

2x2 Chicago Meeting

April 22, 2024

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2x2 Paper Update

Link to Overleaf Draft:

<https://www.overleaf.com/6419191385gzxrjygksbcb#1adc5e>

- No major updates since last time

Any and all comments welcome in the draft above!

Updates on Access to 2x2

- As far as we know, there is **still no access** to the MINOS underground area
- Multiple avenues of access are being pursued concurrently
 - **Person basket** will only be for Fermilab employees and is only waiting on permission from DOE Site Officer
 - **Elevator** (minus counterweights) will be available again pending inspection by an additional company

ND Prototypes Analysis Workshop

09:00	Opening J. Pedro Ochoa, Zoya Vallari	
	WH Curia II	09:00 - 09:20
	Installation, commissioning and operations Bruno Gelli et al.	
	WH Curia II	09:20 - 09:40
	Simulation and calibration Kevin Wood et al.	
10:00	WH Curia II	09:40 - 10:30
	Coffee break	
	Fermilab	10:30 - 11:00
11:00	ML reco Francois Drielsma	
	WH Curia II	11:00 - 11:40
	Analysis Tools: Snowstorm Andrew Cudd	
	WH Curia II	11:40 - 12:00
12:00	Analysis Tools: Status and issues Andrew Cudd et al.	
	WH Curia II	12:00 - 12:20
	MINERVA Alysia Marino et al.	
	WH Curia II	12:20 - 12:30
	Selections & Systematics Brooke Russell et al.	
	WH Curia II	12:30 - 12:40
13:00	Lunch	
	Fermilab	12:40 - 14:00
14:00	Working Time	
	Tutorial: Flow Kevin Wood, Yifan Chen	
	WH Curia II	14:00 - 14:50
	Transition break	
	Fermilab	14:50 - 15:00
15:00	Working Time	14:00 - 15:00
	Tutorial: ML reco Francois Drielsma	
	WH Curia II	15:00 - 15:50
	Transition break	
	Fermilab	15:50 - 16:00
16:00	Working Time	15:00 - 16:00
	Tutorial: CAFAna Maria Martinez-Casales	
	WH Curia II	16:00 - 17:00
	Fermilab	16:00 - 17:00

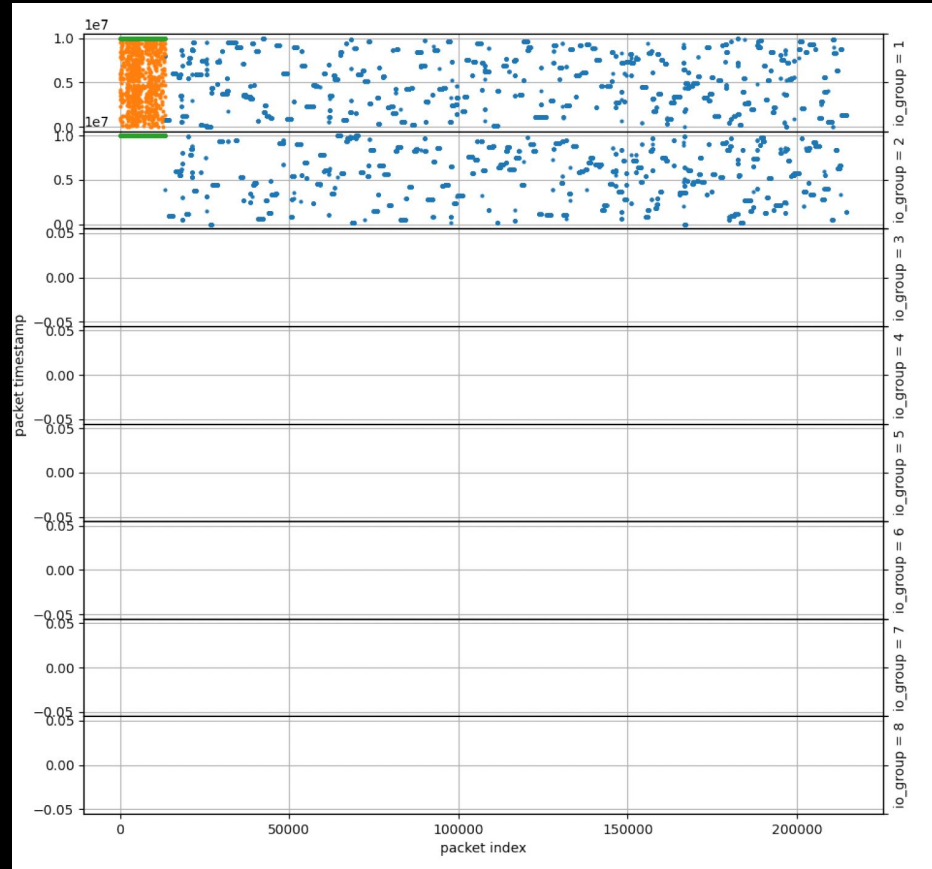
- Reminder of [analysis workshop this Wed - Fri at Fermilab](#)

09:00	Status & Outstanding Issues: Pandora Steve Dennis	
	Fermilab	09:00 - 09:30
	Check-in	
	WH Racetrack	09:30 - 09:50
10:00	Working Time	
11:00	Working Time	
12:00	Working Time	
	Fermilab	09:50 - 12:30
13:00	Lunch	
	Fermilab	12:30 - 14:00
14:00	Working Time	
15:00	Working Time	
	Fermilab	14:00 - 15:30
16:00	MINERVA	
	WH Racetrack	15:30 - 16:15
	Production	
	WH Racetrack	16:15 - 16:35
	Sim + callb	
	WH Racetrack	16:35 - 16:55
17:00	ML reco	
	WH Racetrack	16:55 - 17:15

09:00	Selections & Systematics Brooke Russell, Saba Parsa	
	Elise is giving a talk sometime in this block	
10:00	WH Curia II	09:00 - 10:30
	Coffee break	
	Fermilab	10:30 - 11:00
11:00	Working Time	
12:00	Working Time	
	Fermilab	11:00 - 12:30
13:00	Lunch	
	Fermilab	12:30 - 14:00
14:00	Checkout / Summaries J. Pedro Ochoa, Zoya Vallari	
	WH Curia II	14:00 - 15:00
15:00		

Updates on Single Module Cosmics Simulation

- Can run through full analysis chain
- Currently looking into bugs in detector simulation related to assumptions of beam spill timing structure
- [Presented at Sim/Calib meeting last week](#)

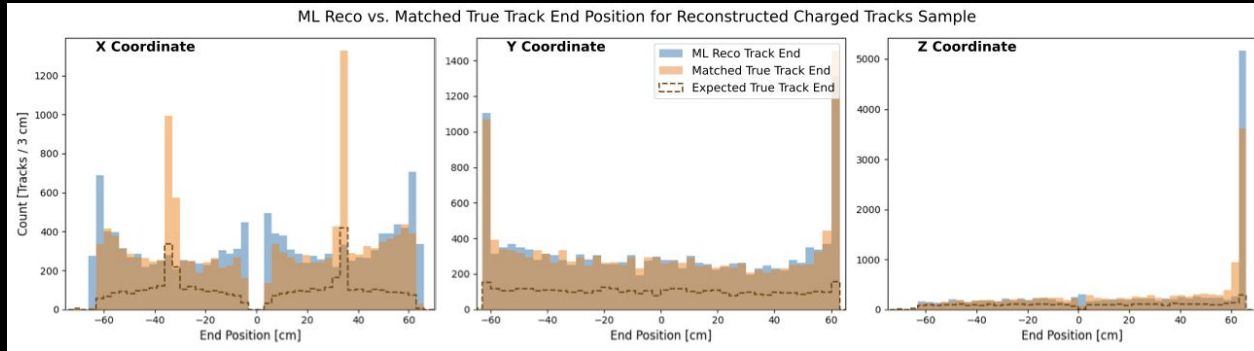


Updates on Single Module Cosmics Simulation

- Major discussion points from Sim/Calib Meeting:
 - Simulation **not currently set up to simulate non-beam triggers** well (i.e. light threshold triggers like those used when taking cosmics data at Bern)
 - Where does simulating cosmics at Bern fall in terms of Sim/Calib priorities?
 - **Is it worth it to try to simulate cosmics in the 2x2 vs. using overlays?**

Updates on ML Reco Benchmarking Studies

- Many updates on plotting comparisons of reco vs. true tracks



- Tried to plot “expected true” distributions by taking truth level sample of tracks
- Normalization issue led to discovery/re-discovery of NDCAFMaker bugs – **start/end position of true tracks only saved if the true track is matched to a reconstructed track**
- In general, truth info for an event is apparently only saved if the event includes reconstructed information

Updates on ML Reco Benchmarking Studies

- Gained access to ML Reco Event Display
 - Plan to use this capability a lot in presentation to track-level and event-level reconstruction oddities

