

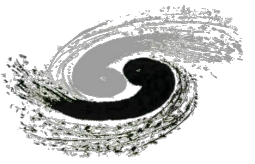
Global calibration: convolution fit

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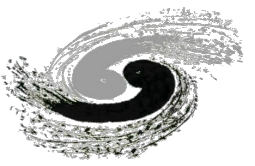


- ❖ In addition to the PFA local calibration, we can also provide the global scale calibration.
- ❖ The global calibration can be done with boson mass distribution.
 - The core distribution of the boson mass corresponding to Breit-wigner convolved with Gaussian distribution.
 - Combined fit can extract/isolate the detector effect (response/resolution).
 - This study assumes uniform performance along whole geometry.

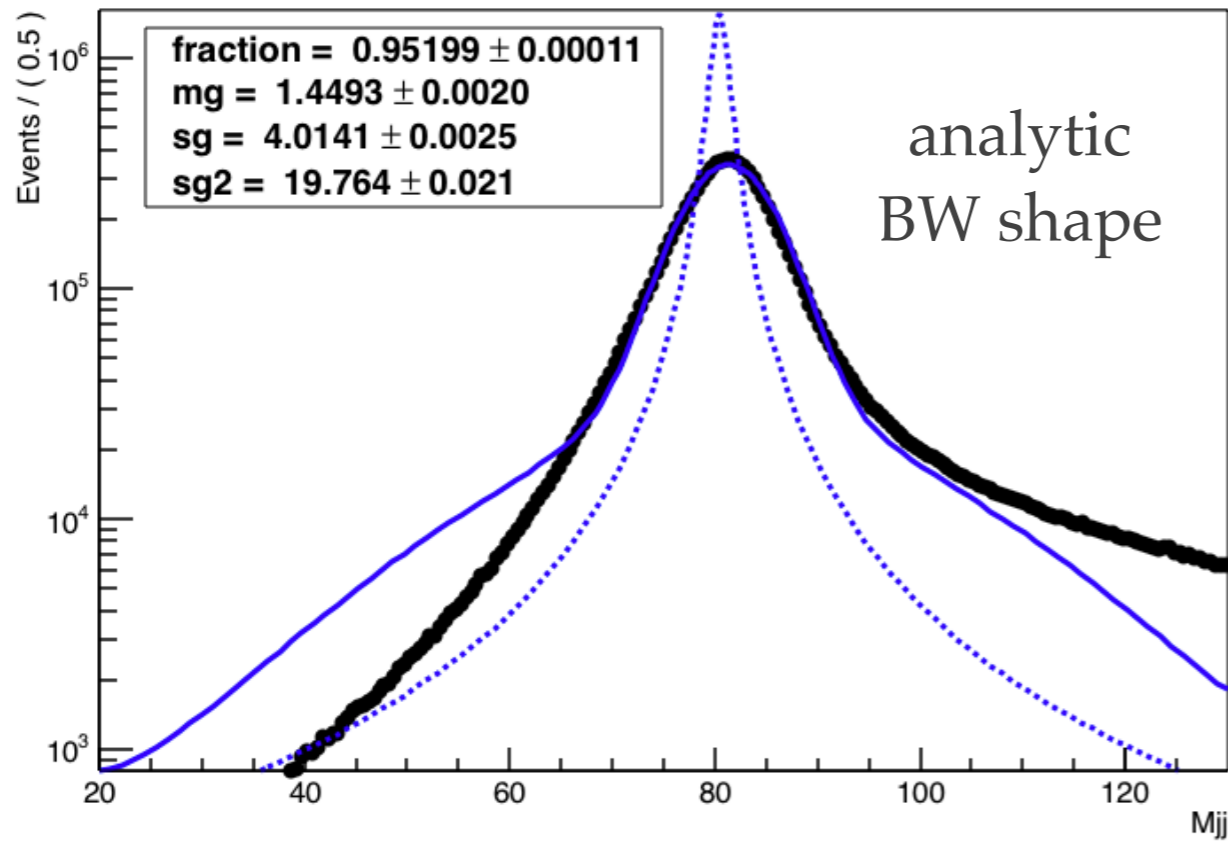
$$BW \otimes (f \cdot G_1 + (1 - f) \cdot G_2)$$

Mean of Gaussian quantifies the shift of peak due to sim/reco
Gives the JES/global PFA scale
Sigma of Gaussian(1) represents the detector resolution.

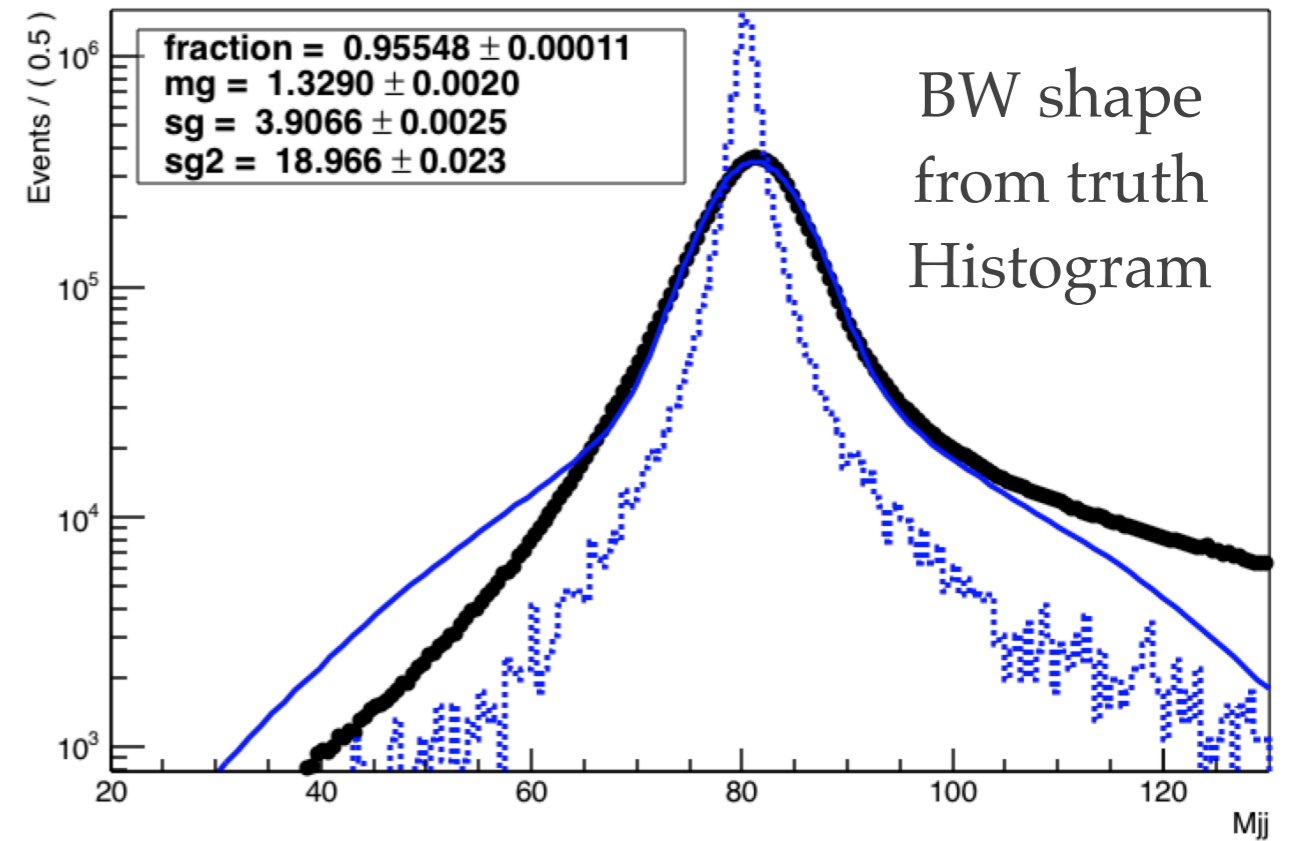
$W \rightarrow qq$ ($WW \rightarrow lvqq$ sample)



breit wigner (x) gauss convolution

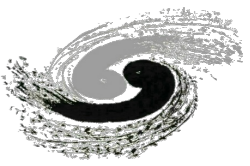


breit wigner (x) gauss convolution

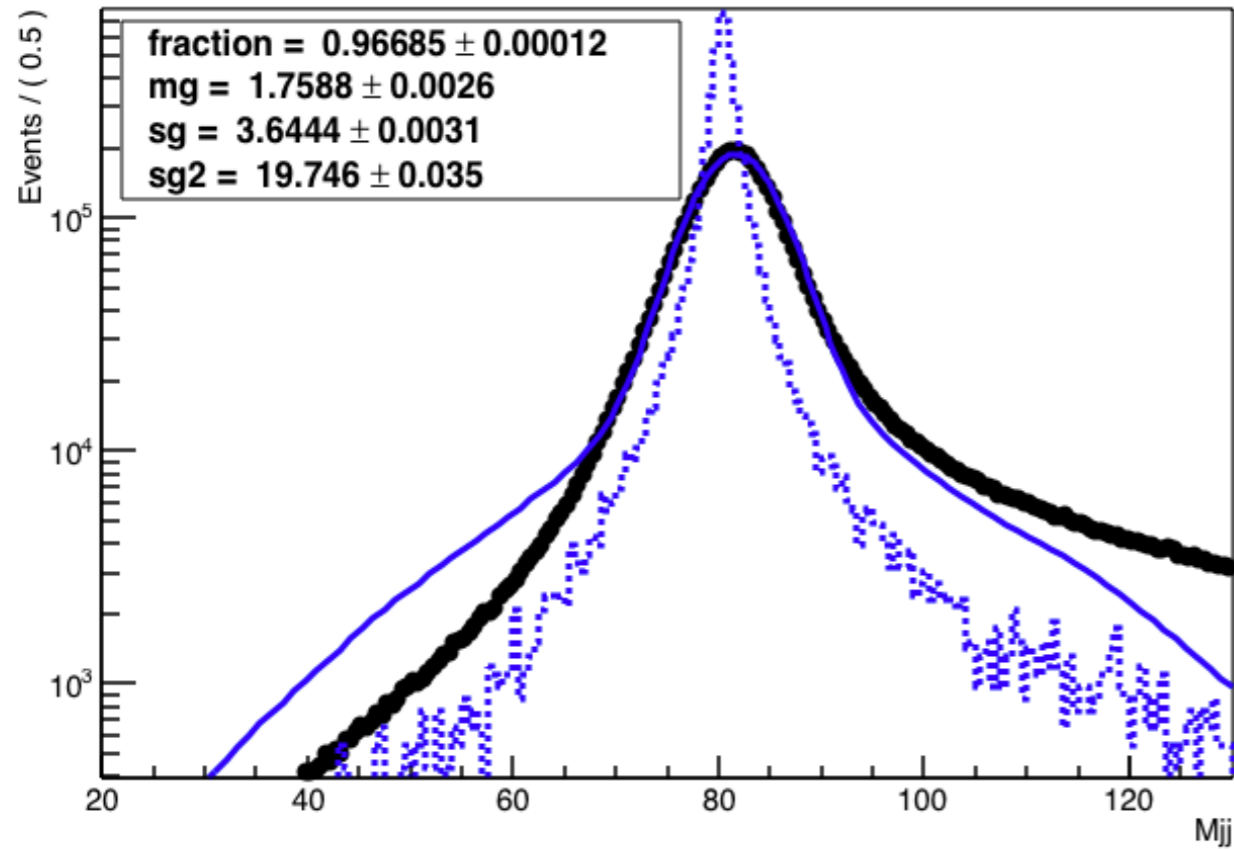


flavor inclusive, M_{jj} is calculated from PFA directly by removing lepton and leading photon.

Different flavor

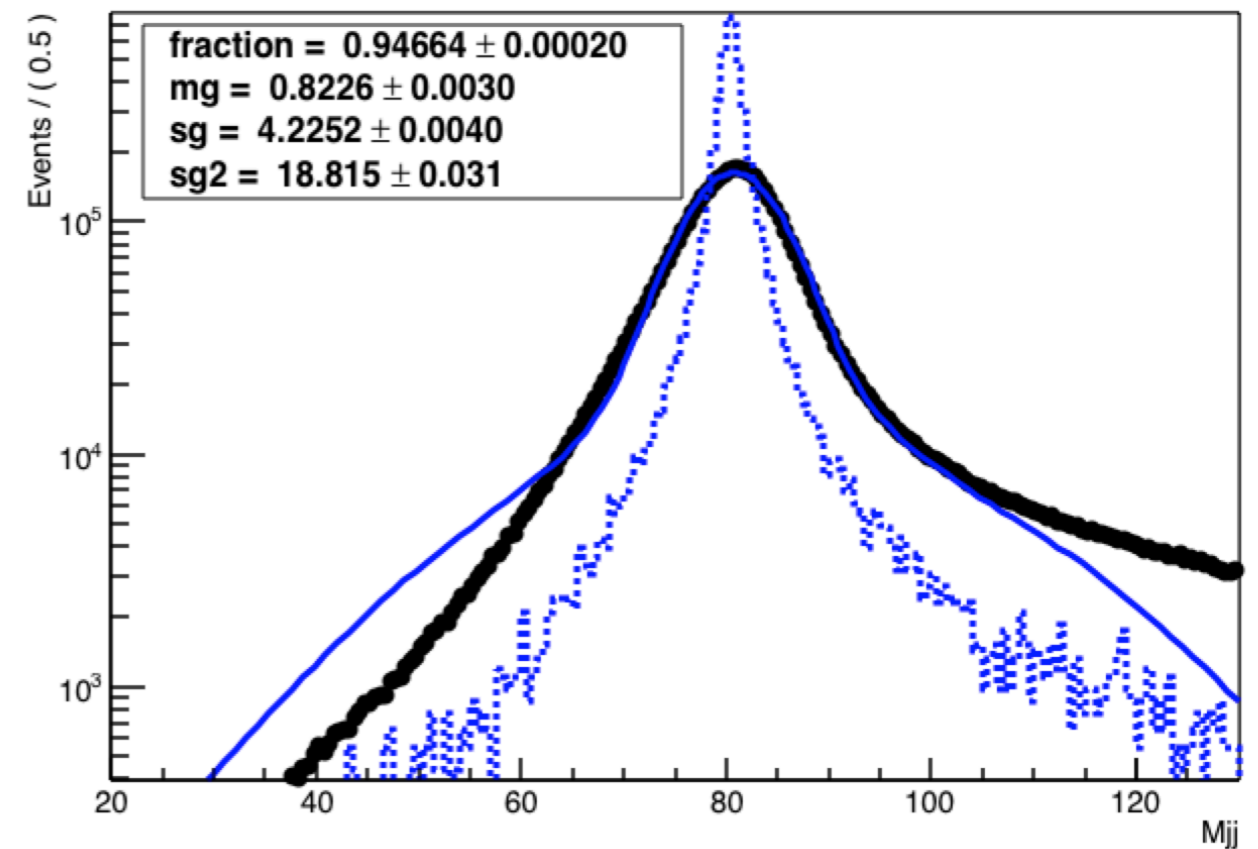


breit wigner (x) gauss convolution

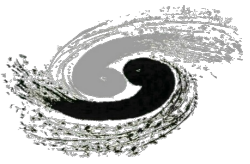


W->ud

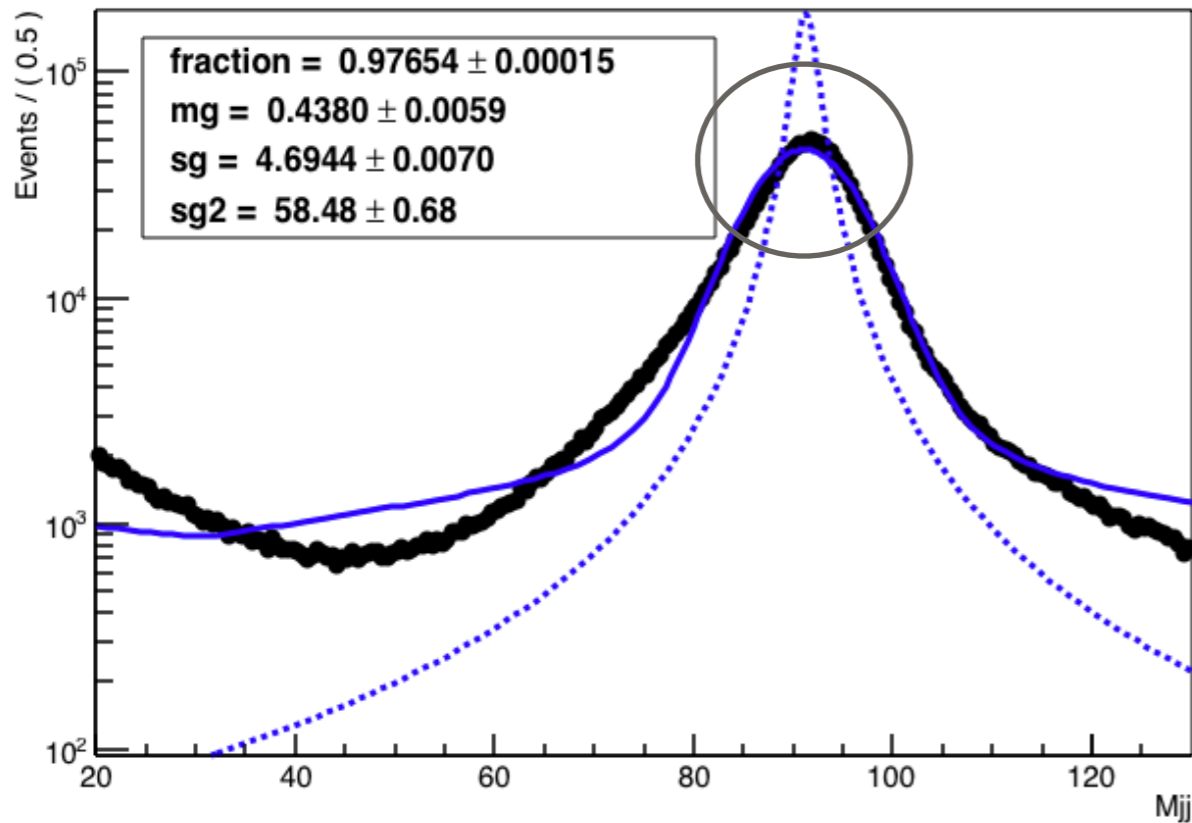
breit wigner (x) gauss convolution



W->cs

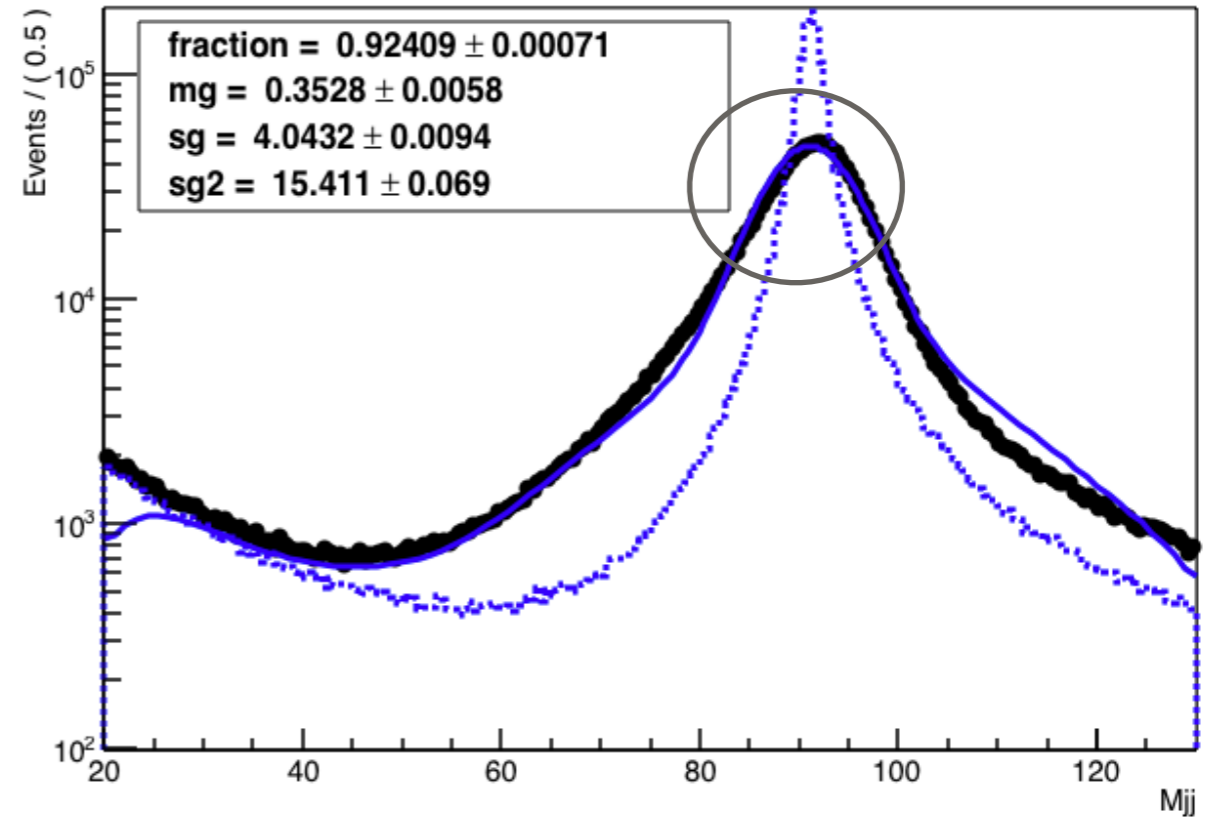


breit wigner (x) gauss convolution



analytic
BW shape

breit wigner (x) gauss convolution

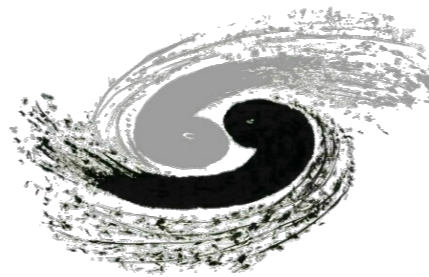


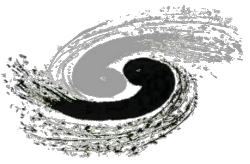
BW shape
from truth
Histogram

flavor inclusive, M_{jj} is calculated from PFA directly
by removing leading photon.

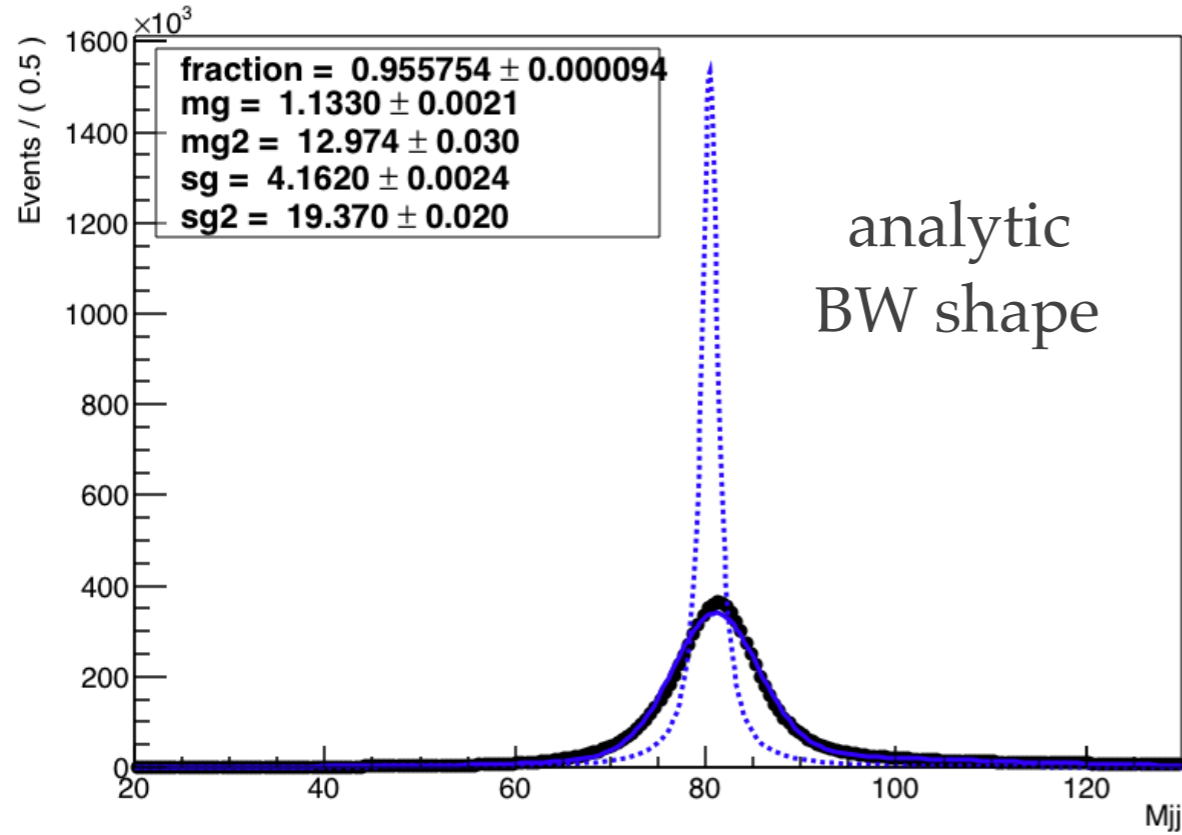
Small offset on peak, stay tuning

Backup

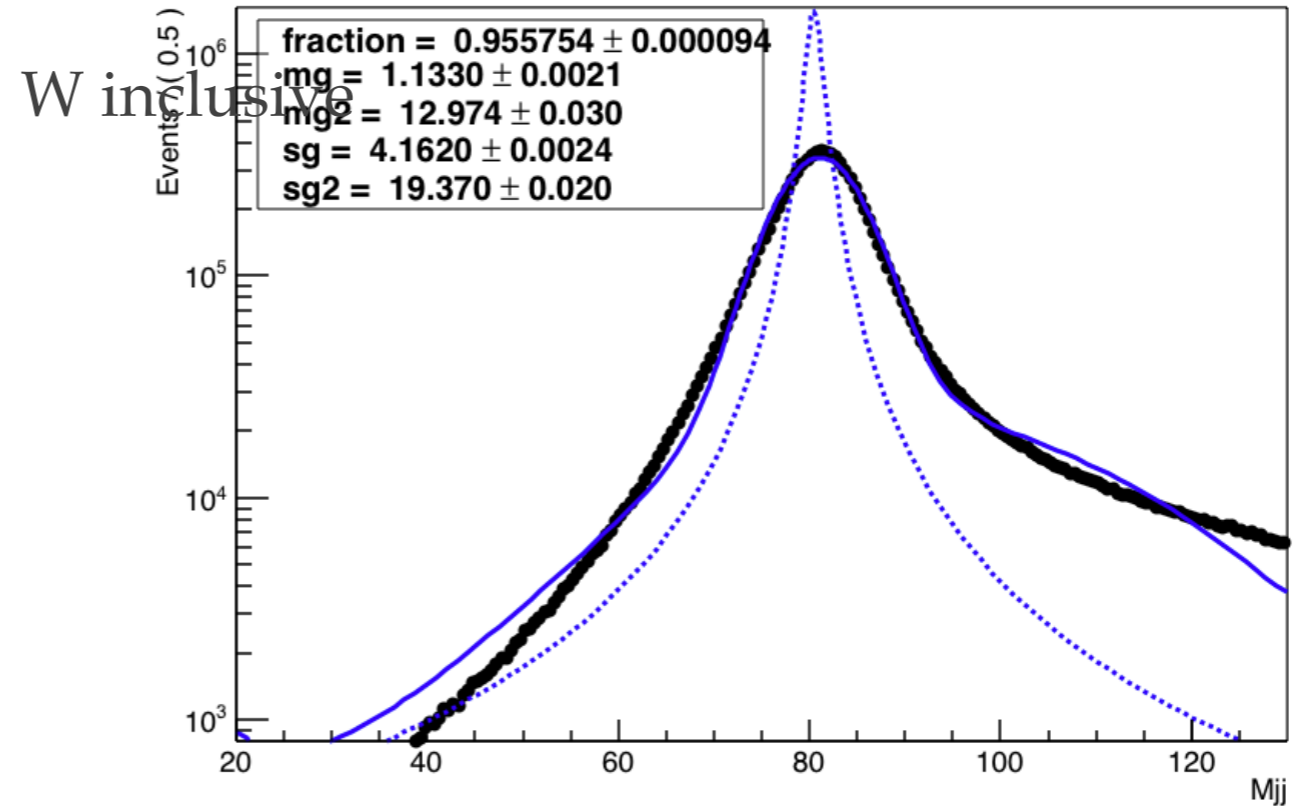




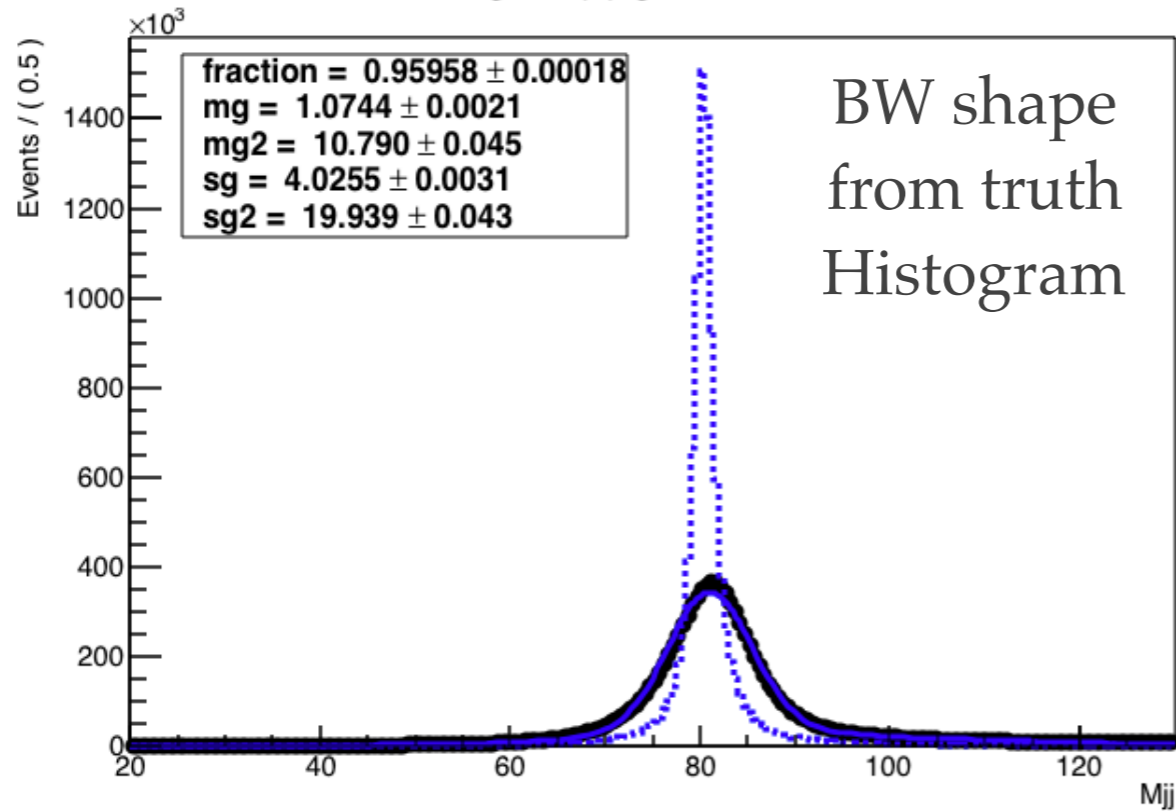
breit wigner (x) gauss convolution



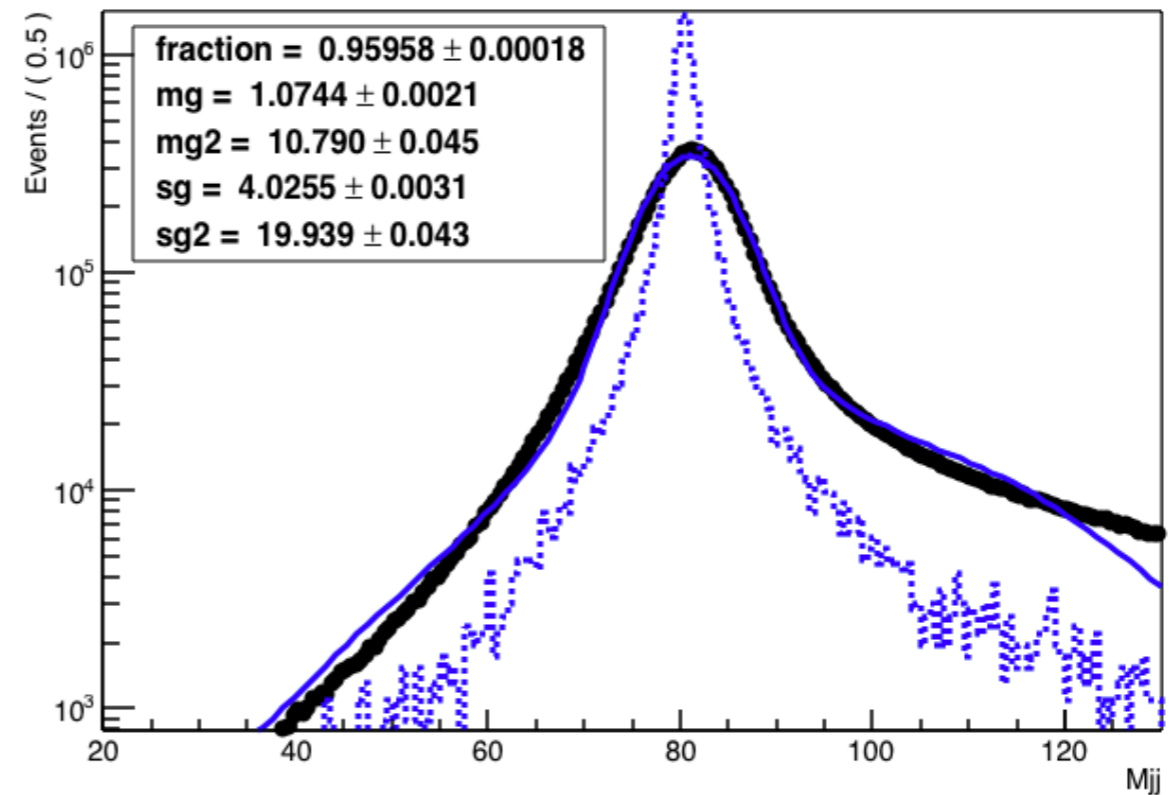
breit wigner (x) gauss convolution

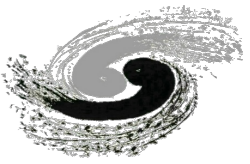


breit wigner (x) gauss convolution

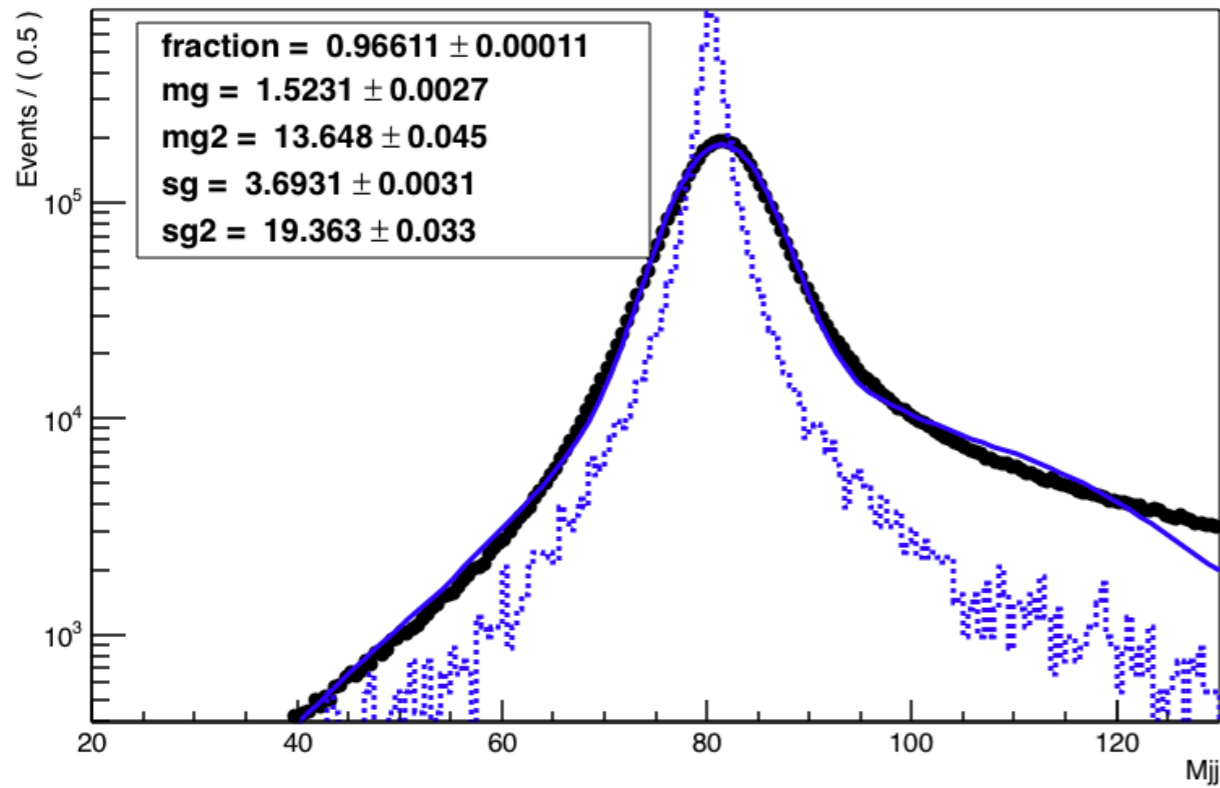


breit wigner (x) gauss convolution



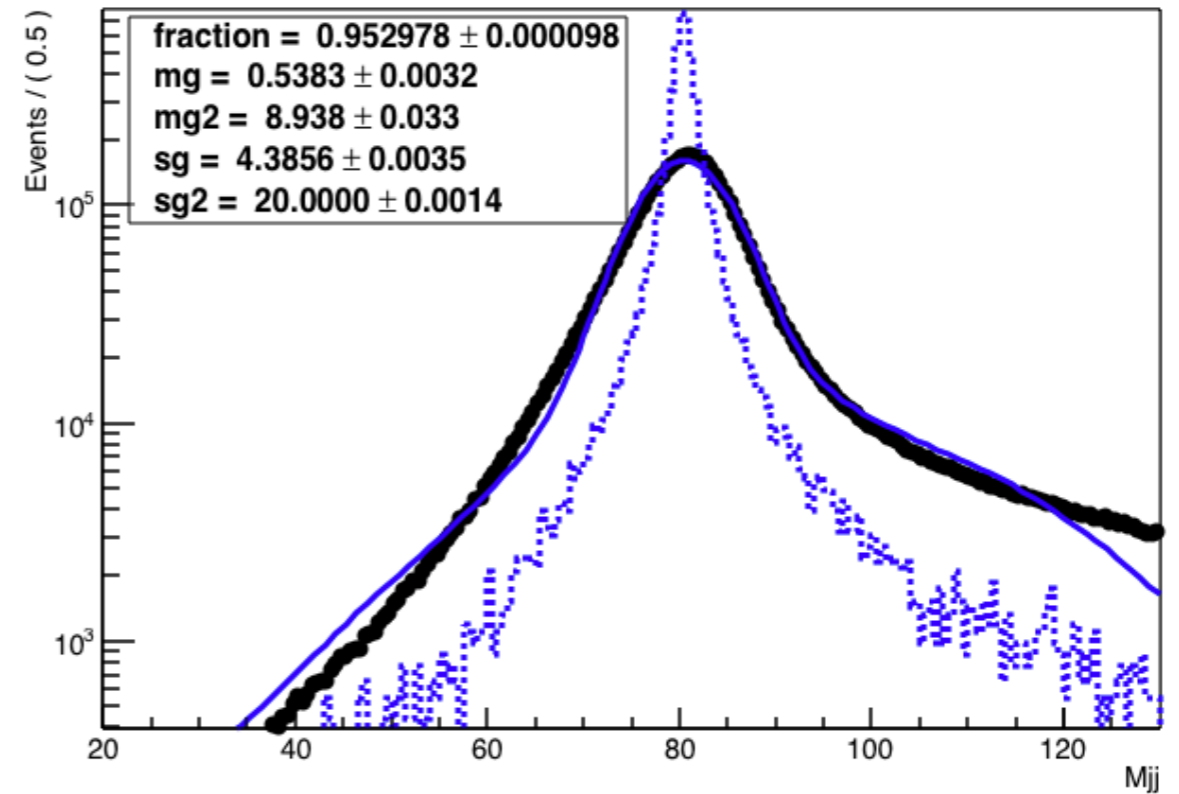


breit wigner (x) gauss convolution



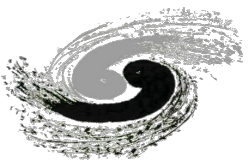
W->ud

breit wigner (x) gauss convolution

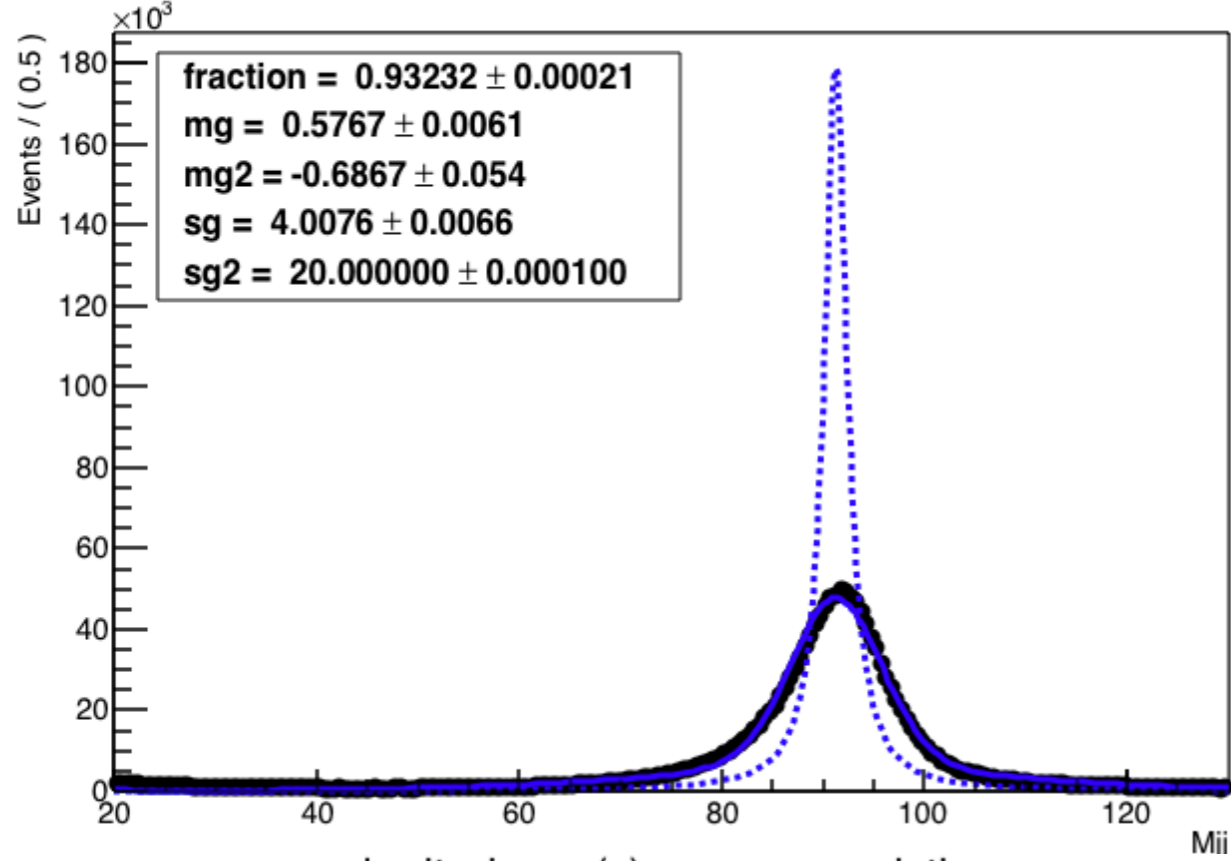


W->cs

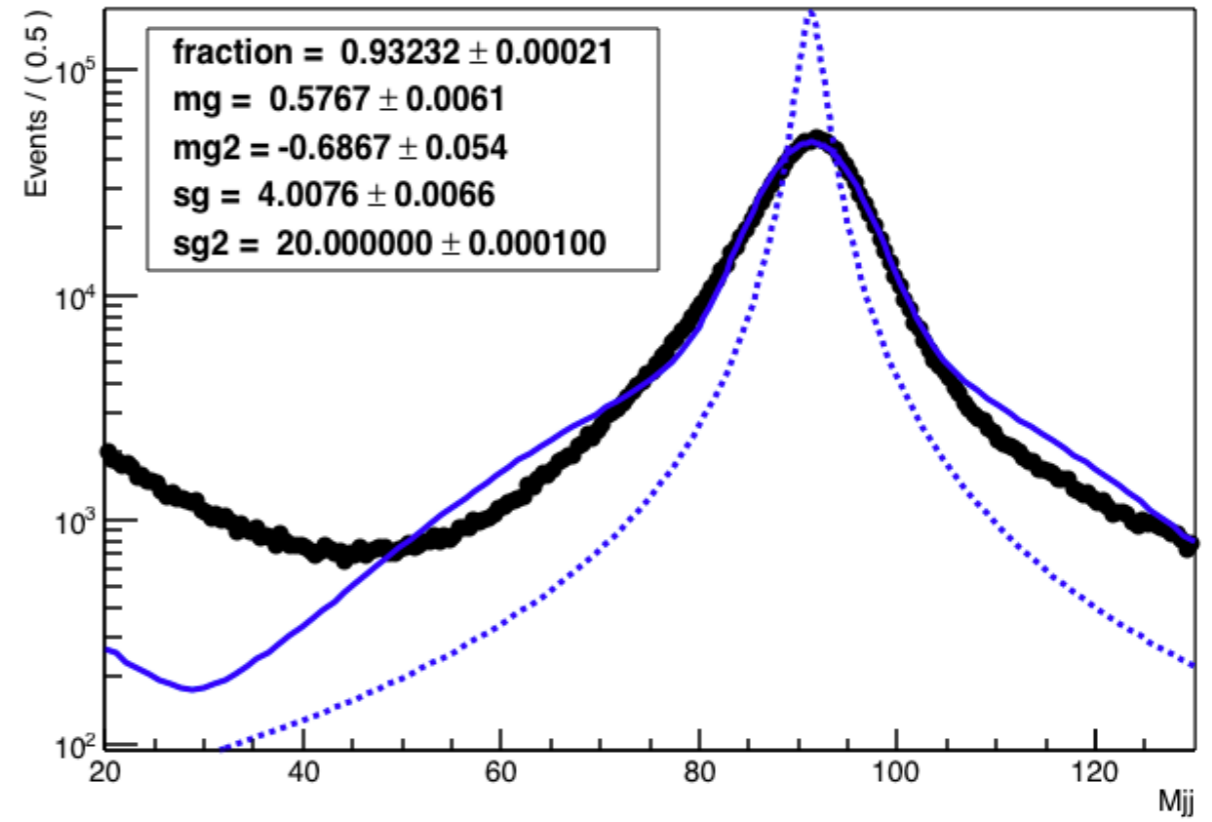
$$BW \otimes (f \cdot G_1 + (1 - f) \cdot G_2)$$



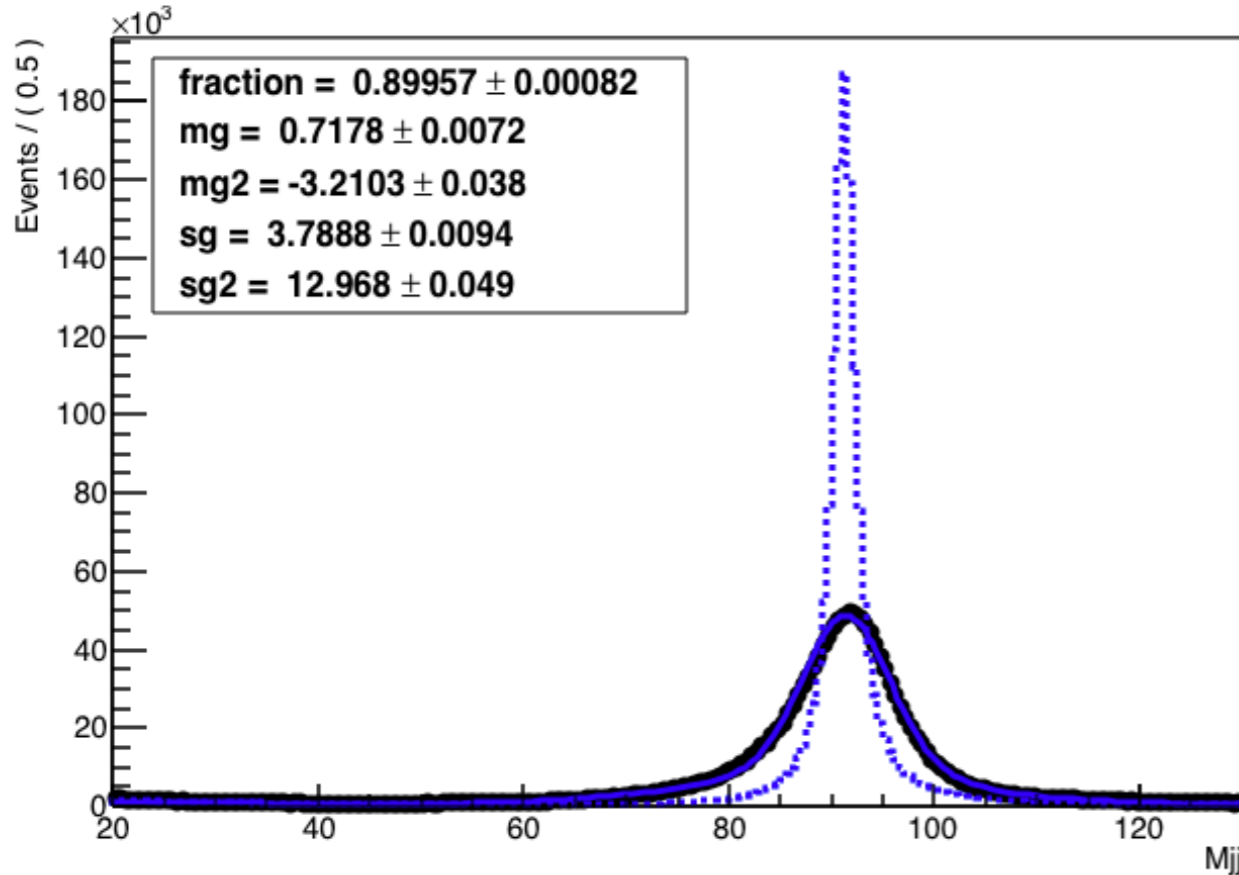
breit wigner (x) gauss convolution



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breit wigner (x) gauss convolution



breit wigner (x) gauss convolution

