

# Table of Contents

<b>General</b> .....	<b>1</b>
Setting up.....	1
Running ZS on RAW.....	1
<b>Hcal</b> .....	<b>2</b>
ZS parameters.....	2
<b>Ecal</b> .....	<b>3</b>
Producing payloads.....	3
Running various ZS configurations.....	3
SR and ZS parameters.....	3
Example.....	4
If you want to turn off the selective readout but use only zero suppression.....	4

# General

## Setting up

Please use CMSSW\_4\_X\_Y.

```
cd $CMSSW_BASE/src
cvs co UserCode/etkin/ZeroSuppression
cvs co -d CmsHi/JetAnalysis UserCode/CmsHi/JetAnalysis
scram b
```

To be successfully setup, you need also to do:

```
cvs co -d edwenger/HiTrkEffAnalyzer UserCode/edwenger/HiTrkEffAnalyzer
cvs co -d edwenger/HiVertexAnalyzer UserCode/edwenger/HiVertexAnalyzer
cvs co -d MNguyen/InclusiveJetAnalyzer UserCode/MNguyen/InclusiveJetAnalyzer
cvs co RecoHI/HiJetAlgos
scram build -c
```

before doing `scram b`.

The useful scripts and the database files are in [UserCode/etkin/ZeroSuppression](#)

## Running ZS on RAW

Since the RAW data from 2010 run is not zero suppressed, we can use the ZS producers for MC on this data.

**Hcal**

**ZS parameters**

# Ecal

## Producing payloads

The configuration to produce payloads is

```
UserCode/yetkin/ZeroSuppression/python/srCondWrite_cfg.py
```

. There is a script:

```
UserCode/yetkin/ZeroSuppression/python/createTags.sh
```

, which runs this cfg many times for different parameters selected for Ecal readout. Each set of settings is saved as a different tag, in the same db file. A text file is produced (

```
Tables.txt
```

), with the tables containing information of the tags.

## Running various ZS configurations

Once the db file is created, the configuration:

```
UserCode/yetkin/ZeroSuppression/python/applyEcalZS.py
```

can run on the data to produce ecal hits with the corresponding readout mode. The configuration is setup in a way that one can pass the label that specifies the readout mode as an argument, and a script can be used to run many configurations in a row:

```
UserCode/yetkin/ZeroSuppression/python/runAllModes.sh
```

## SR and ZS parameters

Here are the parameters that are proposed to play with are listed:

Parameter	type	default	explanation	final
deltaEta	int	1	Neighbor eta range	
deltaPhi	int	1	Neighbor phi range	
srpBarrelLowInterestChannelZS	double	2.25*0.035	ZS threshold in GeV for low interest channels of barrel	
srpEndcapLowInterestChannelZS	double	3.75*0.06	ZS threshold in GeV for low interest channels of endcap	
srpBarrelHighInterestChannelZS	double	-1.e9	ZS threshold in GeV for high interest channels of barrel	

srpEndcapHighInterestChannelZS	double	-1.e9	ZS threshold in GeV for high interest channels of endcap
.ecalDIGis.trigPrimBypass	bool	Flase	Selective readout switch
.ecalDIGis.trigPrimBypassMode	int	0	Selective readout debug mode
trigPrimBypassLTH	double	1.0	Selective readout threshold in GeV for lower threshold
trigPrimBypassHTH	double	1.0	Selective readout threshold in GeV for higher threshold

## Example

**If you want to turn off the selective readout but use only zero suppression.**

- trigPrimBypassLTH = 1e9
- trigPrimBypassHTH = 1e9
- ecalDIGis.trigPrimBypass = True
- l.ecalDIGis.trigPrimBypassMode = 1 ( otherwise it will use the trigger primitives information generated before re-digi

Hi,

The ZS is done in the DCC in the following way:

The data sent in gain 12.

From the 10 time samples, 6 are selected to calculate a weighted sum, the first sample used is se

The value of L1ZSUPPRESSION is inside the DCC configuration clob in ECAL\_DCC\_CONFIGURATION table. FIRSTZSSAMPLE is stored in the same DB as the DCC weights.

Currently the values are:

L1ZSUPPRESSION = 20 (EE) 9 (EB)

FIRSTZSSAMPLE = 2

Pedro Parracho

---

This topic: CMSPublic > SWGuideHeavyIonZS2011

Topic revision: r6 - 2011-09-19 - YongsunKim



Copyright &© 2008-2020 by the contributing authors. All material on this collaboration platform is the property of the contributing authors.

Ideas, requests, problems regarding TWiki? Send feedback