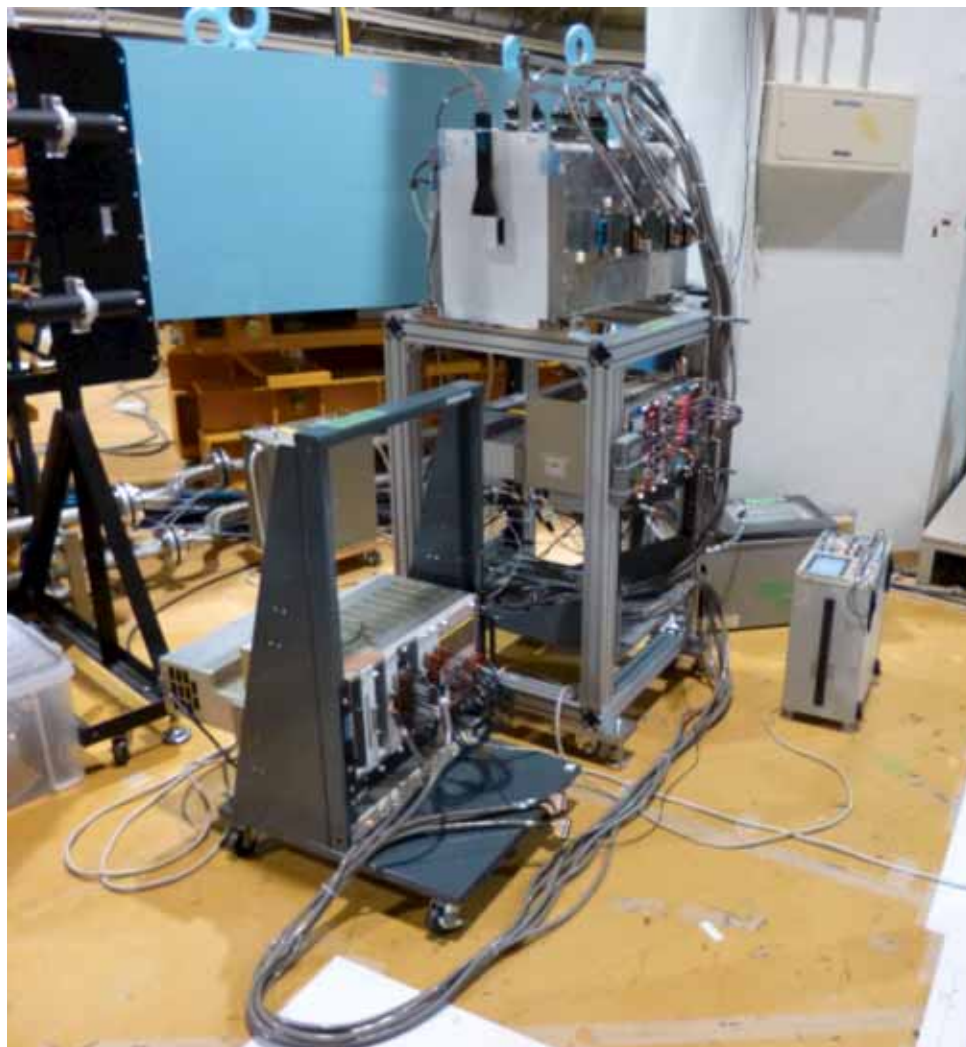
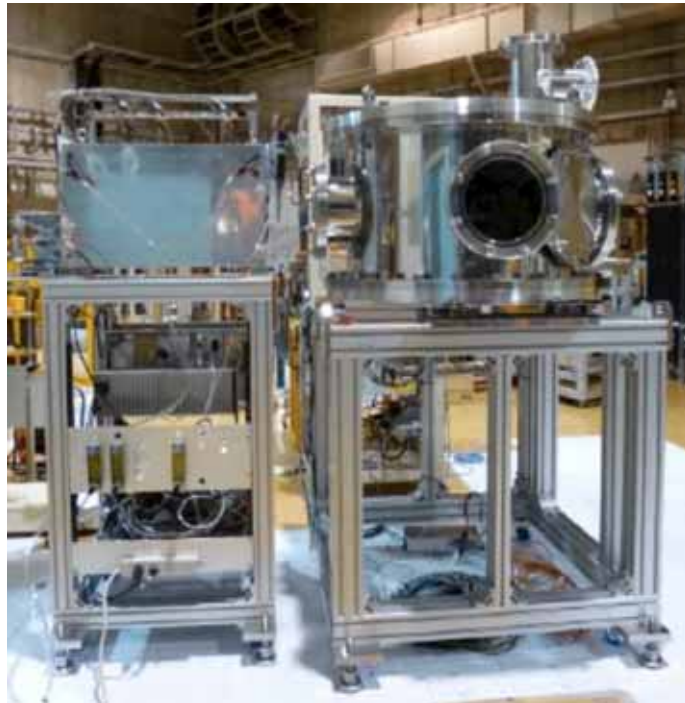


Initial Check of BDC @HIMAC

15-Feb-2016
Kobayashi T.



- Transport
 - BDC moved into exp. hall : @~14:00 15-Feb-2016
- Gas (Ar + 50% C₂H₆) flow
 - flow rate ~ 0.38 L/min, 14:15~
 - HV test started @19:30~
- Check length of gas pipes & AC cable



BDC & Scat. Ch.

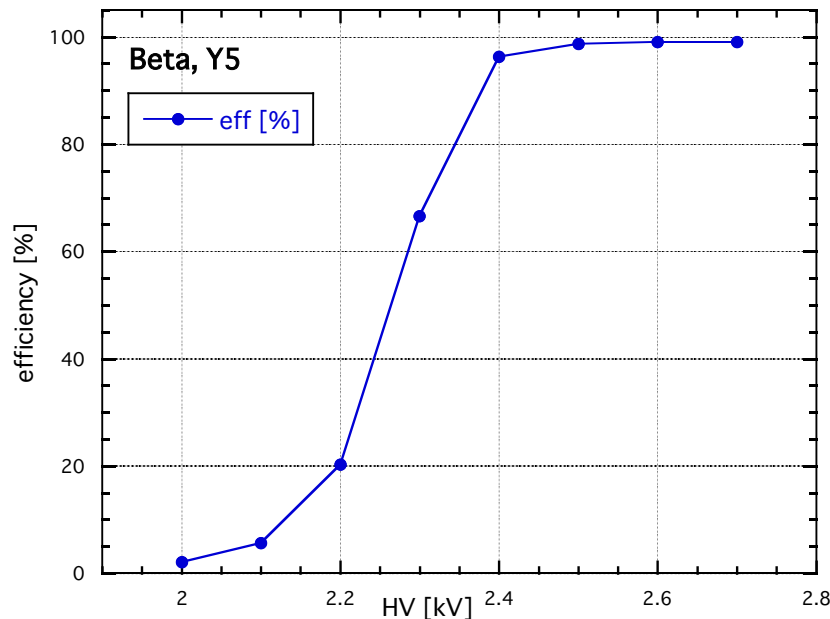


Gas pipes to bottle & ref.



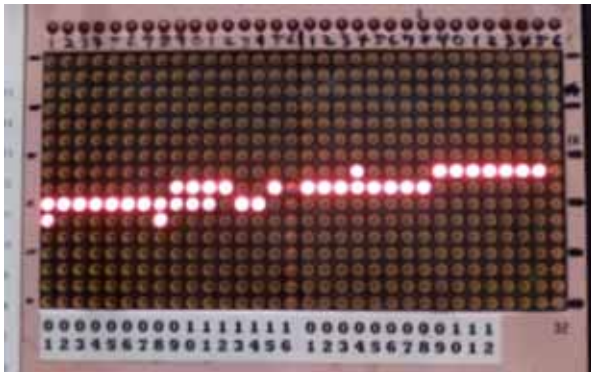
AC cable

- HV plateau check using coincidence modules & scalers
 - β -ray source : ⁹⁰Sr, 10⁴ Bq (weak), w/o collimator
 - Trigger scintillators :
 - S1 (50 x 50 x 1 mm^t), S2 (65 x 65 x 5 mm^t)
 - trigger rate : ~2.5 Hz (very low)
 - Other conditions
 - $\tau(\text{ASD}) = 16$ nsec
 - $V_{\text{th}}(\text{ASD}) = 0.8$ V
 - Coincidence gate width = 400 nsec
 - local HV module
- HV plateau for Y5 plane

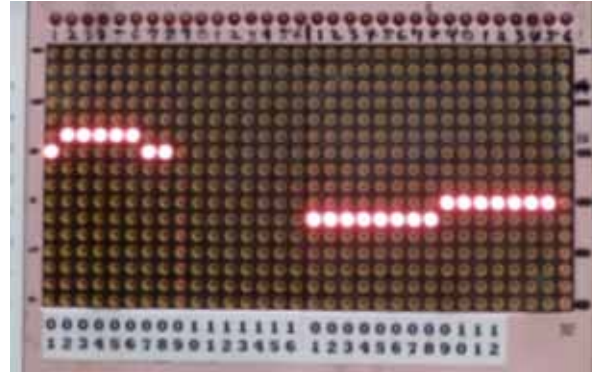


- HV ($\epsilon=50\%$, Ar/C₂H₆)~ 2.27 kV
- cf
 - HV ($\epsilon=50\%$, Ar/CH₄)~ 1.9 kV
- $\Delta\text{HV} \sim 0.37$ kV

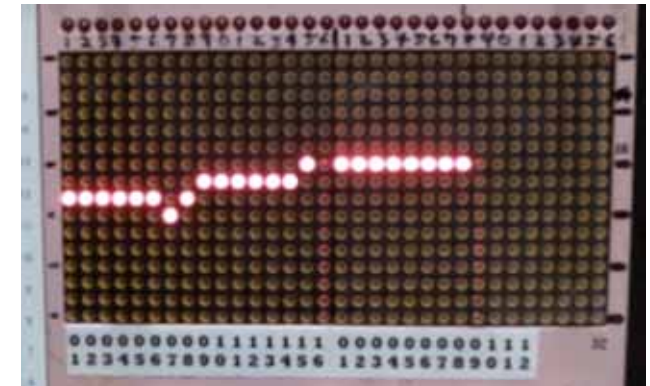
- check dead channels
 - using β -rays @HV=2.55 kV
 - using 32ch visual scaler by monitoring singles count rate
 - scale : log, accumulation time : 10 sec
 - no dead channels



y1, y2, y3, y4



y5, nc, x1, x2



x3, x4, x5, nx

- check noise using local HV module, by looking at visual scaler
 - no noise at HV= 1.0 kV
- HV module in counting room connected via 60 m-long SHV cable
 - no noise at HV= 1.0 kV, by looking at visual scaler
 - efficiency check at 2.6 kV : $\epsilon = 98.8\%$: seems OK

- Gas flow with correct 2-propanol concentration
 - flow rate : 60 cc/min Ar/C₂H₆ + 20 cc/min Ar/C₂H₆+2-Propanol
 - above flow rate is for flow meter for He/CH₄
 - since 20:00 15-Feb-2016
- Refrigerator for 2-propanol
 - temperature : ~ 5.5 °C
 - stability : ~±0.5°C (tested for about 4 hours)
- plan of Kobayashi
 - Sendai : 16-Feb (Tue) ~ 19-Feb (Fri)
 - HIMAC
 - 20-Feb (Sat) ~ 24-Feb (Wed) morning
 - would like to test BDC using DAQ system
 - 26-Feb (Fri) evening ~ 28-Feb (Sun)