

Tutorial

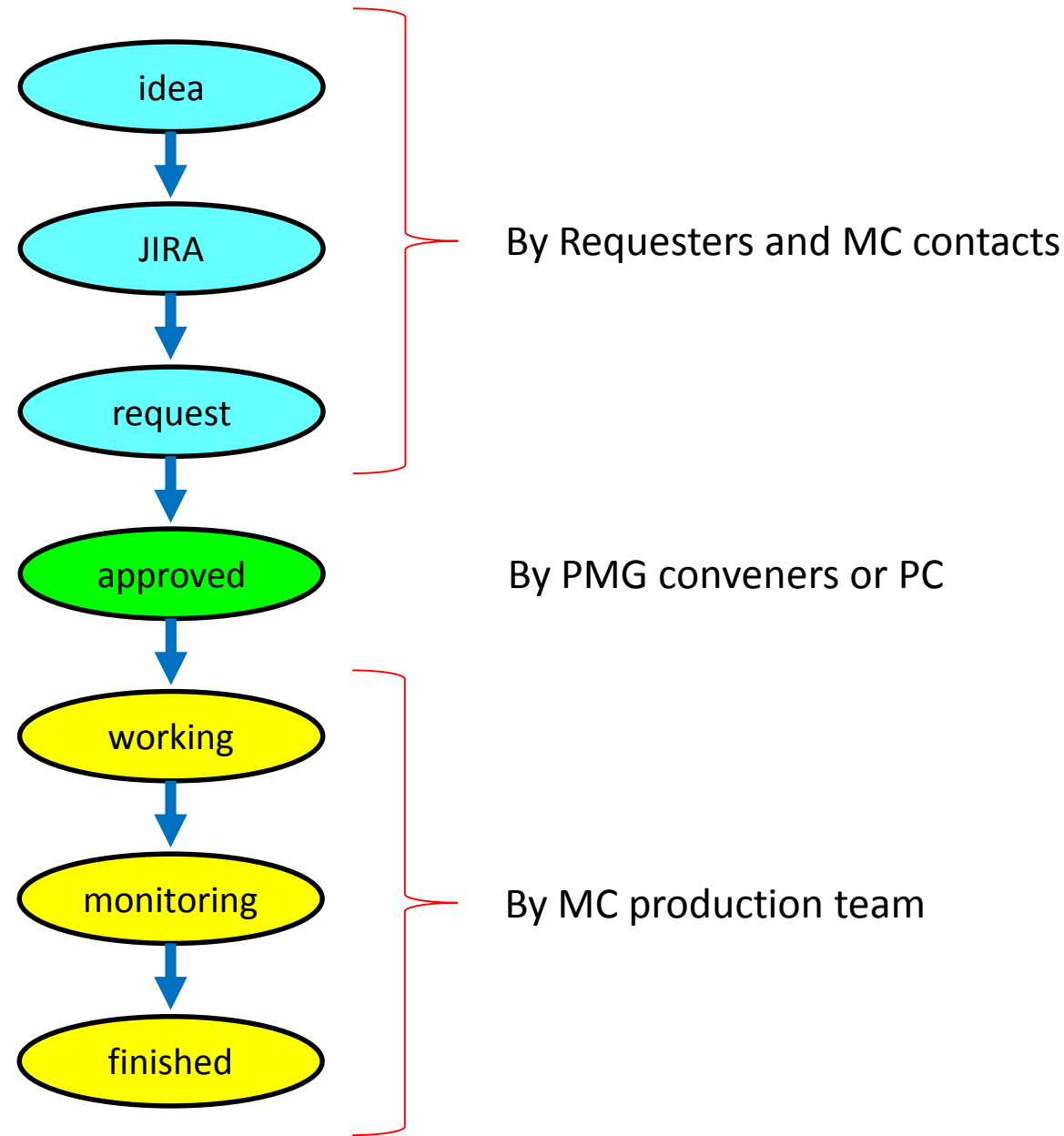
How to have the official MC samples

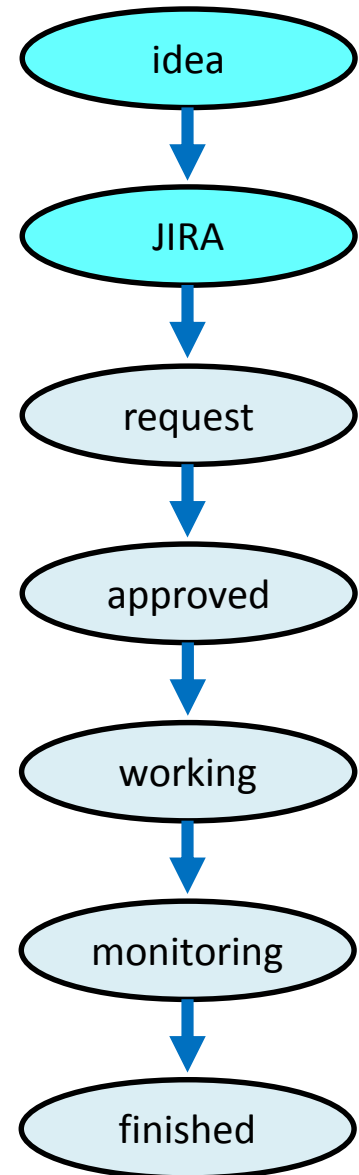
MC production coordinators

Junichi Tanaka (ICEPP, U-Tokyo)

Doug Gingrich (University of Alberta and TRIUMF)

MC production workflow





- “idea” is the starting point to have the official MC samples
 - Requesters talk to the group sub-convener (or convener) what they need, for example, new samples, the extension of samples etc.
- “JIRA”
 - Once requesters and sub-convener agree, requesters contact MC contacts in your group to **make a JIRA ticket** to explain what samples are needed etc.
 - The timing to make a JIRA ticket is different among groups, for example,
 - Case 1: requesters make JIRA ticket and start all discussion there.
 - Case 2: MC contacts make JIRA request after some discussion with requesters, sub-convener et al.

Example : <https://its.cern.ch/jira/browse/ATLMCPROD-4052>



ATLAS Monte Carlo Production / ATLMCPROD-4052

VH with V inclusive for SM Higgs->mumu

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Details

Type: Task Status: **APPROVED** (View Workflow)
Priority: **Major** Resolution: Fixed
Component/s: Higgs
Labels: [Antonio](#) [HLeptons](#)

People

Assignee: [ATLAS Higgs WG MC Production Account](#)
[Assign to me](#)
Reporter: [Paul Daniel Thompson](#)
Votes: **0** Vote for this issue
Watchers: **3** Stop watching this issue

Description

Dear Higgs MC Prod,

We would like to request 3 samples for VH (V=W+,W-,Z) where the V decays are inclusive and H->mumu
The statistics are 60K for Z and 30K for W+ and 30K for W-.
The events will be fullsim and mc15c.

The parent is <https://its.cern.ch/jira/browse/ATLMCPROD-3918>

Thanks,
Paul

https://prodtask-dev.cern.ch/prodtask/inputlist_with_request/10819/

Dates

Created: 09/Dec/16 7:34 PM
Updated: 21/Mar/17 1:54 AM
Resolved: 24/Feb/17 3:47 PM
Date of First Response: 10/Dec/16 1:22 AM

Useful to add a link to "Production request page" later. JIRA thread sometimes gets much longer, so that it is very difficult to find such a link from all the discussions.

- “JIRA”

- Requesters prepare

- JobOption (JO) files
- LHE/preconfig files (if necessary)

- Requesters MUST validate them in lxplus etc.

- The procedure for the validation should follow the steps defined by PMG. Instructions can be found at [MCRequestProcedure](#)

Then

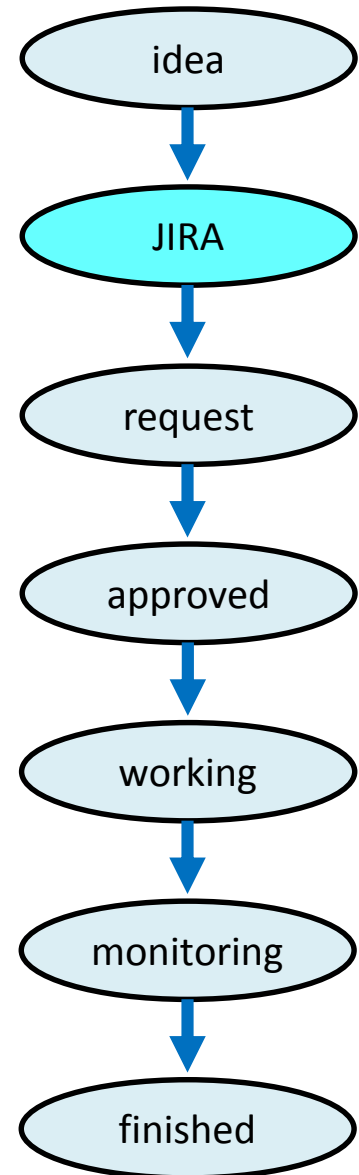
- The JO files need to be registered to SVN (moving to Git). MC contacts create a JIRA as “sub-task”.

The instruction can be found at [JobOptions](#).

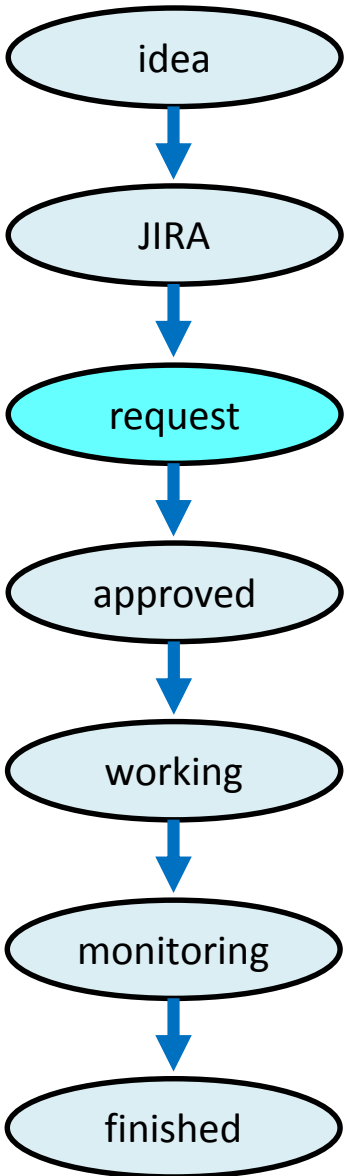
- LHE/preconfig files need to be uploaded to the rucio. MC contacts create a JIRA as “sub-task”.

The instruction can be found at [HowToRegisterLHEPreConfigFiles](#).

- If new model files etc (like UFO for MadGraph) are required, requesters contact [generator package's responsible persons](#). If there is no response, please contact PMG conveners.



- “request”
 - Requesters and MC contacts need to make a spreadsheet.
 - MC15, MC12 case: [a template of google spreadsheet](#)
 - MC16 case: [new template](#) must be used. Don't use MC15's spreadsheet.
 - MC contacts create “production request”.
 - The instruction can be found at [MCRequestProdSys2](#).
 - The automatic notification e-mail is sent to PC (Trancredi and Dan), PMG conveners (Marjorie and Josh) and MC prod coordinators (Doug and Junichi).



Example of "Production request" page

Request ID:	Description:	Reference:	Manager:	Physic group:	Project:	Priorities:	Status:
menu(≡) 11637	Additional points in gluino 2-step grid with taus	ATLMCPROD-4493	ykeisuke Me	SUSY	mc15_13TeV	1	waiting

[Add #](#)

HashTags:

last comment: -

[New comment](#)

[Show/hide long description](#)

[PMG approval](#)

[Cancel](#)

64 slices with priority:

1

[Change priority](#)

[Original spreadsheet](#)

Total input: 64, from them approved: 0

[Select All](#)

Filter by:

slice data

Filter:

Filter by status:

all

Sort:

slice ID

Select pattern

[Show](#)

[Bind](#)

Evgen	Simul	Merge	Digi	Reco	Rec Merge	Rec TAG	Attfast	Attf Merge	Attf TAG	Deriv

Replace empty

0	+ MC15.393951.MGPy8EG_A14N23LO_GG_2stepStau_1277_1265_1258_1252_J85.py	(Attfast)mc15c, 25ns	events: 20000
			not_submitted edit (saved)
1	+ MC15.393952.MGPy8EG_A14N23LO_GG_2stepStau_1197_1185_1178_1172_J85.py	(Attfast)mc15c, 25ns	events: 20000

"PMG approval" and "Cancel" buttons are until PMG/PC will decide. Once they'll decide, these buttons disappear.

Request ID:	Description:	Reference:	Manager:	Physic group:	Project:	Priorities:	Status:
menu(☰) 10819	MC15 Powheg VH125 (V inclusive, H to mumu) with pdf weights - MC15c - 25ns	ATLMCPROD-4052	jtanaka Me	HIGG	mc15_13TeV	1	finished

Add #

HashTags:

last comment: -

New comment

[Show/hide long description](#)

Request was approved for processing by mcfayden at Fri Feb 24 10:38:00 2017

[Original spreadsheet](#)

Total input: 3, from them approved: 3

Select All

Filter by:
slice data

Filter:

Filter by status:
all

Sort:
slice ID

Select pattern

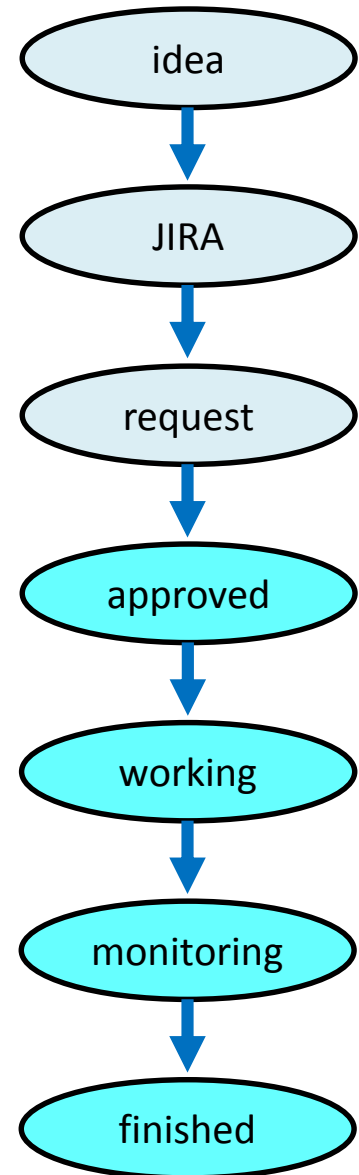
Show

Bind

Evgen	Simul	Merge	Digi	Reco	Rec Merge	Rec TAG	Atlfast	Atlf Merge	Atlf TAG	Deriv

Replace empty

```
0 + MC15.345103.PowhegPythia8EvtGen_NNPDF30_AZNLO_ZH125J_Hmumu_Zincl_MINLO.py
(Fullsim)JIRA 4052 - MC15c - 25ns - gen+sim+digi+reco - AtlasProduction 19.2.5.17 events: 60000
e5834 s2726 r7772 r7676 p2761 submitted edit (saved)
```

- “approved”
 - PMG convener approves request of Physics WG.
 - PC approves request of Combined Performance groups and Upgrade.
 - Then, MC prod team member takes the request (becomes “manager”)
- “working”
 - MC prod manager modifies (if necessary) and then submits request.
- “monitoring”
 - MC prod manager monitors request until finished.
- “finished”
 - MC prod manager puts notification in JIRA ticket.
 - Group production (DxAOD/Derivation) must be taken care of by DxAOD production responsible. This is not done by MC prod team.

Production request page

- EX https://prodtask-dev.cern.ch/prodtask/inputlist_with_request/10819/

Request ID:	Description:	Reference:	Manager:	Physic group:	Project:	Priorities:	Status:
menu(☰) 10819	MC15 Powheg VH125 (V inclusive, H to mumu) with pdf weights - MC15c - 25ns	ATLMCPROD-4052	jtanaka Me	HIGG	mc15_13TeV	1	finished

Link to the JIRA ticket

Responsible person of this request
-> Please contact him/her
if you have questions of this request page.

Evgen	Simul	Merge	Digi	Reco	Rec Merge	Rec TAG	Atlfast	Atlf Merge	Atlf TAG	Deriv

Replace empty

step

Slice 0

0 + MC15.345103.PowhegPythia8EvtGen_NNP30_AZNLO_ZH125J_Hmumu_Zincl_MINLO.py
 (Fullsim)JIRA 4052 - MC15c - 25ns - gen+sim+digi+reco - AtlasProduction 19.2.5.17 events: 60000

e5834	s2726			r7772	r7676					p2761	submitted	edit (saved)
T: done	finished			finished	finished					finished		

Slice 1

1 + MC15.345104.PowhegPythia8EvtGen_NNP30_AZNLO_WpH125J_Hmumu_Wincl_MINLO.py
 (Fullsim)JIRA 4052 - MC15c - 25ns - gen+sim+digi+reco - AtlasProduction 19.2.5.17 events: 30000

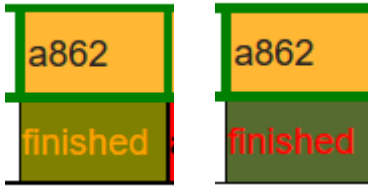
e5834	s2726			r7772	r7676					p2761	submitted	edit (saved)
T: done	done			done	done					done		

Slice 2

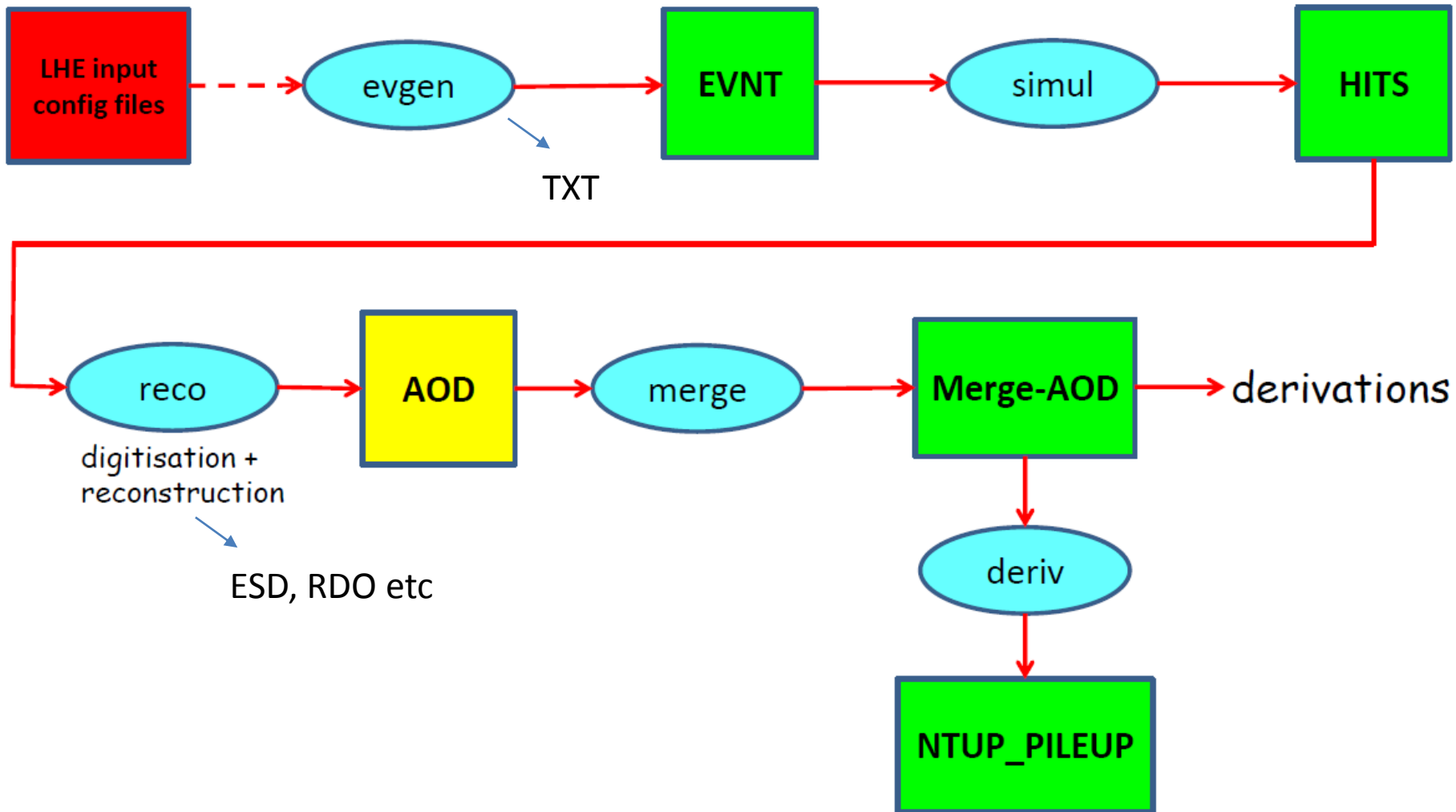
2 + MC15.345105.PowhegPythia8EvtGen_NNP30_AZNLO_WmH125J_Hmumu_Wincl_MINLO.py
 (Fullsim)JIRA 4052 - MC15c - 25ns - gen+sim+digi+reco - AtlasProduction 19.2.5.17 events: 30000

Chain

“done” and “finished” in the green box → Good tasks!
 “finished in the green box” means the success rate is 90% or larger.
 “finished with orange color” means the success rate is 70-90%.
 “finished with red color” means the success rate is 70% or smaller.
 → Please contact MC prod team.



MC production chain: **steps** and **outputs**



If you need special outputs (TXT, ESD, RDO etc), please write it in the “format” of the google spreadsheet.

- Twiki page of “Atlas MC Production Group”
 - <https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/AtlasProductionGroup>

- Q: why do we need the “deriv” step to make NTUP_PILEUP?
- A: the pileup mu-distribution before running derivation jobs to make like DAOD_HIGG1D1, DAOD_SUSY1 etc is necessary to apply the pileup reweighting in your analysis properly. This “deriv” job is processed by using AOD files. Also we cannot use input mu-profile used in the digit+recon(“recon”) step because the input mu-profile is just “ideal” input and this is not a real distribution obtained in the recon step. Of course, if the MC stat is too huge, 2 mu-distributions, that is, input mu-profile and AOD mu-distribution could be almost identical but this is not the case for most of samples. So, we need the pileup mu-distribution for each dataset and this is done in the “deriv” step.