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Memo on 2015 fall runs

- Standard detectors

SBT

- SBT T-pipe
  - rotated ~ 8 mrad from horizontal line (~5 mm at both ends)
  - exit window : 125 um-thick Kapton glued, ID 140
    - 真空に引くと恐ろしげにへこむ: 真空引きの時にはお手柔らかに
  - light shield
    - 40 um-thick AL foil, light leak OK : to be changed to 16 um-thick AL foil + (black sheet?)
    - 多分、真空リーク時と真空引時はカバーを外した方が良い
  - cables in SBT-pipe : teflon cables too rigid. : to be changed to softer teflon cables
- SBT
  - scintillator : 0.2mm-thick EJ200 with 3 mm-thick lucite frame, w BC630 optical grease
  - wrapping : 12um-thick Al (both side)-Mylar : 4 sheets
  - signal check in vacuum
    - vacuum ~ 6×10^{-3} torr with rotary pump. slightly worse with HV on (?)
      - checked for ~ 1 week @1.5kV, power~ 1 W
    - checked by ^{137}Cs source placed outside
      - signal (~0.5 MeV equiv.) ~20 mV for 2 mm-thick plastic @1.5kV
      - < 10 mV for 0.2 mm-thick
- beam line
  - VF250-VG250 (L750)+VF250-VG250 bellows (L200) : ready for installation [Otsu]

Upstream Detectors

- control for CAEN HV (rs232c), Mesytec SA (usb)
  - Raspberry Pi : node= 10.32.16.109
- ICB
  - signal checked by α source
  - ターボに起因すると思われるノイズ（スパイクノイズの微分とリンギング）有り。α信号の~1/3
- BDC
  - V_{th}= -0.4 V
    - no noise (including turbo pump origin) with HV connection to B3F
  - gas pressure control @50 torr : checked for ~2 days
- KDC (parasite)
  - frange + vacuum window (8~16 um aramid for both impact & proton) : to be glued
  - parts + stand + gas system : ~ready. to be installed
  - need to add 64ch VME TDC : eid?
- FDC1
  - no noise @V_{th}= -0.4 V
  - new DAQ, pulser test
    - 磯部さんにお願いしているが、まだこちらの準備が整わず。
  - gas flow test : 未
  -

Downstream Detectors -1

- Detector Gas
  - 夏休中は窒素パージ：ボンベ～4本。ただし時々ガスが切れていたので空気が入った可能性大。
  - FDC2 set back to the standard position : 17-Sep-2015 afternoon
    - 大分最初の予定から遅れたが、gas flow from 17-Sep-2015 night
  - FDC2
    - He+60%CH_4, 5 new bottles (47L, 11.8 Mpa)
    - flow rate~ 0.3 L/min w ~0.4% 2-propanol, using 2 MFC's
      - 17-Sep-2015 ~ 8-Oct-2015 (~3 weeks): V_{tot}~5 x V_{FDC2} ~ 2 bottles
    - MFC's & refrigerator for 2-propanol are connected to CGS AC line
  - ICF
    - P10, 4 new bottles (47L, 14.7 Mpa)
    - flow rate~ 0.15 L/min
      - 17-Sep-2015 ~ 8-Oct-2015 (~3 weeks): V_{tot}~12 x V_{ICF} ~ 0.7 bottles

Downstream detectors -2

- FDC2
  - position : detector center @60° line, 674 mm on ruler
  - gas, control, HV lines connected
  - no noise @V_{th}= -0.8V
  - new DAQ's: 磯部さんにお願い中。まだこちらの準備不完全。学科後に再トライ
    - 少なくともpulser test
- ICF
  - 現在借置き中（実験の要請不明, as close as possible?
    - FDC2, ICF架台下部の隙間～ 45mm
    - detector center @60°
  - AC line : ELB13(30A) ピット北東7m → TED, HODS
  - これまで使ってたNIM Binが故障の為、交換
  - VME crate (9 slots), NIM Bin, (DAQ PC) : south side, DAQ
    - SBS, Int/out reg., scaler,
    - 32ch ADC& TDC for TED,
    - 2 MADC32's for ICF
  - signal lines
    - 16 fast cables (DAQ) + 8 normal cables(ICF, TED monitor)
  - Raspberry Pi : Mesytec control, node= 10.32.16.112
  - 未: pedestal check etc

Downstream Detectors -3

- TED
  - AC power : from ICF stand
  - ADC cables (x32), TDC TWS (x32) → ICF stand
  - camac discri OR for trigger ?
  - 現在仮置中
    - ICF, TED架台下部の隙間～ 550mm
    - 実験中にTPCの為に移動（距離?）? 位置が決まった後ガイドレールを床に固定
  - Raspberry Pi : CAEN HV control, node= 10.32.16.111
  - 未:　pedestal check etc, 32ch ADC
- HODF24
  - TDC, ADC signal lines checked
  - HV roughly adjuster : 10 mV output from splitter for ~0.5MeV
  - to be done: booster cables