

# Weekly Progress Report

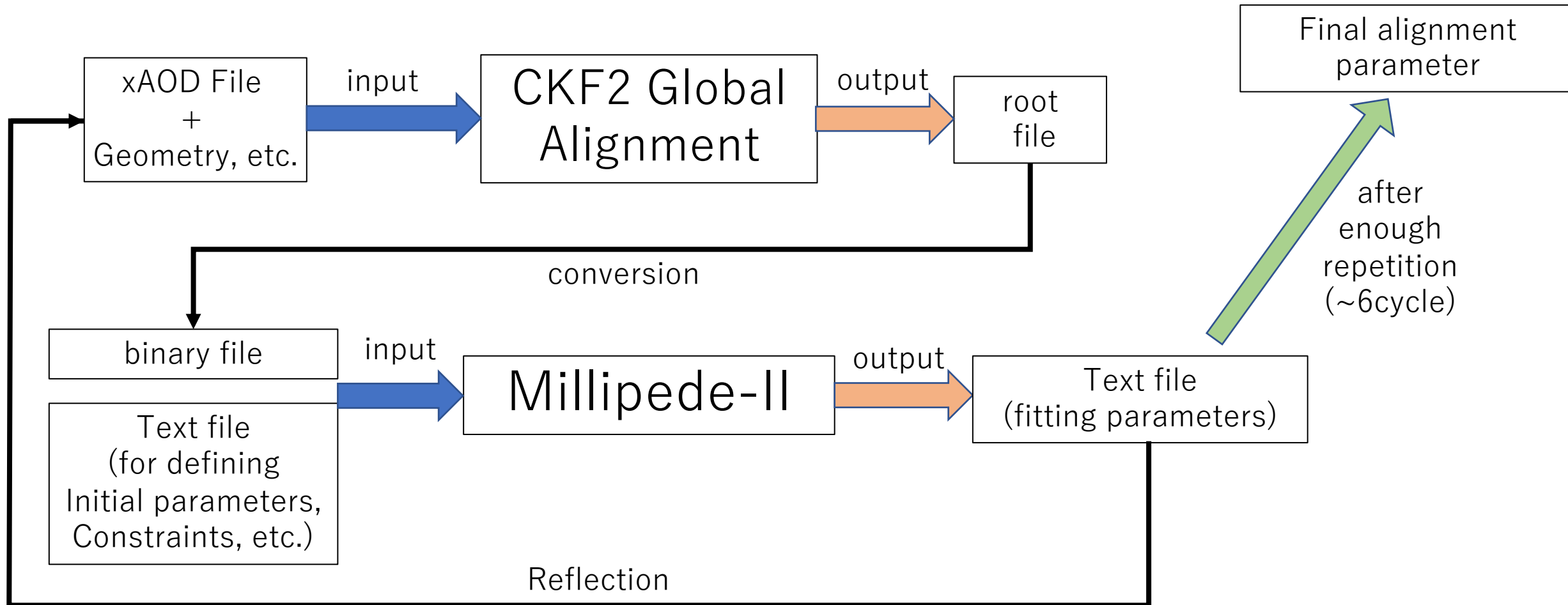
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11.07.2023

# CKF2GlobalAlignment

In this 9 weeks of the Summer Student Program,  
I am going to work with Tracker Global Alignment

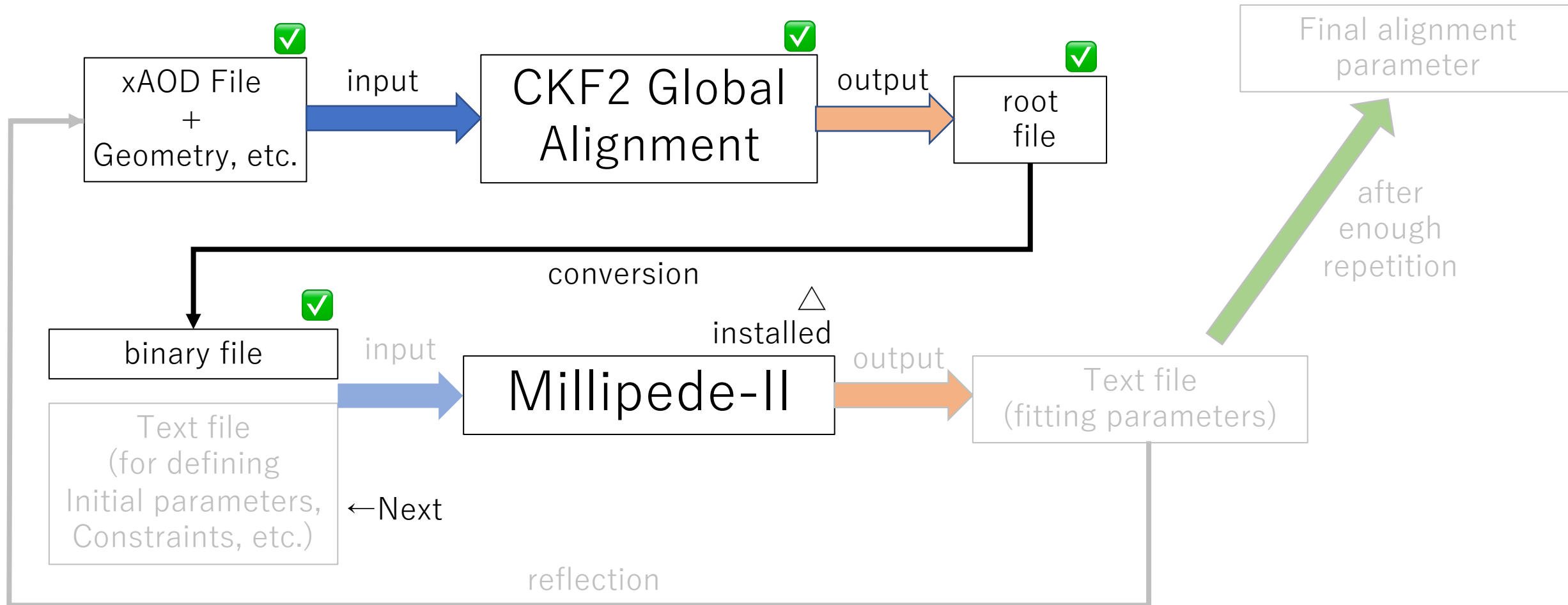
First, I have to compile and run CKF2GlobalAlignment



# CKF2GlobalAlignment

✓ : get or run successfully

By now,



# CKF2GlobalAlignment

## CKF2 Global Alignment

Input

```
# Configure
ConfigFlags.Input.Files = [
  '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00000-p0010-xAOD.root'
  , '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00001-p0010-xAOD.root'
  , '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00002-p0010-xAOD.root'
  , '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00003-p0010-xAOD.root'
  , '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00004-p0010-xAOD.root'
  , '/eos/experiment/faser/rec/2023/p0010/010738/Faser-Physics-010738-00005-p0010-xAOD.root'
]
ConfigFlags.IOVDb.GlobalTag = "OFLCOND-FASER-03"
ConfigFlags.GeoModel.FaserVersion = "FASERNU-03" # FASER cosmic ray geometry (station 2 only)
```

## Output

```
import ROOT

file = ROOT.TFile.Open("kalignment_010738_0.root")
```

```
tree = file.Get("trackParam")
tree.GetEntries()
```

199

```
tree.Scan('')
```

```
*****
*   Row   * evtId.evt * fitParam_ * fitParam_ * fitParam_ * fitParam_ * fitParam_ * fitParam_ * fitParam_ *
*****
*         0 *    260067 * 5.8145559 *          -1 * 24.708451 *          3.47 * 0.2531300 * 0.4649065 * 121.31695 *
*****
```

## Conversion

```
root [0]
Processing convert2mille_v2.C...
```

```
[tarai@lxplus789 0]$ ls
```

kfalignment\_010737\_0.root   kfalignment\_010738\_0.root   log   mp2input.bin

Iteration 780 of condor

# Calibration Display

On the other hand, I am updating Calibration Display

- Adjust the layout of display
- Enable to display the results per module  
(currently, only per chip)
- Update the Dashboard

# Calibration Display

- Adjust the layout of display

Home  
(currently)

← → ↻ faser-calibration-display.app.cern.ch

Dashboard



## Calibration Display

Calibration Type ▾ Station ▾ Layer ▾ Module ▾

From date: 2022-01-01

To date: 2022-12-31

Submit

# Calibration Display

- Adjust the layout of display

Home  
(Updated)

← → ↻ ⓘ 127.0.0.1:5000 🔍 📄 ☆ 🏠 智研 ⋮

Dashboard

## Calibration Display

Calibration Type ▾  
Response Curve ▾

Station ▾  
Station 0 ▾



Layer ▾  
Layer 0 ▾

Module ▾  
Module 0 ▾

From date: 2022-01-01

To date: 2022-12-31

Submit



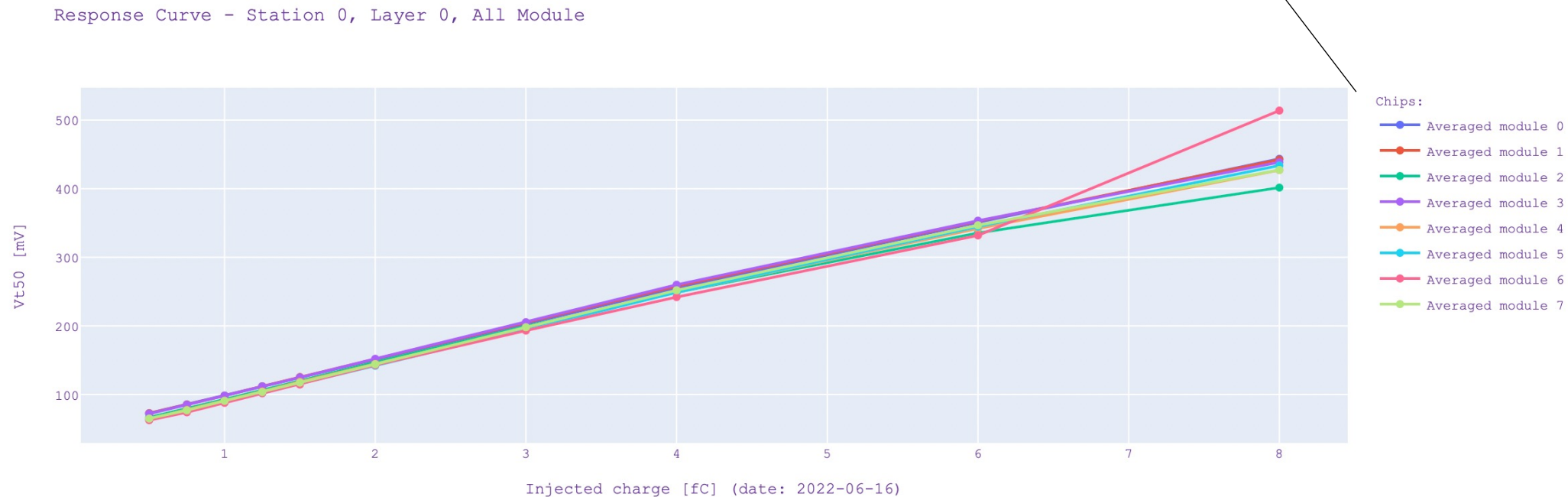
# Calibration Display

- Enable to display the results per module

## ResponseCurve

[Return to main page](#)

[Return to previous selection](#)





# Calibration Display

## Progress

- Adjust the layout of display  
→ done for /home, may change for other pages
- Enable to display the results per module  
→ Changing one by one, over half done  
(see right figure)
- Update the Dashboard  
→ done nothing yet, will change in one or two weeks

✓ : done

✗ : yet

### Calibration Type ▾

- ✓ Response Curve
- ✓ Vt50 evolution
- (✓) Mask Scan - Dead Strips
- (✓) Mask Scan - Noisy Strips
- ✓ Three Point Gain - Gain
- ✓ Three Point Gain - Noise
- ✗ Direct Noise Occupancy
- ✗ Strobe Delay