

MINERvA_CC1pip_XSec_1DTpi_nu_settings

- name : MINERvA_CClpip_XSec_1DTpi_nu
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description :
- |--> MINERvA_CC1pip_XSec_1DTpi_nu sample |--> Target: CH
- I--> Flux: MINERvA Forward Horn Current nue + nuebar
 I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles

- signal: Any event wint relection, any nucleons, and no one
 with: T; (MeV)

 ytitl: dd/dT; (m²/MeV/nucleon)

 default_types: FIX.FREE.SHAPE/DIAG.FULL/NORM/MASK

 allowed_types: FIX/FULL

- enm_max: 10
 title: MINERvA_CCIpip_XSec_IDTpi_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/
- $\bullet \ original name : MINERvA_CC1pip_XSec_1DTpi_nu \\$
- NDOF: 7
- χ²/NDOF : 3.15236

MINERvA_CC1pip_XSec_1DTpi_nu_20deg_settings

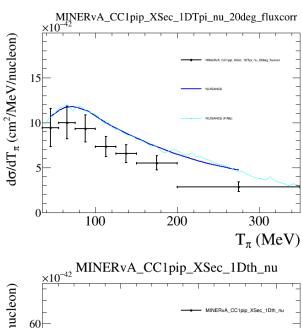
- name : MINERvA_CC1pip_XSec_1DTpi_nu_20deg input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT
- description
- |--> MINERvA_CC1pip_XSec_1DTpi_nu sample |--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- ytitle : $d\sigma/dT_{\pi}$ (cm²/MeV/nucleon) default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- allowed_types : FIX/FULL enu_min : 1.5

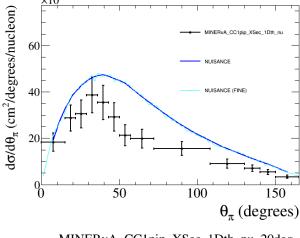
- enu_max : 10 title : MINERvA_CC1pip_XSec_1DTpi_nu
- $\bullet \ data: \ / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nu$
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- originalname : MINERvA_CC1pip_XSec_1DTpi_nu_20deg
- χ²: 22.8941
- NDOF : 7
- γ²/NDOF : 3.27058

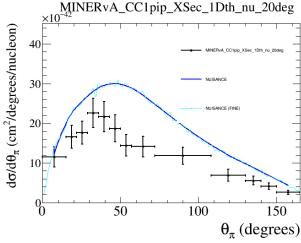
MINERvA_CC1pip_XSec_1DTpi_nu_fluxcorr_settings

- name : MINERvA_CC1pip_XSec_1DTpi_nu_fluxcorr input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description
- I--> MINERvA_CC1pip_XSec_1DTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- $\label{eq:potential} \mbox{ ytitle : } \mbox{ $d\sigma/dT_\pi$ (cm^2/MeV/nucleon) } \\ \mbox{ default_types : } \mbox{ FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK }$
- allowed_types : FIX/FULL enu_min : 1.5

- enu_max : 10 title : MINERvA_CC1pip_XSec_1DTpi_nu
- $\bullet \ data: / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/null$
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/ $\bullet \ original name : MINERvA_CC1pip_XSec_1DTpi_nu_fluxcorr \\$
- NDOF: 7
- χ²/NDOF : 2.76885







MINERvA_CC1pip_XSec_1DTpi_nu_20deg_fluxcorr_settings

- name : MINERvA_CClpip_XSec_IDTpi_nu_20deg_fluxcorr input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description :
- |--> MINERvA_CC1pip_XSec_1DTpi_nu sample |--> Target: CH
- I--> Flux: MINERvA Forward Horn Current nue + nuebar
 I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles

- xtitle : T_{π} (MeV) ytitle : $d\sigma/dT_{\pi}$ (cm²/MeV/nucleon) default_types : FIX_FREE_SHAPE/DIAG_FULL/NORM/MASK
- allowed_types : FIX/FULL

- enu_max:10
 title: MINERvA_CCIpip_XSec_IDTpi_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/
- $\bullet \ original name: MINERvA_CC1pip_XSec_1DTpi_nu_20 deg_fluxcorr \\$
- NDOF: 7
- χ²/NDOF : 2.86355

MINERvA_CC1pip_XSec_1Dth_nu_settings

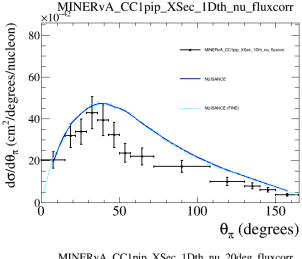
- name : MINERvA_CClpip_XSec_IDth_nu
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT
- description
- |--> MINERvA_CC1pip_XSec_1Dth_nu sample |--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- $\label{eq:title} \begin{tabular}{ll} \bullet \mbox{ ytitle : } d\sigma \! / d\theta_x \mbox{ (cm}^2 \! / degrees/nucleon) \\ \hline \bullet \mbox{ default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK} \\ \end{tabular}$
- allowed_types : FIX/FULL enu_min : 1.5

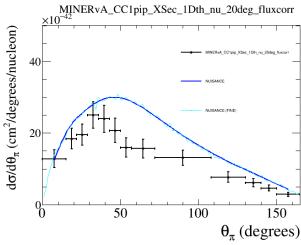
- enu_max : 10 title : MINERvA_CC1pip_XSec_1Dth_nu
- $\bullet \ data: \ / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/normalized for the control of the control of$
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- $\bullet \ original name : MINERvA_CC1pip_XSec_1Dth_nu \\$
- χ²: 104.614 • NDOF: 13
- γ²/NDOF : 8.04719

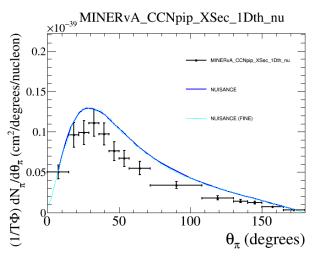
MINERvA_CC1pip_XSec_1Dth_nu_20deg_settings

- name : MINERvA_CC1pip_XSec_1Dth_nu_20deg
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description
- |--> MINERvA_CC1pip_XSec_1Dth_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- $\label{eq:title} \begin{tabular}{ll} \bullet \mbox{ ytitle : } d\sigma \! / d\theta_x \mbox{ (cm}^2 \! / degrees/nucleon) \\ \hline \bullet \mbox{ default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK} \\ \end{tabular}$
- allowed_types : FIX/FULL enu_min : 1.5

- enu_max : 10 title : MINERvA_CC1pip_XSec_1Dth_nu
- $\bullet \ data: \ / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nulled/lines/minerva-validation-061117/builds/nu$ covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- $\bullet \ original name : MINERvA_CC1pip_XSec_1Dth_nu_20 deg \\$
- NDOF: 13
- χ²/NDOF : 6.86537







MINERvA_CC1pip_XSec_1Dth_nu_fluxcorr_settings

- name : MINERvA_CClpip_XSec_1Dth_nu_fluxcorr input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description :
- I--> MINERvA_CC1pip_XSec_1Dth_nu sample
 I--> Target: CH

- I--> Flux: MINERvA Forward Horn Current nue + nuebar
 I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles

- xtitle : θ_{π} (degrees) ytitle : θ_{π} (degrees) ytitle : $d\sigma/d\theta_{\pi}$ (cm²/degrees/nucleon) default_types : FIX_FREE_SHAPE/DIAG,FULL/NORM/MASK
- allowed_types : FIX/FULL

- enu_max: 10

 title: MINERVA_CCIpip_XSec_IDth_nu

 title: MINERVA_CCIpip_XSec_IDth_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
- originalname : MINERvA_CC1pip_XSec_1Dth_nu_fluxcorr
- χ²: 100.929
- NDOF: 13
- χ²/NDOF : 7.7638

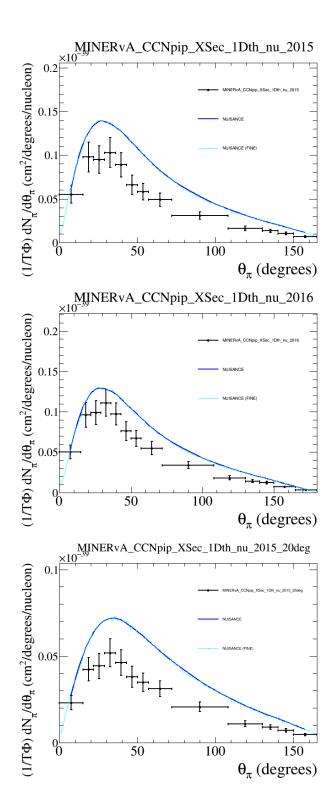
$MINERvA_CC1pip_XSec_1Dth_nu_20deg_fluxcorr_settings$

- name : MINERvA_CC1pip_XSec_1Dth_nu_20deg_fluxcorr input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT
- description
- |--> MINERvA_CC1pip_XSec_1Dth_nu sample |--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- $\label{eq:title} \begin{tabular}{ll} \bullet \mbox{ ytitle : } d\sigma \! / d\theta_x \mbox{ (cm}^2 \! / degrees/nucleon) \\ \hline \bullet \mbox{ default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK} \\ \end{tabular}$
- allowed_types : FIX/FULL enu_min : 1.5

- enu_max : 10 title : MINERvA_CC1pip_XSec_1Dth_nu
- $\bullet \ data: / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled for the control of the c$
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- originalname : MINERvA_CC1pip_XSec_1Dth_nu_20deg_fluxcorr
- χ²: 86.3164
- NDOF: 13
- γ²/NDOF : 6.63972

MINERvA_CCNpip_XSec_1Dth_nu_settings

- name: MINERvA_CCNpip_XSec_1Dth_nu
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_π (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$ • enu min: 1.5
- enu_max : 10
- title : MINERvA_CCNpip_XSec_1Dth_nu
- originalname : MINERvA_CCNpip_XSec_1Dth_nu
- χ²: 56.9773
- NDOF : 14
- χ²/NDOF : 4.06981



MINERvA_CCNpip_XSec_1Dth_nu_2015_settings

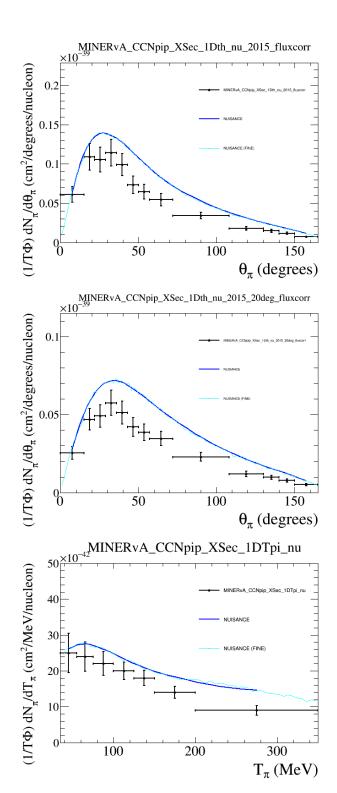
- name: MINERvA_CCNpip_XSec_1Dth_nu_2015
- $\bullet input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000.1. prepared the property of the property$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- $\bullet \ allowed_types: FIX/FULL$
- enu_min: 1.5
- enu_max : 10
- $\bullet \ title: MINERvA_CCNpip_XSec_1Dth_nu \\$
- originalname : MINERvA_CCNpip_XSec_1Dth_nu_2015
- χ^2 : 80.6474 • NDOF : 13
- χ²/NDOF : 6.20364

MINERvA_CCNpip_XSec_1Dth_nu_2016_settings

- name : MINERvA_CCNpip_XSec_1Dth_nu_2016
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- allowed_types : FIX/FULL
- enu_min : 1.5
- enu_max : 10
- title : MINERvA_CCNpip_XSec_1Dth_nu
- $\bullet \ original name: MINERvA_CCNpip_XSec_1Dth_nu_2016 \\$
- χ^2 : 56.9773 • NDOF : 14
- $\chi^2/NDOF$: 4.06981

MINERvA_CCNpip_XSec_1Dth_nu_2015_20deg_settings

- name: MINERvA_CCNpip_XSec_1Dth_nu_2015_20deg
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_π (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$
- enu min: 1.5
- enu_max : 10
- title : MINERvA_CCNpip_XSec_1Dth_nu
- originalname : MINERvA_CCNpip_XSec_1Dth_nu_2015_20deg
- χ^2 : 85.1578 **NDOF**: 13
- $\chi^2/NDOF$: 6.5506



MINERvA_CCNpip_XSec_1Dth_nu_2015_fluxcorr_settings

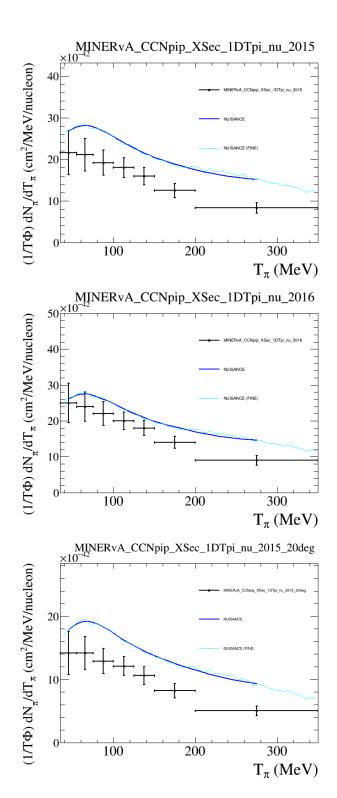
- name : MINERvA_CCNpip_XSec_1Dth_nu_2015_fluxcorr
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- allowed_types : FIX/FULL
- enu_min: 1.5
- enu_max : 10
- $\bullet \ title: MINERvA_CCNpip_XSec_1Dth_nu \\$
- originalname : MINERvA_CCNpip_XSec_1Dth_nu_2015_fluxcorr
- χ^2 : 72.6073 • NDOF : 13
- χ²/NDOF : 5.58517

MINERvA_CCNpip_XSec_1Dth_nu_2015_20deg_fluxcorr_settings

- name : MINERvA_CCNpip_XSec_1Dth_nu_2015_20deg_fluxcorr
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1Dth_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{π} (degrees)
- ytitle : $(1/T\Phi) dN_{\pi}/d\theta_{\pi} (cm^2/degrees/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$
- enu_min : 1.5
- enu_max : 10
- $\bullet \ title: MINERvA_CCNpip_XSec_1Dth_nu \\$
- $\bullet \ original name: MINERvA_CCNpip_XSec_1Dth_nu_2015_20 deg_flux corresponds to the content of the content of$
- $\bullet \ \chi^2:75.422$
- NDOF : 13
- $\chi^2/NDOF$: 5.80169

MINERvA_CCNpip_XSec_1DTpi_nu_settings

- name: MINERvA_CCNpip_XSec_1DTpi_nu
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- $\bullet \ \textbf{xtitle} : T_{\pi} \left(MeV \right)$
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$ • enu min: 1.5
- enu_max : 10
- title : MINERvA_CCNpip_XSec_1DTpi_nu
- $\bullet \ original name : MINERvA_CCNpip_XSec_1DTpi_nu \\$
- χ^2 : 25.081 **NDOF**: 7
- $\chi^2/NDOF : 3.583$



MINERvA_CCNpip_XSec_1DTpi_nu_2015_settings

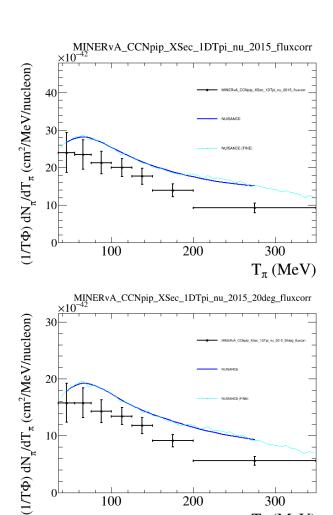
- name: MINERvA_CCNpip_XSec_1DTpi_nu_2015
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_lDTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- $\bullet \ allowed_types: FIX/FULL$
- enu_min: 1.5
- enu_max : 10
- $\bullet \ title : MINERvA_CCNpip_XSec_1DTpi_nu \\$
- $\bullet \ original name : MINERvA_CCNpip_XSec_1DTpi_nu_2015 \\$
- χ²: 35.4956 • NDOF : 7
- χ²/NDOF : 5.07079

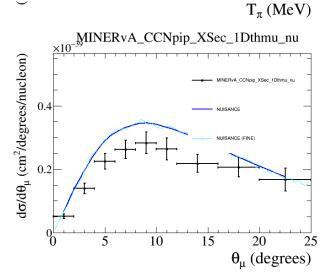
MINERvA_CCNpip_XSec_1DTpi_nu_2016_settings

- name : MINERvA_CCNpip_XSec_1DTpi_nu_2016
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$
- enu min: 1.5
- enu_max : 10
- $\bullet \ title : MINERvA_CCNpip_XSec_1DTpi_nu \\$
- $\bullet \ original name: MINERvA_CCNpip_XSec_1DTpi_nu_2016 \\$
- χ^2 : 25.081
- NDOF : 7
- $\chi^2/NDOF : 3.583$

MINERvA_CCNpip_XSec_1DTpi_nu_2015_20deg_settings

- $\mathbf{name}: \mathbf{MINERvA_CCNpip_XSec_1DTpi_nu_2015_20deg}$
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- $\bullet \ \textbf{xtitle} : T_{\pi} \left(MeV \right)$
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$ • enu min: 1.5
- enu_max : 10
- title : MINERvA_CCNpip_XSec_1DTpi_nu
- originalname : MINERvA_CCNpip_XSec_1DTpi_nu_2015_20deg
- χ^2 : 41.2664 NDOF: 7
- χ²/NDOF : 5.89519





200

300

100

MINERvA_CCNpip_XSec_1DTpi_nu_2015_fluxcorr_settings

- name : MINERvA_CCNpip_XSec_1DTpi_nu_2015_fluxcorr
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DTpi_nu sample
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- $\bullet \ allowed_types: FIX/FULL \\$
- enu_min: 1.5
- enu_max : 10
- $\bullet \ title : MINERvA_CCNpip_XSec_1DTpi_nu \\$
- $\bullet \ original name : MINERvA_CCNpip_XSec_1DTpi_nu_2015_fluxcorr$
- χ^2 : 31.391 • NDOF : 7
- $\chi^2/NDOF$: 4.48442

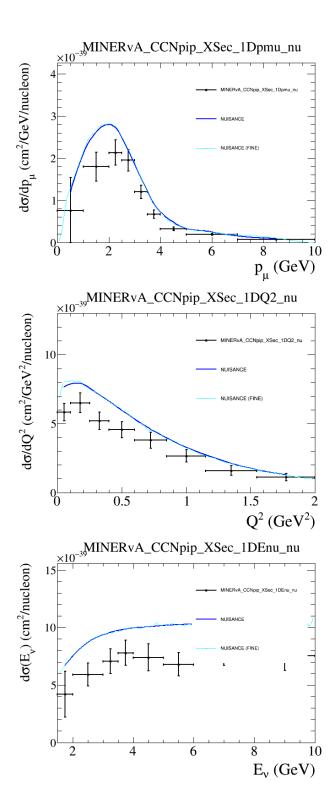
MINERvA_CCNpip_XSec_1DTpi_nu_2015_20deg_fluxcorr_settings

- name: MINERvA_CCNpip_XSec_1DTpi_nu_2015_20deg_fluxcorr
- $\bullet \ input: GENIE: @GENIE_DIR/gntp.R-2_6_3. Official Default. Default. MINERvA_fhc_numu. CH. 2500000. 1. prepared the property of the propert$
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DTpi_nu sample.
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : T_{π} (MeV)
- ytitle : $(1/T\Phi) dN_{\pi}/dT_{\pi} (cm^2/MeV/nucleon)$
- $\bullet \ default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK$
- $\bullet \ allowed_types: FIX/FULL \\$
- enu_min : 1.5
- enu_max : 10
- $\bullet \ title : MINERvA_CCNpip_XSec_1DTpi_nu \\$
- $\bullet \ original name: MINERvA_CCNpip_XSec_1DTpi_nu_2015_20 deg_flux corresponds to the contract of the contrac$
- χ^2 : 36.2671
- NDOF : 7
- $\chi^2/NDOF$: 5.18101

MINERvA_CCNpip_XSec_1Dthmu_nu_settings

- name : MINERvA_CCNpip_XSec_1Dthmu_nu
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description :
- |--> MINERvA_CCNpip_XSec_|Dthmu_nu sample |--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- xtitle : θ_{μ} (degrees)
- $\label{eq:theta_dot} \begin{array}{l} \bullet \mbox{ ytitle : } d\sigma \! / d\theta_{\mu} \mbox{ (cm}^2 \! / \! degrees \! / \! nucleon) \\ \bullet \mbox{ default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK} \end{array}$
- allowed_types : FIX/FULL enu_min : 1.5

- enu_max : 10 title : MINERvA_CCNpip_XSec_1Dthmu_nu
- $\bullet \ data: / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validations/minerva-validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/nulled/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validation-061117/builds/sample_validatio$
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/ $\bullet \ original name : MINERvA_CCNpip_XSec_1Dthmu_nu \\$
- NDOF: 9
- χ²/NDOF : 2.25809



MINERvA_CCNpip_XSec_1Dpmu_nu_settings

- name : MINERvA_CCNpip_XSec_1Dpmu_nu
- input : GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT description :
- I--> MINERvA_CCNpip_XSec_IDpmu_nu sample
 I--> Target: CH

- I--> Flux: MINERvA Forward Horn Current nue + nuebar
 I--> Signal: Any event with 1 electron, any nucleons, and no other FS particles

- xtitle : p_{μ} (GeV) ytitle : $d\sigma/dp_{\mu}$ (cm²/GeV/nucleon) default_types : FIX_FREE_SHAPE/DIAG_FULL/NORM/MASK
- allowed_types : FIX/FULL

- enu_max: 10
 title: MINERvA_CCNpip_XSec_1Dpmu_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/
- $\bullet \ original name : MINERvA_CCNpip_XSec_1Dpmu_nu \\$
- χ²: 35.7957
- NDOF: 9
- χ²/NDOF : 3.97731

MINERvA_CCNpip_XSec_1DQ2_nu_settings

- name : MINERvA_CCNpip_XSec_1DQ2_nu
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT
- description
- |--> MINERvA_CCNpip_XSec_1DQ2_nu sample |--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- l--> Signal: Any event with 1 electron, any nucleons, and no other FS particles xtitle : Q^2 (GeV 2) ytitle : $d\sigma/dQ^2$ (cm 2 /GeV 2 /nucleon)

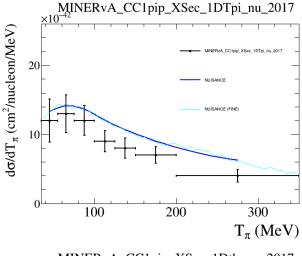
- default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
- allowed_types : FIX/FULL enu_min : 1.5

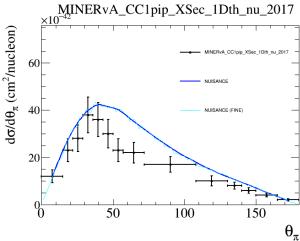
- enu_max: 10
 title: MINERvA_CCNpip_XSec_1DQ2_nu
 data: /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
 data: /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
- covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- originalname : MINERvA_CCNpip_XSec_1DQ2_nu
- χ²: 15.5382
- NDOF: 8
- γ²/NDOF : 1.94227

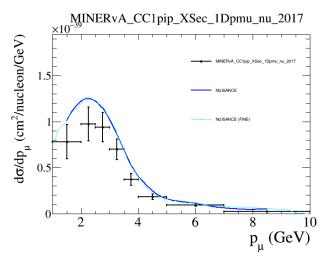
MINERvA_CCNpip_XSec_1DEnu_nu_settings

- name : MINERvA_CCNpip_XSec_1DEnu_nu
 input : GENIE:@GENIE_DIR/gntp.R-2_6_3.0fficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
- type : DEFAULT • description :
- I--> MINERvA_CCNpip_XSec_1DEnu_nu sample
- I--> Target: CH
- |--> Flux: MINERvA Forward Horn Current nue + nuebar
- 1--> Signal: Any event with 1 electron, any nucleons, and no other FS particles
- $\bullet \ \textbf{xtitle} : E_v \ (GeV)$
- $\begin{tabular}{ll} \bullet \begin{tabular}{ll} \bullet \begin{tabular}{ll}$
- allowed_types : FIX/FULL enu_min : 1.5

- enu_max : 10 title : MINERvA_CCNpip_XSec_1DEnu_nu
- $\bullet \ data: \ / data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nulled/nu$ covar : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/
- $\bullet \ original name : MINERvA_CCNpip_XSec_1DEnu_nu \\$
- χ²: 19.1013
- NDOF: 8
- χ²/NDOF : 2.38766







MINERvA_CC1pip_XSec_1DTpi_nu_2017_settings

```
• name: MINERVA_CC1pip_XSec_1DTpi_nu_2017

• input: GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERVA_fhc_numu.CH.2500000.1.prepared

• type: DEFAULT

• default_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK

• allowed_types: FIX,FULL

• enu_min: 1.5

• enu_max: 10

• description:

|-> Target: CH

|-> Flux: MINERVA Forward Horn Current numu ONLY

|-> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4

• 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/

• title: CCI: Updated

• xtitle: Tg_(MeV)

• ytitle: dc/dT_(em²/nucleon/MeV)
```

MINERvA_CC1pip_XSec_1Dth_nu_2017_settings

• χ²: 13.5007

• $\chi^2/NDOF$: 1.92868

• NDOF: 7

• originalname : MINERvA_CC1pip_XSec_1DTpi_nu_2017

```
• name : MINERvA_CC1pip_XSec_1Dth_nu_2017
 • input : GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
 \bullet \ default\_types: {\tt FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK}

    allowed_types : FIX/FULL

  • enu_min : 1.5
• enu_max : 10
• description :
        I--> Target: CH
        I--> Flux: MINERvA Forward Horn Current numu ONLY
        I--> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4
  • data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
  \bullet \ covar: / data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-0
 • title : CC1π Updated
 \bullet \ xtitle: \theta_{\pi}

    ytitle : dσ/dθ<sub>π</sub> (cm²/nucleon)

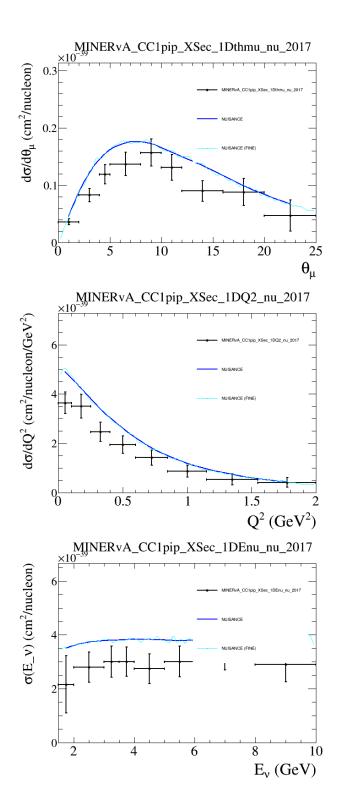
  • originalname : MINERvA_CC1pip_XSec_1Dth_nu_2017
 • \chi^2: 82.9066
 • NDOF: 14
 • \chi^2/NDOF : 5.9219
```

$MINERvA_CC1pip_XSec_1Dpmu_nu_2017_settings$

```
name: MINERvA_CC1pip_XSec_1Dpmu_nu_2017
 • input : GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
 \bullet \ default\_types: {\tt FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK}

    allowed_types : FIX/FULL

 • enu_min : 1.5
• enu_max : 10
• description :
        I--> Target: CH
        |--> Flux: MINERvA Forward Horn Current numu ONLY
        1--> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4
  • data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
  \bullet \ covar: / data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-0
 • title : CC1π Updated
 • xtitle : p_{\mu} (GeV)
• ytitle : d\sigma/dp_{\mu} (cm<sup>2</sup>/nucleon/GeV)
  • originalname : MINERvA_CC1pip_XSec_1Dpmu_nu_2017
 • \chi^2: 20.458
 • NDOF: 8
 • \chi^2/NDOF : 2.55725
```



```
MINERvA\_CC1pip\_XSec\_1Dthmu\_nu\_2017\_settings
```

```
    name: MINERvA_CC1pip_XSec_1Dthmu_nu_2017
    input: GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared

• type : DEFAULT
\bullet \ default\_types: FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK

    allowed_types : FIX/FULL

• enu_min : 1.5
• enu_max : 10
• description :
            I--> Target: CH
          |--> Flux: MINERvA Forward Horn Current numu ONLY
                --> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4
\bullet \ data: / data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061
\bullet \ covar: / data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-06117/builds/minerva-validation-06117/builds/minerva-validation-0611
• title : CC1\pi Updated
• xtitle : \theta_{\mu}
• ytitle : d\sigma/d\theta_{u} (cm<sup>2</sup>/nucleon)
  • originalname : MINERvA_CC1pip_XSec_1Dthmu_nu_2017
• \chi^2: 32.2319
• NDOF: 9
• \chi^2/NDOF : 3.58132
```

```
MINERvA_CC1pip_XSec_1DQ2_nu_2017_settings
```

```
• name : MINERvA_CC1pip_XSec_1DQ2_nu_2017
• input : GENIE:@GENIE_DIR/gntp.R-2_6_3.OfficialDefault.Default.MINERvA_fhc_numu.CH.2500000.1.prepared
\bullet \ default\_types: {\tt FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK}

    allowed_types : FIX/FULL

• enu_min : 1.5
• enu_max : 10
• description :
  I--> Target: CH
  I--> Flux: MINERvA Forward Horn Current numu ONLY
  I--> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4
• 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/

• title : CC1π Updated
 \bullet \ \textbf{xtitle} : Q^2 \, (GeV^2) \\
• ytitle : d\u00f3/dQ^2 (cm^2/nucleon/GeV^2)
• originalname : MINERvA_CC1pip_XSec_1DQ2_nu_2017
• \chi^2: 15.6999
• NDOF: 8
• χ<sup>2</sup>/NDOF : 1.96249
```

MINERvA_CC1pip_XSec_1DEnu_nu_2017_settings

```
name: MINERvA_CC1pip_XSec_1DEnu_nu_2017
  \bullet \ input: GENIE: @GENIE\_DIR/gntp.R-2\_6\_3. Official Default. Default. MINERvA\_fhc\_numu. CH. 2500000.1. prepared the property of the propert
 • default_types : FIX,FREE,SHAPE/DIAG,FULL/NORM/MASK
• allowed_types : FIX/FULL
 • enu_min : 1.5
• enu_max : 10
• description :
             I--> Target: CH
           |--> Flux: MINERvA Forward Horn Current numu ONLY
             1--> Signal: Any event with 1 muon, and 1pi+ or 1pi- in FS. W < 1.4
   • data : /data/stowell/NIWG/NUISANCEMC/minerva_tuning/sample_validations/minerva-validation-061117/builds/n
  \bullet \ covar: / data/stowell/NIWG/NUISANCEMC/minerva\_tuning/sample\_validations/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-061117/builds/minerva-validation-0
 • title : CC1π Updated
 • xtitle : E<sub>v</sub> (GeV)
 • ytitle : σ(E_v) (cm<sup>2</sup>/nucleon)
   • originalname : MINERvA_CC1pip_XSec_1DEnu_nu_2017
 • χ<sup>2</sup>: 7.03107
 • NDOF: 8
 • \chi^2/NDOF : 0.878883
```