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# Available Alignment Constants for Run II

Run-I alignment constants are documented [here](#).

Complete: ████████

## Contacts

- General: AlCa/DB conveners [cms-ppd-conveners-alcadb@cern.ch](mailto:cms-ppd-conveners-alcadb@cern.ch)
- Tracker: Matthias Schröder ([matthias.schroeder@desy.de](mailto:matthias.schroeder@desy.de)), Meng Xiao ([meng.xiao@cern.ch](mailto:meng.xiao@cern.ch)) and the tracker alignment hypernews ([hn-cms-tk-alignment@cern.ch](mailto:hn-cms-tk-alignment@cern.ch))
- AlCaDB contact for TkAl: Muhammad Ansar Iqbal ([muhammad.ansar.iqbal@cern.ch](mailto:muhammad.ansar.iqbal@cern.ch)) and Tamas Almos Vami ([tamas.almos.vami@cern.ch](mailto:tamas.almos.vami@cern.ch))

## General Information

### How to upload new Tracker Alignments to the production GTs UPDATED

Show description  Hide description

First of all, one needs to create new tags to the CondDB browser for global usage (ECAL and Muon people). More information about how to create new tags can be found in hands-on session [here](#).

Then, we should announce these new tags to AlCaDB conveners ([cms-PPD-conveners-AlCaDB@cern.ch](mailto:cms-PPD-conveners-AlCaDB@cern.ch)) so they can check and give the green-light to upload them to existing GTs of HLT, Express and Prompt workflows.

After conveners signed-off, what needs to be done is to update, appending a new IOV, the 3 payloads for TrackerAlignment, TrackerSurfaceDeformations and APE, to the existing tags that are already included in the production Global Tags. You can check what are the latest existing production Global Tag for each workflow [here](#). For example, the current Global Tag of HLT is `80X_dataRun2_HLT_v12`, Express is `80X_dataRun2_Express_v5` and Prompt is `80X_dataRun2_Prompt_v6`.

And in order to check inside each of these Global Tags which are the relevant tags for Tracker Alignment you can use the `conddb` command within a CMSSW release.

```
conddb list <name_of_the_GT> | grep <name_of_your_record>
```

(The `name_of_your_record` relevant for Tracker Alignment are `TrackerAlignmentRcd`, `TrackerSurfaceDeformationRcd` and `TrackerAlignmentErrorExtendedRcd`)

This exercised on the 3 Global Tags above will yield you the table and therefore you can see there is a total of 7 tags to be updated.

- For Alignment : `TrackerAlignment_PCL_byRun_v0_hlt` (replaced `TrackerAlignment_2009_v1_hlt`), `TrackerAlignment_PCL_byRun_v2_express` (and copied version of `TrackerAlignment_PCL_byRun_v0_express` which replaced `TrackerAlignment_2009_v1_express` and `TrackerAlignment_prompt`)
- For SurfaceDeformations: `TrackerSurafceDeformations_v1_hlt`, `TrackerSurafceDeformations_v1_express` (please notice the typo in the name! it's not an error)
- For APE: `TrackerAlignmentExtendedErr_2009_v2_hlt_IOVs` and, `TrackerAlignmentExtendedErr`

\_2009\_v2\_express\_IOVs

All these 6 tags need to be updated. Let's retrieve the sqlite files again from the new tags you just created.

```
conddb_import -c sqlite_file:TrackerSurfaceDeformations_2015-EOY_v1_RunD.db -f frontier://FrontierP
```

```
conddb_import -c sqlite_file:TrackerAlignmentExtendedErrors_CRUZET2016.db -f frontier://FrontierP
```

```
conddb_import -c sqlite_file:TrackerAlignment_HP_CRUZET2016.db -f frontier://FrontierProd/CMS_CON
```

Then you should do 3 uploads (1 for each of your sqlite files) using the similar metadata files below for each record.

```
uploadConditions.py <name_of_file.db>
```

The txt files should be in the same folder as the sqlite files in which you upload and since these tags have already the correct synchronization, you don't need to specify the since (the service will automatically synchronize to the correct version).

The examples of metadata files for each record

- TrackerAlignmentExtendedErrors\_CRUZET2016.txt

```
{
  "destinationDatabase": "oracle://cms_orcon_prod/CMS_CONDITIONS",
  "destinationTags": {
    "TrackerAlignmentExtendedErr_2009_v2_express_IOVs": {},
    "TrackerAlignmentExtendedErr_2009_v2_hlt_IOVs": {}
  },
  "inputTag": "TrackerAlignmentExtendedErrors_CRUZET2016",
  "since": null,
  "userText": "APE for 2016 startup: 100um for BPix and FPix, 20um for TIB and TOB, 40um for TI
}
```

- TrackerAlignment\_HP\_CRUZET2016.txt

```
{
  "destinationDatabase": "oracle://cms_orcon_prod/CMS_CONDITIONS",
  "destinationTags": {
    "TrackerAlignment_PCL_byRun_v2_express": {},
    "TrackerAlignment_PCL_byRun_v0_hlt": {}
  },
  "inputTag": "TrackerAlignment_HP_CRUZET2016",
  "since": null,
  "userText": "Tracker alignment from CRUZET16 data, correcting positions and rotations of the
}
```

- TrackerSurfaceDeformations\_2015-EOY\_v1\_RunD.txt

```
{
  "destinationDatabase": "oracle://cms_orcon_prod/CMS_CONDITIONS",
  "destinationTags": {
    "TrackerSurafceDeformations_v1_express": {},
    "TrackerSurafceDeformations_v1_hlt": {}
  },
  "inputTag": "TrackerSurfaceDeformations_2015-EOY_v1_RunD",
  "since": null,
  "userText": "Tracker Surface deformation from IOV9 of EOY 2015 alignment"
}
```

Example of how to **import a payload from the DB into a local sqlite file**, e.g. to prepare a tag with results of the pseudo-PCL workflow for central validation. The following will retrieve the payload of the IOV starting with 275375, put it into the local sqlite file `SiPixelAli_PCL_v0_prompt_r275375.db` and set the IOV range from 1 to infinity:

```
conddb_import -c sqlite_file:SiPixelAli_PCL_v0_prompt_r275375.db -f frontier://FrontierPrep/CMS_C
echo 'update IOV set SINCE=1 where SINCE=275375;' | sqlite3 SiPixelAli_PCL_v0_prompt_r275375.db
```

## How to monitor PCL alignment workflows NEW

Show description  Hide description

- Our SiPixelAli \_PCL can be monitored here [↗](#) as well as the others PCL. You can see there is a plot for SiPixelAli \_pcl.
- If you click on the legend at the top right of pclMon page, it will explain the meaning of each color. Basically when it's white, it means no payload was uploaded but when it's green, something has been uploaded (there is also some potential delay which sometimes you might see it's purple, don't panic, it will turn green sometime later but report to AICa /DB if it's not the case)
- Once you know if the payload has been uploaded or not, you can check the parameters on the offline DQM GUI, for example here DQM link [↗](#), there is a series of plots for each run (click on Run #). You can see numbers of run from current data taking corresponding to run numbers on pclMon page and you can check DQM for those runs which have new payload uploaded.
- You can also check PV performance for example this link [↗](#) or on-time monitoring from this link [↗](#).
- You can even double-check new payload uploaded via conddb command line, for example,

```
conddb list TrackerAlignment_PCL_byRun_v2_express | grep 2016-08-20
```

- or from condDB browser, link [↗](#).

**Note 1** see monitoring illustration from Chayanit's slides reported in TkAl meeting on 24 Aug 2016 [↗](#).

**Note 2** small tip for circulating the DQM links: click on the small anchor sign on the top right part of the screen with the "link me" text, copying the URL won't work because each user session is accessible only under his/her own GRID certificate.

## Important Tags UPDATED

Starting from 80X\_dataRun2\_Express\_v9 [↗](#) and 80X\_dataRun2\_Prompt\_v9 [↗](#), it has been introduced new Tracker Alignment tag (copy of the existing one) for the purpose of switching on the SiPixelAli PCL for both Express and Prompt.

## Tags for data-taking NEW

stream	TrackerAlignmentRcd	TrackerSurfaceDeformationRcd	TrackerAli
HLT	TrackerAlignment_PCL_byRun_v0_hlt <span style="color: green;">NEW</span>	TrackerSurafceDeformations_v1_hlt	TrackerAlignmentEx
Express	TrackerAlignment_PCL_byRun_v2_express <span style="color: green;">NEW</span>	TrackerSurafceDeformations_v1_express	TrackerAlignmentEx
Prompt	TrackerAlignment_PCL_byRun_v2_express <span style="color: green;">NEW</span>	TrackerSurafceDeformations_v1_express	TrackerAlignmentEx

Show history  Hide history

## Tags for data-taking

stream	TrackerAlignmentRcd	TrackerSurfaceDeformationRcd	TrackerAlignme
HLT	TrackerAlignment_2009_v1_hlt	TrackerSurafceDeformations_v1_hlt	TrackerAlignmentExtend
Express	TrackerAlignment_2009_v1_express	TrackerSurafceDeformations_v1_express	TrackerAlignmentExtend
Prompt <sup>1)</sup>	TrackerAlignment_prompt	TrackerSurafceDeformations_v1_express	TrackerAlignmentExtend

Remarks:

1. This was split from the express tag, see TrackerAlignment\_prompt for details

## Pseudo-PCL Tags

Since run 272011, the PCL alignment is running in test mode at T0. Results are written to the following tags at the preparation DB:

- SiPixelAli\_PCL\_v0\_hlt [↗](#)
- SiPixelAli\_PCL\_v0\_prompt [↗](#)

## Tags for data reprocessing

### 2017 Re-Reco

- TrackerAlignment\_v20\_offline [↗](#)
- TrackerSurfaceDeformations\_v10\_offline [↗](#)
- TrackerAlignmentExtendedErrors\_v7\_offline\_IOVs [↗](#)

### 2016 Legacy

- TrackerAlignment\_v19\_offline [↗](#)
- TrackerSurfaceDeformations\_v9\_offline [↗](#)
- TrackerAlignmentExtendedErrors\_v6\_offline\_IOVs [↗](#)

### 2016 campaign (after correction of surface deformations)

- TrackerAlignment\_v18\_offline [↗](#)
- TrackerSurfaceDeformations\_v8\_offline [↗](#)
- TrackerAlignmentExtendedErrors\_v5\_offline\_IOVs [↗](#)

### 2016 pre-ICHEP

- TrackerAlignment\_v16\_offline [↗](#)
- TrackerSurfaceDeformations\_v7\_offline [↗](#)
- TrackerAlignmentExtendedErrors\_v5\_offline\_IOVs [↗](#)

### 2015 End-of-Year (EOY) reprocessing

Reprocessing of 3.8T pp data of 2015. Objects detailed below in 2015-EOY\_v1. They are appended to the following offline tags:

- TrackerAlignment\_v14\_offline [↗](#)
- TrackerSurfaceDeformations\_v7\_offline [↗](#)
- TrackerAlignmentExtendedErrors\_v5\_offline\_IOVs [↗](#)

Pixel-large-structure fits on all OT data for run eras Run2015B, Run2015C, and Run2015D:

- [TrackerAlignment\\_v16\\_offline](#)

## 2015 first data reprocessing

Reprocessing of CRAFT and Run2015A to Run2015D (reprocessing starts before end of era?) data. Discussed in the AICa/DB meeting, 2015-09-28.

[TrackerAlignment\\_v13\\_offline](#) (listing only relevant IOVs)

era	IOV	alignment
CRAFT15	238341	TrackerAlignment_v1_hltvalidation
Run2015A	246866	TrackerAlignment_v2_hltvalidation
Run2015B	250933	TrackerAlignment_for_Run2015D_v1
Run2015C	253620	TrackerAlignment_Run2015C_offline_v0
Run2015D	255621	TrackerAlignment_Run2015D_PseudoPCL_v0

[TrackerSurfaceDeformations\\_v6\\_offline](#) (listing only relevant IOVs)

era	IOV	alignment
CRAFT15 - Run2015D	238341	TrackerAlignment_v1_hltvalidation

[TrackerAlignmentExtendedErrors\\_v4\\_offline\\_IOVs](#) (listing only relevant IOVs)

era	IOV	alignment
CRAFT15 + Run2015A	238341	ape_DESRUN2_74_V4_barrel20-disks40
Run2015B - Run2015D	250933	ape_DESRUN2_74_V4_barrel10-disks20

## Payload Information (in Global Tags) UPDATED

### TrackerAlignment\_PCL\_byRun\_v0\_hlt NEW

Detailed information at [CondDB](#).

since run	object	comment
246978	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AICa/DB HN announcement
248618	TrackerAlignment_v2_hltvalidation	Wrong upload to production, no data taken, reverted back to TrackerAlignment_v1_hltvalidation till validation
248642	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AICa/DB HN announcement
251100	TrackerAlignment_v2_hltvalidation	Module-level alignment of pixel detector only with OT data of Run2015A AICa/DB HN announcement
251607	TrackerAlignment_Run2015B_PseudoPCL_v2	pseudo-PCL alignment at 3.8T AICa/DB HN announcement
256715	TrackerAlignment_for_Run2015D_v0	inconsistent conditions derived from Run2015C data, uploaded by mistake (affected data corrected in prompt reconstruction)

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256746	TrackerAlignment_for_Run2015D_v1	conditions derived from Run2015B data
256766	TrackerAlignment_for_Run2015D_v0	inconsistent conditions derived from Run2015C data but centrally validated, therefore till further validation used in HLT. Express used the TrackerAlignment_for_Run2015D_v1 conditions. <b>Difference to express</b>
270856	TrackerAlignment_CRUZET2016	CRUZET alignment for 2016 the alignment constants starting from IOV 260335 of 2015-EOY_v1_RunD
272497	TrackerAlignment_Run2016A_PseudoPCL_v1	Tracker alignment derived from the Pseudo-PCL workflow on run 272011 and conditions in GT 80X_dataRun2_Express_v6 (CRUZET alignment)
276251	no corresponding Tag created	updated module level tracker alignment and APE from 2016B AICa/DB HN announcement <a href="#">↗</a>
276517	TrackerAlignment_Run2016B_PseudoPCL_276363	pseudo-PCL alignment at 3.8T after magnet cycle on 02.07.2016 AICa/DB HN announcement <a href="#">↗</a>
281466	TrackerAlignment_ReReco2016BtoG	Tracker alignment updated from September ReReco campaign Alca/DB HN announcement <a href="#">↗</a>
285456		Update tracker alignment with conditions derived after last magnet ramp after 2016 end of pp-data taking (run 285090) for p-Pb run
290550	TrackerAlignment_PreCRUZET2017_v1	Conditions changed consistently to phase-I pixel detector and last IOV of EOY16 alignment for strips AICa/DB HN announcement <a href="#">↗</a>
292615	TrackerAlignment_CRUZET17_v1	First HL alignment with CRUZET17 data (still w/o BPX) Alca/DB HN announcement <a href="#">↗</a>
294604	TrackerAlignment_CRAFT17_v0	New tracker alignment derived from CRUZET and CRAFT 2017 data AICa/DB HN announcement <a href="#">↗</a>
295502	TrackerAlignment_StartUp17_v0	Updates the pixel module-level alignment (positions and rotations), leading to an improved local resolution and using the collision data of the runs 295209+295210 as well as CRAFT (private rereco) AICa/DB HN announcement <a href="#">↗</a>
296819	TrackerAlignment_StartUp17_v1	Updates the pixel module-level alignment (positions and rotations), leading to an improved local resolution in BPX layer1 AICa/DB HN announcement <a href="#">↗</a>
297618	TrackerAlignment_StartUp17_v5	Updates the pixel module-level alignment (positions, rotations, surfaces), consistent with templates v3 for new bias voltage in layer 1 AICa/DB HN announcement <a href="#">↗</a>
298902	TrackerAlignment_StartUp17_v6	synchronisation with express/prompt

299924	TrackerAlignment_StartUp17_v9	synchronisation with express/prompt HN announcement <a href="#">↗</a>
300703	TrackerAlignment_StartUp17_v10	The new conditions are necessary for full consistency with updates in the pixel local-reco conditions and BPX layer 2 timing settings, leading to improved performance AICa/DB HN announcement <a href="#">↗</a>
302581	TrackerAlignment_StartUp17_v11	Consistent with new templates and new HV HN announcement <a href="#">↗</a>
303856		To be consistent with the PCL-produced payload post-TS2 on express/prompt HN announcement <a href="#">↗</a> .
304653	TrackerAlignment_forPrompt2017_v1	Update of Tracker alignment and APEs corresponding to V6 pixel gain and other local reco conditions HN announcement <a href="#">↗</a> .
306532	TrackerAlignment_lastIOV_v2ReReco2017 <a href="#">↗</a>	Full track validation of Tracker alignment and surface HN announcement <a href="#">↗</a> .
314163	TrackerAlignment_StartUp2018_v2	New tracker alignment and APE (start-up 2018) HN announcement <a href="#">↗</a> .
316006	TrackerAlignment_PCL_byRun_v1_express_315648 <a href="#">↗</a>	PCL alignment HN announcement <a href="#">↗</a> .
317393	TrackerAlignment_FirstCollisions2018_v3	New tracker alignment and APE from first collisions 2018 HN announcement <a href="#">↗</a> .
320399	TrackerAlignment_PreMD2_v1	New tracker alignment during MD2 (machine developing) HN announcement <a href="#">↗</a> .
320924	TrackerAlignment_PostMD2_v2	New tracker alignment the post-annealing payload HN announcement <a href="#">↗</a> .
321048	TrackerAlignment_PCL_byRun_v2_express_off <a href="#">↗</a>	Manually upload TkAl from PCL Run 321007 also significantly improved for HLT HN announcement <a href="#">↗</a> .
321496	TrackerAlignment_PostMD2_v3	New tracker alignment the post-annealing payload to improve further on top of TrackerAlignment_PostMD2_v2 HN announcement <a href="#">↗</a> .
321496	TrackerAlignment_PostMD2_v3	New tracker alignment the post-annealing payload to improve further on top of TrackerAlignment_PostMD2_v2 HN announcement <a href="#">↗</a> .
323230	TrackerAlignment_PreMD3_450V_v1	New tracker alignment for PreMD3 with 450V condition HN announcement <a href="#">↗</a> .
326083	TrackerAlignment_PreMD4_v1	New tracker alignment PreMD4 for HI data taking HN announcement <a href="#">↗</a> .
326457	TrackerAlignment_PCL_byRun_v0_hlt <a href="#">↗</a>	Manually upload TkAl from PCL Run 326381 for HI data taking HN announcement <a href="#">↗</a> .
326978	TrackerAlignment_HI2018_v1	New tracker alignment for HI data taking HN announcement <a href="#">↗</a> .

## TrackerAlignment\_PCL\_byRun\_v2\_express NEW

Detailed information at CondDB [↗](#).

**Note** This is a copied and updated version of tag TrackerAlignment\_PCL\_byRun\_v0\_express [↗](#).

since run	object	comment
275635	TrackerAlignment_Run2016B_PseudoPCL_275376	Tracker alignment updated with the latest pixel high-level alignment AICa/DB HN announcement <a href="#">↗</a>
276319		Tracker alignment updated with the latest pixel high-level alignment which corrects for small but significant movements induced by the magnet cycle AICa/DB HN announcement <a href="#">↗</a>
281466	TrackerAlignment_ReReco2016BtoG	Tracker alignment updated from September ReReco campaign AICa/DB HN announcement <a href="#">↗</a>
290550	TrackerAlignment_PreCRUZET2017_v1	Conditions changed consistently to phase-I pixel detector and last IOV of EOY16 alignment for strips AICa/DB HN announcement <a href="#">↗</a>
292200	TrackerAlignment_CRUZET17_v1	First HL strips + FPX alignment with CRUZET17 data (no BPX yet, stays at IDEAL). Cures in particular 3mm mis-alignment of FPX -z cylinder. AICa/DB HN announcement <a href="#">↗</a>
294604	TrackerAlignment_CRAFT17_v0	New tracker alignment derived from CRUZET and CRAFT 2017 data AICa/DB HN announcement <a href="#">↗</a>
295380	TrackerAlignment_StartUp17_v0	Updates the pixel module-level alignment (positions and rotations), leading to an improved local resolution and using the collision data of the runs 295209+295210 as well as CRAFT (private rereco) AICa/DB HN announcement <a href="#">↗</a>
295702	TrackerAlignment_StartUp17_v1	Updates the pixel module-level alignment on Run 295463 (positions and rotations), leading to an improved local resolution in BPX layer1 AICa/DB HN announcement <a href="#">↗</a>
297104	TrackerAlignment_StartUp17_v2	Updates the pixel module-level alignment on Run 296786 (positions and rotations), leading to an improved local resolution in BPX layer1 AICa/DB HN announcement <a href="#">↗</a>
297417	TrackerAlignment_StartUp17_v5	Updates the pixel module-level alignment on Run 297292 (positions, rotations, surfaces), consistent with templates v3 for new bias voltage in layer 1 AICa/DB HN announcement <a href="#">↗</a>
298757	TrackerAlignment_StartUp17_v6	Pixel ML alignment + surfaces from 2017 collision data, runs 298653,

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		298671, 298678, including cosmics runs 298647/48/51/57/58/61/68. AICa/DB HN announcement <a href="#">↗</a>
298809	TrackerAlignment_from06Jul2017ReReco_v0	Pixel ML alignment on 06Jul2017ReReco of 297664+297671 (updated VCal calibration, PH, gain calibration) AICa/DB HN announcement <a href="#">↗</a>
299228	TrackerAlignment_StartUp17_v7	Pixel ML alignment from 2017 collision data 298996 (post TS1 with new Vcal calibration). Derived against GT 92X_dataRun2_express_v4. AICa/DB HN announcement <a href="#">↗</a>
299685	TrackerAlignment_StartUp17_v9	Pixel ML alignment based on Run 299592-97+299614-617. AICa/DB HN announcement <a href="#">↗</a>
300662	TrackerAlignment_StartUp17_v10	The new conditions are necessary for full consistency with updates in the pixel local-reco conditions and BPX layer 2 timing settings, leading to improved performance AICa/DB HN announcement <a href="#">↗</a>
302539	TrackerAlignment_StartUp17_v11	Consistent with new templates and new HV HN announcement <a href="#">↗</a>
303796		started automatic PCL-produced payload post-TS2 writing to production tags HN announcement <a href="#">↗</a>
304653	TrackerAlignment_forPrompt2017_v1	Update of Tracker alignment and APEs corresponding to V6 pixel gain and other local reco conditions HN announcement <a href="#">↗</a> .
306532	TrackerAlignment_lastIOV_v2ReReco2017 <a href="#">↗</a>	Full track validation of Tracker alignment and surface HN announcement <a href="#">↗</a> .
314163	TrackerAlignment_StartUp2018_v2	New tracker alignment and APE (start-up 2018) HN announcement <a href="#">↗</a> .
316006	TrackerAlignment_PCL_byRun_v1_express_315648 <a href="#">↗</a>	PCL alignment HN announcement <a href="#">↗</a> .
317393	TrackerAlignment_PCL_byRun_v1_express_315648 <a href="#">↗</a>	New tracker alignment and APE from first collisions 2018 HN announcement <a href="#">↗</a> .
317393	TrackerAlignment_FirstCollisions2018_v3	New tracker alignment and APE from first collisions 2018 HN announcement <a href="#">↗</a> .
320399	TrackerAlignment_PreMD2_v1	New tracker alignment during MD2 (machine developing) HN announcement <a href="#">↗</a> .
320812	TrackerAlignment_PCL_byRun_v2_express_off <a href="#">↗</a>	Manually upload TkAl from PCL Run 320757 before green light of TrackerAlignment_PostMD2_v2 object arrived HN announcement <a href="#">↗</a> .
320924,320997	TrackerAlignment_PostMD2_v2	New tracker alignment the post-annealing payload HN

		announcement <a href="#">↗</a> . (uploaded twice due to some mistake by AICa)
321013	TrackerAlignment_PCL_byRun_v2_express_off <a href="#">↗</a>	Manually upload TkAl from PCL Run 321007 due to mistake by AICa forgotten to switch on PCL HN announcement <a href="#">↗</a> .
321496	TrackerAlignment_PostMD2_v3	New tracker alignment the post-annealing payload to improve further on top of TrackerAlignment_PostMD2_v2 HN announcement <a href="#">↗</a> .
323230	TrackerAlignment_PreMD3_450V_v1	New tracker alignment for PreMD3 with 450V condition HN announcement <a href="#">↗</a> .
323462		Manually upload TkAl from PCL Run 323419 due to rotations are larger than the tolerances for automatic deployment. HN announcement <a href="#">↗</a> .
323643	TrackerAlignment_PostMD3_v1	New tracker alignment for PostMD3 consistent with v11 pixel templates HN announcement <a href="#">↗</a> .
326083	TrackerAlignment_PreMD4_v1	New tracker alignment PreMD4 for HI data taking HN announcement <a href="#">↗</a> .
326457	TrackerAlignment_PCL_byRun_v2_express <a href="#">↗</a>	Manually upload TkAl from PCL Run 326381 for HI data taking HN announcement <a href="#">↗</a> .
326978	TrackerAlignment_HI2018_v1	New tracker alignment for HI data taking HN announcement <a href="#">↗</a> .

**Note:** automatic uploading mode is now activated and can be monitored from [here](#) [↗](#) and [here](#) [↗](#). The table above only presented IOVs from manual uploads (automatic PCL uploads are skipped).

## TrackerAlignment\_PCL\_byRun\_v1\_express NEW

Diverts the alignment objects produced by the pixelAli at PCL to the this tag, which is not consumed by prompt; as agreed with tracker DPG for the early phases of 2017 running.

Detail information at AICa/DB HN announcement [↗](#)

## TrackerAlignment\_PCL\_byRun\_v2\_prompt NEW

Detailed information at CondDB [↗](#).

**Note** we have currently (24.07.2017) different tags in prompt and express to allow faster reaction to changing conditions during the commissioning period. This is a simply copied version of tag TrackerAlignment\_PCL\_byRun\_v2\_express [↗](#) until Run 299228.

since run	object	comment
298809	TrackerAlignment_from06Jul2017ReReco_v0	Pixel ML alignment on 06Jul2017ReReco of 297664+297671 (updated VCal calibration, PH, gain calibration) AICa/DB HN announcement <a href="#">↗</a>
299228	TrackerAlignment_StartUp17_v7	Pixel ML alignment from 2017 collision data 298996 (post TS1 with new Vcal calibration). Derived against GT

		92X_dataRun2_express_v4. AICa/DB HN announcement <a href="#">↗</a>
299443	TrackerAlignment_StartUp17_v9	Pixel ML alignment based on Run 299592-97+299614-617. AICa/DB HN announcement <a href="#">↗</a>
300558	TrackerAlignment_StartUp17_v10	The new conditions are necessary for full consistency with updates in the pixel local-reco conditions and BPX layer 2 timing settings, leading to improved performance AICa/DB HN announcement <a href="#">↗</a>
302539	TrackerAlignment_StartUp17_v11	Consistent with new templates and new HV HN announcement <a href="#">↗</a>

[▣ Show history](#)
[▣ Hide history](#)

## TrackerAlignment\_2009\_v1\_hlt

Detailed information at [CondDB](#) [↗](#).

Typically synchronized with TrackerAlignment\_2009\_v1\_express.

since run	object	comment
246978	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AICa/DB HN announcement <a href="#">↗</a>
248618	TrackerAlignment_v2_hltvalidation	Wrong upload to production, no data taken, reverted back to TrackerAlignment_v1_hltvalidation till validation
248642	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AICa/DB HN announcement <a href="#">↗</a>
251100	TrackerAlignment_v2_hltvalidation	Module-level alignment of pixel detector only with 0T data of Run2015A AICa/DB HN announcement <a href="#">↗</a>
251607	TrackerAlignment_Run2015B_PseudoPCL_v2	pseudo-PCL alignment at 3.8T AICa/DB HN announcement <a href="#">↗</a>
256715	TrackerAlignment_for_Run2015D_v0	inconsistent conditions derived from Run2015C data, uploaded by mistake (affected data corrected in prompt reconstruction)
256746	TrackerAlignment_for_Run2015D_v1	conditions derived from Run2015B data
256766	TrackerAlignment_for_Run2015D_v0	inconsistent conditions derived from Run2015C data but centrally validated, therefore till further validation used in HLT. Express used the TrackerAlignment_for_Run2015D_v1 conditions. <b>Difference to express</b>
270856	TrackerAlignment_CRUZET2016	CRUZET alignment for 2016 the alignment constants starting from IOV 260335 of 2015-EOY_v1_RunD
272497	TrackerAlignment_Run2016A_PseudoPCL_v1	Tracker alignment derived from the Pseudo-PCL workflow on run 272011 and conditions in GT 80X_dataRun2_Express_v6 (CRUZET alignment)
276251		updated module level tracker alignment and APE from 2016B AICa/DB HN announcement <a href="#">↗</a>
276517	TrackerAlignment_Run2016B_PseudoPCL_276363	

		pseudo-PCL alignment at 3.8T after magnet cycle on 02.07.2016 AlCa/DB HN announcement <a href="#">↗</a>
281466	TrackerAlignment_ReReco2016BtoG	Tracker alignment updated from September ReReco campaign Alca/DB HN announcement <a href="#">↗</a>
271866	TrackerAlignment_EOY16_sm1959	Tracker alignment containing 35 IOVs from EOY16 campaign (after new IOVs redefinition) Alca/DB HN announcement <a href="#">↗</a>

## TrackerAlignment\_2009\_v1\_express

Detailed information at [Conddb](#).

since run	object
246978	TrackerAlignment_v1_hltvalidation
248618	TrackerAlignment_v2_hltvalidation
248642	TrackerAlignment_v1_hltvalidation
251100	TrackerAlignment_v2_hltvalidation
251607	[SWGGuideAlignmentConstantsRun2015[#TrackerAlignment_Run2015B_Pseudo]][TrackerAlignment_Run2015B_Pseudo]
256715	TrackerAlignment_for_Run2015D_v0
256746	TrackerAlignment_for_Run2015D_v1
257826	TrackerAlignment_Run2015D_PseudoPCL_v0
262922	TrackerAlignment_ppRef2015_hltvalidation
270856	TrackerAlignment_CRUZET2016
272497	TrackerAlignment_Run2016A_PseudoPCL_v1

## TrackerAlignment\_prompt

Detailed information at [Conddb](#).

This is a new tag that was created by merging the content of the old TrackerAlignment\_2009\_v1\_prompt, which was in use (apparently) up to run 197571, and then inserting all the IOVs from TrackerAlignment\_2009\_v1\_express that were included recently in all the express and prompt GTs.

It is included in the GT for Prompt as of 74X\_dataRun2\_Prompt\_v2.

since run	object	comment
251607	TrackerAlignment_Run2015B_Pseudo	pseudo-PCL alignment at 3.8T AICa/DB HN announcement
256709	TrackerAlignment_for_Run2015D_v1	conditions derived from Run2015B data (the payload with the younger time stamp)
257826	TrackerAlignment_Run2015D_PseudoPCL_v0	pseudo-PCL alignment at 3.8T with early Run2015D data AICa/DB HN announcement
262922	TrackerAlignment_ppRef2015_hltvalidation	pseudo-PCL alignment at 3.8T with early Run2015E data AICa/DB HN announcement
270385	TrackerAlignment_CRUZET2016	CRUZET 2016 alignment AICa/DB HN announcement
272214	TrackerAlignment_Run2016A_PseudoPCL_v1	Tracker alignment derived from the Pseudo-PCL AICa/DB HN announcement

## TrackerSurafceDeformations\_v1\_hlt

Detailed information at CondDB.

since run	object	comment
184572		Run-I conditions
246993	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AICa/DB HN announcement
270856	TrackerSurfaceDeformations_2015-EOY_v1_RunD	CRUZET2016 AICa/DB HN announcement
281466	TrackerAlignmentSurfaceDeformation_ReReco2016BtoG	September ReReco2016 Announcement
284121	TrackerAlignmentSurfaceDeformation_ReReco2016BtoG_v1	Corrected payload of September campaign (update after pp-runs but before pA-runs) HN announcement
290550	TrackerSurfaceDeformations_PreCRUZET2017_v1	Conditions changed consistently to phase-I pixel detector and last IOV of EOY16 alignment for strips AICa/DB HN announcement
297618	TrackerAlignment_StartUp17_v5	Updates the pixel module-level alignment (positions, rotations, surfaces), consistent with templates v3 for new bias voltage in layer 1 AICa/DB HN announcement
298901	TrackerAlignment_StartUp17_v6	synchronisation with express/prompt
299924	TrackerAlignment_StartUp17_v9	synchronisation with express/prompt HN announcement

## TrackerSurafceDeformations\_v1\_express

Detailed information at [CondDB](#).

since run	object	comment
184572		Run-I conditions
237545		
246993	TrackerAlignment_v1_hltvalidation	CRUZET+CRAFT alignment AlCa/DB HN announcement <a href="#">↗</a>
270856	TrackerSurfaceDeformations_2015-EOY_v1_RunD	CRUZET2016 AlCa/DB HN announcement <a href="#">↗</a>
281466	TrackerAlignmentSurfaceDeformation_ReReco2016BtoG	September ReReco2016 Annoucement <a href="#">↗</a> -> BAD PAYLOAD
283024	TrackerAlignmentSurfaceDeformation_ReReco2016BtoG_v1	Corrected payload of September campaign HN announcement <a href="#">↗</a>
290550	TrackerSurfaceDeformations_PreCRUZET2017_v1	Conditions changed consistently to phase-I pixel detector and last IOV of EOY16 alignment for strips AlCa/DB HN announcement <a href="#">↗</a>
297417	TrackerAlignment_StartUp17_v5	Updates the pixel module-level alignment (positions, rotations, surfaces), consistent with templates v3 for new bias voltage in layer 1 AlCa/DB HN announcement <a href="#">↗</a>
298757	TrackerAlignment_StartUp17_v6	Pixel ML alignment + surfaces from 2017 collision data, runs 298653, 298671, 298678, including cosmic runs 298647/48/51/57/58/61/68. AlCa/DB HN announcement <a href="#">↗</a>
299685	TrackerAlignment_StartUp17_v9	Pixel ML alignment based on Run 299592-97+299614-617. AlCa/DB HN announcement <a href="#">↗</a>

## TrackerSurafceDeformations\_v1\_prompt NEW

Detailed information at [CondDB](#).

**Note** we have currently (24.07.2017) different tags in prompt and express to allow faster reaction to changing conditions during the commissioning period. This is a simply copied version of tag TrackerSurafceDeformations\_v1\_express [↗](#) until Run 298757.

since run	object	comment
299443	TrackerAlignment_StartUp17_v9	Pixel ML alignment based on Run 299592-97+299614-617. AlCa/DB HN announcement <a href="#">↗</a>

## TrackerAlignmentExtendedErr\_2009\_v2\_hlt\_IOVs

Detailed information at [CondDB](#).

(first runs missing)

since run	object	comment
246994	ape_DESRUN2_74_V4_barrel20-disks40	AlCa/DB HN announcement <a href="#">↗</a>
253953	ape_DESRUN2_74_V4_barrel10-disks20	reduced APE for 3.8T operation AlCa/DB HN announcement <a href="#">↗</a>
254588	ape_DESRUN2_74_V4_barrel20-disks40	enlarged APE for 0T operation. Kept also for last 3.8T runs of 2015C since pixel has moved due to magnet cycles during era. AlCa/DB HN announcement <a href="#">↗</a>
256715	ape_DESRUN2_74_V4_barrel10-disks20	reduced APE for 3.8T operation AlCa/DB HN announcement <a href="#">↗</a>
270856	TrackerAlignmentExtendedErrors_CRUZET2016	enlarged APE: 100um for BPIX and FPIX, 20um for TIB and TOB, 40um for TID and TEC AlCa/DB HN announcement <a href="#">↗</a>
272788	TrackerAlignmentExtendedErrors_Run2016B	reduced APE "10/20" AlCa/DB HN announcement <a href="#">↗</a>
276251	TrackerAlignmentExtendedErrors_MP_Run2016B	APE of the May16 alignment, employed after ICHEP dataset closing HN announcement <a href="#">↗</a>
281466	TrackerAlignmentExtendedErrors_ReReco2016BtoG	rereco 2016 campaign Annoucement <a href="#">↗</a> ; APEs presented at AlCa/DB meeting, Jan 09, 2017 <a href="#">↗</a> , values reported slides 59ff (curve labelled "sm1959 (APE per IOV)")
289671	TrackerAlignmentExtendedErrors_CRUZET2016	

		enlarged APE for CRUZET17 data taking with only strips detector: 100mum for BPIX and FPIX, 20mum for TIB and TOB, 40mum for TID and TEC. Note that pixel is still the phase0 format. It will be updated to phase1 once interdependency tests are done with the first, strips-only CRUZET17 data. AICa/DB HN announcement <a href="#">↗</a>
290550	TrackerAlignmentExtendedErrors_BPIX500_FPIX500_TIB20_TOB20_TID40_TEC40	APE for CRUZET data taking 500 mum for BPIX and FPIX, 20 mum for TIB and TOB, 40mum for TID and TEC. Conditions changed consistently to phase-I pixel detector AICa/DB HN announcement <a href="#">↗</a>
294611	TrackerAlignmentExtendedErrors_BPIX100_FPIX100_TIB20_TOB20_TID40_TEC40	APE for CRAFT data taking 100 mum for BPIX and FPIX, 20 mum for TIB and TOB, 40mum for TID and TEC. AICa/DB HN announcement <a href="#">↗</a>
297618	TrackerAlignmentExtendedErrors_StartUp17_v2	APE (in mum) payload based on the last measuerement with 296786: L1x: 30, L1yz: 70, L2y40, rest in pixel: 5; TIB,

		TOB xyz: 20mum (as before); TID, TEC xyz: 40mum (as before) AlCa/DB HN announcement <a href="#">↗</a>
298647	TrackerAlignmentExtendedErrors_StartUp17_v3	Moderately increased pixel APE to accomodate possible displacement by B-field ramp during TS1. APE (in mum): L1x: 30, L1yz: 70, L2y40, rest in BPX 20, FPX 40; TIB, TOB xyz: 20mum (as before); TID, TEC xyz: 40mum (as before). AlCa/DB HN announcement <a href="#">↗</a>
298901	TrackerAlignmentExtendedErrors_StartUp17_v2	back to previous conditions
304653	TrackerAlignmentExtendedErrors_StartUp17_v5 <a href="#">↗</a>	Update of Tracker alignment and APEs corresponding to V6 pixel gain and other local reco conditions HN announcement <a href="#">↗</a> .
310617	TrackerAlignmentExtendedErrors_BPPIX500_FPIX500_TIB20_TOB20_TID40_TEC40 <a href="#">↗</a>	APEs for CRUZET2018 which is the same as the one for 2016 as presented in AlCa/DB meeting <a href="#">↗</a> and AlCa/DB HN announcement <a href="#">↗</a>
314163	TrackerAlignmentExtendedErrors_StartUp2018_v2 <a href="#">↗</a>	New tracker alignment and APE (start-up 2018) HN announcement <a href="#">↗</a> .
317393	TrackerAlignmentExtendedErrors_FirstCollisions2018_v1 <a href="#">↗</a>	New tracker alignment and APE from first

		collisions 2018 HN announcement <a href="#">↗</a> .
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## TrackerAlignmentExtendedErr\_2009\_v2\_express\_IOVs

Detailed information at [CondDB](#) [↗](#).

(first runs missing)

since run	object	comment
236373		
246994	ape_DESRUN2_74_V4_barrel20-disks40	AlCa/DB HN announcement <a href="#">↗</a>
253953	ape_DESRUN2_74_V4_barrel10-disks20	reduced APE for 3.8T operation AlCa/DB HN announcement <a href="#">↗</a>
254588	ape_DESRUN2_74_V4_barrel20-disks40	enlarged APE for 0T operation. Kept also for last 3.8T runs of 2015C since pixel has moved due to magnet cycles during era. AlCa/DB HN announcement <a href="#">↗</a>
256715	ape_DESRUN2_74_V4_barrel10-disks20	reduced APE for 3.8T operation AlCa/DB HN announcement <a href="#">↗</a>
270856	TrackerAlignmentExtendedErrors_CRUZET2016	enlarged APE: 100um for BPIX and FPIX, 20um for TIB and TOB, 40um for TID and TEC AlCa/DB HN announcement <a href="#">↗</a>
272788	TrackerAlignmentExtendedErrors_Run2016B	reduced APE "10/20" AlCa/DB HN announcement <a href="#">↗</a>
276812	TrackerAlignmentExtendedErrors_MP_Run2016B	APE of the May16 alignment, employed after ICHEP dataset closing HN announcement <a href="#">↗</a>

281466	TrackerAlignmentExtendedErrors_ReReco2016BtoG	rereco 2016 campaign Annoucement <a href="#">↗</a> ; APEs presented at AICa/DB meeting, Jan 09, 2017 <a href="#">↗</a> , values reported slides 59ff (curve labelled "sm1959 (APE per IOV)")
289671	TrackerAlignmentExtendedErrors_CRUZET2016	enlarged APE for CRUZET17 data taking with only strips detector: 100mum for BPIX and FPIX, 20mum for TIB and TOB, 40mum for TID and TEC. Note that pixel is still the phase0 format. It will be updated to phase1 once interdependency tests are done with the first, strips-only CRUZET17 data. AICa/DB HN announcement <a href="#">↗</a>
290550	TrackerAlignmentExtendedErrors_BPIX500_FPIX500_TIB20_TOB20_TID40_TEC40	APE for CRUZET data taking 500 mum for BPIX and FPIX, 20 mum for TIB and TOB, 40mum for TID and TEC. Conditions changed consistently to phase-I pixel detector AICa/DB HN announcement <a href="#">↗</a>
294611	TrackerAlignmentExtendedErrors_BPIX100_FPIX100_TIB20_TOB20_TID40_TEC40	APE for CRAFT data taking 100 mum for BPIX and FPIX, 20 mum for TIB and TOB, 40mum for

		TID and TEC. AlCa/DB HN announcement <a href="#">↗</a>
297104	TrackerAlignmentExtendedErrors_StartUp17_v1	APE payload based on the last measurement with 296463, keeping 100um in L1: L1 xyz: 100um (as before); L2 y: 40um; L2 xz; L3-L4 xyz FPX xyz: 10um; TIB, TOB xyz: 20um (as before); TID, TEC xyz: 40um (as before) AlCa/DB HN announcement <a href="#">↗</a>
297417	TrackerAlignmentExtendedErrors_StartUp17_v2	APE (in um) payload based on the last measurement with 296786: L1x: 30, L1yz: 70, L2y40, rest in pixel: 5; TIB, TOB xyz: 20um (as before); TID, TEC xyz: 40um (as before) AlCa/DB HN announcement <a href="#">↗</a>
298450	TrackerAlignmentExtendedErrors_StartUp17_v3	Moderately increased pixel APE to accomodate possible displacement by B-field ramp during TS1. APE (in um): L1x: 30, L1yz: 70, L2y40, rest in BPX 20, FPX 40; TIB, TOB xyz: 20um (as before); TID, TEC xyz: 40um (as before). AlCa/DB HN

		<a href="#">announcement</a>
298759	<a href="#">TrackerAlignmentExtendedErrors_StartUp17_v2</a>	APE (in mum) payload based on the last measurement with 296786: L1x: 30, L1yz: 70, L2y40, rest in pixel: 5; TIB, TOB xyz: 20mum (as before); TID, TEC xyz: 40mum (as before) AICa/DB HN <a href="#">announcement</a>
304653	<a href="#">TrackerAlignmentExtendedErrors_StartUp17_v5</a>	Update of Tracker alignment and APEs corresponding to V6 pixel gain and other local reco conditions HN <a href="#">announcement</a> .
310617	<a href="#">TrackerAlignmentExtendedErrors_BPIX500_FPIX500_TIB20_TOB20_TID40_TEC40</a>	APEs for CRUZET2018 which is the same as the one for 2016 as presented in AICa/DB meeting and AICa/DB HN <a href="#">announcement</a>
314163	<a href="#">TrackerAlignmentExtendedErrors_StartUp2018_v2</a>	New tracker alignment and APE (start-up 2018) HN <a href="#">announcement</a> .
317393	<a href="#">TrackerAlignmentExtendedErrors_FirstCollisions2018_v1</a>	New tracker alignment and APE from first collisions 2018 HN <a href="#">announcement</a> .

## TrackerAlignmentExtendedErr\_2009\_v2\_prompt\_IOVs NEW

Detailed information at [CondDB](#).

**Note** we have currently (24.07.2017) different tags in prompt and express to allow faster reaction to changing conditions during the commissioning period. This is a simply copied version of tag [TrackerAlignmentExtendedErr\\_2009\\_v2\\_express\\_IOVs](#) until Run 298759.

since run	object	comment
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## TrackerAlignmentExtendedErrors\_v10\_offline\_IOVs NEW

Detailed information at [CondDB](#).

- This tag contains all IOVs from TrackerAlignmentExtendedErrors\_v9\_offline\_IOVs with new APEs corresponding to TrackerAlignment\_v24\_offline for ReRecoABCD 2018.
- AICa /DB Announcement [here](#).

## TrackerAlignmentExtendedErrors\_v9\_offline\_IOVs NEW

Detailed information at [CondDB](#).

since run	object	
1	--	A copy of 43 IOVs from TrackerAlignmentExtendedErrors_v9_offline_IOVs
290101	TrackerAlignmentExtendedErrors_BPIX50_FPIX50_TIB20_TOB20_TID40_TEC40	50mum in pixel; 20 mu TID, TEC
294034	TrackerAlignmentExtendedErrors_ReReco2017_v2 <a href="#">↗</a>	TIB/TOB: 5, TID/TEC alignment IOV 1-4: L1 others: 5
298653	TrackerAlignmentExtendedErrors_ReReco2017_v2 <a href="#">↗</a>	TIB/TOB: 5, TID/TEC alignment IOV 5-6: L1 others:5
299443	TrackerAlignmentExtendedErrors_ReReco2017_v2 <a href="#">↗</a>	TIB/TOB: 5, TID/TEC alignment IOV 7-12: L others: 5

**Note** private tag contains only 2017 payload is also created under TrackerAlignmentExtendedErrors\_ReReco2017\_v2 [↗](#).

## TrackerAlignmentExtendedErrors\_v8\_offline\_IOVs NEW

Remake of offline tag created for 2017 Re-reco according to AICa/DB Announcement [↗](#). This tag is the updated version of TrackerAlignmentExtendedErrors\_v7\_offline\_IOVs which contains one more payload.

Detailed information at [CondDB](#).

since run	object	
1	--	A copy of 43 IOVs from TrackerAlignmentExtendedErrors_v8_offline_IOVs
290101	TrackerAlignmentExtendedErrors_BPIX50_FPIX50_TIB20_TOB20_TID40_TEC40	50mum in pixel; 20 mu TID, TEC
297020	TrackerAlignmentExtendedErrors_StartUp17_v2	APE (in mum) payload measurement with 290101 L2y40, rest in pixel: 5; before); TID, TEC xyz
299337	TrackerAlignmentExtendedErrors_StartUp17_v4	APE (in mum): L1x: 30 pixel: 5; TIB, TOB xyz 20mum

**Note** private tag contains only 2017 payload is also created under TrackerAlignmentExtendedErrors\_ReReco2017\_v1 [↗](#).

## TrackerAlignmentExtendedErrors\_v7\_offline\_IOVs NEW

Offline tag created for 2017 Re-reco according to AICa/DB Announcement [↗](#).

Detailed information at CondDB [↗](#).

since run	object	
1	--	A copy of 43 IOVs from TrackerAlignmentExte
290101	TrackerAlignmentExtendedErrors_BPIX50_FPIX50_TIB20_TOB20_TID40_TEC40	50um in pixel; 20 mu TID, TEC
297020	TrackerAlignmentExtendedErrors_StartUp17_v4	APE (in mum): L1x: 30 pixel: 5; TIB, TOB xyz 20mum

**Note** private tag contains only 2017 payload is also created under TrackerAlignmentExtendedErrors\_ReReco2017\_v0 [↗](#).

## TrackerAlignmentExtendedErrors\_v6\_offline\_IOVs

Detailed information at CondDB [↗](#).

since run	object	content
1	--	Run-I
157865	--	Run-I
238341	TrackerAlignmentExtendedErrors_barrel20_endcap40	CRAFT15
250933	TrackerAlignmentErrorExtended_Run2Startup_v0_mc	Start of 2015 data taking? This would correspond to 20/40
250985	TrackerAlignmentExtendedErr_2015-EOY_v1	Run2015B with APEs on mp1896 object
253986	TrackerAlignmentExtendedErr_2015-EOY_v1	Run2015C with APEs on hp1527 object
256547	TrackerAlignmentExtendedErr_2015-EOY_v1	Run2015D with APEs on mp1885 object
266150	TrackerAlignmentExtendedErrors_CRUZET2016	CRAFT16, 100/20/40 APEs
271866	TrackerAlignmentExtendedErrors_EOY16_sm1959	APE for 35 IOVs (final IOV is 284038) from EOY16

## Details of Alignment, APE and Surface Deformation NEW

### Run 2015

- Alignment Constants for Run II -- 2015

### Run 2016

- Alignment Constants for Run II -- 2016

### Run 2017

- Alignment Constants for Run II -- 2017

## Run 2018 NEW

- Alignment Constants for Run II -- 2018

Responsible: MatthiasSchroederHH

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This topic: CMSPublic > SWGuideAlignmentConstants

Topic revision: r238 - 2019-04-16 - MuhammadAnsarIqbal



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