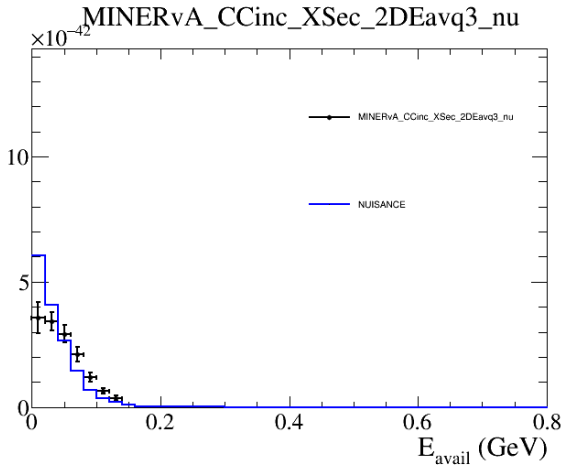


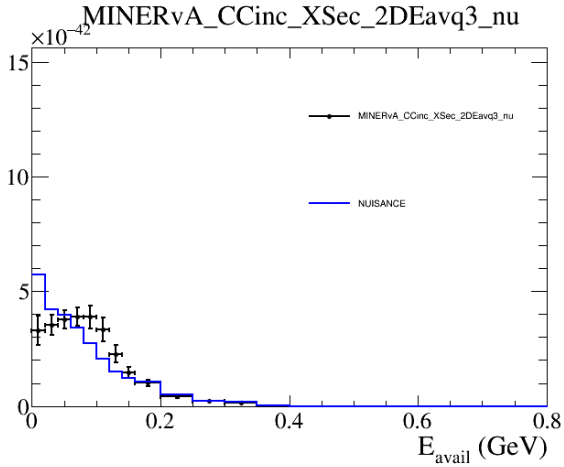
MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



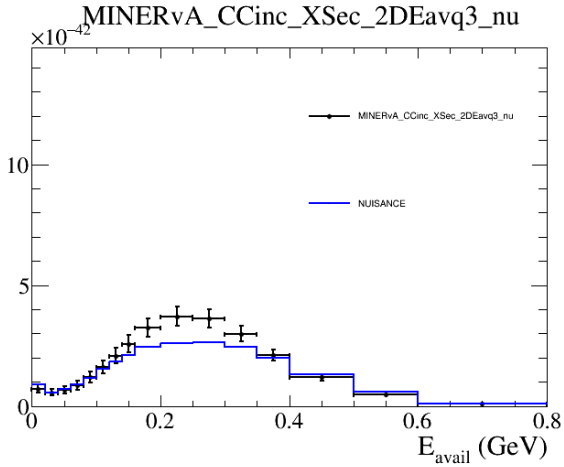
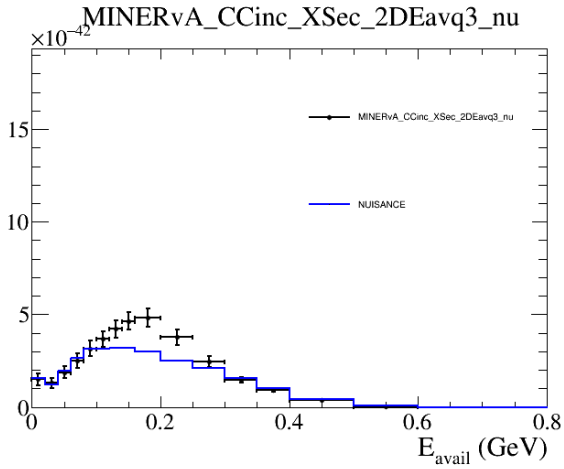
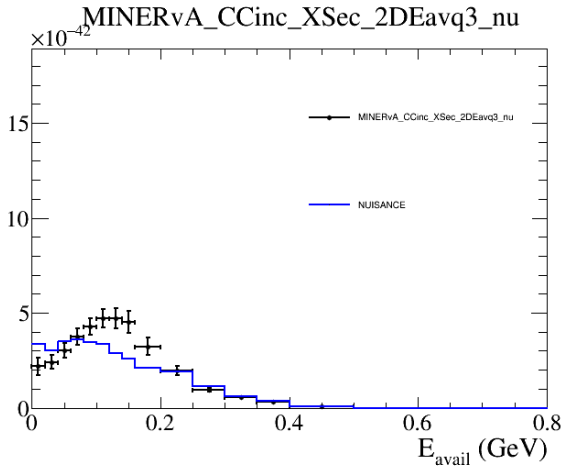
MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

```

MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

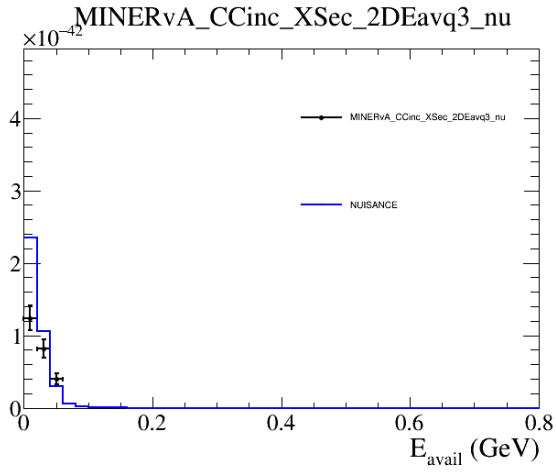
```

MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

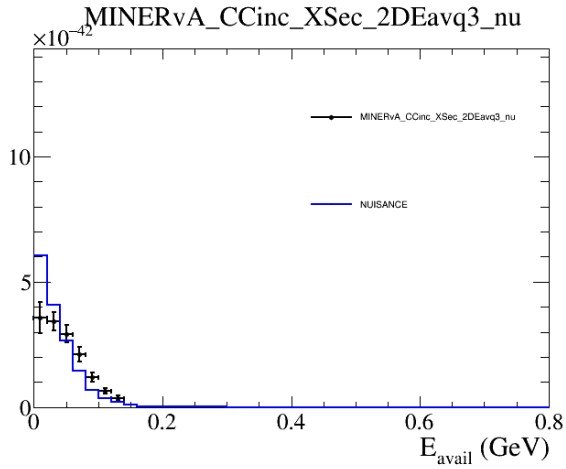
• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

```



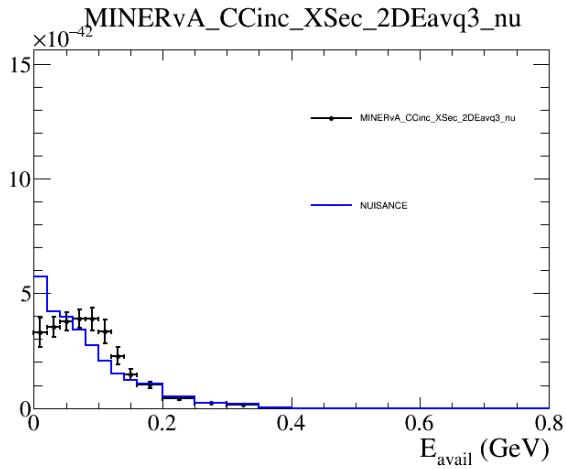
MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{\text{avail}}}^2$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{\text{avail}}}$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



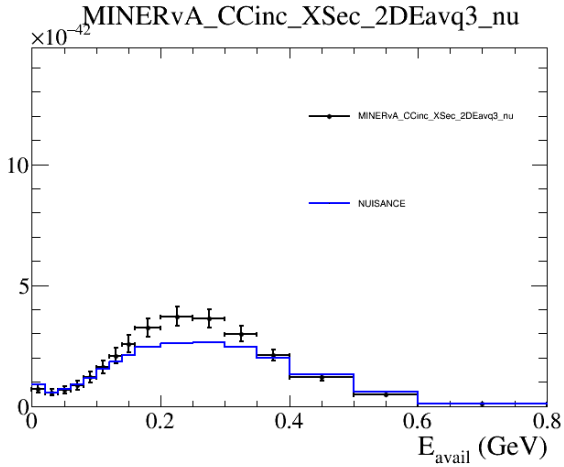
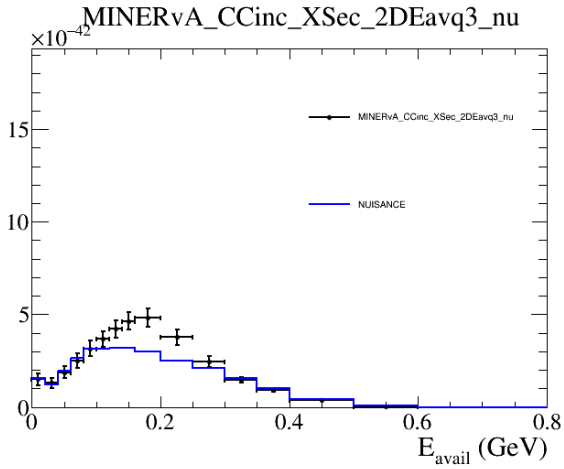
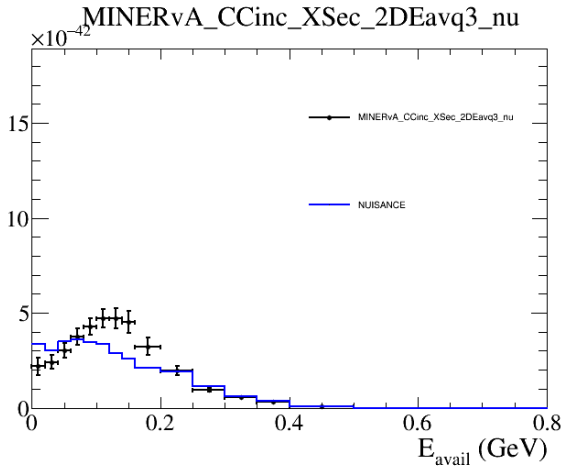
MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{\text{avail}}}^2$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{\text{avail}}}$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- **type** : DEFAULT
- **description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC numu  
 |--> Signal: CC-inclusive with theta < 20deg
- **xtitle** :  $q_1$  (GeV)
- **ytitle** :  $E_{\nu_{\text{avail}}}^2$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\nu_{\text{avail}}}$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/FULL,DIAG/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 2
- **enu\_max** : 6
- **title** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **map** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

```

MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

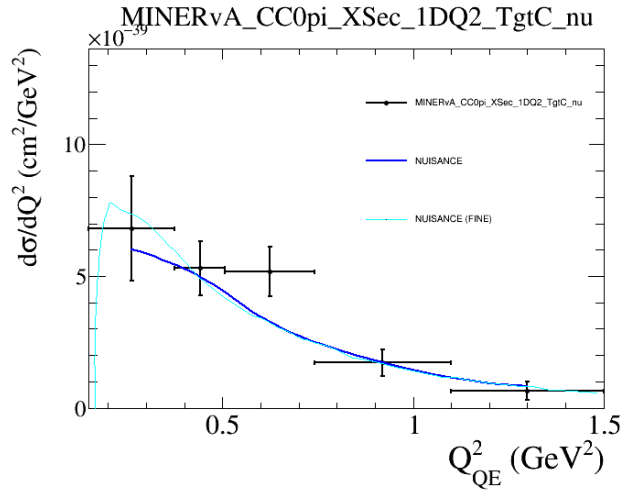
```

MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

```

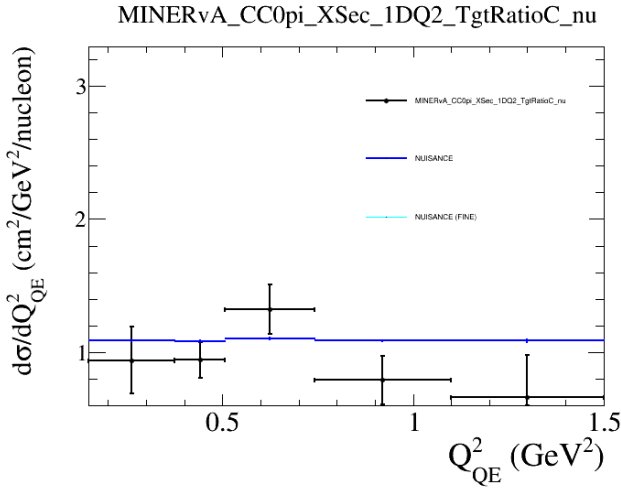
• name : MINERvA_CCinc_XSec_2DEavq3_nu
• input : GENIE:@GENIE_DIR/gntp.R-2_8_6.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
• type : DEFAULT
• description :
  |--> MINERvA_CCinc_XSec_2DEavq3_nu sample.
  |--> Target: CH
  |--> Flux: MINERvA Medium Energy FHC numu
  |--> Signal: CC-inclusive with theta < 20deg
• xtitle : q1 (GeV)
• ytitle : Eavail (GeV)
• ztitle : d2σ/dq1 dEavail (cm2/GeV2)
• default_types : FIX,FREE,SHAPE/FULL,DIAG/MASK
• allowed_types : FIX/FULL
• enu_min : 2
• enu_max : 6
• title : MINERvA_CCinc_XSec_2DEavq3_nu
• data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• map : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
• originalname : MINERvA_CCinc_XSec_2DEavq3_nu
• χ2 : 2152.07
• NDOF : 67
• χ2/NDOF : 32.1204

```



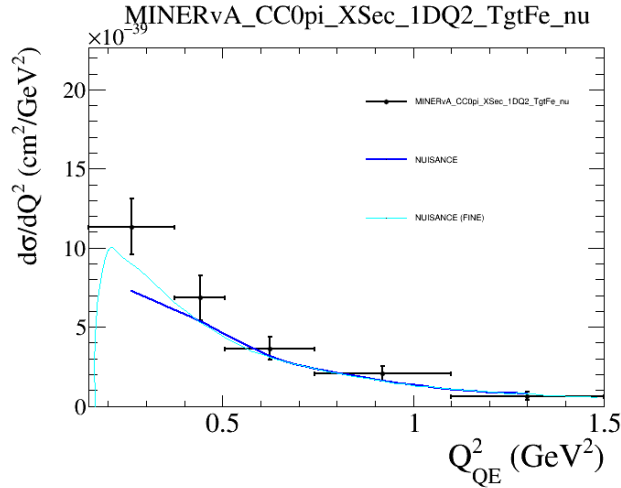
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtC\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtC\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.C.2500000.5.prepared.r
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu sample.  
 ↳-> Target: Either C, CH, Fe, Pb  
 ↳-> Flux: MINERvA Forward Horn numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ^2$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/DIAG/NORM
- **allowed\_types** : FIX/DIAG
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtC\_nu
- $\chi^2$  : 5.84509
- **NDOF** : 5
- $\chi^2/NDOF$  : 1.16902



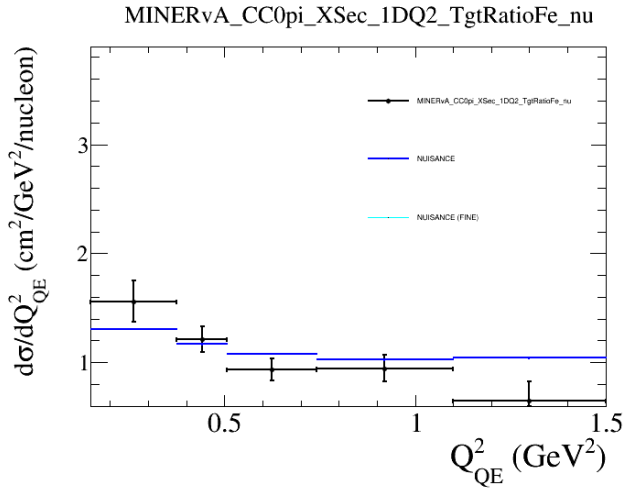
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioC\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioC\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.C.2500000.5.prepared.r
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu sample.  
 ↳-> Target: Target;CH (2 INPUTS)  
 ↳-> Flux: MINERvA Forward Horn Current Numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ^2$  (cm<sup>2</sup>/GeV<sup>2</sup>/nucleon)
- **default\_types** : FIX/DIAG,FULL/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioC\_nu
- $\chi^2$  : 113.735
- **NDOF** : 5
- $\chi^2/NDOF$  : 22.7469



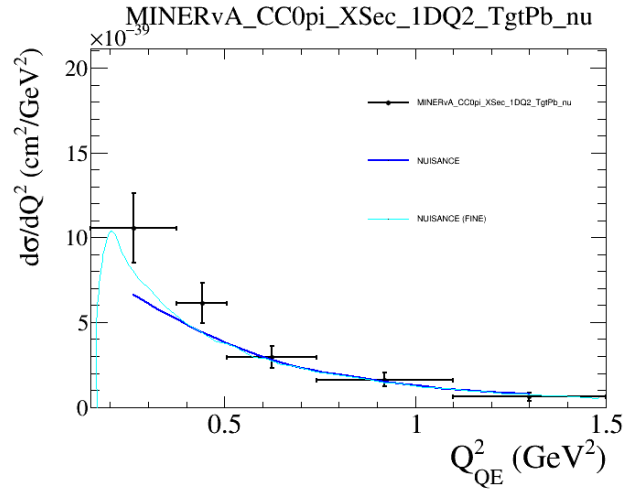
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtFe\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtFe\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.Fe.2500000.6.prepared.r
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu sample.  
 ↳-> Target: Either C, CH, Fe, Pb  
 ↳-> Flux: MINERvA Forward Horn numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ^2$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/DIAG/NORM
- **allowed\_types** : FIX/DIAG
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtFe\_nu
- $\chi^2$  : 10.7643
- **NDOF** : 5
- $\chi^2/NDOF$  : 2.15285



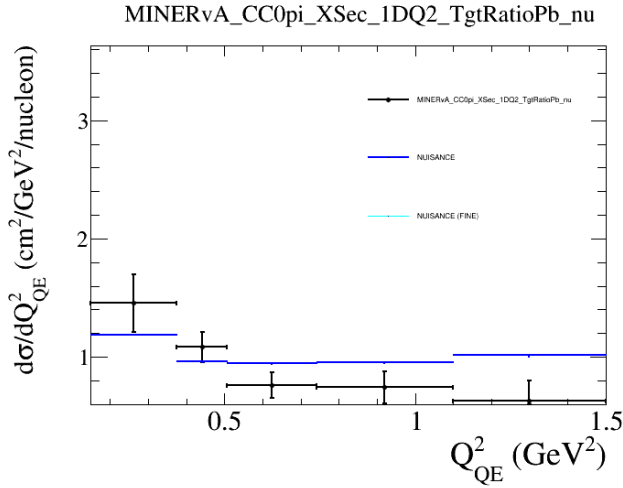
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioFe\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioFe\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.Fe.2500000.6.prepared.
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu sample.  
 ↳-> Target: Target:CH (2 INPUTS)  
 ↳-> Flux: MINERvA Forward Horn Current Numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ_{QE}^2$  (cm<sup>2</sup>/GeV<sup>2</sup>/nucleon)
- **default\_types** : FIX/DIAG.FULL/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioFe\_nu
- $\chi^2$  : 10.4815
- **NDOF** : 5
- $\chi^2/NDOF$  : 2.09631



MINERvA\_CC0pi\_XSec\_1DQ2\_TgtPb\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtPb\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.Pb.2500000.7.prepared.
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu sample.  
 ↳-> Target: Either C, CH, Fe, Pb  
 ↳-> Flux: MINERvA Forward Horn numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ_{QE}^2$  (cm<sup>2</sup>/GeV<sup>2</sup>)
- **default\_types** : FIX,FREE,SHAPE/DIAG/NORM
- **allowed\_types** : FIX/DIAG
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_Tgt\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtPb\_nu
- $\chi^2$  : 5.43915
- **NDOF** : 5
- $\chi^2/NDOF$  : 1.08783



MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioPb\_nu\_settings

- **name** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioPb\_nu
- **input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.Pb.2500000.7.prepared.
- **type** : DEFAULT
- **description** :  
 ↳-> MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu sample.  
 ↳-> Target: Target:CH (2 INPUTS)  
 ↳-> Flux: MINERvA Forward Horn Current Numu  
 ↳-> Signal: Any event with 1 muon, 1 proton p>450, no pions
- **xtitle** :  $Q_{QE}^2$  (GeV<sup>2</sup>)
- **ytitle** :  $d\sigma/dQ_{QE}^2$  (cm<sup>2</sup>/GeV<sup>2</sup>/nucleon)
- **default\_types** : FIX/DIAG.FULL/MASK
- **allowed\_types** : FIX/FULL
- **enu\_min** : 0
- **enu\_max** : 100
- **title** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatio\_nu
- **data** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/n
- **covar** : /data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtRatioPb\_nu
- $\chi^2$  : 10.8491
- **NDOF** : 5
- $\chi^2/NDOF$  : 2.16983