

# Comparison of the Thomas' and git versions of the code

This page is dedicated to the comparison between two existing versions of the analysis code under development.

## Steering-templates comparison

[Steering-templates](#) are being compared following the analysis [steps' order](#).

1. **convert-ped**: [convert-ped-tmp.xml](#). No difference between the versions.

### convert-ped-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="MyAlibavaConverter" />
  <processor name="Save" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="MyAlibavaConverter" type="AlibavaConverter">
<processor name="Save" type="LCIOOutputProcessor">
```

2. **pedestal**: [pedestal-tmp.xml](#). No difference between the versions.

### pedestal-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="MyAlibavaPedestalNoiseProcessor" />
  <processor name="Save" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="MyAlibavaPedestalNoiseProcessor" type="AlibavaPedestalNoiseProcessor">
<processor name="Save" type="LCIOOutputProcessor">
```

3. **commonmode**: [commonmode-tmp.xml](#). No difference between the versions.

### commonmode-tmp.xml processors

```
<execute>
  <processor name="MyAIDAProcessor" />
  <processor name="MyAlibavaPedestalSubtraction" />
  <processor name="MyAlibavaConstantCommonModeProcessor" />
  <processor name="MyAlibavaCommonModeSubtraction" />
  <processor name="Save" />
</execute>
<processor name="MyAIDAProcessor" type="AIDAProcessor">
<processor name="MyAlibavaPedestalSubtraction" type="AlibavaPedestalSubtraction">
<processor name="MyAlibavaConstantCommonModeProcessor" type="AlibavaConstantCommonModeProcessor">
<processor name="MyAlibavaCommonModeSubtraction" type="AlibavaCommonModeSubtraction">
<processor name="Save" type="LCIOOutputProcessor">
```

4. **pedestal2**: [pedestal2-tmp.xml](#). No difference between the versions.

### pedestal2-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="MyAlibavaPedestalNoiseProcessor" />
  <processor name="Save" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="MyAlibavaPedestalNoiseProcessor" type="AlibavaPedestalNoiseProcessor">
<processor name="Save" type="LCIOOutputProcessor">
```

5. **converter**: [converter-tmp.xml](#). No difference between the versions.

#### converter-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="MyAlibavaConverter" />
  <processor name="Save" />
  <!--processor name="MyAlibavaTimeCutProcessor" /-->
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="MyAlibavaConverter" type="AlibavaConverter">
<processor name="Save" type="LCIOOutputProcessor">
<processor name="MyAlibavaTimeCutProcessor" type="AlibavaTimeCutProcessor">
```

6. **reco**: [reco-tmp.xml](#). No difference between the versions.

#### reco-tmp.xml processors

```
<execute>
  <processor name="MyAIDAProcessor" />
  <processor name="MyAlibavaPedestalSubtraction" />
  <processor name="MyAlibavaCommonModeProcessor" />
  <processor name="MyAlibavaCommonModeSubtraction" />
  <processor name="Save" />
</execute>
<processor name="MyAIDAProcessor" type="AIDAProcessor">
<processor name="MyAlibavaPedestalSubtraction" type="AlibavaPedestalSubtraction">
<processor name="MyAlibavaCommonModeProcessor" type="AlibavaConstantCommonModeProcessor">
<processor name="MyAlibavaCommonModeSubtraction" type="AlibavaCommonModeSubtraction">
<processor name="Save" type="LCIOOutputProcessor">
```

7. **clustering-1-tmp.xml**: [clustering-1-tmp.xml](#) (git ver.).
8. **clustering-2-tmp.xml**: [clustering-2-tmp.xml](#) (git ver.). No difference between the versions.

#### clustering-2-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="MyAlibavaClustering" />
  <processor name="Save" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="MyAlibavaClustering" type="AlibavaClustering">
<processor name="Save" type="LCIOOutputProcessor">
```

9. **telescope-converter-tmp.xml**: [telescope-converter-tmp.xml](#) (git ver.).
10. **telescope-clustering-tmp.xml**: [telescope-clustering-tmp.xml](#) (git ver.).
11. **merge/merger** : merge-tmp.xml/merger-tmp.xml. two names are here to avoid confusion; merge is the Thomas' template, merger is the git ver.'s template.

merger-tmp.xml	merge-tmp.xml

```

<execute>
  <processor name="AIDA"/>
  <processor name="MyAlibavaClusterCollectionMerger"/>
  <processor name="Save"/>
</execute>

```

```

<global>
<parameter name="LCIOInputFiles"> </parameter>
  <parameter name="GearXMLFile" value="@GearFilePath@
/@GearFile@"/>
  <parameter name="MaxRecordNumber" value="
@MaxRecordNumber@"/>
  <parameter name="SkipNEvents" value="@SkipNEvents@"/>
  <parameter name="SupressCheck" value="false"/>
  <parameter name="Verbosity" value="@Verbosity@"/>
</global>

```

#### AIDA

```

<processor name="AIDA" type="AIDAProcessor">
  <parameter name="Compress" type="int"
value="1"/>
  <parameter name="FileName" type="string"
value="@HistogramPath@/run@RunNumber@-merger"
/>
  <parameter name="FileType" type="string"
value="root"/>
</processor>

```

```

<processor name="MyAlibavaClusterCollectionMerger"
type="AlibavaClusterCollectionMerger">
  <parameter name="InputTelescopeFileName" type="string"
> @LcioPath@/run@TelescopeRun@-clustering.slcio<
/parameter>
  <parameter name="TelescopeClusterPulseCollectionName"
type="string" IcioInType="TrackerPulse"> cluster_m26 <
/parameter>
  <parameter name="TelescopeSparseClusterCollectionName"
type="string" IcioInType="TrackerData"> original_zsdata <
/parameter>
  <parameter name="InputAlibavaFileName" type="string"> @
LcioPath@/run@RunNumber@-alibava-clustering.slcio<
/parameter>
  <parameter name="AlibavaClusterPulseCollectionName"
type="string" IcioInType="TrackerPulse"> clustercollection <
/parameter>
  <parameter name="AlibavaSparseClusterCollectionName"
type="string" IcioInType="TrackerData"> original_zsdata <
/parameter>
  <parameter name="OutputClusterPulseCollectionName"
type="string" IcioOutType="TrackerPulse"> merged_cluster_pul
se </parameter>
  <parameter name="OutputSparseClusterCollectionName"
type="string" IcioOutType="TrackerData"> original_zsdata <
/parameter>
  <parameter name="EventDDifference" type="int"> 0 <
/parameter>
</processor>

```

```

<execute>
  <processor name="AIDA"/>
  <processor name="Merger"/>
  <processor name="Save"/>
  <processor name="MyEUTelUtilityPrintEventNumber"/>
</execute>

```

```

<global>
<parameter name="LCIOInputFiles"> @LcioPath@
/run@RunNumber@-alibava-clustering.slcio </parameter>
  <parameter name="GearXMLFile" value="@GearFilePath@
/@GearFile@"/>
  <parameter name="MaxRecordNumber" value="
@MaxRecordNumber@"/>
  <parameter name="SkipMaskedEvents" value="1"/>
  <parameter name="SkipNEvents" value="@SkipNEvents@"/>
  <parameter name="SupressCheck" value="false"/>
  <parameter name="Verbosity" value="@Verbosity@"/>
</global>

```

#### AIDA

```

<processor name="AIDA" type="AIDAProcessor">
  <parameter name="Compress" type="int"
value="1"/>
  <parameter name="FileName" type="string"
value="@HistogramPath@/@Output@-alibava-merge"
/>
  <parameter name="FileType" type="string"
value="root"/>
</processor>

```

```

<processor name="Merger" type="AlibavaMerger">
<parameter name="AlibavaCollectionName" type="string"
value="alibava_nzsdata" />
  <parameter name="AlibavaCollectionName2" type="string"
value="alibava_clusters" />
  <parameter name="AlibavaFile" type="string" value=" @LcioPat
h@/run@RunNumber@-alibava-clustering.slcid" />
  <parameter name="EventdifferenceAlibava" type="int" value="
0"/>
  <parameter name="EventdifferenceTelescope" type="int"
value="0"/>
  <parameter name="MergeType" type="int" value="1"/>
  <parameter name="OutputCollectionName" type="string"
value="combinedzsdata" />
  <parameter name="OutputCollectionName2" type="string"
value="combinedcluster" />
  <parameter name="OutputCollectionName3" type="string"
value="zsdata_m26" />
  <parameter name="OutputMode" type="int" value="3"/>
  <parameter name="TelescopeCollectionName" type="string"
value="original_zsdata" />
  <parameter name="TelescopeCollectionName2" type="string"
value="cluster_m26" />
  <parameter name="TelescopeFile" type="string" value=" @Lci
oPath@/run@TelescopeRun@-clustering.slcid" />
  <parameter name="UnresponsiveAxis" type="string" value="x"/>
</processor>

```

**Save**

```
<processor name="Save" type="
LCIOOutputProcessor">
  <!--parameter name="DropCollectionNames"
type="StringVec"> TPCHits HCalHits <
/parameter-->
  <!--parameter name="DropCollectionTypes"
type="StringVec"> SimTrackerHit
SimCalorimeterHit </parameter-->
  <!--parameter name="FullSubsetCollections"
type="StringVec" value="MCParticlesSkimmed"/--
>
  <!--parameter name="KeepCollectionNames"
type="StringVec" value="
MyPreciousSimTrackerHits"/-->
  <parameter name="LCIOOutputFile" type="
string" value="@LcioPath@/run@RunNumber@-
merger.slcio"/>
  <parameter name="LCIOWriteMode" type="
string" value="WRITE_NEW"/>
</processor>
```

</marlin>

**Save**

```
<processor name="Save" type="
EUTelOutputProcessor">
  <!--parameter name="DropCollectionNames"
type="StringVec"> TPCHits HCalHits <
/parameter-->
  <!--parameter name="DropCollectionTypes"
type="StringVec"> SimTrackerHit
SimCalorimeterHit </parameter-->
  <!--parameter name="FullSubsetCollections"
type="StringVec" value="MCParticlesSkimmed"/--
>
  <!--parameter name="KeepCollectionNames"
type="StringVec" value="
MyPreciousSimTrackerHits"/-->
  <parameter name="LCIOOutputFile" type="
string" value="@LcioPath@/@FilePrefix@-merge.
slcio"/>
  <parameter name="LCIOWriteMode" type="
string" value="WRITE_NEW"/>
  <parameter name="SkipIntermediateEORE"
type="bool" value="true"/>
</processor>
```

**MyEUTelUtilityPrintEventNumber**

```
<processor name="
MyEUTelUtilityPrintEventNumber" type="
EUTelUtilityPrintEventNumber">
  <parameter name="EveryNEvents" type="int"
value="1000"/>
</processor>
```

</marlin>

12. *hitmaker-tmp.xml*: [hitmaker-tmp.xml](#) (git ver.)

### hitmaker-tmp.xml

```
<execute>
  <processor name="AIDA" />
  <processor name="LoadHotPixelDB" />
  <processor name="LoadRefHitDB" />
  <processor name="CombinedHitMaker" />
  <processor name="PreAligner" />
  <!--processor name="Correlator"/--> (doesn't work properly yet, so was commented out)
  <processor name="Save" />
  <processor name="MyEUTelUtilityPrintEventNumber" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="LoadHotPixelDB" type="ConditionsProcessor">
  <!--Initialization of a simple conditions file handler--> (where we should find hotpix)
  <parameter name="SimpleFileHandler" type="StringVec"> hotpixel_m26 @DatabasePath@
/run@TelescopeRun@-hotpixel.slcio hotpixel_m26 </parameter>
<processor name="LoadRefHitDB" type="ConditionsProcessor"> (where we should find the telescope hits
for processing)
  <parameter name="SimpleFileHandler" type="StringVec"> refhit @DatabasePath@/@FilePrefix@-
referencehit.slcio referenceHit
<processor name="CombinedHitMaker" type="EUTelProcessorHitMaker"> (Thomas's ver. used EUTelHitMaker.
cc instead, it doesn't exist in the new Eutelescope)
  <parameter name="PulseCollectionName" type="string" lcioInType="TrackerPulse">
merged_cluster_pulse </parameter> (they're filled with zeros...)
  <!--Hit collection name-->
  <parameter name="HitCollectionName" type="string" lcioOutType="TrackerHit"> hit <
/parameter>
<processor name="PreAligner" type="EUTelPreAlign">
<processor name="Correlator" type="EUTelCorrelator">
<processor name="Save" type="EUTelOutputProcessor">
<processor name="MyEUTelUtilityPrintEventNumber" type="EUTelUtilityPrintEventNumber">
```

13. *alignment-daf-x-tmp.xml*: e.g. [alignment-daf-1-tmp.xml](#) (git ver.). No difference between the versions.

### alignment-daf-1-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="LoadRefHitDB" />
  <processor name="LoadPreAlignment" />
  <processor name="ApplyPreAlignment" />
  <processor name="DafFitter" />
  <processor name="Alignment" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="LoadRefHitDB" type="ConditionsProcessor">
<processor name="LoadPreAlignment" type="ConditionsProcessor">
<processor name="ApplyPreAlignment" type="EUTelApplyAlignmentProcessor">
<processor name="DafFitter" type="EUTelDafFitter">
<processor name="Alignment" type="EUTelMille">
```

14. *tracking-x-tmp.xml*: e.g. [tracking-1-tmp.xml](#) (git ver.). No difference between the versions.

## tracking-1-tmp.xml processors

```
<execute>
  <processor name="AIDA" />
  <processor name="LoadRefHitDB" />
  <processor name="LoadPreAlignment" />
  <processor name="ApplyPreAlignment" />
  <processor name="LoadAlignment1" />
  <processor name="ApplyAlignment1" />
  <processor name="LoadAlignment2" />
  <processor name="ApplyAlignment2" />
  <processor name="LoadAlignment3" />
  <processor name="ApplyAlignment3" />
  <processor name="LoadAlignment4" />
  <processor name="ApplyAlignment4" />
  <processor name="LoadAlignment5" />
  <processor name="ApplyAlignment5" />
  <processor name="DafFitter" />
  <processor name="Ntuple" />
  <processor name="Save" />
</execute>
<processor name="AIDA" type="AIDAProcessor">
<processor name="LoadRefHitDB" type="ConditionsProcessor">
<processor name="LoadPreAlignment" type="ConditionsProcessor">
<processor name="ApplyPreAlignment" type="EUTelApplyAlignmentProcessor">
<processor name="LoadAlignment1" type="ConditionsProcessor">
<processor name="ApplyAlignment1" type="EUTelApplyAlignmentProcessor">
<processor name="LoadAlignment2" type="ConditionsProcessor">
<processor name="ApplyAlignment2" type="EUTelApplyAlignmentProcessor">
<processor name="LoadAlignment3" type="ConditionsProcessor">
<processor name="ApplyAlignment3" type="EUTelApplyAlignmentProcessor">
<processor name="LoadAlignment4" type="ConditionsProcessor">
<processor name="ApplyAlignment4" type="EUTelApplyAlignmentProcessor">
<processor name="LoadAlignment5" type="ConditionsProcessor">
<processor name="ApplyAlignment5" type="EUTelApplyAlignmentProcessor">
<processor name="DafFitter" type="EUTelDafFitter">
<processor name="Ntuple" type="EUTelFitTuple">
<processor name="Save" type="EUTelOutputProcessor">
```

## Code comparison

1. [AlibavaConverter.cc](#), [AlibavaConverter.h](#) are used for the steps [convert-ped](#) and [converter](#). No code difference between the Thomas' and git ver.
2. [AlibavaPedestalNoiseProcessor.cc](#), [AlibavaPedestalNoiseProcessor.h](#) are used for the steps [pedestal](#), [pedestal2](#) and reco