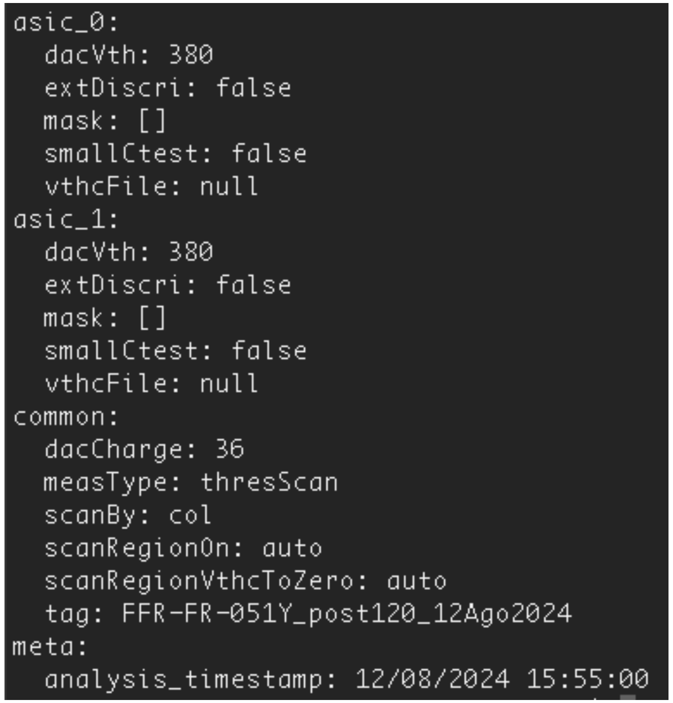
HGTD Production Database
August 27th 2024

- Followed up on module measurements that Luca provided :
  - CERNbox : https://cernbox.cern.ch/s/ddnPMsuC4WOpkxZ

- Measurements:
  - thresScan
  - vthcScan
  - chargeScan

    Same input format of the metadata.yaml
  - bump_connection
    - Metadata is different from others since the folder is built by comparing two mwasurements (from two thresScan)
  - last_vthc ➔ do not need to store in DB



```
asic_0:
  dacVth: 380
  extDiscri: false
  mask: []
  smallCtest: false
  vthcFile: null
asic_1:
  dacVth: 380
  extDiscri: false
  mask: []
  smallCtest: false
  vthcFile: null
common:
  dacCharge: 36
  measType: thresScan
  scanBy: col
  scanRegionOn: auto
  scanRegionVthcToZero: auto
  tag: FFR-FR-051Y_post120_12Ago2024
meta:
  analysis_timestamp: 12/08/2024 15:55:00
```

- These measurements have similar folder/subfolder structure:
  - thresScan
  - vthcScan
  - chargeScan

1) Top folder :
- B_None_On_all_Inj_col_N_100_Vth_380_Q_12
- B_None_On_all_Inj_col_N_100_Vth_380_Q_36

Each folder correspond to different measurement configuration

2) Sub-folder :
- module_0
- module_1
- module_2
- ….

3) Sub-sub-folder :
- DB_metadata.yaml
- DB_results.csv
- SN.txt   (to put the module SN)

- Will these measurments be provided in a single tar file that contains 3 levels of folders?
- Is this easy from DB side to handle such input structure?

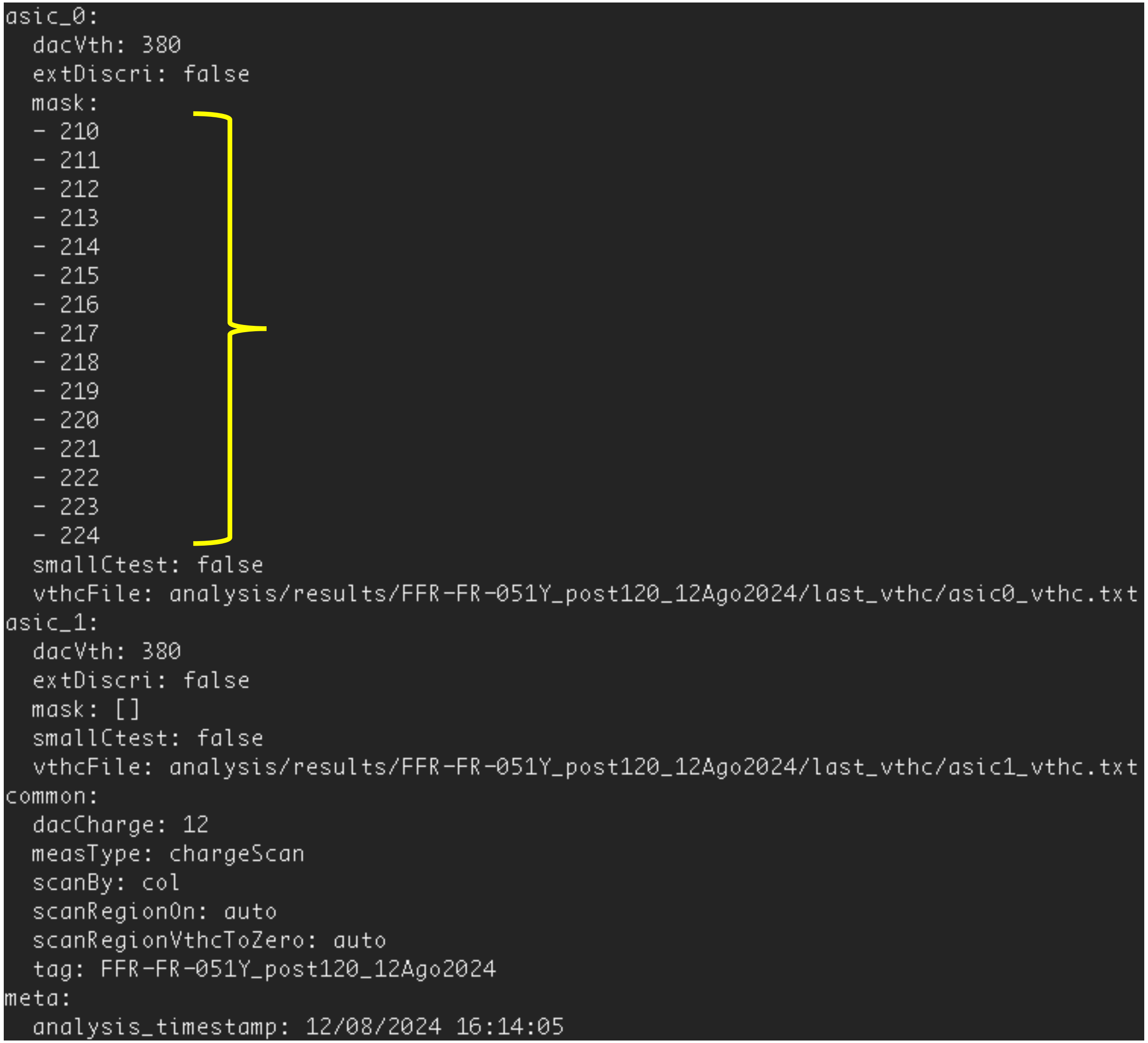
- Instead shall we have just one folder structure :
    - MeasurementConfiguration_ModuleSerialNumber_metadata.yaml
    - MeasurementConfiguration_ModuleSerialNumber_results.csv

B_None_On_all_Inj_col_N_100_Vth_380_Q_12_SN20WMO101000001_metadata.yaml

chargeScan

- In chargeScan/B_None_On_all_Inj_col_N_100_Vth_380_Q_12/module_0

DB_metadata.yaml

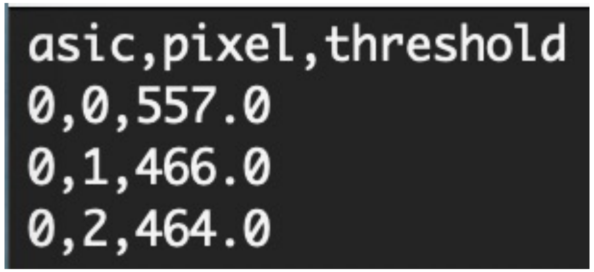


```
asic_0:
  dacVth: 380
  extDiscri: false
  mask:
  - 210
  - 211
  - 212
  - 213
  - 214
  - 215
  - 216
  - 217
  - 218
  - 219
  - 220
  - 221
  - 222
  - 223
  - 224
  smallCtest: false
  vthcFile: analysis/results/FFR-FR-051Y_post120_12Ago2024/last_vthc/asic0_vthc.txt
asic_1:
  dacVth: 380
  extDiscri: false
  mask: []
  smallCtest: false
  vthcFile: analysis/results/FFR-FR-051Y_post120_12Ago2024/last_vthc/asic1_vthc.txt
common:
  dacCharge: 12
  measType: chargeScan
  scanBy: col
  scanRegionOn: auto
  scanRegionVthcToZero: auto
  tag: FFR-FR-051Y_post120_12Ago2024
meta:
  analysis_timestamp: 12/08/2024 16:14:05
```

- How to fill the list of pixels that are masked in the database for this measurement ?

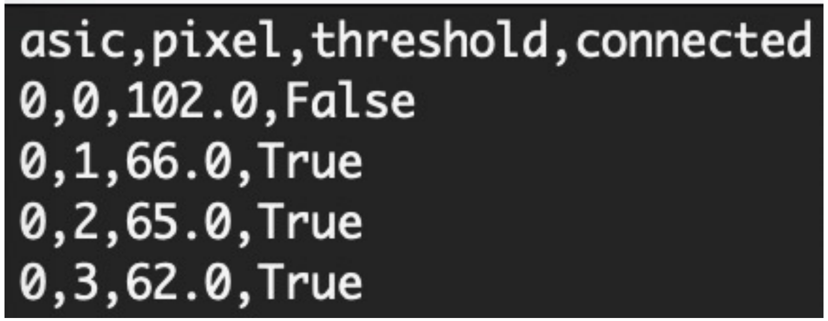
- Input structure in DB_results.csv

- For thresScan , vthcScan:
  - asic, pixel, threshold



```
asic,pixel,threshold
0,0,557.0
0,1,466.0
0,2,464.0
```

- For bump_connection:
  - asic, pixel, threshold, connected



```
asic,pixel,threshold,connected
0,0,102.0,False
0,1,66.0,True
0,2,65.0,True
0,3,62.0,True
```

- For chargeScan:
  - asic, pixel, threshold, A, mu, sigma, counts, toa_mean, …..
  - There are many more columns of measurements. They need to discuss which columns of measurements need to be recorded in the DB