

# CDC alignment

- Cosmic ray data (Run 40129 [2018-01])
  - MilleFieldOff plugin does not work well for CDC.
  - Analysis stops at ~500k events.
  - Pede routine fails too.
  - Due to -PTRKFIND:COSMICS=1 option?

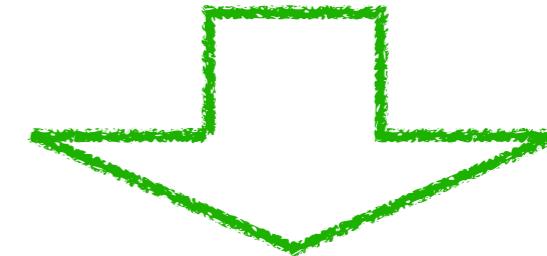
|                         |                      |         |                 |
|-------------------------|----------------------|---------|-----------------|
| E = 0.054073            | (508.0k events read) | 488.0Hz | (avg.: 362.3Hz) |
| E = 0.054402            | (513.2k events read) | 690.0Hz | (avg.: 363.7Hz) |
| E = 0.094224            | (520.5k events read) | 512.0Hz | (avg.: 365.6Hz) |
| E = 0.085082            | (522.4k events read) | 678.0Hz | (avg.: 366.2Hz) |
| 0 point cluster         |                      |         |                 |
| E = 0.083272            | (526.3k events read) | 486.0Hz | (avg.: 367.3Hz) |
| E = 0.069941            | (527.9k events read) | 464.0Hz | (avg.: 367.6Hz) |
| E = 0.054761            | (528.3k events read) | 650.0Hz | (avg.: 367.7Hz) |
| E = 0.051417            | (529.4k events read) | 610.0Hz | (avg.: 368.0Hz) |
| E = 0.085677            |                      |         |                 |
| 538.4k events processed | (538.4k events read) | 0.0Hz   | (avg.: 319.0Hz) |

- Field-ON data (Run 71483 [2019-11])
  - MilleFieldOn plugin works.

# Alignment by Field-ON data

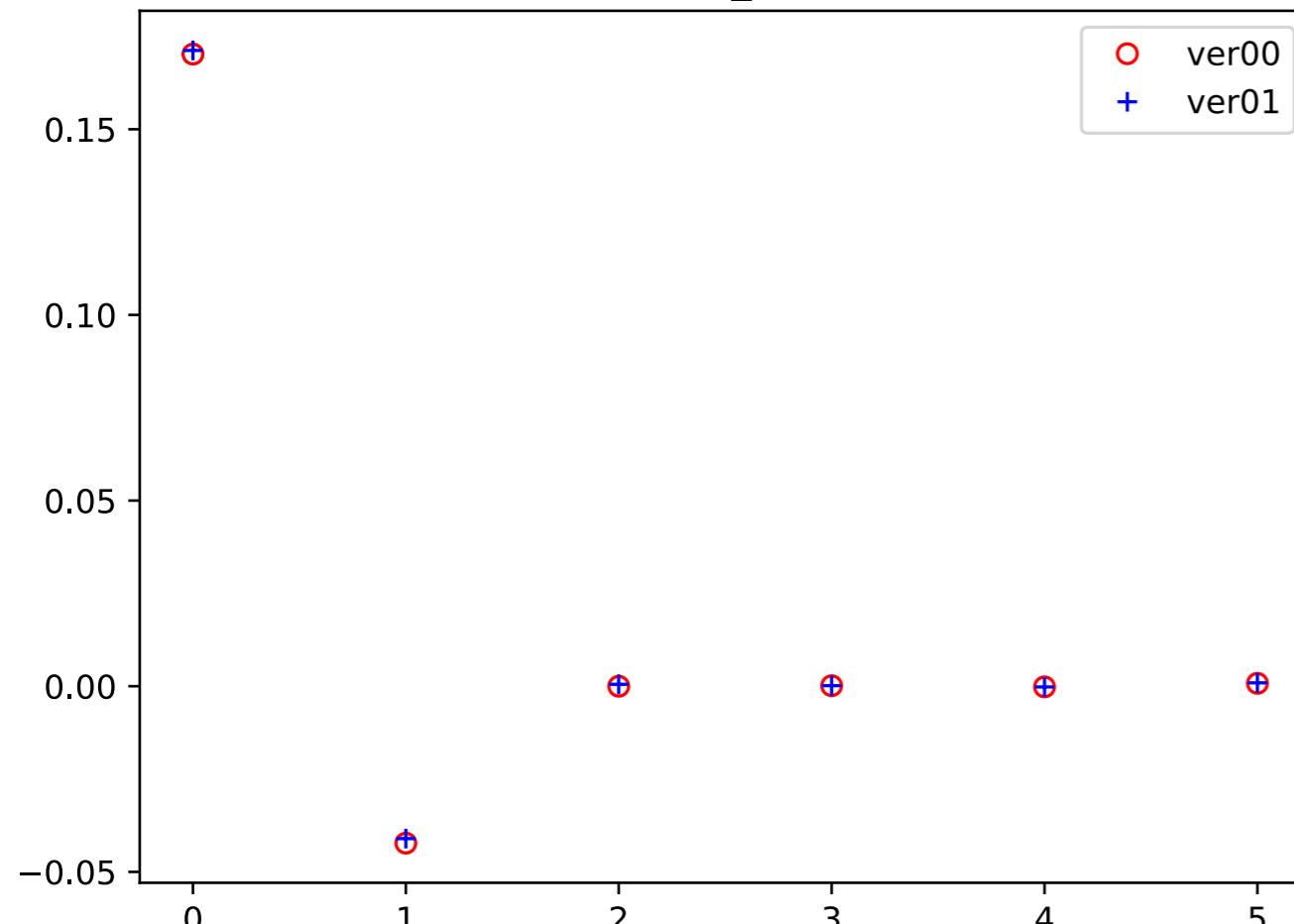
- Official CCDB value
- + Millepede

4 parameters for each wire  
(determine wire edge positions)

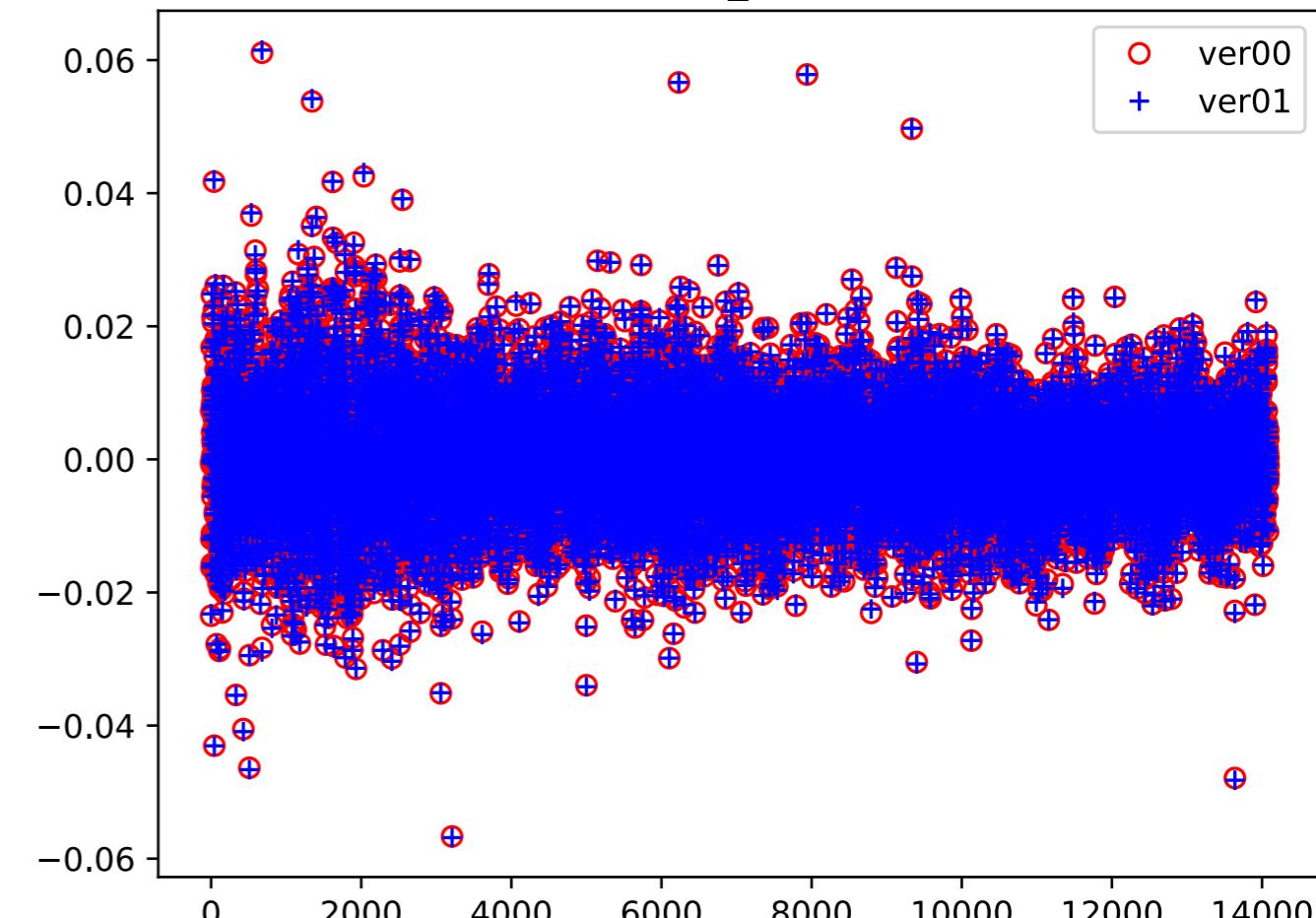


Shifts and rotation parameters

/CDC/global\_alignment



/CDC/wire\_alignment



Alignment parameters seems stable.

# Residual (Run 71483, Field-ON)

3

histogram range: [-0.05, 0.05] cm

— official CCDB values  
— Millepede

