

Status Report for Run 1-7c joint fit Update

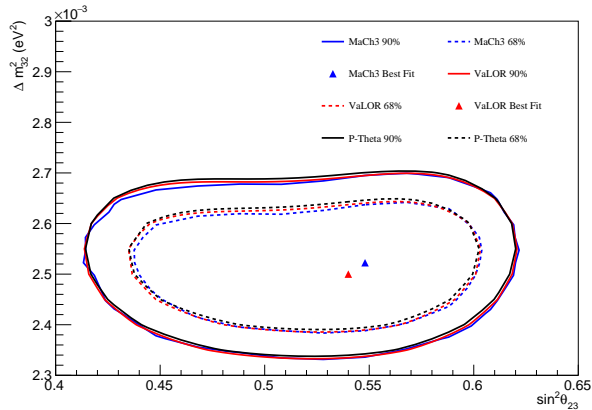
Patrick Dunne - Imperial College London

Overview

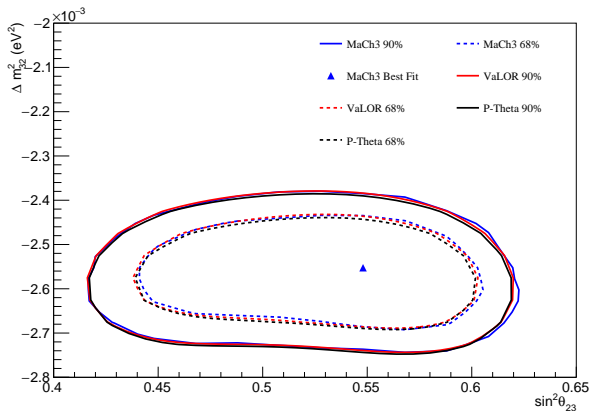
- ▶ All three analyses are updating to the full Run 1-7c dataset
 - FHC POT: 7.48×10^{20} RHC POT: 7.47×10^{20}
- ▶ Working to get the joint fit ready by ICHEP
- ▶ Asimov rates have been compared and found to be in good agreement
- ▶ Will show comparisons between the three groups asimov contours and first data results today
 - All results are with reactor constraint

Asimov comparisons

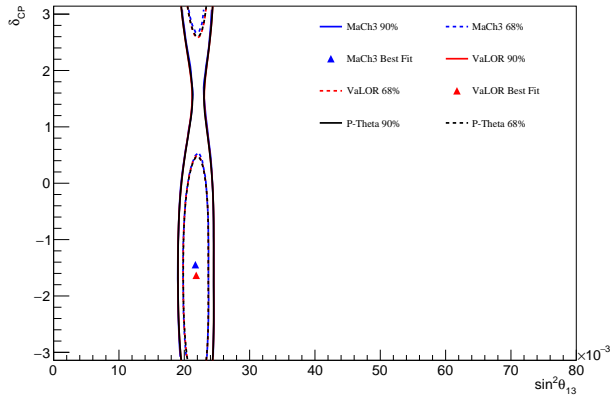
Comparison of Asimov Set 1 2D contours - NH



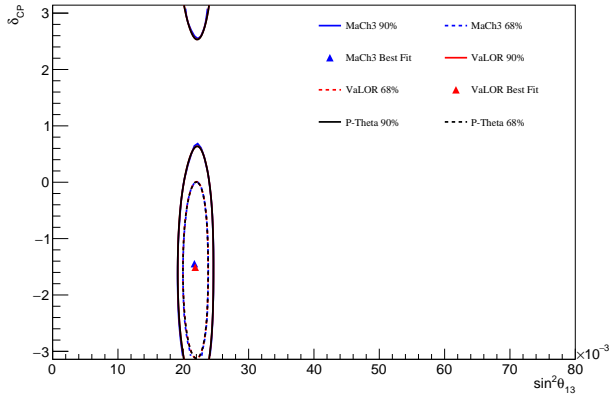
Comparison of Asimov Set 1 2D contours - IH



Comparison of Asimov Set 1 2D contours - NH



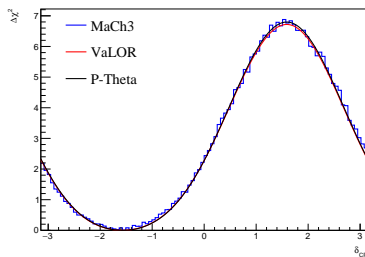
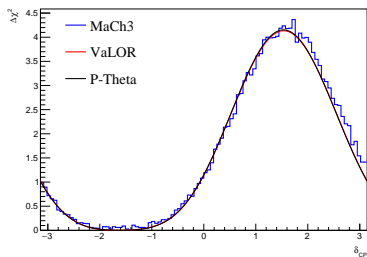
Comparison of Asimov Set 1 2D contours - IH



Comparison of Asimov Set 1 1D contours

NH

IH



MaCh3 data fit results

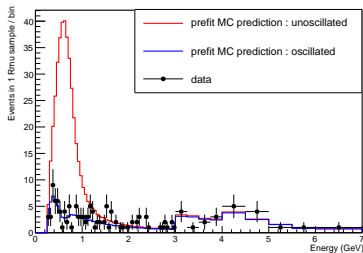
Observed rates

Table : Number of data events in each of the SK samples for run 1–7c, compared to the prefit MC prediction (using oscillation parameters set 1).

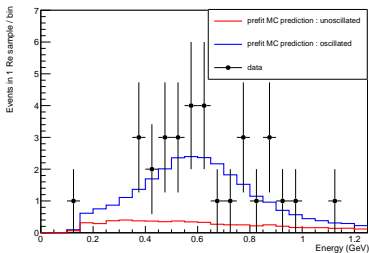
	FHC $1R_{\mu}$	FHC $1R_e$	RHC $1R_{\mu}$	RHC $1R_e$
Data	135	32	66	4
Prefit MC	136.21	28.75	64.40	6.01
Data/MC Ratio	1.00	1.11	1.02	0.67

Observed spectra

ν mode $1R_\mu$

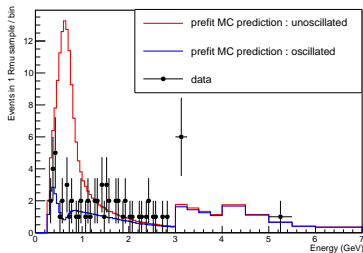


ν mode $1R_e$

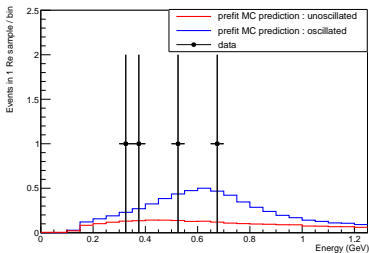


Observed spectra

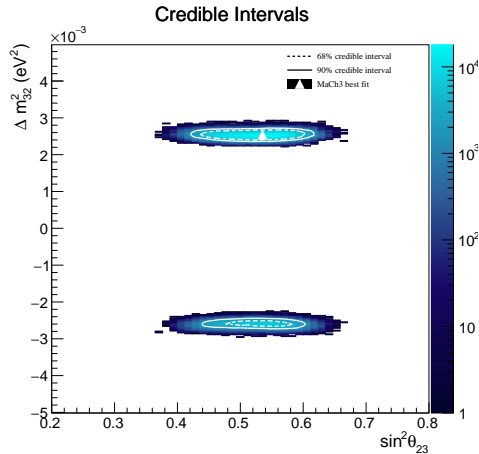
$\bar{\nu}_\mu$ mode $1R_\mu$



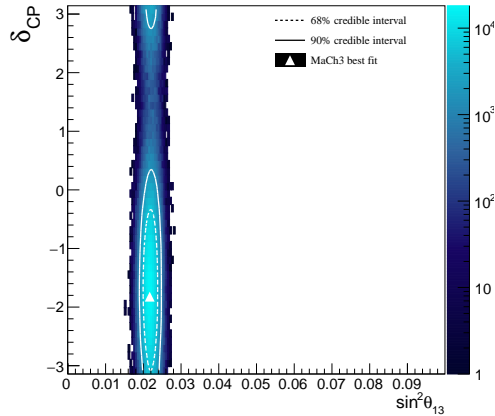
$\bar{\nu}_\mu$ mode $1R_e$



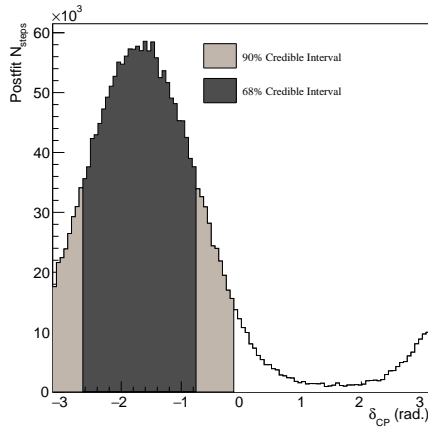
MaCh3 data fit results



MaCh3 data fit results

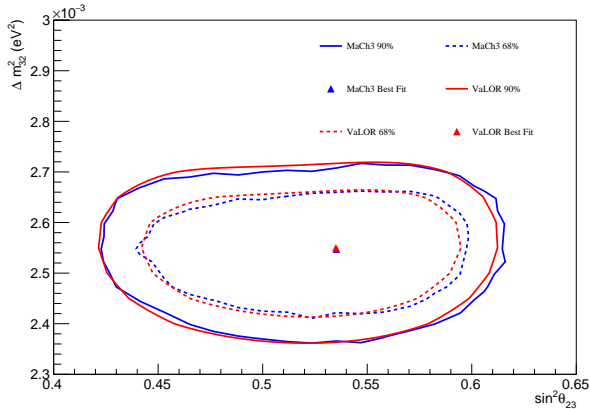


MaCh3 data fit results

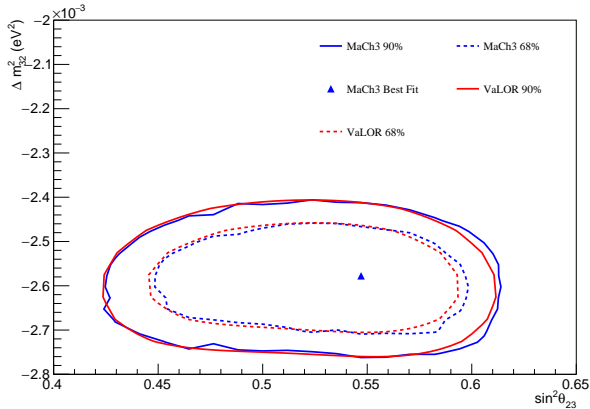


VaLOR-MaCh3 data fit comparison

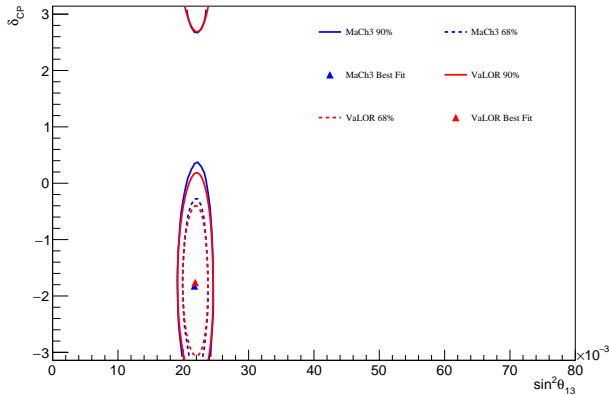
Comparison of Data 2D contours - NH



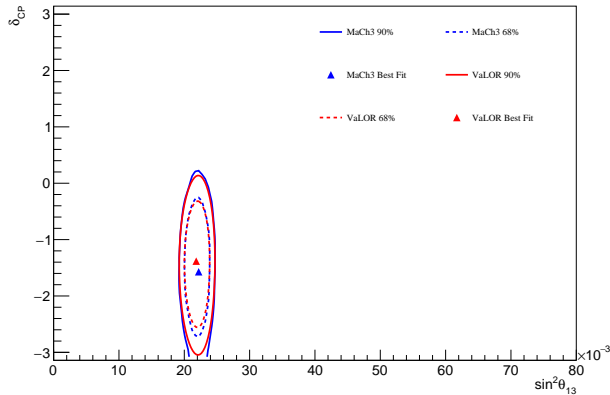
Comparison of Data 2D contours - IH



Comparison of Data 2D contours - NH



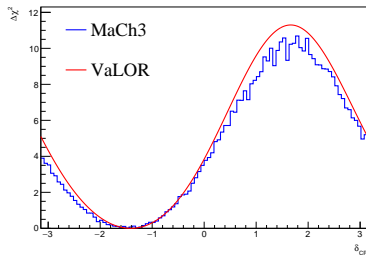
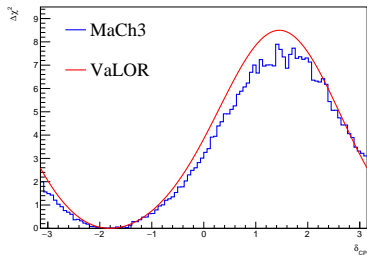
Comparison of Data 2D contours - IH



Comparison of Data 1D contours

NH

IH



- ▶ 2D and 1D Asimov contours compared between all three analyses
 - Agreement between analyses is good
- ▶ Data results have been shown
 - Similar differences between MaCh3 and VaLOR as in 1-7b seen
 - Expected to be due to E_{rec} vs $E_{rec} - \theta$ binning
 - MaCh3 are working on implementing $E_{rec} - \theta$ binning
- ▶ Still working on results without reactor constraint and updating TN