

T2KSK @ SB Meeting

José Palomino
2014/04/24

Introduction

- We are working to estimate the Absolute Energy Scale Error with 14a library and SKDETSIM v13p90.
- All our efforts are focus to finish before SK collaboration meeting with SK1-4 sample.

	13a	14a
Data*	ATMPD13a SKOFL13a	ATMPD14a SKOFL14a
MC**	SKOFL 13a ATMPD 13a SKDETSIM v13p80	SKOFL 14a ATMPD 14a SKDETSIM v13p90

**identical zbs files*

***identical input vector files for MC event generation*

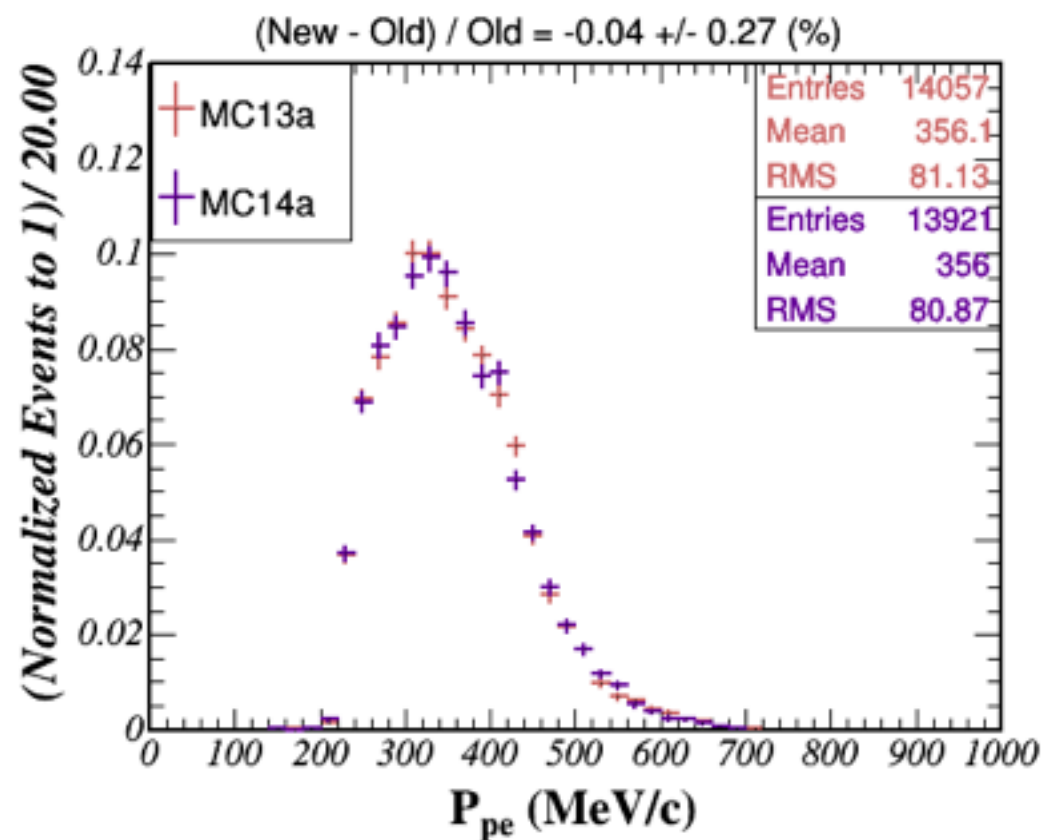
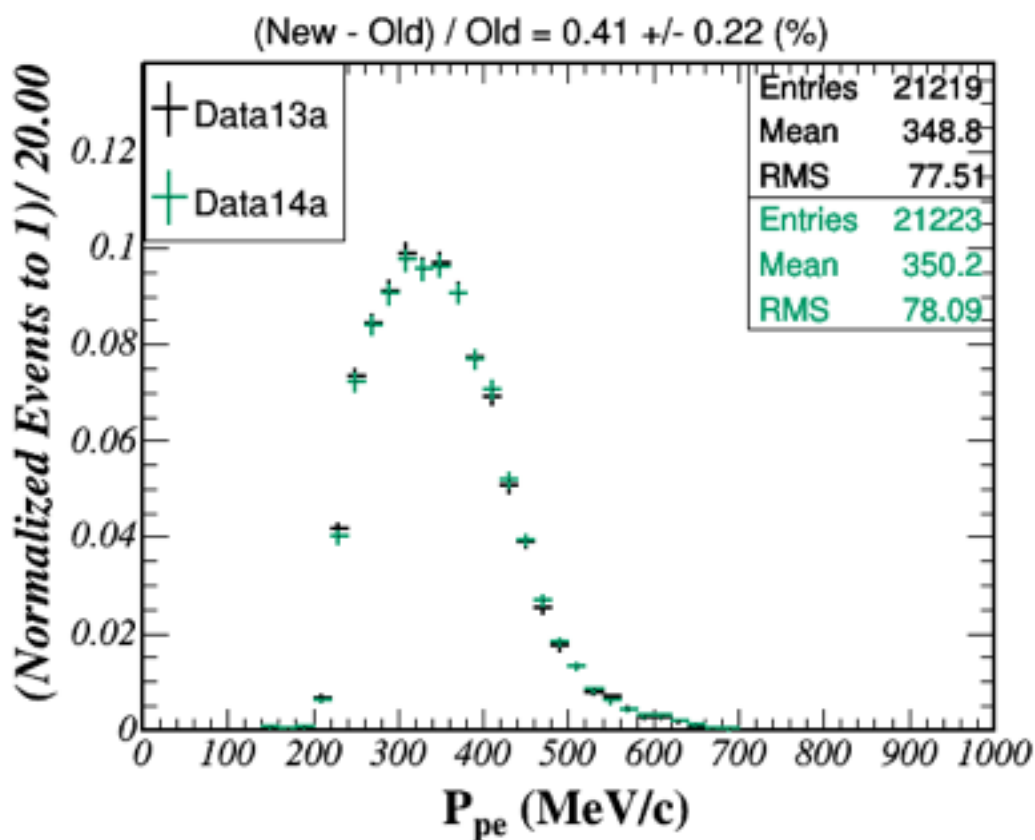
Introduction

- SKDETSIM from v13p80 to v13p90:
 - global photon detection efficiency (COREPMT) decreased by 0.75% by Kameda-san
- APfitlibrary:
 - new momentum table (prtlib) updated by Miura-san using v13p90 SKDETSIM

Control Sample	Mom. Ratio 14a/13b
Decay-e	~0.75%
π^0	~0.75%
Sub-GeV stop- μ	~0.39%
Multi-GeV stop- μ	~0.75%

Our expectation according to the new momentum table for SK4

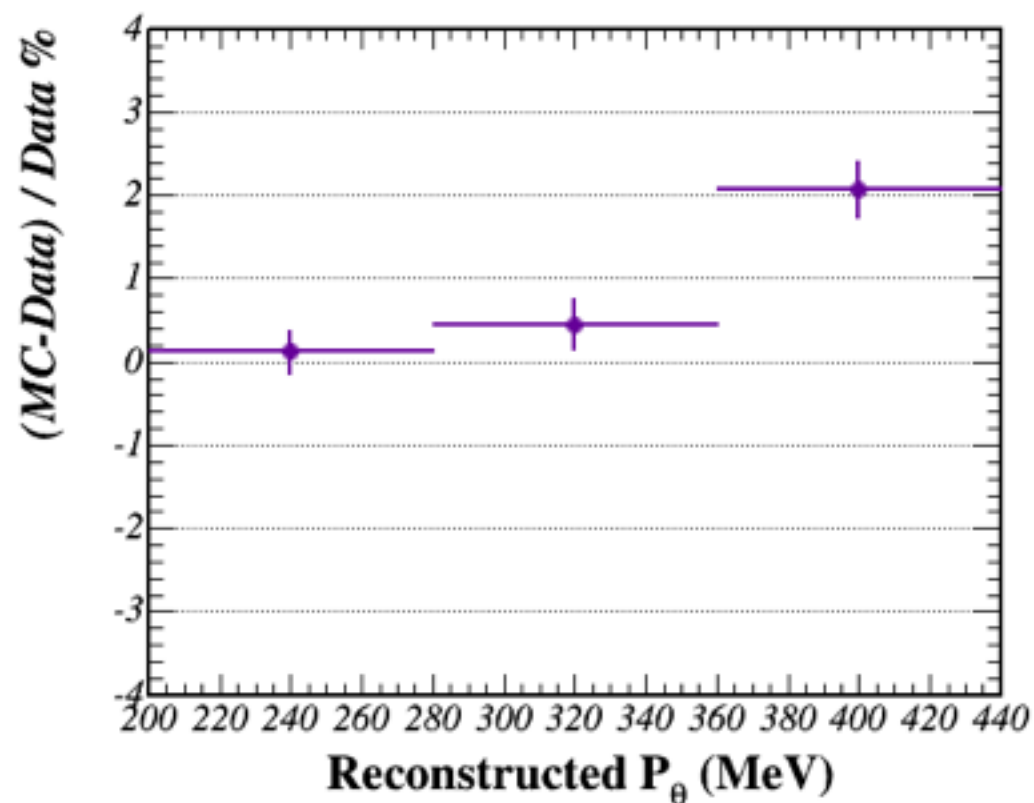
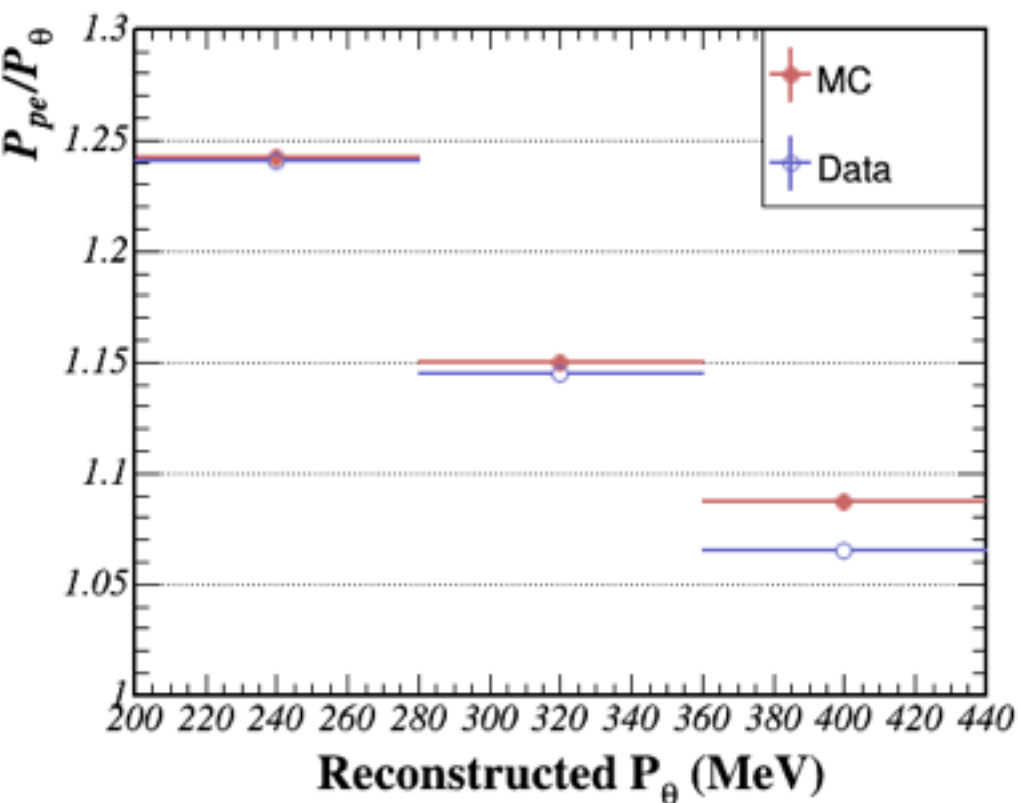
Sub-GeV Stop- μ



As we expected(MC: no changed 0.0%, Data: momentum increase 0.39%)

SK4

Sub-GeV Stop- μ



14a library Data/MC
input vector 11d
official event selection

Momentum	Error(%)
200-280	0.125+/-0.260
280-360	0.449+/-0.309
360-440	2.076+/-0.337

SK4

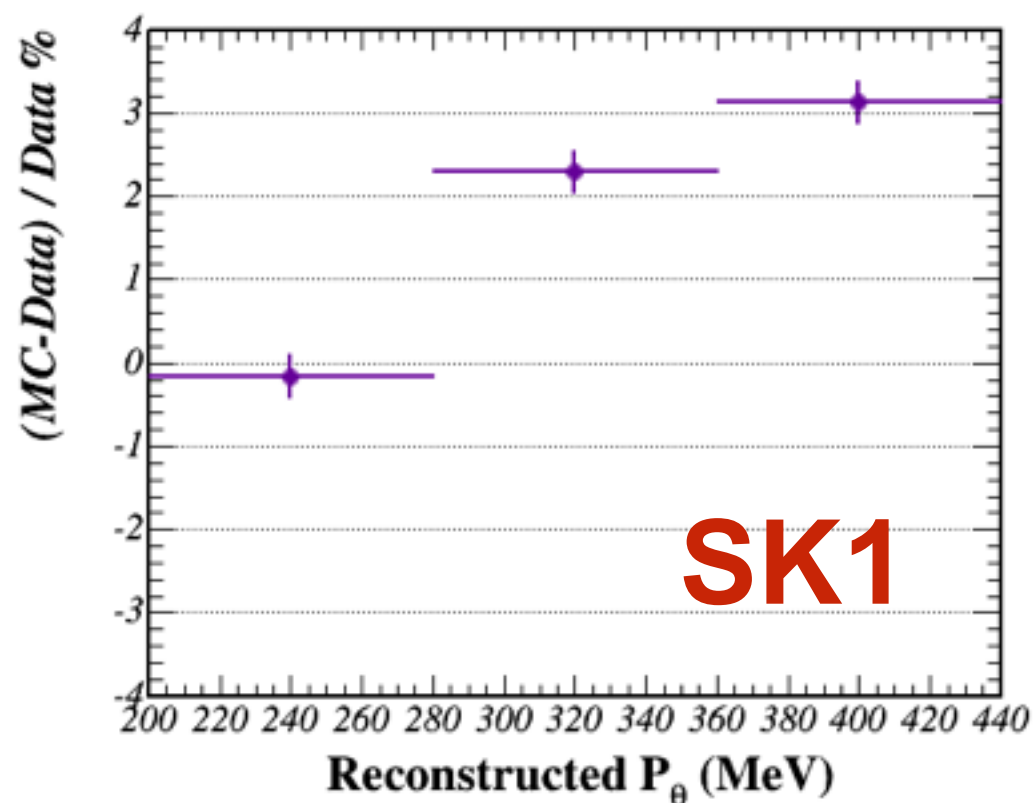
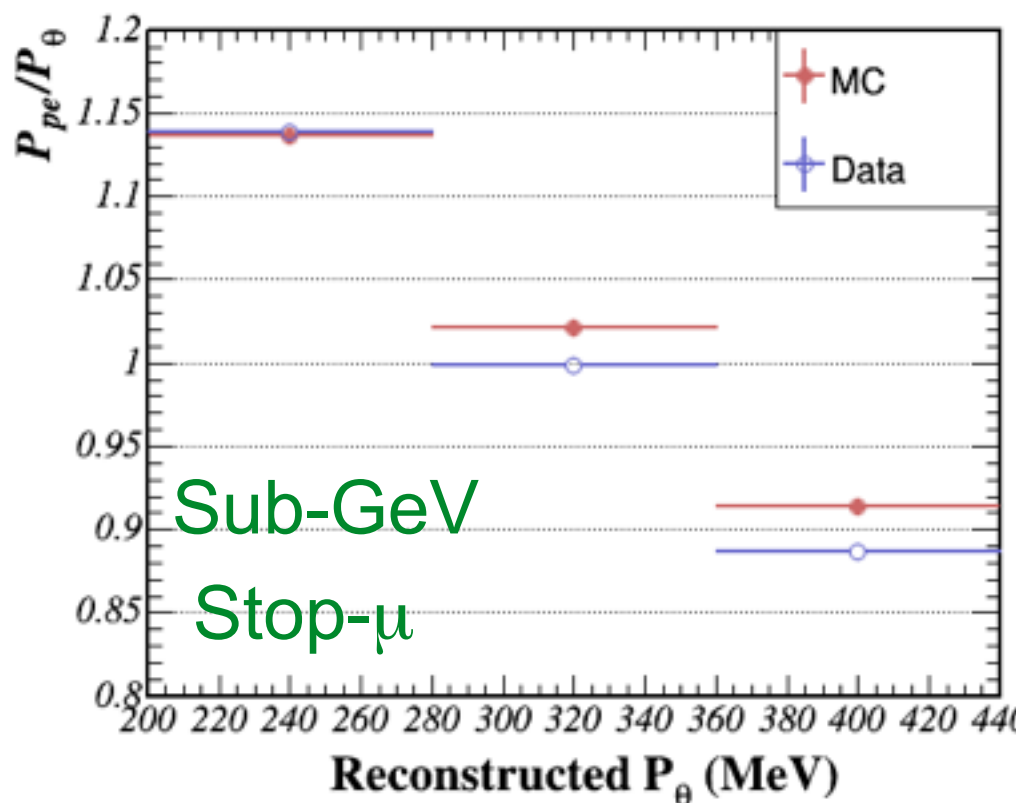
Sub-GeV
Stop- μ

Official Cut Parameters

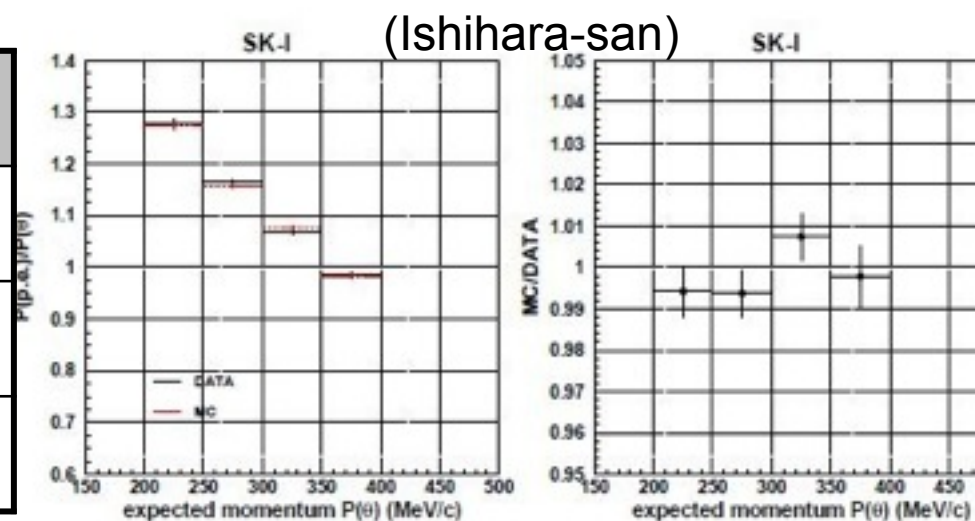
Variable	Cut
Z vertex	>1720 (cm)
dZ	<-0.87
Number decay e-	=1
Decay time	>1.2(us)
Momentum by Cherenkov angle	[200,440]
Fit goodness	[0.6, 1.0]
Total Charge	[500, 5000]

SK1

Sub-GeV Stop- μ



Momentum	Error(%)
200-280	-0.157+/-0.257
280-360	2.302+/-0.244
360-440	3.129+/-0.250



Current Status

Control Sample	SK1	SK2	SK3	SK4
Decay-e	0.10+/-0.60	X	X	-1.47+/-0.15
π^0	-0.30+/-0.60	**	**	0.05+/-0.64
Sub-GeV stop- μ^*	3.13+/-0.30	X	X	2.07+/-0.33
Multi-GeV stop- μ^*	2.31+/-0.05	X	X	0.49+/-0.29

*Result based on last energy bin

**Data/MC exit but not analyzed

x Not completed

Not Official

To Do

- Absolute Energy Scale check for SK2 and SK3.
- Everything should be complete before SK collaboration meeting.
- Momentum time variation in queued line.