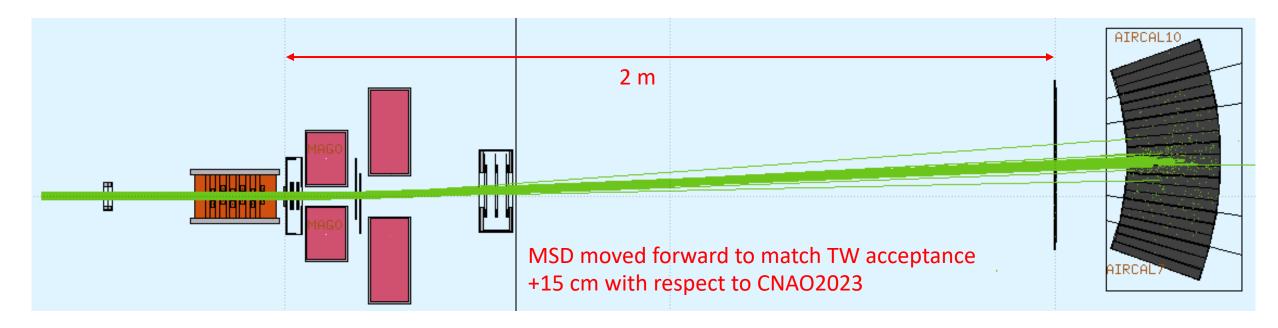
GSI2025 Simulation

S.M. & G.B.

GSI25PS_MC Campaign

¹⁶O @ 500 MeV/u

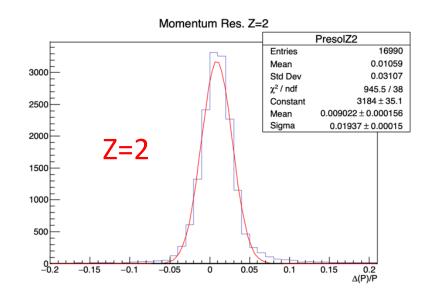


10⁶ events - Shoe Genfit reconstruction

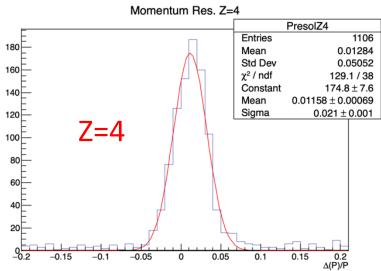
Warning: Z-id calibration not yet ready, we rely upon MC-truth Z

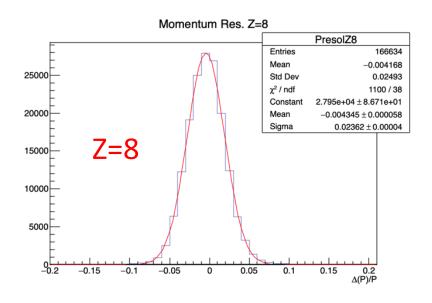
Momentum Resolution

glbtrack->GetTgtMom() to obtain P from reconstructed track evaluated at production in target



$$\Delta P/P = (P_{rec} - P_{true})/P_{true}$$

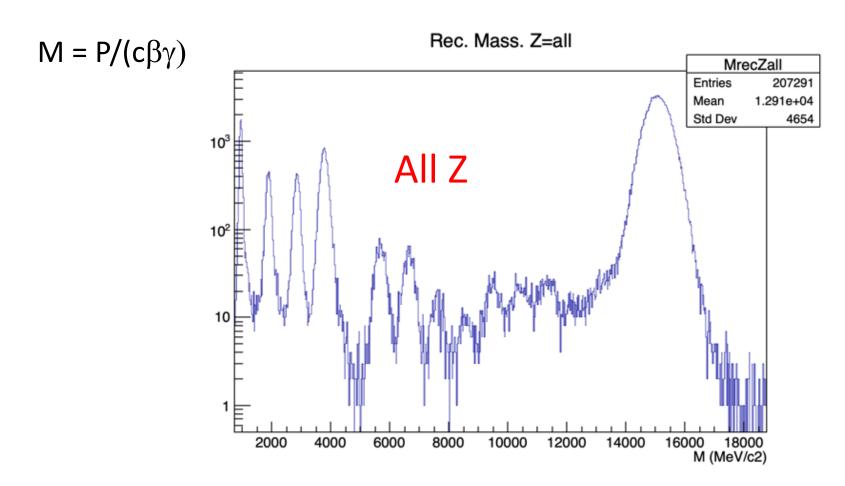




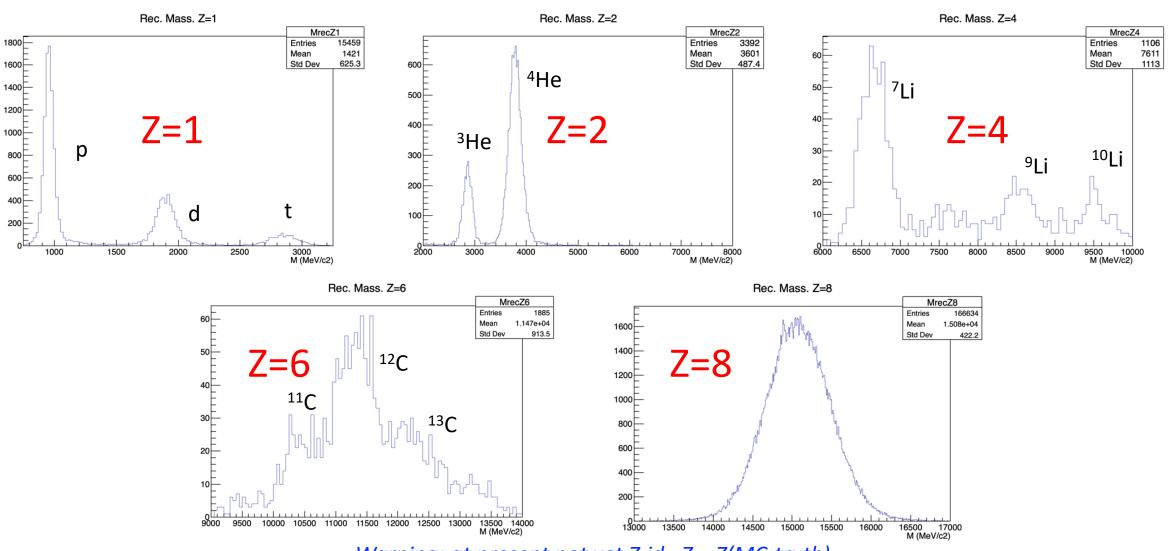
$$\sigma_P/P < 3\%$$

Isotopic Mass-Id using P and ToF

glbtrack->GetTwTof() to obtain Tof resolution in MC from the parametrization of exp. data

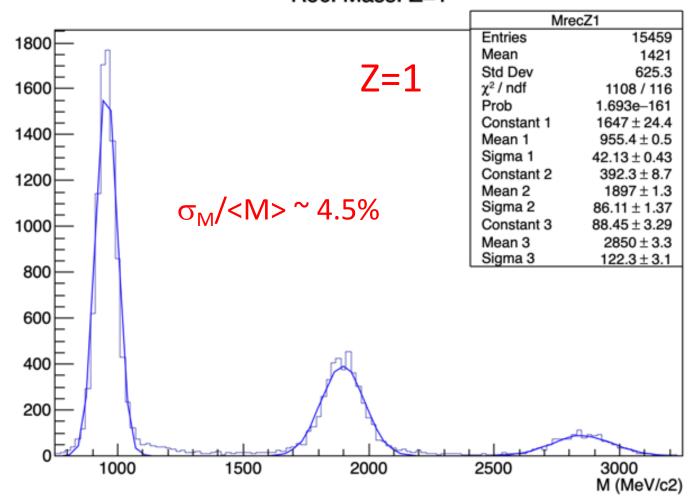


Mass reconstruction using P and ToF



Warning: at present not yet Z-id. Z = Z(MC-truth)

Rec. Mass. Z=1



<M> in excess of ~1.5 - 2% with respect to true value

Warning: at present not yet Z-id. Z = Z(MC-truth)

Rec. Mass. Z=6 MrecZ6 1885 Entries Z=6 Mean 1.147e+04 Std Dev 913.5 χ^2 / ndf 43.47 / 45 Prob 0.5371 22.99 ± 1.97 Constant 1 1.04e+04 ± 4.92e+01 Mean 1 $\sigma_{\rm M}/<{\rm M}> {\rm ^{\sim}} 3.0\%$ Sigma 1 281.8 ± 57.0 Constant 2 53.64 ± 3.54 1.129e+04 ± 3.234e+01 Mean 2 Sigma 2 294.6 ± 37.5 Constant 3 24.71 ± 1.90 Mean 3 1.222e+04 ± 7.505e+01 Sigma 3 396.5 ± 97.3 20 13500 14000 M (MeV/c2) 13000 10000 10500 11000 11500 12000 12500

<M> in excess of ~1% with respect to true value

Warning: at present not yet Z-id. Z = Z(MC-truth)