

The MiniAOD format was originally created in spring 2014, its format evolved, thanks to user feedback and in order to account new CMS reconstruction features, between the time of the original proposal and the starting of Run2. In this heavy development period the compatibility across releases was not kept and users are expected to read a MiniAOD sample with the same release that produced it or a newer bug fix release of the same series (i.e. only the last digit of the release number can be different).

Documentation for the different versions of miniAOD are provided below as well as a compatibility table.

Workbook page	Purpose	CMSSW Release
WorkBookMiniAOD2017	2017 Data & MC 2016 Data & MC re-miniAOD	94X
WorkBookMiniAOD2016	2016 Data & MC (Moriond 2017 dataset)	80X
WorkBookMiniAOD2015	2015 Data & MC	74X and 76X
WorkBookMiniAOD2014	Phys14 and CSA campaigns of 2014	72X and earlier

## Compatibility table

Note: this table lists only the main MC productions and data processings. Smaller productions or reprocessings used e.g. for release validation are not listed here

### 2017 and 2016 re-miniAOD (94X version 2 🌟)

- Produced with CMSSW 9\_4\_5 or later; see below for global tags
- **Main changes with respect to 94X MiniAOD v1** (twiki with details):
  - ◆ JEC updates, as listed below depending on the specific dataset, MET significance update, and puppi-weighted jet multiplicities
  - ◆ E/gamma 2017 v1 electron and photon IDs are precomputed and saved  
Energy calibration and smearing are precomputed and saved, but **not** applied to the 4-vector of the electron and photon objects.  
For a description of the new content, please read the EgammaMiniAODV2 twiki.
  - ◆ Added summary DeepCSV discriminators (pfDeepCSVDiscriminatorsJetTags:xxx where xxx is BvsAll, CvsB, CvsL)  
Added Deep Flavour Tagging (pfDeepFlavourJetTags:probxxx, where xxx is b, bb, lep, c, uds, g)
  - ◆ Tau ID: updated training of the MVArun2v1DBoldDMwLT series of discriminators (2017 v1)
  - ◆ Fixed access to L1 prescale values and hit-level dE/dx information for isolated tracks.

### 2017 MC re-miniAOD 12Apr2018 (94X version 2 🌟)

- DAS query: `dataset=/*/RunIIFall17*12Apr2018*/MINIAODSIM`
- Produced with CMSSW 9\_4\_6; **Global tag:** `94X_mc2017_realistic_v14`, cmsDriver eras `Run2_2017, run2_miniAOD_94XFall17`
  - ◆ JECs used: `Fall17_17Nov2017_V6_MC`
- **Recommended release:** `9_4_6_patch1` or later, **Global tag:** `94X_mc2017_realistic_v14`

### 2017 Data re-miniAOD 31Mar2018 (94X version 2 🌟)

- DAS query: `dataset=/*/Run2017*31Mar2018*/MINIAOD`
- Produced with CMSSW 9\_4\_5; **Global tag:** `94X_dataRun2_v6`, cmsDriver eras `Run2_2017, run2_miniAOD_94XFall17`
  - ◆ JECs used: `Fall17_17Nov2017BCDEF_V6_DATA`
- **Recommended release:** `9_4_6_patch1` or later, **Global tag:** `94X_dataRun2_v6`

## 2016 Data legacy re-miniAOD 17Jul2018 (94X version 2 NEW )

- DAS query: `dataset=/*/Run2016*17Jul2018*/MINIAOD` [↗](#)
- Produced with CMSSW 9\_4\_9; **Global tag:** `94X_dataRun2_v10`, cmsDriver eras `Run2_2016_HIPM, run2_miniAOD_80XLegacy` for B-F, `Run2_2016, eras.run2_miniAOD_80XLegacy` for G-H
- Note that the input AODs are from the 17Aug2017 re-reco of 2016 data with improved alignment and calibrations, not the 23Sep2016+PromptReco AODs which were used for the Moriond 2017 dataset

## 2016 MC legacy re-miniAOD (aka 94X version 2 NEW )

- DAS query: `dataset=/*/RunIISummer16MiniAODv3*/MINIAODSIM` [↗](#)
- Produced with CMSSW 9\_4\_9; **Global tag:** `94X_mcRun2_asymptotic_v3`, cmsDriver eras `Run2_2016, run2_miniAOD_80XLegacy`
- Note that the input AODs are the same as used for the Moriond 2017 dataset, i.e. there has been no re-reconstruction of the MC. They are labelled MiniAODv3 since the MiniAODv2 was used for 80X version 2.

## 2016 MC for Moriond 2017 (80X)

### Run2 Moriond17 re-digi-reco campaign (new 80X version 2 - CMSSW 8\_0\_21 or later)

- DAS query:  
`dataset=/*/RunIISummer16MiniAODv2*PUMoriond17_80X_mcRun2_asymptotic_2016_TrancheIV_v6*/MINIAODSIM` [↗](#)
- Produced with `8_0_21=` or later; **Global tag:** `=80X_mcRun2_asymptotic_2016_TrancheIV_v6-`, cmsDriver era `==Run2_2016`
- **Recommended 80X release:** `8_0_25` or later, **Global tag:** `80X_mcRun2_asymptotic_2016_TrancheIV_v6`
- **Changes with respect to older 80X version (8\_0\_19 or earlier)** (slides [↗](#)):
  - ◆ b-tagging now uses a relaxed track selection that improves the performance in the presence of strip tracker dynamic inefficiencies.
  - ◆ Tau updates to allow re-running some IDs from MiniAOD talk [↗](#)
  - ◆ Several MET filters have been updated; Puppi MET and MET significance have been updated
  - ◆ Updated PileUp JetID and BoostedDoubleSV tagger
  - ◆ PackedCandidates of `pt > 0.95` now also store the number of tracker and pixel layers and not just the number of hits code [↗](#)
  - ◆ Instantaneous luminosity from the scales is now saved code [↗](#)
  - ◆ Muon mothers have been added to the pruned genParticles (relevant only for muon-enriched QCD samples)

## 2016 Data for Moriond 2017 (80X)

### Run2016 03Feb2017 Re-miniAOD (80X version 2 - CMSSW 8\_0\_26\_patch1 )

- DAS query: `dataset=/*/Run2016*-03Feb2017-v*/MINIAOD` [↗](#) [↗](#) [↗](#)
- ◆ Covers all 2016 data in the B-H eras.
- ◆ For **Run2016B**, you will find 2 datasets called `Run2016B-03Feb2017_ver1` and `Run2016B-03Feb2017_ver2`; these map to the RAW `Run2016B-v1` and `Run2016B-v2`. **You can skip the ver1 dataset** as it does not contain any runs in the golden JSON.
- ◆ For **Run2016H**, you will find two datasets called `Run2016H-03Feb2017_ver2` and `Run2016H-03Feb2017_ver3`; these map to the `PromptReco-v2` and `PromptReco-v3` AODs. **You should use both datasets**, as they do not overlap.
- Produced with: `8_0_26_patch1`; **Global tag:** `80X_dataRun2_2016SeptRepro_v7` (eras B-G) `80X_dataRun2_Prompt_v16` (era H); the global tags are an update the 23Sep2016 and PromptReco

ones to includes the **23Sep2016 V3 JECs** on top .

- Recommended 80X releases **8\_0\_25** or later; Global tag: **80X\_dataRun2\_2016SeptRepro\_v7** (eras B-G) **80X\_dataRun2\_Prompt\_v16** (era H)
- Re-miniAOD to address issues found in 23Sep2016 re-reco. See PPD Talk [↗](#) and **detailed documentation in ReMiniAOD03Feb2017Notes twiki**

### Run2016 23Sep2016 of eras B-G (80X version 2 - CMSSW 8\_0\_20 or later )

- DAS query: `dataset=/*/Run2016*-23Sep2016-v*/MINIAOD` [↗](#) [↗](#) [↗](#)
  - ◆ This rereco covers all the 80X version 2 prompt-reco data, and has no overlap with the 80X version 3 prompt-reco (Run H v2 and v3). For **Run2016B**, be sure to use the **v3** of the datasets, not the older **v1** or **v2**.
- Produced with: **8\_0\_20**; Global tag: **80X\_dataRun2\_2016SeptRepro\_v4** for Run2016B, **80X\_dataRun2\_2016SeptRepro\_v3** for all the others.
- Recommended 80X releases **8\_0\_25** or later; Global tag: **80X\_dataRun2\_2016SeptRepro\_v4** (note: does not yet include the final JECs for this ReReco)
- **Known features** of miniAOD, in addition to any other possible issue affecting the detector or the reconstruction:
  - ◆ Stored L1 trigger prescale values are not correct, check with **WBM** [↗](#) if you are using them for any purpose.  
The trigger prescale column can be retrieved as documented under **WorkBookMiniAOD2016#Trigger**

### Run2016 Prompt, eras H-v2 and later (new 80X version 2 - CMSSW 8\_0\_20 or later)

- DAS query: `dataset=/*/Run2016H-PromptReco-v*/MINIAOD` [↗](#) **starting from v2**.  
The Run2016H-PromptReco-v1 datasets still have the 80X v2 miniAOD, but they don't contain any stable beam collisions, so they can be ignored.
- Produced with: **8\_0\_20** or later; Global tag: **80X\_dataRun2\_Prompt\_v14** or later,
- Recommended 80X releases **8\_0\_25** or later; Global tag: **80X\_dataRun2\_Prompt\_v14** or later
- **POG Recipes for 2016 data analysis for summer conferences**: **POGRecipesICHEP2016 twiki**
- **Known features** of miniAOD, in addition to any other possible issue affecting the detector or the reconstruction: \* Stored L1 trigger prescale values are not correct, check with **WBM** [↗](#) if you are using them for any purpose.  
The trigger prescale column can be retrieved as documented under **WorkBookMiniAOD2016#Trigger**

## 2015 MC

### Run2 Fall15 MiniAOD v2 campaign (76X version 2)

- DAS query: `dataset=/*/RunIIFall15MiniAODv2-PU25nsData2015v1*/*` [↗](#) (25ns) [↗](#) [↗](#)
- Produced with: **7\_6\_3**; Global tags: **76X\_mcRun2\_asymptotic\_v12** (25ns, Data2015v1 PU profile)
- Readable with 76X releases **7\_6\_3=** or later; Global tags: **76X\_mcRun2\_asymptotic\_v12** (25ns)
- **Main changes wrt 74X version 2 miniAODs**:
  - ◆ additions to the event content: **bunchSpacingProducer**, **CSCHaloData**, **BeamHaloSummary**
  - ◆ updates to the rho values: **fixedGridRhoFastjetCentral** (**new**), **fixedGridRhoFastjetCentralChargedPileUp** and **fixedGridRhoFastjetCentralNeutral** (fixed to include only neutral and pileup particles; in 74X by mistake they were including all particles)
  - ◆ hadronic energy fraction added to packed PF candidates of neutral hadrons (pdgId 130) and HF hadrons (pdgId 1), with fixed precision of 1%
  - ◆ pruned gen particle selection extended to contain all b and c quarks irrespectively of their status flag

- ◆ the `slimmedMETsNoHF` was dropped (the recommendation from the MET group is to use standard `slimmedMETs` in 76X)
- **Changes wrt 76X version 1:**
  - ◆ Added c-tagging and boosted double-SVb-tagging discriminators
  - ◆ Fixed issue with tau decay mode reconstruction, mass assignment, and updated anti-electron `mva` discriminator (see slides from PPD Meeting 25-Nov-2015; note that not everything in the slides went in this version)
  - ◆ MET filters: added filters for poorly reconstructed tracks and muons (code) and fix the `EcalDeadCellTriggerPrimitiveFilter` threshold
  - ◆ Small fixes to the impact parameter variables in the packed PF candidates (code)

## Run2 Spring15MiniAODv2 re-miniAOD campaign (74X version 2)

- DAS query: `dataset=/*/RunIISpring15MiniAODv2*/MINIAODSIM` (progress plots: 25ns 50ns)
- Produced with: 7\_4\_14; Global tags: `74X_mcRun2_asymptotic_v2` (25ns), `74X_mcRun2_asymptotic50ns_v0` (50ns)
- Readable with 74X releases from 7\_4\_14 or later  
Global tags to get latest JECs: `74X_mcRun2_asymptotic_v4` (UPDATED 25ns), `74X_mcRun2_asymptotic50ns_v0` (50ns); the new 25ns JECs MC corrections V6 have the same central values as the V5 ones used to produce these samples, but updated uncertainties
- **List of main changes**
  - ◆ EGamma: updated **electron and photon energy scales**, embedded ids, fixed photon isolation, lowered photon pt threshold
  - ◆ JetMET: updated **jet energy corrections**, MET corrections, MET uncertainties, **MET filters**, added the **noHF met**, updated pileup jet id, updated **Puppi** recipe (incl. a second set of puppi weights), lowered threshold on ak8 jets, switched ak8 genjets to be no-neutrinos
  - ◆ Tau: **updated reconstruction** to dynamic strip reco
  - ◆ B-tagging: small bugfixes, plus a big update to the combinedMVA tagger, and an update on the MC flavour information
  - ◆ Trigger: added L1 prescales and fixed HLT prescales
  - ◆ MC: pileup truth information has been slimmed
  - ◆ See also `WorkBookMiniAOD2015` and presentation at the physics week; full list of code changes in `MiniAODSpring15pass2` twiki

## Run2015 Data (76X)

### Run2015 16Dec2015 Data (76X version 2)

- DAS query: `dataset=/*/16Dec2015*/MINIAOD`
- Produced with: 7\_6\_3; Global tag `76X_dataRun2_v15`
- Readable with 76X releases from 7\_6\_3 or later
- Covers the whole 2015 dataset

## Run2015 Data (74X)

### Run2015D PromptReco-v4 Data (74X version 2, new JECs)

- DAS query: `dataset=/*/Run2015D-PromptReco-v4/MINIAOD`
- Produced with: 7\_4\_14; Global tag `74X_dataRun2_Prompt_v4` (includes JES corrections derived on early 25ns Run2015D data)
- Readable with 74X releases from 7\_4\_14 or later; Global tag with latest JECs : `74X_dataRun2_reMiniAOD_v1` (UPDATED (for 25ns it has JECs V6, same as in `74X_dataRun2_v5`, and updated wrt the version used to produce this dataset)

- Covers the third and last part of the 25ns data taking, starting from early october (run 258159)
- Same 2015 version 2 configuration as RunIISpring15MiniAODv2

### Run2015 B/C(50ns)/D 05Oct2015 re-miniAOD (74X version 2, new JECs)

- DAS query: `dataset=/*/Run2015*05Oct2015*/MINIAOD`
- Produced with: 7\_4\_14; Global tag `74X_dataRun2_reMiniAOD_v0` (includes JES corrections derived on early 25ns Run2015D data)
- Readable with 74X releases from 7\_4\_14 or later; Global tag with latest JECs : `74X_dataRun2_reMiniAOD_v1` **UPDATED** (for 25ns it has JECs V6, same as in `74X_dataRun2_v5`, and updated wrt the version used to produce this dataset; for 50ns it is identical to `74X_dataRun2_reMiniAOD_v0` on the 50ns data, as 50ns JECs have not been updated after the production of this sample)
- Update of the 50ns 2015B+C and older 25ns 2015D (PromptReco-v3) to the latest greatest code and JES corrections.  
See below for the 50ns Run2015C.
- Same 2015 version 2 configuration as RunIISpring15MiniAODv2

### Run2015 C(25ns) 05Oct2015 re-RECO (74X version 2, new JECs)

- DAS query: `dataset=/*/Run2015C_25ns*05Oct2015*/MINIAOD`
- Produced with: 7\_4\_14; Global tag = `74X_dataRun2_v4` (includes JES corrections derived on early 25ns Run2015D data)
- Readable with 74X releases from 7\_4\_14 or later; Global tag with latest JECs : `74X_dataRun2_reMiniAOD_v1` **UPDATED** (for 25ns it has JECs V6, same as in `74X_dataRun2_v5`, and updated wrt the version used to produce this dataset)
- Update of the 25ns 2015C including fixes to low level reco (calibrations of ECal multifit and HCAL) and the latest greatest code and JES corrections.
- Same 2015 version 2 configuration as RunIISpring15MiniAODv2

## Old and obsolete campaiings:

### 2014 MC

#### Original CSA14 campaign (2014)

- DAS link: `dataset=/*/Spring14miniaod*/MINIAODSIM release=CMSSW_7_0_6*`
- Produced with: 706patch1
- Readable with releases from 70X to 73X

#### Second CSA14 (141029; 2014)

- DAS query: `dataset=/*/141029*/MINIAODSIM`
- Produced with: 709patch2
- Readable with releases from 70X to 73X

#### Phys14 campaign (2014)

- DAS query: `dataset=/*/Phys14*/MINIAODSIM`
- Produced with: 720
- Readable with releases from 72X to 73X

## 2015 MC

### Run2 Spring15 campaign (74X version 1,)

- DAS query: `dataset=/*/RunIISpring15DR74*/MINIAODSIM`
- Produced with: 741patchX ; Global tags: `MCRUN2_74_V9` (Asympt. 25ns), `MCRUN2_74_V9A` (Asympt. 50ns),
- Readable with releases from 74X up to `CMSSW_7_4_10_patchX` (newer 74X also work, except for accessing the MET uncertainties)  
Global tags to get latest JECs: `74X_mcRun2_asymptotic_v2` (25ns), `74X_mcRun2_startup_v2` (50ns)

### Run2 Fall15 campaign (76X version 1))

- DAS query: `dataset=/*/RunIIFall15MiniAODv1-PU25nsData2015v1*/*` (25ns)
- Produced with: `7_6_1`; Global tags: `76X_mcRun2_asymptotic_v12` (25ns, Data2015v1 PU profile)
- Readable with 76X releases `7_6_1=` or later (**recommended: `7_6_3` or later**); Global tags: `76X_mcRun2_asymptotic_v12` (25ns)
- **Main changes wrt 74X version 2 miniAODs:**
  - ◆ additions to the event content: `bunchSpacingProducer`, `CSCHaloData`, `BeamHaloSummary`
  - ◆ updates to the rho values: `fixedGridRhoFastjetCentral` (new), `fixedGridRhoFastjetCentralChargedPileUp` and `fixedGridRhoFastjetCentralNeutral` (fixed to include only neutral and pileup particles; in 74X by mistake they were including all particles)
  - ◆ hadronic energy fraction added to packed PF candidates of neutral hadrons (pdgId 130) and HF hadrons (pdgId 1), with fixed precision of 1%
  - ◆ pruned gen particle selection extended to contain all b and c quarks irrespectively of their status flag
  - ◆ the `slimmedMETsNoHF` was dropped (the recommendation from the MET group is to use standard `slimmedMETs` in 76X)
- **Some high level calibrations derived from 76X MC will have to be applied on top of miniAODs to get the best physics performance:**
  - ◆ JECs and type1 MET: current MC contains 74X MC v6 JECs, to be updated with ones derived in 76X
  - ◆ PileUp JetID: current training is performing poorly outside the tracker coverage
- This processing has problems in the tau identification. In addition, a few other small improvements have been made in version 2 (see above)

## 2015 Data

### Run2015B PromptReco Data (74X version 1,)

- DAS query: `dataset=/*/Run2015B-PromptReco-v1/MINIAOD`
- Produced with: 746patch6; Global tag `74X_dataRun2_Prompt_v1` (v0 for earlier runs)
- Readable with releases from 74X (recommended  $\geq$  746patch6, though in practice older 74X releases seem to work)  
Global tag: `74X_dataRun2_v2` (incl. latest JECs)
- Covers the whole 50ns early data taking. Known issues:
  - ◆ Trigger prescales are not reported correctly for prescaled paths
  - ◆ MET Filters missing for runs before 251585, and HBHE filter must be re-run

### Run2015B 17Jul2015 re-miniAOD Data (74X version 1,)

- DAS query: `dataset=/*/Run2015B-17Jul2015-v1/MINIAOD`
- Produced with: 747; Global tag `74X_dataRun2_Prompt_v0`



- Readable with releases from 74X (recommended  $\geq$  747patch1, though in practice older 74X releases seem to work)  
Global tag: `74X_dataRun2_v2` (incl. latest JECs)
- Covers the run range 251162-251562 for which MET filters were missing in PromptReco. Known issues:
  - ◆ Trigger prescales may not reported correctly for prescaled paths
  - ◆ MET Filters: HBHE filter must be re-run

### Run2015C PromptReco Data (74X version 1,)

- DAS query: `dataset=/*/Run2015C-PromptReco-v*/MINIAOD`
- Produced with: 748patch1 or later (at least for run  $\geq$  253628, i.e. all collision runs taken in August);  
Global tag `74X_dataRun2_Prompt_v1`
- Recommended release: CMSSW\_7\_4\_10 or later (though in practice older 74X releases seem to work)  
Global tag: `74X_dataRun2_v2` (incl. latest JECs)
- Covers the early 25ns data taking, plus one run at 50ns (254833).
- The two issues above with trigger prescales and MET filters are solved (ADC0 cut removed). **Note however that MET filter recommendations for 25ns may be different from those for 50ns, and so you may need a different working point for the HBHE filter**

### Run2015D PromptReco-v3 Data (74X version 2, old JECs,)

- DAS query: `dataset=/*/Run2015D-PromptReco-v3/MINIAOD`
- Produced with: `7_4_12_patchX`; Global tag `74X_dataRun2_Prompt_v2` and `v3` (identical for miniAOD purposes)
- Readable with 74X releases from `7_4_12` or later (**recommended** `7_4_14` or later) ; Global tag `74X_dataRun2_reMiniAOD_v0` (includes 25ns Data JECs from <https://hypernews.cern.ch/HyperNews/CMS/get/jes/558.html>)
- Covers the second part of the 25ns data taking, starting from mid. september, up to early october (runs up to 258158)
- Same 2015 version 2 configuration as RunIISpring15MiniAODv2, except for the following issues that will be fixed in an upcoming re-miniAOD pass:
  - ◆ The JECs used for this data-taking period are old
  - ◆ `CMSSW_7_4_12_patchX` had a few small bugs in the application of the electron and photon calibrations, which have since then been fixed (in `CMSSW_7_4_14`)
  - ◆ The threshold on the corrected jet pT in the type1 MET corrections is 10 GeV (as in the older miniAODs), and not 15 GeV as in the future version 2 data and MC

## 2016 MC

### Run2 Spring16 MiniAOD v1 campaign (80X version 1)

- DAS query: `dataset=/*/RunIISpring16MiniAODv1*/*`
- Produced with: `8_0_3_patch1`; Global tag: `80X_mcRun2_asymptotic_2016_v3`, cmsDriver era `Run2_25ns`, pileup scenario `2016_25ns_SpringMC_PUScenarioV1_PoissonOOTPU`
- Recommended for analysis: 80X releases `8_0_5` or later; Global tags:  
`80X_mcRun2_asymptotic_2016_miniAODv2`
- **POG Recipes for 2016 data analysis for summer conferences:** POGRecipesICHEP2016 twiki
- **Changes wrt 76X** (POGs please put your entries here, and add links to more doc):
  - ◆ JME: Updates to PUPPI tune
  - ◆ JME: updated MET uncertainties and MET filters; MET significance added, `slimmedMETsNoHF` added

- ◆ JME: Pileup jetID updated to the 76X MC training (76X miniAOD had the 74X MC training, with poor performance outside of the tracker coverage)
- ◆ Tau: Boosted tau reconstruction was added
- ◆ BTV: updated c-tagger training (working points will change wrt 76X), no code changes
- ◆ BTV: some of the taggers were removed/added to the list of discriminators stored in MiniAOD but no changes to those recommended to users
- ◆ BTV: various smaller fixes were made and we expect somewhat better agreement between discriminator values computed from AOD and MiniAOD
- **Known issues:**
  - ◆ Trigger information in this MC production is dummy, by design, and must not be used.
  - ◆ 76X jet energy corrections are used in these samples; 80X MC JECs are available (talk), but require `CMSSW_8_0_5` or later
  - ◆ Pile-up jetid uses the 76X MC training. The 80X training will be integrated in v2
  - ◆ puppi MET uses wrong type1 corrections; MET uncertainty from unclustered energy is wrongly computed.

### Run2 Spring16 MiniAOD v2 campaign - part I, without HLT (80X version 2)

- DAS query: `dataset=/*/RunIISpring16MiniAODv2*/*`
- Produced with: `8_0_5`; Global tag: `80X_mcRun2_asymptotic_2016_miniAODv2`, cmsDriver era `Run2_25ns`, pileup scenario `2016_25ns_SpringMC_PUScenarioV1_PoissonOOTPU`
- **Recommended 80X release:** `8_0_12` or later, **Global tag:** `80X_mcRun2_asymptotic_2016_miniAODv2_v1` (includes Spring16\_25nsV6 JECs)
- **POG Recipes for 2016 data analysis for summer conferences:** `POGRecipesICHEP2016` twiki
- **Changes wrt 76X**
  - ◆ JME: Updates to PUPPI tune
  - ◆ JME: updated MET uncertainties and MET filters; MET significance added, `slimmedMETsNoHF` added
  - ◆ Tau: Boosted tau reconstruction was added
  - ◆ BTV: updated c-tagger training (working points will change wrt 76X), no code changes
  - ◆ BTV: some of the taggers were removed/added to the list of discriminators stored in MiniAOD but no changes to those recommended to users
  - ◆ BTV: various smaller fixes were made and we expect somewhat better agreement between discriminator values computed from AOD and MiniAOD \* **Changes with respect to 80X v1:**
  - ◆ Spring16\_25nsV1\_MC jet energy corrections are applied, derived from 80X MC (talk)
  - ◆ Pile-up jetid training updated to 80X MC: 80X training
  - ◆ Fixed type1 MET corrections for puppi MET and MET uncertainty from unclustered energy.
  - ◆ Substructure information for AK8 jets updated: added PUPPI substructure floats, removed obsolete CMS top tagger.

### Run2 Spring16 reHLT campaign (80X version 2)

- DAS query: `dataset=/*/RunIISpring16MiniAODv2*reHLT*/*`
- Produced with: `8_0_11` or later; Global tag: `80X_mcRun2_asymptotic_v14`, cmsDriver era `Run2_2016`
- **Recommended 80X release:** `8_0_12` or later, **Global tag:** `80X_mcRun2_asymptotic_2016_miniAODv2_v1` (includes Spring16\_25nsV6 JECs)
- **POG Recipes for 2016 data analysis for summer conferences:** `POGRecipesICHEP2016` twiki
- **These MC samples include trigger information.** The **trigger process name** for the `TriggerResults` collection is `HLT2`, while the collections of trigger object have process name `PAT` as in all other miniAODs since those are produced offline.  
For the rest, they are the same as in the miniAOD v2 (and it's the *same* events, not an independent MC generation).  
Note that reHLT will happen only for some of the MC samples, not all of them.



## Run2 Spring16 withHLT campaign (80X version 2)

- DAS query: `dataset=/*/RunIISpring16MiniAODv2*withHLT*/*`
- Produced with: 8\_0\_12 or later; Global tag: `80X_mcRun2_asymptotic_v14=, cmsDriver era ==Run2_2016`
- **Recommended 80X release:** 8\_0\_12 or later, **Global tag:** `80X_mcRun2_asymptotic_2016_miniAODv2_v1` (includes Spring16\_25nsV6 JECs)
- **POG Recipes for 2016 data analysis for summer conferences:** `POGRecipesICHEP2016` twiki
- **These MC samples include trigger information (with the standard trigger process name HLT).** They are a new MC processing, for a different set of samples.

## 2016 Data

### Run2016 Prompt, eras B-G (80X version 2)

- DAS query: `dataset=/*/Run2016*-PromptReco-v*/MINIAOD`
- Produced with: 8\_0\_6 or later (2016B), 8\_0\_12 or later (2016C & D); Global tag: `80X_dataRun2_Prompt_v8` (2016B), `80X_dataRun2_Prompt_v9` (2016C & D),
- Recommended 80X releases 8\_0\_12 or later; Global tag: `80X_dataRun2_Prompt_ICHEP16JEC_v0` (includes Spring16\_25nsV6 JECs)
- **POG Recipes for 2016 data analysis for summer conferences:** `POGRecipesICHEP2016` twiki
- **Known features** of miniAOD, in addition to any other possible issue affecting the detector or the reconstruction:
  - ◆ Jet energy corrections for 80X data are not included in Run2016B eras, while Run2016C and D eras include `Spring16_25nsV3` corrections.  
The latest recommended JECs for Data are in the `JECDataMC` twikipage
  - ◆ Stored trigger prescale values are not correct, check with `WBM` if you are using them for any purpose.  
The trigger prescale column can be retrieved as documented under `WorkBookMiniAOD2016#Trigger`

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This topic: CMSPublic > WorkBookMiniAOD

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