

# Table of Contents

<b>6.5 Simulating and Reconstructing events with Fast Simulation.....</b>	<b>1</b>
Recipe for 13TeV (CMSSW_9_2_X).....	1

## 6.5 Simulating and Reconstructing events with Fast Simulation

- Find the FastSim users guide here: [SWGideFastSimulation \(public\)](#)
- Find the general FastSim start page here: [FastSim \(CMS only\)](#)
- The outdated workbook page has been moved to [WorkBookFastSimulationArchive \(public\)](#)

### Recipe for 13TeV (CMSSW\_9\_2\_X)

Please check with your PAG/POG if they require specific conditions.

```
cmsrel CMSSW_9_2_10
cd CMSSW_9_2_10/src
cmsenv
```

No packages need to be checked, but for the sake of being more organized, you can create and work within **FastSimulation/GenProduction**.

For simulating a MinBias sample with no PU, use the following cmsDriver command. You always can replace the MinBias generator fragment with your favorite fragment.

#### SIMULATION WITHOUT PU:

```
cmsDriver.py MinBias_13TeV_pythia8_TuneCUETP8M1_cfi --conditions auto:run2_mc --fast -n 1000 --er
```

To simulate physics samples with PU we show the standard mixing method and we need a MinBias sample to proceed with this example. In the meanwhile private MinBias samples can be generated using the example below.

```
cmsDriver.py MinBias_13TeV_pythia8_TuneCUETP8M1_cfi --conditions auto:run2_mc --fast -n 1000 --er
-s GEN,SIM,RECOBEFMIX,DIGI:pdigi_valid,RECO --datatier GEN-SIM-RECO --beamspot Realistic25ns13TeV
```

#### SIMULATION WITH PU:

```
cmsDriver.py MinBias_13TeV_pythia8_TuneCUETP8M1_cfi --conditions auto:run2_mc --fast -n 100 --eve
```

-- LukasVanelderren - 08 Jul 2014

-- ElizaMelo - 04 Oct 2017

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