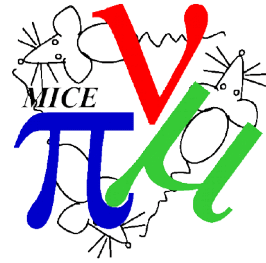
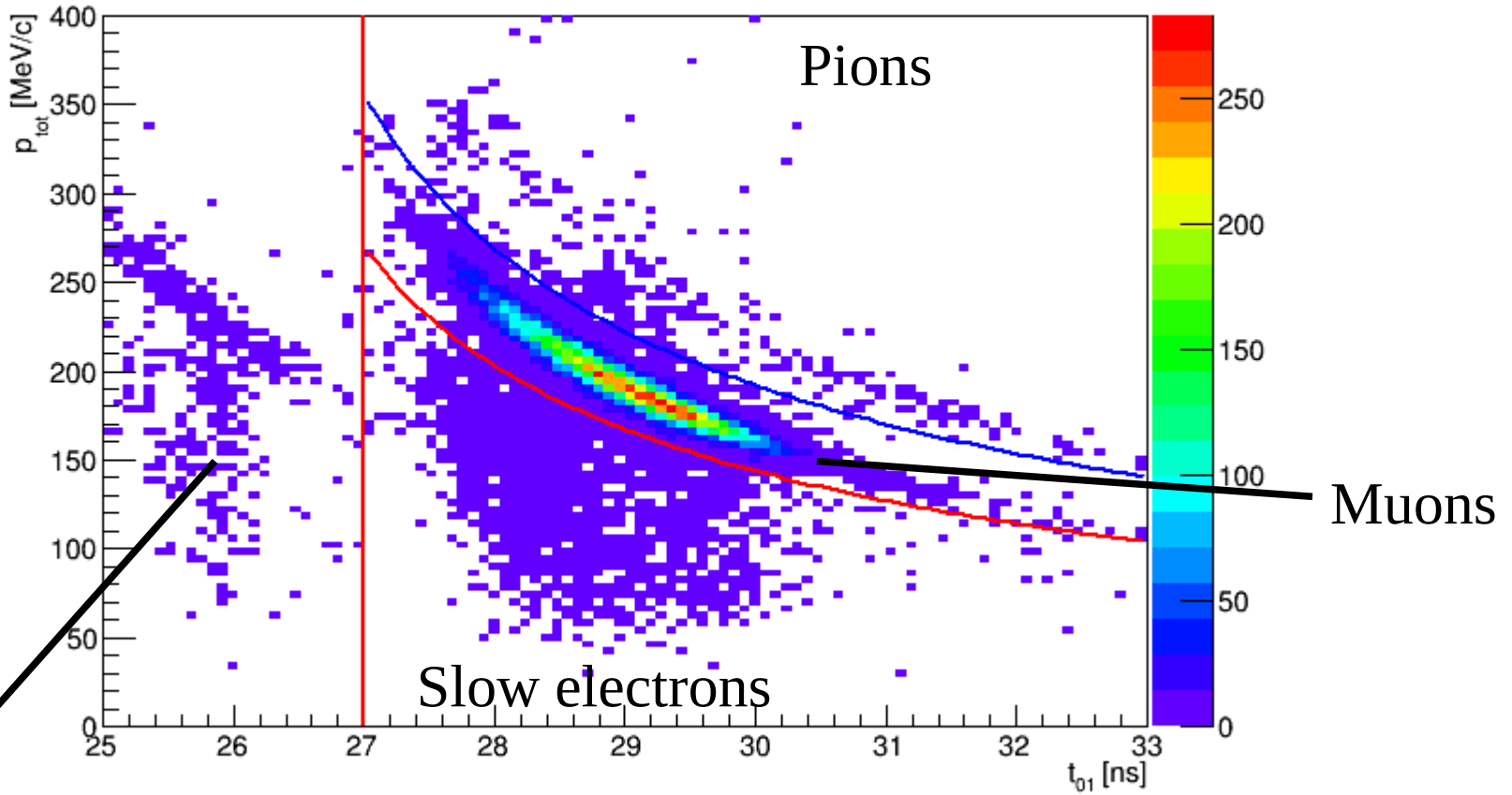


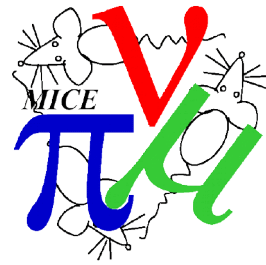
TOF01 vs TKU p_{tot}



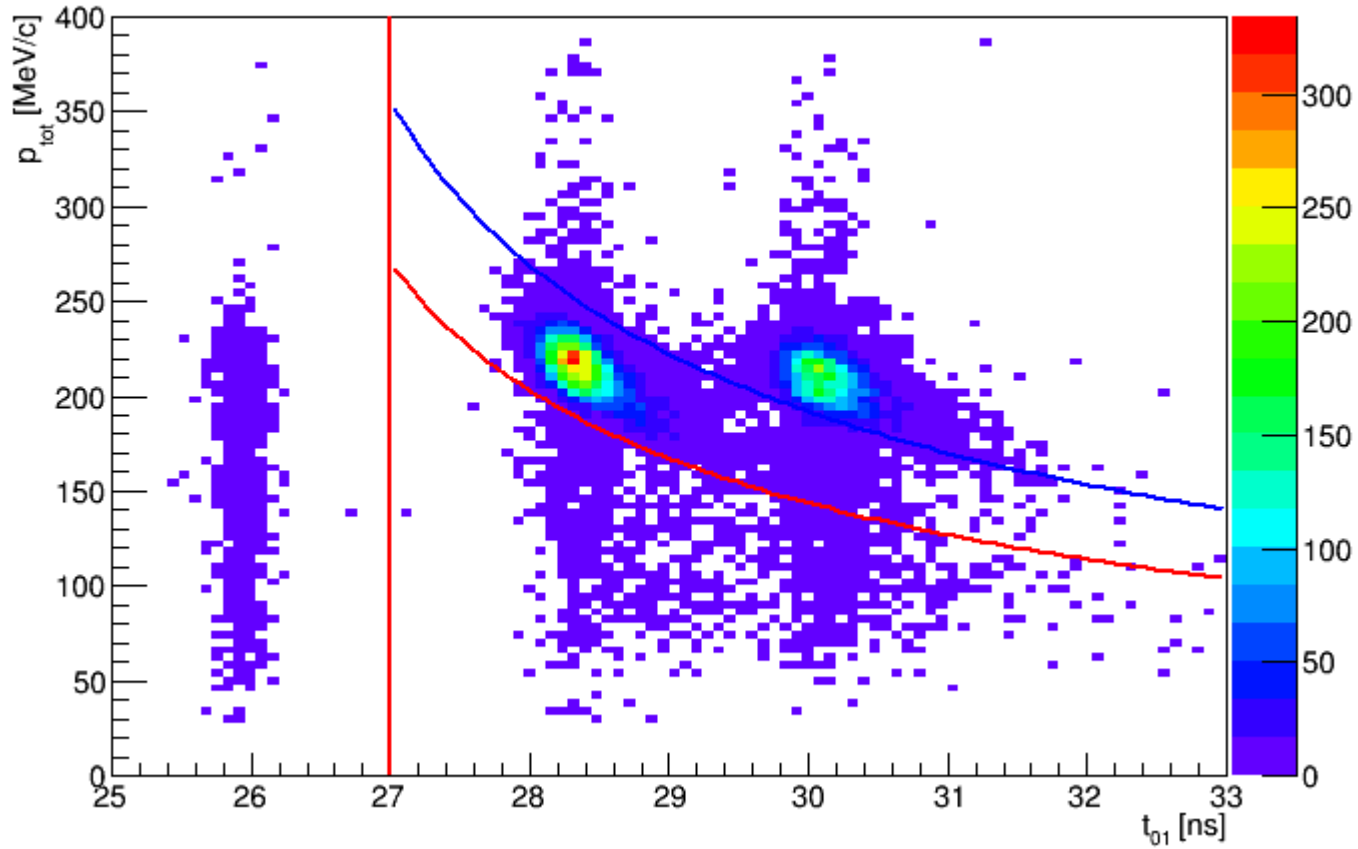
Run 7469 – muons with solenoid at $\sim 3.7 - 4$ T



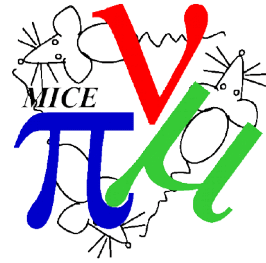
TOF01 vs TKU p_{tot}



Run 7475 – pions with solenoid at $\sim 3.7 - 4$ T



TOF01 vs TKU p_{tot}



Contours in

$$p_{scifi} = p_{tof}$$

Where

$$p_{tof} = m_{cut} z_{01} / ct_{01} / \sqrt{1 - (z_{01} / ct_{01})^2} - dp$$

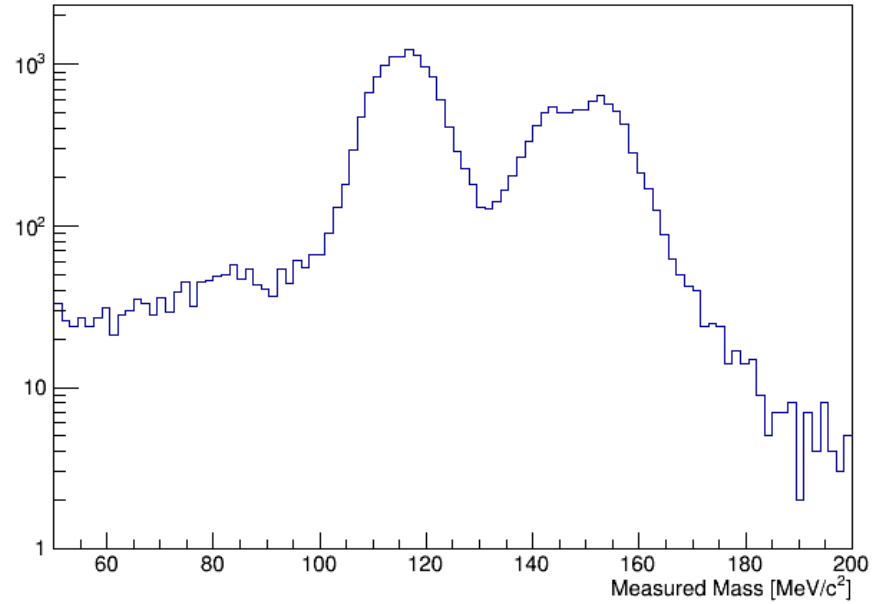
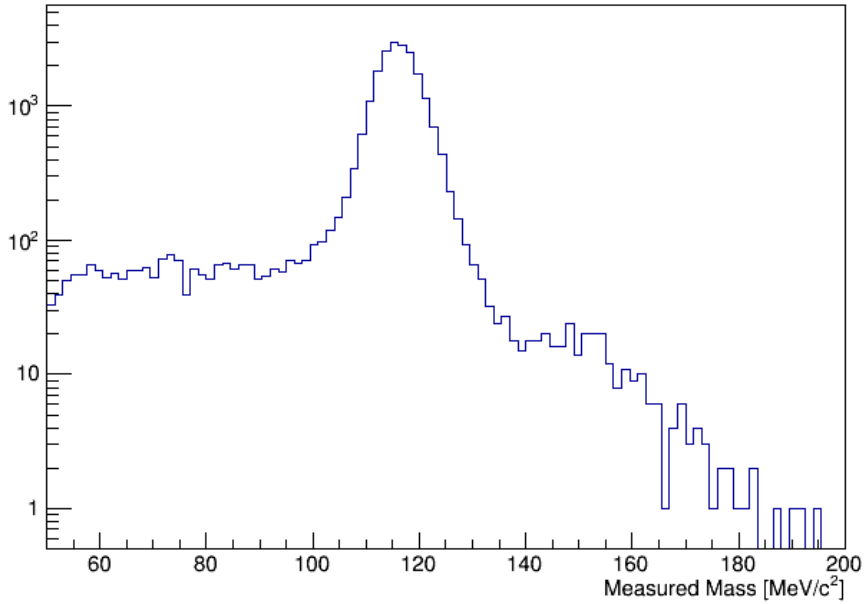
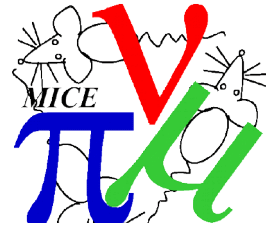
And

	Pion run 7475	Muon run 7469
dp	20 MeV/c	20 MeV/c
$m_{cut} - electrons$	102 MeV/c ²	102 MeV/c ²
$m_{cut} - pions$	132 MeV/c ²	132 MeV/c ²
t_e	27 ns	27 ns
Fast electrons	945	594
Slow electrons	1482	2226
Pions	8569	479
Muons	12306	20022

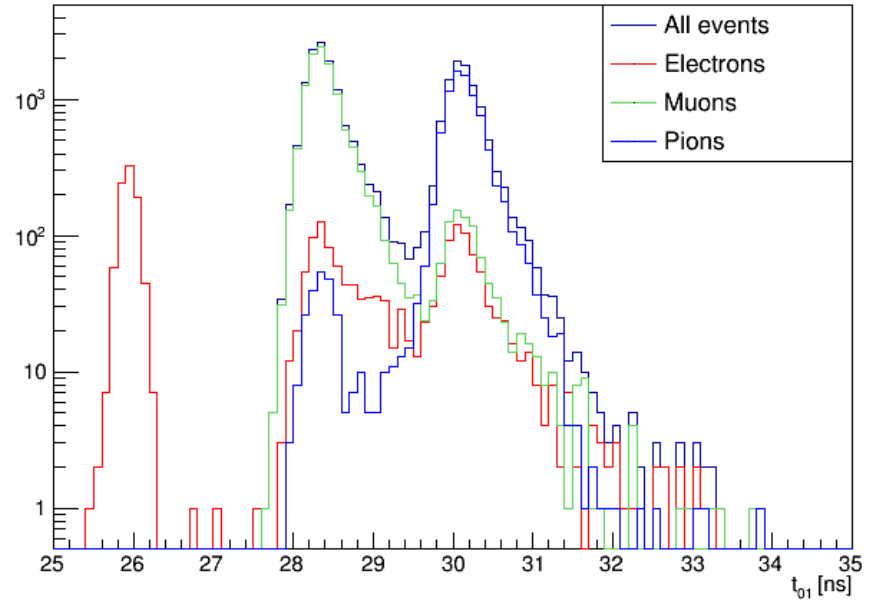
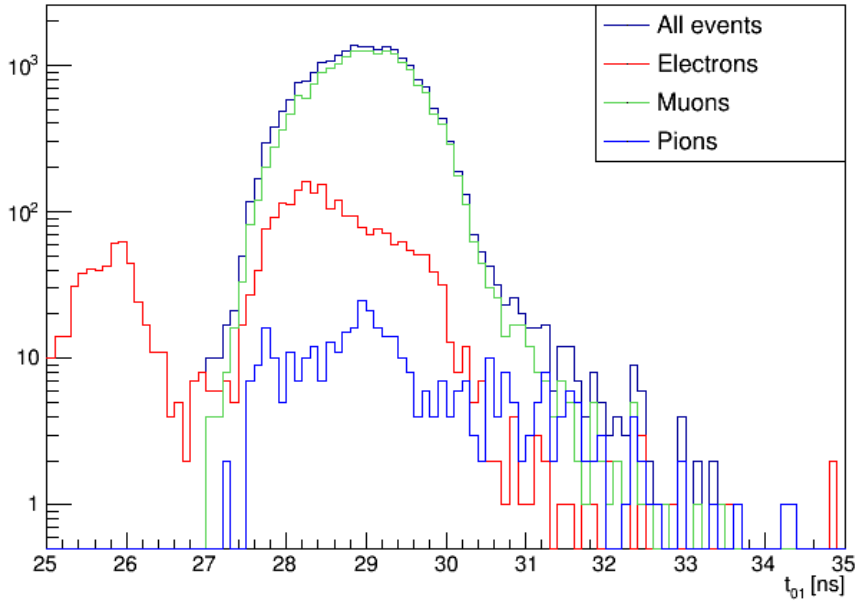
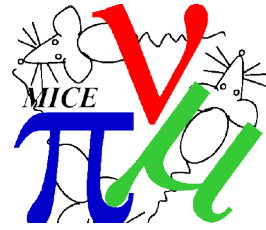
Cut values

Number in each region

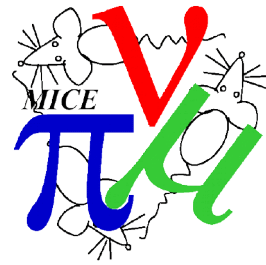
TOF01 vs TKU p_{tot}



TOF01 vs TKU p_{tot}



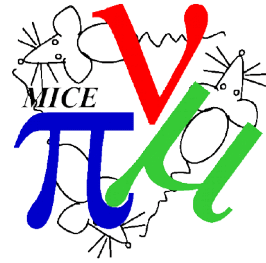
TOF01 vs TKU p_{tot}



Comment

- Victoria showed a nice plot of p_{tof} vs p_{tku} at the Optics review – mass is a straight line in these plots...

Global Detector Efficiency



Detector	Efficiency [%]
TKU (Tracks, Straight)	99.9
TKU (Tracks, Helical)	72.5
TKD (Tracks)	90.6
TKD (3 Stations)	94.72
TKD (4 Stations)	90.79
TOF0 (Space point)	71.56
TOF0 (both slabs)	92.6
TOF0 (either slab)	99.73
TOF1 (Space point)	99.87
TOF2 (Space point)	94.14
TOF2 (both slabs)	95.14
TOF2 (either slab)	99.83
EMR (Tracks)	91.49
KL (Hits)	99.72

Global Detector Efficiency



When not considering a particular detector, require AND of following conditions

- Require exactly one spacepoint in the TOFs
 - Require exactly 5 spacepoints in TKU
 - Require exactly 5 spacepoints in TKD
 - Require something in KL
 - Require exactly one track in EMR
- E.g. if looking at efficiency in TOF0, I don't require a spacepoint in TOF0
 - Straight tracks are run 7417; helices are run 7469
 - I don't require extrapolated tracks to fall within 150 mm tracker fiducial cut – which could explain TKD inefficiency
 - I don't require extrapolated tracks to go into EMR – which could explain EMR inefficiency
 - TOF0 and TOF2 inefficiency looks like it is in part pre-calibration
 - **Downstream** detector inefficiency is a systematic on the cooling measurement