

TANTRA – Data/MC Comparison

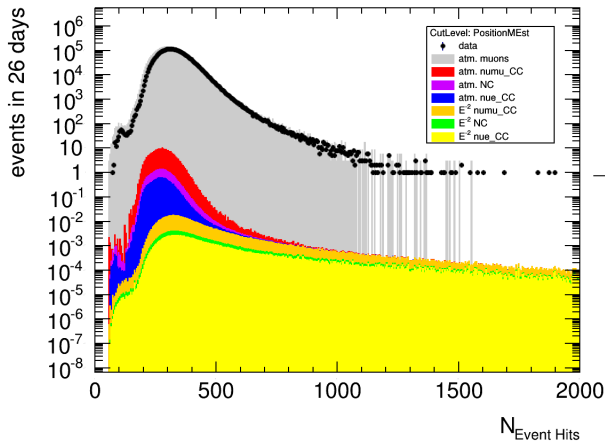
Tino Michael

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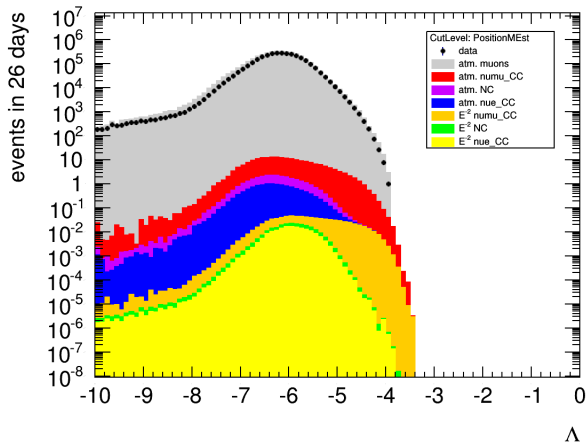
April 14, 2015



Number of Hits in Event

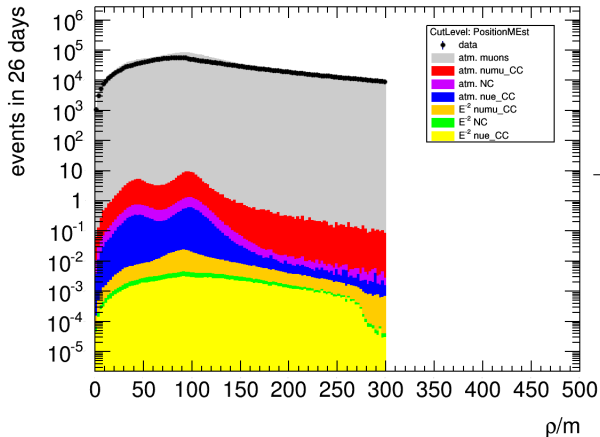


Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{\text{est.}} < 1000$



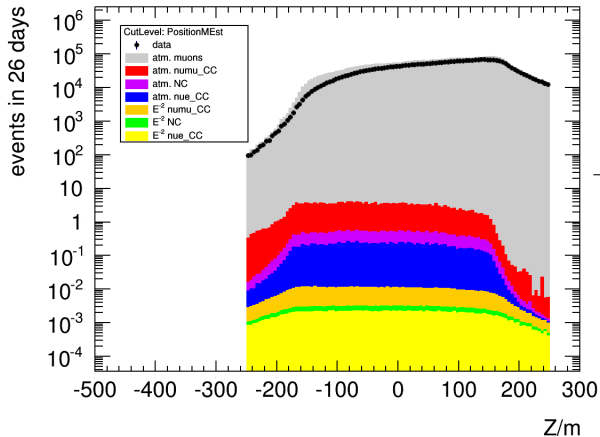
Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{est.} < 1000$

reconstructed Shower Position



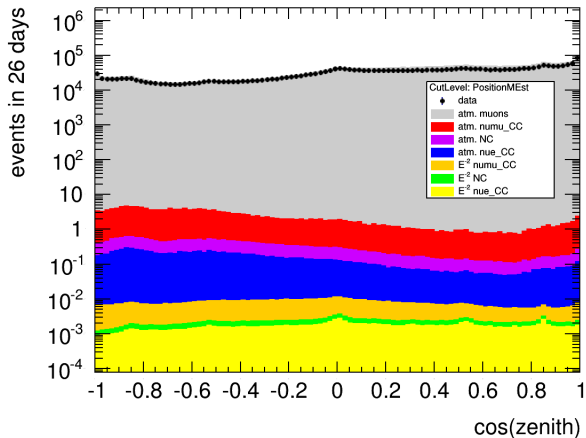
Cut	Condition
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M-Estimator	$M_{\text{est.}} < 1000$

reconstructed Shower Position



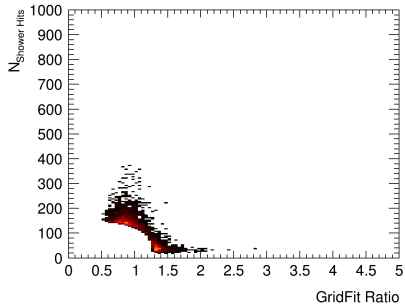
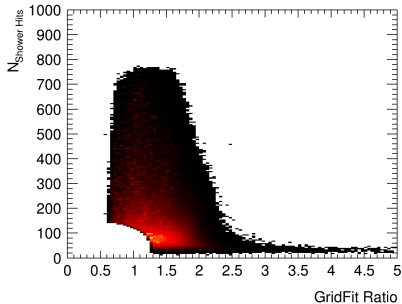
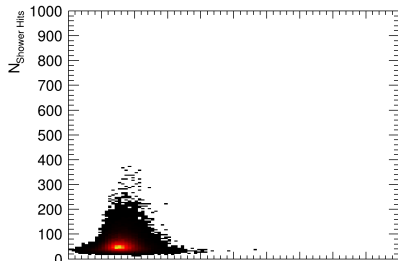
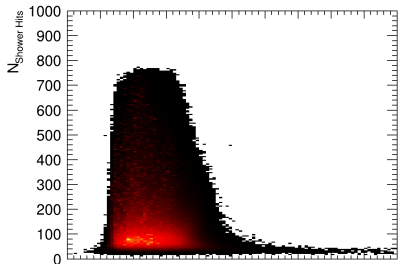
Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{est.} < 1000$

reconstructed Shower Direction



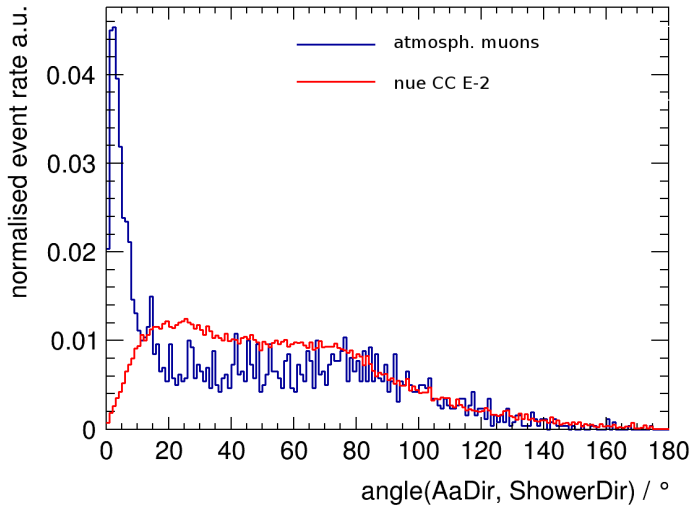
Cut	Condition
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M-Estimator	$M_{\text{est.}} < 1000$

GridFitRatio–NHits Cut

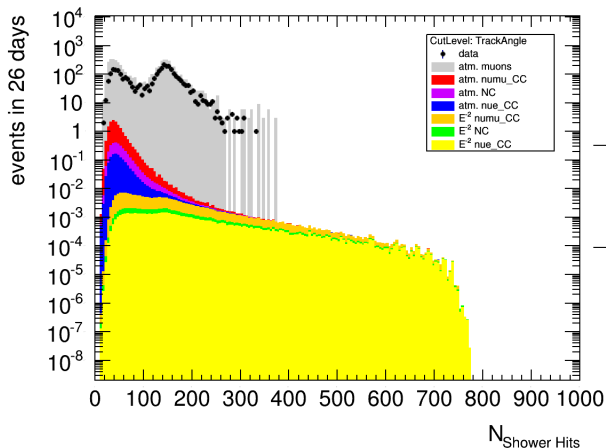


Angle to AaTrack Direction

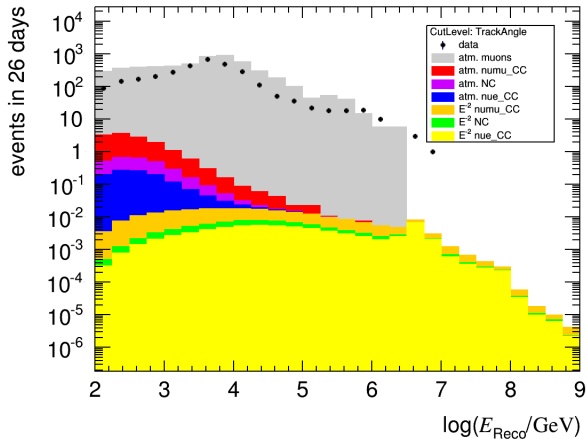
after additional GridFitRatio–NHits and ErrorEstimator Cuts



Number of selected Hits

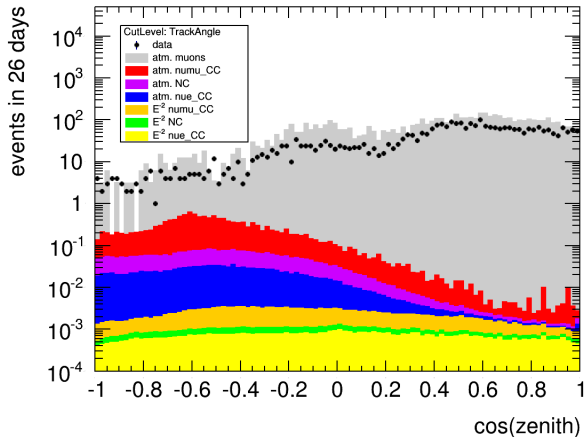


Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{\text{est.}} < 1000$
ErrorEst	< 10
GridFitRatio	ellipsis
AaAngle	$\angle < 10^\circ$



Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{\text{est.}} < 1000$
ErrorEst	< 10
GridFitRatio	ellipsis
AaAngle	$\angle < 10^\circ$

reconstructed Shower Direction



Cut	Condition
Trigger	3N or T3
Containment	$\rho < 300$ m $z < 250$ m
M-Estimator	$M_{est.} < 1000$
ErrorEst	< 10
GridFitRatio	ellipsis
AaAngle	$\angle < 10^\circ$

LifeTime: 26

Species	Events after Cuts
data:	3087
atm. muons	5658
atm. numu_CC	12.5995
atm. NC	1.9672
atm. nue_CC	1.24029
E^{-2} numu_CC	0.140554
E^{-2} NC	0.0243427
E^{-2} nue_CC	0.0713892

Cut	nue CC events	nue CC efficiency	mupage events	mupage efficiency
noCuts	N/A	N/A	N/A	N/A
Trigger	N/A	N/A	N/A	N/A
Containment	N/A	N/A	N/A	N/A
PositionMEst	0.183057	100 %	4.2e+06	100 %
maxErrEst	0.0952939	51.7213 %	269958	6.21429 %
GridFitRNHits	0.0750681	40.7436 %	7830	0.180243 %
TrackAngle	0.0713914	38.7481 %	5658	0.130244 %
minNHits	0.0598276	32.4717 %	1026	0.023618 %