

Table of Contents

Tracker Monte Carlo Contact.....	1
cmsDriver.....	1
MCM.....	1
Cosmics Request.....	1
Cosmics GEN-SIM in CMSSW_6_2_11.....	1
Cosmics DIGI-RECO in CMSSW_7_0_9_patch1.....	3
PHYS14 requests.....	6

Tracker Monte Carlo Contact

cmsDriver

A small number of events should be tested on lxplus using cmsDriver.py before the request is sent for central production. With the --no_exec flag, this will create a python config file which can be ran using cmsRun <file.py>. Some instructions on using cmsDriver can be found here and example commands for requests are given in the sections below.

Instructions:

Get the correct version of CMSSW by doing : cmsrel CMSSW_X_Y_Zwith the relevant version number.

To see what versions are available on the current architecture : scram list || CMSSW

To see what architecture is being used : echo \$SCRAM_ARCH

You can change architecture by doing : export SCRAM_ARCH=slc6_amd64_gcc472 ...for example

Once you have the correct version of CMSSW, go to the src directory and type "cmsenv" to set the environmental variables.

You can create subdirectories for each set of requests. Enter the cmsDriver command and run on a small number of events to check for any error. If everything looks okay, the details of the request can be entered into MCM.

MCM

The Monte Carlo Request Manager [☞](#) is where requests are submitted for central production.

The PdmVMCM page gives some information and links, one of which is the glossary. There are some slides from a tutorial sessions here [☞](#).

There are Monte Carlo Coordinations Meetings [☞](#) (currently at 3pm CET on Thursdays) where requests can be discussed and campaigns in MCM created.

Cosmics Request

- PEAK 3.8T : 10 mio ALCARECO (optimistic) + 10 mio ALCARECO (pessimistic)
- PEAK 0T : 5 mio ALCARECO (optimistic) + 5 mio ALCARECO (pessimistic)
- DECO 3.8T : 10 mio ALCARECO (optimistic) + 10 mio ALCARECO (pessimistic)
- DECO 0T : 5 mio ALCARECO (optimistic) + 5 mio ALCARECO (pessimistic)

With GEN-SIM in CMSSW_6_2_11 and DIGI-RECO in CMSSW_7_0_9_patch1.

Link to previous cosmics request in 5_2_X. [☞](#)

Cosmics GEN-SIM in CMSSW_6_2_11

The cosmics GEN-SIM campaign in 6_2_11 [☞](#) uses the UndergroundCosmicMu _cfi.py fragment and the global tag POSTLS162_V1::All. The geometry used is Extended2015.

There are two requests for magnetic field on and off:

- Bon, 3.8T [↗](#) :
 - ◆ cmsDriver.py Configuration/GenProduction/python/TRK-Cosmic62-00001-fragment.py --fileout file:TRK-Cosmic62-00001.root [↗](#) --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM --conditions POSTLS162_V1::All --step GEN,SIM --scenario cosmics --geometry Extended2015
- Boff, 0T [↗](#) (includes flag '--magField 0T' :
 - ◆ cmsDriver.py Configuration/GenProduction/python/TRK-Cosmic62-00002-fragment.py --fileout file:TRK-Cosmic62-00002.root [↗](#) --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM --conditions POSTLS162_V1::All --step GEN,SIM --magField 0T --scenario cosmics --geometry Extended2015

▣ Instructions for testing on lxplus... ▣ Hide

- Log on to lxplus
- export SCRAM_ARCH=slc5_amd64_gcc472
 cmsrel CMSSW_6_2_11
 cd CMSSW_6_2_11/src
 cmsenv
- Use the cmsDriver commands given above including the --no_exec flag
- Check that the config file contains all the required settings
- cmsRun <file.py>

▣ Instructions for MCM... ▣ Hide

Access the campaigns using the "Campaign" button and select to view all. Click on the folder button to view the requests in the campaign.

Cosmic62		CMSSW_6_2_11	0	• Cosmic70DR	For Cosmi
Cosmic70DR		CMSSW_7_0_9_patch1	0		

Click on the spanner symbol in the request to edit it. This will bring up the details of the request. The Total Events should be entered. The Total Events does not need to be scaled up for the GEN-SIM efficiency as this will be taken into account by MCM. However, as in this case the ALCA step has an efficiency in the DIGI-RECO step, the number of requests must be scaled up.

Prepid	Actions	Approval	Status
TRK-Cosmic62-00001		✓ submit	✓ done
TRK-Cosmic62-00002		✓ submit	✓ done

The cmsDriver command should be added to the sequence tab by clicking the eye symbol. The UndergroundCosmicMu fragment should be added using the instructions found in the tutorial slides [↗](#).

Then the requested can be tested by using the 'test command' in MCM.



Click on the test button and copy the command into a file on lxplus and 'source '. This should output the time per event which is to be entered into the MCM request page. The size per event should also be entered.

Cosmics DIGI-RECO in CMSSW_7_0_9_patch1

The DIGI-RECO campaign used CMSSW_7_0_9_patch1. There are 8 requests which use the two GEN-SIM MC in CMSSW_6_2_11. These include Bon/Boff, Peak/Deconvolution, Optimistic/Pessimistic(25ns/50ns). These requests must be broken up into two steps. The relevant global tags can be found here, with different versions for peak/deco and optimistic/pessimistic.

Bon - Deco - Pessimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_38T/Cosmic62-POSTLS162_V1-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00001_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_DEC_V1::All --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00001_step1.root --fileout
file:TRK-Cosmic70DR-00001.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_DEC_V1::All --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --scenario cosmics --geometry Extended2015
```

Bon - Deco - Optimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_38T/Cosmic62-POSTLS162_V1-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00002_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_DEC_V2::All --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00002_step1.root --fileout
file:TRK-Cosmic70DR-00002.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_DEC_V2::All --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --scenario cosmics --geometry Extended2015
```

Boff - Deco - Pessimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_0T/Cosmic62-POSTLS162_V1_Boff-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00005_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_DEC_V1::All --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --magField 0T --scenario cosmics --geometry

Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00005_step1.root --fileout
file:TRK-Cosmic70DR-00005.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_DEC_V1::All --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --magField 0T --scenario cosmics --geometry
Extended2015
```

Boff - Deco - Optimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_0T/Cosmic62-POSTLS162_V1_Boff-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00006_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_DEC_V2::All --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --magField 0T --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00006_step1.root --fileout
file:TRK-Cosmic70DR-00006.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_DEC_V2::All --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --magField 0T --scenario cosmics --geometry
Extended2015
```

The Peak requests have an extra command: --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)"

Bon - Peak - Pessimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_38T/Cosmic62-POSTLS162_V1-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00003_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_PEA_V1::All --customise_commands "process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00003_step1.root --fileout
file:TRK-Cosmic70DR-00003.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_PEA_V1::All --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --scenario cosmics --geometry Extended2015
```

Bon - Peak - Optimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_38T/Cosmic62-POSTLS162_V1-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00004_step1.root --mc --eventcontent RAWSIM --customise

```
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
GEN-SIM-RAW --conditions COSM70_PEA_V2::All --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step
DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --scenario cosmics --geometry Extended2015
```

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00004_step1.root --fileout
file:TRK-Cosmic70DR-00004.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_PEA_V2::All --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --scenario cosmics --geometry Extended2015
```

Boff - Peak - Pessimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_0T/Cosmic62-POSTLS162_V1_Boff-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00007_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_PEA_V1::All --customise_commands "process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --magField 0T --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00007_step1.root --fileout
file:TRK-Cosmic70DR-00007.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_PEA_V1::All --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --magField 0T --scenario cosmics --geometry
Extended2015
```

Boff - Peak - Optimistic

Show cmsDriver command... Hide

- cmsDriver.py step1 --filein "dbs:/TKCosmics_0T/Cosmic62-POSTLS162_V1_Boff-v1/GEN-SIM" --fileout file:TRK-Cosmic70DR-00008_step1.root --mc --eventcontent RAWSIM --customise SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier GEN-SIM-RAW --conditions COSM70_PEA_V2::All --customise_commands "process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step DIGI,L1,DIGI2RAW,HLT:2013,RAW2DIGI,L1Reco --magField 0T --scenario cosmics --geometry Extended2015

```
cmsDriver.py step2 --filein file:TRK-Cosmic70DR-00008_step1.root --fileout
file:TRK-Cosmic70DR-00008.root --mc --eventcontent ALCARECO --customise
SLHCUpgradeSimulations /Configuration/postLS1Customs.customisePostLS1 --datatier
ALCARECO --conditions COSM70_PEA_V2::All --customise_commands
"process.mix.digitizers.strip.APVpeakmode=cms.bool(True)" --step
RAW2DIGI,L1Reco,RECO,ALCA:TkAlCosmics0T --magField 0T --scenario cosmics --geometry
Extended2015
```

PHYS14 requests

Phys14 AICaReco requests can be found here.

The ALCA:TkAlMinBias have a dedicated flow. There are requests for JME-Fall13-00001 [↗](#), BTV-Fall13-00041 -> 00053 [↗](#), JME-Fall13-00009 -> 00011 [↗](#).

The remaining requests were edited to include the ALCA step, where step1 is kept if Raw = Y. ALCARECO is added to eventcontent & datatier. RECO step is included is RECO = Y, in which case RECO, ALCARECO should be added to eventcontent and datatier. The relevant step is added for ALCA, eg.ALCA:TkAlMuonIsolated, where each step is given beside the request.

[▢ List of requests...](#) [▢ Hide](#)

(1) TSG-Fall13-00002 [↗](#)

ALCA:TkAlMuonIsolated, keep Raw/Reco=Y/N

(2) MUO-Fall13-00013 [↗](#)

ALCA:TkAlZMuMu, keep Raw/Reco=Y/Y

(3) TSG-Fall13-00022 [↗](#)

ALCA:TkAlZMuMu keep Raw/Reco=N/N

(4) BPH-Fall13-00004 [↗](#)

ALCA:TkAlJpsiMuMu keep Raw/Reco=Y/N

(5) BPH-Fall13-00003 [↗](#)

ALCA:TkAlJpsiMuMu keep Raw/Reco=Y/Y

(6) FSQ-Fall13-00024 [↗](#)

ALCA:TkAlZMuMu keep Raw/Reco=Y/Y

(7) SMP-Fall13-00011 [↗](#)

ALCA:TkAlMuonIsolated keepRaw/Reco=N/N

-- LanaBeck - 2014-11-13

This topic: Sandbox > LanaBeckSandbox

Topic revision: r14 - 2015-01-14 - LanaBeck



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