

# Delgove David

June 12, 2025

Mass Distribution : 20 80000 100000  
Template : /eos/home-j/jnewell/W\_Mass/E\_Cal\_v2/run/5TeV/mc\_5TeV.root  
Events : 2189677  
Data : /eos/home-j/jnewell/W\_Mass/E\_Cal\_v2/run/5TeV/data\_5TeV.root  
Events : 56785  
Variable1 : ell\_etaCalo  
Fit Method : 2  
nUseEl : 6  
nEventCut : 10  
Selection : isNominal

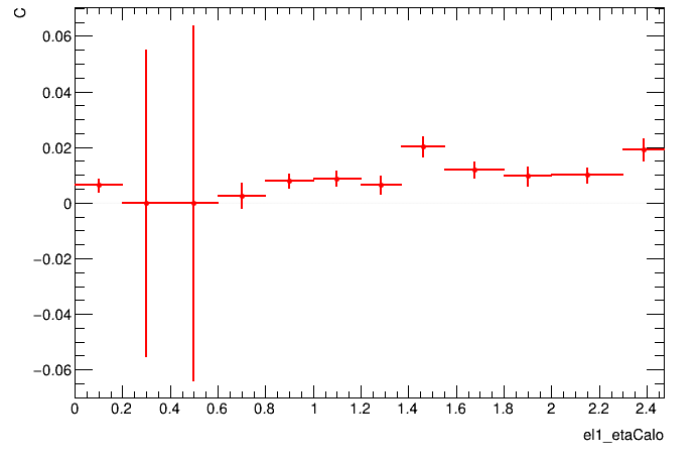
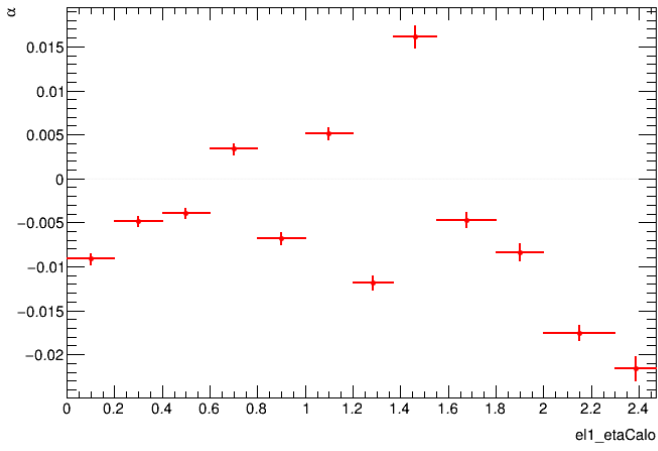
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# 1 Results

| $el1_{etaCalo}$ | bin | $\alpha$    | $\Delta\alpha$ | $\sigma$    | $\Delta\sigma$ |
|-----------------|-----|-------------|----------------|-------------|----------------|
| [0, 0.2]        | 0   | -0.00913678 | 0.000645836    | 0.006336    | 0.00232545     |
| [0.2, 0.4]      | 1   | -0.00485988 | 0.000590438    | 1.07443e-08 | 0.0550728      |
| [0.4, 0.6]      | 2   | -0.00393248 | 0.000590437    | 7.56711e-05 | 0.0638372      |
| [0.6, 0.8]      | 3   | 0.00337835  | 0.000620149    | 0.00265748  | 0.00471389     |
| [0.8, 1]        | 4   | -0.00681507 | 0.000668232    | 0.00785878  | 0.00251616     |
| [1, 1.2]        | 5   | 0.00510172  | 0.000712408    | 0.00882349  | 0.00260549     |
| [1.2, 1.37]     | 6   | -0.011842   | 0.000840704    | 0.00654799  | 0.00333342     |
| [1.37, 1.55]    | 7   | 0.0161422   | 0.00129135     | 0.0202667   | 0.00374877     |
| [1.55, 1.8]     | 8   | -0.00469684 | 0.000874666    | 0.011932    | 0.00302474     |
| [1.8, 2]        | 9   | -0.00836376 | 0.000992528    | 0.00955805  | 0.00358868     |
| [2, 2.3]        | 10  | -0.0175622  | 0.000862872    | 0.0100416   | 0.00270289     |
| [2.3, 2.47]     | 11  | -0.021565   | 0.00135052     | 0.0192692   | 0.003938       |



## 2 ChiMatrix\_0\_0

Results

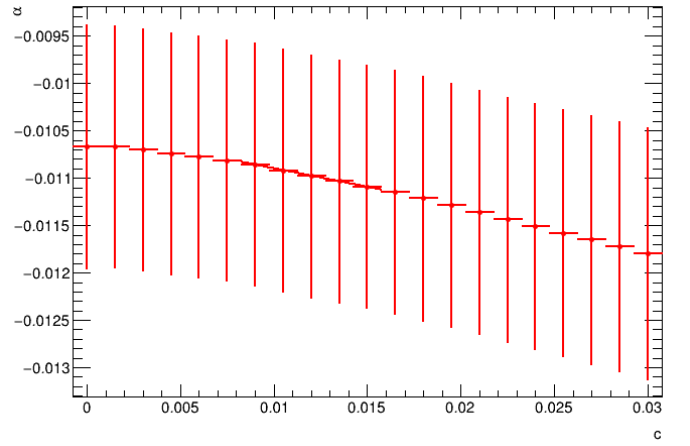
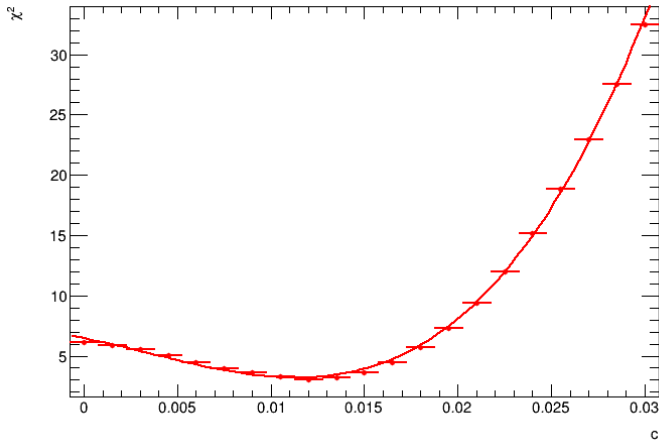
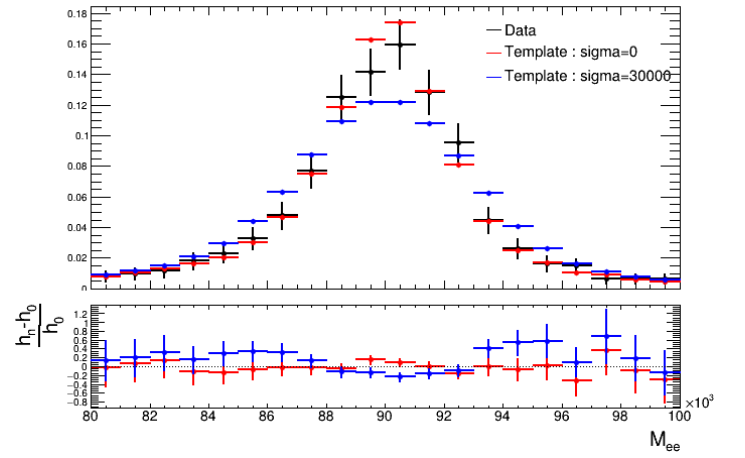
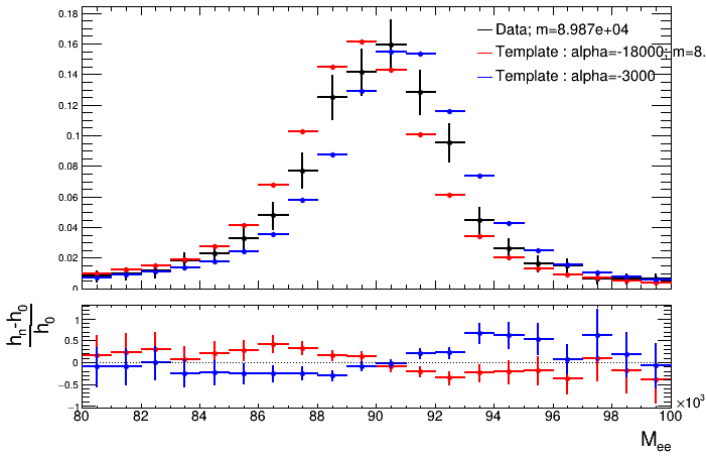
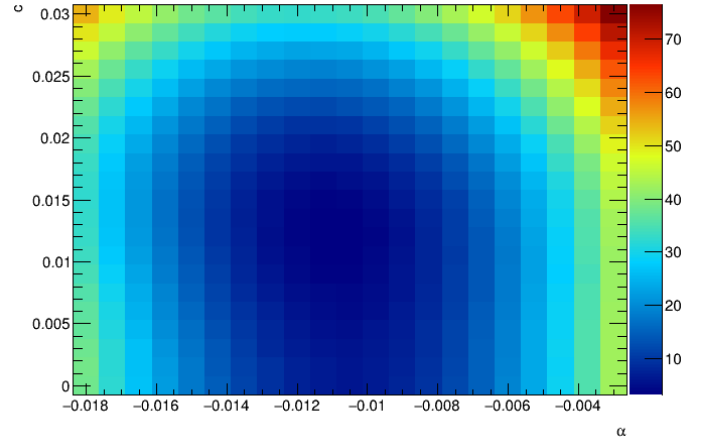
MCEvents : 148140

DataEvents : 683

ThresholdMass : 54

$$\alpha_{ij} = -0.0109532 \pm 0.00127893$$

$$\sigma_{ij} = 0.01141 \pm 0.00419049$$



### 3 ChiMatrix\_1\_0

Results

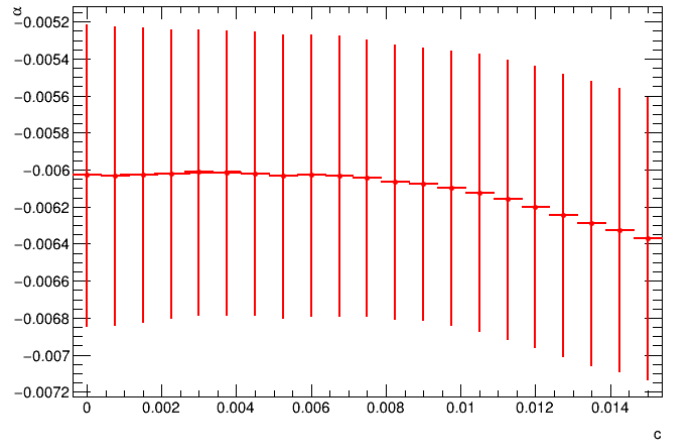
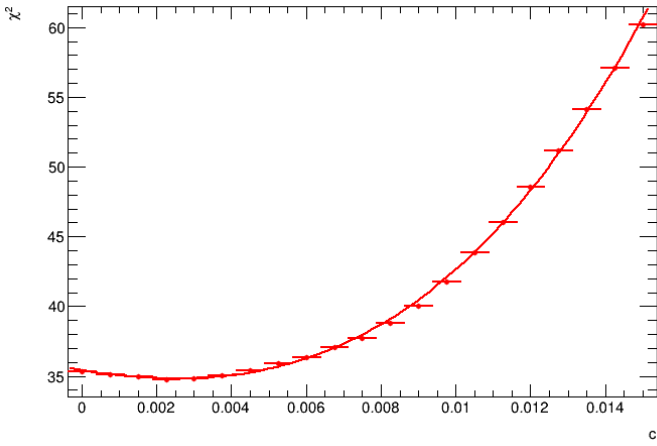
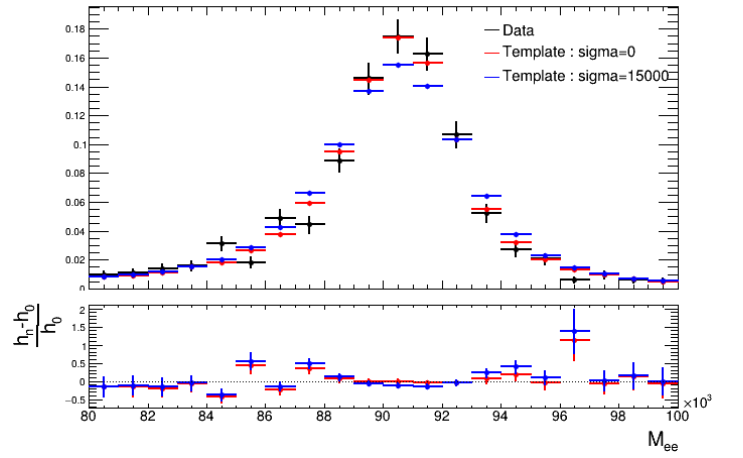
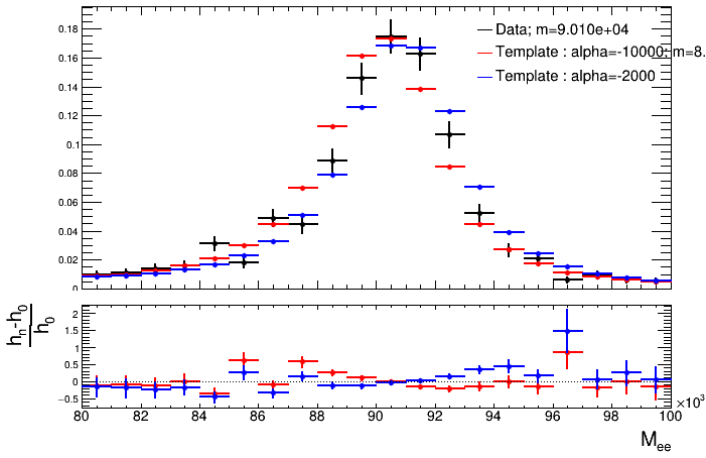
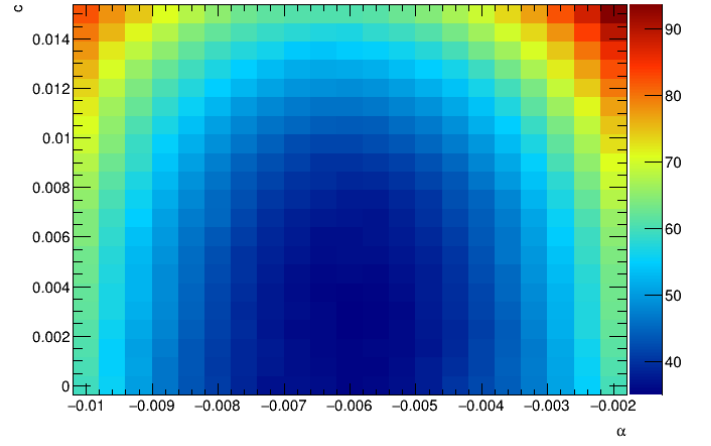
MCEvents : 301848

DataEvents : 1451

ThresholdMass : 54.2702

$$\alpha_{ij} = -0.00602011 \pm 0.000777599$$

$$\sigma_{ij} = 0.00256429 \pm 0.00292588$$



# 4 ChiMatrix\_1\_1

Results

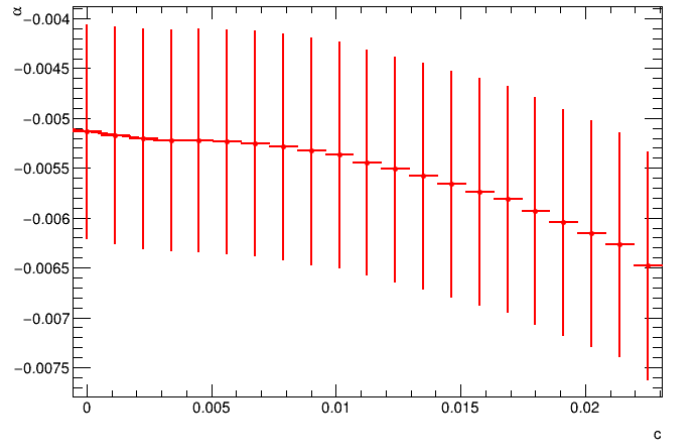
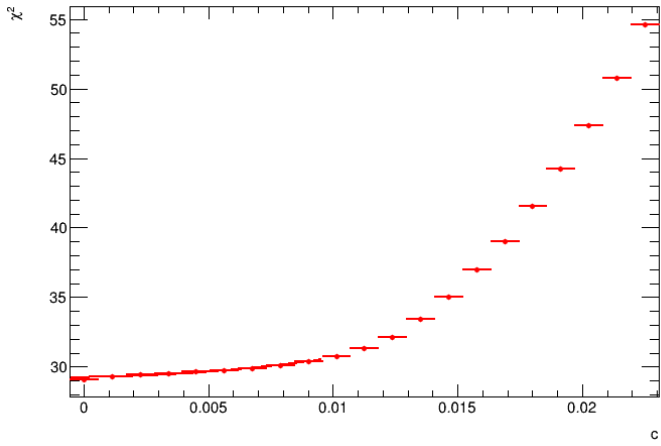
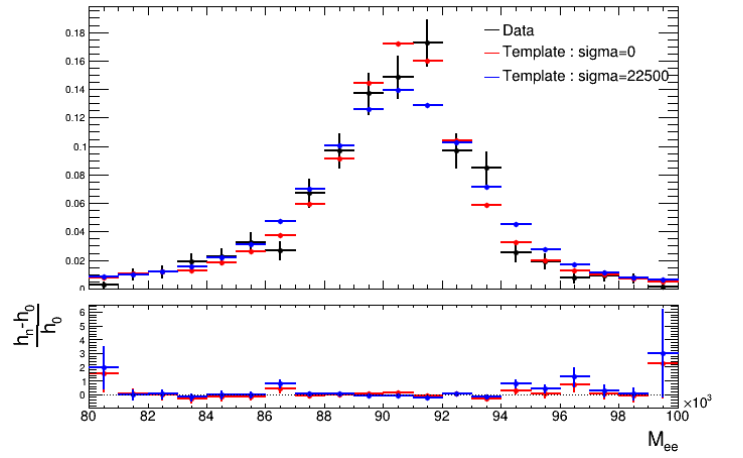
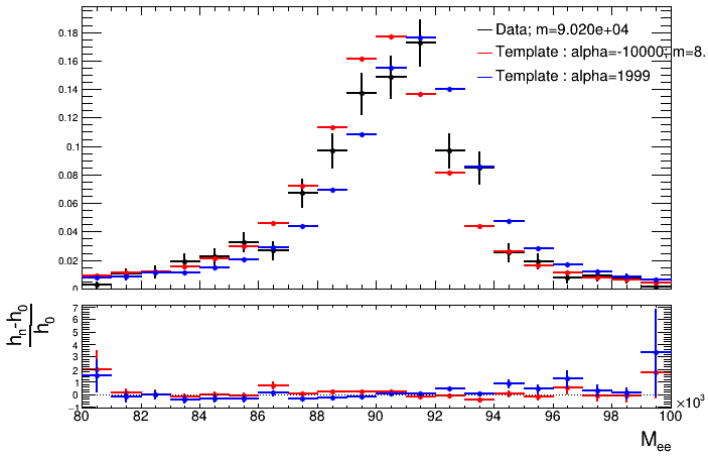
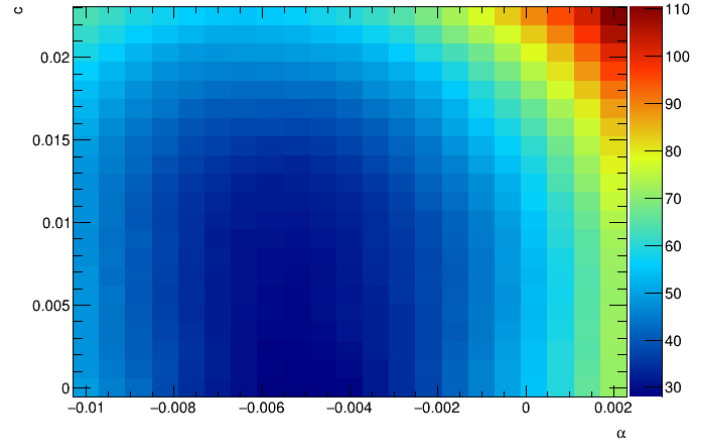
MCEvents : 153354

DataEvents : 745

ThresholdMass : 54

$$\alpha_{ij} = -0.00514788 \pm 0.00107372$$

$$\sigma_{ij} = 0 \pm 0.00903818$$



## 5 ChiMatrix\_2\_0

Results

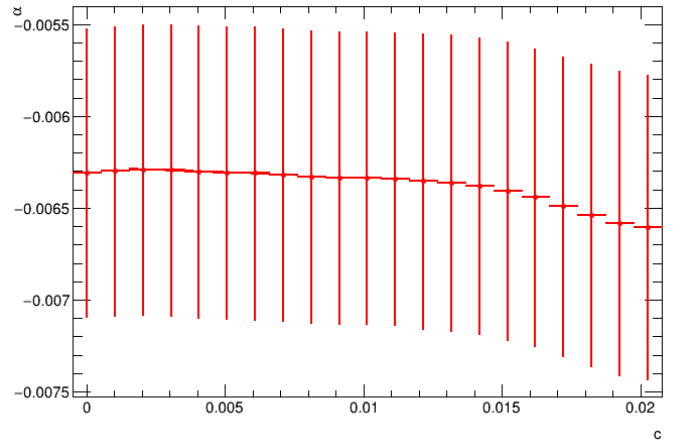
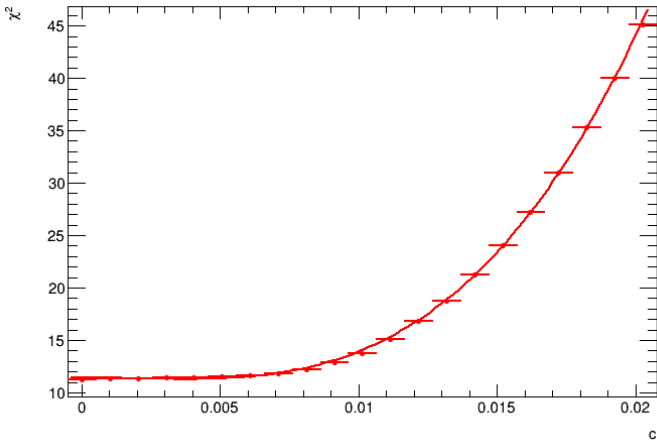
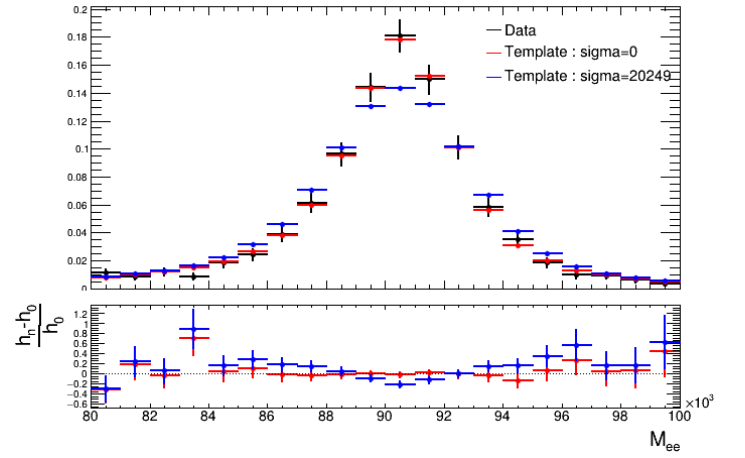
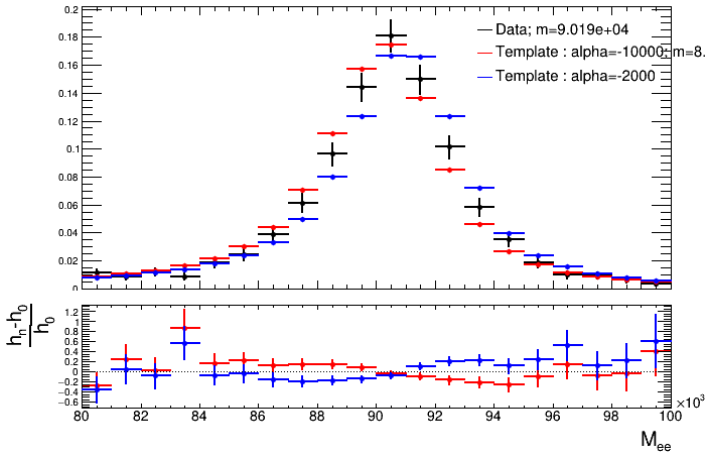
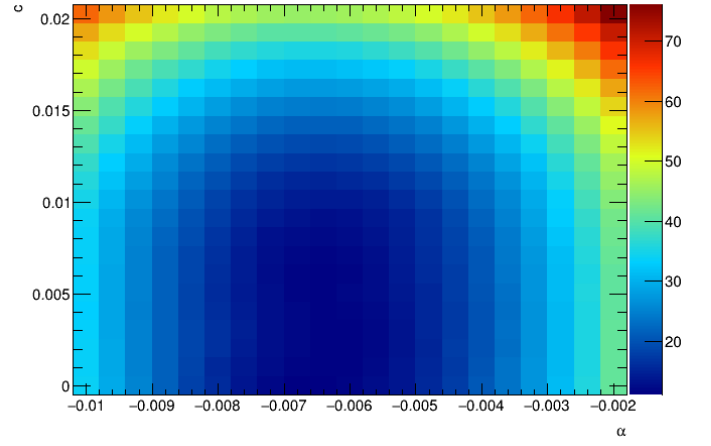
MCEvents : 302430

DataEvents : 1540

ThresholdMass : 55.0836

$$\alpha_{ij} = -0.00629945 \pm 0.000795407$$

$$\sigma_{ij} = 0.00375779 \pm 0.00424547$$



## 6 ChiMatrix\_2\_1

Results

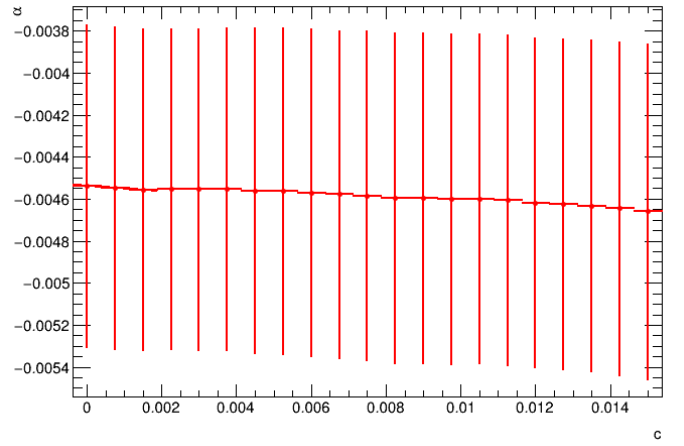
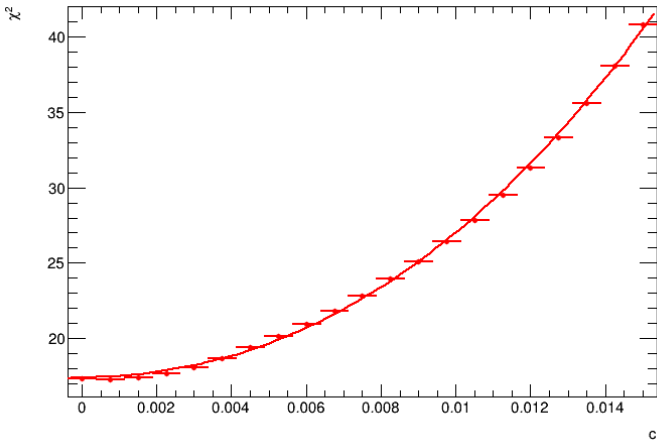
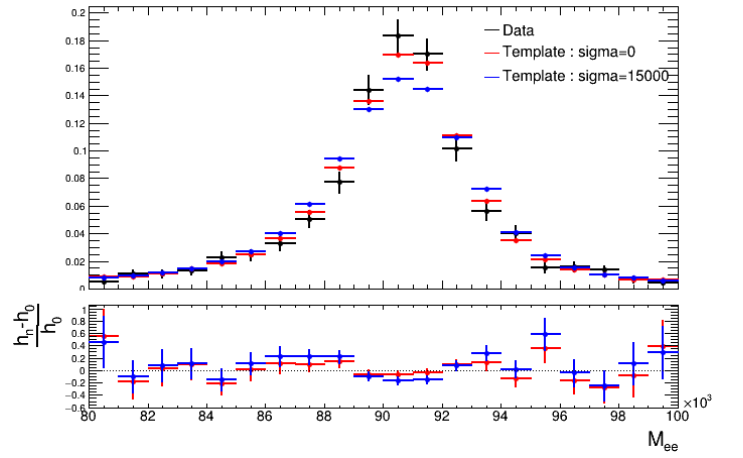
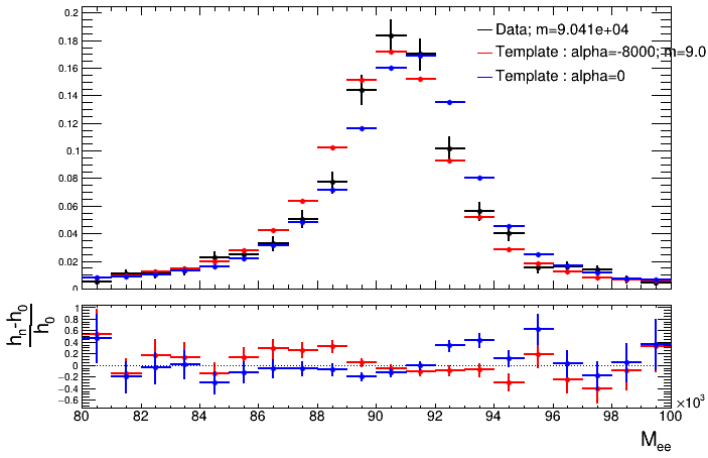
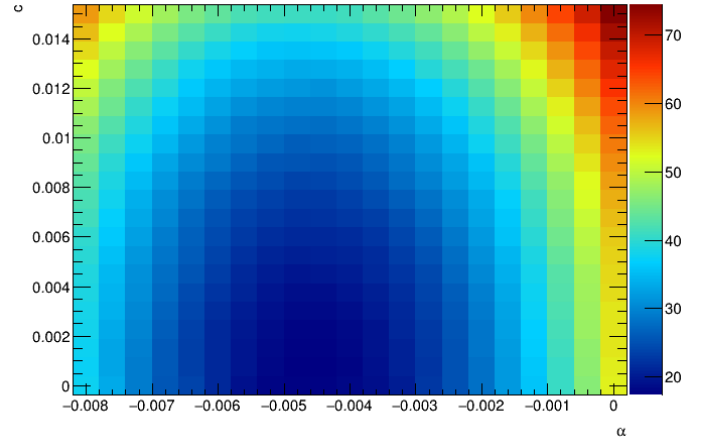
MCEvents : 303948

DataEvents : 1460

ThresholdMass : 54.2702

$$\alpha_{ij} = -0.0045376 \pm 0.000768061$$

$$\sigma_{ij} = 3.89837e - 14 \pm 0.00339143$$





## 7 ChiMatrix\_2\_2

Results

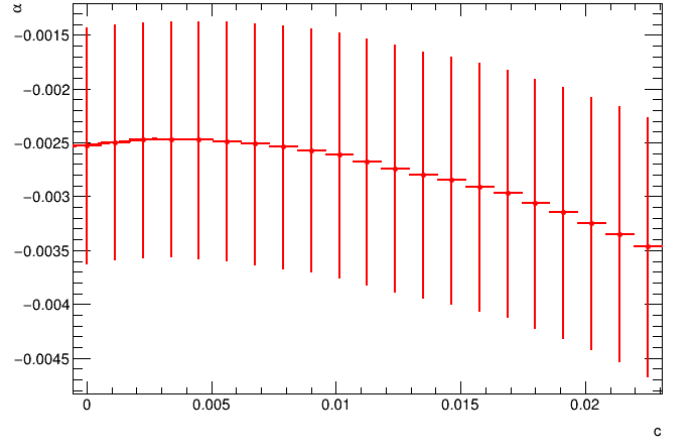
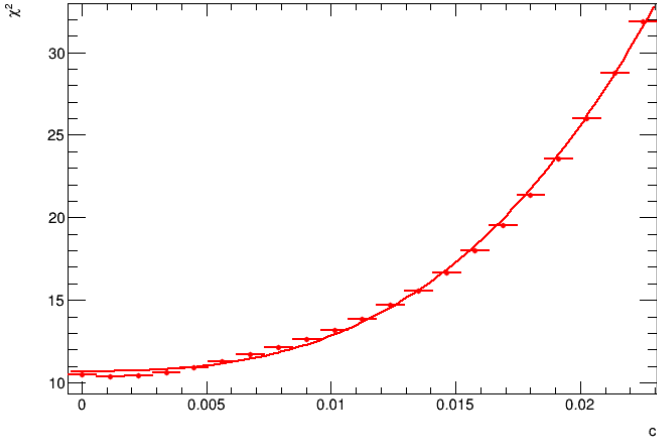
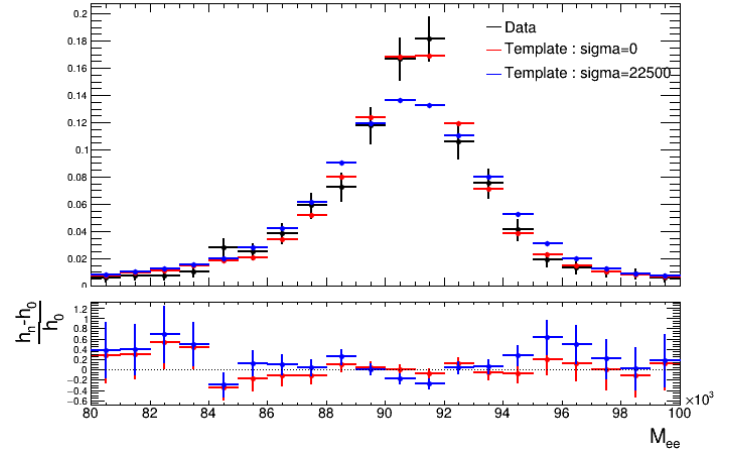
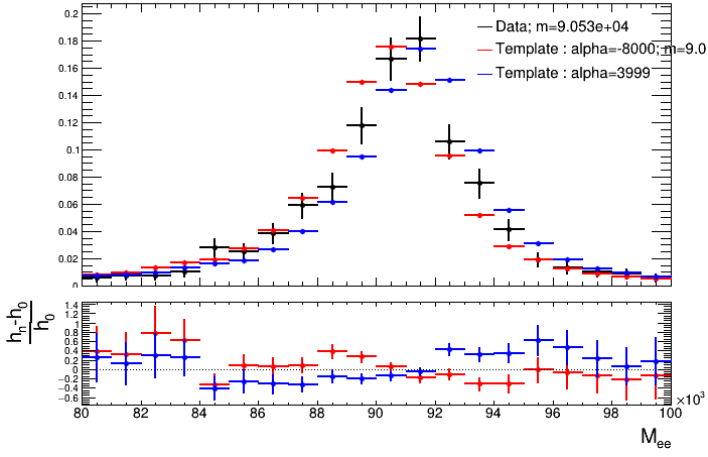
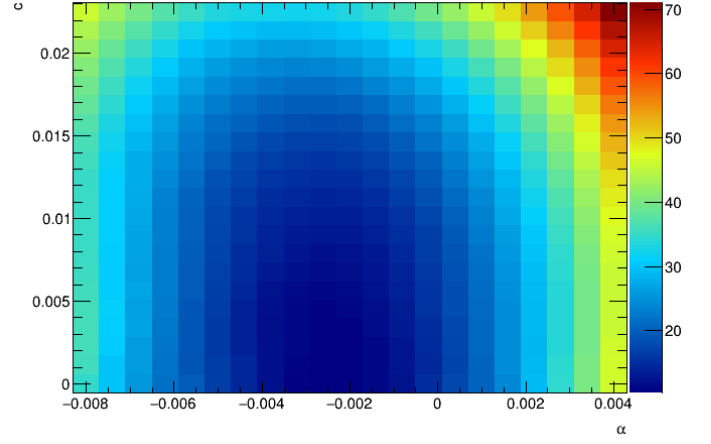
MCEvents : 152688

DataEvents : 747

ThresholdMass : 54

$$\alpha_{ij} = -0.00252361 \pm 0.00109546$$

$$\sigma_{ij} = 3.89189e - 16 \pm 0.00759554$$



# 8 ChiMatrix\_3\_0

Results

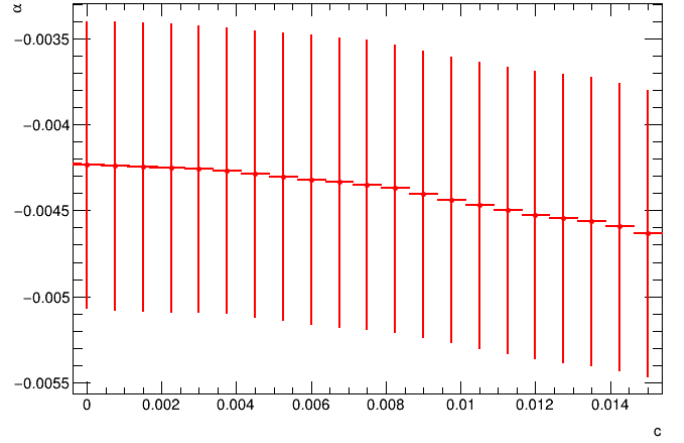
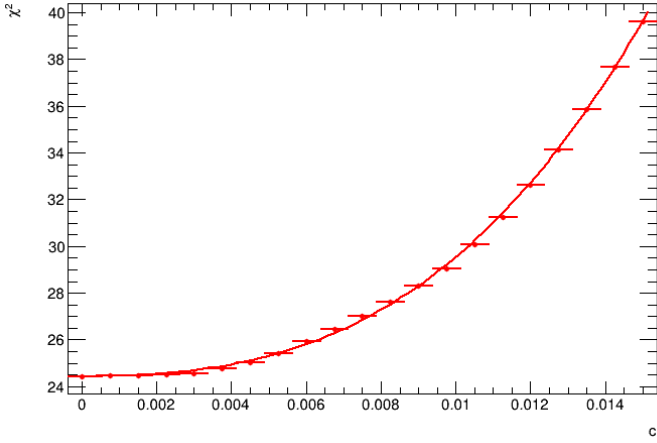
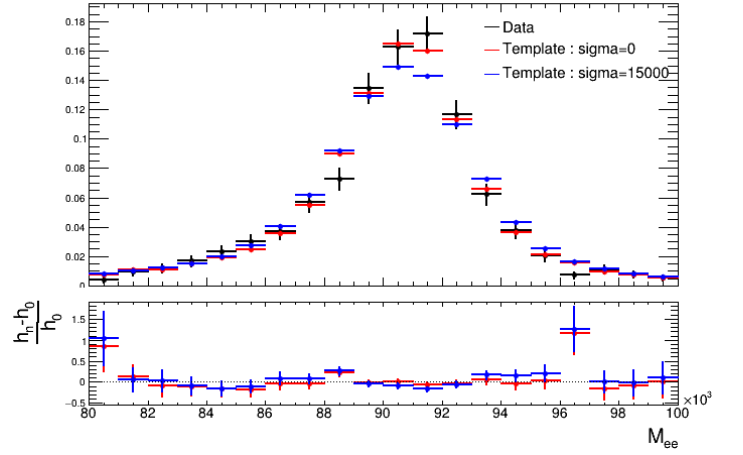
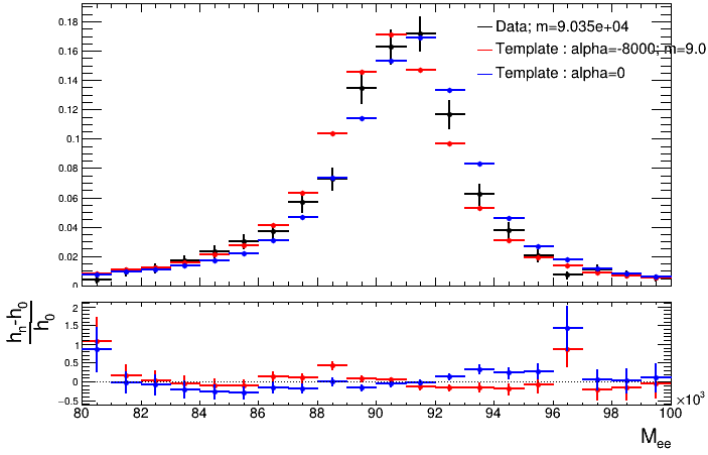
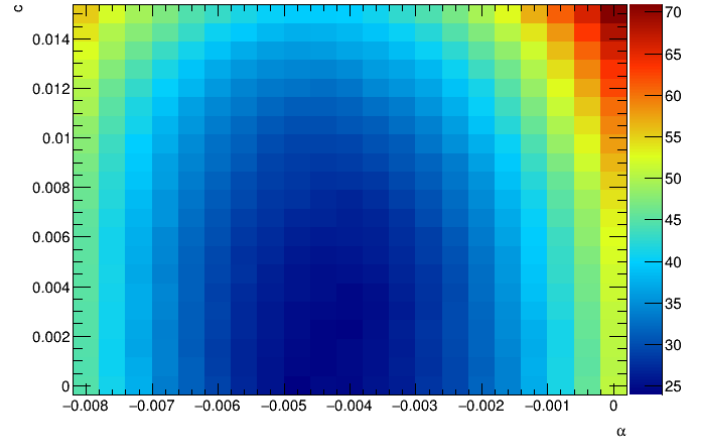
MCEvents : 289908

DataEvents : 1395

ThresholdMass : 56.4483

$$\alpha_{ij} = -0.00423277 \pm 0.0008333$$

$$\sigma_{ij} = 1.46978e - 14 \pm 0.00532645$$



## 9 ChiMatrix\_3\_1

Results

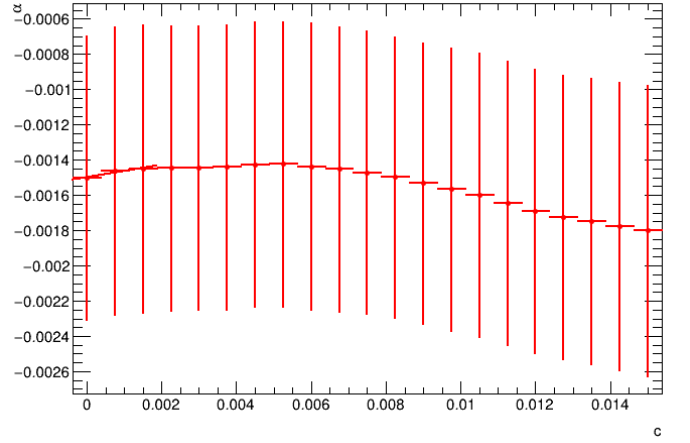
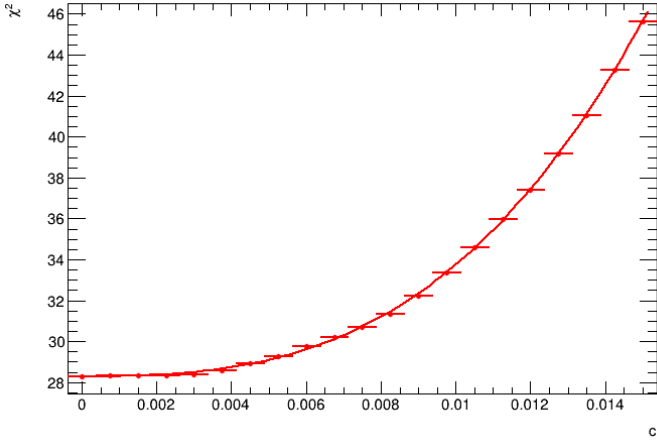
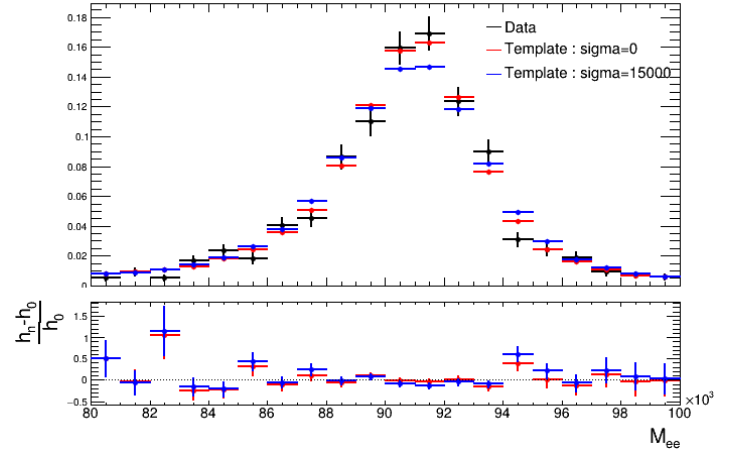
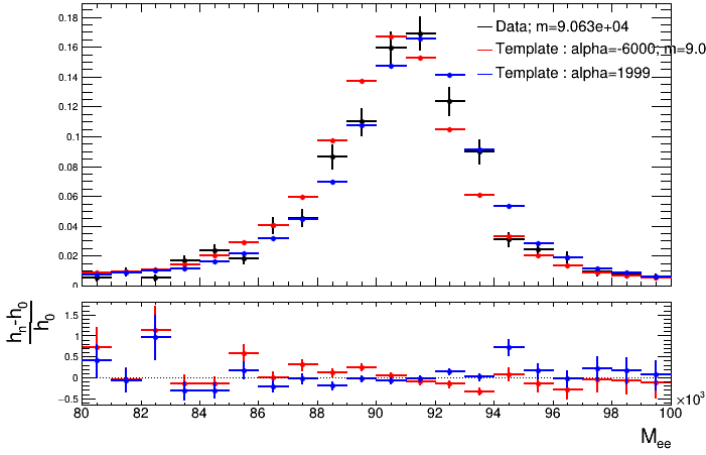
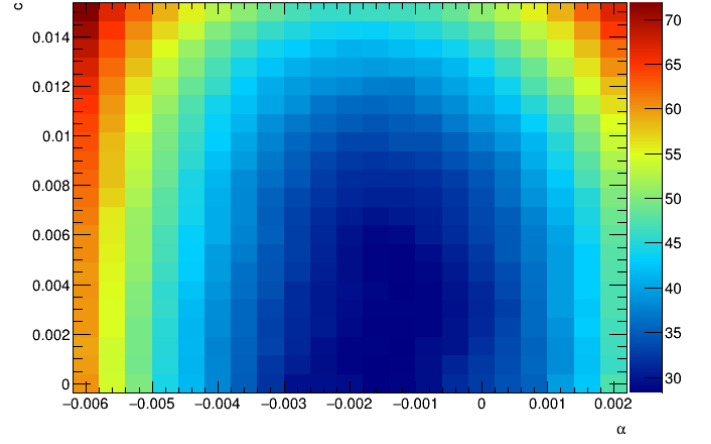
MCEvents : 294354

DataEvents : 1517

ThresholdMass : 55.0836

$$\alpha_{ij} = -0.00149818 \pm 0.000805307$$

$$\sigma_{ij} = 5.68186e - 13 \pm 0.00544656$$



# 10 ChiMatrix\_3\_2

Results

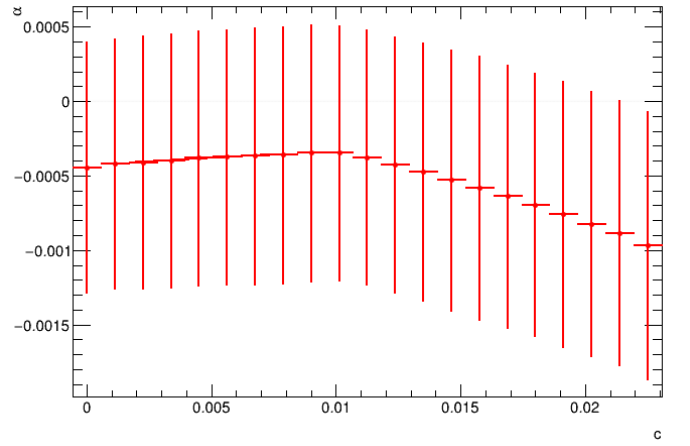
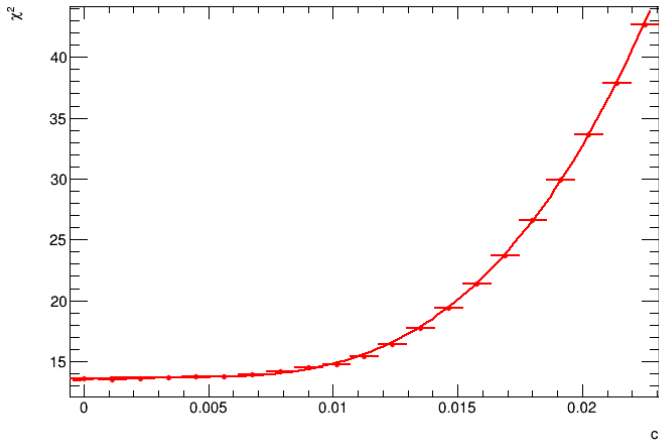
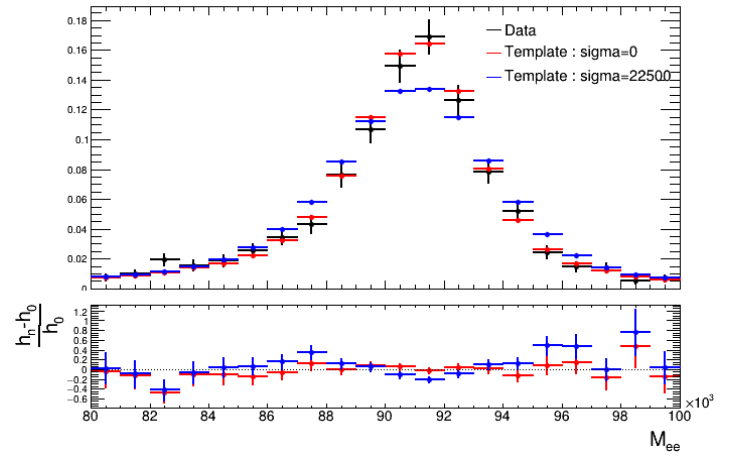
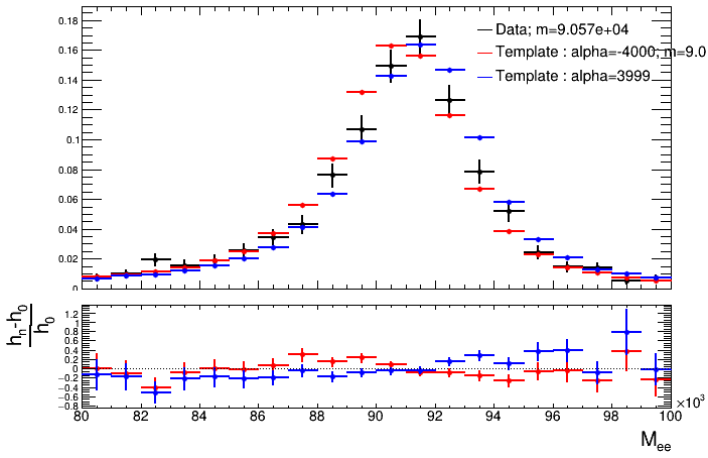
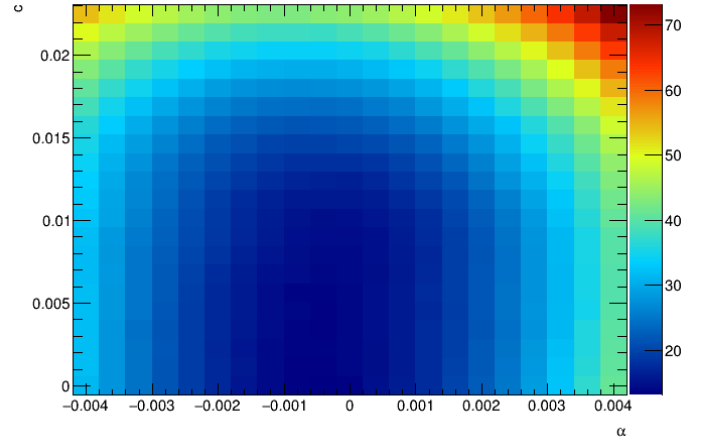
MCEvents : 290760

DataEvents : 1417

ThresholdMass : 54.2702

$$\alpha_{ij} = -0.000389596 \pm 0.000855819$$

$$\sigma_{ij} = 0.00403238 \pm 0.00579359$$



# 11 ChiMatrix\_3\_3

Results

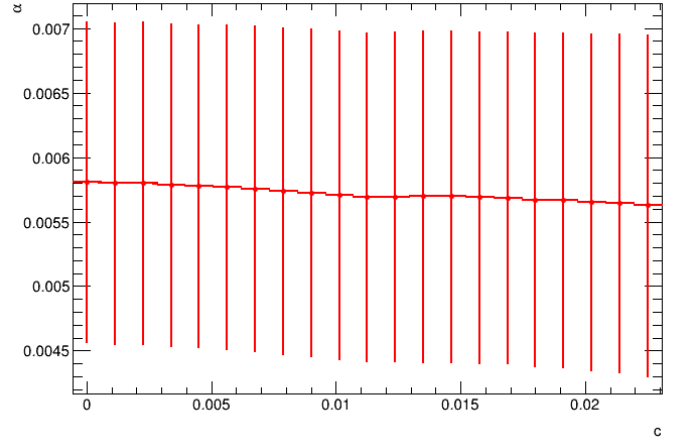
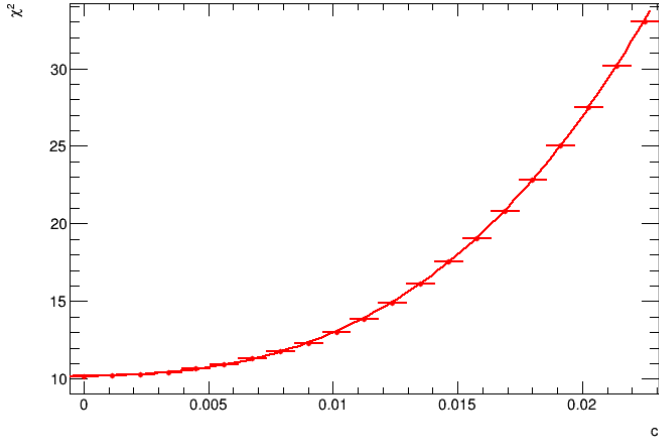
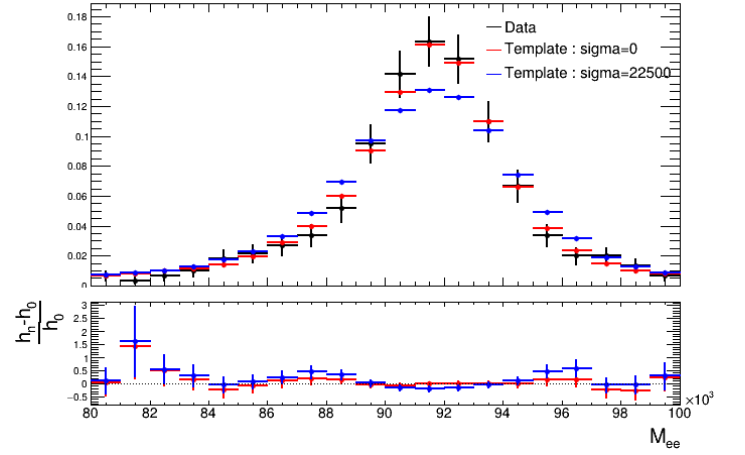
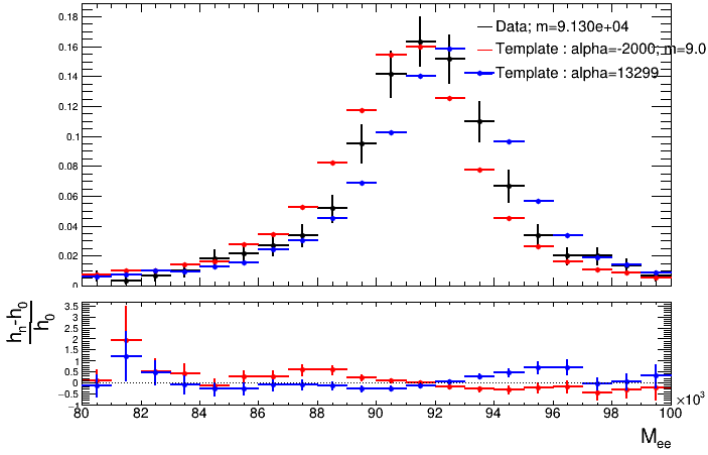
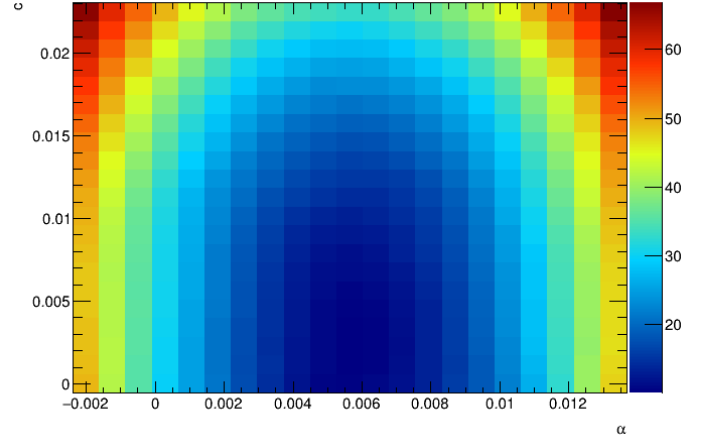
MCEvents : 136614

DataEvents : 662

ThresholdMass : 54

$$\alpha_{ij} = 0.00580659 \pm 0.00124531$$

$$\sigma_{ij} = 3.43472e - 13 \pm 0.00663835$$



# 12 ChiMatrix\_4\_0

Results

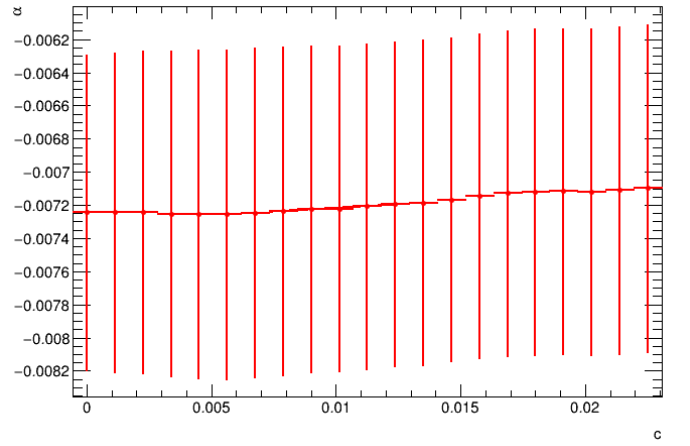
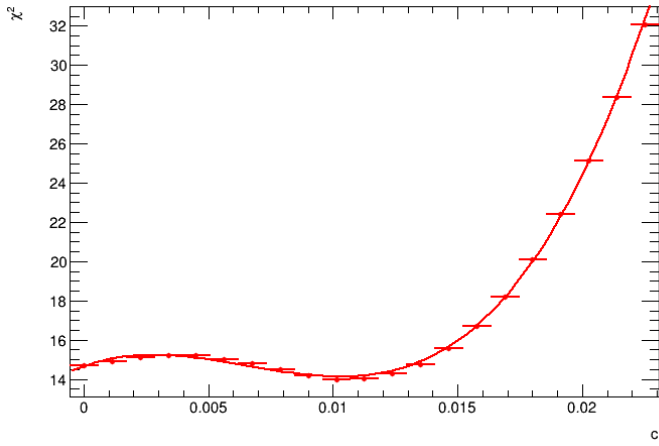
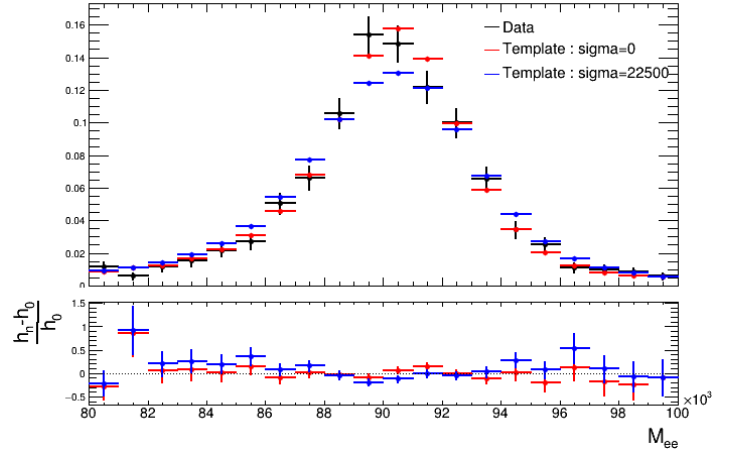
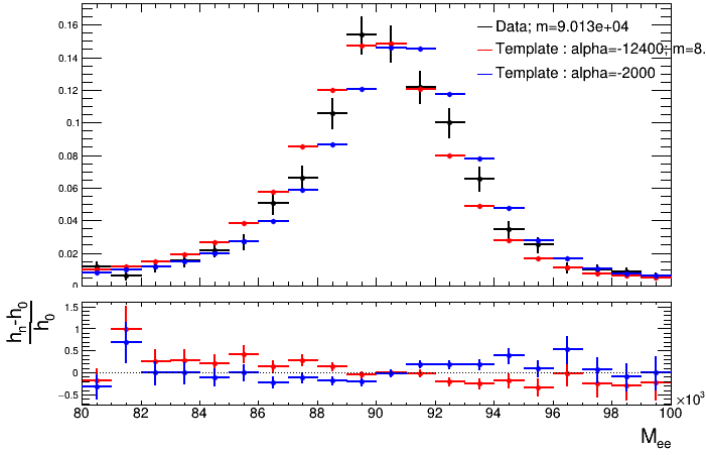
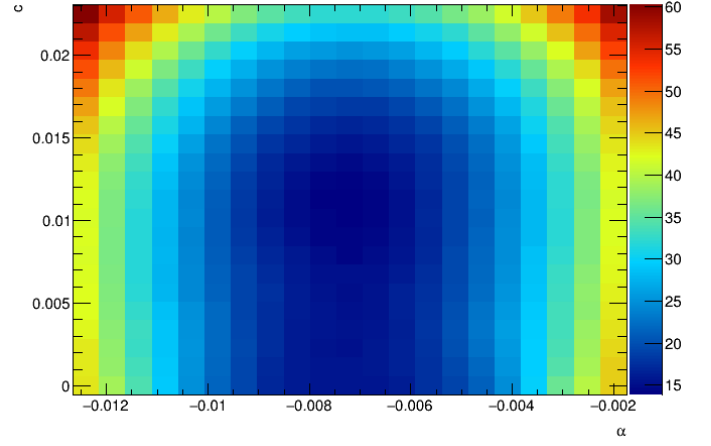
MCEvents : 275922

DataEvents : 1325

ThresholdMass : 58.3779

$$\alpha_{ij} = -0.00721476 \pm 0.000983268$$

$$\sigma_{ij} = 0.0103178 \pm 0.00359377$$



# 13 ChiMatrix\_4\_1

Results

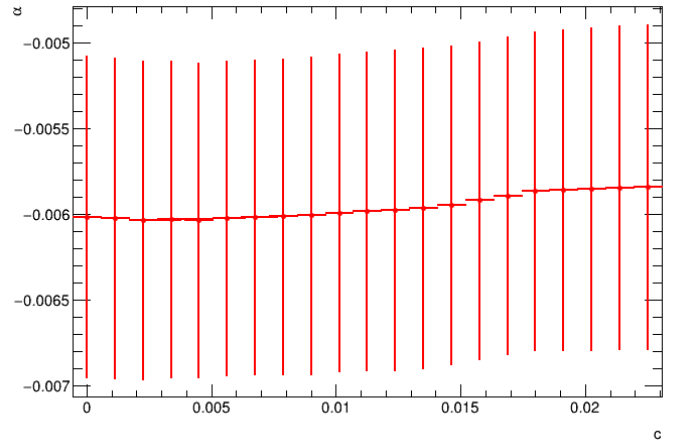
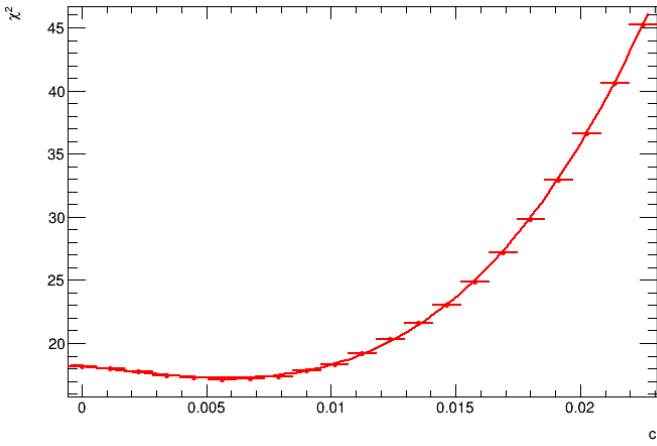
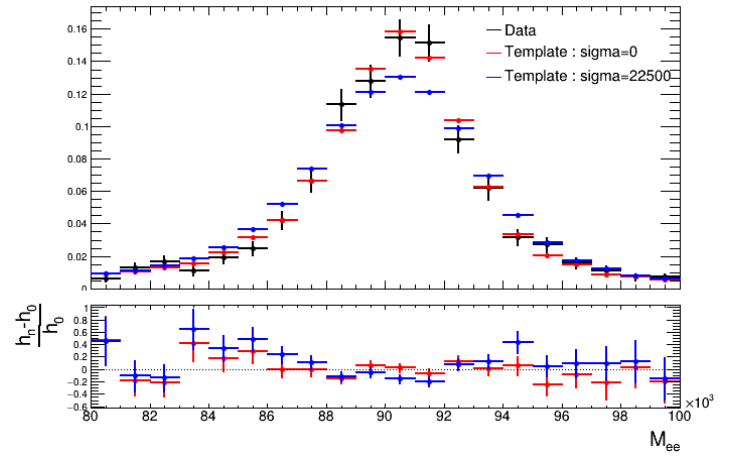
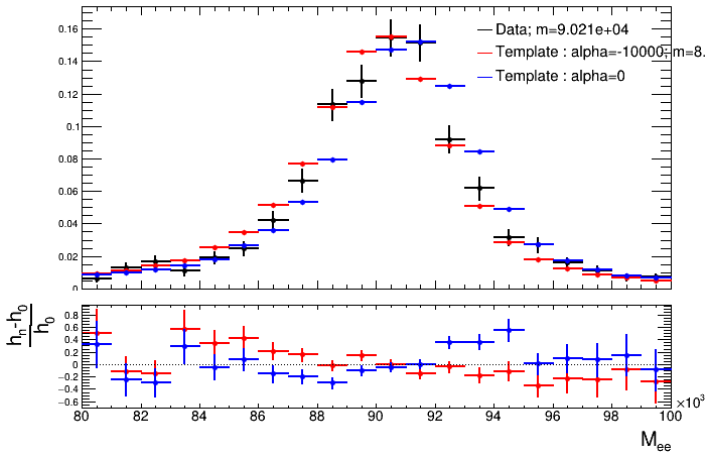
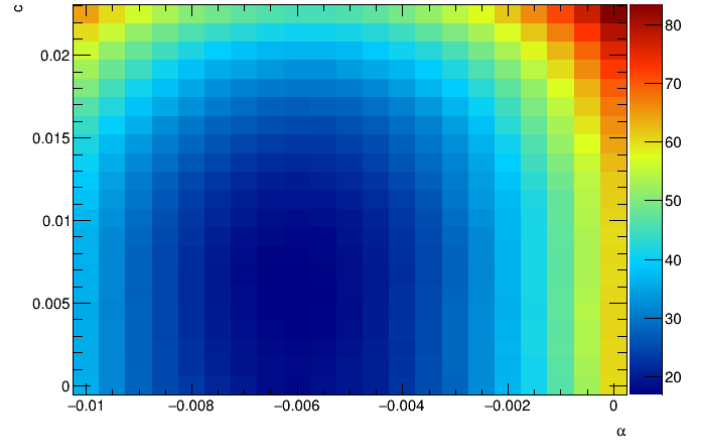
MCEvents : 279018

DataEvents : 1375

ThresholdMass : 56.4483

$$\alpha_{ij} = -0.00602257 \pm 0.000916919$$

$$\sigma_{ij} = 0.00585171 \pm 0.0040947$$



# 14 ChiMatrix\_4\_2

Results

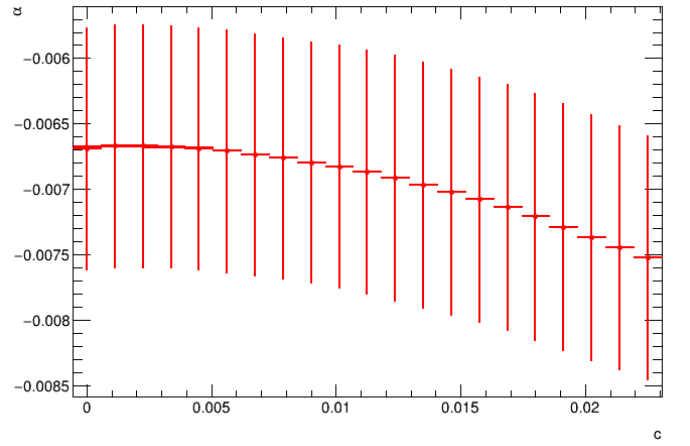
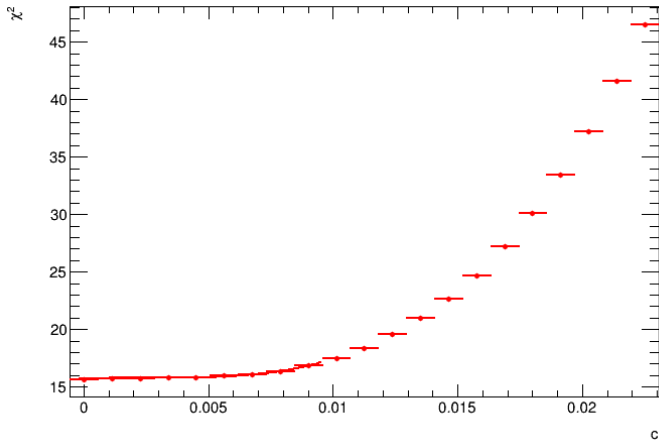
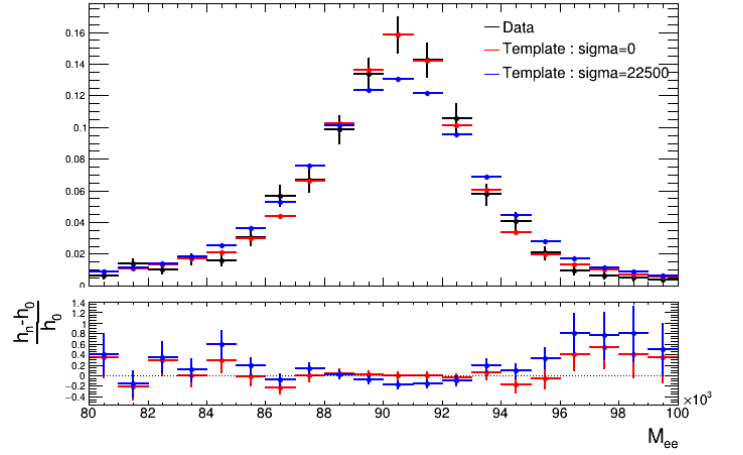
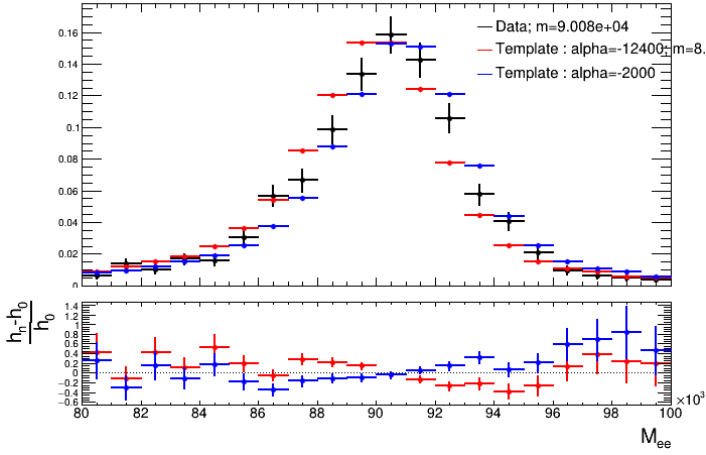
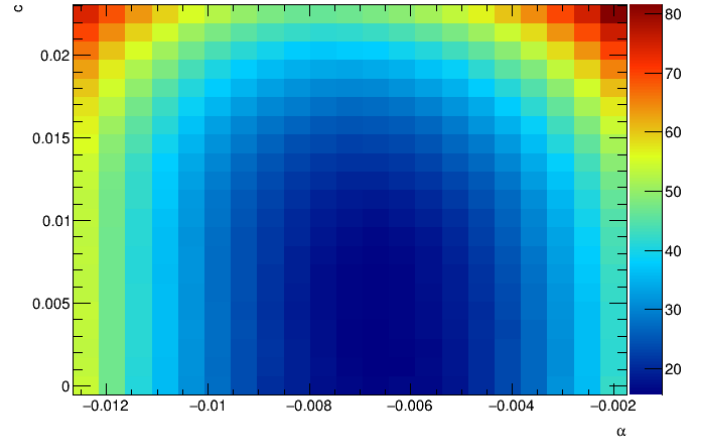
MCEvents : 272586

DataEvents : 1371

ThresholdMass : 55.0836

$$\alpha_{ij} = -0.00667859 \pm 0.000928521$$

$$\sigma_{ij} = 0.00280605 \pm 0.00613727$$





# 15 ChiMatrix\_4\_3

Results

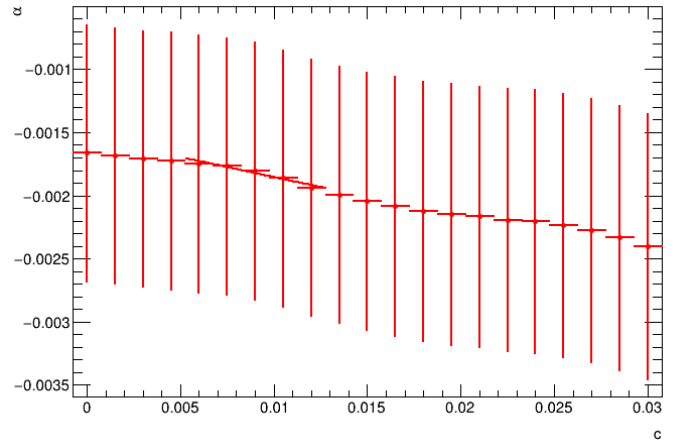
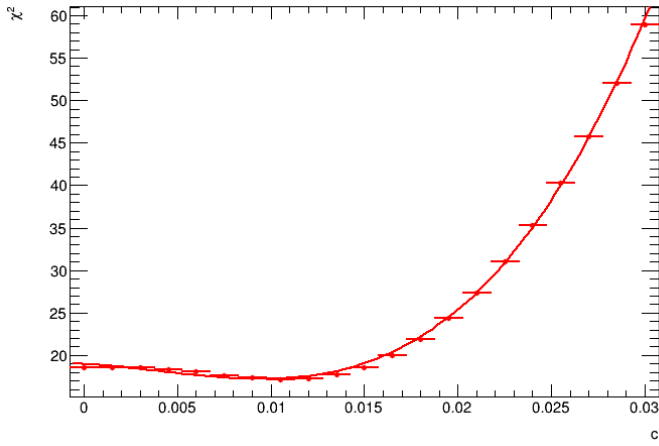
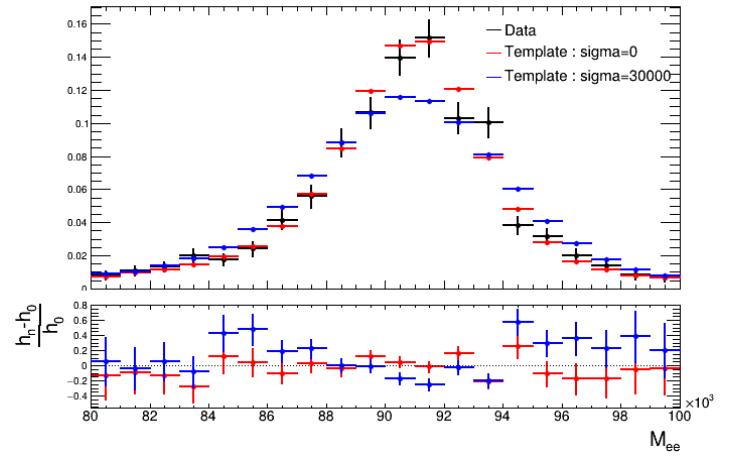
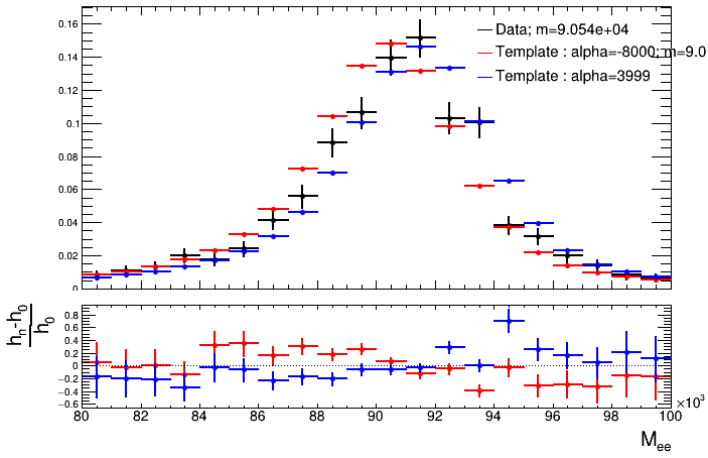
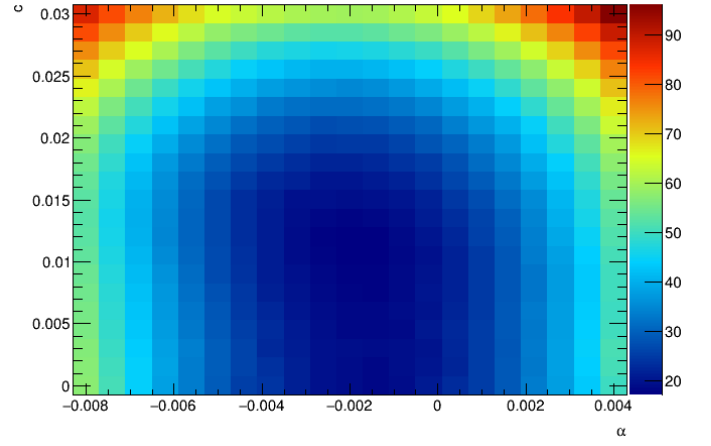
MCEvents : 254490

DataEvents : 1321

ThresholdMass : 54.2702

$$\alpha_{ij} = -0.0018387 \pm 0.00102023$$

$$\sigma_{ij} = 0.0095112 \pm 0.00419746$$



# 16 ChiMatrix\_4\_4

Results

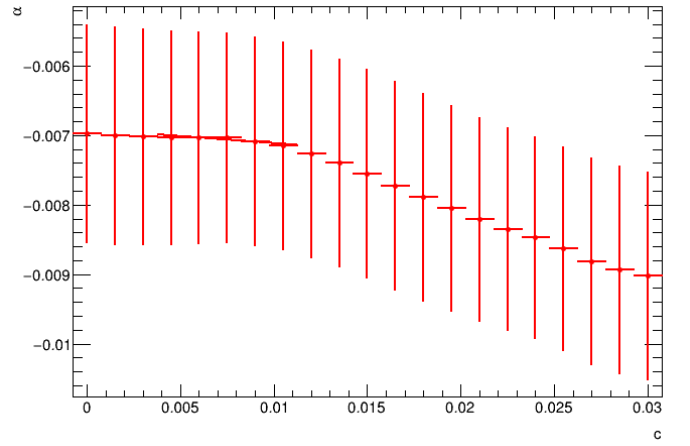
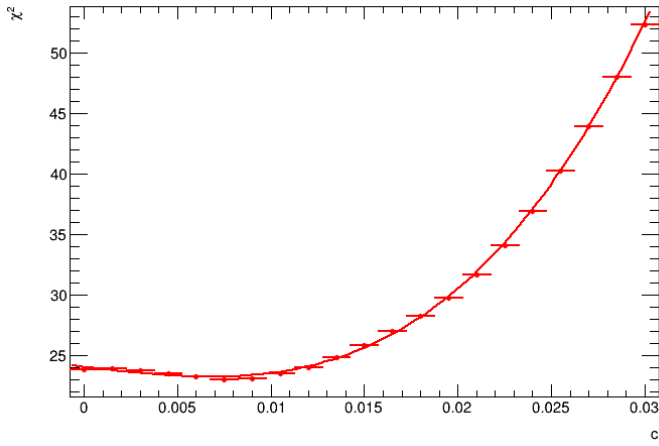
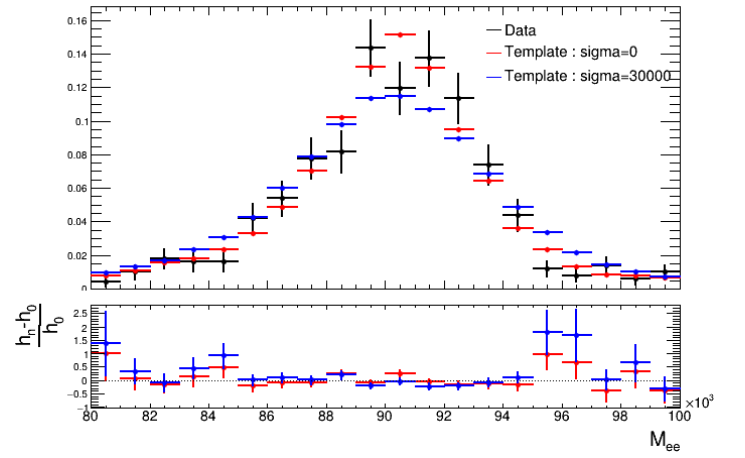
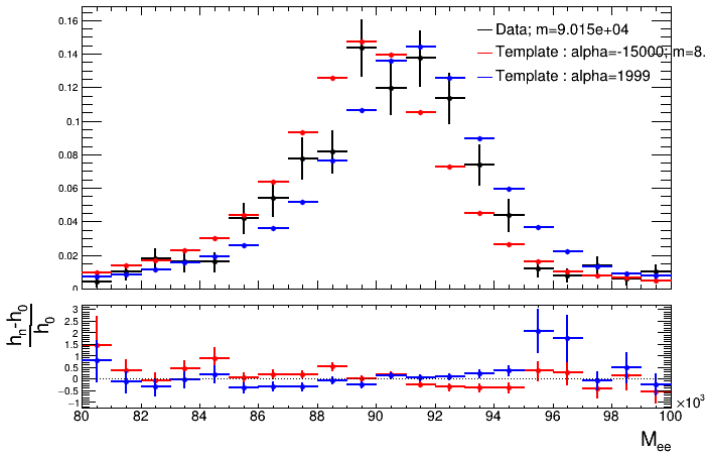
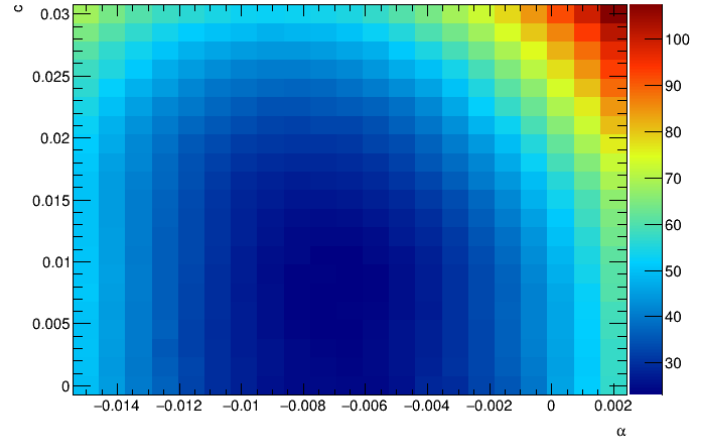
MCEvents : 115764

DataEvents : 561

ThresholdMass : 54

$$\alpha_{ij} = -0.00704908 \pm 0.00150385$$

$$\sigma_{ij} = 0.00686827 \pm 0.00554189$$



# 17 ChiMatrix\_5\_0

Results

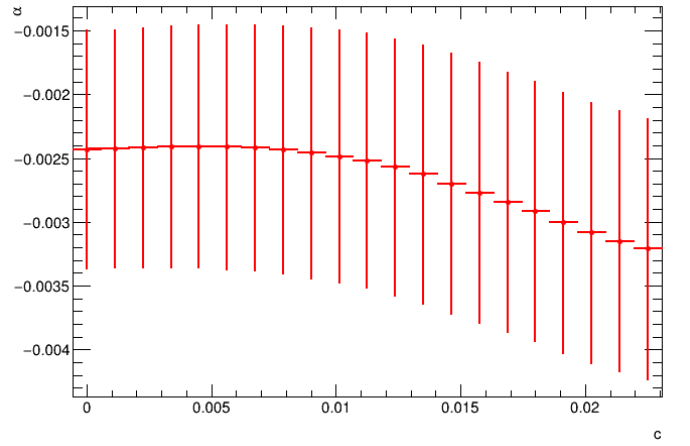
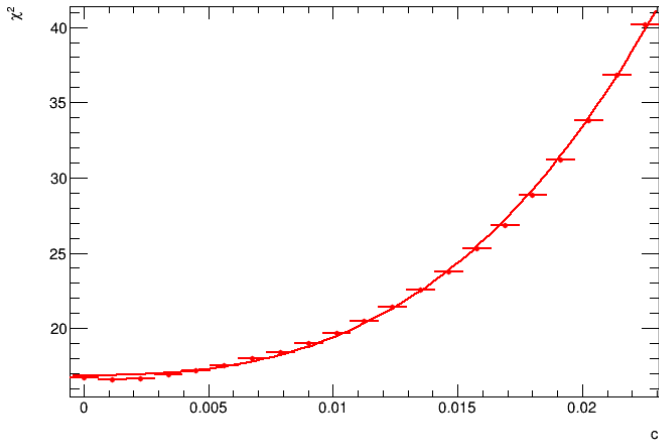
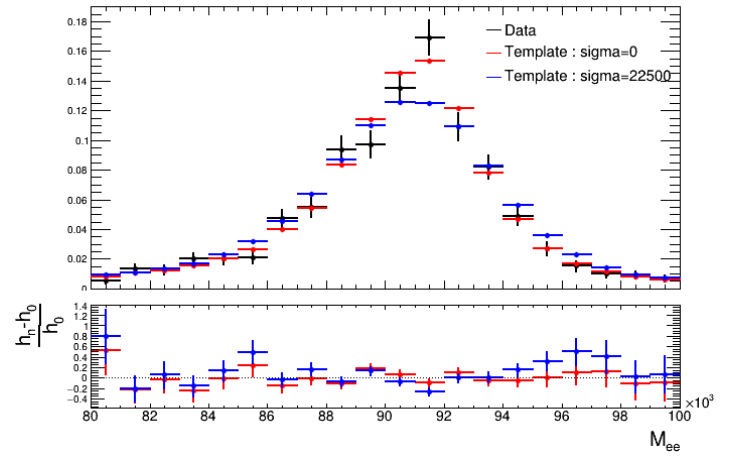
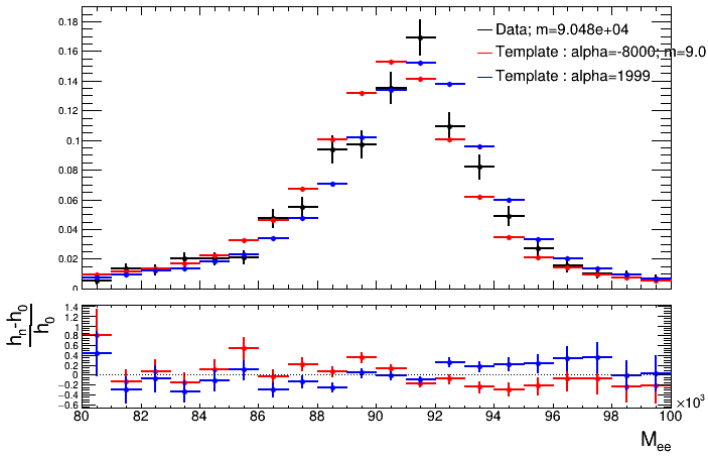
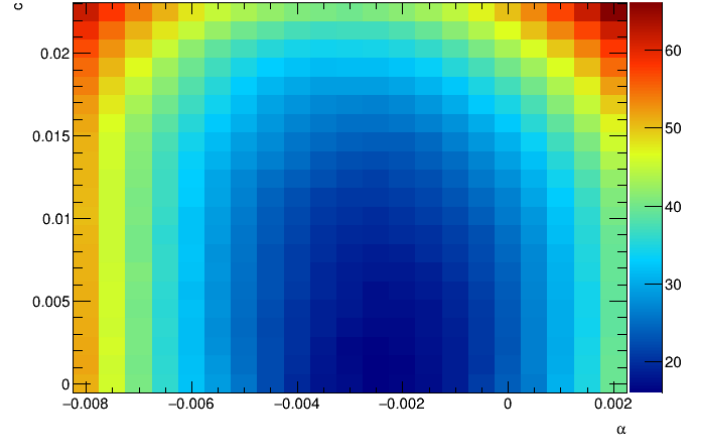
MCEvents : 260934

DataEvents : 1282

ThresholdMass : 60.8918

$$\alpha_{ij} = -0.00242918 \pm 0.000935451$$

$$\sigma_{ij} = 1.11916e - 13 \pm 0.00704375$$



# 18 ChiMatrix\_5\_1

Results

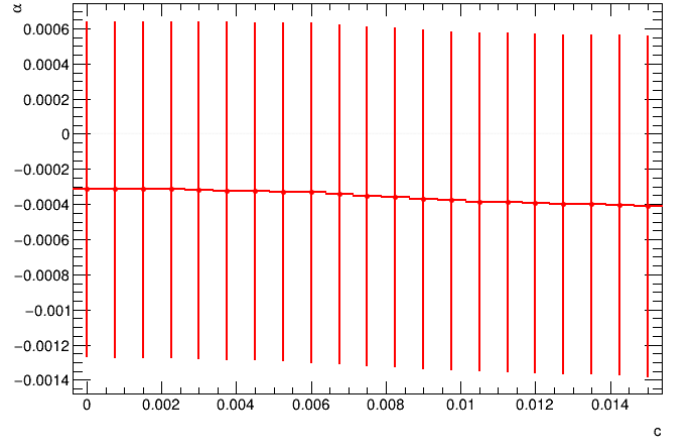
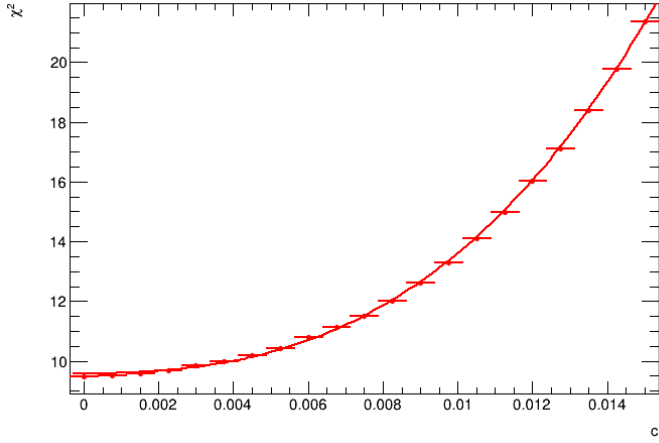
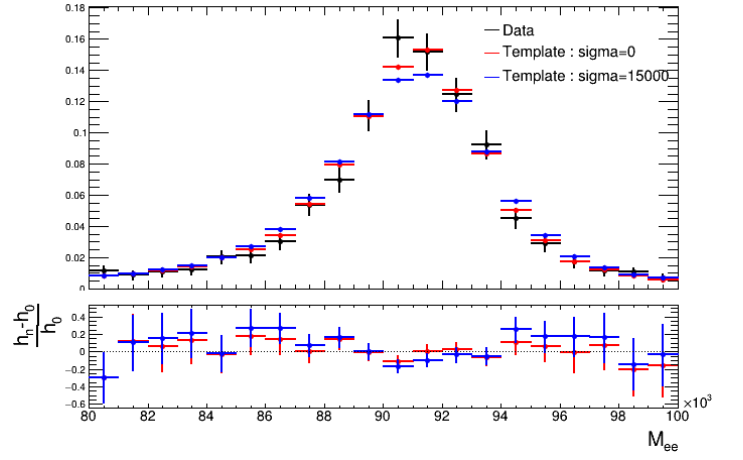
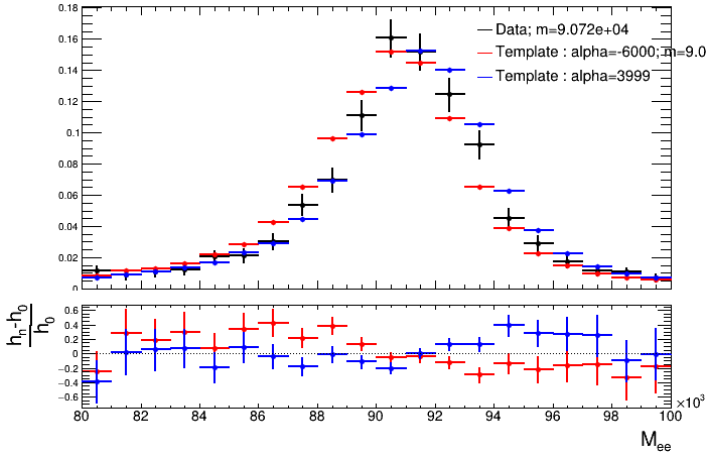
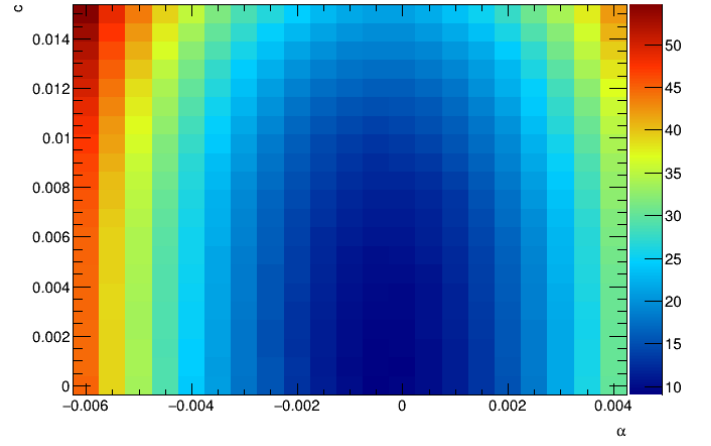
MCEvents : 261306

DataEvents : 1253

ThresholdMass : 58.3779

$$\alpha_{ij} = -0.000312887 \pm 0.000953001$$

$$\sigma_{ij} = 1.68606e - 14 \pm 0.00577689$$



# 19 ChiMatrix\_5\_2

Results

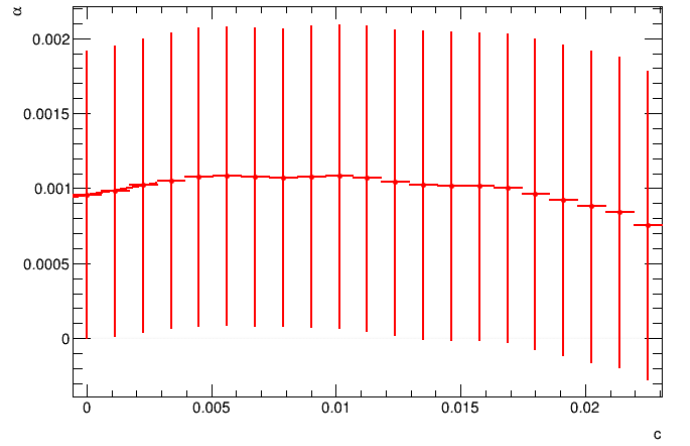
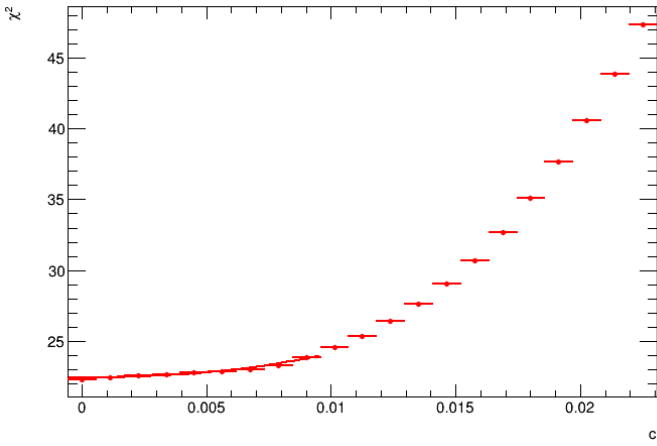
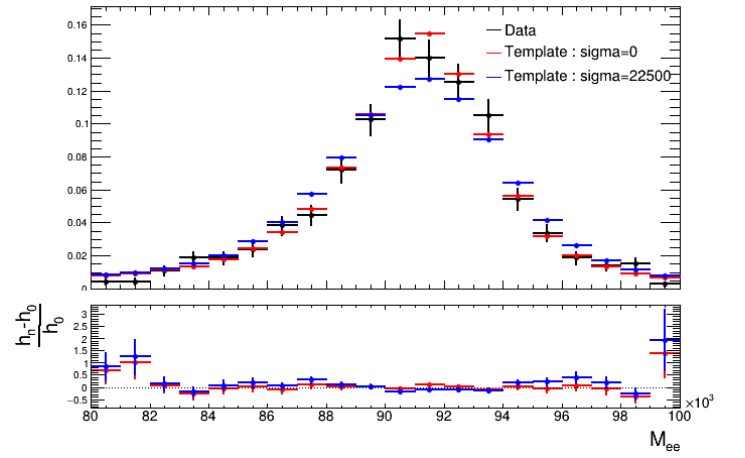
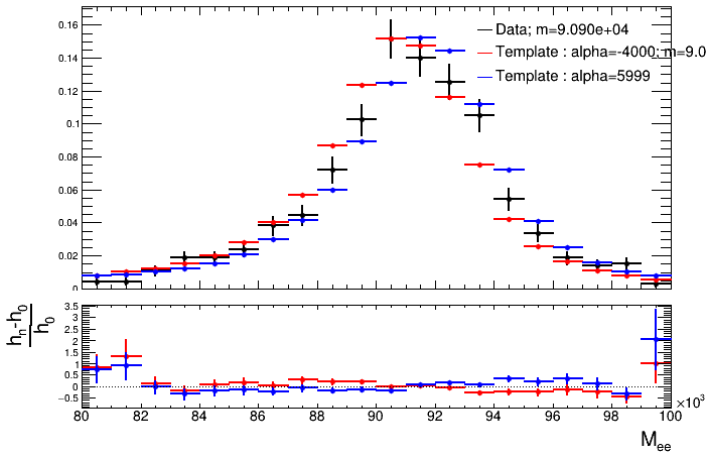
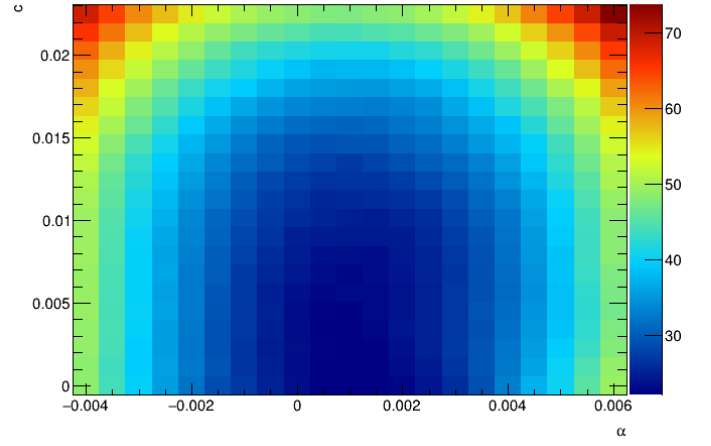
MCEvents : 252396

DataEvents : 1260

ThresholdMass : 56.4483

$$\alpha_{ij} = 0.000969922 \pm 0.000956406$$

$$\sigma_{ij} = 0 \pm 0.00851907$$



## 20 ChiMatrix\_5\_3

Results

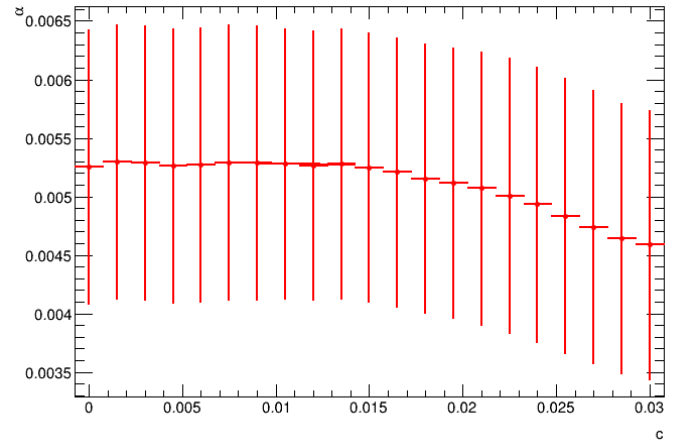
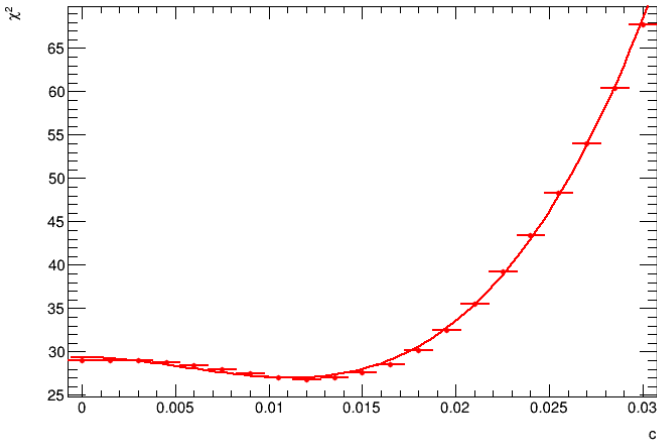
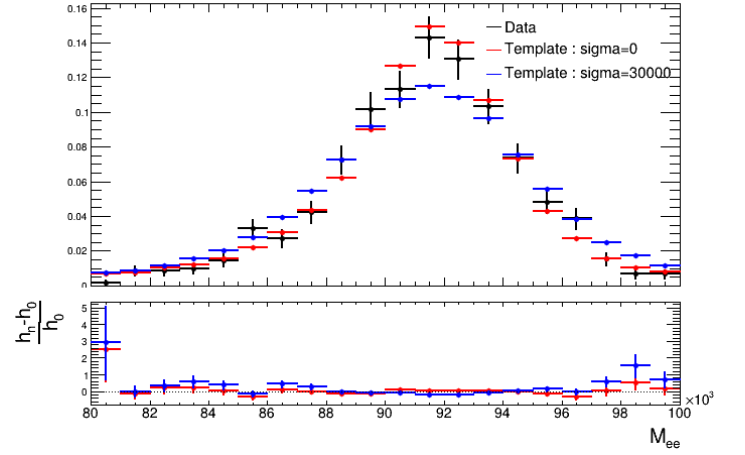
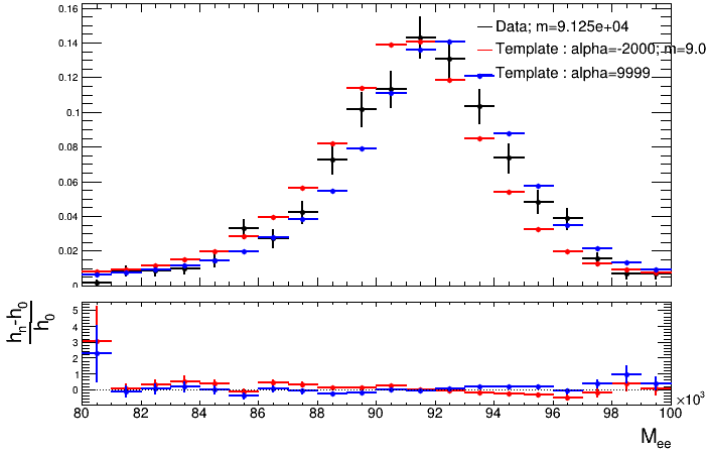
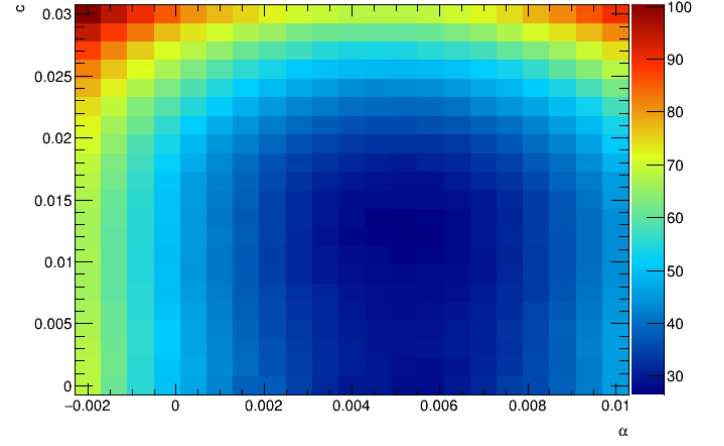
MCEvents : 233580

DataEvents : 1141

ThresholdMass : 55.0836

$$\alpha_{ij} = 0.0052796 \pm 0.0011544$$

$$\sigma_{ij} = 0.0112023 \pm 0.00382985$$



# 21 ChiMatrix\_5\_4

Results

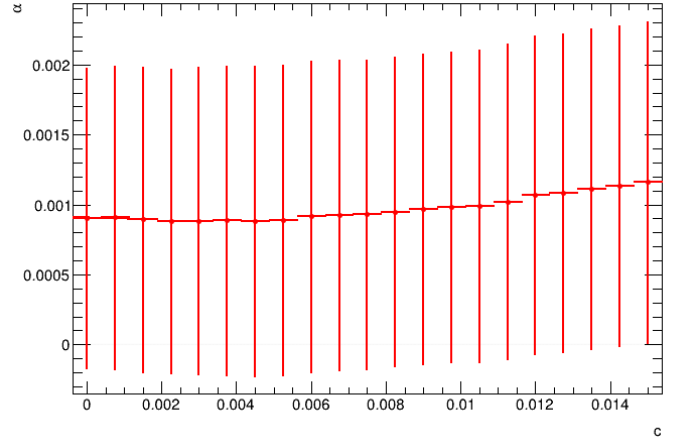
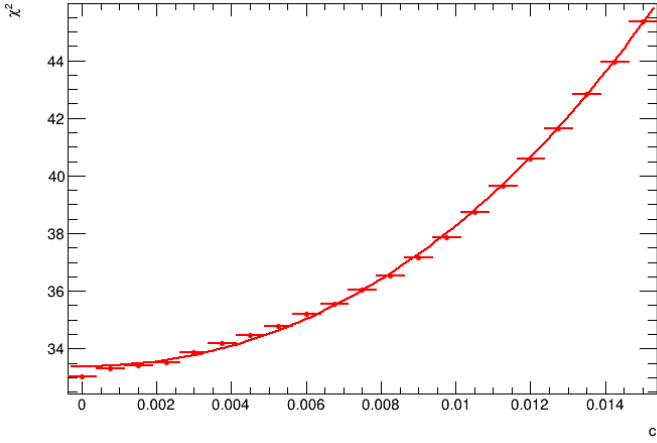
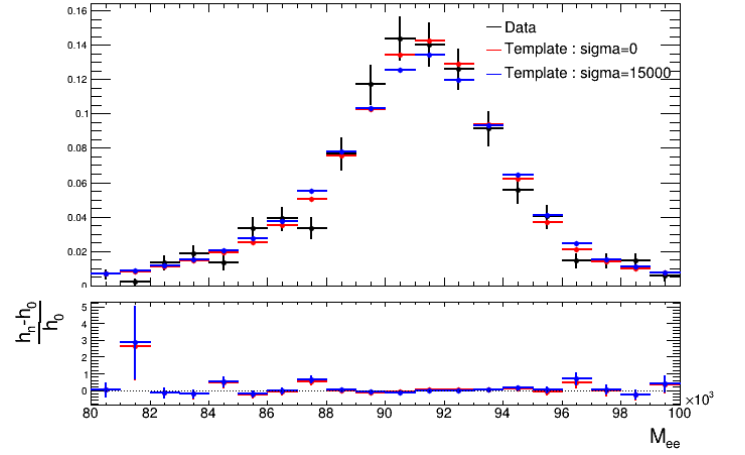
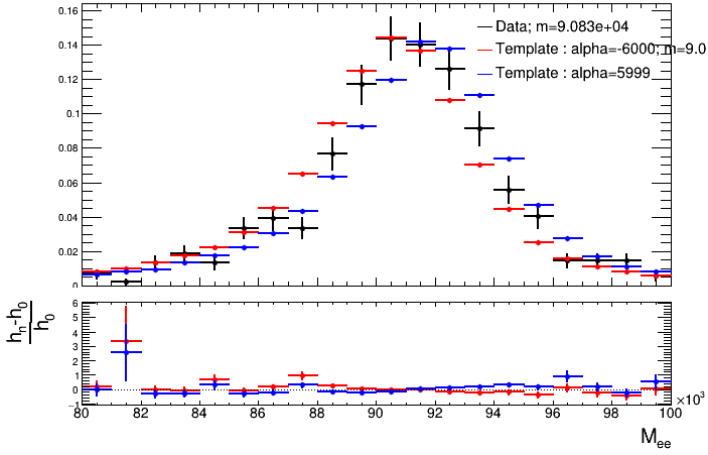
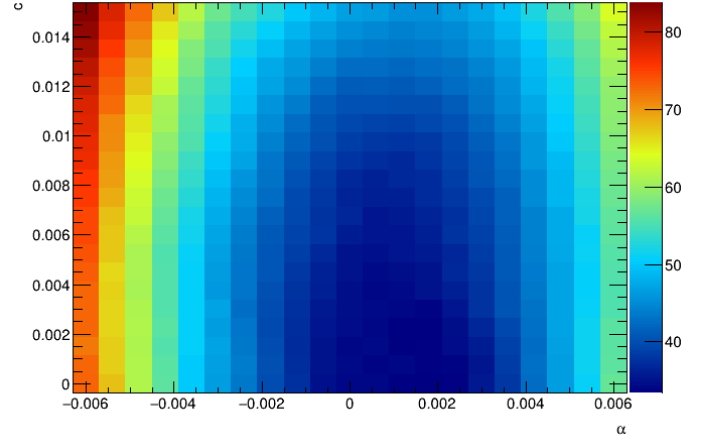
MCEvents : 207900

DataEvents : 1030

ThresholdMass : 54.2702

$$\alpha_{ij} = 0.00090663 \pm 0.00107367$$

$$\sigma_{ij} = 1.606e - 14 \pm 0.00474838$$



## 22 ChiMatrix\_5\_5

Results

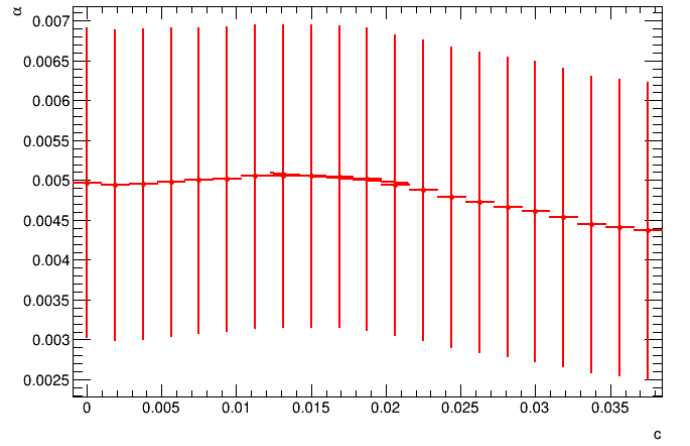
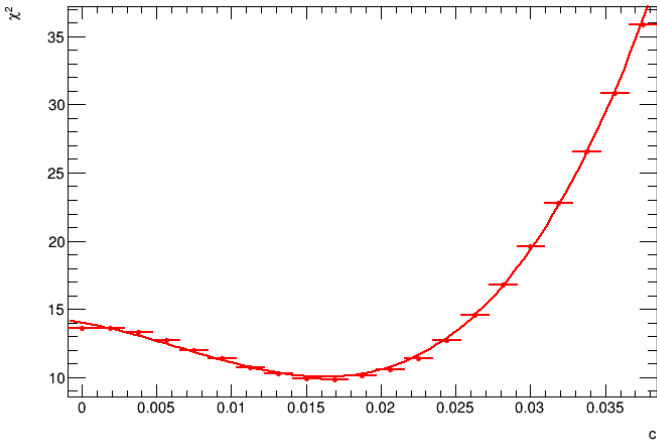
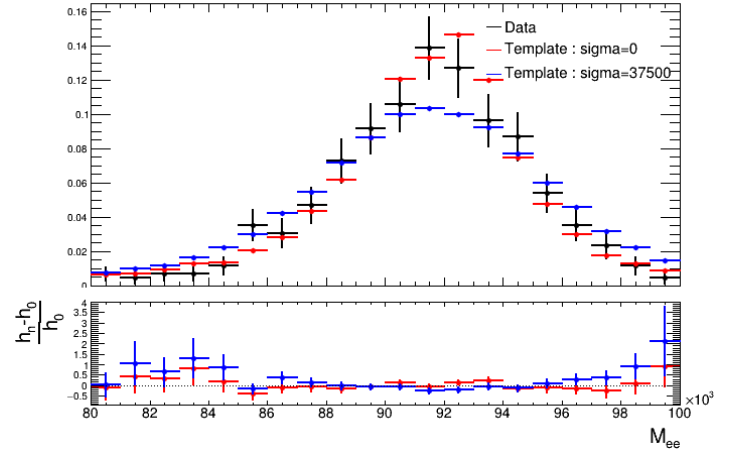
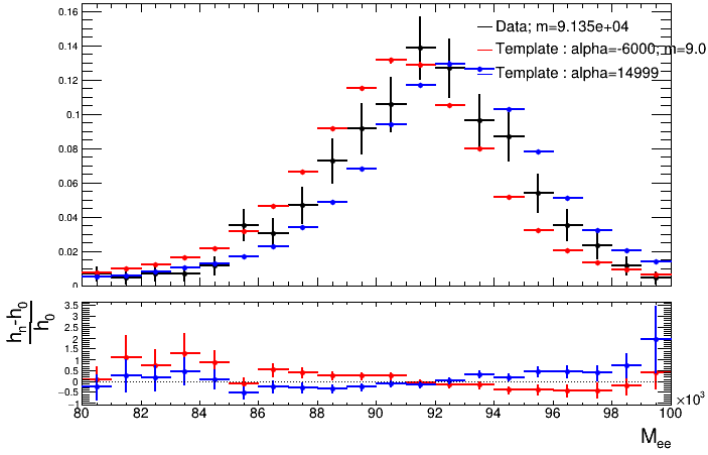
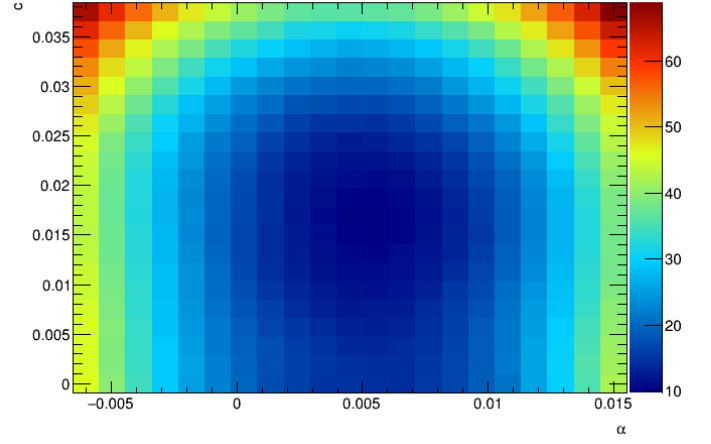
MCEvents : 89712

DataEvents : 474

ThresholdMass : 54

$$\alpha_{ij} = 0.00503306 \pm 0.00189459$$

$$\sigma_{ij} = 0.0162913 \pm 0.00503101$$





## 23 ChiMatrix\_6\_0

Results

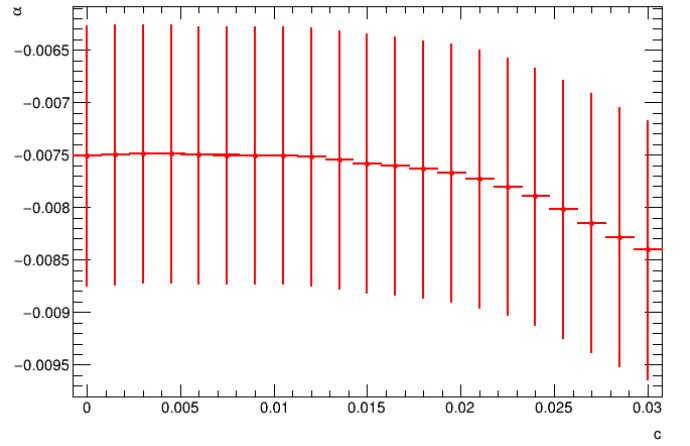
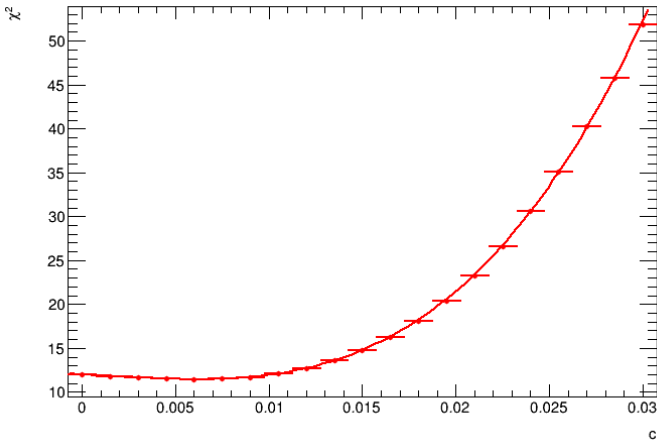
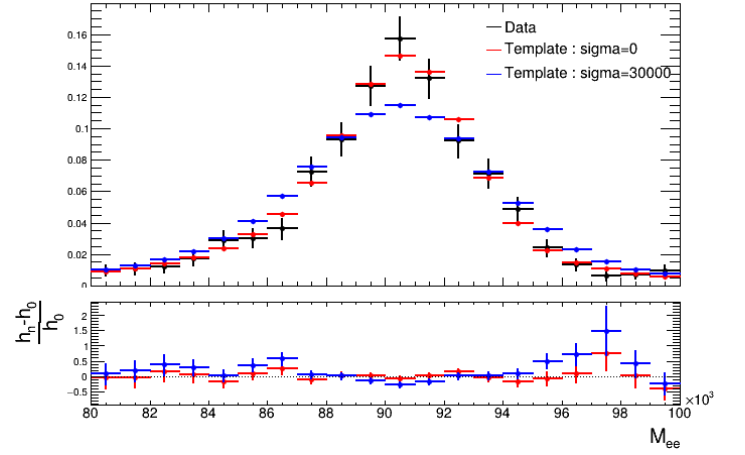
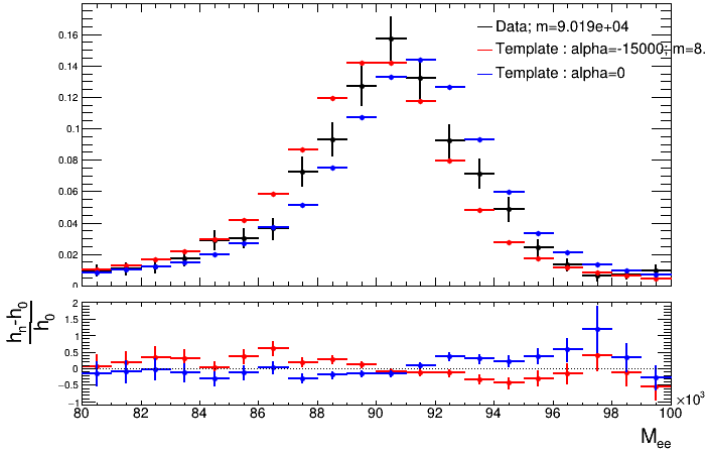
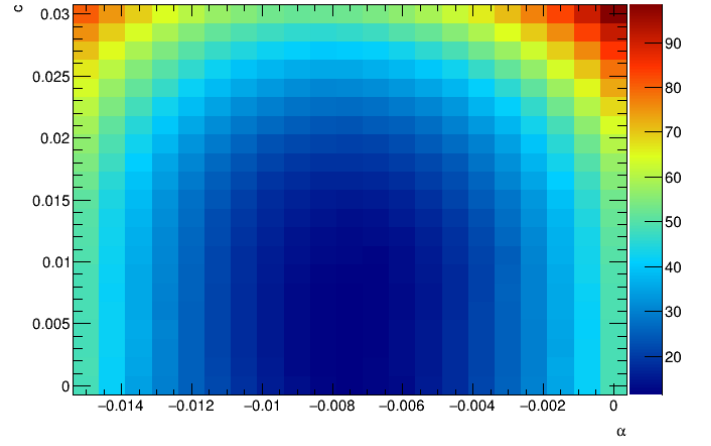
MCEvents : 200178

DataEvents : 901

ThresholdMass : 63.7591

$$\alpha_{ij} = -0.00749665 \pm 0.00122551$$

$$\sigma_{ij} = 0.00625403 \pm 0.00524785$$



## 24 ChiMatrix\_6\_1

Results

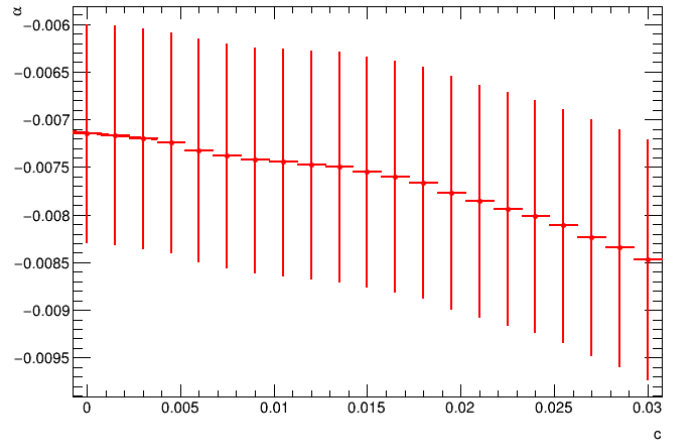
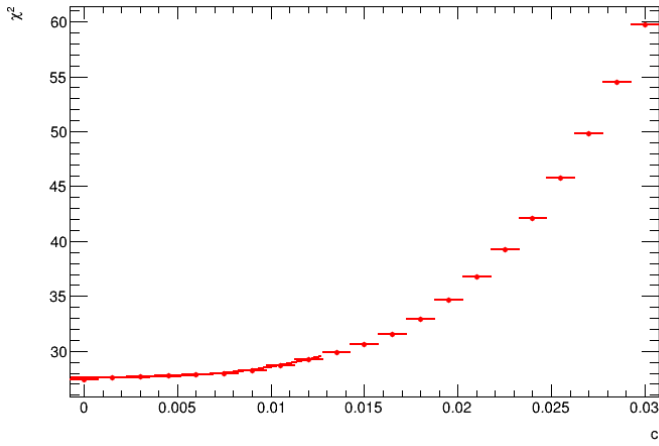
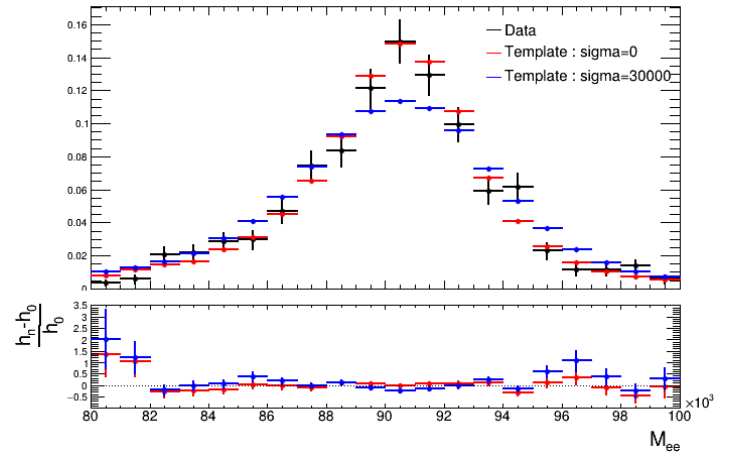
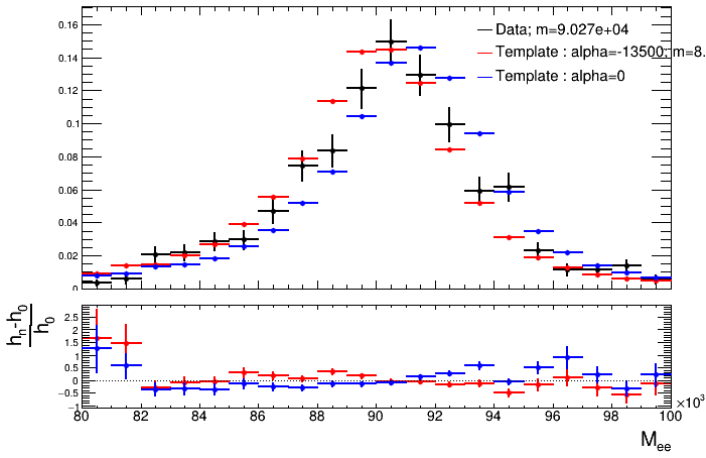
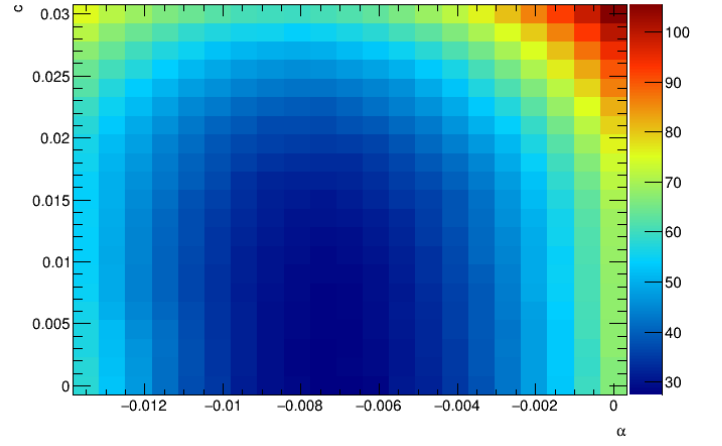
MCEvents : 197082

DataEvents : 952

ThresholdMass : 60.6825

$$\alpha_{ij} = -0.00715406 \pm 0.00114369$$

$$\sigma_{ij} = 0 \pm 0.0103459$$



## 25 ChiMatrix\_6\_2

Results

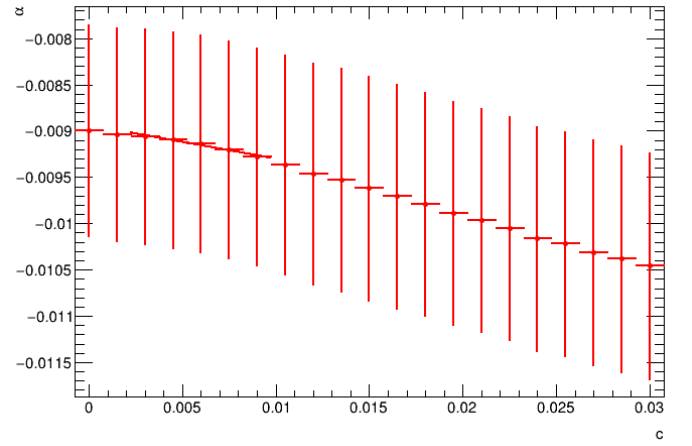
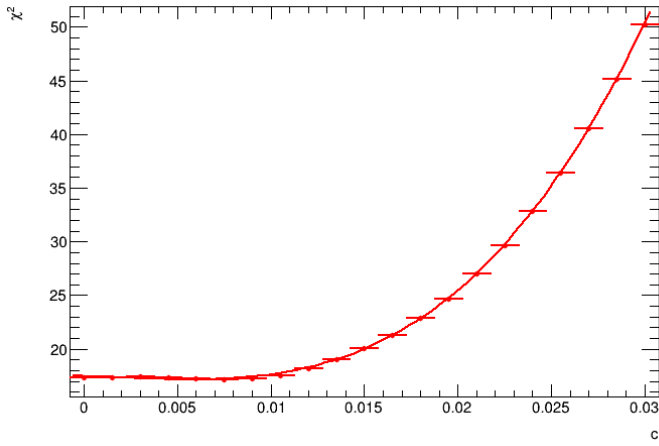
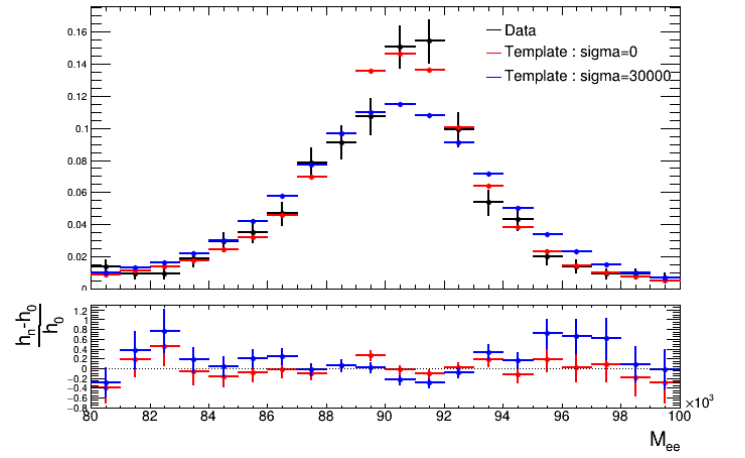
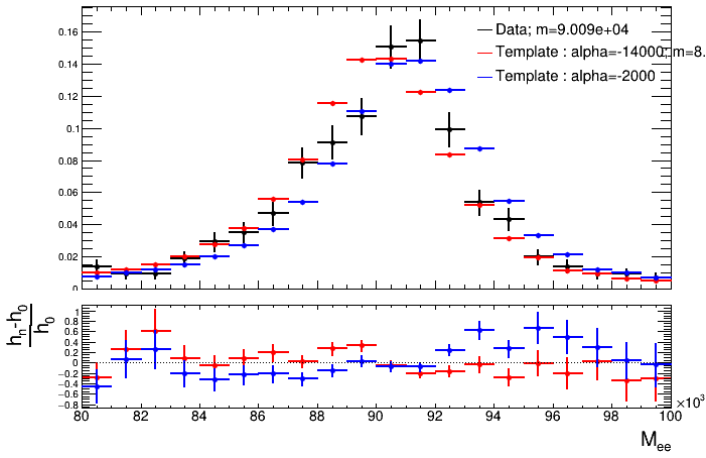
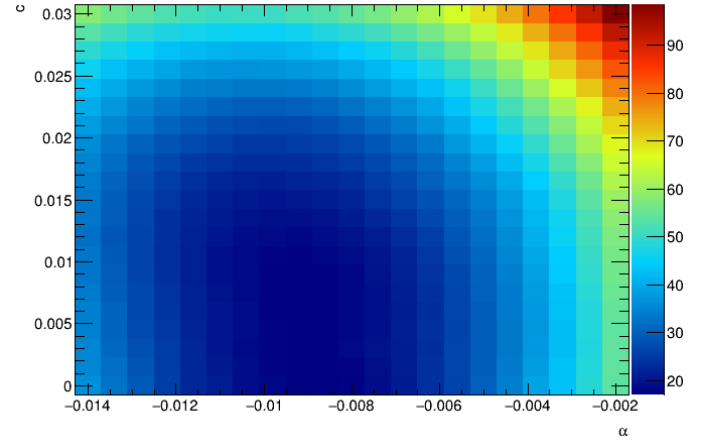
MCEvents : 190980

DataEvents : 940

ThresholdMass : 58.2132

$$\alpha_{ij} = -0.00914713 \pm 0.00117665$$

$$\sigma_{ij} = 0.00575761 \pm 0.00599488$$



## 26 ChiMatrix\_6\_3

Results

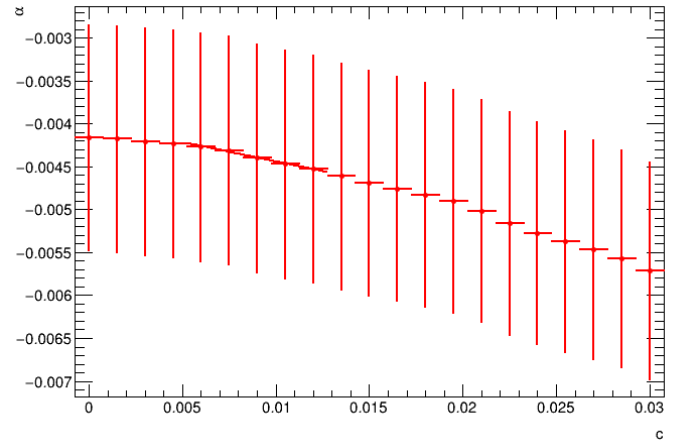
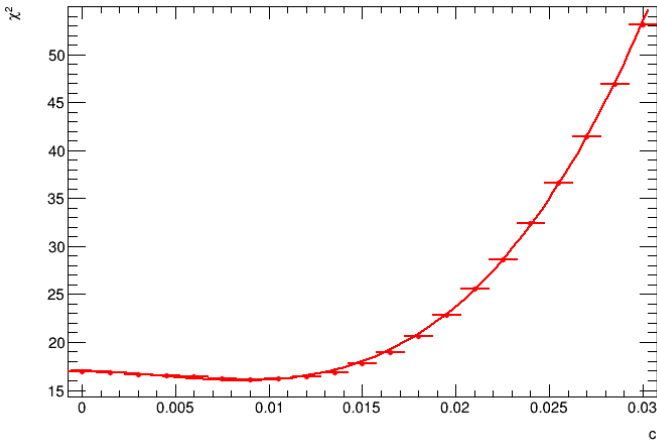
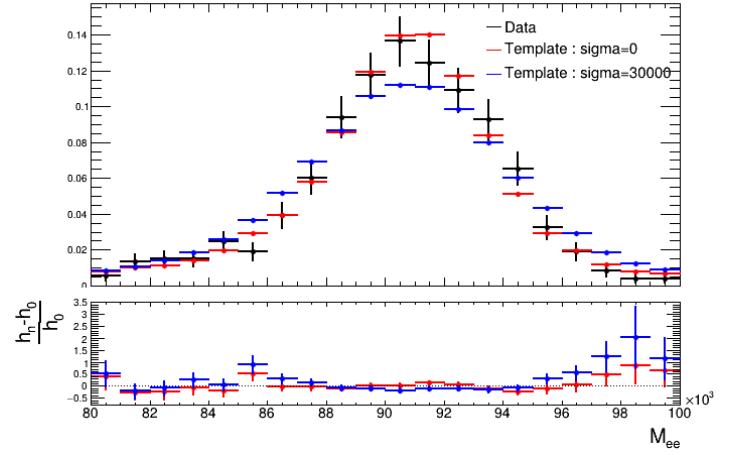
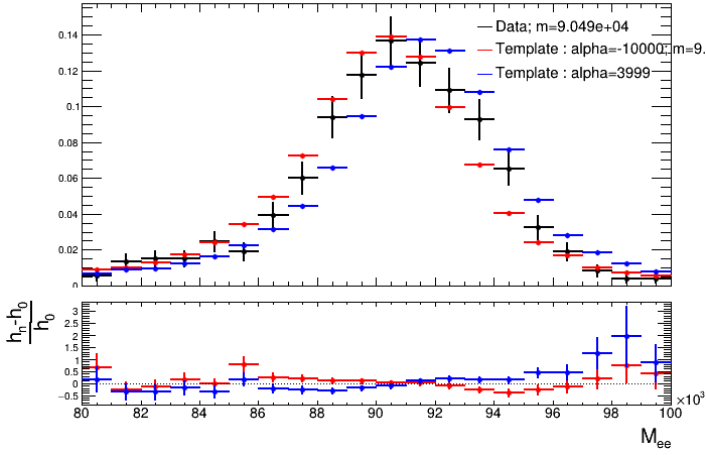
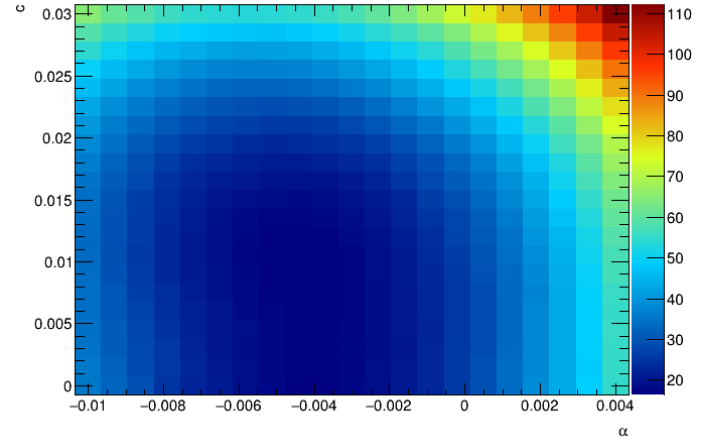
MCEvents : 172188

DataEvents : 825

ThresholdMass : 56.3265

$$\alpha_{ij} = -0.00437775 \pm 0.00133546$$

$$\sigma_{ij} = 0.00861101 \pm 0.00476453$$



## 27 ChiMatrix\_6\_4

Results

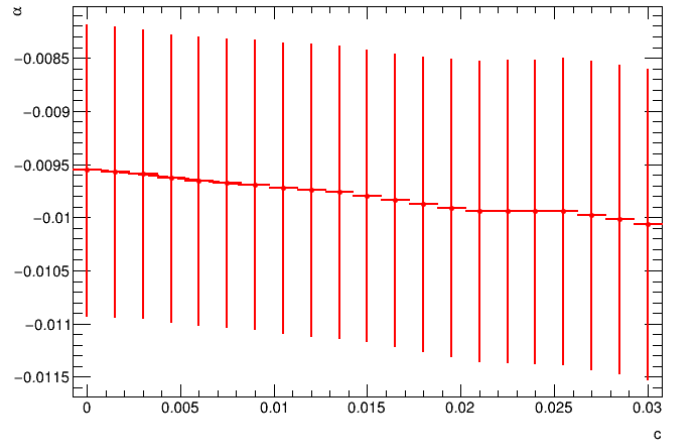
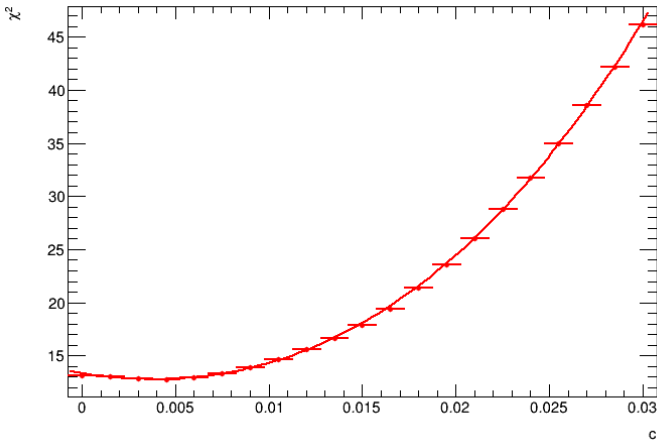
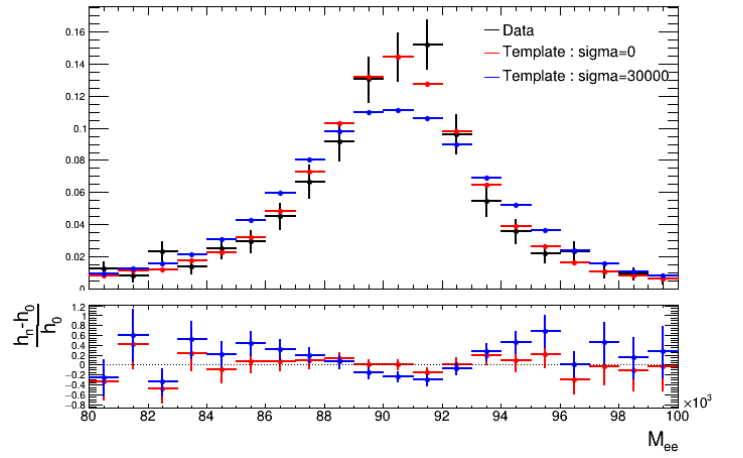
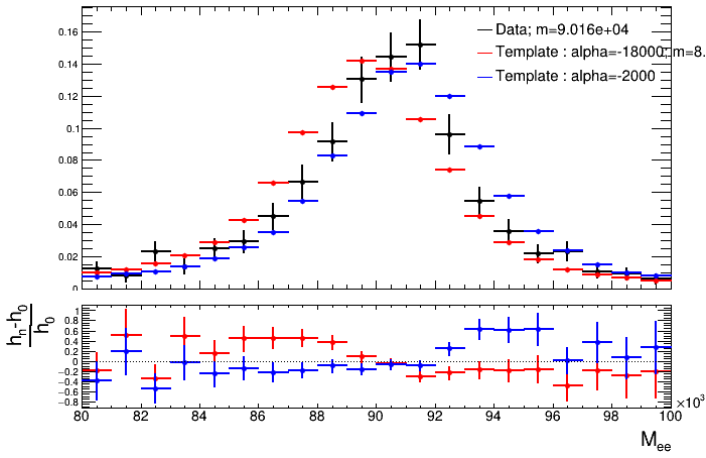
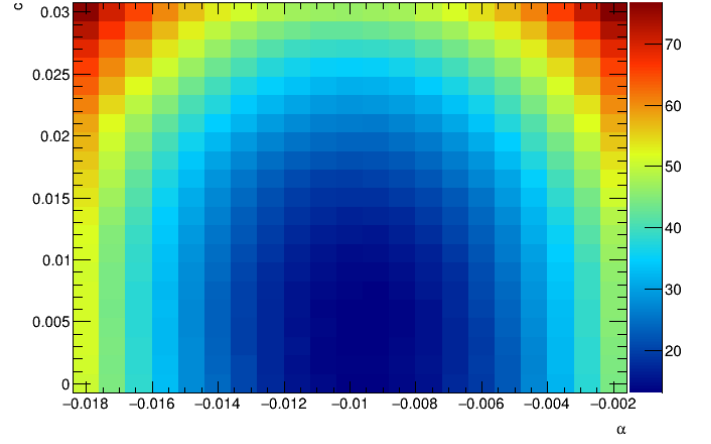
MCEvents : 149868

DataEvents : 745

ThresholdMass : 55.0036

$$\alpha_{ij} = -0.00961431 \pm 0.00135023$$

$$\sigma_{ij} = 0.00388282 \pm 0.0050212$$



## 28 ChiMatrix\_6\_5

Results

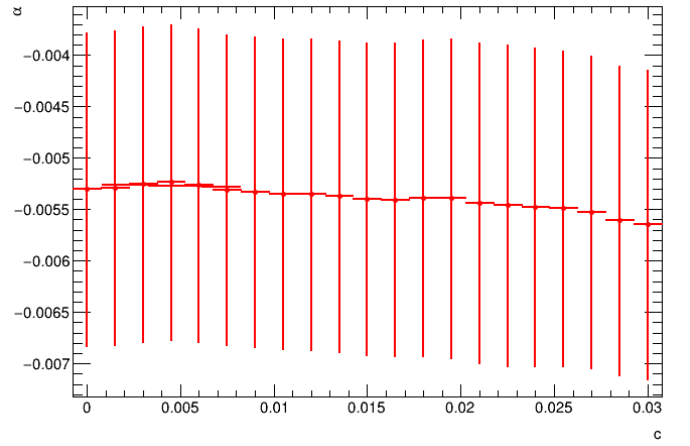
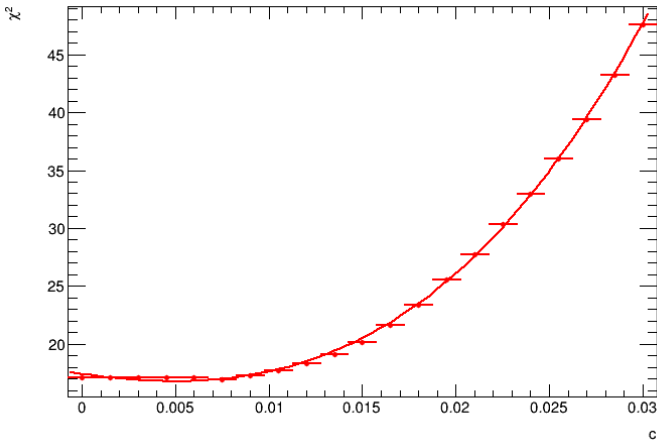
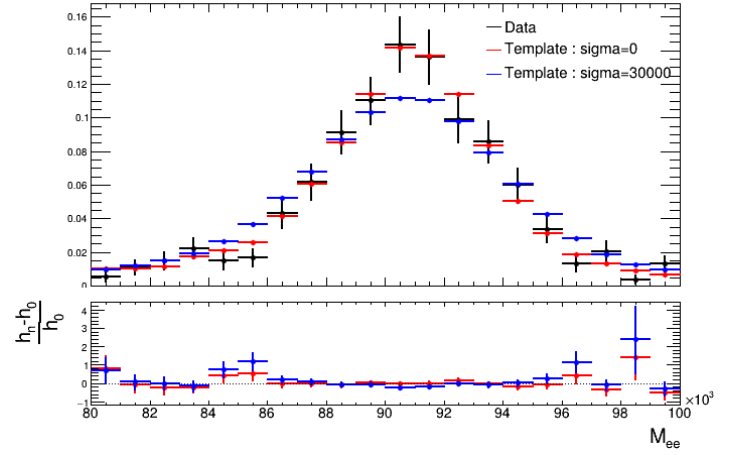
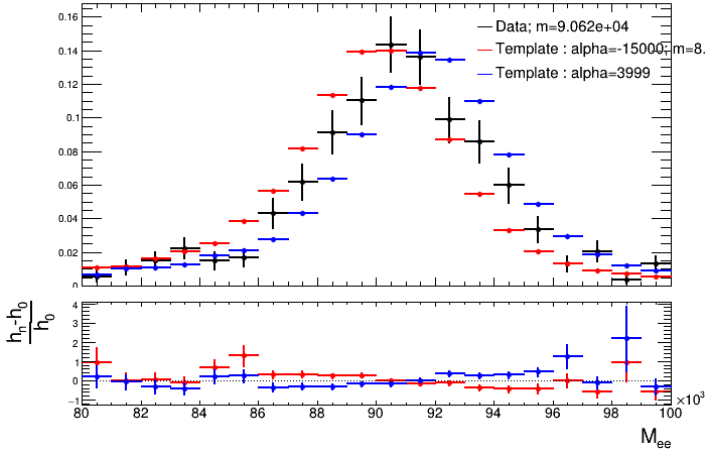
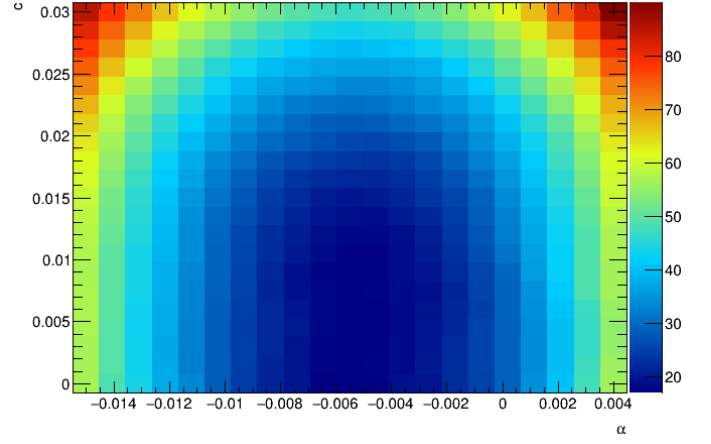
MCEvents : 125994

DataEvents : 628

ThresholdMass : 54.2312

$$\alpha_{ij} = -0.00527254 \pm 0.00153586$$

$$\sigma_{ij} = 0.00502608 \pm 0.00547324$$



## 29 ChiMatrix\_6\_6

Results

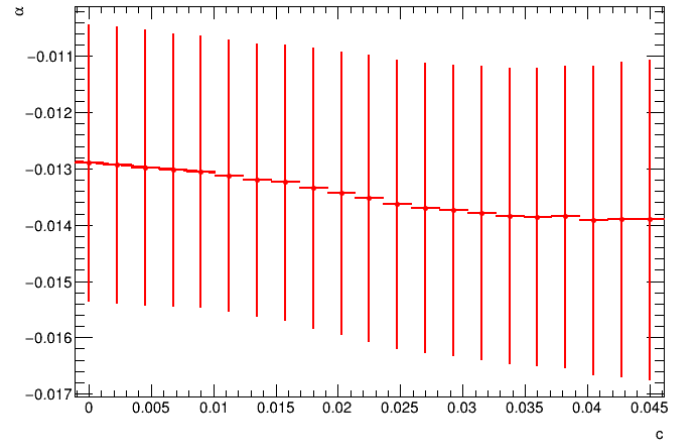
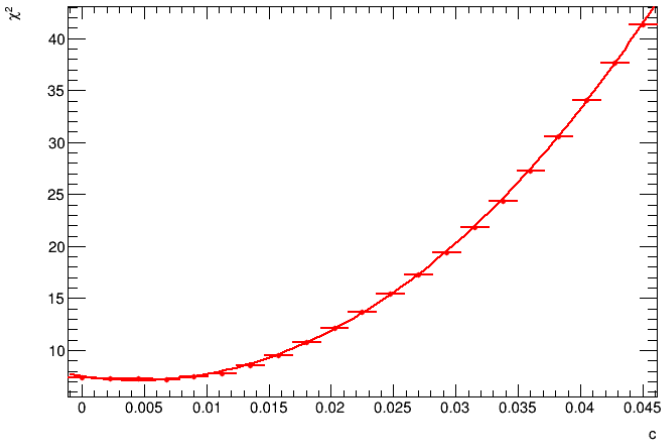
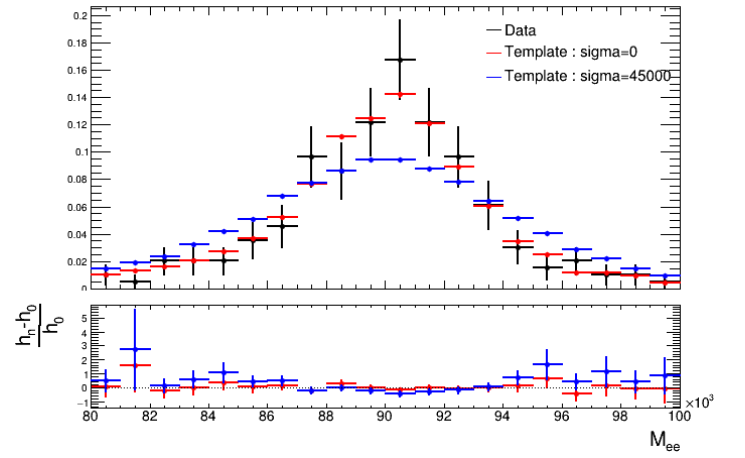
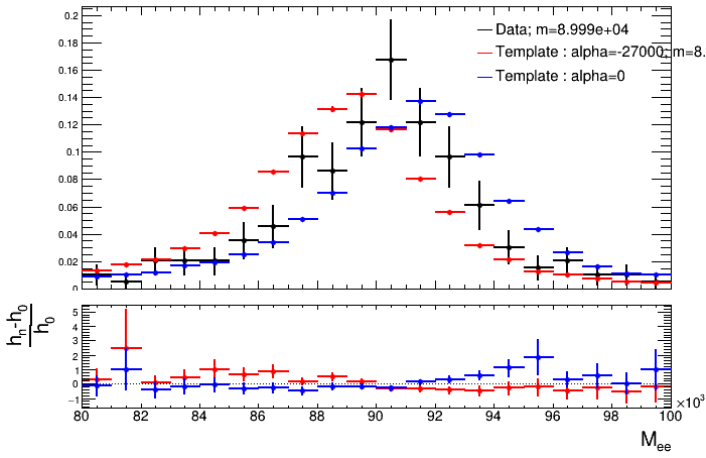
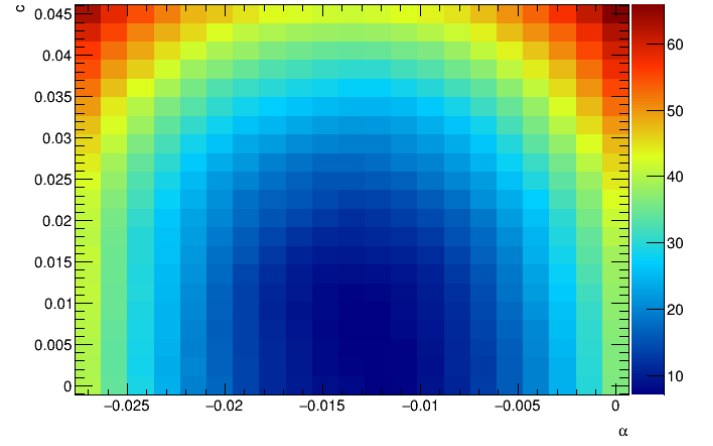
MCEvents : 48954

DataEvents : 231

ThresholdMass : 54

$$\alpha_{ij} = -0.0129714 \pm 0.00244286$$

$$\sigma_{ij} = 0.00444473 \pm 0.00720959$$



# 30 ChiMatrix\_7\_0

Results

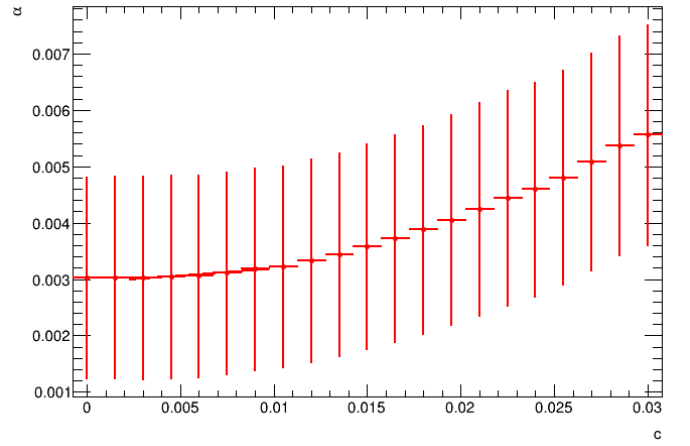
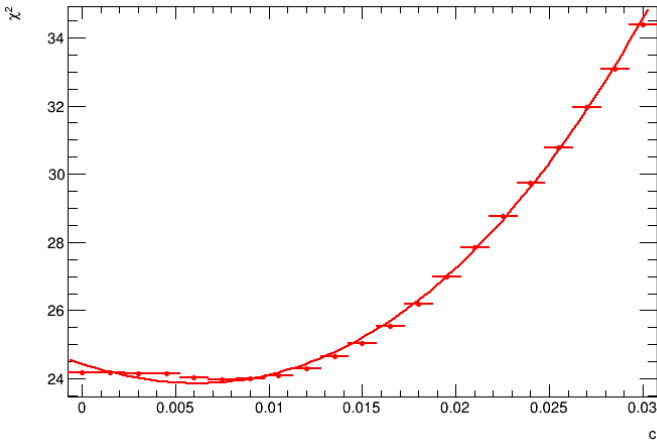
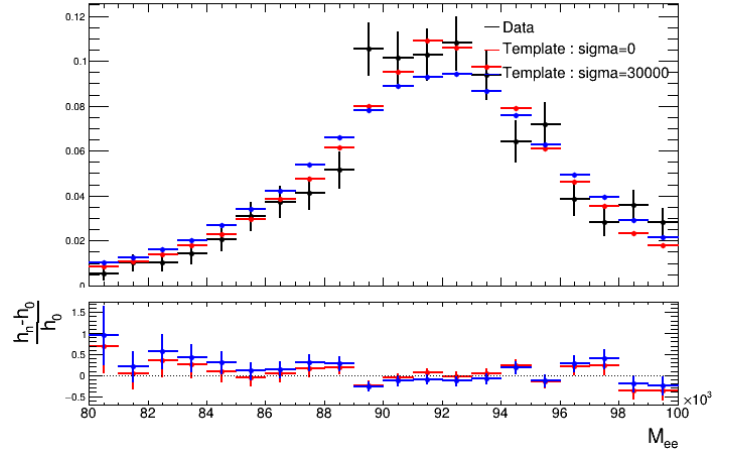
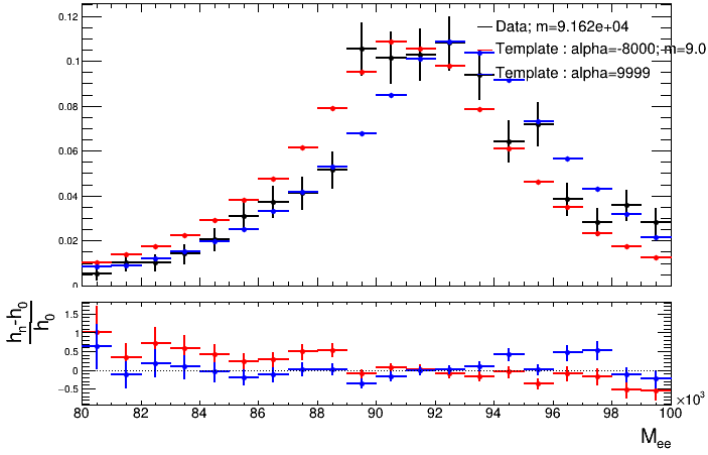
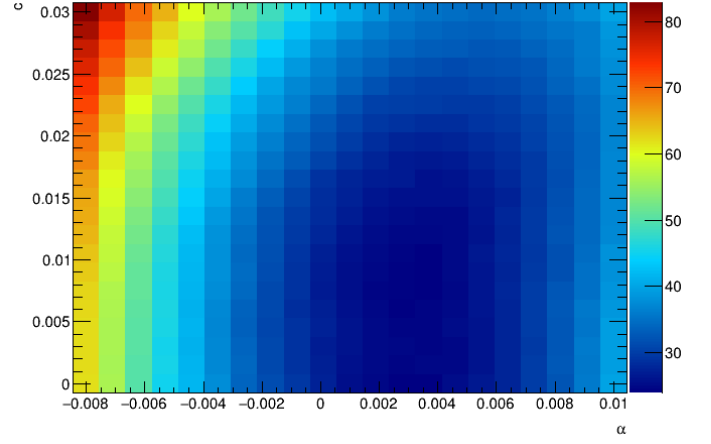
MCEvents : 184134

DataEvents : 897

ThresholdMass : 66.9734

$$\alpha_{ij} = 0.00308918 \pm 0.0017925$$

$$\sigma_{ij} = 0.00616493 \pm 0.00771284$$





# 31 ChiMatrix\_7\_1

Results

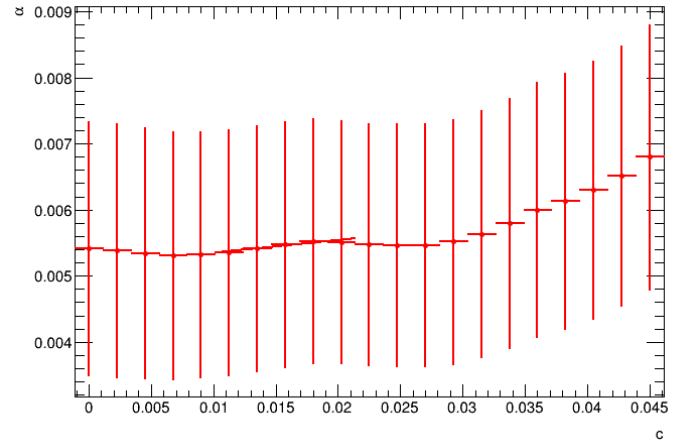
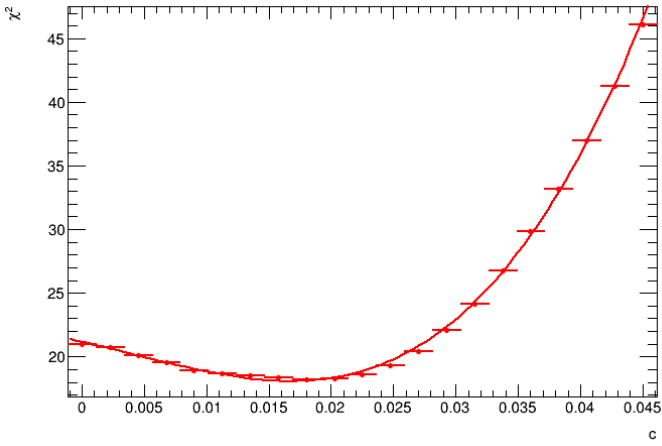
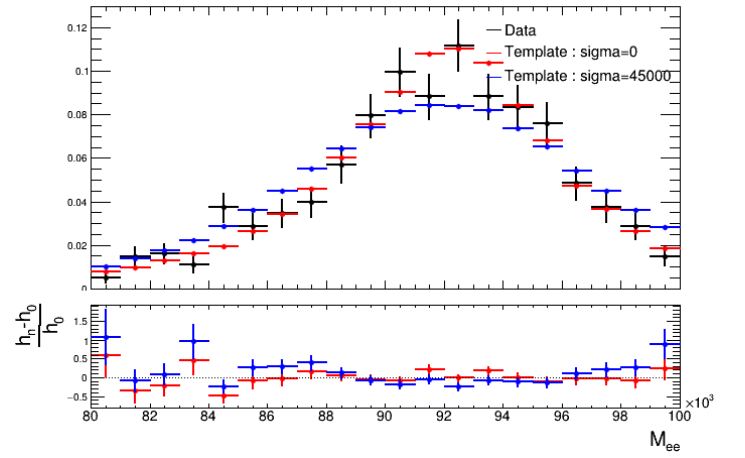
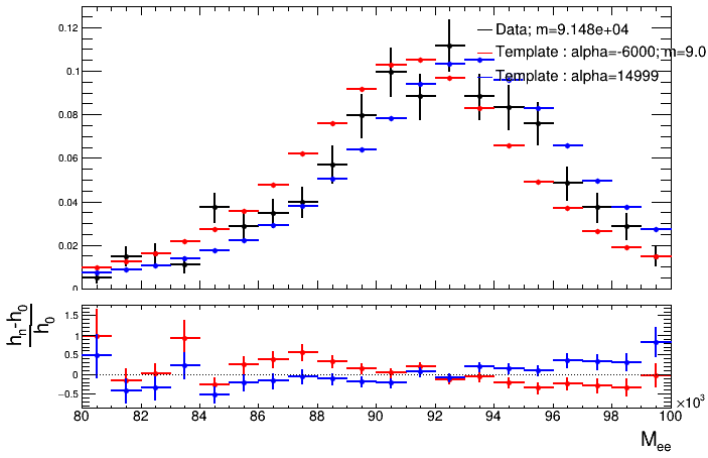
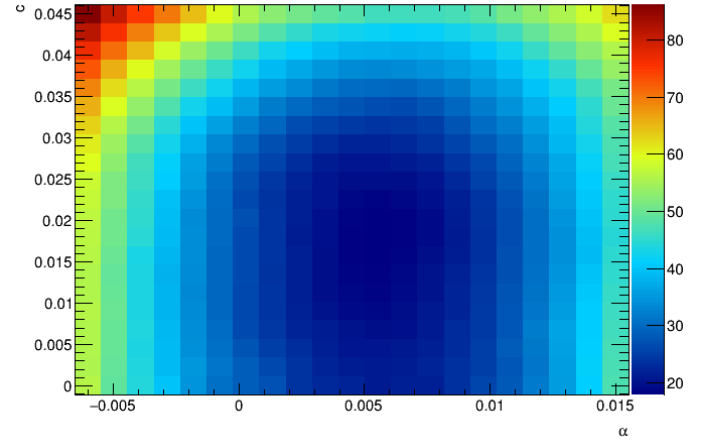
MCEvents : 184170

DataEvents : 916

ThresholdMass : 63.3403

$$\alpha_{ij} = 0.00547637 \pm 0.00186186$$

$$\sigma_{ij} = 0.0167179 \pm 0.006501$$



## 32 ChiMatrix\_7\_2

Results

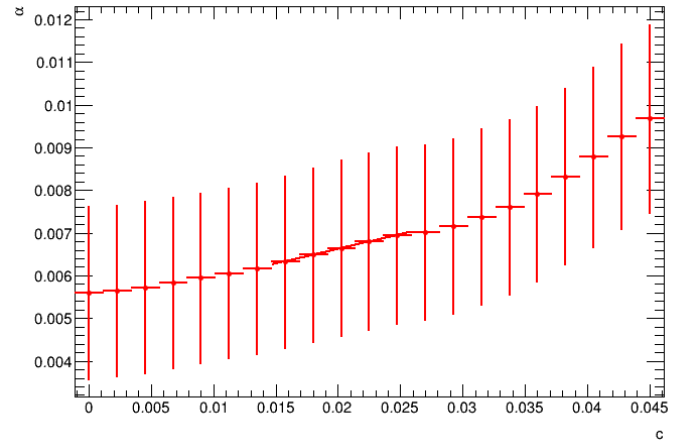
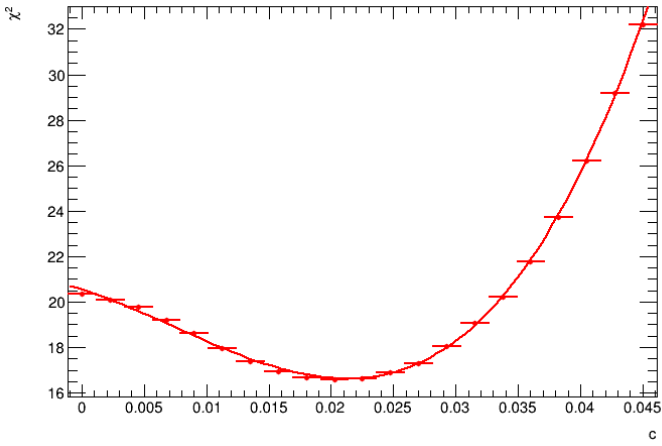
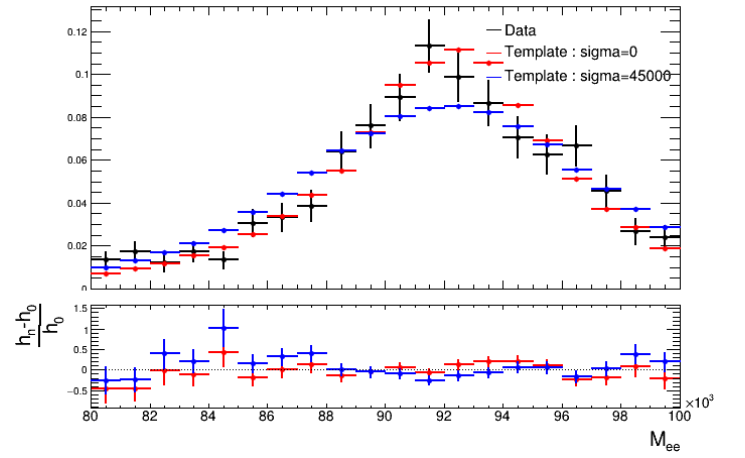
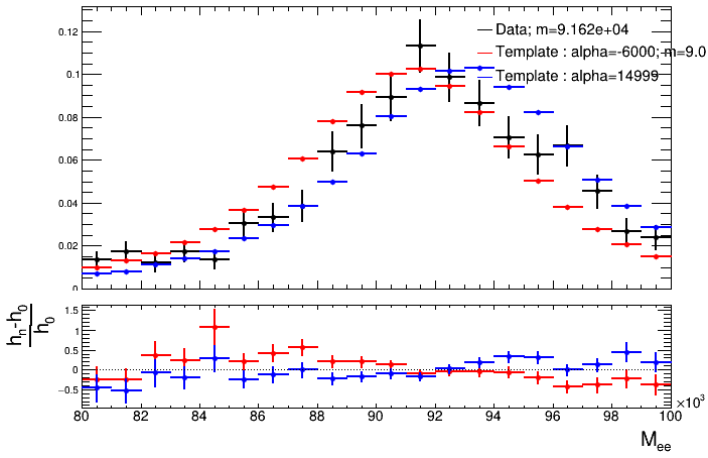
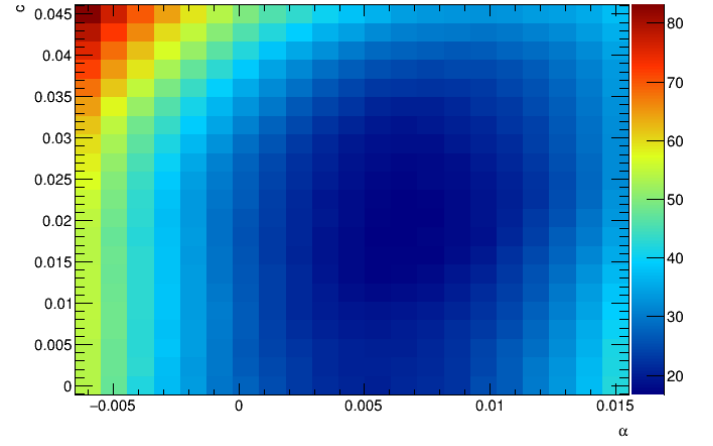
MCEvents : 173046

DataEvents : 850

ThresholdMass : 60.3412

$$\alpha_{ij} = 0.00670955 \pm 0.00206202$$

$$\sigma_{ij} = 0.0212723 \pm 0.00694735$$



### 33 ChiMatrix\_7\_3

Results

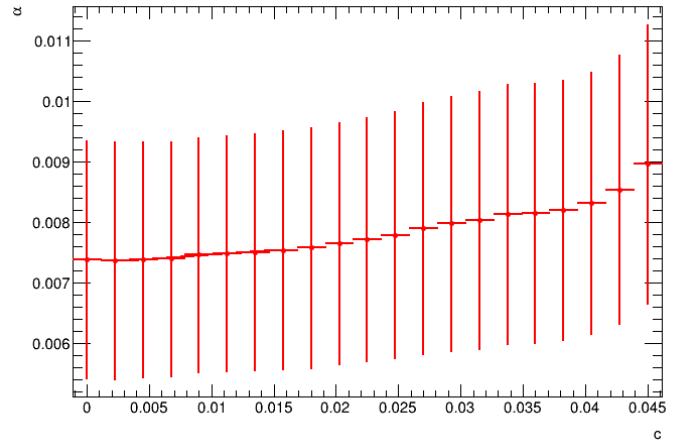
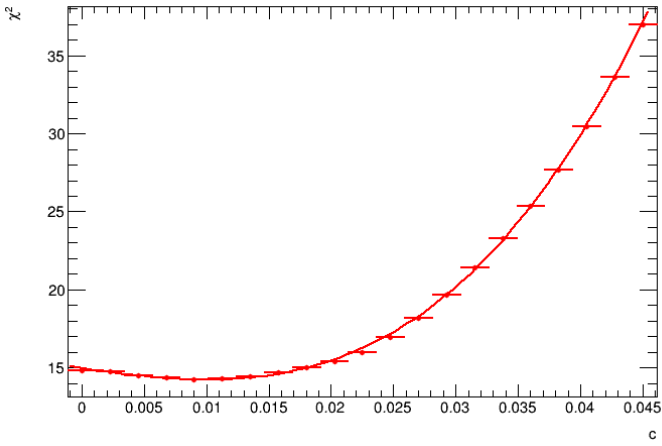
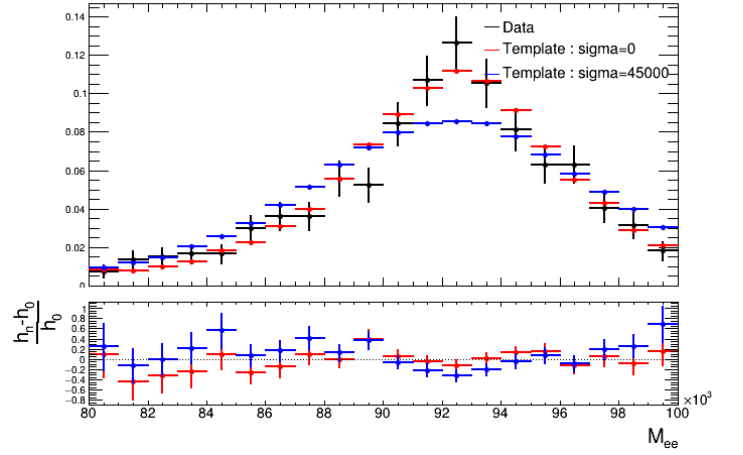
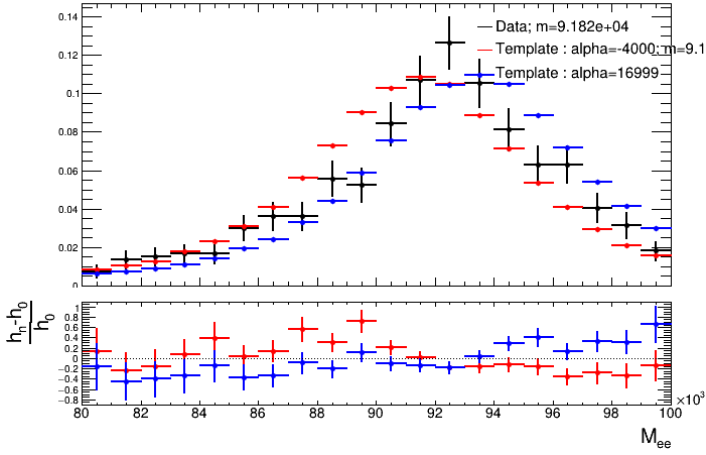
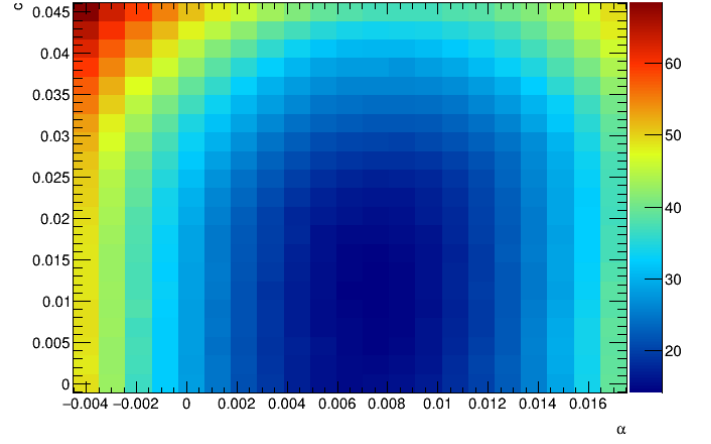
MCEvents : 153312

DataEvents : 778

ThresholdMass : 57.9459

$$\alpha_{ij} = 0.00746605 \pm 0.00194138$$

$$\sigma_{ij} = 0.0100754 \pm 0.00907401$$



# 34 ChiMatrix\_7\_4

Results

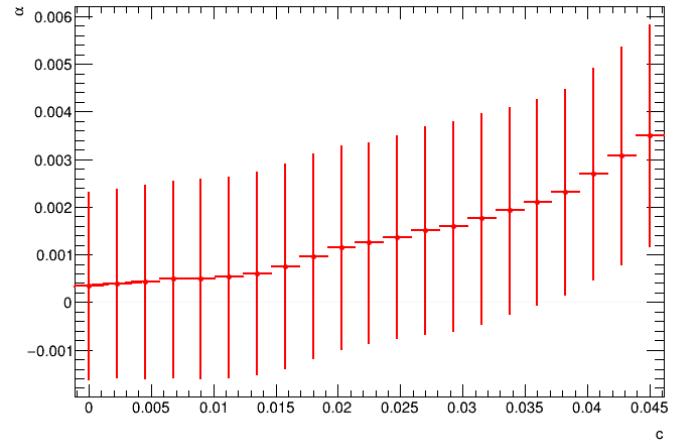
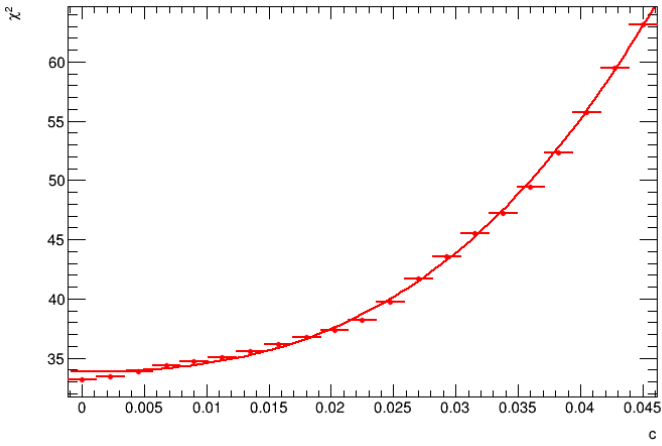
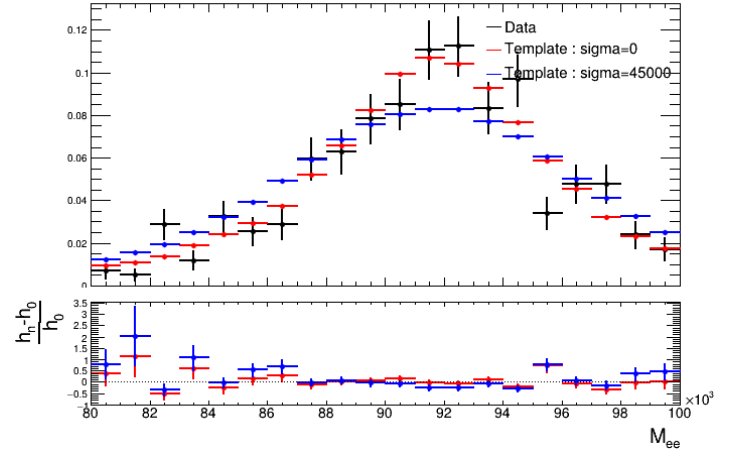
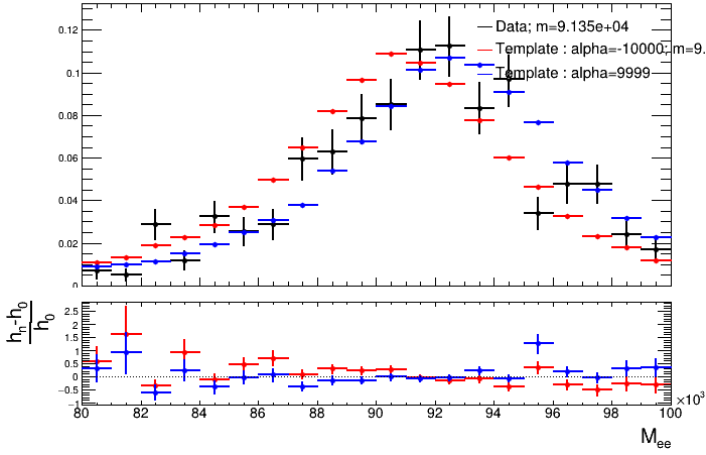
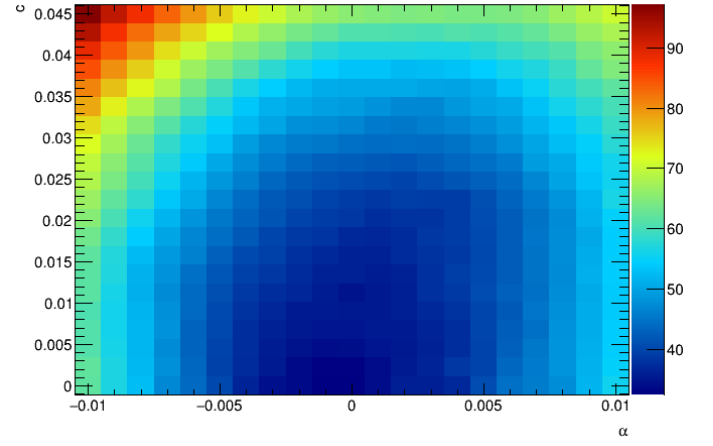
MCEvents : 131802

DataEvents : 696

ThresholdMass : 56.1307

$$\alpha_{ij} = 0.000353104 \pm 0.00196148$$

$$\sigma_{ij} = 1.61122e - 13 \pm 0.0118353$$



# 35 ChiMatrix\_7\_5

Results

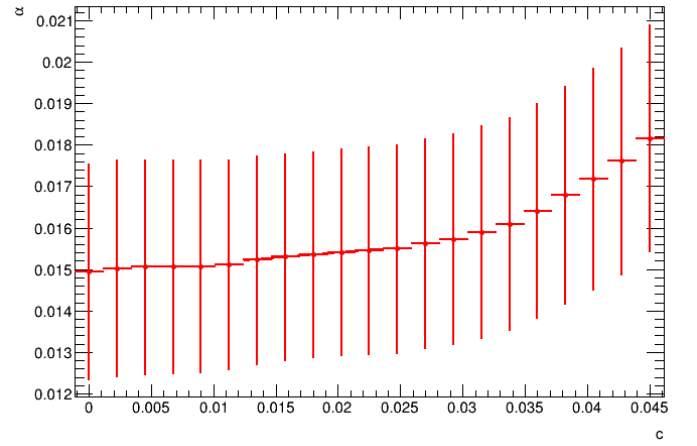
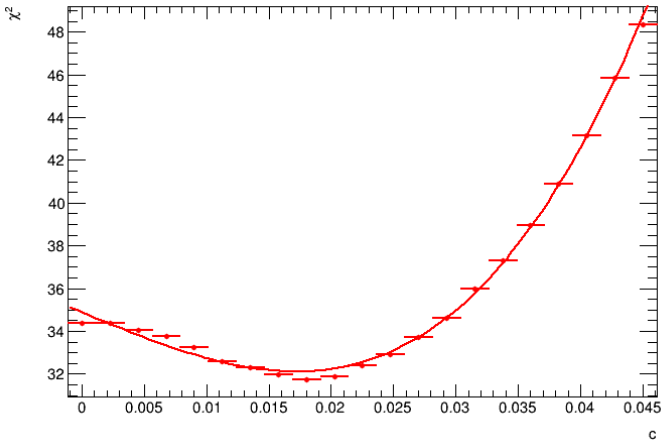
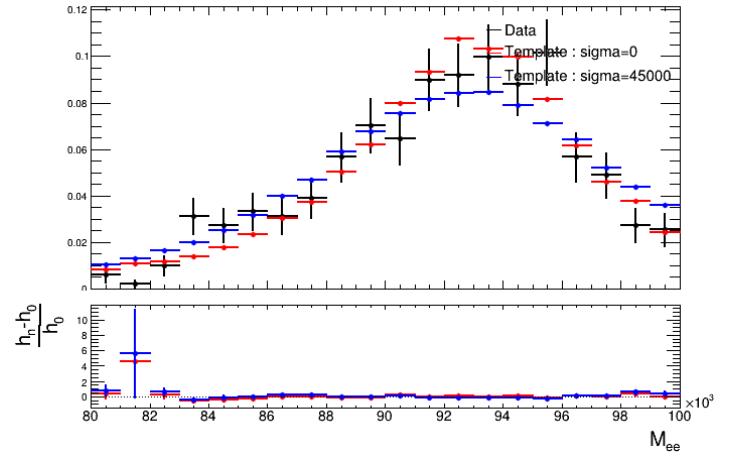
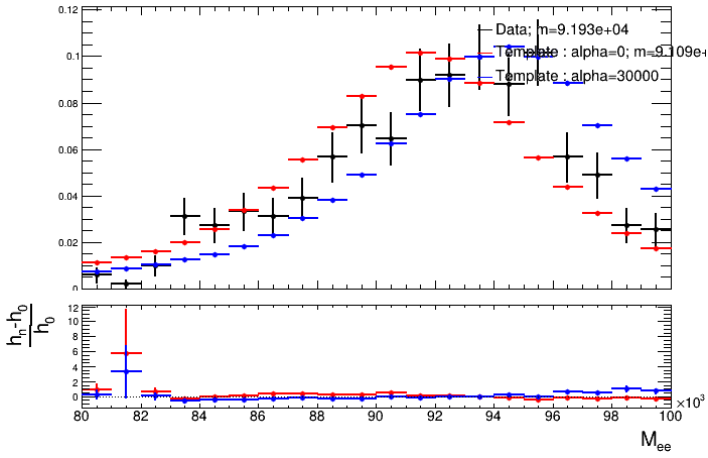
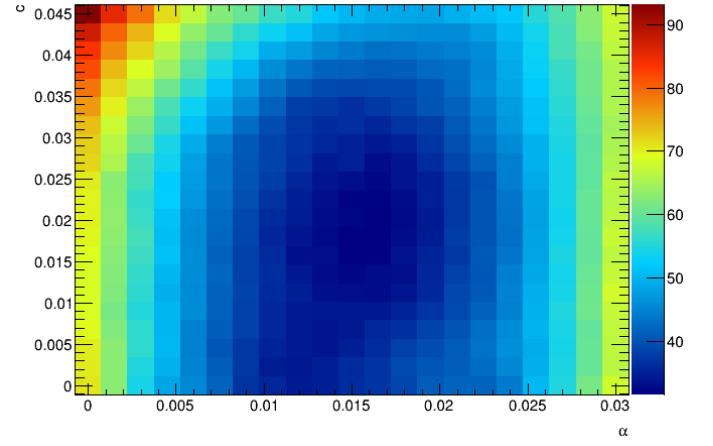
MCEvents : 121146

DataEvents : 642

ThresholdMass : 54.8772

$$\alpha_{ij} = 0.0153308 \pm 0.00247776$$

$$\sigma_{ij} = 0.0172262 \pm 0.00788085$$



# 36 ChiMatrix\_7\_6

Results

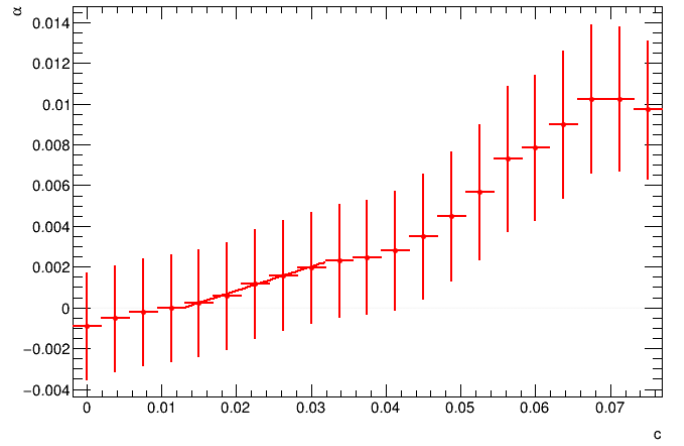
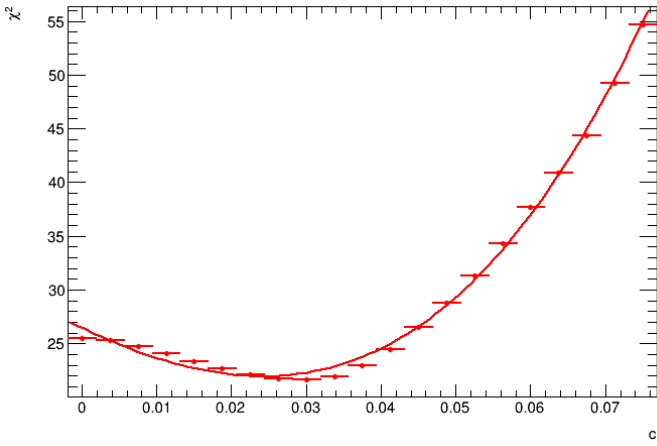
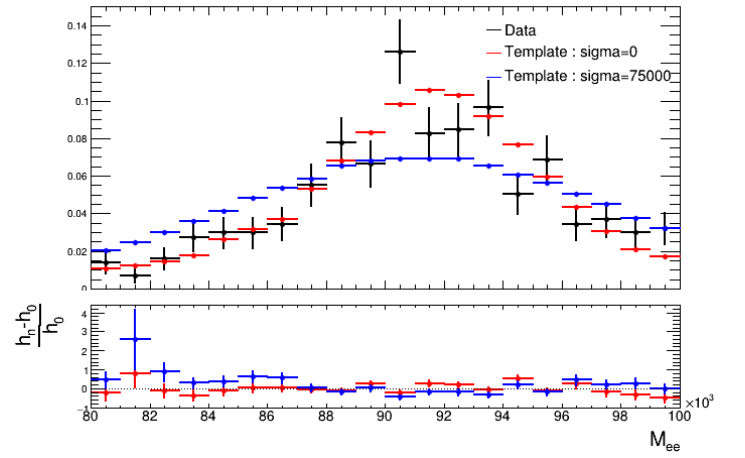
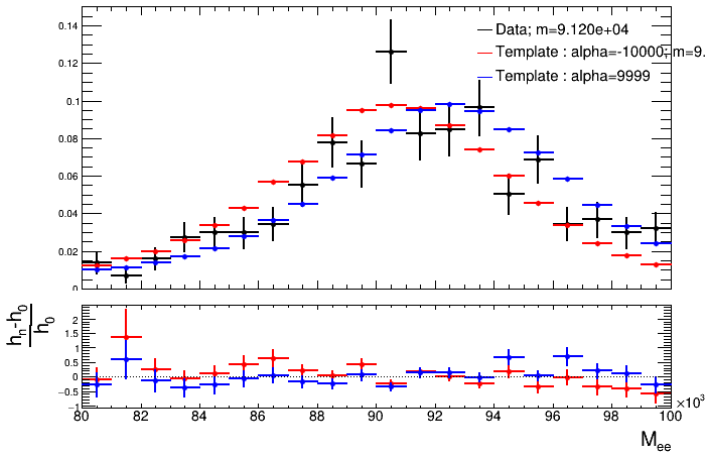
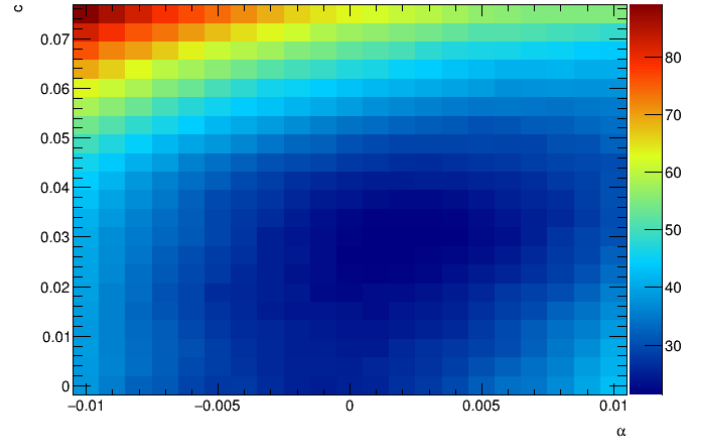
MCEvents : 99450

DataEvents : 521

ThresholdMass : 54.2069

$$\alpha_{ij} = 0.00131951 \pm 0.00266307$$

$$\sigma_{ij} = 0.0242893 \pm 0.0100075$$



# 37 ChiMatrix\_7\_7

Results

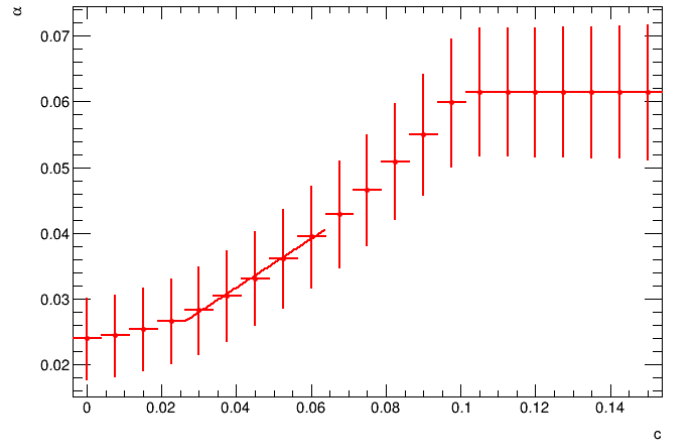
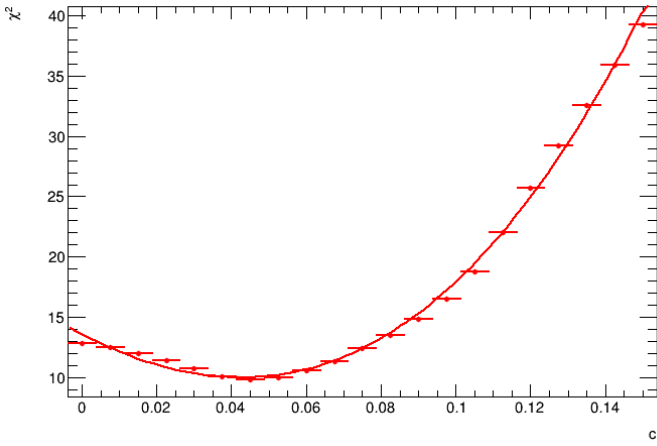
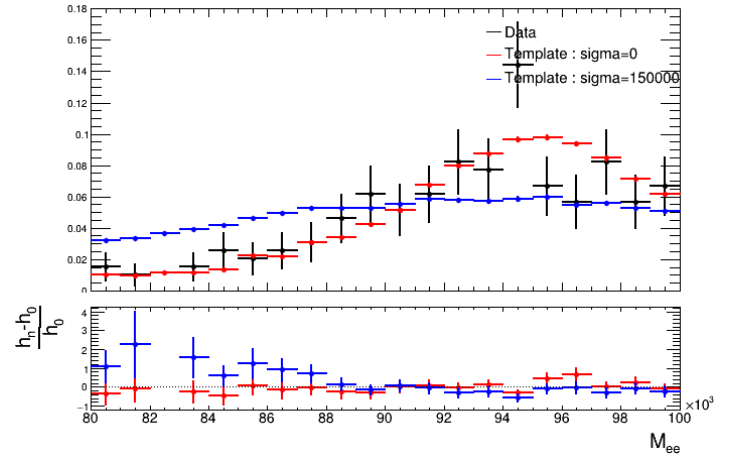
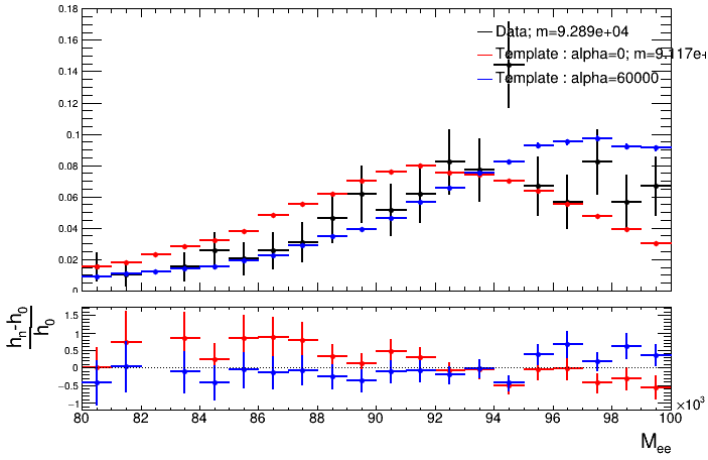
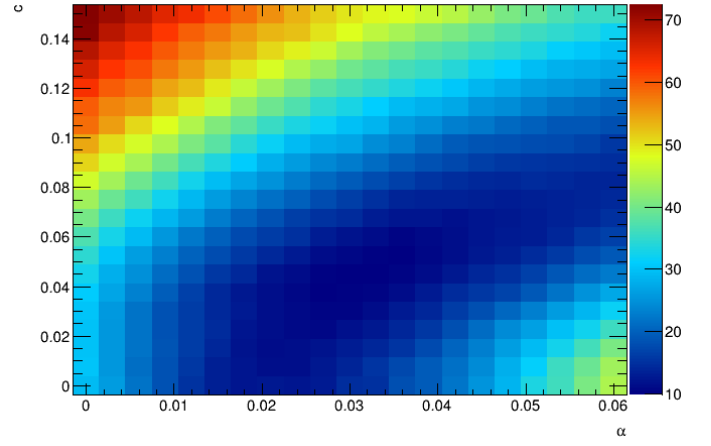
MCEvents : 49752

DataEvents : 247

ThresholdMass : 54

$$\alpha_{ij} = 0.0326635 \pm 0.0071412$$

$$\sigma_{ij} = 0.042771 \pm 0.0211202$$



# 38 ChiMatrix\_8\_1

Results

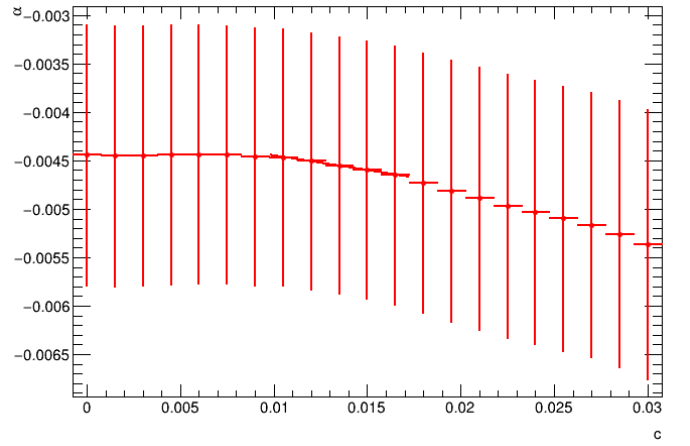
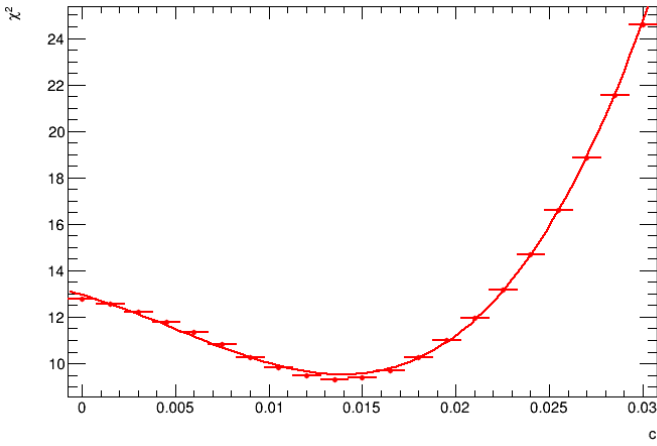
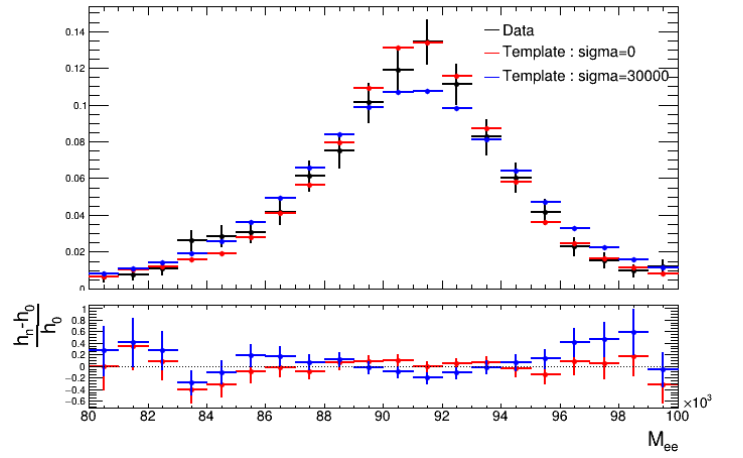
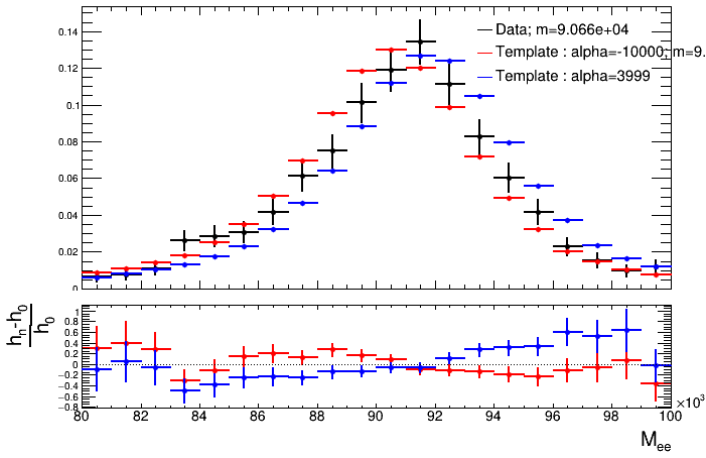
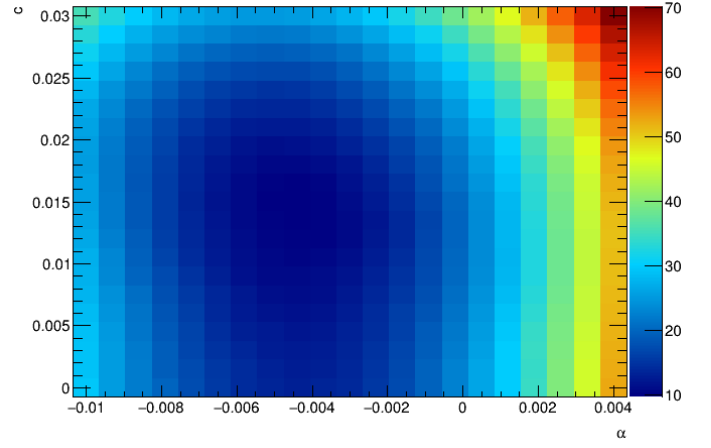
MCEvents : 214254

DataEvents : 1000

ThresholdMass : 67.2724

$$\alpha_{ij} = -0.00456693 \pm 0.00132856$$

$$\sigma_{ij} = 0.0139383 \pm 0.00480626$$





## 39 ChiMatrix\_8\_2

Results

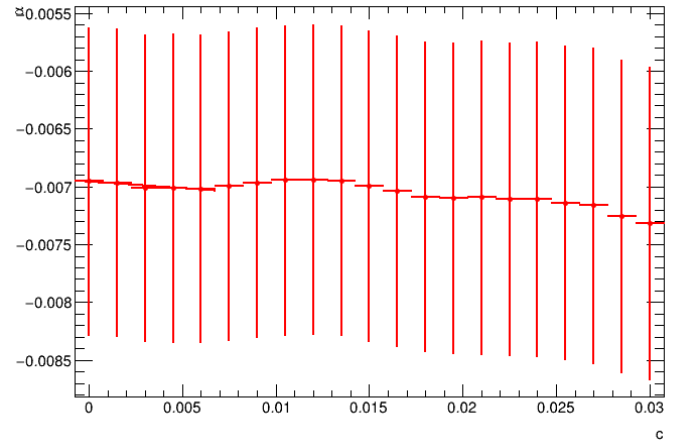
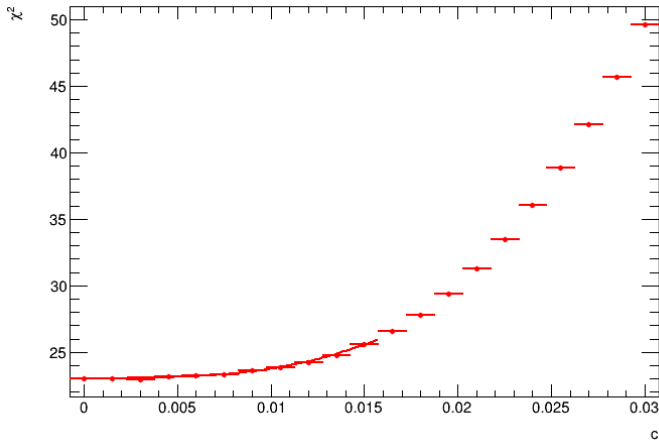
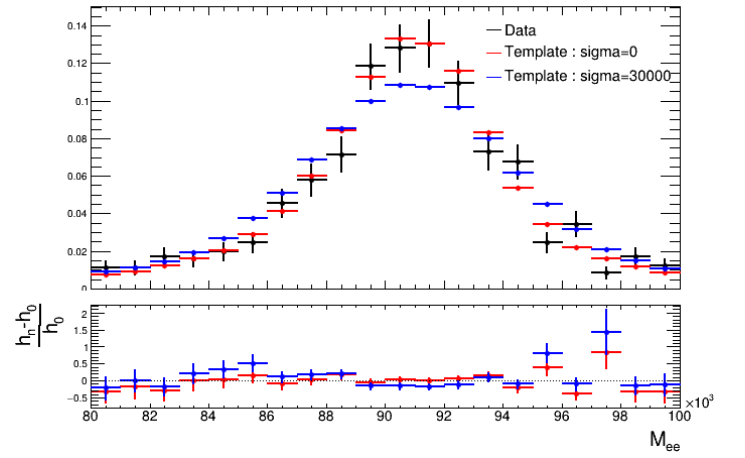
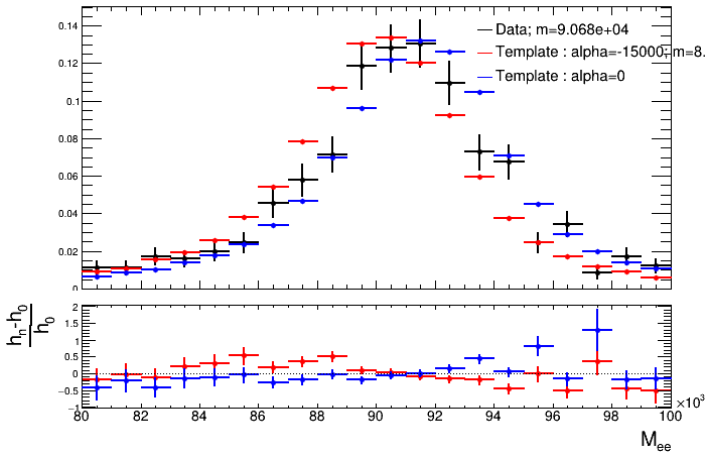
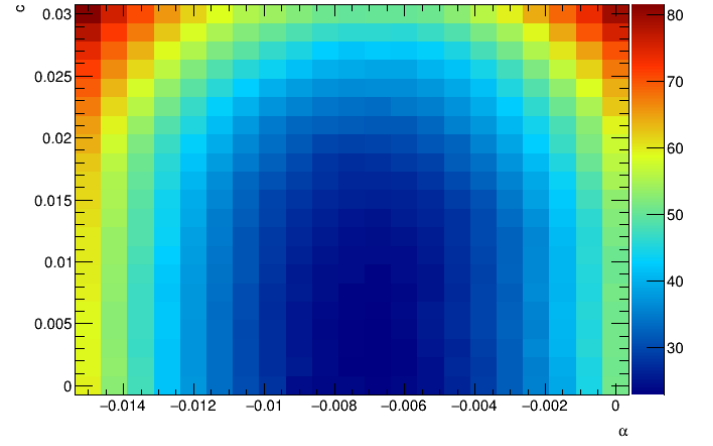
MCEvents : 196020

DataEvents : 910

ThresholdMass : 63.5904

$$\alpha_{ij} = -0.00698242 \pm 0.00132519$$

$$\sigma_{ij} = 0.00225 \pm 0.00909412$$



# 40 ChiMatrix\_8\_3

Results

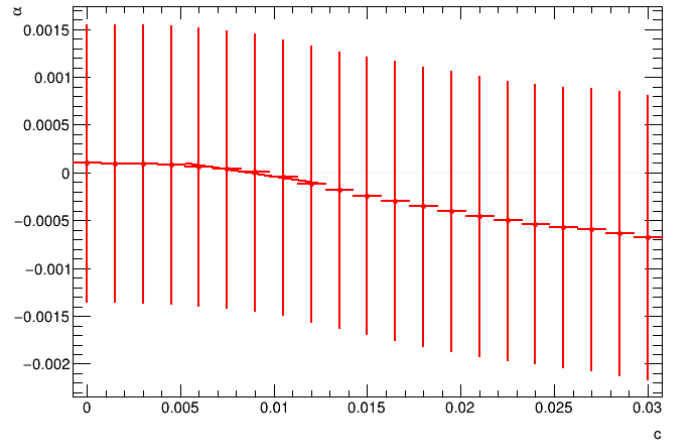
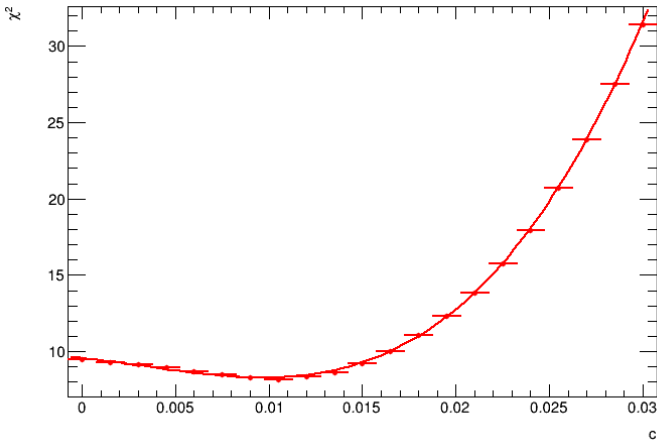
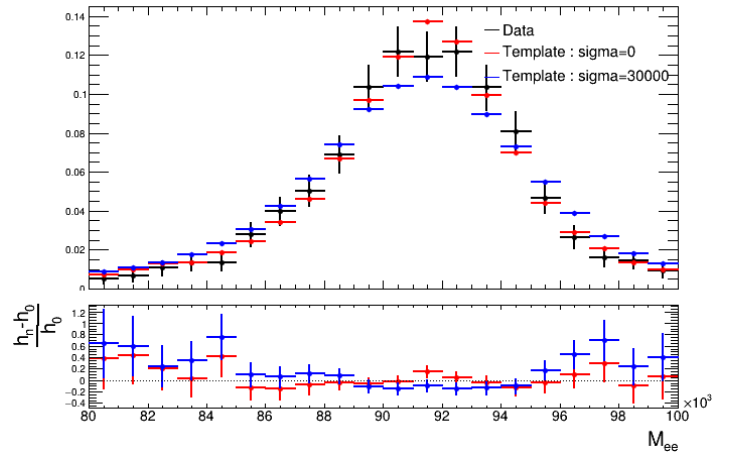
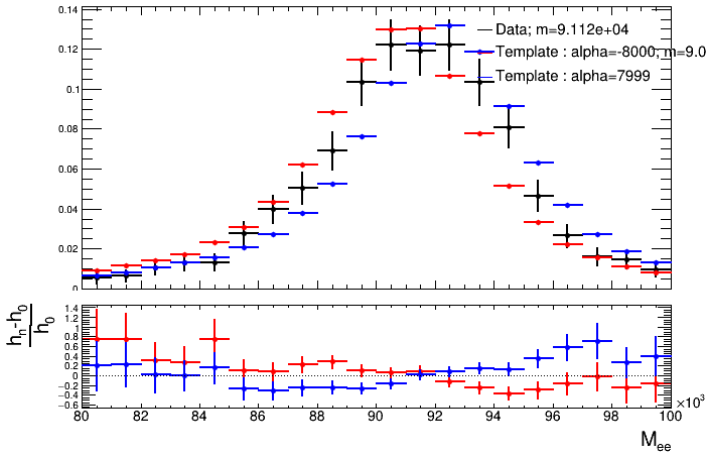
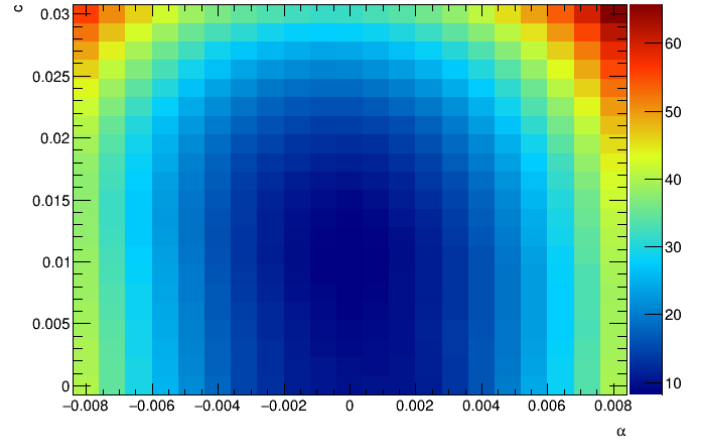
MCEvents : 172206

DataEvents : 829

ThresholdMass : 60.5448

$$\alpha_{ij} = -3.36483e - 05 \pm 0.00144588$$

$$\sigma_{ij} = 0.00972871 \pm 0.00534257$$



# 41 ChiMatrix\_8\_4

Results

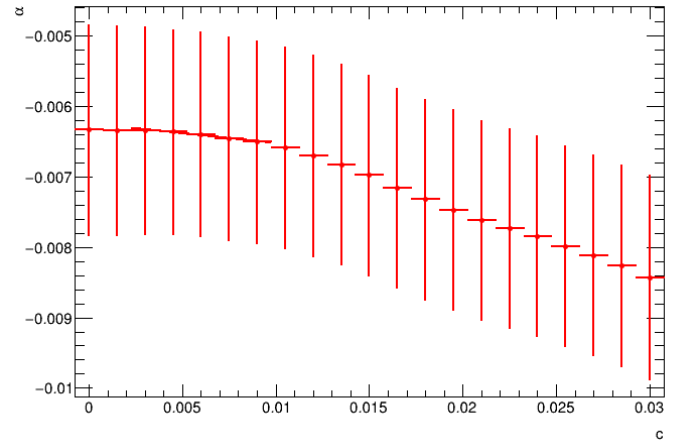
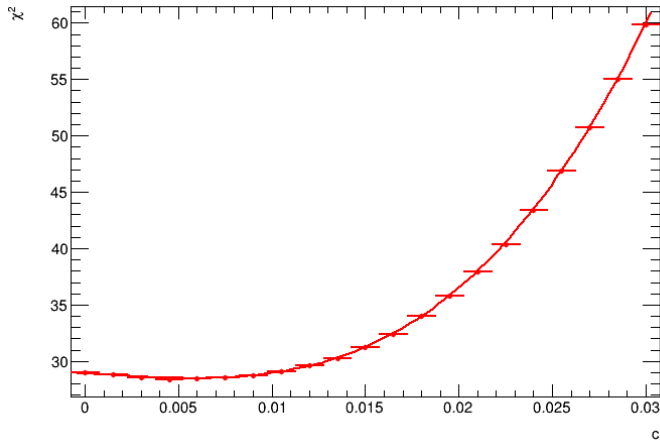
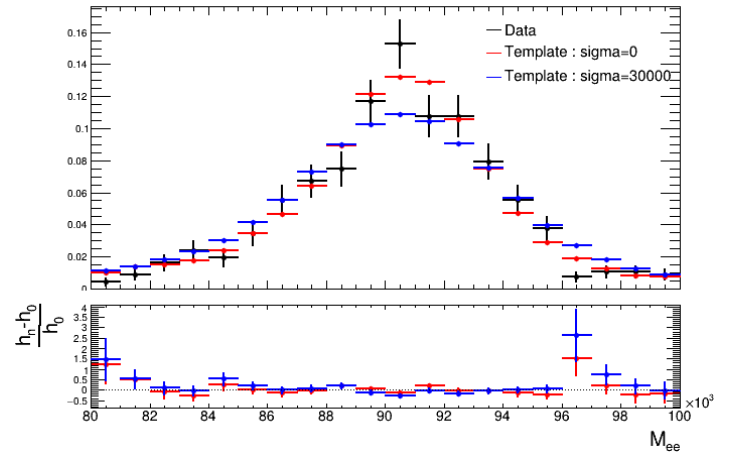
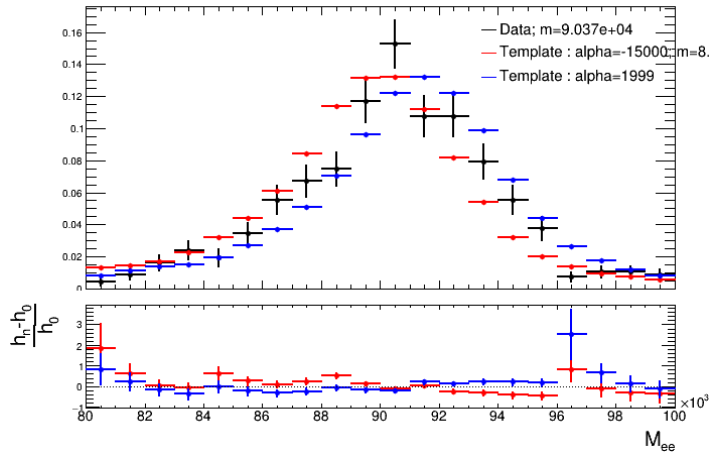
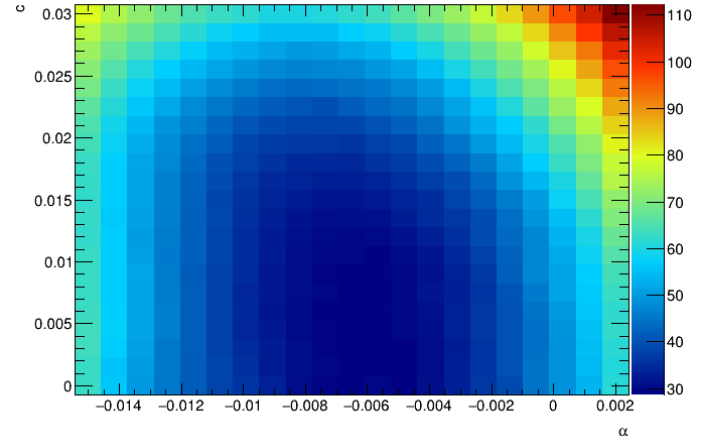
MCEvents : 160272

DataEvents : 765

ThresholdMass : 58.1052

$$\alpha_{ij} = -0.00640908 \pm 0.00145062$$

$$\sigma_{ij} = 0.00590789 \pm 0.00590425$$



## 42 ChiMatrix\_8\_5

Results

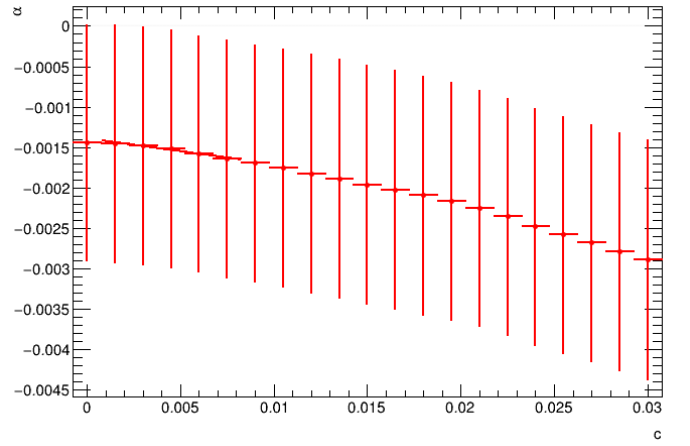
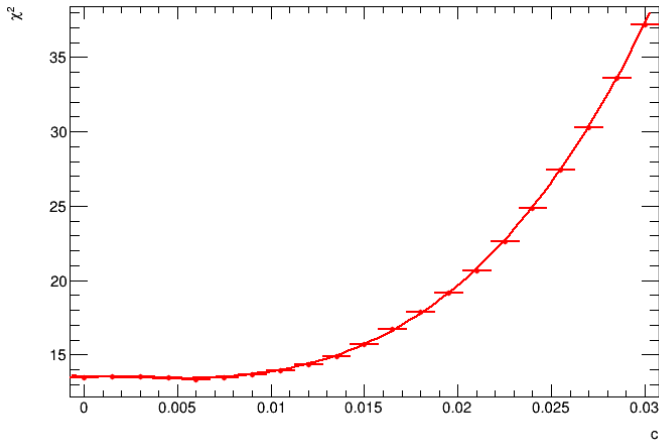
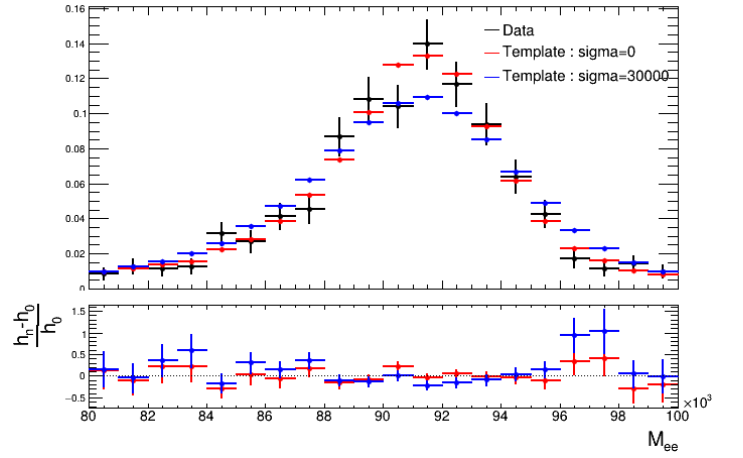
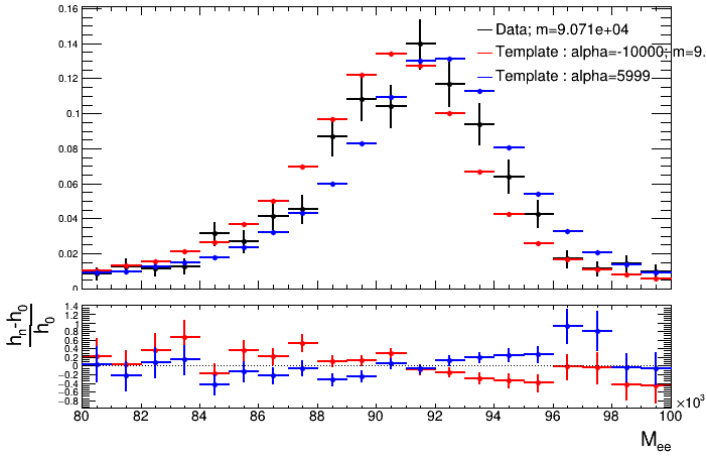
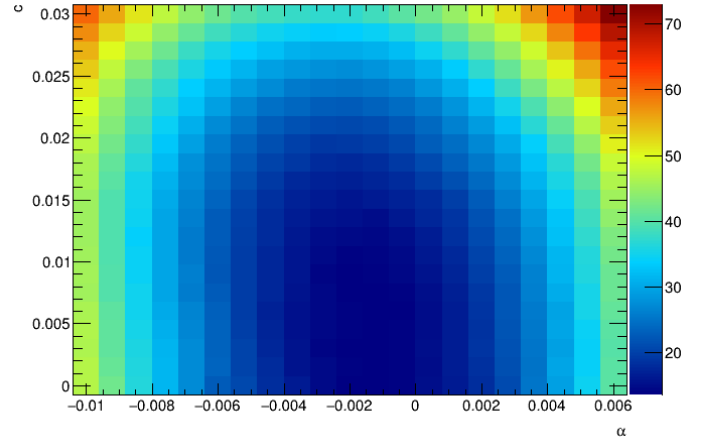
MCEvents : 159684

DataEvents : 798

ThresholdMass : 56.2471

$$\alpha_{ij} = -0.00154108 \pm 0.0014686$$

$$\sigma_{ij} = 0.00476856 \pm 0.00735168$$



# 43 ChiMatrix\_8\_6

Results

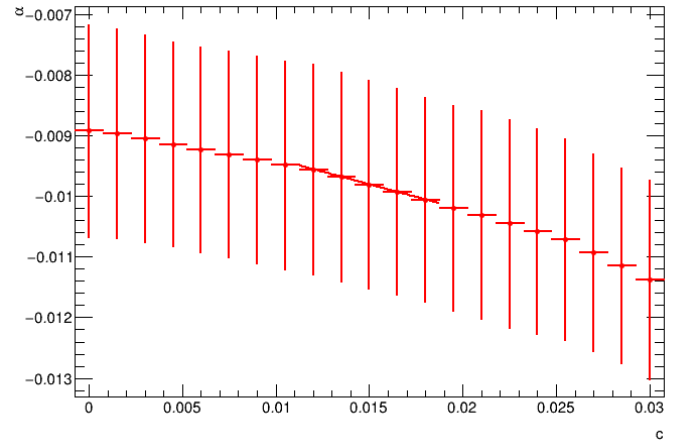
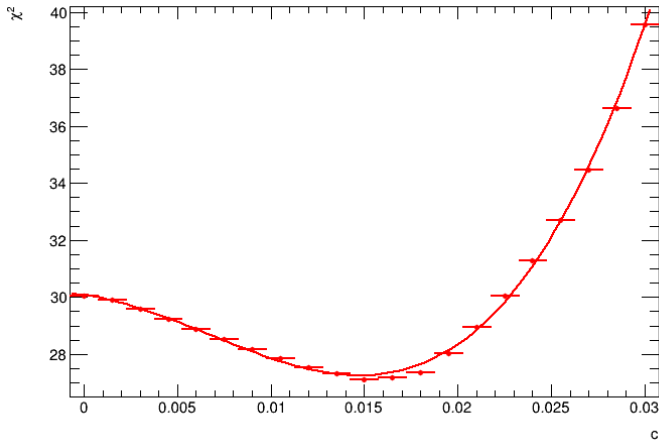
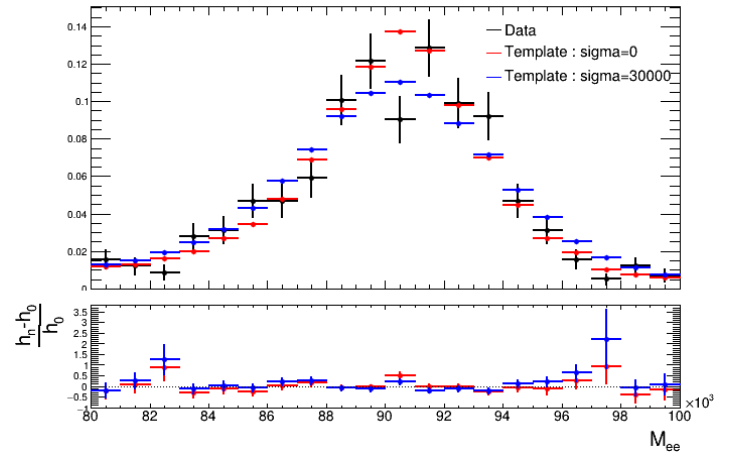
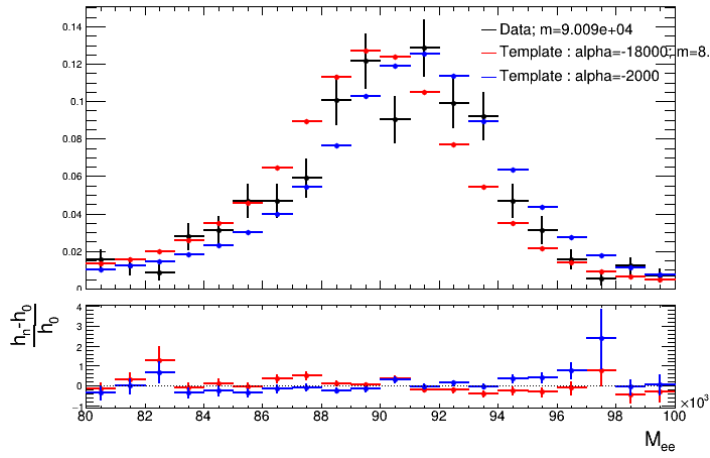
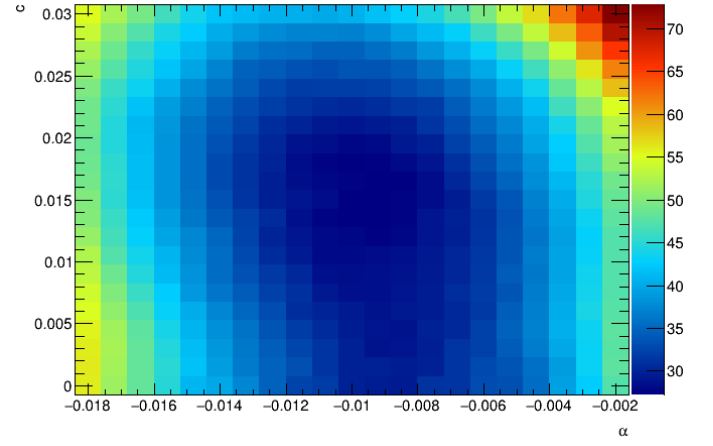
MCEvents : 132312

DataEvents : 656

ThresholdMass : 55.0299

$$\alpha_{ij} = -0.00979023 \pm 0.00171628$$

$$\sigma_{ij} = 0.0147986 \pm 0.00503544$$



# 44 ChiMatrix\_8\_7

Results

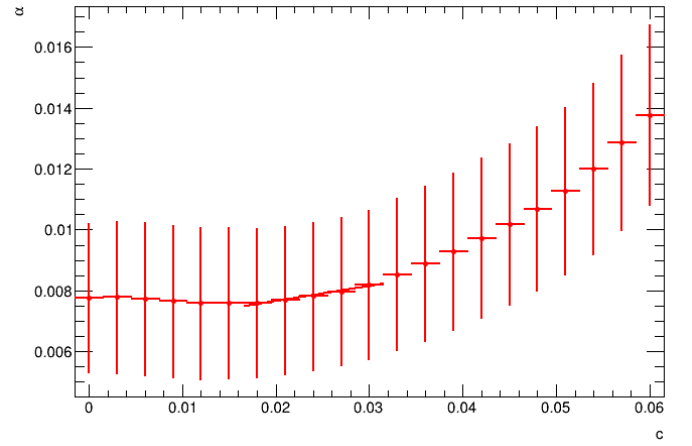
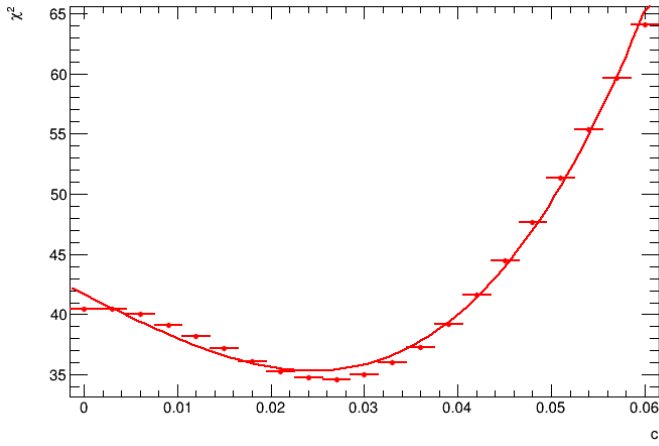
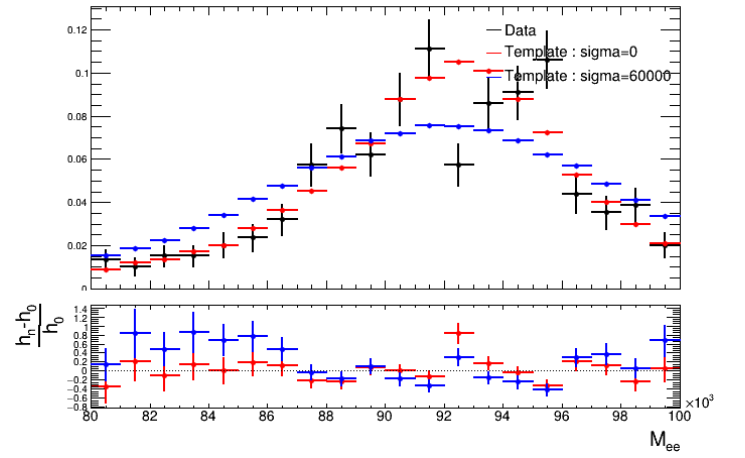
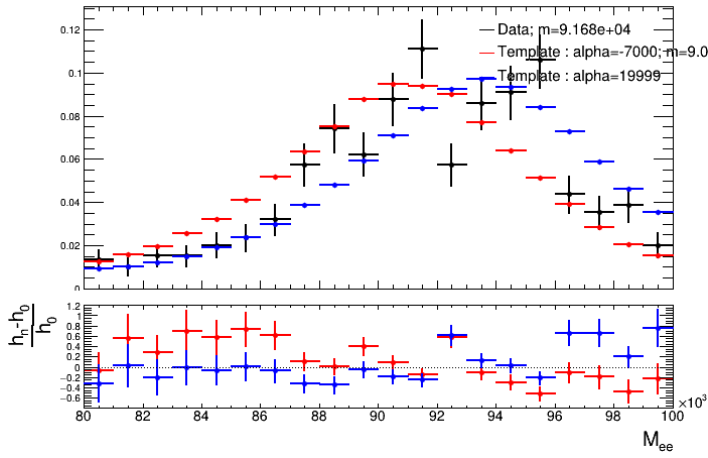
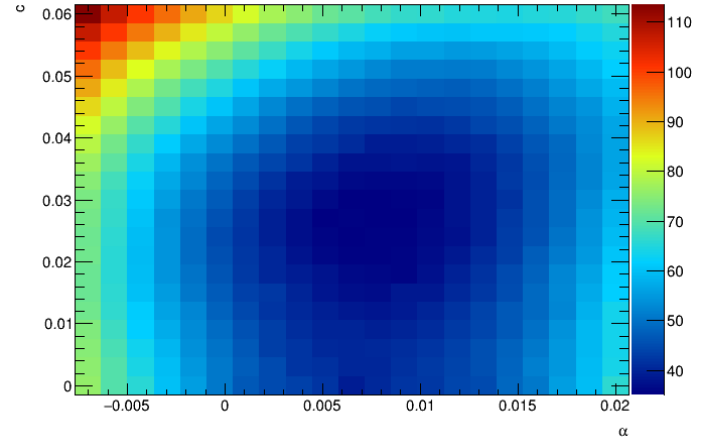
MCEvents : 137172

DataEvents : 704

ThresholdMass : 54.3123

$$\alpha_{ij} = 0.00787671 \pm 0.0024363$$

$$\sigma_{ij} = 0.0245214 \pm 0.00753385$$



# 45 ChiMatrix\_8\_8

Results

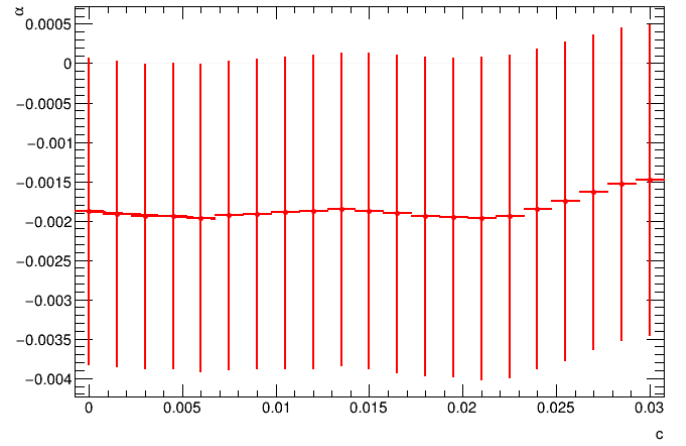
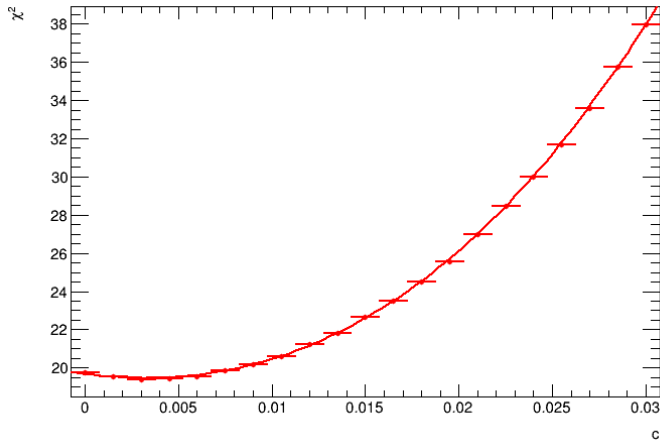
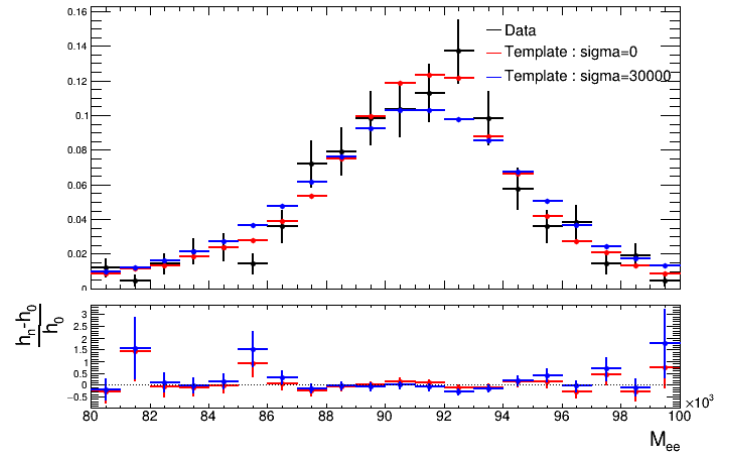
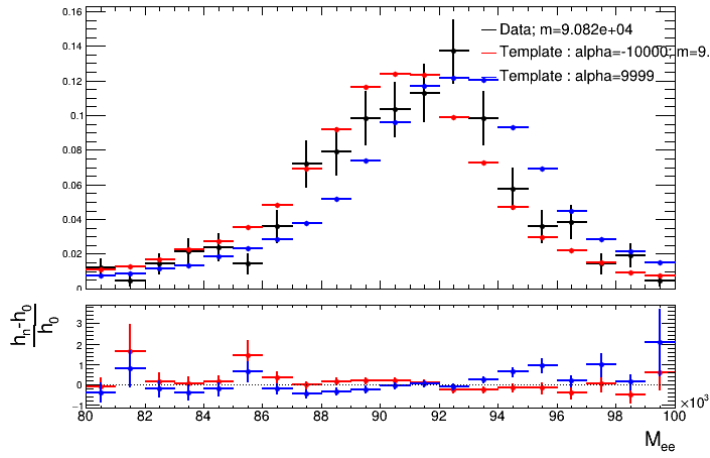
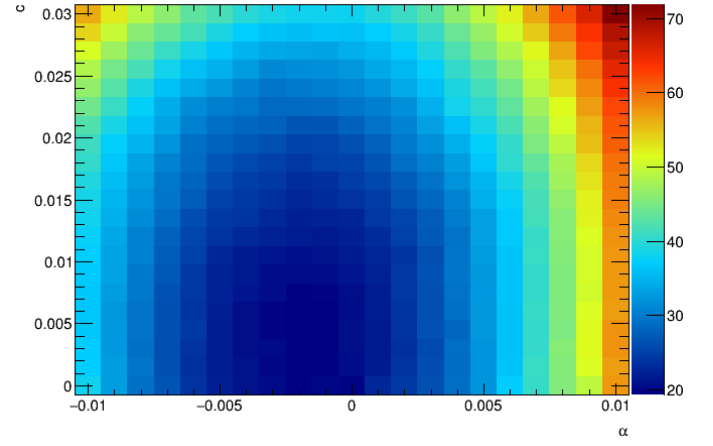
MCEvents : 94512

DataEvents : 479

ThresholdMass : 54

$$\alpha_{ij} = -0.001929 \pm 0.00193604$$

$$\sigma_{ij} = 0.00328507 \pm 0.00680589$$



# 46 ChiMatrix\_9\_2

Results

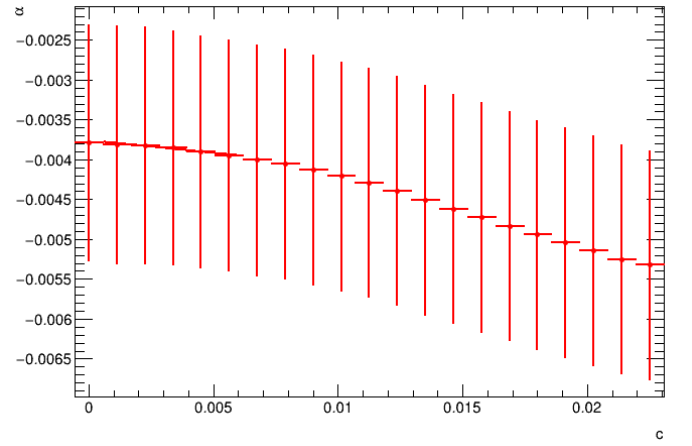
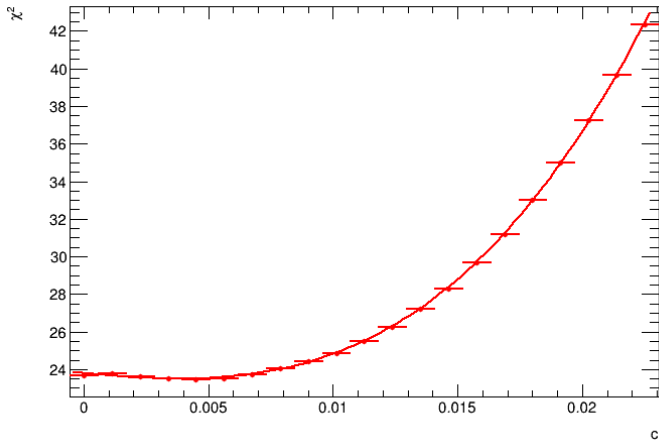
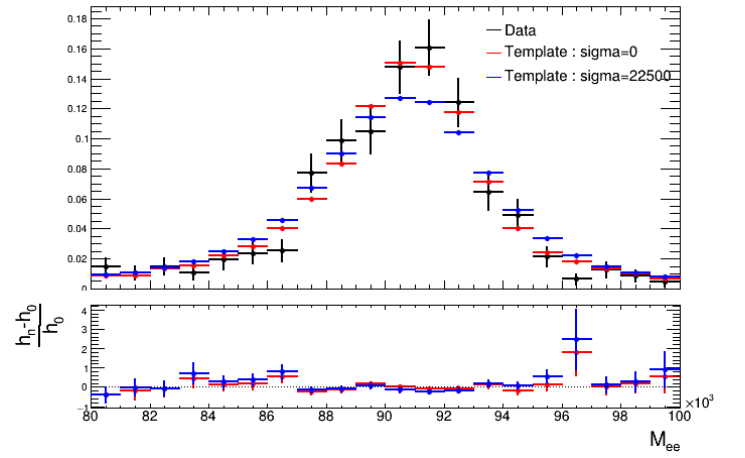
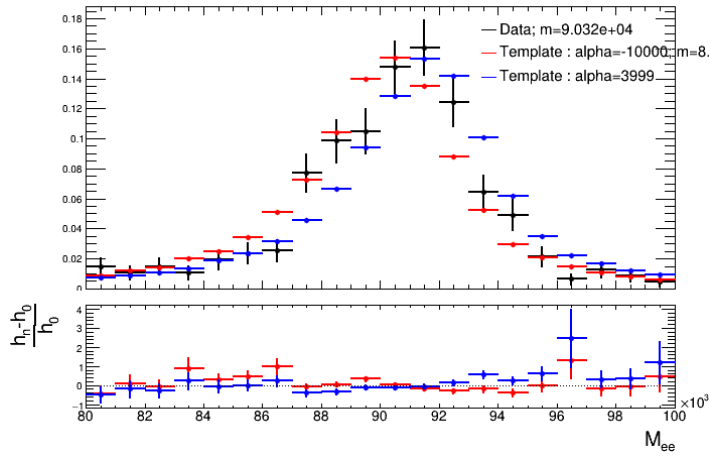
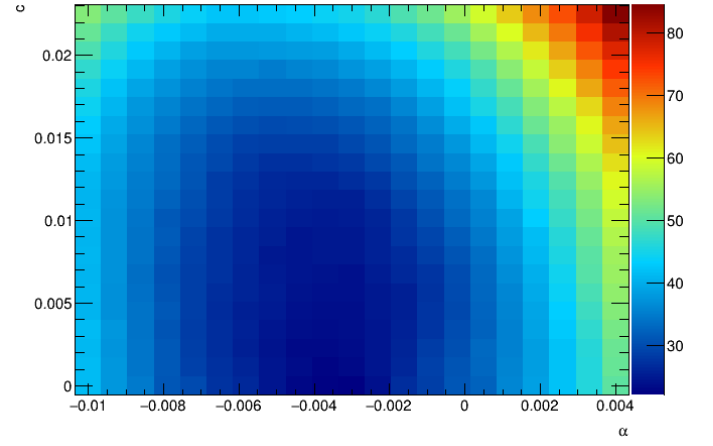
MCEvents : 110406

DataEvents : 513

ThresholdMass : 67.7791

$$\alpha_{ij} = -0.00388223 \pm 0.00146712$$

$$\sigma_{ij} = 0.00390662 \pm 0.00542033$$





# 47 ChiMatrix\_9\_3

Results

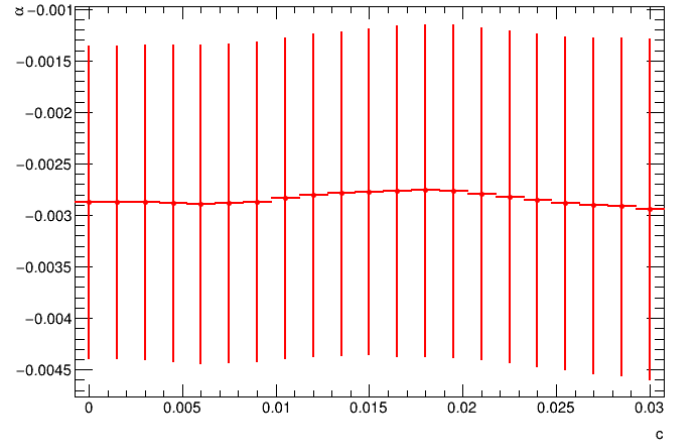
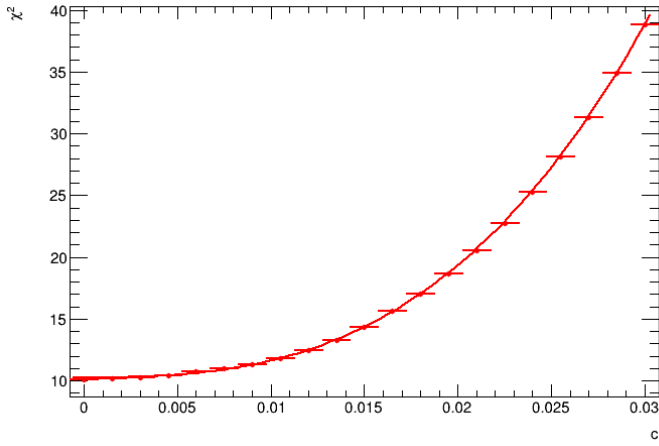
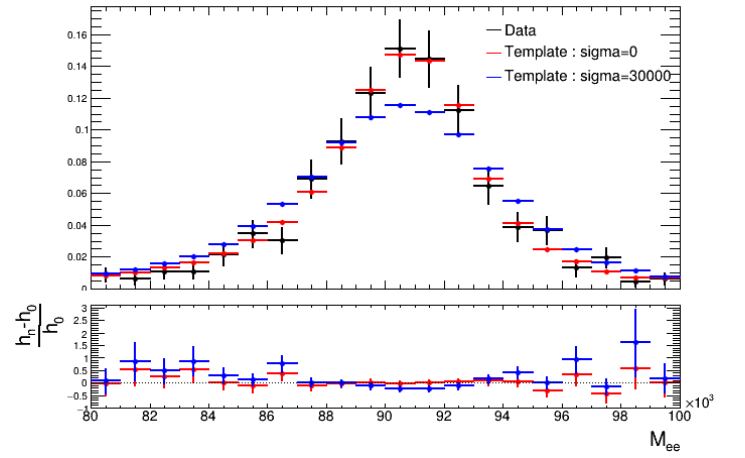
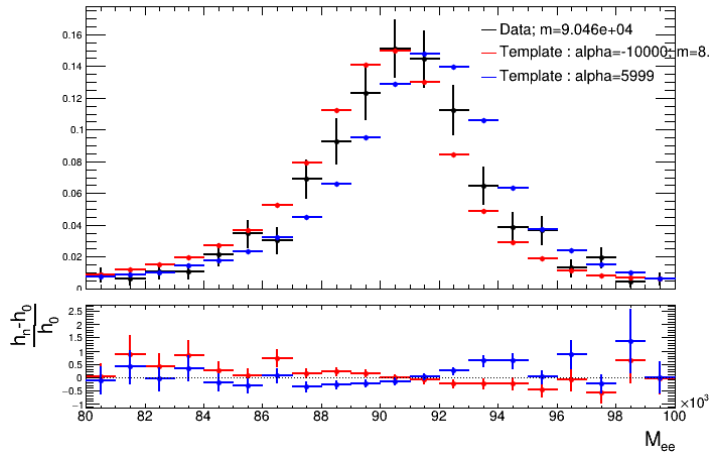
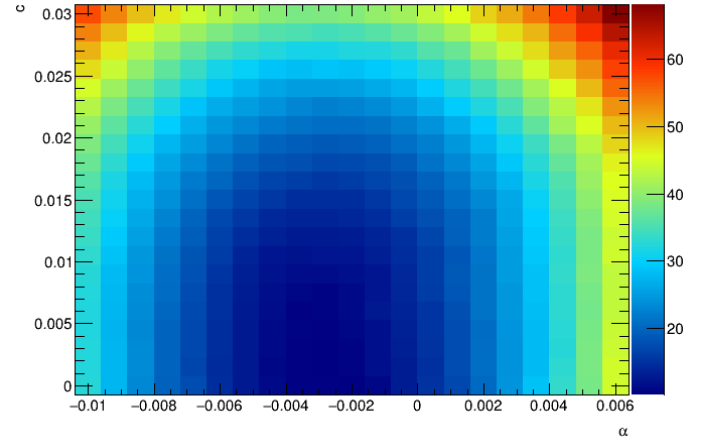
MCEvents : 111576

DataEvents : 511

ThresholdMass : 64.0151

$$\alpha_{ij} = -0.00287388 \pm 0.00151608$$

$$\sigma_{ij} = 1.18143e - 13 \pm 0.00891119$$



# 48 ChiMatrix\_9\_4

Results

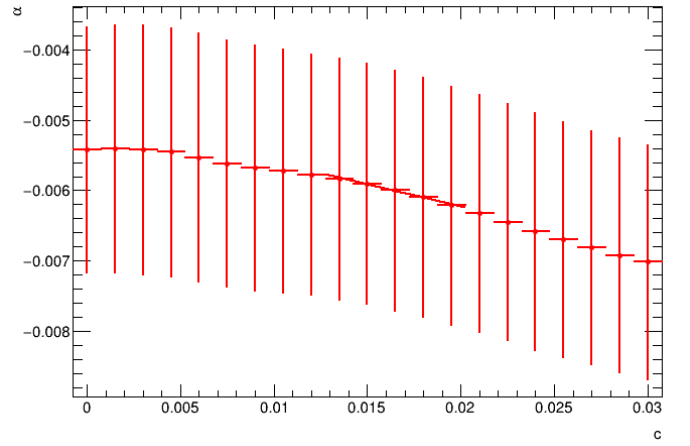
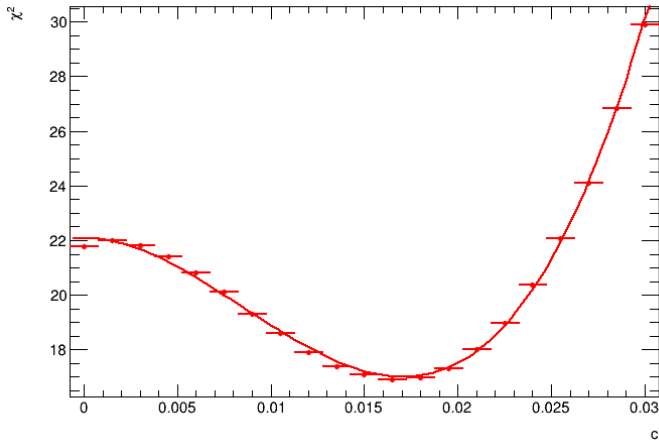
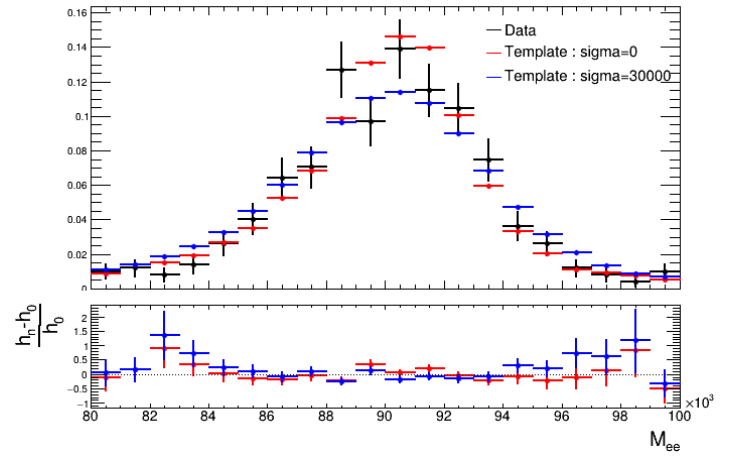
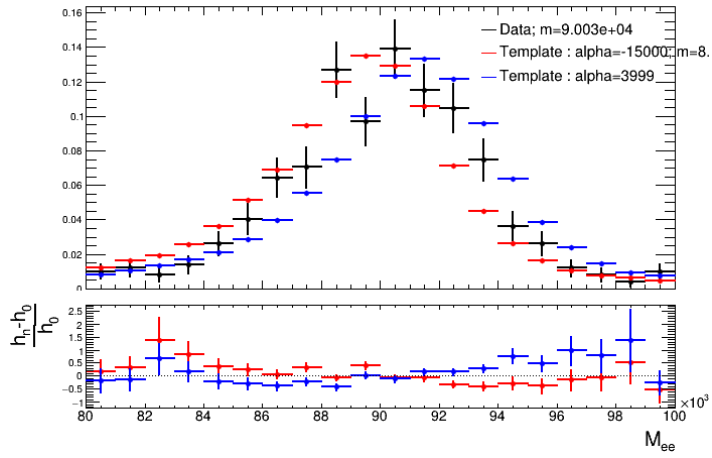
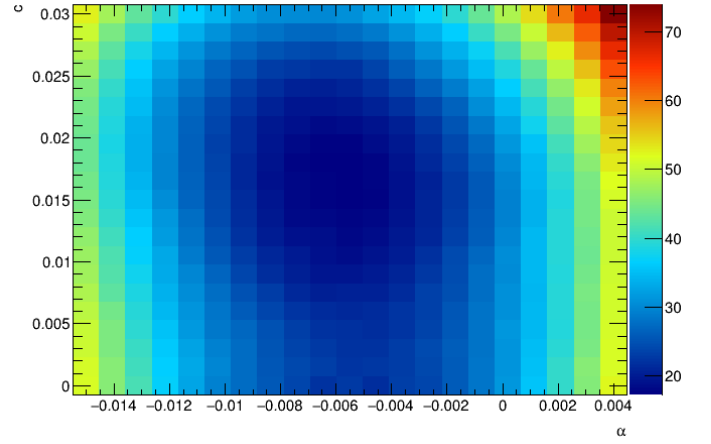
MCEvents : 115116

DataEvents : 539

ThresholdMass : 60.8918

$$\alpha_{ij} = -0.00604388 \pm 0.00171246$$

$$\sigma_{ij} = 0.017073 \pm 0.00407038$$



# 49 ChiMatrix\_9\_5

Results

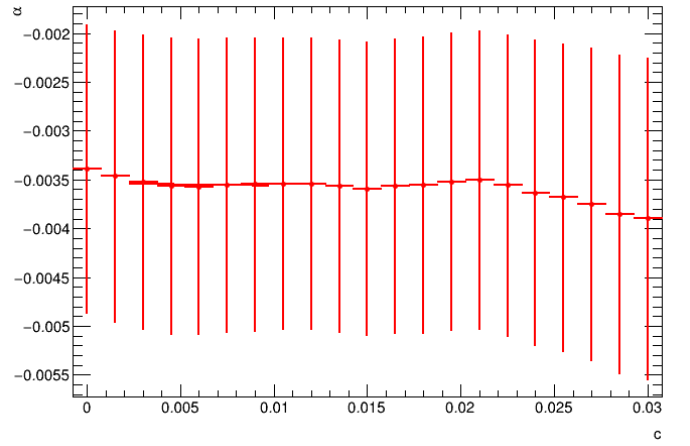
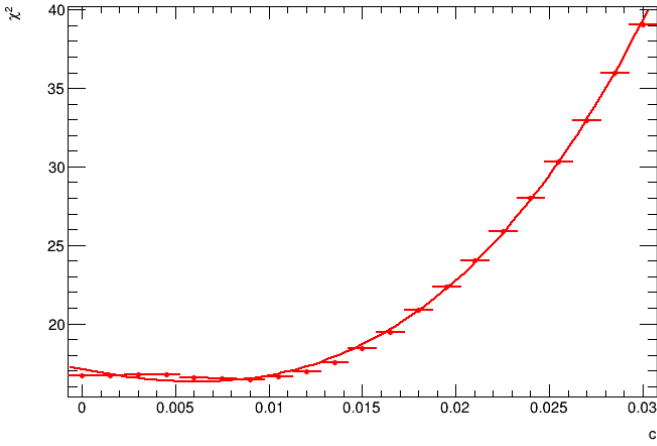
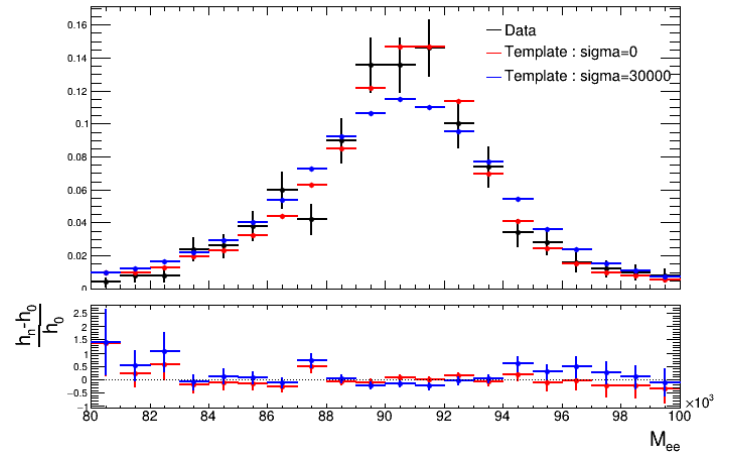
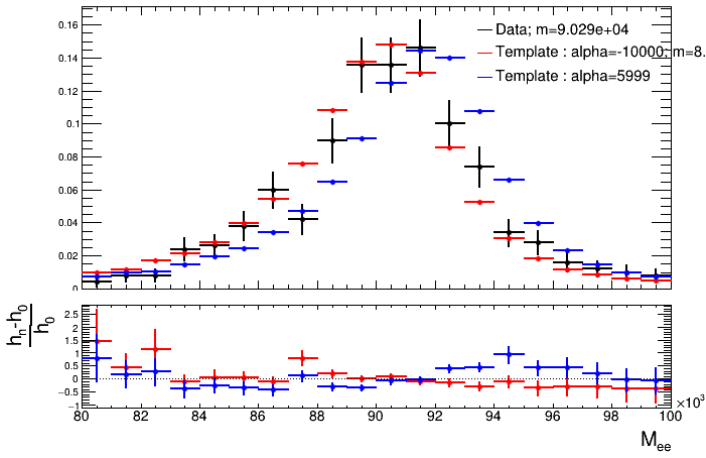
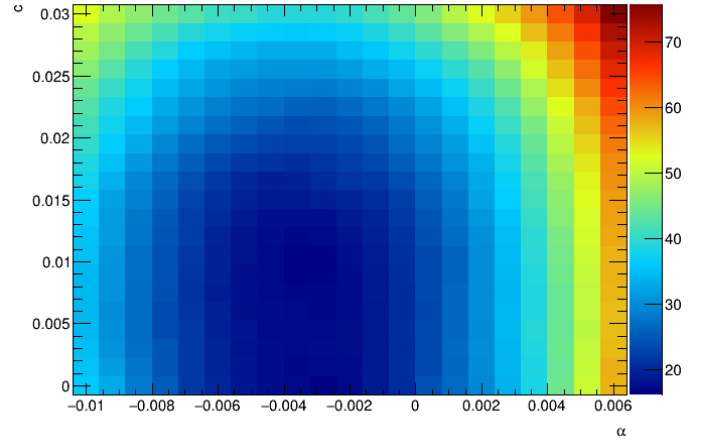
MCEvents : 118428

DataEvents : 556

ThresholdMass : 58.3779

$$\alpha_{ij} = -0.00355227 \pm 0.00151458$$

$$\sigma_{ij} = 0.00619198 \pm 0.00594465$$



# 50 ChiMatrix\_9\_6

Results

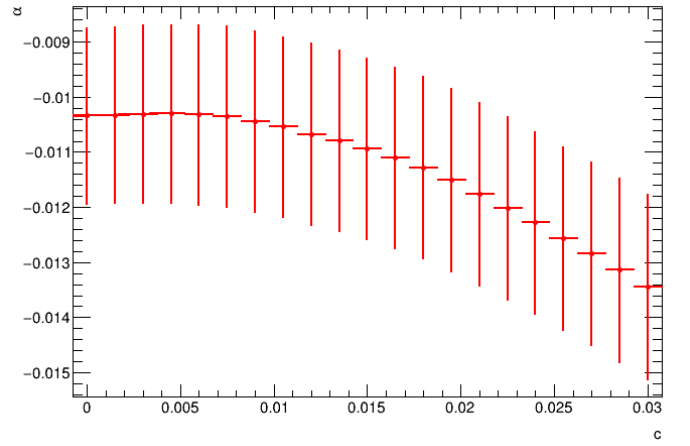
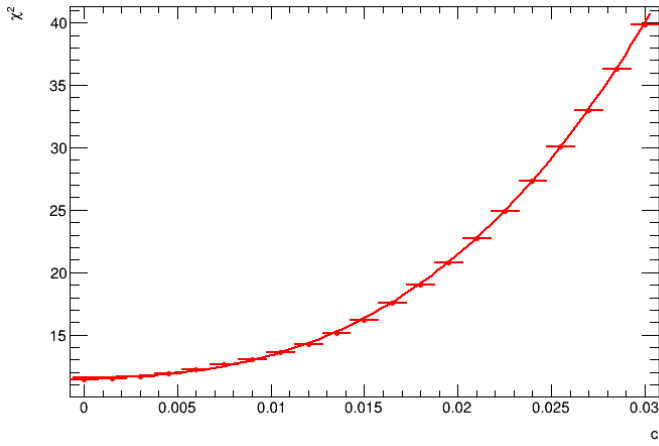
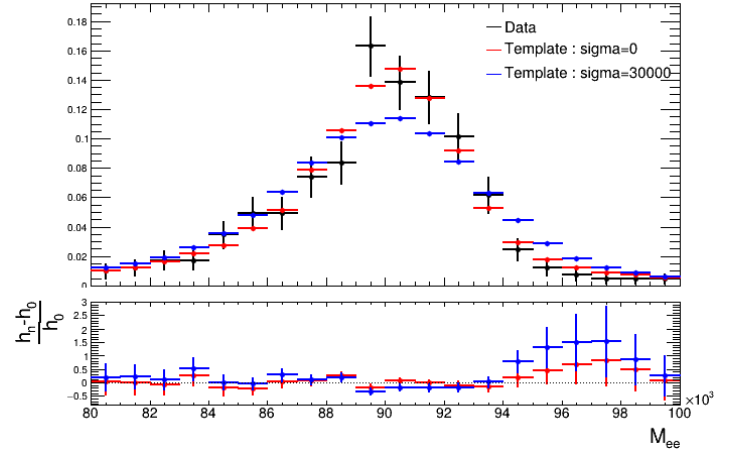
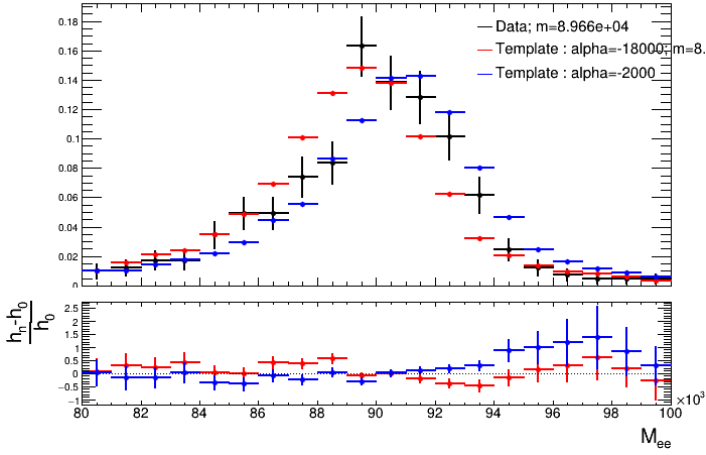
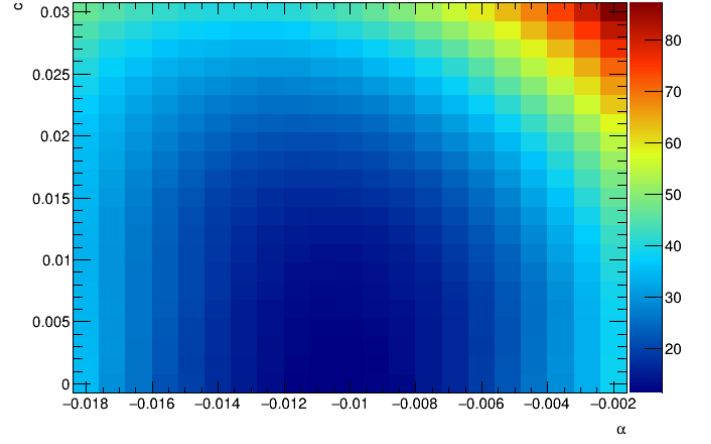
MCEvents : 98922

DataEvents : 464

ThresholdMass : 56.5732

$$\alpha_{ij} = -0.0103424 \pm 0.00160166$$

$$\sigma_{ij} = 3.7055e - 13 \pm 0.0078902$$



# 51 ChiMatrix\_9\_7

Results

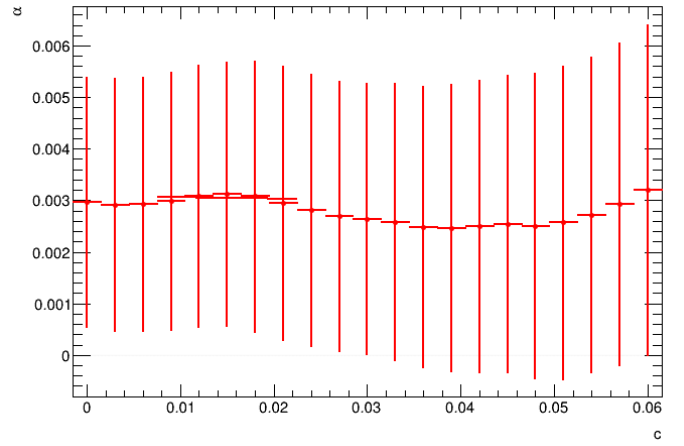
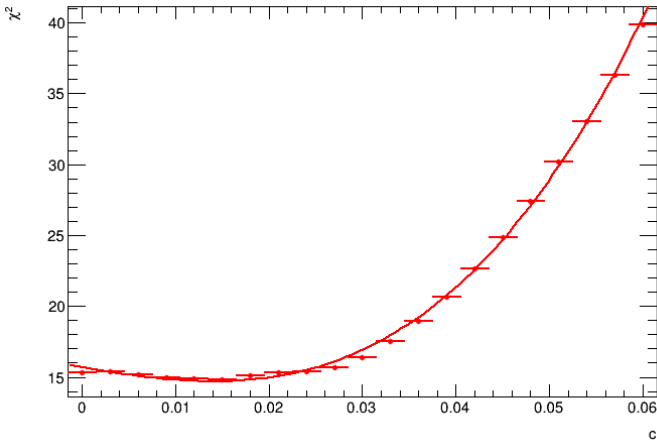
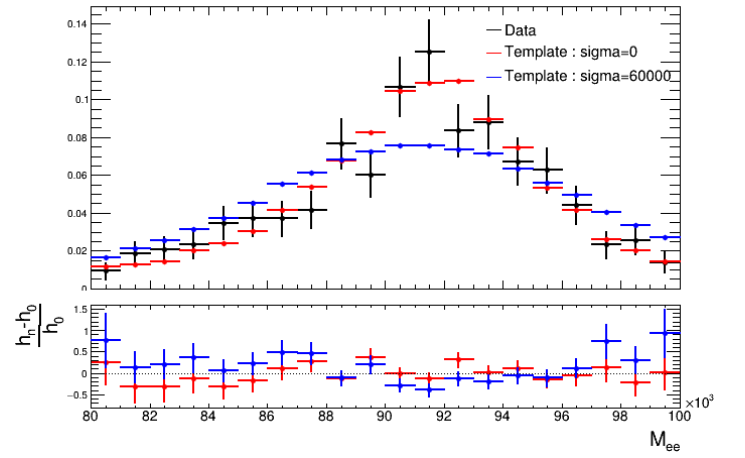
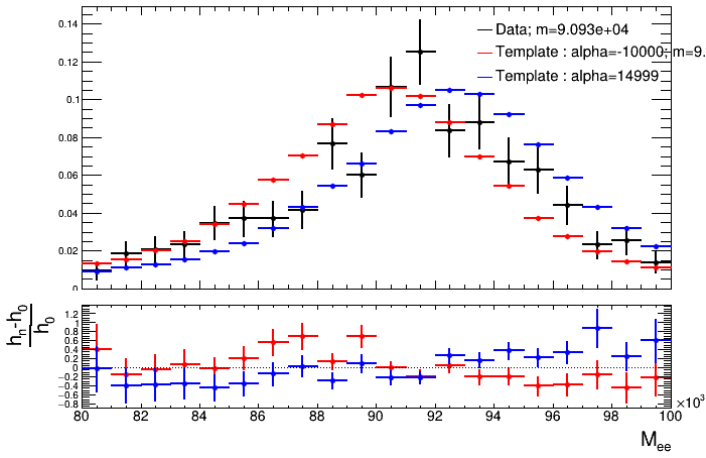
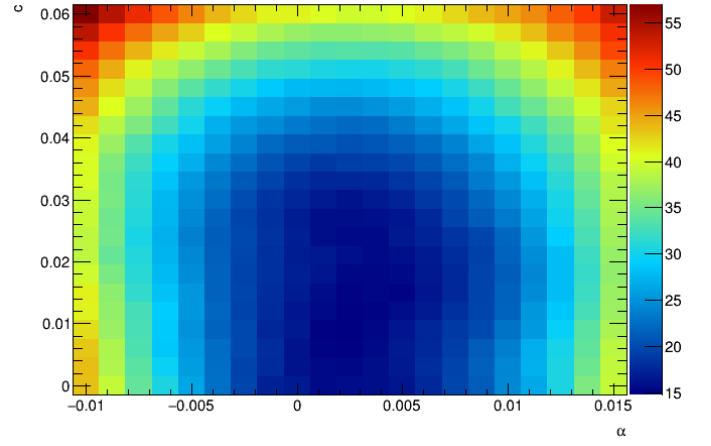
MCEvents : 101646

DataEvents : 498

ThresholdMass : 55.3121

$$\alpha_{ij} = 0.00305023 \pm 0.00256237$$

$$\sigma_{ij} = 0.0140459 \pm 0.0111394$$



## 52 ChiMatrix\_9\_8

Results

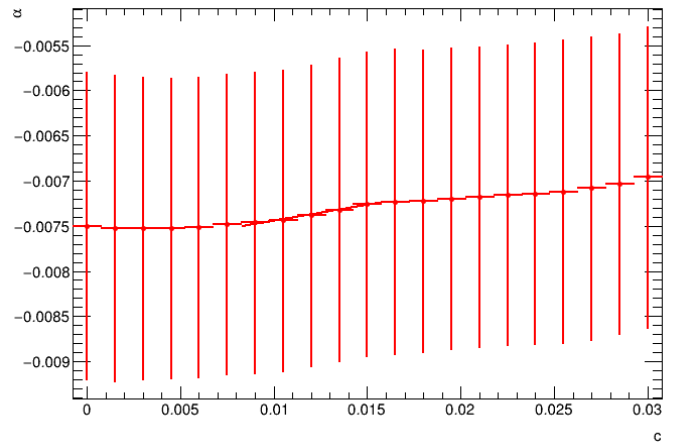
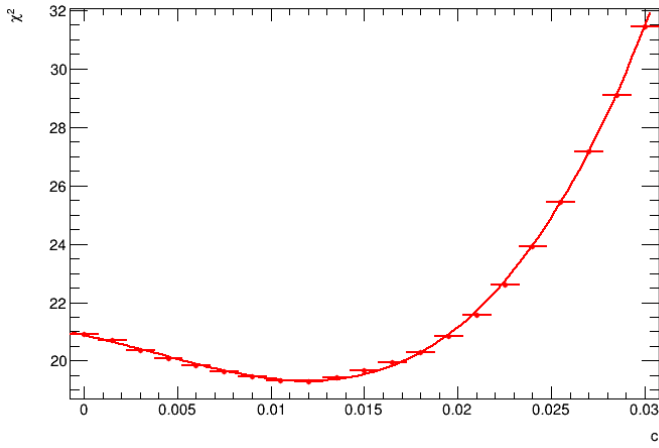
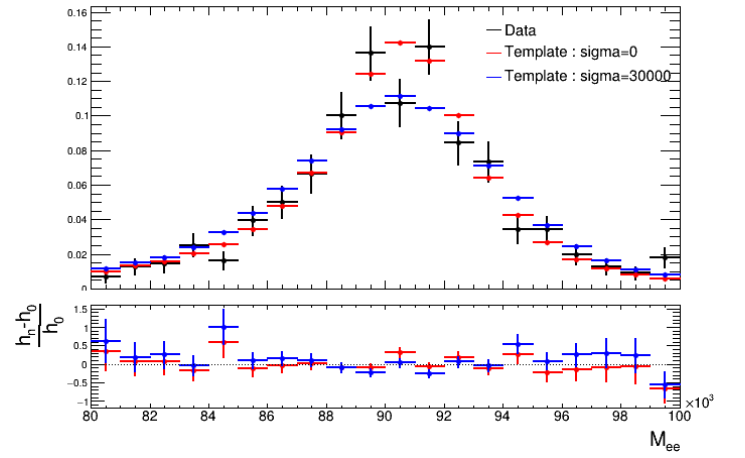
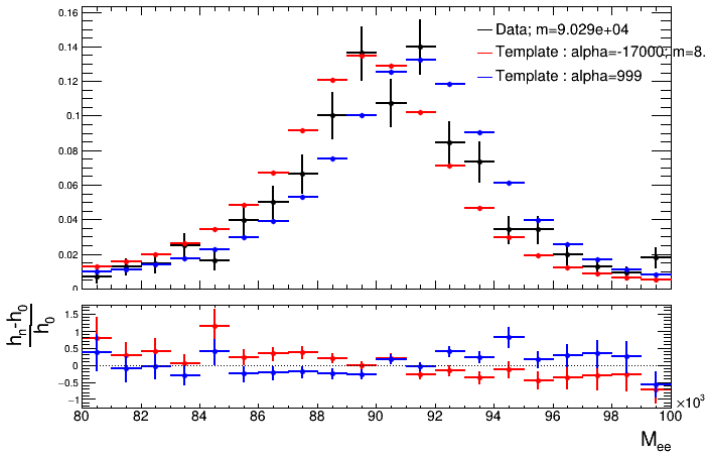
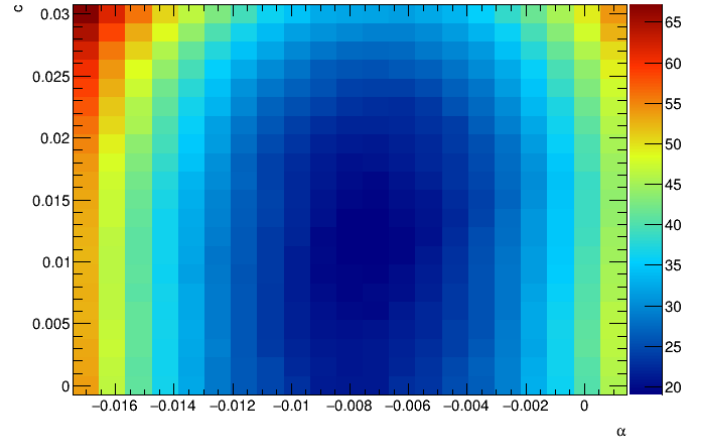
MCEvents : 138492

DataEvents : 636

ThresholdMass : 54.3421

$$\alpha_{ij} = -0.00737276 \pm 0.00167039$$

$$\sigma_{ij} = 0.0119975 \pm 0.0061028$$



# 53 ChiMatrix\_9\_9

Results

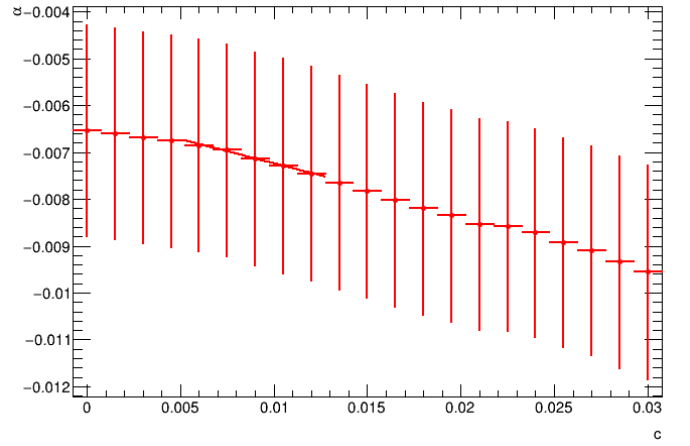
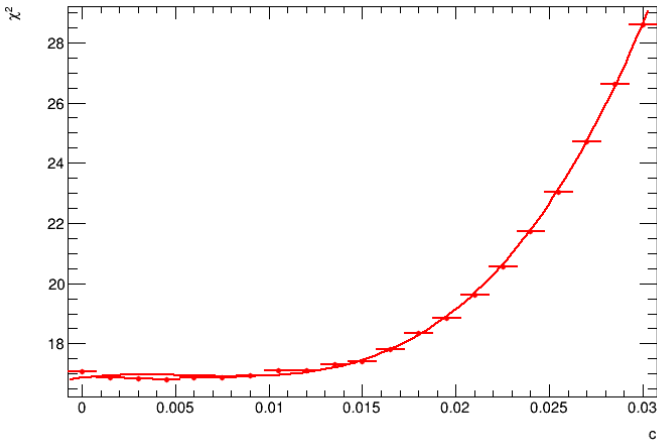
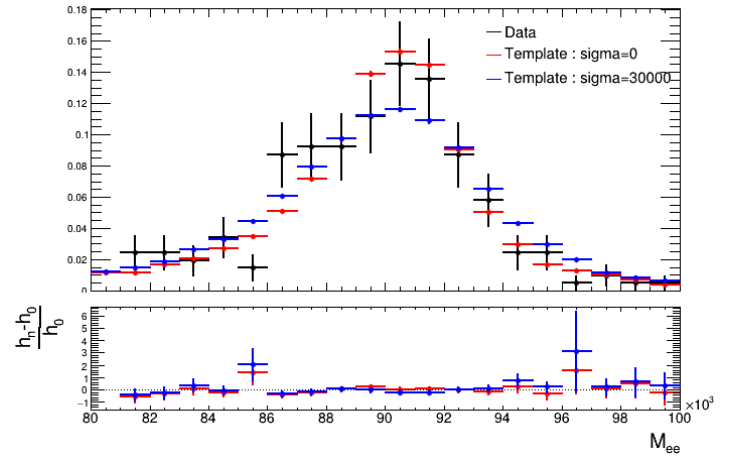
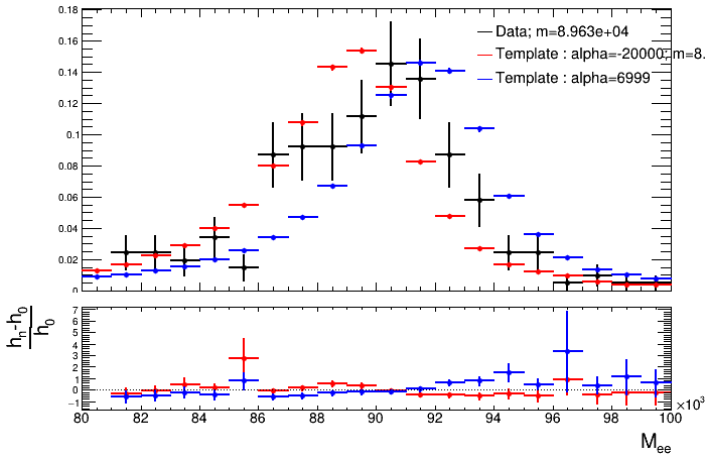
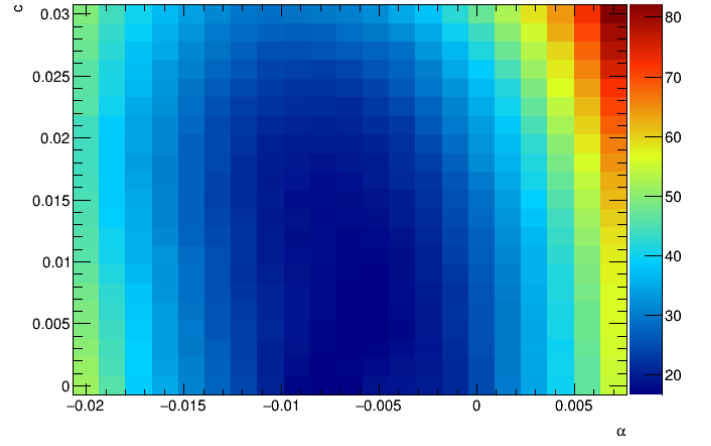
MCEvents : 52836

DataEvents : 231

ThresholdMass : 54

$$\alpha_{ij} = -0.00707131 \pm 0.00228877$$

$$\sigma_{ij} = 0.00837746 \pm 0.00852625$$



# 54 ChiMatrix\_10\_3

Results

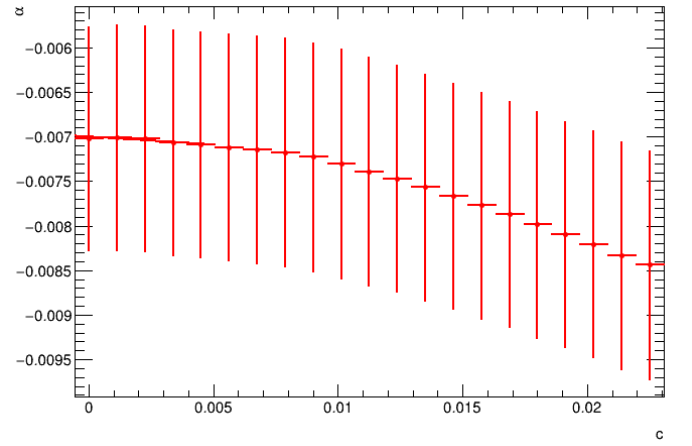
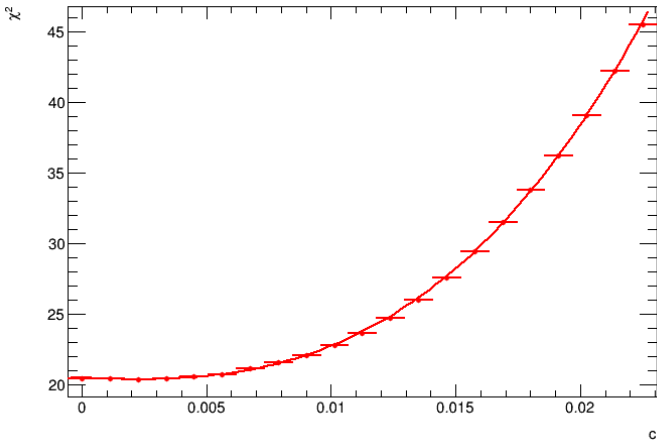
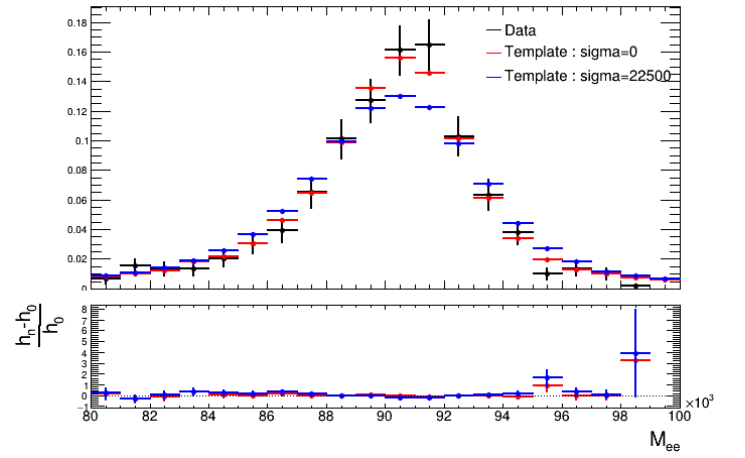
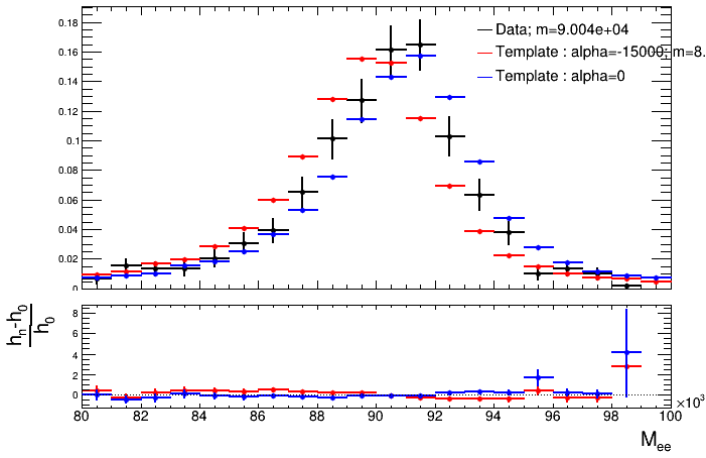
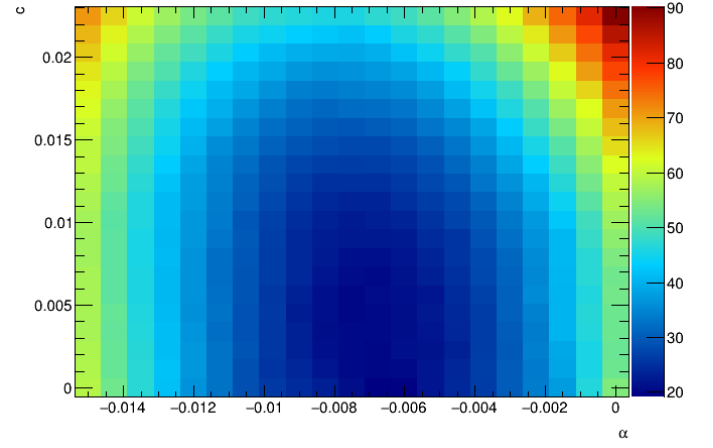
MCEvents : 140898

DataEvents : 640

ThresholdMass : 68.8245

$$\alpha_{ij} = -0.00704052 \pm 0.0012692$$

$$\sigma_{ij} = 0.00230552 \pm 0.00532607$$





# 55 ChiMatrix\_10\_4

Results

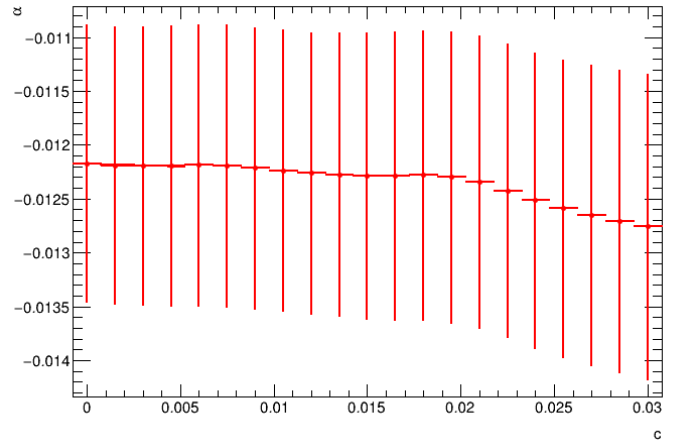
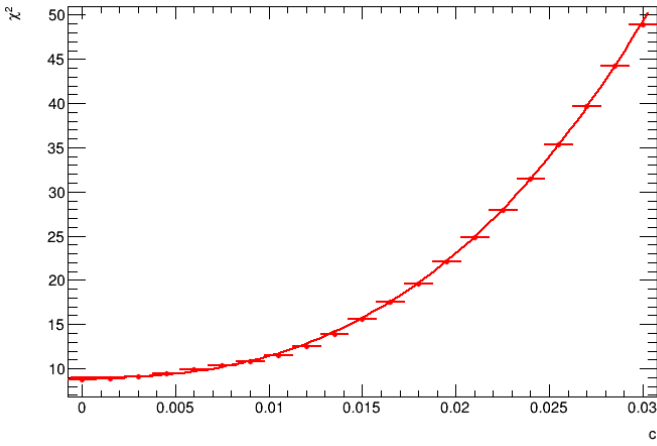
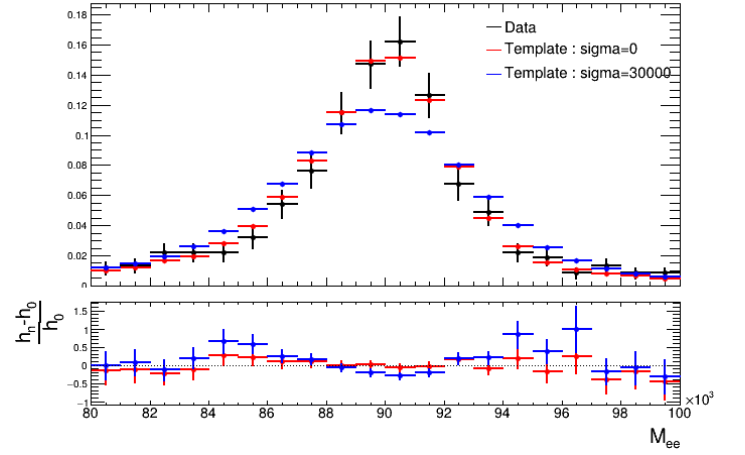
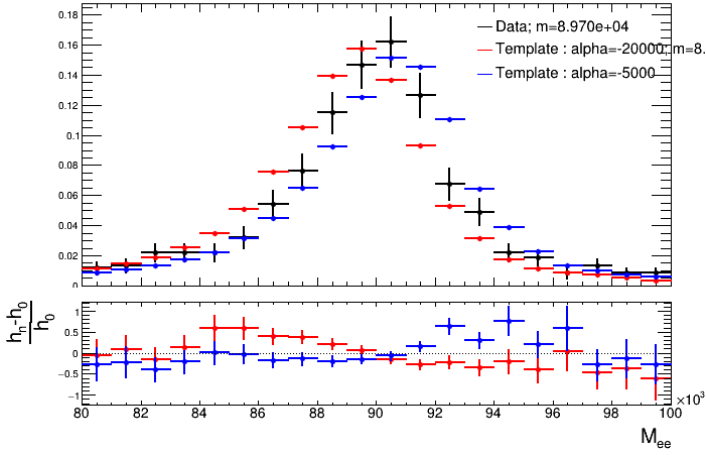
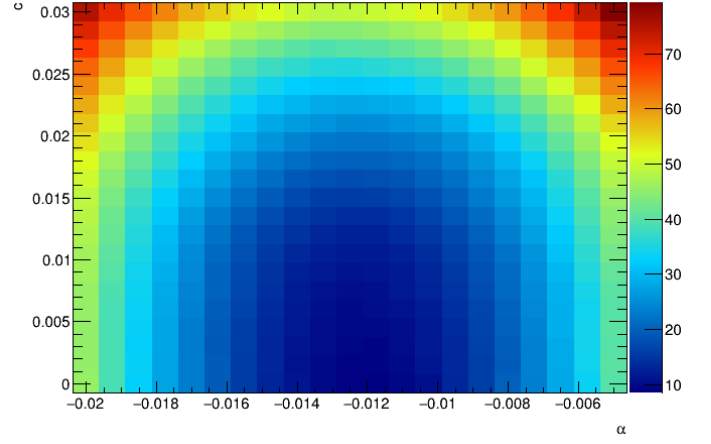
MCEvents : 151104

DataEvents : 666

ThresholdMass : 64.8947

$$\alpha_{ij} = -0.01218 \pm 0.00128987$$

$$\sigma_{ij} = 0.000955051 \pm 0.0061212$$



# 56 ChiMatrix\_10\_5

Results

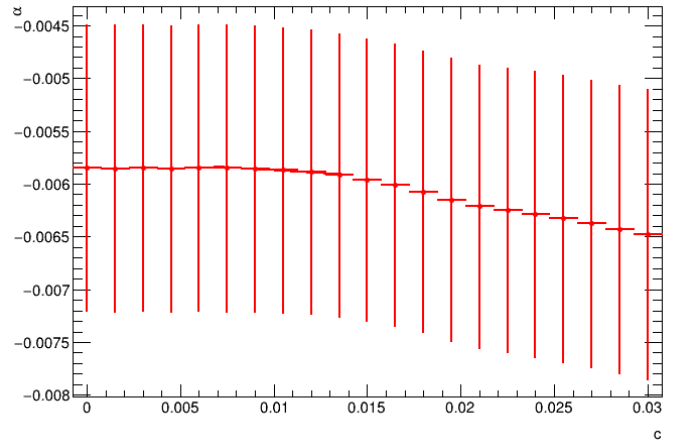
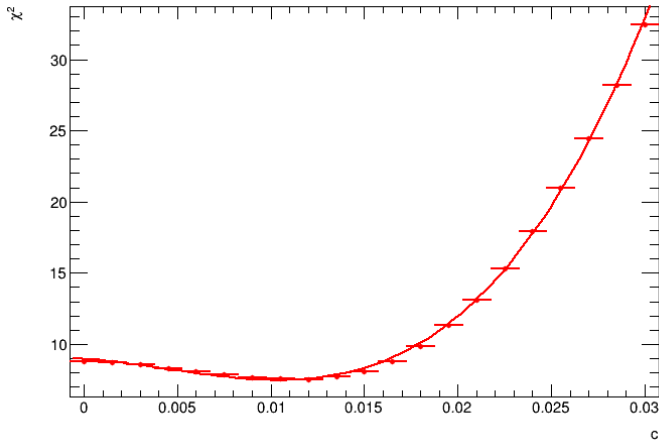
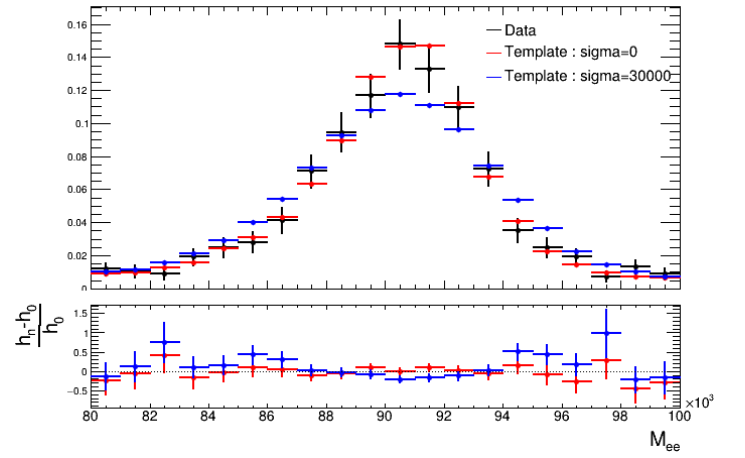
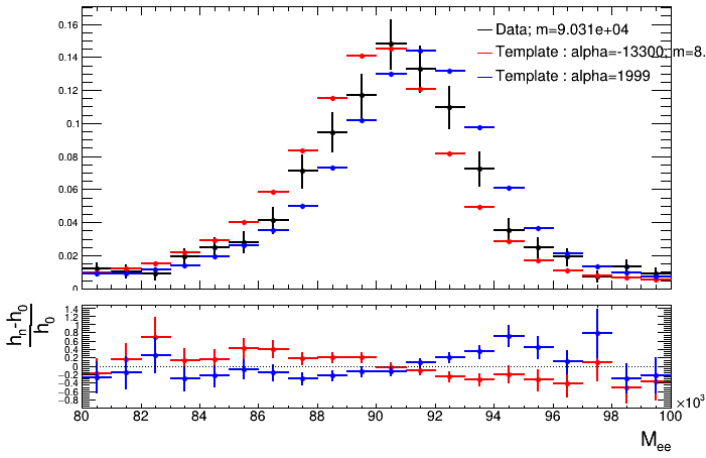
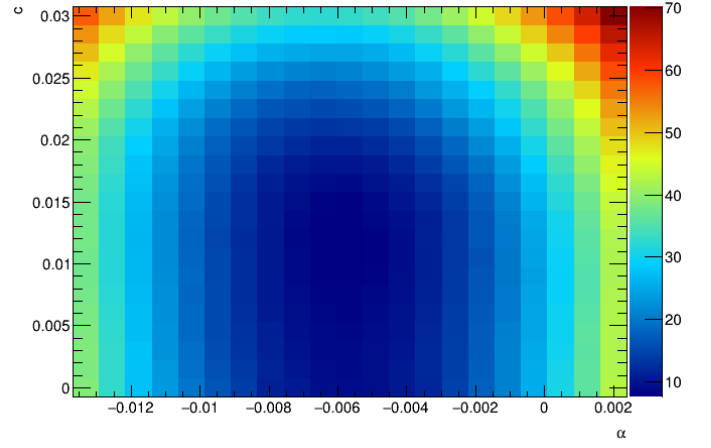
MCEvents : 158940

DataEvents : 763

ThresholdMass : 61.6144

$$\alpha_{ij} = -0.00587528 \pm 0.00135204$$

$$\sigma_{ij} = 0.0104322 \pm 0.00496536$$



# 57 ChiMatrix\_10\_6

Results

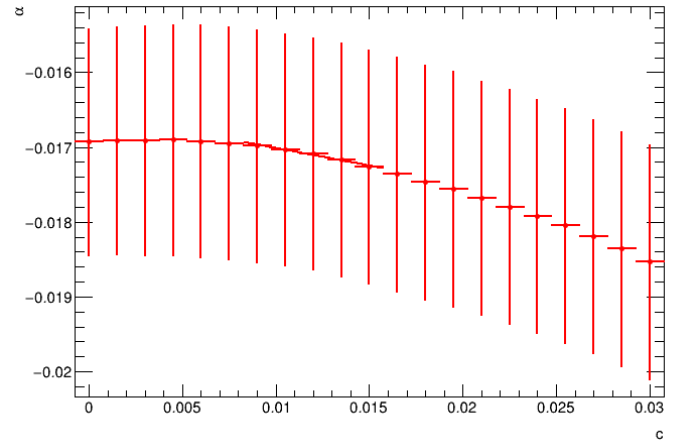
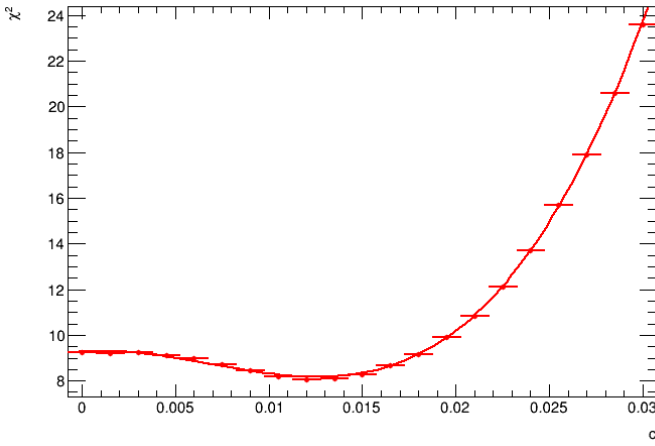
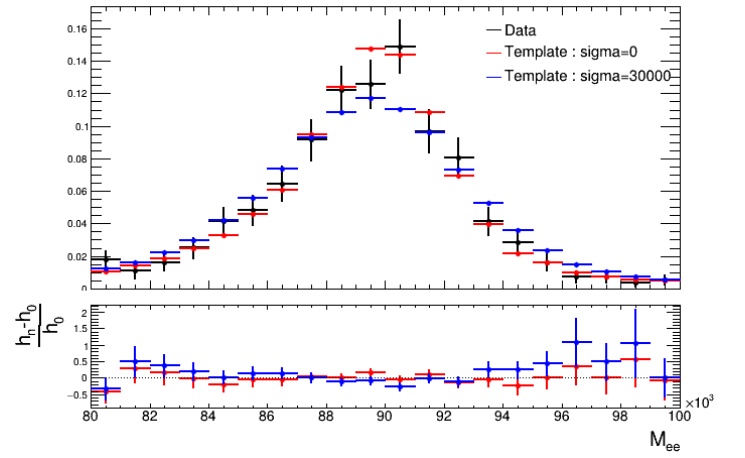
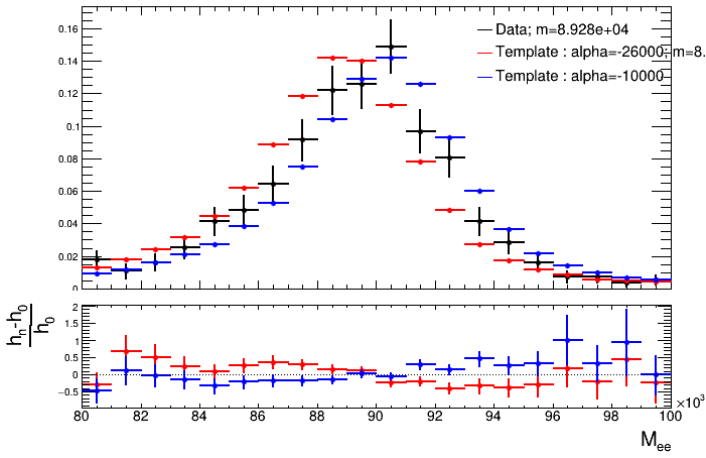
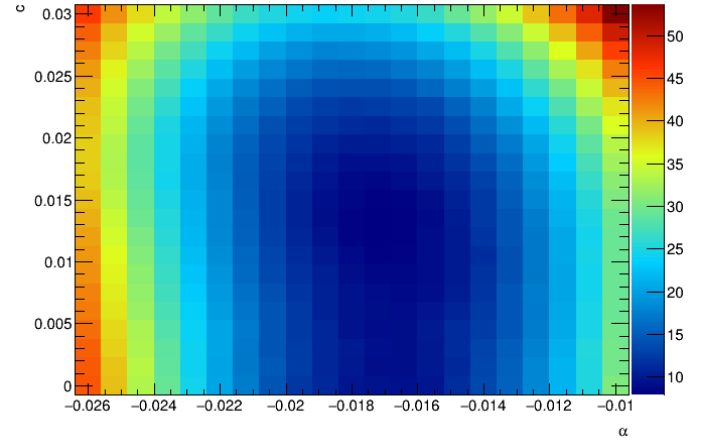
MCEvents : 136740

DataEvents : 627

ThresholdMass : 59.1297

$$\alpha_{ij} = -0.0171347 \pm 0.00155542$$

$$\sigma_{ij} = 0.0126003 \pm 0.00545466$$



# 58 ChiMatrix\_10\_7

Results

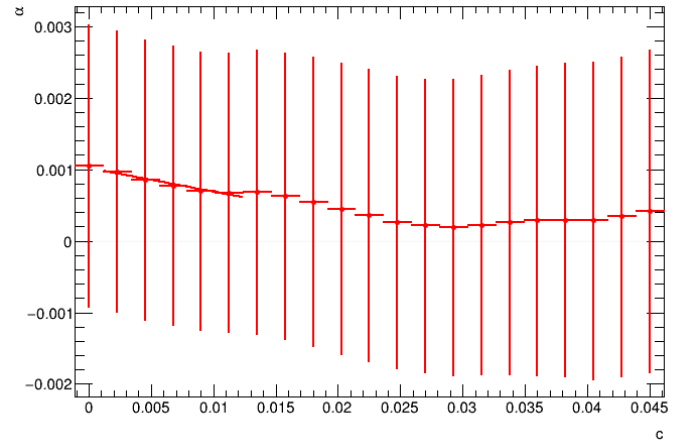
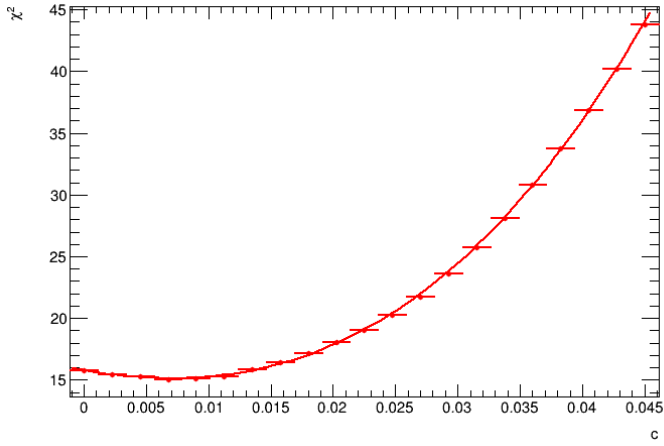
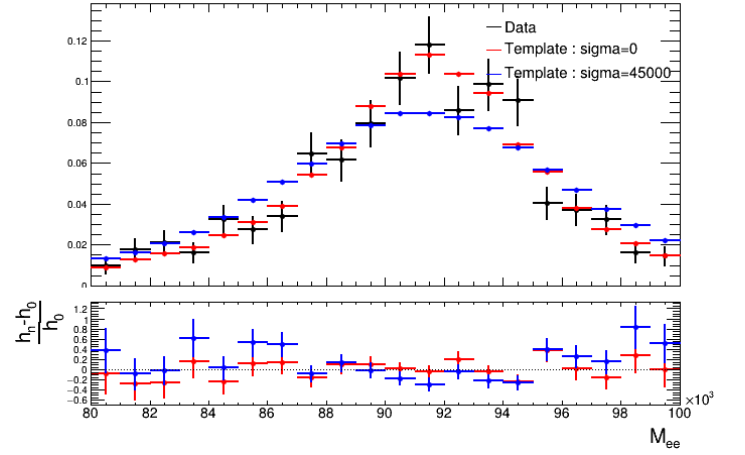
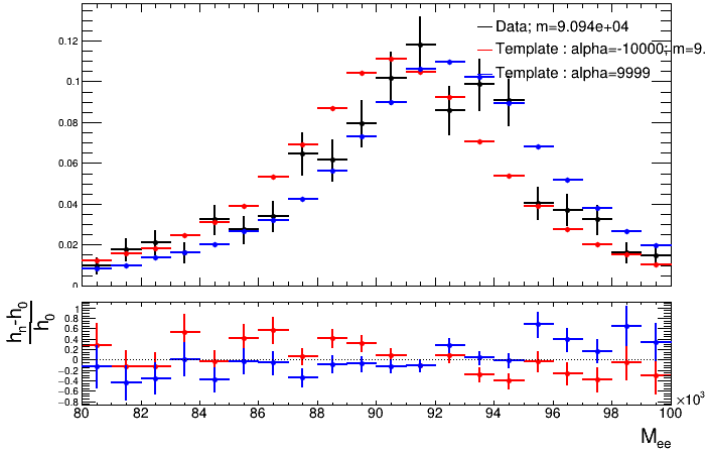
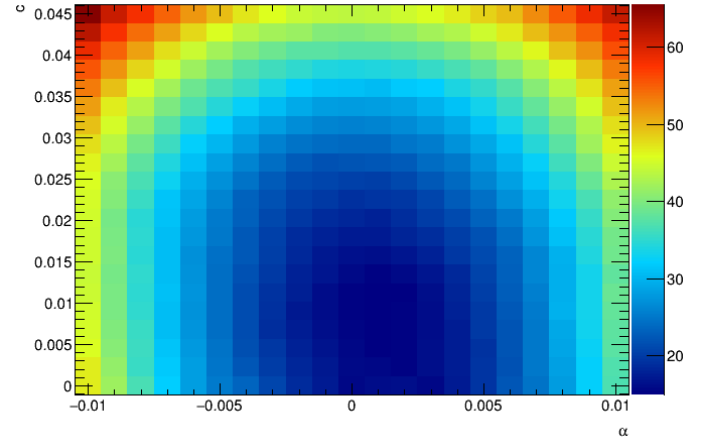
MCEvents : 143358

DataEvents : 737

ThresholdMass : 57.2457

$$\alpha_{ij} = 0.000784441 \pm 0.0019502$$

$$\sigma_{ij} = 0.00707561 \pm 0.00807968$$



# 59 ChiMatrix\_10\_8

Results

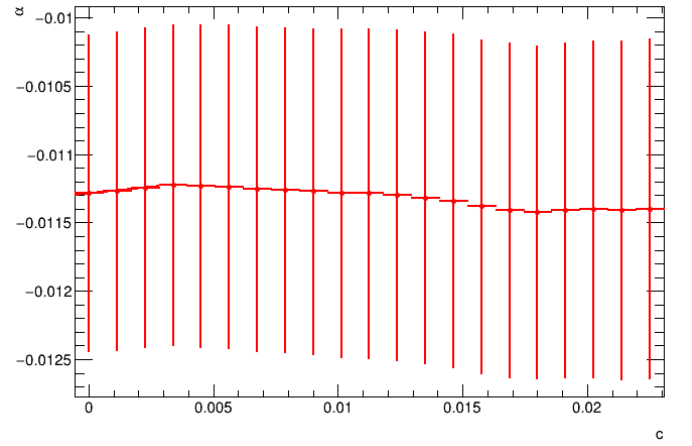
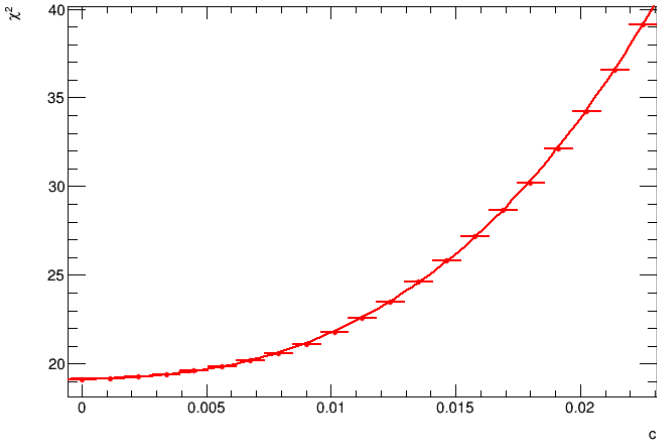
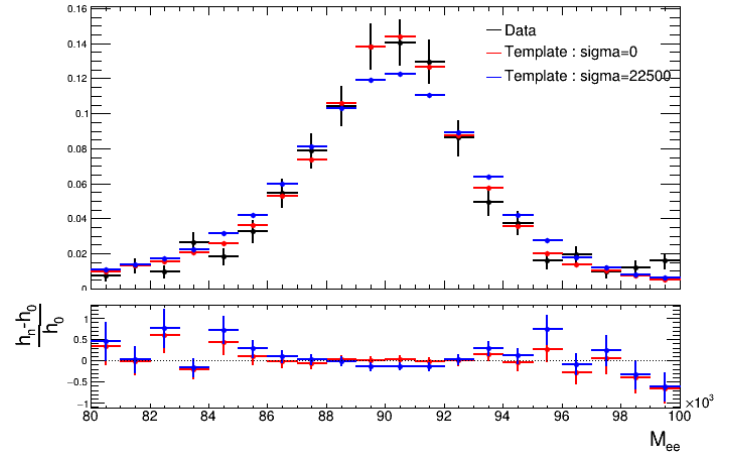
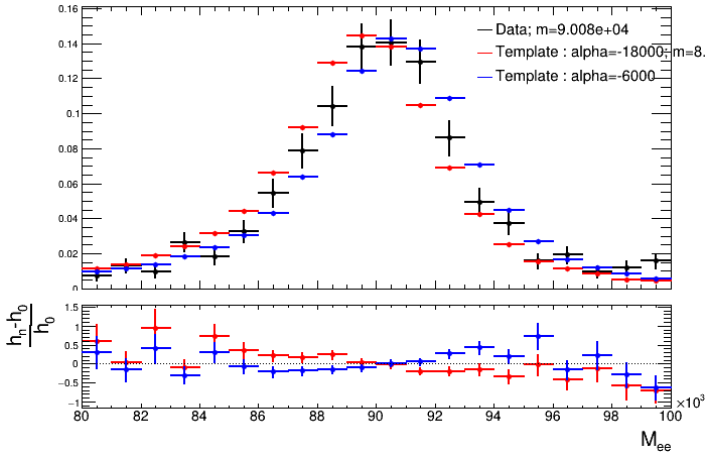
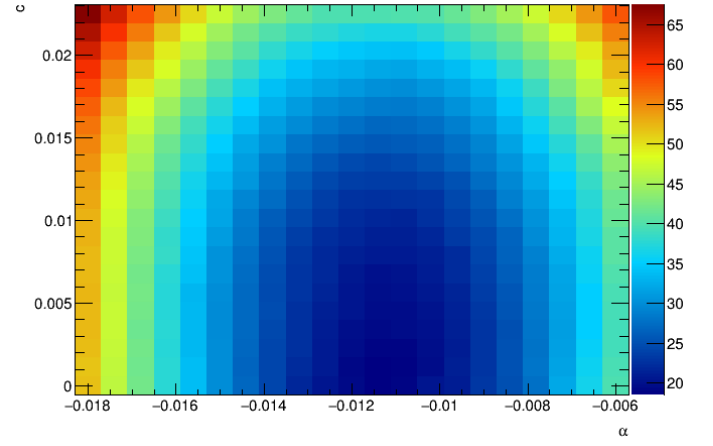
MCEvents : 197694

DataEvents : 916

ThresholdMass : 55.5301

$$\alpha_{ij} = -0.0112857 \pm 0.00115918$$

$$\sigma_{ij} = 3.42336e - 13 \pm 0.00672844$$



# 60 ChiMatrix\_10\_9

Results

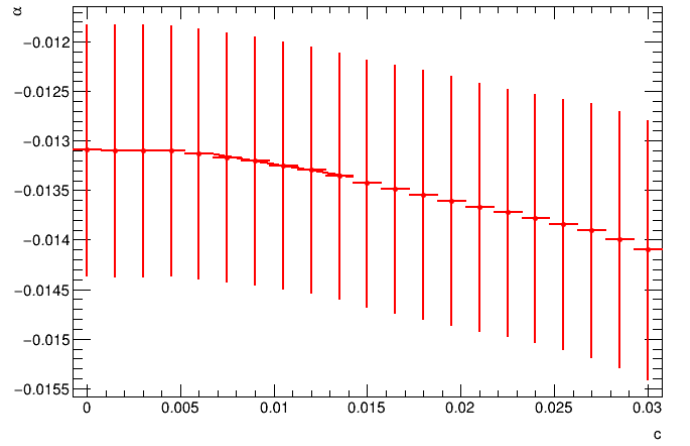
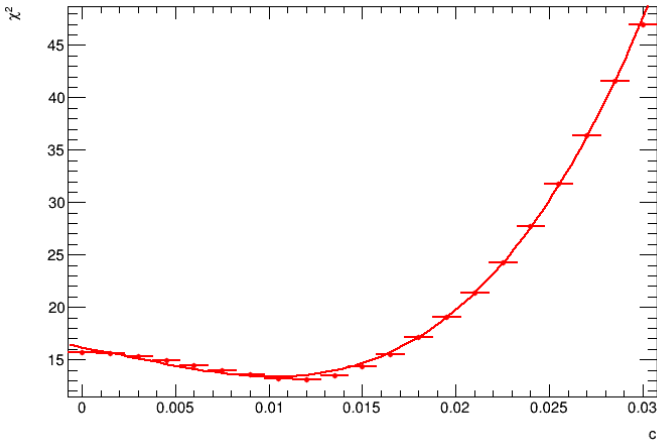
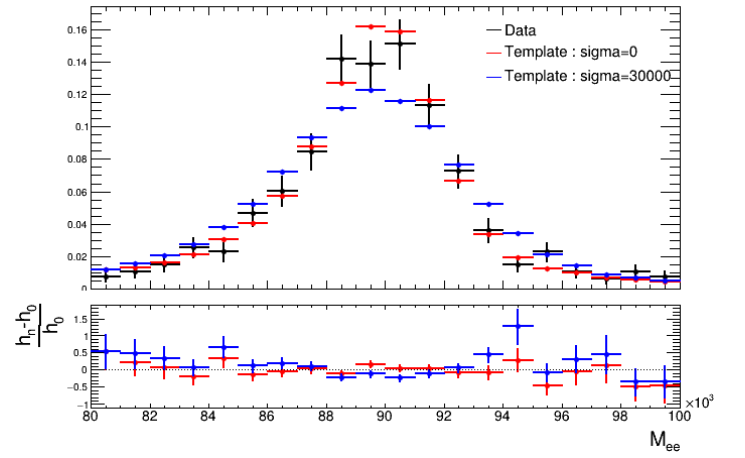
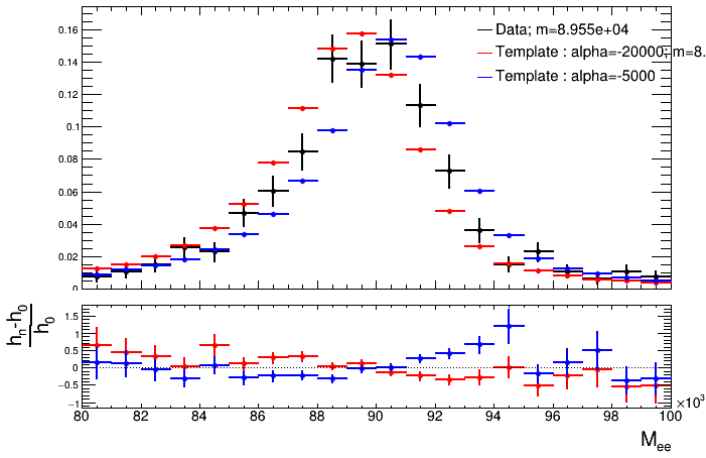
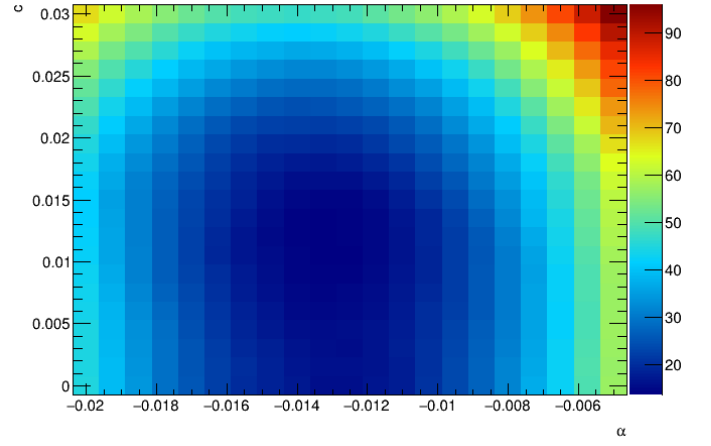
MCEvents : 148092

DataEvents : 742

ThresholdMass : 54.4224

$$\alpha_{ij} = -0.0132469 \pm 0.00124624$$

$$\sigma_{ij} = 0.0103213 \pm 0.00422191$$



# 61 ChiMatrix\_10\_10

Results

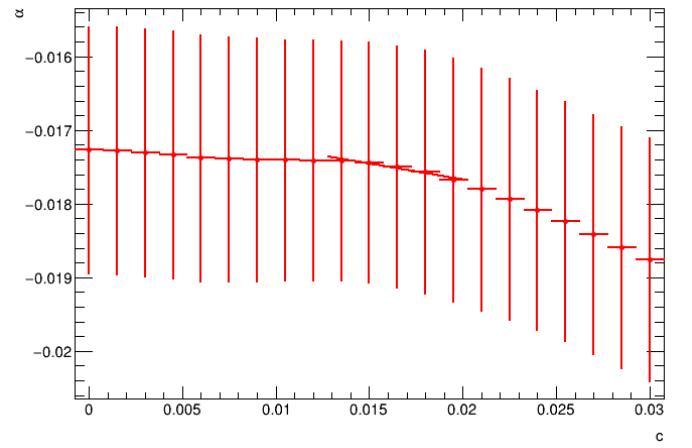
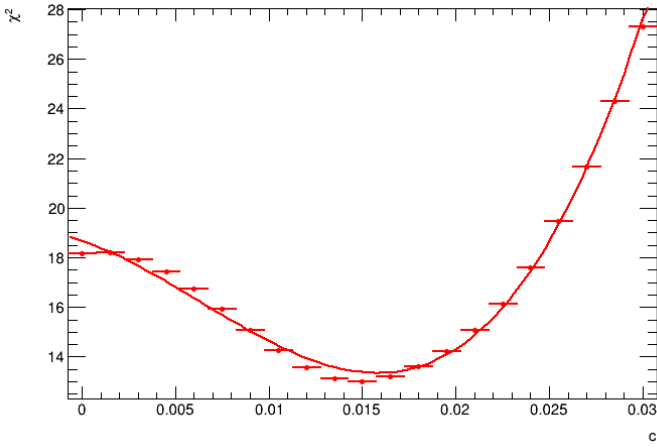
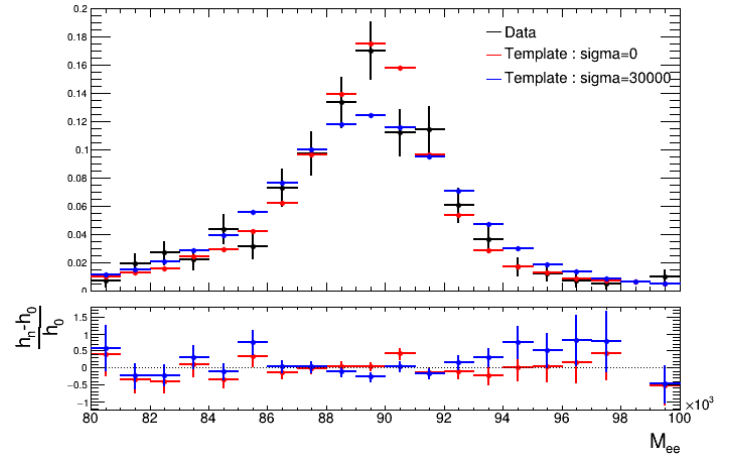
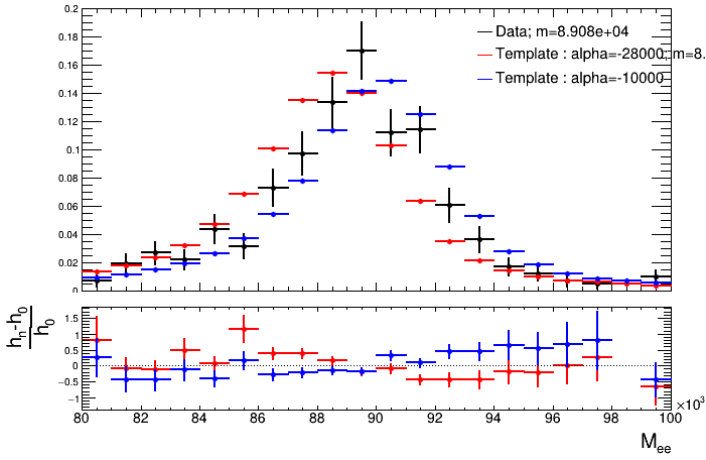
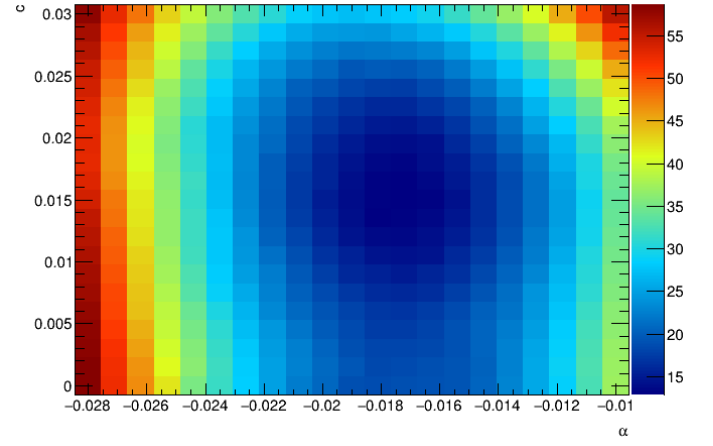
MCEvents : 105000

DataEvents : 451

ThresholdMass : 54

$$\alpha_{ij} = -0.0174904 \pm 0.00164391$$

$$\sigma_{ij} = 0.0158247 \pm 0.00428155$$



## 62 ChiMatrix\_11\_4

Results

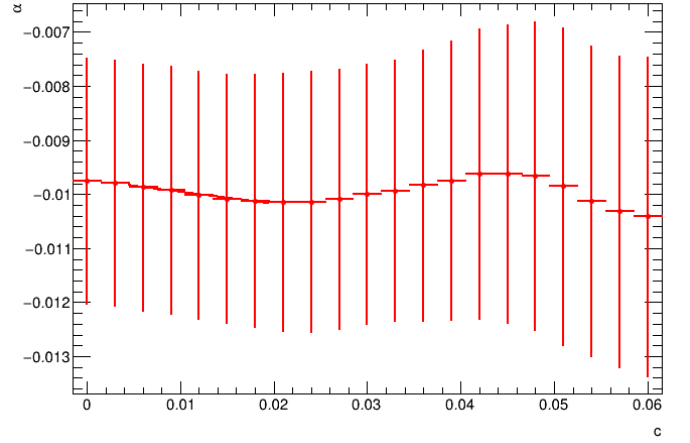
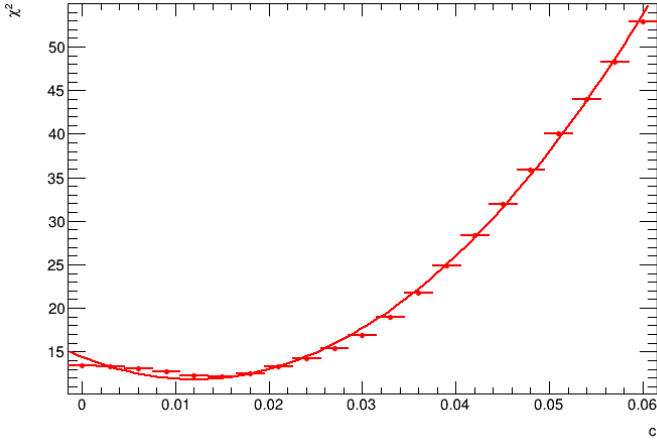
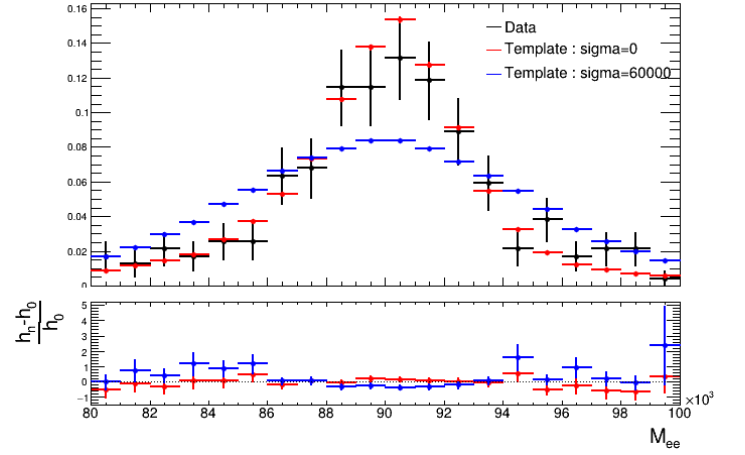
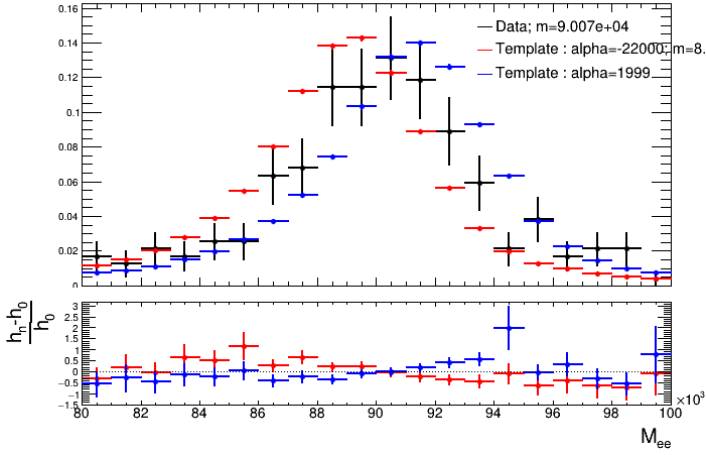
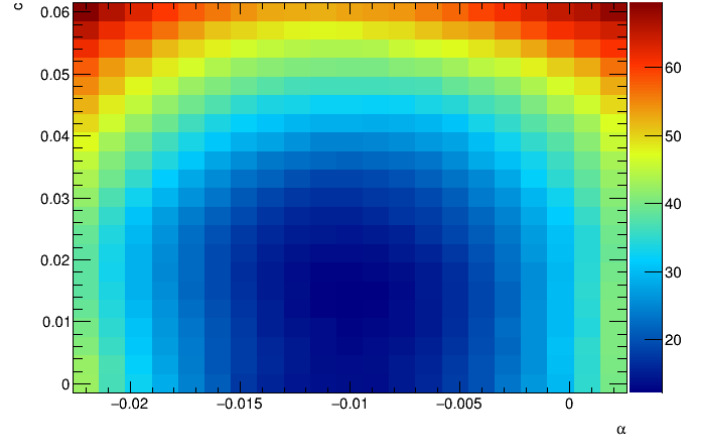
MCEvents : 66114

DataEvents : 257

ThresholdMass : 69.5818

$$\alpha_{ij} = -0.0100007 \pm 0.0022963$$

$$\sigma_{ij} = 0.0120059 \pm 0.00748574$$





# 63 ChiMatrix\_11\_5

Results

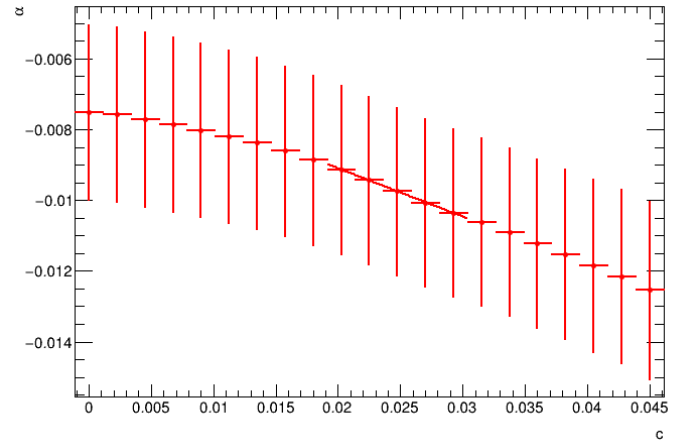
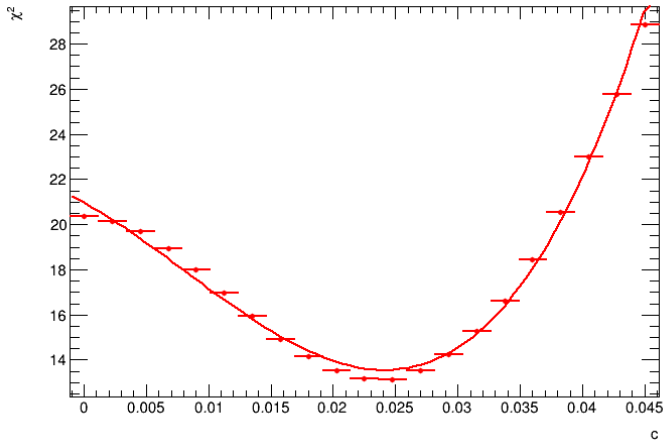
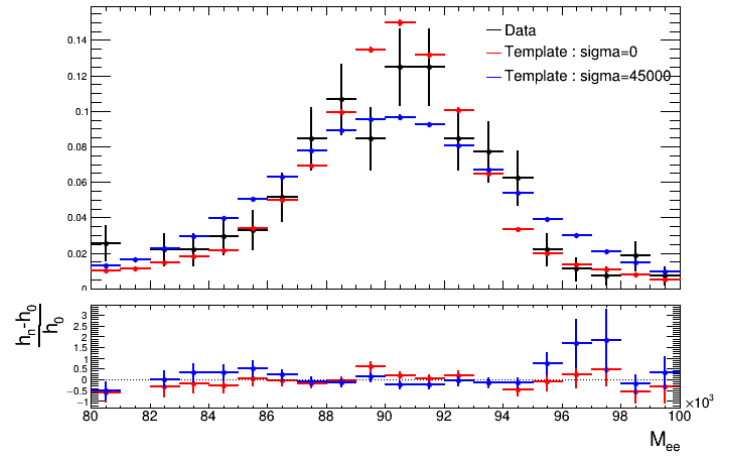
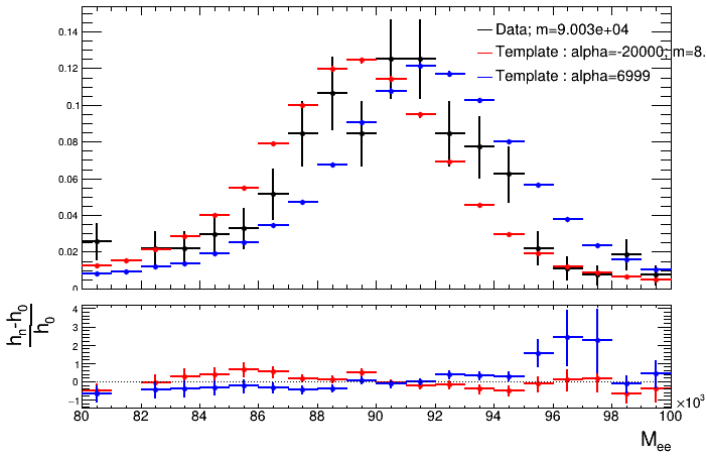
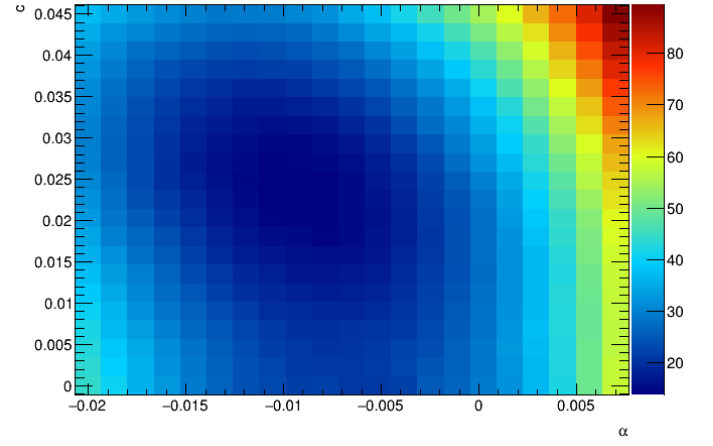
MCEvents : 70272

DataEvents : 295

ThresholdMass : 65.5345

$$\alpha_{ij} = -0.00966754 \pm 0.00238053$$

$$\sigma_{ij} = 0.0241596 \pm 0.00590429$$



# 64 ChiMatrix\_11\_6

Results

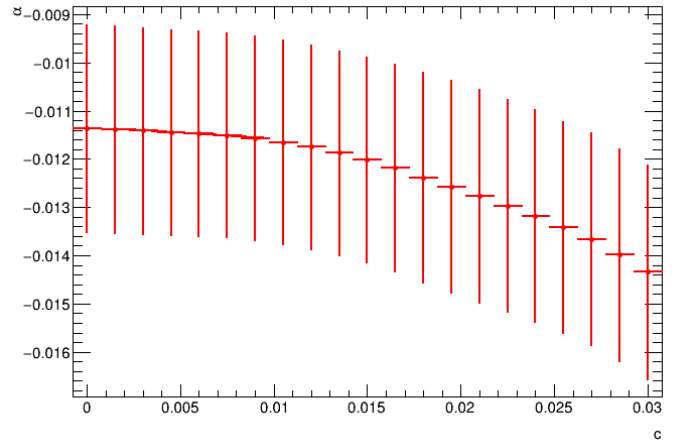
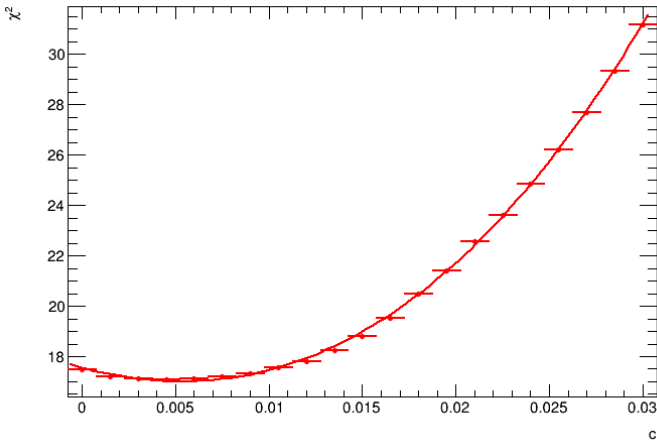
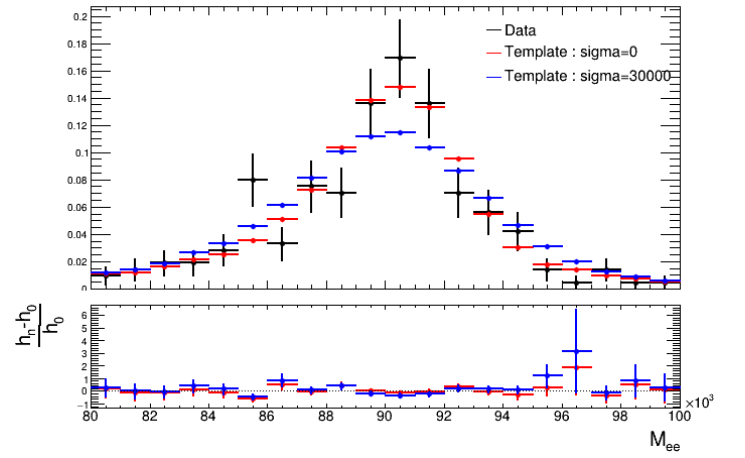
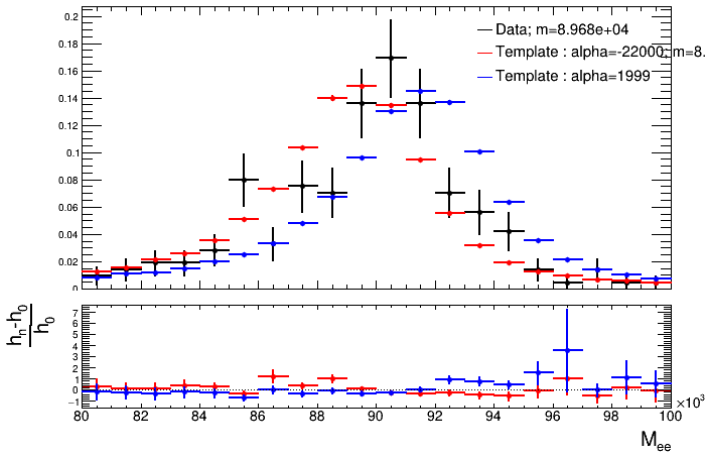
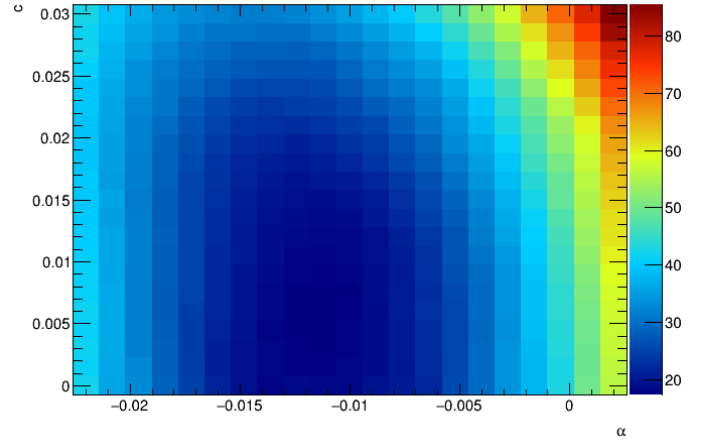
MCEvents : 60336

DataEvents : 240

ThresholdMass : 62.3755

$$\alpha_{ij} = -0.0114645 \pm 0.00212689$$

$$\sigma_{ij} = 0.00535961 \pm 0.00694888$$



## 65 ChiMatrix\_11\_7

Results

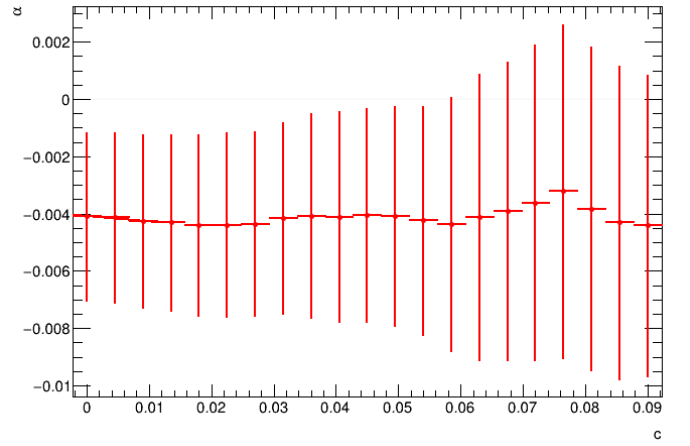
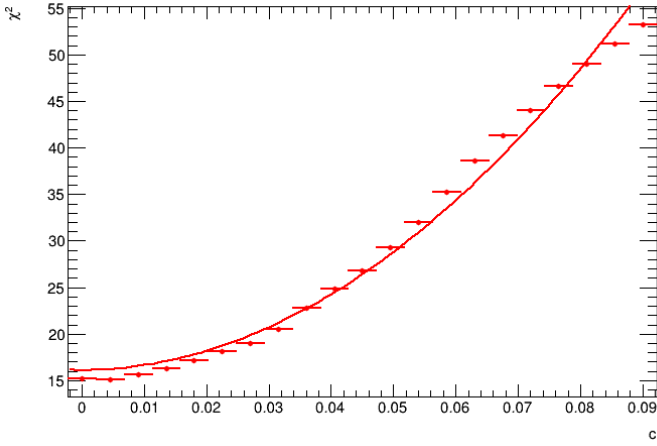
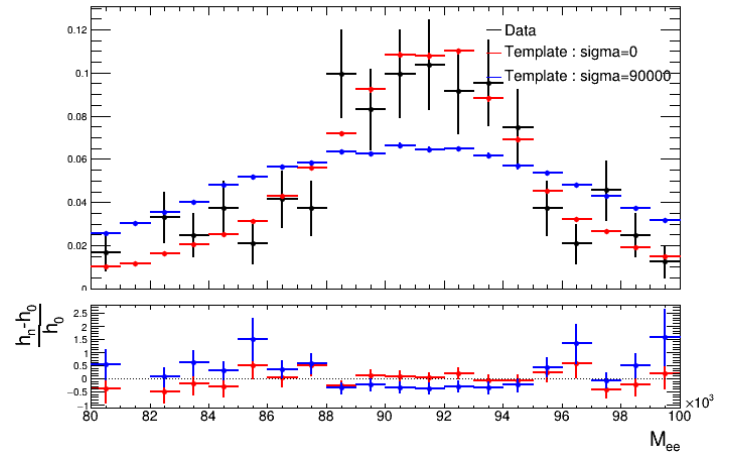
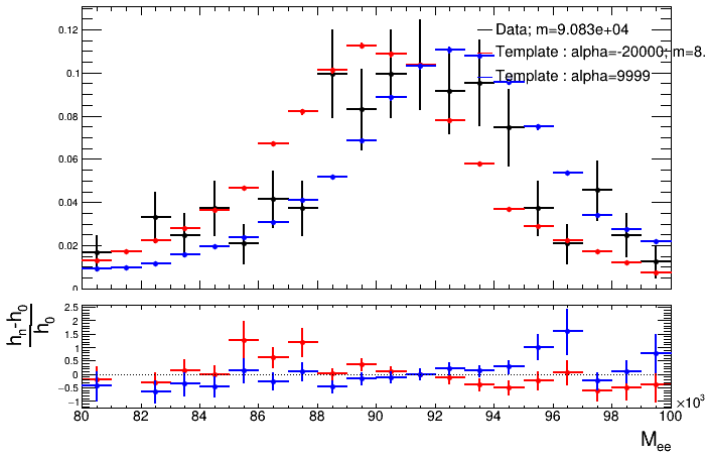
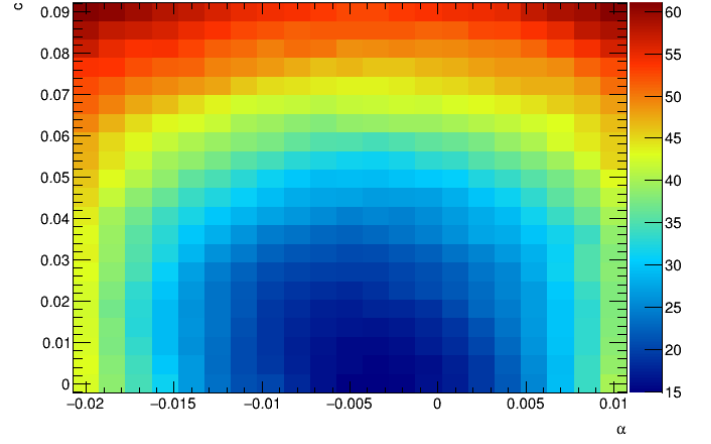
MCEvents : 65034

DataEvents : 266

ThresholdMass : 59.8792

$$\alpha_{ij} = -0.00412783 \pm 0.00294988$$

$$\sigma_{ij} = 0 \pm 0.014065$$



Results

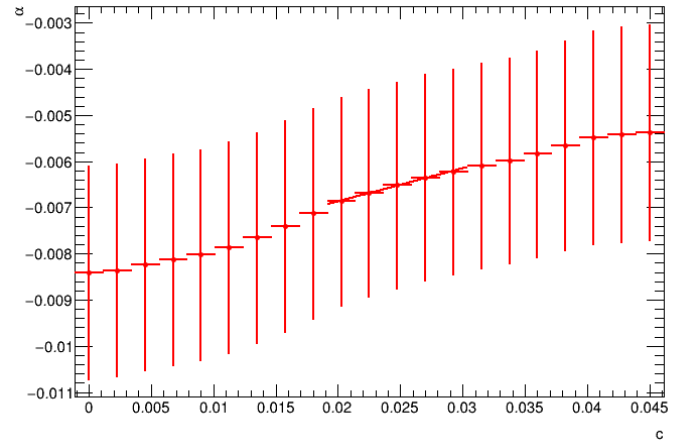
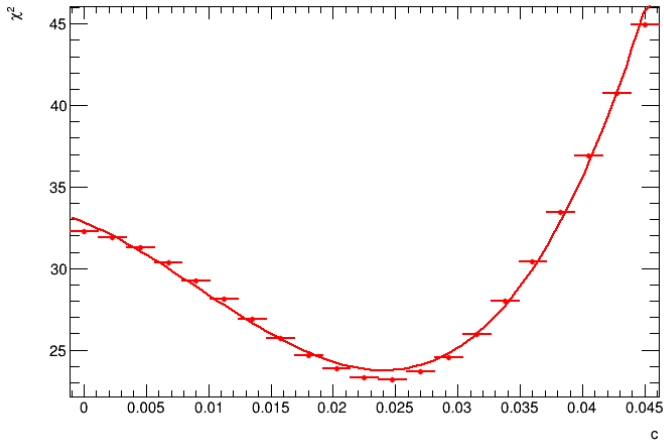
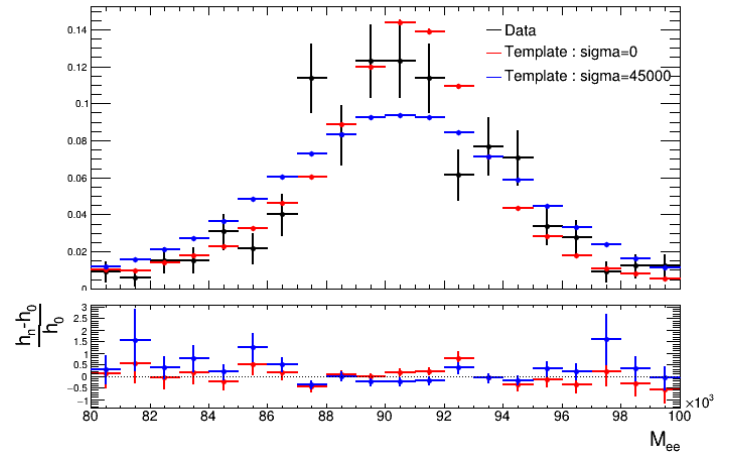
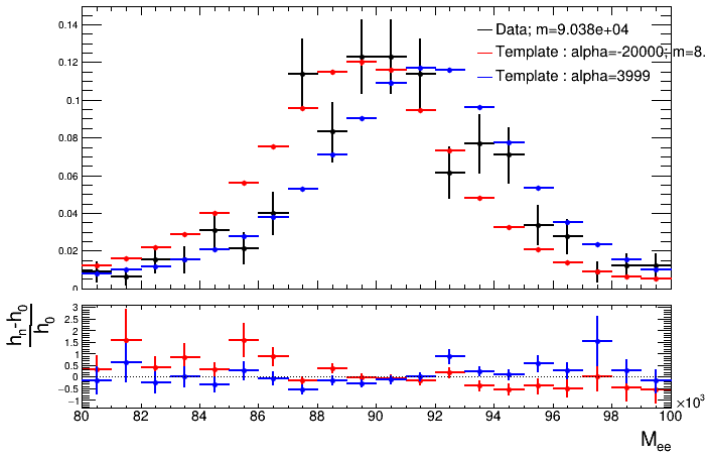
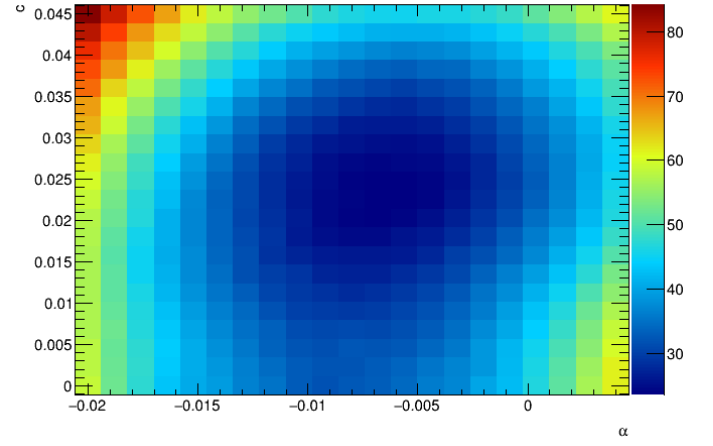
MCEvents : 90414

DataEvents : 372

ThresholdMass : 57.4386

$$\alpha_{ij} = -0.00657755 \pm 0.00223358$$

$$\sigma_{ij} = 0.0240756 \pm 0.00511669$$



# 67 ChiMatrix\_11\_9

Results

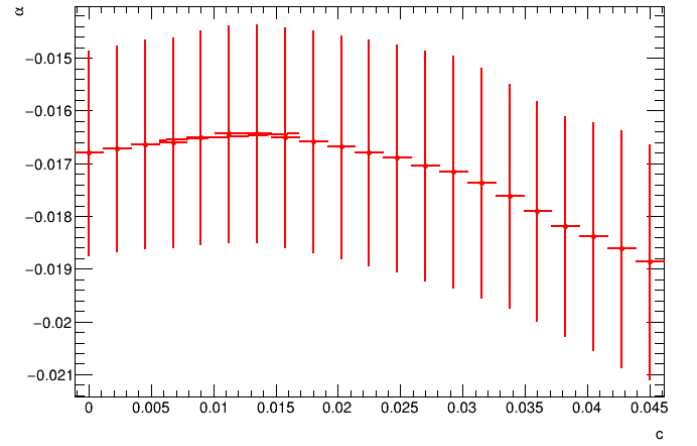
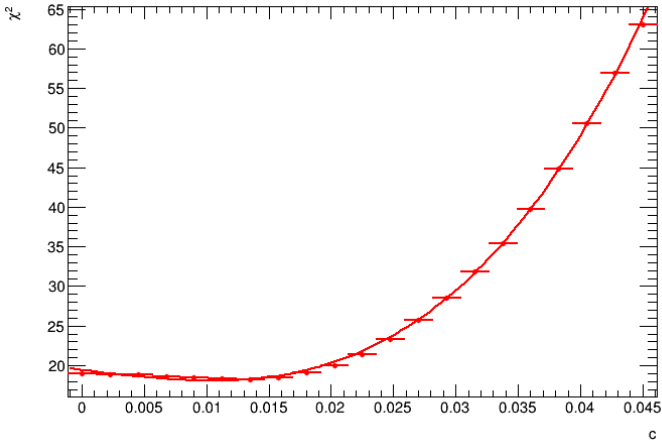
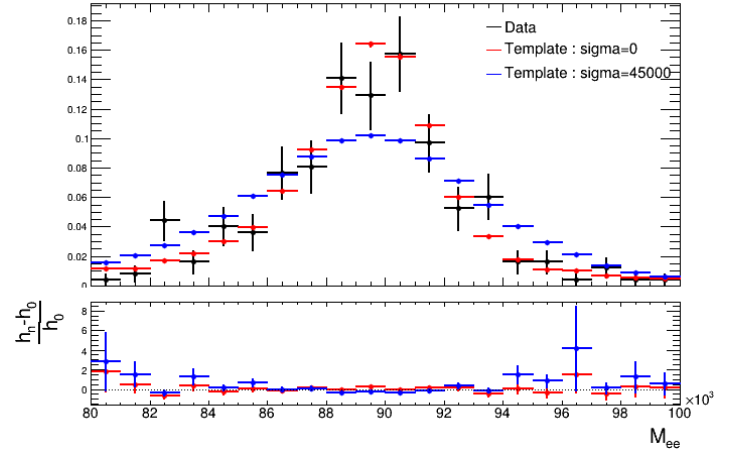
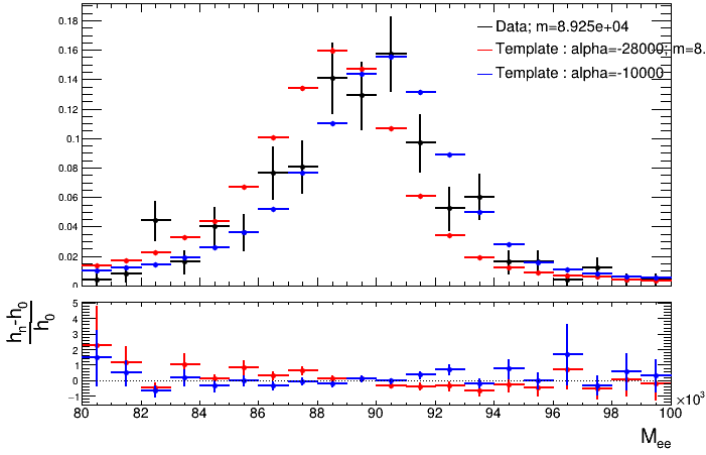
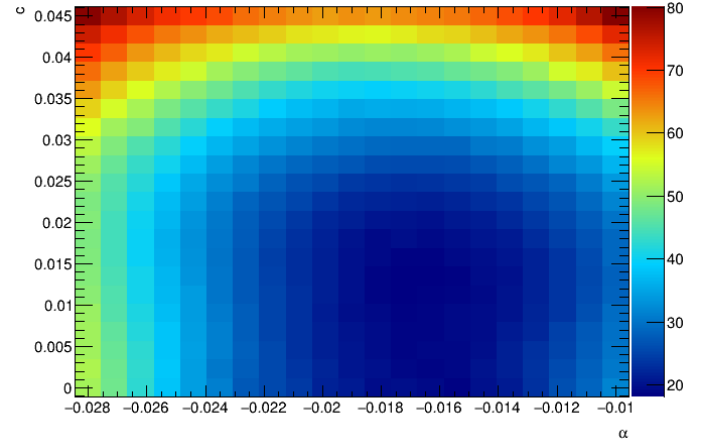
MCEvents : 68346

DataEvents : 278

ThresholdMass : 55.5956

$$\alpha_{ij} = -0.0165068 \pm 0.00205878$$

$$\sigma_{ij} = 0.0104232 \pm 0.00670716$$



Results

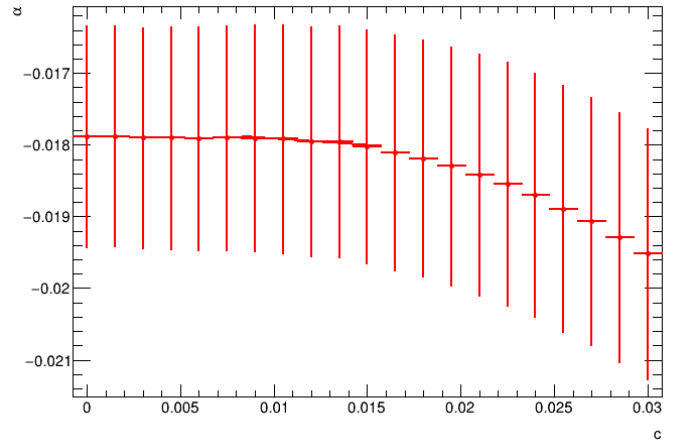
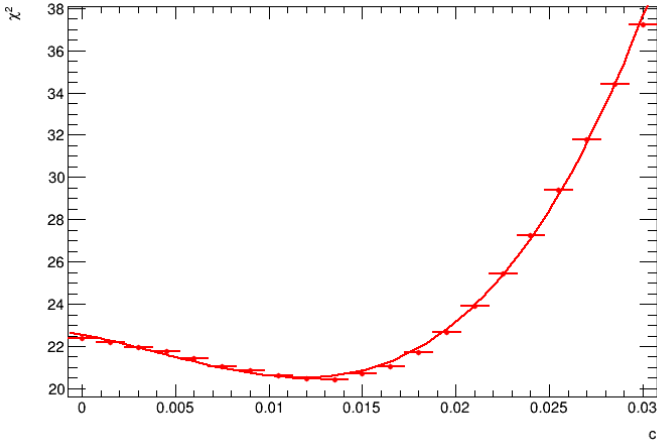
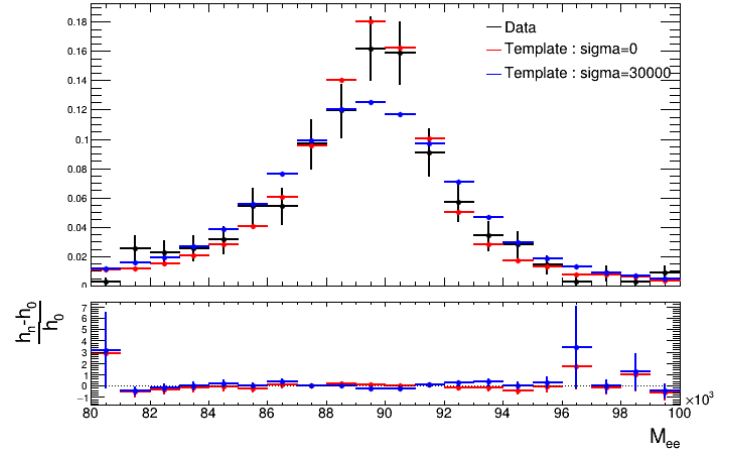
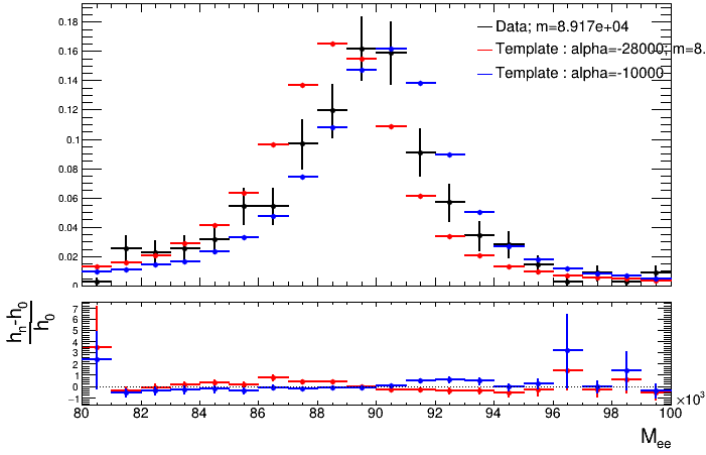
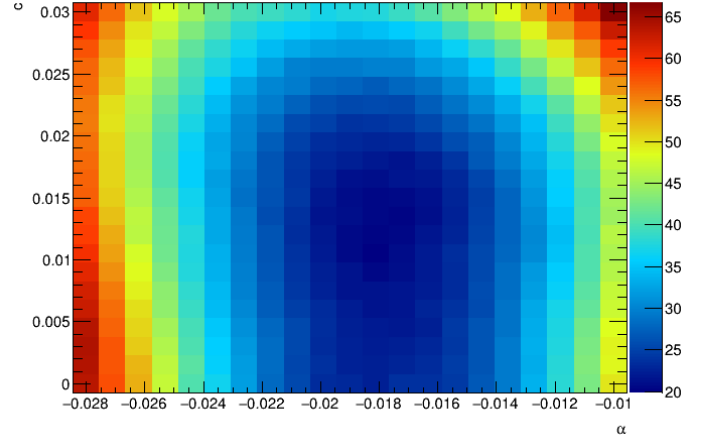
MCEvents : 95652

DataEvents : 406

ThresholdMass : 54.3732

$$\alpha_{ij} = -0.0179467 \pm 0.00160543$$

$$\sigma_{ij} = 0.0118589 \pm 0.00528084$$



# 69 ChiMatrix\_11\_11

Results

MCEvents : 21624

DataEvents : 67

ThresholdMass : 54

$$\alpha_{ij} = -0.0302444 \pm 0.00236122$$

$$\sigma_{ij} = 0 \pm 0.0831061$$

