of Steve

- Correction use D0 sweighted data and MC
- $S(t_{rec}) = f(t_{rec})g(t_{rec})\beta(t_{rec})$ fit function

- $f(t_{rec})$ MC $t_{rec}$ distribution

- $g(t_{rec}) = \exp(-t_{rec}/\tau_{\mathrm{fit}})/\exp(-t_{rec}/\tau_{sim})$

- $\beta(t_{rec}) = 1 + \beta_0 t_{rec}$

# $\beta = 1 + \beta_0 t_{rec}$

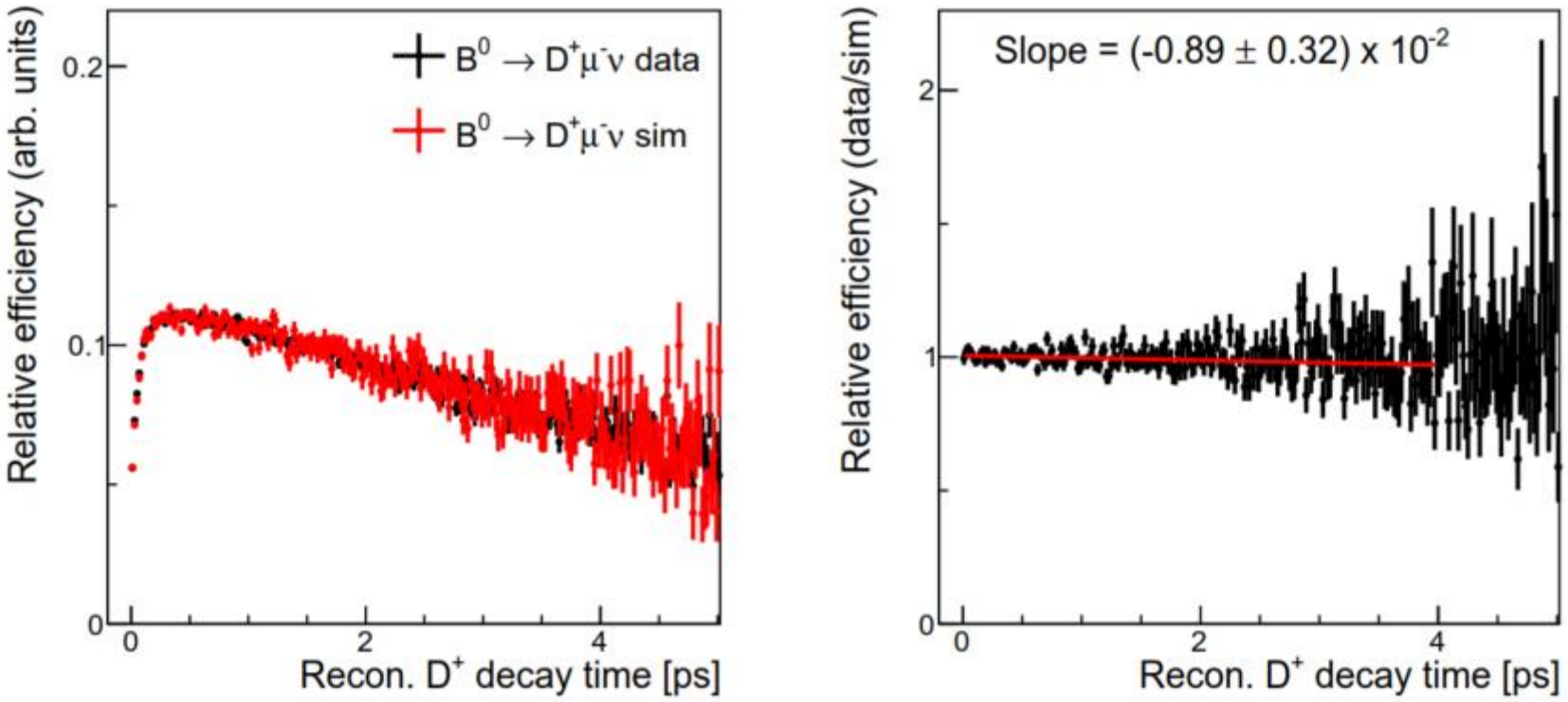
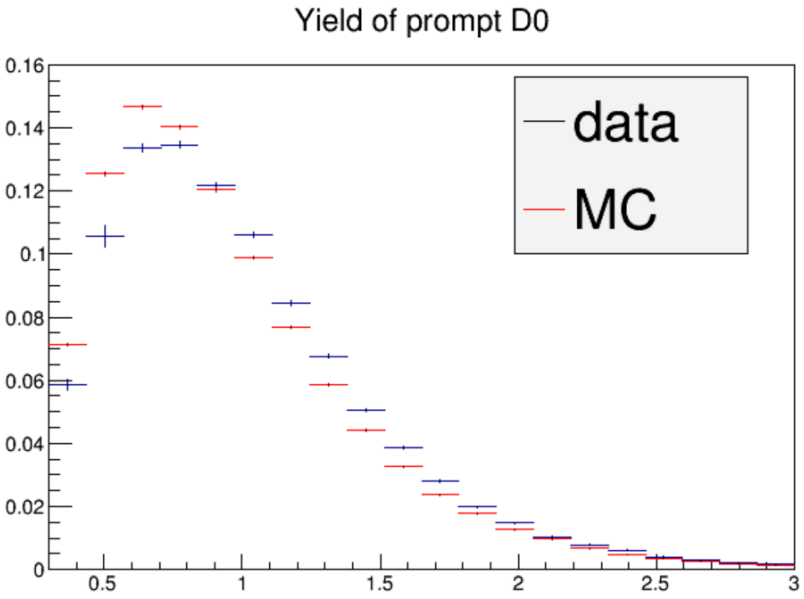
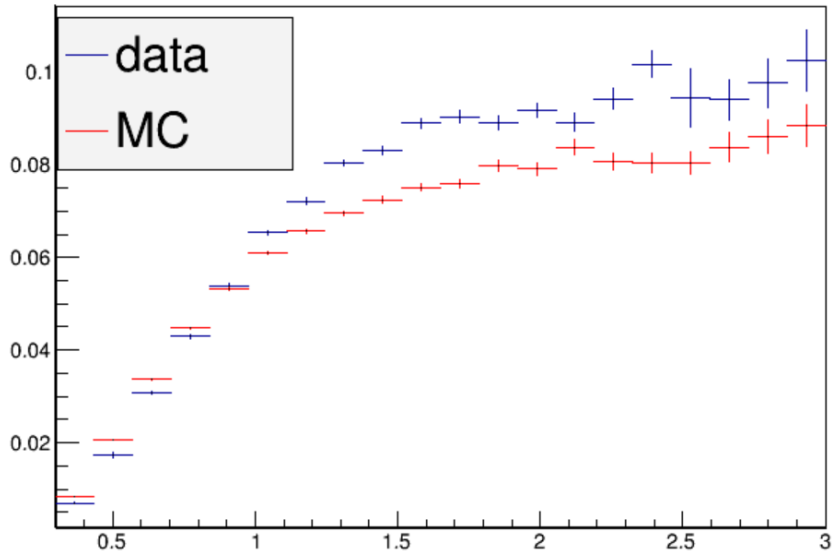



Figure 18: (Left) Comparison of the total selection efficiency as a function of the decay time in data and simulation (Right) Ratio of data to simulation, along with a linear fit to the ratio.

# Comparation of D0 data and MC

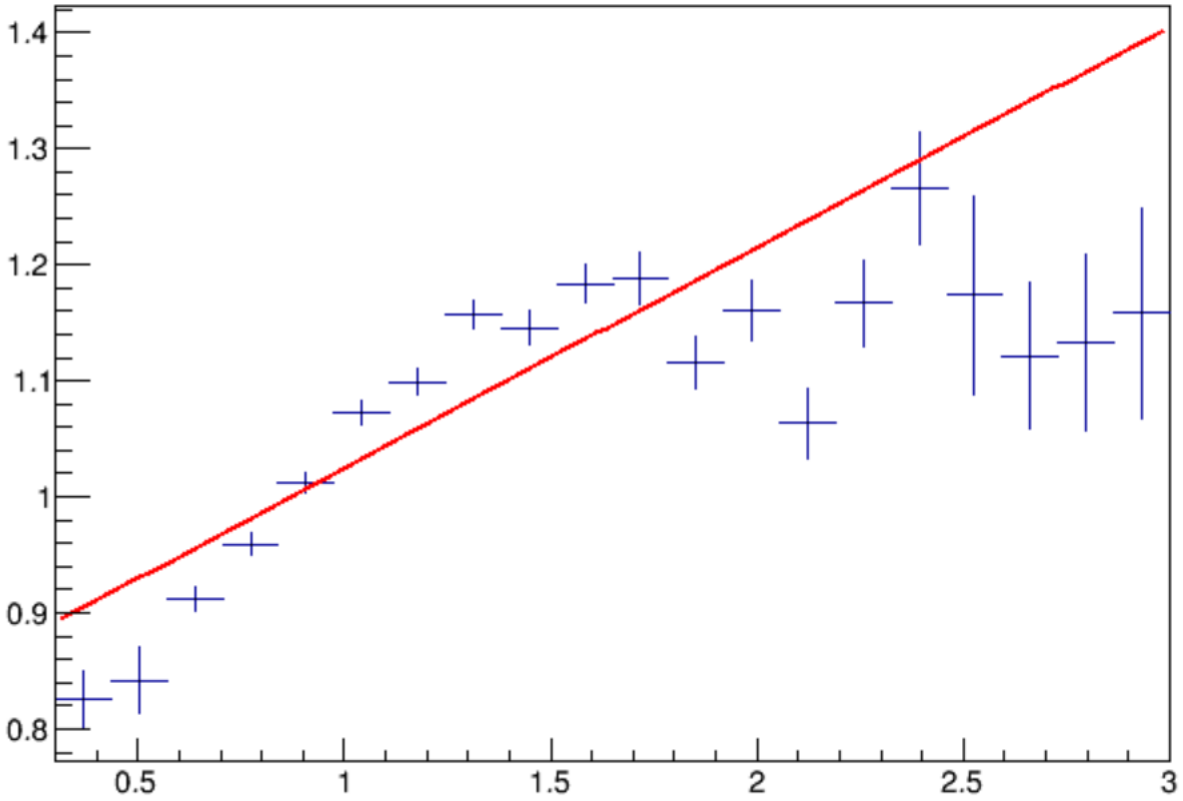



Tau distribution of D0 data compare with MC




Efficiency of D0 data compare with MC

# $\beta(t_{rec}) = 1 + \beta_0 t_{rec}$




$$\frac{\varepsilon_{data}}{\varepsilon_{MC}}$$

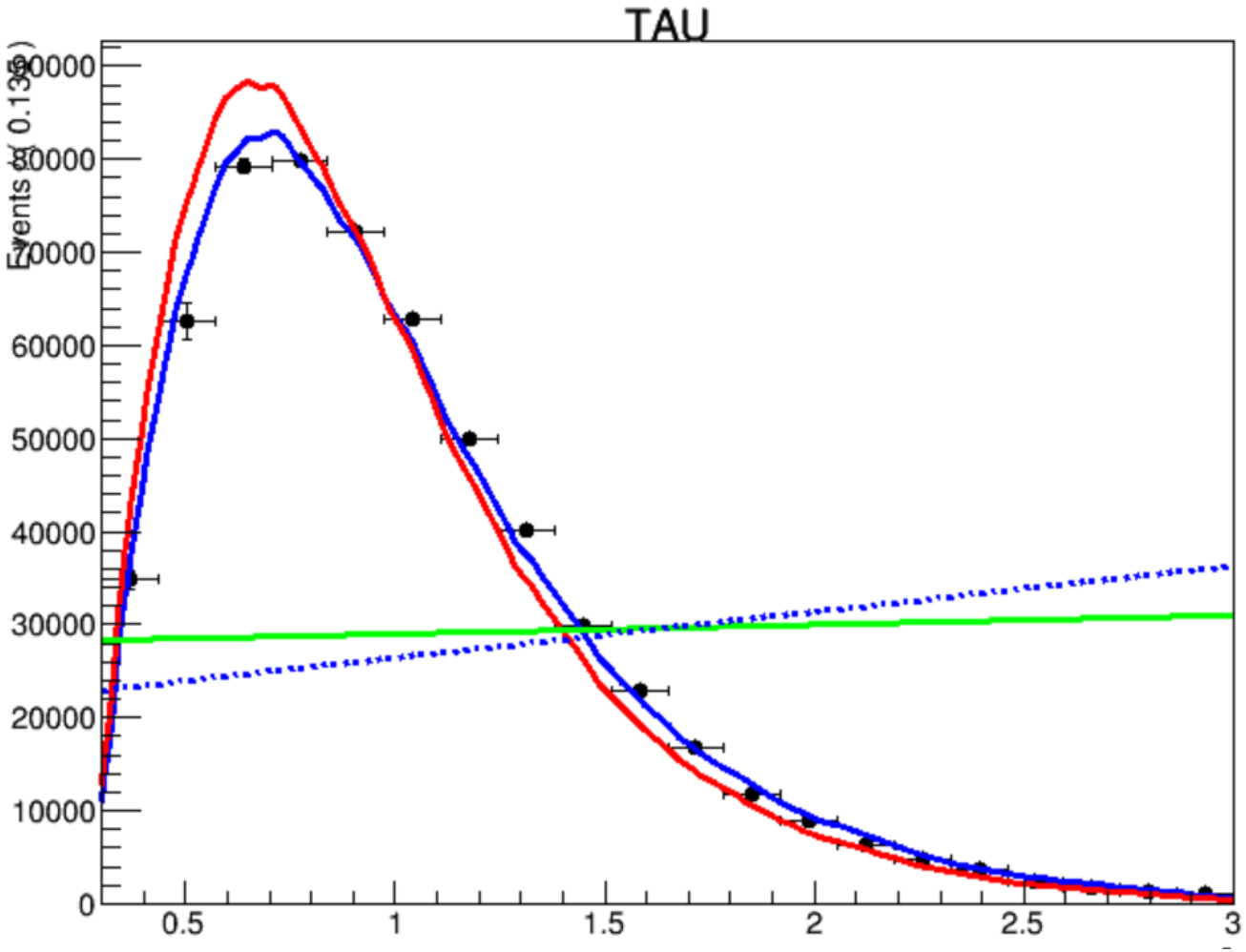
Fit function: $a \cdot (1 + \beta_0 t_{rec})$

$a = 0.83 \pm 0.01$

$\beta_0 = 0.228 \pm 0.012 ps^{-1}$

$\chi^2/ndf$=207/18

# $S(t_{rec}) = f(t_{rec})g(t_{rec})\beta(t_{rec})$




$S(t_{rec}) = f(t_{rec})g(t_{rec})\beta(t_{rec})$

$f(t_{rec})$ = keyspdf of MC $t_{rec}$ distribution

$g(t_{rec}) = \exp(-t_{rec}/\tau_{\text{fit}})/\exp(-t_{rec}/\tau_{sim})$

$\beta(t_{rec}) = 1 + \beta_0 t_{rec}$

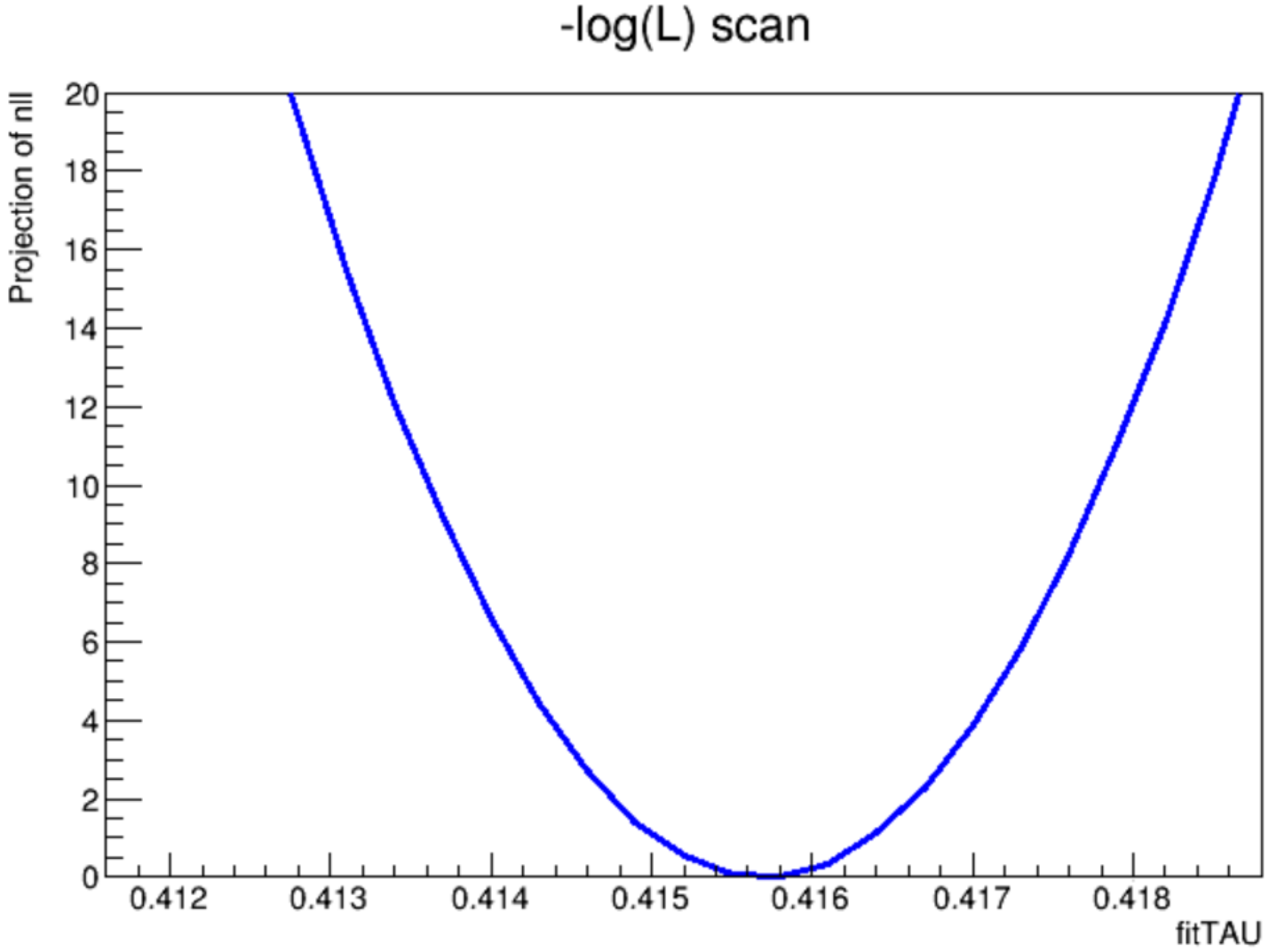
Fit result

$\tau_D = 0.416 \pm 0.009 ps$

# Now doing

- D0 lifetime fit use uneven bin result

# backups


-log(L) scan
Projection of nll
20
18
16
14
12
10
8
6
4
2
0
0.412
0.413
0.414
0.415
0.416
0.417
0.418
fitTAU