

Studies on Wtaunu Selection

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Sample

MC Sample	Filter Efficiency	XSection (pb)
/WToTauNu_TuneZ2_7TeV-pythia6-tauola/ Fall10-START38_V12-v1/GEN-SIM-RECO	1	7899
/WToMuNu_TuneZ2_7TeV-pythia6/ Fall10-START38_V12-v1/GEN-SIM-RECO	1	7899
/WToENu_TuneZ2_7TeV-pythia6/ Fall10-START38_V12-v1/GEN-SIM-RECO	1	7899
/QCD_Pt-15_TauBiased_TuneZ2_7TeV-pythia6/ Fall10-START38_V12-v1/GEN-SIM-RECO	0.03605	875100000

Data Sample : /BTau/Run2010B-Nov4ReReco_v1/RECO

Only 0.295 pb⁻¹ Data (to be increased)

Cuts

- $|\eta| < 2.1$
- $25 \text{ GeV} < p_t < 60 \text{ GeV}$
- leading track $p_t > 20$ and Discrimination by Isolation
- num 1 || 3 and $|\text{charge}| = 1$
- Muon Veto and Electron Veto
- emfraction < 0.85 and ecalCrack Veto
- MET front $p_t > 30$
- Jet Veto
- MET topology < 0.25

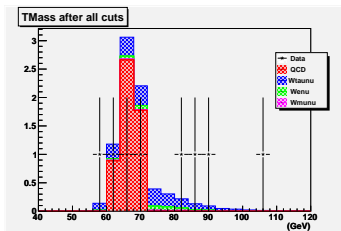
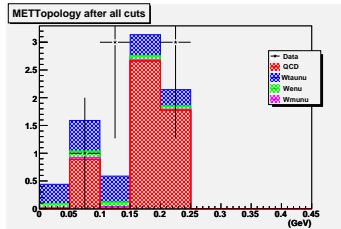
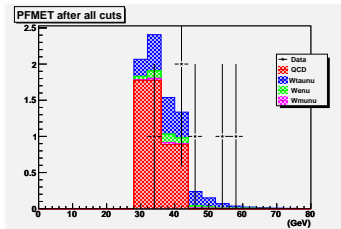
CutFlow Table for 0.295 pb^{-1}

Sample	Wtaunu	Wmunu	Wenu	QCD	Data
Events	5221750	5330940	5104514	10741128	572366
Trigger	67482	18191	516093	40901	123023
pt & eta	36845	5732	366105	14059	41048
Charge	22972	2158	339699	3861	11911
Isolation	20949	1378	325126	1722	6523
Muon Veto	20895	971	325122	1718	6448
Electron Veto	12224	929	6003	1684	5531
emFraction	11270	861	3263	1648	5425
ecal Veto	11066	840	2043	1636	5129
MET front	7981	619	1597	74	347
Jet Veto	5646	311	1102	21	68
METTopology	4607	263	891	6	12

METTopology & MET front

- METTopology: is the ratio between the sum of energy deposits projected in the direction of MET and the sum of energy deposits projected in the direction opposite to MET
- MET front: missing energy in the opposite direction of taujet, on the transverse plane

Plots after all cuts



crab -publish via LSF

- CRAB adapting to run on LSF without GRID (like "bsub ...")
 - Working with local samples directly, like CAF at CERN (300 job-slots dedicated)
- Sample obtained in this way cannot be published...
- With CRAB running on local .root files, I've written a script that allows us to:
 - save .root files on a particular T2 (Pisa, typically);
 - publish the dataset on DBS, allowing the elevation and the displacement via Phedex

crab -publish via LSF

This trial has been made with:

- LSF submission and local recovery of .root files on gridui;
- automatic files displacement on T2;
- publication in a local DBS:

/PhotonJet_Pt0to15/tboccali-tom-05e06baf78490ce1e0b8747e2e23f1ac/USER

Created 21 Dec 2010 15:06:38 GMT, contains 10000 events, 25 files, 1 block(s), 341.4MB, located at 1 site ([show](#), [hide](#)), LFNs: [cfl](#), [py](#), [plain](#), [L=N/A
[Release info](#), [Block info](#), [Run info](#), [Conf. files](#), [Parents](#), [Children](#), [Description](#), [PhEDEx](#), [Create ADS](#), [ADS](#), [crab.cfg](#)

Location	Events	Files	size	LFNs
No SiteDB name : cmsdcache.pi.infn.it	10000	25	341.4MB	cfl plain

We are discussing with CRAB developers about the possibility of making this feature official.

Summary

- A first attempt to select $W \rightarrow \tau \nu$ events has been done, and are being studied cuts able to discriminate signal from background.
- Low statistic due to only 0.295 pb^{-1} of data
 - Next target will be the increase of statistic, including the whole dataset /BTau/Run2010B-Nov4ReReco_v1/RECO
- A tool to improve the local stageout is being developed and will be used for the above analysis.