MiniBooNE Report

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for the MiniBooNE collaboration

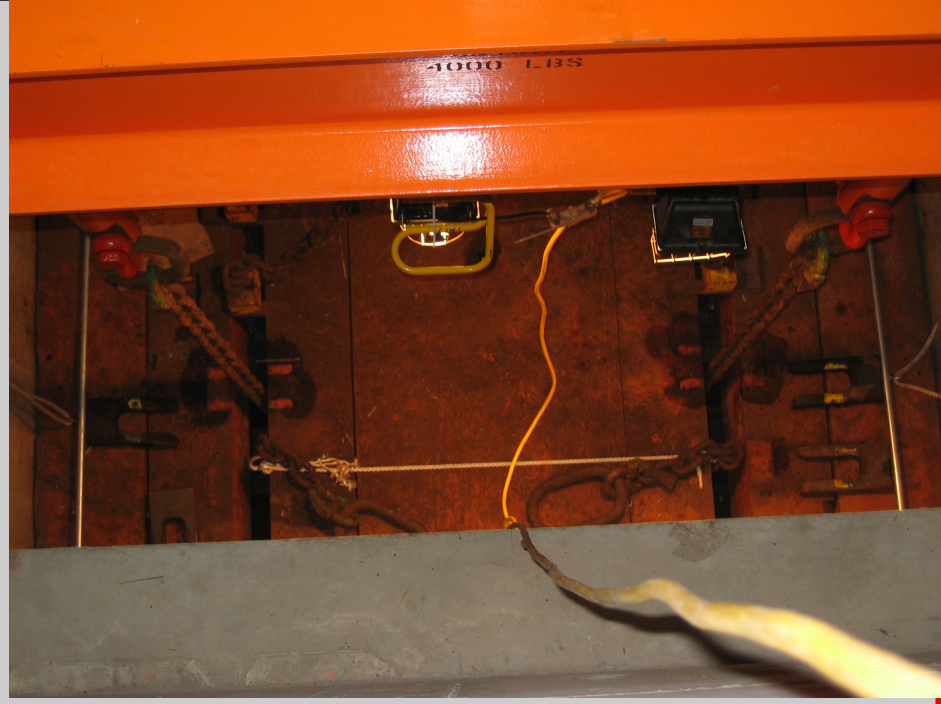
26 March 2007

Week Summary 19 Feb – 26 Mar Offline

- Continued offline due to 25m absorber problem.
- Two 25 ton steel blocks dropped into the beamline. Repair plans/work in progress:
  - All plates successfully lowered, removed old chains, clean/tested lugs, rewelded broken plates, ready for new lifting rods.
  - New stainless steel lifting rods to be delivered this week, start lifting the plates into place.
  - Borescope looked upstream towards Horn collimator region, found no problems.
  - Continue to understand antineutrino data.

-Two week's ago successful lowering of plates.

-Last week removed center support steel plate to gain access to top of absorber plates.

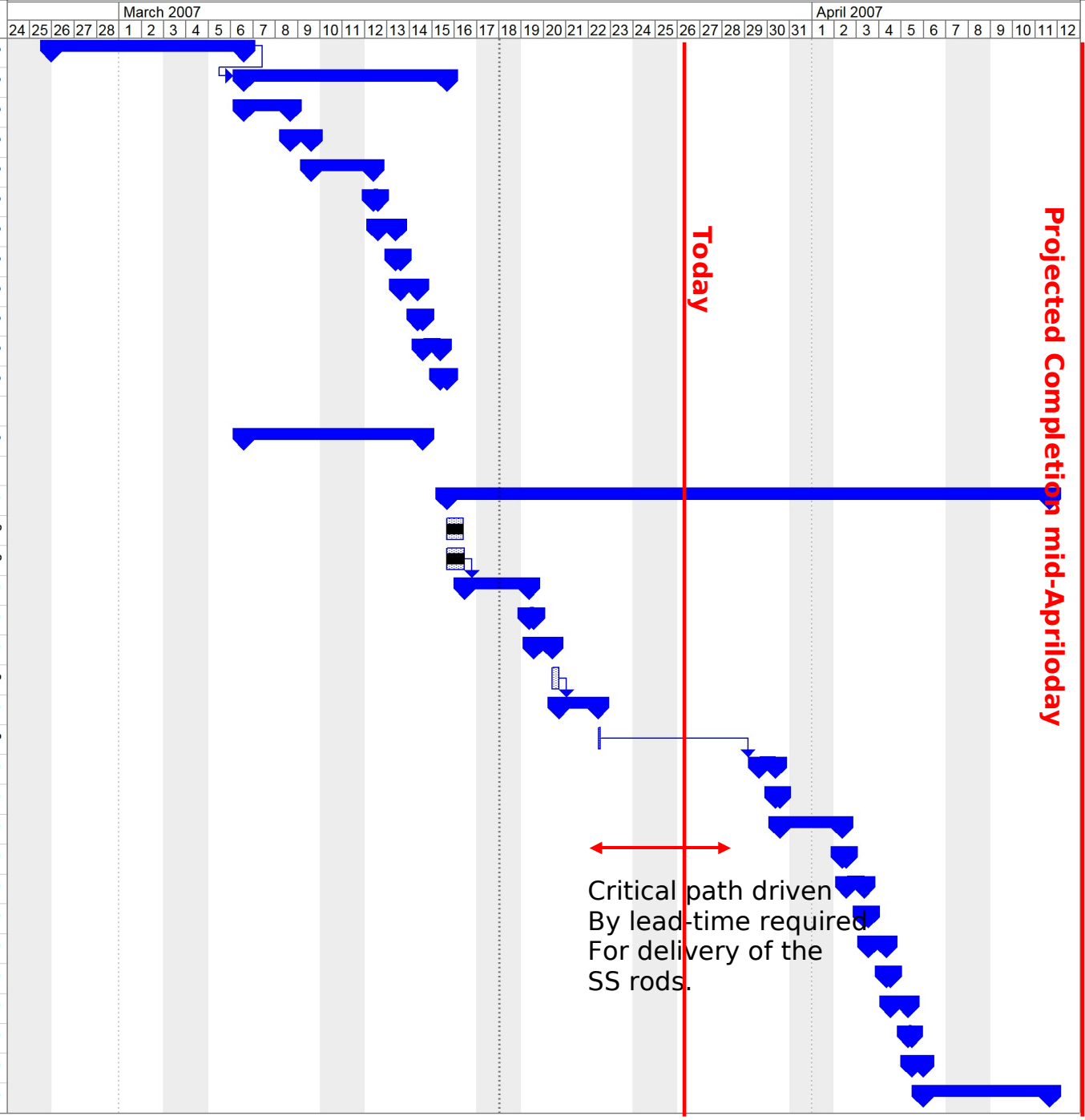


Re-welded broken absorber plate #7.

Clean, inspected, tested, and prepared lifting lugs. All okay!

Thanks to Joel Misek, John Featherstone and AD crew, for continued outstanding job!!

ID	Task Name	% Complete
1	**Lower Absorbers Design and purchase phase**	**100%**
20	**Lower Absorbers**	**100%**
21	**Prep for lowering absorbers**	**100%**
30	**Lower absorber 1**	**100%**
39	**Lower absorber 2**	**100%**
48	**Lower absorber 3**	**100%**
57	**Lower absorber 4**	**100%**
66	**Lower absorber 5**	**100%**
75	**Lower absorber 6**	**100%**
84	**Lower absorber 8**	**100%**
93	**Lower absorber 9**	**100%**
102	**Lower absorber 11**	**100%**
112		
113	**Repair Phase EDIA**	**100%**
120		
121	**Testing and Repair phase**	**6%**
122	move tent	100%
123	Set up 150 ton crane remove 20,000 lb steel	100%
124	**Remove chains from absorbers**	**0%**
136	**Pull test lugs from absorbers**	**0%**
148	**Welding**	**0%**
162	paint prep and Paint module tops	0%
163	**Install Holding Links**	**0%**
175	Rig in screw jack assembly position over absorber 1	0%
176	**Absorber 1**	**0%**
182	**Absorber 2**	**0%**
190	**Absorber 3**	**0%**
198	**Absorber 4**	**0%**
206	**Absorber 5**	**0%**
214	**Absorber 6**	**0%**
222	**Absorber 7**	**0%**
230	**Absorber 8**	**0%**
238	**Absorber 9**	**0%**
246	**Absorber 10**	**0%**
254	**Absorber 11**	**0%**
263	**Finish**	**0%**



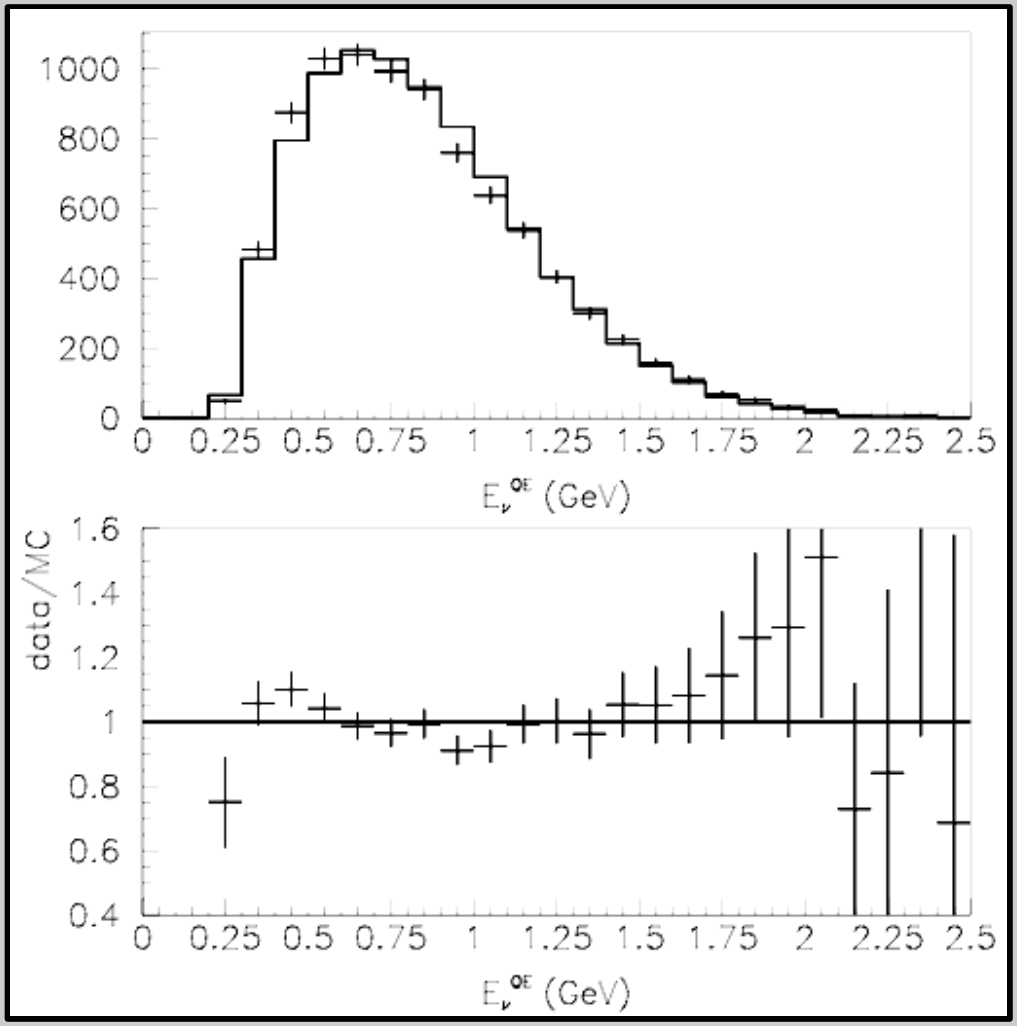
Project: Shutdown 07
Date: Sun 3/18/07

Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		Group By Summary	
Milestone		Rolled Up Milestone		External Tasks		Deadline	

Neutrino Energy Distribution

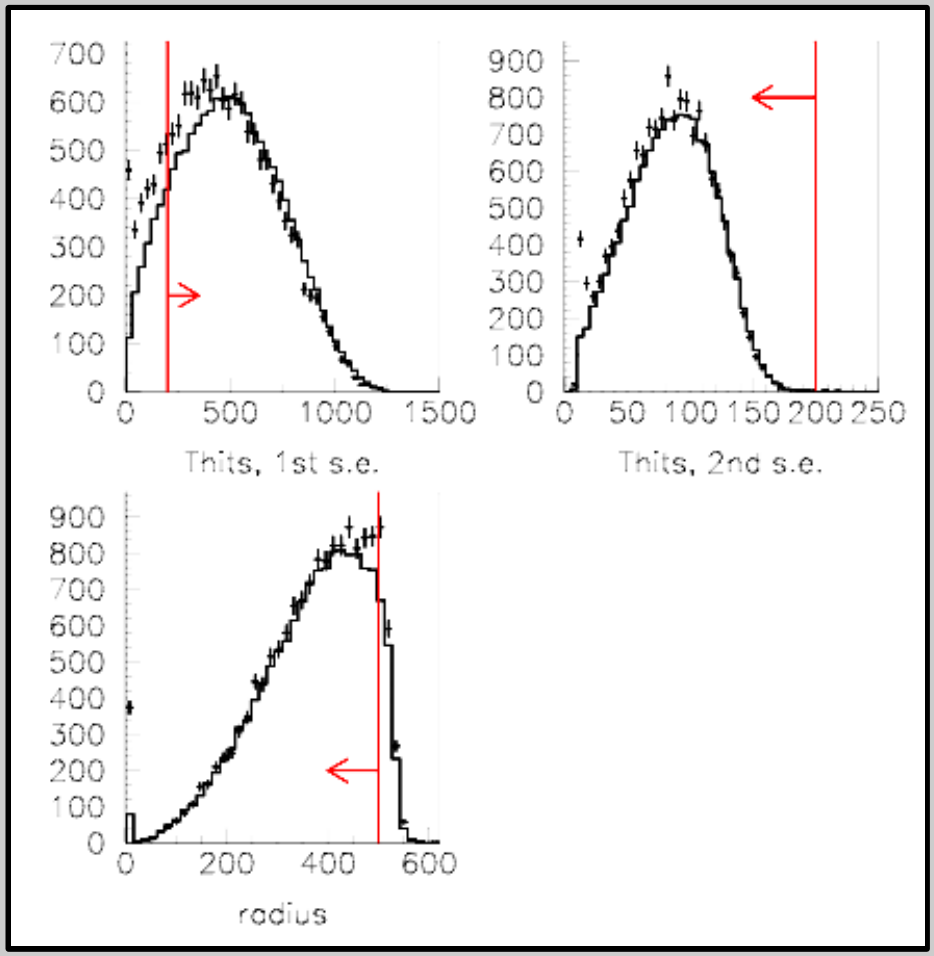
- relative norm, MC <u>without</u> 25m absorber plates simulated

- E_ν spectrum agreement pretty good despite not having plates simulated
- but we can do better …

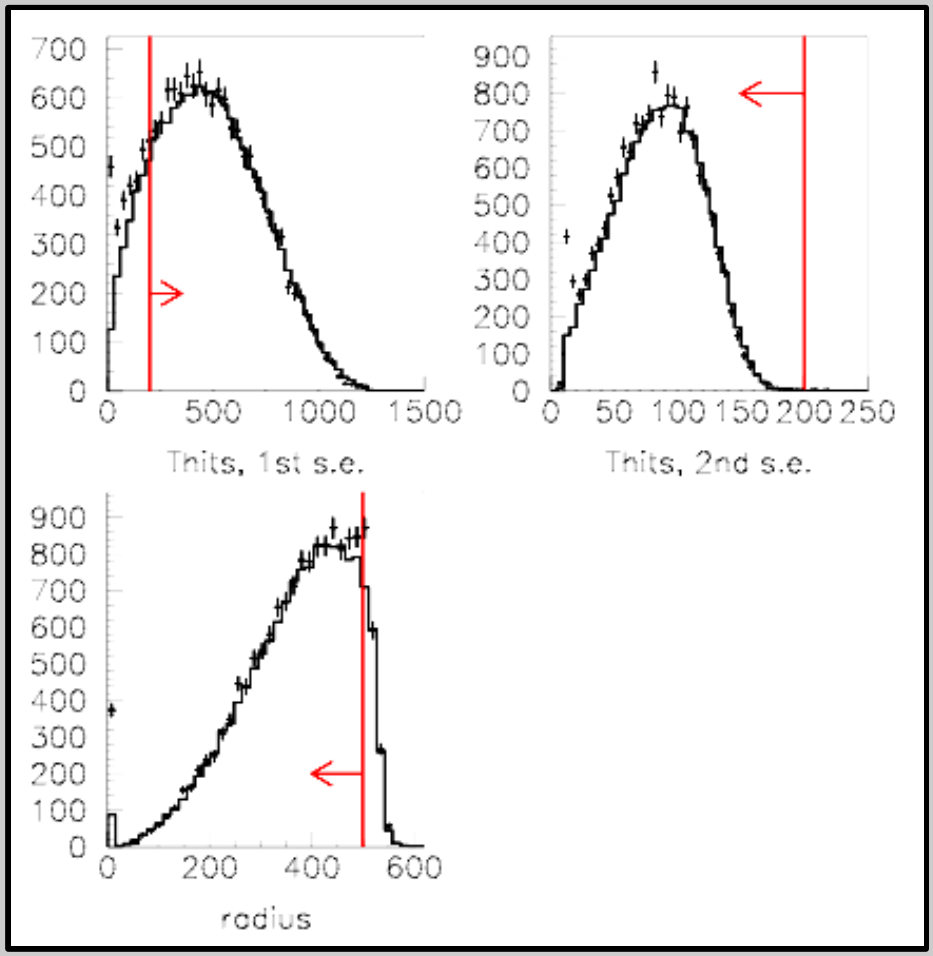


Estimating Effect of Absorber Plates

MC with no absorber plates:



MC reweighted according to fraction of events with one & both plates in beam:



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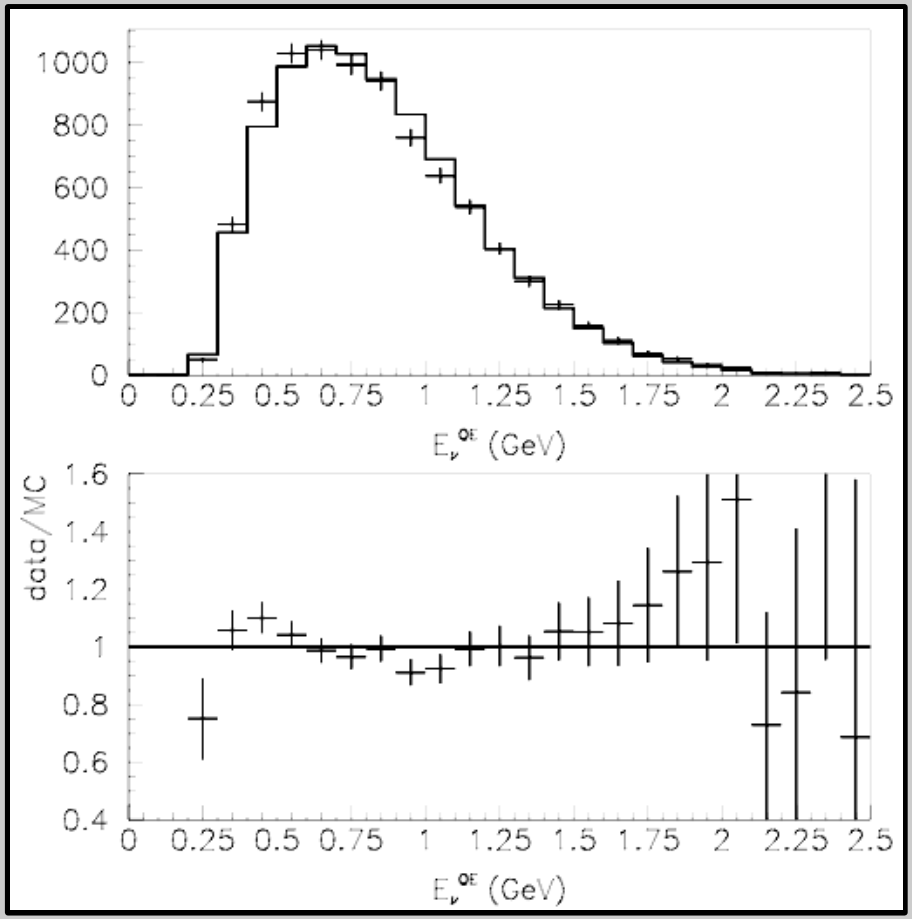

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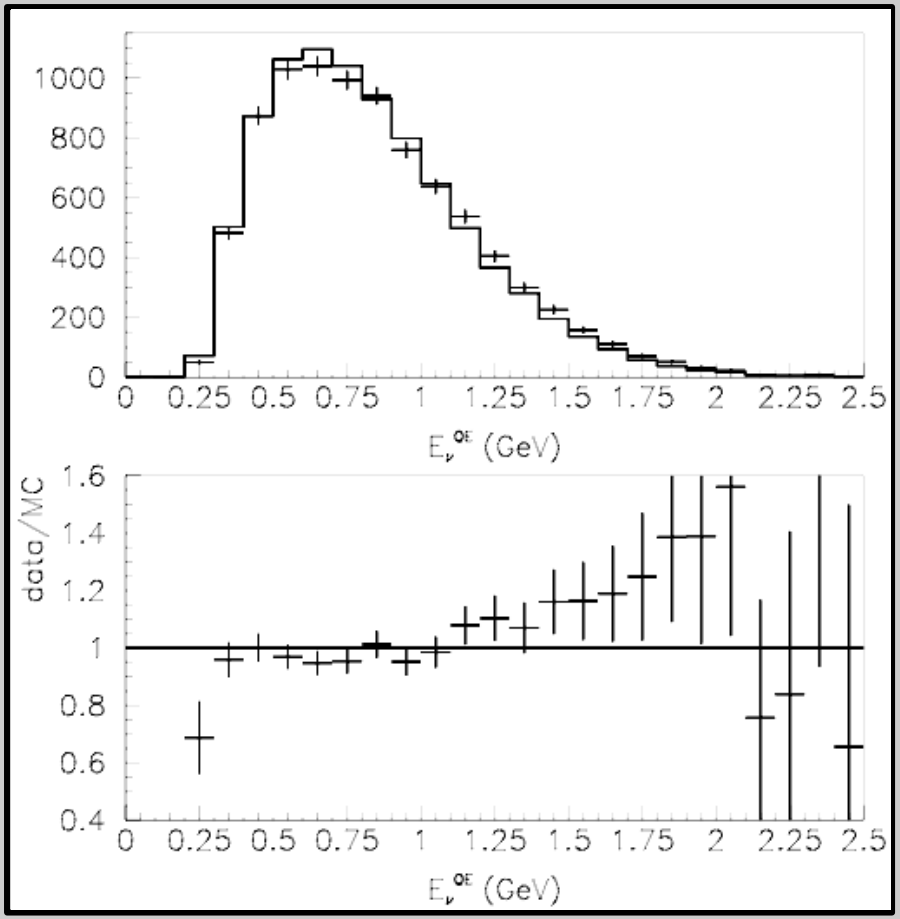
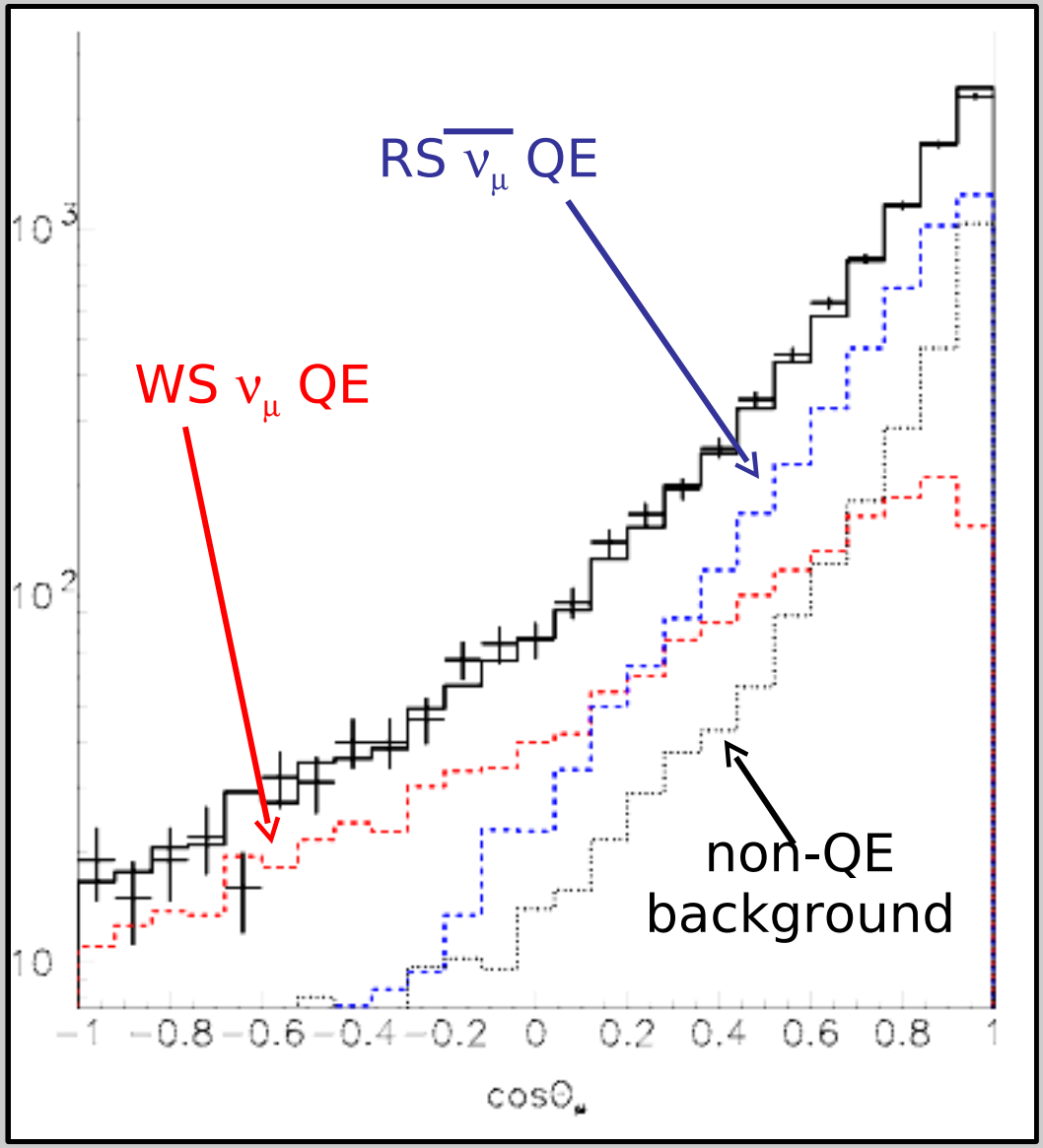


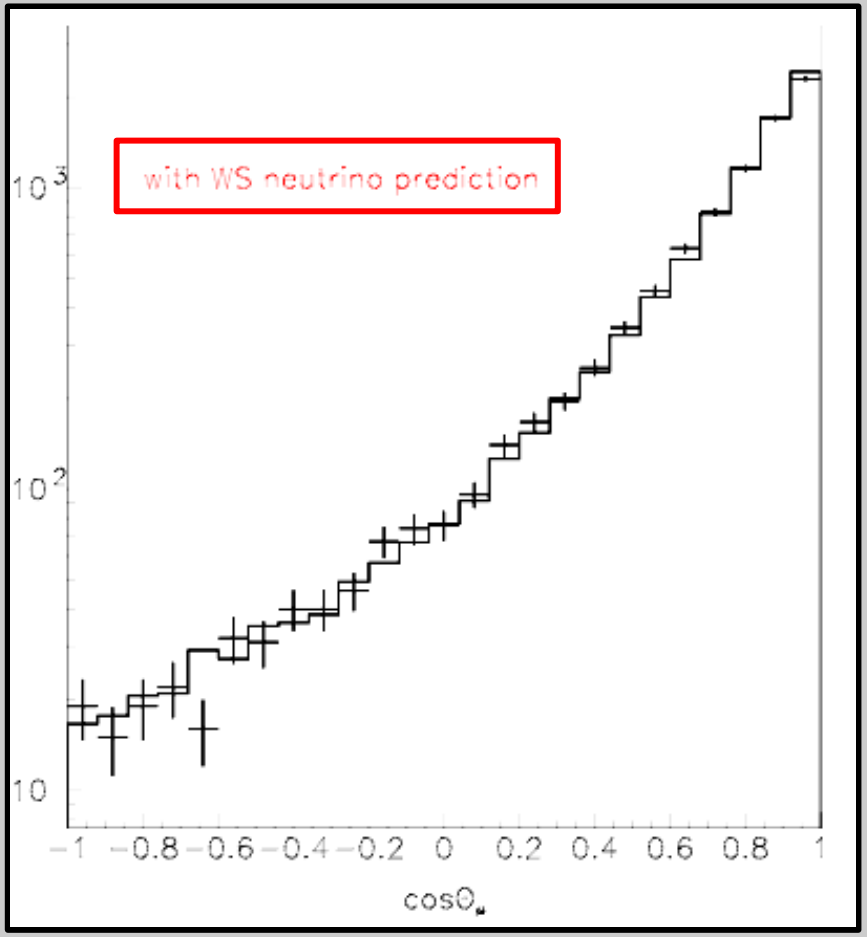
Muon Angular Distribution

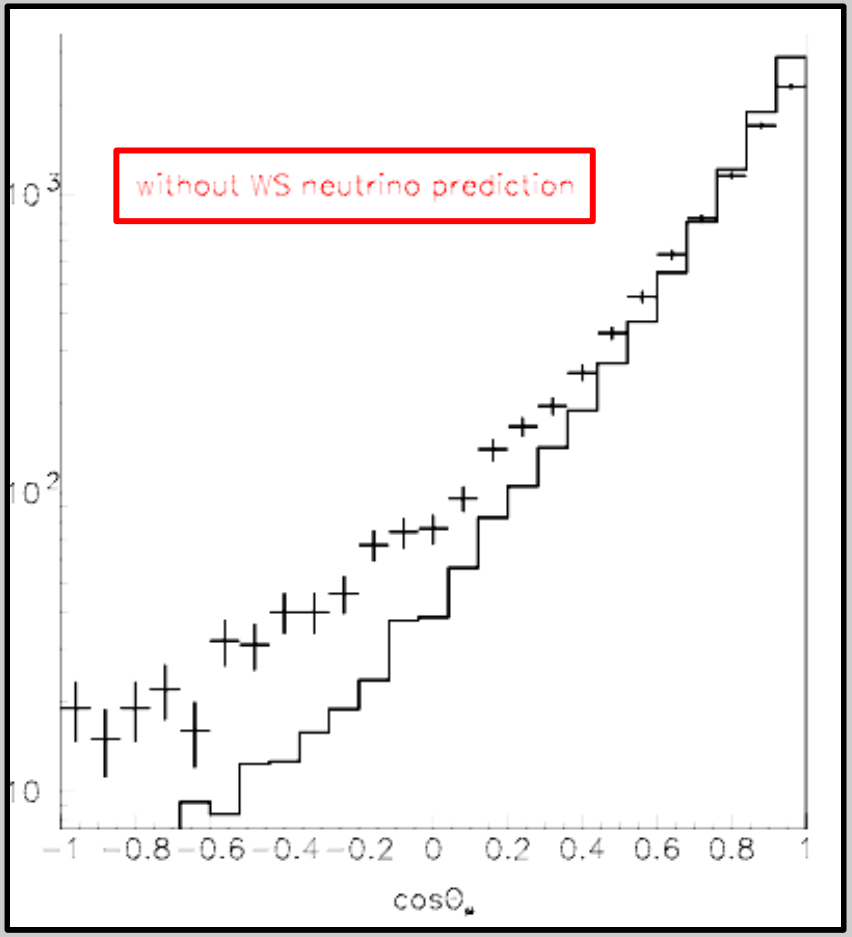
- this is the distribution that can tell us about Wrong Sign (neutrino) content in the beam
- plot shows our default MC predictions (27% WS)
- current WS prediction does not seem far off



Muon Angular Distribution

- can get some sense of our sensitivity to WS content
- both relatively normalized to the data (1.5 x 10^{20} POT)





Future Plans

- Work on repairs to put back 25m absorber in original condition.
  - Plan to start raising plates end of this week.
  - Projected to be back online mid April (12th) in 50m configuration.
- Plan is to collect 0.6-0.9E20 POT in antineutrino mode and no absorber. Totals to date:
  - 0.2E20 POT no absorber.
  - 0.7E20 POT absorber #10 down.
  - 0.6E20 POT absorber #10 and #7 down.
- Continue work on understanding antineutrino data, which looks promising!