

Hcal and Ecal noise removal. Met

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Hcal and Ecal noise removal

- Following instructions from here:
- <https://twiki.cern.ch/twiki/bin/viewauth/CMS/HcalNoiseInfoLibrary>
- <https://twiki.cern.ch/twiki/bin/viewauth/CMS/SusyEcalMaskedCellSummary>
- Both reject events based on bad cells in calorimeter.

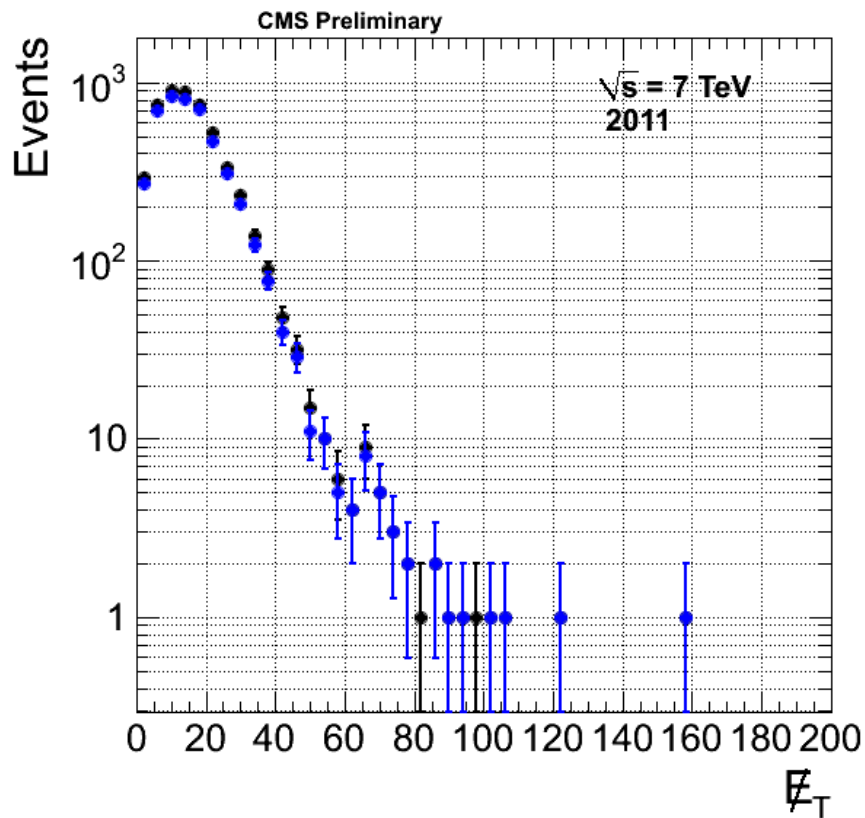
Events 2011 Data

	total	passHcal	passEcal	passBoth
initial	8786303	8295344	8784482	8293670
pre-selection	127253	123249	127235	123233
	92888	89907	92878	89898
	91299	88355	91289	88346
	84873	82205	84863	82196
	83137	80628	83128	80619
	5078	4639	5074	4635
MET > 80	12	10	12	10

- Hcal filter cuts more and Ecal filter is mostly reject the same events as been already rejected by Hcal filter.
- There are options for Ecal filter to make it stronger.
- At final stage 2 events out of 12 are removed

2011 Data. pfMet before and after filter

- Left: Before the filter, right: After the filter



- Blue points are on top of black. There are two black points after 80 GeV - two rejected events.
- There are also two events with $\text{pfMet} > 200$ out of scale.

Events 2010A Data

	total	passHcal	passEcal	passBoth
initial	12590572	12586208	12590048	12585686
pre-selection	1757	1757	1757	1757
	1286	1286	1286	1286
	1258	1258	1258	1258
	1175	1175	1175	1175
	1159	1159	1159	1159
	67	67	67	67
MET > 80	1	1	1	1

- No effect in 2010A Data (after pre-selection).

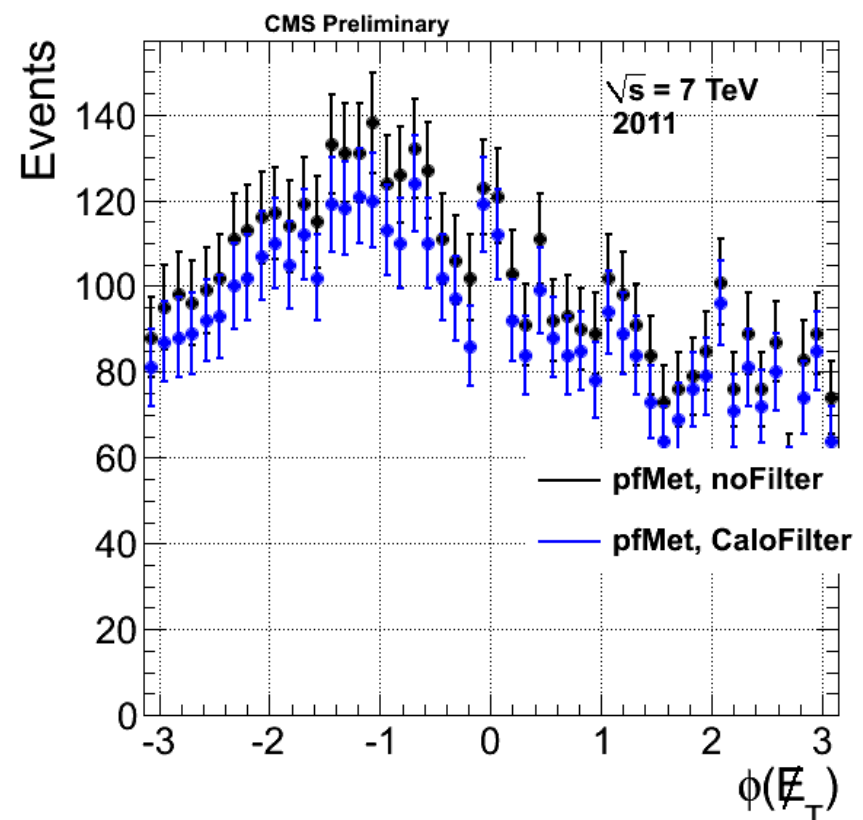
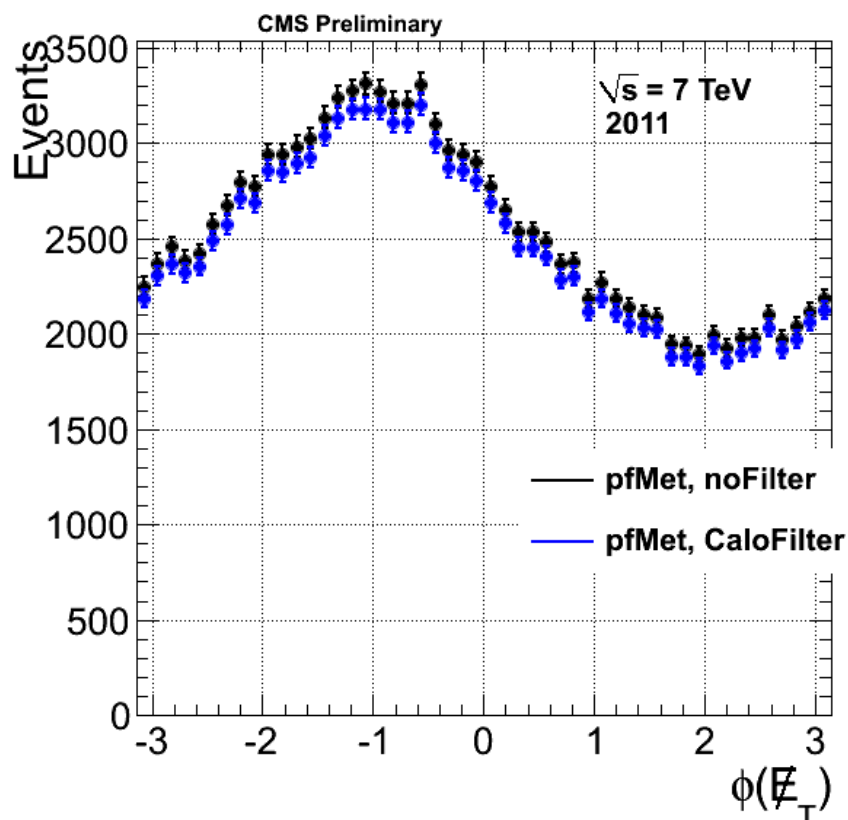
Events 2010B Data

	total	passHcal	passEcal	passBoth
initial	28189538	28166138	28182461	28159066
pre-selection	20495	20491	20494	20490
	15015	15012	15015	15012
	14748	14745	14748	14745
	13728	13725	13728	13725
	13523	13521	13523	13521
	868	868	868	868
MET > 80	3	3	3	3

- Small effect in 2010B Data (after pre-selection).

Phi asymmetry in pfMet

- Observed phi asymmetry in pfMet distributions.
- Left: after preselection. Right: after all cuts except MET > 80



- Someone said this behaviour is known. Is that true?

Notes

