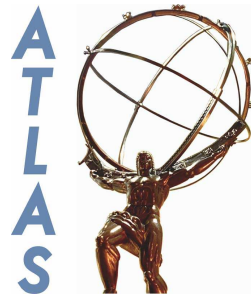


SUSY inclusive jets and QCD background ID



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General Status

- First set of cuts for jet with potential leakage already defined using dijets samples
- Need to study the effect of these cuts on signal and background samples for cut optimization
- We've been attending to the CSC5 Note (Searches and inclusive studies for SUSY events) 0-lepton part:
 - Commitment to edit the "Background composition and determination" section
 - Going through the first standard set of signal selection cuts (see next slide)
 - Need to work not at the AOD level to keep all the calorimeter information we're interested in → "custom" production of CBNT files from central ESDs
 - Extra private filtered multi-jet samples (4 Jets)
 - Production of data ongoing



Signal Cuts

	Tokyo	Tokyo2	Belgrade	Valencia/ Wisconsin
Cut1	773	667	657	655
Cut2	553	488	600	499
Cut3	411	355	485	382
Cut4	396	345	354	353
Cut5	316	288	291	246

▪ Cuts on signal as in:

http://nkanaya.home.cern.ch/nkanaya/CSC5noLeptonComparison_070906.ppt

1. 4 Jets && $p_T(1st) > 100 \text{ GeV}$ && $p_T(4th) > 50 \text{ GeV}$
2. $MET > 100 \text{ GeV}$ && $MET > 0.2 M_{eff}$
3. Sphericity > 0.2
4. $\Delta\phi(\text{jet-MET}) > 0.2$
5. $N_{Leptons} = 0$

▪ Definition of Electron:

- ElectronCollection container
- $p_T > 20 \text{ GeV}/c$
- $|\eta| < 2.5$
- Author = 1 or 3
- $isEM \& 0x3ff = 0$
- $E_T \text{ cone } 20 < 10 \text{ GeV}$

▪ Definition of Muon:

- MuonCollection container
- $p_T > 20 \text{ GeV}/c$
- $|\eta| < 2.5$
- $isCombined() \&\& \text{bestMatch}()$
- $fitChi2/DoF < 5$
- $matchChi2 < 20$
- $E_T \text{ cone } 20 < 10 \text{ GeV}$



Data Production and Plans

- JobOptions:
 - I will provide today jobOptions to go from ESD → CBNT with all the information we need (cluster cell information, Cone4Tower and ConeTopo jets, etc.)
- Signal and backgrounds to be reprocessed with this jobOptions at BNL
- Additional samples with 4-Jet filter from the JX samples production ongoing (0.5 MEvts) at Wisconsin
- In the meantime, we're getting all the machinery ready...