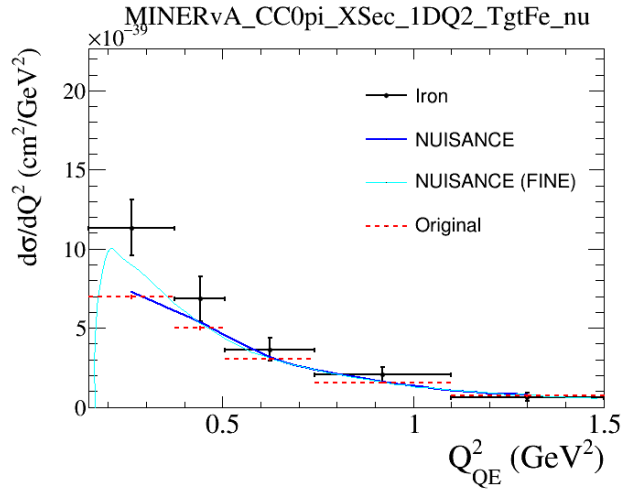


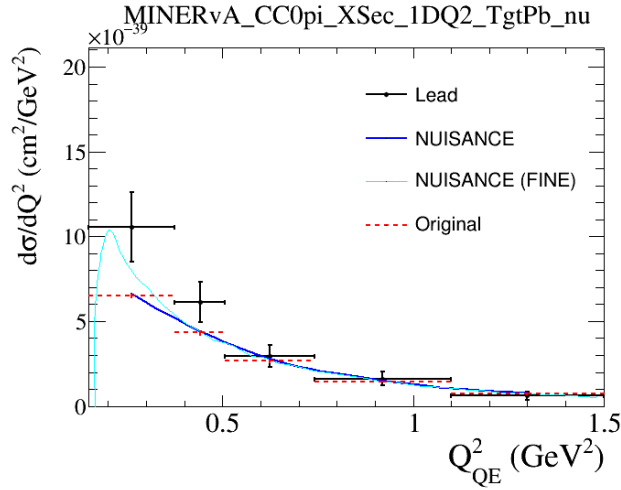
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtC\_nu\_settings

- **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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtC\_nu
- $\chi^2$  : 5.84509
- **NDOF** : 5
- $\chi^2/NDOF$  : 1.16902



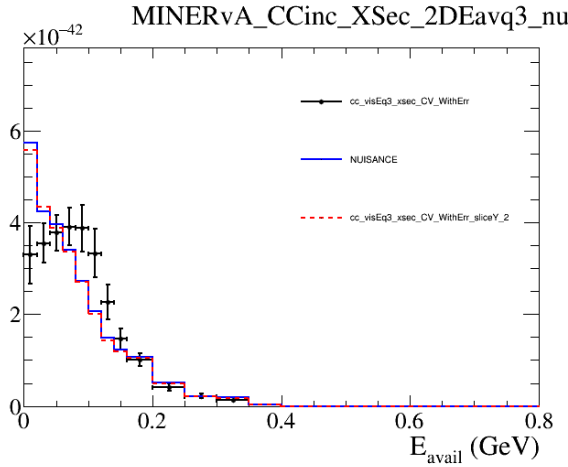
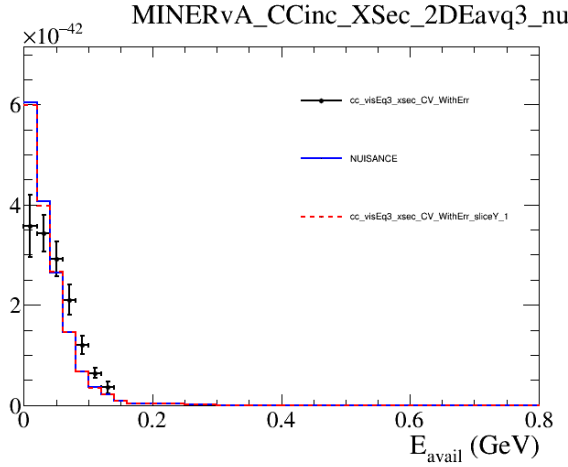
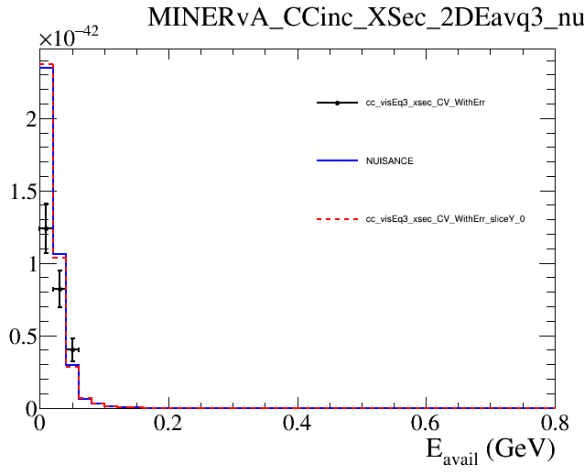
MINERvA\_CC0pi\_XSec\_1DQ2\_TgtFe\_nu\_settings

- **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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtFe\_nu
- $\chi^2$  : 10.7643
- **NDOF** : 5
- $\chi^2/NDOF$  : 2.15285



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.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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data//MINERvA/CC0pi
- **originalname** : MINERvA\_CC0pi\_XSec\_1DQ2\_TgtPb\_nu
- $\chi^2$  : 5.43915
- **NDOF** : 5
- $\chi^2/NDOF$  : 1.08783



#### MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

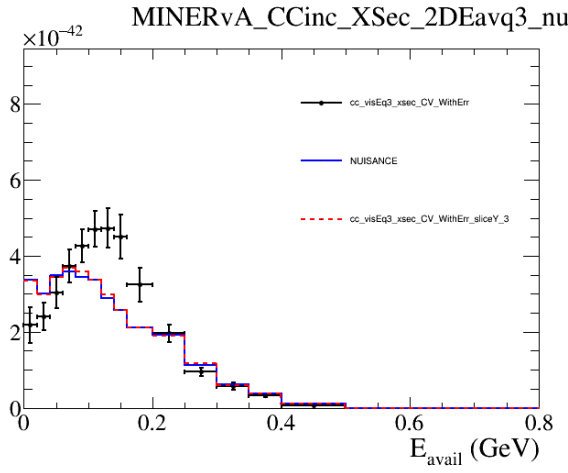
- name** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- input** : GENIE:@GENIE\_DIR/gntp.R-2\_8\_6.OfficialDefault.Default.MINERvA\_fhc\_numu.CH.2500000.1.prepared
- type** : DEFAULT
- description** :  
 |--> MINERvA\_CCinc\_XSec\_2DEavq3\_nu sample.  
 |--> Target: CH  
 |--> Flux: MINERvA Medium Energy FHC 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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- 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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204

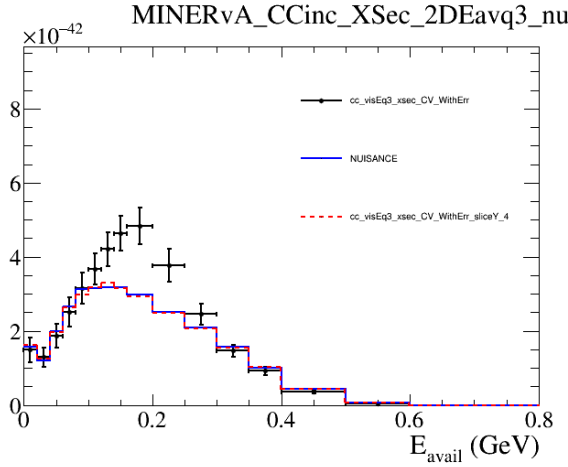
#### MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- 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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204



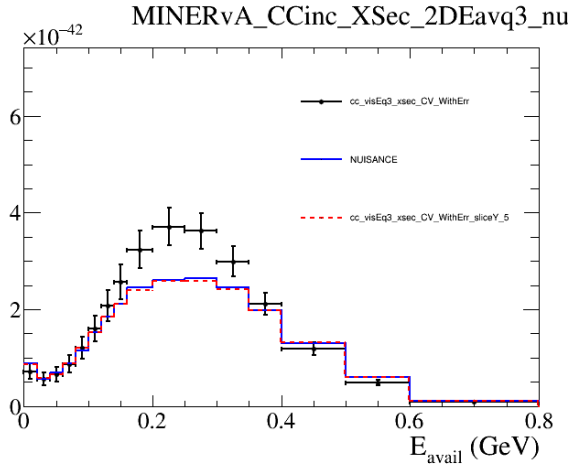
MINERvA\_CCinc\_XSec\_2DEavq3\_nu\_settings

- **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** :  $E_{\text{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\text{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **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** :  $E_{\text{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\text{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **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** :  $E_{\text{avail}}$  (GeV)
- **ztitle** :  $d^2\sigma/dq_1 dE_{\text{avail}}$  ( $\text{cm}^2/\text{GeV}^2$ )
- **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/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **covar** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **map** : /data/stowell/NIWG/NPCTuning/Validations/minerva-validation-template/builds/v2r6/data/MINERvA/CCEa
- **originalname** : MINERvA\_CCinc\_XSec\_2DEavq3\_nu
- $\chi^2$  : 2152.07
- **NDOF** : 67
- $\chi^2/\text{NDOF}$  : 32.1204