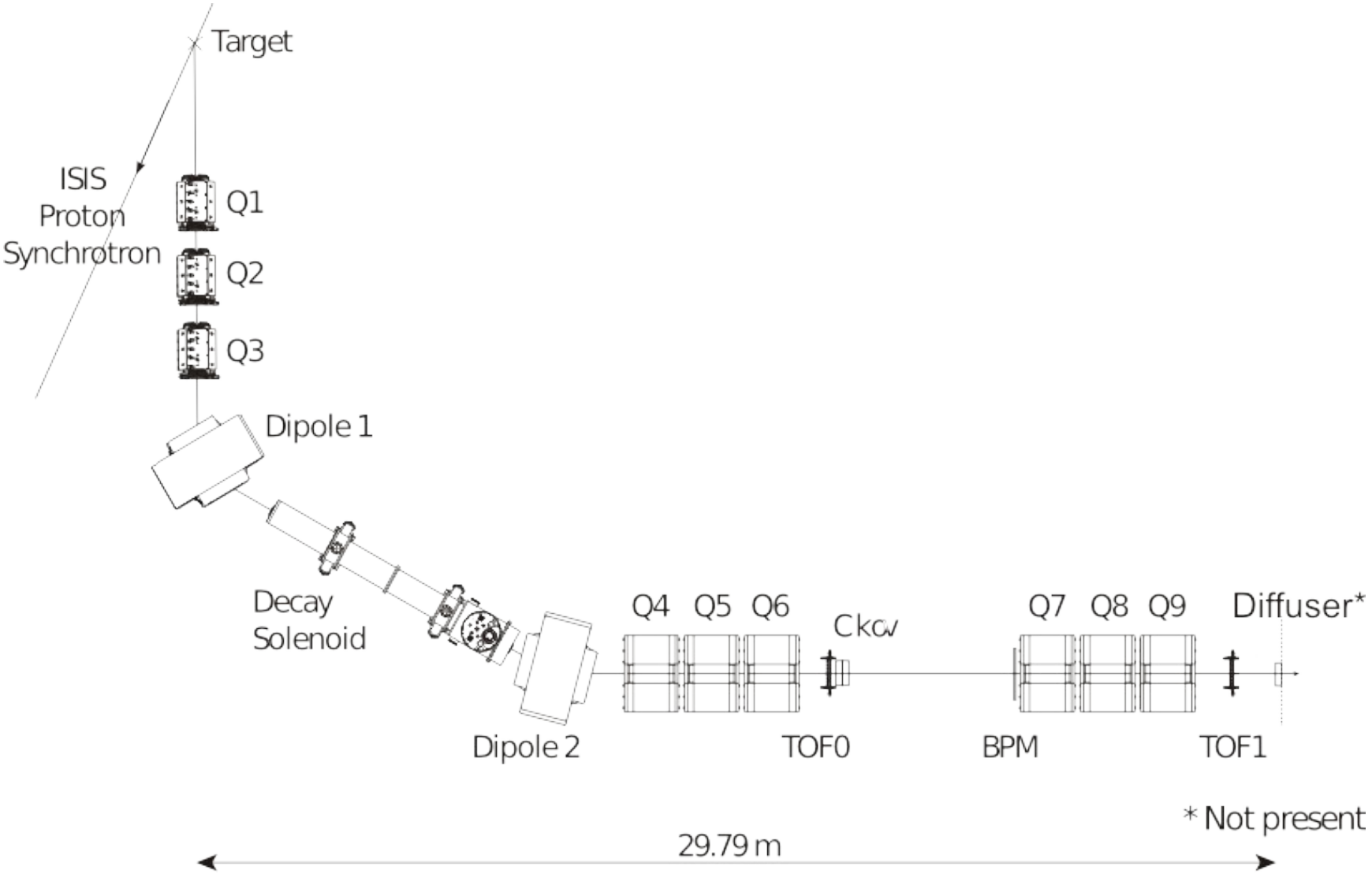
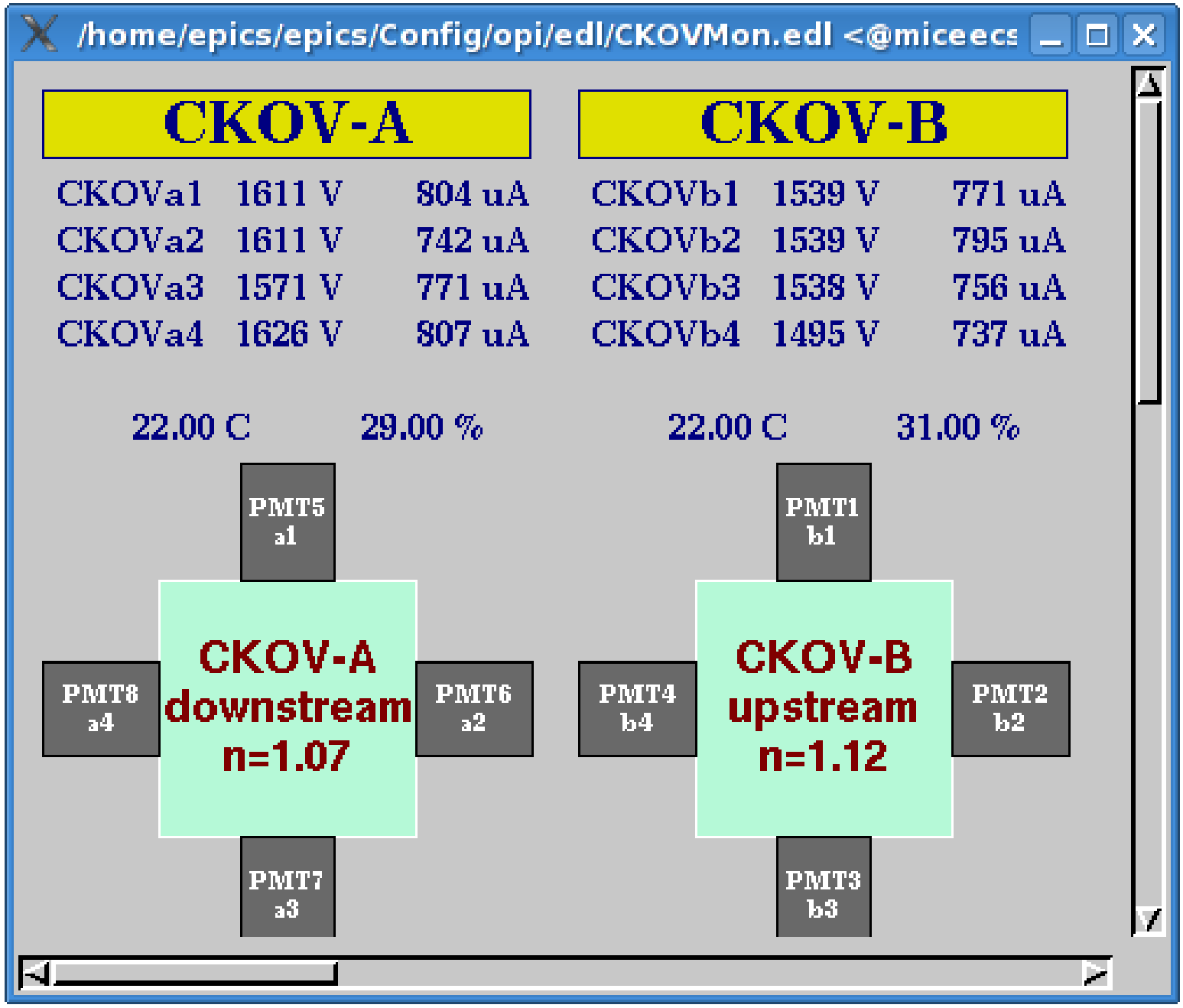

Target
ISIS
Proton
Synchrotron
Q1
Q2
Q3
Dipole 1
Decay
Solenoid
Dipole 2
Q4
Q5
Q6
Ckov
TOF0
Q7
Q8
Q9
BPM
Diffuser*
TOF1
* Not present
29.79 m


/home/epics/epics/Config/opi/edl/CKOVMon.edl <@miceecs
CKOV-A
CKOVa1 1611 V 804 uA
CKOVa2 1611 V 742 uA
CKOVa3 1571 V 771 uA
CKOVa4 1626 V 807 uA
22.00 C 29.00 %
PMT5 a1
PMT8 a4
CKOV-A downstream n=1.07
PMT6 a2
PMT7 a3
CKOV-B
CKOVb1 1539 V 771 uA
CKOVb2 1539 V 795 uA
CKOVb3 1538 V 756 uA
CKOVb4 1495 V 737 uA
22.00 C 31.00 %
PMT1 b1
PMT4 b4
CKOV-B upstream n=1.12
PMT2 b2
PMT3 b3

Cherenkov plans and commissioning

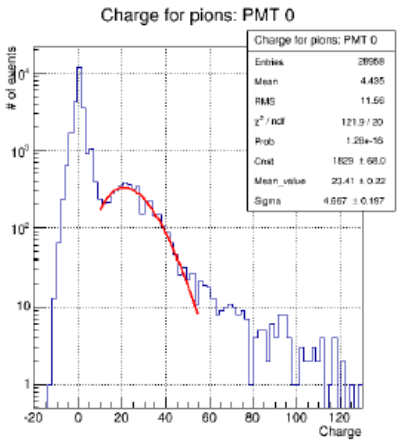
$$N_{pe} = \Sigma_{i=1-4} (Q_i - Q_{i\_0pe}) / Q_{i\_1pe}$$

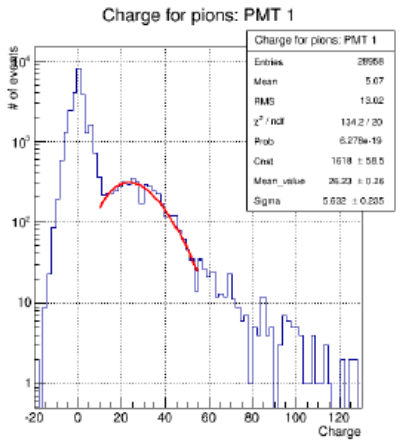
- Eight pedestals and eight 1pe gain calibrations needed.
- Pedestal and HV setting will be checked in summer and fall.
- Runs for Q_{0pe} and Q_{1pe} peaks scheduled during.
- Confirmed with LED pulser runs in fall.
- True reconstruction can only be validated with p_tracker values.

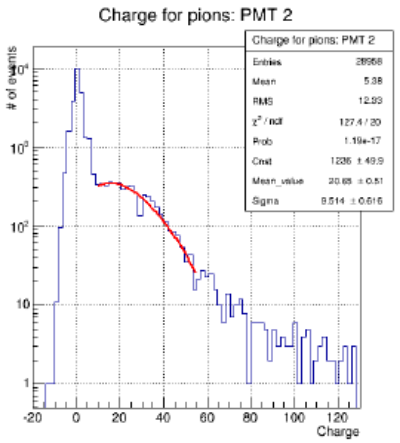
- Q_{0pe} and Q_{1pe} can be monitored with normal data runs.
- LED pulser and cosmic triggers are also useful.
- Online MAUS reco displays are very useful to monitor the CKOVs.

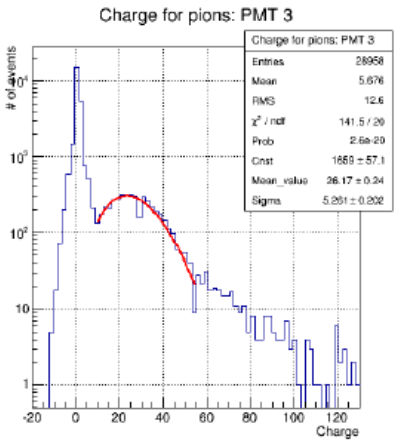
- IIT students studying pedestal, 1pe, and e+ trends in data.
- Similar monitoring can take place during Step IV running.

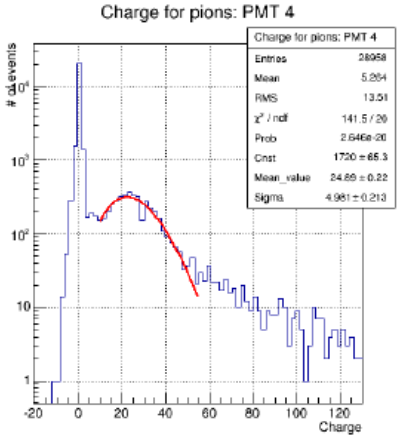
Stability: SPE Peaks

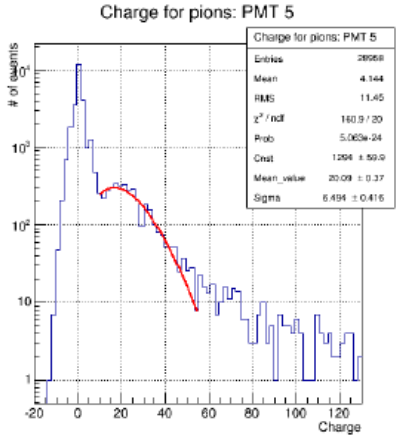


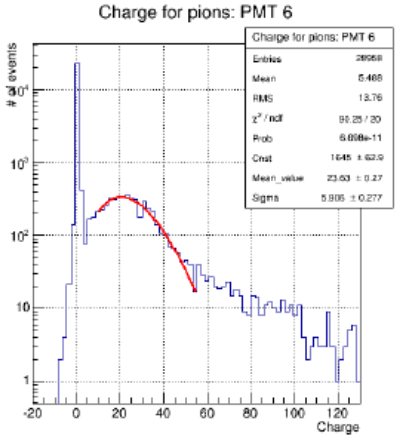


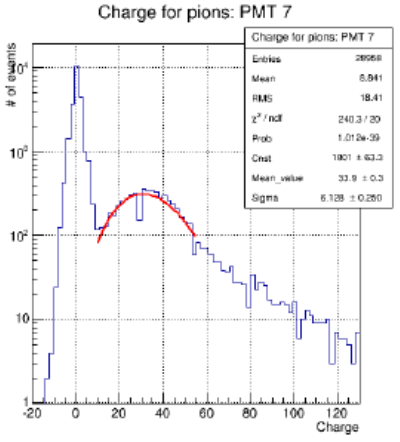












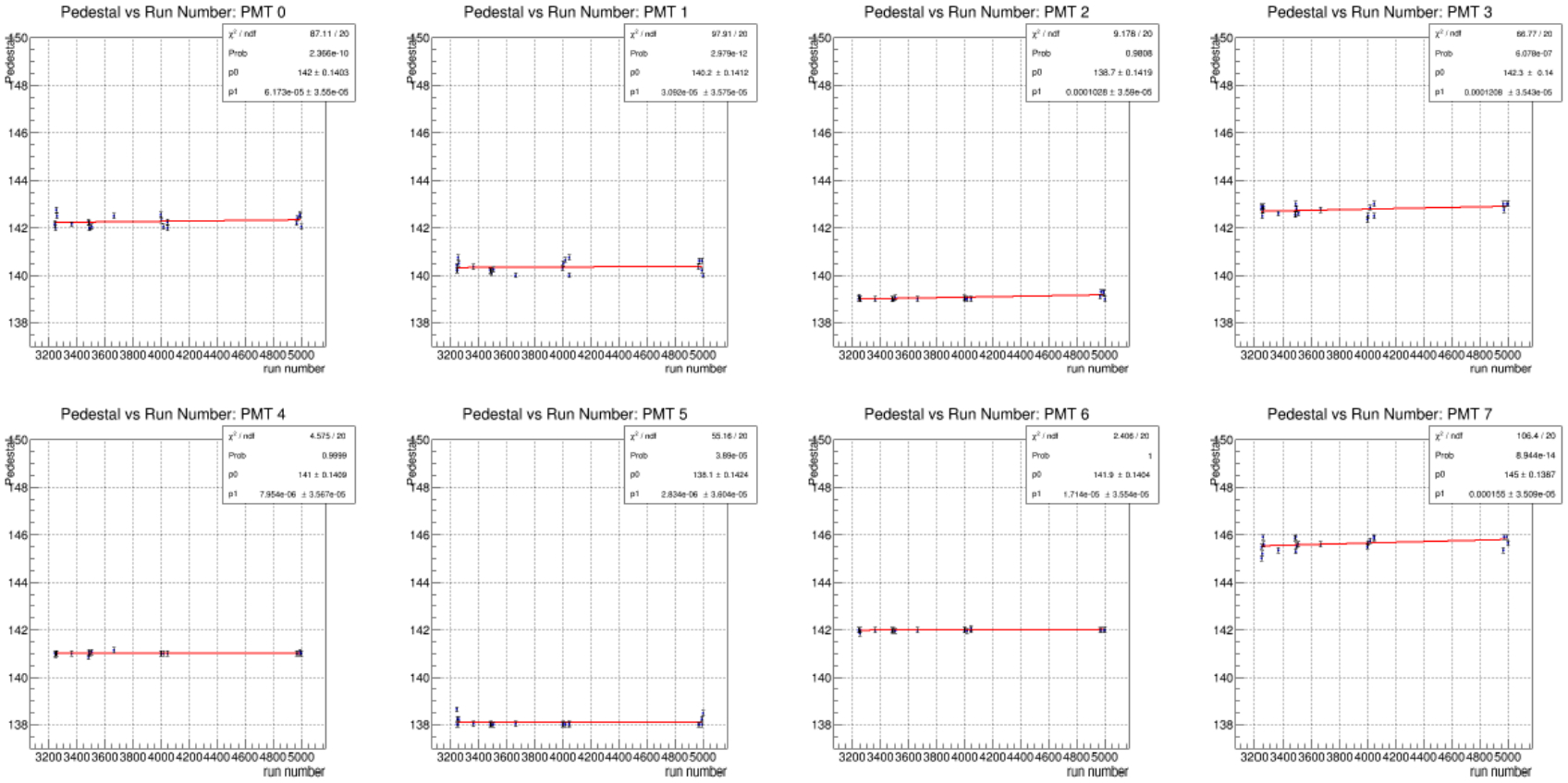
<u>Runs Used</u>

Positron run: Aug. 3, 2013
Runs 04996 & 04973
D1 = 259.70, D2 = 249.58

Sub-thres pion run: Aug. 5, 2013
Runs 04991, 04492, & 04997
D1 = 268.67, D2 = 265.98

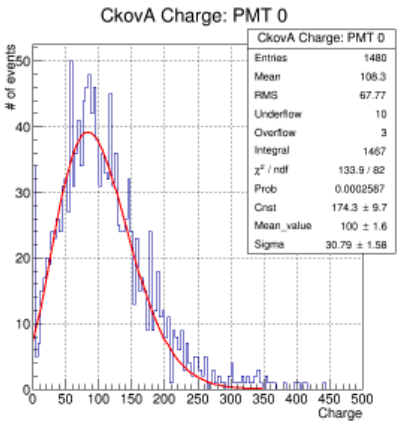
Pedestal Stability

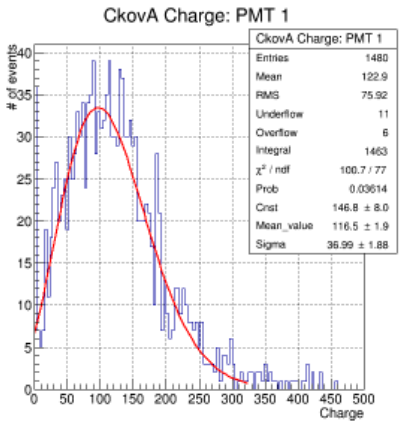
Linear fit used: all slopes within error of zero

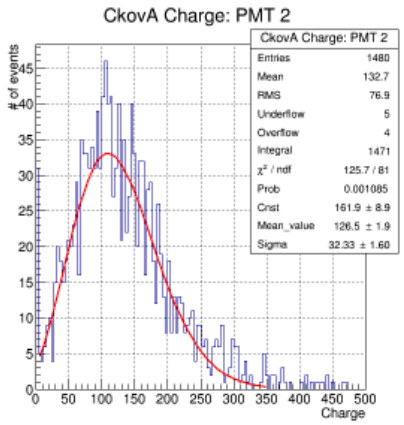


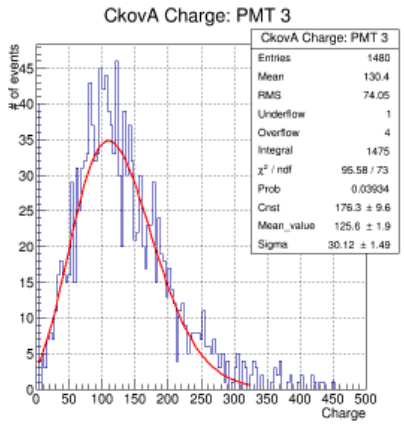
Runs Used: 22 runs ranging from Dec. 2011 – Aug. 2013
03240, 03243, 03245, 03251, 03255, 03364, 03483, 03487, 03488, 03489, 03503, 03661, 03999, 04000, 04018, 04045, 04046, 04966, 04973, 04991, 04992, 04997

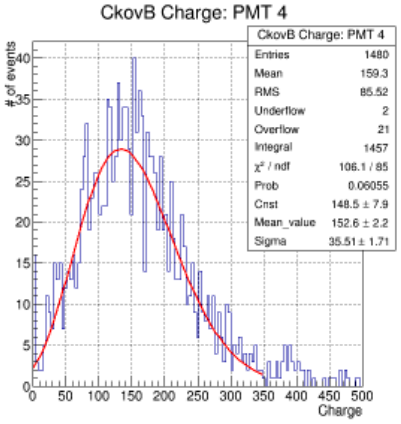
Positron Peaks: Run 04997

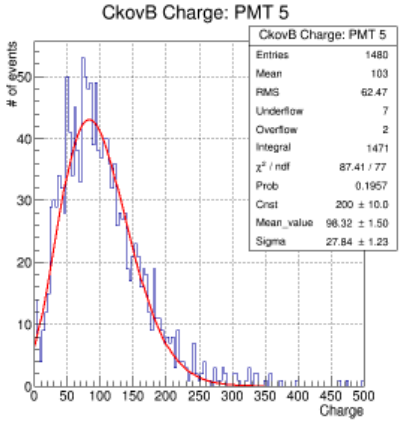


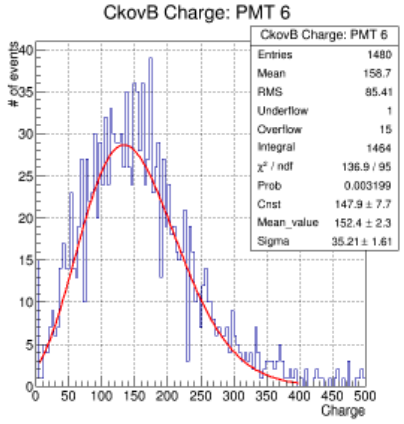


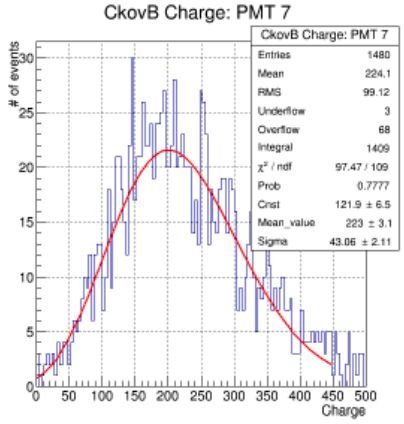












<u>Run Used</u>

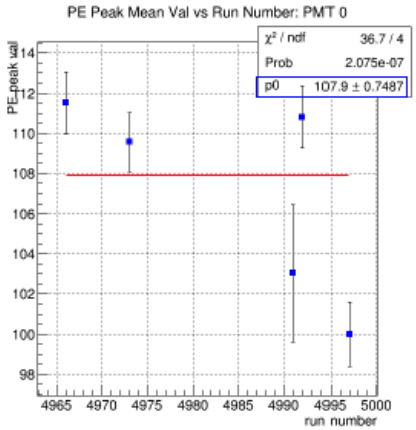
Sub-thres pion run

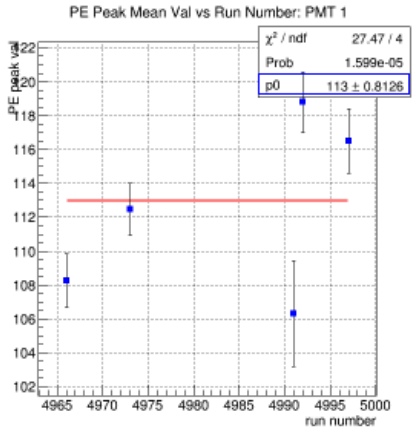
Aug. 5, 2013

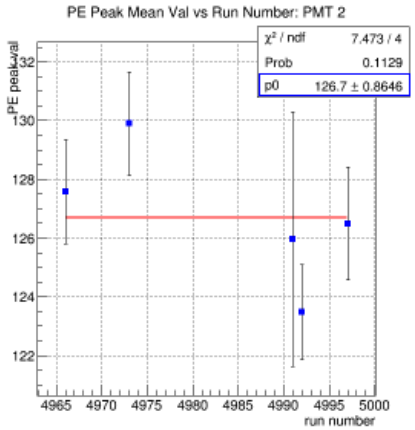
D1 = 268.67, D2 = 265.98

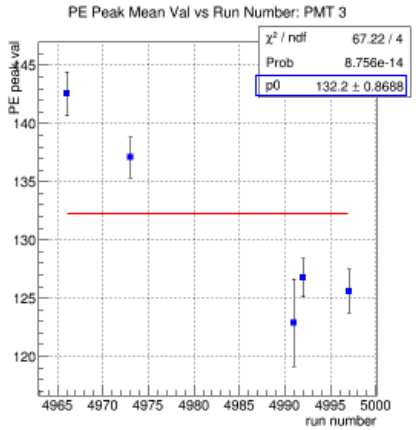
Stability: Positron Peaks

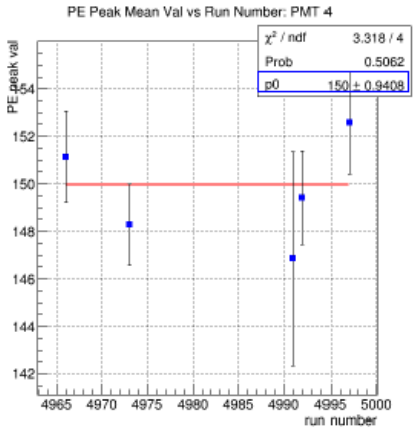
zeroth order polynomial fit used: estimated val is in blue box

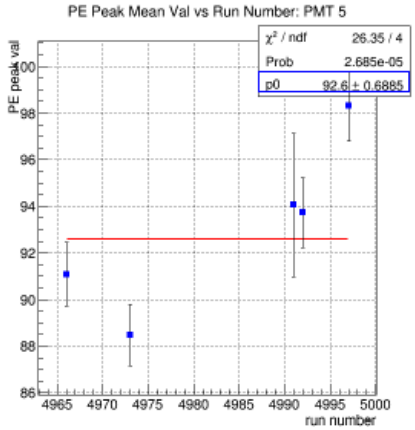


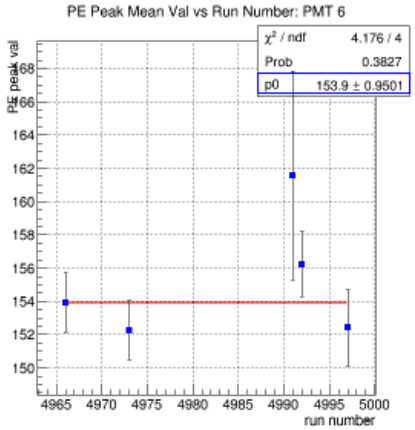


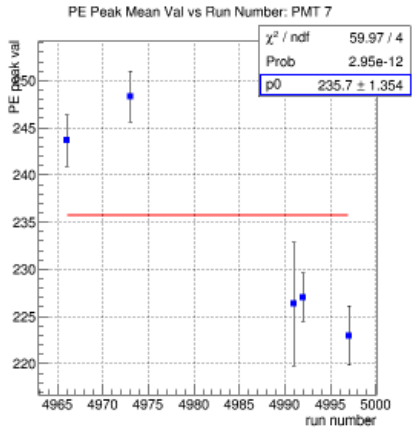












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Runs 04991, 04492, & 04997
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Activation Study - 28/29th June 2014

The purpose of the run is

1. to measure the increase in activation of ISIS due to MICE target running at MS/64 and 4V beamloss (comparison with February 2013).
2. Perform a TOF calibration
3. Perform a CKOV HV scan and (time permitting) a momentum scan to measure CKOV momentum threshold

CKOV HV scan run

To be carried out simultaneously and parasitically with the TOF calibration run on electron beam as shown above
Previous run to be split into 5 runs with 5000 pulses each run, scanning in a range of +- 50 V around nominal settings for CKOV HV settings

Run type	Number of pulses	CKOVa1	CKOVa2	CKOVa3	CKOVa4	CKOVb1	CKOVb2	CKOVb3	CKOVb4
	#	V	V	V	V	V	V	V	V
Default CKOV HV	5000	1610	1520	1570	1625	1540	1590	1540	1495
Default CKOV HV - 50V	5000	1560	1470	1520	1575	1490	1540	1490	1445
Default CKOV HV - 25V	5000	1585	1495	1545	1600	1515	1565	1515	1470
Default CKOV HV + 25V	5000	1635	1545	1595	1650	1565	1615	1565	1520
Default CKOV HV + 50V	5000	1660	1570	1620	1675	1590	1640	1590	1545

CKOV HV scan run

If there is still time to perform more runs, return the CKOV HV to its default settings. Then we will do a momentum scan on the pion momentu
actuations each run.

Number of pulses	Particle Species	p at Tgt	p@D1	p@D2	Proton Absorber	Q1	Q2	Q3	D1	DS	D2	Q4	Q5
#		MeV/c	MeV/c	MeV/c	mm	A	A	A	A	A	A	A	A
2000	pion	300	268.67	265.98	29	57.8	105.6	64.6	202.8	---	100.4	176.8	237.1
2000	pion	325	321.5	319	83	69.1	126.3	77.31	246	---	119.6	212.4	284.8
2000	pion	350	346.58	344.14	83	74.5	136.1	83.3	267.7	---	128.8	229.2	307.4
2000	pion	375	371.6	369.2	83	79.8	146	89.4	290.4	---	137.9	246	330
2000	pion	400	396.7	394.3	83	85.2	155.8	95.4	314.3	---	147.1	262.8	352.5
2000	pion	425	421.7	419.36	83	90.55	165.6	101.38	339.36	---	156.26	279.61	374.97