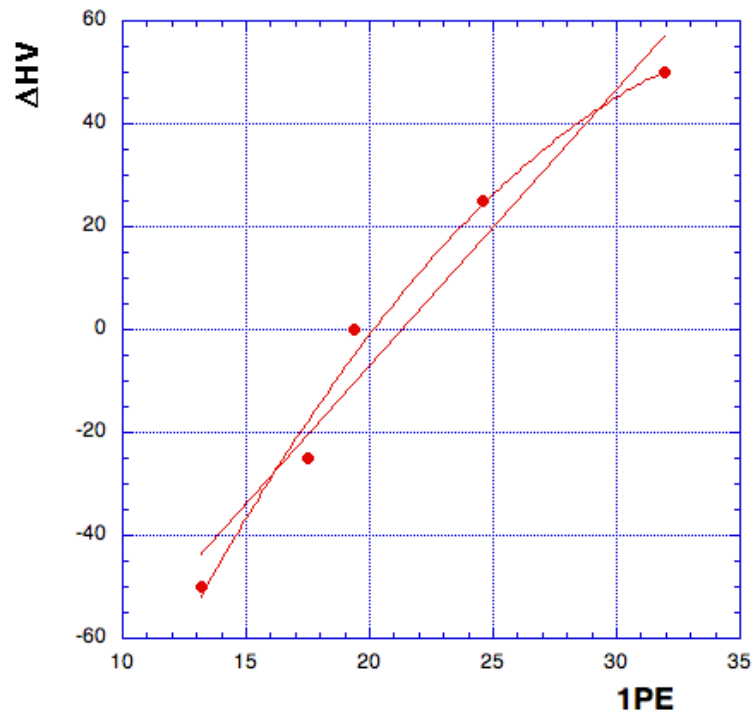


MICE CKOVs - Brief Update

Miles Winter, Michael Drews, Dan Kaplan (IIT), Lucien Cremaldi (UM) +others

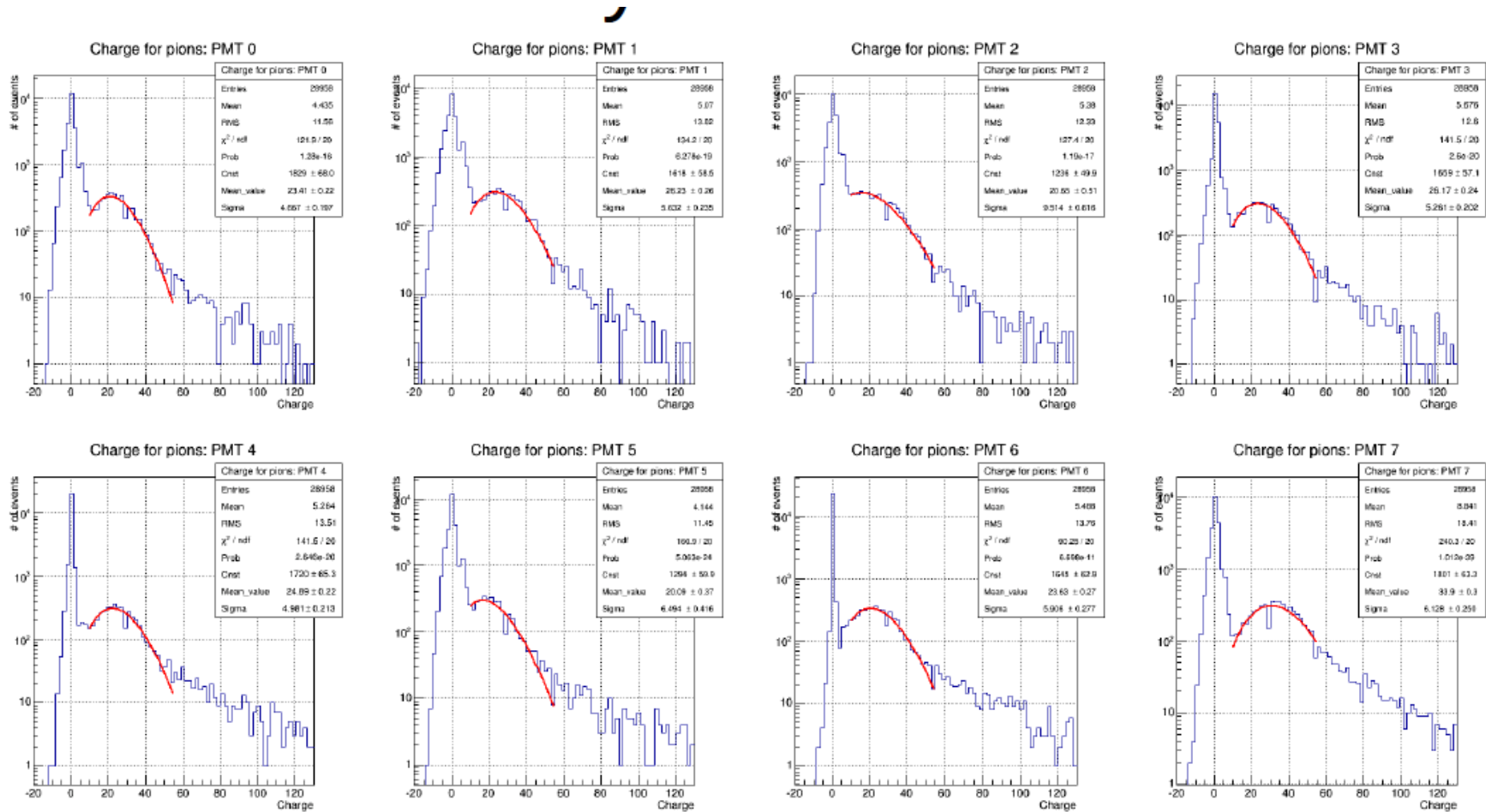
- Hardware update.
- Thresholds and calibration.
- Detection of high momentum muons and pions.

- HV scan was performed summer 2014 with CAEN ST1527 HV.
- Nominal default HV settings are determined to balance gains.
- New SY4527 +HV module is being installed and we should verify that gains have not changed.
- With a quadratic fit and adjusting 1PE=25, the results are given below.

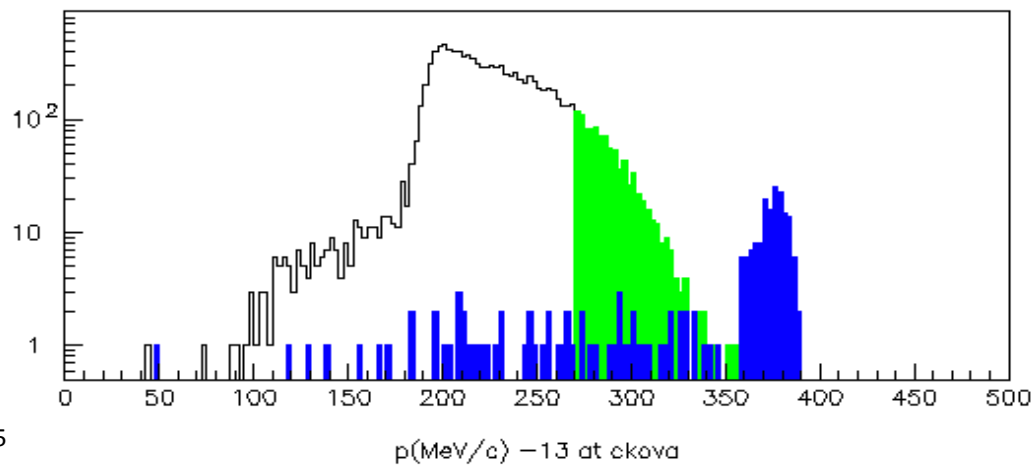
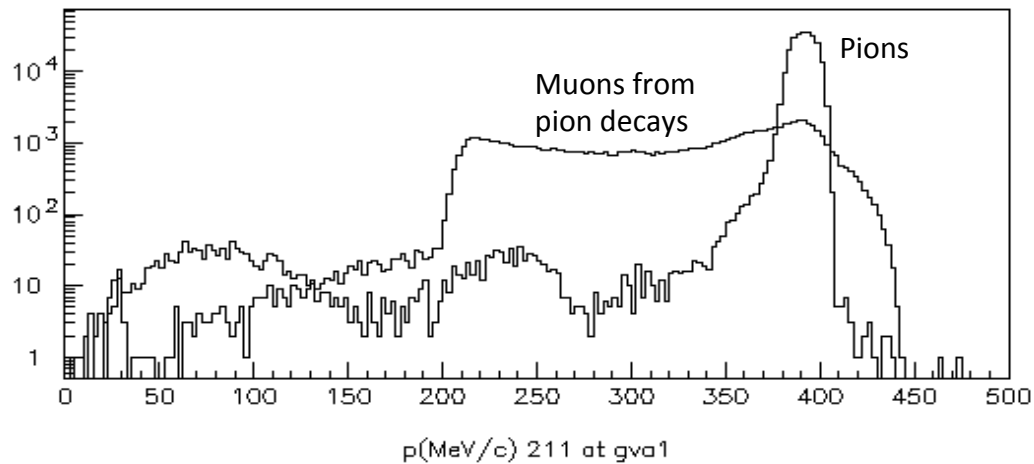


PMT0	HV0	delta_HV	HV_NEW
PMT1	1610	25.8	1635.8
PMT2	1520	6.8	1526.8
PMT3	1570	28.7	1598.7
PMT4	1620	3.0	1623.0
PMT5	1540	-10.5	1529.5
PMT6	1715	16.9	1731.9
PMT7	1550	-15.3	1534.7
PMT8	1500	-27.2	1472.8

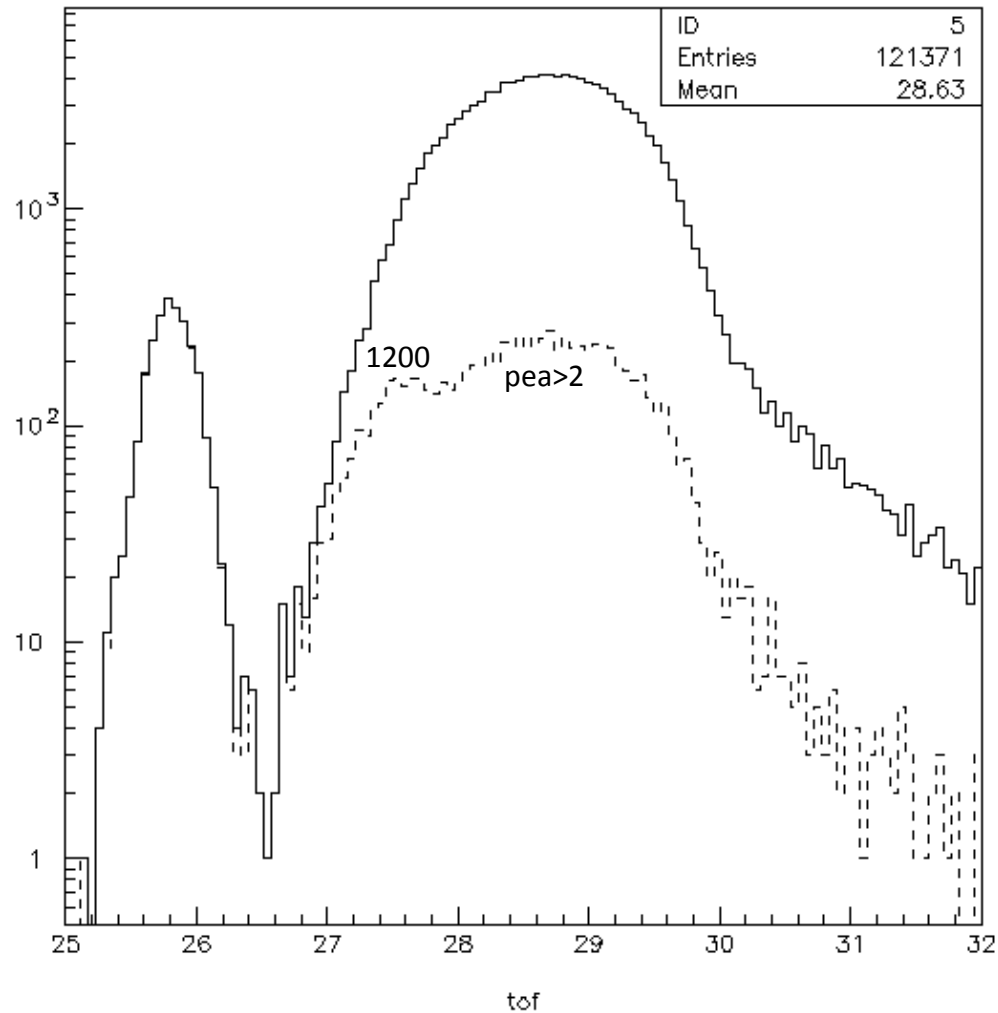
- Example of muon/pion data from which 1PE signals are easily extracted.



- Looking at high momentum pion/muon.
- G4BL momentum spectra at the exit of DS (top).
- G4BL PD2 = 237 MeV/c Spectra at CKOVa (bottom).
- Expect small signals in CKOVa muons $p > 270 \text{ MeV/c}$ and pions $p > 355 \text{ MeV/c}$.



- In muon data, with a $pea > 2$ cut we see about 1200 fast pions/muons in a sample Of 120,000 muons or about 1%.
- Separation of muons and pions can only be made at the MC level, but the signal is dominated by muons from pion decays.



- We are working on MAUS simulation of photoelectron yields. These are working at some level and need to be implemented in MAUS.
- We are working on CKOV efficiency corrections.
- More details at CM42