

International Neutrino Summer School 2011

18 - 30 July 2011, Geneva, Switzerland



NEXT-1 Prototype

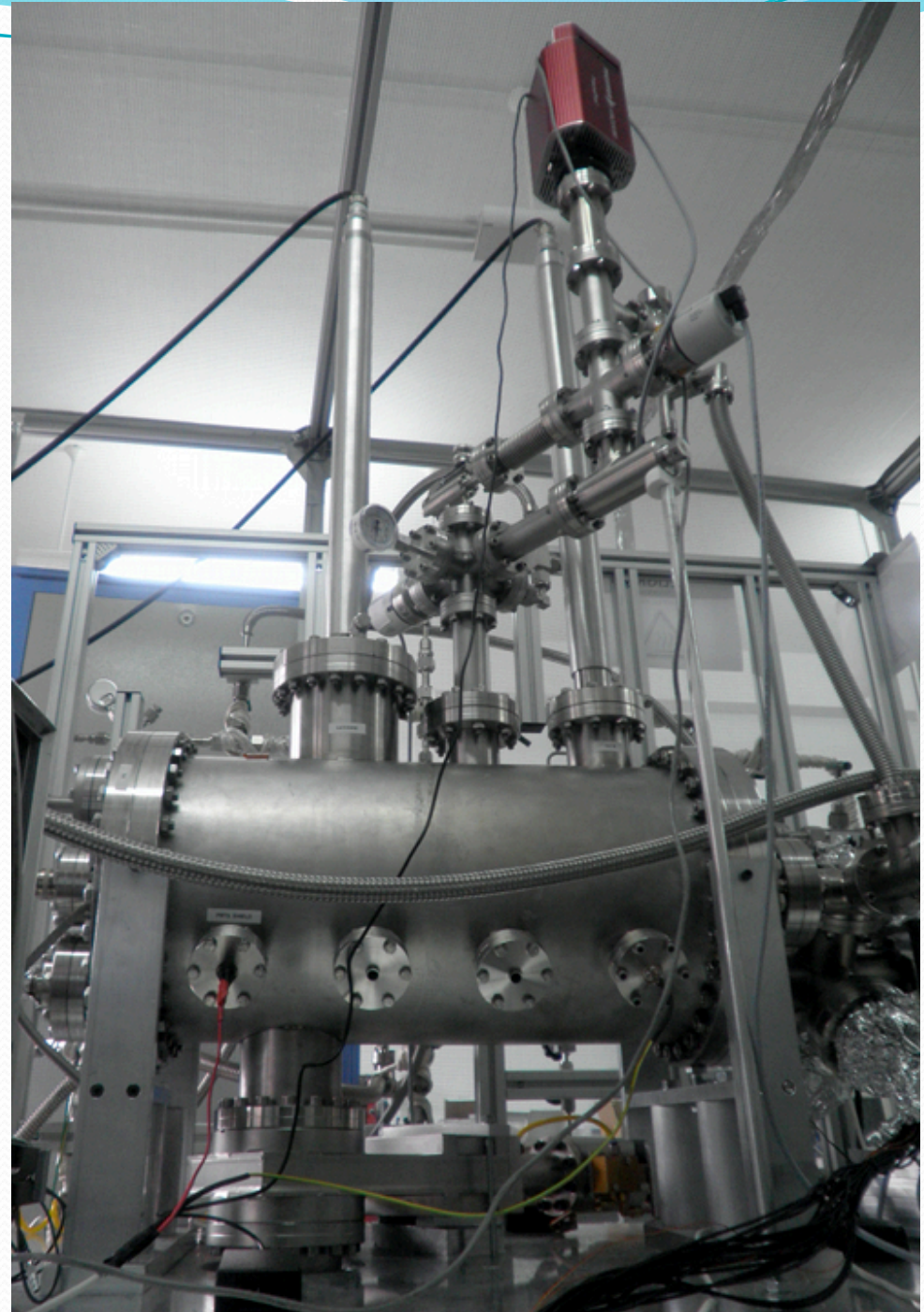
David Lorca, Paola Ferrario, Luis Serra
on behalf NEXT-EL Collaboration



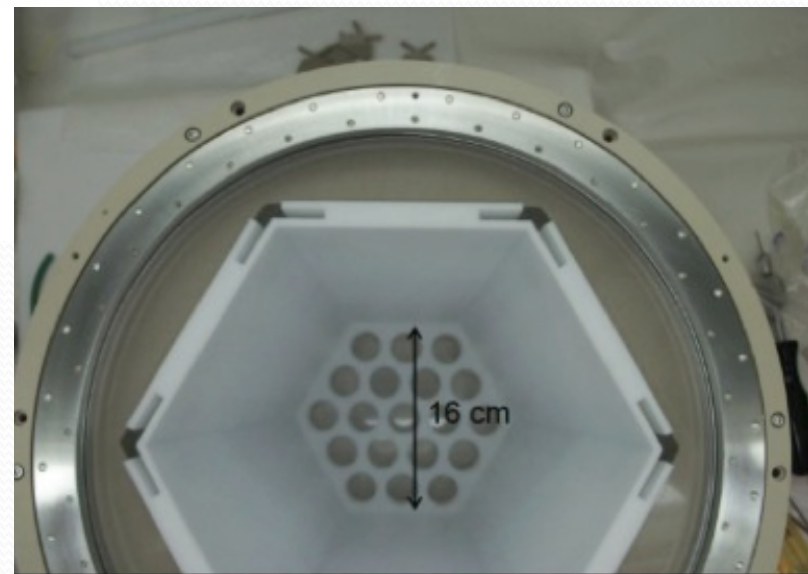
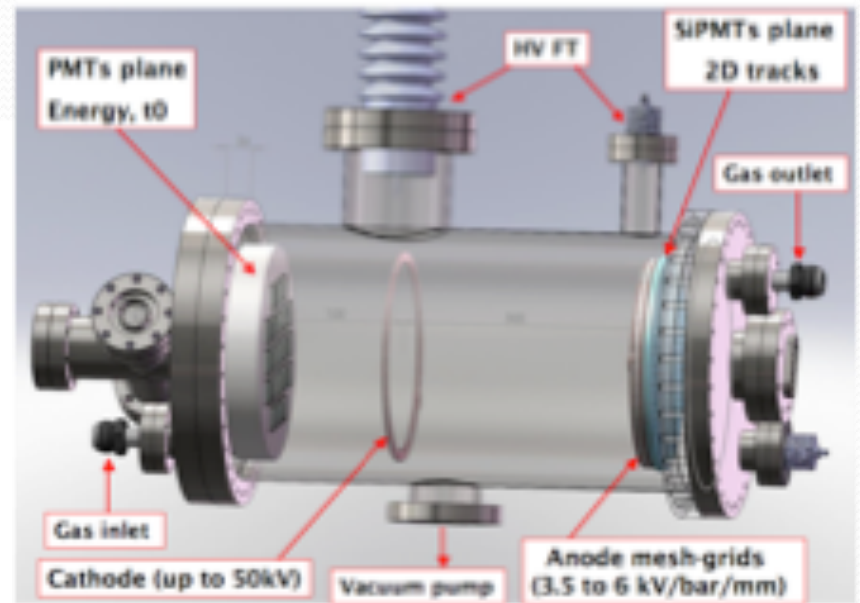
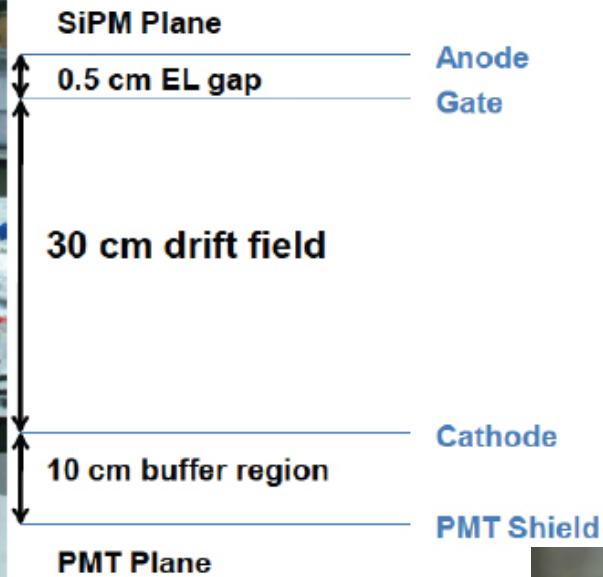
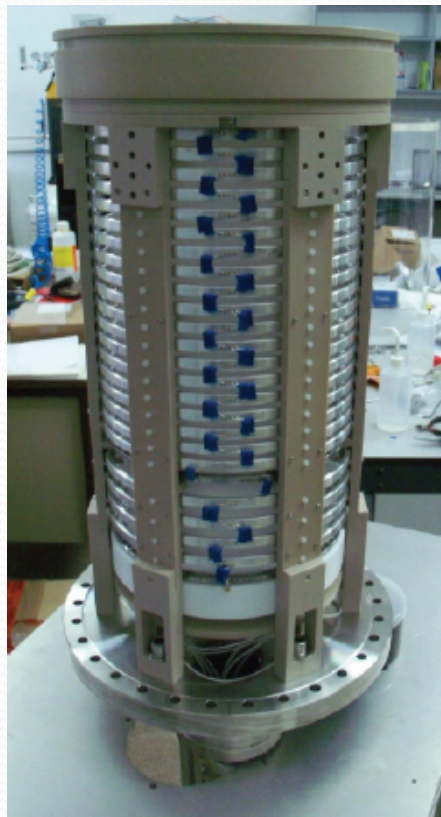
After big effort...



We have
NEXT-1
prototype
operative:

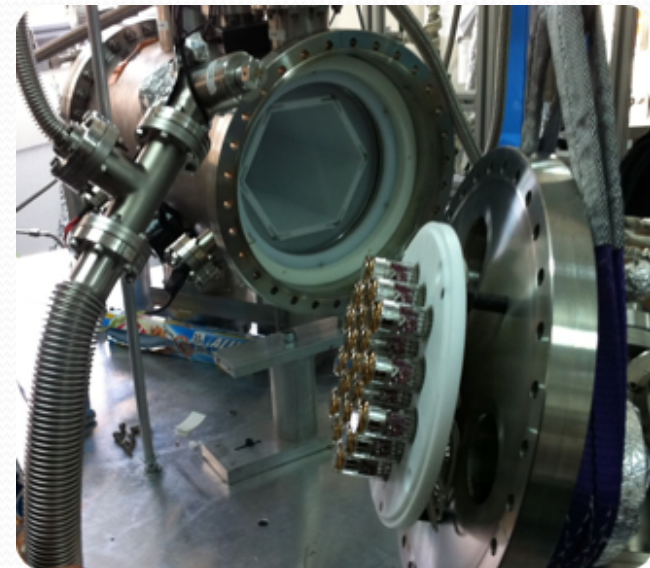
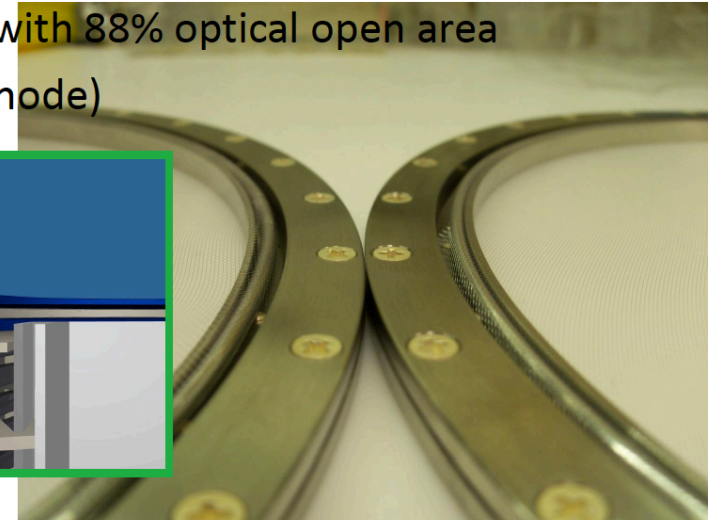
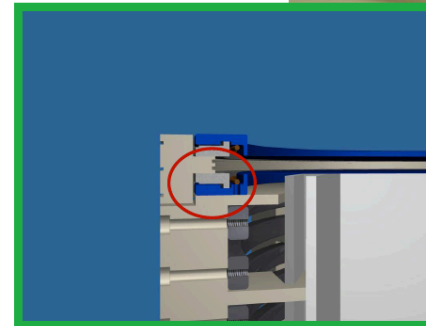
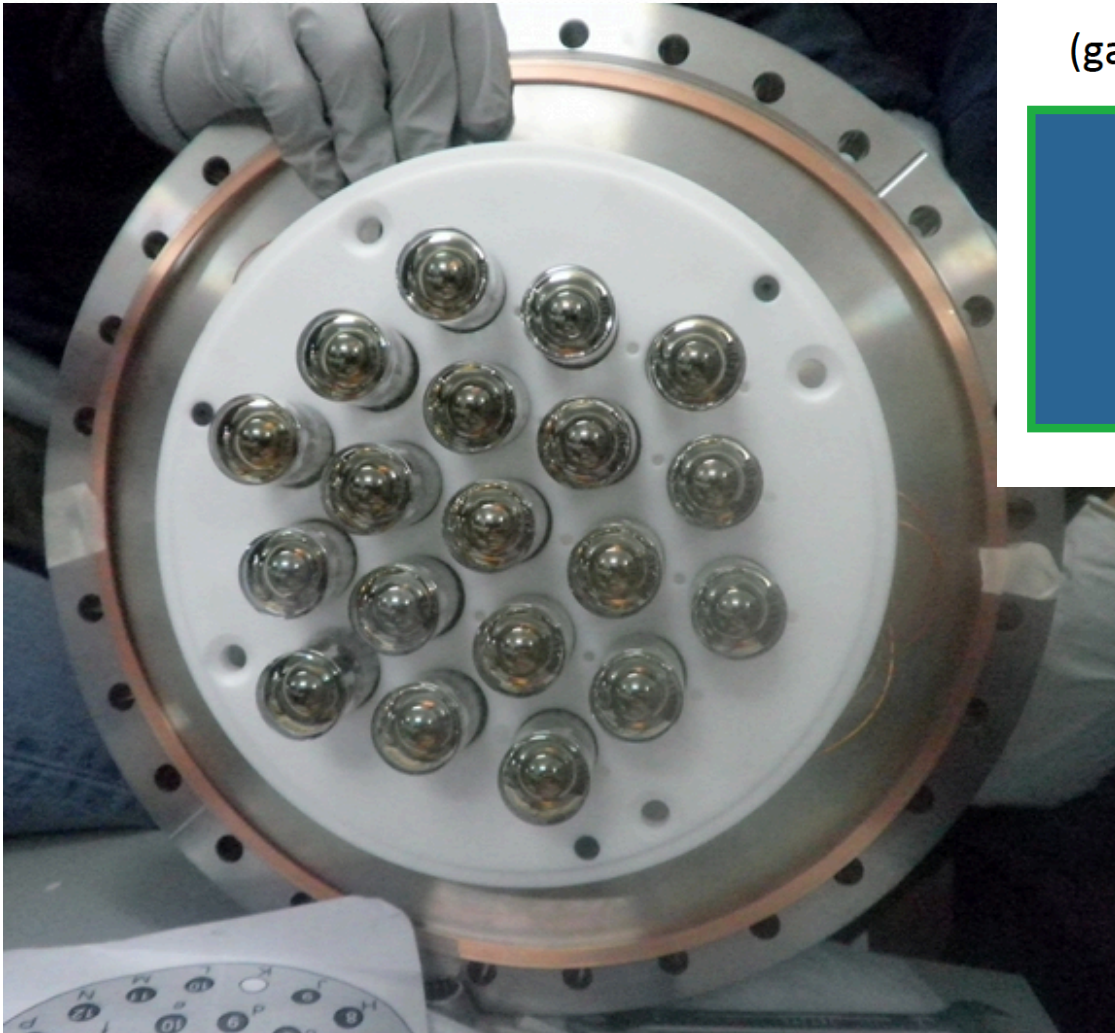


Inside NEXT-1



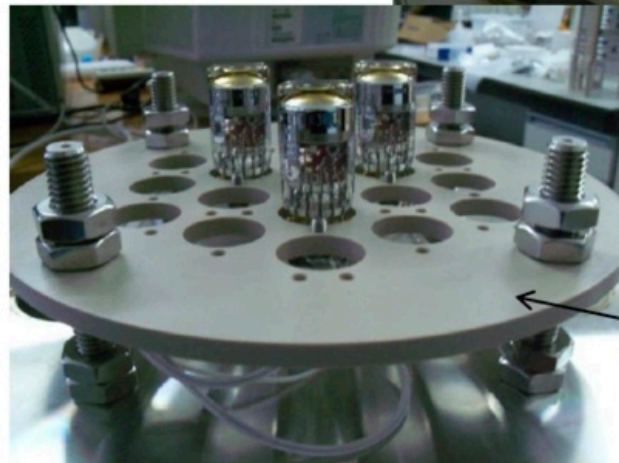
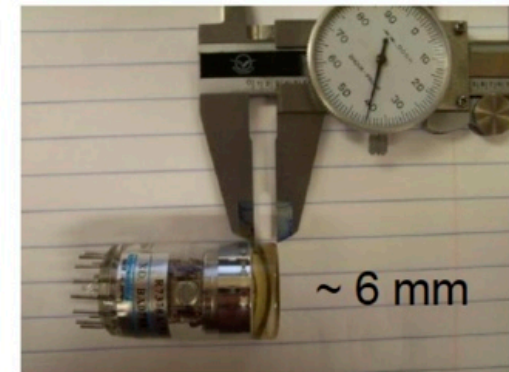
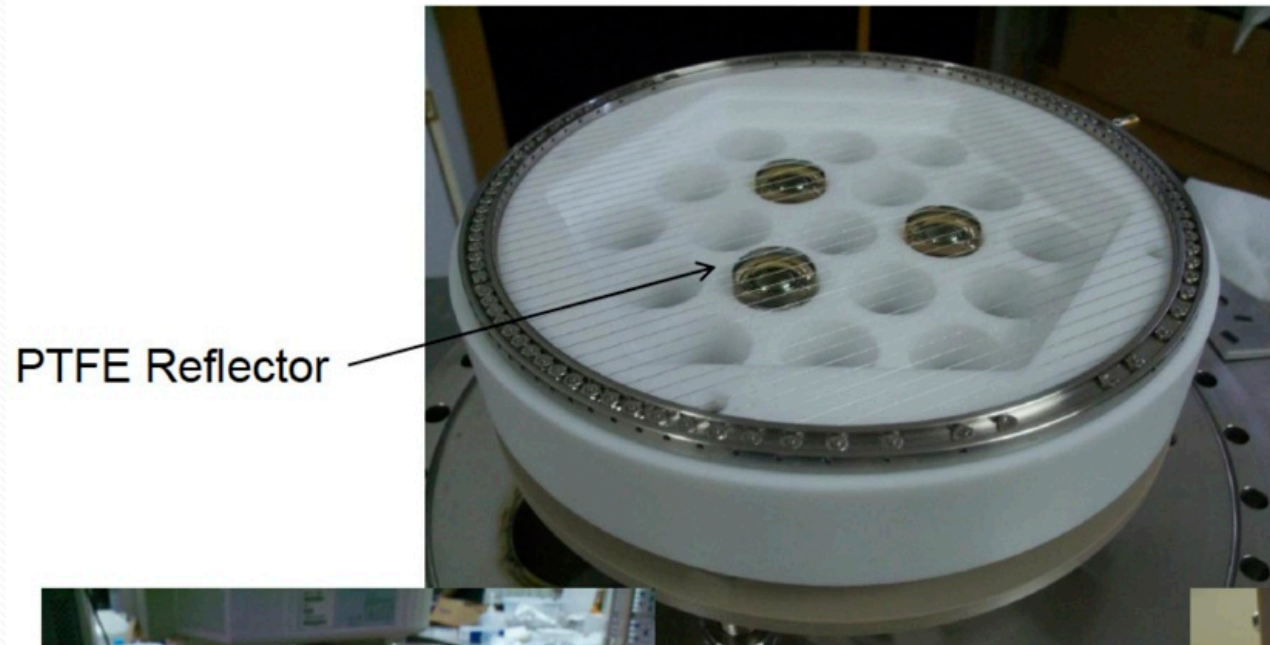
Inside NEXT-1

- Mesh grids with 88% optical open area (gate and anode)



Inside NEXT-1

Field Cage Breakdown – PMT Plane



NEXT-1 Working Parameters

- Pressure [5-10] bar.



- HV:

- Cathode: [20-35] kV



[300-800] V/cm

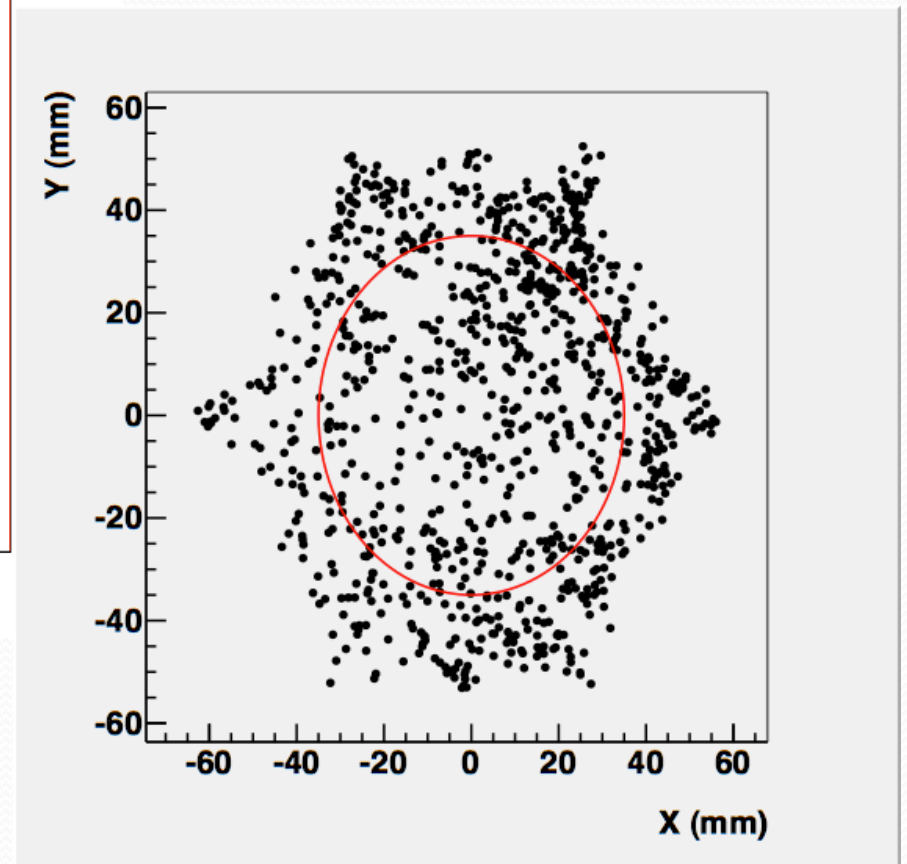
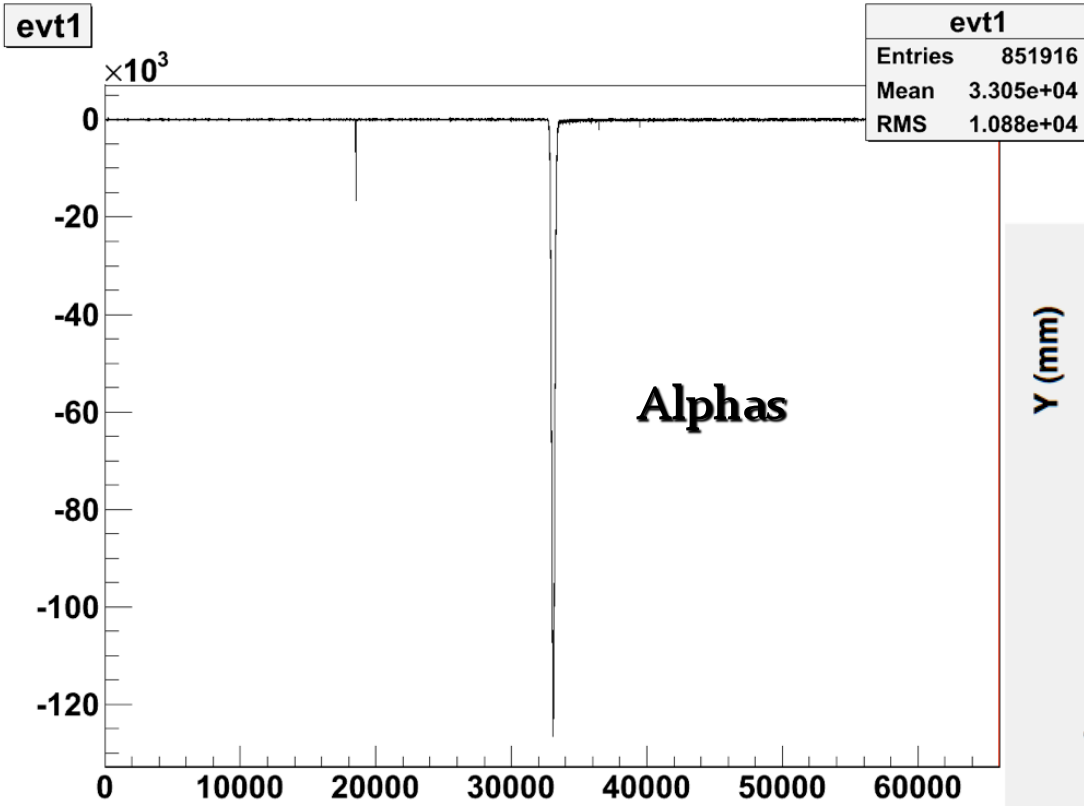
- Anode [8-16] kV



E/p: [2.5-3.5] kV/cm/bar



NEXT-1 Data

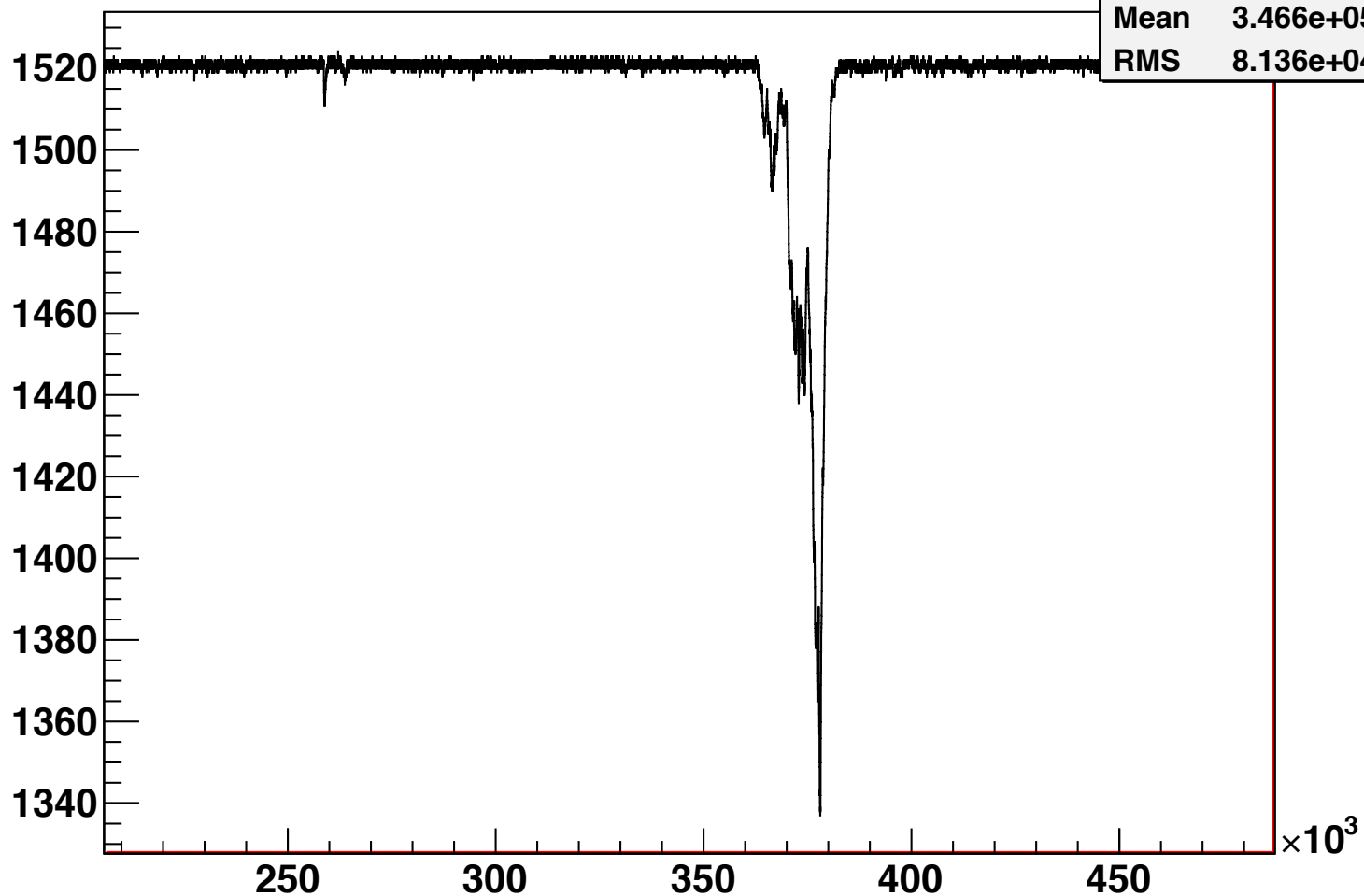


NEXT-1 Data

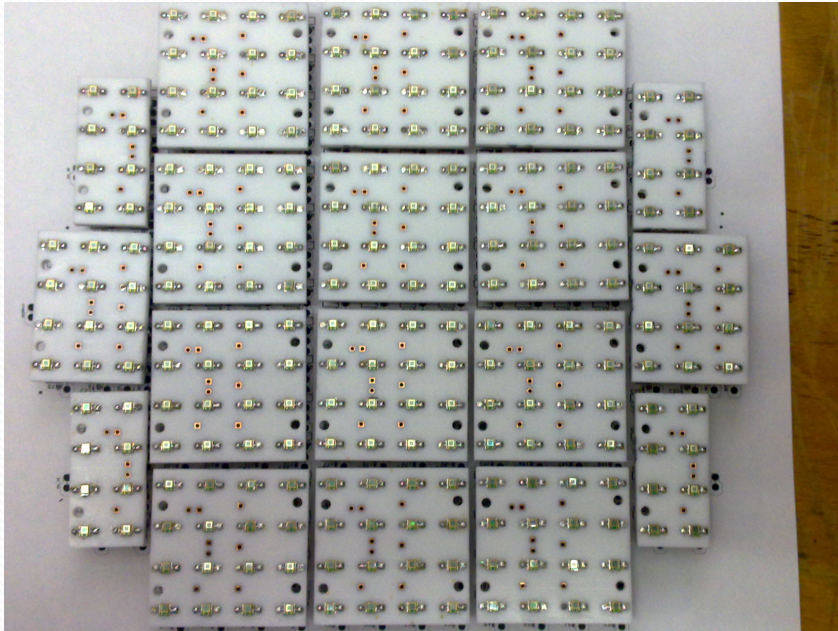
wvf_name_evt_2_ch_30

wvf_name_evt_2_ch_30

Entries	32760
Mean	3.466e+05
RMS	8.136e+04



Si-PM Plane

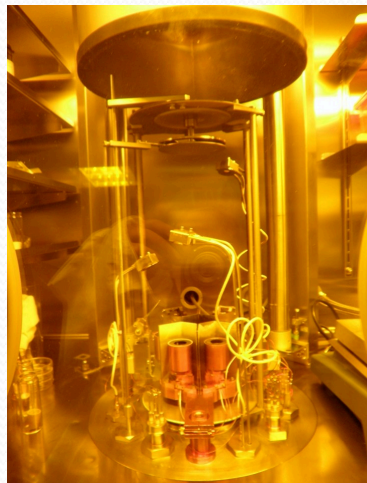


248 Si-PMs coated with TPB.

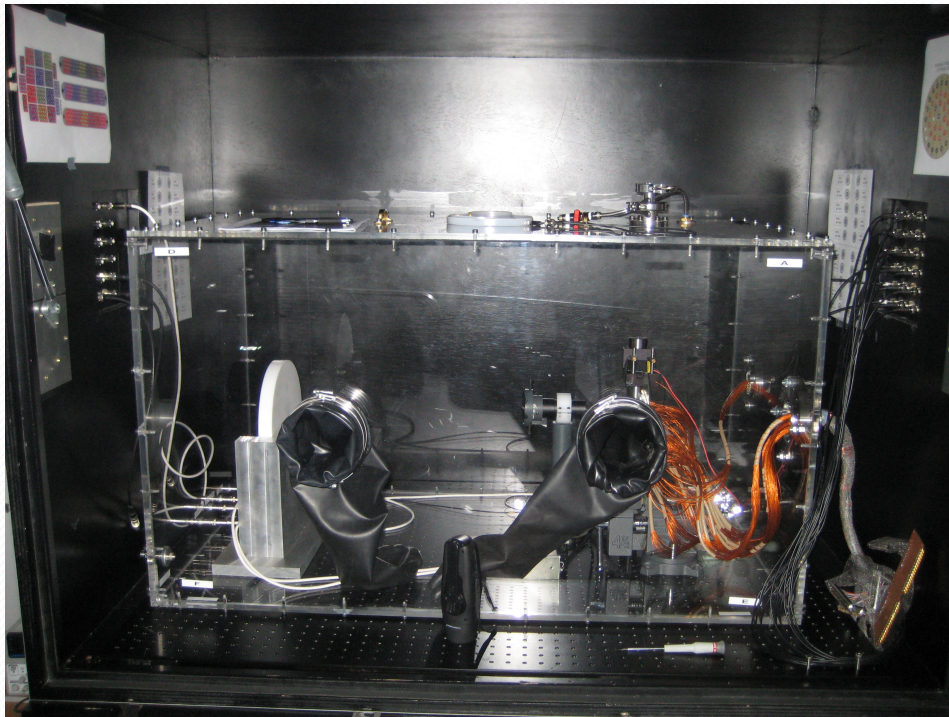


Thickness :: $0.1 \text{ mg/cm}^2 \approx 130 \text{ nm}$.

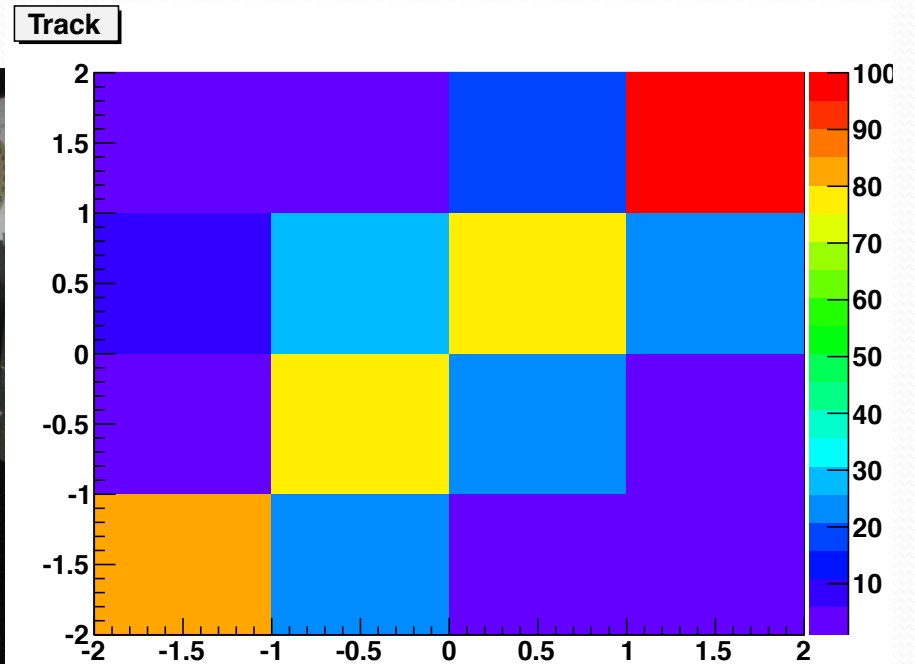
Improve the sensitivity to VUV.



Independent Setup



Nitrogen Chamber



First Tracks!!!

NEXT-1 Plan

- Measure Energy Resolution.
- Tracking Reconstruction.
- Stability of the Chamber.



Thank you