Fun4All Calorimeter Plots:
Pion: Forward Energy Resolution (with manually corrected FEMC)

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Specifications:

SIMULATION & ANALYSIS DETAILS:

- Particles: pi-

- Events: 100000 (0-30 GeV)

- **Various Cuts used:**
  - Pseudorapidity cuts on each calorimeter:
    - Pion:
      - Barrel Region: η = 1.32 to 3.14
  - Clustering cut based on theta and phi values
  - Theta-dependent energy cut on individual tower energies
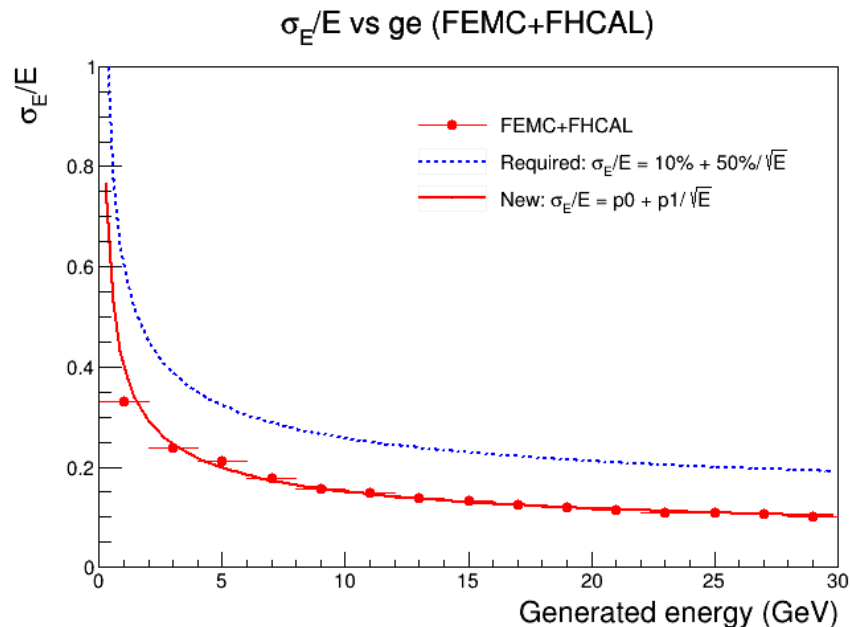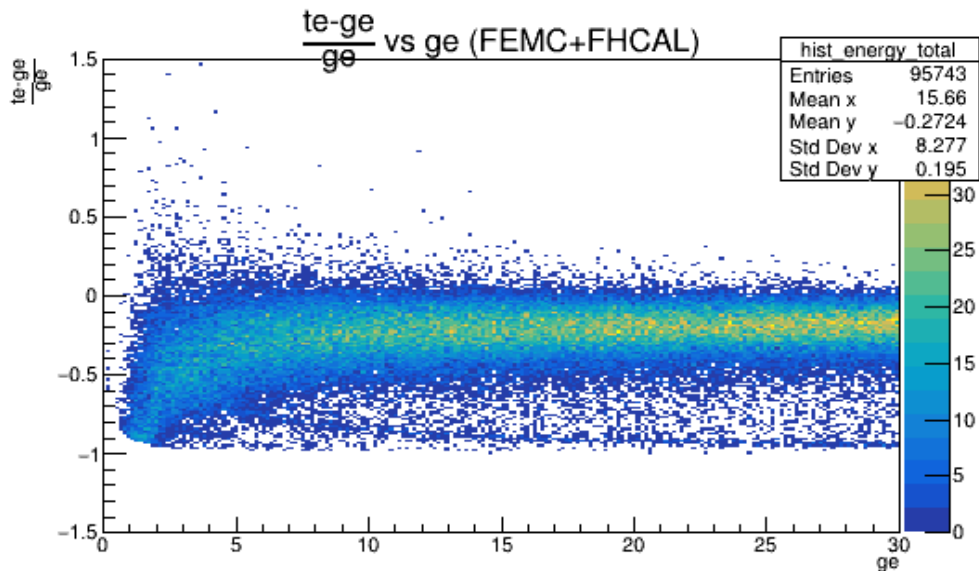 - 100MeV cut on aggregated tower energies (FEMC+FHCAL) for each event

Forward Region: Manual correction of FEMC energies
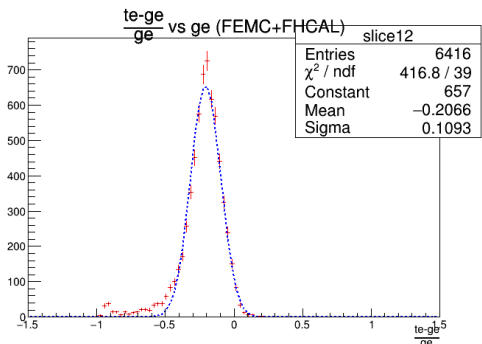(UNCALIBRATED)
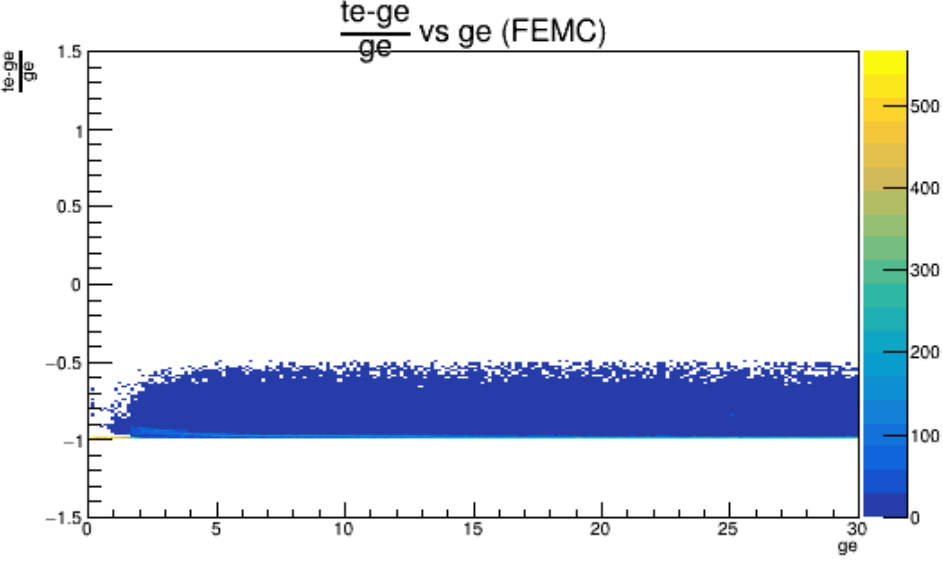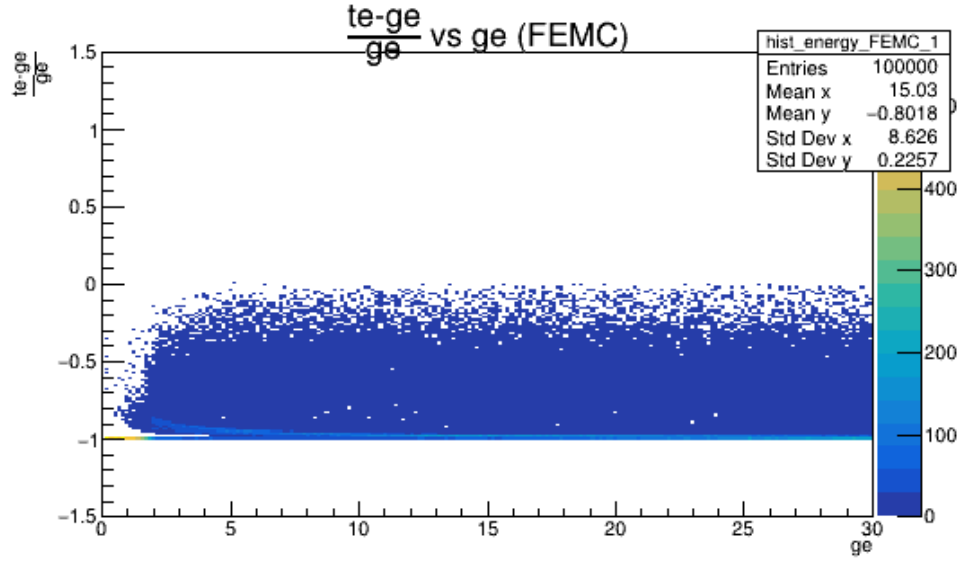
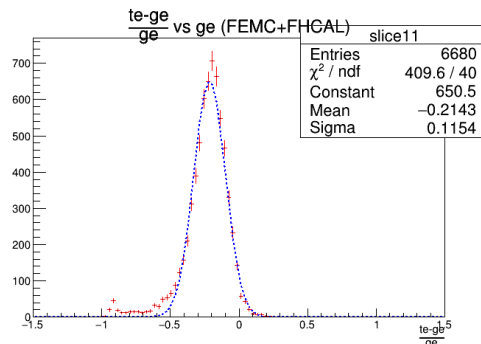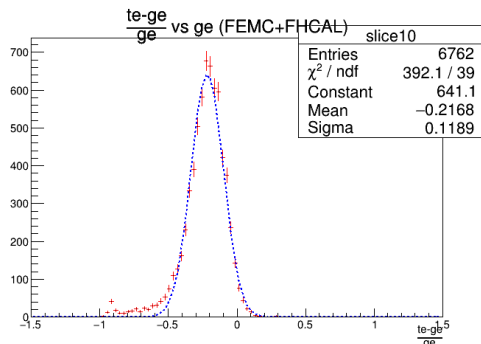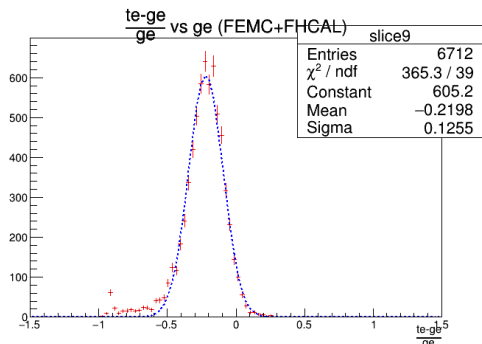# Forward Region: FEMC(manually corrected) + FHCAL (UNCALIBRATED)

$$\sigma_E/E = 3.56254\% + 36.5433\%/\sqrt{E}$$

FEMC+FHCAL: Gaussian fits
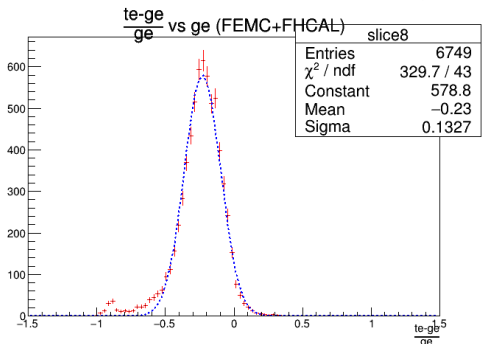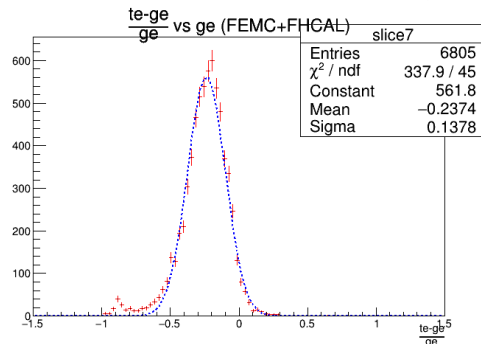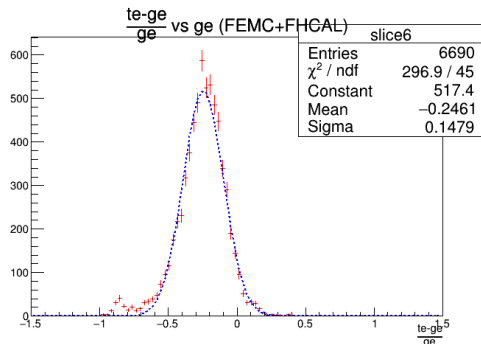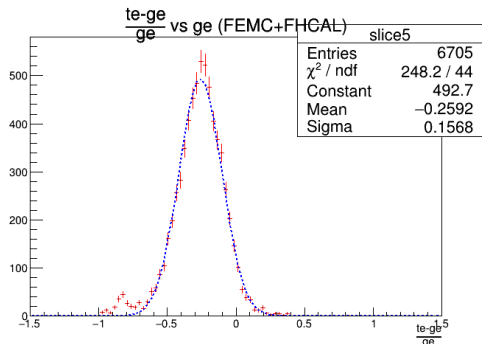
FEMC+FHCAL: gaussian fits

Forward Region: AFTER CALIBRATION

- aggregated (FEMC+FHCAL) energies calibrated using fit function obtained from **means from raw Gaussian fits** of (te(FEMC+FHCAL)-ge)/ge
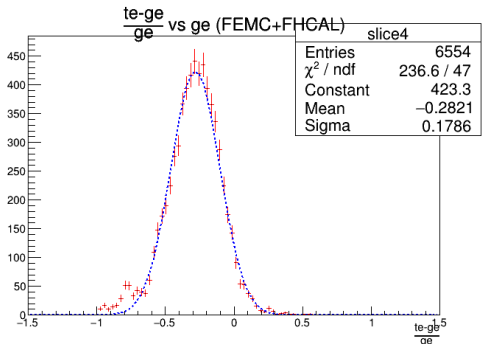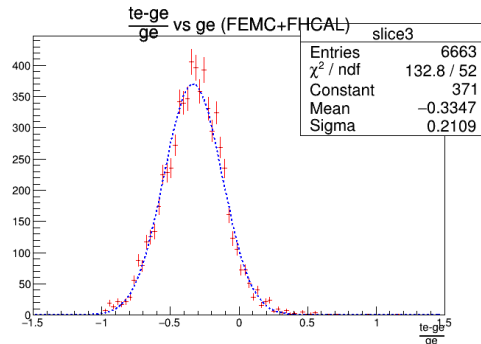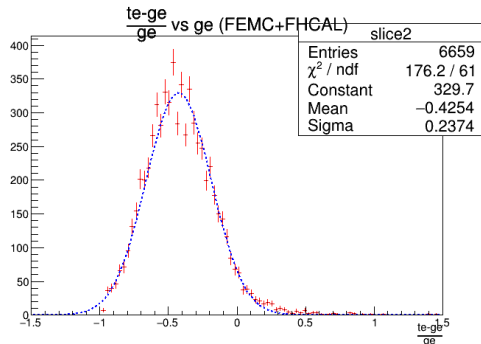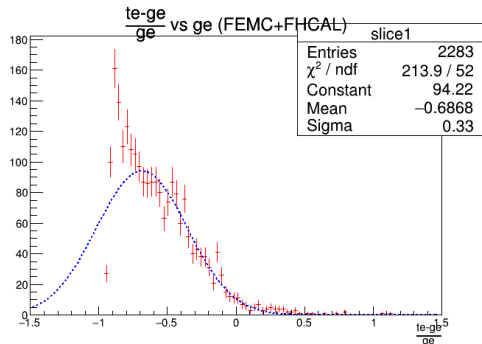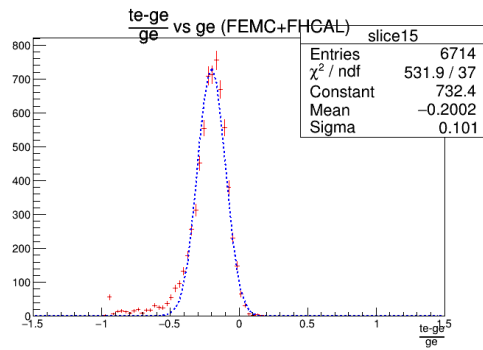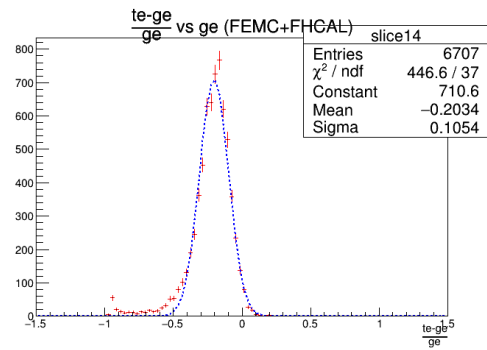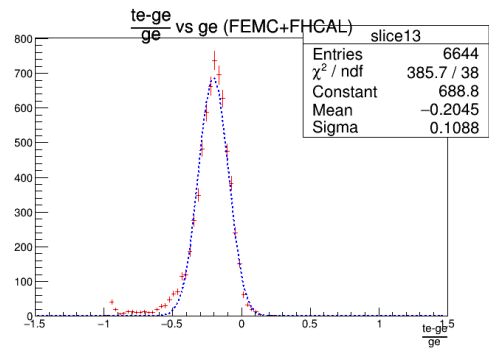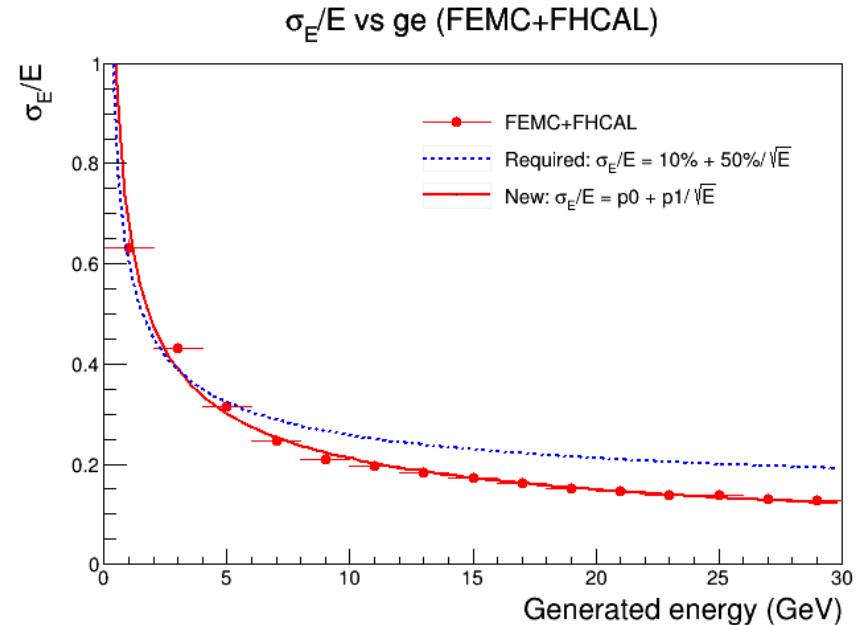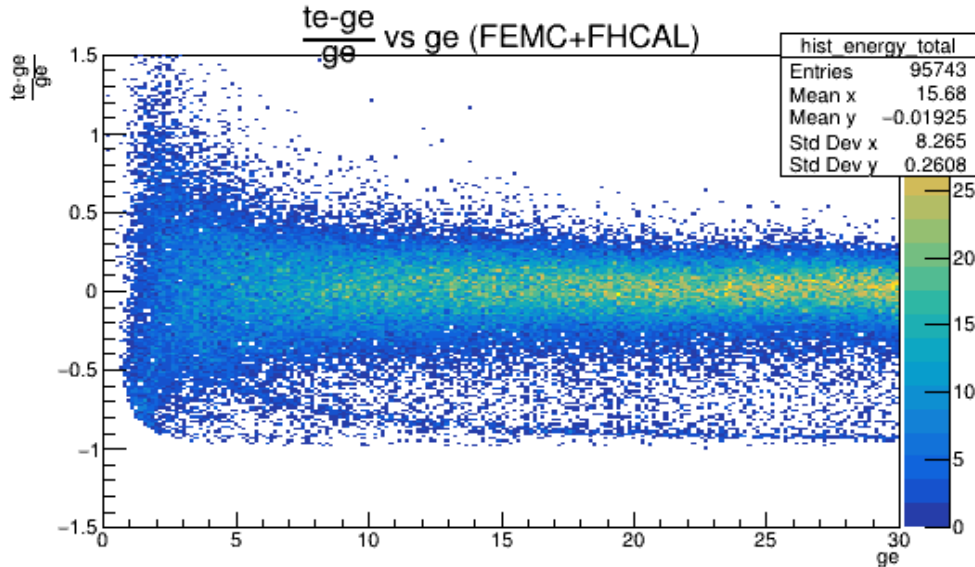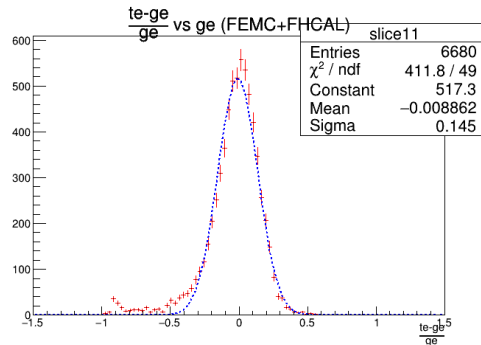

$\sigma_E/E = -0.286615\% + 67.9336\%/\sqrt{E}$

FEMC+FHCAL: Gaussian fits

slice1	
Entries	2283
χ^2 / ndf	362.1 / 77
Constant	38.29
Mean	−0.04942
Sigma	0.6324

slice2	
Entries	6659
χ^2 / ndf	133.5 / 79
Constant	181.3
Mean	0.0375
Sigma	0.4313

slice3	
Entries	6663
χ^2 / ndf	123.8 / 76
Constant	248.2
Mean	−0.001629
Sigma	0.3155

slice4	
Entries	6554
χ^2 / ndf	239.6 / 66
Constant	305.8
Mean	−0.007271
Sigma	0.2471

slice5	
Entries	6705
χ^2 / ndf	283.1 / 61
Constant	368.4
Mean	−0.006491
Sigma	0.2086

slice6	
Entries	6690
χ^2 / ndf	299.3 / 59
Constant	389.6
Mean	0.0004215
Sigma	0.1963

slice7	
Entries	6805
χ^2 / ndf	334.7 / 58
Constant	426.5
Mean	0.004864
Sigma	0.1816

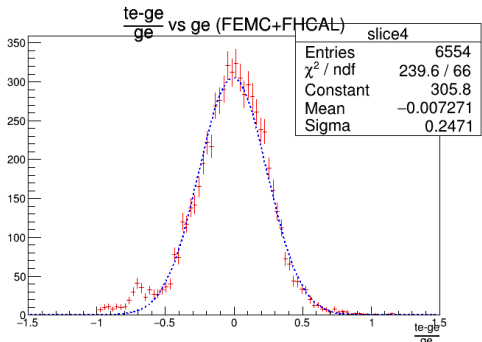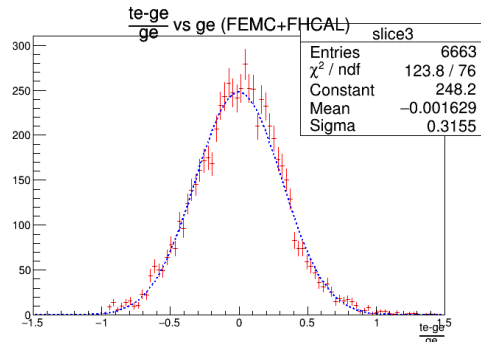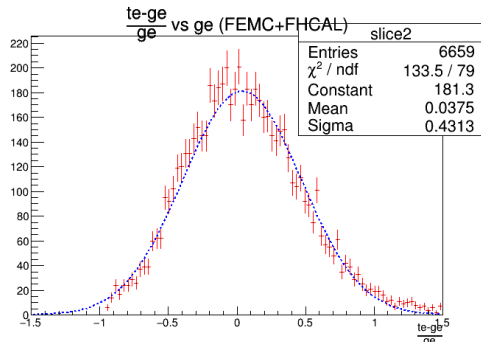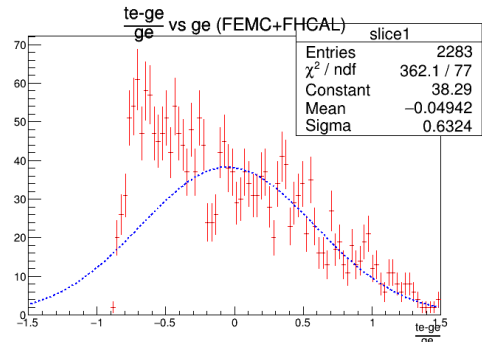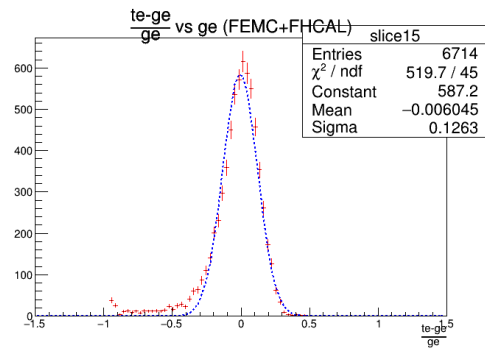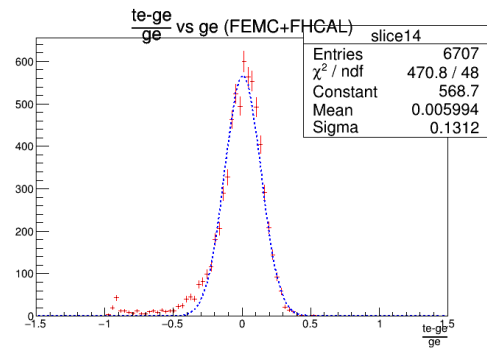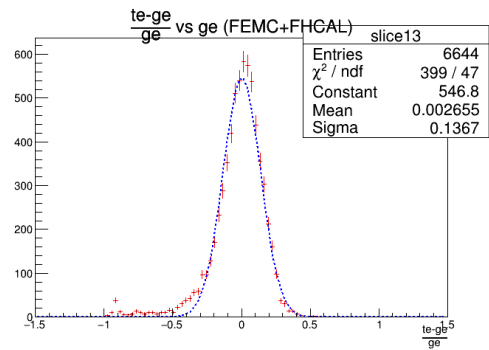| slice8	
Entries	6749
χ^2 / ndf	349.5 / 55
Constant	445.2
Mean	0.005025
Sigma	0.1721

slice9	
Entries	6712
χ^2 / ndf	367.4 / 50
Constant	469.9
Mean	0.006229
Sigma	0.1616

slice10	
Entries	6762
χ^2 / ndf	385 / 51
Constant	505.5
Mean	−0.002598
Sigma	0.151

slice11	
Entries	6680
χ^2 / ndf	411.8 / 49
Constant	517.3
Mean	−0.008862
Sigma	0.145

slice12	
Entries	6416
χ^2 / ndf	421.5 / 50
Constant	522.9
Mean	−0.00216
Sigma	0.1372

FEMC+FHCAL: gaussian fits

THANKS!