

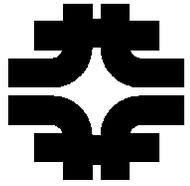
# MINOS

## Far Detector Events

N. Saoulidou, Fermilab, 05/23/05



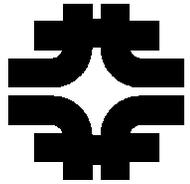
# Event Sample



- From 05/12/05 to 05/20/05 we were running in the "High" Energy configuration (target pulled back 2.5 m from nominal LE position). The mean neutrino energy  $\sim 10$  GeV.
- The integrated POTs for this period of time is  $1.6 \times 10^{18}$



# Event Selection



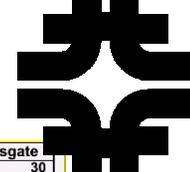
- We selected FAR detector CC-like event candidates based on timing (with respect to the Near Detector Global time stamps) and requiring that they contain a track (These requirements reduced number of events from ~250000 to 50).
- Then we visually scanned all candidates and categorized them in :

## Preliminary

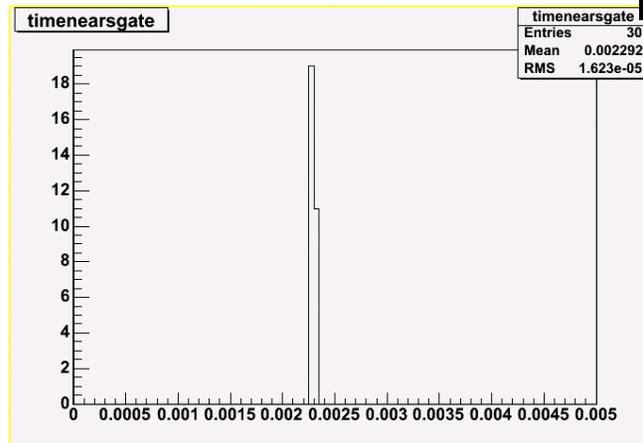
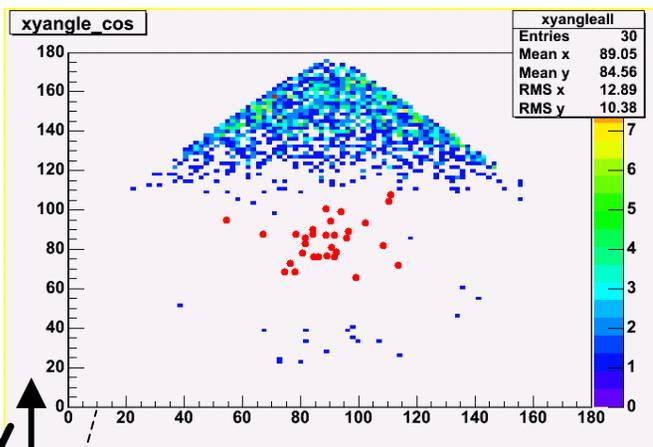
- Contained CC-like Events (21)
- Rock muons (9)
- Cosmics (6) (expect 7)
- LI Noise (7)
- None of the above (NC e.t.c) (7)



# Event Characteristics



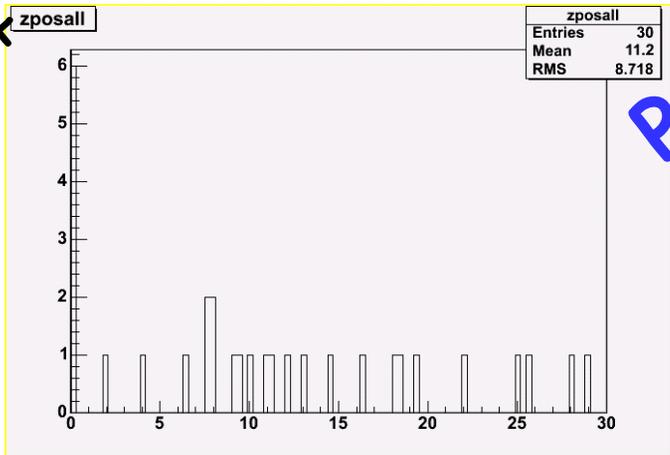
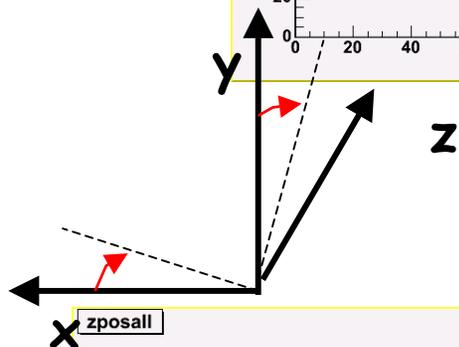
Y angle  
(vert.)



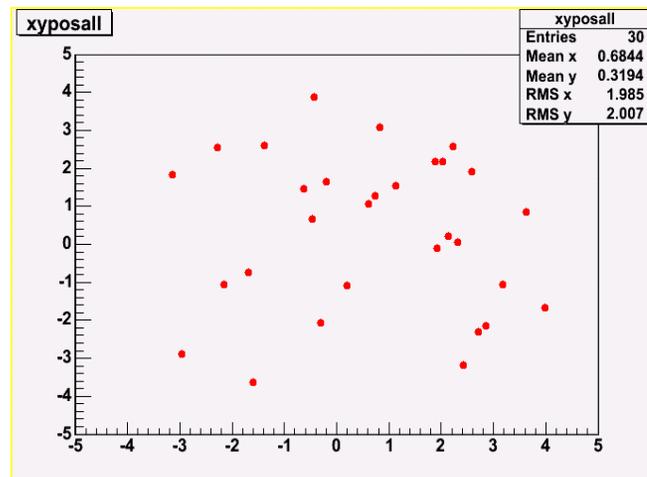
Time difference from Near  
SGATE (seconds)

X angle  
(horz.)

Preliminary



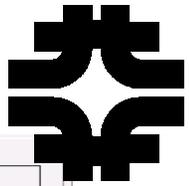
Z vertex (m)



X-Y vertex (m)



# Neutrino Events



55897, Slice: 1(1), Event 1(1)

#Trks: 1  
#Shws: 1  
q/p: -0.177 +/- 0.005, p/q: -5.648  
TrkRangeEnergy: 5.616 RecoShwEnergy: 2.456  
Vtx: 1.94, -0.10, 19.30

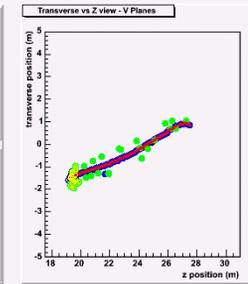
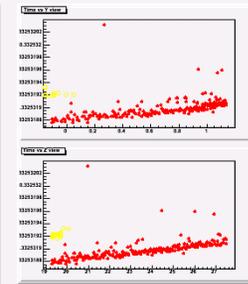
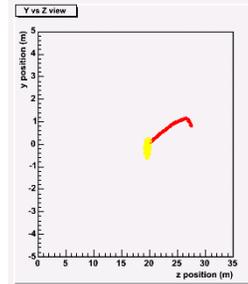
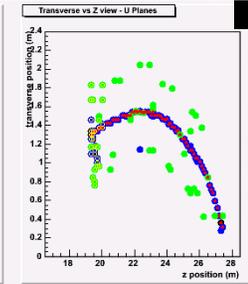
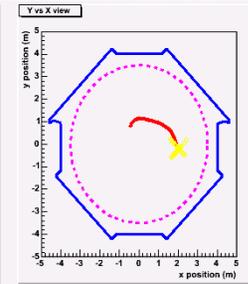
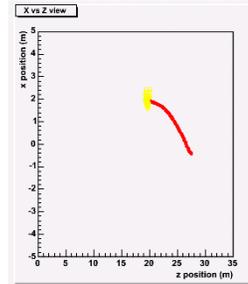
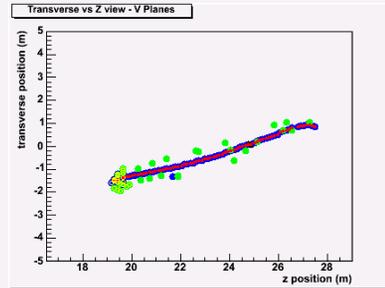
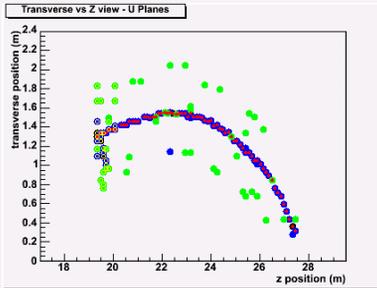
Truth

N/A  
N/A  
N/A  
N/A  
N/A  
N/A

Ignore	Previous Pass	Next Pass		
NuMu	Step Back	Step Forward		
NuE	Prev Slc	Next Slc	Prev Evt	Next Evt
NC	Prev MC	Next MC	Run Back	AutoMatch
CC	Refresh	Stop Contrast	Print	Quit

Reco	● Summed NPEs < 2.0	● Summed NPEs < 20.0	● Summed NPEs > 20.0	● Reconstructed Track Hit	○ Reconstructed Shower Hit (cyan=EM)
Truth	— e	— μ	— π <sup>±</sup>	— n	— initial v
	— p	— K <sup>±/0</sup>	— τ	— γ	— final v



Run: 31448, Snarl: 83209, Slice: 1(1), Event 1(1)

Reco

#Trks: 1  
#Shws: 1  
q/p: -0.369 +/- 0.026, p/q: -2.708  
TrkRangeEnergy: 2.481 RecoShwEnergy: 4.754  
Vtx: 2.18, 0.29, 4.11

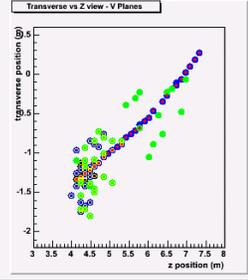
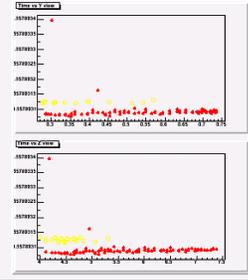
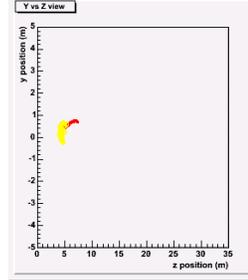
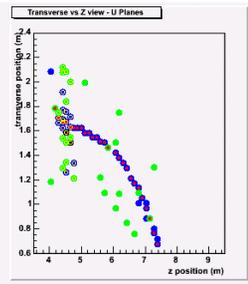
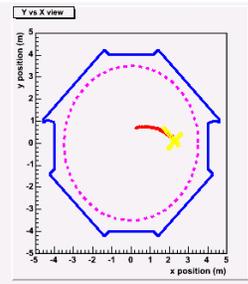
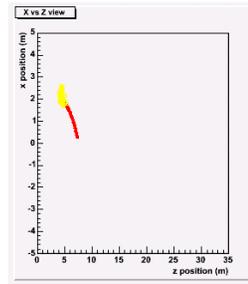
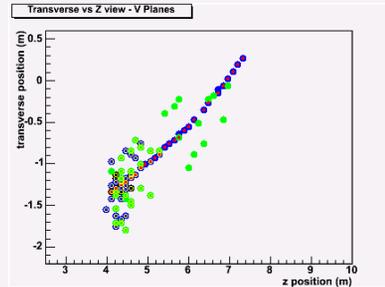
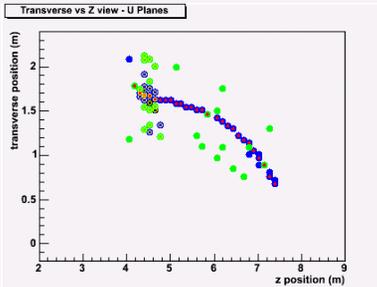
Truth

N/A  
N/A  
N/A  
N/A  
N/A  
N/A

Ignore	Previous Pass	Next Pass		
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Truth	— e	— μ	— π <sup>±</sup>	— n	— initial v
	— p	— K <sup>±/0</sup>	— τ	— γ	— final v



Preliminary