# 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

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

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

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

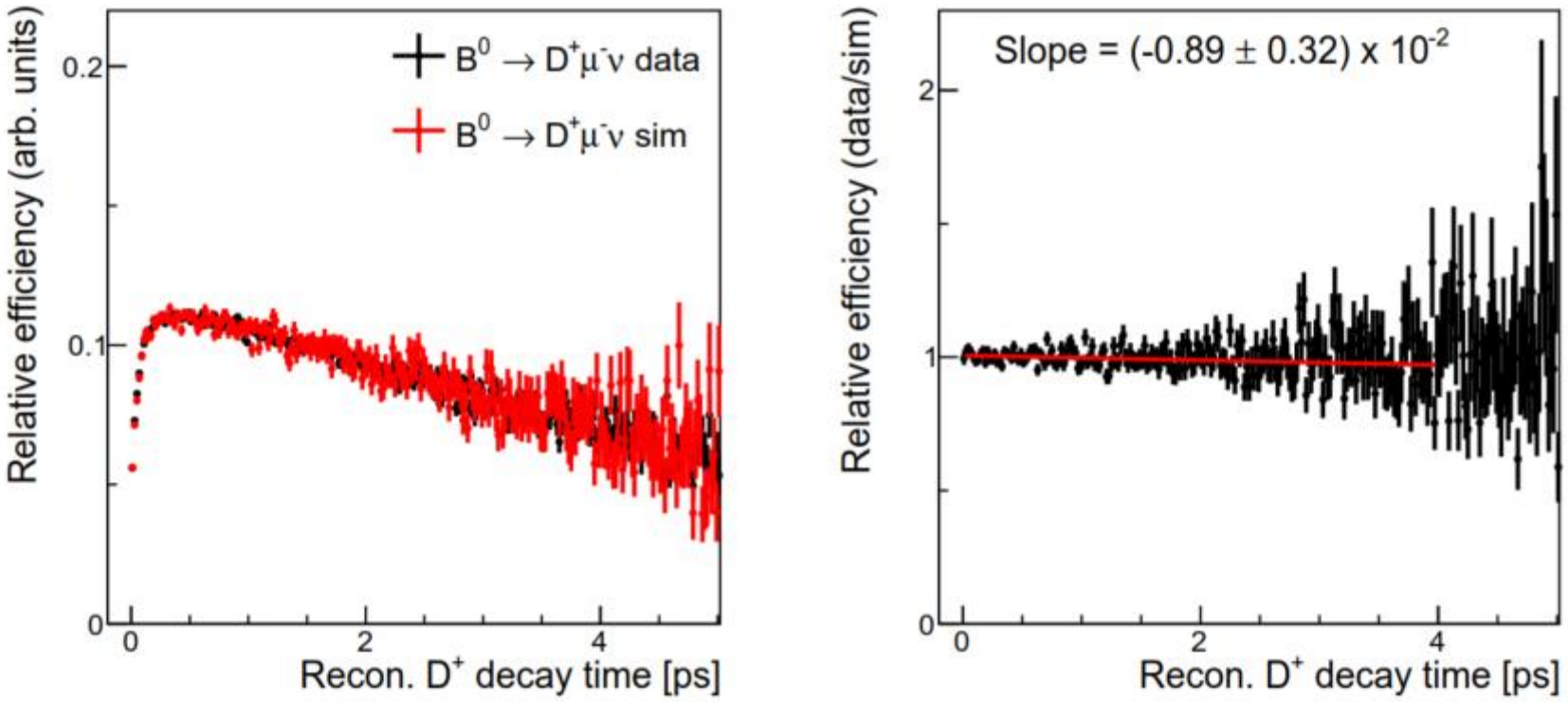
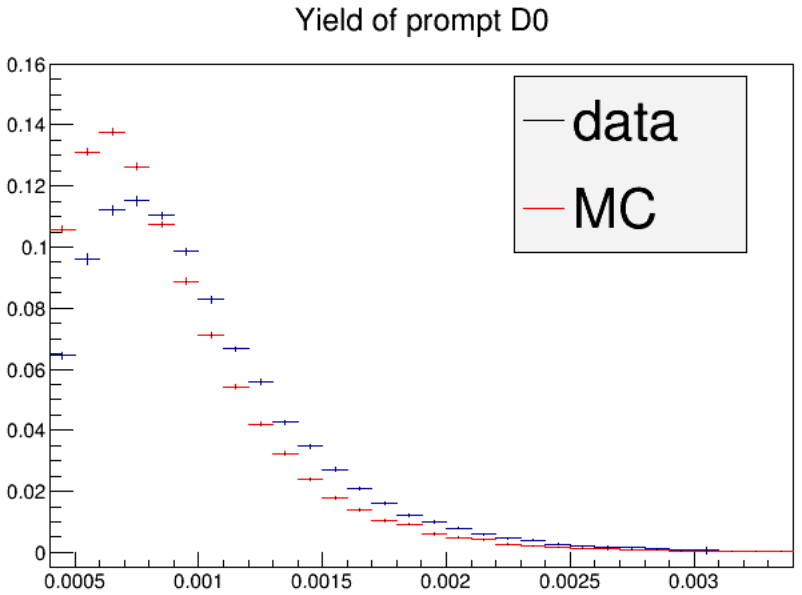
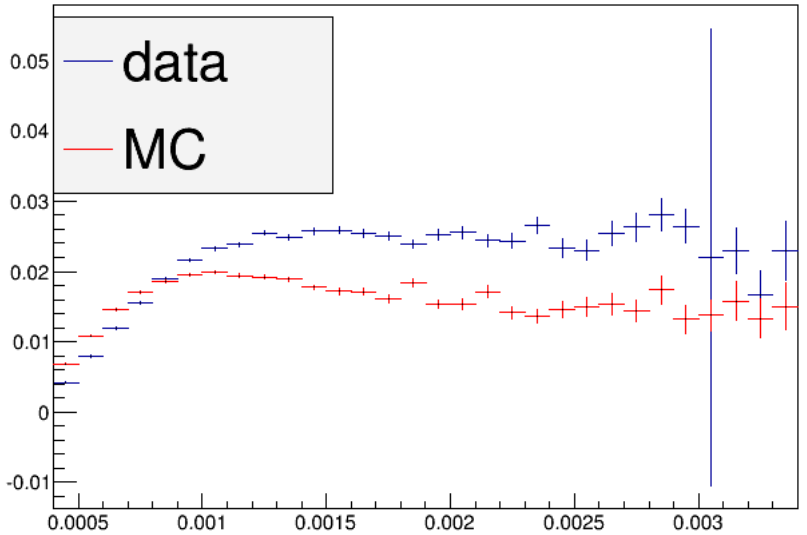



Figure 18: (Left) Comparison of the total selection efficiency as a function of the decay time in data and simulation (Right) Ratio of data to simulation, along with a linear fit to the ratio.

# Comparation of D0 data and MC

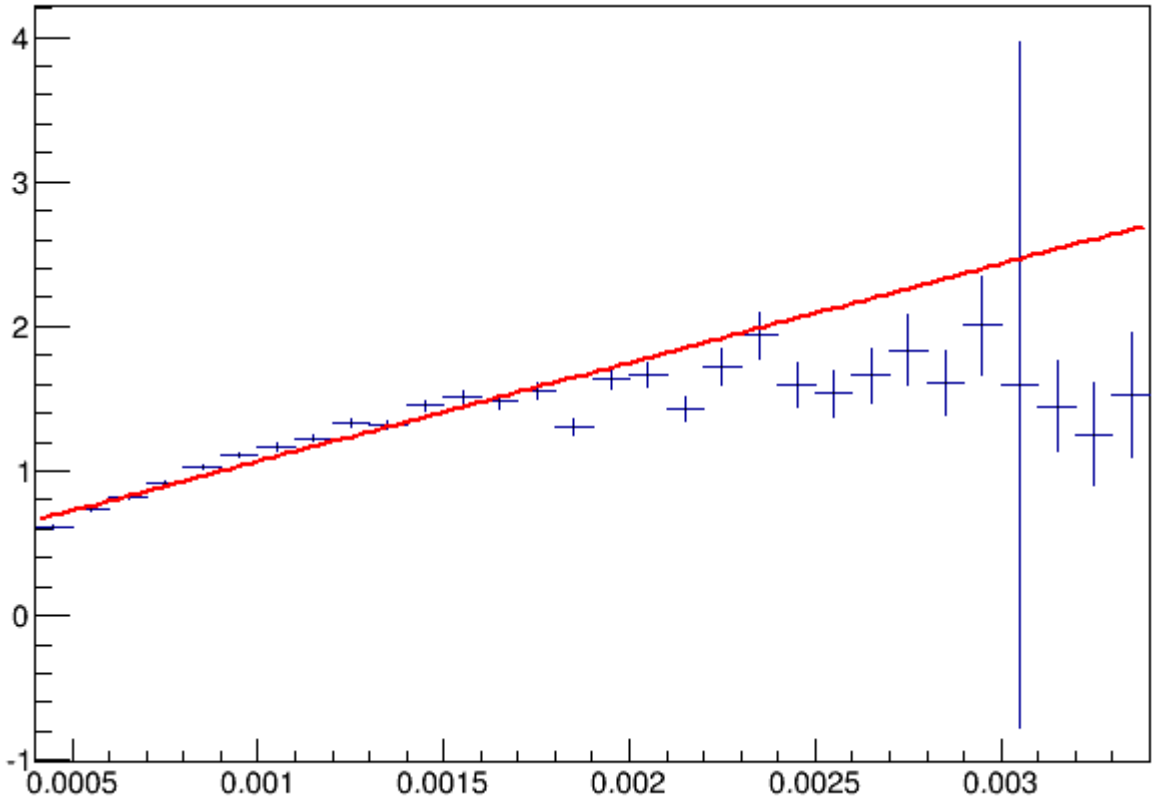



Tau distribution of D0 data compare with MC




Efficiency of D0 data compare with MC

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




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

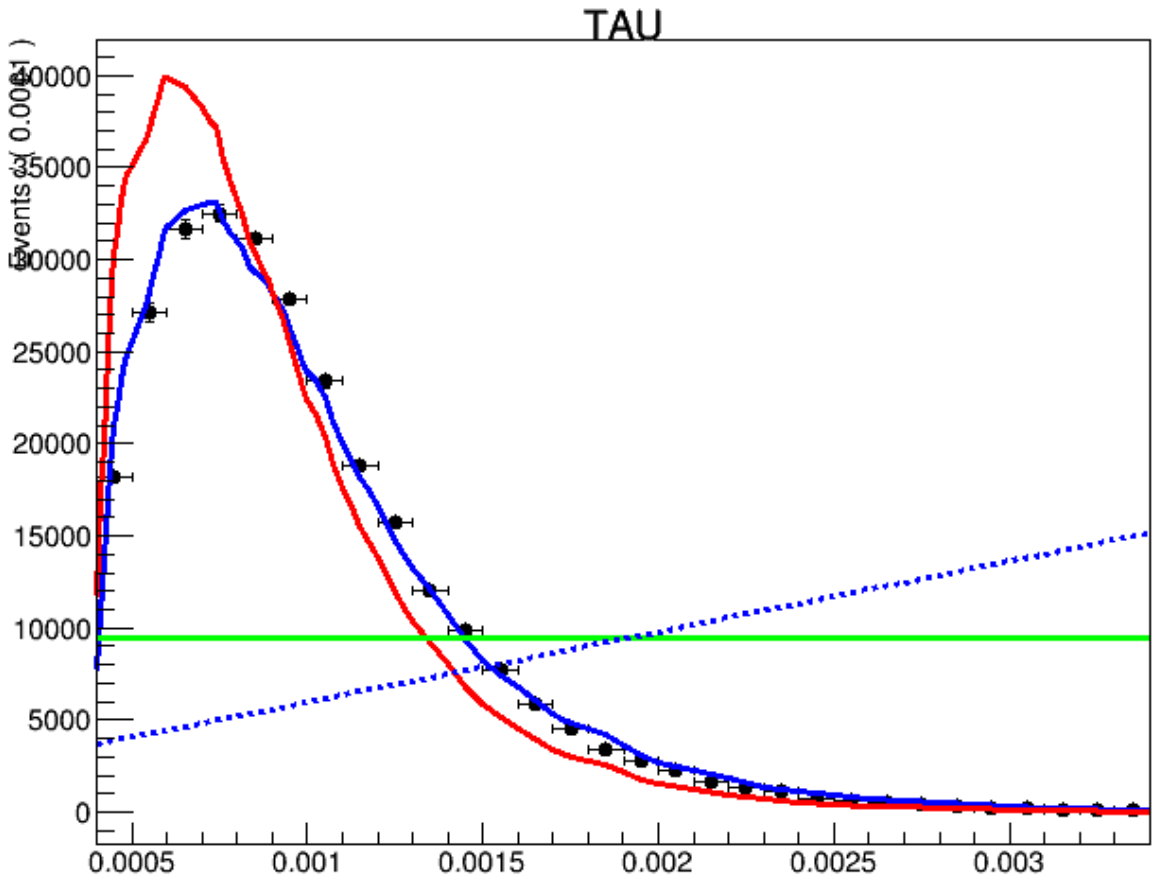
Fit function: $a \cdot (1 + \beta_0 t_{rec})$

$a = 0.38 \pm 0.013$

$\beta_0 = (1.78 \pm 0.09) \times 10^3\ ns^{-1}$

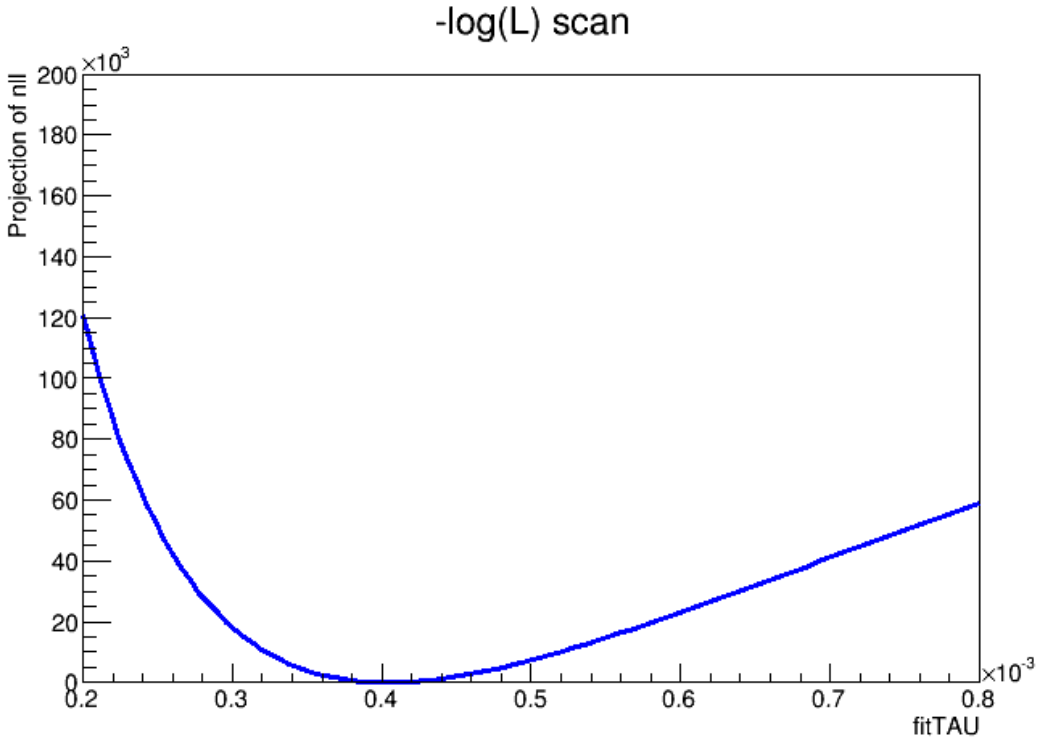
$\chi^2/ndf$=275/28

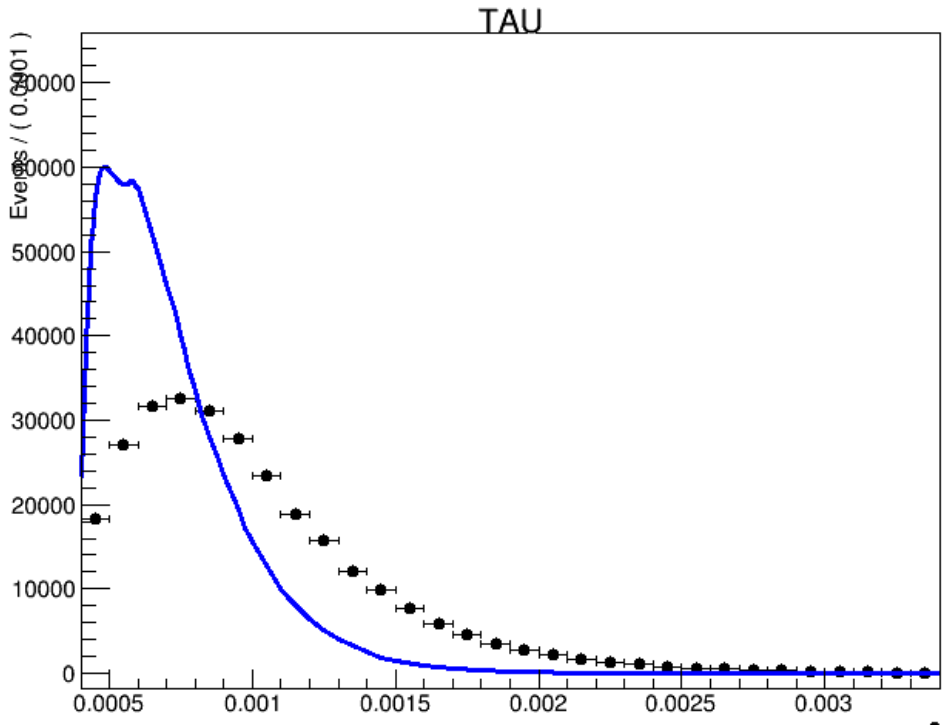
# $S(t_{rec}) = f(t_{rec})g(t_{rec})\beta(t_{rec})$




- $S(t_{rec}) = f(t_{rec})g(t_{rec})\beta(t_{rec})$
- $f(t_{rec})$ = keyspdf of MC $t_{rec}$ distribution
- $g(t_{rec}) = \exp(-t_{rec}/\tau_{\text{fit}})/\exp(-t_{rec}/\tau_{sim})$
- $\beta(t_{rec}) = 1 + \beta_0 t_{rec}$

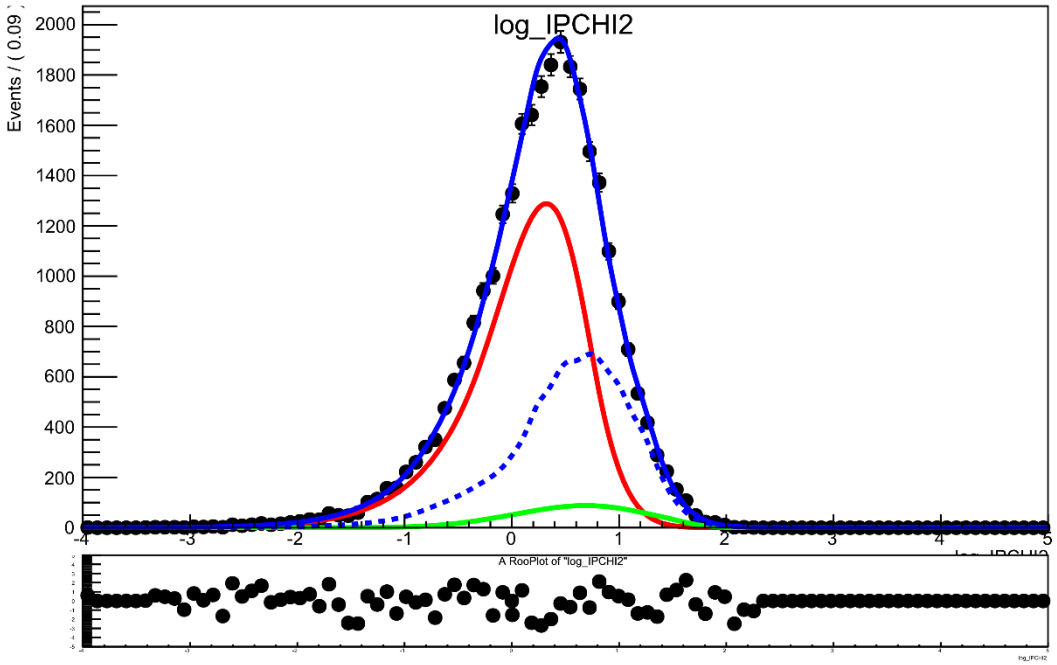
# -log(likelihood) scan

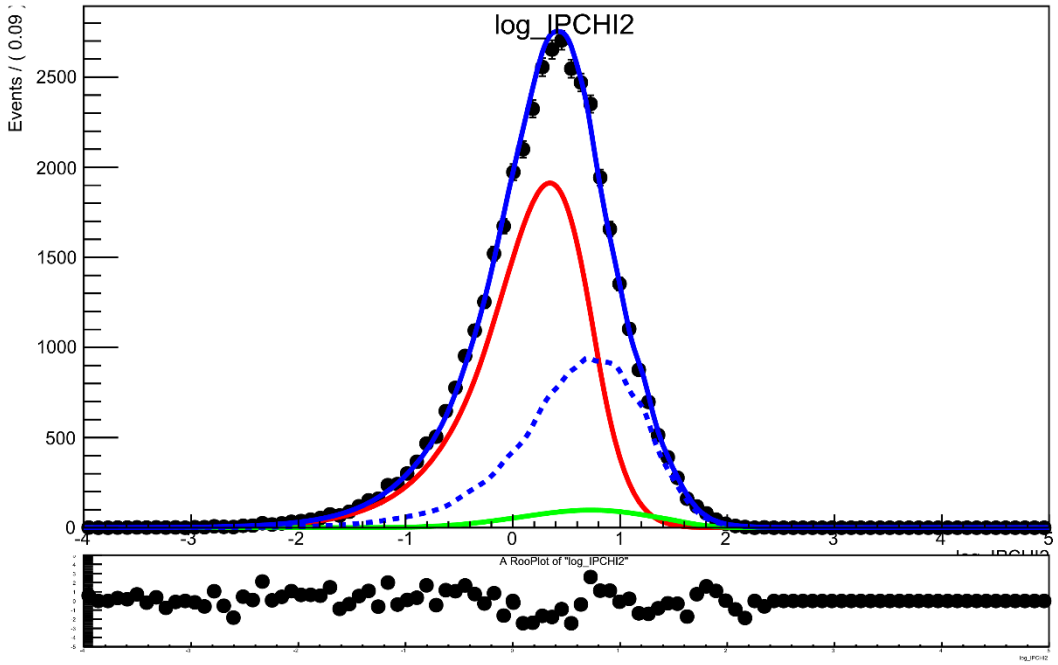





```
COVARIANCE MATRIX CALCULATED SUCCESSFULLY
FCN=-5.83384e+06 FROM HESSE     STATUS=OK              5 CALLS          42 TOTAL
                     EDM=2.45816e-07    STRATEGY= 1      ERROR MATRIX ACCURATE
  EXT PARAMETER                                   INTERNAL      INTERNAL
  NO.   NAME      VALUE            ERROR          STEP SIZE       VALUE
   1  fitTAU       7.17327e-05   7.62061e-08   2.39601e-05  -1.00417e+00
                               ERR DEF= 0.5
```

# Bin0-1


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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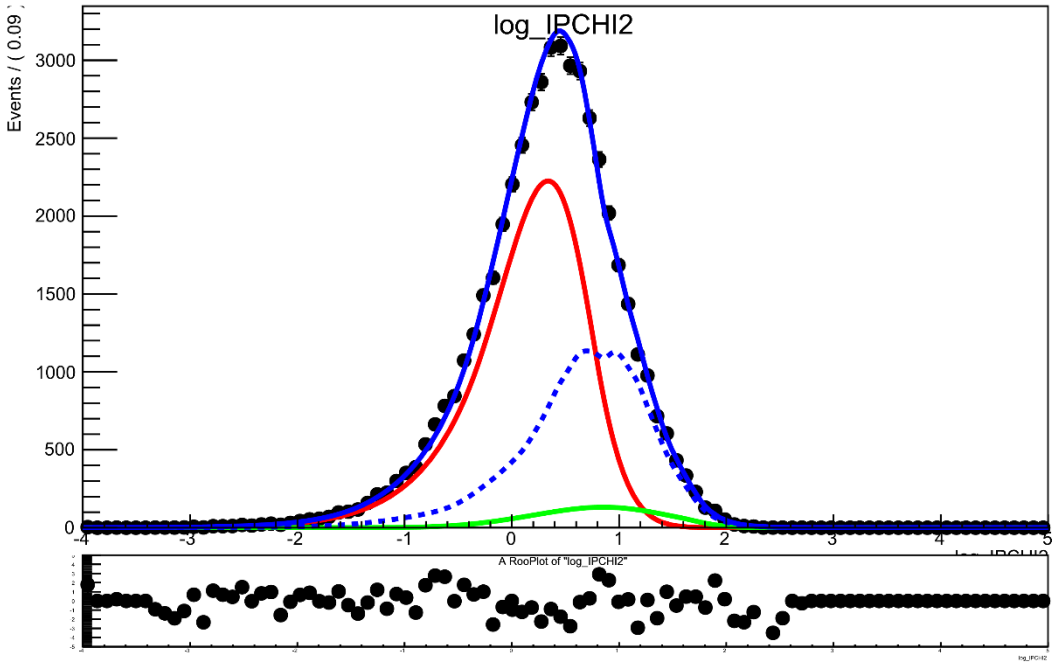
A RooPlot of "log_IPCHI2"

# Bin2-3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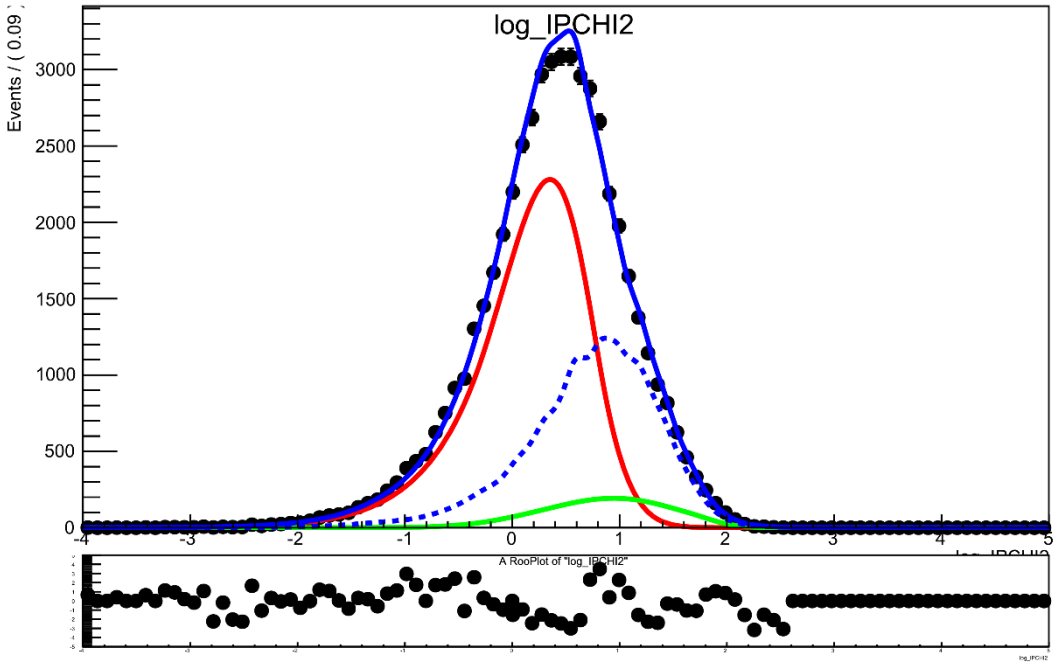
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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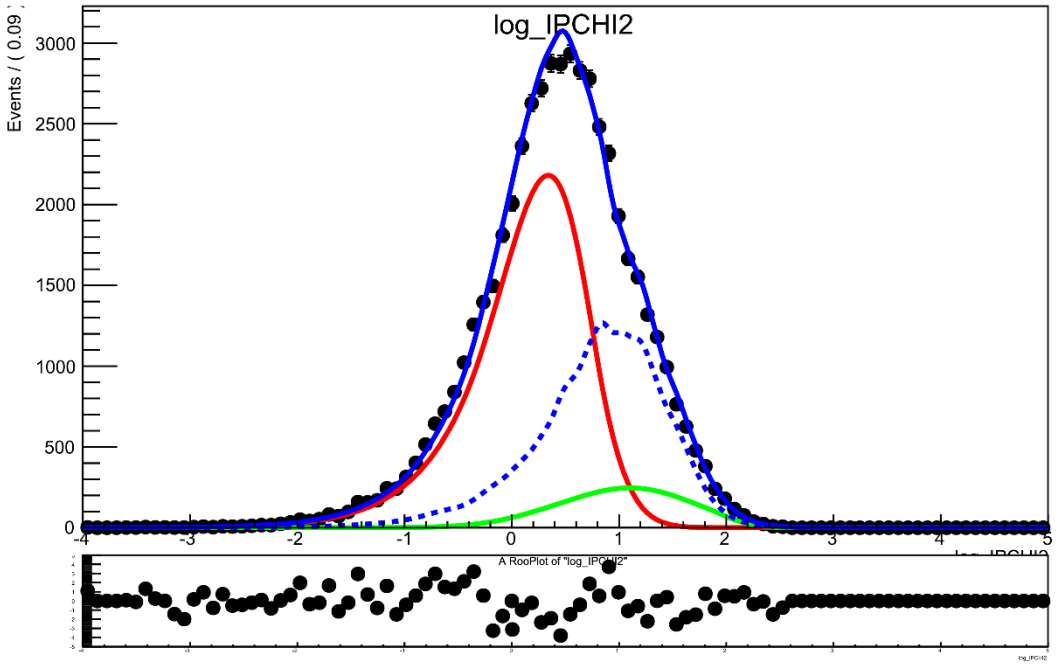
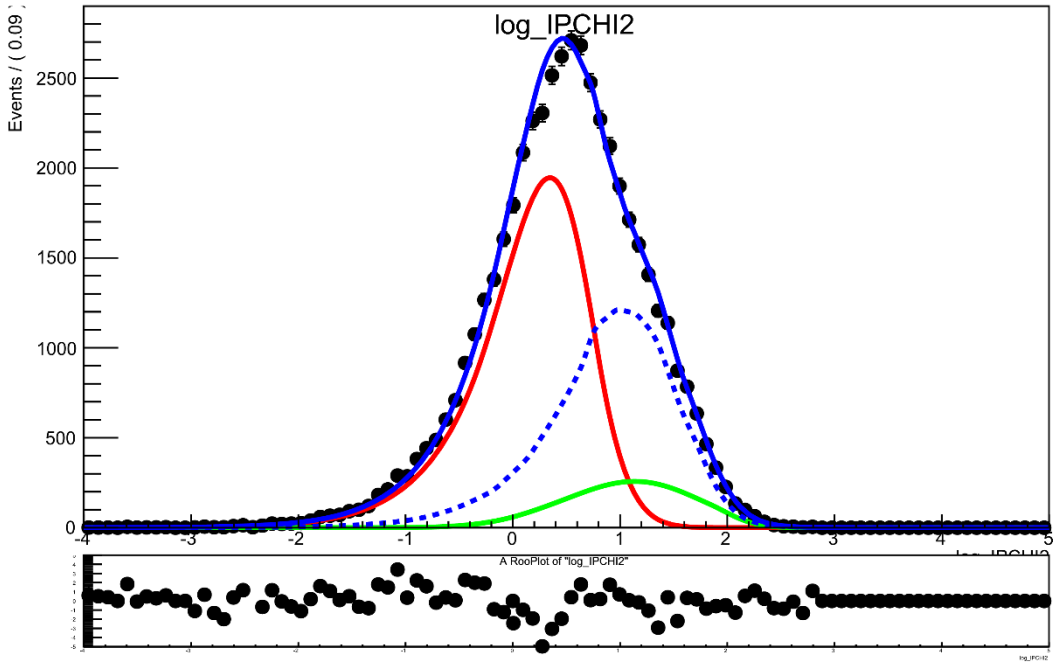
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

# Bin4-5


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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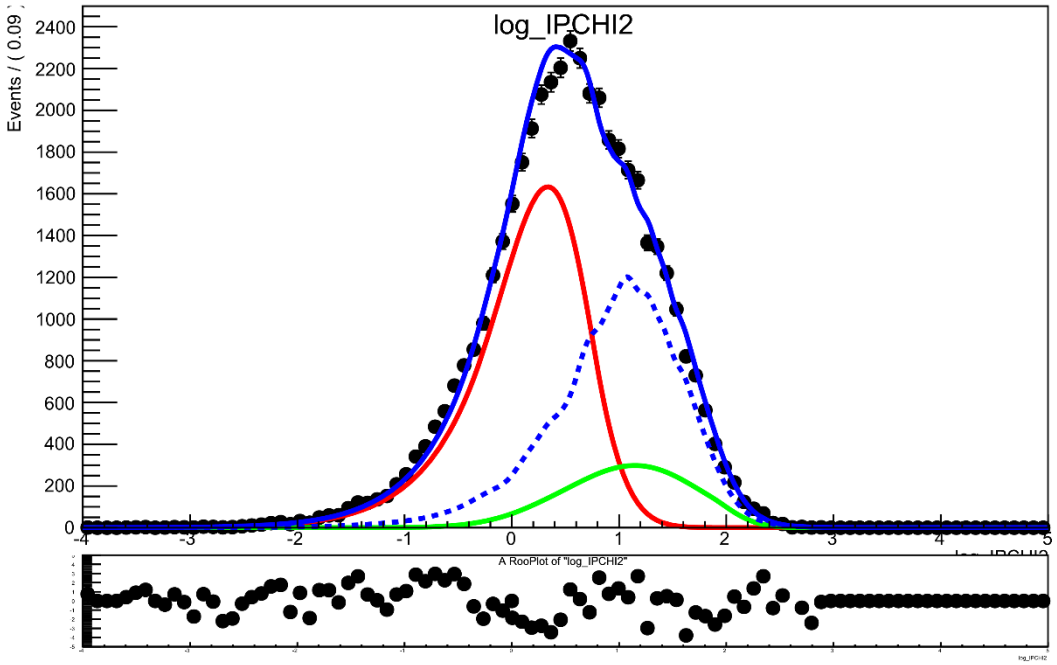
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

# Bin6-7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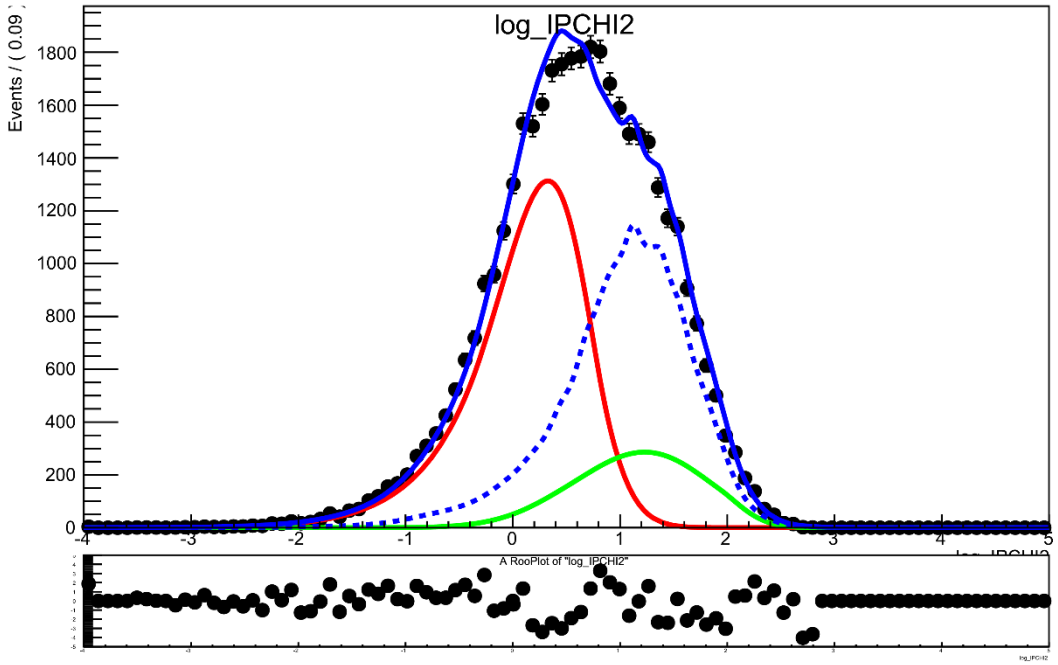
A RooPlot of "log_IPCHI2"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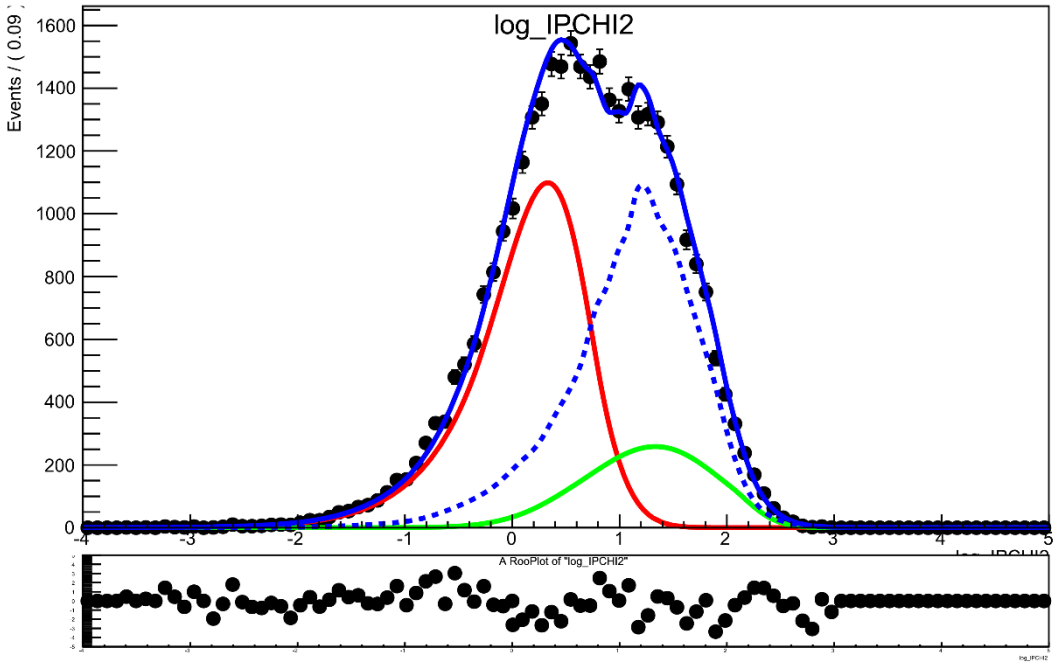
A RooPlot of "log_IPCHI2"

# Bin8-9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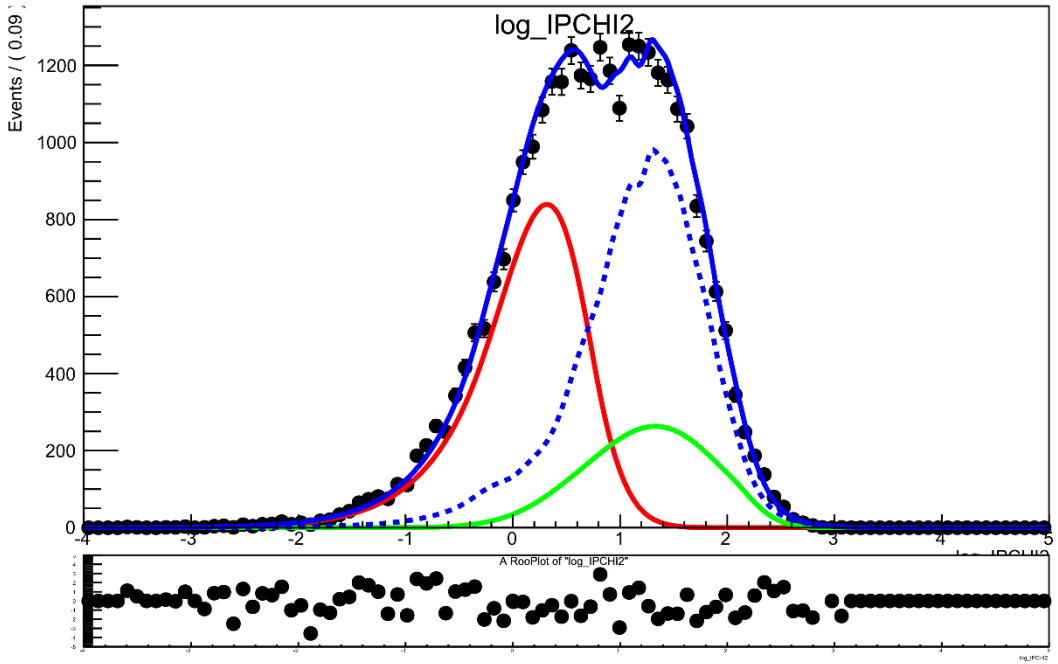
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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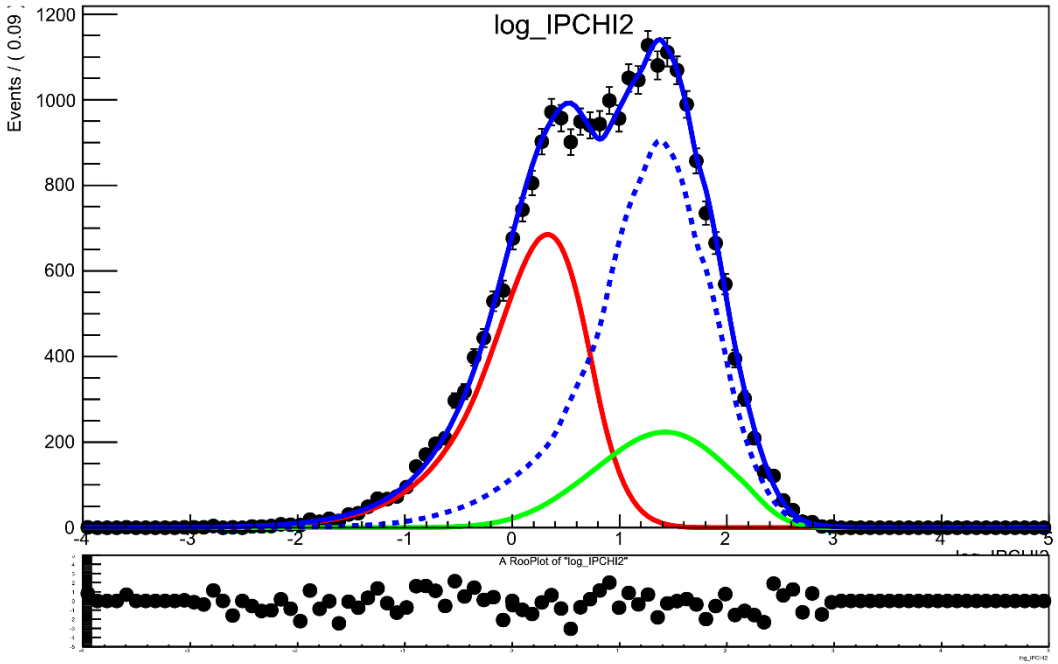
# Bin10-11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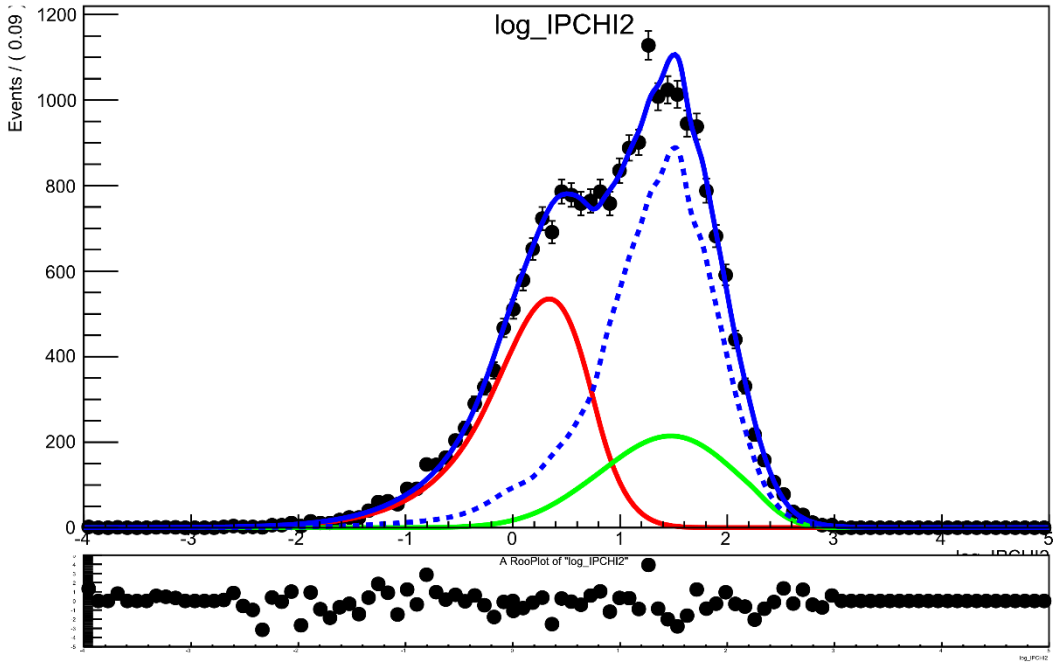
A RooPlot of "log_IPCHI2"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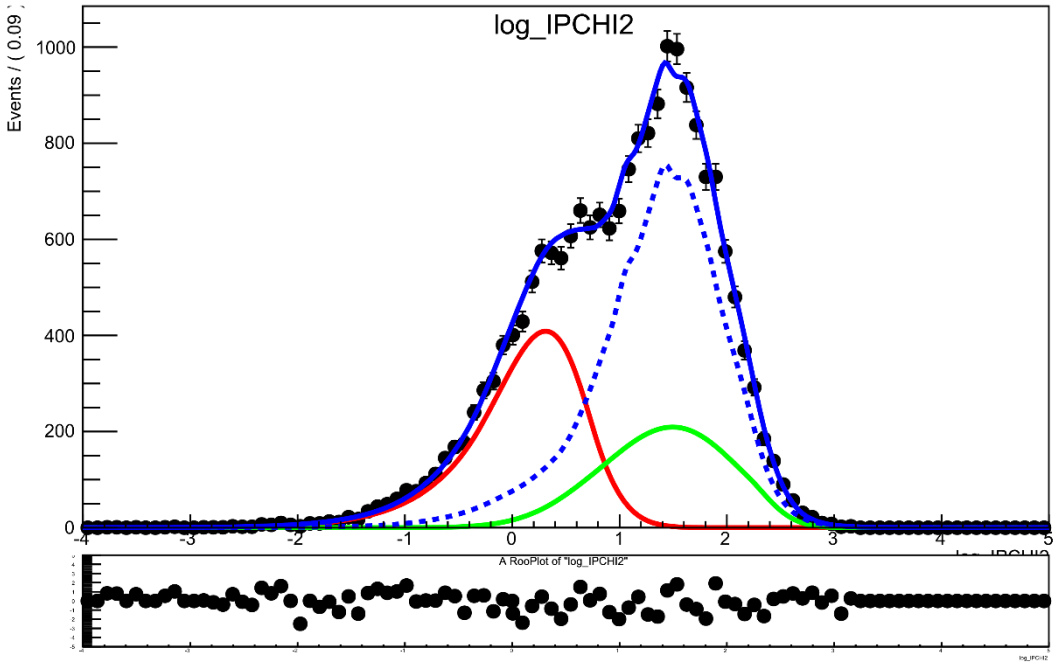
# Bin12-13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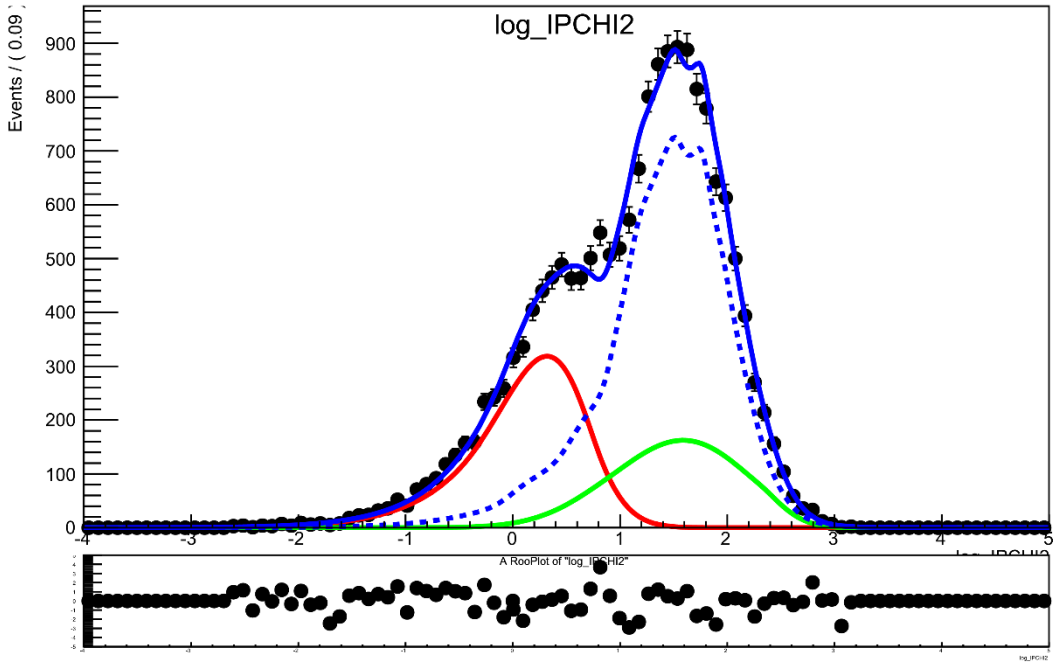
A RooPlot of "log_IPCHI2"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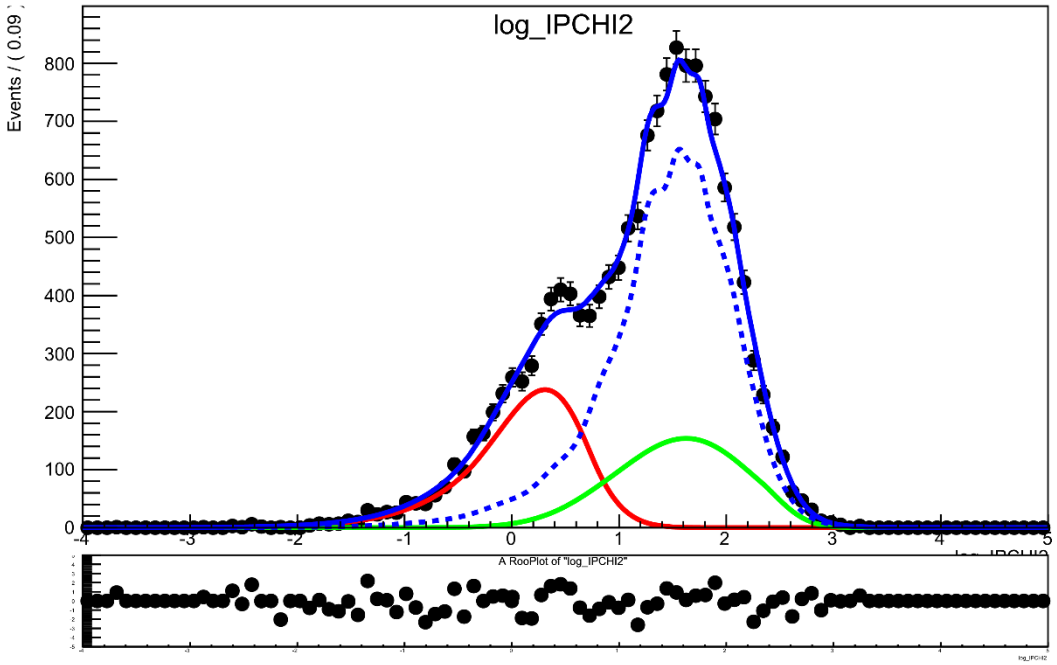
# Bin14-15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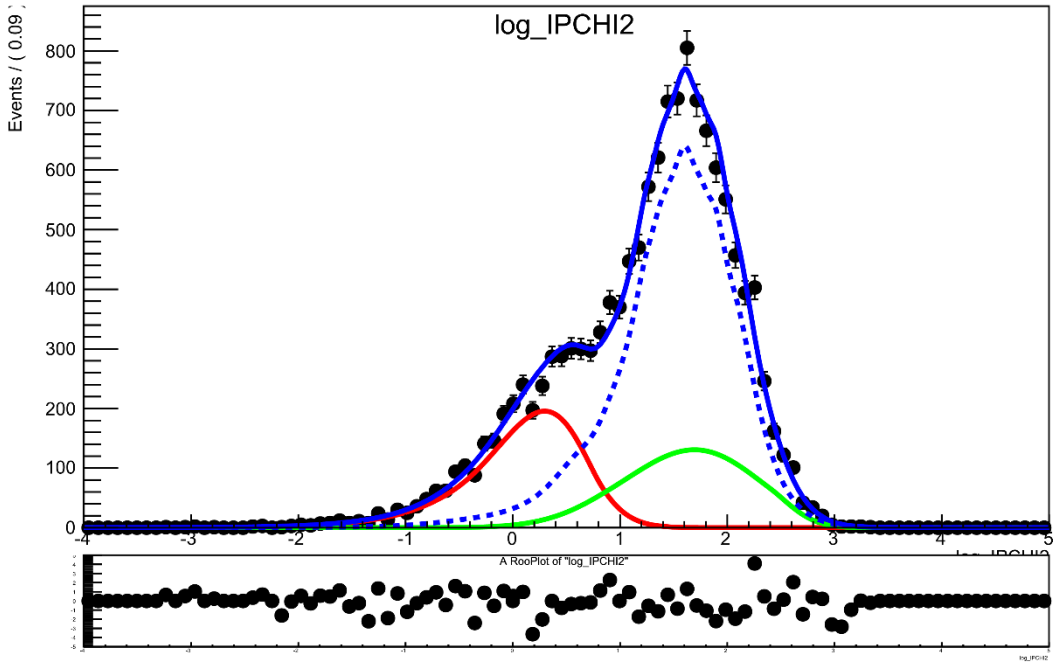
A RooPlot of "log_IPCHI2"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A RooPlot of "log_IPCHI2"

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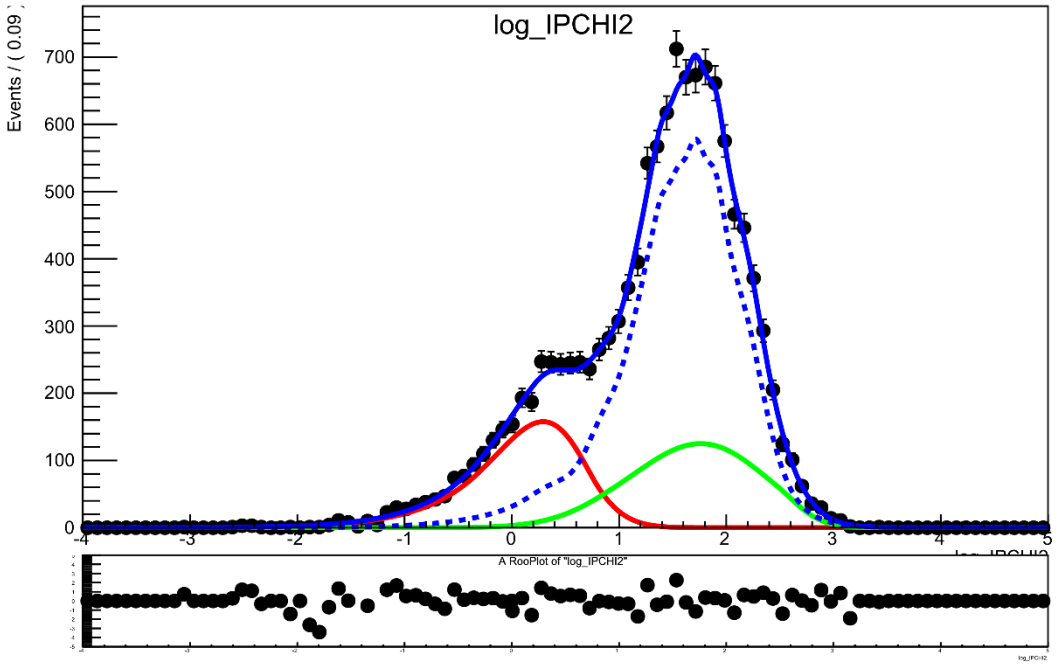
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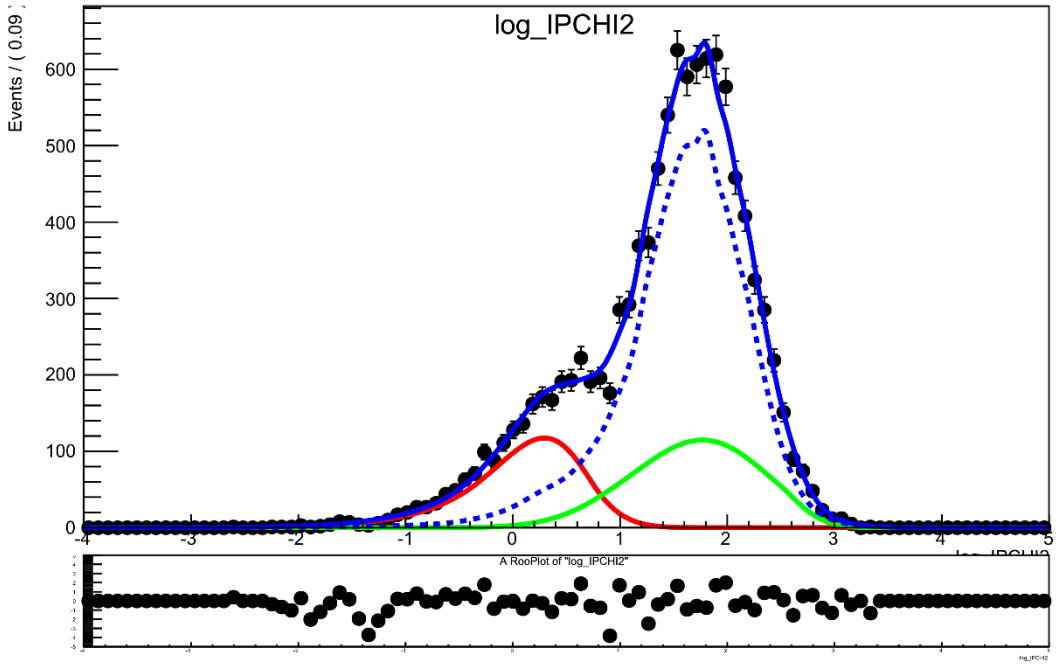
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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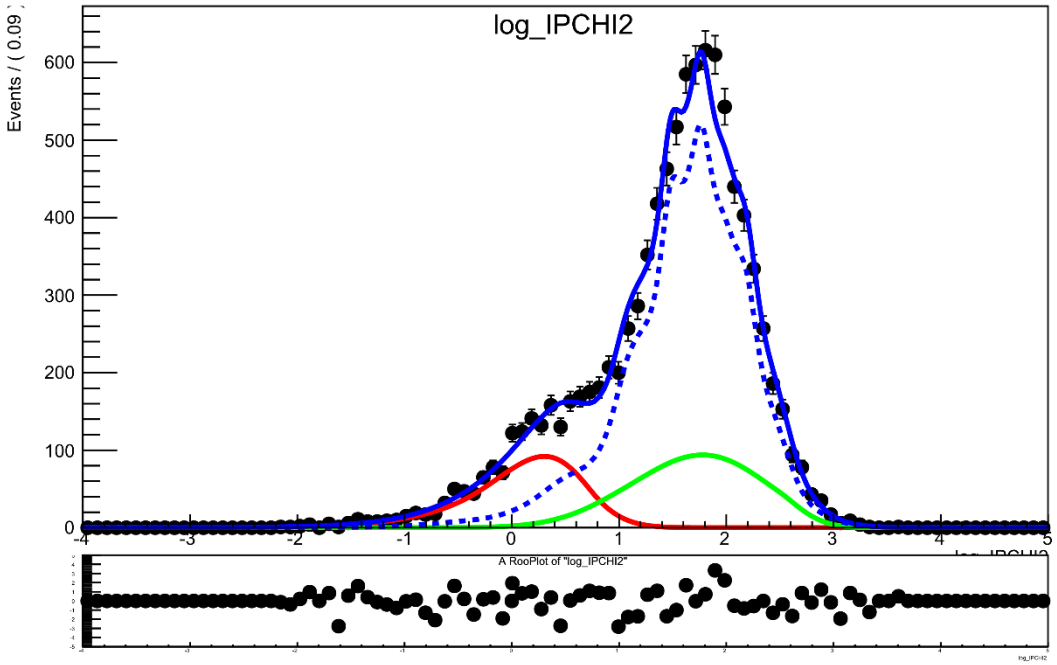
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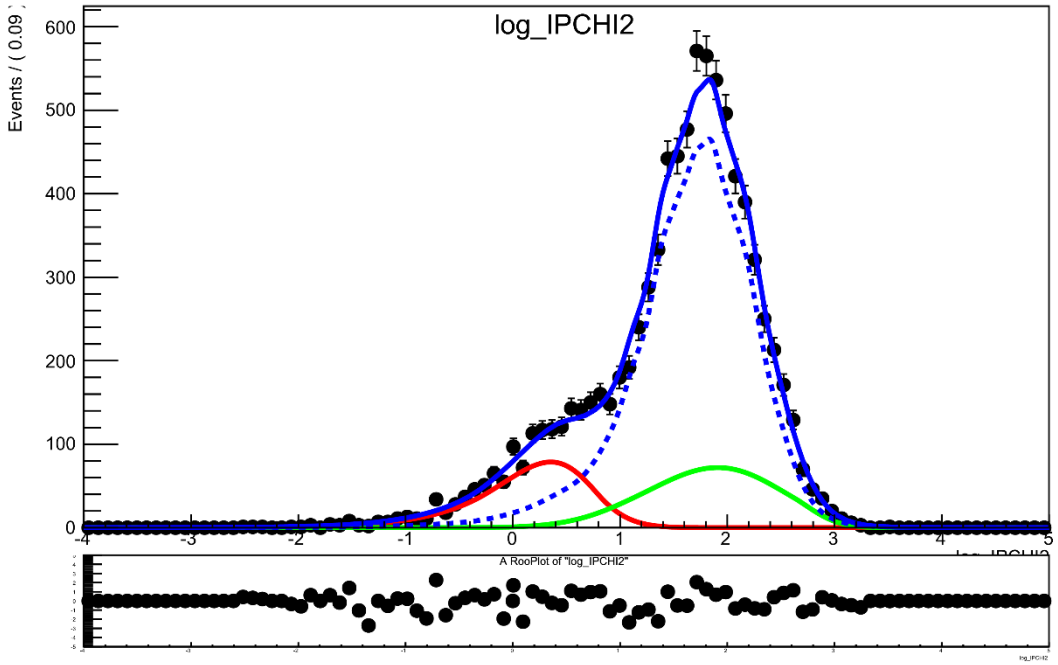
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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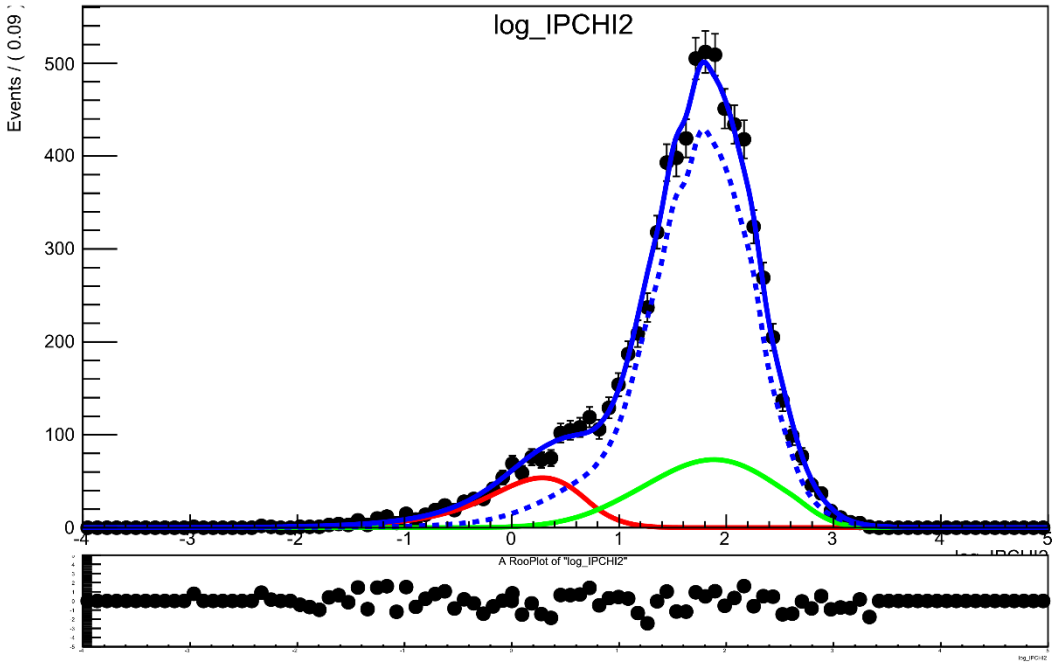
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

# Bin20-21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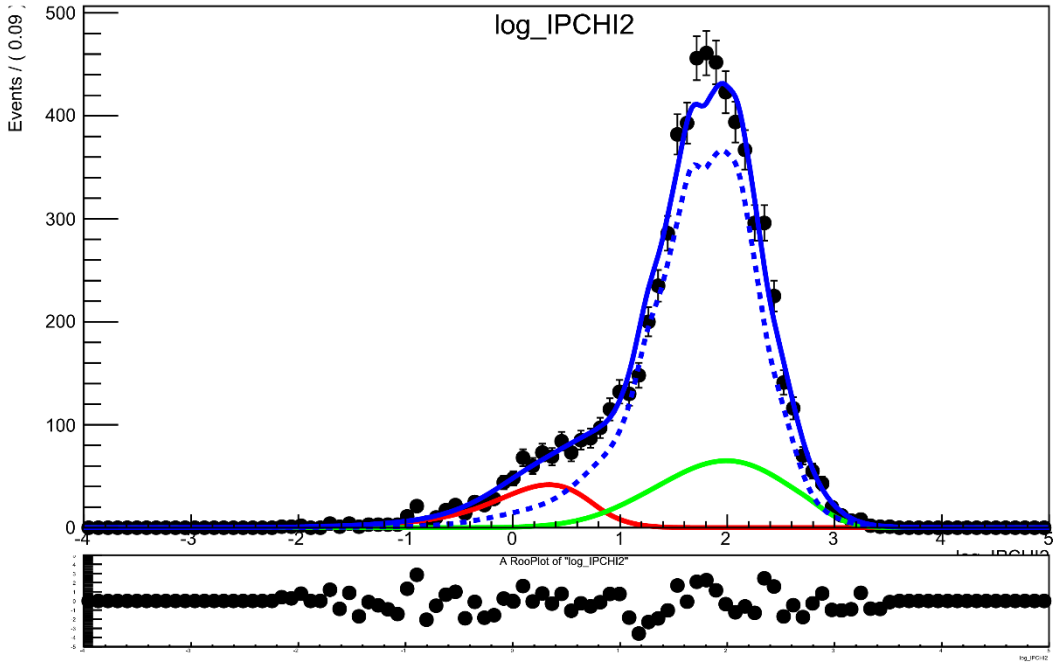
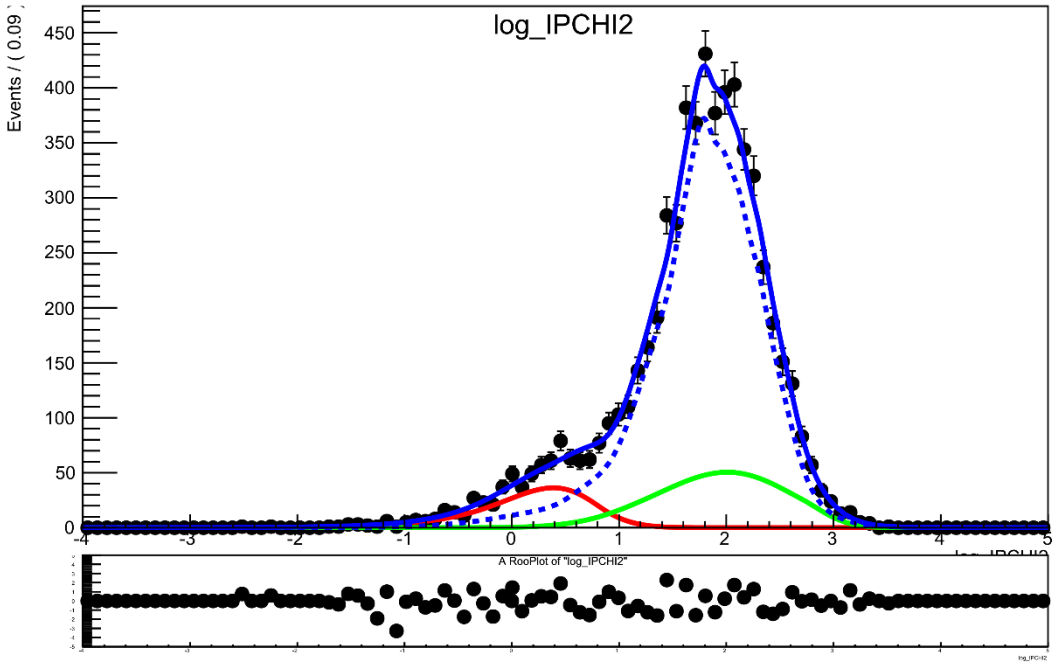
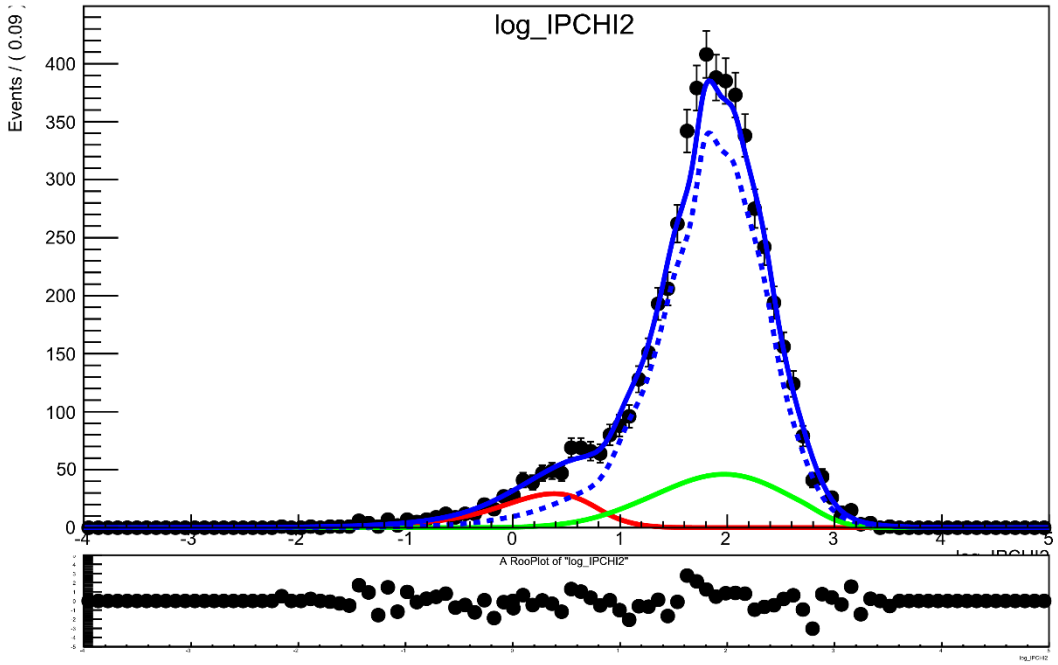
A RooPlot of "log_IPCHI2"


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

# Bin22-23


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"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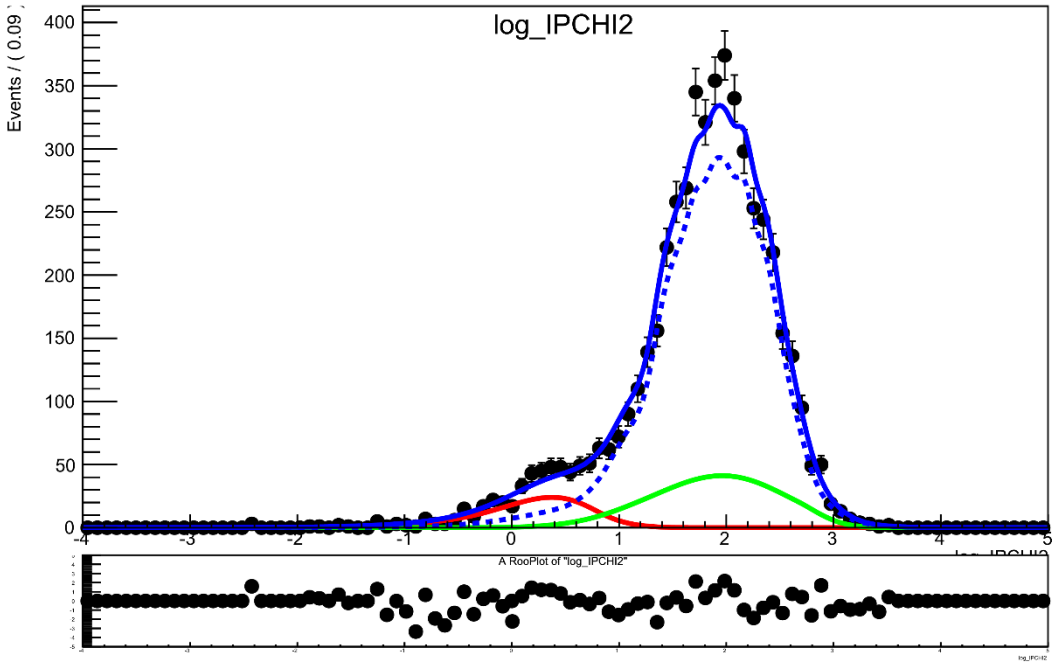
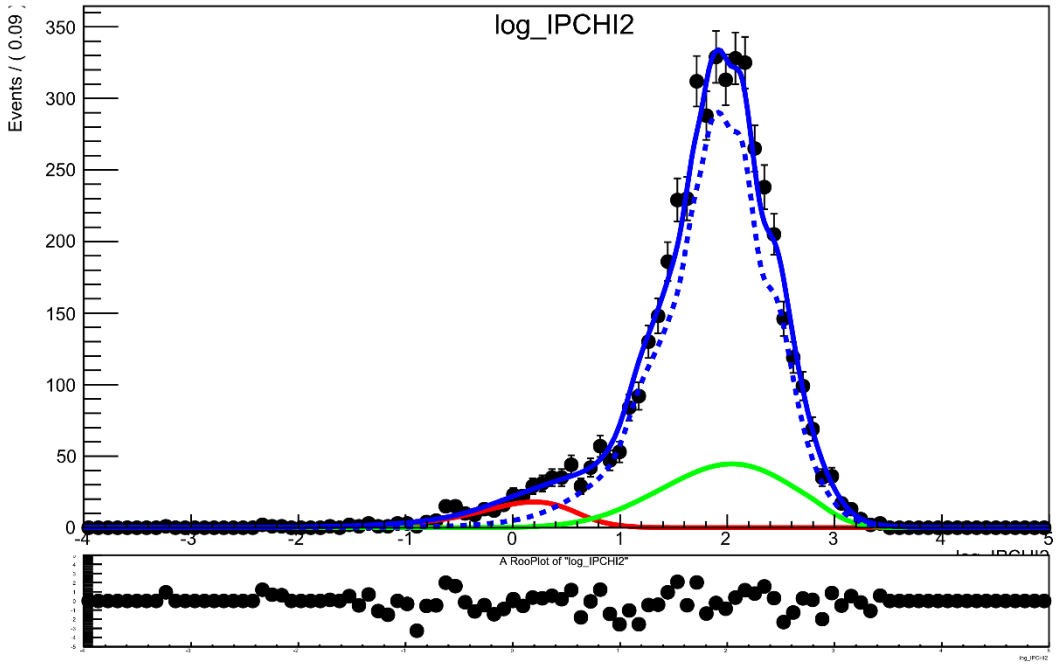
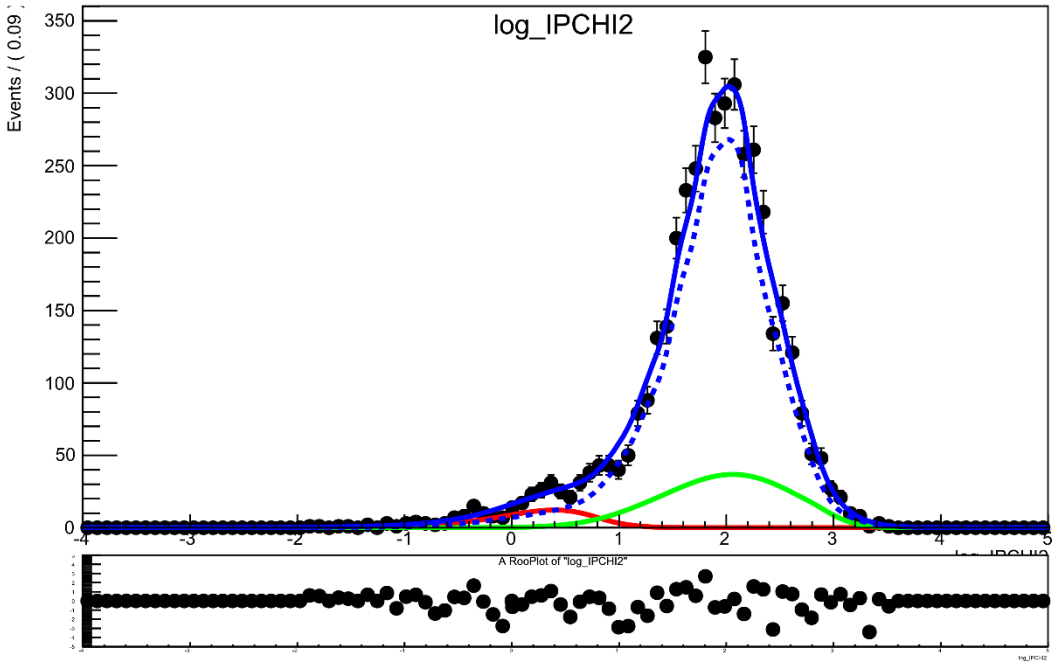
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

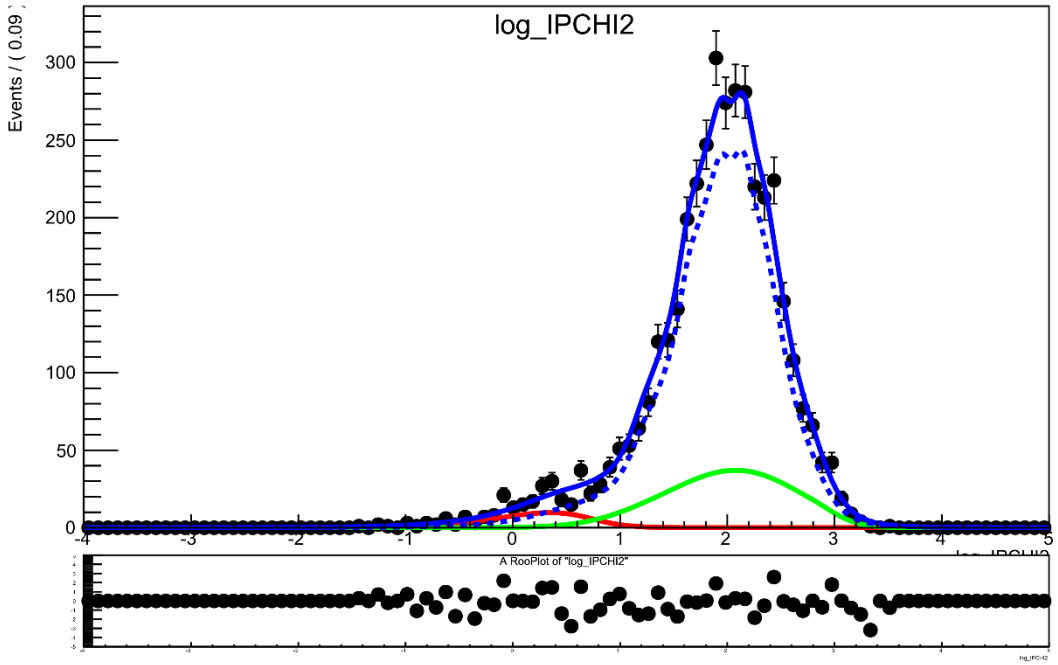
# Bin24-25


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

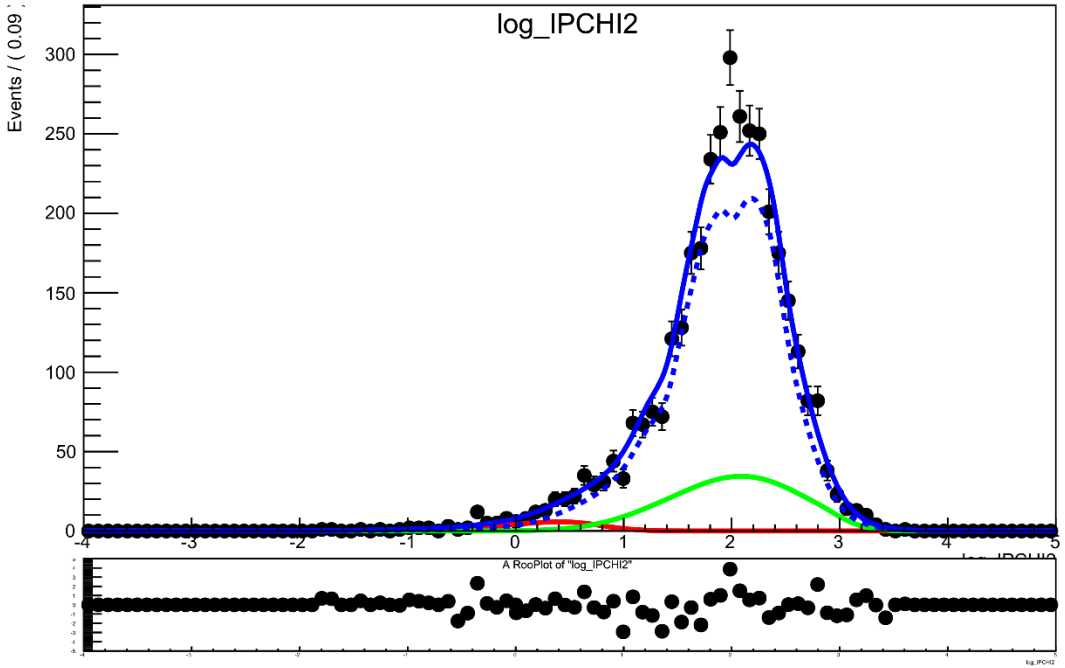

log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

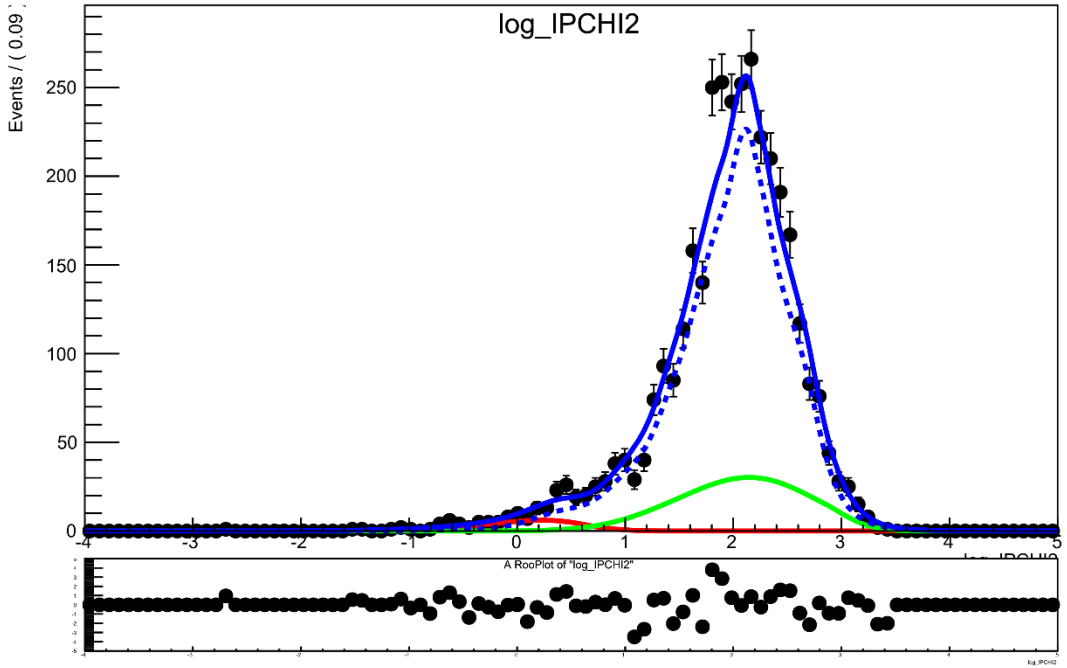
# Bin26-27


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"

# Bin28-29


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"


log_IPCHI2
Events / ( 0.09 )
A RooPlot of "log_IPCHI2"